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INDEX TO VOLUME II FOR 1905.

A

Abattoirs at Sydney, 95
Abdomen, remarkable case of wound of, with prolapse of large intestine (O. W. Andrews and F. Cock), 627
——— topographical, 29
Abdominal pain, sudden, 16
——— pregnancy complicating, the, 347
——— surgery. See Surgery
Aberdeen, memorial to, at, 204; election of assessors to the University Court. See University; prevention of consumption at, 984; volunteers. See Volunteers
——— University. See University
Aberfoyle, children's hospital at, 1366
Abersychan, housing at, 21
Abertillery District and the Western Valleys sewer (Mon., 25
Abortifacient, lead as a, 9; diachylon as an, 130; quinine as an, [illegible]
Abortifacients (G. Brit.), 1642
Abortion, the curette in, 129
——— self-induced, [illegible]
——— silent tubal, [illegible]ohnstone). 1522
Abraham, May E., the law relating to Factories and Workshops, re[illegible]
Abrahams, Bertram, [illegible]arthritis deformans, 1517
Abrin and ricin experiments (George A. Watson), 1091
Abscess, alveolar, of [illegible] case of (F. Lawson Dodd), 575
——— amoebic, of [illegible] blood counts in (Leonard Rogers), 1[illegible]
——— brain, and [illegible]ar disease (Wyatt Wingrave), 578
——— intracranial, [illegible]ry to ear disease, 760
——— of kidney secondary to [illegible]boils, 895
——— of liver, seven[illegible] (James Cantlie), 1294
——— peritonsillar, [illegible] of (R. McClelland), 810
Académie de Médecine, [illegible]ris
Academy, Royal, of [illegible]n Ireland, 976, 1064, 1344, 1420, 1457, 1[illegible]ty-third annual meeting, 976; annual meeting and election of officers, 1[illegible]ic surgery (Mr. Gordon), 1344; [illegible]prostomy (Mr. McArdle), 1344; che[illegible]rubility in connexion with human [illegible]d gout (Walter Smith), 1400; treatme[illegible]psia (Dr. de la Harpe), 1457; anei[illegible] of aorta (E. J. McWeeney), 1524; [illegible]coma (Seton Pringle), 1524; unus[illegible]r of kidney (C. Arthur Ball), 1524; [illegible]a (T. G. Moorhead), 1524; Transacti[illegible]al, 592
Acquired immunity. See [illegible]ty.
Accident and poisoning, [illegible]iscussion on (W. F. Dearden), 936 [illegible] Watts), 938; (C. F. Bryan), 938; (Sc[illegible]myvett), 938; (H. W. Langley Brown [illegible]es
——— to a club patient, [illegible]
Acids and alkalies, action [illegible]living protoplasm (J. O. Wakelin B[illegible]
Acromegaly, peculiar [illegible] Captain J. C. Prittie Perry, 1693
Act, Employers' Liability, Ad[illegible]
—— Food and Drugs, pro[illegible]nder, at Wolverhampton, 1316
—— Inebriates, report of [illegible]og[illegible] under, for 1904, 661
—— Infectious Diseases ([illegible]72[illegible]): relation of medical officer of health to the medical practitioner with respect to the administration of, 1037
Act, Medical, for New Zealand, a new, 1464
—— the Midwives, 213, 241, 410, 444, 1134, 1216, 1302, 1315, 1368; in Birmingham, 213; in Gloucestershire, 444; and Ireland, 304; in Lancashire, 241; in Leicestershire, 241; and London County Council, 410, 829; in Norfolk, 1302; in Salop, 241, 410; in Somerset, 1302; in Surrey, 242; note on, 1075; duties of inspectors of midwives, 1134; payment of medical men, 1216; urgent midwifery cases in pauper practice, 1302; prosecution of a midwife, 1315; urgent midwifery in Poor-law practice, 1368; emergencies under, 1473
—— Scottish Licensing, red tape of, 1712
—— Shop Hours, application of in Manchester, 460
—— Workmen's Compensation, curious claim under, 302
Actinomycosis of lungs (Peverell S. Hichens), 1168
Action for damages, fracture-dislocation of the shoulder, 1620
——— for wrongful dismissal (in Scotland), 54
——— for libel against a newspaper (at Accrington), 1424
——— against Dr. Darnell, 1550
Ada Lewis nurses, 973
Adam, James, hay fever, chronic rhinitis, and asthma, 359
Adamson, H. G., treatment of ringworm of the scalp by *x* rays, 832
Addison's disease, case of (Byrom Bramwell), 1082; (William Tibbles), 1694
Adelaide, special correspondence from, 1232; Seventh Australasian Medical Congress, 1232; annual meeting of South Australian Branch, 1232
Adenoid curette, 135
——— Vegetations, reviews of books on, 75
Adenoids, effect of presence of on some affections of the eyes (J. Hern), 437
——— ——— national importance of the thorough and systematic removal of in childhood, 468
Adolescents, albuminuria of (Clement Dukes), 848; correspondence on, 990
Adrenalin, action of (T. R. Elliott), 127
——— chloride, treatment of serous effusions by injections of (H. W. Plant and Patrick Steele), 125
Adulterated bread, 605
——— spinach, 1378
Advancement of science, the Association and (Andrew Clark), 1
Advertising, Hospital. See Hospital
——— medical. See Medical
——— of sanatoriums in the lay press, 54
Aequanimitas, 168
Africa, British practitioners in, 589
——— East. See East
——— South. See South
——— West. See West
African pygmies, 591
Age for marriage, 676
Agraphia, motor, localizing value of, 745
Ahern, Richard, atheroma of right coronary artery, softening, rupture, 329
Aikin, W. A., management of the breath in singing, 608
Air, inspired and expired, examination of chloroform in (A. Vernon Harcourt, 187
Air of London, 746
Albarran, J., Exploration des Fonctions Rénales, rev., 1649
Albinism (Mr. Nettleship), 1345
——— heredity of, 1420
Albuminuria of adolescents (Clement Dukes) 848; correspondence on, 990
——— and eclampsia in pregnancy, treatment of, 715
——— of pregnancy (John Spurway), 1586
Alexander, R. R., retirement of, 1354
Alcohol as a therapeutic agent (James Barr), 4; abuse of by children in Vienna, 460
——— and alcoholism, municipal action at present in regard to, 902
——— and drunkenness, 1656
Alcoholic medicine, a tax on, 965
Alcoholism in relation to national vitality (T. N. Kelynack), 639
Alder, William, obituary notice of, 50
Alderson, F. H., appointed J.P. for town and county and borough of Poole, 1532
Aldrich-Blake, L. B., discussion on diagnosis and treatment of uterine cancer, 699; after-results of stomach operation, 1044
Algiers, practice in, 264; antimalaria campaign in, 1668
Aliens Bill. See Bill
——— trachoma in, 94
Alkalies and acids, action of on living protoplasm (J. O. Wakelin Barratt), 17
Alkalinity of the blood in eclampsia (C. Nepean Longridge), 1296
Allan, John, surgical emphysema with haemoptysis, 1340; traumatic pneumonia, 1642
Allbutt, T. Clifford, medical education in London, 913; appreciation of Sir John Burdon-Sanderson, 1489
Alliance, Anglo-Japanese, 1714
Allison, T. M., first British sanatorium for consumptive children, 908
Allworthy, S. W., Ireland and the Midwives Act, 304
Alvarenga prize, award of, 288; date of next award, 1147
Alveolar abscess. See Abscess
——— osteitis treated by means of vaccine (Kenneth W. Goadby), 562
Amblyopia, case of, apparently toxic, following influenza (Cecil E. Shaw), 437
——— quinine, case of (G. Victor Miller), 384
Ambulance Brigade, the St. John, 416
——— service for Belfast, 350; for Birmingham, 1315; for Bristol, 1148; for London, see London; for Manchester, 44, 603; at Rochdale, 1148; in Wales, 1425; in South Wales, 1556
——— motor for Edinburgh, 979
——— wagon service for cities, voluntary civil (Lieut.-Col. H. J. Barnes), 321
——— work in Germany, 1613
——— work (Charles Gwynn), 1700
America. See United States
——— North, British practitioners in, 589
——— South, British practitioners in, 589
American metaphysics and Chinese medicine, 401
——— naval hospitals, 896
——— ports, medical examination at, 1407
——— profession and proprietary medicines, 90
——— research on the pneumococcus, 894
——— sanitary methods, 606
Amoebic abscess. See Abscess

Amory, R., Wharton and Stillé's Medical Jurisprudence, rev., 1590
Anaemia, inunction of haemoglobin in, 368
——— lead, the blood in (Kenneth W. Goadby), 654
——— splenic (P. W. Bassett Smith), 1260
Anaesthesia, note on the discovery of, 300
——— by means of morphine hypodermically and alcoholic solution of chloroform given by the stomach, 211
——— ether. See Ether
——— local, in treatment of haemorrhoids, 468; tracheotomy under (StClair Thomson), 922; correspondence on, 1072, 1076, 1150
——— tongue clip for, 443
Anaesthetics, administration of, by a firm of unregistered dentists, 111
Analytic check on milk dealers, 1714
Anatomy, review of books on, 388; lady professor of, 444
Ancient sanitation in the East, 390
Anderson, Baillie W. F., discussion on infant milk dépôts, 643
——— J. Ford, discussion on albuminuria and eclampsia in pregnancy, 721
——— H. B., strain as a factor in cardio-aortic lesions, 840
——— R. J., discussion on physical deterioration, 933
——— T. McCall, knighthood conferred upon, 87
Anderson's College. See College
Andrews, Fleet-Surgeon O. W., arrangements for treatment of the wounded in action on board H.M.S. "Magnificent," 318; remarkable case of wound of the abdomen, with prolapse of the large intestine, recovery, 627
Aneurysm mistaken for hard fibroma (H. J. Orford), 20
——— of the aorta (E. J. McWeeney), 1524
——— of the circle of Willis (George Parker), 1342
——— innominate, simultaneous ligature of right carotid and subclavian arteries, recovery (H. N. Dunn), 851
Angina pectoris, cause of (James Mackenzie), 845
Anglo-Japanese alliance, 1774
Animal food, increase in the consumption of (Chalmers Watson), 67
——— parasites, toxins of, 1368
Ankylostomiasis, amongst labourers in Austria, 43; review of lecture on, 333; in British West Indies, 740; articles on in "Colliery Guardian," 1220; prophylaxis of, 1478
Annual Representative Meeting. See Association
Anteflexion of uterus. See Uterus
Antenatal diagnosis of fetal heart murmurs, 1227
Anthrax, in Cheshire, 414; at Selly Oak, 1554
——— discussion on (J. H. Bell), 934; (J. L. Stretton), 936; (W. H. Horrocks), 936; (David Goyder), 936; (H. W. Langley Browne), 936
——— cutaneous, treated without excision with Sclavo's antianthrax serum (William Mitchell), 118
Anticholera charm, 673
Antimalaria League in Greece, 345
Antimalarial campaign at Ismailia, continued success of, 1316; correspondence on, 1680
——— in Algeria, 1668
Antiquackery Congress. See Congress
Antiquity, artificial limbs in, 1226
——— of dentistry, 411
——— of vaccination in India, 736
Antisepsis and asepsis, 1160
Antiseptics, intestinal, 1380
Antitoxin treatment of diphtheria in Manchester, 752; supply of, in Pennsylvania, 1541
Antituberculosis, 759
Antituberculous serum, 1051
Antivaccination postcard, 1368
Antivivisectionists on the warpath, 1542
——— and the hospitals, 1651; (leading article), 1662
Antrum, new knives for establishing permanent intranasal drainage of, 1148
Aorta, aneurysm of (E. J. McWeeney), 1524
Aortic and mitral disease in rheumatic children, combined (F. J. Poynton), 837
Aphasia (Byrom Bramwell), 1674
Apothecaries' Hall of Ireland, 491; regulations for medical students, 491
——— Society of, correspondence on, 48; the assistantship of, 410; pass lists, 111, 164, 308, 419, 977, 991, 1154, 1431, 1724; regulations for medical students, 484; dinner, 1362
Appeal an, 168, 312, 540
Appendices epiploicae mistaken for fetal membranes, 600
Appendicitis, prospects and vicissitudes of (Charles A. Ballance), 113
——— bacteriology of, 896
——— gangrenous, case of (T. Gelston Atkins), 806
Appendicitis, perforative, causing general peritonitis (A. W. Mayo Robson), 15
——— simulated by perforating duodenal ulcer, 599
Appendicostomy (C. B. Keetley), 863
Appendix and its Diseases, Review of books on, 387
——— bullet in the, 984
——— large, in an elderly subject, 1118
——— vermiform, simulated by urachus, 674; spontaneous gangrenous formations in (John D. Malcolm), 786
——— inherent to cystic ovary (J. T. J. Morrison), 1643
Archer, E. G., spontaneous combustion, 464
——— F. Bisset, report on Gambia for 1904, 450
Armstrong, H. G., pocket test for albumen, 330
Army boot, 909
——— British, 149, 349, 446, 465, 527, 909, 1075, 1323, 1361, 1379, 1468, 1546, 1725; medical fitness of, 149; strength of medical establishment of, 349; reserve for the R.A.M.C., 350; Lord Roberts on the efficiency of (leading article), 446; Army Council and the medical services, 465; annual camp of Welsh brigade, 465; general regulations for admission, 527; correspondence on the efficiency of, 609, 610, 757, 909, 1075; examinations for commissions, 1323, 1546; instruction in hygiene for army officers, 1361; South African medals and clasps, 1379; medical units for field army organization, 1468; surgery in, 1682; transport medals, South African war, 1899-1902, and China war, unissued, 1725; surgery in the Royal Army Medical Corps, 1725
——— medical service of and the Army Council, 465, 1211; (leading article), 446, 1222
——— Royal Army Medical Corps, 50, 530, 1158, 1323, 1435; annual dinner, 50; examination of majors for promotion, 217; pass lists, 308; officers' widows' pensions and the R.A.M.C., 309; regulations for admission, 530; appointments to colonial contingents, 835; examinations for commissions, 1323; visit of the King of Greece to the City, 1435
——— dentistry in, 1158, 1238
——— exchange, 217
——— sanitation in, 741, 1238
——— sterilized drinks for, 398, 403
——— venereal disease in, 970
——— Nursing Home, scandal of, 969, 1059
——— French, dentists for, 1302
——— Indian, medical service of, 161, 217, 308, 366, 527, 533, 685, 1158, 1239, 1323, 1435; promotion and precedence, 161; improved pay, 217, 366; pass lists, 308; medical specialists in India, 308; abolition of principal medical officerships in India, 300; regulations for admissions to, 527, 533; redistribution of, 685; salaries of I.M.S. officers in gaol department, 1158; study leave, 1239; examinations for commissions, 1323; assistant-surgeon branch, 1435
——— German, and small-pox, 293, 1410
——— Medical Advisory Board. See Board
——— Medical Corps, Canadian, 975
——— United States, and civil practitioners, 965; health of, 1221
Arnold, F. S., self-supporting sanatoriums for consumption among the working classes, 831
Arsenic successful in case of obscure skin pigmentation (Ernest Brice), 655
Arsenical poisoning, 403
Arterio-sclerosis, treatment of, 822
Artery, innominate, ligature of (William Sheen), 870
——— mesenteric, partial obstruction of, causing gangrene of intestine (John Richards), 1521
——— profunda femoris, common femoral and common iliac, ligature of, on the same side, recovery (Henry E. Clark), 850
Arthritis deformans, acute (Bertram Abrahams), 1517
——— rheumatoid. See Rheumatoid.
Articulations, radio-ulnar, congenital synostosis of (J. Lionel Stretton), 1519
Artificial legs, 992
——— limbs in antiquity, 1226
——— respiration, prone pressure, method of, 1150, 1405, 1563
Ascending currents in mucous canals and gland ducts, and their influence on infection (C. J. Bond), 232
Aseptic dressing slab, 119
——— wallet for nurses, 877
Asepsis and antisepsis, 1160
Ash superstition, 674, 833
Ashe, E. Oliver, stricture of the oesophagus, gastrotomy, dilatation from below, 579
Ashton and ice-cream vendors, 414
Ashton, William Easterly, Essentials of Obstetrics, rev., 729; Textbook on the Practice of Gynaecology of Practitioners and Students, rev., 1403
Ashton-upon-Mersey, unveiling of tablet at, 1354
Asia, Russian. See Russian
Asiatic cholera. See Cholera
Asphyxia, traumatic (W. Sidd Robertson), 1339
Aspirin in rheumatism, a warning (H. Norman Barnett), 21; some toxic effects of (J. S. Dockray), 1692
Assessment of house and survey, 1624
Assistant, dismissed, ethical obligations of, 1244
——— illness of, 1324
Assistants and locum tenents, 47
——— unqualified, employment of, 1243
Association, American Medical, fifty sixth annual meeting, 335; president's address, 335; oration on medicine, 336; oration on surgery, 337; oration on State medicine, 338; work of sections, 340; business, 340; next meeting, 340; new president, 340; prosperity of the Association, 340; biographical card index of American physicians, 1
——— American Public Health, 467, 965
——— the British, 454, 582; president's address, 391; natural selection, 391; a political illustration, 392; continuous transformation of species, 392; natural selection of the atom, 392; divisibility of the atom, 392; struggle for life among corpuscles, 393; atoms not eternal, 393; excessive minuteness of corpuscles, 393; sleeping sickness, 582; proposed central meteorological department, 393; appointment of assistant secretary, 394; section of physiology, 454, 582; East Coast Fever, 582; redwater and Texas fever, 583; biliary fever, 583; tsetse-fly disease, 583; rinderpest, 584; horse sickness, 584; stratigeography, 454; changes in climate, 454; section of anthropology, 455; South African ethnology, 455
——— British Medical annual dinner of Leeds and District, 1071
Association, British Medical, annual meeting at Leicester, 87, 168, 307, 246, 289, 1149; popular lecture at, 246; religious services, 246; election of Chairman of Council and Treasurer, 247; copies of members of Council, 247; Medico-Ethical and Ethical Committees, 247; annual meeting, 1906, 248; invitation for 1907, 248; president's address, 221, 243, 248; address in medicine, 227, 244; address in surgery, 245; foreign and colonial guests, 248; presentation of gold medals, 248; annual ethnological museum, 283; National Temperance League breakfast, 284; leading articles, 289; the Representative Meeting (leading article), 290; meeting at Toronto, 1906, 670, 814, 869, 1659, 1547, 1564, 1604; vote of thanks, 670
——— proceedings of Sections. See Sections
——— Annual Representative Meeting (leading article), 141, 290; two sessions, 248; Irish Committee, 749; next meeting in London, 1905, correspondence on, 303
——— Aberdeen Branch, summer meeting, 151
——— Bath and Bristol Branch, 134; syphilitic pachymeningitis (J. R. Cries), 1341; lead paralysis (J. Michell Clarke), 1341; aneurysm of the circle of Willis (George Parker), 1341; myasthenia gravis (J. Michell Clarke), 1342; mastitis neonatorum (Newman Neild), 1342; specimens, 1524
——— Birmingham Branch, 1036, 1230, 1323, 1643; slough from the stomach (Dr. Shaw), 1036; resection of carcinoma of the cecum (Mr. Morrison), 1036; Roentgen rays in diagnosis (Mr. Hall-Edwardes), 1036; amœbic dysentery (Professor Saundby), 1036; successful enterectomy for irreducible intussusception (George Heaton), 1205; malignant stricture of uterine appendage (Thomas Wild), 1205; sarcoma of ovary (Thomas Wild), 1205; gallstone removed by laparotomy (Victor Ménard), 1342; strangulation of an undescended testicle (George Heaton), 1342; acute pyonephrotic kidney (J. T. J. Morrison), 1342; ethyl chloride as an anæsthetic (W. Meredith), 1342; rupture of uterus (Jordan Lloyd), 1342; surgical treatment of epileptiform neuralgia (Jordan Lloyd), 1342; suppurative parenchymatous goitre (Mr. Barling), 1342; suppurative otitis media (Mr. Gamgee), 1342; congenital pyloric stenosis (Mr. Barling), 1521; interstitial fibroid of uterus (Dr. Shaw), 1523; pathological dislocation of fibula in the course of scarlet fever (Mr. Hamer), 1643; appendix vermiformis inherent to cystic ovary (J. T. J. Morrison), 1643; abscess lymphangitis (Dr. McMunn), 1643; cystic disease of liver and kidneys (Dr. Mott), 1643; temperature in diseases of the [illegible]well), 1643
——— Metropolitan Counties Branch, [illegible] Secundad Division, clinical lecture, [illegible] the treatment of tuberculous [illegible] joints and spine (J. Jackson Clarke)

Association, British Medical, North of England Branch, 1116, 1455; Tyneside Division, 1116; ruptured duodenal ulcer (A. A. Martin), 1116; dislocated elbow treated by excision (Lachlan Fraser), 1116; amputation for sarcoma of femur (Lachlan Fraser), 1116; specimens, 1116, papers, 1455
——— North Lancashire and South Westmorland Branch, 131, 1206; annual meeting, 131; address, 1206; the pineal eye (W. H. Coupland), 1206; cases, 1206; specimens and exhibits, 1206
——— Northern Counties of Scotland Branch, 1206; autumn meeting and reading of papers, 1206
——— Oxford and Reading Branch, 330; Bright's disease (A. J. Drew), 330; pocket test for albumen (H. G. Armstrong), 330; sanatorium treatment of consumption (Dr. Collier), 330; thyroidectomy (E. Bevers), 330; cases, 330
——— Shropshire and Mid-Wales Branch, 1700; President's address, 1700; medical treatment of uterine fibroids (Thomas Wilson), 1701; the blood in pemphigus and haemorrhagic purpura (Law Webb), 1701; gastric ulcer (Mr. Jackson), 1701
——— South Australian Branch, annual meeting, 1232
——— South Midland Branch, Bedfordshire and Hertfordshire Division, meeting and reading of papers, 1524, 1643
——— South Wales and Monmouthshire Branch: Cardiff Division, meeting and cases, 1205
——— South-Eastern Branch: Brighton Division, 1342, 1524; notes on a case of malarial fever (A. T. Greenyer), 1342; notes of a case of intrauterine fetation (G. R. Marsh), 1342; ulcerative colitis (F. G. Bushnell), 1342; exhibition of cases, 1524
——— Southern Branch, 1206, 1455; Winchester Division, 1206, cirrhosis of liver (Dr. Bevan), 1206; cases and discussion, 1206; Portsmouth Division, 1455, papers and exhibits, 1455
——— Ulster Branch, 22, 1266, 1522; pulse tension as a guide to treatment (Professor Lindsay), 22; duodenal ulcer (Professor Lindsay), 22; ruptured extrauterine fetation (Mr Fullerton), 23; ruptured typhoid ulcer (Mr. Fullerton), 23; papilloma of larynx (Cecil Shaw), 23; enlarged prostate removed by Freyer's method (A. B Mitchell), 13; erythrodermia (William Calwell), 23; cases, 1206; detachment of iris (J. A. Craig), 1206; cerebral gumma (W. B. McQuitty), 1206; strangulation of uterine appendages in inguinal hernia (Robert Campbell), 1206; pneumococcal meningitis (H. B. Fleming), 1206; oil of cinnamon in typhoid fever (Dr. Calwell), 1206; erythema induratum scrofulosorum (W. B. McQuitty), 1521; optic neuritis (Cecil Shaw), 1522; paralytic flat-foot (A. B. Mitchell), 1522; urine trial glass (R. M. Fraser), 1522; silent tubal abortion (R. J. Johnstone), 1522; subacute yellow atrophy of liver (Dr. McKisack), 1522; specimens, 1522; lightning stroke (Drs. Darling, Frier, and Pedlow), 1522
——— clinical and scientific proceedings, 22, 131, 330, 1036, 1116, 1206, 1295, 1341, 1455, 1521, 1643, 1700
——— and contract practice, 1556
——— Council meeting, 1063
——— election of Chairmen of Committees, 973, 1063
——— Royal Charter for, proposed, 85
——— the British Medical Journal for 1906, 1688
——— Scientific Grants Committee, Report xci, action of acids and alkalies upon living protoplasm (J. O. Wakelin Barratt), 17; Report xcii, origin and life-history of the interstitial cells of the ovary in the rabbit (Janet E. Lane-Claypon), 18; Report xciii, the action of adrenalin (T. R. Elliott), 127
——— Belgian Medical Press, and the international expositions, 458
——— Canadian Medical, thirty-seventh annual meeting, 816, 974
——— Canadian Medical Protective, annual meeting, 974, 1548
——— of Certifying Factory Surgeons, al meeting, 1214
—— Convalescent Homes, meeting, 32
—— Cumberland Nursing, annual meet- 143
—— Eastern Valley Medical, annual r, 1233
—— French, for the Advancement of e, 84
—— German Laryngological Verhand- n, rev., 1592
—— "Hall," proposed, 1726
Association of Incorporated Medical Practitioners, formation of committee, 1468
——— International, for Labour Legislation, 598
——— International, for Legal Protection of Workers, establishment of competition for essays on lead poisoning, 116
——— Invalid Children's Aid, meeting and address by Sir William Broadbent, 1533
——— Irish Medical, 1146, 1314, 1478, 1600
——— Irish Medical Schools' and Graduates', nineteenth summer meeting, 258; autumn general meeting, 1535
——— of Medical Diplomates in Scotland, 1430, 1477
——— Medico-Psychological, of Great Britain and Ireland, 28, 257, 312, 1400; sixty-fourth annual meeting, 28, 257; scope of the work, 257; registration of nurses, 257; female nursing for insane men, 257; new Parliamentary Bills, 258; provision for the insane poor, 258; tuberculosis in asylums, 258; communication from Miss A. Helen Boyle, 312; opium drinking and the morphine habit in the Straits Settlements (Gilmore Ellis), 1400
——— National, for Establishment and Maintenance of Sanatoriums for Workers Suffering from Tuberculosis, 1435
——— Northumberland Miners', and contract practice, 1302
——— of Obstetricians and Gynaecologists, American, 394
——— Police Surgeons, United Kingdom, meeting, 285; report of council, 285; officers and council, 285; medical witnesses' fees, 285
——— Poor-law Medical Officers of England and Wales, annual general meeting, 107
——— Post-graduate, London, information about, 515
——— of Public Vaccinators, annual meeting, 890, 1216
——— of Registered Medical Women, 331, 1044, 1402, 1645; meeting and discussion of cases, 331, 1402; after-results of stomach operation (Miss Aldrich-Blake), 1044
——— Sanitary, of Scotland, thirty-first annual meeting, 675
——— Sanitary Inspectors, autumn meeting, 456; sanitation of dairies, 457; popular instruction in sanitation, 457
——— Sanitary Inspectors of Wales, sessional meeting, 905; re-election of president, 1072
——— St. Andrews Ambulance, annual general meeting, 95
——— St. John Ambulance, 310, 818
——— of Trained Nurses, Australasian, 605
——— of Women Graduates of Glasgow University, dinner, 1549
——— of Women Pharmacists, objects of, 1055; president and officers, 1055
——— Workhouse Nursing, resolution to Local Government Board, 1055
Assurance, life. See Life
Astbury's pills, 1143
Asthma, bronchial, treatment of (Barry Ball), 1118
——— and catarrh, relation of, 1726
——— cure, Tucker's, 1563
——— hay fever and chronic rhinitis. See Fever
——— and nasal polypi (W. H. Kelson), 1642
Aston Board of Guardians and Local Government Board, 889
Asylum, Belfast district, seventy-fifth annual report, 602
——— Carmarthen, Joint Counties, note on patients, 311
——— Cork District, annual report, 38
——— Cumberland and Westmorland, number and health of inmates, 55
——— Donegal Lunatic, inadequate water supply, 828
——— Down County, Downpatrick, report, 466
——— the Earlswood, annual report, 911
——— Gartloch, annual report, 1366, 1672
——— Glamorgan, fortieth annual report, 830
——— Hereford County and City, report, 167
——— Hertford County, note on patients, 305
——— Kesteven County, eighth annual report, 419
——— Midlothian and Peebles, epidemic of influenza in (J. P. Sturrock), 1171
——— Monmouthshire, Abergavenny, report on patients, 365
——— Nottingham City, 218
——— patients at Mullingar and Chester, cost of, 93
——— Roxburgh, Berwick, and Selkirk District, overcrowding at, 1258; statistics, 1159
——— Royal Albert, Lancaster, Dr. G. E. Shuttleworth appointed honorary consulting physician to, 1656; forty-first annual report, 1684
——— Royal Montrose, report on, 366
——— Royal Morningside, Edinburgh, information about, 512
——— Salop and Montgomery, annual report, 365
Asylum, Somerset and Bath, Wells, report, 365
——— Suffolk County, 611
——— superintendents, salaries of, 1231
——— West Ham County Borough, annual report, 366
——— West Riding, Wakefield, annual report, 991
——— Wilts County, fifty-fourth annual report, 167; attractions at, 747
——— Worcester City and County, annual report, 311
Asylums, after-care of patients discharged from, 83
——— Lancashire, cost of inmates, 603
——— and private patients, 903
Atelectasis, in adults, pulmonary (William R. Huggard), 922
Atheroma of right coronary artery, softening, rupture (Richard Ahern), 329
Atkins, T. Gelston, report on the surgical treatment of chronic gastric ulcer and gastric dilatation by the operation of gastro-jejunostomy and jejuno-jejunostomy, 785; discussion on surgical treatment of malignant disease of rectum, 802; case of gangrenous appendicitis, 806
Atkinson, T. Reuell, obstetric emergencies and the doctor's fee, 1619
Atlas of Applied Anatomy, the Edinburgh, rev., 1210
Atropine, filtration of fluid in the eye when under the influence of (E. E. Henderson), 474
Attendance, on wives of medical men, gratuitous, 54; on cases of accident, 340; on nurses, 672; at isolation hospital, 1623
Atypical "internal derangements" of the knee-joint. See Knee-joint
Augagneur, Dr., appointed Governor of Madagascar, 1136
Aural cones, 135
Ausserer, Professor, elected Vice-President Austrian Society for Repression of Quackery, 1608
Austen, Fleet Surgeon Thomas, collection and distribution of wounded in a modern cruiser engagement, 319
Austin, R. F. E., commonly overlooked factors in vocal mechanism, 304
Australasia, British practitioners in, 589
Australasian mails, 1660
Australia, plague in, 80, 205, 298, 412, 589, 813, 1503, 1424, 1600
——— prevention of consumption in, 664
Australian Parliament, medical men in, 414
Austria, 25 000,000 crowns for universities and clinics, 259; regulation for British practitioners in, 588; cholera in, 676, 751; cerebro-spinal meningitis in, 259, 751
Auterson, Dr., fatal accident to, 404
Automatic capsule breaker, 334
Automobiles for medical men, 1417, 1713. See also Motor
Aylesbury Union. See Union

B.

Baby show at Manchester, 903
Babylonia, Ancient, drainage of, 972
Bacilli, para-tubercle, and Koch's bacillus, 1050
——— plague, types of, 736
Bacillus, bovine and human, correlation between, 460
——— prodigiosus, production of diarrhoea by (Louis C. Parkes), 1330
——— typhoid, vitality of, in oysters, 744
——— in the blood (Warren Coleman and B. H. Buxton), 1417
Back to the land, 1660
Bacteria, chemistry of, 348
——— putrefactive, natural immunity to 739
——— in railway carriages, 745
Bacterial virulence, influence of symbiosis on, 737
Bacteriological examination and Edinburgh town council, 1670
Bad debts, 1460
Baginsky, Adolf, Lehrbuch der Kinderkrankheiten fur Aerzte und Studirende, rev., 876
Bain, William (editor), Textbook of Medical Practice, rev., 74; an experimental contribution to the treatment of cholelithiasis, 209
Baldwin, H., a discussion on toothache, neuralgia and remote affections of dental origin, 558
Ball, Barry, treatment of bronchial asthma, 1118
——— Sir Charles, discussion on surgical treatment of malignant disease of rectum, 793
——— C. Arthur, unusual tumour of kidney, 1524
Balliance, Charles A., prospects and vicissitudes of appendicitis, 113; permission to wear order conferred by German Emperor, 1661
Ballantyne, Arthur J., metastatic sarcoma of retina, 1345
——— J. W., spinal tapping, 1644
Balten, Pietro, and a picture of "stone in the head," 1660

Balzac, H., on doctors, 1661
Bankart, Staff Surgeon Arthur Reginald, appointed Honorary Surgeon to His Majesty, 1413
Banks memorial lecture. See Lecture
Barber-surgeons, 1605
Bark, John, discussion on laryngeal tuberculosis, 1197
Barker, Arthur E., atypical "internal derangements" of the knee-joint, 1516
Barling, Mr., suppuration in parenchymatous goitre, 1523; congenital pyloric stenosis, 1523
Barnardo, Dr., death of, 739; obituary notice of, 833
Barnes, Lieutenant-Colonel H. J., voluntary civil ambulance wagon service for cities, 321
Barnett, H. Norman, aspirin in rheumatism: a warning, 21
Barr, James, knighthood conferred upon, 1307; alcohol as a therapeutic agent, 4
Barratt, J. O. Wakelin, action of acids and alkalies upon living protoplasm, 17; spirochaete pallida, 1525
Barry, small-pox at, 357, 604
Barry, Major Collis, Legal Medicine (in India) and Toxicology, rev., 956
Barwell, F. R., the Metropolitan Asylums Board and its assistant medical officers, 462, 605
——— Harold, discussion on laryngeal tuberculosis, 1193
Bashford, E. F., are the problems of cancer insoluble? 1507
Bastian, H. Charlton, post-mortem meningeal infections, 1256, 1429, 1617, 1719
Batchelor, G. A., on the ethics of a prescription, 1697
Bath, issue of booklet about, 1354
Baugh, L. D. H., some observations on confusional insanity, 949
Bawden Trust and University College, 597
Bayol, Jean Marie, death of, 1361
Beadnell, Fleet Surgeon Charles Marsh, on the disposal of our wounded in a naval war, 316; some dynamic and hydrodynamic effects of modern small-bore cylindro-conoidal projectiles, 376; a correction, 698; case of traumatic pneumonia, 924
Beamish, Captain George Crofts, death of, 1074
Beards and bacilli, 146
Beaumont, W. M., cases of abnormal eye conditions, 73; intraocular tuberculosis, 432
Bed, a new, 1299
Bedford, Edwin C., sanatorium for consumptive children, 755, 831
Bedside books, 200
Begetter of the Cell Theory, 1261
Behring, E. von, The Suppression of Tuberculosis, rev., 190
Beiträge zur Klinik der Tuberculose, rev., 333
Belfast Maternity Hospital. See Hospital, maternity
——— health of, 152, 350, 602, 1146, 1550; small pox in, 257; courthouse, 238; ambulance service for, 350; Board of Guardians, removal of lunatics to asylums, 453; post-graduate study at, 517
Belgium, British practitioners in, 588
Bell, J. H., discussion on anthrax, 934
——— John, communication on a tropical skin disease, 1279
Belloste, Augustin, old surgical work by, 1220
Belt for visceroptosis, 657
Benedikt, Professor, 70th birthday of, 250
Benham, Charles H., plea for the investigation of catarrh, 1719
Bennett, Arthur G., spontaneous combustion, 417
——— F. J., eye affections of dental origin, 7
——— Frederick W, introductory remarks as President of Laryngology Section, 1177; discussion on middle-ear suppuration, 1187; discussion on laryngeal tuberculosis, 1197
Benny, Michael, obituary notice of, 1378
Benson, A. H., evolution in blepharoplasty, 438
Bequest of a brain, 923
Bequests to hospitals and medical charities, 69, 74, 84, 104, 140, 152, 157, 194, 209, 217, 242, 266, 288, 302, 308, 317, 341, 462, 505, 536, 544, 566, 578, 584, 601, 623, 664, 666, 677, 708, 739, 849, 902, 924, 940, 1036, 1055, 1136, 1171, 1177, 1264, 1267, 1303, 1310, 1331, 1367, 1467, 1413, 1445, 1530, 1541, 1583, 1592, 1594, 1600, 1648, 1661, 1710
Bergen, donation of, 150,000 kroner to found a laboratory of pathological anatomy at, 202
Bergel, Dr., Fieber und Fieberbehandlung, rev., 1658
Beri-beri, discussion on (Hamilton Wright), 1095, 1283; (C. Hose), 1098; (F. W. Mott), 1099; (Major G. H. Fink), 1100; (J. T. Clarke) 1100; 1287; (R. Tanner Howlett) 1288; (Louis W. Sambon), 1288; (D. J. Galloway), 1288; (F. C. Stedman), 1288; (Andrew Duncan), 1289; (W. L. Strain), 1289
Berkeley, Comyns, parovarian cyst with twisted pedicle, 925
Berlin, special correspondence from, 1611; Inte Director General of the German Army Medical Department, 1612; the new Director-General, 1613; decrease in the number of medical students, 1613; medical women, 1613; ambulance and first-aid stations, 1613; outpatient question at, 1710
Berry, F. M. Dickinson, discussion on physical deterioration, 933
——— G. A., introductory remarks as President of Section of Ophthalmology, 429; capsular complications after cataract extraction, 434; new test for visual acuteness, 439
——— James, sixty-seven cases of congenital cleft palate treated by operation, 853
——— R. J. A., of Melbourne, 1670
Bertillon, M., proposes that cheques should be signed by thumb mark, 810
Best bed, 1624
Bevan, Dr., case of cirrhosis of liver, 1256
Bevers, E., case of thyroidectomy, 330
Bey, Zachariadis, report on the annual pilgrimage from Egypt to Arabia, 1905, 398
Biden, Fleet Surgeon E. J., remarks and suggestions on the head dress of certain ratings in His Majesty's Fleet, 321
Bidwell, Leonard A., discussion on surgical treatment of non-malignant diseases of the stomach, 779; cystic tumour of omentum, 806
Biernacki, John, aid to prognosis in typhoid fever, 1498
Bile beans, 815
——— duct, simple stricture of, treated by a plastic operation (B. G. A. Moynihan), 1390
Bilharzia disease of the rectum, 672
Biliary calculus. See Calculus
——— fever. See Fever
——— obstruction, faeces in (P. J. Cammidge), 1102
Bill, Accidents (Mines and Factories), deputation to the Home Office, 52; questions in the House, 203
——— Aliens, 37, 150
——— Medical Act (1886) Amendment, second reading, 149; third reading, 203
——— Public Health Acts (Amendment), 403
——— Sheffield University, 203, 256
——— Tuberculosis (Animals) Compensation, 203
Billroth, Theodore, memorial to, 593
Bills, Companies Act Amendment, 37
——— progress of in Parliament, 349
Birmingham, Charles L., Handbook of Irish Sanitary Law, together with Abstracts of the Various Statutes, Orders and Regulations Affecting the Administration of Workhouse Infirmaries and Poor-law Dispensary Districts, rev., 1705
Birmingham, special correspondence from, 153, 213, 258, 302, 460, 604, 677, 752, 903, 986, 1149, 1315, 1480, 1554, 1613, 1674, 1728; birthday honour, 158; opening of new dental hospital, 158; degree congregation at the university, 158; West Bromwich Nurses' Home, 123; lunacy in, 213, 903; Midwives Act, 213, 1316; infantile mortality from epidemic diarrhoea, 213; poisoning by ice cream, 258, 302; health of Birmingham, 259; colony for epileptics, 259; Birmingham and Midland Eye Hospital, 259; Warwickshire County Council health report, 302; West Bromwich Hospital, annual report, 302; donation to, 903; infant mortality in, 460; Corbett Hospital, Stourbridge, 460, 604; Guest Hospital, Dudley, 460, 1555; consumption in Derbyshire, 604; hospital service at Old Hill, 604; small-pox at Nuneaton, 604, 677, 986; Royal Commission on Care and Control of Feeble-minded, 604; Dudley Ophthalmic Institution, 604; death of Mr. Charles Duncan Soutter, 604; Potteries Joint Hospital, 677; General and Queen's Hospitals, bequests to, 677; Sanitary Committee of Coventry and infectious diseases, 677; health of Handsworth, 752; death of Mr. Harry Arthur Pearson, 752; Midland Counties Home for Incurables, Leamington, 753, 1149, 1675; opening of the New Women's Hospital at Sparkhill, 903; the stage and the hospitals, 903; consumption in Birmingham, 903; asylums and private patients, 903; contributions to Wolverhampton hospitals, 904; infantile mortality at Walsall, 904; Dudley Education Committee, 904; Blind and Deaf School at Stoke-on-Trent, 904, 986; complimentary dinner to Sir Thomas Chavasse, 986; South Staffordshire Small-pox Hospital, 986, 1480; typhoid fever at Stoke-on-Trent, 986; Walsall Nursing Institution, 1149; new workhouse infirmary at Tamworth, 1149; Stratford-on-Avon Hospital annual report, 1149; Birmingham Orthopaedic Hospital eighty-eighth annual meeting, 1149; Dudley Dispensary, 1149; Hanley Nursing Society, 1149; police ambulance work, 1315; Hospital Sunday collections in Birmingham, 1315; Hospital Saturday collection at Oldbury, 1315; Birmingham Children's Hospital, entertainment in aid of, 1315; prosecution of a midwife, 1315; prosecution under Food and Drugs Act, 1316; Medical Mission, 1480; instruction of medical students, 1554; anthrax at Selly Oak, 1554; Pharmaceutical Conference at Birmingham, 1555; enteric fever in the Potteries, 1555; North Staffordshire Infirmary, 1555; annual dinner of past and present medical students, 1613; gifts to the university, 1613; Hospital Sunday Fund, 1674; action of the Welsh water upon galvanized vessels, 1674; scarlet fever at, 1718; the Coventry and Warwickshire Hospital annual meeting, 1718
Birt, Lieutenant-Colonel C., caffeine enrichment method, 1110
Birthday honours, 87, 302, 1307
Birth-rate, decrease in Germany, 1423
Bishop, E. Stanmore, discussion on surgical treatment of malignant disease of rectum, 797
Bishop of London on Christian Science, 1359
Blackburn, report of medical officer of health on school hygiene, 1353; prevention of consumption in, 1611
Blackham, Robert J., varicella gangrenosa, 1205
Bladder, diverticulum of, in an inguinal hernia (Edred M. Corner and Cecil W. Rowntree), 1042
Blair, Charles, Errors of Refraction and their Treatment, rev., 442
——— J., appointed J.P. for county borough of Wigan, 739
Blanchard, Raphael, Les Moustiques, Histoire Naturelle et Médicale, rev., 25
Bland-Sutton, J., acute salpingitis, 118; solitary non-parasitic cysts of liver, 1167
Blepharoplasty, evolution of (A. H. Benson), 438
Blind and deaf school at Stoke-on-Trent, 904, 986
——— practical lives of, 1564
Blomfield, James E., the war against quackery, 1722
Blood, action of metallic ferments on cellular elements of, 301
——— alkalinity of in eclampsia (C. Nepean Longridge), 1296
——— counts in acute hepatitis and amoebic abscess of liver (Leonard Rogers), 1291
——— film spreader, 1050
——— in lead anaemia (Kenneth W. Goadby), 654
——— in pemphigus and haemorrhagic purpura (Law Webb), 1701
——— poisoning at Cootehill Workhouse, 93
——— relationship and the precipitin test, 1304
——— typhoid bacilli in, 1417
Board, Army Medical Advisory, 824, 1374
——— Edinburgh District Lunacy, 827
——— Local Government, England, reform of, 292; and the Board of Trade, 297; the medical work of (leading article), 667; and combined sanitary districts, 669; report of medical officer, 1903-4, 735; and organization (unemployed workmen) establishment order, 739; and Aston Board of Guardians, 889; new President of, 1712
——— Ireland, report for 1904-5, 1422, 1550, 1672
——— Scotland, annual report, 151
——— Maltese Lunacy, 403
——— Metropolitan Asylums, and treatment of consumptives, 140; annual report of, 405; fever and small-pox hospitals of, information for medical students, 509
——— and its assistant medical officers, 462, 540, 605, 739, 1141, 1237
——— Midwives, and the Belfast Maternity Hospital, 149, 205, 1064; "framed by the," 168; result of examinations for midwives, 1302
"Boards of guardians," future of, 1076
Boarding out, 93
Boer war, report on the surgery of (W. F. Stevenson), 1301
Bogue, E. H., discussion on toothache, neuralgia, and remote affections of dental origin, 558; influence of arranging irregularly placed teeth into their normal positions, 569
Boiling water, portable cooler for, 813
Boils, abscess of kidney secondary to, 895
Bombay, inoculation against plague in, 899
Bond, C. J., on ascending currents in mucous canals, and gland ducts, and their influence on infection: a study in surgical pathology, 232; correlation of sex and disease, 1094
——— Francis T., cheese-making, 832
Bone marrow, red, influence of certain micro-organisms on the cellular constituents of (Cecil Price-Jones), 1112
Bones recently dug up on site of Christ's Hospital (F. G. Parsons), 1468
Bonesetters and club patients, 219; and colliery surgeons, 1502
Boobbyer, Philip, introductory remarks as President of Section of State Medicine, 270; discussion on infant milk depôts, 646
Books of Reference, rev., 1659
Book support, 1403
Booth-Clarkson, J., coroner for South-West London, 461; Government and Mr. Troutbeck, 677

Bootle, annual report of M.O H , 356
Boracic acid in milk, 1243, 1315
Borel, M , cholera dissemination, 1369
Bornträger, J., Beiträge zur Typhusforschung, rev., 1045
Borrowman, Philip G., plea for the investigation of catarrh, 1407
Bournemouth, opening of municipal golf links, 1221
Bovine tuberculosis. See Tuberculosis
Boxall, Robert, discussion on treatment of albuminuria and eclampsia in pregnancy, 715
Boyce, Rubert, introductory remarks as President of Tropical Section, 1258; Report on the Sanitation and Antimalarial Measures in Practice in Bathurst, Conakry and Freetown, rev., 1208; the Thompson-Yates and Johnston Laboratories Report, rev., 1208
Brackenbury, H. B., elected mayor of Hornsey, 1354
Bradford, prevention of consumption at, 890
Bradshaw lecture, 1245, 1565
——— T. R., case of syringomyelia, 61
Bradycardia, pathology of (John Hay), 1034
——— ——— syncopal, showing independent action of the two sides of the heart (J. Seymour Maynard), 847; correspondence on, 988, 1072, 1151, 1237, 1319, 1618
Brain abscess. See Abscess
——— bequest of a, 923
——— fag and underfeeding, 967
——— weights and intelligence (leading article), 1415. See also Microgyria
Bramwell, Byrom, case of Addison's disease, 1082; lecture on aphasia, 1614; Clinical Studies, rev., 1640
Branson, F. W., rapid and simple process for the estimation of uric acid, 1104
Bread, adulterated, 605
——— white, 616, 688
Breast-fed infants, 752
Breath, management of, in singing, 608
Breathing exercise, a deadly, 1436
Brentry Reformatory. See Reformatory
Brezzi, Luiei Bernardo e Giuseppe, Lo Sgombero degli Ammalati e dei Feriti in Guerra, rev., 101
Brice, Ernest, obscure case of skin pigmentation successfully treated with arsenic, 655; plea for evacuation of the uterus in unrelieved cases of puerperal eclampsia, 1175
Bridgend, typhoid epidemic at, 44; contract medical practice at, 318
Bridgwater, "Dr." Talbot, trial of, 1473
Brierley, J. Brassey, British Medical Benevolent Fund, 988; sanitary officialism, 1430
Briggs, Henry, discussion on diagnosis and treatment of uterine cancer, 702
Bristol, special correspondence from, 1148, 1234, 1555; annual report of medical officer of health, 1148; water supply and open spaces, 1148; inspection of elementary schools, 1148; ambulance services, 1148; vital statistics, 1148; small-pox and vaccination, 1148; scarlet fever, 1149; enteric fever, 1149; tuberculosis, 1149; University College Faculty of Medicine, 1234; address by Professor Osler, 1234; annual dinner, 1234; Hospital Sunday Fund, 1555
——— Union, 1226
BRITISH MEDICAL JOURNAL in 1906, 1688, 1728
British Central Africa, medical appointments in, 586
——— Columbia, British practitioners in, 589; prevention of tuberculosis in, 753
——— Guiana, medical appointments in, 585; report on Blue Book of Colonial Office, 1710
——— Honduras, medical appointments in, 585
——— Medical Benevolent Fund See Fund
——— Pharmacopoeia, plea for a pocket edition of, 459
——— Museum, foundation of, 1225
——— practitioners abroad, 583
——— Sanatoria Annual, 1005, rev., 76
——— Science Guild. See Guild
Britton, John, hyperpyrexia, 130
Broadbent, G. H., railway medical officers, 215; next representative meeting, London, 1906, 303; perplexities of secretaries, 1316; Medical Secretary and meetings of Divisions, 1425; courtesy and co-operation between Divisions of a Branch, 1721
——— Sir William, cold affusion in delirium tremens, 8; discussion on sleeplessness and pain, 1660; the tuberculous children of London, 1533
——— W. H., British Medical Benevolent Fund, 905: Sir Frederick Treves's address, 1370
Brogden, Dr, death of, 1615
Broke-Smith, Surgeon-Major-General, death of, 686
Bronchial asthma. See Asthma
Bronner, Adolph, notes on a case of emmetropia, 430; capsular complications after cataract extractions, 433; discussion on laryngeal tuberculosis, 1107
Brookhouse, J. O, discussion on toothache, neuralgia, and remote affections of dental origin, 561; obituary notice of, 1240
Brown, J. J. Graham, Treatment of Nervous Disease, rev., 134
——— John, discussion on poverty in relation to disease and degeneration, 940; the British Medical Benevolent Fund, 1072
——— W. Langdon, portal pyaemia and pylephlebitis, 1393
Browne, Dr. Edward (1644-1708) and the education of physicians in London in the seventeenth century (Norman Moore), 1385
——— H. W. Langley, discussion on physical deterioration, 933; discussion on anthrax, 936; discussion on accident and poisoning reports, 9 9; discussion on poverty in relation to disease and degeneration, 940
——— Sir Thomas, tercentenary of, 743, 969, 1121, 1137
——— ——— address on (William Osler), 993; leading article on, 1137; souvenir of, 1069; quaint sayings of, 1069; statue unveiled at Norwich, 1121; unveiling of the statue, 1121; luncheon at the Blackfriars Hall, 1122; the memorial service at St. Peter Mancroft, 1124; bibliography of the "Religio Medici," 1303
——— ——— medicine and witchcraft in the days of (John Knott), 957, 1040; correspondence on, 1074
Bruce, Colonel David, C.B. conferred upon, 87; lecture on sleeping sickness, 582
Bruhl's disease (Fleet Surgeon P. W. Bassett Smith), 1260
Brundage, A. H , A Manual of Toxicology, rev , 1591
Brunton, Sir Lauder, discussion on treatment of sleeplessness and pain, 1002
Brussels, school for mothers in, 1541
Bryan, C. F., discussion on accident and poisoning reports, 938; discussion on poverty in relation to disease and degeneration, 940
Bryant, Mrs., ideals of study, 883
Brynmawr, housing at, 401; health report, 870
Bucknall, K., two cases of operation involving the thoracic duct, 809
Buenos Aires, medical practice in, 1410
Buist, R. C., the perplexities of secretaries, 988
Bulgaria, British practitioners in, 588
Buller, Frank, death of, 1057; obituary notice of, 1621
Bulstrode, H. T., illness of, 1230
Burdett, Sir Henry, How to become a Nurse: The Nursing Profession: How and Where to Train, rev., 96
Burdon-Sanderson, Sir John, leading article on, 1471; biography, 1481; physiologist (Francis Gotch), 1482; pathologist (E. Klein), 1484; (James Ritchie), 1484; public health work (Edward Seaton), 1486; influence in the Oxford School (Sir William S. Church), 1486; recollections of (Arthur Thomson), 1487; and the British Medical Association (William Collier), 1488; some personal tributes (T. Clifford Allbutt), 1489; (John G. McKendrick), 1489; (Sir Victor Horsley), 1490; (A. D. Waller), 1490; (W. D. Halliburton), 1490: (Leonard Hill), 1490; (M. S. Pembrey), 1491: (C. S Sherrington), 1491; (William Stirling), 1492; funeral of, 1492; the "Berliner klinische Wochenschrift" and, 1552
Bureau for Scientific Information, Paris, 1530
Burial of paupers, 1467
Burnet, R. W., Foods and Dietaries: A Manual of Clinical Dietetics, rev., 656
Burnett, James, Manual of Diseases of Children, rev , 386
Burns, Dr. John, enters his 61st year, 751
——— Mr. John, the new President of the Local Government Board, 1712
Burton-Fanning, F. W., Open-air Treatment of Pulmonary Tuberculosis, rev., 389; correspondence on, 463
Bury, new workhouse infirmary at, 922
Bushnell, F. G., sanatorium treatment of phthisis, is it worth while? 159; a ministry of public health, 414; some aspects of carcinoma ventriculi, 1114; "red" degeneration, 1115; ulcerative colitis, 1342; Public Health Ministry, 1681
Butlin, Henry T., carcinoma is a parasitic disease 1565
Buxton, B. H , typhoid bacilli in the blood, 1417
Byers, J. W., discussion on albuminuria and eclampsia in pregnancy, 719; Sir Hans Sloane, 1354; Dr. Thomas Young, 1559

C.

Caecum, cancer of. See Cancer
Caerleon District Council, 1370
Caesarean section, post-mortem, 451
Caffeine enrichment method (Lieutenant-Colonel C. Birt), 1110
Cale, W. J., a method of guarding the perineum in labour, 628
Caiger, Herbert, case of poisoning from tinned sardines, coma, death, necropsy, 928
Calcareous mortar-like fluid in the pleura (Samuel West), 1456
Calculus, biliary, and intestinal obstruction (Carey Coombs), 1399
——— nasal (F. W. Taylor), 209
——— renal, x ray diagnosis of (Morton Smart), 617; recurrence of, 1726
——— large vesical (C. Duer), 130
California, mosquito, reduction in, 272
Calmette, Professor, awarded François-Joseph Audiffred prize, 1303
Calvocoressi, G , the urine in nephritis, 1397
Calwell, Dr., oil of cinnamon in typhoid fever, 1206
Camac, C. N. B., discussion on meningitis 1016
Cambridge, post-graduate study at, 517
Cameron, J. Spottiswoode, discussion on isolation hospitals, 635
——— J. S. M., some complications and degenerations of uterine fibromyomata, 712
Cameroons, disease of horses in, 242
Cammidge, P. J , observations on the faeces in biliary obstruction and pancreatic disease, 1102
Campbell, Harry, diet of the precibiculturists, 40, 208, 304, 350, 406, 665, 813, 979, 1217, 1658
——— John, discussion on diagnosis and treatment of uterine cancer, 698; influence of pus in female urethra on the progress of gynaecological and obstetrical cases, 709; discussion on albuminuria and eclampsia in pregnancy, 719
——— R. F, physical degeneration and syphilis, 607
——— Robert, strangulation of uterine appendages in inguinal hernia, 1206
——— Thompson, stages of pulmonary tuberculosis, 852
Canada, notes from, 153, 974, 1548; Medical Faculty, McGill University, Seventy-sixth Convocation, 153; Canadian Medical Association, annual meeting, 974; Canadian Medical Protective Association, annual meeting, 974; meeting, 1548; Toronto hospitals, 974; a nurses' home, 974; Ontario hospitals, 974; trial for murder, 974; Canadian Army Medical Corps, 975; lunacy problem in Ontario, 975; cerebro-spinal meningitis, 975; public health of Ontario, 975; vital statistics, 975; new hospitals in Montreal, 1548; revelations by the Montreal Pure Milk League, 1548
——— insane in, 401; sanatoriums in, 410
Canadian Army Medical Corps, 975
Cancer, age of, 594
——— are the problems of insoluble? (E. F. Bashford), 1507
——— of caecum, resection of (Mr. Morrison), 1036
——— certain features exhibited by cells in their relation to (F. W. Forbes Ross), 1101
——— cervical, treatment of, in last two months of pregnancy (Thomas Wilson), 706
——— case of, after supravaginal hysterectomy for fibroid (G. Grey Turner), 953
——— colloid, at 12 years of age (James A. Milne), 925
——— cures in the eighteenth century, 56
——— etiology and suggested cure of, 760
——— Doyen's serum in. See Doyen
——— instruction of the laity in the early signs of, 907
——— is a parasitic disease (Henry T. Butlin), 1565
——— problem, present position of, 104; correspondence, 1679
——— Research Fund. See Fund
——— research, 1310; laboratories at Middlesex Hospital, 1069; review of book on, 1593
——— spread of by the thoracic duct (T. Gillman Moorhead), 73; (Herbert E Durham), 73
——— statistical investigation of, 593; (leading article), 594
——— in three sisters (Charles P Childe), 804
——— of testicle, columnar-celled (A. G. R. Foulerton), 1525
——— treatment of, 312
——— up-to-date surgery and treatment of, 1152, 1235, 1317, 1493
——— of uterus. See Uterus
——— of ventricle, some aspects of (F. G. Bushnell and F. Hinds), 1114
Cantlie, James, "paraffin" testicle, 441; discussion on sprue and hill diarrhoea, 1281; seven cases of liver abscess, 1294
Canvassing and advertising by practitioners, General Medical Council and, 1544
Cape Colony, British practitioners in, 589
Capetown, special correspondence from, 301; South African Medical Congress, 301; proposed South African medical guild, 301; birthday honours, 302
Capsular complications after cataract extraction. See Cataract
Capsule, extraction of cataract in, 1419
——— breaker, automatic, 334
Carbon-monoxide poisoning, 108

Carcinoma. See Cancer
Carcinoma-sarcoma uteri (H. R. Spencer), 954
Card index of American physicians, 1612
Cardiac sounds, influence of posture on (William Gordon), 1328, 1343, 1719; correspondence on, 1560, 1680, 1719
Cardio-aortic lesions, strain as a factor in (H. B. Anderson), 840
Cardiff, Royal visit to, 44, 104; Infirmary. See Infirmary; small-pox at, 213; new college at, 358; Welsh summer schools' visit to, 358; Poor-law expenditure at, 830; workhouse nursing staff, 905; made a city, 1233; Patti concert for the infirmary, 1233; garden city, at, 1425; guardians and cost of vaccination, 1480; College Council, 1614; police surgeons, 1675
Care of insane resident patient, 613
Careless purchaser, 929
Cargill, Featherstone, C.M.G. conferred upon, 1307
Carling, Esther Colebrook, sanatorium treatment of phthisis: is it worth while? 46
Carlsbad season, 598
Carlyle, Thomas, the Man and His Influence, 102
Carmichael, Colonel James Charles Gordon, obituary notice of, 1322
Carr, J. Walter, appreciation of Christopher Heath, 418
Carruthers, Thomas, Urine Examination Made Easy, rev., 581
Carter, Ernest E., oedema of uvula, 1520
——— Robert Brudenell, medical education, 878
——— Thomas Albert, obituary notice of, 1724
——— Messrs., a hospital tent, 55
Cartier, Jacques, and the first reported post-mortem examination in Montreal, 1368
Cartwright, John Augustus Tatam, obituary notice of, 1561
Castellani, Aldo, tropical forms of pityriasis versicolor, 1271; observations on "dhobie itch" and other tropical trichophytic diseases, 1277; on the presence of spirochaetes in two cases of ulcerated parangi (yaws), 1280, 1330, 1430; diarrhoea from flagellates, 1675
Castro, Roderigo de, on medical ethics, 960
Cataract, crystalline lens in (Sir William Job Collins), 1440
——— extraction, capsular complications after, discussion on (E. Treacher Collins), 433; (A. Bronner), 433; (J. Tatham Thompson), 433; (John Hern), 433; (G. A. Berry), 434
——— of the capsule (Major Henry Smith), 1419
Catarrh, plea for the investigation of, 1373, 1428, 1496, 1560, 1618, 1679, 1680, 1719
——— relation of, to asthma, 1726
Catholic University Medical School, Dublin, information for medical students, 505
Caton, Richard, elected chairman of Education Committee of County Borough of Liverpool, 1425
Catsups and sauces, 1742
Cattle, C. H., diagnosis of incipient phthisis and its open air treatment, 462
Cattley, Robert, mitoses in the cells of the Graafian follicle, 1111
Cautery, hot air, and conical cornea (Karl Grossmann), 436
Cautley, Edmund, relationship of the teeth to disease in early life, 555
Caverhill, Thomas F. S., discussion on sanatoriums for poorer consumptives, 619; discussion on what is notifiable diphtheria, 651; discussion on meningitis, 1018
Cavernous sinus. See Sinus
Cell theory, the begetter of the, 1362
Cells in their relation to cancer. See Cancer
Cerebral gumma. See Gumma
——— and ophthalmic complications of sphenoidal sinusitis (St Clair Thomson), 954
Cerebro-spinal meningitis, epidemic (leading article), 86
——— case of (Charles Randolph), 329; (Napier Close), 1308; to be made a notifiable disease in the borough of Tunbridge Wells, 374; memorandum from Local Government Board, 613
——— epidemic in Northern Nigeria (K. McGahey), 1173
——— in Austria, 259, 751
——— in Canada, 977
——— in Ireland, 1718
——— at Irthlingborough, 895
——— in Scotland, correspondence on, 750. See also Meningitis
Certificate of death, copies of, 304
——— medical, for elementary school children. See Medical
——— for insured workmen, 263, 364
——— for school authorities and coroners, 800
Certificates, school, signing of, 1064
Certification of insane patient for county asylum, 614, 835, 910
Cervical cancer. See Cancer
Cervix, treatment of papillary erosion of (E. Hastings Tweedy), 1205
Ceylon, medical appointments in, 586
Chaldecott, J. H., evolution of ethyl-chloride, its uses and abuses, 1526
Chalmers, A. T., discussion on sprue and hill diarrhoea, 1285
Chamousset, Piarron de, 103
Chance, Arthur, knighthood conferred upon, 1307
Change-of-address cards, 210, 263
Chantemesse, Professor, cholera dissemination, 1369
Chapman, C. W., obstruction of superior vena cava, 1343
Charas, Dr., elected Vice-President, Austrian Society for Repression of Quackery, 1608
Charcot, Professor, library of presented to Faculty of Medicine of Paris, 1669
Charles II and his stroke of apoplexy, 1661
Charles, J. R., syphilitic pachymeningitis, 1341
Charm, an anticholera, 673
Charter for the Association. See Association
Chasdai-Kas said to have written Dante's works, 983
Chavasse, T. F., knighthood conferred upon, 88, 158; dinner to, 826, 986
Cheatle, G. Lenthal, incidence of hair's greyness, 176
Cheesemaking, 748, 832
Chemical mechanism of gastric secretion, 200
Chemists, dispensing, trustworthiness of, 1243
——— medical practice by, in the Transvaal, 55
——— relations with, 834, 1154
Chemistry, bacteria of, 348
Chester, prevention of consumption at, 984
Chicago, decline of typhoid mortality in, 315
Child labour at Sheffield, 666
——— rearing, municipal, 397, 616, 752. See also Mortality, infantile
Childe, Charles P., an unusual condition of the large intestine associated with carcinoma in two sisters, together with carcinoma in a third sister, 804; wandering spleen, haemorrhage within the capsule, splenectomy, recovery, 1631
Childhood, protection of in France, 33
——— national importance of removal of adenoids in. See Adenoids
——— remote affections due to teething in (Robert Hutchison), 556
Children, boarding out, cost of, 676
——— cigarette smoking and abuse of alcohol by, in Vienna, 460
——— consumptive, sanatorium for. See Sanatoriums
——— decapsulation of kidneys for nephritis in, 1472
——— diseases of, review of books on, 386, 876
——— feeble-minded, care of, 242, 1315
——— inspection of in elementary schools, 1308, 1409, 1683
——— mental defect in, causation of (W. A. Potts), 946
——— rheumatic, combined aortic and mitral disease in (F. J. Poynton), 837
——— school, free bathing for, 903
——— school, medical examination of in New York, 449
——— school, meals for, 1228
——— surgical tuberculosis in. See Tuberculosis
——— tuberculous. See Tuberculous
——— underfed, 200, 211; interdepartmental Committee on, 1409; at Leeds, 904; in Manchester, 211, 752, 903, 1070
Childs, Dr., comparative study of the Lincoln, Maidstone and Worthing epidemics of typhoid fever, 1463
China, influence of diet in, on natives and Europeans, 41; medical consultations in, 344; leprosy in, 346
Chinese medicine and American metaphysics, 401
——— antiquity of, 1552, 1611
Chipping Sodbury Rural District and L.G.B., 1067
Chloroform Committee, special report, 180; on the relative effects of chloroform upon the heart and other muscular organs (C. S. Sherrington and S. C. M. Sowton), 181; on the examination of chloroform in inspired and expired air (A. Vernon Harcourt), 187
——— bottle, a new, 1146
——— death under, 665
——— syncope and direct manipulation of the heart (T. Rudolph Smith and Wm. Robert Dalgish), 1340; correspondence on, 1439
Chloroformed calf vaccine, 737
Cholangitis, suppurative, following cholelithiasis and cholecystitis (G. Montague Harston and William Hunter), 1491
Cholelithiasis, an experimental contribution to the treatment of (William Bain), 269; note on, 368
Cholera, recent epidemic in Persia (Joseph Scott), 620
——— Asiatic, in Austria, 676, 751
——— in German, 596, 602, 675, 738, 829; precautions at British ports, 602
——— dissemination (MM. Chantemesse and Borel), 1369
Chowry-Muthu, D. J., sanatorium treatment of phthisis, is it worth while? 46
Christian Science, 1546; and hay fever, 394
——— Bishop of London on, 1359
Christophers, S. R., note on a peculiar schistosomum bug, 1289; Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India, rev., 1298
Church, Sir William S., Burdon-Sanderson's influence on the Oxford School, 1486
Chylous ascites, 1229
Cigarette smoking by children in Austria, 460; in Manchester, 986
Cinderford, Glos., and the St. John Ambulance Association, 818
Circulars to patients, 612
Cirrhosis of liver. See Liver
Citrate of soda in infant feeding (F. J. Poynton), 1021
City of Utopia, 294
Claim for pension under the Superannuation Act, 1561
Clampett, Reginald W. T., oedema of the uvula, 578; importance of vaginal examination early in pregnancy, 906
Claretie, Jules, a unique book from Victor Hugo to Dr. Terrier, 353
Clark, Andrew, presidential address delivered before the Metropolitan Counties Branch, on the British Medical Association and the advancement of science, 1; the first Branch to form districts, 104
——— A. W. G., causation of some of the chief symptoms of Graves's disease, 1558
——— Henry E., ligature of the profunda femoris artery, common femoral artery and common iliac artery on the same side, perfect recovery, 850
Clarke, Astley, unusual case of necrosis of jaw in a child, 576; annual meeting, Leicester, 1905, 1149
——— J. Jackson, congenital dislocation of hip-joint, and its modern treatment, 784, 1588; discussion on surgical treatment of malignant disease of rectum, 804; treatment of tuberculous disease of joints and spine, 1643; the problem of cancer, 1670
——— J. Michell, case of lead paralysis, 1341; myasthenia gravis, 1342
——— J. T., discussion on beri-beri, 1100, 1287
——— W. Bruce, discussion on surgical treatment of non-malignant diseases of the stomach, 775
Classes on self-aid, 612
Clavicle, fractured, operative interference in (H. N. Taylor), 1327
Clay pills as a treatment for piles, 616, 688, 760
Clayton, Cuthbert E. A., duplicate copies of medical publications, 1619
Cleaves, Margaret A., Light Energy: its Physics, Physiological Action, and Therapeutic Application, rev., 1530
Cleft palate. See Palate
Clements, W. H., appointed district commissioner and assistant colonial surgeon in Toledo district, British Honduras, 444
Clergy and quackery, 308
Climates of England, 1503
Clinical or laboratory courses, 147
——— medicine, review of books on, 331, 1049; London School of. See London
——— pathology, 467, 615
Cologe, C., gynaecological knowledge of old Greek physicians, 200
Clonmany, typhus at, 975
Close, Napier, case of cerebro-spinal meningitis, 1308
Clouston, T. S., prognosis in mental diseases, 1075
Club, Manchester Edinburgh University, annual dinner, 1315
"Clubs," 411
Coal mines, prevention of deaths in, 746
Coates, Colonel William, C.B. conferred upon, 8
Coccidiosis, 37
Cock, F., remarkable case of wound of the abdomen, with prolapse of the large intestine: recovery, 937
Cockburn, Sister, A Practical Guide to Cookery in West Africa and the Tropics, rev., 1045
Cohn, Toby, Die palpablen Gebilde des normalen menschlichen Korpers und deren methodische Palpation, rev., 388
Cohnheim, Paul, Die Krankheiten des Verdauungskanals: Oesophagus Magen Darm, rev., 812

Colbeck, Edmund Henry, Diseases of the Heart, rev., 333
Cold. See Catarrh
——— affusion in delirium tremens (Sir William Broadbent), 8
Coleman, Warren, typhoid bacilli in the blood, 1417
Colitis, membranous, 688
——— primary and secondary, value of the sigmoidoscope in diagnosis between (P. Lockhart Mummery), 1630
——— ulcerative (F. G. Bushnell), 1342
College, Anderson's, Glasgow, information *re* instruction at, 504; appointments, 751
——— Armstrong, of Science, annual report, 987
——— Epsom, annual general meeting, 27; jubilee of, 100; founder's day, 299; Register of, rev., 1528; appeal for, 1547, 1560
——— of Hygiene, Dunfermline, 977; history of the college, 977; address by Sir John Batty Tuke, 977
——— King's, vacation courses, 103; entrance scholarships, 1040
——— Medical Graduates' and Polyclinic, London, information about, 515
——— Medical for Women, Edinburgh, information *re* course of instruction at, 505
——— North-east London Post-Graduate, information about, 5 6
——— Post-Graduate, 514
——— of Preceptors, preliminary examination for, 1624
——— Princess Christian Training, at Withington, 212
——— Queen's, Belfast, information for medical students, 505; promised bequest to, 751; better equipment of, 827, 975, 1312, 1478, 1551, 1718; president's annual report, 898; opening address, 1313
——— Queen's, Cork, appointments to chairs, 453; information for medical students, 505; president's report, 601; inaugural address, 1312; result of autumn examinations, 1422; appointment of visitors, 1551
——— Queen's, Galway: information for medical students, 500
——— Royal, of Physicians Edinburgh, 263, 487, 762, 1380; quarterly meeting, 263, 1385; admission of fellows, 263, 1380; admission of members, 263, 1385; admission to the licence, 263, 1380; curriculum and examination, 263; school of medicine of the Royal College, 263; Freeland Barbour Fellowship, 263; Hill Pattison-Struthers Bursary, 263, 1380; expulsion of licentiate, 263; regulations for medical students, 487; and the dispensing of medicine by members, 760
——— Royal, of Physicians, Ireland, 220, 490, 1146, 1153, 1433; regulations for medical students, 490; annual dinner, 1146; election of officers, 1153; appointment of examiners, 1153; pass lists, 1433
——— Royal, of Physicians of London, 53, 307, 484, 1242, 1724; comitia, 53, 307, 1724; communications, 53, 307, 1242, 1724; reports, 53, 308; gift by Sir Samuel Wilks, 53; fellowship, 53, 308; election of officers, 308; library, 308, 1243; regulations for medical students, 484; Harveian oration, 1242; Jenk's scholar, 1242; membership, 1242; licences, 1242, 1724; finance, 1243; by-laws, 1243; appointments, 1243; reports, 1243; announcement, 1724; the Harveian festival, 1724; University of Liverpool, 1724; recognition of schools, 1724; date of examination for membership, 1724
——— Royal, of Surgeons of Edinburgh, 94, 204, 238, 303, 487, 1154, 1684; quatercentenary, 94, 204, 238; its early connexion with medical teaching (R. McKenzie Johnston), 179; introductory meeting, 238; service in St. Giles's, 238; corporation luncheon, 238; commemoration ceremony, 238; conferment of honorary fellowship, 239; congratulatory addresses, 239; reception at the Royal Scottish Museum, 240; luncheon at the College of Physicians, 240; garden party at George Heriot's Hospital, 240; banquet in the Music Hall, 240; conferment of honorary degrees, 240; a bird's-eye view of the celebration, 241; pass lists, 308, 1154; regulations for medical students, 487; election of president, 1154; admission of Fellows, 1684
——— Royal, of Surgeons of England, 84, 161, 196, 217, 484, 1076, 1237, 1320, 1379, 1431, 1683; council election, 84; fellows' dinner, 161; visit of Canadian and American visitors to museum, 196; meeting of council, 117, 1076, 1379; election of officers, 117; appointment of lecturers, 217; recognition of Cairo Medical School, 217; Museum, 217, 1076; regulations for medical students, 484; the late Mr. Christopher Heath, 1076; annual report of council, 1076, 1320; board of examiners in dental surgery, 1076; memorial to Sir Thomas Browne, 1076, 1379; annual meeting of fellows and members, 1431; correspondence on, 1247; Begley studentship in surgery and anatomy, 1379; board of examiners, 1379; Bradshaw lecture, 1379; new members, 1379; meeting of trustees, 1380; the late Mr. John Croft, 1683; Leeds Public Dispensary, 1683; Fellowship regulations, 1683; appointments, 1683
College, Royal, of Surgeons in Ireland, 217, 368, 505, 539, 1314, 1433, 1562; summer session, 217; winter session, 1314; fellowship examination, 368; information for medical students, 505; regulations for dental degrees, 539; pass lists, 1433, 1562
——— Royal Veterinary, introductory address, the veterinary profession and comparative pathology (William Hunting) 884
——— Royal Veterinary of Ireland, opening of sixth session, 970
——— St. David's Lampeter, donation to, 1480
——— St. Mungo's, Glasgow, information *re* the medical school of, 504
——— of Technology, proposed central, 92
——— Trinity, Dublin, 53, 95, 217, 1433, 1562, 1623, 1724; pass lists and degrees, 53, 217, 1433, 1562, 1623, 1724; Archbishop Walsh and, 95, 152; information for medical students, 505; post-graduate study at, 517
——— University, Aberystwith, formal opening of farm connected with, 44
——— University, Bangor, 21st anniversary of, 104
——— University, Bristol, information *re* the faculty of medicine, 498; annual distribution of prizes, 1234; address by Professor Osler, 1234; annual dinner, 1234; medical faculty, 1623; bacteriology, 1623; appointments, 1623
——— University, Cardiff, annual meeting of governors, 1242
——— University, Dundee, information for medical students, 505
——— University, London, conversazione, 35; information *re* medical faculty, 490; post-graduate courses, 516; Bawden trust and, 597, 1370; exhibition of specimens in museum of pathological anatomy, 1364; appointments, 1379, 1623
——— University, Wales, new buildings, 158
——— University of South Wales and Monmouthshire, information *re* the school of medicine, Cardiff 501; last session, 830
——— West London, post-graduate, information about, 515
Colleges, Royal Edinburgh, information *re* the school of medicine, 503
Collier, Dr., sanatorium treatment of consumption, 330
——— Joseph, obituary notice of, 1074; appreciation of, 1157
——— William, Burdon-Sanderson and the British Medical Association, 1488
Colliery appointments, 880
——— surgeons and bonesetters, 1562
Collins, E. Treacher, capsular complications after cataract extraction, 433
——— J. Rupert, experimental inquiry into the infection of operative wounds, from the skin, the breath, and the air, 121
——— Sir William Job, the crystalline lens in health and in cataract, 1440
Colloid carcinoma. See Cancer
Colonies, medical appointments in the, 585
Colour blindness (Mr. Nettleship), 1345
——— and light, perception of (F. W. Edridge-Green), 177
——— systems (F. W. Edridge Green), 1117
Columnar-celled carcinoma. See Cancer
Colyer, J. F., dental diseases in horses, 567
Combe, A., Le Traitement de l'Entérite muco-membraneuse, rev., 812
Combes, Emile, as a poet, 1408
Combined sanitary districts, 669
——— forceps and wound retractor, 1706
Commission, Royal, on care of feeble-minded, 604, 800
Committee, Scientific Grants. See Association
Common interests of literature and science, 29
Company practice, prohibition of, 29
Comparative study of the Lincoln, Maidstone, and Worthing epidemics of typhoid fever (Dr. Childs), 1463
Compensation for injury, 111
Complication of diseases, 616
Conception of disease (Sir Frederick Treves), 1251; note on, 1307; correspondence on, 1678, 1722
Condon, Brigade-Surgeon James Hunt, death of, 361
Confusional insanity. See Insanity
Congo Free State, tick fever in (J. Everett Dutton and John L. Todd), 1259; sleeping sickness in, 1401
Congress, Anatomical, 394, 440; and Servetus, 394
——— Australasian Medical, 1462; addresses, 1464; next meeting, 1462; organization of the profession, 1462; public health, 1462
——— Antiquackery, 1545
——— of Applied Chemistry, 242
——— Balneological, 1518, 1710
——— of Experimental Psychology, 1354
——— International Antialcohol, 231, 383, 1214; alcohol and resistance to infection, 1214; poison not a substitute for food, 1215; alcohol and sexual life, 1215; effect of alcohol on negroes, 1215; railway officials and drink, 1215; the alcohol question and the army, 1215; the working classes and drink, 1215; a plea for moderate drinking, 1215; temperance restaurants, 1216; next congress, 1216
Congress, International, of Anthropology, 1541
——— of Criminal Anthropology, 444, 1541
——— Australasian Medical, 605
——— a Dental, 288
——— Electrobiology and Medical Radiology, 1600
——— of French Alienists and Neurologists, 676
——— French Surgical, 1323
——— Histological, election of officers, 601
——— International, on Education and Protection of Childhood in the Family, 888; inaugural ceremonies, 888; the study of childhood, 889; education, 889; abnormal children, 889; protection of childhood, 889; concluding meeting, 889
——— International, of the Gouttes de Lait, 1314
——— International, of Hydrology, 340, 1600
——— International, on Lunacy, 193
——— International, Medical, at Lisbon, 32, 666, 1146, 1436, 1537, 1624; laryngology at, 32
——— International Medical Insurance, fourth meeting, 1710
——— International, of Military Surgeons, 610
——— International, of Obstetrics and Gynaecology, postponement of fifth meeting, 36
——— International, of Physiotherapy, 126
——— International Surgical, 194, 601, 674, 737, 816; treatment of prostatic hypertrophy, 816; diagnosis of kidney diseases, 817; treatment of non-cancerous diseases of the stomach, 817; concluding meeting, 817; social entertainments, 817; general arrangements, 817
——— International Tuberculosis, 155, 674, 826, 897, 931, 961, 972, 1050, 1480; next meeting invited to United States, 897, 965; opening ceremony, 901; general arrangements, 901; the exhibition, 901; meeting of sections, 902; social entertainments, 902, 963; organization of, 961; the museum, 962; visits to sanatoriums, 962; excursions, 963; the banquet, 963; president's reception, 964; ladies' committee, 964; farewell speeches, 965; prevention of consumption in Great Britain, 972; the work of the sections, 1050; Koch's bacillus and paratubercle bacilli, 1050; early diagnosis of tuberculosis, 1050; mixed infections in tuberculosis, 1051; new methods in treatment of lupus, 1051; serumtherapy of tuberculosis, 1051; metabolism in tuberculosis, 1051; forms of tuberculosis, 1051; an antituberculous serum, 1051; rôle of sanatoriums and dispensaries, 1052; sickness assurance and tuberculosis, 1053; prevention of tuberculosis in schools, 1054
——— Italian Surgical, 576
——— Medical, Australasian, seventh meeting of, 1232
——— Medical, South African, the seventh, 301
——— of Medical Women, 911
——— of Midwives, 1055
——— of Military Surgeons, International, 610
——— of Pellagra, 1600
——— University Students', 111
Conjoint Board in England, 363, 483, 521; pass lists, 363; regulations for medical students, 483; and the Diploma in Public Health, 521; and Preventive Medicine, 521
——— Ireland, 164, 308, 363, 490, 526, 1153, 1433, 1468, 1623; pass lists, 164, 308, 363, 1153, 1433, 1468, 1623; regulations for medical students, 490; study of preventive medicine, 526
——— in Scotland, 363, 486, 526, 1076, 1380; pass lists, 363, 1076, 1380; regulations for medical students, 486; study of preventive medicine, 526
Conjunctiva, primary syphilis of (W. J. Forsbaw), 952
Conjunctivae, and lids, acute oedema of (J. Souttar McKendrick), 1454
Conscientious objectors and the magistrate, 203
Conservative surgery of ovaries and uterus, 672
Consultation, ethics of. See Ethics
——— with homoeopaths, 1480
——— by telephone, 1252
Consumption. See Tuberculosis
Consumptives, poorer, sanatoriums for. See Sanatoriums
Contract medical practice, leading article on, 195; note on, 247; British Medical Association and, 1556; report of Medico Political Committee. See SUPPLEMENT Index under Contract
——— practice, 166, 207, 242, 411, 751, 818, 869, 1302, 1535, 1591; Coventry friendly societies and

medical fees, 207, 298, 751; medical aid societies, 242; attendance on cases of accident, 340; "clubs," 411; at Bridgend, 818; colliery appointments, 889; Northumberland Miners' Association, 1302; contract work: a suggested remedy, 1535, 1594; National Deposit Friendly Society, 1535
Contracts not to practise, 310, 1154
Convalescent homes for workpeople, self-supporting, 1424
Convulsions, infantile. See Infantile
Cooke, W. H., open-air treatment of consumption, 755
Cooke's medical school, London, 497
Coombs, Carey, biliary calculus and intestinal obstruction, 1359
Cooper, J. Burdon, lime-juice in treatment of warts, 441
Cootehill workhouse, blood poisoning at, 93. See also Infirmary
Coneman, Alfred H., Sir Thomas Browne and witchcraft, 1074
Corby, Henry, removal of a tumour from a hermephrodite, 710; discussion on albuminuria and eclampsia in pregnancy, 720
Cork, prevention of consumption at, 1422
Cork the bottle, 836
Cornea, conical, and hot-air cautery (Karl Grossmann), 456
Corneal ulcers. See Ulcers
Corner, Edred M., diverticulum of the bladder in an inguinal hernia, 1642; severe injury to neck without spinal symptoms, 1207
——— M. Cursham, urinary retention during pregnancy, 330
Corns, treatment of, 1500
——— and warts (Arthur Evershed), 329; note on salt-water treatment of, 468
Coroner for Manchester, and verdict of "temporary insanity," 603
——— for South-West London, 416, 463, 606, 677, 757, 894
Coroners' inquests, 1682
——— and medical practitioners, 309, 1323, 1558
——— and medical evidence, 1558
Coroners' juries, riders by, 835
Corporal punishment in schools, 1425
Corporate insanity, 896
Correlation of sex and disease (C. J. Bond), 1094
Cory, W. Howard, prolapse of the funis, 1705
Costa Rica, hygiene of infancy in, 242
Cotta, book printed by, containing medical thesis, 209
Council, the Army. See Army
——— Essex County, annual report to, 613
——— General Medical, 28, 474, 988, 1469, 1532; volume of minutes, 28; regulations in regard to registration and education of medical students, 474 et seq; next year's election of direct representatives to, 988; leading article on, 1469; unprofessional advertisement, 1531, 1544; inspection and visitation of examinations, 1531; penal procedure, 1531, 1532; surgery examinations at the University of Edinburgh, 1531; the University of Sheffield, 1531; physics and chemistry, 1531; the fifth year of medical study, 1531; students' registration, 1531; public health, 1531; Irish Poor-law medical service, 1531; university dental degrees, 1532; reciprocity with Japan, 1532; penal cases, 1532; a dental company, 1532; representation of the universities on, 1556; warning notice of, 1683; and the general election, correspondence on, 1676, 1721
——— London County. See London
County Court judges and medical referees, 1604
Coupland, W. H., the pineal eye, 1206
Courtesy call, 219
——— and co-operation between divisions of a Branch, 1721
Cousin, André, origin of forensic medicine in France, 900
Convelaire, M., hyperemesis: secondary cancer of uterus: Caesarean section, 671
Coventry, friendly societies and medical fees, 207, 298; sanitary committee of, and infectious diseases, 677
Cowen, Richard T., X Rays: their Employment in Cancer and other Diseases, rev., 1529
Cowley, J. Selwyn, appointed J.P. for county of Worcester, 1471
Cows, immunization of, against tuberculosis, 1674
Cox, Alfred, medical secretary and meetings of Divisions, 1371
Crace-Calvert, George A., open-air treatment of phthisis: is it worth while? 47
Craig, J. A., detachment of iris, 1206; detachment of retina, 1641
——— Maurice, Psychological Medicine, rev., 1131
Crane, D. B., Chrysanthemums for Garden and Greenhouse, rev., 1592
Crawford, Major G. S., care of soldiers' feet, 380
Crease, James Robertson, appointed J.P. for Borough of South Shields, 381
Crèches and national feeding in industrial centres, 1478
Cregeen, Jonathan Nelson, obituary notice of, 1239
Cremation in Germany, 1408
Crendiropoulo, M., note on haemolytic and haemosozic serums, 544
Cresswell, Pearson Robert, death of, 1430; obituary notice of, 1493
Cretinism and allied diseases, 601
Creusot, infantile mortality at, 412
Crichton-Browne, Sir James, efficiency, 877
Crickhowell District Council, 753
Criminal Anthropology, Congress of. See Congress
——— degenerate. See Degenerate
Critchett, sir George Anderson, made Commander of the Victorian Order, 1547
Critchley, H. G., school hygiene, 1372
Crocker, Deputy Surgeon-General Henry, death of, 910
Croft, John, death of, 1420; obituary notice of, 1494
Crookshank, F. Graham, prognosis in mental diseases, 1676
Cropper, J., spirillum fever in Palestine, 190
Crossley Sanatorium offers beds to City Council of Manchester, 157; appeal against rateable value of, 1554
Cruise, R. R., microphthalmic cyst of the orbit, 132
Crystalline lens. See Lens
Cuffe, General Charles McDonogh, K.C.B. conferred upon, 88
Cullingworth, Charles J., "The Pioneer of Puerperal Antisepsis," 682; Oliver Wendell Holmes and the contagiousness of puerperal fever, 1161
Cunningham, James Macnabb, obituary notice of, 164
Cunnington, C. Willett, early diagnosis of pulmonary tuberculosis by Roentgen rays, 1319
Cured by a laugh, 616
Curette and abortion, 1229
Curtis, G. Lenox, contagiousness of diabetes, 261
Cushny, Arthur R., discussion on sleeplessness and pain, 1004
Cwmaman waterworks extension, 213
Cyanosis, toxic, of intestinal origin, 1663
Cyclops (Stephen Mayou), 1644
Cyon, Elie de, Les Nerfs du Coeur, rev., 333
Cyprus, medical appointments in, 586; health of, 1480
Cyst, dermoid, of ovary in a child (W. H. Jalland) 330
——— omental, in a boy of 8 (reported by Paul Mathews), 1642
——— ovarian (Thomas F. Hopgood), 953
——— parovarian, with twisted pedicle (Comyns Berkeley), 925
Cystic and pyonephrotic kidney (J. T. J. Morrison), 1342
——— tumour of omentum (Leonard A. Bidwell), 806
Cystoscopic appearances in renal disease (David Newman), 1042
Cysts of liver, non-parasitic (J. Bland-Sutton), 1167; correspondence on, 1318
Czerny, Professor, resigns chair of surgery at University of Heidelberg, 1452

D.

Daglish, Wm Robert, chloroform syncope and direct manipulation of the heart, 1340
Dairies, sanitation of, 457
Dairy farm inspection, 367
——— farmers, education of by means of leaflets, 925
Dairymen in conference, 753
Daily, J. F. Halls, sanatorium treatment of phthisis, is it worth while? 260; early diagnosis of pulmonary tuberculosis by Roentgen rays, 1408
Daly, Robert B., obituary notices of, 1494
Damages, the measures of, 344
Dambergris, B., treatment of patients in the asklepeia of antiquity, 458
Dante's works said to have been written by Chaadni Kas, 983
Darling, Dr., case of lightning stroke, 1522
Darmezin, Rénè, Précis de Radiographie Dentaire, rev., 27
Darnell, Dr., action against, 1550
Dartford, water supply of, 149
Data required by a statistician for the study of inheritance of disease (E. Schuster), 1092
Date, W. Horton, peritoneal tolerance, 1519
David Lewis epileptic colony, 288
Davies, D. S., discussion on infant milk depôts, 646; discussion on notifiable diphtheria, 650
——— Llewelyn, The Law relating to Factories and Workshops, rev., 443
Davis, A. Edward, Eye, Ear, Nose, and Throat Nursing, rev., 442
Davy, Humphry, memorial to, at Clifton, 262
Dawnay, A. H. Payan, severs connexion with Queen's Jubilee Hospital, 1413
Dawson, Bertrand, discussion on sleeplessness and pain, 1008; diagnosis of gastric ulcer, 1032
——— W. E., Ship Surgeon's Pocket Book and Medical Officer's Log, rev., 1293
Day nurseries, 347
Dead bodies, new use for, 971
Deadly breathing exercise, 1436
Deaf, instruments for, 760
——— and dumb, oral instruction of, 146
——— subject, pathological condition in a (Albert A. Gray), 1187
Deanesly, E., discussion on surgical treatment of non-malignant diseases of the stomach, 779; discussion on surgical treatment of malignant disease of rectum, 803; atypical "internal derangements" of the knee joint, 1615
Dearden, W. F., discussion on accident and poisoning reports, 936
Death, cause of, not revealed by some post-mortem examinations (Fred. J. Smith) 1584, 1593
——— certificates. See Certificates
——— from burning, once more flannelette, 1554
——— rate, increase in Manchester, 460
——— vacancy, 55
Deaths in coal mines, prevention of, 746
——— in the profession abroad, 50, 165, 305, 413, 610, 910, 1054, 1158, 1241, 1378, 1622, 1725
Decapsulation of kidneys for nephritis in children, 1472
December drought, 1716
Defaecation, physiological position during, 1727
Degeneracy, prevention of, 28; review of books on, 442. See also Physical deterioration
Degenerate children and infant feeding, 992
Degenerates, sterilization of. See Sterilization
Degeneration. See Physical deterioration
——— of the heart. See Heart
Degrees for practitioners, 519
De la Harpe. See Harpe
Delane of the *Times*, story of, 1369
Delirium tremens, cold affusion in (Sir William Broadbent), 8
Demagogy and pseudo-therapy, 668
Denmark, British practitioners in, 588
Dental advertising, 364
——— diseases in horses (J. F. Colyer), 567
——— hospitals of London. See Hospitals
——— surgeons for the United States navy, 1710
——— surgery, regulations of the General Medical Council, 535
——— the section of (leading article), 595
Dentistry in antiquity, 411
——— in the army, 1158, 1239
Dentists of the French army, 1302
——— unregistered, 1683
Derby, unvaccinated children at, 675
Derbyshire, consumption in, 604; report of M.O.H., 1467
Dermatitis, epidemic, 735
Dermatology, reviews of books on, 1529
Dermoid cyst. See Cyst
——— mediastinal (G. E. O. Williams), 1207
Deterioration, physical. See Physical
Dewar, Michael, influenza, 131
"Dhobie itch," observations on (Aldo Castellani), 1277
Diabetes, contagiousness of, 261
Diabetic foods, 334, 1599
Diachylon as an abortifacient (George J. Stones), 150
Diagnosis, errors of, 688; and infectious diseases, 395, 401, 1416; correspondence on, 1470
Diamond cutting in Amsterdam and lead poisoning, 1361
Diaphragm, Hernia of. See Hernia
Diaries, rev., 1650
Diarrhoea, infantile mortality from epidemic, in Birmingham, 213
——— production of by the Bacillus prodigiosus (Louis C. Parkes), 1330
——— from flagellates (Aldo Castellani), 1285
——— bill, discussion on, 1281; pepsin in (G. H. Youngs), 1519
Dictionary, Murray's new English, medical terms, in 80
Diet in China, influence of on natives and Europeans, 41
——— and growth, 1671
——— of typhoid fever. See Fever, enteric
——— of the precibiculturists. See Precibiculturists
Digitalin, 682
Dilatation of the stomach, acute post-operative, 1553
Dilatator of the pupil, congenital absence of (Karl Grossmann), 456
Dimmock, A. F., a rapid and simple process for the estimation of uric acid, 1164
Diphtheria, treatment of (J. T. C. Nash), 20

Diphtheria, fatality from, in great towns, 1305
——— in reference to the infectivity and notification of the latent forms (P. Watson Williams) 647
——— mortality and serum treatment, 1500
——— notifiable, what is it? Combined discussion (P. Watson Williams) 647; (D. S. Davies) 650; (W. Jobson Horne) 651; (Scanes Spicer), 651; (T. F. S. Caverhill) 651; (L. H. Pegler) 651; (F. H. Jacob) 651
——— deaths from, in Manchester, 752
——— at Middlewich, 676
——— at Norwood Schools, 204
——— in Wales, 1015
Diphtheroid organisms in the throats of the insane (J. W. H. Eyre and J. Froude Flashman), 1104
——— infection and general paralysis of the insane, 1427, 1557
Diploma in tropical medicine at Cambridge, 1624
Diplomates, Association of Scotland. See Association
Direct representation in Ireland, 898, 1423, 1477, 1550, 1609
——— representatives on General Medical Council. See Council
Dirty and infectious milk, 1546
Disclaimers, 609
"Discovery's" voyage to the Antarctic, medical aspect of (Edward A. Wilson), 77
Disease, a conception of (Sir Frederick Treves), 1251; note on, 1307; correspondence on, 1678, 1722
——— and fashion, [illegible]
——— inheritance of, data required by a statistician for the study of (E. Schuster), 1092
——— inheritance of, and the relationship of to certain mental characteristics, 1015
——— surface tension of urine in health and (W. D. Donnan and F. G. Donnan), 1636
Diseased meat in Manchester, 303; in Stockport, 1670
Diseases of occupation, 28; legislation in France, 195
Disinfectants and disinfection, 1564
Disinfection, expenses of, 310
——— of ships by SO_2, 736
Dislocation of hip. See Hip
——— forwards of the forearm without fracture of the olecranon (F. W. Staunton), 1520
Dispensaries and sanatoriums, rôle of, 1052
Dispensary, Leeds public, new dental department, 414; annual meeting, 830; meeting of trustees, 1555
——— election at Swinford, 1673
——— Exeter, difficulty at, 1023, 1684
——— doctors' salaries, 1550
——— medical officer, censure of, 898
Dispensers, qualified and unqualified, 49, 264, 359
Disposal of scarlet fever patients, 614
Diver, E. W; sanatorium treatment of phthisis: is it worth while? 106, 160: open-air treatment of consumption, 1073
Diverticulum of bladder. See Bladder
Dockray, J. S., some toxic effects of aspirin, 1562
Dockrell, Morgan, An Atlas of Dermatology, rev., 1529
"Doctor," title of, 263, 310, 1499, 1500
Doctor's fee and obstetric emergencies, 1371
——— shop, the, 1562
Doctors and friendly societies, 1370
——— and workmen, 1675
——— H. Balzac on, 1661
Dodd, F. Lawson, obscure case of alveolar abscess, 575
Dolamore, W. H., medical law reform, 1619
Domela, Dr., treatment of perforating typhoid ulcer, 742
Don, Alexander, sanatorium treatment of phthisis: is it worth while? 214
Donegal, typhus fever in, 675, 828
Donnan, F. G., surface tension of urine in health and disease, 1636
——— W. D., surface tension of urine in health and disease, 1636
Donovan, H. L., treatment of uterine haemorrhage, 1205
Doorplate again, 1460
Doorplates, rule about, 1434
Doran, Alban hysterectomy for fibroid disease in three sisters, 924; subtotal hysterectomy, 1296; solitary non-parasitic cysts of liver, 1318
Dorset County Council and tenders for medical work, 1309
Doyen's serum treatment of cancer: report of the Special Commission of the Société de Chirurgie, 211
"Dr. Astbury's Pills," 1143
Drage, Lovell, up-to-date surgery and the treatment of cancer, 1152, 1317
Drainage of Ancient Babylonia, 972
Drains of Regent's Park, 403
Draper, F. W., A Textbook of Legal Medicine, rev., 1590
Draper, J. W., discussion on albuminuria and eclampsia in pregnancy, 720
Dreams, the psychology of, 295
Dreschfeld, Professor, and Manchester Royal Infirmary, 685; discussion on diagnosis and treatment of degeneration of the heart apart from valvular disease, 1013
Drew, A. J., case of Bright's disease, 330
——— Douglas, operative treatment of simple fractures, 1493
Drinking water for troops, 398, 403
Drop bottle for the C.E. anaesthetic mixture, 72
Drought, the December, 1716
Drowning accidents, a probable explanation (Hugh Lawrie), 626; correspondence on, 833, 908
Drug treatment of inebriety, 106
Druggist, shall we take our therapeutics from the? 1661
Drugs, exhibition of, 800; Pharmaceutical Society and the sale of by limited liability companies, 1670
Drummond-Morison operation (leading article), 892
Drunkenness, alcohol and, 1656
Drysdale, C. R., discussion on sanatoriums for poorer consumptives, 638
Dublin School of Physic, information for medical students, 505
Dudfield, T. Orme, sanatorium treatment of phthisis: is it worth while? 212
Dudgeon, L. S., phagocytosis, 1043
Dudley dispensary, 1149
——— Education Committee, 904
Due, E., condition of the medical profession in Norway, 532
Duer, C., large vesical calculus, 130
Duigan, W., perplexities of secretaries, 1672
Dukes, Clement, Health at School, considered in its Mental, Moral, and Physical Aspects, rev., 389; the albuminuria of adolescents, 828
Duiberg, Dr. J., appreciation of Rudolph Albert on Kölliker, 1377
Duncan, Andrew, discussion on sprue and hill diarrhoea, 1283, 1285; discussion on beri-beri, 1289
——— John W., temperatures during the puerperium, 384
Dundee, vaccination prosecutions in, 1149; eyesight of children in, 1354
Dunlop memorial home, 828
——— Reginald, observations on puerperal eclampsia, 1624
Dunn, H. N., innominate aneurysm, simultaneous ligature of right carotid and subclavian arteries, recovery, 851
——— R. A., clinical and bacteriological aspects of an epidemic simulating influenza, 421; rev., 1592
Duodenal ulcer. See Ulcer
Duplicate copies of medical publications, 1619
Durham, prevention of consumption in, 593; report of M.O.H. on school hygiene in, 1707
Durham, Herbert E., spread of cancer by the thoracic duct, 73
Dust destructors and public health, 403
Dutch, Myer, paper bags and other sources of disease, 682
Duties of medical officer of health, 1380
——— of professional brotherhood, 396
——— of a substitute. See Substitute
Dutton, J. Everett, tick fever in Congo Free State, 1259
Dysentery, its causation, varieties, and treatment on active service (E. Llewellyn Jenkins), 323; (Major N. Faichnie), 325; correspondence on, 755; an omission, 383; antiquity of our knowledge of, 592
——— endemic (R. Saundby), 1036
Dyspepsia (Robert Hutchison), 1381
——— intestinal, 615
Dyspnoea, fatal, unusual cause of in a child (Bransby Yule), 385

E.

Eames, Thomas Boles, obituary notice of, 305
——— W., an unusual fracture, 385
Ear disease, intracranial abscess secondary to, 52
——— middle. See Middle
——— results of neglect in suppurative disease of, 1374
——— Coast fever. See Fever
East Africa, medical appointments in, 586: investigation of sleeping sickness in, 1660
Ebell, J. H., discussion on sprue and hill diarrhoea, 1285
Eberth, Professor, seventieth birthday of, 818
Ebstein Wilhelm, Die Fettleibigkeit (Korpulenz) und Ihre Behandlung nach Physiologischen Grundsaetzen, 968
Eccles and eyesight, 303
Eclampsia and albuminuria occurring during pregnancy, treatment of, 715; leading article on, 820
——— alkalinity of the blood in (G. Nepean Longridge), 1200
——— post-partum, and glycosuria (J. B. Waters), 1399
——— puerperal. See Puerperal
——— treatment of (Dr. de la Harpe), 1457
Ectopia vesicae, 1727
Ectopic gestation. See Gestation
Eddowes, Alfred, elected corresponding member of the Société Française de Dermatologie, 283
Eczema, curious kind of, in Gower, 1[illegible]
Edinburgh, Chair of Midwifery. See Midwifery
Post-graduate study at, 517; low [illegible] 893; motor ambulance for, 970; [illegible] of consumption in, 1145; social union [illegible] report, 1476; town council and [illegible] examination, 1670; University union, 1671
Edington, G. H., "double lip," 1037
Edmiston, John C., first British sanatorium for consumptive children, 1673
Edridge Green, F. W., perception of light and colour, 177; colour systems, 1117
Education authorities, sanitary work of the, 1145
——— medical. See Medical
Edwards, F. Swinford, discussion on surgical treatment of malignant disease of rectum, 796
Efficiency (Sir James Crichton-Browne), 877
——— of the Army. See Army
Egypt, embalming in ancient, 444; British practitioners in, 588; Cook's excursions for, new arrangements, 818; public health in, 1607
Eichhorst, H., Handbuch der speziellen Pathologie und Therapie innerer Krankheiten, rev., 811
Elbow, dislocated, treated by excision (Lachlan Fraser), 1116
Elder, George, importance of vaginal examination early in pregnancy, 736
——— the late Mrs. John, death of, 1477
Election, general. See General
Electric battery, a wireless, 300
Electrical treatment of trachoma, 435
Electricity, sanitation by, 745
Electrodes, metallic, 1564
Electro-magnet in removal of iron from interior of eye (A. S. Percival), 1176; correspondence on, 1320
Electrosal Institute, 1562
Electro-therapeutics, new lines of work in (H. Lewis Jones), 1044
Elephantiasis of vulva associated with elephantiasis of right lower limb (Ewen J. Maclean), 721
Elliot-Blake, H., hay fever, chronic rhinitis, and asthma, 908; a conception of disease, 1722
Elliott, T. R., action of adrenalin, 127
Ellis, Gilmore, opium drinking and the morphine habit in the Straits Settlements, 1400
Embalming in ancient Egypt, 444
Embolism, pulmonary (Sedford Fenwick), 1043
Emergencies under the Midwives Act, 1473
Emergency calls, 210, 263
Emmet, Thomas Addis, dinner to, 354; reminiscences of, 1612
Emmetropia, notes on a case of (Adolph Bronner), 430
Employers' Liability Act. See Act
Empyema of gall bladder. See Gall bladder
——— surgical, with haemoptysis (John Allan), 1340
Endocarditis, influenzal (T. J. Horder), 1343
Engadine, new hotel in, 1000
England, the climates of, 1563
Entente cordiale, 402, 452
Enterectomy of irreducible intussusception (George Heaton), 1295
Enteritis, review of books on, 812
Entrance scholarships, 1049
Enucleation of prostate. See Prostate
Epidauros, treatment of patients at, in antiquity, 458
Epidemic simulating influenza in East Herts district (R. A. Dunn and M. H. Gordon), 421
——— dermatitis, 735
Epileptic children, Lingfield colony for, 218
Epileptics, care and control of, 108, 195, 217, 310, 367, 1158
——— colony for, at Birmingham, 259
——— the David Lewis, 288
——— National Society for Employment of, report, 218
Epileptiform neuralgia (Jordan Lloyd), 1342
Epizootic lymphangitis, 150, 203
Epsom College. See College
Equipoise Couch Company's new bed, 1209
Errata, 540, 615, 687, 912, 1298, 1727
Errors of diagnosis and infectious diseases. See Diagnosis
Erythema induratum scrofulosorum (W. B. McQuitty), 1521
Eserine, filtration of fluid in the eye when under the influence of (E. E. Henderson), 43
Esmarch, Professor, memorial to, 390
Esperantists, International Congress of, 303
Esperanto, 215

Essex County Council. See Council
Eternod, Professor, poet and anatomist, 983
Ether anaesthesia, clinical effects of on renal activity (Harold Prinkle, Charles B. Maunsell, and Seton Pringle), 542
Ether and laudanum in North of Ireland, use of, 150
Ethical aspects of the hospital question (leading article), 1130
—— obligations of dismissed assistant, 1244
Ethics of consultation, 111, 509
—— of a prescription (G. A. Batchelor), 1697
Ethyl chloride, fatalities for, 56, 112; death under (Geo. Keith Giffard), 73; note on death under, 992; as an anaesthetic, 615, 688, 760, 1342; in midwifery, 616; uses and abuses of (J. H. Caldecott), 1526
Etiquette, medical. See Medical
Eulenburg, A., Lehrbuch der klinischen Untersuchungsmethoden und ihrer Anwendung auf die specielle aerztliche Diagnostik, rev., 811
Eutopia, a city of, 294
Evans, J. Jameson, indirect injuries of the optic nerve, 62, 161
—— W. Owen, appointed examiner to St. John Ambulance Association, 1136
Evatt, George J. H., pay of Poor-law medical officers in Ireland, 1373; future of "Boards of Guardians," 1676
Eve, Frederick, two cases of duodenal ulcer treated by gastro-enterostomy, 117; discussion on surgical treatment of non-malignant diseases of the stomach, 774
Evelyn, John, in his relation to medicine, 449
Evershed, Arthur, warts and corns, 329
Evidence, expert medical, 1349, 1624, 1681
Ewald, C. A. Festnummer of Berliner klinische Wochenschrift in honour of, 1303
Ewart, William, discussion on degeneration of the heart, 1032; principles of treatment of typhoid fever, 1501, 1720
Examination in Ireland, 1611
Exercise and open-air treatment of phthisis. See Tuberculosis
Exeter dispensary, difficulty at, 1623, 1684
Exophthalmic goitre. See Goitre
Expert medical evidence, 1349. See Evidence
Eye affections of dental origin (F. J. Bennett), 587
—— conditions, cases of abnormal (W. M. Beaumont), 73
—— filtration of fluid in, when under the influence of atropine or eserine (E. E. Henderson), 434
—— the pineal (W. H. Coupland), 1206
—— removal of iron from interior of, by electromagnet (A. S. Percival), 1176; correspondence on, 1320
Eyes, effect of the presence of adenoids and other abnormalities in the naso-pharynx on some affections of (J. Hern), 437
Eyesight specialist again, 419
—— of Dundee children, 1354; of Newport children, 1424; of Manchester school children, examination of, 1554; of Glasgow school children, 1671
—— effect of highly-glazed paper on, 738
Eyre, J. W. H., diphtheroid organisms in the throats of the insane, 1104, 1557

F.

F R C S.Glasg., 709
Faber, Knud, Beitrage zur Pathologie der Verdauungsorgane, rev., 1527
Factories and workshops, annual report of chief inspector of, 207
Facial expression of violent effort, breathlessness, and fatigue, 1303
Faculty of Physicians and Surgeons of Glasgow, regulations for medical students, 488
Faeces in biliary obstruction and pancreatic disease (P. J. Cammidge), 1162
Fagan, C. J., treatment and prevention of tuberculosis in British Columbia, 753
Faichnie, Major N., varieties, causation, and treatment of dysentery on active service, 325
Fairbank, H. A. T., discussion on toothache neuralgia, and remote affections of dental origin, 550
Falkland Islands medical appointments in, 586
False hay fever (N. Bishop Harman), 415
—— reports, 1681
—— talks in human subjects, 1229
Family care of the insane. See Insane
Farmer, J. B., behaviour of leucocytes in malignant growths, 314
Farndale, J. W., appointed district surgeon of Mwomboshi, 1468
Farr, E. A., case of primary tendon suture, 951
Farwell and Rhine's gluten flour, 1461
Federated Malay Straits, medical appointments in, 586
Fee for attendance by deputy, 686
—— for certifying lunatic, 167, 261
—— for consultation in case of workhouse hospital nurse, 1
Fee, consultation, received by partner, 111
—— the doctor's and obstetric emergencies, 1371, 1498, 1618, 1721
—— in case of hernia, 309
—— for lunacy certificate, 167, 263
—— right to a, 686
Feeble-minded children. See Children
—— after-care of, 1062
—— Royal Commission on care of, 604, 890
Feeding of infants. See Infants
—— of soldiers on active service. See Soldier
Fees of accident and life insurance companies, 263, 364
—— apportionment of, 1075
—— assessment of, 835
—— at assize courts, 219
—— for attendance at isolation hospitals, 150; after confinement, 310
—— for difficult pauper midwifery, 614
—— inquest, 1683
—— for island visit, 835
—— insurance, 612
—— liability for, 835
—— of locum tenens, 166, 1324
—— medical, town councillors and, 1726
—— medical witnesses in high courts of justice, 55
—— midwifery, 1434
—— notification, paid to locum tenens, 1324
—— for operations on throat in Poor-law practice, 1725
—— paid to assistants, 1621
—— payable by coroner to medical men, 1244
—— police, in emergency cases, 54; in criminal cases, 166; for prolonged attendance, 1324; in police courts, 1620
—— of public vaccinators, 204
—— reduced, and Miners' Union, 1614
—— recovery of, 310
—— for examination of boys committed to reformatory, 991
—— right of substitute to recover, 991
Feet of barefooted and shoe-wearing peoples, 1363
—— soldiers', care of (P. B. Giles), 328; (Major G. S. Crawford), 380
Fehling's solution, simple test for complete reduction of, 1324
Female practitioners, qualifications for, 514
Femoral artery. See Artery
Femur. See Thigh
—— sarcoma of. See Sarcoma
Fenwick, Bedford, pulmonary embolism, 1043
—— Hurry, modern methods of diagnosis in kidney disease, 1589
Ferguson, G. B., wide cleft of the palate, 72
Fetal heart murmurs, antenatal diagnosis of, 1227
—— membranes, appendices epiploicae mistaken for, 620
Fetus and the mammary glands (S. G. Shattock), 1644
Fever (leading article), 1058
—— at Balallan, Lewis, 93
—— biliary, 583
—— cerebro-spinal. See Cerebro-spinal
—— East Coast, 582
—— enteric, at Bridgend, 44; in Chicago, 315; at Stoke-on-Trent, 986; in Tyrone, 1478; in the Potteries, 1555
—— aid to prognosis in (Robert M. Simon), 1329; correspondence on, 1498
—— comparative study of the Lincoln, Maidstone, and Worthing epidemics (Dr. Childs), 1463
—— diet in, 1616
—— misleading symptoms in a supposed case of, 1070
—— M.O.H. and diagnosis of, 365
—— oil of cinnamon in (Dr. Calwell), 1206
—— peritonitis in, without perforation (E. W. Goodall), 1588
—— polyuria in, 1678
—— and shellfish (J. T. C. Nash), 641
—— study of, 1230
—— treatment of (William Ewart), 1501, 1720; correspondence on, 1677, 1687, 1720
—— in the United States military camps during the Spanish war, 137
—— hay, chronic rhinitis and asthma, 161, 260, 359, 464, 630, 678, 755, 907; food factor in, 416
—— adrenalin in, 168; and Christian Science, 394
—— false (N. Bishop Harman), 415
—— malarial, in British Central Africa (H. Hearsey), 1200
—— Malta, 257, 749; leading article, 417
—— puerperal, Oliver Wendell Holmes and the contagiousness of (Charles J. Cullingworth), 1161
—— redwater, 587
—— scarlet, at Rochdale, 414; disposal of patients suffering from, 614; cases of relapse from (reported by E. J. Slade-King), 1455; pathological dislocation of hip during course of (Mr. Hingston), 1643; at Birmingham, 1718
Fever, spirillum, in Palestine (J. Cropper), 190; note on, 420
—— Texas, 583
—— tick, in the Congo Free State (J. Everett Dutton and John L. Todd), 1259
—— typhus, in Ireland, 675, 828: failure to notify an alleged case of, 835
—— undulant, in South Africa (P. D. Strachan), 130
—— yellow, in New Orleans, 242, 398, 414, 739; in Panama, 1221; and mosquitos, 444
Fevers, paratyphoid, 1553
Fiaschi, Lieutenant-Colonel Thomas Henry, honour conferred upon, 610
Fibroid disease in three sisters, hysterectomy for (Alban Doran), 924
Fibroids, uterine, medical treatment of (Thomas Wilson), 1701
Fibrolipoma, retroperitoneal (R. J. Johnstone), 1452
Fibroma, hard, aneurysm mistaken for (H. J. Orford), 20
Fibromyoma of uterus. See Uterus
Fibromyomata, uterine, complications and degenerations of (S. J. M. Cameron), 712
Field, Ernest, obituary notice of, 1240
Field natural history, 687
Fiji, medical appointments in, 585
Fijian, passing of the, 1669
Filaria gigas, note on, 683
Finances of London medical schools and hospitals, 101
Findlay, Palmer, Diagnosis of Diseases of Women, rev., 1404.
Finger-print evidence, 1661
Fink, Major G. H., discussion on beri-beri, 1100; discussion on sprue and hill diarrhoea, 1285
Finney, J. M. T., discussion on surgical treatment of non-malignant diseases of the stomach, 773
Finsen memorial, 1221
"First aid" in Manchester, 1233
First-aid treatment of fractured thigh in military or civil practice (Lieutenant-Colonel J. J. de Zouche Marshall), 381
First British sanatorium. See Tuberculosis
Firth, Lieutenant-Colonel, army sanitation, 741
Fisher, Theodore, albuminuria of adolescents, 990; tuberculosis in schools, 1427
—— W. Featon, life assurance without medical examination, 1722
FitzGerald, Fleet-Surgeon Bassett Charles Edward, death of, 1600
Fitz Patrick lectures. See Lectures
Flagellates, diarrhoea from (Aldo Castellani), 1285
Flashman, J. Froude, diphtheroid organisms in the throats of the insane, 1104
Flat foot, paralytic (A. B. Mitchell), 1522
Fleming, H. B., pneumococcal meningitis, 1206
—— Dr. Sarah B., death of, 758
Flies and infection, 760
Flood, Surgeon Alexander William, death of, 610
Food factor in hay fever, chronic rhinitis and asthma, 416
—— inspection, Manchester Port Sanitary Authority and, 676
Foods, diabetic, 334, 1599
Foott, Dr., case of acute haemorrhagic pancreatitis, 441
Forbes, J. G., tuberculous adenitis with congenital bronchiectasis and cirrhosis of liver and pancreas, 1525
Forbes-Ross, F. W., discussion on diagnosis and treatment of uterine cancer, 703; discussion on albuminuria and eclampsia in pregnancy, 720; observations on certain features exhibited by cells in their relation to cancer, 1101
Forceps, post-nasal, 134
—— new form of, for removal of the anterior wall of the maxillary antrum in the radical operation (William Smith Syme), 1204
—— and wound retractor combined, 1766
—— stitch removing, 1550, 1650
Foreign bodies in rectum, 1244, 1324, 1380
—— medical degrees, 1621
Forensic medicine in France, 295, 920
Forgery, a medical specialist and, 1473
Forshaw, W. J., primary syphilis of conjunctiva, 982
Forster, Frederick C., traumatic pneumonia, 1510
Fotherby, Henry Isaac, obituary notice of, 1561
Foulerton, A. G. R., columnar-celled carcinoma of testicle, 1525
Fowls, tuberculosis in, 93
Foxwell, Arthur, discussion on sleeplessness and pain, 1007; discussion on degeneration of the heart, 1028
Fracastoro, Hieronimo, 156
Fracture of femur and ulna (W. T. Mills), 1101
—— of skull, value of lumbar puncture in cases of, 1369
—— an unusual (W. Eames), 385
Fractured clavicle, operative interference in (H. N. Taylor), 1197

Fractured patella. See Patella
——— ribs in an insane person, 1233
Fractures, simple operative treatment of (W. Arbuthnot Lane), 1325
——— correspondence on, 1495, 1559
Framboesia tropica. See Yaws
"Framed by the Midwives Board," 168
France, protection of childhood in, 33; legislation of diseases of occupation in, 195; forensic medicine in, 295, 900; British practitioners in, 588; organization of medical assurance company in, 666
Francis, Alexander, diet of the precibiculturists, 261, 358
Franklin, Sir Benjamin, appointed Knight of Grace of the Order of St. John of Jerusalem, 283
——— George Cooper, Medical Education, Past, Present, and Future, 221; appointed J.P. for the borough of Leicester, 1364
Fraser, Lachlan, New County History of Northumberland, 48; dislocated elbow treated by excision, 1116; amputation for sarcoma of femur, 1116
——— R. M., urine trial glass, 1522
Frazer, William, obituary notice of, 360
Frazier, C. H., Tumours of the Cerebellum, rev., 1528
Free bathing for school children, 903
Freeland, E. Harding, treatment of ringworm of the scalp, 190
French Esperanto medical group, 215
——— medical practitioners, mortality among, 202
——— West African Colonies, institution of a medical service for, 413
Freund, von Richard, Zur Lehre von den Blutgefässen der normalen und Kranken Gebärmutter, rev., 388
Freyer, P. J., total enucleation of the prostate for radical cure of enlargement of that organ, 871
Friedberger and Fröhner's Veterinary Pathology, rev., 1347
Friendly societies. See Societies
Frier, Dr., case of lightning stroke, 1522
Fry, F. Hallett, Recovery and Adjustment of Income Tax, rev., 1347
Fuller, William, estate of, 1323
Fullerton, Mr., ruptured extrauterine fetation, 23; ruptured typhoid ulcer, 23
Fulton, Adam, keratosis palmaris et plantaris in five generations, 125
——— George C. H., immunity, 268
Fund, the Bawden, 606
——— British Medical Benevolent, 606, 678, 831, 905, 988, 1072, 1135, 1236, 1464, 1536, 1595, 1655, 1081; general objects of the Fund (samuel West), 1536, 1595, 1655
——— Cancer Research, 96, 1310; annual meeting, 96; report, 590, 594
——— the Duncan, 368, 420, 468, 540, 616, 688, 912, 1160
——— Edward H. Bennett Testimonial, 1673
——— Factory Girls' Holiday, 610
——— George Brown Testimonial, 1624
——— Governess's Benevolent, 760
——— Griffiths Testimonial, 260
——— Holman Testimonial, 155
——— Hospital Sunday and Saturday, in Manchester, 603, 1554; in Bolton, 603; in Birmingham, 1315, 1674; in Bristol, 1555
——— Hospital Sunday, Metropolitan, 84, 140 194, 340, 397, 1435, 1651, 1652, 1675; letter from Sir Edmund Hay Currie re, 402; antivivisectionist attempt to wreck, 1651, 1675
——— King's Hospital, 208; award meeting of Council, 1610; bequest to, 267
Fungi, poisoning by (Charles B. Plowright), 541
Funis, prolapse of (W. Howard Cory), 1205
Fursac, J. Rogues de, Manual of Psychiatry, rev., 133
Furunculosis and scrofulodermia, 1418

G.

Galbraith, E. S., prevention of measles and whooping-cough, 107
Galgey, Hon. Otho, obituary notice of, 1157
Gall bladder, case of empyema of, with unusual symptoms (R. Atkinson Stoney), 545
——— stone, intestinal obstruction from, 401
——— operations, review of books on, 191
——— removed by laparotomy (Victor Milward), 1342
Galloway, David J., discussion on sprue and hill diarrhoea, 1284; discussion on beri-beri, 1288
Galliwey, Brigade-Surgeon-Lieutenant-Colonel Mathew Moriarty, death of, 610
Galvanized vessels, action of Welsh water on, 1674
Gambia, medicine and superstition in, 410
Gamgee, Mr., suppurative otitis media, 1523
Gamlen, Harold E., up-to-date surgery and treatment of cancer, 1496
Gangrene following puerperal eclampsia, 148
——— of intestine from partial obstruction of the superior mesenteric artery (John Richards), 1521
Gangrenous appendicitis. See Appendicitis
——— formations in the vermiform appendix (John D. Malcolm), 784
Garden city at Cardiff, 1425
Garre, Professor, appointed to chair of surgery in University of Heidelberg, 1452
Garrod, A. E., discussion on rheumatoid arthritis, 1457
Garry, Gerald, Marshal MacMahon's medical ancestry, 683
Garstang, T. W. H., trades unionism in the profession, 1721
Gas, poisoning by, 43
Gastou, Paul, Hygiène et Pathologie Cutanées du Premier Age, rev., 333; Le Coryza Syphilitique, Rhino-pharyngite Purulente Septico-pyohémique chez les Nouveau-Nés Syphilitiques, rev., 386; La Scrofule Terrain septico-pyohémique héréditaire ou Acquis et Diathèse Lymphoide Pré ou Post Tuberculeuse, rev., 656
Gastric secretion, chemical mechanism of, 200
——— surgery (Mr. Gordon), 1344. See also Stomach
——— ulcer. See Ulcer
Gastro-duodenostomy as a substitute for gastro-jejunostomy (Sinclair White), 860
Gastro-enterostomy (Mr. McArdle), 1344
——— Two cases of duodenal ulcer treated by (Frederick Eve), 117
Gastro-intestinal diseases, review of books on, 812, 1527
Gastro-jejunostomy and jejuno-jejunostomy, surgical treatment of chronic gastric ulcer by (P. Gelston Atkins), 785
——— gastro-duodenostomy as a substitute for (Sinclair White), 860
Gastrotomy for extraction of a fork and a cannula, 744
Gaultier, René, Essai de Coprologie Clinique, de l'Exploration Fonctionelle de l'Intestin par l'Analyse des Féces, rev., 812; Technique de l'Exploration au Tube Digestif, rev., 813
Geddes, Patrick, City Development, a Study of Parks, Gardens, and Culture Institutes, a report to the Carnegie Dunfermline Trust, rev., 294
General Election, a suggestion, 1149; medical candidates at, 1424, 1462, 1532, 1547, 1660, 1721
——— London borough, 1659; university constituencies, 1659; Ireland, 1660
——— paralysis of the insane. See Paralysis
——— study and specialism (Sir Boverton Redwood), 884
German army. See Army
——— Colonies, health in, 1668
——— view of medical responsibility, 747
Germany, suicide and infant mortality in, 36; British practitioners in, 588; Asiatic cholera in (leading article), 596; precautions at British ports, 602; number of cases of cholera in, 675, 738, 829; housing reform in, 801; workmen's insurance in, 910; cremation in, 1408; decrease in the birth-rate, 1423; medical women in, 1541, 1613; decrease in medical students 1613
Gestation, ectopic (J. C. Holdich Leicester), 954
——— extrauterine, possibilities of, 1300
——— tubal, repeated (W. Gifford Nash), 1590
——— See also Pregnancy
Gibaut, Surgeon Walter Moses, death of, 758
Gibbons, J. B., Manual of Medical Jurisprudence for India, 956
Gibson, George Alexander, Nervous Affections of the Heart, rev., 1461, 1530
Gifford, Geo. Keith, death under ethyl chloride, 73
Gilchrist, A. W., discussion on relationship of heredity to disease, 1092; method of demonstrating individual metabolism by the investigation of pulmonary expiration, 1113
Giles, John, British Medical Benevolent Fund, 1237
——— P. B., care of soldiers' feet, 328
Gill, G. Brittan, abortifacients, 1042
——— J. W., elected honorary life member of St. John Ambulance Association, 1413
Glamorgan, proposed Water Board for, 213, 753
Glanders, human, notifiability of, 410
Glands, mammary, and the fetus (S. G. Shattock), 1644
Glasgow, hospital abuse at, 95; gift of a cottage hospital to Port Glasgow, 95; note on the old hospitals of, 750; eyesight of school children, 1671; corporation milk depôt at, 1672; skin diseases in school children, 1672; population of, 1717
——— University Club in London, 1550
Gleanings from the experiences of a naval surgeon a century ago (compiled by Edith S. Stokoe), 1133
Glioma (Simeon Snell), 132
Gloucestershire, Midwives Act in, 444; health of, 910; report of M.O.H. on school hygiene, 1300
Gluten flour, Farwell and Rhine's, 1461
Glycerine adulterated with arsenic, sale of, 158
Glycosuria and post-partum eclampsia (J. B. Waters), 1399
Goadby, Kenneth W., discussion on toothache, neuralgia, and remote affections of dental origin, 560; preliminary note on the treatment of alveolar osteitis (Riggs's disease) by means of vaccine, 562; preliminary note on the blood in lead anaemia, 654
Goitre, exophthalmic, treatment of (George R. Murray), 1245
——— parenchymatous, suppuration in (Mr. Barling), 1523
Gonococcal injection, case of general (Donald G. Hall), 1341
Goodall, E. W., peritonitis in typhoid fever without perforation, 1588
Goodhart, James Frederick, The Diseases of Children, rev., 876
Gordon, M. H., clinical and bacteriological aspects of an epidemic simulating influenza, 421; plea for the investigation of catarrh, 1496
——— Dr., Clinical and Bacteriological Aspects of an Epidemic simulating Influenza, rev., 1592
——— Mr., gastric surgery, 1344
——— W., income tax, 260; the General Election and the General Medical Council, 1676
——— William, influence of posture on the normal cardiac sounds and on the normal cardiac dullness, 1328, 1343, 1719
Gossage, Alfred M., syncopal bradycardia, 988, 1151
Gotch, Francis, Burdon-Sanderson as a physiologist, 1482
Gout, 468, 616
——— and strawberries, 764
——— human, urine and (Walter Smith), 1400
Government and the profession (leading article), 201
——— the new, 1601, 1666
——— and Mr. Troutbeck, 626, 677
Gower, curious kind of eczema, 1015
Gowers, Sir William R., the nature of tabes, 57
Goyder, David, discussion on anthrax, 936
Graafian follicle, mitoses in the cells of (Robert Cattley and Albert S. Grünbaum), 1111
Graetzer, E., Practical Pediatrics, a Manual of the Medical and Surgical Diseases of Infancy and Childhood, rev., 386
Graham, Edwin, decapsulation of kidneys for nephritis in children, 1472
——— J. Campbell, framboesia tropica (yaws), 1275; discussion on sprue and hill diarrhoea, 1284
——— W. M., guinea-worm and its hosts, 1263
Grant, Major Alexander Gibb, death of, 901
——— Dundas, discussion on middle-ear suppuration, 1187; discussion on laryngeal tuberculosis, 1196
——— Hope, hay fever, chronic rhinitis and asthma, 678
——— Lachlan, modern highland problems, 1549
Granulating wounds, suture of, 214, 304
Granville, Lord, notes from the life of, 1369
Grape fruit, 1419
Grashey, Rudolf, Atlas typischer Roentgenbilder vorn normalen Menschen, rev., 1210
Graves's disease (Hector Mackenzie), 1077; correspondence on, 1215, 1558
——— parathyroids in (S. G. Shattock), 1604
——— x rays in, 460
Gravid uterus. See Uterus
Gray, Albert A., discussion on middle-ear suppuration, 1185; notes on the pathological condition found in a subject who had been deaf during life, 1187
——— Henry, Anatomy, Descriptive and Surgical, rev., 1209
——— St. George, note on the method of taking quinine in the prophylaxis of malaria, 1289
Greasley, Joseph, obituary notice of, 758
Greece, antimalaria league in, 345; British practitioners in, 589
Greek nomenclature, 102
——— physicians, old, gynaecological knowledge of, 200
Green, Alan, French Académie de Médecine awards silver medal to, 202
——— Edward, exercise and open-air treatment of phthisis, 45
——— Stanley, early diagnosis of pulmonary tuberculosis by Roentgen rays, 1238
——— T. Henry, An Introduction to Pathology and Morbid Anatomy, rev., 956
Greene, Charles Lyman, The Medical Examination for Life Insurance and its Associated Clinical Methods, rev., 680
Greenwood, Alfred, tuberculosis in schools, 1425

Greenwood, Major, Poor-law medical officers and superannuation, 605; need for union of societies, 1680
Gregor, Alex., treatment of chronic urticaria and herpes zoster by high-frequency currents, 189
Gregson, Arthur H., condition of the skin in pneumonia, 1454
Grey hair. See Hair
Griffith, E. M., appointed J.P. for county of Monmouth, 84
——— W. S. A., necrosis of cortex of both kidneys, 1043
Griffiths, Arthur David, obituary notice of, 110
——— fund. See Fund
——— Herbert Tyrrell, obituary notice of, 1377
——— John S., the Griffiths testimonial fund, 260
Grimsdale, Harold B., The Chief Operations of Ophthalmic Surgery; a Practical Guide for Students, rev., 442
Grip-eyed needle, 1120
Grossmann, Karl, congenital absence of the dilator of the pupil, 435; conical cornea and hot-air cautery, 436; lepra ophthalmica, 437; lantern slides of leprosy in Iceland, 1280
Grünbaum, Albert S., mitoses in the cells of the Graafian follicle, 1111; the precipitin test, 1374
Guardians and underfed children, 903
Gubb, Alfred S., an old note book, 287; From Cloud to Sunshine: Notes on Algiers as a Winter Resort, rev., 1120; expert medical evidence, 1681
Gubbins, General W. L., C.B. conferred upon, 88
Guild, British Science, 1144, 1230
——— of St. Luke services, 1070, 1136
Guinea stamp or surgery, 264
Guinea worm and its hosts (W. M. Graham), 1263
Gumma, cerebral (W. B. McQuitty), 1206
Gwynn, Charles, address as President of Shropshire and Mid-Wales Branch, 1700
Gyory, Tiberius von, Semmelweis's gesammelte Werke, herausgegeben und zum Theil aus dem Ungarischen übersetzt, rev., 1460

H.

Habershon, S. H., discussion on laryngeal tuberculosis, 1191
Haddon, John, discussion on sprue and hill diarrhœa, 1285; pain and sleeplessness, 1319; conception of disease, 1678
Hæmatoma of the labium majus formed during labour (Joseph Jones), 926
Hæmoglobin in anæmia, inunction of, 368
Hæmogregarine of jerboas, third stage in the sexual cycle of, 204
Hæmolytic and hæmosozic serums (Marc Armand Ruffer and M. Crendiropoulo), 544
Hæmophilia, serum treatment of (H. P. Emile Weil), 1370
Hæmoptysis, surgical emphysema with (John Allan), 1341
——— capillary, rational treatment of in phthisis (Charles Gaskell Higginson), 577
Hæmorrhage from the ovary, sudden (Wheelton Hind), 189
——— post-partum, and anteflexion of uterus (Catherine Smith), 1205
——— uterine, treatment of (H. L. Donovan), 1205
Hæmorrhagic pancreatitis, acute (Dr. Foott), 441
Hæmorrhoids, local anæsthesia in treatment of, 468, 616
Hadley, Wilfred, diagnosis of varieties of pleural effusion, 1008
Haig, Alexander, plea for the investigation of catarrh, 1680
Hair, incidence of greyness of (G. Lenthal Cheatle), 176
Hale, Major Thomas Egerton, C.B. conferred upon, 88
"Hall" Association. See Association
Hall, Arthur, physical degeneration and syphilis, 463
——— Donald G., case of general gonococcal infection, 1141
——— T. Walker, Methods of Morbid Histology and Clinical Pathology, rev., 955
——— John, obituary notice of, 738; estate of, 1159
——— William, discussion on physical deterioration, 931
Hall-Edwards, Mr., Rœntgen rays in diagnosis, 1036
Halliburton, W. D., appreciation of Sir John Burdon-Sanderson, 1490
Halloran, Lieut. L. B., diary of the battle of Trafalgar, 820
Halls of residence for students in Manchester, 1613
Hamilton, George G., treatment of fractured patella, 1588
Hamilton, Ian, and Japanese military surgeons, 1607
——— James, life assurance without medical examination, 1616
——— S., congenital synostosis of both upper radio-ulnar articulations, 1327
Hands, perspiration of, 687
——— sterilization of (Charles Leedham-Green), 761; (C. Yelverton Pearson), 785
Handsworth health of, 752
Hanley Nursing Society, 1149
Harbitz von Francis, Untersuchungen über die Häufigkeit Lokalization und Ausbreitungswege der Tuberculose, rev., 388
Harcourt, A. Vernon, examination of chloroform in inspired and expired air, 187
Hardman, William, digitalin, 682; Graves's disease, 1235; a plea for the investigation of catarrh, 1373
Hare, Francis, the food factor in hay fever, chronic rhinitis and asthma, 416, 680; individual variations of metabolism, 1374; polyuria in typhoid fever, 1678
Harford, C. F., discussion on sprue and hill diarrhœa, 1285
Haring, Nathan C., discussion on laryngeal tuberculosis, 1195
Harman, N. Bishop, intraocular tuberculosis, 433; false hay fever, 435; electrical treatment of trachoma, 435; The Conjunctivæ in Health and Disease, being a record of Some Research Work, rev., 1766
Harpe, de la, treatment of eclampsia, 1457
Harrington, Charles, Manual of Practical Hygiene, rev., 1592
Harrison, Reginald, retrospects and prospects relating to university life, 1625
Harrogate, hydrotherapeutic resources of, 593
——— waters, 615
Harston, G. Montague, case of suppurative cholangitis following cholelithiasis and cholecystitis, 1391
Hartley, Arthur Conning, hygiene and physical culture, 1372
Hartmann, Henri, discussion on surgical treatment of non-malignant diseases of the stomach, 772; discussion on surgical treatment of malignant disease of rectum, 796
Harvey Laboratory. See Laboratory
Haslam, Mr., pathological dislocation of hip during scarlet fever, 1643
Haslip, G. E., the general election and the General Medical Council, 1721
Hastings, report of M.O.H., 593
Hatten, G. Stokes, abdominal surgery during the last twenty-five years, 369
Haughton, Edward, discussion on isolation hospitals, 636
Havre, public health of, 614
Haworth, F. G., teething and corneal ulcers, 756, 1678; probable explanation of some drowning accidents, 908
Hawkins, Francis, suppurative pylephlebitis, 1344
Hay fever. See Fever
Hay, John, syncopal bradycardia, 988, 1072, 1238, 1618; discussion on degeneration of the heart, 1028; pathology of bradycardia, 1034
Hayman, Charles A., appointed J.P. for Bristol, 742
Head dress of certain ratings in His Majesty's fleet, remarks and suggestions (Fleet-Surgeon E. J. Briden), 321
Health almanac, 1571
——— and disease, surface tension of urine in (W. D. Donnan and F. G. Donnan), 1636
——— Commissioner for West Africa, 201
——— conditions of Southern Nigeria, 1310
——— conscience, 1670
——— Resorts, 295, 452
——— visitors, 89
Hearing after complete otectomy (F. Faulder White), 577
Hearsey, H., malarial fever in British Central Africa, 1290
Heart, degeneration of apart from valvular disease, discussion on diagnosis and treatment of (J. Dreschfeld), 1023; (W. P. Herringham), 1027; (Arthur Foxwell), 1028; (John Hay), 1028; (Samuel West), 1031; (William Ewart), 1032
——— double, 346
——— direct manipulation of, and chloroform syncope (T. Rudolph Smith and Wm. Robert Dugdale), 1340; correspondence on, 1430
——— review of books on the, 333, 637
——— suture of, 704
——— syncopal bradycardia showing independent action of the two sides of (J. Seymour Maynard) 847
——— tonicity of the muscle fibres of (James Mackenzie), 1689
——— and other muscular organs, relative effects of chloroform on (C. S. Sherrington and S. C. M. Sowton), 181. See also Cardia
Heath, Christopher, obituary notice of, 3594 appreciation of, 418; will of, 593
Heaton, George, successful enterectomy for irreducible intussusception, 1205; strangulation of an undescended testicle, 1242.
Helby, J. T., errors of diagnosis and infectious diseases, 1426
Helena, Princess, self-supporting sanatoriums for consumption among the working classes, 754
Henderson, E. E., on the filtration of fluid in the eye when under the influence of atropine or eserine, 434
——— R. W., appointed J.P. for county of Antrim, 1413
Henley, W. E., and the Edinburgh Royal Infirmary, 458
Hepatitis, acute, blood counts in (Leonard Rogers), 1291 See also Liver
Heredity or albinism, 1420
——— to disease, discussion on the relationship of (F. W. Mott), 1086; (George A. Watson), 1091; (G. Archdall Reid) 1094; (E. Schuster), 1092; (A. W. Gilchrist), 1092; (C. C. Hurst), 1094; (C. J. Bond), 1094
——— of insanity (A. R. Urquhart), 1571
——— Mendel's law of, 1357
Hering, Professor, awarded Graefe medal, 601
Herklots, G. A., the Metropolitan Asylums Board and its assistant medical officer, 462, 605
Herman, G. Ernest, ventral fixation of uterus, 1589
Hermaphrodite, removal of a tumour from (Henry Corby), 710
Hern, John, intraocular tuberculosis 432; capsular complications after cataract extraction, 433; effect of the presence of adenoids and other abnormalities of the naso-pharynx on some affections of the eyes, 437
Hernia, treatment of, 1727
——— of the diaphragm (Edward Jepson), 577
——— inguinal, diverticulum of the bladder in (Edred M. Corner and Cecil W. Rountree), 1042; strangulation of uterine appendages in (Robert Campbell) 1206
——— retroperitoneal, inflamed (R. Lawford Knaggs), 1449
Hernial sac, contents of, 452
Heron, G. A., teaching of hygiene in elementary schools, 1131
Herpes zoster treated by high-frequency currents (Alex. Gregor), 189
Herring, George, gift of, 1669
Herringham, W. P., spontaneous combustion, 609; discussion on degeneration of the heart, 1027; necrosis of cortex of both kidneys, 1043; syncopal bradycardia, 1151; expert medical evidence, 1349
Herxheimer, G., Methods of Morbid Histology and Clinical Pathology, rev., 955
Herzog, Maximilian, The Plague: Bacteriology, Morbid Anatomy, and Histopathology, 143
Hess, Karl, intraocular tuberculosis, 432; pigment migration, 440
Hession, Brigade-Surgeon Thomas Oliver, obituary notice of, 466
Hewlett, R. Tanner, discussion on beri-beri, 1288; "spirochæte" or "spirochæta," a question of nomenclature, 1616
Hey, Julius, Das Gansersche Symptom seine klinische und forense Bedeutung, rev., 1211
Hichens, Peverell S., case of actinomycosis of lungs, 1168
Higginson, Charles Gaskell, rational treatment of capillary haemoptysis in phthisis, 577
High-frequency currents in treatment of chronic urticaria and herpes zoster (Alex Gregor), 189
Highland problems, modern (Lachlan Grant), 1549
Hildebrand, O., König's Lehrbuch der Chirurgie, rev., 26
Hill diarrhœa. See Diarrhœa
Hill, Leonard, appreciation of Sir John Burdon-Sanderson, 1490
——— William, discussion on middle-ear suppuration, 1186
Hillier, H. J., diet of the precibiculturists, 359
Hilton, Mrs., presentation to, 1304
Hime, T. Whiteside, discussion on sanatoriums for poorer consumptives, 638; discussion on infant milk depôts, 646
Hind, Wheelton, sudden haemorrhage from the ovary, 189
Hinds, F., some aspects of carcinoma ventriculi, 1114
Hip, congenital disease of, treatment of, 807
——— dislocation of during scarlet fever (Mr. Haslam), 1643
Hip-joint, congenital dislocation of and its modern treatment (J. Jackson Clarke), 784, 1588
Hippocratic oath for nurses, 1669
Holden, Lawrence, retirement of, 1233
Holland, British practitioners in, 589
Holland, James, W., A Textbook of Medical Chemistry and Toxicology, rev., 1491
Holman, Sir C., Epsom College, 1560
Holmes, Arthur Norman, discussion on albuminuria and eclampsia in pregnancy, 739
——— Oliver Wendell, and the contagiousness of puerperal fever (Charles J. Cullingworth), 1161
Holt, Major M. P. C., appointed consultant in operative surgery to Eastern command, 1594

Holzappel, Felber, death of, 204
Home Office and industrial mercurial poisoning, 343
Homœopathic practitioners in the United Kingdom, 890
Homœopaths, consultation with, 1480
Hong Kong, medical appointments in, 586
——— plague in, 205, 298, 412, 589, 604, 818, 1136, 1303
——— special correspondence from, 354; report of Government bacteriologist 1904, 354; report of medical officers of health 1904, 361; climate, 361; water supplies, 361; general sanitary condition, 361; population, 361; births, 361; deaths, 361; health of, 611
Hooper, Charles, obituary notice of, 304
Hopgood, Thomas F., large ovarian cyst: operation, recovery, 953
Horder, T. Garrett, hospital out-patients, 680; need for union of societies, 1620
——— T. J., discussion on meningitis, 1013; influenzal endocarditis, 1343; post-mortem meningeal infections, 1373, 1500, 1676
Horne, W. Jobson, discussion on what is notifiable diphtheria? 651; discussion on middle-ear suppuration, 1186; discussion on treatment of laryngeal tuberculosis, 1188
Horrocks, W. H., discussion on anthrax, 936; elected fellow of Royal Sanitary Institute, 1348
Horse sickness, 504
Horses, dental diseases in (J. F. Colyer), 567
——— diseases of, in the Cameroons, 242
Horsley, Sir Victor, intraocular tuberculosis, 432; discussion on toothache neuralgia, and remote affections of dental origin, 556; appreciation of Sir John Burdon-Sanderson, 1490
Hose, C., discussion on beri-beri, 1008
Hospital abuse, in Austria, 259; in Glasgow, 95
——— administration and return cases, 367
——— advertising, 54
——— amalgamation in Manchester, 1554
——— Ancoats; its work and its needs, 1424
——— assistant in India, 353
——— for Bermuda, a new, 148
——— Bethlem Royal, information of medical students, 509
——— Birmingham and Midland Eye, 75th annual meeting, 259
——— Brompton, county branch of, 34
——— Brompton, for Diseases of the Chest, information of medical students, 509
——— Bury, dispute as to liability of, 157
——— Cancer (Manchester) report, 1013
——— Central London Ophthalmic, information for medical students, 509
——— Charing Cross, information *re* medical school, 493; post-graduate studies, 516; introductory address: efficiency (Sir James Crichton Browne), 877; annual dinner, past and present, 885; entrance scholarships, 1049
——— for Sick Children, Aberfoyle, annual report, 1366
——— for Sick Children, the Belgrave, information for medical students, 509
——— for Sick Children at Birmingham, entertainment in aid of, 1315
——— for Sick Children, East London, Shadwell, information for medical students, 508
——— for Sick Children, Royal Edinburgh information about, 512
——— for Sick Children, Royal Glasgow information about, 512
——— for Sick Children, Gt. Ormond Street, ward for children suffering from summer diarrhœa, 104; bequest to, 444; information for medical students, 508
——— for Sick Children, Manchester, appeal, 157; donation to, 414; information about, 511
——— for Sick Children, Newcastle-on-Tyne, information for students, 511
——— for Sick Children, North-Eastern, Hackney Road, information for medical students, 508
——— for Sick Children, Paddington Green, information for medical students, 508
——— for Sick Children, Shadwell. See Hospital, East London
——— City of London, Chest, 288; information for medical students, 509
——— Cochin (Paris) evening clinic for venereal diseases at, 301
——— Coombe Lying-in, Dublin, annual general meeting, 152
——— Corbett, Stourbridge, flower show in aid of, 460
——— Coventry and Warwick, annual meeting, 1718
——— David Lewis, Liverpool, information for medical students, 510
——— Denny Cottage, new wing, 1550
——— Dental, opening of a new, at Birmingham, 158
——— Edinburgh, distribution of prizes, 203
——— of London, annual dinners, 1314, 1465; note on, 1405
——— Dr. Steevens's, information to medical students, 506
Hospital, Ear, Nose, and Throat, Metropolitan information for medical students, 510
——— Ear, Royal, Soho, information for medical students, 510
——— Edinburgh City, struck by lightning, 204
——— General, and Queen's, Birmingham, bequests to, 677
——— Great Northern Central, Holloway Road, information to medical students, 507
——— Guest, Dudley, horse show in aid of, 460; annual meeting, 1555
——— Guy's, Medical School, 53, 163, 494; information for medical students *re* the school, 494; opening of winter session, 885; entrance scholarships, 1049; Professor Osler at, 1060
——— Hampstead General, opened by Princess Christian, 1661
——— Hereford, dispute at, 1425
——— for Infectious Diseases, Edinburgh, information about, 512
——— isolation, new, for Paris, 1674
——— Jervis Street, Dublin, information for medical students, 506; opening of winter session, 1064
——— Jessop, for Women, Sheffield, information about, 511
——— Kent and Canterbury, information about, 512
——— King's College, promised donation to, 84; plans for the new, 101; correspondence on the new, 261; next session, 296; information *re* medical school, 494; annual old students' dinner, 886
——— Lincoln County, information about, 513
——— Llanelly, opening of children's ward, 215
——— the London, opening of new maternity department, 194; information *re* medical school, 494; and value of opsonins, 674; annual dinner, 887; entrance scholarships, 1049; statue of the Queen to be erected at, 1547
——— London Temperance, information for medical students, 507
——— Lurgan Small-pox, alleged deficiencies in, 38
——— Mater Misericordiae, Dublin, information to medical students, 506
——— Maternity, Belfast, and the Midwives Board, 149, 205, 1064
——— Meath, and County Infirmary, Dublin, opening of winter session, 981
——— Mercer's, information to medical students, 506
——— Middlesex, information *re* medical school, 495; reopening of, 818; introductory address: method in medicine (R. A. Young), 881; annual gathering, 888; entrance scholarships, 1049; munificent gift to, 1063; new cancer research laboratories, 1069; grant of Mercers' Company for cancer charity, 1468
——— Millbank Military, visit of King and Queen to, 108; three wards to be named respectively "King Edward," "Queen Alexandra," and "Princess Victoria," 194
——— National, for Paralysed and Epileptic, Queen Square, information for medical students, 509
——— Norfolk and Norwich, information about, 513
——— Northampton, information about, 513
——— Northern, Manchester, for Women and Children, information for students, 511
——— North-West London, Kentish Town Road, information for medical students, 508
——— Nottingham General, information about, 513
——— Orthopaedic, Birmingham, annual meeting, 1149
——— Out-patient Departments, 448, 680
——— out-patients and friendly societies, 92
——— a political, 747
——— Pontypool, half-yearly meeting, 461
——— Porth Cottage, annual meeting, 905
——— Potteries Joint resignations, and discussion on infectious diseases, 677
——— Queen Charlotte's Lying-in, information for medical students, 508
——— Queen's Jubilee, note on, 140; changes at, 1468
——— question, ethical aspects of. See Ethical
——— Rotunda, information to medical students, 507
——— Royal Albert, Devonport, information about, 512
——— Royal Bethlem, information for medical students, 509
——— Royal, for Sick Children, Edinburgh, information about, 512
——— Royal, for Sick Children, Glasgow, information about, 512
——— Royal, City of Dublin, information for medical students, 506
——— Royal Devon and Exeter, information about, 512
Hospital, Royal Ear, Soho, information for medical students, 510
——— Royal Eye, Manchester, information about, 511
——— Royal Eye, Southwark, information for medical students, 509
——— Royal Free (London), information *re* medical school, 496; introductory address: ideals in study (Mrs. Bryant), 883; entrance scholarships, 1049
——— Royal, Hants County, information about, 513
——— Royal London Ophthalmic (Moorfields), information for medical students, 509
——— Royal Maternity and Simpson Memorial, Edinburgh, information about, 512
——— Royal Portsmouth, information about, 512
——— Royal Southern, Liverpool, information for medical students, 510
——— Royal South Hants and Southampton, information about, 513
——— Royal United, Bath, information about, 511
——— Royal Victoria, Belfast, 205, 1718
——— Royal Victoria (for Consumptives) Craigleith, Edinburgh, annual report, 366; information about, 512; note on, 1421, 1476
——— Royal Victoria Eye and Ear, Dublin, information to medical students, 507
——— Royal Waterloo for Women and Children, appeal, 444
——— Royal Westminster Ophthalmic, information for medical students, 509
——— Royal, for Women, Sydney, opening of new wing, 353
——— St. Bartholomew's, distribution of prizes, 216; and the interdict of 1208, 459; information *re* medical school, 492; annual old students' dinner, 885; Roman remains at, 900; entrance scholarships, 1049; note on the bones recently dug up on the site of Christ's Hospital, 1428; matinée in aid of, 1600
——— St. George's, information *re* medical school, 493; introductory address, medical education (Robert Brudenell Carter), 878; annual dinner, 886; entrance scholarships, 1049; appeal for medical school, 1230; note on medical school, 1360
——— St. Helen's, 293
——— St. John's, for Skin Diseases, information for medical students, 510
——— St. John of Jerusalem, Order of, award of medals by, 1530
——— St. Mark's, City Road, information for medical students, 510
——— St. Mary's, distribution of prizes, 111; information *re* medical school, 495; old students' dinner, 887; entrance scholarships, 1049
——— St. Mary's, for Women, Manchester, information for students, 511
——— St. Peter's, for Stone and Urinary Diseases, information for medical students, 510
——— St. Saviour's, for ladies of limited means, 468
——— St. Thomas's, Reports, vol. xxxii, rev, 70; annual prize-day at the medical school, 163; information *re* medical school, 495; annual old students' dinner, 888; entrance scholarships, 1049
——— St. Vincent's, information to medical students, 507; opening of winter session, 1064
——— Salford, annual report, 1315
——— Samaritan Free, information for medical students, 509
——— Seamen's, Greenwich and Royal Albert Docks, information for medical students, 508
——— Sir Patrick Dun's, information for medical students, 506
——— for Skin Diseases, Birmingham and Midland, information about, 511
——— for Skin Diseases, Blackfriars, information for medical students, 510
——— Small-pox, South Staffordshire, 986, 1480
——— Sparkhill Women's, 903
——— Stratford-on-Avon, annual meeting, 1149
——— subscribers' letters of recommendation, 1596
——— Sussex County, information about, 511
——— Swansea, 88th annual report, 158; annual meeting, 357
——— Tenby Cottage, half-yearly meeting, 1072
——— Throat, Central London, Gray's Inn Road, information for medical students, 510
——— Throat, Golden Square, information for medical students, 510
——— Throat, Metropolitan, information for medical students, 510
——— tickets and medical recommendations, 364
——— Tottenham, information for medical students, 508

Hospital, University College, London, informa-re medical faculty, 496; introductory address preventive medicine, past and prospectiv (H. R. Kenwood), 880; annual past and presen students' dinner, 888; entrance scholarships 1249; new buildings, 1600
——— Vienna, new wing opened by the Brothers of Mercy, 44
——— Warneford, Leamington, 167, 311
——— West Bromwich, annual report, 302; contribution to, 903
——— West Ham, bazaar in aid of, 1468
——— West London, vacation course at the post-graduate college, 140; information for medical students, 508
——— Westminster, out-patient department of, 394; information *re* medical school, 496; annual past and present students' dinner, 888; entrance scholarships, 1040
——— Withington Workhouse, case of fractured ribs in an insane person, 1233
——— Wolverhampton and Staffordshire General, information about, 513
——— for Women, Edinburgh, annual meeting, 1684
——— for Women, Euston Road, opening of new ward, 1363
——— for Women, Soho Square, information for medical students, 509
——— York County, information about, 513
Hospitals, abuse of and the remedies, 47, 95
——— Adelaide Medical and Surgical, information to medical students, 506
——— American Naval, 890
——— Bequests to. See Bequests
——— Cottage, temporary, 1500
——— London Clinical, information about, 527
——— Fever and Small-pox, of the Metropolitan Asylums Board, information for medical students, 509
——— General and Queen's, Birmingham, information to medical students, 497
——— at Glasgow, the old, note on, 750
——— Hôtel Dieu and St. Louis, proposed centralization of clinical instruction, 211; laicization of, 1479
——— influence of, 1363
——— for the Insane, Queensland, annual report, 1684
——— isolation, discussion on (George Wilson), 630; (J. E. O'Connor), 633; (F. H. Waddy), 634; (R. Sydney Marsden), 625; (H. Cooper Pattin), 635; (J. Spottiswoode Cameron), 635; (W. R. Smith), 636; (Edward Haughton), 636; (J. M. Mackenzie), 636
——— isolation, fees for attendance at, 150; and the transfer of nurses, 157; attendance at, 1623
——— isolation, small, 1462
——— and medical schools of London, finances of, 101
——— new, in Montreal, 1543
——— and nursing homes, private, 909
——— of Ontario, 974
——— Poor-law patients and, 1227
——— Richmond, Whitworth, and Hardwicke, information for medical students, 506
——— and the stage, 903
——— small-pox, in Liverpool, 197, 349, 815
——— of Toronto, 974
——— United Clinical School, Liverpool, information for medical students, 511
——— voluntary and workhouses, 1148
——— Wolverhampton, contributions to, 904
"Housemaid's knee," new treatment for (Buckley Pogson), 952; (Frederick A. Field), 1587; note on, 1076
Housing reform in Germany, 891
Houston, Alexander Cruikshank, appointed director of water examinations, 256
Hovell, T. Mark, discussion on middle ear suppuration, 1185
Hoyle, James C., obstetric emergencies and the doctor's fee, 1491
Huchard, H., Nouvelles Consultations Médicales, Clinique et Thérapeutique, rev., 331
Huddersfield, municipal child-rearing at, 307
Huggard, William R., pulmonary atelectasis in adults, 922
Hughes, Gerald S., consultative out patient departments, 628
Hugo, Victor, works of with autographs and photographs of celebrated people, 353
Human subjects, false talis in, 1229
——— tuberculosis. See Tuberculosis
Hume, G. H., presentation to, 1614
Humphreys, F. R., the general election, a suggestion, 1149; the Royal Commission on Poor Law, 1556
Humphry, R. E., hyperpyrexia following traumatism, 1093
Hungary, British practitioners in, 589
Hunt, James H., Medical Secretary and meetings of Divisions, 1371
——— John Middlemass, discussion on middle ear suppuration, 1187; discussion on laryngeal tuberculosis, 1197
——— [illegible], elected Mayor of Yeovil, 1354
Hunter, William, notes on a case of suppurative cholangitis following cholelithiasis and cholecystitis, 1391
Hunting, William, veterinary profession and comparative pathology, 884
Hurst, C. C., discussion on relationship of heredity to disease, 1094
Hutchinson, Jonathan, idiosyncrasy in reference to mushroom poisoning, 677
Hutchison, Robert, remote affections due to teething in childhood, 556; dyspepsia, 1381
Huison, John, discussion on sprue and hill diarrhoea, 1285
Hutton, George A., the St. John Ambulance Brigade, 416
Huxley, Frank E., discussion on toothache, neuralgia, and remote affections of dental origin, 558
——— memorial lecture, 1230
——— P. H., and style in writing, 39
Hyde, James Nevins, A Practical Treatise on Diseases of the Skin for the Use of Students and Practitioners, rev., 332
Hydrochloric acid in diseases of the stomach, therapeutic value of, 893
Hygiene for army officers, instruction in, 1361
——— of infancy in Costa Rica, 242
——— and elementary schools (leading article), 819; report on (G. A. Heron), 1131; note on, 1544. See also Schools
——— of public schools, review of books on, 389
——— and physical culture, 1372
Hygienic barbery, 199
——— exposition at Lyons, 1600
——— instruction for teachers, 288; by posters, 412
——— school, and South Wales University College, 830
——— training and teaching at school (Henry Kenwood), 640
Hyperemesis, secondary cancer of uterus, Caesarean section, 671
Hyperpyrexia (John Britton), 130
——— following traumatism (R. E. Humphry), 1699
Hypnotism, 759
Hypodermic needles, standard gauges for, 417
Hyslop, Theo. B., occupation and environment as causative factors in insanity, 941
Hysterectomy for fibroid disease in three sisters (Alban Doran), 924
——— subtotal (Alban Doran), 1296

I.

Ibrahim, Jussuf, Die angeborene Pylorusstenose im Säuglingsalter, rev., 876
Ice-cream, poisoning by at Birmingham, 258, 302; at Ashton, 414
Iced water, a warning against, 420
Iceland, leprosy in, 1280
Ideals of study (Mrs. Bryant), 883
Idiosyncrasy in reference to mushroom poisoning. See Mushroom
Idiots, care and control of, 108, 165, 217, 310, 367, 1153
Iliac artery. See Artery
Illness of assistant, 1324
Imbecile adult, disposal of, 912
Immunity (George C. H. Fulton), 268
——— acquired, 1150
——— and phagocytosis (leading article), 1056
Imperial councillors in Austria, new, 354
Income tax, 220, 1070, 1624; correspondence on, 260, 304, 358; review of books on, 1347
Increase of share, 1726
Incurables, Midland Counties Home for, Leamington, 753, 1149, 1675
Index of American physicians, 1611
India, plague in, 80, 93, 205, 298, 412, 589, 664, 818, 1136, 1303, 1424, 1660; antiquity of vaccination in, 136; medical specialists in, 308; abolition of principal medical officerships in, 309; hospital assistant in, 353; army medical redistribution in, [illegible]
——— inoculation against plague in Bombay, 899
——— report of Imperial Sanitary Commissioner, 1903, 633, 912
——— veterinary science in, 1685
"Indian Medical Gazette," Colonel Kenneth McLeod bids farewell to, 459
Industrial diseases, 349
Inebriates, what to do with our, 144
——— Act. See Act
Inebriety as a physical disease (H. W. Mann), 1691
——— drug treatment of. See Drug
——— study of, 671
Infant feeding, 220, 312
——— citrate of soda in (F. J. Poynton), 1021
——— and degenerate children, 992
——— milk dépôt in Leeds, 367; discussion on. See Milk
——— mortality. See Mortality
Infantile convulsions (J. Reid), 578
Infants, care of, in New York, 1221; feeding of, in France, 1479
——— substitute feeding in (T. H. Sanderson Wells), 63
Infectious diseases, compulsory notification of, 156
——— and errors of diagnosis. See Diagnosis
——— penalty for exposure while suffering from, 739
——— return cases of, cause of, 815
Infirmary, Cardiff, 753, 992, 1072, 1370, 1675; Patti concert for, 1233, 1370
——— for Sick Children, Liverpool, information about, 511
——— Cootehill, deaths in, 149
——— Cork, North Charitable, opening of new operating theatre, 298
——— Eye, Glasgow, information about, 512
——— Eye, Newcastle-on-Tyne, information about, 511
——— Eye, Ear and Throat, Edinburgh, information about, 512
——— Eye and Ear, Myrtle Street, Liverpool, information for medical students, 511
——— Glasgow Western, information about, 512
——— Glasgow Royal, clinical teaching at, 1629
——— Gloucestershire, general information about, 512
——— Leeds, opening of the new, 44; changes at, 904; appointment of assistant physician, 1136; appointments at, 1316
——— Leicester, information about, 512
——— Manchester, progress of new, 603; donation to and alteration of rules, 903
——— North Staffordshire, and Eye Hospital, information about, 513, 1684; annual meeting, 1555
——— the Paisley, bazaar in aid of, 1477
——— Royal Bradford, information about, 511
——— Royal Bristol, carnival in aid of, 01
——— Royal Derbyshire, information about, 512
——— Royal Edinburgh, Residents' Club annual meeting, 94; meeting of managers, 204, 827, 899, 979, 1065, 1145; W. E. Henley and the "staff nurse," 458; story of Lord Lister at, 459; information for medical students, 503; new surgical out-patient department, 1549, 1717; unusual cases in the wards, 1671; a patient's gratitude, 1671
——— Royal Glasgow, information *re* medical school, 504; sensational article on bodies found in digging the foundations of the new buildings of, 750; post-graduate study at, 1717
——— Royal Liverpool, appointment of assistant gynaecological surgeon, 302; information for medical students, 510
——— Royal Manchester, and Professor Dreschfeld, 986; Jewish kitchen at, 1315; new buildings, 1554
——— Royal, Newcastle-upon-Tyne, appointment of surgeon, 987; tetanus in, 1514
——— Staffordshire General, information about, 513
——— West of England Eye, information about, 512
Influenza (Michael Dewar), 131
——— amblyopia following (Cecil E. Shaw), 437
——— epidemic simulating, in East Herts District (R. A. Dunn and M. H. Gordon), 421
——— epidemic of, in the Midlothian and Peebles Asylum (J. P. Sturrock), 1171
Influenzal endocarditis (T. J. Horder), 1343
Infusorium, pathogenic, 1711
Inheritance of disease and the relationship of disease to certain mental characteristics, 1615
Inland Revenue and goodwill, 1434
Innominate aneurysm. See Aneurysm
——— artery. See Artery
Inoculation against plague in Bombay, 899
——— and Pasteur, 1710
Inquest on a hospital patient, 364
Inquests and medical evidence, 309; after operations, 1433
Insane in Canada, 401
——— diphtheroid organisms in the throats of (J. W. H. Eyre and J. Froude Flashman), 1104; correspondence on, 1427, 1557
——— legal capacity of, 145
——— in New Zealand, treatment of, 1686
——— poor in England and Wales, family care of, 81; leading article on, 85; in Belfast Work house, 349. See also Lunatic

Insane in Queensland, hospitals for, 1624
Insanitary property, 1725
Insanity, confusional (L. D. H. Baugh), 949
——— corporate, 899
——— heredity of (A. R. Urquhart), 1571
——— occupation and environment as causative factors of (Theo. B. Hyslop), 941
——— and murder (leading article), 341; correspondence on, 415, 461, 680
——— among negroes, 1177
——— uniform statistics of, 1667
Inspection of children in elementary schools, 1398
Institute, the Henry Phipps, 410
——— International Statistical, eighteenth session, 296
——— Royal Sanitary, 304, 1234
——— of Tropical Research, 288, 402
Institution, Dudley Ophthalmic, 624
——— Edinburgh Philosophical, inaugural address, 1311
——— Liverpool Medical, meeting and cases, 1458, 1525, 1646, 1702; reopening of, 1479
Instruction in preliminary sciences, 513
Insurance without examination, 1076
Intelligence and brain weights (leading article), 1415
Interdict of 1208 and St. Bartholomew's Hospital, 459
International Clinics, rev., 1592
Interscapulo-thoracic amputation, three cases of (Rutherford Morison) reported by Fred. Stoker), 1399
Interstitial cells of the ovary in the rabbit, origin and life-history of (Janet E. Lane-Claypon), 18
Intestinal antiseptics, 1380
——— dyspepsia, 615
——— infection and pulmonary tuberculosis, 1664
——— obstruction from gall stone, 401; and biliary calculus (Carey Coombs), 1399
——— sand (Percy W. G. Shelley), 1699
Intestine, large, unusual condition of, associated with carcinoma in two sisters (Charles P. Childe), 804
Intracranial abscess. See Abscess
——— tumours. See Tumours.
Intralaryngeal syringe 1530
Intramuscular injections of mercury. See Mercury
Intranasal drainage of antrum. See Antrum
Intraocular tuberculosis. See Tuberculosis
Intrauterine medication late in the puerperium, dangers of, 34
Introduction to purchaser of practice, 613
Introductory addresses at the opening of the medical schools, 877
Intussusception, irreducible, enterectomy for (George Heaton), 1295
Ireland, notes from, 38, 95, 152, 205, 298, 350, 404, 453, 602, 672, 751, 827, 975, 1004, 1146, 1231, 1312, 1422, 1477, 1550, 1609, 1672, 1717; presentation to Dr Robert Morton, 38; alleged deficiencies at Lurgan Small-pox Hospital, 38; Cork District Asylum, annual report, 38; Archbishop Walsh and Trinity College, 95, 152; Ulster Medical Society, annual meeting, 152, 1673; portrait of Jenner presented to, 1350; health of Belfast, 152, 350, 602, 1146, 1550; Royal Hospital for Incurables, Dublin, annual meeting, 152; Coombe Lying-in Hospital, Dublin, annual general meeting, 152; Sir Antony MacDonnell, 205; Royal Victoria Hospital, Belfast, 205, 1718; opening address, 1313; Belfast Maternity Hospital and the Midwives Board, 205, 1064; Belfast courthouse, 298; opening of new operating theatre, North Charitable Infirmary, Cork, 298; ambulance service in Belfast, 350; Poor-law Medical Service, 404, 1550, 1673; fatal accident to Dr. Auterson, 404; death of Dr. D McMordie (Omagh), 405; Belfast Board of Guardians: removal of lunatics to the asylum, 453; Queen's College, Cork, 1422; appointments to chairs, 453; president's report, 602; inaugural address, 1312; autumn examinations, 1422; appointment of visitors, 1551; Belfast District Lunatic Asylum, 75th annual report, 602; Ballinasloe Union, 602; typhus at Clonmany, 675, 828; Queen's College, Belfast, promised bequest to, 751; better equipment of, 827, 898, 975, 1313, 1478, 1551, 1718; inadequate water supply of Donegal Lunatic Asylum, 828; Dunlop Memorial Home, 828; direct representation in Ireland, 898, 1423, 1477, 1550, 1609; Poor-law reform, 898; censure of a dispensary medical officer, 898; certificates of school authorities and coroners, 899; O'Neill Memorial School, Crossnacreevy, co. Down, 976; Royal Academy of Medicine, twenty-third annual meeting, 976, 1064; Royal Veterinary College, opening of sixth session, 976; St. Vincent's Hospital, opening of session, 1064; signing of school certificates, 1064; presentation, 1064; Jervis Street Hospital, opening of session, 1064; Royal College of Physicians Ireland, annual dinner, 1146; opening of winter session, 1314; Irish Medical Association, general meeting, 1146, 1314, 1609; post graduate courses, 1146; pauper nurses, 1231; salaries of asylum superintendents, 1231; examinations and universities: inaugural addresses, 1312; Royal University of Ireland, disturbance at, 1313, 1423; sanatorium for consumption in Cork, 1422; Queen's College, Cork, 1422; report of the Irish Local Government Board, 1422, 1550, 1672; reform of the system of poor relief, 1423; deportation of Irish pauper lunatics, 1478; typhoid fever in Tyrone, 1478; Irish Medical Association, general special meeting, 1478; medical magistrate, 1478; National Commercial Temperance League, 1478; dispensary doctors' salaries, 1550, 1673; action against Dr. Darnell, 1550; Cork Medical and Surgical Society, 1551; deaths of Dr. J. F. S. Stewart and Dr James Waddell, 1551; report on lunacy in Ireland, 1673; disturbance at the Royal University, 1673; dispensary election at Swinford, 1673; Edward H. Bennett testimonial fund, 1673; cerebro-spinal fever, 1718
Ireland and the Midwives Act, 304; information re the medical schools, 505; payment of Poor-law medical officers in. See Poor Law
Iridoplegia, partial (C. Marcus), 1117
Iris, detachment of (J. A. Craig), 1206
——— tuberculosis of. See Tuberculosis
Irish dispensary service (leading article), 1603. See also Poor Law
——— pauper lunatics, deportation of, 1478
——— Poor-law Commission, 204
——— Poor-law medical service. See Poor Law
Iron removed from interior of eye by electromagnet (A. S. Percival), 1176; correspondence on, 1320
Irthlingborough, cerebro-spinal fever at, 895
Iron, new method of giving (Philip N. Randall), 1398
Ismailia, continued success of antimalarial campaign at, 1316; correspondence on, 1680
Isolation hospitals. See Hospitals
Is temper a disease? 166
Italy, medical evidence in, 148, 402; medical group in Parliament of, 346; British practitioners in, 589; special plague officers in, in the 16th century, 1062; medical senators in, 1716

J.

Jackson, George, discussion on laryngeal tuberculosis, 1197
——— H. C., Directions for Laboratory Work in Physiological Chemistry, rev., 728
Jacob, F. H., keratosis palmaris et plantaris in five generations, 125; discussion on what is notifiable diphtheria? 651
Jadassohn, J., Hautkrankheiten bei Stoffwechsel-Anomalien, rev., 332
Jalland, W. H., case of dermoid cyst of ovary in a child, 330
Jamaica, medical appointments in, 585
Jamieson, James, obituary notice of, 1322
Japan, the medical profession in, 1363
Japanese honours for an English nurse, 444
——— losses in the war, 1435
——— medical peer, 91
——— naval surgery, 825
——— war with Russia, notes on (S. Suzuki), 1125
——— Red Cross Society, 399
——— surgeons and Russian officers, 965
Jaw, necrosis of in a child (Astley Clarke), 576
Jean d'Arc, medical descendants of the family of, 688
Jeanselme, M. E., notes on pian (yaws) in French Indo-China, 1276
Jejunostomy, after-history of cases of (T. Gelston Atkins), 787
Jelliffe, Smith Ely, An Introduction to Pharmacognosy, rev., 581
Jenkins, E. Llewellyn, dysentery, its causation, varieties and treatment on active service, 323
Jenner, Edward, memorial tablet to, 402; and "folk-lore," 1407
Jennings, J. Ellis, Colour Vision and Colour Blindness, rev., 1706
Jepson, Edward, dispensers, qualified and unqualified, 359; extensive hernia of the diaphragm, 577; presentation to, 1140
Jessop, Edward, sudden death and the thymus gland, 1686
——— Walter H., intraocular tuberculosis, 430
Jews, mortality among, 734
Johnson, James, case of maladie des tic convulsion, 810
——— S. Lindsay, Tscherning's lenses, 1117
Johnstone, R. J., case of retroperitoneal fibrolipoma, 1452; silent tubal abortion, 1522
——— R. McKenzie, the Royal College of Surgeons of Edinburgh, its early connexion with medical teaching, 179
Joints and spine, treatment of tuberculous disease of (J. Jackson Clarke), 1643
Jones, Charles Griffith, receives Government grant for successful vaccination, 1541
——— H. Lewis, new lines of work in electrotherapeutics, 1044
——— John E., appointed U.S. consul at Doiny, 297
——— Joseph, case of haematoma of the labium majus formed during labour, 926
——— Robert, prognosis in mental diseases, 1578
——— Philip Sydney, knighthood conferred upon, 88; note on, 604
Jouanst, Maurice, Les Actualités Médicales. Les Traitements des Entérites, rev., 1527
Joule memorial, 1233
Journal, British Medical, Supplement of. See Supplement
Journalism, sensational. See Sensational
Joynes, J. F., healing of wounds without suppuration, 385
Juvenile smoking. See Smoking

K

Kala-azar, two cases of (Sir Patrick Manson), 1261
Kamen, Ludwig, Die Infectionskrankheiten rücksichtlich ihrer Verbreitung, Verhütung und Bekämptung, rev., 1705
Kanakas, leprosy among, 605
Kassowitz, Professor, elected President Austrian Society for Repression of Quackery, 1668
Kaye, James Robert, the midwife and the general practitioner, 651
Kearton, Richard and Cherry, Pictures from Nature, rev., 1530
Keats, John, and Guy's Hospital, 300, 983
Keetley, C. B., discussion on surgical treatment of non-malignant diseases of the stomach, 778; appendicostomy, 863; operative treatment of simple fractures, 1559
Kehr, Hans, Die in meiner Klinik geübt Technik der Gallensteinoperationen mi einem Hinweif auf die Indikationen und die Dauererfolge, rev., 191
Keith, Skene, discussion on diagnosis and treatment of uterine cancer, 698; up-to-date surgery and treatment of cancer, 1317
Kellock, T. H., traumatic pancreatic pseudocyst, 1589
Kelly, A. O. J. (editor), International Clinics, rev., 76
——— Howard A., The Vermiform Appendix and its Diseases, rev., 387; discussion on diagnosis and treatment of cancer of uterus, 605
Kelson, W. H., nasal polypi and asthma, 1642
Kelynack, T. N., discussion on sanatoriums for poorer consumptives, 637; alcoholism in relation to national vitality, 630
Kennard, H. P., the Metropolitan Asylums Board and its assistant medical officers, 462, 605
Kenwood, Henry, hygienic training and teaching at school, 640
——— H. R., preventive medicine, past and prospective, 880
Keratosis palmaris et plantaris in five generations (F. H. Jacob and Adam Fulton), 125
Kiallmark, Surgeon-Lieutenant-Colonel Henry Walker, introductory remarks as President of Navy, Army, and Ambulance Section, 315
Kidd, Walter, papillary ridges in mammals, 1537
Kidney, abscess of. See Abscess
——— cystic and pyonephrotic (J. T. J. Morrison), 1342
——— cystic, disease of (Dr. McMunn), 1643
——— disease, modern methods of diagnosis in (Hurry Fenwick), 1589; review of books on, 1649, 1705
——— single, ureter passing to opposite side, 630
——— transplanted, functions of, 1354
——— unusual tumour of (C. Arthur Ball), 1524
Kidneys, necrosis of cortex of both (W. P. Herringham and W. S. A. Griffith), 1043
Kilkelly, Surgeon-Lieutenant-Colonel, appointed House Governor of Convalescent Home for Officers, Osborne, 619
Kilroy, Lieutenant-Colonel Philip Le Feuvre obituary notice of, 466
Kilvington, Basil, investigation on the regeneration of nerves, 625
King Edward's Hospital Fund. See Fund
——— of Greece, visit to the City, 1435
King, Colonel W. G., ancient sanitation in the East, 300
Kirby, E. D., open-air treatment of consumption in Scotland over one hundred years ago,

Klein, E., Burdon-Sanderson as a pathologist, 1484
Klemperer, Georg, Lehrbuch der Inneren Medizin, rev., 311
Knaggs, R. Lawford, case of inflamed retro-peritoneal hernia (so-called duodenal), 1449
Knee-joint, atypical "internal derangements" of (Arthur E. Barker), 1516; correspondence on, 1615
Kneipp treatment in the twelfth century, 210
Knives for estaolishing permanent intranasal drainage of antrum, 1348
Knott, John, medicine and witchcraft in the days of Sir Thomas Browne, 957, 1046
Knyvett, Seymour, discussion on accident and poisoning reports, 938
Koch, Robert, note on trypanosomiasis and the tsetse fly, 140; coming home from Africa, 1063; awarded Nobel prize for medicine, 1608
Koch's bacillus and para-tubercle bacilli, 1050
Kolle, Dr., Lehrbuch der klinischen Untersuchungsmethoden und ihrer Anwendung auf die specielle arztliche Diagnostik, rev., 811
Kölliker, Albert von, death of, 1310; obituary notice of, 1375; memorial to, 1547
Körte, W., Beiträge zur Chirurgie der Gallenwege und der Leber, rev., 1591
Kossel, Professor Dr. H., report on human and bovine tuberculosis, 1445
Krafft Ebing, von R., Textbook of Insanity, rev., 133
Kühn, A., Die Frühdiagnose des Abdominal-typhus, rev., 331
Kuliga, Dr., Untersuchungen über Knochen-arterien, rev., 1210
Kussmaul Prize, 1600

L.

L'Entente cordiale, 402, 452
L.S.A., title of, 312
Laboratory, the Harvey, 1410
Laboratories, cancer research. See Cancer
——— Government, in Manila, 1715
——— Stephen Kalli memorial, opening and dedication, 90
Labour, method of guarding the perineum in (W. J. Cale), 628; case of haematoma of the labium majus formed during (Joseph Jones), 926
Lack, Lambert A. H., An Introduction to Physiology, rev., 727
Ladenberg, Albert, awarded Royal Society Davy medal, 1310; right leg amputated, 1398
Lady doctors and the Lambeth guardians, 1600
Lagos, sanitary condition of, 1669
Laicization of Hôtel-Dieu and St. Louis Hospitals, 1479
Lake, Richard, discussion on middle-ear suppuration, 1185
Lambeth guardians and lady doctors, 1600
Lambert, F. S., elected sheriff of Lincoln, 1354
Lambkin, Lieutenant-Colonel F. J., physical deterioration and syphilis, 375; intramuscular injections of mercury in syphilis, 1254
Laminectomy in tumour of spinal cord, 826
Lancashire, Midwives Act in, 241, 410
——— county and death-rate, 1315
Lancaster, report of M.O.H. of county of, 1233
Lane, W. Arbuthnot, operative treatment of simple fracture, 1325
Lane-Claypon, Janet E., origin and life-history of the interstitial cells of the ovary in the rabbit, 18
Langmead, F. E., relapsing tetany associated with dilatation of the sigmoid flexure, 1457
Lankester, Owen, drug treatment of inebriety, 106
Lantern slides, 1563
Laparotomies, six, on one patient, 140
Laparotomy, mortality after, 1227
——— gal. stone removed by (Victor Milward), 1342
Laryngeal tuberculosis. See Tuberculosis
Laryngology at the International Congress, 32
Larynx, papilloma of (Cecil Shaw), 98
Latent paiuces, 1214
Latimer, H. A., the perplexities of secretaries, 1707, 1708
Latin [illegible]aries, 1709
Laughter, as a cure, 616
Lawrie, [illegible] (Chesterfield), late of, 1220
Law and the liquor traffic, 1444
Lawrence, Lawrence Ashe, discussion on middle-ear suppuration, 1186; discussion on laryngeal tuberculosis, 1208
Lawrie, Edward, chloroform syncope and direct manipulation of the heart, 1430
Lawrie, Hugh, a probable explanation of some drowning accidents, 626
Lawson, David, the opsonic index, 1343, 1618, 1720
Lawton, Wm. A., Incorporated Society of Medical Officers of Health, 1320
Law press, notices of medical men in. See Medical Practitioners
Leach, Edgar, three cases simulating pemphigus, 951
LEADING ARTICLES:—prohibition of company practice, 29; common interests of literature and science, 29; the tramp at home, 31; proposed Royal Charter for the Association, 85; family care of the insane, 85; epidemic cerebro-spinal meningitis, 86; the Annual Representative Meeting, 141; the Lunacy Commission, 142; the pathology of plague, 143; contract practice report, 195; France and legislation for diseases of occupation, 195; the recent volunteer circular, 197; the president's address, 243; the address in medicine, 244; the address in surgery, 245; the annual meeting at Leicester, 289; the Representative Meeting, 290; the Government and the profession, 291; insanity and murder, 341; the needs of our oldest university, 342; opsonic power in tuberculosis, 342; errors of diagnosis and infectious diseases, 395; duties of professional brotherhood, 396; medical aspects of the parliamentary session, 445; the efficiency of the Army Medical Service, 446; Malta fever, 447; the age of cancer, 504; the section of dental surgery, 595; Asiatic cholera in Germany, 596; the medical work of the Local Government Board, 667; pseudo-therapy and demagogy, 668; combined sanitary districts, 669; diagnosis and treatment of cancer of the uterus, 740; army sanitation, 741; treatment of perforating typhoid ulcer, 742; hygiene and elementary schools, 819, 1223, 1357; discussion on eclampsia, 820; treatment of arterio-sclerosis, 822; housing reform in Germany, 891; Drummond-Morison operation, 892; therapeutic value of hydrochloric acid in diseases of the stomach, 893; tuberculin and allied bodies, 966; underfeeding and brain-fag, 967; obesity and thirst cures, 968; phagocytosis and immunity, 1056; the sanatorium and after, 1057; fever, 1058; Sir Thomas Browne, 1137; Dr. Schaudinn on Spirochaete pallida, 1138; ethical aspects of the hospital question, 1139; the medical service of the army, 1222; school hygiene, 1223, 1357; relation of the medical officer of health to the medical practitioner, 1223; university politics in Scotland, 1304; blood relationship and the precipitin test, 1304; fatality from diphtheria in great towns, 1305; new Clinical Post-graduate School for London, 1306; tuberculosis in schools, 1357; Mendel's law of heredity, 1357; union of medical societies in London, 1358; Bishop of London on Christian science, 1359; working of the milk regulations, 1414; brain weights and intelligence, 1415; the Spectaclemakers' Company, 1415; the General Medical Council, 1469; importance of longer hours of sleep at public schools, 1469; Burdon-Sanderson, 1471; tuberculosis in childhood, 1542; antivivisectionists on the warpath, 1542; science and art of medicine, 1543; the new Government, 1601; prognosis of mental diseases, 1601; Irish dispensary service, 1603; antivivisectionists and the hospitals, 1662; toxic cyanosis of intestinal origin, 1663; pulmonary tuberculosis and intestinal infection, 1664; "platform facts," 1711; a pathogenic infusorium, 1711
Lead as an abortifacient, 90
——— anaemia. See Anaemia
——— paralysis. See Paralysis
——— poisoning in paint and colour works, 32; uncertainty of post-mortem evidence in, 50, 220; prize competition for prevention of, 193; and diamond cutting in Amsterdam, 1400
League, National Temperance, breakfast, 284
Lecture, Banks memorial, 1416, 1625
——— Bradshaw, 1245, 1565
——— Huxley memorial, 1230
——— Lees and Kapor memorial: law and the liquor traffic, 1144
——— the popular, 283, 1378
Lectures, the FitzPatrick, 1332, 1385
——— Norman Kerr, 973
——— post-graduate, in Vienna, 42
——— to teachers, 1071
Lediard, H. A., primary tuberculosis of thyroid, 1042
Leedham-Green, Charles, some further experiments on the sterilization of the hands and skin, 781
Leeds, special correspondence from, 44, 158, 356, 414, 820, 904, 1071, 1316, 1555; an inspected unsterilized milk supply for infants, 44, 367, 1071; new Leeds company, R.A.M.C. (Vols.), 44; new workhouse and infirmary, 44; nurses' training school, 45; annual report of Leeds and West Riding Medico-Chirurgical Society, 158; sale of glycerine adulterated with arsenic, 158; annual meeting West Riding Medical Charitable Society, 356; chair of surgery, 414; new dental department of the Public Dispensary, 414; opening of winter session at medical school of the University, 830; annual meeting of the Leeds Public Dispensary, 830; meeting of trustees, 1555; underfed children and infant classes, 904; changes at the infirmary, 904; appointments at the infirmary, 1316; public health of, 904; annual dinner of members of the dental profession of Leeds and district, 1071; appointments at the Infirmary, Public Dispensary, and Hospital for Women and Children, 1316; surgical appointments, 1555
Leeds infant milk dépôt in, 44, 367, 1071
——— pathology at, 972
Leeming, Robert W., tracheotomy under local anaesthesia, 1072
Lees and Kapor Memorial Lecture, 1144
Leeward Islands, medical appointments in, 585
Legal capacity of the insane, 145
Legs, artificial, 992
Leicester, annual meeting of the British Medical Association at, 87, 143, 197, 272, 289; guide to, 198; vote of thanks, 1149. See also Association
Leicester, J. C. Holdich, ectopic gestation, 954
Leicestershire, lunacy in (R. C. Stewart), 945
——— Midwives Act in, 241
Leith, plague at, 94
Lemoine, G., Formulaire et Consultation Médicales, rev., 388
Lens, crystalline, in health and in cataract (Sir William Job Collins), 1440
——— in a mummy, 1709
Leon, G. A., open-air treatment of consumption, 908
Lepers, mission to, in the East, 296, 1650
Lepra ophthalmica (Karl Grossmann), 437
Leprolin, 836
Leprosy in China, 346; in Roumania, 444; among the Kanakas, 605; in Iceland, 1280
——— involvement of the scalp in (George Pernet), 1280
——— treatment of, 600
Letters of recommendation, hospital subscribers', 1596
Leucocytes in malignant growths, behaviour of (J. B. Farmer, J. E. S. Moore, and C. E. Walker), 314
Leucocythaemia treated by x rays (Charles H. Melland), 9
Leuthold, Rudolf von, death of, 1612, 1622
Levenshulme, low death-rate of, 1554
Lewis, insanitation at, 93; fever at, 93
Lexer, E., Untersuchungen über Knochen-arterien, rev., 1210
Liability of surgeons, 670
Libel, action for. See Action
Lids and conjunctivae, acute oedema of (J. Souttar McKendrick), 1454
Liepmann, H., Ueber Störungen des Handelns bei Gehirnkranken, rev., 1528
Life assurance, without medical examination, 1430, 1474, 1616, 1681, 1722; and the medical profession, 1436, 1727
Ligature of innominate artery. See Artery
——— of profunda femoris artery, common femoral artery, and common iliac artery on the same side (Henry E. Clark), 850
Light and colour, perception of (J. W. Edridge-Green), 177
——— Institute in Copenhagen, visit to, 1220
——— sense in strabismus (Dr. Matheson Mackay), 1644
——— treatment of skin diseases, 604
Lightning stroke, Drs. Darling, Frier, and Pedlow, 1522
Limewater in treatment of warts (J. Burdon Cooper), 441; note on, 1564
Lincoln, note on typhoid epidemic, 1461
Lindsay, Professor, pulse-tension as a guide to treatment, 22; duodenal ulcer, 22
Lingard, Alfred, Observations on the Filarial Embryos found in the General Circulation of the Equidae and Bovidae and Their Probable Pathological Significance, rev., 1293
Lingfield Colony for Epileptic Children. See Epileptic
Liquor amnii as a cause of death of fetus (B. P. Watson), 1402
Liquozone, 53
Lister, Lord, story of, by W. E. Henley, 450
——— Thomas D., discussion on sanatoriums for poorer consumptives, 638; discussion on infant milk dépôts, 646
Liston, Captain, on the spread of plague, 451
Literary notes, 38, 102, 156, 200, 300, 353, 411, 458, 502, 738, 829, 950, 983, 1060, 1147, 1200, 1264, 1308, 1400, 1467, 1553, 1611, 1666, 1709; "University Review," 38, 411; "Empire's Cricketer," parts 1 and 2, 38; medical publications in 1904, 38; Masai surgery, 38; medical education in Dublin in eighteenth century, 39; Huxley's style in writing, 39; style in medical writings, 40; Cordey Prize awarded to M. Vallery-Radot, 102; bubbles from a British spa, 102; "Thomas Carlyle: The Man and His Influence," 102; "Un Philanthropie Méconnu du XVIII

Siècle," 102; pathological changes in some mound builders' bones from the Ohio Valley, with especial reference to syphilis, 103; history of obstetrical anatomy, 103; new edition of U.S. "Pharmacopœia," 156; announcements of new books and new editions, 156, 411, 458, 739, 820, 900, 983, 1069 1147, 1303, 1368, 1407, 1611, 1710; International Association for the Legal Protection of Workers establishes a competition for essays in lead poisoning, 156; Andrew Boorde, 156; Montesquieu, author of "L'Esprit de Lois," 156; Hieronimo Fracastorio, 156; "Index Kewensis," 209; book printed by Gotta containing medical thesis, 209; lines from "The Birth and Death of Pain," by S. Weir Mitchell, 209; the gynæcological knowledge of the old Greek physicians, 209; the physician in the history and literature of Louisiana, 209; the Kneipp treatment in the twelfth century, 210; new work on criminal responsibility by Charles Mercier, 300; John Keats and Guy's Hospital, 300, 984; Dr. W. G. Morton and the discovery of surgical anæsthesia, 300; red light treatment of small-pox in antiquity, 300; special dysentery number of the "Indian Medical Gazette," 300; a unique book from Victor Hugo to Dr. Terrier, 353; the hospital assistant in India, 353; the Pre-Raphaelite Brotherhood, 353; dinner to Thomas Addis Emmet, 354; reminiscences of, 1012; sale of engraved mezzotint portraits of famous doctors, 411; Dr. Alex Hill on the simple life, 411; dentistry in antiquity, 411; treatment of patients in the Asklepeia of antiquity at Epidauros (B. Dambergris), 458; Belgian Medical Press Association and International Exposition at Liége, 1905, 458; Roden Shields and the late W. E. Henley, reminiscences of the Edinburgh Royal Infirmary, 458; St. Bartholomew's Hospital and the interdict of 1208, 459; Col. Kenneth McLeod bids farewell to the "Indian Medical Gazette," 459; H. John Henderson pleads for a pocket edition of the "British Pharmacopœia," 460; Edgar Schuster presents a report on "energies," 460; antiquity of dysentery, 502; Greek nomenclature, 502; Roderigo Lopez, 503; effect of highly glazed paper on the eyesight, 738; physical deterioration 738; County Press, establishment of, 820; "Aequanimitas" reaches its third edition, 820; extracts from diary of Lieutenant L. B. Halloran at Trafalgar, 829; Roman remains at St. Bartholomew's Hospital, 900; medical poets, 900; Roderigo de Castro on medical ethics, 900; origin of forensic medicine in France, 900; "Climate" to be incorporated with the "Journal of Tropical Medicine," 983; "History of English Philanthropy," (B. Kirkman Gray), 983; new quarterly "Journal of Tropical Veterinary Science," 983; Dante's works said to have been written by Chasdai-Kas, 983; Professor Eternod, poet and anatomist, 983; "Souvenir of Sir Thomas Browne," 1069; "Quaint Sayings from the Works of Sir Thomas Browne," 1069; medical study of Scarron, 1069, 1552; account of Dr. Barnardo in "National Waifs Magazine," 1147; announcement of Alvarenga prize, 1147; quack medicines in old newspapers, 1147; "Journal of Anatomy and Physiology" completes 40th volume, 1147; foundation of chair of history of medicine at Rostock, 1220; articles on ankylostomiasis in "Colliery Guardian," 1220; two new medical journals in Portugal, 1220; Sir Benjamin Stone's pictures, 1220; "Lloyd's Weekly News" library, 1220; Mr. Henry Rundle visits the Light Institute in Copenhagen, 1220; an old work on surgery by Augustin Belloste, 1220; Festnummer of "Berliner klinische Wochenschrift" in honour of Professor C. A. Ewald, 1303; bibliography of the "Religio Medici," 1303; facial expression of violent effort, breathlessness, and fatigue, 1303; first number of "Archivos de Hygiene e Pathologia Exoticas," 1303; change of editorship of "Journal of Obstetrics and Gynæcology of the British Empire," 1368; Lieutenant-Colonel Peter Mulvany, 1368; serial story by Dr. Edward Marten Payne in "Alma Mater," Aberdeen University Magazine, 1368; legal proceedings by Moscow censorship committee against "The Russian Medical Society in Memory of Pirogoff in its Struggle against the Cholera," 1368; James Tilton, 1368; Jacques Cartier and the earliest reported post-mortem examination in Montreal, 1368; stories of Jenner and Quin from the "Life of Lord Granville," 1369; stories of Sir Richard Quain and Delane of the "Times" from Alexander Innes Shand's "Days of the Past," 1369; "Numero des Etudiants," 1407; grant of £40 to Dr. Gotthold Mamlock, 1407; incorporation of New York "Medical News," 1407; fire at Messrs. John Wright and Co.'s premises, 1407; Jenner and folklore, 1407; the Scottish "nation" at the University of Padua, 1408; "Epitre d'un grognard au bon Dieu," by Emile Combes, 1428; Morgagni to Virchow: an epoch in the history of medicine, 1408; notes on the bones recently dug up on the site of Christ's Hospital, 1408; "Revue de Déontologie" ceases to be the organ of the Corporate Association of Medical Students of Paris, 1467; Old Parr, 1467; James Feddie Sele offers prize for best essay on sixteenth century humanism, 1467; Sir John Burdon-Sanderson and the "Berliner klinische Wochenschrift," 1552; antiquity of Chinese medicine, 1552, 1611; proposed catalogue of ancient medical writers, 1552; Bertram Wind on examinations in Ireland, 1611; biographical card index of the American American Association, 1612; "Deutsche medizinische Wochenschrift" and portraits of medical men, 1660; picture of "stone in the head," by Pietro Balten, 1660; Dr. Tobias Venner, 1660; Aberdeen University quatercentenary celebrations, 1660; King Charles II and his attack of apoplexy, 1661; H. Balzac on doctors, 1661; poem by Dr. Weir Mitchell, 1661; portrait of Andreas Vesalius, 1709; observations on the senses of the Todas, 1709; "Rhodesia Review," open letter to Dr. Jameson, 1709; monograph on topography of thorax and abdomen by Peter Potter, 1709; Latin summaries in Pathological Society's transactions, 1709; Dr. Osborne on the crystalline lens of a mummy, 1709; Dr. Osler and the Johns Hopkins Medical School, 1709; Pasteur and inoculation, 1710

Literature, objectionable, 1420

——— and science, common interests of, 29

Little, E. Muirhead, spontaneous combustion, 464

Littlejohn, Thomas Herbert, obituary notice of, 686

Liver, abscess of. See Abscess

——— cirrhosis of, treated by the establishment of a collateral circulation, 989; case of (Dr. Bevan), 1296

——— cystic disease of (Dr. McMunn), 1643

——— cysts of. See Cysts.

——— primary malignant growth of (J. Bruce-Bays), 630

——— review of books on, 1591

——— temperature in diseases of (J. W. Russell), 1643

Liverpool, special correspondence from, 104, 302, 356, 413, 985, 1070, 1479; lecture by Mr. J. E. S. Moore on the present position of the cancer problem, 104; Royal Infirmary, appointment of assistant gynæcological surgeon, 302; summer graduation examination, 352; bequests to hospitals, 302; tainted meat, 302; curious claim under the Workmen's Compensation Act, 302; annual report of the medical officer of health for Bootle, 356; report of the medical officer of health for 1904, 413; alteration in the Medical Institution buildings, 986; annual service for the medical profession, 986, 1070; reopening of the Medical Institution, 1479; improvements and extensions, 1479; the library, 1479; reception by the president, 1479; address by the treasurer on the history of the institution and of the city, 1479; biennial dinner, 1479

——— School of Tropical Medicine, instruction at, 528

——— small-pox and small-pox hospitals, 192, 349, 815

Livesay, A. W. B., cerebro-spinal meningitis, 359

Livingstone, Dr., relics of, 739

Llandrindod Wells common, 830

Llanelly water dispute, 830

Lloyd, Jordan, rupture of uterus, 1242; surgical treatment of epileptiform neuralgia, 1342

"Lloyd's Weekly News" library, 1220

Local Government Board. See Board

Lockyer, Cuthbert, discussion on diagnosis and treatment of uterine cancer, 606

Locum tenens, duties of, 55; payment of, 757; agreement with, 1304; fees received by, 1324; notification fees paid to, 1324

Lodholz, E., Tumours of the Cerebellum, rev., 1528

Loeb, Jacques, Studies in General Physiology, rev., 727

London, air of, 746

——— ambulance service, 154, 392, 1668

——— new clinical post-graduate school for, 1306, 1472, 1668

——— companies, R.A.M.C. Vols. See Volunteers.

——— County Council, 410, 1143, 1366; and the Midwives Act, 410; financial responsibilities of, 1143

——— lunacy in, 1651

——— report of chief officer of Public Control Department, 1366, 1406; coroners' inquests, 1366; coroners-law amendment, 1366; coroners' courts, 1367; water, 1367; shop assistants, 1367; infant life protection, 1406; contagious diseases in animals, 1407; rabies, 1407, importation of dogs, 1407

——— medical education in (T. Clifford Allbutt), 913

——— school hygiene, report of Education Committee of London County Council, 1657

London schools and hospitals, finances of, 101

——— societies, proposed confederation. See Societies

——— Midwives Act in, 410, 820

——— receiving houses for lunatics in. See Lunatics

——— School of Clinical Medicine, 1306, 1472

——— School of Tropical Medicine, pass lists, 263; course of instruction at, 528; inaugural address, 1663

——— tuberculous children in (Sir William Broadbent), 1533

Longevity. See Old Age

Longhurst, Arthur E. T., sanatorium treatment of consumption: is it worth while? 105

——— B. W., probable explanation of some drowning accidents, 833

Longridge, C. Nepean, alkalinity of the blood in eclampsia, 1296

Lopez, Ruy, 399, 592

Louisiana, the physician in the history and literature of, 209

Love, James Kerr, discussion on middle-ear suppuration, 1186; description of the steps of the radical mastoid operation, 1203

Lubarsch, Otto, Die allgemeine Pathologie, rev., 332

Lucas, E. W., The Book of Prescriptions (Beasley), rev., 387

Lucknow, new medical college at, 1710

Luff, A. P., address on certain diseases in relation to spa treatment, 1303

Luke, Thomas, post-anæsthetic sickness, 132

Lumbar puncture in fracture of skull, 1369

Lunacy commission (leading article), 142

——— commissioners, fifty-ninth report, 675, 729

——— in Birmingham, 213

——— General Phelps on, 749

——— in Ireland 1673

——— in Leicestershire (R. C. Stewart), 945

——— in London, 1651

——— patients in Scotland, charge and removal of, 1434

——— problem in Ontario, 975

Lunatics, certification of by medical officer of workhouse, 108

——— Irish pauper, deportation of, 1478

——— proposed receiving house for alleged, in London, 658. See also Insane

Lungs, actinomycosis of (Peverell B. Hichens), 1168

Lupus home in Austria, 259

——— new methods of treatment in, 1051

——— becoming epithelioma after repeated surgical and prolonged x-ray treatment (W. G. Spencer), 1207

Lydston, G. F., The Diseases of Society and Degeneracy, rev., 442

Lyle, H., up-to-date surgery and treatment of cancer, 1318

Lymphæmia, subacute (Dr. MacMunn), 1043

Lymphosarcoma (Seton Pringle), 1524

Lynass, James, obituary notice of, 1622

Lyon, J. B., Medical Jurisprudence for India, rev., 956

Lyons, hygienic exposition at, 1600

M.

M.R.C.P.Edin., psychology for, 1720

M.R.C.P.Lond., examination for, 468, 760

MacAlister, J. Y. W., Presidents of the Royal Medical and Chirurgical Society, 40

Macallum, A. B., proteid reactions with silver salts, 108

McArdle, Mr., gastro enterostomy, 1344

McCann, F. J., discussion on diagnosis and treatment of uterine cancer, 702

McCardie, W. J., ethyl chloride as an anæsthetic, 1342

McClelland, R., opening of peritonsillar abscess, 1344

M'Conaghy, Surgeon-General William, death of, 610

MacDonnell, Sir Antony, illness of, 205

McFadyean, John, knighthood conferred upon, 1307

Mackie, Ronald C., presentation to, 27; sanatorium treatment of consumption: is it worth while? 105, 200

McGahey, K., epidemic cerebro-spinal meningitis in Northern Nigeria, 1123

McGavin, L., rodent ulcer, 1344

MacGregor, Jessie M., Contribution to the Pathology of the Endometrium, rev., 1463

McHenry, James, Washington secretary of State for War, 35

Mackay, D. Matheson, light sense in strabismus, 1344

——— W. A., tracheotomy under local anæsthesia, 1150

McKendrick, John G., appreciation of Sir John Burdon-Sanderson, 1489
——— J. Souttar, acute oedema of the lids and conjunctivae, 1454
MacKenna, Robert W., physical degeneration and syphilis, 627
Mackenzie, Hector. Graves's disease, 1077
—— ——— J. M., discussion on isolation hospitals, 636
——— James, inquiry into the cause of angina pectoris, 845; inquiry into the tonicity of the muscle fibres of the heart, 1689
——— Tait, facial expression of violent effort, breathlessness, and fatigue, 1303
McKie, John, notes on a case of pneumothorax, 1698
McKisack, Dr., subacute yellow atrophy of liver, 1522
Maclaren, Murray, polyneuritis following puerperal sepsis, 1520
——— Roderick, relation of medical men to official and public bodies, 169
MacLean, C. J., efficiency of the Army Medical Service, 609
——— Ewen J., discussion on albuminuria and eclampsia in pregnancy, 720; case of elephantiasis of the vulva in association with elephantiasis of right lower limb, 721
MacLeod, J. M. H., treatment of ringworm of the scalp by x rays, 13, 619; tropical diseases of the skin, 1266
——— Colonel Kenneth, bids farewell to the "Indian Medical Gazette," 459
Macmahon, Marshal, medical ancestry of, 450, 6[illegible]
McMillan, A. Lewis, aural cones, 135
McMordie, Dr. D., death of, 405
MacMunn, James, treatment of chronic ulcers, 190
—— ——— Dr., subacute lymphaemia, 1643; cystic disease of liver and kidneys, 1643
M'Conaghey, Surgeon-General William, death of, 1661
MacPherson, John, case of thrombosis of the mesenteric veins, 330
McQuitty, W. B., cerebral gumma, 1206; erythema induratum scrofulosorum, 1521
MacSwiney, Lieutenant-Colonel Eugene Valentine, death of, 991
McWeeney, E. J., appointed to represent Royal College of Physicians in Ireland at International Congress on Tuberculosis, 749; aneurysm of aorta, 1524
Maddox, Ernest E., new operation for moderate short sight, 1661
Madeira, health conditions of, 452, 682
Madras, plague at, 93
Madrid, school for mothers in, 242
Maesteg water scheme, 357
Magennis, Edward, physical deterioration in the schoolroom, 653
Maggs, W. A., discussion on toothache, neuralgia, and remote affections of dental origin, [illegible]
Maidlow, W. H., obstetric emergencies and the doctor's fee, 1371, 1618, 1721
Maidstone, note on typhoid epidemic at, [illegible]
Malaria in the Roman Campagna, 34; fight against, 248
——— prophylaxis of, method of taking quinine in (St. George Gray), 1289
——— without mosquitos, 36
Malarial fever. See Fever
Malay Straits, medical appointments in, 586
Malcolm, John D., spontaneous gangrenous formations in the vermiform appendix, 786; peritonitis, 1116; Sir Frederick Treves's address, 1428; remarks on shock, 1511
Malignant disease, illustrations of, 420
——— growth of liver. See Liver
Malta, health of, 1499
——— fever. See Fever
Maltese Lunacy Board. See Board
Mamlock, Gotthold, grant to, 1467
Mammary gland. See Gland
Manby, Sir Alan Reeve, radium bromide in treatment of rodent ulcer, 8
Manchester, special correspondence from, 44, 157, 211, 303, 414, 460, 603, 696, 752, 902, 985, 1070, 1147, 1233, 1315, 1424, 1554, 1612, 1675; free from plague, 44; cost of beds in hospitals for infectious diseases, 44; eye hospital and instruction in diseases of the eye, 44; report of port sanitary authority, 44; ambulance work, 44; Stockport, its birth-rate and interment of stillborn children, 157; transfer of nurses in isolation hospitals for infectious diseases, 157; the royal visit and donations to medical charities, 157, 211; corporation beds for the working classes in sanatoriums, 157; Children's Hospital appeal, 157; Surgical Aid Society, seventh annual report, [illegible] deposits as to liability of hospital, 157; port sanitary authority and its inadequate powers, 158, 460; refusal of child insurance and cruelty to children, more stringent legislation advocated, [illegible] school treatments for lung [illegible] children, 211; number of students at medical school, 211; Princess Christian Training College, 212; Local Government Board as to proposed new lunatic asylum at Whalley, 303; school age for children, 303; diseased meat in Manchester market, 303; in Stockport, 1070; Eccles and eyesight, 303; reappearance of small-pox, 303; large donation to Children's Hospital, 414; anthrax in Cheshire, 414; scarlet fever at Rochdale, 414; measles at Rochdale, 1424; ice-cream at Ashton, dirty habits of vendors, 414; application of Shop Hours Act, 460; increase of death-rate, 460; amount and distribution of Hospital Sunday and Saturday Fund, 603, 1554; contributions to medical charities, 603; railway ambulance work, 603; cost of inmates of Lancashire asylums, 603; coroner and verdict of "temporary insanity," 603; cost of school nurseries, 603; progress of new infirmary, 603, 1315, 1554; donations to and alterations in rules, 902; Bolton Hospital Saturday Fund, 603; a year's sanitation, 603; tuberculous disease and milk supply, 603; light treatment of skin diseases, 604; Middlewich diphtheria epidemic, 676; milk sterilizing dépôt in Dukinfield, 676; preservatives in milk and potted lobster, 676; cost of boarding out children, 676; port sanitary authority and the inspection of food, 676; underfed school children, 752, 902, 1070; annual medical report on Salford, 752; number of breast-fed infants, 752; deaths from diphtheria, 752; antitoxin treatment, 752; expectation of life in Salford and Manchester, 752; provision for underfed and starving school children, 752, 902, 1070; what is soda water? 902; new workhouse infirmary at Bury, 902; municipal action at Preston in regard to alcohol and alcoholism, 902; free bathing for school children and others, 903; gifts to skin hospital, 903; guardians and underfed children, 903; a baby show, 903; poverty and longevity, 903; Royal Infirmary, donations to and alterations in rules, 903; pathology at the university and infirmary, 985; education of dairy farmers by means of leaflets, 985; analysis of samples of milk, addition of preservatives, 986; extent of cigarette smoking amongst schoolboys, 986; Professor Dreschfeld and the Royal Infirmary, 986; lead in water supply at Mossley, 1070; misleading symptoms in a supposed case of typhoid fever, 1070; president of the Pharmaceutical Society and the sale of drugs by limited liability companies, 1070; adaptation of monkeys to open-air life, 1147; vegetarians in conference, 1147; infant mortality and shortcomings of our legislation thereanent, 1148; ambulance work in Rochdale, 1148; unqualified pharmacist, 1148; scholarships for intending midwives, 1148; death under nitrous oxide, 1148; workhouses and voluntary hospitals, 1148; new powers for sanitary purposes proposed to be obtained by the corporation, 1233; case of fractured ribs in an insane person, 1233; retirement of the oldest coroner in the North of England, 1233; number of street accidents and police "first aid," 1233; report of Lancaster county medical officer, 1233; flies, privies, and pail closets as objective causes of infantile mortality, 1233; the Joule memorial, 1233; care of feeble-minded children, 1315; Lancashire county and death rate, 1315; Manchester Edinburgh University Club annual dinner, 1315; Salford Hospital, annual report, 1315; boracic acid in milk, 1315; Jewish kitchen in Royal Infirmary, 1315; Ancoats Hospital, its work and its needs, 1424; self-supporting convalescent homes for workpeople, 1424; percentage of rejections amongst recruits, 1424; action for libel against a newspaper, 1424; meeting of the University Court, 1424; appointments, 1424; death from burning, once more flannelette, 1554; appeal against rateable value of Crossley Sanatorium, 1554; low death-rate at Levenshulme, 1554; hospital amalgamation, 1554; the dental school and its hospital, 1554; provision for examination of eyes of school children, 1554; Southport and its infant mortality, 1554; proposed new ear hospital, 1554; lectureship in surgical pathology at the university, [illegible]; halls of residence for students, 1613; small-pox at Oldham, 1613; Cancer Hospital report, 1613; gifts to hospitals in Glossop and Stockport, 1675; cost of Manchester bacteriological scheme, 1675; Ear Hospital annual report, 1675
Manchester, school hygiene in, report of medical officer of health, 1466, 1471, 1538
——— tuberculosis in, 1507, 1605
Manchuria, Russian losses in, 1364
Manila, sanitation in, 1309; Government laboratories in, 1715
Mann, H. W., inebriety as a physical disease, [illegible]
Manson, Sir Patrick, two cases of febrile tropical splenomegaly (kala-azar) and a suggestion, 1161
Mapleton, Lieutenant-Colonel William, obituary notice of, 360
Marcus, C., partial iridoplegia, 1017
Marriott, Edward Dean, sanatorium treatment of phthisis, is it worth while? 159
Marrow, bone. See Bone
Marsden, R. Sydney, discussion on isolation hospitals, 635
Marseilles Municipal Council and grant for investigating Behring's remedy for tuberculosis, 1303
Marshal Macmahon's medical ancestry, 450
Marshall, Lieutenant-Colonel J. J. de Zouche, suggestions for first-aid treatment of fractured thigh in military or civil practice, 381
Martin, A. A., ruptured duodenal ulcer, 1116
——— Sidney, A Manual of General Pathology, rev., 332
Masai surgery, 38
Masseurs, testimonials to, 466
Masters and servants, 686
Mastitis neonatorum (Newman Neild), 1342
Masturbation, signs of, 1624, 1687
Matheson, Farquhar, obituary notice of, 758
Mathews, Paul, reports case of omental cyst in a boy of 8, 1642
Matthew, Alexander, memorial to, 1717
Matthews, Joseph McDowell, How to Succeed in the Practice of Medicine, rev., 443
Maudsley, Henry, medicine, present and prospective, 227
Maunsell, Charles B., clinical effects of ether anaesthesia on renal activity, 542
Mauritius, plague in, 205, 298, 412, 589, 664, 818, 1136, 1303, 1424, 1600; sickness among troops in, 297; medical appointments in, 586
May, W. Page, demonstration of a case of microgyria, 1160
May a nurse be employed as a dispenser? 612
Maynard, J. Seymour, case of syncopal bradycardia, showing the independent action of the two sides of the heart, 847, 1238
Mayou, Mr., tuberculosis of the iris, 132; cyclops, 1644
May's Medical and General Collector's Book, rev., 581
Meakin, Harold, opsonic index of patients undergoing sanatorium treatment for phthisis, 1396, 1677
Meals for school children, 1228
Measles (Hugh M. Raven), 384
——— prevention of, 107
——— in Rochdale, 1424
Measure of damages, 344
Meat, diseased, in Manchester, 303; in Stockport, 1070
Medals, war, unissued, 1725
Medeiros, M., offers prize for stamping out consumption, 402
Mediastinal dermoid. See Dermoid
Medical advertising, 54, 166, 263, 364, 612; General Medical Council and, 1544
——— advice gratis, 1472
——— Aid Societies, 242
——— Antiquarian (T. J. Pettigrew), 449
——— appointments in the Colonies, information about, 585
——— aspects of the Parliamentary session, 445
——— aspect of the "Discovery's" voyage to the Antarctic (Edward A. Wilson), 77
——— assurance, 1244
——— Assurance Company, organization of in France, 666
——— books in the lay press, reviews of, 1243
——— candidates at the general election, 1424, 1462, 1530, 1547, 1600
——— certificates of unfitness to attend school, 55, 166, 219
——— charities, bequests to. See Bequests
——— consul, 297
——— consultations in China, 344
——— curriculum, 99, 472
——— degrees, foreign, 1021
——— descendants of the family of Jean d'Arc, 688, 760
——— diplomates of Scotland Association. See Association
——— education (Robert Brudenell Carter), 878
——— past, present, and future (George Cooper Franklin), 221
——— in Dublin in the 18th century, 39
——— in London (T. Clifford Allbutt), 913
——— a suggestion, 1436
——— in the United States, 1228
——— of women, 514
——— electricity, 1562
——— entomology, review of books on, [illegible]
——— establishment of the army. See Army
——— etiquette, 111, 219, 1154, 1324, 1434, 1683
——— and pauper patients, 1414
——— at police stations, 1154
——— in Poor-law practice, 1562
——— evidence, expert, 1349, 1624, 1681

Medical evidence and coroners, 1558
——— and inquests, 309, 1558
——— in Italy, 148, 402
——— examination of volunteers, 203; at American ports, 1407; of school children. See Children: and life assurance. See Life
——— expert witnesses, 599, 611
——— explorer, death of a, 1361
——— fraternity, 1499
——— girl graduates in Paris, 256
——— Guild of Manchester, report for 1904, 37
——— South African, proposed, 301
——— inspection of school children. See Children and School
——— journals, new, 1554
——— jurisprudence, review of books on, 1590
——— law reform, 1557, 1619, 1676
——— magistrates, 84, 242, 385, 739, 1364, 1413, 1478, 1532, 1571
——— mayors, 1354
——— men, attendance on wives of, gratuitous, 54; on themselves, 466
——— automobiles for, 1417, 1713. See also Motor
——— and industrial exhibitions, 263
——— in the Italian Parliament, 346; in the Australian Parliament, 414
——— payment of, and the Midwives Act, 1216
——— popular lectures by, 1378
——— relation of, to official and public bodies (Roderick Maclaren), 169
——— in Wimbledon Borough Council, 1323
——— mission at Birmingham, 1480
——— names in trade advertisements, use of, 686, 757
——— officer of health, duties of, 1380
——— and notification, 466, 614, 686
——— relation of, to the general practitioner with respect to the administration of the Infectious Diseases (Notification) Act, 1037
——— relations of to their professional colleagues, 1075 (leading article), 1223
——— officer to a sanatorium owned by laymen, ethical position of, 757
——— officers of health, independence of, 824
——— officers, Poor-law. See Poor Law
——— orders for urgent cases, 1682
——— peer, a Japanese, 91
——— and Pharmaceutical Topics, rev., 389
——— poets, 900
——— politics, 1231
——— portraits, 1660
——— practice in Buenos Aires, 1419
——— practitioners, and midwives, 256 (James Robert Kaye), 651; and coroners, 309, 1323 (see also Coroners); relations of with unqualified persons, 363; degrees for, 519; relation of medical officer of health to, 1223; and sale of secret remedies, 1378; notices of in the lay press, 1244, 1323, 1378; relations of to sick societies, parochial sick clubs, and district nurses, 1378
——— profession, gifts to, 54; patronage of, 54; the Government and (leading article), 291; the American President on, 293; in Vienna 100 years ago, 400; in Norway, condition of, 732; and friendly societies, 743; and parliamentary candidates, 823; annual service for, in Liverpool, 1070; and coroners (see Coroners); in Japan, 1363; and the sale of secret remedies, 1378; and assurance companies, 1436, 1727
——— psychology, extension of (A. T. Schofield), 948
——— publications, duplicate copies of, 1619
——— referees, county court judges and, 1604
——— Register, 973; erasures from, 37, 93
——— responsibility, German view of, 747
——— schools and colleges, notes on, 492
——— opening of, 731, 885, 981; introductory addresses at, 877; entries at, 1141
——— attached to hospitals. See Hospital
——— Secretary for War, 35
——— and meetings of Divisions, 1371, 1425
——— senators, 1716
——— service of the army. See Army
——— for French West African Colonies, 413
——— societies of London. See Societies
——— specialist and forgery, 1473
——— student of to-day, 971
——— students, decrease in the number of, 1474, decrease in Germany, 1613
——— students' registration and education. See Council, General Medical
——— and surgical diseases in infancy and childhood, courses in, 104
——— terms in the "New English Dictionary," 89, 895
——— testimonials in favour of articles of trade, 1243
Medical titles, 1436
——— town committees and fees, 1726
——— witnesses, 1545
——— witnesses, expert, 599, 611
——— witnesses' fees. See Fees
——— women in Germany, 1541, 1613
——— work, tenders for, 1309
——— work of the Local Government Board, 667
——— writers, ancient, proposed catalogue of, 1552
Medicine, address in at annual meeting (leading article), 744
——— Chinese, and American metaphysics, 401
——— Chinese, antiquity of, 1552, 1611
——— in the Far East, 1261
——— method in (R. A. Young), 881
——— present and prospective (Henry Maudsley), 227
——— preventive, 520
——— past and prospective (H. R. Kenwood), 880
——— the profession of (leading article), 469; portals and prospects of the profession, 471
——— and the Public, rev., 1459
——— school of, for women. See School
——— science and art of (leading article), 1543
——— scientific research in (George H. F. Nuttall), 998
——— and superstition in the Gambia, 450
——— Textbooks of, revs., 74, 811
——— tropical, information concerning the study of, 517. See also Tropical
——— and witchcraft in the days of Sir Thomas Browne (John Knott), 957, 1016; correspondence on, 1074
Medicines, patent, restriction of sale of in Vienna, 43; and the American profession, 90
Medico-Ethical rules, 1378
Medico-legal and medico-ethical, 53, 111, 165, 219, 263, 309, 363, 419, 466, 611, 685, 757, 834, 909 991, 1154, 1243, 1323, 1378, 1433, 1499, 1562, 1620, 1683, 1726; liquozone, 53; action for wrongful dismissal in Scotland, 54; hospital advertising, 54; advertising of sanatoriums in lay press, 54; medical advertising, 54, 166, 263, 364, 612; puffing notices in lay press, 54, 1244, 1323, 1378; gratuitous attendance on wives of medical men, 54, 466; gifts to the medical profession, 54; patronage of the medical profession, 54; police fees to surgeons called to emergency cases, 54; medical witnesses' fees in the High Court of Justice, 55; medical certificate of unfitness to attend school, 55, 166, 219; duties of locum tenens, 55; death vacancy, 55; pretensions of opticians, 55, 419, 834; value of a practice, 55, 166, 1075; medical etiquette, 111, 219, 1154, 1324, 1434, 1683, 1726; ethics of consultation, 111, 309; compensation for injury, 111; consultation fee received by partner, 111; administration of anaesthetics for firm of unregistered dentists, 111; professional secrecy, 111, 365, 1434 1621; music-hall practitioner convicted, 165; a serious charge refuted, 166; is temper a disease? 166; contract practice, 166; fees of locum tenens, 166, 1324; police fees for examination in criminal cases, etc., 166; for prolonged attendance on a case, 1324; fee for lunacy certificate, 167, 263; medical witnesses' fees at assize courts, 219; emergency calls, 219, 263; secret commissions, 219; change of address cards, 219, 263; bonesetters and club patients, 219; partnership agreement, 219, 1323; courtesy call, 219; Dr. Gordon Stables, R.N., 263; sale of practice, 263, 1621; medical men and industrial exhibitions, 263; certificates for injured workmen, 293, 364; fees of accident insurance companies, 263, 364; title of "doctor," 263, 310, 1499, 1500; medical practitioners and coroners, 309, 1323; inquests and medical evidence, 309, 1683; obligation of a substitute, 329, 419; fee in case of hernia, 309; St. John Ambulance Association, 310; recovery of fees, 310; fees for attendance after confinement, 310, 1434; contracts not to practise, 310, 1154; relations of medical practitioners towards unqualified persons in the treatment of disease, 363; inquest on a hospital patient, 363; copies of death certificates, 364; dental advertising, 364; hospital tickets and medical recommendations, 364; medical officers of health and the diagnosis of typhoid fever, 365; responsibility for consultant's fees, 419; eyesight specialist again, 419; share of practice and share of expenses, 419; purchase of practice, 456, 1324, 1621; testimonials to masseurs, 466; touting for practice, 466; supersession, 466, 1675, 1378, 1499, 1621; professional relations, 466; medical expert witnesses, 611; insurance fees, 612; circulars to patients, 612; attendance on nurses, 612, classes on self-aid, 612; may a nurse be employed as a dispenser? 612; value of share, 612; relations with an unqualified dentist, 612; care of insane resident patient, 613; refusal to pay, 613; introduction of purchaser of practice, 613; Employers' Liability Act, 613; verdicts at inquests, 613; opticians as oculists, 685, 834, 1243; use of medical names in trade advertisements, 686, 757; right to a fee, 686; fee for attendance by deputy, 686; masters and servants, 686; midwifery contracts, 686; coroner for South-West London, 757; ethical position of a medical officer to a sanatorium owned by laymen, 757; payment of locum tenens, 757 surgery and consent, 834; relations with chemists, 834, 1154; fees for island visit, 834; consent for post-mortem examinations, 834; riders by coroners' juries, 835; liability for fees, 835; assessment of fees, 835; pretensions of teachers of physical exercises, 909; private hospitals and nursing homes, 909; a careless purchaser, 909; fee for examination of boys committed to reformatory, 991; right of a substitute to recover fees, 991; Midwives Act, 1075, appointment of fees, 1075; verbal contracts, 1075; relations of medical officers of health to their professional colleagues, 1075; duties of a substitute, 1154; contracts not to practise, 1154; professional cruxes, 1154; medical etiquette at police stations, 1154; noise, 1154; boracic acid in milk, 1243; trustworthiness of dispensing chemists, 1243; reviews of medical books in the lay press, 1243, 1323; medical testimonials in favour of articles of trade, 1243; employment of unqualified assistants, 1243; fees payable by coroner to medical men, 1244; ethical obligations of a dismissed assistant, 1244; agreement with locum tenens, 1324; notification fees paid to locum tenens, 1324; fee for prolonged attendance on police case, 1324; illness of assistant, 1324; relations of medical practitioners to sick societies, parochial sick clubs, and district nurses, 1378; medico-ethical rules, 1378; popular lectures by medical men, 1378; adulterated spinach, 1378; medical profession and sale of secret remedies, 1378; sensational journalism, 1433; inquests after operations, 1433; charge and removal of lunacy patients in Scotland, 1434; medical etiquette and pauper patients, 1434; the rule about door plates, 1434, 1499, 1621; accident to a club patient, 1434; inland revenue and good will, 1434; midwifery fees, 1434; private road tolls, 1434; notices to patients on dissolution of partnership, 1499; medical fraternity, 1499; bad debts, 1499; door plate again, 1499, 1621; the Electrosol Institute, 1562; medical electricity, 1562; the doctor's shop, 1562; monthly nurse's engagement, 1562, 1621; colliery surgeons and bonesetters, 1562; Procurator-Fiscal's procedure, 1562; fracture dislocation of shoulder, action for damages, 1620; medical witnesses' fees in police cases, 1620; cost of partnership agreements, 1621; purchase of a West-end practice, 1621; foreign medical degrees, 1621; right to practise, 1621; fees paid to assistants, 1621; inquest fees and the medical staff of cottage hospitals, 1683; unregistered dentists, 1683; medical inspection of school children, 1683; the warning notice of the General Medical Council, 1683; false reports, 1683; increase of share, 1726; medical town committees and fees, 1726
Mediocratic formula, a, 264
Melanuria (T. G. Moorhead), 1524
Melbourne, health of, 911
Melland, Charles H., leucocythaemia treated by *x* rays, 9
Mello, Dr. Cabanis Dominie Francis de, grand reception to, 918
Membranous colitis, 688
Men of science, the Treasury and, 1221
Mendéef, Professor, awarded Royal Society's Copley Medal, 1310
Mendel's law of heredity, 1357
Meningeal infections, post-mortem. See Post Mortem.
Meningitis, pathology, diagnosis, and treatment of various forms of, discussion (Howard Tooth), 1010; (Thomas Horder), 1013; (William Osler), 1015; (H. Montague Murray), 1016, (F. M. Pope), 1016; (C. N. B. Camac), 1016; (StClair Thomson), 1017; (Samuel West), 1017, (W. B. Warrington), 1017; (T. F. S. Caverhill), 1018
——— cerebro-spinal. See Cerebro-spinal
——— pneumococcal (H. B. Fleming), 1206
Meningococcus in the nasal secretion, 1722
Menstruation established after calomel, 688
Mental defect in children, causation of (W. A. Potts), 940
——— deficiency, 759
——— disease, reviews of books on, 132
——— diseases, prognosis in (Robert Jones), 1578; leading article on, 1601; correspondence on, 1675
Mentone, St. John's Home of Rest at, 1221
Menzies, J. A., reports case of thrombosis of cavernous sinus, 1520
Mercier, Charles, insanity and murder, 415; sensational journalism, 1152

Mercurial poisoning, industrial, Home Office and, 343
Mercury, intramuscular injections of in syphilis (Lieutenant-Colonel J. J. Lambkin), 1254; preparation of, 1348
Meredith, George, accident to, 1144
Merthyr, housing question, 461; M.O.H. for, 461; Poor-law relief at, 1425
Mesenteric artery. See Artery
——— veins, thrombosis of, 330
Metabolism and pulmonary expiration (A. W. Gilchrist), 1113
——— individual variations of, 1374
Metallic electrodes, 1564
——— ferments in the cellular elements of the blood, 301
Metastatic sarcoma of retina (Arthur J. Ballantyne), 1345
Metchnikoff, Elie, immunity in infectious disease, 1056
Method in medicine (R. A. Young), 881
Methylated chloroform and ether, 615
Metric system, the, 288
Metropolitan Asylums Board. See Board
Meyer, Karl, Die klinische Bedeutung der Eosinophilie, rev., 955
Michaut, Dr., on medical poets, 900
Microgyria, case of (W. Page May), 1100
Microphthalmic cyst of the orbit (R. R. Cruise), 132
Micro-organisms, influence of certain, on the cellular constituents of red-bone marrow (Cecil Price-Jones), 1112
Middle-ear suppuration, discussion on (William Milligan), 1177; (Ernest Blechynden Waggett), 1181; (T. G. Ouston), 1184; (Albert A. Gray), 1185; (Atwood Thorne), 1185; (T. Mark Hovell), 1185; (Richard Lake), 1185; (William Hill), 1186; (Laurie Aster Lawrence), 1186; (Jobson Horne), 1186; (James Kerr Love), 1186; (J. Dundas Grant), 1187; (John Middlemass Hunt), 1187; (Herbert Tilley), 1187; (Frederick William Bennett), 1187
Middlesex, public health in, 759; sanatorium for, 1540
Middlewich, diphtheria at, 676
Midland Home for Incurables. See Incurables
Midwife and the general practitioner (James Robert Kaye), 651
——— for Stewartstown, 423
Midwifery cases in pauper practice, urgent, 1302
——— contracts, 686
——— fees. See fees
——— orders, 203
——— Edinburgh chair of, 256, 750, 899, 1065
——— in Poor-law practice, urgent, 1368, 1471
Midwives Act. See Act
——— Board. See Board
——— inspectors of, duties of, 1134
——— scholarships for intending, 1148
——— training and examination of, 1726
Mikulicz-Radeckt, Johann von, obituary notice of, 49; memorial to, 1710
Milan, post-graduate schools at, 464
Military medical reserve difficulty (Major M. M. O'Connor), 326
——— discipline and hygiene, 1727
Milk, analysis of in Manchester, 986
——— dealer, analytic check on, 1714
——— dépôt in Leeds, 44, 367, 1071; in Glasgow, 1071
——— dépôts, infant, discussion on (Baillie W. F. Anderson), 643; (Hon. Nathan Straus), 644; (Thomas D. Lister), 646; (H. Cooper Pattin), 646; (T. Whiteside Hime), 646; (D. S. Davies), 646; (Philip Noobbyer), 646
——— dirty and infectious, 1546
——— sterilizing depot in Dukinfield, 676
——— preservatives in, 676, 1243, 1315; action at Salford, 676. See also Boracic
——— pure, for babies, 84; in Montreal, 1548
——— supply of, in Paris, 413
——— regulations, the working of the, 1414
——— supply of Leeds, inspected unsterilized, 44; infant milk depôt at Leeds, 367; and tuberculous disease, 603; of Newport, 1425
Millard, Philip, British Medical Benevolent Fund, 1
Miller, G. Victor, case of quinine amblyopia, 384
Milligan, William, discussion on the lines of treatment in preventing acute middle-ear suppuration from becoming chronic, 1177, 1
Milne, James A., colloid carcinoma at 12 years of age, 90
Mills, C. K., Tumours of the Cerebellum, rev., 1328
——— W. T., remarkable case of fracture of femur and ulna, 1205
Milton, J. Penn, the sanatorium and after, 1150
Milward, Victor, gall stone removed by laparotomy, 1342
Minchin, Lieutenant-Colonel, appointed Honorary Member of the Civil Division of the Victorian Order, 84
Mines, Coal, and reduced medical fees, 1614
Ministry of Public Health, 414
Minnie, Alan Gladwyn, re-elected Mayor of Auckland, 1704
Mirfield, John (Norman Moore), 1332
Miscellaneous information, some, 1563
Mitchell, A. B., enlarged prostate removed by Freyer's method, 23; discussion on surgical treatment of non-malignant diseases of the stomach, 779; discussion on surgical treatment of malignant disease of rectum, 803; paralytic flat-foot, 1522
——— S. Weir, the birth and death of pain, 209; new poem by, 1661
——— William, cutaneous anthrax treated without excision with Sclavo's antianthrax serum, recovery, 118
Mitoses in the cells of the Graafian follicle (Robert Catlley and Albert S. Grünbaum), 1111
Mitral and aortic disease in rheumatic children combined (F. J. Poynton), 837
Modern fashions in surgery. See Surgery
Molson, J. Elsdale, discussion on sanatoriums for poorer consumptives, 639
Monaco, British practitioners in, 589
Moncur, Alexander Hay, bequest to Dundee Sanatorium 340
Mongolians congenital pigmentation of (G. A. Sutherland), 1257
Monist and millionaire, 1727
Monkeys, transmission of syphilis to, 676; adaptation of to an open-air life, 1147
Monmouthshire, housing problem in, 358
Montesquieu, author of "L'Esprit des Lois," note on, 156
Monthly nurse's engagement, 1562, 1621
Montreal, new hospitals in, 1548; revelations by the Pure Milk League, 1548
Moon, R. O., Stokes-Adams disease, 1207
Moore, J. E. S., the present position of the cancer problem, 104
——— Sir John W., paper on rain storm of August 24th, 1905, 1413
——— Norman, John Mirfield (1393) and medical study in London during the middle ages, 1232; Dr. Edward Browne (1644-1708) and the education of physicians in London in the seventeenth century, 1385
Moore, J. E. S., behaviour of leucocytes in malignant growth, 314
——— Norman, Roman remains at St. Bartholomew's Hospital, 900
Moorhead T. Gilliman, spread of cancer by the thoracic duct, 73; melanuria, 1524
Morgagni to Virchow, an epoch in the history of medicine, 1408
Morison, Alexander, syncopal bradycardia, 1319
——— Rutherford, discussion on surgical treatment of non-malignant diseases of the stomach, 777; three cases of interscapulo-thoracic amputation, 1399; presentation to, 1541
Morris, Henry, munificent gift to Middlesex Hospital, 1093; resignation of, 1547
——— Jones, death of, 1059; obituary notice of, 1155
Morrison, Mr., resection of carcinoma of the caecum, 1036
——— J. T. J., cystic and pyonephrotic kidney, 1342; appendix vermiformis inherent to cystic ovary, 1643
Mortality among French medical practitioners, 202
——— among Jews, 734
——— after laparotomy, 1127
——— infantile, in Germany, 301; in Birmingham, 213, 460, 904; deputation to House of Commons, 348; and medical relief, 349; in Vienna, 354; municipal child rearing at Huddersfield, 397, 616; in Creusot, 412; at Walsall, 904; and shortcomings of our legislation thereanent, 1348; in Manchester, 1232, 1554; in industrial centres, 1327; in Southport, 1554
——— flies, privies, and pail closets as objective causes of, 1233
Morton, Albert S., annual meeting of Fellows and Members of the Royal College of Surgeons of England, 1237
——— Charles A., solitary non-parasitic cysts of liver, 1319
——— C. J., presentation to, 1360
——— Dr. Robert, presentation to, 38
——— R., value of vaccination, 261
——— Dr. W. T. G., and the discovery of surgical anaesthesia, 300
Mortuary and post-mortem room, 1436
Mosquito nets in West Africa, 257, 297; reduction in California, 272; elimination of the, 971; untearable, 1405
Mosquitos, war against in America, 304, 965; and yellow fever, 444; vitality of, 904
Mossley, lead in water supply of, 1070
Motor agraphia, localizing value of, 745
——— ambulance. See Ambulance
——— car, purchaser of a, 146, 420
——— car traffic, Royal Commission on, 1300
——— cars in practice, 1152, 1172, 1300, 1563, 1687, 1714, 1727
——— cycles, 687
——— steam, 1380
Motor traffic, Royal Commission on, 826. See also Automobiles
Mott, F. W., discussion on the relationship of heredity to disease, 1086; discussion on beri-beri, 1099
Mouliot, Albert, professional relations between spa doctors and their brethren, 266
Moullin, C. Mansell, discussion on surgical treatment of non-malignant diseases of the stomach, 773; gastro-enterostomy for chronic gastric and duodenal ulcer, 1117
Moynihan, B. G. A., discussion on surgical treatment of non-malignant diseases of the stomach, 767; simple stricture of the common bile duct treated by a plastic operation, 1390
Mucinase, 1478
Mucous canals and gland ducts, ascending currents in, and their influence on infection (C. J. Bond), 232
——— patches, treatment of, 836
Muir, Sir William, death of, 151; funeral of, 204
Mules, Philip Henry, obituary notice of, 620
Mulvaney, Lieut.-Colonel Peter, obituary notice of, 1322, 1377; note on, 1368
Mummery, J. Howard, discussion on toothache, neuralgia, and remote affections of dental origin, 549, 561
——— P. Lockhart, value of the sigmoidoscope in the diagnosis between primary and secondary colitis, 1430
Mummy, on the crystalline lens in a, 1709
Mumps, 902
Munk, Immanuel, Lehrbuch der Physiologie des Menschen und der Säugeliere für Studierende und Aerzte, rev., 727
Murder, trial for (in Canada), 974
——— and insanity See Insanity
Murphy, Daniel, death of, 215
Murrell, William, treatment of cirrhosis of liver by establishment of a collateral circulation, 989
Murray, George R., exopthalmic goitre and its treatment, 1245
——— H. Montague, discussion on meningitis, 1016
Muscle fibres of heart. See Heart
Museum, annual pathological, 283
——— British, foundation of, 1225. See also Sloane
Mushroom poisoning, idiosyncrasy in reference to, 677, 755
Music-hall medicine, 147, 265
Musser, John H., A Practical Treatise on Medical Diagnosis for Students and Physicians, rev., 579
Muthu, Chowry, discussion on poverty in relation to disease and degeneration, 959
Myasthenia gravis (J. Mitchell Clarke), 1342
Myxoma, pudendal (Balfour Simpson), 1644

N.

Nariman, Lieutenant-Colonel Kaikhoso Sorabji, death of, 215
Nasal calculus. See Calculus
——— ointment spray, improved, 1211
——— polypi and asthma (W. H. Kelson), 1644
——— secretin, meningococcus in, 1232
Nash, J. T. C., treatment of diphtheria, 20; shellfish and typhoid fever, 641; diet of typhoid fever, 1016
——— L. T., idiosyncrasy in reference to mushroom poisoning, 755
——— W. Gifford, repeated tubal gestation, 1593
Natal, vaccination in, 200; British practitioners in, 589; health report, 1004, 68
National Commercial Temperance League, 1478
——— Temperance League Breakfast, 284
——— vitality and alcohol (F. N. Kolynack), 639
Natural immunity in plant life, 672
——— to putrefactive bacteria, 730
Naval hospitals, American, 890
——— surgeon a century ago, gleanings from the experiences of a, 1122
——— surgery, Japanese, 825, 1125
——— in Nelson's time, 1005
——— war. See War
Navy, Royal, medical service of, 527, 1323, 1435; regulations for admission, 527; cabins, 1323, 1435
——— United States, female nurses for, 1541; dental surgeons for, 1710
Neave, Sheffield, a plea for the investigation of catarrh, 1438
Neck, severe injury to, without spinal symptoms (E. M. Corner), 1207
"Necrobionts" of a fibromyoma of uterus (F. G. Bushnell), 1115
Necrosis of cortex of both kidneys (W. P. Herringham and W. S. A. Griffiths), 1043

Necrosis of jaw in a child (Astley Clarke), 576
Needle, grip eyed, 1170
——— holder, a new, 334, 1209
Needs of our oldest university, 342
Negroes, insanity among, 1177
Neild, Newman, bequests to hospitals, 1242
Nencki, Professor M., unveiling of bust of, 1354
Nephritis, urine in (Marc Armaud Ruffer and G. Galvocoressis), 1397
Nerves, regeneration of (Basil Kilvington), 625
Nervous system, sympathetic, 467
Nettleship, Mr., albinism, 1345; colour blindness, 1345
Neuralgia treated by vibration, 615
——— epileptiform, surgical treatment of (Jordan Lloyd), 1342
——— toothache, and remote affections of dental origin, discussion on, 546
Neuritis, optic (Cecil Shaw), 1522
Neurology, reviews of books on, 134
Neuropathology, review of books on, 1528
Neusser, Edmund, life patent of nobility conferred upon by Emperor of Austria, 452
Newcastle-upon-Tyne, notes from, 987, 1614; Royal Infirmary: appointment of surgeon, 987; Armstrong College of science: annual report, 937; expected visit of the King, 977; the Tyne and cholera scare, 987; presentation to Dr. G. H. Hume, 1614; tetanus in the Royal Infirmary, 1614; Clinical Society, lecture by Dr. Byrom Bramwell, 1614; parliamentary representation of the Universities of Glasgow and Aberdeen, 1614; conference of teachers, 1614; miners' unions and reduced medical fees, 1614
New Government, 1601
Newman, David, cytoscopic appearances in renal disease, 1042
New Orleans, yellow fever at, 242, 398, 739; services of Professors Ronald Ross and Rubert Boyce offered to combat, 348; a denial, 414
Newport (Mon.) health of, 158; food supply of, 358; children's eyesight at, 1424; milk supply of, 1425
New South Wales, treatment of consumptives in, 355; British practitioners in, 589
——— special correspondence from, 1480; consultation with homoeopaths, 1480; school holidays, 1480
Newsholme, A., relative importance of the several factors involved in the control of tuberculosis, 1721
Newspaper medicine, 144
Newstead, R., pathogenic ticks concerned in the distribution of disease in man, 1695
Newton, R. Earle, possibilities of tubal pregnancy, 441
New use for dead bodies, 971
New York, establishment of the Harvey Society, 36; tuberculosis exhibition in, 84; quackery in, 147; medical examination of school children in, 449; care of infants in, 1221; new sanatorium for, 1331
New Zealand, sunshine records, 55; British practitioners in, 589; new medical journal for, 1464; treatment of insanity in, 1686
Nias, L. B., phlyctenulae, 1345
Nic, Von Walther, Die Gallensteinkrankheit, ihre Haufigkeit, ihre Enstehung, Verhutung, und Heilung durch innere Behandlung, rev., 581
Nicholson, William, Smoke Abatement, rev., 1650
Nicoll, J. H., instruments for osteoplastic resection of the skull, 1268
Nicholls, F. L., motor cars in practice, 1132
Nigeria, military operations in, 610
——— Northern, epidemic cerebro-spinal meningitis in (K. McGahey), 1173
——— Southern, health conditions in, 1310
Nitrous oxide, death under, 1748
Noise, 1063, 1154
Non cancerous affections of the stomach, surgical treatment of. See Stomach
Non-parasitic cysts of liver. See Cysts
Non-paying patients at St. Louis, 1547
Noorden, Carl von, Drink Restriction (Thirst Cures) Particularly in Obesity, 968
Noott, Reginald H., insanity and murder, 415
Norfolk, Midwives Act in, 1302
Norman Kerr lectureship, 973
Northamptonshire, population of, 688
Northumberland, prevention of consumption in, 43; new county history of, 48
Norway, British practitioners in, 589; condition of the medical profession in, 732
Norwood schools, diphtheria at, 204
Nose and ear, improved snare for, 1461
——— severed, union of (J. Murray Renton), 1586
Nostrums, the war on, 1771
Nothnagel, Hermann, death of, 140; obituary notice of, 215
Notices to patients on dissolution of partnership, 1499
Notifiable diphtheria. See Diphtheria
Notification, of two diseases in one patient, 410
——— M.O.H. and, 466, 914
Nova Scotia, British practitioners in, 589
Nova et vetera, influence of diet in China on natives and Europeans, 41; antiquity of vaccination in India, 1[illegible], an old notebook (Alfred S. Gubb), 287; ancient sanitation in the East (Colonel W. G. King), [illegible]; gleanings from the experiences of a naval surgeon a century ago (Edith S. Stokoe), 1[illegible]; Sir Hans Sloane (J. W. Byers), 1354
Nuneaton, small-pox at, 604, 677, 986
Nurse, English, Japanese honours for, 444
Nurses, female for the United States navy, 1541
——— Hippocratic oath for, 1669
——— pauper. See Pauper
——— registration of, evidence before the House of Commons Committee, 167; report of Committee, 202
——— the Ada Lewis, 978
——— training of, at Leeds, 45; aseptic wallet for, 877; home in Toronto, 974
Nursing à l'Anglaise, 671
——— Home, the Army, scandal of, 969, 1059
——— homes and hospitals, private, 909
——— school, organization of, 190
——— in workhouses. See Workhouses
Nuttall, George H. F., scientific research in medicine, 998

O.

Obesity and thirst-cures, 968
Objectionable literature, 1420
O'Brien, C. M., elected corresponding member, Société Française de Dermatologie, 1221
Obstetric emergencies and the doctor's fee, 1371, 1498, 1618, 1682, 1721. See also Midwifery
——— medicine, reviews of books on, 728
Obstetrical anatomy, history of, 103
——— operations, tetanus after, 1606
Obstruction, intestinal. See Intestinal
——— of inferior vena cava (C. W. Chapman), 1343
O'Connor, J. E., discussion on isolation hospitals, 633
——— Major M. M., the military medical reserve difficulty, 326
Oedema of the lids and conjunctivae, acute (J. Souttar McKendrick), 1454
——— of the uvula (Reginald W. T. Clampett), 578; (Frederic Vicars), 952; (Ernest C. Carter), 1510
Oesophageal cancer. See Cancer
Oesophagus, rupture of, 1228
——— stricture of: gastrotomy: dilatation from below (E. Oliver Ashe), 570
Oestreich, R., Allgemeine pathologisch-anatomische Diagnostik, rev., 955
Officers' widows' pensions and the R.A.M.C., 309
Ogilvie, A., case of generalized pneumococcic infection, 21
Ogle, John William, death of, 348; obituary notice of, 417
Ogmore, pollution of the, 358
O'Hagan, P. F., case of acquired immunity, 1150
Oil of cinnamon in typhoid fever (Dr. Calwell), 1206
Old age, 427; Professor Goldwin Smith on, 440; and poverty, 903
Old Hill Hospital, service at, 604
Old notebook, an (Alfred S. Gubb), 287
—— Parr, 1467
—— story retold, 616
Oldham, small-pox at, 1613
Olecranon, dislocation forwards of the forearm without fracture of (F. W. Staunton), 1520
Oliver, Thomas, Rand miners' phthisis, 919
Ollier, memorial to, 998
Olshausen, Professor, rupture of gravid uterus after two Caesarean sections, 140; six laparotomies in one patient, 140
Omental cyst. See Cyst
Omentum, cystic tumour of (Leonard A. Bidwell), 806
O'Neill Memorial School, Crossnacreevy, co. Down, 976
——— William, obituary notice of, 1433
Ontario, British practitioners in, 589; lunacy problem in, 975; public health of, 975
Open-air treatment of consumption. See Tuberculosis
Operating table, a new portable, 1248
Operative treatment of simple fractures (W. Arbuthnot Lane), 1325; correspondence on, 1495
——— wounds, infection of (J. Rupert Collins), 121
Operations, inquests after. See Inquests
Ophthalmia, sympathetic (Simeon Snell), 132
Ophthalmology, reviews of books on, 442
Opie, E. A., importance of vaginal examination early in pregnancy, 833
Opium drinking in the Straits Settlements (Gilmore Ellis), 1400, 1666
Opsonic power of people suffering from tuberculosis (R. H. Urwick), 172; leading article on, 341
Opsonins, value of, practical trial of, at London Hospital, 674
Opsonic index (David Lawson and Ian Struthers Stewart), 1243
——— of patients undergoing sanatorium treatment of phthisis (Harold Meakin and Charles E. Wheeler), 1396, 1677; correspondence on, 1720
Optic nerves, indirect injuries to (J. Jameson Evans), 62, 161
——— neuritis (Cecil Shaw), 1522
Opticians as oculists, 448, 685, 804, 834, 1243
——— pretensions of, 55, 419
Oral instruction of the deaf and dumb, 146
Oram, Walter C., treatment of ringworm of scalp by x rays, 756
Orange River Colony, British practitioners in, 589
Orford, H. J., case of aneurysm mistaken for hard fibroma, 20
Ormond, Sidney J., Metropolitan Asylums Board and its assistant medical officers, 1237
Orton, G. Harrison, early diagnosis of pulmonary tuberculosis by Roentgen rays, 1682
——— Samuel Torrey, pathological changes in some mound builders' bones from the Ohio Valley, with especial reference to syphilis, 103
Osborne, Dr., the crystalline lens in a mummy, 1709
Osler, Professor, and the duties of professional brotherhood, 396; accepts post of Thomas Young lecturer at St. George's Hospital, 674; Sir Thomas Browne, 993; discussion on meningitis, 1015; at Guy's Hospital, 1060; at Bristol University College, 1234; letter to Johns Hopkins Medical School, 1709
Osteo-arthritis, x-ray appearance of (E. W. H. Shenton), 655
Osteomyelitis and periostitis of spine (A. H. Tubby), 807
"Osteopathy" in Pennsylvania, 84, 201
Otectomy, hearing after complete (F. Faulder White), 577
Otitis media, suppurative (Mr. Gamgee), 1523
Our candid friends, 1607
Ouston, T. G., discussion on middle-ear suppuration, 1184
Out patient departments, abuse of, 448, 597, 608, 828
——— question at Berlin, 1710
Ovarian cyst. See Cyst
Ovaries, conservative surgery of, 672
Ovary, sudden haemorrhage from (Wheelton Hind), 180
——— sarcoma of (Thomas Wilson), 1204
——— in the rabbit, origin and life-history of the interstial cells in (Janet E. Lane-Claypon), 18
Owen, Edmund, his address to the Kensington Division, 45; appreciation of William Jones Morris, 1156
——— Henry, library of, 357
——— Owen, dysentery and its treatment on active service, 755
Oxaluria, 220
Oxford medical dinner, 92
——— Medical School, dinner, 1416
Oxygen gas for examination of joints by x rays, 354
Oysters, vitality of typhoid bacillus in, 744

P.

Pachymeningitis syphilitica (J. R. Charles), 1341
Padua, Scottish "Nation" at the University of, 1408
Pages, R., Précis d'Auscultation et de Percussion du Poumon et du Coeur, rev., 332
Paget, Stephen, further note on paraffin in surgery, 329
Pain and sleeplessness, discussion on treatment of, 1002; correspondence on, 1310
Palate, cleft, a wide (G. B. Ferguson), 72
——— congenital, treated by operation (James Berry), 853
——— operation wounds healing by second intention; (J. Lynn Thomas), 73
Palestine, spirillum fever in (J. Cropper), 190; note on, 420
Palmar syphilide, treatment of, 220
Palmer, J. Foster, plea for investigation of catarrh, 1428
Panama Canal, sanitation of, 1142; yellow fever at, 1221
Pan-American sanitary system, 1221
Pancreatic disease, faeces in (P. J. Cammidge), 1102
——— pseudo cyst, traumatic (T. H. Kellock), 1589

Pancreatitis, haemorrhagic, case of acute (Dr. Footh), 441
Panteg District Council, 461
Paper bags and other sources of disease, 682
——— highly glazed, effect of on the eyesight, 738
Papillary erosion of the cervix (E. Hastings Tweedy), 1205
Papilloma of larynx (Cecil Shaw), 23
Paraffin in surgery (Stephen Paget), 329
——— testicle (James Cantlie), 441
Paralysis agitans, 1687
——— general of the insane and diphtheroid infection, 1427, 1557
——— lead, 1244, 1341
Paralytic flat foot (A. B. Mitchell), 1522
Parangi, ulcerated, on the presence of spirochaetes in (Aldo Castellani), 1280, 1330. See also Yaws
Parasites, animal, toxins of, 1308
Parasitic disease, carcinoma is a (Henry T. Butlin), 1565
Parathyroids in Graves's disease (S. G. Shattock), 1694
Paratyphoid fevers, 1553
Parenchymatous goitre, suppuration in (Mr. Barling), 1523
Paris, special correspondence from, 156, 211, 301, 412, 985, 1314, 1369, 1478, 1553, 1674; Professor Charles Richet on the harmful effects of cooked meat as a dietary in experimental tuberculosis in dogs, 156; discussion on the compulsory notification of infectious diseases, 157; treatment of cancer by the serum of Dr. Doyen, report of the special commission of the Société de Chirurgie, 211; anaesthesia by means of morphine hypodermically and alcoholic solution of chloroform given by the stomach, 211; proposed centralization of clinical instruction at Hôtel Dieu, 211; apparatus and technique of clinical examination of respiratory changes (Dr. Albert Robin), 301; action of metallic ferments on the cellular elements of the blood and on the production of urea, uric acid and total nitrogen, 301; small-pox in Paris, 301, 413; Dr. Paul Richer elected member of the Académie des Beaux-Arts, 301; evening clinic for venereal diseases at Cochin Hospital, 301; infantile mortality at Creusot, 412; hygienic instruction by posters, 413; quality of Paris milk, 413; institution of a medical service for French West African colonies, 413; annual meeting and dinner of the Continental Anglo-American Medical Society, 985; first international congress of the Goutles de Lait, 1314; Chantemesse and Borel on cholera dissemination, 1369; discussion on therapeutic value of lumbar puncture in cases of fracture of the skull, 1369; H. P. Emile Weil on serum treatment of haemophilia, 1370; mucinase, 1478; organization of crèches and national feeding in industrial centres, 1478; laicisation of Hôtel Dieu and St. Louis Hospitals, 1479; creation of a new chair of clinical therapeutics in the Paris faculty of medicine, 1479; tuberculosis conflicts, 1553; paratyphoid fevers, 1553; acute post-operative dilatation of stomach, 1553; new medical journals, 1554; immunization of cows against tuberculosis, 1674; new isolation hospital, 1674; centenary of the Medico-Chirurgical Society, 1674
——— medical girl graduates in, 256; teaching and research in, 448; scientific information bureau in, 1490; British medical visit to, 1533; Professor Charcot's library presented to Faculty of Medicine of, 1669; prizes of the Académie de Médecine, 1716
Parish registers, 749
Parker, George, aneurysm of the circle of Willis, 141
Parkes, Louis C., production of diarrhoea by the Bacillus prodigiosus, 1330
Parkin, Alfred, Caisson Disease, including the Physiological and Pathological Effects of Compressed Air, rev., 580
Parliament, medical notes in: Companies Acts Amendment Bills, 37; erasures from the "Medical Register," 37, 93; vaccinated calves as food, 37, 207; Woolscombe water supply, 37; coccidiosis, 37; Aliens Bill, 37, 150; vivisection, 37, 149; Tuberculosis Commission, 37, 204, 404; course of business in the House of Commons, 93; boarding out, 93; blood-poisoning at Cootehill Workhouse, 93, 149; tuberculosis in fowls, 93; insanitation at Lewis, 93; cost of asylum patients at Mullingar and Chester, 93; fever at Balallan, Lewis, 94; plague in Madras, 93; Medical Act (1886) Amendment Bill, 149, 203; Belfast Maternity Hospital and the Midwives Board, 149; death in Cootehill Infirmary, 149; water supply in Dartford, 149; medical fitness of the army, 149; vaccination prosecutions in Dundee, 149; report on vagrancy, 149; pollution of the Wey, 150; fees for attendance at isolation hospitals, 150; use of ether and laudanum in North of Ireland, 150; medical examination of volunteers, 150, 203, 350, 403; epizootic lymphangitis, 150, 203; conscientious objector and the magistrate, 203; Tuberculosis (Animals) Compensation Bill, 203; R.A.M.C. Volunteers and South African honours, 203; report of Royal Commission on sewage, 203; Sheffield University Bill, 203, 256; Accidents (Mines and Factories) Bill, 203; midwifery orders, 203; fees of public vaccinators, 204; Irish Poor-law Commission, 204; Army Vaccine Institute, 204; diphtheria at Norwood schools, 204; physical deterioration, 256; Malta fever, 257; sick nursing in workhouses, 257, 403; small-pox at Belfast, 257; mosquito nets in West Africa, 257, 297; course of business, 257; close of the session, 297; Police and Sanitary Committee, 297; the Pharmacy Act and poisons, 297; education vote in supply, 297; sickness among troops in Mauritius, 297; Local Government Board and Board of Trade, 297; industrial diseases, 349; Liverpool Small-pox Hospitals, 349; insane in Belfast Workhouse, 349; Aylesbury Union and its medical officer, 349; progress of Bills, 349; infant mortality and medical relief, 349; strength of the medical establishment of the army, 349; a reserve for R.A.M.C., 350; the Poor-law Commission, 403; Public Health Acts (Amendment) Bill, 403; sterilized drinks for the army, 403; a midwife for Stewartstown, 403; arsenical poisoning, 403; dust destructors and public health, 403; Maltese Lunacy Board, 403; drains of Regent's Park, 403; the prorogation, 404
Parliamentary session, medical aspects of (leading article), 445; editorial, 453
Parliamentary candidates, medical profession and, 823; at the general election. See Medical candidates, 1600
——— representation of universities. See Universities
Parovarian cyst with twisted pedicle (Comyns Berkeley), 925
Parr, Old, note on, 1467
Parry, L. A., some cases of surgical disease, 131
Parsons, F. G., notes on the bones recently dug up in the site of Christ's Hospital, 1408
——— Francis Henry, obituary notice of, 1433
——— Dr. Gage, obituary notice of, 50
——— J. Inglis, discussion on diagnosis and treatment of uterine cancer, 703; discussion on albuminuria and eclampsia in pregnancy, 720; further report on a new operation for prolapsus uteri, 724
Partnership agreements, 219, 1323, 1621
Passing of the Fijian, 1660
Pasteur Institute in the Straits Settlements, 194
——— treatment at home, 36
——— and inoculation, 1710
Patella, fractured, treatment of (George G. Hamilton), 1588
Patent medicines. See Medicines
Pathogenic infusorium, 1711
Pathological condition in a deaf subject (Albert A. Gray), 1187
——— material sent by post, 112
Pathology at Leeds, 972
——— review of books on, 332, 955
Patient's gratitude, 1671
Paton, Leslie, phlyctenulae, 1345
Pattin, H. Cooper, discussion on isolation hospitals, 635; discussion on infant milk dépôts, 646
Pauper burials, 1467
——— lunatics. See Lunatics
——— nurses (Ireland), 1231, 1320
——— practice, urgent midwifery cases in, 1302
Pay of Poor-law medical officers. See Poor Law
Payment of locum tenens. See Locum
Payne, J. Lewin, discussion on toothache, neuralgia, and remote affections of dental origin, 559
Pearson, Harry Arthur, death of, 752
——— C. Yelverton, observations on sterilization of the hands, 785
——— Karl, inheritance of disease and the relationship of disease to certain mental characteristics, 1015
Peart, R. S., new county history of Northumberland, 48
Pediculosis, 759
Pedlow, Dr., case of lightning stroke, 1522
Pegler, L. H., discussion on what is notifiable diphtheria? 651; on the comparative value of septal fissure on Moure's principle, and submucous resection, in the treatment of septal deflections, 1269
Pellagra, geographical distribution and etiology of (Louis W. Sambon), 1272
Pelvic floor, spoon-elevator for raising (J. Lynn Thomas), 120
Pembrey, M. S., appreciation of Sir John Burdon-Sanderson, 1401
Pemphigus, three cases simulating (Edgar Leach), 951
Pencil, Raymond, Travail de l'Institut de Médecine Coloniale de Paris, rev., 96
Pennsylvania, "osteopathy" in, 84, 201; new State department of health for, 135; supply of antitoxin in, 1541
Pension under Superannuation Act 1896, claim for, 1561
Penybont Rural District Council and drainage of Parc Gwyllt Asylum, 965
Pepsin in sprue and hill diarrhoea (G. H. Younge), 1519
Percival, A. S., removal of iron from interior of eye by electro-magnet, 1176
Perineum, new method of guarding in labour (W. J. Cale), 628
Periodic respiration. See Respiration
Periostitis and osteomyelitis of spine (A. H. Tubby), 807
Peritoneal tolerance (W. Horton Date), 1519
Peritonitis (J. D. Malcolm), 1116
——— general, due to perforative appendicitis (A. W. Mayo Robson), 15
——— in typhoid fever without perforation (E. W. Goodall), 1588
Peritonsillar abscess. See Abscess
Pernet, George, involvement of the scalp in leprosy, 1280
Perplexities of secretaries. See Secretaries
Perry, Captain J. C. Prittie, peculiar form of acromegaly, 1693
Persia, recent epidemic of cholera in (Joseph Scott), 620
Perspiration of the hands, 687
Peru, plague in, 600
Pessary, spring stem, 1530
Pettigrew, Thos. J., sale of books and engravings of, 449
Pfeiffer, Ludwig, Die Impfklauseln in den Weltpolicen der Lebensversicherungs-Gesellschaften, rev., 1044
Phagocytosis (L. S. Dudgeon and Athole Ross), 1043
——— and immunity (leading article), 1056
Pharmaceutical conference, 286, 1554
Pharmacist, unqualified, 1148
Pharmacy Act and poisons, 297
Phelps, General, on lunacy, 749
Phlegmasia alba, 368
Phthisis death-rates, significance of (A. Ransome). See also Tuberculosis
Phlyctenulae (L. B. Nias and Leslie Paton), 1345
Physical culture and hygiene. See Hygiene
——— deterioration, 256, 738
——— discussion on (Dawson Williams), 929; (William Hall), 931; (W. D. Spanton), 932; (R. J. Anderson), 933; (Mrs. F. N. Dickinson Berry), 933; (D. Chalmers Watson), 933; (V. H. Rutherford), 933; (H. W. Langley Browne), 933; (John Strachan), 934
——— and alcohol (T. N. Kelynack), 639
——— poverty in relation to disease and, 939
——— in the schoolroom (Edward Magennis), 653
——— and sunlight, 681
——— and syphilis (Lieutenant-Colonel J. J. Lambkin), 375; correspondence on, 403, 607
——— education, public meeting, 42
——— exercises, pretensions of teachers of, 909
Physiological position during defaecation, 1727
Physiology, review of books on, 727
Pian (yaws) in French Indo-China (M. E. Jeanselme), 1276
Pigment migration (Professor Hess), 440
Pike, bite from a, 56
Piles, clay pills as a treatment for, 616, 688, 760
Pilgrimages, danger of, 398
Pilkington Cancer Research Fund. See Fund
Pincus, Ludwig, Belastungslagerung, Grundzüge einer nichtoperativen Behandlung chronisch-entzündlicher Frauenkrankheiten und ihrer Folgezustände, rev., 1404
Pineal eye (W. H. Coupland) 1206
Pinta (F. M. Sandwith), 1270
Pitt, William A., new King's College Hospital, 261
Pityriasis versicolor, tropical forms of (Aldo Castellani), 1271
Placenta praevia, 112
Plague, review of books on, 24
——— in 1903, 736; types of bacilli, 736
——— prevalence of, 80, 205, 298, 412, 589, 600, 664, 818, 1136, 1303, 1424, 1474, 1600; in Australia, 80, 205, 298, 355, 412, 589, 818, 1303, 1424, 1600; in Hong-kong, 205, 298, 412, 589, 664, 818, 1136, 1303; in India, 80, 93, 205, 298, 412, 589, 664, 818, 1136, 1303, 1424, 1600; at Leith, 94; in the Mauritius, 205, 298, 412, 589, 664, 818, 1136, 1303, 1424, 1600; in Peru, 600; in Russian Asia, 1136; in Siam, 818; in South Africa, 80, 205, 298, 412, 589, 664, 818, 1136, 1303, 1424, 1474, 1600; on the Rand, 1474
——— etiology of, 961, 1362
——— inoculation against, in Bombay, 899
——— officers in Italy in the sixteenth century, 1060
——— Pennsylvania, "osteopathy" in, 84, 201; new State department of health for, 135; supply of antitoxin in, 1541
Pension under Superannuation Act 1896, claim for, 1561
Penybont Rural District Council and drainage of Parc Gwyllt Asylum, 965
Pepsin in sprue and hill diarrhoea (G. H. Younge), 1519
Percival, A. S., removal of iron from interior of eye by electro-magnet, 1176
Perineum, new method of guarding in labour (W. J. Cale), 628
Periodic respiration. See Respiration
Periostitis and osteomyelitis of spine (A. H. Tubby), 807
Peritoneal tolerance (W. Horton Date), 1519
Peritonitis (J. D. Malcolm), 1116
——— general, due to perforative appendicitis (A. W. Mayo Robson), 15
——— in typhoid fever without perforation (E. W. Goodall), 1588
Peritonsillar abscess. See Abscess
Pernet, George, involvement of the scalp in leprosy, 1280
Perplexities of secretaries. See Secretaries
Perry, Captain J. C. Prittie, peculiar form of acromegaly, 1693
Persia, recent epidemic of cholera in (Joseph Scott), 620
Perspiration of the hands, 687
Peru, plague in, 600
Pessary, spring stem, 1530
Pettigrew, Thos. J., sale of books and engravings of, 449
Pfeiffer, Ludwig, Die Impfklauseln in den Weltpolicen der Lebensversicherungs-Gesellschaften, rev., 1044
Phagocytosis (L. S. Dudgeon and Athole Ross), 1043
——— and immunity (leading article), 1056
Pharmaceutical conference, 286, 1554
Pharmacist, unqualified, 1148
Pharmacy Act and poisons, 297
Phelps, General, on lunacy, 749
Phlegmasia alba, 368
Phthisis death-rates, significance of (A. Ransome). See also Tuberculosis
Phlyctenulae (L. B. Nias and Leslie Paton), 1345
Physical culture and hygiene. See Hygiene
——— deterioration, 256, 738
——— discussion on (Dawson Williams), 929; (William Hall), 931; (W. D. Spanton), 932; (R. J. Anderson), 933; (Mrs. F. N. Dickinson Berry), 933; (D. Chalmers Watson), 933; (V. H. Rutherford), 933; (H. W. Langley Browne), 933; (John Strachan), 934
——— and alcohol (T. N. Kelynack), 639
——— poverty in relation to disease and, 939
——— in the schoolroom (Edward Magennis), 653
——— and sunlight, 681
——— and syphilis (Lieutenant-Colonel J. J. Lambkin), 375; correspondence on, 403, 607
——— education, public meeting, 42
——— exercises, pretensions of teachers of, 909
Physiological position during defaecation, 1727
Physiology, review of books on, 727
Pian (yaws) in French Indo-China (M. E. Jeanselme), 1276
Pigment migration (Professor Hess), 440
Pike, bite from a, 56
Piles, clay pills as a treatment for, 616, 688, 760
Pilgrimages, danger of, 398
Pilkington Cancer Research Fund. See Fund
Pincus, Ludwig, Belastungslagerung, Grundzüge einer nichtoperativen Behandlung chronisch-entzündlicher Frauenkrankheiten und ihrer Folgezustände, rev., 1404
Pineal eye (W. H. Coupland) 1206
Pinta (F. M. Sandwith), 1270
Pitt, William A., new King's College Hospital, 261
Pityriasis versicolor, tropical forms of (Aldo Castellani), 1271
Placenta praevia, 112
Plague, review of books on, 24
——— in 1903, 736; types of bacilli, 736
——— prevalence of, 80, 205, 298, 412, 589, 600, 664, 818, 1136, 1303, 1424, 1474, 1600; in Australia, 80, 205, 298, 355, 412, 589, 818, 1303, 1424, 1600; in Hong-kong, 205, 298, 412, 589, 664, 818, 1136, 1303; in India, 80, 93, 205, 298, 412, 589, 664, 818, 1136, 1303, 1424, 1600; at Leith, 94; in the Mauritius, 205, 298, 412, 589, 664, 818, 1136, 1303, 1424, 1600; in Peru, 600; in Russian Asia, 1136; in Siam, 818; in South Africa, 80, 205, 298, 412, 589, 664, 818, 1136, 1303, 1424, 1474, 1600; on the Rand, 1474
——— etiology of, 961, 1362
——— inoculation against, in Bombay, 899
——— officers in Italy in the sixteenth century, 1060

Plague, the pathology of, 143
——— rats in relation to (Lieutenant-Colonel Bruce Skinner), 427, 622, 926, 1453
——— treatment of, 340
——— spread of (Captain Liston), 451
Plaistow, opening of new medical mission hospital at, 1136
Plant, H. W., treatment of serous effusion by injections of adrenalin chloride, 125
Plant life, natural immunity in, 672
"Platform facts," 1711
Pleura, calcareous mortar-like fluid in (Samuel West), 1456
Pleural effusion, diagnosis of the varieties of (Wilfred Hadley), 1008
Plowright, Charles B., poisoning by fungi, 541
Plumbers, advanced instruction for, 52; registration of, 1413
Pneumococcal meningitis (H. B Fleming), 1206
Pneumococcic infection, generalized (A. Ogilvie), 21
Pneumococcus, American research on, 894
Pneumonia, condition of the skin in (Arthur H. Gregson), 1454
——— traumatic (Charles Marsh Beadnell), 924; (Frederick C. Forster), 1519; John Allan, 1642
Pneumothorax, notes on a case of (John McKie), 1698
Podwyssotski, Professor, appointed director of Institute for Experimental Medicine at St. Petersburg, 593
Pogson, Buckley, new treatment for "housemaid's knee," 952
Poison bottle, a new, 390
——— puerperal. See Puerperal
Poisoning and accident reports, discussion on, 936
——— arsenical. See Arsenical
——— by fungi. See Fungi
——— by gas. See Gas
——— lead. See Lead
——— mercurial. See Mercurial
——— mushroom. See Mushroom
——— by tinned sardines, coma, death (Herbert Caiger), 928
Poisonous tea? 264
Police ambulance. See Ambulance
——— fees. See Fees
——— notice, 1564
——— and Sanitary Committee, special report 297
——— as sanitary inspectors, 1370
——— surgeons, Cardiff, 1675
Political Hospital, 747
Politzer, Professor, 70th birthday of, 1232
Pollack, Bernard, Die Färbetechnik für das Nervensystem, rev., 1528
Pollard, S. J., Hints to Nurses on Tropical Fevers, rev., 76
Polyclinic, the, 1606
Polyneuritis following puerperal sepsis (R. Carmichae Worsley) 951; Murray MacLaren, 1520
Polypi, nasal. See Nasal
Polyuria in typhoid fever, 1678
Pontypool Rural District Council, meeting, 158; water supply of, 1480
Pontypridd, small-pox at, 357, 604, 753
Poor, insane. See Insane
Poor-law administration and treatment of consumptives, 1059
——— Commission, 403, 1472, 1556, 1561
——— medical appointments, vacant, 367
——— medical officers in Ireland, pay of, 1373, 1673
——— medical officers and superannuation, 605
——— medical service, Irish, 404, 898, 1373, 1423, 1531, 1550, 1603, 1717
——— patients and hospitals 1227
——— practice, urgent midwifery in, 1368; medical etiquette in, 1560
——— reform of, 296
——— reforms in Ireland, 898
——— superannuation, 199, 605
Pope, Egerton L., reports case of thrombosis of cavernous sinus, 1520
——— F. M., discussion on meningitis, 1016
Port sanitary authority, reports of Manchester, 44, 157, 462, 696
Portal pyaemia. See Pyaemia
Porthcawl rest, 1425
Portsmouth, school hygiene at, report of medical officer of health, 1213
Portugal, British practitioners in, 589
Posters, hygienic instruction by, 412
Post-graduate courses, 368, 420, 1146; value of, 1662; at Milan, 464
Post graduate school for London, a new clinical, 1306, 1472, 1608
Post-graduation study, 514
Post mortem Caesarean section, 451
——— changes, 688, 760, 836
——— examination, consent for, 834; the first in Montreal, 1368
——— examinations which do not reveal the cause of death (Fred. J. Smith), 1584, 1593
Post-mortem meningeal infections, 1236, 1373 1429, 1560, 1617, 1676, 1719
——— room and mortuary, 1436
Post-nasal forceps, 134
Post-partum haemorrhage. See Haemorrhage
Posture, influence of on adventitious breath sounds, with especial relation to early diagnosis of phthisis (W. B. Ransom), 1099; influence of on cardiac sounds (William Gordon), 1328, 1343, 1719; correspondence on, 1560, 1680, 1719
Potassium permanganate in treatment of snake bite (Leonard Rogers), 1200
Potter, Peter, topography of the thorax and abdomen, 1709
Potteries, enteric in the, 1554
Potts, W. A., causation of mental defect in children, 946
Poverty in relation to disease and degeneration, discussion on (Chowry Muthu), 939; (Charles Reinhardt), 940; (John Brown), 940; (J. Darley Wynne), 940; (C. J. Bryan), 940; (H. W. Langley Browne), 940
——— and old age, 903
Power, D'Arcy, up-to-date surgery and treatment of cancer, 1236
Poynting, John Henry, awarded Royal Society's Royal Medal, 1310
Poynton, F. J., combined aortic and mitral disease in rheumatic children, 837: employment of citrate of soda in feeding of the infant, 1021: note on fundus of eye from a case of amaurotic family idiocy, 1525
Pozzi, S., Traité de Gynécologie Clinique et Opératoire, rev., 1404
Practice, motor cars in, 1152
——— purchase of a, 465, 1324, 1621
——— touting for, 466
——— value of a, 55, 166, 1075
Practitioners, degrees for, 519 See also Medical
——— civil, and the U S. Army, 965
Prain, Lt.-Col. D., appointed director of Royal Botanic Gardens, Kew, 1547
Prausnitz, W., Grungzüge der Hygiene unter Berücksichtigung der Gesetzgebung des Deutschen Reichs und Osterreichs, rev., 1705
Precibiculturists, diet of the (Harry Campbell), 40, 208, 350, 406, 665, 813, 979, 1217, 1658; correspondence on, 261, 304, 358, 416
Precipitin test, blood relationship and, 1304; correspondence on, 1374
Pregnancy, abdominal, question of, 347
——— albuminuria of (John Spurway), 1586
——— discussion on treatment of albuminuria and eclampsia occurring in (Robert Boxall), 715; (Herbert Spencer), 718; (E. Hastings Tweedy), 718; (J. W. Byers), 719; (John Campbell), 719; (Thomas Wilson), 719; (Arthur Norman Holmes), 719; (J. Inglis Parsons), 720; (Ewen J. Maclean), 720; (F. W. Forbes Ross), 720; (C. E. Purslow), 720; (Arthur J. Sharp), 720; (J. W. Draper), 720; (Henry Corby), 720; (J. Ford Anderson), 721
——— diseases of, 420, 467
——— retention of urine during (M. Cursham Corner), 330; (J. D. Reckitt), 1340
——— rupture of spleen in, 1668
——— superstitions about, 345
——— treatment of cervical cancer in last two months of (Thomas Wilson), 706
——— tubal, possibilities of (R. Earle Newton), 441; note on, 1309
——— tumour, or both? 1226
——— vaginal examination early in, importance of, 681, 836; correspondence on, 756, 833, 906, 999
——— See also Gestation
Pre-Raphaelite Brotherhood, 353
Prescription, ethics of a (G. A. Batchelor), 1697
Prescriptions, review of books on, 387
Presentation, diagnosis of, 467
Preservatives in milk and potted lobster, at Salford, 676
President's address, 243
Press, quacks and the, 1607
Preston, municipal action at in regard to alcohol and alcoholism, 902
Prevention of suicide, 1608
Preventive medicine, 520
——— past and prospective (H. R. Kenwood), 880
Price of hearts, 346
Price, Emyr Owen, appreciation of William Jones Morris, 1156
Price-Jones, Cecil, influence of certain micro-organisms on the cellular constituents of red bone marrow, 1112
Prichard, R. Arthur, elected Mayor of Conway, 1354
Prince Edward's Island, British practitioners in, 589
Pringle, Harold, clinical effects of ether anaesthesia on renal activity, 542
——— Seton, clinical effects of ether anaesthesia on renal activity, 542; lymphosarcoma, 1524
Prison medical service, information about, 585, 687
Pritchard, Eric, teething and cerebral ulcers, 989
——— Urban, discussion on toothache, neuralgia, and remote affections of dental origin, 554
Prize for cure of consumption, 402, 601
Private-road tolls, 1434
Problems of pronunciation, 1667
Procurator-fiscal's procedure, 1562
Profession of medicine (leading article), 469; portals and prospects, 474
Professional cruxes, 1154
——— ——— puns, 264
——— ——— relations, 466, 1154
——— ——— relations between spa doctors and their brethren (Albert Mouillot), 266
——— ——— secrecy, 111, 395, 1434; in New York State, 818
Profunda femoris artery, common femoral artery, and common iliac artery on the same side, ligature of (Henry E. Clark), 950
Prohibition of company practice, 29
Projectiles, some dynamic and hydro-dynamic effects of modern small-bore cylindro-conoidal (Fleet Surgeon Charles Marsh Beadnell), 376
Prolapse of funis. See Funis
Prolapsus uteri. See Uterus
Prone pressure method in artificial respiration, 1150, 1405, 1562
Pronunciation, problems of, 1667
Prophylaxis of ankylostomiasis. See Ankylostomiasis
Prostate, enlarged, removed by Freyer's method (A. B. Mitchell), 23
——— total enucleation of, for radical cure of enlargement of (P. J. Freyer), 871
Prostatectomy, suprapubic, specimen of bladder and urethra removed two years after (J. W. Thomson Walker), 865
Proteid reactions with silver salts, 108
Proteus toxin. See Toxin
Protoplasm, living, action of acids and alkalies upon (J. O. Wakelin Barratt), 17
Prout, William, C.M.G. conferred upon, 88; note on Filaria gigas, 683
Prowse, John S., sanitary officialism, 1619
——— William, Graves's disease, 1235
Prussia, quackery in, 88
Pseudotherapy and demagogy, 668
Psychological medicine, 519
Psychology of dreams, 295
——— medical, extension of (A. P. Schofield), 948
Public health and poor-law medical services, 51, 107, 105, 217, 310, 367, 419, 466, 614, 686, 758, 835, 910, 1158, 1380, 1467, 1561, 1623, 1682, 1725; vagrancy and disease, 51; Accidents (Mines and Factories) Bill), 52; advanced instruction to plumbers, 52, fee for consultation in case of workhouse hospital nurse, 52; Poor-law Medical Officers' Association of England and Wales, annual general meeting, 107; care and control of idiots and epileptics, 108, 165, 217, 310, 367, 1158; certification of lunatics by medical officer of workhouse, 108; expenses of disinfection, 310; public vaccinators and the patients of other practitioners, 310, 419, 614; dairy farm inspection, 367; hospital administration and return cases, 367; infant milk dépôt in Leeds, 369; vacant poor-law medical appointments, 367; notifiability of human glanders, 419; notification of two diseases in one patient, 419; medical officer of health and notification, 466, 614; a State school of sanitation, 466; cerebro-spinal fever, 613; annual report to Essex County Council, 613; public health in Havre, 614; fees for difficult pauper midwifery, 614; certification of insane patient for county asylum, 614, 835, 910; disposal of scarlet fever patients, 614; relationship between medical officer of health and practitioner in regard to infection, 686; Surrey, population of, 687; Northamptonshire, population of, 687; water supply regulations, 758; public health of Middlesex, 750; certificates of past vaccination, 750; failure to notify an alleged case of typhus fever, 835; health of Gloucestershire, 910; vaccination, 910; duties of medical officer of health, 1380; burial of paupers, 1467; West Riding of Yorkshire, report of Dr. Kaye, 1467; Derbyshire, report of medical officer of health, 1467; the Royal Commission on the Poor Laws, 1561; claim for pension under Superannuation Act, 1806, 1561; small isolation hospitals, 1562; medical etiquette in poor-law practice, 1562; attendances at isolation hospitals, 1623; medical orders for urgent cases, 1682; cost of vaccination, 1682; small-pox and vaccination in Fife, 1725; insanitary property, 1725; fees for operation on the throat in Poor-law practice, 1725
——— ——— in Egypt, 1607
——— ——— a ministry of, 414
——— ——— and public opinion (Philip Boobbyer), 272
——— ——— review of books on, 1705
——— schools. See Schools
——— telephone boxes, 1545
——— vaccinators. See Vaccinators
Pudendal myxoma (Barbour Simpson), 1644
Puerperal antisepsis, the pioneer of, 598, 681
——— eclampsia, gangrene following, 148

Puerperal eclampsia, observations on (Reginald Dunlop), 1634
——— plea for evacuation of the uterus in unrelieved cases of (Ernest Brice), 1175
——— treatment of, 831, 906; (Arthur C. J. Wilson), 1174
——— fever. See Fever
——— poison, 400
——— sepsis followed by polyneuritis (R. Carmichael Worsley), 951; Murray MacLaren, 1520
——— sepsis and pre-existent sepsis, 1715
Puerperium, temperatures during the (John W. Duncan), 384; high range of normal temperature and pulse throughout the (E. Hastings Tweedy), 704
Puffing notices in the lay press, 54
Pulmonary atelectasis in adults (William R. Huggard), 922
——— embolism. See Embolism
——— expiration and metabolism (A. W. Gilchrist), 1113
——— tuberculosis. See Tuberculosis
Pulse and normal temperature, high range of throughout the puerperium (E. Hastings Tweedy), 704
—— tension as a guide to treatment (Professor Lindsay), 22
Pumice stone as a depilatory, 168
Purdy, J. S., antimalarial campaign at Ismailia, 1680
Purslow, C. E., discussion on albuminuria and eclampsia in pregnancy, 720; interstitial fibroid of uterus, 1523
Pupil, congenital absence of the dilator of (Karl Grossmann), 435
Pus, influence of the presence of in the female urethra on the progress of gynæcological and obstetrical cases (John Campbell), 709
Putney, proposed new general hospital at, 1666
Putrefactive bacteria, natural immunity to, 739
Pyæmia, portal, and pylephlebitis (W. Langdon Brown), 1393
Pygmies, the African, 591
Pylephlebitis, suppurative (Francis Hawkins), 1344
——— and portal pyæmia (W. Langdon Brown), 1393
Pyloric stenosis (Mr. Barling), 1523
Pyonephrotic kidney. See Kidney

Q

Quack dog doctors, 1727
—— medicines in old newspapers, 1147
Quackery in Prussia, 88; in New York, 147; and the clergy, 306; war against in Austria, 1230; war against in Germany, 1722
Quacks and the press, 1007
Quadruplets (Llewellyn W. Roberts), 629
Quain, Sir Richard, note on, 1369
Quebec, British practitioners in, 549
Queen's Carol, 1666
Queensland, British practitioners in, 589; hospitals for the insane in, annual report, 1684
Queirel, Dr., Leçons de Clinique Obstétricale, rev., 798
Quin, Frederick Hervey Foster, note on, 1369
Quinine amblyopia, case of (G. Victor Miller), 1344
—— method of taking, in the prophylaxis of malaria (St. George Gray), 1460

R

R.A.M.C., surgery in, 1682. See also Army, and Volunteers
Rabbit, origin and life-history of the interstitial cells of the ovary of (Janet E. Lane-Claypon), 14
Rabelais, medical side of, 1418
Rabies, radium treatment in, 58
Radiography, book on, 1524
Radio-ulcer [illegible], experimental synostosis of (S. [illegible]), [illegible] (Lionel Stretton), 1519
Radium bromide in treatment of rodent ulcer (Sir Alan Reece Manby), 1
——— treatment in rabies, 58; in œsophageal cancer, 92
Railway carriages, bacteria in, 745
——— medical officers, 215
Rand, plague in the, 1474
——— miners' phthisis (Thomas Oliver), 917
Randall, Philip [illegible], new method of giving iron, 1708
Randolph, Charles, case of cerebro-spinal meningitis, 429
Rankin, James, obituary notice of, 1622
Ransome, A., significance of phthisis death-rates, 73
Rannom, W. B., discussion on sanatoriums for poorer consumptives, 637; influence of posture on adventitious breath sounds, with especial relation to the early diagnosis of phthisis, 1009
Rasch, C., Hudens Sygdomme og deres Behandling, rev., 1529
Rathery, Francis, Le Tube Contourné du Rein, rev., 1705
Rats in relation to plague (Lieutenant-Colonel Bruce Skinner), 427, 622, 926, 1453
Raven, Hugh M., measles, 384
Raw, Nathan, discussion on sanatoriums for poorer consumptives, 637; human and bovine tuberculosis, 1015
Receiving houses for alleged lunatics in London. See Lunatics
Reckitt, J. D., urinary retention during pregnancy, 1340
Recruits, percentage of rejections among, at Manchester, 1424
Rectal speculum, magnifying, 334
Rectum, bilharzia disease of, 672
——— foreign bodies in, 1244, 1324, 1380
——— discussion on surgical treatment of malignant disease of (Sir Charles Ball), 793; (F. Swinford Edwards), 796; (Henri Hartmann), 796; (E. Stanmore Bishop), 797; (T. Gelston Atkins), 802; (Sinclair White), 802; (E. Deanesly), 803; (A. B. Mitchell), 803; (Charles Ryall) 803; (J. Jackson Clarke), 804
"Red" degeneration (F. G. Bushnell), 1115
Red-bone marrow. See Bone
—— cross organizations, 108
——— Society, Japanese, 399
—— light treatment of small-pox in antiquity, 360
—— tape of the Scottish Licensing Act, 1712
—— water fever. See Fever
Redwood, Sir Boverton, general study and specialism, 884
Reed, Walter, Report on the Origin and Spread of Typhoid Fever in the United States' Military Camps During the Spanish War of 1898, 137
Reform of Local Government Board in England. See Board
Reformatory, Brentry, Bristol, report of medical officer, 296
Refraction, 616
Refusal to pay, 613
Regeneration of Nerves. See Nerves
Regent's Park, drains of, 403
"Register, the Medical." See Medical
Registration of Medical Students. See Council, General Medical
——— of Nurses. See Nurses
Reid, G. Archdall, discussion on relationship of heredity to disease, 1092
——— J., infantile convulsions, 578
Reinhardt, Charles, discussion on sanatoriums for poorer consumptives, 638; discussion on poverty in relation to disease and degeneration, 940
Relations with an unqualified dentist, 612
——— with chemists, 834, 1154
Religio medici. See Browne, Sir Thomas
——— obstetrici (A. R. Simpson), 313
——— note on, 343
Renal activity, clinical effects of ether anæsthesia on (Harold Pringle, Charles B. Maunsell, and Seton Pringle), 542
——— calculus. See Calculus
—— disease, cystoscopic appearances in (David Newman), 1042
Renshaw, Graham, diet of the practiculturists, 416
Renton, J. Murray, union of severed nose, 1586
Rentoul, R. R., on degeneracy, 28
Report of Chloroform Committee. See Chloroform
——— of chief inspector of factories. See Factories
——— of Imperial Sanitary Commissioner India. See India
——— of medical officer of Local Government Board. See Board
——— of Scientific Grants Committee. See Association
Reports, on accident and poisoning. See Accident
Respiration, artificial. See Artificial
——— periodic (Samuel West), 1456
Respiratory exchanges, apparatus and technique of clinical examinations of (Albert Robin), 901
Retina, detachment of (James A. Craig), 1641
——— metastatic sarcoma of (Arthur J. Ballantyne), 1145
Retreat, York, annual report, 310
Retro-ocular tumour (Richardson Cross), 1041
Retroperitoneal fibrolipoma. See Fibrolipoma
——— hernia. See Hernia
Retrospects and prospects of university life (Reginald Harrison), 1625
Return cases of infectious disease, cause of, 815
Review of medical works in the lay press, 1244, 1321
Rheumatic children, combined aortic and mitral disease in (F. J. Poynton), 843
Rheumatism, aspirin in, a warning (H. Norman Barnett), 21
Rheumatoid arthritis (A. E. Garrod), 1457
Rhodes, John Milson, the State and the profession, 265; pauper nurses (Ireland), 1320
Rhodes, J. Milson, elected chairman Central Poor-law Committee of England and Wales, 1413
Rhodesia, British practitioners in, 589
Rhondda, small-pox at, 624; district council, 1370; report of medical officer of health, 1425
——— miners and doctors' poundage, 1072
Rhubarb jam, 312
Rhinitis, chronic, hay fever and asthma. See Fever, Hay
Richards, John, gangrene of intestine from partial obstruction of the mesenteric artery, 1521
Richardson, Hubert, the Thyroid and Parathyroid Gland, rev., 956
——— Mrs. Teresa, Japanese honours for, 444
Richer, Paul, elected member of the Académie des Beaux-Arts, 301, 340
Richet, Charles, on the harmful effects of cooked meat as a dietary in experimental tuberculosis in dogs, 156
Ricin and abrin experiments (George A. Watson), 1091
Ricker, von G., Entwurf einer Relationspathologie, rev., 332
Riddell, Major John Scott, nominated member Royal Victoria Order, 899; M.V.O. conferred upon, 1312
Rigg's disease. See Alveolar Osteitis
Righi, Augusto, awarded Royal Society's Hughes medal, 1310
Right to practise, 1621
Rinderpest, 584
Ringworm of the scalp treated by x rays (J. M. H. MacLeod), 13, 610; ordinary remedies in (E. Harding Freeland), 190; note on, 616; correspondence on, 756, 832
Ritchie, James, Burdon-Sanderson as a pathologist, 1484
Rivers, W. C., selection by pulmonary tuberculosis, 833
Roberts, Dr., elected mayor of Bootle, 1354
——— Lord, and the efficiency of the army medical service, 446
——— Llewellyn W., case of quadruplets, 629
Roberts-Dudley, Dr., obituary notice of, 110
Robertson, W. Sibbald, case of traumatic asphyxia, 1339
——— W. Ford, general paralysis of the insane and diptheroid infection, 1427
Robin, Albert, apparatus and technique of clinical examination of respiratory exchanges, 301; action of metallic ferments on the cellular elements of the blood, and on the production of urea, uric acid, and total nitrogen, 301
Robinson, Surgeon-Lieutenant-Colonel G. S., feeding of the soldier on active service, 378
Robson, A. W. Mayo, general peritonitis due to perforative appendicitis, 15; surgical treatment of non-cancerous affections of the stomach, 761
Rochdale, scarlet fever at, 414; ambulance work in, 1148; measles in, 1424
Rockefeller Institute, the work of the, 346
Rocyn-Jones, D. T., appointed J.P. for county of Monmouth, 84
Rodent ulcer. See Ulcer
Roderigo de Castro, 900
Roentgen rays in diagnosis (Mr. Hall-Edwardes), 1046
——— in early diagnosis of pulmonary tuberculosis, 1233, 1310, 1498, 1015, 1082
Rogers, Leonard, snake bite successfully treated by local applications of potassium permanganate, 1206; blood counts in acute hepatitis and amœbic abscess of liver, 1291
Roman Campagna, malaria in, 34
Roosevelt, Mr., on the medical profession, 293
Rose, Achilles, and Greek nomenclature, 592
——— William, A Manual of Surgery for Students and Practitioners, rev., 876
Rosenbach, O., Physician versus Bacteriologist, rev., 656
Rosenwasser, M., discussion on diagnosis and treatment of uterine cancer, 703
Ross, Athole, phagocytosis, 1043
——— F. W. Forbes, severs connexion with Queen's Jubilee Hospital, 1413
——— Ronald, yellow fever at New Orleans, 414; continued success of the antimalarial campaign at Ismailia, 1316
Rotherham, new isolation hospital at, 1660
Roumania, leprosy in, 444; British practitioners in, 589
Rountree, Cecil W., diverticulum of bladder in an inguinal hernia, 1042
Royal Commission on motor-car traffic, 1360
Rudolf, Robert D., influence of posture on cardiac sounds, 1680
Ruffer, Marc Armand, C.M.G. conferred upon, 1307; note on haemolytic and haemotoxic serums, 544; on a hitherto undescribed change in the urine of patients suffering from typhilis, 1397

Rule about doorplates, 1434
Rupture. See Hernia
——— of oesophagus. See Oesophagus
——— splenectomy for (Graham Simpson), 1344
——— of vagina. See Vagina
Rural sanitation in a dairy district, 145
——— water supplies, 344
Russell, J. S. Risien, discussion on toothache, neuralgia, and remote affections of dental origin, 546
——— J. W., temperature in diseases of liver, 1643
Russia, British practitioners in, 589
Russian Asia, plague in, 1136
——— losses in Manchuria, 1364
——— officers and Japanese surgeons, 965
Russo-Japanese naval war, notes on experiences during (S. Suzuki), 1125
Rutherford, V. H., discussion on physical deterioration, 933
Ryall, Charles, discussion on surgical treatment of malignant disease of rectum, 803
Rymer, J. F., discussion on toothache, neuralgia, and remote affections of dental origin, 560; vegetarianism and its effects upon the teeth, 573

S.

Sabin, Florence R., appointed Associate Professor of Anatomy in Johns Hopkins University, 444
St. Aubyn-Farrar, Claude, Association of Medical Diplomates of Scotland, 1430
St. George's Medical School. See Hospital
St. Helena, medical appointments in, 586
St. John Ambulance work. See Ambulance
St. John's Home of Rest at Mentone, 1221
St. Louis, non-paying patients at, 1547
St. Luke's Day, service in Liverpool, 1070; in London, 1136
St. Mungo's College, Glasgow. See College
Salaries of dispensary doctors in Ireland, 1550. See also Poor Law
Sale of practice, 263
Salford, health of, 752; expectation of life in, 752
Saline infusion, 1076
Salmon, Alberto, Cause of Sleep, rev., 1120
Salomon, Hugo, Drink Restriction (Thirst Cures) Particularly in Obesity, rev., 968
Salpingitis, acute (J. Bland-Sutton), 118
Salt water in treatment of corns. See Corns
Sambon, Louis W., geographical distribution and etiology of pellagra, 1272; discussion on sprue and hill diarrhoea, 1284; discussion on beri-beri, 1288
Samways, D. W., influence of posture on cardiac sounds, 1560
Sanatorium and after (leading article), 1057; correspondence on, 1150
——— for consumptive children. See Tuberculosis
——— treatment of phthisis. See Tuberculosis
——— treatment and serumtherapy *v.* sanitation, 1160
Sanatoriums and dispensaries, rôle of, 1052
——— for poorer consumptives, discussion on (L. A. Weatherly), 636; (R. Shingleton Smith), 637; (T. N. Kelynack), 637; (Nathan Raw), 637; (W. B. Ransom), 637; (Charles Reinhardt), 638; (T. Whiteside Hime), 638; (C. R. Drysdale), 638; (Thomas D. Lister), 638; (J. Elsdale Molson), 639; (Thomas F. S. Caverhill), 639
——— for working men (self-supporting), 35, 194, 746, 754, 831; for sailors and soldiers, 109; State, 109; municipal, 110; in Canada, 410; for New York, 1331; for Middlesex 1540
Sand, intestinal (Percy W. G. Shelley), 1600
Sanderson-Wells, T. H., substitute feeding in infants, 63
Sandwith, F. M., pintz, 1270
Sanitary districts, combined, 669
——— inspectors, police as, 1370
——— Inspectors' Association. See Association
——— officialism, 1430, 1619
——— swearing, 264
——— work of the education authorities, 1143
Sanitation, Army (leading article), 741
——— in a dairy district, 145
——— in the East, ancient, 390
——— by electricity, 745
——— in Lagos, 1669
——— in Manila, 1369
——— of the Panama Canal, 1142
Sanitation *v.* sanatorium treatment and serumtherapy, 1160
——— State school of, 466
Sarcoma of corpora cavernosa penis (H. W. Webber), 1587
——— of femur, amputation for (Lachlan Fraser), 1116
——— metastatic of retina (Arthur J. Ballantyne), 1345
——— of ovary (Thomas Wilson), 1295. See also Cancer
Sardines, tinned, poisoning by (Herbert Caiger), 928
Sargant, W. E., British Medical Benevolent Fund, 925
Satterthwaite, Thomas E., Diseases of the Heart and Aorta, rev., 657
Saundby, Robert, appointed delegate for University of Birmingham at Lisbon Congress, 140; discussion on surgical treatment of non-malignant diseases of the stomach, 772; endemic dysentery, 1036
Savill, Thomas D., System of Clinical Medicine, rev., 75
Saxe, G. A. de Santos, Examination of the Urine, rev., 27
Saxony, professional earnings in, 242
Scales, Mr., Elementary Microscopy, rev., 1592
Scalp, involvement of in leprosy (George Pernet), 1280
Scarff, A. M., The Income Tax Problem, rev., 1347
Scarlet fever. See Fever
Scarron, a medical study of, 1069, 1552
Scharlieb, Mary, discussion on diagnosis and treatment of uterine cancer, 698
Schaudinn, Dr., on Spirochaete pallida (leading article), 1138
Schistosomum egg, note on a peculiar (S. R. Christophers and J. W. W. Stephens), 1289
Schjerning, Dr., appointed Director-General German Army Medical Department, 1613
Schofield, A. T., extension of medical psychology, 948
Scholarships, entrance, 1049
School age for children, 303
——— children, underfed. See Children
——— ——— free bathing for, 903
——— ——— meals for, 1228
——— ——— medical examination of in New York, 449; in Great Britain, 1459; in Manchester, 1554; in Glasgow, 1671
——— ——— medical inspection of, 1683
——— holidays, 1480
——— hygiene. See Schools
——— hygienic training and teaching at (Henry Kenwood), 640
——— ——— lectures on, 1071
——— of Medicine for Women, London, introductory address, ideals of study (Mrs. Bryant), 883
——— for mothers in Madrid, 242; in Brussels, 1541
——— nurseries, cost of, 603; note on, 904
——— of Physic in Ireland, information for medical students, 505
——— slates, 1007
——— University Medical (Catholic), information for students, 505
Schools, elementary, danger of, 751; inspection of children in, 1308; corporal punishment in, 1425; skin diseases in Glasgow, 1072
——— hygiene and (leading article), 819, 1223; note on, 1070, 1544; correspondence on, 1372; report on present conditions and prospects of education of hygiene in schools in the United Kingdom (G. A. Heron), 1131; report of M.O.H. for Portsmouth District, 1213; report of M.O.H. for Gloucestershire, 1300; report of M.O.H. for Blackburn, 1353; report of M.O.H. for Staffordshire, 1411; report of M.O.H. for Manchester, 1466, 1471, 1538; of London, report of Education Committee of London County Council, 1057; report of M.O.H. for County Palatine of Durham, 1707
——— ——— prevention of consumption in, 1054
——— ——— Suggestions for the Consideration of Teachers and others Concerned in the Work of, rev., 875
——— ——— teaching of temperance in, 145, 400
——— ——— tuberculosis in, 1054, 1476
——— public, importance of longer hours of sleep at, 1409, 1727
Schultze, Oskar, Atlas and Textbook of Topographical and Applied Anatomy, rev., 1210
Schuster, Edgar, report on eugenics, 450; the data required by a statistician for the study of inheritance of disease, 1092
Schwann, Theodore, proposed memorial to, 1362
Schweninger, Professor, announcement of resignation of as Director of the hospital at Gross Lichterfelde, 140
Schweinitz, G. E. de, Tumours of the Cerebellum, rev., 1528
Sciamanna, Ezio, obituary notice of, 215
Sciciluna, Giuseppe Caruana appointed member of Executive Council and Official Member of Council of Government of Malta, 1661
Science, the Association and the advancement of (Andrew Clark), 1
——— and art of medicine (leading article), 1543
——— preliminary instruction in, 513
Scientific research in medicine (George H. F. Nuttall), 998
Sclavo's serum. See Serum
Scleroderma cutis, two cases of, 751
Scotland, notes from, 94, 151, 204, 298, 404, 675, 750, 827, 899, 977, 1005, 1145, 1251, 1311, 1395, 1421, 1475, 1549, 1609, 1670, 1717. Royal Society of Edinburgh, fifteenth meeting, 94; annual meeting, 1145; quatercentenary of the Royal College of Surgeons of Edinburgh, list of honorary fellows, 94, 204; Edinburgh Royal Infirmary, Residents' Club, eleventh annual meeting, 94; meeting of managers, 204, 827, 899, 979, 1065, 1345, 1422; new surgical out patient department, 1549, 1717; unusual cases at, 1671; a patient's gratitude, 1671; bubonic plague at Leith, 94; trachoma in aliens, 94; hospital abuse in Glasgow, 95; St. Andrew's Ambulance Association, annual meeting, 95; gift of a cottage hospital to Port Glasgow, 95; death of Sir William Muir, 151, 204; new athletic ground for Glasgow University, 151; Aberdeen Branch British Medical Association, summer meeting, 151; annual report of Local Government Board, 151; Edinburgh City Hospital at Colinton Mains struck by lightning, 204; Edinburgh Dental Hospital, distribution of prizes, 204; memorial tablets at Aberdeen, 204; Aberdeen companies Royal Army Medical Corps (Volunteers) annual inspection, 205; Aberdeen University quatercentenary celebrations, 298, 1565, 1470; tuberculosis and the simple life, 404; Sanitary Association of Scotland, thirty-first annual meeting, 675; chair of midwifery at Edinburgh, 750, 899, 1065; Royal Infirmary, Glasgow, 750; old hospitals of Glasgow, 750; the father of the Faculty of Physicians and Surgeons, Dr. John Burns, 751; Anderson's College Medical School, Glasgow, 751; cerebro-spinal fever in, 827; Edinburgh District Lunacy Board, 827; Major John Scott Riddell nominated member Royal Victorian Order, 899; low mortality in Edinburgh, 899; death of Miss Flora Stevenson, 899; College of Hygiene, Dunfermline, opening and address by Sir John Batty Tuke, 977; motor ambulance for Edinburgh, 979; opening of winter session at Aberdeen, 1065; opening of winter session at Edinburgh, 1145; Edinburgh Corporation and consumption, 1145; new laboratories at Glasgow University, 1145; Parliamentary representation of Edinburgh and St. Andrews Universities, 1231, 1475, 1670; rectorial elections, 1311, 1365; election of graduates' assessors to the Edinburgh University Court, 1311, 1422; Edinburgh Philosophical Institution, 1311; election of assessors to the Aberdeen University Court, 1311; Royal Army Medical Corps (Volunteers), Aberdeen Companies, honour conferred upon Major J. Scott Riddell, 1312; Aberdeen Medico-Chirurgical Society, 1312, 1422; Aberdeen University Medical Society, 1365; Edinburgh Obstetrical Society, 1395; Royal Army Medical Corps (Volunteers), Glasgow Companies, 1465; Gartloch Asylum annual report, 1366, 1672; Children's Home Hospital, Aberlovie, annual report, 1366; the war against tuberculosis at the Royal Victoria Hospital, Edinburgh, 1421, 1476; a beggar's wallet, 1421; Edinburgh Social Union, 21st annual report, 1476; Association of Medical Diplomates of Scotland, 1477; the late Mrs. Elder, 1477; Paisley Infirmary, 1477; modern highland problems, 1540; Association of Women Graduates of Glasgow University first annual dinner, 1540; Denny Cottage Hospital, 1550; Glasgow University Club in London, 1550; clinical teaching at the Royal Infirmary, Glasgow, 1600; a "health conference," 1672; Professor R. J. A. Berry, of Melbourne, 1670; Edinburgh Town Council and bacteriological examination, 1670. Edinburgh University Union, 1671; diet and growth, 1671; eyesight of Glasgow school children, 1671; corporation milk depôt, Glasgow, 1672; skin disease in Glasgow schools, 1672; lectureship in gynaecology at Edinburgh University, 1717; the late Dr. Matthew Corsar Phine, 1717; post-graduate study at the Glasgow Royal Infirmary, 1717; population of Glasgow, 1717
——— Association of Medical Diplomates of. See Association
——— care and removal of lunacy patients in, 1424
——— open-air treatment of consumption in, over 100 years ago, 47
——— university politics in, 1304
"Scoto-Celtic temperament, 112

Scott, J. Geddes, health conditions of Madeira, 682
——— Joseph, recent cholera epidemic in Persia, 1924, 620
Scottish "Nation" at the University of Padua, 1408
Scrofula. See Tuberculosis
Scrofulodermia and furunculosis, 1418
Searle, Rich rd B., re elected Mayor of Dartmouth, 1354
Seaside, dangers of, 402
——— treatment of surgical tuberculosis, 410
Seaton, Edward C., public health work of Burdon-Sanderson, 1486
Secret commissions, 219
——— remedies, medical profession and the sale of, 1378
Secretaries, perplexities of, 506, 987, 1072, 1149, 1234, 1316, 1371, 1425
Secretary, medical. See Medical
Section of Dental Surgery, summary of proceedings, 254, 281; report of proceedings, 546
——— of Industrial Hygiene, summary of proceedings, 251, 276; report of proceedings, 929
——— of Laryngology, Otology, and Rhinology, summary of proceedings, 251, 277; report of proceedings, 1177
——— of Medicine, summary of proceedings, 249, 273; report of proceedings, 1002
——— of Navy, Army, and Ambulance, summary of proceedings, 278; report of proceedings, 315, 376
——— of Obstetrics and Gynaecology, summary of proceedings, 252, 278; report of proceedings, 689
——— of Ophthalmology, summary of proceedings, 253, 279; report of proceedings, 429
——— of Pathology, summary of proceedings, 254, 281; report of proceedings, 1086
——— of Psychological Medicine, summary of proceedings, 253, 280; report of proceedings, 941
——— of State Medicine, summary of proceedings, 250, 272, 275; report of proceedings, 630
——— of Surgery, summary of proceedings, 250, 274; report of proceedings, 767, 853
——— of Tropical Diseases, summary of proceedings, 255, 282; report of proceedings, 1258
Selby, Prideaux, treatment of typhoid fever, 1720
Self-induced abortion, 1714
Selly Oak, anthrax at, 1554
Semmelweiss, Ignaz Philipp, 593, 632: review of works of, 1460
Semon, Sir Felix, K.C.V.O. conferred upon, 1307
Semple, Deputy-Surgeon-General Andrew, obituary notice of, 215
Senator, Professor, Beiträge zur Klinischen Medizin, rev., 331
Senators, medical, 1716
Senn, Nicholas, presentation to, 1608
Sensational journalism, 1152, 1493
Sepsis, pre-existent and puerperal, 1715
Septal deflections, treatment of (Henry Smurthwaite), 1201: (L. Hemington Pegler), 1202
Serious charge refuted, 166
Serous effusions treated by injections of adrenalin chloride (H. W. Plant and Patrick Steele), 125
Serum, antituberculous, 1251
——— sclavo's antianthrax, in treatment of case of cutaneous anthrax (William Mitchell), 113
——— treatment of haemophilia, 1370
——— treatment and diphtheria mortality, 1503
Serums, haemolytic and haemosozic (Marc Armand Ruffer and M. Crendiropoulo), 544
Serumtherapy and sanatorium treatment v. sanitation, 1160
——— of tuberculosis, 1051
Servia, British practitioners in, 589
Service examinations, 1546
Sessions, Harold, Cattle Tuberculosis, rev., 1246
Severed nose, union of (J. Murray Renton), 1586
Seville as a health resort, 1624
Sewage, report of Royal Commission on, 703
Sewill, Henry, teething and corneal ulcers, 833; medical law reform, 1557, 1676
Sex and disease, correlation of (C. J. Bond), 1694
——— and suicide, 451, 896
Seychelles, medical appointments in, 586; health of, 897
Shanley, Dr., presentation to, 1064
Share of practice and share of expenses, 419
Sharp, Arthur J., discussion on albuminuria and eclampsia in pregnancy, 720
Shattock, S. G., the mammary glands and the fetus, 1644; parathyroids in Graves's disease, 1694; Latin summaries, 1709
Shaw, Cecil, papilloma of larynx, 23; intraocular tuberculosis, 431; case of amblyopia, apparently toxic, following influenza, 437; optic neuritis, 1522
——— John C., Essentials of Nervous Diseases and Insanity, their Symptoms and Treatment, rev., 1154
Sheen, William, suture of granulating wounds, 504; ligature of the innominate artery, 870
Sheffield, special correspondence from, 212, 666, 1071; opening of new university buildings by the King and Queen, 212; by-laws against child labour, 666; opening of session, 1071; Medico-Chirurgical Society, 1071; lectures to teachers, 1071
Sheild, A. Marmaduke, up-to date surgery and treatment of cancer, 1235
Shelley, Percy W. G., intestinal sand, 1699
Shellfish and typhoid fever (J. T. C. Nash), 641
Shenton, E. W. H., *x* ray appearance of osteo-arthritis, 655
Sherrington, C. S., relative effects of chloroform upon the heart and upon other muscular organs, 181; Thompson-Yates and Johnston Laboratories' Report, rev., 1298; awarded Royal Society's Royal medal, 1310; appreciation of Sir John Burdon Sanderson, 1491
Ships, disinfection of by SO_2, 736
Shock (John D. Malcolm), 1511
Short sight, moderate, new operation for (Ernest E. Maddox), 1001
Short, Dr., slough from the stomach, 1036
Shropshire, Midwives Act in, 241, 410
Shylock, the original of, 399
Siam, plague in, 818
Sick leave, extension of, 836
——— nursing in workhouses. See Workhouses
Sickness assurance and tuberculosis, 1053
——— post anaesthetic (Thomas Luke), 132
Sight-testing opticians, 824 See also Opticians
Sigmoid flexure, relapsing tetany associated with dilatation of (F. E. Langmead), 1457. See also Intestine
Sigmoidoscope in diagnosis between primary and secondary colitis, value of (P. Lockhart Mummery), 1630
Silver salts, proteid reactions with, 103
Simon, Charles E., Textbook of Physiological Chemistry, rev., 728
——— Robert M., aid to prognosis in typhoid fever, 1330
Simple life, tuberculosis and, 404; Dr. Alex Hill on, 411
Simpson, Alexander Russell, retirement of, 294; religio obstetrici, 313
——— Barbour, pudendal myxoma, 1644
——— G. A. Garry, Adenoid Growths of the Naso-pharynx, rev., 75
——— Graham, splenectomy for rupture, 1344
——— W. J., A Treatise on Plague, dealing with the Historical, Epidemiological, Clinical, Therapeutic, and Preventive Aspects of the Disease, rev., 24; Maintenance of Health in the Tropics, rev., 75
Sinclair, William J., election of assessors to the Aberdeen University Court, 1373
Singing, management of the breath in, 608
Single kidney. See Kidney
Sinus, cavernous, thrombosis of (reported by J. A. Menzies and Egerton L. Pope), 1520
Sirhowy Valley water supply, 1370
Six children in ten months, 616
Sixteenth-century humanism, offer of prize for essay on, 1467
Skerrett, F. B., conception of disease, 1678
Skey, Lieutenant John Evan, death of, 305
Skin, sterilization of (Charles Leedham-Green), 781
——— condition of in pneumonia (Arthur H. Gregson), 1454
——— disease, a tropical, 1435
——— diseases, review of books on, 332; light treatment in, 604
——— in Glasgow schools, 1072
——— pigmentation successfully treated by arsenic (Ernest Brice), 655
——— tropical diseases of (J. M. H. MacLeod), 1266; note on (John Bell), 1279
Skinner, Lieutenant-Colonel Bruce, rats in relation to plague, 427, 622, 926, 1453
——— Ernest, elected Mayor of Rye, 1354
Skoda, Joseph, centenary of, 1551, 1598
Skull, fracture of. See Fracture
Slade-King, E. J., reports cases of scarlet fever relapse, 1455
Sleep, importance of longer hours of, at public schools, 1469, 1727
Sleeping sickness, report of the Commission of the Royal Society, 153; lecture on, delivered at meeting of British Association, 582; in Congo Free State, 1401
——— donation by German Colonial Office towards the investigation of, 1691
Sleeplessness and pain, discussion on treatment of (Sir Lauder Brunton), 1002; (Arthur R. Cushny), 1004; (Sir William Broadbent), 1005; (W. Hale White), 1006; (Arthur Foxwell), 1007; (Bertrand Dawson), 1008; correspondence on, 1119
Sloan, J. S., discussion on toothache, neuralgia, and remote affections of dental origin, 561
Sloane, Sir Hans, 1222, 1154
Slough from the stomach (Dr. Short), 1036
Smale, Morton, introductory remarks as President of Dental Section, 546; discussion on toothache, neuralgia, and remote affections of dental origin, 561
Small-pox, epidemic, prevention of, 206
——— in the German army, 293, 1410
——— suppression of, 743
——— and small-pox hospitals in Liverpool, 192, 349, 815
——— at Barry, Rhondda, and Pontypridd, 357, 604
——— in Belfast, 357
——— at Caerphilly, 104; at Cardiff, 213; and the German army, 293; at Manchester, 303; at Nuneaton, 604, 677, 986; at Oldham, 1613; in Paris, 301, 413; at Pontypridd and Barry, 357, 604, 753
——— at Witwatersrand, 1710
——— red-light treatment of in antiquity, 300
——— and vaccination at Togo, 1725
Smart, Morton, *x*-ray diagnosis of renal calculus, 617
Smith, Catherine, post-partum haemorrhage and anteflexion of uterus, 1205
——— Colonel F., Manual of Veterinary Hygiene, rev., 1346
——— Fred. J., post-mortem examinations which do not reveal the cause of death, 1584, 1593
——— Goldwin, on longevity, 440
——— J. B., standard gauges for hypodermic needles, 417
——— John M., obituary notice of, 1241
——— Joseph Kellett, obituary notice of, 1 22; estate of, 1463
——— Lieutenant-Colonel Maurice Henry, death of, 1158, 1494; estate of, 1354
——— Maynard, perforated ulcer of duodenum, 1117; giant cells in tumour of thyroid gland, 1525
——— Fleet Surgeon P. W. Bassett, Bruhl's disease, with special reference to the blood changes found, and connexion with the Leishman-Donovan bodies, 1260
——— R. Shingleton, discussion on sanatoriums for poorer consumptives, 637
——— T. Rudolph, chloroform syncope and direct manipulation of the heart, 1340
——— Walter, chemical solubility in connexion with human urine and gout, 1400
——— W. R., discussion on isolation hospitals, 636; elected Mayor of Holborn, 1354
Smoke abatement, 1548, 1607, 1687
Smoking, juvenile, legislation against, 457
Smurthwaite, Henry, discussion on laryngeal tuberculosis, 1197; advantages of the submucous resection operation over all other methods for strengthening septal deflections, 1201
Smyly, W. J., knighthood conferred upon, 88
Smyth, R. Mander, open-air treatment of pulmonary tuberculosis, 978
——— Mrs. Watt, A Textbook of the Principles of Hygiene, Based on Physiology, for the Use of School Teachers, rev., 875
Snake-bite treated by potassium permanganate (Leonard Rogers), 1290
Snare for nose and ear, improved, 1461
Snapshot diagnosis, 204, 468, 616
Snell, Simeon, sympathetic ophthalmia, 132; glioma, 132; removal of iron from interior of eye by electro magnet, 1320
Snow, Herbert, discussion on diagnosis and treatment of uterine cancer, 702
Societies, Charity Organization and Relief, conference of, 80
——— Friendly, and hospital out-patients, 92; and doctors, 1370
——— and the medical profession, 743
——— Medical Aid, 242
Société Médico-Chirurgicale de Paris, hundredth anniversary of, 1308
Societies, London medical, proposed amalgamation of, 198, 1358, 1411, 1462; correspondence on, 1620, 1680
Society of Abstaining German-speaking Medical Practitioners, 709
——— of Anaesthetists, annual dinner, 1021; meeting, 1207, 1526; evolution of ethyl chloride (J. H. Caldecott), 1526
——— Anatomical, of Great Britain and Ireland, annual general meeting, 1047
——— of Apothecaries. See Apothecaries
——— British Balneological and Climatological, meeting and discussion, 1207, 1702
——— of chemical industry, 194
——— Clinical, Chelsea, 1118; treatment of bronchial asthma (Barry Ball), 1118
——— Clinical, of London, 1042, 1207, 1441, 1486, 1488; cystoscopic appearances in renal disease (David Newman), 1042; a diverticulum of the bladder in an inguinal hernia (Edred M. Corner and Cecil W. Rowntree, 1042; mediastinal dermoid (G. E. O. Williams), 1207; severe injury to neck without spinal symptoms, recovery (E. M. Corner), 1207; Stokes-Adams disease (R. O. Moon), 1207; congenital pigment

of Mongolians (G. A. Sutherland, 1207; lupus becoming epithelioma after repeated surgical and prolonged x-ray treatment (W. G. Spencer), 1207; rodent ulcer (L. McGavin), 1207; obstruction of inferior vena cava (C. W. Chapman), 1343; suppurative pylephlebitis (Francis Hawkins), 1344; splenectomy for rupture (Graham Simpson), 1344; calcareous mortar-like fluid in the pleura (Samuel West), 1456; period respiration (Samuel West), 1456; relapsing tetany associated with dilatation of the sigmoid flexure (F. E. Langmead), 1457; treatment of congenital dislocation of hip-joint (Jackson Clarke), 1588; peritonitis in typhoid fever without perforation (E. W. Goodall), 1588; traumatic pancreatic pseudo-cyst (T. H. Kellock), 1520
Society, Clinical, of Manchester, 1648
——— Newcastle, 1014; aphasia (Byrom Bramwell), 1614
——— Dermatological, of London, meeting and exhibition of cases, 23, 1045
——— Electro-Therapeutic, British, annual dinner, 28
——— for Employment of Epileptics, National, report of, 218
——— Epidemiological, 23, 1401, 1701; the significance of phthisis death-rates (A. Ransome), 23; dinner to celebrate 55th anniversary of foundation of, 91; discussion on sleeping sickness in the Congo Free State, 1401; relative importance of the several factors involved in the control of tuberculosis (A. Newsholme), 1701
——— Gynaecological, British, 1043, 1346, 1645; pulmonary embolism (Bedford Fenwick), 1043; meeting and papers, 1346, 1045
——— Harveian, 1118, 1209, 1345; cases, 1118; papers read, 1209; clinical meeting, 1345
——— Harvey, of New York, establishment of, 26
——— Hunterian, 1044, 1209, 1346, 1526, 1645; some new lines of work in electro-therapeutics (H. Lewis Jones), 1044; clinical meeting, 1209, 1526; pathological meeting, 1346
——— Laryngological, Rhinological, and Otological, British, 1459; annual general meeting, 1459
——— Medical, Aberdeen University, opening meeting, 1368
——— Medical, American, for the Study of Alcohol and other Narcotics, 400; teaching of temperance in schools, 400
——— Medical, Cardiff, 1425
——— Medical, Continental Anglo-American, annual luncheon, 288; annual meeting and dinner, 985
——— Medical, of Glasgow, opening of winter session, 965; meeting, 1120
——— Medical, of London, 954, 1117, 1345, 1457, 1589; introductory address, 954; cerebral and ophthalmic complications of sphenoidal sinusitis, 954; gastro-enterostomy for chronic gastric and duodenal ulcers (C. Mansell Moullin), 1117; perforated ulcer of the duodenum (Maynard Smith), 1117; clinical meeting, 1345; discussion on rheumatoid arthritis (A. E. Garrod), 1457; discussion on modern methods of diagnosis in kidney disease (Hurry Fenwick), 1589
——— Medical, Manchester, 1340; meeting and papers, 1340
——— Medical, Midland, meeting and exhibition of cases, 1208, 1647; election of officers, 1221; inauguration of new session, 1354
——— of Medical Officers of Health, Incorporated, 1037; relation of the medical officer of health to the medical practitioner with respect to the administration of the Infectious Disease (Notification) Act, 1037; correspondence on, 1320
——— Medical, Oldham, meeting and discussion of cases, 1209
——— Medical and Physical, Bombay, "Transactions," rev., 380
——— Medical Sickness and Accident, meeting, 140, 288, 800, 1221, 1540
——— Medical and Surgical, Cork, 1551
——— Medical, Ulster, annual meeting, 152; portrait of Jenner, 1550; second meeting of session, 1071
——— Medical, Wigan, annual meeting, 1055
——— Medico-Chirurgical, Aberdeen, opening meeting, 1312; business meeting, 1422
——— Edinburgh, 131, 1343, 1588; influenza (Michael Dowar), 131; post-anaesthetic sickness (Thomas Luke), 132; opsonic index (David Lawson and Ian Struthers Stewart), 1343; treatment of fractured patella, (George G. Hamilton), 1588
——— Glasgow, 965, 1207, 1402, 1525, 1703; presidential address, 905; "double lip" (G. H. Edington), 1207; description of the steps of the radical mastoid operation (J. Kerr Love), 1208; instruments for osteoplastic resection of skull (J. H. Nicoll), 1208; demonstrations and exhibits, 1402, 1525; papers, 1703
——— Leeds and West Riding, 158, 1071, 1117, 1526; annual report, 158; room for library of, in the University, 1071; on a sign connected with the eyelid in certain acute and chronic cases (Herbert Robson), 1117
Society, Medico-Chirurgical, Nottingham, 1648, 1704
——— of Paris, centenary of, 1674
——— Sheffield, meeting, 1207, 1401, 1646
——— West London, meeting, 954, 1207, 1526
——— Medico-legal, 1055, 1340; election of officers, 1055; expert medical evidence, 1340; post-mortem examination and the cause of death, 1504, 1503
——— German, first meeting, 208
——— National Deposit Friendly, 1525
——— New Sydenham, forty-seventh annual meeting, 661
——— Obstetrical, 954, 1206, 1589; carcino-sarcoma uteri (H. R. Spencer), 954; ectopic gestation (J. C. Holdich Leicester), 954; subtotal hysterectomy (Alban Doran), 1206; alkalinity of the blood in eclampsia (C. Nepean Longridge), 1204; ventral fixation of the uterus (G. Ernest Herman), 1589; repeated tubal gestation (W. Gifford Nash), 1590; sarcomatous tissue in the walls of ovarian cyst (Frank E. Taylor), 1590; pudendal myxoma (Barbour Simpson) 1644; spinal tapping (J. W. Ballantyne), 1644
——— Edinburgh, 1365, 1402, 1644; election of officers, 1365; liquor amnii as a cause of death of the fetus and of changes in the placenta (B. P. Watson), 1402
——— Obstetrical and Gynaecological, North of England, 1118, 1402; cases and specimens, 1118, 1401, 1702
——— Ophthalmological of the United Kingdom, 132, 1117, 1345, 1644; microphthalmic cyst of the orbit (R. R. Cruise), 132; sympathetic ophthalmia (Simeon Snell), 132; glioma (Simeon Snell), 132; tuberculosis of the iris (Mr Mayou), 132; colour systems (Dr. Edridge-Green), 1117; partial iridoplegia (C. Marcus), 1117; Tscherning's lenses (S. Lindsay Johnson), 1117; phlyctenulae (L. B. Nias and Leslie Paton), 1345; albinism (Mr. Nettleship), 1345; colour blindness (Mr. Nettleship), 1345; metastatic sarcoma of the retina (Arthur J. Ballantyne), 1345; light sense in strabismus (D. Matheson Mackay), 1644; cyclops (Stephen Mayou), 1644; retro-ocular tumour (Richardson Cross), 1644
——— Otological, annual general meeting, 1540; ordinary meeting, 1500
——— Pathological, of London, 28, 1042, 1525, 1644; primary tuberculosis of thyroid (H. A. Lediard), 1042; necrosis of cortex of both kidneys (W. P. Herringham and W. S. A. Griffith), 1043; phagocytosis (L. S. Dudgeon and Athole Ross), 1043; columnar-celled carcinoma of testicle (A. G. R. Foulerton), 1525; giant cells in tumour of thyroid gland (Maynard Smith), 1525; tuberculous adenitis with congenital bronchiectasis and cirrhosis of liver and pancreas (J. G. Forster), 1525; note on fundus of eye from a case of amaurotic family idiocy (F. J. Poynton), 1525; Spirochaeta pallida (J. O. W. Barratt), 1525; mammary glands and the fetus (S. G. Shattock), 1094
——— Pathological, of Manchester, 1402; exhibits, 1402
——— Pathological and Clinical, Glasgow, 1044, 1458, 1646; cases and specimens, 1044, 1458, 1646
——— Pharmaceutical, of Great Britain, introductory address: general study and specialism (Sir Boverton Redwood), 884; and sale of drugs by limited liability companies, 1070
——— for Prevention of Cruelty to Children, annual meeting of Manchester Branch, 157
——— for Relief of Widows and Orphans of Medical Men, 104, 1055
——— Royal, award of medals, 1310
——— Royal of Copenhagen and catalogue of ancient medical writers, 1378
——— Royal of Edinburgh, fifteenth, meeting, 94; annual meeting 1145
——— Royal Medical and Chirurgical meetings, 11-6, 1343, 1456, 1587; presidents of, 40; peritonitis (J. D. Malcolm), 1116; influence of posture on cardiac signs (W. Gordon), 1343; influenzal endocarditis (T. J. Horder), 1343; discussion on the tuberculin treatment of tuberculosis (A. E. Wright), 1456, 1587
——— Seamen's Hospital, 1271
——— for the Study of Disease in Children, annual provincial meeting, 74; meeting and discussion of cases, 1208, 1459, 1704
——— Surgical Aid, seventh annual report of the Manchester, 157; forty-third annual meeting, 1600
——— of Teetotal Practitioners, 751
——— Therapeutical, meeting, 1207, 1648, 1704
Society of Trained Masseuses, examination for army nurses, 1221
——— of Vegetarians, meeting in Manchester, 1147
——— West Riding Medical Charitable, 356; annual meeting and history of, 350
——— Zoological, 1537
Soda, citrate of. See Citrate
——— water; what is it? 602
Soldier, feeding of, on active service (Surgeon-Lieutenant-Colonel G. S. Robinson) 378
Soldiers, drinking water for, 398, 403
Soldiers' feet, care of (P. B. Giles), 328; (Major G. S. Crawford), 380
Solid tires, 615
Somaliland, medical appointments in, 586
Somerset, Midwives Act in, 1302
Somerville, Robert, obituary notice of, 1157
South Africa, plague in, 80, 205, 298, 412, 589, 664, 818, 1130, 1303, 1424, 1600
——— and early phthisis, 112
——— medical appointments in, 587
——— undulant fever in, 130
——— African medals and clasps, 1379
——— Australia, British practitioners in, 589
Southport, infant mortality in, 1554
South Staffordshire, small-pox hospital in, 986
——— Wales, special correspondence from, 44, 104, 158, 213, 357, 461, 604, 753, 830, 904, 1071, 1233, 1370, 1424, 1480, 1559, 1614, 1675; typhoid epidemic at Bridgend, 44; University College, Aberystwith, 44; royal visit to Cardiff, 44, 104; Swansea housing problem, 44; University College, Bangor, 104; small-pox at Caerphilly, 104; bequest to Pontypool Hospital, 104; health of Newport (Mon.), 158; Pontypool Rural District Council, 158; new college building, 158; Swansea Hospital revenue, 158; annual meeting, 357; proposed water board for Glamorgan, 213; Swansea waterworks, 213; small-pox at Cardiff, 213; Cwmaman waterworks extension, 213; children's ward at Llanelly Hospital, 213; housing at Abersychan, 213; small-pox at Pontypridd and Barry, 357, 604, 753; Dr. Henry Owen's library, 357; Maesteg water scheme, 357; Newport food supply, 358; Cardiff's new college, 358; pollution of the Ogmore, 358; housing problem in Monmouthshire, 358; Welsh summer schools' visit to Cardiff, 358; housing at Brynmawr, 461; Merthyr housing question, 460; M.O.H. of Merthyr, 461; Panteg District Council, 461; Pontypool Hospital, half-yearly meeting, 461; Crickhowell District Council, 753; Sanitary Committee, Glamorgan County Council, 753; dairymen in conference, 753; Cardiff Infirmary, 753, 1072, 1370, 1675; South Wales University College and School Hygiene, 830; Brynmawr Council, 830; Llanelly water dispute, 830; Glamorgan Asylum fortieth annual report, 830; Llandrindod Wells common, 830; Cardiff Poor-law expenditure, 830; Cardiff Workhouse nursing staff, 904; school nurseries, 904; Sanitary Inspectors' Association, 905; Perth Cottage Hospital, 905; University of Wales, 905, 1071; the tramp plague, 1072; Rhondda miners and doctors' poundage, 1072; university settlements, 1072; Tenby Cottage Hospital, half-yearly meeting, 1072; Sanitary Inspectors' Association, 1072; Cardiff a city, 1233; Patti concert for the infirmary, 1233, 1370; Eastern Valley Medical Association, annual dinner, 1233; county education work, meeting of Rhondda and Pontypridd District of National Union of Teachers, 1233; Royal Sanitary Institute, 1234; Caerleon District Council, outbreak of typhoid, 1370; Rhondda District Council, 1370, 1425; Sirhowy Valley water supply, 1370; doctors and Friendly Societies, 1370; police as sanitary inspectors, 1370; children's eyesight at Newport, 1424; Western Valleys sewer (Mon.), 1424; Hereford Hospital dispute, 1425; Newport's milk supply, 1425; Merthyr Poor-law relief, 1425; Cardiff Medical Society, 1425; corporal punishment in schools, 1425; ambulance work, 1425; Cardiff's garden city, 1425; Porthcawl Rest, 1425; Cardiff guardians and the cost of vaccination, 1480; Pontypool water supply, 1480; St David's College, Lampeter, 1480; St. John Ambulance work, 1556; Pontardulais water supply, 1556; proposed asylum for Swansea, 1556; doctors and workmen, 1614; Cardiff College Council, 1614; diphtheria outbreak, 1614; curious kind of eczema in Gower, 1615; Welsh water areas, 1615; death of Dr. Brogden, (Cardiff), 1615; Cardiff police surgeons, 1675
Soutter, Charles Duncan, death of, 604
Sowton, S. C. M., relative effects of chloroform upon the heart and other muscular organs, 181
Spa (Belgium), 200
——— doctors and their brethren, professional relations between (Albert Monillot), 266
Spain, British practitioners in, 589
Spanton, W. D., discussion on physical deterioration, 932
Sparkhill, opening of new women's hospital at, 903

Specialism, general study and (Sir Boverton Redwood), 884
Spectaclemakers' Company (leading article), 1415, meeting of, 1669
Speculum, magnifying rectal, 334
Spencer, Herbert, discussion on diagnosis and treatment of uterine cancer, 703; discussion on albuminuria and eclampsia in pregnancy, 718
——— H. R., carcino-sarcoma uteri, 954
——— W. G., lupus becoming epithelioma after repeated surgical and prolonged x-ray treatment, 1267
Speyer, Edgar, the Bawden fund, 606
Sphenoidal sinus, symptoms, diagnosis, and treatment of suppuration in (Herbert Tilley), 1198
——— sinusitis, cerebral and ophthalmic complications of (StClair Thomson), 954
Spice, Scaues, discussion on What is notifiable diphtheria? 621; discussion on laryngeal tuberculosis, 1195
Spinach, adulterated, 1378
Spinal cord, laminectomy in tumour of, 826
——— tapping (J. W. Ballantyne), 1044
——— tumour of removed by operation (Bernard J. Ward), 1083
Spine, acute osteomyelitis and periostitis of (A. H. Tubby), 807
Spirillum fever. See Fever
Spirochaeta pallida, the, 748
——— Dr. Schaudinn on (leading article), 1138
"Spirochaete" or "spirochaeta," 1616
Spirochaetes, new work on, 670
——— in ulcerated parangi (Aldo Castellani), 1280
——— in yaws, 1364, 1430
Spleen, wandering haemorrhage within the capsule, splenectomy, recovery (Charles C. Childe), 1631
——— ruptured in pregnancy, 1668
Splenic anaemia (P. W. Bassett Smith), 1260
Splenectomy for rupture (Graham Simpson), 1344
Splenomegaly, febrile tropical (Sir Patrick Manson), 1261
Spokes, Sidney, discussion on toothache, neuralgia, and remote affections of dental origin, 557; teeth as a test of age, a note on eruption, 568
Spontaneous combustion, 345, 417, 464, 600, 638
Spoon-elevator for raising the pelvic floor (J. Lynn Thomas), 120
Sprague, Surgeon-Captain William Carr, obituary notice of, 1377
Sprains, Swedish treatment of, 1563
Spray, improved nasal ointment, 1211
Spriggs, S. Squire, Medicine and the Public, rev., 1459
Sprue, 760
——— and hill diarrhoea, discussion on (James Cantlie), 1281; (Andrew Duncan), 1283, 1285; (Louis W. Sambon), 1284; (David J. Galloway), 1284; (F. O. Stedman), 1284; (John Campbell Graham), 1284; (A. T. Chalmers), 1285; (Major G. H. Fink), 1285; (C. F. Harford), 1285; (John Haddon), 1285; (J. H. Ebell), 1285; (John Hutson), 1285; (W. L. Strain), 1285
——— pepsin in (G. H. Youngé), 1519
Spurway, John, albuminuria of pregnancy, 1586
Squire, J. Edward, open-air treatment of consumption, 831
Stables, Dr. Gordon, 963
Stafford-shire, report of M.O.H. on school hygiene, 1411
Stage and the hospitals, 903
Stakarti, Major Harold Arthur, obituary notice of, 834, 910
Stark, A. Campbell, treatment of typhoid fever, 1677
State and the profession (John Milson Rhodes), 2[illegible]
——— school of sanitation, 466
Staunton, F. W., dislocation forwards of the forearm without fracture of olecranon, 1520
Stawell, R. de S., motor cars in practice, 1372
Steam motor. See Motor
Stedman, F. O., discussion on sprue and hill diarrhoea, 1284; discussion on beri-beri, 1288
Steele, James Peddie, offers prize for essay on sixteenth century humanism, 1407
——— Patrick, treatment of serous effusions by injections of adrenalin chloride, 125
Steerage passengers, health of, 677
Stelwagon, Henry W., Essentials of Diseases of the Skin, rev., 1520
Stenosis, congenital pyloric (Mr. Barling), [illegible]
Stephen Ralli memorial laboratories, opening and dedication, 90
Stephens, J. W. W., note on a peculiar schistosomum egg, 1289
Sterilization of certain degenerates, 368
——— of the skin (Charles Leadham-Green), 781; (C. Yelverton Pearson), 785
Sterilized drinks for the army, 309, 421
Stereoscopic vision, 856
Stethoscope, need of cleaning or disinfecting, and how to do it, 657, 877
Steven, Lindsay, Morgagni to Virchow, an epoch in the history of medicine, 1468
Stevens, W. G., and a health almanac, 1571
Stevenson, E. S., knighthood conferred upon, 88
——— Flora, death of, 890
——— Surgeon-General W. F., report on surgical cases in South African war, 1321
Stewart, Ian Struthers, the opsonic index, 1343
——— J. F., death of, 1551; obituary notice of, 1622
——— R. C., lunacy in Leicestershire, 945
Stewartstown, midwife for, 403
Stirling, William, appreciation of Sir John Burdon-Sanderson, 1492; elected Fullerian Professor of Physiology at Royal Institution, London, 1541
Stitch-removing forceps, 1530, 1650
Stockport, its birth-rate and interment of stillborn children, 157
Stoke-on-Trent, deaf and blind school at, 904, 986; typhoid fever at, 986
Stoker, Fred, report of three cases of interscapulo-thoracic amputation, 1309
Stokes-Adams disease (R. O. Moon), 1207
Stokoe, John, his experiences as a naval surgeon a century ago, 1133
Stomach, hydrochloric acid in diseases of, therapeutic value of, 893
——— lavage of, 112
——— post operative dilatation of, 1553
——— slough from (Dr. Short), 1036
——— surgical treatment of non-malignant diseases of, discussion on (B. G. A. Moynihan), 767, (Robert Saundby), 772; (Henri Hartmann), 772; (J. M. T. Finney), 773; (C. Mansell Moullin), 773; (Frederick Eve), 774; (W. Bruce Clarke), 775; (Rutherford Morison), 777; (F. C. Wallis), 778; (C. B. Keetley), 778; (E. Deanesly), 779; (Leonard A. Bidwell), 779; (A. B. Mitchell), 779; discussed at Brussels Congress of Surgery, 817
——— surgical treatment of non-cancerous affections of (A. W. Mayo Robson), 761. See also Gastric
Stone, Sir Benjamin, collection of pictures, 1220
"Stone in the head" picture, 1660
Stones, George J., diachylon as an abortifacient, 130
Stoney, R. Atkinson, case of empyema of gall bladder with unusual symptoms, 545
Strabismus, light sense in (D. Matheson Mackay), 1644
Strachan, John, discussion on physical deterioration, 934
——— P. D., undulant fever in South Africa, 130
Strain, W. L., discussion on sprue and hill diarrhoea, 1285; discussion on beri-beri, 1289
Strain as a factor in cardio-aortic lesions (H. B. Anderson), 840
Straits Settlements, Pasteur Institute in, 194; medical appointments in, 556; medicine in, 1661; medical school for, 1224; opium drinking in (Gilmore Ellis), 1460, 1606
Strangulation of an undescended testicle (George Heaton), 1342
Straus, Hon. Nathan, discussion on infant milk dépôts, 644
Strawberries and gout, 264
Streptococci, differentiation of, 736
Stretton, J. L., discussion on anthrax, 936; congenital synostosis of radio-ulnar articulations, 1519
Stricture of bile duct. See Bile
Strong, Richard P., pathogenic importance of the Balantidium coli (leading article), 1711
Strychnine-strophanthus, a warning, 368
Stuart, F. J., Metropolitan Asylums Board and its assistant medical officers, 605
Sturge, W. Allen, Dr. Thomas Young, 1495
Sturrock, J. P., epidemic of influenza occurring in the Midlothian and Peebles Asylum, 1171
"Style in medical writings," 39
Subclavian, obstruction of (R. Wilkinson), 952
Substitute, obligations of a, 309, 419; right of, to recover fees, 991; duties of, 1154
Suicide in the United States, 451, 896
——— and infant mortality in Germany, 36
——— prevention of, 1668
——— and sex, 896
Sunlight and degeneration, 681
Supersession, 466, 1075, 1378, 1499, 1621
Superstitions about pregnancy and parturition, [illegible]
Supplement of the British Medical Journal, notes on, 31, 248, 348, 462, 457, 807
Suppuration, healing of wounds without. See Wounds
Suppurative pylephlebitis (Francis Hawkins), 1344
Suprapubic prostatectomy. See Prostatectomy
Surface tension of urine in health and disease (W. D. Donnan and F. G. Donnan), 16[illegible]
Surgeons, liability of, 670
Surgery, abdominal, during the last twenty-five years (G. Stokes Hatton), 369
——— address in, at annual meeting (leading article on), 245
——— of the Boer war, report on (W. F. Stevenson), 1301
——— modern fashions in (J. Lynn Thomas), 1628
——— in the R.A.M.C., 1682, 1725
——— and consent, 834
Surgical disease, some cases of (L. A. Parry), 131
——— emphysema with haemoptysis (John Allen), 1340
——— textbooks, reviews of, 26, 876
——— treatment of non-cancerous affections of the stomach. See stomach
Surrey, Midwives Act in, 242; population of, 687
Surveyor, N. F., clinical method for the quantitative estimation of uric acid in urine, 69
Sutherland, G. A., congenital pigmentation of Mongolians, 1207; coroners and medical evidence, 1558
Suture of granulating wounds, 214
Suzuki, Surgeon-General, nominated to represent Imperial Japanese Navy at Association of Military Surgeons, 675; notes on experiences during the Russo-Japanese War, 1004-5, 1125
Swansea, housing problem, 44; waterworks, 213; proposed asylum for, 1556
Sweden, British practitioners in, 589
Swedish treatment of sprains, 1563
Swinford, dispensary election at, 1673
Switzerland, British practitioners in, 589
Sydney, special correspondence from, 355, 604; Royal Hospital for Women, new wing, 355; treatment of consumptives in New South Wales, 355; a new morgue, 355; bubonic plague, 355; Sir Philip Sydney Jones, 604; Australasian Medical Congress at Adelaide, 1905, 605; Australasian Trained Nurses' Association, 605; adulterated bread, 605; leprosy among the Kanakas, 650; the Sydney abattoirs, 605
Sykes, William, plea for the investigation of catarrh, 1618
Symbiosis on bacterial virulence, influence of, 737
Syme, William Smith, discussion on laryngeal tuberculosis, 1196; new form of forceps for removal of the anterior wall of the maxillary antrum in the radical operation, 1204
Syncopal bradycardia. See Bradycardia
Synostosis of both upper radio-ulnar articulations (S. Hamilton), 1327
——— of radio-ulnar articulations (J. Lionel Stretton), 1519
Syphilis pathological changes in some mound builders' bones from the Ohio Valley, with especial reference to, 103
——— of conjunctivae, primary (W. [illegible] Forshaw), 952
——— intramuscular injections of mercury in (Lieut.-Col. F. J. Lambkin), 1254
——— and physical degeneration (Lieut.-Col. F. J. Lambkin), 375; correspondence on, 463, 627
——— transmission of, to monkeys, 676
Syphilitic pachymeningitis, (J. R. Charles), 1341
Syringe, intralaryngeal, 1520
Syringomyelia, case of (T. R. Bradshaw), 91

T.

Tabes, nature of (Sir William R. Gowers), 57
Table, new portable operating, 1148
Tainted meat at Birkenhead, 302; at Manchester, 301
Takaki, Kanehiro, raised to the peerage in Japan, 91
Talma-Morison operation (W. I. de C. Wheeler), 869
Tamworth, new workhouse infirmary at, 1140
Tasmania, British practitioners in, 589; administration and other matters concerned with the general hospitals in, 1130, 1241
Taylor, F. W., a nasal calculus, 329
——— Frank, E., sarcomatous tissue in the walls of ovarian cyst, 1500
——— H. N., operative interference in fractured clavicle, 1127
——— James, Paralysis and other Nervous Diseases in Childhood and Early Life, rev., 1141; intracranial tumours, 1437
——— Mark R., the perplexities of secretaries, 906
——— W. A., presentation to, 979
Teaching and research in Paris, 448
Teachers, National Union of, general meeting of Rhondda and Pontypridd District, 1234
——— conference of, 1614
Tee Han Kee and antiquity of Chinese medicine, 1552

Teeth, influence of arranging irregularly-placed, into their normal positions (E. A. Bogue), 569
——— relationship of to disease in early life (Edmund Cautley), 555
——— as a test of age, a note on eruption (Sidney Spokes), 568
——— vegetarianism and its effects upon (James F. Rymer), 573
Teething and corneal ulcers, 681, 756, 852, 989, 1679
Telephone, consultation by, 1352
——— boxes, public, 1545
Temperance, teaching of in elementary schools, 145, 400
Temperature, normal, and pulse, high range of throughout the puerperium (E. Hastings Tweedy), 704
——— in diseases of liver (J. W. Russell), 1643
Temperatures during the puerperium (John W. Duncan), 384
Tenders for medical work, 1369, 1372
Tendon suture, primary (E. A. Farr), 951
Terrier, Dr., unique book from Victor Hugo, 353
Testicle, columnar-celled carcinoma of (A. G. R. Foulerton), 1525
——— "paraffin" (James Cantlie), 441
——— undescended, strangulation of (George Heaton), 1342
Testimonials to masseurs, 466
Tetanus, treatment of, 1160; after obstetrical operations, 1066; in Royal Infirmary, Newcastle, 1014
Tetany, relapsing, associated with dilatation of sigmoid flexure (F. F. Langmead), 1457
Texas fever. See Fever
Textbooks of medicine. See Medicine
Therapeutic inoculation of tuberculous infection, 1420
Therapeutics, shall we take them from the druggist? 1061
Thew, Wilton, awarded entrance scholarship of Royal Dental Hospital, 1055
Thibet mission gratuities, 108
Thigh and ulna, fracture of (W. T. Mills), 1205
——— fractured, first-aid treatment of in military or civil practice (Lieutenant-Colonel J. J. de Zouche Marshall), 381
Thiosinamine in cicatricial conditions, 1362
Thirst cures, obesity and, 968
Thomas, Arthur W., plea for the investigation of catarrh, 1719
——— Fleet Surgeon J. Lloyd, selected to represent medical department of Royal Navy at military medical congress, 601
——— J. Lynn, cleft palate operation wounds, healing by second intention, 73; spoon-elevator for raising the pelvic floor, 120; appreciation of Pearson Robert Cresswell, 1404; operative treatment of simple fractures, 1495; modern fashions in surgery, 1638
Thompson, J. Tatham, intraocular tuberculosis, 432; capsular complications after cataract extraction, 433
Thomson, Arthur, Burdon-Sanderson's influence on the Oxford School, 1487
——— StClair, post-nasal forceps, 134; adenoid curette, 135; tracheotomy under local anaesthesia, 922; cerebral and ophthalmic complications of sphenoidal sinusitis, 954; discussion on meningitis, 1017; discussion on laryngeal tuberculosis, 1104
——— Theodore, C.M.G. conferred upon, 1307
Thoracic duct, spread of cancer by (T. Gillman Moorhead), 73; (Herbert E. Durham), 93
——— two cases of operation involving (R. Rucknall), 800
Thorax, topography of, 1709
Thorn, Mary, discussion on diagnosis and treatment of uterine cancer, 703
Thorne, Atwood, discussion on middle-ear suppuration, 1185
Thorold, Miss, pension granted to, 1540
Thorowgood, John C., hay fever, chronic rhinitis and asthma, 609
Thrombosis of the cavernous sinus (J. A. Menzies and Egerton L. Pope), 1520
——— of mesenteric veins (John MacPherson), 330
Thudichum, George, Simple Methods of Testing Sewage Effluents, rev., 1050
Thymus gland, sudden death and (Edward Jessop) 1586
Thyroid gland, giant cells in tumour of (Maynard Smith), 1575
——— primary tuberculosis of (H. A. Lediard), 1042
Tibbles, William, Addison's disease, 1004
Tic convulsion, case of (James Johnson), 810
Tick fever. See Fever
Ticks, pathogenic, concerned in the distribution of disease in man (R. Newstead), 1095
Tilley, Herbert, discussion on middle-ear suppuration, 1187; symptoms, diagnosis and treatment of chronic suppuration in the sphenoidal sinus, 1198
Title of "doctor." See Doctor
Tobago, medical appointments in, 585
Todas, on the senses of the, 1760
Todd, John L., tick fever in the Congo Free State, 1259
Todd-White, Arthur, sunlight and degeneration, 681; an ash superstition, 833
Togo, small-pox and vaccination at, 1725
Toldt, Karl, made life member of Austrian House of Lords, 601
Tongue clip for use in anaesthesia, 443
Tonicity of muscle fibres of heart (James Mackenzie), 1689
Tonsils, enlarged, treatment of, 760
Tooth, Howard, discussion on pathology, diagnosis, and treatment of meningitis, 1010
Toothache, neuralgia, and remote affections of dental origin, discussion on (J. S. Risien Russell), 546; (J. Howard Mummery), 549; (Urban Pritchard), 554; (Edmund Cautley), 555; (Robert Hutchison), 556; (Sir Victor Horsley), 556; (F. J. Bennett), 557; (Sidney Spokes), 557; (H. Baldwin), 558; (E. A. Bogue), 558; (Frank E. Huxley), 558; (J. Lewin Payne), 559; (W. A. Maggs), 559; (H. A. T. Fairbank), 559; (A. S. Underwood), 559; (J. F. Rymer), 560; (K. W. Goadby), 560; (J. G. Turner), 560; (W. Armston Vice), 561; (J. O. Brookhouse), 561; (J. S. Sloan), 561; (Morton Smale), 561
Toronto, meeting of the British Medical Association in. See Association
Torsion of uterus. See Uterus
Touting for practice, 460
Toxic cyanosis. See Cyanosis
——— effects of aspirin. See Aspirin
Toxicology, review of books on, 1590
Toxin, proteus, characters of, 737
Toxins of animal parasite 1308
Tracheotomy and local anaesthesia (StClair Thomson), 922; correspondence on, 1072, 1076, 1150
——— dilator, 1461
Trachoma, in aliens, 94; electrical treatment of, 435
Trade advertisements, use of medical names in, 686
Trades unionism in the profession, 1721
Trafalgar, notes on the battle of, 829
——— centenary, 1065
Tramp at home, 31
——— plague in South Wales, 1672
Transvaal, medical practice by chemists in, 55; British practitioners in, 589
Traumatic asphyxia. See Asphyxia
——— pancreatic pseudo-cyst (T. H. Kellock), 1589
——— pneumonia. See Pneumonia
Traumatism followed by hyperpyrexia (R. E. Humphry), 1699
Treasure and men of science, 1221
Trendelenburg position, the perils of the, 1713
Treves, Edward, tracheotomy under local anaesthesia, 1072
——— Sir Frederick, a conception of disease, 1251; elected Lord Rector of Aberdeen University, 1365; correspondence on address by, 1370, 1428, 1678, 1722
Tricar for country practice, 420, 468. See also Motor
Trinidad and Tobago, medical appointments in, 585
Triplets, fate of, 1715
Tropical diseases of the skin (J. M. H. MacLeod), 1266
——— forms of pityriasis versicolor (Aldo Castellani), 1271
——— medicine, information concerning the study of, 517; at Cambridge, 1624; Liverpool School of (see Liverpool); London School of, see London; the year's progress in, 1258; reviews of books on, 1298; in America, 1314
——— research, 288, 402
——— skin disease, note on a (John Bell), 1279; (Major E. Carrick Freeman), 1436
Troutbeck, Mr, case of, 416, 606, 677, 757. See also Coroner
Tschering's lenses (S. Lindsay Johnson), 1117
Tsetse-fly disease, 583
Tubal abortion, silent (R. J. Johnstone), 1522
——— gestation. See Gestation
——— pregnancy. See Pregnancy
Tubby, A. H., acute osteomyelitis and periostitis of the spine, 807
Tuberculin for diagnostic purposes, 264
——— and allied bodies (leading article), 966
——— in tuberculosis, discussion on (A. E. Wright), 1455, 1587
Tuberculosis, bovine and human, 460; (Nathan Raw), 1018
——— in childhood (leading article), 1542
——— Commission, the, 37, 204, 404
——— conflicts in Paris, 1553
——— control of relative factors in (A. Newsholme), 1761
——— cure of, offer of prize for, 402, 601
——— early diagnosis of, discussion on, 1050; influence of posture on adventitious breath sounds, with especial relation to (W. B. Ransom), 1609
Tuberculosis, early, and South Africa, 112
——— exhibition in New York, 84
——— experimental in dogs, harmful effects of cooked meat as a dietary in, 156
——— forms of, 1051
——— in fowls, 911
——— human and bovine (Nathan Raw), 1018; report on (Professor Dr. H. Kossel), 1445
——— immunization of cows against, 1674
——— incipient, and its open-air treatment, 462
——— in a cottage hospital, 911
——— intraocular, discussion on (Walter H. Jessop), 430; (Karl Hess), 432; (John Hern), 432; (J. Tatham Thompson), 432; (Cecil Shaw), 432; (W. M. Beaumont), 432; (Sir Victor Horsley), 432; (N. Bishop Harman), 433
——— of the iris, 132
——— laryngeal, discussion on (W. Jobson Horne), 1102; (S. H. Habershon), 1103; (Harold Barwell), 1103; StClair Thomson, 1104; (Nathan C. Harris), 1105; (Robert Scanes Spicer), 1105; (Lawrie Asher Lawrence), 1106; J. Dundas Grant, 1106; (Patrick Watson Williams), 1106; (William Smith Syme), 1106; (Henry Smart), (Adolph Brobber), 1107; (Alwood Thorne), 1107; (George Jackson), 1107; (John Bark), 1107; (John Middlemass Hunt), 1107; (Frederick William Bennett), 1107
——— in the City of Manchester, 1597, 1605
——— metabolism in, 1651
——— mixed infections in, 1651
——— open-air treatment of and exercise, 45; in Scotland a hundred years ago, 47; of incipient, 462; correspondence on, 463, 678, 755, 831, 908, 1073
——— opsonic power of persons suffering from (K. H. Urwick), 172; (leading article), 542
——— Poor-law administration and, 1089
——— prevention of, 43, 83, 409, 593, 664, 753, 890, 972, 984, 1145, 1611; in Aberdeen, 584; in America, 409; in Australia, 255, 664, 754; in Birmingham, 903; in Blackburn, 1011; in Bradford, 890; in British Columbia, 753; in Canada, 410; in Chester, 584; in Derbyshire, 604; in Durham, 593; in Edinburgh, 1145; in Great Britain, 972; in Northumberland, 43; in schools, 1054; in Scotland, 1421; in the United States, 409, 1600; in West Indies, 664; in Worcestershire, 83
——— pulmonary, Roentgen rays in early diagnosis of, 1238, 1319, 1498, 1615, 1682
——— selection by, 833
——— stages of (Thompson Campbell), 852
——— and intestinal infection, 1664
——— Rand miners' (Thomas Oliver), 910
——— reviews of books on, 190, 388, 656
——— sanatorium treatment of, is it worth while? correspondence on, 46, 105, 159, 213, 260
——— for children, first British, 599, 678, 755, 831, 908, 1073, 1160
——— of, discussion on, 330; in America, 409; in Canada, 410; in Cork, 1422
——— opsonic index of patients undergoing (Harold Meakin and Charles E. Wheeler), 1396; correspondence on, 1617, 1677, 1720. See also Sanatorium
——— in schools, prevention of, 1054, 1057, 1426
——— and the simple life, 404
——— serumtherapy of, 1651
——— sickness assurance and, 1653
——— surgical, in children, treatment of, 444
——— surgical, seaside treatment of, 410
——— of thyroid (H. A. Lediard) 1042
——— treatment of capillary haemoptysis in (Charles Gaskell Higginson), 577
——— tuberculin in, discussion on (A. E. Wright), 1456, 1587
——— "Zoo," 444
Tuberculous children of the metropolis (Sir William Broadbent), 1533
——— disease and milk supply, 603
——— disease of joints and spine (J. Jackson Clarke), 1643
——— infection, therapeutic inoculation for, 1420
Tucker's asthma cure, 1593
Tuke, John Batty, representation of the universities on the General Medical Council, 1550
Tumour, removal of, from a hermaphrodite (Henry Corby), 710
——— cystic, of omentum (Leonard A. Bidwell), 806
——— intracranial (James Taylor), 1437
——— retro-ocular (Richardson Cross), 1644
——— of spinal cord, laminectomy for, 826; case of, removed by operation (Bernard J. Ward), 1683

Tunbridge Wells borough proposes to make cerebro-spinal fever a notifiable disease, 394
Türk, Wolf, Untersuchungen über Knochenarterien, rev., 1210
Turkey, British practitioners in, 589
Turnbull, Alexander, R.N., death of, 36; obituary notice of, 109
Turner, G. Grey, case of cancer of the cervix after supravaginal hysterectomy for fibroid, 953
——— J. G., discussion on toothache, neuralgia, and remote affections of dental origin, 560
Tweedy, E. Hastings, high range of normal temperature and pulse throughout the puerperium, 704; discussion on albuminuria and eclampsia in pregnancy, 718; treatment of papillary erosion of the cervix, 1205
——— John, the medical curriculum, 99
Typhoid bacilli in the blood, 1417
——— bacillus. See Bacillus
——— fever. See Fever, enteric
——— ulcer. See Ulcer
Typhus fever. See Fever
Tyrone, typhoid fever in, 1478

U.

Uganda, medical appointments in, 586
Ulcer, duodenal (Professor Lindsay) 22: two cases of, treated by gastro-enterostomy (Frederick Eve), 117; simulating appendicitis, 599; ruptured (A. A. Martin), 1116; gastro-enterostomy for (C. Mansoll Moullin), 1117
——— perforating (Maynard Smith), 1117
——— gastric, surgical treatment of by gastro-jejunostomy and jejuno-jejunostomy (F. Gelston Atkins), 787; gastro-enterostomy for (C. Mansell Moullin), 1117
——— diagnosis of (Bertrand Dawson), 1032
——— rodent, radium bromide in the treatment of (Sir Alan Reeve Manby), 8; case of (L. McGavin), 1207
——— typhoid, perforating, treatment of, 742
——— ruptured (Mr. Fullerton), 23
Ulcerative colitis (F. G. Bushnell), 1342
Ulcers, chronic, treatment of (James MacMunn), 190
——— corneal and teething, 681, 756, 832, 989, 1679
Underfed school children. See Children
Underfeeding and brain-fag, 967
Underwood, A. S., discussion on toothache, neuralgia, and remote affections of dental origin, 559
Undulant fever. See Fever
Union, Aylesbury, and its medical officer, 349
——— Ballinasloe, 602
——— Belfast, insane in, 349
Union of German-speaking members of the medical profession, tenth annual meeting, 394
United States, the profession and proprietary medicines, 95; New State Department of Health for Pennsylvania, 135; typhoid fever in the military camps of, during the Spanish war, 137; quackery in New York, 147; war against mosquitos in, 394, 444; teaching of temperance in schools, 450; prevention of consumption in, 469, 1622; medical examination of school children in New York, 449; suicide in, 451; British practitioners in, 589; public vaccinators in, 818; new law in State of New York on professional secrecy, 818; a tax on alcoholic medicines in, 834; army of, and civil practitioners, 906; health of, 1221; care of infants in New York, 1221; medical education in, 1223; tropical medicine in, 1314; female nurses for the navy of, 1541; dental surgeons for, 1710
Universities, representation of on General Medical Council, 1656
——— of Edinburgh and St. Andrews, Parliamentary representation of, 1231, 1475, 1670; of Glasgow and Aberdeen, 1614
University of Aberdeen, [illegible] 476, 502, [illegible] 1475, gifts to the University, 163; Carnegie research scholarship, 216; pass lists and degrees [illegible] 867, quatercentenary celebrations [illegible] summer graduation ceremonial [illegible] regulations for medical students [illegible] information re the faculty of medicine [illegible] study of preventive medicine at [illegible] opening of winter session, 1066; elections [illegible] to the University Court, 1321; correspondence on, 1322; bursaries, 1322; election of Lord Rector, 1365; recent elections, 1432; the library, 1432
——— of Birmingham, [illegible] degrees [illegible] and degrees [illegible] representative on General Medical Council, [illegible] regulations for medical students, 480; study of preventive medicine at, 525; regulations of dental degrees, 536; conversazione, 983; opening of winter session, 983; donation to, 1303; annual dinner of past and present medical students, 1613; gifts to, 1613
University of Brussels, 53, 520; degrees, 53; degrees for practitioners, 520
——— of California, donation to, 1710
——— of Cambridge, 162, 476, 518, 522, 912, 1075, 1153, 1241, 1322, 1379, 1432, 1469, 1562, 1623, 1723; pass lists and degrees, 162, 1075, 1243, 1370, 1562, 1723; award of Raymond Horton-Smith prize, 162; regulations for medical students, 476; study of tropical medicine at, 518; study of preventive medicine at, 522; appointments, 912, 1075, 1153, 1322, 1432, 1468, 1623; gift by the Royal College of Surgeons, 1075; sanitary science examination, 1075; erratum, 1154; diploma in Tropical Medicine at, 1624
——— of Cracow, 1055; in favour of eligibility of women as assistants in the University clinics, 1055
——— of Dublin, 262, 488, 526, 537, 1683; the medical curriculum, 262; regulations for medical students, 488; study of preventive medicine, 526; regulations for dental degrees, 537; pass-lists and degrees, 1683
——— of Durham, 53, 479, 501, 520, 523, 912, 983, 990; bacteriological department of the College of Medicine, 53; regulations for medical students, 479; information re faculty of medicine, 501; degrees for practitioners, 520; study of preventive medicine at, 523; pass lists and degrees, 912, 990; opening of winter session, 983
——— of Edinburgh, 53, 216, 305, 362, 485, 502, 518, 525, 1065, 1145, 1153, 1241, 1311, 1531, 1683, 1717; pass lists and degrees, 53, 306, 362; honorary degrees, 216; resignation of Professor A. R. Simpson, 216; University Court, 305, 1241, 1683; summer graduation ceremonial, 306; autumn graduation ceremonial, 1241; erratum, 363; regulations for medical students, 485; information re the Faculty of Medicine, 502; study of tropical medicine at, 518; study of preventive medicine 525; chair of obstetrics at, 1065; opening of winter session, 1145; rectorial election, 1153; Vans Dunlop scholarship, 1153; general council, 1242; election of graduates' assessors to the University Court, 1311, 1422; election of Lord Rector, 1311; and General Medical Council, 1531; lectureship in gynaecology, 1717
——— of Glasgow, 151, 216, 486, 503, 1075, 1145, 1311; new athletic ground for, 151; pass lists and degrees, 216, 1075; regulations for medical students, 486; information re the Medical Faculty, 503; new laboratories, 1145; election of Lord Rector, 1311; Association of Women Graduates annual dinner, 1549 Glasgow University Club in London, 1550
——— of Leeds, 110, 162, 307, 414, 499, 525, 830, 972, 982, 1555; pass lists and degrees, 110, 307; ordinances for degrees in medicine, 162; clinical lectures, 307; chair of surgery, 414; information re the School of Medicine, 499; study of preventive medicine, 525; opening of winter session, 830, 982; pathology at, 972; appointments, 1555
——— life, retrospects and prospects of (Reginald Harrison), 1625
——— of Liverpool, 302, 481, 1144; summer graduation examination, 302; regulations for medical students, 481; new zoological department, 1144
——— of London, 53, 162, 216, 262, 305, 363, 401, 418, 465, 477, 520, 523, 912, 990, 1379, 1432, 1468, 1623, 1682, 1724; meeting of senate, 53, 262, 1379, 1623; election of Vice-Chancellor, 53; recognition of teachers, 53; Lister Institute of Preventive Medicine, 53; regulations for M.D. and M.S. degrees, 53; University College London Transfer Bill, 53, 262, 912, 990, 1379; Guy's Hospital Medical School, 53, 162; St. Thomas's Hospital Medical School, 163; King's College, vacation course in bacteriology, 163; vacation course in clinical pathology, 163; lectures at, 1623; St. Bartholomew's Hospital, prize distribution, 216; advanced lectures in physiology, [illegible] 262; the Brown Animal Sanatory Institution, 262; award of university medals, 262; incorporation of University College, 262; vice chairman of committees, 262; the Rogers prize, 262; physiological laboratory, 262, 912; Faculty of Medicine, 262; London School of Tropical Medicine, pass lists, 264; pass lists and degrees, 305, 363, 1468, 1724; chair of protozoology at, 401; amendment of regulation in medicine for internal students, 418; Military Commissions Nomination Board, 419; preliminary and intermediate medical courses, 466; regulations for medical students, 477; degrees for practitioners, 520; study of preventive medicine at, 523; convocation [illegible] 912, 990; Westminster Hospital Medical [illegible] 912, 1432; incorporation of University College, 990, 1379; University Union, 990; musical society, 990; library, 990; regulations for M.D. in tropical medicine, 1379; appointment to external Council, 1379; appointment of representative, 1379; awards of scholarships and medals, 1379; University College, the Bawden Fund, 1379; appointments, 1379, 1623; University extension examiners, 1623; University of London Lodge of Freemasons, 1623; lectures for teachers in London elementary and secondary schools, 1623; appointment of Mrs. Scharlieb to be a Governor of St. Mary's College, Paddington, 1683
University of McGill, 153; seventy-sixth convocation of the medical faculty, 153; Dr. Roddick's annual report, 153; Lord Strathcona's gift, 153; additional clinical faculties, 153; Dominion registration, 153; degrees, 153
——— of Manchester, Victoria, 53, 111, 163, 263, 307, 419, 480, 499, 524, 536, 982, 985, 1153, 1424, 1468, 1554, 1613; award of Tom Jones exhibition in anatomy, 53; award of gold medals, 53; appointment of lecturer in bacteriological chemistry, 111; pass lists and degrees, 163, 307, 1153; appointments, 1424; diploma in public health, 263; appointment to a Leech fellowship, 419; regulations for medical students, 480; information re the medical department, 499; study of preventive medicine at, 524; regulations for degrees in dentistry, 536; opening of winter session, 982; pathology at, 985; meeting of University Court, 1424; Pilkington cancer research endowment, 1468. See also Cancer; Dental School and Hospital, 1554; lectureship in surgical pathology, 1613
——— of Oxford, 110, 216, 262, 305, 342, 475, 522, 990, 1153, 1322, 1379, 1432, 1468, 1562, 1723; pass lists and degrees, 110, 305, 1153, 1562, 1723; Professorship in Pathology, 110; Radcliffe Travelling Fellowship, 216, 1468; presentation of address, 262; needs of, 342; regulations of, for students of medicine, 475; study of preventive medicine at, 522; Regius Professor's lectures, 990; hospital scholarships, 990; Hebdomadal Council, 1322; appointment of examiners, 1379, 1432
——— of Paris, establishment of a Chair of Therapeutics at, 1413, 1479; inconvenience to Russian students at, 1468
——— of Pennsylvania, destruction of anatomical collection, 965
——— politics in Scotland, 1304
——— Royal, of Ireland, 163, 363, 489, 526, 1153, 1242, 1313, 1322; pass lists and degrees, 163, 363, 1153, 1322; meeting of Senate, 363, 1322; regulations for medical students, 489; study of preventive medicine, 526; travelling medical scholarship, 1242; degrees of veterinary surgeons, 1242; disturbance at, 1313, 1073
——— of St. Andrews, 486, 525; regulations for medical students, 486; study of preventive medicine, 525
——— settlements, 1072
——— of Sheffield, 144, 500, 912, 1071, 1531; opening of new building by the King, 144, 212; Bill (see Bill); information re the faculty of medicine, 500; new medical buildings, 912; opening of session, 1071; and General Medical Council, 1531
——— of Vienna, number of students in, 664; official calendar, 901
——— of Wales, 905, 969, 1071, 1242, 1354, 1683; appointments, 905; future of, 969; meeting of standing executive committee, 1071; meeting of University Court, 1242; University College, Cardiff, 1242; bequests to, 1354
Unqualified pharmacist at Salford, 1148
Up-to-date surgery and treatment of cancer See Cancer
Upton, A. Mowbray, dispensers, qualified and unqualified, 40
Urachus simulating vermiform appendix, 674
Urethra, female, influence of the presence of pus in on the progress of gynaecological and obstetrical cases (John Campbell), 709
Uric acid in urine, clinical method for the quantative estimation of (N. F Surveyor), 60
——— rapid and simple process for the estimation of (A. F. Dimmock and F. W. Branson) 1164
Urinary retention during pregnancy (M. Cursham Corner), 330; (J. D. Reckitt), 1340
Urine in nephritis, change in (Marc Armand Ruffer and G. Calvocoressi), 1307
——— surface tension of in health and disease (W. D. Donnan and F. G. Donnan), 1636
——— trial glass (R. M. Fraser), 1522
——— uric acid in, clinical method for quantitative estimation of (N. F. Surveyor), 60
Urquhart, Alex., up-to date surgery and treatment of cancer, 1318; observations on the heredity of insanity, 1521
Urticaria treated by high-frequency currents (Alex. Gregor), 189
Urwick, R. H., observations on the opsonic power of people suffering from tuberculosis, [illegible]
Uterine appendages, strangulation of in inguinal hernia (Robert Campbell), 1266
——— fibromyomata. See Fibromyomata
——— haemorrhage. See Haemorrhage

Uterus, anteflexion of, and post-partum haemorrhage (Catherine Smith), 1205
——— cancer of, leading article on, 740; discussion on diagnosis and treatment of (Dr. Wertheim), 689, 704; (Howard A. Kelly), 695; (Cuthbert Lockyer), 696; (Skene Keith), 698; (Mrs. Mary Scharlieb), 698; (John Campbell), 628; (L. B. Aldrich Blake), 600; (Henry Briggs), 702; (F. J. McCann), 702; (Herbert Snow), 702; (J. Inglis Parsons), 703; (M. Rosenwasser), 703; (F. W. Forbes-Ross), 703; (Miss Mary Thorn), 703; (Herbert Spencer), 703
——— cancer of, hyperemesis, Caesarean section, 671
——— conservative surgery of, 672
——— evacuation of, in unrelieved cases of puerperal eclampsia (Ernest Brice), 1175
——— gravid, rupture of, after two Caesarean sections, 140
——— interstitial fibroid of (Dr. Pursiow), 1523
——— "necrobiosis" of a fibromyoma of (F. G. Bushnell), 1175
——— perforation of, 673
——— prolapse of, new operation for (J. Inglis Parsons), 724
——— rupture of (Jordan Lloyd), 1340
——— acute torsion of, 1413
——— ventral fixation of (Ernest Herman), 1589
Uvula, oedema of (Reginald W. T. Clampett), 578; (Frederic Vicars), 952; Ernest C. Carter, 1520

V.

Vaccinated calves as food, 37, 297
Vaccinating a shipload, 940
Vaccination, antirabic, 148
——— confusion, 825
——— cost of, 1682
——— dressing, 877
——— in India, antiquity of, 136
——— in Natal, 200
——— question, re, 910
——— prosecutions in Dundee, 149
——— successful, 1541
——— value of, 201
Vaccinations, past, certificates of, 759
Vaccinators, public, and general practitioners, 48, 107, 160, 214, 681, 757; and patients of other practitioners, 310, 419, 614; Cardiff guardians and the cost of, 1480
——— in Chicago, 818
——— fees to, 204
Vaccine in treatment of alveolar osteitis (Kenneth W. Goadby), 562
——— chloroformed calf, 737
——— Institute, the Army, 204
——— lymph, standardization of, 148
Vagina, rupture of during parturition, 687
Vaginal douche, 420
——— examination, early in pregnancy, importance of, 681, 756, 833, 836, 906, 990
Vagrancy and disease, 51
——— report on, 150
Vallery-Radot, M., Corday prize awarded to, 102
Value of a share, 612
——— of a practice. See Practice
Varicella gangrenosa (Robert J. Blackham), 1205
Varix, treatment of, 1727
Vegetarians in conference, 1157
Vegetarianism and its effects upon the teeth (James F. Rymer), 573
Vena cava, obstruction of inferior (C. W. Chapman), 1343
Venereal disease in the army, 970
——— ——— and the law, 1309
Venner, Tobias, 1660
Venning, Edgecumbe, receives honour of knighthood, 1628
Venous murmurs, 616
Ventral fixation of uterus (Ernest Herman), 1589
Verbal contracts, 1075
Verdicts at inquests, 613
Vermiform appendix. See Appendix
Veronal, dispensing of, 1160
Vertigo, pathology and treatment of, 659
Vesalius, Andreas, portrait of, 1709
Vesical calculus. See Calculus
Veterinary Hygiene, review of books on, 1340
——— profession and comparative pathology (William Hunting), 804
——— science in India, 1685
——— surgeons as parliamentary candidates, 1213
Vibration in treatment of neuralgia, 615
Vicars, Frederic, oedema of uvula, 952
Vice, W. Armston, discussion on toothache, neuralgia, and remote affections of dental origin, 561
Vickers, Major Wilfred Constant, death of, 466
Victoria, health of, 992
Vienna, special correspondence from, 43, 259, 354, 460, 676, 754, 1231; new Dean of the Medical Faculty, 43; ankylostomiasis amongst labourers, 43; case of poisoning by gas, 43; post-graduate lectures, 43; sale of patent medicines, 43; enlargement of the hospital by the Brothers of Mercy, 44; cerebro-spinal meningitis, 259; hospital abuse, 259; Professor Benedikt, 259; 25,000,000 crowns for building universities and clinics, 259; a lupus home, 259; sanitary report 1900-2, 354; use of oxygen gas for examination of joints by x rays, 354; new imperial councillors, 354; prevention of infant mortality, 354; cigarette smoking and abuse of alcohol by children, 460; conditions of the profession in Vienna a hundred years ago, 460; correlation between the bovine and human bacillus, 460; x rays in Graves's disease, 460; outbreak of cholera Asiatica, 676, 751; age for marriage, 676; transmission of syphilis to monkeys, 676; the winter term, 677; epidemic of meningitis, 751; two cases of scleroderma cutis, 751; lecture on the danger of public elementary schools, 751; meeting of the Society of Teetotal Practitioners, 751; medical politics, 1231; meningococcus of nasal secretion, 1232; Professor Politzer's 70th birthday, 1232
Vinrace, Dennis, a disclaimer, 609
Vintras, Achille, unveiling a statue of, 209
Virchow memorial, 1541
Vires, J., Précis d'Auscultation et de Percussion du Poumon et du Coeur, rev., 332
Virol, 615
Visceroptosis, a belt for, 657
Vision, stereoscopic, 836
Visual acuteness, new test for (G. A. Berry), 439
Vital statistics of Canada, 975
Vivisection, questions in Parliament, 37, 149
Vocal mechanism, commonly overlooked factors in, 304
Volunteer circular, the recent, 197
——— medical officers, services of, 610, 685, 835
Volunteers, medical examination of, 150, 203, 350, 403; examination of, by officers of the R.A.M.C., 51; and lack of Royal favour, 92
——— (R.A.M.C.), new company at Leeds, 44; London companies, annual inspection, 108; church parade, 1158; annual competition, 1623; at Manchester, 50; and South African honours, 203; annual inspection of Aberdeen Company, 205; annual camp of Welsh Brigade, 465; at Aberdeen, honour conferred on Major J. Scott Riddell, 1312; Glasgow company's dinner, 1365
——— South Wales Border Infantry Brigade, 108, 1468
Voyages d'Etudes Médicales, 16
Vulpius, Oscar, awarded Umberto I. Orthopaedic Prize, 402
Vulva, elephantiasis of (Ewen J. Maclean), 721

W.

Waddell, James, death of, 1551; obituary notice of, 1642
Waggett, Ernest Blechynden, discussion on middle-ear suppuration, 1181
Waldo, F. J., appointed J.P. for County of London, 739
Wales, George Frederick, obituary notice of, 109
Walker, Archibald Stodart, "Beggar's Wallet," rev., 1421
——— C. E., behaviour of leucocytes in malignant growths, 314
——— J. W. Thomson, note on a specimen of bladder and urethra removed two years after suprapubic prostatectomy, 865
Wallace, Alfred Russel, My Life: A Record of Events and Opinions, rev., 1119
Waller, A. D., appreciation of Sir John Burdon-Sanderson, 1490
Wallis, F. C., discussion on surgical treatment of non-malignant diseases of the stomach, 778
Walsall, infant mortality at, 904; bazaar in aid of Nursing Institution, 1140
Walsh, Archbishop, and Trinity College, Dublin, 95, 152
——— David, Association of Medical Diplomates of Scotland, 40
Walters, F. Rufenacht, prevention of consumption, 754
Wandering spleen. See Spleen
"Wanted, a prognosis," 687
War, Boer, report on the surgery of (W. F. Stevenson), 1301
——— Japanese losses in, 1435
——— naval, disposal of our wounded in a (Fleet Surgeon Charles Marsh Beadnell), 316; treatment of, in action on board H.M.S. "Magnificent" (Fleet Surgeon O. W. Andrews), 218; collection and distribution of wounded in a modern cruiser engagement (Fleet Surgeon Thomas Austen), 310
——— naval, Russo-Japanese, notes on experiences during (S. Suzuki), 1125
——— Office medical contracts, 104
Ward, Bernard J., case of tumour of spinal cord removed by operation, 1083
Warning against iced waters, 420
——— notice of the General Medical Council, 1683
Warnings, 312
Warren, J. Collins, laminectomy in tumour of spinal cord, 826
Warrington, W. B., discussion on meningitis, 1017
Warts and corns (Arthur Evershed), 329; lime water in treatment of (J. Burdon Cooper), 441; (Fleet Surgeon W. Eames), 1504
Warwickshire County Council health reports, 302
Water areas of Wales, 1615
——— boards, 200
——— boiling, portable cooler for, 813
——— supply regulations, 758
——— supply of Bristol, 1148; of Cwmaman, 213; of Dartford, 149; of Donegal lunatic asylum, 823; of Glamorgan, 212, 753; of Llanelly, 830; of Maesteg, 357; of Mossley, lead in, 1070; of Pontypool, 1480; of Pontardulais, 1550; of Sirhowy Valley, 1370; of Swansea, 213; of Woolacombe, 37, 288
——— supplies, rural, 344
——— for troops, drinking, 398, 403
——— Welsh, action of, upon galvanized vessels, 1674
Waters, J. B., post-partum eclampsia and glycosuria, 1399
Waterston, David (editor), Edinburgh Stereoscopic Atlas of Anatomy, rev., 1210
Watson, B. T., liquor amnii as a cause of death of fetus, 1402
——— Chalmers, increase in the consumption of animal food, 67; awarded Alvarenga prize, 288; discussion on physical deterioration, 933; plea for the investigation of catarrh, 1477
——— G., resignation of, 1610
——— George A., note on ricin and abrin experiments, 1691
Watts, Thomas, discussion on accident and poisoning reports, 938
Weatherly, L. A., discussion on sanatoriums for poorer consumptives, 636
Webb, Law, the blood in pemphigus and haemorrhagic purpura, 1701
Webber, H. W., case of sarcoma of the corpora cavernosa penis, 1587
Wegele, Carl, Die Therapie der Magen- und Darmerkrankungen, rev., 1527
Weguelin, H. W., Carnations, Picotees, and Pinks, rev., 1592
Wei-hai-Wei as a health resort, 295
Weil, H. P. Emile, serum treatment of haemophilia, 1370
Weintraud, W., Lehrbuch der klinischen Untersuchungsmethoden und ihrer Anwendung auf die specielle ärztliche Diagnostik, rev., 911
Weisenburg, T. H., Tumours of the Cerebellum, rev., 1528
Welsford, A. G., treatment of a common cold, 1070
Welsh Brigade, annual camp, 465
——— National Library, 357
——— water, action of, on galvanized vessels, 1674
Wertheim, Dr., discussion on diagnosis and treatment of cancer of uterus, 689
West Africa, Health Commissioner for, 201; mosquito nets in, 257, 297; medical appointments in, 587; health in, 1473
——— Australia, British practitioners in, 589
——— Indies, British practitioners in, 589; prevention of consumption in, 664
——— Riding of Yorkshire. See Yorkshire
West, A. William, self-supporting sanatoriums for the working class, 754
——— Samuel, discussion on meningitis, 1017; discussion on degeneration of the heart, 1031; calcareous mortar like fluid in the pleura, 1456; periodic respiration, 1456; British Medical Benevolent Fund, 1536, 1595, 1655
Westcott, Martyn, French Esperanto medical group, 215
Wey, pollution of the, 150
Whalley, Local Government Board and proposed new lunatic asylum at, 303
Wheeler, Charles E., opsonic index of patients undergoing sanatorium treatment for phthisis, 1396, 1677
——— W. I. de C., Talma-Morison operation, with a report of a successful case, 867
Whisky and brandy, 1364

White bread. See Bread
—— E. Douglas, self-supporting sanatoriums for the working classes, 754
—— F. Faulder, the hearing after complete otectomy, 577; results of neglect in suppurative disease of the ear, 1374
—— Sinclair, discussion on surgical treatment of malignant disease of rectum, 802; gastro duodenostomy as a substitute for gastro-jejunostomy, 860
—— W. Hale, discussion on sleeplessness and pain, 1006
Whiteford, C. Hamilton, suture of granulating wounds, 214; a plea for instruction of the laity in the early signs of cancer, 907
Whooping-cough, prevention of, 107
Wilkinson, R., obstruction of the subclavian, 952
Williams, Charles, bibliography of the "Religio Medici," 1303
—— C. Theodore, early diagnosis of pulmonary tuberculosis by Roentgen rays, 1615
—— Dawson, discussion on physical deterioration, 929
—— G. E. O., mediastinal dermoid, 1207
—— John Eyton, bequests for furtherance of university education in Wales, 1354
—— Neville, elected mayor of Harrogate, 1354
—— P. Watson, diphtheria in reference to the infectivity and notification of the latent forms, 647; discussion on laryngeal tuberculosis, 1196
Williamson, James D., appointed J.P. for county Down, 1478
Willis, J. D., British Medical Association and contract practice, 1556
Wilson, Arthur C. J., treatment of puerperal eclampsia, 1174
—— A. Gordon, severs connexion with Queen's Jubilee Hospital, 1413
—— Edward A., medical aspect of the "Discovery" voyage to the Antarctic, 77
—— George, discussion on isolation hospitals, 630
—— Thomas, treatment of cervical cancer in last two months of pregnancy, 706; discussion on albuminuria and eclampsia in pregnancy, 719; malignant adenoma of uterine appendages, 1295; sarcoma of ovary, 1296; medical treatment of uterine fibroids, 1701
Wimbledon Borough Council, medical men on, 1303
Windle, Bertram, on examinations in Ireland, 1611
Windward Islands, medical appointments in, 585
Wingrave, Wyatt, Adenoids, rev., 75; brain abscess and middle-ear disease, 578
Winter session, the, 743
Witchcraft and medicine. See Medicine
Witwatersrand, small-pox at, 1710
Wireless electric battery, 390
Wolstenholme, George, appointed J.P. for county borough of Wigan, 739
Women, medical education of, 514
—— London School of Medicine for, introductory address: ideals of study (Mrs. Bryant), 883
Wood, General Leonard, successful operation on, 340
Woodcock, Herbert de Carle, sanatorium treatment of phthisis: is it worth while? 106
Woodruff, Major Charles E., The Effects of Tropical Light on White Men, rev., 580
Woolacombe water supply, 37, 283
Worcestershire, prevention of consumption in, 83
Workhouse. See Union
Workhouses, sick nursing in, 257, 403
—— and voluntary hospitals, 1148
Workmen's Compensation Act. See Act
—— insurance in Germany, 970
Working classes, sanatoriums for. See Sanatorium
Worsley, R. Carmichael, polyneuritis following puerperal sepsis, 951
Worth, Claud, Squire, its Cause, Pathology, and Treatment, rev., 1706
Worthing, note on typhoid epidemic at, 1463
Wound retractor and forceps, combined, 1706
Wounded in war, review of book, 101; disposal of, 316, 318, 319
Wounds, granulating. See Granulating
—— operative. See Operative
—— healing of without suppuration, (J. F. Joynes), 385
Wright, A. E., discussion on tuberculin in tuberculosis, 1456, 1587
—— G. A., candidate for council, Royal College of Surgeons, 148
—— Hamilton, discussion on etiology and pathology of beri-beri, 1095; discussion on beri-beri, 1288
Wrongful dismissal, action for in Scotland, 54
Wundt, Wilhelm, Principles of Physiological Psychology, rev., 389
Wyer, Otho F., appointed consulting physician to the Warneford Hospital, Leamington, 140
Wynne, Fred E., hay fever, chronic rhinitis, and asthma, 600, 755
—— J. Darley, discussion on poverty in relation to disease and degeneration, 940

X-ray appearance of osteo-arthritis (E. W. H. Shenton), 655
X rays in treatment of leucocythaemia (Charles H. Melland), 9; in ringworm of the scalp (J. M. H. MacLeod), 13, 619; correspondence on, 756, 832; use of oxygen gas for examination of joints by, 354; in Graves's disease, 460; diagnosis of renal calculus (Morton Smart), 617; reviews of books on, 1529. See also Light, Roentgen

Y.

Yachts, cruising pleasure, 120, 615, 687
Yaws (J. Campbell Graham), 1275
—— in French Indo-China (M. E. Jeanselme) 1276
—— presence of spirochaetes in (Aldo Castellani), 1280, 1330, 1430; note on, 1364
Yearsley, Macleod, appointed delegate of Otological Society at Lisbon Congress, 1540
Yeast, therapeutics of, 352
—— therapeutic action of, 1348
Yellow fever. See Fever
Yorkshire, West Riding, report by Dr. Kaye, 1467
Young, James K., Handbook of Anatomy, rev., 1210
—— R. A., method in medicine, 881
—— Dr. Thomas, 1495, 1559
Younge, G. H., pepsin in sprue and hill diarrhoea, 1519
Yule, Bransby, unusual cause of fatal dyspnoea in a child, 385

Z.

Zeigler, Ernest, Lehrbuch der allgemeinen Pathologie und der pathologischen Anatomie, rev., 332; death of, 1540
Zobel, S., plea for the investigation of catarrh, "Zoo" tuberculosis, 444
Zuckerkandl, Otto, Atlas und Grundriss der chirurgischen Operationslehre, rev., 26; re-elected dean of the medical faculty in Vienna, 43

ILLUSTRATIONS.

PAGE

Leucocythaemia treated by X Rays (Charles H. Melland) (Eight Figures) 9, 11, 12
Ringworm of the Scalp treated by X Rays (J. M. H. MacLeod) (Four Figures) 14
Indirect Injuries of the Optic Nerve (J. Jameson Evans) (Five Figures) 62, 63
Family Care of the Insane (Two Figures) 81
Inspector-General Alexander Turnbull 119
Acute Salpingitis (J. Bland-Sutton) (Two Figures) 116
Cutaneous Anthrax treated without Excision with Sclavo's Anti-anthrax Serum (William Mitchell) 120
Spoon Elevator for Raising the Pelvic Floor (J. Lynn Thomas) ... 120
Adenoid Curette (StClair Thomson) (Three Figures) 134
Post-nasal Forceps (StClair Thomson) 135
Incidence of Hair's Greyness (G. Lenthal Cheatle) (Two Figures) ... 177
Relative Effects of Chloroform upon the Heart and upon other Muscular Organs (C. S. Sherrington and S. C. M. Sowton) (Ten Figures) 182, 183, 184, 185, 186, 187
Ambulance Wagon, St. Andrew's 322
Magnifying Rectal Speculum 334
Automatic Capsule Breaker 334
Needle Holder 334
First-Aid Treatment of Fractured Thigh in Military or Civil Practice (Lieutenant-Colonel J. J. de Zouche Marshall) (Two Figures) ... 382
New Poison Bottle 390
Clinical and Bacteriological Aspects of an Epidemic simulating Influenza (R. A. Dunn and M. H. Gordon (Eight Figures) 424, 425
Congenital Absence of the Dilatator of the Pupil (Karl Grossmann) (Three Figures) 436
Tongue Clip for Use in Anaesthesia (Two Figures) 443
Poisoning by Fungi (Charles B. Plowright 541
Sketch of face 545
Influence of Arranging Irregularly-placed Teeth into their Normal Positions (E. A. Bogue) (Eight Figures) ... 569, 570, 571, 572, 573
Treatment of Ringworm of the Scalp by X Rays (J. M. H. MacLeod) 619
Recent Cholera Epidemic in Persia (Joseph Scott) ... 620, 621
Regeneration of Nerves (Basil Kilvington) (Four Figures) ... 625, 626
X-Ray Appearance of Osteo-Arthritis (E. W. H. Shenton) (Two Figures) 655
Disinfection of End of Stethoscope (Two Figures) 657
Belt for Visceroptosis 657
Report of the Inspector of Inebriates (Diagrams) 663
Treatment of Cancer of Uterus (Dr. Wertheim) (Ten Figures) ... 689, 690, 691, 692, 693, 695
Removal of a Tumour from a Hermaphrodite (Henry Corby) (Three Figures 711
Complications and Degenerations of Uterine Fibromyomata (J. J. M. Cameron) (Eight Figures on Special Plate) ... ... Facing 712, 713
Elephantiasis of the Vulva in Association with Elephantiasis of Right Lower Limb (Ewen J. Maclean) (Five Figures) ... 722, 723
Sterilization of the Hands and Skin (Charles Leedham-Green) (Ten Figures) 782, 783
Congenital Dislocation of the Hip-joint and its Modern Treatment (J. Jackson Clarke) (Plate Facing) 784
Unusual Condition of Large Intestine Associated with Carcinoma in Two Sisters, together with Carcinoma in a Third Sister (Charles B. Childe) 804
Portable Cooler of Boiling Water 813
Combined Aortic and Mitral Disease in Rheumatic Children (F. J. Poynton) 838
Strain as a Factor in Cardio-aortic Lesions (H. B. Anderson) (Four Figures) 842, 844
Inquiry into the Cause of Angina Pectoris (James Mackenzie) (Five Figures) 846, 847
Syncopal Bradycardia, showing the Independent Action of the Two Sides of the Heart (J. Seymour Maynard) (Three Figures) ... 848
Operative Treatment of Congenital Cleft Palate (James Berry) (Eight Figures) 854, 855
Gastro-duodenostomy as a Substitute for Gastro-jejunostomy (Sinclair White) (Five Figures) 861, 862
Appendicostomy (C. B. Keetley) 864
Specimen of Bladder and Urethra Removed Two Years after Supra-pubic Prostatectomy (J. W. Thomson Walker) (Two Figures) 865, 866
Talma-Morison Operation (W. L. de C. Wheeler) 867
Total Enucleation of the Prostate for Radical Cure of Enlargement of that Organ (P. J. Freyer) (Three Figures) 872, 873
Aseptic Wallet for Nurses 877
Tracheotomy under Local Anaesthesia (StClair Thomson) 922
Parovarian Cyst with Twisted Pedicle (Comyns Berkeley) 945

PAGE

Rats in Relation to Plague (Bruce Skinner) (Four Figures) 927, 928
Sir Thomas Browne: being Special Supplement to British Medical Journal of October 14th, 1905
Sir Thomas Browne (William Osler) (Six Figures) ... 994, 995, 996, 997
Degeneration of the Heart (John Hay) (Eleven Figures) ... 1028, 1029, 1030
Pathology of Bradycardia (John Hay) (Five Figures) ... 1034, 1035, 1036
Graves's Disease (Hector Mackenzie) (Twelve Figures) ... 1077, 1078
Tumour of Spinal Cord Removed by Operation (Bernard J. Ward) ... 1084
Relationship of Heredity to Disease (F. W. Mott) 1086
Case of Microgyria (W. Page May) (Three Figures) 1100
Mitoses in the Cells of the Graafian Follicle (Robert Cattley and Albert S. Grünbaum) (Three Figures) 1112
Grip-eyed Needle 1120
Statue of Sir Thomas Browne 1121
William Jones Morris 1155
Oliver Wendell Holmes 1161
Solitary Non-parasitic Cysts of Liver (J. Bland-Sutton) (Two Figures 1167, 1168
Removal of Iron from Interior of Eye by Electro-magnet (A. S. Percival) 1176
Treatment of Laryngeal Tuberculosis (W. Jobson Horne) (Seven Figures) 1189, 1190
Treatment of Septal Deflections (Henry Smurthwaite) (Five Figures) 1201
New Form of Forceps for Removal of Anterior Wall of the Maxillary Antrum in the Radical Operation (William Smith Syme) ... 1204
Two Cases of Febrile Tropical Splenomegaly (Kala-azar) (Sir Patrick Manson) 1262
Guinea-worm and its Hosts (W. M. Graham) (Three Figures) 1263, 1264
Tropical Forms of Pityriasis Versicolor (Aldo Castellani) (Three Figures) 1271
"Dhobie Itch" and other Tropical Trichophytic Diseases (Aldo Castellani) (Four Figures) 1277, 1278
A Tropical Skin Disease (John Bell) (Two Figures) 1279
On the Presence of Spirochaetes in Ulcerated Parangi (Yaws) (Aldo Castellani) 1280, 1330
Diarrhoea from Flagellates (Aldo Castellani) (Two Figures) ... 1286
New Bed 1299
New Needle Holder 1299
Operative Treatment of Simple Fractures (W. Arbuthnot Lane) (Four Figures) 1326
Aud Special Plate ... ... Facing 1326, 1327
Congenital Synostosis of Both Upper Radio-ulnar Articulations (S. Hamilton) (Three Figures) 1327, 1328
Influence of Posture on Cardiac Sounds (William Gordon) (Three Figures) 1328, 1329
Further Observations on Parangi (Yaws) (Aldo Castellani) (Two Figures) 1331
New Chloroform Bottle 1348
New Knives for Establishing Permanent Intranasal Drainage of the Antrum 1348
New Portable Operating Table 1348
Rudolph Albert von Kolliker, M.D 1375
Simple Stricture of Common Bile Duct Treated by Plastic Operation (B. G. A. Moynihan) (Six Figures) 1392, 1393
Book Support 1405
Prone Pressure Method of Artificial Respiration 1405
Crystalline Lens in Health and in Cataract (Sir William Job Collins) 1442
Case of Inflamed Retroperitoneal Hernia (R. Lawford Knaggs) (Three Figures) 1450
Case of Retroperitoneal Fibrolipoma (R. J. Johnstone) 1452
Improved Snare for Nose and Ear 1461
Tracheotomy Dilator 1461
Sir John Burdon-Sanderson ... ... Facing 1482
Shock (John D. Malcolm) (Five Figures) 1513, 1514
Acute Arthritis Deformans (Bertram Abrahams) (Four Figures) 1517, 1518
Intralaryngeal syringe 1530
Carcinoma is a Parasitic Disease (Henry T. Butlin) (Twenty-one Figures) 1565, 1566, 1567, 1568
The Heredity of Insanity (A. R. Urquhart) four diagrams, ... 1572, 1573, 1574, 1575
Modern Fashions in Surgery (J. Lynn Thomas) (Four Figures) 1629, 1630
Wandering Spleen (Charles P. Childe) (Three Figures) ... 1632, 1633
Surface Tension of Urine in Health and Disease (W. D. Donnan and F. G. Donnan) (Four Figures) 1637, 1638
Blood film Spreader 1680
Inquiry into the Tonicity of the Muscle Fibres of the Heart (James Mackenzie) (Four Figures) 1690
Peculiar Form of Acromegaly (Capt. J. C. Prittie Perry) (Three Figures) 1693
Combined Forceps and Wound Retractor 1706

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LONDON: SATURDAY, JULY 1ST, 1905.

Presidential Address

DELIVERED BEFORE THE METROPOLITAN COUNTIES BRANCH ON THE

BRITISH MEDICAL ASSOCIATION AND THE ADVANCEMENT OF SCIENCE.

By ANDREW CLARK, F.R.C.S., D.Sc,

Surgeon to the Middlesex Hospital; Chairman of Council of the British Medical Association: President of the Branch.

IT is my first duty and pleasure on taking this chair to thank you for placing me in so honourable a position as that of President of the Metropolitan Counties Branch of the British Medical Association. I assure you I appreciate the honour, the more when I look back at the list of distinguished men who have preceded me in the office. It is a curious coincidence that I should be the immediate successor of my friend Dr. Radcliffe Crocker, for it was in succession to him as Secretary of this Branch that I first took any active part in the work of the British Medical Association.

For many years it has been customary for the President on his election to give an address on a subject connected with the practice of medicine or the British Medical Association, and I am going to ask your indulgence for a short time while I briefly refer to the capabilities of the Association for the advancement of the medical and allied sciences. I choose this subject not because the Association has been inactive in this direction in the past, as I hope to be able to show, but because I think the time has come when it is capable of considerable expansion, and because the recent reconstruction has given rise to the apprehension in the minds of many that so much prominence being given to the medico-political, the ethical, and what some people call, I think, not quite correctly, the commercial side of the profession, science will be neglected and will gradually drop out. I do not myself entertain that fear, and I venture to assert that the Association has not since its reconstitution been lagging behind in its primary object, although it is taking up more actively other work. I do not say this without knowledge, as the post of Chairman of the Council of the Association, which I have had the privilege of holding during the past three years, has given me the opportunity, indeed has entailed the necessity, of watching closely all that has been going on.

I shall endeavour to bring together some facts to show what has been done, what is being done, and what may be done to encourage and develop scientific work.

It may not be uninteresting to begin with if I go back to the formation of the Association and see what it did in its very early days, and I may mention that in my investigations I discovered that our Association was not the first British Medical Association, for in the *Lancet* of the Thirties there are records of numerous meetings of a British Medical Association, which seems to have had for its object medical reform.

It did not have a very long life, though I note in the report for 1839, when it was three years old, that the Association was increasing and prospering notwithstanding opposition, that it had by an honest, straightforward, and uncompromising course of action triumphed over every obstacle and exceeded the most sanguine expectations of its friends, and that it was known and recognized by the profession in England, Scotland, and Ireland whose confidence it had acquired. New Associations had been formed, and existing societies had been induced to adopt measures connected with the general interest of the profession which had hitherto formed no part of their constitution. Another paragraph says that the Council had also to report the accession of the Provincial Medical and Surgical Association to the ranks of reform and the establishment, in consequence of a correspondence and co-operation between it and the British Medical Association. After this I can find no notice of this Association in the medical journals of the day and notwithstanding the success mentioned in this report it seems to have collapsed. During its existence it added to its primary object, viz., medical reform, the suppression of quackery, the poor law question, coroners, medical education, and the one-portal system, and also a benevolent fund, all of which subjects are to the front now. I see, however, nothing referring to the scientific side. Was this the cause of its collapse? I think probably it was, and if we want to maintain our Association in the flourishing and progressive condition it is now in, I am sure we must continue to keep to the front its primary object—the advancement of the science of medicine—though I see no reason why the other objects for which it exists should not also be zealously carried on. The large majority of medical men find their whole time and energy taken up in the practice of their profession and in earning a livelihood, but all are alive to the necessity of following the advances in medicine and surgery, and they look, and rightly look, to the Association to keep them abreast of the times.

Our Association originated in 1832, under the title of the Provincial Medical and Surgical Association, and its first fundamental principle was the advancement of medical science, its second the maintenance of the honour and respectability of the profession, and its third the establishment of harmony and good feeling among the members of the profession. Shortly after a benevolent fund and a Reform Committee were added. This Reform Committee was amalgamated with the then existing British Medical Association and with a body called the Eastern and Northern Reform Association. Nothing seems to have come of this united body; it appears to have suddenly collapsed.

In the first year of its existence, the Association numbered 141; when it was twenty-five years old it numbered 2,125, and its name was changed to the British Medical Association. It has gradually increased its membership, till now it numbers over 19 000, and the organization is now such as to offer every facility for the advance of scientific medicine.

Five years after its inception the Association began to form Branches, and until three years ago these were the primary units; it was felt, however, that many of them were too large and scattered, and accordingly they were split up where necessary into two or more—some a good many more—smaller units which were called Divisions, and these are now the primary units. The East Anglian was the first Branch formed; ours was established some sixteen years later, and I believe we were the first to recognize the desirability of subdividing the Branches to enable practitioners to attend meetings without losing too much time in travelling. We established what we called District Societies, and each of these held from three to six meetings

a year, at which cases were brought forward and papers discussed; they were well attended and much appreciated by many. The Divisions were formed throughout the Association with the object of enabling members to meet conveniently and to have opportunities of discussing matters of medical, medico-political, or social interest without loss of time in getting to and from the place of meeting. All the Divisions are not yet thoroughly organized, but a great many are, and meetings are held and scientific and other discussions take place, and the proceedings reach all members of the Association through the medium of the Journal. Local conditions vary, and therefore local requirements are different. This applies to medico-ethical matters, and perhaps even more to medico-political; for instance, contract practice does not interest some Divisions, though in others it is a burning question. But the same thing also applies to medical science, and this does interest us all. Some diseases are much more common in one locality than another, and in no other way than through the Divisions have medical practitioners in some parts of the country a means of bringing their experiences before the profession. An immense amount of useful information has, I am sure, been lost which may now be recorded, because the doctor has not the time, and perhaps not the facile pen, to sit down and write out his ideas and send them to one of the journals, though he would willingly attend a meeting, if at a convenient distance, where he could not only express his own opinions, but hear the opinions of his colleagues.

The Annual Meeting is a great opportunity, which is not lost, for advancing medical science. It has been held regularly since the formation of the Association and still continues and increases in vigour. The new constitution in no way affects it in the science direction; some, indeed, say that the Representative Meeting absorbs so much attention that it does, but this is not so, for the Council in arranging the programme have always taken care to prevent the Representative Meeting clashing with the Sections, or in any way interfering with the scientific work of the meeting. Perhaps there are a few who would like to see more prominence given to the Representative Meeting, but I am quite sure they are in a minority. That the holding of such a meeting is to the advantage of the Association no one who remembers the old general meetings can deny. At these meetings resolutions were sometimes passed by small majorities when perhaps a dozen or twenty members who held peculiar views of their own managed to tire out the majority of members present. They were published, not infrequently in the lay press, as the opinions of the British Medical Association, and they were sometimes calculated to bring ridicule on the profession and the Association. That is not so now: the Representative Meeting is composed of men from every part of the Empire, its discussions are business-like and its decisions authoritative. The organization of so large a meeting with so much work before it has presented some difficulties, but these are being overcome, and I believe this year the meeting will go perfectly smoothly and satisfactorily.

I am sure it is quite unnecessary for me to dwell on the large attendance at and the value of the work done in the Sections—everybody admits it, and although at one time a great deal was practically lost owing to the length of time the reports of the proceedings dragged on, there is no delay now, as all is published in the Journal shortly after the meeting; probably no scientific society publishes its proceedings so rapidly and so completely.

Turning next to the annual addresses, I find that originally there was only one; it was given by the President and was a retrospect of the scientific work of the year, but on the occasion of the Twelfth Anniversary Meeting, which was held at Northampton, the subjects were divided; the President gave a general address, and members specially competent for the task gave a retrospect on Medicine, and on Anatomy and Physiology respectively. In subsequent years retrospects were given in other subjects. I don't know the exact date they ceased to be retrospects, but two or more addresses have been annually given, and always by men of acknowledged eminence in the branch of science chosen. I see that they have been given not only in medicine and surgery, but also in obstetrics, physiology, therapeutics, pathology, bacteriology, public medicine, forensic medicine, psychological medicine, and chemistry in relation to medicine. None of these are lost, for they are all to be found in the columns of the Journal.

This brings me to the Journal, which not only represents the Association as such, but week by week contains many valuable articles and original papers. The Association from its very commencement recorded its work. During the first eight years of its existence it published *Transactions* of its Annual Meeting: it then seems to have utilized a publication called the *Provincial Medical and Surgical Journal* for recording its transactions; this arrangement lasted four years, when it became the journal of the Association, retaining the same title till 1857, when it was changed to the British Medical Journal, so that under its present title it has been in existence nearly fifty years. It was first published in London as a weekly or fortnightly journal; in 1844 its head quarters were transferred to Worcester, but in 1853, when the Association was 21 years old, it came back to London, and has been a weekly London journal ever since. It has gradually increased in size, and its circulation is now, I believe, considerably larger than that of any similar publication in Europe; the information contained in it is scientific and clinical, as well as political and social, and subjects affecting the progress and welfare of the medical profession are discussed. We find in it not only many original articles, but reports of most of the Societies in the United Kingdom, and also reports of the scientific work of the Branch and Division meetings. In the Epitome, which is to be found every week in the centre of the Journal, an account is given of what is going on of medical and scientific interest in all parts of the world. Since the reconstitution there has been a Supplement, which is now published weekly, and contains all the strictly business news of the Association, so that this leaves the body of the Journal free to deal with other matters. In addition to this the size of the page was increased in 1903.

Now I come to a means which, in my opinion, would render the British Medical Association a more useful and influential body for promoting the advance of medical science than it has hitherto been—it is not a new suggestion but the rejuvenation of an old one. I mean the re-establishment of a committee on the lines of the Collective Investigation Committee with an adequately-paid co-ordinating secretary. This committee existed for four years and then seems to have come to a sudden end, for I can find no record of it since 1884. The reason of its collapse I do not know, but I can fancy that it was because the British Medical Association had not at that time the proper organization for its satisfactory working, and possibly there were not then sufficient funds to justify the Council in voting the money necessary to meet the expenses. I think we have both now, and I feel sure we could find a secretary capable of organizing and co-ordinating the work. I am confident that there would be no difficulty in finding among our members a Committee to direct and advise. We had no difficulty in finding what was required for organizing what I may call the politico-ethical part of the Association. The Committees meet regularly, and the work is co-ordinated by the active and efficient Medical Secretary; plenty of assistance is given by local practitioners all over the country, and I believe it would be easy to find workers in furthering the primary object of the Association. I would suggest, too, that with this departure there would be a still larger addition to our members. Instead of an increase of 600, which we had last year, we should probably have more than 1,200 and this would further replenish the exchequer of the Association. I have said that this is not a new idea, and I do not want to take to myself the credit of the suggestion. As far back as 1864 letters appeared in the Journal from time to time advocating something of the kind but it does not seem to have taken root or been at all developed until 1880 when Professor Humphry introduced the subject in his presidential address at the Annual Meeting at Cambridge. He pointed out the undeveloped capacities for good collective work which the Association possessed, and the advantages which would accrue to the Association from the successful utilization of these capacities. The result of this was the formation of a committee to consider the question. Its report was adopted at the Annual Meeting in the following year. The Committee of Council, then the Executive Body of the Association, appointed a Committee, to be called the Collective Investigation Committee, with Professor Humphry as chairman, and Dr. Mahomed as secretary *pro tem.*, to initiate the work. The Committee soon discovered that to get the work done efficiently it would be necessary to have a permanent paid secretary, and they nominated a gentleman for the post at a salary of £200 per annum, together with an additional £100 for travelling expenses, but he never seems to have taken office, for on his nomination coming to the Committee of Council for confirmation, a letter was read from him declining the appointment, and there is no record of any one else

being appointed in his place. What appears to have happened was that a certain amount of money was placed at the disposal of the Committee, a small honorarium was granted to the honorary secretary as well as out-of-pocket expenses, and all out-of-pocket expenses were repaid to the numerous correspondents in various parts of the country. Another honorary secretary was appointed in 1883 and a third in 1884, and then we hear no more about the Committee or its work except its four volumes of reports. During its existence, however, it was not idle. Secretaries were appointed geographically, and to them printed cards were sent accompanied by various memoranda, drawing attention to the subjects suggested for investigation. The Branches were also invited to take up subjects for local investigation and to this there was a pretty active response. Among other subjects of enquiry, diphtheria was investigated by the Thames Valley Branch (now merged in the Metropolitan Counties Branch); the duration of infection in various contagious diseases was enquired into by the Lancashire and Cheshire Branch; the Birmingham and Midland Branch started an investigation on the etiology of cancer, and the East Anglian Branch instituted an enquiry into syphilis and its effect upon the civil population of various districts. All the returns were analysed and published in various forms, statistical and otherwise.

The four volumes of reports already mentioned were drawn up and published between 1883 and 1888. There seem to have been 6,403 contributors to these reports, and 8,838 returns were received in reply to enquiries, so for a time it is evident this Committee was doing good work. The reason of its collapse I have already suggested. I may be right or I may be wrong, but I do not see why it should not be started again on extended lines and supplied at the expense of the Association with a suitable secretary.

Before I leave this subject, I might mention that the Association granted £3,600 during the four years of the existence of the Committee, and that its work was of some value is, I think, proved by the fact that about £500 was received back from sales of Reports, which means that a large number of persons thought them worth buying.

Another way in which the Association has, and still continues, to encourage and promote scientific research is by offering prizes and scholarships. The idea seems to have started with the Association, for I see that at the first Annual Meeting in 1833 it was reported that the Council had been considering the advisability of establishing an annual prize for an essay on a medical or surgical subject, and had endeavoured to raise a fund to establish it on a permanent basis; four years after a prize was offered of the value of £50 for the best investigation of the Common Continued Fevers of Great Britain and Ireland. Ten years later the members of the Council subscribed a sufficient sum to allow a prize of £50 being awarded, and the subject chosen was the Cerebral Affections of Infancy; this prize was continued for several years, the Council selecting the subject. Later it was divided, and two prizes of £21 each given, one for a medical the other for a surgical subject.

In 1860 the money of the Association was used for the purpose for the first time, for we find a resolution in that year that the sum of £40 should be placed at the disposal of the Committee of Council, when the funds of the Association would permit, to be applied for the purchasing of one or two gold medals to be awarded for the best essays on some subject in medicine, surgery, midwifery, physiology, or public health. This was to be a memorial to Sir Charles Hastings, the founder of the Association, and on one side the medal bore his profile. This seems to have given the idea of starting a Hastings Memorial Fund out of which the medal was provided for several years, but since 1873 it has not been awarded, and the fund was allowed to accumulate; three years ago the fund was transferred by resolution of a General Meeting to the clerical staff superannuation fund, and this year at the Annual Meeting the Association is to be asked to approve a scheme which has been well considered and carefully drawn up for its administration.

At the present time there are two prizes awarded periodically, but I hope generous donors may be coming forward to increase them. The first award of both was made in the same year in 1882. One, the Middlemore Prize, is given about every third year or as often as the fund admits of its value, £50, being drawn. It is the interest of £500 presented to the Association by the late Mr. Richard Middlemore, of Birmingham, and is awarded by a committee of experts to that practitioner whose work has, in their opinion, most advanced scientific and practical ophthalmic medicine and surgery during the period since its previous award. The other, the Stewart Prize, about the same value, presented by the late Dr. A. P. Stewart, a former Secretary and President of this Branch, for encouragement of researches regarding epidemics, is awarded biennially, also by a committee of experts in recognition of important work already done or of researches instituted, and promising good results, regarding the origin, spread, and prevention of epidemic disease with a view to encourage the continuance of the same.

In 1874 a special committee was formed, called the Scientific Grants Committee, with the idea of furthering and encouraging scientific research by the grant of sums of money to investigators who were in need of it to carry on their researches; since then the Council has annually voted a certain sum for the purpose, at first it was £300, this year it is £1,000. It was felt that a scholarship to be held, one, two, or three years would be better calculated to promote the object in view and a portion of the money (£150) was accordingly put aside for this. Subsequently a second scholarship was established and later a third, and on the death of Mr. Ernest Hart, a scholarship, value £200 per annum, was offered and earmarked for work in some subject in the department of State medicine. In the case of the three others, it is open to the candidate to select a subject approved by the Committee. At the present time £650 is given in scholarships and £350 as grants in aid of independent research in subjects approved by the Committee. It has been suggested that a scholarship should be established and earmarked for work in tropical medicine; to this the Council assented and promised the sum of £200 on condition that His Majesty's Government contributes a like sum, feeling that it is a subject of national importance, and that the national exchequer should contribute to it; no definite reply from the Government has yet been received, but in acknowledging the letter the Colonial Secretary requested me to convey to the Council his appreciation of the interest shown by the British Medical Association in this matter, and stated that he would carefully consider the subject.

Further than this, assistance has been given and grants continue to be made to scientific societies and institutions, and for special investigation by committees appointed by the Association; among them I may mention £600 to a Committee appointed to investigate methods of quantitatively determining the presence of chloroform in the air and the living body: £995 to the Therapeutic Committee for investigation into the action of medicines and other matters connected with therapeutics; £653 for the examination of feeble-minded children. Altogether the Association has spent as much as £26,000 directly in the advancement of scientific research.

I hope I have shown that the Association has ever borne in mind its primary object, and that at the present time it is doing more than it ever did before to advance medical science. I venture to conclude in the words with slight modification of one who occupied this chair thirty-two years ago, for they are as true now as they were then, and I cannot improve on them. "The objects of the British Medical Association are high and well-defined, its influence is great and growing and it behoves all of us who have influence in the work of the Association, —and few are without some influence—to bring to our work in the Association our best intelligence, our most mature thought, our calmest judgement, and our most brotherly feeling; especially let us be sure that we are making the Association a means of union and strength for the whole body of the profession, and instrumental in elevating its moral, social, and scientific character, and of advancing the public welfare. These were the objects the founders of the Association had in view, and they are those which it has followed: it behoves us still to pursue them, and we may feel sure that the future has in store for us years of continued usefulness and satisfaction."

THE trustees of the late Mr. James Holden of Marland, Rochdale, have made the following grants to charities: Henshaw's Blind Asylum, £10,000; Children's Sanatorium at Southport, £1,500 for the endowment of three cots; Clerks' Orphanage Home and School, £5,000; Rochdale Infirmary, £18,000; Manchester Children's Hospital, £10,000; Ashton District Infirmary, £10,000; St. Mary's Hospital, Manchester, £10,000; Stockport Infirmary, £10,000; Children's Convalescent Home, St. Anne's-on-Sea, £3,000; Rochdale Nurses' Homes, £5,000; Southport Convalescent Home, £5,000; specific charitable bequests were also made in the will to the amount of £19,000.

Presidential Address

ON

ALCOHOL AS A THERAPEUTIC AGENT.

Delivered at the Seventy-ninth Annual Meeting of the Lancashire and Cheshire Branch of the British Medical Association, held in Liverpool June 28th, 1905.

BY JAMES BARR, M.D., F.R.C.P., F.R.S.EDIN.,

President of the Liverpool Medical Institution, and of the Lancashire and Cheshire Branch of the British Medical Association; Physician, Liverpool Royal Infirmary; Lecturer on Clinical Medicine, Liverpool University.

GENTLEMEN,—The use of alcohol in all its aspects is a thread-worn subject which is difficult to present in any new light, but, as among medical men, there is no settled consensus of opinion as to the value of the drug, or uniformity of action in prescribing it in disease, it seems to me that I might be allowed, I hope with some profit, to present my views on the question. During the last fifty years teetotalers have been consistently preaching against the evil effects of alcohol, but the consumption has gone on steadily increasing so that it is now double the amount that it was at the beginning of the half century. However, it would seem that the alcoholic tide is now receding. The average capacity of the individual for alcohol has been overstepped, and as a taxable commodity it can bear no further burthen; the Chancellor of the Exchequer must therefore look out for other sources of revenue whereby teetotalers will have to bear their fair share of imperial taxation.

Not being a teetotaler myself I have no personal prejudices against the use of alcohol, but if during the last quarter of a century I have prescribed almost none in the treatment of disease, it is because I have found very little reason for its use, and it seemed to me that my patients got on better without it. As I very seldom order alcohol in any form it might be thought that I have no experience in its use, but I may at once assure my audience that I have seen it very freely prescribed, and I have had innumerable opportunities of studying its effects both in health and disease. Whatever differences of opinion there may be as to its social use, it might be reasonably expected that a scientific body like the medical profession would long ere this have arrived at some consensus of opinion as to its value in disease, but here we find just as great differences as we do among the laity; some think that for certain diseases it is one of the most valuable drugs which we possess, while many other equally competent observers are of opinion that whatever slight merit it may possess, its place in therapeutics could be very well supplied by many other drugs. A late friend of mine when asked to take part in a discussion on the treatment of pneumonia, replied that there was only one treatment for pneumonia and that was brandy, and the best you can get, whereas there are others like myself who think that the high mortality of that disease is in part due to the administration of alcohol. A friend recently told me that he gave a bottle of brandy daily to a very bad case of pneumonia, the patient made a good recovery, and only for the brandy my friend is confident that he would have died. Such reasoning as this is not uncommon with therapeutists as to the value of other drugs as well as alcohol. If ever the use of drugs is to become a part of scientific medicine we must know their physiological action, and we must clear the ground of crude empiricism and *post hoc, propter hoc* reasoning. There is much less alcohol prescribed nowadays than formerly, but I regret to think that this, in my opinion, is the result of fashion rather than the effects of any deep conviction as to the limited usefulness of the drug. Alcohol is now largely reserved for emergencies, and when a case becomes desperate it is freely prescribed, but why a patient should be made drunk or his dry tongue still further parched with brandy because he is going to die I fail to see, and personally I have never seen the tenure of life thus prolonged. Sir Lauder Brunton, when speaking of "Alcohol in Post-febrile Collapse," says:

> The rule for the administration of alcohol is a very simple one. It is to sit by the side of your patient for a while and watch him after the administration of a dose of alcohol, and if you find that the alcohol brings back the various functions nearer to the normal then it is doing good; if the functions of the organs diverge further from the normal after the administration of alcohol then it is doing harm. I use this means of expressing the action of alcohol advisedly, because if we take the different functions we find that a special rule will not include them. Thus the pulse may become quicker or slower after the action o alcohol, and yet the question as to whether good or harm has been done depends upon the condition of the pulse beforehand; that is to say, if the pulse has been abnormally slow, and is quickened by alcohol, it is doing good, for it has brought the pulse nearer to the normal. On the other hand, if the pulse has been abnormally quick, and is slowed by the alcohol, it has again been brought nearer to the normal, and hence the alcohol in this case also has done good. But in the one case the alcohol has done good by quickening the pulse, in the other case by slowing it; so that, in order to convince ourselves of the beneficial action of alcohol, we must have regard to its relative, and not to its absolute effect upon the pulse; in other words, we must not say that simple quickening or slowing of the pulse by alcohol is good unless we can show under what conditions the pulse was beating before the alcohol was given. The same rule is applicable to the tongue. If a tongue which was previously dry becomes moist after alcohol, then it has done good; in the same way, if the skin were too dry and hot before we gave alcohol, and the alcohol brings it back more to the normal, makes it cooler and moister, then the alcohol is doing good. If, on the contrary, the alcohol makes the skin drier and hotter in fever, then it is doing harm. But if the skin were cold and bedewed with sweat in collapse, and alcohol makes it warmer and drier, it is again doing good.
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> It is sometimes exceedingly difficult to estimate the quantity of alcohol to be used. It varies, and I do not know that I can give you any guide except the rule that I have just mentioned. The fact that a man has been accustomed to drink large quantities of alcohol when in health makes it often necessary to give him in disease a quantity so large that it would certainly be injurious to an ordinary patient. You must take into consideration the habits of the patient, as well as his disease, in judging of the amount of alcohol to be given.

Sir Lauder Brunton's description of the effects of alcohol runs on parallel lines with the popular belief that when you are cold it warms you, and when you are warm it cools you. There is no other drug in the *Pharmacopoeia* that has such an accommodating action to circumstances. It would seem as if in any particular case we could never predicate as to whether alcohol is going to do good or harm. Surely some indications could be laid down for its use so that we should know beforehand what effect it is going to produce. If some one would do for alcohol what Professor Sherrington has done for chloroform we should soon arrive at some definite views on dosage, and the various effects which would follow the use of the drug. We do not want performed on human beings an indefinite number of experiments about the results of which no two observers would perhaps agree.

I wish this address to be as far as possible the result of personal observation, and I shall approach the subject from the physiological standpoint as the only firm foundation on which the use of alcohol can be built. In the *Pharmacopoeia* the doses of the powerful drugs are laid down within certain well-defined limits, but with alcohol it would seem that you must be continually experimenting not merely as to whether it should be used or not, but also as to the amount you should use. I must at once dissent from the popular idea that its constant use confers any immunity against its toxic effects. With increasing years men are able to stand less and less alcohol, and in advanced age the result of free imbibition are most disastrous. When a man is lying prostrate in bed you cannot test his power of maintaining his equilibrium in the erect posture, but there are many other methods of testing his co-ordinating power, and of observing the other effects of alcohol. In my remarks I shall avoid all reference to the more definite toxic action of alcohol, and confine myself to the effects of usual medicinal doses, say four to ten ounces of brandy containing 40 per cent. of absolute alcohol in twenty-four hours.

PHARMACOLOGY.

Circulatory System.

If one or two ounces of brandy diluted with four times its bulk of water be slowly swallowed, the pulse is slightly quickened, just as Lauder Brunton has shown that this is the effect of sipping any liquid, but if the person be at rest and all other sources of excitement avoided this effect is very evanescent. From its irritating action on the nerves of the stomach it may cause a temporary contraction of the splanchnic vessels and a slight rise in the general blood pressure. Once, however, absorption takes place it has a paretic effect on the vasomotor system and the arterial blood pressure falls. This effect is general but it perhaps more especially affects the nerves and vessels of the skin and muscles. There is then a rush of blood to the surface through the paretic vessels; the nerves and vessels lose their power of regulating the temperature, and consequently there is a large cooling surface which allows of a rapid lowering of the temperature if the other conditions be favourable. This physiological effect would explain the value which German physicians attach to its use in conjunction with cold baths.

Dr. George Oliver,[2] in his Oliver-Sharpey Lectures, has shown that brandy, wines, and beer for a short time after administration, raise the blood-pressure and increase the lymph flow, but his observations were made on the mean or diastolic pressure. In my experience, with the dilatation of the arterioles and small arteries, there is an invariable fall in the systolic pressure, but with the increased bulk of fluid in circulation there may be an increase of the diastolic pressure in the large relaxed arteries: the venous pressure is increased, and with it there is also an increase in the diastolic pressure within the heart: but once the surplus fluid is disposed of there is then also a fall in the diastolic pressure within the arteries, and perhaps also in the veins. A glass of whisky well diluted has raised my own venous pressure as much as 15 to 20 mm. of mercury. With the loss of arterial tone—especially if it be carried to a great degree by the use of large doses of alcohol—there is no proper conservation of the energy of the systolic output; the energy of the heart is wasted in pumping blood into relaxed vessels, and its nutrition through the coronary vessels is not properly maintained owing to the want of sufficient diastolic tension within the aorta. The increased diastolic pressure within the ventricles, especially where large quantities of weak alcoholic fluid—such as beer—are drunk, leads to dilatation of the heart, a condition very common in Germany and not unknown in this country. Leonard Hill says:[3]

Besides chloroform, alcohol may be mentioned as another drug which, while it renders the systolic output incomplete, increases the diastolic pressure and the dilatation of the heart. If the heart be confined in the pericardium, and these drugs be pushed to excess, the heart ceases to have room for diastole when the distension reaches a certain point; cutting the pericardium relieves the heart for a time, but final cessation in diastole takes place eventually.

The coronary arteries are not supplied with vasomotor nerves, and the circulation through these vessels is maintained by the aortic pressure, but, although there is a fall, the arterial pressure never under ordinary circumstances falls so low as to interfere with the nutrition of the heart. However, alcohol is a protoplasmic poison and so interferes with the irritability and contraction of the cardiac muscle; the contractile power is lessened, and with the increased diastolic pressure and consequent enlargement of the heart the effect of each systolic contraction is further diminished.

The pulmonary vessels have, if any, a very scanty vasomotor nerve supply, hence the pulmonary circulation is carried on under purely mechanical conditions. The increased venous engorgement and diastolic pressure within the heart lead to overloading of the pulmonary circuit. Hence pulmonary and bronchial catarrh are common consequents of chronic alcoholism; this may be aggravated by the excretion of part of the alcohol imbibed through the pulmonic mucous membrane.

As the cerebral vessels are not supplied, or at least not to any extent, with vasomotor nerves, whatever action alcohol may have on the arteries and arterioles of the brain can only be directly on the muscular fibre, and as that is very sparse in the smaller vessels, the direct effect of alcohol on the cerebral vessels must be very slight. As we have previously seen there is a fall in the general blood-pressure, and consequently less sustained arterial tension within the brain; how, then, can we explain that feeling of fullness in the head which is the usual sequence of the use of alcohol? It would seem to me that as the brain is enclosed in a box, which must always, under the atmospheric pressure, contain about the same quantity of fluid, and as in alcoholism there is a fall in arterial and a rise in venous pressure, the feeling of fullness in the head must be due to venous engorgement.

Alcohol has a paralytic effect on the vessels of the splanchnic area which are well supplied with vasomotor nerves; there is thus a lowering of the general arterial pressure, and venous engorgement of the whole of the splanchnic area. Moreover, in chronic alcoholism the dilatation of the right side of the heart and incompetence of the tricuspid valve lead to chronic congestion of the liver and fatty degeneration of the centres of the portal lobules. We thus often get a large congested liver in association with fibrosis of the outside of the lobules; a combination of nutmeg liver with cirrhosis.

We might summarize the effects of repeated medicinal doses of alcohol on the circulation as follows: It causes dilatation of the arterioles and of all the arteries well supplied with muscular fibres owing to its paretic effect on the vasomotor nervous system, and its direct action as a protoplasmic poison on the muscular fibre. It has a similar though less marked action on the cardiac muscle. From these causes the systolic blood pressure is lowered, the systolic output from the heart is diminished, and the cardiac energy is wasted in pumping blood into relaxed vessels; the large bounding pulse with comparatively short systolic period, which gives a deceptive appearance of vigour and force in the circulation, is due to the large wave in the dilated vessels. The venous pressure and the diastolic pressure within the heart are at least temporarily increased, and where large quantities of beer are drunk the heart may become permanently dilated: with the increase in the capacity of the ventricles the effective contraction of the cardiac muscle is correspondingly diminished. The long-continued use of the drug, even in moderate quantities, leads to fatty degeneration of the cardiac muscle, and chronic mesoarteritis with permanent loss in the elasticity of the arteries. The numerous other deleterious effects would carry us beyond the immediate scope of this paper.

Nervous System.

Alcohol has a selective affinity for the nervous system, and its action has been so well expressed by Schmiedeberg that I cannot do better than quote his remarks:[4]

In the mental areas the finer degrees of observation, judgement, and reflection are the first to disappear, while the remaining mental functions remain in a normal condition. This is sufficient to explain the often strange conduct of persons who are under the influence of alcoholic drinks: the soldier acts more boldly because he notices dangers less and reflects over them less: the orator does not allow himself to be influenced by any disturbing side-considerations as to his audience, hence he speaks more freely and spiritedly: self-consciousness is lost to a very great extent, and many are astounded at the ease with which they can express their thoughts, and at the acuteness of their judgement in matters which, when they are perfectly sober, with difficulty reach their minds; and then afterwards they are ashamed at their mistakes. The drunken man imagines he has great muscular powers, and exhausts himself by unusual and useless exhibitions of his strength, without considering that they may do him harm: a sober man, on the other hand, is always anxious to spare his strength.

However difficult it may be to prove a directly stimulant effect on the mental areas through alcohol, still more is this the case with regard to the other functions.

The rise in the frequency of the pulse is not dependent upon the action of alcohol, but is caused by the circumstances under which the alcoholic drinks are usually consumed. It is the result of the energetic behaviour, and, according to the investigation made hitherto, it is not present when the body is quite at rest (Zimmerberg). The turgescence and redness of the face are caused by loss of the tonus of that part of the vascular nervous centre from which the vessels of the skin and of the face receive their nervous supply. The increased flow of blood to the surface of the body, along with the lessening of the heat-sense, causes a feeling of pleasant warmth, where before, through the lowness of the external temperature, there was a disagreeable feeling of coldness. Therefore this effect of alcohol, which is especially valued by the inhabitants of cold countries, and which the laity are most readily inclined to consider as a result of stimulation, is only dependent upon a sort of paralytic condition of the areas concerned.

In fact alcohol is not a stimulant but a sedative, as was long ago pointed out by Sir Samuel Wilks, and it is only as a sedative that it can be profitably used in disease. As Schmiedeberg again says:

No one will expect any special advantage, we imagine, from a stimulation of the sensations and of the mental functions in disease. We aim rather as much as possible at protecting from every form of excitement those areas which are usually in a state of increased sensitiveness, and consequently keep all strong stimuli arising in the outer world as carefully as possible away from the patient. These efforts are assisted by a mild narcosis, which the taking of the wine brings about, even though it be no more than a slight deadening of the hypersensitiveness. Just as rest enlivens and refreshes, so can wine have a like effect by favouring the conditions for rest, although it does not stimulate any function directly.

Alcohol lessens reflex action from the very commencement and assuages pain, hence in highly sensitive conditions of the nervous system it might be used with advantage as a soporific, only for its depressing after-effects, and for the fact that we have many more suitable drugs for most cases. Personally, I would rather have a glass of stout as a soporific than any of those depressing sulphur compounds which German manufacturers so diligently foist on the public. Alcohol has an advantage over morphine in that it has not an early paralytic effect on the respiratory centre.

Professor Gotch, in Schäfer's *Physiology*, quotes the careful experiments of Piotrowski on the effects of alcohol and other agents on the excitability and conductivity of nerve.

Alcohol vapour caused an initial increase in the local excitability and to a less degree in conductivity: this soon changed, the conductivity becoming rapidly impaired before the local excitability diminished: on the cessation of the alcohol vapour the normal conductivity and excitability were reinstated, but the latter returned quickly, the former much more slowly. A stage in the alcohol treatment was always

obtained in which the excitation of the central end of the nerve was quite ineffectual, whilst that of the altered nerve in the chamber was increased in effectiveness. . . . . It must therefore be concluded that CO_2 and CO are agents which influence local excitability more than conductivity, whilst alcohol influences conductivity more than local excitability. The distinction between the effects of CO_2 and alcohol as regards conductivity is further demonstrated by determining the rate of propagation from the central excitation to the motorial nerve endings. CO_2 and CO have but little influence upon this, whereas alcohol vapour causes a retardation from 28 to 4 metres per second.

Professor Gotch also shows that alcohol and morphine increase while coffee diminishes reaction time. Large doses of alcohol determine chromatolysis of the nerve cells. The long-continued use of alcohol, even without the assistance of arsenic, causes multiple neuritis; and as has been well shown by Dr. A. W. Campbell, also produces degenerative changes in the spinal cord and brain. The cardiac ganglia are occasionally involved in these degenerative processes.

Cells.

The fourth Lees and Raper Memorial Lecture, delivered by Professor Sims Woodhead, will well repay perusal. In it he shows the deleterious effects of alcohol as a protoplasmic poison, and that the changes in the nerve and muscle cells closely resemble those produced by the diphtheria and other toxines. He points out that it interferes with the oxidation of the tissues and leads to fatty degeneration. It lessens phagocytosis, diminishes the resistance to acute and specific diseases, and interferes with the acquisition of immunity. Large doses of alcohol lowers temperature by increasing the dissipation of heat through the increased vascularity of the skin and greater activity of the sweat glands, and its paralysing effect on the normal reaction of the skin and blood vessels to cold. It is said to lessen the waste of fat and carbohydrates, and from the fact that it is slowly oxidized in the system, it must give rise to the production of a certain amount of heat and energy, but its toxic effects are too marked for it to have much value as a food. On the one hand it is often stated to be only slowly oxidized in the system and to be partly excreted unchanged, therefore it must be an indifferent food; while on the other hand the same authority may assert that it readily seizes on the oxygen, and thus deprives the fat and carbohydrates of their necessary supply. Both these contradictory statements can scarcely be true, and it should be remembered that there is always a good deal of unused oxygen even in venous blood. The facts would seem to me to be that alcohol can be oxidized, and is therefore capable of generating heat-energy, but from its paralytic effect on protoplasm it interferes with anabolism and leads to dissolution of the proteid molecule with the formation of fat.

The advice of the Apostle Paul to Timothy, to take a little wine for thy stomach's sake and thine often infirmities, must have referred to a fairly dilute solution of alcohol, as we know that while strong potations increase the secretion of gastric juice, they inhibit the digestive function, and eventually establish a chronic gastric catarrh. The injurious effects of alcohol in the induction of cirrhosis of the liver are well known, and its equally pernicious influence on the kidneys through its interference with assimilation and nutrition has been clearly established. Having now dealt with the physiological and, to a less extent, the pathological influences of alcohol it remains for us to consider how far these effects can be judiciously used in the treatment of our patients.

Therapeutics.

Pneumonia.

The treatment of this disease has been a battle-ground for at least half a century, and the position which alcohol should occupy is still a very moot point in the minds of many. Its use, perhaps, as frequently depends on the proclivities of the friends of the patient as on the convictions of the doctor. The fearful mortality which attends this disease when it occurs in alcoholic subjects should have aroused attention as to its probable futility as a therapeutic agent, but the pernicious teaching of Todd on this subject has so swayed medical opinion in this country for the last fifty years that the usual practice here has been a long way behind that of Ireland and Scotland where the judicious teaching of such men as Graves, Stokes, and Sir William Gairdner has kept the medicinal use of alcohol within bounds.

Both acute and chronic alcoholism lead to cardiac asthenia and dilatation of the tricuspid orifice, and the frequently associated abdominal distension interferes with the respiratory pump. Such patients, therefore, are liable to succumb rapidly from cardiac failure, accompanied by a large *ante mortem* clot in the right side. The case is quite different with the gouty man; his heart is usually hypertrophied and healthy, and if there be no kidney mischief he stands an attack of pneumonia well.

The feverish blood is sufficient stimulus for the heart without alcohol, which is best reserved for convalescence. Alcohol diminishes the power of the cardiac muscle, and owing to the increased diastolic pressure and dilatation of the ventricles the effective force of the systole is lessened. Alcohol lessens the peripheral resistance by producing vasomotor paresis, an effect which cannot often be required as the systemic blood-pressure is usually too low without any adventitious assistance. There are, however, certain cases in which a small amount may do good, such as those in which the pulse is small and irregular, and the vessels rather rigid, but even in these atropine and nitroglycerine answer better. If cold application produce too great an effect on the circulation, this can be counteracted by a little warm stimulant. If there be any pain in the abdomen, or other reflex disturbance, or flatulent distension of the stomach, a little brandy does good. However, for the latter purpose there are many better antiseptics, such as salicylic acid and Dover's powder, tincture of iodine and glycerine, etc. Hiccough is not so common in pneumonia since the free use of alcohol has been lessened.

Almost the only use for alcohol in pneumonia is as a soporific, and when given for this purpose I prefer a light draught beer or stout containing about 4 or 5 per cent. of alcohol. As a soporific it should be given about 9 or 10 o'clock at night, and not during the day; it is chiefly useful in alcoholic subjects, and where the nervous system is in an irritable condition and accompanied by much muscular tremor. During convalescence, when the stimulus of the heated blood has been removed, the blood vessels have contracted, the blood-pressure has risen, and the enfeebled heart is scarcely able to meet the increased peripheral resistance; then alcohol does good, and at this stage I prefer a good port wine or sound Burgundy.

Pneumonia complicated with delirium tremens is a very fatal malady. It is often difficult to draw a distinction between the delirium of pneumonia and alcoholic delirium complicating pneumonia. Acute or late delirium, by which appellations the complication is frequently known nowadays, is more euphonious than delirium tremens to the public ear. These cases are marked by active, often violent, delirium, delusions of sight and hearing, great tremor, instability of the nervous system, and the knee-jerks are usually absent. In such cases it is essential to keep the nervous system quiet and obtain sleep, but this is often a most difficult problem to solve, especially when the delirium tremens arises late in the pneumonic attack. There must be no mechanical restraint or any struggling with the patient, as thus fatal syncope is readily induced. Sir Douglas Powell's prescription of a large dose of alcohol followed by a hypodermic injection of morphine and atropine is very good. Personally, I would allow about two pints of beer or stout daily as a sedative, to be administered during the evening and night. If necessary a few whiffs of chloroform to keep the patient quiet, and for a hypnotic I am largely influenced by the condition of the circulation. If the pulse be small but moderately firm, and the skin dry or not very moist I order opium and antimony; if the arteries are lax and rather empty, with embarrassed respiration and very moist skin, I prefer a hypodermic of morphine and atropine, or morphine and strychnine. The temperature should be reduced by cold sponging or icebags to the abdomen.

Typhoid Fever.

Pneumonia and typhoid fever are the two principal diseases in which alcohol has been largely prescribed, and by many is considered indispensable, but in the latter disease it is even more useless than in the former: there is scarcely an indication for its use, while the protracted nature of the disease allows this medicament more time to work mischief. It has a somewhat similar effect on the cardiac muscle to that produced by the typhoid toxin. The most severe case of typhoid fever can be better treated without alcohol than with it, and the conditions demanding its use in this disease are very few and far between. Alcohol is not a food in the proper acceptation of the word; it is a sedative, or, to use a commoner though less accurate designation, a stimulant. It causes vasomotor paresis which is usually sufficiently accom-

plished by the fever poison without any assistance. This effect may be necessary during the chilly stage, during collapse, or to counteract the effect of a cold bath, but in a well-managed case, without any heroic treatment, such influence should not be often necessary. In cases where there is high body temperature with cold extremities I occasionally allow a pint of good bitter beer in the twenty-four hours to lessen peripheral resistance to the circulation. When there is obstinate vomiting a little champagne occasionally does good, and in cases of sudden collapse a few teaspoonfuls of brandy may be given.

By writers on this subject most elaborate rules have been laid down to guide the administration of alcohol according to the state of the heart, the pulse, the tongue, and the nervous system, but these rules are usually utterly devoid of any physiological basis, and even their authors would have great difficulty in determining beforehand their proper application in practice. Alcohol is not a cardiac tonic, but it is usually prescribed in typhoid fever with that object in view, and we frequently see drugs having a diametrically opposite action—such as alcohol on the one hand, and strychnine or digitalis on the other—given with the view of strengthening the heart's action and tiding the patient over a difficulty. I have seen limbs jumping about under the influence of alcohol and strychnine given with the view of supporting that common bugbear, a weak heart, when there was not the slightest probability of any cardiac failure. We frequently hear of patients being "kept alive" for a certain number of days on brandy; but as these cases generally end in death it would perhaps be more accurate to say that the only nutriment they had during the last few days of life was diluted brandy. The tenure of life held under such conditions is usually dearly bought. I have never been able to see why dying patients should have their mouths parched with brandy, often of abominable quality, which would early make them cry out, if they were only able, for a drop of cold water to moisten the tongue. Some men prescribe alcohol freely in typhoid fever and pneumonia because they believe in its efficacy; others because they are too weak to run counter to the views of the patient's relatives; and teetotalers, who have no personal knowledge of alcohol, because it is the popular thing to do, and they do not like to be considered prejudiced. They have a vague idea that what they consider a potent poison in health must be a powerful remedy in disease. Many of those who prescribe it very sparingly, think that it should be specially given to patients accustomed to it in health so as not to disturb any long-acquired habit, but in my experience—and I am supported by the experience of Sir William Broadbent—these are just the cases which do better with other medicaments. Frequently I prescribe some alcohol for myself and my healthy friends, but when any of them are diseased I am not likely to poison them with this drug. If I were convalescing from typhoid fever I would enjoy some good port, and I do not care to prohibit others from what I would probably take myself. As a food or antipyretic agent it is of very little value, and should be avoided during the febrile stage unless there be some special reasons for its use. The large quantities of alcohol which are frequently prescribed must inevitably lead to cardiac asthenia and so protract convalescence. It is not a cardiac tonic and should be reserved for a time when its potency in lessening peripheral resistance and so relieving the heart will be of service.

Tuberculous Disease.

Alcohol has a predisposing effect to all forms of tuberculous disease, it lessens the resistance of the patient to the toxic effects of the bacilli, weakens the cardiac muscle, impairs assimilation and nutrition, and hastens proteid destruction. It also leads to bronchial and laryngeal catarrh, and hastens the demise of the patient.

Acute Specific Diseases.

Professor Sims Woodhead quotes the experiments of Delearde, and of Laitinen, showing that it was almost impossible to confer immunity against rabies, tetanus, and anthrax on animals that were alcoholized during the period in which they were being vaccinated:—

> Although animals first alcoholized for a period and then vaccinated—the alcohol being stopped during the period of vaccination—acquire a certain degree of immunity, they rapidly lose condition when infected. They certainly suffer more severely than do the non-alcoholized animals vaccinated at the same time and infected in the same manner.

Animals which have been protected against tetanus quickly lose their immunity under the influence of alcohol and in the other two diseases the protection is diminished. It therefore follows that alcohol must be injurious in the treatment of these diseases. Professor Sims Woodhead, also, quotes the experiments of A. C. Abbott who found:

> That the normal resistance of rabbits to pus-producing organisms is greatly diminished by the use of alcohol when given daily to the stage of acute intoxication . . . not only was pus more readily formed and at an earlier date, but it was formed in larger quantities, and that an animal to which alcohol was given succumbed much more readily than did a non-alcoholized animal.

Personally, I do not know any specific fever in which alcohol can do good.

Diseases of the Nervous System.

We have seen that alcohol has a special affinity for the nervous system. It induces not only acute toxic effects such as coma or delirium tremens, but its free and frequent use leads to chronic degenerative changes in the brain, spinal cord and nerves. Its use, therefore, in chronic diseases of the nervous system should be interdicted. We have seen how occasionally it may be beneficially used as a soporific, and in functional disturbances of the nervous system it often does good. When a man is dissatisfied with himself and his neighbours a little alcohol engenders a spirit of contentment and toleration. In cases of neuralgia and the spasmodic form of migraine a glass of stout often affords immense relief, and even its regular use is much less pernicious than antipyrin, phenacetin, antikamnia, etc. In angina pectoris hot whisky or brandy often affords relief, but there are many more effective remedies. In cases of intestinal colic, brandy is a most valuable remedy. Recently a life-abstainer told me with appreciative recollection how a spasmodic affection of this nature from which he was suffering had been immediately removed by a glass of brandy, which a friend had insisted on administering to him. I was really sorry for that man because he seemed to feel that in his lifelong sacrifice for example's sake he had been deprived of an immense amount of happiness.

Shock and Collapse.

A little alcohol may give a temporary sense of relief, but from its marked effect in lowering the blood pressure it must work mischief in both these conditions. I occasionally hear of cases of "extreme collapse" with a temperature of 104° or 105° in which brandy had saved the situation; and I once heard a surgeon in the witness-box swear that shock might be deferred for a lengthened period; on cross-examination he did not think that it could be deferred for longer than four months. These are conditions which no fellow can understand, not even the men who make such extraordinary statements.

Diseases of the Circulatory System.

In practically all cardiac affections alcohol works mischief, as it induces degenerative changes in the cardiac muscle, increases the diastolic pressure, leads to dilatation of the cavities and of the auriculo-ventricular orifices, and consequently lessens the effective force of the cardiac systole. It is true that it diminishes the work of the heart by lessening the resistance in the arterioles and arteries, but this vasomotor paresis, when persistent, lessens the elasticity of the vessels, and so the cardiac energy is not properly stored up in the walls of the arteries during ventricular systole, and given out during diastole. This gives rise to a great difference between the systolic and the diastolic pressures in the arteries, and the ultimate results are that the muscular arteries become dilated and tortuous, and the heart dilated and hypertrophied. The greater the hypertrophy of the heart the sooner do degenerative changes and cardiac failure set in.

Alcohol, pure and unadulterated, affects only the vasomotor nerves and the middle coat of the arteries and arterioles, but we constantly see in the writings of teetotal advocates all the degenerative changes in the arteries put down to alcohol. They credit it with endarteritis obliterans, atheroma, and calcareous thickening of the valves; conditions which can only arise under long-continued high blood pressure. If these ignorant and pious frauds would only examine their own arteries they would frequently find more atheroma than exists in drunken sots. Not infrequently I find most marked arteriosclerosis of the whole arterial tree, and involving the kidneys, in lifelong abstainers.

Respiratory System.

We have seen that alcohol can only be of very limited use in pneumonia and tuberculous disease. It is a very common cause of bronchitis, and is always injurious in the treatment of that affection; it and the bronchitis kettle should be relegated to the limbo of the past. In diphtheria it lessens the resistance of the patient, and increases the paralytic effect of

the toxin. It might lessen the pain of pleurisy if no better agent were at hand, but there are not many other conditions of the respiratory system where it would act beneficially.

Diseases of the Alimentary System.

Alcohol is a good antiseptic and is recommended by Mr. Jonathan Hutchinson as a mouth-wash after operations on the tongue. Personally, I try to prevent oral sepsis under all circumstances, but I don't often waste the whisky in this manner. The prophylactic use of antistreptococcus serum, as adopted by Watson Cheyne and others, should in my opinion, find a wider sphere of usefulness than merely in cases of operations on the mouth. I think that a septic pneumonia which not infrequently follows on cerebral haemorrhage might thus be often obviated.

A little wine is often an aid to digestion, and the effervescing wines increase peristaltic action. If used in too great quantities, or in not sufficiently dilute form, it is apt to set up gastric catarrh and thus destroy any good effect which it may have had. Indirectly it lessens the alkalinity of the blood and leads to gouty changes. In this way alone it might be considered a prophylactic against tuberculous affections, as gouty people are not liable to phthisis, or other debilitating diseases; their troubles are circulatory. It is not the alcohol, but its influences and by-products which give rise to gout.

Alcohol is the potent agent in the production of cirrhosis of the liver; it also usually complicates that disease by inducing cardiac asthenia, dilatation of the tricuspid orifice and congestion of the liver. It is often extremely difficult to get these patients to stop their alcohol, but why any medical man should prescribe it in such cases I fail to see, unless on the principle of a piece of hair of the dog that bit you. Chronic granular kidney is frequently set down to alcohol and no doubt its long-continued excretion may have a determining effect, but I look upon this state of the kidneys as part of a general arterio-sclerosis which has no necessary connexion with alcohol, though the gout and defective metabolism which are induced by alcoholic drinks are important causal factors.

Surgical Operations.

Surgeons are well aware that the worst patients on whom they have got to operate, apart from cases of advanced disease of the kidneys, are alcoholic subjects, yet, with a faint glimmer of medicine still in the minds, when anything is going wrong with their patients they fly to alcohol, unfortunately not for themselves but for their innocent victims.

Gentlemen, I think I have said enough to show you my opinion of the limited utility of alcohol in disease: it is for you to consider how far and how freely you will continue its use.

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A THERAPEUTIC NOTE: COLD AFFUSION IN DELIRIUM TREMENS.

By SIR WILLIAM BROADBENT, Bart., K.C.V.O., M.D., F.R.C.P., F.R.S.

Physician in Ordinary to H.M. the King.

A case of delirium tremens to which I was called by Dr. Lenton Heath gave me the opportunity of recommending a mode of treatment which I employed repeatedly many years since, and always with immediate success. I must have described it, but it does not seem to have found its way into the textbooks. The practice is cold affusion carried out in the following way: The patient is stripped naked and lies on a blanket over a waterproof sheet. A copious supply of ice-cold water is provided, and a large bath sponge dripping with the iced water is dashed violently on the face, neck, chest, and body as rapidly as possible. He is then rubbed dry with a rough towel, and the process is repeated a second and third time. The patient is now turned over, and the wet sponge is dashed on the back of the head and down the whole length of the spine two or three times, vigorous friction with a bath towel being employed between the cold water attacks. By the time the patient is dried and made comfortable he will be fast asleep.

Dr. Lenton Heath's patient was a young gentleman of about 30 addicted to alcohol. Under his influence and treatment he had abstained for some time, but had then given way, and after a week of continuous indiscriminate drinking had delirium tremens, or, perhaps more strictly, delirium ebriosum, since, with characteristic hallucinations, he was more violent and had less tremor than is usual in delirium tremens proper. A complication which almost precluded recourse to opiates or sedatives was the presence of a large amount of albumen in the urine.

The treatment was effectually carried out by Dr. Heath, with the anticipated result of sound refreshing sleep and speedy recovery. The albuminuria gradually disappeared.

I have employed cold affusion in this way even when there was extensive pneumonia with the delirium tremens. When the patient wakes up the tremor is gone, the relaxed perspiring skin is warm and dry, and the weak flickering pulse has recovered tone.

In rheumatic and enteric hyperpyrexia the effect of the cold bath is not simply due to the abstraction of heat. The graduated bath has much less effect than the plunge into cold water, and may have no effect at all unless cold affusion is applied to the head. It is not easy in domestic practice to give a cold bath in these cases, and may be impossible. Affusion by means of a bath sponge followed up by a wet sheet may meet the emergency.

RADIUM BROMIDE IN THE TREATMENT OF RODENT ULCER.*

By Sir ALAN REEVE MANBY, M.V.O., M.D.,

Surgeon Apothecary to H.R.H. the Prince of Wales and to the King's Household at Sandringham. President of the North-West Norfolk Division of the British Medical Association.

The following cases of rodent ulcer treated by the application of a glass tube containing 5 mg. of radium bromide may be of interest.

The first case is that of a man, aged 76, who for upwards of ten years has had trouble over the right malar bone. It began as a tiny excrescence, which itched and often bled, and grew slowly until August last. I then found an ulcer showing the usual characters of rodent ulcer situated vertically parallel to the right orbit on the protuberance of the malar bone and measuring two inches by three quarters of an inch. Treatment by tying the radium tube between the ulcer and a layer of gutta-percha tissue was begun on August 15th, and after the first application of thirty minutes a distinct change could be seen. The surface of the ulcer appeared, as it were, to sweat, becoming moist and redder, and the surrounding skin flushed. The applications were renewed at varying intervals through September and October for twenty-six times, but the periods were short, averaging only twenty minutes and irregular. At the end of that time the whole surface was covered with a delicate but natural-looking skin, and, except that the inner anterior margin was raised and nodular, the patient considered himself cured.

During the winter he suffered severely from bronchitic colds, and until a month ago I did not see him. The cicatrix then showed healthy skin, except for two small islands of scab at each extremity, about ⅛ in. in diameter, and a tuberculous (keloid-looking) swelling at the anterior margin. I therefore persuaded him to recommence the treatment, but it was not until fourteen applications of an hour each that sweating began, and the scab dissolved off the upper end. This is now cicatrizing, and the margin is less nodular, but although the disease seems to be checked, it is by no means cured, and I shall be agreeably surprised if the new tissue does not break down again.

The second case has been a complete success; he was a crippled railway porter who attended a gate-house at a level crossing, and had suffered for two years with a somewhat similar ulcer on the left side of the face, oddly enough, in a situation exactly corresponding to that in the previous case. This was almost round, 1 in. in diameter (roughly the size of a halfpenny), and as he demurred to excision, his doctor (Dr. Roddis) sent him to me. Dr. Jackson, my assistant, kindly took charge of the case, and after nineteen applications averaging fifty minutes each, the ulcer was so perfectly healed that, except in a good light, it was and is difficult to localize it. The skin looks so absolutely non-cicatricial and so entirely like that of the face around, that it is hard to believe that he ever suffered from

* Read at a meeting of the East Anglian Branch of the British Medical Association.

the slightest abrasion. The tube of radium was applied in this case without any bandage or gutta-percha tissue, the patient holding it in place during each sitting.

The third case is probably too recent to be satisfactory, and I should not mention it except for the remarkable situation and the fact that a more rapid effect from the radium has been experienced, perhaps because of the accident that the whole mass of radium could be collected at the end of the tube and placed directly over the sore. The patient is a blacksmith, aged 55, from whom I excised a small rodent ulcer on the right side of the nasal septum. It was not an easy thing to do perfectly without causing deformity, but for eighteen months it appeared to be cured. Early this year, however, he had a severe attack of influenza, and began to complain of pain at the end of his nose, where, on the inner side of the nostril, at the angle caused by ala and septum, and amongst the usual little tuft of hair, a tiny but characteristic ulcer appeared; before submitting to excision again, he consented to a trial of the radium tube. This was easily applied by passing it a little distance into the nostril and plugging the remainder of the orifice with gutta-percha tissue. We gave him sittings of fifty minutes' duration daily for a week, at the end of which time the hair had all fallen out and the ulcer was rapidly cicatrizing. At the present time he is quite cured. He is a very nervous man, and complained that the treatment made his head ache, but as he complained of sleeplessness and other symptoms of terror, I am doubtful of the sequence.

The effect on the tissue of the first application of the radium tube usually seems to be *nil:* at the second or third marked hyperaemia is apparent, and later on a peculiar oozing from the previously dry surface; it is then that cicatrization commences, and proceeds most rapidly. I have not time nor, alas! have I intelligence enough to investigate the actual process microscopically or chemically, but macroscopically we get dryness, hyperaemia, sweating, cicatrization, with marked freedom of pain or other discomfort. Whether these results will be as permanent as after the more usual treatment has yet to be proved; but no one seeing the new skin can have any doubt of the greater perfection of cosmetic effect over any other treatment hitherto known.

The therapeutic agents from radium appear to be somewhat more complex than either from Finsen's light or the *x* rays. Radium always maintains itself at a higher (some 3° or 4° F.) temperature than its surroundings, and gives off three differing kinds of rays without any diminution of its original bulk, namely:

The Alpha rays constitute about 99 per cent. of all the emanations of radium, and are caused, consist of, or at least are accompanied by a gas which, if not actually helium, becomes so eventually after keeping some weeks.

The Beta rays are identical with the cathodal rays which are nearest in the spectrum, the ultra-violet or Finsen rays.

The Gamma rays, which appear to be identical with the *x* rays.

This combination of rays, although considerably stopped by glass, is powerfully actinic, will affect a photographic plate through the thickness of twelve pennies, and will, if allowed to rest long on the skin, cause similar intractable ulcers to the *x* rays.

The little glass tube which contains 5 mg. of radium bromide has become a rich violet colour, exactly like that caused by the action of the rays of the sun reflected from the wares displayed inside a silversmith's shop window, and is probably similarly due to the action of helium on the manganese in the glass.

LEUCOCYTHAEMIA TREATED BY THE X RAYS, WITH A RECORD OF FOUR CASES.

By CHARLES H. MELLAND, M.D.Lond., M.R.C.P.,
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A CONSIDERABLE number of cases of leucocythaemia in which treatment by the *x* rays has been applied have now been been recorded in American and Continental writings, but those in this country are still very few, and Ledingham [1] and McKerron add to their account of a single case by giving an extensive and valuable bibliography, all the references of which deal with cases described in foreign literature.

This almost complete absence of cases recorded in our own medical literature, as well as the extreme interest of the changes which the cases that I have had under observation have already undergone, must be my excuse for publishing what is admittedly a preliminary report of 4 cases that have now been under my care for this treatment for from three to ten months, and are still under treatment.

These 4 cases have been patients at the Manchester Royal Infirmary under the care of Professor Dreschfeld, Dr. Wilkinson, and Mr. Thorburn, and have been sent to my department for therapeutic applications of the *x* rays, and I have to thank these three gentlemen for permission to utilize my observations on the cases.

I will begin with a description of the cases in detail, referring especially to the physical condition and characters of the blood before and during treatment, and will then state the conclusions which can be drawn from these, as yet unfinished, observations, and compare the results arrived at with those in the cases previously recorded.

CASE I.

History.

Mrs. B. H., aged 57, was in comparatively good health until about Christmas of 1903. The only illnesses that she remembers for a considerable time before that date were a week spent in bed with a feverish cold in November of that year and the loss of a considerable amount of blood by the bowel on a single occasion in the early part of 1903. She describes a feeling of discomfort in the left side of the abdomen, which she felt some six years ago, likening it to the sensation of fetal movements; but this is probably too long back to have had any true connexion with her present illness, separated as it was by such a long interval free from symptoms. She has had some pain in the left side of the abdomen, however, off and on since the middle of 1903.

In January, 1904, she had an attack of vomiting, and this continued, with intermissions, for nine or ten weeks; on one occasion she vomited blood. She has been losing flesh since then, but has not become paler to any noticeable degree. About the middle of May she first noticed swelling on the left side of the abdomen; the swelling does not appear to have increased in size since she first noticed it.

Condition on Admission.

The right border of the spleen was found to extend just to the middle line, the notch being at the umbilicus; inferiorly, it extended down into the iliac fossa, with a rounded, not easily localized margin. The lower part was distinctly tender. The dimensions of the spleen before treatment are shown on the accompanying chart; its longest diameter measured ten inches.

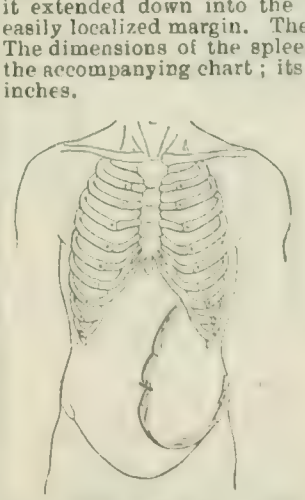


Fig. 1.—Case I, June 30th, 1904; spleen reaches to middle line and down into iliac fossa, 10 in. from costal margin.

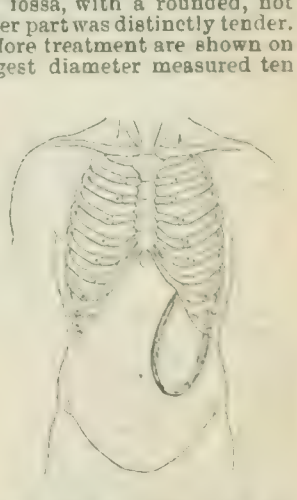


Fig. 2.—Case I, Jan. 20th, 1905; spleen projects 6 in. below costal margin.

The examination of the blood on July 11th showed the characteristic changes of splenomedullary leucocythaemia.

Haemoglobin	...	61 per cent.
Red corpuscles	...	3,360,000 per c.mm.
Leucocytes	...	426,000 per c.mm.

A large proportion of the leucocytes were typical myelocytes, but unfortunately the slide has been mislaid, so that it is impossible to give the exact differential count or to describe the changes in the characters of the red corpuscles, such as the number of nucleated red corpuscles present, or the frequency of degenerate forms. The patient did not appear highly anaemic, though she stated that she was paler than formerly.

What she complained of most was weakness in walking, finding it an effort even to walk across the ward. Pain over the spleen was also a marked feature; it was worse at some times than at others, though seldom completely absent. She stated that her usual weight had been about 13 st., but on coming under treatment she was no more than 10 st. 4 lb.

TREATMENT AND RESULTS.

The *x* ray treatment was commenced on June 30th, 1904. She had applications regularly twice a week to the spleen of an average duration of twenty minutes, the tube being about 4 in. from the abdominal wall. After about six weeks the applications had to be suspended for about three weeks owing to the supervention of dermatitis, but this rapidly got well, and, on the resumption of treatment, gave no further trouble. She had no medicinal treatment, as it was specially wished that the effect of the *x* rays alone, uninfluenced by concurrent arsenical treatment, should be elicited.

The effects of treatment were very slow, but, after the first few weeks, the applications proved steadily beneficial. The first change noticeable in the spleen was increased mobility. Before any decrease in its dimensions could be recognized by the measuring tape it was quite evident that its total volume was diminished, as it could be moved about with much greater freedom than on admission, when it appeared to be tightly wedged into the left side of the abdomen, hard, resistant, and almost immovable. With the shrinkage in size of the spleen there was a marked improvement in the patient's general condition. She felt stronger and better, and was able to walk better. She took food well and improved distinctly in colour and began slowly to put on flesh.

In keeping with these evidences of improvement there was amelioration in the condition of the blood. On August 4th the red corpuscles were 3,460,000 per c.mm., the leucocytes only 160,000, a drop of 86,000 in a little over three weeks.

Treatment was continued, twice a week as before, until January 27th, 1905, when the knees, as being the largest collection of bone-marrow available, were exposed for 12½ minutes and the spleen for another 12½ minutes, making 25 minutes twice a week in all. After five weeks, from March 3rd onwards, so marked did the improvement appear, the applications were given only once a week.

The following list gives in tabular form the changes in the blood over the period of treatment:

Blood Examinations.

Date.	Haemoglobin.	Red Corpuscles per c.mm.	Leucocytes per c.mm.	Differential Count of Leucocytes.							Nucleated Red Corpuscles per c.mm.
				Polymorphonuclear Neutrophiles.	Myelocytes.	Small Lymphocytes.	Large Lymphocytes	Large Mononuclears	Eosinophiles.	Basophiles (Mast Cells)	
1904.	%			%	%	%	%	%	%	%	
July 11	61	3,360,000	226,000								
Aug. 4		3,460,000	160,000								
Aug. 20		4,160,000	74,000	74	24	1.0	1.0	3.0	1.0	1.2	188
Sept. 13			71,000								
Oct. 12			112,000								
Dec. 6			45,000	73.4	15.4	5.2	1.0	0.8	1.2	2.4	104
Dec. 27			24,000								
1905.											
Jan. 10			24,000								
Jan. 20	91	4,850,000	19,400	70.0	16.0	5.6	1.4	1.0	2.6	3.6	Less than 50
Feb. 24		4,850,000	14,000	79.4	9.8	3.8	1.0	2.2	1.6	4.8	50
April 14	95	4,850,000	11,400	77.0	10.8	4.2	1.4	2.4	1.8	2.4	155

The improvement in the character of the blood is thus of a most striking character. The haemoglobin has risen from 61 per cent. to 95 per cent., the red corpuscles from 3,360,000 to 4,850,000 per c.mm., whilst the leucocytes have dropped from 226,000 to 19,400 per c.mm. But not only has the absolute number of red and white corpuscles undergone great improvement, there has also been a marked beneficial change in the characters of the leucocytes, as shown by increase in the polynuclear cells and diminution in the percentage of myelocytes. Even on the last examination, however, there was still a high enough proportion of myelocytes to make it quite evident that the normal function of the bone-marrow is still seriously affected, and the continued presence of a considerable number of nucleated red corpuscles points in the same direction. There was no pronounced difference in the character of the blood, which could be attributed to the exposure of the bone-marrow to the rays, as distinguished from that of the spleen alone.

But it is not only the condition of the blood which has undergone this astonishing change. The spleen has steadily contracted, as shown in the above diagrams, till on January 20th, 1905, it projected only 6 in. from the edge of the ribs, and was felt as a quite small body instead of the enormous mass filling the whole of the left side of the abdomen which was present on the commencement of treatment, and to-day projects no more than 4½ in.

The patient's general condition is entirely in keeping with the changes in the blood and the spleen. She has grown decidedly stouter, is a perfectly healthy colour, and describes herself as feeling better than she has for eighteen months. She is able, as she expresses it, to knock about and do her housework, which she had not been able to do for the period mentioned; and but for very occasional reminders of the pain over the spleen, felt principally now along the costal margin, feels practically free from illness.

CASE II.

History.

Mrs. A. C., a young woman of 23, gave a history of having been quite well up to her first confinement, 13 months before her admission to hospital. She began by feeling weak and ill with heaviness in her left side; for four months before admission, her weakness having increased, she had to give up all work. She also lost much flesh. She had pain at times in the left side of the abdomen, was troubled by constipation, and had occasionally had slight bleeding from the nose.

Condition on Admission.

On November 28th, 1904, she was found to be very anaemic and very much emaciated. The spleen extended to the umbilicus, where the notch was situated, and for about 3 in. below this level down into the left iliac fossa, which it very largely filled. The anterior edge of this lower part extended slightly to the right of the middle line as shown in the diagram. The posterior border was not easily defined. The patient appeared very ill and weak, and from the very first had considerable pyrexia of a hectic type.

The examination of the blood on December 3rd, 1904, showed the following condition:

Haemoglobin	38 per cent.
Red corpuscles	2,085,000 per c.mm.
Leucocytes	141,000 ,,
Differential count of 500 leucocytes:	
Polymorphonuclear neutrophiles ...	47.2 per cent.
Myelocytes	29.8 ,,
Lymphocytes, small	4.0 ,,
,, large	13.0 ,,
,, large mononuclears ...	0.2 ,,
Eosinophiles	2.4 ,,
Basophiles (mast cells)	1.4 ,,
Nucleated red corpuscles equivalent to 564 in c.mm.	

Treatment and Results.

Treatment by *x* rays was commenced at once, the applications being, as in Case I, given twice a week to the spleen—some weeks three times—for a period of twelve and a half minutes on an average. She appeared to improve considerably under their influence. The spleen got smaller, and on December 17th had so far diminished that it did not reach to within 1 in. of the umbilicus, and its longest diameter measured 8⅛ in. She also felt better in herself, was a better colour, stronger, and able to take her food better. Her temperature was still of the same hectic character, but in spite of this the improvement was maintained, and on January 7th, 1905, when the treatment had been in action for little over a month the following remarkable condition of the blood was found:

Haemoglobin	68 per cent.
Red corpuscles	4,640,000 per c.mm.
Leucocytes	6,000 ,,
Differential count of 500 leucocytes:	
Polymorphonuclear neutrophiles ...	45.3 per cent.
Myelocytes	15 ,,
Lymphocytes, small	1.4 ,,
,, large	6 ,,
,, large mononuclears ...	1.2 ,,
Eosinophiles	2.6 ,,
Basophiles (mast cells)	1.4 ,,
Nucleated red corpuscles equivalent to 60 in c.mm.	

The change in the character of the blood is very striking. There was distinct increase of the haemoglobin and of the red corpuscles, but the fact of outstanding interest was the drop in the leucocytes from 111,000 per c.mm. down to 6,000. The spleen had meanwhile undergone also great diminution in size, and on January 23rd, as shown in the diagram, it was quite small, projecting only 4½ in. below the costal margin.

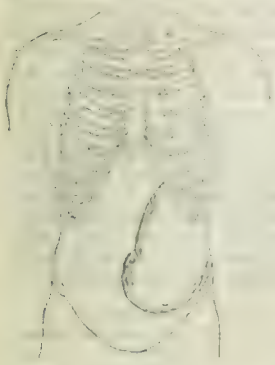


Fig. 3.—Case II. November 28th, 1904: spleen reaches 3 in. below the level of the umbilicus.

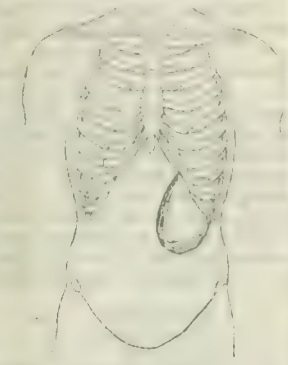


Fig. 4.—Case II. January 23rd, 1905: spleen projects only 4½ in. below the costal margin.

Shortly before this date she had appeared better also in her general condition, and described herself as feeling stronger, and she was also taking food well. Still she did not improve as much as the changes in the blood and the spleen would have led one to expect and her temperature began to show a still more markedly hectic character than on admission.

On January 21st she had a severe attack of pain, due to pleurisy over the base of the right lung; treatment was stopped and was not resumed before she left hospital on February 28th. In addition to the pleurisy there was rapid accumulation of fluid in the abdomen and on January 28th she was tapped, 100 oz. of turbid fluid being drawn off. The cause of the more severe symptoms was doubtless the supervention of tuberculous infection on the leucocythaemic condition. The hectic type of the temperature, associated with the pleurisy and peritonitis at once suggested this and it was confirmed by examination of the ascitic fluid, which proved infective to guinea-pigs. The presence of this tuberculous infection entirely vitiates any conclusion in this case with regard to the character of the blood, since it is well recognized that there is almost always a marked drop in the leucocytes, on the supervention of many forms of acute or chronic infection in cases of leucocythaemia, as also decided contraction in the size of the spleen.

That the rays had some share in the reduction seems probable, since the examination of the blood on February 1st, after the treatment had been stopped, showed a considerable rise in the number of leucocytes. At this date the blood examination gave:

Haemoglobin	50 per cent.
Red corpuscles	3,200,000 per c.mm.
Leucocytes	64,000 ,, ,,

At a later stage, however (February 15th), the number had again diminished, and an examination revealed no increase above the normal number of leucocytes.

The patient got steadily worse and died at home a day or two after being taken out of hospital. No autopsy was obtainable.

CASE III.

History.

J. T. F., aged 43, commenced with pain in the left side, along the costal margin, in November, 1903; a few weeks later the enlargement of the spleen was detected. He suffered from a haemorrhagic rash on the legs and chest about that date, and later on had what appeared to be an apoplectic attack; he was unconscious for four hours, and partial paralysis of the right arm remained for about three weeks. He had always previously been exceptionally healthy, with powerful muscular development, and though below average height had weighed 12 st. 8 lb.

Condition on Admission.

He came as a patient to the Manchester Royal Infirmary under Dr. Wilkinson on August 18th, 1904. He presented the characters of a typical case of splenomedullary leucocythaemia. In appearance, he showed very slight, if any, signs of anaemia, though he stated that he was not such a good colour as he had been. The spleen was much enlarged, reaching downwards and forwards 7½ in. from the costal margin, whilst a horizontal measurement gave a breadth of 8¼ in. It was slightly tender on pressure, and he occasionally suffered from severe pain over it.

The blood examination on this date revealed the following condition:

Red corpuscles	4,800,000 per c.mm.
Leucocytes	394,000 ,,
The differential count of 500 leucocytes gives:	
Polymorphonuclear neutrophiles ...	39.8 per cent.
Myelocytes	38.0 ,,
Lymphocytes, small	3.8 ,,
,, large	7.8 ,,
,, large mononuclears ...	0.0 ,,
Eosinophiles	7.4 ,,
Basophiles (mast cells)	3.2 ,,

Nucleated red corpuscles were present in numbers equivalent to 6,304 in the c.mm., of which a small proportion were megaloblasts.

Treatment and Results.

The patient was kept on arsenical treatment, only small doses—up to ♏v of Fowler's solution—being reached; but as he was getting weaker, and had to give up his occupation, that of a clerk, the *x*-ray treatment was begun on October 25th, 1904. The examination of the blood on that date showed that the disease had progressed in the interval. There were:

Red corpuscles	3,570,000 per c.mm.
Leucocytes	548,000 ,,

a very great increase in the number of leucocytes, with, at the same time, considerable decrease in the number of red corpuscles. The differential count of 500 leucocytes gave:

Polymorphonuclear neutrophiles ...	36.6 per cent.
Myelocytes	38.0 ,,
Lymphocytes, small	1.4 ,,
,, large	1.4 ,,
,, large mononuclears ...	10.8 ,,
Eosinophiles	7.0 ,,
Basophiles	3.8 ,,

The majority of the cells which were classed under the group of large mononuclears had the characters of what have been described as non-granular myelocytes—that is, imperfectly-formed myelocytes—representing a progressive deterioration in the character of the white corpuscles. There were 7,672 nucleated red corpuscles per c.mm.

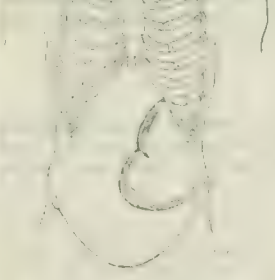


Fig. 5.—Case III. August 18th, 1904. Spleen extends 7½ in. below costal margin; greatest breadth, 8½ in.

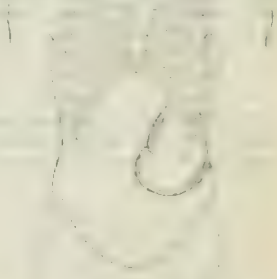


Fig. 6.—Case III. April 30th, 1905. Spleen 6½ in. below costal margin; greatest breadth, 7½ in.

The applications were given regularly twice a week to the spleen from October 25th, 1904, to January 22nd, 1905, each exposure being, for the first month, about 12½ minutes on an average, and after that, till January 22nd, 20 minutes' duration. From January 26th up to the present date the applications have been 12½ minutes to the spleen and the same length to the knees. For the past three months he has taken small doses of liq. arsenicalis, but only ♏iv, three times a day at first, and for the last few weeks not more than ♏j doses, as he was unable to take the full dose prescribed on account of gastric irritation produced by the drug.

The effect of treatment in this case, though not so marked as in Case I, has been very satisfactory. His general condition has improved more than the size of the spleen or the characters of the blood. Instead of steadily going downhill,

as had been the prospect held up before him, he is feeling better now than he has done for eighteen months. He is able to keep regularly at his work, takes his food well, sleeps well, and gets about without discomfort, and with only very occasional pain over the spleen. His only complaint is that he is unable to hurry or walk uphill at a moderate pace. His colour is excellent, and he is putting on flesh. He is perfectly satisfied with the progress he has made, so that we may conclude that the subjective symptoms have changed for the better.

The spleen is but little smaller than on the date when he commenced with the *x*-ray treatment. It still occupies, as the diagram shows, a considerable part of the left side of the abdomen. Its lower edge is just below the level of the umbilicus, and it projects beyond the costal margin to the extent of 6¾ in. It still feels very firm and immovable, and does not present the features which the spleen in Cases I and II did—that before they were noticeably diminished in their measurements they showed decided increase of mobility.

The characters of the blood are shown in the subjoined table.

Blood Examination.

Date.	Haemoglobin.	Red Corpuscles per c.mm.	Leucocytes per c.mm.	Differential Count of Leucocytes.							Nucleated Red Corpuscles per c.mm.
				Polymorphonuclear Neutrophiles.	Myelocytes.	Small Lymphocytes.	Large Lymphocytes.	Large Mononuclears.	Eosinophiles.	Basophiles (Mast Cells).	
1904.	%			%	%	%	%	%	%	%	
Aug. 18...	—	4,800,000	394,000	39.8	38.0	3.8	7.8	0.0	7.4	3.2	6,304
Oct. 25 ...	—	3,570,000	548,000	37.6	38.0	1.4	1.4	10.8	7.0	3.8	7,672
Nov. 25 ...	70	3,420,000	636,000								
1905.											
Jan. 8 ..	—	—	214,000								
Jan. 26 ..	90	5,400,000	288,000	42.4	39.4	1.4	7.4	2.4	5.4	1.6	1,152
Mar. 9 ..	—	4,720,000	251,000								
Ap. 9 ..	84	5,000,000	193,000	50.8	29.0	2.8	3.6	7.8	4.0	2.0	396

It is thus seen that there has been considerable improvement, though much less marked than in Case I, and that this has become more definite as the treatment has been persevered with, the last of these observations, on April 9th, giving the lowest leucocyte count since he came under treatment, with also a considerable drop in the percentage of myelocytes and in the number of nucleated red corpuscles—both criteria of great importance in determining improvement, or the reverse, in the condition of the blood.

CASE IV.

History.

Mrs. R., aged 43, first noticed abdominal swelling about June, 1904, the result evidently of a left-sided tumour. She came back from Capetown, where she had lived for twelve months, in May, 1903. She had pretty good health whilst in South Africa, with no attacks of malaria. There had been no pain over the enlarged organ at any time. Its size had caused pain down the thighs, such as she had had when pregnant, and slight swelling of the feet after she had been on them all day.

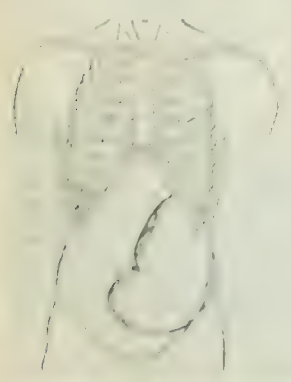


Fig. 7.—Case IV, January 31st, 1905: Greatest length of spleen measured from costal margin, 10⅝ in.; greatest breadth, 11¾ in.; abdominal girth, 40½ in. Spleen extends 3 in. to right of umbilicus.

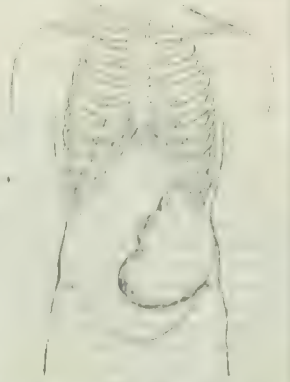


Fig. 8.—Case IV, May 1st, 1905: Greatest length of spleen from costal margin, 10⅝ in.; greatest breadth, 11 in.; abdominal girth, 38½ in. Spleen extends 2½ in. to right of umbilicus.

Condition on Admission.

She had grown paler, but still was not markedly anaemic; nor is she particularly short of breath, though she got tired easily on slight exertion. The abdomen has increased enormously in size, and has measured for some time past 42 in. in circumference, though the measurement on commencing treatment was only 40½ in. The spleen was very greatly enlarged. It filled up practically the whole left side of the abdomen, extending also across the middle line, 3 in. to the right of the umbilicus. It projected 10½ in. beyond the costal margin, and was 11¾ in. in its greatest breadth. It was firm, hard, and almost immovable. It was not tender on pressure.

The blood, at the first examination on January 31st, 1905, presented the following features, in every way characteristic of a well-marked case of splenomedullary leucocythaemia:

Haemoglobin	...	70 per cent.
Red corpuscles	...	3,460,000 per c.mm.
Leucocytes	...	542,000 ,,
Differential count of 500 leucocytes:		
Polymorphonuclear neutrophiles	...	44.0 per cent.
Myelocytes	...	34.8 ,,
Lymphocytes, small ...	...	2.4 ,,
,, large ...	...	2.8 ,,
,, large mononuclears	...	9.4 ,,
Eosinophiles	...	3.6 ,,
Basophiles	...	3.0 ,,
Nucleated red corpuscles, 1,084 in c.mm.		

Treatment and Result.

The *x*-ray treatment was commenced on February 10th, 1905, and, from the first, applications were given both to the spleen and to the knees, of twelve and a half minutes' duration to each, and were continued so throughout, twice weekly.

Within a few weeks alteration in the spleen was noticeable. It became soft and mobile, and although the actual measurements showed but little diminution, it was quite evident that it was much less bulky. Her general condition remained about unchanged. She was put on arsenic, but even small doses appeared to upset her stomach and bowels, and she lost a considerable amount of weight. Her abdominal measurement also diminished, partly the result of shrinkage of the bulk of the spleen, but partly also from loss of fat.

The changes in the blood somewhat lagged behind the changes in the bulk of the spleen. The list below gives the condition present at different periods:

Blood Examination.

Date.	Haemoglobin.	Red Corpuscles per c.mm.	Leucocytes per c.mm.	Differential Count of Leucocytes.							Nucleated Red Corpuscles per c.mm.
				Polymorphonuclear Neutrophiles.	Myelocytes.	Small Lymphocytes.	Large Lymphocytes.	Large Mononuclears	Eosinophiles.	Basophiles (Mast Cells).	
1905.	%			%	%	%	%	%	%	%	
Jan. 31	70	3,460,000	542,000	44.0	34.8	2.4	2.8	9.4	3.6	3.0	1,084
Feb. 27	—	3,570,000	368,000	41.8	27.2	1.0	1.2	3.6	2.2	3.0	2,208
Mar. 20	80	4,140,000	409,000	53.6	35.8	1.6	1.4	3.2	1.4	3.4	Less than 818
April 18	100	4,660,000	190,000	69.0	23.4	1.8	1.0	2.0	0.8	2.0	Less than 380

Her present condition, after three months of active treatment, is very satisfactory. The above diagrams show the size of the spleen before treatment was commenced, and on May 1st. The blood, as recorded above, has shown marked improvement, though still very far from approaching the normal. Both the haemoglobin and the red corpuscles have risen most satisfactorily to practically normal figures, the proportions of the abnormal cells specially characteristic of the disease, the myelocytes, the basophiles, the eosinophiles,

and the large mononuclears and large lymphocytes, have all markedly diminished. The number of nucleated red corpuscles is also diminished.

Her general condition is greatly improved. She is feeling well and comfortable, and her appetite is better than she can ever recollect it. Her abdominal girth is now only 38½ in., and the discomfort of the large protuberant spleen is to a great degree ameliorated. She has put on weight, and appears more cheerful than for months past, and is taking steps to resume her professional duties as a music teacher.

Conclusions.

In drawing general conclusions from these four cases we must exclude, I think, Case II, in which the conditions of the problem were complicated by the fact of the tuberculous infection, which, as is well recognized, has the effect of producing marked changes in the clinical aspect of cases of leucocythaemia, particularly noticeable in the shrinkage in the size of the spleen and diminution of leucocytes, so that the improvement in these two respects in Case II cannot be wholly attributed to the effects of the *x* rays.

In the other three cases there has been marked improvement, which we cannot but attribute to the effect of the rays, little as we can at the moment explain the rationale of their therapeutic effects. In each case the spleen has diminished in size, and there has been improvement in the character of the blood, the degrees of improvement differing in the three cases. It is noteworthy that the case in which the spleen has diminished most in size, and the characters of the blood have been most favourably influenced, has been kept absolutely free from arsenical treatment, so that it cannot be urged that the effects produced are the result of concurrent therapeutic measures.

The improvement in the condition of the blood has run on parallel lines in each case. The percentage of haemoglobin and the number of red corpuscles have gone up as the result of treatment, and the leucocytes have fallen in number. There has been diminution in the percentage of those varieties of leucocytes increase in which especially characterizes the disease—namely, the myelocytes, basophiles, large lymphocytes, and eosinophiles, with at the same time a rise in the percentage of the polymorphonuclear neutrophiles, and further improvement in the type of the blood has been shown by diminution in the number of nucleated red corpuscles.

But even more marked and of far greater importance than changes in the blood or the spleen has been the improvement in the patients' general condition of health, as indicated by improved colour, increase of weight, diminution or disappearance of pain, improvement of appetite, and general subjective sense of well-being and the ability to resume their daily occupations.

But though we may accept as a fact this temporary improvement, it is too soon to assert that permanent benefit has been conferred. Most of the cases recorded, so great has been their interest, have been rushed into print whilst the treatment has been incomplete, or before sufficient time has been allowed to elapse to judge of the likelihood of recurrence. Senn's case, which was apparently completely cured, came back under treatment about a year later with what is described as a slight relapse. But what can be safely asserted is that as the result of this method of treatment great amelioration in the patient's condition can in many cases be secured, and even if eventual cure be not obtained, many months, or perhaps even years, of comfortable existence may be given.

It is hardly necessary to say much about previous accounts of the use of the *x* rays for the treatment of this disease since Ledingham[1] and McKerron, in reporting a case which had been under their care, and which had improved under treatment, supply a very full bibliography on the subject. In their case, a boy of 11 years, the leucocytes came down from 220 000 per c.mm. to 23 000 as the result of six weeks' treatment, though the qualitative changes in the leucocytes were still those characteristic of splenomedullary leucocythaemia. There was, however, as in the above-recorded cases, a steady improvement in the ratio of the polynuclears to the myelocytes. In some of the cases to which Ledingham and McKerron refer all the abnormal cells appear to have vanished from the blood, notably in Senn's case[2] and in Bryant's[3] and Crane's first case, in which at the end of treatment the varieties of leucocytes were said to be in the proportions of those in normal blood. But in the majority of the cases in which complete detailed blood examinations have been recorded—and these are the minority—there has only been the fall of leucocytes without the disappearance of the abnormal cells from the blood, although in each case, as in those which I record above, there has been distinct diminution in the myelocyte percentage, and a corresponding rise in the polynuclear percentage, that is to say the essentially leukaemic character of the blood has shown a tendency to disappear, but not entirely. And associated with this amelioration in the character of the blood there has been more or less diminution in the spleen and improvement in the patients' general condition. Only in exceptional cases did the condition remain unimproved or the patient get worse and die in spite of treatment.

Brown (E. J.)[4] records a case in which, as in Senn's case, the blood lost completely its leucocythaemic character, the number and varieties of leucocytes becoming practically those of normal blood, with return of the red corpuscles to their normal number and disappearance of nucleated forms. Aubertin[5] and Beaujard describe, with full haematological particulars, a case of splenomedullary leucocythaemia which, on the other hand, whilst improving under treatment, still retained the characters of leucocytes typical of the actively-developed disease.

References.

[1] *Lancet*, 1905, i, p. 71. [2] *Medical Record*, August 22nd, 1903. [3] *Medical Record*, April 9th, 1904. [4] *Medicine*, 1904, vol. x, p. 521. [5] *La Presse Médical*, August 20th, 1904.

THE TREATMENT OF RINGWORM OF THE SCALP BY THE X RAYS.

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The *x*-ray treatment of ringworm of the scalp may now be said to be established as a valuable addition to our methods of dealing with this most intractable affection. Ever since the therapeutic possibilities of the *x* rays were recognized, occasional cases have been thus treated, but until comparatively recently in a more or less half-hearted manner, partly owing to imperfect technique and partly as the result of a certain degree of timidity on the part of the operator, in case the treatment should be followed by dermatitis and the production of a cicatricial alopecia.

We are indebted to Sabouraud and Noiré of Paris for the introduction of a technique which has given brilliant results in their hands, and by which these dangers have been obviated. At the Ringworm Schools connected with the Hôpital St. Louis of Paris this treatment has been almost exclusively adopted during the last year, and Sabouraud has reported a large number of cases successfully treated by the rays, with no untoward after-effects since the introduction of his improved technique.

During the last six months we have been employing this treatment, both at Charing Cross Hospital and at the Victoria Hospital for Children, where Mr. Cassels Smith, house-surgeon, kindly gave the exposures, and about 60 cases have been so treated, with encouraging results, but not with the absolute success which we anticipate when the technique has been still further improved. They were all cases of small-spored ringworm of the scalp in children, and by means of the *x* rays the time occupied in the treatment of the case is being considerably reduced from that taken by the previous methods we employed—namely, depilation by the inflammatory reaction set up by an irritant ointment or pigment containing carbolic acid, tar, or croton oil. But not only has the time under treatment been lessened, but the discomfort, and even pain, associated with the inflammatory treatment has been obviated. In none of these cases has a serious dermatitis resulted from the rays. As this is a somewhat new form of treatment, a few notes on the technique and our experience of it may prove of interest.

Technique.

A brief description of the apparatus in use and the technique we employ at the hospital will serve to indicate the mode of procedure. As far as possible we have followed the method of Sabouraud and Noiré, but differences in our *x*-ray apparatus from that employed by Sabouraud necessitated certain variations in the detail of procedure. For a description of Sabouraud's technique the reader is referred to an article by him in *La Presse Méd.*, December 28th, 1904, and *Ann. de Derm. et de Syph.*, July, 1904.

Apparatus.

The electrical current for the therapeutic *x*-ray apparatus is obtained from a main continuous current of 100 volts. The interrupter employed is a "dipper" mercury break, and we have a 10-inch spark coil. The *x*-ray tubes in use are regulating tubes of the Müller pattern. A d'Arsonval milliampère meter is inserted in the secondary circuit between the coil and the tube. The tube is fixed on a metal stand, and is protected by a lead-glass shield with an opening, to the rim of which lead-glass cylinders of different diameters are fitted.

The Measuration of the Dosage and the Time of Exposure.

This is a matter of the utmost importance both with regard to the success of the treatment and the safety of the patient. With our apparatus we have not been able to measure the dosage to our complete satisfaction yet, though we have succeeded in estimating that requisite to produce a defluvium of the hair after a single exposure, without causing more than a transient erythema. The quantity of the rays are roughly determined by means of the milliampère metre in the secondary circuit, the current in which is kept constantly at half a milliampère by an operator, who increases or diminishes the resistance in the primary circuit and the break as may be required by differences in the tension of the tube. The tension on the tube has also been roughly estimated by interposing a constant sparking gap of about 4 in., and whenever this is sparked across the tube is softened slightly by the regulator.



Fig. 1.—M. T. Photograph taken on January 30th, after the defluvium of the hair.



Fig. 2.—M. T. Photograph taken on April 10th, after the hair had regrown.

The length of time of the exposure and dosage is ascertained by means of Sabouraud and Noiré's radiometer X., and we are largely indebted to that instrument for the constancy of our results. It consists of pastilles of platino-barium cyanide like greenish-yellow wafers. On exposure to the *x* rays the pastille gradually assumes a yellowish-brown tint. It has been estimated that the dosage of *x* rays and the time taken in producing a certain standard tint of fawn in the pastille, when placed at a distance of 7.5 cm. from the anode, is sufficient to cause a depilation of an area of the scalp exposed at a distance of 15 cm. from the anode. The time varied slightly from day to day, according to the state of the atmosphere (other things being equal), for, when the air is dry, a shorter exposure is necessary than when it is humid. Sabouraud exposes a pastille each morning to give him the exposure-time for that day, and also another during each exposure with our apparatus, which differs chiefly from that in use at the Ecole Lailler in that there they employ large static machines to generate their electric current. We have estimated that, with a maximum spark gap of 4 in., a current of ½ milliampère in the secondary circuit and a dry day, the average exposure-time (that is, the time taken to produce the fawn tint on the radiometer X) is about 15 minutes.

The Principle of the Treatment.

The value of the *x* rays in the treatment of ringworm of the scalp depends solely on their power of causing a depilation of the area exposed to them, and, if their dosage be not excessive, of doing so without destroying the hair-papillae, and so preventing regrowth of the hair. The *x* rays do not kill the ringworm fungus, nor do they seem to impair its growth in doses sufficient to cause the hair to fall out. In several instances we have grown cultures of the fungus on maltose-agar from hairs which have fallen out or been loosened by the rays about a fortnight after an exposure, and in one case after the hairs had been exposed several times to the rays. This experience accords with that of other observers, and is an important factor in the management of the case, for not only is the ringworm apt to spread if unchecked after the exposure to the rays, but also, when the defluvium commences, the diseased hairs as they fall out are a source of danger, and may infect new areas in the scalp.

Procedure.

The child's scalp is first cropped short—not shaved, but clipped close by scissors or by patent clippers such as barbers use for clipping the hair of the neck. If the scalp be very scurfy or if any impetiginous crusts are present it is first treated with a mild antiseptic ointment such as sulph. precip. gr. x, acid. salicyl. gr. v. vaseline ad ℥j, which is rubbed in daily after washing. The scalp is then carefully examined and the areas of ringworm marked out about a quarter of an inch beyond their margins by a blue pencil. The scalp is now ready to be exposed to the rays. The patient is placed either on a chair with a head rest or on a couch. A lead-glass cylinder of suitable diameter to the area to be exposed is fitted to the protecting shield. The length of the cylinder is such that with the scalp apposed to the end of it the anode of the tube shall be 6 inches away. The various diseased areas are then exposed seriatim. If the ringworm be widely disseminated over the scalp it may be advisable to expose the whole of the scalp. This we did at first by exposing the scalp in three sections—namely, posterior and two lateral, and as each section was being exposed the remainder of the scalp was protected by lead sheeting, the lead-glass shield and cylinder being dispensed with, and the operator standing behind a lead screen. This procedure required to be done carefully to avoid either leaving the border between the two areas unexposed, or allowing the areas to overlap, and so having a portion of the scalp exposed twice, and running the risk of a burn. The exposures were given with the diseased area at a distance of 6 inches from the anode of the tube, the length of the exposure having been previously determined by the radiometer. This method of causing a complete defluvium did not prove satisfactory, as partially exposed areas were apt to be left. We are now adopting the more tedious but more reliable method of Sabouraud, namely, using the protecting shield and cylinders for every exposure. The procedure is as follows: The largest cylinder, which has a diameter of 9 cm., is fitted to the shield, and the scalp apposed to it. A brown band is then painted round outside of the cylinder with tincture of iodine to mark the exposed area, and the exposure is given; then by moving the cylinder another circular area is similarly treated, and so on till the whole of the scalp has been exposed with the exception of the irregular figures painted with iodine between the circular patches. The patches are then covered with exactly-fitting circular discs of lead foil, which are held in position by elastic bands, and the irregular unexposed areas subjected to the rays. By this procedure about twelve exposures are necessary to include the whole of the scalp. The result, however, is more satisfactory than by attempting to expose larger areas than that which can be done by the 9 cm. cylinder, for only the central portion of an area larger than that is properly exposed, while the periphery is done insufficiently.



Fig. 3.—G. S. Photograph taken on January 26th, nine days after the exposure. Hair clipped short.



Fig. 4.—G. S. Photograph taken on March 3rd. Defluvium complete in exposed areas.

For at least three weeks after the exposures the scalp must be thoroughly treated with mild parasiticides to check the spreading of the disease. Every evening one or other of the following ointments is rubbed in all over the scalp:—Oleate of copper, gr. xx to the ounce; hydrarg.-ammonia, gr. xii, and salicylic acid, gr. x to the ounce; or Sabouraud's ointment of oil of cade 2 parts, to lanoline 5 parts. Every morning the scalp is washed with soft soap and warm water, and after drying, an iodine spirit liniment consisting of fresh tincture of iodine 1 part, and 60 per cent. alcohol 9 parts (Sabouraud). The patient is instructed to wear a small linen cap constantly, with a paper lining which is renewed every time the scalp is washed or ointment is rubbed in.

About the fourteenth day after the exposure the hair begins to fall out, and the defluvium is complete in about a week. This may take place without any perceptible inflammatory reaction, but usually a slight transient erythema supervenes about a week after the exposure and dies down with the defluvium. In only one of our cases did a marked erythema occur, which lasted for three weeks. The patient was a timid child who could not be persuaded to lie still, and in moving her head about had shifted the protecting lead sheeting on the scalp, and permitted a small triangular area to be subjected to two consecutive exposures of sixteen minutes each. Fortunately, this erythema has now subsided, and the hairs have begun to grow over the patch.

If the hairs have not fallen out by the twenty-first day a second exposure is given, but we rarely find this to be necessary since we adopted the dosage prescribed by Sabouraud. It occasionally does happen, however, that, owing perhaps to an idiosyncrasy on the part of the patient and a usually great power of resisting the action of the rays, a second exposure has to be given.

After the defluvium has taken place, the scalp is carefully examined to see that no stumps are left either in the parts of it which have not been exposed, or where the hairs have fallen out. We find that the healthy hairs are caused to fall out more readily by the rays than the diseased hairs, and a few stumps may be left as small specks over the otherwise bald areas. These short stumps usually come out later. If any stumps have been detected in the unexposed hair at the border of the patch, it is best to needle each one with croton oil by Aldersmith's method, but this procedure should not be necessary if the diseased areas be carefully mapped out before exposure, and reinfection from the falling-out stumps be prevented.

New hairs begin to appear about six weeks after the hair is shed, and the regrowth is complete in about five months. The slowness of the regrowth is an advantage rather than otherwise, for it allows time for all the diseased hairs to be eradicated before new hairs grow in.

General Remarks.

Some experience in the treatment of ringworm by the commonly-employed methods has led one to share the belief of a number of other observers that if ringworm of the scalp is to be cured it is necessary to do more than rub in a parasiticide ointment, for however strong the parasiticide may be, it cannot penetrate sufficiently deeply into the follicle to destroy the fungus in the root of the hair. Depilation has to be resorted to, after setting up an inflammatory reaction by various irritants, such as croton oil, tar, or carbolic acid. By this means, judiciously employed, it is possible to cure a severe case in about a year or eighteen months, so that an expert would be unable to find a ringworm stump. In the *x* rays we have an ideal and painless depilating agent, and by means of them, combined with the local parasiticide treatment described above, an average case can be cured in about a third of that time.

It is a treatment, however, which is by no means easy; first there are the difficulties of the technique, second there is the all-important local treatment with the parasiticide remedies, and, third, there is the care which is requisite to avoid mishaps. Without a thorough knowledge of the disease and the ability to recognize diseased stumps this method is liable to be just as disappointing as any of the others, beside submitting the patient to a certain amount of risk.

The immediate dangers of the treatment I have already referred to, and with care they can, as a rule, be avoided, but with regard to the ultimate dangers, if there be any, sufficient time has not yet elapsed to disclose them. It has been suggested that the exposure of the scalp to the rays might have some harmful effect on the underlying brain. Certainly in an infant or a child under 3 years of age, where the scalp is thin and the fontanelles have not closed, one would be timid about submitting the scalp to the *x* rays, but with regard to older children no misfortune of that nature has, as far as we are aware, been recorded. Another possibility has been put forward—namely, that the new hair which grows in afterwards may not be so healthy as the hair which has been shed, and might at some remote period fall out and result in alopecia. This is simply a conjecture, however, which though possible does not seem probable, and has as yet, so far as my experience goes, no evidence to support it.

GENERAL PERITONITIS DUE TO PERFORATIVE APPENDICITIS.

ILLUSTRATED BY CASES TREATED BY ABDOMINAL SECTION, WITH REMARKS ON THE QUESTION OF EARLY OPERATION.

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THE following cases of general peritonitis, which came under my care within ten days of each other, present points of interest in diagnosis and treatment that make the reporting of them almost a matter of duty.

They demonstrate plainly not only the importance of the early recognition and treatment of general peritonitis, but that if it be discovered and operated on within twenty-four hours of the onset, before the blood has become loaded with toxins, the outlook is far from hopeless.

Both cases also demonstrate how impossible it may be at times to diagnose appendicitis if the ordinary symptoms are relied on, for in one case the whole of the pain was at first on the left side of the abdomen and later became general, while in the other it was generalized from the onset. In neither case did the usual tender spot afford an indication, and the general distension of the abdomen and universal rigidity of the abdominal muscles simply enabled a diagnosis of general peritonitis to be made, though the history of a previous attack of pain in the caecal region in one case suggested the possibility of the peritonitis being due to perforative appendicitis. Case 1 was seen with Dr. William Blake, of West Wickham, who kindly furnished the data for the notes.

Case 1.

Mrs. H., aged 70, an otherwise healthy patient, was seen in October, 1904, for some pain in the right lower abdomen, which was followed by diarrhoea for several days. She was seen in consultation with an eminent physician, who thought the pain hepatic, though Dr. Blake suspected the appendix to be at fault.

In December, she resumed bicycling and continued to take exercise freely up to Wednesday, January 4th, 1905, when she attempted to lift her machine over a fence.

On Thursday, the 5th, she had some abdominal pain, for which Dr. Blake saw her at noon; the pain was not definitely over the caecum, but rather at the umbilicus and above and below it. At 5 p.m. a ½ gr. morphine injection was given, but at midnight the pain returned, and during the night she vomited three times. At 8 a.m. the pain was so severe that the morphine had to be repeated. There was then noticed some rigidity of the abdominal muscles, which was rather more marked on the right side.

When I saw her with Dr. Blake at 3.30 p.m. the patient looked pinched and very ill. The vomiting was continuing: the pulse was 110, and the temperature 100° F. The abdomen was distended. It was tender all over, and the muscles were rigid, especially in the caecal region. On flicking the abdomen with the finger a fluid thrill could be felt in both flanks and across the hypogastric region. No flatus had passed by rectum and the bowels had not been moved for two days, thus raising the question of acute intestinal obstruction.

At 4.15 p.m. the abdomen was opened by a vertical incision through the right rectus sheath, when a quantity of offensive thin sero-pus escaped, the peritoneum was dusky red and both the large and small intestine were distended and of the same colour; there was no lymph barrier, and on passing the fingers to the lower end of the caecum a gangrenous and perforated appendix was at once felt and brought to the surface. The mesentery of the appendix was black and had to be ligatured beyond the gangrenous margin, which was cut away.

The root of the appendix was gripped by pressure forceps, crushed and ligatured close to the caecum, and then amputated, the stump being buried by a purse-string suture of catgut. A portion of gangrenous omentum was removed and the abdomen was thoroughly flushed with hot normal saline solution poured from a pitcher into a glass funnel held about 1 ft. above the patient, the rubber tube connected with the funnel being passed first into the pelvis and then into the right and left lumbar pouches. The lavage was discontinued when the fluid returned absolutely clear. A rubber tube with a gauze strip in it was inserted into Douglas's pouch and brought out of the wound, which was then closed layer by layer with iodized catgut. Dr. Blake wrote to say that he removed the pelvic tube on the second day and inserted a

smaller one, which he removed on the fifth day. The stitches were taken out on the fourteenth day, and she was quite well with a soundly-healed wound within a month. In March she was in perfect health.

CASE II.

The case was seen with Dr. H. Huxley, who kindly furnished me with the data for the following notes:

Master H., aged 15, a thin, active, and intelligent schoolboy, was quite well and playing golf on Thursday, January 12th. On Friday he did not feel well and could not take his breakfast. In the evening, when Dr. Huxley saw him, he complained of a little pain in the left lower abdomen, but there was no tenderness on pressure anywhere and the abdomen was quite flat. On Saturday morning the pain on the left side of the abdomen still continued, but there were no further symptoms, though he looked ill and had a "typhoid" expression. His bowels were moved during the day. The temperature in the evening was only 99° F. and the pulse corresponded. During the night he had more pain. On Sunday morning, when I was asked to see him, the abdomen was greatly distended and did not move with respiration. He vomited once or twice and could not pass flatus. The pain was altogether on the left side, though there was rather more rigidity on the right. A fluid thrill could be elicited in both flanks and across the lower abdomen.

On opening the abdomen through the right rectus sheath on the afternoon of Sunday, January 15th, within twenty hours of the onset of acute symptoms, thin sero-pus escaped and a gangrenous perforated appendix was at once discovered hanging over the brim of the pelvis. The inflammation was not limited by barrier lymph. The pelvis and both flanks were filled with septic fluid which bathed the small intestine and the viscera generally.

The abdomen was flushed with hot normal saline solution until the fluid returned clear, and, as the small intestines were immensely distended and presented here and there dark patches of impending gangrene, a loop of ileum was brought out and incised transversely, giving exit to a large quantity of gas and thin liquid faeces. This opening was held outside the abdomen, and to it the distended small intestines were "milked" between rubber-covered fingers by Mr. J. C. Forsyth, who was assisting me. When the small bowel was emptied, the opening was closed by a mucous and a serous suture and, after thorough lavage with saline solution, the protruding loop of gut was returned and the abdomen closed, a rubber drainage tube containing a gauze wick being placed so as to drain the pelvic pouch. The patient only vomited once after coming round from the anaesthetic and had the bowels moved freely the day after operation. There was no return of distension, and the tube was removed on the second day and replaced by a gauze drain, which was changed daily for several days. He was up with the wound healed by the end of the month, and is now in good health.

REMARKS.

In the first case, from the onset of symptoms up to the time of operation there was only an interval of thirty hours, so that perforation must have occurred very rapidly, and the peritonitis followed immediately. The whole of the peritoneum, parietal and visceral, was reddened, and there was not even the slightest attempt at limitation of the disease, thin pus bathing the viscera generally. The patient clearly owed her life to an early recognition of the disease and to immediate operation.

In the second case, although the patient complained of pain on Friday, the bowels were moved naturally and the symptoms were not acute. On Saturday morning the pain was altogether on the left side, and the symptoms were not such as to suggest anything serious. During Saturday night the pain increased, and when seen on Sunday morning there was general distension of the abdomen, which rapidly increased towards the afternoon, when the abdomen was opened, probably within nineteen hours of perforation. The virulence of the inflammatory process was such, that large black patches occurred here and there on the surface of the small intestines, and there was no attempt at limitation of the inflammation by lymph, thin sero-pus bathing the whole of the viscera. The small intestines were so distended that it was necessary to empty them of gas and fluid before closing the abdomen, and it is interesting to note that the distension never recurred and the bowels acted the following day.

On December 14th, 1895, I read a paper before the Medical Society of London, which was published in the BRITISH MEDICAL JOURNAL, December 19th, 1896, on a series of cases of appendicitis associated with general peritonitis, and I then reported six cases that I had operated on during the year 1895, five of which had recovered. I remarked that in operating where there is general infective peritonitis we must be prepared to lose some patients, even if the operation be undertaken in a fairly early stage; but that in the later stages, when distension is well marked and the pulse is becoming rapid, the percentage saved will be small, for although there ought to be no mortality in operations undertaken in the quiescent period, and only a slight one in suppurative acute cases, where the area of suppuration is limited, we can scarcely venture to predict that we shall be able to save 82 per cent. of the cases of appendicitis accompanied by general peritonitis.

When the peritonitis is general, I believe in free irrigation with normal saline solution, and in free drainage by large rubber tubes enclosing gauze strips.

The class of case to which this paper refers is of a peculiarly tragic nature, for the patients may be in perfect health one day and at death's door within the next twenty-four or forty-eight hours.

As death is due to toxaemia from absorption through the peritoneum, it cannot be too strongly insisted on that to wait is to court disaster. If we will only take a lesson from cases of perforated gastric ulcer, where it is clearly established that every hour of delay adds to the operative mortality, we shall have a different tale to tell of perforative appendicitis with general peritonitis; for if we operate before a fatal dose of poison has been absorbed, we can remove the cause and wash away the septic material from the peritoneal cavity, when we may reasonably look forward to a good percentage of recoveries. Should there be serious distension of the intestine and threatening paresis, a dilated loop must be brought out and transversely incised; the other loops of distended bowel may then be "milked" between the rubber-covered fingers towards this opening and emptied of gas and fluid, so as to leave only empty intestine. The opening must then be closed and the neighbouring parts irrigated with hot saline solution, as in the second case reported.

If the case is only seen at a later stage when intestinal paralysis has actually occurred, besides emptying the small intestine, a small tube may be temporarily left in the caecum so as to effectually drain it until muscular tone is regained. If the stomach is distended, gastric lavage should be performed, and if needful repeated; and until the stomach will tolerate fluid, large saline enemata should be given by rectum. If necessary saline infusion may also be performed either into the cellular tissue or into the veins, according to the condition of the patient.

VOYAGES D'ETUDES MÉDICALES.—We have received from Dr. Carron de la Carrière details of the forthcoming seventh annual visit of medical men and students to the health resorts of France, which this year includes the watering places of the Western Pyrenees. The success of the "Voyages d'études médicales" is due to the great care taken by those in charge not only to secure the personal comfort of the visitors, but also to ensure that the arrangements at each thermal station shall afford the maximum of interesting and reliable information with the minimum of fatigue. Last autumn the health resorts in the Auvergne were inspected and the experience gained in studying the therapeutical applications of the different waters at Néris, Bourboule, Mont-Dore, Royat, Chatel-Guyon and Vichy fully confirmed Dr. Carron de la Carrière's contention that the best way of acquiring exact knowledge about any watering-place is to make investigation on the spot. The visit this year is to comprise Luchon, Capvern, Barbazon, Siradan, Bagnères-de-Bigorre, Castera-Verduzan, Argelès, Barèges, Saint-Sauveur, Cauterets, Pau, Saint-Cristau, Eaux-Bonnes, Eaux-Chaudes, Salies-de-Béarn, Biarritz, Bambo, Dax and Arcachon. The travelling arrangements are comfortable and no pains are spared in providing excellent accommodation. The sum of £12 will cover all expenses from Luchon to Arcachon; it includes railways, carriages, hotels, food, luggage and tips. It will be seen, therefore, that the amount to be paid is really an inclusive charge, there being no "extras" of any kind whatsoever. The journey commences at Luchon on September 1st and ends at Arcachon on September 14th. The French railways carry passengers at half price to Luchon and the same reduction is made on the return journey from Arcachon. Those privileged to take part in the expedition are medical men and their wives and medical students. Those who propose to join in the visit should send in their names before August 15th to Dr. Carron de la Carrière, 2, Rue Lincoln, Paris, or to Dr. Leonard Williams, 8, York Street, Portman Square, London, W., who will be glad to give any further information desired. Dr. Boyd Joll, 8, Hanger Lane, Ealing, W., informs us that he is making up a party to travel to Luchon by the General Steam Navigation Company's boat to Bordeaux, which leaves London on Saturday, August 26th, and returns to London on September 10th; those who wish to proceed to Luchon via Paris can shorten the trip by about five days. Dr. Joll has already received six adherents, and estimates that the expenses of the three weeks' trip need not exceed 20 guineas.

SCIENTIFIC GRANTS COMMITTEE

OF THE

British Medical Association.

REPORT XCI.

THE ACTION OF ACIDS AND ALKALIES UPON LIVING PROTOPLASM.

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British Medical Association Research Student.

[From the Physiological Institute, University of Göttingen.]

IN a previous communication[1] it was shown that acids and alkalies in a concentration insufficient to cause death do not produce any recognizable alteration in the staining reaction of the protoplasm of paramoecia, and that in order to change the staining reaction of these infusoria, it is necessary to act upon them after death with relatively concentrated acids and alkalies. In the present research, the nature of the action of acids and alkalies upon the living protoplasm of paramoecia has been further studied, and in particular the problem has been investigated whether these substances are used up, as in chemical reaction, or merely act catalytically, for example, like hydrochloric acid, when employed for inverting cane sugar.

At the outset of this inquiry it was necessary to ascertain the lethal concentration[2] of the acids and alkalies employed (Table I).[3] On comparing their action it is seen that some of the weaker acids (formic, lactic, oxalic) are more poisonous than the strong mineral acids, hydrochloric, nitric, and sulphuric acids; while, on the other hand, the extremely weak acids (carbonic, carbolic, boric, and hydrocyanic acids) are considerably less poisonous to the protoplasm of paramoecium. Similarly the strong alkalies (potassium and sodium hydrate) are less poisonous than the weak base ammonium hydrate, and considerably more poisonous than the extremely weak base anilin. On an examination of the ionic concentration which reveals still greater divergencies between different members of the series,[4] it becomes at once apparent that the action of acids and alkalies is not a simple

TABLE I.—*The Lethal Concentration of Acids and Bases.*

	Concentration Employed.	Paramoecia Killed at end of
Hydrochloric acid ...	0.0002*n*	7 minutes.
Nitric acid	0.0002*n*	15 ,,
Sulphuric acid... ...	0.0002*n*	17 ,,
Formic acid	0.0001*n*	15 ,,
Lactic acid	0.0001*n*	22 ,,
Oxalic acid	0.0001*n*	7 ,,
Tartaric acid	0.0001*n*	12 ,,
Phosphoric acid ...	0.0001*n*	15 ,,
Citric acid	0.0001*n*	13 ,,
Acetic acid	0.0002*n*	30 ,,
Carbonic acid	0.0140*n*	23 ,,
Carbolic acid	0.0100*n*	23 ,,
Boric acid	0.4500*n*	5 ,,
Hydrocyanic acid ..	0.3000*n*	12 ,,
Potassium hydrate ...	0.0030*n*	14 ,,
Sodium hydrate ..	0.0030*n*	15 ,,
Lithium hydrate ...	0.0020*n*	10 ,,
Calcium hydrate ...	0.0020*n*	10 ,,
Strontium hydrate ...	0.0010*n*	23 ,,
Barium hydrate ..	0.0010*n*	30 ,,
Ammonium hydrate..	0.0010*n*	2 ,,
Anilin	0.0400*n*	15 ,,

catalytic action, dependent upon ionic concentration, and it is therefore to be anticipated that a chemical reaction takes place, in the course of which acid and alkali are used up.

In order to determine this point, paramoecia, after thorough washing in distilled water, were placed in a dilute acid or alkaline solution (in which most of the infusoria remained alive at the conclusion of the experiment), and the conductivity of the solution, as indicated by the deflection of a sensitive galvanometer when a fixed potential difference was established between two platinized platinum poles immersed in the liquid, was from time to time noted. It was found that a fall of conductivity occurred after the addition of the paramoecia, while when a control experiment was performed without any paramoecia, no fall or only a relatively slighter fall of conductivity took place. It follows therefore that when acids or alkalies act upon the living protoplasm of paramoecia they are used up in the process. On the assumption that the fall of conductivity is entirely dependent on the amount of acid or alkali disappearing from solution, the quantities of these substances entering into reaction with living protoplasm[5] are calculated in the third column of Table II in terms of the weight of the protoplasm employed, the latter being ascertained in each experiment by counts of

TABLE II.—*The Disappearance of Acid and Alkali from Solution, Brought About by the Agency of Living Paramoecia.*

	Concentration Employed.	Equivalent Absorption of HCl or KOH, expressed in Percentage Terms of the Weight of Protoplasm Employed for Experiment.
Hydrochloric acid ...	0.0015*n*	0.012 per cent.
Nitric acid	0.0030*n*	0.06 ,,
Sulphuric acid... ..	0.0015*n*	0.023 ,,
Formic acid	0.0010*n*	0.022 ,,
Lactic acid	0.0010*n*	0.042 ,,
Oxalic acid	0.0010*n*	0.039 ,,
Tartaric acid	0.0010*n*	0.002 ,,
Phosphoric acid ...	0.0010*n*	0.013 ,,
Citric acid	0.0010*n*	0.060 ,,
Acetic acid	0.0010*n*	0.007 ,,
Potassium hydrate ...	0.0100*n*	0.020 ,,
Sodium hydrate ...	0.0100*n*	0.100 ,,
Lithium hydrate ..	0.0100*n*	0.320 ,,
Calcium hydrate ..	0.0100*n*	0.560 ,,
Strontium hydrate ..	0.0100*n*	0.440 ,,
Barium hydrate ..	0.0100*n*	0.320 ,,

the paramoecia employed, aided by haemocrit measurements. The numbers thus obtained, which represent the amounts of acid and alkali reacting in the individual experiments performed, and not the maximum amounts which can react upon living protoplasm without causing death during the period of experiment, are probably in reality smaller than those actually obtaining, since, as will presently be shown, there is reason to believe that the protoplasm, when injured by acids or alkalies, gives up salts to the surrounding fluid and thus adds to its conductivity.

This source of inaccuracy was avoided by making a further series of experiments, in which the above observations were repeated with the aid of a palladium hydrogen concentration element, in one limb of which a simple dilute acid or alkaline solution was employed; while in the other limb, to a dilute acid or alkaline solution of the same concentration, a definite weight of paramoecia, previously carefully washed in distilled water, was added. The difference of concentration at the conclusion of the experiment, when the paramoecia were still for the most part living, was calculated, for hydrochloric acid, from the formula:

$$E = 0.096 \log. \frac{n}{b},$$

which also serves, with a change in the value of the constant,

[1] The Reaction of Protoplasm in Relation to Chemiotaxis. BRITISH MEDICAL JOURNAL, 1904, I, p. 1413.

[2] *Proc. Roy. Soc. Lond.*, 1904, LXX, p. 100.

[3] The concentration in this table is expressed in gram equivalents per litre, except for carbonic and boric acids, whose concentration represents gram molecules per litre.

[4] Fuller details will be found in Die Wirkung von Säuren und Basen auf lebende Paramäcien, *Zeit. f. Allg. Physiol.*, 1904, Bd. 4, s. 438.

[5] In order to permit of comparison of the molecular amounts of acid and alkali entering into combination with protoplasm, the former are calculated in terms of the equivalent amounts of hydrochloric acid and the latter in terms of the equivalent amounts of potassium hydrate. In this way differences depending on the considerable variation of molecular weight of different members of the two series disappears. The duration of the period of experiment, it may be observed, varied from ten to twenty minutes, and the number of paramoecia still living at the close of the experiment from 85 to 97 per cent.

for the calculation when sulphuric acid, or potassium or sodium hydrate are employed. In this formula E represents the potential difference of the element, which is measured by Poggendorff's compensation method: *a* is the original concentration of the acid or alkaline solution employed; *b* the concentration at the close of the experiment of the solution in which the (still living) paramoecia are contained. Without entering into further details of the method employed and the many precautions necessary to ensure accurate observations, which are given at length elsewhere,[6] some of the results obtained may be here considered. These, which are given in Table III,

TABLE III.—*Amount of Acid and Alkali Disappearing from Solution in Per Cent. of the Weight of the Paramoecia Employed.*

	Concentration Employed.	Amount of Acid or Alkali Withdrawn by 100 Parts of Protoplasm.
Hydrochloric acid ...	0.00067*n*	0.30 HCl
" "	0.00067*n*	0.13 "
Sulphuric acid... " ...	0.00067*n*	0.21 H_2SO_4 [= 0.16 HCl]
" " "	0.00067*n*	0.24 " [= 0.18 "]
Potassium hydrate ...	0.00023*n*	1.95 KOH
" "	0.00033*n*	0.74 "
Sodium hydrate ...	0.00067*n*	1.24 NaOH [= 1.74 KOH]
" "	0.00067*n*	1.52 " [= 2.11 "]

confirm the results obtained by the former method, and show, further, that living protoplasm may react with still larger amounts of acid and alkali than are indicated in Table II, reaching in fact during the period of experiment, which varied from eight to forty minutes, as much as 0.3 per cent. in the case of hydrochloric acid and 2 per cent. in the case of potassium hydrate.[7] With palladium-hydrogen electrodes, however, only the H^+ ions of the acids and the OH^- ions of the alkalies are shown to be used up, and no information is afforded of the part played by the remaining ions. Only in the case of hydrochloric acid has this point been investigated, and condition of the solution employed in respect of the Cl^- ions prestudied. To this end a series of observations were made with calomel electrodes, the arrangement adopted being:

$$\underset{E_1}{Hg \mid HgCl+HCl} \mid \underset{E_3}{HCl+Paramoecia} \mid \underset{E_2}{Hg\,Cl+Hg}$$

and the potential difference measured being the sum of $E_1-E_2+E_3$ obtaining at the three surfaces of contact. From the observed potential difference, the initial concentration of the hydrochloric acid employed being known, the alteration of the Cl^- ionic concentration brought about by paramoecia can be calculated from a formula similar to the one given above. In this way the unexpected result was obtained that when paramoecia are added to a dilute hydrochloric acid solution, not only do Cl^- ions not disappear, but that an actual increase of these ions takes place. The cause of this increase was found on further investigation to be due to the discharge of chlorides by the protoplasm of paramoecia, when injured by the acid, into the surrounding fluid.

Summary.

By the above-described methods of investigation it is shown (1) that the action of acids and alkalies upon living paramoecia is not a catalytic action, but that (2) a chemical reaction takes place in which H^+ and OH^- ions disappear. Further, it has been shown (3) that when dilute hydrochloric acid acts upon living paramoecia an increase of the Cl ions takes place.

In conclusion, I must express my indebtedness to Professor Verworn, in whose laboratory this work was carried out, and also to Professor Nernst, who kindly permitted me to make the physical measurements in the Physico-Chemical Institute in Göttingen, and to Professor Cohn, at whose suggestion palladium-hydrogen electrodes were employed.

[6] Die Addition von Säuren und Alkalien durch lebendes Protoplasma, *Zeit. f. Allg. Physiol.*, 1905. Bd. 5, S. 10.

[7] It is interesting to compare the amount of acid and alkali reacting with living protoplasm with that taken up by proteids. Colnheim (*Zeit. f. Biologie*, Bd. [illegible], S. 485) found that albumose, protalbumose, deuteroalbumose, and antipeptone combined respectively with 4.05 per cent., 4.32 per cent., 5.46 per cent., and 13.87 per cent. of hydrochloric acid; and Bugarsky and Liebermann (*Arch. f. d. ges. Physiol.*, Bd. 72, 1898, S. 51) observed that albumin and albumose combined with 2 per cent. and 4 per cent. respectively of their weight of sodium hydrate.

REPORT XCII.

ON THE ORIGIN AND LIFE-HISTORY OF THE INTERSTITIAL CELLS OF THE OVARY IN THE RABBIT.

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The majority of investigators agree in considering the germinal epithelium to be derived by a process of differentiation from the peritoneum. There is, however, considerable difference of opinion as to the means whereby the cells of this epithelium come to form part of the ovary, and as to the subsequent fate of the cells.

Pflüger[9] considered that the germinal cells grew down into the underlying mesoblast in the form of tubules (egg tubules); the cells thus invaginated giving rise by division to ova, and also probably to follicle cells, some of these latter being possibly derived directly from the germinal epithelium.

Waldeyer[11] thought the embedding of the cells was accomplished by the upgrowth of processes from the underlying mesoblast, cutting off groups of cells, which ultimately gave rise to ova (primordial ova) and follicle cells. De Foulis[8] believed both upgrowths of mesoblast and downgrowth of cells to take part in the embedding of the cells of the germinal epithelium; he differs from the above-named and most observers in deriving the follicle cells from the mesoblast, a view only held by two other observers (Schrön[10] and Wendeler[13]). Balfour[4] describes the formation of "egg-clusters" by the processes of upgrowth of mesoblast and downgrowth of cells, the cells of the egg-clusters forming either (1) ova by a process of differentiation, and (2) follicle cells, there being a number of cells resembling follicle cells whose destiny he could not trace; he also describes the formation of protoplasmic masses by the aggregation of several primordial ova, of which he thinks one might survive at the expense of the rest. Bühler[6] has described the streaming inwards from the periphery of germinal cells, which arrange themselves around the primordial ova, forming the follicular epithelium.

V. Winiwarter[12] has described the processes of nuclear transformation connected with ovogenesis. There are three types of cells present in the fetal ovary before birth—protobroque cells of varieties *a* and *b*, and deutobroque cells. The protobroque *a* cells are the original germinal cells; these divide, giving rise to more cells of the same class and also to cells protobroque *b*; these in turn divide, giving rise to more cells of the class *b*, and also to deutobroque cells. These last are the large clear cells seen in the fetal ovary in considerable numbers.

Immediately after birth nuclear changes begin to take place in some of these cells, the ultimate result being a primordial ovum. The changes start in the cells most centrally situated, and pass gradually towards the periphery, the early stages being still seen in this part at the tenth day after birth.

The nuclear changes leading to ovogenesis he classifies into five stages:

1. The leptotenic stage: The chromatin is present in the form of fine filaments spread out over the nuclear area. This stage is very fugitive.
2. The synaptenic: Here the filaments are becoming gradually massed together until they are finally all collected, the chromatin showing as a solid mass lying at one side of the nuclear area.
3. The pachytenic: The chromatin becomes again spread out over the nuclear area, but this time in thick strands, which subsequently show a tendency to a double appearance, thus giving rise to the
4. Diplotenic stage: This is followed by the
5. Final or dictyate condition of the primordial ovum, where the chromatin is arranged in a more or less reticular form, and there are one or two lumps of chromatin as well.

The question of the formation of "ova" in later life is not one upon which the literature throws much light it consists chiefly of isolated observations of the formation of follicles in ovaries of cats, rabbits, and women, either in the rutting season and at the menstrual periods, or shortly after parturition.

Amann[1] recently published an interesting case of a woman of 63 upon whom he performed double ovariotomy, the ovaries being in a condition of incipient cystic adenoma. He found all stages of ova and follicle formation, all derived by ingrowth of the germinal epithelium. The interest of the

observation lies in the formation of ova and follicles in an ovary which had presumably ceased to function for many years, the process being probably due to the stimulus of the growth.

OBJECT OF THE INVESTIGATIONS.

Changes in the interstitial cells observed during pregnancy led to the investigation into the origin of these cells, this being a subject upon which there would appear to have been no work done. The subject is one of considerable interest in relation to the internal secretion of the ovary (Cf. Andrewes [3]). By analogy with the interstitial gland of the testis (Cf. Ancel and Bouin [4]), it would appear probable that the interstitial cells might form the ovarian secretion.

(Throughout the *interstitial* cells are to be distinguished from the *stroma* cells, which are mere connective tissue cells.)

Methods.

A considerable variety of fixatives were used—the usual osmic fixatives as well as several others—but by far the most satisfactory were found to be Gilson's fluid (equal parts $CHCl_3$, absolute alcohol, and glacial acetic acid, the whole saturated with sublimate), and a mixture of sublimate (saturated) 4 parts, formol 1 part, and 1 per cent. of glacial acetic. The stains chiefly used for these last were iron, haematoxylin, and haemalum.

The ovaries investigated were those of embryos from the twentieth day onwards and of young rabbits up to about 3 weeks old, as also a large number of those of pregnant rabbits in all stages of pregnancy.

CHANGES IN THE GERMINAL CELLS IN THE IMMATURE OVARY.

Histology.

The embryonic ovary shortly before birth shows two distinct zones—an outer, consisting almost entirely of collections of germinal cells, and an inner, consisting of mesoblast, which sends some processes outwards in between the collections of germinal cells. The germinal cells show a great variety of sizes. The protobroque cells are small, more or less oval in form—I do not propose to make any distinction between the varieties *a* and *b*—while the deutobroque cells are large, round, and very clear. There are also cells of all sizes between these two forms, all of them round.

The arrangement of the chromatin in the different classes of cells gives the clue to their condition. In the protobroque cells it is present in rounded masses, usually rather small, and the whole nuclear area is cloudy, giving the appearance of minute granules. There are no strands or filaments.

In the deutobroque class the chromatin is arranged in a more or less reticulate manner, and there are one or two chromatin masses. The greater part of the nuclear area is strikingly transparent, the cloudy appearance seen in the protobroque cells being confined to the margin. The other rounded cells show nuclei in all stages of transition between these two forms. The nodules of chromatin seen in the protobroque type show at first short projections which gradually lengthen, and finally meet the projections from other masses, forming intersecting chromatin strands, while the number of chromatin masses decreases, there being usually not more than two in the deutobroque cell. Simultaneously with this, the granular appearance has receded gradually from the central part, leaving it clear.

There are a fair number of mitotic figures to be seen; some are in protobroque cells, but the greater number (and this holds especially in the ovary shortly after birth) are in the larger cells of the deutobroque type. I think, therefore, that mitosis has here its normal use, namely, the increase of cells, the changes from one form and another being brought about by nuclear differentiation and enlargement of the cell, the changes consisting in the gradual formation of strands of chromatin instead of nodules, together with the clearing of the central parts.

The deutobroque cells thus formed will many of them pass through the process of ovogenesis, and I would refer any one interested in the subject to v. Winiwarter's paper. The changes of ovogenesis take place much more freely in the cells near the centre, being found in relatively few cells near the periphery, but continuing in these parts in a sort of desultory manner up till three or four weeks after birth.

The formation of egg clusters by means of ingrowing processes of mesoblast proceeds rapidly, and by about the tenth day the clusters are extremely numerous, but the number of cells in each is smaller. In some clusters near the centre a cursory glance would lead one to suppose that all the cells were undergoing ovogenesis, but a careful examination shows that there are a few in every cluster that retain the deutobroque formation.

By the fourteenth or fifteenth day these cells are no longer to be seen, but instead there are a few small rather dark cells; at the periphery there are now a large number of these small cells scattered thickly amongst cells still undergoing ovogenesis; here there are also a certain number of deutobroque cells, and also some smaller clear cells. The intermediate region shows that the small cells are passing inwards from the periphery, and, together with those already formed, are, some of them, passing towards the primordial ova forming the follicular epithelium, whilst others are lying in groups by themselves and are evidently forming the first traces of the interstitial tissue of the ovary. These features are well seen in the ovary of about the seventeenth or eighteenth day after birth.

These small cells, which form either the follicle cells or the interstitial cells indifferently, are metamorphosed deutobroque cells, the change resembling very much, in the inverse order, those concerned in the formation of the deutobroque cells from the protobroque, and the smaller clear cells near the periphery are in the transition stage.

Broadly the changes consist in the retraction, as it were, of the chromatin strands and the aggregation of the chromatin into lumps, but the strand formation is never completely lost; the whole nucleus and cell become smaller and the granular appearance, which in the deutobroque cell is confined to the peripheral part of the nucleus, becomes again spread out over the whole area, which loses its transparency; cells in all stages of transition can readily be found.

We may then look upon the ovary as consisting of two classes of cells: (1) Cells derived from the germinal epithelium and probably subserving all the true ovarian functions; (2) mesoblast cells, which are merely supporting and vascular.

By far the greater number of germinal cells which become embedded in the mesoblast pass to the deutobroque stage, and are potentially ova; but all cannot become ova, as there are other functions to be performed; therefore when the great wave of ovogenesis has passed and sufficient ova have been formed, the remainder undergo regression and take up the other ovarian functions, becoming either follicle cells or interstitial cells. The protoplasmic masses noticed by Balfour are a very characteristic feature of the young ovary about the seventeenth or eighteenth day after birth, and from the appearance of atrophy of some of the nuclei it appears fairly certain that the fittest ovum will survive at the expense of the rest; it is uncertain whether every ovum must eat up some of its fellows before reaching maturity.

CHANGES IN THE OVARY DURING PREGNANCY.

Naked-eye Changes.

These consist of the formation of the corpora lutea and of general enlargement of the whole gland. The corpora lutea are at their maximum about the fifteenth day (Cf. Fraenckel [5]), shortly after which they begin to decrease in size, and finally by the end of pregnancy they show merely as white circular areas on the surface of the ovary.

The ovary of the non-pregnant animal is about ⅓ in. long, being wedge-shaped in transverse section. As pregnancy goes on, the whole gland increases very greatly in size, becoming roughly about five or six times as large as it was in the non-pregnant state. The wedge-shape is changed to circular, and the gland may be as much as 1¼ to 1½ in. in length, and looks swollen.

Changes in Size of the Interstitial Cells.

The size of the interstitial cells at different stages of pregnancy, and also in a few cases after parturition, have been measured by means of a micrometer eyepiece, gauged against a micrometer slide. A large number of cells were measured, the average of a large number of measurements being given below:

Date of Pregnancy.	*Diameter in μ.*
0	1[illegible].0
14th day	23.4
18th day	27.2
20th day	31.9
22nd day	32.6
27th day	31.8
Shortly before birth...	29.8
Shortly after birth	27.0
3 days after birth	26.8
6 weeks after birth	17.6

These measurements are not intended to be absolute, but to give an idea of the general change in size. It appears that the increase is at first rather slow, afterwards becoming more rapid, and reaching its maximum about the twenty-second day, the size being sustained until just before birth. In the later stages of pregnancy the cells are very much crushed together: possibly they are still endeavouring to enlarge, but the connective tissue being stretched almost to the full, they are unable to do so.

The Formation of Ova from Interstitial Cells.

About the twentieth day some of the interstitial cells leave their fellows and appear to be pressing towards the periphery, where they become surrounded by connective tissue and pass into a position exactly similar to that of the primordial ova. This process continues more rapidly during the next few days, and multinucleated masses become a marked feature; these are situated near the periphery, and show the same outline as if they had been formed from as many interstitial cells as the mass shows nuclei. Of these last some appear to be undergoing atrophy, whilst one appears to be growing strong at their expense. These multinucleated masses have been noticed by v. Beneden[5] in the bat. We evidently have here a similar condition to that in the young ovum; there the end-product was a primordial ovum; here the end-product will be similar. In ovaries of about the twenty-sixth day and onwards, it is possible to trace all the transition stages of ovogenesis among these cells thus cut off. According to the description of v. Winiwarter, the leptotenic phase is rare, probably on account of its short duration. There are plenty of synaptenic nuclei to be seen, not many pachytenic, and the diplotenic are not very definite; the dictyate show well.

In connexion with this formation of ova, it may be noticed that the size of a primordial ovum, until it begins to ripen and the follicle begins to grow, does not vary, being about 27 μ, a size reached by the interstitial cells at about the eighteenth day of pregnancy. The interstitial cells are all potential ova, and during pregnancy the ovary probably shares in the general stimulus, causing the interstitial cells to enlarge in size, some of them undergoing transformation into ova.

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MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, ETC.

ANEURYSM MISTAKEN FOR HARD FIBROMA.

THE following case, which I saw in consultation with my colleague, Dr. H. Scott Russell, of this town, may be of interest as illustrating one of the most serious mistakes in surgery. Its history was as follows:

The patient, the wife of a native minister of Ethiopian persuasion, first noticed a small, hard lump in the groin about ten years ago, painless, but growing slowly until it reached its present dimensions—the size of a cocoanut. Advice was sought, because pain was present recently and a soft spot was noticed. Upon examination it presented the following features:

The growth was situate in the right groin; it was roughly oval in shape; its long axis in line with the sartorius muscle, of the size noted, its upper portion on a level with Poupart's ligament, its anterior aspect bulging on the front of the thigh. No pulsation could be felt, and the femoral artery could not be located above it. It gave the impression of great hardness, except at one point, where a small fluctuating protrusion existed; it appeared to be fairly movable, except along the line of Poupart's ligament. I concurred in the diagnosis of hard fibroma undergoing in its softer portion some form of cystic degeneration. The operation for its removal was commenced, but in the early steps of enucleation the wall ruptured, and a quantity of black tarry matter escaped, followed by copious bleeding. It was immediately evident that an old-standing aneurysm had been opened; the wound was at once closed temporarily, pressure applied, a tourniquet placed over Poupart's ligament, and the patient sent into hospital. The treatment decided upon was ligature of the external iliac, with subsequent excision of the aneurysm if feasible. The external iliac was reached in the usual way with little difficulty, its ligature (kangaroo-tail tendon) at once controlling the haemorrhage. The aneurysmal sac was then freely opened up, all clot removed, the sac dissected out from below upwards, and the distal portion of the vessel ligatured. Its formation was as follows:

The greater part of the sac was superficial to the fascia lata, the neck having traversed the facia in the region of the femoral ring, as illutrated in the diagram.



What probably occurred was this:

A small sacculated aneurysm of the superficial femoral, after enlarging in the direction of least resistance, that is, through the cribriform facia, commenced to leak with the formation of a so-called false sac, as described. The points of interest are as follows: The entire absence of pulsation; slow growth; great hardness with softening and fluctuation at one spot, due to disintegration of old clot and the formation of watery fluid—the fact that it had advanced towards a natural cure and then remained stationary until sepsis (several enlarged glands were present in the inguinal region, two of which were breaking down) supervened; the contained clot was like hard putty, inky black in colour and of greasy consistence, except in the softened area described; the error in diagnosis, which, I venture to think, was excusable on our part. Although a definite history of the case was unobtainable, it was probably primarily traumatic in origin, as the external iliac was comparatively healthy. The case is progressing favourably, a good collateral circulation evidently being established and the wound healing by primary union.

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A FEW ILLUSTRATIVE CLINICAL NOTES ON THE TREATMENT OF DIPHTHERIA.

IN illustration of my article on the Treatment of Diphtheria appearing in the *Practitioner*, April, 1905, the following clinical notes of a few cases may prove of interest:

CASE I.—W. P., aged 7, admitted December 3rd, 1901, on the sixth day of disease with extensive membrane and enlarged glands, and marked toxaemia. First sound impure in pulmonic area.

Treatment.—Antitoxin 6,000 units. Strychnine 42 minims per diem (18 minims hypodermically). This for two days. Then 52½ minims per diem (30 minims hypodermically) for two days. Then 42 minims per diem (20 minims hypodermically) for two days. Then 37 minims per diem (15 minims hypodermically) for one day. Then 32 minims per diem (10 minims hypodermically) for two days. Then 27 minims (5 minims by skin) for a day or two. Then 20 minims per diem by mouth for a week. This patient averaged half a fluid drachm of liq. strychninae per diem for a period of three weeks.

CASE II.—M. C., aged 6, admitted December 4th, 1902, with much membrane, subnormal temperature, rapid pulse, and wax-like pallor; was given 7,000 units of antitoxin in the course of forty-eight hours. She was given 56 minims of liq. strychninae (15 minims hypodermically) the first twenty-four hours; 66 minims the second day (30 minims hypodermically); [owing to her becoming collapsed and almost pulseless, with vomiting; in short, all the signs of fatal toxaemia]. Rectal

feeding was instituted. The following day albuminuria was noted. The strychnine was reduced to 37½ minims per diem (15 minims hypodermically). This was continued for four days. Then for the next four days she was on 30 minims a day (15 minims hypodermically). Then for ten days on 25 minims a day (10 minims hypodermically). Then for six days on 20 minims a day (5 minims hypodermically). Albuminuria had now disappeared, but the pulse was still 100. During the remainder of her stay in hospital (twenty-four days) she was given an average daily dose of 22½ minims of liq. strychninae. During a period of eight weeks in hospital this child had over 2½ fluid oz. of liq. strychninae, or an average of about ½ gr. strychnine a day for fifty-five days (the textbook limits of adult dosage are from $\frac{1}{30}$ to ¼ gr. of strychnine), or 11 gr. of strychnine in eight weeks. Another point of interest in this case was that albuminuria was present on admission and continued for nearly three weeks, when the urine became clear for a week. Then albuminuria showed again on December 30th to ¼ albumen, but had disappeared again a week later. The child was forthwith placed on solid food, and thereafter rapidly improved. A further point of interest in this case was that only a year previously this child had a severe attack of diphtheria with laryngeal and pulmonary complications, from which she recovered with the aid of large doses of strychnine.

CASE III.—An adult female, aged 29, admitted late in a severe attack of diphtheria, with much membrane, profuse nasal discharge, marked adenopathy, pallor, and albuminuria. Treatment: Antitoxin 10,000 units, liq. strychninae 48 minims per diem for two days, then 60 minims liq. strychninae with ℥ ij tinct. ferri perchlor. per diem for a fortnight, then for two days on 30 minims liq. strychninae a day; then for a week again on 60 minims a day; then for three days on 30 minims a day up to the date of her discharge four weeks after admission. At this time albuminuria had disappeared. Though a large amount of albumen was present on admission this patient was given port wine and beef-tea, and a week after admission was given a generous diet, with good results. She was discharged somewhat prematurely from hospital (free of diphtheria bacilli and convalescent) at her own urgent request, as her children were being somewhat neglected at home, but I should have preferred keeping her in hospital for at least a week longer. During her twenty-eight days' stay in hospital she had no less than 1,494 minims of liq. strychninae, or an average of 52 minims, or ½ gr. of strychnine a day.

CASE IV.—L. C., aged 4 years, admitted to hospital on the fifth day of the disease with much membrane, copious nasal discharge, greatly enlarged glands, extreme pallor, and rapid pulse. It was stated that antitoxin had been given two days previously. On admission, he was given 4,000 units, and a further 2,000 units the following day. He was ordered 24 minims of liq. strychninae in the twenty-four hours and ℥ jss of port wine; a few days later he was given raw meat juice and increased doses of strychnine. A day or two after admission he developed albuminuria, but the other symptoms improved rapidly. He subsequently had widespread diphtheria paralysis. He was on hypodermics of liq. strychninae for a month. He was in hospital nine weeks, during which time 1,156 minims of strychnine were administered—200 minims hypodermically during four weeks. This small boy thus had in the course of nine weeks 3½ oz. of liq. strychninae, averaging about 24 minims a day during the whole period of his stay—equivalent to ½ gr. every day, or over 13 gr. of strychnine in the nine weeks.

I could multiply such instances, but the above are sufficient.

J. T. C. NASH, M.D.Edin., D.P.H.Camb.,
Medical Officer of Health, Southend-on-Sea: Medical Superintendent, Borough Sanatorium, Southend-on-Sea.

ASPIRIN IN RHEUMATISM: A WARNING.

ASPIRIN now enjoys the confidence of the profession to a great extent, and until now I have thought that confidence well placed, but the following two cases make for caution:

I ordered the drug in 15-gr. doses for a patient suffering from severe rheumatism affecting the knee-joints, and two days later she reported to me that after taking the first powder she suffered from violent palpitation, difficult respiration, a feeling of extreme weakness, and gradually approaching unconsciousness, with voiding of dark-green urine. A second powder produced the same effects. One might have attributed this to idiosyncrasy, were it not that another patient, on the following day, had the same symptoms after taking a similar powder. The powder was continued in 7½-gr. doses with good results, but the advantage of aspirin is supposed to be that even in full doses there are no unpleasant symptoms.

Belfast. H. NORMAN BARNETT, F.R.C.S.

REPORTS
ON
MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

GREAT NORTHERN CENTRAL HOSPITAL.

A CASE OF GENERALIZED PNEUMOCOCCIC INFECTION.

(Reported by D. A. OGILVIE, M.B., Ch.B.Edin., House-Physician.)

ATTENTION having recently been drawn to the occurrence of generalized pneumococcic infection, the following case is, I think, worthy of record:

On February 7th, 1905, the patient, a young policeman, aged 22 years, in robust health, except for a nasal catarrh of some two months' duration, had a rigor on returning from night duty, quickly followed by pain in the right side of the chest. He was admitted to the Great Northern Central Hospital on the afternoon of the same day.

State on Admission.—It was then noticed that he had a suffused colour; temperature, 102°; pulse, 120; respirations, 30; and the alae nasi were active. He had a short restrained cough accompanied by some viscid rust-coloured sputum. On examining the chest nothing whatever was detected, nor did the other systems throw any light on the condition. The urine was high-coloured, specific gravity 1027, and contained no albumen. The sputum on examination was found to contain the pneumococcus.

Diagnosis.—The case was put down as one of lobar pneumonia without localizing physical signs and was treated accordingly.

Progress.—Two days later (February 9th) some loss of resonance on percussion with increased vocal fremitus was detected at the right base, extending upwards as high as the angle of the scapula and forwards into the inferior axillary region. The breath sounds over this area were slightly diminished. The temperature had now reached 105°, the pulse and respiration rates remained as before. On the 11th the percussion note was still further impaired, vocal fremitus was diminished, and the breath sounds had become less audible, except in a limited area just above the angle of the scapula where distant tubular breathing was heard.

Exploration of Chest.—An exploring needle was introduced in the ninth interspace, and some slightly turbid serous fluid was withdrawn. This, on microscopic examination, showed the presence of a coccus in large numbers, chiefly in pairs, but here and there in chains of four or six. The diplococci were lance-shaped, and showed good capsules on staining by hot carbol-fuchsin. The organism was therefore the pneumococcus.

Further Progress.—On the following day the dullness had become absolute, and extended well up to the apex behind and as high as the third interspace in front. Above this level there was marked skodaic resonance. There was now considerable dyspnoea and cyanosis, which was temporarily relieved by the inhalation of oxygen. Later in the day dyspnoea was again in evidence, and was relieved by the withdrawal of 27 oz. of fluid from the right chest, similar to that obtained by the exploratory puncture. He now complained of pain in the left side of the chest, and on auscultation loud, coarse friction was heard in the inframammary and inferior axillary regions. This was followed by signs of effusion, as on the right side, and a pint of similar fluid was withdrawn three days later. An additional 34 oz. had been removed from the right side in the meantime, but it was now found that the relief experienced was very slight indeed. The patient was now suffering from extreme dyspnoea and marked cyanosis, and the pulse, which during the first few days of the illness had maintained good volume and tension, became very soft and dicrotic.

Result.—He died early on the morning of the 16th, nine days after the onset of the illness.

Post-mortem Examination. At the necropsy it was found that there was turbid fluid in both pleurae, the surface of which were covered by large patches of fibrin. The lower lobe of the right lung was consolidated and compressed, sinking in water, while the rest of the right lung and the whole of the left were deeply congested and very oedematous. The pericardium presented the typical bread-and-butter appearance of a recent pericarditis, and a little serous fluid was present. Small recent vegetations were found on the mitral cusps, and a rubbing from these revealed the presence of abundant pneumococci. It is thus seen that the infection involved the lung, both pleurae, pericardium, and endocardium.

REMARKS.—In the light of these facts treatment was obviously hopeless, so I refrain from remarking on it. Anti-

pneumococcic serum would seem to hold out the only reasonable hope, and that unfortunately was not employed. I have to express my thanks to Dr. Beevor for permission to publish this case, and to Dr. Horder for kindly confirming the presence of the pneumococcus.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

ULSTER BRANCH.

Professor LINDSAY, M.D., F.R.C.P., President, in the Chair.

Warrenpoint, Saturday, June 17th.

PULSE TENSION AS A GUIDE TO TREATMENT.

THE PRESIDENT read a paper on Pulse Tension as a Guide to Treatment in Various Morbid Conditions. He said that in instituting, pursuing, or modifying treatment it was necessary to have constant regard to the state of arterial tension. Treatment, in other respects sound, might do harm if pursued without constant attention to its effects upon the pulse. For example, in pursuing eliminative treatment in nephritis by means of hot-air baths, purgation, and such-like measures, it was important to avoid lowering arterial tension to an undesirable extent. In the treatment of acute rheumatism by the salicin compounds, it was important to note that in some of these cases the left ventricle was dilating, and the pulse becoming frequent and weak, and that means to prevent collapse might be necessary. Of the various mechanical methods of measuring arterial tension which had been devised, such as the sphygmometers of Hill and Barnard and of Roy and Adami, and the haemodynamometer and arteriometer of Oliver, none had come into general use, and the practitioner was obliged to rely for the most part upon the information yielded by the trained finger. This information, if not very precise, would be found sufficient for all practical purposes. Some of the chief cases in point were then passed in review.

Pneumonia.—In this disease there was usually at the outset a short period of increased arterial pressure. During this period all measures which tend to raise arterial tension, such as the administration of digitalis and strychnine and the very frequent administration of food, should be avoided. Simple febrifuge measures, moderate purgation, light diet—and that not in large quantity or too frequently—and tepid sponging were indicated at this stage. Probably there were cases where the cautious abstraction of blood would do good. The early rise of arterial tension in pneumonia was, however, soon followed by a fall, often a dangerous fall, and at this stage the patient's chief danger was from threatened cardiac failure. Treatment must be arranged accordingly. Digitalis, strychnine, caffein, alcohol, and cold sponging were usually indicated, the chief indication for the use of these remedies being afforded by the state of the pulse. If the pulse was of moderate frequency and of good tension, these remedies should be given sparingly or altogether withheld. The most absolute rest should be enforced, and aperients should be withheld as much as possible.

Bronchopneumonia.—Here the problem was different. There was no early rise of arterial tension in bronchopneumonia, but on the contrary a decided, and often dangerous, fall from the outset of the malady. The low state of arterial tension was shown by the frequent, weak and often running pulse, the lividity of the face, and the tendency to congestion and oedema of the bases of the lungs. All depressing measures must be sedulously avoided in bronchopneumonia. The treatment too often practised of warm rooms, hot poultices, diaphoretics, antipyretics and mercurial purges was calculated seriously to aggravate the patient's dangers and must be condemned in the most unqualified manner. On the contrary, the sick-room should be kept cool; cold sponging, the cold douche or the wet pack should be employed, and such remedies as strychnine hypodermically, digitalis, caffein, ammonia and brandy were indicated. Purgatives should be withheld and every means taken to husband the patient's strength. The effect of the cold douche in bronchopneumonia was sometimes beneficial in a high degree, and this mode of treatment deserved to be more widely practised.

Bright's Disease.—In acute and subacute nephritis the arterial tension was usually raised, and hence the usual treatment by hot-air baths, hot packs, and saline purgation was sound. It was important, however, not to pursue these methods to the extent of unduly lowering arterial tension. The pulse should be carefully watched, and if it showed undue frequency and deficient tension the treatment by eliminative measures should be suspended or pursued less energetically.

Heart Disease.—The importance of having regard to the state of arterial tension in arranging the treatment of heart disease was obvious and was generally recognized. Digitalis was seldom or never of service when the arterial pressure was raised or even normal. During a prolonged course of digitalis, when the tension is rising, a mercurial purge or the addition of iodide of potash to the digitalis mixture, which tended to lower arterial tension, was often of signal benefit, especially in elderly patients. Vaso-dilators, such as nitroglycerine, should be used with circumspection in heart disease. In the presence of a high-tension pulse and angina, they were sometimes of signal benefit, but their use required much care. Whether nitroglycerine and similar remedies were ever useful in cardiac dyspnoea accompanied by low arterial tension was a moot point. Many observers thought they were sometimes useful in such conditions, but this view was contrary to theory and should be cautiously regarded. Purgatives stood on rather a peculiar footing with regard to heart disease. On the one hand, they tended to lower arterial tension, which was usually undesirable, but, on the other hand, they relieved dropsy and hence might benefit the patient. The inference would appear to be that purgatives which do not materially lower arterial tension—for example, the salines—should usually be preferred, and that frequent small doses were preferable to occasional large doses.

Phthisis.—The pulse tension in phthisis was almost invariably low, and hence all measures which tended to lower arterial tension were contraindicated in this disease. Antipyretics, hot baths, diaphoretics, and too warm clothing should be avoided, and purgatives used very sparingly. The general tonic regimen now usually pursued in phthisis tended to raise arterial tension, and hence was theoretically sound. Cold or tepid sponging of the body daily was useful. Phthisical patients with either decidedly low or unduly high arterial tension were not well adapted for the high altitude stations. The cases which got on best at these stations were cases where the arterial tension was either nearly normal or only moderately reduced. Apart from conditions of actual disease, the state of arterial tension often gave important hints for treatment. Thus persons with habitually low arterial tension bore purgatives badly, did not resist cold well, and could not be kept on low diet for long periods with advantage. Persons with habitually high tension required to live sparingly, to take only a moderate amount of proteids, and to keep the skin and bowels active. In discussing the paper, Dr. CALWELL (Belfast) raised the question of alcohol and its effect on pulse tension. Professor ANDERSON (Galway) discussed the differences between man and the lower animals. Remarks were also made by Dr. CONNOR (Newry), Dr. MOORE (Lurgan), and Dr. VESEY (Rostrevor).

Duodenal Ulcer.—The PRESIDENT also read notes of a case of duodenal ulcer. The patient, a man aged 34, was admitted into the Royal Victoria Hospital, Belfast, on April 15th, 1905, complaining of severe and continuous abdominal pain. The history was that two years previously he had an attack of abdominal pain and sickness, which confined him to bed for a fortnight and then got well. After an interval of about eleven months, during which he had fair health, though his digestion continued "weak," he had a second attack of a similar character to the first, which passed off in two or three weeks, but recovery was incomplete. Both these attacks were attended by slight jaundice, and the patient noticed that his stools were sometimes black. The general health had suffered, but the patient had not lost weight to any serious extent. On admission to hospital his only complaint was of pain. There was little or no sickness, no vomiting or haematemesis. The pain was located in the epigastric region, a little to the right of the middle line. The pain had no definite relation to food. It was certainly not aggravated by taking food. It was often severe at night, and, in fact, showed no definite intermissions, being nearly continuous, though varying somewhat in intensity. The tongue was slightly furred, the bowels confined. Temperature normal. Heart, lungs, and urine were normal. There was no dilatation of the stomach and no enlargement of the liver. About midway between the ensiform cartilage and the umbilicus, and a little to the right of the middle line, there was a small, well-defined area of well-marked tenderness. The diagnosis

of duodenal ulcer was thought probable. Rest, light diet, and medicinal treatment not having produced any material amendment in the patient's condition, it was decided to operate, and laparotomy was performed by Mr. A. B. Mitchell on May 23rd. On opening the abdomen the duodenum was found to be adherent to the surrounding structures, and scars of old ulceration could be seen. Gastro-jejunostomy was performed. The patient had no untoward symptoms after the operation, his pain was relieved, his progress was rapid and uninterrupted, and he was discharged from hospital on June 17th convalescent. The case was discussed by Drs. MITCHELL, FULLERTON, CALWELL, McQUITTY, and Professor SINCLAIR. The last said that he believed these cases were not very rare; his own experience had been chiefly with perforated cases, all in young men under 35. He regarded a small spot of fixed tenderness as of great diagnostic value. These cases were less amenable to dietetic treatment than were gastric cases.

Ruptured Extrauterine Fetation.—Mr. FULLERTON (Belfast) read notes of a case of ruptured extrauterine fetation simulating intestinal perforation. The patient was a young unmarried woman from whom little history could be got.

Ruptured Typhoid Ulcer.—Mr. FULLERTON also read notes of a case of ruptured typhoid ulcer treated by laparotomy and suture. The rupture occurred on the thirty-eighth day, with sudden pain and vomiting. Owing to the collapse the operation had to be done under cocaine. The patient died fifty-five hours after.

Papilloma of Larynx.—Dr. CECIL SHAW read notes of a case of papilloma of the larynx in a child of 4, treated by laryngotomy when other means had failed to relieve the severe dyspnoea.

Enlarged Prostate Removed by Freyer's Method.—Mr. A. B. MITCHELL (Belfast) showed eight specimens of enlarged prostate removed by Freyer's method. (1) Patient aged 80, catheter life for ten years; severe cystitis, requiring relief every half-hour; recovery complete; still well, three years later, passing all urine naturally, and able to retain it for six to eight hours. Prostate weighed 4 oz. (2) A gentleman, aged 72, three years' catheter life; severe cystitis, vesical calculus. Calculus size of a walnut, and prostate, weighing 2½ oz., removed. Complete recovery and restoration of bladder function. (3) A very feeble old man, 74 years, small pedunculated fibre adenoma, size of a large cherry, which, springing from the left lobe, hung like a valve over the urethral orifice, completely occluding it. (4) A minister, aged 67, catheter life two years; suffering intense agony; nine calculi and prostate removed. Complete recovery. (5) A farmer, aged 74, prostatic symptoms for eight years; severe attacks of complete retention; general arterio-sclerosis and albuminuria. Operation undertaken at patient's urgent request, as catheterization was extremely difficult and painful; prostate weighed 5 oz. Was up and walking about the ward two weeks after operation, when he took a "weak turn" and died the following day. *Post mortem:* cystic kidneys, pyelitis, heart dilated, aortic atheroma. (6) A gentleman, aged 67, had several attacks of retention, atonic dilated bladder with 20 oz. residual urine; prostate weighed 2 oz.; recovery complete. (7) A man, aged 63, who suffered from attacks of retention and severe pain, faint ammoniacal urine: prostate enucleated without difficulty. Recovery: left hospital in five weeks. Microscopical report showed the condition to be one of primary carcinoma. He died four months later. (8) A farmer, aged 73, catheter life for four years; confined to bed for four months, violent cystitis; severe attacks of haematuria, the blood coming from an open ulcer on the left lobe: prostate weighed 3 oz.; recovery complete. The series showed 8 prostatectomies, with 1 death; there was no selection. Life in all cases was almost intolerable. The longest operation took thirty-five minutes; the shortest five minutes, the average time being seventeen minutes from the beginning of incision to delivery of prostate. The only complication was a troublesome phosphatic deposit on the wound. This was best treated by internal administration of boracic acid, which for this purpose was far superior to any of the newer remedies. In all the cases urine was passed per urethram before the twelfth day. The average time under treatment was five weeks. It was interesting to note that the malignant prostate was enucleated without special difficulty. The paper was discussed by Dr. MOORE (Lurgan) and Dr. W. G. MCKENZIE (Belfast), who related a successful operation of this nature on a patient of his aged 86.

Erythrodermia.—Dr. WILLIAM CALWELL (Belfast) read notes of a case of erythrodermia, and showed a painting of the same.

REPORTS OF SOCIETIES.

DERMATOLOGICAL SOCIETY OF LONDON.—At a meeting on June 14th, Dr. J. J. PRINGLE in the chair, Dr. RADCLIFFE CROCKER showed a case, for diagnosis, of a follicular eruption occupying the thighs and knees of a woman aged 51. The condition had persisted for six months. Over the knees the skin was much thickened, reddened and scaly, and this condition, together with the follicular eruption on the legs and thighs, inclined the exhibitor to suggest the diagnosis of pityriasis rubra pilaris. Dr. J. J. PRINGLE considered the case to be more probably one of lichen planus. No other suggestions were offered.—Dr. J. J. PRINGLE showed for diagnosis a case of a follicular eruption covering the back and front of the trunk of a girl, aged 20, who stated that the eruption had lasted for five years; it was increasing in extent, and was itchy. There was no evidence of seborrhoea or of excessive sweating. Dr. RADCLIFFE CROCKER, however, considered that it might nevertheless be of the nature of a sweat eruption.—Dr. J. H. SEQUEIRA showed a case of keratosis follicularis (Darier's disease) of remarkable extent and severity in a woman who claimed to be of Welsh nationality. The eruption was particularly copious and pronounced upon the upper and inner surface of the thighs, upon the flexor aspect of the forearms and arms, upon the neck and the abdomen. She had had the disease for from eight to ten years. A section from the affected skin was shown, and the characteristic dilatation of the orifice of the pilo-sebaceous follicles by plugs of horny material was well marked. This case, being only the second example of the disease which has been recorded in this country, excited a great deal of interest.—Dr. ARTHUR WHITFIELD showed a case of myoma cutis in a man of about 40 years of age. Numerous small tumours were grouped, somewhat like herpes, in the course of the cutaneous division of the right supraorbital nerve. They were entirely painless, were found only in the position named, and had persisted for five years. It was a moot point whether they had appeared in the site of a previous eruption of herpes, a supposition supported by a history of original "blisters" in this position and by the very anomalous arrangement of the lesions. A section from one of the tumours was shown at the meeting and demonstrated that the tumour was undoubtedly composed of unstriped muscular tissue.—Dr. GRAHAM LITTLE showed a case of myoma cutis in a woman, aged 45, who had small tumours the size of a pea upon the neck, where they had appeared in the first instance; upon the left arm and forearm, and upon the back of the shoulder. She had noticed the earliest of these about six months ago. They were perfectly painless and she suffered no inconvenience whatever from them, but they appeared to be getting larger and some fresh ones were still coming out. A microscopical section from a tumour on the neck showed characteristic muscle fibres in the deeper parts of the corium, massed together and constituting the greater part of the swelling.—Mr. GEORGE PERNET showed a microscopical specimen of streptothrix which had been derived from a patch of actinomycosis of the skin in a case under the care of Dr. Radcliffe Crocker. The latter explained that the patient had been an engineer, who had possibly contracted the disease in West Africa, where he had also contracted malaria.

EPIDEMIOLOGICAL SOCIETY.—At a meeting on May 19th, Dr. WHITELEGGE (President) in the chair, Dr. A. RANSOME read a paper on the significance of phthisis death-rates, with charts showing those for males and females separately in England and Wales since 1839, in Scotland since 1871, in Ireland since 1861, and in Liverpool and Manchester for shorter periods. Phthisis was not merely communicable, but was endemic in certain localities where the curves showed a tendency to periodicity, though on the whole it was steadily declining in Great Britain, but rising in Ireland. The waves of greater or lesser incidence were very similar for the two sexes, but did not correspond in more than a bare majority of instances, and he had entirely failed to find any correspondence between them and weather, temperature, or rainfall, general or local. In England the deaths had fallen since 1838 from 3,800 to 1,100 per million, or more than 70 per cent., so that in 1864 he had predicted its practical extinction in thirty years, but the decline had slackened so much that this consummation could not be looked for earlier than the middle of this century. It could not be ascribed to any direct efforts since such had not recently been attempted, and were indeed impossible prior to Koch's discovery of the bacillus, whereas the

decline had been going on for over sixty years, probably longer, and before the earliest steps in sanitary legislation which had been prompted by the alarm caused by the great epidemics of cholera and influenza. It was rather the consequence of an "unconscious campaign" in which the recognition of the needs of better ventilation, pure water, the drainage of the soil, the sewerage of towns and the general amelioration of the social conditions of the people with better houses, cheaper food, and clothing were parts which had acted, directly and indirectly, in reducing the prevalence and fatality of the disease. On the other hand, there had been adverse influences at work in the growth of large towns and the transference of young adults from the open air of the country to that of factories, slums, public-houses, and music-halls—foul and laden with tuberculous sputum and dust—the higher mortality among men being no doubt mainly due to their inveterate habit of spitting and their frequenting the common lodging and public-house. The phenomenon of the increased mortality from phthisis in Ireland and its greater incidence on women was easily explained by the apathy of the people and the authorities and the absence of any real sanitary improvement, with the general poverty and dirt, which had more effect on the women, who passed their time in confined and filthy hovels, or in chapels that were little better, than on the men, who were much in the open air, and did not, like the English, sit for hours in the sputum-laden air of the taproom. The constant drain on the able-bodied population by emigration also tended to deteriorate the race.—Sir Shirley Murphy said that in considering the reduction in the death-rate it was necessary to recollect the improvement in the social condition of the people, and especially their better feeding. The fact that the reduction was more conspicuous among females than among males was consistent with the hypothesis that better feeding was largely operative in making the population more immune to disease. In times of stress it was the woman who suffered most, and she enjoyed in greater degree than the male the benefits of the improved conditions. In London there was a close correspondence between overcrowding and the phthisis death-rate, but overcrowding connoted poverty and bad feeding, while social amelioration gave better food as well as more space in the dwelling. Whatever part milk played in the production of human tuberculosis, it was a fact that the poor, who no doubt had least money to spend on milk, suffered the most, and, again, when the habit of drinking alcohol was associated with phthisis mortality, it must be remembered that the expenditure of money on alcohol reduced the amount which was available for food. It had been suggested that there had been recently a decrease in the rate of fall in the phthisis death-rate. This was quite consistent with what he had already said.—Dr. Newsholme thought that Dr. Ransome had over-rated the trustworthiness of the earlier registration returns and had laid too great weight on the recent falling-off in the decline of the death-rate, which had been observed in that of typhoid and was due to persistence of the causes less amenable to control. The sole direct efforts, namely, notification and sanatorium treatment, had been in operation only recently, and locally, but he claimed that better results had been obtained in Brighton, by voluntary notification, than in the few places where it was compulsory; he had found the educational value of the sanatorium very marked. The duration of each case of phthisis smoothed the manifestations of its periodicity, and the apparently high peak of 1890 was doubtless due to the great epidemic of influenza, which accelerated the fatal termination of a large number of cases. The whole question of the influence of drainage and sewerage works would have to be reconsidered, for they coincided with general sanitary improvement, and Dr. Buchanan's observations were made in a period of increasing prosperity.—Dr. Seaton defended Sir G. Buchanan's conclusions, the improvement having been too local and immediate to be referred to causes acting generally.

Dr. F. J. Allan took the same view, remarking that notification brought out clearly the constant association of phthisis with damp in the dwelling, and lamented the want of sanatorium treatment for the London poor.—After a few remarks by Dr. Bulstrode and the President, Dr. Ransome observed that neither poverty nor dirt alone would cause phthisis, for none could be poorer than the fishing folk of the north-west coast of Scotland or filthier than those of St. Kilda, where the infant mortality from trismus was appalling; but thanks to their outdoor life, neither showed any special liability to phthisis.

REVIEWS.

PLAGUE.

The history of the genesis and spread of the various maladies which affect mankind, and the influence they have had on his development, if woven into a coherent whole, would form a most interesting work, appealing not less to the layman than to the physician, though the task would, doubtless, be one beyond the power of any single individual to accomplish. There is, it is safe to say, no disease which is without its interest in this respect, but some have played a considerably more important part in the history of the world than others, and notably those that have acquired epidemic characters. That this is so it scarcely needs Dr. Creighton's masterly volumes on the *History of Epidemics in Britain* to show. In his pages the story of the great pandemics which have at various times ravaged the world acquire almost the fascination of a romance, and how vast an influence these exercised upon the nations afflicted by them we know from the complete stagnation of Europe that supervened after the Black Death had swept through the land. Plague, indeed, stands at the head of all the diseases of man, whether we regard the antiquity of its history, the widespread character of its epidemics, or the extraordinary mortality it has occasioned. Yet, though its literature is probably as large as that of any other disease, and though we are at the present moment brought face to face with what threatens to be a pandemic of proportions not inferior to those of any previous manifestation of this formidable scourge, there is as yet no work which can be said to deal comprehensively and satisfactorily with plague in the light of present-day knowledge. It is this omission which Professor Simpson seeks to remedy in *A Treatise on Plague*,[1] and the Syndics of the Cambridge University Press, at whose suggestion it was written, are to be congratulated, not only on the foresight which led them to the contemplation of the work, but also on the successful manner in which the author has fulfilled his task.

Professor Simpson, indeed, has been fortunate enough to hit upon the psychological moment for the appearance of his book. The present condition of India is well calculated to inspire even those of the least alarmist tendencies with the gravest anxiety. While in 1900 the deaths from plague in that country were 91,627, the figures rose in the following year to 282,497; in 1902 to 574,893, and in 1903 to 853,573. Last year they were 1,040,429, and we believe we are right in saying that this appalling total has already nearly been attained this year, though we have still six months' bills of mortality to add. Though hitherto Europeans have only rarely been affected, we should not suffer ourselves to be lulled into any false sense of security under the idea that this happy immunity is certain to continue. History distinctly shows us to the contrary, and Dr. Simpson is careful to lay stress on the fact that even in these days, and with every improved method of combating it, no nation is safe against plague. Even as we write, the disease has again made its appearance upon our shores, and our Australian correspondents are recording fresh outbreaks in the neighbourhood of Brisbane and Sydney. With these facts in view, then, Dr. Simpson's treatise cannot be regarded as otherwise than opportune.

After a careful and tolerably full conspectus of the history of plague from the earliest times not the least interesting part of which is the account of the present pandemic—Dr. Simpson passes at once to the epidemiology of the disease and discusses in successive chapters the various views on the method of infection, the relationship of the rodent and other epizootics with the malady in the human being, the theories which have been advanced to account for the genesis of epidemics and pandemics, the variation in the power of diffusion of the malady and how far this is explicable by meteorology or cosmic phenomena generally, the different types of the disease and their variation in virulence, the conditions favourable to plague, and finally the various modes by which it is disseminated. To each and all of these headings at least an entire chapter is allotted, and in some instances two. Part III treats of plague in the individual, the clinical features it presents and their astonishing variableness, the diagnosis, prognosis, and treatment, and the morbid anatomy and pathology of the disease. The fourth and con-

[1] *A Treatise on Plague, dealing with the Historical, Epidemiological, Clinical, Therapeutic, and Preventive Aspects of the Disease.* By W. J. Simpson, M.D. Aberd., F.R.C.P. Lond., D.P.H. Cantab., Professor of Hygiene, King's College, London, etc. Cambridge: University Press and London: C. F. Clay. 1905. (Demy 8vo. pp. 499, numerous maps, diagrams, charts, and illustrations. 16s. net.)

cluding part is devoted to a lengthy consideration of the methods for the prevention and suppression of plague and is divided into four chapters, while not the least important of the appendices is the full text of the measures agreed upon at Paris by the International Sanitary Convention of 1903.

We are thus presented with what promises, at the first glance, to be a full and valuable contribution to the literature of the important subject with which it deals, and we may say at once that the reader will find this promise fulfilled. Of Dr. Simpson's qualifications for his task it is hardly necessary to speak. As Medical Officer of Health of Calcutta for many years, and as Special Commissioner on the plague in Hong Kong and South Africa, he has had abundant opportunities of studying the disease under every condition, while we believe that he has also visited Australia, South America, and Mauritius for purposes of further research in this field. The wide experience thus acquired renders his book of special value, particularly as regards the description of the varying forms of the malady, for, as he rightly observes, there are few (it might without inaccuracy have been said no) diseases which present a greater variety of manifestation, and hence the student will find the chapters descriptive of plague in the individual a mine of information. It is true that the verification of the specific bacillus is the one certain diagnostic sign of the existence of the malady in the human being, but it is of the greatest importance at once to be able to recognize when a case is suspicious in dealing with an adversary so protean in its forms. How easy it is to make mistakes innumerable cases go to show, for plague has been diagnosed as almost every known malady, from appendicitis and alcoholism to yellow fever, and only the other day the cases occurring in Leith were at first thought to be enteric.

It is not this portion of the book, however, useful as it is, to which we desire to draw particular attention so much as to that dealing with the question of the suppression of plague. And here the first thing we would note is that, though Professor Simpson is no alarmist, and cannot hold the malady in respect and dread as *rem ignotam*, he does not scruple to express his opinion that the present condition of things in India is exceedingly serious. The figures we have already quoted show, he thinks, that if the plague continues its ravages, as appears to be probable, it will as surely produce the same conditions in India as it did in times past in Europe in the earlier pandemics, and the country may have to face the possibility of large areas of land untilled, and trade and commerce decaying. There is nothing, he insists, in present circumstances to justify the idea that plague will behave differently now in the twentieth century than it did, say, in the fourteenth. Yet the Government, whether from increasing dread of native opposition, false economy, or an utter inability to grasp the gravity of the situation, have practically let the ravages of plague continue unchecked. Dr. Simpson expresses the opinion that "no real and sustained efforts, commensurate with the great issues at stake, have been made to get to understand the disease and the manner in which it spreads, and no facts of practical value for the prevention of plague have come from India," and urges that vast sums expended in executive measures have been useless in the absence of a properly-equipped sanitary service. The establishment of such a sanitary service Dr. Simpson considers to be of the first importance, and it should consist, in his opinion, chiefly of native members, who, as versed in the ways of their countrymen are less likely to offend against their prejudices. With these, qualified women should be associated. The maintenance of a Public Health Service of this kind is, he thinks, as feasible and quite as important as the maintenance of the native army. It should be combined, however, with research work on the etiology of the disease and allied subjects, and in discussing these points the author gives a useful and suggestive list of the most important questions demanding investigation. In conclusion, he asks whether it is too much to hope that some portion at least of the large annual surpluses which India is now obtaining by its fiscal policy may be devoted to some scheme of this kind. All those who know India will echo his sentiments.

Space forbids our entering further upon the section treating of the prevention and suppression of the disease, but it is enough to say that it is the most complete and practical summary of the subject we have seen. Dr. Simpson, it may be remarked, looks upon the evacuation of infected blocks, combined with general inoculation of Haffkine's prophylactic, as the most efficacious means of dealing with formidable epidemics, and he speaks very favourably of the Clayton process of fumigation with sulphur polyoxide. The Danysz virus also gave useful results against the rats. But all these remedies are as bows drawn at a venture until we know something more definite about the disease itself and the means whereby it is transmitted. We may hope much from the new Commission now being organized by Dr. C. J. Martin at Bombay, but a great deal of precious time has been lost, and we hear a rumour that the Indian Medical officers who are to form part of the staff of the Commission have not yet been permitted to commence work. Meanwhile we owe a debt of gratitude to Dr. Simpson for the excellent monograph he has produced, which must take its place as the standard work on the malady of which it treats. The series of photographs of plague patients are an interesting feature of the book, giving instructive illustrations of the characters of the buboes and various necroses met with. Among a few not very important mistakes, we note "Ascension" (p. 173), where "Asuncion" is probably intended. There is, unfortunately, no bibliography, an omission much to be regretted, and the index is so meagre as to be almost valueless.

MEDICAL ENTOMOLOGY.

SINCE the publication of Mr. Theobald's valuable and epoch-making monograph on mosquitos few works of first-rate importance on this subject have appeared. We have now, however, to record the appearance of an important book on mosquitos, their natural and medical history,[1] by Professor BLANCHARD of Paris. The book is large, but the entomologist and the student of medical entomology will appreciate the difficulty of encompassing a subject so vast as this, and one so rapidly growing, in less. After a preface in which the author states that Mr. F. V. Theobald's fundamental monograph of the *Culicidae* of the world has served as his guide for the descriptive part of the work, and that he has applied faithfully the rules of zoological nomenclature to the naming of mosquitos, comes a short introduction, and then the first chapter. This deals with the definition of mosquitos and their place in the animal kingdom; next we find the morphology and anatomy of the mosquito described, then their habits and metamorphosis, then the systematic study including the description of genera and species. Theobald's classification is adopted, and to this part of the work, more important to the entomologist proper than to the ordinary medical man, 204 pages are given. In Chapter V the pathogenic rôle played by mosquitos in producing disease is dealt with, including of course malaria of man and other mammals, yellow fever, and filariasis, subjects of surpassing interest to students of tropical medicine. General prophylaxis, and after that methods of collecting, rearing, and preserving mosquitos are considered; an appendix deals with genera and species encountered since the text was written, and finally a bibliographical index and index of the contents close the book. In the chapters on the morphology and anatomy of the mosquito, the external anatomical parts are described in detail, but more space might have been given to the internal anatomy, especially to the histology. To the pharynx is rightly attributed the power of suction—a view held by most authorities. More might have been said concerning the ideas of the functions of the aspiratory vesicles or food sacs, as they are also called, especially as regards the feeding experiments of Nuttall, and the nervous and generative systems should have been included to make the anatomy complete. In the classification one or two new points are open to comment. The genera *Sabethes*, *Sabethoides*, *Wyeomyia*, *Phoniomyia*, *Dendromyia*, and *Runchomyia*, the latter renamed *Binotia* by the author, are taken out of the subfamily *Aedeomyina* and placed in one of their own, the *Sabethinae*, while the genera *Limatus* and *Goeldia*, also recently included in the *Aedeomyina*, are placed under the *Joblotinae*. This revision seems to be a good one, as it removes the six genera with bristles on their metanotum from the other members of the *Aedeomyina* which have this structure bare, and places the other two, *Limatus* and *Goeldia*, with *Joblotia*, all of which have both bristles and scales on the metanotum. The 7th subfamily of Theobald, the *Corethrinae*, is not included, and as the two genera *Corethra* and *Mochlonyx* do not bite, not having their probosces formed for piercing, it is just as well. The yellow fever spreading mosquito, first known as *Culex fasciatus*, then when its genus was separated from that of *Culex*, as *Stegomyia fasciata*, has again had its name altered, the specific termination of *calopus* being now given to it by Professor

[1] *Les Moustiques, Histoire Naturelle et Médicale*. Par Raphael Blanchard, Professeur à la Faculté de Médecine de Paris. Membre de l'Académie de Médecine. Paris: F. R. de Rudeval. 1905. (Demy 8vo, pp. 673; [illegible] illustrations. Frs. 25.)

Blanchard. This may be right according to zoological nomenclature, but it is trying, nevertheless, to the student of medical entomology. Good points added in the classification are the derivations of many of the Greek names, and bad points are the calling of genera by personal names, though this is discounted somewhat by the author stating who the individuals are. Little fault can be found with the chapter which deals with the part played by mosquitos in the dissemination of disease. The technique for examining and staining the blood is given with minute detail, and students have the choice of the many modifications of Romanowsky's chromatin staining, all of which are described. The different orders of the *Haemosporidia* are sufficiently gone into, though some of the names must be confusing to those studying the subject; for instance, the *Plasmodium falciparum* is hardly recognizable as the *Haemomenas praecox*, the name usually given to the tropical parasite of Koch, the aestivo-autumnal of the Italians, the parasite of malignant malaria of the English. It is sincerely to be hoped that once those different names are decided upon they will be adopted and used by Continental and English authorities alike. All the points concerned with the general destruction of mosquitos are described under general prophylaxis, and accounts of the different experiments of the Italian and English investigators who lived in mosquito-proof houses are graphically rendered. Due attention is given to the preventive and curative properties of quinine. Using it as a preventive, Grassi has had good results, but it is questionable if this method would ever be feasible when dealing with savages or ignorant natives. In the part of the book which deals with prophylaxis a very clear account is given of the different schemes tried in the exceedingly difficult and expensive work of exterminating mosquitos. The closing chapter describes the rearing and breeding of mosquitos, the preservation of the insects for collections, and for anatomical researches. It will prove useful to the beginner and should direct him in the paths he ought to follow. The book is profusely illustrated, many of the well-known diagrams of Theobald, Howard, and others being incorporated. The diagram on p. 88 should frighten the intending visitor to the tropics, the flight of insects so closely resembles that of wild ducks that one almost expects to see a fowler with his shotgun crouching behind the large stone in the background ready to fire upon them. To sum up, the book is a very useful contribution to the literature of this very important subject. No one interested in tropical medicine should be without it. As a book of reference it will prove invaluable.

A very interesting monograph on the *Filariae* of the blood of man[1] published some time ago by Dr. PENEL of Paris has very quickly reached a second edition, and its merit certainly deserves that it should. The production of a good compilation of any individual subject, containing as it does the work of many different observers and a complete bibliography, is no light task for any one to take upon his shoulders, but, if the work is well done, the author will have the satisfaction of knowing that from the monetary point of view his labour will be a success, and that from an instructive point of view he will benefit and help hundreds with little time at their disposal, but nevertheless desirous of grasping the technical details of the subject. The work of Dr. Penel is of this class; with the exception of Chapter XII, which contains original matter, the text is taken up with the observations of others, so accurately described, however, and so well written that it should prove of the greatest value. A preface by Professor Blanchard opens the monograph. Chapter I deals with classification. Chapters II to XI deal with the different filariae of the blood of man, *Filaria bancrofti*, *Filaria loa*, *Filaria diurna*, *Filaria perstans*, *Filaria demarquaii*, etc. New observations on *Filaria loa* are contained in Chapter XII, then come conclusions, an appendix, comparative tables, and a bibliography. There are, of course, points in the works of the many authors quoted open to criticism, but as those do not concern Dr. Penel it would be out of place to enter upon them here. In the list of mosquitos given on p. 58 as carriers of *Filaria bancrofti* the old names are adhered to. The most recent nomenclature should have been adopted and those older names given as synonyms, for example, *Culex taeniatus* should have been written *Stegomyia fasciata* (syn. *Stegomyia calopus*, Blanchard, *Culex taeniatus*), and so on. Another mistake that crops up again is seen on the same page, namely that *Stegomyia fasciata* is an intermediate host of *Filaria bancrofti*. This is not the case; the embryos only undergo a partial development in this insect and then disappear. On p. 97 it is stated that Low observed the development of the sausage stage of *F. perstans* in an American species; this is a mistake, the observation was made on *Taeniorhynchus fuscopennatus* in Africa. Apart from a few minor errors such as the above there is little to find fault with in the general description. The part dealing with *Filaria loa*, and the identity of the embryos of *F. diurna* as belonging to it, is interesting as it confirms Manson's original hypothesis, and strengthens a view which has been gradually gaining ground amongst those interested in the *Filaridae*. There is an enormous amount of work contained in the book, and the bibliography is very good. It is unfortunate that there are not more and better diagrams. It seems to be a general failing, especially in helminthological works, to adhere rigidly to the diagrams of a past age. A few good photomicrographs of the different embryos would have been a help to the student, and perhaps Dr. Penel may see his way to accomplish this in his third edition.

[1] *Thèse de Clinique de Médecine Coloniale de Paris.* Laboratoire de Parasitologie. Les Filaires de l'Homme. Par le Dr. Raymond Penel, Médecin Colonial de ... Université de Paris, avec préface du Professeur L. G. Blanchard, Membre de l'Académie de Médecine. Deuxième édition. Paris: F. R. de Rudeval. 1905. (Demy 8vo, pp. 162. Fr. 6.)

SURGICAL TEXTBOOKS.

PROFESSOR OTTO HILDEBRAND has rewritten the fourth volume of König's text-book of surgery,[4] that devoted to general surgery, and it now appears as a second edition. The term general surgery is liberally interpreted, the first part treats of the injuries and diseases of the human body in general, the second of the injuries and diseases of special tissues. There are four subdivisions in the first part: injuries, acute specific infective diseases, chronic specific infective diseases, and tumours. Under the heading of injuries the whole subject of wounds and their common complications is dealt with, and this is preceded by a section on contusions. The principles of asepsis are fully discussed. Quite a considerable number of specific infections which one would have expected to find discussed in the sections on infective diseases are not to be found there, for example, gonorrhoea and echinococcus. Gonorrhoea is found in the section on injuries and diseases of the mucous membranes, but receives there very scanty consideration. In the chapter on tumours the attempt to formulate a complete classification is frankly abandoned as at present impossible, but it is held that the final classification will be in terms of embryogenesis and Klebs's division into parablastomata and archiblastomata is considered the best. It is well known that many pathologists consider that a classification based on the embryonic layers must always be inconvenient and confusing. This chapter is well illustrated, as indeed is the whole volume, with photographs of patients and growths and drawings of microscopic sections. In the second part of the book the diseases and injuries of special tissues are considered in series, the skin, the blood and lymph vessels, the lymph glands, muscles and tendons, nerves, bones, joints, and bursae. These are reviewed in a masterly manner; perhaps the hundred and fifty pages devoted to the bones rank highest, but all the sections are extremely good and very uniform. There are, of course, several subjects on which the reader is referred to the volumes on special surgery. Professor Hildebrand's revision has been very thorough and this second edition will enhance the high reputation which this well-known textbook possesses.

In the third and latest edition of Dr. ZUCKERKANDL'S manual of operative surgery[5] which, in its translation by Da Costa of Philadelphia, is well known to English readers, many additions have been made. There is a fresh chapter on the different positions in which the patient can be placed on the operating table, and important additions have been made to the chapters on trephining, and on the surgery of the stomach and intestine, and of the urinary organs. The number of illustrations has been increased. They form a striking feature of this manual, and add so much to its usefulness as an aid to the teaching of practical surgery on the dead subject.

[4] *König's Lehrbuch der Chirurgie* [König's Text-book of Surgery.] Band IV. Allgemeine Chirurgie. Zwölfte Auflage. Von Dr. O. Hildebrand. Berlin: A. Hirschwald. 1905. (Demy 8vo, pp. 995; 361 illustrations, M. 21.)

[5] *Atlas und Grundriss der chirurgischen Operationslehre.* [Operative Surgery.] By Dr. Otto Zuckerkandl. Vienna: Dritte Auflage. Munich: J. F. Lehmann. 1905. (Crown 8vo, pp. 498; 46 coloured plates, 300 illustrations, M. 12.)

NOTES ON BOOKS.

RADIOGRAPHY IN DENTISTRY.

WHILST containing little or nothing that is not well known, Dr. DARMEZIN'S little pamphlet[1] gives a fairly complete account of radiography as applied to dental purposes. It was not, however, necessary to include such things as an elementary account of the action of a galvanic cell or of the development of a photographic plate, and the space so used might advantageously have been devoted to such matters as the difficulty of interpretation of the resulting skiagraphs, due to their being shadows cast by objects on a curved surface, curved in more than one plane, and cast by a diverging cone of rays, which are subsequently looked at spread out flat. These difficulties are hardly touched upon by the writer. A useful hint is given with regard to skiagraphs of fractured jaws when it is pointed out that a fallacious appearance of fragments overriding one another may be given by the tube being a little on one side of the fracture, but here, as in other places, ambiguity is caused by its not being apparent, when speaking of lights and shades, whether the negative or the print is alluded to. Up to the present time radiography has rendered most service to dentists in cases in which the presence or absence of a missing tooth is in question, or in determining its exact position, the indications in other morbid conditions being inconclusive.

EXAMINATION OF THE URINE.

A considerable number of textbooks have recently been issued dealing with the methods adopted in various laboratories in different parts of the world. Few of these volumes have anything to recommend them beyond the fact that they contain the methods with which each writer is most familiar. In order to find excuse for further publications on the subject, more recent writers are obliged to discover some fresh need. Dr. SAXE has compiled a very handy volume, *Examination of the Urine*,[2] on the various methods of chemical, physical and microscopical examination: they are familiar to the reader as they are the recognised methods of investigation. Though he has fallen into the common error of filling up his volume with references to investigations on the urine which have not so far been found to have any clinical importance, he has endeavoured to supply descriptions of instruments, etc., which he has personally introduced, such an instrument is the urinopyknometer, which is serviceable for making a rough clinical estimate of the specific gravity of small quantities of urine; a useful instrument is also described by means of which urine and various reagents for the detection of proteids may be brought into contact without producing any great disturbance of the line of junction. In the appendix, Dr. Saxe advises the student to single out one test and to have one confirmatory test in reserve in case of doubt; but it is just in this direction that Dr. Saxe and other writers should give their experience as to what is the best method, rather than supply a digest of all the possible ways of detecting, for example, proteid in the urine. Another feature to which objection must be taken is the introduction at the end of each section of a catechism on the previous instruction. This is not necessary and tends to encourage the book learning of a practical subject which is most undesirable. In these criticisms, we do not wish to overlook the good points of the book, it certainly provides convenient references to various special methods, amongst them those that are ordinarily accepted as reliable.

MEDICAL AND SURGICAL APPLIANCES

A Spring Truss.—We have received a specimen of a truss, the invention of the maker, Mr. R. Rae, 1, Wharton Road, West Kensington, W. It is a double spring truss of a new pattern, and consists of a pad which lies over the sacrum behind, and of two springs, one on each side, which end in pads for the hernial orifices. The novelty in construction consists chiefly in the shape of the springs; these arch forwards from behind so as to lie above the level of the iliac crest at the side, and thence descend to the front pads. The object is to avoid pressure on bony points, and the sacral pad is also shaped with this object. As a truss the instrument is satisfactory and the special idea is ingeniously carried out.

[1] *Précis de Radiographie Dentaire* (Essentials of Dental Radiography). Par Réné Darmezin. Paris: Vigot Frères. 1905. (Demy 8vo, pp. 95; Fr. 3.)
[2] *Examination of the Urine.* By G. A. de Santos Saxe, M.D. London: W. B. Saunders and Co. 1904. (Cr. 8vo. pp. 391; Illustrated. 6s. 6d.)

EPSOM COLLEGE.

THE annual general meeting of the Governors of Epsom College was held on June 23rd, under the presidency of Sir CONSTANTINE HOLMAN, M.D., Treasurer.

The report stated that the surplus of income over expenditure for the year 1904 amounted to only £139 4s. 6d. The Council was, however, gratified to find that the receipts from annual subscriptions and bequests were larger than those of the previous year, though the donations were less. In order to bring the sanitary arrangements of the College into accordance with modern requirements it had been necessary to undertake works which would probably cost from £4,000 to £5,000; the necessity for this outlay was largely due to the imperfect system of laying drains in vogue many years ago when the College was erected and the omission to remove from the ground disused drains, some of which might ultimately be a source of danger. As the Council deemed it unwise to sell any of the stock belonging to the General Purposes Fund, they had decided to increase the mortgage on the College property from £10 000 to £14,000, and an appeal had been made for subscriptions to repay the mortgage. Reference was made to the loss of the services of two members of the Committee—Dr. Felce and Mr. George Croft. Dr. Felce had rendered invaluable services for thirty years, and the Council proposed his election as Vice-President of the College. Referring to the honour of knighthood conferred upon the Treasurer last year, the report stated that Sir Constantine Holman had been a member of the Council for twenty-seven years, and had held with conspicuous success the responsible office of treasurer since 1887. The system of keeping accounts which he had instituted had enabled the governing body to have an intimate acquaintance with the financial condition of the College, and the Council was confident that it was expressing the feeling of all Governors when it wished Sir Constantine Holman the enjoyment of his honour for many years. The report further stated that there were on the books of the College 46 ordinary pensioners, 9 Pugh pensioners, 14 Da Silva pensioners, 10 France pensioners, and 3 Morgan pensioners. The Council was glad to be able to report satisfactorily on the school; the health of the boys had been on the whole good, and the discipline excellent.

Sir CONSTANTINE HOLMAN, in proposing the adoption of the report, referred to the fact that it was the jubilee report. He expressed the opinion that the ideas of the founder, the late Mr. John Propert, had been carried out fully, and was able to state that the opinion was shared by his son, the late Mr. J. Lumsden Propert. After mentioning the sums which had been spent on repairs and drainage, Sir Constantine referred to the services rendered for many years by Sir Joseph Fayrer, Bart., who had recently resigned the Chairmanship of the Council, and congratulated the Governors on having secured Sir William Church as his successor. The Council had followed the example of other schools, and now meat breakfasts were given to all boys in the College. He congratulated the Chairman of the Selection Committee on the fact that eleven out of the twelve elected candidates had been chosen as the most urgent cases by that Committee.

It was announced that the following candidates had been elected:

Pensioners.—Mary Ann Paul, Mary Sewell, Catherine Reece, Elizabeth Mathews.

Foundation Scholars.—Kenneth T. K. Wellington, Robert K. MacRoberts, Bernard S. Pullan, Royale S. Dutton, William O. Deacon, Ronald H. Kershaw, Bernard S. Liddard, Alexr. L. H. Ferguson.

The business of the meeting was brought to a close by a vote of thanks to the Chairman, moved by Sir WILLIAM CHURCH.

A meeting of the Council was held subsequently, when Dr. William Collier, President of the British Medical Association, was elected a member of the Council. Mrs. Swales, who had obtained the largest number of votes among the unsuccessful candidates, was appointed a pensioner to a vacancy which had arisen.

Dr. Thomas Dutton desires, on behalf of the widow and himself, to thank those who supported the candidature of Royale S. Dutton, who obtained fourth place as a foundation scholar.

A PRESENTATION was made to Dr. Ronald C. Macfie by the patients and staff of the Sidlaw Sanatorium on the occasion of his vacating the office of medical superintendent, which he has held since the opening of the institution.

MEDICAL NEWS.

We have received, through the courtesy of the Registrar of the General Medical Council, the volume of the *Minutes* of the Council and of its various Committees from January 1st to May 27th, 1905. The minutes themselves occupy 156 pages, and there are seven appendices filling 138 pages, making a total of 294 pages.

The annual meeting and dinner of the Brussels Medical Graduates' Association will be held on Thursday, July 13th, at 7 p.m., at the new Gaiety Restaurant, under the presidency of Dr. F. R. Miller. Members desirous of attending are requested to notify the Honorary Secretary, Dr. Edwards, Camberwell House, S.E.

At the meeting of the Pathological Society of London to be held at the laboratories of the Claybury Asylum this day, Saturday, July 1st, papers will be read by Dr. Mott on the nervous system in trypanosomiasis, and on histological changes in the brain in dementia praecox and dementia paralytica; by Dr. Watson on comparative anatomy of the cerebral cortex; by Drs. Farmer, Moore and Walker on the cytology of carcinoma; and by Dr. Ledingham on a case of leukaemia treated by *x* rays.

Diseases of Occupation.—M. Dubief, the French Minister of Commerce, who is a member of the medical profession, has introduced into the Chamber of Deputies a Bill relating to diseases of occupation. The Bill consists of forty-seven clauses, arranged under five headings. The first defines the scope of the Act, and fixes, in the case of the industries to which it applies, the indemnities to be paid in case of illness. The second and third respectively deal with the organization and working of local Friendly Societies and Central Guarantee Syndicates, their liabilities and their resources. The fourth is devoted to local Arbitration Committees and the Superior Committee of Diseases of Occupation which are called upon, from different points of view, to ensure the smooth working of the Act. Under the last heading are set forth the penalties for breach of the provisions of the Act.

The Medico-Psychological Association of Great Britain and Ireland.—The sixty-fourth annual meeting of the Medico-Psychological Association of Great Britain and Ireland will be held at 11, Chandos Street, Cavendish Square, London, under the Presidency of Dr. T. Outterson Wood, on Thursday and Friday, July 20th and 21st. The annual business meeting will take place at 11 a.m., and Dr. Wood will deliver the presidential address at 2 p.m., after which Dr. George M. Robertson, Stirling District Asylum, will introduce a discussion on the employment of female nurses for the care of insane men. On Friday, July 21st, at 10 a.m., the question of the treatment of insanity and the proper accommodation to be provided, especially for early mental disorders, will be discussed in view of the introduction of the two lunacy Bills into Parliament; papers will be read by Dr. Helen Boyle and Dr. Milson Rhodes and Dr. Alan McDougall. At 2 p.m. on the same day the question of phthisis in asylums will be brought up for discussion by Mr. George Greene, Claybury Asylum, who will communicate the results of a comparative study of the incidence of tuberculosis in asylums. Papers on other subjects will be read by Dr. Mercier and Dr. Robert Jones. The annual dinner will take place on July 30th at the Whitehall Rooms, Hotel Métropole. Further particulars can be obtained from Dr. Robert Jones, Honorary General Secretary.

British Electro-Therapeutic Society.—The annual dinner of the British Electro-Therapeutic Society was held at the Criterion Restaurant on June 23rd, with Dr. Donald Baynes in the chair. The annual report of the Council stated that the total number of members was about 200. The attendance at the various meetings held to read and discuss papers averaged twenty-four. The Council was taking into very serious consideration medical electrical treatment by unqualified persons, and trusted that its efforts would meet with some success during the coming year. In order that the medical profession might be aware that there is a body of medical practitioners who make electro-therapeutics their special study, a list of members of the Society, with the names of the towns in which they reside, would be forwarded to any registered medical practitioner who applied to Dr. R. Morton, 22, Queen Anne Street, London, one of the honorary secretaries. The Chairman, in proposing the toast of "The British Electro-Therapeutic Society," explained that one of the objects of the Society was to educate the profession in the matter of electro-therapeutics, and to endeavour to put a stop to the present encouragement given by prominent members of the profession to the employment of unqualified assistants in the treatment of their patients by electricity and other physical aids. The Chairman condemned in strong terms the action of certain medical men, whose names were read out, in allowing themselves to be advertised on a circular as recommending a person who treated with light baths gout, obesity, rheumatism, lumbago, many forms of nervous troubles, cases of physical exhaustion, and general debility and sciatica. The Chairman concluded by observing that the medical men in New York interested in electro-therapeutics were securing their proper position by the foundation of a post-graduate school of physical therapeutics where the teaching was conducted by recognized medical authorities. The toast was responded to by Dr. Lewis Jones, who said that the efforts of the Society must be directed towards raising the position of electro-therapeutics to a higher level. It was not sufficient to be able to give an electrical administration to a patient which was comforting and of use for neurasthenia or debility; but they must treat serious diseases successfully, and more successfully than they were treated in other ways. By that means he foresaw that they would hear less and less of quackery. He was sorry to say that a circular had been issued from Guy's Hospital Electrical Department offering to treat patients for an indefinite period for £6. The toast of "The Officers," submitted by Dr. Sibley, was acknowledged by Dr. Reginald Morton, and after Dr. Reid had proposed "The Visitors," which was responded to by Mr. Douglas Story, the proceedings terminated.

The Prevention of Degeneracy.—Dr. R. R. Rentoul recently delivered an address on degeneracy, its causes and prevention, at Leicester. Alderman Dr. George Clifton, J.P., Chairman of the Leicester Medical Union, who presided, said that in olden times the weakest went to the wall as a rule, and died and became extinct, but under the new régime and the new law a weaker type of the human race persisted, and had become a prolific source of danger to the community at large. Any one who had anything to do with the lunacy laws, with the police-courts, or with educational committees, must feel that if something were not done soon, especially in countries like England, they would find a very great difficulty in preventing degeneration all round. Looking over the whole question, he thought the time had come when they might get some information, and he had therefore invited Dr. Rentoul to give his view of the remedy for degeneracy. Dr. Rentoul said that he pleaded on behalf of the infants and children of the future—the "coming race"—as one deeply interested in the prevention of the cursing of unoffending children with some mental or physical disease, which he regarded as the highest form of torture and cruelty. No person, whether sane or insane, had a right to beget diseased children; every child had the right to be healthy. The present plan of selection in marriage was artificial, and seemed to be more based on questions of property than sound breeding. He considered that the chief questions must be, Could the physical and mental breed of the coming race be improved? and, Was it justifiable to allow certain degenerates to marry? He argued that the law must enact that when any person intended to marry, such person must undergo a thorough examination by a medical practitioner, who would, if the person was mentally and physically healthy, grant a pre-nuptial certificate of good health. Secondly, if any official granted a permit to marry without the production of a health certificate, or if any person joined in marriage those who had not this certificate, such person should be fined up to £500, or be imprisoned for not exceeding ten years. Thirdly, if persons wishing to marry failed to obtain this certificate of health, and insisted upon marrying, they must present a certificate stating that they had been rendered incapable of begetting offspring. There were two causes of the increase of insanity in this country which had not received proper consideration—the emigration of healthy stock to other countries, leaving the degenerate at home, and immigration into this country of the alien insane, criminal, pauper, and immoral classes. America and Canada managed better. During the last twelve years America had arrested and deported the following immigrants:—Idiots, 52; lunatics, 208; paupers likely to become a public charge, 32,422; suffering from loathsome or contagious disease, 5,529; convicts, 167; prostitutes, 117; anarchists, 1; and polygamists, 7. Dr. Rentoul concluded by describing surgical and other methods of sterilizing degenerates.

British Medical Journal.

SATURDAY, JULY 1ST, 1905.

THE PROHIBITION OF COMPANY PRACTICE.

NOTICE has been given in the House of Commons by Sir John Batty Tuke of two Bills dealing respectively with medical and dental practice by companies. We have repeatedly urged the necessity for an amendment of the law in this direction, and we cordially welcome any attempt to check this growing evil. At this late period of the Session the chances of any private Bill becoming law are remote indeed, and no one knows this better than Sir John Tuke, so that we may fairly speculate upon the motives which induced him to present them at this period. It is not difficult to surmise such a motive, inasmuch as a Select Committee, under the chairmanship of Sir Robert Reid, is investigating various matters in connexion with company law. Whilst it is probable that this Committee might decline to take into consideration an abstract question, which might or might not be held to be within the terms of its reference, yet if Bills touching upon company questions in any of their aspects were actually before the House they might not improbably include them within the scope of their Report. If company practice can be brought under the consideration of this Committee it will be a clear gain: not only will an opportunity be afforded of bringing into prominence the nature of the infringements of the law, but these or similar Bills will have a better chance of attention in another Session.

If this is to be the fate of the Bills this session, their exact provisions at present hardly require the minute examination which would be essential were it likely that they would speedily be discussed in the House itself; they may rather be regarded as affording a basis for discussion. Still it is desirable to examine them, even if only from this point of view, and their text will be found in the SUPPLEMENT, page 28. A phrase used in the explanatory memorandum of the Medical Bill, to the effect that it has the approval of the General Medical Council, leads to the inference that it has been submitted to, if not actually drafted by, the legal advisers of the Council. As there is no allusion to the dicta of judges in recent decisions as to the fraudulent nature of these companies, which might have strengthened the preamble, it may further be surmised that the Bills have not been quite recently drafted, so that it is more than probable that Mr. Muir Mackenzie, who was till lately the standing counsel to the Council, and who has an unrivalled experience in these matters, has had a hand in them.

The Medical Bill goes the whole length of prohibiting companies from carrying on the profession or business of medical practice; it provides for conviction by summary process, and imposes a fine not exceeding £5 for every day of infringement of its provisions. It further applies to companies already formed, as well as to future companies. So far it is all that we could wish, but there are some points in which we venture to think that it might be improved. To bring home the act of practice it is necessary, as a rule, to get patients to come forward and give evidence—which is always very difficult—or else to employ some one who is not a genuine patient; and evidence of this kind is always apt to be discredited. In some foreign Acts it is laid down that the fact of a person holding himself out as ready and willing to treat patients shall be held to constitute an act of practice. Such a provision removes these difficulties. In the explanatory memorandum, which is to be read with the Bill, exception is made in favour of hydropathic establishments, convalescent homes, Friendly Societies and the like. That some such exception is necessary may be admitted, but the addition of the words, "the primary object of which is not the conduct of medical practice," suggests a means of evasion. For example, a notorious medical company might urge in its defence that its "primary object" was the sale of its drugs, and that the acts of practice which have been brought home to it are not its primary object.

Certain difficulties in connexion with the mechanical side of dental practice appear to have led to the drafting of the Dental Bill in less stringent terms. Dental companies are not as such prohibited from practice, but they are required to conduct it wholly by means of registered dentists, whose names shall be conspicuously posted up at the place of business, and anything which would be an offence under the Dentists Act if committed by an individual shall be an offence if committed by a company. It will be noted that there is no new offence created to be punishable by a fine or other means; nothing more is attempted than to bring the company within the provisions of the Dentists Act. At first sight this might appear logical, but it has not been deemed sufficient in the case of the Medical Bill, and would probably lead to a difficulty in the enforcement of this Act, if such it becomes. No penalty is set down against a company which disregarded the first provisions, namely, that it shall conduct practice only by means of qualified registered practitioners. It is conceivable that a company might disobey this injunction without infringing any of the provisions of the Dentists Act, and the medical profession has had sad experience of the inefficiency of prohibitions not enforced by a specific penalty, as, for example, in the case of certain requirements as to medical certification, which may be fresh in the minds of our readers. It should be remembered also that the Dentists Act, as well as the Medical Acts, came into existence before the days of company practice, so that they cannot be expected to cope adequately with it. Still we do not desire to look a gift horse in the mouth, nor to criticize the Bills adversely. For even if the question is taken up by Sir Robert Reid's Committee, it is at least doubtful whether that Committee will report during the present Session, and it may be taken as certain that any legislation which is the outcome of their report must be postponed to another year, so that there will be plenty of time for the close consideration and discussion of the Bills; unless, indeed, one of the parliamentary surprises which do now and again happen should hurry them on.

THE COMMON INTERESTS OF LITERATURE AND SCIENCE.

THE study of the causation and prevention of disease is still in its infancy, and the medical profession realizes only too keenly the urgency of the problems awaiting solution, their far-reaching national importance, and the seriousness of the obstacles which retard their elucidation. Foremost amongst these obstacles is the apathy or want

of scientific enlightenment on the part alike of the general public and of the responsible officials who are entrusted with the conduct of State affairs. It is not yet recognized that for the efficiency of a nation the consideration of the physical well-being of the community should rank equal in importance to the considerations of military capacity, diplomatic prestige, and commercial interests. Until this recognition is obtained, it will remain a reproach to our nation that it is neglecting its own welfare in its neglect adequately to encourage the sciences by which it may be advanced. But the public mind moves slowly. It needs education, and therefore we must seek to influence it through the co-operation especially of the universities. We must urge these bodies to inculcate in the minds of the rising generation a true appreciation of the value of science as a means of advancing human welfare. Amongst the intellectual influences which have shaped the destiny of this country Oxford has always been an important factor, and we are, therefore, cordially in sympathy with Professor Ray Lankester[1] in his endeavour to stimulate in Oxford a wider recognition of the important intellectual and practical advantages to be gained by a fuller infusion of scientific enthusiasm and ideals into the life of the University. But literature and science are devoted to a common object—the pursuit of knowledge which shall aid human advancement. Given equality of intellect, disinterestedness, and integrity of purpose, the results obtained by the man of letters may be as great a benefit to mankind as the discoveries of the scientist. Literature and science are allies, not antagonists; and their alliance ought to be particularly close at Oxford where the ideal of literature or "litterae humaniores" is exceptionally broad and essentially scientific in its comprehension. Literature, in the Oxford sense, is the record of human thoughts and actions, and the object of its study is to gain an insight into the mental evolution of man, his relations to his human environment, and the conditions which determine the organization of the complicated mechanism of society. The pursuit of these investigations is as important and as truly scientific as the laboratory experiments of the physicist or the chemist.

The votary of science needs his library as well as his laboratory; the man of letters, too, needs both, the difference being that he performs in his library, or perchance amid the ruins of Egypt, Greece, or Crete, the processes of verification, assimilation, and mental experiment which are necessary to the advancement of his department of research.

Professor Lankester passed very lightly over these considerations, which were no doubt present to his mind, in order to insist on the value of the pursuit of natural science for the furtherance of objects which are of primary importance to the welfare of mankind and the future of the British nation. He might, perhaps, have succeeded better in convincing some members of his audience had he laid stress on the points of correspondence between the method of teaching literature at Oxford and the method universally adopted in the teaching of the natural sciences. It is the fundamental principle of all scientific teaching that the student should be brought into direct contact with the great elementary truths, theories, and experiments which constitute the groundwork of the knowledge he is acquiring. Thus in physics, chemistry, biology, and physiology, the student is made to repeat for himself the observations and experiments of the great discoverers who have laid the foundations of those sciences; and, when we are dealing with pupils of intelligence who are capable of more than a parrot-like acquisition of examination data, we induce them to read for themselves the original writings of the great pioneers of science, in order to bring them more closely into contact with an influence which is invaluable as an incentive to future discovery, the personal magnetism of a great mind. For a precisely similar reason it is the intention of the Oxford school to equip the rising generation of politicians, lawyers, social reformers, and the followers of the many and divers "arts of the Muses" with a substantial foundation of elementary principles. No student of Western civilization can fail to recognize in all modern thought, social ideas, and constitutional principles the influence of heredity from ancient Greece and Rome. The principles of logic, ethics, metaphysics, and dramatic criticism were laid down by Aristotle, just as the fundamental notions of civil law, constitutional law, and the science of imperial government were established by the Romans. These laws and principles are, in their essentials, as true to-day as at the time when they were first enunciated; they are comparable to the laws of Newton, the theories of Darwin, and the cellular pathology of Virchow. Newton, Darwin, and Virchow are dead, and science has advanced since their day; but we have yet to learn of a person possessed of so mean an intelligence as to imagine that their discoveries are to be relegated to the lumber room of effete fables and degenerate fancies, unworthy of study at the present day. And for the students of the broad problems of social life and its future evolution, inspiration is still to be derived from the records of those who have founded modern civilization.

But while granting so much, we may yet ask whether the Oxford ideal is not, at the present time, capable of a fuller development, to the great advantage of those humane studies which have been her special care. It is a characteristic of all high ideals that realization falls short of anticipation. So, in Oxford, intellectual achievements often fail to fulfil intellectual promise. Youthful cleverness and brilliance of literary expression fail only too frequently to expand into the virile grasp of the matured intellect, but, stunted by the flattery of early success, lapse into the narrow, self-satisfied inanity of the mere stylist and the pedant. This is the type of man, the degenerate from the Oxford ideal, who is the obstacle to scientific as to all other intellectual progress. It is no palliation for mental inertia to say that Oxford is the home of dreamers. There are dreams and dreams, and there is such a thing as lethargic dogmatism. The dream which is of value is on the threshold of consciousness, pregnant with reality, and the prelude to awakening in the dawn of new ideas. The degenerate is not degenerate because he is a man of letters but because he is lacking in mental virility and has lost his grasp of intellectual progress.

Therefore it is in the name of our common interests in the development of knowledge that we, as members of a scientific profession, appeal to the Oxford men of letters and ask them to see to it that their output of mental energy, in all its branches, is commensurate with the vast store of intellectual forces which lies at their disposal. We do not ask that all men should be compelled to work in the same groove, nor that classics, history, and philosophy should cease to be regarded as sources of masculine inspiration; but in view of the growing importance of the natural sciences and the

[1] *Nature and Man.* The Romanes Lecture for 1905. By Edwin Ray Lankester, M.A. (Hon.), D.Sc., F.R.S. Oxford: Clarendon Press. 2s. net.

urgent need for the further development of those sciences which have a direct bearing on man's physical well-being we would point out that it is incumbent on Oxford as a leader of great intellectual movements to incorporate into the spirit of her university life as a whole a true appreciation of the import of these scientific problems for the advancement of the national welfare. When Oxford realizes that it is the business of philosophy and ethics to interpret the significance of scientific principles and to formulate man's duty in furthering their development, an impetus of incalculable value will be given towards establishing for scientific investigation in this country its rightful position in the forefront of the scheme of education, whether for politicians, administrators, or pioneers of civilization.

THE TRAMP AT HOME.

IT will be remembered that in November an important conference took place at Spring Gardens on the spread of infectious disease by vagrants. At that conference were represented the London County Council, the great majority of the County Councils in England and Wales, the Corporation of the City of London, almost all the county boroughs of England and Wales and almost all the London metropolitan boroughs as well as the Metropolitan Asylums Board. The result of the conference was a series of eighteen resolutions, the last of them appointing a committee, representing these various bodies, to carry into effect so far as possible the resolutions arrived at. This Committee, which has met on at least three occasions, was anxious from the very first to have an opportunity of laying the recommendations of the conference personally before the President of the Local Government Board. It was, however, only on June 22nd that it was able to get into personal touch with the department. Mr. Gerald Balfour, after hearing the views of the deputation, as reported in another column (page 51) engaged the members of the deputation in an interesting conversation. He dwelt on the difficulties of interfering with the liberty of the subject, pointing out that it was clear that only those persons could be sent to labour colonies who had been convicted before a magistrate of vagrancy; it might, he thought, possibly be made necessary that the conviction should be more than once repeated. All the members of the deputation were agreed in deprecating such summary treatment for the honest labourer genuinely in search of work, but we gather that it was felt by a good many that their chief spokesman, Alderman Newton, had a little too much emphasized the labour bureau and labour colony side, and had probably impressed the President with these matters to some extent to the detriment of the much simpler questions which had been advocated by the conference in its earlier resolutions.

Amongst those we may mention a strong desire on the part of the conference for the power of detention and isolation of any vagrant reasonably suspected of being likely to convey infectious disease. The conference was also of opinion that vagrants in casual wards and tramps in common lodging-houses, not sufficiently protected by revaccination against small-pox, and who in the opinion of the sanitary authority had been exposed to the infection of that disease, on their refusing the offer of revaccination should, if necessary, be compulsorily detained, the sanitary authority being given power to make compensation for any detention or loss of work through vaccination. If, for instance, in the case cited by the Mayor of Wandsworth, compulsory vaccination could have been enforced at the Nottinghamshire village, it is probable that the unvaccinated Sheffielder would not have carried the disease to Leeds, and had the Leeds authorities had power to enforce vaccination it is more than probable that, most if not all, of the five patients who contracted the disease there would have escaped.

In common lodging-houses, which are legally under the inspection of the local authority, and still more in casual wards, which are the actual property of the ratepayers, the sanitary authority or the guardians should clearly have power to insist on the medical examination of all the inmates, of detaining and isolating such of them as have been exposed to infection, and of disinfecting their clothes and persons. How far the authority would be wise in closing the lodging-house and possibly driving the infected inmates elsewhere is a difficult matter to decide. With efficient inspection the disease is probably more easily traced if the inmates can be persuaded to remain or return but the choice is one that ought to be left to the authority, which should have ample powers to compensate the lodging-house keeper for any loss. The sanitary authority should also have the right, under a sufficiently stringent penalty, of insisting upon correct information as to the movements both of those already clearly infected and of those possibly infected.

No one of these matters involves to any large extent the liberty of His Majesty's subjects, and it might be possible to get such powers from a Parliament which would hesitate to lay up in a labour colony for an indefinite period the man unwilling to work and with no visible means of support. We are with Alderman Newton in our desire to see an efficient system of labour bureaux and labour colonies, but we are even more anxious to have some immediate action taken to prevent the spread of small-pox and other infectious diseases at present so frequently conveyed to innocent communities by vagrants. The remedy by labour colonies may be ultimately effective, but its application is certain to be long delayed, and its action in producing a cure slow in the extreme. Meanwhile the vagrant is with us and is carrying about disease. May we not hope for help in this matter at some early date?

THE ANNUAL MEETING.

IN accordance with the usual custom, the railway companies of the United Kingdom have agreed to grant to members attending the annual meeting at Leicester return tickets on payment at the time of booking of a single fare and a quarter. The reduced rates will be available from July 21st to August 1st, both dates inclusive. To secure this concession each passenger must produce a special railway voucher, which can be obtained on application to the General Secretary at the office of the Association, 429, Strand, London, W.C. In order to facilitate the work of the local organizers of the meeting it is earnestly requested that those who intend to be present will notify the fact as early as possible on the form published in the SUPPLEMENT for this week.

THE SUPPLEMENT.

IN the SUPPLEMENT for this week the programme of the work arranged for the Sections at the Annual Meeting, which begins at Leicester at the end of July, is reprinted, together with abstracts of the papers introducing discussions, so far as they have been received up to and including June 27th. It will be observed that in the case of several Sections these abstracts had not then been furnished for

publication. The list of lodgings available for members attending the meeting at Leicester is also reprinted in this issue. The Supplement also contains the reports received by the Scientific Grants Committee of the Association from Research Scholars and the recipients of Grants. The two Bills introduced in the House of Commons on June 26th by Sir John Batty Tuke, to prohibit practice by companies, whether medical or dental, are also printed in the Supplement, together with the usual information as to vital statistics and the calendar of the Association.

LEAD POISONING IN PAINT AND COLOUR WORKS.

Dr. T. M. Legge, Medical Inspector of Factories, in a recent report on the manufacture of paints and colours containing lead[1] states the opinions he has formed after having visited nearly 100 paint and colour factories, and after having examined several hundreds of workers. The inquiry was undertaken owing to the severe incidence of lead poisoning in persons employed in such works. The Departmental Committee on Various Lead Industries reported in 1893 upon certain processes in the manufacture of paints and colours as being injurious to health. Immediately previous to this the Home Office had framed special rules. In the present report the part played by white lead dust is the important circumstance to which Dr. Legge directs particular attention. The manufacture of paints and colours is carried on principally in London, Liverpool, Glasgow, Hull, Manchester, and Birmingham. Several of the factories are now under special rules. From January 1st, 1899, to June 30th, 1904, out of a total of 318 works lead poisoning occurred in 70, the number of cases notified being 252 males and 17 females. Reviewing the subject of industrial lead poisoning generally, Dr. Legge expresses the opinion that the "proportion of severe cases to those attacked is higher among those who have contracted the poisoning in paint and colour works; that the number of first attacks and of those suffering from paretic symptoms is also higher than the figures for all industries." Encephalopathy is not so frequent, and there appears to be less chronic plumbism. It is upon the digestive organs that the poison mostly falls; next in order come the nervous system and the blood-making organs. Of the various trades examined the mixing and grinding, mainly of white lead, is responsible for 64 per cent. of the cases. It is the dust generated during these processes that is the cause of the ill-health of the workers. Dr. Legge suggests the application of amended special rules to the manufacture of paints and colours where lead compounds are used in the dry state. The mixing and grinding of dry-lead compounds should be carried on in an apparatus so closed as to prevent the escape of dust, or be provided with such an exhaust draught as to carry away the dust. A monthly medical examination, by the certifying surgeon of the district, of every person employed in a lead process, with power to suspend, is a salutary step. The report closes with a translation of the regulations in force in Germany concerning the erection and management of industrial premises wherein lead and lead products are prepared.

THE CONVALESCENT HOMES ASSOCIATION.

The machinery for co-ordinating the work of convalescent homes dealing with patients from London hospitals has now been fully planned, and the draft constitution rules of the Convalescent Homes Association, which forms the co ordinating body, will be submitted for the approval of those interested at a meeting on Thursday, July 6th. These rules arrange for the admission to membership of the Association of any home which is a charitable institution receiving patients from London and which publishes reports of income and expenditure. The objects are stated to be those of co-ordinating the work which is jointly done: of obtaining and disseminating information on the needs of London in respect of convalescent relief and on all other matters of interest or importance to the affiliated institutions; of advising them on their equipment, management, and maintenance; of watching over and protecting their rights and interests as they may be affected by legislation or otherwise; of serving as a means of communication and co-operation between homes and hospitals and other public institutions, and generally of taking any action which may be desirable in respect of matters in which convalescent homes are interested. The due representation of all the various interests concerned is secured by the formation of a general council on which each home has a right to appoint representatives in proportion to the number of beds which the home in question may provide. Representation by one member is also accorded to certain public bodies, such as the Saturday and Sunday Hospital Funds, the Invalid Children's Aid Association, the Charity Organization Society and the Central Hospital Council. Such metropolitan hospitals as have upwards of one hundred beds and subscribe to the Association are also each entitled to one representative on the Council. The executive administration is entrusted to a committee elected by the General Council. In addition to the honorary executive officers of the Association it is proposed that it shall consist of twenty members, twelve representing convalescent homes, four representing hospitals, and the rest the various bodies mentioned. The necessary funds are to be provided by subscriptions from the homes and hospitals, which are fixed in proportion to the number of beds provided. Those proposed run, in the case of homes, from 10s. 6d. per annum to £5 5s., and in the case of hospitals, from £1 1s. to £5 5s. It is also intended that fees shall be charged to institutions or to individuals who, not being subscribers, shall yet make use of the Association by asking for information or assistance. Although this is not one of the purposes for which the Association was originally started it seems probable that a good deal of work of this sort might usefully be done. Medical men and others are often at a loss to know where to send a convalescent patient, but if this part of the scheme is adopted it will be possible to apply to the Association, state the nature of the case of which it is desired to dispose, and at once be informed as to where a suitable bed for it can be found and at the same obtain details as to the weekly or other sum which will have to be paid.

LARYNGOLOGY AT THE INTERNATIONAL CONGRESS.

The German Laryngological Society was formally constituted at a meeting of representatives of the kindred societies of Germany, Austria, and German-speaking Switzerland, which was held at Heidelberg on June 13th, under the presidency of Professor Moritz Schmidt, of Frankfort-on-the-Main. About eighty were present. The Society which then began its existence as a definite organism is intended to be a body thoroughly representative of laryngology throughout the German-speaking world. It will not supersede or interfere in any way with pre-existing associations of the same kind: on the contrary, the chief purpose of its creation is to unite and co-ordinate their independent activities in the promotion of scientific knowledge bearing on the branch of medicine which they take for their province, and in the furtherance of practical objects which appear desirable in the interest of the speciality itself and of the public welfare. As a means to this end it will be a part of the policy of the newly-founded body to encourage the formation of local societies wherever they are likely to be useful. Professor Moritz Schmidt was elected President, the Vice-Presidents being Professor Bernhardt Fraenkel of Berlin, Professor Kilian of Freiburg, in Baden, and Professor Jurasz, of Heidelberg. The Society will meet every two years. One of the questions which engaged the attention of the members at the first meeting was the attitude to be taken by the Society in regard to the position of laryngology at the International

[1] Report on the Manufacture of Paints and Colours Containing Lead. By T. M. Legge, M.D., H.M. Medical Inspector of Factories. Published by Darling and Sons, Ltd., Bacon Street, E.C. Price 1½d.

Medical Congress to be held next year at Lisbon, and it was decided that a separate section should be demanded for the speciality. To make the situation clear it is necessary to recall the fact that the Organizing Committee of the Congress, in defiance of precedent and of the expressed wishes of the representatives of both specialities, not only joined together otology and laryngology, but made an incongruous *ménage à trois* by forcing dentistry upon them. At the annual meeting of the Laryngological Society of London, held on January 13th, 1905, a resolution was passed protesting against this arrangement. Since then, we believe, the Laryngological Societies of Berlin and Vienna have passed resolutions in the same sense. On the other hand, the two French societies have expressed their acquiescence in the combination of laryngology and otology in one section. In view of this want of unanimity among the societies, it is scarcely surprising that the reply of the Organizing Committee to remonstrances is, *Non possumus*; so, at least, we gather from a declaration of policy which appears in the last number of the *Official Bulletin*, dated May 23rd. From the programme published in the same number of the *Bulletin*, however, it would seem that the ill-assorted union between the medical specialities and dentistry has been dissolved. The section numbered XII in the programme of February 20th, which comprised laryngology, rhinology, otology, and stomatology, now appears divided into two subsections, XII*a*, devoted to laryngology, rhinology and otology, and XII*b* to dentistry. "Marry," as Sir Thomas More said, "this is somewhat:" but it is not enough. Once more we venture to appeal to Dr. Bombarda and his colleagues not to compromise the success of the Congress by a natural but mistaken endeavour to adapt its organization to local rather than to general conditions. It is impossible to compress the work of two important subjects like laryngology and otology into one section without such detriment to both as to make the meetings unprofitable. The International Congress is not like the meeting of a society, or even of a national body like the British Medical Association. It meets at long intervals, and to it, as to a great mart of ideas, specialists from every part of the world are encouraged to bring their intellectual produce. What chance have they of finding appreciation from an audience of which a large part take no particular interest in it? How can papers be discussed when there is not even time for them to be read? At almost all previous International Congresses the mass of material presented has been so great that it has been impossible to deal with it satisfactorily even in two separate sections. The otologists have solved the difficulty by organizing international congresses of their own. The laryngologists have so far refused to do anything that might appear to separate them from the family of general medicine. But if the illiberal and short-sighted policy of the Lisbon Committee is to be adopted as that of the Congress, they will be driven, in the interest of scientific progress, to make arrangements for meetings at which the problems with which they have to deal can be fully discussed before an international court. That the current of opinion is setting strongly in this direction owing to the action of the Lisbon Organizing Committee is shown by the following fact. The Vienna Laryngological Society which, as already announced in the BRITISH MEDICAL JOURNAL, has for some time been arranging a festal celebration in honour of the jubilee of the application of the laryngoscope to medical practice, associating there with the names of Türck and Czermak, has now, we learn, under consideration a proposal that it shall take the form of an International Congress of Laryngology to be held at Vienna in 1908. The opinions of other societies on the subject have been asked for, and the replies which have so far been received are in favour of the suggestion. The proposal is to be regretted as tending to disintegration of the republic of medicine, which should be one and indivisible; but the retrograde action of the Lisbon Committee has made it inevitable. Laryngologists may fairly say to Professor Bombarda, *Vous l'avez voulu, Georges Dandin!*

THE PROTECTION OF CHILDHOOD IN FRANCE.

THE earnestness with which French philanthropists are striving to diminish infantile mortality, and improve the hygienic, educational, and social conditions of child life, is manifested by the number of organizations formed for those purposes. What these bodies are doing may be gathered from reports presented at recent meetings. The Ligue contre la Mortalité Infantile held its annual general meeting under the presidency of M. Etienne, Minister of the Interior, on June 14th. Among those present were Dr. Paul (President), Professor Budin (Vice-President), Dr. Variot (General Secretary), Dr. Henri de Rothschild (Treasurer of the League), and there was a large attendance of influential persons in various spheres. The League co-ordinates a number of older organizations established for the furtherance of the same objects, and is itself a part of the Alliance d'Hygiène Sociale. It carries on an active propaganda by arranging for the delivery of popular lectures, and the distribution of leaflets and pamphlets among poor mothers. Under its auspices a comprehensive inquiry into infant mortality throughout France is being conducted, and the co-operation of medical practitioners is everywhere enlisted. Dispensaries for nurslings have been established in many Departments, notably in the Pas de Calais, the Yonne and the Gironde, and in naval ports. In other places *crèches* have been established, and mutual help societies have been formed in many workshops, particularly in State factories, for the protection of mothers before and after confinement. M. Strauss stated that the League was working for the preservation of the nation, and the Minister of the Interior promised to support a Bill now before the Legislature providing for the protection of mothers and infants. The Union Française pour le Sauvetage de l'Enfance held its annual meeting on June 15th, under the presidency of M. Paul Deschanel, Deputy, and Member of the Académie Française. Among the supporters of the Union present were M. Marcel Prevost, the distinguished author, M. Appell, Dean of the Faculty of Sciences, and Dr. Roubinovitch, of the Salpêtrière. M. Gayle, the Director of the Union, presented a report, in which he stated that the Society was founded in 1888, its object being to take under its protection, without distinction of religion, all children throughout France of less than 13 years of age who were exposed to bodily ill or moral danger. During its seventeen years of existence the Union had made inquiries about more than 6,000 children, and had taken care of more than 2,000. At the present time it had 891 in its charge. In 1904 eleven of the girls under its care were married, and to each of them was given a dowry of 450 francs. Dr. Roubinovitch reported that a very decided improvement had taken place in the health of the children cared for by the Union. The Congress of School Hygiene and Physiological Paedagogy, held its second meeting in Paris on June 11th, 12th, and 13th, under the presidency of M. Lavisse. Reports on the education of families in school hygiene were presented by MM. Chabot and Bougrat; the discussion which followed made it painfully clear that the middle classes are selfishly indifferent about the matter, while the labouring classes have neither the time nor the means of making themselves acquainted with the subject. Reports on the medical inspection of schools were submitted by M. Mery and Paul Cornet. The questions of school hours, rest, and physical training in secondary schools were dealt with by M. Mathieu and Mosny, and M. Weil-Mantou discussed the subject of tuberculosis among teachers. In regard to this matter M. Louis Gourichon pointed out that the statistics of the dispensary of the Antituberculosis Society of Teachers of the Seine Department showed that the disease was not prevalent among teachers to a greater extent than in other professions; among the 6,000 members of the Society only about 50 were found to be suffering from tuberculosis. The meeting was so far satisfactory that it indicated some progress towards the attainment of its object. It is noteworthy, however, that it was attended

mainly by the medical profession. The teachers were not so numerous as might have been expected, while the fathers of families who might be supposed to be particularly interested in the matter were conspicuous by their absence.

MALARIA IN THE ROMAN CAMPAGNA.

THE report of the Italian Red Cross Society on its work in the prevention of malaria in the Roman Campagna during last year states that the results have been most successful. The Society has seven stations in the Campagna, the population of which may be divided into those who live there all the year round, and those who come down from the mountains to the plains only for a certain season of the year. A certain proportion of the inhabitants of both these categories have acquired immunity. To those who are susceptible the Society distributes quinine in tablets, at first to the number of five or six a day, and after a week at the rate of one or two daily, according to age. "Immune" persons do not receive the large preliminary dose given to the susceptible, but they are supplied with one or two tablets a day throughout the bad season. In this way the amount of malaria in the Campagna has been notably diminished. Of 12,061 persons who took quinine in the prescribed doses last year, only 800, or from 6 to 7 per cent., were attacked. The measures for the protection of the inhabitants against the mosquito were not neglected. The windows of all railway stations, custom offices, and public buildings in the vicinity of Rome are covered with close wire netting, and towards sundown the customs officials wear wire masks. Although these measures have been proved very successful it is difficult to induce the peasants to adopt them. A striking proof of their fatal carelessness in this respect is given by the Rome correspondent of the *Morning Post*, to whom we are indebted for an abstract of the Red Cross Society's report. It may be remembered that Drs. Sambon and Low, of the London School of Tropical Medicine, some years ago spent the three most dangerous months of the year in the most malarious part of the whole Campagna—the lake outside Castel Fusano, near Ostia, without taking any precautions beyond the mechanical exclusion of mosquitos, and escaped scathless from the deadly breath of the "evil air." Our contemporary's correspondent found on a recent visit that the colony of people from Ravenna, who used to cultivate the marshy lands near the Castle of Ostia, had all gone, leaving an eloquent inscription and many corpses behind them in the adjacent cemetery. The ignorance and apathy of the people are ever the greatest difficulties against which sanitary reformers have to contend.

DANGERS OF INTRAUTERINE MEDICATION LATE IN THE PUERPERIUM.

A DISCUSSION of great interest recently took place at a meeting of the Société d'Obstétrique, de Gynécologie et de Paediatrie de Paris. It followed the reading by Professor Pinard of a case where a doctor in the provinces had to face very grave puerperal complications.[1] The patient was a lady in good health, in fact she had spent the day before her confinement in rabbit hunting in her park. But she underwent a difficult breech labour and complete rupture of the perineum occurred; it was repaired within twenty-four hours. A rigor occurred on the ninth day, and on the tenth it was thought advisable to throw up an intrauterine injection. This was repeated the next day, and on the twelfth the curette was applied; only some odourless fragments of mucosa came away. A few days later this treatment was repeated, but the patient's condition became worse. Phlegmasia dolens developed in all four extremities, then the right knee suppurated, then the left shoulder and both temporo-maxillary articulations were involved, and clinical evidence of pulmonary gangrene and embolism developed. The right knee-joint was freely opened and drained. Notwithstanding these grave complications the patient recovered, and five months after the labour was in good health, though the right knee remained stiff. Although the temperature exceeded 105° on more than one occasion, the pulse did not rise so high in proportion, and M. Pinard lays great stress on the important fact that the uterus underwent involution perfectly whilst all this constitutional strife was in progress. The patient was treated by a practitioner of ability who acted as many still act in using the curette for suspicious symptoms late in childbed—a practice very common only a few years ago. But M. Pinard reminds us that the enormous bulk of recorded experience now at our disposal proves that intrauterine medication after the first week is more likely to diffuse infection than to suppress it; this was clearly what happened in the instance brought forward by M. Pinard, as the uterus was found to be free from sepsis; the same observer knew of six similar cases of the diffusion of puerperal sepsis. Many a salpingitis, he added, had been caused by this late medication. Common sense dictated that it was for retained fragments of placenta alone that the curette was required late in the puerperium. M. Champetier de Ribes said that the late use of the curette was only needed when there was retention of thick pieces of decidua such as were seen in syphilitic subjects, and after the delivery of a macerated fetus. M. Lepage related a case in his own practice where after a consultation he, somewhat against his inclination, applied the curette on the seventeenth day on account of febrile symptoms; a bad rigor followed, and on repetition of the treatment another occurred; the patient then had some bad complications, but ultimately recovered. Other authorities agreed with the previous speakers. M. Pinard noted how in 1894 the curette was almost a routine instrument at the Baudelocque clinique, whilst now at the same institution it was only employed exceptionally under conditions which experience had made very definite. M. Pozzi asked all experts to remember that their observations made at meetings of societies and published in medical newspapers might mislead the practitioner. Granted that the curette be gently used, it was less perilous to have recourse to it when not absolutely needed than to neglect to employ it when it was wanted, and as there were borderline cases he favoured an active course where there was doubt.

[1] Phlegmatia alba dolens ayant atteint les quatres membres, etc. *Comptes Rendus de la Soc. d'Obstét. de Gyn. et de Paed. de Paris.* Mars-Avril, 1905.

THE COUNTRY BRANCH OF BROMPTON HOSPITAL.

ABOUT a year ago there was published in the BRITISH MEDICAL JOURNAL a ground plan of the Heatherside Sanatorium, which is a kind of country annexe to the Brompton Consumption Hospital, together with full details as to the arrangements in prospect. These have now been completed for some time, and though the Women's side of the building has not yet been taken into use, the Men's side is now in full work, fifty patients having been under treatment since March last. Most of them are young men in quite an early stage of the disease, but there are also a few more seriously affected whom it has been deemed worth while to send down after a period of treatment at the parent institution. The aim which is being kept in view is that of getting the patients if possible into a condition of true bodily vigour, and no attempt is made simply to put on fat by excessive feeding. If a man has no appetite he is allowed to ask for a smaller helping at meals, but what he accepts he is expected to eat. Each patient's day is laid out for him and precise compliance with instructions is exacted. The exercise imposed varies from walking at a very slow pace to ordinary gardening operations. All rise at 7 a.m., and lights are turned out at 9 p.m. Smoking is allowed for a quarter of an hour after each meal, but only on the main road inside the grounds; elsewhere it is strictly forbidden.

SANATORIUMS FOR WORKING MEN.

THE National Committee for the Establishment of Sanatoriums for Workers Suffering from Tuberculosis, with the object of bringing the project more widely into public notice, held on Thursday a meeting at Chelsea House, at which Her Royal Highness Princess Christian presided. Her Royal Highness has accepted the Presidency of the Committee, and with many well-known men as active supporters of the scheme, success is already almost assured. Without the necessary funds, however, no building operations can be undertaken. Towards the erection of a sanatorium for 200 patients, the site for which is already secured at Benenden in Kent, the sum of £50,000 is required. Towards this sum about £2,000 is already promised. The intention of the Committee is that, when built, the sanatorium shall be self-supporting, the cost of maintenance being met by subscriptions from the various Benefit Societies which are, and have been from the commencement, manifesting great interest in the scheme. It is expected that all the beds will be taken up by the different societies, for the benefit of their members, at an annual subscription per bed, which will just cover the cost of one patient's keep for a year. It is anticipated that the single sanatorium with 200 beds will not be found sufficient, and that further institutions of the same kind will soon be required. The scheme has been carefully considered by a committee of representatives of the larger benefit societies with two or three medical men who have special knowledge of the requirements for sanatorium treatment. Delegates from the Committee have visited consumption hospitals and sanatoriums and made themselves personally acquainted with the structure and arrangements of such institutions. The proposed sanatorium is to be on a simple and non-expensive scale and a special feature of the institution is the endeavour to provide the patients with light farm work which will not only be beneficial whilst they are under treatment, but will train them to employment by which they can earn their living without going back to town work. The scheme has much to recommend it and is fully deserving of the support, both in money and encouragement, which it is the object of Thursday's meeting to attract. To bring the project more directly to the notice of the working people themselves it is proposed to organize a monster mass meeting some time in the autumn.

A MEDICAL SECRETARY FOR WAR.

PORTUGAL recently had a member of the medical profession as Minister of Marine, and the sanitary regeneration of Cuba is the work of General Leonard Wood, a medical officer of the United States Army, who till lately was the Governor of that formerly unwholesome island. It is probably known only to a few historical students in this country that Washington's Secretary of State for War was a doctor. This was James McHenry, an Irishman, born in County Antrim in 1753, who went to America in 1771. He studied medicine at Philadelphia under Benjamin Rush, who was one of the signatories of the Declaration of Independence. On August 10th, 1776, as we learn from the *Journal of the Association of Military Surgeons*, McHenry obtained a commission as Surgeon in the Fifth Pennsylvania Battalion. He was evidently, even at that time, a man of some mark, for on August 26th a resolution was passed by Congress expressing "a proper sense of the merit and services of Dr. McHenry," and recommending to the directors of the different hospitals belonging to the United States that he should be appointed to the first surgical vacancy that should occur in any of them. McHenry continued to serve with his battalion till November 16th, 1776, when he was taken prisoner with his command at the surrender of Fort Washington. After two months' confinement he was liberated on parole, and condemned to compulsory idleness till May 17th, 1778, when he was exchanged and appointed senior surgeon to the Flying Hospital. In a few days he was ordered to head quarters and assigned to duty as Secretary to Washington. This appointment practically brought his medical career to a close. The subsequent relations between Washington and McHenry were cordial in the extreme. In 1780 McHenry was relieved from duty and assigned nominally as aide-de-camp, but really as counsellor to Lafayette, then commissioned an American major-general. In May, 1781, Dr. McHenry was commissioned major. In September, 1781, he was elected to the Maryland State Senate, a position which he held for six years. He was also elected to Congress, of which he was a member from 1783 to 1786. He was a member of the Constitutional Convention of 1786. In 1788 and 1789 he was a member of the General Assembly. From 1791 to 1795 he represented his district in the Maryland Senate. In January, 1791, he was appointed by Washington Secretary for War. The work of the War Department remained in his hands throughout the Washington administration into that of John Adams. When war with France seemed unavoidable in 1798, McHenry superintended the preparations for the conflict. The following note, which he sent to Congress, enforces a lesson which has not yet been thoroughly learnt by any Government or people, unless it be the Japanese: "The Secretary does not discover in any of the Acts the necessary provision for the appointment of hospital officers or a hospital establishment. As military hospitals are indispensable to an army, especially in time of war, it is respectfully suggested that provisions on the subject ought to be made by law, and that the regulations in the resolutions of the old Congress, more particularly in those under date of September 30th, 1780, and January 3rd, 1782, as certainly the faithful results of much experience, may afford some important light respecting this department. The certain consequences of disregarding so essential a measure in the event of war, and the encampment of an army, will be a train of diseases which must cut off a large proportion of our troops." The result of this representation was the Act of March 2nd, 1799, which provided the best medical organization the American army had ever possessed. McHenry came under the influence of Alexander Hamilton, and was thus brought into collision with President Adams. On May 13th, 1800, after a stormy discussion with his chief, he resigned his secretaryship. He retired to Baltimore, where he lived till his death, May 3rd, 1816. His name was given to Fort McHenry.

UNIVERSITY COLLEGE, LONDON.

A CROWDED *conversazione* was held at University College, London, on June 28th. The guests were received on the grand staircase of the College by Sir Richard Farrant (Treasurer), by Principal T. G. Foster, by Professor J. W. Neill (Dean of the Faculty of Arts and Laws), and by Professor J. D. Cormack (Dean of the Faculty of Science). The celebrated Flaxman Gallery naturally attracted the attention of the majority of those present, and many took the opportunity of inspecting the unique collection of Flaxman drawings displayed in a small room leading off from the gallery. Professor Flinders Petrie delivered a discourse on his excavations which have led to the discoveries of the prehistoric age of Egypt. Professor Petrie had a most fascinating story to tell of the Semitic worship in Sinai, and commented on the earliest monumental records of the Israelites and their later connexion with Tahpanhes. Later on in the evening the President of University College, Lord Reay, was conducted round the collection of antiquities from Sinai by Professor Petrie, who showed him some stone tablets erected in memory of officials who went to Sinai about 2500 B.C. and a model of the temple at Sarabit el Khadem, excavated in the hilly country above the situation where the mines were worked. This shrine was entirely for Semitic worship, and differed from all other Egyptian temples. What most interested a large number of the visitors was the likeness of Merenptah, the Pharaoh of the Exodus who oppressed the Israelites, and a representation of the Fort of Daphnae, with the pavement mentioned by Jeremiah before its entrance,

was also much noticed. Professor J. A. Fleming lectured on recent advances in wireless telegraphy, and Professor F. M. Simpson contributed a comparison between English and French cathedrals. In the Zoological Department Mr. J. T. Cunningham, by means of magic-lantern slides of gaily-painted birds, explained the mysteries of the problems of evolution. Professor J. Norman Collie lectured on mountain scenery, and Professor E. J. Garwood gave two demonstrations—one on the origin of Alpine tarns, the other on the use of three-colour photography to illustrate polarization phenomena of minerals. In the general library Professor R. J. Godlee exhibited a selection of etchings illustrative of the Little Masters and Dr. W. Page May showed a selection of photographs of Egyptian scenery, and with these were some showing the ships of the Third Baltic Squadron and some depicting Chinese labourers in the Rand mines. Some inconvenience was experienced by those inspecting the books and manuscripts of the library in consequence of the electric light going out at uncertain intervals. The most popular demonstration was given in the narrow passage leading to the chemical library, where liquid air was made and demonstrations of its properties given. So great was the crush round the apparatus that the services of one of the attendants of the chemical department was utilized, and he was kept hard at work freezing mercury with liquid air, making small bonfires with cotton wool to show the amount of oxygen in the liquid, and generally explaining the machinery till a late hour.

A NEW YORK HARVEY SOCIETY.

A new society called the Harvey Society, consisting of laboratory workers in New York City, has recently been established under the patronage of the New York Academy of Medicine. Its purpose is the diffusion of scientific knowledge of anatomy, physiology, bacteriology, pathology, pharmacology, and physiological and pathological chemistry by public lectures given by men who are workers in the subjects presented. Each lecture is intended to represent the state of modern knowledge concerning the topic treated, and will be addressed to the general medical profession who are interested in the scientific side of medicine. It is hoped that through these lectures the common interests of research workers and the medical profession may be profitably cultivated. The following Committee has been appointed:—Dr. Graham Lusk, President; Dr. Simon Flexner, Vice-President; Dr. George B. Wallace, Secretary; Dr. Frederic S. Lee, Treasurer; Dr. Christian A. Herter; Dr. S. J. Meltzer, and Dr. E. K. Dunham. The members of the Society consist of two classes, active and associate members. Active members are laboratory workers in the medical sciences residing in New York; associate members are such persons as may be in sympathy with the objects of the Society, and reside in New York. The first course of lectures will be given on Saturday evenings during the winter of the years 1905-6 at the Academy of Medicine.

PASTEUR TREATMENT AT HOME.

The department of Health of the City of New York has a Pasteur Institute attached to it, and the latter now undertakes the preventive treatment of rabies not only for patients in New York, but for those at any distance within a day's journey. The virus in suitable doses is sent each day by post, and upon arrival put upon ice, and injected by the physician locally in charge of the case as early as possible. Before undertaking the treatment the Institute requires to be supplied with the name and age of the patient, the date, situation, severity, or local treatment of the bite, and with any information bearing on the diagnosis of the condition of the infecting dog. An account of two cases successfully treated in this way was given at a recent meeting of the Philadelphia Country Medical Society by Dr. Solis-Myers. In both cases the diagnosis of the disease in the dog was duly verified. One patient was bitten on the hand, the other on the face; both came under treatment on the fourth day. In the discussion which followed other cases similarly treated were mentioned, but in those the disease in the dog had not been specifically identified.

SUICIDE AND INFANT MORTALITY IN GERMANY.

A steady increase in the number of suicides has taken place in Germany during the last few years. The American Consul-General in a report to his Government states that there were 11,393 suicides in 1900, 11,386 in 1901, and 12,336 in 1902, or 21 for every 100,000 of the population, a rate which can only be explained, he says, by what certain psychologists have declared to be a racial tendency, accentuated in the cases of many individuals by poverty, resentment of military discipline, and fear or remorse growing out of failure to pass difficult examination in school and college. The statistics as to infant mortality are also discouraging. "With all the progress of German medicine and surgery, with all the amelioration that improved midwifery and skilful nutrition have provided," says the Consul-General, "the infant death record is here, as elsewhere, a pathetic and lamentable one. Of the whole 1,234,033 deaths in Germany during 1903 no fewer than 404,529 or 34.5 per cent. were of children under one year of age." Of the total number of births for 1903, viz., 2,046,206, 13 of each 1,000 were twins, and there were 270 triplets and two quadruplets, both of the latter in Bavaria.

MALARIA WITHOUT MOSQUITOS.

From time to time, even to this day, laymen will declare that malaria may be acquired without mosquitos, and will quote a place to prove the point. Recently such a case has been reported in a plantation in Central America. For more than twenty years malaria was practically unknown, but after the ground was covered with pumice stone and dust from an eruption of a neighbouring volcano an epidemic broke out and attacked no fewer than 80 per cent. of the people residing there. No microscopic examination of the blood seems to have been made, but the attacks reacted to quinine. A search for mosquitos revealed very few, and those interested in the estate at once concluded that the disease had arisen from other sources. It is in such a case that the services of an expert are of value. Why the epidemics should have arisen at this particular time it is difficult to determine, but the fact of there being few mosquitos means nothing, as the *Cellia argyrotarsis*—the *Anopheline* of those parts—is rarely seen by day, and often only a careful search for its larvae reveals its presence. A properly-trained investigator would soon find such evidence, for every similar case so inquired into has always yielded plenty of larvae—generally in the first pool or watercourse which is examined.

RADIUM TREATMENT IN RABIES.

The *Gazzetta degli Ospedali et delle Cliniche* of June 20th states that Professor Tizzoni, of the University of Bologna, recently presented a communication to the Academy of Sciences of that city embodying the results of a series of experimental researches on the treatment of rabies by the application of radium. Animals inoculated with the virus were exposed for some days to the action of radium. Controls inoculated with virus of equal strength and not submitted to the same treatment all died.

We regret to have to record the death of Inspector-General Alexander Turnbull, R.N., which took place on June 22nd. We hope to publish a biographical notice of his career in a subsequent issue.

An official intimation has been issued to the effect that the fifth meeting of the International Congress of Obstetrics and Gynæcology, which was to have been held at St. Petersburg in September next, has been postponed for a year.

MEDICAL NOTES IN PARLIAMENT.

[BY OUR LOBBY CORRESPONDENTS.]

The Companies Act Amendment Bills.—Sir John Tuke introduced on Monday two Bills—one to prohibit Joint Stock Companies from acting as physicians, surgeons, or general practitioners, and another to prohibit Joint Stock Companies from carrying on practice as dentists except by means of duly-qualified persons. Both are short Bills of three clauses. The operative clause in the medical Bill is to prevent the Companies Acts being used to register a company by which persons acting together can carry on the practice of medicine and surgery. A memorandum will be attached to the Bill indicating how the law has been used to evade the Medical Acts, and pointing out that no interference is contemplated with the proper carrying on of sanatoriums or other institutions for treating disease under qualified medical supervision. The Bill is considered necessary by the General Medical Council. The dental Bill will prevent a company being registered to practise dentistry except by the aid of duly-qualified registered dentists, but trading in dental materials and appliances will not be prohibited. The Bills are backed by Sir John Brunner, Mr. James Campbell, Mr. Cathcart Wason, Sir Michael Foster, and Sir Walter Foster, and are put down for second reading on July 5th.

Erasures from the Medical Register.—Mr. Weir repeated his question on this subject on Monday by asking the Secretary of State for the Home Department, having regard to the fact that during recent years twenty names had been struck off the *Medical Register* for infamous conduct in a professional respect, whilst six names were removed from the Dentists' Register for a similar cause, in how many instances the names were removed on charges of adultery. Mr. Secretary Akers-Douglas replied that the answer was: From the *Medical Register*, four; from the *Dental Register*, none.

Vaccinated Calves as Food.—Mr. Sydney Buxton asked the Secretary to the Local Government Board whether the carcasses of calves inoculated for lymph at the Local Government Board vaccine station were sold for food in London; and, if so, whether he would give instructions to have such carcasses destroyed instead of being returned to the contractors. Mr. Gerald Balfour replied that, as he stated in reply to a question put by the honourable member for Ross and Cromarty on the 30th ultimo, he was advised that there was no evidence whatever that the carcasses of animals used for the purpose referred to were thereby rendered unfit for food. The destruction of the carcasses would, moreover, involve a large additional charge upon the Exchequer, amounting probably to some £4,000 a year, and having regard to these considerations he was not prepared to adopt the suggestion of the honourable member. He might add that the carcasses were thoroughly examined by a veterinary surgeon before being allowed to be sold for food.

The Woolacombe Water Supply.—Mr. Soares asked the President of the Local Government Board whether, in view of the fact that the water about to be supplied by the Ilfracombe Urban District Council to Woolacombe was taken from Exmoor and had been passed as perfectly satisfactory by every medical man who had analysed it, he would say if the Local Government Board had sanctioned the borrowing of the money necessary for the supply of this water? Mr. Gerald Balfour said the answer to the question was in the affirmative.

Coccidiosis.—On Monday Mr. Morrell asked the President of the Board of Agriculture, whether he had information as to the existence of the nature of tuberculosis affecting the liver of the rabbit, specially prevalent this year; and, if so, would he cause inquiry to be made and information laid before the Commission on Tuberculosis as being a disease possibly affecting the food of man. Mr. Ailwyn Fellowes answered that he was advised that the disease referred to was caused by an animal parasite, and that it was not of the nature of tuberculosis. Its correct name was coccidiosis. In these circumstances it did not appear to be necessary for any communication to be made to the Royal Commission on Tuberculosis on the subject. It was not considered by the Board's veterinary officers that the disease was attended with any danger to man, but he proposed to bring the matter under the notice of the Local Government Board.

The Aliens Bill began its Committee stage on Tuesday, and in the course of the afternoon, in connexion with an amendment dealing with the landing of aliens, a discussion arose on the medical examination of immigrants. It was contended that dépôts at all ports would be required for the detention and examination of the persons landed. Mr. Runciman pointed out that in the cross-Channel boats to Newhaven it would be difficult to examine passengers during the transit, and that an examination directed to ascertaining a man's physical and mental state and financial position must take some time. The Home Secretary said that he certainly did not propose to provide buildings at the public expense. There were buildings at nearly all ports that could be used. Major Evans Gordon said that he had gone into the matter personally, and that all the examination now carried on was completed on board ship. The medical examination he had seen done between Gravesend and the dock, and 85 immigrants were examined thoroughly by three medical officers within the hour. Dr. Hutchinson ridiculed this statement, and said that such a brief examination could not completely eliminate all persons suffering from disease. Anything approaching a thorough examination would require fifteen to twenty minutes, and even then the examination would be more or less perfunctory. Before the amendment was voted on Mr. Lough said that its object was to prevent difficulty in clearing the ship when it came into dock and in no way prevented the examination of the aliens as they came up the Thames. The amendment was eventually rejected by 220 to 171.

Vivisection.—Mr. Macdona asked the Secretary of State for the Home Department on Tuesday if he was aware of the increase in the number of experiments of vivisectors upon animals this year over last year, the numbers being 32,562 in 1905, as against 19,084 in 1904, being a total increase of 13,478; whether, in view of this increase, he would take steps to reduce this number. Mr. Secretary Akers-Douglas answered that he was, of course, aware of the increase pointed out by the honourable member. The particulars on pages 4 and 5 of the Annual Return showed that this increase was almost wholly in the experiments included in Table IV (B), *i.e.*, experiments of the nature of simple inoculations or hypodermic injections, and a very large proportion of those experiments were performed on behalf of official bodies. The progressive rise in the total number of experiments in recent years had been due almost entirely to the constantly-increasing importance attached by the public and public authorities to experiments upon animals as a means of obtaining the knowledge required for the diagnosis of disease or for the prevention of disease in men and animals. It was not for him to take any action in the direction suggested. His duties under the statute were confined to seeing that the proposed experiments were conducted in conformity with the provisions of the Act.

The Tuberculosis Commission. Mr. Field asked the President of the Local Government Board on Tuesday whether he could state when the report of the Bovine Tuberculosis Commission would be issued: whether his attention had been called to the statement of Dr. Koch respecting the interim report, as to the absence of evidence to prove that man could be infected by animal tuberculosis in any but the very slightest degree; and whether, in view of this pronouncement, the Government would support the Tuberculosis Compensation Bill. Mr. Gerald Balfour replied that, as he had stated in reply to the honourable member for the Eastern Division of Northants on May 9th, he understood that the Royal Commission hoped to issue a further interim report towards the end of the present year, but that it was not possible to say at present when the final report would be issued. His attention had been drawn to the statement of Dr. Koch referred to. He sympathized with the object of the Bill mentioned in the last part of the question, but he was afraid he could not give any promise with regard to it.

THE report for 1904 of the Medical Guild of Manchester shows that active work was carried on during the year in connexion with undesirable methods of conducting provident dispensaries, hospital reform, and the payment of medical men called in by midwives. The membership now stands at 191, and there is a small balance in the bank to the credit of the guild. The president for 1905 is Dr. R. H. Wolstenholme of Salford.

Ireland.

A Gratifying Recognition.

Dr. Robert Morton, of Nenagh, has just been the recipient of a most graceful compliment from his many patients and friends in the district in which he practises. He has for some time been ill, and it was resolved to seize the opportunity to testify to the high esteem in which he is held by all who know him as a friend and a practitioner. Accordingly he has been presented with a cheque for over £400, and an address in which his past work has been appropriately eulogized. Dr. Morton is one of the most able and respected practitioners in Ireland, and he well deserves this rather uncommon testimony to long and faithful services.

Alleged Deficiencies at a Small-pox Hospital.

On June 19th Mr. Agnew, Local Government Board Inspector, opened a sworn inquiry into a series of charges made by Mr. William McMullan of Portadown in connexion with the treatment received by him and his family when patients in the small-pox hospital at Lurgan in September, 1904.

It appears that a little daughter of Mr. McMullan was taken ill in Portadown on September 22nd. On September 28th Dr. Corbett of Portadown was satisfied that she was suffering from small-pox, and ordered her removal to the small-pox hospital of the union workhouse, Lurgan. A telegram was sent to the master between 1 and 2 o'clock on that day to send the ambulance and a nurse for a small-pox patient. This was promptly done; Portadown is about four miles from Lurgan. About 4 p.m. Dr. Darling, Visiting Medical Officer of the Infirmary, met the ambulance, stopped it, and found the baby suffering from confluent haemorrhagic small-pox, lying unconscious on the nurse's lap. The ambulance was met by Dr. Martha Adams, the Resident Medical Officer. On admission no bed was ready for the patient: no small-pox patient had been admitted for some years. The child was placed on a table for about an hour, and died next morning about 4 o'clock, never having recovered consciousness. The complaints were that the ambulance was old and unfit for use; that the ward in which the child and mother were placed had not been recently cleaned; that, although sufficient notice was given, the preparations were inadequate, the mattresses damp and fusty; that bedding accommodation was so deficient that the three other children had to sleep in one bed; that the removal in the ambulance and subsequent delay was the cause of the child's death; and that the ward on their arrival was generally in a very dirty condition.

The inquiry lasted several days, and, as Dr. Darling said when questioned, there was a doubt as to who was responsible for the want of sufficient preparation; on the other hand, there was evidence of no little desire to do the best under the circumstances. To open and clean out a ward which had not been used for some years, to air the bedding, and have everything in apple-pie order is not such an easy task as might appear. The Board of Guardians not only object to extravagance, but will sometimes not allow the simplest requisites. The child was evidently dying on admission, and nothing could have saved it; it had never been vaccinated. The night nurse was raised from her sleep and sat up the greater part of the next night. Dr. Martha Adams, in trying to get the room and things ready, was told "not to be so fussy, and that everything would be all right." Dr. Darling called again the same evening; the next day or so saw some of the deficiencies in the way of bedding rectified, so it would be hard to say that there was lack of attention on the part of the medical and nursing staff.

Cork District Asylum.

The annual report of the Cork District Lunatic Asylum makes interesting, though painful, reading. The admissions for the year amounted to 394, being much the largest in any year since the opening of the asylum, even though 17 transferred from Youghal be deducted—359 in 1903 was the greatest number previously admitted in one year. Of the admissions for the year there were a large number of young patients, the quinquennial periods 20 to 25 and 25 to 30 showing the largest number; altogether 149 were under 30 years of age. The proportion of single and married is also somewhat remarkable, 263 of the former were admitted, while only 87 were married; but while 43 per cent. of the married during the last few years have recovered, only 32 per cent. of the unmarried were so discharged. The discharges numbered 221, and are below the average, the percentages of recoveries being 30.7 on the admissions; but this is largely influenced, first, by the very unfavourable type of the admissions; and, secondly, by the overcrowding and difficulty of dealing with the acute mental cases. The death-rate was 9.2, about the average in asylums for the whole of Ireland, but 1.5 per cent. higher than the average in this asylum for the previous five years. With one exception, all were from natural causes. As usual, the principal cause was pulmonary tuberculosis; 43 per cent. of the deaths are so registered, and during the last ten years 391 have died from this cause. Dr. Woods, Medical Superintendent, attributes a great deal of the consumption to the want of single rooms and hospital accommodation—a want that was never felt more than in the past year. In 1875 the population was 680, now 1,620, so that the single rooms originally provided in the proportion of 1 for every 6 patients have now been reduced to 1 for every 13 patients—a very unsafe proportion, Dr. Woods points out. The Youghal auxiliary asylum has relieved the Cork one but little; the number on the female side was only 12 less at the end than in the beginning of the year, and, although the number of the males was decreased by 85, the proportion of troublesome patients is now much greater.

As to the causation of insanity, Dr. Woods says from year to year the same causes, heredity and intemperance, head the list. Dr. Woods points to the nation's huge drink bill, and says if this were reduced one-half it would unquestionably largely decrease the numbers committed to asylums. The Inebriates Act of 1898, which might have been a useful measure, has been little availed of owing to legal formalities. A serious outbreak of typhoid occurred in October and lasted till February of this year: 113 patients and 20 attendants were attacked. Three of the attendants died and eighteen patients, but of these latter sixteen were mentally incurable, and most of them broken down in bodily health. One interesting fact Dr. Woods records is that the fever appeared to have a most beneficial effect on the mental condition of some of the cases, and some previously looked on as having a very bad prospect of mental recovery were perfectly restored on becoming convalescent from the fever, and thirteen have since been discharged quite well. This fact would go far to prove that mental disease is often due to toxaemia, and that the disease may sometimes be eliminated, as in these cases, by the introduction of another poison into the system.

LITERARY NOTES.

To the June number of the *University Review* Canon Barnett contributes an article on university settlements. Sir Oliver Lodge discusses the kind of degrees that should be given by a university and the kind of curriculum to be encouraged. Mr. J. A. Hobson treats of possibilities of popular progress; the Rev. Dr. J. H. Moulton of the Free Churches and the Universities, and Mr. Ramsay Muir of the study of local history.

We have received Parts iv and v of *The Empire's Cricketers*, which is in course of publication by the Fine Art Society. They contain artistically-executed reproductions of portraits by Mr. A. Chevallier Tayler of Mr. M. A. Noble (Australia), Mr. H. V. Hesketh-Prichard (Hampshire), David Denton (Yorkshire), James Iremonger (Notts), Mr. A. Cotter (Australia), Mr. C. B. Fry (Sussex), Captain E. G. Wynyard, D.S.O. (Hants), and J. H. King (Leicestershire). Biographical sketches are contributed by Mr. G. W. Beldam.

It is often said that British doctors do not buy books. This statement is scarcely borne out by the fact that during the single year 1904, which was a bad one for the "trade," one medical publishing house in London—Messrs. Baillière, Tindall and Cox—put on the market no fewer than 105,325 books, pamphlets, etc.

In a book entitled, *The Masai, Their Language and Folklore*, recently issued by the Clarendon Press, the author, Mr. A. C. Hollis, gives the following account of Masai surgery:

> If a Masai warrior is shot, and an arm or leg broken, the surgeons are able to mend it. They cut through the flesh, take out the splinters and bring the edges of the bone together, after which they stitch up the wound with the sinew from the back of an ox, and bind the limb securely. The only food that is given to a man with a broken limb is roast meat and the thirst-quenching medicine obtained from *Acacia abyssinica*. Should a man be shot in the belly so that the intestines protrude, the wound is washed and the intestines returned to their place; sheep's fat (a quart or more) is poured into the wound, which is then stitched up. Again, if a man is shot and a rib broken, the flesh is skinned from the wound, and a sheep's rib inserted in place of the

broken one. Sheep's fat is then poured into the wound, after which it is sewn up. The wounded man is not allowed to drink milk, and may only eat meat. If a man is shot with a poisoned arrow, a pregnant cow is slaughtered, and he is give the caul fat to drink. This causes him to vomit, and he recovers. If the surgeons see that a man's bone cannot be mended, they fasten a ligature round the limb and amputate it.

In an article on Old Dublin Schools, which appears in the *Irish Independent* of June 12th, Mr. James J. Corr gives an amusing account of medical education in Dublin in the eighteenth century and the early part of the nineteenth. He quotes an advertisement from the *Dublin Weekly Journal* of October 19th, 1728, which informed the world of that day that James Brenan, M.D., was about to begin a course of lectures on medical subjects in his house on "Arren-Key" on the 10th of the following month; the fee for the privilege of attending those lectures was to be "2 pistoles," equivalent to 17s. 1d. of our currency. In 1804, Mr., afterwards Sir Philip, Crampton, transformed the coach-house and stable at the back of his house in Dawson Street into a dissecting room and lecture theatre. There, on October 8th of that year he began a course of lectures on anatomy, physiology, and surgery. He had in his employ a notorious resurrectionist, by name Peter Harkan, who came to a tragic end while labouring in his vocation. While searching for subjects for his demonstrations in Bully's Acre, he and some students that accompanied him were discovered by a party of "watchers of the dead." Harkan and the students immediately made off, and the latter were soon beyond the cemetery wall. Harkan, however, being less agile, was caught by the legs as the students were pulling him up by the arms to their position of safety. A tug-of-war ensued, in which each party tried to get possession of Harkan's body, which was so injured by the operation that he never quite recovered from its effects. In 1809 John T. Kirby and Alexander Read opened a medical school at the rear of a house close to Mercer's Hospital. By an unlucky coincidence a laundress occupied some rooms in the same house, and her sign bearing the legend "Mangling done here," acquired a sinister significance in the eyes of the vulgar from the work supposed to be carried on in another part of the premises.

In an article on "Style in Medical Writings," which appeared in the BRITISH MEDICAL JOURNAL of June 17th, reference was made to the pains taken by certain great writers to attain to perfect clearness of expression. It may interest some of our readers to have Huxley's method described in his own words. In reply to an inquiry on the subject he wrote as follows:

> The business of a young writer is not to ape Addison or Defoe, Hobbes, or Gibbon, but to make his style himself, as they made their style themselves. They were great writers, in the first place, because, by dint of learning and thinking, they had acquired clear and vivid conceptions about one or other of the many aspects of men or things. In the second place, because they took infinite pains to embody these conceptions in language exactly adapted to convey them to other minds. In the third place, because they possessed that purely artistic sense of rhythm and proportion which enabled them to add grace to force, and, while loyal to truth, make exactness subservient to beauty. If there is any merit in my English now, it is due to the fact that I have by degrees become awake to the importance of the three conditions of good writing which I have mentioned. I have learned to spare no labour upon the process of acquiring clear ideas—to think nothing of writing a page four or five times over, if nothing less will bring the words which express all that I mean and nothing more than I mean; and to regard rhetorical verbosity as the deadliest and most degrading of literary sins.

In an article by Mr. George W. Smalley which appeared in an American magazine soon after Huxley's death, it is stated that the great scientist hated writing but forced himself to do it and was his own teacher. On his return from his voyage on the *Rattlesnake* he had a vast mass of material ready, but could not screw himself up to the effort of writing. Mr. Smalley doubts whether Huxley ever wrote fluently or easily. To a question on the subject the answer was, "Oh, I can write fast enough, if that is all; but if it is anything important I take as much time as I need." An important letter from his pen on a point in controversy had just appeared in the *Times*, and he was asked how much trouble he had taken with it. The reply was, "Why, I wrote that over three times." The quality Huxley valued most in style, says Mr. Smalley, was precision, with perfect clearness and perfect sincerity. About style as a separate quality of his writing he thought little; subject and style were interfused. He had a certain declaration to make, a certain argument to conduct, a certain account to give of some matter which he thought important. Into the doing of this he put his whole soul. It was not enough to be accurate; he felt it his duty to say what had to be said in the way best calculated to appeal to the minds of his readers. He would not deliver his message, whatever it might be, in a halting or slipshod way. The impulse of sincerity, coupled with an instinct for diction, and with long practice and unwearied effort, made him the admirable writer he was. Tyndall, being asked the same question, replied as follows:

> To think clearly is the first requisite; and here, though even my friends think me rapid, I am in reality very slow. My next aim is to express clearly in writing what I think. But clearness is not, of itself, sufficient to make a style. And here we come to the really incommunicable part of the matter. A good ear, a sound judgement, and a thorough knowledge of English grammar, all contribute. But the turn of a sentence, and even the construction of a sentence, will sometimes flash upon the mind in a manner not to be described. I suppose I must have had a natural liking for a good style, for I remember, when very young, urging upon an equally youthful correspondent the necessity of paying attention to this subject.

It is interesting to note that Tyndall, who was much inferior to Huxley as an artist in words, thought a good deal more of style. He had the exuberant verbosity of the rhetorician, the fault of all others to be most carefully avoided in scientific writings.

Connected with style is the question of grammar, and it may not be irrelevant to direct the reader's attention to an article on the Standard of Usage by Mr. Thomas R. Lounsbury, Professor of English in Yale University, which appears in the June number of *Harper's Monthly Magazine*. John Forster is quoted as declaring that, "as soon as grammar is printed in any language, it begins to go. The Greeks had no grammar when their best works were written, and the decline of style began with the appearance of one." Of this deliverance Professor Lounsbury says that, though extravagantly stated, there is in it a certain element of truth. If grammar, or what he considers grammar, prevents a man from resorting to uses to which he sees no objection, it has been harmful in one way, if it has been helpful in another. Our race in its linguistic, as in its political activity, does not suffer governance gladly. Then the grammars are mostly wrong. "It is," says our Professor, "an unfortunate fact that, since the middle of the eighteenth century, when works of this nature began to be much in evidence, and to exert distinct influence, far the larger proportion of them have been produced by men who had little acquaintance with the practice of the best writers, and even less with the history and development of grammatical forms and constructions." Their lack of this knowledge, we are assured, led them frequently to put in its place assertions based not upon what usage really is, but upon what in their opinion it ought to be. They evolved or adopted artificial rules for the government of expression. By these they tested the correctness of whatever was written, and proclaimed their own superiority to the great masters of our speech by pointing out the numerous violations of them into which such authors had unhappily been betrayed. As these rules were copied and repeated by others, a fictitious standard of propriety was set up in numerous instances, which is largely responsible for many of the current misconceptions which now prevail as to what is grammatical. Professor Lounsbury accepts the pronouncement of Horace that with usage rest the judgement and the law and the standard of speech. But this being admitted, the further question arises, Whose usage? Clearly that of the best speakers and writers. The *usus* of Horace was the same thing as the *consensus eruditorum* which Quintilian later fixed as the standard of good speech. To any one who considers the matter, it must be obvious that grammar is simply an analysis of the forms of speech consecrated by usage and a codification of rules based thereon. It is speech that governs grammar, not grammar that governs speech. In language whatever is—on the lips of good speakers—is right.

A writer should, like Falstaff, make a good end. Professor Clifford Allbutt, in his *Notes on the Composition of Scientific Papers*, reviewed in our issue of June 17th, gives useful hints on the subject. In regard to the same matter, we recently came across in a French medical journal a story which may be told here as illustrating at once the importance attached by experienced writers to a good ending, and the wrong way of compassing this. A late Minister who, before subsiding into politics, was one of the most brilliant journalists of France, is reported to have defended himself against what he regarded as an unfounded charge as follows:—

> It has been said that I drink! An utter mistake. It is true that when I had a lot of jounalistic work to do, I used to drink absinthe while I was writing. But it seldom happened that I went beyond the fourth, for I could not often hit on the word to finish with, the phrase that tells "*le nerf*," before the fourth. Sometimes when I was tired a fifth was required, but never more. If I were a drinker, I should have gone on increasing the number of my libations.

The argument is perhaps not altogether convincing, but the moral of the story is obvious enough. The Minister was a true literary artist, and felt the compelling need to end on the right note. In his striving after this, he may be held up as an example to young writers, but we must not be understood as recommending them to seek for inspiration in the same source.

THE DIET OF THE PRECIBICULTURISTS.

By Harry Campbell, M.D., F.R.C.P.,

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I.

Introduction.

Those people who do not increase their food supply by artificial means, either by cultivating the vegetable kingdom or by breeding animals, may be spoken of as the precibiculturists. They are the most primitive people now living, and representing as they do a phase of culture through which all the more advanced peoples have passed, they constitute a group by themselves, and one whose dietetic customs are worthy of detailed study.

Most of them are, save, it may be, for some primitive covering round the loins, naked. This is true even of the Fuegians, who live on the cold and inhospitable shores of Terra del Fuego. Others clothe themselves in skins, some, such as the Esquimaux, displaying great skill in the manufacture of their skin garments.

All the precibiculturists are nomads living by hunting and fishing, and on seeds, roots, and other products of the uncultivated vegetable kingdom. They all employ cookery, though much of their animal food is eaten in a semi-raw state, and some of it quite raw, and they display remarkable ingenuity in the preparation of their vegetable food, knowing how to convert acrid and even poisonous substances into wholesome and palatable dishes.

Being nomads, and seldom remaining long in any one place, they have no permanent dwellings, but seek shelter in caves, rock-shelters, and temporary wooden structures, consisting of little more than branches of trees, sometimes covered with moss, or matting.

With the exception of some of the Esquimaux who employ meteoric iron, they are wholly ignorant of metals,[1] using for their implements and weapons, wood, stone, bone, horn, and shell. They are, in fact, in the stone age—the later or neolithic stone age—although, speaking generally, they are in a lower phase of culture than the later paleolithic cave men of Europe.

Their weapons consist of wooden clubs, wooden spears, untipped or tipped with stone, bone, or shell, the spear-thrower, that prince of primitive weapons, the bow-and-arrow, and the blow-pipe (consisting of a wooden tube, several feet long, through which tiny poisoned darts are propelled after the fashion of peas from a pea-shooter).

Of the surviving precibiculturists, only the Australians are without the bow-and-arrow, its place being taken by the spear-thrower, and to a less extent the boomerang. Most of the precibiculturists poison their darts and arrows. All of them can make basket-work, lines and netting, and all of them have a rudimentary knowledge of weaving. Those living on the sea-shore employ primitive canoes.

With the doubtful exception of the Andamanese they are ignorant of the art of pottery, and are thus placed at a great disadvantage in the matter of vessels for holding water, employing such natural articles as bamboo joints, skulls, the shells of shellfish, or birds' eggs (for example, those of the ostrich), or gourds; or, again, manufacturing primitive vessels from skins, wood, bark, stone, or out of closely-plaited wicker-work. Only their stone vessels are capable of resisting the action of fire, but these they only occasionally manufacture, and but seldom for placing upon the fire; consequently they cannot boil water over the fire, but are obliged to resort to the indirect method of heating stones and then immersing them in a vessel containing water. The Bushmen and Australians are ignorant of the art of boiling water.

The dearth of convenient vessels for holding liquid, especially such as are capable of resisting fire, probably explains why the precibiculturists have not found out how to make alcohol, nor how to extract starch and sugar from vegetable substances. Their not having done so is certainly not due to any lack of ingenuity on their part, as will be seen when we come to study the elaborate methods they adopt in preparing their vegetable food.

The following are the surviving precibiculturists:—The Australians; the Californians, or Digger Indians, the Fuegians, Botocudos and neighbouring tribes in Eastern Brazil, and the Esquimaux; the Bushmen of South Africa, the Forest Pigmies of Africa, and those of the Andaman Islands, the Malay Peninsula, and the Philippine Islands; the Veddahs of Ceylon, and the Hairy Ainus inhabiting islands to the north of Japan.

Of these various precibiculturists, we possess the most detailed information of the diet of the Australians and Californians; next of the Esquimaux, and next of the Andamanese, Ainus, and Bushmen. I have been unable to find more than a very cursory description of the diet of the Veddahs, and pigmies of the Malay Peninsula and Philippine Islands; still less of the Forest Pigmies of Africa.

The Diet of the Tasmanians.

These people are so recently extinct that their diet may be considered with that of the existing precibiculturists. The last representative of this interesting people died in 1858. The original immigrants probably passed from Australia into Tasmania when the two countries were joined or within easy distance of one another. Keane supposes the Tasmanians to have been aberrant Papuans (Melanesians) modified by long isolation, and Tylor refers to them as "the lowest normal tribes." Their culture was decidedly below that of the cave-men of France; they did not, for example, understand how to sew skins by means of bone needles and sinew thread, and were ignorant of the arts of drawing and carving. Like the Australians, they knew nothing of the bow-and-arrow, and were even ignorant of the spear-thrower, boomerang, and shield. Their weapons appear to have been limited to two kinds of primitive spear—one hardened at the point by fire—and a wooden club or *waddy*, all of which were unprovided with bone or stone attachments, being thus greatly inferior to the weapons of the later paleolithic age. The only stone implements they employed were roughly-chipped flints, which were quickly improvised when required. They had no permanent dwellings, but took refuge in caves or rock-shelters, or in temporary abodes made of branches of trees. They made bark canoes and rafts.

From this short account it will be seen that the Tasmanians were a most interesting people, and it was a dark day for them when the white man set foot on their island. Apart altogether from the question of humanity, it is much to be regretted that a people of such ethnological interest, forming as they did a link with the far past, should have been so ruthlessly exterminated.

The Tasmanians lived chiefly by the hunt, their animal food including the kangaroo, wallaby, bandicoot, kangaroo-rat, opossum, and wombat; nearly every bird and bird's egg that could be procured; and in the case of the coast-tribes, crawfish, oysters, and other shellfish. So far as is known they were not cannibals.

They consumed a variety of vegetable foods, one writer giving a list of 37 roots alone as having entered into their dietary. Among these, that of the bracken fern appears to have been the most important; the natives used to roast the roots in ashes and, having removed the black skin with their teeth, to eat them with roasted kangaroo, much as the Europeans eat bread; these roots were also eaten raw. Other roots which were roasted and eaten were those of the orchid and the bulrush. Seeds also were eaten; for example, the aborigines collected the ripening pods of several species of acacia and after roasting them in ashes picked out the seeds. Fungi and seaweed also entered into their dietary. We read that the leaf of a species of kelp was in great favour, being eaten after it had been roasted and macerated in fresh water and then again roasted. Among the fungi was the "native bread" growing in the ground like the truffle, and the Cyttaria.

The natives used to split open about a foot and a half of the top of the trunk of the tree fern and take out the heart. The pith of two varieties was eaten, both partially cooked. The onion-like leaves of some orchids were eaten.

Doubtless the Tasmanians prepared their vegetable food in more elaborate ways than we have any record of. I have not yet been able to find any evidence of their having employed underground ovens, but should be greatly surprised if they were ignorant of their use.

[1] I am speaking of the time when the precibiculturists had not come into touch with the white man. Many of the statements I have made are not strictly true of the present time

The Tasmanians had apparently very capacious stomachs. A child of 8 months, still at the breast, was seen to eat a whole kangaroo-rat and then to attack a crawfish!

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NOVA ET VETERA.

THE INFLUENCE OF DIET IN CHINA ON NATIVES AND EUROPEANS.

Two interesting articles have appeared recently in the *Revue d'Hygiène* (Tome xxvii, Nos. 2 and 3, 1905) on dietary conditions in China and their influence on natives and Europeans. Their author, Dr. F. Brunet, who has travelled extensively and held official positions in many different parts of the country, writes with an exceptionally wide experience of his subject.

PECULIARITIES OF CHINESE FOOD.

The Chinese palate is distinctly peculiar according to Western notions. White worms, for example, locusts, sharks' fins, water-lily roots, swallows' nests, or stuffed dogs would not be appreciated as delicacies by most of us; nor should we care to have included in our cuisine the lungs, spleen, intestines, or mammary glands of our ordinary edible animals, the internal membrane of birds' gizzards or the eyes of fish. But in China luxury on the one hand and the exigencies of extreme poverty on the other have led to the adoption of an enormous number of articles of diet with which we are unacquainted, including the roots, leaves, and seeds of a great variety of plants, and also many insects, larvae, reptiles, and other forms of animal life. Whilst differences in national characteristics and the necessities of subsistence may account for many of these strange usages, it seems difficult for us to imagine how even a Chinaman can find enjoyment in the flavour produced by such a malodorous substance as sulphuretted hydrogen. This, however, appears to be the case with eggs, the value of which, we are told, increases in proportion to their age. "When they have become almost completely green, after several months' or several years' storage in lime or sawdust, they attain the price of our old wines or choice champagne." The flavour of these precious morsels—sulphurous and nauseating to a degree, according to our tastes—is regarded by the Chinese epicure as one of exquisite delicacy.

There is great variety of animal food, almost every sort of mammal, bird, fish, or shellfish being utilized for culinary purposes. But in many respects the Chinese idea of what is wholesome differs from the European. The most important of these differences is exhibited in the avoidance of milk. A Celestial never consumes a drop of milk after he is weaned from his mother or wet-nurse. Even sucklings, if they cannot obtain human milk, receive none at all; they are given sugar and water, an emulsion of meal, or "pap" (bouillie), but never animal milk. The Chinaman is convinced that animal's milk would exert a specific influence upon the suckling. To drink or suck cow's milk, for example, would not, according to his ideas, be partaking of food but would be equivalent to withdrawing something of a personal nature which would endow the infant with affinities to the bovine: such a practice would be at once repugnant, unseemly, and dangerous.

The articles of vegetable diet which are consumed would make an extremely long list. Dr. Brunet imagines the Chinese must have investigated the nutritive value of every vegetable which grows and retained in their dietary as many as they possibly can. With regard to rice, Dr. Brunet corrects a popular error. It is not the case that this cereal is the staple commodity throughout the greater part of the Chinese Empire. Cheap as it is, and notwithstanding the enormous production of it, the consumption of rice at each meal is a luxury which can only be afforded by families whose position is one of relative comfort. The majority of the population is too poor, and has to be satisfied with the substitution of cheaper grains, such as millet.

STIMULANTS, BEVERAGES AND NARCOTICS.

The consumption of alcohol is extremely small. The form of alcohol best known is that obtained from rice: but even of this, in spite of its low price, the Chinese drink very little. It is placed on the table hot, almost to the boiling point, in small cups which hardly contain as much as a thimbleful, and is consumed about the middle of the meal as an aid to digestion. Drunkenness is unknown amongst the natives, except such as have been contaminated by close association with Europeans.

Nor is any other intoxicating drink employed as a substitute for alcohol. The one and only beverage is tea. This is always being consumed, except during meal times. It is always served hot, even in the street, and during the extreme heat of summer; and, since it is consumed fresh, without being allowed to stand, it contains the minimum amount of tannin or alkaloids. The Chinaman, unless compelled, never drinks plain water, particularly cold water. It is typical of the country to find at every turn in all the towns and villages persons selling hot water for the supply of persons who are too poor to keep the kettle constantly boiling in their own homes. This excellent usage is practically a hygienic necessity, owing to the filthy state of the water available for drinking purposes.

At the end of a meal a pipe of tobacco is smoked. The tobacco used is home-grown, and its mode of preparation, strength, and aroma are described by Dr. Brunet as "very variable." Every one smokes—even the poorest—and not excepting the women. In wealthy houses, after the first pipe of tobacco and the first cup of tea, opium smoking begins. This is the complement of the dinner, like the glass of liqueur with the French. Many Chinamen limit themselves to half a dozen pipes after each meal, and maintain this practice for many years. Restricted to these proportions, the habit appears to have no seriously deleterious effect on the health. But with opium smokers already in the stage of intoxication the opium pipe is a necessity, both before the meal, in order to regain a little appetite and the ability to eat, and also after the meal, in order to facilitate digestion. If, however, the degree of intoxication has advanced too far, the anorexia remains complete, and cannot be overcome by further smoking. This is a serious condition, indicating a high degree of saturation with the poison, and the prognosis is not good. There is a very important difference, which Europeans often fail to realize, between smoking opium merely as a mild gastric stimulant and aid to digestion, and employing the drug for the production of pleasurable sensations during the siesta or for the rest of the evening. When the latter object is pursued, frequent usage causes a diminution of the effect, the natural consequence being that a desire to reproduce the same pleasurable experience leads to constant augmentation of the dose, with inevitably pernicious results.

INFLUENCE OF DIET ON THE CHINAMAN.

The prejudice against the use of animal milk is disastrous in its consequences. When for any reason an infant cannot be breast-fed, its chances of survival on the barbarous diet which is provided as a substitute for natural food are obviously small. Apart from this contingency, the premature use of starchy food is apt to give the child a distended belly, a general puffy aspect, and a pale, flabby skin. Far too soon the child is put upon the same diet as its parents, with the natural sequel that intestinal disorders are frequent and often fatal. A further consequence of this treatment is that in adolescence growth is slow and development late, both physically and intellectually. The bony framework is in advance of the muscular development; and, of the mental faculties, memory is for a long time the only one which is even slightly developed; judgement, comparison, and the power of analytical and synthetic reasoning being slow to make their appearance, even amongst the intelligent orders who are well brought up.

At the same time these peculiarities of diet appear in some respects to exert a beneficial influence. There are very few lymphatic, scrofulous, or anaemic subjects, nor is bone disease common, thanks, no doubt, to the richness in phosphates and lime salts of the cereals of which the diet is to a very large extent composed. It is very rarely, too, that the closure of the fontanelles is delayed, or union of the epiphyses; and arrests of ossification, scoliosis, and delayed unions of fractures are equally uncommon.

To the absence of stimulants in the dietary of the Chinaman Dr. Brunet partly attributes the placidity and equanimity of the Celestial nervous system, and also the marked rarity of epilepsy, hysteria, and various forms of insanity. It is also noteworthy that arterio-sclerosis is rare. Three other diseases are also incidentally mentioned by Dr. Brunet as being extremely rare amongst the natives. These are appendicitis,

diabetes, and cancer. *Per contra*, the natives are particularly liable to infection with beri-beri, a fact which has been variously explained as owing to poverty of diet, insufficiency of fats, or the bad quality of the rice.

In the country the diet of the labouring classes is almost exclusively vegetarian, and in those public institutions, such as orphanages, prisons and hospitals, which are under European management and where a proper account of the dietary is kept, meat only plays a small part in the bill of fare and may even be absent. But Dr. Brunet finds that the Chinaman thrives remarkably well, in spite of the absence of meat from his food. The country labourers have exceptional powers of resisting fatigue, although experience has not taught them the value they might derive from sugar as an adjunct to their vegetarian diet. Girls in orphanages where no meat is provided appear to be in a thoroughly sound physical condition, and Dr. Brunet also quotes his experiences in a hospital where the allowance of meat never exceeds 100 grams a day. There was not the least evidence of malnutrition, in spite of the fact that this meagre supply was not supplemented by either milk, butter, fat, or eggs. He is inclined to think that the Chinaman does not require the 150 grams of albuminous food which are supposed to be necessary for the European; or possibly, it is suggested, the Oriental organism may derive its albuminous nutrition by processes of molecular transformation which we do not understand.

Choice of Diet for Europeans.

The stranger who arrives in China is singularly favoured by the variety and abundance of the products which he may consume. He can obtain excellent butcher's meat, and may use it without fear, provided that it is well cooked. This precaution is necessary owing to the frequent presence of various parasites. Beef is very liable to contain the taenia inerme, and cases of infection with this parasite are extremely common amongst soldiers who grill their meat too rapidly, and amongst others who preserve a taste for meat which is underdone. Still greater care must be exercised with pork, which is fed upon all sorts of loathsome refuse.

Game, poultry, and fish are safe enough, but care must be taken that they are cooked when perfectly fresh, owing to the great rapidity with which decomposition sets in. There is much more risk involved in the consumption of shellfish, and Dr. Brunet has seen several cases of very severe illness result from eating them.

Most of the products of the vegetable kingdom are wholesome, but in the case of those which are usually eaten raw, scrupulous washing with distilled water is necessary before they are placed upon the table. This precaution is requisite because it is the habit of the Chinese kitchen gardener to force his vegetables by frequent waterings with liquid charged with human excreta, and even in the market place he uses the water from the river, which is the receptacle for the town drainage, to keep them fresh. Water, from whatever source obtained, must always be regarded as under grave suspicion and ought never to be used without being boiled. Ice is equally dangerous. This is collected by the Chinese during the winter from the ponds and rivers, and stored in ice-houses. Needless to say, both in storage and in transport there is an utter disregard of sanitary precautions. Many persons, either because they are unaware of these dangers or because they do not know that it requires a temperature very much below freezing point to destroy bacterial life, use this ice for consumption, and, as the natural sequel, generally contract some intestinal infection.

Tea, made in the Chinese fashion, is by far the safest liquid to drink. If wine is used in addition it should be borne in mind that in order to stand the voyage from Europe the percentage of alcohol is generally made as high as twelve degrees; for use as a table drink, therefore, dilution with distilled water is desirable. Beer, for the same reason, also contains a high percentage of alcohol. Owing to the absence of supervision a good deal of adulteration is practised by unscrupulous firms, and the fraudulent use of names and trade-marks belonging to well-known brands is extremely common. Americans appear to be well to the front in this species of enterprise; they have succeeded in putting on the market a "fine Martell champagne," made in San Francisco, at the sumptuous price of 75 centimes per litre. Drinks of Chinese manufacture such as lemonade ought to be avoided. As the Chinese never drink lemonade themselves but only prepare it for sale to Europeans, the character of the water they use is a matter of complete indifference to them. A small epidemic of cholera which broke out amongst the French troops at Tientsin in 1902 was traced to the consumption of this noxious concoction. The European ought also to be on his guard against the native alcoholic preparations. The intoxicant made from rice and sold at a low price under the alluringly innocent title of "rice wine" is a dangerous pitfall to European soldiers. The flavour is only slightly alcoholic, and they are apt to imbibe it freely, without at first noting any ill-effects; then suddenly they fall down in a profound stupor. The comatose condition is often interrupted by terrifying hallucinations, and sometime delirium supervenes.

Influence of Diet on Foreigners.

Owing to the impossibility of procuring fresh animal milk Europeans find the nutrition of their children a matter of great anxiety. Unless the mother can nourish her own offspring, either they must procure a wet nurse, in whom it is rarely possible to feel confidence, or else resort to preserved milk, which is a thoroughly unsatisfactory substitute for natural food. Throughout the early years of child life, when the intestinal tract is particularly susceptible to irritation and infection, the impossibility of finding a substitute for fresh animal milk always constitutes a grave difficulty.

The success with which Europeans acclimatize themselves to China depends to a great measure upon the amount of care they exercise with regard to the choice of food, particularly at the beginning. Indiscretions in food and drink are only too common, but if these are avoided there is no reason why the European should not thrive as well in China as in the Western Hemisphere. The birth-rate amongst the purely European families is remarkably high; the children are well-developed; and in spite of an active life with many anxieties many Europeans maintain a condition of perfect health up to an advanced age.

Dr. Brunet lays much stress on the readiness with which Chinese life is assimilated by foreigners. "No country takes so strong a hold upon those who come to live there; it transforms them without their perceiving the change; it completely impregnates them, and at length absorbs them, body and soul, affecting alike their mode of thought, their way of life, their general appearance, their personal habits, and their social usages."

PHYSICAL EDUCATION.

On Wednesday afternoon, June 28th, a public meeting was held at the Mansion House under the presidency of the Lord Mayor of London, to form a National League for Physical Education and Improvement. The objects of the League are stated to be: (1) To stimulate public interest in the physical condition of the people throughout the kingdom; (2) to establish close association and centralization of all societies and individuals trying to combat such influences as tend to produce national physical deterioration; (3) to aid existing organizations; (4) to start organizations for physical health and well-being wherever none exists.

On June 24th the Bishop of Ripon, Chairman of the Executive Committee, took the chair at a dinner at the Hotel Cecil, when the objects of the League were expounded by Sir Henry Craik and Major-General Sir Frederick Maurice, K.C.B. Sir Henry Craik, in proposing the toast of the League, said that it was desired to make the teacher and medical man co-operators in the work of forming moral character, but that to obtain the best results it would be necessary to teach and influence the parents. Sir Frederick Maurice referred to the statistics of infant mortality, and said that the League would seek to save the race from those causes which were tending to deteriorate it. The health of the Chairman, proposed by the Mayor of Paddington (the Rev. H. Russell Wakefield), was acknowledged by the Bishop of Ripon, who asked what was the use of possessing imperial realms unless there was an imperial race to people them. The aim of the League would be to make the population of the United Kingdom more vigorous and healthy. Many excellent agencies were already at work, but the new League would be, so to say, a vigilance association, organizing in localities where no organization existed, and combining and directing existing agencies for the promotion of the physical well-being of the people.

At the meeting on June 28th the Bishop of Ripon moved a resolution expressing the opinion that in view of the report of the Departmental Committee, existing agencies should have the opportunity of combining. He said that though much had been achieved by isolated effort much more might be accomplished by federation. The League required the co-

operation of three classes of persons—practical workers, scientific experts, and politicians.

The LORD CHIEF JUSTICE, who seconded, spoke of the debt of gratitude which was owed to the University and other missions and of the necessity of affording to young people better opportunities for physical development and innocent recreation.

This resolution having been carried, Sir WILLIAM BROADBENT moved a second resolution approving of the Federation. He claimed for the medical profession that it had been the pioneer in such work, and that the labours of the public health service had saved many lives. He dwelt on the importance of mothers nursing their infants, as the future welfare of the child might be determined during the first few weeks of life. He also paid a tribute to the excellent work done by existing societies.

The resolution was seconded by Mr. Alderman and Sheriff STRONG, supported by Mrs. BRAMWELL BOOTH and Mr. HALDANE, and carried.

A vote of thanks to the Lord Mayor, proposed by Sir J. CRICHTON-BROWNE, seconded by Mr. COMPTON RICKETTS, and supported by Sir LAUDER BRUNTON, brought the meeting to a close.

THE PREVENTION OF CONSUMPTION.

NORTHUMBERLAND.

THE annual meeting of the Newcastle-upon-Tyne and Northumberland Branch of the National Association for the Prevention of Consumption and other forms of Tuberculosis was held on June 20th in the College of Medicine, Newcastle. Lord Armstrong, the President, was in the chair, and among those present were Mr. Crawford Smith, M.P., Sir George Hare Philipson, Sir Isambard Owen, and many other members of the medical profession.

Dr. Ogden (the Honorary Secretary) read the report of the committee which stated that a year ago the sanatorium scheme was in its infancy; at the present moment the erection of the sanatorium was progressing steadily, and, if only the necessary funds were forthcoming, the building would be ready for occupation by the end of this year. The treasurer's report stated that with regard to the sanatorium fund, which was opened between two and three years ago, it now amounted to £14,500. A sum of at least £21,000 was required to complete and equip the sanatorium near Barrasford for even fifty beds. Lord Armstrong, in moving the adoption of the report, said the principal thing in it was the starting of their new county sanatorium, and he was glad to think that a very considerable advance had been made since they met together a year ago. They had now got the site conveyed to them, they had got the foundations of a new building almost completed, they had found a bountiful supply of water, and he trusted that, above all, when they next met, the sanatorium might be in full working order. At the same time they were much exercised in their mind at the lack of funds for the completion of the building. He had pleasure in announcing that Messrs. Lambton had most generously come forward and promised £250 towards the £7,000 required. The report having been adopted, the President, Vice-Presidents, and officials were reappointed. Sir Isambard Owen then delivered an address on consumption. The real principle of the open-air treatment was nothing but the application of sound hygienic principles and a method of common sense to the treatment of the disease. They could not say that every patient in an open-air sanatorium was going to be cured, but they did say that if the disease was detected earlier, and put under proper conditions, there was a fair hope of recovery for the patient. And if the disease had got a rather greater hold on the patient, still in the comparatively earlier stages of the disease there was a fair prospect that under proper conditions he might be restored to what the Germans called economic health, that was a condition of health in which he might resume his occupation if it was not laborious. The Germans said they got at least 70 per cent. of these economic cures out of their sanatorium system. Sanatoriums for consumption, either here or elsewhere, were not, properly speaking, matters of charity, but matters of economy. On the grounds of economy and of the preservation of the health of the community he urged them all to carry out this scheme of the Association.

THE prizes gained by the students at St. Bartholomew's Hospital Medical College will be distributed at 3.30 p.m. on Wednesday, July 12th, by Lord Ludlow, Treasurer of the hospital.

CONTRACT MEDICAL PRACTICE.

NOTICE AS TO DISTRICTS IN WHICH DISPUTES EXIST.

A notice as to places in which disputes exist between members of the medical profession and various organizations for providing contract practice will be found among the advertisements, and medical men who may be thinking of applying for appointments in connexion with clubs or other forms of contract practice are requested to refer to the advertisement on page 78.

SPECIAL CORRESPONDENCE.

VIENNA.

The New Dean of the Medical Faculty.—Ankylostomiasis amongst Labourers.—A Case of Poisoning by Gas.—Post-graduate Lectures.—The Sale of Patent Medicines.—Enlargement of the Hospital of the Brothers of Mercy.

PROFESSOR EMIL ZUCKERKANDL, who holds the Chair of Anatomy formerly occupied by the famous Hyrtl, has again been elected Dean of the Medical Faculty in Vienna for 1905-6. He was called to this post of honour six years ago for the first time, and has gained the esteem of his colleagues and the love of the students in such a degree that after the prescribed lapse of time he was asked again to give his valuable service to the University. Zuckerkandl is the author of many original works on the anatomy of the nasal sinuses, the histology of the bowel, and the brain.

The increase of ankylostomiasis amongst coal and iron miners in Germany and Italy has induced the Ministry of the Interior to direct its attention to the sanitary conditions of Austrian mines and tunnel works. Up to June 1st 6,820 people employed in 512 different establishments were examined. Only 45 of these were found to be suffering from ankylostoma duodenale or taenia. It was shown that nearly all of them had been employed within the last three years in one or another of the infected places abroad. The majority of the cases were found amongst the labourers on the Transalpine railway line now in course of construction. They come mostly from Italy, are very filthy and unhygienic in their habits, and are a source of danger wherever they lodge. All 45 were brought into hospitals, where the extract of male fern with calomel was employed to rid them of the parasites. The measures adopted by the Government medical officers seem so far to have been very useful in checking the spread of the disease.

At a recent meeting of the Society of Practitioners in Vienna, Dr. Krumbholz showed a woman, aged 53, suffering from multiple gangrene of the skin and amnesic aphasia, resulting from poisoning by gas. She had been found lying insensible on the floor of her room. She rallied after a venesection, an injection of digitoxin and inhalation of oxygen. Four days later the aphasia began to show itself, and sugar appeared in the urine. At the end of a week the skin of the hypogastrium and of the right thigh became necrotic to such an extent as to make plastic operations and transplantation necessary. The aphasia is slowly improving.

During the months of August and September post-graduate lectures and courses will be held at the University. To these lectures any one holding a medical degree is admissible. The course extends over two to four weeks, two hours daily. Their object is to enable the practitioner to keep in touch with the progress of medicine. The fees vary between £2 2s. and £5. The programme comprises courses in serum diagnosis, haematology, practical applied chemistry, surgery of acute diseases of the ear, the treatment of the frontal and nasal sinus, toxicology, treatment of tuberculosis in all its forms. They are so arranged as not to interfere too much with each other, especially with the courses of different branches, so that it is possible for the student to follow nearly all of them.

A movement has been set on foot by the medical practitioners of Vienna to restrict the sale and prescription of patent medicines and ready-made preparations. It is demanded that advertisements of such medicines should be circulated only through the medical press. It is well known that many people procure medicines, after having heard from a friend that he used it with good effect, without the advice of a doctor. The movement has been responded to by the majority of the profession in a very favourable way. The

factories as yet refuse to adopt the suggestions, but it is very likely that they will find it politic to give way if the practitioners keep together.

A new wing has been opened, in presence of a large gathering, honoured by the appearance of the highest dignitaries, in the ancient hospital of the Brothers of Mercy. About 1 000,000 crowns (£70,000) had been devoted to this purpose, and the new building adds 56 beds to the existing hospital. This hospital is famous because every member of its staff must belong to one of the orders of the Catholic Church. Thus monks operate and dispense. They are highly esteemed by the suffering, and in recognition of their services they are exempt from several taxes and duties toward the State. The new wing is fitted with the most modern equipment for scientific and curative work, and with every requisite for the comfort of the patients.

MANCHESTER.

Free from Plague.—Cost of Beds in Hospitals for Infectious Diseases.—Eye Hospital and Instruction in Diseases of the Eye.—Report of Port Sanitary Authority.—Ambulance Work.

THE period of infection in respect of the recent case of bubonic plague has expired, and fortunately no further cases have been reported. It has now been ascertained that the vessel from which the deceased ship's cook was paid off at Middlesbrough had called at East African ports where plague existed. At Hamburg numbers of dead rats which had died from plague were cleared off the ship.

Mr. R. D. Sweeting, Local Government Board inspector, stated at an inquiry at Preston—in an application by the Corporation for sanction to borrow £20,000 for the erection of an infectious disease hospital—that "We get such high prices per bed that the figure seems almost incredible. The other day I had an inquiry where the price was £700 per bed." The cost for each bed at Preston on the contract price works out at about £346.

On the understanding that students of the University shall have facilities for instruction a plot of land adjoining the new infirmary site has been sold to the Manchester Royal Eye Hospital by the Infirmary Board. The eye hospital will shortly become the recognized teaching centre for diseases of the eye in connexion with the medical school of the University.

The Medical Officer to the Port Sanitary Authority in his eighth annual report states that the amount of work done compares favourably with that of previous years. The total number of cases of sickness investigated during the year was 159, the highest since the formation of the authority, and is due to the inevitable expansion of the port. The danger of the importation of the forms of infectious disease has also steadily advanced along two main lines, the increasing number of individuals and the increased area from which infection may be imported. Eight cases of enteric and one of scarlet fever were dealt with. No fewer than 2 621 vessels were inspected and 815 revisits were made resulting in the discovery of defective or insanitary condition on 1,241 vessels, a percentage of 47.35, as against 38.4 of the previous year. Steamships do not, however, exhibit anything like the percentage of defects that occur on sailing ships and barges, on which it is approximately double. Of the vessels inspected 1,429 were British steamships, 877 sailing ships, 275 foreign steamships, and 40 sailing ships. No fewer than 1,160 British ships showed defective or insanitary condition. The crews numbered 37,397, and of these 13,565 were on defective vessels. Over 60 per cent. of the barges showed defects.

The fourteenth annual review of the No. 4 District of the St. John Ambulance Brigade was held near Southport on June 24th. The district includes within its radius Lancashire, Cheshire, Westmorland, Cumberland, the Isle of Man, and Ireland. The total strength constituted a record—equal to 930 on parade, comprising 610 ambulance men and officers, 67 stretcher bearers, 232 nursing sisters and their officers, with 40 in the police ambulance corps, and 18 staff officers. The aggregate strength was almost double that of last year's review.

SOUTH WALES.

The Typhoid Epidemic at Bridgend.—University College, Aberystwith.—Royal Visit to Cardiff.—Swansea Housing Problem.

AT a special meeting of the Bridgend District Council on June 23rd the typhoid epidemic was discussed. Dr. W. Randall, Medical Officer of Health, presented two reports on the bacteriological examination of the two samples of water sent to the County Laboratory, Cardiff. The report of the sample taken from the tap at the Council offices showed it to be an unsatisfactory water, affording distinct evidence of sewage contamination. That of a sample from the tap at the Gas and Water Company's premises showed recent sewage contamination. Chemical analysis had also been made, the results of which were less satisfactory than were those of previous samples, while the suspended matter was unsatisfactory in character for a spring water. It was resolved that further samples be taken for analysis.

On June 23rd the Hon. Ailwyn Fellowes, M.P., President of the Board of Agriculture, formally opened the farm connected with the University College of Wales, Aberystwith. Earlier in the day the President of the Board presided over a conference of delegates of the County Councils affiliated to the College for assisting agricultural education. Mr. Fellowes emphasized the value of this great work, and complimented the College on what it had already done in that direction.

The arrangements made in connexion with the visit of H.R.H. the Prince of Wales to Cardiff were very complete. On June 28th His Royal Highness laid the foundation-stone of the new University College of South Wales and Monmouthshire at Cathays Park, and on Thursday, June 29th, he was the guest of the municipality.

A step is about to be taken at Swansea which it is hoped will go a long way towards solving the housing problem in the district. At the next meeting of the Works Committee of the Corporation Mr. Graham Vivian will submit a scheme for developing a stretch of land on the north side of Sketty Road, on which its is intended to erect 215 five-roomed workmen's cottages. Since the extension of the tramway system to Sketty there has been a great development in building in that suburb, nearly 100 houses being either in course of construction or about to be constructed.

LEEDS.

An Inspected Unsterilized Milk Supply for Infants.—New Leeds Company R.A.M.C. (Vols.).—The New Workhouse and Infirmary.—The Nurses Training School.

DURING the last few years the municipal authorities of Leeds have been taking special precautions to ensure the purity of the milk sold in the city, and a veterinary assistant to the medical officer of health has recently been appointed for the supervision of cowsheds and milksheds. Arrangements have been made with a farmer in the Tatternewton district that, subject to his managing his dairy in accordance with the regulations of the Sanitary Committee, the Corporation shall purchase all his milk, which will be bottled and sold without further treatment at a dépôt adjoining one of the most densely populated parts of the city. This may prove to be the earliest step in a much larger scheme on similar lines. There can be no doubt that the prolonged boiling of milk deprives it of the antiscorbutic properties which it possesses in its fresh condition, and pasteurized milk, even when carefully prepared, is probably not free from reproach in this respect. It is computed that about 15,000 gallons of milk are sold in Leeds every day, of which 6,000 gallons come from within the city boundary, 6,000 gallons from the suburbs, while 3,000 gallons come by train from greater distances.

It is interesting to learn that the commanding officer, Major de Burgh Birch, has obtained permission to form a second Leeds company of the Royal Army Medical Corps (Volunteer), and that there are already 37 over and above the full strength of the first company available as a nucleus. The first Leeds company, which was enrolled in 1888, was the sixth of its kind in the kingdom, and its authorized strength was 138. The present head quarters were purchased in 1897. The equipment consists of 2 ambulance wagons, 16 stretchers, one pair of cacolets, 12 surgical haversacks, with harness necessary to turn out the wagons properly horsed and accoutred. The transport section was formed in 1890, and consists of the quartermaster, 1 sergeant, 2 corporals, and 32 privates, who go through a course of riding and driving at the Royal Artillery Barracks. Medical students are invited to join the Corps. The active part of the drill season is from the beginning of May to the end of July. The company goes into camp usually for the first week of August with the regular forces at Aldershot, Netley Military Hospital, or York.

It is now about eighteen months since the new workhouse and infirmary of the Hunslet Union was opened at Rothwell

Haigh, and a visit paid now shows the institution in full working order. The parishes within the union are those of Hunslet, Middleton, Oulton cum-Woodlesford, Rothwell, Osmondthorpe, Temple Newsam, and Thorpe Stapleton, and represent a population of 83 000. The buildings occupy an elevated site 18½ acres in extent, about four miles from the centre of Leeds and a mile and a half beyond the city boundary. On this the architect, Mr. J. H. Morton, of South Shields, has provided buildings with a present accommodation for 450, but with an administrative block large enough for double that number. The entrance building contains, in addition to the porters' accommodation, receiving wards and vagrant wards, where vagrants of both sexes are provided for, principally on the separate-cell system. The workhouse proper has in its central block the master's house, committee and business rooms, and the large dining hall, with kitchen, scullery, workrooms, matron's office, and stores, bakery, and flour store. On each side of this, and connected with it by glazed conservatory corridors, are the pavilions for the male and female aged and able-bodied classes, with dayrooms, lavatories, bathrooms, etc. The laundry and boilerhouse buildings are centrally situated; the boilerhouse has space for three boilers, and close to it is the electric light house and the water tower. The Infirmary is a separate building and is connected with the main workhouse by a covered corridor. Here again the central block is administrative and includes the nurses' home, the medical officer's room, and the dispensary, while the male and female pavilions are situated on each side. The wards produce a very favourable impression; they are well lighted, have polished floors, and present an air of comfort. Ready access is obtained from them to large covered balconies on the first and ground floors. Each pavilion is provided with an electric lift. There is a separate maternity block which will very soon require enlarging, and the lunacy block has accommodation for 36 inmates. Separate buildings are also provided for the small isolation hospital for aged married couples, and for the mortuary and *post-mortem* room. The heating and hot water supply is on the low pressure principle, steam being supplied to heat water in generators, two of which are under each block, one for heating and one for hot water supply. The wards of the Infirmary are also heated by central stoves. Electric lighting is used throughout. There is an extensive system of internal telephones, and the 45 clock dials throughout the buildings are electrically synchronized from one regulator clock. The whole of the buildings, indeed, form a model institution, in which efficiency has been secured without lavish expenditure. The total cost is approximately £85 800, or about £182 per bed. It is pointed out that

when the substantial character of the building is taken into consideration, and it is remembered that not only is there no accommodation for children, which always brings down the average cost, but that a considerable portion of the accommodation is for infirmary cases, which always enhances the cost per bed, that the administration blocks are built in anticipation of future requirements, and that the figures include not only the cost of erection but also of the purchase of the land, the provision of a great quantity of new furniture, the expenses of raising loans, the labour-saving appliances in kitchen and laundry, and the provision of a system of heating and electric light installation (in both of which the capital cost takes the place of recurring expenditure on fires and lighting), amounting altogether to £16,000, the cost will be found to be a very moderate one, and to compare very favourably indeed with that of similar institutions.

Following the example set by the Leeds Board of Guardians in respect of the training of nurses, some details of which were given in this column on February 4th of this year, the Hunslet Board have also instituted arrangements for the training of the probationers at their infirmary. The infirmary staff consists at present of the matron, who is a fully-trained nurse, and receives a salary of £45, three charge nurses, and eight probationers. The accommodation in the way of sitting-rooms, bedrooms, and recreation rooms is excellent. The charge nurses receive £30 per annum, and the probationers, who begin at £12 for the first year, receive £16 in the second and £20 in the third year. If they pass the necessary examination and get their certificates, they may be promoted to the posts of charge nurse as vacancies arise. The probationers are given a careful course of instruction by Dr. Buck, the medical officer, which takes the form of systematic lectures and explanatory tutorial classes, and at the end of their three years they are examined by an independent examiner, by written questions and also by means of a searching viva-voce examination. The examiner, who is also the examiner for the Leeds Union, has impressed on the Board the great desirability of some arrangement being made by which probationers undergoing a course of training in workhouse infirmaries should, during some part of their term of office, be sent to a large general hospital, in order that the necessarily somewhat scanty surgical training which it is possible for them to obtain, at least in the case of the smaller unions, should be supplemented, and the Hunslet Board have brought the matter before the Local Government Board.

CORRESPONDENCE.

MR. OWEN'S ADDRESS TO THE KENSINGTON DIVISION.

SIR,—I thank you for having informed me that exception has been taken to part of the address which I gave before the Kensington Division a few months ago. Greatly to my annoyance, some of that address was used as "copy" by the editor of a halfpenny evening paper, with a heading, "The doctors given away," or words to that effect. If any medical brother formed an unfavourable opinion of my views merely by reading those paragraphs, it was not quite fair towards me. If, however, after reading the address (BRITISH MEDICAL JOURNAL, March 25th) he came to the conclusion that I spoke with undue respect of any practitioners, I will say that by conveying that impression to him my words were exceedingly ill-chosen and certainly did not express my thoughts.

Having been asked by the Chairman, Mr. Eastes, to read a paper on a subject which he had selected, I introduced it in the way which I thought best suited to bring forth a discussion. In this I succeeded, and in the discussion there was never a hint that I had used words which might seem disrespectful. Had it been otherwise, I am sure that the Chairman (who told me that he was arranging for the publication of the address) would have asked me to alter, or to leave out, some parts of it, and I would most gladly have done so. But I trust that it is not yet too late for me to say that I am very sorry that I used expressions which rendered any part of my address distasteful to any general practitioner, and attractive to the editor of the lay paper in question. I am truly grieved that my words (but not my thoughts) could have hurt the feelings of any medical brother, and I will beg him to consider that your blue pencil, Sir (which has generally a sharp point), has been heavily drawn through those words.—I am, etc.,

London, W., June 24th. EDMUND OWEN.

EXERCISE AND OPEN-AIR TREATMENT OF PHTHISIS.

SIR,—May I be allowed to thoroughly endorse all that Dr. Ramsden has said about the value of rest in pulmonary tuberculosis, in addition I would like to point out that if we regard the pleura which is so frequently attacked by tubercle, as, like the pericardium and peritoneum, a visceral joint, the treatment of a tuberculous pleura should be the same as that of any other joint and rest prescribed so as to lessen functional activity as far as possible.

A point that has struck me in the series of interesting letters which have appeared on the subject of open-air treatment and sanatorium is that no one so far has attempted to say why so much fresh air is beneficial. Personally, I doubt whether this large amount of fresh air is of unqualified good; the bacillus tuberculosis is aërobic, that being so, why give it more oxygen than can be helped? Dr. Raymond Crawfurd, in an article on Mitral Stenosis, in the *Practitioner* (June) says:

Mitral stenosis unquestionably exerts an arresting influence in tuberculosis of the lungs, either by inducing a condition of passive hyperæmia, or a state of diminished oxidation of the blood which is uncongenial to tuberculosis.

If Dr. Crawfurd is correct, are we not wrong in oxygenating the blood as much as possible? That fresh air cannot prevent tuberculosis needs no demonstration; it is difficult to understand, therefore, why the open air treatment *per se* should cure it. In this part of the country, where tuberculosis is prevalent, I find many cases in cottages ideally situated for the open-air treatment.

Having made the diagnosis of pulmonary tubercle, which ought always to be confirmed by bacteriological examination, a great field is opened out for the treatment of the individual rather than the disease. It is very rare that two cases of this disease require the same line of treatment; it is only by regarding each case as a law unto itself that one can reconcile the conflicting views of such competent authorities as Dett-

weiler and Brehmer on the subject of rest and exercise. I think the main consideration before fresh air, drugs, etc., is to maintain the digestion and assimilation; treatment at sanatoriums I would reserve for those in insanitary surroundings or too poor to be able to afford the cost of diet absolutely essential for the treatment of tuberculosis. There is a very close analogy to sending cases of tubercle to sanatoriums, and that is in sending cases of syphilis to Aix-la-Chapelle. When away from home patients give themselves up entirely to their cure; it is their one theme, business is left alone, regular hours are followed, and the treatment faithfully carried out. Insist on this at home, and patients can be just as well treated in their own homes both in tuberculosis and syphilis, provided always that the home is sanitary and the purse able to obtain all the nutriment necessary.

Study each individual patient, and try to ascertain upon what particular line you can best develop his power of resistance; proper hygiene, maintaining the digestion, and rest, combined with the two drugs which always appear to me absolutely inimical to the bacillus tuberculosis, give the best hope of cure; but in a disease of the known intermittent character of pulmonary tuberculosis it is very difficult to know whether our treatment has done good or whether the improvement is only a phase of the disease.—I am, etc.,

Ludlow, June 19th. EDWARD GREEN.

THE SANATORIUM TREATMENT OF CONSUMPTION: IS IT WORTH WHILE?

SIR,—My six years' experience in the sanatorium treatment of pulmonary tuberculosis gives me an opportunity of affirming without hesitation that (*a*) in the past it has proved its success in the saving of many who otherwise would have met a sure death; and (*b*) in the future it will be the means of opening up endless possibilities in bringing about such practical reforms as to revolutionize social, municipal, and national life.

(*a*) To give a mere bald statement of figures: We have records of 152 patients treated during the first four years ending August, 1903. Of these 78—or nearly 51 per cent.—have been restored to health, and are following their various occupations to the present day. This number includes 60 cases in the early consolidation stage and 18 in the cavity stage. The majority of the remaining 74 patients were admitted in the advanced stage. Of these, 49 have died and 25 are still living.

There is, no doubt, some truth in the insinuation that patients who have been partially patched up by the open-air treatment and return to unhealthy surroundings relapse more quickly than those who have remained in the old conditions of life—simply because half a cure is worse than no cure. A creaking door lasts longer if left alone, because every one knows its deficiency and uses it carefully. But it looks strong when it is half mended and painted, and the first careless knock breaks it to pieces. So that the blame of failure of sanatorium treatment in some cases rests upon:

1. Medical men in not sending cases in the early stage.
2. Patients who at the first sign of return of health go home thinking they are cured.
3. Institutions which cannot keep patients for more than two to four months and then send them back to their former unhygienic surroundings.
4. Home treatment where no rigorous medical supervision is possible.

(*b*) The scope of the open-air movement goes beyond saving a few thousand lives every year. It has a wider outlook, and aims at the prevention of disease. For how can the new treatment ever hope to eradicate the disease, when centres like London, Liverpool, Glasgow, etc., are breeding-places of dirt and microbes, and keep up a constant supply of consumptives? As fast as patients are cured, or faster, their places are filled up by others manufactured by crowded and dirty towns. Who can gauge what the consequence will be when every citizen realizes to the full that fresh air is part of his very life and being, and an absolute necessity to his daily health and happiness?—I am, etc.,

D. J. CHOWRY-MUTHU, M.D.,
June 24th. Physician, Mendip Hills Sanatorium, Wells.

SIR,—Dr. Paget-Tomlinson in his interesting analysis of the results obtained at the Westmorland Sanatorium invites comparison by other workers in the same field.

Following the same classification that Dr. Paget-Tomlinson adopts in dividing cases into groups of "slight," "moderate," and "advanced," I submit the result of six years' work. The number of cases who have passed through my hands is 219, 66 per cent. of these have been of the working class and have been treated at the Cottage Sanatorium. In considering results I do not find any marked difference between the two classes of patients. Perhaps a few of the better-class patients have become chronic who might otherwise have died, but on the whole I feel that those who have done badly have not been greatly affected by their station in life. It is often quite as difficult for a middle-class patient to maintain treatment for a sufficiently long time as for one of the working class. Dr. Paget-Tomlinson refers to the much better results in advanced cases which Dr. Thurnam shows amongst the well-to-do class. I have had 57 advanced cases, and of these 38, or 66 per cent., are dead, 12 (22 per cent.) are "chronic," and 7 (12 per cent.) are working. Fifteen of the 57 were not poor patients; of these 10 are dead (showing exactly the same percentage), of the other 5, 4 are leading semi-invalid lives, and 1 is at work. Turning to early cases, Westmorland shows that "nearly all" are working; 90 per cent. of mine are working (or in a condition capable of work).

Of "moderate" cases, Westmorland shows 60 per cent. at work, while my figure is 53 per cent. Thus, excluding 20 cases hopeless from the first, I find that 65 per cent. of all patients treated during the six years are still working, and 17 per cent. are dead. Besides the hopeless cases, 14 per cent. did not improve under treatment, though some came in quite an early stage. There is, I think, a "malignant" type of consumption as of other diseases, and in these cases the outlook is bad from the very first. Amongst such, one invariably finds a high pulse-rate, though frequently the physical signs are slight, and tubercle bacilli much harder to find than streptococci and diplococci.

In looking through the list of 130 patients who are set down as "working or capable of work," one finds that very few are doing anything but light and selected work. Only 12 are in workshops or offices; 25 are doing outdoor work of various sorts in England or abroad, and 94 are entered under housework, including domestic servants, teachers, scholars, nurses, etc. Probably the work of many of these would not be at all a marketable commodity, but it is sufficient at any rate to prevent them from being classed as invalids. Fourteen have been employed about the Sanatorium and in nearly every case with marked success from the health point of view. The value of their labour to their employer has not always been conspicuous, and it has become very evident that it is impossible to expect recent consumptives to be able to support themselves in competition with the healthy. It seems ideal that two ex-patients should look after the poultry yard and pony at the Sanatorium, but if one has a haemorrhage and the other "gets a temperature" on the same day it hardly makes for the good of the chickens. Again, one finds a patient chopping wood to boil the chickens' food; (it is, of course, *de rigueur* that all scraps from the Sanatorium table are boiled before consumption by live stock) he is breathless from the exertion, and one says, "You must not chop wood;" he replies that the gardeners say it is not their work and it is bad enough that they should have to carry his heavy pails. Then one begins to understand how hard it is to find employment for consumptives. The consumptives' colony is an ideal of most sanatorium workers, but the experiments I have made bring home the great difficulty of finance. If one could have the patients "kept" for a year at least and give them graduated pocket money much good might be done, but no sanatorium can hope that their labour will be worth their keep. Here and there one will find a good exception, but such a one will soon leave and take the better pay that is open to him outside.

As municipalities, Boards of Guardians, and other public bodies are now bestirring themselves to provide sanatorium treatment, the *cui bono* is a question to be carefully faced, a three-months' course of treatment is often of much immediate and but little permanent good, and it is costly. If we work for arrest of the disease, even in selected cases, we must have a very much longer time than this. We must have cases first as patients and then as workers, and be prepared to draft back the workers to the ranks of the patients many times. We must encourage the patients to stay by allowing them to earn a little, because they can hardly ever realize that their work is not worth much; they are often enthusiastic after their enforced rest, and are apt to think that the sanatorium is doing a very good thing for itself in getting their labour for "next to nothing." Hence, if we cannot see our way to keeping the patients for two years if necessary, we should perhaps be wiser to give them simply a short course of educative treatment such as Dr. Newsholme advocates and carries out at

Brighton. In this way a larger number would learn the principles of the open-air life, with the hygienic precautions necessary to safeguard others, and the sanatorium method would not be brought into disrepute by its failure to produce cures in an impossible space of time.—I am, etc.,

ESTHER COLEBROOK CARLING,
Superintendent of Kingwood and Maitland Cottage Sanatoriums.

Kingwood, Peppard Common, Oxon., June 20th.

SIR,—Following the report in the BRITISH MEDICAL JOURNAL of April 22nd of a paper on open-air treatment, by Dr. Hughes, of Westmorland Sanatorium, there have been two letters by other correspondents in the JOURNAL of May 20th (p. 1090) and June 17th (p. 1358) on the question of exercise in phthisis. If Dr. Hughes be correctly reported, both these correspondents seem to me to have missed the point, which is, that whilst complete rest is necessary in some cases, much harm is done by *injudicious* exercise; but these correspondents seem to want to do without exercise at all. I think that most physicians would agree that in certain cases rest is necessary, and harm is done by exercise; but I am convinced that in suitable cases regulated exercise does a great deal of good. Whilst a patient has fever—say a temperature above normal in the morning, and an evening rise—rest is probably the only correct treatment, though I should be guided by the physical signs as well, but when there is no fever (and other conditions are suitable) carefully-regulated exercise is indicated. I remember one patient who came to a sanatorium where I was, with a very early left apex lesion, and after eight months of stuffing and comparative rest—with walking on the level only—was in practically the same condition. He then went to Nordrach, where there is carefully-regulated exercise, and in less than a month had lost all his physical signs and has remained free from them ever since (five years). And here I must emphasize the fact that the exercise must be gentle, regulated uphill walking, which gradually strengthens the heart, expands the lungs, and brings a favourable influence to bear on the appetite, and hence on the general nutrition. Theodore Williams, on the authority of Quain, states that the heart is small in phthisical cases, but whether large or small, it is certainly weak, and carefully-regulated exercise is one of the best treatments for this condition. I do not think that it is often dilated in early stages, but in the chronic cases with much fibroid change it certainly is, and in these cases, therefore, exercise is a doubtful advantage and, in many cases, is positively harmful. "In walking, and especially in walking uphill, patients ought to be careful to go very slowly, to breathe through the nose, to refrain as far as possible from talking, and to rest from time to time to guard against fatigue, and only to walk just as far or so long as the physician has ordered." (Jaruntowsky.) In my own case when I went to Nordrach (though I had put on nearly 2 st. in weight and had very little mischief indeed) I could not walk 100 yards without panting, but after three months carefully following the above directions, I could walk where and how I pleased without effort, and this though I had put on another 10 lb. in weight.

I cannot agree with Dr. Kay Ramsden that an increase of tidal-air is not necessary, as I think that one of the chief benefits of the uphill exercises results from the better expansion of the lungs and the consequent better aëration of the blood, both of which factors are very deficient before treatment is begun. This statement can easily be verified by the stethoscope, and I am continually confirming it.—I am, etc.,

GEORGE A. GRACE-CALVERT, M.B., etc.,
Vale of Clwyd Sanatorium, near Ruthin, North Wales.

June 20th.

OPEN-AIR TREATMENT OF CONSUMPTION IN SCOTLAND OVER ONE HUNDRED YEARS AGO.

SIR,—Dr. Mitchell's letter on this subject in the BRITISH MEDICAL JOURNAL of June 17th, quotes from Dr. Buchan's *Treatise on Domestic Medicine*—a book in great vogue at the end of the eighteenth century—on the value of open-air exercise in the treatment of phthisis. It may be of interest to Dr. Mitchell, and to others who believe that our professional ancestors knew much that we have forgotten, if I quote from an author who wrote nearly a century before Dr. Buchan, namely, Dr. Thomas Sydenham, the father of English medicine. His opinions may be found in several places, in the *Epistolatory Dissertation* (1681), in the tract *De Phthisi* (1683), and in the *Processus Integri*.

I quote from the last-named, cap. lviii, 9:

> But of all the remedies for phthisis, long and continued journeys on horseback bear the bell: in respect to which it must be noted, that if the patient be past the prime of life, more exercise of the sort in question must be taken than if he were a youth or a boy. Bark is no surer cure for ague, than riding for phthisis.

And again, cap. lx, 6:

> The primary remedy, however, is daily riding on horseback—which is all in all. Do this and you may neglect the rules of diet, and deprive yourself of no sort of meat or drink.

Of course Sydenham included under the term phthisis other diseases than true tuberculous consumption, still there can be no doubt that he recognized the benefits to be derived from riding and fresh air in genuine cases of the disease, as the following quotation (*Epist. Dissertation* 118) clearly shows:

> Riding is as good in a decline or in phthisis as in hypochondriasis. It has cured patients whom many medicines would have benefited as much as many words—and no more. This too, not only in mere cases of cough and weakness, but after wasting night-sweats and colliquative diarrhœa have signified the approach of death.
>
> "Ultima linea rerum."

Indeed, deadly as phthisis is, killing two-thirds of those who die of chronic diseases, it has a specific in riding, as truly as ague has in bark, or the venereal disease in mercury, provided only that the journeys are long enough, and the beds at night are well aired. Those too who have passed middle age must keep it up longer than those below it. Besides horse exercise, driving in a carriage has had wonderful effects.

These quotations are from Dr. Latham's edition of Sydenham's works, published by the Sydenham Society. It is probable that there are earlier writers than Sydenham who knew of the benefits of fresh air in the disease, and if any of your correspondents could tell us of them I am sure we should be glad to learn.—I am, etc.,

E. D. KIRBY.

Birmingham, June 19th.

THE ABUSE OF HOSPITALS AND THE REMEDIES.

SIR,—General practitioners in town and country must have read with the utmost satisfaction Dr. Walker's letter in the BRITISH MEDICAL JOURNAL of June 24th, p. 1406. That we must blame ourselves, as well as our colleagues who are on the hospital staff, is a point often overlooked. How many villages and small towns there are where an elderly and a young man are practising? The older man, educated before antiseptic days, never started operating, and now never will. The younger man, with better fortune, has no feeling of dread for "the knife" which his senior has, owing to his later-day training. He does many operations in his practice with success and skill, regulating his charges to his patients' pockets—sometimes, perhaps, free of charge. Is he ever asked by his senior to undertake an operation (it might be easily worded "help at an operation") for him? In nine cases out of ten the senior would rather retire from practice than follow such a course. He does not do this; he sends them all to the hospital. The *quid pro quo* would no doubt be given, if the senior were more generous, by the younger man asking his friend to meet him in medical consultations more frequently.—I am, etc.,

S. W.

June 28th.

ASSISTANTS AND *LOCUM TENENTES*.

SIR,—We hear many complaints about the want of experience generally displayed by the men who are sent out to take charge of a practice in the absence of the principal. I have suffered from it more than once, and can testify to the incapability of almost any man, fresh from his hospital, to conduct a practice. Once I had a young man sent down who had taken the highest honours at London University, and is now a well-known London surgeon. This gentleman was one of the nicest men it has been my lot to meet. He was, of course, far ahead of me in his up-to-date knowledge, and it was a pleasure to have his help in many cases. Still, he knew neither the way to satisfy his patients nor to obtain their confidence.

The fact is, we want a different class of man to take charge of our practice to the man we require as an assistant, and until a man has had some experience in general practice he is not fit to be left in charge. The man I have always preferred for an assistant is one who has just finished his work at his hospital, where he has held the higher appointments, as he comes with all the fresh knowledge, and from him we fossilized practitioners can learn a great deal. On the other hand, a man who is to take charge of and run a practice in the absence of the principal must be one who has himself had considerable experience of private practice. The sooner the British Medical Association starts a bureau for the supply of assistants and *locum tenentes* the better, especially if

we can, with confidence, look to them to recognize the requirements of the two berths as being distinct. In their hands, too, we ought to be safe that they are looking after our interests, and will only place on their books such men as can be confidently recommended and in whom we can trust our patients. There are many men, who have had experience in private practice, willing to go out as "*locums*" and who are trustworthy; but, alas! there are black sheep here as well as elsewhere.

It is well worth a practitioner's while to pay £5 5s. a week for a good man; and he is worth all this if, at the end of his locum tenency, he has kept things going so well that his employer returns to find his practice has been well cared for and there are no complaints or patients gone over to another practitioner.—I am, etc.,

June 20th. G. P.

PUBLIC VACCINATORS AND GENERAL PRACTITIONERS.

Sir,—In the British Medical Journal of June 24th, someone, feeling that public vaccinators are among other things too well paid, and who is anxious to turn us out of our appointments and share the spoils, makes other mistakes besides signing himself "Justitia." "This favoured individual," he says, meaning the public vaccinator, "is extremely well paid for his work." If "Justitia" is not a sixpenny doctor I cannot divine wherein he finds any extravagance in the payments to public vaccinators. I have read what has appeared in the Journal and know something of the fees from experience, and I am perfectly satisfied that, except in the minds of gentlemen like "Justitia" who venture into print without first making some effort to understand their subject, the fees of public vaccinators are not only not excessive but they are insufficient for the work done. He says further on, "We should all agree to sink our party differences and work hard for the benefit of our own profession." I heartily agree with him. As I understand the trend of his letter, however, this sentence should read, "We should all agree to sink all justice and fair play for public vaccinators, and work hard for the benefit of a few general practitioners who would like the Government of the country to order affairs so that in matters of public health—which doctors maintain it is necessary the country should adopt—they should always see that the doctor's interests are properly taken care of, and that they should endeavour to put a little into the pockets of every doctor and not a few selected persons elected openly by public Boards!" It is about time that we should cease our prating about our contribution to sanitary progress, if after all it is our own interests and our own pockets that we have in view. Anti-vaccinators never cease to tell us that vaccination is nothing but a means of putting money into the doctor's pocket. I should like my medical brethren to take a loftier standing on this important question, and to remember that vaccination is for the public good and not for the doctor's. I will take the advice of "Justitia," and urge the member of Parliament for my division to exert his influence for thorough vaccination, but without studying any doctor's interest, and certainly not the gentlemen who urge touting "on our daily rounds to ensure (what he calls) reform," or those who publicly proclaim that until what they call reform is secured they will continue to put only "one mark."

It is always painful to me to hear public vaccinators charged with unfairly pressing their services on the patients of other medical practitioners. There are black sheep in every flock, and, speaking generally, they are relatively not more numerous among public vaccinators than they are among the rest of medical men. Let us exhort public vaccinators to be on their guard; and for the honour of the noble profession to which they belong, and out of respect to the public position they hold, to exert no form of pressure with a view to secure new patients while visiting cases for public vaccination.—I am, etc.,

June 24th. Public Vaccinator.

Sir,—Your correspondent "Justitia"[1] states somewhat dogmatically that if all practitioners became public vaccinators the cost of administration would be increased. As this objection, if it is true, would be a very serious one, it would be interesting to know in what respect this increase would arise. As one who has some acquaintance with the Vaccination Act, it is not quite clear to me in what way the proposed reform would have this result. Would "Justitia" please explain? I am, etc.,

June 23rd. Inquisitive.

[1] British Medical Journal, June 24th, 1905.

Sir,—I should like to point out to "Justitia" and others of like opinions that, if the public vaccinator calls on their patients, it is simply the result of their own carelessness and negligence. They have only to comply with the Vaccination Acts, and send in their certificates before their children are 4 months old, to obviate the unpleasant call of the public vaccinator. The public vaccinator—so "extremely well paid"—gets about one-third as much as many private practitioners charge for vaccination, and has about three times as much work to do for the money. I think I must be a bad hand at "ingratiating myself," as I never remember, in twenty-five years' experience, gaining a family as patients through vaccination visits. They do us harm and no good in that respect.—I am, etc.,

June 27th. Justitia No. 2.

NEW COUNTY HISTORY OF NORTHUMBERLAND.

Sir,—At a meeting of the Tyneside Division held on April 19th, the following resolution was passed unanimously:

> That in the opinion of this meeting of medical men practising in the Tyneside Division, it is unethical for medical men to allow their names, qualifications, and attainments to be published with a photograph in the pages of a county history, published on commercial principles, and advertised as being a romance of commercial enterprise and business ability.

At the request of this Division, this resolution has been put on the agenda for the next general meeting in each Division of the North of England Branch. The object of our Committee in writing this letter is to draw the attention of the Divisional Secretaries throughout the country to the matter, and to formally request that the resolution may be put on the agenda for the next general meeting of every Division. The question is of more than purely local interest, for it refers to what should be the attitude of our profession as a whole towards the publication of Pike's *New Century Series*, which is apparently to be canvassed through the country, each county being taken in turn. Among other reasons, the following appear to our members sufficient to justify them in passing the above resolution:—

1. A list of the gentlemen whose names are to be inserted in the book is, we have been told, made by the publisher, after consultation with some local man who is said "to know." Those possible subscribers who fail to pass this test have their names omitted from the book.

2. It is not ethical for any medical man to advise a firm of publishers as to which of his fellow-practitioners are eligible or not eligible for insertion in such a work.

3. Many medical men object to having their portraits and autobiographies published, because by doing so they may be taking an unfair advantage over their more modest colleagues whose names do not appear. Other medical men object to these particulars appearing in any lay publication, whether the price be five guineas (as in this case) or one halfpenny.

4. Certain members of our Division were approached to have their names inserted, but negotiations ceased as soon as it was made obvious to the agent that they did not wish to subscribe to the book. This makes it clear that particulars about certain persons might be put in the book on payment of five guineas, who would otherwise have no chance for admission. This is advertising pure and simple.

On behalf of the members of the Tyneside Division, we are, etc.,

R. S. Peart,
Chairman of Division.
Lachlan Fraser,
North Shields, June 20th. Honorary Secretary of Division.

THE SOCIETY OF APOTHECARIES.

Sir, I have read with interest the letters that have appeared from time to time bearing on the title "L.S.A." Whilst it is not advisable to have too many letters after one's name, they should be such as would be readily understood by the public.

Recently I was asked by a patient that as I only had the Apothecary's qualification, how was it that I held the Poor-law and vaccination appointments, and having explained this matter I remembered that this person was present when I was giving evidence in a county-court case, and was asked by the

judge and solicitor such questions as how did I come to describe myself as surgeon with only the L.S.A.? etc.

It is all very well to say we who are practising on this qualification are physicians and surgeons, and registered under the last Medical Act to practise medicine, surgery and midwifery, but until you can sign something different to what we now do the public will look upon us as having something inferior in the way of qualification to that held by a professional neighbour who went elsewhere than to Blackfriars.—I am, etc.,

June 16th. V. Y.

PRESIDENTS OF THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

SIR,—I am anxious, if possible, to complete our collection of portraits of past Presidents, and should be very grateful to any one who would put me in the way of making good our deficiencies. I subjoin a list of those Presidents of whom either we have no portraits or only very poor ones.

President in	1813	... Sir Gilbert Blane.
,,	1815	... Henry Cline.
,,	1841	... Robert Williams.
,,	1843	... Edward Stanley.
,,	1855	... Caesar Henry Hawkins.
,,	1857	... Sir Charles Locock, Bart.
,,	1865	... Sir James Alderson, M.D.
,,	1867	... Samuel Solly.
,,	1869	... Sir George Burrows, Bart., M.D.
,,	1871	... Thomas Blizard Curling.
,,	1877	... Charles West, M.D.
,,	1879	... John Eric Erichsen.
,,	1881	... Andrew Whyte Barclay, M.D.
,,	1882	... John Marshall.
,,	1886	... George David Pollock.

While, of course, I should be glad to receive, and would gratefully acknowledge gifts, I am quite willing to pay a fair price for any good portraits that may be offered to me.—I am, etc.,

20, Hanover Square, W., June 23rd. J. Y. W. MACALISTER.

THE ASSOCIATION OF MEDICAL DIPLOMATES OF SCOTLAND.

SIR,—Will you kindly allow me through the columns of the BRITISH MEDICAL JOURNAL to notify all diplomates of Edinburgh colleges that a petition will shortly be sent round for signature, praying for the addition of a membership to the existing R.C.S.Edinburgh qualifications. As the expenses of this petition are necessarily very heavy, I should be glad to receive subscriptions from any who favour the movement.—I am, etc.,

18A, Hanover Street, W., June 28th. DAVID WALSH.

DISPENSERS, QUALIFIED AND UNQUALIFIED.

SIR,—With regard to the letter in the BRITISH MEDICAL JOURNAL (June 24th, p. 1407), it is a pity the writer did not take the trouble to ascertain the exact legal position of those holding the Assistants' Certificate of the Apothecaries' Hall; if he had done so he would have found that they are legally qualified to act as dispensers both in hospitals and institutions and to qualified medical practitioners. This has been threshed out long ago in the Press, and Counsel then stated that the Pharmaceutical Society had absolutely no *locus standi* to interfere with the dispensing of medicines prescribed by medical men in their capacity as medical officers of institutions or hospitals or as private practitioners. "The duty of the said Society being to see that those who kept open shop for the sale of the poisons mentioned in the schedule to the Pharmacy Act should be examined as to their fitness to carry out such duties and keep a register of such persons (*vide* Pharmacy Act 1868 and 1869)." Surely the writer does not wish to contend that a dispenser to a hospital or a private medical man is keeping an open shop for the sale of poisons: the idea is too absurd. The Society of Apothecaries is the only examining Board in England the medical profession possesses which can grant legal certificates of competency to its dispensers.—I am, etc.,

June 28th. SURGEON.

SIR,—My attention has been drawn to a letter appearing in the BRITISH MEDICAL JOURNAL of June 24th from Dr. Edward Jepson upon the subject of dispensers.

Dr. Jepson's chief object is, apparently, to advertise some association of female dispensers, but as a prelude to his advertisement I regret to notice that he has thought fit to make some quite uncalled-for and totally incorrect statements in reference to the dispenser's or assistant's certificate granted by the Society of Apothecaries.

This certificate, or diploma (the candidates for which are increasing in number every year), confers upon its holder full legal right to dispense medicines, and the status of the holder has been always recognized by the Local Government Board. As a consequence, a considerable number of persons holding this diploma are employed as dispensers in institutions coming under the jurisdiction of the Board, and also in public hospitals and dispensaries, as well as in the private practice of medical men. There can be no question that any medical man employing an assistant as his dispenser may feel confident that he has, in every sense of the word, a properly qualified dispenser.—I am, etc.,

A. MOWBRAY UPTON,
Clerk to the Society of Apothecaries of London.

London, E.C., June 28th.

OBITUARY.

JOHANN VON MIKULICZ-RADECKI, M.D.,

Professor of Surgery in the University of Breslau.

IT is with deep regret that we have to announce the death of Professor von Mikulicz-Radecki, of the University of Breslau. The distinguished surgeon, who had for some time been suffering from cancer of the stomach, passed away on June 14th, at the age of 55. About a year ago he delivered the Cavendish lecture before the West London Medico-Chirurgical Society, giving an account of experiments on the asepsis of operation wounds. At the meeting of the German Association of Scientists and Medical Men last year he discharged the duties of President of the Surgical Section, and his hospitable house was a centre of social intercourse for the members. At that time he already presented symptoms pointing to serious disease, but it was not till December, 1904, that he became aware of a tumour in the region of the stomach. Laparotomy was performed by Professor von Eiselsberg, who found that the growth was so firmly attached to surrounding parts that it could not be removed. After recovery from the operation, Mikulicz went on with his work with undiminished energy till the end of the winter semester. Towards the end he suffered great pain, which he bore with fortitude.

He was the son of an Imperial Councillor, and was born at Czernowitz, in Bukowina, on May 16th, 1850. His father intended him for the law, and was much opposed to his adopting the medical profession. Mikulicz, however, studied medicine at Vienna, supporting himself meanwhile by giving lessons on the piano. In 1875 he took his doctor's degree.

He afterwards worked, first as "operateur," then as assistant, in Billroth's clinic. His musical accomplishments first attracted the attention of the great surgeon, who was a passionate lover of music. Soon Billroth recognized the great value of his scientific work. In 1879 Mikulicz visited Lister and Volkmann, and on his return to Vienna he introduced antiseptic methods. In 1880 he qualified as *Privat-docent* in surgery at Vienna. In 1882 he accepted a "call" to the chair of surgery in the University of Cracow, where he had to lecture in Polish, migrating to Koenigsberg in 1887 and to Breslau in 1890.

Professor Mikulicz contributed largely to surgical literature. His earliest work was on gastroscopy and oesophagoscopy. His writings may be divided into three groups. The first deals largely with antisepsis and asepsis. He was one of the earliest and most strenuous advocates of the doctrines of Lister, and he contributed an important article on the treatment of fractured patella to the Lister number of the BRITISH MEDICAL JOURNAL, which was published on December 13th, 1902. Among them may be mentioned the Antiseptic Treatment of Wounds and its Technique (1879); the Spray Question (1880); the Use of Antiseptics in Laparotomy; the Employment of Iodoform in the Treatment of Wounds (1881); the Employment of Iodoform in Surgery (1882); Modifications of the Antiseptic Method; Experiments on Permanent Dressings and the Treatment of Wounds without Drainage (1888). The second group comprises a number of memoirs on orthopaedic subjects, and the third a series of monographs on the surgery of the mouth and related parts. Among the latter may be mentioned an Atlas (produced in conjunction with Michelson) of

Diseases of the Mouth and Pharynx (1892); Diseases of the Mouth, which first appeared in English in *Twentieth Century Practice* (New York, 1896); and Symmetrical Disease of the Lachrymal and Salivary Glands (Mikulicz's disease). Professor Mikulicz was also the author of many chapters and articles on Bergmann and Bruns's great treatise on surgery and of a handbook of practical surgery. He was the editor, in collaboration with Professor Naunyn, of *Mitteilungen aus den Grenzgebieten der Medizin und Chirurgie*.

Professor Mikulicz was one of the foremost among the contemporary representatives of German surgery, and wrote his name deep in the history of his art during the last quarter of a century.

By the death of Dr. Gage Parsons, who died on June 2nd at his residence at Cotham, Bristol has lost one of its oldest practitioners. He was born in Bristol in 1818, and received his medical education at St. Bartholomew's and Guy's Hospitals, and at the Royal Infirmary, Bristol; he held the appointments of Class Director of the Bristol School of Anatomy and Medicine in 1837-42 and (temporary) House Surgeon, Bristol General Hospital. In 1849, having diagnosed the existence of cholera, he was made Special Cholera Medical Officer to combat the epidemic; he was afterwards appointed Medical Officer of Health, and received a testimonial from the Mayor and Corporation of the city. He was author of a pamphlet entitled the *Reproduction of Cholera and Typhoid Germs external to the Human Body*, which received much attention at the time, and of contributions to various medical journals. He was a keen theologian and botanist, and devoted much time to these subjects on his retirement from practice in 1888 until the close of his life. He took a constant interest in the progress of medical science, especially bacteriology. As is also well-known in the artistic world he formed a unique collection of pictures. He has left a widow, four daughters, and one son, Mr. James Parsons, B.Sc., F.G.S., who is now engaged in geological and mineralogical research in Ceylon, under the Government Mineral Survey.

Within the last three weeks Sunderland has lost two well-known medical men. A fortnight ago it was our painful duty to chronicle the death of Dr. James Murphy; to-day we have to announce the death of Mr. William Alder from subacute Bright's disease after an illness of four months' duration. About ten weeks ago, acting on the advice of Professor Oliver of Newcastle, he gave up work and went to Bournemouth for rest and in search of health. Three weeks ago, on his way home, he was taken ill in London, where he was attended by Drs. Parry and Allchin for uraemic poisoning. It was with difficulty he reached Sunderland. Here he was attended by Professor Oliver and Drs. William Robinson and O'Hara, but, despite all that medical skill and nursing could accomplish, the malady made rapid progress. Mr. Alder died at his mother's residence in Sunderland on June 19th, at the early age of 38. He was an extremely popular and successful medical practitioner. By his urbanity and by his kindly manner he had succeeded in building up a large practice in his native town. For a period he occupied a seat on the Town Council, and at one time was regarded as a likely occupant of the civic chair. A man of a rather commanding and fine presence, he was a pleasing public speaker. In his private life he was extremely generous. Much sympathy is felt for his parents, who are well known in Sunderland.

Deaths in the Profession Abroad.—Among the members of the medical profession in foreign countries who have lately died are Dr. Karl Wernicke, Professor of Mental Diseases and head of the Psychiatric Clinic in the University of Halle, well known by his researches on the regional diagnosis of brain diseases, of injuries received in a bicycle accident, aged 57; Dr. Victor Webr, Professor of Operative Surgery in the Medical Faculty of Lemberg; Dr. Johann Latschenberger, Professor of Physiology in the Veterinary College of Vienna, and *Privat-docent* in the University, aged 57; and Dr. Leon Hiernaux, Professor of Obstetrics at Brussels, and author of a *Practical Manual of the Art of Midwifery*, published in 1857, and a complete treatise on the same subject which appeared in 1865.

Bequests to Medical Charities.—Mr. Beresford Samuel Cohen, of Bayswater, who died on March 13th, left £200 to the Jews Hospital and Home for Incurables, South Tottenham, and £100 to the Deaf and Dumb Home, Notting Hill, W.

ROYAL NAVY AND ARMY MEDICAL SERVICES.

ROYAL ARMY MEDICAL CORPS.

Annual Dinner.

The annual dinner of the Royal Army Medical Corps took place on Monday evening, June 19th, at the Whitehall Rooms, Hôtel Métropole, the chair being taken by the Director-General, Surgeon-General A. Keogh, C.B.

One hundred and seventy-three past and present officers of the Corps were able to attend, amongst those present being: Surgeon-Generals C. M'D. Cuffe, C.B.; J. Dallas Edge, C.B.; J. H. Jeffcoat; T. Maunsell, C.B.; P. Brooke-Smith; W. J. Charlton; W. J. Fawcett, C.B; H. S. Muir, C.B.; R. H. Quill; W. F. Stevenson, C.B.; Sir W. Taylor, K.C.B., K.H.P. (late Director-General); Sir E. Townsend, K.C.B., C.M.G.; and Deputy Surgeon-General Don.

Sir E. Cooper Perry, member of the Advisory Board, was also present, as well as Mr. Vesey Holt, as a guest of the Corps.

The toasts were "The King," and "The Queen, the Prince and Princess of Wales, and the other Members of the Royal Family," which were duly honoured.

The band of the Royal Army Medical Corps from Aldershot, under the able conductorship of Mr. Bennett, the bandmaster, attended and played a selection of music during the evening.

The Hôtel Métropole is to be complimented upon the fine display of flowers provided for the table, the appearance of which was also much improved by the Corps' plate kindly lent by the messes at Aldershot and the R.A.M. College.

This annual dinner of the Corps, if judged by the numbers attending, is increasing in popularity; it affords an opportunity for old acquaintance to be renewed and experiences and travel discussed, and undoubtedly does much to foster *esprit de corps*.

R.A.M.C. VOLUNTEERS.

Manchester.

We are indebted to Captain R. W. Clements, R.A.M.C., for the following notes:

Lieutenant-Colonel Coates has been granted the honorary rank of Colonel.

This corps left Manchester on June 10th for the annual training, the place selected being Windmill Hill, Salisbury Plain, close beside the camp of the Manchester Brigade, the bearer company of which is supplied by this corps. Notwithstanding the uncertain position of Volunteer affairs at the present time, over 650 men and 25 officers attended camp—a fact which is all the more noteworthy when the fact is taken into consideration that only about 60 of this number receive pay as forming a part of the 29th F.A. Brigade. The corps arrived in two special troop trains from Manchester late on Saturday evening, and on Sunday morning, June 11th, the first parade fell in for divine service at 10 a.m. The week's programme, which had been previously arranged by the Commanding Officer, left the first four days entirely to company training under company commanders, and they were devoted to company, stretcher, and wagon drill, bearer-company practice, and first-aid work. Physical drill for about twenty minutes formed part of each early morning parade.

Full equipment for a field hospital and bearer company, as at previous camps, was drawn from the Army Ordnance Department, and the pitching of these, not only by companies for instructional purposes, but also on field days with the brigade, formed a most interesting part of the training. One day was specially set apart by the Brigadier-General for bearer company and field hospital work, with the object of instructing officers of other branches of the Service in the methods of removing wounded from the field, and the disposal of their arms, ammunition, etc., on these occasions. The collecting and dressing stations were under the command of Major B. Mann, and the field hospital under Captain A. T. Lakin.

Colonel Coates, who is a strong advocate of the employment of signallers in connexion with bearer company and field hospital work, had previously arranged with the officers commanding battalions to place their signallers at his disposal, and at the "pow-wow" held at the conclusion of the "battle" it was acknowledged on all sides that the success of the medical arrangements was mainly due to the constant communication kept up between the fighting line and the bearer company and between the bearer company and the field hospital. It is to be hoped that signallers will be eventually included in the *personnel* of the new field ambulance unit,

and that the authorities will grant permission for this and other similar corps to maintain at least a dozen trained signallers.

The transport section, under Captain Marsh, performed their various duties in a very efficient manner, and profited by the instruction given to them by the Army Service Corps Company which was attached to the Corps during the camp.

The annual inspection took place at 10 a.m. on Thursday, and the Corps, under command of Colonel Coates, was drawn up in line, and received Colonel Allan May, C.B., R.A.M.C., P.M.O. Southern Command, the inspecting officer, with a general salute. The line having been inspected there was a march past in column and quarter column, after which the various companies were exercised in bearer company, first-aid work, etc. At the conclusion of the inspection the companies were formed up in a square, and Colonel May, in most flattering terms, complimented Colonel Coates on the efficient condition of the Corps; he said he had no idea what a strong reserve the R.A.M.C. had in the officers and men he had seen at work that morning; he was pleased to note the fine physique of all the men on parade, the excellent training they had received in first-aid work, and hoped it would fall to his lot to inspect the Corps again next year on Salisbury Plain. At the conclusion of the speech Colonel Coates called for hands up for all members of the Corps who would serve their country in case of a national emergency; amidst tremendous cheering every hand in the Corps went up, and, Colonel May having expressed his delight at this outburst of patriotism, requested Colonel Coates to grant the men a half-holiday.

At three o'clock the annual sports were held, and to Lieutenant G. R. Wattleworth is due the entire success of the excellent programme. The officers were "at home" in the afternoon, and a large number of friends from other regiments and officers stationed at Bulford were present. Lieutenant-General Sir Ian Hamilton, K.C.B., D.S.O. (General Officer Commanding in Chief, Southern Command), was the guest of the evening at dinner in the mess, and amongst those invited to meet him were: Brigadier-General Ridley, C.B., and Staff, Colonel W. Allan May, C.B., R.A.M.C., Colonel J. A. Reilly, A.S.C., Lieutenant-Colonel Allport, R.A.M.C., and officers commanding the Volunteer Battalions of the Manchester Regiment. Over 50 sat down to dinner in the spacious marquee, and the corps band rendered an excellent selection of music.

About 150 men and 11 officers remained for the second week, and some very practical work was gone through; field manœuvres had been arranged on a large scale for the brigade and the medical arrangements were made by Colonel Coates. Needless to say both officers and men enjoyed these field days notwithstanding the fact that the heat on one or two occasions was almost tropical, and Thursday, June 22nd, might well be described as "Black Thursday" on Salisbury Plain.

The camp was struck on Saturday morning, June 24th, and, before leaving for Manchester Colonel Coates congratulated the men on the good work done during the training, on the excellent conduct of the men under his command, and expressed the hope that before next camp the Corps would be placed under the same footing as regards pay as the other units of the field army. At the railway station the Corps was met by a staff officer, who expressed to Colonel Coates Sir Ian Hamilton's regret that he could not come to say "good-bye."

The following officers attended camp: Colonel Coates, Majors Fairclough and Mann, Captains Dickinson, Pritchard, Steinthall, Bentley, Lakin, Wright, Beesley, Matthews, Parker, Marsh; Lieutenants Ashton, Roberts, Rothwell, Thompson, Pritchard, H. W. Pritchard, S. Fitzgerald, Wattleworth, Chiswell, Stoddard, and Thomson.

THE EXAMINATION OF VOLUNTEERS BY OFFICERS OF THE R.A.M.C.

SURGEON-COLONEL P. B. GILES (S.M.O. XXX Field Army Brigade, S.M.O. Volunteer Ambulance School of Instruction) writes: Since the order was issued that the P.M.O. of the London District shall appoint one of his officers to examine (under certain conditions) volunteers who have already passed the medical officer of their unit, I have received several letters asking me if "such a procedure was not an indignity," and in some instances stating if the order were enforced they would at once resign. I can only publicly state what I have in each instance written: (1) That such an order is one that the Government have a perfect right to issue. (2) That any opposition will show a great lack of appreciation of discipline, and that at a time when every effort is being made to unite the volunteer medical officers into a compact and co-ordinate body. (3) That such opposition would be an act of great discourtesy to the P.M.O. and to the officer he deputes to carry out a general order.

PUBLIC HEALTH
AND
POOR-LAW MEDICAL SERVICES.

VAGRANCY AND DISEASE.

IN November last, as was reported in our columns at the time, a Conference was held at the offices of the London County Council, which was intended to consider the relation of vagrancy to the spread of epidemic diseases. The Conference was attended by the delegates from fifty-six county boroughs, twenty-six metropolitan boroughs, and twenty-nine county councils, when a series of resolutions was adopted and a Subcommittee was appointed to represent the views of the Conference to the President of the Local Government Board.

The first resolution was to the effect that the Conference recognized the increase in habitual vagrancy as a cause of widespread and disastrous consequences to the public health, and that the more stringent measures necessary to deal with vagrancy in this relation could be made possible only by conferring on local authorities, including sanitary authorities, Boards of guardians, and magistrates, more power than they at present possess. The second and third resolutions indicated the nature of the powers sought. These are power to detain and isolate any vagrant found wandering in a public place if it can reasonably be suspected that he is liable to convey infectious disease. In the case, moreover, of vagrants who have been exposed to the infection of small-pox, either in a casual ward or in a common lodging-house, it was resolved that the local authority should have power to enforce vaccination or revaccination, and to pay compensation in respect of any consequent loss of time. A further resolution of the same general nature favoured the extension of such powers as port authorities already possess in the way of preventing the uncontrolled landing from ships of persons who are either suffering from small-pox or who have been recently exposed to its infection. It was resolved also that the making of false statements, or the withholding of information about small-pox, should be made an offence. The final resolution, with regard to fresh powers, advocated legal authority for the precautions which many authorities already contrive, in one way or another, to carry out with regard to the medical examination of the inmates of casual wards and of common lodging-houses, and the cleansing and disinfecting of their clothes and persons.

On June 22nd Mr. Gerald Balfour received a deputation from the Conference consisting of Alderman Newton, of Newcastle-on-Tyne; Dr. Armstrong, M.O.H. for that city; Alderman William Roberts, of Liverpool; Alderman McDougall, of Manchester; Dr. Barwise, M.O.H. for Derbyshire; Councillor H. Robinson, of Hull; Rev. J. H. Anderson, Dr. Milson Rhodes, the Mayor of Wandsworth, who spoke also on behalf of the Association of Metropolitan Boroughs; Dr. Reginald Dudfield, M.O.H., Paddington; Dr. Davies, M.O.H., Bristol; and Dr. Spottiswoode Cameron, M.O.H., Leeds.

Alderman NEWTON described the evils that had resulted from the spread of disease by means of vagrants, especially during the recent outbreak of small-pox, evils from which his own town of Newcastle had very grievously suffered. Passing somewhat lightly over the first twelve resolutions of the Conference, he spoke more at length on certain others which dealt with labour bureaux and labour colonies, claiming that the establishment of these institutions was likely, by diminishing the amount of vagrancy, to reduce its attendant evil—the spread of infectious disease. He advocated the formation of such bureaux in areas of counties and county boroughs and the establishment of a central co-ordinating bureaux, in communication with all the rest, so as to enable workmen to know where their services were likely to be in requisition and save them useless journeys in search of work. The labour colony was the complement of the labour bureau; the latter was to guide those in search of work to the right place; the former to train to work those habitually idle.

The Rev. J. H. ANDERSON supported this position but emphasized strongly the evils which at present occurred. He referred to a case where two members of the tramp class, one vaccinated, the other not, both employed in hawking pirated music, left Sheffield early in December for a small town about fifteen miles further south. At the lodging-house, where they stayed for six days, they fell in with another wandering Ishmaelite who

had been suffering from small-pox some days before the nature of his illness was discovered. The day before they left he had been seen by a medical man, and at once, along with his comrade, isolated, but the majority of the other inmates of the rather large lodging-house seem to have been allowed to disperse themselves without either vaccination or the disinfection of their clothes. The Sheffield Arcadians called at least five different common lodging-houses in as many towns before they arrived at the one in Leeds, where one of them—the unvaccinated one—was discovered to be suffering from small-pox. Even then a day or two had been lost before the importance of the case was recognized by the keeper of the lodging-house and medical assistance sought, and before this was done several lodgers had passed through the same house and wandered off in various directions. One of these was afterwards discovered in Leeds in private lodgings, where, as it turned out, he had infected the landlady. One had wandered to Bradford, but came back to his old quarters in Leeds in time for his disease to be recognized and himself isolated before he did any harm. Three others developed the eruption in rooms belonging to the Corporation, whither they had been removed when the earlier initial symptoms began to appear. But at the Nottinghamshire town where the Leeds patient had received his infection at least a dozen cases occurred, and as many more in the immediate neighbourhood. In Leeds the clothes of all the sixty-six lodgers, and those of six members of the keeper's family present in the house when the case was discovered, were disinfected and 24 were vaccinated or revaccinated, whilst by paying their lodgings for a fortnight the majority of the contacts were kept in the town. This, however, was entirely voluntary on their part. It is interesting to notice that not one of the 24 vaccinated or revaccinated contracted the disease. Of the 5 men who did contract the disease two had never been vaccinated at all, the other three not since infancy. Mr. Anderson cited this case as showing the difficulties that are met with in keeping an outbreak amongst this wandering class within decent limits.

Dr. Milson Rhodes, as representing the Association of Poor-law Guardians, supported the general position, and expressed the desire of those whom he represented to co-operate in every way with the sanitary authorities in stamping out the disease.

The President, who was accompanied by the Permanent Under-Secretary, Sir Butler Provis, did not make any formal reply, but discussed at length with the members of the deputation various points arising out of the representations made to him.

ACCIDENTS (MINES AND FACTORIES) BILL.

Deputation to the Home Office.

A joint deputation from the British Medical Association and the Association of Certifying Factory Surgeons waited upon Mr. T. Cochrane, M.P., Under-Secretary, who has charge of the Bill, on June 21st, at the Home Office.

Sir Victor Horsley, Chairman of Representative Meetings, Mr. Andrew Clark, Chairman of Council, and Mr. J. Smith Whitaker, Medical Secretary, represented the British Medical Association; Dr. H. Langley Browne, President, Dr. J. H. Keay, and Dr. W. F. Dearden, Honorary Secretary, represented the Association of Certifying Factory Surgeons. Mr. Cochrane was accompanied by Mr. H. H.S. Cunynghame, Assistant Under-Secretary of State, Dr. B. A. Whitelegge, Chief Inspector of Factories, and several others of the leading officials of the Home Office.

The members of the deputation explained the objection of the two Associations to the provisions of Clause 4 of the Bill, and this was followed by a mutual exchange of views and explanations with the representatives of the Department. The clause to which objection is taken would, as has already been explained in our columns, abolish the present statutory obligation upon employers to notify all factory accidents belonging to a certain scheduled class to the certifying surgeon, and would provide that, for the future, a single notice should be sent to the district inspector, who would then exercise a discretionary power as to which should be medically investigated.

The deputation insisted upon the impossibility of a lay inspector being able to judge as to what particular accidents required medical investigation, and pointed out that the present system of medical inquiry into all so-called preventable cases constituted the only reliable method of sifting out those requiring the personal intervention of the inspector as an engineering expert. Though a vast number of accidents investigated did not require this subsequent inspection, it was held that investigation was the only reliable means of finding out which cases did and which did not require it. The unreliability of the employer's notice which would form the sole basis upon which the inspector would be required to sort out the accidents requiring investigation was demonstrated by actual examples showing the impossibility of forming any safe opinion from this document as to the nature, extent, and degree of injury, the causation of the accident, and the fixing of responsibility.

Sir Victor Horsley laid stress on the necessity of keeping the preliminary sifting in the hands of the certifying surgeons, and very strenuously combated the view that special surgical knowledge was not required for the investigation of causation of accidents. He pointed out that the causation of injury inflicted by machinery constituted the causation of the accident, and that to discover this the injured person must be interviewed and particulars of the injuries ascertained, the machine and process being subsequently examined. The skill of the surgeon must be brought to bear in deciding to what extent any particular part of the machine could cause the particular injuries noted. In answering a question on this point, he was very definite in his opinion that it was not within the province of a mechanical expert to decide on the causation of a machinery accident creating a surgical injury.

Illustrating this contention, Dr. Dearden was able to cite certain definite cases in his own experience as a factory surgeon in which surgical knowledge had been brought to bear as the only possible means of finding out the causation of the accident.

Objection was also raised to the classing of fatal accidents with the preventable non-fatal variety for the inspector's decision as to investigation, the usefulness of the present system of having all accidents, however caused, inquired into by the certifying surgeon being demonstrated by a specific example.

The importance of the certifying surgeon receiving first-hand notice from the employer was insisted upon, it being pointed out that the inspector in practice depended upon the surgeon's report for his complete knowledge of the particulars, and that any delay in notifying the surgeon would mean a delay in supplying these. The advisability of having the surgeon's reports supervised by a medical man with actual experience of the work, and the service to which these reports could be put for the purposes of the Compensation Act, were also dealt with.

In the course of discussion the deputation was given to understand that the Home Office quite recognized the valuable work done by the certifying surgeons, and that the wish was to make these more valuable. It was said, however, that as a large number of accidents now investigated did not lend themselves to the adoption of preventive measures, a preliminary sifting was required to ensure only the right class of accidents being looked into. The departmental opinion appeared to be that this sifting should be undertaken by the local factory inspector.

It is to be hoped, however, that this opinion will be definitely abandoned after consideration of the powerful arguments which were adduced against such a course by so authoritative a deputation.

Mr. Cochrane terminated the audience by thanking the deputation for their attendance, and promised that the representations made should receive every consideration.

ADVANCED INSTRUCTION FOR PLUMBERS.

The next course of advanced instruction for plumbers at King's College, London, will be held in August and September next, under the auspices of the Plumbers' Company and several of the county and municipal educational authorities. The instruction is given in workshops, a laboratory, and demonstration room and museum provided by the Company. The course extends over four weeks. Plumbing teachers and advanced students desirous of availing themselves of the facilities provided should apply as early as possible to the educational authority of the town or county in which they reside for the requisite grant or scholarship to enable them to attend.

FEE FOR CONSULTATION IN CASE OF WORKHOUSE HOSPITAL NURSE.

The workhouse medical officer of a country union writes that one of his nurses while on duty was taken ill, and while in attendance on her he thought it advisable to have a consultant to see her. The consultant's fee was paid by himself, and he has since been unable to recover from the guardians. He wishes to know whether there are any means by which he might claim payment.

*** To pay such a fee the guardians would have to obtain the consent of the Local Government Board. This might be given on their application, but in opposition to the guardians our correspondent would be able to recover nothing.

UNIVERSITIES AND COLLEGES.

UNIVERSITY OF LONDON.

MEETING OF THE SENATE.

A MEETING of the Senate was held on June 7th.

Election of Vice-Chancellor.

Sir Edward Busk was elected Vice-Chancellor for the year 1905-6.

A resolution was adopted thanking Dr Philip Henry Pye-Smith for the services rendered to the University during his tenure of the office of Vice-Chancellor.

Recognition of Teachers.

Mr. Norman Godfrey Bennett was recognized as a teacher of dental surgery at St. George's Hospital.

Lister Institute of Preventive Medicine.

The Lister Institute of Preventive Medicine was admitted as a school of the University in the Faculty of Medicine for the purpose of research in hygiene and pathology under the terms of the statutes, Section LXXIV.

Regulations for the M.D. and M.S. Degrees.

It was resolved that in the regulations for the degree of M.D. for internal and external students (*Calendar* for 1904-5, ii, 421, and iii, 38, of the Medicine Section) and in the regulations for the degree of M.S. for internal and external students (*Calendar* for 1904-5, ii, 424, and iii, 40, of the Medicine Section) the words from "But in case" to the end of the paragraph be deleted. The paragraph in question will, therefore, read as follows:

"If the thesis or published work be approved by the examiners, the candidate will be required to present himself at the University upon such day or days as may be notified to him, and shall be further tested, either orally or practically, or by both of these methods, at the discretion of the examiners, with reference both to the special subject selected by him and to the thesis."

The University College London (Transfer) Bill.

The Principal stated that he had received from the parliamentary agents in charge of the Bill a notification that it had passed all the necessary stages in the House of Lords and was on June 5th read for the second time in the House of Commons without opposition.

Guy's Hospital Medical School.

A course of three lectures on the pathology of dropsy will be delivered on Tuesday, June 27th, July 4th and 11th, at 4 p.m., in the Physiological Theatre by the Gordon lecturer, Dr. F. A. Bainbridge.

UNIVERSITY OF EDINBURGH.

THE following candidates have passed the final professional examination for degrees in medicine and surgery, those marked with an asterisk with distinction:

M.B.C.M. (Old Regulations).—J. Clark, H. Downes, G. A. Grierson, R. W. Telford.

M.B., Ch.B. (New Regulations).—T. Addis, F. Aitken, J. C. D. Allan, A. C. Alport, A. G. Anderson, M.A., B.Sc., *W. Anderson, M.A. Ansari, B.A., W. F. Archibald, F. Baillie, G. S. Banks, D. M'F. Barker, J. M. Barkley, G. G. Bartholomew, B. Baty, W. J. E. Bell, N. Black, R. Bladworth, C. E. Blair, G. Blair, R. A. Blake, H. M. Brown, J. W. Cairns, T. Campbell, H. M. Cargin, N. S. Carmichael, J. Chisholm, H. P. Cook, *F. W. Cragg, J. G. Craig, D. C. Crole, J. A. Cruickshank, A. Dangerfield, T. Davidson, M.A., J. M. Dickson, M. G. Dill, D. Eakin, H. A. Edwards, E. A. Elder, M.A., B.Sc., C. E. Elliston, H. F. Fenton, F. E. Field, C. N. Finn, N. C. Forsyth, R. S. Frew, W. G. Fröhlich, J. F. Gallaher, L. P. M. Gardner, H. S. Gaskell, W. Gemmill, M.A., E. G. Girdwood, J. A. Glover, M.A., J. M. Grant, J. Green, *Charlotte R. Greenfield, J. C. Grieve, E. J. G. Groves, *J. A. Gunn, M.A., B.Sc., J. T. Gunn, G. Hadden, J. D. Harmer, Ada A. Hatchard, A. S. Hendrie, W. M. Hewetson, H. S. A. Hogg, J. S. Hogg, J. R. Holgate, J. H. Hume, J. Ings, M.B., Ada Jackson, T. S. Jackson, J. P. S. Jamieson, S. Kark, J. R. Kerr, Ethel Landon, J. M. Lauder, J. Lindsay, J. Lindsay, A. P. G. Lorimer, J. A. Loughridge, D. H. C. MacArthur, P. M'Dermid, *P. M'Ewan, M.A., T. A. MacGibbon, B.A., B.Sc., J. D. M'Kelvie, J. MacKenzie, K. W. Mackenzie, M. MacKinnon, A. C. M'Master, S. M'Naughton, *C. M'Neil, M.A., N. N. G. C. M'Vean, W. Magill, *W. J. Maloney, S. E. Martin, E. S. Massiah, *G. D. Mathewson, B.Sc., A. Mathieson, D. M. Mathieson, M.A., A. I. Miller, H. P. Milligan, C. E. S. Mitchell, J. S. Mitchell, H. B. Morris, D. L. Morrison, H. Mowat, R. E. Moyes, E. B. Munro, A. W. Neill, R. H. Nolan, G. P. Norman, A. J. R. O'Brien, C. R. O'Brien, A. A. Ollivierre, J. S. Orwin, D. H. Paul, J. L. Pearce, *H. E. Rawlence, D. G. Reid, A. O. P. Reynolds, W. E. Reynolds, J. R. Robertson, W. G. Robertson, M.A., W. L. Robertson, M.A., J. Z. H. Rousseau, B.A., H. M. Sauzier, *W. M'D. Scott, W. J. B. Selkirk, D. W. Sibbald, E. M. Simmers, A. Simpson, E. S. Simpson, O. Smith, R. C. S. Smith, B.A., S. A. Smith, T. R. Smith, A. G. V. van Someren, D. W. Standley, W. J. Taggart, W. B. Tannahill, Annie F. Theobalds, J. A. R. Thompson, E. F. Valenzia, F. L. de Verteuil, P. S. Vickerman, Helen R. Vickers, Frances M. Wakefield, R. C. Walker, A. J. Shepheard-Walwyn, *H. E. A. Washbourn, H. C. Weber, J. D. Wells, F. P. Wernicke, A. Wight, Elsie B. Wilkie, R. Wilkins, H. C. Wilson, J. Young, J. T. Young.

UNIVERSITY OF DURHAM.

BACTERIOLOGICAL DEPARTMENT OF THE COLLEGE OF MEDICINE.

DURING the last twelve months 1,474 specimens have been examined in the Bacteriological Department of the University of Durham College of Medicine, Newcastle-upon-Tyne, showing an increase of 352 over the previous year.

The great majority of the specimens were examined for the various county councils and public institutions in the neighbourhood.

Out of 774 specimens of sputum examined for tubercle bacilli, 39 per cent. were found to be positive. Out of 421 cases of suspected diphtheria, 38 per cent. were found to be positive, whilst from 149 specimens of blood from suspected enteric 47 per cent. were positive.

Samples of water to the number of 48 were examined quantitatively for bacteria; and 6 samples of milk for B. typhosus. Urine was examined in 25 cases for B. tuberculosis, with 5 positive results: 10 specimens of blood were examined for anthrax, with 7 positive results: 1 sample was examined for glanders with a positive result, and 1 sample of brawn was examined for B. enteritidis with a positive result.

VICTORIA UNIVERSITY OF MANCHESTER.

THE Professor Tom Jones Exhibition in Anatomy has been awarded to Mr. John Morley, and the Dumville Surgical Prize to D. P. Sutherland. Gold medals have been awarded to Mr. M. Gamble and Mr. H. W. Russell for the dissertation for the M.D. Degree. The former dealt with the clinical estimation of the alkalinity of the blood and the latter with the relative time of inflating of the lungs and bronchial glands in guinea-pigs inoculated with tuberculous material.

UNIVERSITY OF BRUSSELS.

THE following were the successful candidates for the M.D. degree at the recent examination: M. P. Kerrawalla (honours), Bombay; James B. Patterson, Carluke, Scotland; W. R. Coldicote, London; A. Acland, London; E. G. Andrew, Cornwall; W. Phillips, Canterbury.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN extraordinary Comitia was held at the College on Friday, June 23rd, the President, Sir R. Douglas Powell, Bart., in the chair.

Communications.

The following communications were received:

1. From the Secretary of the Royal College of Surgeons, reporting certain proceedings of their Council on May 11th.

2. From the General Medical Council, drawing the attention of the College to a list of rejections at recent competitions for Commissions in the navy, the army, and the Indian Medical Services, indicating the licensing bodies from which the rejected candidates obtained their qualifications.

3. From the Secretary of the Royal College of Physicians of Edinburgh, denying that that College encourages the use of the title of "doctor" by its licentiates, not being graduates in medicine.

4. From the principal Librarian of the National Library of Turin, returning thanks for the books presented to the Library by the College in January last.

5. From the Board of Education, forwarding papers, received through the Foreign Office, from the Committee for organizing a first International Congress on Radiology and Ionization to be held at Liége, September 12th to 14th next.

Reports.

The following reports were received:

1. From the College Representative on the General Medical Council on the proceedings of the Council during its session in May last.

2. From the Committee of Management, dated June 5th, on the recognition of the Medical School at Cairo as a place of study for candidates for the diplomas of the two Royal Colleges. The report, which detailed certain conditions laid down by the College and accepted by the Egyptian authorities, was adopted, and Cairo is thus recognized as a place of medical study.

3. From the Committee of Management, recommending some additions to the regulations for the diplomas in Public Health.

Gift by Sir Samuel Wilks.

The Treasurer (Sir Dyce Duckworth) presented, for acceptation by the College, some relics of Edward Jenner, on the part of Sir Samuel Wilks. The gift was accepted, and a vote of thanks to Sir Samuel Wilks was passed with acclamation.

Fellowship.

The Registrar moved that the following By-law be enacted for the first time—namely: "That Leonard Rogers, M.D.Lond., elected to the Fellowship on April 27th, being resident in Calcutta, be admitted *in absentiâ*, any by-law to the contrary notwithstanding."

TRINITY COLLEGE, DUBLIN.

THE following candidates were approved at the Trinity Term Final Examination in Medicine:

Lily A. Baker, G. Mac G. Millar, H. J. Knox, J. A. Pringle, J. W. Houston, M. D. Ferguson, T. King-Edwards, A. G. Alexander, R. B. Bryan (Clk), Madeleine S. Baker, W. Nunan, H. H. A. Emerson, J. A. Sibthorpe, C. A. Boyd.

The following candidates were approved at the Trinity Term Final Examination (Section A):

E. C. Conyngham, C. Stoney, A. T. J. M'Creery, H. P. Hart, J. W. Lane, Eleanor E. Finegan, A. E. Knapp, W. D. Mitchell, H. R. N. Fowler, G. H. Stack, J. Gray, J. G. M. Molony.

MEDICO-LEGAL AND MEDICO-ETHICAL.

LIQUOZONE.

ON May 26th Dr. Wynn Westcott, Coroner for North-East London, opened an inquest at Stoke Newington with regard to the death of a child, Constance Adelaide Sheppard, aged three years and ten months, which occurred after it had been given liquozone by its mother.—Dr. F. J. SMITH, Lecturer on Medical Jurisprudence at the London Hospital, said that he had made a necropsy and had come to the conclusion that death was due to an irritant. It was stated at this inquest that a second child to whom liquozone had been given was dangerously ill.

The inquiry was adjourned.

When it was resumed on June 5th the second child, aged two years, had died. It appeared from the evidence that the children had been given several doses from a free sample bottle of liquozone. The parents, who had also taken some of the preparation, had suffered pain for about an hour.—Mr. JAMES ROBERTSON WALLACE, described as a fully-qualified medical practitioner and medical adviser of the Liquozone Company, said that his duties included correspondence with persons who thought of taking liquozone. His experience of its action extended over six weeks, during which time he had sometimes himself taken as much as an ounce undiluted. The instructions on the label on the bottle were confined to adults, and he had not recommended that the dose for infants and children should be specified. In examination by Mr. Andrews, who repre-

sented the parents, he said that he did not think it would be possible for an adult to take an overdose, though it might be possible to give a baby an overdose. He was paid a retaining fee by the company. He remembered one case of illness alleged to have been caused by liquozone, but the patient suffered from chronic alcoholism.—Mr. Avory, K.C. (who with Mr. C. Mathews appeared on behalf of the Liquozone Company), said that this patient had taken one dose only a fortnight before her death.

Dr. Harnett, who had been called to see the deceased, said that the symptoms in both cases were the same—vomiting, twitching of the limbs, and delirium.

Dr. F. J. Smith said that he had no hesitation in ascribing the death in both cases to liquozone.

The enquiry was adjourned to allow the analysis to be completed by Sir Thomas Stevenson.

At the resumed inquest on June 26th, Sir Thomas Stevenson, M.D., Analyst to the Home Office, said that beyond redness of the elder child's stomach he found no trace of irritant poison or of noxious substance. The result of his examination of liquozone was as follows: Specific gravity, 1.008; sulphur dioxide, 0.269 (equal to 0.344 per cent. hydrated sulphurous acid); sulphuric acid, 0.848; hydrochloric acid, 0.018; calcium and sodium sulphates, 0.036; arsenic, less than 0.00004 per cent.; colouring matter, traces; water, 98.835; total, 100.000. The fluid, therefore, was practically a solution of sulphur dioxide absorbed in water, which had undergone partial oxidation into sulphuric acid; internally it would act as an irritant, and in a child might produce a great deal of vomiting. He held that an irritant might destroy life without leaving any appreciable change in the body. In answer to Mr. Andrews, he said that the sample from which doses were given to the children might have been stronger than those he had analysed. In reply to Mr. Avory, he said that sulphurous acid disturbed the digestive system, and time might elapse before serious symptoms were produced. He agreed that the sulphurous acid in the liquozone was only one-nineteenth of the strength of the preparation in the *British Pharmacopœia;* sulphurous acid was rarely given nowadays.

Mr. A. J. Pepper, F.R.C.S., said that he was present at the *post-mortem* examination on the younger child's body, and was of opinion that it was impossible from that examination to say what was the cause of death. He considered that the fact that the child was well after taking liquozone for four days was inconsistent with the statement that that liquid was the cause of the illness. The family had eaten watercress on the day prior to the illness of the children, and large quantities of watercress eaten in London were grown on sewage farms; he thought the watercress might be the cause of the illness.

Dr. A. P. Luff thought the symptoms were strongly indicative of death having been due to food-poisoning; he could not conceive it possible that liquozone had caused the deaths.

The Coroner said that he had examined a catalogue of 10,000 prescriptions, and found that sulphurous acid was prescribed only eighteen times. The case showed that the gullibility of the public was unlimited; it was not surprising that the preparation was given away, considering that sulphur was to be bought at 2d. a pound.

The verdict of the jury was as follows:

"Both the children died from exhaustion, after vomiting and diarrhœa, set up by taking liquozone. They further wish to add their deep sympathy with the parents in the loss of their children. They further consider that some representation should be made to the proper authorities in order that in future some investigation should be made as to the nature of these patent medicines before they are placed on the market."

On April 27th we received from the Manager of the British Liquozone Company, Limited, a communication in the following terms:

"The virtues of liquozone are derived solely from gas, by a process requiring large apparatus and from eight to fourteen days' time.

"The gas is derived solely from the following substances, which include the best producers of oxygen and producers of other germicidal gas—manganese dioxide, potassium chlorate, sodium nitrate, flowers sulphur and red sanders.

"None of these substances is put into the product; nothing but the gases derived from them. And nothing whatever enters into liquozone save these gases and the liquid used to absorb them, plus a touch of colour."

ACTION FOR WRONGFUL DISMISSAL IN SCOTLAND.

The case of Lithgow *v.* Gibb and Sons which was noticed on a former occasion in the British Medical Journal (January 16th, 1904, p. 167), has come before the Sheriff of Glasgow in another stage. An action was originally brought by Dr. Lithgow, a Scotch member of the Medical Defence Union, to recover damages for wrongful dismissal. He had been employed by a Committee, the defenders, and their workmen to act as medical officer of three quarries belonging to defenders. On February [illegible] 1903, the defendants wrote to the pursuer telling them that as the workmen had appointed a new doctor, the pursuer's services would be no longer required after February 28th. This notice was held to be bad, [illegible] was not given by the workmen as well as the employers. The pursuer therefore brought an action to recover sums deducted from workmen's wages by defenders from April 1st, 1903, to February 11th, 1905. No payment had been made to him since March 31st, 1903. The defenders tendered the fees collected by them during the quarter from April 1st to June 30th, 1903, this being, as they alleged, three months' salary in lieu of notice.

On June 23rd, Sheriff Boyd, of Glasgow, having heard the case, directed the defenders to render a full account of the sums retained by them from the wages of their workmen from April 1st, 1903, to February [illegible] 1905. In the course of his interlocutor the Sheriff said: "It has been held that the pursuer was not properly removed on February 27th, [illegible] in office since and the fees from April 1st to June 30th, 1903, fell within the right of medical officer, and therefore do not seem to me available as a payment of damages. The defenders try to revive the situation that existed at the date of raising the former action [illegible] perhaps they might have maintained their dismissal by offering a quarter's salary until June 30th, 1903. They did not do this, but maintained that the pursuer was competently dismissed. They now repeat their case on the alleged dismissal of the pursuer on February 27th, 1903; but it was held that he was not competently dismissed, and there is no new averment of the other dismissal proceedings. Such proceedings must be commenced anew."

*** The result of this case is that the pursuer was held entitled to all the fees collected for the last two years. This is the necessary consequence of the former proceedings, the only apparent result of which was that his dismissal was declared to be improper.

HOSPITAL ADVERTISING.

Midlands.—Displaying the names of the staff and their days of attendance upon a board outside a hospital is a common practice not confined to the Midlands. Changes in such matters should take place in accordance with altered professional opinion which is much more opposed than it formerly was to anything savouring of advertisement. Our correspondent should remember that every medical man who puts up a door-plate advertises; but if in addition he puts his name on the fanlight over his door he is going beyond what may be regarded as the strictly legitimate minimum. The main difference between displaying the names of the staff outside a hospital and outside a private house is that in the former case the object is to serve the public convenience and not any private end. The Ethical Committee has taken up the question of advertising by hospitals and has succeeded in putting a stop to the practice of publishing in the local press the names and hours of attendance of the visiting staff; we will refer the question of such boards outside hospitals to its consideration.

THE ADVERTISING OF SANATORIUMS IN THE LAY PRESS.

T. C., M.D.—We have never gone so far as to say that sanatoriums should not be advertised in the lay press; we have only objected to the advertisement of the name of the medical man concerned. Foreign sanatoriums are largely advertised in the lay press, and it would place British institutions at a great disadvantage if the rule suggested by our correspondent were insisted upon.

MEDICAL ADVERTISING.

Justitia.—(1) The action of a medical practitioner who gives a certificate which is printed, framed, glazed, and hung up in a dairy shop seems to us to be on all-fours with that of giving a certificate to be used for advertising purposes in a newspaper, which has been frequently condemned in these columns and by the Ethical Committee. We will refer the case reported by our correspondent to that Committee. (2) There is no prima-facie objection to a medical practitioner being chairman of a board of directors of a laundry company, and his name would necessarily have to be advertised in connexion with the company. We cannot say whether it is necessary to put the list of directors in the booklet forwarded, but we will refer this case also to the Ethical Committee.

PUFFING NOTICES IN THE LAY PRESS.

A correspondent sends us a cutting from the *Kentish Mercury*, which states that the medical superintendent of a union infirmary "has added another to his already large number of marvellous operations in that institution," and gives an account of a successful operation on a policeman for perforated gastric ulcer.

*** We have no doubt that the surgeon in whose praise the paragraph is written is not in any way responsible for it, but we will refer the case to the Ethical Committee, which may remonstrate with the editor of the newspaper concerned.

GRATUITOUS ATTENDANCE ON THE WIVES OF MEDICAL MEN.

Hispar asks whether a general practitioner should charge his ordinary fee to the wife of a medical officer of the Indian Medical Service, who has come home for her confinement.

*** It is usual to make no charge to the wife of a medical colleague, but, where circumstances permit it, such services are generally acknowledged by a present of some kind.

GIFTS TO THE MEDICAL PROFESSION.

T. C.—Our correspondent sends us, presumably for comment, a copy of the circular issued by the proprietors of Hall's Wine, offering to give to any member of the medical profession desiring to have one a clinical thermometer, "enclosed in a heavy, hall-marked silver case," stated to be worth 7s. 6d., for 2s. 6d. The circular states: "This special offer is made with a view of bringing Hall's Wine more prominently to your notice, to remind you of the efficacy of Hall's Wine when the diagnosis indicates an anæmic condition, exhaustion, prostration from shock or inanition, nervous disorder, or pulmonary affection."

*** We cannot approve of this circular, which has the appearance of offering a bribe to the medical profession, to prescribe the article mentioned.

THE PATRONAGE OF THE MEDICAL PROFESSION.

K. writes to protest against what he calls the insolent proposal of a firm of tobacco manufacturers, which offers to sell to medical practitioners cigars at reduced prices because, since they "commenced business, they can trace more personal recommendations from doctors than from the whole of their other customers put together." As cigars are not used in the treatment of disease, we should not have thought any recommendations of them by medical practitioners would carry special weight with the public, and we should be surprised to hear that medical men are in the habit of recommending cigars to their patients.

POLICE FEES TO SURGEONS CALLED TO EMERGENCY CASES IN THE STREET.

Medicus asks two questions on this subject, and narrates his experience of three quite ordinary cases in a letter extending to three foolscap pages. Fortunately, we are able to give the information he requires in a much smaller compass. "Is a medical man entitled to a fee if asked for his medical opinion in emergency cases of illness on the road by the police?" is his first question, and the answer is Yes; and in the metropolitan district in which "Medicus" lives arrangements are made by which fees of 2s. 6d. for day and 7s. 6d. for night calls are constantly paid for such services. It is also, however, quite properly provided that if the patient is able to pay he is to be asked to do so; and this appears to be the explanation of one of the three cases, in which

"Medicus" was offered his fee by the police inspector and refused to accept it, "because he had in a former case been paid by cheque from Scotland Yard." In the second case, our correspondent appears to have been unable to give any definite opinion, the case being thereupon taken to hospital, and in the third he seems to have joined with a passer-by in making offensive remarks about the police force. His second question: "Is this a public, magisterial, or departmental matter?" may be unhesitatingly answered. It is a departmental one, and, so far as our information goes, one in regard to which the department concerned has no reason to be ashamed.

MEDICAL WITNESSES' FEES IN THE HIGH COURT OF JUSTICE.

C. H. J.—In the circumstances mentioned by our correspondent it would be neither usual nor advisable for him to claim his fee before giving evidence unless, indeed, he has reason to think that the company which subpœnaed him is not good for the amount. A certain amount of discretion is left to the taxing master as to whether the fee shall be two or three guineas a day, and the plaintiff's solicitor would no doubt assist him before that official in representing the gross inadequacy of the lower fee.

MEDICAL CERTIFICATES OF UNFITNESS TO ATTEND SCHOOL.

M. O. H. (Scotland).—A School Board has no right to demand a certificate from the medical attendant in cases of failure to attend school through alleged illness, nor can they insist on the specification of the nature of the illness in any certificate which may be given in such cases.

DUTIES OF *LOCUM TENENS*.

SYNTHESIS asks whether a *locum tenens*, engaged without any special agreement, is supposed to undertake the duties of any M.O.H. in a country practice.

*** A *locum tenens*, engaged to look after a country practice, would be expected to undertake all the duties of the practitioner who engaged him. If the principal happened to be M.O.H. for the district, his *locum tenens* must necessarily step into his place for the time. To undertake the duties of an M.O.H., where the population exceeds a certain number the practitioner must be a D.P.H., so that it is advisable for a practitioner, when engaging a *locum tenens*, to inform him beforehand what special duties are expected of him.

DEATH VACANCY.

A CORRESPONDENT writes that he has recently purchased the practice and book debts of a deceased practitioner. He purposes informing the patients of his predecessor of this fact by means of a circular letter from his solicitor. Is this in accordance with the usages of the profession?

*** We cannot see any objection to the course proposed.

THE PRETENSIONS OF OPTICIANS.

A CORRESPONDENT sends us a lithographed circular and a card issued by a firm of opticians in Chesterfield, who offer to examine for medical practitioners any of their patients who complain of defective vision, without charging any fee. The card says that their work is confined exclusively to ophthalmology, eyesight testing, and spectacle fitting, and that they take the whole responsibility for the correctness of their examination and the accuracy of the glasses supplied.

*** We should advise our correspondent not to take advantage of the offer.

VALUE OF PRACTICE.

L. J. C. inquires what the usual purchase money should be for a third share in a practice, partly by the seaside and partly in the country. A few of the patients belong to the better class, but the bulk belong to the lower middle class, and there is a Poor-law appointment in the practice. He asks whether a two and a half years' purchase would not be too high, especially as it is impossible to properly examine the books, owing to their not having been well kept.

*** It is a questionable step to buy a share in any practice the books of which have not been properly kept. For the kind of practice described, in the absence of further data, two years purchase would seem a fair payment.

HOSPITAL AND DISPENSARY MANAGEMENT.

CUMBERLAND AND WESTMORLAND ASYLUM.

ON January 1st, 1904, there were 724 patients resident in this asylum, and on December 31st, 1904, there remained 730. During the year 189 patients were admitted, which is slightly higher than the previous year, and distinctly above the average of recent years. We note, however, that the number of pauper lunatics in Cumberland and Westmorland not in the asylum dropped from 198 on January 1st, 1903, to 186 on January 1st, 1904. Of these 189 admissions, 172 were rate-paid cases, 15 were private cases, and 2 were criminal lunatics. The great majority of these cases, the Medical Superintendent (Dr. Farquharson) says, were incurable, and, as a whole, of a markedly unfavourable nature. Nearly two-thirds were in feeble health on admission, 16 were in a weak and exhausted state, and a considerable number died soon after admission. The mean age was 44 years; 50 were suicidal, and 20 had made actual attempts at suicide. As to the forms of mental disorder amongst the admissions, 101 were cases of mania of all kinds, 43 were cases of melancholia of all kinds, 11 were cases of dementia, there were 9 general paralytics, 11 epileptics, and there were 14 cases of congenital or infantile defect. Of the 730 remaining in the asylum on December 31st, 1904, 326 were cases of mania—mostly chronic, senile, and recurrent mania; 94 were cases of melancholia, 208 were secondary and senile dements, 48 were epileptics (acquired), 6 were general paralytics, and there were 58 cases of congenital or infantile defect.

In commenting on the table showing the probable causes of insanity in the admissions, Dr. Farquharson says that the table giving the causes assigned for the attacks is, as usual, unsatisfactory, the information given on admission being often quite unreliable, and in many cases impossible to trace the attack to any definite exciting cause. Hereditary predisposition was ascertained in 46 cases (24.2 per cent.), and the cases in which alcohol was assigned as cause numbered only 19, or 10 per cent. of the total. In relation to this point he says: "There is an idea, somewhat widely prevalent, that a large proportion of the inmates of asylums have brought on their insanity by their own vicious habits; our statistics show that this is not so in these two counties," and he also says that in some of these 19 cases the giving way to drink was merely one of the symptoms of lessened self-control accompanying brain disease already in progress. Of other probable causes, "moral" causes were assigned in 30, venereal disease in 1, previous attacks in 47, the menopause and old age in 25, and congenital defect in 14.

During the year 71 were discharged as recovered, giving a percentage recovery-rate on admissions of 37.5. This is slightly above that of the previous year (34.9 per cent.), but is still below the average recovery-rate of this asylum, namely, 42.2 per cent. To a large extent this is due to the unfavourable character of the admissions of recent years, but is probably also due, to some extent, to the continuance of the serious overcrowding which we noted last year in our report of this institution. There were 28 discharged as relieved, 3 as not improved, and there were 81 deaths. The percentage death-rate was thus 11, as contrasted with the 9 per cent. of the previous year, or the average for this asylum of 8.6 per cent. There were 25 deaths from cerebro-spinal diseases, including 11 deaths from general paralysis, 35 from chest diseases, including 12 from phthisis pulmonalis; 11 from abdominal diseases, 7 from general diseases, and 3 from general tuberculosis. Tuberculous disease, therefore, accounted for 18.5 per cent. of the total deaths. This is regrettably high, but still an improvement on the 21.8 per cent. of the previous year.

Doubtless the completion of the extensive building operations will have a beneficial effect in this and other directions. The asylum, except for 1 case of dysentery, was free from zymotic disease, and the general health good throughout the year.

INDIA AND THE COLONIES.

NEW ZEALAND.

SUNSHINE RECORDS.

DR. WILLIAM J. MACKAY, the Hospital, Nelson, New Zealand sends the following table of sunshine and rainfall at Nelson during the year 1904:

	Sunshine. hrs.	min.	Rainfall. in.
January	354	22	1.62
February	282	20	2.52
March	219	10	8.15
April	251	40	1.27
May	229	—	2.11
June	184	10	4.78
July	168	35	2.19
August	234	10	3.86
September	185	—	4.81
October	262	15	2.69
November	340	45	2.31
December	298	55	3.75
	3,010	22	40.60

He thinks that the record may be of interest to members of the medical profession who may be in search of a sunny climate for valetudinarians. He adds that, owing to the size and comfort of the large passenger boats from England, the long journey to New Zealand has now lost most of its terrors and affords a charming variety of routes, differing in time by about four weeks, via Canada or America, to about six or seven weeks by other routes. He thinks that many others would find much benefit and pleasure in an occasional visit of six months to New Zealand. There is good sport, many of the rivers being well stocked with large trout, and good deer-stalking. May this year was an exceptionally sunny month in England, and even in London the number of hours of bright sunshine was 237—a total which was surpassed at Nelson in six of the months of 1904.

TRANSVAAL.

MEDICAL PRACTICE BY CHEMISTS.

WE learn from the *British and Colonial Druggist* of June 9th that the Transvaal Pharmacy Board has circulated the following notice to every registered chemist in the Colony:

I have the honour to inform you that it has been represented to the Transvaal Pharmacy Board by the Transvaal Medical Council that certain chemists and druggists have been infringing the provisions of Section XXXIX of the Medical, Dental, and Pharmacy Ordinance No. 29 of 1904 by visiting and medically attending persons. The Board strongly deprecates any such infringement of the functions of a medical practitioner by any chemist and druggist, and trusts that it may not again be required to invite attention to the matter.

MESSRS. CARTER, of New Cavendish Street, have fitted up a hospital tent at the annual camp of the National Fire Brigades' Union at the Crystal Palace, supplying it with aseptic furniture and hospital appliances.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 2, Agar Street, Strand, W.C., London; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc. should be addressed to the Manager, at the Office, 429, Strand, W.C. London.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone, unless the contrary be stated.*

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Manager, 429, Strand, W.C., on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not at his private house.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London.* The telegraphic address of the MANAGER of the BRITISH MEDICAL JOURNAL is *Articulate, London.*

TELEPHONE (National):— EDITOR, 2631, Gerrard. GENERAL SECRETARY AND MANAGER, 2630, Gerrard.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

AGRICOLA writes: Would any medical man who has been instrumental in placing out a son or ward as a farmer give the writer information as to the best means of learning agriculture? Cirencester and Downton would hardly be suitable, as the lad is indisposed to work.

RAIN WATER FOR DRINKING.

CALCIS asks for an expression of opinion as to whether children brought up on filtered rain water are likely to suffer from a deficiency of lime salts, and, if so, whether it would be desirable to give lime water, or add carbonate of lime to their food, and, if so, how much?

DISINFECTION OF BARBERS' APPLIANCES.

THALASSA asks as to the best and most practical method of disinfecting razors, shaving brushes, combs, and hair brushes in constant use in a barber's shop.

UNCERTAINTY OF POST-MORTEM EVIDENCE IN SUSPECTED LEAD POISONING.

PLUMBUM writes: In regard to Dr. King Alcock's address on lead poisoning, published in the BRITISH MEDICAL JOURNAL of June 24th, I notice that he makes reference to a case of sudden death occurring in a lead worker, and intimates that the verdict of death from syncope following colic was altogether inconsistent and inaccurate. Will Dr. Alcock kindly reply through this journal, stating fuller particulars of this case?

INTRACRANIAL ABSCESS SECONDARY TO EAR DISEASE.

WHEN TEXTBOOKS DIFFER writes: Cumming, in his *Aids to Surgery*, p. 226 (Baillière, Tindall, and Cox, 1900), states that "the commonest seat of abscess in the brain due to middle-ear disease is the cerebellum. The next most common seat is the temporo sphenoidal lobe." Again under the heading of "Treatment," he says: "As cerebellar abscess is more common, it is as well to explore the cerebellum first, unless focal symptoms point to the temporo sphenoidal lobe as the seat." Bowlby, on the other hand, in his *Surgical Pathology and Morbid Anatomy* (fourth edition), in the chapter on "Surgical Complications of Middle Ear Disease," p. 624, writes: "The usual positions for such abscesses are the temporo sphenoidal lobe in its anterior part resulting from a spread of inflammation through the thin bone forming the roof of the tympanum, and the lateral lobe of the cerebellum; *the latter seems to be much the more uncommon*." (The italics are mine.) I shall be so much obliged if you can suggest a reason for such marked difference of opinion.

ANSWERS.

WE would request correspondents who desire to ask questions in this column not to make use of such signatures as "A Member," "A Member B.M.A.," "Enquirer," and so on. By attention to this request much confusion would be avoided. Correspondents are asked to write upon one side of the paper only.

HYPNOTISM IN THE TREATMENT OF DISEASE.

VIATOR.—It would be impossible to express any opinion upon the question whether hypnotism would be of use in the case mentioned without a personal examination of the patient. Our correspondent might consult [illegible] Bramwell's *Hypnotism: its History, Practice, and Theory* (London: Grant Richards, 1903).

LETTERS, NOTES, ETC.

CANCER CURES IN THE EIGHTEENTH CENTURY.

EXTRAORDINARY cancer cures are not the invention of modern journalism. Here is one of many constantly to be met with in the pages of journals in the middle of the eighteenth century:

"The following extraordinary Copy of a Letter, dated Nov. 1767, from a Lady whose Veracity, it is said, is not to be doubted, appeared in the last *London Magazine*:

"'A Poor Woman near Hungerford, had laboured many Years under a most inveterate Cancer in her Breast. A Gentleman in that Neighbourhood told her, if she would use Toads as directed, they would cure her. Agreeable to his Order she applied eight Toads, tied up in Muslin Bags, to eight Holes in her Breast, which sucked amazingly.—The Toads fastened eagerly like Leeches.—When they had sucked themselves full, they dropped off in Agonies, terrible to behold.—I do not hear they gave any Pain, but, on the contrary, her Pains abated from the first Application. She repeated this till she had demolished 120 Toads. By which Time the Wounds were healed, and her Breast was of the usual Size. She has been well ever since.

"'The Toads were applied every Night. The better she grew, the longer they lived, and the longer they sucked. The Woman full of Gratitude, went to a poor Man at Lambourne, in Wiltshire, who had long gone double with a Cancer in his back. One Mr. H——y was there last Week, and says the Man is absolutely cured. During the Woman's Attendance on him, she was sent for to a Physician's Wife at Calne in the same County. But, to her Honour, she would not leave the poor Man till he was quite cured.—She is now with the Physician's Wife. I saw two Letters, with every minute Circumstance, wrote by Dr. B.'s Lady who is at Mrs. —— near Hungerford, and not far from the poor Woman's Parish. This Lady constantly attended here till the Cure was completed.'"

A PIKE'S BITE.

DR. G. V. A. ROBERTSON (Pickering, Yorks.) writes: On June 17th, 1905, I received an urgent message to visit a boy, 9 years old, being the son of a farmer. The message was: "The lad has been bitten by a fish; come as soon as possible." I found the lad suffering from a severe wound of the right foot, which required several stitches. On making inquiries as to the cause of the accident I was told the following story. The lad had been bathing along with two others in the river Severn, which runs near the farm, and on getting out of the water sat on the bank, when suddenly a large fish jumped out of the water on to the bank, seized the lad by the foot, and jumped in again. The lad's foot was 3 ft. from the edge of the bank. A lady passing, hearing the lad's cries, went to his assistance and carried him home, as his foot was bleeding profusely. A gentleman who stays at the farm, and is an enthusiastic angler, asked to be shown the place of the accident, and he had the gratification of catching the fish in a few minutes with an artificial bait. It turned out to be a fine pike, measuring 2 ft. 1½ in. long and weighing 6 lbs. There can be no doubt as to the truth of the occurrence, for I not only saw the lad and the fish, and the gentleman who caught it, but I also saw the fish measured.

FATALITIES FROM ETHYL CHLORIDE.

DR. T. D. LUKE (Edinburgh) writes: Dr. Wilkins is scarcely logical in his remarks which you published in the BRITISH MEDICAL JOURNAL of June 24th, 1905, p. 1412. He starts by accusing me of being ultra optimistic in regard to ethyl chloride, and then follows on with a list of operations in which he considers it is indicated as the anaesthetic. Now, personally I should refrain from using ethyl chloride in a case of curettage in the large majority of empyemata, and in "*extensive* extractions of teeth." Further, I have not yet reached the stage of "never travelling without having a few capsules of ethyl chloride in my pocket"! Dr. Wilkins asked in the JOURNAL of June 10th for any record of fatal cases under ethyl chloride, and having specially investigated this question I did my best to supply him with the available data to the best of my knowledge. I am unable to see, however, in what I am more "optimistic" than Dr. Wilkins himself. May I add that I shall be only too pleased if any of your readers would be kind enough to send me any notes of fatal cases or even of difficulties they have had?

A CORRECTION.

IN the Index to the half yearly volume of the BRITISH MEDICAL JOURNAL, completed on June 24th and published in the issue of that date, a paper on Bony Deposits following Dislocations of Elbow Joint was, with others on functional insanity and its relation to allied neuroses and on the treatment of insanity, entered under the head of "Jones, Robert." The papers on insanity should have been credited to Robert Jones, M.D., of Claybury Asylum; that on bony deposits to Robert Jones, F.R.C.S.Ed., of Liverpool.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s	d
Eight lines and under	0	4	0
Each additional line	0	0	6
A whole column	2	0	0
A page	5	5	0

An average line contains six words.

Advertisements should be delivered, addressed to the Manager, at the Office, not later than first post on Wednesday morning preceding publication, and if not paid for at the time, should be accompanied by a reference.

Post Office Orders should be made payable to the British Medical Association at the General Post Office, London. Small amounts may be paid in postage stamps.

N.B.—It is against the rules of the Post Office to receive letters at *Poste Restante* addressed either in initials or numbers.

A Lecture ON THE NATURE OF TABES.

Delivered at the National Hospital for the Paralysed and Epileptic.

BY SIR WILLIAM R. GOWERS, M.D., F.R.S.,
Physician to the Hospital, and Consulting Physician, University College Hospital.

GENTLEMEN,—To attempt to expound the unknown is a task from which the boldest teacher may reasonably shrink. In the strict sense of the word "unknown," if we take it as equivalent to the unproved, it is true of the pathology of locomotor ataxy. Yet we may surmise that which we cannot demonstrate. Much in medicine that we do not think of doubting is still not strictly proved. Hypothesis may rest on ground that is firm, and yet it may be only the scaffolding for future proof. It is so, I believe, with regard to tabes. If I strive, therefore, to fulfil the promise I made in the last lecture, and attempt to explain the evidence we can discern regarding the nature of the disease, I must ask you to understand that it is only evidence of that which is probable, and not to be regarded as certain truth. It is not, therefore, the less deserving of consideration. To consider and weigh circumstantial evidence in medical problems is a mental exercise of special value to every student, young or old. It is a process on which we are often compelled to rely, not only in general problems, but also in the questions presented by single cases in our daily work.

The subject of the nature of tabes has been more discussed, perhaps, than any other in present-day pathology. The attempts to explain and elucidate its numerous symptoms—some frequent, others rare, all various in character—are almost perplexing. I propose to disregard, for the present, the diverse occasional symptoms, and to see if we can perceive some landmarks sufficiently distinct to be our guides as to the nature of its chief characteristics. There will be nothing new in what I have to say; the facts I wish to emphasize are familiar, but my object is to impress upon you their weight and indication.

I should much like to know, at the outset, what opinion you already hold—or, perhaps I should say, have already learned—regarding the nature of locomotor ataxy. You may ask what I mean by the name. In reply, I would say that two symptoms of the disease may be considered as essential. These are loss of the knee-jerks and inco-ordination of the legs. Leaving aside unusual forms of the disease, these are the common, the invariable symptoms of a case that deserves the name. If inco-ordination is absent, it may be going to be locomotor ataxy, but certainly is not yet. Often there are other symptoms—pains, loss of sensation in the skin, etc.—but they are inconstant. Loss of cutaneous sensation may be trifling or even absent; so may the pains. A patient is now in the hospital who cannot even stand from pure ataxy, who has not, and never has had, the pains that are often so distressing. So we will take as essential the two symptoms just mentioned; I presume, then, that most of you will agree with me if I say that locomotor ataxy is a disease of the spinal cord.

But I should like to know whether you do agree with me. I will ask for your votes on the subject. Will those who are in favour of this opinion hold up their hands? [About half those present raised their hands in the affirmative.] Now those of the contrary opinion. [No hands were held up.] So about half of you hesitate to say "Yes," but also hesitate to say "No." Perhaps your reticence means that you suspect I have laid a trap for you. That is not quite true; and yet you are wise—wise to hesitate to express an opinion. The malady is commonly regarded as one of the spinal cord. Further, there is disease in the cord. You know that one synonym for locomotor ataxy is "posterior sclerosis"; yet it is open to question whether the disease is primarily one of the spinal cord.

What is this posterior sclerosis of the cord? It is degeneration of the tracts adjacent to the posterior median septum, the "columns of Goll," or posterior median columns. It is a secondary, upward, degeneration which occurs above any transverse lesion of the cord. It does not occur below a lesion, therefore the fibres have their vital centre below. But the same degeneration occurs if the posterior nerve roots are destroyed. That is a most significant fact. It shows that the fibres of these columns come directly from the posterior roots—that is, they are fibres which have their vital centres in the cells of the posterior ganglia. I show you sections of two cords from the dorsal region; they each present complete degeneration of these columns quite identical in aspect. One is from a case in which the spinal cord was crushed by injury just above the lumbar enlargement; the other from a case of tabes. Since the posterior sclerosis is purely secondary—that is, of fibres which proceed from cells outside the cord, in the posterior ganglia—their change does not prove that locomotor ataxy is primarily a disease of the cord. Associated with this sclerosis we have often conspicuous degeneration of the posterior roots. These contain many other fibres, which must end in the cord near their level of entrance to subserve reflex action. Moreover, the fibres of the peripheral sensory nerves have been frequently found degenerated. These likewise depend for their vitality on the cells of the posterior ganglia. The change in them is greatest at the periphery and becomes less as we ascend the nerves towards the ganglia. The power of a fibre to resist morbid influences seems less the greater the distance from the cell on which its vitality depends. In all cases the change is to be a primary degeneration of the nerve elements. The interstitial connective tissue undergoes only slight and secondary changes. This is true also of the degeneration within the cord, but here the secondary interstitial change is more conspicuous, and gives rise to the aspect which leads the alteration to be termed "sclerosis." Thus the essential morbid change in tabes is confined to the elements of the sensory or afferent neurons, the up-bearing neurons, dependent on the posterior ganglia. The motor neurons—the motor cells and fibres—are never altered in pure tabes.

ORIGIN OF ESSENTIAL SYMPTOMS.

Let us now turn to the symptoms of the disease, and especially to those which I have termed "essential"—loss of the knee-jerk and ataxy. To these we may, indeed, add another, less easily recognized—diminution of muscular tone, "hypotonus," as it is termed, "undertone" it might be called. This is important in many ways. In health the muscles maintain a certain degree of tonic contraction in passive movements of the limb. In such movements the attachments of the muscles become nearer together or further apart, but the muscles adapt themselves to the change, preserving a certain gentle contraction. The change follows the passive movement, and therefore there is at first a slight resistance, quite perceptible, independent of the will. It changes *pari passu* with the movement, so as to seem the same in degree. This tone depends on the centres in the spinal cord; it ceases if either the anterior or posterior roots are divided. In tabes it is lessened or lost, so that the absence of the normal slight resistance to passive movement is a feature of the disease, quite distinct when carefully observed. The loss of tone is not the result of impairment of the motor nerves or centres, and it may occur without change in cutaneous sensibility. It can only, therefore, be ascribed to impairment of the afferent muscle nerves—the peripheral sensory nerves of the muscles. Of this we have further proof. Wherever there is marked ataxy, the sensitiveness of the muscles will be found to be lessened or lost. In health you may easily ascertain its existence; if you pinch your own calf, you feel pain distinctly in the muscle; the tabetic feels none. Strong tension in health causes considerable discomfort, but in tabes it is unperceived. Even more striking is the insensitiveness of the muscle to the contraction excited by the faradic current, even when it is such as to cause acute pain under normal conditions. But the sensitiveness of the skin (unless abolished by cocaine) interferes with the attempt to observe this, because it is difficult to be sure whether any pain felt is in the skin or the muscle. A simple expedient enables this to be eliminated. Pinch up the skin over the calf between two small electrodes, and pass between them a faradic current which you have found strong enough to cause cramp-like contraction. Then separate the electrodes, keeping them in contact with the skin, so that they rest on the muscle. This contracts strongly, but the patient feels no more than he did before. He is unconscious of the muscular contraction.

Here, then, we have proof of the impairment of the afferent muscle nerves, and we have seen that to this must be ascribed the loss of tone. Here, also, we have an explanation of the loss of the knee-jerk. The word "tendon reflex" has done much to prevent a clear perception of that which it designates. The tap on the tendon excites a local muscular contraction, but the local excitability of the muscle is due to its tone, aug-

mented by the gentle tension necessary for the mechanical stimulus to act on it. If a tendon is rigidly fixed, so that the tap on it does not act on the muscle, no contraction results. You can easily test this on the Achilles tendon. It is the excitability of the muscle that is reflex, and is dependent on the spinal cord; it is really identical with muscle tone. Its loss is a delicate indication of the impairment of the afferent muscle nerves, shown later by the loss of muscular sensibility.

It is important to note clearly that the muscular tone is a reflex adjustment of the muscles, dependent on afferent impulses which must chiefly come from their nerves. Other sensory impulses from the skin, as Sherrington has shown, play some part in the reflex process, but the features of tabes show that these are subordinate to the influence from the muscles. Tone is essentially a muscle-reflex process. If we need further evidence of its reality, we have only to consider the cases of opposite nature, those in which it is in excess. In these the signs of tone, such as the knee-jerk, become augmented, and the increase passes into the extreme tonicity which occurs in "spastic paraplegia." In this we have a process and mechanism which have an effect the opposite of the undertone and loss of knee-jerk in tabes.

We cannot doubt that this reflex process must play an important part in the adjustment of muscular contractions, by determining the related state of the muscles which oppose a movement, and, by opposing, support it. The opponents must not only contract in proportionate, though less degree, but they must yield to allow the acting muscles to effect the movement. This spinal reflex process must play a subsidiary but important part in determining the relation of the contractions for the movements arranged in the cerebral centres. We cannot understand how the cerebral and spinal mechanisms work together, but could we view each in its own plane, as it were, that which seems to us complex might be perceived to be simple. However that may be, we cannot doubt the reality of the spinal mechanism, nor can we doubt that it depends chiefly on the afferent muscle nerves. It must be disordered in tabes, in which these nerves are so conspicuously impaired. Even when the impulses produced in them are merely delayed, as we so often find to be the case with the nerves of the skin, we can easily conceive the effect of such delay in causing disorder. Each impulse would arrive just too late to excite the due contraction, and just in time to disturb the action which its absence induced. In the derangement of the spinal mechanism I think we may perceive one cause of the ataxy of tabes and, perhaps, that which determines its peculiar character.

Another element in the inco-ordination of tabes is probably indicated by the degeneration of the posterior median columns, the columns of Goll, in the spinal cord. We have seen that this is a degeneration of upward fibres from the nerve roots, fibres which belong to the neurons of the posterior ganglia, of which the lower fibres are those of the peripheral nerves. The affection of these columns entails no loss of cutaneous sensibility. Many facts suggest that they belong to the muscle neurons, and conduct impulses from the muscles which pass up to the medulla, and thence, probably, to the cerebellum. There it is probable that they are co-ordinated with others, to guide the motor cortex of the brain. If these columns are damaged in the dorsal region of the cord, the result is unsteadiness, resembling that which results from disease of the cerebellum itself. Hence their degeneration in tabes may be conceived to cause a defect in the cerebellar guidance of the brain, and to add this to the failure of the spinal mechanism in co-ordination.

We can thus conceive that the ataxy of tabes and the loss of the knee-jerk—the symptoms I have termed essential—may be entirely due to the degeneration of the sensory muscle neurons, to the effect of the loss of their impulses on the spinal and cerebral processes. With these may be associated defect of the afferent impulses from the joints and tendons, but they are of less importance. As we have seen, the inco-ordination is independent of failure of cutaneous sensibility, but a defect or delay in this is very common and must be due to coincident impairment of other sensory neurons.

Since the essential changes in tabes are in the neurons, which have their vital centres in the cells of the posterior ganglia, it is natural to look for visible changes in the microscopic texture of these cells. But they have been found apparently normal in many cases in which they have been examined, even with all the aids which chemistry gives to microscopic scrutiny. Yet in some cases conspicuous changes have been found, and the value of the negative results is lessened by two considerations. First, molecular change must attain a relatively vast degree to be visible. Changes far below visibility may cause grave impairment of function, especially of one so high as that which determines the vital resistance of the cell-processes to morbid influences. Even more important is the second consideration. We must consider each neuron as a vital unit, the cell and the fibres which extend from it and depend on it for their life. Although the nuclei on the fibre may reinforce the vital influence they cannot replace it. The greater the distance from the cell, the less the vital power of the fibre seems to be, the less is its ability to resist morbid agents. This is the lesson taught by all the facts of peripheral neuritis. All causes of degeneration produce changes which are greatest at the distal parts and lessen as we approach the centre. The neuronic unit may suffer in its farthest parts long before the centre undergoes conspicuous changes. This fact should make us hesitate before allowing the frequent normal aspect of the cells of the posterior ganglia to weigh against the evidence that the failure of vitality in these neurons is the cause of the essential symptoms of tabes.

We should note, also, that other frequent symptoms of tabes are of the same class. The defect of cutaneous sensibility, especially to pain, must be referred to the degeneration of other afferent neurons, and we have already seen[1] that the pains may be ascribed to the same cause. The tabetic atrophy of the optic nerves is clearly an affection of the same class—the degeneration of a special sensory neuron. But the morbid influence which causes tabes, whatever it is, may penetrate more deeply into the nervous system and pass beyond the sensory neurons, on which its influence acts first and chiefly. It may even involve the motor centres, as those of the eyeball muscles, and even those of the limbs, in the spinal cord. Other symptoms occur, of which we do not know the precise mechanism—the visceral symptoms and the various crises. But these should not obscure the clear perception of the fact that the cause of the disease acts chiefly on the sensory neurons, and that thus its essential symptoms are produced.

PATHOLOGICAL ANALOGIES.

So we come to the second part of the problem: What is the cause of this degeneration? Note one special feature it presents. It is a selective degeneration; it involves structures that subserve a certain function; those adjacent of different function are spared. The affection of the posterior median columns illustrates this. Not less selective is the frequent affection of the sense of pain without that of touch, when cutaneous sensibility is impaired. We only know such an acquired affection, bilateral, involving nerves of the same function on the two sides, as the result of a toxic agent circulating in the blood, passing everywhere to the nutritive plasma but acting only on structures susceptible to it. What known causes can we discern which produce similar effects, especially effects which are like those of tabes? The symptoms which I have termed essential—ataxy and loss of the knee-jerk—are sometimes conspicuous effects of certain toxic agents, especially of two, arsenic and alcohol. Their common action is on the motor nerves, causing definite paralysis of the extremities, but each sometimes spares the motor nerves and causes impairment of sensibility instead of power, and occasionally the chief symptom is inco-ordination. From alcohol the resulting condition may resemble so closely that of locomotor ataxy, the knee-jerks being also lost, that it has been called "alcoholic pseudo-tabes." Indeed, so perfect is the similitude that it may be difficult to say whether a patient is suffering from this affection, from which recovery is sure, or from true tabes, with its dubious future. We may presume that the reason for this peculiar effect of the toxic influence is that some cause determines a special action on the afferent muscle nerves. These always suffer in some degree, as the distressing muscular tenderness clearly shows. But in this pseudo-tabetic form they suffer chiefly. Why, we do not know, but we may conjecture that some special alteration in the nutritional plasma fits it for the sensory rather than for the motor nerve elements, and nutrition and function is most deranged in the structures for which it is most adapted. These nutritional processes afford evidence of differences which we are otherwise quite unable to discern.

So it is with arsenic. The common effect of the slow prolonged ingestion of this poison is motor palsy, like that of alcohol, but often with more spontaneous pain. Sometimes, however, motion is unimpaired and simple ataxy results, always attended with loss of the knee-jerk. The latter may

be due to a slight influence on the motor nerves, and therefore cannot be ascribed to the impairment of the afferent muscle nerves as it can in tabes, although we may reasonably regard this as the cause of the loss of co-ordination. How close may be the resemblance of such a case to true tabes is shown by one I have published, in which the pains, ataxy, and absent knee-jerks deceived me, until I saw the demonstrative pigmentation of the skin. Why the same agent should vary so much in its special incidence we do not know, any more than we understand the varying effect of alcohol. We may conjecture that it is due to the precise combination in which it is presented to the tissues, and also to its relative amount. The fact deserves thoughtful consideration, because it presents a close analogy to the variation of the symptoms of tabes, and because it illustrates how wide may be the difference in the result of a toxic agent—a difference that depends on conditions of chemical combination so minute as to transcend perception.

Thus toxic agents, derived from without, such as arsenic and alcohol, may derange nerves of special function and give rise to symptoms precisely like those of tabes. A similar effect is produced by poisons generated within the body. The animal frame is one vast chemical laboratory, in which processes of extreme complexity, as they seem to us, are ever proceeding, and compounds are formed and decomposed, storing or releasing energy under the influence of life. A trifling difference in a process may change that which should renew the supply of ordered energy into that which deranges it—may change that which should build up into that which destroys. This occurs in the course of the chemical disorder which constitutes diabetes—a purely endogenous malady. Toxic agents may be formed that affect the peripheral nerves, which may abolish the knee-jerks, and cause degeneration of the same fibres in the spinal cord which fail so conspicuously in tabes. I show you a section of the spinal cord from a case of diabetes with such sclerosis of the posterior median column.

The most conspicuous effects of this nature are due to the organisms of specific diseases. These generate "toxins," in part directly, in part indirectly. The organisms produce poisons, and also substances which are not poisonous but which derange the formation of albuminous substances, and convert them into nerve poisons. That has been clearly discerned and surely proved by Martin in the case of diphtheria. The agents, to which this disease gives rise, have a varied effect, chiefly on the motor structures, often also on the sensory. Sometimes this influence on the sensory nerves is strangely special. I have seen anaesthesia limited to the palms and soles, as the chief sign of diphtherial palsy. In rare cases symptoms are caused which closely correspond to those of tabes. There is the same ataxy, without motor palsy, and also loss of the knee-jerks. The latter, indeed, occurs in all forms of this nerve poisoning, and often, indeed, in diphtheria when there is no consecutive palsy. It may be due to slight interference with the motor structures, but the ataxy is evidence of a special effect on the afferent muscle nerves, and brings this occasional result of the post-diphtherial toxine into close correspondence with ordinary tabes.

Relation to Syphilis.

The bearing of this on the pathological origin of tabes must be sufficiently obvious to you. I may safely assume that you are all familiar with the frequency with which tabes is found to be preceded by one specific disease, which stands almost alone in mystery and malignancy—syphilis. I may also assume that you know that tabes, though the apparent sequel of syphilis, is attended by no morbid process such as characterizes the ordinary effects of the disease. You are familiar with the peculiar tissue-formation of true specific lesions, but that which is found in tabes is a pure nerve degeneration. Hence we assume that some toxine, analogous to the nerve poison from diphtheria, is generated by the organisms of syphilis, and causes the symptoms of tabes. Thus conceived, the malady is an indirect, not a direct, consequence of the primary affection. This conclusion is confirmed by the fact that the treatment which so speedily removes the lesions of true constitutional syphilis has little or no influence on tabes. Yet this explanation of the disease is confronted by many difficulties, which must be fairly faced. The evidence is purely that of sequence. The facts are very strong, but not at first sight absolute. They must be clearly discerned, because the sequence is still the subject of controversy, although not I think in this country.

That tabes is a sequel of syphilis was first urged by Fournier nearly thirty years ago. The evidence he adduced was soon confirmed by Erb, myself, and others. The discussion which followed Fournier's statement illustrated a fact which is instructive. Observations regarding any special point, to be of value, must be made with special reference to that point. Physicians looked up their old notes of cases of tabes and found therein little to support Fournier's assertion. But they began to make special observations; to their surprise the facts obtained were quite different, and such as to give it strong support. The most notable of those thus converted from doubt to confidence was Erb himself, who has supplied us with the strongest evidence in combined character and extent hitherto adduced.

We cannot expect to obtain proof of invariable sequence. If tabes never occurs without preceding syphilis, we cannot obtain the constant evidence. To this point I will return in a moment. Let us consider the acts Erb has obtained with special personal care. He has investigated the facts of 1,100 cases of tabes and finds a history of a primary sore in 89½ per cent. In most of the cases there had been constitutional symptoms, but these are so often absent or forgotten, even with characteristic late symptoms, that their absence has little weight. Erb's statistics are stronger than those obtained by most others, with the exception of Fournier, Déjérine, and other French observers. The facts furnished by my own personal observation are also not so strong as those of Erb; those of several hundred cases agree nearly with the last hundred consecutive cases of tabes in males seen in private; they were carefully investigated, and the percentage they afford is convenient, because it happens to avoid the fractions which come out in a larger number. Of the 100 cases, 80 gave a history of a chancre; 15 denied a sore, but had suffered from gonorrhoea, some of them more than once. Of the remaining 5, every one admitted having run risks of infection in the ordinary way. Hospital cases are far less trustworthy. We find here a history of a sore in about 77 per cent. In the lower classes the facts are often forgotten, and much depends on the observer who takes the history of the patient. A very significant illustration of this is afforded by the notes at this hospital of one series of twelve consecutive cases of tabes. A history of a chancre was recorded in only four. All these notes were taken by the same clerk, who was a foreigner.

You may deem 80 per cent. too small a proportion on which to affirm a constant sequence. But you must remember that the frequency with which characteristic symptoms of constitutional syphilis are met with in patients who give only a history of gonorrhoea is such as to lead some authorities to suspect that the specific virus may be communicated with that of the urethritis, without even an intra-urethral chancre as suspected by many. I mention this as an illustration of the frequent absence of a history of the primary affection. It is most important to know how often such a history is absent in cases of undoubted late syphilitic affections. Few facts are to be found in literature which we may compare with those of tabes. Fournier has stated that a history of the primary disease is absent in 50 per cent. of undoubted constitutional disease in women, but these are useless for comparison, on account of the notorious frequency with which the original affection in them is unknown. I am therefore greatly obliged to Dr. Pernet, of University College Hospital, for some instructive facts he has collected for me from his notebooks. Putting aside all cases in which the record is imperfect, his notes include 58 cases of undoubted late syphilitic skin diseases, and of these 13 denied all knowledge of any primary sore; there was a history of it in 45, or 77.5 per cent. Of 66 cases of early specific skin eruptions, a sore was denied in 11; it could be ascertained in 55, or 83 per cent. Taking the two classes together (124 cases), the primary disease was known in only 100, or 80 per cent., exactly the proportion that I have found in tabes. Since all Dr. Pernet's cases were males, they are accurately comparable, and it is noteworthy that in the cases of late eruptions, the time of which renders them most analogous, the percentage of early history was actually less than in tabes. It follows from these facts that if it is true that tabes only occurs in those who have had syphilis, we should have a history of the primary affection only in the proportion that we actually find. I think, moreover, that another fact is of weight. If we except members of our own profession, I have never seen a case of true tabes in a man who had never run risks of infection in the ordinary way. There is no other disease of the nervous system of which the same assertion can be made. We may, therefore, regard as justified the

assertion of Möbius that, whatever the precise relation between the two preceding, syphilis must be regarded as a *conditio sine quâ non* of the occurrence of tabes. Even if the sequence is not actually invariable, it may be as important as if it were. If exceptions should be sometimes met with, they will be too rare to invalidate the general facts.

Why then, you may ask, if the sequence is so clear, is it disputed? If the evidence against it is carefully scrutinized it is found to consist of collections of cases, vitiated by the inclusion of females as well as males, in which every immediate antecedent of the symptoms is regarded as the sole cause, sufficient to make any other antecedent negligible. No attempt is made to examine this question of sequence, irrespective of other points, or to eliminate the sources of fallacy. The impression the evidence gives is that it may wisely be put on one side. The question is one of those in which we may feel sure that the truth must prevail without the help of controversy.

Another noteworthy element in the proof of the dependence of tabes on syphilis is important because it comes from another realm of life, and yet has the same clear significance. Few of you may have seen a case of "juvenile tabes," for such cases are rare. But the malady may develop during late childhood, usually between 6 and 12, with unmistakable features, and sometimes with optic nerve atrophy. In all such cases there is, or has been, evidence of inherited syphilis. Here we have no conflicting statistics; it is a simple fact, of unmistakable meaning. It is stronger than another striking illustration, of which examples are not extremely rare—tabes in both husband and wife, the husband having had syphilis before his marriage. I have seen several examples of such marital tabes, which is an emphatic illustration, rather than confirmation, of the causal sequence.

If we recognize that tabes is a sequel of syphilis, we are confronted with a problem which we must discuss though we cannot solve. We have seen that all we know of like processes and their origin compels us to regard the immediate cause of tabes as a toxin. The antecedent—syphilis—we regard as an organismal disease. Although we are ever given glimpses of supposed discoveries, the organisms are not yet surely demonstrated. We must certainly regard the disease as one capable of giving rise to a toxine and tabes as such a disease as a toxine might cause. But all other known toxines of specific disease are produced during the active stage of the malady, and their influence is exerted speedily, endures for a time, and then ceases. This sequel occurs, as a rule, years after the last manifestation of active syphilis. It develops and varies without relation to any condition to which it can be referred. Tabes behaves as if it were an absolutely random malady—unconditioned, irresponsible. Its course is so erratic that a forecast cannot be made with certainty in any individual case. Its first symptoms may remain for ever trifling, or may remain stationary for years, and then steadily increase, or they may develop from the first, and steadily reach a high degree, or a stationary period may undergo an increase so rapid as to attain, in a few days, a degree usually only reached after many months. The onset or increase of the disease bears no relation to any evidence of activity of the preceding syphilis. Although years have commonly elapsed since the last constitutional symptom, occasionally tabes develops before the constitutional malady has ceased. Then the degenerative change is found co-existing with true specific lesions. Moreover, no treatment of the primary disease, however thorough, certainly prevents the occurrence of tabes. Even that it has any influence cannot be surely affirmed. This is the less surprising, however, if the initial induration, which determines the treatment, is a sign that constitutional infection has already occurred.

Pathogenic Co-operation.

The relation in time and course of the assumed cause and effect are so different from any known examples of the same kind, and explanation is so difficult, as almost to make us pause and look back again at our facts. Yet we can discern no escape from the sequence, no escape from the evidence that the immediate agent must be a nerve poison, in some way the result of the antecedent. We cannot explain the mystery by conceiving that an early toxine simply lessens the vital endurance of the nerve elements; the facts of rapid development or rapid increase, even after years, compel the conviction that the morbid agent is present at the time. Equally incompatible with the theory of lessened vital endurance is the remarkable degree of recovery sometimes met with, even in characteristic cases. Hence it has been suggested that some other agent, of unknown nature, co-operates with that which syphilis produces, and Neisser has expressed this view by saying that tabes is the result of a syphilitic toxine plus x, x being the unknown intensifying influence.

On the whole, some form of this hypothesis seems to afford the best explanation of the facts. In connexion with the long interval before tabes begins, remember the manner in which the nerve poisons of diphtheria are produced. One is produced directly by the organisms in the throat, the other has a different origin; the organisms generate also a ferment-like body which acts on the albuminoses in process of formation in the spleen and elsewhere. It acts so as to modify some of them and to convert them into a poison instead of a food. A slight modification of the relative amount of the elements of an organic body and of the way they are arranged may totally change the influence of the resulting substance. If any of you have read a small volume of lectures of mine you may remember that I showed at one, two test tubes, each containing about a teaspoonful of a white powder, each powder consisting of the same chemical elements. One was quinine, almost harmless; the other was aconitia, and even that small quantity had the potentiality of death to a thousand men.

Although the action of the ferment-like product of diphtheria is transient, we have reason to think that similar influences may be enduring, that a process thus set wrong in the complex laboratory of the body may never get right again. Consider the remarkable fact of immunity, of the lifelong protection afforded by one attack of an acute specific disease such as scarlet fever. Our present knowledge enables us to explain it only in one way—by some permanent change in certain chemical processes of the body, trifling in degree, but potent in its influence in facilitating resistance to any new infection of the same kind. The transient disease must induce a lasting modification of some process in the vital laboratory. Only thus can we explain the enduring immunity which one attack produces. If it be so, we can conceive that syphilis, although it is doubtful what immunity follows an attack, may yet cause a change in chemical processes which results, after years, in the generation of a nerve poison. We can conceive that such an effect as that caused by the ferment-like product of diphtheria, may be an enduring change, minute perhaps at first, but slowly increasing. The perversion of a process may become greater by constant action. Surely Shakespeare had this self-augmentation in his mind when he said of jealousy, that "it grows by what it feeds on." All growing things do that. I think he meant "it grows by going on"; increased strength results from mere activity. So a toxine, indirectly caused, may become sufficient to produce effects only after years. It is not so with that of diphtheria; but I mention this only to aid you in conceiving that which, in some way, must be. Moreover, just as there is no relation between the severity of an attack of diphtheria and subsequent paralysis, so there is no relation between the degree of constitutional syphilis and the occurrence of tabes. Indeed we may go further, and say that, just as the amelioration of diphtheria by antitoxin has little influence on the occurrence of paralysis, so tabes follows syphilis independently of its early treatment.

Yet we cannot thus perceive an explanation of all the facts of the course of the disease. Especially the very rapid increase in the symptoms we sometimes meet with, after early symptoms have been slight and stationary for a time, seems to imply the co-operation of some other morbid influence. Susceptibility, increased by lowered general vitality, or by local over-exertion (as Edinger has urged), may facilitate the action of the morbid influence, but often cannot be traced. We are compelled to conceive that the toxic action of the cause is itself augmented, that some other abnormal process intensifies the influence of the toxine.

We may note the course of tabes, in different cases, as giving apparent support to the hypothesis. In some cases the symptoms begin almost imperceptibly, slowly increase by a steady progress, until at last a high degree is reached and maintained. Such cases suggest that, as I have said, a slight perversion of chemical processes slowly grows and increases perhaps without extraneous aid. But the cases in which a long slight degree of symptoms is followed by a rapid, sometimes very rapid, increase to a high degree—cases which suggest the co-operation of some augmenting influence—sometimes run a course which is, I think, very significant. In several cases I have seen, in which there was such a rapid development of symptoms, improvement, almost

amounting to recovery, has slowly—very slowly—occurred. I refer to cases in which a patient had quickly become almost, or quite, unable to stand from pure ataxy, and a stationary period was followed by improvement, steady but slow, until it may be only at the end of a year or two the patient was able to walk steadily, unaided, for miles. In such cases the cause of the rapid development of the disease must have been transient. It could not have persisted, or improvement would have been impossible. Such cases strongly support the hypothesis of a temporary agent augmenting the intensity of the nerve poison, but ceasing and permitting the slow regeneration of the affected nerve elements. It is remarkable that acute arsenical poisoning, which causes immediately severe gastro-intestinal symptoms, does not affect the nerves, and cause paralysis or ataxy, until after an interval of two or three weeks, and slow improvement only begins after some months. It may be that the arsenic has to form some compound with albuminose material in order to be slowly taken up by the nerves in metabolism and slowly derange their function and structure.

The neurotoxic effect of the exciting cause of tabes may depend on more than one agent co-operating with that which follows syphilis. What these may be we must strive to learn. The chief value of hypothesis is to direct our observations. Even when hypotheses prove erroneous, their disproof always involves additions to our knowledge. But for sure proof of the primary cause, the light in dark places it may afford, and the therapeutic help it may yield, we have to wait for the certain identification of the organism of syphilis. When this is surely known, the nature of its toxines may be discovered and antitoxines obtained by which its effects may be prevented. Ever and anon our hopes are raised, but we still await the certain demonstration. We watch and wait with well-grounded hope, with patience that is compulsory, and not without some wonder that we have to wait so long.

The investigation by Metchnikoff and Roux on the spirochaete pallida of Schaudinn, announced since this lecture was delivered, are of definite promise.[2]

REFERENCES.

[1] The Pains of Tabes, BRITISH MEDICAL JOURNAL, January 7th, 1905.
[2] Ibid., May 27th, 1905, p. 1178.

A Clinical Lecture

ON

A CASE OF SYRINGOMYELIA.

Delivered at the Liverpool Royal Infirmary,

BY T. R. BRADSHAW, B.A., M.D., F.R.C.P.,

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GENTLEMEN,—The case we are to consider to-day is an instance of one of the rarer forms of disease of the central nervous system, but a disease which presents symptoms so characteristic that its recognition presents little difficulty to any one who is aware of the possibility of its existence. It is worthy of notice that most of the rarer diseases present striking characteristic symptoms, which make their recognition easy, at least, in well-marked cases. Thus, in Addison's disease there is the obvious pigmentation, in myxoedema the no less obvious swelling of the body, in acromegaly the overgrowth of the bones, in myelopathic albumosuria the unique character of the urine. No doubt it is the association with these noticeable syndromes that has led to each of these diseases being recognized as a distinct and definite pathological state; and we cannot doubt that there are still not a few morbid states which escape distinctive recognition because their symptoms closely resemble those of diseases of common occurrence.

The present case clearly presents the characters of the condition known as syringomyelia, though it is exceptional in departing in some of its features from the commonly-accepted type of the disease. Here I think it will be best for me to put before you briefly what is known of the morbid anatomy and pathology of this interesting affection. Cavities of various kinds are met with in the spinal cord as in other parts of the central nervous system. Thus a haemorrhage, instead of becoming absorbed, may remain as a cyst or haematoma, and there may be a dilatation of the central canal of the cord as there may be of the ventricles of the brain, constituting a hydromyelia. The nature of the cavities in syringomyelia is not thoroughly determined, but the trend of opinion is towards the view that they originate in a gliomatosis, or overgrowth of the neuroglia, which undergoes liquefaction in its central parts, so as to form one or more cavities with smooth walls, and containing a clear or turbid fluid. The cavities are formed in the grey matter in the neighbourhood of the central canal, with which they sometimes communicate, and they spread in various directions in the deeper parts of the cord, which may, in extreme cases, be converted throughout part of its length into an elongated cyst, so much of the nervous tissue as survives being crushed together in its walls. The change generally begins and is most advanced in the cervical region, but in exceptional cases, of which the present appears to be one, the brunt of the disease falls upon the lumbar enlargement.

The essential facts in the case of the patient I now show you are as follows:

J. B., a labourer, 54 years of age, began to suffer fifteen years ago from trouble about the feet which made walking difficult. Attacks of this kind recurred from time to time until they became continuous. The toes became strongly and permanently flexed and otherwise deformed, and six years ago some of the smaller ones on the right foot were amputated by a surgeon, but without any material benefit to the patient.

At the present time his condition is as follows: The general appearance is that of health, and the thoracic and abdominal organs are sound. The limbs, however, present several important departures from the normal.

Motor.—There is complete paralysis, with wasting, of the anterior tibial muscles, resulting foot-drop and flexion of the toes. A characteristic difficulty in walking results, the feet being raised too high and kept wide apart to enable the toes to clear the ground. The defect in walking is increased by the existence of extreme flexion at the first interphalangeal joint of the smaller toes, apparently due to shortening of the flexors. In the hands there is no obvious paralysis, but there is a similar deformity of the fingers due apparently to shortening of the flexor profundus digitorum.

Reflex.—There is complete absence of the patellar and plantar reflexes.

Trophic.—As already stated, certain muscles are wasted. There is also marked change in the nutrition of the skin. When first admitted to hospital there were numerous small ulcers, apparently painless, on the lower part of the legs and the feet and a purpuric eruption on the feet. These have healed to a considerable extent, but can still be recognized. A corn on one of the toes has ulcerated since he has been in bed in hospital.

Sensory.—Here the most characteristic changes are observed. In the region corresponding to the fourth and fifth lumbar and first sacral segments, that is, approximately, the whole of the legs below the knees, the sense of pain is almost gone. The prick of a pin causes little or no pain; but the slightest touch is felt and correctly located. Throughout the same region the ability to distinguish heat and cold is quite lost, a test tube containing iced water touching the skin cannot be distinguished from one containing warm water. In the hands the only alteration of sensibility is some confusion of hot and cold sensations in the right middle and ring fingers.

The sphincters are normal.

The paralytic and other symptoms are somewhat more marked on the left than on the right side.

It will be noticed that the clinical picture, while pointing to some profound change in the nervous system, does not conform to that of any of the commoner affections. It bears some resemblance to multiple neuritis and to locomotor ataxy, but differs from both in certain essential points. In neuritis the progress would be more rapid and the disease would not last so long, there would be tenderness of the nerve trunks and muscles, and above all there would be no dissociated anaesthesia. Anaesthesia there might be, but all forms of sensibility would be pretty equally affected.

From locomotor ataxy the case is distinguished sharply by the presence of paralysis and wasting of muscles, a distinction which is confirmed by the absence of inco-ordination, of pain, of visceral symptoms, and of tachycardia. In this connexion I should like to draw attention to what I consider the extreme importance of permanent acceleration of the pulse in the diagnosis of early cases of locomotor ataxy. I have at present five cases of locomotor ataxy, in various stages of development, in my wards, and in all of them the pulse is persistently accelerated, being generally about 100 per minute, sometimes considerably higher. In the present case the pulse is usually between 60 and 70.

We will now consider the grounds on which is based the opinion that the case is one of syringomyelia.

Authorities are agreed that the characteristic indication of syringomyelia is the presence of a complexus

of symptoms, all of which are present in this case—symptoms which may be found independently in other morbid conditions, but which experience proves are never found in combination in any other disease. These symptoms are three—namely, loss of certain sensations, while others are retained; the presence of paralysis, with wasting of muscles; and trophic changes in the skin and other structures. Of these the most characteristic symptom, taken by itself, is the partial loss of sensibility—the "dissociated anaesthesia" of Charcot. Normally, we are conscious of three kinds of sensation in the skin—sensation of pain, of touch, and of temperature. In most conditions of impaired sensation all these kinds of sensibility are lost in about the same proportion, but in syringomyelia it is otherwise. In this disease the sense of touch is generally normal in every respect, but the sense of pain and the power of distinguishing hot and cold objects in contact with the skin are more or less completely lost. This peculiar dissociation of sensation is not easy to explain; but in view of the pathological anatomy of syringomyelia, its occurrence lends colour to the hypothesis that the paths of the different kinds of sensation in the cord are not the same, and that sensations of pain and of temperature pass through the grey matter. The distribution of the anaesthesia corresponds to the segments of the spinal cord affected, and does not, as in the case of peripheral neuritis, correspond to the distribution of the sensory nerves. In consequence of the loss of sensibility serious injuries may be unnoticed by the patient, and to this some of the trophic changes are doubtless due.

The distribution and nature of the muscular paralysis are such as we might infer from what we know of the morbid anatomy. If the lesion is in the cervical enlargement, there will be paralysis, with wasting of the muscles of the upper extremity, corresponding to the spinal segments involved, and the muscles of the trunk and even of the lower extremity may suffer in succession. More common is it to find the lower limbs indirectly involved from pressure on the pyramidal tracts, there being no wasting, but spasticity of the muscles with exaggerated reflexes. A case of this kind might readily be mistaken for progressive muscular atrophy. When, however, as in the present case, the lesion is chiefly located in the lumbar enlargement, there is simply more or less paralysis of the muscles, with atrophy, loss of reflexes, and degradation or abolition of electrical response.

The nutritional disturbances in the limbs are of various kinds and may affect any of their structures. In the present case the smaller toes are much deformed, apparently from shortening of the flexor tendons and disorganization of some of the joints, there is an indolent ulcer on the sole of the foot, reminding us of perforating ulcer, there are multiple ulcers on the leg, and a purpuric eruption on the feet. The stiffness and flexion of the fingers is, I feel sure, one of the manifestations of the spinal cord affection, though I do not find that such a condition has been previously described in this disease. A painless disorganization of the larger joints, like that described by Charcot in locomotor ataxy, has been met with in some cases, and painless fractures have been described. The present case is exceptional in the advanced age of the patient, as well as in the locality affected. Though cases are occasionally seen late in life, the great majority of those recorded have been in patients under 40.

The progress of the disease is commonly, as in the present case, exceedingly slow. It may spread upwards to the medulla oblongata and so prove fatal, but as a rule it does not directly tend to shorten life.

The treatment must be symptomatic and palliative, since we have no means of influencing the processes at work in the spinal cord. It is thus on the same lines as the treatment of the commoner degenerations of the spinal cord. The absence of pain calls for vigilance on the part of the practitioner, since the patient, feeling no discomfort, may take no notice of more or less serious injuries, with the result that troublesome ulceration may arise and be the source of various forms of septic infection.

BEQUESTS TO MEDICAL CHARITIES.—Under the will of the late Mr. Charles William Curtis, of Kearsney Abbey, near Dover, which has now been proved, the Brompton Consumption Hospital, the Cambridge Asylum, the Convalescent Home at Walton-on-the-Naze, the Victoria Hospital for Children, the Dover Hospital, the Margate Seaside Hospital, the Ramsgate Seaman's Infirmary, King's College Hospital, and the Savernake Cottage Hospital, each receive a sum of £100.

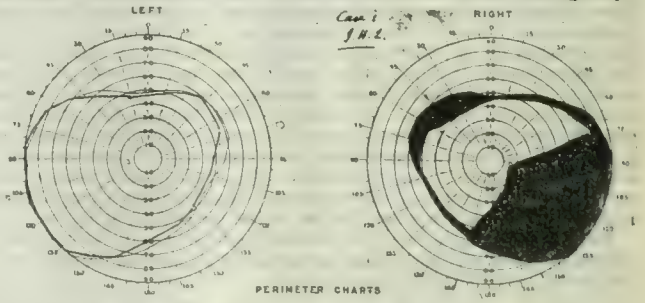
INDIRECT INJURIES OF THE OPTIC NERVE.*

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CASES of loss of vision in one or both eyes following blows or falls on the head have been recorded by several observers. As a rule the loss of sight is complete in or one both eyes, and though Nettleship says it may be incomplete I can find no detailed record of such cases. Apart from their apparent rarity the following cases are of interest in that they seem to show that a special type of incomplete unilateral blindness is apt to result from blows in the region of the external angular process of the frontal bone.

CASE I.

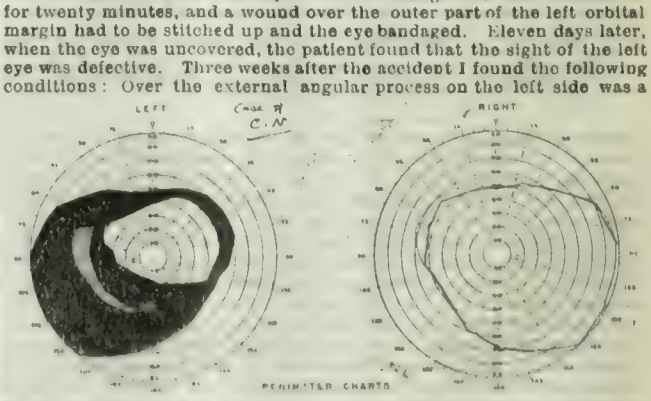
J.H.L. was thrown from his bicycle whilst quietly riding in town. In falling his head struck the curbstone. The blow was not forcible enough to cause anything beyond a momentary dizziness and a bruise of the outer part of the right eyebrow, and he was able to continue his ride home. He consulted me ten days later owing to the fact that he had noticed that the sight in the right eye had not been quite so good since the accident. I found the following conditions on examination: Right eyelids slightly ecchymosed and a small triangular patch of subconjunctive ecchymosis on the outer side of the right eye.



The right pupil was slightly larger than the left, and not quite so active to light. The fundus showed nothing abnormal, beyond, perhaps, a slight fullness of the veins and arteries. There was 3° of hyperphoria. R.V.=$\frac{6}{18}$ not improved by glasses. Colour vision was slightly impaired—all colours, though recognizable, appearing paler than they did with the left eye. The greater part of the right field of vision was wanting on the temporal side, and there was a slight contraction (about 10°) on the nasal side (vide chart). The left eye was normal. Field full. L.V. = $\frac{6}{6}$. A year later the visual fields were practically the same. The right optic disc was decidedly pale, and the retinal arteries were slightly contracted. R.V. = $\frac{6}{9}$; L.V. = $\frac{6}{6}$.

CASE II.

C. N. was thrown off his bicycle whilst racing. He was unconscious for twenty minutes, and a wound over the outer part of the left orbital margin had to be stitched up and the eye bandaged. Eleven days later, when the eye was uncovered, the patient found that the sight of the left eye was defective. Three weeks after the accident I found the following conditions: Over the external angular process on the left side was a



scar which indicated the site of the wound. The left eye was normal to all appearances except for a slight dilatation and sluggishness of the pupil. The greater part of the temporal field was lost, and there was a slight contraction on the nasal side (see chart). L.V.=$\frac{6}{6}$. The right eye was normal except for a pre-existing myopic astigmatism. Visual field full.

R.V.=$\frac{6}{12}$ 7 D. sph.
1·5 D. cyl 150°

A year later the left optic disc was markedly pale and the retinal arteries were contracted. The visual field was as above, except that there was a comma shaped area in the blind temporal field, in which the test object could be indifferently seen (shaded area in chart). Possibly this had been overlooked in the previous examination. L.V.=$\frac{6}{12}$.

*Abstracted from a paper read before the Central Division, Birmingham Branch, British Medical Association, January, 1905.

Case III.

(For notes of this case I am indebted to Mr. Lloyd-Owen.)

E. S. was thrown off his bicycle and received a slight wound in the region of the left external angular process. He was unconscious for about an hour. Three months later his left vision was little more than perception of light, and that only on the nasal side. The temporal field was lost up to the point of fixation. The optic disc was atrophic, and the retinal arteries smaller than those on the right side.

The right eye was normal and field of vision full.

Case IV.

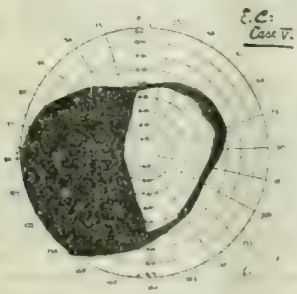
H. A. fell off his bicycle and struck his right temple. Six months later his condition was as follows:

Right eye: Atrophy of the optic nerve, with some narrowing of the retinal arteries. Visual field contracted to within 10° of the fixation point on the temporal side. R.V. = $\frac{6}{6}$ + .50 D.

Left eye: Normal; field of vision full. L.V. = $\frac{6}{6}$ + .50 D.

Case V.

E. C., a miner, was struck by a "coal tub" on the left side of forehead and face one month before his admission to the Birmingham Eye Hospital. There was no loss of consciousness; there was some bleeding from each nostril, and the left eye was hidden by swollen and ecchymosed eyelids. Four days later, when the swelling had subsided and he was able to open the lids, he found that the sight of the left eye was defective. On admission there was a large scar involving the outer third of the left eyebrow, and with two other smaller scars, one at the junction of the outer and middle third of the inferior orbital margin and the other on the left side of the bridge of the nose, showed the extent of the injury. The left pupil was very slightly larger than the right, and its reaction to light was very sluggish, but its associated and consensual reflexes were good. There was no interference with the motility of the eye. The optic disc was pale, the pallor being more decided on the temporal side. The temporal field was lost up to within 10 deg. of the point of fixation (vide chart). L.V. = Fingers at 2 metres. The



right pupil was somewhat dilated (about 10 mm. in dull daylight). The direct and associated reflexes were brisk, but the consensual reflex was deficient. The visual field was normal. R.V. = $\frac{6}{6}$. This case being a recent one, is still under observation.

The sequence of events in these cases was as follows:

1. A more or less severe blow in the region of the external angular process of the frontal bone.
2. Sudden impairment of vision on the side of injury.
3. Loss of the greater part of the temporal field of vision on the same side.
4. Absence of ophthalmoscopic changes for the first few weeks, followed by atrophy of the nerve head on the injured side.
5. Central vision may be almost completely restored, but the limitation in the field of vision remains practically and permanently the same.

The nature of the lesion in these cases is very problematical.

The following may be mentioned as possible causes of such changes:

1. Fracture extending through the optic foramen.
2. Laceration of the nerve by a detached and displaced anterior clinoid process or some other spicule of bone.
3. Haemorrhage into the sheath or substance of the optic nerve.
4. A limited contusion of the optic nerve.

I believe it is usual to ascribe unilateral amaurosis resulting from blows on the head to fracture involving the optic foramen. It is hardly conceivable that such a fracture could have occurred in the cases recorded here. The injuries were all comparatively slight, and, judging from some experiments which I have made on the cadaver, quite inadequate to produce a fracture of the optic ring. Notwithstanding the high percentage of fractures involving the optic foramen recorded by von Hölder and others, I am convinced that it is exceptional to find such fractures in the pathological museums in England. Fracture of the ring would presumably cause blindness by laceration of the fibres by the displaced bone or loss of function in the nerve by pressure of displaced bone or callus. In either case the interference with the nerve function would be greater and more variable than that recorded in the above cases. Further, it is not likely that the ophthalmic artery would escape injury in cases of fracture of the optic ring, and evidence of disturbed circulation would probably be visible in the eye and orbit. A fractured and displaced anterior clinoid process would be more likely to lacerate or compress the temporal rather than the nasal fibres, and perhaps more likely to affect one of the optic tracts than one of the optic nerves.

Haemorrhage into the sheath or substance of the optic nerve is a very likely cause of complete amaurosis following blows on the head. In two cases of extensive fractures of the skull examined by Uhthoff haemorrhagic neuroretinitis was found ophthalmoscopically, and *post mortem* the nerve sheaths were found distended with blood, though there was no fracture of the bony optic foramen. Such a haemorrhage would not remain localized to one side of the nerve, and, should the amaurosis not be complete and permanent, the signs and symptoms would vary as the blood became absorbed and the undestroyed fibres resumed their function.

We are therefore forced to the conclusion that, in the cases recorded here, the lesion must be one of limited contusion of the nasal fibres of the optic nerve by *contrecoup*. The nerve on the side of the injury is driven against the inner boundary of the optic foramen, whilst the nerve on the opposite side is driven against the outer wall of its foramen. That the nerve on the opposite side does not get bruised is in the main due to the protection given to it by the opthalmic artery which winds round its outer side from below.

Assuming such an immediate cause for the symptoms mentioned, the course and prognosis of the cases can easily be deduced. A certain number of fibres are permanently destroyed (functionally) at the time of the accident. The more centrally-placed fibres are not so extensively damaged and partly recover their function, as shown by the improvement in central vision. The atrophy of the nerve is apparently not progressive and no increase in the limitation of the field need be feared.

Generally speaking, we may expect a considerable improvement of central vision in those cases in which there is a fair central vision immediately after the accident, but little or no change for the better or for worse in the field of vision.

These cases should be treated on the plan adopted for concussion of the brain—that is, rest and quiet in a darkened room, light diet, and aperients for a week or two, and avoidance of work and mental excitement for a further period of two or three weeks.

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THE SUBSTITUTE FEEDING IN INFANTS.*

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The diet of all young mammals is milk, and the constituents of which all milks are composed, though varying in percentage strength, are practically the same. Milk is an emulsion of fat containing solids in solution, and is composed of proteid, fats, sugars, salts, and water. It is sterile, and has of course the temperature of the human body. Its average composition varies only within narrow limits, and is readily determined.

Any food, therefore, we prescribe to take the place of the natural mother's milk should as nearly as possible have its composition and properties. Any foods not conforming to this standard must be rejected.

The composition of human milk may be taken to be as follows:

1. Proteid, 1·5 per cent.:
   Composed of:
   - (*a*) Lactalbumen (0·8 to 1 per cent.), soluble form of albumen not curdled by acids coagulating 165° F.
   - (*b*) Caseinogen (0·4 per cent.), insoluble form of albumen; forms a thick curd with rennin and acids; not coagulated by heat.
   - (*c*) Lactoglobulin, soluble, only a trace.
   - (*d*) Nitrogenous extractives.

* Read before the West Hants and Dorset Branch of the British Medical Association at Blandford on May 17th, 1905.

2. Fat (4 per cent.) in emulsion.
3. Sugar (7 per cent.).
4. Salts (2 per cent.).
5. Water (87 to 88 per cent.).

Human milk is alkaline and sterile, its temperature that of the human body (roughly just under 100° F.): its specific gravity fairly constant at 103°, and it is antiscorbutic.

It is not definitely known what the particular property of living food which prevents scurvy may be. Some have thought the absence of certain combinations of potassium salts, others the presence of some poison of the nature of a ptomaine in artificially-prepared foods. Certain it is that fresh foods prevent and artificially-prepared foods frequently cause scurvy, and this fact must be steadily borne in mind.

Before proceeding further let us examine the result of excess or deficiency of each of the foregoing classes of food on the infant.

A. *Proteid.*—Excess: Constipated: dyspepsia; motions dry, hard, and friable. Child restless, irritable. Urticarial and papular eruptions. Urine acid and micturition frequent. A pink stain of urates on napkin. Deficiency: Interrupted growth. Child pale, flabby, feeble, soft muscles; want of vigour.

B. *Fat.*—Excess: Sickness immediately following feed. Diarrhœa with loose acid stools of a bright golden colour, which irritate buttocks and cause eczema. Deficiency: Constipation. Anæmia. Want of energy. Later deficient formation of bone. Rickets.

C. *Sugar.*—Excess: Large, heavy, flabby child. Pale and anæmic. Want of fat is commonly associated in patent foods with excess of sugar, and rickets results. Deficiency: Infant poor and thin. Want of bodily heat and vitality.

Mineral Salts.—Important, as probably there is no cell life without earthy phosphates. Excess of lime salts constipating.

Destruction of the freshness of food, as in prolonged and careful sterilization, leads to scurvy.

Fat is present in all milks; both cows' and human milk contain a large and stable proportion of it (4 per cent.). Landois and Sterling (vol. i, p. 481) give the following estimate of the fat requirement of a working man, wife, and child:

1. Child under 1½ years of age	...	30 to 45 grms. daily.
2. Adult woman, moderate work	...	44 grms.
3. Adult man in work	...	56 grms.

From this table we arrive at the startling conclusion that a baby requires almost as much fat as its mother, and two-thirds as much as its father doing his daily work.

This remarkable effect of fat on young animals is well illustrated by the following interesting story, concerning the difficulty experienced until recently in bringing up the young of animals born in the Zoological Gardens: Owing to the unnatural life and surroundings, the mother frequently failed to suckle her offspring. These were then fed on the same variety of food as their parents. Thus the young lions were given lean horseflesh; young bears, biscuits and rice; monkeys, fruits and bananas. All these foods being deficient in fat, all these young animals, irrespective of species, became weak, rickety, and died. On one occasion, after the death of the first of a promising litter of lion cubs, it being quite evident that the others were rapidly following in his footsteps, Mr. Bland-Sutton was consulted. Recognizing the disease to be rickets, and putting his finger on the weak spot in the diet, he suggested that the meat should be continued as before, and that the surroundings should remain *in statu quo*, but that the cubs should daily get an addition of milk, cod-liver oil, and pounded bones. In three months all signs of disease had disappeared.

Rickets can be brought on by a rachitic and cured by an antirachitic, as certainly as scurvy can be caused by a scorbutic and cured by an antiscorbutic diet.

It is to be noted that human milk does not contain starch, and the diastatic ferment is not present in the submaxillary glands or pancreas at all until two months. There is a small amount secreted during the eruption of the teeth, but the function is not properly established until a year old. We must therefore conclude that the infant has *no* capacity for digesting starch until six months, that it does so then only in small quantity and imperfectly, and that starch is an entirely unsuitable and improper addition to an infant's food during the first six months, and must be given sparingly and with caution any time in the first year.

It is universally acknowledged that breast feeding is the best method of rearing an infant and should invariably be carried out when possible. In the event, however, of its not being possible let us examine the alternatives. They are:

1. *Substitute Feeding*:
   (*a*) Wet nursing.
   (*b*) Humanized or modified cow's milk.
2. *Artificial Feeding*, or feeding on one of the many manufactured and well-advertised so-called infant foods.

Feeding on Artificial Foods.

There is no time to go largely into this subject, but I think in an hour any of you would be able by investigating the composition of the various proprietary foods to satisfy yourselves that all artificially-manufactured foods as a class are bad; that they do not conform to the scheme we have derived from the analysis of a child's natural food; that, in short, they cause weakness and debility, almost invariably rickets, sometimes scurvy-rickets, and pave the way for deformity, disease, and death.

Proprietary foods are a cloak for ignorance being sufficiently advertised to be in every one's mind. They are also readily obtained and prepared for use, are fairly cheap and being largely formed of sugar can often be assimilated when more proper foods would be rejected. They have one advantage. They are sterile. The damage done by them is so enormous, so many promising young lives are either lost or spoiled by them, so widely can the effect of their use be traced in the want of physique and stamina of the rising generation, that I would urge the medical profession to take this subject up more thoroughly. To sum up the question of feeding on proprietary foods they are inadmissible on the following grounds:

1. They are all deficient in fat, one of the most essential elements of an infant's food.
2. They are not antiscorbutic.
3. They contain as a class too much sugar.
4. They mostly contain foreign elements: Starch, maltose, cane sugar, etc.

Wet Nursing.

Wet nursing is the substitution of one mother's milk for another. It is, with our present facilities for modifying cow's milk, in my opinion seldom or never justifiable. I would reject it on the following grounds:

1. It is inaccurate. The milk of one mother does not necessarily suit the child of another, and although analysis is possible it is not practicable, and we have little chance of modifying the supply to suit our requirements.
2. It is inconvenient, upsets the house. Domestic difficulties are great and misconduct frequent.
3. I know of no examination, however careful and thorough, which will exclude the presence of syphilis in a woman.

Feeding by artificially-prepared proprietary foods being inadmissible and wet nursing inadvisable, we must look round for the milk of some other animal which we can modify to meet our requirements.

Cow's Milk.

Cow's milk is the best, being easily obtained, fairly constant in composition, and containing all the necessary constituents, although not in suitable form and proportion without modification.

Comparison of human and cow's milk:

	Human Milk.	Cow's Milk.
Water	87-88 ...	... 87-88
Solids	12-13 ...	... 12-13
Proteid	1.5 ...	... 3-5·4
	(Caseinogen, 0.4; lactalbumen, 1.0; lactoglobulin, trace; nitrogenous extractives, 0.6)	(Caseinogen, 3.0-3.5; lactalbumen, 0.4; nitrogenous extractives, 0.7.)
Fat	4 ...	... 4
Sugar	7 ...	... 4·5
Salts	0.2 ...	... 0.6
Reaction	Alkaline ...	... Acid on delivery.
Micro-organisms... ...	Sterile ...	... Teeming on delivery.
Coagulation by acid ...	Slight ...	... Firm clot.
Coagulation by Rennet...	None ...	... Firm clot (junket).

	Cow's Milk.			Human Milk.	
	Caseinogen.	Lactalbumen.		Caseinogen.	Lactalbumen.
König	2.88	0.53	König ...	0.59	1.23
	1.01	0.75		0.61	1.41
Wynter Blyth...	1.88	0.77	Hirt ...	0.64	1.5
Hoppe-Seyler ...	3 to 4	0.3 to 0.7			

The proteid of cow's milk precipitated by gastric juice is less easily dissolved than that of human milk. It is harder and firmer. By diluting cow's milk with water four or five times, the curd obtained on the addition of acetic acid resembles that obtained from human milk treated in the same way. Diluting cow's milk with barley water made thinly, with whey, with a mixture of water and lime water, all tend to give a finer precipitate on the addition of acetic acid.

These facts can be demonstrated in a few minutes with a little cow's and human milk, some lime water, plain water, barley water, and whey. By mixing and diluting in varying proportions and varying ways in half a dozen watch glasses standard mixtures of human milk, cow's milk diluted once, twice, thrice, etc., with water, lime water, and whey and adding a few drops of acetic acid to each glass a precipitate varying in heaviness is thrown down. A comparison of the thickness of curd of the various mixtures is best demonstrated by running a thin layer on ordinary brown paper.

In modifications, therefore, we must remember that the total proteid content of cow's milk is more than twice that of human milk; that this content is made up of an indigestible part, caseinogen, liable to be precipitated in the stomach in a heavy curd, and a more easily digestible part, lactalbumen; and that in cow's milk there is about five times more of the indigestible than the digestible variety, while in human milk the opposite obtains in the proportion of two to one. From this it follows that in diluting cow's milk for the purpose of rendering the proteid of the same strength as human milk, it will be well to keep rather under than over the 1.5 per cent. proteid, and that in weakly children it may be necessary to go as low as 1 per cent. or 0.5 per cent. Should this not be advisable or sufficient we must resort to splitting up the two varieties of proteid and removing excess of the indigestible caseinogen.

The fat globules are smaller in human than cow's milk, and this makes the fat rather more difficult to digest in the latter. Cow's milk contains more salt and less sugar than human milk. There is no evidence that the latter is not the same chemically and physiologically in the two secretions.

We must conclude, therefore, from a comparison of our standard analyses that cow's milk must be diluted at least with an equal part of water, and sometimes with two or three, and even four, times the volume of cow's milk used.

Results of Dilution.

	Human.	Cow's.	Cow's Milk and Water Equal.	Cow's Milk 1, Water 2.	Cow's Milk 1, Water 3.
Proteid ...	1.5	3 5-4	2.00	1.33	1.00
Fat... ...	4.0	4.0	2.00	1.33	1.00
Sugar ...	7.0	4.5	2.25	1.50	1.10
Salts ...	0.2	0.6	0.30	0.20	0.15

The addition of fat is usually effected either by adding a certain amount of a separated and standardized cream, or by allowing milk to stand one, two, three or four hours and using a varying amount of the top portion called cream milk. All the big dairies sell standardized separated creams of which 16 per cent. cream is the most handy and easily obtained.

Holt gives the following table showing the composition of standardized creams:

Composition of Creams.

	Whole Milk.	8 Per Cent. Cream.	12 Per Cent.	16 Per Cent.	20 Per Cent.	40 Per Cent.
Proteid	3.5	3 4	3.30	3.2	3.00	2.20
Fat	4.0	8.0	12.00	16.0	20 00	40.00
Sugar	4.5	4.5	4.20	4.0	3 90	3.00
Salt	0.7	0.7	0.65	0.6	0.55	0.45

The advantages of separated creams are that: (1) They have a standard strength which can be depended upon. (2) They are fresher than gravity cream. (3) Hairs, manure, and other foreign bodies are removed.

It has been urged against them that the separator breaks up the fat globules causing them to run together into masses difficult to digest, and that they cannot so readily and completely be mixed with milk as can gravity cream. In practice it will be found that they mix evenly and satisfactorily with milk and their freshness is a great advantage. In small towns, however, separated creams are not always to be obtained, and in the country almost never.

Gärtner has devised a simple method of preparing a substitute for human milk from cow's milk. A quantity of milk is mixed with an equal quantity of sterilized water and placed in a separator arranged to revolve so that the two outgoing streams are equal. The result is separation into two portions, a cream milk and a skim milk portion. His analysis is as follows:

	Proteid.	Fat.
Original milk	3.6	3.50
Diluted half	1.8	1.75
After separation (cream milk)	1.8	3.30
" " (skim milk)	1.8	0.20

Cautley devised the following mixture and used it with good results at the Belgrave Hospital for Children.

Take an equal quantity of cow's milk and 9 per cent. solution of lactose. These are placed in a separator revolving so that the two outgoing streams are equal. Separation into cream and skim portion.

Percentage composition is as follows:

	Original Cow's Milk.	Separated.	
		Cream Portion.	Skim Portion.
Proteid	4.0	2.00	2.0
Fat...	3.7	3.50	0.2
Sugar	4.4	6.70	6.7
Salts	0.7	0.35	3.5

The Above Method Modified for Home Use.

1. Take a pint of good fresh milk.
2. Add a pint 9 per cent. solution of lactose.
3. Strain.
4. Allow to stand one hour in summer; two hours in winter. This should be in a vessel with a tap allowing lower half to be drawn off.
5. Draw off lower half, what remains will resemble in composition human milk.
6. It must be rendered alkaline and sterilized.

N.B.—Lactose readily decomposes, in which case the dilution may be effected by sterilized water, and lactose subsequently added.

Rotch used a tin measure to hold 3⅜ drachms milk sugar and made a mixture as follows:

		Composition.
20 per cent. cream	1½ oz.	P = 1.1
Milk	1 oz.	F = 4.0
Water	5 oz.	S = 6.2
Milk sugar	1 measure	S = 0.2

Boil or steam, and when cool add ½ oz. lime water.

Milk Prescription.

In places where there are big dairies and centrifugal cream of standard strength can be obtained, all the necessaries for humanizing milk are to hand, and a prescription written as below and sent to the dairy will bring round the required number of feeds of prescribed strength and heated to any temperature desired.

Example.

Caseinogen	0.4
Lactalbumen (whey proteid)	1.0
Fat	3.5
Lactose	0.7
Lime water	5.0

Heated to 150° F. Ten feeds, 3 oz.

This, of course, is an excellent method, but it is expensive, and not always available when required, except in certain large towns.

Cream Milk Mixtures.

Gravity cream milk is more generally applicable for home consumption, and although not so scientific or exact, is fairly accurate and a great advance on the simple diluted cow's milk with a lump of sugar added. The milk should come from a good dairy where all precautions are taken and the milk is cooled immediately after being drawn. A graduated porcelain or glass jar is also necessary with a stop-cock at the bottom to allow of the desired portions being withdrawn. The jar should be marked off into ½, ⅓, ¼, ⅕. If there is no covering the top may be closed with tissue paper

as jam is done down. Experiments made at the Walker Gordon Farm at Plainsboro' have established the fact that milk kept in a cool place for four hours separates by gravity as much as it does in eight or twelve hours. Two hours is sufficient to give good approximate results.

Holt gives the following percentages of cream after standing four hours: Upper fifth, 15 per cent. fat; upper fourth, 13 per cent. fat; upper third, 10 per cent. fat; upper half, 9 per cent. fat.

The same author gives the following table after standing four hours:

Upper one-third { Proteid, 3.3 per cent. / Fat, 10 per cent.
Upper half { Proteid, 3.3 per cent. / Fat, 7 per cent.

It is evident that here we have cream milks obtained by gravity and capable of easy modification to resemble the percentage composition of human milk.

For the first month an infant can rarely digest more than proteid of cow's milk 1 per cent., and will probably not be able to reach 2 per cent. until three months old. It will be necessary to dilute in the early weeks with at least two volumes of water, and such dilution as we have seen dangerously diminishes the proportion of fat and sugar which must be subsequently in some way added up to the required standard.

Humanized Cow's Milk.

To humanize cow's milk, therefore, we may deduce the following rules:

1. That dilution is necessary to rather below the percentage of proteid in human milk owing to the firm heavy coagulum and indigestibility of the caseinogen of cow's milk.
2. That caseinogen being in high proportion in cow's as compared with human milk, it is necessary in immature infants to diminish this proportion by removing the indigestible caseinogen in whole or part, leaving the soluble and more easily-digestible lactalbumen, or to diminish the quantity by predigestion (peptonization).
3. That this may be done by a combination of whey and cream mixtures.
4. That in diluted cow's milk mixtures fats and sugars are so far diminished that it becomes necessary to increase the fat by addition of cream and sugar by addition of lactose.
5. That acidity must be counteracted by the addition of an alkali.
6. Germs must be killed by heat.

What methods have we for overcoming this indigestibility of cow's milk proteid? They are two.

1. Removal of caseinogen by precipitation and straining. The result is whey, and the soluble lactalbumen remaining is commonly called whey proteid.
2. Partial or complete predigestion—peptonizing.

Whey is obtained by the action of rennin on separated milk. König, from an average of 46 analyses, gives its composition as—proteid 0.86, fat 0.32, sugar 4.79, salts 0.65, water 93.38. Hammersten gives the percentage of proteid as 0.86; White and Ladd as 1.

Whey Cream Mixtures.

By diluting cream with whey, cow's milk can be modified to resemble very closely human milk.

Whey dilutes the caseinogen of cow's milk and renders it more digestible. Whey-cream mixtures yield a fine flocculent precipitate. Fat forms a good emulsion with whey. It is probable that the whey-cream mixture is the best modification of cow's milk possible as an infant food. It should be noted that the rennin ferment is killed at 140° to 150° F. This must be borne in mind, and the ferment destroyed before adding milk, or precipitation occurs and the mixture is spoiled. The following is a simple whey-cream mixture which answers well:

1. Stand a pint of milk in the cool for three hours.
2. Separate the cream by skimming.
3. Divide the milk into two parts.
4. Add a small piece of rennet to one part and strain off the curds, when formed, leaving whey.
5. Heat the whey to destroy ferment in the sterilizing vessel, add the other half of milk and the cream.
6. Heat to temperature of 150° F.
7. Add milk sugar and lime water.

The advantages of whey-cream mixtures may be summarized as follows:

1. Thick curd of casein removed.
2. Soluble and easily-digested lactalbumen retained. This renders the mixture more like human milk.
3. Whey makes a good emulsion with fat.
4. Milk diluted with whey yields a finer curd than if water is used, and is of course much more nourishing.
5. In very sickly or feeble children whey can be used at first by itself, and small proportions of milk or cream slowly added.

Predigestion or Peptonization of Proteids.

This is another method of avoiding the thick, heavy, coagulum of cow's milk. By it the whole or part of the work done by the stomach in digesting proteid is artificially performed outside before the feed is introduced. Functions not used tend to become weakened and eventually atrophied, so that conceivably great harm might be done. If, however, the process of peptonization is only partial, the stomach gets sufficient exercise of function and the general system benefits by the increased amount of nutritive material it obtains.

Predigestion may be effected with pepsin and hydrochloric acid with sodium bicarbonate and a preparation of pancreatic juice.

Rotch's Method.

1. Into a clean glass jar put 4 oz. cold boiled water and 1 gram of sodium bicarbonate.
2. Add ½ gram extract. pancreatis.
3. Add milk XII.
4. Stand in a vessel of water at 107° F. for seven or ten minutes.
5. Cool at once and keep on ice.

The food thus prepared is only slightly different in colour and taste from ordinary milk, and is only partially peptonized. It gives a soft, fine, flocculent curd with acid. Every moment the process is allowed to go on there will be more peptone and less proteid, until the process becomes completed. In the latter case the milk is greyish in colour and disagreeably bitter. It also frequently causes diarrhoea and digestive disturbances. The peptonizing process is arrested by placing the milk on ice, but recommences on removal. It may be stopped and at the same time the milk sterilized by heating to 150° to 160° F. Each feed is best peptonized immediately before it is wanted.

The advantages of predigestion are:

1. It enables premature, weakly, and dyspeptic infants to take a food they might otherwise reject, and so throws a bridge across a dangerous chasm.
2. It may be used to assist and restore digestion.
3. The partial process gives a fine flocculent curd.
4. The process can be worked on a sliding scale, giving the stomach as much work as it can do, and at the same time building up the tissues with easily-assimilable food.

The disadvantages are:

1. It takes time, and requires intelligence on the part of nurse and mother.
2. Carried to excess it may impair the digestive function.
3. The food is scarcely so palatable, though infants get to like it.
4. Peptones are liable to cause diarrhoea.

As a stop-gap for a month or two it is invaluable.

GENERAL CONCLUSIONS.

I. That mother's milk is the only proper food for an infant, and should be used whenever available.

II. That all forms of proprietary foods are bad and to be avoided.

III. That wet nursing is rarely permissible.

IV. That the proper substitute food for an infant is some form of modified cow's milk.

Also the following special conclusions:

I. That the standard at which we aim in modifying cow's milk is the child's natural food mother's milk.

II. That careful attention must be paid to each of the constituents—proteid, fat, sugar, salts.

III. That the proteid of cow's milk is less digestible than that of human milk, and requires over-dilution compared with the standard.

IV. That the whole of this indigestible proteid (caseinogen) may be removed, leaving the more easily digestible proteid (lactalbumen) as in whey mixtures, or that the proteid content may be completely or partially peptonized.

V. That cow's milk diluted sufficiently to bring the proteid into line with the standard (that is, from 4 per cent. to 1.5 per cent.) is deficient in fat and sugar, and that these must be subsequently added.

VI. That fat may be added in the form of cream, either separated and of standard strength, or by using gravity creams.

VII. That lactose is the proper sugar to add.

VIII. That cow's milk, although neutral or alkaline when drawn, owing to its certain infection as at present obtained and to the rapid growth of germs it allows, becomes acid, and that this acidity must be neutralized by bicarbonate of soda or lime water.

IX. That human milk is sterile. From this it follows that

we should endeavour by all the means in our power to obtain a supply of sterile cow's milk, and that until this object can be attained—

X. Germs must be killed by some method. The handiest and most generally used being heat.

STERILIZATION.

Cow's milk, though sterile when drawn, soon becomes infected, and as delivered is full of micro-organisms. One authority states that London milk contains more organisms per c.cm. than its sewage.

The aim should be to deliver milk as nearly sterile as possible. Much we may hope will be accomplished in this direction in the future. Cattle should be kept in well built, drained and ventilated stalls. They should be as carefully groomed as a horse, and should be examined by the veterinary surgeon each month, any suspicious animals being at once isolated. The milkers should be made to wear overalls and to thoroughly cleanse their hands before milking; any sickness being immediately reported to a medical man. The water supply must be beyond suspicion and must be regularly analysed, and every care must be taken with the cleansing of all vessels used.

The milk should be cooled as soon as it is withdrawn. Most of the better dairies make some attempt to carry out these requirements, and by compensating freely for illness to man or beast make it advantageous to report anything of the sort. The limit to these precautions is at present the price of milk. We must take things as we find them, and acknowledging the probable presence of large numbers of organisms in any milk we are dealing with, do our best to destroy them. This process we have called sterilization, and to be effective, necessitates boiling for a prolonged period, at least one hour. This was the time adopted by Soxhlet, who introduced boiled milk. He noticed the following disadvantages following its use.

1. That some spores are not destroyed, even by such boiling, and that they may subsequently develop in such numbers as to make the milk dangerous.
2. That the taste becomes unpleasant.
3. Causes constipation.
4. That the soluble albumen (lactalbumen) coagulates at about 160° F., and is lost if removed.
5. That casein is rendered less digestible and is acted on more slowly by pepsin and trypsin.
6. That a harmful change results in the calcium salts.
7. That milk boiled has lost its antiscorbutic properties, and babies fed on it may develop scurvy. Cheadle, who is strongly in favour of boiling milk, admits that many such cases have come under his care and knowledge.
8. It is found that fat is less digestible in boiled than in unboiled milk.

Boiling milk, therefore, as a means of sterilization may not in every case be effective, and frequently does produce untoward effects. The question now naturally presents itself—Have we any alternative? We recognize that milk contains numbers of organisms; that these are injurious and must be got rid of or killed.

To sterilize milk completely and certainly it must be boiled more than once for at least an hour. Such prolonged boiling has many serious disadvantages, but in practical feeding we may strike a mean combining as many advantages with as few disadvantages as possible. This mean is generally accepted to be 70° C. (158° F.), kept up for thirty minutes, the process being known as pasteurization. Pasteurization is a loose term, both as regards time and temperature, and in writing a milk prescription in giving directions these should be specified:—Holt considers it to be 167° F.; Freeman considers it to be 155° F.; Leeds considers it to be 157° F.; Vincent considers it to be 150° F.

The advantages of pasteurization are: (1) That micro-organisms are destroyed and rendered harmless; (2) fermentation is stopped; (3) lactalbumen is not coagulated; commences at 161° F.; (4) chemically the milk is little changed; (5) the risks of transmission of disease are reduced to a minimum; (6) it is not so likely to produce scurvy, though Holt says the feeding on milk raised to 167° F. for thirty minutes has done so. Rapid cooling is part of this system, and little chemical change in the milk is said to result.

To our previous conclusions we may add the following, therefore:

1. That some attempt must be made to kill germs always present in large quantities in milk.
2. That boiling does this most effectually and rapidly, is much the easier method, and, in the hands of the poor, often the only method available, but that certain injurious changes result, to be avoided if possible.
3. That these changes can best be avoided at 70° C. (158° F.) for half an hour (pasteurization).
4. That all infants' food should therefore undergo this process when possible.

THE INCREASE IN THE CONSUMPTION OF ANIMAL FOOD:

A SURVEY OF THE PAST FIFTY YEARS.

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THE question of physical inefficiency or physical deterioration is one which is occupying a prominent place in the minds of medical men at the present time. This subject has recently been investigated by a Departmental Commission, which arrived at the general conclusion that the available facts hardly warrant a definite statement as to the existence of a progressive deterioration in the physique of the nation. The only definite conclusion arrived at was the existence of a deterioration in the teeth of the younger generation. With regard to the general question, there is probably a widespread opinion among medical men that any deterioration which may be proved to exist has a direct relation to the alterations in the dietetic habits of the country in the present and past generations. This point was suggested to the Commission in the remit from the Royal College of Physicians of London, who, in their reply to the official invitation to take part in the investigation, pointed out that, among other factors demanding investigation, the question of the altered diet of the country took a prominent place. This subject does not, however, appear to have been very particularly investigated. The only evidence bearing directly on it was led by Drs. Haig and Hutchison. Dr. Haig pointed out that there had been a great increase in the consumption of meat in recent years, and expressed the opinion that the influence of this increase had been unfavourable to the race. Dr. Hutchison, on the other hand, expressed the opinion that the deficient use of nitrogenous foods at the growing periods of life—especially 10 to 15 years of age—was an important factor in the general malnutrition. It does not appear that any facts were elicited in favour of either view. A study of the available data proves conclusively that in the last fifty years there has been an enormous increase in the consumption of animal food (meat). This is proved by the following figures taken from the Blue Books. By way of introduction, a few words may be said on a cognate subject—namely, the geographical distribution of disease.

The difficulties attendant on the collection of reliable statistics on the geographical distribution of disease almost preclude any definite statement on this point. We have, for the most part, to be content with the general impressions of medical practitioners who have had extensive experience of disease in countries in which the dietetic habits are profoundly different from those prevailing in this country. To illustrate. The writer has been told by more than one practitioner of large experience in medical work in India that appendicitis is almost unknown among the natives of those districts in which the staple article of food is rice; similarly, that chlorosis is extremely rare.

On the other hand, some diseases which are comparatively rare in this country, are much more prevalent in that part of the world, for example, osteomalacia and diabetes. A short time ago a friend of the writer informed him that, as the result of six years' work as a medical missionary, she must have seen and treated over a hundred cases of the former disease; and for the prevalence of diabetes we have the authority of Dr. Crombie, who has suggested that diabetes might appropriately be called the gout of India. These facts are suggestive. They constitute strong evidence in favour of the importance of an experimental inquiry adapted to prove the existence or non-existence of an important relationship between the diet of a country and its prevalent diseases. If it could be shown that there is an important relationship between the diet of the natives of India and the diseases referred to, it is reasonable to think that diet may play an important part in the incidence of other diseases of a more acute nature. In this connexion it is of interest to note that a recent writer in the *Lancet* has suggested that the relative immunity to typhoid fever in the Japanese army may partly

be accounted for by the nature of the Japanese dietary. If it be proved that there is an important relationship between the diet of a country and the prevalence of certain diseases we might safely conclude that, in a country in which an important alteration in diet is taking place, there must of necessity be a concurrent evolution in disease. As already stated, my main object in this paper is to submit evidence which proves that a very remarkable change has taken place in the dietetic habits of the people of the British Isles in the past fifty years. In a later paper I hope to submit some highly-suggestive facts bearing on the question of evolution in disease.

The Amount of Animal Food (Meat) Consumed per Head per Annum.

A study of the Blue Books shows that there have been several important changes in the diet of the country in the past fifty years. The two most striking are, in order, an increase in the consumption of meat and an increase in the food-stuffs classified under the heading—confectionery and succades. Attention is here more particularly directed to the consumption of animal foods.

Table I.—*Meat Imports in the Last Fifty Years.*

—	1853.	1863.	1873.	1883.	1893.	1903.
	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.
Bacon and Hams	205,667	1,877,813	2,987,229	3,695,992	4,187,298	6,298,320
Beef	183,285	288,369	269,554	1,094,008	2,008,565	4,805,913
Fish	200,455	238,713	718,174	1,295,754	2,319,838	2,161,462
Meat, Salted or Fresh	—	—	79,841	272,849	*2,149,009	663,261
Preserved, other than Salted ...	—	—	260,749	610,400	590,800	245,794
Mutton...	—	—	—	—	—	4,065,776
Pork	152,731	170,751	289,695	376,899	368,992	943,418
Totals, Cwts....	742,138	2,575,646	4,596,242	7,345,902	11,624,502	19,183,944
Population (Millions)...	27.5	29.3	32.1	35.4	38.4	42.3

*This figure presumably includes mutton.

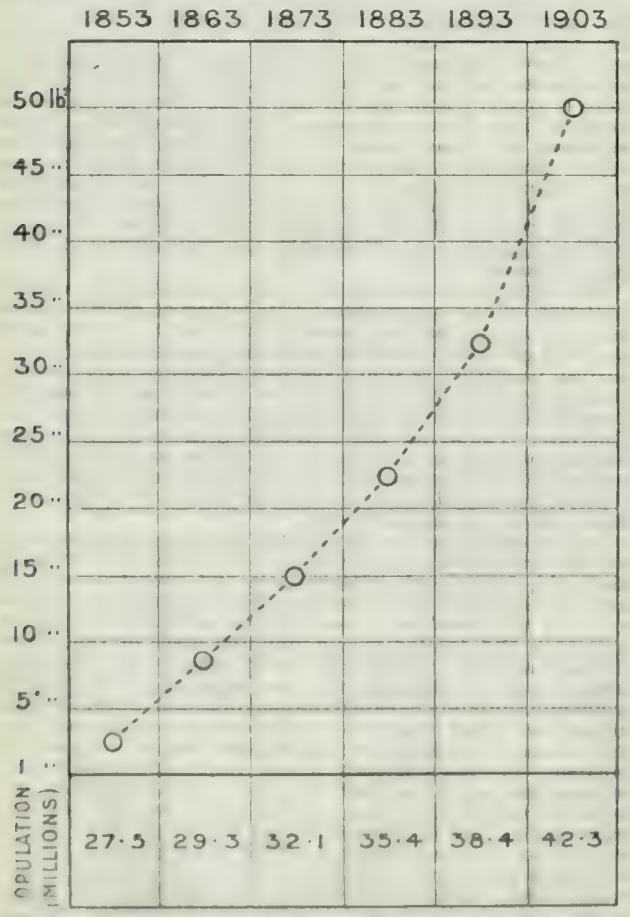


Chart 1.—Showing the amount of imported meat consumed per head per annum (see Imports, *Statistical Abstracts of United Kingdom*).

The statistical abstracts of the United Kingdom give a clear statement of the amount of animal food imported into this country in the past fifty years. The entries include bacon and hams, beef, fish of various kinds, meat salted and preserved, mutton, and pork. These are given in Table I, which also gives the population of the United Kingdom for each year. A glance at the table shows the remarkable nature of the increase, which is perhaps better indicated in the form of a chart (see Chart 1). These show that, whereas in the year 1853 the amount of meat imported was 3 lb. per head per annum, in 1903 this had increased to 50 lb. per head per annum. Further, the significance of this increase is enhanced by the facts given in Chart 2, which shows that in the past

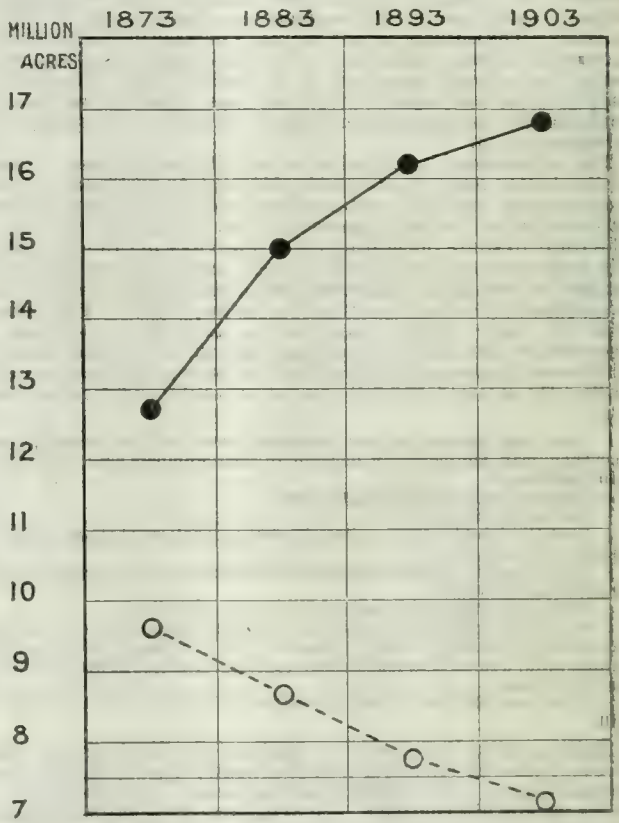


Chart 2.—Showing the increase in the amount of land under pasture in the past thirty years. Plain line = permanent pasture; Dotted line = corn crops.

thirty years an increasing amount of land (24 per cent.) has been permanently devoted to pasture for rearing cattle for home consumption. These facts appear to be conclusive. They are certainly striking.

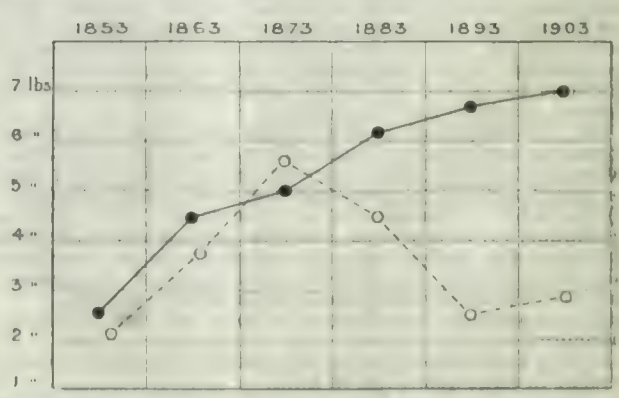


Chart 3.—Showing consumption of tea and coffee per head per annum. Plain line = tea; dotted line = coffee.

For purposes of comparison it is of interest to refer to the facts *re* the consumption of tea and coffee, the former of which is commonly regarded as much increased in amount. The chart (Chart 3) shows that in the past fifty years there has been a considerable increase in the consumption of tea; this increase, however, is very much less striking than in the case of meat. The figures bring out the interesting point that in the past twenty years there has been no considerable increase in the consumption of tea. With regard to coffee, the table indicates that in the past thirty years there has been a striking decrease in the consumption of that beverage.

A CLINICAL METHOD FOR THE QUANTITATIVE ESTIMATION OF URIC ACID IN URINE.

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VARIOUS methods for the estimation of uric acid in urine have been devised which are, however, only useful for laboratory workers, and require the use of several reagents and considerable technical skill. From amongst all the methods the simplest and fairly accurate one is the Gowland-Hopkins method; however, even this requires about 50 to 100 c.cm. of urine and various chemicals, and the result cannot be obtained within three to four hours at the earliest.

The following method, which I have found to work satisfactorily for over three years, will, I hope, recommend itself to others on account of its simplicity and fair amount of accuracy. For this method 5 to 10 c.cm. of urine is quite sufficient, and the only reagent required is a couple of tiny drops of pure hydrochloric acid; the drops must be so small that 50 such equal 1 c.cm. of the acid. This can be easily managed by using a capillary tube, drawn out in a blowpipe like the ordinary glass bristle used for bacteriological purposes.

THE METHOD.

Five c.cm. of the urine are placed in a percentage centrifugal tube and two drops of pure HCl mixed with it. This tube is now immersed in a freezing mixture of salt and ice for about fifteen to twenty minutes. This freezes the urine, and the urates and uric acid are deposited in a dense opaque mass along with other salts.

Even at this stage one can see whether the uric acid is scanty or not, as the frozen urine appears translucent when the urates are scanty, while it is milky, curdy, opaque even when the amount of uric acid is normal.

Now this tube is removed from the freezing mixture and rapidly centrifugalized till the whole of the mass is liquefied. It must then be allowed to rest till it approaches the normal temperature of the room, then the percentage of the deposit is to be read off. This percentage is less than 0.5 per cent. when the amount of uric acid is less than 0.04 per cent. as estimated by Fokker's or Gowland-Hopkins's method.

In case there is much pus or albumen or any other deposit is present, it must be removed by boiling 10 c.cm. of the urine acidulated with a tiny drop of glacial acetic acid, and 5 c.cm. of the filtered urine is to be treated as above. The temperature of the freezing mixture is about 12° C. in a room at 25° C.

Some samples of urine contain a deposit of urates and uric acid; in such cases, especially when crystals of uric acid are in abundance, it is necessary to dissolve these by the help of caustic soda and heat. About 10 c.cm. of the urine (after mixing it thoroughly) is treated with strong caustic soda solution till red litmus paper just shows a faint blue tinge, then this is to be boiled. The phosphates are precipitated by the procedure, but it is of no importance, and it is not necessary to remove them by filtration, as the subsequent addition of HCl dissolves them. Take 5 c.cm. of this boiled urine and treat as above.

Some people pass urine which deposits uric acid crystals very rapidly, although there is no increase of uric acid. (See cases No. 5, 5*a*, 9 of Table B.)

Again, in cases where there is actual increase of uric acid, the method of freezing it as described above does not give a proportionate amount of deposit, unless the urine is alkalinized and boiled as described above. (See cases No. 11, 12, 12*a*, 18, 18*a* of Table C.)

Even after centrifugalizing the urine it is advisable to leave the tube in the freezing mixture for about eight hours, as much of the uric acid will crystallize out by that time, and thus one can distinguish between the deposit due to the uric acid and the amorphous mass of coagulated albumin or pus cells which may have passed through the filter paper by accident. (See No. 11, Table B.)

With this limitation to the usefulness of the method, the centrifugal method is fairly accurate, and the result is obtained within half an hour.

Although oxalates are soluble in HCl, the trace added is not enough to dissolve the crystals when they are in abundance, and a few of these are deposited in the tube, along with the uric acid, but they are so few that they do not appreciably interfere with the volume of the deposit of urates and uric acid.

I have noticed in most of the cases, when the oxalates are increased in the urine, that the supernatant fluid after centrifugalizing the tube remains slightly turbid, but it clears up as the temperature of the tube comes up to about 25° C. This happens even though there is neither pus nor albumin in the urine. In fact, in such cases one can with confidence expect the oxalates to be increased, and subsequent examination with the microscope, or with the chemical method, has confirmed the surmise. So this method helps in forming an opinion about the quantity of oxalates in the urine also.

Tests of Accuracy.

To test the accuracy of this method I have compared the results obtained by it with actual uric-acid estimation by Fokker's method in 54 cases.

Urine, when cooled to 15° C. for about six hours, gives a slightly reddish, copious, curdy deposit of amorphous urates in case there is an increase of uric acid. Phosphates and oxalates, when in excess, are also deposited, but the uratic deposit is much more dense and reddish-tinged, while that of phosphates and oxalates is cloudy in appearance. However, this deposit of urates does not take place in all cases, even though the amount be increased. Thus, in cases of feebly-acid urine, and when crystals of uric acid are present, no such deposit is formed, although the uric acid may be in excess.

Thus in Table C, 15 out of 31 cases did not give a deposit on simple cooling, although the uric acid was in excess. The acidity of some of these samples was determined by a decinormal solution of caustic soda, with phenolphthalein as an indicator, and in most of the cases where no deposit was obtained by simply lowering the temperature, it was found that about 1 to 2 c.cm. of the caustic-soda solution was required to neutralize 5 c.cm. of the sample of urine.

But this is not the only factor which determines the deposit of urates. Thus in samples Nos. 25 and 26 of Table C of one and the same case, although urates, phosphates, and oxalates were in excess, and the acidity was even high, only a scanty deposit was obtained in one sample, while the other gave a copious deposit. In fact the sample with slightly higher acidity failed to give the deposit. Again, the phosphates were more in the sample with scanty deposit as compared with the other.

The phosphates were estimated by the magnesia mixture method, and the deposit read off after twelve hours. The temperature at which the deposit was looked for was 7° C.

The only other difference between the two samples was an excess of indican in one, which gave a copious deposit of urates. At least, the high acidity failed to produce a copious deposit in one of the samples.

The method of freezing after adding HCl gave a deposit in both cases of about 2 per cent.; thus it is essential to add HCl before freezing the urine.

Again, as has been stated further on, in cases No. 11, 12, 12*a*, 18, and 18*a* of Table C, the deposit was of uric acid, and the amount appeared scanty, although the acidity in such cases was high.

Tests with Artificial Urine.

In order to test the accuracy of the method, artificial urine was prepared containing the following constituents: Urea, uric acid, acid phosphate of soda, sodium chloride, and sulphate of soda, dissolved in distilled water by the aid of gentle heat and decinormal solution of sodium hydrate.

The various constituents were in the normal proportions that are found in urine; 5 c.cm. of this were treated with HCl and frozen. Simple addition of HCl brought down some of the uric acid without freezing the mixture, while freezing

TABLE A.—*Uric Acid Scanty.*

No	Uric Acid Fokker)	Uric Acid Freezing + HCl	Specific Gravity.	Colour	Reaction	Urea.	Chlorides.	Phosphates.	Oxalates.	Indican.	Albumen.	Pus.	Sugar.	Deposit on Cooling the Urine.	Remarks.
						Per cent.		Per cent.							
1	0.004	No deposit	1005	Pale yellow	Acid	—	—	—	—	—	Nil	Nil	Nil	Scanty	—
2	[illegible]	,,	1014	Yellow	,,	1.74	One-sixteenth	10	Not increased	Trace	,,	,,	7.5 per cent.	,,	Crystals of uric acid present.
3	[illegible]	Slight deposit	1013	,,	,,	—	—	20	,,	—	,,	,,	Nil	,,	—
4	0.002	,,	1009	,,	,,	1.07	One-twelfth	10	,,	Trace	,,	,,	,,	,,	—
5	0.002	No deposit	1018	Pale yellow	1.5% NaHO	—	—	—	—	—	,,	,,	,,	,,	—
6	0.014	Slight deposit	1020	,,	Acid	—	—	—	—	—	3 per cent.	Copious	,,	—	—
7	0.005	,,	1020	Yellow	,,	—	—	30	Copious	Trace	0.35 per cent.	Trace	,,	Moderately increased	Deposit due to pus and oxalates.

TABLE B.—*Uric Acid Moderate.*

No	Uric Acid Fokker)	Uric Acid Freezing + HCl.	Specific Gravity.	Colour	Reaction	Urea.	Chlorides	Phosphates.	Oxalates.	Indican.	Albumen.	Pus.	Sugar.	Deposit on Cooling the Urine	Remarks.
						Per cent		Per cent.							
1	0.050	Slight deposit	1035	Yellow	Acid	—	—	—	—	—	Nil	Nil	6.25 per cent.	Scanty	—
2	0.037	,,	1020	,,	,,	—	—	—	—	—	,,	,,	Nil	,,	—
3	0.040	0.5 per cent	1021	Deep yellow	,,	1.07	One-fifth	20	Not increased	Trace	1 per cent	,,	,,	,,	—
4	0.050	0.5 per cent	1015	Pale yellow	1.5% NaHO	—	—	—	—	—	,,	,,	,,	,,	—
5	0.030	Slight deposit	1019	Yellow	2.6% NaHO	—	—	—	—	—	,,	,,	,,	Moderate	Crystals of uric acid present. Not treated with NaHO before adding HCl.
5.0	0.047	0.5 per cent	1019	,,	,,	—	—	—	—	—	,,	,,	,,	—	Crystals of uric acid present. Treated with NaHO before adding HCl.
6	0.037	Slight deposit	1015	,,	Acid	—	—	—	Not increased	—	0.25 per cent	,,	,,	Scanty	—
7	0.030	0.2 per cent	—	—	Slightly acid	—	—	—	—	—	Nil	,,	,,	—	—
8	0.040	Slight deposit	1022	Yellow	Acid	2.95	One-tenth	24	Moderately increased	Moderate	,,	,,	,,	Scanty	—
9	0.045	,,	1020	,,	,,	—	—	—	—	—	,,	,,	,,	,,	Crystals of uric acid present. Not treated with NaHO before adding HCl.
10	0.043	No deposit at 15° C.	1035	,,	2.3% NaHO	—	—	—	—	—	,,	,,	4.63 per cent	,,	HCl plus freezing method not applied.
11	0.053	0.1 per cent	1023	Deep yellow	3.3% NaHO	2.52	One tenth	30	Not increased	Trace	2 per cent	,,	Nil	,,	Urobilin copious. *Casts in large number, and much of the deposit was due to the albumen, etc.
12	0.050	0.5 per cent	1019	Yellow	,,	—	One-sixteenth	10	Slightly increased	—	Nil	,,	,,	—	Carbonates present.
13	0.046	,,	1018	,,	Slightly acid	1.34	One-tenth	6	Increased	Trace	,,	,,	,,	Moderately increased	Carbonates excessive. The deposit on simply cooling the urine showed amorphous phosphates.
14	0.053	,,	1045	,,	Acid	—	—	—	—	Trace	,,	,,	0.25 per cent	Scanty	Urobilin increased. Free.
15	0.040	,,	1012	Pale yellow	,,	—	—	6	Slightly increased	Moderately increased	,,	,,	Nil	,,	—
16	0.035	,,	1036	Yellow	,,	—	—	30	—	—	,,	,,	6.25 per cent	—	—

TABLE C.—*Uric Acid Copious.*

No.	Uric Acid (Folker)	Uric Acid Freezing + HCl	Specific Gravity	Colour	Reaction	Urea.	Chlorides.	Phosphates.	Oxalates.	Indican.	Albumen.	Pus.	Sugar.	Deposit on Cooling the Urine	Remarks.
	per cent					Per cent		Per cent							
1	0.095	1.50 per cent	1025	Deep yellow	Acid	—	—	—	—	—	Nil	Nil	Trace	Scanty	—
2	0.084	1.00 per cent	1020	,,	,,	—	—	—	—	—	,,	,,	,,	,,	Urobilin free (trace).
3	0.090	1.00 per cent	1030	Yellow	1.6 % NaHO	3.97	One-tenth	20	Not increased	Moderately increased	,,	,,	Nil	Copious	—
4	0.075	0.75 per cent	1030	,,	Acid	—	—	—	—	—	,,	,,	1.6 per cent.	Scanty	—
5	0.100	1.00 per cent	1027	,,	,,	—	—	30	Increased	—	,,	,,	Nil	,,	—
6	0.080	1.00 per cent	1027	,,	,,	—	—	—	—	Trace	,,	,,	,,	Copious	—
7	0.090	1.00 per cent	1036	Deep yellow	,,	—	—	—	—	,,	,,	,,	,,	,,	—
8	0.080	1.00 per cent	1033	,,	,,	—	—	—	—	—	,,	,,	,,	,,	—
9	0.085	0.50 per cent	1025	Yellow	,,	—	—	—	—	—	,,	,,	3 per cent	Scanty	Probably not frozen.
10	0.082	1.00 per cent	1037	Deep yellow	,,	—	—	—	—	—	,,	,,	Trace	,,	—
11	0.070	Slight deposit	1023	Yellow	5.8 % NaHO	3.43	One-tenth	20	Slight increase	Trace	,,	,,	Nil	,,	Crystals of uric acid present. Not treated with NaHO before adding HCl.
12	0.060	0.50 per cent	1030	,,	5.0 % NaHO	—	—	40	Increased	—	,,	,,	,,	,,	Crystals of uric acid present. Not treated with NaHO before adding HCl.
12a	0.060	1.00 per cent	1030	,,	,,	—	—	40	,,	—	,,	,,	,,	—	Crystals of uric acid present. Treated with NaHO, etc., before adding HCl.
13	0.060	1.00 per cent	1025	Deep yellow	1.75 % NaHO	—	—	40	Copious	—	0.35 per cent.	Trace	,,	Scanty	
14	0.150	1.00 per cent.	1027	,,	1.75 % NaHO	—	—	—	—	—	Nil	Nil	,,	Copious	Urobilin not increased.
15	0.093	1.00 per cent	1025	Yellow	1.75 % NaHO	—	One-sixth	30	Fairly increased	Copious	,,	,,	,,	,,	—
16	0.110	1.00 per cent	1021	,,	2.8 % NaHO	—	One-sixth	10	Slight increase	—	,,	,,	,,	—	Normal urine + uric acid added (vide No. 12 of Table B.)
17	0.060	1.00 per cent	1025	Deep orange	Acid	3.63	One-fiftieth	20	Not increased	Moderate	Trace	,,	,,	Copious	—
18	0.064	Slight deposit	1025	Yellow	,,	2.28	One twenty-fifth	12	,,	Trace	Nil	,,	2.75 per cent	Scanty	Crystals of uric acid present. *Not* treated with NaHO before adding HCl.
19	0.064	0.75 per cent	1025	Yellow	,,	2.28	One twenty-fifth	12	,,	,,	,,	,,	2.75 per cent	,,	Crystals of uric acid present. Treated with NaHO before adding HCl.
19	0.100	2.00 per cent	1030	Milk-like	Acid	2.95	One-fifth	20	Increased	Moderate	1.5 per cent.	Nil	Nil	—	Chyle present.
20	0.072	2.00 per cent	1025	Deep yellow	,,	—	—	—	Not increased	—	Nil	,,	,,	Copious	Urobilin not increased.
21	0.083	2.00 per cent	1031	Deep red	,,	—	—	—	Slightly increased	Moderately increased	,,	,,	,,	,,	,, ,, ,,
22	0.120	2.00 per cent	1022	Orange	1.2 % NaHO	—	—	10	—	Trace	Trace	,,	,,	,,	Urobilin increased. Free.
23	0.080	2.00 per cent	1027	Deep yellow	2.5 % NaHO	3.49	One-eighth	20	Not increased	Moderate	Nil	,,	,,	,,	—
24	0.080	2.00 per cent	1023	,,	1.2 % NaHO	1.83	One-twenty-fifth	22	,,	Trace	,,	,,	,,	Scanty	—
25	0.100	2.00 per cent	1030	,,	2.5 % NaHO	5.38	One-seventh	30	Moderately increased	Copious	,,	,,	,,	Copious	Copious deposit on cooling } Urine of same person on different days.
26	0.100	2.00 per cent	1031	,,	2.5 % NaHO	—	—	70	Increased	Trace	,,	,,	,,	Scanty	Slight deposit on cooling }
27	0.110	2.00 per cent	1030	,,	Acid	—	—	—	—	—	,,	,,	,,	Copious	Not treated with NaHO before adding HCl, etc.
27	0.110	2.00 per cent	1030	,,	,,	—	—	—	—	—	,,	,,	,,	—	NaHO added before HCl and freezing
28	0.100	Copious deposit	1029	,,	,,	3.40	One-tenth	40	Moderately increased	Trace	,,	,,	,,	Scanty	Not centrifugalized, but left overnight
29	0.—	—	—	—	—	—	—	—	—	—	—	,,	,,	—	,, ,, ,, ,,
30	0.—	—	1021	Yellow	5.0 % NaHO	4.—	One-sixth	24	Not increased	Trace	Nil	,,	,,	Copious	,, ,, ,, ,,
1	0.—	—	1021	—	Acid	2.—	—	26	Copious	—	— per cent.	Trace	,,	Scanty	,, ,, ,, ,,

the mixture after adding the HCl gave a deposit of 0.5 per cent. With a similar artificial urine containing 0.1 per cent. uric acid instead of 0.04 per cent., the deposit obtained with simple HCl was slightly less than 1 per cent., while with HCl and subsequent freezing the amount was 1 per cent. In another artificial urine excess of sulphate of soda was added, but that had no effect on the volume of uric acid deposited. All these samples were feebly acid; about 10 c.cm. of decinormal soda solution were required to neutralize 100 c.cm. of these.

As these artificial samples did not contain any urinary pigments, and it being likely that these pigments have the property of keeping the urates in solution, I tried the following experiment: I added some measured amount of uric acid to a sample of healthy urine which I knew did not contain an excess of this constituent. The urine was divided into two equal halves; to one half nothing was added, and it was tested by the HCl and freezing method and also by Fokker's method for the amount of actual uric acid; to the other half enough uric acid was added to bring up the total amount to about 0.1 per cent., assuming that the quantity present in the urine was 0.04 per cent. The estimation of uric acid in the first half showed that the assumption was correct. The excess of uric acid was dissolved by gently warming the mixture on a water-bath, no alkali was required to dissolve it. Five cubic centimetres of the pure urine and of this mixture were treated with HCl. in the ordinary way, but no crystals were found to come down in the second tube. These were frozen and centrifugalized, and the normal urine gave a deposit of about 0 5 per cent., while the other one gave a deposit of 1 per cent.

The simple addition of HCl did not give any deposit of crystals even after half an hour. So it is highly probable that the pigments of urine keep the acid in solution.

The actual amount found by Fokker's method was 0.05 per cent., while the amount added was 0 06 per cent.; therefore the quantity of uric acid present in the second half was 0.11 per cent. On the other hand, the two samples mentioned above (Nos. 25 and 26 of Table C) seem to show that perhaps the aromatic sulphates may help to precipitate the urates in ordinary urine. Again, I have not come across a single case where no deposit was obtained on cooling the urine, when both the uric acid and indican were copious, as will be seen by a reference to Table C.

Tests with Animal Urine.

As a further test of the accuracy of this method, dog's urine was used as a solvent for uric acid, and this solution was used as follows:

A. Simple dog's urine was cooled to 0° C., and no deposit was obtained.

B. Same urine was treated with the HCl and freezing method; result was same as in A.

C. Same urine was treated with 0.05 per cent. uric acid and cooled to 0° C., without obtaining any deposit.

D. Urine C was treated with the HCl and freezing method; deposit obtained was 0 5 per cent.

E. Urine A was treated with 0.1 per cent. uric acid and cooled to 0° C.; no deposit.

F. Urine E was treated with HCl and freezing method; deposit was 1 per cent.

As dog's urine is free from uric acid, the deposit obtained in D and F was due to the amount added. The sample used was rich in carbonates and that accounts probably for the absence of deposit in E. The urine was faintly acid and the uric acid was easily dissolved by momentarily boiling the urine.

Remarks.

From a review of all the observations given in the tables, it seems that in urine with less than 0 05 per cent. uric acid. the deposit is less than 0.5 per cent., while from 0 06 per cent. to 0.15 per cent. the deposit varies between 1 to 2 per cent. This is rather a wide range, but it is explained by the fact that the soluble urates present in the urine are soon changed into uric acid and biurate of soda. Both these are crystalline in structure, and the deposit of these is a good deal more compact than that of the quadriurates which form a thick, gruмous deposit. As the quadriurates commence to change into the other two constituents with varying rapidity, the deposit obtained by the freezing method must necessarily vary within the limits mentioned above.

However, by rendering the urine faintly alkaline and boiling it, etc., as has been described above in the cases of urines which deposit crystals of uric acid, I have been able to reduce the range considerably. Thus for less than 0.04 per cent. uric acid, the deposit is less than 0 5 per cent.; for 0 05 to 0.08 per cent. uric acid, the deposit varies between 0.75 to 1 per cent., and for higher amounts it is 1.5 to 2 per cent.

It will be noticed that the amount of HCl added is very small (about 0 8 per cent) compared with the amount added in the ordinary clinical methods, in which this acid is used. In fact, I have found that the amount if increased, interferes with the freezing of the urine and the precipitation of the urates.

Summary.

1. Have the urine as free as possible from extraneous dirt.
2. Remove the albumin and pus, if present, by adding acetic acid and heating the urine.
3. Render the urine slightly alkaline by adding tiny drops of strong NaHO—boil it, and take 5 c.cm. of this boiled urine for examination.
4. Add two tiny drops of HCl from a capillary pipette (each drop equals 0.02 c.cm.), stir it well; see that it is quite clear again.
5. Freeze it and centrifugalize till the whole has remelted, and read off the percentage of deposit as soon as the temperature is about 25° C.

In conclusion I have to thank the Government of Bombay for having given me a grant for this research.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, Etc.

WIDE CLEFT OF THE PALATE.

Sir Thornley Stoker's explicit and admirably illustrated paper on cleft palate in infants induces me to describe a case recently under my care.

It was that of a newly-born baby with a hare-lip about 2½ in. wide, and a complete palatal cleft of nearly equal extent. The premaxillary bone and the vomer were attached to one side, and the maxillary bone was represented by two narrow rami. It was utterly impossible to procure any adequate flaps, even by Lane's method, and so I declined at first to undertake the case. Shortly afterwards, owing to the kindness of Mr. Edmund Owen, I received a copy of his most practical volume on Cleft Palate and Hare-Lip, and by it was first influenced in favour of Brophy's operation, of which I had before read a description in the *International Textbook of Surgery*. My colleagues approving, we decided to follow the methods so clearly described by Mr. Owen and by Sir Thornley Stoker. The passing of the wires was the most difficult part of the operation, and as the child was somewhat collapsed afterwards no attempt was made to bring the bones together. Three weeks later that was easily done, the bones having been first cut through just below the infraorbital foramina. The cleft, however, could not even then be wholly closed in consequence of the projection of the premaxillary bone. A few weeks later still, the premaxillary bone was partly cut through at its attached edge, and was pushed into and fixed in the middle line. It completely filled the front of the cleft. The remainder of the cleft, now reduced to a narrow chink, was afterwards readily closed by the method of Mr. Lane.

Some months later the hare-lip, then closely approximated, was easily repaired, and quite a pleasant-looking baby was substituted for a very repulsive one. It is sad to add that soon after the last operation this unfortunate little patient succumbed after a few days to an attack of gastro-enteritis. The experience, however, has been a very instructive one for us, for it proves that there is no case of cleft palate which is beyond the reach and the resources of surgery, and it has also illustrated, perhaps for the first time, how good a result may be obtained by the combined operations of Brophy and Lane. All surgeons must, I am sure, feel grateful to Dr. Brophy for the great help he has given them in dealing with the most difficult cases of cleft palate. The bleeding during his operation is comparatively small, very different from what one often sees after the older operations, and the shock is by no means great.

Without the help and encouragement of my colleague, Mr. Buckell, who has several times assisted Mr. Lane in cleft palate operations, I am sure that the manipulations described by me would have fallen short of their immediate success. May I state, in conclusion, how encouraging and instructive is Mr. Owen's paper on the healing of cleft palate wounds by second intention?

G. B. Ferguson, M.Ch., F.R.C.S.,
Surgeon, Cheltenham Hospital.

CLEFT-PALATE OPERATION WOUNDS HEALING BY SECOND INTENTION.

AFTER reading Mr. Edmund Owen's instructive and highly-practical paper on the above subject in the BRITISH MEDICAL JOURNAL of June 24th, I was reminded of an operation for cleft palate I saw, through the courtesy of Professor Hoffa, whilst visiting the German Surgical Congress held at Berlin last Easter.

Dr. Helbing performed an operation upon a cleft palate at Professor Hoffa's private clinic, and his method was quite new to me, and it has a bearing upon Mr. Edmund Owen's perplexity *re* the correctness of the expression "healing by second intention." Dr. Helbing performs his cleft-palate operations in two stages; at the first operation the edges of the cleft are pared, and the flaps from the hard and the soft palates are formed and freed in the usual manner, but there the operation ends. Four days later the patient is again anaesthetized and the flaps are brought together by silver wire, and the usual result is immediate union. Whether the healing is by "second intention" in such cases is as much of an enigma as it is in the encouraging results recorded by Mr. Edmund Owen in his valuable communication.

Cardiff. J. LYNN THOMAS.

THE SPREAD OF CANCER BY THE THORACIC DUCT.

I HAVE read with much interest the articles by Dr. Mitchell Stevens and Dr. Nathan Raw, in the JOURNAL for April 29th and June 24th respectively, on the spread of abdominal cancer by the thoracic duct, more especially since I was previously under the impression that that channel of dissemination was well recognized and not in need of further demonstration.

As, however, according to Dr. Raw, there are "very few recorded cases of definite involvement of the thoracic duct in cancer within the abdomen," it may be worth while reporting that in the course of dissection during the last five years I have met with two cases of cancer of the stomach in which the thoracic duct was involved throughout almost its entire extent. I have only a short note on the first case, but have preserved specimens from the second which I discovered last winter. In it there was a large medullary carcinoma along the greater curvature of the stomach. The receptaculum chyli was completely solid, and numerous typical nodules were present along the thoracic duct within the thorax, the lumen of the duct being completely obstructed in at least one point from which a section was made. The left cervical glands were also the seat of metastases, while the right glands did not appear enlarged. It is interesting to add that there was no ascitic fluid within the abdomen.

Dublin. T. GILLMAN MOORHEAD, M.D.

It would seem possible in cases such as that described by Dr. Nathan Raw, in the BRITISH MEDICAL JOURNAL for June 24th, that there may have been some patch of peritoneal invasion. If this actually were the case, the secondary growths at the root of the neck would probably be due to absorption along the lymphatic paths which pass up behind the costal cartilages. In 1897[1] I recorded some experiments on animals, showing how very rapidly absorption from the peritoneal cavity occurs along these paths. A number of observations was also made in the *post-mortem* room, and it was found that in every case in which the peritoneum was invaded by tubercle or cancer there were enlarged masses corresponding to the glands at the first intercostal space (caseating or cancerous). It appeared that diagnoses of tuberculous, cancerous, and acute peritonitis could almost be made solely from the appearances of the lymphatic tracts at the back of the sternum. The spread of growth from these upper sternal glands might easily give the impression that the thoracic duct had been primarily involved.

Cambridge. HERBERT E. DURHAM.

DEATH UNDER ETHYL CHLORIDE.

MRS. W., aged 50, a married woman, stout and alcoholic, was admitted to the Corbett Hospital, Stourbridge, on June 24th, suffering from cellulitis in the left hand and forearm. It was intended to remove her ring, which had cut deeply into and was strangulating her ring finger. Half an hour after admission ethyl chloride (6 c.cm.) was administered in a modified Ormsby, the patient being in the semi-recumbent position.

Anaesthesia was easily and quietly induced, and, the mask being removed, an endeavour made to cut the ring.

Spasmodic twitching of head and eyes towards the right was now noted, passing off quickly on the reapproach of consciousness. The mask was again applied, but no more ethyl chloride introduced.

A few seconds after its removal the breathing, which up to now had been easy and unembarrassed, stopped suddenly, and the pulse was found to have disappeared. Artificial respiration for half an hour proved unavailing, no cardiac impulse being again detected.

At the *post-mortem* examination forty-eight hours later, a marked pallor of all the viscera was noted. The heart was empty, the left ventricle very thin walled; the liver was large and fatty, the stomach like a huge bag, and both kidneys cirrhotic.

Stourbridge. GEO. KEITH GIFFORD, M.D.

REPORTS
ON
MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

THE BATH EYE INFIRMARY.

CASES OF ABNORMAL EYE CONDITIONS.

(Reported by W. M. BEAUMONT, Surgeon to the Infirmary.)

EACH of the three following cases presents a point of interest which seem to make it worthy of record:

1. RETINITIS PUNCTATA ALBESCENS.

J. P., a farm labourer, aged 26, complained of nothing except occasional muscae volitantes in the right eye and, on rare occasions, headaches. His father and mother were both living and healthy, and over 70 years of age, and he has one sister, who also has good health. His father and mother were not consanguineous. The urine was 1010, acid, and contained no albumen. On examining the eyes, the fundi were seen to be studded with whitish unpigmented punctate retinal spots, irregularly scattered in all directions, suggesting the appearance of stars on a November night. In the right yellow-spot region the spots were numerous; in the left there were four stars, one of them of the first magnitude, arranged in a cruciform manner, suggestive of the Southern Cross. In both eyes the spots varied somewhat, both in size and whiteness, while some were yellowish. They were confined to the anterior layer of the retina. The patient's general health was good, his vision was $\frac{6}{6}$ with each eye, his field of vision was full, and he could read J1 at 33 cm. There was no colour blindness, and he had never suffered from night blindness.

REMARKS.—The condition is one, I have no doubt, of retinitis punctata albescens, which has probably existed since intrauterine life, and is probably due to retinal sclerosis. If a retinal degeneration had occurred since birth, it is improbable that sight would have remained normal, seeing that the yellow-spot region is affected in each eye. The case would appear to be an ophthalmic curiosity and nothing more. Apart from occasional muscae volitantes—a condition which, I believe, is said to be often symptomatic of some liver derangement—he has little to complain of and nothing to cause alarm.

2. GRAVES'S DISEASE.

A. C., aged 48, complains of proptosis of both eyes, and from her history it would seem that she had had an attack of Graves's disease dating back about five years. I have not been able to communicate with the doctor who attended her, but from the history of enlarged thyroid, proptosis, and breathlessness there does not appear to be much doubt about the diagnosis. At the present time she has neither Stellwag nor Graefe's sign, and she has no enlarged thyroid and no tremor. Her vision is $\frac{6}{6}$ with each eye. She has a pulse of 100 when she sits quietly at rest with nothing that excites her in any way. Colour sense is good, but her field of vision is concentrically contracted, as so frequently happens in this disease.

REMARKS.—The interest in this case lies in the fact that she has what has been called the "new ocular symptom" of Graves's disease—that is, she has pigmentation of the upper lids. Each upper lid is of a brownish hue, the pigmented patches being sharply defined, and strictly confined to the lids, and quite symmetrical.

3. ESSENTIAL SHRINKING OF THE CONJUNCTIVA.

J. G., a labourer, well developed physically but not mentally, has a xerotic condition of his conjunctivae which has existed for many years. In the left eye the conjunctiva is dry and wrinkled, resembling the neck of a tortoise. The cul-de-sacs are non-existent, and the edges of the lower lids are continuous with the bulbar conjunctiva. The eye is quite insensitive, and there is no lid reflex on touching any part of it. The

[1] *Journal of Pathol. and Bacteriol.*, 1897, pp. 360 et seq., and *Medico-Chirurg. Trans.*, 1897, vol. lxxx.

cornea, as well as being anæsthetic, is dry, resembling ground glass. Nevertheless, he can count fingers at 30 cm. The cornea stains with fluorescine. The upper lids are incurved, and the lashes rub against the cornea and conjunctiva without producing any discomfort.

REMARKS.—The right eye shows an early stage of the same condition. He has no history of pemphigus. Neither his family nor personal history throws any light on the causation of the condition. His father died of "stomach disease" at the age of 76, and his mother of a "bad leg," aged 62. He has two brothers and two sisters living and healthy; one of the family died of phthisis, and another in infancy. Recently he has had an attack of pneumonia on the right side, for which he was treated at the Royal United Hospital. It was accompanied by herpes zoster on the same side of the chest as the pneumonia. Herpes of the trunk is said to be very rare in pneumonia, and it may possibly have been merely a coincidence in his case. He has no night blindness, and there is no frothy discharge from the eyes. Slide preparations were made by Dr. H. H. Bullmore, but although several varieties of bacilli were found, none of them had the characteristics of the bacillus xerosis.

REPORTS OF SOCIETIES.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN.—The annual provincial meeting of the above Society was held on June 17th, at the Hospital for Children, Sheffield, Dr. C. H. WILLEY in the chair. After the exhibition of cases by various members, Dr. C. N. GWYNNE read a paper on osteomyelitis and suppurative pericarditis in a girl, aged 7 years, successfully treated by operation in 1903. The femur and radius were affected. Incisions were made and were followed in three days by parotitis and pericarditis. Ten days later the pericardium was laid open and about 10 oz. of pus evacuated. A tube was inserted and removed on the tenth day. In spite of further pyæmic complications the child recovered. The heart now showed some hypertrophy.—Dr. G. CARPENTER and Mr. S. STEPHENSON reported a case of tubercle of the choroid in a girl, aged 3 years. A very large number of fawn-coloured tubercles, of unusually large size, were found, chiefly in the region of the optic discs. Some of them invaded the retina. A diagnosis of acute miliary tuberculosis was made and verified subsequently. Death resulted thirty five days after the onset, nineteen after admission to hospital, and five after the diagnosis, which could not have been made with certainty, apart from the state of the eyes.—Mr. J. JACKSON CLARKE read a paper on certain practical points in the treatment of congenital dislocation of the hip by Lorenz's method. The shortened muscles must, he said, be fully stretched and the great trochanter brought down to or below its normal level. In children over 4 the adductors might require subcutaneous section. He then described the act of reduction, the application of the retention apparatus, the subsequent use of massage and exercises, and the management of special cases.—Mr. R. C. DUN described a case of median hare-lip, a very rare deformity. The cleft was exactly in the middle line, the incisor teeth perfect, and there was no alveolar cleft.—Mr. H. S. CLOGG read a paper on appendicitis in a hernial sac, based on two cases in boys, successfully treated by operation. He stated that about 25 per cent. of recorded cases occurred in children; that the condition had been reported in quite young infants; that the appendix in a hernial sac was unduly prone to inflammation; that the condition could not be diagnosed with certainty from strangulation of the appendix, or of Meckel's diverticulum; that most cases were mistaken for strangulated hernia because of the sudden onset, abdominal pain, and the presence of a local irreducible swelling, without impulse on coughing. The presence of fever from the onset, the indefinite character and smaller size of the swelling, and the early occurrence of œdema and redness of the skin, were of diagnostic value. Other papers were read by Dr. S. GWYNNE, Dr. WILKS, Dr. LEADER, and Mr. A. H. TUBBY.

BEQUESTS TO MEDICAL CHARITIES.—Under the will of the late Mrs. Mary Ann Mocatta of Connaught Place, which has now been proved, University College Hospital receives a sum of £300; the London Hospital, St. Mary's Hospital, and Guy's are each to be paid £200; sums of £100 each being allotted to the London Fever Hospital, the Brompton Consumption Hospital, the Great Ormond Street Hospital for Sick Children, and the Cripples' Home, Marylebone Road. To the Royal Medical College at Epsom is bequeathed £100,

REVIEWS.

TEXTBOOKS OF MEDICINE.

BEFORE entering into a detailed account of Dr. BAIN'S *Textbook of Medical Practice*,[1] it is a pleasure to say that as a one-volume treatise on medicine is always more welcome than ambitious systems in several volumes, this particular work at once appeals to us as a handy, compact book well adapted in these particulars for the use of students and practitioners.

Turning to the more serious matter of a consideration of its contents, we can safely say that, with few exceptions, it may be accepted as a thoroughly representative guide to contemporary British practice. Dr. Bain has been fortunate in his choice of collaborators, for they have uniformly succeeded in writing accounts of various diseases which are eminently practical, full of information and authoritative. We may be pardoned if we say that we should have preferred to hear accounts of certain diseases from other authorities than from certain of Dr. Bain's co-workers, for these gentlemen have already in other works written admirable articles, the substance of which is echoed in the present volume. This, however, is no serious objection to the treatise, but will probably prove an attraction to the student who does not want originality in his textbook but an account of the more widely-accepted views. It must not, however, be thought that the volume is a cram book; the editor has wisely insisted on a scientific treatment of the subjects; of this the inclusion of a short but luminous section on the interrelation of organs in disease, by Dr. Rose Bradford, is a proof. Further evidence is given by the admirable accounts by Drs. Robinson and Brodie of the anatomy and physiology of various organs; this, indeed, is put forward as a feature of the work, and an excuse for publication at a time when the market is overstocked with very admirable treatises. It is a matter for serious consideration in future editions whether it would not be wise to include illustrations not only of the anatomy of organs, but also of morbid histology, and of such diseases as myxœdema, cretinism, and mongolism, not to mention illustrations of intestinal and other parasites, which have been so well described by Dr. Hawthorne. We know from personal experience that the ordinary textbook on surgery is infinitely more attractive to the student than medical treatises, for the simple reason that the former is so well illustrated; we sincerely hope that Dr. Bain will be able to correct this defect in a future issue.

Dr. Kidd's account of diseases of the lung will prove most welcome, not only from the grace of the style in which it is written, but because of the graphic simplicity of the clinical descriptions and the fullness of the discussion of treatment. Dr. Sidney Martin and Dr. Risien Russell have dealt with their respective subjects in the thorough way we are now so accustomed to expect from such authorities. If the subdivision adopted by Dr. Martin of such disorders as gastric insufficiency, gastric irritation, etc., cause great difficulties for the student, seeing that it is difficult to get sharp definitions of these conditions and of nervous dyspepsia, we are obliged to acknowledge that it is only by careful analysis that distinct types of disease can be defined, and we take Dr. Martin's descriptions on trust, with the hope that some day these types will become clearer to us.

Dr. Wardrop Griffith has written an admirable account of the diseases of the circulatory system, and we would especially commend to the reader the passages dealing with the effects of valvular disease. It is a considerable pleasure to read a critical account from one who has made wide researches in the anatomy and pathology of this system. Other interesting sections are contributed by physicians who, so far as we are aware, have not hitherto made themselves responsible for what may be called official accounts of their respective subjects. Dr. Biernacki, the Medical Superintendent of the Plaistow Hospital, has given a valuable account of the infectious diseases of temperate climates, and has prefaced it with a useful introductory summary of the etiology of various infectious diseases; we commend to the reader the admirable accounts of typhoid fever and diphtheria. Dr. Daniels is responsible for the section dealing with tropical diseases, which contain brief references to trypanosomiasis and sleeping sickness. To Dr. A. E. Russell has been allotted the task of dealing with blood diseases; to Dr. Whitfield the description of diseases of the skin, and the Editor himself has written on gout, disorders of the thyroid gland, etc. Dr. Dixon Mann's

[1] *A Textbook of Medical Practice.* Edited by William Bain, M.D., M.R.C.P. London: Longmans, Green and Co. 1904. (Royal 8vo,

great knowledge and experience have been placed under contribution in the articles on diabetes, rheumatism, and various intoxications.

We must make special reference, however, to one section which redeems the volume of any charge of excessively conforming to precedent. Dr Herringham has dealt with the subject of diseases of the kidney in a way which, though it may not earn universal approval, shows at least more originality than is tolerated in most of the textbooks that have recently appeared; probably this will be considered a fault, and it may be thought that it would have been better if Dr. Herringham had written an account more in accordance with tradition. We do not think so; in medicine tradition must give place to research, and Dr. Herringham's name is already associated with advances in our conception of the meaning of renal disease. The reader will find this account of renal disease both suggestive and instructive, and will find in the brief pithy paragraphs much information, and in some cases much cause for amusement.

The second volume of Dr. SAVILL'S *System of Clinical Medicine*[2] is conceived and executed upon the same plan as that which appeared two years ago, and is open to the same general criticisms as those which were advanced in our previous review (BRITISH MEDICAL JOURNAL, June 27th, 1903 p. 1497). The entire work is an attempt to systematize the whole of clinical medicine upon a symptomatic basis. A large amount of careful and conscientious labour has been expended upon it, but we are unable to discover any ground for modifying our former judgement that the arrangement is defective and that the utility of the book is in no way commensurate with the industry which has been devoted to its production. Turning to more special criticism, it may at once be said that this concluding volume, which deals with certain general disorders and with diseases of the skin and of the nervous system, is, on the whole, not so full as its predecessor. Of its three subdivisions, that treating of the skin is by far the best and most practical; cutaneous diseases appear to fall more easily than others into the system of symptomatological classification, and, moreover, the author shows himself well acquainted with modern advances in knowledge regarding them. Of the rest of the book it is impossible to speak very favourably. There is hardly a page in which one does not come across either an incorrect statement or a dogmatic opinion upon a subject which still requires elucidation. Sometimes both these defects are combined, as in the account (p 793) of the etiology of acute rheumatism. Turning over a few leaves we find that p. 798 opens with the statement that chronic rheumatism is an extremely common affection, while a few lines further on we learn among the pathognomonic features of chronic gout that it attacks the male sex only, that the sufferers are over 40, and are rich and plethoric. We can hardly believe that Dr. Savill is serious in such statements; should he be, we would refer him to Dr. Toogood's admirable account of gout in the poor. In another place (p 925) we are told that hysteria is "practically" confined to the female sex, and, on p. 970, that tuberculous meningitis is commoner in males than females. On p. 858 it is stated that the pustular form of glanders may pardonably be mistaken for small-pox, and on p. 877, in the account of tuberculous meningitis, no mention is made of the diagnosis from apical pneumonia—one of the commonest sources of error. The description of methods of staining blood corpuscles given on p. 714 is out of date, while progressive muscular atrophy is described as a chronic anterior poliomyelitis. Some of the diagrams are excellent; others, such as that on p. 844, are the reverse.

THE TREATMENT OF ADENOID VEGETATIONS.

Dr. WYATT WINGRAVE'S little book on *Adenoids*[3] in the Medical Monograph Series gives some valuable hints on the pathology, etiology, diagnosis, and treatment of these growths, albeit the employment of the word "adenoid" as a substantive seems to us rather out of place in a scientific treatise. As might be expected, the anatomical and pathological portions are particularly good, including the paragraphs on the bacteriology of the naso-pharynx.

The work contains thirty-two figures, several illustrating the microscopic structure of the growths. The author uses curettes and his own forceps, but he does not distinguish between Gottstein's and Beckmann's curettes. In operating he prefers the sitting posture, giving gas, somnoform, or ethyl chloride, although the recumbent posture is recommended when chloroform is given, either with the head hanging or the patient on his side. On page 73 we read that in the preparation of the patient the nostrils and naso-pharynx should be thoroughly cleansed by inserting with a finger or camel's-hair brush some boricated vaseline nightly for a short time. It is not quite clear how this is done. The remarks on the care of cases after removal are much to the point, and many of them deserve careful attention. The book is well got up, and has been carefully edited, with the exception of what appears to be a transposition of paragraphs on page 95 in regard to post-operative rash.

Mr. GARRY SIMPSON'S book on *Adenoid Growths of the Naso-pharynx*[4] is less ambitious, and enters to a smaller extent into detail than the preceding. He gives a very practical account of the examination and treatment of these cases. In operating he favours the lateral recumbent position on the right side, and uses curettes and the sterilized finger-nail, employing for anaesthetics ethyl chloride, gas, chloroform, or ether. Both these writers, in our opinion rightly, discourage any local treatment after operation until the wound is healed, but Mr. Simpson's recommendation not to allow the nose to be blown at all seems wiser than Dr. Wingrave's instruction to blow it occasionally but gently. The figures illustrate the adenoid facies, position for operating, instruments, etc.

HEALTH IN THE TROPICS.

The Maintenance of Health in the Tropics,[5] by Professor W. J. SIMPSON, forms a very interesting and instructive little manual. The preface explains the scope of the book in a few words, namely, a small manual dealing with personal hygiene in a simple and popular manner for laymen and young medical men visiting the tropics or residing therein. Such a handbook has been much required; it will supply a distinct demand, and will answer a question so often asked by the intending visitor to the tropics, "Where can I get a book that will tell me briefly what things I have to avoid, and how I can look after my health when I go abroad?" No one is better qualified than Professor Simpson, with his wide tropical experience, to write such a book, and after reading it carefully it is evident he has succeeded in his mission. The first three chapters deal with climate, personal precautions, diet, drinking water, and dwelling houses; the fourth, perhaps the most important in the book, with the illnesses of the tropics and their prevention; the fifth with snake and insect bites, and the last with wounds and medical equipment. A word on tents, hammocks, and camp beds in the chapter on dwelling-houses would not have been amiss for the sportsman, naturalist, and prospector whose bent may lead him to the wilds of Africa or other uncivilized regions. The part of the manual dealing with malaria and its prevention is clearly put, and should convince the most sceptical. Here the author puts his finger on one of the most important points of mosquito prophylaxis, namely, that in addition to individual efforts measures must also be taken by the local authority. Unless this is done success will never be obtained. It is useless, as the author remarks, to clear a house of mosquitos, if the neighbour over the wall is to go on in a state of apathy and let mosquitos by thousands breed in his insanitary compound. The prevention of plague, cholera, typhoid fever, dysentery, and other diseases is clearly discussed. The treatment of stings and bites of insects, by no means the least important of tropical troubles, is dealt with. A very good protective agent against chiggers, not mentioned in the book, is to sprinkle the floors with an infusion of tobacco leaves, and also to put them in boots and slippers. The manual may be heartily recommended to all going abroad; it may be read with interest on the voyage, and will save much illness and trouble when the destination is reached.

Many nurses who go abroad to the tropics may possibly find it to their advantage to take with them the little manual,

[2] *A System of Clinical Medicine*. By Thomas D. Savill, M.D.Lond., Physician to the West End Hospital for Diseases of the Nervous System, and to St. John's Hospital for Diseases of the Skin. Vol. ii. London: J. and A. Churchill. 1905. (Demy 8vo, pp. 442. 8s. 6d.)

[3] *Adenoids*. By Wyatt Wingrave, M.D. Medical Monograph Series, No. 9. London: Baillière, Tindall, and Cox. 1904. (Crown 8vo, pp. 128, 32 illustrations. 2s. 6d.)

[4] *Adenoid Growths of the Naso-pharynx*. By G. A. Garry Simpson, M.R.C.S.Eng. London: John Bale, Sons, and Danielsson. 1904. (Crown 8vo, pp. 52; 16 illustrations. 1s. 6d.)

[5] *The Maintenance of Health in the Tropics*. By W. J. Simpson, M.D., F.R.C.P., Professor of Hygiene, King's College, London, and Lecturer on Tropical Hygiene at the London School of Tropical Medicine. London: John Bale, Sons, and Danielsson. 1905. (Crown 8vo, pp. 120. 2s. 6d.)

Hints to Nurses on Tropical Fevers[6] by S. J. Pollard, a Sister of the Army Nursing Service Reserve. The book gives in the first chapter some general hints to those about to go abroad and then deals with malaria, dysentery, liver abscess, cholera, plague, beri-beri, yellow fever, etc. In the treatment of blackwater fever, a disease above all others where nursing may do so much, many important points are missed. The nurse, though informed that cardiac failure is very serious, is not instructed to keep the patient carefully in bed, and not only in bed, but to see that he does not even move out of the recumbent position. It is sudden movement which is likely to produce attacks of syncope. Again, no mention is made of the accurate measuring of the quantity of urine. The careful watch for symptoms of suppression is most important. The chapter on yellow fever is out of date. No mention is made of the *Stegomyia* as the disseminator, nor is the nurse informed of the danger she runs of being bitten by such insects flying about the room. The proper line to adopt in treating yellow fever is to have a room thoroughly fumigated, and the windows covered with mosquito screens, and then to place the patient in it. The nurse may then safely attend such a case. With several of those points brought up to date the book, as already mentioned, may in many respects prove useful to nurses proceeding abroad.

NOTES ON BOOKS.

How to Become a Nurse[7] has now taken its place in the reference library of the nursing profession. Sir Henry Burdett has gathered together in index form all particulars that are necessary to be known as to cost, length of training, size of hospital, nature of nursing staff, and such other information as may enable the would-be probationer to make selection of the institution she considers best suited for her purpose. The preliminary matter deals with all questions of importance in the matter of training and future work of the professional nurse, and may be regarded as a commentary on the tabulated information in the body of the work, and to a certain extent a guide for the uninitiated through the labyrinth of certificates, etc., which are set forth under the names of the various institutions in the index. On p. 36 there is a slip: the London Obstetrical Society does not any longer offer to examine midwives on the completion of their course; this examination is now in the hands of the Central Midwives Board. A revision on this point is required throughout the book. The chapter Outline of Principal Laws Affecting Nurses is of great use to all concerned.

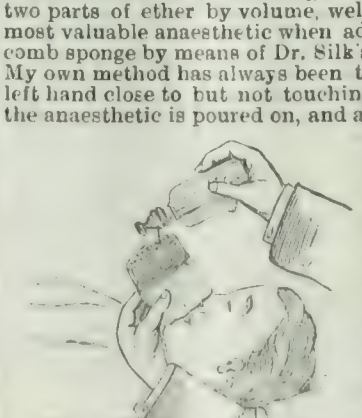
The first volume of the fifteenth series of *International Clinics*[8] is a *mélange*, using the term in not a quite good sense. As in many made-up dishes, the individual ingredients are dependent on each other for a general effect, and, as regards quantity and quality, if standing alone, may leave something to be desired. The first paper is on cardiac asthma, by Dr. Merklen of Paris. He writes at one place as follows: "Now, as regards treatment. An attack of cardiac asthma is a serious affair; the physician's duty is to remain with his patient, and not to give up hope. . . . The first indication is to cover the chest with mustard leaves and dry or wet cups." When a physician has seen his patient make a good recovery from a dozen attacks in a dozen days, and eventually a satisfactory recovery of general health, he will hardly need the injunction not to give up hope in his next case. Another paper, again by a Paris physician, is on the treatment of cirrhosis of the liver, unusual syphilis, tuberculosis, suffocative catarrh, and muco-membrancus entero-colitis—all in about fourteen pages. Other papers are on infected cholelithiasis, aortic stenosis, and adherent pericardium, intestinal adhesions, skin grafting, extirpation of the larynx, and a case of cerebellar tumour. There is, besides, a survey of the progress of medicine and surgery as in previous years.

The thirty-second volume of *St. Thomas's Hospital Reports* for 1904 contains the usual compilation of reports from the various departments, a medical report by Dr. E. A. Gates, a surgical by Mr. C. A. R. Nitch, gynaecological by Dr. H. Bell, obstetrical by Dr. J. S. Fairbairn, ophthalmic by Dr. A. C. Hudson, dermatological by Dr. E. Stainer, laryngological by Mr. Betham Robinson, aural by Mr. H. J. Marriage, a clinical laboratory report by Dr. L. S. Dudgeon, a report from the *x*-ray department by Dr. A. H. Greg and an account of recent additions to the museum by Mr. S. G. Shattock. In addition, there are four original papers—on a case of acute polioencephalitis by Dr. H. P. Hawkins, on volvulus of the caecum by Mr. E. M. Corner and Mr. P. W. G. Sargent, on two cases of acute strangulation of the small intestine by Mr. Bernard Pitts, and on bone plugging by Mr. B. Seymour Jones and Mr. E. M. Corner. The volume is a well-executed example of a *précis* of the clinical facts gathered from a year's work in a large metropolitan hospital. The feature that is perhaps of outstanding interest is a fairly complete record, including in most instances an account of the necropsy, of some 20 of the more important cases that had been under treatment during the year, including cases of tetanus, purpura, scurvy, rickets, fatal anaemia, pneumococcic infection, suppurative pylephlebitis, and acute pancreatitis. The volume contains pictures of the hospital and its annexes, which will be especially pleasing to Thomas's men not living in the neighbourhood of London.

The *British Sanatoria Annual*[10] contains a list of sanatoriums in the United Kingdom, arranged in two sections, the first consisting of private sanatoriums and the second of sanatoriums that are free or take patients at reduced fees. Such a book of reference is very useful. This one seems to us to suffer from the faults which are inherent in this class of guide, the chief of which is that the amount of space and prominence given to the different institutions bears no proportion to their relative importance either in size or efficiency. If the essential points, which a person looking out for a sanatorium requires to know, were abstracted from the notices sent by the various institutions and tabulated for reference, it would add to the value of the *Annual* for the busy practitioner.

MEDICAL AND SURGICAL APPLIANCES.

A Drop-Bottle for the C.E. 2 Anaesthetic Mixture.—Dr. H. Bellamy Gardner writes: During the past ten years I have found this mixture, consisting of one part of chloroform with two parts of ether by volume, well shaken together, to be a most valuable anaesthetic when administered upon a honeycomb sponge by means of Dr. Silk's celluloid Rendle's mask. My own method has always been to hold the mask with the left hand close to but not touching the patient's face before the anaesthetic is poured on, and after instructing the patient to breathe slowly through the mouth, to introduce the mixture upon the sponge in the flannel lining at the distal end of the mask by inserting the spout of a suitable drop-bottle through the most convenient of the holes which are pierced through the celluloid for respiration. By this means a gradually increasing strength of vapour can be administered without removing the mask until the third stage of anaesthesia, with a weakly active corneal reflex, is retained. The bottle for this purpose should hold 4 oz. of the mixture and possess a bayonet catch to the stopper, so that it may be fixed open and the spout may then deliver a free stream of anaesthetic when the bottle is held by the body without the necessity of pressing the stopper with the index finger. Messrs. Allen and Hanburys, of Wigmore Street, have made a bottle suitable for this purpose, which packs easily into the mask for transit.



[6] *Hints to Nurses on Tropical Fevers.* By S. J. Pollard, Sister Army Nursing Service Reserve, late Sister at Guy's Hospital. London: The Scientific Press. (Cr. 8vo, pp. 57. 1s. 6d.)

[7] *How to Become a Nurse: The Nursing Profession: How and Where to Train.* By Sir Henry Burdett, K.C.B. New edition. London: The Scientific Press. 1905. (Crown 8vo, pp. 360. 2s.)

[8] *International Clinics.* Edited by A. O. J. Kelly, M.D. Vol. I. London: J. B. Lippincott Co. 1905. (Demy 8vo, pp. 392. 10s. 6d.)

[9] *St. Thomas's Hospital Reports.* Vol. xxxii. London: J. and A. Churchill. 1904. Demy 8vo, pp. 480. 8s. 6d.)

[10] The *British Sanatoria Annual*, 1905. London: John Bale, Sons, and Danielsson. (Demy 8vo, pp. 124. 5s.

THE MEDICAL ASPECT OF THE *DISCOVERY'S* VOYAGE TO THE ANTARCTIC.*

By EDWARD A. WILSON, M.B.,
Junior Surgeon to the *Discovery*.

IT is natural that in an expedition in which the general health of all concerned was on the whole so perfectly maintained as it was on board the *Discovery*, there should be but little of interest to say in this connexion; nevertheless, it may be worth while to give a short account of the conditions of life, of work and play, of summer and winter, of light and darkness, of food and lack of food, of warmth, ventilation, clothing, and exposure to excessive cold, all the hundred and one important and so called unimportant items, the neglect of which so readily produce disease, and the careful consideration of which, with a certain amount of good luck, can make a ship's crew healthy, and keep it healthy, through three Antarctic summers and two dark winters.

DIET.

I will begin, therefore, by giving an idea of our method in food and drink on the ship and on sledge journeys.

Tinned Foods and Scurvy.

Our equipment in these respects was almost as good as one could wish. It is true that here and there were exceptions, but, on the whole, our food supply was probably better in many ways than that of any previous expedition to the North or South. It was, therefore, an unwelcome surprise to us, at the end of a year on tinned foods, albeit with a certain constant admixture of fresh salt meat, to find that when we began to exert ourselves in the early spring sledge journeys at the end of the first winter, signs of scurvy appeared in more than one or two. Now this scurvy declared itself notwithstanding every possible precaution in the serving out of the tinned foods. Not a tin of suspicious food was ever passed, and each day not only was every tin of meat examined by sight and smell, but also every tin of milk the moment it was opened. Fresh seal meat was on the table three days a week, as well as frozen mutton on Sundays. We had, moreover, beer and cider, and bottled fruits, with jam and marmalade in abundance, and an unlimited supply of porridge and fresh bread.

On the first of every month there was a general examination of all hands on board, of officers as well as men, stripped naked. Weights and various measurements were taken regularly, and compared with those of the previous month, so that we knew exactly who, if any, were losing weight; who were out of sorts; or who had any spots, swellings, or oedema. At the close of the first year, when all were keenly preparing for the spring sledging, we knew that but one man in the ship had shown at any time the slighest suspicious signs of scurvy in the shape of some unaccountable oedema of the legs, with nothing amiss apparently either in heart or kidneys, and no suggestion of scurvy about the gums.

Then came the spring sledge journeys, the most trying of all, as they are undertaken in September when the days for travelling are still very short, the nights distressingly long, and the temperature persistently somewhere about 30° or 40° below zero F., occasionally running down to −60°. The lowest temperature experienced at all was −68°, and this was under canvas, when three separate expeditions were out for journeys which varied from ten days to a fortnight each. It was in an expedition which had been out three weeks from the ship, under such conditions as these, that scurvy first declared itself.

Seals and Gulls.

No sooner did we realize that our free use of tinned foods was having this result than we knocked them off entirely, and at once set to work to procure a supply of seals, so that none but fresh meat should be eaten.

There was at this time of the year a scarcity of seals about the ship. We killed all that were seen—a very simple business—for they have no fear of man, and are at once stunned by a blow on the nose, when they can be freely bled from the heart.

But we had need for more than could be collected round the ship, as we now began to eat seal in one form or another for breakfast, as well as dinner, six days in every week. On Sundays we had seal's liver for breakfast, the most favourite dish of all, and frozen mutton for dinner. On Thursdays throughout our second winter the seal diet was varied by skua gulls.

We thus discarded all tinned meats, and every symptom of scurvy rapidly disappeared. We at no time enforced lime juice, increasing instead the ration of jams and bottled fruits; but lime juice was freely taken by many of the men who liked it. In some cases, however, it appeared to disagree, and in my own case marked scurvy symptoms were dismissed and the disease completely cured without recourse to lime juice. The main thing undoubtedly was, that fresh meat alone was eaten.

Throughout the winter we had found that two solid meals in the day sufficed. We had a good sound breakfast with an abundance of porridge at 8 a.m., and at 7 p.m. a dinner of three courses. Between these hours—at 2 p.m.—we had tea with bread and jam and butter, and this throughout the winter was the most popular meal of the day. The result of this lighter meal at midday in lieu of a heavier lunch, was that one rarely saw any one of the ward room mess asleep except at night, and insomnia was hardly known.

The meat of the seal is coarse-fibred, dark, and somewhat tasteless, but by no means rank or fishy. The blubber alone is repulsive, and uneatable at table, though even this on an extended sledge journey has been welcomed by a ravenous appetite. The seal's liver especially is excellent, but the heart and kidneys, though considered better than the body flesh, must be cooked with care to be eatable. The skua gulls and the penguins were excellent food, the latter making a good "jugged hare." On our return to the Auckland Islands, where we entertained the officers of the relief ship *Morning* on some of the highly-esteemed New Zealand grey duck which we shot there, the insufficiency of the latter was made up by skua gulls, and so excellent was the gull that the fraud was not detected by our visitors.

Beverages.

I have mentioned that on Sundays we had beer and cider, and a certain amount of claret. There was a large supply of whisky, port, and madeira, and although these were always on the table, very little was used; the taste for alcoholic drinks dropped suddenly on our entry into the ice some months before the winter set in, and this disinclination increased as time went on.

No alcohol was taken on sledge journeys, except a small can of brandy for emergency; tea and cocoa were our regular drinks. For the first month of camp life tea was invariably preferred to cocoa, but after this, as the appetite became more and more difficult to appease, cocoa was welcomed in its place. Every one smoked, except three or four, and I consider that on extended sledge journeys tobacco is invaluable as a sedative to a chronic and unsatisfiable hunger. One pipe a day is sufficient even for a heavy smoker, and this small amount makes all the difference on a prolonged journey when the appetite gets far ahead of the small allowance of food.

SLEDGE JOURNEYS.

In the journey to the south, in which we were absent three months from the ship, our food allowance was for some six weeks a bare pound and a half per man daily. On this allowance hunger never left us, and sleep was much disturbed by disappointing food dreams—sirloins of beef and steaming cauldrons of cabbage and potato; ball-suppers—stuffed turkeys and splendid hams, and waiters flying around with plates full for everybody else: but shout as one might one could not get attended to, and then one awoke and remained awake in one's sleeping-bag for hours from sheer hunger and healthy appetite to wait for a breakfast of boiled ra and the crumbs of one and a half biscuits fried in the fat of a thin slice of bacon. Then four hours' hauling on the sledges and a cold lunch of dried chips of seal meat, eight lumps of sugar, and a biscuit. Then three more hours of hauling on the sledges or, worse still, of driving on the dogs, and a final camp for the night on a pannikin of soup made of pemmican and pea-meal, with plenty of boiled tea water and a fraction of a piece of chocolate.

As for sleep in the lower temperatures of the spring sledge journeys, it is hardly worth the name. The seamen used to wake in the morning and swear they had been awake all night; but my own experience is the same as that of others, and it is this: one gets into the reindeer-skin sleeping bag with no joy at all, for after a few days' sledging the accumulation of moisture from the condensation of one's breath and from the snowdrift, and from perspiration in one's clothing, has filled the reindeer hair with frost and rime, and

* Read at a meeting of the Gloucestershire Branch of the British Medical Association.

made the leather hard and full of frozen wetness. One crawls into this after freezing one's fingers over changing socks and boots of reindeer skin—an absolute necessity to prevent the freezing of one's feet. Having drawn the flap over one's head and buttoned all the toggles, so that as little air as possible can get in or out, one begins to shiver oneself warm, a business which occupies from an hour to an hour and a half or two hours; sometimes it seems to occupy the whole night. During the process the bag begins to thaw, as well as one's various garments. It must be remembered that in sledging at these low temperatures one's very flannel shirt, with nothing but a vest between it and the skin, is full of hoar frost, the result of frozen perspiration, and all one's clothes outside it are the same. Buttons must never be done up, for if they are it will be quite impossible to undo them in a hurry; yet there is no inconvenience in leaving them undone, as the pilot cloth of which our clothes are made is stiff as millboard. All this accumulated wetness then begins to thaw wherever one's body comes in contact with the sleeping bag interior, but there is no general thaw inside. A frozen sock or boot cannot be thawed except by lying on it. To take it carelessly into the bag does nothing, for the air in the bag remains below freezing point all night, except within one's clothes, which get thawed right through and feel saturated with wet. After this thaw has set in properly one begins to dream, and but for dreams, the most absurd under the sun, one would not believe that one had slept at all. Every hour or so one wakes to shiver, and then again the dreams begin, and this goes on until at last there is light enough in the tent to cook by, and one knows that purgatory is over.

There is never any hesitation in turning out in cold weather sleighing. The sleeping bag is too utterly unattractive. The moment we leave the tent our clothes become converted to a coat of mail. There is a hard and noisy crackling at every movement, for the headgear, which is immovably frozen to the shape of one's head, keeps its place from start to finish. This may be for a fortnight or three weeks; one can never take it off.

Now, having "slept," the first duty is to cook the breakfast, a duty which falls to the lot of each in turn. This means an abundance of frozen finger-tips. So frequently do the finger-tips succumb from touching metal lamps, oil cans, pannikins—even cheese, sugar, and canvas and linen bags—that eventually not a man returns without thick-skinned blisters on the end of each thumb and finger. There is no avoiding this, but there is no excuse for anything more serious, even at the lowest temperatures. We had one or two more serious frost-bites, but they were the result of accident. On one occasion a whole party of men was lost on a hillside in a blizzard, about a mile from the ship, returning from a sledge journey. One of this party (a thin youth of 21) got separated from the rest, and after wandering some hours, fell asleep in the snow from sheer exhaustion, and was partly buried. For forty-four hours he slept there on the hillside, while three search parties were hunting him in vain. Eventually he awoke when the blizzard stopped, and, recognizing his landmarks, walked in to the ship without even a toe or finger-tip frostbitten; neither was he the least bit the worse in any way for his exposure. The remaining eight of this party kept together for a time, but accidentally, in the blinding snowstorm, got on to a steep ice slope and were separated, and one of them, Vince, who was wearing fur boots, slipped, and was lost over an ice cliff in the sea. One lot of four found their way along the cliff and eventually reached the ship and gave word that Vince was lost and that the others were adrift. A search party was at once organized with lanterns, whistles, ropes and crampons, and the ship's siren was sounded every minute or two. After about two hours' wandering in the blizzard on the hills, these three were found completely dazed and unable to answer questions, the cold in all had begun to produce a torpor, and yet they continued to wander, not knowing where they were going. It was one of these who had the worst frostbitten hands that any of us experienced. In sliding down the ice slope he had lost both his felt and fur gloves, and had been barehanded for many hours, using his sheath knife to cut steps up the ice slope. On the next day, every finger and each hand was as though it had been very badly scalded, enormous blebs formed full of blood-stained fluid, and the ends of the fingers were like so many large purple grapes. We thought for a week or two that there was small chance of saving them, and yet, although they took many months to recover, nothing but the nails and more superficial tissues were actually lost. The nails dropped off one by one, and the ulcerations gradually healed up. But for the following year and a half this officer had constant trouble from recurring frostbite at the slightest exposure, and though the nails appeared again, the skin remained so sensitive that he was never happy with his hands till we finally left the ice.

The first frostbite I saw affected both the ears of one of my best friends, Lieut. Shackleton. Having heard from my youth up that a frostbite should be rubbed with snow I did so, with the result that the skin immediately came off, not from too vigorous a rubbing but from the fact that at temperatures below zero the snow is as hard as sand.

From that time on I never rubbed a frostbite, finding that it was far better to bring back the circulation by merely applying the bare hand or by gentle massage, or by making the frozen individual swing his arms.

Clothing.

One can do nothing in Polar climates without some form of wind-proof clothing, for though the lowest temperatures can be borne if there is no wind, a very moderate temperature becomes unbearable when a slight breeze springs up. The wind-proof clothing supplied by Burberry, with which our expedition was equipped, was of a very light and closely-woven gaberdine; with a helmet, a blouse, trousers and gaiters of this material the whole person is protected from head to foot, and is safe in the worst blizzard of wind and snow.

In these one starts on a sledge journey, and in them one returns; one eats in them, sleeps in them, walks and works in them sometimes for months together.

I have, as yet, said nothing about the warmer clothing that was needful. On the ship we wore rather thicker garments than one wears in winter in England—thick vests and pants of Jaeger's make, woollen shirts and pilot-cloth trousers, a Jaeger collar and tie or a woollen muffler, and a thick woven-wool cardigan. Everything of wool; and it is a golden rule in low temperatures to avoid everything but wool as far as possible. All furs are far too impervious, and, instead of allowing the free evaporation of moisture from the body, collect and absorb it all, and become heavy and wet and stiff when frozen. The only furs really needed are for sleeping bags on sledge journeys, and the only other material besides wool are the close-woven wind-proof coverings which I have already mentioned, and these are quite essential. When there is no wind, no matter how low the temperature may be, there is no need of extra clothing, except for the head and hands: these must be covered up by a woollen helmet and by woollen or felt gloves. Wolf skin mits are admissible, and reindeer hair Lapp boots are essential in low temperatures, but apart from these there is no need of furs nor for more than a jacket over-all in leaving the wardroom for a walk. But if there is any movement of the air, even the slightest breeze, the wind clothes must at once be donned, or serious results may follow on the thighs and legs.

When on a sledge journey, leather boots are never safe if the temperatures are so low as 10 or 20 degrees below zero. The leather absorbs the wet from the skin and freezes as hard as iron, making it impossible to get the boots off or on again in the morning if they have frozen out of shape. They soon stiffen and stop the free movement of the foot in walking, and this, if the temperature is low, is sure to end in frostbite. The reinskin boots being made of soft and rough-tanned skin with the hair outside, can be quickly thawed into comfortable shape by the warmth of the hand and foot; and, moreover, on taking them off at night, before entering the sleeping bag, it requires but a few minutes' attention to see that the mouth of the soft boot freezes open for the morning: being so it they yield to every movement of the foot and toes in walking, and so encourage the circulation to keep going. They are filled with a particular kind of absorbent hay from Norway, and into this the foot is thrust with two or three pairs of sock. The socks and the grass get wet through by the day's march, and while the former are stuffed inside one's shirt for the night to ensure that they may be pliable enough to put on in the morning, the latter must be teased out to freeze, so that on the morrow the wet can be shaken out of it as hoar frost. The sum total of the effect of these nightly arrangements in a three-man sleeping bag, into which three men crawl with all their clothes on, clothes in which they have been sweating freely every day for weeks, can be more easily imagined than described. On the ship we wore long

Russian felt boots up to the knee, very large and very clumsy, but always warm and comfortable. In the summer months ski-boots were the most useful foot gear, as one almost always went out on ski, the Norwegian snowshoes; but in working about the ship ordinary sea boots could be worn. For the whole two years we saw no rain, so our oilskins were stowed away.

The Hygiene of the Ship.

It will be well now to say a word or two about the difficulties of keeping a ship in a wholesome state when frozen into ice for a long period. In the *Discovery* we were fast in ice in one spot for two years and a month, and yet I think there was nothing really unwholesome about any of the living spaces, at any period either during the winter or the summer. The ship was, of course, specially constructed for warmth as well as strength. She had a double skin, with an air space between, which was a great protection from the entry of cold, or rather from loss of heat. The living spaces for men and officers were heated by coal fires with talc fronts, comfortable and cheerful to look at, and convenient for making toast, which was eaten by every one at breakfast and at the midday tea throughout the winter. The winter lasted practically for six full months, but not all this was darkness. We lost the sun on April 23rd, and again saw it appear on August 22nd. For about 120 days the sun was not seen at all, but neither was all this darkness. For a month or more on each side of the midwinter month of almost total darkness we had several hours of twilight, as the sun was somewhere near the horizon either in approaching spring or in departing summer. During the months of March and April we had sufficient daylight to indulge in hockey and football on the icefloe every day at noon. When light failed for this each man took air and exercise daily, either walking over the hills or snowshoeing over the sea ice. Most of the men took kindly to the routine because they found that it enabled them to eat more heartily and to sleep; and indeed the air and exercise were the secret of both.

The upper deck was buried in snow hammered hard to a depth of several feet which formed a substantial roof to the living space below. The actual deck, moreover, was of wood in two layers with a lining of asbestos wool. Then over all we had a winter awning, which to some extent protected the doors and deck houses in the blizzards from getting obstructed by too much snow.

In building the ship there were a few small errors made, which had uncomfortable consequences. The skylights, which in summer admitted the only light we had in our cabins, were in metal frames which connected the cold outside with the warm, moist air inside, and this produced sometimes a drip, but generally the formation of frost rime and icicles, which eventually thawed and dripped as one worked at the tables underneath. Also there were some metal bolts which did the same thing along the bunks, producing disagreeable bosses of ice close to one's face as one lay there, which from time to time thawed and made the mattress and bedclothes wet along the ship's side. This wet ran down behind the bunks and made the clothes in our drawers below as wet as possible, or else, if the temperature was particularly low, bound one's clothes together in a solid mass of ice.

HEALTH OF THE CREW.

But these difficulties sound far worse than they really were, and the only dangerous objection was the damp in one's bunk, which certainly did lead to a good deal of rheumatism in those who had a tendency that way. There were several cases of lumbago, and once or twice a bad attack of more general muscular rheumatism with some fever and free sweating, but never in any case was the acuter rheumatism situated in the joints, a point that seems to uphold the idea that one may be more the result of climatic conditions combined perhaps with an erratic digestion, and the others —the arthritic form—more purely the result of actual infection.

Without, however, venturing an opinion, it seemed to me interesting to note that the muscular form of rheumatism was the more common in what is considered, and no doubt practically is, a germ-free part of the globe, and that although the acuter forms of arthritic rheumatism were absent, the more chronic form of rheumatoid arthritis appeared in one or two cases, and was certainly associated with exposure to cold and wet, combined with a faulty digestion.

Here it may be of interest also to call attention to the absence of "colds." We were entirely free from this trouble from the time we entered the ice to the time we reached New Zealand two and a half years later, except on two occasions, which were somewhat remarkable. On the occasion of our unpacking a large bale of woollen clothing, long after we had been in the ice, a very virulent form of nasal catarrh ran through the whole ship's company. Undoubtedly, in this case the infection was in the clothing. On the second occasion the catarrh was accounted for by the fact that our wardroom carpet was taken up for beating, and the infection, which had lain dormant for many months, was liberated, and had the usual effect. But though the majority of us were infected, and though the attack on the one occasion was very severe, with a pronounced aching all over the limbs and body and much indisposition, and, I have no doubt, also fever, yet it was soon thrown off.

Unhappily for the cause of investigation it broke out just after we had separated on various sledge journeys, so that I heard of the generality of the attack only some months after its occurrence.

One party of three, however, after a few days' travelling, felt so ill with what they thought was influenza that they turned back to the ship and brought their journey to a close.

To return once more to the ship. We never allowed the excessively warm temperatures in the living spaces that one reads were allowed in some other Arctic and Antarctic vessels. In the *Discovery* each officer took his turn to remain up all night on watch, to keep the fires going, and to visit the meteorological screen, a hundred yards away from the ship, for the temperature and other observations, which were taken every two hours day and night.

Therefore, with a thermometer also in the wardroom and on the mess deck, there was no difficulty in arranging that the temperature should be maintained somewhere between 50° and 60° F. When the officer of the watch for the night turned in, after taking the 6 a.m. observations and after calling the cook, he used as a rule to open the skylights; and the wardroom would then be flooded with very cold air, till the temperature had dropped sometimes to nearly freezing point.

This was found to freshen the whole living space, sleeping cabins and all; and yet by the time breakfast was ready at 8.30 the temperature had invariably risen again to 55° or 60°. Often before the midday meal, or while the dinner table was being laid, the skylights would again be opened, and so the whole place was kept fresh and wholesome. The stoves were excellent, and kept a certain amount of ventilation always going; for when the skylights were closed there was still a downtake in the roof for fresh air.

There is little doubt that by keeping the living spaces at a higher temperature the amount of damp in the cabins could have been reduced, but it would have been at the expense of the general good health.

Scurvy.

In the *Discovery* the blood count was regularly carried out by Dr. Koettlitz, and his results, if they show anything fresh as the result of Antarctic wintering, will no doubt be published with the rest of the Expedition's scientific work. He took estimations of the haemoglobin as well as counts of the red and white corpuscles at various stages of the winter, and so far from any anaemia as the result of prolonged darkness there was in a good many an increase both in the haemoglobin and in the number of red corpuscles. This may have been due to a general improvement in health from the fresh meat diet, or from the restful life following on a summer of very heavy work.

I think to every one the winter months came as a most welcome time of rest and recruiting after the summer's sledging, which is, under the best conditions, very trying work indeed. To those who went on the longer journeys, and returned with fairly well-marked scurvy, it was the greatest possible boon to feel that rest was possible; for with swollen spongy gums and knees which would not bend and oedema in both legs to the hips; with brain and nervous tissues I suppose, in much the same dilapidated state, there was nothing, except fresh meat, that one so desired as the feeling that one could sit still for a month and do nothing.

Lieutenant Shackleton, whose throat and breathing passages were affected, was, much against his will, sent home in the relief ship *Morning*, his attacks of dyspnoea, cough, and blood spitting were regularly induced by the approach of a southerly blizzard and it was deemed inadvisable for him to risk a second winter. His superabundant energy and untiring zeal for work were to some extent answerable for his rapid breakdown when attacked by scurvy. He never, unless actually ordered to do so, would consent to save himself, and

this, however admirable in itself, is a bad trait in a scurvy patient.

To be thus cut short in the continuance of this work was the most bitterly disappointing thing that could have happened to him, nor was the loss of his cheery face and constant sense of humour any less of a disappointment to his messmates.

In the cases of scurvy which came under my own notice from the first, the gums were the earliest part affected, becoming swollen and dark purple; and this swelling was to be felt by the tongue at the back of the incisors for several days before there was any visible sign of swelling from the front. Little purpuric spots—chiefly on the legs, and thighs, and arms—were noticeable next, increasing to very considerable numbers; then the nails of the hands and feet should be examined, for in one case there were symmetrical haemorrhages under each big toe nail, and in two other cases there were little longitudinal streaks of dark blood under all the finger nails; then, following the slightest strain, which is a frequent occurrence when travelling amongst and over rough hummocks of ice and snow, a gradually-spreading brawniness appears in the popliteal space or about the ankles, and this increases till the knee cannot be bent at all; the swelling, meanwhile, takes on a bruised and haemorrhagic appearance, and pits very markedly to pressure.

All these signs, perhaps, are too well known to need mention, and the pity is that one was not working under conditions where minute examinations of the blood and urine could be made. As things were, however, it was impossible; and, apart from our being able to give positive evidence that fresh meat will rapidly cure scurvy without either lime-juice or fresh vegetables, I am afraid that our observations will not be of much value. To ourselves the whole point seemed to be fresh meat, no matter what the animal it came from. After cutting off tinned meats, it was only on the longest journeys, when fresh meat could not be taken in sufficient quantity and no living animal or bird was ever seen, that scurvy appeared, and the moment rest and fresh-meat diet was procurable the symptoms began to disappear.

Snow-blindness.

There is one more discomfort which I must mention, though it is not peculiar to the Polar regions—I mean "snow-blindness," or "snow-glare," which attacks the eyes on the great ice-barrier plain in a most painful manner, often necessitating that one shall travel for days on end blindfold, and even necessitating sometimes that a party shall camp and wait till the violence of the attack is over before proceeding. There were times when two out of the three on the southern sledge journey were unable to use their eyes at all. We used zinc sulphate and cocaine for all minor attacks, but found that sleep was the best and quickest cure of all, even if an injection of morphine had to be given to produce it.

A Septic Wound.

We had one case of septic poisoning on the ship which resulted in such a lengthy business for the man concerned that a word or two about it may be of interest. It was in March, 1903, that one of the seamen was told off to act as butcher for the week, a work which several of the men and officers undertook from time to time. It consisted of the killing and cutting up of seals for butcher's meat. During this occupation he cut himself on the hand and did not mention the fact till he had pain in the glands of the axilla. These were treated at once as well as the wound, and were kept under without ever quite disappearing, for something like four months, at times almost becoming normal and then for no apparent reason becoming hard and painful again, though the arm was strapped in to ensure its rest. About July of the same year the glands suppurated; a superficial abscess was opened, and about a tablespoonful of greenish-yellow pus let out. From that day onward the wound refused to heal, although on our return to New Zealand the remaining glands were twice scraped out and the axilla freely opened. Up to our return to England in September, 1904, there seemed to be a greater tendency for the wound to break down at the edges than to heal, and the patient was then admitted to the Naval Hospital at Chatham, where, as I have been kindly informed by the surgeon in charge of the case, he is still under treatment, and shows signs of very slow improvement.

In this connexion I may say a word about the diseases of the seals in the southern ice. One would expect them to be exceptionally healthy, but they seem to be a prey to the attacks of more than one form of disease. They have frequently a mass of suppurating sores all over them, the result of the fights indulged in by the bulls in the breeding season. In a very large proportion of bulls the skin around the genital orifice is in a ragged and suppurating condition, owing to the fact that this is the part attacked in all their fighting. There are other and larger wounds, which are nearly always in a very unhealthy state, and these are made by the teeth of the killer whale or grampus, which is apparently as common in the South, and as vicious, as it is said to be in the North. In the North the stomach of a single grampus has been found when opened to contain the remains of fourteen porpoises and several small seals. Unhappily, the combined whaling talent of the *Discovery* and both relief ships was unable to kill a grampus, or we might have beaten even that record, but their voracity is evident from the marks they leave on the seals they have failed to catch. Then again we used to find in preparing the seals for food, that now and again in the heart the coronary arteries were hard and atheromatous, or in the kidney there were concretions branching into every tube. And again, at the time when the young were being born, we noticed a good many which were apparently blind, with their eyes streaming with yellow pus.

Cultures were taken from these cases of ophthalmia as well as from the various sores, and cultures were made from the contents of the intestines of both seals and penguins and skua gulls. All the bacteriological work, however, was done by Dr. Koettlitz, and his results will no doubt appear in due course.

We had one fracture during our stay in the ice, and this, which was a comminuted fracture of the lower third of the tibia, recovered well in the usual time.

I think that I have now mentioned most of the ailments that befell us; though one or two were troublesome and gave considerable anxiety at the time under such conditions, they were not, as a rule, of a very serious nature. An exploring ship is no place for surgery, and the sick bay at our disposal, placed close by the galley for the sake of the galley's warmth, was for that very reason the wettest place in the whole ship, because the steam from all the cooking condensed in it. We were exceedingly lucky in keeping so free from illness.

I have taken considerable liberties in diverging from my text, but I hope I have given an idea of the ways and means by which one can promote and ensure health under conditions which are more or less generally considered to be trying and unhealthy. I have spoken of our food on the ship and on sledge journeys, of our methods of keeping the ship warm and comfortable, and at the same time airy and wholesome—a thing which some Arctic expeditions have found most difficult—and I have spoken of the difficulties that beset one in sledge journeying at various temperatures. It would be possible to speak for many hours on the pleasures of life in the Antarctic, but in saying so much on matters which have so slender a connexion with medical science, I must close with the hope that these details may have some interest, in the absence of more important medical information.

THE PLAGUE.

PREVALENCE OF THE DISEASE.

INDIA.

DURING the weeks ending June 3rd and 10th the deaths from plague in India numbered 15,317 and 7,486 respectively. The principal figures during the two weeks were: Bombay City, 346 and 251; Bombay Districts, 707 and 572; Calcutta, 84 and 80; Bengal Districts, 661 and 351; North-West Provinces and Oudh, 1,785 and 956; Punjab, 9,460 and 5,086; Rajputana, 475 and 349; Central Provinces, 6 and 4; Hyderabad State, 34 and 11; Mysore, 19 and 28; Madras Districts, 14 and 14; Burma, 85 and 60. At Bhurtpur, during the six weeks ending June 3rd, 1,074 deaths from plague were reported for the whole period, independently of the numbers reported from Rajputana, with which they are usually included.

SOUTH AFRICA.

One case of plague was discovered in East London during the week ending June 3rd. One case of plague previously recorded at Queenstown died during the week ending June 3rd. From no other town or district are any fresh cases of plague reported in South Africa during the week ending June 3rd. Rats and mice infected with plague continue to be found at Port Elizabeth, East London, and King Williamstown.

AUSTRALIA.

Queensland. At Ipswich, near Brisbane, during the weeks ending May 13th and 20th, the fresh cases of plague numbered 7 and 0; the deaths from the disease, 1 and 0. During the weeks ending May 13th and 20th the fresh cases of plague at Brisbane numbered 0 and 2, and the deaths from the disease 0 and 2. At Childers a town 40 miles north-west from Maryborough a fatal case of plague occurred on May 16th. Between April 1st and May 6 h no case of plague occurred anywhere in Queensland. Plague infected rats have been found in all the three towns from which plague is reported.

Report

ON

THE FAMILY CARE OF THE INSANE POOR IN ENGLAND AND WALES.

[BY OUR SPECIAL COMMISSIONER.]

IT will be remembered by those who read the concluding report, published in the JOURNAL of March 18th last, of the series of reports on the "Care of the Insane Poor," that it was pointed out that the family-care system is one of increased, not diminished, co-ordination and control. In so saying we should have said that this statement had reference to a properly managed family-care system, such as any of those under review in the preceding articles, and not to the method which is the subject of the present report. It is perhaps unnecessary to mention this, as the distinction was implicit in the concluding sentences:

Those who oppose its extension in England on the ground of public safety or from fear of careless or harsh treatment of the patients by their guardians, forget that we have to-day over 5,000 lunatics under family care who are seldom inspected, who are detached from any central administrative control, and for whom the use of mechanical means of restraint is, if not countenanced, at least not prohibited.

Since these words were written this matter has been inquired into, and in a considerable number of towns in England and Wales large numbers of the patients have, through the kindness and courtesy of parochial medical officers, been visited.

THE SYSTEM.

The patients, for the most part cases of imbecility and senile dementia, harmless and inoffensive people, are known officially as "pauper lunatics residing with relatives or others," and are under the care of the Boards of Guardians. They come on the official roll, as a rule, by two channels. Either—and this is much the more frequent—by the patients themselves or their guardians applying for parochial assistance, and after being found to be imbecile, idiot, demented, or feeble-minded, placed on the quarterly list of the parochial medical officer; or by being discharged to the care of friends or relatives from workhouses or asylums through the Boards of Guardians. They are then visited and reported upon to the Guardians once a quarter by the parochial medical officer, and also once a quarter by the relieving officer. Under the Lunacy Act of 1890 (53 Vict., cap. 5, Part vii, 202 and 203) the following regulations are laid down:

202 (1) Every pauper lunatic not in an institution for lunatics shall once in every quarter of a year (reckoning the several quarters as ending on the 31st of March, the 30th of June, the 30th of September, and the 31st of December) be visited, if not resident in a workhouse, by the medical officer of the union or district in which the lunatic is resident, and, if resident in a workhouse, by the medical officer of the workhouse.

(2) The guardians of every union shall from time to time furnish to every medical officer of the union, forms for the prescribed returns relating to pauper lunatics not in an institution for lunatics.

(3) Where a pauper lunatic has, by order of the visiting committee, been delivered over to the custody of a relative or friend *to whom an allowance is made for the maintenance of the lunatic*, the medical officer of the union or district in which the lunatic resides shall, within three days after each quarterly visit, send to the visiting committee a report stating whether in his opinion, the lunatic is properly taken care of, and may properly remain out of an asylum.

(4) Each medical officer shall be paid 2s. 6d. for each quarterly visit to a pauper not in a workhouse, and in addition 2s. 6d. for every report sent to a visiting committee under this section, and those sums shall be paid by the same persons and be charged to the same account as the relief of the pauper.

(5) Nothing in this section shall relieve any medical officer from any obligation under this Act, to give notice to a relieving officer or overseer, when it appears to such medical officer that a pauper lunatic ought to be sent to an asylum.

203. Any one or more of the Commissioners shall, on such day or days, and at such hours in the day, and for such length of time as he or they may think fit, visit all such workhouses in which there is or alleged to be any lunatic, as the Commissioners by any resolution direct, and shall inquire whether the provisions of the law have been carried out, and also as to the dietary, accommodation, and treatment of the lunatics, and shall report in writing thereon to the Commissioners, and the Commissioners shall forward a copy of every such report to the Local Government Board.

It will be noted that although the "Commissioners in Lunacy visit such workhouses in which there is, or is alleged to be any lunatic," no provision is made for the visitation by a Commissioner of pauper lunatics not in institutions for the insane and not resident in a workhouse, and that the returns of the parochial medical officers are made to the Boards of Guardians and not to the Commissioners in Lunacy. These cases are thus absolutely detached from the general lunacy administration of England and Wales. Another interesting point is contained in the words printed in italics, in par. 3 of Section 202. It is that when a pauper lunatic discharged unrecovered from an institution has been handed over to the custody of a friend or relative who does not apply for relief on account of the lunatic, that patient drops out of official cognizance absolutely. We mention this because in several towns we heard of such cases from the parochial medical officers.

DISTRIBUTION.

At the end of 1903 there were, according to the Annual Report of the Commissioners in Lunacy, 5 516 pauper lunatics living with friends or others. A reference to Appendix B, Table I, of the Annual Report shows that these cases were distributed over the whole country, but that certain administrative counties had very few such cases; Huntingdon, for instance, had only two and Westmorland three, whilst Stafford had 210, and many other counties approached this figure. In Wales there were 878, the remaining 4,638 being scattered over English counties. As it was impossible, and indeed unnecessary, to see the whole of these cases in order to gain a general idea of their condition, twelve towns were selected (twenty-two parochial districts), and in each district the whole of the patients under any one parochial medical officer were visited. The towns visited were fairly widely distant in England and Wales, and though the number of patients visited (300) is not large, owing to the difficulty of access in many cases—a whole day often being spent in travelling in order to see three or four patients—and though the following remarks can, strictly speaking, only be held to apply to those visited, we believe from the plan adopted of seeing, as a rule, one district in each town and working that district thoroughly, and from the fact that after the first hundred cases, later cases showed only a repetition of the conditions amongst the former, that these cases may be accepted as fairly representative of the whole. These unfavourable conditions under which many cases live do not result from any lack of care or interest on the part of the parochial medical officers, who are indeed powerless to remedy matters, but are the direct outcome of an inherently faulty system.

THE PATIENTS.

Of the patients seen, 41 per cent. were males and 59 per cent. females. In 15 per cent. of all these cases the patients were of 20 years of age and under, in 30 5 per cent. of 60 years of age or over, and in the remaining 54·5 per cent. of intermediate ages. A striking feature was the comparatively large number of imbecile women of child-bearing age, amounting to 40 per cent. of the female patients. It will be remembered that in Scotland the boarding-out of imbecile women of child-bearing age is not allowed except in those cases in which the patients would otherwise escape official control by the parents or guardians refusing parochial aid. It will be apparent hereafter that much greater stringency is required in regard to this matter in England and Wales.

As regards the classification according to form of mental disorder, 66·5 per cent. were classed as imbecile, and of these imbeciles 28 per cent. were the subjects of epilepsy. Experience gained abroad establishes the conclusion that, given a good family-care system, no class of patient does better under family care than the imbecile, but that cases of epileptic imbecility are as a rule much more suitable for institutional treatment than for treatment in private dwellings. In all cases, however, of any class, it is not so much the form of mental affection as the nature of the individual case, the character of the guardian and home selected, which have to be considered. Many of the imbecile cases seen were, apart altogether from the character of the guardianship, unfitted for family care, and the majority of the epileptic cases would have been better in an institution. There was a further percentage of 20 4 of cases of senile dementia, either simple senile dementia, or secondary dementia, and the remaining 13 per cent. were cases of other forms of mental disorder, harmless chronic delusional insanity, etc. The cases of senile dementia include a large number of cases of simple senility without any obvious mental affection beyond slight loss of memory. In two districts the cases were preponderatingly of this class—patients whom it was impossible to regard as lunatic or as other than slightly feeble-minded from senile involution. In the other districts these cases formed only a very small proportion of the cases which belonged almost entirely to the decidedly defective class. In the two districts above-mentioned it was

stated that there had been in the past some feeling amongst the guardians that the inclusion of the simple senile cases in this category of pauper lunatics had led to unnecessary notification, and in one case to an inquiry by a committee of the Board of Guardians concerned; and though, as a safeguard to both patient and public, over-notification is a less evil than under-notification, this disparity between districts is an evidence of the lack of centralized official supervision and control. Another evidence of this lack of control is that there does not appear to be any compulsory notification of removal on the part of the person who has the charge of a patient. In every town visited were at least one or two cases where the people had removed. Sometimes they could be traced through information supplied by neighbours, but others were completely lost sight of. It appears to be taken for granted that the patients will automatically reappear on the list by their guardians reapplying for assistance, and though this is probably true in the majority of cases, it need not apply universally, particularly in regard to those who have only medical relief.

The Homes.

These are, of course, the ordinary cottage or slum dwellings of the poor people, but surprising differences were encountered. The best homes were, as a rule, in country districts and recalled the average type of dwelling in which pauper



Common type of house for patient in England: Crowded, dirty rooms; patient epileptic imbecile; bed very wet.

lunatics are boarded-out in Scotland. Though these form a very small minority, about 50 per cent. of the whole number seen were clean and comfortable; 13 per cent. were dirty, though on the whole as comfortable as the average homes of this class, and the remaining 37 per cent. were either very dirty, untidy, and wretched, or appallingly filthy and abjectly poverty stricken. There is no intention here of advocating for patients under family care any fixed standard of home comfort. It will be remembered that in treating of Scotland Sir Arthur Mitchell was quoted to the effect that, "as a rule, it is regarded as sufficient if a lunatic's condition shows a reasonable approach as regards substantial comforts to that of the poor, but respectable, portion of the general community." That standard should suffice for England and Wales, but not even in that portion of Gheel to which attention was drawn in the report on that place was there to be found anything approaching the wretchedness to be seen over and over again in this country.

As regards accommodation—a very important matter in this relation—it was found, not including in these figures the cases where the patients lived alone in a lodging of one room, that overcrowding was present in exactly 50 per cent. of the cases. By overcrowding is meant, not mere insufficiency of air-space, no case being considered overcrowded, no matter how many composed the family, if any bedroom, however small, contained only two inmates; but only where three or more slept in one room of utterly inadequate dimensions. The result of this insufficient accommodation is, that adult or adolescent patients, generally imbecile young men or women, frequently slept in the same rooms and occasionally in the same beds as adult members of the family of opposite sex. It was not always easy to get at the true facts of the case, which were only disclosed after much questioning of the guardian, parent or other, but in a good number the conditions were admitted without any attempt at evasion and with no apparent recognition of there being anything unusual in such an arrangement. Almost every possible combination of adult relatives in the same bedroom, was met with—brother and sister, mother and son, father and daughter having sometimes the same bed.

Guardianship.

The experience of family-care systems has shown that wherever the care of patients has been entrusted to their own relatives less satisfactory results are achieved than when patients are placed in the homes of strangers. This, indeed, might have been expected. In the first place, not every person is competent to become the guardian of an imbecile or insane person. The selection of a guardian should always be made with great care, and after due personal inquiry and investigation on the part of an official. To entrust the care of patients to their natural guardians does away with any possibility of choice. In the second place, the ties of con-



Good type of house: Two patients, brother and sister, cretinoid imbeciles; comfortable and clean.

sanguinity are only too often manifested in the relatives of any insane person, if not by actual insanity, at least by some degree of feeble-mindedness or defect of character. This was found to be true in many of the homes visited. In one house, which was indescribably dirty, eleven inmates had between them three bedrooms. Two of these, mother and daughter, were imbecile, and an infant in arms had every appearance of being an imbecile. Another member of the family is insane and other relatives feeble minded. In another was a cretinoid imbecile who had numerous relatives in the neighbourhood, many of whom were of feeble mind. In a third house an imbecile youth, aged 20, and physically of fair development, slept in the same bed with his sister, a healthy girl, aged 18, although there was an unused bedroom in the house; the mother appeared feeble-minded.

The importance of the hereditary factor is so well known that it is unnecessary to labour this point, and yet in almost every one of the cases of pauper lunatics outside institutions in this country, the guardian is a parent or near relative. Of the cases visited, the guardianship was in 51 per cent. good, in 14 per cent. doubtful, and in 35 per cent. manifestly bad, that is, careless or incompetent. It is to this bad guardianship and to the extreme poverty of very many of the guardians that the defects of this system are attributable. In one district of one town a feeble-minded woman was seen who, when the present parochial medical officer took over the dis-

trict, was suffering from secondary syphilis, contracted from a lodger. This patient was living under the care of her father and mother, both old people. Another female patient, an imbecile girl, in the same district, had an illegitimate idiot child. This patient, however, was not on the list when the child was born. Another patient, also in the same district, had been a few days before to a medical man to find out whether she was pregnant or not; she was not, but that she had run the risk of conception was proved. In another town were two feeble-minded female patients, sisters aged 20 and 30, living in very bad surroundings, with whom the medical officer was informed—men in the neighbourhood had frequent intercourse. Such things sound almost incredible, but in every town, with two exceptions—and in these cases owing to pressure of time it was not possible to visit the larger districts—similar instances were seen or heard of in every district, and conditions were found to exist from which these evils must almost inevitably arise. On the other hand, slightly over one-half of the cases were found in clean and comfortable homes, possessing adequate accommodation; the patients were well clad and nourished, and provided by their guardians with solicitous care and attention. Such homes existed in sufficient numbers to prove that the system of family care is not inapplicable to England, but the contrast between these and others in which patients were sleeping on sacks stuffed with straw, on rags, and on broken-down camp beds, shows that the whole system requires increased inspection, rearrangement, and higher control.

Cost, Etc.

In reviewing the family-care colonies abroad it was possible to arrange the reports in sections dealing with clothing, diet, cost, and so forth, as each of the colonies made definite provision in their regulations as to these matters. In Scotland, where the system is much more elastic, the standard is given in the words of Sir A. Mitchell quoted above, but in England and Wales there seems to be no standard at all. The patients or their friends provide their own clothing, the food of the patients ranges from the wholesome food of the better sort of houses to the bread and dripping and tea for every meal of the solitary dement living on 3s. 6d. a week. The parochial assistance given on account of the patients may be medical relief solely or monetary grants from 1s. 6d. to as much as 7s. a week: only one case, however, was met with in receipt of the latter sum. The usual sums paid are from 2s. 6d. to 4s. a week. These sums are, of course, utterly inadequate for the proper maintenance and care of patients whose mental affection is sufficiently marked to prevent their earning wages of any kind. As a matter of fact a good number do earn small, as a rule very small, sums to help towards their maintenance, but the rest are either inefficiently looked after or are a continual drain upon the resources of their guardians. That many of these patients, removed from their present surroundings and placed in competent hands, with the possibility of some healthy manual occupation, would be capable of work which would benefit both themselves and their guardians, can hardly be doubted; but under the present haphazard system, this is impossible. They are neither efficiently controlled, guided, nor cared for, and what energies they have are either misdirected or run to waste.

As to statistics concerning the death rate, the occurrence of major casualites, breaches of the law by any of these patients, pregnancies amongst the female patients, etc., no information was obtained, and it is doubtful whether such information is obtainable. Possibly, after laborious search, a fairly accurate death-rate might be obtained, but it would probably be impossible to get beyond this. As regards pregnancy, which might appear to be a point which would come under immediate notice of the law, the possibilities of error are too numerous to permit the compilation of any trustworthy estimate. Although the patients are visited quarterly by the parochial medical and relieving officers, the time intervening may be sufficient for the pregnancy to have occurred without any one being aware of it; the patient may have been removed to another district and lost sight of; and further when the birth is registered, there is nothing on the birth certificate to say whether the mother is imbecile or lunatic or not.

Such conditions as are here portrayed are surely not beyond remedy. It may be frankly admitted that the matter is not free from complication and conflicting interests, but the difficulties may be resolved.

Recommendations.

Reforms which would result in immediate improvement are:—

1. The inclusion of these cases of pauper lunacy residing with relatives or friends within the jurisdiction of the Commissioners in Lunacy.
2. Their periodic visitation by the Commissioners in Lunacy.
3. More frequent visitation by medical and lay officials.
4. A careful selection of cases for treatment outside institutions.
5. A careful selection of guardians of such cases; their appointment to be conditional on their compliance with conditions imposed by the Commissioners.
6. Adequate remuneration for these guardians.

At first sight it would appear that the carrying-out of this scheme would result in a much increased expenditure, but when it is considered that if a properly-managed system of this kind were once established many of the patients who are at present maintained in asylums, at great cost to the community, might be treated satisfactorily and economically under family care, it will be apparent that this system would result in a considerable economy of public moneys.

There is still one more way in which this plan might be of benefit. This concerns the considerable class of feeble-minded and defective persons who cannot at present be officially notified and treated; it was for the consideration of this class that the present Royal Commission on the Care and Control of the Feeble-minded was appointed. Nearly every medical man must know of such cases. During the visits recently made in the course of this inquiry, imbeciles and feeble-minded, and also epileptics with some degree of mental deterioration were seen, whose parents or guardians, respectable working people, were not in receipt of parochial aid, and who were strongly opposed to sending their wards to an asylum. There are grounds for believing that many of these people would not be averse to sending the patients to family care, and though, as has been said, epileptics as a class are not suitable for this form of treatment, the family care system may very suitably be combined with other and more institutional modes of treatment.

We desire to tender our very hearty thanks to all those parochial medical officers who have so kindly permitted our Commissioner to see their cases, and who have given invaluable assistance; without their aid, indeed, it would have been impossible to prosecute this inquiry. The evils described are in no way the fault of the medical service but of the system, and we may add that those medical officers who have had the most experience of its working agreed that changes, on the lines which are here indicated, would be of great benefit.

THE PREVENTION OF CONSUMPTION.

Worcestershire Association for the Prevention of Consumption.

Purchase of Open-Air Sanatorium.

Nearly three years ago the Worcestershire Association for the Prevention of Consumption obtained a five years' lease of the house and grounds of Mr. J. Dingerfield at Knightwick for the purposes of a sanatorium for the treatment of consumptives. The value of the sanatorium having been abundantly proved, 89 per cent. of the cases treated having been enabled to resume work, the Committee has decided to purchase the property. With this object an appeal for funds has been issued by Dr. Harry E. Dixey of Malvern, Chairman of the Committee. The amount required for the purchase is £6 000, and already about £4,750 has been promised. Some of the promises are contingent on the whole amount being raised, which naturally adds to the anxiety of the Committee to obtain the comparatively small sum still required. Promises of contributions, which may, if desired, be spread over a period of two years, may be sent to Dr. Dixey, or to the Secretary, Mr. J. P. Holder, Elladale, Penbury Street, Worcester.

CONTRACT MEDICAL PRACTICE.

Notice as to Districts in which Disputes Exist.

A notice as to places in which disputes exist between members of the medical profession and various organizations for providing contract practice will be found among the advertisements, and medical men who may be thinking of applying for appointments in connexion with clubs or other forms of contract practice are requested to refer to the advertisement on page 19

THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

COUNCIL ELECTION.

THIS election took place on Thursday, July 6th, and the result was:

	Votes.
Mr. EDMUND OWEN	**512**
Mr. C. H. GOLDING-BIRD	**480**
Mr. RICKMAN GODLEE	**471**
Mr. W. HARRISON CRIPPS	**373**
Mr. ANDREW CLARK	315

The President declared Mr. Owen and Mr. Godlee re-elected, and Mr. Golding-Bird and Mr. Cripps elected. Mr. Bruce Clarke, who retired, received 66 votes.

MEDICAL NEWS.

AMONG the Congresses to be held at Liége this year in connexion with the Universal and International Exposition there is to be one of Chemistry and Pharmacy. It will take place from July 27th to 30th.

THE Fellows of the Therapeutical Society will meet on Wednesday next at the Botanical Gardens, Regent's Park, to view the medicinal and other plants. Tea and music will be provided in the course of the afternoon.

DR. ISHINOSKÉ MIMURA, Physician to Prince Arisugawa of Japan, has been appointed an Honorary Member of the Fifth Class of the Royal Victorian Order on the occasion of the visit of His Imperal Highness to this country.

A PROVINCIAL sessional meeting of the Royal Sanitary Institute will be held at the Medical Schools, Downing Street, Cambridge, at 11 a.m. on Saturday, July 15th, when Professor Sims Woodhead will open a discussion on the water-supply problem in rural districts and interpretation of the reports of water analysis.

WE are informed that on June 29th, a conference representing the societies working for the health of the nation was held, and agreed to a federation between such societies and the Council of the National League for Physical Education and Improvement on the principle of proportional representation. The Societies which were unable to send representatives to this conference can obtain further particulars on application to Mr. Beverley Halley, 49-50, Denison House, Vauxhall Bridge Road, London, S.W.

MEDICAL MAGISTRATES.—Dr. D. T. Rocyn-Jones, of Abertillery, and Dr. E. M. Griffith, of Abercarn Fach, have been appointed to the Commission of the Peace for the County of Monmouth.

KING'S COLLEGE HOSPITAL.—The trustees of the late Miss Marianne Frances Hasker, formerly of St. Leonards-on-Sea, have promised a donation of £20 000 towards the fund for the removal of King's College Hospital to South London, on condition that when the new hospital is built one of the blocks for the accommodation of female patients shall be named after the deceased, a brass mural tablet being erected thereon to record the benefaction.

METROPOLITAN HOSPITAL SUNDAY FUND.—The sums received up to Wednesday, July 4th, at the Mansion House by the Metropolitan Hospital Sunday Fund, in respect to the appeal on Sunday, June 25th, amounted to £40,000. This total includes both the special donation of £12,500 made by the trustees of the late Mr. Wyndham Francis Cook and the result of the separate appeal which was this year addressed to city men.

A TUBERCULOSIS EXHIBITION IN NEW YORK.—The first American Tuberculosis Exhibition will be held in New York in November under the auspices of the National Association for the Study and Prevention of Tuberculosis, and of the Committee on the Prevention of Tuberculosis of the Charity Organization Society. Dr. Lederle, formerly Commissioner of Health of the City of New York, is Chairman of the Organizing Committee. The object of the exhibition is the education of the people. In addition to exhibits illustrating different phases of the tuberculosis problem, and especially the treatment of the disease, popular lectures will be delivered by specialists.

"OSTEOPATHY" IN PENNSYLVANIA.—A Bill was passed by the last State Legislature of Pennsylvania regulating the practice of osteopathy, licensing those who desired to engage in the practice of this art, and establishing a board of examiners representing the State Osteopathic Association, before whom all candidates should appear before they could legally engage in the practice of osteopathy. This Bill has now been vetoed by the Governor on the ground that there is nothing in the Bill to indicate what constitutes osteopathy. Approval of the Bill would in the Governor's mind, appear to give the authority of the State to a system of practice in the healing art that excludes the use of medicine and also surgery.

BEQUESTS TO MEDICAL CHARITIES.—Under the will of the late Mr. Nathan Salaman, of Gordon Square, W.C., which has now been proved, University College Hospital receives £1,000 for the maintenance of a bed to be called the Nathan Salaman Bed, the London Hospital receiving a similar amount for a Meyer Salaman Bed. The Middlesex Hospital receives £400 for its cancer ward, and a further £1,000 for general purposes. The Brompton Consumption Hospital receives a legacy of £1,000 for general purposes, and £400 for its convalescent home. St. Peter's Hospital for Stone and the Jewish Home for Incurables each receive £600, while £500 is directed to be paid to each of the following medical institutions: The North London Hospital for Consumption, the Lock Hospital, Soho, the City of London Hospital for Diseases of the Chest, the London Fever Hospital, the National Hospital for the Paralysed and Epileptic, the Hospital for Incurables, and the Great Northern Hospital.

PURE MILK FOR POOR BABIES.—The movement for the supply of sterilized milk to poor mothers unable to nurse their babies, which was started in France under the name of "Goutte de Lait," has spread to several other countries, and has developed to such an extent that it is thought the time is ripe for an international congress on the matter. It is to be held in Paris on October 20th and 21st. The Presidents of the Organizing Committee are Dr. G. Variot, Physician to the Enfants-Malades, and Dr. Léon Dufour, of Fécamp, Founder of "Goutte de Lait." The Vice-Presidents are Dr. Richardière, Physician to the Enfants-Malades; Dr. Boissard, Obstetric Physician to the Paris Hospitals; Dr. Raoul Brunon, Director of the Medical School of Rouen; Dr. McCleary, of Battersea, Director of the Infants' Milk Depôt; Dr. Rafael y Cordona, founder of the Madrid "Goutte de Lait"; Dr. Davel, of Buenos Aires; Dr. E. Lust, founder of the "Laiterie Moderne" of Brussels; Doctoress Margouliez, founder of the St. Petersburg "Goutte de Lait"; and Doctoress Champendal, founder of the "Goutte de Lait" of Geneva. The Secretaries are Drs. Paul Roger, Physician to the Hospital Péan, in Paris, and Grasset, Director of the "Goutte de Lait" of Tours. Those wishing to take part in the congress should communicate with Dr. Paul Roger, 39, Rue de Berry, Paris.

FRENCH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.—The Congress of the French Association for the Advancement of Science will be held this year at Cherbourg from August 3rd to 10th. Five of the sections are devoted to subjects more or less closely connected with medical science. There is a section of Zoology, Anatomy, and Physiology, presided over by Professor Duboscq, of Montpellier; one of Medical Sciences, of which the President is Dr. Manquat, of Nice; one of Medical Electricity, presided over by M. André Broca, Professeur-Agrégé in the Medical Faculty of Paris; one of Hygiene and State Medicine, which has for its president an engineer, M. de Montricher, of Marseilles. There is also a section of Odontology, the President of which is Dr. Frey of Paris. The questions proposed for discussion in the section of Medical Electricity are: (1) The present state of radiotherapy, to be introduced by M. Bergonié; (2) atrophies of bone discoverable by radiography, to be introduced by M. Imbert; (3) notations of results of the electrical exploration of the limbs and nerves, to be introduced by M. Marques; (4) the present state of the medical applications of high-frequency currents, to be introduced by M. Zimmern; (5) the power of the Crookes tube in its different modes of excitement, to be introduced by M. Turchini. There will also be an exhibition of apparatus for the application of electricity in medical practice.

British Medical Journal.

SATURDAY, JULY 8TH, 1905.

PROPOSED ROYAL CHARTER FOR THE ASSOCIATION.

THE Annual Representative Meeting in Oxford last year instructed the Council of the Association to take the steps necessary to obtain the alterations in the Memorandum of Association contained in the Birmingham resolutions, subject to such modifications as might be required to harmonize them with the present articles. One of the Birmingham resolutions would have given power to the Association to expend money for the defence, promotion, or maintenance of the honour or interests of the medical profession, including in particular taking or defending legal proceedings. The matter was referred by the Council to a committee, which has held numerous sittings, and has taken legal opinions upon the course which should be followed.

It will be remembered that the Association is registered under the Companies Acts as an association not for profit, and is therefore subject to the provisions of those Acts. Counsels' opinions were taken on various points and at first it appeared doubtful whether it could be assumed that the sanction of the Court of King's Bench could be obtained to the alterations proposed, or if so whether they would suffice to give the Association power to undertake individual medical defence. The final opinion of Counsel, however, was in favour of the view that the court could sanction alterations in the memorandum which would authorize the Association to undertake individual defence, but Mr. Beaufort Palmer in giving this opinion suggested that it would be expedient for the Association to consider whether the time had not come for it to apply for a Royal Charter. He pointed out that, to an Association of such great magnitude, with interests in all parts of the world, the advantages of obtaining a charter would be very great; under a charter the Association would be free from the somewhat troublesome restrictions imposed by the Companies Acts, and its powers for good would become much greater. It would be free for all practical purposes from the trammelling rules of the court in regard to what is and what is not *ultra vires*, and its operations could be extended without the necessity for seeking for express provisions among its stated objects. With this opinion before it the Committee, at a meeting on June 2nd, requested the Chairman of Council to ascertain what prospect there would be of the Privy Council advising the Crown to grant a charter to the Association. Mr. Andrew Clark was able to report to a meeting of the Committee on June 19th that as the result of inquiries at the Privy Council Office he had gathered the impression that the Association had a good prospect of obtaining a Royal Charter. The Committee presented a report embodying the above facts to the Council, at its meeting on July 5th, and the Council then determined to report to the Representative Meeting that the information obtained as a result of inquiries as to the probability of the Association being granted a Royal Charter was so encouraging that it recommends the Meeting to make an application to the Privy Council praying His Majesty to grant a Royal Charter.

A report from the Committee containing fuller particulars of the arguments which have influenced it in deciding to make this recommendation will be published in the SUPPLEMENT to the next issue of the JOURNAL.

FAMILY CARE OF THE INSANE.

IN drawing attention last March to the conclusions favourable to the family care of the insane which could fairly be arrived at from the reports of our Special Commissioner on the Care of the Insane Poor, we promised to return to the subject when our Commissioner should have had an opportunity of supplementing his report on the progress achieved on the Continent and in Scotland, and should have given an account of the boarding out of the insane as it is practically carried out in England.

We accordingly invite the careful perusal of the report appearing in this number of the BRITISH MEDICAL JOURNAL by our Commissioner on the Family Care of the Insane Poor in England and Wales. From beginning to end this document furnishes a very remarkable contrast to the earlier reports. In every country where family care has been carried out with an intelligent desire to improve the condition of the insane, the method has found warm advocates, and even where there has not been unanimity of approval in detail, family care is proudly pointed to as the most advanced and most beneficent mode of dealing with a great number of the most afflicted class of the population. But in England so little is known of the matter, and so little public interest has been excited in the topic, that many persons were probably unaware of the existence of an English form of family care. It would most likely be hardly justifiable to say that the procedure is carried out in a surreptitious manner, but certainly it is seldom spoken of. Nobody appears to be proud of it, and those who read our Commissioner's reports will not wonder at this. The system of dealing with these 5,000 and more unfortunate persons of unsound mind is not altogether creditable to a country which, in the early days of non-restraint, was proud to consider itself in the van of progress with regard to the treatment and care of the insane. This is the more remarkable seeing how much attention has been paid to the perfection of the family-care system in almost every other country in Europe.

The condition of the victims of this system is much the same practically as that of all the insane before there were any lunacy laws whatever. These patients are, as our Commissioner justly observes, detached from the general lunacy administration of the country. They are regarded merely as paupers, and are only supervised in so far as they are dependent upon the rates. The public appears to forget that these poor people are sufferers from a condition which renders them particularly dependent. It is notorious that custodians of the insane are particularly liable to the temptations of cupidity and of cruelty, leading, unless there be careful supervision, to the probability of ill-usage and almost the certainty of neglect. The elaborate precautions which the law has gradually made more stringent for the protection of the insane in asylums are well known. Here in great institutions, running like clockwork, where hundreds of eyes are upon everybody, the law provides the most elaborate machinery to prevent abuses. In ludicrous contrast to this is the official neglect of the wretched pauper imbecile, who, being unable from

his poverty, friendlessness, and dementia, to make efficient representations for himself, should be the special object of care. At the bottom of all this absurdity and inconsistency is the perverse view of insanity which the English law has made familiar. The law is unwilling to recognize anything as insanity which does not involve danger to the person or the pockets of the lieges. Even where there is personal danger, however, that great nightmare "the liberty of the subject" is always ready to gallop across the scene. Society scarcely recognizes that it owes any duty to the insane who are not dangerous and are not in asylums. The duty of curing the victims of a pitiable disease or of securing kindly and sufficient care for those whose infirmity has obviously made them subjects for public protection, would seem to be insufficiently understood.

It is very unsatisfactory that any of the insane who are under public cognizance, even so far as being paid for out of the rates to the amount of 2s. 6d. to 4s. a week, should be allowed to remain in the disgusting condition described by our Commissioner as not infrequent. If the small payments made by the public, and the very insufficient inspection provided, do not suffice to prevent filthy and insanitary surroundings, overcrowding—ruinous to decency and even morality—and utter neglect of occupation, then it is obvious that other methods must be put in operation.

The facts contained in the earlier reports of family care in other countries has fully demonstrated that the faulty conditions in England and Wales are not inherent in that system. Indeed, the history of the Scotch system tells an instructive story. The insane were long boarded out in Scotland under circumstances even more unfavourable than those now existing in England, often under conditions that were appalling. After the exertions of Sir Arthur Mitchell, and when his exposure of the state of affairs had roused public attention, the present system was organized in that country under the control of the General Board of Lunacy. How this now works our readers know. The early introduction of similar reforms in England should be earnestly striven for.

The general recommendation made by our Commissioner deserve, we venture to think, most careful consideration. If in all cases pauper lunatics were under the jurisdiction and subject to the inspection of the Commissioners in Lunacy it might be expected that more careful selection of guardians and of patients would be made and stringent regulations enforced as to the removal of patients from guardians should unsuitability be found on either side. Boards of Guardians have neither the leisure nor the knowledge to work a system of boarding out properly, and it is no fault of the Scotch system that it is too much decentralized, as every one who has had to work it is aware. The efforts of English reformers ought to be directed not only to placing the patients in family care under the Commissioners, but to strengthening the hands of the latter and reducing the intervention of the Boards of Guardians to a minimum.

EPIDEMIC CEREBRO-SPINAL MENINGITIS.

WHILE nosology can boast of diseases of more than respectable antiquity, such as leprosy and the plague, there are many in the list which have as yet hardly established their claim to distinction in this particular, while others again are mere upstarts of yesterday. Though perhaps scarcely coming under the latter head, epidemic cerebro-spinal meningitis cannot be called an historic malady, for it has not been known for more than a century, while it is so sporadic in its appearance, and happily for the most part so limited in its field, that the vast majority of English physicians have no practical acquaintance with the disease. It follows, therefore, that its bibliography is not extensive, and hence any contribution to our knowledge regarding it is of value, especially as, judging from the recent prevalence of the malady in Germany and America, it does not seem impossible that we may be called upon to combat its ravages ere long at home. A monograph by Sr. Carlos França of Lisbon, on this, one of the most fatal and terrible of the many ills to which flesh is heir, has, then, a strong claim on attention.[1] The chief drawback to it is that it is written in Portuguese, a language that is not at everybody's command. It will therefore be more useful, perhaps, to give a short summary rather than a review of the author's book, and of the results he publishes.

On the first page the prevalence of epidemic meningitis is noted as being very much greater during the first four months of the year, and the point is illustrated by a diagram of the cases occurring in the Donna Amelia Hospital in Lisbon, where, during the epidemic of 1901 and 1902, 310 patients were treated. Though in some outbreaks, as in Italy, the majority of the cases have occurred in individuals whose ages ranged from 20 to 30, the patients of Dr. França and his colleagues were mainly children and adolescents, 48 being under the age of 5, 65 between 5 and 10, 68 between 10 and 15, 49 between 15 and 20, and 40 between 20 and 25, while the remaining six lustra up to the age of 55 only furnished 39 cases between them. Though regarding the disease as highly infectious, the author states that it was not common in Lisbon to find more than one sufferer in each house.

Exceedingly sudden invasion, intense headache, vomiting, loss of consciousness, petechiae on the face and limbs within twenty-four hours, often in severe cases apyrexia, opisthotonos on the second day, and Kernig's sign—these formed the chief features of the invasion period of the disease as shown in the Lisbon outbreak, but its progress was extraordinarily variable. In some, rapid death occurred, in others—though rarely enough—equally rapid convalescence. Some, after convalescing from the first onset of the disease, had frequent severe relapses but eventually recovered, but in many instances the patients fell into a pitiable condition, lingering for months in a practically moribund state until death put an end to their sufferings. The decubitus was almost invariably lateral, with the head thrust far back, so that in extreme cases the occiput was between the shoulder-blades, and great difficulty in respiration and deglutition resulted. The herpetic eruptions sometimes formed enormous patches, and the petechiae became regular ecchymoses, or appeared as a sort of haemorrhagic goose-skin. Over 90 per cent. of the cases showed Kernig's sign, in which, as may be remembered, any attempt to place the patient in a sitting posture causes the legs and thighs to fly to a flexed position as if impelled by a strong spring.

Hyperaesthesia was common, and not infrequently so pronounced that the patients were unable to bear the weight of the bedclothes. The pulse was sometimes extremely frequent, sometimes the reverse, especially at the onset of the malady, when it would range from 40 to 48, only to become uncountable in later stages. An unquenchable thirst of the intensest kind and persistent vomiting

[1] *Epidemic Cerebro-Spinal Meningitis.* By Carlos França, Chief of the Staff of the Royal Bacteriological Institute. Published by order of Government. Lisbon: National Press. (Demy 8vo, pp. 204; illustrations, charts, and diagrams).

were also tolerably constant features of the invasion stage. Among the more remarkable phenomena were (1) extraordinarily rapid emaciation, and (2) great development of hair all over the body, which is mentioned as being by no means rare and occurred in children as well as adults, in one case being described as "an enormous growth." Professor Bruto Roncali has shown[2] that compression of the encephalon in animals will produce rapid emaciation, and it seems probable that both the phenomena just instanced may proceed from this cause.

After touching upon the bacteriology of the disease, and the methods of culture of Weichselbaum's diplococcus, Dr. Franca discusses the pathological results of the Lisbon epidemic at some length. The most notable feature, apart from the customary lesions affecting the brain and spinal cord, was undoubtedly the almost universal existence of haemorrhages into the various organs. In 55 per cent. of the cases the stomach was thus affected, the petechiae mainly occurring along the greater curvature, and a curiously-favourite site for them was the muscles of the mitral valve, where they were found in some 27 per cent. In nearly three-fourths of the bodies examined the liver showed yellow patches, which predominated on the convex surface, in most instances superficial, but sometimes scattered throughout the parenchyma. A notably constant lesion of the lungs occurred in the shape of isolated patches of lobular bronchopneumonia. As a rule the spleen was not enlarged, but the kidneys were almost always affected, and not infrequently showed signs of intense congestion or haemorrhage.

Dr. Franca records the clinical history of 103 cases under his care at the Donna Amelia Hospital. Three of these may be put out of the reckoning—one developing smallpox, another being landed from the Brazils, and the third, of unknown history, being admitted moribund. We are thus left with a useful number for calculating percentages. Twenty-four per cent. of the cases were between the ages of 5 and 10; 23 between 10 and 15; and 16 between 15 and 20. In infants the disease appeared especially fatal, six out of seven dying, and though far rarer in individuals over the age of 30, it was scarcely less dangerous to life. The total death-rate was 52 per cent., but towards the end of the epidemic the disease was evidently milder in type. Death occurred in 14 cases on the fifth day or earlier. The clinical history of this century of cases is pretty fully given, and is accompanied frequently by temperature and other charts and records of the necropsies when the patients died. It is thus of considerable value.

It is in the method of treatment employed, however, that the interest of Dr. Franca's book chiefly centres. In all save four of the cases he relates the spinal canal was tapped. In very severe cases it was found best to tap daily during the first ten days or so of the illness, but in milder cases one or two tappings with an interval of some days between them was sufficient. The patient was placed in a sitting posture, and, with due antiseptic precautions, the puncture was made with a needle 5 cm. in length and ½ mm. in diameter. Though any part of the lumbar region may be chosen, the fourth interlaminar space is preferred by the author, the guide being given by the line joining the posterior inferior spines of the ilium, which cross at the level of the fifth lumbar vertebra. The needle is inserted 1 cm. outside the spinous process and slightly below, and directed inwards and slightly upwards, and the puncture is so rapid that local anaesthesia is unnecessary. Aspiration is not called for except when the fluid is thickly purulent, but in such cases washing out of the canal is practised, one needle being introduced below the twelfth dorsal and another in the sacro-lumbar interspace, and artificial lymph thrown in until the liquid comes out clear. Later in the epidemic a solution of lysol (1 in 100) was used with marked success.

[2] P. B. Roncali: *Sopra la Compressibilità dell' encefalo*, 1895.

THE ANNUAL MEETING AT LEICESTER.

WE are asked to call the attention of members to the desirability of making early application to Dr. F. Bolton Carter, 99, London Road, Leicester, for tickets for the annual dinner of the Association, which takes place at Leicester on Thursday, July 27th, as the accommodation is limited. Dinner vouchers will be sent to members who have forwarded their cheques to Dr. Carter by July 15th. In the event of too many applications being received before this date, the tickets will be allotted by ballot. Should there be any vacancies after July 15th, they will be issued in order of application. We may again remind members that in order to receive the advantage of the cheap railway tickets to and from Leicester, it will be necessary for each passenger to produce a special railway voucher, which can be obtained on application to the General Secretary of the Association, 429, Strand, London, W.C. The return tickets are issued by the railway companies at a single fare and a quarter, and are available from July 21st to August 1st, both dates inclusive. Arrangements have also been made by which members desiring to travel to places where they reside during the meeting of the Association may obtain return tickets at a single fare and a quarter (minimum charge 1s.), on production of cards of membership from Leicester to any station not more than fifty miles distant to which through bookings are in operation, available to return on the same or the following day. The arrangements for golfers at Leicester are now completed. The Leicestershire Golf Club will make all members of the Association full honorary members of the club during the week of the meeting. The club house is about five minutes' walk from one of the main electric tram routes and fifteen minutes from the centre of the town. The links are carefully kept and rank high among inland courses. A golf match will be played on Friday, July 28th, if sufficient names are received, and will probably be of an international nature. Luncheon will probably be offered to the players by the Council of the Leicestershire Golf Club. Members intending to play will oblige by sending in their names as under: Those residing in England to Dr. W. Dutton, 58, Loughborough Road, Leicester; those residing in Scotland, Wales, Ireland, or the Colonies to Dr. Norman Walker, Manor Place, Edinburgh. A list will also be kept in the reception room where full information may be obtained. There will probably be facilities for play on two or three links. The usual breakfast, given by the National Temperance League during the annual meeting of the British Medical Association, will take place on the morning of Thursday, July 27th, at 8 a.m. in the Temperance Hall, Leicester. The Dean of Hereford, President of the League, will take the chair, and an address will be presented to the medical profession in appreciation of the great services it has rendered in the cause of temperance. So many dental surgeons and others have expressed their desire to take part in the discussion on toothache, neuralgia, and remote affections of dental origin which is to be held in the Dental Section, that it has been decided to devote two days to it. A third day, Friday, July 28th, will be occupied by the reading of the papers; the Section thus meeting on three days instead of on two only as last year.

BIRTHDAY HONOURS.

IN the list of honours conferred by the King on the occasion of the celebration of his birthday, the names of the following medical men appear: Dr. T. McCall Anderson.

who receives the honour of knighthood, is Regius Professor of Medicine in the University of Glasgow, and the representative of that University on the General Medical Council. He is Physician to the Glasgow Western Infirmary (Cutaneous Wards), and to the Hospital for Skin Diseases. He is well known to students of the Medical Faculty of the University of Glasgow. He was President of the Section of Medicine at the annual meeting of the British Medical Association in Glasgow in 1888, and all members of the Association will congratulate him upon the honour now paid him by the Crown. Mr. T. F. Chavasse, who also receives a knighthood, is Senior Surgeon to the Birmingham General Hospital, and J.P. for the County of Warwick. The same honour is conferred on Dr. W. J. Smyly, President of the Royal College of Physicians in Ireland. He has held the office of Master of the Rotunda Hospital, and has attained a most eminent position in the speciality to which he has devoted himself. Surgeon-General Charles McDonogh Cuffe, who is advanced to K.C.B. (Military Division), entered the Army as Assistant Surgeon in 1863, and attained the rank of Surgeon-General in 1896. He served in the Kaffir war of 1877-8, the Zulu war of 1878-9, receiving the medal with clasp, and was made a C.B.; he served also in the Burmah campaign of 1886-7. At the outbreak of the Boer war he was engaged in superintending the dispatch of various field hospitals and medical equipment from Portsmouth and Southampton, and was also responsible for the disembarkation and distribution of a large number of sick and wounded who arrived in Portsmouth during the progress of the war. He was Vice-President of the Section of Public Medicine at the annual meeting of the British Medical Association at Portsmouth in 1899, and served the office of President of the Southern Branch of the Association. During the later period of his career on the active list he was P.M.O. for the Southern District, and assisted in the organization of the new office and arrangements for the duties of the Surgeon-General of the Second Army Corps then being formed. The honour of knighthood has been conferred upon Dr. Philip Sydney Jones, honorary consulting physician to the Prince Alfred Hospital, Sydney, and a member of the Senate of the University of that city. He was President of the Sydney and New South Wales Branch of the British Medical Association in 1896-97. The same honour is conferred upon Dr. E. S. Stevenson, member of the Medical Council of the colony of the Cape of Good Hope, and a past-president of the Cape of Good Hope Branch of the British Medical Association. Colonel David Bruce, R.A.M.C., F.R.S., whose researches with regard to the part played by trypanosomes in the production of tsetse-fly disease in horses, and sleeping sickness in man has made his name so well known to the medical profession, is nominated C.B. He entered the army in 1863, and served in the South African war, including the siege of Ladysmith. He is a member of the Advisory Board of the Army Medical Service. Surgeon-General W. L. Gubbins, M.V.O., R.A.M.C., at present P.M.O. Western Command, India, and formerly P.M.O. of the Home District, receives the same honour. He served in the South African war in 1899-1901 as Principal Medical Officer of the 6th Infantry Division; he was present at the relief of Kimberley, the actions at Paardeberg, Poplar Grove, Driefontein, and the occupation of Bloemfontein. He took part in the operations in Orange River Colony and was subsequently Principal Medical Officer of Pretoria and Northern Line of Communication. The honour of C.B. is also conferred upon Lieut.-Col. and Hon. Colonel William Coates, commanding the Manchester Companies of the Royal Army Medical Corps Volunteers. The same honour is conferred upon Surgeon-Major Thomas Egerton Hale, V.C., in connexion with the jubilee of the Crimean war, in which he served with distinction. Surgeon-Major Hale served also during the later period of the Indian Mutiny. Subsequently as medical officer in charge of troops sent to Cherat in the hills he established and administered the sanatorium there, which proved a great success. Dr. William Prout, Principal Medical Officer for the colony of Sierra Leone, is nominated C.M.G.

QUACKERY IN PRUSSIA.

According to official statistics recently issued, the number of unqualified persons practising the healing art in the Prussian States in 1903 was 5,148, as against 4,104 in the previous year. These figures do not, in regard to many administrative districts, include unqualified dentists, masseurs, and barbers practising minor surgery. The 5,148 quacks are distributed in 488 districts. Only 149 dentists are free from unqualified practitioners. On the other hand, in many districts there are more quacks than legally qualified practitioners. Of the provinces Westphalia has the lowest proportion of quacks to doctors (9·78 per cent.) and Posen the highest (36.56 per cent.). In the Berlin district there were 1,013 non-qualified to 2,875 qualified practitioners. Of the quacks about a fourth were women. About 1 in 10 of the whole number of unqualified practitioners had been prosecuted for various offences.

DISEASE AND FASHION.

Fashions in dress often have their origin in the wish to hide disfigurement caused by disease. The voluminous trunk hose worn by English gallants at the beginning of the seventeenth century were introduced by James I as a means of concealing an unsightly malformation. Slaves of fashion to whom Nature had refused an adequate curve of the hip had to supply the deficiency by art. Readers will remember the story told by Carlyle of the discomfiture of the unlucky courtier who sat down on a nail, and on rising to receive His Majesty instantaneously emitted several pecks of bran, and stood a pitiable figure with his breeches hanging in folds about his shrunken person. The introduction of the crinoline is often attributed to the Empress Eugénie before the birth of the Prince Imperial; as a matter of fact, a similar apparatus had, under the name of farthingales, *vertugadins*, and what not, been used by ladies in the sixteenth and seventeenth centuries. The patches which added so piquant an effect to the faces of the beauties of the eighteenth century were first used by officers to disguise the scars of wounds received in battle. If the late Sir Robert Peel had been a royal personage his manner of wearing his hat at an angle that seemed intended to express defiance of public opinion would have become fashionable among young "bloods," as they are beginning once more to be called; yet we believe it was really intended to conceal a scar. In a second series of his *Indiscrétions de l'Histoire*, recently published, Dr. Cabanès cites several other instances in point. In the fifteenth century Philippe le Bon, having fallen ill, had his head shaved. Like the fox in the fable that had lost his tail, he tried to persuade the nobles of Burgundy that the human head looked much handsomer when its shape was not hidden by a mass of hair. They did not see the thing in the same light, but, unlike the fox, Philippe had the power to compel people to be of his opinion, and shaven heads perforce became fashionable. The daughters of Louis XI had feet of a size which made it necessary for them to hide them; hence the society dames of the day thought it due to themselves to wear trailing gowns. The wife of Philip III disguised an abnormally long neck with a high wimple, and was imitated by all ladies who wished to be considered fashionable. Henry Plantagenet, anxious to hide the deformity caused by an outgrowth on the foot, had boots made with extravagantly curved toes, which straightway became the only wear for courtiers. Louis XIV wore a wig to hide unsightly wens on his head; the fashion of wearing wigs has also been attributed to the havoc played by syphilis among the "love locks" of the seventeenth century. Many other instances could be given, but these will suffice to show that there is a closer connexion between fashion and deformity than might at first sight be suspected. This may serve to explain how a thing ugly in itself may come to be accepted as the stamp of social position. It is not that people love ugliness for its own

sake, but that, owing to the servility inborn in human nature, the most hideous thing is consecrated by association with royalty.

MEDICAL TERMS IN THE *NEW ENGLISH DICTIONARY*.

THE last section of that great philological work, the *New English Dictionary*,[1] supplies the student with the history of the words lying in alphabetical order between *Mandragora* and *Matter*. The ground thus covered is rich in interesting words, as must be admitted when it is recognized that it includes such terms as "manifestation," "manifold," "mankind," "manly," manna," "manner," "manor," "mansion," "mantle," "manufacture," "many," "march," "mark," "marry," "mason," "master," etc. But it is with the medical names that we are concerned, and as it happens both the terminal words of the section ("mandragora" and "matter") have a medical interest. The plant "mandrake" or "mandragora" brings to us out of the past some quaint old beliefs. "The forked root is thought to resemble the human form, and was fabled to utter a deadly shriek when plucked up from the ground." The poet wrote about it: "Horrid grots and mossie graves, Where the mandrak's hideous howles Welcome bodies voide of soules." It was thought that its fruit, when eaten by women, promoted conception, and since the time of Shakespeare it has become synonymous with "narcotic." "Not poppy, nor mandragora," said Iago, in the hearing of tortured Othello, "nor all the drowsy syrups of the world, shall ever medicine thee to that sweet sleep which thou owedst yesterday." Among its many meanings, "matter" has the medical one of "pus," and the physiological one of "certain fluids of the body and excrementitious products," such as grey matter of the brain and faecal matter. Between "mandragora" and "matter" there lie many other words with meanings which are of interest to the physician and surgeon. "Manganese," a corrupt form of "magnesia," has therapeutic properties; "mange" is a well-known skin disease in animals, and "mangey," the adjective derived from it, is sometimes used in a more general sense in connexion with the human subject. "Mania," "maniacal" and other derivatives are fully dealt with, and the obstetric "manikin" ("including a natural female pelvis with leather fetus and placenta") is quite sufficiently described for the ordinary reader, though he will probably be left wondering what mysterious implement it can be. "Manna" is referred to both in its biblical and pharmaceutical meanings; "manqualm" is an old English word for the plague or pestilence, as, indeed, its form suggests; "manubrium" is not unknown to the anatomical student; and "manyplies" is the "manifolded" third stomach of a ruminant. "Marasmus" has a purely medical significance, and among the illustrative quotations is that one from Sydney Smith: "Everybody has their favourite death; some delight in apoplexy, and others prefer marasmus." "Marcor" is a somewhat rare word for emaciation or wasting of the body; "maris" is a twelfth-century name for the womb; "marisca" means piles or haemorrhoids; God's "marks" signify an appearance betokening impending death. Modern surgeons sometimes "marsupialize" abdominal cystic cavities which cannot be treated in a more radical fashion: the *New English Dictionary* will tell them how this word has come into use. The first quotation illustrating the use of the word "massage" is dated 1879, and the terms "masseur" and "masseuse" are indicated as being as yet incompletely naturalized. "Mastalgia" and "mastodynia" (meaning pain in the breast), "mastitis" (inflammation of the breast) and several derivatives containing "masto-" are enumerated; and the styptic properties of "matico" are referred to. The interesting etymological information is given regarding "matico" that it is derived from the name Mateo (or Matthew) of the Spanish soldier who discovered its pharmacological effect. Finally, "matrice" and "matrix" with their many derivatives ("matriculate," "matriculation," "matricula," etc.) are carefully traced through the centuries, and their shades of meaning distinguished and illustrated.

[1] *A New English Dictionary on Historical Principles*. Edited by Dr. James A. H. Murray. Mandragora to Matter. Vol. vi. By Henry Bradley, Hon. M.A.Oxon. Oxford: At the Clarendon Press. London, Edinburgh, Glasgow, New York, and Toronto: Henry Frowde. July 1, 1905. (Double Section, price 5s.)

HEALTH VISITORS.

AT the Conference of Charity Organization and Relief Societies, which met last week in Birmingham, Dr. J. Robertson, the Medical Officer of Health, read a paper on Health Visitors under Town Councils. When the movement was begun in Birmingham four lady health visitors were appointed; now there are thirteen. Dr. Robertson enumerated some of the problems which had forced themselves on the attention of town councils and county councils, and which had led to the appointment of these visitors. In Birmingham, as in most towns, the mortality among young infants was about as high to-day as it was thirty years ago; yet during these thirty years the general death-rate had fallen from about 25 per 1,000 to about 19 per 1,000. In five years there were 15,263 deaths of infants under 1 year of age, and, judging from the causes of death and the various investigations made, it might safely be asserted that at least one-half of these deaths were preventable. This meant that from 1,500 to 2,000 deaths occurred every year in one city alone from preventable causes. Further, it was now clearly demonstrated that this mortality was a class mortality, being confined to the artisan and labouring classes. One of the most important determining factors in the appointment of health visitors had been the recognition of the fact that disease and death of young infants were very largely due to ignorance and carelessness. Of these he would give the greater importance to ignorance. This fact gave ground for hope. It had to be recognized that legislation had its limitations, and it seemed improbable that it would do much, except in a very indirect manner, in preventing the slaughter of the innocents which was annually taking place in all our town districts. From an experience extending over about twelve years of the work of health visitors, Dr. Robertson said that the progress made was, and must of necessity be, very slow. He believed that a certain small number of infant lives were saved every year by the work of each visitor, but the number was so small as to be quite unrecognized in the ever-ebbing and flowing group of infant deaths. But hundreds of houses were kept in a cleaner and more wholesome condition as a result of the work of these visitors, and many hundreds of mothers were making an effort to feed their infants with more wholesale food. He believed that in the main the usefulness of the work of health visitors was in the direction of saving sickness and lives among young children. What was wanted at present was that as much attention should be devoted to teaching the young how to live healthily as how to read and write.

THE AFTER-CARE OF PATIENTS DISCHARGED FROM ASYLUMS.

DR. GOODALL, the Medical Superintendent of the Joint Counties Asylum, Carmarthen, draws attention, in his annual report, to the fact that the prevalent view amongst the community at large is that insanity is an incurable state, and that whilst people who have suffered from many bodily diseases—such as gout, rheumatic fever, or disorders of the air passages—will, as a rule, take precautionary measures to avoid a recurrence of the malady, their pessimistic views regarding insanity (and, we may add, the too-frequent idea that insanity is in the nature of a miraculous visitation, unconditioned by the ordinary environment of the sufferers) militate disastrously in many cases against prophylaxis as regards mental relapses. He relates the case of one patient who had had an attack of acute mania and returned to her home from the asylum to nurse four or five young children in scarlet fever, and at the same time had to attend to her ordinary household duties, whilst none too well fed. The result was what might have

been foreseen. He describes three other cases from this year's readmissions in which the risk of relapse might and should have been avoided. Now, amongst the better-informed and educated classes of society, the risks of relapse are doubtless reduced to a minimum; but with regard to the insane poor, almost nothing is attempted by way of educating the patients or their guardians as to the conditions likely to bring about these unfortunate results. We remember visiting a private asylum, in North Germany, whose medical director limited the number of his patients to twenty-five. These took up, he said, the whole of his time, as he had not only to study their individual characters and to discover the appropriate treatment of their individual mental or emotional idiosyncrasies, but before their discharge as convalescent he had to visit their homes, to study their mode of family life and to prescribe to the patient's relatives rules to guide them in their conduct towards the returning member of their family. This ideal is of course impossible of attainment in the case of any but small private establishments, but what might be done, in the case of the insane poor, is the formation of charitable societies with branches all over the country, to do all that is possible, by way of publications and otherwise, to enlighten returned patients and their families as to the nature of insanity, and, without anything in the nature of meddlesome interference, by personal visitation and instruction to remedy any bad condition which seems likely to cause a return of the affection in predisposed persons. There are already societies for the after-care of friendless patients; their extension in the new direction indicated would undoubtedly be of immense benefit to both the patients and the general community.

THE AMERICAN PROFESSION AND PROPRIETARY MEDICINES.

MR. BOK, editor of the *Ladies' Home Journal* of Philadelphia, who has done excellent service to the public weal by his exposure of the manifold evils of what he calls the patent medicine curse, has lately addressed an appeal to the medical profession, through the *Journal of the American Medical Association*, for active help in his philanthropic enterprise. He has received hundreds of letters of approval from practitioners in every part of the United States and scores of commendatory resolutions from medical societies. While fully appreciating the sentiments thus expressed, Mr. Bok is disappointed that they have not resulted in effective co-operative work. He states that during the past winter there were introduced into the Legislatures of not less than fourteen States Bills which had for their object the regulation of the sales of injurious patent medicines, or the compulsory printing of the ingredients of those medicines on the label of each bottle, under penalty of fine or conviction. Committee hearings were given on these Bills in each State. The proprietors of some of the patent medicines were exceedingly active—and effectively so—in their opposition to these Bills. Associations interested in the patent-medicine traffic worked with unceasing vigilance to defeat the Bills, and succeeded in doing so. The newspapers in these States carrying the advertisements of patent medicines were notified that this legislation was not desirable. Skilful lawyers appeared before the committees in opposition to the Bills. Every effort, in short, was made to defeat the measures, and in all save one State the Bills were "killed." Now who, asks Mr. Bok, appeared in support of the Bills at these meetings? His answer is that generally it was members of the Woman's Temperance Union, whose zeal usually exceeded their discretion and judgement. In one or two instances representatives of some liquor dealers' association appeared in support of the Bills. But in no single instance, says Mr. Bok, did there appear a single medical practitioner or the representative of a single State, county, or city medical society. Not the slightest active interest was taken by the profession in the efforts to get the Bills passed, yet after the defeat of the Bills, scores of doctors wrote irate letters to Mr. Bok deploring the corruption of the Legislatures in their States! Mr. Bok appears to be surprised at this, but surely it is exactly what might have been expected. Advocates of reform nearer home have too often found that the great body of the profession, while always ready to express their dissatisfaction with things in general, are apt to consider actual work for the amendment of evils or the redress of grievances the business of any one but themselves. Mr. Bok asks the practitioners of America how effective legislation against patent medicines is to be secured unless some intelligent reasons why such legislation is needed are put forward by intelligent persons held in respect by the public. He adds that it is probable that during the next autumn and winter terms there will be introduced into the Legislature of nearly every State in the Union a measure for the regulation of patent medicines, and he asks for the co-operation of all medical practitioners and societies in the passing of such Bills. It is to be hoped that he will get it, for legislators may be excused if they treat as of little importance measures in which no practical interest is shown by those who ought to be the first to guide public opinion.

LEAD AS AN ABORTIFACIENT.

DR. W. B. RANSOM has called our attention to reports published in the *Nottingham Daily Guardian* of two inquests held within the last couple of months with reference to the death of women who had used diachylon in the hope of producing abortion. The inquests were held by the city coroner, Mr. C. L. Rothera, and in both a verdict of *felo de se* was returned. In giving evidence in one case Dr. A. Fulton said that since January, 1903, he had seen 16 similar cases, and that it appeared to be becoming a common custom to use diachylon, 1 oz. of which could be obtained for 2d., people being aware that it might produce abortion, but not knowing its dangers. In summing up to the jury in the second inquiry, which took place so recently as July 1st, the coroner told the jury that if they were satisfied that the women took the pills with an idea of securing abortion the verdict must be one of *felo de se*. He believed it would be quite hopeless to try to discover anything about the procuring of the poison, as in all probability when purchased it was stated to be for another purpose. It was, however, a felonious act for any one to give a woman the substance for such a purpose, and the giver would be liable to heavy punishment. We are informed, also, that another inquest under similar circumstances was held in May, but we have not seen a report of the case. It may be remembered that Dr. Ransom called attention to this subject in a paper published in the BRITISH MEDICAL JOURNAL five years ago. He informs us that there is no doubt that the use of diachylon for the purpose of procuring abortion—in which, however, it frequently fails—is increasing to an alarming extent in the Midlands. In Nottingham it has become so common that it is almost a routine practice at the Nottingham General Hospital to search the gums for a blue line in the case of any woman complaining of headache or stomach-ache, encephalopathy and colic being the commonest symptoms; Dr. Ransom adds that he has never seen wrist-drop. Dr. Pope some time ago published cases showing that the practice was common in Leicester, and the paper by Dr. Hall of Sheffield, published in our columns four months ago, in the course of which he reported 30 cases, proves that it is by no means uncommon in that city.

STEPHEN RALLI MEMORIAL LABORATORIES.

THE opening and dedication of the Bacteriological and Pathological Laboratory with which the Sussex County Hospital at Brighton has been endowed by Mrs. Stephen Ralli as a memorial of her late husband, took place at the hospital on June 29th. The Memorial Laboratory is situated in a two-story block within a few yards of the hospital, and comprises five rooms. On the ground floor are the preparation room, facing the entrance, in the hall of which is placed the portrait of the late Mr. Stephen Ralli; on the left is the chemical room, from which access

is gained by a swing door to the bacteriological room and the pathologist's room; on the second floor is the photographic room. The block includes also the hospital *post mortem* room and lecture room, which form together a complete pathological institute. The bacteriological room, 19 ft. 2 in. by 9 ft by 11 ft. 7 in., is well lighted from three sides; it has a teak bench for four workers on the south, and a slate bench on the north for embedding oven, microtomes, water blast incubators, etc. There is ample cupboard accommodation for media, glassware, etc. Electric light, gas, and hot and cold water are supplied. All benches are raised 12 in. above the floor, which is of hard cement with rounded angles and open drains. The chemical room—12 ft 7 in. by 23 ft. 1 in. by 11 ft 7 in.—has teak benches, burette shelf, hot and cold water, gas, electric light, a fume cupboard, centrifuge, etc. All specimens are received in this room. It is ventilated by an electric fan and is separated by glass and wood partition from the bacteriological and pathologist's rooms. The latter—19 ft. 2 in. by 14 ft. by 11 ft. 7 in.—has working benches of teak and slate for the incubators, etc., which are all under a glass and metal hood ventilating into the flue by pipes. Every effort has been made to make the laboratories hygienic. Thus all benches are raised from the floor and all benches and cupboards are fixed into the wall at the back to prevent the accummulation of dust. The preparation room is well supplied with sterilizers, hot air and steam, an autoclave, inspissator, etc.; the photographic room also serves as a dark room and for photomicrography, fitted with water flush, drain racks, Nernst projection light, electric light, photomicrographic apparatus, etc. The Pathological Institute is intended for the clinical and pathological research of the hospital and is available to all medical practitioners at the usual fees. The department has been established and endowed at a cost of £14,000. The pathologist in charge is Dr. F. G. Bushnell. The fittings are by Messrs Baird and Tatlock, and the equipment by Messrs. Gallenkamp.

A JAPANESE MEDICAL PEER.

Professor Kanehiro Takaki, Retired Surgeon-General of the Imperial Japanese Navy, Director of the Tokyo Charity Hospital Medical College, and Member of the House of Peers, has lately been raised to the rank of Baron by the Emperor of Japan. Baron Takaki has had a distinguished career. In 1872 he entered the Japanese Navy as a surgeon, and two years later was promoted to the rank of Staff Surgeon. In 1875 he was sent to England by the Japanese Government, and after studying at St Thomas's Hospital he became a Licentiate of the Royal College of Physicians of London in 1878 and a Fellow of the Royal College of Surgeons of England in 1880. On returning to Japan in that year he was forthwith promoted to the rank of Deputy-Inspector-General; a few months later he was appointed Director-General. At that time the Japanese Navy suffered much from kak'ke, which was accountable for three-fourths of the total number of cases of sickness. After careful study of the question Baron Takaki came to the conclusion that the cause of the disease must lie in the improper proportions of carbon and nitrogen in the food of the men, and he set about securing for them an improved dietary. He met with the opposition that inevitably stands in the way of the reformer, but his efforts were finally successful. A revised scale of diet drawn up by him was introduced into the navy. It came into force in 1884, and the results were soon manifest. Whereas before 1884 about one-third of the total force was invalided by kak'ke, after the issue of the new regulations as to diet, the proportion fell to one-sixty-third, or even less. In a few years the disease practically disappeared from the sickness returns. In an address delivered at the first English meeting of the Tokyo Students' Association, which is published in the *Sei-I Kwai* medical journal of May 31st, Dr. Louis Livingston Seaman states that there has not been a single case of the disease in the navy during the war. On the other hand, the army, in which the diet was not changed so completely as in the navy, suffered severely from it last winter. In recognition of Professor Takaki's services, the Mikado conferred on him the Second Order of Merit, while the Empress gave him a silver flower vase and crape. At the end of 1885 he was promoted to the rank of Surgeon-General. In 1892 he retired from the active list, and was named a member of the House of Peers. He continued to discharge the duties of a member of the staff of the Tokyo Hospital and to teach in the Tokyo Charity Hospital Medical College. The latest and greatest mark of honour bestowed upon him by his Sovereign has been received with approval by the Japanese profession. We venture to join our congratulations to those of his fellow-countrymen and to wish Baron Takaki continued prosperity and length of days to enjoy his well-deserved dignity.

THE BRISTOL ROYAL INFIRMARY.

Our Bristol correspondent writes: The carnival in the Zoological Gardens in aid of the Royal Infirmary has come and gone, and has resulted in a substantial sum being raised to wipe off the debt. More than usual interest has been taken in this annual fête on account of the action of the clergy, who raised an objection to an Art Union draw that was proposed for persons who took season tickets. Art Union draws are of course legal, but in this a gentleman offered to buy the pictures back if the fortunate holder of a successful ticket wished, and it was to this that the clergy of Bristol, headed by the Bishop, objected. Indeed, matters got so warm that two questions were asked in Parliament—one in the Commons and one in the Lords—questioning the legality of the proceedings. In consequence of the replies the offer was withdrawn, though not too graciously, and more or less angry recriminations took place in the local press for some time. The final effort of the clergy took the form of a manifesto against gambling, lotteries, and raffles, to which no exception could be taken except that it was published only a few days before the carnival was to begin. In spite, however, of the withdrawal of the offer to buy the pictures back, every one knew that it would be done, and as a matter of fact has been done. Never has Bristol had such a week of pleasure-seeking. The carnival offered attractions to suit all tastes, from the opportunity of purchasing small articles such as are usually sold at such entertainments, to roundabouts, motor rides, music-hall performances, and dancing, while bands and singers gave concerts at stated hours. Except for one day the weather was favourable, and as many as 120,000 persons are said to have paid for admission. Late on Saturday night Sir George White, the President of the Royal Infirmary, announced that after paying expenses the sum of £7,500 was available for paying off the debt on the institution, and this, with a like sum from himself, would clear off the debt completely. So that now only £35,000 was required to carry out the improvements that the infirmary so urgently required.

THE EPIDEMIOLOGICAL SOCIETY.

A dinner to celebrate the fifty-fifth anniversary of the foundation of the Epidemiological Society of London was held at the Grand Hotel, Trafalgar Square, on June 30th. After the President, Dr. B. A. Whitelegge, C.B., had given the toast of "The King." Dr. Payne proposed that of the medical department of His Majesty's forces. In speaking of the services rendered to the military forces of the country by medical officers, he referred to Sir John Pringle and Sir Gilbert Blane. Blane served with Rodney, who remained his friend, and when Blane was seeking election as Physician to St. Thomas's Hospital Rodney gave him a characteristic testimonial in the following terms: "Dr. Blane kept His Majesty's men always ready to attack and to defeat the public enemy." This was the true function of the medical department of the military forces. The toast was acknowledged by Colonel Lane Notter, R.A.M.C. The toast of "The Medical Societies of London" was proposed by Dr. Dawson Williams, who referred to the revived interest in the proposal frequently made in the past to bring about an amalgamation of medical

societies in London. Sir Richard Douglas Powell who replied as President of the Royal Medical and Chirurgical Society expressed a hope that the federation of medical societies might be brought about, and with this hope Mr. John Langton, President of the Medical Society, expressed his sympathy, adding, however, that while fusion in the abstract appeared easy, in practice owing to the large number of details which would have to be settled it was difficult. The toast of the visitors, proposed by Lt.-Col. Firth, R.A.M.C., was acknowledged by Major Ronald Ross, C.B., F.R.S., and by Mr. W. N. Shaw, F.R.S., director of the Meteorological Office. Mr. Shaw observed that in the study of the relation of weather conditions to disease enquirers had probably not gone far enough back; it was not sufficient to examine the meteorological conditions at the time of the outbreak of a disease; the enquiry should go back to a much earlier date. As an example of the manner in which weather conditions might produce an effect after a long interval he said that he had recently found that the wheat crop was influenced not by the weather of the spring and of the summer but by that of the previous autumn. An inch of rain falling at that period diminished the wheat crop on the average by 1¾ bushels per acre so that the autumn rain washed away as it were three-quarters of a million sterling from the profits of the farmers. Dr. J. F. W. Tatham, Superintendent of Statistics, General Register Office, and President-elect of the Society, proposed "Success to the Epidemiological Society." In the course of his remarks he observed that there was reason to hope that registration of sickness for which the Society had always struggled would before long be coextensive with the registration of death. Dr. Whitelegge, in responding, said that the position of the society was satisfactory, its membership well kept up, and its meetings well attended. He concluded by proposing "The Health of the Officers of the Society," which was acknowledged by the Honorary Secretaries (Dr. Bulstrode and Dr. Hamer) and by the Treasurer (Dr. Sweeting).

PROPOSED CENTRAL COLLEGE OF TECHNOLOGY.

LAST year a Committee was appointed to inquire into the working of the Royal College of Science, including the School of Mines, with instructions to report as to steps which might be taken for the establishment of a central technicological institute analogous to that of Charlottenberg in Germany. The Commissioners in a preliminary report, issued this week, express themselves in favour of the scheme, provided that certain conditions are fulfilled. One of these is that the Board of Education should agree to the Royal College of Science, including the Royal School of Mines, being brought into the scheme, and to this the Board has already given its consent. The Committee further state that private munificence is prepared to provide a capital sum in excess of the minimum considered necessary to a successful start, and that the Commissioners of the 1851 exhibition are ready to give at South Kensington an additional site of some 4 acres; further, it appears that the University of London is willing to co-operate. The adhesion of the Corporation and Livery Companies of the City of London will also be necessary, in order that the City and Guilds of London Institute should be included in the scheme. Without entering into details in this preliminary report, the Committee advise the formation of a supervising council representing all the large interests concerned, including the Government. The scheme outlined in this report deals only with instruction in engineering, chemical technology, and metallurgy, the Committee having deferred for the present the consideration of the biological department of the Royal College of Science.

HOSPITAL OUT-PATIENTS AND FRIENDLY SOCIETIES.

WE have received from the Steward of St. Thomas's Hospital a circular intended for distribution among out-patients. It is entitled "How to Provide Against Old Age, Sickness and Death." It enumerates the chief Friendly Societies and gives information as to the contributions required from members, with the advantages derivable therefrom, and it strongly advises all out-patients to insure themselves in this manner. No exception can be taken to the wisdom of the advice when given to that portion of the community which is unable to pay the usual fees for adequate treatment. No doubt there are many persons who go to hospitals for trifling ailments, and thereby constitute a grievous and heavy burden on the time of the officers of these institutions, yet these can quite well afford to subscribe to Friendly Societies, by doing which they would not only acquire the habit of thrift, but contribute something towards the income of the medical profession, and relieve the hospitals of unnecessary work.

OXFORD MEDICAL DINNER.

THE annual dinner of the Oxford Medical School was held on Saturday, June 24th, in the Hall of University College, which was kindly lent for the occasion by the Master and Fellows. The Regius Professor of Medicine, Dr. Osler, presided over what proved to be one of the most interesting and successful dinners ever held in the Medical School. An excellent *menu* had been provided by the Secretary, and the speeches were short and to the point. After the loyal toast had been honoured, Mr. Mansell Moullin proposed the toast of "The Oxford Medical School," to which the Chairman suitably replied. Professor Ritchie proposed the health of "The Guests," Professor Stockman speaking in reply. Finally, Professor Thomson proposed the toast of "The Chairman," which was responded to by Professor Osler in a witty and interesting speech. Between the speeches the proceedings were enlivened by songs and recitations, and notably by a skit from the pen of Dr. Lynam, entitled "Mr. Dooley's Visit to the Oxford Medical School." The evening was brought to a close shortly before midnight by the customary singing of "Auld Lang Syne."

RADIUM FOR OESOPHAGEAL CANCER.

PROFESSOR MAX EINHORN[1] has reported 9 cases of cancer of the oesophagus which he has treated with radium. In 6 the treatment was so far successful as to cause some widening of the stricture. In the other 3 no improvement took place, but in these last cases the period of treatment was very brief. Professor Einhorn is of opinion that with regular treatment continued for a considerable length of time the method is distinctly useful. He does not claim to have effected a complete cure in any case, but points out that since the treatment results in widening the stricture, and thereby is a means of prolonging the patient's life, it must, at all events, be regarded as a step in the right direction. It is possible, he thinks, that if the treatment were commenced at an early stage of the disease, a complete cure might be effected. The treatment is applied daily or every other day for several weeks, each application lasting from one-half to one hour. No unfavourable effects have been noted, in Professor Einhorn's experience, as a consequence of the use of radium for this purpose.

DR. G. E. HERMAN, Consulting Obstetric Physician to the London Hospital, has been elected an honorary member of the Gynecological Society of Chicago.

WE understand that some disappointment is felt that the regimental medical officers of Volunteers have not hitherto received any mark of Royal favour. The C.B. has been conferred upon a certain number of officers of the R.A.M.C. (Vol.), and the birthday list this year contains the name of one such officer; but it is felt that while this officer has undoubtedly earned the distinction, and that there may be others equally deserving, the claims of the regimental officers, many of whom are very senior in rank, ought not to be overlooked on a future occasion, when the distribution of these coveted marks of Royal favour is under consideration.

[1] *Zeitschrift für Krebsforschung*, Bd. III, H. 1, 1905.

On July 1st H.R.H. Princess Christian received in Schomberg House Sir Alfred Jones, Professor Major Ross, and Professor Boyce, representing the Liverpool School of Tropical Medicine, of which her Royal Highness is the Honorary President. Her Royal Highness presented the Mary Kingsley medal to the following gentlemen: Dr. Laveran, of the Pasteur Institute; Sir Patrick Manson, and Colonel Bruce, C.B., R.A.M.C. Sir Alfred Jones thanked Her Royal Highness for thus honouring the institution.

MEDICAL NOTES IN PARLIAMENT.

[By Our Lobby Correspondents.]

The Course of Business in the House of Commons has during the week been much discussed, and it is thought that if the session is to be closed by the middle of August many Bills will have to be sacrificed. The Committee stage of the Aliens Bill is to be shortened by the free application of the guillotine in order to pass the Bill by July 19th, the date fixed for the third reading. The Scotch Church Bill will also have to be passed, and these and some minor measures are likely to be the scanty harvest of the session. The Unemployed Bill and the Workmen's Compensation Bill have very poor prospects indeed. The Prime Minister on Monday announced his definite intention of proceeding with the resolution on electoral redistribution, and as this cannot be taken till next week or the week after, and is sure to occupy some time, it is evident that there will have to be a considerable sacrifice among the forty Bills still down as Ministerial measures on the order paper. The prospects of the Accidents (Mines and Factories) Bill are very poor, while the Lunacy Bill, the Dogs Bill, and the Butter Bill are as good as lost. The Dogs Protection Bill, a private member's measure to exempt dogs from vivisection, has already been dropped.

Boarding Out.—On Monday Sir Walter Foster asked the President of the Local Government Board if he could state when the new Boarding-out Order promised some time back would be issued. Mr. Gerald Balfour replied that the new order had now been settled and would be issued shortly. Sir Walter Foster said that much inconvenience had been caused by the delay in issuing the order, and asked that it should be issued as soon as possible. Mr. Gerald Balfour said that no time would be lost.

Erasures from the "Medical Register."—Last week Mr. Weir asked the Secretary of State for the Home Department, having regard to the fact that the General Medical Council stated that during the last ten years twenty names had been struck off the *Medical Register* for infamous conduct in a professional respect, and that of this number four were removed on charges of adultery, would he state how many names had been removed on this charge during the current year. Mr. Secretary Akers-Douglas said that the answer to the question was Three. He thought that for further information the hon. member should apply to the Medical Council.

Blood-poisoning at Cootehill Workhouse.—On Monday Mr. Samuel Young asked the Chief Secretary to the Lord Lieutenant of Ireland whether, considering the number of deaths in the Cootehill Workhouse in January, 1904, after medical operations from alleged blood poisoning the Local Government Board had taken any steps to ascertain the cause of death in these cases; and, in view of the difference of opinion by local experts as regards the cause of these deaths, and that the Local Government inspector reported that it was difficult to assign a direct and definite cause for the outbreak in this case, he would consider the advisability of ordering a sworn inquiry before the guardians were called upon to incur heavy expenditure for structural alterations. Mr. Long answered that the Board's medical inspector had already made minute investigation into the cause of this outbreak of blood poisoning. Though he was unable to assign a definite cause for the outbreak he was strongly inclined to the opinion of the union medical officer that the source of infection was in the wards of the infirmary. In the opinion of the Board a sworn inquiry would not be likely to throw further light on the matter. In answer to a further question, Mr. Long said that during the eight years ending March 31st, 1905, £68 had been spent on the workhouse infirmary at Cootehill.

Tuberculosis in Fowls.—Mr. Morrell asked the President of the Board of Agriculture whether he had information to what extent this season tuberculosis was found in fowls; and would he cause inquiry to be made and information laid before the Commission on Tuberculosis with a view to ascertaining whether that disease bears relation to that found in man, and might be communicated to man in foods. Mr. Ailwyn Fellowes answered that he had no information to show that the disease in question was specially prevalent amongst poultry this season, but he would bring the suggestion under the notice of the Royal Commission. He might add that his Department had prepared and issued a leaflet on the subject, with copies of which he should be glad to supply him.

Insanitation in Lewis.—Mr. Weir asked the Lord Advocate on Tuesday whether he was aware that, although 80 pupils were on the register of Lemreway School, in the parish of Lochs, Island of Lewis, Ross-shire, the average weekly attendance since the middle of December last had been only 26, owing to epidemics; and, seeing that both the water supply and drainage were bad, would he consider the expediency of calling for a report from Dr. Cameron, the medical officer of health for the parish, on the subject, with a view to the defects being remedied. Mr. Weir also asked for a report on the sanitary condition of the Island of Lewis. The Lord Advocate said that the Local Government Board proposed to ask for a report from Dr. Cameron, and that the report on the Island of Lewis, by the adviser of the Local Government Board, would be laid on the table without delay.

The Cost of Asylum Patients at Mullingar and Chester.—Mr. J. P. Farrell asked the Chief Secretary to the Lord Lieutenant of Ireland whether his attention had been called to statements made at a meeting of the Longford County Council to the effect that patients per head in Mullingar Asylum in Ireland cost from 45 to 75 per cent. more than in the Chester Asylum in England; and whether, in view of the capitation allowance in these cases, he would take some steps to have the Government grant in aid for asylums in Ireland increased so as to lessen the burden on the taxpayer. Mr. Long said that the comparison drawn in the first part of the question was inaccurate. The figures upon which the comparison was based were inclusive of building expenditure in the case of Mullingar Asylum, but were exclusive of such expenditure in the case of Chester Asylum. The reply to the second inquiry was in the negative.

Fever at Balallan, Lewis.—On Tuesday Mr. Weir asked the Lord Advocate whether he was aware that Dr. Cameron, the Medical Officer of Health for the parish of Lochs, Island of Lewis, Ross-shire, stated in his report to the medical officer of health for the county that, being called upon to make inquiry in regard to two outbreaks of fever in the Balallan district, one of typhus and the other typhoid, he came to the conclusion that the outbreak was due to the generally insanitary conditions prevalent; and, seeing that there were 108 pupils on the Balallan public school register, would he state whether it was proposed to take any action to protect the lives of these children. The Lord Advocate said that he was aware that the outbreaks of fever referred to were attributed to the insanitary conditions generally prevalent in the district, which affected not only the children on the school register, but the population at large. The matter was engaging the anxious consideration of the Secretary for Scotland and the Local Government Board, who would be in a better position to remedy the evils complained of, if the Congested Districts Amendment Bill now before the House became law.

Plague in Madras.—On Wednesday Sir Walter Foster asked the Secretary of State for India whether there had recently been outbreaks of plague in Madras which had been traced to intending emigrants housed in the emigrant dépôts; and, if so, whether any steps had been taken to remove the emigrant dépôts to some suitable position outside the city in order to protect the residents in Madras. Mr. Secretary Brodrick answered that two or three cases of plague had occurred in villages near the emigration dépôts, but he was not aware that any case had been traced to the dépôts. The Madras Government may be relied on to take all needful precautions. The latest returns of plague show that during the week ending June 10th there was only one fatal case of plague in Madras city.

Scotland.

ROYAL SOCIETY OF EDINBURGH.

THE fifteenth meeting of the present session was held in the Royal Institution on Monday, July 3rd. Professor Geikie in the chair. Professor McKendrick communicated a paper by Dr. Walter Colquhoun and himself, from the Physiological Laboratory of the University of Glasgow, on "The Action of Radium Bromide on the Electro-Motive Phenomena of the Eyeball of the Frog." It had been well known for the last 34 years that when the eyeball of a frog, or indeed of any other animal, was connected with the terminals of a sensitive galvanometer an electric current (travelling through the eye from the retina to the cornea) might be detected, and that variations occurred in this current due solely to the action of light on the cornea. It was also well known that salts of radium were luminous in the dark, and that if a tube containing radium were pressed against the closed lid of the eyeball one had the consciousness of luminosity. This being so, it was of interest to ascertain whether this luminosity was due to the radium causing fluorescence of any of the structures of the eyeball, or whether it was due to the direct action of one or other of the emanations of radium on the retina itself. The research of Professor McKendrick and Dr. Colquhoun had shown—

1. That the light emanating from radium bromide affected the electrical condition of the living retina in a manner similar to that of ordinary light, although to a considerably less degree.

2. That the action did not seem to be due to fluorescence of any of the structures of the eyeball but to direct action on the retina.

3. That the retina would still respond to emanations of radium passing through cardboard, black paper, and aluminium foil—emanations which, when allowed to fall on the human eye in a perfectly dark chamber, did not give rise to a luminous sensation.

4. That the frog's retina was susceptible to the feeble light emitted from the surface of fluorescible minerals and fluids rendered fluorescent by radium.

5. That the β rays were responsible for most of the effects observed, but that after these had been largely excluded a still effect still persisted, which, presumably, must be due to the γ rays.

Professor J. Arthur Thomson and Mr. James Ritchie reported on the Alcyonaria collected by the Scottish National Antarctic Expedition. Six new species were found, and three forms—previously found by the *Challenger*—were obtained, which extended our knowledge of the geographical distribution of these species. Mr. W. S. Bruce, the leader of the expedition, in the absence of Professor Thomson, showed some specimens of these new and rare species. He demonstrated by means of a chart the localities and depths from which they were taken; some of them were obtained in water nearly two miles deep, and one from the furthest southern point reached by the expedition—74 deg. South, off "Coats Land."

Professor D. J. Cunningham read a paper (with lantern illustrations) on Cape Hunting Dogs (*Lycaon pictus*) in the Gardens of the Royal Zoological Society in Ireland.

A paper on The Dissociation of the Action of Auricles and Ventricles, by Dr. W. T. Ritchie, was communicated by Dr. George A. Gibson.

THE QUATERCENTENARY OF THE ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

List of Honorary Fellows.

At the Quatercentenary celebrations of the Royal College of Surgeons of Edinburgh this month the following gentlemen will be admitted Honorary Fellows of the College:

The Director-General of the Navy Medical Department.
The Director-General of the Army Medical Department.
The Director General of the Indian Medical Service, Simla, India.
The President of the Royal College of Surgeons of England.
The President of the Royal College of Surgeons of Ireland.
The President of the Faculty of Physicians and Surgeons of Glasgow.
The President of the Royal College of Physicians of Edinburgh.
The Right Hon. Lord Lister.
Professor Lucas-Championnière, Paris.
Professor Paul Segond, Hôpital Salpêtrière, Paris.
Professor Guyon, Hôpital Necker, Paris.
Professor Francesco Durante, Professor of Clinical Surgery, University of Rome.
Professor Vincenz Czerny, Professor of Surgery, Heidelberg.
Professor Ernst von Bergmann, University of Berlin.
Professor König, Professor of Surgery, University of Berlin.
Professor Ernst Fuchs, Professor of Ophthalmology, University of Vienna.
Professor Krönlein, Professor of Surgery, Zurich.
Professor Carl Gustaf Leonander, Professor of Surgery, Upsala.
Professor Saxtorph, Professor of Surgery, Copenhagen.
Dr. Halsted, Professor of Surgery, Johns Hopkins Hospital, Baltimore, U.S.A.
Dr. William W. Keen, (Hon.) Professor of Surgery, Jefferson Medical College, Philadelphia, U.S.A.
Dr. J. Collins Warren, Professor of Surgery, Harvard Medical School, Boston, U.S.A.
Dr. Charles M'Burney, Professor of Surgery, Columbia University, New York.
Dr. W. J. Mayo, Rochester, Minnesota, U.S.A.
Dr. Shepherd, Professor of Surgery, M'Gill College, Montreal, Canada.
Dr. Cameron, Professor of Surgery, Toronto, Canada.
Sir T. N. Fitzgerald, Senior Surgeon, Melbourne Hospital, Australia.
Dr. MacCormack, Surgeon, Sydney, Australia.
Baron Yasuzumi Saneyoshi, Director-General, I.J. Navy, Bureau of Medical Affairs, Tokyo, Japan.
Anton, Freiherr von Eiselsberg, Professor of Surgery, Vienna.
Professor Poncet, Professor of Surgery, Lyons.
Professor Terrier, Hôpital de la Pitié, 1, Rue Lacepède, Paris.
Professor Subbotin, St. Petersburg.
Professor Bier, Bonn.
Professor Bruno Krogius, Finland.

EDINBURGH ROYAL INFIRMARY RESIDENTS' CLUB.

The eleventh annual meeting of the Edinburgh Royal Infirmary Residents' Club was held on June 30th, Professor Annandale, the President, in the chair. The Secretary, in his report, referred to the loss which the club had sustained by the death of Sir William Banks, last year's President. Sir Lauder Brunton was unanimously elected to the office of President in succession to Professor Annandale. At the annual dinner which followed seventy-four members signed the roll. The Chairman, in proposing the toast of "The Residency," narrated several interesting incidents that happened during his term in the House, and subsequently in the name of the club presented to Dr. Claude B. Ker, one of its founders and late Secretary, on the occasion of his approaching marriage, a handsome silver salver, wishing him at the same time "as many joys of prospect and retrospect in the new Residency he was about to enter as in that Residency whose happy memories he had done so much to perpetuate." Mr. Cotterill presented to the club a ladle which had been used for thirty years by the late Mrs. Porter in doling out soup to the patients. Drs. Alexander, H. P. Thompson, Darling, Bell, and others contributed to the evening's entertainment.

BUBONIC PLAGUE AT LEITH.

The three cases of plague are still in the Leith Hospital at East Pilton, and continue to progress favourably.

TRACHOMA IN ALIENS.

The Medical Officer of Health for Glasgow has issued a memorandum on the prevalence of trachoma among certain aliens, based on an inquiry made to ascertain the circumstances attending the presence of affected aliens in the city.

The cases are divided into four groups: (1) Those who, after working in the county of Lanarkshire for varying periods, wish to leave the country; these form by far the larger number that are rejected, and amount to as many as twenty-three a month. (2) Those who are "through transmigrants" and simply arrive at Glasgow as a stage in their passage to America; of these, ten a month are rejected. (3) There is a class also of two-stage emigrants who book to Glasgow, and again book from Glasgow to America, and of these five a month are rejected. (4) There is the class of city emigrants who, after having worked for a variable period of time in Glasgow, wish to go to America, and of these only one a month are rejected.

County emigrants thus form the largest class and outnumber all the others put together, while those rejected who live in the city are notably small. Transmigration is, therefore, neither the sole nor even the chief cause of the presence in Glasgow of foreign persons infected by trachoma, and the figures suggest that the disease is more prevalent among candidates for emigration who have been resident for definite periods in Scotland than among transmigrants, and, further, that there is no evidence of notable trachoma among Glasgow aliens. Of the rejected candidates, it is estimated that one quarter remain in Great Britain and the remainder return to their native country, and, as nearly all leave Glasgow, the

addition of trachoma-infected aliens is a negligible quantity. This applies also to the two-stage emigrants. It is obvious that if those who remain in the county are housed in this county or city without adequate precautions they may prove centres of infection.

Of those who, after passing the medical inspection in Glasgow, are rejected in America, most are returned to the city from whence they embarked, but evidence is wanting to show that this class threatens in any degree the local health. On the whole, and taking the facts into consideration, Dr. Chalmers's report goes to show that, although no alarming spread of trachoma is likely to follow the introduction of aliens into the country, yet an enactment to exclude diseased aliens from the United Kingdom would place in the hands of the authorities an appropriate means of restraint for the suppression of trachoma. Trachoma is not a disease which is endemic in Great Britain; it is a disease of aliens, was introduced by them, and is transmitted largely by them, and the exclusion of trachomatous aliens will intercept the infective stream at its fount; if this is done local measures will be sufficient to stamp the disease out altogether.

Although it is not a disease of fulminating activity, yet its control from an early stage is of great importance, for it was found in New York in 1903 that trachoma had so spread from the alien population in the poorer parts of the city that when the Board of Health faced the position no fewer than 6 000 cases were discovered, chiefly among Italian and Yiddish boys.

Hospital Abuse in Glasgow.

A correspondent of the *Glasgow Evening Times* has had a number of interviews with young medical men in that city on the subject of hospital abuse, and gives the results of his inquiries in our contemporary's issue of July 1st. He was informed that the extent to which outdoor treatment is granted by Glasgow infirmaries is having a ruinous effect upon private practice. It was asserted that a great number of the persons treated gratuitously are said to be able to pay for private medical attendance. At the Western Infirmary, for instance, about 25 per cent., or one-quarter of the outdoor patients, were, it was alleged, not entitled to treatment at the public expense. In order to see for himself the extent of this abuse of charity, the correspondent paid a visit to the outdoor dispensary of the Western Infirmary, and formed the opinion that the case had not been over-stated. He writes as follows:

Amongst the really poor people present were many—at least one-fourth of the number—who, to judge from their dress, were quite able to afford the fee of a private practitioner. Many of the women who composed the majority of the attendance, did not even attempt to simulate straitened circumstances, but appeared in all their finery and jewels, much out of place beside the humble poverty of the bona-fide poor. Such cases in themselves would total a goodly sum for fees in the course of a year, which in common justice ought to find their way to the pockets of private practitioners, instead of robbing the ratepayer and tending to lower the medical profession in Glasgow by driving able young men elsewhere through sheer inability to obtain a practice. At the hospital referred to there is an average attendance of 22 000 patients a year with altogether about 94,000 visits to the out door dispensary, and of these I believe one-fourth ought to pay. Say 24,000 visits at half a crown each—which is a low fee for the West end. This makes a sum of £2,500 for one infirmary alone, which is kept out of the pockets of private doctors. It is reckoned that, taking all the hospitals and outdoor dispensaries together, in Glasgow the medical profession generally loses in this way over £10,000 annually. This is the more hard when one considers the great expenditure of money and time which a medical qualifying course entails.

St. Andrew's Ambulance Association.

The annual general meeting was held in the Merchant House, Glasgow, on June 27th. The President, the Marquis of Breadalbane, was in the chair. The Secretary (Lieutenant-Colonel H. J. Barnes) submitted the twenty-second annual report, giving details of the year's work. The income was £2,885 4s. 6d., including £1,139 17s. 2d. from subscriptions and donations, and £484 8s. of employés' subscriptions. The expenditure amounted to £2,874 19s. 7d., leaving a small balance of £10 odd to the good. The Chairman, in an interesting speech, referred to the enormous amount of work done by the Association on this limited income. During the past year the calls on the wagons amounted to 6 267, of which Glasgow alone accounted for 3,822. Of the total number 2 474 were calls to accidents, 1,348 to cases of illness, 808 were from police offices, houses, and stairs; 782 were in connexion with street accidents: 631 calls came from public works. The ambulance wagons can be called for at any hour by any person without charge or responsibility. During the past year 379 classes in first-aid and 17 in nursing had been conducted and examined, and 4 412 first-aid certificates had been granted, 330 nursing certificates, and 95 re-examination vouchers. The Red Cross Branch was also flourishing, and the balance left from the South African War hospitals was intact. The organization of the corps has greatly improved in recent years. To increase the efficiency the council intends to insist on a certain amount of discipline to insure regular practice and the registration of the names of members at head quarters.

Gift of a Cottage Hospital to Port Glasgow.

At the meeting of the Port Glasgow magistrates, held last week, Mr. John Birkmyre intimated on behalf of himself and his wife that they proposed to build a cottage hospital for the treatment of accident cases. The hospital is to consist of two wards, and will contain twenty two beds. Sir H. Shaw Stewart has granted suitable building ground behind Chapelton School at a minimum feu duty. The sum which Mr. and Mrs. Birkmyre have set aside is £10 000. Any balance left over is to go to form the nucleus of an endowment fund. After the building is completed it is to be handed over to trustees, consisting of the Sheriff Substitute of Renfrew and Bute, the Provost and senior magistrate of Port Glasgow, the chairman of the Parish Council and the School Board, and others. On the committee of management there are to be representatives of the various trades and of subscribers.

Ireland.

Archbishop Walsh and Trinity College.

The Roman Catholic Archbishop of Dublin, Dr. Walsh, delivered an address on the Education Question on Sunday last, and in the course of his remarks observed that Trinity chose to shut itself up and conduct its own examinations of its own students by its own professors practically with closed doors. There was one corner of Trinity College and of its work upon which some glimmer of light had come to be let in with some sensational, but to him, at all events, no very surprising results; he referred to the Medical School. For three hundred years that Medical School had been branding its own herrings; but at length an Act of Parliament had been passed which put a stop to that, and Trinity College had to submit to competent, independent, professional inspectors from time to time, at all events at the examinations in the faculty of medicine. Grave defects were discovered, and suggestions for amendment were put forward by the outside inspectors. Having quoted from the minutes of the General Medical Council, the Archbishop said that the report of the Council on the medical examinations at the Royal University were of the most laudatory character, but the report of the examinations of the Trinity medical students stated that the final examinations would be completed in November next. This was a serious state of affairs, and the condition disclosed by the report was anything but satisfactory. So the great school had to be put back. There were shortcomings and drawbacks of many kinds. Two students, Nos. 15 and 16, who had come up at the final examination, were rejected—one unanimously and the other after a vote. One of the examiners said that the paper of one of the students was the worst that he had ever examined. About a month afterwards the Registrar of Trinity College Medical School wrote to the Medical Council that the two rejected candidates had applied for re-examination, that they had been examined and that they had passed. Naturally the representatives of the controlling authority were somewhat indignant at having been brushed aside by Trinity College in the interest of two candidates whose disgraceful answering they had already referred to. Those unpromising candidates were certified as a credit to their college, and were sent out to protect the lives of the people of this or some other country. Those hopeless candidates were not examined by the representatives of the General Medical Council, or by any extern examiner, or by any representative of the Board, and the examination was held by one single examiner, and that examiner took upon himself the responsibility of certifying that those two candidates were entitled to practise in Ireland or elsewhere as Doctor of Medicine of the University of Dublin. He thought the report of the Medical Council was an exceedingly mild one.

Dr. Traill, the Provost, has replied that no Act was passed to deal with Trinity College; "the great school" was not put back, and the inspectors reported that the final examina-

tions of the University were "sufficient." The two candidates referred to were rejected in mental diseases, and the examiner who passed them after further examination was an extern examiner. He points out, further, that the representatives of the General Medical Council never examine. They merely report. So far from the medical school being a close borough, there are nine extern examiners and fourteen University examiners.

The attack has not gained much approbation, as many of the statements show a want of knowledge of medical affairs.

IMPERIAL CANCER RESEARCH FUND.

THE annual meeting of the Imperial Cancer Research Fund was held at Marlborough House on July 5th, under the Presidency of His Royal Highness the PRINCE OF WALES.

ANNUAL REPORTS.

Secretary's Report.

The report of the Secretary, Mr. F. G. HALLETT, drew attention to the Blue Book published by the Colonial Office, containing the numerous preliminary communications from British Colonies and Protectorates in reference to cancer. Reference was made also to the obstruction of the Postmaster-General to the transmission of specimens by post, specimens absolutely harmless, consisting of dead matter preserved in small quantities of a non-corrosive fluid securely packed in a special manner to ensure their safety. The Inland Revenue Department had shown a superior intelligence, inasmuch as it had decided that the Imperial Cancer Research Fund was entitled to exemption from income-tax, and had accordingly returned the tax on income derived from investments from the commencement.

General Superintendent's Report.

Dr. BASHFORD reported that during the year the investigations had passed out of the provisional stage and had acquired definite characters. The organization devised for the proper pursuit of the investigations had continued to yield information in the several directions expected. The experimental side of the inquiry had been fully developed. With regard to the ethnological distribution of cancer, he pointed out that the objects of the dispatch sent by the Colonial Secretary had been to a large extent frustrated by the obstructive tactics of the Post Office. That department, however, did not consider statistics dangerous, and the first series of reports had been received from India, including 146 cases in natives subsisting on a vegetable diet, 137 in others whose food was mainly flesh, while 222 had been reported in natives living on a mixed diet.

Another example of the assistance which could be rendered by a Government department under skilled and intelligent direction was afforded by the General Register Office. Dr. Tatham had arranged the national figures in a manner permitting comparison of the data from the different sources. The General Register Office was giving valuable assistance in other ways, and was affording facilities for obtaining data shown by the results of the experimental investigations to be of practical value. Records of 5 000 cases of cancer which had been examined microscopically had been obtained from various hospitals. Evidence had been obtained indicating that the frequency of the occurrence of sarcoma increased as life advanced in a manner analogous to that long known to be characteristic of carcinoma. Cancer appeared in various organs of the human body in a manner presenting a general parallel to the association of the disease with age. The span of life of the individual was not the same as that of the separate organs and tissues contributing to its maintenance. Some organs and tissues early attained full development, and their functional activities soon ceased; others were only active during adult life, and others, again, as long as life lasted. Evidence had been obtained showing that the time when malignant new growths appeared in animals stood in direct relation to the duration of life in long and short lived animals respectively, so that the ratios of the periods of relative freedom from cancer to the absolute duration of life were the same in the two groups. Much additional evidence had accumulated in support of the view that the number of cases of cancer, wherever occurring, depended to an important extent on the number of aged individuals coming under observation, both in different races of mankind and in animals. This information had an important bearing upon the apparent endemic occurrence of the disease in man and animals. It was not yet possible to determine statistically whether cancer was really increasing as the increase in the recorded cases would imply. Nevertheless, progress had been made towards a solution of this question by other means, for the national figures were now tabulated in a way which in the course of some years would permit of a more definite expression of opinion. It was only possible at present to state that no known form of infection determined the number of deaths from cancer.

The experimental investigations had been attended with a degree of success which only became apparent after the experiments had been systematically continued for almost two years. It had been proved that all the features of cancer could be reproduced experimentally. This result was the most important and far reaching of those hitherto obtained. The true nature of some features and their relations to one another had only been revealed by experiment. Certain fundamental features had also been separated from others of subsidiary importance, and hitherto unsuspected properties had been brought to light in the course of the experimental propagation of cancer. Cancer could only be transmitted experimentally by processes which allowed of the continued growth of the tumour of one animal in other animals of the same species. The tissues of the new hosts did not acquire cancerous properties. The detailed investigations of this phenomenon had definitely proved that no analogy existed between cancer and any known form of infective or contagious disease. Cancer was not caused, therefore, by the parasite of any such disease entering the body from without. The only hypothetical connexion which could be conceived to exist between several sporadic cases of cancer was the transference of living cancer cells from one individual to another and the continued growth of such cells. This hypothesis implied that cancer, as it occurred naturally, was identical with cancer under artificial propagation, and always genealogically descended from a pre-existing growth which had arisen in the distant past, for each species and for each tissue of the vertebrate kingdom. Such an hypothesis could be definitely rejected. It involved assumptions of an absolutely irrational nature, and was contradicted by the fact that the inception of cancer was associated with the onset of old age—a condition which was not necessary for transmission. Future work must, therefore, be directed to ascertaining why cancer arose *de novo* in each individual attacked by the disease, why it was more intimately associated with the later than with the earlier stages in the life of the individual, and what change or changes the cells of normal tissues underwent in acquiring cancerous properties.

Variations indicating a cyclical process had been revealed in the course of the growth of experimental tumours. The study of the cell phenomena had not yet yielded definite conclusions. The variations made great caution necessary in interpreting the results of attempts to modify growth. Whilst the action of normal serum outside the body did not prevent the growth of tumour cells, subjecting them to the action of an immune serum outside of the body had in some cases deprived them of their powers of growth. No definite evidence of such an action had been obtained in the living body. In the same connexion the action of radium and the processes responsible for the disappearance of some tumours of mice under its action had been thoroughly studied from the time when the possibility of such an action was first mooted. Radium caused some tumours, the outcome of experiments, to disappear, but did not act in a uniform manner under experimental conditions apparently identical. It was probable that success had only been attained in those instances in which the state of the tumour cells themselves contributed to the favourable result. The study of the minute cell changes was therefore not only necessary to ascertain the nature and cause of cancer, but was also required before therapeutical measures acting specifically on the cancer cell could be devised. Radium did not possess this action, but acted upon the supporting and nourishing structures of a tumour, and if this effect coincided with a favourable phase in the cancer cells tumours might in some cases be entirely absorbed. The processes directly concerned were parallel to those observed when a new growth underwent spontaneous absorption. It was, moreover, necessary to point out that these effects had been obtained entirely free from sources of error by using what were proportionately enormous quantities of radio-active solutions in animals of the small size of mice.

Treasurer's Report.

The Honorary Treasurer (Mr. HENRY MORRIS) reported that

the total expenditure for the year (£4,007 13s. 7d.) had exceeded the total income by £1,728 12s. 4d., and an appeal was therefore made for further contributions.

Sir WILLIAM CHURCH, Chairman of the Executive Committee, in moving the adoption of the report, said that the investigations carried out during the year might be conveniently described as falling under three main heads—the statistical, the histological, and the experimental. The statistical investigation was more especially treated of in the first part of the year's scientific report. Additional data had been accumulated since, confirming the opinion that cancerous growths could not be associated with any peculiarities of diet. Further evidence had been obtained that in considering the frequency of the occurrence of cancer due regard must be paid to the individual ages of the population under consideration, and when it occurred in young subjects, to the organs in which the disease manifested itself, cancer in young persons occurring for the most part in tissues and organs which lost their functional activity in early life and normally underwent degeneration and more or less complete absorption. The continued tabulation of the cases of malignant growth in the metropolitan hospitals, in which the presence of cancer had been proved by microscopical examination, had confirmed the opinion that in cases of internal growths the errors of diagnosis, even when under the charge of most experienced and accomplished observers, were much greater than would be expected, and in no small degree explained many of the reputed cases of cure. Dr. Tatham, of the General Register Office, had had the national statistics of malignant disease rearranged in a manner which would enable them to be compared with the figures obtained from hospitals and other sources, and thus afford a broader basis for the control of statistics. Histological, cytological, and experimental investigation had been vigorously carried on, and had yielded results of remarkable interest, raising questions in connexion with malignant disease which had hardly been suspected before. The results obtained in mice pointed to the necessity for yet more closely studying the processes of cell multiplication, for in the means which permitted this to continue appeared to lie the solution of the mystery of cancer. Certain cancerous tumours were found occurring sporadically in mice, which could be transplanted into other mice. In this way it had been found possible to perpetuate a malignant growth through successive generations of mice, and so to obtain material for observation and study. Every transplantation did not succeed—very far from it; and at present the causes which determined the success or failure of the experiments could not be stated. Slight racial differences in the mice seemed to have a distinct bearing on the success of transplantation; for example, Professor von Leyden of Berlin was kind enough to send a live mouse which had a tumour which had been transplanted through three generations in Berlin wild mice, together with twenty Berlin wild mice; 47·3 per cent. of the transplantations made into the twenty Berlin wild mice were successful, whilst the transplantations into London wild mice gave only 1·4 per cent of success, and in London tame mice the proportion—0·54 per cent—was even less. When the initial difficulty of transplanting a tumour from one strain of mice to another had been overcome, the percentage of success reached approximately that which obtained when mice of the same strain were used. Careful examination of transplanted tumours had shown that a continuous power of growth was manifested by the transplanted cells, and that the new growth originated from them and not from the cells of the host irritated or stimulated by the transplanted material; the reaction caused in the tissues of the host afforded the means by which the transplanted cells were nourished. Another fact which was of great importance was that whilst in mice, as in man, spontaneous malignant growths occurred in the aged, rather than in the young, transplanted growths flourished as well, or better, in young and vigorous mice. In the infective granulomata it was the cells of the infected animal which took on abnormal growths. It had long been recognized that malignant growths produced their injurious effects by their power of continuous cell multiplication. The artificial propagation of malignant growths was a demonstration of this power of cell division, for by its means they had from a single mouse tumour produced an amount of tissue equal in bulk to more than a thousand mice. Very large numbers of healthy mice had been kept for long periods in the same cages with mice suffering from both sporadic and inoculated tumours and yet in no single instance did the malignant growth occur in an uninoculated mouse. In conclusion, he said that the expenses of the research must increase if the highly-trained staff necessary were to be maintained. The work during the past year had been greatly aided by the collaboration of foreign investigators, more especially by Professor Borrell of the Institute Pasteur, Professor Jensen, of Copenhagen, and Professor von Leyden and Dr. Michaelis of the German Cancer Committee. Very valuable assistance had also been afforded by the India, Foreign and Colonial Offices, as well as by other public offices and bodies and by private individuals, both in this country and abroad, but he regretted to say that the unaccountable action of the postal authorities in refusing to transmit perfectly innocuous postal packets addressed to the Research would disorganize the arrangements which, through the co-operation of the India, Foreign and Colonial Offices, had been made for the transmission of specimens from India, the sea colonies and other foreign countries.

Mr. JOHN TWEEDY, the President of the Royal College of Surgeons, in seconding the motion, said he thought all the subscribers to the fund must feel that distinct progress was being made towards the solution of the great mystery of the origin and nature of cancer. Many of those who did not understand the processes of scientific investigations might desire that they should attain their goal at one step, as it were, but knowledge was not so to be gained. Whether they would ever attain the goal aimed at, or when, no man living could say, but he was convinced that this body for the investigation of the causation of cancer was proceeding on the right method—the method of science, which must give them true knowledge so far as it went.

The motion was unanimously adopted.

Lord STRATHCONA proposed a vote of thanks to the Chairman and members of the Executive Committee, the Subcommittees, the Honorary Treasurer, and others who had assisted in the work of the fund during the past year. It was a cause for great satisfaction that there was at the head of the Executive Committee a gentleman so distinguished in his profession, and enjoying the confidence of the public so much, as Sir William Church, and that he was so ably seconded by many members of the medical profession.

Mr. R. L. LITTLEJOHN seconded the motion, which was carried unanimously.

Sir WILLIAM BROADBENT moved:

> That the following clause be added to paragraph 1, Section IV. of the Scheme of the Imperial Cancer Research Fund, relating to the appointment of members of the Executive Committee, namely, (g) Such members as may be specially appointed by the Royal Colleges of Physicians and of Surgeons on the nomination of the Executive Committee, and with the approval of the General Committee.

The clause was to enable the Committee to retain the services of valuable members when their terms of office expired, or to add to their number other persons likely to assist in the management of the fund, for whose election at present no means were provided.

The motion was seconded by Mr. JOHN LANGTON, who mentioned that the difficulty had arisen owing to the fact that Sir William Church had ceased to be a member of the Executive Committee on the termination of his presidency of the Royal College of Physicians. Sir William Church had not only taken a most active part in the work of the fund and in the supervision of the farm, but had also placed accommodation on his own property at the service of the Research previous to the acquisition of a farm by the fund itself.

The motion was unanimously agreed to.

Mr. HENRY MORRIS, in moving that the best thanks of the meeting be given to His Royal Highness for presiding and for permitting the meeting to take place at Marlborough House, said they were all aware that, from the inception of this scheme, the hearty sympathy and goodwill of His Royal Highness had been given towards the establishing of a cancer investigation. As soon as the scheme was sufficiently advanced the Prince of Wales accepted the Presidency; and on every occasion, when opportunity had offered, he had been good enough to make a gracious and encouraging mention of the work and of the objects of the fund.

Mr. H. L. FLORENCE seconded the motion, which was carried with acclamation.

The PRINCE OF WALES, in reply, said that in the annual report and in Dr. Bashford's scientific reports all could recognize much evidence of laborious and careful investigation and of sure progress. The search after fresh facts had been stimulated by the rejection, during the past three years, of certain fallacies which previously obscured the true problem. One result obtained showed that

cancer was not transferable from one individual to another, as if it were an infectious disease. The researches in the various British Colonies and Protectorates continued to yield information of increasing value, and proved that the investigation was truly an Imperial one. India had contributed additional and interesting facts. Amongst the various races and castes of that great Empire, differing so widely in customs, mode of living, and diet, cancer had been shown to be not uncommon. It was found in vegetarians, as well as in those who eat fish and meat. Many reputed remedies for cancer had been sent to the laboratories during the past year for examination, not only from this country, but from India, Australia, South Africa, and America. Unfortunately, any value they might have possessed to those who believed in them had been based upon the application of the term "cancer" to diseases which were not true malignant new growths. They had not survived the test of scientific examination. The work of the fund was being carried out in harmonious conjunction with that of French, German, and American scientists. In conclusion, the Prince said that he was sure the Committee shared his feelings of satisfaction in having secured the retention of Sir William Church's services on the Executive Committee, of which he had been re-elected Chairman.

The proceedings then terminated.

Scientific Reports.

Two scientific reports were presented by Dr. Bashford. The first dealt with statistical investigations, and to this we shall hope to refer in an early issue. The second reported the experiments made during the year. The following paragraphs contain an account of these researches.

Experimental Transplantations.

The second number of the *Scientific Reports on the Investigations of the Imperial Cancer Research Fund*,[1] by Dr. E. F. Bashford, General Superintendent of Research, is a progress report of the various matters which have been the subject of research during the past year. The various articles in it are based chiefly on the results of a large number of transplantation experiments. The data accumulated from these transplantation experiments are analysed and discussed in relation to the problem of the nature of cancer in man. It is stated that the general result of these investigations appears to show that the explanation of the attributes of cancer centres round the explanation of the power of apparently continuous proliferation, and the question of whether this growth is further analysable or not. The whole direction of the investigations so far undertaken has been that of the study of the processes of growth, a study which has been placed on a new basis by the successful propagation of new growths. The problem of the actual origin of cancer is regarded as one which can be most fittingly approached indirectly with the aid of the knowledge acquired during the experimental and comparative study of malignant new growths.

Transplantation of Malignant New Growths.

Endeavours have been made to propagate all malignant growths obtained in a living condition and sufficiently free from septic processes during the last two and a half years. Growths from the horse, dog, cat, rat, mouse, and carp have been dealt with in this way, the only positive results being obtained in the case of the mouse. The tumours in the horse were two cases of squamous-celled carcinoma. In view of the small number of inoculations, the negative result has little value. In the case of the dog, cat, and rat more than nine hundred experiments were made. The tumour of the carp presented a striking resemblance to squamous-celled carcinoma of mammals, and multiple inoculations were made into six carp with completely negative results.

Method of Transplantation.

The transplantations in the mouse were effected with large hypodermic needles with a tightly-fitting stilet, small portions of growth being sucked up into the needle and deposited under the skin of the back by projecting the stilet. Old animals did not give more favourable results than young mice, the contrary being, in fact, the case. In inoculating the sporadic tumours, attempts were made to transplant all the growth into as large a number of mice as possible, in order to obviate the difficulty arising from the frequency with which a fatal epidemic terminates an experiment prematurely.

General Results of Transplantation Experiments.

Portions of nine sporadic tumours occurring in the mammary region were inoculated into other mice. In six the experiments were sufficiently numerous to allow deductions to be made. The results showed a very low percentage of successes. The degree of success is recognized as being very variable; some new growths give a uniformly low percentage, others of the same histological structure are more easily propagated. Difference in race between the mice of different countries gives rise to difficulties in transplantation of tumours obtained from foreign sources. It appears that such tumours have to be accustomed to the new soil, but when the initial difficulty has been overcome inoculation succeeds in the new race in approximately the same number of animals as in the race in which the primary tumour occurred.

Source of Constituent Elements of New Growths obtained by Artificial Propagation.

In 1903 Jensen showed that the new tumour parenchyma was derived solely from that introduced. Researches as to the origin of the stroma in the propagated growths showed that the stroma introduced at inoculation undergoes degeneration, and is replaced by supporting structures derived entirely from the tissues of the new host; the parenchyma alone possesses powers of apparently continuous proliferation. The stroma and vascular structure are merely a reaction on the part of the successive hosts; but when studied in relation to the different growths, the characters of the resulting framework vary constantly in such a way that it may be said that the stroma is a specific reaction on the part of the host whose characteristics depend on the inherent properties of the parenchyma cells.

Comparison between the Transmission of an Infective Granuloma of the Dog and Carcinoma of the Mouse.

An infective venereal tumour, normally transmitted by coitus, is common in the dog. This is easily transmitted artificially from animal to animal. When the growths thus produced are examined at different stages, it is found that the establishment of a new tumour is accomplished by a transformation of the connective-tissue cells at the site of inoculation into elements indistinguishable from those of the primary growth. In this way its propagation is in sharp contrast with the life-history of transplanted carcinoma, in which the whole new growth can be traced to the transplanted parenchyma cells. This well-known growth of the dog has been generally looked upon as a true tumour, and resembles a malignant new growth in several of its features; but this research on its behaviour in the course of transmission would appear to show that it is fundamentally different, and it is in reality an infective granuloma.

Absence of Specific Cachexia in Mice Inoculated with Malignant New Growths.

During the past two years there have been at the laboratory almost 3,000 mice under observation with propagated cancerous tumours. In a large proportion of these the tumours were allowed to attain maximum dimensions. On the basis of the observations of this extensive material the conclusion has been arrived at that the presence of a tumour even of greater weight than the mouse itself does not necessarily involve a disturbance of the normal nutrition which could be regarded as comparable to the cachexia frequently associated with malignant new growths in the human subject. When, however, rupture of the integument covering a tumour takes place, the haemorrhage and septic infection which follow speedily produce marked constitutional effects. These results support the contention that malignant new growths are devoid of a specific symptomatology.

Parallel between Propagated and Sporadic Malignant New Growths.

The results of transplantation do not reveal in any way the process by which cells acquire the properties of malignancy, but they have important bearings on some of the questions concerning the growth of cancer in man, which are still under dispute. They support the contention of Ribbert and others that a malignant growth once commenced increases entirely from its own resources, and not by any cancerous transforma-

[1] *Scientific Reports on the Investigations of the Imperial Cancer Research Fund.* Under the direction of the Royal College of Physicians of London and the Royal College of Surgeons of England. By Dr. E. F. Bashford. No. 2, Part II.—The Growth of Cancer under Natural and Experimental Conditions. London: Taylor and Francis. 1905. (Pp. 96, Figs. 55, 7s. 6d.)

tion of neighbouring cell masses. Cell proliferation in either instance was confined, in the first place, to a few cells in a localized area, and the subsequent phenomena of human cancer were perfectly reproduced in artificially-propagated tumours of the mouse.

Variations in the Rate of Growth and in the Results of Transplantation.

The initiation of cancerous proliferation cannot be studied directly in experimental propagation; it appears to be connected with the occurrence of old age in the essential elements of the tissue of origin. This relation of old age to the process appears to be true in animals other than man. In mice there is a period of relative freedom from the disease which has approximately the same relation to their normal limit of life as the period of immunity in man to average human existence. Tumours which grow slowly yield a low percentage of successful transplantations and vice versa.

In a series of experiments the importance of soil as influencing the success of transplantation was investigated in the following manner: With the same tumours two series of inoculations were performed simultaneously; in one series each mouse received a single inoculation, the same number of animals were then inoculated with five pieces of tumour each. The series with multiple inoculations gave a higher percentage of success per animal than those with single inoculations. It seems, therefore, that the influence of soil in determining success or failure is of minor importance and that a much greater importance attaches to the qualities of the cells introduced. In the course of transplantations there appear to be periodic fluctuations in the rate of growth and percentage of success, and also recurring variations in histological characters, in particular necrotic changes. These variations seem to justify the opinion that the power of establishing themselves in new hosts varies periodically in these tumour cells from inherent causes. The occurrence of these periodic variations must be borne in mind when appraising the value of therapeutic measures and in interpreting the cellular phenomena which accompany different phases of the growth of the tumour itself.

The Action of Radium on Transplanted Mouse Tumours.

Experiments made with radium do not support the opinion expressed by certain observers that it exerts a selective action on the parenchyma cells of carcinoma. The result of its action is a process which closely resembles an inflammatory reaction, with exaggerated repair, and generally it is less extensive in tumours with healthy parenchyma than in those presenting central necrosis of the alveoli. No definite relation could be made out between length of exposure and the effect on the tumour. There is marked proliferation in the connective tissue, and about twelve to fourteen days after exposure the parenchyma cells become vacuolated and later absorbed; their death is in all probability due to the interference with nutrition which the new connective tissue entails.

Hypotheses Concerning the Nature and Origin of Cancer.

The report concludes with a discussion of the different hypotheses concerning the etiology of cancer in the light of the results of transplantation experiments. It is stated that the comparative study and the experimental propagation of cancer have revealed properties of cancer cells incompatible with all the hypotheses which have been advanced in explanation of the process, while they have provided means for attacking the problems of cancer directly. An attempt is made to demonstrate the inadequate nature of the different hypotheses by summarizing the fundamental characters of cancer as they appear to be demonstrated by experimental transplantation, showing that they cannot be explained by any hypothesis hitherto advanced. It is further claimed that the light thrown on the features of cancer by this experimental work has proved what has long been surmised, that the attributes of cancer are the mere consequences of its growth, which is its only constant property.

THE MEDICAL CURRICULUM.

MR. JOHN TWEEDY, President of the Royal College of Surgeons, in the course of an address delivered at the distribution of prizes to the successful students of the medical school of Westminster Hospital on June 29th, made some interesting remarks on the medical curriculum of the present day.

He pointed out to the students that the business of their lives was to be able to do something. During the student stage of their career they had not only to train their intellectual and physical faculties, but to learn the practice of their profession. Now, before any student came to a medical school he had already, presumably, had a good general education; he had passed an examination indicative of his good general training. But when a student began to attend a medical school, instead of beginning, as he had hoped, the practical study of his profession, he often found, to his surprise, that he had to encounter several so-called preliminary sciences—chemistry, physics, biology—before he could even undertake what were termed the early medical studies of anatomy and physiology. That arrangement had been forced upon the schools by the patchwork kind of legislation that had been going on with regard to the medical curriculum. He was not there to criticize the medical curriculum. If he were, he believed he should have the sympathy of a good many when he said that the first thing he should like to see in the medical curriculum was a great simplification. So far from adding bit by bit to the burden which the student nowadays had to bear, he should take off a good many of the subjects which were now put upon the over burdened student, taking care that he had more time for the thorough training of his faculties and of his powers of observation, instead of merely converting him into a grinding machine in order to pass an examination. Mr. Tweedy said that he was convinced that the teaching of these preliminary subjects in schools connected with hospitals had stood in the way, for a long time, of the best medical education, and he sincerely congratulated the authorities of the Westminster Hospital on being the first to complete the arrangements for removing the teaching of those preliminary subjects from a medical school. They had made arrangements that the students should study those departments of natural science at a science institution. That was good, he was sure, for the medical student, and it was good for medical education. The practice of medicine was largely a matter of applied science, and it was but right that those who were about to enter upon the medical profession should be trained in scientific methods. Those methods could best be taught in great institutions, centres of science teaching; the true methods of science could only be taught in such places and by great authorities. So long as the teaching of the preliminary sciences was kept in the medical schools their importance as disciplines of the mind was somewhat lessened. On the other hand, the men who went to learn physical science in a great science centre were taught by great teachers; they benefited by great traditions, and they learned the best methods of observation and reasoning. The student's scholastic training was purely a literary training—a training in which authority counted for everything. But in science authority counted for nothing, except so far as it was based upon accurately-observed data. That was one of the great benefits which medical education would derive from the elimination of those preliminary sciences from the medical course of studies at a hospital.

Assuming that the student had completed his preliminary science training, had also completed those earlier medical studies, such as anatomy and physiology, upon the importance of which it was unnecessary to dwell, he then came to the great work of his life, that was the study of disease in the wards of the hospitals. The work done in those wards determined a man's career. Great changes had taken place in medical education of late years. An experiment was about to be tried in that school in the alteration of the lectureships. Instead of having the whole course of lectures on systematic medicine or systematic surgery delivered by one person, the experiment was to be made to break up those subjects, and the different members of the staff would take different subjects. That was a plan for which much might be said, and it was an experiment which he should watch with a good deal of interest. He hoped, however, that in that arrangement there would not be neglected what he thought was necessary in all studies—a sort of propaedeutic or introductory course expounding the great principles of medicine and surgery. If some one would take what might be called the logical or philosophical side and give the student a survey of the principles of medicine and surgery respectively, then he thought the experiment of handing over the several departments to experts might be successful. Otherwise he feared that it would be rather apt to lead to too early specialization. Students, perhaps all of them, were apt to think that medicine was so rapidly progressive that knowledge soon became obsolete. His belief was that knowledge did not become obsolete. The

knowledge which students would acquire in that hospital during their course of training would be the basis upon which they would have to build the whole of their practice in the future. Knowledge grew, but truly and carefully-observed phenomena did not change. Their conceptions had to be changed, their explanations of phenomena had to be readjusted, their theories often had to be entirely recast, but the fundamental problems of knowledge remained the same. Students who in the wards of that hospital observed fully those clinical cases which might come under their notice, and observed them with intelligence and without prejudice, would find that those cases would constitute the foundation of their knowledge—the working capital of the whole of their subsequent lives. What better proof could they have of the pre-eminence of real knowledge than to take, say, the writings of Hippocrates or Celsus or Galen, and to note how the observations of those men were as true and as accurate to-day as when they were recorded, though their explanations were often erroneous, and their theories often unfounded, being based on intellectual prejudice.

Mr. Tweedy said that he understood that nowadays the attendance at lectures was not as popular as it used to be, that it was rather slack and perfunctory. He could not but think that that was a matter greatly to be deplored in the interests of the student. He had himself been a considerable reader, but while a student he read scarcely anything, and he honestly believed that in the case of a medical student the less he read, except the book of Nature, the better. Let his teacher read for him, let his teacher give out the knowledge which he himself had absorbed by years of study and of experience, and let the student be content to be fed by that knowledge supplemented by his own observations. On the other hand, "cram" books were multiplying on every hand, and he was sure they were only debasing to the student's mind, and to his character. If a man read, let him read a big book. Small books necessarily only appealed to the memory; large books appealed to the reason. In the medical profession—as, indeed, in all departments of thought—it was of more importance that knowledge should be reasoned than that it should be true. Truth might be unattainable by man, but to reason was within his province and within his power. The whole history of medicine has been built upon observation controlled by reason. Doctrines which had been taught from time to time had not been true, and many of the doctrines which were now taught might not be true.

Mr. Tweedy concluded by commending to the notice of the students the Hippocratic oath, and observed that, inasmuch as the practice of medicine was largely ethical, no man could practise the medical profession worthily unless he had a high ethical standard.

EPSOM COLLEGE JUBILEE.

The jubilee of the opening of Epsom College was celebrated at Epsom on July 1st. Invitations had been issued to all old Epsomians to attend, and the festivities commenced early in the afternoon with a reception in the Head Master's garden where tea was served. Most of the old boys then repaired to the cricket field where a match was played between Epsom College and Merchant Taylors School. The Epsomians and their antagonists played good cricket, and the contest was followed with much interest by the visitors; their only regret was that Epsom College failed by eight runs to score a success. Then followed a service in the school chapel, after which dinner was served in the great hall, covers being laid for over 250 guests. The chair was occupied by Mr. Henry Morris, who had seated at his right hand Lord Rosebery. Amongst those present were Sir Constantine Holman, Dr. F. Taylor, Dr. C. Godson, Dr. Baines, Dr. G. Rankin, Surgeon-Lieut.-Colonel Robinson, Mr. B. Pollard, Mr. E. M. Corner, Dr. F. de Havilland Hall, and Dr. J. H. Galton.

The Chairman in proposing the toast of "The King" referred with pride to the fact that the King was the Patron of Epsom College, and had from time to time shown generous and active interest in its welfare. The toast was drunk with great enthusiasm.

The Chairman then proposed the toast of "Success to to Epsom College." In the course of his remarks he suggested that the Council of Epsom College should hold a Festival when the College had reached its seventy-fifth year. He observed that none of the features which now marked the prosperity and success of Epsom College were existent at the time of its commencement. The advance of the College had been very great, and was largely due to the efforts of their treasurer, Sir Constantine Holman. Originally the College stood in seventeen acres of ground, and there was accommodation for 150 boys. At the present time the institution possessed eighty acres in one block and could accommodate 350 boys. If Epsom College were considered from the educational aspect it would be recognized that it had been keeping pace with the times. In 1864 the Council made provision for the teaching of natural science, and in 1869 the laboratory for chemistry and physics was built. In 1871 classes in zoology, botany, and in elementary physiology were started, and in due course laboratories for those subjects were provided. Epsom College was recognized by the Conjoint Board in England as an institution for instruction in the early part of the medical curriculum in science subjects. For those about to enter the medical profession there was no school which gave a better preparation than Epsom College, and it had kept well in advance in regard to educational requirements both in the classical and on the scientific side.

Lord Rosebery in rising to respond to the toast received a very hearty welcome. He said that as a neighbour he always took great pleasure in visiting the College, and watching the matches at cricket and football in which Epsom College distinguished itself. He took no part, however, in the teaching of the boys, and he was inclined to think that if it were known that he did so, not only would it have a serious effect on the parents but it would deteriorate the standard of the teaching, and might even lead the boys into other branches of education. He could however speak with full knowledge, not of the processes by which Epsomians were turned out, but of the results, and he ventured to say that no finer body of young men was sent out to the world than were sent out by Epsom College. It turned out Englishmen and English gentlemen healthy in mind and in body, fit to go anywhere or do anything and it was his belief that if the number of schools like Epsom College were multiplied, and if the number of scholars inside Epsom College were multiplied, it would be none the worse for the country or for the Empire. Lord Rosebery then turned to the question of "What to do with our boys" and said that he was sometimes puzzled by one very curious anomaly in this country. They had the best raw material in the world and they turned out annually thousands of young fellows, splendid in physique, energetic in mind, and not ill trained intellectually as compared with other nations, thus providing the most valuable body that a nation could have. In an Empire like the British there should be an unlimited demand for such men. There was practically an unlimited need for such men. Why was it that demand and supply in that matter did not coincide? He never sat next a parent at dinner who knew in the least what he was going to do with his sons. That was the great problem of the age, and yet while he (Lord Rosebery) speaking as a parent recognized the difficulty, he still was conscious that there must be for almost all the young men he had been speaking of who were turned out by the public schools a round hole somewhere in the Empire if only they could find it. The eternal difficulty which must be solved some day by some statesman, some legislator or some educationist, the difficulty of finding some means of adaptation of the peg for the hole throughout the British Empire. As regards physique, at any rate, he could testify that when he was watching a cricket match the other day at the College he saw a young wicket-keep (he used the term under correction from the captain of the school, whom he saw present), and that young wicket-keep measured so many inches that he could not help thinking that, if the father of Frederick the Great, who stuck at nothing in order to procure tall soldiers, had seen that young fellow he would have kidnapped him from the cricket ground without demur. In conclusion, Lord Rosebery said that he could speak with thorough belief of the way in which Epsomians conducted themselves in the various vocations they had chosen. They had at Epsom a most splendid teaching establishment headed by his friend Mr. Hart-Smith-Pearse. They had the healthiest situation in the world, and if the College did not develop as it ought it could only, he thought, be due to the timidity of parents who believed that the counter-attractions of Epsoms Downs might have some deleterious influence on the tender years of their sons. If his voice could reach the parents he wished to assure them that the race-week was a week of monastic seclusion to the boys of Epsom College, and that no contamination was allowed to reach them. He believed that they never knew the name of the winner of the Derby until they had separated for the vacation and then learnt it from tradition at home. At

any rate, those who intended to be doctors had a rudimentary element of health in the old Epsom well, which was supposed to have supplied Epsom salts to an admiring world. With all those advantages and without, as far as he knew, any drawback the Council of Epsom College might look cheerfully forward to the next jubilee.

Lord Rosebery then left amid ringing cheers, but the numerous visitors in most cases delayed their departure from the College till a late hour, and the authorities received many congratulations on the success of the function.

Archdeacon Thornton, the first head master of the school, was too unwell to be present, but he sent an interesting letter conveying his affectionate remembrances to his old friends, and congratulating them on the progress made by the College and the successes achieved by the scholars.

THE FINANCES OF LONDON MEDICAL SCHOOLS AND HOSPITALS.

THE DUKE OF NORTHUMBERLAND took the chair at a special court of Governors held at the Middlesex Hospital on June 30th, convened to consider what steps should be taken to meet the report of King Edward's Hospital Fund for London with reference to giving support to the medical schools from hospital funds.[1]

Up to 1896 the Medical School of the Middlesex Hospital was managed by the medical staff, who received the fees paid by the students, which were till then sufficient to meet the expenses of carrying on the school; but owing to the increased length and requirements of the curriculum, it was then found necessary to procure the assistance of paid teachers to aid in the instruction given on certain subjects. In those circumstances the medical staff could no longer carry on the school without financial assistance, and as the hospital authorities were convinced that the loss of the school would damage the hospital, it was in 1896 amalgamated with and carried on directly by the hospital. The average yearly expense incurred by the hospital since 1896 amounted to between 3 and 4 per cent. of the total ordinary annual expenditure of the hospital. The Executive Committee of the King Edward's Hospital Fund had passed the following resolution:

> That the Executive Committee, having considered the recommendation of Sir Edward Fry's Committee (paragraph 27), advises the General Council to notify to the hospitals that no grants will be made from the King's Fund as from and after January 1st, 1906, to any hospitals which make payments to, or on account of, their medical schools out of general funds subscribed for the relief of the sick poor.

It was thought probable that a similar resolution would shortly be passed by the Hospital Sunday Fund. The annual grants hitherto made by these two funds to the hospital amounted to a considerable sum, which the hospital could ill afford to lose, and the object of the special meeting of the Governors was to adopt such steps as might enable the school to be carried on by the hospital without losing these grants. The only alteration required for that purpose was that, instead of the payments towards carrying on the school being approved and adopted, as heretofore, by the hospital after they had been made, the authority to make them should be given before they were made—that was the authority which the friends of the hospital and those interested in its welfare were asked to give.

The DUKE of NORTHUMBERLAND, in calling upon Sir R. Douglas Powell to move the first resolution, observed that it was quite plain that, upon the connexion between the medical schools and the hospitals and the training which those schools could afford turned the welfare not only of the sick in London but of the sick and suffering throughout the length and breadth of the land. It was not, he said, too much to assert that the whole character of the medical profession in this country would be affected by the decision arrived at. In his opinion there seemed to have been something of haste and of a too drastic character in the position which the King Edward's Hospital Fund had assumed. He considered that a more moderate and temperate course would have been better, but he counselled those present to repress any irritation they might feel on the matter as the subject concerned not only the hospital and medical school but the interest of the sick poor and of the medical profession throughout the country.

Sir RICHARD DOUGLAS POWELL then moved the following resolution:

> That it is the desire of the Special Court of Governors that the Medical School of this Hospital, which has been in existence for the last seventy years, should be maintained, and that such assistance as may be required for that purpose should be provided by the hospital or by a special fund raised for the purpose.

He said that the object of a hospital having a medical school in association with it was not only to provide for the work of the hospital being done but also to secure the advancement of the science of medicine, on which hospitals depended. The rich public reaped a reflected benefit from hospital experience and teaching, whilst the poor public reaped a direct benefit through the advance of science and through the greater and more thorough investigations of disease which were possible in a hospital to which a medical school was attached. He contended that if the medical school were taken away from the hospital the cost of the treatment of the patients would be increased. He suggested that a standing committee of physicians and surgeons and hospital administrators might be formed to look after the interests of the public in regard to the status and position of the medical profession.

Mr. HENRY MORRIS, in seconding the resolution, described the circumstances that had led up to the hospital taking over the medical school. The medical profession was not recruited from the families of the rich; as a rule, medical students had only moderate expectations, so that to raise the fees for medical students to any extent would mean a falling-off in the numbers of those entering the medical profession, which would result in there being an insufficient supply of medical men for parochial offices and club practices, which must be filled in order to make it possible for poor people to receive medical attention. He proceeded to compare what was done in London for medical education with what was done on the Continent. He particularly desired to see a fund established for medical education, to embrace all those subjects which were essentially a part of the education of a medical man and were the groundwork on which the science of medicine rested. To divorce those subjects from any medical school was to render that school incomplete and insufficient.

The resolution was then put to the meeting and carried unanimously.

Lord DERBY then proposed the following resolution:

> That in order to meet the requirements of King Edward's Hospital Fund the Weekly Board be authorized to set aside out of the annual subscriptions such sums as may from time to time be required to effect such maintenance, and that in evidence of such authority subscribers be asked and recommended to sign and return to the hospital the necessary form.

He said that the advantages of a connexion between a hospital and a medical school were manifold. He deprecated any criticism of the King Edward's Hospital Fund, but urged all present to make every effort to remedy the shortness of funds in the medical school.

Lord CHEYLESMORE (Chairman of the Weekly Board) in seconding the resolution stated that in reply to a circular to the 509 governors only five had refused their consent to the proposed alterations, and £1,200 had already been subscribed for the use of the school.

The resolution was then put to the meeting and carried unanimously. The proceedings terminated with a cordial vote of thanks to the Chairman.

[1] BRITISH MEDICAL JOURNAL, Feb. 25th, p. 421.

PLANS FOR THE NEW KING'S COLLEGE HOSPITAL.

As was stated in these columns some weeks ago the authorities of King's College Hospital, having first invited six architects to send in reports and draft plans of the way in which they would propose to utilize the new site for the hospital in Camberwell, finally chose one of them, Mr. W. H. Pite, of the firm of Pite and Balfour, 116, Jermyn Street, as their architectural adviser.

Mr. Pite has been good enough to supply us with a copy of the original report and plans, which led to his selection. It appears, however, that though these plans have been accepted in principle the Committee which is in charge of the matter intends to modify them to such a material degree that it is not worth while to reproduce them. At the present moment the plans provide not only for in-patients to the number of 761, but for an out-patient department, a nurses home, residence for a medical superintendent and a secretary, a laundry, students' hostel and medical school, all on an oblong plot of

ground some twelve acres in extent and measuring about 900 ft. by 600 ft.

Obviously at this rate—when all those who would be in residence, permanent or temporary, are taken into consideration, including patients, nurses, and professional and domestic staff—the site would be nearly as overcrowded as some of those which elsewhere have been condemned. It is intended, therefore, not to provide so many beds, and to leave out some of the other buildings. Whatever is done in this direction, a matter which remains for future settlement, the main idea of the building will be conserved, and of this, therefore, an account may be given.

THE GENERAL IDEA.

The dominant note is that of centralization and radiation, and it is carried out by making all the principal blocks of buildings project at right angles from a spine or open corridor which runs from one end of the site to the other. The ward blocks, or pavilions, are on the side of the corridor which is furthest from the main road, and in the centre of the opposite side is placed the administrative block. The latter thus lies exactly midway between the two main proper divisions of the building—namely, the medical blocks on the right and the surgical blocks on the left. The main entrance to the hospital is at the front of the administrative block, on the left of which, and on the same side of the central spine and facing the surgical pavilions, lies the out-patient department; this is balanced on the right by the medical school, mortuary, and laundry, each having a separate entrance. These buildings on the right, however, are not deep, so between them and the hospital proper room is found for some buildings which house the eye and throat departments, etc.

The students' hostel, isolation wards, and residences for the secretary and medical superintendent are right at the back of the site behind the general wards.

Peculiarities of the Site.

The only part of the plan which will certainly remain untouched is the general arrangement of the wards and the administrative department, so these alone need be described in detail. The site runs lengthwise, nearly due east and west, so the blocks of wards run north and south, their windows thus facing east and west. It is their free ends which face south and their connexion with the main corridor being to the north.

The site has a peculiarity of which clever advantage has been taken. That part of it which lies furthest from the road rises rapidly, so that the wards, being placed at the back of the site, are on much higher ground than the administrative and other buildings in front.

The Administrative Block.

Thus it happens that the first floor of the administrative block is on the same level as the ground floor of the ward blocks, and it is on this floor that Mr. Pite has put the matron's offices and the principal quarters for nurses, who will thus be in the centre of their work. The secretary and resident medical officers, however, are almost equally conveniently placed, for though their quarters are on the ground floor of the administrative block, and they thus have to ascend a staircase to reach the level of the hospital building, they are in the centre of the main corridor.

The administration building, though from outside it will appear to be one single block, will really be in three divisions, separated from one another internally by courts. Each has a separate communication with the hospital at its southern extremity, but all are joined at the front by a cross block. The blocks have three stories in addition to the ground floor, and provide ample and well-separated accommodation for all residents other than patients.

Central Hall.

The doors from the administration buildings lead straight into the central hall, which will form the heart and eye of the hospital; through this all will come and go, and from it all administration will be put into effect. It will have, among other annexes, a post office and telephone room, and one for the friends of patients. Behind it will be the chapel, built over the linen department, exactly opposite the exit from the matron's offices. On the top of the chapel will be a roof garden for the use of top-floor patients. On the right and left of the central hall will be respectively the men's medical wards and the women and children's surgical wards.

The Wards.

Each pavilion will contain three wards, each ward having between it and its connexion with the main corridor a convenient number of ward annexes. At the southern end of each ward, between the sanitary towers, will be a broad sun room. There will be a window between each bed, the total area of glass being equal to 1 ft. superficial to 70 cubic ft. of space. The wards on the surgical side will be rather longer than those for medical patients, but the height and width are the same throughout (13 ft. 6 in. in height and 27 ft. in breadth). Each patient on the medical side will have 8.9 ft. of wall space, 120 superficial ft. of ward space, and 1,620 cubic ft. On the surgical side the allowances are: wall space 9.3 ft., superficial area 150 ft., and cubic space 1,685 ft. In the isolation building the allowances are even larger.

The Operation Theatres.

These appear to be well designed, the general idea being that of consecrating the floor of each theatre to the actual work in hand. Spectators can see what is going on, but have no access to the floor, and gain their seats by a special double door. On one side is a bay for the use of the nurses, opening into which is on one side the surgeons' room, with an outside door, and on the other an anaesthetic room, also with a door for the entry of the patient. On the opposite side the theatre communicates with the instrument room, through which nurses and staff enter, this room communicating by a lift with the instrument repairing store and sterilizing department. The individuality of the theatres lies in the way in which it is proposed to light them. When natural light fails no crane or overhead lighting is to be used, but illumination is to be supplied by fitting the window frames with a chain of electric lights backed by opal glass as a reflector and enclosed in front by ground glass to secure diffusion.

The Isolation Block.

This also promises to constitute a new departure. The general principle adopted is that of the cellular system[1] as used in the Pasteur Hospital, but it has been modified so as to remove certain objections in regard to ventilation. Under Mr. Pite's plan it is proposed to arrange the cellules, each containing one bed, in segments of a circle, so as to secure the following advantages: Direct cross-ventilation of each cell; a due amount of direct sunlight; absolute privacy; complete supervision and nursing from both sides. The segmental arrangement also economizes ground-space while allowing each patient 144 ft. of floor and over 2,000 ft. of cubic space.

A few of the cellules are made to communicate, so that if desirable a nurse can be isolated as well as the patient. The architect has evidently given much thought to this part of the plan.

Upon the whole, a consideration of Mr. Pite's report makes it quite clear why his draft plans should have been selected; but until the Building Committee has decided upon the modifications which it intends to introduce, it is too soon to judge whether the new King's College Hospital will be as ideal an institution as it should be. In any case, it seems certain that there will be no difficulty in providing it with ample garden and other open areas.

LITERARY NOTES.

THE Paris Académie des Sciences Morales et Politiques has awarded to M. Vallery-Radot the Corday Prize for his life of his father-in-law, Louis Pasteur. The prize consists in an annuity of £10.

The *Onlooker* is publishing a series of illustrated articles, entitled "Bubbles from a British Spa," which are to prove to society people and the wealthy classes that they need not to go abroad, as is the usual custom, for their cures, but should patronize those of their own country. Strathpeffer is chosen as the type of a British spa.

Carlyle's reputation has suffered not a little from the revelations of too candid friendship, and still more from the apologetics of over-zealous partizanship. It is the strongest proof of the real greatness of the man that, notwithstanding the squalid controversies which have raged around his name, he still stands in our literary Valhalla a figure that inspires veneration, though somewhat defaced by time. To those who in youth sat at the feet of the prophet and have since mourned at his broken shrine, we can recommend an unpretentious booklet by Mr. Percy Warner, entitled *Thomas Carlyle: The Man and His Influence*, published by Chapman and Hall. As appre-

[1] *Bulletin Médical*, March, 1904.

ciation, sympathetic yet discriminating, it seems to us of more solid value than most things that have been written about Carlyle.

Dr. Francois-Franck presented to the Paris Academy of Medicine at its meeting on June 27th a work by Dr. M. F. Martin-Ginouvrier entitled *Un Philanthrope Méconnu du XVIII Siècle*. The philanthropist who was not understood by his generation is Piarron de Chamousset. His name was rescued from oblivion by M. Edouard Drumont in his *Vieux Paris*, and Mr. Martin-Ginouvrier has made exhaustive researches which show that Piarron de Chamousset was the founder of Friendly Societies in France, a pioneer of postal improvement, and the reformer of hospital administration, civil and military. The reward of his labours was the loss of his fortune, which was swallowed up in the conduct of his campaign against hospital abuses. In 1900 M. Martin-Ginouvrier approached the Minister for War, the Post Office, and the Assistance Publique for help towards the erection of a monument in memory of the neglected philanthropist. From all these authorities he received replies full of fine but strictly platonic sentiments, and the only monument which seems likely to be erected to Piarron de Chamousset is the record of his deeds which has been written by M. Martin-Ginouvrier.

The July number of the *Scottish Medical and Surgical Journal* contains a lecture by Dr. A. H. F. Barbour, in which he sketches the history of obstetrical anatomy. Some years ago he collected a body of facts as to early contributions on anatomy in relation to obstetrics. There was a time when anatomically the genital tract was absolutely a *terra incognita*. The result of this ignorance was that the imagination, instead of playing round fact and constructing the hypotheses by which knowledge is advanced, wasted itself in grotesque theories; as, for example, that the uterus was double, and, like a double-barrelled gun, discharged male fetuses from the right and female from the left barrel; that the fetus sat placidly on the brim of the pelvis for nine months and then took a header into the new element of the outer world; that these months were spent, among other things, in learning the art of sucking, and that there were mammae on the uterus, on which it practised the art. Some of the old writers, however, were far above such superstitions. Thus Soranus, who lived about the end of the first century, after describing the qualifications required for the study and practice of the obstetric art, went on to say: "But since we are about to pass to the description of what occurs to women in health, we must first explain the structure of the organs, which in part can be studied directly, in part by anatomy; and although it is of no use, nevertheless, since it is held to be a part of enlightened education, we shall teach what is known of it. For we shall be more readily believed when we say that anatomy is useless, if we have first shown ourselves to be acquainted with it; nor shall we provoke the suspicion that to cover our ignorance we have depreciated one of those subjects which are deemed useful." He then gives an excellent account of the anatomy of the organs of generation. Soranus and his work dropped out of sight, and the result was that obstetric science underwent retrograde development. Galen in the same century attempted to describe the human uterus, which it is clear he had never seen. In speaking of the organ, he says that other writers "mix up and suggest to the mind absurdities, since they cannot explain the use and action of the horns. And as my discourse would be too long and also unequal if I spoke of the use and action of the horns, and not of the other structures round the uterus, on that account this subject is to be deferred to another treatise"—which was never written. Aretaeus describes the uterus as "a female viscus closely resembling an animal, moved of itself hither and thither in the flanks." It was not till the sixteenth century that real progress was again made. When Berengarius was appointed to the Chair of Surgery at Bologna the textbook of anatomy from which for two centuries students had been compelled by law to learn their science, taught that the uterus consisted of seven cavities. In his *Isagoge Brevis*, which is the first illustrated textbook of anatomy, the only viscus which is represented is the uterus. The next drawing of the organ is found in the famous work of Vesalius. In the anatomical plates of Eustachius the external genitals, the fundus as seen through the brim, the uterus, and vagina, are shown removed from the body; there is also a drawing of the human fetus which Dr. Barbour believes to be the oldest extant. He points out that one thing is not shown in these drawings, and that is the Fallopian tube. That structure was not described till afterwards. Till Fallopius made the discovery which has enshrined his name in the human anatomy it was thought that there was no communication between the ovary and the uterus: hence it was believed that "the seed of the female played no part in the production of life." Fallopius gave complete descriptions of the external genitals, the hymen, the round ligaments, the ovarian and uterine arteries, with their anastomoses, and the ovaries. It was not, however, till the middle of the eighteenth century that the anatomy of pregnancy was systematically studied. Albinus, Smellie, Roederer, and William Hunter not only laid the foundations of knowledge, but left it so complete that little remained to be done by those who came after them except in the region of microscopic anatomy. Of William Hunter's *Atlas*, Dr. Barbour says that the obstetrician always turns as a masterpiece and model of perfect work in obstetrical anatomy. As we turn over the plates in his *Atlas*, masterpieces of careful dissection and accurate drawing, or read his terse and lucid account of the uterus, its contents and membranes, we are at a loss whether to admire more his patient labour in accumulating a wealth of material such as no other has done before or since, or the painstaking care with which it has been examined and described. His *Atlas* contains dissections of pregnant uteri from every month of gestation, with cases of head presentation, breech presentation, placenta praevia, and retroversion of the gravid uterus. It is only during the last quarter of a century that an anatomical basis for the changes in labour has been discovered. The method by which this has been done is sectional anatomy. Braune's frozen sections of the uterus in labour showed workers the way which has led to such splendid results.

To the *University of Pennsylvania Medical Bulletin* for April Mr. Samuel Torrey Orton contributes a study of the pathological changes in some mound-builders' bones from the Ohio Valley, with especial reference to syphilis. During the summers of 1899 and 1900 a party of the Ohio State Archaeological and Historical Society made explorations on the site of the Baum village in the valley of Paint Creek, one of the smaller tributaries of the Scioto River, the valleys watered by which make up much of the richest farm land in Ohio. At an average depth of three feet below the surface the earth is found to contain flakes of flint, arrow-heads, bones of various wild animals, ashes, charcoal, broken fresh water mussel-shells, and other refuse of the village, with a sharp line of demarcation between the "worked" loam above and the gravel "hardpan" below. Scattered here and there throughout this area were places where the soft loam continued down below the general depth, and on removal of the earth these proved to be pits from three to six feet in diameter and of an equivalent depth, filled with much the same material as was scattered through the surface soil, but in greater abundance. These refuse pits proved a fertile field for exploration, and in them, though not exclusively, were found, in addition to the things mentioned above, numerous implements and ornaments, such as shell and bone beads, bone awls and fish-hooks, hide scrapers carved from the metatarsal bones of the deer, shell and bone amulets and pendants, flint arrow and spear points, charred cobs of the maize, charred bits of cloth and shells of nuts (including the hazel, hickory, butternut and black walnut), ashes in great heaps, broken pottery, split and shattered bones of all of the common small wild animals, and also of the mountain lion, bear, elk and deer, and an occasional human skeleton. The majority of the human burials had been, however, made in the surface soil, most of them on the sandy gravel substratum, although some had so shallow a covering as to have been disturbed by the ploughs. All the bones were in an exceedingly good state of preservation considering their undoubted age. One or two of the bodies had been buried in rough stone coffins built of large, flat, unshapen slabs of the slaty limestone of the neighbourhood, but for the most part no attempt was made to enclose the bodies, which were interred apparently in the very backyard of their premises. The remains were buried in the recumbent position, with no regular arrangement in regard to the points of the compass, as is sometimes seen, and were more or less scattered throughout the whole area. Mr. Orton had an opportunity of examining some of these bones. The lesions which he found were such as to lead to the diagnosis of syphilis as their etiological factor. There is much difference of opinion among syphilographers as to the history of syphilis. The general belief used to be that it was imported from America by the followers of Columbus. It has, however, been shown pretty conclusively that the disease was known in the Old World long before the discovery of America. Mr. Orton's investigations

go to show that it also existed in the New World before the dawn of history. After an elaborate consideration of the evidence he comes to the conclusion that the bones are undoubtedly pre-Columbian, while the lesions are such as to justify the diagnosis of syphilis. The following is the pathological evidence on which he relies: Changes affecting chiefly the diaphyses where long bones are concerned, showing a predilection for those bones which are most exposed to trauma, consisting of large exostoses and osteophytic overgrowths, and characterized by the concurrent presence in the same specimen of both a rarifying and condensing osteitis as demonstrated by gross and microscopic examination. Of 127 skeletons from one series of excavations, 21 showed traces of disease, in 60 per cent. of the affected bones the changes were most marked on the tibia, the ulna, cranium, and sternum following in order. Of the specimens examined rarifying osteitis was grossly manifest in all but two, one of which (ankylosed metatarsal and cuneiform) was probable of traumatic or septic nature, and the other (a clavicle) was not examined in cross-section. Gross sclerosis was evident in 3 of the 10, while on microscopic examination only 1 of 6 from which sections were taken failed to show condensation in some areas.

SPECIAL CORRESPONDENCE.

LIVERPOOL.

Lecture by Mr. J. E. S. Moore on the Present Position of the Cancer Problem.

ON June 28th Mr. J. E. Shorrock Moore, the newly-appointed Director of the Cancer Research, delivered a highly interesting and important address in the Pathological Laboratory of the University on the present position of the cancer problem. He first explained how the fertilized ovum divided into two sets of blastomeres of which the one (the soma) was ultimately developed into the body of the animal, while the other set formed the reproductive series developing ultimately into spermatozoa or ova as the case might be. The only relation between the somatic cells and the reproductive cells was that the former, constituting the highly-specialized body of the animal, served as a carrier for the reproductive cells. The latter behaved like the protozoa, which went on dividing for many generations, and never specialized into a soma. In all the higher animals the number of chromatin filaments (chromosomes) in the cell nucleus was constant for each species. During mitotic division the chromosomes underwent a longitudinal cleavage, one-half entering into the formation of the nucleus of each daughter cell; owing to this the number of filaments in all the cells remain the same. In the case of the reproductive cells, however, this kind of division did not go on indefinitely, but just before the ovum and the spermatozoon reached maturity a heterotype division took place, with the result that the ovum and spermatozoon contained only one-half the number of chromosomes proper to the cells of the animal. In malignant growths certain of the cellular elements resembled the reproductive cells in having the same number of filaments as the latter. They also resembled reproductive cells in other respects, especially as regards the presence of Plimmer's bodies, which appeared to be of the same nature as the archoplasmic vesicles seen during spermatogenesis in all vertebrates. A remarkable circumstance was that leucocytes were sometimes found within the body of cancer cells, with which they appeared to be undergoing conjugation. The lecture was listened to with intense interest, the complex subject being elucidated in an admirable manner.

SOUTH WALES.

Royal Visit to Cardiff and University of Wales.—University College, Bangor.—Small-pox at Caerphilly.—Bequest to Pontypool Hospital.

AS Chancellor of the University of Wales, the Prince of Wales on June 28th visited Cardiff for the purpose of laying the foundation stone of the new college buildings in Cathays Park, whilst on June 29th His Royal Highness inspected the docks and attended a luncheon given by the Mayor. The Prince had a most enthusiastic welcome on driving from the Great Western Railway Station through the crowded streets, decorated with flags, festoons, and mottoes bidding him welcome in both Welsh and English. There were naval guards of honour, military escorts, friendly and trade societies processions, and troops lined the route. Attended by an imposing procession the Prince arrived at Cardiff Castle, where he lunched with the Marquess of Bute, and then amid a renewal of public demonstrations of welcome proceeded to Cathays Park to lay the foundation stone of the new college buildings. The weather was beautifully fine. The President of the College read an address, in which he referred to the event of the day as unique in the educational record of the Principality. The Prince, in reply, stated that the Welsh people had determined that their university education should be commensurate with modern wants. Its promoters had recognized that the university should not exist merely for literary or academic purposes but should serve every form of intellectual activity. H.R.H. attended a garden party and reception at Aberdare Hall and subsequently proceeded to the Park Hall, where honorary degrees were conferred upon Mr. John Gwenogfryn Evans, M.A., Professor Henry Jones, Sir John Williams, Bart., M.D.; Lord Tredegar, and the Right Hon. Joseph Chamberlain. Later in the evening the Prince left for St. Fagan's, where he was the guest of Lord Windsor. On June 29th the freedom of the borough was conferred on His Royal Highness at the Park Hall, where there was was another large and brilliant assemblage. Later in the afternoon of the same day the Prince left Cardiff for London. Before his departure he expressed his thanks to the Mayor, saying: "Let me congratulate you most heartily, Mr. Mayor, upon the excellent way in which the functions have been carried out. I have been exceedingly pleased with the warm welcome which I have received from your fellow-citizens."

Speaking at the celebration of the twenty-first anniversary of the establishment of the University College of North Wales, Bangor, on July 1st, Professor Henry Jones referred to the growth of the College during the twenty-one years of its existence. This growth, he said, could not be attributed to the wealth of the community, but to its generosity. It was a point gained in the history of the College that it had avoided the danger of becoming a mere preparatory college for Oxford or Cambridge. . . . They did not want a "Principal of the University" as such; they did not want to see the local colleges under the authority of any central despot, however wise. They wanted them to grow according to their own ideals. He hoped to see the Bangor College made into a separate university, as in the case of Leeds, Manchester, and Liverpool. That was the trend of all modern universities, and in every instance to the great benefit and strengthening of the districts in which the colleges were placed, and therefore of the community as a whole. It was very easy to legislate for temporary difficulties. His advice to them was "Don't." Let them set an adequate ideal before themselves. He himself had removed from Bangor partly because of the greater freedom from despotism he was allowed at St. Andrews.

On June 28th a case of small-pox was notified from Ludlow Street, Caerphilly. The patient was removed to the small-pox hospital, and all contacts were vaccinated or revaccinated.

The late Major John Sloper, of Cardiff, a son of the late Dr. Sloper, of Pontypool, bequeathed £250 to the Pontypool and District Hospital.

CORRESPONDENCE.

THE FIRST BRANCH TO FORM DISTRICTS.

SIR,—I find that the credit of having been the first to establish District Societies is due to the South-Eastern Branch, and not to the Metropolitan Counties, as I stated in the address published in the BRITISH MEDICAL JOURNAL of July 1st. I am, etc.,

London, W., July 5th. ANDREW CLARK.

WAR OFFICE MEDICAL CONTRACTS.

SIR,—No doubt the majority of Civil surgeons who, like myself, are locally employed by the War Office to take charge of troops while in camp, to be present during firing, and on other duties of a like kind, have received notice of a new proposal with regard to their scale of pay. This is, that in future, instead of being paid at contract rates—that is to say, receiving a certain sum per head on the average number of men under their charge during each month—they are to be paid *at the rate of* £150 per annum.

Now, under the present regulations, the maximum sum per day allowed is £1; that is to say, 900 men when paid for at the regulation rates bring in £1 a day, and any number of men beyond that are not reckoned at all; so that one may have 1,100 men to look after and the pay is the same. If, however, a civil surgeon were to accept the new scale of pay, it would reduce the daily maximum allowance to somewhere about 8s. a day, which of course is an absurd sum. I think it would be as well, therefore, that all Civil surgeons who have received the proposal should consider the matter very carefully before they accept. When further details are known it may work out better than appears at first sight, as possibly the 8s. a day might be paid during a certain period whether troops were under one's charge or not. I should think it would be as well for all interested in the subject if a meeting could be arranged in each Division. If those in the Southern Division would send their names to me through the BRITISH MEDICAL JOURNAL I should be glad to arrange a meeting soon.—I am, etc.,

July 5th. X.M.B.

THE SANATORIUM TREATMENT OF CONSUMPTION: IS IT WORTH WHILE?

SIR,—I take it that the main objects in the attempt to deal with this question satisfactorily are: (1) The welfare of the sufferer, (2) the most judicious use of available funds. But I do not think it is receiving the full scientific consideration which its importance demands.

I have watched with both interest and concern the articles, notes, and letters in the daily press, the journals home and foreign, and have attended scientific meetings in regard to it. After an extended experience in the treatment of disease generally, under varied climates and conditions, in barracks, hospitals, and tents in the open air, and for thirty years in both general and consulting practice in one of the most healthy parts of London, I am satisfied that the course of disease is milder, and the mortality less when treated in the open air than under any other conditions.

This conviction applies especially to consumption, a highly infectious disease, due, as we believe, to the ravages of a bacillus, making the sufferer a danger to himself, his family, and the public. The affection we know to be more active in some than in others, due probably to some especial weakness or peculiarity of constitution, from which possibly heredity cannot be altogether excluded.

Now, the first essential for the successful and scientific treatment of any form of infectious disease must be as far as possible segregation by day and absolute isolation from other sufferers by night; such conditions cannot be effectual and complete in large sanatoriums, where the inmates in varied stages of the disease are subjected to reinfection from those with whom they must temporarily be associated; and thus mild cases may become severe. We know that even the dried sputum of the consumptive revivifies or may assume renewed activity under certain conditions, and in an atmosphere laden or saturated with bacilli, as it must be in large sanatoriums, it is impossible to conceive that the sufferer is then under conditions the most favourable for recovery or is being treated on really scientific principles.

I am here reminded of an incident which occurred to me some years ago when a new wing was being added to the Brompton Hospital, and I was discussing the subject with the late Sir Douglas Galton, K.C.B., and we agreed that it was scientifically wrong so far as the sufferer was concerned.

We have at present no extended statistics as to the success or otherwise of the sanatorium treatment upon which a reliable judgement can be based, but, so far as we can estimate the results, as compared with treatment in châlets, huts, tents, or in the open air, even in England, they have not been so successful as we could wish. If I was the subject of consumption, I should certainly prefer to be treated in a hut or tent in the open air rather than in a sanatorium.

Isolation, after all, is simply carrying out a natural instinct, for what sick creature does not instinctively separate from his fellows? And in many instances where acute pain or suffering does not call for help mankind retires to his den or cot for the double purpose of rest for himself and that he may not be a trouble or source of infection to others should his illness prove of such a nature.

Yet the aggregation of consumptives in large sanatoriums is being supported, if not actually advised, by many members of a profession which, as a body, is surely scientific in its principles and objects.

The question of administration, facilities for nursing, the staff, etc., have, I fear, rather outweighed the scientific aspec of the treatment of the disease and the well-being of the sufferer. Both care and discrimination are, of course, essential in the selection and distribution of the cases, and the one plan of treatment will not suit all; but it must be conceded that the welfare of the sufferer is the first consideration.

With these views I think that all who are concerned in the treatment of the really poor at any rate, and thus the expenditure of public money, should pause before they advise or approve the cost of building large sanatoriums, at from £200 to £500, or even £600, per bed, as in the case of Frimley and elsewhere, both on the Continent and in this country.—I am, etc.

London, S.W., July 2nd. ARTHUR E. T. LONGHURST, M.D.

SIR,—Dr. Don's discussion of the sanatorium treatment of consumption is more dogmatic than trenchant. I cordially agree with Dr. Don that sanatorium statistics (like other statistics) are apt often to be imperfect and misleading, and I have long insisted on the necessity of a careful scientific examination of published results. Yet I would point out to Dr. Don that many honest attempts have been made to collect and compare, and weigh and interpret sanatorium statistics, and these at least deserve some consideration, and are as likely to lead to correct conclusions as is any individual opinion (however dogmatic or learned) based on personal impressions of a few general practitioners. Even the statistics of Dr. Paget-Tomlinson and Dr. Robinson are not a sound foundation for Dr. Don's sweeping condemnation. Has Dr. Don studied the elaborate analyses of the German Imperial Health Office dealing with the results in some thousands of sanatorium cases?

The question of the medical and economic value of sanatoriums requires to be investigated; but if the investigation is to reach definite and dogmatic conclusions, it must be exhaustive, and careful, and adequate.

I will not in a brief letter attempt to discuss the vast subject which Dr. Don would dispose of in a few paragraphs. I will merely meantime put three of my opinions, for what they are worth, against the opinions he has so boldly volunteered.

1. That no medical man who has not had at least three months' practical personal experience of sanatorium treatment in a good-sized strictly-conducted sanatorium can be in a position to estimate first-hand the value of sanatorium treatment.

2. That if Dr. Don had enjoyed such an experience he would (like all those who have enjoyed it) recognize that the results of sanatorium treatment are, as might be expected, incomparably better than "could be had from a prolonged holiday either at sea or in the country." Dr. Don seems to forget that most of the patients who go to sanatoriums have already tried sea-trips and home treatment, etc., so that both sanatorium medical officers and sanatorium patients are in a position to form a comparative estimate. Many a time have I heard a sanatorium patient upbraid his doctor for not sending him sooner to a sanatorium.

3. That the probability of a patient's cure is in inverse proportion to the length of time during which he has been taking holidays either at sea or in the country, and perhaps I may mention that my own opinion on this point is based on an observation of hundreds of cases. It is Dr. Don's opinion that sanatorium treatment is not worth while: it is *my* opinion that sanatorium treatment is the consumptive's best chance of life.—I am, etc.,

Auchterhouse, June 28th. RONALD CAMPBELL MACFIE, M.A., M.B., C.M., Medical Superintendent Sidlaw Sanatorium.

SIR, The question that is asked again and again in your columns on this subject is "Have we drawn a false conclusion from false premisses?" Your correspondent, Dr. Don, is severe on the opinions of the specialists who are in charge of sanatoriums and at the same time anxious to hear the opinions of general practitioners. I fear that by either side I may be considered an unwelcome auxiliary and a still more unwelcome critic of both.

As a general practitioner I share some of the suspicions held by Dr. Don, towards specialists, who in doubtless some very rare cases base their knowledge of one subject on their ignorance of every other. I also claim a fortunate advantage that no medical man ever troubles me by asking for my opinion on his phthisical patient. Still, possibly as a result of my holding an honorary position on the staff of a consumption hospital, I

gain some occasional addition to my private practice, and consequently my prejudice should lean to the favouring of the home treatment of consumptives; but I have slowly come to the conclusion that the advantages to the patient of sanatorium treatment far outweigh those of the treatment of the patients at home.

Poor patients find the sanatorium, with its full dietary and freedom from every care, a Godsend indeed. My sanatorium experience is limited to the treatment of the poor, but my rich patients who place themselves under the care of other medical men in the sanatoriums for the rich improve in a manner as miraculous as the improvement in the case of the poor. Why? Because the treatment in the sanatorium is one of fine adjustments; it is systematic, it is detailed, it is rigidly carried out. When we can induce the patients and their friends to carry out the orders given as intelligently and readily and rigidly as they are carried out at a sanatorium, then the sanatorium may possibly be less necessary than it is at present. The ideal treatment at the sanatorium is acting upon the general opinion of the profession and enabling home treatment to be possible and successful as it never was before.

Even after a patient has lived at a sanatorium and saturated himself with its principles, is the home treatment equal to that of the institution? It is more convenient, and we all desire to say that it is equal, but we find it is not. At the same time the possibilites of treating at home a patient who has spent a term at a sanatorium are altogether different from those in the case of a patient who has never been to a sanatorium. Habits of—may I use the word—"passive resistance" have disappeared and active co-operation has taken their place; but it is rarely the case that I would advise a patient not to seek the help of a sanatorium.

Speaking of the treatment of the poor in these institutions (and in this particular I may be excused for claiming to speak with knowledge), I find failure to get even better results than are now obtained is due to the short period of stay. The patients in some cases return home before the disease is arrested, or as Dr. Vaudremer says, "they are reinfected when they get back to the environment which originally infected them."

There is one obvious way out of this difficulty. It is to arrange that every sanatorium shall be a labour colony or shall be in connexion with a labour colony. I have written to a large number of medical men in England and abroad on this subject, and there is a wonderful unanimity in favour of this method of increasing the period of stay at a sanatorium and decreasing the cost. In England this method is carried out, as far as my visits have allowed me to find, most energetically at the Kelling Sanatorium. Naturally a sanatorium under the direction of Dr. Fanning and Dr. Burton Fanning is likely to be conducted under the influence of advanced ideas, but I think Vaudremer in France has gone even further, and he tells of absolutely marvellous results—results, indeed, which are hardly to be believed, but that they have happened under his own eye. At Kelling, at Frimley, at Northwood, and at Edinburgh pioneer work is being done, and it will necessarily be followed at all the other industrial sanatoriums. This is a question that will not be settled by any controversy as to the merits of general practitioner or consultant; both must join in bringing to a successful issue the only method which at present is national in the broadness of its aim.

To assume moderation and candour and to shrug the shoulders with a continental air, at the same time looking upon the new ideas in the treatment of phthisis as if they were introduced to amuse the public, will only annoy that public, who are now demanding the new treatment from the medical profession, but who will demand it from any other source available if our profession steps aside.—I am, etc.,

HERBERT LE CABLE WOOLCOCK, D.P.H., etc.,
Honorary Physician Leeds Consumption Hospital and Gateforth Sanatorium, Surgeon Leeds Police, etc.

Moorville, Beeston Hill, Leeds, June 27th.

SIR,—Dr. Alexander Don's letter, in the BRITISH MEDICAL JOURNAL of June 24th, p. 1405, under the above heading, savours more of a vote of censure upon his professional brethren engaged exclusively upon sanatorium treatment, than of a desire to look facts fairly in the face with the object of achieving our common aim the health interests of our suffering fellow-creatures.

I should like to refer to one or two points which seem to me to call for especial comment:

1. It has always seemed strange to me that in lay circles the "curative value of fresh air" should so often be referred to and expert supervision and constant guidance be passed over in silence, as though this were of no more than ornamental value. If this is excusable in lay circles, there is certainly something incongruous in such an error emanating from professional sources.

2. It has always been my practice carefully to avoid the use of the word "cure" in my parting remarks to an outgoing patient, even though he may have remained with me long enough to lose his cough, expectoration, and all physical signs of active disease; and I invariably tell him that he must exercise care and watchfulness, with self-discipline, for at least two years. I have been under the impression that this caution is exercised by all genuine students of phthisis.

3. Dr. Robinson's results—namely, "in four years 35 per cent. dead and 20 per cent. invalids"—cannot surely be taken as indicating that sanatorium treatment is not "worth while," when the inference is that 45 per cent. have been restored to "economic health" (as the Germans put it)! My experience of many years in a busy general practice, followed by six years exclusively devoted to sanatorium treatment, has convinced me that the results of genuine sanatorium treatment are most encouraging, and give patients chances of improvement or of ultimate cure which are immeasurably greater than those derivable from treatment at home. A moment's thought will convince one of the truth of this (if it be admitted that close personal supervision is of any value); for, though the best instructions may have been given to the patient when under his own roof, how is the medical attendant to know that they are carried out when his back is turned?

4. Unfortunately, amongst the public institutions sanatoriums are springing up which are quite unworthy of the name. In some there is an effort to save expense by doing without a resident doctor, and handing over the important details of professional management (oft recurring and varied as they are) to a local practitioner who "looks in" once or twice a day and "gives his orders." Statistics culled from such institutions will, to say the least, be less encouraging than those obtained from institutions where an especially trained and experienced man is devoting his whole time and attention to the patients under his charge. In some of the public institutions there are too many patients allotted to one medical officer. In my opinion no one man can properly supervise and guide more than from twenty to twenty-five patients at one time, even though he be devoting his whole time to them. If statistics are to be reckoned as of any practical value, care must be taken to prove beyond doubt that they are taken from institutions where an experienced medical officer personally carries out the important details which combine to form the "treatment." If this be done, I venture to think that Dr. Don will find greater pleasure in endeavouring to secure efficiency in sanatorium treatment than in condemning the system itself.

5. I am often receiving letters and visits from former patients, giving ample and (to me) very pleasing proof of the permanence of the excellent results which it has been my good fortune to witness. From two to four years have elapsed since these cases were under treatment.—I am, etc.,

E. W. DIVER, M.D.

"Belle Vue" Sanatorium, Shotley Bridge, June 28th.

DRUG TREATMENT FOR INEBRIETY.

SIR,—Cases which have recently been under my care have impressed me with the belief that the medical treatment of chronic inebriety under suitable conditions often leads to recovery.

The best results have, in my experience, been obtained by the hypodermic administration of atropine (or one of its allied alkaloids) and strychnine, tonics, or other medicines indicated by the general condition of the patient being given at the same time by the mouth.

The treatment is more likely to be effectual if the patient is withdrawn from his ordinary family and social surroundings, and is best carried on in a special nursing home.

Such patients are, however, not suitable or usually welcome inmates of ordinary nursing homes.

I have recently treated several cases in a nursing home in London, which is, in my opinion, conducted in a satisfactory manner. The home is conducted by persons experienced in the nursing of such patients, and the patient can be treated either by his ordinary medical attendant, or by a medical man practising in the neighbourhood.

Further particulars can be obtained from Mr. A. W. Jamieson, of 1, Mitre Court, Temple, E.C.

I understand that an application has been or will shortly be made for a licence under the Inebriates Act for a retreat in which cases will be treated by the drugs mentioned, and that Dr. Branthwaite, the inspector under the Act, is prepared to approve such application provided that the drugs are administered under medical supervision.

This condition will be fulfilled to the letter.—I am, etc.,

London, W., July 5th. OWEN LANKESTER.

THE PREVENTION OF MEASLES AND WHOOPING-COUGH.

SIR,—In your issue of June 17th, p. 1359, I drew attention to the reckless way in which sanitary authorities and others allow the parks, streets, and places of amusement to be polluted by the diseases measles and whooping-cough. It is gratifying to note that one influential body at least, namely, the London County Council, intend to prevent in the future, as far as lies in its power, the spread of these diseases by means of the parks under its control. Convalescent young children shall no longer be allowed to sport in the London parks and regain their strength at the expense of the health of their brothers and sisters. It would be well were the various Borough Councils to follow in the same line as the London County Council, and to forbid, under penalty, any, save healthy children, from making use of public places of amusement.

During the three years ending December 31st, 1903, 60,622 persons, mostly children, have died from either measles or whooping-cough. The death-rate during these three years has been the lowest on record. The *de novo* theory of disease is not now held by any one of common sense; therefore one is led to believe that had proper preventive measures been taken during these three years most of the deaths would not have occurred.—I am, etc,

West Ham, July 2nd. E. S. GALBRAITH, L.R.C.P.

PUBLIC VACCINATORS AND GENERAL PRACTITIONERS.

SIR,—In reply to "Public Vaccinator" and "Justitia No. 2," I may say that my object was to draw attention to what almost every general practitioner considers an intolerable injustice. From personal knowledge I willingly concede that public vaccinators are frequently actuated by the highest ethical motives, though undoubtedly others often abuse the advantages of their position. But even when the vaccinator is above suspicion he inevitably receives an introduction to many people and in many streets where, apart from his domiciliary visits, he would be unknown, and consequently in spite of himself receives an unfair advantage.

I will not dwell upon what is obvious. Again, I think most private practitioners are only too glad to vaccinate their working-class clients for half-a-crown, and to supply the lymph. Few of us can hope to obtain the fees mentioned by "Justitia No. 2." Certainly, were I in his position, and considered that "for twenty-five years I had been underpaid and injured my private practice," I would feel inclined to give up such philanthropic work and retire in favour of a struggling junior.

I do not think he is serious in suggesting that self-respecting medical men should visit and offer to vaccinate their patients without being sent for! I frankly admit I envy the public vaccinators, and can quite understand their feelings. They are in the happy position of having what is practically a monopoly, and naturally resent all efforts at reform.

My object is attained if I can arouse some interest in the question, and I certainly hope something may be arranged at Leicester. In spite of your correspondents' reference to "touting for reform," I would earnestly urge all medical men to use their undoubted personal influence with the lay electorate. We can only hope for redress if we ventilate our grievances.

In reply to "Inquisitive," I came to the conclusion that (*a*) in large centres the most efficient and economical method would be the appointment of a public vaccinator, debarred from practice, and under the control of the medical officer of health. For a salary of from £300 per annum an excellent man could be obtained. At present, when there is much revaccination to be done, the cost to the ratepayers runs to as many thousands, and if we were all public vaccinators would be still greater, as naturally most of us would prefer to be paid by the public authority at the present scale of fees, and in working-class neighbourhoods all the vaccination would be done at the public expense. (*b*) In small districts the appointment of all registered practitioners as public vaccinators, subject to inspection, would be cheaper probably than a whole-time man; but more expensive, for the reasons stated above, than the present method.

I only hope I am wrong, as undoubtedly the ideal way to efficiency and the avoidance of friction is to make us all vaccinators. I am neither a "sixpenny doctor" nor a "one-mark man." These individuals are the outcome of unfair competition, and will increase in numbers as it becomes more difficult to make a living. Patent medicines, advertising quacks, provident dispensaries, legislation with regard to midwives and vaccination, apart from the general public's inclination to run to a specialist for trivial ailments, render the lot of the self-respecting general practitioner an unhappy one.

We can only hope, as the strength of our organization increases, to combat successfully these militant evils.—I am, etc.,

July 1st. JUSTITIA.

SIR,—"Inquisitive's" inquiry is not an unreasonable one. He asks in what respect the cost of vaccination would be increased by an increase of public vaccinators. In one of the larger London districts, where the vaccinator earns, say, £300 a year (for there are not many whose fees would amount to more than this), there would be at least 100 practitioners—probably 150. I am not aware of the salaries of the Local Government Board Inspectors, but I presume they would not agree to examine and inspect 100 vaccinators for the same salary as they now get for inspecting one. Nor am I acquainted with the cost of Vaccination Registers. I believe they are rather expensive works. I can only assume that 100 of them would cost more than one. These are some of the items. On the other hand, £300 a year divided among 100 practitioners would bring an average income of £3 a year to each. Still, as the old public vaccinator might retain some of his old clients, who would come to him for "auld lang syne" or who would sympathize with his misfortunes, "Inquisitive's" share might possibly be further reduced to £2 or even £1 10s., and it has always been a puzzle to us why so small a sum should be worth agitating for. The suggested division would mean ruin to the public vaccinator, who has already, as has been frequently pointed out, lost a considerable slice of his income by holding the office, which is by no means a popular one, and would make very little difference to the other practitioners in his district. The question I would venture to ask is: "Is the game worth the candle?"—I am, etc.,

July 1st. PUBLIC VACCINATOR No. 1.

PUBLIC HEALTH

AND

POOR-LAW MEDICAL SERVICES.

POOR-LAW MEDICAL OFFICERS' ASSOCIATION OF ENGLAND AND WALES.

THE annual general meeting of this Association was held at the Trocadero, Regent Street, on June 27th. Surgeon-General Evatt, C.B., was unanimously elected President and the other officers re-elected for the next year.

After the business had been transacted the members dined together, Surgeon-General EVATT being in the chair. Among the guests were Sir Walter Foster, M.P., Sir William J. Collins, M.D., Mr. Andrew Clark, and Dr. Radcliffe Crocker.

Mr. ANDREW CLARK proposed the toast of "The Association." He spoke of its long history and of the useful work it had done and was doing now. He assured the members that they could rely on the sympathy of the British Medical Association, the Council of which frequently had to deal with Poor-law matters. He instanced a case which had recently come to his notice, where a country public vaccinator and district medical officer had been compelled to resign his appointments and had appealed to the British Medical Association. Action had been promptly taken by the local Division of the Association, and the guardians had been unable to fill up the appointments vacated, so that they were compelled to re-instate their old officer on his own terms. He coupled the toast with the name of the Honorary Secretary (Dr. Major Greenwood), who was a member of the Medico-Political Committee of the British Medical Association, and therefore in a good position to inform the Council of the wants of the Poor-law service.

The HONORARY SECRETARY, in responding, said that he was

very pleased to see Sir Walter Foster present to support the new President. Sir Walter had already held office, and if, as was not unlikely, he should again take his place at the Local Government Board, the slow-moving wheels of medical Poor-law reform might revolve a little quicker. Among the most necessary reforms were a better scale of salaries for Poor-law medical officers and a fixed and certain increase in those salaries to recompense long and continuous service. An annual holiday ought also to be allowed at the expense of the guardians, as was already done in Ireland, and the burden of supplying medicines ought to be taken off country Poor-law medical officers, as it had been in the case of their brethren in large towns. For many years their Association had been asking for these reforms, but with small success. These matters were even referred to in a number of *Punch* published in April, 1855.

The President proposed "The Guests." He alluded to the work and the workers of the Association in the past, and pointed out how he had been personally enlisted in its working by the late Dr. Joseph Rogers. Union in the service was the great thing, and Poor-law medical officers must make use of the same methods as those employed by the Army Medical Department when a successful attempt was made to extort reform from the reluctant authorities. He alluded to Sir Walter Foster's Parliamentary position, and also to that of Sir William Collins in the great London Parliament. He also referred to the assistance given by the British Medical Association in promoting army reform, and hoped that the same help would be given to the Poor-law medical officer.

Sir Walter Foster, in responding, said that he had often been a guest of the Poor-law Medical Officers' Association in past years, and thoroughly sympathized with their desires and was always glad to assist them as far as lay in his power. He had been much interested in what Mr. Andrew Clark had told them as to the action of the local Divisions of the British Medical Association in compelling justice from a certain Board of Guardians. He specially commended to them organization of that kind. General union of all medical men in these matters was what was most essential. When he was at the Local Government Board he had often found this union lamentably wanting, and it was chiefly due to this that he had more than once found it impossible to get any important reform.

Sir William Collins said that he recognized that reforms were necessary in the Poor-law service. He thought some of the difficulties were due to the early origin of the Poor-law system, before local government had been properly organized. At the time of the Statute of Elizabeth there was no real local government, and a special machinery had to be devised for carrying out the law. This had been kept more or less unaltered, while a better scheme of local government had been applied to kindred matters. He thought it would be better if the Poor Law were administered by the same authority that dealt with other local business.

Dr. Balding, who proposed "The Health of the President," alluded to his great service in the cause of Irish Poor-law reform, and thought the Association was fortunate in getting such a President.

Surgeon-General Evatt suitably responded.

CARE AND CONTROL OF IDIOTS AND EPILEPTICS.

The Royal Commission on the Care and Control of the Feeble-minded resumed its sittings on June 24th, when evidence was received from Mr. A. A. Allen, Chairman of the Special Schools Committee of the London County Council, the Hon. Maude Lawrence, Chief Woman Inspector under the Board of Education, and Dr. Kerr, Medical Officer of the Education Department of the London County Council.

Mr. Allen said that the Council now had 76 schools for the mentally defective accommodating 3,219 children, and having an average attendance of 2,480; for the physically defective there was accommodation for 300, with an average attendance of 244. He thought the Act of 1899 should be made compulsory on all school authorities; that there should be only one authority for all school children within a certain area; that there should be compulsory powers to educate such feeble-minded children as were unsuitable for day centres in residential homes; that statutory powers should be given to continue, when desirable, the education in day centres of the feeble minded children until the age of 18, and that it should be compulsory on some authority to make provision for the care and instruction of babies.

The Honourable Maude Lawrence having shown that the cost of an "ordinary" child in the London Board schools was £3 9s., against £9 16s. 8d. for a special child, expressed herself as in favour of further powers being provided in respect of the feeble minded.

Dr. Kerr dealt with the classification of feeble minded children. He said that some years ago he found that a boy supposed to be imbecile really was gifted abnormally in many respects. The boy, however, was word-deaf from want of function in a very limited part of the brain. He could not understand spoken words, and until a communication for words was opened up he made no progress. Witness had also recognized children who could use figures but could not read the simplest words. He had differentiated a class of child who could not be made to recognize words printed. They could recognize them if spelled out by ear, but not otherwise. They were word-blind, and some were even letter-blind, but most could work easily with Arabic numerals. By knowing the particular defect of these children education could often be made by gaining access to their brains through routes that were not obstructed. The study of these cases would be well repaid, and he thought one of the first requirements of the future was the scientific study of all exceptional cases among these children. County councils should have power to maintain clinical institutions of a residential nature and power to transfer children to them to be exhaustively studied both by medical observation and by the laboratory methods of scientific psychology.

CERTIFICATION OF LUNATICS BY MEDICAL OFFICER OF WORKHOUSE.

D. M. O. asks the following question: Is it legal for the medical officer of a workhouse to certify under the Lunacy Act for the admission of patients resident in his infirmary into an asylum?

*** It is legal, but it must be done at the request or with the concurrence of the magistrate who acts in the case.

ROYAL NAVY AND ARMY MEDICAL SERVICES.

THE SOUTH WALES BORDER VOLUNTEER INFANTRY BRIGADE.

Surgeon-Colonel Philip E. Hill, V.D., the Senior Medical Officer of the Brigade, has issued his orders or instructions for the medical officers of the Brigade during the annual Brigade camp, which will be held this month at Minehead. These instructions, as in previous years, are admirably clear and consise, and should go far to ensure the smooth and efficient working of the medical arrangements during the camp. We note that the Senior Medical Officer signs himself as "Brigade-Surgeon-Colonel," a new title for which we have seen no authority.

R.A.M.C. VOLUNTEERS: LONDON COMPANIES.

The annual inspection of the London Companies of the Royal Army Medical Corps (Volunteers) took place on July 1st in Hyde Park. The corps, under the command of Lieutenant-Colonel V. Matthews, was formed up at 6 o'clock in three companies, with band, cyclists, and transport section, on the ground opposite Knightsbridge Barracks. The other officers present included Major Harper, second in command, Major Gibbard, Adjutant, and Captain Salisbury-Sharpe in charge of the transport section. After a somewhat long wait drawn up in line, H.R.H. the Duke of Connaught, Inspector-General of the Forces, accompanied Colonel Sloggett, R.A.M.C., Principal Medical Officer, down the lines and took the salute as the corps marched past. After this His Royal Highness left, and Colonel Sloggett inspected each company at work; one at stretcher drill, another at ambulance wagon drill, and a third pitching a "tortoise" field hospital. The transport section, which had 11 wagons and 46 horses on parade, was tested in unharnessing the horses, taking all the harness to pieces, and harnessing up again. One team which was timed put all the harness together, reharnessed, and hooked in in the smart time of 5¾ minutes. Though the number of men on parade was small—only 236 of all ranks—they left little to be desired in the way of smartness. The march past was steadily and well done, and the various companies earned the approbation of the inspecting officer for the way in which they carried out the work allotted to them. After Colonel Sloggett had addressed the men the corps marched to the Horse Guards Parade to be dismissed.

TIBET MISSION GRATUITIES.

The Secretary of State for India has sanctioned the issue of a gratuity to officers and men of the Tibet Mission escort. The gratuity will be at the rate of Rs. 24 per share for British and Rs. 12 for native soldiers, and will be admissible to the heirs of those killed or died of disease. The grant is to be made to all who served beyond Siliguri between December 13th, 1903, and September 23rd, 1904, both dates inclusive. A brigadier-general gets 57 shares, a colonel on the staff 40, colonel and lieutenant-colonel 32, major 16, captain 12, lieutenant 7⅓, and native officers and men on the usual scale. Local and temporary rank will be recognized in making the distributions.

MILLBANK MILITARY HOSPITAL.

On July 1st the King and Queen, accompanied by Princess Victoria, drove to Millbank to inspect the new military hospital. When completed the hospital will have accommodation for about 230 patients, but at present there are only 80 sick men in the wards. The Royal party was received by Surg.-Gen. Keogh, C.B., Director-General of the Army Medical Service, Major General L. J. Oliphant, C.B., commanding the London District; Col A. T. Sloggett, C.M.G., Principal Medical Officer, London District, Lady Roberts, Lady Downe, the Hon. Sydney Holland, and Sir Frederick Treves. The Royal visitors visited the x-ray room, the laboratory and the kitchens, and finally the wards. They spent a considerable time in the operating theatre, and were much interested in its equipment and in a special floor which had been constructed at the suggestion of Sir Frederick Treves. Finally they inspected the site for the nurses' home, remaining for an hour in all.

Proteid Reactions with Silver Salts.—In a paper recently before the Royal Society, Professor A. B. Macallum states that he has for several years held the opinion that the reaction of proteids with silver nitrate in sunlight is due to the presence of chlorides only, and that if proteids could be thoroughly freed from chlorides the former would give no reduction compound with the silver salt. He has now succeeded, with certain test substances, in overcoming the preliminary experimental difficulty of removing every trace of chlorides before applying the silver test. Egg albumen, serum albumen, and gelatine, when so purified, give no reduction effect with silver nitrate, even after weeks of exposure to bright sunlight.

OBITUARY.

INSPECTOR-GENERAL ALEXANDER TURNBULL, R.N., M.D.

MANY officers of the Royal Navy and not a few members of the British Medical Association will regret to hear of the death of Inspector-General Alexander Turnbull on June 22nd. He had been in bad health for a considerable time past, but his illness was not of such a character as to interfere with his mental activity, or to prevent his seeing his friends.

Inspector-General Turnbull was a son of the late M. A. Turnbull, of the Inland Revenue Department, and studied at Edinburgh University. He became M.D. of that University, and a diplomate of the Royal College of Surgeons of Edinburgh in the same year, 1859, at the age of 21. He at once entered the Royal Navy, and eleven years later, in 1870, became a Staff Surgeon. He reached the rank of Fleet Surgeon in 1880. Eight years afterwards, being then employed at the Admiralty, he was appointed Deputy-Inspector-General, and as such served in succession at Plymouth, Hong-Kong, and Chatham Hospitals. Finally, in 1896, he



was promoted Inspector-General, and retired from the service in 1898. The last two years of his active career he passed as Inspector-General in charge of Haslar Hospital, where he introduced many reforms. Among other things, he obtained the provision of aseptic operating rooms, and in this connexion received from the Admiralty a letter of thanks for his work, as also for certain proposals which he made for the reorganization of the course of instruction for naval surgeons on probation. During his sea-going service one of his ships was the *Bacchante*; he was appointed to it in 1880, and thus came to be in medical charge of the late Duke of Clarence and the present Prince of Wales when these Princes were serving as midshipmen aboard that vessel.

After his retirement in 1898 Inspector-General Turnbull settled down in England, taking up his residence at Emsworth, Hampshire; at a later date he removed to London. Inspector-General Turnbull was keenly alive to the value to the medical profession of organization, and during the seven years which elapsed between his retirement and his death he was an active member of the British Medical Association. In 1898 the Council appointed him a member of the Parliamentary Bills Committee, and two years later he received the thanks of this Committee for a special report on nursing in naval hospitals. When the Royal Naval and Military Committee came into existence under the new organization of the British Medical Association he was selected as one of its members, and retained his seat until April last year. His resignation was due to ill-health, and was accepted with great regret, the Committee placing on record its "high appreciation of the valuable services rendered by Inspector-General Turnbull to the Association, more especially in connexion with the work of the Royal Naval and Military Committee." He was a constant attendant at the annual meetings of the Association, his interest in the work done being to some extent catholic, but centring in that of the Navy, Army, and Ambulance Section.

His energies continued to a very recent date, his last contribution to our columns having been published about a month ago; it was an interesting account of the late results of a case of amputation of both legs in a patient upon whom he had operated twenty years ago. In the last year of his life he was awarded a Greenwich Hospital pension.

One of his old service comrades writes of him in the following terms: "Turnbull in his various appointments showed a very profound sense of his obligations towards the service which he so dearly loved; always courteous and ever ready with friendly advice for his younger *confrères*, if they desired it, he became much endeared to those junior to him. His views were of a far-reaching and progressive nature and it was always a source of gratification to him that the Admiralty carried out some of his recommendations during his last period of service at Haslar; these included as well as the building of new aseptic operating rooms many other modern structural alterations in the Royal Hospital. It was a great loss to the service that so valuable an officer had not reached the highest rank among naval surgeons until he was nearly 58 years of age (about 39 years of service) and it is to be noted that a distinguished career came to an end without any decoration being bestowed upon him as the accompanying photograph of the dear old doctor in his last years shows. In private life he was a genial and courteous companion ever ready to cheer his juniors in service matters. He has left behind him in the Royal Navy a large number of friends to mourn his loss as that of a dear friend."

Inspector-General Turnbull was buried at Kensal Green Cemetery on June 27th, a preliminary service taking place at St. John's, Notting Hill, on the same day.

GEORGE FREDERICK WALES, M.D.ABERD., F.R.C.S.EDIN.

DR. GEORGE FREDERICK WALES, who died on June 27th, was, up to the time of his retirement some ten years ago, one of the most conspicuous figures in the medical world of Belfast. A son of John Wales, and a descendant of an Essex family which early settled in Ireland, he was educated at the Royal School, Dungannon, and at the University of Aberdeen, where he graduated M.B. in 1857, and M.D. ten years later. Subsequently he was elected a Fellow of the Royal College of Surgeons, Edinburgh.

At an early period of his career Dr. Wales was medical officer of the ss. *City of Philadelphia*, which was wrecked on her maiden voyage off Cape Race. His coolness and courage on this occasion in dealing with the 600 alarmed passengers greatly assisted the officers and crew in saving the lives of those on board, and earned him the special thanks of the Company.

When he first settled down he took the appointments of Resident Surgeon at Downpatrick Infirmary and Medical Officer to the troops stationed there, but subsequently moved to Belfast, where as a member of the Corporation he did pioneer work in the cause of sanitation.

As a professional man Dr. Wales was eminently successful, not only in getting together and keeping a large and lucrative high-class practice but in acquiring the esteem of his medical brethren. By them his advice was often sought, for much confidence was reposed in his probity, high sense of professional honour and kindness of heart. In this respect he had, as one of his medical colleagues put it, "the unusual distinction of attaining the first rank in his profession by sheer merit without the aid of hospital appointments, and his name will long be remembered in the north of Ireland." Although, however, he was on the staff of no hospital he held a good many other appointments, among them being that of medical adviser to the Northern Counties Railway Company,

the Scottish Widows' Fund Assurance Society, the National Provident Institution, and the British Equitable Assurance Company, and also filled the offices of Vice-President and President of the Ulster Medical Society.

He was closely connected, too, with the founders of the White Star Line, and was for many years an intimate friend and medical adviser of the late Sir Edward Harland, M.P., the well-known member of the famous shipbuilding firm.

Dr. Wales is survived by his wife, a daughter, and four sons; three of these he gave to his own profession—John Frederick Wales, M.D., now of Southampton; Fleet Surgeon G. F. Wales, R.N.; and Alfred E. Wales, M.D., of Belfast. A fourth son, the Rev. F. A. Wales, is in Holy Orders in the Church of England.

He lived after his retirement at Holy Rood, Belfast, and it was there that he died.

ARTHUR DAVID GRIFFITHS, M.D.BRUX., M.R.C.S., L.R.C.P.LOND.,

Bridgend.

THE unexpected and appallingly sudden death, at the early age of 34, of Dr. Arthur D. Griffiths of Bridgend, on June 15th, produced a profound feeling of regret and sorrow among the community where the last years of his useful life were spent, and a very poignant sense of loss to his immediate relatives and intimate friends. It is difficult to realize that one who was deservedly held in such high esteem and whose life was, to human judgement, so full of promise of future usefulness, is irrevocably gone, his young life sacrificed, truly, on the altar of duty. There is a feeling, however, that the heart failure, which was the immediate cause of his death, was not brought on entirely or solely through the stress of work entailed by recent exceptional prevalence of sickness in his practice. It will be within the recollection of readers of this notice that he was subjected not long ago to a form of persecution of a most malicious character, and that he was called upon to clear himself of a charge which was elaborated with deliberate and ingenious circumstantiality. There was never for a moment the slightest doubt of the utter baselessness of the charge among the brethren of his profession, whose good name and fame and not merely his own, it was felt, he was dutifully defending, or among those of the public whose esteem was of worth; still, though he was indeed encouraged by and deeply grateful for the kindly sympathy and support manifested towards him during his dark days, no one but himself was capable of realizing what an effect this must have produced upon his vitality. It is questionable even if he himself adequately appreciated the effects, and, in the light of events, there is reason to believe that, had the level of his vitality not been reduced by the terrible strain of those troublous times, mere temporary stress of work, even though coupled with such serious anxiety as the illness of his wife from typhoid fever, and the precarious health of his only child, would not have induced such dire consequences.

Of sunny, kindly personality, straight and genuine in every sense, he was one who instinctively was all that was honourable. His life's work showed that his was in the best and truest sense a "calling." To this he devoted himself wholeheartedly and disinterestedly, with perhaps too little care for self. His life might assuredly have been a longer one, but it could hardly have been fuller or one which would have left behind more kindly memories, for he possessed many accomplishments both musical and artistic, and, interested as he was in every phase of life, his judgement was on most matters greatly appreciated. He will be sadly missed, not only by his more immediate friends but by all those among whom he lived and laboured, and the recollections of him, whether in Dean Forest, Ramsgate or Glamorgan, cannot but remain of the kindliest. Especially will the loss be felt by the St. John Ambulance Brigade, in whose work he had long been enthusiastically and actively interested; and this will be particularly the case in the Number VII District in which he held Staff rank. Brigade work in his district has suffered a loss that will not readily be made good, and all his brother officers will assuredly feel a keen sense of personal loss in the untimely ending of a life which, to quote the motto of the Order, was sacrificed "for service in the cause of humanity."

His unfailing courtesy, kindliness of heart and uprightness of character endeared him to all who knew him, and rightly earned for him genuine respect and admiration.

DR. ROBERTS-DUDLEY, who died on July 2nd at Stalybridge of angina pectoris, had been ailing for about twelve months, but was out and doing his work on the Saturday before his death. Dr. Roberts-Dudley studied at the Royal School of Medicine in Manchester, and took the M.R.C.S. in 1862. He was born at Rochdale, and was the son of a medical man in that town. He settled in Stalybridge over forty years ago, and was for some years House-Surgeon at the Ashton and District Infirmary. He was the oldest magistrate on the borough bench, having been placed on the commission in 1874. He was Medical Officer of the borough for over thirty years, Vaccination Officer for the district, and Medical Inspector under the Factories Act, a Lecturer and Examiner to the St. John Ambulance Association, and Surgeon to the Borough Police and Post Office.

UNIVERSITIES AND COLLEGES.

UNIVERSITY OF OXFORD.

Professorship of Pathology.

JAMES RITCHIE, M.A., B.Sc., Fellow of New College, Reader in Pathology, has been constituted Professor of Pathology so long as he holds the aforesaid Readership.

First M.B. Examinations.—The following passed in Organic Chemistry:

H. O. S. Gibson, New; G. D. Knox, Balliol; G. E. Neligan, Exeter; H. W. Scott-Wilson, Queen's; W. W. Wagstaffe, New; R. O. Ward, Queen's.

The following passed in Materia Medica and Pharmacy:

P. P. W. Andrews, University; D. C. Dobell, Christ Church; G. E. Downs, Magdalen; H. J. Fry, Magdalen; H. E. Gibson, Queen's; G. H. Hunt, Christ Church; G. J. Z. Jessel, University; G. E. Neligan, Exeter; H. P. Newsholme, Balliol; J. A. Noble, Queen's; E. W. M. H. Phillips, Jesus; T. S. Wright, B.N.C.

The following passed in Human Anatomy and Human Physiology:

M. B. Bates, St. John's; A. W. Burnyeat, Queen's; G. D. Carpenter, non-coll.; C. D. H. Corbett, University; G. H. Crosfield, University; G. R. Girdlestone, University; S. Hartill, Exeter; R. G. Klein, Christ Church; T. R. Walker, Hertford.

Second M.B. Examination.—The following passed in Forensic Medicine and Hygiene:

H. H. Baker, University; H. A. Barnes, Keble; O. E. Berkeley Hill, Trinity; L. T. Burra, University; P. J. Dear, non-coll.; J. S. C. Douglas, Christ Church; E. L. Farncombe, St. John's; J. H. Hebb, St. John's; R. Jameson, Trinity; R. C. Jewesbury, Christ Church; A. G. Jones, Magdalen; S. Nockolds, Keble; L. J. J. Orpen, Keble; C. J. Pinching, St. John's; J. G. Priestley, Christ Church; C. A. Smallhorn, Wadham; B. H. Spilsbury, Magdalen; H. G. F. Spurrell, Merton; H. C. Squires, Hertford.

Second M.B. Examination.—The following candidates passed in Pathology:

H. H. Baker, University; C. Beards, Jesus; H. B. Billups, Jesus; H. B. Carleton, Keble; D. Davidson, B.N.C.; J. S. C. Douglas, Christ Church; E. L. Farncombe, St. John's; G. M. Johnson, Magdalen; G. A. Jones, Magdalen; O. G. F. Luhn, Christ Church; S. Nockolds, Keble; C. J. Pinching, St. John's; H. R. Ramsbotham, B.N.C.; H. S. Souttar, Queen's; H. C. Squires, Hertford; A. G. J. Thompson, Queen's; A. P. Yonge, Exeter.

The following candidates passed in Medicine, Surgery, and Midwifery:

H. A. Barnes, Keble; E. L. Farncombe, St. John's; J. H. Hebb, St. John's; R. Jamison, Trinity; R. C. Jewesbury, Christ Church; J. G. Priestley, Christ Church; C. H. Smallhorn, Wadham College; B. H. Spilsbury, Magdalen.

Examination for the Degree of Master in Surgery.—The following passed: A. C. Goodwin, B.M., Keble; O. W. Richards, B.M., New.

UNIVERSITY OF LEEDS.

DEGREES.

A CONGREGATION of the University was held in the Town Hall on July 1st, when certain degrees were conferred by the Vice-Chancellor on Associates of the Yorkshire College, and on other students who, having attended complete courses of studies in the Yorkshire College, had graduated in Victoria University or in other universities of the United Kingdom. In the latter category degrees in medicine were conferred on the following:

Degree of Doctor of Medicine (M.D.)—E. Turton, M.D.Viet.

Degree of Bachelor of Medicine (M.B.).—G. L. Wells, M.B., B.S.Lond.; A. F. Kellett, M.B.Cantab.; A. Manknell, M.B.Lond., S. L. B. Wilks, M.D., B.S.Lond.; D. Seaton, M.B.Viet., R. Hopton, M.D., B.S.Lond.; C. W. Eames, M.B., C.M.Edin.; J. Broadley, M.B.Lond.; F. Barlow, M.B.Viet.; A. Mackenzie, M.A., M.B., B.C.Cantab.; C. H. Moorhouse, M.B.Viet.; H. Stansfield, M.B.Viet.; W. J. W. Anderson, M.B.Viet.; C. H. Greenwood, M.B.Viet.; J. A. Reed, M.B.Viet.; E. W. Spink, M.D.Lond.; C. R. Williams, M.B.Viet.; H. Brown, M.B.Viet.; W. A. Stott, M.B.Viet.; R. G. M. Ladell, M.B.Viet.; L. R. Braithwaite, M.B.Viet.; H. Maslin, M.B.Viet.; C. T. Matthews, M.B.Viet.; F. P. H. Birtwhistle, M.D.Viet.; W. E. Brierley, M.B.Viet.; E. Cundall, M.B.Viet.; A. M. Deane, M.B.Viet.; F. W. M. Greaves, M.B.Viet.; F. W. Hayes, M.B.Viet.; J. H. Legge, M.B.Lond.; H. J. Macvean, M.B.Viet.; B. Suggit, M.B.Viet.; H. Tomlin, M.B.Viet.; W. H. Smailes, M.B.Lond.

Among those degrees conferred on the results of examinations of the University of Leeds was the following:

Degree of Doctor of Medicine (M.D.). (Presented by Professor Birch, Dean of the Faculty of Medicine). A. S. Parkinson.

On June 30th degrees were conferred by the Vice-Chancellor on the heads of certain departments, and on certain members of the staff of the General Infirmary at Leeds, which is closely associated in its work with the University. Among those the degree of Master of Science was conferred on the following:

C. J. Wright, M.R.C.S., Professor of Obstetrics in the University; W. B. Lewis, M.R.C.S., L.R.C.P., Lecturer on Mental Diseases in the University; W. H. Brown, F.R.C.S.I., M.R.C.S., Surgeon to the General Infirmary at Leeds; H. Littlewood, F.R.C.S., Surgeon to the

General Infirmary at Leeds; H. S. Walker, F.R.C.S., Ophthalmic and Aural Surgeon to the General Infirmary at Leeds.

By resolution of the Court, the degree of M.D. was conferred *in absentia* on W. W. Stoney, M.D. (Vict.) residing at Kimberley, South Africa.

UNIVERSITY OF MANCHESTER.

THE Council has appointed Gilbert J. Fowler, D.Sc., Lecturer in Bacteriological Chemistry in the Department of Public Health.

ST. MARY'S HOSPITAL.

THE prizes gained during the year by the students of St. Mary's Hospital Medical School, Paddington, were distributed on June 29th in the library of the institution by Sir John Gorst, M.P., Mr. Herbert Page, presiding.

The DEAN (Dr. H. A. CALEY) read a report, in which it was stated that during the year the proposed concentration of the early and intermediate medical studies had again been under consideration. Whilst desirous of co-operating with the Senate of the University of London in any scheme clearly for the advancement of medical education in the metropolis, the authorities had decided to maintain the several departments for these studies, so that the medical school would continue to provide complete courses for the preliminary scientific and intermediate M.B. under recognized teachers of the University.

The awards were as follows: The four *Open Scholarships*, one of the value of £145, and three of £52 10s., went to Messrs. W. L. Cowardin, E. W. Archer, A. B. Porteous, and T. A. F. Tyrell, respectively; the two *University Scholarships*, each of £63, to Messrs. C. H. Rothera, B.A.Cantab., and K. A. Lees, B.A.Cantab. The *General Proficiency Scholarships*, of £20 each, went in *Anatomy, Physiology, and Histology* to A. Fleming; in *Midwifery, Pharmacology, Pathology and Medical Jurisprudence* to G. S. Thompson; in *Medicine, Surgery, Operative Surgery, Hygiene and Mental Diseases* to V. Z. Cope, B.A. The prizes in *Clinical Medicine* to E. T. H. Davies, and G. S. Thompson (equal); in *Clinical Surgery* to G. E. Peachell, H. E. Kitchen, B.A., and V. Z. Cope, B.A.; in *Ophthalmology* to V. Z. Cope, B.A., and C. I. Graham; in *Dermatology* to V. Z. Cope, B.A.; the prizes for Prosectors of Anatomy to D. W. Daniels and H. L. Barker; in *Hygiene* to V. Z. Cope, B.A.; in *Midwifery*, E. T. H. Davies; in *Medical Jurisprudence*, G. S. Thompson; in *Materia Medica and Pharmacology*, A. Fleming; in *Psychological Medicine*, V. Z. Cope, B.A.; in *Chemistry and Physics*, J. L. Waller; in *Organic Chemistry*, A. Fleming; in *Surgery*, G. S. Thompson; in *Pathology*, A. Fleming; in *Practical and Operative Surgery*, T. E. Francis; in *Anatomy*, D. W. Daniels and A. B. Porteous; in *Physiology*, D. W. Daniels and E. W. Archer; in *Biology*, T. Hare and H. H. Tanner.

Sir JOHN GORST delivered an address in the course of which he said that the medical profession would in a few years assume a more important position than even that which it occupied now, because all civilized nations were waking up to the fact that on the health and vigour of their people depended their existence and prosperity. But there would be no real reform in the health of the people without a strong and widespread public opinion, and there were indications that such opinion was beginning to form. There should not be much difficulty in carrying out considerable reforms, because the Public Health Act was a perfect mine of powers which only needed to be put into execution by the local authorities to produce a much better state of things. One of the obstacles to progress was that the richer members of society had not hitherto recognized the extent to which their own well-being and the health of their own children were dependent upon the condition of the poor. Another obstacle was the apathy of the people. He believed that one of the fruits of the work of the League for the Promotion of Physical Education and Improvement would be an effort to place on local authorities men who were prepared for reform. A third obstacle to improvement was the fact that the medical officers of health were not placed in a sufficiently independent position in regard to the local authorities. In Berlin a very different state of affairs prevailed. He did not know why England, with all its riches and public energy, should not become a model to the rest of the world in the attention paid to the sick.

UNIVERSITY STUDENTS' CONGRESS.

THE British University Students' Congress was held at University College during last week, all the universities in the United Kingdom being represented except Oxford and Cambridge, which have no organization to send delegates to represent their undergraduates generally.

Sir ARTHUR RÜCKER, Principal of the University of London, in welcoming the delegates, said that there had been in the past too little communication between the different universities, and the experiment now undertaken was of great interest.

Lord REAY, President of University College, who also welcomed the delegates, referred to the proposal which would come before the Congress to appoint a representative committee to examine into the possibility of extending the organization of the International Academic Committee of the University of Edinburgh to other universities in the United Kingdom. The British universities could, he said, no longer remain isolated, and added that in his opinion the success of Japan was due to the fact that it was the most international country at present in existence.

The first business of the Congress was the receipt of a report on residential halls. It was stated that fourteen British universities and colleges, eleven American universities, and four Australian universities had been communicated with. Afterwards it was decided to extend the scope of the Congress to include the delegates from students' councils of all the universities of England, Scotland, Ireland, and Wales. At the second session a long discussion took place on the need for physical as well as mental development, and a resolution was adopted urging university authorities to organize on practical lines adequate means of the physical exercise for students. At the third session a long discussion took place on the need for a system of State support for universities. Before the Congress separated it adopted a resolution to the effect that, whenever practicable, the work done by a student at one university should entitle him to an equivalent standing at any other university.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have been approved at the examinations indicated.

Surgery.—†A. Becley, *†G. N. Biggs, *†V. H. Blake, †H. R. Grellett, †F. E. Gubb, A. H. Hughes, *H. A. Parker, *J. W. Peatt, *†T. R. St. Johnstone, *†N. A. Stutterheim, *†A. L. Walters, J. M. Wilson.

Medicine.—†M. B. Dawson, *†F. E. Gubb, *†P. A. Hendley, *†F. J. Macphail, *†T. R. St. Johnston, J. M. Wilson.

Forensic Medicine.—J. J. Commerell, P. A. Hendley, F. J. Macphail, H. J. May, G. B. Messenger, E. B. Miles, R. Terry, J. M. Wilson.

Midwifery.—G. N. Biggs, V. H. Blake, H. S. Burnell-Jones, W. L. Crabtree, E. B. Miles, H. M. Waller.

The diploma of the Society was granted to Messrs. A. Beeley, J. J. Commerell, W. L. Crabtree, M. B. Dawson, H. R. Grellett, F. E. Gubb, P. A. Hendley, A. H. Hughes.

* Section I. † Section II.

MEDICO-LEGAL AND MEDICO-ETHICAL.

MEDICAL ETIQUETTE.

PERPLEXED writes: A. is in professional attendance on B., who is a visitor to the district. C. is aware of A.'s attendance on B., but calls at the urgent request of B.'s family doctor, in order to give a special report on B.'s condition. C., in calling, regarded himself as the representative of B.'s family doctor, and abstained from giving advice, but did not ask A.'s sanction to visit B. Was C.'s professional attitude correct?

*** No. A practitioner ought not to visit a case under the care of another without communicating with the latter and asking his permission to see the case with him.

PERPLEXED also writes: A. is a very old patient of B.'s, but meets with an accident, and calls in C. in the emergency, and asks him to continue in attendance. Neither A. nor C. communicate with B. C and B. are not on friendly terms. Should C. have communicated with B.?

*** If B. was not in attendance on A., C. was not bound to communicate with him. His previous attendance no doubt gave him a claim to be treated with some consideration by A., who might have taken an opportunity to explain matters to him; but C. was entitled to continue in attendance if asked to do so, and it was not his duty in any case to communicate with B.

THE ETHICS OF CONSULTATION.

BACILLUS writes that about five months ago he was called into consultation by a country practitioner about seventeen miles from the city in which he lives; on the day of writing to us a sister of the patient then seen had called to consult him. He wishes to know whether he was right in examining and prescribing for her. As he was in doubt he wrote to the country doctor and explained the circumstances.

*** The proper course to adopt in such a case is to ask permission to write to the patient's medical attendant and to enclose the prescription to him. If, however, the patient refuses to allow this there would be no impropriety in seeing the patient and prescribing for her as she was not the person who had been seen in consultation.

COMPENSATION FOR INJURY.

G. writes: I am attending a boy, aged 14, whose fingers were caught in a machine at his work. The fourth and fifth fingers of the right hand had to be amputated about ½in. in front of the palm. Is this boy entitled to compensation under the Employers' Liability Act? If so, what compensation could he claim? He had been in his employment three weeks. His wages were 4s. 3d. per week.

*** If the accident arose out of and in the course of the boy's regular employment he is entitled to compensation under the Workmen's Compensation Act. No amount is due for the first fortnight. Afterwards the amount payable is a sum equal to half the average wage—that is, 2s. 1½d. a week until the boy is able to resume work.

CONSULTATION FEE RECEIVED BY PARTNER.

A. sells B. a practice with the usual six months' partnership introduction. In the course of which partnership B. attends an old patient in consultation with a practitioner in another town. Is B. entitled to the whole fee, or should the fee be placed to the credit of the partnership?

*** While the partnership subsists all professional receipts should be shared.

ADMINISTRATION OF ANAESTHETICS FOR A FIRM OF UNREGISTERED DENTISTS.

J. J. C.—The position is complicated by the firm employing a registered assistant, and we doubt if, under the circumstances, any charge of covering could be maintained, but we think that our correspondent has acted in accordance with professional etiquette in declining in any way to countenance the practice of the firm. It must be remembered that where the actual practitioner is not the principal a qualified assistant may be there to-day and an unqualified person to-morrow; such is, in fact, the habit of some of those firms. We know nothing of the firm in question, but a person bearing the same surname as that coming first in the style of the firm was struck off the *Dentists' Register* in 1905 by the General Medical Council, and subsequently converted himself into a limited company. We have no reason, however, to connect him with this firm.

PROFESSIONAL SECRECY.

JUDICIAL.—The Court has power to compel a medical witness to divulge professional secrets under penalty of being committed for contempt. Our correspondent should place himself in the hands of the Court, expressing his willingness to answer those questions which, in the opinion of the judge, it is in the interests of justice that he should answer

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 2, Agar Street, Strand, W.C., London; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone, unless the contrary be stated.*

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Manager, 429, Strand, W.C., on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not to his private House.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London.* The telegraphic address of the MANAGER of the BRITISH MEDICAL JOURNAL is *Articulate, London.*

TELEPHONE (National):—
EDITOR, 2631, Gerrard. GENERAL SECRETARY AND MANAGER, 2630, Gerrard.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

A DIPLOCOCCUS OF SCARLATINA.

H. K. asks us "how or where to find an account of Class's work on his diplococcus scarlatinae." The following reference may be of use to him: Class, W. J., *Der Diplococcus Scarlatinae. Centralbl. Bakt.*, Jena. Abth. I. Bd. 31. Referate. 1902. Pp. 301-302.

GLYCERINE SUPPOSITORIES.

"VOX CLAMANTIS" would be glad to learn if any injurious results have followed the continuous use of glycerine suppositories. A gouty old man with heart disease has used them almost daily for upwards of two years with results most satisfactory in all respects, and no local discomfort in the slightest degree has followed; but information is asked whether this daily use has, in the experience of any one, been followed by local disease.

ANSWERS.

COUNTRY PRACTITIONER.—Lavage of the stomach could be carried out at many private nursing homes in London, but the actual treatment would have to be carried out by a medical man, or would, at all events, have to be commenced by him, or under his personal supervision.

SOUTH AFRICA AND EARLY PHTHISIS.

DR. W. A. CARDEN (Fraserburg, Cape Colony) writes in reply to Dr. Hooker's inquiry, published in the BRITISH MEDICAL JOURNAL on May 20th, p. 1132, to recommend Fraserburg for the early case of phthisis in a young clergyman. "It is," he continues, "482 ft. above sea level, dry and bracing; the place is situated eighteen hours by cart from the nearest railway station, which he considers an advantage rather than otherwise, for it is not crowded with advanced cases of phthisis. There are two hotels. For early cases he considers the north-western districts of Cape Colony the best. The best time to arrive would be in August.

DR. JANE B. H. RUTHVEN, of Eagle's Nest, Klipriversberg, writes, in reply to the same query, to recommend this new health resort near Johannesburg as a suitable place. It is, she says, more than 6,000 ft. above sea level, with clear air, no dust, and bright sunshine.

LETTERS, NOTES, ETC.

PATHOLOGICAL MATERIAL SENT BY POST.

THE Postmaster-General has issued the following notice: The attention of the Postmaster General has been drawn to the fact that pathological specimens are frequently sent by post by members of the medical profession and other persons in packets which have not been registered as required by the Post Office regulations. The Postmaster-General desires to give notice that the transmission of such specimens is sanctioned only on the condition that they are handed in at a post-office for transmission by registered letter post, and that they are packed in accordance with the regulations published in the *Post-Office Guide*. These regulations, which are necessary for the protection of Post-Office servants and of the public, provide that any deleterious liquid or substance sent by post must be enclosed in a receptacle hermetically sealed, which receptacle must itself be placed in a strong wooden, leathern, or metal case in such a way that it cannot shift about, and with a sufficient quantity of some absorbent material (such as sawdust or cotton-wool) so packed about the receptacle as absolutely to prevent any possible leakage from the packet in the event of damage to the receptacle. The packet must also be marked "Fragile with care." Any person who sends by post a deleterious liquid or substance for medical examination or analysis otherwise than as provided by these regulations is liable to penalties. Even a letter from a patient sending something to his medical adviser for his opinion or a medical practitioner sending something to a laboratory or elsewhere.

"THE SCOTO-CELTIC TEMPERAMENT."

FIOR GHAIDHEAL writes: Surely the writer of the obituary notice of the late Dr. MacLennan must be making a mistake when he writes that [illegible] is alien to the Scoto-Celtic [illegible]." I have generally considered the gallant Saxon the [illegible] that distinguishes him from [illegible] Celtic man of "Caledonia bid." Or has the writer drawn his [illegible] the experience of the Caledonian Medical Society?

*** We have submitted this letter to the writer of the notice, who, we may say, bears a Celtic name. He has sent the following note: The distinction I attempted to make, when stating that buoyancy and exuberance of spirits was alien to the Scoto-Celtic temperament, was obviously not between the Celt and the Saxon but between the Highland Celt and the Hibernian Celt. The irate Gael who objects to this obvious distinction must surely have had little opportunity of seeing Highlanders at their best. The typical and normal Scottish Highlander is a mystic, a thoughtful person, who seldom gives himself away, and who takes life, and especially his theology, seriously—as witness the present religious upheaval in Scotland. No doubt, if "Fior Ghaidheal" is thinking of Highlanders in their cups, whether at meetings of the "Caledonian Medical Society" or elsewhere, there may be something to say for his contention.

PLACENTA PRAEVIA.

DR. J. REID (London, E.C.) writes: An inquest on F. le B., aged 38, a multipara, on April 26th, has suggested to me the advisability of fresh inquiries into the pathology and treatment of the above. The patient, apart from a small extent of old perihepatitis, possessed a set of healthy and functionating organs; even the stomach had its food chymified. Serous fluid was effused into the cerebral ventricles, the pericardium, and pleura; the lungs were oedematous, and a semi-organized clot was found in each side of the heart. The placenta was symmetrically arranged round the os uteri, which was open to about the size of a shilling; the lower uterine segment, where the placenta was not attached, and the vagina contained no blood. There was a history of haemorrhages about two months previously and just before death. Over the placental attachment the uterus had its blood vessels much dilated, otherwise the uterus was normal. The child, a male, of about the eighth month, lay O.A.R., in clear amniotic fluid and normal membranes; livid. The placenta was normally adherent, readily peeled off, and gave no evidence of partial detachment. The central part of the placenta had evidently never been attached. It will be noted that here there was haemorrhage without detachment of the placenta; and it is known that where a piece of placenta is left *in utero*, there is no haemorrhage until Nature in a few days tends to expel the offending body—irritation. Removal of an adherent placenta by the fingers causes neither haemorrhage nor a raw surface. In a case of placent praevia reported in the BRITISH MEDICAL JOURNAL of 1882, the labour ended with partial placental removal without haemorrhage. The haemorrhage must be like capillary haemorrhages elsewhere, and is apparently due to irritation, while the opening of the os shows preparation to expel the offending body. Should this be so, the placenta is best removed from one side, and the fetus engaged in the passages as early as possible. Thus probably irritative haemorrhage would be diminished. I have seen syphilitic cases with adherent placenta capable of removal by the finger, and I should think that plastic inflammation must be rare. A case of haemorrhage into the edge of the placenta had an adherent placenta, but only slightly so. The haemorrhage was due to a blow a fortnight before labour. Evidently placenta praevia haemorrhages are uterine, if this is a typical case. The question deserves inquiry, to show (1) when uterine movements naturally occur: (2) their character as affecting the question of causes of haemorrhage in placenta praevia.

FATALITIES FROM ETHYL CHLORIDE.

DR. A. G. WILKINS (Ullswater) writes: Dr. Luke (BRITISH MEDICAL JOURNAL, July 1st, p. 56), is more optimistic than myself, because he writes, "there have been very few fatal cases altogether." Now I know of 12 myself, though I have not yet been able to obtain sufficient details about each one, owing to the extreme reluctance to publish our failures in any walk of life. By "extensive extractions" of teeth I mean about 6, but of course the addition of a little ether is very useful—for example, this week I found that 2 drachms of ether and 5 c.cm. of ethyl chloride gave sufficient anaesthesia for the extraction of 23 teeth. If Dr. Luke had to do the minor operations of surgery—for example, empyema—absolutely singlehanded in Colonial practice or in a Fellside cottage, he would soon contract a habit of carrying about 5 c.cm. capsules of ethyl chloride in his pocket, and be thankful for them. At the same time, the many letters I have received *re* ethyl chloride during the past fortnight certainly lead me to think that the usual estimate of a death-rate of 1 in 17,000 for ethyl chloride anaesthesia is below the mark. It would ill become me to even appear to assume that I write on terms of equal authority to Dr. Luke. I simply wish to emphasize the extreme utility of ethyl chloride in country practice, and to collect fatal cases, in the hope that such data may be useful to professional anaesthetists such as Dr. Hewitt or Dr. Luke, and that they may make us fully realize our responsibilities, and not abandon altogether the use of N_2O, which appears to be far too much neglected in general practice already, to say nothing of hospitals.

ERRATUM. The aseptic dressing slab suggested by Mr. R. E. Hanson, M.A., M.B., and manufactured by Messrs. Allen and Hanbury, is made of glazed porcelain and not of glass as stated in a note published June 24th.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

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Advertisements should be delivered, addressed to the Manager, at the Office, not later than first post on Wednesday morning preceding publication; and if not paid for at the time, should be accompanied by a reference.

Post Office Orders should be made payable to the British Medical Association at the General Post Office, London. Small amounts may be paid in postage-stamps.

N.B.—It is against the rules of the Post Office to receive letters at *Poste Restante* addressed either in initials or numbers.

An Address

ON

THE PROSPECTS AND VICISSITUDES OF APPENDICITIS.

Delivered at a Meeting of the Eastbourne and Hastings Division of the South-Eastern Branch of the British Medical Association at Eastbourne on May 25th, 1905.

By CHARLES A. BALLANCE, M.S., F.R.C.S.,
Surgeon to St. Thomas's Hospital; Examiner in Surgery, University of London, etc.

In a letter from a candidate for the presidency to Mr. Hosea Biglow, we read that "men in general may be divided into two great classes, the inquisitive and the communicative." To the first, or inquisitive class, all members of our profession of necessity belong, for they would come under the heading of "men of science who present themselves to the mind as so many marks of interrogation wandering up and down the world." I must regard myself as belonging for the moment to the second or communicative class, to whom so little favour is shown by our author in his classification, that I trust you will not cite me as a concrete example of any of his subdivisions. I do not rank in the first subdivision, for I am not a Horace Walpole, or a poet, and I have no itch to tell you about myself. I shall, indeed, impart some information concerning other people, but I respectfully decline on that account to be regarded as a barber or a historian, the chosen types of the second subdivision. To the third subdivision, "those who labour to impart information about nothing at all," I do not belong, for I am not a politician or a novelist, and I hope to communicate something. The fourth subdivision, "those who are communicative from motives of public benevolence," I thought a sure refuge until I found I should have to share it with "the finders of mares' nests and the bringers of ill-news."

"The greatest thing," says Ruskin, "a human soul ever does in this world is to see something and tell what he sees in a plain way." This is my object to-night.

The appendix still occupies so much of the attention of the profession and the public that you may perhaps wish I had chosen some other subject on which to address you.

Why the treatment of obstruction, strangulation, or perforation of the part of the intestine known as the vermiform appendix should have given rise to such a confusion of creeds, such a pandemonium of assertions, doubts, and arguments is not altogether easy to understand.

We no longer enter into a minute discussion as to the exact degree of the lesion or the duration of the affection which should lead us to operate for strangulated hernia. We know that a part of the bowel is in danger, and we hasten to relieve it, that we may avoid the dangers of intestinal obstruction, infective necrosis, peritonitis, and toxaemia. Are any of these dangers wanting in appendicitis?

The appendix is a part of the bowel, and we know full well that in many cases (we cannot say in which) from the moment we have symptoms of appendicitis it is, if not already perforated and gangrenous, in imminent danger of becoming so.

I ask you, have you ever met a *confrère* who possesses the clinical acumen to judge decisively whether resolution will occur, or whether inflammation will be ingravescent and require operation? I have no doubt that you, like myself, have met with such exalted personages, but the ancient maxim of Celsus, "that in acute diseases the signs of recovery and of impending death may be in a high degree fallacious," is still true; and how often does it happen that the Pontifical assurance of resolution is falsified, and the surgeon called to the case only to find that the decisive moments have been irretrievably wasted. Drake said, "The advantage of time and place once lost may never be recovered."

The opening address of Sir Frederick Treves in the debate at the Royal Medical and Chirurgical Society, which all of you have no doubt studied, was, like his other contributions to surgical literature, of great interest: but of every surgical author who lays down laws for our guidance in the presence of acute disease we may say, what a well-known military writer says of Napoleon, "that he must be read with caution and an open mind." It is our duty to form a personal judgement on this matter.

The mere ordinary surgeon, confronted by the vast field covered by the work of Sir Frederick in the surgery of the appendix, must experience feelings akin to those of the Lilliputians when confronted with the, to them, vast form of Gulliver.

The great increase, however, in recent years of the number of appendix operations (252 appendix cases were admitted to St. Thomas's Hospital last year, and 219 appendix operations were performed) impels all of us to form an opinion as to the application of the principles of surgery to the treatment of the condition known as appendicitis.

I shall not attempt this evening to emulate some of the speakers at the Royal Medical and Chirurgical Society, who attempted a survey of the field from China to Peru, from the Dan of the first symptom to the Beersheba of diagnosis from mucous colitis and spasm of the colon.

I propose first to discuss the surgical treatment and afterwards to offer a few somewhat discursive remarks on some of the complications following operation and the vicissitudes of convalescence.

The dominant question in appendicitis is the place of surgical intervention in its treatment; on this it is imperative that we should all have a clear guiding principle. As John Hunter wisely said, "A fixed principle fixes the mind, but a doubtful one leaves it no rest."

The chief views now prevalent are:

1. That operation should only be done in the acute stage when there is clear evidence of suppuration or when certain special indications of immediate grave danger have become manifest.

2. That every case should be subjected to early and complete operation.

3. That on the subsidence of the acute attack the appendix should be removed so as to allow no opportunity for relapse.

4. That one attack does not indicate removal of the appendix, but that this measure should be adopted after two or more acute attacks. The surgeon allowing an appendix to give rise to one attack without subjecting its owner to operation, just as the law allows a dog to have one bite without subjecting its owner to liability for damages. The muddle likely to be created in the mind by an attempt to formulate rules of practice from statistics is well illustrated by comparing the figures from St. Thomas's Hospital with those published by Professor Jalaguier, to be presently quoted. At St. Thomas's Hospital the physicians do not recommend cases of appendicitis for operation unless they are in a very real sense urgent. The student is naturally led to wonder whether appendicitis in France is a different disease from appendicitis in Britain, and the difficulty is not wholly solved by an appeal to the experience of Dieulafoy, Leguen, and Poirier.

The true solution of the problem cannot be evolved by the aid of statistical tables like the Nth power of a number can be evolved by the aid of a table of logarithms; the problem is vital, not mathematical.

Important and helpful inferences can, however, be made from an attentive study of carefully recorded facts, and I will therefore invite your attention to some statistics.

STATISTICS.

At the Royal Medical and Chirurgical Society's debate many elaborate statistical tables were distributed, but in some the information as to what happened to the cases not subjected to operation was incomplete, while others were tables of the whole of the cases admitted to a large general hospital, and therefore not dealt with on one uniform plan, but variously according to the principles, if any, of those under whom they chanced to be admitted.

The tables of results published by some Continental workers seem to be less open to objection, and I have selected a few for study to-night.

Neuhaus. Charité Hospital at Berlin. *Deutsche Zeitschrift für Chirurgie*, June, 1903.

162 consecutive cases; males, 91; females, 71. Classified into four groups.

I. INFLAMMATION OR LOCALIZED ABSCESS. 95 cases:
35 treated without operation.
60 operated on.

The 35 cases not operated on all recovered. 2 were second attacks; neither relapsed. In only 3 out of the 35 cases was positive evidence of relapse obtained (20 had been under observation more than two years, 7 less than two years, in 8 no reply was obtained).

The three relapses:

1. Operation. Soft spot on caecum size of threepenny piece, appendix not found. Three years after patient well and at work.

2. "Interval operation" had been advised but refused. Relapse

fifteen months after first attack. Relapse subsided without operation. Appendix subsequently removed in quiescent stage.

3. Relapse slight and no operation done.

The 60 Operations for Localized Inflammation or Abscess.—None was operated on within forty-eight hours of onset of symptoms. In 4 pus diagnosed but not found at operation; in one of these pus subsequently came through the wound.

In the other 56 pus was found at the operation.

In 9 the abscess was opened and the appendix removed. All recovered without complication or relapse.

In 47 the abscess was opened and the appendix left. Of these 4 died, and 7 were known to relapse. These 7 all had abscess and all recovered, abscess opened in all; appendix removed in 3.

The 4 deaths. Two from abscess of liver. 1 probably tubercle, 1 paralytic distension of bowel; operation, peritonitis.

II. DIFFUSE PERITONITIS. 34 cases:
- 1 admitted moribund. No operation; died within two hours.
- 33 operation: 7 recoveries. Of the 27 fatal cases; 25 were first attacks.

III. INTERVAL OPERATIONS, 21. 2 deaths:
- 1 from peritonitis.
- 1 cause not clear. Said to have been a very difficult operation.

IV. CASES WITH COMPLICATIONS, or presenting some peculiarity. 12 cases:
- 4 appendix in hernial sac.
- 2 followed by empyema.
- 1 ,, ,, subphrenic abscess.
- 1 ,, ,, faecal fistula. Operation; death.
- 2 ,, ,, persistent sinus. Operation, and recovery in both.
- 2 tuberculous cases.

Neuhaus's routine plan is to await the subsidence of the acute attack, unless suppuration is diagnosed, or general peritonitis is present or considered imminent.

His plan of postponing operation whenever possible until the acute stage has subsided leads to a frightful death-rate in cases of peritonitis—7 recoveries only out of 33 operations. On the other hand, he must have displayed the greatest acumen in selecting the 35 cases which were treated without operation, as there was no disaster among them.

Jalaguier. *Bulletin de la Société de Chirurgie de Paris.* 1902.

Does not operate in the absence of special symptoms of urgency. Gives two series of cases:

136 cases not treated by immediate operation:
- 121 recovered with medical treatment only.
- 10 operations found necessary before acute stage subsided.
- 2 recovered after abscess had burst into rectum or bladder.
- 3 died without operation.

105 cases (14 hospital, 91 private):
- 100 recovered without operation.
- 1 operated on in acute stage and recovered.
- 2 operated on under lamentable conditions after medical treatment had failed. Both died.
- 2 died without operation because when seen they were deemed to have no chance.

His treatment is ice, injection of saline solution, small quantities of fluid only allowed by mouth; never purgative or enema.

Jalagnier apparently exhibits the same skill as Neuhaus in the selection of cases not requiring operation. It is noteworthy that he has met with a remarkable series of mild cases, but in dealing with the severe ones he has had a high mortality and undesirable complications. This seems to be characteristic of the practice of the opportunist surgeon.

Kirmisson. *Bulletin de la Société de Chirurgie.* 1902.

His rule is to postpone operation until the acute attack has subsided, whenever this is possible:

In 1901 he had 37 cases:
- In 19 cases no operation was done. All recovered.
- In 8 cases operation when acute attack had subsided. All recovered.
- In 10 cases operation found necessary in acute stage. 2 had localized abscess; both recovered. 8 had general peritonitis; all died.

In first 10 months of 1902 he had 50 cases:
- 16 no operation. All recovered.
- 6 operations after acute attack had subsided. All recovered.
- 28 operations in acute stage. 8 localized abscess; 7 recovered, 1 died from bronchopneumonia. 20 general peritonitis; 15 died 5 recovered.

Kirmisson strikingly remarks "that rational medical treatment must not be confounded with absence of all treatment," and he says, "I am not vain enough to believe that I can from my own resources clear up so delicate a question."

Kirmisson is an opportunist, but evidently he is tending to operate more frequently or is meeting with more severe cases, for in 1901, out of 37 cases he treated 19 without operation, while in 1902, out of 50 cases he was only able to select 16 for treatment without operation. The mortality of the severe cases is very high.

Schwartz. *Bull. de la Soc. de Chir.* 1902, p. 1270.

Dictum. The majority of these cases recover.

Temporization is allowable when it can really be an armed expectation; it is certain that it is much better to operate at once if the patient cannot be watched closely and the operation done the moment it may become necessary.

Series of 127 cases of appendicitis:
- 35 considered urgent and operation done forthwith. 29 recovered and 6 died.
- 76 operated on when acute attack had subsided; all recovered, but 4 complicated with extension to uterine appendages.
- 14 treated without operation and recovered.
- 2 died without operation from general peritonitis.

He regards as symptoms of special urgency:
1. Violence and rapid diffusion of pain.
2. Aspect of patient.
3. Quality of pulse (hypotension).

He says the bad cases have usually a rapid as well as a feeble pulse, but too much attention must not be given to the pulse rate, as he operated on two cases of general peritonitis, one with a pulse of 72 and one with a pulse of 82. In both the degree of fever was insignificant.

Schwartz seems to allow little time for temporization, yet his aim is like that of the previously-quoted surgeons—to avoid operation in the acute stage.

I have had a recent similar experience in two patients of the existence of general peritonitis without acceleration of the pulse-rate. I operated on a man, aged 22 years, who had been taken ill six days previously, and had been in the hospital twenty-four hours. The discovery of the signs of free fluid determined the physician to advise operation, which was considered unnecessary at an earlier period because the pulse had remained at 80. A gangrenous appendix was found with a pool of pus at the brim of the pelvis over the right common iliac artery, there were streams of pus on either side of the lumbar vertebrae leading to other pools between the diaphragm and the liver and spleen. The appendix was removed, the belly irrigated with salt solution, drainage tubes passed into the pelvis and into each loin. The stomach was washed out several times for the first two days. The patient is now convalescent.

Again, only last week I operated on a lady 53 years of age, who had been ill for four days. The temperature was 100° and the pulse 82. The appendix was gangrenous and the belly was full of fluid. She is now convalescent.

Sonnenberg. Charité Hospital, Berlin. Monograph on Perityphlitis 1905.

In three years 162 cases of appendicitis were delivered into his care within forty-eight hours of the commencement of the attack; 50 were considered urgent and submitted to operation forthwith; of these 8 died, all from general peritonitis.

70 cases were submitted to operation during the subsequent course of the acute attack; 6 died, 2 from embolism, and 4 from general peritonitis.

42 cases were treated without operation; all recovered.

He makes a most important statement: "That the first symptoms of an acute attack do not indicate the beginning of the disease, but the acute attack is a phase in the progress of a morbid condition often of considerable standing."

Poirier (*Bull. de la Soc. de Chir.*, 1902, p. 1078) lays down two propositions:

(*a*) There is no such thing as medical treatment of appendicitis.

(*b*) Acute appendicitis should be submitted to operation as soon as possible as a matter of urgency, just like a strangulated hernia, as soon as ever the diagnosis is established.

His rule is that all cases admitted to his wards are to be operated on within four hours of admission either by himself or by one of his assistants whom he has personally instructed in the method of operation. In all cases the general peritoneal cavity is freely opened whether pus is found or not and the appendix sought and removed. Free drainage is provided.

61 consecutive cases were treated in this way in his clinic.

22 of these were found on operation to have general peritonitis, but only 5 deaths occurred in the whole series (4 of the general peritonitis cases and 1 localized abscess with profound toxaemia on admission), giving a case mortality of about 8 per cent. on the whole.

The cases to which he was called in private practice, "when one does what one can rather than what one thinks right," showed a case-mortality of 10 per cent. "The contrast between my hospital and private practice," says Poirier, "is striking; it would be vain to seek any other cause for the superiority of the results of my hospital practice than the more prompt operation."

Thus Poirier acts on a fixed principle, allows no temporization in his clinic, and his results are the saving of a large proportion of severe cases, the absence of undesirable complications, and with results in the slight cases no way inferior to those published by Neuhaus, Jalaguier, Kirmisson, Schwartz, and Sonnenberg.

Lagueu's comments are so apposite, and have been so

abundantly justified by experience, that, although I have elsewhere quoted them, I will not omit them here:

The prospect of spontaneous recovery and of medical treatment is a decoy, leading those who rely on it into a snare. When once an appendicitis has commenced, whatever may be its aspect, we never know what it will become; and since the patient is now in any case condemned to an operation, he may as well be assured of its benefits at once.

To be quite just, opportunists—I mean opportunist surgeons—do not restrict themselves to systematic inaction. They have a lively dread of any aggravation, and do not abandon the patient to himself, or even to medical treatment. On the contrary, they exercise a constant and minute supervision. They themselves see the case twice a day, and twice a day they examine the iliac fossa, and pay attention to the pulse, the temperature, and the aspect of the patient. They are quite ready to intervene the moment that any indication of aggravation arises; they maintain that in this way they can forestall peritonitis or septicaemia. This line of conduct appears at first sight altogether rational. But in appendicitis all is deceptive, and the most rigorous supervision may be found at fault for three reasons—(1) because in the course of appendicitis there are often treacherous periods of calm; (2) because aggravation is sometimes so rapid as to derange all measures of precaution; (3) lastly, because the symptoms which reveal this aggravation are neither constant nor reliable.

Even with the most rigorous supervision temporizing exposes the patient to the risk of irreparable damage. For some patients who have got well with medical treatment there are others who have died victims to this same medical treatment and to temporizing. I hold, then, as injurious this practice of applying medical treatment in order to wait, watch, and operate should occasion arise. I have often regretted operating too late, but I have never had any occasion to repent of having operated too soon. Early operation does away with all the dangers of temporizing.

Dieulafoy, an eminent Paris physician, writes: "To postpone operation till the appendicitis quiets down is to expose the patient to the risk of death."

INDICATIONS FOR OPERATION.

The opinions of those who maintain that no danger attends waiting recall Gibbon's description of the Jews, "that singular people, which yielded a stronger and more ready assent to the traditions of their remote ancestors than to the evidence of their own senses."

It is clear, from the above and other tables of results:

1. That a certain proportion of cases recover without surgical intervention, and of these some remain for a considerable time, if not permanently, free from relapse. The proportion of such cases varies considerably in different series, even when treated by observers whose plan of treatment is identical.

2. That the mortality of late operations is high, and that when it is found necessary to operate after failure of other treatment the condition found is almost invariably such as would have been better and more easily dealt with by an earlier operation.

3. That the rule to operate early in all cases leads to the recovery of a larger proportion of the severe cases. Poirier had only four deaths in twenty-two operations for diffuse peritonitis. This must mean that his rule of early and complete operation in all cases led him to detect some of his cases of general peritonitis in the stage preceding toxaemia, which otherwise would have had to wait for toxic symptoms before relief was given.

4. That the appendix may be safely ablated, even when localized abscess is present. The nine cases in which Neuhaus did this all recovered. It is part of Poirier's routine plan; no death in his series was attributed to it.

5. The statistics of those adopting the opportunist rule seem always charged with at least a small number of cases in which it would seem probable that life might have been saved or an undesirable complication avoided by early intervention.

6. That a large proportion of the bad cases with diffuse peritonitis are first attacks.

What should be our rule of conduct?

Celsus said, "The art of medicine scarcely admits any constant rule."

All general laws are attended with inconveniences when applied to particular cases; and it requires great penetration and experience to discern what general laws are upon the whole attended with fewest inconveniences.

You will doubtless have divined that my judgement has been impelled towards the rule of early and complete operation.

The vigilant guardian of the public safety has no doubt often forestalled a serious crime by arresting a suspected person on the somewhat vague charge of "being found upon enclosed premises with felonious intent." Such a charge can always be brought against the inflamed appendix.

I can give no talisman by which to distinguish the cases that will undergo resolution, much less those that having recovered will remain free from relapse.

Where clinical experience fails us in selecting cases, a consideration of the nature of the lesion probably present must be our guide; the only safe rule is to cast aside all prejudice and preference, and allow reason to be the sole judge. This leads inevitably to the choice of early operation as the safest course.

If we see a case before there is manifest suppuration, severe strangulation, diffuse peritonitis, or pronounced toxaemia, let us regard it as fortunate that we have the opportunity of acting in the absence of these undesirable conditions, and not deliberately await their onset. I cannot forbear quoting the remarks Poirier made to his opportunist colleagues:

I have listened to you attentively and I have read your communications with interest; I have been struck with the utter want of agreement that prevails as to the points on which some of you maintain that they are able to come to a decision about operation. One sees an indication to operate in the localized induration that another regards as a good reason for waiting; for this one diffused pain is a pressing reason for operation, while that one will only yield to the operative indication of a clearly-localized pain. I could multiply indefinitely these flagrant divergences, and add many cases to the series of fatalities that have occurred under the intermittent supervision of the armed temporiser.

"It is an axiom of the military art," said Napoleon, "that he who remains behind his entrenchments is beaten."

Operation having been determined upon must not be postponed to "a more convenient season," such as the next morning. Many striking examples of the danger of delay might be cited. One (by Marion, *Bull. de la Soc. Anat. de Paris*, 1900, p. 437) will here suffice:

A student of the Paris Faculty of Medicine, 28 years of age, was taken ill one Wednesday evening with colic and vomiting. A friend gave him a small dose of opium. Next day he felt much better, but thought it prudent to enter the hospital and seek the advice of his professor. The surgeon saw him that evening and confirmed the suspicion of appendicitis, but the patient seemed so well that he doubted whether an operation would be required, and felt sure that in any event it would be in ample time the next morning. Early the next day there were signs of general peritonitis and severe toxic symptoms. Operation forthwith. Gangrenous appendix. Death six days later from septicaemia.

Such lamentable cases afford a cogent argument for early and complete operation.

Those cases that recover from the acute attack without operation and are treated subsequently by an interval operation would, I think, gain rather than lose by early operation. They must of necessity be of the milder type, in which we know that the risk of operation is slight; they would recover more speedily and surely, and would be spared the risks which undoubtedly attend the waiting process.

Those cases which recover and do not relapse, even though no interval operation is done, would gain nothing by operation, except, perhaps, time; but until we can differentiate such cases with some degree of certainty, do we not play a game with chance and strike the patient's life into the hazard, if, having diagnosed appendicitis, we do not operate?

The surgeon whose diagnosis of appendicitis carries with it a decision to operate forthwith will perhaps be more exacting as to the evidence he will accept of the existence of the disease than one whose diagnosis would not be immediately put to the proof, and thus would eliminate some of the trivial cases which go to swell the successful elements in the statistics of the opportunist. The surgeon who adopts Poirier's stringent rule will save a large proportion of his bad cases, though he may possibly operate sometimes unnecessarily; but even then his patient will gain in time and in certainty of recovery. Who of us has not lost a friend or attended a case rendered hopeless by hesitation and inaction?

If we are to act on a fixed principle it will naturally be asked, What is the evidence which justifies a diagnosis of appendicitis? It would be almost impertinent of me to describe the symptoms of appendicitis, but let me remind you that they are not, and they ought never to be, those of spreading peritonitis.

The diagnosis must depend upon every particular man's sagacity in considering every particular incident. When confronted with these sometimes difficult problems the practitioner may apply to himself the words in which Moltke so clearly stated what modern war required of a commander:

It is necessary that he should be able to recognize the situation as it presents itself enveloped in the mists of the unknown, to appreciate soberly what is seen, to divine what is not seen, to take a decision

rapidly, and to execute vigorously without turning back. Theoretical knowledge is insufficient for this exercise of will; it is necessary to possess the free, practical, and artistic development of qualities of mind and character based on previous culture and guided by experience, whether that drawn from history or from practical experience.

Recovery from a disease, with restoration of function of the organ concerned, should be our ideal; and the recent views of Sir Wm. Macewen (*Lancet*, Oct. 8th, 1904) on the functions of the caecum and appendix lead us to reflect that we have, perhaps, too hastily condemned the appendix as a functionless organ; but the lesions found at appendix operations do not give much ground to hope the functional integrity of the organ is ever completely restored after an attack of appendicitis. The patient can derive no benefit from its retention if its function is destroyed; and from a fairly extensive reading of the subject I can without any hesitation affirm that the conservative surgeon of the appendix is as yet unborn.

Convalescence.

The vicissitudes disturbing convalescence may be arranged under three headings:

1. Persistence of symptoms.
2. Complications.
3. Certain specific diseases.

1. *Persistence of Symptoms.*—Persistence or recurrence of the subjective symptom, pain. This is due either to some condition, such as adhesions or abscess, directly referable to the disease or to the operation, or to the presence of some other distinct disease, such as renal calculus or ovarian disease or neuromimesis. Abiding pain in the iliac region may be due to adhesions such as sometimes follow after a severe attack of enteric fever. Time removes the adhesions, and the pain vanishes. It is well to remember that adhesions do not always necessitate operation.

Secondary abscess after drainage of a primary abscess appears to me to mean renewed suppuration in consequence of the presence of the diseased appendix.

In the London Hospital table prepared for Sir F. Treves, 21 per cent. of cases suffered from recurring abscess, while 16 per cent. suffered from recurring attacks of appendicitis. Is it not possible that some at least of the recurring abscesses were due to the abiding presence of a diseased appendix? If an abscess due to disease of bone is drained the wound may heal though the diseased bone is not removed, but when another abscess forms the cause is still the same. So it is with renewed suppuration after drainage of an appendicular abscess.

I found my coachman sitting on the box with an appendicular abscess as large as a cocoanut. It was incised, and the wound healed. A year later a second abscess formed; a like treatment was adopted, and when this abscess healed a long ulcerated appendix was removed. A similar case was reported in the Middlesex Hospital table, and several by Mr. Battle.

Such cases do not support the view enunciated by Sir F. Treves that after drainage of an acute abscess it is not necessary to remove the appendix. I have never known anything but good result from removal of an appendix after the healing of an abscess.

Some of the surgeons who spoke at the Royal Medical and Chirurgical Society's debate described themselves as "early operators," a term which I thought scarcely appropriate since they published long lists of incisions for abscess. An abscess, it must ever be remembered, is an evidence of an opportunity somehow lost.

Quite recently I saw a case of right renal colic occurring after appendicitis. The patient was a girl, aged 11 years, whose diseased appendix I had previously removed. Nine calculi were removed from the kidney.

Last year I saw a patient who had had three operations for adhesions and desired a fourth. I could not satisfy myself that he had had any primary disease or had even had the appendix removed. He was a hypochondriac.

Some patients always insist upon having pain somewhere. I remember a case that occurred when I was a house-surgeon, in which neuromimesis was mistaken for real disease and a normal knee joint excised. The patient had erysipelas and nearly died, but came back a year later begging to have the other knee excised. If such a patient had the appendix removed, and such cases have no doubt occurred, she would probably return a year or so later begging to have some other organ removed. Obviously such a patient should be transferred to the physician.

I was consulted, not long ago, in reference to a lady who had had her appendix, ovaries, uterus, spleen, and one mastoid process removed, in addition to having had her skull trephined. She was anxious for me to operate on one of the remaining organs, an intestinal anastomosis seemed to be the operation preferred, but the selection was to be left to the operator.

Complications following Operation.

Certain complications following the operation and more or less directly referable thereto:

(*a*) Abscess of parotid.
(*b*) Thrombosis of veins.
(*c*) Subphrenic abscess.
(*d*) Intestinal obstruction.
(*e*) Ventral hernia.

Abscess of Parotid.

This is a rare complication, having been met with only once in 548 cases seen at St. Bartholomew's Hospital during four years.

The occurrence of this complication after operations has been explained by supposing that the patient happened to be operated upon while in a state of latent infection, the disease, the operation, or some infection arising therefrom, so modifying the vitality of the patient as to allow the development of a local infection which would otherwise have been successfully resisted.

The complication has perhaps most frequently been observed to follow operations on the female genital organs. The bacteriology of the parotid abscess does not necessarily, or even usually, correspond with that of the affection which it complicates.

Thrombosis of Veins.

It does not seem difficult to understand why thrombosis of the femoral or iliac vein should occur as the inflammatory focus is situated in the neighbourhood of a network of veins, though why the left vein should be more frequently affected than the right is not obvious. Sonnenberg points out that the left iliac vein has a longer course than the right, is liable to compression as it crosses the spine, and joins the cava at a less favourable angle. Sonnenberg further remarks that the thrombosis may be in the territory of the portal vein or in that of the vena cava. In either case septic or non-septic emboli may be detached and lodge in the liver or lung respectively. He adds that a patient who has recovered without operation has not done with the liability to thrombosis but may subsequently die from pulmonary embolism or have an abscess of the liver.

The thrombosis, then, is a septic phenomenon.

I take it as agreed that every appendix should be removed flush with the caecum. Though the wound on the external surface of the body heals by the first intention, that on the internal surface of the body—namely, the wound in the mucous membrane of the caecum—cannot heal by the first intention.

We do not know how long the caecum takes to heal, but we do know that it must take several weeks; for all sutures, even those affixed by the Lembert method, ultimately make their way into the interior of the bowel. Until this process is complete septic phenomena, such as thrombosis, may occur. In addition to an open wound on the mucous surface of the caecum, I suspect that in a certain proportion of cases abscess of the caecal wall results from the invagination of an incompletely-removed appendix.

Subphrenic Abscess.

This is a very infrequent complication of appendicitis. At St. Thomas's we only had 5 cases out of 803 operations, although in 11 per cent. general peritonitis was present.

Intestinal Obstruction.

This formidable complication occasionally follows appendicitis, but if promptly recognized and treated surgically is recovered from. Federmann, assistant in Sonnenberg's clinic at Berlin, gives details of six cases of intestinal obstruction from adhesions occurring in a series of 300 appendix cases (*Archiv. für klinische Chirurgie*, 1905, p. 962).

1. Large pelvic abscess; operation on ninth day. Eleven days later symptoms of obstruction; operation eight days later. Multiple adhesions. No pus. Death.

Large pelvic abscess. Two operations, on fourth and eighth day. Appendix removed. Six weeks later symptoms of obstruction; operation next day; adhesions in pelvis; intestine freed, wound sutured. Recovery.

Abscess: operation thirteenth day. Symptoms of obstruction three weeks later; operation within forty-eight hours. Adhesions. Gauze drain. Recovery.

4. Large pelvic abscess: operation tenth day. Symptoms of obstruction eight days later: operation sixth day. Multiple adhesions. Old undrained abscess. Death.

5. Large pelvic abscess; no operation: considered to have subsided. Symptoms of obstruction after sixteen days; operation on fifth day. Multiple adhesions; pyosalpinx. Two abscesses in connexion with appendix. Operation done in two stages; intestine first drained and the disease removed subsequently. Recovery.

6. Gangrenous appendix, advanced peritonitis; operation within thirty-six hours. Symptoms of obstruction seventeen days later; operation third day. Multiple adhesions. Recovery.

These cases are as striking an argument for early and complete operation as the rule of treatment of appendicitis as anything I have yet adduced. They are all cases operated on late, and in the majority a large abscess was situated in the pelvis. Intestinal obstruction used to be not infrequent after late operations for pyosalpinx.

Ventral Hernia.

Ventral hernia does not, I think, occur after the operation in which the rectus is displaced inwards. This operation seems to me far preferable to the MacBurney operation with separation of muscular fibres, for it allows the incision to be readily extended when needful in both directions.

Ventral hernia, if necessary, can be remedied by a subsequent operation.

CERTAIN SPECIFIC DISEASES.

(*a*) *Septicaemia and the Exanthemata.*

In septicaemia, in which the poison is often eliminated through the intestines, I have on more than one occasion observed irritation of the appendix. In these cases the faeces are usually very fetid. The same slight involvement of the appendix occurs sometimes in the course of the exanthemata, and does not call for operation.

(*b*) *Cancer.*

During the last few months I have had 2 cases, one male and one female, each of the age of 35 years, of sudden great enlargement of the stomach from pyloric obstruction—in one case certainly, and in the other probably, from early carcinoma. In one I had six months previously drained an appendix abscess and removed the appendix, in the other acute appendicitis occurred during convalescence from removal of the pylorus. The appendix in this case showed chronic inflammatory changes. In neither case was any evidence of malignant disease found in the appendix.

(*c*) *Tubercle.*

In a man aged 20 numerous miliary tubercles were found scattered over the peritoneal surface of the appendix, and a few on the peritoneal surface of the caecum close to its attachment. The appendix was much thickened and its mucous membrane ulcerated. The patient did well for six months after the operation, but died within the year from pulmonary infection.

CONCLUDING REMARKS.

Lastly, it may be remarked that preventable deaths will still occur, and the prospects and vicissitudes of convalescence will continue to form material for lengthy statistical tables until the twin evils—procrastination and imperfect operation in appendicitis—are abolished from surgical practice.

Only recently I was present at a consultation, when the usual suggestion was made that the consultation should be renewed on the following day. Operation was, however, fortunately done immediately and revealed a spreading peritonitis. The patient, if left till the following day, would have been, if not moribund, without doubt more profundly infected. "Advice is sporting while infection breeds."

My conclusions are:

1. Every diagnosable inflamed appendix with signs of increasing local or general peritonitis should be removed.

2. Every appendix which has given rise to inflammation or abscess should be removed.

3. In serious acute cases it is unwise to leave the appendix; as the primary site of infection is more likely to cause the continuance of constitutional symptoms than the spreading peritonitis around. Further, if left it requires another operation for its removal.

"While anything remains to be accomplished," said a great statesman, "nothing is done."

The establishment of these rules would do away with most of the vicissitudes to which dubious counsels and halting execution continue to expose these patients.

We are told that in the country of the Brobdingnagians the laws were expressed in the most plain and simple terms and to write a comment on any law was a capital crime. Certain laws of surgery appear plain and simple. To recommend that an infected appendix should be left in the patient's body is a comment upon one of these laws which to me appears to be a surgical offence.

Bacon says, "Dangers are no more light if they once seem light. Nay, it were better to meet some dangers half way, though they come nothing near, than to keep too long a watch upon their approaches. For if a man watch too long it is odds he will fall asleep."

The true principles of action in the combating of great dangers are alike, whether these dangers have to be fronted in the warfare that destroys men or in that in which we are engaged against disease and death.

Frederick the Great wrote in 1745: "The Saxons and Austrians had formed a design to enter my hereditary dominions to destroy them with fire and sword. I was beforehand with them: I carried the war into the heart of Saxony."

I venture to ask each one of you, if the cocci and bacilli should form a clear design to enter, through your appendix, into your hereditary dominion, namely your peritoneum, to destroy you, would you "keep a long watch upon their approaches," would you "fall asleep" or "wait on Fortune, like a market," or would you promptly desire a Frederick, great in surgery, to be beforehand with them by carrying the war into the heart of your abdomen?

TWO CASES OF DUODENAL ULCER TREATED BY GASTRO-ENTEROSTOMY.

BY FREDERIC EVE, F.R.C.S.,

Surgeon to the London Hospital, etc.

IN the two following cases an exploratory gastrostomy was performed for the purpose of ascertaining the cause of the patients' symptoms. In each case, however, duodenal ulcer was tentatively diagnosed.

CASE I.

History.—J. H., aged 68, a mechanical engineer, was seen with Dr. T. Power. For upwards of thirty years he had suffered occasionally with attacks of pain, at times very severe, referred to the lower and right part of the epigastric region. For nine years a narrow cicatricial stricture of the rectum, resulting from proctitis and periproctitis following inflamed haemorrhoids, had been a source of great trouble to him. About two years before the operation the pain became much more constant and severe. It came on two to three hours after meals, and was worse about 3 a.m.; so much so, that he took a sedative every night. He vomited occasionally. During the same period he had three or four attacks of melaena. The last, occurring in September, 1904, was profuse, associated with very severe pain, and the appearance of a transient swelling over the duodenal area. For five weeks prior to the operation he was too ill to leave his bed. Vomiting had now become constant. He vomited usually three times a day two to three hours after food. The vomit was like "coffee grounds," and small in quantity, but a few times he emitted two pints.

Operation.—In October, 1904. Median incision. The gall bladder and bile ducts were first examined with a negative result. Some enlargement of the head of the pancreas from chronic pancreatitis was noticed. The stomach and transverse colon were turned upwards, and an incision made in the posterior wall of the stomach, as near the greater curvature as possible. An examination of the interior of the stomach with a speculum and head-lamp showed nothing abnormal. A hand was inserted into the stomach and the forefinger passed through the pylorus of which the orifice was patulous. About an inch and a half beyond the pylorus was a smooth, ring-like stricture, just admitting the tip of the index finger. The operation was completed by uniting the upper part of the jejunum to the incision in the stomach.

After-History.—The patient made a good recovery; and a fortnight later a left inguinal colotomy was performed for the intractable stricture of the rectum. He has, since the operation, been quite free from pain, and has gained in strength and weight.

The condition found at the operation and the onset of vomiting latterly indicate that a chronic duodenal ulcer was gradually contracting.

That the ulceration still persisted is shown by the melaena about a month before the operation and by the character of the vomit. The diagnosis was rendered more difficult by recurring attacks of pain and extreme constipation due to the stricture of the rectum.

CASE II.

A. C., a coachman, aged 33, was admitted under my care at the London Hospital.

History.—For three years he had suffered with dyspepsia and pain in the epigastrium, coming on one or two hours after meals, and lasting until the next meal, which relieved it. The pain continued with short

intermissions, the longest period of freedom from pain being three to four weeks. The pain had been worse since January, 1905; and two weeks before admission to the hospital in April, so severe as to compel him to give up work. About six weeks before admission he had a sudden attack of faintness; the next day the motions were black and tarry. For some time he had taken nothing but milk and Benger's food. The pain was referred to the epigastrium, and occasionally extended round to the right scapular region. No vomiting. Physical examination gave negative results, and there was no tenderness on pressure over the duodenum. Examination of a test meal gave a good percentage of hydrochloric acid. During the month of April the patient was under the care of my colleague Dr. Bertrand Dawson, who made a diagnosis of "? duodenal ulcer." Relief followed rest and dieting, but the pain returned soon after his discharge, and he was admitted under my care with a request from Dr. Dawson that I would consider the advisability of performing an exploratory gastrostomy.

Operation.—On June 9th, 1905. Median incision. The stomach, which was somewhat distended, was turned upwards and the transverse mesocolon divided. A horizontal incision sufficiently large to admit the whole hand was made in the posterior wall of the stomach. Nothing abnormal having been found on the cardiac side, the forefinger was passed through the pylorus, when a large ulcer was found occupying the whole of the posterior wall of the duodenum, its upper edge being about 1½ in. from the pylorus. The base of the ulcer was very soft, irregular, and ragged, and seemed to be partly formed by the eroded head of the pancreas. Part of the incision in the stomach was sewn up, the remainder being united to an opening in the jejenum in the usual way.

After-History.—The patient took the anaesthetic badly, and was very sick after the operation, but the subsequent course of the case was uninterrupted by any incident.

Reviewing these two cases after the nature of the disease has been made known the symptoms may appear fairly conclusive of duodenal ulcer, but the diagnosis was at best a conjecture. Both had dyspepsia, pain two to three hours after meals, and melaena, and both were males; but there was no point of deep tenderness over the region of the duodenum. The absence of haematemesis also favoured the diagnosis of duodenal ulcer. Vomiting was absent in the second case, and only occurred late in the first.

Obviously any operative procedure in cases such as these must include a preliminary examination of the stomach and pylorus, and in view of gastro-enterostomy being required, this I invariably do through the *posterior* wall of the stomach unless this step is contraindicated by adhesions.

Gastro-enterostomy for duodenal ulcer may be indicated, as in the cases above related, for irremediable and persistent pain and dyspepsia; for constriction, which was commencing in the first case; for recurring haemorrhage; or as a second step after closure of a perforated ulcer.

This operation will act in precisely the same manner as when performed for ulceration of the pylorus; that is, by setting at rest the affected portion of intestine and by freeing it from the passage of acid gastric contents, and, in the case of constriction, by permitting the stomach to empty itself.

Regarding the actual operation it is advisable to make the incision as low as possible in the posterior wall, in order to admit of good drainage; to leave no "slack" of jejunum; to employ anchoring stitches on the distal side to prevent kinking; and finally to stitch the edges of the opening in the transverse meso-colon to the posterior wall of the stomach.

After passing the finger or even the whole hand into the stomach some difficulty may be experienced in finding the pylorus. This arose in Case II. The hand passed up into the cardia, and on being carried to the right was prevented from reaching the pylorus by a vertical folding of the lesser curvature, running from before backwards, which had to be dipped under before the pylorus could be found.

ACUTE SALPINGITIS

CAUSED BY AN INFLAMED APPENDIX BURSTING INTO THE MOUTH OF THE FALLOPIAN TUBE.

By J. BLAND SUTTON, F.R.C.S.,

Surgeon to Middlesex Hospital and to the Chelsea Hospital for Women.

THE recognized complications of appendicitis are many and various; so are the routes by which an appendix-abscess finds a vent. This communication refers to a case in which an inflamed vermiform appendix perforated, and the inflammatory products were discharged into the right Fallopian tube through its coelomic ostium. In February, 1905, I saw, with Dr. R. Ironside, an unmarried lady, 30 years of age, suffering from pelvic pain accompanied with acute febrile signs clearly indicating the existence of acute inflammation. On careful examination a tender swelling was felt on the right side of the uterus and we felt some difficulty in deciding whether it was a tubal swelling (acute salpingitis) or an abscess connected with the vermiform appendix.

A few days later an operation was performed. The abdomen being opened by a median subumbilical incision, the vermiform appendix could be seen adherent to the fimbriated end of the right Fallopian tube; the tube itself was distended and adherent to adjacent structures. I successfully excised the appendix, the tube, and ovary without disturbing their relationship (see Fig. 1). When the parts had been



Fig. 1.—An inflamed vermiform appendix adherent to the coelomic ostium of the right Fallopian tube.

carefully hardened I made a section through them, as shown in Fig. 2. The lumen of the tube was filled with pus; its coelomic ostium had been firmly occluded and the fimbriae were withdrawn into the lumen of the tube; a narrow channel led from the interior of the appendix through its wall, near the tip, directly into the lumen of the tube.



Fig. 2.—The parts represented in the preceding figure shown in section. The vermiform appendix has a perforation near its tip communicating with the lumen of the tube. The fimbriae curled up in the tube are well shown. The tube was distended with pus.

The course of events in this case seems clear. The appendix, as so often happens, occupied the true pelvis, its tip lying in contact with the tubal fimbriae. The appendix became the seat of inflammation which involved the Fallopian tube and led to occlusion (salpingitic) of its coelomic ostium; finally, the appendix perforated and the morbid matter inundated and distended the Fallopian tube. Adhesion between an inflamed vermiform appendix and the Fallopian tube is common, but this is the first example which has come under my observation in which perforation occurred directly into the mouth of the tube. The patient recovered without difficulty or drawback.

CASE OF CUTANEOUS ANTHRAX TREATED WITHOUT EXCISION WITH SCLAVO'S ANTI-ANTHRAX SERUM: RECOVERY.*

By WILLIAM MITCHELL, M.B., C.M.EDIN.

SINCE Dr. T. M. Legge, H.M. Medical Inspector of Factories, brought the subject of the serum treatment of anthrax in man before this Society last June there has been a small epidemic of anthrax in Bradford, and several opportunities of testing the value of this method of treatment have arisen.

As I have had the opportunity of using the serum on what, it appears, has been the third case in England, where it was

* Read before the Bradford Medico-Chirurgical Society.

used without excision, I thought it might interest this Society to hear the notes of the case.[1] The serum of Professor Sclavo is prepared by a combined process of active and passive immunization applied to the ass during a period of about two years. The serum is then separated from blood taken from the jugular vein, and is prepared and tested in the usual way. It is claimed for the serum that:

1. In very large doses it is harmless.
2. It can be borne well even when injected into the veins.
3. No case taken in an early stage, or of moderate severity, is fatal if treated with serum.
4. That with the serum some cases are saved even when the condition is most critical and the prognosis almost hopeless.
5. When injected into the veins the serum quickly arrests the extension of the oedematous process so as to reduce notably the danger from suffocation which exists in many cases when the pustule is on the face or neck.
6. If used early enough it reduces to a minimum the destruction of tissue.
7. In some situations of the pustule, such as the eyelid, it must be used in preference to any other treatment.
8. Persons attacked by anthrax, when treated with serum, appear convalescent in the course of a few hours.
9. In internal anthrax intravenous injection of serum affords the only hope there is of recovery.

How the serum acts is a much debated question. A number of authorities refuse to admit that it can act as an antitoxin, that is, as a neutralizer of a specific chemical toxin, generated by the anthrax bacillus—because, they say, it has not yet been demonstrated that the anthrax bacillus does produce a specific toxin. Pure cultures of anthrax, they say, when filtered to remove the bacilli themselves and any spores there may be, may be injected into animals without producing any intoxication, hence they say there can be no special anthrax toxin analogous to the toxins of tetanus and diphtheria. But, of course, though this may be true as regards cultures of bacilli *in vitro*, it does not follow that it is true as to the multiplication of bacilli in animal tissues. Sobernheim considers that the serum is bactericidal, but against that is the fact that the serum does not retard the growth of, much less kill, cultures *in vitro*. Metchnikoff attributes the result of the serum to phagocytosis. Sclavo himself inclines to the view that the results are due to the stimulation by the serum of a defensive phagocytosis which leads to an extermination of the anthrax bacilli in the body. Were the serum merely antitoxic, he holds that large doses of a weak serum would have the same effect as a smaller dose of a strong serum: but this is not so. A powerful serum is curative, but no quantity of a comparatively weak serum is effective, probably because only the powerful serum is capable of exciting chemiotaxis.

Radziewsky has shown that when an animal is infected with anthrax the bacilli rapidly increase in number up to a certain point; then, as the animal organism begins to react to the infection, large numbers of the bacilli are killed by a protective bactericidal substance fabricated by the cells of the body. If now we assume that the anthrax bacilli contain in themselves an intercellular toxin, which is liberated and becomes active only on the death and disintegration of the bacilli, we can then understand that in a case of anthrax which has advanced to the stage at which large quantities of the bacilli are being killed, the death of these bacilli may set free sufficient toxin to poison the infected animal and so cause its death. The use of the serum, according to Radziewsky, would therefore be to supplement the automatic manufacture of antitoxin sufficiently to enable the bacilli to be killed off before their number was so great that, from their death, sufficient poisonous substance would be liberated to be fatal.

But if this view of Radziewsky were correct then the use of the serum would be limited to early cases only, and in late cases, where bacilli were already present in large numbers, the serum might conceivably be the indirect cause of death, as by killing them off it would at once set free a large and lethal dose of toxin. However, as some advanced cases of the disease seem to have been benefited by the serum, it would appear that the bactericidal theory alone will not explain the action of the serum. Probably it acts both as a direct antitoxin by chemically neutralizing the toxin already produced, and as an indirect antitoxin by virtue of its direct or indirect bactericidal effect. According to the work of Drs. Wright and Douglas, it may act as an "opsonin," making the bacilli more palatable to the phagocytes; but after all, this latest notion of the bacteriologists does not appear to me to carry us any further on the road to understanding the action of antitoxins than we were years ago.

On January 31st, 1905, I was called to see J., aged 25, a wool carder. Two days previously she had noticed a small red papule on the left upper eyelid which had gradually got larger and was accompanied by oedema of the eyelid and to a slight extent of the left side of the face. The history was that she had been for nearly three weeks employed in carding English wool, but for a day and a half previous to that she had been employed amongst Persian wool, and for a month before that amongst mohair of a very short and dirty character, which had, however, been subjected to the process of washing before she had to handle it. When I saw her first there was a pustule about ¼ inch in diameter on the centre of the upper eyelid. It resembled a vaccination mark as seen on the seventh day; it was slightly pitted or umbilicated in the centre where there was a small dark spot: round its margin there was a ring of indistinct vesicles which ran into one another like a vaccination mark, but were of a dirty yellow ochre-colour, in place of the pearly-white vesicles seen in vaccination. The temperature was 99° F., the pulse 90, and the respirations 16; the tongue was slightly covered with whitish fur. I pricked the vesicles, but found no pus. I then punctured the swollen eyelid, thinking there might be deep-seated pus, but finding that only clear watery serum exuded I at once suspected anthrax and asked Dr. J. H. Bell if he would see the case with me. This he did the same day, and kindly brought three tubes of Sclavo's serum. He agreed with me that the case was one of local anthrax and advised me to inject subcutaneously 20 c.cm. of the antianthrax serum, which I did at once.

Fluid from the vesicles and exuding from the puncture on the eyelid showed, microscopically, the characteristic anthrax bacilli in large numbers.

On the following day, February 1st, the temperature was 101° F., the pulse 120, and the respirations 20; the tongue was thickly furred; the face very much more swollen. I then administered the remaining 10 c.cm. of Sclavo's serum, which was all I had. Locally compresses soaked in mercury perchloride, 1 in 4 000, were applied to intercept the watery serum which was running down the face and threatening to enter the mouth. Having acquired considerable confidence in the use of sodium salicylate in all septic conditions I now gave 10-gr. doses every three hours, and continued them throughout the illness. In the afternoon of the same day Dr. Legge, H.M. Medical Inspector of Factories, kindly saw the case with me, and brought me a further supply of 70 c.cm. of serum, of which I injected 40 c.cm. at once.

On February 2nd the swelling, both of the eyelid and of the face and neck, was less, but the upper eyelid had become of a dark red colour, with here and there blebs containing a purple-coloured fluid. The temperature was 101° F., the pulse 125, and the respirations 18; the tongue was cleaner, and the patient felt more comfortable. Twenty c.cm. serum was now given. Serum taken from the blebs at this time and tested on a white mouse proved virulent, and, *post mortem*, bacilli, indistinguishable microscopically from anthrax, were found in the blood expressed from lungs and spleen. On the following day, February 3rd, the swelling was much less; the patient had slept at intervals during the night and was feeling much better. The temperature had fallen to 100°F., the pulse was 115, and the respirations 18. At this stage 10 c.cm. more antitoxin was given, making in all 100 c.cm. which the patient had received; after this no more was administered. On the afternoon of the same day the temperature was 101.6° F., the pulse 115, and the respirations 17. The swelling was much less marked on the right eyelid and lips, but more marked on the same side of the neck.

On February 4th the temperature was 99.8° F., the pulse 108, and the respirations 17; the tongue was thickly furred, but moist. She had had a restless night, but the swelling of lips and neck was much less, although a good deal was still present on the forehead, root of nose and right eyelid. On the left eyelid a distinct line of demarcation had formed around the affected area, which embraced practically the whole upper eyelid up to the eyebrow, and a half-moon-shaped area about half an inch wide on lower eyelid. The area of necrosis was getting black, dry, and hard, and the surrounding tissues were reddened and indurated. Shooting pains, the first complained of, were now felt in the eyelids.

On February 5th the swelling of the whole face was much less, excepting the tissues immediately surrounding the necrosis; there was no expansion of the necrotic area; she

had had a good night. The tongue was clean; the temperature was 97.4°, the pulse 100, and the respirations 16.

On February 6th the pulse was 84, the temperature 98.6°, and the respirations 16; she had had a good night.

On February 7th the pulse was 74 and the temperature 97°; she had again had a good night and was feeling better.

From this time on her recovery was uninterrupted and uneventful. I regret to say, however, that the serum has not fulfilled expectations as far as preventing necrosis is concerned. There is complete ectropion of the upper eyelid, so that later on some plastic operation will be necessary; all the tissues superficial to the cartilage seem to be gone in the upper eyelid; but that is comparatively a small consideration, and the patient is to be congratulated on being alive at all. As to what influence Sclavo's serum had in bringing about recovery, it is impossible to say. I was unable to note anything that could be called a marked reaction after its use. Cases occasionally got well spontaneously in the old days, and it is just possible that this case got well simply *post hoc sed non propter hoc*. On the other hand, when we take into account the favourable results obtained in Italy with the serum, and the few cases recorded in this country, I think that we are justified in hoping that a remedy for this dread disease has at last been found.



Photograph eight weeks after commencement of disease showing amount of ectropion after complete cicatrization: A, upper ciliary margin; B, swollen conjunctiva, ocular; C, everted inner surface of upper eyelid; D, outer end of cavity left by separation of slough; E, area from which necrosis of lower eyelid separated, showing oedematous lower eyelid above it.

Mr. Bowlby and Dr. Andrewes of St. Bartholomew's Hospital, in their report of a case in the BRITISH MEDICAL JOURNAL of February 11th, state that the oedema increased after the use of Sclavo's serum in both the cases treated by them, and they attribute this to the liberation of an intercellular toxin from the disintegrated bodies of the bacilli. These dead bacilli they found chiefly enclosed in leucocytes. In my case there was also more swelling after the first dose of serum. Compare this with the claim, No. 5, of Dr. Legge that it quickly arrests the extension of the oedema. Mr. Bowlby and Dr. Andrewes also state, in connexion with their second case, that nineteen hours after an injection of 40 c.cm. of Sclavo's serum, fluid taken from the vesicles was sterile as far as anthrax bacilli was concerned. This is not in accordance with my observations, as I have shown that fluid from the vesicles after the administration of 70 c.cm. in all, and three days after the initial dose of 20 c.cm., proved virulent when tested physiologically.

In conclusion, I would mention that large initial doses of 50 to 60 c.cm. afford the best results, but whether the new treatment will stand the test of time or not remains to be seen. In the present state of our knowledge, it does not seem justifiable to treat a case of cutaneous anthrax with serum alone and without excision, provided that the pustule is anatomically situated in such a way as to render excision possible. Better to wait for cases such as this, where excision was impossible or practically so, than to willingly omit any procedure which is calculated to save life.

REFERENCE.

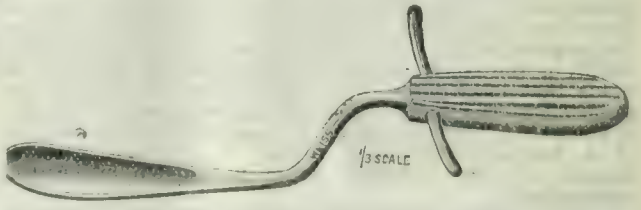
[1] See Dr. Legge's Milroy Lectures, BRITISH MEDICAL JOURNAL, 1905, for fuller particulars.

A SPOON-ELEVATOR FOR RAISING THE PELVIC FLOOR.

By J. LYNN THOMAS, C.B., F.R.C.S.,
Cardiff.

DR. GARSON, in 1878, made an important communication to the *Edinburgh Medical Journal* upon the "displacement of bladder and peritoneum by distension of the rectum." Soon afterwards the suprapubic operation for removal of vesical calculi was resuscitated, and for a time Petersen's bag enjoyed great popularity for lifting the base of the bladder by distending the rectum; it was also used in operations for removal of vesical tumours, but before long it was discovered that its use was not devoid of danger, and that it also caused increased congestion of the bladder by its pressure on all the blood vessels of the rectum.

Owing to the recent successful introduction of the operation of removal of the prostate by the suprapubic route, the surgeon has often wished he could supplement fingers in the rectum by an instrument which would answer the same purpose, although Dr. Eugene Fuller is able to perform his prostatectomies with marked success by simply pushing his closed fist against the perineum. Nevertheless, many surgeons feel that it is necessary to raise the prostate by fingers in the rectum, either the operator's or those of a skilled assistant, in order that improved conditions may be obtained for rapid enucleation of the gland; on one occassion I had the privilege of seeing Dr. Proust assist Professor Tuffier under such circumstances, but such skilled assistance is rarely available.



Messrs. Weiss have made for me a spoon which answers this purpose admirably. The illustration shows its chief mechanical points. The spoon is of the sixteenth-seventeenth century shape, and is 4 cm. across at its widest part: the spoon and its straight handle which are inserted into the rectum are made to imitate the length and the breadth of two long and broad fingers inserted into the rectum. The crank handle is made for the purpose of having the instrument conveniently at hand for manipulation in front of the patient's thigh. The curved processes, one on each side of the handle, are for the purpose of preventing the instrument rolling between the patient's thighs when the surgeon is not using it.

As soon as the bladder is opened the spoon is passed into the rectum and the patient's thighs are approximated; under these conditions it will remain *in situ* and quite out of the way. The surgeon can perform all the necessary manipulations without infecting his hands, and the instrument answers the purpose better, I think, than the fingers of an assistant in the rectum, because the operator acts directly on the spoon: he can push it up or draw it down to the exact position at which he requires the rectal counter-pressure; it can also be tilted to either side so that elevation of any particular area of the base and posterior wall of the bladder can be regulated to a nicety, for every movement of the handle is transmitted directly to the spoon, as it is specially made in one solid piece for that purpose. I have used it in three prostatectomies and in one case of evacuation of blood clots completely filling the bladder. In the latter case the clot was cleared out through a suprapubic wound with great ease and rapidity by means of the spoon in the rectum and suprapubic massage of the abdomen.

In a case of prostatectomy upon a friend of Dr. W. T. Edwards, J.P., I was able to remove forty-seven calculi from a large post-prostatic pouch which I could not otherwise reach with my fingers.

In one of the other cases there was a calculus weighing 2 oz., and its delivery was facilitated by using the spoon in the rectum.

In operations upon the female pelvis I introduce the spoon into the vagina and let it remain *in situ* until required for lifting either the uterus, Douglas's pouch, or bladder. The particular point at which lifting of the pelvic floor is required is easily obtained.

In a case of coeliotomy for soft, friable, and separate malignant growths of both ovaries secondary to carcinoma of the stomach, I found it very useful as the tumours would not withstand any traction upon them for delivery.

The face of a hysterectomy or of an ovarian stump can be easily manipulated so as to give a better view for its inspection, by means of the spoon in the vagina.

The reason that I record my short experience of the uses of the spoon is that Messrs. Weiss informed me that they had sold several of them after I referred in a P.S. to a paper on prostatectomy to the fact that I had used such an instrument. The instrument which I had used at that time, and which has been sold, is only three centimetres wide, but in practice I soon found that it was not broad enough for cases of enlarged cervix uteri, or of a very big prostate to hold them firmly during lifting of the pelvic floor, as they had a tendency to slip over to one side. The instrument which is described above is four centimetres wide and is more satisfactory on account of its increased breadth.

AN EXPERIMENTAL INQUIRY INTO THE INFECTION OF OPERATIVE WOUNDS, FROM THE SKIN, THE BREATH, AND THE AIR.*

BY J. RUPERT COLLINS, M.D., B.CH. (UNIV. DUB.).

As a natural prelude to the investigation as to the sterilization of the skin, was the determination of the germicidal power of the chemicals to be used. There exists a considerable literature upon this point, but, as the published results differ somewhat widely, I thought it preferable to simply accepting without question the observations of others to make some observations myself, if only for my own enlightenment. The method adopted was that of Drs. Rideal and Walker[1] with two modifications.

1. It was not feasible to maintain the temperature of the laboratory here at a constant.

2. One minute in place of half a minute elapsed between the inoculation of the various tubes.

The following was found to be the strength required of the chemicals named in order to have a sterilizing action upon a twenty-four hours culture of staphylococcus pyogenes aureus in broth incubated at blood heat, and taken from an agar-agar slant culture obtained from Kral of Prag:

Antiseptic.	Period of Action.		Carbolic Acid Coefficient.
	One Minute.	Five Minutes.	
Carbolic acid	1 in 50	1 in 100	1
Lysol	—	1 in 100	1
Cyllin (medical)	1 in 600	1 in 1,250	12 5
Perchloride of mercury ...	1 in 2,500	—	50
Mercuric potassium iodide	1 in 4,000	1 in 8,000	80
Formalin		1 in 50	0.5

In attaining these results over 250 experiments were made.

It is now established that the resistance of the same micro-organism varies considerably in different cultures, but that the ratio between the different antiseptics as to germicidal action remains almost a constant in each culture. Recognition of this fact by bacteriologists has led to the general adoption of a carbolic acid coefficient as the unit of measurement of germicidal power.

In my own experiments the mercuric potassium iodide was found to vary considerably in germicidal power. This may have been due to some technical error, but I cannot say where such arose. Fresh tabloids, supplied by Messrs. Burroughs Wellcome, were used and the dilutions were carefully made.

Klein[2] has clearly shown that reasoning from the actions of a germicide in a broth culture to the same action in the tissues and body secretions is fallacious. I therefore repeated the above experiments upon a milk culture of the same strain of staphylococcus pyogenes aureus, selecting milk as a medium most nearly approximating to the conditions present in a wound made through the skin and subcutaneous tissues. Bovine milk was that used.

Antiseptic.	Period of Action.		Carbolic Acid Coefficient.
	One Minute.	Five Minutes.	
Carbolic acid	1 in 20	1 in 60	1
Cyllin (medical)	1 in 250	1 in 800	13 3
Perchloride of mercury ...	1 in 1,000	—	40
Potassium mercuric iodide	—	1 in 500	8.3

For the purpose of getting rid of the natural grease of the skin many different chemicals—alcohol, ether, turpentine, benzine, xylol, potash soap, and soda soap—are employed by surgeons, and each chemical has its advocates.

Suppose, now, we take some lanoline as approximating fairly close to the human skin grease, and place a piece the size of a pea in a test tube containing one of these chemicals, what happens?

Alcohol (cold) ...	No perceptible effect.
,, (hot) ...	Partial solubility.
Ether	Solubility takes place gradually.
Xylol	Ditto.
Benzine	Ditto.
Turpentine ...	Very little effect.
Potash soap ...	Scarcely any effect in the cold; in hot water complete emulsification is almost instantaneous.
Soda soap ...	Similar effects, but less rapid.

The second test, perhaps, conforms more nearly to the natural conditions. A thin layer of lanoline was smeared over the finger, which was then dabbled in one of these fat removers. Ether, ether and alcohol in equal parts, and the soaps in hot water in each case removed the fat in two minutes, so that no grease mark was left by the imprint of the fingers upon paper. This test was not applicable to xylol, benzine, and turpentine.

Now, although the lanoline in mass is different from the condition present in the skin, yet there is a sufficient analogy to justify us in drawing conclusions of practical value in reference to the relative activity which each respective chemical may be expected to exert upon the skin.

I now proceeded to apply these results to the disinfection of the hands, using solutions somewhat stronger than was found to be necessary as a germicide to staphylococcus pyogenes aureus in the test-tube, but weaker than I think is generally employed in surgery. The first experiment was a confirmation of that recorded in the close of my previous paper.[3] After cleansing the hands with lysol, 1 in 100, for five minutes, and then in perchloride of mercury, 1 in 1,000, for one minute, the hands were dried with a sterilized cloth and then immersed in a litre of sterile nutrient peptone broth. The entire broth on being incubated remained sterile. A similar experiment, with the same result, was performed, using biniodide of mercury, 1 in 1,000, for five minutes, followed by carbolic acid, 1 in 40, for one minute.

It was pointed out to me, however, that though this test proved that the surface of the skin was sterile, yet it did not prove that it would remain so if subjected to friction such as takes place at an operation. At the annual meeting at Oxford last year many speakers enforced the same remark. To investigate this point I adopted the plan of using marble dust or sea sand, in order to obtain friction, as described by Dr. Engel[4] and other German observers. The method pursued was as follows:

After cleansing and trimming the finger-nails, the hands were first thoroughly scrubbed with a nail-brush, soft soap and hot water containing some antiseptic for ten minutes, three changes of water being used. They were next soaked in a different antiseptic for two minutes. Finally, the hands were dried with a sterilized cloth and plunged forthwith into a jar containing a litre of nutrient peptone broth with a layer of marble dust or sea sand at the bottom. The hands were now vigorously scrubbed in the nutrient broth with the marble dust for five

*Read before the Gloucester Branch of the British Medical Association at the Cheltenham General Hospital, February 16th, 1905.

minutes, the latter being worked down into the interstices round the edges of the nails. At the end of five minutes the hands were taken out, the cover replaced upon the jar and the whole incubated. In preparing it, the entire jar which contained broth and sand was sterilized *in toto*. The risk of atmospheric infection during the period in which the hands were being washed in the broth was very greatly reduced by the following device. A cloth was prepared with two holes round the edges of which was hemmed an elastic band. The cloth fastened by string was stretched over the top of the jar underneath its glass cover, and was sterilized in position. In use, as an assistant removed the glass cover, the hands were quickly thrust through the holes in the cloth, the elastic edges of which clinging tightly to the arms prevented the entrance of infection while permitting free washing movements of the hands. When removing the hands, the cord securing the cloth to the top of the jar was cut and as the hands with cloth attached were quickly removed from the jar, the glass cover, which had been lying face downwards upon a sterilized cloth during the operation, was immediately replaced by the assistant. The jar with its contents was then incubated, and subsequently subcultures were also made in broth and on agar-agar. In the first of these experiments, as it was expected that a considerable infection might take place, the broth was stiffened by the addition of 10 per cent. gelatine in the manner described by Engel,[5] in order that it might be possible to count the number of colonies present. As, however, this experiment proved sterile, and the presence of the gelatine prevented incubation in the warm oven, with the exception of Experiment VI it was not used again.

No. of Experiments.	Mode of Disinfecting the Hands.	Mode of Testing the Hands After Disinfection.	Result.
I.	10 minutes in hot cyllin lotion, 1 in 200, together with soft soap, nail-brush, and Schleich's marble soap; 5 minutes in perchloride of mercury, 1 in 500	Scrubbed with marble dust in peptone broth; the broth incubated	Sterile.
II.	10 minutes in hot cyllin lotion, 1 in 400, together with soft soap, nail-brush, and Schleich's marble soap; 2 minutes in perchloride of mercury, 1 in 1,000	Ditto	Septic.
III.	10 minutes in hot cyllin lotion, 1 in 200, together with soft soap, nail-brush, and Schleich's marble soap; 2 minutes in perchloride of mercury, 1 in 500	Ditto	Sterile.
IV.	10 minutes in hot biniodide of mercury lotion, 1 in 2,000, with soft soap, nail-brush, and Schleich's marble soap; 2 minutes in cyllin, 1 in 100	Ditto	Septic.
V.	10 minutes in hot biniodide of mercury lotion, 1 in 2,000, with soft soap, nail-brush, and Schleich's marble soap; 1 minute in methylated ether; 2 minutes in carbolic acid, 1 in 20	Ditto	Septic.
VI.	10 minutes in hot cyllin lotion, 1 in 400, with soft soap, nail-brush, and Schleich's marble soap; 2 minutes in perchloride of mercury, 1 in 1,000	Ditto (gelatine)	Sterile.
VII.	10 minutes in hot cyllin lotion, 1 in 600, with soft soap, nail-brush, and Schleich's marble soap; 2 minutes in biniodide of mercury, 1 in 2,000	Ditto	Septic.
VIII.	10 minutes in hot cyllin lotion, 1 in 600, with soft soap, nail-brush, and Schleich's marble soap; 2 minutes in carbolic, 1 in 40	Ditto	Septic.
IX.	10 minutes in hot cyllin lotion, 1 in 600, with soft soap, nail-brush, and Schleich's marble soap; 2 minutes in a 70 per cent. alcoholic solution of biniodide of mercury, 1 in 2,000	Ditto	Septic.
X.	10 minutes in hot cyllin lotion, 1 in 60, with soft soap, nail-brush, and Schleich's marble soap; 2 minutes in perchloride of mercury, 1 in 2,000	Ditto	Sterile.
XI.	Ditto	Ditto	Sterile.
XII.	10 minutes in hot cyllin lotion, 1 in 600, with soft soap, nail-brush, and Schleich's marble soap; sponged for half-minute in methylated ether and methylated alcohol equal parts; 2 minutes in perchloride of mercury, 1 in 2,000	Ditto	Sterile.
XIII.	Ditto	Ditto	Sterile.
XIV.	10 minutes in hot cyllin lotion, 1 in 600, with soft soap, nail-brush, and Schleich's marble soap; 2 minutes in carbolic acid, 1 in 40	Ditto	Sterile.
XV.	10 minutes in hot cyllin lotion, 1 in 600, with soft soap, nail-brush, and Schleich's marble soap; 1 minute in cyllin, 1 in 200	Ditto	Septic.
XVI.	10 minutes in hot cyllin lotion, 1 in 600, with soft soap, nail brush, and Schleich's marble soap; 2 minutes in perchloride of mercury, 1 in 2,000	Ditto	Sterile.

Experiment XVI was not carried out on my own hands, but was performed by the sister of Ward VII, who, immediately previous to the experiment was engaged in the ordinary routine of ward work.

It now appeared to me certain that, with an adequate use of cyllin and perchloride of mercury, it was possible to obtain a degree of sterility of the skin which would stand the test of considerable maceration and friction. But there remained untouched the question of an ulterior infection of the skin surface by the secretion of the sweat and sebaceous glands. To determine this point it was clearly necessary to make these glands actively secrete into the nutrient medium; to this intent the following procedure was adopted:

At the end of the disinfecting process the hands were tested for five minutes, as before, in a jar containing a litre of broth with marble dust at the bottom. They were then transferred from this, one hand being inserted into another jar containing a small roll of lint enclosing some absorbent wool, inside which again was fused chloride of calcium.

In order to prevent evaporation of the secretions the top of the jar was covered with a piece of jaconette containing a hole edged with elastic. The arm passing through the hole was gripped tightly by it. In this way a serious error was avoided. Pilocarpine was then injected in equal doses into each arm. Each hand was kept in its respective jar for one hour. The jar containing the broth was incubated, and afforded evidence as to the septicity of the secretions. The other jar acted as a hygrometer, the amount of the secretion from the hand and wrist being estimated by weighing the roll containing the chloride of calcium at the beginning and at the end of the experiment.

In describing the results of these experiments, the first jar of broth containing marble dust, in which the hands were scrubbed, will be termed A. The second jar of broth, in which the hand remained for one hour after the injection of pilocarpine, will be termed B.

No. of Experiment.	Mode of Disinfecting the Hands.	Result of Jar A.	Dose of Pilocarpine.	Amount of Secretion.	Result of Jar B.
I.	10 minutes in cyllin, 1 in 600; 1 minute in methylated ether and alcohol; 2 minutes in perchloride of mercury, 1 in 2,000	Sterile	0.2 gr.	4.7 grams	Septic.
II.	10 minutes in cyllin, 1 in 600; 2 minutes in perchloride of mercury, 1 in 2,000	Sterile	0.3 gr.	5.2 grams	Septic.
III.	10 minutes in cyllin, 1 in 600; 1 minute in methylated ether and alcohol; 2 minutes in perchloride of mercury, 1 in 2,000	Sterile	0.2 gr.	3.4 grams	Septic.
IV	20 minutes in cyllin, 1 in 600; 1 minute in methylated ether and alcohol; 2 minutes in perchloride of mercury, 1 in 2,000	Sterile	0.2 gr.	3.6 grams	Sterile.
V.	20 minutes in cyllin, 1 in 800; 2 minutes in perchloride of mercury, 1 in 2,000	Sterile	0.2 gr.	2.6 grams	Sterile.
VI.	20 minutes in cyllin, 1 in 800; 2 minutes in perchloride of mercury, 1 in 2,000	Sterile	0.2 gr.	3.8 grams	After four weeks a mould grew.
VII.	20 minutes in cyllin, 1 in 800; 2 minutes in perchloride of mercury, 1 in 2,000	Sterile	0.2 gr.	5.1 grams	Sterile.

At this point these experiments had to cease owing to the termination of my appointment to the hospital. Looking at the above results, it will be seen that only when the preliminary washing lasted twenty minutes did the hands prove to be absolutely sterile, also that they then proved sterile in every case except in Experiment VI. That this was no true exception the following facts, I think, show:—The jar remained apparently sterile for four weeks; the mould, penicillium glaucum, which then developed, produced a luxuriant growth in three days in a subculture; hence I think we may conclude that this was a case of accidental infection from some disturbance of the lid of the jar. I think that these experiments, though few, definitely prove that an absolute sterility of the skin is attainable, and to attain it a prolonged careful scrubbing is necessary in order to remove the outside cuticle. The notion that by increasing the strength of antiseptics the period required for disinfecting the hands can be shortened is erroneous.

To any one who may desire to repeat these experiments, I strongly recommend the hypodermic injection of

atropine $\frac{1}{100}$ gr. with strychnine $\frac{1}{30}$ gr. as alleviating the extremely disagreeable after-effects of the pilocarpine.

The reason why the combination of cyllin followed by perchloride of mercury gave better results than other antiseptics of the same germicidal power puzzled me for long, but I believe the explanation is given by the following experiment.

If one c.cm. of egg albumin be placed in each of a series of test tubes and to each 5 c.cm. of one of the following antiseptics be added the precipitated albuminates can be compared.

Again, if the contents of each tube be filtered and the filtrate tested by the albuminometre the complement of each of these values is obtained by thus determining the respective ratios of the soluble albuminates. If the precipitated albuminates be arranged in respect to their density the order is as follows:

1. Alcohol	70 per cent.
2. Perchloride of mercury	1 in 2,000
3. Carbolic acid	1 in 40
4. Biniodide of mercury	1 in 2,000
5. Cyllin	1 in 600

Naturally the best results would be obtained by the use of a primary antiseptic which disintegrated rather than condensed the albumin of the skin, followed by an antiseptic which formed a hard, firm albuminate upon the surface of the skin—qualities fulfilled by cyllin and perchloride of mercury respectively.

From the discussion at the Oxford meeting, and from the somewhat polemical writings on the same subject which subsequently appeared in the BRITISH MEDICAL JOURNAL,[8] it would appear that the results obtained by bacteriologists in the laboratory did not quite accord with the experience of surgeons in the theatre, and my attention has been more particularly drawn to this point by Mr. Howell. The chief cause for this apparent discrepancy is, I believe, to be found in an insufficient appreciation of the necessity to remove the superficial part of the horny layer of the epidermis, which forms a porous coating to the skin, and of which the interstices are swarming with micro-organisms, as the first stage in any process of sterilization. The skin, after immersion in antiseptics with this layer unremoved, is fitly described as a whited sepulchre. This was brought home to me in a very forcible manner in Nos. II and III of the last series of hand experiments. In each case Jar A. proved sterile, but Jar B. was not only septic but stank appallingly, the stench exceeding that of any necropsy, or, in fact, any other stench which it has been my lot to experience. I therefore believe that the important point now for determination is the best means of removing this porous layer rapidly and without irritation, and I am at present experimenting upon this question. Once this layer is removed the rest is easy, as we already possess many antiseptics reliable for surface sterilization.

Since the foregoing was written the following extract from the *Arch. per le Scienze Med.* appeared in the EPITOME of the BRITISH MEDICAL JOURNAL for January 21st, 1905. V. Tirelli, from the results of 409 horizontal and vertical sections of the human skin, concludes as follows:

(1) That in the skin of ordinary hospital in-patients and in those parts of it not subjected to traumatism or pressure, and only scantily supplied with hair, the germs are collected in the superficial strata of the corneous layer. Only exceptionally, as the result of accidental lesions, do they reach the deep strata. (2) That the epidermis and the hairs and cutaneous glands are proof against infection, which, however, can penetrate into the more peripheral part of the hair follicles. (3) That under such conditions the germs in the skin are accessible to disinfection, and the most important element in the success of the disinfection is the maceration and removal of the corneous strata of the skin. (4) That it is reasonable to hope that further study of the technique of disinfection will, in the near future, reveal a method which can be relied upon to give uniformly successful results in the disinfection of skin, at any rate in in-patients.

These conclusions, arrived at by an absolutely different method, almost exactly coincide with my own.

It may excite surprise that I have not employed more extensively alcohol, which is so strongly recommended by far the greater number of investigators. In the first place, alcohol not only causes severe damage to my skin, but affords me acute pain when using it. In the second place, it appears to me that alcohol can only act as a dehydrating agent and fix the surface tissues with their included bacteria. According to Mr. Leedham-Green, an ardent supporter of alcohol, it does not owe its value to its fat-removing, to its cleansing, nor even to its antiseptic powers so much as to its property of hardening and fixing the superficial cells of the epidermis.[9] We might then expect that, as the skin becomes again hydrated and macerated during the course of an operation, the probability would be that the hands would again become septic: and this was found to be actually the case in Mr. Leedham-Green's instructive experiments. I entirely agree with him, however, that

alcohol admirably prepares the way for the subsequent use of watery antiseptics, owing to its dehydrating action.

I now turn to the other possible causes of infection in operation wounds namely, instruments, dressings, and the air of the operating theatre. Instruments and dressings can be satisfactorily sterilized by heat; there remains therefore for consideration aërial infection.

At the introduction of Listerism, the air as a source of contamination received a large amount of attention from surgeons, but with the disuse of the carbolic spray the atmosphere as a factor in the causation of sepsis came to be practically ignored. Recently interest has been roused in a particular form of aërial infection—that by the surgeon's breath.

I cannot depict more clearly the nature of aërial infection than by quoting the following passage out of Tyndall's book on *Floating Matter of the Air*.[7]

Reflecting on the whole of this, I conclude that the germs float through the atmosphere in groups or clouds, and that now and then a cloud specifically different from the prevalent ones is wafted through the air. The touching of a nutritive fluid by a bacterial cloud would naturally have a different effect from the touching of it by the sterile air between two clouds. But, as in the case of a mottled sky, the various portions of a landscape are successively visited by shade, so in the long run are the various tubes of our tray touched by the bacterial clouds; the final fertilization of them all being the consequence.

The variation in numbers of these bacterial clouds is so greatly affected by the numerous and varying determining factors present in different places, that I think it would be useless to try to determine the number of bacteria that might be expected to fall upon a wound in the course of an operation. I will merely mention that last year I performed one experiment for Dr. Ferguson on this point. During an operation performed in the hospital theatre, the number of bacteria falling upon an agar-agar plate worked out at 32 per square inch per hour.

It is difficult to conceive any plan by which the air of a room could be made and kept absolutely sterile throughout an operation. A very great deal can be done, however, by methods easily carried out to bring the air of a theatre much nearer to that desirable state than at present is usually the case. Consider for a moment what is the reason for the presence of organic particles floating in the air. This is due to the movements and concussions of large bodies against one another, combined with the action of air currents from various causes. These forces suffice to cause dust, which is mainly composed of organic matter, to rise in clouds in opposition to the force of gravity, eddying through space in response to the slightest disturbance of the temperature or movement of the atmosphere. Tyndall[7] performed a very ingenious experiment to show this. A box was coated on its interior with glycerine. A concentrated beam of light was then passed through the box showing the air to be laden with floating matter. After three days of quiet the air was found to be optically pure, all floating particles having become adherent to the sides of the box. Now, I think that this experiment is a very important one to the surgeon.

I will cite one other experiment:

It has been shown by Carnally, Haldane, and Anderson[10] that the disturbance of dust by stamping of the feet causes an enormous increase of organisms in the air, in one case from 11 to 150 per litre. They are of opinion, however, that the ordinary movements of even many persons in a room are not sufficient to produce any marked change in the number of organisms in the air. I submit, then, that the following details would form a rational method in order to arrive at a maximum of purity in the atmosphere of the operating theatre. The walls of the theatre should be kept moist, as bacteria are detached with difficulty from a moist surface. The theatre ought to contain the minimum of furniture. There ought to be as little running about as possible by the attendants during an operation. The air admitted to the theatre should be filtered through cotton-wool. Once an operation has begun no one should enter or leave the theatre until the completion of the operation. All spectators ought to be kept outside the theatre altogether, and observe the operation through a glass screen. They would thus be able to approach quite sufficiently close to the scene of operation without being subjected to the heat of the theatre, and with freedom to come and go without disturbing the operator. Finally, all those in the theatre—operator, assistants, anaesthetist, and nurses—should be clothed in a complete suit of sterilized material, including foot-gear.

It is extraordinary, considering the trouble an ordinary man will take to clothe himself appropriately before indulging in any game demanding even a moderate amount of physical exercise, that the surgeon will descend into a heated operating theatre and perform there an operation entailing extreme physical and mental effort without any change in his attire beyond the substitution of a linen overall for a coat. Surely the custom of wearing a sterilized linen suit would be not only more cleanly and comfortable, but also more hygienic for the surgeon himself.

I believe that the methods suggested would render the atmosphere materially purer, would exclude the worrying criticisms and suggestions of bystanders, and, by increasing the physical comfort of the surgeon, would insure the accomplishment of an arduous operation with the minimum expenditure of that most valuable commodity—energy.

Owing to Mikulicz of Breslau and Dr. Mendes de Leon, a great deal of attention has been centred on the question of the surgeon's breath as a source of wound infection. Now, in the first place, I may state that expired air is sterile, as proved by Tyndall[11] in 1869, and since confirmed by later observers. It is, therefore, only from solid particles discharged by a sputtering action that infection can occur from the breath. In order to ascertain the degree to which this is usually present, I made the following experiments upon twenty-five different people:

Two agar-agar plates were placed at 1 ft. and 2 ft. distance respectively from the individual's mouth, who then read aloud for ten minutes from a book at a distance. A third plate was exposed during the same period behind the reader to act as a control for the air of the room. The room was, as far as possible, kept absolutely still, and the person reading kept the head fixed in the same position. In the first place, I performed this experiment upon myself ten times, with the object of seeing whether the results were at all constant for the same individual.

No. of Experiment.	Control.	One Foot Distance.	Two Feet Distance.
I.	5	11	3
II.	16	13	11
III.	Overgrown	Overgrown	26
IV.	51	"	10
V.	Overgrown	13	4
VI.	"	15	Overgrown
VII.	4	15	"
VIII.	2	Overgrown	5
IX.	5	16	28
X.	Overgrown	Overgrown	31

On adding up each column some months after the experiments were completed I found the total to be:

Control.	One Foot Distance.	Two Feet Distance.
83 + 4 overgrown	83 + 4 overgrown	118 + 2 overgrown.

The identity of the totals for the first two columns was, of course, a mere coincidence and is of no import. But for Experiment IV there would have been a small increase in the total of the second column over that of the first. "Overgrown" in above and subsequent experiments does not imply that the plate was more than usually infected, but simply indicates that a rapidly-growing mould quickly overspread the surface of the agar-agar so as to render impossible a correct enumeration of the other colonies.

Of the twenty-five different individuals tested in the same way the results were as indicated in the table at the head of the next column.

By substituting for the cases in which the plates were overgrown the average number obtained from the remaining plates of the same series there are obtained the following numbers for comparison:

Comparative numbers: 289.04 : 588.75 : 238.23.

That is to say there was, on an average, a gain of 11.98 colonies on a plate 3½ in. in diameter at 1 ft. distance as the result of reading for ten minutes in a loud voice, while at a distance of 2 ft. there was no increase. It was found that, as a rule, one to two thousand words were articulated during this time.

As the above individual experiments showed varying results, I thought it would be instructive to see what would be the effect of breathing into a space of sterile air, where the complication of bacterial clouds would not exist. Accordingly, with the aid of Mr. Lionel Colledge, I prepared a tin box with certain openings, but with its joinings, etc., airtight. In the top of the box there was an opening, through which passed a glass tube packed with cotton-wool, so that filtered air only could enter the chamber. At one side there was an opening for the insertion and removal of a Petri dish, and on the opposite side a circular opening 1¼ in. in diameter for speaking into the box. When these two openings were closed the box was airtight, with the exception of the opening at the top, by which filtered air only could enter. A Petri dish, containing agar-agar, was then placed in the box, the two lower openings were closed, and the upper opening was plugged with cotton-wool and the whole box sterilized on three successive days for one hour. Before sterilization a fine piece of tape was attached to the lid of the Petri dish and passed up through the cotton-wool. By this means the lid could be removed and replaced when desired, while preserving the aseptic condition of the box. In use, a mouthpiece was fitted tightly by a rubber washer to the opening in the side, and the experimenter breathed, sang, or talked into the enclosed sterile space, measuring about 9 in. square. At the end of the experiment the lid was lowered down on to the dish again, the box opened and the dish removed and incubated. As the gaseous exchange was not active, four minutes' respiration with active vocalization into this small space was found to be as much as could be done with comfort.

Individual Tested.	Control.	One Foot Distance.	Two Feet Distance
M. D.	Overgrown	Overgrown	Overgrown
T. M.	"	13	"
S. A.	"	70	7
S. H.	1	6	2
S. B.	1	0	0
N. N.	7	Overgrown	Overgrown
A. C.	Overgrown	28	10
E. R.	8	16	Overgrown
A. C.	10	29	"
A. L.	Overgrown	Overgrown	"
L. C.	9	"	32
E. C.	12	14	7
M. D.	Overgrown	20	9
N. W.	9	31	12
E. F.	Overgrown	4	2
L. B.	4	10	4
L. W.	8	16	Overgrown
C. J.	Overgrown	3	5
N. C.	13	71	11
N. G.	25	3	7
B. W.	3	8	9
N. W.	53	91	31
G. M.	5	30	5
J. C.	8	8	9
M. S.	Overgrown	Overgrown	Overgrown
Total	185+9 overgrown	471+5 overgrown	162+8 overgrown

The following were the results obtained:

Experimenter.	Mode of Experiment.	Result.
Self	Simple breathing	Sterile.
"	Singing loudly	1 Colony.
"	"	2 Colonies.
"	"Reciting"	1 Colony.
"	"	"
S. A.	Singing	Sterile.
"	"	"
"	Reciting	1 Colony.
M. S.	"	4 Colonies.
"	"	8 Colonies.
G. M.	"	Overgrown (lid was knocked off as the plate was being removed).

The three last experimenters were selected as having proved especially septic in the open series of experiments, yet the results obtained when an ordinary mouthpiece of a Clover's ether inhaler was worn pointed to the conclusion that the infection carried by the breath in ordinary speech is small.

It seemed to me, then, that a mask of the kind now to be described would suffice for those who require a mask at all.

An ordinary wooden chip pillbox is taken, the lid is detached, and a hole ½ in. in diameter is drilled in the bottom. Two segments are now removed from the sides of the box to adapt it to the convexities of the upper and lower maxillae. The edges of the box are bound with lint to render it comfortable. The mask is now ready, and can be attached to the mouth by pieces of elastic passing from either side of the box to the ears. Such a mask is cool, comfortable, and, I believe,

efficient. The following experiments were performed with it, selecting again S. A. and M. S. as the operators.

Experimenter.	Control.	One Foot Distance.	Two Feet Distance.
S.A.	Without a mask 4	25	Overgrown.
	With a mask ... 3	12	,,
,,	Without a mask 5	10	6
	With a mask ... overgrown	8	Overgrown.
,,	Without a mask 2	Overgrown	5
	With a mask ... 5	,,	10
M.S.	Without a mask overgrown	,,	25
	With a mask ... 24	,,	4
,,	Without a mask overgrown	,,	Overgrown.
	With a mask overgrown	,,	,,
Self	Without a mask 1	7	1
	With a mask ... 1	5	2
Total	Without a mask 12 + 2 overgrown	42 + 3 overgrown	37 + 2 overgrown.
	With a mask 38 + 2 overgrown	25 + 3 overgrown	16 + 3 overgrown.

The large number of plates which were overgrown somewhat mars the value of the results, yet it is seen that in the total of the cases without a mask there was a marked increase of contamination, while when the mask was worn there was no increase in the contamination of the plates read over beyond that of the control. The experiment without a mask was in each case performed first, hence probably the greater pollution of the controls when the mask was worn.

In regard to the use of gargles, the following was the result obtained by a strong gargle containing carbolic acid, chlorate of potash, and glycerine, on S. A.:

S. A.	Control.	One Foot Distance.	Two Feet Distance.
Before gargle	4	31	2
After gargle	5	28	3

In conclusion, I desire to express my obligations in the first place to Sister Hastie of Ward VII, without whose indefatigable and skilful help I could not have executed these experiments; to Mr. Lionel Colledge for his many valuable suggestions; to Professor O'Sullivan of Dublin University for his kindly aid with the bibliography of the subject; and, finally, to all those who, at considerable personal discomfort, took part in these experiments.

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[1] Vide *Practitioner*, vol. lxix, No. 413, p. 520. [2] BRITISH MEDICAL JOURNAL, July 2nd, 1904. [3] Ibid., June 11th, 1904. [4] *Centralblatt für Bacteriologie*, xxiv, Bd. 1903, No. 1. [5] Ibid. [6] Loc cit., October 8th, 15th, 29th, 1903. [7] *Sterilization of the Hands*, by Mr. Leedham-Green, pp. 65, 72. [8] *The Floating Matter of the Air*, by John Tyndall, second edition, p. 117. [9] Ibid., p. 55. [10] *Journal of Hygiene*, vol. 3, No. 4, p. 510. [11] Loc. cit., p. 47.

KERATOSIS PALMARIS ET PLANTARIS IN FIVE GENERATIONS.

BY

F. H. JACOB, M.D.Lond. and ADAM FULTON, M.B., B.Ch., B.A.O., R.U.I.

THERE lives in this town a man, J. W., who suffers from keratosis palmaris et plantaris in a marked degree.

In adjoining houses live three children and three grandchildren who have inherited the condition.

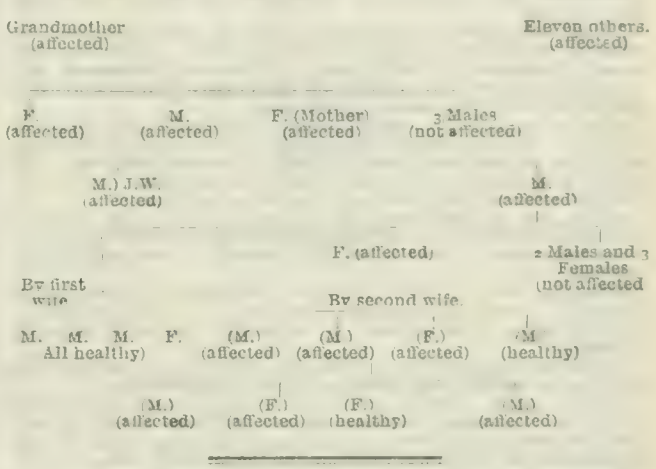
The youngest child affected is twenty months old, and the skin of the palms and soles, instead of being thin, pink, and shiny, is considerably thickened, white, and rough, like ground glass.

In the adults the horny epithelium is about ¼ in. thick and almost black. It presents, in lines corresponding to the normal folds of the skin, deep fissures which have at their base apparently normal epithelium and which, therefore, do not get sore, nor crack and bleed, as do those in acquired keratosis.

J. W. gives the following family tradition as to the origin of the complaint. His great-grandmother, while returning on a troopship from India, was one day looking over the bulwarks and was startled by the unexpected jumping of a large fish out of the water. "A fish, a fish," she cried, and clapped her hands together. The child of which she was then pregnant was born with "fish scales" on its hands and feet, as were also the eleven other children to whom she subsequently gave birth. J. W. remembers his grandmother perfectly well, and vouches for the fact that both she and his mother suffered from this affection.

Unfortunately this hereditary condition is looked upon as a skeleton in the family cupboard, and our request for permission to take photographs of it was refused.

Appended is a full genealogy of the family:



TREATMENT OF SEROUS EFFUSIONS BY INJECTION OF ADRENALIN CHLORIDE.

BY

H. W. PLANT, B.A.Lond., M.R.C.S., L.R.C.P., House-Physician, and PATRICK STEELE, M.B., Ch.B.Edin., House-Physician,

Queen's Hospital, Birmingham.

THIS method of treating serous effusions was first advocated by Barr, of Liverpool, in 1903.

In the first case, one of malignant disease of the pleura with haemorrhagic effusion, he used adrenalin injections empirically, and found the treatment entirely successful as regards the effusion. He then tried it on other cases, both pleural and peritoneal, with almost invariable success even in a case of pericarditis with effusion. In his pamphlet he states that the results obtained in cases of ascites from hepatic cirrhosis were not quite so good as in those resulting from tuberculous peritonitis and malignant growth. The only cases of ascites, with one exception, in which we have tried adrenalin have been those due to cirrhosis of the liver, and without exception the treatment has proved successful. In only one case have we had to inject the adrenalin more than twice, and in the majority of our cases one injection has proved sufficient.

In all cases in which we have tried the effects of the injection of adrenalin the following has been the method adopted:—As much as possible of the fluid was withdrawn by a two-way trochar and cannula, and through the cannula, still *in situ*, 1 drachm of adrenalin chloride (1 in 1,000), diluted to ½ oz. with sterile water, was introduced by means of an exploring syringe. The cannula was then removed, the wound closed with wool and collodion, and, in abdominal cases, the abdomen was gently manipulated for five minutes and a binder firmly applied.

Appended is a summary of the cases in which we have tried this method:

Cirrhosis of Liver.

CASE 1.—G. K., aged 54, wireworker. Admitted July 11th, 1904. Complaint, abdominal pain and swelling. Abdomen greatly distended and giving all the usual signs of fluid. There was an umbilical hernia, fairly easily reducible. Paracentesis abdominis was performed on the following dates:

July 14th. 20 pints drawn off: specific gravity 1009.

August 3rd. 18 pints drawn off: 1 drachm of 1 in 1,000 solution of adrenalin chloride, diluted to ½ oz. with water, was injected into the peritoneal cavity.

Patient was discharged on September 7th with no ascites. Three days later was operated on for a strangulated umbilical hernia. No fluid was found in the abdomen.

CASE II.—E. D., female, aged 45, housewife. Admitted July 30th, 1904. Complaint, abdominal pain and swelling; abdomen greatly distended with fluid. The liver extended three fingerbreadths below the costal margin, and was hard, smooth, and very tender. Paracentesis abdominis was performed on the following dates:

July 30th. 14 pints drawn off.
August 11th. 15 pints drawn off.
August 18th. 12 pints drawn off.
August 31st. 13 pints drawn off.
September 14th. 10 pints drawn off. Solution of adrenalin chloride, 1 in 1,000, injected into peritoneal cavity, 1 drachm of solution to 1 drachm water.
September 24th. 2 pints 14 oz. Adrenalin chloride in same amount again injected.

Patient discharged on October 10th with no signs of ascites. Readmitted on November 26th with fresh swelling. Paracentesis performed on December 3rd, and 8 pints 10 oz. removed. Adrenalin again injected in same amount. Patient was discharged on January 6th, 1905, and has had no further return of the ascites.

CASE III.—A. D., male, aged 41, barman. Admitted August 12th, 1904. Complaint: Abdominal pain and swelling. Abdomen greatly distended, and giving all the usual signs of fluid. Liver not palpable. Paracentesis abdominis was performed on the following dates:

August 13th. 14 pints drawn off. Specific gravity, 1013.
August 25th. 12 pints drawn off. 1 drachm of 1 in 1000 solution of adrenalin chloride to 2 oz. of water injected into peritoneal cavity.
September 10th. 17 pints drawn off. Adrenalin in same amount again injected.
September 30th. 12½ pints drawn off. Adrenalin injected in same amount.
October 20th. 5¾ pints drawn off. Adrenalin 1 drachm to water ½ oz. injected.

Patient was discharged on November 11th with slight ascites, which had disappeared four days later, and has not again returned.

CASE IV.—A. M., female, aged 35, housewife. Admitted September 28th, 1904. Complaint, swollen abdomen and large glands in neck. Abdomen was greatly distended, and gave the usual signs of fluid. Paracentesis abdominis was performed on the following dates:

September 28th. 15½ pints drawn off; specific gravity, 1020.
October 17th. 5 pints drawn off; 1 drachm of 1 in 1,000 solution of adrenalin chloride to ½ oz. of water was injected into the peritoneal cavity.

Patient was discharged on November 11th, with no ascites, and there has been no recurrence since.

Pleural Effusion.

CASE V.—G. B., male, aged 46, labourer. Admitted December 13th, 1904. Complaint, severe cough with shortness of breath and pain in the side during the last six months. On admission he showed signs of extensive right-sided pleurisy, with effusion. The right pleural cavity was tapped, and 55 oz. of clear, serous fluid was drawn off. Patient improved, and was discharged on February 2nd, 1905.

Readmitted on March 8th, 1905, with further signs of pleural effusion. Was again tapped, and 29 oz. of fluid removed. 1 drachm of adrenalin chloride (1 in 1,000) to 2 drachms of water were injected into the pleural cavity.

The patient was discharged on March 23rd, and has had no return of the effusion.

CASE VI.—A. L., male, aged 22, admitted suffering from stab wound of left chest. A week after admission the injured side showed signs of a large pleural effusion. This was tapped, and 1 drachm of the adrenalin chloride solution was injected. Since this time there has been no sign of the fluid recurring.

Cirrhosis of Liver and Oesophageal Stricture.

CASE VII.—A. F., male, aged 46, brassworker, admitted January 13th, 1905. Complaint, abdominal pain and swelling. On admission abdomen was greatly distended with fluid; liver palpable, hard and smooth. Paracentesis abdominis was performed on the following dates:

January 19th. 22 pints drawn off; specific gravity, 1010; 1 drachm of 1 in 1,000 solution of adrenalin chloride with ½ oz. of water was injected into the peritoneal cavity.

Feb. 26th. 9 pints drawn off. Adrenalin injected as before. Fluid did not recur. Patient died on March 27th from malignant cachexia.

Post-mortem Appearances.

On opening abdomen no fluid was found. The viscera were matted together by fairly recent adhesions, except in lower half of abdomen that is, below the level of the umbilicus. The peritoneum was thickened and in most places congested. In upper part the omentum was rolled up and adherent to the diaphragm, liver, and stomach. The liver was generally adherent to surrounding structures by fairly recent adhesions.

Microscopically: Liver—Peritoneal Margin.

Peritoneum showed numerous flocculent deposits of fibrin on outer surface. The peritoneum itself was thickened, and showed lamellae of fibrous tissue. In the deeper parts of the peritoneum there were a good number of leucocytes, and in between peritoneum and liver there was a zone crowded with leucocytes, apparently polymorphs.

Intestine—Peritoneal Margin.

1. Layer of almost amorphous tissue with faintly fibrous structure looking fringed at edges as if torn away from adherent surface.
2. Peritoneum a good deal thickened and fibrous-looking, with numerous spindle-shaped cells, and in deeper layers a few leucocytes appearing.
3. Intestine with outer layers crowded with leucocytes. Capillaries apparently showing little change either as regards thickening of the walls or obliteration of lumen.

Immediately after the injection in ascitic cases the patients often complained of sharp abdominal pain. In all cases there was a rise of from ½° to 2° of temperature occurring usually within half an hour of the injection being made, also an immediate rise in the pulse tension was noticed lasting from quarter to half an hour.

In no case was the amount of urine altered.

The reason why the adrenalin should have the effect of stopping the serous exudate seems rather doubtful. In a case of carcinoma of the liver, in which adrenalin was used to check the effusion, from which the patient died some five weeks after the injection had been made, numerous recent adhesions between the visceral and parietal peritoneum were found *post mortem* as well as a flaky deposit of lymph all over the peritoneal surface.

These adhesions were very exceptionally vascular, a regular network of fair-sized vessels radiating out on both sides of the adhesions. Judging from this it seems reasonable to suppose that the adrenalin, by inducing adhesions between the parietal and visceral layers of the peritoneum, and these adhesions becoming vascular, and thus setting up a very fair collateral circulation, should have much the same effect as the transplantation of a piece of omentum under the abdominal muscles by relieving the congestion and so diminishing the exudation.

We have found that the addition of a few minims of the adrenalin solution to a test tube of the fluid exudate has the effect of immediately throwing down irregularly-shaped flakes of lymph. This fact may possibly have some bearing on the checking of pleural effusions.

Take, for example, a case of pleurisy with effusion: after tapping, the separated pleural surfaces come into fairly close apposition, merely being separated by a thin layer of fluid which had not been drawn off. Supposing, then, that no further exudate was to take place, in course of time the fluid would coagulate, and glue the pleural surfaces together. On the other hand, suppose more exudation was to occur, if there had not been time for adhesions to form, the surfaces would again be separated, and the patient be in the same condition as before.

Now suppose that, after tapping, adrenalin had been injected into the pleural cavity; the thin layer of fluid would very quickly coagulate, and adhesions form before more exudation had time to take place, thus obliterating the pleural cavity in whole or in part, so that further fluid could not accumulate. This could hardly take place in the peritoneal cavity on account of its extreme complexity, but it does not seem outside the limits of possibility in the chest.

In any case, however, the drug acts, the injection of adrenalin chloride seems strongly indicated in all cases of serous effusion when simple tapping does not effect a cure.

For the use of the notes of these cases we are indebted to Professors Carter and Foxwell, of Birmingham University, and Honorary Physicians to Queen's Hospital, and under whose care the cases were while in hospital.

INTERNATIONAL CONGRESS OF PHYSIOTHERAPY.—As already announced in the BRITISH MEDICAL JOURNAL, the first congress of physiotherapy will be held at Liége on August 12th and three following days. The term "physiotherapy" connotes electrotherapy, kinesitherapy (which "in the vulgar," as Touchstone says, is the movement cure), the light treatment, the *x* rays, heat, aëropathy, hydrotherapy, electro-diagnosis, radiography, etc. The questions proposed for discussion are: 1. The specific indications of the several physiotherapeutic agents. 2. Description of the apparatus and technique required in each case. 3. (*a*) How university teaching on physiotherapy is given at the present time in the various countries where instruction is given on the subject; (*b*) how such instruction should be given in medical faculties. 4. The indication of suitable means for the vigorous repression of quackery and the abuses caused by "healers" who pretend to treat by physiotherapeutic procedures. Papers should be sent to Dr. Gunzburg, 7, Rue des Escrimeurs, Antwerp. Other communications should be addressed to Dr. De Munter, 86, Rue Louvrex, Liége.

SCIENTIFIC GRANTS COMMITTEE

OF THE

British Medical Association.

REPORT XCIII.

THE ACTION OF ADRENALIN.*

BY T. R. ELLIOTT, M.A.,

George Henry Lewes Student in Physiology.

From the Physiological Laboratory in the University of Cambridge.)

ADRENALIN, apart from its general poisonous properties that are manifested when large quantities are introduced into an animal, has a quite specific power of stimulating plain muscle and gland cells. Attention to this fact was first drawn definitely by Langley.[1] He pointed out that only those plain muscles are stimulated by adrenalin which are supplied with sympathetic nerves, and that broadly the reaction is similar to that caused by electrical excitation of these nerves. The work referred to in this report establishes the generalization.

A. STIMULANT ACTION OF ADRENALIN.

1. *Law Governing the Reaction of Plain Muscle to Adrenalin.*

Gaskell[2] gave the first broad classification of the nerves efferent from the brain and spinal cord. He showed that while the motor nerves to striped muscles connected with the skeleton issue in all the anterior roots, those to the unstriped muscle of the blood vessels and viscera and to gland cells do not flow out in a continuous series of anterior roots down the length of the spinal cord, but in three divisions, which are separated one from the other by the nerve roots of the fore and hind limb plexuses. These visceral nerves all bear ganglia on their course from spinal cord to peripheral tissue. Langley has introduced a fresh nomenclature, according to which the entire group of ganglionated visceral nerves is styled the autonomic system; in this are the three subdivisions of the cervico-cranial, the thoracico-lumbar, and the sacral root outflows. The thoracico-lumbar root outflow is also called the sympathetic. Plain muscle is often innervated from two of these sources, and then the double innervation is antagonistic. In all cases the reaction to adrenalin is found to be identical with that to electrical stimulation of the sympathetic (thoracico-lumbar) nerves. (Cf. diagram.)

Bladder.—The bladder of the cat is inhibited both when adrenalin is injected into the circulation and when applied directly to the bladder wall. But the urethra, that is the sphincter of the bladder, is at the same time powerfully constricted. Excitation of the hypogastric nerves has the same results. Similar movements are seen in the bladder and urethra of the monkey, Macacus rhesus. But the bladder in the dog and the rabbit is unaffected by adrenalin and by the hypogastric nerves; and that of the ferret and the goat is thrown into complete contraction by both these means.

Thus all three possibilities of response to adrenalin are instanced in the various types of mammalian bladder, and in each in strict accord with the nature of the sympathetic innervation. All these bladders, of course, also receive motor nerves from the sacral visceral outflow, and the urethra inhibitor nerves.

Heart.—In every vertebrate examined the beat of the auricles is both augmented and accelerated. Over-distension of the heart chambers in the face of the great rise of blood pressure may, however, give rise to reflex slowing and so mask the true action of adrenalin. But whereas the ventricle also of the mammal is stimulated to greater beats, that of the tortoise and of the pigeon is unaffected. This agrees identically with the differing extent of sympathetic innervation in the different species. The coronary vessels in the cat are slightly dilated by the drug, though arteries in other organs are constricted.

Alimentary Canal.—The stomach is inhibited. This, too, despite the counter-statement of Page May,[3] is proved to be the result of stimulating the sympathetic nerves in the cat. In mammals the entire length of small and of large intestine is inhibited by adrenalin, except where it tightens with a power varying in different species the grip of the pyloric, ileo-colic, and internal anal sphincters. The parallel action of adrenalin and sympathetic nerves holds, though the scheme of innervation alters, when one passes to study the intestines of the bird and amphibian. The proximal part of the pigeon's small intestine is thrown into contraction by adrenalin. Dixon[4] has shown that the same is the case with the frog's stomach. As in the mammal, the caeca and colon of the bird are relaxed.

Apparent Exceptions.—Chief of these are the skin muscles moving the hairs and the dilator pupillae. The hairs down a cat's back and tail rise stiffly when their nerves are stimulated; their motion is but slight when adrenalin is injected. In other animals the corresponding movement is greater. The hairs on the tail of a mongoose are very readily excited by adrenalin. It would seem, then, that the delicacy of reaction to adrenalin varies directly with the functional use of the muscle by the animal in the reflexes of daily life. Kipling has made familiar the fact that the mongoose, Rikki-Tikki-Tavi, expresses[5] every emotion by fluffing out its tail. A similar explanation is applicable to the dilatation of the pupil. This is readily produced in the cat; in the dog, rabbit, and goat it is generally feeble and overpowered by the constriction caused by central stimulation of the third nucleus. Though the excitability by adrenalin varies with functional use, there is not a proportional variation in the direct electrical excitability of the sympathetic nerves to the muscle. So the

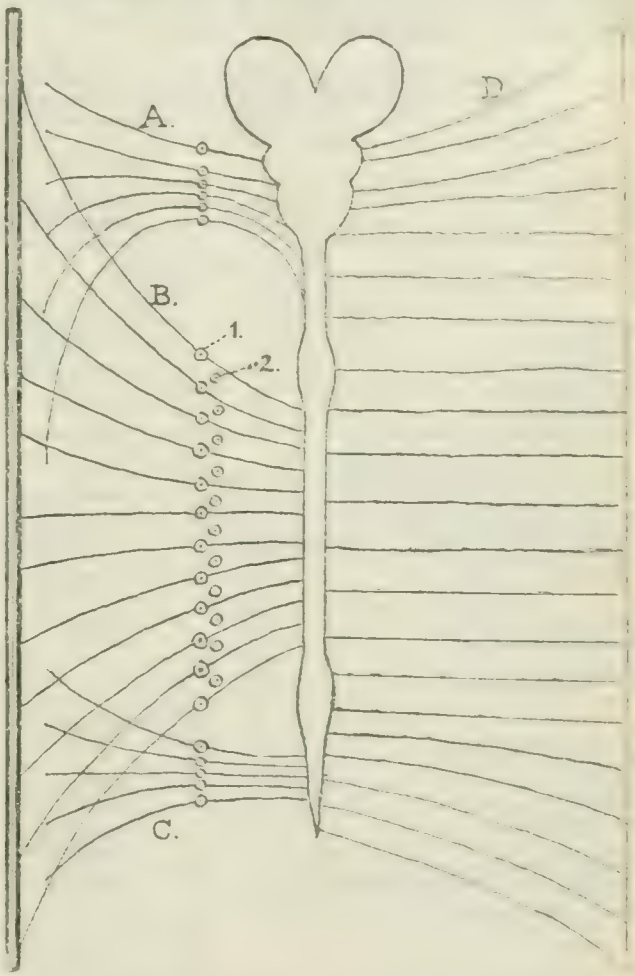


Diagram of the nerves efferent from the central nervous system in the mammal.—D, the non-ganglionated ordinary motor nerves to striped muscle. On the left side these are omitted for simplicity, and only the ganglionated visceral (autonomic) nerves to plain muscle are indicated. Of these, A is the cranio-cervical outflow (for example, vagus); B, the thoracico-lumbar or sympathetic; C, the sacral outflow (nervus erigens to bladder, colon, etc.). All these three subdivisions contain both motor and inhibitor nerves. B 1 is the sympathetic ganglion cell, B 2 the paraganglion cell containing adrenalin (that is, medullary cells of the suprarenal). The black rectangle innervated by the fibres of the cells B 1 also represents the tissues which alone are stimulated by adrenalin—that is, by the secretion of the cells B 2.

Afferent sensory nerves and their posterior root ganglia are all omitted from the diagram.

* A paper, giving the experiments in detail, is published in the *Journal of Physiology*, XXXII, 1905.

following law seems to be true for all vertebrates: That the reaction to adrenalin of any plain muscle in the body is of a similar character to that following excitation of the sympathetic nerves supplying that muscle, and the extent of the reaction varies directly with the frequency of normal physiological impulses received by the muscle in life through the sympathetic nerves.

2. *Localization of the Action.*

Nerve cells and their processes, whether in or out of the spinal cord, are comparatively inexcitable by adrenalin. Section of the nerves, after sufficient time has been allowed for the severed nerve to decay as far as its ending in connexion with the muscle, leaves the muscle even more responsive to adrenalin, whether to contraction or relaxation, than it was before. Therefore the stimulation must be effected directly at the periphery.

But certain poisons* can block the stimulation by adrenalin and by the sympathetic nervous impulse, while leaving intact all other irritability of the muscle, and even opposing no obstacle to the passage to it of the antagonistic nervous impulse. Plainly these poisons do not affect the muscle fibre itself, but some intermediate substance between the sympathethic nerve and the contractile fibre. All other chemical stimulants, which are known to excite plain muscle directly, evoke from all the plain muscles of the body reactions every-

*Apocodeine, the action having been discovered by Dixon and the argument applied by Brodie and him (*Journ. of Physiol.*, xxx, p. 494, 1904). Also chrysotoxine, discovered by Dale (see Proc. Physiol. Soc. in the *Journ. of Physiol.*, May, 1905).

Table summarizing all the established actions of adrenalin. It deals only with plain muscle, gland cells being omitted because little is known yet of their double innervation. Langley discovered that the salivary, lachrymal and tracheal glands are excited by the drug to lively secretion.

	Action of Adrenalin.	Visceral Nerves.		
		Sympathetic (or thoracico-lumbar)	Cranial.	Sacral.
Heart.				
Auricle	beat accelerated and augmented	same	inhibition	—
Ventricle:				
Mammal	beat augmented	,,	,,	
Amphibian	,,	,,	,,	—
Pigeon	no effect	,,	no effect	—
Tortoise	,,	,,	,,	—
Coronary arteries (Mammal)	dilatation	,,	(?)	—
Arteries and arterioles.				
Of submaxillary gland and buccal mucous membrane	constriction	,,	dilatation	—
Of lungs	no effect (?)	,,	—	—
Of external generative organs	constriction	,,	—	dilatation
Generally, reaction varying in different tissues and different animals	,,	,,	—	—
Of spleen	contraction	,,	no effect	—
Alimentary canal.				
Oesophagus (mammal)	inhibition	same (?)	contraction	—
Cardiac sphincter (rabbit)	,,	,,	contraction and inhibition	—
Stomach:				
Cat and rabbit	,,	,,	inhibition of fundus, then full contraction	—
Bird	(?) not contraction	inhibition	contraction	—
Frog	contraction	same	(?)	—
Pyloric sphincter (rabbit)	,,	,,	contraction and inhibition	—
Gall bladder	inhibition	,,	contraction	—
Gall duct	contraction	,,	(?)	—
Small intestine:				
Mammal	inhibition	,,	contraction	—
Bird	contraction	,,	(?)	—
Ileo-colic sphincter	,,	,,	no effect	
Colon and caeca (mammal and bird)	inhibition	,,	—	contraction of terminal part (bird ?)
External anal sphincter:				
Rabbit	,,	,,	—	quick relaxation
Cat and dog	contraction	,,	—	variable
Bird	,,	,,	—	(?)
Lung.				
Muscles of bronchioles	no effect	,,	contraction	—
Urinary tract.				
Bladder:				
Cat and mammal	inhibition of body	,,	—	contraction
[illegible]	indifferent	,,	,,	,,
[illegible]	contraction	,,	—	,,
[illegible]	,,	,,	—	relaxation
Ureters	contraction (?)	same (?)	—	(?)
[illegible] generative organs.				
Uterus and [illegible] tubes	,,	,,		no effect
Vesiculae seminales and vasa deferentia	,,	,,	—	,,
External generative organs.				
Retractor penis	,,	,,	—	relaxation
Ano-genital skin muscles	,,	same (stronger)	—	inhibition
Arrectores pilorum.				
Mammal	contraction (variable)	,,	—	—
Bird	,, (weak)	,,	—	—
Eye structures.				
Nictitating membrane	withdrawn	same	protruded (?)	—
Lids	closed	,,	(?)	—
Pupil	dilated	same (usually stronger)	constricted	—
Eyeball	protruded	same	turned inwards	—

where of like nature, though it may be of greater or of less extent. It is the peculiarity of adrenalin to excite contraction here, relaxation there, and always in identical agreement with the response to the sympathetic nervous impulse. So it cannot be the plain muscle as such which is immediately stimulated by the drug. It must be a mechanism developed out of the protoplasm of the muscle cell, when the latter is in continuity and functional union with a sympathethic nerve axon. This mechanism, the myoneural junction, serves to transmit the impulse to the muscle, and probably determines whether the response of the latter shall be that of inhibition or contraction. In lack of such connexion, as in the ventricle of the tortoise or the bladder of the dog, the muscle is indifferent to adrenalin.

This characteristic reaction to adrenalin marks the deep distinction between the myoneural junctions of the sympathetic (thoracico-lumbar) nerves on the one side, and all the remaining visceral nerves on the other. It embraces the less difference between contraction and inhibition in its own group, and attaches to muscles morphologically differentiated so far asunder as those of the rhythmically pulsatile heart and the tenaciously constricting urethra. By the test is revealed a biochemical peculiarity of the entire mass of muscle united with sympathetic nerves.

How the muscle forming the wall of a viscus originally obtains its connexion with sympathethic nerves is a problem as yet unsolved by morphology; but given such connexion, it seems that the change in muscular tension evoked by the nervous impulse is then determined simply by functional need of co-ordinated activity. Where quiet lodgement of the visceral contents is required, as in the cat's bladder, the gall bladder, in the small and the great intestine, there the sympathetic nerves inhibit the body of the viscus and constrict the sphincter closing exit. Adrenalin does the same.

B. Toxic Action of Adrenalin.

It was early discovered that the subcutaneous injection of suprarenal extract caused death; and the discovery led to the view that the suprarenals are concerned with the removal of poisonous substances from the body. For removal of the glands was fatal, and equally so was the injection of their extract. But death results only when the amount injected is large—greatly in excess of all the adrenalin stored at any moment in the suprarenals of the animal.

Reverting for a moment to the phenomena of muscle excitation by adrenalin, it should be noted that the stimulation passes off very quickly, but can be renewed again and again by fresh injections. The adrenalin disappears—for the main part actually in the tissues which it excites—and the sympathetic nerves are made neither less nor more excitable by its action.

When large quantities are injected *intravenously*, the excitatory effects persist for some time until the adrenalin has thus disappeared. Later the animal dies. By French[5] workers the fatal dose for injection within the blood stream has been determined to be 0.2 mg. per kilog. body weight for the rabbit and dog, and 0.5 to 0.8 mg. for the cat.

Subcutaneous injection is not attended by the phenomena of stimulation except in the neighbourhood of the point of injection. Unless there is rapid flow of lymph from that area to the thoracic duct and thereby to the blood stream, absorption is so slow that the adrenalin disappears as rapidly as it enters the blood, and never attains the concentration needed to stimulate. It does, however, enter the circulation as adrenalin, for whether given beneath the skin or by the mouth,[6] it can stimulate tissues that have been denervated and so rendered more excitable. Quite small amounts cause hyperglycaemia and diabetes.[7] Twenty milligrammes beneath the skin do not affect a rabbit for the first half-hour. Then paralysis and lethargy develop, and at the end of an hour the animal is dead. The typical reaction of plain muscle to adrenalin never appears. Death, therefore, cannot have been caused by extraordinary rise of blood pressure. It is in the rabbit asphyxial owing to oedema of the lungs and nervous paralysis. This nervous paralysis is always a conspicuous feature of adrenalin poisoning. A similar dose will not kill a cat, though producing ultimately inflammation of the kidney and liver.

As a subsidiary point it may be noticed that very small quantities—for example, 3 mg.—introduced into the blood of a dog may kill it by inducing at once intravascular coagulation.

C. Function of the Suprarenal Glands.

In regard to this question no very conclusive experiments have been performed, and only a preliminary account of their general tenor can be given.

Adrenalin was proved by Oliver and Schäfer[8] to occur only in the medullary, and not in the cortical, cells of the suprarenal. Cells of precisely the same histological character, and apparently the same embryological derivation, exist in lower vertebrates throughout the body in close association with the cells of the sympathetic ganglia. In the mammal they are massed in the suprarenal, but vestiges of the wider distribution remain; of these the intercarotid body is an example, being associated with the superior cervical ganglion. Kohn[9] has consequently named these cell masses the paraganglia. They too, wherever occurring, contain adrenalin.[10]

Without doubt, then, it may be stated that there are two related types of cell in the vertebrate:

1. The sympathetic ganglion cell, which is united with the plain muscle by its axon process and provides a path for the nervous impulse.

2. The paraganglion cell, which is not in connexion with the muscle (though most richly supplied with nerves and blood vessels), but secretes a chemical substance into the blood that can produce an identical excitation of the muscle through its myoneural junction. These cells (1) and (2) are as brother and sister to one another, being in the closest kinship of morphological parentage.

Removal of the suprarenal glands—that is, of the mass of cells (2) together with the cortical cells—is always fatal. Death comes rapidly, in 15 to 70 hours after the operation in the cat. The blood pressure falls, lethargy and weakness increase, and with heart failure life ends quietly. The English-bred guinea-pig cannot survive for many hours the extirpation of even one gland.

But the nervous tone of the musculature innervated by the sympathetic nerves, may be abolished by removal of the spinal cord from the first thoracic to the fourth lumbar segment; and yet the animal lives. Similarly the peripheral ganglia of these nerves (both superficial cervical, stellate, semilunar, renal, and inferior mesenteric ganglia) may all be excised in a single operation without a fatal issue.

Therefore in the cortical and medullary cells of the gland must inhere some peculiar activity, on which essentially depends the maintenance of tone of the sympathetic nerve and muscle system. The chemical extractives of these glands are more necessary for this tone than the integrity of the nervous union with the central nervous system.

Of chief moment in the general failure consequent to removal of the glands is that of the muscles of the circulatory system. With their activity depressed life soon is ended. But it is to be noted that in extreme fatigue, and in many infectious diseases—for example, diphtheria and typhoid fever, the medullary cells are emptied of adrenalin and function ill. Delayed restoration of strength is then in part due to the poisoning of these glands. And Addison's disease is but an extreme instance of their pathological lesion. They and their secretion are of essential importance to the machinery of life.

The opinion outlined above rests on no facts that definitely point to a thereapeutic use of adrenalin. In large doses it is dangerous. Small amounts given beneath the skin cause no stimulation except at the point of application; they would, therefore, on this count, be useless to check haemoptysis, quite apart from the proof given by Brodie and Dixon[11] that the lung vessels are not constricted by adrenalin. But what adrenalin can do in promoting tone of the muscles, though never actually present in such concentration as to stimulate them, is unknown. Hence clinical administration must be empirical.

Many writers have described tumours of the suprarenals. It is desirable to know whether in some cases these contain true medullary cells. The presence of adrenalin in them, or in suprarenals examined after death caused by various diseases, may be roughly determined by a simple test—that described first by Henle in 1869. Paraganglion cells containing adrenalin stain a dark-brown colour, bright yellow in thin sections, when the tissue has been placed in any solution of chromic acid salts—for example, Müller's solution. Best is perhaps a mixture of 60 per cent. $K_2Cr_2O_7$ (3.5 per cent.) with 10 per cent. commercial formaldehyde (40 per cent.). The stain washes out very slowly; but it is useless to examine a tissue later than twenty-four hours after death, because adrenalin disappears early in the *post-mortem* changes. For the opportunity to examine several suprarenal glands so

prepared I am already indebted to the kindness of Mr. L. Noon, F.R.C.S., of St. Bartholomew's Hospital. The question merits the attention of pathologists.

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MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, ETC.

DIACHYLON AS AN ABORTIFACIENT.

IN reference to your notice in the BRITISH MEDICAL JOURNAL of the 8th inst. on the use of lead as an abortifacient and the fact that in the cases recorded by Dr. Ransom wrist-drop did not occur, I recently attended a case in conjunction with my colleague, Dr. Barton, where the presence of this symptom enabled us to arrive at a correct diagnosis.

My patient aborted in the month of February last and denied having taken any drug, but having amenorrhoea the following months of March and April, repeated her doses of diachylon pills.

When called in again on April 17th, I found all the cardinal symptoms of plumbism—including wrist-drop—markedly present.

On questioning the patient closely, I then ascertained the history of three months' lead administration.

In Dr. Ransom's cases it is probable that only one large initial dose was taken, and that coming under appropriate treatment, the drug was eliminated. To bring on the typical nerve lesions, a short continuation is required.

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Liscard, Cheshire. L.F.P.S.G.

UNDULANT FEVER IN SOUTH AFRICA.

THE subject of Mediterranean or Malta fever is at present receiving a good deal of attention, and a considerable number of contributions upon it have appeared in the pages of the BRITISH MEDICAL JOURNAL during the past six months. It does not appear to be generally known outside of South Africa that a disease apparently identical with Malta fever is endemic in certain parts of this country. I send herewith for your perusal a copy of a paper* by me on "The Question of the Presence in South Africa of Undulant or Malta Fever" read before the Orange River Colony Medical Society in April, 1904. The paper was published in the *South African Medical Record* of August 15th, 1904, and was based upon a study of seventy-two cases during a period of eighteen months, presenting the clinical features of undulant fever.

On February 8th, 1905 I read a second paper on the subject before the Orange River Colony Medical Society. In that paper I recorded the following facts:—

Among the original seventy-two cases I observed sixteen cases of joint swellings, although at the time when I wrote the first paper, I was able to cite only four. There was hearsay evidence of several more cases of joint swellings at distant farms.

Blood samples from thirty-four of my patients were sent to the Cape Colony Government laboratories at Grahamstown and at Capetown. The tests were conducted by Dr. Edington and Dr. G. W. Robertson, who kindly procured cultures of the M. melitensis for the purpose. The following were the results:—

	Positive reaction to Malta fever.	Negative.
Dilution used—1 in 10	3	—
,, 1 in 20	0	—
,, 1 in 30 to 35	8	3
,, 1 in 50	4	2
,, not stated	4	—
Total ,, ...	25	5

Positive reaction to typhoid fever.

One, which was negative to Malta fever, was not tested for typhoid. The four latter were comparatively short fevers presenting the characteristics of typhoid.

In the *South African Medical Record* of October, 1903, a paper on "Camp Fever" by Mackenzie, of Kimberley, was published. In that paper Dr. Mackenzie gave it as his opinion that this fever had its closest analogue in Malta fever. From Dr. Mackenzie's description of "camp fever" I am led to believe that it is the same as that which has been prevalent in my practice, and consequently that the disease is not a new importation due to the circumstances attending the late war; for I understand that the term "camp fever" has been in use in Kimberley from the early days of the diamond fields.

Last February I sent a patient for observation to the Government Hospital at Bloemfontein. Dr. Targett Adams, Government bacteriologist, reported to me that the M. melitensis was undoubtedly present in the patient's blood.

Philippolis, O.R.C. P. D. STRACHAN, M.A., M.B., Ch.B.

* It has been placed in the library of the Association.

LARGE VESICAL CALCULUS.

CAPTAIN H. A. WILLIAMS, D.S.O., I.M.S., Resident Medical Officer, General Hospital, Rangoon, has just forwarded me the final result of a case of stone in the bladder operated on by me in February. He has at the same time called my attention to the report in the BRITISH MEDICAL JOURNAL of January 7th, by Mr. Pike, of St. Vincent, of the successful removal entire of a stone weighing 13½ oz.; to a note by Lieutenant-Colonel Hatch, I.M.S. ret., of a stone removed entire by him weighing 17 oz. (result not stated); and to a note by Major Tilson Hudson, I.M.S., in the JOURNAL of March 18th of a fatal case of stone weighing about 20 oz. removed after bisection.

My case was that of a Burman cultivator, aged 37, who had suffered for fifteen years from symptoms of stone in the bladder. His general condition was, however, surprisingly good, although there was constant dribbling of urine, which was intensely fetid. Litholapaxy being found impossible on account of the size of the stone and the way in which it filled the bladder, suprapubic cystotomy was performed, and the stone was then crushed, with great difficulty, by a lithotrite introduced through the suprapubic wound. The operation occupied two hours, and was extremely tiring. The fragments of the stone weighed, when dry, 13 oz. 6 dr. Its central part was extremely hard, and was surrounded by softer white concentric laminae, fragments of the outer giving a good idea of its size. The wound was left open. The patient had no bad symptoms, and was discharged with his wound healed just a month after.

The most important point in connexion with these large stones would seem to be the best means of removal. Removal entire is the most expeditious way, but this means a very large incision into the bladder, with the danger of opening the peritoneum, and the exercise of perhaps a dangerous amount of force. Removal by crushing means a prolonged operation in a patient generally greatly debilitated, and a considerable amount of injury to the mucous membrane of the bladder. I have no experience of perineal litholapaxy and its applicability to these cases.

C. DUER, M.B., F.R.C.S., Major I.M.S.

HYPERPYREXIA.

ON March 31st, 1905, about 10.30 p.m., I was asked by a lady to see her nursery governess. She informed me that she had taken the patient's temperature under the arm; the first thermometer that she used burst, and the second registered 110.2° F. I found the patient in bed with flushed face, quick pulse, complaining of pains in the back of the head, pains in the eyeballs, pains down the back and legs, and, as she expressed herself, she was all pains. On taking the temperature with my own thermometer (Kew certificate) I found that it likewise registered 110.2° F. in the axilla.

I looked upon the case as one of acute influenza in a neurotic subject, ordered quinine sulphate gr. vi every second hour and a diaphoretic mixture. The next morning I found her a great deal better, with temperature almost normal; it remained so until April 2nd, when I again had a message late at night; then her temperature had registered 112.3° F. There was considerable restlessness and delirium, with dilated pupils. The quinine was repeated in the same dose. The nurse in attendance put her into a hot bath and administered stimulants freely, and when she had been put back to bed free perspiration set in, saturating everything about her. When I saw her next day the temperature had fallen to normal, and remained so, with the exception of a slight increase about a week after, which could be easily accounted for; she was given a mixture of dilute hydrochloric acid, quinine, liquor strychninae with the glycero-hypophosphates.

When she made the effort to get out of bed she was unable to use the lower limbs; they were more or less paralysed, and knee-jerks diminished. This condition proved only temporary, and she gradually regained her usual condition. I may state that all the thermometers (four, not including the burst one) registered the same temperature, and three of these had Kew certificates; one of these unshaken still stands at 112 3° F. The points of interest are the severity of attack, the high temperature, and recovery to health of the patient without suffering any apparently injurious effects. She was able to travel to London safely, and I am informed by her medical attendant there that she is convalescent, and will be able to return to her usual duties. I should like to know if others have had any similar experience.

Strabane. JOHN BRITTON, M.D., F.R.C.S.

REPORTS ON MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN, BRIGHTON.

SOME CASES OF SURGICAL DISEASE.

(Reported by L. A. PARRY, M.D., B.S.Lond., F.R.C.S, Assistant Surgeon.)

IN each of the following cases there is a point worthy of note by those who take an interest in the pathology of cases of surgical disease in children.

1. RETENTION OF URINE.

A boy, aged 2, was admitted to the hospital on account of abdominal pain. Nothing in his previous history bore on his condition, except the fact that he was extremely rickety and had previously had some spasmodic laryngeal trouble. His bladder was found distended up to the umbilicus. He had phimosis, but the aperture in the foreskin was of fair size. I at once circumcised him and passed a catheter. There was no obstruction in the urethra. For many days afterwards a catheter had to be frequently passed, but gradually he began to micturate naturally, the catheter being used for the last time fourteen days after admission.

REMARKS.—I look upon this case as one originally of acute retention, due reflexly to the phimosis. The great dilatation of the bladder led to atony of that organ, which only slowly recovered itself. Many cases are on record in which an excessive dilatation has been followed by atony of the bladder, but I have never seen it before in a child. Acute retention is not in itself a very rare reflex sequence of phimosis, and since the forgoing case passed though my hands I have had to deal with another one. In the latter retention had existed for twenty-eight hours, but the child micturated freely directly it was placed under chloroform, and no other trouble occurred from atony, as in the case narrated.

2. MULTIPLE EXOSTOSIS.

A boy, aged 9 years, was brought to hospital on account of a large number of lumps, which were deforming him. The first ones noticed were when the child was aged 2 years; gradually others appeared and increased in size. Altogether, when brought to the hospital, there were present about forty tumours, varying in size from a pea to a walnut: they were all situated at the junction of diaphysis and epiphysis, and were very hard, painless, and sessile. They were remarkably symmetrical on the two sides. Amongst other places in which they were situated were the upper and lower ends of both tibiae and fibulae, both sides of the lower ends of the femora, the lower ends of the radii and ulnae, several at the junction of the various pieces of the sternum, and many at the junction of the ribs and cartilage.

REMARKS. The only tumour which caused any trouble was at the upper end of the left tibia. It was arranged to remove this if the slight pain which it was said to cause seemed later on to be of any real importance.

3. LATERAL CURVATURE.

This was a case in a boy aged 4 years. Three years before he had been affected by anterior poliomyelitis. The muscles in the gluteal region and all over the thigh on the right side were much wasted. There seemed also to be wasting of the erector muscles on the same side, but of this owing to the twist in the spine it was not easy to be certain. The leg on the affected side was in no way shortened. In the lumbar region there was a marked curve to the left which was very little altered by suspension.

REMARKS.—Usually scoliosis from infantile paralysis is due to defective growth of one of the lower limbs, but in this case, as noted, the limbs were of identical length. The time, of course, had long passed at which any benefit from electricity could be expected, and no form of apparatus seemed likely to be of value. The parents, therefore, were merely advised to do all they could to maintain nutrition in the paralysed muscles by exercises and warmth.

British Medical Association,

CLINICAL AND SCIENTIFIC PROCEEDINGS.

NORTH LANCASHIRE AND SOUTH WESTMORLAND BRANCH.—The annual meeting of this Branch was held at Bowness-on-Windermere, on Wednesday, June 28th, Dr. A. W. COLLINS in the chair. The new PRESIDENT (Dr. T. Mason, Windermere) delivered an address on "Angina," with special reference to the mild cases, which he maintained occurred in larger numbers than was usually admitted to be the case. He suspected that the reason for the refusal on the part of the profession generally to entitle the slight cases angina was an unwillingness to give a classically-ominous name to cases which lacked the most striking and urgent characteristics. He described cases which in the early stages, and over a period of years, presented symptoms of angina in a modified or suggestive form, but which ultimately developed well-marked and definite paroxysms of the disease. Several of the cases mentioned occurred in women, in whom the symptoms were clearly not due to hysteria. He deprecated the use of the term pseudo-angina as being both vague and misleading. Simple cases of hysteria should be diagnosed as such, though personally he had not met with any; while the mild cases of true angina, which were not very uncommon, should be clearly recognized, and treated as liable and likely to run on to a fatal termination if not properly cared for. With regard to the pathology, the most striking cause was disease of the coronary arteries, but with equal frequency fatty degeneration, thin-walled ventricles, or atheroma of the aorta appeared to induce angina; while in not a few cases no grave lesion could be found after death. Perhaps angina should be looked upon, like syncope, as a recurrent symptomatic condition in the overtaxed heart, rather than as a disease. Finally, he laid stress on the absence of physical signs in many diseased or degenerate hearts.—A short discussion followed, in which Drs. OLDHAM, J. W. ANDERSON, and RODAS SHAW took part.—*Specimens*: The following were shown:—Dr. W. D. CHAPMAN: Portion of glass catheter removed from bladder; Dr. MASON: Melanotic sarcoma of toe; Mr. A. S. BARLING: (*a*) A myoma of uterus, weighing 6 lb., removed by abdominal section; (*b*) gall stones removed by cholelithotomy; (*c*) scapula excised for carionecrosis; Dr. MASON: Microscopic section of melanotic sarcoma.—*Books*: The following were exhibited:—*Air, Water, and Situation* (Hippocrates); this contains the oath and also the description of the "facies Hippocratica"; the *Lancet*, vol. i; *The Vermiform Appendix and Its Diseases* (Kelly), and many others.

REPORTS OF SOCIETIES

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Professor JOHN CHIENE, C.B., President, in the Chair.

Wednesday, July 5th, 1905.

INFLUENZA.

DR. MICHAEL DEWAR read a paper on an epidemic of influenza which occurred in Edinburgh in the spring. The greater number of his patients were attacked during the thirty days from the middle of January to the middle of February, 1905. Three principal types were noted: (1) Cardiac and pulmonary, (2) gastro-intestinal, (3) nervous or neurotic. Diagnosis of the condition often presented difficulty; but consideration of the manner of onset, the temperature of the patient, erratic pulse, facial expression, the dry brownish tongue, and inability to discover lesions which could give rise to such symptoms enabled a correct diagnosis to be reached. Conjunctival and nasal catarrhs were rarely met with. In the cardiac type the temperatures varied from 99° F. to 102.5° F. for about a fortnight; the heart became feeble and irregular in action, the pulse was quick and compressible. In some cases a faint mitral *bruit* developed.

In the pulmonary type the complications were usually bronchial in character, cough accompanied by frothy expectoration, and pain in the mid-chest. In patients in whom the gastro-intestinal tract was involved, the most prominent symptoms were abdominal pain and diarrhoea, coming on four or five days after the onset of the disease. This type was commonest among children. In cases in which the disease attacked the nervous system the predominating symptoms were intense frontal and parietal headaches, sometimes preceded by conjunctival and nasal catarrh; pains over the body generally, but chiefly in the lumbar region: great depression, and a feeling of great weakness. In this group of cases the temperature never exceeded 103.5° F., and after the third or fourth day dropped rapidly to subnormal. This continued for a week or ten days, and till the temperature rose to normal the patients felt very ill. Convalescence was slow, and in some cases the patients passed into a condition of chronic ill-health. This type of influenza was the worst of all, owing to the fact that a certain proportion of patients became chronic invalids, and some died from exhaustion or heart failure after a few weeks' illness. The prognosis in the first two types described was good, specially if the subjects were of good constitution. In concluding, Dr. Dewar said that epidemics of influenza had been recurring pretty regularly every seven or eight years; that they always occurred during the winter season from the beginning of December to the end of February; that coryza, nasal and conjunctival, ushered in the disease in but a small proportion of cases; and that in the gastro-intestinal types in recent epidemics a characteristic feature was invariably present—a pain underneath the liver and in the right shoulder.

POST-ANAESTHETIC SICKNESS.

Dr. THOMAS LUKE, in a paper on this subject, said that, while sickness was most frequent after the employment of ether, it was briefer in duration, and very seldom as severe as when chloroform had been used. About 45 per cent. of cases were sick after ether, and about 20 per cent. after chloroform. Chloroform sickness was due to the markedly inhibitory action of this body on metabolism, and might be regarded as a mild kind of chloroform toxaemia of a subchronic nature, where the toxic action of the drug did not go so far as to produce the gross cellular changes described by Guthrie, Stiles, and others. Sickness occurred in from 15 per cent. to 20 per cent. of cases where ethyl chloride had been administered. As regards age and sex, young people suffered more severely than others, and women than men.

Mr. MCGILLIVRAY did not agree with Dr. Luke that mixtures caused no more sickness than a single anaesthetic.

Dr. MCCALLUM believed that sequences caused marked after-sickness, but not mixtures.

Dr. GUY found that the amount of after-sickness was proportional to the amount of the anaesthetic employed. Mixtures in his experience caused little sickness, especially gas and ethyl chloride.

Mr. WALLACE condemned intermittent administration.

Dr. GULLAND suggested an investigation into the acids present and the total acidity of the vomited matter. In this way some light might be thrown on the causation of after-sickness and its treatment.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

JOHN TWEEDY, F.R.C.S., President, in the Chair.

Friday, July 7th, 1905.

MR. J. R. CRUISE described a case of microphthalmic cyst of the orbit. The patient, aged 24, from birth had had a swelling in her left orbit which had been increasing in size for the last two years. There was a small degenerated-looking microphthalmic eye pushed into the upper and outer quadrant of the left orbit. The rest was filled with a fleshy mass which was firm and fluctuating. Clinically the diagnosis was by no means easy, especially the differential diagnosis between it and meningocele. Pathologically the chief peculiarity was the free communication between the eyeball and the cyst which allowed the free passage of fluid secreted by the well-developed ciliary body to pass into the cyst, and this led to the increase in size of the cyst, for which reason the patient applied for treatment.

SYMPATHETIC OPHTHALMIA.

Mr. SIMEON SNELL (Sheffield) gave details of a case of sympathetic ophthalmitis in which normal vision was restored in the exciting and sympathizing eye. The patient was a man aged 38, whose left eye was wounded on September 8th, 1904, and when seen for the first time, eleven days later, there was a wound of the cornea extending into the ciliary region, with a prolapse of the iris. The prolapse was at once excised, and the eye healed without further trouble. On October 12th the right eye was noticed to be red, and five days later there was iritis, and it was then noted as being a severe case of sympathetic ophthalmia. About a month later the pupil began to act and the eye to whiten. Since then recovery had been perfect and vision was now $\frac{6}{9}$ and J1 in each eye. Mr. Snell recorded also 3 cases in which sympathetic ophthalmitis had come on after excision of the eyeball, and referred to one published by him in the *Transactions* for 1882, in which the disease showed itself thirty-two days after excision and 106 days after the injury. Of these 4 cases 1 was mild and recovered, 3 were severe, and 2 of them became totally blind.

GLIOMA.

Mr. SNELL reported a further instance of glioma in more than one member of the same family, referring to a paper last year in which he related an instance of two members of the same family being affected. At that time only three observers had placed cases on record. The case now reported was that of a male child, aged 2½; glioma was present in each eye. The only other child of the parents was a girl born in 1897. She was similarly affected with glioma in both eyes, which proved fatal. The child whose case he had recorded last year was still alive and well.

TUBERCULOSIS OF THE IRIS.

Mr. MAYOU read a paper on "Secondary Tuberculosis of the Iris, with Spontaneous Rupture of the Lens Capsule," and narrated a case in a boy, aged 3, who for some time previously had suffered from tuberculous dactylitis. The chief points of interest were the situation at which the tuberculous mass had invaded the cornea, the spontaneous rupture of the lens capsule, the nature of the exudation in the retina, and the general tendency towards cicatrization.

REVIEWS.

MENTAL DISEASE.

BROADLY speaking, the numerous additions to the literature of mental diseases issued in recent years, may be divided into two classes. On the one hand, there are the works of original investigators who, by a searching analysis of pathological mental phenomena, a comparison of psycho-pathological results with the facts of normal psychology, and an independent regard, have attained to fresh syntheses and new categories, stamped throughout by the personality of their authors; and on the other hand those purely didactic in aim, collating, arranging and classifying known facts. As befits a manual on *Psychological Medicine*[1] for the use of students, Dr. MAURICE CRAIG'S book belongs to the latter category and fulfils its author's aim in a satisfactory manner. In the preface and throughout the book the reader is constantly reminded that he should regard mental disorders in the same way as disease in general and not as the result of some extraordinary visitation. This warning, which is certainly not uncalled for, becomes with increasing knowledge every year less necessary, and to a very large extent the bewilderment which gives origin to this unfortunate attitude is due to an ignorance of normal psychology. Dr. Craig rightly maintains that "it is difficult for a physician to investigate or accurately gauge symptoms of the diseased mind if he is totally ignorant of normal mental processes," and devotes a short chapter to this subject. Doubtless the author has excellent reasons for keeping this chapter within the limits of eighteen pages, but what is required is a thorough grounding in general psychology preparatory to a study of morbid processes, and a constant reference in systematic treatises of insanity to the psychological groundwork, so far as it is known, of departures from the normal. We have nothing but praise for the classification which Dr. Craig has adopted. He has endeavoured, he says, to hold an even balance between the old and the new psychiatry as represented by Kraepelin and his followers, and frankly

[1] *Psychological Medicine.* A Manual on Mental Diseases for Practitioners and Students. By Maurice Craig, M.A., M.D., M.R.C.P. Lond. London: J. and A. Churchill. 1905. (Demy 8vo. pp. 449; 22 plates.

admits the usefulness of the categories paranoia and the much abused dementia praecox. In this he has done well, for though no classification can lay claim to even approximate accuracy, except on a pathological basis, these categories conform to well-known clinical types, form convenient provisional pegs on which to hang cases, and do much to stimulate and direct attention to a closer clinical study of mental disorders. After discussing the causation and classification of insanity, the author turns to general symptomatology. The various forms of hallucinations, illusions, and delusions are classified and described, and the main forms of other departures from normal psychical functions elucidated. This chapter also contains an extremely interesting description of the alterations of blood pressure in the insane, founded on the results of the author's original investigation. Such work is of great value and furnishes an example of the manner in which careful attention to bodily conditions may supply a guide to treatment. In discussing the muscular element of thought, Dr. Craig draws attention to the writings of Bevan Lewis on this point, but makes no mention of the great work done by Storch in this field. The description of delusions is somewhat meagre, nor is the distinction between a delusion and a wrong belief sufficiently elucidated, and although he quotes Defendorf's dictum that "delusions are inaccessible to argument," he does not attempt to explain why they are inaccessible to argument, though this involves the very crux of the distinction between these two conditions. The author's accounts of states of excitement, states of depression, stupor, and catatonia, and paranoia are all excellent and succinct. A short chapter is devoted to dementia praecox, in which Dr. Craig accepts the usual division into hebephrenic, catatonic, and paranoid forms, although it is evident that, clinically, cases of catatonic stupor and the catatonic form of dementia praecox may be indistinguishable. The catatonic form of dementia praecox is, therefore, limited, by the author, to adolescent patients. The main symptoms of dementia praecox are given, but we note that there is no mention of persistent ptyalism, a very frequent symptom, and that, as regards aetiology, head injury finds no place, although Schultze and others give this a prominent position. Turning to the vexed question of the relation between alcoholism and insanity, the author, in an admirable account of the intoxication psychoses lays stress upon the part played by alcoholic intemperance.

There is a very good account of general paralysis and the question of its syphilitic, or para-syphilitic, origin is impartially discussed. Dr. Craig concludes that:

> Everything points to the majority of cases of dementia paralytica being brought about by a combination of causes of which syphilis is usually the predisposing unit, and this view is borne out by clinical experience. Though this is true for a large number of cases it must not be forgotten that from time to time patients are seen suffering from unmistakable signs of general paralysis from whom no such history can be obtained.

From this Dr. Craig concludes that there is probably yet another factor to be discovered. That it is impossible to obtain a history of syphilis in a certain percentage of cases of general paralysis is undoubtedly true, but it is also true that at Vienna it has been found that in undoubted syphilitic lesions, yielding to antisyphilitic treatment, a history of syphilis was obtainable in only 64 per cent. Dr. Craig's book, which contains excellent articles on the relationship of insanity to law, case-taking, and treatment, is illustrated by twenty-two very beautiful plates of various morbid states, macroscopical and microscopical, and may be warmly recommended as a safe guide to investigation and treatment to both students and practitioners.

During the last decade, the classifications of mental diseases adopted by the older authorities, Krafft-Ebing, Morel, and others, still general in this country, have been undergoing great rearrangement, and the nomenclature enormous additions. These changes have been due to a few workers, notably Kraepelin; they have been keenly discussed, and by many opposed—witness the discussion on dementia praecox at the Oxford meeting of the British Medical Association—but they are none the less exerting a steady influence on the points of view of alienists in all countries, and are finding recognition in all recent handbooks, for example, that of Dr. Maurice Craig reviewed above. No one can claim for any present classification of the insanities an abiding worth, as the only true classification must be founded on a pathological basis, as yet wanting. In the meantime, a classification, such as Kraepelin's, which is practically convenient, aetiologically significant, and which facilitates accurate prognosis, is of much value, and is the result, as Dr. de Fursac says, not of mere changes in the nomenclature, but of an essential departure in the methods of taking the mental status, and in the interpretation of the manifestations of the diseased mind. It therefore behoves the student of psychiatry to give to these views his earnest attention, and it may be said that no better introduction to modern psychiatry has yet been published in English than Dr. Rosanoff's translation of Dr. de Fursac's manual.[2] The book is divided into two parts, the first treating of general, and the second of special psychiatry. The first part gives a most complete and, indeed, illuminating account of symptomatology, mode of examination and general therapeutics, and as an analysis, stated in lucidly concise terms, of the facts of morbid psychology, cannot be too highly praised. The second part follows Kraepelin's classification, and though erring, if at all, on the side of brevity, will be found to be sufficiently complete. We have noted only one error—probably an oversight—by which the pupil phenomenon of Piltz (contraction of the pupils on forcible closure of the eyelids) is given in dementia praecox as a pathological, and not, as it should be, as a physiological sign.

The book may be most warmly recommended to English students.

Dr. KRAFFT-EBING'S *Textbook of Insanity*[3] has enjoyed such wide popularity, has run through so many editions, and has been for so many years the leading textbook of insanity in many Continental universities that an English translation cannot fail to be of great service to both English and American students. It is true that more modern writers, particularly Kraepelin and his school, are opening up fresh views, and bringing about gradual alterations in the classification of mental diseases, but Krafft-Ebing's work still is, and is probably destined for many years to be, one of the standard clinical expositions of the facts of morbid psychology. An indefatigable worker, a lucid and convincing writer, a master in the art of clinical description, and the discoverer of many important psycho-pathological facts, his appointment to succeed Meynert at Vienna was well merited, and the thirteen years of his professorship, which ended on his death three years ago, bore golden fruit in his lectures and this book. Needless to say, some of the early chapters in Book I in which the subject and aids to its study are treated, would have been amended in so far as they related to the underlying neural changes in the insanities, had the author lived, but these have been ably brought up to date by the translator, Dr. Chaddock. Book I and Book II deal respectively with the general and special pathology of the insanities and their treatment. Under the heading of General Pathology are treated the elementary anomalies of cerebral function in the affective, intellectual, and psycho-motor spheres; the causes of insanity; the course and prognosis of mental diseases, and general diagnosis and therapy. The treatment of these subdivisions is admirably concise and finely didactic. Book III, the last, gives the special pathology and treatment of insanity arranged according to the author's classification, which, like that of the Medico-Psychological Association of Great Britain, is partly aetiological and partly symptomatological. It is more complicated than ours, but is much more complete. Under the first main division of the "psycho-neuroses" are considered melancholia, mania, primary curable dementia (stupor), primary hallucinatory insanity and secondary insanity and terminal dementia. "Psychic Degenerations" come next under review, and this part contains most excellent accounts of paranoia and the periodic insanities. In Part III of the "Special Pathology" mental diseases arising out of constitutional neuroses are discussed at considerable length and thoroughly elucidated. It is impossible to do more here than outline the system of classification adopted, but attention may be drawn to the author's masterly explication of this intricate subject, in which he evolves order from seeming chaos and knits up the ravelled sleave of overlapping symptoms. In this part, also, are considered imperative

[2] *Manual of Psychiatry.* By J. Rogues de Fursac, M.D., formerly Chief of Clinic at the Medical Faculty of Paris. Translated by A. J. Rosanoff, M.D., Assistant Physician L. J. State Hospital, New York, and edited by Joseph Collins, M.D., Professor of Psychiatry, New York Post-Graduate Medical School. New York: John Wiley and Sons; and London: Chapman and Hall. 1905. (Crown 8vo, pp. 364. 10s. 6d.)

[3] *Textbook of Insanity.* By Dr. von R. Krafft-Ebing, late Professor of Psychiatry and Nervous Diseases in the University of Vienna. Translated from the last German edition by Professor C. G. Chaddock, M.D., of St. Louis University, with introduction by Frederick Peterson, M.D., President of the New York State Commission in Lunacy. Philadelphia: F. A. Davis and Co. 1905. (Demy 8vo, pp. 654. 4 dollars.)

ideas which, it will be remembered, were first defined by Krafft-Ebing in 1876, and have, in most English textbooks, hardly been accorded their due importance. The chronic intoxications and the states of arrest of psychic development complete a work deservedly considered a classic. Illuminating footnotes and clinical records illustrate the text throughout, and theories and hypotheses have been, as far as possible, avoided. The clear style and comprehensible language of the author have been admirably translated into English by Dr. Chaddock, to whom are due the thanks of all students of psychiatry.

NEUROLOGY.

THE title of Dr. JAMES TAYLOR'S book—*Paralysis and other Nervous Diseases in Childhood and Early Life*[4]—might easily have been abridged, but this is the only instance in which this work could have been shortened with any advantage. In the introduction the author offers a justification for a work on the subject, but it may be said that his book renders any words of justification totally unnecessary and superfluous. From his hospital positions at Queen Square and Hackney Road, Dr. Taylor is specially qualified to speak with authority on the nervous diseases of children, and he has utilized his opportunities to the full. We have read his book with pleasure and have but few words except those of commendation to say regarding it. No subject of any importance would seem to have been omitted, and each is treated in a full and adequate manner. The long and elaborate chapter on intracranial tumours might have been written equally from the aspect of such growths in adults as in children, and some parts of this might, perhaps, have been curtailed and extra space allotted to the common forms of intracranial tumours occurring in children and the special symptoms they cause in young subjects. On the vexed etiology of chorea Dr. Taylor writes judiciously and impartially. He is seemingly not a whole-hearted believer in the pan-rheumatic origin of chorea, and he very wisely leaves the question with the dictum that a very large proportion of cases are associated with rheumatism. We were under the impression that the view that rheumatism was a frequent sequela of scarlet-fever had been generally abandoned in the light of recent knowledge and statistics. With regard to so-called "paralytic" chorea, other observers might be disposed to place the proportion of cures in which the paresis precedes any noticeable choreic movements higher than Dr. Taylor. His paragraph on treatment is admirable, and we cordially agree with him as to the disadvantages attaching to the use of big doses of arsenic and of chloral. He might, perhaps, have mentioned the treatment by strychnine combined with big doses of ergot, so strongly advocated by Eustace Smith, as many others have found it successful. In many cases it undoubtedly fails, and the main difficulty is in selecting the suitable ones for its trial. In an interesting chapter on night-terrors, Dr. Taylor states his disbelief in the utility of attempting any subtle distinction between this disorder and nightmare, and asserts that the connexion of night-terrors with sleep-walking and epilepsy has been unduly magnified by some writers. The names of any writers who assert any frequent association of night-terrors with epilepsy do not readily recur to us, but all the same we would hold it wise, with Goodhart and Still, to regard the first as danger signals, and as a warning to guard the child who suffers from them from all unnecessary mental stress or strain. Dr. Taylor's classification of infantile convulsions is useful and practical, and we note with pleasure his belief in the occasional connexion of infantile convulsions with later neurotic manifestations. His theory, too, as to the involvement of the cerebral neuroglia, as explanatory of the nervous disorders occurring in rickets, is eminently worthy of attention. In the whole work, indeed, we find much to commend and but little to criticize. His book deserves the success it will undoubtedly attain.

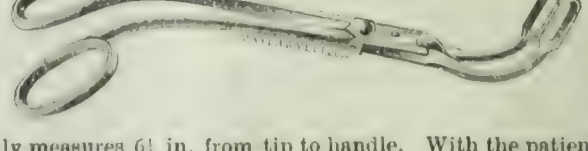
Dr. GRAHAM BROWN'S book on the *Treatment of Nervous Disease*[5] may be read from cover to cover with much interest and considerable satisfaction. In a way it is a pioneer work. Its production implies in itself a certain amount of courage, for in regard to the rational treatment of diseases of the nervous system it may truly be said we have still almost everything to learn. The framework of Dr. Graham Brown's book consists of certain lectures delivered from time to time in the Edinburgh Royal Infirmary. The idea which underlies their structure and arrangement, he tells us, is that the physiological function of the particular part of the nervous system which in each case happens to be affected determines the variety of treatment required; and he has accordingly grouped the various nervous diseases, as regards treatment, under the heading of that set of neuronic fibres which in each instance is chiefly and mainly involved. The subjects of the lectures or chapters are prophylactic measures, the treatment of toxic disorders, of peripheral paralyses, of paralysis and irritative lesions of upper motor neurons, of lesions of sensory neurons, of disorders of co-ordination and equilibration, and of functional nervous diseases. Perhaps the best chapter in the book is the first—that on prophylaxis, and especially that part of it which treats of the training and management of neurotic children. The least satisfactory portion is that dealing with the treatment of certain so-called hysterical manifestations, particularly the convulsive seizures—the idea underlying a portion of the recommendations seems to be that they are *quasi* voluntary, which is, to say the least, doubtful. The chapter on the treatment of neurasthenia is excellent, and in regard to the book as a whole it may be said that most of the important methods of treatment are included, both less and more recent, such as the Weir Mitchell method for neurasthenia, the Fränkel method for locomotor ataxia, methods of suggestion, and tendon transplantation. We know of no better guide in English to the inclusive consideration of a complex, difficult, and as yet indefinite subject, and we congratulate Dr. Graham Brown on the success of his venture.

The fourth edition of Dr. JOHN C. SHAW'S book, entitled *Essentials of Nervous Diseases and Insanity, their Symptoms and Treatment*,[6] has been, it is stated, thoroughly revised by Dr. Smith Ely Jelliffe. The revision has not, however, made it a good book. Questions of diagnosis are too often inadequately discussed or omitted altogether. One example taken at random may suffice. Four lines are given to the diagnosis of syringomyelia. They are:

> Thermo-anaesthesia with preservation of tactile sensibility. Trophic disorders, such as panaris, arthropathies, muscular atrophy, etc. There may be complete analgesia. Dissociation of sensibility may be occasionally observed in other diseases.

MEDICAL AND SURGICAL APPLIANCES.

Post-nasal Forceps.—Dr. STCLAIR THOMSON writes: The usual Loewenberg forceps, and many of the modifications, measure 11 in. to 12 in. in a straight line from one extremity to the other. The examination of a few skulls and moist sections shows that this is unnecessarily long. The instrument here represented



only measures 6¼ in. from tip to handle. With the patient's mouth wide open—as it must be in all cases requiring this instrument—this length is sufficient, even for full-grown adults, while the shortness and lightness of the forceps lend precision to all manipulations in the post-nasal space. The forceps is otherwise but a slight modification of the form known as Jurasz's. It was designed some ten years ago, and at first was employed in all cases of removal of naso-pharyngeal adenoids. Since adopting the curette described on page 135 this use of the forceps has been almost entirely abandoned. But it is still, owing to its small bulk, better adapted than the smaller curette for removing adenoid growths from infants, in whom the post-nasal space is both relatively and absolutely so remarkably small. In all adenoid operations it will also prove useful to have these forceps at hand for grasping any detached mass which may fall out of

[4] *Paralysis and other Nervous Diseases in Childhood and Early Life.* By James Taylor, M.D., F.R.C.P., Physician for Out-patients to the National Hospital for the Paralysed and Epileptic; Physician to the North-Eastern Hospital for Children, and to the Moorfields Eye Hospital. London: J. and A. Churchill. 1905. (Demy 8vo, pp. 512; 74 Illustrations. 12s. 6d.)

[5] *The Treatment of Nervous Disease.* By J. J. Graham Brown, M.D., F.R.C.P.E. Edinburgh and London: William Green and Sons. 1905. (Demy 8vo, pp. 478. 15s.)

[6] *Essentials of Nervous Diseases and Insanity, their Symptoms and Treatment.* By John C. Shaw, M.D. Fourth Edition thoroughly revised by S. E. Jelliffe, M.D., Ph.D. London: H. Kimpton. 1904. (Crown 8vo, pp. 196. 4s.)

the caged curette, or for removing any tags of growth found hanging after the operation. Apart from the adenoid operation, these forceps are frequently of service in removing polypi or cysts from the choanae, and in dealing with foreign bodies, necrosis, and new growths in the post-nasal space. As they serve as carriers of cotton-wool or gauze, they are convenient for making applications and dressings, or for tamponing the cavity. They are made, in one size only, by several instrument makers.

An Adenoid Curette.—Dr. STCLAIR THOMSON writes: The use of a curette for the removal of naso-pharyngeal adenoids, in preference to the various forms of post-nasal forceps, has now become almost universal. Most surgeons who have been performing this operation for more than ten years commenced with some form of Loewenberg forceps, and have gradually discarded it for the curette. The curette removes a growth so rapidly and completely, that the time occupied is very short and the risk from haemorrhage is greatly lessened. For those whose dexterity is not maintained by frequent practice the curette is also a much

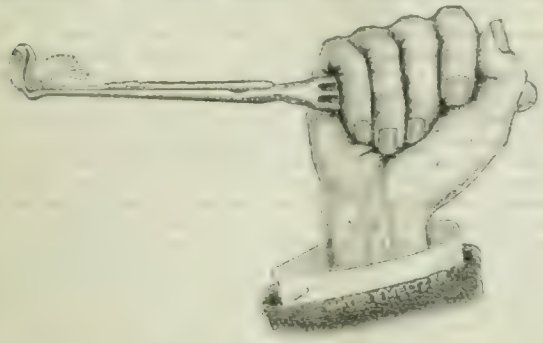


Fig. 1.—An adenoid curette.

safer instrument. Once introduced behind the soft palate, and carefully maintained in the middle line of the body, it can be swept backwards and downwards along the naso-pharynx without the slightest risk of wounding any important structure, except the projecting adenoid mass. I have never known of any operator reverting to the older instrument when once he became used to a satisfactory form of curette. The original Gottstein form, although it detached the growth, had the drawback of not bringing it away, while there was some anxiety of the detached adenoid mass embarrassing the respiration. This objection was overcome by Delstanche's ingenious idea of connecting a hinged and toothed cage to the curette, so as to receive the growth. As fitted to the original Gottstein model the toothed cage did



Fig. 2.—Life-size drawing of adenoid growth from child aged 3.

not always appear to give sufficient space to fully receive the growth; it became too "crowded," in fact. Besides, the Gottstein form, to which it was attached, ends below in a V point so that much of the lateral masses of a large, square growth might easily escape the first stroke. The Beckmann curette, with its quadrilateral fenestra, and its curve adapted to the roof of the naso-pharynx, is better suited to embrace the adenoid mass. To this curette I have had fixed a hinged, spring frame, armed with short curved teeth set close together. This will admit a mass of any size, and will prevent it from falling out of the curette. For the usual light handle I have substituted a more solid one, which can be grasped dagger-wise (Fig. 1). Held in this position it is easier to keep the instrument all the time in the middle axis of the body, there is no uncertainty as to where the cutting edge exactly is when out of sight (which may happen if the curette is held like a pen, when it may easily become rotated in the fingers), and the growth can be more completely shaved off by one firm stroke. When the main growth has been removed, an ordinary small Beckmann curette (18 mm. across), fitted with a stout handle, will be found satisfactory for removing any lateral extensions which have escaped the caged instrument.

Thinking that better work could be done the larger the instrument employed, I tried various sizes, including one measuring 1 in. across. But this proved useless, and one stock size, measuring $\frac{3}{4}$ in. (20 mm.) across, has been found the most satisfactory for all well-marked hypertrophies. A smaller curette, measuring 18 mm. across, can be used for more limited growths, but the ordinary size is quite suitable for children of 3 years of age, as well as for adolescents, the choice of instrument depending more on the size of the hypertrophy than on the age of the patient. Fig. 2 represents an adenoid hypertrophy removed from a child aged 3. The drawing (life size) was made from the fresh specimen. Fig. 3 is a life-size drawing of another specimen after being



Fig. 3.—Adenoid growth hardened in spirit; from a child aged 3.

hardened in spirit; it is also from a child aged 3, and in both cases the removal was effected with the full-sized curette. This instrument was designed about eight years ago. I am informed that it is the one most generally used in the two chief throat hospitals, as well as in many of the special clinics of the general hospitals. It is manufactured by Messrs. Mayer and Meltzer, who report that they sell more of this model than of any other; it has, therefore, had an extensive trial before I ventured to bring it before the profession.

Aural Cones.—Dr. A. Lewis McMillan (Glasgow) writes: For some years I have been using as a basis for these cones in place of gelatine a substance called coecine. It is a product of Price's, I understand, similar to oleum theobromatis, but with a much lower melting-point; consequently it is unsuitable for making rectal suppositories, but is admirable for the above purpose. It is readily washed out with hot water. I have only used it with morphine, but have no doubt it would prove of use with other drugs as well. I am indebted to Messrs. Simpson and Co., of this city, for the suggestion to try it as a basis for aural cones.

A NEW STATE DEPARTMENT OF HEALTH FOR PENNSYLVANIA.—The Governor of Pennsylvania has signed the Bill passed by the Legislature at its recent session abolishing the State Board of Health and establishing in its stead a Department of Health, whose head shall be clothed with almost unlimited authority in regard to the control of sanitary conditions within the limits of the State. The commissioner of health contemplated by the new Act must be a practitioner of at least ten years' experience, and he is to receive an annual salary of £2,000. He will be assisted by an Advisory Board consisting of six members appointed by the Governor, four of whom shall be medical practitioners and one a civil engineer, serving without salary, but having their necessary expenses defrayed by the State. The State is divided into ten health districts, each in charge of a medical practitioner of at least five years' experience, who will receive an annual salary of £500.

NOVA ET VETERA.

THE ANTIQUITY OF VACCINATION IN INDIA.

Under this heading a leading article appeared in the British Medical Journal of April 15th, in which reference was made to a claim advanced by Lord Ampthill on behalf of the Hindus of having practised vaccination many centuries before it was, to use his own word, "rediscovered" by Edward Jenner. Lord Ampthill based this claim on a passage in an ancient Sanscrit work by Dhawantari which he said had been discovered by Colonel King and brought to his notice by that distinguished officer two years before. The speech in which the passage occurred was made by Lord Ampthill on the occasion of the formal opening of the King Institute of Preventive Medicine at Guindy on March 11th, a report of which was published in the *Madras Weekly Mail* of March 16th.

In commenting on that speech we ventured to hint that Lord Ampthill had somewhat misunderstood the information supplied to him, as the existence in Sanscrit works supposed to be ancient of passages in which vaccination was described had been known for something like a century. In proof of this statement we referred to Baron's *Life of Jenner* in which mention is made of passages purporting to be extracts from a medical work attributed to Dhawantari which were published in the *Madras Courier* of January 12th, 1819. In these passages an account was given of the inoculation of matter from the cow as a protective against small-pox. It was added that Baron had made inquiries as to the genuineness of those passages of eminent Oriental scholars, who considered that there were good grounds for suspecting that they were interpolations made with the object of inducing the Hindu to submit to vaccination by making him believe that it was a traditional practice among his people. In reference to the article, the main points of which are here recapitulated, we have received the following letter, dated May 10th, from Lieutenant-Colonel W. G. King, I.M.S., C.I.E., Sanitary Commissioner for Madras:

> In your issue of the 15th April, you refer to the above subject, as discussed by His Excellency Lord Ampthill in his address at the opening of the King Institute, Madras. During his tenure of office he has, as is well known, taken every opportunity of encouraging the advance of preventive medicine, and has also exhibited interest in the historical bearing of the subject in this country, in connexion with ancient Hindu writings. In response to a query on the latter aspect two years back, I furnished him with the paper to which he referred. As Lord Ampthill's statements, in this particular, were made on the authority of this document, it rests solely with me to deal with the matter.
>
> The paper in question was published in the *Madras Mail* in 1899, in response to a request for information to me personally in its columns by the late Surgeon-General Sir Charles Gordon. It opened by referring to the oft-quoted passage from the *Madras Courier* of 1819, and stated distinctly that it had "at intervals been circulated to the lay and medical press." I then proceeded to say that for many years I had attempted, with the aid of Sanscrit scholars, verification of its origin from Dhanwantari, and, after alluding to the difficulty attending such researches, explained that "the nearest approach" to settling the question was obtained when hunting for Sanscrit references for plague, by the quotation being found in a Sanscrit work entitled *Ayurveda Vijnana*. This is a modern compilation of extracts from various authors. As a fact, it was I who, though no Sanscrit scholar, was able to arrest attention to the passage whilst the book was being read aloud to me, as I had heard it so often quoted; and it was to this little incident Lord Ampthill had the kindness to allude. Since that period it has also been found for me in the *Sabdakalpadruma*, which is also a modern compilation, written by Rajah Sir Radakant Deb Bahadur. This author was held in the highest respect by the best Sanscrit scholars including Max Müller—a fact which should weigh in favour of the genuine character of the quotation. The work was completed, according to the author, in the thirtieth year of his age, or six years before the appearance of the *Courier* quotation. It is necessary to allude to these facts, as you have in your article erroneously assumed that I had made a claim to precedence in respect to the *Madras Courier* of 1819, in first drawing attention to the subject.
>
> Your main object is, however, to throw doubt upon the validity of the quotation. Unfortunately, I am not in a position to consult Baron's work, quoted as your authority; and I am placed in some difficulty by your not positively affirming that the false "poem" actually contained the particular verse ascribed to Dhanwantari. I shall be very much surprised if this can really be done by you. But, even if this subject be treated in the general manner you have done, I think it reasonable to believe that Baron must have misunderstood Sir John Malcolm; he must have muddled the whole subject. Far from Ellis being the criminal, he was eminently an interpolation detective. In the fourteenth volume of the *Transactions of the Asiatic Society*, there will be found exposed by Ellis, in an essay that exhibited the depth of his learning as a Sanscrit scholar as well as his careful and impartial spirit, a gross fraud by Jesuits who had, for the purpose of advancing their religion, resorted to this means. The book which he thus criticized was entitled *L'Ezour Vedam*, and was published in Paris in 1778. If this date be taken into consideration, it is clear vaccination need not have been referred to, seeing that Jenner's scientific confirmation of empirically observed facts was not made till 1798, and vaccination was not introduced into Madras by Lord Clive (Earl Powis) until 1802. Failing, therefore, your being able to prove the quotation actually formed part of the poem you ascribe to Ellis, and you are able to state where the rest of the document is to be found, there is no reason to regard him as guilty of the grave charge made against him, or that you have adduced anything to disprove the ancient character of the quotation, rightly or wrongly attributed to Dhanwantari. I, of course, do not join issue with you as to your second instance of an interpolation, as this was not propounded by me.
>
> As the Vaccination Department of this Presidency is a branch of my office, I have every opportunity of consulting its records, and I may state that although it is evident many thousands of pamphlets encouraging vaccination were issued in former years, I can find no attempt to impress the people with the so-called "poem" of Ellis; and, in my opinion, such a base act would no more have secured official approval in India in the past than in the present; nor, in the Sanscrit libraries available in this Presidency, is there any trace of such a record.

Later we received from Colonel King a further communication, dated May 25th, to the following effect:

> With reference to my letter to you dated May 10th, it is right that I should inform you that, after its dispatch, I ascertained that I could not justly claim that Rajah Sir Radakant Deb Bahadur personally admitted the disputed quotation into his *Sapthakalpadruma*, as the revised edition of this work in which it is to be found was published after his death, long subsequent to the first appearance in the *Madras Courier*. This in no way invalidates my other arguments or, indeed, greatly even in this particular, as the compilers of the revised edition are also recognized Sanscrit authorities.

If Colonel King will refer to our article of April 15th he will see that it was there expressly stated that we had had no opportunity of consulting his writings, and that what he calls our erroneous assumption that he had made a claim to precedence in respect to the *Madras Courier* of 1819 was founded solely on the statement attributed to Lord Ampthill that Colonel King had discovered the passage in question and had brought it to his notice. In regard to this we said that we could not help thinking that Lord Ampthill had misunderstood the information supplied to him. From Colonel King's letter it is clear that this is just what happened. On this point there is, therefore, nothing in dispute between us.

On the general question of the interpolations our article was really in the nature of an inquiry addressed to the learned. We confessed our incompetence on questions of Sanscrit scholarship, and we gave Baron's statements for what they were worth in the hope of eliciting some authoritative utterance on a matter of considerable literary and historical interest. It is necessary to lay some stress on this, inasmuch as Colonel King seems determined to force us into a position of antagonism to him in regard to questions on which we have expressed no opinion, for the good and sufficient reason that we hold none. His quarrel is with Baron, and bearing in mind that

> 'Tis dangerous when the baser nature comes
> Betwixt the pass and fell incensed points
> Of mighty opposites.

we decline to be drawn into the fray. That those of our

readers as may be interested in the point at issue may have a full statement of the case before them, we give the whole passage as it stands in Baron's *Life of Edward Jenner* (London 1838, vol. i. p. 555, et seq.). After referring to a claim of priority in the discovery of vaccination made on behalf of a Frenchman by Husson in the *Dictionnaire des Sciences Médicales* (1821), Baron proceeds:

The same work which sets forth the claims of M. Rabaut recounts likewise the pretensions of the Hindoos to the knowledge of vaccine inoculation. An ancient Sanscrit work has been appealed to as an authority on this subject.

The subject was mentioned many years ago in the *Bibliothèque Britannique*. It has, more recently, been revived in the *Dictionnaire Médicale*, and in the *Madras Courier* of the 12th of January, 1810. The writer of the last-named article refers to *Sancteua Grantham*, a medical work attributed to Dhawantari, which is said to be "undoubtedly an ancient composition."

From this work extracts are given. The first extract describes the method of performing the inoculation with fluid taken from a pock on the udder of a cow, or from the arm of a human subject, etc. The next more particularly describes the small-pox produced by the fluid from the udder of a cow, and appears, in short, to be an imperfect abstract of the opinions and descriptions of Dr. Jenner. It does not at all discriminate between the different sorts of pustules to which cows are liable: it is destitute of all the characters of fidelity and accuracy which give value to information of a scientific nature, and must, therefore, have been quite insufficient to have guided anyone in the management of the very practice it professes to teach. This practice, if it did exist at all in India, must have been extremely rare, but the description given of it is not like that which would occur to any inquirer who had himself investigated the very singular properties of cow-pox inoculation On the contrary, it wears the appearance of a delineation which had been made, not from original observation, but from materials obviously acquired from other sources and put together with studied ambiguity, the writer having been more anxious to maintain the semblance of antiquity than to convey precise knowledge on the subject of vaccination. Had it ever been obtained by the Brahmins, could have been overlooked, and allowed to remain in obscurity till it was called into notice by the industry of British residents in India. To no people on the earth was the secret of vaccine inoculation of greater moment than to the inhabitants of the East, and it exceeds all powers of belief to suppose that such a secret could have been possessed by the most respected caste, without being diffused universally, and the practice adopted with corresponding avidity. The suspicions excited by the internal evidence are not a little strengthened by some circumstances which I am about to mention. I made it my business to inquire from eminent oriental scholars whether such a Sanscrit work existed, and whether from their experience of the habits and customs of the Hindoos there was reason to believe that they possessed any knowledge of vaccine inoculation.

For valuable information on these points I have to express a deep feeling of gratitude and obligation to Sir John Malcolm, G.C.B., a gentleman not less distinguished by his genius and skill as a commander than by the wisdom, learning, energy, and benevolence evinced in all his civil relations. Through his kindness I am enabled to state the following facts

On the introduction of vaccine inoculation into India it was found that the practice was much opposed by the natives. In order to overcome their prejudices the late Mr. Ellis, of Madras, who was well versed in Sanscrit literature, actually composed a short poem in that language on the subject of vaccination. This poem was inscribed on old paper, and said to have been found, that the impression of its antiquity might assist the effect intended to be produced on the minds of the Brahmins while tracing the preventive to their sacred cow.

The late Dr. Anderson, of Madras, adopted the very same expedient in order to deceive the Hindoos into a belief that vaccination was an ancient practice of their own. It is scarcely necessary to observe that had any authentic record of such a practice existed, these gentlemen never would have resorted to such a contrivance to gain their object. It is further to be observed that smallpox inoculation was frequently practised by the Hindoos, but there is no proof whatever that they employed vaccination.

Shortly after the introduction of vaccination into Bengal, similar attempts were made to prove that the practice was previously known there also. As the account of this transaction is somewhat different from that which occurred at Madras, it is proper to mention it. A native physician of Bareily put into the hands of Mr. Gillman, who was surgeon at that station, some leaves purporting to contain an extract of a Sanscrit work on medicine.

This work is said to be entitled *Sud'ha Sangreha*, written by a physician named Mahadeva, under the patronage of Rájá Rájasin'ha. It contained a chapter on Masúrica or chickenpock

Towards the close, the author appears to have introduced other topics: and immediately after directing leeches to be applied to relieve bad sores he proceeds thus: "Taking the matter of pustules, which are naturally produced on the teats of cows, carefully preserve it, and before the breaking out of small-pox make with a fine instrument a small puncture (like that made by a gnat) in a child's limb, and introduce into the blood as much of that matter as is measured by a quarter of a ratti. Thus the wise physician renders the child secure from the eruption of the small-pox."

This communication was shown to Mr. Colebrooke and Mr. Blaquiere, both eminent Sanscrit scholars, and they both suspected that it was an interpolation. The first-named gentleman further adds that the original work, from which the extract purports to have been taken, was not exhibited to anyone well versed in Sanscrit. I believe I may further add that Mr. Colebrooke made inquiries whilst in India, which fully satisfied him that no original work of the kind ever had an existence. Sir John Malcolm has also been kind enough to ascertain that no such book is to be found in the library of the East India Company.

From these statements it must be apparent that the well-meant devices of those who attempted to propagate vaccination in India, have led to the belief that the practice was known to the Hindoos in earlier times.

From a letter which appears in the *Madras Mail* of May 30th we gather that since the date of his last letter to us Colonel King has had an opportunity of referring to Baron's book at first hand. He adheres to his opinion that Jenner's biographer made "a complete muddle of the information received by him from Malcolm." We must frankly say that, if he did, Colonel King does not seem to us to have cleared up the muddle. Here, as far as we are concerned, the matter must rest.

THE TYPHOID OUTBREAK IN THE UNITED STATES MILITARY CAMPS DURING THE SPANISH WAR.

A VOLUMINOUS report[1] has been issued by the United States Government on the typhoid fever epidemics which occurred amongst the United States Volunteers whilst encamped within their own country during the war with Spain in 1898.

GENERAL CHARACTERS OF THE OUTBREAK.

About the end of April or beginning of May, 1898, over 100,000 of these volunteers had assembled and encamped in their respective States. After two or three weeks, most of the various regiments were drafted to large national encampments on selected sites in Virginia, Florida, Georgia, Pennsylvania, and Alabama.

It is computed that more than one-third of these regiments had cases of typhoid amongst them by the time that they arrived at the National Camps; whilst 98.11 per cent. of the regiments developed the disease within eight weeks after their arrival.

In the five months, May to September inclusive, among 107,973 officers and men in ninety-two regiments, 20,738—that is, very nearly one-fifth—are reported to have become infected; and 1,580—that is, 14.63 per 1,000 of the mean strength—died of the disease.

So rapidly did the epidemics spread in the camps, that on August 18th a Board of medical officers (Major Reed, Major Vaughan, and Major Shakespeare) was appointed to inquire into the cause and extensive prevalence of the disease. As a result of these investigations a report was produced, consisting of 2,600 type-written pages, illustrated by over 100 maps, plans, and charts. This report was deposited at the Surgeon-General's office. In 1900 an abstract of this report was printed and published in order that the conclusions formed by the Board "might be available for the use of the profession at the earliest possible date."

In 1904, after considerable delay, an appropriation was granted by Congress for the production of the full report, and it was published at the end of that year.

Owing to the untimely and deplorable death of two members of the commission, Major Shakespeare and Major Reed, the great task of editing the report devolved upon Professor Victor Vaughan, of the University of Michigan. "Professor Vaughan, whose special fitness for the work is well known to the medical world, has laboured unceasingly to put the full report in such shape as to make it a classic, not only for the study of the epidemiologist, but also for the use of the entire medical profession."

SCOPE OF THE REPORT.

The report is presented in two volumes. Vol. i contains:

An introduction.

Detailed accounts of the various regiments under consideration; the conditions of their camps, etc.; the probable sources and causes and the development and extent of the typhoid epidemics, etc.

Appendices dealing with the bacteriological analysis of water, the disinfection of polluted water, and bacilluria.

Vol. ii consists of a large number of maps of camps, etc., and of charts representing graphically the date and number

[1] *Report on the Origin and Spread of T[illegible]* by Walter Reed, Major and Surgeon, United States Army, Volunteer [illegible] Division Surgeon, United States Volunteers, and [illegible], Major and Brigade Surgeon, United States Volunteers, [illegible] in accordance with Act of Congress, under the [illegible] Robert M. O'Reilly, United States Army. [illegible] s and charts 96 pp. Washington: The Government [illegible]

of cases of typhoid reported in each company in twenty-four regiments, and the dates and number of all cases of diarrhoea, malaria, and typhoid which occurred in each company of sixty regiments.

The Introduction.

The Introduction gives a brief summary of the itinerary, methods, and work of the Board, and a prospective survey of the Report itself, without which it would be difficult to investigate the vast number of observations and the complicated details presented for consideration.

Methods and Work of the Board.

The Board visited and carefully inspected all the larger national encampments between August 18th and October 20th, 1898, and "endeavoured to ascertain by direct personal observations and by the testimony of medical officers all the facts ascertainable with regard to the spread of typhoid fever in the various commands." A study of the methods and details of work, briefly summarized in the introduction, shows that the Board had unique and extraordinary opportunities for tracing out the threads of evidence with regard to the origin and spread of typhoid fever in encampments, and that they spared no pains to make full use of those opportunities.

Table Showing the Numbers of those Regiments, Divisions, and Army Corps, especially investigated by the Board at the various National Encampments:

Date of Inspection.	Encampment.	No. of Army Corps.	Division.	No. of Regiments.	Mean Strength.
Aug. 20th	Camp Alger, near Washington, in Virginia (Va.)	I	1	8	8,596
			2	10	11,211
Aug. 26th	At Furnandina, in Florida (Fa.), and later, Huntsville, etc.	IV	—	7	7,567
Aug. 28th	At Jacksonville, in Florida (Fa.)	VII	1	9	10,759
			2	7	7,999
Sept. 7th	At Huntsville, in Alabama (Ala.)	—	—	—	—
Sept. 10th	At Chickamauga, in Georgia (Ga.)	I	1	2	2,589
			2	9	11,344
			3	8	10,302
		III	1	8	9,444
			2	9	11,124
		Cavalry	—	3	3,145
Sept. 14th	At Knoxville, in Tennessee (Tenn.)	—	—	—	—
Sept. 13th	At Camp Meade, near Harrisburg, in Pennsylvania (Penn.)	II	1	6	7,248
			2	6	6,714
	Totals	—	—	92	107,973

After making a special and exhaustive investigation of 118 regiments which came under their observation the Board rejected 20 as the reports from them were incomplete, and finally summarized and tabulated the detailed accounts of 92 out of the remaining regiments (as given in the above Table), making these accounts the basis of their records and conclusions.

It will be well for those who consult the Report to bear in mind that the order in which the matter is presented does not follow the itinerary of the Board in its tour of inspection.

The reader is recommended, after making himself acquainted with the introduction, to study the 57 "General statements and conclusions" of the Board contained in Chapter XV, and to trace out the evidence on which these conclusions are based, first of all in the "general remarks" "and discussions" which are to be found in connexion with the account of each division or army corps, and finally in the regimental sick reports, evidence of surgeons, etc., and the various tables and summaries which follow the account of each regiment, division, or army corps. This investigation will be facilitated by simultaneous inspection of the maps and charts contained in Vol. II.

General Statements and Conclusions of the Board.

It will only be possible here to consider the more important of these (Chapter XV).

1. *Concerning the Extent and Distribution of the Typhoid Infection.*

From the outset the Board recognized the supreme importance of obtaining correct diagnoses of all the cases reported sick, in order neither to miss obscure or abortive cases, nor to exaggerate the numbers. The account of the methods employed by the Board, and the mass of details collected by them, show that no means were left untried by which they might hope to form an accurate opinion with regard to the earliest cases which occurred and the extent to which the infection was spread in the various regiments.

By means of blood examinations, carried out by experts, by tracing the history of cases as they were transferred from regiment to division, general, or civil hospitals; by reports of *post-mortem* examinations and causes of death, they were led to the conclusion that a very large number of cases reported as cases of malaria, continued fever, diarrhoea, etc., were in reality cases of typhoid fever.

As a result of these exhaustive investigations the Board appear to be quite justified in forming the following conclusions with regard to the extent and distribution of the typhoid.

Conclusions.

(1) During the Spanish War of 1898 every regiment (under consideration) developed typhoid fever.

(2) More than one-third of the regiments had developed typhoid on arriving at the National Camps; 98.11 per cent. of the regiments had developed typhoid within eight weeks after arrival at the National Camps.

(45) About one-fifth of the soldiers developed typhoid.

(46) Army surgeons diagnosed about half the cases of typhoid.

The Commission, in fact, discovered a number of unrecognized cases nearly equal in number to those which were to be found recorded in the reports of the army surgeons.

It is important to note that the Board throughout the Report divides the cases into two classes: (1) The "recognized" or "certain," that is, those which were recognized and recorded in the army Reports; and (2) the "probable," that is, those reported sick with malaria, fever, diarrhoea, etc., which, after careful investigation, the Board regarded as cases of typhoid.

In addition to the elaborate evidence mentioned above the Board adduces arguments to support the correctness of their opinion. For instance, the mortality in 20,738 cases of typhoid, as computed by them, amounted to 7.6 per cent.—a number which they regard as representing the case-mortality of this disease.

This argument will probably meet with adverse criticism. For it must be admitted that the case-mortality of typhoid varies with various circumstances—for example, the degree of virulence of the epidemic and the conditions, care, and surroundings of the patients.

There can be little doubt, however, that the numbers of "probable" cases, as estimated by the Board, are approximately correct, and that about half the cases which occurred were either missed or wrongly diagnosed by the regimental surgeons. No discredit is attached to them on this account. The Commission testifies to the fact that the medical officers both in the volunteer and in the regular service were men of more than ordinary professional ability:

> Owing to the wise rule that all cases of forty-eight hours' sickness should be sent to the division hospital, the regimental officers had the majority of these cases under observation for so short a time that it was impossible in a large percentage of the cases to make a positive diagnosis.

On account of these and other conditions of camp life, abortive and ambulant cases of typhoid are generally overlooked. Consequently these cases, which are distinctly infective, remain in the camp unseparated from their fellows, with no provision for the disinfection of their excreta, clothing, bedding, etc., and may convey the infection to a large number of their comrades before the presence of typhoid is even suspected. Numerous instances of this kind are to be found in the regimental records of the Report.

The exhaustive inquiry made by the Board into every case reported sick with any germ of intestinal or febrile disease in forty-eight regiments, numbering 55,829 men, revealed the fact that a marked immunity from typhoid fever was enjoyed by those who had been reported as sick from malaria and transient fever, or diarrhoea, as compared with those who had been exempt from such attacks. These facts indicate that a large proportion of those cases recorded as cases of malaria, transient fever or diarrhoea must have suffered from attacks of typhoid, slight in character, but sufficient to confer immunity.

The importance of these observations and conclusions can hardly be over-rated. They plainly show the necessity of

providing the means for detecting the abortive and ambulant cases of typhoid in camps if epidemic invasion is to be prevented, and of appointing especially experienced officers for this purpose.

2. Conclusions with regard to the Causes of the Epidemics.

A. Water.

Conclusion No. 26: "Infected water was not an important factor in the spread of the epidemics."

At the outset, the Commission was prepared to find that much of the typhoid infection had been conveyed through the drinking water. The medical officers throughout all the encampments were generally inclined to this view. The conditions of the water supply at Camp Alger, the first national encampment visited by the Board, were such as to make this supposition probable. On further investigation, however, the Board were struck by the fact that the incidence of the disease was singularly irregular amongst the various companies of the eighteen regiments encamped there. In some companies of a regiment there were a large number of cases, whilst other companies were almost or entirely free from the disease, although all of them were drinking the same water. Similar conditions were found to prevail throughout all the encampments visited by the Board. In a large number of the regiments the companies were not attacked simultaneously, as would be the case if the infection were waterborne, but the disease developed in the form of "company epidemics," each one having its own individual characteristics. These facts are illustrated graphically in a large number of charts in vol. ii.

Further evidence in favour of their conviction against water as a chief causative agent is afforded by the following facts:

(*a*) The two divisions of the Second Army Corps, numbering 20,807, at Camp Alger were drinking water from shallow wells and springs, which were undoubtedly liable to pollution, for seven or eight weeks during May and June. During this time these doubtful supplies were being replaced by rapidly-driven artesian wells. Whilst the troops were drinking the water, which was more or less polluted, the disease made slow progress; but about a fortnight after the undoubtedly pure water had been supplied to all the regiments the epidemic spread and rapidly attained large dimensions.

(*b*) Again, the Second Division of the First Army Corps moved from Chickamauga to Knoxville, the Third Division to Lexonville. At both of these places the water used by the troops, as well as by the citizens, was found to be pure. There was no typhoid fever amongst the citizens, but amongst the already-infected divisions the disease continued to spread.

(*c*) The most striking evidence in this direction is found in the history of the Seventh Army Corps, which was encamped partly in and partly near Jacksonville:

> That the water was not infected at Jacksonville seems to be beyond question. This supply came from artesian wells more than 1,000 feet deep, and was distributed through the camps by means of pipes. In August and September, 1898, there were in round numbers at Jacksonville 30,000 civilians or inhabitants of the city, and the same number of soldiers encamped near by. Both civilians and soldiers drank water from the same source. There were only a few sporadic cases of typhoid in the city at a time when each of the three divisional hospitals was receiving a score or more of cases each day.

B. Other Sources and Channels of Infection.

Throughout the report abundant evidence is given of general pollution of the soil of the camps, and of the consequent facilities afforded for diffusion of the disease germs carried on the boots of the men, or by the winds, or by the hosts of flies which were constantly observed visiting alternately the latrines and the mess tents. In some instances where lime had been sprinkled over the contents of the latrines, "flies with their feet whitened were seen walking over the food."

There can be no doubt that the Board were justified on *a priori* grounds in concluding that flies and dust acted as carriers of the infection—(Conclusions 28 and 31); but it is curious to note that there is very little direct evidence to this effect in the maps of camps showing the relative position of latrines, infected roads, and the tents in which cases of typhoid occurred.

There are many other points of great interest and importance which may be found, more or less summarized, in the 57 "general statements and conclusions of the Board"—such as, the evil effects of the overcrowding of tents and of camp sites; of the prolonged occupation of camp sites, and the encamping on sites previously occupied by other troops; the relative safety of the different methods used for the disposal of excreta; and the necessity for complete and thorough disinfection in addition to changing the camp site if a command is to get rid of the infection.

DIRECT AND INDIRECT INFECTION IN TENTS.

The most striking and important evidence and conclusions contained in the report are those in connexion with direct and indirect infection from man to man and from tent to tent. Throughout their inquiry the Board were impressed with the evidence which indicated that the regiments were not attacked generally as a whole, but that the respective companies developed epidemics independently of one another.

> Typhoid fever, as it developed in the company organizations, was characterized by a series of company epidemics, each one having more or less perfectly its own individual characteristics.

For illustration of this statement reference must be made to the charts in vol. ii, illustrating the distribution of typhoid fever among the companies of the different regiments.

> This is especially true when we regard the commencement, the exacerbation during the course, and the time of the termination of the epidemics. . . . The company epidemics have frequent greater or less exacerbations in their course, and the intervals between these exacerbations are, as a rule, closely coincident with the average period of incubation of typhoid fever.

With a view to further investigating these company epidemics, every case of typhoid which occurred in certain companies of five regiments badly infected were traced out. With the aid of medical and company officers the date of each of these cases was noted, and also the tent in which each case occurred.

In this way 1,608 cases of typhoid were plotted out in maps of the camps, showing the arrangement of the companies and the tents in which the cases occurred, together with the date of occurrence.

From consideration of these data, and from the results of careful analyses made of the records of sickness in connexion with the grouping of infected men in their tents, and the average time elapsing between successive or "connectable" attacks in the same tents and in adjoining tents, the Board summarized their conclusions as follows:

Directly connectable attacks...	...	35.01 per cent.
Indirectly connectable attacks	...	27.79 ,,
Total connectable attacks...	...	62.80 ,,

The Board noted also how frequently "certain tents were badly infected, and the majority of all their inmates developed the disease, while other tents wholly escaped."

Unfortunately the maps, so frequently alluded to, showing the location and date of each case in the regiment, are not to be found in the report. The few maps presented are defective in dates, and do not afford convincing evidence with regard to the above important conclusions. It is much to be regretted that all these maps were not preserved and published. The evidence brought forward by the Board, however, is sufficient to show that direct and indirect infection was an important factor in the spread of the disease throughout all the encampments.

More than this, the above summary of "directly and indirectly connectable attacks" appears to indicate that the epidemics were due to this more than to any other mode of infection. If these conclusions of the Board be accepted, it is obvious that typhoid fever, when it has once gained a footing in the tents of an encampment, is little less infectious than small-pox, and is bound to spread with epidemic violence unless drastic measures are taken for its suppression.

Attention has been called before now to the possibilities of direct infection with typhoid fever when men of the most susceptible age are crowded together for weeks in tents, and of indirect infection through the clothing, bedding, etc., or through the soil round about the tents after it has been freely contaminated with organic matter, and specifically infected by the urine or other excreta of men who have received the infection. But never before has it been so definitely demonstrated that when the infection has been introduced into a camp it will continue to spread chiefly from man to man and from tent to tent.

INFERENCES OF GENERAL APPLICATION.

The inference from these conclusions is obvious. In military expeditions, and in any encampments which are to be occupied for a prolonged period, it is of first importance at the outset—or rather, beforehand—to appoint a sufficient number of expert officers to be on the lookout for the first cases of typhoid fever which are sure to occur sooner or later, and for the insidious and abortive cases so liable to escape notice. In the second place, it is of no less importance to

give the medical officers every facility for the separation of such cases from the crowded tents, and for the thorough disinfection of their excreta, bodies, clothing, and tentage.

Without such precautions and provisions all encampments occupied for longer than a few weeks will be liable to disastrous typhoid epidemics.

MEDICAL NEWS.

THE Duke of Connaught will open the Nurses' Home at the City of London Hospital for Diseases of the Chest, Victoria Park, at 4 p.m., on July 26th.

IT is announced that Professor Schweninger, formerly Physician to Prince Bismarck, has resigned the position of Director of the hospital at Gross Lichterfelde, near Berlin.

AT a Special Court of Governors and Subscribers of the Warneford Hospital, Leamington, on July 5th, Dr. Otho F. Wyer was appointed Consulting Physician to the institution, after twenty-one years' service as Honorary Physician.

IN a letter dated Iringa, Uhehe, April 26th, which is published in the *Kölnische Zeitung*, Professor Koch announces that he has found that the trypanosome of tsetse fever undergoes special development in the tsetse fly.

UNDER the will of Mrs. Hames, the wife of Mr. G. H Hames, F.R.C.S., of Sloane Street, the King Edward's Hospital Fund for London will eventually receive the residue of her estate, estimated to exceed £50,000.

A VACATION course, lasting four weeks, will commence at the Post-graduate College, West London Hospital, on Thursday, August 10th. The course comprises twenty lectures and demonstrations. Further particulars can be obtained from Mr. L. A. Bidwell, Dean of the College.

AT the last meeting of the Council of the University of Birmingham, Professor R. Saundby, M.Sc., M.D., LL.D., F.R.C.P., was appointed, on the recommendation of the Senate, as a delegate to represent the Medical Faculty of the University at the International Congress of Medicine, to be held in Lisbon in 1906.

THE late Mr. Francis Wyndham Cook left a sum of £25,000 to his trustees to pay in their discretion to any central fund for the benefit of London hospitals. Half of this sum was given to the Metropolitan Hospital Sunday Fund on June 25th, as stated at the time, and the balance of £12,500 has now been allotted to King Edward's Hospital Fund.

WE regret to announce the death of the famous Vienna clinician, Professor Hermann Nothnagel, who died suddenly on July 7th at the age of 64. He had occupied the Chair of Clinical Medicine in the University of Vienna since 1882, and was the author of many contributions to medical literature of the greatest value. We hope to publish a fuller account of his career in a later issue.

AT a meeting of the Metropolitan Asylums Board, held on July 8th, a letter from the Local Government Board was read, in which it was stated that the Board was collecting information relative to the suggested establishment of sanatoriums for the treatment of consumptives. The Board was, therefore, not in a position to express an opinion on the question whether the managers of the Metropolitan Asylums Board should undertake the new duties proposed.

THE annual Congress of the Royal Institute of Public Health will be opened in London on July 19th, when the President (the Marquis of Londonderry) will give an inaugural address. The business of the Congress will be conducted in eight sections: (*a*) Preventive Medicine; (*b*) Municipal Administration of the Education Acts; (*c*) Child Study and School Hygiene; (*d*) Engineering and Building Construction; (*e*) Bacteriology and Chemistry; (*f*) Veterinary Hygiene; (*g*) Tropical Hygiene; (*h*) Naval and Military Hygiene. Sectional meetings will be held on July 20th, 21st, 24th, and 25th.

ON July 12th the amount received by the Metropolitan Hospital Sunday Fund had reached a total exceeding £50,000. A good many places of worship, it is understood, still have to pay in the amount of their collections on June 25th.

THE QUEEN'S JUBILEE HOSPITAL.—From a fragmentary record of some correspondence between King Edward's Hospital Fund and the Jubilee Hospital which has been published in some of the daily papers, it would appear that the hospital has been informed that the recommendations of the fund were in no sense demands but merely offered as advice, and that failure to adopt them will be in no way resented. Any applications which the hospital may make for grants from the fund will be considered simply on their merits, as in the case of other institutions.

MEDICAL SICKNESS AND ACCIDENT SOCIETY.—The usual monthly meeting of the Medical Sickness, Annuity, and Life Assurance Society was held at 429, Strand, London, W.C., on June 30th, under the presidency of the chairman, Dr. de Havilland Hall. The accounts presented showed that the society was making satisfactory progress. The claim account has steadily fallen, and the sickness now experienced is under the average expected from the tables on which the rates of contribution are based. The total amount of sickness money paid away in the first six months of the current year is rather greater than in the corresponding period of last year, but the growth in the number of members and in their average age accounts for this. The number of new entrants has so far been considerably greater than in 1904, and, as the society spends no money in advertising and pays no commission for the introduction of new business, the increase in the number of new entrants is a very satisfactory feature. Over £10,000 a year is being disbursed by the society in this way, and the hundreds of claims comprising every kind of illness and accident brings the society under the notice of the profession in a manner which no ordinary advertisement could rival. Prospectuses and all particulars of Mr. F. Addiscott, Secretary Medical Sickness and Accident Society, 33, Chancery Lane, London, W.C.

RUPTURE OF GRAVID UTERUS AFTER TWO CAESAREAN SECTIONS.—Professor Olshausen delares that about 120 Caesarean sections have been performed under his observation between 1888 and the end of 1904, and in only one did rupture of the uterus in a subsequent pregnancy occur. Dr. Henkel [1] has reported this case. In 1892 a woman underwent a second Caesarean section in Olshausen's clinique. Last June a hernia of the abdominal cicatrix was repaired. On January 2nd the patient was admitted into the clinique for a sudden attack of somewhat severe abdominal pain for which she could not account. She looked very ill; there was free fluid in the abdominal cavity, the outline of the uterus appeared to be ill-defined and fetal heart sounds could not be heard. Rupture of the uterus during advanced pregnancy, with escape of the fetus into the abdominal cavity was diagnosed. Dr. Henkel opened the peritoneal cavity and removed the fetus and placenta entire. The uterus was then drawn up to the abdominal incision and the ruptured scar which extended from the fundus to the cervix was excised, then the freshened wound closed with ten interrupted sutures and a continuous sero-muscular suture. The patient made a good recovery and was exhibited about six weeks after the operation before a medical society.

SIX LAPAROTOMIES ON ONE PATIENT.—Professor Olshausen exhibited, at a recent meeting of the Berlin Obstetrical Society, a woman who had undergone abdominal section six times in eleven years. In 1903 the right ovary was removed, in 1905 the uterus and the opposite ovary were amputated and a hernia of the abdominal scar resected. In 1896, the hernia recurring, had to be excised, an operation which required to be repeated in 1900, 1903, and 1904. The chief point of practical importance in this case is the obstinate recurrence of hernia of the abdominal scar. Excision of the sac is sometimes more than troublesome, as small intestine may be closely adherent to its inner surface. As a rule, the excision is easy, but it is not satisfactory to learn that with all the care which has been bestowed on the closure of abdominal incisions hernia not rarely develops, whether the layers of the abdominal wall be united all together or separately. Long after-histories of abdominal section are urgently needed. Spencer Wells used to say that a lady once upbraided him for the misery which she suffered owing to a hernia of this kind; the ovarian tumour which that authority had removed was associated in the patient's mind with nothing worse than unsightly abdominal swelling.

[1] Report of Meeting of the Gesellschaft f. Geb. und Gyn. zu Berlin, February 14th, 1905. *Zeitschr. f. Geb. u. Gyn.* Vol. liv, part ii, 1905.
[2] *Zeitschr. f. Geb. u. Gyn.*, vol. liv, part ii, 1905. Report of Meeting of Berlin Obstetrical Society, January 13th, 1905.

British Medical Journal.

SATURDAY, JULY 15TH, 1905.

THE ANNUAL REPRESENTATIVE MEETING.

As will have been realized by those members of the Association who have studied the SUPPLEMENTS to the JOURNAL for March 18th, May 13th, and May 27th, the amount of business to be transacted by the Annual Representative Meeting is very large, while many of the subjects are of first-rate importance to the profession in its relation to the public and to the State. With the view of affording time for the adequate consideration of these matters, the first meeting of Representatives has been summoned for 2 p.m. on Monday, July 24th. It is, we believe, intended to adjourn for dinner, to resume in the evening, and to hold two sessions on Tuesday, July 25th. It seems to be thought probable that it will be necessary to meet again on Wednesday afternoon, but the decision as to this and also as to holding meetings on later days will, of course, rest with the representatives when assembled.

The first business to come before the meeting, after receiving the return of election of representatives and after electing a chairman, will be the adoption of the Standing Orders, which will involve the consideration of certain amendments, of which due notice has been given by Divisions.

The next business will be the annual report of Council, which is of the nature of a record of work done during the year; we presume that, after this has been disposed of, the additional report of the Council on the alteration of the Memorandum of Association which is published in the SUPPLEMENT for this week will be taken. As we were able to announce last week, the Committee appointed by the Council to consider the instructions of the Representative Meeting at Oxford with reference to obtaining alterations in the Memorandum of Association has recommended that the objects in view could be most satisfactorily attained by reconstituting the Association under a Royal Charter. The reasons for making this suggestion, which has been adopted by the Council, are set out in the report. The Committee were advised by Mr. W. E. Hempson, Solicitor to the Association, and by Mr. Fischer Williams, the Counsel who was first consulted, that the Birmingham resolutions would not have the legal effect they had been supposed to bear; and that even should they be sanctioned by the High Court, there would still be difficulties and restrictions in carrying out such objects as the application of the Association funds to benevolent purposes, the promotion of the candidature of medical men to Parliament, or of instituting individual medical defence. A further opinion was obtained from Mr. Beaufort Palmer, who, while expressing the view that an alteration permitting medical defence to be undertaken might be obtained through the High Court, strongly advised the Association to consider the desirability of applying for a Royal Charter. If this were obtained, he pointed out, the Association would be free from the troublesome restrictions due to personal interpretations of clauses of the Companies Acts, while its powers would become much wider, and the procedure necessary to develop the usefulness of the Association would be much less costly under a charter than if it had to proceed by way of application to the High Court. Inquiry in the proper quarter showed that, having regard to the magnitude of the Association and its important interests in all parts of the British Empire, there was reasonable ground for expecting that a Royal Charter would be granted.

The next business of the Representative Meeting will, we gather, be the consideration of the annual report of the Medico-Political Committee and of certain supplementary reports, including a report of the proceedings of the Committee since its annual report was drawn up, and the special report on contract practice: the preparation of this latter report has been a most laborious undertaking, and as at present arranged it will be published, for the information of members, in the SUPPLEMENT to the next issue of the JOURNAL. It is impossible to attempt here to enumerate the many other subjects dealt with by the Medico-Political Committee during the year: they were set out in tabular form, with the necessary appended documents, in the SUPPLEMENT to the JOURNAL of May 27th. They include such subjects as the relation of medical men to coroners, the defects in the Midwives Act disclosed by experience of its working, the abuse of drugs and the undue repetition of prescriptions, and the Medical Acts Amendment Bill, to mention only a few of the most outstanding subjects.

After the reports of the Ethical Committee and the Medical Defence Committee, the next item on the agenda is the consideration of the motions to make new by-laws or to alter or repeal existing by-laws: the proposals were classified and published in the SUPPLEMENT for May 13th: some of them are of a purely formal or verbal character, others are amendments of the substance of existing by-laws, several falling under this category referring to the financial administration of Branches. The third category includes a new by-law to establish an Irish Committee on the analogy of the Scottish Committee.

The proposals for alterations of the Articles of Association stand next on the agenda, and the meeting will then pass on to the consideration of other notices of motion given by Divisions or Branches; these affect respectively the regulations for the administration of the Association and the scope of work of the Association.

We have not here attempted to do more than refer very briefly to some of the more important subjects which will engage the attention of the Representative Meeting. Some of the business has to do with the internal economy of the Association, but much of it is work done for the profession at large. The membership of the Association is large, but if the contention that it is working in the interests of the whole profession be true, as undoubtedly it is, its membership ought to be larger, for every member of the profession ought to feel it to be his duty to lend his support. Criticisms are sometimes heard of the aims and methods of the British Medical Association. Well, it is a very democratic institution, and affords to every one of its members opportunities, if he chooses to use them, of making his opinions known. We are quite confident that any new ideas on the conduct of the business of the Association will be welcomed, but suggestions can be effectively put forward only by those who are members. It is not by standing out of a great professional organization such as this that its power

for good can be increased. If its methods are susceptible of improvement—as no doubt they are, for no human institution is perfect—let it have the advantage of criticism from within. Its power for good, its influence with the public and with the Legislature, will be enormously increased when it is in a position to claim that it includes in its membership all British practitioners of medicine who take a living interest in the welfare and honour of their profession.

THE LUNACY COMMISSION.

The last number of the *Quarterly Review* contains an article upon this subject, which has not attracted so much attention as it deserves. Beginning with a very interesting historical review, the writer shows how it comes about that a lawyer—the Lord Chancellor—is at the head of a body—the Board of Lunacy—which has the care of so vast a province of disease. Such an arrangement is anomalous, and has been, and still is, attended by great disadvantages to the unfortunates who are subject to it. But for this survival from mediaeval times, it would not have been possible for a Lord Chancellor, by placing his insuperable veto upon all projects of reform, to perpetuate for twenty years the infamous abuses of the old madhouses. The evil that men do lives after them, and it is to the obstinate obscurantism of Lord Eldon that we owe the prejudice that still exists against the lunacy laws, against lunatic asylums of all kinds, and especially against licensed houses. This prejudice is still so active, that it has been adduced, by a witness before the Royal Commission on the Care of the Feeble-minded, as a reason for removing this class of cases from the control of the Commissioners in Lunacy, and from the scope of the lunacy law, and for constituting a new statutory body to deal with them. If this should be found necessary, and Parliament should create a separate law, a separate mode of procedure, a separate controlling body, with all the additional expense, and delay, and uncertainty, and awkwardness that will follow on the provision of separate sets of machinery for cases that must come, now under the one set, and now under the other, these untoward consequences will all be the work of the dead hand of that dead Chancellor, whose evil deeds so long survive him.

After sketching briefly and lucidly the history of the legislation dealing with the insane down to the present day, the writer in the *Quarterly* shows the monstrous discrepancy between the strength of the Lunacy Commission and the work it has to do. The Lunacy Act, 1845, established the Lunacy Commission as it at present exists, with three medical and three paid legal Commissioners. There are certain unpaid Commissioners also, whose number varies from time to time, and whose functions are unknown outside their office: but they cannot, it seems, relieve the paid Commissioners of any of the most onerous part of their duty that of visiting the insane in the places in which they happen to be. The number of paid Commissioners was fixed by the Statute of 1845, and no power being inserted in that Act, nor in any subsequent Act, to increase their number, it has remained the same to this day. Yet in 1845 the number of insane persons under the care of the Commission was about 23,000, now it is 120,000. The amount of work under this heading alone has, therefore, increased between five and six-fold, while the number of Commissioners has remained stationary. These figures, however, do not nearly represent the real increase in the work. The larger number of patients is contained in a correspondingly larger number of institutions, and every one must be visited by the Commissioners. Many of these new institutions are in remote parts of the country, which had no asylums when the Act of 1845 was passed. Moreover, not only is the number of patients increased, and the number of institutions which contain them increased, but the amount of work with respect to each patient and with respect to each institution has also increased considerably.

The inspection of institutions has become more thorough, in keeping with the greater thoroughness that is expected in all departments of public life. The number of statutory books that must be inspected by the Commissioners is increased. The number of returns made to the Commissioners, with respect to every patient admitted, is at least trebled. So that it would not be an overestimate to say that, in the last sixty years, the work of the Commission has increased ten-fold. Yet the number of Commissioners is the same now as in 1845. At length the long-suffering worm has turned. Two years ago the Commissioners represented privately to the Lord Chancellor that their work had gone beyond them, and that they could not perform all their duties without an increase in their number. This representation had no effect; and, in its last report, the Commission has taken the unprecedented step of making a public remonstrance. Stung into action at last, has the Government introduced a Bill empowering the Lord Chancellor to quintuple the numbers of the Commissioners in correspondence with the quintupled number of their wards? No. To double the number of Commissioners, then? No. It is proposed that *two* shall be added to the six already existing. To increase by one-third a body whose duties have multiplied by ten! And it is to be noted that this increase is to be final. No power is given in the Bill to provide a further increase, if and when it shall be found necessary. For any further increase, further legislation will be required. But even this paltry increase of one-third in the number of Commissioners is not being pushed with any appearance of sincerity. A Bill has been brought in, it is true, but there is no indication that the Government has any desire or intention of passing it. It was read a first time early in the session, and since then nothing has been heard of it. Why should it be pressed? The insane have no votes. No injustice to them can influence an election.

The writer of the *Quarterly* article suggests, indeed, a method by which the equivalent of two Commissioners could be added to the Board without any cost at all to the country. His suggestion is that the Chancery Visitors should be amalgamated with the Lunacy Commission. The Lord Chancellor has the power, under the Lunacy Act, 1890, to effect this amalgamation by an order under his hand. The fusion of the two offices would have great advantages in some respects, but it is difficult for an outsider to calculate the balance of advantage against disadvantage in a matter in which the data are but imperfectly known. But whether this amalgamation is or is not effected, more Commissioners are needed. If, like our neighbours across the Channel, we were to place a medical man in the position of Prime Minister, so manifestly proper and necessary a measure would not be urged in vain. Even if medical men formed a due proportion of the Legislature, they could bring effectual pressure to bear upon Ministers. The enforced resignation of the whilom Chief Secretary shows what can be done by even a small body of members of Parliament, who are not merely

content with making representations, but are determined to act. If the medical profession were properly represented in Parliament, it is certain that the Lunacy Commission would be properly constituted. Moreover, it is unlikely that in South Africa three men would have perished of typhoid fever for every one that fell beneath the bullets of the enemy.

THE PATHOLOGY OF PLAGUE.

IN a recent publication of the American Bureau of Government Laboratories, Dr. Maximilian Herzog,[1] gives an interesting account of his pathological investigations into cases of plague which have occurred at Manila, together with a useful summary of the important literature on the subject of plague bacteriology and diagnosis. The basis of the original work communicated in this report consists of twenty fatal cases of plague which arose in Manila during 1904. Upon these Dr. Herzog performed very careful necropsies, and supplemented his investigations with cultural and histological examinations and animal experiments. Sixteen of these twenty cases were of the bubonic type, three were pneumonic, and one was of the septic type. Of the bubonic cases there were inguinal buboes in eleven, axillary in one, and cervical in four. This preponderance of inguinal buboes appears to be the general rule in localities where the majority of the people are barefooted. Dr. Herzog calls attention to the difficulty of ascertaining the portal of entry of the plague virus. In seven out of his sixteen bubonic cases not the slightest indication could be found; and in the remaining nine, though the site of inoculation was more or less clearly indicated, it was not always possible to distinguish between a secondary plague lesion of the skin and the seat of original infection. In the three pneumonic cases the portal of entrance was clearly the lungs, since the character of the changes in the bronchial glands made it quite clear that they were not the first foci of infection. In the septicaemic case there was no evidence of an intestinal origin, and it is suggested that the bacilli were probably inhaled, entered the blood stream almost immediately without causing a distinct pneumonia, and in this way produced a general septicaemia without any obvious focal localization.

One of Dr. Herzog's cases suggested the possibility of infection through the agency of pediculi. He was, therefore, induced to take up the study of the part which insects may play as carriers of plague, with particular reference to the alleged transference of plague from rats to men by the agency of rat fleas. In the course of the investigation of this question with reference to local conditions it was found that the rodents in Manila were infested with a species of *Siphonaptera* not hitherto described. The results of the inquiry, however, led to the conclusion that this new species of flea had not taken any part in the conveyance of the disease, the question remaining open as to whether or no plague had been first imported into the city through the agency of rats.

Dr. Herzog rightly insists on the extreme importance, in the interests of public health, of establishing an accurate diagnosis in the first cases which appear, and before the disease has assumed epidemic proportions. It is, therefore, desirable, he points out, that the practitioner should be familiar with the points to look for and the general procedure to adopt in making a *post-mortem* examination of a case which might turn out to be one of plague. On external inspection, the bubo, if present, will generally be found in the femoral, axillary, or cervical region. Dr. Herzog describes it as a rather firm, doughy swelling, over which the skin is generally adherent, while the surrounding tissue is markedly oedematous. In the neighbourhood of the bubo an ulcer or carbuncle with extensive necrosis may be found. The general surface of the body is frequently cyanotic, and skin eruptions, petechiae, and ecchymoses are commonly observed. When the body is turned over, a dark, blood-tinged, foamy, serous fluid oozes from the nostrils. On opening the body the characteristic appearances are multiple haemorrhages, interstitial, subserous, and submucous in situation, general congestion of the organs, enlargement of the spleen, parenchymatous degeneration of the kidneys, and, in pneumonic cases, lobular consolidation of the lungs. A point of histological interest to which Dr. Herzog calls particular attention is the condition of the kidneys. The typical change found microscopically in these organs he describes as "extensive and frequently-occurring hyaline fibrin thrombosis of the glomerular capillaries." The necropsy ought, of course, to be supplemented by bacteriological methods, including smear preparations, the making of cultures, and animal inoculations.

[1] *The Plague: Bacteriology, Morbid Anatomy, and Histopathology.* By Maximilian Herzog, M.D. Manila: Bureau of Public Printing. 1904.

THE ANNUAL MEETING AT LEICESTER.

WE are informed that the Great Central Railway will run a special breakfast train from Marylebone to Leicester on the mornings of Wednesday, July 26th, Thursday, July 27th, and Friday, July 28th. The train will leave Marylebone Station at 7.45, and will arrive in Leicester at 9.40, in time for the meetings of the Sections on those days. Members desiring to reserve seats in the breakfast car should communicate with the Station-master at Marylebone (telephone No. 584, Paddington). The Council desires that the attention of members attending the annual meeting at Leicester should be drawn to resolutions adopted on July 5th with regard to academic costume. The resolutions are to the effect that academic costume is not expected to be worn at the church services, nor at any of the functions at Leicester. In the SUPPLEMENT for this week, the revised programme of the annual meeting is printed together with additional particulars as to longer excursions arranged by the Committee in Leicester. On Saturday, July 29th, there will be an excursion to Buxton, limited to 300, and members taking part in it, after visiting the baths and pump-room of Buxton in the morning, will have a choice of several agreeable ways of spending the afternoon; they may play golf on the links of the Buxton and High Peak Golf Club, or make excursions to Haddon Hall and Chatsworth, to Matlock, or to Castleton. Special arrangements have been made by which, at the conclusion of any one of these excursions, trains going north and south can be joined at a side station. The Duke of Rutland has invited a party of sixty members to visit Belvoir Castle on Friday afternoon, July 28th. Members wishing to join these excursions must hand in their names at the counter which will be provided in the reception room, Young Men's Christian Association Buildings, London Road, Leicester, not later than noon on Thursday, July 27th, and should the applications be in excess of the numbers to which the excursions are severally limited, the names will be balloted for. The attention of members wishing to play golf is called to the notice on page 73 of the SUPPLEMENT, with reference to the links of the Leicester Golf Club, and to that on page 74 as to the Buxton and High Peak Golf Club.

THE POPULAR LECTURE AT THE ANNUAL MEETING.

LAST year, for the first time, a Popular Lecture was delivered during the Annual Meeting of the British Medical Association. The practice is one very commonly

followed in connexion with scientific congresses, and has the advantage of interesting the people of the town in the work of the congress. Last year the lecture was given by Dr. G. B. Ferguson of Cheltenham, who took for his subject disease germs. This year the Popular Lecture will be given on Friday evening, July 28th, by Professor William Stirling of Manchester, and will be devoted to the consideration of the phenomena of fatigue and repose. The lecture will deal with fatigue considered as a condition brought about by the excessive activity of one or more organs, whereby other organs are secondarily involved. The subject will be considered also from the point of view of the teacher and educationalist. An effort will be made, by means of lantern slides and by experiments, to show how the phenomena of fatigue have been studied on the muscles of animals and man: some of the experiments will be projected on the screen. The question of the chemical processes of and products involved during the onset, continuation and recovery from fatigue will be discussed, and also the reason why the effects so long outlast the immediate cause. There will follow an exposition of the question of repose, its necessity and its relation to rhythm. Finally, the phenomena of fatigue as portrayed in art will be set forth by pictorial illustrations taken from some of the great painters and sculptors. Professor Stirling hopes to be able to show a sufficient number of experiments to enable the average working man to obtain an intelligent appreciation of some of the problems that underlie the question of fatigue, physical and mental, and some of the methods which are adopted to study its phenomena, and to ascertain their causes.

THE UNIVERSITY OF SHEFFIELD.

THE King, who was accompanied by the Queen, visited Sheffield on July 12th, and opened the new buildings of the University of Sheffield, which were described and illustrated in the BRITISH MEDICAL JOURNAL of May 27th, 1905 (p. 1151). Their Majesties were received at the University by the Chancellor, Pro-Chancellor, and Vice-Chancellor. After the Archbishop of York had said a prayer the Chancellor, the Duke of Norfolk, read an address from the Court, Council, and Senate of the University. The address stated that the early years of the King's reign would always be remarkable as having witnessed a general awakening to the advantages of higher education in all branches of learning, and of the better understanding of its needs and requirements evidenced by the almost simultaneous creation of five independent Universities at Birmingham, Manchester, Liverpool, Leeds, and Sheffield. The Duke of Norfolk then, as Chancellor of the University, addressed the King, and stated that the origin of the educational movement which culminated in a university was due to Mr. Mark Firth, for the college founded by him had now blossomed into a university. Many others had associated themselves with the movement and during the past three years the faculties of arts, science and medicine had been gathered together into one building while applied science was provided for in an adjacent building. Every class in Sheffield had shown keen interest in the work, masters, and workmen alike, while the women of Sheffield had vied with the men in their generous efforts. It was found that a capital sum of £200,000 was needed to erect and endow the building, but as £30,000 was the sum expected to be obtained for the old building, it remained to raise £170,000; during the three years £140,000 had been raised and the University had just received from Mr. William Edgar Allen, a citizen of Sheffield, a donation of £10,000 for the purposes of a library. The charter of the University was received on the last day of May, and the University thus constituted was proud to be able to express its thanks to the King in person. His Majesty was then presented with the key by Mr Stephenson, Chairman of the Building Committee, and said, "I have great pleasure in declaring these beautiful buildings open, and my fervent hope and desire is the long-continued prosperity of the University of Sheffield."

NEWSPAPER MEDICINE.

IN announcing the death of Professor Nothnagel a few days ago, a daily contemporary informed its readers that the illustrious physician "was found dead in bed from heart apoplexy." The style lacks something of what critics call charm, but what particularly interests us is the remarkable disease here introduced to public notice. "Heart" may, of course, be a misprint for "heat," but we take it that the expression is a somewhat infelicitous rendering of the German term *Herzschlag*, which, being interpreted, means "heart failure." In a recent issue of the *Journal of the American Medical Association*, a selection of specimens illustrating newspaper pathology is given; among these such a trifle as "heart apoplexy" would almost pass unnoticed. Thus we are told of a man who became ill with "pulmonary peritonitis;" of a doctor who died suddenly of "pleurisy of the brain:" and of a professor who, after extraction of a tooth, suffered from inflammation in the jaw "with bacteriologic symptoms." Compared with such afflictions "sorosis of the liver" is a minor trouble. A more serious condition is "ossification of the tissues of the bone," which is said to have caused the death of a clergyman. An unfortunate man is said to have doubled himself up by sneezing so that he could not straighten himself out again. The doctors are quoted as saying that "the spasm of diapleragne resulting from the sneeze caused the vertebrae to snap"; nevertheless, they hope to straighten him out again. Evidently there are optimists in the American profession. We are accustomed to surgery of a fearful and wonderful character in the newspapers, but tolerance has not been established to a sufficient degree to prevent our feeling a mild surprise at the following report: "A peculiar and extremely delicate . . . . operation has been performed . . . . to save the life of Antonio ——— whose stomach was partially torn out by a dynamite explosion. Coils of rubber tubing were inserted in place of his injured intestines." We wish Antonio well, and should therefore be glad if his new intestinal canal were, as Pip wished Mr. Wopsle's calves to be when he was playing Hamlet, a little more probable. The following report of a case in an osteopath's advertisement can scarcely be placed to the account of the newspaper, but as a gem of purest ray serene it deserves such "display" as we can give it: "On examination I found an indurated condition of the entire cervical region producing an external pressure on the medulla oblongata, creating an inflammation in the fourth ventricle, extending along the longitudinal fissure, corpus callosum, and its peduncles, lamina cinerea, olfactory tract, fissure of Sylvius, and the anterior perforated space, involving secondarily the optic commissure, tuber cinereum, infundibulum, pituitary body, corpora albicantia posterior perforated space, and the cruri cerebri; hence the incordinations of the muscular system, loss of speech, locomotion, and ptosis of the eyelid after an attack of blinding headache." "Cruri cerebri" is good, as Polonius says; but, after all, things just as good are often to be found in the medical journals. The issue of the *Journal of the American Medical Association* itself for July 1st contains a paper by a learned doctor entitled "Submucous Resection of Deflected Nasal Septi." Indeed, if we may judge from certain answers to questions at a State Board examination given by "a recent graduate of a well-known medical college in the West," which are quoted in a previous issue (June 17th) of the same journal, it is possible that the newspapers may get their pathology from medical sources. Among the signs and symptoms of cerebro-spinal meningitis, inflammation of the "Cerebelliam of the brain" is mentioned. Tuberculosis of the lungs is defined as "pain in the brest a dry and Hacking caugh and may spit up some and they may no." Chronic Bright's disease is described as "Inflammation of the kidney's scanty High Coloured urine Pain in the back and scarcely feils like moving has Pain in back and lions specific Gravity 1018 to 1030." To a question about hypnotics the answer is "Hypnotics are where a person has lost controle over himself it might be that he is

Intoxicated or Insane, or overdose of Opium Intoxication is where Liquor has him bested and cannot do anything he looses controle of muscles and nerves." The confusion of personality between the patient and the drug here displayed reminds one of the "provings" of homœopathy. These are but a few specimens chosen almost at random. Of course they are published by our contemporary because they are exceptional. But the fact that a man capable of writing such answers should have obtained a degree from a "well-known College" is sufficiently remarkable.

RURAL SANITATION IN A DAIRY DISTRICT.

DR. W. W. F. FLETCHER, one of the medical inspectors of the Local Government Board, has recently inquired into the sanitary circumstances of the Pewsey Rural District in Wiltshire, in connexion with the need for increased sanitary supervision of the district, and a more adequate salary for the local medical officer of health who, having a district of 113 square miles in area and containing a population of 11,000, receives only £50 per annum. The inquiry has brought to light an insanitary state of things which is certainly instructive and which reflects little credit upon the Rural District Council. There are various sanitary defects in house drainage and the disposal and removal of excrement, and ordinary nuisances have not been systematically and effectually dealt with. But it is not to these matters that we wish to draw attention. What is chiefly significant about this report is the fact that Pewsey is in the heart of the dairying industry in Wiltshire and supplies milk to four or five of the largest of the metropolitan dairy companies, and the report shows how little control the local sanitary authority exerts in the direction of making the district suitable for the dairy industry. Dr. Fletcher reports that in the main the water supply of the district is derived from wells, as a rule from unsatisfactory surface wells, though even the deep wells which exist are not so constructed as to prevent ingress of surface water. "Much of the water supply," he adds, "is liable to dangerous pollution." Dr. Tubb-Thomas, the county medical officer, investigated this matter in 1902 and examined samples of water from 100 Pewsey wells with the result that he found 6 were "fairly good," 10 were "indifferent," 18 were "bad waters, all giving indications of pollution with organic matter of animal origin and, therefore, unsafe for drinking in their present condition," and as many as 66 out of the 100 "were very bad waters and quite unsafe for use for domestic purposes, and the majority might be classed as highly dangerous waters." Yet "abundance of wholesome water is available in the immediate neighbourhood," though no scheme of supply has yet been submitted to the Board. When we turn to the cowsheds things are not very much better—"some are excellent, some very much the reverse." Sometimes there is absence of proper flooring and effectual drainage, at other times it is the lighting and ventilation which is inefficient. The farmyards are badly kept. The inspector writes: "I cannot call to mind one satisfactory farmyard; many were dirty and untidy, some filthy in the extreme." There are in all 106 different milk supply premises, and the Dairy, Cowsheds, and Milkshops Order requires registration of the occupants of these premises. Only two are registered, so that of all the numerous milksellers in the district two only are not liable to prosecution for neglect of registration. It would be a wholesome thing if these 104 persons were prosecuted. It should be added that of twenty-nine members of the District Council five are milksellers, and four of these occupy unregistered premises, and should be prosecuted. It is, indeed, a wonderful story of culpability and neglect, and the five London dairy companies which obtain portions of their supplies would do wisely to inquire of their clients if their contracts are being kept. It is impossible to obtain a pure milk supply for London or anywhere else if milk-producing districts have 84 per cent. of their wells yielding polluted water and only 2 per cent. of their milksellers registered and inspected under the Dairy Order, and it is useless to expect it.

THE LEGAL CAPACITY OF THE INSANE.

THE question as to how far a person *non compos mentis* can be held bound by a contract entered into by him was discussed at considerable length in a judgement delivered by the Privy Council last week. Put shortly, the question was whether a mortgage bond entered into by a person of unsound mind, though not formally so found, could be enforced. The case is of interest as showing that the irresponsibility of the insane in matters of contract is of very early origin. In Justinian's *Institutes* it was laid down that an insane person could not transact any business whatever; while Grotius, in his treatise *De Jure Belli et Pacis*, said that the use of the reason was the first requisite to constitute the obligation of a promise, which a madman, idiot, and an infant was consequently incapable of making; *Primum requiritur usus rationis: ideo et furiosi et amentis et infantis nulla est promissio.* Pothier, in his work on "Obligations," interprets the civil law as follows: "All contracts pretended to be made by persons interdicted for insanity, though before interdiction, are null, provided it be shown that they were insane at the time of the contract, for then insanity alone and of itself renders them incapable of contracting, independently of the sentence of interdiction, which is merely a declaration of insanity." Acting on this principle, the Privy Council held that the mortgage bond could be enforced. It should be added that this case was decided in accordance with the Roman-Dutch law, which is in force at the Cape, but the same principles apply in England. It may be mentioned that by the law of England, in order to invalidate the act of a person on the ground of his being *non compos mentis*, the question in a civil proceeding is—Whether he was a rational and free agent in regard to the particular matter. Again, partial unsoundness, not affecting the general faculties and not operating on the mind of a testator in regard to testamentary disposition, is not sufficient to render a person incapable of disposing of his property by will. So in a case tried some years ago, it appeared that the testator made a will (which was disputed) in 1863. He had been confined as a lunatic for some months in 1841, and he remained subject to delusions that he was personally molested by a man who had long been dead, and that he was pursued by evil spirits whom he believed to be visibly present. These delusions were shown to have existed between 1841 and 1865. As to his business capacity, the evidence was contradictory: it was admitted, however, that at times he was capable of making a will. A will made by him was accordingly admitted to probate.

THE TEACHING OF TEMPERANCE IN ELEMENTARY SCHOOLS.

UNDER this title Dr. E. Claude Taylor, Honorary Secretary of the Committee which circulated the petition so largely signed by the medical profession last year, has contributed to the *British Journal of Inebriety* a short account of the results so far obtained by that Committee. After stating that a course of lectures in physiology and hygiene for teachers is given in the West Riding of Yorkshire and at Bristol, and that in Durham, Sheffield, and Leicester, instruction in hygiene including temperance is being organized, and that recently all the Scottish school boards have adopted the idea, he points to the fact that the Board of Education is having prepared a syllabus of hygiene and temperance as evidence that that Board realizes the need for instruction in these subjects. Dr. Taylor has sent us an appeal issued some little time ago for contributions to defray the cost of the work already done by the committee. It appears that the expenditure incurred during 1904 in connexion with the petition, the deputation to Lord Londonderry and subsequent action was in round numbers £210. Subscriptions amounting to about £85 have been received from certain members of the committee, but this leaves a debt of about £130 due to Sir Victor Horsley, the Treasurer. It is believed that the principal expenses connected with the effort have now practically ceased, and the committee desires to complete the financial

account for the past year. Contributions are invited to make up the deficit. They may be sent to Dr. E. Claude Taylor, Eland House, Rosslyn Hill, Hampstead, N.W.

ORAL INSTRUCTION OF THE DEAF AND DUMB.

THE annual meetings of the two colleges engaged in training teachers of the deaf on the pure oral system have recently been held—that of the Ealing College, which is under the superintendentship of Mrs. Kinsey, on Wednesday, June 28th, at Lord Ludlow's mansion in Portland Place, and that of the Institution in Fitzroy Square, under the direction of Mr. William Van Praagh, at the Portman Rooms, on July 4th. At the former Bishop Welldon presided, and the report read by the Rev. Arthur L. Thompson stated that there were now in the practising school 24 pupils, 17 of whom had been sent by school authorities. Seven students were under training as teachers, and, including these, the number sent out by the college since its foundation reached 141. The finances were more satisfactory than previously, the deficit last year being only £178. A short sketch of the methods used in the oral teaching of deaf children was given by the head mistress (Miss Hewitt), and amongst the speakers were Drs. Symes Thompson, Warner, and Fletcher Beach. At the annual meeting of the Fitzroy Square College the chair was taken by the Rev. C. H. Parez, who moved the adoption of the report. Commenting on this, he remarked upon the fact that the demand for qualified teachers exceeded the supply, and regretted that there had not been a larger number of candidates for training in the college at 11, Fitzroy Square, where every facility existed for the purpose, and there was an excellent practising school. No grant was provided by Government in aid of the training of teachers, but the 50 girls and boys taught in the school had earned the highest possible grant given by the Board of Education, amounting to £161 17s. 6d. The report of H.M. Inspector, Dr. Eicholz, was most satisfactory, stating that "the children were singularly successful, not only with speech, but in the matter of general language." An interesting collection of drawings, wood-work, fancy needlework, etc., was on view during the meeting, and a demonstration of the methods of instruction used was given by the teachers with various grades of pupils. The Director, Mr. Van Praagh, furnished explanations of the methods, and Mrs. Western distributed the prizes. Amongst other speakers were Mr. St. John Ackers, Mr. S. Symons, and Dr. Shuttleworth. It was mentioned that a debt existed of over £500, which it was hoped the benevolent public would help to liquidate. Both of these institutions have done excellent pioneer work in the past in helping to abolish "deaf-mutism" by the advocacy and practice of the oral method of instruction, which enables the dumb (formerly so-called) to speak and understand speech, so as no longer to be in a state of social isolation. It is to be hoped that the usefulness and efficiency of the two colleges may not be permitted to become impaired by lack of funds.

BEARDS AND BACILLI.

THE time was when "shaveling" was a term of theological abuse: at the present day it bids fair to become one denoting sanitary righteousness. Some years ago a German investigator called the attention of surgeons to the vast possibilities of infection that lurk in the beard and whiskers of an operator. Dr. Josiah Forrest Kennedy, of Des Moines, Secretary of the Iowa State Board, recently invited medical practitioners to sacrifice the hair that adorns their manly countenances to the greater good of their patients. His appeal has met with a more sympathetic reception than he expected. As a specimen of the letters addressed to him on the subject, he quotes the following from a retired army physician in Nebraska: "Your idea is all right, doctor. If there is any class of men and women who should be clean mentally, morally, and physically it is the doctors. A long-whiskered, long-haired, dirty doctor (and he must be dirty if he has long hair and whiskers) is a disgrace to the profession, and to humanity in general. One of the distinguishing features between man and the anthropoid apes is that one shaves and the other does not." Perhaps the "retired army physician" goes rather far, but he is on the right path. A well-known and highly-respected practitioner of Des Moines writes: "I want to express my gratification and hearty sympathy with your recommendation as to clean-shaven faces for physicians. Now, as a bald-headed man, I wish to suggest that if you can conscientiously carry your recommendation a little farther to include the top of the head, you will be doing a favour to a class that has always been conspicuous, but a little out of style." We confess that we are in sympathy with this suggestion, which has the merit of being, as far as it goes, strictly logical. But it does not go far enough. Why should only the top of the head be shaved? If the doctor of the future is to be clean-shaven, he must also—if he is to be consistent and aseptic—be completely shorn. Dr. Kennedy, who has probably a fine head of hair, is not, however, willing to carry his practice to the full extent of his principles. In his condemnation of the beard, he is—we doubt not quite unconsciously—following the teaching of a sixteenth-century physician, Andrew Borde, who, among other works on the preservation of health, wrote a *Boke of Berdes*, which is unfortunately lost. The learned know it only from some surviving passages of a reply by one Barnes, who came forward in defence of the beard. If he is to be believed, Borde had a personal motive in preaching the policy of the smooth chin. We are told that he got drunk with a Dutchman and vomited over his long beard, which stank so next morning that he had to shave it off. This of course may be nothing more than a sample of what Mr. Stephen Coleridge might call the amenities of mediaeval debate. Fashion is now, for a wonder, on the side of hygiene. Not many years ago every man who could grow a beard took a pride in being, like Bottom, marvellous hairy about the face; now we are going back to the glabrous estate of the actor, the *faccia di musico* which Byron considered a reproach to be wiped out only by the growing of unfashionable moustaches. Shaving may be a counsel of hygienic perfection, but has it not some drawbacks from a moral point of view? We do not speak of the profane swearing of which it is the frequent cause, but of the monstrous cantle which it cuts out of a man's life without compensating gain. Campbell the poet is said to have calculated that a man who shaves himself every day and lives to the age of threescore and ten, expends during his life as much time in making his face smooth as would have sufficed for learning seven languages. If the beard must be offered as a sacrifice to Hygeia, cannot science give to man some method of removal at once swift and easier than the razor?

THE PURCHASE OF A MOTOR CAR.

IT is not too much to say that the purchase of a motor car requires to be entered into with as much caution as the purchase of a horse. The dealer is selling cars every day, but it is not to be expected that the buyer will have all the law of warranty at his fingers' ends. The experiences of Dr. Thomas Cameron of Hull, which were recounted in a case in the King's Bench Division last week, are of interest as showing what remedy is open to the purchaser of a car which does not prove satisfactory. It appeared that Dr. Cameron agreed to purchase from one Greenfield a second-hand automobile of which he had seen an advertisement for £90, by instalments of £5 a month. On inspection the boiler of the car was found to be defective, but this defect was remedied. The car was delivered on October 20th, 1903, when Dr. Cameron, finding that it was not in working order, had some repairs done to it, including a new piston-rod, chain, and tire. He paid three instalments of £5, and in February or March, 1904, he rejected the car as not being in accordance with the contract, and claimed from Greenfield the return of the £25 paid for it and the expenses incurred in connexion with it. Alternatively he claimed damages for breach of contract. A jury found that the motor was not according to contract; that Dr. Cameron did

not keep it longer than was necessary; and that the repairs were necessary. In the event he had judgement for £43. It may be observed that the case put forward by the defendants was that the plaintiff so dealt with the car after it was delivered to him as to debar himself under the Sale of Goods Act, 1893, sec. 35, from rejecting it. That section provides that "The buyer is deemed to have accepted the goods when he intimates to the seller that he has accepted them, or when the goods have been delivered to him and he does any act in relation to them which is inconsistent with the ownership of the seller, or when, after the lapse of a reasonable time, he retains the goods without intimating to the seller that he has rejected them." It is evident, having regard to the case noted, a jury will place a liberal interpretation upon the expression "reasonable time." As to the question of warranty, the case is an illustration of the law that where an article is sold for a particular purpose there is an implied warranty that it shall be reasonably fit for that purpose.

CLINICAL OR LABORATORY COURSES.

THE Harvard University which, during the last few years, has made a number of experiments in educational methods, gave notice recently that beginning with the next academic year students in the medical school would be allowed a very wide choice among the subjects of the fourth year. Advice as to the grouping was given, but otherwise the student was given great freedom to select the subjects which he considered it would be most advantageous for him to take up. It was expected by some that a large number of the students would choose laboratory courses in preparation for later research; this has not turned out to be the case, for a large majority have chosen clinical courses, particularly those leading to general practice, the number of applicants for purely laboratory courses being comparatively few. We agree with the *Boston Medical and Surgical Journal* in believing that this is a matter for congratulation. Even in the case of those men who may ultimately devote themselves to research work, the experience gained by a year devoted to clinical work will be of great value in enabling them to appreciate the relative importance of problems which they may later decide to investigate in the laboratory. Nowadays, moreover, in every field of clinical medicine it is necessary for the student to become trained in the methods followed in the clinical laboratory, and these are in principle identical with those employed in research laboratories; the training, again, in the clinical laboratory is a direct preparation for independent investigation. The converse does not hold good, and a man who misses the clinical training which is placed at his disposal during the later years of his curriculum is never likely to make up for the lost opportunity.

MUSIC-HALL MEDICINE.

WE publish elsewhere a report of proceedings before Mr. Francis, at the Lambeth Police-court, in which a person calling himself "Dr." Walford Bodie was summoned for using titles in contravention of the Medical Acts. It seems that this gentleman appears on music-hall stages and treats "incurable" persons by mesmerism and hypnotism. To emphasize the importance of his qualifications, handbills are circulated in the "halls" to the effect that Bodie is entitled to the degrees of M.D. and C.M.; as a general rule the letters U.S.A. are added, but on May 19th this addition was omitted. The magistrate convicted, but the amount of the fine imposed—£5 and £5 5s. costs—appears to us not to be commensurate with the gravity of the offence. Here was an unqualified person making use of the very highest degrees in surroundings where the public might easily be deceived. He held himself out to treat the incurable by more or less occult arts. It is rather surprising that the magistrate should have considered that the circumstances of this case mitigated the offence committed. By assuming titles which he did not possess, for the purpose of imposing himself on the frequenters of music-halls, the defendant had brought an honourable profession into contempt, and the case might therefore have been deemed one for the infliction of exemplary punishment. Nevertheless, the Medical Defence Union has done a useful piece of work, for while Bodie will probably continue to give his "turns" at "music halls" and "palaces," the conviction will effectually prevent him from posing in the future as a member of the British medical profession.

QUACKERY IN NEW YORK.

AN active campaign has for five years been carried on by the medical organizations of the State of New York against quacks of various kinds, and, according to Mr. James Taylor Lewis, Counsel of the New York State Medical Association, all that has been accomplished has been the prevention of any increase in the number of such lawbreakers. The quacks are still as numerous as when the campaign was entered upon in 1900. Various changes of strategy have been adopted, but, after an expenditure of many thousands of dollars by the medical organizations, unqualified practice continues to flourish. Mr. Lewis points out that there are only two directions in which improvement can be looked for. One of these is a change in the law relative to the punishment of quacks. As the law now stands there is no minimum fine or alternative term of imprisonment: hence nominal fines or very short terms of imprisonment are often imposed. The consequence is that many quacks keep an emergency fund for use in case of arrest, and by pleading guilty give judges the impression that it is a first offence, and almost invariably escape with a fine of £10 or £15. Mr. Lewis contends that there should be a minimum fine of £20 or a minimum term of imprisonment of thirty days, or both, for a first offence, and a fine of not less than £50 or six months' imprisonment, or both, for any subsequent offence. As an illustration of the amount of money made by quacks, he cites the case of an "anti-obesity cure" which brings in from £6,000 to £8,000 a year. In such circumstances a small fine is an unconsidered trifle to the quack. There is, we are told, in Oneida County, in the State of New York, a "natural bone-setter," who has a larger practice in that branch of surgery than any regular practitioner in the neighbourhood. He is called to patients in four or five counties, and Mr. Lewis was informed that no grand jury would indict, and no petit jury could be found to convict, if he were indicted. This man has done more damage to the public indirectly than can be estimated, as properly-qualified practitioners refuse to treat patients because he is called in surreptitiously and disturbs the natural process of repair: then he advises a blackmailing malpractice action. He is called as an expert in malpractice cases which he has advised to be taken into Court, and, strange as it may seem, is allowed by courts to testify. Mr. Lewis thinks that to make a breach of the medical law a felony would be a mistake, because of the delay and difficulties of trials by jury, which would allow a great many offenders to escape scot-free. The other direction in which Mr. Lewis looks for improvement is in the refusal of quack advertisements by newspapers. If daily papers could be induced to exclude all advertisements of clairvoyants, midwives, spiritualists, and fortune-tellers who are unable to produce a diploma licensing them to practise medicine, and who have no medical knowledge, it would be impossible for them to continue to prey upon the public. Some of the papers have expressed a willingness to refuse advertisements from persons who have once been convicted of practising medicine illegally, but that rule is easily defeated by a change of name, and the advertisement is continued. When public sentiment is sufficiently aroused to demand that the daily advertisements of persons who offer to procure abortion under the guise of curing female irregularities, or who profess to cure sickness by removal of the evil influence of wicked spirits, or who claim by the presence of the spirits of departed friends to receive suggestions as to medical treatment and thus undertake a cure, shall be omitted from the papers a great step will have been taken towards the suppression of the class of criminals whose special line is breach of the medical law.

NEW HOSPITAL FOR BERMUDA.

ALTHOUGH a lunatic asylum was established in Bermuda as long ago as 1846, and has a daily average of 52 patients, a small cottage hospital in the outskirts of Hamilton, the capital, which is kept up by voluntary subscriptions, is the only provision in the way of hospital accommodation. There has been, however, so large an increase in the population of recent years, and the islands have become such a favourite holiday resort for tourists from the United States, that—as we learn from a recently-published Blue Book—it has begun to be realized that the time has arrived for the establishment of a general hospital, to be supported partly by a subsidy from the general revenue of the Colony and partly by the fees of paying patients. A Committee of the General Board of Health and others have accordingly drawn out a scheme for the consideration of the Executive, and as soon as the question of site for the extension of the existing hospital or for the erection of a new one has been decided, it is the intention of the Governor to place the matter before the Legislature.

MEDICAL EVIDENCE IN ITALY.

AT a meeting held on June 20th the Medical Faculty of the University of Rome, on the proposal of Professor Baccelli, passed a resolution to the following effect: That in view of the painful spectacle presented by differences of opinion between medical witnesses testifying on one side or the other in criminal cases, leading sometimes to unseemly disputes in public, a radical reform of the system of medical evidence is necessary in the interests alike of science and justice. It is urged that a single Board of experts should be established whose special knowledge should be impartially at the service of both sides. The Rome Faculty invites the co-operation of all the other Medical Faculties of Italy in bringing about this reform.

GANGRENE FOLLOWING PUERPERAL ECLAMPSIA.

THE science of obstetrics has undergone such brilliant developments of late years that some recent papers about the sequelae of eclampsia are worth considering. The fact that sloughing may follow the convulsions is of intrinsic interest, but it also opens up the question of treatment. In any such case neglect might be suspected. But two instances have been published by Dr. Gutbrod of Heilbronn,[1] in which the patients enjoyed the advantages of skilled attendance at least during labour and childbed, although it is worth noting that in the first instance the patient was sent into a public institution, and there was no history of prophylactic treatment or even of any fits during pregnancy; whilst in the second the patient was a widow, and presumably the pregnancy was concealed as long as possible. The first patient was a primipara, and the first severe fit occurred during the passage of the head, which on that account was speedily delivered. The perineum was torn; as it was being sutured a second fit took place. A number more, over fifteen, six being counted within the space of an hour, occurred on the first day. As there was complete insensibility next day, hot compresses were applied, and free perspiration followed. It happened that the unconscious patient lay for some hours with her left hand behind her, touching the sacral region and the left foot crossed over the right. When the compresses were being applied and the patient's body arranged comfortably, the skin of the left hand, the sacral region, the left heel and the dorsum of the right foot was found to be sloughy. There were also sloughs of the skin of the inner side of both knees. The patient recovered, but abscesses developed in the right foot, disorganizing the ankle-joint, so that amputation of the leg below the knee was found necessary. The second patient, a widow, aged 47, was found by her children lying in bed unconscious, with foam on her mouth. Labour set in, term having been reached a few hours later, and was attended with convulsions, yet the child was delivered spontaneously in the presence of a midwife. The fits recurred and Gutbrod employed appropriate remedies. Great quantities of mucus were removed from the air passages. When the fits subsided on the second day the patient became almost maniacal, fouling her room with faeces and urine, attempting to get out of the window and shrieking with laughter when addressed. Her replies were unintelligible. By the tenth day the psychical disturbance had subsided, but sloughing of the integuments over the left great toe was observed. It extended upwards and proved very hard to check; an ulcer developed on the right cornea and large abscesses in the left foot and calf. Recovery was protracted. No doubt both the above cases were of more than average severity, but the fact common to both, that gangrene may follow eclampsia even though the patient be kept under skilled treatment, is of importance.

[1] Gangrän nach Eklampsie, *Monatsschr. f. Geb. u. Gyn.*, June, 1905, p. 714.

THE STANDARDIZATION OF VACCINE LYMPH.

A NEW method has been proposed by M. C. Guérin for the standardization of vaccine lymph (*Ann. de l'Inst. Past.*, May, 1905). He observed some time ago that if a rabbit is inoculated on the back with a measured quantity of vaccine of good quality, a confluent, pustular eruption is obtained over the entire surface inoculated. If then a series of progressive dilutions of the same vaccine are made, and these are inoculated in equal quantities upon rabbits of the same weight, there is obtained a crop of isolated pustules which are more or less numerous according to the degree of dilution, and are readily capable of being counted. If the dilution is not too high the pustules make their first appearance at the end of two days, though if the dilution is pushed further they may not be clearly visible until towards the end of the third day. In every case the total yield is obtained by the fifth day, and this is the period to be chosen for the evaluation of the vaccine. The method he proposes is to make an emulsion of the material to be tested, after keeping it for ten days at a low temperature in an equal weight of sterilized glycerine; a second addition of an equal amount of glycerine is then made, and the process of dilution is continued with sterilized distilled water. These dilutions are tested in doses of one cubic centimetre. If the sample of vaccine is of high quality the eruption produced by a dilution of 1 in 500 is still absolutely confluent, while a dilution of 1 in 1,000 yields isolated pustules, which number from three to four per square centimetre. If, on the other hand, a dilution of 1 in 100 fails to produce an eruption which exhibits at least three or four pustules per cubic centimetre the vaccine must be regarded as of inferior quality, and if a dilution of 1 in 50 fails to produce this effect the vaccine ought to be rejected.

ANTIRABIC VACCINATION.

THE *Annales de l'Institut Pasteur* of June 25th contains a report by M. Jules Viala of the antirabic vaccinations carried out in the Pasteur Institute, Paris, in 1904. In the course of that year the number of persons treated at the Institute was 757. Of these 5 died of hydrophobia—a death-rate of 0.66 per cent. In two of these cases, however, the disease manifested itself less than fifteen days after the completion of the course of treatment, and should, therefore, be deducted from the cases in which the treatment failed. This gives a corrected mortality of 0.39 per cent. Details are given of all the cases in which death occurred. It may be pointed out that since the establishment of Pasteur Institutes at Lyons, Marseilles, Bordeaux, Lille, and Montpellier a certain proportion of persons who have been bitten by rabid animals go to one or other of these instead of repairing to Paris.

AT a meeting of the Manchester and District Association of Fellows of the Royal College of Surgeons of England, held on July 8th, the following resolutions were passed: "That it is desirable that Manchester be represented on the Council of the Royal College of Surgeons." "That Mr. G. A. Wright be requested to stand as a candidate for the next election." Mr. Wright consented to stand, and a sub-committee was formed to further his election.

MEDICAL NOTES IN PARLIAMENT.

[BY OUR LOBBY CORRESPONDENTS.]

The Medical Act (1886) Amendment Bill was read a second time without discussion on Friday last. It consists of only one operative clause, which reads as follows:—"For the purposes of the Medical Act (1886), where any part of a British possession is under a central and also under a local legislature, His Majesty may, if he thinks fit, by Order in Council, declare that the part which is under the local legislature shall be deemed a separate British possession." The Act of 1886 provided for reciprocity between the Mother Country and the self-governing Colonies under certain conditions, and provided that the reciprocal arrangements should be entered into with the Federal Government and not the provincial. In the case of Canada, the British North America Act of 1867 enacted that education should be entirely under the control of the provincial and not the Federal Governments, so that it has been impossible to bring the Act of 1886 into force as regards Canadian medical graduates. The clause above quoted is drawn with the object of getting over the difficulty, and the principle was affirmed by the second reading on Friday. On Monday night, after midnight, the Bill passed its Committee stage without amendment. The third reading was asked for but was refused, and the Bill put down for Wednesday, when it was again blocked and postponed till Monday next, when it will probably be read a third time and sent to the Lords.

Vivisection.—Mr. Field asked the Secretary of State for the Home Department last week whether, in view of the fact that the total number of vivisection experiments in 1905 exceeded those of 1904 by 13,478 experiments, he would cause inquiry to be made into this matter with a view to the abolition of vivisection. Mr. Secretary Akers-Douglas replied that he must point out to the honourable member that this increase was almost entirely accounted for by the additional inoculations, hypodermic injections, and feeding experiments that had taken place. The total increase in all other kinds of experiments was only forty-five. These inoculations, which numbered 30,346 out of the total of 32,562 experiments performed in the year, in no case involved a serious operation, and a very large proportion of them were performed on behalf of public or local authorities. Constant attention was given to the matter, but he was not prepared to take action in the direction suggested.

The Belfast Maternity Hospital and the Midwives Board.—Mr. Charles Craig asked the Chief Secretary to the Lord Lieutenant of Ireland if he was aware that the Central Midwives Board of England had refused to place upon the roll of certified midwives nurses trained at the Belfast Maternity Hospital previous to March 31st, 1905, while they had placed on this roll nurses trained under similar conditions and up to the same date at the Dublin Maternity Hospitals, at the Cork Maternity Hospital, and at the maternity hospital at Limerick: if he could say what were the grounds for the action of the Central Midwives Board in the matter; and if he would take steps to have the nurses in question placed in the same position as other nurses of similar training. Mr. Long answered that the Central Midwives Board was constituted under the Midwives Act, 1902, and the rules of the Board were subject to the approval of the Privy Council for England. The Irish Government had no functions in this matter, but he had been furnished by the Lord President of the Council with a statement on the question which had been prepared by the Central Midwives Board. He gathered from this statement that the purpose for which certain hospitals in Ireland were recognized ceased to exist on April 1st last, when the temporary provision (Section 2) of the Act, relating to existing midwives, expired, and the Belfast Maternity Hospital was not so recognized owing to its failure to apply in time.

Deaths in the Cootehill Infirmary.—Last week Mr. Samuel Young asked the Chief Secretary to the Lord Lieutenant of Ireland whether, in reference to the deaths in the Cootehill Infirmary, the Local Government Board had asked for a personal explanation from the local doctor for his refusal to administer ether in the case of Fitzpatrick, who died after operation; if not, whether the Board would now ask for a personal answer; whether the medical officer made any report of Fitzpatrick's death to the Local Government Board or to the guardians; if so, what had been alleged as the cause of death; and whether the local police were apprised of the death of Fitzpatrick or of any of the four deaths of the previous January; if not, whether any other opportunity was afforded for making any complaint. Mr. Long said that he had already informed the honourable member that the local doctor did not refuse to administer ether, but asked to be excused, as he was not in good health. The doctor, however, would have been quite at liberty to refuse his professional services, and the Board would have had no right to ask him for an explanation, and had not done so. The medical officer made no special report of Fitzpatrick's death. The local police were not apprised of the deaths referred to. The relatives of the deceased could have complained to the Board if they had seen fit to do so. Mr. Young further asked details as to the reports of the Local Government Board Inspector on the cause of these deaths, and Mr. Long replied that the Board had no record of the actual time occupied by their inspector in making his investigation, but the exhaustive report furnished by him indicated that he interrogated the nurses and workhouse officials. In the absence of any complaints of neglect or incompetency, supported by prima-facie evidence, the Board did not order inquiries to be held in the case of deaths following operations.

The Water Supply at Dartford.—Mr. Pike Pease asked the President of the Local Government Board whether the medical officer of health had reported to the Dartford Rural District Council that the pumping station at Darenth, Kent, sucked the adjacent surface springs to such an extent that they ebbed and flowed according to the pumping; that this water must be liable to pollution, but that the water company denied this; and when the inquiry into the liability of this source of supply to pollution, asked for by twenty resident householders on March 22nd, 1904, would take place. Mr. Gerald Balfour said that he understood that the medical officer of health had made a report to the effect referred to. When the undertaking of the water company passed to the Metropolitan Water Board the Local Government Board called the attention of the Water Board to this matter. The Water Board had made a series of tests, which had just been concluded, and he was now awaiting a report as to the result.

The Medical Fitness of the Army.—On Monday Sir Howard Vincent asked the Secretary of State for War when the regular troops on home stations were last medically examined: and if he would pledge himself that, with the exception of those temporarily incapacitated by sickness, all were first-class shots and physically ready for active service, and that every precaution had been taken to prevent the recurrence of the state of affairs in 1899, when 36½ per cent. of the regular army was unable to embark for the field. Mr. Arnold Forster, in reply, said that regular soldiers at home were under constant medical supervision, both by means of the ordinary routine inspection of the medical officer or for special examination for gymnastic courses, service abroad, extensions of service, etc., or on the orders of the commanding officers for the investigation of some defect which might interfere with a man's usefulness as a soldier. He could not give a pledge that, with the exception of those incapacitated by sickness, all the men were first-class shots and physically ready for active service; but on mobilization in 1889 it was found that 3·9 per cent. of the men returned as unable to embark were disqualified on the ground of medical unfitness, while 31·5 per cent. were unfit on account of non-fulfilment of age and service conditions. He considered the proportion of those unfit to embark was too high, and every effort was being made to reduce it, though, of course, there would always be a considerable proportion of men disqualified on account of their being under 20 years of age or insufficiently trained. As regarded the musketry qualifications, there was no regulation requiring regular soldiers to be first-class shots as a condition of active service.

Vaccination Prosecutions in Dundee.—Last Monday Sir John Leng asked the Lord Advocate whether the prosecution in Dundee of twenty-one parents who conscientiously objected to the vaccination of their children had been ordered by the Local Government Board for Scotland; whether such prosecutions took place in England; and why so many prosecutions of this kind were being conducted in one Scottish city. Mr. Scott Dickson answered that the Local Government Board did not directly order the prosecution of vaccination defaulters, but were required by the Vaccination Act to see that its provisions were duly carried out. The Board com-

municated when necessary with parish councils calling attention to the provisions of the Act, and, among the parish councils lately so communicated with, the parish council of Dundee was written to in the early part of the year. In regard to the latter part of the honourable member's question he had no information in regard to English prosecutions. The number of prosecutions, of course, depended on the number of defaulters.

The Report on Vagrancy.—Mr. Pike Pease asked the President of the Local Government Board whether the Committee now dealing with the question of vagrancy would report during the present Session. Mr. Gerald Balfour said he understood that there still remained a considerable number of witnesses to be examined, and that it would not be possible for the Committee to make their report during the present Session.

The Pollution of the Wey.—Colonel Wyndham Murray asked the Secretary of State for War whether any drainage takes place from Bordon Camp, Hampshire, into the sources of the River Wey, which flows into the Thames; and, if so, what steps were being taken by the military authorities to prevent pollution of the rivers. Mr. Secretary Arnold-Forster replied that no unpurified sewage from Bordon Camp discharged into the River Wey. The effluent from the Bordon sewage works eventually found its way, as must any such discharge in that locality, into the Wey, which was the natural watercourse draining that area. Difficulties had been experienced in attaining the degree of purification of the effluent desired by the river authorities, and the matter had been and was receiving very special attention, and every endeavour was being made to put matters upon a proper footing.

Fees for Attendance at Isolation Hospitals.—Sir Charles Welby asked the President of the Local Government Board whether he was aware that, in the case of an isolation hospital having no resident medical officer, it was customary for the local practitioners to attend their own patients; and whether, in the event of any such practitioner being a member of the local authority to which such hospital belonged it was the practice of the Local Government Board to take any steps to prevent the recovery by him of the usual fees paid by the local authority in such case. Mr. Gerald Balfour replied that he believed that not infrequently patients in isolation hospitals were attended by their own medical men. He was not aware of any case in which the Local Government Board had taken steps to prevent the recovery of fees in such circumstances, but he thought it right to draw attention to the provision in Section xii of the Municipal Corporations Act, 1882, which disqualified a person for being a councillor of a borough if he had directly or indirectly by himself, or his partner, any share or interest in any contract or employment with, by, or on behalf of the council. There was a similar provision in the Local Government Act, 1894, as regarded members of urban or rural district councils.

The Use of Ether and Laudanum in the North of Ireland.—Mr. Joseph Devlin asked the Chief Secretary to the Lord Lieutenant of Ireland whether his attention had been called to the abuses arising from the unrestricted sale of ether in the county of Derry and to the inadequacy of the restrictions on the sale of laudanum in Ireland generally; whether he was aware that the want of more stringent regulations in regard to the sale of these drugs had been responsible recently for a murder in Derry county, and the cause of a suicide in the city of Belfast; and whether, in view of the facts, he would take steps to mitigate the possibility of further abuses in connexion with the sale of these drugs. Mr. Long said in reply that both ether and laudanum were scheduled as poisons in Ireland under the Act of 1870. There was some reason to believe that ether was improperly sold in certain districts, and the police would endeavour to bring offenders to justice; but he had no information that the powers of the law as regards laudanum were evaded. The case in Derry was awaiting trial, and he abstained from making any statement in respect to it; and in the Belfast case the coroner's jury found that death was due to an accidental overdose of chloroform. Mr. T. W. Russell asked the Chief Secretary if he was aware that half-pint bottles of ether were sold in Londonderry at a cheaper rate than whisky. Mr. Long replied in the negative, and said the police were doing their best to deal with the matter.

The Aliens Bill passed through its Committee stage on Tuesday night, or rather early on Wednesday morning, under the compulsion of the guillotine. In the course of the debates some medical points arose on the questions of decent housing and the importation of disease. Mr. Akers-Douglas on Monday moved the insertion of the words "disease or" in Paragraph *b* of Subsection iii of Clause 1, with the view to prevent the introduction of special diseases peculiar to alien immigrants. These diseases did not come under the Local Government Board's regulations, and consequently there would be no conflict with the jurisdiction of the Local Government Board. The necessary medical examination would, where it was possible, be carried out by the Port Sanitary officer. Dr. Hutchinson, in the course of the discussion, asserted, on the authority of Sir Shirley Murphy, that notwithstanding the immigration of aliens in Stepney there was a reduction in the death-rate, including infant mortality. What was wanted was the steady enforcement of the by-laws relating to lodgings. There were hardly any diseased aliens charged on the rates, as they were cared for by the Jewish Board of Guardians, and treated in the Jewish wards of the London Hospital. We exported from this country more disease than we imported, and foreign Governments might retaliate. Thousands of diseased persons were sent to the Continent every year, and we had introduced phthisis into the Riviera. He agreed, however, that it was right to prevent the importation of disease. Mr. Rutherford said that in 1893 there were landed in Liverpool 24 cases of small-pox, 32 cases of enteric, and 12 cases of measles. In 1904 there were landed 38 cases of enteric and 34 cases of measles. In addition there were 581 cases of serious diseases which required to be sent to the hospitals. Sir Charles Dilke pointed out that several of the diseases mentioned came under the regulations of the Local Government Board, and that these cases would continue to be landed. The amendment was then agreed to.

The Medical Examination of Volunteers.—On Wednesday Mr. Fuller asked the Secretary of State for War what financial provision he proposed to make to enable officers commanding Volunteer battalions to defray the expense of medically re-examining the men under their command. Mr. Secretary Arnold-Forster replied that there was no reason to suppose that the service would appreciably add to the necessary expenditure of Volunteer corps, and it was not therefore proposed to grant any special allowance. But the matter was receiving consideration. In answer to a supplementary question which pointed out that the Volunteer medical officers were engaged in private practice, and, consequently, would be much inconvenienced in their private work by the service required, Mr. Arnold-Forster said that it was hoped much of it might be done in camp.

Epizootic Lympangitis.—On Tuesday a short discussion took place in the Lords, on a question put by Lord Mayo, with regard to the number of cases of this disease among horses in Ireland. Lord Londonderry admitted the importance of the matter and said the Board of Agriculture were doing their utmost to exterminate the disease; 25 horses and 1 ass had been destroyed on the premises of civilians in connexion with outbreaks of the disease, and 3 other horses had been ordered to be slaughtered. Lord Spencer pressed on the authorities the importance of applying drastic remedies. Very serious disease had occurred in the dépôts for horses in South Africa and it was not safe to take a single horse from those dépôts for horsing the army. He wanted to know how many military centres had had the disease, and whether many horses were not found to be diseased on the passage home. Lord Onslow said the disease had been imported into Great Britain and Ireland almost wholly through army horses. It was more a question for the War Office than for the Board of Agriculture. Lord Donoughmore said he had no statistics with him, but his impression was that there were very few cases in the army at the present time; he would, however, make every inquiry. The matter then dropped.

CONTRACT MEDICAL PRACTICE.

Notice as to Districts in which Disputes Exist.

A notice as to places in which disputes exist between members of the medical profession and various organizations for providing contract practice will be found among the advertisements, and medical men who may be thinking of applying for appointments in connexion with clubs or other forms of contract practice are requested to refer to the advertisement on page 78.

Scotland.

DEATH OF SIR WILLIAM MUIR.

SIR WILLIAM MUIR, K.C.S.I., who was from 1885 to 1903 Principal of the University of Edinburgh, died on July 11th, at his residence in Edinburgh at the ripe age of 86 years. Sir William Muir was a member of the Civil Service of India from 1837 to 1876, but important as his work in India was he will probably be chiefly remembered for the great services he rendered to the University of Edinburgh during the eventful year when the changes in the constitution of the Scottish colleges made by the Act (1899) led to a modification of the old scheme of studies by the Universities Commission. Sir William Muir showed a great interest in schemes for the welfare of the students and contributed largely to their success both by his sympathetic attitude and private munificence. He had received the honorary degrees of D.C.L. from the University of Oxford, LL.D. from the Universities of Cambridge, Edinburgh, and Glasgow, and Ph.D. from the University of Bologna.

NEW ATHLETIC GROUND FOR GLASGOW UNIVERSITY.

Owing to the encroachment on the athletic field made by the new medical and physical laboratories, it has become necessary to provide a new athletic ground. Some time ago a Committee of the University Court was appointed to consider this question. This Committee consulted with the Senate, General Council, Students' Representative Council, and the Athletic Club. Their report was considered at the last meeting of the Court. They state that suitable ground can be obtained at Scotstounhill. The ground can be reached from the University in thirty-five minutes, either by the Great Western or Dumbarton Roads, and it is only five minutes' walk from Scotstounhill Station. The proprietor is willing to sell 12 acres at £400 an acre, and it is estimated that levelling, draining and fencing the ground, together with the erection of a suitable pavilion, would cost a further sum of £3,670. The total cost would therefore be £8,470 or, allowing for contingencies, £10,000. The Athletic Club believes that the upkeep would be between £250 and £300. The following draft constitution was suggested:

1. The ground shall be held by a limited company, whose members shall have one share carrying one vote in respect of each £10 subscribed by them, up to 100 votes, but they shall have no right or interest in the ground save (1) their right to elect six directors as aftermentioned, and (2) their right of disposing of the ground and other assets of the company in the event of the ground ceasing, as after-mentioned, to be used as a recreation ground for the University of Glasgow. 2. The control of the ground shall be vested in a committee of management to be constituted as follows: To be appointed by the members of the limited company, 6; by the University Court, 2; by the Senate, 2; by the General Council, 2; by the Students' Representative Council, 2; and by the Athletic Club, 2—in all, 16. 3. The ground shall be entirely under the management and control of the said committee, who may from year to year delegate their powers to the Glasgow University Athletic Club or to any persons, bodies, or committees they may select, upon such conditions as they may lay down subject to the approval of the University Court. 4. In the event of the said committee deciding that it is inexpedient to carry on the said ground longer as a recreation ground in connexion with the University of Glasgow, it shall be in the power of the members of the above-mentioned company to resolve by a majority of votes to take possession of the ground and dispose of it as they may see fit.

Though it was pointed out that the University under this scheme would have no vested interest in the ground, the Court approved of the report, and reappointed the committee to act along with the other bodies in raising the necessary funds.

ABERDEEN BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

The summer meeting of the Aberdeen Branch of the British Medical Association took place at Newburgh on June 21st. Some twenty members drove from Aberdeen by four-in-hand, arriving at Newburgh about mid-day. There several country members joined the gathering, and the business meeting was held under the chairmanship of Dr. George Edmond. Professor Finlay was appointed Representative on the Council, and Dr. George Rose Representative to the Annual Representative Meeting at Leicester. The rest of the business was of a formal character. After lunch several golf matches were arranged, and for these the links at Newburgh afforded excellent scope. The party, augmented by some late arrivals, dined together in the Adny Arms Hotel, and thereafter returned to town, having spent a delightful day.

ANNUAL REPORT OF LOCAL GOVERNMENT BOARD.

The tenth annual report of the Local Government Board for Scotland has recently been issued. These reports grow in bulk, and the information afforded is of increasing interest and value. From the part of the report dealing with public health we make the following notes:

Prosecution of a Sanitary Authority.

One local authority, the burgh of Kirkcudbright, was prosecuted a second time by the Board. For years past ashpit, privy, and privy-midden nuisances had abounded, so that the air and soil of the whole town were reported as polluted, and no serious attempt had been made to provide a remedy. The Board accordingly petitioned the Court of Session to ordain the local authority to remove existing nuisances and to arrange for frequent refuse removal and the introduction of waterclosets wherever practicable or expedient. A few days previous to the case coming before the court the local authority resolved to take steps to remove the nuisances, and requested delay. This was granted, and an inspector was appointed to report the steps taken from to time.

Small-pox.

The total number of small-pox cases intimated to the Board during 1904 was 2,527, as compared with 550 in 1903, 915 in 1902, and 1,990 in 1901. The disease was discovered in most of the counties, and in many of the large towns there were serious outbreaks. The proportion of the total small-pox borne by Glasgow was much less than in the three previous years, and various places had a much larger prevalence. Greenock heads the list with 333 cases or 48.87 per 10,000 of population. Bo'ness comes next with 23 cases or 24.72, and Falkirk with 68 cases or 23.22. In the early part of the year Edinburgh had 170 cases, or at the rate of 5.30 per 10,000 of population. A notable feature was the large number of cases removed from common lodging-houses, these amounting to nearly 15 per cent. of the whole.

In one instance a local practitioner asked the medical officer of health to help him in diagnosing a doubtful case. The medical officer refused, stating that he was not an expert in small-pox cases, and the Board were consulted as to his duty. They replied that no general rule could be laid down, and that it was not to be assumed that every medical practitioner was entitled to call in the medical officer to aid him in diagnosis, but that it was the duty of the medical officer to obtain early and precise evidence as to small-pox in his district, and that this would usually prompt him to take every opportunity of seeing suspicious cases.

Regarding a dispute between local authorities as to liability for treatment of small-pox, the Board decided that the duty of dealing with any case rested with the local authority of the district within which the case was found, even though the person might only be passing through the district and not have entered any house within it.

Another question was asked as to liability for accommodation of small-pox cases occurring in lunatic asylums. The Board replied that nothing in the Public Health Act suggested that the local authority's duty to provide hospital accommodation for the inhabitants of their district did not extend to asylum cases. Here, as elsewhere, the question was governed by considerations of proper lodging or accommodation so as to prevent spread of the disease. Asylum cases should be removed to hospital, and special nurses or attendants for lunatics would be provided by the asylum authorities; but where a patient was unfit for removal, the Board doubted whether the sanitary authority could be required to provide special accommodation and was of opinion that arrangements would have to be made to meet the special circumstances of each case.

In connexion with small-pox prevalence the Board made inquiry regarding navvy accommodation at various water works, etc., throughout the country, and, where necessary, they communicated with the sanitary authorities regarding defects or nuisances.

Fruit Picking.

Regulations for the accommodation of berry pickers in certain fruit districts are regarded as likely to result in satisfactory accommodation for the workers, but the subject is to be reported on annually by the local officials.

School Closure.

The Board has been in correspondence with the Scotch Education Department so as to harmonize administrative

practice with regard to school closure and to lessen as far as possible interference with education.

Hospital Removals.

The Board's advice was asked on an administrative point connected with the admission of cases of infectious disease to an isolation hospital. In one place it appeared that every case before removal had to be visited, examined, and certified by the medical officer of health, who objected to this regulation, and the Board supported him in his objection.

Attention is called to the possible influence of motor ambulances on hospital administration. One case of scarlet fever was safely removed in a private motor car for a distance of 165 miles in thirteen hours.

The Notification Act.

The Board approves of bacteriological examination in cases of doubtful infectious disease being paid for out of the public health rate and does not contemplate that any auditor will take exception to such expenditure.

Under the Infectious Disease (Notification) Act 28,338 cases were notified in 1903. These do not include diseases to which the Act has been voluntarily extended. The percentage of cases treated in hospital differed as between county districts and burghs. Counties sent to hospital 97 per cent. of their small-pox cases and burghs 99 per cent. For diphtheria the corresponding figures are 33 and 56, for scarlet fever 53 and 71, and for enteric fever 61 and 79. The small burghs appear to remove to hospital a less percentage of cases of the principal infectious diseases than do any other of the tabulated groups of population. Their percentage indeed is appreciably less than that of rural districts under the control of county councils. For diphtheria, scarlet fever, and enteric fever, the percentages of removals to hospital from rural or "landward" areas were respectively 33, 53, and 61, and in the small burghs the removals were only 29, 49, and 50 per cent. Diphtheria is usually regarded as the one infectious disease which prevails more largely in rural districts than in towns. The statistics of Scotland do not appear to support this. In rural districts the case-rate per 10,000 of population was 8.40; in the principal towns (with a population of over 30,000), 9.99; in the large towns (with a population of from 10,000 to 30,000), 9.98; and in burghs with a population under 10,000, 11.45. The small burghs have thus very considerably the highest rate.

Infantile Death-rate.

The infantile death-rate per 1,000 births was in the rural or landward areas of Scotland 93.8, and in burghal areas 127.8.

Food and Drugs Acts.

In reporting on the administration of the Sale of Food and Drugs Acts, a curious question is mentioned with regard to laudanum. One sample analysed was certified to contain morphine, reckoned as anhydrous, to the amount of 1.56 gram in 100 c.cm., while the *Pharmacopoeia* states that it should not exceed 0.8 gram. The local prosecutor thought that the "sale of a superior strength of laudanum was not a sale to the purchaser's 'prejudice' in the sense of the Act." but Dr. Thorpe, of Somerset House, took a contrary view. In England there have been several prosecutions for excess of one or more ingredients in a mixture of drugs, but not apparently for excess of the main ingredient in a single preparation. In a case which was pending at Shellield where this point was about to arise the defendant died before it was disposed of, and so the question remains undetermined.

In the samples taken under the Food and Drugs Acts 9 per cent. were reported as adulterated, the highest percentage being 12.8 for milk, the next 12.2 for drugs, the next 8.4 for spirits, then 6.2 for butter, and 5.6 for margarine. No adulteration was found in samples of tea, oatmeal, flour, and beer. With regard to 667 samples adversely reported on there were 405 prosecutions. In 320 cases convictions were obtained, in 38 the charges were withdrawn, and in 47 there was no conviction. The average penalty inflicted was £2 12s. 3d. for each conviction.

The Staff of the Board.

The report closes with a departmental note, which includes a record of the loss the Board has sustained through the death of Dr. Russell and the retirement of Sir Malcolm M'Neill and the consequent changes in the membership of the Board and its staff.

The appendices contain a large amount of useful statistical information.

Ireland.

Ulster Medical Society.

Annual Meeting.

The annual meeting of the Society was held on June 29th in the Medical Institute, Belfast. Dr. John Campbell occupied the chair in the absence of the President, Dr. Calwell. The following officers were elected for next year:

President: Dr. William Calwell. *Ex-President*: Dr. John Campbell. *Vice-Presidents*: Dr. J. C. Martin, Portrush; and Dr. J. B. Davison, Belfast. *Council*: Drs. McKinney, Gaussen, McCullagh, McQuitty, Morrow, and Hall. *Honorary Treasurer*: Dr. V. G. L. Fielden. *Honorary Librarian*: Dr. W. L. Story. *Honorary Secretary*: Dr. Thomas Houston. *Editing Secretary*: Dr. Howard Stevenson. *Trustees*: Dr. John Campbell, Professor Lindsay, Drs. Dempsey, Nelson, Mitchell, Cecil Shaw, McCaw.

The reports of Treasurer, Secretary, and Librarian were received and adopted, and a vote of thanks was passed to the retiring Honorary Treasurer (Dr. McQuitty) and Honorary Librarian (Dr. Leathem). Some alterations were made in the library rules.

Health of Belfast.

At the meeting of the City Council on July 3rd, the Medical Superintendent Officer of Health reported that 204 cases of zymotic disease had been notified, including 627 of typhoid and 699 of simple continued fever; 889 births had been registered and 509 deaths, including 97 from phthisis; the death-rate from all causes was 18.5. The death-rate among children from measles had been heavy. Unfortunately, another case of small-pox had occurred; the usual precautions had been promptly taken.

Archbishop Walsh and Trinity College.

The Provost's letter in reply to the charges levelled against Trinity College, referred to in the last issue of the British Medical Journal, has brought a rejoinder from Archbishop Walsh, who declares that a statement "so strangely ascribed to me by Dr. Traill does not occur in any of the reports. Although placed by him within inverted commas, indicating quotation, and guaranteeing even verbal accuracy in the quotation, the statement is not a quotation at all. The responsibility for it rests, then, neither with me nor with the reporters or editors of any of the newspapers, but simply with the Provost of Trinity College himself."

Dr. James Little, Regius Professor of Medicine, writes a letter in which he takes whatever blame is to be attributed. He explains that the two candidates were rejected in mental diseases; that one was known to have had a distinguished career as a student; that he had lost his head through nervousness; that the two candidates called on him, and that he recommended that they should be admitted to re-examination in a month, when they both passed. Since then, a period of four years, these gentlemen have given proof of their excellence.

Archbishop Walsh says: "As to whether Dr. Little has not indeed made the case against the College and its very questionable doings even stronger than it was before his letter appeared, I do not at present feel called upon to express any opinion," and he adds that there is still a good deal to be said, and that his "speech was meant only as a general opening up of a subject to which I intend to return from time to time, according as suitable occasions present themselves."

Royal Hospital for Incurables.

The annual meeting of the supporters of the Royal Hospital for Incurables, Dublin, was held on July 6th. Mr. W. Fry, jun., who was in the chair, stated that there were 205 patients in the hospital. The support of one bed for a year, inclusive of everything, costs £34 19s. 5d. The Lord Mayor, Mr. Maurice Dockrell, Sir George Roche, and Captain R. Wade Thompson also addressed the meeting.

Coombe Lying-in Hospital, Dublin.

At the annual general meeting of this institution, held on July 6th, the report stated that 17,351 patients had been treated during the year in the various departments. The Lord Mayor, Dr. Stevens (Master), Sir John Moore, Dr. Neill, Rev. Dr. Hughes, and Mr. Murphy advocated the claims of the hospital on the public.

Bequests to Medical Charities.—The late Miss Mary Lucy Keating, of Bayswater, left £50 to the Barcelona Protestant Cottage Hospital, £200 to the East Dulwich Provident Dispensary, and £100 to the Homœopathic Hospital.

Canada.

MEDICAL FACULTY, McGILL UNIVERSITY.

THE seventy-sixth Convocation of the Medical Faculty, McGill University, on June 9th, was one of the most interesting in the history of this medical school. The amalgamation with Bishop's College was completed by the conferring of the degrees, M.D., C.M., upon six members of the faculty of that College—Drs. F. R. England, Wm. Burnett, Geo. Fish, H. Tatley, G. M. Jack, and J. J. Benny.

Dr. Roddick's Annual Report.

Dr. RODDICK, Dean of the Faculty, presented the annual report, and stated that the number of students in attendance during the past session was 381, or, including the post-graduates, 394. Of this number Quebec contributed 93, Ontario 110, Nova Scotia 37, New Brunswick 44, Prince Edward Island 21, United States 31, West Indies 11, Newfoundland 6, British Columbia 18, Manitoba and North-West Territories 9, England 1. Since 1901-2 there had been a falling-off of students in the faculty, chiefly from Quebec and Ontario. This was partly due to the raising of the fees by one-half and the greater cost of living in Montreal, but the diminution of the English-speaking population of Quebec and the increased equipment of Ontario colleges had also been factors. The dental department organized more than a year ago was completed, and four students had been in attendance during the session just ended. They took the primary subjects in the first and second years, their professional studies in that period being in every respect identical with those of medical students. During the third and fourth years they would be engaged in purely dental work, their studies, under Faculty supervision, being directed by the officers of the dental department. The latter was composed of three professors, two lecturers, and two demonstrators. At the conclusion of the four years' course the students would be entitled to the degree of Master of Dental Surgery, and subsequently on presentation of a thesis showing original investigation they might claim the degree of Doctor of Dental Surgery. Thus a most thorough course would be followed, and the degree would be well worth winning. The amalgamation or absorption of the Medical Faculty of Bishop's College was briefly mentioned. The union of the two medical schools was thought to be desirable, as tending to increase the efficiency of medical education in Montreal by centralizing it, and also to bring about a more friendly feeling and greater intimacy between the practitioners interested in the two schools. It was thought also for medico-political reasons that the consolidation of the English-speaking portion of the profession in this province would be desirable. All the negotiations were based upon the assumption that Bishop's College would surrender for a term of fifteen years the right to teach or confer degrees in medicine in the province of Quebec. Provision was made for receiving under certain conditions into the McGill Faculty the students of Bishop's *ad eundem*. As to the question of appointments of members of the staff of Bishop's College on the staff of McGill, the joint report read as follows:

> Appointments should not be made as a necessary result of the amalgamation of the two schools, but the Faculty of Medicine of McGill University would, as opportunity offered, make or recommend appointments which would add to the general efficiency of the teaching strength of the school, particularly in the utilization of clinical fields now controlled by the Medical Faculty of Bishop's College. The members of the Committee of Bishop's College recognize that any such arrangement would necessarily be a work of time.

The negotiations were carried on in a most friendly spirit, and the committees of the two Faculties should be congratulated on the cordiality as well as the business-like methods which prevailed throughout. After some years of doubt and uncertainty the Medical Faculty decided recently to sink its autonomy, and come into fuller union with the University. This step, which was taken after grave deliberation, placed the Medical Faculty in exactly the same position as the other Faculties of the University—that is to say, the Governors of the University would in future control all revenues, and assume all financial responsibility hitherto borne by the Faculty itself. By this arrangement it is felt that not only will a more healthy university spirit be engendered, but that a greater personal interest in the Faculty will be displayed by the authorities of the University.

Lord Strathcona's Gift.

Dr. Roddick stated that they were again indebted to Lord Strathcona for 50,000 dols., which was to be used to wipe out liabilities incurred in connexion with the recent extension of the buildings, and he hoped that others would follow this example and support an institution which could never depend only upon students' fees for running expenses.

Additional Clinical Facilities.

The new Maternity Hospital, it was announced, was nearing completion. When finished it would compare favourably in equipment with any similar institution. The Medical Superintendent had already been chosen, and a full staff, as heretofore, would be in charge. An additional field for clinical work would be presented to the students when, at the opening of the next session, the Alexandra Hospital for Contagious Diseases would be completed.

Dominion Registration.

The Dean had also a few words to say in regard to Dominion registration, for, in the first time in the history of the movement, the medical students had taken up the question and made their influence felt among the local members of Parliament in those provinces which had hitherto failed or refused to pass the legislation necessary to bring the Medical Act into operation. Five provinces adopted the measure in 1903, and stood solidly in its favour to-day, waiting only for Quebec, Ontario, and British Columbia to fall into line. It was hoped that Dr. Pyne, Minister of Education in Ontario—a friend of the Roddick Bill—would take the matter up at the next meeting of the Legislature. British Columbia would doubtless follow suit, and then Quebec would realize its impossible position and would also pass the measure. He hoped that the students everywhere in Canada would continue their agitation in this matter till all opposition had been removed.

Degrees.

Seventy-three graduates received the degree of M.D., C.M. Mr. Mercereau, with the highest aggregate in all the subjects of the four years, received the gold medal, and Mr. F. S. Tees was final prizeman, with the highest aggregate in the final year.

SLEEPING SICKNESS.

A FIFTH report of the Sleeping Sickness Commission of the Royal Society[1] to Uganda, containing a continuation report on sleeping sickness in Uganda, by Captain Grieg, I.M.S., and Lieutenant Gray, R.A.M.C., has recently been published. It deals principally with work on the trypanosomes, and the part they play in the production of sleeping sickness, but at the same time also discusses some of the diseases produced in animals by other trypanosomes. It also contains an account of Captain Greig's journey down the Nile, a chapter on the distribution of the tsetse flies by Mr. Austen of the British Museum, and a chapter on the multiplication of the trypanosoma gambiense in the alimentary canal of *Glossina palpalis*, by Lieutenants Gray and Tulloch. The conclusions reached corroborate and amplify the work of the previous Commissions, again incriminating the tsetse fly, and showing that the parasite—the trypanosome—it introduces is either the cause of, or at least a necessary factor in, the production of the disease known as sleeping sickness.

The tendency of the authors is to consider the trypanosoma gambiense the sole cause, but further careful pathological work is yet required to determine what part, if any, the diplostreptococcus plays in the production of the meningeal and other nervous lesions. The summary furnished by the authors brings forward further evidence to show:

1. That the disease is at first a specific polyadenitis caused by the trypanosoma gambiense.

2. That, in addition to enlargement of lymphatic glands, the blood shows a constant lymphocytosis at all stages of the disease.

3. That sleeping sickness is the last stage of this disease and is invariably fatal. It consists essentially in a polyadenitis *plus* signs and symptoms due to changes in the nervous system; the onset of these signs and symptoms synchronizes with the entrance of the trypanosoma gambiense into the lymph spaces of the nervous system; this is accompanied by a rise of the mononuclear elements in the cerebro-spinal fluid.

4. That the resistance of both men and monkeys to the trypanosoma gambiense, as judged by the early stage, varies

[1] *Reports of the Sleeping Sickness Commission of the Royal Society*, No. V. London: Harrison and Sons. (Demy 8vo, pp. 287.)

greatly, and probably a certain proportion, not yet exactly determined, acquire sufficient immunity to arrest the development of the disease at that stage.

5. That the action of arsenic in vita on the trypanosoma gambiense is partial. It destroys a number of the trypanosomes, and probably these act as immunizing agents. Its administration in the stage of polyadenitis tends to help the natural resistance to combat the disease.

6. That bacterial invasion, chiefly coccal, occurs in some cases, but only in the very last days of the sleeping sickness stage, and therefore cannot determine the onset of this phase of the malady.

7. That, in addition to the trypanosoma gambiense, other varieties of trypanosoma occur in Uganda which are pathogenic to animals.

8. That those trypanosomes differ entirely from trypanosoma gambiense in morphology and animal reactions.

9. That one of these trypanosomes is probably identical with trypanosoma bruceii. The other two differ from it, and are, provisionally, unclassed.

10. That those varieties of trypanosomes are conveyed from the sick to the healthy by the Uganda tsetse fly (*Glossina palpalis*), and not by other biting flies (*Stomoxys*).

Many animal experiments, together with clinical and *post-mortem* findings, furnish the data on which this summary is based. The designation of the first onset of the disease—usually known as trypanosomiasis fever—as a specific adenitis does not seem very happy. That it is a general malady is seen by the occurrence of the parasites in the blood, the enlargement of the spleen, the erythematous lesions of the skin seen in Europeans, the oedema, and the eye lesions that are sometimes found. One might as well talk of a general disease like syphilis as a specific adenitis, because in one of its stages, along with the cutaneous and other lesions enlarged glands are found. Again, it is difficult to understand why the trypanosomes so abundant in the lymphatic glands all over the body in the early stages of the disease should not also then be in the lymphatics of the brain. It seems not improbable that some secondary change sets in to cause the lesions in the brain, spinal cord, and other organs after their vitality has been seriously lowered by the toxins produced by the trypanosomes. A secondary bacterial invasion would appear to be probable, and although Captain Greig and Lieutenant Gray try to prove that this only takes place in the last days of life, it must be remembered that their bacteriological researches are not as thorough as they might have been, and do not correspond with those of the Portuguese Commission, which frequently found the diplostreptococcus long before death took place.

Whether or not a person who gets infected with the trypanosome must necessarily get sleeping sickness yet remains to be proved. According to the authors of the report the after-history of early cases, so far as they have been observed up to the present in Uganda, is as follows:

(1) That they may terminate fatally, either (*a*) by passing into the stage of sleeping sickness which is the most frequent and usual; (*b*) through some intercurrent affections, particularly pneumonia.

(2) That they remain in good health for long periods, indicating that at least a "tolerance" to the parasites has been acquired. The question then arises: Will any of these individuals acquire sufficient immunity to destroy the parasites at this stage? Can they, in fact, become salted? and, further, can this immunity by any means be artificially increased?

The experiments of Ehrlich and Laveran with arsenic and trypanroth have been so successful in animals that the members of the Commission still left in Uganda should certainly be instructed to give these drugs a thorough and exhaustive trial.

The report brings out one very serious point—namely, that there seems to be no diminution of the disease in Uganda on the shores of the Victoria Nyanza, and, further, that it has broken out on the Albert Lake to the north. Captain Greig found the *Glossina palpalis* well to the north of Nimule on the Nile, and it is possible it may extend even further north and also along tributaries flowing into the main river. This is a serious menace to Egypt and its southern territories, and it is to be hoped that the Government will be as energetic as possible in trying to stop its further passage north.

Lieutenants Gray and Tulloch have observed an accumulation and apparent multiplication of the trypanosomes noted in the stomach of tsetse flies. The point is worthy of further work.

The coloured diagrams throughout the report, the work of Mrs. Bruce, are excellent.

LONDON AMBULANCE SERVICE.

ON Tuesday next the London County Council will have before it two reports from its General Purposes Committee, and one from its Finance Committee, both dealing with the much-discussed and long-delayed question of the provision of an efficient ambulance service for London.

The General Purposes Committee disclosed to the Council the plan which they have in view, in order that the recommendation they ask the Council to pass, seeking parliamentary power to provide and maintain an ambulance service, may not be opposed, on the ground that information has been withheld, or that a workable scheme has not been thought out.

By the expenditure of £13,000 by way of capital, and £9,000 a year by way of maintenance, it is estimated that a provision of ambulance accommodation for the area of London most liable to street accidents may be effected.

When we remember that within this area of a three miles radius from Charing Cross some 7,000 to 8,000 street accidents are handled by the police every year, and we recall the present haphazard methods by which the injured are transferred to hospitals, it is evident that the establishment of such ambulance service by the County Council will not only meet an imperative necessity, but must obviate a vast amount of unnecessary suffering, and in many cases will be the means of saving lives which but for prompt and efficient treatment would be sacrificed. As to the kind of ambulance to be adopted the Committee report:

We think there can be no doubt that some mechanical motor would be altogether better than horse traction, and that practically the choice lies between two, electric motors and petrol motors. The principal advantages of the former are smoothness of running and absence of smell and of heat. The drawbacks are a somewhat smaller radius of action and a somewhat increased cost, mainly arising from it being necessary to provide special apparatus for charging the batteries. The advantages of petrol motors are, lessened first cost owing to the absence of charging apparatus, lessened cost of maintenance, and a much increased radius of action. The disadvantages are practically the converse of the advantages alluded to for the electro motors. We are of opinion that, as the electro motor will not cause so much vibration as the petrol motor, the former should be adopted. The number of motors which would be required would be, say, ten, and the cost of these would be about £5,600. The annual cost of maintenance, that is, charging, repairs, interest and sinking fund charges, we are advised would be about £160 each. One motor ambulance would be maintained at each station, and two or three would be held in reserve at one of the stations. At all stations one or more wheeled litters would also be kept.

For £1,000 a year it is estimated that stand-posts or calls similar to, but sufficiently distinctive from, the fire call-posts, could be provided at not more than a quarter of a mile from any possible site of an accident, within the prescribed area. It is suggested that these posts should also contain telephones, kept under lock and key, and that the police, the ambulance staff, and any medical men who may wish to have them, should be provided with keys. The central station and the semi-district ambulance stations which circle round it, are all to be linked up by telephones, and any "call" would communicate both with the central and the nearest district station; thus the whole working could be controlled and co-ordinated from the centre.

As to the staff, the Committee report:

With regard to the question of staff required, we are in some doubt as to whether any other persons besides the driver should accompany the ambulance. There is no doubt that the most complete system would be for a casualty house-surgeon from a hospital to accompany the ambulance, as is the case in Liverpool, and we are taking steps to ascertain whether the hospitals are prepared to assist in this manner. In this scheme we have provided for a driver for the ambulance who shall be able to render first aid, to be accompanied by another member of the staff also able to render first aid. They should also be able to do small repairs to the motors.

We are in some doubt as to whether there should be two or three men at each station: one of the men, however, must be a married man, whose wife would act as caretaker, and keep the station clean. The other member or members of the staff would be unmarried. Average weekly wages of £2 for each man, and 10s. for the wife would represent (assuming that three men were employed) £6 10s. per week per station, or about £340 per annum (or, should only two men be employed, £4 10s. a week, or £234 per annum), to which would have to be added the cost of coals and light.

At the principal station there should be a resident superintendent who would be in executive charge of the whole service, at a salary, say, of about £250 a year; five ambulance drivers at £2 per week each; the

wife of the superintendent, or of one of the drivers, at 15s. per week; and two female servants at £2 per week. Two clerks would also be needed, say, at £100 each.

The cost of staff would then be—

For seven district stations at £340 each ... say		£2,400
For principal station		1,200
For five additional drivers to take the place of others at times of sickness or holidays ... say		500
		4,100
The whole under the supervision of a part-time medical officer who would teach "first-aid" at a salary, say, of		300
		£4,400

Without expressing approval of all the details of the scheme, or venturing an opinion upon the question whether the ambulance service should not be associated with the fire brigade, we are convinced that not only has an unanswerable case been made out for the establishment of an ambulance service by the County Council, but that the proposed scheme has been carefully and deliberately conceived. Unless and until the Council obtains the necessary parliamentary powers, not one shilling can be spent in such work. It will, indeed, be a bitter disappointment if after all the labour which has been bestowed upon this scheme the Council does not before it rises for the summer recess decide to go forward and obtain as expeditiously as possible the powers needed for the accomplishment of this necessary and long-delayed reform.

INTERNATIONAL TUBERCULOSIS CONGRESS.

AN International Congress on Tuberculosis will, as has already been announced in the BRITISH MEDICAL JOURNAL, be held in Paris from October 2nd to 7th, 1905. A full programme has now been issued.

MEDICAL PATHOLOGY.

In the Section of Medical Pathology, presided over by Professor Bouchard, the following subjects are proposed for discussion:

(1) Treatment of Lupus by the New Methods, to be introduced by reports from MM. Jeanselme and Chatin of Paris; Dr. Forchhammer of Copenhagen; and Professor Lesser of Berlin. (2) Early Diagnosis of Tuberculosis by the New Methods, to be introduced by reports from M. Achard of Paris; Professor Mariani of Genoa; and Dr. Theodore Williams of London.

Among the other communications to be presented to this Section are the following: Dr. Brocq of Paris, Indications of the Various Methods of treating lupus; Dr. Béclère of Paris, pulmonary tuberculosis in the emphysematous, and its diagnosis by means of Roentgen rays; MM. Arloing and P. Courmont of Lyons, homogenous cultures of Koch's bacilli, and the serum diagnosis of tuberculosis; Professor C. Richet of Paris, alimentation in experimental tuberculosis; Dr. Charron of Paris, the descendants of tuberculous persons—organic and functional modifications; MM. Arloing of Lyons, Moussy of Alfort, Rossignol of Paris, and Rappin of Nantes, attempts at vaccination and serumtherapy; Professor Calmette of Lille, immunity against tuberculosis produced by the milk of immunized animals.

SURGICAL PATHOLOGY.

In the Section of Surgical Pathology, presided over by Professor Lannelongue, the following questions are proposed for discussion:

(1) Comparative study of different forms of tuberculosis, to be introduced by reports from Professor Arloing of Lyons, Professor Kossel of Giessen, and Professor Theobald Smith of Harvard; (2) ileo-caecal tuberculosis, to be introduced by reports from M. Demoulin of Paris, Professor Roux of Lausanne, and Professor Depage and Dr. Pinchart of Brussels; (3) surgical interventions in tuberculosis of the meninges and encephalon, to be introduced by reports from Professor Duret, of Lille, and Professor R. Alessandri, of Rome. (4) Tuberculosis and Traumatism, to be introduced by reports from Dr. Villemin, of Paris, and Dr. V. Friedlander, of Vienna. Among further questions proposed by the Committee are tuberculosis of the eye, larynx, temporal bone, tarsus, prostate and vesiculae seminales, genital organs, congenital tuberculosis, tuberculous toxins, attenuated tuberculoses, and ozone in its relation to tuberculosis.

PROTECTION OF CHILDHOOD.

In the Section of Protection and Assistance of Childhood, presided over by Professor Grancher, the questions to be discussed are:

(1) Family protection, to be introduced by reports from Dr. Marfan of Paris, and Professor Heubner of Berlin. (2) Protection in the school, to be introduced by reports from Dr. Méry of Paris, and Professor Theodore Escherich of Vienna. (3) Seaside sanatoriums, to be introduced by reports from Dr. Armingaud of Bordeaux, and Professor d'Espine of Geneva. (4) School mutual aid societies and the part played by them in the prevention of tuberculosis, to be introduced by reports from MM. Cave and Savoire of Paris. Among further questions suggested by the Committee of Organization are the following: Channels of entrance of tuberculosis in children; infection by bacilliferous milk; tuberculosis in orphan asylums and trade schools; the *goutte de lait* and dispensaries for nurslings in the prevention of tuberculosis; tuberculous enteritis in children at the breast; latent foci of tuberculosis revealed by intervention at a pre-existing focus of early diagnosis of pulmonary tuberculosis in children by means of auscultation; tuberculosis of the brain.

PROTECTION OF ADULTS.

In the Section of Protection and Assistance of Adults, and Social Hygiene, presided over by Professor Landouzy and M. Paul Strauss, Member of the French Senate, the following questions are proposed for discussion:

(1) Etiological factors of tuberculosis, economic conditions in the social etiology of tuberculosis, to be introduced by reports from Dr. Rommo of Paris, and Dr. Newsholme of Brighton. (2) Assurance and Friendly Societies in the prevention of tuberculosis, to be introduced by reports from M. E. Fusier of Paris, Herr Bielefeld of Berlin, and Mr. C. H. Garland of London. (3) The part of dispensaries and sanatoriums in the struggle against tuberculosis, to be introduced by reports from Drs. Courtois-Suffit and Laubry of Paris, Mr. Bang of Sikelborg, Denmark, and M. Béco of Brussels. (4) Sanitation and healthiness of the dwelling, to be introduced by MM. Bonnet and Juillerat, representing France, and Mr. Keith D. Young of London. (5) Hygiene of tuberculous persons in factories, workshops, places of business, army and navy, to be introduced by reports from Dr. Kelsch of Paris, Madame Thibault of Paris, and M. Roulin of Lyons. (6) Disinfection of the dwelling of the subject of tuberculosis (administrative regulations and practical measures), to be introduced by Dr. A. J. Martin, representing France, and Professor Dunbar of Hamburg. Among other subjects to be discussed are tuberculosis in the colonies and in lunatic asylums; tuberculosis among teachers in public schools; alcoholism and tuberculosis; how statistics should be compiled in regard to tuberculosis in dispensaries, sanatoriums, hospital establishments, towns and rural districts; rational and economical dietary for workers; education of the people in regard to tuberculosis (lectures, expositions, museums; tuberculosis and marriage. The Organizing Committee suggests the following among other subjects: Healthy and cheap dwellings; allotments; grounds for the use of societies for physical training, to be given and maintained by municipalities and departments; workshop dispensaries for tuberculous subjects who are able to work; communal, intercommunal and departmental provision of hospitals for consumptives; assurance against tuberculosis; is the boarding out of tuberculous patients feasible? observations on the frequency, the period of manifestation and the forms of tuberculosis in various professions, in hotels, hospitals, schools, etc., and among workmen of all kinds in town and country.

EXPOSITION AND MUSEUM.

In connexion with the Congress there will be an Exposition arranged in four departments:

1. Scientific: A museum of microbiology, experimental, medical, surgical, and veterinary tuberculosis.
2. Social: Ravages caused by tuberculosis, prevention, assistance.
3. Historical: Tuberculosis in various ages, in art and in history.
4. Industrial: Prevention, alimentation, private dwellings, public dwellings (schools, barracks, etc.); travel (railway carriages, ships, hotels); assistance (hospitals, dispensaries, sanatoriums).

EXCURSIONS.

The programme of entertainments includes visits to the sanatoriums of Bligny (Seine et Oise), and Angicourt (Oise); to the hospitals for tuberculous children at Ormesson, Villiers, and Noisy; to the Boucicaut Hospital and the Pasteur Institute, Paris; to the various hospitals and other institutions concerned in the war against tuberculosis. After the Congress excursions in special trains will be made to the seaside hospitals at Berck, Banyuls, Saint-Trojan, le Croisic, Zuydcoote, etc., and to the sanatoriums at Oiseaux on the Riviera, Durtol in the Auvergne, Hauteville (Ain), la Motte-Beuvron (Sologne), Montigny (Nord), etc.

BUREAUX OF INFORMATION.

Information as to the Congress can be obtained on application to the General Secretary, Dr. Maurice Letulle, and as to the Exposition from the General Commissioner, Dr. Léon Petit. The address in both cases is 21, Place de l'Ecole-de-Médecine, Paris. Applications for membership and remittances should be addressed to the Treasurer, M. Pierre Masson, at the same place.

THE HOLMAN TESTIMONIAL FUND.

THE following subscriptions have been received since the list closed:

	£	s.	d.
Hugh E. Vardon	2	2	0
Miss Topham	1	1	0

The Room at Epsom College is now completed, and will be opened on Founder's Day, July 29th. Subscribers wishing to be present are requested to apply to the Rev. the Head Master, Epsom College, for tickets.

LITERARY NOTES.

The new edition (eighth decennial revision) of the United States *Pharmacopœia* has just been published, and will become official on September 1st, 1905. It contains 692 pages, against 602 in the edition which became official on January 1st, 1894. A useful synopsis of the principal changes effected by the revision compared with the previous edition, and with the *British Pharmacopœia* of 1898, has been issued by W. Harrison Martindale, Ph.D.

A volume of essays by Professor Osler will be published early in the autumn. It is entitled *The Fixed Period*, and is said to deal fully with the question of the proper life-period in men of affairs.

The lectures on extinct animals delivered by Professor Ray Lankester at the Royal Institution before juvenile audiences some time ago will be published in book form by Messrs. Constable. The work will be copiously illustrated.

Mr. J. Butler Burke, of Cambridge, whose experimental researches on the origin of life have caused some fluttering in scientific and theological dovecotes, has, it is announced, agreed to write a book dealing with the subject. It will be published in the autumn by Messrs. Chapman and Hall.

The International Association for the Legal Protection of Workers has established a competition in which prizes to the amount of £1,350 will be offered for essays indicating means of combating lead poisoning. The conditions will be published in detail in Fasciculi 9 to 12 of the *Bulletin de l'Office International du Travail* (t. iii), and will be sent to any one who applies to the Office International, Basel. The results of the competition will be published by October 15th, 1906, at latest. Among the members of the jury, which includes many hygienists of note, are Dr. Thomas Oliver, Mr. T. E. Thorpe, C.B., Director of the Government Laboratories, London, and Mr. H. J. Tennant, M.P.

It is improbable that Andrew Boorde—or, rather, Borde, which corresponds with the pronunciation as may be gathered from his punning description of himself as "Andreas Perforatus"—the sixteenth-century ex-monk and "Phisyche Doctoure," had ever heard of "ergophobia," although in a case recently tried in a London county court the learned judge said it was a very old disease. Andrew, however, was acquainted with a kindred disease which he calls the "lazy fever." In his *Breuyary of Healthe* (1547) he gives the following "cure," which we quote from "A Tenant Farmer's Diary of the Eighteenth Century," published in a recent number of *Longman's Magazine*:

> Among all the fevers I had almost forgotten the fever-burden with the whiche many younge men, younge women, mayden, and other younge persons be sore infected nowadayes; the cause of this infirmitie doth come naturally as els by evyll and slothful brying-up; if it do come by nature then the fever is incurable, for it can never out of the fleshe that is bred in the bone, but if it come by slothful brying-up it may be holpen by diligent labour. Thus, take a stick or wan of a yard of length and more, and let it be as grete as a man's fynger, and with it anoynt the back and shoulders well morning and evening, and do this twenty-one dayes, and if this fever wyl not be holpen in that time let them beware of waggynge on the gallows, and whyles they do take theyr medicine put no butter wort in theyr pottage.

Montesquieu is best known to fame as the somewhat flippant author of *L'esprit des Lois*—a title which someone said should have been *De l'esprit sur les Lois*: it is perhaps less generally known that he was a serious physiologist. He wrote memoirs on the functions of the kidney, on a child born without a heart, on baths, on intermittent fevers, on drunkenness, on animal spirits, and his great work contains evidence that he had not only closely studied the physiology of digestion, circulation, respiration, excretion, and generation but that he had worked practically at anatomy, and made experiments on the frog and other animals. In an interesting lecture published in the *Revue Scientifique* of April 1st and 8th of the present year, Dr. J. Gautrelet, *agrégé* Professor in the Bordeaux Faculty of Medicine, discusses Montesquieu's knowledge of physiology. He was so far from being a mere amateur that Portal, the historian of anatomy, says if he had given himself up to these studies he would have made some valuable contributions to the progress of science.

In a recent number of the *Dublin Journal of Medical Science*, Dr. John Knott devotes an article full of curious learning to Fracastorius, the author of the Latin poem, better known probably to many by its name than by its appearance or contents, entitled, *Syphilis sive Morbus Gallicus*. Hieronimo Fracastorio was born in 1483 and died in 1553. His book was published at Verona in 1530. He was a man of great note in his day, which was a day of intellectual splendour almost unparalleled in the history of the human race. He was distinguished as a philosopher, a mathematician and an astronomer, as well as a physician. Such importance was attached to his opinion that, on his advice, Pope Paul the Third moved the Council of Trent to Bologna. Julius Caesar Scaliger placed him next to Virgil in poetry, and first in everything else; other eminent judges called him "divine." It is from the name of the hero of Fracastorius's poem, *Syphilus*, that the word "syphilis" is derived. There has been much controversy as to the origin of "syphilus," some holding it to be compounded of *σίν* (with) and *φίλος* (loving), others from *σûς* (hog) and *φίλος*. Dr. Knott, however, points out that although the word has a Greek look, it has not a true Greek basis; if either of the above-named derivations were correct, the word should be either "symphilus" or "syophilus." Possibly Fracastorius preferred the form "syphilis" on the principle embodied in the explanation which solved so many difficulties in the old Latin grammar, *Quia sic voluere Latini*.

SPECIAL CORRESPONDENCE.

PARIS.

Académie de Médecine: Professor Charles Richet on the Harmful Effects of Cooked Meat as a Dietary in Experimental Tuberculosis in Dogs.—Discussion on the Compulsory Notification of Infectious Diseases.

Professor Charles Richet has lately communicated to the Académie de Médecine the results of some recent experiments on dietary in experimental tuberculosis in dogs, showing the harmful influence of cooked meat. As a physiologist, he leaves it to physicians to draw their conclusions at their own risk. If a physiologist, he said, wishes to know the influence of cooked or raw meat, he must give one or the other exclusively and integrally, and not practically, as one is forced to do when dealing with human beings. If cooked meat is given exclusively without other food to tuberculous dogs it is extremely toxic, while if raw meat is given exclusively it possesses a nutritive power which is almost therapeutic and gives incomparable results. The dogs experimented on were rendered tuberculous by the intravenous injection of liquid cultures of human tuberculosis: 1 or 2 c.cm. of this liquid containing large quantities of the bacillus of Koch being injected into each dog. What is characteristic, Professor Richet said, when the animals are fed with cooked meat, is that after a certain time they tire of it, lose their appetite, and waste. Three dogs experimented on lost their appetite almost simultaneously after the twelfth day and ceased to feed. Their appearance became lamentable; their muscles disappeared, and they literally were nothing but skin and bone. They walked slowly, dragging themselves with difficulty, the head hanging low; they had not the strength to bark, and remained coiled up, almost asleep, scarcely rousing up when called. Dogs which had been fed exclusively on cooked meat would eat raw meat greedily, even when they would not touch cooked meat. When tuberculous dogs are starved, the results are not so harmful as when they are fed on cooked meat, which is not surprising, because such an animal is living on raw meat since it consumes its own substance—living on its own muscle and fat, and only taking of that what is strictly necessary for life. When starving is not continued for more than five days, it does not act unfavourably on the progress of the disease in inoculated animals. Professor Richet thinks that cooked meat does not poison like a toxic substance, since it is possible to feed normal dogs with it with impunity for a long period. He offers the following provisional explanation and thinks that the inoculated animals fed on cooked meat are slightly intoxicated, enough to cause loss of appetite and for them to stop feeding, except when they are given a food for which they always have a good appetite, that is, raw meat. It is in this that feeding with cooked meat differs from starving. In starving, if not too prolonged, the animal wastes, but keeps its appetite. With cooked meat, there is less wasting, but the appetite is lost. This would seem to indicate that the health and appetite of tuberculous patients would gain from a diet containing but little cooked meat. From Professor Richet's experiments it is incontestable that in experimental tuberculosis in dogs, an exclusive cooked meat diet is the worst of all dietaries, while an exclusive raw meat diet is the very best.

M. Vaillard recently called attention to the large number of cases of measles, scarlet fever, and mumps occurring in the French army as compared with the Austrian and German armies; in 1901 the cases of measles rose to 7,889, that is 17.6 per 1,000 men; during the last twelve years the number of cases of scarlet fever has never been less than 2,000; while cases of mumps rose to 11,433 cases (22.7 per 1,000 men) during the year 1901. M. Vaillard considers that the civil practitioners do not notify the cases of infectious disease, and if they do, the mayors of the districts do not notify the military authorities of epidemics—so the soldiers on leave get infected, and spread the diseases in the garrisons. M. Henri Monod, in speaking on the question, said that since the passing of the law of February 15th, 1902, the number of notifications had enormously increased: for example, for those diseases for which notification is compulsory, in 1902 there were 39,234 notifications, 53,313 in 1903, and 67,117 in 1904; the number of cases of measles notified in 1903 being 12,120, and in 1904 27,290, there being no notification of the disease in 1902, when notification was not compulsory by law. M. Cornil said that disinfection was the necessary corollary of notification, and the practitioner would consider the notification useless if proper measures were not taken to arrest the spread of the epidemic. The law provided that in towns of over 20,000 inhabitants, or watering places of more than 2,000 inhabitants, the "Bureau d'Hygiène" under the direction of the mayor attended to the matter; in all other districts the disinfection must be assured by the departmental service under the direction of the prefect, who had to organize the service. The Senate when discussing the law rejected the proposal to appoint departmental sanitary inspectors, fearing to create fresh officials. M. Chantemesse called attention to the fact that in France disinfection and sterilization were too much confounded, and therefore very ingenious and most costly apparatus were used by the great administrations, capable of destroying the spores of B. subtilis, but they were unnecessary and more or less harmful to mattresses and blankets. For disinfection to be generalized, and for the public to offer no objection, apparatus must be made such as were in use in England, Germany, and the United States. They were sufficiently efficacious to obtain disinfection, and their original cost and working expenses made them preferable to those in use in France. The Académie de Médecine unanimously adopted the following resolutions: (1) That the law on compulsory notification of contagious diseases should be strictly applied; (2) that the rules of public administration drawn up according to the law of February 15th, 1902, to fix the conditions for the organization and working of the disinfection service should be such that disinfection shall be in reality compulsory, effective and controlled.

MANCHESTER.

Stockport: Its Birth-rate and Interment of Still-born Children.—Transfer of Nurses in Isolation Hospitals for Infectious Diseases.—The Royal Visit and Donations to Medical Charities.—Corporation Beds for the Working Classes in Sanatoriums.—Children's Hospital.—Surgical Aid Society.—Dispute as to Liability of Hospital.—Port Sanitary Authority and its Inadequate Powers.—Effect of Child Insurance and Cruelty to Children: More Stringent Legislation Advocated.

THE Medical Officer of Health of Stockport in his annual report sets forth that during the year 1904 there were 2,566 births registered in the borough—1,277 males and 1,289 females. The birth-rate was 26.45 per 1,000 per annum—lower than it has been for the past twenty-two years. The highest birth-rate recorded in any part of the borough was 31.54. The birth-rate recorded in the seventy-six great towns of England and Wales during 1904 was 29.01 per 1,000; St. Helens had a rate of 37.6, and Wigan 35.0. The medical officer calls attention to the seriously diminishing birth-rate and the simultaneous and alarming infant mortality in Stockport. Slightly more than one-fifth of the children born during 1904 never reached the anniversary of their birth. Dr. Young does not think the decrease in the birth-rate depends upon the decrease in the marriage-rate, but "it is obvious that the decline is due to a lessened number of children per marriage. The postponement of marriage to a later age is not the cause of the decline of the birth-rate." In one district the infant mortality rose to 306 per 1,000 births. During 1904, 119 still-born children were interred, and of this number 74 were certified by medical practitioners, 16 by known midwives, leaving 29 interred without any certification at all, as to the fact of still-birth or otherwise. It would appear that it is now far too easy a matter for a still-born child, or one said to be still-born, to be interred in an almost surreptitious manner.

The West Riding Sanitary Committee and other authorities in the West Riding have discussed the question of the establishment by the Isolation Hospital authorities of the Riding of a scheme for the temporary transfer or loan of nurses from one hospital to another, to meet the fluctuating requirements of the different areas. It appears that within the administrative county there are thirty-eight isolation hospitals for general infectious disease, and fifty-four small-pox hospitals, with a total accommodation of 2,000 beds, while the nursing staff numbers 300. Under the present independent system there were occasions when hospitals there were overstaffed, whilst at other times special nurses had to be engaged, often with difficulty, at high salaries. A system of temporary exchange of nurses, by avoiding these extremes and at the same time securing more efficient nursing, would tend both to economy and efficiency. A Committee was appointed to go into details, and to report.

In connexion with the royal visit, the suggestion has been made, and is being acted upon, whereby a number of firms whose business premises are on the line of route have consented to let their windows for viewing the procession, and to devote the proceeds to the medical charities. A similar procedure was adopted in 1902 on the occasion of the last royal visit—that of the Prince and Princess of Wales. On that occasion a substantial sum was realized. Connected with the royal visit to Salford, Mr. Edward Wood has handed a cheque for one thousand guineas to the Treasurer of the Manchester Children's Hospital, to be used as the Governors may decide, with only one proviso, namely, that an inscribed plate be affixed to one of the cots in the hospital recording the fact that this sum was given to commemorate the visit of the royal borough of the King and Queen.

The City Council has accepted the offer of the Managers of the Crossley Sanatorium to place at its disposal twenty beds at a weekly charge of £1 1s. each. The conditions of admission are as follows: The patient must have been notified to the Public Health Office as a case of tuberculous phthisis; the illness must be in the initial stage; the patient must be in an infective condition and tubercle bacilli must have been found in the expectoration. It is intended that cases presented by the Corporation shall belong to the working classes and shall come from crowded homes or from households in which for any reason there is special danger of the propagation of the disease.

In response to their recent appeal for £20,000 to rebuild the out-patient department of the Children's Hospital, the Governors have so far received £7,500.

The seventh annual report of the Surgical Aid Society shows that during the year ended September, 1904, 223 applications for assistance were received, and that aid was rendered in 205 cases.

The Bury and District Joint Hospital Board and Chorlton Board of Guardians are involved in a curious dispute. It appears that certain children chargeable to the Union have been treated for fever in the isolation wards of the Bury Hospital, and the question at issue is as to whether the hospital is right in claiming from the Union the cost of treating these children. The claim is for £320 for fourteen children. The secretary to the Union points out that the Union's contract for the maintenance of the children was inclusive of medical attendance. To this the rejoinder is that this only applied while the children were in the schools. The Guardians of the Union finally decided to contest the claim.

During the last month the Manchester Port Sanitary Authority inspected 224 vessels, of which 203 were British. Defective sanitary arrangements were found on 119 vessels, of which 109 (including flats) were British. The Committee find that their powers are too limited. At present they have no power over fruit and other perishable food coming into port. This at present cannot be touched until exposed for sale. What is wanted is power to deal with the cargo as soon as it reaches the quays. The subject will be discussed by the Association of Port Sanitary Authorities.

At the annual meeting of the Manchester Branch of the S.P.C.C. the report emphasizes the fact that there is very little decrease, if any, in the amount of child insurance. Hitherto the Legislature has taken no steps in regard to this

crying evil and frightful source of cruelty and neglect. A resolution supporting the Bill introduced in the House of Commons by Mr. Spear, M.P., to amend the provisions of the Infant Life Protection Act, so as to include every case in which a child is received or maintained for hire or reward, or is adopted in consideration of a lump sum of money, was carried, and it was decided that a copy of the resolution be sent to the Prime Minister, the Home Secretary, and others.

BIRMINGHAM.

Birthday Honour.—New Dental Hospital.—Degree Congregation at the University.

The knighthood conferred upon the senior surgeon to the General Hospital by the King on the occasion of His Majesty's birthday is an honour which is received with much appreciation by the medical profession in the Midlands. Sir Thomas F. Chavasse is one of a family which has been long associated with medicine in Birmingham, since his father practised before him in this city. He is a Justice of the Peace for the county of Warwick, and has been elected this year President of the Birmingham Branch of the British Medical Association.

The new Dental Hospital was opened on July 6th by Sir Oliver Lodge, Principal of the University, in the presence of a large and representative gathering. The hospital was founded in 1858 in Broad Street, and was removed in 1882 to Newhall Street. The building there was lacking in many important essentials. It was merely an old private house, ill adapted for purposes of modern practice. The accommodation for both staff and patients was limited, while there was only a third of the number of chairs provided in the new hospital. The necessity for a new hospital has long been felt; the number of operations performed in 1882 were 6 550, and in 1904, 23 406. The new building has been erected in Great Charles Street at the cost of about £8,500, not including £1,500 for equipment. Towards this sum £2 000 was contributed from the Best bequest, while Mr. William Cadbury has given £1 000. The hospital is built of red brick, and the internal arrangements are such that dental surgery may be taught and carried on by the most recent of scientific methods. On the ground floor are the waiting hall and rooms for the staff, the students, classes, and a museum. The first floor will be used for operations and lectures, and there are also separate recovery rooms for each sex. On the top floor are especially-lighted filling and saving rooms, equipped with fifty chairs. There is in addition a very good mechanical department. Students of the University will follow here a course for the degree in dental surgery. The new hospital will be therefore of great assistance to the dental department of the University. The work performed by the Dental Hospital covers a large district, since the patients are drawn from all over the Midland counties.

The Degree Congregation of the University of Birmingham was held on July 8th in the Midland Institute, and its proceedings were in most respects similar to those of previous years. A most interesting circumstance, however, is associated with this congregation, for at it were conferred for the first time degrees in commerce. The degree of Bachelor of Commerce was given to four students, and it is the first degree of this kind which has been presented in any part of the world.

LEEDS.

Annual Report of the Leeds and West Riding Medico-Chirurgical Society.—The Sale of Glycerine adulterated with Arsenic.

The annual report of the Leeds and West Riding Medico-Chirurgical Society shows that during the past session the Society has held eleven meetings—eight ordinary, two pathological and one clinical. At these meetings the average attendance of members was 63. This society has had a long and increasingly prosperous existence. It is the lineal descendant of the old Leeds Medical Club, a small society whose members used to meet at each others' houses. It took its present form in the year 1872, meeting under the presidency of the late Dr. Chadwick, with Mr. A. F. McGill and Dr. E. West Symes as joint secretaries. Though there is no rule to that effect it has become the custom for the Society to elect as its president a Leeds man and a representative of some other centre of the West Riding in annual rotation. The libraries of the Society and of the Medical School of the University are under certain rules amalgamated to the great benefit of both. The Society now numbers 345.

A firm of chemists at Bradford has been fined £1 and £1 8s. costs for selling glycerine which was found to contain arsenic to the amount of $\frac{1}{15}$ gr. to the pound. Dr. Evans, the Medical Officer of Health for Bradford, stated that a Royal Commission had recommended local authorities to take action in cases where arsenic was found to exist in glycerine to a greater amount than $\frac{1}{30}$ gr. to the pound. Among the metals which the *British Pharmacopoeia* definitely states, a sample of glycerine should be quite free from are lead, copper and arsenic.

SOUTH WALES.

Health of Newport (Mon.).—Pontypool Rural District Council.—New College Buildings.—Swansea Hospital Revenue.

Newport's death-rate last year, based on an estimated population of 71,543, was comparatively low, 15.7. Infantile mortality was excessive, and was largely due, the Medical Officer reports, to ignorance and want of appreciation of the importance of domestic hygiene on the part of mothers. This emphasized the necessity for the instruction of schoolgirls in these matters. The future of the national physique was largely in the hands of the girls attending elementary schools, and the question of training them in their future duties was therefore a national question, and should be treated as such, and given preference in the school syllabus over many of the subjects which at present occupied the attention of the elder girl scholars. The number of deaths among infants under 12 months old was 362, equal to a mortality of 153.9 per 1,000 births; under 5 years of age, 482, or 42.5 per cent. of the total deaths. The Medical Officer of Health urged that the State should take every precaution to protect scholars from the danger of contracting infectious diseases at school.

At the Pontypool Rural District Council meeting, held at Usk on July 3rd, the Clerk gave particulars as to the steps which were being taken with regard to providing a water supply for Lower Pontnewydd. As to the Ponthir and Wain supply, it was decided to ask the engineer to prepare a plan and estimate of the cost of the scheme. In consequence of an outbreak of measles at Llanfrechfa Lower, the Wain School was ordered to be closed for a month.

Mr. T. Mansel Franklen, clerk to the Glamorgan County Council, has written to the authorities of the University College of South Wales and Monmouthshire, Cardiff, calling attention to the fact that in the programme of the building works to be carried out with the funds at the disposal of the University College, the public health laboratory is not included, but that it appears in the list of postponed works to be carried out when funds may be available. This, he states, is an unpleasant surprise to the Glamorgan County Council, and adds that the Chairman of the Joint Laboratory Committee has desired him to inform the College authorities that the present proposed arrangements, if adhered to, are likely to have an injurious effect on the relations with the Glamorgan County Council. Seen by a press representative, Principal Griffiths, in reply to questions, produced a copy of the lease of the land granted by the Corporation to the College. This contains a clause, which, by the way, received the sanction of the Glamorgan County Council in 1903, to the effect that "immediately on the completion" of the block of buildings which are to be carried out with the money already at the disposal of the authorities, the work of the bacteriological laboratory is to begin. "We have five years," said Principal Griffiths, "in which to complete our first block of buildings, which is to cost £60,000, and at the end of that time we shall erect the laboratory towards which the County Council are to give £2,000. Of course, it is a question of funds, and if money comes in which will allow us to proceed earlier with the laboratory we shall be only too happy to do so."

The eighty-eighth annual report of the Swansea General Hospital, just issued, states that the adverse financial conditions prevailing during the year, which were considered sufficiently serious to require the attention of the governors, have in a measure been overcome, the debt having been reduced from £1,677 to £1,084. Still the debt remains sufficiently serious to cause anxiety and hamper the usefulness of the institution. The number of patients admitted to the wards was 1,471, and to the out-patients' department 5,485—increases of 152 and 571 respectively. The annual subscriptions and donations were £2,508; shipping contributions, £256; fête and gala, £45; hospital balls, £364; employers' contributions, £2,827; house to house collection (profit), £457. The expenditure was £7,134. The cost per head had gone up from £6 0s. 3d. to £6 12s. 4d., but the cost per patient had been reduced from £5 2s. 6d. to £4 17s. The total income from all sources was £7,882 as against £6,338.

CORRESPONDENCE.

THE SANATORIUM TREATMENT OF PHTHISIS: IS IT WORTH WHILE?

SIR,—It may be of interest to give a few practical details of the results obtained and the *modus operandi* of the Devon and Cornwall Sanatorium for Consumption. It is not likely that those who have watched the course of open-air treatment in these institutions feel any doubts as to its high value, but its very simplicity seems to be of the nature of a stumbling-block to its general acceptance. It behoves, then, those with faith in it to record the experience at their disposal, which I do the more readily as Dr. R. H. Clay, the Chairman, and members of its Committee have suggested my doing so, after a short stay I have recently made in it. It is a private house, standing in about 60 acres of grounds at an elevation of about 700 ft. above sea level, and is surrounded by hills and tors rising to about 1000 ft. or more. It is in the beautiful valley of the Avon, on the southern slopes of Dartmoor, with walks of varied nature and great beauty on all sides.

There is accommodation for 20 patients, and this will be increased to 30 when the new block in course of erection is opened; this speaks well in itself, for the sanatorium was opened with 14 beds in May, 1903—only two years ago.

The house itself has been very simply adapted to open-air life, but the new building is planned with special attention to its future uses. A visitor is impressed with three features at Didworthy—with the healthy tone and cheerfulness of spirit that is exhibited and the *camaraderie* of the patients, who band themselves into an association, as it were, in order to get well; with the approximation of the dietary to that of the working classes, but plain, wholesome, and well cooked; and with the keynote of the treatment: open air at all times night and day. The amount of exercise and rest are determined for each patient by the medical officer, Dr. Julian Flemming. Dr. Flemming states that of 97 cases discharged up till May 30th, 1905, 23 are at full work or fit to work, and are classed as "cures"—that is, complete arrest of disease and restoration of working capacity. This gives a percentage of 23.6. Of the remainder, 13 are at light work, or 13.4 per cent.; and 61 are either dead or invalids, or 62.9 per cent.

Apart from the statistics of the work at Didworthy certain facts are vividly impressed upon one. The sanatorium life enables the patients to be placed under the best circumstances at a critical time, and restores to health and working power a definite proportion of them; it distributes, by personal agencies, general knowledge of common-sense rules of healthy living and special knowledge for consumptives to prevent the spread of infection.

Unfortunately, there is yet much left in the organization of sanatorium treatment which needs further action. Bitter disappointment undoubtedly results from the late stage of the disease on commencing treatment, from relapses due partly to lack of suitable food among the poorer patients on their return home and partly to their unhealthy occupations. In some cases, too, the families suffer hardships from poverty while the breadwinner is incapacitated from work and is undergoing treatment. This could be met by the formation of local "after-care" committees, who might interest themselves in finding suitable occupations for the patients on their return, and by the formation of "open-air colonies." These latter would present many difficulties, but judging from the parallel establishments in Germany, America, and in this country for the treatment of epileptics, might be partly self-supporting. Dr. Paget-Tomlinson considers they would tend to prevent relapses. South Dartmoor affords many advantages in this respect for such a school where occupations of all kinds in connexion with the soil could be taught.

Lastly, it is certain that at least six months' treatment should be a minimum in most cases of phthisis, and that advanced cases should have special provision made for them.

Far from the value of the open air being over-estimated, its therapeutic and preventive value, which is fast being placed on a scientific basis, is not sufficiently known or appreciated. The nervous, the digestive, the respiratory, muscular, and circulatory systems respond duly to that finest of tonics and that physiological necessity—pure air. Its application to those forms of "break down" which may pave the way for infection is capable of far wider extension than at present, and it is in no way antagonistic to the drugs and serums of modern medicine, but a most valuable adjunct.

I may add that I have no special motive for praising any one sanatorium, as I am engaged in purely pathological practice.

In conclusion, I beg to express my sincere thanks to the officers of the sanatorium for much kindness and help in preparing this note.

DIETARY, DEVON AND CORNWALL SANATORIUM.

Breakfast, 8 a.m.

Porridge twice a week, fish, sausages, cold meat, eggs (two), fried bacon and liver, milk (one pint), bread and butter.

Dinner, 1 p.m.

Joint alternate days, haricots, stewed meat, with rice or tomatoes, salt beef, beefsteak pie or pudding, hearts, milk pudding, suet pudding, treacle, stewed fruit, sultana pudding, jam rolls, apple tart, one pint milk, bread and butter.

Supper, 7 p.m.

Tripe, fish, chops, stewed meat, cottage pie, minced collops, soup (after meat), milk puddings, stewed fruit, one pint milk, bread and butter.

Sunday.

Cold supper: Tongue, corned beef, tinned salmon, pickles, bread and butter, and milk or cocoa, or coffee.

Tea at 5 p.m., nothing to eat.

—I am, etc.,

F. G. BUSHNELL, M.D., D.P.H.,
Pathologist, Stephen Ralli Memorial, Sussex County Hospital, Brighton; formerly Honorary Secretary and Vice-Chairman, Sanatorium Committee, Devon and Cornwall Sanatorium for Consumption, etc.

July 10th.

SIR,—From the public-health standpoint—the only position from which the nation as a whole can view this question—the sanatorium, like the isolation hospital, is a preventive institution or nothing. If the prevention of consumption is to be made a considerable charge upon public funds those who have control of these funds must of necessity concern themselves exclusively with the removal of the causes of that disease, treatment, except in the case of the extreme poor, being left to voluntary effort. It will not occur to business men that the aggregation of the infective sick—thoroughly unscientific, as pointed out by Dr. Longhurst (in agreement with the late Sir Douglas Galton) in the BRITISH MEDICAL JOURNAL, July 8th, p. 105—is an ideal preventive measure while the breeding grounds of infection are left untouched. All efforts, therefore, will be directed to the tried method of sanitary betterment, and that this will not be found wanting is proved by the marked diminution in the consumption death-rate which has always followed in the wake of sanitary improvements.

Leaving—no one can guess why—this beaten track, equal results (greater could not be hoped) are sought to be obtained from compulsory notification, compulsory segregation, etc.—methods both un-English and inhuman, and which fail egregiously, as compulsion, when brought to bear on law-abiding people, is forever doomed and deserves to fail.

Some of us feel that too much is being made of the danger which a consumptive is supposed to be to those about him. We need to be careful, for the suggestion when made has terrible results on occasion. Speaking for myself, rarely, in a somewhat extended experience, has the suspicion of contagion dawned upon my mind, but when it has the doubt has, in every instance, been resolved by the discovery of a previous history of syphilis. Many must be familiar with such happenings as the following:—A syphilized man marries a healthy girl, who, having in due course given birth to a diseased or dead child, falls into ill-health and presently dies of consumption, the husband following in a year or two from the same disease.

With all this talk about "infected dwellings," it is strange that in none of the numerous instances of immediate and marked benefit which followed the laying of main drains in various towns and cities and the increase of cubic space in barracks and prisons, to which Dr. Buchanan, of the Local Government Board, and others have at various times called attention, did disinfection or segregation play any part whatever. The advantages of both are much overrated, and both are the parents of much misapprehension. A concluding word—you are printing many letters from writers who are pecuniarily interested in sanatoriums. I say it with regret, but I vote that these be not heard. I make no charge of bad faith, but the statistical method has earned its own *mittimus*, and enthusiasm has already too much to answer for, and the human heart too readily believes what it hopes may be true.

—I am, etc.,

EDWARD DEAN MARRIOTT.

July 11th.

SIR,—Much valuable time and space would be saved if some of your correspondents would take the trouble to ensure the correctness or otherwise of their impressions on the above subject before drawing conclusions based thereon, and displaying them in print, apparently indifferent to the possible consequences. I read with amazement the following passage in Dr. Longhurst's letter:

> We know that even the dried sputum of the consumptive revivifies or may assume renewed activity under certain conditions, and in an atmosphere laden or saturated with bacilli, *as it must be in large sanatoriums*, it is impossible to conceive that the sufferer is then under conditions the most favourable for recovery or is being treated on really scientific principles. (The italics are mine.)

The wording of the sentence clearly shows that the conclusions are based upon assumption; more than this, it suggests a want of familiarity on the part of the writer with the details of sanatorium management. Dr. Longhurst, after his extensive general experience (which, however, does not include sanatorium work), should be aware of the fact that collection and destruction of sputum by burning is very thoroughly carried out in all properly-conducted sanatoriums, and is part of a system of hygienic management which renders the sanatorium a harbour of refuge from the tubercle bacillus as compared with the apartments of even one phthisical patient treated at home when hygienic rules of the proper kind cannot be enforced.

Dr. Longhurst's remarks on "isolation" would, I suggest to him with all courtesy, not have been written were he familiar with the details of sanatorium life and management; nor would the short paragraph which follows those remarks.

May I say, in conclusion, that to whatever extent we may differ in our opinions, it would seem anything but kind to allow statements to appear in print which are not calculated to encourage sufferers to give themselves what, I am convinced, is their only chance of restoration to health; and when serious accusations are made (based upon mere assumption) against a system which is undoubtedly doing excellent work, one is lost in contemplation of what the ultimate aim of the writer is.—I am, etc.,

E. W. DIVER, M.D.

"Belle Vue" Sanatorium, Shotley Bridge, July 11th.

PUBLIC VACCINATORS AND GENERAL PRACTITIONERS.

SIR,—"Justitia," in his second letter, does to some extent withdraw the sentiments of his first effusion. He concedes "that public vaccinators are frequently actuated by the highest ethical motives." For this we ought to be grateful: but he still shows a lack of the sense of proportion, and an ignorance of the subject about which he writes. Why does he not visit his patients and vaccinate them as any sensible being would, instead of waiting till four months have lapsed and then complaining because, through his neglect, the law necessitates a visit from the public vaccinator?

His ridiculous scheme of paying "an excellent man" £300 a year to do nothing else but vaccinate is scarcely worth criticism; in my district I receive about £100, and have to cover 10,000 acres, why should treble the sum be paid for the same work? or, if he thinks my district comes under the second heading of the scheme, and all registered practitioners in the district vaccinate at the public expense, each would receive £3 15s., a truly handsome addition to their annual incomes.

The public vaccinator does not gain by his official visits any more than the medical officer of health, and by the very fact of his being a far from popular official loses many possible patients. It would be interesting to know in what part of the country "Justitia" practises. Finding his case weak he proceeds to drag in other subjects—patent medicines, advertising, etc.—I am, etc.,

July 7th. A "LEGALIZED POACHER."

SIR,—"Justitia" does not seem to know much about public vaccinators or their work. If I gave up and retired now I should get no superannuation allowance, though I have been contributing towards it for years, and so "extremely well paid" have I been, and so successful in "ingratiating myself," that I fear I might find myself worse off than a struggling junior—namely, a struggling senior.

One of my friends here lately vaccinated two ladies at a guinea each. The "extremely-well-paid" public vaccinator did one of the servants at the usual 5s. There are many guineas and half-guineas paid for vaccination.

Many self-respecting medical men make arrangements for vaccination after attending a confinement, and it seems to me the natural thing to do.

The public vaccinator has not "practically a monopoly," as stated by "Justitia," neither does he "naturally resent all efforts at reform."

In this district the public vaccinator vaccinates about half of the children born, and a large proportion of those are born without a doctor's attendance, and the private doctor does not lose much by my operations.

As "Justitia" admits envying the public vaccinators, I would remind him that "envy is the rottenness of the bones," and makes a bad pair with "Justitia."—I am, etc.

July 10th. JUSTITIA 2.

SIR,—May I be permitted a word in reply to "Public Vaccinator No. 1." He ignores altogether what has rightly been insisted upon by "Justitia," namely, that under the present system public vaccinators enjoy a free introduction to other men's patients.

In these days one hears the cry raised that the general practitioner is about to become extinct. Personally, I do not for a moment believe it. Nevertheless, we must live and let live, and to my mind the present system of vaccination which, after the family doctor's attendance, permits another man to complete his work must be essentially wrong.

If we could bring the matter to a higher platform, and ask ourselves the ethics of the question, we would, I imagine, arrive only at one conclusion—the present method cannot be upheld.—I am, etc.,

July 9th. ETIQUETTE.

SIR,—"Public Vaccinator No. 1"[1] must not assume that antiquated methods must necessarily be associated with new ones. I suggest that inspectors of vaccination would be no longer necessary, as they exist already—I mean the medical officer of health. His duties would consist of paying (say) half a dozen visits per annum amongst the doctors in his district to see that everything is being done in accordance with the regulations. There would be one only general or chief inspector, and he would receive the reports of the sub-inspectors. What increase of salary for about six hours' extra work per annum these gentlemen would require I leave to them to say. I do not believe it would amount to more than the existing payments to inspectors, probably less.

With regard to the increased cost of registers, etc., I must point out that this would only be an initial increase, which would adjust itself in the course of time. To take "Public Vaccinator's" figures, instead of 1,200 entries in one register, there would be 12 entries in 100 registers, which would therefore last much longer, and so the ultimate expense would be no greater. Will "Public Vaccinator" please proceed to mention the remaining "items"?

He puts my possible share at £1 10s. or £2. This is clearly an absurd estimate, for surely very few medical men have only five or six possible vaccinations per annum in their practices.

Referring to my list of obstetric engagements for 1904, I find they total 84. Assuming that I vaccinate all the children at a fee of 6s. 8d. each, this makes a total of £28, which is a slightly different figure!

May I state here exactly what effect the proposed reform would have upon the public vaccinator? Assuming that he has not been so well paid as a public vaccinator as to cause him either wholly or in part to relinquish his private practice (and I fear this has been done in some cases), he would be no worse off than he was a few years ago, before the new Act came into force, as instead of possessing a monopoly of certain work, he would only share equally with his medical neighbours, and not lose it altogether. For instance, he would vaccinate his private patients, and if he is the district medical officer he would also probably vaccinate most of the poorer patients. It is almost certain that his earnings on this count would be greater than when he was vaccinating once a week at the station for considerably smaller fees. He would have therefore no ground for complaint, and should be thankful for the little pile he has made before the injustice is rectified.

I notice "Justitia's" reply to my query. As he says, there would be some increase in the public expense, but only if a high standard of fees were maintained. If, however, he

[1] BRITISH MEDICAL JOURNAL, July 8th, 1905.

became a public vaccinator he would have the matter absolutely and entirely in his own hands, and if he is so tenderly solicitous of the ratepayers' pockets he will accept a small fee for his work, and endeavour to persuade his less philanthropic brethren to do likewise. Nay, more, he might even return his cheque to the authorities, and instruct them to apply it for the purpose of abatement on a subsequent rating. As it is, he appears so desperately anxious to get the public vaccinator out of his streets, where the latter is obtaining "in spite of himself" such an "unfair advantage" over other doctors in general, and "Justitia" in particular, that he has no hesitation in wiping out of existence a handsome source of income to some members, at any rate, of his profession. Let "Justitia" place the interests of the profession before those of the ratepayers, and he will not cut the throats of the public vaccinators, and then commit suicide, which is carrying philanthropy to extremes.—I am, etc.,

July 7th. INQUISITIVE.

HAY FEVER, CHRONIC RHINITIS AND ASTHMA.

SIR,—At a time when these distressing complaints are so prevalent, the following personal experience may be of interest:

Until six years ago I was a very great sufferer from these paroxysmal neuroses. I had been sprayed, cauterized, drugged, and generally treated by some of the foremost of my medical and surgical confrères with but slight and transitory relief. I will not enter into the history of the sequence of events which suggested the line of treatment which has led up to my cure; suffice it to say that for the last three years I have been practically free from all trouble, and that my sense of smell, which was lost, is slowly returning.

It is simply a question of the *quantity* of food taken. "Enough is as good as a feast," and "enough" in my own case is *the smallest quantity which suffices to maintain my weight at a point which is 12 lbs. less than I used to weigh.* If I forget myself, I begin to get premonitory symptoms when my weight increases about 4 lb. I do not confine myself to any special dietary, although I take animal food, fats, and sugar sparingly, and alcohol only occasionally.

Concurrently with the disappearance of my nasal and pharyngeal symptoms has been an immense improvement in my general health, so that I am able to say that at 45 I am, to all intents and purposes, a younger, more active, and more vigorous man than I was at 35 years of age.

"Enough" as above defined is a quantity varying in every case. The prescription is an unpopular one to recommend to one's patients, but I have found that if *really* tried and persisted in, relief invariably follows. In my own case it is a quantity which 10 years ago I should have thought to be impossible.—I am, etc.,

July 3rd. F.R.C.S.

INDIRECT INJURIES OF THE OPTIC NERVE.

SIR,—My attention has been drawn to a paper by Mr. Simeon Snell, on optic atrophy following injuries to the head, published in the *Transactions of the Ophthalmological Society*, vol. xvii, 1897. Included in this series of cases is a full record, with chart, of a case of unilateral optic atrophy with loss of the temporal field resulting from a blow on the eyebrow, and therefore exactly comparable to the cases published by me in the BRITISH MEDICAL JOURNAL of July 8th. A somewhat similar case, due to injury to the frontal and malar regions, is also recorded.—I am, etc.,

Birmingham, July 11th. J. JAMESON EVANS.

ROYAL NAVY AND ARMY MEDICAL SERVICES.

INDIAN MEDICAL SERVICE.

PROMOTION AND PRECEDENCE.

THE *London Gazette* of July 11th notifies that the Royal Warrant, in relation to promotion and precedence in the Indian Medical Service, dated November 28th, 1903, is amended thus:—(1) The following is added to Article 1: "The Director-General of our Indian Medical Service shall hold the substantive rank of Surgeon-General, but may rank as Lieutenant-General when approved by our Secretary of State for India in Council." (2) The following is substituted for Articles 3 and 4: "3. Except as otherwise herein provided, a Captain shall be promoted to the rank of Major on completing twelve years' full-pay service, but this period may be reduced by six months in the case of an officer who produces satisfactory evidence of progress in any branch of knowledge which is likely to increase his efficiency. 4. Except as otherwise herein provided, a Major shall be promoted to the rank of Lieutenant-Colonel on completing eight years' full-pay service in the rank of Major." (3) The following is added to Article 10: "An officer below the rank of Colonel, who may be appointed as our Honorary Physician or Surgeon after retirement from the Service, shall be granted the honorary rank of Colonel." (4) The following is inserted in Article 12 at the head of the Table of Ages at which officers shall be placed on the Retired List: "Director-General, 62."

UNIVERSITIES AND COLLEGES.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

FELLOWS' DINNER.

AFTER the Council election on Thursday, July 6th, about 100 Fellows dined together in the library of the College, Mr. JOHN TWEEDY, the President, being in the chair.

The usual loyal toasts were proposed by the PRESIDENT, who, in giving the toast of "The King," reminded the company that His Majesty was an Honorary Fellow of the College, and in proposing the succeeding toast stated that Queen Alexandra had in February last visited and inspected the museum of the College.

The next toast was that of "The Fellowship of the Royal College of Surgeons of England." Mr. TWEEDY, in proposing it, said: I have the honour to propose the toast of "Prosperity to the Fellowship of the College." When I had the honour of proposing this toast a year ago, I said the Fellowship had become historical, only two of the original Fellows being then alive. And yet there were not two; for while I was yet speaking the spirit of John Birkett had just left its earthly tenement. A fortnight later John Simon passed away, and with his death the last of the original Fellows of the College disappeared. In the early days of last February we had to mourn the loss of Luther Holden in his ninetieth year. These men, each in turn Senior Fellow, and each in turn occupying the office of President in the successive years of 1877-78-79, manifested in their special activities the great aims and purposes of this College. Birkett was a typical representative of British surgery in the third quarter of the nineteenth century; Holden was a surgeon-anatomist of an order which I fear is gradually dying out, and Simon was perhaps the greatest sanitarian of the age. The promotion of the science and art of surgery, the cultivation of anatomy, and the safeguarding of the public health are. I need hardly remind you, the three principal functions of this College. While it may not be vouchsafed to any of us to be the equal of any of these great men, or of many of the other famous surgeons who adorned the earlier lists of Fellows, we may at least strive to imitate them in the simplicity of their lives, in their devotion to the cause and service of surgery and humanity, and in their loyalty to this College. The medical world is passing through a period of crisis, and no man can pretend to predict when and how the conflicts and controversies and agitations of our time will end. New universities are springing up on every side, and the older universities have awakened to a sense of their responsibilities to the public in the matter of medical education. In London we see everywhere signs of change and flux, of unsettlements and readjustments. The old order is changing and giving place to the new. The *new*: and who will venture to say what that shall be? But whatever the future may bring, I would fain believe that this College will remain the home of British surgery, and that the Fellowship of this College will continue to be the highest criterion of surgical knowledge and skill. You are yourselves living testimonies of its present worth and power. I desire to associate with this toast the names of two gentlemen who, in their several spheres of activity, have done so much to uphold the honour and the usefulness of the Fellowship—Mr. Thomas Bryant and Colonel Pilcher. Mr. Bryant, for many years one of the most distinguished members of the great school of surgery at Guy's, has served this College for a quarter of a century in manifold ways: as examiner, as member of Council, as representative of the College on the General Medical Council, as Hunterian Orator, and as President. His presence to-night is a testimony to his abiding interest in the welfare of the College, and to his sympathy with the Fellows, and especially with the younger Fellows. Colonel Pilcher has maintained the reputation of the Fellowship in the great dependency of India and elsewhere, and I have much pleasure in asking him to join with Mr. Bryant in responding on behalf of the Fellows to this toast.

Mr. BRYANT, in reply, said that before he responded to the toast he had a pleasant duty to perform, which was to present to the Royal College of Surgeons of England a silver loving-cup of some antiquity in the name of the "Standing Com-

mittee of the Fellows' Dinner," which came to an end only when the College in 1904 first instituted a Fellows' dinner to be held on Election Day in July in the College library. The loving-cup was to be held by the College in perpetuity as a memento of the past, together with a book containing a full account of each dinner's proceedings. Mr. Bryant added that as he was the only surviving chairman of the dinners in the past the duty of presenting the cup fell to his lot, Mr. Woodhouse Braine and his son, Mr. Carter Braine, being the two active past secretaries. The cup had been purchased out of a fund approaching £80 accumulated by the past secretaries, and the balance, after paying for the cup now presented, had been given to Epsom College. Mr. Bryant expressed a hope that the cup would be used at all future Fellows' dinners in the College, and have an influence in keeping up the good fellowship which now existed between the Fellows.

Mr. TWEEDY, in accepting in the name of the College the Loving Cup from Mr. Bryant, said:—I have the great pleasure of receiving this cup, and am glad that it should have been given to the College in my term of office, and particularly that it should have been presented by Mr. Bryant, one of my oldest professional friends. A few days ago I was present at an interesting dinner of the Court of the Hôpital François pour les Pauvres Protestants, an institution established nearly 200 years ago for the relief of the Huguenot refugees who came to England after the Revocation of the Edict of Nantes. There I took part in an interesting ceremony of the loving cup, the idea of which I propose to copy in dedicating this cup to its proper use. This cup contains a wine of France, with whose great school of surgery we are linked by centuries of historical association and by considerations of mutual obligation and respect. This wine is *fortified with spirit*—the Spirit of Good Fellowship; it is *sweetened* with pleasant memories. It only remains to add the *cordial* of welcome and good wishes to you and to every one here present.

Mr. BRYANT, in response to the toast, added that he was thoroughly conversant with the examinations of many universities and colleges, and had no hesitation in saying that the examination for the Fellowship of that College was the best examination in surgery that existed, and that the F.R.C.S. diploma was the best in surgery that a man could hold.

Colonel J. G. PILCHER, I.M.S., thought the President and Honorary Secretaries had paid a generous and graceful tribute to seniority in asking him to respond to the toast. The lesson more thoroughly taught than any other in public school life was that of the value and strength of fellowship, nor was it forgotten in the strain and bustle of after-life. It was the spirit of that lesson which had drawn men of the same school of thought, and confronted with similar problems and difficulties, to assemble together that night, and their troth to each other should be as constant and binding as that of any other sacred pledge of life. Half his life had been spent in the Indian Medical Service, the officers of which were brought into closer and more sympathetic touch with the bulk of the population in India than were any other officials. They were thus able to foster and cement the paternal relationship between the Government of India and its subjects. These results were partly due to the high standard of knowledge and efficiency which that College exacted from its Fellows. It was meet that they should on that occasion recall the illustrious names of those who had gone, and whose strenuous and incessant toil had laid deep the foundation of an edifice which the Fellows of to-day could only hope to raise a little higher. "These men were honoured in their generation, and were the glory of their times." "There be of them that have left a name behind them that their praise might be reported." But beyond these islands were Fellows upholding the honour and prestige of their Alma Mater wherever their country's flag was waving, so that the Fellowship of the College was truly an Imperial Fellowship.

Sir THOMAS SMITH proposed the health of the Chairman, than whom no one had ever more thoroughly devoted himself to the service of the College. The toast was received with musical honours.

The PRESIDENT briefly responded, and claimed for the Council that loyalty to the welfare of the College was the guiding spirit of every one of its members. The success of the dinner was due to the Secretaries, Mr. Clinton Dent and Mr. G. H. Makins, C.B., whose healths he proposed.

Mr. DENT acknowledged the toast.

The Fellows then moved to the adjoining apartment, where the new preparations added during the past year to the museum of the College were on view.

UNIVERSITY OF LEEDS.

ORDINANCES FOR DEGREES IN MEDICINE.

AT a recent meeting of the Court of the University the ordinances relating to degrees in Medicine and in Surgery were adopted. In accordance with the terms of the charters granted to Manchester, Liverpool, and Leeds, ordinances dealing with certain matters must, before becoming operative, be submitted to the sister Universities, either of which may, if it thinks fit, give notice of objection. The ordinances are framed very much on the lines of the Victoria ordinances and in harmony with those which exist at Manchester and Liverpool.

The first ordinance for the degrees of Bachelor of Medicine and of Surgery provides that candidates must attend courses of instruction approved by the University extending over not less than five years, *two* of such years at least having been passed in the University subsequently to the date of passing the First Examination (Chemistry, Biology, and Physics). The ordinance with reference to the degree of Doctor of Medicine runs as follows:

No candidate shall be admitted to the degree of Doctor of Medicine unless he has previously received the degrees of Bachelor of Medicine and Bachelor of Surgery, and at least one year has elapsed since he passed the examination for these degrees.

Candidates for the degree of Doctor of Medicine are required to present a dissertation, and, if the dissertation be accepted, to pass an examination. The dissertation, of which the subject must previously have received the approval of the Board of the Faculty of Medicine, must embody the results of personal observations or original research, either in some department of medicine or of some science directly related to medicine, provided always that original work published in scientific journals, or in the proceedings of learned societies, or separately, shall be admissible in lieu of or in addition to a dissertation specially written for the degree. Candidates will be required to write a short extempore essay on some topic connected with medicine, and to answer questions on the history of medicine. They will also be examined orally on the dissertation, or other work submitted. Any candidate may be exempted from a part or the whole of the examination if the Board of the Faculty so decide. No candidate will be admitted to the degree unless his application, after report from the Board of the Faculty of Medicine, shall have been accepted by the Senate.

Among the regulations there is one which provides that candidates who fail in the second examination or in the third examination must produce evidence of having pursued such further study as may be required by the examiners.

UNIVERSITY OF CAMBRIDGE.

THE Raymond Horton-Smith Prize for 1905 is awarded to W. L. H. Duckworth, M.A., M.D., Jesus. Honourable Mention: S. P. Pollard, M.B., B.C., Caius.

The following degrees were conferred on June 20th:

M.D.—F. J. Lidderdale, Trin.; F. J. Child, Christ's.

M.B.—D. V. Cow, Trin.; T. J. Faulder, Cla.; R. E. G. Gray, Pemb.; G. L. Crimp, Gonv. and Cai.; H. Spurrier, Gonv. and Cai.; R. A. Clapham, Emm.

B.C.—W. G. Howarth, King's; R. E. G. Gray, Pemb.; H. Spurrier, Gonv. and Cai.; E. Lloyd, Emm.

The following have passed the Second M.B. Examination:

A. C. Anderson, Down.; R. R. Anderson, Trin.; A. Barker, B.A., Trin.; C. T. V. Benson, B.A., King's; W. J. Carr, B.A., Trin.; A. E. A. Carver, Cai.; R. M. Collinge, B.A., Cai; R. Cox, Cai.; A. H. Crook, Christ's; A. E. Cullen, Joh.; F. C. Davies, Down.; H. Dearden, B.A., Cai.; S. Dixon, M.A., Trin.; G. H. Dunn, B.A., Pemb.; A. J. S. Fuller, B.A., Emm.; T. S. Gibson, B.A., Emm.; B. Haigh, B.A., Cai.; A. Hamilton, Christ's; G. Hollmann, B.A., Cai; B. E. Ingleby, B.A., Cai; R. Knowles, Down; F. H. Lester, B.A., Pemb.; C. Mackenzie, B.A., Emm.; H. McLean, B.A., Cai.; W. Mathieson, Sid. Suss.; L. Meakin, B.A., Trin.; E. E. Paget-Tomlinson, B.A., Trin. H.; B. H. Palmer, B.A., Pemb.; L. B. Perry, Queen's; F. S. Poole, B.A., Sid Suss.; A. V. Poyser, B.A., Magd.; K. D. Pringle, B.A., Cai.; R. P. M. Roberts, Queens'; J. H. Ryffel, M.A., Pet.; S. E. T. Shann, B.A., Cai.; J. W. Sharp, B.A., Cai.; O. R. Smale, B.A., Cai.; E. R. Stone, B.A., Emm.; R. Svenson, B.A., Cai.; C. H. S. Taylor, B.A., Cai; G. W. Twigg, B.A., Cai.; G. B. Wainwright, B.A., Trin.; G. Walker, B.A., Trin.; R. W. S. Walker, B.A., Trin.; H. K. Waller, Trin.; J. N. Wheeler, B.A., Christ's.

UNIVERSITY OF LONDON.

GUY'S HOSPITAL MEDICAL SCHOOL.

The Gordon Museum.

A LARGE number of guests assembled at Guy's Hospital on Wednesday, July 12th. The Governors and staff proceeded from the Court Room to the new school buildings, where the prizes were distributed in the lecture theatre. Mr. COSMO BONSOR, the Treasurer, presided. Lord Cross, Sir Samuel Wilks, Dr. Pye-Smith, Mr. Thomas Bryant, Mr. Robert Gordon, Sir T. Stevenson, Sir Joseph Dimsdale, Sir Cameron Gull, Dr. Savage, and Mr. Bralley were amongst those present. The Chairman welcomed back Sir Samuel Wilks after his illness.

The DEAN (Dr. H. L. Eason) read his report on the medical and dental schools, which had maintained a high standard of efficiency during the past year. The successes attained at the universities and elsewhere by the students had been numerous, the report recording that no less than ten had obtained the diploma of F.R.C.S. From the Dental School thirty-men had obtained the diploma of L.D.S.R.C.S. The report announced the resignation of the post of Surgeon by Mr. Jacobson by reason of a sad family bereavement, and eulogized his ungrudging services to the hospital during the many years that he was on the

staff. Mr. Arbuthnot Lane had succeeded him as surgeon, and Mr. C. H. Fagge had been elected assistant-surgeon. Other changes had also occurred, the chief of these being the resignation of Professor A. W. Reinold, the Lecturer on Physics, after services of thirty-two years in that capacity. The completion of the new Gordon Museum of Anatomy and Pathology, which at this time last year was not begun, and the erection of the adjoining lecture theatre, and curator's and other rooms, had rendered the Medical School at Guy's Hospital in respect of laboratory and museum accommodation and teaching efficiency second to none in the Kingdom. The Medical School at Guy's had always paid its way in the past, and was doing so at the present time, without any subsidy from the funds of the hospital, but this satisfactory result had only been obtained by means of heavy sacrifices and much devoted work on the part of the medical, surgical, and teaching staff. In May, 1897, His Majesty the King, then Prince of Wales, on the occasion of the opening of these very buildings, made the following weighty appeal: "The medical staff have expended as much as they safely can, and it is to men of wealth and philanthropic aspirations that we can confidently look for further assistance. Let such men once realize that money given for the purpose of medical education directly benefits humanity, and I cannot doubt that that spirit which has prompted the British people to provide by voluntary effort what in other countries is provided by the State, will prove effectual in the present need." Now, eight years afterwards, the staff had to thank his Majesty for that appeal, which had in the interval brought to Guy's the Gordon Museum, the Gordon Lectureship on Pathology, the Wills Library, and financial assistance from the Right Hon. A. J. Balfour, Mr. Pierpont Morgan, and others. There was now the most ample and efficient laboratory and teaching accommodation, and the necessary endowment of lectureships and scholarships should follow.

Dr. PYE SMITH then distributed the prizes, and in addressing the students and guests enumerated many of the earlier members of the staff who had left behind them imperishable memories. Lastly, he spoke of the repeated beneficence of Mr. Robert Gordon, one of the Governors, and, on behalf of the Governors and medical staff, invited that gentleman to accept a replica in silver of the statue of Thomas Guy in the hospital square, together with a bound memorial volume signed by the Prince of Wales and all the members of the governing body.

Mr. GORDON, in acknowledging the presentation, said that in erecting the museum it was sufficient for him to know that its completion had removed a reproach that had long rested upon the hospital—that their pathological collection, which was one of the finest in the world, had been miserably housed.

Dr. FREDERICK TAYLOR proposed a vote of thanks to Dr. Pye-Smith, which was seconded by Mr. CLEMENT LUCAS, carried with acclamation, and briefly acknowledged by Dr. PYE-SMITH.

The proceedings then closed, the company separating to inspect the new museum and school buildings, the hospital, and Wills Library, and to listen to the band of the 1st Life Guards which played to the garden party in the grounds of the hospital.

The new museum, erected at the expense of Mr. Robert Gordon, will enable the 12,000 specimens collected in the old museum to be adequately displayed, whilst the removal of the old block of buildings will render a larger garden space available for the use of children and convalescent patients. The new buildings have been erected from the plans of Mr. J. H. T. Woodd, the hospital architect, and appear to be remarkably well adapted to their purpose. The museum is arranged in four large rooms, which intercommunicate, and are lighted from the top. Each room contains about 1,000 superficial feet of floor space for the exhibition of models and specimens on tables, and round each room run two tiers of galleries approached by a central staircase, and giving a total wall space of rather more than 13,500 superficial feet for the accommodation of specimens on shelves and in enclosed cases. To the well-known wax models by Towne, illustrating various pathological conditions, and the anatomy of the various regions from dissections by Mr. John Hilton and others, and the pathological specimens collected during the past century by the curators and physicians and surgeons of the hospital, are now added cases containing various instruments and other objects of historical or antiquarian interest connected with Guy's Hospital.

ST. THOMAS'S HOSPITAL MEDICAL SCHOOL.

THE annual prize-giving at St. Thomas's Hospital Medical School took place on June 28th, Mr. J. G. Wainwright the Treasurer of the hospital presiding, and the Archbishop of Canterbury distributing the following awards: The *Entrance Science Scholarship* of £150, to E. W. Witney; the *University Scholarship* of £50, to C. E. Whitehead; the *William Tite Scholarship* of £25 for second year students, to W. B. Johnson; the *Musgrave Scholarship* of £35 for third year students, to R. W. Rix; the *College prizes* of £20 and £10 for students of the same year to Messrs. J. A. Clark and H. H. Robson, respectively; the *Peacock Scholarship* for fourth year students, to H. J. Nightingale; the *College prizes* for fifth year students of £10 each: for *Medicine*, to C. L. Morgan; *Surgery*, to H. T. Gray; *Midwifery*, to J. M. Wyatt; *Pathology* (Hadden Prize), to G. J. Langley; *Pharmacology*, to H. T. Gray and L. E. C. Norbury; *Forensic Medicine and Insanity*, L. E. C. Norbury; *Public Health*, to E. J. Langley.

The Medallists for the year, introduced by the Dean of the school, were in *Practical Medicine*, E. J. Langley, H. R. Dean, G. J. Langley, H. Ll. Morgan; in *Surgery and Surgical Anatomy*, L. E. C. Norbury, H. T. Gray, A. W. Hooker, J. H. Drew; in *Pathology and Morbid Anatomy*, A. G. Gibson; in *Obstetric Medicine*, J. M. Wyatt; for *General Proficiency and Good Conduct*, L. E. C. Norbury. In addition a number of Certificates of Honour and Proficiency were distributed. Amongst the distinctions announced as having been gained during the year were the Louis Jennor Research Scholarship, a "Qualified for the Gold Medal" in medicine at the M.D examination University of London, and a University Medal at the M.S. examination of the same university.

The Chairman in his opening address alluded to the difficulty in which the medical schools now found themselves. It was not possible, he said, in actual practice to raise the funds to meet the increased cost of medical education. The hospital had 350 students on its roll at present engaged in hospital work.

The Archbishop of Canterbury also made a short speech when the prize distribution was finished: "Never had there been," he said, "a time in English history when so much was expected, and not expected in vain, from the medical and surgical profession. There had been of late an inrush of knowledge about human life, its disabilities and possibilities, and on subjects specially connected with that branch of study and investigation to which medical men devoted their lives. Upon them, therefore, rested a peculiar responsibility. If there was one especially characteristic feature of the medical profession, it was the readiness with which every bit of knowledge which its members acquired was made available at the earliest possible moment for the general welfare."

The hospital was afterwards opened for the inspection of visitors, tea being served in the garden, where a selection of music was given by the band of the Irish Guards.

KING'S COLLEGE

Vacation Course in Bacteriology

A course in clinical and practical bacteriology suited to the requirements of medical practitioners and senior students (for M.B. examination) will be held daily from 10.30 to 1, commencing Wednesday, July 26th, and ending Saturday, August 5th. The course will consist of lectures, demonstrations and practical work. The fee will be £3 3s., inclusive of materials, etc. Names should be sent in as soon as possible to the Secretary or to Professor Hewlett.

Vacation Course in Clinical Pathology.

A course in clinical pathology will be held on six afternoons, July 27th to August 4th, 2 to 4.30 p.m. The course will consist of demonstrations and practical work. Inclusive fee, £2 2s. (If both courses be taken the inclusive fee will be £4 4s.)

UNIVERSITY OF ABERDEEN.

Gifts to the University.

THE University Court met on July 11th in Marischal College, Principal Lang presiding. The following gifts to the University were intimated:—From Mrs Anne D. Beaton, widow of Rev. Patrick Beaton, M.A., Paris, the sum of £200 to found in connexion with the class of zoology a prize in memory of her father, the late Professor Macgillivray, and from Rev. Alexander Miller, D.D., M.A., Buckie, the sum of £100 to be added to the funds of the Caithness Prize in History.

ROYAL UNIVERSITY OF IRELAND.

FIRST EXAMINATION IN MEDICINE.

Summer, 1905.

THE following candidates have been approved at the First Examination in Medicine:

*J. Anderson, *W. J. Ashby, *J. S. Bellas, F. Bradley, P. M. J. Brett, *J. A. Brown, B. Byrne, *3. Campbell, *S. R. Campbell, *F. S. Carson, *A. V. Craig, A. T. Crowley, P. J. Cullinan, *W. Dickey, E. S. Dixon, W. Doolin, F. H. Duke, *F. P. Ferran, B.A., D. J. Foley, W. A. Frost, *J. J. Gilmore, *J. A. Hanrahan, *J. H. Harbison, A. V. J. Harrison, P. Hayes, *R. W. G. Hingston, J. Holland, D. Horgan, *J. C. Houston, D. J. Jackson, E. G. Kennedy, E. W. Kirwan, *B. C. Letts, D. Lynch, J. McCormick, B. McCullough, B.A., G. E. A. Mitchell, Eileen M. O'Keeffe, J. M. O'Reilly, C. Ronayne, *P. J. Ryan, *T. Scanlan, J. Spence, A. M. Thomson, M. Twohig, J. F. Walsh, *W. O. Wilson, R. Young.

*Qualified to present themselves for honours in various subjects.

Exempt from further examination in Biology: J. Byrne, University College, Dublin.

The following candidates have qualified upon their answering to present themselves for the further examination for honours in the subjects set after their names. Those qualified in two or more subjects may present themselves for the further examination in all subjects:

J. Anderson, W. J. Ashby, J. S. Bellas, S. Campbell, S. R. Campbell, F. S. Carson, A. V. Craig, W. Dickey, F. P. Ferran, B.A., J. J. Gilmore, J. A. Hanrahan, J. H. Harbison, R. W. G. Hingston, J. C. Houston, B. C. Letts, P. J. Ryan, T. Scanlan, W. O. Wilson.

THE VICTORIA UNIVERSITY OF MANCHESTER.

DEGREE DAY.

SATURDAY, July 8th, was degree day, when Earl Spencer, who presided, conferred nearly two hundred degrees.

The following were presented by the Dean of the Faculty of Medicine for the *M.D.*:—M. B. Arnold, A. C. Clarke, M. Gamble, E. A. Goulden, J. P. H. Greenhalgh, C. P. Lapage, A. F. Martin, S. G. Moore, H. W. Russell, C. W. S. Saberton, S. W. Thomson, T. Tierney.

Gold medals for their dissertations were awarded to Drs. M. Gamble and H. W. Russell.

The following awards were distributed:

The *Platt Biological Scholarship* to Ethel M. Hough.

The *Platt Biological Exhibition* to Annie Isgrove.

Professor Tom Jones Memorial Surgical Scholarship.—A. E. Johnson, M.B., P. Talbot, M.B.

Turner Medical Scholarship—Ethel M. Phillips.

Dunville Surgical Prize.—D. P. Sutherland.

Professor Tom Jones Exhibition in Anatomy.—J. Morley.

Platt Physiological Exhibition.—T. W. Todd, jun., T. W. Todd, ter.

Sidney Renshaw Exhibition in Physiology.—J. A. Fairer.

Scholarship in Medicine (Anatomy, Physiology, Materia Medica).—T. W. Todd.

Army Commissions.

The Army Council has decided to offer to the University of Manchester, if a satisfactory course of instruction is provided in military subjects, a certain number of commissions in the army, including the Army Service Corps. The Council propose to establish a scheme for providing such instruction.

The following candidates were approved at the June First examination in medicine.

FIRST EXAMINATION.

Part I.—*Chemistry and Physics:* H. E. Allanson, W. A. Bullough, F. H. Diggle, G. C. Dixon, J. Gow, J. H. C. Green, T. T. Higgins, R. A. Jackson, N. T. K. Jordan, N. McDonald, Edith M. Marsden, C. R. Marshall, C. Pimblett, H. Platt, W. J. A. Quine, A. A. Smalley, N. Tattersall, R. H. Titcombe, G. Whitehead.

Part II.—*Biology:* H. E. Allanson, Estelle I. E. Atkinson, H. S. Bate, G. M. Benton, W. A. Bullough, S. J. Clegg, J. F. Cocker, D. I. Connolly, G. T. Cregan, F. H. Diggle, G. C. Dixon, J. Gow, H. M. C. Green, T. T. Higgins, R. A. Jackson, N. T. K. Jordan, N. McDonald, Edith M. Marsden, C. R. Marshall, W. F. Munsey, H. Platt, A. Porter, A. A. Smalley, N. Tattersall, R. H. Titcombe, J. F. Ward.

UNIVERSITY OF BIRMINGHAM.

REPRESENTATIVE ON GENERAL MEDICAL COUNCIL.

AT a meeting of the Council of the University of Birmingham held on Wednesday, July 5th, the Vice-Chancellor presiding, Professor Saundby, M.Sc., M.D., LL.D., F.R.C.P., was appointed the Representative of the

University on the General Medical Council of Education of the United Kingdom.

The following candidates have been approved at the June examinations:

M.B., Ch.B.—(*a*) *Official:* F. Marsh. (*b*) *Under Ordinary Regulations* (Class II.): E. L. Bunting, L. L. Hadley, W. C. Horton, W. C. Houghton, H. P. Pickerill, T. H. Ravenhill, N. J. L. Rollaston, F. Wilkinson (scholarship).

4th Examination (Class II): H. C. H. Bracey (scholarship), L. C. Hayes, A. C. Hincks, C. Johnson, W. R. S. Roberts.

3rd Examination (Class II): E. J. Boome, H. N. Crowe, J. Fenton (scholarship), E. T. Gaunt, J. K. Gaunt, P. J. Mason, N. C. Penrose, A. J. Smith, R. W. Thompson, F. B. Young.

2nd Examination (Class II): J. Adams, Charlotte Bailey, Mary Clarke (scholarship), G. H. C. Mold, J. L. Ritchie, H. H. Sampson, E. V. Whitby.

Passed in Part of the Examination in Anatomy and Physiology: H. A. Evans, G. F. Jotham.

1st Examination (Class I): C. Walker; (Class II): J. H. Bampton, W. C. Blackham, N. A. Boswell, C. W. Hayward, H. F. Humphreys, Violet M. McCready, A. H. Newton, K. G. Wilkinson, H. Wilks.

Bachelor of Dental Surgery: R. H. Astbury.

B.Sc. in Public Health.—(*a*) *Official:* R. A. Lyster; (*b*) *Under Ordinary Regulations:* S. H. Hawley, W. Sisam.

CONJOINT BOARD IN IRELAND.

The following candidates have passed the first professional examination with honours:

I. Scher, E. Harrison, J. Menton, E. Dundon.

Passed: R. Adams, J. F. E. Blake, L. R. Clifford, J. J. Connell, W. Crymble, W. S. Coffey, T. Driscoll, E. C. Deane, J. P. Egan, P. J. Fenton, J. F. Gibbons, J. Good, F. N. Harvey, W. Hederman, J. Healy, H. Hunt, C. Kelsall, C. L. Lapper, H. S. Meade, A. E. J. Moore, E. B. Moynihan, T. McDonald, J. G. O. Mahony, J. Patton, J. Power, P. J. M. Power, L. C. Rorke, W. F. Russell, R. P. Thomson, R. S. White, and O. W. J. Wynne, and the following four ladies: J. M. Clarke, A. F. Nash, C. Daniell, C. F. Williamson.

SOCIETY OF APOTHECARIES OF LONDON.

PRIMARY EXAMINATION.

The following candidates have been approved in the subjects indicated:

Part I.

Biology.—U. J. Bourke, R. S. Minchin.

Chemistry.—H. S. Brown, R. J. W. McKane.

Materia Medica and Pharmacy.—W. E. Dimond, L. R. Nezet, P. D. Pickles.

Part II.

Anatomy.—L. G. H. Furber, W. J. Gibson, T. Huddleston, C. J. M. Lawrence, E. A. Mordaunt, G. F. Page, A. Perlman, P. A. Sullivan.

Physiology.—L. G. H. Furber, T. Huddleston, C. J. M. Lawrence, P. J. Lush, E. A. Mordaunt, G. F. Page, P. A. Sullivan.

OBITUARY.

JAMES MACNABB CUNINGHAM, M.D., LL.D., C.S.I.,

Honorary Surgeon to the King; Surgeon-General, Indian Medical Service (Retired).

THIS distinguished officer, who was so intimately and prominently associated with sanitary development and administration in India, died on June 26th, in London, at the age of 76. He was born on June 2nd, 1829, at the Cape of Good Hope. His name, physique, and mental traits bore strong evidence of his Scottish parentage and descent. His medical education was obtained at the University of Edinburgh, where he took the degree of M.D. in 1851; subsequently, in 1892, the honorary degree of LL.D. was bestowed upon him by his Alma Mater. He was a fellow-student of Drs. Charles Murchison, Sir John Burdon Sanderson, and Sir Alexander Christison, Bart., with whom in after-years he maintained intimate private and official relations in India. He was an active member of the Royal Medical Society which has served so useful a purpose in developing the intellectual faculties and stimulating the inquisitive and assimilating powers of medical students in Edinburgh. His graduation thesis on the Medical Conditions of the Aorta was commended. He joined the Bengal Medical Service as Assistant-Surgeon on November 20th, 1851, was promoted to the rank of Surgeon on March 12th, 1864, and of Surgeon-Major on November 20th, 1871. He was gazetted Surgeon-General on March 29th, 1880, and retired on March 29th, 1885, thus completing thirty-three and a-half years' service. His first important charge in India was the superintendency of the Central Prison at Bareilly, in 1861. He subsequently held a similar charge at Meerut and was appointed Superintendent of the Government Press, North-Western Provinces, in 1863.

His bent was evidently towards clerical and administrative rather than purely professional work. When a sanitary commission was appointed in India in 1866 for the purpose of reporting and advising on the health of European troops, and, as necessarily conditioning that, on the sanitary state of India generally, Cuningham was appointed secretary. He was at the same time appointed professor of hygiene in the Calcutta Medical College, being the first to hold that office. This commission was an outcome of the great sanitary revival which took place about the middle of the last century, and was more immediately a consequence of the revelations of the Royal Commission appointed in 1859 to enquire into the sanitary state of the army in India. Such sanitation as existed in India previous to this time was carried out under the advice and prompting of the medical authorities, and though men like Ranald Martin and Norman Cheever strongly urged the need of reform, the attitude of the civil, military, and medical authorities was distinctly apathetic. The formation of a special health commission and the subsequent appointment of a sanitary commissioner for each principal province were undoubtedly steps in the right direction; but, as often happens in India, the new departure consisted in the creation of a deliberative head without a working body or limbs. Executive medical officers owed a double allegiance of duty to both medical and sanitary departments, and jealousy and friction arose in consequence. These statements are made for the purpose of explaining the hostility with which Cuningham was sometimes regarded, and the difficulty of the position which he held in relation to civil and military authorities and the Medical Department. This position demanded patience, perseverance, tact, and judgement, and all these qualities he signally displayed. The first President of the Sanitary Commission was a civilian, Mr. (afterwards Sir John) Strachey, and he was succeeded by Major G. B. Malleson. In 1869 Cuningham was appointed Sanitary Commissioner for the Bengal Presidency, and in 1875 for the whole Indian Empire. He held this office until his retirement. In the year 1880 he was appointed, in addition, head of the Bengal Medical Department, with the rank of Surgeon-General. To this post his seniority in the service entitled him, and the amalgamation of the Medical and Sanitary Departments was then held to conduce to administrative convenience and financial economy. Cuningham was thus for a period of twenty years concerned intimately and actively in all sanitary thought and effort which occurred in India. Of his work it would be impossible, within the limits of this notice, to write in detail; suffice it to say that all he did was ably and sensibly done. His reports were models of order and lucidity. They were perhaps too statistical, but that could not be avoided under the circumstances. On any question referred to him he wrote clearly and forcibly. His habit of mind tended to scientific agnosticism, and he did not make sufficient allowance for the imperfections of medical and sanitary science, relying more on figures than research for his scientific views. He was apt to throw cold water on strivings towards the truth by local inquiry and clinical and pathological investigation, and to call for positive proof when only presumption or probability was forthcoming. By a curious inversion, he laid down the doctrine that statistical generalizations were "great facts," and inquiries into special cases, epidemics, and local incidents "little facts." Nevertheless, he was a thorough believer in the gospel of cleanliness, and warmly supported and urged sanitary reforms of every description. It is but fair to add that scientific etiology was in his time in its infancy, and that the statistical method, which is rather an indicator than an organon, leads when used for etiological purposes to assumptions of telluric and cosmic forces, and similar vague general deductions which were rampant in Cuningham's time. Moreover, in the fervour of early enthusiasm the apostles of hygiene were apt to make wild and sanguine guesses tending to novel and futile practical departures; and probably an attitude of suspense, if not scepticism, was necessary and salutary. Special pathological and bacteriological inquiry in India was represented at this time by the excellent work done under the Sanitary Commissioner's support and control by Douglas, Cuningham and Timothy Lewis. Improved contrivances and methods have since then resulted in the revolution which has taken place in our notions of the nature and causation of disease. To this great achievement Cuningham did not, perhaps could not, contribute. His habit of mind was indeed rather repressive than encouraging to this sort of work. On the occasion of his retirement the Government of India issued the following laudatory and well-merited resolution:

> On the retirement of Surgeon-General J. M. Cuningham, Surgeon General and Sanitary Commissioner with the Government of India, the Governor-General in Council desires to place upon public record his high appreciation of the eminent services rendered to the State by that officer.
>
> In the Sanitary Department Dr. Cunningham's services extend over a period of twenty years, during fifteen of which he has been the head of the Department. When the scheme for the reorganization of the

Medical services in India came into operation in March, 1880, Dr. Cuningham was selected to fill the combined office of Surgeon-General and Sanitary Commissioner with the Government of India, the very onerous and responsible duties of which have been discharged to the entire satisfaction of the Government of India. During Dr. Cuningham's incumbency the Indian Medical Department has been remodelled in all its branches, with the result that departmental efficiency has been considerably increased, while a saving of expense to the State has at the same time been effected.

In his capacity as Sanitary Commissioner, Dr. Cuningham has also been instrumental in introducing many measures of great importance to the well-being of the people, and has afforded material assistance to the Government of India in dealing with many difficult questions which have from time to time come before it in connexion with sanitary matters.

In his retirement Dr. Cuningham carries with him the warmest thanks of the Government of India for his long and distinguished services.

In recognition of his services he was made a Companion of the Order of the Star of India, and in 1888 was appointed Honorary Surgeon to the Queen. During the twenty years which have elapsed since he left India Surgeon-General Cuningham led a quiet, uneventful, and on the whole intellectually unproductive life. For five years, from 1891-1896, he served as a member of the Army Sanitary Committee, and in 1894 he represented the Government of India at the Paris International Sanitary Conference. Seven years ago he had a stroke of paralysis, and since then his health has been failing. On June 12th a recurrence in more severe form took place, and proved fatal in fourteen days.

James Macnabb Cuningham was a man of fine physique. His features were strong and regular, expression placid, and manner charming. He was most honourable and estimable in all relations of life. His temper was equable, and though often subjected to severe criticism and sometimes violent attack he rarely showed resentment. Himself strong and tenacious in his opinion, he tolerated honest and temperate opposition. No one assailed his views more persistently and uncompromisingly than the writer of this notice, yet this did not interfere in the least with private friendship. Cuningham possessed a well-cultivated and logical mind. He wrote and spoke well, and, though conservative and perhaps lacking in initiative and enthusiasm, he had a ready uptake, and was emphatically a good business man. He cannot be pronounced to have been a great sanitarian, nor in any sense or degree a scientist, but he was an excellent administrator. Apart from official reports and writings the only product of his pen was a work published in 1885 on "Cholera: what the State can do to prevent it." This book embodied the rather nihilistic doctrines which he held, and though well arranged and written cannot be said to have made any addition to our knowledge. On the whole, taking merits and faults into account, Cuningham held with credit a prominent place and performed a useful function in the initiation and development of sanitation in India.

DEATHS IN THE PROFESSION ABROAD.—Among the members of the medical profession in foreign countries who have recently died are Dr. Philipp Schech, Professor of Laryngology in the University of Munich, aged 60; Dr. Hermann von Lingg, of Munich, well known as a man of letters in Germany; Dr. Norbert Pfretschner, of Innsbruck, member of the Legislative Assembly of the Tyrol in 1848 to 1849, aged 88; and Dr. René du Castel, Physician to the Hôpital Saint Louis, member of the Paris Academy of Medicine, author of works on dilatation and hypertrophy of the heart, pulmonary sclerosis, pruritus, and other skin affections and various manifestations of syphilis, aged 59.

PUBLIC HEALTH AND POOR-LAW MEDICAL SERVICES.

CARE AND CONTROL OF IDIOTS AND EPILEPTICS.

AT a further meeting of the Royal Commission on the Care and Control of the Feeble-minded on June 20th evidence was received from Dr. F. W. Mott, F.R.S., Director of the Pathological Laboratory of the London County Council Asylums and Physician to Charing Cross Hospital; from Dr. C. H. Bond, Medical Superintendent of the London County Council's Colony for insane epileptics; and from Mrs. E. M. Burgwin, Superintendent of the Special schools of the same council.

Dr. MOTT said that the London County Council, as the educational and lunacy authority, could establish a uniform continuity of policy by the establishment of a register of all "defectives," and this would be of the greatest value if correlated with the proposed scheme of receiving houses now before Parliament. He thought a medical expert, trained in psychology or assisted by a psychologist, should be appointed by the Council to examine and inquire into the family history and report upon all children who were admitted to defective schools. A register should be kept, so that when those who were not under complete control appeared in police-courts, maternity wards, or lunatic asylums, they could be identified at the central bureau, and, if need be, sent to an industrial colony. The authorities should also institute industrial farms or colonies for feeble-minded and epileptic persons, whether certifiable or non-certifiable of the classes better than pauper.

Dr. C. H. BOND said the value of industrial colonies as the most humane, economical, and medically wise means of providing for the feeble-minded or defective and the epileptic classes after leaving school was becoming more and more generally recognized. He urged the necessity of medical inspection in the case of all children attending public elementary schools, and suggested that a register should be kept of all the cases thus notified.

Mrs. E. M. BURGWIN expressed an opinion to the effect that the Elementary Education (Defective and Epileptic Children) Act, 1899, should be made compulsory, and alluded to the need of residential schools and of powers to compel the children to enter them.

The Commission met again on July 7th, when evidence was received from Miss Rose Turner, Medical Attendant of some of the Homes for Feeble-minded Children under the Metropolitan Asylums Board; from Dr. A. Rotherham, Medical Superintendent of Darenth Asylum; from Dr. E. B. Sherlock, of Belmont Asylum, and from Dr. R. Cunyngham Brown, who gave evidence as to the facts which he had collected when acting as Commissioner on behalf of the BRITISH MEDICAL JOURNAL to inquire into administrative measures adopted by other countries for dealing with the increase of insanity and as to the results of the family colony system.

Miss ROSE TURNER thought the unimprovable only required to be comfortably housed and cared for, and could well be included in the large general asylums, where a certain part of the buildings could be allotted to them. She was in favour of dealing with the improvable of all ages by detention in colonies, a colony to consist of a group of buildings, each capable of accommodating from 30 to 100 inmates.

Dr. ROTHERHAM was in favour of putting all classes of defective children, including epileptics, under certificates by which they might be detained in institutions, and the certificates should be made by a special Board of medical men with a special knowledge. Detention under the certificate should be compulsory, and no one should have the power to discharge a patient from the institution except the special medical Board. No patient should be discharged from the institution unless a favourable report had been received from a special officer as to proper supervision over the patient if discharged, and also from the medical superintendent of the institution in which he was detained. It should be necessary to continue the detention certificate in the form of a re-certificate made by the medical superintendent of the institution in which the patient was detained every three years until the patient reached 25 years of age, and no re-certificate should be necessary after this time.

Dr. E. B. SHERLOCK held that the most important requirement was furnishing of some appropriate authority with much greater powers of interfering with individual liberty than at present existed.

Dr. R. CUNYNGHAM BROWN said that the family colony system consisted in the boarding out of harmless lunatic or imbecile patients within the homes and under the care of competent guardians, who were required to comply with regulations imposed by the administrative authority, had been practised in Belgium for ages, had been adopted in Scotland since 1862, and more recently in France, Germany, Holland, Italy, Austria, Russia, and the United States. His visits had convinced him that this system might be safely applied to from 15 to 20 per cent. of the total insane population with the best results, and its application in our own country would result in increased co-ordination and control.

MEDICO-LEGAL AND MEDICO-ETHICAL.

A MUSIC HALL PRACTITIONER CONVICTED.

AT the Lambeth Police Court, on July 10th, Walford Bodie, of Arundel Street, Leicester Square, was summoned before Mr. Francis to answer a complaint that on May 19th, at the Camberwell Palace of Varieties, he, not then being a registered medical practitioner within the meaning of the Medical Acts of 1858 and 1886, unlawfully, wilfully, and falsely took and used the name, title, and addition of "Doctor," "M.D.," and "Surgeon," thereby implying that he was then registered under the Acts. There was a second summons charging the accused with pretending to be a doctor of medicine and a surgeon.

Mr. Bodkin, instructed by Mr. Hempson, Solicitor to the Medical Defence Union, appeared in support of the summonses; Mr. Avory, K.C., and Mr. Biron appeared for the defendant.

The defendant, under the advice of counsel, admitted that he had used the descriptions "Doctor," "M.D.," etc.

Mr. BODKIN, in stating the facts, said that the defendant had for some time past been performing or giving a "turn" at various music halls. He was described on the programme as Dr. Walford Bodie, M.D., F.S., Sc. He was also described as "The Bloodless Surgeon." To further attract the public, advertisements were widely circulated in the music hall and theatrical reviews, in which the defendant was described as "Dr. Walford Bodie, M.D., C.M., F.R.C.I., F.R.S., and M.S.A Lond." He was not entitled to use any medical degree. The defendant treated people on the stage as a doctor, and so held himself up before the public. By appearing as an artiste he was degrading the profession in the eyes of the public.

Mr. AVORY, speaking in mitigation of damages, said that the offence to which the defendant pleaded guilty was merely that of using the titles "M.D.," "Doctor," etc. He had no consulting room or surgery to which any person could go, nor did he charge any person for what he did. However much the medical profession might resent a person giving an exhibition of his art on the music hall stage and performing [illegible] experiments, it was not forbidden by law. It might be inconvenient to the medical profession that some of the things which had been done by this gentleman should be done on the music-hall stage, but he was not to be punished because the medical profession did not like it. Leaflets had been distributed among the audiences showing that the degrees were taken in America. Mr. Avory concluded by saying:—"There are a number of persons in Court who were discharged from hospital and by medical men

as incurable, but who have been treated by the defendant with beneficial results."

Mr. Francis said he was inclined to think this was not so bad a case as many which came before the Court, in which men practised as medical men and so infringed the Act of Parliament in the worst possible way. This was a case for a mitigated penalty. The defendant had no right to call himself "M.D." He would have to pay £5 and £5 5s. costs.

A SERIOUS CHARGE REFUTED.

On July 6th and 7th the case of Foreman *v.* Kyffin was reheard by Mr. Justice Bigham at the Winchester Assizes. On a former occasion the jury failed to agree. The action was brought by James Foreman against Dr. J. Kyffin of Forton, to recover damages for the alleged seduction and loss of services of his daughter Florence.

Lord Coleridge, K.C., and Mr. Rooth appeared for the plaintiff; Mr. Clavell Salter, K.C., and Mr. Holman Gregory, instructed by the solicitor to the Medical Defence Union, for the defendant.

It appeared that the plaintiff owned a fish shop at Gosport. His daughter assisted in the business. Foreman was the member of a club, which the defendant had taken over from his predecessor in the practice. At Christmas, 1902, Florence Foreman visited the defendant, who performed an operation on her tonsils. Later, when she was suffering from a growth at the back of her nose, she was operated on at her father's house. She subsequently paid frequent visits to the defendant's surgery in Forton Road. The girl, in giving evidence, said that the defendant commenced to take liberties with her in the surgery in July, 1903, and that intercourse took place at the end of that month. A child was born to her in the following year. She stated that, in consequence of a communication made by her to the defendant, he gave her some pills. She did not tell her mother until a long time afterwards. On October 20th she told him that she was *enceinte* and he gave her medicine. When the girl's mother found out her condition she told the plaintiff, who immediately sought an interview with the defendant, and it was alleged that during the interview the defendant said: "How can I be sure there will be no scandal?"

In opening the case to the jury, Lord Coleridge said it involved serious consequences to both parties whichever way they decided. The jury would have to steer a right course between the conflicting accounts.

Amongst the witnesses called was Mr. A. E. Angell, the county analyst, who said that the pills contained myrrh, and the medicine was Epsom salts.

Mr. Salter, K.C., in addressing the jury for the defence, said that no body of men would ruin a man's character on the girl's evidence unless it was corroborated. It was the defendant who had urged the case on for trial on both occasions in order to clear his character. Counsel pointed out that unless there had been a conspiracy between the defendant and his dispenser, the books proved conclusively the dates of every visit which the girl made to the surgery. He had never heard of a more half-hearted attempt to insinuate that a medical man had attempted to procure abortion.

Dr. Kyffin gave evidence denying the allegations, and was about to be cross-examined when the jury stopped the case, and gave a verdict for the defendant. His lordship said he quite agreed with the jury.

IS TEMPER A DISEASE?

A leading physician in London has sent us a reply-paid post card which he received recently. It was couched in the following terms:

From Pope Pax, Date as Postmark.
Journalist,
18, Trinity Road, Birmingham.

Sir,

The Editor of *Pearson's Weekly* has commissioned me to gather and forward to him short signed opinions from persons whose words carry weight in reference to the following subject:

Is temper a disease?

I venture to ask whether it would be agreeable to you to state your views upon the matter.

If so, be good enough to utilize the annexed card, and to write your signature very plain, as it would be reproduced (from a block) in the article.

Yours obediently,
Pope Pax.

This is a curious production from several points of view. In the first place, it is curious that a journalist, who no doubt prides himself on being a man of the world, should have supposed that such a request would meet with a favourable response from a well-known physician, and apparently that the prospect of seeing his signature reproduced in facsimile would be an added inducement. In the second place it is curious that the writer should have hit upon this subject. Some time ago by an unfortunate indiscretion a note upon the pathological basis of bad temper (containing a prescription for temper powders) contributed by Sir Lauder Brunton to the *Practitioner*, was copied into a popular magazine and thence into many newspapers. Sir Lauder Brunton, however, at once wrote to the British Medical Journal expressing his regret at the incident, and this should have warned Mr. Pope Pax that his enterprise was not likely to meet with success.

VALUE OF A PRACTICE.

Durham asks the following:—A practice is worth £800, of which £350 is from appointments. What would be the cash value of such a practice (*a*) without appointments, (*b*) with appointments? The data are altogether insufficient for a proper valuation. Speaking generally, the practice, with the appointments, might be worth two years' purchase; without, probably not more than one.

It is also asked what proportion of the profits should be paid yearly for five years in order to effect a purchase. This would be entirely a matter for arrangement, and many vendors would object to it. If the whole of the purchase money were not paid at the end of the introduction, probably interest on the unpaid portion would be expected.

CONTRACT PRACTICE.

I. H. writes: (*a*) A new medical club has been formed (before I started here) where the members may call in any doctors they choose, what must I bear in mind in having anything to do with these clubs?

*** That they do not canvass or tout for practice; that they pay the rates recognized by the profession in the district.

(*b*) Some of the people here are anxious for me to start a club of my own, to have a collector to take charge of fees and attend them at a fixed sum; is this prohibited? I understand other medical men do it.

*** It is not prohibited, but the collector must not canvass and should not be paid by commission.

MEDICAL ADVERTISING.

L. H. asks: Am I prohibited from leaving a printed card at several villages some miles from here stating on the card that Dr. H. calls there and that messages may be left?

*** It is generally held that medical practitioners should not as a rule affix their names upon houses where they have no tenancy, but it is recognized that in wide-spreading districts it is permissible, and may, in fact, be necessary, for them to indicate houses where messages may be left.

W. D. U.—The cutting sent to us has the appearance of an indirect advertisement of the practitioner concerned. We will refer the matter to the Ethical Commmitee.

FEES OF *LOCUM TENENS*.

A correspondent, writing from Ireland, asks what is the usual fee paid in England to a *locum tenens*, and also the maximum and minimum.

*** Four guineas a week is a usual fee, but it would be impossible to state the minimum or maximum fee.

POLICE FEES FOR EXAMINATIONS IN CRIMINAL CASES, ETC.

Police-Surgeon asks: What are the proper fees to be charged in the following cases? (1) Examination of man charged with criminal assault. (2) Examination of child or woman assaulted. (3) When called by the police to see a dead body, does the subsequent coroner's fee cover the visit, or am I not entitled to a separate fee from the police?

*** The proper fee in cases (1) and (2) is that recommended by the Departmental Committee of the Home Office two years ago, namely, one guinea for each examination, but this has not yet been sanctioned by the Home Secretary, and varying fees are paid in different places. In some boroughs the police-surgeon's salary is held to cover such services, and no separate fee is paid for either (1) (2) or (3). The subsequent coroner's fee does not cover the visit made under (3) and in the Metropolitan Police District fees of 3s. 6d. by day and 7s. 6d. by night are paid for such visits.

MEDICAL CERTIFICATES FOR ELEMENTARY SCHOOL CHILDREN.

N. E. W. writes to ask for an opinion as to the course which should be followed by medical practitioners in the country with regard to the giving of certificates as to the health of children attending public elementary schools. Apparently in the district in which he practises the school inspectors are instructed to act with great strictness, and the absence of a child from school for even one day entails a visit from the inspector and a threat of legal proceedings. Our correspondent continues:—"It is constantly happening to me that I am sent for, perhaps six or seven miles away, an urgent message, 'Please call to-day without fail.' When I get there it is probably some poor cottage woman, perhaps six or seven children; husband's earnings, 16s. per week. She apologises for sending for me, it's only 'Sally' or 'Johnny,' as the case may be, a bilious attack or cold in the head, and as the woman says, the child does not want any medical attendance, only keeping warm and a day or two in the house, but the school inspector says she must have a doctor's certificate. Now, where does the doctor come in? He has had a drive of perhaps fourteen miles, all told; he cannot expect the poor woman to pay him a fee; how can she? In reality, she has not sent for him; it is the County Council who have made her, and shirks the responsibility. In my opinion it is they who should find the doctor's fee. I shall, I expect, be told that this is not the law, but, at any rate, it seems to me to be common sense. Lately a new development has arisen. At a little village seven miles from here I gave two certificates, both free of charge, under the circumstances described above. I am sent for again, and am told the inspector has been again and says my certificate is not sufficient, and has left a printed form for me to fill in about the child's illness—kind of illness, probable duration, etc. At the bottom is a printed footnote stating that the Education Committee of the County Council do not hold themselves in any way responsible for any fee charged in connexion with this certificate. Under these circumstances I absolutely refused to fill in the papers, and told them to refer the inspector to me if any trouble arose. It seems absurd that I should travel backwards and forwards to these outlying villages to fill in papers for the County Council. And yet, what is to be done? If I do not, they summon the wretched woman. In this case I shall let things take their course, and if she is summoned and fined, I must pay, but I can hardly believe that any bench would convict her when they have heard the facts which I can give them. In any case, I shall be very glad to have your opinion on the matter, which is daily getting a greater trouble both to me and other country practitioners with large districts to cover.

*** Our correspondent's letter puts very well the essential injustice inflicted upon medical practitioners by the manner in which the regulations, framed to secure the attendance of children at school, are at present being worked in some districts. So far as we are aware, an education authority has no legal right to demand that the medical certificate to be produced by the parent should be on a special form. This, however, leaves the real grievance untouched. We are not prepared to suggest a remedy, but would point out to our correspondent that the matter is the subject of one of the reports[1] to be presented by the Medico-Political Committee to the Representative Meeting at Leicester. From this report it appears that eleven county councils out of thirty-nine, and eleven county boroughs out of fifty-nine, pay fees for such certificates. It appears also that several authorities distinguish between the cases seen at the doctor's surgery and those to which he has to pay a visit.

[1] Report XV., Supplement, May 27th, 1905, p. 265.

FEE FOR LUNACY CERTIFICATE.

A. H. asks: What is the usual fee for certifying a person to be of unsound mind?

*** Necessarily, the fee varies very much according to the circumstances of the case and the trouble given. "A. H." does not even state whether the patient is a private or a pauper case. If a private case, one to three guineas," according to circumstances. Exceptional cases would deserve exceptional fees. The fee for one pauper case is one guinea, but less per case for several at the same time.

HOSPITAL AND DISPENSARY MANAGEMENT.

WARNEFORD HOSPITAL, LEAMINGTON.

AT a meeting of Governors held last week, Dr. Otho F. Wyer, who has resigned the post of Physician to the hospital, was appointed Consulting Physician, and an election took place to fill the vacancy caused by his retirement. The candidates were Dr. Miles Atkinson and Dr. T. E. C. Cole. The result of the voting was Atkinson 29, Cole 58, but as a poll was demanded on behalf of the unsuccessful candidate the meeting was adjourned for twenty-one days, in order that the necessary arrangements should be made.

We regret to see that this hospital still maintains the old cumbrous system of an appeal by poll to the whole of the Governors, a method involving not only considerable expense to the candidates, but often causing a good deal of scandal by the practices which such a mode of contesting a hospital appointment almost inevitably involves. The system necessarily means that copies of testimonials are sent broadcast, not only to the Governors themselves, but to those who it is thought may in any way influence votes, and canvassing on behalf of the respective candidates goes on throughout the district for weeks. It is much to be desired that the Governors of the Warneford Hospital should delegate their privileges to a committee of election large enough to represent the various interests. It might be composed of the whole of the medical staff of the hospital, the Board of Management, and a certain number of Governors selected by lot, representing the town of Leamington and the county of Warwick.

REGISTRATION OF NURSES.

EVIDENCE BEFORE THE HOUSE OF COMMONS COMMITTEE.

BEFORE the Select Committee of the House of Commons on the State Registration of Nurses, evidence was given on June 27th by Dr. E. W. White, Superintendent of the City of London Asylum, Dartford, Professor of Psychological Medicine in King's College, and a Vice-President of the Society for the State Registration of Trained Nurses; Dr. G. E. Shuttleworth, Honorary Secretary of the Asylum Workers' Association, and Mr. J. Patten MacDougall, Vice-President of the Scottish Local Government Board.

Dr. WHITE said that he considered a system of registration desirable for nurses who had charge of insane persons. He described the course of instruction, followed by examination and registration, carried out under the auspices of the Medico-Psychological Association. The training extended over three years. The plan had proved so successful that the certificate of the Association was now virtually essential to asylum nurses for promotion. He asked that mental nurses, male and female, should be made eligible for State registration under any scheme that might be adopted, and that the Medico-Psychological Association should be represented on any State board.

Dr. SHUTTLEWORTH, as representing the Asylum Workers' Association, said its members were encouraged to obtain the certificate of the Medico-Psychological Association which they regarded in the light of a qualifying body. He laid stress on the importance of providing ample opportunities of nursing the sick for male nurses. At present they had not the same chance as female nurses. The only hospital in London which supplied training for male nurses was the National Hospital for the Paralysed and Epileptic, Queen Square. The Asylum Workers' Association has endeavoured to obtain training for them in Poor-law infirmaries, but without success.

Mr. MACDOUGALL described the system of trained sick nursing in Scottish poorhouses, and the system of registration in existence under the Scottish Local Government Board. In the event of State registration becoming statutory and a higher qualification than that required by the Board being adopted, the Board suggested that care should be taken that Poor-law nurses had not a lower status than other general nurses.

The Select Committee decided to take no further evidence and will proceed to draw up its report.

WILTS COUNTY ASYLUM.

THE fifty-fourth annual report of this institution is for the twelve months ending March 31st, 1905, but the statistical tables and the annual report of the Medical Superintendent (Dr. J. Ireland Bowes) are for the year ending December 31st, 1904. In the fifty-third report, published last year and noticed in our issue of December 31st, 1904, we noted that the new detached block (Villa 2) for the accommodation of 54 female patients was approaching completion, but that Dr. Ireland Bowes and others believed that this would only afford temporary relief to this considerably overcrowded asylum, and that the question of further provision would shortly require consideration. Villa 2 was opened for patients in June of last year, and this year's report shows that the fears entertained then have been realized. Since April of last year the male patients have always been in excess of the authorized accommodation—at one time to the extent of 21 patients. To provide further accommodation, plans have been prepared for an extension to take in 50 more patients, but as yet no further steps have been taken. On January 1st, 1904, there were 980 patients in residence, and on December 31st, 1904, there were 977. Notwithstanding this decrease, the average daily numbers resident during 1904 were 986.7, as compared with 970.4 of the previous year. As will be seen from the numbers admitted, this increase in the asylum population is not due to an increase in the numbers admitted, for these have been steadily diminishing for the last five years, but is due to an accumulation of chronic cases. In 1904 there were 151 admissions, as contrasted with 159 in the previous year. In 1902 there were 102 admissions, in 1901 there were 173, and in 1900 there were no less than 189. Among the 151 admissions for 1904 only 9 were not first admissions. In 121 cases the attack was of less than twelve months' duration on admission, and in 10 the duration of the attack was unknown. The number of relapsed cases, Dr. Bowes says, showed a marked decrease, giving a percentage to admissions of 6.0 as compared with 15.1 for the two preceding years. The admissions were classified according to forms of mental disorder as follows: Mania of all kinds, 71; melancholia of all kinds, 38; secondary and senile dementia, 14; general paralysis, 11; acquired epilepsy, 7; and congenital or infantile defect, 10. Concerning the general character of the admissions, Dr. Bowes does not speak in hopeful terms. The insanities assume more of the nature of melancholia and cases of acute and, as a rule, curable mania are exceptional. The addition of cases of imbecility, general paralysis and senile dementia leaves little material, he says, wherewith to show recoveries. As to the probable causes of insanity amongst these admissions the most salient features are, hereditary influences in 53, or 35.0 per cent.; alcoholic intemperance in 20, or 19.2 per cent.; ascertained congenital defect in 10, previous attacks in 13, change of life and old age in 22, venereal disease in 8 and moral causes in 39. It will be noted that this year, like last year, alcoholic intemperance was assigned in a considerable percentage of the admissions.

During the last year 64 patients were discharged as recovered, giving a percentage recovery-rate on the admissions, excluding transfers, of 42.3. There were also discharged as relieved 7, as not improved 1, and there were 82 deaths. This gives a death-rate on the average numbers resident of 8.3 per cent., which is higher than it has been in this institution since 1901. The deaths were due in 19 cases to cerebro-spinal diseases including 10 due to general paralysis, in 34 cases to chest diseases including 14 cases of phthisis pulmonalis, in 7 cases to abdominal diseases, in 3 cases to general diseases including 1 case of general tuberculous, and in 18 cases to senile decay. Deaths from tuberculosis disease thus existed in the proportion to total deaths of 18.2 per cent. No serious or fatal casualty occurred during the year and the general health was good, and apart from dysentery, from which 21 suffered and 2 died, no infectious disease occurred.

HEREFORD COUNTY AND CITY ASYLUM.

ON the first day of 1904 there were 513 patients resident in this asylum, and on December 31st, 1904, there were 527. The increase in the average numbers under treatment was, however, only 512, an increase of five on the preceding year. The asylum appears to have been worked during the year with a very small margin as to accommodation, for although there was ample accommodation on the female side, the highest number of beds vacant on the male side was five, and unfortunately—the Committee of Visitors point out—the stress was chiefly felt in that part of the asylum in which overcrowding is most prejudicial, that is, in the part of the asylum most adapted to the treatment of acute and curable cases. The Medical Superintendent, Dr. C. S. Morrison, recommends in his report that the Governors should consider the advisability of establishing a special department for the early treatment of incipient insanity. During the year 95 patients were admitted, of whom 73 were first admissions. Amongst these admissions Dr. Morrison notes that the upward grade as to age period present over the whole country, is very marked in the County of Hereford, 31.5 per cent. of the admissions for 1904 being over 60 years of age. This leads of course to overcrowding, with all its attendant evils, and to a sensible decrease in the produce of patients' labour. Of the 95 admitted, 40 were first attacks within twelve months of admission, and 6 were congenital cases. Admissions were classified as to the forms of mental disorder as follows: Mania of all kinds 40, melancholia of all kinds 11, and dementia of all kinds 18. There were also 7 cases of general paralysis, 1 of acquired epilepsy, and 9 cases of congenital or infantile mental defect. As to the probable causes of insanity amongst the admissions, hereditary influences were ascertained in 23, or 24.2 per cent.; alcoholic intemperance was assigned as the exciting cause in 6 cases, or 6.3 per cent., a previous attack was given in only one case as the probable cause, old age in 11 (Dr. Morrison, however, in his report, mentions that "mental deterioration" due to old age was present in 33.5 per cent.), venereal disease in 6, and moral causes in 15. Other bodily disorders were ascertained in 34, and the small remainder are distributed over the usually cited factors.

During the year 23 were discharged as recovered, giving a recovery-rate upon the admissions, excluding transfers, of 33.82 per cent.; 6 as relieved, 11 as not improved, and there were 41 deaths. The deaths, which give a death-rate upon the average numbers resident of 8 per cent., were due in 15 cases to cerebro-spinal diseases; to chest diseases excluding 2 which were due to aneurysm, in 7 cases; in 2 cases to senile decay, and in 1 case to typhoid. The remainder do not call for any particular comment.

Two inquests were held during the year, and in both cases a verdict was returned in accordance with the medical evidence. The general health appears to have been fairly good throughout the year. Last year Dr. Morrison published evidence as to the high ratio of congenital insanity in the county, and in this year's report he comments on the facts deduced by the Scottish Commissioners in Lunacy from an analysis of vital statistics in relation to the prevalence of congenital insanity in Scotland. The Scottish Commissioners demonstrated that the incidence of highest ratio of congenital defect was coexistent with the lowest death-rate of infant life below 5 years of age. Dr. Morrison, taking the vital statistics of Herefordshire for the last two years, finds that the average mortality for this age-period is much lower in his county than that of England and Wales as a whole, and that from the point of view of the future ratepayer, this low infant mortality, however satisfactory to the public-health statistician, may prove an embarrassing advantage.

THE tenth session of the International Statistical Institute will be held at the Imperial Institute, London, from July 31st to August 5th. The Prince of Wales, as Honorary President of the Congress, will preside at the opening meeting at 11 a.m. on Monday, July 31st.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

J. W. asks where he can obtain a copy of rules for patients printed on a large card for hanging in his surgery.

J. W. G. asks for information as to the relative advantages of Harrogate, Llandrindod, or other spa, for the treatment of atonic dyspepsia. Being a sufferer from that complaint, he wishes to spend his holidays where he can combine treatment with pleasure.

M D. writes: Kindly inform me how to set the machinery in motion under the Food and Drugs Act with the least trouble to myself in the case where the milksellers in a country town are known to water the milk. The town is small, and has no urban powers. How often annually can I have the milk officially tested for solids at the public expense?

*** There are two ways of setting the machinery in motion—either to apply to the local authority, whose business it is to sample milk and submit it to an analyst, or to apply to the county council, drawing their attention to the facts. Our correspondent is not entitled himself to sample except at his own expense and responsibility.

NOMAD asks: Could a practitioner with British qualifications take patients into his own house in Switzerland for treatment, or would this be considered practising without the diplomas of the country?

*** "Nomad" had better address an inquiry to the Secretary of the Federal Medical Board, Berne. He should state: (1) The precise locality in which he resides or proposes to reside; (2) the nationality of the patients whom he proposes to take as boarders; (3) their number; and (4) the nature of the special disease in view, if any. In no other way is he likely to obtain a thoroughly reliable answer to the question which he raises.

TREATMENT OF PALMAR SYPHILIDE.

CHRONIC asks for help in the treatment of a chronic tertiary palmar syphilide which gets better and worse almost independently as regards local or other treatment: the former, including mercurials, ichthyol, salicylic acid, tar, iodoform, and hazeline (which, perhaps, has the most constant alleviating action). The case has tried elsewhere without permanent benefit. Infection occurred fifteen years ago and secondaries were slight. There are, and have been, no other tertiary symptoms.

OXALURIA.

DR. JAMES MACKINLAY (Redcar, Yorkshire) writes: I have recently attended a case of haematuria arising from an excess of oxalates in the urine. I find that blood has been passed in the urine some four times previously, always in the summer, and my patient is under the impression that each attack has directly followed a meal at which spinach has been taken. Can any of your readers inform me if spinach, like rhubarb and some other vegetables, is known to produce an excess of oxalates in the urine? In any literature to which I have access I cannot find spinach mentioned as a cause.

ANSWERS.

WE would request correspondents who desire to ask questions in this column not to make use of such signatures as "A Member," "A Member B.M.A.," "Enquirer," and so on. By attention to this request much confusion would be avoided. Correspondents are asked to write upon one side of the paper only.

J. S. The horizontal angle at junction of floor and ceiling, and the [illegible] angle of walls to hospital wards, etc., should be the same radius, namely, not less than 2 in.

INQUIRER. We know of no home that will receive an illegitimate infant without payment. It is easy to find a person who will bring up an infant for weekly payments without a premium.

CARBON MONOXIDE POISONING.

ST. BARTHOLOMEW'S. The method of examining cases of supposed carbon-monoxide poisoning devised by Kunkel, to which attention was drawn at a recent meeting of the Shropshire and Mid-Wales Branch of the British Medical Association by Dr. Law-Webb, appears to be one of considerable delicacy. It is carried out as follows: A little of the infected blood is diluted with ten volumes of water, a little 5 per cent. solution of tannin in water being then added. If carbon-monoxide-haemoglobin or carbon-monoxide-oxyhaemoglobin is present a precipitate is formed which is pink in colour. A precipitate also occurs with normal blood, but in this case the colour is of a brown-black hue, very much like that of *caput mortuum*. Dr. Law-Webb, in his work on *Forensic Medicine and Toxicology*, states that this test will reveal the presence of carbon-monoxide even when this represents only 20 per cent. of the total amount of blood. He adds also that it is applicable as a test even when the blood under examination is undergoing decomposition, a result apparently due to the fact that carbon-monoxide-hæmin is a very stable compound. Kunkel obtained positive reactions in the blood of a woman [illegible] general putrefaction had taken place and where death had occurred from carbon-monoxide poisoning some months before. In the examination of any supposed case of [illegible] from this test, bear in mind Mann's warning [illegible] as sufficiently charged with it for [illegible]

LETTERS, NOTES, ETC.

AEQUANIMITAS.

GENERAL PRACTITIONER writes: How true the saying "If a practitioner teaches himself not to expect too much from the people among whom his lot is cast, his equanimity will not easily be ruffled by the folly of patients or the wiles of false brethren." Your leader on "Lay Sermons" is well worth reading, and lays open the dangers of a professional life regardless of the boasted adherence to ethical conduct. We hear too much of professional honour and too little of real work. A sensitive mind has much to put up with, first, to make a living and by doing good, and secondly, to keep to a path of rectitude and regard for his professional brethren. I think a position of isolation is the happiest one to assume, and it makes one happier to read that this even fosters originality. My experience of a life of twenty years has taught me that professional ethics means the securing the larger number of patients, with the fewer questions asked as to their previous attendant, but this is not all. Apart from the jealousy inside, there is the equivocal position in which we are held by the public: in the past to be the medical adviser to a family meant the constituted friend, comforter, and general trustee of all its secrets and troubles, looked up to by all and every one. Nowadays such confidence is not thought of. We are sent for imperatively, much as one sends for the coachman, our diagnosis is doubted, and our treatment flouted and changed for that of some quack. More frequently than not at the next sickness another medical man is called in, and with equal facility dismissed, for no more reason than another lives more convenient; so that we do not possess such a thing as a practice, an asset of twenty years' hard work, "The first in sickness, the last in health." We are sent for in a hurry when someone is ill, and upbraided if the call is not attended to at once. Then if the patient gets well, perhaps from an attack of pneumonia, it is the poultices with which the good housewife attacked the chest; or, if a surgical case, because the person has "such good healing flesh"; but never the doctor, who may have brought all the skill to bear possible. When the bill goes in, it is put away with the expression, "Oh, the doctor can wait; he has plenty of money." When payment does begin it is a paltry shilling a week, and that is omitted on such occasions as annual sermons, holidays, or for new clothes. And so life goes on, until laid down after years of toil and anxiety; without even the satisfaction of a competence for those left behind, but a heap of bills which, now you are gone, the people refuse to pay. It is for this we have been educated and are educating our sons. And after a strenuous life, devoid of social pleasure, or even rest, what the future has in store one cannot say. The present is summed up in the Professor's dictum, "It is a noble profession, but a—bad trade."

"FRAMED BY THE MIDWIVES BOARD."

DR. F. GRAHAM CROSSBANK (Barnes, S.W.) writes: The practical working of the Midwives Act is not without its humorous aspect. Only to-day one of the midwives registered by reason of having been in bona-fide practice during past years came to me in great distress, armed with her certificates and rules, asking where and how she could have these documents "framed." I suggested any local "carver and gilder." "But," she urged, "the framing is done free by the Board." Dissenting from this view as I did, the midwife triumphantly pointed out to me Messrs. Spottiswoode's advertisement—"Rules, framed by the Central Midwives Board, 7d. post free." The good woman had sent her seven stamps, and finding that the official publication is clearly stated to be framed by the Central Midwives' Board, and, moreover, that the rules were only approved by the Privy Council as so "framed," is still of opinion that her sevenpence has been fraudulently obtained.

PUMICE STONE AS A DEPILATORY.

R. F. writes: The use of pumice stone as a depilatory, described in the BRITISH MEDICAL JOURNAL of June 24th, is not new. It was so used by the Romans in the time of the Empire, as readers of Juvenal's *Satires* will remember.

HAY FEVER.

A MEDICAL practitioner who for the last five or six years has been so great a sufferer from hay fever that he has been unable to continue his work during June, writes to say that this year he was particularly troubled by irritation of the eyes. Recently he was induced to use adrenalin ointment, and at once obtained relief, and is at present able to do his work in comfort.

AN APPEAL.

CAPTAIN FRANK E. GUNTER, R.A.M.C. (68, Torrington Square, W.C.), writes: I should like to bring to the notice of your readers a very hard case. Dr. Dodd, who was staying with his wife in this establishment, died very suddenly last week. Mrs. Dodd has been left penniless. If any one would subscribe, even the smallest sum, to enable her to tide over the time till she can get some employment it will be most gratefully received, as she has literally no money at all. Subscriptions may be sent to me at above address, and they will be duly acknowledged, with your permission, in the BRITISH MEDICAL JOURNAL. The amount already received is £3 10s.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

Eight lines and under	...	...	...	£0 4 0
Each additional line ...	...	...	...	0 0 6
A whole column ...	...	...	...	2 0 0
A page ...	...	...	...	5 5 0

An average line contains six words.

Advertisements should be delivered, addressed to the Manager, at the Office, not later than first post on Wednesday morning preceding publication; and if not paid for at the time, should be accompanied by a reference.

Post Office Orders should be made payable to the British Medical Association at the General Post Office, London. Small amounts may be paid in postage-stamps.

N.B.—It is against the rules of the Post Office to receive letters as *Poste Restantes* addressed either in initials or numbers.

An Address
ON
THE RELATION OF MEDICAL MEN TO OFFICIAL AND PUBLIC BODIES.

Delivered before the North Cumberland Division of the Border Counties Branch, May 26th, 1905.

BY RODERICK MACLAREN, M.D.,
Consulting Surgeon, Cumberland Infirmary.

LAST year we discussed the relations of medical men to each other; this year I purpose introducing by the following remarks a similar discussion on their relation to the community at large as represented by various bodies, such as the sanitary authorities, courts, army, etc.

Any one who enters the medical profession takes on himself certain unwritten responsibilities, which he is bound to recognize, and to which he must conform. His education and special knowledge place on him the burden of making the saving of life, the relief of suffering, or the restoration of health, the primary objects of his life apart from considerations of personal ease or pecuniary profit. Though it is not impossible to harmonize individual prosperity with duty, it must ever be remembered that it is an altogether peculiar and stringent obligation which we have assumed in making the practice of medicine and surgery our life's work. At the same time, be it said that this relation to the community does not entitle it, either collectively or individually, to deprive us of our just rights or to call on us to perform duties without due remuneration when the means for such exists. We give the public the right to expect sundry acts from us, for we alone have the knowledge and skill requisite for the work, but on no account can we admit that this exonerates it from performing its equitable and bounden duty to us. If we refuse to do our utmost to give the sick and suffering the full benefit of all we know, we do wrong, and are deservedly liable to the censure of public opinion; but having done our best those who would seek to deprive us of the due acknowledgement of the time spent in the service, of the labour expended in acquiring knowledge and experience and of the cost of an education of a special and technical kind, are equally blameworthy. My first effort will be to endeavour to elucidate and disentangle the various complications of our relations with official bodies.

MEDICAL OFFICERS OF HEALTH.

Perhaps the most frequent contact of medical men with official life is in the department of public health, either as medical officers of health, or as having to report to them. Can we say that the existing state of matters is quite satisfactory? Thanks to the common sense and judicious action of medical officers, friction is not of frequent occurrence, but many men feel that the general practitioner as a principal medical officer of health is an anomaly, that he might have a most useful rôle to fill as a deputy or local health officer, but that he cannot be the sole adviser of his board without occasional or even frequent conflict between duty and interest. A complete fulfilment of the work of his office may readily bring him into disagreement with private patients and friends. It is asking a great deal from human nature to expect it always to prefer the public weal to private interest. The weak man may fail to face a disagreeable task; the strong man is tempted to overstrain his authority lest he be suspected of favouritism. In either case a biassed state of mind ensues, detrimental to the best interests of the community. It is also alleged that medical men hesitate to give information readily and freely to one who is their competitor in the struggle for existence; information which would be readily imparted to an absolutely independent medical officer of health. I have certainly often observed the readiness with which practitioners co-operate with the medical officer who is debarred from practice. In the presence of infectious disease or of insanitary conditions their first thought is to get him in and the second to help him to the utmost of their ability, whereas with a practising medical officer there is apt to be a reluctance and reticence born of suspicion. It might, therefore, be well that we should to the best of our ability promote the formation of sanitary districts of such importance and size as to employ medical officers of health who are independent of practice.

The usual terms of appointment at present are from year to year; there is no necessary fixity of tenure. At the expiry of the period of appointment a board need not renew it or give a reason for declining to do so, thus placing the medical officer of health at the mercy of a body many of whose members may be personally interested in having his work inefficiently performed. This is a highly unsatisfactory condition, which a Bill promoted by the Association is directed to remedy.

But taking matters as they at present exist, two things seem to call for some consideration. The relation of the practitioner to notification and the attitude of the health officer to the patient and practitioner.

In regard to notification, we should in the public interest stretch to the utmost our confidential relation to our clients. It is worth while for the community to allow us freely to inform the guardians of their health that foci of disease exist which can on the one hand become centres of wide-spread devastation, or, on the other hand, be limited to a small area by suitable precautions. To those of us who were brought up with a strong and stern sense of the confidential nature of our work, the obligation to place our private information at the disposal of a public authority went somewhat against the grain. But there is no doubt that the public at large by the very act of agreeing to notification has absolved us from our vow of reticence. I say, therefore, let us loyally support the efforts of our health officials to limit disease, not only by observing the legal obligation to report every case, but by using our influence to extend notification to every disease for which a good case can be made out, and by doing all we can to get our patients to aid the authorities in their efforts to limit the spread of infection.

On the other hand, the practitioner has the right to expect that the publication of the existence of infectious disease is limited to what is required for the public good. No wanton injury to feelings or to business should be inflicted by stating publicly such details as enable individual cases to be identified. At least, until the law gives powers of compulsory isolation and compensation. Medical men should not be made the agents for inflicting injury on their patients by loss of occupation or by such other disabilities as the presence of infectious disease often entails.

It is a question often asked, Should a medical officer of health personally visit individuals reported to be suffering from infectious disease? Not as a rule, and never without giving the ordinary medical attendant the opportunity of meeting him. It may, under some circumstances, become the duty of the medical officer of health to personally verify a diagnosis; for it is notorious that the difficulties are often very great, and that certainty is not always easy to attain; on the other hand, there is no doubt that practitioners have existed who possessed such facility in the diagnosis of infectious disease as to suggest the advisability of checking their conclusions. So we must not seek to deprive a careful official of the means of getting his data from direct observation. He, on his side, should scrupulously avoid anything which may shake the faith of the patient in his attendant. An injury may be caused not only by a direct statement of doubt but equally by a careless word or action, so that all that is done should be cautious and deliberate. The practitioner should never decline such a meeting, alike in the interest of his patient and of good fellowship. It should be conducted with the formality and courtesy of an ordinary consultation.

MEDICAL EVIDENCE.

The ethics of giving evidence before the courts is a wide subject on which much might be written but with doubtful profit. While it may be of immense importance, occasionally and to individuals, that medical evidence is properly given, yet in the life of the community it is to be recognized that its occurrence is infrequent, and only rarely is it of vital importance. The great mass of medical men never require to appear in the witness-box in any serious case. The conditions of evidence-giving have improved of late years, and the attempt by the Bar to take advantage of nervousness or inexperience is now infrequent. A medical witness should recognize that he has generally this great superiority over counsel—that he is familiar with his subject as one of daily thought, while the barrister usually only knows it as he gets it up for the case at issue. I may give you an instance of this which happened long ago. In a rather rudely vigorous cross-examination the question was put, "Did not the pectoral muscle sustain a very serious injury?" The answer was, "Will you please tell me whether it is the major or the minor pectoral muscle you are asking about?" Counsel had come to the end

of his knowledge, and was afraid of showing ignorance and of venturing into the unknown. He turned off the subject with a "Well, perhaps it does not matter," and sat down.

The medical man who desires to make a good appearance should write out what he intends to say. He should also carefully read up everything he can which has any bearing on his case. If he does these two things and is scrupulously fair he has nothing to fear. It is not likely that any effort will be made to depreciate his knowledge, skill or impartiality, and if made, the endeavour means disaster to the makers.

The position and duty of a medical man is very different in criminal and civil cases. It is incumbent on every man to come forward and tell his story regardless of inconvenience or loss if he knows anything which will convict the guilty or exonerate the innocent. But this may not be so in a civil case. The position a possible witness takes up is much more a matter between him and his conscience. He may feel that his evidence is essential to prevent injustice, and consequently that he is bound to appear; or, on the other hand, it may seem to him that what he has to say, however convenient, is not essential, and he may act accordingly and only appear on his own terms.

In criminal cases the law requires a witness to attend when summoned, and prescribes the fees he shall be paid. In a civil case also a man may be required to attend on subpœna whether he wishes or not, and he cannot recover more than the taxing-master allows; but if he is unwilling he need not say a word as to what evidence he will give till he is in the witness box, and rarely will counsel risk the unknown evidence of an unwilling witness. The medical man should make up his mind what remuneration he is entitled to; how much will compensate him for loss of time, for dislocation of work and, if he is an expert, for his special knowledge, and he should have an undertaking in writing from the solicitor that these fees will be paid. This he should do before he says a word as to what testimony he can give. It seems a usual practice, even with the best class of solicitors, to avoid this if they can, but the medical man is liable to fare badly unless he gets a binding agreement. In fixing his fees the medical witness should take as his basis the time he will be required to spend and the loss he is likely to incur by giving up other remunerative work. He should not be influenced by the importance of what he has to say; to do so would be equivalent to selling his evidence.

Most medical men come in contact with the coroner sometime in their lives. They may become an important factor in the administration of justice owing to the possession of special knowledge and having special opportunities of observation. Doctors are called to testify not merely to what any one with attentive ears and observant eyes may hear and see, but in addition they are expected to give the court the guidance of the professional knowledge which they have acquired and of deductions which scientific training alone enables them to make. My experience of coroners leads me to believe that they are almost invariably considerate and courteous, and that they do their best to spare witnesses inconvenience and waste of time. I have, however, encountered a feeling on the part of medical men that some have shown an unwillingness to hold inquests as often as the public interest demanded. Medical practitioners have no special right to criticize coroners, no right beyond that of any other member of the community. If a coroner does not properly fulfil his duty he is amenable to public opinion, to criticism, and if occasion sanctions it of being reported to the Lord Chancellor. In the matter of holding inquests he (the coroner) is the proper person to decide. Not only so, but he should judge what evidence is necessary. The object of his inquiry is to elucidate the cause of death. If that can be done without medical testimony the object of the inquiry is gained and we have no *locus standi* for asserting that medical evidence should be called, unless some statement is made which unjustly bears on any one of us. It is natural and indeed it is expected of the coroner that he does not waste public money in the carrying out of his work, and we must not quarrel with him if he takes means to put this expectation into practice. No doubt a doctor may think it a hardship that he is not summoned when perhaps the court fee is the only remuneration which will ever come to him for attending to some emergency, say a fatal accident or suicide. But two different things must not be confused and it must be steadily kept in mind that the coroner's court is for the purpose of ascertaining the cause of death by the simplest method available.

In reporting cases to the coroner, or in answering questions put by the coroner's officer, a prudent reticence is advisable. It is well to state facts freely, but to be very chary about expressing opinions or drawing deductions, and specially to avoid being led into making statements beyond absolute knowledge. Men are sometimes induced to state a probable cause in cases of sudden death without verifying it by a *post-mortem* examination. Though the coroner's court does not exist for the purpose of furthering pathological investigation, the determination of the cause of death being for legal, not for medical purposes, and though we freely admit that medical evidence may be quite unnecessary when the cause of death is obvious and undoubted; yet a great many cases are made the subject of coroners' inquiry in which the circumstances are quite consistent with "natural causes," and equally with something else. The cause, then, should not be inferred or deduced. It should be ascertained accurately, and with all the aids which science can give, a complete investigation of all the vital organs being the first stage. I do not think it can be too strongly stated that slipshod evidence and conclusions drawn from incomplete data are most dangerous and prejudicial to the public interest. In all cases of this kind it should be courteously represented to a coroner that we cannot know what is the condition of the vital organs without a proper examination of them. The issues involved may be of a serious kind, and accuracy above all things should be a characteristic of all we say and do. It is not uncommon to have it put to a medical man, Is some inferred cause of death *possible?* Are the symptoms or appearances consistent with death from natural causes—say, heart disease or apoplexy? I would urge on you very great caution in answering: inferences may be wrong; crime or culpable negligence may be overlooked, which a proper examination would have made apparent. Offhand answers to such inquiries may be made to carry a weight and authority to which they are not in the least entitled. A jury is very apt to suppose that the statement has been made that death was due to disease, whereas all the medical witness has said was that it might have been; there was no medical proof to the contrary.

Workmen's Compensation Act.

The Workmen's Compensation Act, 1897, has placed a certain number of medical men in a new relation to the administration of justice. This Act put a number of selected medical referees at the disposal of adjudicators. The clause is: "The Secretary of State may appoint legally-qualified medical practitioners for the purpose of this Act, and any committee, arbitrator, or judge may, subject to regulations made by the Secretary of State and the Treasury, appoint any such practitioner to report on any matter which seems material to any question arising in the arbitration; and the expense of any such medical practitioner shall, subject to Treasury regulations, be paid out of money to be provided by Parliament." It was thought that a great number of highly technical questions would arise in the administration of the Act, and that the assistance of men of special knowledge would be a great help when testimony was conflicting. The Secretaries of State have put in force the powers granted to them, and appointed to every part of the country one or more medical referees. The course usually followed is to submit notes of the evidence in the case to be reported on to one of these, to require him to personally examine the claimant, and then answer certain questions which have been formulated for his decision. These answers form the basis on which the medical questions of the case are settled. The position is one of great responsibility. It necessitates the cultivation of the judicial frame of mind in an eminent degree, for not only is the report outside criticism, but it is practically final. The litigated cases under this Act in which medical questions have arisen have turned out to be fewer than was anticipated, but the principle of special skilled help towards a judicial decision has worked well, and may yet be usefully extended to other cases into which intricate or conflicting medical testimony enters. A similar method has long been in force in nautical cases where a skilled assessor assists the man of law. Judges of the High Court have the power to obtain skilled advice if they see fit, but it seems to be a privilege rarely exercised. If properly safeguarded against prejudice, it might have a most useful place in a judicial system. Who is so likely to detect and expose specious fallacies, unjustifiable deductions, or actual misstatements in matters medical as a perfectly independent medical assessor, skilled in his work and with no interest to study save the doing of justice?

It is sometimes treated as a reproach to medical men that they give conflicting evidence, and the misdirected proverb,

"When doctors differ who shall decide?" is levelled against them. If they are honest and are thinking men they must differ sometimes. Neither powers of observation nor capacity for deduction being granted in equal measure to all men, it is consequently absolutely unreasonable to expect uniformity of view either in regard to what has been seen or in the interpretation of it. Efforts have been made to bring about the utopian condition of having medical evidence presented as a unanimous whole. They are about as likely to succeed as the abolition of war and the universal and perpetual reign of peace. I have been present at a conference with such an object, and what remained prominently in my mind was the absolute futility of it; nobody changed his opinions, and finally it was agreed that each one should present the view which seemed to him right. The result showed that this was the best course which could have been followed. A unanimous arrangement would have lacked independence, weight, and responsibility. It is not likely that evidence which was the result of an agreement among witnesses would find much favour or perhaps mercy with Bench or Bar. Indeed, the tendency would be to discredit medical evidence generally.

The question of confidential communications being privileged calls for a little consideration. It does not seem probable that any good would result from an alteration of present practice. The British Courts do not allow in the witness-box any privilege of secrecy, and if those who administer justice think that this is best for the public good we must acquiesce. It is to be remembered that very seldom is a witness pressed to reveal what he thinks it his duty to conceal; and also that if a witness has been reasonably reticent it is seldom that such knowledge exists as to enable counsel to press for any violation of professional secrecy. He must have some indication of the existence of compromising facts communicated in confidence before he can press for their revelation. Only a strong sense of duty calls for a voluntary revelation of professional secrets. Duties are of unequal stringency, and the greater may overpower the less—for instance, no one should allow an innocent man to be convicted because an obligation to secrecy stands in the way of revealing facts or statements which would exonerate him. But except from some such dominant motive, nothing justifies the revelation of what is told to us in confidence.

Poor-law Medical Service.

In the work of Poor-law medical officers there are a few small ethical questions. We must hold that the sick poor are entitled, as human beings who have reached the depths of misfortune, to our best care and anything that we can do for them to promote recovery or soothe departure; but they are not entitled to all the refinements and luxuries of those whose life's course has run in more pleasant lines. For instance, in regard to consultations, if the attendant feels that such is desirable he should by all means have it. It can always be attained in some way. No consultant would refuse a reasonable request even if no fee be forthcoming. But the recipient of Poor-law relief is not entitled to ask for a consultation, even if friends offer to provide the fee; for it means trouble and expenditure of time for the attendant medical officer. He may, out of good will, consent, but there is no duty in the matter. On the other hand, the pauper is not the bound slave of the medical officer. He may refuse operation, he may decline treatment, or carry out some favourite one of his own if he pleases. He is only exercising the rights of "a free-born Englishman." The medical officer should see him all the same for official purposes, and professionally attend him if he changes his mind.

The relations of medical officers and guardians have of recent years undergone a satisfactory change, dating from the time when half the medical salaries became chargeable to the Imperial funds. This gave the Local Government Board a controlling influence on these appointments, for removal from office was subject to an appeal to it. The result has been that differences between Boards and their medical officers have become rare, and the service can be described as a contented and efficient one.

Army Medical Service.

Those who enter the Army Medical Service have to undertake twofold duties: They are the advisers of the military authorities on health matters in general, they are also executive officers in directing and carrying out sanitation and in the care of the sick. It would be an ideal state of matters if every commanding officer had such a knowledge of health matters as to fully understand the bearings of a professional report. There is no more necessity for him to be a skilled sanitarian than a first-class artilleryman; but if he is to be a successful soldier he should know the effects of artillery fire and understand what a specialist in guns tells him. So if he is to keep his men in fit condition he should understand how their surroundings may be expected to affect their health, and he must be trained to make the best use of expert advice. The army medical officer, in his official relation, must not claim ultimate authority: his function is to advise and instruct. It would not be to the public advantage that his position should go beyond this. However important his duties may be, they are undoubtedly secondary to those of the combatant. Both the peace and war duties of this department are of exceedingly great value to the efficiency of the force, but they occupy a less important place in the working of this great organization than strategy, tactics, discipline, drill, and feeding. The medical officer must consequently not expect to be appraised equally with the controllers of these. Importance and consideration bear a direct relation to the necessity and responsibility of the work performed. Sometimes the prevention of disease in the army and the care of the wounded are written about as if they were the objects for which the whole military service existed. More frequently, I am free to say, by those not in the army than by those who are. No such line of statement will bear examination. It may be the duty of a good general to undertake operations which involve the sacrifice of a portion of his force to disease if the object he has in view cannot be otherwise accomplished, just as he necessarily loses men in taking a position from the enemy. If a strictly medical view of such circumstances were held to be paramount, the men would be spared but the object would not be attained. The army career offers any man who is content to order his life within these limits a field of wide usefulness and a pleasant life. The department seems now content with its conditions, though there have been times (not very long ago) when dissatisfaction was universal, and when men did not offer themselves in sufficient numbers to fill the requirements of the service. It is not, however, a field for the ambitious man, still less for the man whose sense of personal independence is strong. The attainable position is narrow for a capable ambitious man and any one whose energies tend to carry him out of a stereotyped groove is apt to be much in conflict. The whole life tends to make a medical man jealous in maintaining his rights and facile in seeing infringements of them. I have known some whose knowledge of the regulations was great and that of their anatomy small. Much of their work seemed to consist in seeing that nobody encroached on their rights.

The army medical officer should expect to be governor of the hospital and all in it, in all matters of discipline and control; but in the relation of the hospital to the force in general he must be under the combatant. For instance, the placing of hospitals must be considered by a commanding officer, for sometimes the plans of medical arrangements may tell a tale which he is studiously anxious to conceal. A projected attack has been disclosed by the preparations for attending to the wounded, and a retreat by sending the sick and wounded in a certain direction. To this state of matters and to all that follows from it the medical officer should conform his mind and actions. He will have the satisfaction of knowing that he performs duties of the greatest value to his country, and which his country appreciates.

I do not propose to say anything about the naval medical service, for the reason that I have no personal knowledge of its aspirations, needs, or disabilities. And anything I could say from second-hand knowledge would be of little value.

Hospital Physicians and Surgeons.

A large section of the medical profession have undertaken duties of a public nature in the gratuitous treatment of the sick poor in infirmaries, dispensaries, and other such charities. The ethical obligations of such appointments are definite and binding. It is well known that hospital appointments are looked on as the prizes of the profession. The experience, the command of conditions, the good nursing, food and surroundings give opportunities for doing work in a way in which it can rarely be done elsewhere. Everything favours exactitude, a wide survey of disease and treatment of the highest class. The holders of such appointments, in return for these advantages, voluntarily undertake a great trust, and are in honour bound to give to the sick poor the best of their skill and intellect. They are prohibited from seeking for any direct reward. But if they use their opportunities well, and become more valuable to the com-

munity, then comes the return in increased knowledge and reputation. The good a man receives from a hospital appointment depends on himself; it must be looked on as a special opportunity, and the result is in proportion to the holder's ability to use it. But the point I wish to emphasize is this—that, so far as the hospital is concerned, it must not be used as a direct means of gaining practice or fees. To do so under existing conditions would be against the true principles of charity and of fairness to other men. The hospital physician or surgeon must assume that every one whom he sees there is a fit object for gratuitous help, and he must accept all that follows from this. In the large hospitals there is no temptation to transgress, but with small hospitals and in small towns there is often the opportunity of directly increasing private practice among those who use the hospital. The attitude of the holders of honorary appointments to this should be clear and definite. They must have nothing to do with hospital cases as their private patients afterwards. This does not apply, of course, to such as they may have attended before going to hospital, for the fact of being a hospital patient in no way alters a previous relation.

The hospital physician or surgeon does public work for the community at large. He uses buildings, food, medicine, appliances, and resident staff provided by the public. His work, therefore, should be in the public eye. Owing to the conditions of medical work, he should treat his professional brethren as that eye. His practice should be fully open to them, every qualified practitioner should be a welcome visitor with him in his wards and a spectator at his operations, so far as this can be consistently with the safety of his patients. If they come to his hospital for instruction he should do his best to afford it. And he should betimes let others share in the results of his experience.

If a practitioner sends in a case for operation, his recommendation should be taken as proof of the fitness of the patient for hospital treatment. Notice should also be sent to him of the date and time of operation so as to let him attend if he wishes. Such, I take it, is the present position and responsibility of the hospital physician and surgeon. I am inclined to think, however, that a time is approaching when there may be a demand for a readjustment of the relations of the hospital surgeon to the public. Possibly the physician may calmly await, in his position of dignity and honour, a euthanasia due to his gradual supersession by the ever-invading surgeon. But with the latter it is different. Year by year larger demands are made on him. Take our own hospital: Twenty-five years ago the operations numbered 140; last year they amounted to 476. The great advances in surgery in that period have brought within possibilities of remedy by operation whole classes of disease which were formerly considered to be outside the field of surgery. And the end is not yet. Many ailments thought at present to be purely medical will at no distant date be remediable by the surgeon. It seemed at one time that increased safety in operating due to improved technique might result in surgery becoming less specialized, but on the contrary the tendency has been in the opposite direction. To do modern surgery well a man must have an intimate knowledge of the position, consistence, and appearance of all internal organs in health and disease. His knowledge must be such as to avail him for immediate decision. He must be so drilled that he carries out an elaborate technique as a matter of routine and yet with intelligence. Consequently the present tendency seems to be more and more to leave this work in the hands of those who devote themselves to it. Not only so, but to have it done in places (hospitals and homes) organized for the purpose, and less and less in private houses. I have had a rough estimate made of what the hospital surgeon gives annually to the public. I have had the operation tables of five provincial hospitals analysed. They were taken at random, but they represent North, South, East, West, and Midland districts. A value was assigned to each operation what I take to be the irreducible minimum. This calculation makes each surgeon of these hospitals give to the public operation work of an average value of £630 annually, and each assistant surgeon £270. This is in addition to and independent of what he gives in ward work and in the out-patient departments. In return a hospital surgeon receives a position in which much of the surgery of his district may come to him: he has the opportunity of making a large and valuable experience and he has work of the most intense human interest. But the questions may arise, Is not the price too heavy? Is he not bearing, and in the future likely to bear in an increased degree, what should be one of the burdens of the community at large? The whole subject is an involved one, and mixed up with the other question: What shall be the future of our charitable hospitals? I do not propose to offer you any suggestions or schemes for changes. The time has not yet come to do more than discuss the subject in its various bearings and relations to broad principles. But I venture to commend it to your earnest consideration.

OBSERVATIONS ON THE OPSONIC POWER OF PEOPLE SUFFERING FROM TUBERCULOSIS.

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In order to kill bacteria within an organism it is necessary to employ some substance which enters into destructive combination with the bacteria. There are two possible methods only; the one which has been chiefly used is that of introducing antiseptics into the organism; the other method is to rely upon the action of protective substances produced by the organism, and to attempt to increase the production of such substances by the injection of bacterial vaccines. The former method has been tried without success in the case of tuberculosis; the latter method remains to be tried.

Protective substances are substances which enter into destructive chemical combination with bacteria, and are found in all human blood. As we are considering tuberculosis, we are only concerned with those which enter into combination with the tubercle bacillus, and these, according to Ehrlich's nomenclature, are called tuberculotropic substances. Of such tuberculotropic substances we know two—(1) agglutinins, (2) opsonins.

(1) Agglutinins are substances which enter into chemical combination with tubercle bacilli in such a way as to immobilize and conglomerate them.
(2) Opsonins (*Opsono*, I cater for, I prepare victuals for) are substances which modify tubercle bacilli in a manner which renders them an easy prey for the phagocytes.

The term "opsonin" was first used by Dr. Wright, and the following observations have been made by him and Captain Douglas:

(1) Opsonins are contained in the blood fluids—serum or plasma.
(2) They lose their power when heated to 60 to 65° C. for 10 to 15 minutes.
(3) They exercise their influence by effecting a modification in the bacilli, and not by exerting a direct stimulating effect upon the phagocytes.

The method employed in estimating the opsonins or opsonic power in the blood is that described by Dr. Wright, of which I will give a brief outline.

Equal quantities of the patient's serum, an emulsion of tubercle bacilli, and blood corpuscles (washed in a solution of ½ per cent. sodium citrate in normal salt), are taken in a capillary pipette and incubated together for 20 minutes, after which films are made of the mixture and stained in the ordinary way for tubercle bacilli; the average number of tubercle bacilli ingested by each polynuclear white corpuscle is calculated, and the figure thus obtained is called the phagocytic index.

It has been found that the source of the corpuscles used makes no difference to the result; they can be taken from the patient or from some healthy person, as is shown by the following results, which have been proved several times:

Serum of a healthy person + an emulsion of tubercle bacilli + the corpuscles of a healthy person give a phagocytic index = x.
Serum of a healthy person + an emulsion of tubercle bacilli + the corpuscles of a diseased person give a phagocytic index = x.
Serum of a diseased person + an emulsion of tubercle bacilli + the corpuscles of a healthy person give a phagocytic index = y.
Serum of a diseased person + an emulsion of tubercle bacilli + the corpuscles of a diseased person give a phagocytic index = y.

So we see that a very inferior position is assigned to the polynuclear white cells in the work of phagocytosis; in fact, their use may be compared to the use of culture media in bactericidal experiments to estimate the number of bacteria which have been destroyed.

Having obtained this phagocytic index, we need some standard for comparison, and at present the phagocytic index of a healthy person is taken and comparison made to that as

The Opsonic Power of the Blood of People Suffering from Various Tuberculous Affections.

Case No.	Initial.	Age.	Clinical Description.	Opsonic Power.
1	A. C.	40	Lupus for 10 years, nearly cured after *x*-ray treatment	1.90
2	R.	5	Tuberculous disease of skin of face since birth	0.70
3	L. G.	21	Lupus of nose for 9 years, improving slightly	0.70
4	W. P.	21	Lupus of nose for 14 years, improving slightly	0.65
5	H.	36	Tuberculous disease of skin of face for 18 years	0.75
6	E. C.	18	Tuberculous glands in neck for 8 months	0.40
7	M. C.	5	Acute tuberculous disease of hip-joint, duration 1 month	1.20
8	N. M	7	Tuberculous glands in neck and axilla; tuberculous abscesses in various parts of the body	2.40
9	J. P.	1	General tuberculosis	1.20
10	H. C.	39	Tuberculosis of lungs, testicle, and several bones	1.30
11	G. S.	8	Acute tuberculous disease of knee-joint	1.30
12	P. S.	19	Acute tuberculous disease of kidney and bladder	1.50
13	C. B.	18	Tuberculous caries of spine with abscesses for many years	0.80
14	E. E.	13	Chronic tuberculous disease of hip-joint, duration 13 months	0.65
15	J. W.	25	Chronic tuberculous disease of hip-joint, duration 8 months	0.30
16	K. D.	8	Psoas abscess, duration 18 months	0.40
17	W. B.	28	Psoas abscess, duration 2 years	0.80
18	A. N.	8	Chronic tuberculous disease of hip-joint, duration 4 years	0.80
19	E. E.	68	Tuberculous disease of elbow-joint, duration 6 months	0.50
20	E. L.	26	Tuberculous disease of skin of arm and leg, tuberculous disease of bones of extremities, duration 24 years	0.70
21	E. J.	4	Acute tuberculous disease of ankle-joint	0.80
22	W. C.	18	Phthisis, duration 3 months. Family history, 1 sister died of phthisis	1.50
23	H. T.	21	Phthisis, duration 6 months. No family history of phthisis	1.70
24	E. C.	42	Phthisis, duration 4 months. No family history of phthisis	1.50
25	G. S.	28	Phthisis, duration 9 months. No family history of phthisis	1.60
26	J. Mc.	22	Phthisis, duration 2 years. Family history, father and 2 sisters died of phthisis	1.50
27	J. W.	27	Phthisis, duration 10 weeks. No family history of phthisis	1.40
28	E. W.	21	Phthisis, duration 6 months. No family history of phthisis	1.70
29	M. M.	26	Phthisis, duration 7 weeks. No family history of phthisis	1.20
30	J. S.	29	Phthisis, duration 3 years. Family history, father and 1 sister died of phthisis	0.80
31	E. W.	39	Very advanced phthisis, duration 3 years. Family history, 1 brother and 1 sister died of phthisis	0.90
32	H. K.	25	Phthisis, duration 6 weeks. No family history of phthisis	1.00
33	B. C.	18	Phthisis, duration 10 weeks. No family history of phthisis	2.10
34	H. B.	23	Acute tuberculous consolidation of lung, duration 1 month	1.50
35	J. F.	36	Phthisis, duration 11 months; acute pleurisy, 10 days	1.90
36	F. N.	13	Phthisis, duration 3 months. No family history of phthisis	0.70
37	J. S.	33	Phthisis, duration 6 months. Family history, 1 sister died of phthisis	1.10
38	J. M.	33	Phthisis and tuberculous laryngitis, duration 8 months. No family history of phthisis	1.60
39	F. S.	38	Phthisis, duration 3 months. Family history, 1 brother died of phthisis	1.90
40	A. M.	35	Very advanced phthisis, duration 5 years. Family history, father and 1 sister died of phthisis	0.90
41	J. C.	45	Very advanced phthisis, with nephritis, duration 1 month. Family history, 1 brother died of phthisis	0.30
42	W. C.	54	Phthisis, duration 3 months. No family history of phthisis	0.80
43	G. C.	30	Phthisis, duration 18 months. No family history of phthisis	1.90
44	R. W.	18	Phthisis, duration 2 years. Family history, 1 brother died of phthisis	1.60
45	J. B.	50	Phthisis, duration 2 years. No family history of phthisis	1.90
46	J. J.	41	Phthisis, duration 1 year. Family history, father died of phthisis	1.20
47	T. W.	36	Phthisis, duration 16 months. Family history, mother died of phthisis	2.10
48	H. P.	17	Phthisis, duration 18 months. Family history, 1 sister died of phthisis	2.10
49	A. S.	17	Phthisis, duration 2 months. No family history of phthisis	2.40
50	W. W.	36	Phthisis, duration 2 years. No family history of phthisis	1.60
51	R. H.	21	Phthisis, duration 1 year. No family history of phthisis	1.40
52	M. J.	34	Phthisis, duration 7 months. No family history of phthisis	2.10
53	A. H.	19	Phthisis, duration 3 years. No family history of phthisis	2.60
54	W. N.	39	Very advanced phthisis, duration 1 year. Family history, 1 aunt and 2 uncles with phthisis	0.60

unity, the figure thus obtained being called the opsonic index or opsonic power of the serum tested.

The use of this standard is justified by the following facts:

1. The opsonic power is approximately the same in all healthy people.
2. The opsonic power of healthy people varies very slightly, or not at all, from day to day.

As it is found that the opsonic power decreases gradually after the serum has been withdrawn from the body, it is necessary that the standard serum and the serum to be tested should be withdrawn within a few hours of the same time; in all my experiments the blood to be examined was withdrawn within a few hours of the withdrawal of my own, which has been used in every case as the standard.

By these preliminary statements I hope that I have cleared the way for the subject-matter proper of my paper.

Before examining the results given by these observations, I will state the general conclusions arrived at by Dr. Wright, that an increased opsonic power is to be expected in those cases where there has been an active response, on the part of the machinery of immunization, to the stimulus of infection: and a decreased opsonic power is to be expected in individuals in whom there is an inherent deficiency in opsonic power or in whom this machinery is becoming exhausted.

If now we look at the list of cases we see that 1 to 5 are patients suffering from tuberculosis of the skin; of these, four show decreased and one an increased opsonic power. The decrease in such cases I attribute to an antecedent deficiency, not to exhausted machinery of immunization, and for the following reasons:

1. The constitutional symptoms are very slight.
2. There can be little absorption of toxins from the lesions, and little strain therefore thrown upon the machinery of immunization.
3. Some antecedent lack of resistance may be supposed when the skin, usually such a resistant structure, is invaded by tubercle bacilli.

Case 1, a patient who has been cured by the *x*-ray treatment, shows an increased opsonic power which may be explained by the fact that the *x* rays determine a greater flow of blood to the part, and so more toxin is absorbed, which stimulates the protective mechanism.

Cases 6 to 21 are examples of surgical tuberculosis. Applying the same rule to them, it is difficult to see why Case 6—a girl suffering from tuberculous glands—should have such a low opsonic power; there should be absorption of toxins from the glands, and, the patient's general condition being good, the machinery of immunization should be able to respond to the stimulus received. However, it is always found that the opsonic power of people suffering from tuberculous glands is low. Cases 7 to 12 show an opsonic power above 1, and these were in an acute stage of the disease at the time of observation; in such cases we expect to get a greater absorption of toxins, and a greater stimulus to the production of protective substances, than in the chronic cases of tuberculosis exemplified by Cases 13 to 30. The low power in these cases may be due to either exhaustion of the organism by previous acute attacks or antecedent deficiency. Case 13, a girl who has had spinal caries for many years, with repeated abscesses, I consider to be an example of the former cause; Case 19, a man of 68, who has had tuberculosis of his elbow following a slight injury, I consider to be an example of the latter cause.

Case 21 a small child with acute disease of her ankle, is a case in which the machinery of immunization is overtaxed and exhausted, and so the opsonic power is low.

Cases 22 to 54 are cases of pulmonary tuberculosis; out of these thirty-three cases, twenty-five have increased, seven decreased, and one normal opsonic power. These cases have been taken at random in several hospitals, and include patients in all stages of the disease, so that we can say that the opsonic power of the majority of patients suffering from pulmonary tuberculosis is higher than normal; and the explanation can be found in the great absorption of toxins from the lungs which are so plentifully supplied with blood. In those patients who have a low opsonic power we find as a rule very advanced disease and exhausted resistance; for example, Cases 31, 40, 41, and 54, who had low opsonic powers, have all died since observation; Case 30 is a woman to whom this does not apply, as she has not very advanced disease, and yet her opsonic power is low, the only point noticeable in her case being a strong family history of phthisis. This raises the question of the influence of a family strain on the opsonic power; and while it may be true

that the hereditary taint is shown by a low opsonic power which predisposes to infection, I have been unable to get any evidence of this.

Looking at these figures, it would appear that as a general rule a low opsonic power in people suffering from pulmonary tuberculosis indicates a grave prognosis, but there are exceptions to this which the following observations assist to explain.

The Variations in the Opsonic Power of People Suffering from Tuberculosis.

I have stated that the opsonic power of healthy people varies very slightly or not at all from day to day; but when we come to examine the opsonic power of people suffering from tuberculosis, we find large variations during the course of the disease. A convenient method of expressing these variations is in the form of a curve drawn on an ordinary temperature chart, the base line or unity being taken at the line of normal temperature and each degree being made to represent two decimal places in measuring the opsonic power. This is an arbitrary arrangement, but it gives a clear view of the changes in the opsonic power. If we examine the curves thus obtained we see that they obey no obvious rule. It might be thought that as a patient improved his opsonic power would steadily rise: but this is not the case. At first I could trace no method in the curves; and the theory which I shall now put forward to try and explain them is open to criticism.

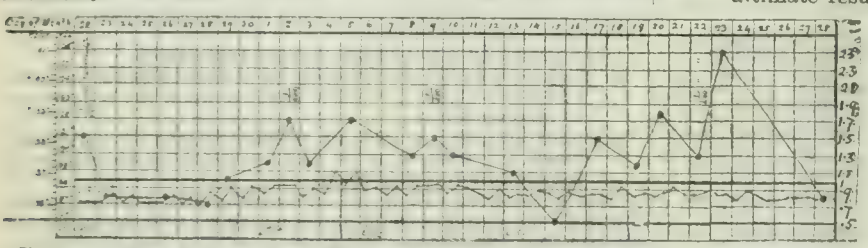


Chart 1.—P. S., a boy, aged 19, suffering from tuberculosis of left kidney, bladder, and left epididymis, was inoculated with $\frac{1}{10}$ of a milligram of tuberculin on November 22nd; the opsonic power fell from 1·5 to 0·8, and the negative phase lasted for ten days. After the second inoculation, on December 2nd, the negative phase was not so marked, and the positive phase was fully developed on December 5th; on December 9th he was inoculated again, and the opsonic power fell, until on December 15th it was only 0·5. This prolonged and marked negative phase I take as evidence that this inoculation followed too quickly after the previous one, although the same small dose was given; however, the opsonic power rose again, until on the 20th it was 1·8. A fourth inoculation was given on December 22nd, when the opsonic power was 1·3; subsequent to this inoculation the opsonic power rose to 2·5 on December 23rd, and then fell to 0·8 on December 28th. I do not look upon this rise to 2·5 as a positive phase following a very short negative phase, but I regard it as a phenomenon which is sometimes seen, and which I cannot explain—a rise immediately following the inoculation and preceding the negative phase.

It is necessary first to understand what happens after the inoculation of a bacterial vaccine, such as tuberculin. The following points have been demonstrated by Dr. Wright and others:

1. Subsequent to the inoculation there is a negative phase during which the opsonic power is decreased.
2. This negative phase is succeeded by a positive phase during which the opsonic power is increased.
3. In the case of an inoculation which is successful the opsonic power is permanently raised, and the curve thus obtained does not fall to its original base line, but is maintained at a higher level.

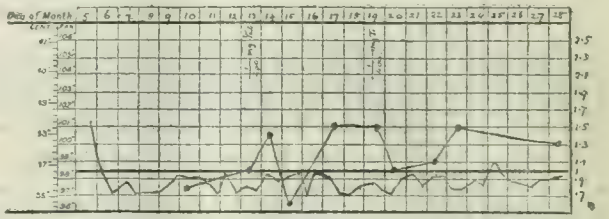


Chart 3.—T. H., aged 45, suffering from tuberculous disease of the left epididymis. On December 13th he was inoculated with $\frac{1}{100}$ of a milligram of tuberculin, subsequent to which his opsonic power rose from 1 to 1·4 before the negative phase was established, which I take to be a similar phenomenon to the one already noted. After the second inoculation on December 19th the negative and positive phases followed in the ordinary way.

4. The same phases occur after every inoculation; but the ultimate result depends upon the correct interspacing of appropriate doses of the vaccine. The effect of a second inoculation, given when the positive phase following the first inoculation is at its height, will be to raise the opsonic power to a still higher level, but the effect of a second inoculation, given during the negative phase, will be to reduce still further the opsonic power already reduced by the first inoculation. In both cases the effect of the successive inoculations is cumulative; in the former case in the direction of increased resistance, in the latter case in the direction of decreased resistance to bacterial invasion.

These points are illustrated by inoculation into a healthy organism; in the case of diseased organisms, where the immunizing machinery is hampered by having to deal with cells already degenerate, the effect of inoculation varies very much. Some of these variations are illustrated by the accompanying cases and charts:

These few examples will help to show how the usual succession of events after inoculation may be modified in people suffering from tuberculosis.

If now we turn from these patients who have been artificially inoculated to those patients who are inoculating themselves during the ordinary course of the disease, we see evidence in a large number of cases that the curves obtained by charting the opsonic power are made up of a succession of negative and positive phases following auto-inoculation.

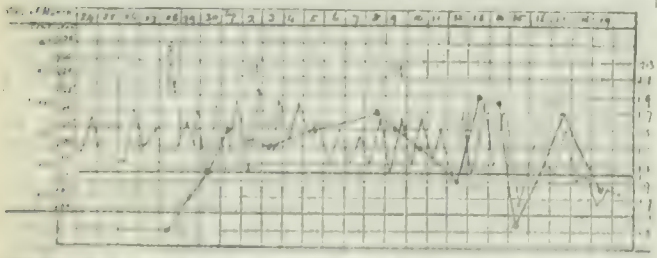


Chart 2.—J. C., a man, aged 45, suffering from phthisis, with pleural effusion, hæmoptysis, and intermittent pyrexia for some time. The first inoculation of a small dose of tuberculin was given on November 28th; the negative phase was presumably too short to [illegible], and the opsonic power rose from [illegible] before inoculation to 1·5 on December 1st. The second inoculation was given on December 2nd, and the negative phase followed. [illegible] The third inoculation was given on December 6th, and was succeeded by a short negative phase, lasting three days. The opsonic power [illegible] On December 13th and 14th the opsonic power was 1·4, and 1·5, but on December 15th the patient had developed severe hæmoptysis, coughed blood, and became very collapsed. The opsonic power [illegible] At midnight on December 17th the opsonic power was 1·7, on the 18th it was only [illegible], and the patient never rallied, but died on December 19th.

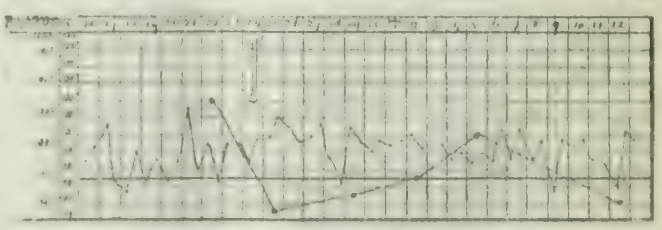


Chart 4.—F. S., aged 38. History of phthisis for three months; advanced disease at the apex of the right lung. The patient developed signs of pneumothorax on November 24th, and became very collapsed; while the opsonic power fell from 0·9 to 0·6 showing either a sudden absorption of toxins or a failure of the immunizing machinery; from this time the patient gradually improved, and the opsonic power rose to 1·5 on December 5th, after which it fell again. Here we have evidence of auto-inoculation followed by a short negative phase and gradual positive phase; the final fall we may look upon as another negative phase, the disease at the time being still active.

The theory thus illustrated becomes explicable if we remember that these variations express the cumulative effects of auto-inoculation, and these, where the immunizing machinery is strong, will tend to improve the condition of the patient, but, where the machinery is weak and easily overtaxed, will tend to make the condition worse.

From these charts it is seen that the variations in the opsonic power of people suffering from tuberculosis do not follow a simple rule or admit of an easy explanation. The explanation which I have attempted to give of some of the charts is imperfect, but the factors which produce these variations appear so complicated that it is almost impossible for me to arrive at more definite conclusions.

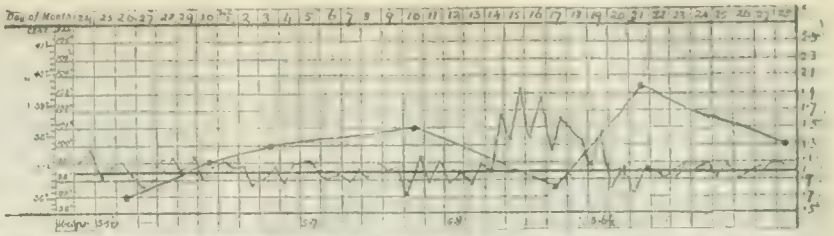


Chart 5.—F. M., a girl aged 13, admitted to hospital on November 24th, suffering from phthisis. On November 26th her opsonic power was 0.7, and from that day it gradually rose, until on December 10th it was 1.5; this we may take as a positive phase following a previous inoculation. On December 14th the disease flared up again, as was shown by the raised temperature and more cough, and on the 17th the opsonic power had fallen to 0.8; this was clearly a negative phase following auto-inoculation, and was succeeded by a positive phase, the opsonic power rising to 2.0, accompanied by marked improvement in the condition of the patient.

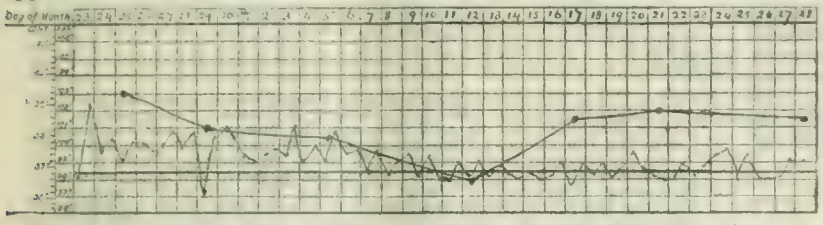


Chart 6.—J. F., aged 36. History of phthisis for one year, acute pleurisy for ten days. In this case the opsonic power gradually fell from 1.9 on November 26th to 0.9 on December 12th, the patient meanwhile steadily improving; the improvement continued, and the opsonic power rose to 1.6 on December 17th and 1.7 on December 21st, a fall and rise which correspond to negative and positive phases following auto-inoculation during the acute attack of pleurisy.

To one other point I will allude, namely, the question whether there is any daily variation in opsonic power corresponding to the daily variation in temperature. I give below below readings of temperature and opsonic power taken simultaneously twice on the same day, and it will be seen that the difference is very slight:

T. 98.6	Opsonic power		1.5
T. 101 m	,,	,,	1.6
T. 97.4	,,	,,	1.5
T. 99.6	,,	,,	1.5

T. 99.6	Opsonic power		1.2
T. 101.0	,,	,,	1.3
T. 97.4	,,	,,	1.2
T. 100.4	,,	,,	1.1

With regard to the main variations I have not attempted to found any elaborate theory on them, seeing that with our present knowledge observations on the opsonic power are mainly of use as guides to the treatment of tuberculosis by inoculations of tuberculin.

In this connexion I wish to bring forward two points which I consider especially important.

First, I wish to lay great stress on the importance of frequent examinations of the opsonic power in all cases which are under treatment by inoculation. It is often stated that a small dose of tuberculin given at regular intervals of seven or ten days is sufficient to give satisfactory results without any examination of the opsonic power; in some cases this is so, and I admit it is often impossible to get the requisite examinations made; but I would point out that the negative phase after a small dose of tuberculin may last more than ten days, and from clinical symptoms and signs we get no evidence of this. If in such a case a second inoculation is given during the negative phase, evil and not good will result. In every case, therefore, the blood should, if possible, be properly examined, the dose of tuberculin and the frequency of the inoculation being based upon the results obtained from these examinations; in those cases where examinations cannot be made, a very small dose must be given and the inoculation repeated in ten days, the future course to be pursued then depending upon the patient's clinical condition

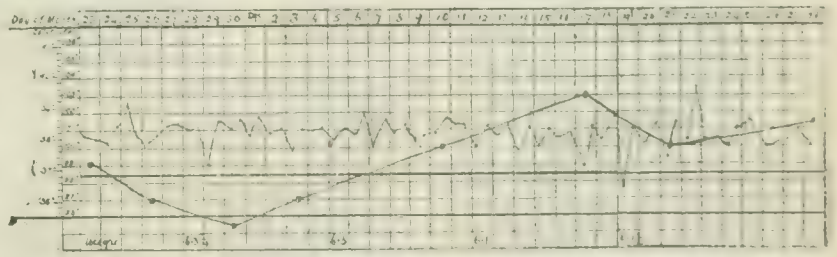


Chart 7.—J. S., aged 33. History of phthisis for six months. On looking at the chart we see first a negative phase becoming most marked on November 30th, when the opsonic power was only 0.4, then a positive phase up to December 17th, and this again followed by a less-marked negative phase and finally another positive phase. During the time of observation the patient remained in much the same condition.

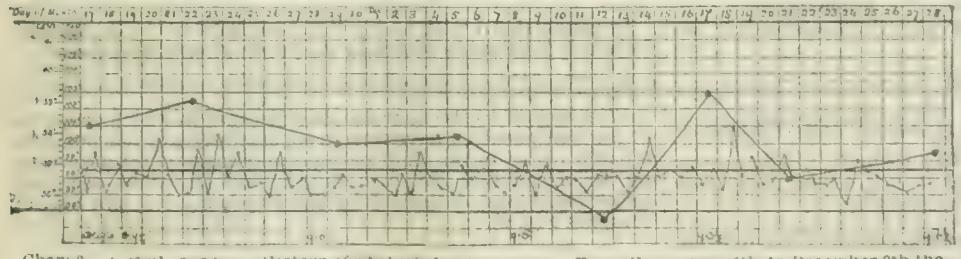


Chart 8.—J. McC., aged 22. History of phthisis for two years. From November 16th to December 8th the patient improved very little, but after this time he began to progress rapidly, and the chart shows that this rapid improvement was coincident with the beginning of greater variations in the opsonic power.

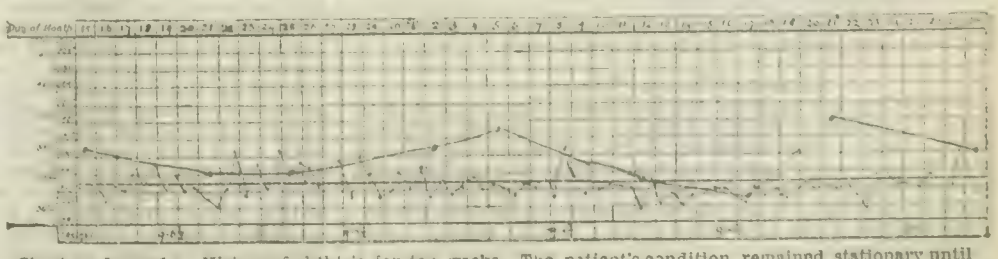
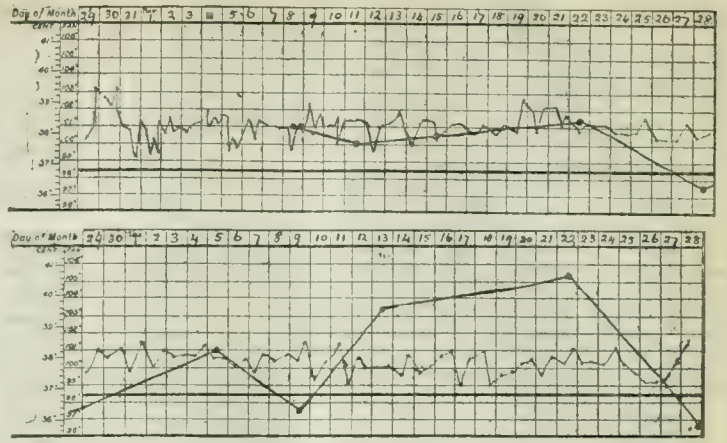


Chart 9.—J., aged 27. History of phthisis for ten weeks. The patient's condition remained stationary until December 5th, after which time it began to improve rapidly, and again we see this improvement coincident with greater variations in the opsonic power.

Secondly, as to the choice of patients for the treatment: the most favourable cases are those of surgical tuberculosis with a low opsonic power which can be raised by inoculation; such patients often show well-marked clinical improvement. At present it is doubtful to what extent patients with a high opsonic power benefit from the treatment. They may be supposed to derive benefit in the following manner: in chronic tuberculosis with a high opsonic power and no clinical improvement, if the patient be inoculated the machinery of immunization is set in motion by the extra stimulus and we get an increased variation in the opsonic power, which, as we have seen in some of the cases quoted, is often coincident with clinical improvement. Unfortunately, however, we have also seen that it may be coincident with the beginning of a worse condition, so that in undertaking the inoculation of a patient with a high opsonic power there is the risk for us to face. Finally, in my opinion the use of the inoculation of tuberculin is to raise the opsonic power, and the effect produced by this raised opsonic power may perhaps be compared to the effect of fresh air, which cannot be called a specific for tuberculosis, but exerts its influence by placing the patient in the best position for combating the disease.



Charts 10 and 11.—H. B., aged 23, suffering from tuberculous consolidation of the upper lobe of the right lung; history of illness for only one month. From November 8th to 22nd the opsonic power did not vary much, although the patient's condition became gradually worse. On November 28th the opsonic power had dropped to 0.8, after which it rose to 1.5 on December 5th. In this rise and fall we see negative and positive phases following absorption of toxins, the effect of which was accumulating during the period from November 8th to November 22nd. Immediately succeeding this we see another negative phase and another positive phase, the opsonic power rising to 2.4 and the patient's condition remaining stationary. On December 28th the patient's condition was worse, and, coinciding with this decline, there was a fall in the opsonic power to 0.6, pointing to a greater absorption of toxins. This patient's chart illustrates a point which appears in many cases. For a long time the opsonic power may remain nearly stationary, and then begin to show the wide variations which I call negative and positive phases, the beginning of variations nearly always being associated with some change in the progress of the patient either for better or for worse. The two previous cases illustrate this point.

Summary.

I will now recapitulate the chief points which I have discussed:

1. Opsonic power of healthy people is nearly the same.
2. Opsonic power of healthy people does not vary from day to day.
3. Opsonic power of people suffering from tuberculosis may be either high or low.
   - A low power is due to (*a*) an inherent deficiency, or (*b*) exhaustion of the machinery of immunization.
   - A high power is due to an active response by the machinery of immunization to the stimulus of infection.
4. Opsonic power of people suffering from tuberculosis varies from day to day, and the curve thus produced shows in many cases negative and positive phases following autoinoculation.

I feel that these results are in themselves small, but my excuse for thus putting them together must be my firm conviction that in this direction, and by some such methods as I have described, a very important advance is to be made in modern therapeutics.

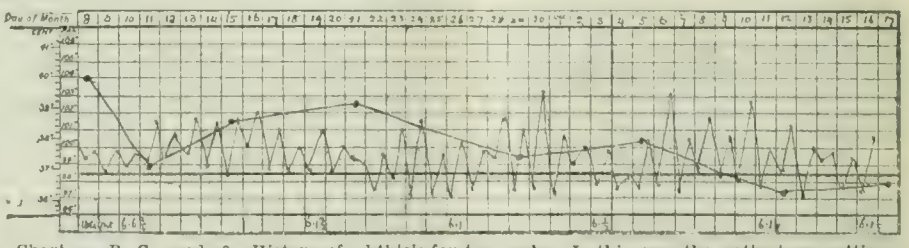


Chart 12.—B. C., aged 18. History of phthisis for ten weeks. In this case the patient was getting rapidly worse up to November 20th, after which time his condition remained almost stationary or perhaps slightly improved; here we see sharp variations up to November 20th, followed by a gradual fall.

In conclusion I wish to say that I am indebted to Dr. Wright for much invaluable advice in the prosecution of this research.

THE INCIDENCE OF THE HAIR'S GREYNESS.

By G. LENTHAL CHEATLE, C.B., F.R.C.S.,

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In three previous communications on cancer I have been most particular to divide the subject into its genesis, incidence, and spread. In them I also stated that genesis and points of incidence must be closely allied in the etiology of the disease; and, further, the nature of that alliance seems to be neurotrophic. The following observations make one believe the same alliance exists between the genesis and incidence of the hair's greyness. The incidence of the hair's greyness is to be observed in two types of cases.

Injury or Disease of Nerves.

In this type are included the incidence of greyness due to injury of nerves, neuralgia, neuritis, and also the greyness which occurs in those diseases at present presumed to be of neurotrophic origin, such as the incidence of grey hair seen in cases of leucodermia, and in the patches of grey hair which occur on parts which have been temporarily bald from some cause or other. In this class of case I have seen a small bald patch result from injury to the great occipital nerve, and the hair which subsequently grew on the patch was grey; whether the greyness was permanent or not I am not in a position to say.

With regard to the neurotrophic diseases in which greyness of the hair occurs, I have seen in separate cases of leucodermia a patch occur in the right parietal maximum point described by Dr. Head (see No. 9 in Fig. 1, and the right occipital maximum point described by Dr. Head, see No. 5 in Fig. 1; compare Fig. 2).

Infantile or Congenital Greyness.

The second type of case is that in which the incidence of greyness is presumably the natural greyness seen in young people and the middle-aged. Although I place this class separate from the first, I venture to believe it is connected with neurotrophic disturbance.

On the scalp and face patches of greyness are seen which have existed as far back into early life as the individual and his relations can remember; and therefore cannot be considered as the result of increasing years. In this class of greyness there may be only one patch or many patches. Sometimes these patches are unilateral, sometimes bilateral. I have never seen general diffuse greyness in this class of case. The patches are, in my experience, most obvious in boys and men, but they occur in girls and women. The causal factor to this form of greyness may be congenital, but the facts that many babies are either born bald or if born with a few hairs, they soon shed them, make it difficult to be sure of its congenital nature, hence it would be less open to criticism were its causal factor described as infantile.

Curiously enough the situations of these patches are usually

on the maximum points described by Dr. Henry Head.[1] The maximum points on which the incidences of this form of greyness are most common are the upper mid-orbital and the occipital (Nos. 1 and 9 respectively in Fig. 1; compare Fig. 2). In this form of greyness there are other points of incidence which do not correspond to the maximum points described by Dr. Head, but the sites of their occurrences are constant. One of these constant points is 1½ in. above the pinna of the ear (see No. 4 in Fig. 1). This constant point of incidence is

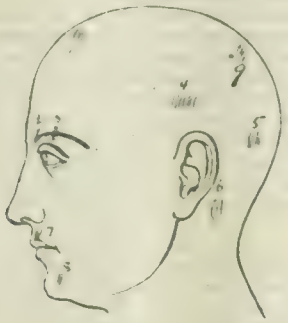


Fig. 1.

too low for vertical or parietal maximum points; Captain Pinch, I.M.S., has seen a family in which the father and four sons had each a grey patch on this point. Another constant point is seen in No. 7 in Fig. 1, situated in the moustache at a point which corresponds to the position of the lateral incisor and canine teeth. It will be seen that the point is too internal for Dr. Head's maximum point for the naso-labial region (see Fig. 2).

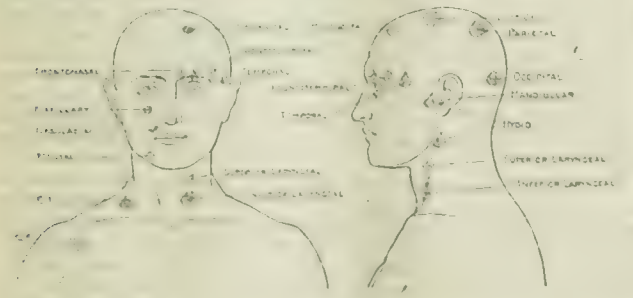


Fig. 2.

In this class I have seen in a boy a grey patch in the lower mid-orbital maximum point, and not the upper (see No. 3 in Fig. 1; compare with Fig. 2), and a grey patch in a man on the fronto-nasal point (see No. 2, Fig. 1, and compare Fig. 2). I may mention under this class of case that I have seen bald patches on one side of the face which existed as far back as the man could remember; the sites of baldness were on Nos. 1 and 3 in Fig. 1, and the naso-labial maximum point (compare with Fig. 2).

Greyness of Age.

B and C. These types I classify together because they are popularly recognized as a natural consequence of age. I will describe the rarer condition (B) first. Here the incidence of greyness occurs in patches which are preliminary to a state of general diffuse and finally complete greyness. These precedent patches of greyness are also common on the maximum points described by Dr. Head, and the commonest points on which they are seen are the occipital and mental, and are often symmetrical. The most marked case I have seen, and which first called my attention to the matter, was pointed out to me in December, 1903, by Sir Victor Horsley. In this case the occipital and mental maximum points on each side were practically the only grey hairs visible, but now the greyness has become more general (see Nos. 5 and 8 in Fig. 1; compare with Fig. 2). I have seen cases begin to "go grey" on the point which is constantly appearing grey in Class A, namely, No. 4 in Fig. 1, which I have indicated does not coincide with any of Dr. Head's maximum points. C, the second of the two forms of greyness acquired as a consequence of age, is by far the most common of any type I can describe. Its incidence is characterized by scattered grey hairs usually in the region of the temples, the greyness then gradually becomes diffused and ends in total greyness.

Curiously enough, I have seen a woman whose hair became very grey during middle age, except on the right upper mid-orbital maximum point, on which the hair remained the same brown colour of girlhood and early womanhood (see No. 1 in Fig. 1; compare with Fig. 2). I have not observed a case in which emotion or shock suddenly induced greyness, although the existence of such cases is recognized.

Finally, I have seen two cases in which the beard was grey in the area of distribution of the mental nerves of the two-fifths and so sharply limited to those areas that it is difficult to explain it by saying it was mere coincidence.

The points of incidence in certain forms of greyness may not be of intrinsic importance, but the facts form links in the chain of evidence connected with the obscure processes which are united under the vague term of "trophic disturbances."

Whether the neurotrophic influence, which seems to me to be inducing the hair's greyness, be due to central influences direct, or a peripheral modification of those central influences, as appears to me to be concerned in the etiology of cancer, I cannot accurately determine, for two reasons: First, according to Dr. Head, the commonly-described nerve areas of the head must be regarded as peripheral: and, secondly, observations upon the incidence of the hair's greyness on the body are extremely difficult; and, according to Dr. Head, it is the evidence shown by trunk-nerve areas upon which trust can be placed in estimating whether or no the nerve influence be central or peripheral in origin.

The difficulties of my position are obvious when I state that I have not seen any instance of hair on the body in which the hair covered three or even two maximum points of the same central or segmental nerve distribution. I can only say that I have seen men of middle age whose chests were covered with hair in which patches of greyness appeared on one or two points, but of different nerve areas.

REFERENCE.

[1] On the disturbances of sensation, with special reference to the pain of visceral disease. See *Brain*, vol. xvii.

THE PERCEPTION OF LIGHT AND COLOUR.

BY F. W. EDRIDGE-GREEN, M.D., F.R.C.S.

A THEORY to be of any use as a working hypothesis must be able to explain the main facts of the subject, and in addition there must be no definite fact which is totally at variance with it. I propose in this paper to show how the theory which I have promulgated will explain the known facts of light and colour vision, and how impossible it is to adopt any form of elemental hypothesis.

I assumed that light falling upon the eye liberates the visual purple from the rods (just as heat would melt an ointment) and a photograph is formed. The decomposition of the visual purple by light chemically stimulates the ends of the cones, and a visual impulse is set up which is conveyed through the optic nerve fibres to the brain. I assume that the visual impulses differ in character according to the wave-length of the light causing them: that is to say, a very similar condition exists in the impulses which are transmitted along the optic nerve to that which is accepted for waves of light previous to their entering the eye. The fibres of the optic nerve pass to the visual centre. I have assumed that the visual centre transmits to the mind impressions of white light, and that by it objects are seen monochromatically, as in a photograph. The visual centre is, therefore, acted upon by impulses caused by all rays of light, the colour-perceiving centre being concerned with the quality of the impulse within the power of perceiving differences possessed by that centre or portions of that centre. It will be noticed that this theory consists of two distinct hypotheses—one retinal and the other cerebral. Each is supported by a separate series of facts. Each of these theories has enabled me to predict and subsequently ascertain the existence of a large number of new facts, most of which are quite inconsistent with any elemental hypothesis. In fact, the reader who is acquainted with the recent literature of this subject will see that other writers have, in addition to rediscovering many of my facts, arrived at a similar conclusion concerning them.

I will now review a certain number of facts of light and

colour vision, and it will be seen that not only does the above theory give an explanation of them, but that they are a necessary consequence of it.

I.—*The Evolution of the Colour Sense.*

All the facts which can be obtained from the examination of museums or literature point to the view that the sense of light was developed first and then the sense of colour, those rays which differ most physically being the first to be differentiated. In the course of evolution all the varieties of psycho-physical colour blindness have been passed through. According to the theory I have given, we must suppose that the visual centre was first developed, and subsequently a colour-perceiving centre. When there were few cells in that centre, it would only be able to differentiate between the largest and the smallest wave lengths, the red and the violet; that is, the spectrum appeared nearly all grey, but with a tinge of red at one end and a tinge of violet at the other. As the colour sense developed, and more and more cells were added to the colour-perceiving centre, it was not necessary that the rays of light should be so far apart before a difference was seen, and so the neutral band gradually diminished in size until the two colours met in the centre of the spectrum. Then a third colour, green, was developed, there being three points of difference seen, instead of two. Then a fourth colour, yellow, was developed, its position appearing at the next point of difference—that is, midway between the red and the green. The next colour to be developed was blue, and then orange. In some individuals evolution has proceeded further, and a seventh colour is seen in the spectrum.

II.—*Colour Blindness.*

Cases of colour blindness may be divided into two classes, which are quite separate and distinct from each other, though both may be present in the same person. In the first class there is light as well as colour loss. In the second class the perception of light is the same as in the normal sighted, but there is a defect in the perception of colour. In the first class certain rays are either not perceived at all, or very imperfectly. Both these classes are represented by analogous conditions in the perception of sounds. The first class of the colour blind are represented by those who are unable to hear very high or very low notes; the second class by those who possess what is commonly called a defective musical ear.

Colour-blind individuals belonging to this class can be arranged in a series. At one end of this series are the normal sighted, and at the other the totally colour blind. The colours appear at the points of greatest difference, and I have classified the colour blind in accordance with the number of colours which they see in the spectrum. If the normal sighted be designated hexachromic, those who see five colours may be called pentachromic; those who see four, tetrachromic; those who see three, trichromic; those who see two, dichromic; and the totally colour blind, monochromic. There are many degrees included in the dichromic class. There may or may not be a neutral band, and this is widest in those cases approaching most nearly to total colour blindness. I have recorded a case of a patient who was colour blind with one eye. It is an interesting fact that for form vision the colour-blind eye was much the better of the two, and he could recognize fine lines in the spectrum with this eye which were not visible to the other. He saw the two ends of the spectrum tinged with colour and the remainder grey. It will be noticed that his colour sensations were limited to the extreme red and the extreme violet, namely, those colours which present the greatest physical contrast to each other. Neither the red nor the violet appeared of the nature of a primary colour, but gave the impression that they were largely diluted with grey.

No part of my work on colour vision has been less understood than that relating to the number of colours seen by different persons in the spectrum. When I say that the normal sighted see six definite colours, I do not mean that they cannot see more than six differences of hue in the spectrum, but that they see six colours which appear to be primary. Yellow-green, for instance, is obviously not a primary colour, as we can recognize in it a yellow and a green element. If we examine the spectrum so that only a small portion is seen at one time, either using a spectroscope with shutters to the eye-piece, or letting the spectrum pass through a slit which only allows a small portion to pass, we shall see that it appears to be made up of a series of monochromatic bands. These bands differ in size with different persons according to their colour perception. A person with good colour perception can see about eighteen consecutive monochromatic patches in the spectrum. Those who possess a very good colour perception can see a few more, those with defective colour vision see a less number in proportion to the defect. The fact that a large portion of the spectrum appears monochromatic when isolated requires explanation on any colour theory; but the fact itself accounts for many of the mistakes of the colour blind. For instance, when we find that a man includes a large portion of the orange with the red, we are not surprised when he tells us that he cannot tell the calcium flame from the strontium. Defects of colour perception, where there is light as well as colour loss, may be due to one or more causes, all of which are probably peripheral, such as absorption by the media of the eye, or defect in the visual substance. In the second class the colour blindness is due to a defective development of the colour-perceiving centre in the brain, the imperfect development preventing the act of perception from being perfectly performed, and therefore similar impulses are regarded as the same. Colour blindness is therefore only a representative of an earlier state in the development of the colour-perceiving centre.

III.—*Colour Mixing.*

The facts of colour mixing are consistent with the above theory. If we regard the impulses caused by the decomposition of the visual purple by red and violet respectively to be the most unlike, then these impulses and the central one of those lying between them, namely, green, will form a natural trichromatic system. The explanation of the fact that red and green make yellow, and green and violet blue, is consistent with the evolutionary theory. In past ages all, as the trichromic do now, saw the rainbow made of three colours—red, green, and violet. When a new colour (yellow) appeared between the red and green it was obvious that a mixture of red and green would give rise, not to red-green, but to the colour which had replaced it, namely, yellow. I find that the proportions of red and green required to match a yellow depend largely upon the luminosity of the colours. I find that I require nearly two and a half times as much green when the colours are bright as when they are of feeble luminosity. If the compound yellow and the simple yellow were physiologically the same, how can we account for this fact? If we suppose that the visual purple acts like other photo-chemical substances, and is differently acted upon according to the intensity of the light, we have a simple explanation of the fact.

Compound colours, when again mixed, do not give the same result as the simple colour with which they were first matched. If an elemental hypothesis were true, then a small addition of one colour to another should change the hue of the latter, but a considerable quantity of one colour may be added to another without producing any apparent change.

The fact that two colours when mixed will make white is a necessary consequence of the theory I have given, provided that these two colours represent, either directly or indirectly, all the colour sensations of the observer. When two complementary colours are mixed, the colour-perceiving centre is placed in a position in which it is not able to perceive any colour, the colours neutralizing each other.

IV.—*The Colour Vision of the Periphery of the Retina.*

As an object is moved further from the centre of the field of vision we become more and more colour blind. This is consistent with the view that the macula, being more fully represented in the cortex, is in a higher state of development.

V.—*Contrast.*

A careful consideration of the facts will show that they may be classified under two heads:

1. Those due to the colour-perceiving centre in the brain.
2. Those due to colour fatigue of the retina and brain.

The first class includes all those changes in which a colour appears to be shifted to a higher or lower point in the colour scale. This is easily explained on the view that colour being a point of difference, this becomes more marked on comparison, the perceptive centre being in the most favourable position for the detection of any difference. As the facts are given differently in most books, I will give a quotation from Abney:[1] "Except for the red and the violet, there is a tendency for the two colours to become more widely separated in the spectrum. Thus with red and yellow the red remains of the same hue, but appears slightly more saturated, whilst the yellow appears greener."

[1] On the Measurement of Colour Produced by Simultaneous Contrast. *Proc. Roy. Soc.*, 1894, p. 221.

Successive contrast is explained by assuming that when the colour-perceiving centre in the brain has just been perceiving rays of a certain kind, it and the retina are directly afterwards less responsive to those rays than to rays of a different degree of refrangibility, and so surrounding objects will appear to be deficient in that colour.

VI.—*Adaptation Corresponds to an Accumulation of Visual Purple in the Retina, thereby making it More Sensitive to Feeble Impressions of Light.*

It is obvious that all the facts which have been brought forward in evidence of their being a visual substance are in favour of the theory I have given. I have examined the retinas of several monkeys after they had been kept in a dark room, and found that the visual purple was to be found in the yellow spot, but situated between, and not in the cones. A bright light may fall upon the fovea without producing any sensation, and a perceptible interval elapses before we are able to see with the yellow spot, after the remainder of the retina the fovea being the last point to convey a sensation of light. The first fact we should expect, the cones not being directly sensitive to light; the second corresponds to the diffusion into the yellow spot of the visual purple.

THE ROYAL COLLEGE OF SURGEONS OF EDINBURGH;

ITS EARLY CONNEXION WITH MEDICAL TEACHING.

By R. McKENZIE JOHNSTON, M.D., F.R.C.S.Edin.,

Surgeon in Charge of the Ear and Throat Department, Royal Infirmary: Lecturer to the University of Edinburgh; Examiner Royal College of Surgeons, Edinburgh.

It is singularly difficult, during a brief sojourn on the banks of the Nile, to settle down to fulfil a promise to contribute a few lines to the JOURNAL on the occasion of the great centenary of the Royal College of Edinburgh. The corn and oil we read about is not much in evidence now, while the wine of old seems largely to have given place to a liquid originating in Scotland. Ink dries quickly, with the temperature ranging about 100°, but one's ideas seem to dry up even more rapidly It is, however, easy to comprehend why Rameses and those who have followed after him found it convenient to adopt the night shirt as a suitable dress for the day time, and it is even possible to envy them their costume.

Sitting in the neighbourhood of the tombs of the Pharaohs, in a land where everything is ancient, and among a people whose dress, whose habits, whose customs, and mode of life show but little change in a thousand years, in spite of the many innovations introduced by the foreigner, a period of 400 years appears a comparatively short span of time. On the other hand, in our more northern land, it is difficult, almost impossible, to realize the extraordinary changes that have taken place in the social, political, religious and scientific life of our country during the period that has elapsed since 1505.

An interesting account of the various charters granted to the College appeared in the JOURNAL of March 11th, from the pen of Dr. J. Smith, from which it appears that the College was founded in the reign of James IV, Henry VII being at the time King of England. Shortly afterwards an event of the first importance took place in the marriage of Margaret Tudor, sister of Henry VIII, to James of Scotland. The history of the times shows that Scotland was backward, was poor, was in constant trouble with its nobles, with the Highlanders, and with the sister country, and that frequent wars or rebellions interfered with the advancement of the country. James with all his faults did much to improve matters and to encourage literature and science.

John Knox, a name familiar in the religious history of Scotland, was probably born in 1505, the year the College was founded, although a recent controversy in which Andrew Lang took part, has tried to fix the correct date of his birth at 1513. It may help us to realize what life must have been with us 400 years ago, if we recall the fact that printing was first introduced into Scotland only in the year 1508, or three years after the foundation of the College, or again, that the Gunpowder Plot was discovered exactly 100 years later, when Guy Fawkes was put to the torture in London in order to make him confess the plot. Numerous other historical events will no doubt occur to our readers, calculated to assist them in realizing the vast difference between the times then and now.

In 1505, medical teaching was not even in its infancy and the great medical faculty of the University, which we may justly claim to be the offspring of our College, was not founded till 1728. It was the recognition of the necessity for some form of medical education which caused our enlightened forefathers to apply for a charter, and thus came to be formed the "craft" or "incorporation of surgeon-barbers." Much wisdom by the founders is shown by the founders in the objects kept prominently in view, as the following extract will show.

"... Item that no maner of persoun occupie nor use any poyntis of oure saidis craftis of Surregerie or barbour craft within this burgh bott give be first frieman and burges of the samyn and that he be worthy and expert in all the poyntis belang and the saidis craftis deligentlie and avysitlie examinit and admittit be the maisteris of the said craft for the honorabill seruyngof oure Soveraine Lord his liegis and nychtbouris of this burgh. And als that everie man that is to be maid frieman and maister amagis was be examit and previt in their poyntis following. Thatt is to say that he knaw anotomea nature and complexioun of every member in manis bodie. And in lykeways he knau all the vaynis of the samyn thatt he may mak flewbothomea in dew tyme. And als thatt he knau in quhilk member the signe hes domination for the tyme for every man aught to knaw the nature and substance of every thing that he wirkis or ellis he is negligent."

It is further evident that they recognized how, for the proper study of anatomy and surgery, practical opportunities were required. This explains the following request:

"... And that we may have anis in the yeir ane condamnit man efter he be deid to mak antomea of quhairthrou we may haif experience. Ilk ane to instruct utheris ..."

Nor was the necessity for preliminary education overlooked for the same deed contains probably the earliest reference to it. Even though it may hardly come up to the present-day requirements of the General Medical Council, it was a commencement:

"... Item that na maisteris of the said craft sall tak ane prenteis or feit man in tyme cuming to use the surregeane craft without he can baith wryte and reid."

For the protection of the general public against quacks and unqualified practitioners definite powers were granted, and if these powers have now expired, we could wish them reinstituted in the present day. Quoting from the same deed we find it was:

"... Ordained for the good of the lieges that in the mater belonging to the arte of chirurgerie they be provydit witte skillfull and honest men and not left to the arbitrament and impostour of woman and ignoranttis. ... Thairfore His Majestie with advyse foresaid discharges all and quhatsumevir persones (except they be friemen of the said craft in Edinburgh) to use and exerce any point of the arte of chyrurgerie within the said burgh of Edinburgh or any subsurbis about the samene or belonging thairto and jurisdictione thairof. With power to the Deacone and Masteris of the said arte present and to cum at all tymes convenient to pas search seik tak and apprehend all sich (such) persones exercing the said arte within the said burgh subsurbis and jurisdictione thairof foirsaid not being friemen of the said arte within the said burgh and to caus thame set cautioun to desist in tym cumming and gif they failyie to unlaw thame in the sowme of twentie poundis money toties quoties. ..."

One half of the fine went to the coffers of the College. It would appear that the benefits derived from these powers were such that William and Mary granted a fresh patent confirming the rights of the College, and extending the area of control, which patent was ratified by Parliament in 1695.

Up to this time almost the only means of entering the profession or of medical education was through apprenticeship to one of the Fellows of the College. In 1694, however, Monteith, one of the members of the College, applied for some unclaimed bodies to enable him to give anatomical demonstrations, while a week later the College itself made a similar request to the Town Council. The latter was granted on the condition that the College should build a theatre within three years. This was completed in 1697 and for several years various Fellows gave demonstrations in it, until in 1705 it was decided to appoint Robert Elliot "our professor of anatomy." In the same year he applied to the town for encouragement, and was in consequence appointed Professor of Anatomy at an annual salary of £15. In 1720 this chair became vacant, and the College records bear that "the hail calling being persuaded of the sufficiency of Alex Monro, one of their number, did unanimously recommend him ....

to be Professor of Anatomy in the University." Monro continued to lecture in the College theatre and was shortly joined by St. Clair, Plummer, Rutherfurd, and Tunes, who lectured on the theory and practice of medicine and chemistry. In 1725, during the body-raising riots, Monro became alarmed for the safety of his specimens and transferred his lectures to the University class-rooms. In the following year the other lecturers, with the addition of Gibson (midwifery), applied to have their subjects taught in the University, and were, as a result, appointed Professors in the Faculty of Medicine. It will thus be seen that the College first originated the School of Medicine which eventually became the foundation of the Faculty of Medicine.

These facts are briefly stated and do not profess to be more than a bare outline. They are, however, sufficient to demonstrate the position which our College has always taken up in every movement for the improvement of medical education. It should be noticed that the connexion between the lecturers and the University was at first so close that the position of each is often indistinguishable. The professors were appointed generally on the recommendation of the College, and largely depended on the College apprentices to give them a class. For long the College did not find it necessary to appoint a lecturer to replace the one made professor. The professor was as much available for the College requirements after his appointment to the University as he was before. The influence of the College is well shown in an application made to our College by Sutherland, First Professor of Botany. He requested us to assess our apprentices in a fee for the maintenance of the garden and instruction in Botany.

He at the same time acknowledged us as his patrons. Again, in 1705 the Deacon of the Surgeons complained to the Town Council that Sutherland "was very defective in his duty as to teaching chirurgeon-apprentices the science of botany, which was a considerable part of his employment." The result was the withdrawal of his salary and his subsequent resignation.

The museum and library of our College were transferred in 1764 to the University. Our present museum is one of the finest collections in the kingdom and is maintained at considerable expense. It is open free to all medical students, and occasional demonstrations by the conservators have been also given. Lecturers take their students through the museum and illustrate their remarks with the specimens. The present collection was commenced in 1826 by the acquisition of the Bell collection by purchase and of the Barclay Museum by legacy.

The infirmary was started in 1729 in a small hired house and received both services and medicines from the surgeons. The college, finding the infirmary unable to cope with the number of cases, decided to build another hospital in 1736, which was known as "Surgeons' Hospital." Two years later it was decided to amalgamate the two buildings, and the surgeons handed over all their funds to the infirmary. They at the same time bound themselves to act as surgeons to the institution, and for more than sixty years they took duty there in rotation. It became evident, as the College increased in numbers, that it would be better to make more permanent appointments, and so the present system was gradually inaugurated.

Surgery was taught as early as 1772 by Rae. In 1776 he was recommended as Professor of Surgery, but owing to the opposition of Monro and the Faculty of Medicine, no chair was made until 1831. Monro claimed to be Professor of Anatomy and Surgery, as a portion of his course was devoted to surgery. The fact that the College latterly refused to recognize Monro's lectures, owing to their not being a six-months' course of anatomy, seems to have had some share in bringing about the appointment of a Professor of Surgery.

Many subjects not included in the regular curriculum are lectured upon at Surgeons' Hall at the present time, and the College has been ever ready to encourage its Fellows to lecture upon special branches of medical science. In several cases the University has followed us by appointing a lecturer on his special subject as "Lecturer to the University."

Many improvements in teaching arrangements have been originated by the College. As illustrations of this we may point out that Barclay in 1797 was the first extra-mural lecturer, who devoted his whole time to anatomy alone, while it was not till 1846 that the University appointed Goodsir as professor on a similar footing. Again, practical anatomy was made compulsory by the College in 1824, and it was not till 1833 that the University followed suit.

The celebration of the fourth centenary of the College will shortly take place, and is an event of wide interest. Besides those who locally are making every endeavour to provide a successful and interesting series of functions, there are many in all parts of the world who will be anxious to recognize the debt which they owe to this ancient College. They may well feel proud of their connexion with the Royal College of Surgeons of Edinburgh—a College which can justly claim to have been a pioneer in improving the position of the profession and in advancing medical education. It has had a long and useful career in the past and would appear to be as active, as full of life and vigour as ever. No doubt many will join at the present time in wishing a long period of continued usefulness and prosperity to the ancient Royal College.

British Medical Association.

REPORT

OF

SPECIAL CHLOROFORM COMMITTEE.

FOURTH REPORT OF PROCEEDINGS (1904-5).

(*For preceding Reports see (1901-2)* British Medical Journal, July 12th, 1902; *(1902-3)* British Medical Journal, July 18th, 1903; *and (1903-4)* British Medical Journal, July 23rd, 1904.)

INTRODUCTION.

1. The Committee, consisting of the President of the British Medical Association, and Chairman of Council (*ex officio*), and Dr. Barr, Dr. Brodie, F.R.S., Dr. Dudley Buxton (Honorary Secretary), Dr. H. Radcliffe Crocker (Chairman), Professor Dunstan, F.R.S., Mr. A. Vernon Harcourt, F.R.S., Sir Victor Horsley, F.R.S., Dr. W. J. McCardie, Professor Sherrington, F.R.S., was elected by a resolution of Council, July 28th, 1904.

2. The Committee was originally appointed by the Council at the annual general meeting of the British Medical Association, July, 1901 (British Medical Journal, July 20th, 1901). The following is the reference of the Council. Resolved:

That a Special Chloroform Committee be appointed to investigate methods of quantitatively determining the presence of chloroform in the air and in the living body.

The ultimate object laid before the Council of the British Medical Association by Sir Victor Horsley was to determine, if possible, what is the minimal dose of the drug which will secure an adequate anaesthesia for operations and at the same time not endanger life.

3. The initial work undertaken by the Committee (the results of which will be found in the two first reports) was to examine critically the best-known methods of quantitatively measuring chloroform. Data will be found in these two reports for the quantitative determination of chloroform in air and liquids.

4. Last year the work undertaken was of a more practical kind, and the results are given in the Supplement to the British Medical Journal, July 23rd, 1904.

Professor Sherrington, F.R.S., with Miss Sowton, examined the effect upon cardiac muscle of chloroform when perfused in saline, in blood serum diluted with saline, in blood diluted with saline, in Locke's solution (*a*) with (*b*) without the addition of dextrose. Their results showed that with solutions which partake more of the character of blood, chloroform acts less as a depressant, higher percentages being required to produce toxic effects.

Mr. Vernon Harcourt reported further work with his chloroform inhaler, and dealt with the important question how far variations in the rate and amplitude of respiration affected the quantity of chloroform which the patients received. The percentage of chloroform delivered at different rates of breathing is shown by a table giving the experimental results. He suggests, and has since acted upon the suggestion, that greater constancy can be obtained by increasing the distance between the necks of the Woulfe's bottle and the surface of the chloroform. The reduced rate of evaporation thus caused has been compensated by increasing the width of the bottle and the temperature at which the chloroform is set.

Mr. Vernon Harcourt and Sir Victor Horsley furnished

a report upon the estimation of chloroform absorbed by blood. Their experiments appear to show that blood, so long as the corpuscles retain their morphological integrity, possesses a specific power of retaining chloroform.

5. The work done during 1905.

As was foreshadowed in the last report, the work of the Committee during the year has been a continuation of that undertaken in 1904.

Three meetings of the Committee have been held to arrange and supervise the work.

6. Professor Sherrington, F.R.S., and Miss Sowton have studied the relative effects of chloroform dosage upon the heart and upon other muscular organs. That the heart muscle is more susceptible than other muscular organs is generally conceded—this research supplies a quantitative estimate of the differences. Striped muscle from a limb, the blood vessels of the limb, and the muscular wall of the intestine were examined, and the results are compared with those already arrived at in the case of the heart. The details of these experiments form an appendix to this report. In the first place a gorilla heart was perfused, but this and the other experiments made upon the heart, as they only confirm the conclusions arrived at last year by these workers, need no detailed mention.

Voluntary muscle when perfused and dosed with chloroform in artificial circulating fluids behaved in a similar way to that revealed by the heart muscle.

In blood the chloroform could be supplied in larger doses with less toxic effect than in artificial saline fluid.

Comparing cardiac and voluntary muscle, the same dosage of chloroform produced marked depression and ultimate extinction of the beat of the heart, but no obvious depression in the voluntary muscle.

The blood vessels of the limb: The conclusions based upon their experiments at which Professor Sherrington and Miss Sowton have arrived are that in percentage strengths of 0.1 and 0.2 chloroform in blood and saline—equal parts—causes a short, lasting constriction of the blood vessels. In higher percentages this is followed by dilatation, which may persist for some considerable time. If the vessels are perfused subsequently with chloroform-free fluid a decrease in the outflow is marked, and the rate of flow becomes rapidly the same or less than before perfusion with chloroform. The contractions of the voluntary muscle were observed to be increased coincidentally with the diminished outflow from the limb blood vessels, and diminished when the outflow was increased in response to dilatation of these vessels. It seems therefore that chloroform exerts a slight stimulant effect upon the skeletal muscles, and a slight constrictive effect upon the blood vessels in the limb, and subsequently causes depression of both. The dose, however, has to be considerably larger than in the case of the heart muscle. "The difference of grade of susceptibility to chloroform of various neuro-muscular mechanisms in the body appears to us," report Professor Sherrington and Miss Sowton, "to be not only marked but very great, much greater than we at all anticipated at the outset of our observations." Numerous experiments undertaken with the muscular coat of the intestine are also presented in the report of these workers, and the results, as far as at present obtained, are in harmony with those given above.

7. Mr. Vernon Harcourt has entered upon the examination of the inspired air and expired air of patients rendered anaesthetic by chloroform. In his report he describes the apparatus employed, and the various difficulties which have attended the research. These difficulties, it is believed, have now been surmounted. It is obvious that experimental difficulties must arise in such an investigation and involve considerable expenditure of time. The air was collected in flasks at frequent intervals both during the period of induction of anaesthesia and in narcosis while surgical operations were being performed. The pair of flasks containing the inspired and expired air were changed simultaneously, and their contents analysed. The analyses made gave only approximate results from causes which Mr. Vernon Harcourt details. He considers, however, that some generalizations may be safely drawn. "From the outset," he states, "more than half the chloroform breathed in is breathed out again." Later on the proportion of chloroform in the expired air approaches that in the inspired air. Immediately the strength of chloroform vapour inhaled is lessened the amount of chloroform in the expired air becomes greater than that in the inspired air. When a larger number of analyses have been made fuller results will be given. At present this part of the Committee's work is incomplete, but its importance is obvious.

Mr. Vernon Harcourt further adverts to the inhaler employed by the Committee, and points out various alterations which have been made in it. The criticisms advanced during a discussion at the last annual general meeting of the Association are referred to, and it is pointed out that by adopting the alterations mentioned above the safety and efficiency of the inhaler are increased.

THE RESULTS OF THE WORK.

8. Reviewing the work done during the year, the Committee thinks that distinct progress has been made towards the objective—finding the minimal dose of chloroform which, while ensuring anaesthesia, will expose the patient to the least risk. Professor Sherrington and Miss Sowton's research has been advanced a step further and has shown that chloroform affects the skeletal as well as the cardiac and non-striped muscle in a way which differs only in degree according to the dose employed. They also have shown the differences of the behaviour of chloroform towards these structures according as the anaesthetic is exhibited in blood or in saline circulating fluid. It yet remains to have their research extended in the direction of altered conditions of blood which occur in the surgical clinique; for example, blood with a deficiency of oxygen or an excess of deleterious material.

Although Mr. Vernon Harcourt has been unable to render more than a tentative report of the important research into the question of how much chloroform enters and leaves the lung area of patients during an operation, he has obtained facts sufficient to indicate how useful the line of investigation is likely to prove. It is hoped that another year's work will demonstrate this even more clearly, and will supply results of practical value in the domain of anaesthetics.

DUDLEY W. BUXTON, M.D., Honorary Secretary.

APPENDIX I.

ON THE RELATIVE EFFECTS OF CHLOROFORM UPON THE HEART AND UPON OTHER MUSCULAR ORGANS.

BY

C. S. SHERRINGTON, M.D., F.R.S., AND S. C. M. SOWTON.

WE beg to report that we have continued inquiry into dosage of chloroform on isolated organs, mainly in regard to its action as a depressant. Our aim has especially been to see in what measure the susceptivity of the heart to chloroform depression is peculiar to it as compared with other neuro-muscular organs. Chloroform acting as a depressant ultimately on all tissues, is it the immediate importance to life of the heart's action which places cardiac depression in the forefront among practical considerations in chloroform anaesthesia, or is it that chloroform acts selectively, and, so to say, specifically upon the heart? That the heart is more susceptive to chloroform than are certain other muscular structures is generally recognized, but our aim has been to obtain more quantitative estimation of this difference, and to institute the comparison more widely.

The muscular organs which we have so far compared for their susceptibility to chloroform have been the heart, a striped muscle from the limb, the blood vessels of the limb, and the muscular wall of the small intestine. We have, in all, performed fifty-seven experiments. All percentages mentioned in the subjoined are by weight, not by volume.

I. OBSERVATIONS ON THE HEART.

We have made in the present year but few further observations on the heart. These have agreed with those presented in our previous reports. They have included one experiment on the heart of the gorilla, which, on account of the rarity of the material and its approximation to human, presents interest. Observations were made on this heart with dosage of chloroform in two strengths, namely, 100 mg. chloroform per litre Locke's fluid, and 750 mg. per litre. The average reduction of the amplitude of the beat with the former was 90 per cent., and with the latter strength the beat was extinguished temporarily. In both cases the beat returned on discontinuance of the chloroform administration. In this experiment, just as with those on the chimpanzee heart, the resistance to chloroform has been somewhat greater than that shown by the cat's heart, although the conditions under which the heart is taken for experiment is less favourable than in the experiments on the cat's heart.

II. OBSERVATIONS ON VOLUNTARY MUSCLE.

The chloroform has been exhibited in cat's blood diluted 50 per cent. with 0.9 per cent. aqueous sodium chloride solution. The muscle chosen has been the soleus gastrocnemius of the cat. The perfusion was through a cannula fitted into the femoral artery, just peripheral to its profunda femoris branch. An outflow cannula was fitted to the femoral vein. The perfusion fluid was delivered by the apparatus described in our second report. The two reservoirs containing the dilute blood and blood of the same dilution, to which a weighed quantity of chloroform had been added, were immersed in hot water at suitable temperature and kept shaken. The pressure was supplied by an oxygen cylinder, and was regulated so as to give a pressure—

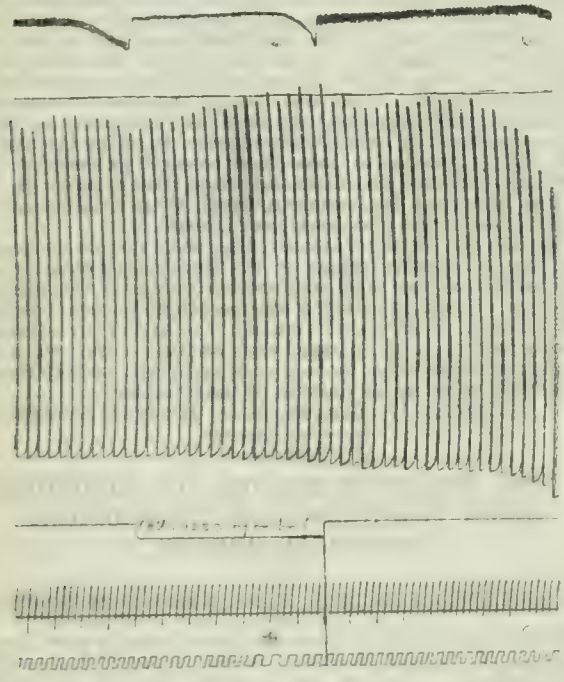


Fig. 1.—Hind limb of cat. Perfused with dilute blood (blood and saline in equal parts). Contractions of gastrocnemius muscle, stimulated by single break induction shocks delivered through the nerve at intervals of 24 seconds. The record shows the effect of $CHCl_3$ at 0.125 per cent. for seven minutes. There is a slight reduction in the height of contraction. The record of flow shows a diminution of rate with onset of chloroform, the amount per minute being:

		c.cm.
Before chloroform		14.0
During ,,	1st minute	10.5
,, ,,	2nd ,, ...	8.2
,, ,,	7th ,, ...	11.7
After ,,	1st ,, ...	14.0
,,	2nd ,, ...	12.9

[In Figs. 1 to 6 the top line indicates the pressure under which the perfusion fluid was delivered at entrance to the artery of the limb. The lowest line is the record of the Schäfer "tilter," the frequency of its strokes shows the rate at which it filled and emptied, thus indicating the rate of flow through the vessels of the limb. The time line marks 15 sec. intervals; it stands next above that of the speed counter. The next line above signals the beginning and ending of each perfusion with chloroform containing blood.]

which was recorded on the recording cylinder—of about 100 mm. Hg. The oxygen was led through the blood in the two reservoirs. The blood was, therefore, delivered oxygenated and at a temperature of 35° C. The limb as it lay amputated and perfused with the skin intact, save at the amputated end, kept its temperature well. The record of its muscular reactions began about five minutes after amputation. A pair of sheathed electrodes was applied to the internal popliteal nerve above the knee. A needle electrode the kathode was inserted into the fleshy part of the soleus, and a needle anode was inserted into the lower end of the gastrocnemius-soleus tendon. An automatic revolving key allowed a single break-shock to be given either to the nerve or to the muscle or alternately to each at each revolution of a cylinder turning once in twenty-four seconds. The test contractions of the muscle were registered on a recording cylinder; on this the time in quarter minutes, the period of perfusion with the chloroform-blood, the rate of outflow from the femoral vein and the pressure of fluid in the femoral arterial cannula were also recorded. The rate of outflow was measured with a see-saw tilter as devised by Professor Schäfer.

On commencing the perfusion a staircase series of gradually-improving contractions was seen. When the amplitude of the muscle twitches had become of regular height, the effect of chloroform perfusion could be begun.

The amplitude of the contraction was lessened by about 20 per cent. of its height under perfusion with dilute blood containing 0 2 per cent. by weight of chloroform (Fig. 2). With 0.125 per cent. chloroform the decrease of contraction was 12 per cent. (Fig. 1). In an experiment with 0.1 per cent. chloroform no appreciable effect could be detected.

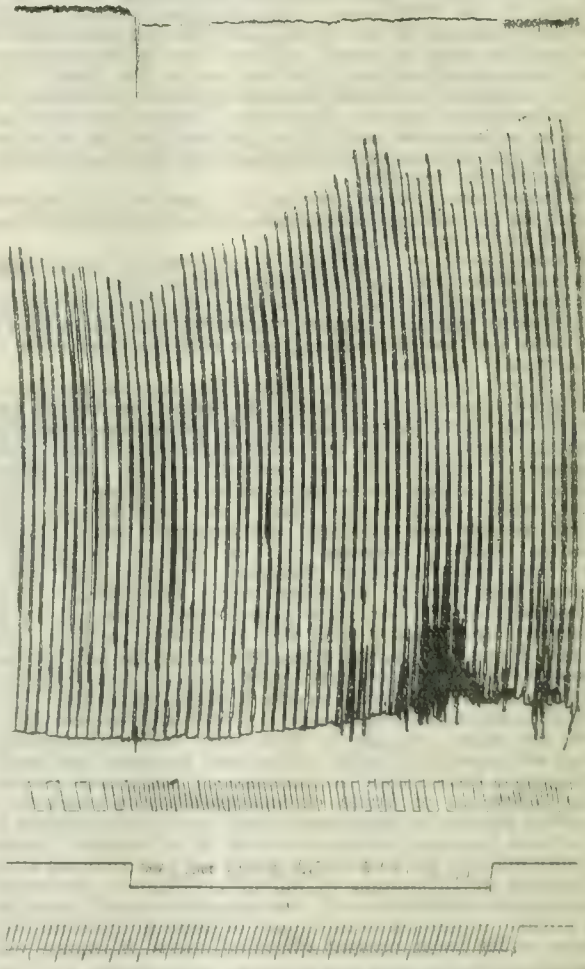


Fig. 2.—Hind limb of cat. Perfused with dilute blood. Contractions of gastrocnemius stimulated through its nerve as in Fig. 1. Effect of $CHCl_3$ at 0.2 per cent. There is a slight increase, followed by a reduction in the height of contraction. The flow is at first diminished, but regains its normal rate before the end of the chloroform administration.

With chloroform exhibited not in 50 per cent. blood but in Ringer-Locke fluid, 0 1 per cent. lessened the contraction by 20 per cent. its height on the record, and 0.15 per cent. chloroform in that fluid temporarily abolished the contraction (Fig. 6). This much greater action of chloroform exhibited in saline solution than when exhibited in blood agrees with the differences we have reported before from observations on the heart, and with the differences in tension exerted by chloroform in saline and blood respectively, ascertained and measured by Professor Moore and Dr. Roaf.

If we revert now to the dosage found under similar perfusion experiments to depress the heart's contraction, we find a salient difference between the heart and the voluntary muscle. Exhibited to the latter, blood containing 1,000 mg. $CHCl_3$ per litre produces no obvious depression, but on the heart it has the effect of quickly and permanently abolishing the beat. To voluntary muscle blood containing 2,500 mg.

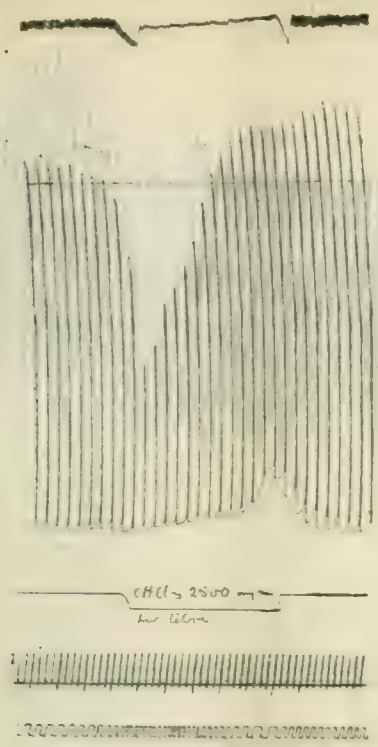


Fig. 3.—Hind limb of cat. Perfused with dilute blood. Contractions of gastrocnemius muscle stimulated through its nerve. Effect of $CHCl_3$ at 0.25 per cent. The register of flow shows a diminution followed by marked increase.

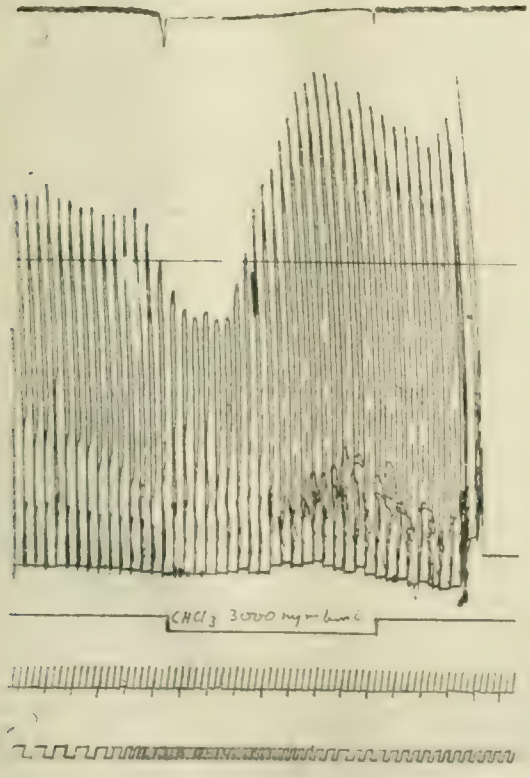


Fig. 4.—Hind limb of a cat. Perfused with dilute blood. Contractions of gastrocnemius stimulated directly. Effect of $CHCl_3$ at 0.3 per cent. The increase which sometimes precedes diminution in height of contraction is well shown, and appears to correspond with the diminished blood flow which obtains during the first two minutes of chloroform administration. Later the flow is greatly quickened.

$CHCl_3$ per litre is not more poisonous than is blood containing 333 mg. $CHCl_3$ per litre to the heart. And in our experiments with Ringer-Locke fluid the difference was even more extensive.

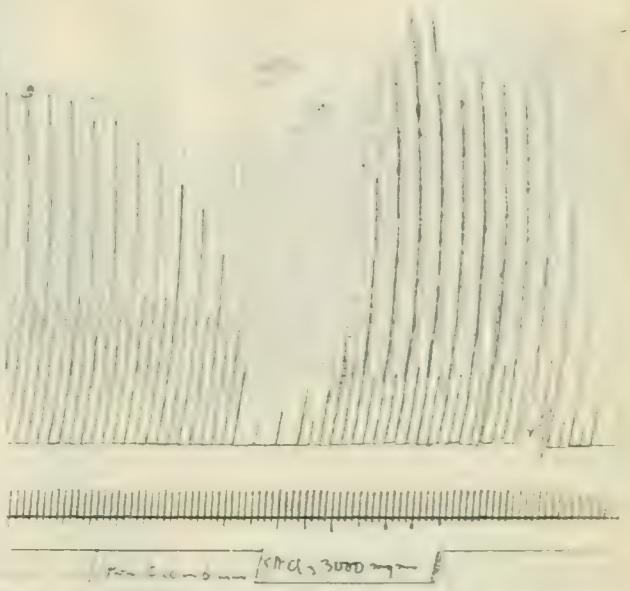


Fig. 5.—Hind limb of cat. Perfused with dilute blood. Contractions of gastrocnemius muscle stimulated alternately, through its nerve, and directly. The nerve was inexcitable before the perfusing fluid was turned on, and the record which begins immediately after perfusion had been started shows the gradual recovery of excitability. $CHCl_3$ at 0.3 per cent abolishes the response of the muscle to indirect stimulation, and reduces its direct response almost to zero. The second, fourth, sixth, etc., are direct responses of the muscle: the first, third, fifth, etc., are responses to stimulation through the nerve-trunk.

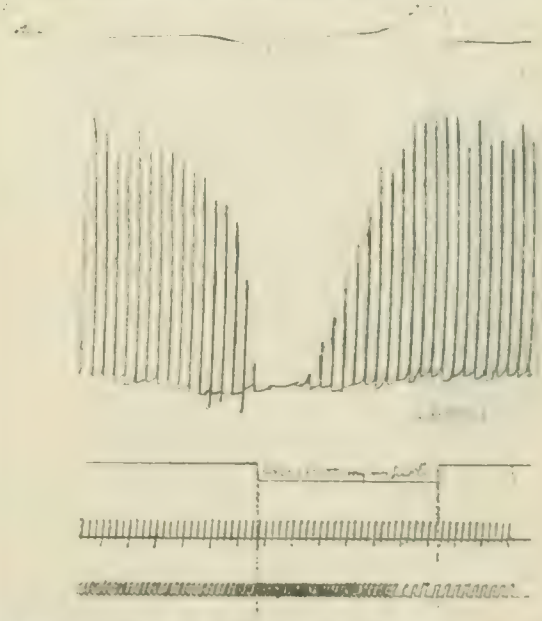


Fig. 6.—Hind limb of cat. Perfused with Locke's solution. Contractions of gastrocnemius stimulated directly. $CHCl_3$ at 0.15 per cent abolishes the response. The flow shows a diminution, followed by marked increase amounting to double the normal rate.

III. The Blood Vessels of the Limb.

Bowditch and Minot, as also Mc William, L. Hill and others, came to the conclusion that the fall of blood pressure which accompanies administration of chloroform is due as well to the dilatation of vessels as to depression of the heart beat. We do not propose to enter fully here on the history of and arguments regarding this question. The thesis is one of great inherent probability, and as regards

Fig. 7 (a).

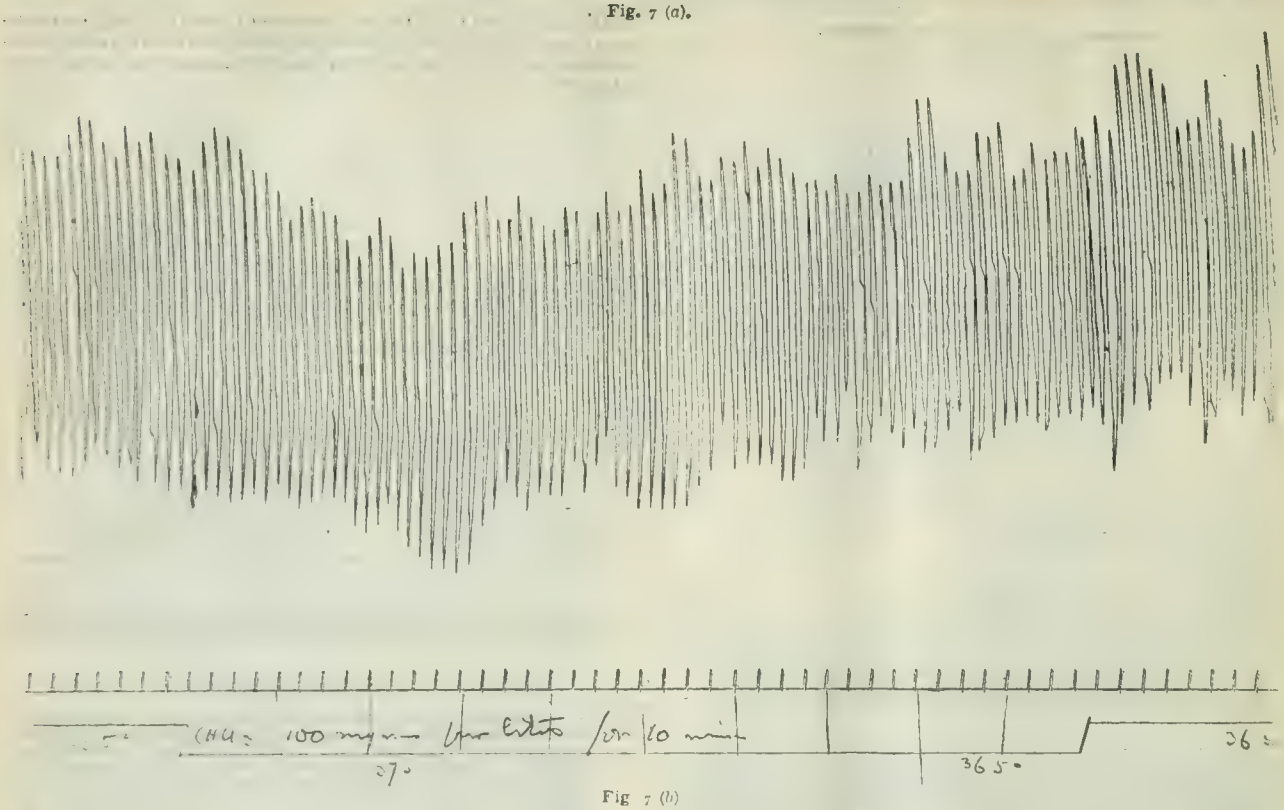


Fig. 7 (b)

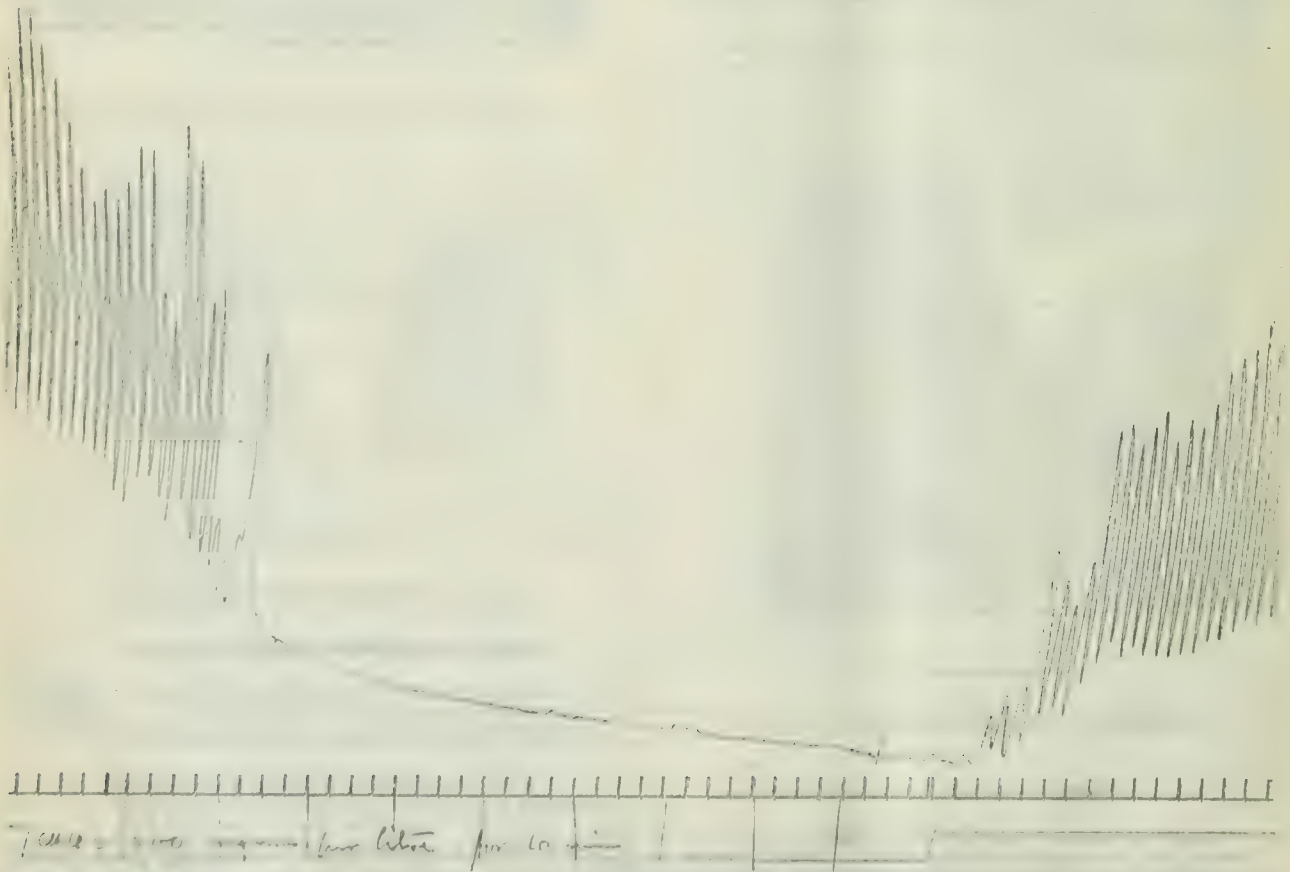


Fig. 7 (a) and (b). Small intestine, cat. Strip of muscular coats plunged in a bath of Ringer's solution. Longitudinal contractions recorded. (a) $CHCl_3$ at .6 per cent. for ten minutes; no perceptible depression. (b) Same preparation, $CHCl_3$ at 0.8 per cent. for ten minutes; abolition of the rhythmic movements.

the vessels of the small intestine and kidney is, we consider, proved by the observations of Embley and Martin.[1] Whether within the limits of practical administration of chloroform all vascular areas are implicated in this dilatation is a further question. In our report two years ago we incidentally confirmed observations by Professor Schäfer and Dr. Scharlieb[2] as to a difference in the outflow from the coronary system when perfused with chloroform in that the outflow is diminished. We remarked, "The difference was so great as to be inexplicable by the loss of the power of the cardiac contractions." Embley and Martin justly remark that this is not a proof of constriction. Professor Schäfer and Dr. Scharlieb, however, report that, while their perfusions on the kidney gave a like result to those of Embley and Martin, their perfusions of the cardiac vessels gave constriction. In the lower strengths used by Schäfer and Scharlieb on the cardiac blood vessels—that is, 0.01 per cent.—the chloroform tension is well within the chloroform pressures of practical administration under inhalation. We have therefore turned to blood vessels of the perfused limb to see what the effect of chloroform exhibited in blood would be upon them. Schäfer and Scharlieb found with chloroform in Ringer's solution that the outflow was diminished by strengths of chloroform from 1 in 10,000 up to saturation.

Using blood diluted 50 per cent. with 0.9 NaCl solution our results have been temporary decrease of outflow followed, if the chloroform had a percentage strength of 0.25 or more, by marked and enduring increase of outflow. As to these results

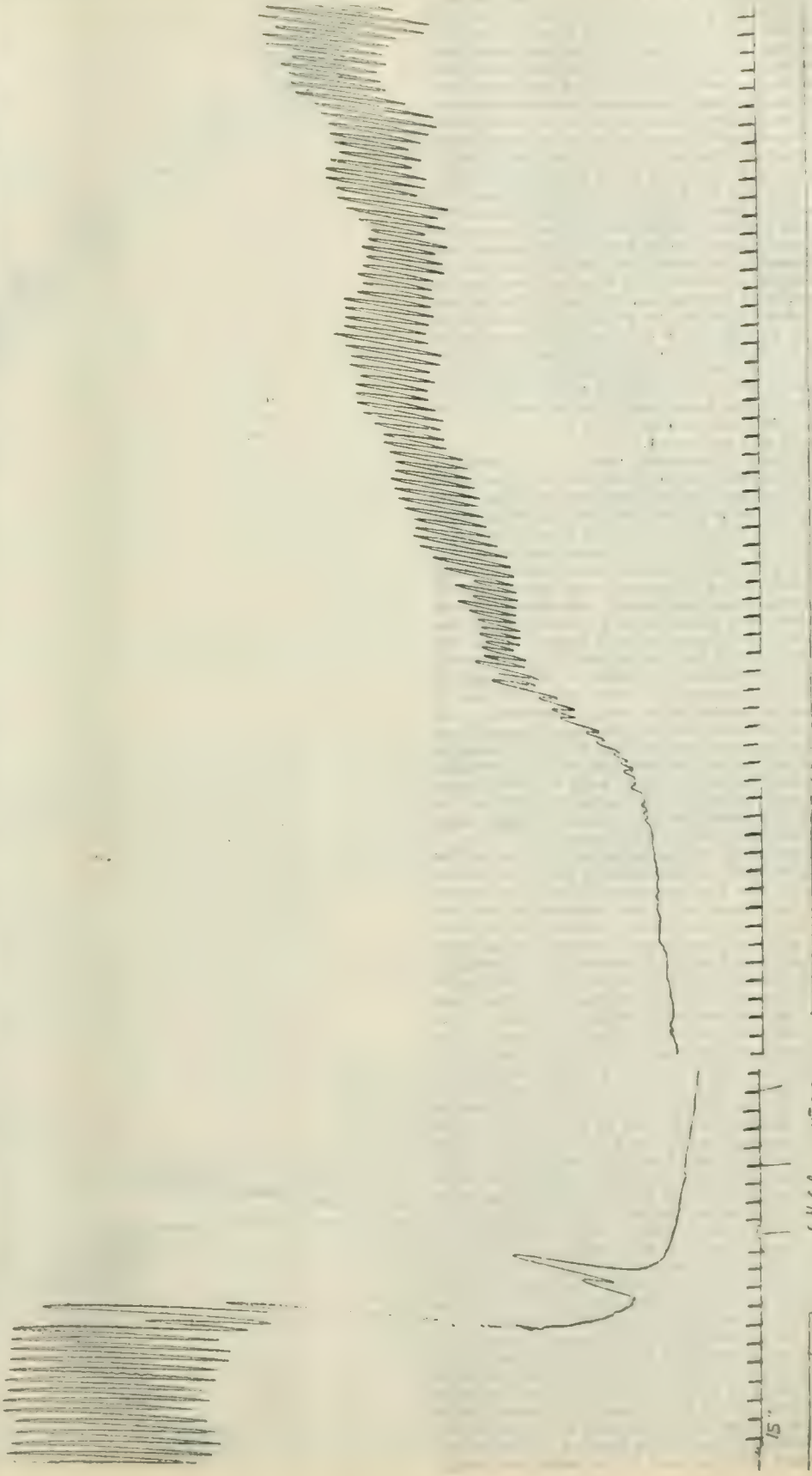


Fig. 8. Small intestine, cat. Isolated loop perfused with Ringer's solution and immersed in a bath of the fluid. $CHCl_3$ at 0.15 per cent. for twenty minutes.

[1] BRITISH MEDICAL JOURNAL, April, 1902; *Journ. of Physiol.*, February, 1905.

[2] *Proc. Physiol. Soc.*, 1903; *Trans. Roy. Soc. Edinburgh*, 1904.

it has been somewhat difficult to avoid slight changes in pressure at the moment of commencement and of ending of the delivery of the chloroform solution. To oxygenate the blood in the two reservoirs the tube to each from the regulated oxygen-pressure cylinder is led to the bottom of the blood in each reservoir and bubbles up through it collecting above it and forming a pressure-cushion. But as the quantity of blood drawn from each reservoir is unequal and depends in each experiment on circumstances that vary from experiment to experiment, it is difficult to keep the fluid pressure above the entrant tube exactly equal in the two reservoirs. We have, however, a number of records in which the pressure measured by the manometer at the arterial cannula did remain unchanged on shifting the supply from the normal reservoir to the chloroform reservoir, and others in which the pressure rose and then fell on turning on the chloroform reservoir—that is, in which the changes in pressure of supply were in exactly the opposite directions to those which would cause diminished outflow followed by increased outflow. Certainly no appreciable alteration either of temperature or of oxygenation of the blood supplied occurred in replacing the pure blood supply by the chloroform-blood supply and vice versa.

We conclude, therefore, that in percentage strengths of 0·1 and 0·2, chloroform in blood and saline (equal parts) causes a short-lasting constriction of the blood vessels of the limb, while when similarly exhibited but in percentage strength of 0·25 per cent. or 0·3 per cent., the constriction is quickly followed by a dilatation, which may continue well marked throughout a fifteen-minutes' perfusion with the chloroform-containing blood. On discontinuing the perfusion with chloroform, especially if it has been of prolonged duration, and returning to the perfusion with blood free from chloroform, a decrease in outflow is marked, the rate of flow rapidly becomes either the same or more often less than it was before perfusion with the chloroform. Our observations, though not yet numerous, have shown as far as they go less constriction with the stronger concentrations of chloroform than with the weaker we have used; that is to say, with 1 per cent. not only the constriction has been unfollowed by a dilatation, but the constriction has lasted longer than with solutions three times as strong.

The contractions of the voluntary muscle of the limb being registered concurrently with the rate of flow through the limb vessels, it has been noticeable that coincident with the diminished outflow from the latter there is some increase in the contractions of the voluntary muscle; coincident with dilatation of the blood vessels there is usually the diminution in the contractions mentioned above as obtainable by chloroform perfusion, and amounting to 77 per cent. reduction with 0·3 per cent. chloroform. It would therefore seem that under chloroform perfusion there occur together a slight stimulant action on the skeletal muscle and a slight constrictive on the blood vessels in the limb, as an initial effect, and depression of both the skeletal muscle and of the ring musculature of the vessels together as a subsequent. With the weaker solutions used the slight stimulant action has been the only one detected. The depression of the contraction of the skeletal muscle has been detectable with rather weaker solutions than has dilatation of the blood vessels. But the weakest of the chloroform solutions with which we have got distinct evidence of influence in either direction on the skeletal muscle or the blood vessels in the limb have been more concentrated than should ever occur in the practical administration of chloroform by inhalation for anaesthesia. We have observed dilatation of the limb vessels occur under weaker percentages of chloroform when the perfusion was made with chloroform in Ringer-Locke fluid than when as above in blood. That is, of course, in accord with our observations on the heart, and is, as remarked before, referable to the higher tension of the chloroform in saline solution than at the same percentage

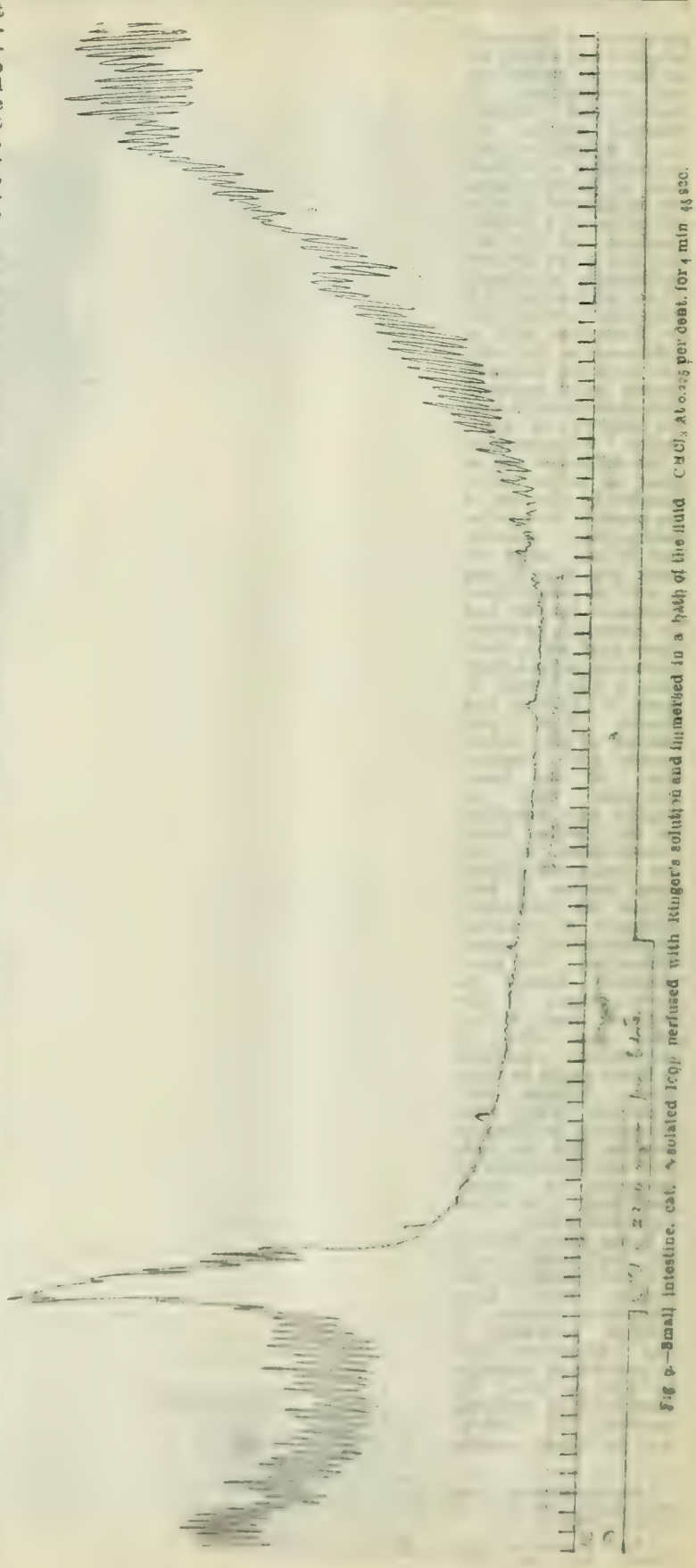
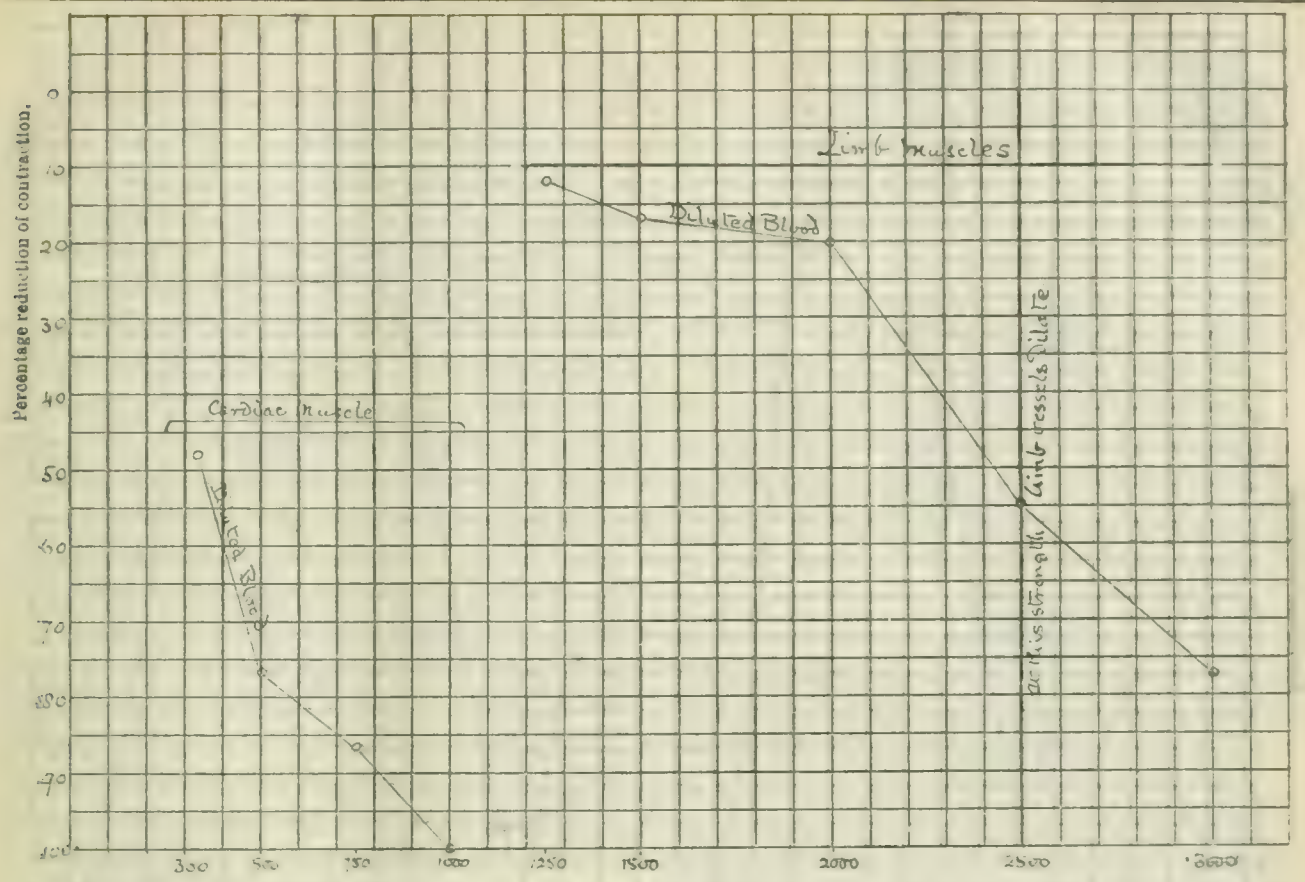


Fig. 2.—Small intestine, cat. Isolated loop perfused with Ringer's solution and immersed in a bath of the fluid $CHCl_3$ At 0.225 per cent. for 4 min. 45 sec.



(Sherrington and Sowton.)

Chart showing comparative susceptibility to chloroform of cardiac muscle, of voluntary muscle, and of the blood vessels of the limb.

in blood. That, therefore, does not alter the statement that, according to our observations so far, the concentration of the chloroform in the circulation has, in order to influence the blood vessels of the limb (vessels of skin and muscle) to be so much greater than that which suffices to seriously depress or even abolish the heart beat, that as a practical question in chloroform anaesthesia, any influence of the drug upon the limb vessels is negligible in amount. In the fall of blood pressure which occurs under chloroform anaesthesia, Embley and Martin have shown that dilatation of the intestinal and renal vessels, and Schäfer and Scharlieb also of the renal vessels, contributes to the fall as well as does the cardiac depression. Our observations indicate that in the limb the action of the chloroform on the blood vessels neither counteracts nor contributes to that fall. The difference of grade of susceptibility to $CHCl_3$ of various neuro-muscular mechanisms in the body appears to us to be not only marked but very great—much greater than we anticipated at the outset of our observations. This is shown in the accompanying chart.

IV. The Small Intestine.

We have also examined the action of chloroform on the contractions of the muscular wall of the small intestine. An isolated loop was taken from a freshly killed cat, and its blood vessels perfused with Ringer fluid, the loop being immersed in similar fluid at 35° to 37° C. The movements of the loop were recorded by a lever attached near one end of it. Lengthening of the loop gave descent of the lever trace. In some experiments the muscular coat was isolated and simply immersed in oxygenated Ringer fluid, as in the method of Professor Magnus. When this was done the bath was so arranged that without mechanically disturbing the loop the pure Ringer could be rapidly replaced by Ringer containing a known percentage of chloroform. Fig. 7 shows the effect of a 0.05 per cent. chloroform solution applied in this way. Fig. 8 shows the effect of a 0.15 per cent. solution applied by perfusion through the blood vessels. Immediate relaxation of the length of the intestine and decrease or disappearance of its recurrent contractions was the result in both cases. We have not yet done experiments determining the lowest range of chloroform dosage on the perfused loop. The depressant effect is often preceded by a phase of heightened activity; this is often very prolonged, but it is presumably analogous to the initial increase of activity not infrequently seen in the heart, though occurring in that organ with much weaker concentrations of chloroform. It is also comparable with preliminary phase of ampler contractions of skeletal muscle and of constriction of the limb-vessels.

APPENDIX II.

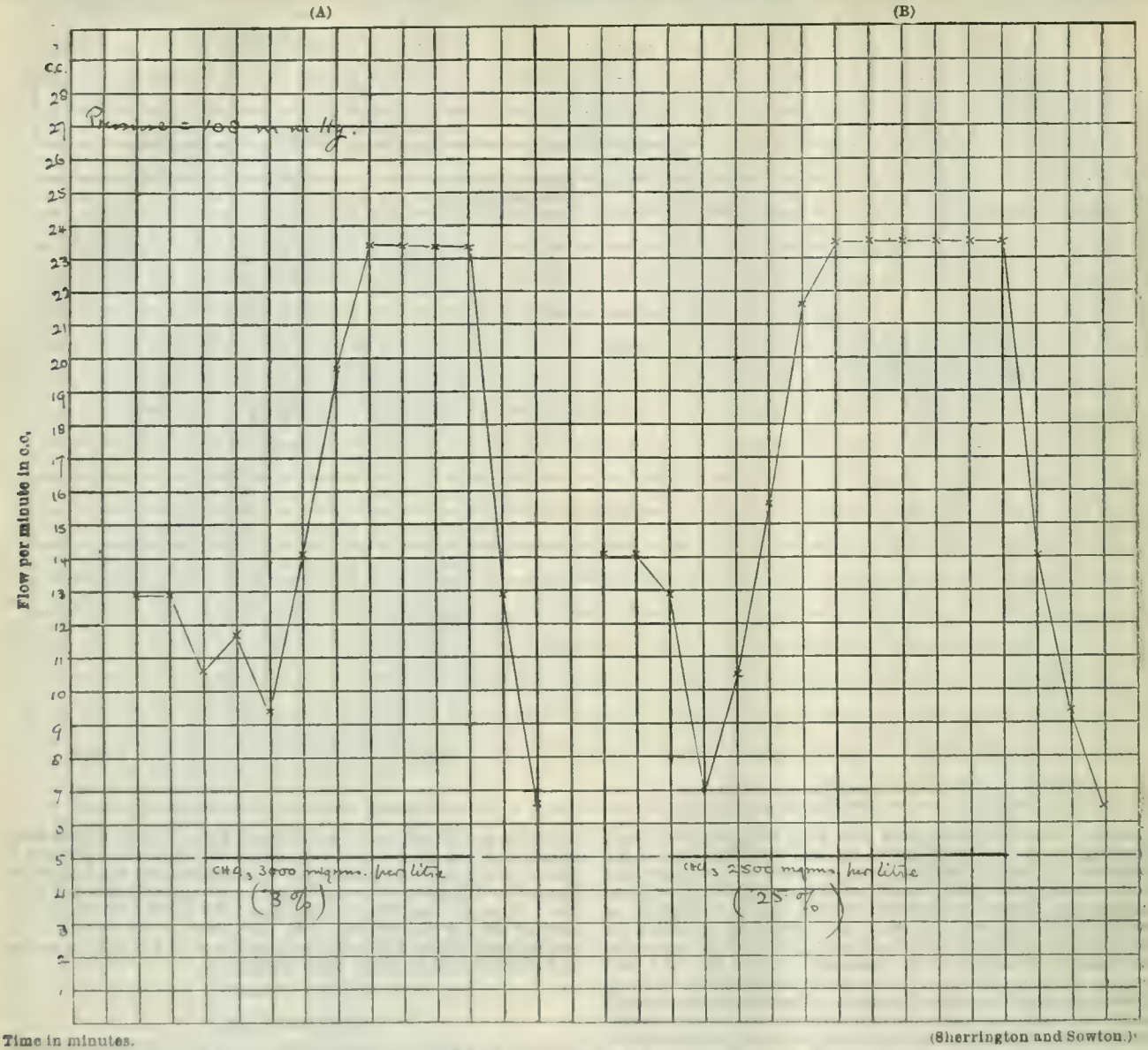
REPORT ON EXAMINATION OF CHLOROFORM IN INSPIRED AND EXPIRED AIR.

By A. VERNON HARCOURT, F.R.S.

In a report made last year to the Special Chloroform Committee of the British Medical Association an account is given of estimations of the amounts of chloroform in blood drawn from animals in successive stages of chloroform narcosis; and it is suggested that the object in view, namely to trace the effects of the presence in the body of various quantities of chloroform, may be best attained by collecting during the administration of chloroform samples of the air mixed with chloroform which at any time is being inhaled and exhaled, and making analyses of these samples.

The work done during the past year has had this object in view. Much less has been accomplished during the time than was hoped, owing to experimental difficulties and to delays in obtaining and testing new apparatus and materials. It is believed that these difficulties have now been surmounted, and that the collection and analyses can be done without many failures, and with sufficient accuracy.

To collect samples during an operation an apparatus was devised consisting of a small table supporting two branching tube-pieces whose branches extended towards one another, one branch of each being joined to that opposite by a piece of ¼ in. rubber tubing while between the other pair was intercalated a large flask closed by a cork through which passed a



(Sherrington and Sowton.)

Chart showing rate of outflow from perfused isolated limb of cat. With chloroform at a strength of 0.3 per cent., in diluted blood, there is some slowing followed by marked increase of flow (A). With chloroform at 0.25 per cent. (B) the preliminary slowing is more marked, it is followed by a marked and lasting increase.

pair of glass tubes. The stem of one tube-piece was connected with an inhaler, that of the other with the mask through which the patient drew breath; between the branches of the latter tube-piece was a three-way stopcock by moving the handle of which the air-current could be directed either through the flask or along the by-pass directly to the mask. This arrangement made it possible to remove a flask which had been charged and to substitute another without suspending for a moment the administration of the anaesthetic. The outlet of the mask was connected with a similar flask and tubes, whence the air was led through a meter which had been calibrated, so that by noting the time at which the index passed the divisions on the disc the rate of breathing could be taken at short intervals.

Two or three minutes at least were allowed for the charging of each pair of flasks, and the two flasks were changed as nearly as possible simultaneously, so that the difference in the proportion of chloroform in the two samples, together with the rate of breathing, might show how much chloroform was being gained or lost by the patient per minute at that time.

On five occasions samples have been thus collected during operations at University College Hospital, and the contents of the flasks have been analysed. Although from causes which will be briefly explained the analyses have given only approximate results, a few generalizations may be safely drawn.

From the outset more than half the chloroform breathed in is breathed out again. The proportion of chloroform in the expired air approaches that in the inspired air as administration proceeds; and immediately after a reduction in the amount of chloroform administered has been made the amount exhaled becomes the greater of the two. One example may be given:

Rate of Breathing (litres per minute).	Percentage of $CHCl_3$.		Ratio of Exhaled to Inhaled $CHCl_3$, per cent.
	Administered.	Exhaled.	
6.10	0.55	0.34	62
4.75	1.23	0.78	63
7.20	0.66	0.85	129

The difficulties which have been encountered, and which have caused much delay, have arisen from the necessity of

providing ample air-way for the patient's breath, and of keeping samples for many hours before analysing them. Glass tubes having an internal diameter of ½ in. suggested the use of flasks having necks proportionately wide—that is, of about 2 in. in diameter. Since indiarubber absorbs chloroform, and corks cut the right way of the grain cannot be obtained of this size owing to the limitations of the cork-tree, a good-looking material called suberite was suggested and used for some time. But the results with weighed quantities of chloroform were always 5 or even 10 per cent. too low, though no leakage could be observed. At last it was noticed that when suberite which had been soaked was squeezed water oozed from it. Thus the deficiency was due to the absorption of the hydrogen chloride formed in the analysis by this substitute for cork. Then corks were tried made by cementing two half-corks together. These were better, but often determinations were lost by leakage, and when the corks were pressed strongly into the necks of the flasks, by means of a collar and screws, the glass frequently gave way. Improvements were gradually made, but mishaps were still frequent, and the results were not sufficiently trustworthy. Recently flasks have been obtained with narrower necks, which admit the inlet-tube through an ordinary cork and have for outlet a tubulus in the side of the neck. Even cork, whether dry or covered by a layer of water, gradually absorbs chloroform. The amount of this absorption would be immaterial if all the analyses could be made within a few hours of the collection of samples. But as the collection has to be made in the afternoon and many samples should be collected, some analyses must be postponed till the following day. The loss of chloroform in twenty hours is pretty constantly 5 or 6 per cent., and little error would result from crediting the samples whose analysis was deferred with this addition. But a more satisfactory plan, now under trial, of extracting or saturating corks by means of hot water containing a little chloroform and keeping them in a large closed vessel over water saturated with chloroform till a few hours before they are used, promises well, and there is reason to think that the error due to keeping samples till the following day may be reduced thus to 1 or 2 per cent. Failing this, recourse may be had to ground stoppers for each flask.

Much of the work has been done by Miss Elinor Ewbank under circumstances of discouragement for which she was not reponsible. Both in the hospital and in the laboratory she has proved herself an excellent assistant. Unfortunately she has been called away. Her place is now filled by one of the college students, Mr. Cowper, and could hardly be better filled. Thanks are due to Mr. Baly, with whom Miss Ewbank was working, for allowing the alien work of the Committee to be done in the Spectroscopic Laboratory which is under his charge.

MODIFICATIONS OF THE CHLOROFORM INHALER.

It may be well to add here some notes regarding modifications of the inhaler which has been described in previous reports. At the Oxford meeting of the British Medical Association two helpful criticisms were made on this form of inhaler: (1) That a considerable increase in the dose of chloroform might be caused by the shaking of the bottle, and (2) that the maximum dose provided was in some cases insufficient. The former defect was chiefly due to the gradual substitution in the course of manufacture of a short piece of rubber tubing for the longer piece shown in the original drawing.[1] With a piece of tubing of thin rubber, about 2½ in. in length, such as is now supplied by Messrs. Griffin, even an abrupt movement of the instrument causes the bottle and liquid to swing but not to shake. A short piece of stout rubber tube acts as a spring and increases the shake which a movement causes. But the best plan is to use a stand or to tie the inhaler to a rail at the bed-head. For hospital use a solid stand, with suitable clamps and an arrangement for keeping the chloroform at the proper temperature, has been devised.

The insufficiency in the dose of chloroform which has been observed in some cases was due to five litres per minute having been taken as the normal rate of breathing. The measurements made this year of the rate of breathing of patients under operation show an average of about seven litres a minute. The table published in last year's report shows that at this rate of breathing the inhaler delivers only 1·57 per cent. of chloroform, and it is also stated that by lengthening the two-necked bottle the proportion of chloroform delivered at different rates of breathing could be kept more nearly constant. To get this greater constancy, and to bring the proportion of chloroform at a breathing-rate of 7 litres a minute up to 2 per cent., the length of the cylindrical part of the bottle has been increased to 40 mm., and its internal diameter to 42 mm.; also the standard temperature of the chloroform, indicated by the floating or sinking of the coloured beads as now adjusted, has been raised from 14° to 20° C. With these dimensions and this temperature analyses of the mixtures of air and chloroform delivered at different rates of breathing have given results corresponding nearly to the position of the index on the divided arc.

[1] *Proc. Roy. Soc.*, vol. lxx, p. 509.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, ETC.

SUDDEN HAEMORRHAGE FROM THE OVARY.

THE following case seems to me on all-fours with those to the existence of which attention was drawn in the BRITISH MEDICAL JOURNAL of March 11th, at page 553, by a note based upon an operation performed by Professor Tillaux of Paris. Its publication at once suggested to me the true explanation of the conditions with which I had so recently had to deal.

A very healthy woman, only married six weeks, and in whom menstruation had been regular, was seized with sudden pain and severe collapse at midday on March 2nd, and rapidly became blanched, pulseless, and unconscious. Her condition was so alarming that her medical men, Drs. Burnett and Brunt, felt that all operative procedure was for the moment out of question. The next morning, however, she rallied a little, although now and then attacks of collapse still occurred, and they felt that surgical interference was at last possible. I was therefore asked to see the case with them.

I found her still very ill, pulse very weak and rapid, with all the symptoms of a recent severe haemorrhage. The abdomen was moving well, its resonance impaired, and pain was referred to the left flank. A vaginal examination revealed little beyond the fact that there was much more tenderness on the left side than elsewhere, but no mass could be detected. I decided to open the abdomen to clear out the clots and deal with the condition. Saline fluid and saccharine was infused below each breast, and chloroform was carefully administered by Dr. Johnson. On opening the peritoneum several pints of clot were turned out, and examination showed that the uterus and both tubes were normal in size and condition, but that the left ovary was ruptured and oozing blood. The left ovary and tube were removed, and the abdomen flushed out with saline fluid, about two pints being left within for absorption. The patient rallied, and shortly after another pint of fluid was infused.

Progress of Case.—There was no vomiting or abdominal distension. The case went on well, with the exception that the bladder had to be catheterized. For some days there was some trouble with defaecation. A discharge of blood-stained fluid continued from the incision for some days. The specimen was sent to Mr. Targett, who kindly examined it for me and reported as follows:

"The tube is healthy to the naked eye and on section. In the ovary there is a blood cyst, which on section proves to be a recent corpus luteum, with a thick lining of lutein cells. It is filled with fibrin, but there are no traces of chorionic villi or decidual tissue."

REMARKS.—At first, in spite of the history of regularity in menstruation, the case was diagnosed as one of rupture of an early ectopic pregnancy. It was a matter of surprise to me to find no adhesions and both tubes healthy. I then thought that the case might prove to be one of true ovarian pregnancy, but the report of Mr. Targett puts this condition out of court. The case was, as has already been indicated, evidently one of those rare conditions of rupture of an apoplectic Graafian follicle, rupture of ovary, and subsequent haemorrhage into the peritoneum. It is important to note what an extreme amount of haemorrhage may result from this condition.

WHEELTON HIND, M.D., B.S., F.R.C.S.,
Surgeon, North Stafford Infirmary.

TREATMENT OF CHRONIC URTICARIA AND HERPES ZOSTER BY HIGH-FREQUENCY CURRENTS.[1]

J.A., aged 55, consulted me on July 3rd, 1904. He was suffering from chronic urticaria, which involved the whole trunk of the body. He had suffered from the disease for two years, and attributed the commencement of it to eating fish and tomatoes. Till then he was a perfectly healthy man. The irritation was intense, and he had not had a complete night's

[1] Read at the annual meeting of the Truro Division of the British Medical Association.

rest for these two years, with the consequence that his general health was very much undermined. He had lost a considerable amount of flesh, and was suffering from flatulent dyspepsia and constipation.

For a few days he was treated with salicylate of bismuth and aperients. He was then put on 5-minim doses of liq. arsenicalis, with a lead-and-opium lotion to try to relieve the irritation. This treatment was persevered in till August 24th without any benefit to the skin, though the condition of the stomach had improved.

On the last date mentioned the patient was treated with the high-frequency current. He had auto-condensation for fifteen minutes, and the "effleuve" was applied to all the affected areas of the skin. A current of 300 milliampères was used. The result was almost instantaneous. He returned the next day, and said that the irritation was much less, and that he had slept well. He had in all only six applications. The skin condition cleared up completely, and he has had no relapse.

On November 3rd the same gentleman consulted me again. On this occasion, strange to say, he was suffering from herpes zoster, on the right side. The area involved was not extensive, the right axilla being involved. There were a few vesicles round the right nipple, and a small patch at the lower angle of the scapula. The pain was intense. By November 20th all the vesicles had disappeared, but the neuralgic pain, which one often gets after herpes, was most persistent. All the usual remedies for such a state were tried. Iron and arsenic were given internally, and locally a solution of coccaine, lin. belladonnae, borochloretone, etc., were applied without the least benefit. As the patient was rapidly losing ground again I resolved to reapply the high-frequency treatment, using the same method as before. He had in all twelve applications, and as a result the neuralgia slowly but surely left him.

REMARKS.—I think it may be fairly claimed that in the first instance the electric treatment was the sole factor in the patient's recovery from a condition which up the time of its application had resisted all medicinal treatment, for he had been under medical care practically all the time. Again, the improvement was so rapid, the patient expressing himself benefited from the very first sitting, and in ten days' time his skin was perfectly normal in appearance. In the second instance the improvement, too, was very marked, though not so rapid. Drugs had evidently no effect on the condition, but after the fourth application the pain, which in this instance was of a very intense character, preventing the patient from sleeping night or day, became gradually less and less until complete recovery had taken place.

Penryn, Cornwall. ALEX. GREGOR, M.B., M.C.

THE TREATMENT OF CHRONIC ULCERS.

IN the EPITOME of the BRITISH MEDICAL JOURNAL of July 1st reference is made to the Scott Schley method as being the most effectual treatment for these ulcers. From a large experience of them, I am desirous of directing attention to what I believe to be even a quicker method. Sprinkle a slice of sponge, preferably with iodoform, and strap it over the ulcer. Granulations will spring out with amazing rapidity, and healing will follow with a little care.

The following operative treatment has always afforded me great satisfaction in chronic ulcers: (1) Scrape the ulcer; (2) cut away its edge; (3) free the latter from subjacent tissues; (4) make a few radiating incisions; (5) draw the flaps together with good plaster as far as possible.

London. JAMES MACMUNN.

THE TREATMENT OF RINGWORM OF THE SCALP.

THE interesting paper by Dr. Macleod on the treatment of ringworm of the scalp by the *x* rays, published in the BRITISH MEDICAL JOURNAL of July 1st, prompts me to make a few remarks on the treatment of this common yet troublesome complaint by what may be called ordinary remedies.

Considerable experience of this class of case during the past three years has taught me that practically every case of ringworm of the scalp, however severe, can be cured by the persistent application of mild parasiticide ointments in from three weeks to three months, provided suitable attention be given at the same time to the general health.

My belief is that the strong irritative ointments usually prescribed more often than not defeat their own ends by causing inflammatory swelling of the scalp, thus blocking up the hair follicles and effectually preventing the parasiticide from reaching the source of the disease. On the other hand I feel convinced that mild parasiticides, properly applied, do reach the source of the disease and kill the fungus.

Another and frequent source of failure in the treatment of ringworm of the scalp is, in my opinion, neglect of the general health. Nearly all the subjects of ringworm are below par as far as their general health is concerned, and many are extremely debilitated and anaemic and in a condition to fall an easy prey to any parasite. I always make it a rule, therefore, to endeavour to improve the general health by administering suitable medicines and using every means to keep up the nutrition. The rapidity with which the local condition improves when general is combined with local treatment is often surprising.

I cannot go into this matter more fully here, but hope very soon to publish a paper, on which I am at present engaged, giving a detailed description of the methods employed and cases treated.

London, W. E. HARDING FREELAND.

SPIRILLUM FEVER IN PALESTINE.

READING in the BRITISH MEDICAL JOURNAL for April 1st an account of cases of spirillum fever, it occurs to me that the following may be of interest, as I do not think such cases have been reported from this country.

The following is the second of two cases which I have seen during the last two months, while examining stained slides of malarial blood (by Leishman's method).

On June 15th, 1905, a boy of 15 came to me here complaining of very definite attacks of fever of a quartan type of twenty days' duration. So far I have rarely if ever found such a history fallacious, and I examined a fresh film of the blood with every expectation of verifying this history; finding no quartan parasites whatever, I stained a film in which I saw two well-stained spirilla. A fresh slide examined with the diaphragm almost closed revealed one spirillum in active movement after a long search. This was with ⅟₁₂ and No. 2 eyepiece. With a low ⅔ inch power I could find none. The temperature was 101° at the time, but the boy was not very ill. The blood also showed very numerous malarial parasites of the type described by me in the *Journal of Tropical Medicine* for May 1st, 1905.

The patient mentioned above had been living for some weeks at a place where the water supply is from very dirty cisterns; but otherwise he has not been out of the country.

Jerusalem. J. CROPPER, M.A., M.D., B.C.Camb.

REVIEWS.

TUBERCULOSIS.

FOR those who are unable to read Professor VON BEHRING'S important lecture, delivered at Cassel in September, 1904, in the original German, this translation, entitled *The Suppression of Tuberculosis*,[1] will be heartily welcomed. In this lecture Professor von Behring enunciated the principle which he believes he has discovered, that, as the translation expresses it, "the milk fed to infants is the chief cause of consumption." It will be gathered from this example that the translation leaves something to be desired by English readers in the choice of expressions, but, as the translator explains in the preface,

> In a subject of such controversial nature, it is essential to reproduce faithfully the exact meaning of the original; and this has been done, even though at times it may have led to awkwardness of expression.

Professor Behring's valuable work in the immunization of cattle from tuberculosis is referred to in this lecture, and he holds out the hope that we may find in the milk of immunized cows a means for the successful treatment of tuberculosis in the human subject. The theory of Professor von Behring as to tuberculosis in the adult being the result of infection in infancy may not be generally accepted, but observations and experiments by which he arrived at this conclusion are well worthy of careful study. In addition to the Cassel lecture, which is the chief article in this volume, there are two papers taken from *Beiträge zur Experimentellen Therapie*. These are respectively on Observations concerning the Study of Phthisiogenesis in Man and in Animals, and Suggestions concerning the Hygiene of Cow Stables. The volume is completed with

[1] *The Suppression of Tuberculosis.* By Professor E. von Behring. Authorized translation by Charles Bolduan, M.D. New York: John Wiley and Sons; and London: Chapman and Hall, Limited. 1904. (Cr. 8vo, pp. 91. 4s. 6d.)

a Synopsis for Protective Inoculation of Cattle in Agricultural Practice. The subject-matter of all these articles is so valuable and interesting that we are glad to have them brought within the reach of English readers, though the American expressions and mode of spelling add to the feeling of disappointment as to the literary merit of the translation.

The fifth part of Volume iii of *Beiträge zur Klinik der Tuberkulose* (Würzburg) contains an interesting article by Dr. Karl Mosherm on the chances of cure in pulmonary tuberculosis by spontaneous and operative pneumothorax. The article is based on a series of 50 cases of pneumothorax observed in the clinics of Heidelberg and Marburg. Of these cases 42 were tuberculous: complete recovery resulted in only 3 of them, but the author quotes the experience and statistics of numerous other observers to show that this is not an unusually small proportion. The conclusion which suggests itself is that collapse and consequent functional inactivity of the organ is not so potent a curative aid in the case of the lung as to justify the artificial production of pneumothorax as a means of cure in phthisis. On the other hand, spontaneous pneumothorax in pulmonary tuberculosis comprises other factors of importance. Spontaneous pneumothorax and therapeutically-produced pneumothorax are entirely distinct conditions as regards their prognostic significance. The subject is worked out by considering the effects of pneumothorax on the normal lung and on the circulatory system, and, in conclusion, the treatment of tuberculous pneumothorax by conservative and by operative measures is discussed. An article by Dr. C. Fischer, of Montana, on the diagnosis of cavities in pulmonary tuberculosis gives a description of the various physical signs by which cavities in the lung may be detected. There is also a case described by Dr. Eugen Pollak as one of nervous deafness in pulmonary tuberculosis. A girl of 20, who at 8 years of age had middle ear disease after scarlet fever, became affected with tuberculosis of the lung at 16 years of age. Three weeks after a severe attack of haemoptysis she became totally deaf in both ears, the deafness remaining complete up to her death a week later. Dr. Pollak bases his diagnosis of nervous deafness chiefly on the progressive advance of the hardness of hearing to complete deafness, the occurrence of the affection on both sides, and the absence of giddiness.

THE DISPOSAL OF THE WOUNDED IN WAR.

THE removal of the sick and wounded in war formed the theme of an essay for the Riberi prize of 1904. It was awarded to Drs. G. BREZZI and L. BERNARDO. This essay, now published in a volume,[2] consists of nine parts. Although there is a good deal of repetition, the whole presents a clear exposition of the duties of surgeons and bearers as well as of medical administration in war. The first part deals with wounds in war and first aid. The classification adopted is a useful guide to the disposal of the wounded, from the firing line to the sanitary sections and the field hospital. The authors recommend that wounded with broken thighs, abdominal wounds, and wounded heads and spines should be treated for the first few days, at least, as near as possible to the field of battle. All will agree that surgical interference on the field is to be deprecated, except in special cases. More especially does this apply to laparotomy, regarding which the authors refer to the recorded experiences of Treves, MacCormac, and Watson Cheyne.

The probable losses in action are next dealt with (Part II) from the point of view of collection and removal. Tables are given setting forth at a glance the numbers that may be expected to be wounded and the means necessary for their removal—the numbers, for example, who will walk and those who will require carriage to the dressing stations and field hospitals. The writers recognize that the losses vary immensely, but for a working basis an army of four or five army corps may be set down as losing 10 per cent. to 15 per cent.; an army corps, 20 per cent. to 25 per cent.; a division, 25 per cent. to 30 per cent.; a regiment, 40 per cent. to 60 per cent., under modern conditions. It is as well, in making estimates for sick carriage, to be prepared for a high casualty list. The whole of this part is a valuable contribution to military medical literature. The authors are fully alive to the prodigious labour thrown on the bearers during and after an action; their remarks indicate a practical experience of the subject such as has not always been shown by those who have been responsible for the distribution of *personnel* required on the field. The requirements of time and space are fully thought out, both for undulating and mountainous country. Parts III and IV are intimately connected with the same subject, and are equally well worth study. In describing the British Medical Service in the Boer war the authors appear to be under a mistaken idea that our field units are under an "administration"—that is, that they are handled by officers who do not belong to the Medical Service. It is said also that the field hospitals were divided into four sections; but this statement was correct at that time only for the Indian Field Hospitals. A tabular comparison is given of the means of transport allotted by the Italian, French, Austrian, and Prussian armies; these tables, though incomplete, are useful so far as they go, showing a wide divergence in the allowance made for sick transport in different countries.

In Part IV the writers point out that a knowledge of surgery is not the only essential for a good military medical officer, that he should be proficient in the tactical requirements of the game of war. The necessity for the close association of the directing medical officer with the commander is duly insisted on as being essential to a correct knowledge as to where and when to direct medical aid. This part is full of instructive details regarding medical administration in the field, while Part V, dealing with the executive arrangements during mobilization and during the continuance of operations, contains a lucid and just description of the requirements for evacuation along the lines of communication to the base. This portion of the work is especially valuable, setting forth as it does details which are liable to be disregarded in peace by those who will become responsible in war for the administration of medical arrangements behind the fighting line. The tendency has been to consider that the collection of wounded into field hospitals constitutes the principal function of medical aid in war, whereas the real crux of the position is the transference of the wounded towards the base.

The next Part (VI) enters into the various means of transport—by road, rail, and water. The portion devoted to transport by rail does not describe the hospital trains used by us during the South African war, but deals only with trains of the class we should call "improvised." Comparisons are made between French and Italian trains, neither of which comes up to our conception of what a hospital train should be—at any rate, for serious cases. The writers do not notice the latest developments in this direction now obtaining in civilized countries.

Parts VII and VIII deal with various means of transport in mountain warfare, of which the Italian army makes a special study. Part IX discusses the first field dressing. The authors are of opinion that this can only be of full value when applied by a medical officer with surgically clean hands. The first place behind the fighting line where this can be carried out is the sanitary section. We note that the authors are in favour of pushing up the field hospitals, and transporting the wounded direct from the field to these institutions, without passing through intermediate dressing stations, etc.—a view with which we are in entire agreement. With regard to the first field dressing, the sublimate of mercury is held to be the best antiseptic material, as being more stable and active than carbolic, and superior to iodoform, which the authors object to on account of its odour, its price, and its toxicity. They acknowledge that the sublimate undergoes change, but do not consider this change sufficient to destroy its efficacy. They recommend that dressings should be prepared of three sizes, so as to meet the requirements of all sizes of wounds, thus saving handling, with consequent loss of time, and perhaps loss of asepticity.

The book is clearly printed, though in some places there are irregularities in type. The misprints are few. Some sho , however, have been detected, such as Tougo for Tonga on p. 76; jhampas (twice) for jhampan on p. 183; Sud Africano instead of Sud Algerino on p. 239. But these do not affect the merit of the work, which we commend to the perusal of the student of medical administration in war.

GALL-STONE OPERATIONS.

On December 14th, 1904, Professor KEHR performed his one-thousandth operation for gall-stone disease. In honour of this occasion he has written for himself a *Festschrift*,[3] in which the experience gained in this series of cases is duly set

[2] *Lo Sgombero degli Ammalati e dei Feriti in Guerra.* Memoria dei Dottori Luigi Bernardo e Giuseppe Brezzi. Roma: Presso il Giornale Med. del R. Esercito. 1905. (Crown 8vo, pp. 280. L. 3.50.)

[3] *Die in meiner Klinik geübte Technik der Gallensteinoperationen mit einem Hinweis auf die Indikationen und die Dauerresultate.* [The Technique of Gall-stone Operations practised in my Clinic, with Remarks upon the Indications and Results of such Operations.] Von Prof. Dr. Hans Kehr. München: J. F. Lehmann. 1905. (Demy 8vo, pp. 395; 105 illustrations. M.16.)

forth. The work is divided into two sections. The first deals with the preparation for, and the circumstances of, a gall-stone operation, the technique of the various procedures, the after-treatment of patients who have been subjected to operation, and the immediate and late results to be expected. The second part contains detailed histories of 177 patients upon whom various operations for cholelithiasis and its many complications have been performed. The close study of these case-histories is warmly commended, as showing the complications that are likely to be met with in practice, and the most satisfactory methods of dealing with them. Allowances have to be made at the outset for Professor Kehr's style; it is of the declamatory sort, and the personal note in it is at times a little strident and irksome in its assertiveness. The work, however, is sound, and of great value in many respects, and even the most expert surgeon can learn something from a careful reading of it.

A very detailed statement is made as to the preparations necessary for all operations. Full particulars as to the preparation of the patient, the cleansing of the skin, and the sterilization of the hands are given in elaborate detail. This is most satisfactory. A mere statement that "all precautions were observed" is not enough, for the estimate of every surgeon as to what is absolutely necessary varies. Professor Kehr does not use gloves, but from the beginning of the cleansing of the hands forty minutes elapse "before the knife is taken in the hand."

A brief review is given of the anatomy of the bile passages, and short directions at to narcosis, assistants, and so forth, and a photograph is reproduced which shows Professor Kehr engaged in an operation.

The incision which is now used is described as a "wavy-incision." It begins over, or immediately below, the ensiform cartilage, runs vertically down in the middle line to the mid-point between the umbilicus and the xiphoid, then passes horizontally outwards across the rectus in its inner two-thirds, and finally passes vertically downwards along the fibres of the rectus. The importance of a free exposure and a most careful scrutiny of all parts of the bile passage is emphasized, and attention is drawn to the frequency of associated diseases in the stomach or appendix. The question as to the separation or otherwise of complex adhesions in serious cases is discussed, and sanction is given for non-interference in certain circumstances. As a rule adhesions are only separated when it is necessary to do so, to afford a free view of all parts of the bile tract, or when better access to the neck of the gall bladder or to the common duct is afforded thereby. The methods of preventing soiling of the wound and of the closure of the incision are then described.

A section is devoted to the discussion of the indications and contraindications of operation in cholelithiasis. These indications are more restricted than those accepted by many surgeons Riedel, for example. Kehr writes: We operate upon the cases where interference is absolutely necessary—that is, those with acute and chronic empyema of the gall bladder; those with frequently occurring attacks of chronic cholecystitis, which resist all treatment; those with jaundice and rigors due to common duct obstruction; with these the surgeon will have so large a field of work that he will cease to demand early operations." The majority of patients who seek Professor Kehr's advice are not submitted to operation. Thus in the year 1903, of 300 patients examined, 137 were treated surgically. The "uncomplicated" cases are, therefore, fewer than in the lists of many other surgeons. The tabulated list of the 1,000 cases is given as follows:

1. Conservative operations (cholecystostomy, cystendysis, cysticotomy), 275 cases with 5 deaths ...	1.8	per cent.
2. Cholecystectomy, 220 cases with 7 deaths ...	3.2	,,
3. Choledochotomy, 201 cases with 10 deaths ...	5	,,
4. Operations for gall stones with simple complications in the stomach, intestine, liver, or pancreas, 174 cases with 10 deaths	17	,,
5. Operations for gall stones with malignant complications, carcinoma of the liver, gall bladder or common duct, or diffuse suppurative cholangitis ...	85	,,

We doubt whether this method of tabulating cases is quite satisfactory. Suppose, for example, a patient is to be operated upon for a stone in the common duct, if the operation is simple, the mortality is 5 per cent.; if, however, there be found a diffuse cholangitis, the mortality is 85 per cent. Neither of these estimates conveys to the patient an accurate idea of the risks to which he is submitting. The 1,000 operations were performed upon 925 patients; there were 162 deaths. Kehr very properly says that "Most of the patients operated upon for gall stones do not die of the operation, but—in spite of the operation—of their disease, because this has assumed a very serious character, and because the patient—and, unfortunately, very often the surgeon—has consented too late to the operation."

One of the most interesting sections of this work consists in an analysis of the after-results in the last 500 cases. Of these the operation was so recently performed in 50 that no inquiry was made. In the remaining 450 cases a close inquiry was instituted, with, briefly, the following results: In 72 cases (16 per cent.) a fatal result followed while the patient was in hospital; in 21 cases death occurred after the patient left for home; most of the patients died of cancer. Stones were left behind in 9 cases (2.5 per cent.), in 5 cases consciously, the difficulties of the operation being such that a complete operation could not be performed. In only 1 case was a fistula left, a mucous fistula, caused by a stone remaining in the cystic duct. In 11 cases a hernia followed the operation, that is, in 3 per cent.; this was observed only in those cases in which an abundance of drainage had to be established through the wound on account of extensive suppuration, etc. In twelve cases colic occurred as the result of adhesions or inflammatory attacks. The results of operation were, therefore, perfectly satisfactory in 89 per cent. of cases. A genuine case of recurrence of gall stones has not occurred in Professor Kehr's practice. It is interesting to note that the same statement is made by Dr. Charles Mayo in his able report upon 1,000 operations performed by him and by his brother, Dr. W. J. Mayo, in the hospital at Rochester, Minn.

There are a vast number of points dealt with by Professor Kehr which space does not allow us to discuss. Even though we disagree upon some questions, we cannot do other than congratulate the author upon the production of this book, and thank him for the wealth of detail which he has given to us with regard to all his methods, and upon the ample records of typical examples which he has given us for our help and guidance.

LIVERPOOL SMALL-POX AND SMALL-POX HOSPITALS.

In the British Medical Journal of April 29th, p. 961, a short account was given of a report by Dr. Reece, of the Local Government Board, on the prevalence of small-pox in Liverpool in 1902 and 1903 and its relation to the small-pox hospital accommodation there. There has now been issued by the Port Sanitary and Hospitals Committee a report consisting of observations by Dr. Hope, the Medical Officer of Health for Liverpool, on Dr. Reece's report.

The main points of interest refer to the influence of the Liverpool hospitals on the spread of small-pox. It may be recollected that, in the course of the epidemic, small-pox cases were admitted to three hospitals—Priory Road Hospital, Park Hill Hospital, and Fazakerley Hospital.

Dr. Reece's conclusions were as follow:

1. Inhabited areas within a mile of each of the three Liverpool small-pox hospitals have suffered more severely from small-pox than the city as a whole.

2. Exceptional incidence of small-pox within these areas has corresponded in point of time with the use of these hospitals for the treatment of acute small-pox cases.

3. Broadly speaking, within these hospital areas the dwellings nearer to hospital have sustained a far heavier incidence of small-pox than those further away.

He added:

Looking to all the circumstances which have come under review, I am compelled to consider that the influence of these hospitals has been responsible in material degree for the considerable and sustained prevalence of small-pox in Liverpool in 1902-3.

Commenting on the hospital experiences, Dr. Hope points out that, with regard to Priory Road Hospital, "in the fifty-four weeks ending December 20th, 1902, upwards of 400 acute cases were treated, and, furthermore, that during that period not one single house within the quarter-mile radius was invaded." The number of houses within the quarter-mile area was eighty-five, and Dr. Hope states that they had a mixed population of nearly 500. "During the succeeding eight months only one house [in this area] was invaded, and this, it will be noted, at a time when the numbers sent to hospital were lessening. There was nothing to connect the hospital with that invasion."

Referring to Dr. Reece's conclusion that "the dwellings nearer to hospital have sustained a far heavier incidence of small pox than those further away," Dr. Hope urges that the

case of Priory Road "negatives the conclusion absolutely." As regards the other three zones within a mile of this hospital, and the excessive prevalence of small-pox in them, Dr. Hope writes: "The very large number of cases in which the infection was clearly traced furnishes a sufficient explanation for the incidence of small-pox within the other zones of this hospital, and there is therefore no occasion to theorize when the infection can be shown to have arisen in other ways."

Concerning Parkhill Hospital Dr. Hope begins by stating that in a period of about a year immediately preceding the use of this hospital for small-pox (practically speaking the year 1902), there were within the mile area surrounding it twelve[1] houses invaded by small-pox, namely, one in January, three in February, two in March, one in November, and four in January, 1903. One of these was within fifty yards of the hospital, other eight were between half and three-quarters of a mile distant, and two were between three-quarters of a mile and a mile away. Concerning the incidence of small-pox around the hospital after it came into use for small-pox, the total duration of such use was six months and a fortnight. The total houses within a quarter of a mile were 171, and of these 9 were invaded during the six months. Contrasting the 12 (or 11 ?) invasions of the mile area within the twelve months, with the 9 invasions of the quarter-mile area within the six months, Dr. Hope asks "what probability is there of these nine invasions having an origin analogous in character to the twelve which occurred in the vicinity before this hospital was used for small-pox at all?" and he states that "four of the nine patients had, it was known, been exposed to infection elsewhere."

Calculating from our article on Dr. Reece's report already mentioned, it appears that during the six months in which the hospital was in use for small-pox, the total number of houses invaded by that disease within the mile area was 241. Concerning the invasions in the outer zones, Dr. Hope writes: "In the same way, proceeding outwards from the quarter-mile zone to the wider ones, there is a very long series of instances of infection from person to person, a few of which, illustrative of the rest, are given in the appendix, those without the zones and those within the zones receiving or imparting infection in the same way. There are, besides, instances in which the patient's illness had been of so slight a kind that he had not sought any medical advice, but as soon as he felt able, had roamed about from place to place in the district in an infectious condition, until the fact of his having had small-pox came to light by the development of more serious illnesses in places he had frequented. He was then removed to hospital for disinfection of his clothing and person, or for such short detention as was deemed necessary."

Fazakerley Hospital area is next referred to. This is the only hospital which, it appears, received the approval of the Local Government Board for accommodation of small-pox, it being situated outside the city boundary and comparatively remote from urban population. It had only 9 houses within the quarter-mile zone, and 166 houses in the next zone. The hospital was in use from June 21st to November 7th, 1903, and only 2 of these 175 houses within half a mile of it were invaded by small-pox. Dr. Hope writes that "most of the few cases within the mile zone occurred at the time when the hospital was least used; there were fewest houses invaded when the hospital was at its fullest use." He says further: "According to Dr. Reece's table on p. 14 of his report, the house invasion within the quarter to half mile zone of the Fazakerley Hospital has been more than three times as great, relative to the city invasion, as it was in the quarter to half mile zone at Priory Road Hospital, while the half to three-quarter mile zone at Fazakerley shows a house invasion sixteen times as great, relative to the City invasion, as in the corresponding zone of the Priory Road Hospital, while in the three-quarter to one mile zone it is ten times as great."

The next part of the observations is entitled "The Circumstances of the Netherfield Road Hospital." This hospital was not used for small-pox at all during the epidemic, and was not referred to by Dr. Reece. From the map accompanying Dr. Hope's observations, it appears to be situated in the heart of Liverpool, in a densely-populated locality. At one time it was used for small-pox, but has not been so used for many years. Dr. Hope has, however, measured the several quarter-mile zones round it, and has calculated the house invasion by small-pox in each of these zones, with the following result:

Period of the Outbreak of Small-pox in the City.	Netherfield Road Hospital Area. House Invasion per 10,000 Houses, within:—				House Invasion per 10,000 Houses in rest of City of Liverpool including Small-pox Hospital Areas.
	1 Mile of the Hospital.	½-mile of the Hospital.	¼-mile of the Hospital	¼-mile of the Hospital	
December 8th, 1901, to November 9th, 1903, (23 months)	141.8	176.7	199.8	311.7	96.3

Concerning these figures he points out that "no hospital influence can explain the incidence of the disease in these zones," but holds that "there is no reason to doubt the conclusions which would have been drawn had small-pox been dealt with in that hospital," and adds that "the presence of small-pox in the neighbourhood of the Netherfield Road Hospital is, in a very large proportion of cases, clearly traceable to other sources which have been already defined and described in the Medical Officer's reports. It has also been proved in an equally large proportion of cases that the presence of small-pox in the vicinity of the small-pox hospitals had a similar origin, whilst there is no shadow of proof, but conjecture merely, to connect any of them with any other source of infection."

Dr. Hope's conclusions regarding Dr. Reece's report are partly as follow:

"3. The conclusions in the report are based altogether upon a limited aspect of the geographical distribution of the disease. No other aspect of the question has been taken into consideration. . . ."

"4. Spot maps, and tables compiled from them, are alone relied upon. The futility of basing conclusions upon spot maps and tables compiled from them alone, is illustrated by a comparison of the small-pox incidence in the Parkhill Hospital area with its incidence in the Netherfield Road Hospital area. The two cases are practically parallel so far as geographical incidence is concerned. The gradations in the incidence of the disease are remarkably similar, and as a basis of statistical argument, the case of Netherfield Road Hospital is a much stronger one than Parkhill, because the observations extend over a longer period, namely, twenty-three months as compared with six months, and relate to a considerably larger number of houses.

"5. But there is no reason to assume that Netherfield Road Hospital, which was not used for small-pox at all, could have been a source of small-pox infection to the neighbourhood. The presence there of small-pox was due to other causes—the same causes, in fact, which gave rise to it in the neighbourhood of Parkhill.

"6. In both cases the prevalence of small-pox was due to causes wholly unconnected with either hospital.

"7. Referring to Priory Road Hospital, the spot maps themselves lend no colour to the conclusion sought to be drawn from them. For more than an entire year the hospital was in full use, and the whole population within a quarter of a mile of it lived in entire security during that time."

Appended to the observations are notes of illustrative cases, maps, diagrams, etc.

For due consideration of the questions involved it is necessary to read Dr. Reece's report and Dr. Hope's observations together. We have endeavoured to limit this synopsis to those observations which bear on the parts of Dr. Reece's report noticed in our article of April 29th.

[1] Dr. Hope says twelve, but he indicates only eleven. He has perhaps counted one house within the quarter-mile zone twice over.

INTERNATIONAL CONGRESS ON LUNACY.—An International Congress on Assistance for the Insane will be held at Milan in September, 1906. Among the matters to be dealt with are the construction and organization of asylums, the no restraint system, solitary confinement, work and agricultural colonies, special arrangements for the weak-minded and epileptic, alcoholics, criminal lunatics, etc., boarding out and family colonies, psychiatric and neuropathological dispensaries; the treatment of incipient insanity; legislation; the powers and duties of the State; private initiative. The President of the Organising Committee is Professor Tamburini, who has just been chosen to succeed the late Professor Ezio Sciamanna in the Chair of Clinical Psychiatry in the University of Rome; the General Secretary is Professor Ferrari, whose address is Bertalia, Bologna, Italy.

MEDICAL NEWS.

The Committee of the Hospital for Sick Children, Great Ormond Street, has set aside an entire ward during the summer for children suffering from summer diarrhoea.

The first International Congress of Physical Therapy will, as already announced in the Journal, be held at Liège from August 12th to 15th. The Secretary of the English Committee is W. Deane Butler, M.R.C.S., Holyrood, Ealing, W.

The King has ordered that three wards in the Military Hospital at Millbank shall be named respectively "King Edward," "Queen Alexandra," and "Princess Victoria," in commemoration of their Majesties' inspection of the hospital on July 1st.

The amounts received at the Mansion House up to the morning of July 20th for the benefit of the Metropolitan Hospital Sunday Fund had reached £58,000. With the addition, therefore, of 25 per cent. by Mr. George Herring the total this year seems likely to exceed at least £75,000.

At a meeting on July 17th of the executive committee of the National Committee for the Establishment of Sanatoriums for Workers suffering from Tuberculosis it was stated that, as the result of the meeting held at Chelsea House in June, the sum in hand had been brought up to £5,500, and that this would be sufficient to secure at Benenden in Kent a site of 250 acres. It was also resolved to hold a meeting of representatives of Friendly, trades, and other Societies in November and to send circulars to the mayors of provincial towns asking them to co-operate with the Society.

Two theoretical and practical courses in medical and surgical diseases in infancy and childhood will be held at the Hôpital des Enfants-Malades, Paris, during August and September, under the direction of M H. Méry, Professeur-Agrégé. The first course will extend from August 1st to August 20th, and the second from August 20th to September 5th, and either or both may be attended. The lectures will be given on each day at 10 a.m. and 5 p.m. The first course will be concerned more particularly with medical subjects, the second with surgery, neurology, dermatology, ophthalmology, and diseases of the throat, nose, and ear.

The new Maternity Department of the London Hospital was formally opened on July 17th by the Dowager Duchess of Westminster. There is accommodation for ten patients, who are distributed in four small wards. One of these is an isolation room and contains one bed only; the rest have three beds each. They all open on to a balcony sufficiently broad for the beds to be wheeled out on to it when desired. Annexed to the wards is a well-arranged delivery room fitted up like an ordinary theatre. Above the wards there is accommodation for twelve pupil midwives and for the three midwives who will be in charge of the department, and who will visit cases in the district with their pupils during the three months' course. The wards have been named "Marie Celeste," in memory of the wife of Mr. James Hora, who originally gave £10,000 for their endowment, and has since added a further £1,000. They are situated in the Alexandra wing of the hospital and approached by a separate corridor.

A quarterly court of the Directors of the Society for the Relief of Widows and Orphans of Medical Men was held on July 12th. Mr. Christopher Heath, President, in the chair. Twelve directors were present. It was reported that one death and one resignation had occurred among the members since the last court. Three new members were elected. The death of a widow was reported who had been an annuitant of the Society since 1886, and had received in grants the sum of £1,063 5s; her husband had paid £52 10s. in subscriptions. An application for relief had been received from a widow of a deceased member, and a grant at the rate of £50 per annum was voted. Fifty-three widows and 16 orphans are now in receipt of relief, the total sum for the half-yearly grants being £1,324. The Secretary reported that during the past three months fifteen letters had been received from widows of medical men soliciting grants, and relief had to be refused in every case, owing to the fact that their late husbands had not been members of the Society. Mr. Edward J. Blackett was re-elected Secretary.

The members of the Society of Chemical Industry, which held a meeting in London during the second week in July, and were the guests of Messrs. Burroughs, Wellcome, and Co. at a fête held at the Wellcome Club and Institute, Dartford, Kent, on July 15th, commemorating a quarter of a century's work of the firm of Burroughs, Wellcome, and Co. The visitors proceeded to Dartford by a special train leaving Charing Cross at 11.10 a.m., and immediately on arrival at Dartford a display was given by the firemen of the firm. Aquatic sports was the next item on the programme. The visitors then inspected the Wellcome Club and Institute, which provides for the recreation of the 1,500 employés of the firm. Luncheon was served to over 2,000 persons in one large tent, and in the course of the speeches which followed it could be easily recognized that the most cordial relations existed between the firm and its employés. After lunch came athletic sports followed by a maypole dance. Next came a squad of girls who performed intricate military movements; after these had received a well-merited round of applause, sabre-drill exhibitions and tug-of-war contests, with more athletic sports, filled in the time till dinner, which was served in a beautifully-decorated tent pitched in an orchard. After dinner there was a concert on the lawn, and the guests were treated to a display of fireworks, one of the special devices being entitled the "Fiery Baptism of the New Benzene Ring."

Pasteur Institute in the Straits Settlements.—Owing to the occurrence of several cases of hydrophobia in Penang, four of which have already ended in death, Leong Fee, the Chinese Consul, has made an offer to the Government to build and equip a Pasteur Institute for the Straits Settlements and the neighbouring regions.

Scandinavian Congress on the Protection of Infancy.—The first Scandinavian Congress of those interested in the protection of infants will be held at Copenhagen from August 4th to 7th. Questions relating to education and to measures for the prevention of disease in children, and to their protection from physical and moral evil, will be discussed.

Bequests to Medical Charities.—The Rev. Wentworth Beaumont Hankey of Chester Terrace, Eaton Square, whose death occurred on June 16th, left £280 to St. Thomas's Hospital; and £100 each to the Consumption Hospital, Brompton; the London Hospital; St. Mark's Hospital, City Road; and the Victoria Hospital for Children, Chelsea.

International Surgical Congress.—It has already been announced in the Journal that the Congress of the International Society of Surgery will hold its first meeting this year at Brussels, under the patronage of His Majesty Leopold II, King of the Belgians. The Congress will be in session from Monday, September 18th to the following Saturday inclusive, under the presidency of Theodor Kocher, M.D., Professor of Surgery in the University of Berne. The morning of each day will be arranged for visits to hospitals and clinics, and for the presentation and examination of patients, and for other matters of interest connected with the Congress as well as the City of Brussels. The afternoons will, as far as possible, be reserved for the consideration of the subjects selected for discussion. These are as follows: (1) The value of the examination of the blood in surgery; (2) the treatment of prostatic hypertrophy; (3) surgical intervention in non-cancerous diseases of the stomach; (4) treatment of articular tuberculosis; (5) the treatment of peritonitis; (6) the diagnosis of surgical diseases of the kidney. Other communications of a practical nature (of which due notice should be given, as well as the time they will occupy) including the presentation of patients, specimens, and surgical instruments and appliances may be made. The official languages of the Congress are English, French, German, and Italian. There will be a secretary for each language at the Congress. Members of the Society pay an annual subscription of 12s. The Congress will meet every three years in a town selected at a general meeting. Messrs. Thos. Cook and Son, Ludgate Circus, E.C., have been asked to make suitable arrangements for the convenience of members of the profession going to Brussels from Great Britain. Facilities for including a visit to the Liége Exhibition may be included in these arrangements. All information in regard to travelling may be obtained from Messrs. Cook. Inquiries about hotel and lodging accommodation should be addressed to the Secretary-General, Dr. Depage, 75, Avenue Louise, Brussels. Further information can be obtained from Dr. Depage or from Mr. Reginald Harrison, 6, Lower Berkeley Street, W., delegate for Great Britain.

British Medical Journal.

SATURDAY, JULY 22ND, 1905.

THE CONTRACT PRACTICE REPORT.

THE report on contract practice to be presented to the Annual Representative Meeting by the Medico-Political Committee is published this week as a special SUPPLEMENT. It is a very voluminous document, but the kernel of it is to be found in Chapter 17, page 28, which contains the conclusions and recommendations of the Committee.

The Annual Representative Meeting in 1903 instructed the Committee to investigate the economic conditions of contract practice as carried on in various ways in this country, and as a first step in this investigation the Committee issued three sets of questions dealing respectively with individual, family, and private clubs. The forms of inquiry were circulated to about 12,000 practitioners, and over 1,500 replies had been received down to June 2nd, 1905. Other sources of information upon which the Committee has drawn have been reports of various local medical societies, including the Divisions and Branches of the Association, the opinions of the Divisions in reference to the six propositions submitted to the Annual Representative Meeting at Oxford, and information collected by the Medical Secretary in the course of his work. The Committee has also studied the history of the results of action taken by the medical profession in various districts for the reform of contract practice and has had the advantage of a report by the Ethical Committee on the ethical aspects of contract practice. Parts II and III of the report consist of an analysis of the information received as to the present conditions of contract practice and as to its various forms, while in Part IV the effects on the profession, the history of past efforts at reform, and the nature of the reforms required are discussed at some length. One of the appendices contains a tabular analysis of the provisions contained in the rules of organizations, including Friendly Societies, benefit societies, provident dispensaries and private clubs, which affect the medical profession, while in another appendix extracts from communications received from individual practitioners expressing their opinions on the questions at issue are printed.

The recommendations of the Committee would, if carried loyally into effect, undoubtedly put an end to the worst abuses which exist under the present system. It recommends first of all that the conditions upon which medical practitioners in any district should undertake contract practice should be prescribed by arrangement among themselves. This is indeed the fundamental principle which underlies all the other recommendations. As the most effective means of carrying it out, the Committee recommends the establishment in every district of a public medical service, the general control of which should be in the hands of an organized local body representative of the profession, such as a Division of the British Medical Association. Two corollaries follow: one is that the medical committee by which the control should be exercised must contain representatives both of those who do and those who do not take part in contract work; and, secondly, it must be open to every practitioner in the district to take part in the work of the public medical service should he desire to do so, and should he be willing to conform to the regulations established by the profession. This, then, is the ideal at which, in the opinion of the Committee the profession should aim, but recognizing that it may not be possible of immediate attainment, the Committee go on to lay down certain main principles which should be carried into effect at once in those districts in which the local medical profession consider that the immediate institution of a public medical service is impracticable. These conditions are that the medical practitioners of such districts should enter into an agreement as to the rates of remuneration for and the conditions of admission of persons to attendance on contract terms, the definition of the services to be rendered under the contract, and the form of the contract, including the tenure of office, and lastly, the representation of the medical profession in the management of any contract practice organization. It follows from these conditions that practitioners should cease to hold separate appointments or to carry on private clubs, and that the principle of distribution of contract medical practice among all practitioners in a district willing to participate should be carried out. Further, it is recommended that local agreement among members of the profession should be brought about through organized local bodies representative of the profession, and preferably through the Divisions of the British Medical Association.

The Committee also makes suggestions with regard to the principles which should be observed in the constitution and management of provident dispensaries, and as to the fundamental principles affecting the relations of public medical services to the medical profession.

The report has involved an enormous amount of labour on the part of the Medical Secretary and his assistants, but it will be a mine of information in the future, as all the facts have, we believe, been gathered at first hand. Among the items of business which the Representative Meeting will have to discuss next week it will be one of the most practically important. To many of those who have watched the development of the agitation with regard to contract practice it will be a matter of satisfaction to find that the Committee, as the main result of its inquiries and investigations extending over a period of two years, arrives at the conclusion that the first principle must be that the medical profession should itself prescribe the rules and conditions under which it will enter into agreements to give medical attendance by contract.

FRANCE AND LEGISLATION FOR DISEASES OF OCCUPATION.

M. DUBIEF, the French Minister of Commerce who is a member of the medical profession, has, as already stated, introduced into the Chamber of Deputies a Bill relating to diseases of occupation. Since 1888 several organized attempts have been made to assimilate for compensation purposes certain industrial diseases and accidents. Although in France so far nothing has been accomplished from a legislative point of view, yet considerable interest has been awakened, and there has been an education not only of members of Parliament upon the subject, but of the people generally.

Previous Bills have usually attempted too much. That of M. Vaillant in 1901, for example, pleaded for the assimilation of tuberculosis to accident, but M. Dubief's Bill is simpler in many respects, and is more or less tentative in character. Hitherto in France, as in Britain, the attempts made by legislators to place diseases of occupation and accidents occurring at work upon the same footing have been unsuccessful, owing to the fact that it is often extremely difficult to trace industrial diseases to their original source except in their most acute forms. What knowledge, for example, can medical men have of the health of workpeople previous to the period during which, when following their occupation, they were exposed to particular risks? In France, as at home, during recent years, divergent legal decisions have been given as to what constitutes an accident. Among other questions discussed have been how far traumatism can be held responsible for the manifestation of syphilis previously latent, and whether employers are liable to their workpeople for syphilitic infection occurring through work? At Monterison, in 1903, compensation was awarded to a glass-blower who had become the subject of syphilis through his occupation, the judge holding that the instrument with which the man followed his occupation had been the agent by which the disease had been conveyed. In France, as in England, there has been no difficulty in regarding anthrax in its acute form as an accident, and in compensating it. In Germany, where workmen's assurance is compulsory, and is carried out on an extensive scale, legislation makes no difference between diseases of occupation and those arising in the ordinary way. Similar conditions exist in Belgium and Italy. Switzerland has to some extent solved the problem theoretically. The Federal Council has the power to name certain occupations that are known to give rise to disease, and for which compensation may be awarded, but the Council has never exercised this authority. It has satisfied itself by printing a list of harmful substances. It has recognized that medical men must frequently find it difficult to make a diagnosis of industrial disease, and to exclude all reference to hereditary influences, as well as the previous health of affected workmen.

In France the assimilation of diseases of occupation to accident will have consequences other than are at first sight apparent. If industrial diseases are to be compensated, there will naturally be some difficulty in dividing the responsibility between the owners of various factories wherein an afflicted person has worked. We all know how insidious lead poisoning is in its development, how slow it may be in its progress, and that when a person has recovered from plumbism he is more predisposed to a recurrence of it than previously, and yet he may have returned to his old occupation and suffered in consequence. During the evolution of saturnism the individual may have worked in several lead factories. Can any medical man say in which factory the particular illness began, and which of the owners is to be held responsible? To overcome this difficulty the Commission of Industrial Hygiene some time ago suggested the introduction of health notebooks for the workpeople, and of registers in the factories, wherein should be inscribed each illness suffered from, so that at any time the past history of a workman could be read at a glance. There is much that is inconvenient in this system, and it is hardly likely that the working classes would readily acquiesce in it. The Insurance Committee has suggested the grouping of industries that closely resemble each other, and making a compulsory claim upon them for all diseases that throw a person out of work for less than a month, no distinction being made between ordinary illnesses and industrial diseases so far as compensation is concerned. That would make the responsibility of employers, as regards diseases of occupation, collective and not personal. The responsibility should be covered by a scheme of compulsory insurance organized by the groups of industries which should be centralized for this purpose, the supervision and payment of small indemnities being carried out by local committees. The Consultation Committee is in favour of making the experiment of legislating for two forms of industrial disease—lead and mercury poisoning. Upon the guarantee syndicates—the outcome of the grouping of industries—would be imposed the duty of allocating the liabilities of its members, of compensating workmen for serious diseases arising out of their occupation, of settling the claims of relatives of deceased workmen, and the payment for incapacity of all kinds when the illness has lasted more than thirty days. Compensation for serious industrial disease, if clearly the result of occupation in his factory, would fall entirely upon the employer. It is considered advisable that temporary incapacity of thirty days or more should be compensated at once, so as to obviate all future legal squabbling as to whether the illness is or is not the result of having followed a particular occupation.

The Bill consists of forty-seven clauses arranged under five headings. Should this legislation, which, after all, is more or less of an experiment, turn out to be a success, then, in addition to industrial lead and mercury poisoning, other diseases of occupation will be subsequently included. One of the most important points in the Bill is that whether the incapacity is limited to less than thirty days or longer, compensation is to be given for all illnesses without distinction. Towards ordinary illness the workpeople are themselves to contribute their quota. Free medical attendance is to be provided, and medicines paid for out of the fund. For incapacity through illness, no matter what its cause (alcoholism and abuse probably excluded), workpeople may be paid up to the end of one month; after that the payments cease, unless there is no doubt of the illness being the result of occupation; if there be no doubt, then one-half of the wages shall still continue to be paid until recovery or the claim for permanent incapacity is settled. Foreign workmen are to receive practically the same privileges as French. The organization and working of the various Committees and local Friendly Societies are fully dealt with in the Bill, as also the formation of arbitration courts, and the penalties that may be exacted for breach of the provisions of the Act. Early notification of the illness, accompanied by a medical certificate, is required.

M. Dubief's Bill is of importance from an industrial and social point of view. It is fraught with consequences that are far-reaching object lessons, in fact, which Great Britain must watch, since in our own country during the recent discussion upon the Workmen's Compensation Act in the House of Commons the opinion was on several occasions expressed that several industrial diseases ought to be placed upon the same footing as accidents.

At the instance of the Atlantic Union some 150 Canadian and American visitors were enabled to examine the Museum of the Royal College of Surgeons on July 11th. In the unavoidable absence of the President the visitors were received by the Vice-Presidents of the College, Mr. Mayo Robson and Mr. Butlin, and were conducted round the building by the officials of the College.

THE RECENT VOLUNTEER CIRCULAR.

The War Office Circular issued on June 20th to commanding officers of Volunteer corps, directing them to have the men under their command medically examined, is of especial interest to Volunteer Medical Officers. By this circular officers commanding Volunteer corps are to "issue instructions to the Medical Officers of their units to report upon the general physical standard of the men under their charge," with a view to ascertaining their fitness for active service abroad. The qualifications are detailed in a special paragraph of the circular. To remove certain misapprehensions as to the objects of the circular, which apparently arose from some want of clearness in the wording, the Army Council thought it desirable to reissue the circular, on July 11th, in an amended form, "which it is believed will remove all ambiguity." Even in the amended form we do not think that the circular is a model of clearness of expression; but it is with the practical bearing of the matter and not with its qualities as an example of English composition that we are concerned. The Volunteer Medical Officer is to report upon the "general physical standard of the men" under his charge, and to arrive at this he is to test the physical condition of each individual. Roughly speaking this entails upon each Regimental Medical Officer the examination of 200 men. Every man on being enrolled as a Volunteer is supposed to be medically examined, so that there should be in the regimental records particulars of the physical fitness of each man at the time of enrolment. That every man in the Volunteer Force is now to be examined suggests either that the authorities are not satisfied that this medical examination of recruits has been carried out, or that they desire to know that the men retain their physical fitness. Both these suppositions are worth a little consideration.

The medical examination of recruits is most important, and even for Volunteer recruits it is essential that no man should be accepted who is not physically fit for the duties for which he is enrolled. The high standard necessary for the Regular soldier is not essential in the Volunteer, for the latter is enrolled for service "in Great Britain, for the defence of the same," not for continuous service in any part of the world during his army engagement. A campaign in this country against an invader is not likely to be a long one, and if it should become prolonged, even the weaklings may have to take their places in the ranks. Still some medical examination of recruits is required, and the Volunteer Medical Officer is obviously the proper man to conduct this examination. If such examination is not made, as required by the regulations, it is evident that some medical officers have been unable to find time to examine the recruits; and it is hardly likely, therefore, that these officers will be able to give the further time necessary for the examination of the whole battalion. If there be corps in which the examination of recruits has not been properly carried out, it is fair to assume that there will be at least equal difficulty in carrying out the instructions contained in this circular.

The second supposition implies that the War Office requires to know how far the men serving in Volunteer corps retain their physical fitness for service. This is, of course, as important as that they should be fit on enrolment. To know how many men can be relied upon in an emergency is presumably one of the elementary duties of the War Office, and periodical returns of the fitness of the men in the services are therefore essential. To keep the information up to date necessitates periodical inspection, and the information asked for in this circular will be as necessary next year as this.

A yearly medical examination of all men serving in the Volunteer Force may therefore be required, and this would entail a considerable increase in the duties which the Volunteer Regimental Medical Officer is expected to perform.

It is obvious, then, on consideration, that the recent circular may have far-reaching effects on the medical service of the Volunteer Force, and it seems evident that in framing the circular this aspect of the matter has not been fully taken into consideration. Medical men are, as a body, as patriotic as the generality of Britons, and as willing to give up their time and abilities to the service of the country. Many Volunteer Medical Officers, however, are very hard-worked civil practitioners, and are, from the nature of their calling, unable to ensure regular attendance at head quarters or on parade. The medical examination of every man in the regiment presents, therefore, great difficulties; if this is likely to be required every year, it will make it almost impossible for a busy practitioner to undertake the duties of a Volunteer Medical Officer.

We are in entire sympathy with the wish of the Army Council to ensure that every man in the military forces of the country is physically fit for his duties, and fully realize the necessity that the War Office should know the number of those serving who can at any time be relied upon for active service. The Volunteers are not, however, on the same footing as the Regular Army, and the standard of physical fitness for the Volunteer is not the same as that required for the Regular soldier. It is happily true that a large proportion of Volunteers is always willing to join the Regular Army for active service abroad in an emergency, and for such service only those who reach a high standard of physical fitness could be accepted. It seems, however, unnecessary to call upon Medical Officers of Volunteers to specially examine every Volunteer as required in this circular, though no doubt each Volunteer Medical Officer will endeavour to carry out the instructions, and at whatever inconvenience to himself will make the examination required. The circular again exemplifies the want of appreciation by the military authorities of the fact that the Volunteer has civil duties which in times of peace must of necessity take precedence of his military duties. If the number of Volunteers willing to go on active service when required were first to be ascertained, the medical examination of this smaller number could be arranged for without any undue tax on Volunteer Medical Officers, such as must be caused by an examination of every man in the force.

THE ANNUAL MEETING AT LEICESTER.

The Great Central Railway will run a special breakfast train from Marylebone to Leicester on the mornings of Wednesday, July 26th, Thursday, July 27th, and Friday, July 28th. The train will leave Marylebone Station at 7.45, and will arrive in Leicester at 9.40, in time for the meetings of the Sections on those days. The company has also arranged, in addition to the ordinary service, to run a special express return train on the same days, leaving Leicester at 4 p.m., and arriving in London at 5.59 p.m. At the garden party, to be given by the President and members of the Leicester Medical Society in the grounds of the County Asylum, on Thursday, July 27th, it is proposed to play a cricket match, the teams being England v.

The Rest. Members desiring to take part in the match are requested to communicate with Dr. F. Bolton Carter, 99, London Road, Leicester.

A GUIDE TO LEICESTER.

It is as typical, perhaps, of very busy towns as of very busy people that they should think little of the impression which they make and rarely anticipate in anything but essentials the needs of those who seek them. Hence it may be that Leicester, which has been busily occupied in doubling and trebling itself during the past fifty years, has not had time to regard itself as a "society" town or provide its visitors with a written account of its history, past and present, and of its existing enterprises and features of interest. The hiatus, however, has now been filled by the publication of a *Guide to Leicester and Neighbourhood*, by G. Clarke Nuttall, B.Sc., and exceedingly well filled it is. There are certain qualities which every guide-book ought to possess. Thus, it should be sufficiently compact for handy use and easy carriage in the pocket, be printed in sufficiently bold type to be easily read in the street, have a reasonable margin for notes, a good index, and a general outline map which can be scanned at a glance without unfolding. There are few guide-books which combine these various features, but that to which we draw attention is one of them. Furthermore, the book is provided with a large number of photographic prints, which will make a recognition of the principal buildings instantaneous, while it is written in such scholarly style throughout that it is readable for itself even by one who may have no special interest in acquiring the information contained. The publication of the work, it may be noted, happily synchronizes with the eve of the visit of the British Medical Association to Leicester. This, however, is one of those apparent coincidences which never really happen except in novels. Hitherto we have considered the work simply as an ordinary guide-book, but it really has a special interest for the readers of the British Medical Journal. It has been produced, in short, under the auspices of the Local Executive Committee of the British Medical Association in anticipation of the forthcoming meeting, and many members of the profession in Leicester have played some part in its production. Thus, the author of the text is the wife of a local medical man; Dr. Pratt, chairman of the Printing and Publication Committee, is responsible for its general arrangement; photographs have been supplied by Dr. Stewart; Dr. Carter has revised the proof sheets; and Dr. Bennett, and Messrs. W. Bell, Frank Bouskell, Montague Browne, and Horwood have supplied science notes on the surrounding country. The production of the book was a bold conception, which has been excellently carried out. The Local Executive has, we understand, resolved most generously to present a copy to every member attending the annual meeting next week.

RED CROSS ORGANIZATIONS.

On July 17th a further step was taken towards the federation of societies in this country concerned in Red Cross work. Just before the South African war broke out Lord Lansdowne, then War Minister, formed a central British Red Cross Council, comprising representatives of the War Office, the National Society in Aid of the Sick and Wounded in War, founded by Lord Wantage in 1870, the St. John Ambulance Association, the St. Andrew's Ambulance Association, and the Army Nursing Service Reserve. This Council, though incompletely organized at the moment the war broke out, did good work, and its Honorary President at the present time is the Queen. Last Monday, at Buckingham Palace, Her Majesty presided over the first meeting of a Council in which all Red Cross organizations are to be federated. The Chairman of the Council is Lord Rothschild, and among the members are Earl Roberts, Lord Curzon, Viscount Milner, Lord Grenfell, Sir William Butler, Sir Frederick Treves, Bart., Mr. Bowlby, C.M.G., Mr. Makins, C.B., Dr. Beatson, C.B. (Glasgow), and several ladies, including Princess Christian, the Duchess of Montrose, Lady Fisher, and Miss McCaul. The National Aid Society possesses a small capital sum, the interest of which it is estimated will more than suffice for the wants of the organization during peace. The Council determined to appoint an executive committee after the vacation and nominated Mr. Yokes, who has been for many years the secretary of the National Aid Society, to be secretary of the new body.

PROPOSED CONFEDERATION OF LONDON MEDICAL SOCIETIES.

At a meeting of representatives of London medical societies held on July 19th, a report was presented by the Committee appointed at the meeting at the Royal College of Physicians on April 10th, 1905. The report stated that a firm of chartered accountants had on the Committee's instructions investigated the rolls of membership and the accounts of the following societies: Medical, Royal Medical and Chirurgical, Pathological, Clinical, Obstetrical, Gynaecological, Neurological, Epidemiological, Medico-Psychological, Ophthalmological, Laryngological, Laryngological-Otological-Rhinological Association, Otological, Dermatological of London, Dermatological of Great Britain and Ireland, Society for the Study of Diseases of Children, Odontological, Association of Medical Officers of Insurance Companies, Balneological, Society of Anaesthetists, Electro-Therapeutic and Therapeutic. The accountants reported that these twenty-two societies had a total membership of 7,229, constituted by 4,997 persons; of these, 3,725 were members of one society only, and the remainder—1,272—were members of more than one society. The accountants, upon the figures placed before them by the societies, further reported that the balance of assets (including certain bequests and trust funds) over liabilities of the societies was more than £40,000. The accountants pointed out that if 3,800 members of societies other than the Royal Medical and Chirurgical Society became members at a subscription of £1 1s. per annum, the new society would have a small balance of income over expenditure. If any members of these societies became Fellows at a subscription of £3 3s. per annum, the balance would be proportionately increased. This estimate was based on the present income and expenditure of the Royal Medical and Chirurgical Society, together with the present income and expenditure of seventeen other societies, and made no allowance for an economy which might be effected by the union. The Committee expressed the opinion that in view of the fact that 3,525 persons already pay an annual subscription of one guinea to eighteen societies, that 1,272 pay from £2 2s. upwards, and that under the proposed scheme many who are not Fellows of the Royal Medical and Chirurgical Society would probably become Fellows of the new society at an annual subscription of £3 3s., the new Society would have a sufficient balance of income over expenditure to provide for improvements and for a sinking fund. The Committee suggests that every member of an existing society should have the option of joining the new Society without entrance fee, and of retaining as far as possible the privileges he at present enjoys. The name of the new Society it is suggested should be either the Royal Society of Medicine or the Royal Academy of Medicine. It is further suggested that the Society should at first comprise the following sixteen sections:—(1) Anaesthetic; (2) Clinical; (3) Dermatological; (4) Diseases of Children; (5) Epidemiological; (6) Laryngological, Otological, and Rhinological; (7) Medical; (8) Mental Medicine (Psychiatry); (9) Neurological; (10) Obstetrical and Gynaecological; (11) Odontological; (12) Ophthalmological; (13) Pathological; (14) State Medicine; (15) Surgical; (16) Therapeutical, including General Therapeutics, Pharmacology, Electro Therapeutics, Balneology, and Climatology. The hope is expressed that in the early future an anatomical and physiological section may be formed. With regard to fees the report suggested that a Fellow should pay an annual subscription of £3 3s., and that Fellows elected after the Society is constituted should pay an entrance fee of £2 2s.; a member belonging to a single section would pay £1 1s. a year, but would have the right of belonging to an additional section for an additional

annual subscription of half a guinea, and to the use of the library for a further subscription of £1 1s. It is suggested that the general management of the Society should be under the control of a general council, but that each section should have the power to elect members, subject to the previous approval of the names by the council of the Society. In framing the estimates provision has been made for the publication during nine months of the year of the *Proceedings* of the Society under an editorial committee. This committee would select papers which should be published also in the *Transactions* of the Society. The report was adopted with certain minor alterations and additions.

POOR-LAW SUPERANNUATION.

OUR attention has been called to a case which may prove to be of considerable importance to all Poor-law medical officers. A district Poor-law medical officer has been superseded six months previous to date at which pension would have become payable. It appears that he had been district medical officer in a provincial union for twenty-three years, but was non-resident up to Christmas last, when he became a resident. In consequence of previous non-residence he had in February last to face a further election, but was then superseded by another practitioner who had been residing in the district for about fifteen months. The medical officer thus displaced will be 65 years of age next August. He has applied to the guardians for a gratuity or pension on loss of office from causes beyond his own control, but the guardians have refused his appeal. The case is a very hard one, for we are not sure that he can claim either gratuity or pension. We should, however, strongly recommend him, before applying to the guardians for a return of his contributions to the superannuation fund, or before accepting such, if offered, to send a full statement of his case to the Medical Secretary of the British Medical Association (429, Strand, W.C.), when it will, we have no doubt, be considered by the Medico-Political Committee. We should recommend him to send a copy of his statement to the Poor-law Medical Officers' Association (9, Copthall Avenue, London Wall, E.C.). The Council of this body will doubtless be ready to give him every assistance.

THE ORGANIZATION OF A NURSING SCHOOL.

THE rules and regulations relating to the nursing staff of any large hospital are matters of more than local interest, and as these have lately been under revision by the Board of the General Infirmary at Leeds it may be well here briefly to describe the constitution of its nursing staff and the conditions under which probationers are engaged for training at this hospital. The responsible head is Miss Fisher, the Lady Superintendent, who has under her an assistant superintendent who acts as matron of the nurses' home and also as deputy in Miss Fisher's absence. There are 16 sisters, 1 of whom is in charge of the Ida and Robert Arthington Semi-convalescent Hospitals at Cookridge, and 1 is night sister at the infirmary. Each large ward or its equivalent of smaller wards has a sister in charge, and other sisters act respectively as out-patient and casualty sister and operation-theatre sister. The sisters' posts are filled up as vacancies arise from among those who have undergone the full course of training at the hospital. Candidates for the posts of probationer nurses are interviewed in the first instance by the lady superintendent, and are appointed by the Board on her recommendation. The number of suitable applicants has always been in excess of the vacancies. The age limit is from 21 to 30, and most of the nurses begin duty between the ages of 22 and 25. They are appointed in the first instance for a month, and if at the end of this time they are found to be physically suitable and likely to make good nurses, they sign for four years' training. The total number of nurses, apart from sisters, attached to the infirmary is 85, and of these 7 are on duty at the semi-convalescent hospitals. The first alteration in the rules recently made by the Board lies in the length of the period of training. This was formerly three years, but with the growth of medical and surgical science, and with the development of special departments and special methods of treatment, such as the use of the *x* rays and the Finsen lamp, there has arisen the opportunity for a wider and more varied training in all the branches of nursing than was formerly possible. The Board, therefore, decided to lengthen the period of training to four years, with the double object of enabling the nurses to avail themselves fully of the increased opportunities of gaining experience, and of definitely securing to the hospital the services of each nurse for a longer period than formerly. At the same time it was decided to lengthen the annual holiday and to increase the salary for the fourth year. The nurses are paid from the time they enter into the services of the infirmary, and the salaries for the four years are respectively £10, £14, £18, and £25. The sisters are paid at the rates of £30 for their first year, £35 for their second year, and £40 for their third and for any subsequent years. The post of assistant superintendent has lately been filled by promotion of one of the sisters, and the present lady superintendent, who formerly held the position of assistant, was promoted on the resignation of the late Miss Gordon. The sisters and nurses have an annual holiday of three weeks; they are also given one full day a month off duty, and the sisters may allow these to accumulate and be utilized as a second holiday at some time other than their regular holiday of three weeks. Judging from the many important posts of matron and sister held by Leeds trained nurses througout the kingdom it would appear that the certificate given by the infirmary is held in high repute. The nurses have, indeed, great opportunities of getting a wide and varied experience of all branches of medical and surgical nursing in the wards, operating theatres, and out-patient departments. During the first two years they attend short courses of lectures by the assistant superintendent and by the senior resident medical officers. These comprise elementary lectures on anatomy, physiology and hygiene, medicine, surgery, including ophthalmic and aural surgery, and a course of practical demonstrations on nursing. Examinations are held at stated intervals and a high standard of knowledge is insisted on.

HYGIENIC BARBERY.

AT a meeting of the City Corporation held on July 6th the Sanitary Committee presented the report of the Medical Officer of Health as to the conditions under which the business of hairdressing should be conducted, and recommended that the Corporation should adopt his suggestions as to granting voluntary certificates to barbers whose premises are kept in a good sanitary condition. Since attention was called to the matter in December last, a large number of barbers have adopted either in whole or in part the regulations and recommendations approved by the Corporation. It was then arranged with the Incorporated Guild of Hairdressers that an effort should be made to induce barbers in the City to register through the Guild, which should grant certificates of registration. It was agreed that no application for registration should be considered until a certificate that the applicant's business premises were in a sanitary condition had been received from the medical officer of health. That official states that many of the barbers are willing to make the necessary stipulations, but decline to do this through the Incorporated Guild. Many of the hairdressers and barbers in the City have recently formed themselves into the "City of London Hairdressers' Guild," the members of which are admitted on the understanding that they are willing to comply with the regulations. The medical officer, thinking it undesirable that any obstacle should be placed in the way of those wishing to conform to the regulations, advised that barbers and hairdressers in the City should be informed that the Corporation would grant voluntary certificates to any hairdresser who would undertake to obey the regulations. It was unanimously decided to grant voluntary certificates to all barbers in the City whose premises were in a sanitary condition and which would undertake to comply with the Corporation's regulations.

UNDERFED SCHOOL CHILDREN.

AT the meeting of the London County Council last week it was resolved to accept a suggestion of the Education Committee to make a very interesting experiment with regard to the feeding of school children. The suggestion as adopted by the Council was that the food cooked in the cookery centres should be utilized as far as possible in arranging for dinners at certain schools. As the report of the Day Schools Committee pointed out, this scheme would give a practical direction to the training of the children in cookery. We are glad to see that this scheme is to be carried into effect, for the suggestion was first made in the columns of the BRITISH MEDICAL JOURNAL of December 12th, 1903, by Mrs. Watt Smyth, in one of the series of articles on Physical Degeneration, and the idea was reiterated in her book on *Physical Deterioration*, published in June, 1904. In view of these dates, it is curious to read the following paragraph in the *Daily Chronicle* of July 17th: "As far back as May 2nd the *Daily Chronicle* published an article suggesting that the London County Council school cookery centres might be utilized to provide cheap meals for hungry scholars, and last Tuesday the Council decided to try the experiment, at a small charge per meal, at certain centres." Our contemporary was, in fact, anticipated by nearly a year and a half, but we are glad to know that the scheme commends itself to the *Daily Chronicle*, for we are convinced that there is no other solution so practical to the much-discussed question of feeding hungry school children. We have no doubt that if the experiment is properly conducted the action of the London County Council will be the first step towards the universal adoption of this plan.

VACCINATION IN NATAL.

ACCORDING to a cutting from the *Natal Mercury*, June 22nd, the local legislature has by 18 votes to 16 decided to strike out from the estimates the whole of the vote for the expenditure on vaccination. The ground for this, as expressed by the mover of the motion, is that it is thought that the expense of vaccination should fall upon those who undergo it, and also that the coloured population has been thoroughly vaccinated by now. Another speaker seemed to think the natives should pay the greater part of the cost of vaccination. The Prime Minister protested against the reduction, and said that if the motion were carried no more vaccination would be done in the ensuing year, while it was impossible to tell when an outbreak of small-pox might take place. We suppose vaccination will again be neglected until an outbreak of small-pox causes a panic, when a relatively enormous expense will be incurred in engaging medical men, putting up isolation hospitals, importing lymph, establishing vaccination stations, and vaccinating freely and compulsorily the entire population. The Natal Legislature does not seem to have been moved by antivaccination principles, but simply and solely by the desire in the true spirit of Bumbledom to save present outlay.

WATER BOARDS.

As will be seen from a paragraph in the letter from our special correspondent in South Wales, some alarm is beginning to be felt in Glamorgan with regard to the sufficiency of the water supply of the county in the future. It has been calculated that if the rate of increase in the population during the past twenty years is continued for a like period there will be a deficiency of 20,000,000 gallons daily. It is proposed to deal with the matter by constituting a central body with proper powers for, we assume, the county, but at the conference of the Royal Sanitary Institute at Cambridge last week, Professor Sims Woodhead urged that a much larger measure of reform is necessary. He said, truly enough, that with regard to water supplies communities had shown themselves selfish and inconsiderate; he therefore urged that the water schemes of the future should be settled not by individual communities but by a national water board with county Committees. As is well known, difficulties have often arisen in the past between large centres of population, all anxious to seize upon the same gathering grounds or other source of supply; the difficulties have been fought out before Parliamentary Committees at enormous expense. Here, as in so many other matters affecting large social questions, we want a strong coherent policy for the whole country, and the suggestion to form a national board appears to be the only means to that end.

THE CHEMICAL MECHANISM OF GASTRIC SECRETION.

IN a communication recently read before the Royal Society, Dr. J. S. Edkins describes the observations he has made in support of the view that in the process of absorption of digested food in the stomach a substance is separated from the cells of the mucous membrane, and, passing into the blood or lymph, at a later period stimulates the secretory cells of the stomach to functional activity. He has found that if an extract in 5 per cent. dextrin of the fundus mucous membrane be injected into the jugular vein there is no evidence of secretion of gastric juice, but if the extract be made with pyloric mucous membrane there is a small quantity of secretion. Control experiments with dextrin alone gave no secretion. When extracts were made with dextrose or maltose, fundus mucous membrane gave no secretion, but after injection of the pyloric extract the secretion was marked; the control cases injected with dextrose or maltose alone gave no secretion. In the case of extracts made with commercial peptone it was found that no secretion occurred with fundus mucous membrane, but there was a marked secretion with the pyloric extract; the peptone alone gave a slight reaction. When extracts were made by boiling the mucous membrane in the different media the effect was just the same. The active principle, therefore, for which Dr. Edkins suggests the name "gastrin" is not destroyed by boiling. In connexion with these observations, Dr. Edkins calls attention to the fact that such absorption as occurs in the stomach apparently takes place in the pyloric end.

BEDSIDE BOOKS.

IN a sermon preached in the Evangelical Church, Vienna, on the occasion of the death of Professor Nothnagel, Pastor Johanny stated that when the famous physician was found dead in his bed a volume of Schiller's poems was found beside him open at *Das Ideal und das Leben*. Probably most men, except such as go in terror of their wives, read in bed, but the custom is generally felt, even by those who are its slaves, to require some excuse. Such excuse may be furnished them by Dr. Osler. The Regius Professor of Medicine at Oxford would doubtless deny that there is any need for excuse. In regard to reading in bed he would say, with Luther, *pecca fortiter*. In good set terms he advises every one to read for half an hour before going to sleep, and he has taken the trouble to draw up a list of what may be called bedside books. This includes such light literature as Marcus Aurelius, Epictetus, and Plutarch's *Lives*, with other books of the kind that no gentleman's library should be without, and that unfortunately few gentlemen read in bed or out of bed. This opens up the question, What books are most suitable for reading in bed, it being assumed that the reader is not a superior person, but the *homme sensuel moyen?* Obviously, the answer depends on the object with which he reads. He may do so for mere amusement, or because he wishes, like Bottom, to have an "exposition of sleep" come upon him. In the former case, anything that interests without exciting will serve. As a rule, Wilkie Collins and other masters of plot-weaving should be avoided, as likely to murder sleep; Richardson, of whom Johnson said that any one who should read him for the story would hang himself, is the great exemplar of bedside authors. Among contemporary writers we know of none better as a bedside companion than Mr. W. W. Jacobs; one drifts along on the lazy stream of his story, lulled deliciously to forgetfulness by the gentle ripple of his humour. Our own preference is for a writer whom long acquaintance has made so familiar that he can be dipped into at random with the certainty of finding something

which is always better than one's remembrance. Having reached the period of old fogeydom, Scott, Dickens, and Thackeray are our favourites; but criticisms of life by M. Anatole France's graceless Abbé Coignard, and the philosophizings of his M. Bergeret, also help unfailingly to knit the ravelled sleeve of care. Sterne is too jerky to be restful, and the greater classics must be approached with an earnestness of devotion which bed scarcely helps to foster. The bedside book must not be heavy, either in the figurative or in the literal sense. It should also keep open without calling for special vigilance on the part of the reader. Some of our popular magazines, which otherwise would be boons to the recumbent reader, carry such a load of advertisements and are withal so clumsily stitched that the literary matter cannot be read without an uncomfortable amount of muscular exertion. When reading is deliberately used as a means of wooing sleep, graver forms of literature may be chosen. On the whole, we think poetry of the sublime order the best for the purpose. We have ourselves found Milton especially useful, but almost any epic may be recommended with tolerable confidence. Sir Henry Holland found the sonnet, in whatever language written, the most effective soporific. Perhaps to obtain the full effect of the *virtus dormitiva* that lies in serious poetry it should be read to us in a droning monotone; such service, however, is for most of us an unattainable luxury. Mr. Lecky in his last book recommended that verses previously learnt by heart should be rehearsed in the watches of the night. The same advice had been given by Sir Henry Holland long before. In his *Recollections of Past Life* that distinguished physician tells us that during his early travels on the Continent he committed to memory a large amount of Italian and a good deal of German poetry. The stock of verse thus accumulated he found in later life invaluable as a means of courting sleep when it was reluctant to come. These poetical recollections, he says, served him better than any of the ordinary devices. He had a large provision of Dante always at hand for that purpose, but he found it "easier and more luxurious to steal into slumber thorough a sonnet of Petrarch or the stanzas of Ariosto and Tasso." The great Church historian, Döllinger, in his old age learnt by heart three books of Homer for use in the same way. For reading during convalescence literature that cheers but not inebriates should be prescribed. Writers whose style like that of George Meredith puts a constant strain on the understanding of the reader, or like that of Mr. Maurice Hewlett irritates by its artificial glitter, or like that of Marie Corelli annoys by its frothy impertinence, are all alike contraindicated. Literature of a kind that depresses the mind or fills it with gloom should be banished from the sick room. Ibsen, Zola, Maxim Gorki, and Dostoiewsky should therefore be left to persons of robust mental digestion, who can sup full of literary horrors without suffering from nightmare. For convalescents the best reading is that which carries them out of themselves, and helps them to maintain a healthy interest in life.

OSTEOPATHY.

OSTEOPATHY is one of the many inventions in the domain of quackery which testify at once to the ingenuity of the American mind and to the credulity of the American people. Although, as far as we are aware, it has not yet found its way across the Atlantic, the system has many adherents in the United States, and in more than one State they have attempted to secure legal recognition. In its last session the Pennsylvania State Legislature had under consideration a Bill providing for the establishment of a State Board of osteopathic examiners, which should issue certificates of qualification to practise osteopathy to all applicants having a diploma from a legally recognized authority or incorporated college of osteopathy; and for the punishment of persons practising osteopathy in treating diseases without having first obtained a State licence. It was proposed that for each offence a fine of not more than £20 or imprisonment in the county gaol for a period of not more than ninety days should be imposed. Owing to political influences this egregious Bill passed both Legislative Houses, but, on strong representations made by the Committee on Medical Legislation of the Philadelphia County Medical Society, it was vetoed by the Governor. The document in which he sets forth his reasons for taking this course is interesting in more ways than one. The gubernatorial mind was evidently sorely perplexed, for he complains that there is nothing in the Bill to indicate what constitutes the "science of osteopathy." With praiseworthy determination to see things for himself, he sought enlightenment from a study of the "printed literature of the science" but without much success. The prophet of the cult, Dr. A. T. Still, who is said to be still living, gave no help. This is scarcely surprising considering that in his autobiography Dr. Still gives the following account of his "discovery": "Twenty-four years ago, the 22nd day of June, at ten o'clock, I saw a small light in the horizon of truth. It was put in my hand, as I understood it, by the God of Nature. That light bore on its face the inscription: This is my medical library, surgery, and obstetrics. This is my book with all directions, instructions, doses, sizes, and quantities to be used in all cases of sickness and birth, the beginning of man: in childhood, youth, and declining days. I am something of what people call 'inspired.' . . . The other classes have different names for it—clairvoyancy and clairaudient. Sometimes I was so clairvoyant that I could see my father twenty miles from home: I could see him very plainly cutting a switch for my brother Jim and I, if we hadn't done a good day's work. That is called clairvoyance. Then I could hear him say: 'If you don't plow faster I will tan you twice a week.' This is clairaudience." Evidently the Governor was neither clairvoyant nor clairaudient in the matter of osteopathy, for even this clear revelation did not satisfy him. He therefore plunged deeper into the mysteries of the system as expounded in the founder's *Philosophy of Osteopathy*. From that treasury of wisdom all that he could extract was the following oracular statement: "Principles to an osteopath means a perfect plan and specification to build in form a house, an engine, a man, a world, or anything for an object or purpose. To comprehend this engine of life of man which is so constructed with all conveniences for which it was made, it is necessary to constantly keep the plan and specification before the mind, and in the mind, to such a degree that there is no lack of knowledge of the bearings and uses of all parts." On this the Governor mildly remarks that however true it may be, it is "too indefinite to give the ordinary layman any very accurate description of the science." He gathers that osteopaths do not prescribe or use drugs or practise operative surgery, relying mainly upon the manipulation of muscles and nerves. Assuming that there is some scientific truth which osteopaths have discovered which would be of use in the treatment of disease and injury, the Governor pertinently asks why practitioners of the art of healing regularly licensed after examination by authorities constituted by the law are to be prevented from giving their patients the benefit of it. The Governor concludes that approval of the Bill would appear to give the authority of the State to a system of practice in the healing art which excludes the use of medicine and the use of surgery.

A HEALTH COMMISSIONER FOR WEST AFRICA.

AT a meeting of the Committee of the African Trade Section of the Liverpool Chamber of Commerce held on July 10th, Sir Alfred Jones being in the chair, some interesting statistics in regard to the health of the European community in 1904 were given in a letter from the Acting Colonial Secretary of the Gold Coast Colony. It was shown that in a total of 1,953 persons, including officials, employed on the Gold Coast there had been 25 deaths and 157 invalided—equal to a death-rate of 12.80 per 1,000 and an invaliding rate per 1,000 of 80.38. It was unanimously decided that a telegram should be sent to the Secretary of State for the Colonies expressing satisfaction at learning that the Colonial Office is favourable to the appointment of a Commissioner of Health for the British West African

Colonies. The Committee further strongly recommended that Professor Ronald Ross, "whose position as a pioneer of antimalarial measures and long experience in India gives (*sic*) him unique claims," should be appointed. It was added that in the experimental stage the Liverpool School of Tropical Medicine would undertake to assist in defraying the necessary expenses. The message further stated that it is understood that Professor Ross could proceed to the West Coast of Africa forthwith.

THE LATEST PANACEA.

Truly we have much to be thankful for in these days, and amongst not the least of our blessings must be included the cheapness of the press cable rates between England and America. Thanks to the latter, we are now constantly being supplied with new scientific knowledge on the subject of human disease and its treatment. The cures offered us are so numerous that probably the only reason why suffering still remains the lot of mankind is that the adoption of some of them is either expensive or difficult. No such objections, however, attach to the latest cure for knowledge of which the British public is indebted to the energy of a correspondent of the *Daily Telegraph*. The cure is simplicity itself, and in the neighbourhood of London, at any rate, could be carried out without any expense whatever. All the patient has to do is to take off his clothes and stand naked in the rain, and afterwards get rubbed down briskly: the cure is then complete. Not only many chronic diseases yield to the treatment, but obstinate colds as well, while for nervous disorders or rheumatism it is quite infallible. The cure originated and is now being actively pursued in Texas. Since it has been so successful in that region it is still more likely to prove beneficent in England, where the climatic conditions lend themselves so much better to its application. It is a notable discovery, and one which certainly ought to put a final nail into the coffin of the Aliens Bill; for, seeing that there are many parts of Europe in which rain is rare for months at a time, it would be simply immoral to close the ports of England to those who are unable to obtain the treatment in their own country, but who, on landing here, might be cured forthwith.

MEMORIAL TO HUMPHRY DAVY AT CLIFTON.

There exists in the Clifton part of the city of Bristol a Society whose function is to "improve," and includes in its duties the decoration of houses in which distinguished persons have dwelt with an artistic memorial tablet. It further takes the occasion when a ceremony of this nature is arranged of having a gathering of local notables, under the chairmanship of a celebrity of more wide distinction. It is a mere matter of history that Sir Humphry Davy in quite the earliest days of his career was employed as assistant to Dr. Beddoes in what was styled "the Pneumatic Institute;" and to understand the reason of this institution a further dip into history must be made. Late in the eighteenth century there was scarcely to be found in England a more popular watering place than the famous Hotwell of Bristol. From having a renown for the cure of diabetes, it became the spring that would cure pulmonary consumption: and to the Hotwell House on the banks of the Avon hundreds of sufferers went for cure. About the same time great discoveries had been made in chemistry, and the scientific world were busy over the preparation of "fixed air," "diphlogisticated air," and the like, and speculating on their properties and experimenting. In the year 1798, Dr. Thomas Beddoes, formerly Reader in Chemistry in the University of Oxford, and what would be called an advanced Radical in the present day, opened the Pneumatic Institute for the cure of consumption, if not of other diseases, by the newly-discovered gases, and took for his assistant Humphry Davy. The house that lodged the institution cannot now be precisely identified, but it is known that it was one of the two in the north-east corner of Dowry Square, a district long deserted by the wealthier classes, and it is probably due to this fact that the memorial tablet was placed on a house in Rodney Place, Clifton, where Beddoes lived and Davy was given lodging and board. To Davy is due the honour of having discovered in the year 1779 in the Institute the anaesthetic properties of nitrous oxide, or laughing gas, though its properties remained for many years a curiosity before any practical use was made of it. It was not, however, for this particular discovery that Signor Marconi came to unveil the tablet, but to pay local homage to the distinguished pioneer in chemical and physical research. It was only for a few years that Davy lived in Bristol, for the Institute did not pay, and was closed in 1801, and Davy left for London. But the occasion was one that gave opportunities for honouring one of Bristol's distinguished citizens, and Signor Marconi and the gentlemen assisting him have done a graceful act in reminding those who see the tablet that Humphry Davy once sheltered beneath the roof of Dr. Beddoes in Rodney Place, Clifton.

MORTALITY AMONG FRENCH MEDICAL PRACTITIONERS.

Dr. Louis Sentex, of Saint-Sever, recently submitted to the Association Générale de Prévoyance et de Secours Mutuels des Médecins de France a report on the mortality of members of the medical profession in France. He made inquiries of the departmental societies, and obtained replies from thirty-nine of these. From the data thus gathered, he found that the collective length of days of 7,936 practitioners was 514,050, giving an average for each of 64 years, 9 months, and 11 days. The average duration of life varied among the members of different societies, ranging from 58.30 in members of the Pas-de-Calais Society to 70.59 in the Society of the districts of Albi and Gaillac (Tarn). In five societies the mean duration of life was less than 60 years. Taking the other societies together, the average age was above 60, and in twelve of them—namely, Gironde, Gers, Dordogne, Indre, Landes, Nièvre, Deux-Sevres, Yonne, Vaucluse, Toulon, Meaux, Albi, and Gaillac, the mean of life was above the common average. In the great majority of societies the proportion of deaths at ages exceeding 60 was much higher than the proportion of deaths below that age. In the case of practitioners over 60, the age period from 70 to 79 offered the largest number of survivals. On the other hand, there were very few (2.16 per cent.) deaths over 90. In the whole number there was but one centenarian.

The French Académie de Médecine has awarded, through the Minister of the Interior, a Silver Medal to Dr. Alan Green, Bacteriologist in charge of the Vaccine Lymph Department, Lister Institute of Preventive Medicine, for his work on vaccine, published in the *Proceedings of the Royal Society* and in the Report of the Medical Officer, Local Government Board.

On July 14th the French Ambassador, M. Cambon, unveiled at the French Hospital, Shaftesbury Avenue, a statue of the late Dr. Achille Vintras, founder of the institution. The statue, which is the work of M. Lentori, is in bronze and bears an inscription in French to the following effect, "To Doctor Achilles Vintras, Founder and Physician-in-Chief of the French Hospital in London, from the grateful French Colony."

Dr. F. G. Gade, Prosector in the University of Christiania, has given a sum of 150,000 kroner to his native city, Bergen, for the foundation of a laboratory of pathological anatomy. For a long time past there has been a feeling among the inhabitants of Bergen that the city should be the seat of a university, or at least of an institute of medical science. The laboratory created by Dr. Gade's munificence will, it is hoped, form the nucleus of such an institute.

MEDICAL NOTES IN PARLIAMENT.

[BY OUR LOBBY CORRESPONDENTS.]

The Conscientious Objector and the Magistrate.—Last week Mr. Weir asked the Secretary of State for the Home Department whether he was aware that, although an applicant for a certificate of exemption from vaccination at Westminster Police Court on Saturday last based his objection on the ground that he conscientiously believed that vaccination would be prejudicial to the health of his child, the magistrate proceeded to cross-examine him, and refused to grant the certificate; would he state whether the circular containing the opinion of the Lord Chief Justice in regard to the manner in which magistrates should deal with applications for certificates of exemption had been sent to this magistrate, and could he direct the magistrate's special attention to that opinion. Mr. Secretary Akers-Douglas said that the circular containing the remarks of the Lord Chief Justice, to which reference was made, had been sent to all the metropolitan magistrates. Under the statute which required the applicant to satisfy the magistrate as to the conscientious nature of his objection, the magistrate had discretion entrusted to him with which the Home Secretary had no power to interfere.

The Tuberculosis (Animals) Compensation Bill.—Last week Mr. Field asked the President of the Local Government Board whether he would endeavour to obtain facilities for the second reading of the Tuberculosis (Animals) Compensation Bill, which passed second reading last session without a division being taken. Mr. Gerald Balfour answered that, as he had already stated, he sympathized with the object of the Bill, he was afraid that at this period of the session facilities could not be given for the further progress of any private member's Bill which was not entirely uncontroversial.

The R.A.M.C. Volunteers and South African Honours.—Sir Walter Foster asked the Secretary of State for War last week whether, in view of the fact that the Army Council had refused honours in connexion with the South African war to the Royal Army Medical Corps (Volunteers), and that war honours had been granted to numerous volunteer corps which sent contingents to the war, he would state what was the average strength of the contingents sent; and whether, in view of the fact that the eight divisions of the Royal Army Medical Corps (Volunteers) in various parts of the country contributed to medical units during the war some 650 officers and men, amounting to two-fifths of their strength, the Army Council would reconsider its decision. Mr. Secretary Arnold-Forster replied that it was not the custom to award honours to any but corps of cavalry and infantry, as it was accepted as a fact that all the other branches of the army had contributed in some measure to every honour which was recorded on colour or accoutrement. Accordingly no honours for South Africa were awarded to artillery, engineer, army service, or medical corps, regular or auxiliary.

Report of Royal Commission on Sewage.—Colonel Legge asked the First Lord of the Treasury last week if he could give any information as to when the Report of the Royal Commission on Sewage Disposal might be expected. Mr. Balfour said that he was informed that the Commission hoped to issue a report this year dealing with the relative merits of different methods of sewage disposal and certain other questions. He understood, however, that it could not be stated at present when the final report would be issued.

The Medical Examination of Volunteers.—Sir Howard Vincent asked the Secretary of State for War, on Monday, if, having regard to the amount of time that would be required for the medical and dental examination of the Volunteer Force for active service demanded by his recent circular, and to the paucity of medical officers and the calls upon their professional time, he would authorize a fee of 5s. to be paid for such examination or the equivalent honorarium for the examination of a recruit for the army by a civil practitioner; and further, if the Volunteers themselves would be reimbursed their expenses in travelling to and from the medical and dental centre. Mr. Bromley Davenport said, in reply, that, as the Secretary of State had stated in reply to a question last Wednesday, there was no reason to suppose that the service would appreciably add to the expenditure of Volunteer Corps, and it was not proposed to grant any special allowance. The matter, however, was receiving consideration.

Epizootic Lymphangitis.—Another discussion on this disease was raised in the Lords on Monday by questions put by Lord Burghclere. Lord Donoughmore said that before the issue of the circular of the Board of Agriculture in January, 1904, there had been 111 cases of this disease—namely, 98 in Great Britain and 13 in Ireland. Since that date up to the present 415 cases had been reported. The total worked out as follows: In Ireland, 37 cases, of which 2 were cured and the remainder destroyed. In Great Britain, 489, of which 99 were cured, 382 destroyed, and 8 remained under observation, recovering. So far as the army was concerned the disease had been stamped out. He did not know of any horses shipped from South Africa suffering from the disease; he was told that no horses were shipped in a state of disease. As soon as the existence of the disease in South Africa became known, orders were sent by the War Office to stop horses being sent home. The occurrence of the disease here was the cause of its being recognized in South Africa. All horses brought into contact with the disease were jealously isolated. The chief of the Army Veterinary Department was working closely with the Board of Agriculture to suppress the malady. Lord Wolverton said that from April, 1904 to July 15th, 1905, there had been 19 outbreaks in civilian stables, and 23 horses affected. He thought the figures were satisfactory. After some remarks from Lord Spencer and Lord Londonderry, Lord Donoughmore promised a return showing the military dépôts in which cases had occurred.

The Sheffield University Bill is promised a stormy reception in the House, for three Irish members have notices for its rejection on the ground that until the grievances of Ireland in respect to University Education have been redressed, no facilities should be given for the promotion of more Universities in England. Sir John Batty Tuke has also a motion down to leave out Clause 8 of the Bill, which proposes that the new University should be represented on the General Medical Council.

The Accidents (Mines and Factories) Bill, a Government Bill, which affected prejudicially the position of Factory Surgeons, was withdrawn on Monday night. The Bill had been blocked for a long time by several members, and so was one of the innocents sacrificed early. Two other Government Bills, the Crown Lands Bill and the Local Authorities (Transfer of Treasury Powers) Bill, were withdrawn at the same time.

Midwifery Orders.—Sir Walter Foster asked the President of the Local Government Board whether he was aware that in some cases difficulty had arisen from poor women being unable to obtain assistance in their confinements in consequence of unregistered midwives having been warned not to attend such cases, and no others being available; and whether, under these circumstances, he would issue an order pointing out to the boards of guardians the duty of the relieving officers to grant midwifery orders to women destitute of the means of procuring medical attendance. Mr. Gerald Balfour answered that no case of the kind referred to had been brought to his notice. If the honourable member was aware of any such cases, and would furnish him with particulars of them, he would cause inquiry to be made and would consider what action should be taken.

The Medical Act (1886) Amendment Bill came on for third reading on Monday, but was objected to and consequently postponed till Tuesday, when it was moved under more favourable conditions. The Aliens Bill passed its report stage before half-past eleven and consequently other orders came on unexpectedly, and the Medical Act Amendment Bill was reached some twenty-five minutes before twelve o'clock. General Laurie moved the third reading and when appealed to gave a short explanation of the objects of the Bill. He mentioned that he was led to promote the Bill by observing that Canadian medical men who volunteered for service in South Africa during the war, could not be appointed to any medical post in the British forces, because they could not be registered under the Medical Acts. Mr. Caldwell made some observations on reciprocity with Canada as regards medical practice and the Bill was then read a third time. It will now go to the House of Lords where no opposition is expected.

The Fees of Public Vaccinators.—On Tuesday Mr. Runciman asked the President of the Local Government Board whether he proposed to issue an order giving effect to the recommendations of the Departmental Committee which sat to consider the fees payable to public vaccinators; and, if so, when the order was to be issued. Mr. Gerald Balfour replied that the Local Government Board had not at present arrived at a decision upon the recommendations of the Committee. Effect could only be partially given to them by means of an order.

The Irish Poor-law Commission.—The Chief Secretary informed Mr. Flavin on Tuesday that the Commissioners have yet to hold local inquiries at Cork, Bantry, and Mallow. They hoped to present their report towards the close of the present year.

The Army Vaccine Institute.—On Tuesday Mr. Weir asked the Secretary of State for War if he would state what quantity of glycerinated calf lymph was produced annually in the Army Vaccine Institute; the number of calves operated on; and whether they were sold for human food or utilized in the military kitchens. Mr. Secretary Arnold-Forster replied that the annual average amount of glycerinated calf lymph produced at the Army and Navy Vaccine Institute was sufficient to vaccinate 126 280 persons, and the average annual number of calves operated on was 30. The calves were slaughtered and *post-mortem* examinations were made in all cases before the carcases were sold to the public. They were not utilized in military kitchens.

The Tuberculosis Commission.—Mr. Morrell asked the President of the Board of Agriculture whether the Royal Commission on Tuberculosis had or would shortly report on the effect produced or disease set up by introducing into the body of the bovine animal material containing living tubercle bacilli of human and bovine origin respectively through the alimentary canal as distinct from effect when introduced by subcutaneous injection, and would urge an early report on the third clause of the reference—namely, under what conditions, if at all, the transmission of the disease from animals to man takes place, and what are the circumstances favourable or unfavourable to such transmission as affecting food for man. Mr. Gerald Balfour replied that, as he stated in his reply to the honourable member for the Eastern Division of Northants on May 9th last, he understood that the Royal Commission hoped to issue a further interim report towards the end of the present year. He was informed that this report would contain details of the different results obtained by various methods of infecting bovine and other animals with tubercle derived from different sources, but he understood that some considerable time must elapse before the Commission could issue a report dealing with the third clause of the reference to them.

Diphtheria at Norwood Schools.—Sir Walter Foster asked the President of the Local Government Board if, in view of the outbreak of diphtheria at the Norwood Poor-law schools, which had extended to 61 children, notwithstanding the care and skill taken for its prevention, he would consider the advisability of breaking up this aggregation of 500 children, in accordance with the recommendations of the Departmental Committee's Report of 1897. Mr. Gerald Balfour replied that it appeared to be doubtful whether there could properly be said to have been an outbreak of diphtheria at these schools in the sense in which that expression was ordinarily understood. He was informed that only three of the cases presented the ordinary clinical symptoms of the disease, and that in the remaining cases there had been no disturbance of the children's health, although the bacillus of diphtheria, or some other bacillus resembling it, had been discovered by bacteriological methods. It did not seem to be necessary to consider the advisability of breaking up the school.

WE learn from the *Allgemeine medicinische Central-Zeitung* of July 15th that Dr. Feiber Holzappel recently died of hydrophobia after a bite from a rabid dog. The wound was provisionally dressed, and he at once went to Berlin, where he underwent a course of protective inoculations in the Institute for Infectious Diseases. Nevertheless, he did not consider himself completely safe, and his fears were justified, for ten weeks after the bite the classical symptoms of hydrophobia manifested themselves, and he died in four days.

Scotland.

THE LATE SIR WILLIAM MUIR.

THE funeral of Sir William Muir, K.C.S.I., late Principal of the University of Edinburgh, to whose death on July 11th reference was made last week, took place in the Dean Cemetery on July 15th with marked simplicity and manifest signs of genuine grief. There was a memorial service, under the guidance of the Students' Representative Council, in the McEwan Hall, on Sunday, July 16th. The Prime Minister (the Chancellor of the University) and the Attorney-General (the Lord Rector) expressed their regret at being absent from this memorial service.

THE ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

Fourth Centenary Celebrations.

The fourth centenary of the Royal College of Surgeons of Edinburgh is being celebrated as we go to press. In another column (p. 179) will be found an interesting historical article by Dr. McKenzie Johnston, which gives some account of the origin of the College, and in the BRITISH MEDICAL JOURNAL of March 11th Dr. John Smith, a former President, described some of the early charters.

EDINBURGH CITY HOSPITAL AT COLINTON MAINS.

During a violent thunderstorm on the afternoon of Sunday, July 9th, one of the turrets of the Edinburgh City Hospital at Colinton Mains was struck by lightning. Probably because of the occurrence of almost torrential rain at the time the roof was not set on fire. The lightning seemed to have travelled from below upwards, dislodging a good many slates and making a hole.

EDINBURGH DENTAL HOSPITAL.

On the evening of July 14th the Edinburgh Dental Hospital and School "at home" and distribution of prizes afforded the students, the staff, and the friends of the institution a very pleasant entertainment. An excellent musical programme, mainly contributed by students, was submitted. During an interval the Dean read his report. Lord Ardwell then presented the medals and prizes, and thereafter addressed the students in an address which they should long remember as one of the best lay sermons they are every likely to hear. Sir Alexander Christison, in proposing a vote of thanks to his lordship, drew upon his reminiscences of the days when dental hospitals were unknown. During the past year twenty new students were enrolled, and twenty-four obtained the L.D.S. diploma.

EDINBURGH ROYAL INFIRMARY.

At a meeting of the managers on Monday, July 10th, the following reappointments to the staff were made: Dr. G. A. Gibson, ordinary physician; Dr. George Mackay, ophthalmic surgeon; Dr. R. W. Philip and Dr. R. A. Fleming, assistant physicians—all for a further period of five years from the expiry of their present terms of office in the autumn. Dr. H. A. Leebody, Corstorphine, was appointed consulting medical officer to the Convalescent House at Murrayfield, in succession to the late Dr. Matthew.

MEMORIAL TABLETS AT ABERDEEN.

The portrait medallion in marble of the late Principal, Sir William Geddes, by Mr. Pittendrigh MacGillivray, R.S.A., has now been completed, and will, during the vacation, be placed in the recess reserved for it in the Geddes Transept of the Library at King's College. The medallion is an admirable work of art, and the likeness is very striking. The sole inscriptions are the words, "William Duguid Geddes," and the last line of the eleventh book of the Odyssey in the original Greek (suggested by Lady Geddes as a saying which the late Principal delighted to quote as an incitement to his students): Πρῶτα μὲν εἰρεσίῃ μετέπειτα δὲ κάλλιπος οἶρος. ("First the toil at the oar and then the favouring breeze.") The medallion will probably be unveiled at the beginning of next winter session. At the same time the memorial to the late Professor John Fyfe will also, it is hoped, be in position. This consists of a design by Mr. Douglas Strachan, to be placed in one of the windows of the King's College Library. The design symbolizes Bibliography, being one of a series by Mr. Strachan to fill the seven main windows in the south side of the Library to represent Theology, Philosophy, Literature, Mathematics, Fine Art, etc. The only lettering, in addition to the dedicatory inscription, consists of the verse from Proverbs: "Wisdom

hath builded her house; she hath hewn out her seven pillars." A meeting of the Committee having charge of the proposed memorial to the late Professor James Nicol was held in Marischal College on Saturday, July 15th, Professor Trail in the chair. Dr. William Mackie, Elgin University Examiner in Geology, the Honorary Secretary, read a large amount of correspondence with geologists and old pupils of Professor Nicol, the general tenor of which favoured the placing in the geological museum of a portrait tablet in bronze, similar to those recently erected in memory of Professor MacGillivray and Alleyne Nicholson. The amount received is nearly sufficient to meet the cost of such a tablet, and it is hoped that a few additional subscriptions will be entrusted to Dr. Mackie before it is necessary to close the list. The Committee aims at a formal inauguration of the memorial during the great centenary ceremonies next year, when many pupils of Professor Nicol will be in Aberdeen.

ABERDEEN COMPANIES R.A.M.C. (VOLUNTEERS).

The annual inspection of these companies took place on Saturday, July 1st, Colonel Hughes, P.M.O. Scottish District, being the inspecting officer. Major Scott Riddell commanded the parade, and there were also present: Captains Ashley W. Macintosh, Lister, Ogston, and Lieutenant Smart, A Company; Captain Fraser and Lieutenant Rosie, B Company; Captain Kelly, Lieutenants Milne and Mitchell, C Company; Lieutenant Noble, Transport Section; Lieutenants Crowar and Innes, Quartermasters. The rank and file on parade numbered close on 300, and all were submitted to a very rigorous examination in the various branches of R.A.M.C. work; the inspection lasted over three hours. In the evening the officers of the corps dined together in the Grand Hotel, among the guests present being Colonel Johnstone, Newton Dee (R.A.M.C., retired), Lieutenant Colonel Bedford, R.A.M.C., Colonel Hughes, etc. The Corps has gone into camp this year at Netley Hospital, from July 15th to 22nd, and it is believed that some 300 men are under canvas from the Aberdeen Companies.

Ireland.

THE RIGHT HON. SIR ANTONY MACDONNELL, G.C.S.I.

MUCH interest and sympathy have been evoked by the serious illness of Sir Antony MacDonnell, Under-Secretary for Ireland. It was known for some time that he was ailing, and several medical men in London had seen him. A crisis appears to have arisen very suddenly last week. He was removed from his residence in the Phoenix Park to a private hospital, where on Sunday Sir William Thomson operated upon him, assisted by Sir C. B. Ball, Sir Francis Cruise, Dr. Joseph O'Carroll, and Dr. Pryce Peacock. The operation is described as a severe one, and the distinguished patient was much collapsed, but we are glad to hear that his progress is satisfactory, and that his permanent recovery is fairly assured. The case is said to be of much interest from a clinical point of view, and we hope to be able to publish the history of it in due course.

The prominent position which Sir Antony MacDonnell occupies in public life is well known and is evidenced by the messages which have been received from His Majesty the King, Their Royal Highnesses the Prince and Princess of Wales, His Holiness the Pope (who sent his special blessing), His Grace the Primate of All Ireland (Dr. Alexander), His Grace the Roman Catholic Archbishop of Dublin (Dr. Walsh), Earl Roberts, the Marquis of Lansdowne, the Marquis of Ripon, and many hundreds more. Prayers for his recovery have been offered in the Protestant and Roman Catholic churches alike.

ROYAL VICTORIA HOSPITAL, BELFAST.

On July 14th a meeting of those interested in the Saturday collection was held in the Board-room of the hospital. The total amount collected was £907 14s. 8d., from which had to be deducted £13 2s. 8d. for expenses; the collection at Whitehead is to be made on July 22nd, so that the net balance would no doubt exceed £900. The subscriptions were £60 over those of last year. A hearty vote of thanks to all those who had taken so much trouble in bringing the collection to such a successful issue was passed.

THE BELFAST MATERNITY HOSPITAL AND THE MIDWIVES BOARD.

Last week (page 149) the reply of the Chief Secretary in Ireland to Mr. Craig, M.P., in reference to the action of the Central Midwives Board to the nurses trained in the Belfast Maternity Hospital was reported, and, we understand, occasioned much surprise in the North of Ireland. Mr. Craig asked Mr. Long what were the grounds for the action of the Central Midwives Board in refusing to place on the roll of certified midwives nurses trained at the Belfast Maternity Hospital previously to March 31st, 1905, while it had placed on the roll nurses trained under similar conditions and up to the same date at the Dublin Maternity Hospitals, at the Cork Maternity Hospital in Limerick. The Chief Secretary, in reply, said he gathered from the statement given to the Lord President of the Council by the Central Midwives Board that "the Belfast Hospital was not so recognized owing to its failure to apply in time." Any one, however, who refers to the article in the BRITISH MEDICAL JOURNAL for June 10th will see, from the memorial presented by the governors and medical staff of the Belfast Maternity Hospital, that there is no ground for such a statement. The memorial contained the following passage:

> We have been informed that our request has been refused because it ought to have been made earlier. In reply, we beg to state that the delay arose on our part owing to the building of our new maternity hospital—the largest of the kind in Ireland outside Dublin; and, in answer to a letter written to the Chairman of the Central Midwives Board by a member of the medical staff, asking if it would do to apply after we had entered our new hospital, he was informed in a letter dated October 14th, 1904, "If you apply when your new hospital is ready, the Board will consider the matter without delay." We entered our new hospital at the end of last year, and on February 14th, 1905, we made formal application, so that the argument of not having applied in time does not hold good.

The Central Midwives Board, at its meeting on March 23rd, refused an application because it had not been made earlier, while the legal time for making such an application did not expire until March 31st. The authorities of the Maternity Hospital in connexion with the Belfast Union Hospital and the Ulster Hospital for Women are also—in addition to the Belfast Maternity Hospital—greatly astonished at the action of the Central Midwives Board towards them; and, at a meeting of the Central Council of the British Medical Association, held in London on July 5th, the following resolution was carried:

> That the attention of the Council of the British Medical Association having been drawn to the attitude of the Central Midwives Board to the Belfast Maternity Hospital, the Council requests the Central Midwives Board to reconsider the question, so that nurses trained in these institutions prior to March 31st, 1905, and who present certificates of having passed the examination at the end of their practical training, shall be placed in the same position as nurses trained under similar conditions in the Dublin Maternity Hospitals and in the Lying-in Hospitals in Cork and Limerick, and who up to March 31st, 1905, have been placed on the roll of certified midwives.

We trust the Central Midwives Board will see the desirability of not running counter to the feeling of the medical profession.

THE PLAGUE.

PREVALENCE OF THE DISEASE.

INDIA.

DURING the weeks ending June 17th and 24th the deaths from plague in India numbered respectively 4,883 and 4,563. The principal figures were: Bombay City, 151 and 135; Bombay Districts, 238 and 255; Calcutta, 52 and 37; Bengal Districts, 289 and 162; North-West Provinces and Oudh, 396 and 151; Punjab, 3,189 and 3,663; Rajputana, 285 and 82; Kashmir, 3 and 11; Mysore, 23 and 23; Madras Districts, 6 and 3; Burmah, 82 and 93. From the shores of the Persian Gulf and Bahrein Island deaths from plague are also reported.

SOUTH AFRICA

During the weeks ending June 10th, 17th, and 24th, the reports of plague from South Africa were:

East London—Fresh cases, 2, 1, and 4; deaths, 1, 2 and 4. King Williamstown, 1, 0, and 1; deaths, 0, 1, and 0. Rats and mice were found to be plague-infected at the above-mentioned towns and at Port Elizabeth.

AUSTRALIA

During the weeks ending May 27th and June 3rd the plague returns from Queensland were:

Brisbane.—Fresh cases, 0 and 1; deaths, 0 and 1. Ipswich, fresh cases, 0 and 1; deaths, 0 and 1. No fresh cases in Childers.

HONG KONG.

During the weeks ending June 17th, 24th, July 1st, and 8th the fresh cases of plague numbered 25, 15, 25, and 21. The deaths from the disease numbered 26, 14, 22, and 21 respectively.

MAURITIUS

During the weeks ending June 22nd, 29th, July 6th, and 13th the fresh cases of plague numbered 3, 7, 1, and 1; and the deaths from the disease 2, 2, 1, and 0 respectively.

PREVENTION OF EPIDEMIC SMALL-POX.

A conference of representatives of municipal authorities to consider the means which can be taken for the prevention of epidemic small-pox was held under the chairmanship of the Lord Mayor of London at the Mansion House on Tuesday, July 18th.

The following is the text of a memorial which has been extensively signed by the Lord Mayors and Mayors of different Corporations, Lord Provosts and Provosts of large towns in Scotland, and Chairmen of Urban and Rural District Councils:

Memorial to the Government.

We, the undersigned Lord Mayors and Mayors, Lord Provosts and Provosts of large towns in England, Scotland, and Ireland, and Chairmen of Urban and Rural District Councils, where epidemic small-pox during the past eighteen months has caused much suffering, destruction of property, increase of municipal expenditure, and interference with trade, desire to make known to His Majesty's Government the great importance which we attach to the prevention of epidemic small-pox by the systematic revaccination at school age of all but the children relieved under the Exemption Clause, and of those who are for a time excused on the ground of ill health.

The reasons for urging obligatory revaccination are briefly these:

1. By the age of twelve the protection against small-pox afforded by primary vaccination is in large measure worn out, and children of that age when exposed to the contagion of small pox are liable to take the disease, though for many years longer they would probably only have it lightly.
2. The task of providing an adequate amount of glycerinized lymph would be much simplified by the demand for such lymph being nearly the same, year by year. At present there is an enormous demand in epidemic years, and a comparatively small demand at other times. Lymph is not prepared quickly or cheaply, and it does not keep for indefinite periods of time. If the Government knew within a little the number of tubes that would be wanted each year, the problem of providing what is required would be much simpler than it is at present.
3. Protection from small-pox by systematic revaccination would be cheaper and very much more successful than by providing costly small-pox hospitals and attempting to deal with epidemic small-pox by isolation of patients.

We do not consider that there would be any great practical difficulty in organizing general revaccination. In the schools under the London County Council, the number of children of the average age of 12.8 years forms 6.25 per cent. of the whole number of children in the schools. This percentage amounts to about 34,000 children who would have to be revaccinated in London each year, in 521 separate schools. With whole-time officials the work could be done gradually and without any difficulty.

Systematic revaccination has been the rule in Germany for many years, with the result that epidemic small-pox is not known there. It has now been adopted also in France; no other means of prevention can be relied upon.

The cost of providing isolation hospitals for small-pox patients is enormous, and it tends always to increase, owing to the difficulty of getting sites, and of working the hospitals at a considerable distance from all other houses.

We therefore venture to urge upon His Majesty's Government the great economic advantage of preventing the occurrence of epidemic small-pox by the general revaccination of children at school age.

Mrs. Garrett Anderson read several letters of regret from various persons who were unable to attend.

The Lord Mayor of York then proposed the following resolution:

> That the continued recurrence of epidemic small-pox involves much needless suffering, interference with trade, waste of public money, and increase of municipal expenditure.

He said that those countries where vaccination and revaccination were prevalent experienced the least recurrences of small-pox. It was a good business speculation for the citizens of any community to take the preventive course suggested. It was important that the whole nation should have all the children vaccinated.

Sir William Broadbent seconded the resolution, and pointed out the suffering that was caused by small-pox epidemics, and described the great loss of life that occurred and the dislocation of commerce that arose therefrom. If vaccination and revaccination were practised at given periods then small-pox would become an unknown disease. He thought the best way to counteract the foolish prejudice of anti-vaccinators was to circulate photographs of cases of small-pox. He urged the importance of having some central authority to carry out the preventive measures necessary in regard to small-pox.

The Lord Provost of Glasgow said that the experience of Glasgow justified the resolution. Small-pox epidemics involved the community in vast expenditure.

Dr. Glover commented on the incidence of small-pox in the Leicester epidemic, and observed that out of the 321 cases of small-pox in 1904 there was not one single instance of the disease attacking a person who had been recently vaccinated before exposure to infection.

The resolution was then put to the meeting and passed unanimously.

Sir W. S. Church then moved the following:

> That epidemic small-pox ought to be prevented in this country, as it has been since 1875 in Germany, by the systematic revaccination of children in their 13th year.

He said that it was unfortunate that the extreme value of vaccination misled people into thinking that it gave as much immunity as an attack of small-pox. The immunity conferred by vaccination wore out from within ten to twelve years. If the population only knew what had happened in Germany it would insist on the Government of this country making revaccination compulsory. Since 1893 the mortality in Germany from small-pox had never exceeded one per million living. He explained how there would be no difficulty in vaccinating the whole of the population at school age, and then it would be possible to estimate the number of children that had to be revaccinated, and that would enable the Government to keep a proper supply of lymph. He concluded by pointing out that there had not been a single epidemic of small-pox in Germany since vaccination and revaccination had been in practice—in fact, latterly the disease was unknown in Germany.

Alderman Kilburn (Dewsbury) described how Dewsbury had suffered from an epidemic of small-pox; the epidemic was so serious that it had given rise to a heavy financial burden on the district he represented. He had no hesitation in stating that the best measures for prevention were primary vaccination and revaccination.

The resolution was then put to the meeting and carried unanimously.

The Duke of Northumberland then proposed the following:

> That this meeting of Lord Mayors and Mayors, Lord Provosts and Provosts and Chairmen of the Urban or Rural District Councils of such towns and localities in Great Britain and Ireland as have suffered collectively from upward of 480 separate epidemics of small-pox within the last eighteen months ventures to urge upon His Majesty's Government the great importance of preventing the recurrence of such epidemics by the systematic revaccination at school age of all but the children relieved under the Exemption Clause and of those who are for a time excused on the ground of health.

He said he was convinced that we must make further efforts in the direction of vaccinating the population generally; nothing of that kind could be done without the support of the local authorities, large and small, throughout the length and breadth of England. Isolation hospitals were provided throughout the country at great expense, which under a proper system of vaccination and revaccination would be rendered, if not useless, at least superfluous. He had introduced into Parliament last year a Bill dealing with vaccination of children, and he had done that in order to keep the matter before the Government. He considered that anything that could be done to keep the subject before the country should have the support of all. Everything possible should be done to bring municipal and local authorities to consider the matter, and to put forward as far as possible this most important question, and to urge it upon the attention of the Government in power.

The Mayor of Preston gave details of how the town of Preston had suffered from small-pox, and, from his experience, he urged that the resolution should be passed.

The Mayor of Birkenhead said that the first resolutions they had passed at that meeting approved the principle of the

movement, and the resolution he supported gave effect to the previous resolutions.

Mr. BRUDENELL CARTER observed that the resolution called upon the Government to fulfil its primary functions—first, to protect the lives of citizens, and, secondly, to protect their property. He was followed by Dr. ARMSTRONG, of Newcastle, who related how the inhabitants of that town had dealt with an epidemic of small-pox, and concluded by quoting figures in support of the resolution.

The resolution was then put to the meeting and carried unanimously.

Dr. EDWARDES moved, and Mrs. GARRETT ANDERSON seconded, a cordial vote of thanks to the Lord Mayor. This was suitably acknowledged, and the proceedings closed.

ANNUAL REPORT OF THE CHIEF INSPECTOR OF FACTORIES AND WORKSHOPS FOR THE YEAR 1904.*

THE annual report of the Chief Inspector of Factories and Workshops for 1904, Part I, recently issued, states that the number of persons employed in factories in the United Kingdom is 4,000,000, and in workshops 700,000. There are upon the register of the Home Office 104 472 factories and 145,172 workshops. At the end of 1904 there were 1,989 certifying factory surgeons in the United Kingdom, each of whom is obliged to furnish to the Chief Inspector of Factories an annual report in the first week of January. Last year 92,968 accidents were reported, as against 92,600 for 1903, the fatal cases being 1,018, as against 1,047.

If it is a satisfaction to us to read the announcement, what a sense of relief it must be to inspectors of factories that since "The Prevention of Cruelty to Children Act, 1904," was passed, which deals with children (not under seven years of age) taking part in public entertainments, these gentlemen have been relieved of the responsibility of enforcing the conditions of the licences. Why and how the duty of following these children about all over the country ever came to be imposed upon factory inspectors it is difficult to comprehend. It was a thankless duty, and an expensive and misplaced task.

The annual reports of the various Superintending Inspectors of Factories are interesting reading, and they contain much valuable information.

In the report of the Superintending Inspector of Factories for Dangerous Trades and Dangerous Machinery the question of humidity in cotton cloth factories and their ventilation is dealt with. In speaking of dust, attention is drawn to the fact that since it has been found that men employed in granaries suffer to a considerable extent from diseases of the lungs, consequent upon inhalation of siliceous particles, débris of husks, broken fragments of hair, etc., it is recommended that methods for collecting and removing the dust should be introduced, much on the lines of those at present in use in the warehouses of the Manchester Ship Canal Company.

To the risk of fire and burns caused by xylonite or celluloid Commander H. P. Smith calls special attention. Xylonite is used as a substitute for ivory handles to table-knives, etc. It readily catches fire. Some idea of the large quantities of xylonite introduced into this country for manufacturing purposes may be gained from the fact that in 1903 the money paid for this substance to European and American houses was £158,649. From a series of experiments carried out by Captain Smith, it would appear that some forms of xylonite are more inflammable than others. It is not an explosive substance. When xylonite has caught fire the best thing to extinguish it is wet sand.

The report of the Principal Lady Inspector of Factories contains much interesting information. In speaking of the dressmaking and millinery establishments of the West End of London, Miss Anderson makes the remark that in the retail dressmaking trade there is no sign of an influx of foreign workers such as is observed in the East End wholesale clothing and other trades. A little more money spent by the employers upon the workrooms would tend to promote the comfort of the workers. The seasonal character of the trade is responsible for a good deal of privation. It would certainly be better for dressmakers' assistants if they could earn level wages all the year round, instead of high wages for the few weeks during which they are overworked.

Attention is drawn to the industry of pea-picking in Lincolnshire, an industry which has expanded considerably during the last two or three years, and for which the increasing demand for green peas for the table is responsible. The trade gives employment to large numbers of women and girls. It is an extremely monotonous occupation, and is said to be very trying to the eyes of the workers. The busiest time is the winter months, when the work is carried on not only in the factory, but in the homes of the people.

In aërated water works female workers still appear to be more liable to injury than members of the other sex. Of 17,831 males employed in the trade, 188 were injured; whereas of the 4 544 females, 320 were the subjects of accident. Safeguards do not seem to have been introduced into this trade as freely as they ought to be.

The increase in the use of electricity in this country and its attendant dangers are dealt with by Mr. G. Scott Ram. Three fatal and 33 non-fatal accidents occurred in electrical stations during 1904. Electrical accidents, if not many, are usually very severe. Working on switchboards is always extremely dangerous, even when proper precautions are taken. Carelessness and ignorance are responsible for many of the accidents, but not for all. It is interesting to note that the fatal shocks occurred at pressures varying from 200 volts to 10,000 volts. Low pressure, strange to say, appeared to bring about instant death in one case, while in another at 10.000 volts death did not occur until ten days after the accident.

The report of the Medical Inspector of Factories is rich in material. From it we learn of the further decline of lead poisoning in the country. In 1889 there were notified to the Home Office 1,258 cases of lead poisoning, and in succeeding years the numbers were 1 058, 863, 629, 614, whereas in 1904 the number was 597, or a little over one-half of what it was six years ago. The opinion is expressed that among males there is an apparent greater severity of the attacks than in females, owing to the longer duration of men's employment in lead, and the larger proportion of males that suffer from chronic plumbism. From white lead works 116 patients were notified, and 106 from china and earthenware. Among 21 cases of lead encephalopathy that were notified during 1904 there are included 12 of epileptiform seizures, 1 of mania, 3 of delirium and coma, 4 of optic neuritis, and 1 of loss of memory. There were 26 fatal cases of industrial plumbism last year; 5 cases of arsenical poisoning, 3 the result of mercury, and 1 fatal case of phosphorus necrosis in a woman aged 52, who had ceased being brought into contact with yellow phosphorus since April, 1900. This extremely tardy development of the effects of phosphorus upon a lucifer-match maker has been observed previously both in England and in France. It has generally been believed that two years is about the limit for the development of phosphorus necrosis after a person has withdrawn from the dangerous processes in lucifer-match works. Dr. Legge deals at considerable length with anthrax, but, as his Milroy Lectures upon this subject have been recently published, the reader is directed to them for fuller information thereupon. We feel, however, that it is incumbent upon us to give expression to our faith in the efficacy of the very valuable remedy which medical men now have in the serum introduced by Professor Sclavo of Siena for the treatment of anthrax.

* London: Messrs. Darling and Sons. (3d.)

CONTRACT MEDICAL PRACTICE.

NOTICE AS TO DISTRICTS IN WHICH DISPUTES EXIST.

A notice as to places in which disputes exist between members of the medical profession and various organizations for providing contract practice will be found among the advertisements, and medical men who may be thinking of applying for appointments in connexion with clubs or other forms of contract practice are requested to refer to the advertisement on page 83.

COVENTRY FRIENDLY SOCIETIES AND MEDICAL FEES.

DELEGATES of Coventry Friendly Societies met in the city on Wednesday, July 19th, to consider the position in which they are placed by the request of local medical men to be paid in future 4s. per member a year. The societies were well represented, and a letter was read from the Secretary of the Coventry Dispensary, in which he said he understood all the medical practitioners meant to stand by the resolution of the British Medical Association, and recounted the troubles which his institution had in filling up the last vacancy in its medical staff.

The general position was stated by the CHAIRMAN (Mr. W.

Parker). Not so long ago the societies affiliated to the dispensary paid but 3s., and then a rise to 3s. 6d. took place. Now the request was for 4s., and there was the threat that "the trade union doctors" would boycott any professional man who took club members at less than 4s. The hard thing about the present demand was that it was intended to charge 4s. for juveniles as well as for adults; and, as the former paid but 4s. 4d. in subscriptions, it was clear that a mere 4d. would be left after payment of the medical fee for other benefits. The Chairman suggested that this present movement on the part of the medical men had a national character, and was not local only.

The Secretary (Mr. H. Smith) read letters he had received from various places where medical services have been organized. Walsall Friendly Societies' Medical Association wrote that there 3s. 6d. for adults and 2s. for juveniles were charged, but he thought 4s. and 2s. 6d. fair. York could not recommend any contribution under 4s. and 2s. for the classes already mentioned, and suggested an entrance fee of 1s. Leamington was "delighted to think Coventry is at last waking up to consider the advisability of having an Association of your own. Of course you will have difficulties, but don't be alarmed; no good work is without them. After a quarter of a century's experience, I unhesitatingly say it (the Medical Association) was the best thing we ever started in Leamington."

A general discussion followed the reading of these communications, and a variety of opinions was expressed by the delegates. One expressed the opinion that the move of the Coventry medical men was the outcome of a general movement in the medical associations of the country.

Mr. Wood said if it were merely a local movement the difficulties would be less.

The Secretary stated that an interview had taken place between Drs. Pickup and Hind and certain representative delegates, and the former warned the latter that if they attempted to set up a medical association they would not get their advertisements for doctors inserted in the British Medical Journal, or secure other than inferior men (cries of "Oh!" and "Bosh!").

Several other speakers thought this was "only the thin end of the wedge," that the dispensers were not standing by the Friendly Societies, and that the medical movement should be met by the establishment of a medical institute for the city. Others considered the aim of the British Medical Association was to crush Friendly Societies, and one member thought the special object was to crush juvenile organizations. Mr. W. J. Dalton, a member of the Board of Guardians, said that was unthinkable, but he advocated paying "a living wage." At the same time he thought the dispensary doctors, the chief doctors in this local movement, were in receipt of salaries from that institution which made the mouths of struggling medical men water. He moved that a deputation wait on the local medical council especially to urge a modification of the proposed juvenile fee and to obtain a pledge that 4s. was final.

Other members thought it would be useless to send such another deputation, and an amendment was proposed to form a medical association.

Thereupon the Chairman warned the brethren to be careful.

Mr. Goonry said it would seem that Coventry had been taken early in the medical men's attack on Friendly Societies, and he contended that 3s. 6d. paid by a member was of better value than 4s. 4d. paid by dispensary members at 1d. per week.

The conference ultimately decided that a deputation, representing the various Lodges and Courts, be appointed to wait on the local medical men, asking (1) if 4s. is a final demand, and (2) if modification cannot be made of the proposal to charge 4s. per member per annum for the juvenile societies. The conference will reassemble some weeks hence, after the deputation has conferred (should it have the opportunity of doing so) and is able to make a report on the result.

From a letter from the Chairman of the Executive of the King's Hospital Fund, we gather that the Fund is now conditionally only £7,686 short of the amount required to give the fund a permanent income of fifty thousand a year from investments. Unless, however, this comparatively small balance is made up by the end of this month, the fund will be short of the desired total, for included in the calculation is a sum of £12 000, actual payment of which is dependant upon the balance being subscribed by the date mentioned.

THE DIET OF THE PRECIBICULTURISTS.

By Harry Campbell, M.D., F.R.C.P.,

Physician, North-West London Hospital and to the Hospital for Diseases of the Nervous System, Welbeck Street.

II.

Diet of the Australians.

The Australian aborigines are dolicocephalic, with a cephalic index of 70, a low, receding forehead and a cranial capacity which among Europeans would be regarded as microcephalic. So thick are their skulls, that they are in the habit of breaking sticks over them as we do across our knees. The skin is dark, with a dash of copper tint. They are for the most part naked savages, though some of them use skin garments or rugs made of kangaroo skins or of opossum skins sewed together, or primitively-woven cloth. The tribes of the North, which are inferior to those of the South, use no clothing whatever; "in the cold or rain they shiver and keep close to the fire." They grease their bodies to keep off mosquitos and other insects, occasionally mixing with the grease red ochre and pipeclay.

They employ large wooden bowls for holding their food.

Their flint instruments are for the most part chipped, but quite a number of them are ground smooth.

Fire they produce by rubbing flints together, and also by means of the wooden fire-drill.

Animal Food.

Though some of the Australian tribes, such as those inhabiting the tropical north, subsist mainly on vegetable food, others, such as the south-eastern tribes, are obliged to depend on animal food chiefly, for, owing to the scarcity of water over the greater part of Australia, vegetable food is apt to be scanty. Carr maintains that there is no tribe which does not partake largely of vegetables; nevertheless, their vegetable food has always to be supplemented from the animal kingdom. Hence the primitive Australian is essentially a hunter or fisherman.

Hardly any animal food, "from a human being to a giant-fly," is considered unwholesome by the Australian, though from religious or superstitious motives certain animal foods are tabooed. Thus the animal food of one tribe is confined to opossum, kangaroo, dog, etc.; of another to porcupine and turkey; among others, again, only the old people are allowed to eat the flesh of the emu. These restrictions are not enforced upon the individual until he has attained the age of nine or ten years.

Among the animal foods of the Australians are the following: kangaroo, opossum, wallaby (smaller species of kangaroo), the emu (greatly prized); the dingo, or native dog; small marsupials, such as the wombat, bandicoot and iguana; rats, mice, bats, ferrets, and rabbits; turkeys, duck, crows, kites, hawks, owls, pigeons, quails, larks, swallows, sparrows, snipe and many other birds; whales, seals and fish of various kinds; all salt water shellfish, except (among many tribes at least) oysters; fresh-water shellfish; birds' eggs, ants' eggs, frogs, toads, lizards, snakes, turtles; scorpions, locusts, grasshoppers, moths, spiders, sandflies, ants, caterpillars, centipedes and grubs. These latter are often of large size, that from a certain gum tree being six inches long and half-an-inch thick.

Cannibalism, though rarely rampant among the Australians, seems to have been practised by most tribes, though apparently not to the same horrible extent as among certain early agricultural peoples. Some tribes are said occasionally to eat their children when food is scarce. Victims slain in war are eaten. The author of *The Never Never Land* declares that the natives consume human flesh as readily as a duck takes to water; and, according to Carl Lumholtz, the Northern Queenslander thinks as little of taking human life as we do of breaking a piece of glass, though within their own tribes murder and theft are accounted crimes; one man was greatly esteemed on account of his success in procuring human flesh, and there is nothing, Lumholtz adds, which so readily earns respect as this kind of prowess. There is no doubt that these Northern Queenslanders are much more primitive than the more Southern Australians, who do not appear even to have domesticated the dog.

Human flesh is consumed during the burial ceremony by some of the tribes. Thus we are told that when at a funeral an old man has finished beating his coonya, which consists of two light rods about 3 ft. long, the men and women commence crying, and the body is lowered into the grave, into which a native not related to the deceased then steps, and proceeds to cut off from the face, thighs, arms, and stomach

of the corpse pieces of fat; these are then passed round for the mourners to partake of, with the object, it is alleged, of deadening their grief, for surely it is not easy for anybody to feel poignant grief for one whose flesh he has tasted! Infanticide is practised.

Domestic Animals.—The only animal domesticated by the primitive Australian is the dog, and not all tribes are in possession of even this animal. Seeing that the dog does not belong to the fauna of Australia, and that the Australians had before the arrival of the white man been from very remote times cut off from the rest of the world, we must assume that they brought these faithful animals with them when they first peopled the continent, which shows that it has been man's companion for many thousands of years. Some of the Australian dogs appear to be in a wild or semi-wild state, and such occasionally serve as food for the natives. Those that are domesticated help in finding snakes, rats, and the like, and the natives are said to be very fond of them. An Australian woman was seen crying over a dog that had been stung by a snake.

Methods of Securing Animal Food.—Land animals, birds, and fish are procured in an endless variety of ways, many of which are highly ingenious and original. They differ considerably among different tribes. The most interesting fact in connexion with the weapons of the Australian aborigines (as also of their close allies the now extinct Tasmanians) is the absence of the bow-and-arrow. They use instead the spear-thrower and the boomerang, in the throwing of which they display great skill. They also employ a flint fixed, chisel fashion, to a wooden handle, the sides of the flint being roughly chipped and the edges ground smooth; in Eastern Australia the tomahawk is made of green stone as large as an American axe. Knives are made by cementing bits of flint on to wooden handles; shell knives are also used; sometimes the edge of a split reed is used to cut flesh. They have many different kinds of clubs. Since the advent of the white man metal has with many tribes replaced stone for making implements.

Land mammals are trapped and stalked with marvellous skill, the Australians being, indeed, the most expert hunters in the world.

Birds are netted: for catching wild duck two men hold a wide net across a river, while a third drives the duck upstream into the net. The natives make these bird-nets of grass, which they prepare by chewing. Fish are speared and caught by lines and nets, the lines being manufactured from rushes or the roots of a certain flag, which are first chewed and then twisted by the hand. The chewing is done by the women, for which reason their teeth are often more worn than are those of men—so much so, indeed, as often to cause toothache.

Preparation of Animal Food.—Animal food is sometimes eaten raw, and in any case its cooking is performed in a perfunctory manner. Thus, of certain tribes who do not appear to have used underground ovens, we are told that raw flesh is not objected to, but that if there is time it is cooked in embers, and handed round for consumption when the heat has barely penetrated the surface, and when this outer portion has been eaten the remainder is exposed to the fire for a few minutes and then again handed round. Of another tribe we read that they eat some of the smaller animals in the raw state, and that in cooking their "meat" they little more than singe it, preferring it "thoroughly underdone." Formerly this tribe employed underground ovens for cooking the larger game, but it has now for many years abandoned the practice.

Grubs are eaten both raw and cooked. The large grub which the natives cut out of the gum tree is said to be watery and insipid when raw, but excellent eating when roasted. Insects are frequently eaten raw. One writer observes that it was not a pleasant sight "to see a black woman divest of wings and legs the gigantic fly (cicula) and then gobble it up alive."

The art of boiling was unknown to the vast majority of the Australians before the arrival of the white man.

BEQUESTS TO MEDICAL CHARITIES.—Mr. John Gilmour of Helensburgh, Dumbarton, and formerly of Virginia, U.S.A., who died on April 15th, bequeathed £1,000 to the Helensburgh Infirmary, and £3,000 to the Glasgow Royal Infirmary.

VISITORS to the Liége Exhibition may be glad to be reminded that Spa, in Belgium, said to be the oldest chalybeate spring in the world, is within easy reach. The municipality are taking great pains to revive the ancient glories of Spa.

LITERARY NOTES.

THE Oxford University Press announces that the second part of the second supplement to the *Index Kewensis* will be ready immediately. This supplement covers the period 1896 to 1900. In the original work the genera and species of flowering plants from the time of Linnaeus to 1885 were enumerated; and the first supplement carries on the list to 1895.

Professor Walter Simon, of Königsberg, has presented to the library of that University a book printed by Cotta, which contains the medical theses on which public disputations were held by nine students of Duke Charles of Wurtemberg's Military Academy at Stuttgart in 1778. Among these students was the famous poet Friedrich Schiller. The theses are in Latin, and deal with pathology, symptomatology, and therapeutics. Among them are such subjects as Esculenta conservant, medicamenta restituunt sanitatem (food maintains, medicines restore health); Ut medicamentum non semper aegris prodest, sic nocet semper sanis (drugs not always do good to the sick, and always do harm to the healthy); Qui potest mederi simplicibus, male quaerit composita (whoso can be healed by simple means wrongly seeks for complex remedies).

The following lines from *The Birth and Death of Pain*, a poem read by Dr. S. Weir Mitchell on the occasion of the fiftieth anniversary of the discovery of anaesthesia, which took place at Boston on October 16th, 1896, are quoted in a recent pamphlet by W. T. G. Morton's son:

> How did we thank him? Ah! no joy-bells rang,
> No paeans greeted and no poet sang,
> No cannon thundered from a guarded strand
> This mighty victory to a grateful land!
> We took the gift, so humbly, simply given,
> And coldly selfish—left our debt to Heaven.
> How shall we thank him? Hush! a gladder hour
> Has struck for him; a wiser, juster power
> Shall know full well how fitly to reward
> The generous soul, that found the world so hard.

In a thesis lately presented to the Medical Faculty of Bordeaux, Dr. C. Clologe treats of the gynaecological knowledge of the old Greek physicians. The uterus, as is well known, was regarded as an animal. As late as the fourth century Aretaeus the Lappadocian writes that the womb is situated between the flanks, and moves not only from side to side, but upwards towards the liver and the spleen; it can also go downwards; in short, it is like an animal inside an animal. In the *Treatise of Diseases of Women*, which is included among the Hippocratic writings, hysteria is described. It is especially elderly women or those who have not yet had sexual relations that are subject to the disease, the reason being that in such persons the uterus is not made heavy by lochial discharge, and does not swell or become supple. Fatigue is an important factor in inducing an attack, because the vessels being then emptier than usual, the dried-up womb becomes lighter and shifts its place. The organ then sets out in pursuit of the moisture which it needs. It first flies to the liver "as the liver is full of fluid"; sometimes the head comes to the relief of the liver by sending down phlegm, with which the womb is satisfied and goes back to its place. But if it sticks to the liver, "the white of the eyes is rolled up, the woman becomes cold, and sometimes even livid. She gnashes her teeth; saliva flows from the mouth, and she is like epileptics." In other cases "the woman at once loses her voice; the hypochondria are hard; she has a feeling of suffocation; she clenches her teeth, and she does not hear when she is called." If the womb remains long in the neighbourhood of the liver, the woman may die of suffocation. Occasionally the uterus goes to the head, which forthwith becomes heavy, the veins of the nostrils and the parts under the eyes become painful, and the woman falls into a state of torpor and drowsiness; sometimes it goes to the heart, causing distress and giddiness; sometimes to the hypochondria, when vomiting of burning and acrid matters sets in, while the head and neck are the seat of violent pain. There is a suffocative feeling, with severe orthopnoea and intense cardialgia; if the errant womb does not speedily return to its proper place, the patient loses the power of speech. The indications naturally were to dislodge the womb from its wrong situation; to induce it to return to its own place injections and strong-smelling fumigations were used, while the patient was given stinking substances to smell.

In the annual address recently delivered at the Commencement Exercises of the Medical Department of the Tulane University, and published in the *New Orleans Medical and Surgical Journal* for July, Professor Alcee Fortier spoke of the

physician in the history and literature of Louisiana. He said that when the white men explored the vast country watered by the Mississippi they found among the Indians skilful medicine men and women who wrought notable cures. Louisiana was founded in 1699, but there is no mention of any medical practitioner till 1719, when the *St Louis*, one of the French king's ships, sailed for Louisiana, having on board the "Sieur Ballay, chirurgien, exilé par lettre de cachet." In a census of New Orleans taken in 1732, there are four physicians and one apothecary in a population of 883 souls. The city could scarcely have been a profitable field for medical practice, for in 1738 Dr. Prat, surgeon to the King's Hospital, is found petitioning for means to establish a garden of medicinal plants, and to build a house for himself. He further asked for a salary of 2,000 livres on the ground that the inhabitants were accustomed to be treated for nothing, and the physician had no resource but the favour of the king. We get an interesting glimpse of hospital practice from the following Royal Ordinance dated January 1st, 1729:

The physician shall visit the patients every day. He shall be accompanied by an assistant to the surgeon, who shall write down the bleedings ordered, and the regimen. An apothecary and nurses shall accompany the physician, to report to him the effects of the drugs, and anything that may have happened to the patients. The physician, as well as the surgeon, shall taste the soup and the wine, shall see the meat and the bread, and shall forbid that any fruit be given the patients, or any food unfit for them. The physician shall visit the pharmacy from time to time to examine the quality and quantity of the drugs. The surgeon shall oblige all his aides to sleep in the hospital, and if he lodges there he shall visit their room to see if they are there. If there is an assistant surgeon, he shall attend to this. No soldier shall be permitted to make a will in favour of the officers of the hospital where he shall be, not even in favour of the chaplain or of the latter's convent under pretext of pious legacy. All the officers of the hospital shall see to it that none of the patients or attendants shall blaspheme, curse, or use improper words.

There is no mention of doctors in the history of Louisiana from 1738 to 1769, when the name of Dr. Lebeau occurs in connexion with a dispute about a pirogue. During the Spanish Domination there is no mention of physicians. On April 19th, 1805, the Legislative Council of the Territory of Orleans established the University of Orleans, and in the list of regents are the names of Drs. Artin, Robelot, Montegal, Le Duc, and Dow. On July 30th in the same year, Dr. John Watkins was appointed Mayor by the Governor. Dr. Fortier says that the members of the medical profession in Louisiana have always taken an intelligent interest in public affairs. When Beauregard in 1862 called on Louisiana to defend the Mississippi valley, it was his surgeon-general, the brave and chivalrous Dr. Samuel Choppin, whom he sent as a special messenger to New Orleans. Twelve years later it was another physician—the late Dr. J. Dickson Bruns—who, on September 13th, 1874, addressed the eloquent appeal to the citizens of New Orleans which brought about the revolution of September 14th. Many physicians of Louisiana have cultivated the Muses without interfering with their professional work. Among the medical poets are Dr. Charles Delery, author of a political satire—*Les Némésiennes Confédérées*, published in 1863—and of a comedy in verse, entitled *L'Ecole du Peuple*. He also wrote a valuable work in prose—*Les Chroniques Indiennes*—in which he gave an account of the customs of the Indians. Dr. Charles Testut was a prolific writer. His best poems, published in 1849 in a volume entitled *Les Echos*, are of a meditative and pathetic character. He was also the author of several novels, the most interesting of which is *Les Filles de Monte Christo*, a continuation of the elder Dumas's famous romance, and of a work entitled *Portraits Littéraires*, dealing with French writers of Louisiana before the Civil War. Another medical poet and novelist was Dr. Alfred Mercier, who died in 1894 at the age of 78. In 1876 he founded the Athénée Louisianais, a literary society established to preserve the French language in Louisiana. The first president of the Athénée was Dr. Armand Mercier, a distinguished surgeon, brother of Alfred Mercier. The second was General Beauregard. Among the members were many members of the medical profession.

In an interesting note contributed to the *Deutsche medizinische Wochenschrift* of June 29th, Professor Wilhelm Ebstein quotes an old German song which shows that one of the most distinctive features of the Kneipp treatment was well known in the twelfth century. In the song which is called "The Cure of Love" the patient says that he rose early in the morning and with naked feet went to walk in the meadow, which the doctors say is wholesome. Further evidence to the same effect is found in a *fabliau* of the thirteenth century published in the *Recueil General et complet des Fabliaus des XIIIe et XIVe Siècles*, edited by A. de Montaiglon and G. Raynaud (Paris, 1875 88). The reference given is vol. i, pp. 256-7. The "maker" sings of a lady who went into her orchard with naked feet through the dew. There she meets a priest who asks her why she has left her bed so early. She replies that the dew is wholesome at that time of the day, and according to physicians affords very great ease. We venture to quote the original French:

Entrée en est en son vergié,
Nuz piez en va par la rousée;
D'une pelice ert afublée,
Et I grant mantel ot deseure.
Et li prestres, etc., ...
"Dame," fet-il, "bon jor aiez!"
Por qu'estes si matin levée?"
—— "Sire," dist-ele, "la rousée
Est bone et saine en icest tans,
Et est alegemenz moult grant,
Ce dient cil fusicien."
[She has gone into her orchard,
Walks barefoot through the dew;
Clothed in a fur coat
With a great mantle over it,
And the priest, etc. . . . . .
"Lady," quoth he, "good day!
Wherefore are you up so early?"
"Sir," said she, "the dew
Is good and wholesome at this time,
And gives very great ease:
So say the physicians."]

Professor Ebstein goes on to say that the question whether cold or hot water is the more wholesome was debated in the time of the Emperor Augustus in the Middle Ages. He quotes from a French play of the fifteenth century a passage in which a man attacked by gout calls out:

Va-moy chercher ung medicin,
Ou me viens chauffer un bacin.
[Go get me a doctor,
Or get ready a warm bath.]

The wet pack was known in the sixteenth century, as appears from a work by Noel du Fail:

Je suis aussi au roole des gouteux et n'ay trouvé autre remède, qu'un grand bacin d'eau froide, une esculee de sel dedans, puis une serviette trempee en cela apliquee sur les parties douloureuses.
[I, too, am among the gouty, and have found no other remedy than a large basin of cold water, a spoonful of salt therein, then a towel steeped in that applied to the painful parts.]

An ancient hydrotherapeutic method for awakening a man from a swoon is described in a French poem of the twelfth century; it consisted in alternate applications of cold and hot water. The following is the passage:

Dont vint li bons fisicions;
Froide ève et chaude a demandée;
Ele li fust tost aportée;
Lucomion fist halt lever,
Et les piez et les meins laver
De cell eve ki fu froide:
La froideur la chalor refroide,
Et la froide ève ravertue
La chalor ki est descendue;
A lui trét le sanc et apelo;
Puis prant lainne blanche et novelle,
En l'ève chadete l'a mise:
Desour le piz li a assize;
Si commo i enplaistre loist;
Por ce la chaleur i assist.
Que le sanc del cuer remuaist
Et par les veines s'avoiast.

[Then came the skilful leech,
Asked for water, hot and cold;
This was forthwith brought unto him.
Made Lucomion[1] stand up
And wash his feet and hands
With the water that was cold;
The cold drives away the heat
And the cold water rekindles
The heat which has fallen,
Draws to it the blood and cools it;
Then he takes white fresh linen,
Puts it into the hot water
And applies it to the breast
As if he put on a plaster;
Because the heat is there,
That it may drive the blood from the heart
And make it move through the veins.]

From this it will be seen that the beneficial effects of the water cure were well understood in antiquity.

[1] Doubtless the patient's name.

SPECIAL CORRESPONDENCE.

PARIS.

The Treatment of Cancer by the Serum of Dr. Doyen: Report of the Special Commission of the Société de Chirurgie.—Académie de Médecine: Anaesthesia by Means of Morphine Hypodermically and Alcoholic Solution of Chloroform given by the Stomach.—Proposed Centralization of Clinical Instruction at Hôtel Dieu.

ON December 14th, 1904, Dr. Doyen made a communication to the Société de Chirurgie on "The Micrococcus Neoformans and the Therapeutics of Cancer," which was analysed in the BRITISH MEDICAL JOURNAL of December 24th, 1904, p. 1720. The Société de Chirurgie then appointed a Special Commission composed of MM. Berger, Monod, Nélaton, and Delbet to study in Dr. Doyen's clinic the effects obtained in the treatment of different forms of cancer by the serum treatment described by Dr. Doyen. The Special Commission, which has met during the interval at Dr. Doyen's clinic and examined the various cases, having decided that the results of their observations could now be formulated as conclusions on the therapeutic value of Dr. Doyen's method of treating cancer, designated Dr. Delbet to draw up a report, which he read at the meeting of the Société de Chirurgie on July 12th. The following are the conclusions of the report: The Commission has examined twenty-six patients suffering from cancer or from recurrence of cancers of various organs. To facilitate the study of the cases the reporter divides the cases into several groups:

I.

In a FIRST group, he places the *cases treated by serum alone without operation.* This group is subdivided into two series:

Series A: Primary Cancers Treated by Serum.—This group consisted of 3 cases, which, at the time that the Commission thought fit to conclude their observations, gave the following results: Condition stationary, 1 case; evident aggravation, 1 case; rapid aggravation and death, 1 case.

Series B: Recurrence Treated by Serum.—This group consisted of 7 cases, with the following results: No amelioration, grave condition persistent, 2 cases; aggravation, 5 cases (1 slight, 4 very manifest).

II.

In a SECOND group, the reporter places the *cases of cancer or of recurrence of cancer treated simultaneously by serum and by one or several operations.* This group likewise is subdivided into two series.

Series A: Primary Cancer.—This group contained twelve cases; in three there was no improvement, in nine the condition was aggravated, in one with particular rapidity.

Series B: Recurrence.—Here there were four cases, the results being:—Condition stationary one case, aggravation three cases, one being very rapid.

It must be added that, of the twenty-six cases dealt with in the report, Dr. Doyen considers that seven should be rejected, because, in his opinion, in some the treatment was commenced too late, and in the others it was not followed regularly. To these objections M. Delbet replies that all these patients received six to eighteen injections, and some as many as forty-four, and that it is not rash to think that such a number of injections is probably sufficient to judge of their therapeutic value. Moreover, if Dr. Doyen states that for these cases it would have been necessary to give as many as sixty to eighty injections, it may be answered that he himself considered sufficiently treated patients suffering from similar cancers who had only received a dozen injections. It might be objected that an observation lasting only over a period of 5½ months is not sufficient to judge of the aggravation of a cancer or of a recurrence of cancer. In any case this lapse of time was amply sufficient to judge of the ameliorations, if any had occurred. M. Delbet concludes as follows:

> "Let one eliminate everything one wishes to from the statistics which I have brought to your knowledge, there none the less remains this fundamental fact, that, during the five months in which we have examined all the cases which M. Doyen has wished to show us, we have not seen a single amelioration. Further it seems to us that M. Doyen has been the victim of illusions which so easily carry away inventors who confound their hopes with the reality."

M. Delbet added that he had personally tried the serum of Dr. Doyen in three cases of cancer of the breast in his own wards, and that the result had in each case been a rapid aggravation in the progress of the neoplasm.

At the last meeting of the Académie de Médecine, M. Nestor Gréhaut communicated the first results of a method of producing anaesthesia which may be of service in the human subject. When chloroform is given to man or animals it is absorbed by the blood in the lungs, and carried in the arterial stream to all the anatomical elements, acting more especially on the higher elements—that is, the nervous system—sometimes causing the respiration or the heart to stop. Often in the Laboratory of Claude Bernard, in the Jardin des Plants, M. Gréhaut has seen animals die from the use of a large dose of chloroform. The penetration of chloroform into the arterial blood is much more serious and dangerous than its introduction into the venous circulation, and for this reason he tried to get the chloroform absorbed by the gastric mucous membrane. Chloroform dissolves with difficulty in water, but it is easy to dissolve 5 c.cm. of chloroform in a litre of alcohol at 10 per 100, which is the solution employed in the experiments.

1. A dog, weighing 7 kg., was given first a hypodermic injection of hydrochlorate of morphine (1 cgr. per kg.); in half an hour the dog is lying down and in a deep sleep. M. Gréhaut then injected into the stomach, by means of a pipette with a tap and a rubber oesophageal tube, 350 c.cm. of the alcoholic solution of chloroform; the animal thus received but 1 c.cm. 75 of chloroform. The dog during and after the injection remained quite quiet: there was no vomiting, and in about a quarter of an hour sensibility at the surface of the eye was abolished. He has rarely seen an animal so completely anaesthetized.

2. M. Gréhaut anaesthetized by this method on three occasions, at two days' interval, a dog of 10 kg; several hours after the beginning of each experiment the rectal temperature had fallen from 38·5° C. to 34° C., and the amount of carbonic acid in the expired air had greatly diminished, which explains this fall of temperature.

As to the practical conclusion of his work, M. Gréhaut indicates that in man, after serious accidents, extensive burns, or crushed limbs, which are so often fatal, it would be a great advantage to employ, at doses which experience will decide, hydrochlorate of morphine subcutaneously and the alcoholic solution of chloroform by the stomach, thus obtaining sleep and a complete anaesthesia with a sensible lowering of the central temperature. It would then be possible to do away with the pain which accompanies extensive traumatisme.

The Municipal Council will shortly discuss the report of M. Navarre on the proposed laïcization of the Hôtel Dieu and St. Louis Hospitals. It is proposed to realize a vast scheme, which has already been approved by Professor Debove, Dean of the Faculty of Medicine, whereby an important legacy to the Assistance Publique would be utilized in the uniting at the Hôtel Dieu all the clinical chairs scattered throughout the various hospitals in Paris. Another member of the Council, M. Alpy, proposes that the fourteen Paris hospitals should be divided among seven hospital districts, each consisting of two establishments, one with sisters and one with lay nurses, the choice of which hospital he would enter being left to the patient.

MANCHESTER.

Provision of School Restaurants for Hungry Children.—Number of Students at Medical School.—Visit of the King and Queen.—Princess Christian Training College.

THE question of the feeding of hungry children in the public elementary schools has been considered by the School Meals Subcommittee of the Salford Educational Committee. They suggest a conference with the Board of Guardians. The Independent Labour Party has been informed that the education authority has no power at present to provide permanent school restaurants, and that the only steps it could take would be to promote a private Bill which would empower it to provide the restaurants, or, on the other hand, to support by petition the Elementary Education (Provision of Meals) Bill.

It appears from the annual report of the Vice-Chancellor of the University that the total number of students in the Faculty of Medicine during the year 1904-5 was 319, including 12 women students. Work for the summer has now closed.

During the visit of the King and Queen to Manchester and Salford on July 13th no serious accident occurred, and the training of the police in ambulance work proved very useful. Even the accident department of the Royal Infirmary was not so busy as on an ordinary day. The services of the staff were required chiefly on behalf of the considerable number of people who were overcome by the great heat, and, of course, children were

the chief sufferers in this way. The ambulance work in the streets was carried out by the Royal Army Medical Corps Volunteers and the St. John Ambulance Brigade, and the arrangements were admirable. The medical volunteers on duty numbered nine hundred and were commanded by Colonel Coates, C.B. The stretcher-bearers of the Lads' Brigade also did good work.

The Princess Christian College, in Withington, for training ladies as children's nurses, under the management of the Gentlewomen's Employment Association, is one that deserves to be better known. It was established in 1901 to meet the increasing demand for ladies as children's nurses and to provide the necessary training for a career which is eminently suited for educated women who have a natural sympathy with young children. Students must be resident in the college. The nursery department is the vital feature of the training, the students being instructed in the care and management of the children and in the duties of both upper and under nurse.

SHEFFIELD.

Opening of the New University Buildings by the King and Queen.

EVENTS respecting the University of Sheffield have progressed at a rapid rate. Only three years ago funds were solicited to build a new University College. Then came the disruption of the Victoria University and the subsequent granting of Charters for separate Universities at Manchester and Liverpool and the likelihood that a similar fortune was in store for Leeds. The failure to arrive at an understanding with the latter city for the foundation of one University for the large and populous county of Yorkshire resulted in the determination that Sheffield should not be behindhand in the matter of higher education. Only two years last May an ever-memorable meeting convened by the Lord Mayor gave unmistakable expression to the resolve that Sheffield must have its own university. Steps were at once taken to carry this decision to a successful issue, and these pages have from time to time borne witness to the steady progress the movement was making.

Two years this month the foundation stone of these buildings—so suitable in all ways for the home of the University—was laid. They house the Faculties of Arts, Science, and Medicine, the Faculty of Applied Science finding accommodation in another specially-erected building. The Lord Mayor of London (Sir Marcus Samuel) laid the foundation stone.

The long-looked-for day, July 12th, has come and gone, and has given the University of Sheffield a start on its career under the best auspices, for His Majesty the King, accompanied by Queen Alexandra, has visited the buildings and declared them open. His Majesty made the following reply to the address presented by the University:

I thank you on behalf of the Queen and myself for your loyal address, and for the welcome which you have given to us. I view with lively satisfaction the establishment of this and other universities in large industrial centres, and it gives me great pleasure to open the handsome and spacious buildings provided for the University of Sheffield. I have never ceased to watch with great interest the great development of the wide movement for the encouragement of a sound and liberal education among all classes of my people, and I am well assured that the expectations of those patriotic and enlightened men, by whose efforts were established the institutions from which the University of Sheffield derives its origin, will be justified by the achievements of those who are educated within these walls.

In reply to addresses presented previously to reaching the University, at the Town Hall the King had kept well to the front the special object of his visit to the City. Thus, to the address of the Corporation, presented by the Lord Mayor, he said:

We are glad to be present here to open the University building, and to inaugurate a work which I am well assured will tend to promote the advancement of knowledge and the spread of culture among all classes of my people in the city. I have no doubt that the establishment of the University in this large commercial centre will also afford facilities for the technical training which is now so essential to success in every industrial enterprise. We shall follow the progress of the University with warm interest, and the welfare of your city will always be the subject of our sincere good wishes.

In replying to the address of the Chamber of Commerce, he also said:

I feel assured that the establishment of the University in Sheffield will do much to foster that spirit of enterprise which has been so distinguished a characteristic of British commerce in the past, and to encourage the spread of that technical and scientific training which is now more than ever necessary to enable the country to hold its place in the field of commerce amongst the nations of the world.

The preliminaries at the Town Hall, where the King and Queen were entertained at luncheon by the Lord Mayor and Lady Mayoress, were the prelude to the function for which the visit was specially arranged, and which, it will have been seen, the King had kept steadily before him from the first moment of his arrival in Sheffield to his declaring the University buildings open. The day was auspicious in all ways—lovely summer weather, tempered with breezes and occasional clouds.

The Chancellor and the Council of the University entertained 700 guests to luncheon in the Mappin Art Gallery, situated in Weston Park, and in close proximity to the University. Here were assembled distinguished representatives of other universities and corporate bodies. The Royal College of Physicians (Dr. F. T. Roberts), the Royal College of Surgeons (Mr. J. Tweedy, President), the President of the General Medical Council (Dr. D. MacAlister) were among those represented, as were also Oxford and Cambridge, and the younger Universities—Birmingham, Manchester, Liverpool and Leeds.

The ceremony was performed in the large quadrangle of the University and here were congregated nearly 4,000 invited guests. Here also was the Musical Festival Chorus, which have justly earned such a high reputation, and their singing, which was a part of the programme, was not behind their renown. There were processions first of the distinguished representatives of Universities and then of the Council and Senate of the new University, all who were entitled to robes and gowns wearing the same, and adding greatly to the picturesqueness of an already pretty and animated scene. Then the Council and Senate occupied their places on the Royal dais, the former to the right, and the latter to the left, of the seats for the King and Queen. Presentations were made to their Majesties by the Chancellor (the Duke of Norfolk, E.M.K.G.) in the entrance Hall of the University. Among these were the following members of the Council: Dr. W. Dyson, J.P. (a Vice-President of the old University College), Mr. Simeon Snell, J.P. (one of the Honorary Secretaries of the University movement); and of the Senate: Professor R. J. Pye-Smith, Professor Cocking (the Dean of the Medical Faculty), and Professor Arthur Hall, who had been active in the reception arrangements. Then the royal procession moved to the dais. It suffices to say that the Duke of Norfolk, to whom the University is deeply indebted in so many ways, addressed their Majesties in most felicitous terms. It was deemed a faultless speech in matter and form. He made a rapid survey of the movement which had culminated in such auspicious circumstances that day, and was able to announce that a worthy citizen of Sheffield, Mr. Edgar Allen, had promised a donation of £10 000, to be spent on the erection of a Library. The King in excellent voice, declared the buildings open in the words before mentioned, the procession re-formed, and, after visiting the large hall, the council and other rooms, their Majesties passed into the adjoining Weston Park, where a military function took place and the guests of the University, after leaving the quadrangle, were holding a garden party. From beginning to end the ceremony was excellent, the arrangements working without a hitch. Those present held that the young University had started well, and all who had worked hard for such a happy consummation congratulated themselves on the success of their efforts.

Some of the details of the royal visit have already been mentioned in the BRITISH MEDICAL JOURNAL (p. 144), and it is unnecessary to refer here to incidents not connected with the University. The streets throughout the ten miles of the route were crowded, and in this connexion the work done by the Ambulance Brigade is well worthy of mention. There were 400 men and 30 nurses, under the direction of 20 honorary surgeons. These were stationed at different parts of the route, and from eye-witnesses one knows of their excellent work. If a person in the crowd showed signs of fainting, he or she was immediately brought through the barricade, and restoratives were applied. The same was done with cases of injury to limb, which were promptly attended to. The water bottles were in constant demand. Altogether something like 1,200 cases were attended to, but fortunately only one was serious, that being a fracture of the thigh in an old man from a fall. Eighty thousand school children were massed together in different parts on the line of route.

On July 13th the Lord President of the Council, the Marquis of Londonderry, the Minister who accompanied the King and Queen to Sheffield, addressed a letter to the Lord Mayor of Sheffield, stating that he was commanded by His Majesty to express the appreciation of himself and of Her

Majesty the Queen of the warmth of the reception accorded to them by the inhabitants of Sheffield on the occasion of their visit. The letter continued as follows:

The opening of the new University buildings was felt by their Majesties to be an occasion of great importance.

His Majesty has recognized with pleasure the desire felt in some of the great centres of industry and commerce that Universities should take a prominent part in the promotion of scientific knowledge and research.

His Majesty heard with much satisfaction from the Chancellor of the University how generous and how largely successful have been the efforts of the promoters of your new University, to which, as His Majesty told you in reply, he fervently wishes long-continued prosperity.

His Majesty recognizes that, in these days of constantly increased application of science and of scientific method to every department of modern life, it is to the Universities that the nation must largely look for maintaining that position in relation to great commercial and industrial problems which is essential to the social well-being of his empire.

BIRMINGHAM.

West Bromwich Nurses' Home.—Lunacy in Birmingham.—Midwives Act.—Infantile Mortality from Epidemic Diarrhoea.

ON July 11th the Earl of Dartmouth, accompanied by Lord Lewisham, laid the foundation-stone of the new nurses' home which is to be attached to the West Bromwich District Hospital. The home is being erected at a cost of £3,000, and when completed there will be accommodation for twenty-four nurses. Mr. G. F. Chance, on behalf of the hospital Board, welcomed the Earl of Dartmouth, who then laid the stone. The Treasurer announced that £13 000 was needed for the home, for the adornment of the hospital, and for many necessary improvements. Towards this sum £5,000 has been subscribed, leaving £8,000 still to be collected. After the ceremony a luncheon was held in the Town Hall, at which there were speeches by Mr. G. F. Chance, the Mayor of West Bromwich, the Earl of Dartmouth, and others.

There is apparently a steady increase in lunacy in Birmingham. In April, 1904, there were 1,657 cases, and in March of this year, 1,701. The death-rate is 10.64 per cent., as against 10 60 per cent. for last year. A new asylum at Hollymoor has been opened recently by the late Lord Mayor.

The Health Committee has found that a large number of those registered under the Midwives Act are very undesirable persons, and in many cases it has been obliged to reprimand them. In one case it applied to the Central Midwives Board for removal of the name from the *Register*. The authorities at the Lying-in Hospital are making arrangements for an efficient training school for midwives for Birmingham.

According to the health report for last week for the city of Birmingham, the death-rate is the lowest recorded for this time of the year, being only 10.6 per 1,000. This is due to the absence of epidemics and to the favourable meteorological conditions. During previous years there has been an enormous infantile mortality in Birmingham during August and September, due to epidemic diarrhoea. To check this, the Health Committee has issued a circular drawing attention to the fact, and pointing out that the majority of these deaths can be prevented. The use of fresh milk and the utmost attention to cleanliness are among the precautions mentioned.

SOUTH WALES.

Proposed Water Board for Glamorgan.—Swansea Waterworks.—Small pox at Cardiff.—Cwmaman Waterworks Extension.—Children's Ward at the Llanelly Hospital.—Housing at Abersychan.

AT a meeting of the Bridgend Urban District Council, held on July 11th, a circular letter was read from the clerk to the Glamorgan County Council with regard to the water supply of the county, and the need of immediate steps being taken by the various district councils of the county as to the water supply pointed out. It was calculated that if the rate of increase in the population during the past twenty years continued during the next twenty years there would be a total shortage of water, according to the present supplies, at the end of that period of 20 million gallons daily. The suggestion was that there should be a central body with proper powers. A resolution was passed approving of the proposed scheme, and suggesting that a conference of representatives of the county councils of Glamorgan, be held to consider the question.

On July 15th the South Wales Municipal Engineers, who had been inspecting the Swansea municipal undertakings, visited the Cray Waterworks as guests of the Swansea Corporation. They were conveyed by a special train, and were accompanied by the Mayor and several members of the Corporation. Mr. R. H. Wyrill, M.Inst.C.E., Borough Engineer, piloted the party. At Cray they were met by the Mayor of Brecon, Mr. Rich, and Mr. B. Mackenzie, the manager of the works of construction. The visitors were shown over the works and greatly admired the manner in which the undertaking is being carried out, and made special complimentary reference to the low comparative cost, considering the results obtained. During the afternoon Mr. Wyrill read a paper, in which he described the various Swansea Waterworks undertakings. He explained that in the Cray scheme, of which he is the author, the watershed consists of 2 640 acres of excellent gathering ground in the wettest portion of South Wales. The storage reservoir will contain 1,000,000,000 gallons of water, and will be 100 acres in extent, being 1¼ miles long and ¼ mile wide. The top water is 1,000 ft. above the sea level, and the water is impounded by a dam 1,250 ft. long and of a depth of 144 ft. from foundation to top-bank level. The depth from the overflow level to the surface of the rock at the old river course is 100 ft., the rock excavation in the centre of the dam being 37 ft. deep. The gathering ground and the site is on the old red sandstone. The estimated cost of the Cray works is £566 000, of which £483 000 has been expended.

Three fresh cases of small pox were notified at Cardiff during the week ended July 15th. All three were removed to the Small-pox Hospital.

At a meeting of the Llandilo Rural District Council, held on July 15th, a tender at £1,749 16s. was accepted for carrying out the Cwmaman Waterworks Extension. The Inspector of Nuisances reported that the playground and out-premises of the Brynamman Council School were in a deplorably insanitary condition. It was resolved to call the Education Committee's attention to the matter.

Mrs. Buckley, the relict of the late Dr. H. Child Buckley, formally opened the children's ward at the Llanelly Hospital on July 15th. This addition to the well-equipped institution has been erected by Mrs. Buckley. Only subscribers to the hospital were present, and they were subsequently entertained at a garden party.

The housing of the working classes came up for consideration at the monthly meeting of the Abersychan Council upon the presentation of a report by the sanitary inspector as to the South Ward. According to this report there were eleven cases in which the cubic space allowed each adult was 100 cubic ft. below the minimum of the Local Government Board. Altogether, there were 441 persons living in overcrowded houses. A member proposed that notices be served upon the owners of houses where the cubic space allowance was under 300 cubic ft. per adult, to abate the nuisance. An amendment was proposed that no action be taken in the matter until the Council had taken some steps to provide better housing accommodation for the people. In support of the amendment it was stated that, in a recent case, people had been turned out of their homes, with the result that eighteen or nineteen persons slept in one cottage for several nights. The amendment was carried by a small majority.

CORRESPONDENCE.

THE SANATORIUM TREATMENT OF CONSUMPTION: IS IT WORTH WHILE?

SIR,—I venture to express the view that the writers of some of the many letters on this subject have overlooked two points of the greatest importance:

(1) That the poor who cannot pay for sanatorium treatment constitute the bulk of the victims of consumption; and (2) that the prospect of a successful issue to treatment would be vastly greater in a sanatorium than in the tenements, often a single room; not often more than two rooms, occupied by the sufferers amongst the poorer classes—in London, at any rate. Isolation in such homes is impossible; and so the disease spreads.

But, apart from the very poor, there are numerous classes of sufferers for whom sanatoriums offer the best prospect of more or less prolonged "relief" if not "cure," and for whom practically no accommodation is available—people who, whilst in health, are well able to provide for their personal and family wants, but whose means soon become exhausted when they are stricken with this fell disease; so that, at last, they may have no refuge but the workhouse. My attention to this aspect of the case was painfully revived lately by a paragraph in the July issue of the *London Teacher* as follows:

Last month the engagements of four mistresses were terminated on the ground that they are suffering from phthisis, a promise being made in each case of reinstatement if reported as completely restored to health within twelve months.

I do not know the circumstances of the unfortunate ladies referred to, but I fear there may be little probability of their ever getting back to their duties if unable to obtain sanatorium treatment during the probationary period. Doubtless there are other similar cases amongst the many thousands of teachers in the London elementary schools.

Then look at the case of the children. The London Education Authority directs, in their *School Management Code* (Article III, ix), that

Consumption is to be regarded as dangerous, and sufferers, therefore, must be excluded if this disease is accompanied by coughing or spitting.

It surely would be "worth while" to take measures to ascertain the existence of consumption before the disease arrived at a probably incurable stage; but whether the disease be in the early or the later stage, there is no place to which the poor children can be sent for treatment in the absence of public provision of sanatoriums.

I did not intend to write at such length, but could not forbear drawing attention to this aspect of the controversy going on in your columns, especially in view of the fact that, at this very time, the managers of the Metropolitan Asylums Board are anxiously considering as to whether they should take steps to get themselves constituted the sanatorium authority for London for the benefit of poor consumptives in need of the assistance they could so well give.

Of a surety it is "worth while" that they should undertake this beneficent work.—I am, etc.,

London, W., July 17th. T. ORME DUDFIELD.

SIR,—I fear that some of your correspondents who have replied to my letter have not read it very carefully, or I have altogether failed to make my meaning and purpose in writing clear. I am not against sanatorium treatment when applied with brains, and not as a mere routine of "feed and freeze;" nor can I find anything in my letter to particularly rouse the ire of superintendents. The question is not, Is sanatorium treatment a failure? but Is it worth while? Is the economic gain to the State at all commensurate with the economic loss sustained by a year or two's treatment in a sanatorium? There is no good in importing German statistics into the discussion unless a German climate can also be imported. I tried to show the worthlessness of statistics built up on the opinion of the patients as to their condition after treatment. We must have reliable statistics, scientifically and accurately compiled. At present there is no standard, no consensus of opinion as to classifying patients on admission, on dismissal, nor afterwards; and one of your correspondents throws doubt on the diagnostic value of the tubercle bacillus. Surely the mere opinions of interested parties are not to be designated statistics, nor will the general practitioner be won over by being told that he can know nothing of sanatorium treatment. I freely admitted the value of fresh air and good food in almost all diseases, especially wasting diseases; and I am willing, also, to admit the value of medical supervision, where possible, in all diseases, but not more so in consumption than, say, in typhoid.

But this does not touch more than the fringe of the economics of sanatorium treatment. The question is, Is it worth while? Because the rich support hydropathics and spas and get benefit, has never been put forward as a plea for erecting palatial buildings, State-supported or by subscription, for the poor; and why should we, therefore, be asked to support expensive sanatoriums for the poor till it has been clearly shown that in this country such treatment will give distinctly better results than the much more economic and practicable methods heretofore in vogue—and, let me add, in great measure still the only methods practised or possible for the general practitioner's average patient?

Let me try to put briefly the economics of sanatorium treatment for a working man in figures. I understand that sanatorium superintendents advocate a course of two years and light employment afterwards. Rarely do they promise a return to old occupations and environments. Now, no unendowed sanatorium run on the present lines could be self-supporting if less than £2 10s. were charged per week per patient. Add a loss of 30s. per week in wages; in two years this amounts to £416, and, assuming the patient now able to earn £1 a week, it will take him eight years to wipe out the economic loss to the community. Would any insurance company give an average life prospect of eight years to a patient known to be once consumptive, even if the disease had been cured or arrested in a sanatorium? We know from statistics that half at least are dead by the end of that period. How, then, can we speak of such treatment as being an economic gain to the State? And how are the poor to get its benefit unless by State or public support?

I am constrained to ask some of your correspondents whether their knowledge of the value of fresh air and good food in disease is contemporaneous with this present campaign against consumption.—I am, etc.,

ALEXANDER DON, M.B., C.M., F.R.C.S.Ed., M.A.

Dundee, July 11th.

PUBLIC VACCINATORS AND GENERAL PRACTITIONERS.

SIR,—"Inquisitive's" reforms are so far-reaching and progressive that it is impossible to keep pace with him. It appears now that he would abolish not only the public vaccinators, but the Local Government Board inspectors as well. Perhaps the Local Government Board itself will go next. I cannot follow him to these heights.

His mathematics are equally beyond my reach. Try my hardest I cannot make £300 divided among 100 men come to more than £3 as the average share of each. Yet "Inquisitive" says this is "clearly an absurd estimate." Clearly views of clearness differ. "Inquisitive" thinks his share of the plunder would be £28; but this would not, could not, alter the average. If he, or any one living in one of the larger districts, were to get £28, which is, at least, £25 more than the average, it would only mean that several others living in the same district would suffer by getting considerably less than their share. As to "Justitia's" supposed grievance, it cannot be taken seriously by any one acquainted with public vaccination. If we can "ingratiate ourselves" sufficiently to escape from the house without a broken head and a torrent of abuse, this is as much as we expect, and more than we always attain. The former may usually be avoided by silence under provocation; the latter not always even so. Were it otherwise, the people we are compelled to call upon are not usually such as would be at all desirable as private patients, while the well-known fact that public vaccinators almost invariably sustain a considerable loss of private practice, instead of a gain, is one which speaks for itself.—I am, etc.,

July 15th. PUBLIC VACCINATOR No. 1.

*** We are unable to publish any further correspondence on this subject.

SUTURE OF GRANULATING WOUNDS.

SIR,—In the BRITISH MEDICAL JOURNAL of June 24th, p. 1376, Mr. Edmund Owen describes a method of secondary suture of cleft palates after failure of primary union. This method of converting an apparent failure into an ultimate success, entailing as it does very little loss of time, is one which is available, but not often used, in other branches of surgery. The principle of approximation of granulating surfaces, either with or without refreshing of these surfaces, is applicable in many operations. In its simplest form, it is seen in the suture which is left untied at the end of an operation to allow of drainage by a wick of gauze or rubber tube, and only tied when drainage has ceased to be necessary and the track of the tube or gauze is represented by a sinus lined with granulations.

The principle of secondary suture is also applicable to cases of perineorrhaphy, in which sutures have been inserted immediately after labour, but in which the perineal tissues have failed to unite.

Ten years ago, at Queen Charlotte's Hospital, I applied this plan of secondary suture to an ununited perineum one week after confinement. Firm union took place, thus saving the patient from possible prolapse with a second lying-up at some future date, and prolonging her stay in bed by one week only, and that at a time when the extra rest was least inconvenient and most likely to be of value. If every perineum in which primary suture had failed were treated by secondary suture as above, a great deal might be done to lessen the number of elaborate flap-splitting operations, the ultimate results of which are not infrequently far from satisfactory. Secondary suture of granulating surfaces has been, and is being, employed to a small extent for wounds in various regions, but its adoption as a recognized treatment of utmost universal applicability is still in the future. I am, etc.,

Plymouth, July 15th. C. HAMILTON WHITEFORD.

THE FRENCH ESPERANTO MEDICAL GROUP.

SIR,—As a consequence of my letter, so kindly published by you a fortnight ago in the BRITISH MEDICAL JOURNAL, I have received a number of inquiries about Esperanto, the international language, and about the French Medical Esperanto Group of Paris. The Paris Group is now energetically working at the production of the medical dictionary in that language. I believe that all the names of the group officials are well known to your English readers, so I append a list of them:—President, Professor Bouchard (Paris); Vice-Presidents, Drs. Picqué and Dor; Councillors, Professor Brouardel and Lépine; General Secretary, Dr. Paul Rodet; Secretary, Dr. Maillard. The group has already published an excellent and wholesome brochure, which I recommend to the medical profession in England. It is entitled, *To our Sons, when they shall Attain the Age of Eighteen.* It is worth reading, but, as yet, has not been translated into English.

Heckington, July 13th. MARTYN WESTCOTT.

RAILWAY MEDICAL OFFICERS.

SIR,—Will you allow me to ask any of the above who wish to have a meeting at Leicester next week to communicate at once with me, saying what day would be most convenient, and I will arrange for one; posting the notice in the reception room?—I am, etc.,

8, Ardwick Green, Manchester, July 19th. G. H. BROADBENT.

OBITUARY.

HERMANN NOTHNAGEL, M.D.,

Professor of Clinical Medicine, University of Vienna.

PROFESSOR NOTHNAGEL, whose sudden death, announced in the BRITISH MEDICAL JOURNAL of July 15th, may be said with truth to have thrown the whole of Vienna into mourning, was up to the hour of his death apparently in vigorous health. On July 6th he had been actively engaged in professional work nearly all day. The next morning he was found dead in his bed. The cause of death is stated to have been heart failure due to arterio-sclerosis.

Professor Nothnagel was the son of a medical practitioner, and was born at Alt-Lietzegöricke, in the Province of Brandenburg, on September 28th, 1841, and therefore had not completed his 64th year. From 1859 till 1863 he was a pupil in the Friedrich-Wilhelm Institute, from which have come many men of note in German medicine. The teacher who had the greatest influence on his scientific development was Traube. He also worked diligently under Virchow. Graduating in 1863 he was assistant under Leyden at Königsberg from 1865 to 1868. At Königsberg he qualified as *Privat-docent* in internal medicine in 1866. He served as an army medical officer in Berlin from 1868 to 1870 and at Breslau from 1870 to 1872, at the same time lecturing on medicine in both these schools. In 1872 he was appointed professor of medicine and pharmacology in Baden; in 1874 he was called to the Chair of Clinical Medicine at Jena, and in 1882 to the corresponding chair in the University of Vienna.

As a teacher Professor Nothnagel quickly achieved the highest success. Among his pupils are such men as von Jaksch, Hammerschlag, Mannaberg, Lorenz and many others who have won distinction. As a writer the name of Nothnagel is familiar as a household word throughout the realm of medicine. Among his works may be named his handbook of pharmacology and therapeutics, his monograph on the regional diagnosis of brain disease, his contributions to the physiology and pathology of the intestine, besides a large number of papers on the physiology and pathology of the nervous system, on Addison's disease, etc., published in *Virchow's Archiv*, and the *Zeitschrift für klinische Medizin*. He was the editor of a treatise on special pathology and therapeutics in twenty-four volumes; to this he contributed sections on diseases of the intestine and peritoneum.

Professor Nothnagel was a living illustration of his own saying, that only a good man can be a good physician. His fine personality impressed every one who came within the range of his influence. He had a vast practice, and is reported to have said that he had felt the pulses of 800 000 persons. He was so little careful of gain that when patients from distant lands sought counsel of him, he not seldom paid the expenses of their journey out of his own pocket. He was particularly happy when his skill could benefit the poor. A man of the widest learning in many subjects outside the professional sphere, of consummate diagnostic skill, and acknowledged as the foremost clinician in Germany, Nothnagel was better pleased to be the beloved physician than the oracle of science. The feeling of the people of Vienna in regard to him was shown by the vast concourse that attended his funeral. The Emperor sent a warm message of sympathy to Professor Nothnagel's sister, and speeches, all marked by a tone of personal appreciation, were delivered at the grave by representatives of the University of the College of Professors and of the pupils of the famous teacher.

Professor Nothnagel was a member of numerous scientific societies. He was a former President of the Vienna Society of Internal Medicine. In 1902 the Emperor made him a Member of the Austrian House of Lords.

EZIO SCIAMANNA, M.D.,

Professor of Clinical Psychiatry, University of Rome.

PROFESSOR EZIO SCIAMANNA, who died recently, was born in 1850 in a suburb of Rome, and received his education in the University of that city. He became a Free Lecturer on Neuro-Pathology in the University in 1881, and in 1885 was appointed to the Chair of Clinical Psychiatry. This he continued to hold till his death, which occurred suddenly a few days after the meeting of the International Congress of Psychology, held in Rome last May, in the proceedings of which he had taken a prominent part.

Professor Sciamanna was an indefatigable investigator and experimenter. His researches on the phenomena produced by electrical stimulation of the dura mater (1882) and on the excitability of the brain in man (1889) gave him a leading place among neurologists. Between 1881 and 1902 he published a series of memoirs on cerebral tumours, containing many observations and clinical deductions. He studied hypnotism, hysteria, and neuroses of various kinds, shedding new light on each of these subjects. He contributed largely to the literature of psychological medicine. He was director of the Psychiatric Institute of Rome, and many of the fruits of his labours were published in the *Annali dell' Istituto psichiatrico di Roma*, which he founded in conjunction with his colleague, Professor Sergi. Professor Sciamanna was a man of absolute intellectual honesty and a resolute opponent of mysticism. As a teacher he was held in the greatest respect, and as a man he was highly popular among his colleagues and pupils. He represented Italy at many scientific congresses, his last appearance in that character being at the Congress on Deontology held at Paris in 1900.

DEPUTY SURGEON-GENERAL ANDREW SEMPLE, M.D., retired Army Medical Department, died at Edinburgh on May 10th. He entered the service as Assistant Surgeon, November 10th, 1854; became Surgeon, June 8th, 1867; Surgeon-Major, March 1st, 1873; Brigade-Surgeon, November 27th, 1879; and Honorary Deputy Surgeon-General on retirement, January 5th, 1881. He served in the Crimean campaign in 1854-5, being present at the siege and fall of Sebastopol and at the attacks on the Redan on June 7th and 18th, for which he was mentioned in dispatches, receiving a medal with clasp. He was also in the Abyssinian war in 1867-8 (medal), and in the Zulu war in 1879, including the battle of Ulundi (mentioned in dispatches, medal with clasp).

LIEUTENANT-COLONEL KAIKHOSO SORABJI NARIMAN, of the Bombay Establishment, died at Bombay on April 24th. Entering as Assistant Surgeon, October 1st, 1877, he became Lieutenant-Colonel, January 11th, 1903. He had received the Frontier medal with clasp for his services with the Burmese Expedition in 1885-7.

ON July 8th there was laid to rest in St. Finbar's Cemetery, Cork, one of the younger members of the medical profession—DANIEL MURPHY, M.B., B.Ch., B.A.O., R.U.I. Having been in ill health for some time, he spent the winter in Nordrach, where at first he seemed to make some progress towards recovery, but later more severe symptoms set in, and he found it necessary to return home, where he died after a few days. For several years after graduation Dr. Murphy was House-Surgeon to the North Cork Fever Hospital, and was beloved by all with whom he came in contact. After this he became House-Surgeon to the North Charitable Infirmary, Cork, for a few years, but on a vacancy occurring in one of the dispensaries of the city he was elected, and held the post until his death. Amongst the younger members of the profession he was very popular, being regarded as a genial com-

panion and straightforward in all his dealings in professional life. A large concourse of people followed his remains to the grave, whilst the medical profession of both city and county was well represented. Much regret is felt at his early demise.

UNIVERSITIES AND COLLEGES.

UNIVERSITY OF EDINBURGH.

Honorary Degrees.

THE Senatus Academicus have offered the honorary degree of LL.D. to the following distinguished foreign and colonial guests, who are expected to be in Edinburgh on the occasion of the celebration of the fourth centenary of the Royal College of Surgeons of Edinburgh:—His Excellency Paul Cambon, G.C.V.O., D.C.L., the French Ambassador at the Court of St. James; Professor Ernst von Bergmann, Berlin; Professor Cameron, Toronto; Professor J. Lucas-Championnière, Paris; Professor Francisco Durante, Rome; Dr. A. F. von Eiselsberg, Vienna; Professor Halsted, Baltimore, U.S.A.; Professor Carl Gustav Lennander, Upsala; Professor Saxtorph, Copenhagen; Professor Shepherd, Montreal; and Professor Subbotin, St. Petersburg. A special graduation ceremony will be held in the McEwan Hall on Saturday, July 22nd, at 10 a.m. for the purpose of conferring these degrees.

Resignation of Professor A. R. Simpson.

At a meeting of the Court of the University on Monday, July 17th, the resignation was intimated and accepted of Professor Alexander Russell Simpson, who has filled the Chair of Midwifery for thirty-five years. The vacancy will in due course be intimated to the Curators of Patronage, who will proceed to take steps to fill the Chair. The resignation, it is understood, takes effect as from August 31st next. We are informed that questions relating to the Chair are under consideration of a Committee of the University Court, in particular the question whether the time has now come when the Chair should be divided into two Chairs, a Chair and a Lectureship, or two Lectureships of Midwifery and Gynaecology.

UNIVERSITY OF OXFORD.

Radcliffe Travelling Fellowship.

AN examination for a Fellowship of the annual value of £200, tenable for three years, will be held in Hilary Term, 1906.

UNIVERSITY OF LONDON.

ST BARTHOLOMEW'S HOSPITAL.

THE annual prize distribution at the Medical school of St. Bartholomew's Hospital took place on July 12th, in the Great Hall. The proceedings were opened briefly by Sir Dyce Duckworth. Mr Harmer, Warden of the College, presented his report for the year, in the course of which he said that the prosperity of the school had been fully maintained, and that it was still the largest in the metropolis. The total number of students who had worked at the hospital during the past year had been 556, the new students numbering 111. The Committee had considered the important question of concentration of the Preliminary Sciences at some centre away from the school, and had decided that, for the present, it was advisable to continue to teach within the school all the subjects of the medical curriculum.

The appeals made for the rebuilding of the hospital had been very warmly supported by many connected with the school. Up to the present time they had subscribed £8,047 5s. 5d. for the General Fund, and £1,047 1s. for the Pathological Block. Some important changes had occurred in the medical staff. Dr. Gee having resigned the appointment of Physician, and Mr. Langton that of Surgeon to the hospital. Dr. Gee was elected Assistant Physician in the year 1868, and ten years later became full Physician to the hospital. The value of his teaching in the wards was very greatly appreciated not only by his clerks, but by all students. For many years, and in spite of the claim of a large practice, he devoted much of his valuable time to the service of the hospital and school. Mr. Langton became Assistant Surgeon in 1867, and served fourteen years as Assistant and twenty-three years as full Surgeon to the hospital. During the whole of that period there was no member of the staff who was more regular in his attendance, more zealous for his patients or more popular with the students. By the retirement of those members from the active staff the school has lost two of its most valued teachers. It still looked to them in their new position as Consultants and Governors of the hospital to carry on the good work which they have done in the past.

In the examinations the school had maintained its reputation. At the University of London, 10 men had taken the M.D. (the gold medal in Pathology going to Lieutenant-Colonel Lukis, I.M.S.), 10 men had taken the M.B., B.S. (Mr. Pritchard taking honours in Medicine), 1 man had taken the M.S.; 6 men had taken the B.S. (Mr. Legge and Mr. Waterfield obtaining gold medals.) At Oxford, 2 men had taken the M.D.; 9 men had taken the M.B., B.Ch. At Cambridge 9 men had taken the M.D. and 5 the M.B., B.Ch.; 71 men had completed the Final Examinations of the English Conjoint Board and 13 became Fellows of the Royal College of Surgeons, 9 men had passed into the Royal Army Medical Corps, 4 into the Indian Medical Service, and 5 into the Royal Navy.

The Students' Union was to be congratulated upon the flourishing condition of its clubs and Journal. The school had won for the second year in succession the cross-country cup and three of the challenge cups given by the inter-hospital athletic sports, while the rifle corps had won the Armitage cup, and the second eleven the inter-hospital Association cup.

The following awards were then distributed by Lord Ludlow, the Treasurer: The *Jeaffreson Entrance Exhibition in Arts*, K. C. Bomford: the *Junior Entrance Scholarships in Science*, P. S. Lukis: the *Preliminary Scientific Exhibition*, G. R. Lynn: the *Senior Entrance Scholarships in Science*, E. P. Cumberbatch, G. Graham: the *Shuter Entrance Scholarship* in the Subjects of the Cambridge Second M.B. Examination, R. B. Seymour Sewell; the *Junior Scholarships in Chemistry, Physics, and Histology*, T. L. Bomford, H. H. King; the *Junior Scholarships in Anatomy and Biology*, A. P. Fry, R. R. Smith; the *Treasurer's Prize in Practical Anatomy*, T. S. Lukis; the *Foster Prize in Senior Practical Anatomy*, T. L. Bomford; the *Harvey Prize in Practical Physiology*, A. E. Gow; the *Senior Scholarships in Anatomy, Physiology, and Chemistry*, E. M. Woodman; the *Wix Prize*, W. B. Grandage; the *Hitchens Prize*, F. W. W. Griffin; the *Bentley Prize*, P. L. Guiseppi; the *Sir George Burrows Prize in Pathology*, J. G. Gibb; the *Skynner Prize*, J. G. Gibb; the *Matthews Duncan Prizes*, G. C. E. Simpson (medal and first prize), P. L. Guiseppi; E. H. Shaw (equal second prize); the *Kakes Scholarship and Gold Medal*, J. G. Watkins and J. K. Willis (equal); the *Willett Medal*, H. W. Wilson; the *Walsham Prize*, E. H. Shaw; the *Brackenbury Scholarship in Surgery*, H. W. Wilson; the *Brackenbury Scholarship in Medicine*, C. W. Hutt; the *Laurence Scholarship and Gold Medal in Medicine*, E. H. Shaw.

LORD LUDLOW brought the formal proceedings to an end with a short speech in which he said that he hoped the new out-patient block would be ready in the course of two years. The contract price was £125,000, towards which they had already promises of over £108,000. The company then separated to visit the school buildings and the wards.

UNIVERSITY OF ABERDEEN.

Carnegie Research Scholarship.

R. D. KEITH, M.A., M.D., Ch.B., has had his Carnegie Research Scholarship in Pathology renewed for next year.

Examination Results.

The following have passed the final examination for the degrees of M.B. and Ch.B., and were capped at the graduation ceremony on Wednesday:

J. M. Adams, W. Campbell, A. M. Donaldson, R. R. Duncan, R. Eager, W. M. Fergusson, G. J. Forgie, R. A. Forster, C. B. Gerrard, G. Hall, A. W. Laing, J. McIntosh, J. Mackenzie, K. Mackinnon, G. Milne, J. A. Milne, H. R. Neilson, P. B. Roth, R. F. Russell, C. M. Smith, J. Silver, J. H. Stephen, I. F. B. de Villiers, F. H. Welsh, D. A. Wood, and Christina Wilson.

The following have completed the Third Examination:

F. J. Browne, T. Chalmers, G. Cooper, J. Donaldson, H. W. Glasham, T. G. Gray, *R. M. Gunn, G. F. J. Hendry, †A. Johnston, J. Laing, J. M. Macdonald, J. G. McGregor, S. W. Munro, A. Robertson, G. E. Ross, H. Smit, J. R. Stewart, A. E. Troup.

The following have completed the Second Examination:

T. Clapperton, J. A. Davidson, T. Donaldson, J. Leask, G. H. C. Lansden, W. J. Macintosh, *J. F. Macleod, J. W. Mequeen, J. P. Mitchell, A. E. C. Myers, P. Nicol, A. J. Pirie, D. E. Rae, J. Robertson, R. W. A. Salmond, *A. Shepperd, A. Stewart, J. P. Stuart, *J. E. G. Thomson, E. Walter, W. A. Watson.

The following passed a portion of the Examination:

R. W. Chalmers, S. Goodbrand, J. A. Hendry, W. Mearns, J. A. Milne, D. Porter, G. E. Shand, W. R. Stephen.

The following have completed the First Examination:

W. Allan, W. Badenoch, *D. M. Baillie, †J. A. Beattie, W. Chapman, J. G. Christie, *R. G. Davidson, A. H. Duckett, W. Duguid, J. Elder, C. Grant, J. Inkster, *H. G. R. Jamieson, J. Johnston, J. A. McArthur, C. R. Macleod, *N. MacPhail, F. S. Maxwell, †G. S. Melvin, R. J. Mersou, H. S. Milne, J. Mitchell, A. D. Reid, †F. G. M. Ross, A. C. L. Smith, H. A. Smith, W. L. Stephen, F. W. Stuart, J. E. Thomson, *C. C. Twort, J. T. Watt, A. J. Williamson, A. Wilson.

The following have passed a portion of the Examination:

H. G. Bruce, G. P. Burr, J. C. Cameron, R. M. Chance, J. Connor, E. W. H. Cruickshank, H. Duguid, R. Eddie, J. R. G. Garbutt, T. C. Halley, R. Killar, C. A. Macdonald, A. J. Macleod, J. McPherson, A. Mitchell, R. W. S. Murray, D. O. Riddell, J. Ritchie, A. C. M. Savege, G. E. Scroggie, H. Shortt, C. F. Simpson, R. Sinclair, W. Smith, D. J. S. Stephen.

* Distinction. † Much distinction.

UNIVERSITY OF GLASGOW.

THE following have satisfied the Examiners at the Final Examination for the M.B., Ch.B.:—

A. B. Aitken, G. A. Allan, W. S. Allan, A. Allison, A. W. Anderson, J. Bain, M.A.; Annie A. Baird, M.A.; J. H. Baird, B.A.; H. Barr, A. F. Bell, Ethel L. Chapman, Jeannie T. Clark, R. W. Dale, M.V.; D. W. Davidson, R. S. Dewar, M.A.; H. M. Donaldson, A. C. Douglas, J. S. Dunn, M.V.; E. J. Dyke, H. W. Dyke, A. B. Ferguson, Mary T. Gallagher, W. Gilchrist, W. H. Gillatt, W. M. Gilmour, J. Glaister, L. L. Greig, W. Grier, A. R. F. Hay, J. W. Hay, R. V. Howell, J. M. Huey, J. Hunter, H. S. Hutchinson, B.Sc.; A. Innes, W. B. Jack, A. E. Jones, R. D. Kennedy, W. L. Kirkwood, A. Loggat, G. H. Logan, W. J. Logie, J. B. M'Cabe, W. G. Macdonald, M.A.; D. M'Ewan, H. A. Macewen, R. M. Macfarlane, J. D. Macfie, M. M'Intyre, J. M'Millan, P. Maguire, W. B. M. Martin, R. May, H. J. Milligan, M. Munro, F. A. Murray, J. D. Nesbet, D. Penman, C. D. Rankin, H. S. Rankin, T. T. Rankin, J. Reid, J. M. Renton, W. Rolland, A. C. Russell, F. D. Scott, J. R. Shaw, Lily Smellie, J. A. Somerville, A. A. Stewart, D. Stewart, J. L. Stewart, M.A.; W. A. Stuart, J. R. Sutherland, Elizabeth T. Talbert, J. Taylor, W. L. Walker, M.A.; R. Wallace, A. MacM. Watson, A. C. West, A. S. Wilson.

The following passed with distinction in the subjects indicated:

In (a) Surgery and Clinical Surgery, (b) Practice of Medicine and Clinical Medicine—Jeannie T. Clark, P. Maguire. In (a) Surgery and Clinical Surgery, (b) Midwifery—J. H. Baird, B.A. In Surgery and Clinical Surgery—H. A. Macewen. In Medicine and Clinical Medicine—G. A. Allan, A. Allison, J. S. Dunn, M.A., A. Innes, W. B. Jack, C. D. Rankin, J. L. Stewart, M.A., J. Taylor.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

MEETING OF COUNCIL.

A QUARTERLY Council was held on July 13th, Mr. John Tweedy, President, in the chair.

The four members of Council recently elected, namely, Mr. Edmund Owen, Mr. Rickman J. Godlee, Mr. C. H. Golding-Bird, and Mr. Harrison Cripps took their seats on the Council.

Election of Officers.

Mr. John Tweedy was re-elected President, and Mr. H. T. Butlin and Mr. Edmund Owen were elected Vice-Presidents for the ensuing year.

Appointment of Lecturers.

Hunterian Professors: Warrington Haward, A. H. Cheatle, H. J. Paterson, C. G. Seligmann.
Arris and Gale Lecturers: J. H. Watson and Sidney W. Carl.
Erasmus Wilson Lecturer: James Sherren.

Recognition of the Cairo Medical School.

The report of the Committee of Management upon the above was adopted Subject to certain conditions, it was determined that candidates who have received the diploma in Medicine and Surgery of the Egyptian Government, after passing the required examination and completing the curriculum of professional study at Cairo, extending over four years, be admitted to the Final Examination of the Conjoint Board on the completion of one year of additional study at a recognized medical school and hospital in the United Kingdom, during which they shall complete the courses required by the regulations of the Conjoint Board. The conditions provide, among other things, that an official representative of the Examining Board of the Royal Colleges be appointed annually to attend, as visitor, the examinations of the Cairo Medical School and Hospital, which are held in December and January, to take a general survey of the examinations and to note the methods of the examiners and the standard required in each subject. The Committee reported that a communication had been received from His Excellency the Minister of Education of the Egyptian Government, expressing his complete concurrence in the conditions laid down.

The report of the Committee had been already received and approved by the Royal College of Physicians.

MUSEUM.

The museum will be closed for redecoration during the months of August and September.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

SUMMER SESSION, 1905.

Barker Anatomical Prize.—£26 5s., T. A. Burke. Special prize, £21, J. B. Kelly.
Carmichael Scholarship.—£15, R. M. Bronté.
Gold and Silver Medals in Operative Surgery.—Gold, J. Prendiville; Silver, R. Bury and L. Lucas (equal).
Stoney Memorial Gold Medal in Anatomy.—T. Sheehy.
Practical Histology.—G. C. Sneyd, first prize (£1) and medal; E. Harrison, second prize (£1) and certificate.
Practical Chemistry.—Miss A. F. Nash, first prize (£2) and medal; T. A. Peel, second prize (£1) and certificate.
Public Health and Forensic Medicine.—C. J. B. Dunlop, first prize (£2) and medal; W. E. M. Hitchins, second prize (£1) and certificate.
Materia Medica.—C. J. B. Dunlop, first prize (£2) and medal; V. J. Clifford, second prize (£1) and certificate.
Biology.—E. A. Gregg, first prize (£2) and medal; E. Harrison, second prize (£1) and certificate.

The next Preliminary Examination is fixed for Tuesday, September 26th. The School of Surgery will resume work on Monday, October 2nd.

TRINITY COLLEGE, DUBLIN.

THE following candidates were approved at the Trinity Term Previous Medical Examination:

Anatomy and Institutes of Medicine.—W. S. Thacker, J. C. Pretorius, W. J. Dunn, F. Stevenson, D. J. Miller, A. J. Powell, C. H. O'Rorke, E. H. Sheehan, J. C. C. Hogan, H. de C. Dillon, T. P. Dowley, D. J. Stokes, J. A. L. Hahn, A. V. J. Richardson, J. R. Yourell, W. Knapp, J. D. K. Roche, E. N. Ryan, W. H. Sutcliffe.
Physics and Chemistry.—T. A. Hughes, A. K. Henry, A. Stals, J. D. Kernan, P. G. Leeman, W. S. S. Boxwell, C. G. S. Baronsleather, P. H. Lemass, J. Alston, L. Trichard, W. R. Watson, C. H. Denham, H. G. Holdbrook, R. E. T. Tatlow, A. A. McConnell, J. C. Baker, E. Jameson, F. Smartt, A. S. M. Winder, G. Seroope, A. H. Smith.
Botany and Zoology.—A. K. Henry, D. L. M'Cullough, Beatrice M. Hamilton, T. A. Hughes, C. P. Smyly, P. G. Leeman, W. P. H. Smiley, G. Elliot, J. H. Crane, W. R. Watson, E. P. Allman-Smith, H. Miller, A. A. M'Connell, M. A. Diomont, J. Gardiner, H. H. Ormsby, E. M. Maxwell, E. J. Powell, J. D. Kernan, V. G. Best, W. A. Taylor.

The John Mallet Purser medal was awarded to J. C. Pretorius.

At the Trinity Term Final Examination (Section B) the following were approved:

F. R. Coppinger, J. D. Sands, T. H. Peyton, R. A. Connell, J. C. P. Beatty, E. Gibbon, G. W. Thompson, B. G. Brooke, R. B. Jackson, S. G. S. Haughton, T. J. Cobbe, W. I. Thompson, H. D. Drennan, A. C. Elliott, P. B. Egan, E. C. Phelan, H. J. Wright, T. C. Somerville, D. F. Torrens, M. K. Acheson, D. M. Corbett, T. L. de Courcey, H. R. R. Fowler.

At the Medical Scholarship Examination the following awards were made:

Anatomy and Institutes of Medicine.—W. Pearson, Trinity College Scholarship; R. E. Wright, Stewart Scholarship.
Physics, Chemistry, Botany, and Zoology.—R. P. Haddon, Trinity College Scholarship; H. R. M. Ferguson (Sch.), Stewart Scholarship.

BEQUESTS TO MEDICAL CHARITIES.—The late Mr. Ernest Powell King, of Wainsford, near Lymington, whose will has now been proved, left £100 each to the London Temperance Hospital, the National Hospital for the Paralysed and Epileptic, Queen Square, and the Royal South Hants Infirmary.

ROYAL NAVY AND ARMY MEDICAL SERVICES.

ROYAL ARMY MEDICAL CORPS.

EXCHANGE.

The charge for inserting notices respecting Exchanges in the Army Medical Department is 3s. 6d., which should be forwarded in stamps or post-office order with the notice, not later than Wednesday morning, in order to ensure insertion in the current issue.

A LIEUTENANT-COLONEL, full tour to serve at home, would exchange whole or part tour India or Colonies. State terms.—Address No. 3640, BRITISH MEDICAL JOURNAL.

EXAMINATION OF MAJORS FOR PROMOTION.

An Army Order just issued announces that for the year 1906 the special subject for the examination of majors, Royal Army Medical Corps, for promotion to the rank of lieutenant-colonel, referred to in paragraph 5 (*a*) and (*b*), Appendix VIIIB of the King's Regulations will be as follows: Subject 5 (*a*): Medical history of the more important campaigns. The medical history of the South African war as described in *Report on the Medical Arrangements in the South African War*, by Surgeon-General Sir W. D. Wilson, 1904, Parts I., II., III. and IV., VIII., and XVI.; and appendices referred to therein. Subject 5 (*b*): A general knowledge of the army medical services of other powers. The medical organization of the Japanese army as described in the *Handbook of Medical Organization of Foreign Armies, 1902*, the medical organization of a foreign army, selected by the candidate, described within similar limits. N.B.—Some further information as to Japanese military medical organization is contained in papers in the *Journal of the Royal Army Medical Corps* for August and November, 1904, and for January, March, and April, 1905; also in the BRITISH MEDICAL JOURNAL for March 12th, May 14th, August 13th, August 20th, and November 12th, 1904.

INDIAN MEDICAL SERVICE.

IMPROVED PAY IN THE INDIAN MEDICAL SERVICE.

AHMED writes: I see that at last the new scale of pay for the civil side of the Indian Medical Service is published.[1]

Two questions most serious to the junior officer are left untouched; the fact that for the first three or four years of his service he will only receive "officiating" pay, with no permanent appointment, and the unjust ruling by which he can draw no allowances until he has passed the lower standard examination in Hindostani, although all other military officers are allowed eighteen months in which to pass this examination. The statement that civil surgeons will draw Rs. 50 more or less than their contemporaries in military employment according as they are "first class" or "second class" sounds well, but is much discounted by the fact that only 10 per cent. of civil surgeoncies are "first class," and these are naturally all held by senior officers, in almost every case by colonels.

The fact is, that, by these new rules, for the first fifteen years of his service the Indian medical officer aspiring to civil work will get Rs. 50 a month (£40 a year) less than his less-hardly-worked brother in military employment, or than his contemporary in the R.A.M.C., who spends more than half his service in better climates, about one-third of his service in England.

The one good point in the new scheme—accelerated promotion to major—is spoilt by the condition attached to it: "Special services on taking a post-graduate degree when a captain." Apparently he who takes post-graduate degrees before entering the service is to be superseded by one who takes the same degree "when a captain." He is already severely handicapped by the loss of seniority in waiting to take advanced degrees. If the obnoxious words "when a captain" were deleted, the new clause might induce better qualified men to enter the service.

PUBLIC HEALTH AND POOR-LAW MEDICAL SERVICES.

CARE AND CONTROL OF IDIOTS AND EPILEPTICS.

THE Royal Commission on the Care and Control of the Feeble-minded sat again on July 14th, when evidence was received from Professor Clifford Allbutt, Regius Professor of Physic at Cambridge University; Dr. R. L. Langdon-Down, of the National Association for Promoting the Welfare of the Feeble-minded; Dr. J. M. Rhodes, Chairman of the Chorlton and Manchester Asylums Board; and Mrs. Dickinson Berry, M.D., Assistant Medical Officer of the Education Department of the London County Council.

Professor CLIFFORD ALLBUTT said that if children were to be sorted it must be by no mechanical tests, but by a staff of skilled, but not necessarily medical, inspectors, supplemented by later experience in each case. He attached much greater weight to inheritance, than to physical deterioration in connexion with the objects of the Commission. If there were a positive increase in the numbers of the feeble minded and of other lunatics, it was because we were doing our best to breed them. Their physical condition was improved and their freedom enlarged, and little or nothing was done to prevent their becoming parents. No person should be detained for life without reports at not infrequent intervals, say, till the age of 15 or 16. After this age these persons were stationary, and their future was known. He was almost hopeless of the curability of the congenital cases. He thought they would have to reform the lunacy laws in the direction of certifying places more and persons less. The directors of certain institutions should be invested by law with certain powers of moral, or even of bodily, restraint, so as to detain and to govern persons who by nature or disease were unfit to be trusted with their own lives. In this case patients agreeing voluntarily to go to such institutions would need no certificates, but a system of reports to the Lunacy Commissioners and regular and irregular visita-

[1] BRITISH MEDICAL JOURNAL, May 20th, 1905, p. 1128

tions by justices and medical experts such as the medical officers of health in the several districts would be required. Such a system of certifying the receiver rather than the received could be quite well managed for what was called "single care" as well as for institutional care. Speaking broadly, he contended that education for the feeble-minded should be chiefly an education in crafts.

MRS. DICKINSON BERRY described the various types of children educated in the special schools of the London County Council, which included cases varying greatly in mental powers. She considered that there should be more latitude in the curriculum of these schools than was at present allowed, much time being often spent in teaching such subjects as reading to children who were incapable of learning enough to be of any practical use to them. Of the children passed out of the special schools about 50 per cent. would be able to earn their own living, either wholly or to a material extent; the remaining 50 per cent. would be cases for suitable custodial homes. A large proportion drifted into workhouses or prisons and became anyhow a burden on the rates. She advocated the establishment of custodial homes by public authorities, where feeble-minded adults would be permanently retained under medical certificates. The homes for the less defective cases should be on the lines of labour colonies, and should be partially self-supporting.

DR. J. MILSON RHODES expressed views to the effect that the allegations of an enormous increase having taken place in the number of cases of diseases of the nervous system were not supported by facts. There was, of course, an increase in the number of insane persons, but it was not out of natural proportion to the growth of the population. The way in which cases were treated in workhouses was unsatisfactory, the mentally sick and the physically sick being often warded side by side. The laws dealing with inebriates and dipsomaniacs required amendment. The cases did not at present reach the hands of the authorities until they were practically incurable. The colony system for asylums had many advantages. For the reduction of epilepsy and insanity he had more faith in temperance than in laws against the marriage of unfit persons, but if a law were desired, precedents were to be found in Connecticut and Pennsylvania. In both these States the marriage of insane or feeble-minded persons was prohibited. He thought provision should be made for the control of feeble-minded persons beyond the age of 21. As for the chronic cases of incurable insanity, there were many disadvantages in keeping them in asylums intended for such cases alone. In such asylums it was difficult to retain the services of good attendants, as the work was so hopeless and disheartening. The younger medical officers also disliked them, as in such asylums it was impossible to gain a complete knowledge of insanity.

HOSPITAL AND DISPENSARY MANAGEMENT.

NATIONAL SOCIETY FOR THE EMPLOYMENT OF EPILEPTICS.

Annual Report.

THE report of the National Society for the Employment of Epileptics, which was adopted at the twelfth annual meeting of the Governors, shows that at the end of the year 1904 the accommodation at the Colony of Chalfont had been raised to 198 beds, distributed in the various houses or homes. At the beginning of the year there were in residence 114 men and 57 women; during its course 61 men and 17 women were admitted, and, on the other hand, 2 men died, and 40 men and 10 women were discharged. At the end of the year, therefore, the total residents numbered 197, or only one short of the entire accommodation. The general health of the colonists had been very good, and there was entire freedom from any epidemic or disease.

The primary object of the Society is to establish and maintain homes where persons suffering from epilepsy, yet capable of some occupation, may enjoy the advantages of regular life in healthy surroundings, and where, under the necessary supervision they may, according to their age, sex, and condition, be educated, industrially trained, or suitably employed generally. All residents therefore undertake work of some character.

Of the male colonists a considerable number are principally employed in the building department—at carpentering, plumbing, painting, bricklaying, and smith's work; about half a dozen are occupied in basket making; and the remainder are chiefly employed in farm and garden work. The colonists take it in turns to give their services in the homes as required. Of the female Colonists nearly half are usually employed in the laundry; the remainder are chiefly occupied with housework and needlework.

There are a large number of candidates waiting admission, and, besides increasing the general accommodation of the colony, the Society is anxious to erect further homes for women and homes for children. The new rules of the Board of Education have made it possible for the Society to undertake the care and education of epileptic children, and the Society is anxious to do so. The erection in advance of suitable homes would, however, be necessary, and each of these would cost about £4,000, including furnishing.

Medical Report.

The report of the Honorary Medical Staff points out that the cure of epilepsy is not to be expected in more than 10 per cent. of those afflicted. The aim of the institution, therefore, is not so much to attempt a cure by medicinal remedies as to place the victim of the malady in a condition and state of contentment so as to preserve as far as possible their mental and physical well-being.

It has been found that in the majority of cases little if any diminution takes place in the number of fits from year to year; but, on the other hand, there is a material improvement in their physical condition, a feeling of satisfaction in their work and amusements, and a material lessening in the tendency towards dementia. In the treatment of epilepsy, it is stated, congenial employment, hygienic modes of life, and suitable amusements, all of which form essential features of the treatment carried out, are quite as important as therapeutic remedies. The honorary medical staff consists of Drs. Fletcher Beach, Buzzard, David Ferrier, and Howard Tooth, with Dr. Aldren Turner as honorary visiting physician. The services of all of them is duly acknowledged in the report. The reader would be assisted if, in future reports, a plan, or at least a verbal sketch, of the number and names of the various homes which compose the Chalfont Colony were provided.

LINGFIELD COLONY FOR EPILEPTIC CHILDREN.

JULY 12th was a red-letter day in the history of the Lingfield Colony, for the Princess Louise opened the Carter Wing of the Rushton House, which accommodates thirty-eight epileptic boys. The Rushton House alone makes provision for about twenty epileptic boys, and another building, called The Homestead, accommodates thirty-four epileptic girls. Between the two is the School Hall, a large building in which the children are taught. A house has been hired for about ten boys who have passed the school age and are to be taught trades. Altogether the colony, which stands on a farm of 250 acres in Surrey, makes provision for about one hundred epileptic children who are being educated and trained, but workshops are much required. The two houses, the school hall, and the laundry are built of red brick and present a pleasing appearance, and the internal accommodation appears to be good. This colony and a smaller one at Starnthwaite, Westmorland, provide for one hundred and ten epileptic children, and they have been built either by donors or by funds collected by the Christian Social Service Union, which also manages them. A new feature in this country is a house in which twelve men are trained as brothers; these men give their services for board and lodging and a few shillings per week in order to help in the social redemption of men on the Labour Colony, which is situated on another part of the estate, and also assist with the children in the homes. The part which educates and trains the children has been certified by the Board of Education, and will now be able to obtain a grant for the work done. The Right Honourable the Earl of Meath is the President, the Rev. J. L. Brooks is the Director, and Dr. Basden is the medical adviser. After luncheon in a marquee, during which some of the children sang and recited, the Princess opened the Carter wing, and then the company adjourned to the school hall, where addresses were given by the Bishop of Hereford, the Rev. J. L. Campbell, the Duke of Argyll, and others, and the work of the Union was described by Mr. Brooks.

NOTTINGHAM CITY ASYLUM.

ON January 1st, 1904, there were 750 patients in this asylum, and on December 31st, 1904, there remained 770. This yearly increase of 20 is about the average for the past ten years, so that, for twenty years the numbers have increased, the Medical Superintendent, Dr. Evan Powell, says from 350 to 770. Dr. Powell therefore expects that additional accommodation for 100 patients will be required every five years. There were 166 cases admitted during the year, of whom 148 were first admissions, and in 136 the attack was within twelve months' duration on admission. The admissions were classified according to forms of mental disorder into: Mania of all kinds, 42; melancholia of all kinds, 44; dementia, primary, secondary, senile, etc., 29; delusional insanity, 13; general paralysis, 10; acquired epilepsy, 9; and congenital or infantile defect, 9. As to the probable causes of insanity amongst these cases, hereditary influences were ascertained in 35 or 21 per cent., previous attacks in 25 or 15 per cent., alcohol intemperance was assigned as exciting cause in 19 or 11.4 per cent., venereal disease in 7 and moral causes in 30. Bodily diseases were assigned in 31 and the menopause and old age in 22. During the year 58 were discharged as recovered, giving a recovery-rate on the admissions of 36.90 per cent.; 3 as relieved, 3 as not improved, 1 as not insane and 81 died. This gives a death-rate on the average numbers resident of 10.67 per cent., the highest death-rate of this institution since 1894. The deaths were in 40 cases due to cerebro-spinal diseases (including 16 deaths from general paralysis) in 26 cases to chest diseases, including 12 deaths from phthisis. There were 4 deaths from senile decay and 1 from tuberculous peritonitis. General paralysis and tuberculous disease thus together accounted for 35.8 per cent. of the total deaths, and the tuberculous death-rate to total deaths was 16 per cent. The general health appears to have been good, there were no serious accidents and no case of infectious disease.

MEDICO-LEGAL AND MEDICO-ETHICAL.

MEDICAL WITNESSES' FEES AT ASSIZE COURTS.

ALDERSHOT.—Our correspondent has, we think, good reason to complain. For two days' attendance at Winchester to give evidence in a police case at the assizes he was allowed only £3 3s. and 5s. 6d. travelling expenses. When he complained he was informed by the Clerk of the Peace that the £3 3s. was an allowance for a day and a night and part of a second day, and that only one railway journey was allowed. The £2 2s. a day which he claimed was, he was told, the maximum allowance, and given only under very special circumstances. This is an example of the "discretion" exercised by clerks of the peace in the name of the court, to which attention will have to be called as soon as a sufficient number of cases has been collected. Our correspondent's letter and enclosure will be sent to the Medical Secretary for the information of the Medico-Political Committee, which has a subcommittee dealing with the matter. In the meantime we think he is quite justified in giving all police cases likely to result in a trial at assizes a wide berth.

MEDICAL CERTIFICATES FOR ELEMENTARY SCHOOL CHILDREN.

C. K. writes: It may interest your correspondent "N. E. W." and others to hear how I have dealt, I think successfully, with the question of medical certificates for Board School children. In every case where a child of poor parents needs to be absent from school for reasons of health, I now point out to the parents that the medical certificate is wanted by the school authorities entirely in their own interests, for the purpose of securing their grant, and that there is no reason why the parents should be called upon to bear the cost. I tell them to keep the child at home, and to inform the school attendance officer that I am prepared to furnish a certificate to the school authorities if they require it. On the receipt of a request from the attendance officer, I then supply him with the certificate and make a small charge quarterly to the school authorities, which, in this district at any rate, they have paid. If the attendance officer does not apply to me for a certificate, I tell the parents not to trouble further about it, simply to keep the child at home, and to say that in the event of any proceedings being taken I am prepared to come forward and to give medical evidence as to the necessity for absence. In no case so far have proceedings been taken, and I feel sure that, if they were, the parents could not be fined in the face of my evidence. At any rate, this plan has answered perfectly in this district, and I have given no gratuitous certificates since I adopted it. I recommend it to your correspondent.

EMERGENCY CALLS.

SUBBER KARROW writes: A. sees a patient of B.'s in an emergency at night. He tells the patient's friends that they must send for B. the next day, and he also writes to B saying why he saw the case, and asks B. when he can meet A. so that they can see the patient together. B. admits that A. acted quite rightly in seeing the case and in writing to him, but considers that any suggestion as to their meeting should come from B. B. holds that A. should have simply written detailing the circumstances and treatment prescribed, leaving it to B. to suggest their meeting or not, as he thought fit. B. claims the sole right of proposing a meeting between A. and B. (1) Is B. correct in his contention? (2) Was A.'s action in the matter in accordance with the usual custom?

*** B.'s view of the general rule is correct. There might be exceptional circumstances which would make it desirable for A. to meet B., but as a rule the practitioner called in for an emergency should be content to leave a letter for the ordinary medical practitioner explaining what he has done.

SECRET COMMISSIONS.

A CORRESPONDENT sends us the following circular, which we print in full, as it speaks for itself:

PRIESTLEY'S MASSAGE AND ELECTRIC ESTABLISHMENT.
50, Paradise Street, Birmingham; and Tagwell Road, Droitwich.

X or Röntgen Rays
High Frequency
Radiography
Galvanization
Faradization &c.

Certified masseuses and masseurs sent out any distance.

June 21st, 1905.

Dear Sir,

For the convenience of Medical Men who have no accommodation for an Installation for *X* Rays and High Frequency I beg to state that we have made arrangements for Doctors to treat their own Patients, with or without assistance, or where Doctors prefer, we will give treatment according to their instructions. Should you wish to take advantage and use one of the Installations at above address, I should be pleased to make special terms with you or with you for your Patients.

Yours faithfully,

T. PRIESTLEY.

P.S. (Added in MS.) I return 33 per cent. of fees to the Doctor which I remit quarterly unless otherwise arranged. I have paid the commission for many years to Doctors, and to keep it strictly private I do not require any receipt for same.

T. P.

*** We hope there is no truth in the suggestion that medical men are accepting commissions from the writer of the circular, but we would remind any one feeling disposed to accept this offer that the Council of the Association passed a resolution on April 12th, 1899, which denounces the receipt of such commissions as inconsistent with membership of the British Medical Association.

ANOTHER correspondent, who occupies an eminent position in the profession, sends us the following letter which he received recently:

[Address.]

"Sir,—I beg to ask your consideration with a view to recommend me as a professional masseur to those of your patients to whom you may have to advise treatment by massage. I am 42 years of age, of German nationality, and a pupil of Prof. Dr. Naegeli of Zurich. I can produce the highest references from physicians of Weisbaden, under whom I worked for many years with excellent results, also since coming to England in 1898 I have been constantly employed as Masseur in one situation (a Russian Vapour Bath) where I am still employed. I could have highest references from many customers of the Bath, mostly gentlemen of good social position and also from the Proprietor of the Bath. I feel however that my present sphere of labour does not afford sufficient scope for my abilities and make this application with a view to enter upon work immediately under medical supervision, and also with the view to my income under the following terms—For attendance upon patients at their own address per week three guineas; for patients attending at my own address, massage 5s. Upon all amounts received I should be glad to remit 10 per cent. to the Surgeon by whom the patient is recommended whether attended for long or short periods. I am free during each morning till 12 o'clock and Wednesdays all day.

"Again soliciting your favourable consideration.—I am, Sir, your obedient servant,

"(Signed) JULIUS HEISER."

We repeat what we said above, that the receipt of such commissions has been declared by the Council to be incompatible with membership of the Association.

Another correspondent sends us a copy of a circular received from the same firm of cigar manufacturers whose offer to supply cigars to the medical profession at a discount of 30 per cent. was commented upon in this column a few weeks ago.

We are glad to gather from this circular that the offer to the medical profession has not been satisfactory, and therefore has necessitated a second appeal, for it commences:—"As I cannot trace any reply from you to my letter of June 6th, it occurs to me that you may not have thoroughly understood my proposition." Although we do not regard this as quite on all fours with the commissions to which we have referred, it is much better that the medical profession should not encourage anything that savours of a bribe to recommend trade articles.

CHANGE-OF-ADDRESS CARDS.

A CORRESPONDENT sends us a card notifying the change of address and telephone number of a gentleman who has moved to Harley Street, Cavendish Square. He states that he has no personal acquaintance with the gentleman who sends him this card, who must also be unacquainted with him, as he is not in practice and never has been in general practice, and has not for several years lived at the address to which the card was sent. He therefore thinks it is justifiable to infer that the card was sent out wholesale, and that an old medical directory was used for the purpose. We have often expressed the opinion that cards notifying change of address should be sent only to recent patients and friends of the person changing his address, and that to send them to other people lays any one so acting open to the charge of taking the opportunity to advertise himself.

BONESETTERS AND CLUB PATIENTS.

C. L.—A correspondent writes that he is the surgeon to a Friendly Society and was attending a member for an injury. After a week's treatment the patient left him and put himself under the care of a bonesetter. He has been applied to for a certificate, as the rules of the society require such from the surgeon before paying the sick allowance. Can he give one?

*** A certificate might be given for the time he was under treatment, but it is out of our correspondent's power to do more than this. The society might require the member to present himself to the surgeon for further examination, or the latter might even be required to visit him for that purpose, but without seeing the patient again it is obvious that the surgeon cannot again certify.

MEDICAL ETIQUETTE.

JUSTITIA ET VERITAS.—C. is a visitor to a health resort upon whom A. is in medical attendance. C.'s family doctor, although aware of A.'s attendance, asks B., another medical practitioner in the same health resort, to see C. in consultation with him. This consultation takes place without any communication with A., who was not present. We are asked to say whether B. and the family doctor acted correctly, and if not, what they should do to make amends?

*** It was a serious act of professional discourtesy for them to visit the patient, who was under the care of A., without communicating with A. so as to allow him to be present. The sole amends they can make is to express regret for what can only be excused as an oversight. The family doctor may have thought he had a right to visit his own patient but even he should have written to announce his visit so as to allow A. to be present.

PARTNERSHIP AGREEMENTS.

JUSTITIA.—A. and B. are in partnership, and reside two miles apart. A., wishing to retire, offers his share to B., who purchases, intending to work A.'s connexion by means of an assistant, C. A. introduces C to patients. Who should pay C.'s salary? It is further desirable to remove A.'s connexion to another residence in the immediate neighbourhood. Who should bear the expense of the rent of this house during the time A. continues a partner, and resides in his own house? A. and B. had hitherto borne expense of his own house, and A. continues to do so with regard to his own residence. Who is responsible for the rent of the third house?

*** The general rule is that, in the absence of any special agreement to the contrary, all expenses incurred in carrying on a practice are to be divided between the partners in proportion to their shares in the profits, so long as the partnership exists. The arrangements set down here are unusual and complicated, and ought to have been settled by a special agreement between A. and B.

THE COURTESY CALL.

NOBILIS.—It is not incumbent upon a retired practitioner to call upon the medical men in the town in which he has taken up his residence. The only object he could have in doing so would be to make their acquaintance or to take part in any local medical meetings.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 2, Agar Street, Strand, W.C., London; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone, unless the contrary be stated.*

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Manager, 429, Strand, W.C., on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not at his private house.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London*. The telegraphic address of the MANAGER of the BRITISH MEDICAL JOURNAL is *Articulate, London*.

TELEPHONE (National):— EDITOR, 2631, Gerrard. GENERAL SECRETARY AND MANAGER, 2630, Gerrard.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

WARNINGS.

A MEMBER of the Council of the British Medical Association residing in the West of England asks us to warn members to be careful in their dealings with a man who seeks to sell shirts. It would appear that he gives the name of Samuels, or professes to be connected with a firm of that name in Leicester and Liverpool and having a factory in Ireland.

Dr. Macpherson Lawrie of Weymouth wishes it to be known that testimonials purporting to be given by him and shown by a commercial traveller who is calling on members of the profession, stating that he represents an Irish shirt company, are not genuine.

QUERIES.

DR. JAMIESON B. HURRY (Reading) asks for information as to the value of sodium chloride in diabetes, a treatment which has recently been advocated in a French medical journal.

DIAGNOSIS OF PRESENTATION.

Q. asks for advice as to the surest method of diagnosing an occipito-posterior presentation, as he finds it difficult in some cases to recognize the position of the head by following the sutures with the finger.

GOUT.

PUZZLED asks for advice with regard to the diet of persons who suffer from gouty symptoms, taking account not only of animal food, but also of vegetables and fruit, about which there seems to be a great diversity of opinion. While rhubarb and tomatoes appear to be universally condemned, he asks whether mushrooms, strawberries, oranges, asparagus, etc., should be forbidden. The question of suitable drinks also, he thinks, is by no means settled.

INCOME TAX.

H. P. paid his income tax, as usual, at the beginning of the year, but has now received an additional demand. He inquires the reason of this, and asks what steps he should take in the matter.

*** Our correspondent should write to the local surveyor of taxes, who will be able to explain to what source of income the demand relates. It has probably nothing to do with his professional profits, and refers to some source, such as untaxed interest on bank balance, not included in the collector's original demand. Only the surveyor, however, can give definite information on this point.

THE CAUSATION OF APPENDICITIS: IS IT HEREDITY?

DR. GEORGE WILLETT (Keynsham, Somerset) writes: I have under my care, now convalescing from a second attack of appendicitis, a Mrs. N., aged 57. One of her sons has had three attacks in one year, another one attack; a sister died, aged 19, after an illness of forty-eight hours; a nephew, aged 4½, after similar illness, and a niece has had one attack. I should like the opinion of readers of the BRITISH MEDICAL JOURNAL as to whether all these attacks in one family point to any hereditary causation, or merely to a loss of power on the part of the tissues to resist bacterial infection generally. If the latter, I would ask how is it that this is, to my knowledge, the only disease generally allowed to be produced by bacterial action, from which this family has suffered? The grandmother died of heart disease, and the grandfather of cancer of bladder.

INFANT FEEDING.

BACHELOR writes: Can you tell me of a book dealing with the care and dieting of the normal child after weaning that I could recommend to mothers with little or no previous experience of the management of children?

*** We know of no such work suitable for lay perusal. "Bachelor" might read the sections dealing with the question in the *Wasting Diseases of Children*, by Eustace Smith, and impart the information himself to the mothers. In some American works most unnecessarily elaborate schemes of dieting are given from the period in question. The mistake most often made is that of not giving sufficient milk during the second year.

ANSWERS.

M. T.—Lacerations of the vaginal orifice would not have cicatrized in forty hours. But it must be remembered that a girl may be impregnated, or have venereal disease communicated to her, without any rupture of the hymen.

W. L.—A ½-in. objective is not sufficiently powerful for the examination of sputum for tubercle bacilli, though it is possible to see the bacilli with this power. A ⅛-in. oil immersion is the most suitable objective, and for use with this a substage condenser is required. Any one accustomed to examine for bacilli could detect them with ½-in. objective without much difficulty, but this power is not to be relied upon for satisfactory work.

B. W.—We know of no textbook of biology which would meet all the requirements, but *Practical Zoology*, by Messrs Marshall and Hurst (London: Smith, Elder and Co., 10s. 6d.), with its supplement, *The Frog*, by A. Milnes Marshall (London: Smith, Elder and Co., 4s.), are good books on practical zoology. As to botany, there is Bower's *Practical Botany* (London: Macmillan and Co., 3s. 6d.). There are several more modern textbooks, such as the two volumes by Mudge on Zoology and Botany, but these are written to supply information required for certain examinations.

OXALURIA.

DR. W. G. BENNETT (Worcester) writes: In his work on *Food in Health and Disease*, Dr. Burney Yeo, quoting Dujardin Beaumetz (*L'Hygiène Alimentaire*), mentions that spinach is, next to sorrel, the vegetable which contains most oxalic acid.

ROYAL COLLEGE OF PHYSICIANS, IRELAND.

AUSTRALIA.—In May, 1904, the R.C.P.I. decided on granting to members and licentiates the privilege of wearing a special costume as follows:—Licentiates: B.A. stuff gown, with 3 in. facings in czar violet poplin silk; plain B.A. cap. Members: M.A. stuff gown, with 4-in. facings and collar of czar violet poplin silk; plain B.A. cap. Messrs A. J. Thompson, 8, Westmoreland Street, Dublin, are robe makers to the College.

TREATMENT OF PALMAR SYPHILIDE.

DR. P. Z. HEBERT (London, W.) writes, in reply to "Chronic": A patient whom I treated for syphilis several years ago subsequently suffered persistently from palmar syphilide, which baffled all my attempts to cure. He himself observed that when he worked at some branch of his trade (chef de cuisine) his palms got perfectly well for a time, and from his own observation he prepared the following ointment: Mutton suet 4 parts, spermaceti 1 part, and white wax 1 part; melt and cool. This cured him of his palmar syphilide.

UNCERTAINTY OF POST-MORTEM APPEARANCE IN SUSPECTED LEAD POISONING.

IN answer to "Plumbum," Dr. King Alcock writes:—The case was that of a male lead-worker, subject to the usual monthly examination, and with no previous history of attacks of plumbism. Two days before his death he was a guest at a "works party" (given to celebrate the marriage of his employer), where he ate little, but drank freely. The next day, too, he ate practically nothing, but stayed in the house all day, going out in the evening (Saturday) for more drink. Persistent vomiting set in early the next morning, accompanied by acute epigastric pain. Fatal syncope terminated the attack before a doctor could be called. *Post-mortem* examination disclosed slight congestion of the cerebral meninges, old pleuritic adhesions, heart normal, stomach somewhat congested with patchy ecchymosis, intestines empty, with occasional contractions of the calibre. The absence of any previous pertinent clinical history of plumbism and, on the other hand, the fact that he had undoubtedly indulged in a hard drinking bout (there was abundant confirmatory evidence of this, which was not called at the inquest), seemed to me to point conclusively to vomiting and syncope as the cause of death. The attack immediately preceding death, as described by the wife, bore no resemblance to typical lead-colic.

LETTERS, NOTES, ETC.

AN APPEAL.

CAPTAIN FRANK E. GUNTER, R.A.M.C. (68, Torrington Square, W.C.), writes: I beg to acknowledge on behalf of Mrs. Dodd the following subscriptions, with many thanks:

	£	s.	d.		£	s.	d.
Dr. Stone	1	1	0	Eucalyptus	2	2	0
Anonymous	0	2	6	Y. E. K.	0	7	6
Dr. Pratt	0	10	6	Sympathy	1	0	0
C. E. C.	1	1	0	Amount previously acknowledged	3	10	0
Anonymous	1	0	0				

A CORRECTION.

IN announcing the title of Mr. H. W. Russell's thesis for M.D. Viet. degree in the BRITISH MEDICAL JOURNAL of July 1st, p. 53, in the sixth line the word "infection" was printed "inflation."

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

Eight lines and under	£0 4 0
Each additional line	0 0 6
A whole column	2 0 0
A page	5 5 0

An average line contains six words.

Advertisements should be delivered, addressed to the Manager, at the Office, not later than first post on Wednesday morning preceding publication; and if not paid for at the time, should be accompanied by a reference.

Post-Office Orders should be made payable to the British Medical Association at the General Post Office, London. Small amounts may be paid in postage-stamps.

N.B.—It is against the rules of the Post Office to receive letters as *Poste Restante* addressed either in initials or numbers.

President's Address

DELIVERED AT THE

SEVENTY-THIRD ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION,

BY

GEORGE COOPER FRANKLIN, F.R.C.S.,

Hon. Surgeon Leicester Infirmary.

MEDICAL EDUCATION—PAST, PRESENT, AND FUTURE.

LADIES AND GENTLEMEN,—It is obviously my first duty, in addressing this large and distinguished audience, to say how keenly I appreciate the honour which I have received by being elected President of the British Medical Association on the occasion of this, its first visit to Leicester.

It is also my duty and pleasure to offer the heartiest of welcome to the Association to our ancient town, at the same time expressing the sincere hope that the meeting will, in every respect, be successful.

I may say that the Local Executive Committee have worked very hard in anticipation of this busy week, and if there may be any shortcomings in regard to social festivities, a compensation may be found in an increase of the more serious work of the Association. Now I should wish to make some brief remarks with regard to this ancient and interesting town.

THE HISTORY OF LEICESTER.

The earliest story connected with Leicester carries us back to a period when King Lear is said to have dwelt upon the banks of the Soar, with his three daughters, having founded a city and erected a temple here.

His reign extended over sixty years, and on his decease he was buried underneath the adjoining stream, or in the temple of Janus, which he had erected, and where his beloved daughter Cordelia afterwards reposed by his side.

This happened at a period at least eight centuries before the Christian Era, or is supposed to have happened; anyway there are valid reasons for supposing that a village or station of the ancient Britons existed here prior to the invasions of the island by the Romans.

In the name of the Roman Camp of Ratae, which was formed on this spot during the time of the Imperial sway—that is from the year 50 A.D. to 448—we discover a trace of the previous habitation of the Britons.

It was the custom of the Romans to adopt the Celtic or British names of conquered towns as the basis of their new ones, but they also gave to them a Latinized form. Hence the Rath (the appellation of the abode of the British, signifying a cleared space) became Ratae.

Ratae was a Roman stipendiary town, that is, it paid, whilst under the government of the Roman soldiery, its regular stipend to the commander of the district; its inhabitants were treated in all respects as a subjugated people.

About the middle of the fifth century coeval with the departure of the Romans from this island was the invasion of the Saxons, and Ratae now became known by the Saxons as Lygeraceastre or Legraceastre, the word meaning the camp on the river Lyger, or Leir (now Soar). This word became softened into Leircester or Leicester.

In 658 a cathedral and Bishop's palace are recorded to have stood in Leicester, on or near the site now occupied by S. Margaret's Church. The Bishopric of Leicester was removed subsequently to Dorchester, and finally to Lincoln. The importance of Leicester at this early period may be learnt from the fact that a *Mint* was in existence in it in 978.

With the Norman Conquest, that is shortly afterwards, Leicester together with other towns, Oxford and Warwick, was almost utterly destroyed. But the most important event about this time was the "Assembly of Barons" which took place in 1201. It was really the beginning of the movement which terminated in the partial representation of the people, the first parliament in fact, with which the name of Simon de Montfort, the noble and patriotic Earl of Leicester, will always be associated.

During this period many religious houses were founded, and in 1330 Trinity Hospital was established in this town by Henry, Earl of Lancaster, for 50 almspeople; it was rebuilt in 1902 at a cost of £12,000.

Another hospital called the Wyggeston Hospital was founded two centuries later in 1513 by William of Wyggeston, a wealthy merchant, for twelve men and twelve women, two chaplains and confrater.

In the seventeenth century King Charles I visited the town for four days, and attended divine service in S. Martin's Church, that was in 1642. In 1645 he came with his army, and after a siege of three days he took the town; the slaughter of the inhabitants was dreadful, the street channels literally flowed with their blood, for men and women fought with desperate courage.

In the next century there was a great improvement in the social condition of the people, institutions were founded, educational matters were more thought of; there seems to have been throughout the country a wave of philanthropic feeling which showed itself by the foundations or openings of hospitals and infirmaries. Among them was our infirmary. It was opened in 1771, and a very interesting event it was.

It was early in the year 1766 that Dr. Watts, of Medbourne (a former physician of Northampton Infirmary), commenced his benevolent advocacy of the foundation of the Leicester Infirmary. His manifestos, published in the columns of the *Leicester Journal* 150 years ago, are so very good, so complete a defence of our voluntary system, and so good an answer to those who so airily talk about the municipalization of hospitals and infirmaries that I am inclined to quote a few of his remarks:

> The great utility of the laborious poor, those supporters of society, upon whom the wealth, upon whom the prosperity, upon whom the defence, upon whom the very existence of the nation doth so manifestly and mainly depend.
>
> The but too obviously disgraceful and fatal neglect of them, the leaving them to the vexatious and distressful consequences, of the various deplorable accidents and distempers to which they are so liable; or what is still far worse, a prey to those ignorant, those interested, to those enterprising, to those utterly unfeeling intruders on the faculty, and depredators upon property and life; who in this nation (though so happy in its laws and government) so grievously abound.
>
> The natural and alarming consequences of such unnatural and evident neglect—a numerous sickly, maimed, languishing, and burthensome poor, a weakly offspring, and population decreasing from this, at least as much as from any other single cause. The improbability, not to say impossibility of having them taken care of speedily, effectually, comfortably, and cheaply at home. The advantages to the community in prompt relief, speedy and radical cures, whereby so many are kept from being long a load alike to society and themselves; which advantages are so very conspicuous, where men with minds open to conviction attend duly thereto: and result so immediately from the above, that it would be impertinent to specify them there.

Dr. Watts continues:

> Whether the voice of the most economical polity, the voice of reason, of humanity, of religion, be heard, each loudly declareth that the most adequate relief of the distressed, to the disburdening the parishes to the credit of the nation, to the credit of the province, to the credit of each individual subscriber, to the endearing of the rich to the poor, to the glory of that unspeakable great and good Being, who delighteth in mercy, and to the obtaining that mercy pronounced upon the merciful, of which not only the nation in general, but each individual, so very greatly standeth in need.

On Wednesday, September 11th, 1771, being the day appointed for the opening of the Leicester Infirmary, about half-past ten in the forenoon the Governors, attended by the Bishop of Lincoln, formed a procession to S. Martin's Church. Select pieces were performed from the *Messiah* by the most capital performers from London and other parts of the kingdom. After the Bishop's sermon, the Coronation Anthem was sung. Divine Service being over, the Bishop and Governors, and an amazing number of decent spectators went to the infirmary, which they opened with great solemnity and admitted therein one patient. From the infirmary the gentlemen returned to the "Three Cranes," and the ladies to the "Three Crowns," where were genteel ordinaries provided for them. The collection at the church doors amounted to £233 14s. 10½d.

Throsby gives a list of the early supporters of the infirmary, and it is interesting to know that many of the same names are to be seen in the list of Governors of to-day. He remarks that "The founders of this noble charity possessed the most exalted and liberal sentiments; they wished and decreed their blessings to be boundless; the stranger and the native are alike the objects of this merciful asylum."

LEICESTERSHIRE MEDICAL WORTHIES.

Leicester and Leicestershire have produced some very distinguished members of our profession. I am proud to be able to refer to such names as those of Gulston, Cheselden, Halford, Richardson, and Paget.

Gulston.

Theodore Goulston (or Gulston), son of William Goulston, Rector of Wymondham, Leicestershire, was born in 1572. He entered at Merton College, Oxford, and became M.D. in 1610. He had before practised at Wymondham, and after taking his final degree settled as a physician in the parish of S. Martin-extra-Ludgate in London, and was admitted a Fellow of the College of Physicians in 1611. He was a learned man, a good classic, and had a considerable practice as a physician.

He died in 1632 and left £200 to the College of Physicians of London to found a Lectureship to be held in each year by one of the four youngest doctors of the College. These lectures have been annually delivered since 1639, to the great advantage of medicine in England.

Cheselden.

William Cheselden, Surgeon and Anatomist, was born October 19th, 1688, at Somerby in Leicestershire. He is said to have been apprenticed to a Mr. Wilkes, Surgeon of Leicester, in 1703. Anyway, he was a pupil of William Cowper, the celebrated anatomist. He was then apprenticed to Mr. Ferne, Surgeon to St. Thomas's Hospital. Cheselden's progress as an anatomist was rapid, for in 1711 he was already a lecturer on anatomy. In 1714 he was called to account by the Company of Barber-Surgeons for dissecting the bodies of malefactors in his own house without permission of the Company, but on making his submission he was excused. The lectures were continued, first in Cheselden's own house, and afterwards at St. Thomas's Hospital for twenty years. He was elected "full," or one of the principal surgeons to St. Thomas's Hospital, in 1719. He continued lecturing on anatomy, and also applied himself to operative surgery. He was perhaps led particularly to the operation for the stone, because his master Ferne was one of the surgeons specially licensed to perform this operation in the hospital; this licence being not granted, as a matter of course, to all the surgeons.

In 1723 Cheselden published a treatise on the "High Operation for the Stone," and was violently attacked at once by one Douglas, a rival anatomical teacher, and surgeon at St. Thomas's, who had just before written on the same subject. But Cheselden shortly afterwards gave up this operation, and adopted that by which he is best known.

The operation which Cheselden favours was based upon one invented and practised (with a terrible want of success) by a friar, Frere Jacques, in Paris, and afterwards improved by Raw, a professor at Leyden. As modified by Cheselden into his so-called "lateral operation for the stone," it was virtually a new invention. It was brought by him to such perfection of detail as has hardly been improved upon up to the present day, and to have invented this alone would be enough to make the name of Cheselden a landmark in the history of surgery. He executed it with extraordinary skill and brilliancy, and with a degree of success which, even with the aid of modern improvements, has hardly been surpassed.

This classical operation was first performed on March 27th, 1727. It soon became famous throughout Europe, and distinguished surgeons from Paris and other places came to England to make themselves acquainted with Cheselden's method. When St. George's Hospital was founded in 1733-4, Cheselden was elected one of the surgeons; in 1737 he was appointed surgeon to Chelsea Hospital, a sort of retirement, though probably lucrative. He retired from St. Thomas's in 1738. He was one of the last Wardens of the Barber Surgeons' Company, immediately before the separation of the surgeons and barbers, which took place in 1744.

Cheselden will always be regarded as beyond dispute one of the greatest of British surgeons. He was one of the most brilliant operators whose achievements are on record. On one occasion, to the astonishment of a French surgeon, he performed his celebrated operation in fifty-four seconds, and, according to Dr. James Douglas, this was nothing unusual. None the less, he was a sound scientific surgeon, and, what is rarer, a man of real inventive genius. He was a keen patron of athletic sports, especially boxing. His disposition was gay and genial; he was fond of society, and evidently popular. To his patients he was kind and tender-hearted. He died in 1752 at Bath, and is buried in the grounds of Chelsea Hospital.

Halford.

Sir Henry Halford was the second son of Dr. James Vaughan of Leicester, an eminent physician, and in the list of physicians to Leicester Infirmary his name comes first. There were seven sons in this remarkable family—John, became Judge of the Court of Common Pleas; Peter, Dean of Chester; Charles Richard, Envoy-Extraordinary to the United States; the sixth son, Edward Thomas, was father of Dean Vaughan, Master of the Temple, and of our well-known and revered David Vaughan, late Vicar of S. Martin's. Young Henry Vaughan was educated at Rugby and Christ Church, Oxford. He took his degree in 1791. Like many men, he borrowed money to start in London, where he was elected Physician to the Middlesex Hospital. Dr. Vaughan's progress was very rapid. His Oxford connexions, elegant attainments, and pleasing manners introduced him to good society, and he married well. Within a year of his settlement in London he was appointed physician to the King, George III. On the death of the widow of his mother's cousin, Sir Charles Halford, he came into a fortune, and changed his name from Vaughan to Halford. He was made a Baronet, and as Sir Henry Halford was Physician in Ordinary, subsequently to George IV, William IV, and Queen Victoria, in fact almost every member of the Royal Family from the time of George III had been under Sir Henry's care. His attainments as a practical physician were of the very highest order; endowed with a quick perception, a sound judgement, and an almost intuitive knowledge of the powers of medicine, he wielded the resources of his art with a confidence, precision, and success which were unapproached by any of his contemporaries.

Throughout the whole of his successful career, Sir Henry was ever attentive to the highest interests of the Royal College of Physicians. He was Censor 1795, 1801, and 1815, gave the Harveian Oration in 1800, and again in 1835. In 1820 he was elected President; he was re-elected annually, and continued to perform the duties of his high office until his death in 1844—a condition of things by no means favorable to reform and progress. He died at the age of 77.

It should be added that it was mainly to Sir Henry Halford's energy and exertions that the College of Physicians owes its removal from Warwick Lane to Pall Mall East, its present abode. Sir Henry was buried in the church of Wistow, Leicestershire, where there is a monument to his memory bearing a long and learned Latin inscription.

Benjamin Ward Richardson.

Sir Benjamin Ward Richardson was born at Somerby, in Leicestershire, in 1828.

Being destined by the deathbed wish of his mother for the medical profession, his studies were always directed to that end, and at an early age he was apprenticed to Dr. Hudson, the surgeon at Somerby. He then went to Glasgow, and afterwards became assistant to the elder brother of his former master, and to the late Dr. Beresford, of Narborough, in this county.

He graduated at St. Andrews in 1854, and became a Fellow of the Royal College of Physicians in 1865.

He delivered the Croonian Lecture in 1873, on "The Muscular Irritability after Systemic Death." He had moved to London in 1854, and lived in Manchester Square. He held the appointment of physician to various philanthropic institutions, among them the London Temperance Hospital. He lectured on forensic medicine, public hygiene, and physiology. In 1854 he was awarded the Fothergillian Gold Medal by the Medical Society of London; in 1856 he gained the Astley Cooper Triennial Prize of £300 (guineas) for his essay on "The Coagulation of the Blood." In 1868 he was elected President of the Medical Society of London; in 1875 he delivered a celebrated address at Brighton on Hygeia, in which he told of what a city should be if sanitary science were advanced in a proper manner. He was knighted in 1893 in recognition of his eminent services to humanitarian causes.

Richardson was an ardent sanitary reformer. He spent many years in attempts to relieve pain among men by discovering and adapting substances capable of producing

general or local anaesthesia, and among animals by more humane methods of slaughter. He was also an ardent and determined champion of total abstinence, for he held that alcohol was so powerful a drug that it should only be used by skilled hands in the greatest emergencies.

Sir B. W. Richardson was one of the most prolific writers of his generation. He died in 1896.

Tom Paget.

One more name I must mention, namely, that of Mr. Tom Paget, surgeon to the Leicester Infirmary. Son of a distinguished surgeon, he himself was brilliant almost two generations ago. He was well known to, respected and admired by all his contemporaries. He was the first provincial Fellow to be elected to the Council of the Royal College of Surgeons. He died at an advanced age in 1875. He was surgeon to our infirmary from 1828 to 1861.

State Regulation of Medical Education.

I now propose, ladies and gentlemen, having referred to local matters in connexion with the medical profession of, I hope, some interest, to venture on some remarks with regard to the existing regulations by the State of the education of those who desire to become members of our profession. In doing so, in considering how the education is regulated to-day, I must, as a necessary preliminary, consider to some extent the regulations of the past, and then we can ask if the improvements of to-day are as great as they should be, if the regulations are producing the best possible results; if, in fact, the average student, when he or she leaves the medical school or hospital, legally qualified, is as well equipped as possible for the responsibilities of the future. That this is a tremendous problem we recognize at once, when we consider for one moment what it means to a country, or rather to a series of countless communities to have among them thoroughly well educated representatives of the medical profession. As it is absolutely impossible to suppose that a civilized community could exist without such representatives, it follows, surely, that those communities in which are found the most highly educated members of the medical profession have an enormous advantage as compared with others. It seems to me that the importance of the education of the medical man or woman of to-day is greater than ever it was, and the responsibilities of those who are engaged in teaching are also greater than ever.

The Apothecaries Act.

Now, as far back as 1722 there was an Act which empowered the Apothecaries' Company to visit the shops of all apothecaries practising in London and to destroy such drugs as they found unfit for use. In 1748 great additional powers were given to the Company by an Act authorizing them to appoint a Board of ten examiners, without whose licence no persons should be allowed to dispense medicines in London or within a circuit of seven miles round it.

The celebrated Apothecaries Act of 1815 appears to have been the first Act to legalize medical practice, and penalize unqualified practice; and this was really the start in this country of any regulations recognized by the State with regard to the education of apothecaries, the then general practitioners. The General Medical Council did not come into existence until 1858, the date of the first Medical Act. Between 1815 and 1858 there seems to have been a sort of "hiatus," but two important events helped towards the first Medical Act, viz., the establishment of the *Lancet* about 1820, and the founding of our Association in 1832 by Sir Charles Hastings of Worcester, under the name of "The Provincial Medical and Surgical Association."

It will be interesting to refer to two or three clauses of the Act of 1815 before we proceed further—to Clause III, for example. The Masters and Wardens were empowered to enter shops of apothecaries and examine drugs:

> They shall or may search, survey, prove, and determine, if the medicines, simple, or compound, wares, drugs, etc., and any thing or things whatsoever therein contained and belonging to the art or mystery of apothecaries aforesaid, be wholesome, meet, and fit for the fare, health, and ease of His Majesty's subjects.

Again in Clause VII we read:

> Whereas much mischief and inconvenience has arisen, from great numbers of persons in many parts of England and Wales exercising the functions of an apothecary, who are wholly ignorant and utterly incompetent to the exercise of such functions whereby the health and lives of the community are greatly endangered, and it is become necessary that provision should be made for remedying such evils, be it, therefore, further enacted that the said Master, Wardens, and Society of the Art and Mystery of Apothecaries of the City of London shall be empowered for ever to superintend the provisions of this Act and carry the several regulations and provisions thereof in relation to the several persons practising the art or mystery or profession of an apothecary throughout England and Wales into full execution.

Then follow clauses to appoint Examiners and to appoint a Chairman, all to hold office for one year, but to be eligible for re-election. Clause XIV. "To prevent any person or persons from practising as an Apothecary without being properly qualified to practise as such," enacts that they should be examined by the Court of Examiners and receive certificates, provided always that no person shall be admitted to such examination until he shall have attained the full age of 21 years, and in Clause XV it is enacted that such person must have served a five years' apprenticeship. Clause XX provides for a penalty for practising without a certificate.

The Medical Act of 1858.

Coming now to the first Medical Act of 1858, we find it established a Council to be styled "The General Council of Medical Education and Registration of the United Kingdom, with Branch Councils for England, Scotland, and Ireland, consisting of Representatives from the Universities and Corporations." The chief achievements of the Council have been the establishment of a Preliminary Examination, and inducing the corporations to leave it to the National Educational bodies, the visitations of examinations, and the publication of the *Register*, and of the *Pharmacopoeia*. It has had some faults of course; the chief has been its want of sympathy with the great body of the profession, especially with regard to the representation of the profession in the Council.

A great defect of the Act of 1858 was, that it permitted the separate registration of purely medical and purely surgical diplomas, and therefore diplomas which did not guarantee an adequate acquaintance with all the subjects of professional examination were used by their holders to cover the whole ground of medical, surgical, and obstetric practice. In May, 1869, Mr. (afterwards Sir John) Simon said that persons practising on half qualifications were to be counted by thousands in the United Kingdom. Between 1858 and 1886 nearly twenty Bills were introduced to remedy these main defects. In 1870 Lord Ripon's Bill was brought in to establish a simple code of regulations common to all the examining Boards of the United Kingdoms, sufficient and uniform tests of qualifications as a condition of entry upon the *Medical Register*, a more or less consolidated examining authority, and more effectual provisions to restrain quacks. The principle was accepted by the Council, but the Bill was wrecked by the opposition of the British Medical Association on the ground that no provision was made for the representation of the profession in the Council.

The Government Bill of 1878 was a great improvement; among other things, it required that all persons desiring to be placed on the *Register* should have both a medical and surgical qualification, and it contained provision for amending the 40th Clause—"Suppression of Unqualified Quacks"—and for the admission of women to the examination.

It also provided for the examination of, and registration of, dentists and midwives, and amended the law relating to certificates of Lunacy.

The Medical Act, 1886.

The celebrated Act of 1886 removed two conspicuous blots in the organization of our profession. It made it necessary for every medical man to be qualified completely—that is, in the three main branches of practice—medicine, surgery, and obstetrics—before he can be placed on the *Medical Register*, and it has conferred representation on the great body of the profession.

Medical Education in London Forty Years Ago.

In the Sixties London students were gradually waking up to the fact that, although the College and Hall gave them the two qualifications which entitled them to be placed on the *Register*, the diplomas did not give them the legal right to assume the title of "Doctor." Many men—hard-working and possibly ambitious—when coming up from the country to the hospital, heard of the University of London for the first time. Anyway, the London University gave a degree, and why should they not go in for it? To show you

how ill adapted the teaching was in those days in the London medical schools for those students who desired to graduate in London, I will quote from a letter addressed in December, 1879, to the Chancellor of the University by a distinguished graduate, my old friend and teacher, Dr. Bristowe:

> Only a small minority of the students entering the medical profession in England offer themselves as candidates at the matriculation examination. Nearly 50 per cent. fail; of those 50 per cent. fail at the preliminary scientific examination. Of those who have passed this examination 35 per cent. fail at the first M.B., and of those who finally become candidates for the M.B. degree 19 per cent. are rejected. The collective result is that not 10 per cent. of the young men who enter at the lowest series of the examinations emerge successful at the last, and that at least 72 per cent. are rejected at the matriculation and preliminary scientific examinations.

Dr. Bristowe observes that at that time there were 534 men living who held a medical degree in the London University out of a total of nearly 25,000 practitioners holding British qualifications. The practical result of this is well known; scores of men left the London hospitals before their time was completed to obtain degrees in Scotland, Ireland, or elsewhere. In short, the system of education forty years ago in the London medical schools, as far as there was any system, was designed to enable men to qualify at the College and Hall or at the two Colleges, as soon as possible—this could then be done in four years or just under—and not to encourage work for the London University degree.

Of course, I am well aware that some very good work was done, more especially in medicine and surgery; but in obstetrics and gynaecology the practice and instruction were alike insufficient. It must be remembered when referring to the medical education of 40 years ago that those were the days of the linseed-meal poultice (in the surgical wards); antiseptics were just beginning to be used, the clinical thermometer appeared on the scene, together with the laryngoscope and the ophthalmoscope. The clinical teaching was then, I suppose, nothing like so systematic as it is now, but some of the lecturing was most excellent. I might refer to the lecturing of the late Sir John Simon, then Mr. Simon, on pathology at my old school of St. Thomas's. He used to lecture to, perhaps, hardly a score of students. It would have been of immense advantage if he could have lectured to every medical student in London; a man of his learning and intellect was, in a way, almost wasted down in the old Surrey Gardens, but there was no attempt at concentration of professional studies in those days.

If I were asked, In what respect do you think the medical education of 40 years ago was most deficient? I should without hesitation say it was deficient in three particulars: (1) Preliminary examinations; (2) obstetric medicine, and (3) the administration of anaesthetics: and if I were asked to-day the same question I should give precisely the same answer.

Medical Education of To-day.

Now, I have referred to the regulations of the past. I will briefly consider those of to-day, and note the improvements that have been effected. I may then perhaps venture to forecast what further advances may be made not only in the interest of the medical student, but also to the advantage of the whole community.

By the regulations of the General Medical Council no person can be registered as a medical or dental student who has not attained the age of 16 years; some, a great many, think the age ought to be 17. I am one of those. Further, no person can be allowed to register unless he or she shall have previously passed a recognized preliminary examination in the subjects of general education. The period of professional study, between the date of registration as a medical student and the date of the final examination for any diploma which entitles its holder to be registered under the Medical Act, must be a period of bona-fide study during not less than five years.

Now, this period of five years is a minimum time, and it obtains whether the curriculum be passed in England, Scotland, or Ireland, and whether the student is going in for a university degree or a college diploma; as a rule, of course the university man takes a longer time. The universities and medical corporations seem now to work on the same lines, though differing in the severity of examinational tests—lines laid down by the General Medical Council. For instance, the curriculum and examination of the Conjoint Board have now been brought much more into line with those of the University of London and other universities than was formerly the case. This, of course, is so much to the good.

Now I will suppose a young friend (to start well, we will hope he has passed the Matriculation Examination of the London University) has registered at 16 or 17. What has he to do by the time he is 21 or 22? He has a journey of three stages:

I. Elementary science, including chemistry, physics, elementary biology, and practical pharmacy.
II. Anatomy and physiology.
III. Medicine, surgery, and obstetrics.

If he passes his first two examinations all right he has two and a half to three years left for the study of the more purely medical subjects, and it is perfectly appalling to think of the lectures and other work which the student must attend during the last period of two and a half or three years. I am persuaded that the laity has not the remotest idea of the number of subjects that the medical student has to tackle. Speaking generally, he has to attend lectures in medicine six months, surgery six months, obstetrics three months, pathology, bacteriology, pharmacology, therapeutics three months, forensic medicine, public health, together with systematic practical instruction in medicine, obstetrics and surgery; operations on the dead body, attendance on the practice of a recognized hospital for two winter and two summer sessions, *post-mortem* demonstrations for twelve months, and clinical lectures on medicine and surgery. He must also attend clinical instruction in ophthalmic surgery, insanity, and diseases of women, and must act as clinical clerk and surgical dresser for not less than six months each, and attend twenty obstetric cases. Instruction in vaccination, and in the administration of anaesthetics, and attendance at a fever hospital are also required.

I have said that the laity has no idea of the amount or of the variety of subjects to be studied. Another point that cannot be grasped or understood is why, when our young friend has passed his three examinations, has done all his work, has obtained his diploma from the Conjoint Board, he has not earned the legal title of "doctor."

I do not propose to discuss this question now. I only remark in passing that it seems to me that the British public will decide it—in fact are deciding it now, for, as a matter of convenience, if for nothing else, the title of doctor is given to the medical practitioner nowadays much more generally than formerly, in fact almost universally. Even in our Journal I notice that the "Conjoint man" is styled "doctor."

I think, then, it will be obvious to every one that great improvements have been made within the last two decades particularly, and that the general standard of medical education has risen considerably, notwithstanding the fact that too much of the average student's time is spent on biological and chemical studies, and that too little time is given to ward work.

I have ventured to point out what I consider to have been the main deficiencies of the past. I mentioned that in three particulars I thought the medical education was deficient—namely, (1) preliminary examination, (2) obstetric medicine, (3) the administration of anaesthetics; and now, notwithstanding the great general advance all along the line, there is a pressing necessity for much improvement in these three respects.

1. *Preliminary Education.*—At the root of all progress lies the improvement in the general and professional culture of those about to enter the medical profession. Can any one deny that some of the preliminary examinations of to-day are too easy? They are not sufficiently stringent to secure a proper standard of culture. I do not think that any student should be put on the *Register* unless he has passed the matriculation examination of the University of London, or one of equal stringency. In the good time coming, when all medical students will be undergraduates of a university, and will be obliged to take a degree in arts, this question of preliminary examinations will be solved; until then we must do the best we can. I think the advantages of a good classical education early, to a man entering our profession, cannot be over-rated. Nothing will, or can, make up for it; there would not be so many candidates deficient in ordinary spelling and composition if there had been a good classical education. To my mind there is nothing really superior to the old-fashioned Latin and Greek training, but it seems hopeless to insist nowadays upon the retention of Greek. I think it is twenty-five or thirty years since, in the matriculation examination of the London University, students

were allowed to take up German instead of Greek. I venture to think that, as far as medical students are concerned, that was a retrograde step. I do not envy the student sitting down to learn his anatomy who has not learnt even a little Latin and Greek—his *Gray's Anatomy*, perchance, in front of him, his Latin dictionary on one side, and his Greek lexicon on the other. The student, too, must not begin to specialize too soon; he wants a liberal education—an education for its own sake. This goes when the technical education begins—that is, when he leaves school or college to learn to be a "doctor." I was most interested to observe that about two months ago the Lord Chancellor, as Warden of the Guild of Undergraduates of Birmingham University, when delivering his address, said he thought there was a grievous omission in that University—there was no Chair of Greek—and he hoped they would clamour for such a chair, and that Birmingham munificence would be effectual in procuring it.

2. *Obstetric Medicine*.—With regard to the education in obstetric medicine and surgery, I would insist that its importance is not appreciated as it should be. This is a subject of which a very practical view should be taken. It is supposed that out of ten newly-qualified doctors who leave hospital, some seven or eight of them go in to what is called, for want of a better name, "general practice"—become general practitioners. Now what is the basis of general practice? Anyway, in a practitioner's early years, it is obstetrics; the young practitioner who has his living to get is not long in finding this out, and in finding out too that when he has to rely on his own knowledge and judgement, he does not feel himself so well equipped as he thought he was. The remedy for this is obvious—much more practical work before leaving hospital. It is trifling with the subject for it to be deemed sufficient that a man should have attended not less than twenty obstetric cases in order to be signed up.

3. *Anaesthetics*.—I have a word to say about anaesthetics. The administration of an anaesthetic is the duty which may devolve on any practitioner at any moment almost. He should, therefore, feel himself quite capable to undertake this duty. I believe that good instruction is given at the medical schools in this subject, at the present day. Anyway, there is a vast improvement in this respect as compared with what obtained in my student days. Then, indeed, unless a man was sufficiently fortunate to obtain his house-surgeoncy, he had no opportunity for any practical experience with regard to the administration of anaesthetics. For many years I have had unusual opportunities of observing the capacities of men, freshly qualified, who have come from various schools all over the country to fill the resident appointments at our infirmary, and whose duties have included the administration of anaesthetics. There can be no doubt that in recent years men have been better up to this particular work. All the same, I think that at the average hospital medical school the importance of a thoroughly good education in this department is not sufficiently insisted upon.

Medical Education in the Future.

Now that I have had my grumble at what I have ventured to call "deficiencies" in the medical education, both of the past and of the present day, I feel myself at liberty to say that, though the average young medical practitioner in this country is a better educated man than he ever was, there is still room for improvement. But difficulties arise at once. If there be more subjects to be studied, or subjects to be more thoroughly studied, how in the world is the time to be found? I have alluded to the tremendous amount of work the student has to get through, particularly in his last three years; is it right that it should be so, and is it possible that he can leave out some of the prescribed work and give more time to other subjects so as to learn them more thoroughly? The histology of to-day, together with physiology, so elaborated that its study must take up a much larger proportion of time than formerly, are subjects necessary enough, but are they not being pushed too far? The future practitioner is not expected to be a professor of physiology any more than every student can be a scientific physiologist.

Just so with regard to bacteriology, which has become so much of a science that it might well in itself constitute a study for a lifetime. It must be studied, but its teaching, like that of histology and physiology, should be adapted more precisely to the actual needs of the practical physician or surgeon of to-morrow.

Perhaps the most startling fact of to-day in connexion with medical education is the apparently inevitable development of the specialist. The Medical Act of 1886, to which I have already alluded, provided that no one should be admitted to the *Medical Register* who has not been examined and is not qualified in medicine, surgery and obstetrics. The so-called General Practitioner is one who practises these three, many add pharmacy, and thus practise as apothecaries. Whatever line a man takes eventually, he must have qualified as a general practitioner. One might be inclined to ask whether the general practitioner will, as such, continue to exist when one contemplates for a moment the subdivisions of work that are undertaken by the specialist. Thus, we have not only special men for the eye, ear, spine, skin, throat, and so on, but for almost every organ in the body. How has this condition of things arisen? I think I can assign two main reasons:

1. The severe competition which awaits a well-qualified man when he is about to start in practice.

2. Though perhaps this ought to come first, the demand of the public. The public do not believe in universalism as applied to the practice of medicine, but they pin their faith to some specialist who has taken up some particular ailment or organ of the body. An old fellow-student of mine, now holding a high position as a consulting physician in London, told me that a lady of distinction brought her child for him to see because she had been given to understand that he was a specialist for children between the ages of 7 and 8, and her child was just $7\frac{1}{2}$! Seriously speaking, this condition of things has to be recognized; it has come to stay, whether for the greatest good of the greatest number is more than I can say; I can only hope so.

Of course, we all agree that some special departments in our profession are absolutely necessary; take, for example, that of Public Health. Now the supreme authority in sanitary matters in this country is the Local Government Board, with its chief medical officer and its medical and other inspectors; and all urban and rural sanitary authorities are required to appoint medical officers of health having registered qualifications in medicine and surgery. The duties of a medical officer of health are tremendous (in an average town such as Leicester, for example), and require a most extensive and liberal education. The man who would aspire to so honourable a post must specialize early in his professional life. Think what he has to do. The Local Government Board directs that he shall inform himself respecting all influences affecting or threatening to affect injuriously the public health within the district. He shall be prepared to advise the sanitary authority, worthy aldermen, and common councillors alike, on all matters affecting the health of the district. He shall direct and superintend the work of the sanitary inspectors. He has to be able to give a decided opinion as to whether some articles (meat, game, fish, and the like) when exposed for sale are fit or unfit for food. He has to write numberless reports on all sorts of subjects, and report every quarter to the Local Government Board, and oftener if there should be any epidemic. He has to prepare an annual report up to the end of each December containing tabular statements without end with regard to sickness and death-rate. In matters not especially provided for, the medical officer of health must obey the instructions of the Local Government Board, and the lawful orders or directions of the sanitary authority. Since I have been in practice it has become necessary to notify to the sanitary authority all cases of contagious diseases, and the medical officer of health is expected to be able to decide immediately in doubtful cases of infective disease: for example, he must decide at once whether a case be one of modified small-pox or of severe chicken-pox. He has, in fact, to constitute himself a "final court of appeal." It is now suggested that his duties should be added to in connexion with the supervision of midwives—under the new Act.

Now, surely the education of a man who is to carry out these duties thoroughly well must have been very special—in fact, directed towards public health *ab initio*. Although it has nothing to do with my argument, I may here express my firm opinion that our Association will be doing a great work if it will use its influence to favour the principle or policy of "fixity of tenure" as applied to competent and well-educated medical officers of health. The present conditions of service are not satisfactory, to say the least.

As another instance of special work in our profession, work requiring special aptitude and education, I would refer to the insane. In these large asylums which unfortunately seem to have sprung up, and are springing up, all over the country, and which are harbours of refuge for the most afflicted and

the most to be pitied of our fellow creatures, are to be found men of our calling, who have devoted, men who are devoting, their lives to the improvement of the treatment and surroundings of those unfortunate people entrusted to their care. Within the last half-century the treatment of the insane has been revolutionized—improved in every possible way. This has been due to the specialists—to men who have made the care and treatment of those of unsound mind their special study.

And so I might go on—it really seems as if the medical profession is soon to consist of a series of professions, and that those who enter it, if they intend to make a decent living, will have, quite early in professional life, to decide each one on his particular line. Of course this is not really so.

The two illustrations I have given of specialism in public health and lunacy are illustrations of legimate specialism, but that there is a type of specialism existing with which we are not all in accord no one will deny. A healthy specialism has been defined as "a practice of a special branch of treatment, a study of a special domain of knowledge of a natural and gradual growth in the varied experience of a practitioner." Something like this has always existed in medicine, greatly to its advantage, and is very different from the specialism of what I have heard described as the mushroom-growth variety, where chicanery and humbug reign triumphant. There can be no doubt that honest specialism has advanced the science and art of both medicine and surgery, particularly during the last thirty or forty years. But, as has often been observed, in many other lines of human activity, all subdivision of labour, while advancing the best interests and development of the people at large, has great disadvantages for those engaged in the work. This is seen constantly in many industrial pursuits, when mechanics or workmen become almost like machines, devoting their constant toil and energy to one small section or subdivision of work, and are relatively useless in regard to other portions of the same industry. There is then the danger that this modern development of specialism may tend to produce a narrower type of medical men, who, like the mechanics, will only know their own department and work, and be unable to understand properly the relations of special portions of the field of medicine to others, or to the system at large. Whether this may be so or not, the main point to keep in view, while, always admitting that specialism is with us, is "whether or no the practical result is good?"—first, as affecting the public, and, secondly, as affecting the profession. To both of these questions I unhesitatingly say Yes, and from my experience of practice and patients I make bold to declare that the public might derive more help and benefit than they do if they knew what to have and what to avoid in the way of specialism. Now here is the opportunity and a well-defined duty for the well-educated practitioner. He will see to it that his patient shall not become (if he can help it) a patronizer of the false specialist (legally qualified or not). After all, it seems to be a matter of trust, and just in proportion as you have young men coming thoroughly well trained from the medical schools, so you will have a corresponding amount of confidence on the part of the public. The way in which specialism is affecting the profession has already been alluded to, and I only say again that the chief danger seems to be the development of a narrower type of medical man. I think, before leaving this subject of specialism, I may take the opportunity to express my regret that nothing seems to be able to be done to check the advertising specialist—enterprising advertisers who claim to cure diseases without seeing the patients (claim to do, in fact, what is impossible of accomplishment), and so use the daily press, religious and magazine publications, for fraudulent purposes, for that is what it amounts to. In America, I think, there are greater sinners in this respect than there are here; but in England they are bad enough, and it is a matter of painful surprise that proprietors of high-class newspapers and magazines can allow such rubbish to be shot into their advertising columns. There must have been great defects in education somewhere, or such a condition of things would never be tolerated.

I have intimated that, to the best of my judgement, the average young practitioner of to-day is a better man than he was thirty or forty years ago, but I want him to be better still, to be more thoroughly equipped, and would not the public gain immensely if this were so? The university education is the first pressing necessity. I have alluded to the good time coming when all medical students shall be undergraduates of a university, and shall have to take a degree in arts. I hope it is not a dream, but that another generation will see its accomplishment. It is undoubtedly the fact that medical men of a former generation, whose sons are now entering the profession, send them, if they can possibly afford it, to one or other of the universities; again, when the student's time is over in the five or six years, why should it not be obligatory that he should hold some responsible resident appointment for six or twelve months before going into practice? As a matter of fact, it is more often so than not, but now that there are more opportunities for resident appointments, it would be a wise regulation that every man should have this experience. I have known many men who have regretted in after years that they had no such opportunity.

I may perhaps offer one more suggestion to the newly-qualified practitioner, and that is that he should at once join the British Medical Association. The British Medical Association, as I have mentioned, was founded at Worcester in 1832. At its first annual meeting, a year later, it numbered 140 members. Its success has been very marked. I think there are some 20 000 members, but the success will not be complete until every registered practitioner becomes a member. The British Medical Association exists for the promotion of medical and the allied sciences; it also exists for the maintenance of the honour and the interests of the profession. I will not labour this point now, I may have another opportunity, but I would earnestly invite every newly-qualified practitioner to join our Association as a matter of course.

I suppose all of us, when students, indulged more or less in "hero worship." I am sure I did, and I have already mentioned the name of one of my heroes. I mean the late Sir John Simon. He was appointed Lecturer on Pathology at St. Thomas's Hospital as far back as 1847. He was then 31, and on that occasion he gave an inaugural address, and I propose to conclude my remarks to-night, which I sincerely wish had been more worthy of this distinguished audience, by quoting some of his concluding sentences.

Mr. Simon—this genius, surgeon, pathologist, and poet-philosopher—was addressing a very learned audience, not only students. He said:

> But, finally, gentlemen, I cannot forget, nor can I refrain from reminding you, that the course I invite you to run is no beaten track of traditional knowledge. The science which we have jointly to study is yet but in its first dawn and immaturity; and the terms of my commission here have imposed on me, as an especial duty, to institute researches for the purpose of unveiling the latent processes by which disease is established and the curative processes by which it is removed. To co-operate with me in these researches, and go far beyond me in achieving their great results, I earnestly invite and exhort you. I bid you enter on a field of science, where industry must have its reward in an unparalleled harvest of discovery—a field now first beginning to bear fruit, with promise of unmeasured fertility. If you have energies in you, beyond the mere care for sustenance, how can you better or more nobly bestow them than in original investigations which have Nature for their field and the alleviation of human ill for their final purpose? It is no transient access of enthusiasm, but in the deepest conviction of my judgement, that I affirm the supreme dignity of such pursuits; that I affirm them not only to be in themselves the loftiest occupation of the human mind, but to include the largest and most enduring rewards. To be the successful interpreter of Nature, to discover her hidden laws of operation, or by your personal exertions to augment the permanent resources and utilities of medicine—this implies as its result to be remembered so long as man and outward Nature co-exist; *to be remembered as the ornaments and benefactors of your species.*

A FRENCH SOCIETY FOR THE STUDY OF TUBERCULOSIS.—The Society for the Scientific Study of Tuberculosis is the name of a new society which has recently been founded in Paris on the initiative of Drs. Albert Robin and Fernand Bezançon. The new Society, whose work is to be purely scientific, is to consist of thirty members who are to be chosen without regard to school or opinion. For admission a candidate must receive three-fourths of the votes cast. An original feature in the constitution of the Society is that there is to be no president. The members will each in turn in alphabetical order preside at the meetings. The management of the Society is vested in a general secretary appointed for two years. Among the members are Drs. Beclère, Calmette, Chantemesse, Cornil, Armand Gauthier, Grancher, Landouzy, Letulle, and Richet.

Address in Medicine

DELIVERED AT THE

SEVENTY-THIRD ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION,

BY

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MEDICINE, PRESENT AND PROSPECTIVE.

IN this address on medicine which I have the honour to deliver I do not purpose to recite a story of its victories: that has been often done in learned and elegant discourses by orators better equipped for the work. I shall do no more than, looking at large on its present position, try to indicate in a general way how with advances day after day its horizon widens and its expectations of service to mankind increase. Never was the pace of medical progress so rapid as during the last fifty years, and never the labour to promote it so eager and strenuous. More victories sure to come soon will no doubt reward the zeal of those at work now and those who, coming after, shall carry onwards the torch of progress.

When all is said, however, the right of present glorification belongs rather to surgery, which, since it has painfully found out the aseptic virtue of thorough cleanliness, has made such notable operative progress. Day after day the surgeon invades territory which the physician deemed his own, and saves from pain and death the patient whom medical art was impotent to help. He opens the cerebral abscess, cuts out the cerebral tumour, frees the fettered lung, fixes the floating kidney, cleans out the stone-packed gall bladder, removes the peccant appendix, yea—rudest raid of all—by cutting away large parts of the sluggish bowel, aspires to cure the obstinate constipation which drugs had failed to cure, had probably aggravated. In face of the bold rectifying operations of his art, it might seem almost a pity that Nature, in its design and construction of the human body, had not the advantage of modern surgical advice. A possible apprehension now is lest in his zeal to put quickly right that which is wrong the surgeon be sometimes tempted to supplant instead of aiding Nature in its constant efforts to put things quietly right. Medicine and surgery are not of course separate arts, but different functions of one healing art, always in need of mutual aid and instruction, and it will go ill with the patient of either physician or surgeon who ignores this truth in practice.

While proclaiming praise, I cannot but deplore the present practice of inventing and multiplying portentous words of Greek or Latin or mixed root to describe simple things. One cannot open a medical journal nowadays without being amazed and dazed by the prolific coinage of verbal monstrosities, acrid enough sometimes to set the teeth on edge. Every cut which the surgeon makes is a magniloquent *ectomy*. No one does so simple a thing as excise a uterus; he performs *panhysterectomy*. If he cuts into or cuts out a stomach and duodenum it is a *gastroduodenectomy*, and if he does this by a more skilful cut than heretofore it is a *gastropyloduodenectomy*. Then there is a *colpohysterectomy*, and, more mouth-filling still, a *panhysteromyomectomy*, in which, if I understand it, the *myomectomy* does not mean to cut away muscle, but to cut out a *myofibroma* in muscle; and so on with a *dacryocystorhinectomy* to cure a purulent *dacryocytitis*, and similar tongue-wrenching *ectomies*. Nor indeed is the physician at all behind in the race of pitiful ambition. Medical literature bristles with such terms as *eosinophilia* for a dubiously characteristic blood state of *ankylostomiasis*, *myasthenia gravis pseudoparalytica*, *splenomegalic polycythaemia*, *pseudoleukaemia*, *gingivitis*, *visceroptosis*, and—latest flowers of medical culture—*poltophagic* for one who chews his food, *psomophagic* or *tachyphagic* for one who bolts it; for such is the inventive zeal, that not the disease only, but every symptom of it, is in a fair way to get its uncouth name, offensive alike to eye, ear, and mind.

Obviously, if the rate of invention goes on at its present pace, instead of mutual intelligence and fruitful union between the specialities of medical research necessitated by scientific division of labour, there will be barren separation and positive confusion of tongues. As no one can have perfect knowledge of all parts of medicine—and yet every practitioner ought to have a sound conception of the organism as one vital essential fact by ations of its different parts and disorders the end get such it—a simplicity of nomenclature would seem nation? It sirable but essential.

The coinage gives die without regard to their purity or pleasantness, nor may that which could not be said in common language, not even to avoid circuity of speech, is not unpleasing only, but a positive detriment to thought; for it is certain that, as Bacon said, words shoot back on the understanding of the wisest and mightily entangle and pervert the judgement. Vague and slovenly words embody and perpetuate vague and slovenly ideas; once fixed, too, they lose their ugly features by familiarity and cannot be eradicated. Then nothing is easier than to stay in the word without having a clear and distinct idea of what is beneath it. For example, the now familiar word *neurasthenia*—word of comfort to doctor's tongue and patient's ear—often suffices without further inquiry into the half-dozen possible causes of nerve-weakness one of which is the real cause of the trouble and ought to direct the treatment. Always, too, in case of doubt salvation can be sought in the bigger word *pseudoneurasthenia*, regardless quite of what meaning, if any, the word has.

Looking out on the present state and prospect of medicine, it is obvious that its future work will be mainly to prevent and stop the beginnings of disease—to take good order that it shall not come, and if it do come to prevent functional disorder from lapsing into fixed disease which must be given over either to the surgeon's knife or to the shears of Atropos: for to despise the little things of functional disorder is to fall by little and little into organic disease. Now, preventive medicine has two plain ends, the one of which is being pursued with signal success, the other not duly studied. The first, by all fit measures and precautions to defend it from those attacks that come from without, whether in gross form or as invisible microbes floating to and fro on earth to assault and hurt it; the second, to obviate the predispositions to disease which lie within the body by giving it inward strength to resist its subtle, ever-present, ever-active enemies—in fact to teach it to die at last of old age, as every doctor ought theoretically himself to do.

The success of preventive war against disease is manifest in the decrease of such diseases as plague, typhus and typhoid fevers, small-pox, malaria, hydrophobia. Here medical art, having learnt definitely what it has to fight against, employs definite measures of defence and attack for a definite end. So it has relinquished the fearful bleedings, purgings, vomitings and druggings once in fashion. Think for a moment on what happened when medicine blindly attacked symptoms at first sight—on the sort of treatment, for example, which a poor wretch suffering from scabies underwent before the insect of that disease was discovered. What mischievous measures, again, were employed to provoke the pouring out of "laudable pus" where no pus should be! That the practice of warring against symptoms, which are effects, and signals, perhaps useful outlets, of the disease by trying to suppress them, instead of striking at the cause and letting the symptoms alone, is now obsolete would be too much to say; it is not long since the violent lowering of high febrile temperature by frequent doses of antipyrin was the fashion; and still, I fear, large use is sometimes made of opium, chloral, and their like to quench the fire of acute mania, notwithstanding that, smothered for the moment, its flame blazes more fiercely afterwards to the prolongation of the disease and peril of the patient's life. A lesson of human history which the history of medicine signally confirms is that error does not become truth because it is repeated thousands of times by many thousand persons. Might not the lesson haply be applied to the valuation of some current medical theories? I suspect that if a competent thinker, constituting himself a sort of *advocatus diaboli*, were to write a book entitled *Medical Doubts*, setting forth reasons why some accepted truths may not after all be true, he would do a real service to medical science.

For the adoption of requisite measures to ward off disease and nip it in the bud the medical man does not get full and fair opportunities. Summoned to the bedside of one actually ill, the disease having got its hold, he sees the sick man for the first time when, being sick, he is not his true self. Ignorant, therefore, of the patient's constitution and habits, of his temper of body and mind—all which count for much in the prescription of sound rules and directions—he is not so qualified to counsel wisely as if, called in beforehand to advise against sickness, he possessed the necessary elements of comparison between the sound and unsound man to instruct

treatment. For it or absurdly calle and in most pers organ or tissue wh and in the end be in the same way who supplied all measure, without give physic but that be because, tions, and of the timely measures of precaution and a system of treatment sorting with their habits and temper of body and mind?

The second aim of preventive treatment—thrown into the background now by the eager quest of the microbe—is to obviate the predispositions or tendencies to disease which lie within the organism. For such predisposition exists, whether or not, disliking the word, we like to speak instead of a constitutional soil suiting the microbe; facts not being changed by being named differently, though men are very apt to think so. Not to speak of the want of a full and exact study of radically different types of constitution and of their respective qualities and disease-tendencies, of which little note has been taken since the abandonment of the old doctrine of temperaments, there is a strange want of any study of the effects of the interbreeding of parental disease-tendencies upon the constitution of the offspring.

Might not some good come from systematic inquiries into the production and elimination of constitutional disease-tendencies and disease-immunities by the marriage-unions of different tendencies and immunities? When a person has a disease unlike that which either parent had he may still owe it to them, variations occurring in morbid heredity just as they do physiologically. The case, of course, is not one of the breeding together of actual diseases—no metaphysical conjunction of morbid entities—but of two physical organisms tending to go wrong in their respective ways. What is the morbid outcome of the union of a phthisical and an insane diathesis? As bad as it well can be, I should say. Or of a diabetic and a phthisical constitution? What is the constitutional disposition, if any, most likely in breeding to cancel a tendency to cancer? For eager as the search is for a cancerous microbe, one may doubt whether it has yet been tracked to its late-suspected lair in the nucleus of the cell. Having regard to the local invasions and distributions of cancer, its provocation by local irritation, its more than accidental heredity, and its quiet settlement in the system without feverish tumult, for all the world as if it felt itself no alien intruder but constitutionally at home there, it seems probable that its unruly proliferation of cells, however provoked, betrays the awakening to activity of the silent memories of ancestral germinal growth. How best mate the person having a native tendency to insanity so as to cancel it in the progeny, or, better still, convert it into a good evolutional variation? For that is what happens sometimes, one child of a neuropathic family dying in a lunatic asylum, while another rises to eminence as poet, painter, orator—great man of some kind. Why and under what conditions is the epilepsy of one generation transformed into the insanity of the next generation? How is it that diabetes and insanity go along together in some families, or alternate in them through generations? When medical science can answer these and like questions it may then dictate some wise eugenic rules. Meanwhile in the uncertainties of things we do well to trust—and we can have no surer trust—that *vis medicatrix Naturæ* by which, health being the normal and stable, disease the accidental and passing condition, it comes to pass with the race through generations, as with the individual in his brief life, that the organic strain constantly is to rectify deviations and bring disorder back to order, so keeping mankind in continuance, if not progress, of being for its appointed time on earth.

Here might arise a question whether in the marriage union of diverse tendencies a new disease is ever born. It is true that new diseases have been discovered, but in such cases it is pretty certain that the newness was in the discoveries by superior observation, not in the diseases. A morbid species might perhaps be expected to be as stable as an organic species in the surrounding conditions of the human organism; and although new disease-generating microbes are discovered, it does not follow that they have not always been at secret work. Still it is quite conceivable that new microbes may be formed by transformation of such mean and simple organisms in the various and changing conditions of their being, and that intermediate morbid states between the classified forms of disease—a pseudo this and a pseudo that—may reflect outwardly inward microbal transformations—even, perhaps, creations—in the physico-chemical recesses of complex vital processes, where, as we know, dead matter is being continually wrought into living protoplasm. When all is said, microbes have come into being somehow at some time in the procession of the ages, since it is not lawful to suppose that the bacillus of phthisis—still less the postulated, or perhaps now discovered, microbe of syphilis—was present in the Garden of Eden. Perhaps the strongest argument against the occurrence of a new disease is the limit which there is to the capacity of a definitely constructed organism to go wrong: just, indeed, as there are physical limits to the number and variety of the movements which the body can make, and it has probably made all its possible movements before now: so there are limits to the possible varieties of its disorders, conditioned as these are by the nature, number, form, and disposition of its structures. Haply it has now exhausted its morbid capabilities, as man has pretty well exhausted the sin-conceiving capacities of his mind and the sin-performing capacities of his body—could not, for the life of him, invent an essentially new sin or perform an essentially new vice.

In the work of fortifying the body to resist inroads of disease, the most simple means are the best, and, as Hippocrates said, it is in the use of simple means that great physicians especially differ from others. Pure air, clean and proper food, regular and adapted exercise—these sum up the measures prescribed as proper to give inward strength, and to keep it in sound and supple activity. But they are not quite all, for they leave out mind; and as a sound body is the condition of a sound mind, so the wholesome exercise of a calm and well-disciplined mind, ready to meet all changes and chances with composure, ministers mightily to health of body. Corroding passions and unruly affections, such as anger, envy, jealousy, revenge, lusts and fears of every kind, are a hurt to body as well as mind; so that rules of wise mental culture and exercise are an essential part of the regimen of health. When one contrasts the simplicity of the salutary rules with the usual stolid violation of them, it might seem that men were in love with disease, such pains do they take to provoke and nourish it. Knowing well that fresh air is a good thing, they go on in practice to shut it out lest a stray draught come their way; so little care do they take to eat only what is needful that they habitually eat twice as much as is good for them; so reckless are they of what they drink that they persistently abuse alcohol to obtain temporarily an ideal relish which the insipidity of their real life denies them; so perfunctory is the routine of daily exercise they take in dull mechanical pacings that they rehearse their lives by rote, never bringing into full use half the possible movements of their bodies and less than half the faculties of their minds: so little mindful are they of the need of rest to overworked function that, so long as sexual power lasts, they spend it recklessly in the gratification of lust, thinking no harm provided the exercise be connubial.

That the body is a complex reflex mechanism is now a familiar notion, strange and ignored as it was when Descartes first conceived it more than three hundred years ago, expressly setting it forth then in a series of distinct propositions which, as Huxley said, constitute the foundation and essence of modern physiology of the nervous system. The conception, untimely born, fell into utter neglect. Even now, after so many years, but little has been learnt scientifically of the manifold bodily reflexes or sympathies—motor, sensory, secretory, and nutritional—although everybody might make the needed observations on his own person, and a full and exact knowledge could not fail to be put to excellent use in practice. How is it that a patch of psoriasis on one leg, although itself left untouched, is cured by curative applications to a similar patch on the other leg? Certain it is that a clear conception of the reflex mechanism of the organism as a whole, and an exact knowledge of the reflexes or sympathies of its parts, will yield much profitable use, not only through systematic and skilful employment of kneadings, rubbings, pressings, and such-like manipulations and appliances whereby an infirm organ may be more benefited sometimes than by many, or perhaps any, drugs, but also by regulated exercises purposely adapted to bring into wholesome action all the muscles of the body, whereby every muscle may be made to contract and every minute vital channel kept open, and so disease prevented or stopped at its outset.

Moreover, as the "life of relation" (using Bichat's term) from the cradle onwards is the organic education, mental and

physical, of a reflex mechanism whereby that which is consciously and laboriously learnt is expressed easily and automatically—such gradual instruction being organic construction—a constant aim ought to be to fashion it well, as well to know how it works best and to keep it in the best working order.

After all, the recognition of the principle of the reflex mechanism of the organism, and of that which it implies medically, was not due in the end to Descartes; the lost truth had to be brought to light again gradually and laboriously by much later physiological inquirers, who, demonstrating it by observation and experiment to the common mind, are therefore called the discoverers. The instance may serve to teach how much labour in rediscovering forgotten truths might sometimes be saved by a knowledge of that which past great men have thought, and how many valuable lines of inquiry their thoughts might still suggest. And not famous men only whom we praise, but many nameless toilers who, inglorious, are sunk in oblivion. As the Church besides its special saint days has a festival of All Saints to commemorate its obscure worthies who have not been canonized by name, so may science owe a service of thanksgiving to its humble workers who, having no memorial, are perished as though they had never been born. Two truths we may, perhaps, take for granted: first, that a great mind cannot look at any subject within the reach and means of its observation without profiting by its superior insight to think truly about it, although the language expressing it need to be translated into terms of modern thought; secondly, that it is a fond fallacy to believe that a truth once thought is not lost, for many spoken truths born out of season are completely forgotten, being, perhaps, reconceived and apprehended long afterwards when, the general thought having risen to their level, they fall on fit mental soil to grow in.

The present posture of medicine in relation to tuberculosis shows a wise recognition of the necessity of fortifying the body inwardly to resist its outward enemies. The noxious bacillus has been caught, it is true, but its capture has not been followed by the discovery either of a protective serum to immunize the body, or of an antitoxic serum to extirpate the bacillus in it. Bacilli, like the poor, we shall doubtless always have with us; nor can we ever hope to keep them out of the body, as surgeons once fondly hoped to do with their carbolic sprays, and food sterilizers would fain do now, notwithstanding that they may thereby destroy one-half the nutritive value of the food; that a recent observer has isolated more than a hundred different kinds of bacilli in the juices and deposits of the human mouth; and that another observer has found in the healthy intestine a large number of organisms intermediate in character between the typical colon bacillus and the typhoid bacillus. Here, I think, one may justly regret a want of sobriety in some medical statements on the popular platform, in consequence of which the public has jumped to the conclusion that because the bacillus has been discovered phthisis is curable, the old notion of its heredity erroneous, the objection to phthisical marriages obsolete, and the right thing to do forthwith to dot the land freely with sanatoriums, and so gain an immense addition to the life-capital of the nation. But is phthisis so very curable in these special hospitals, nowise endued with any special grace, I imagine, by reason of their being called sanatoriums? Adequate statistics are not yet available, but, thus far, the modest outcome of experience seems to be that many patients who are sent in the early stage of the disease recover, if they are kept long enough; that most of those in a more advanced stage improve while there, frequently relapsing afterwards, and that those who are badly diseased ought not to be sent at all. Is that, after all, to say much more than might be said of sensible treatment before the erection of sanatoriums? In the end, means must be found to mend the fit constitutional soil and breeding-ground of the bacillus, if it is to perish of inanition for want of its human food. The startling proposal that subsidiary institutions should be set up, in which those who are not cured may be taken care of for the rest of their lives, can hardly please the burdened ratepayer, who may think that a nation's chief aim ought to be to have healthy bodies and minds which can endure all changes and extremities, not such as must be protected artificially from them.

Can we, again, eliminate the predisposing influence of heredity? Actual tubercle may not be inherited—nobody thinking clearly on what he thought ever thought that it was—but the poor constitutional soil inviting and suiting the bacillus still passes from parent to child; and we do not get rid of the essential fact by changing the name. Do we, indeed, in the end get such a valuable addition to the life-capital of the nation? It is easy enough, noting that some 60,000 consumptives die annually in England and Wales—I do not vouch for the figures—fancifully to rate the value of each life at an arbitrary figure, and then by multiplication to make an appalling computation of the loss to the community; but is the loss so real? Might not the ultimate cost to the commonwealth be greater were these persons to go on living and breeding in it? An addition to the nation's life-capital is all very well, but the quality of the capital counts for a good deal, and it will not count for much if it is not realizable.

What does the realization amount to in practice? The patient who comes out of the sanatorium recovered or improved, leaving his expired bacilli there in the ejected swarms of their fellows, must usually go back to his former work and surroundings; he cannot adapt the world to the weakness of his nature and its ideal needs, but, like other mortals, must adapt himself to the rude world and perforce do much as they do. That is what he quite naturally does: returns to his work and his old ways, perhaps gets married if he is not married, and begets children who can hardly have the confidence of a good descent. Meanwhile, when he relapses, he sows bacilli broadcast, thus multiplying such life-capital to fulfil its ordained function in the universe; that apparently being to make away with weak mortality.

However, I shall not pursue a tender subject further. Human life is so precious nowadays in all its states—phthisical, insane, criminal, inebriate, and the like—that it is the pious duty of the social organism not, as the healthy bodily organism tries to do, to extinguish or extirpate a morbid element, but to absorb it into its system, growing sympathy being the vital principle of social growth. The medical man, at all events, can plead his duty to his individual patient; he is not sponsor for the nation's future; that he leaves to those whose business it is. Still, a sceptical-minded person—he would be called a cynic—looking to the ultimate issue of such morbid absorptions, might be tempted to exclaim with the prophet—"My people love to have it so, and what will ye do in the end thereof?"

To the clear and distinct conception of the body as a complex reflex mechanism, in which there is mutual intelligence of parts with entire community of interests, we have to add the conception of it as a vital laboratory of the most complex chemical substances and processes in the world engaged in the most condensed and subtile activities. We easily think of it as a wondrous community of innumerable cells that have undergone various differentiations to form different tissues; but when scientific imagination goes deeper into the minute subtilties of matter a living cell seems but a gross thing. Concentrated within its little body are subtile and intense forces, continuously and quietly working, which, if let loose in large explosive display, might suffice to blow up the chemist and his whole laboratory. No wonder, then, at the increasing knowledge of the important part which chemical activities play in vital processes. Considering closely how many different chemical actions enter into each of the various bodily functions of the body—assimilation, respiration, secretion, excretion, generation, sensation—all going on harmoniously to maintain a unity of being, yet each liable to incalculable disorders, the eternal wonder is that it holds together so long and so well as it does. In the performance of these functions not the whole organism only but every cell of it generates poisons which would be fatal if they were not got rid of. The breath of man is fatal to man; his excretory products would poison him if he did not get away from them or them away from him; the fatigue of an organ or tissue is not due to the using up of its energy and matter only, but also to the toxic products of waste which pass into the blood-stream and are hurtful when they are not purchance of economic use to other organs or tissues. The proteid molecule of food suffers decomposition into a dozen intermediate products before its elements are built into living tissue, and at every stage of the series there is the possibility of a pernicious vitiation. The various kinds of enzymes or ferments which work in the processes of metabolism, each producing its particular chemical change, are liable to their several toxic mischances. In its normal state the intestinal canal contains numerous poisons and possibilities of poison—mucus, albuminoids, alkaloids, aromatic and biliary substances. Thinking on the many risks of self-poisoning and on the exact chemical agency requisite to counteract each of them scientifically, it seems a lawful conclusion that more medical good will be done for the most part by simple and general

measures to keep the body in health and strength than, according to Voltaire's witty sneer, by pouring drugs of which we know little into a body of which we know less.

Besides the subtile chemical poisons of physiological disorder medicine has now to tackle the special toxins generated by the various hostile microbes and the far-reaching damage which they do—so far-reaching sometimes as to have no end but the end of the life which they end. The syphilitic virus, whether microbic or not, is the proclaimed cause of tabes dorsalis and general paralysis. Years after his specific infection and its supposed cure a man is attacked by the flashing pains portending a tabetic degeneration of his spinal cord or exhibits the inflated feelings and ideas preceding the cerebral devastation of general paralysis; both diseases going down thenceforth to their fatal endings. Strange to think that one kind of microbe can be the latent cause of the variety of symptoms, having regard to their differences in different cases, the elective affinities for particular organs, and the long suspensions of activity during which it must lie dormant, only to awaken from time to time to virulent fury. One may suppose, perhaps, that the specific virus, however generated, affects injuriously the stability of the nerve-molecule, an effect nowise apparent while the person is strong and well, but manifestly destructive when vitality of nerve-element is weakened by abuse of function or other cause. For it is with elements of tissue as with individuals: to be weak is to be miserable.

In the discoveries of microbic toxins and their antitoxins, and of the immunizing virtues of antitoxin serums, there is a discernible promise of scientific therapeutics when chemical agents will be used, not empirically, but with scientific precision for a definite end: an optimistic outlook all the more legitimate, seeing how the chemist in his laboratory, by substitution of atoms in molecules, now creates new substances, which, so far as we know, never existed before in Nature, and some of which have proved to be of good medical service. Thus creating, our hope is that he will on the whole turn out to be a benevolent creator by inventing more beneficent than maleficent compounds for human use; range himself, in fact, on the side of the good genius of the universe.

The rapid progress of chemical research, steadily sapping the barrier between organic and inorganic nature, has now reached the very confines of life, even forecasting an ultimate analysis of those subtile physico chemical processes whose mysterious unity of action in the organic molecule we provisionally call vital force. Six years ago a President of the Chemical Section of the British Association affirmed that, no matter how successful the reduction of vital to physico chemical activities, a residuum would always evade such explanation and require an intelligent directive agency; but the latest researches of *stereochemistry* into enantiomorphous substances seem to show that the enantiomorphous agency working in the dead universe may dispense with the need of the metaphysical assumption. However that be, certain it is that day after day, with every step forward in physics and chemistry, proofs accumulate that all vital processes rest at bottom on physical and chemical processes of the same kind although raised to a higher power—as those which take place out of the living body.

Deep as the chemist penetrates into the subtilties of matter, there is a yet deeper order of inquiry into the mysteries of the infinitely little and its most potent forces. The discovery of radial rays, perpetually thrown off in radioactive dissociation with an energy greater than that liberated in the most violent chemical decompositions, has taught us that the atom is not a simple thing, but a spot of positive electrification within which swarms of negative electrons whirl their mazy rounds with inconceivable rapidity. Thus the chemical elements, each with its individual properties, originate in differences of the number of electrons and the figures which these take as they whirl, and all matter is resolved at last into moving electric charges material nature simplified into electricity and ether. Remote as such speculation appears to be from the realities of life, the story of applied science furnishes many striking instances of theories so abstract as to seem of no conceivable use, which have, nevertheless, in ways quite unexpected, effected extraordinarily useful revolutions in practice; and it is not therefore unlikely that full and exact knowledge of radial energy and of its mode of action on the vital processes may instruct and guide to yet undreamed success the radial treatment of disease, some fruits of which have already been empirically gathered.

Here, then, thought again reaches a point where the domains of the living and the non-living are no longer separated by a chasm; where, indeed, one might think (if one did not suffer thought to be governed by words) that the domains of matter and life, even of life and spirit, meet, the material being sublimed into the vital and the vital into the spiritual. That all divisions of science shall gradually be effaced, even that which metaphysics has fixed between bodily and mental life, the partitions being received as conveniences of thought, not as sections and separations of substance, is inevitable, if all Nature be one process of orderly evolution and the function of science be to find it out.

The absolute barrier between mind and body set up by metaphysics has in truth been a great hindrance to the progress of positive science. That mind works upon body to alter the rate and quality of its functions, and, conversely, body upon mind to affect its moods and thoughts, is a truism, but a truism the full truth of which is not realized because of the habit of setting mind and body over against one another as separate and independent entities. Between material energy and consciousness there is a gulf, it is true, just as there is between one mode of perception and another; but it is not possible in biology to set up a partition between mind and body. Mind works in every function of the body; a sound body is the foundation of a sound mind; and the lunatic is lunatic to his finger-ends. Moreover, they surely disclose one another, although by more subtile writing than we can yet read. It is not by the medium of words only that thoughts and feelings are expressed. They are expressed by other motions that are sufficiently distinct to be perceptible by sense—by subtile motions of look, gesture, gait, attitude, and the like; the differences of which in different persons are characteristic exponents of natural differences of thought, feeling, and action. Mind does not merely affect the body, it permeates its constitution and is delineated in the map of it. On the other hand, there is not a function of any organ of the body which does not enter into the constitution of mind; the reproductive glandular function notably revolutionizes its thoughts and feelings during adolescence; the defective thyroid maims and lames it; an atom or two going astray in metabolism precipitates it from the height of joyous vigour to the depths of impotent despair. No purposive movement could ever be made but as the outward discharge of mind incorporate in fit structure; for the cleverest man in the world could not button a button, even stir a step, had he not learnt the art by repeated practice—had not, in fact, patiently organized intelligence in proportional, that is *ratio*-nal, structure which thereafter discharges itself automatically. When the intelligent act, once learnt and fixed, is done unconsciously exactly as it is done consciously, it is absurd to say that there is mind in the one act and not in the other. The organic process is simply one of doing consciously in the individual lifetime that which has been done gradually in the formation of animal and human instincts by evolutional adaptation through the ages. In both cases the result is structurally consolidated reason, mind statical.

The intimate and essential unity of mind and body is, of course, pathological as well as physiological. When the paralysed patient's power to speak or walk is restored by a strong impression made upon mind at a miracle-working shrine, or by the suggestion of a skilled hypnotist, there takes place a physical excitation of the suspended function of the nervous tract or area in which the belief and will to act were implicitly organized. For the seeming miracle to come off there must, naturally, be mutual sympathy and belief in its success; an interposed screen of doubt or disbelief prevents the excitation or inspiration of the requisite faith. To ascribe the result to imagination is one sort of provisional explanation. Certainly, as imagination may kill, so also it may cure. But that, after all, is to explain nothing—is to do little more than to make a faculty of a word.

What is the nature of the subtile transfer of energy between the active and the recipient mind whereby the former excites the latent belief and energy in the latter? Without subscribing to the strange stories of telepathy, of the solemn apparition of a person somewhere at the moment of his death a thousand miles away, of the unquiet ghost haunting the scenes of its bygone hopes and endeavours, one may ask whether two brains cannot be so tuned in sympathy as to transmit and receive a subtile transfusion of mind without mediation of sense. Considering what is implied by the human brain with its countless millions of cells, its complexities of minute structure, its innumerable chemical compositions, and the

condensed forces in its microscopic and ultramicroscopic elements—the whole a sort of microcosm of cosmic forces to which no conceivable compound of electric batteries is comparable; considering, again, that from an electric station waves of energy radiate through the viewless air to be caught up by a fit receiver a thousand miles distant, it is not inconceivable that the human brain may send off still more subtle waves to be accepted and interpreted by the fitly tuned receiving brain. Is it, after all, mere fancy that a mental atmosphere or effluence emanates from one person to affect another, either soothing sympathetically or irritating antipathically? Think in this relation on the extraordinary (so-called) magnetic personalities which some persons possess, and, again, on the contagious fire of emotion which spreads swiftly and gathers volume in a crowd of people, inflaming them, as the case may be, either to deeds of mad fury or to corybantic displays of religious fervour.

Now, as fuller and exacter knowledge of the reflex mechanism of the body adds to our means of preventing and curing its disorders, and increasing chemical knowledge points to scientific therapeutics, so may a just conception of the subtilties of the forces at work in mental action inspire a more advised and methodical use of the resources of mind to cure diseases of body. Is it not from neglect to employ such intelligent measures that patients fall into the hands of nature-curers, Christian scientists, mesmerists, and the like faith-instilling persons, and are sometimes cured when drugs have failed? And is it not to the use of such means, albeit not consciously formulated, that the popular practitioner, whose small medical knowledge is the smallest part of his skill, gains the co-operative belief of his patient and owes his fashionable success? It is all very well to say that people are ignorant, foolish, credulous. Of course they are. The world would not have gone the way it has gone were the immense majority not gladly beguiled; but if you would influence the fool for his good, you must enter by sympathetic imagination into the fool's mind and discern the motives by which it can best be moved. And it is still the fact that, as Cicero said of places in his time, every place swarms with fools. Sick persons, even when not foolish, are notably sick in mind and mostly need a mental tonic to stimulate their weakened vitality; such inspiration serving sometimes to animate the tissues to a strength of vital resistance from which the noxious bacillus retreats baffled—yes, even though it is greedy there and scents the fit soil, it does not find the fit climate. Few drugs are more helpful than hope, more deadly than despair.

If the procession of Nature be an orderly evolution of things up to the mental organization of man, itself slowly perfected through the ages and still perfecting, and the growth of man's understanding and power takes place through growing knowledge and observance of its laws—being a growth of Nature through him a part of it—medical science will obviously play a large part in the future improvement of the race. In his desire to found a science of *Eugenics* by discovery of the laws of good breeding in families, Mr. Galton would have well-constituted persons chosen to mate with well-constituted persons, looking forward to the establishment of a suitable authority to grant certificates of good health of mind and body to those who propose to marry; so that eventually a superior human stock may gradually be produced. Inasmuch, however, as the inferior persons would go on breeding after their kind, the result might be two species of human beings, a result clean contrary to the philanthropic principles of a democratic age, which aspires to embrace the lowest specimen of the race as a man and a brother—in heaven ultimately, at all events, although not for the present on earth. The problem of human breeding, however, is far from so simple as that of the lower animals, both as regards the forces concerned and the nature of the desired product. Man is a very complex organic mechanism, framed to function, not like horse or dog in certain set ways, but in fine thoughts and feelings, these being the superior essence of him; and it nowise follows that an otherwise perfect physical constitution goes along with a perfect mental constitution, or that you may not breed a mind of extraordinary quality from a poor and lame body. The owner of racehorses, basing his trust on a law of heredity, no doubt does wisely to give a thousand guineas for a yearling colt of a distinguished sire, when he would not give a thousand shillings for the offspring of a poor sire, but it would hardly be wise to buy the offspring of a human genius at a like proportionate cost. In the human organism, with its varieties of changing moods and passions, there are delicate influences affecting gravely the processes of reproduction which invalidate conclusions drawn from observation of the comparatively simple organic machines which animals are; for these subtile-potent forces of mind assuredly constitute a medium which acts powerfully on the formative processes of the delicate germ; not otherwise than as on a lower and coarser level slight experimental changes in the physical medium are now experimentally shown to affect strangely the development of the germs of sea-urchins, caterpillars, and the like.

Complex and uncertain as the matter is in the human case, it is nevertheless certain that there are laws of mental breeding yet to be discovered, and it is no more unlawful to inquire scientifically into the nature of vice and sin than into the nature and action of poisons. Hatred is as natural as hunger, and stands in no less need of scientific explanation. That moral qualities are not dependent upon physical constitution, have no physical connexion whatever, is an opinion which, although fostered in the supposed interests of morality, is really a hindrance to the growth of practical morality. If one thing is certain it is that all wrong-doing, whether error, vice or sin, is avenged on earth; not always, it is true, on the individual wrongdoer, but somehow somewhere on others bound together with him vitally in the social system. Could men be taught to know and knowingly feel this simple truth they might be more heedful of their thoughts, feelings and actions than they are apt to be while they ignore the stern law of vicarious punishment on earth and relegate the recompense of their doings to another life. Even for his own sake the evildoer might pause in his course if he bethought himself that the habit of a life is the organic fashioning of a character, and that a persistent system of bad feeling and conduct means a steady deterioration of character—means in fact the physiological undoing in the mental organization of the fine filaments of thought and moral feeling, the delicate nervous tracery, which have been the gain of human progress through the ages and, being the latest and finest organized, are the first lost in every form of mental degeneracy.

A sobering thought, too, it might be that the mischief does not end with the individual life. From that which is evil what good can come? In the moral as in the physical world, the present is the natural product of the past and the determinant of the future. Moral deterioration in the parent is pretty sure to be visited somehow upon the mental constitution of the children and the children's children; for grapes do not grow on thorns in the moral any more than in the vegetable world; and it is, I believe, the moral or affective, not the intellectual nature—the tone of feeling infused into the forming germ—which counts most in human heredity. If that be a lesson which medical research will some day demonstrate scientifically, one can heartily endorse the saying of Descartes, who was well versed in the physiology of his time, and was himself a diligent dissector, that if mankind is to be perfected, the means of perfecting it must be sought in the medical sciences. For my part I cannot doubt that a positive science of human nature, as it gradually emerges into form, will make it ever more and more plain that, by operation of natural law in the process of organic evolution, sound thought, good moral feeling, and devotion to a high ideal are the solid foundation of health and wealth of mind in individuals, in families, and through families in nations; that there was, indeed, a measure of scientific truth in the saying of the Hebrew seer, who, looking on the generations of old, declared that those who sow upon the furrows of unrighteousness shall reap them sevenfold.

INTERNATIONAL ANTIALCOHOL CONGRESS.—The tenth International Antialcohol Congress will be held at Buda-Pesth from September 11th to 16th. Professor Gruber of Munich will deliver an address entitled The Hygiene of the Ego. Among the subjects proposed for discussion are the influence of alcohol on the resisting power of the human and animal body with special reference to heredity; is alcohol a food? the educational endeavours of working men and alcohol; alcohol and sexual life; alcohol and the criminal law; the social prophylaxis of alcoholism; the treatment of crime committed under the influence of drink; alcohol as a social factor of criminality; the deteriorating effect of the trade in spirits on the natives of Africa; the foundation of the struggle against alcohol in family and school training; alcohol and physical efficiency with special reference to military training; and the organization of the antialcohol movement.

Address in Surgery

DELIVERED AT THE

SEVENTY-THIRD ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION.

BY

C. J. BOND, F.R.C.S.,

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ON ASCENDING CURRENTS IN MUCOUS CANALS, AND GLAND DUCTS, AND THEIR INFLUENCE ON INFECTION: A STUDY IN SURGICAL PATHOLOGY.

Mr. President, Ladies, and Gentlemen,—When I look through the names of the distinguished surgeons who have delivered the Address in Surgery at the Annual Meetings of our Association during the last fifty years, I feel very strongly that my own thanks are especially due to the Council of the Association in thus honouring me by asking me to address you on the present occasion.

Among those names to which I have referred one of the most distinguished is that of Professor Syme of Edinburgh, who gave the Address in Surgery at the Annual Meeting at Leamington in 1865. Syme concluded his survey of the progress of surgery during the previous forty years with these words:

> In conclusion, Mr. President and Gentlemen, I beg to express my hope that from what has been said, surgery will not appear to have stood still, or pursued a retrograde course during the last forty years, but, on the contrary, to have been improved in many important points of practice, and to hold out the prospect of further advance; so that when, forty years hence, some senior member of the Association shall take a similar retrospect, he will find no lack of materials for illustrating the march of progress.

Sir, it is forty years, this year, since these words were spoken; what, then, shall we say to-day in fulfilment of Syme's prophecy?

We may, I think, safely affirm that next to the enormous strides which the science of surgery has made in this period (a very large share in which triumph belongs among other honoured names to Syme's own son-in-law, Lord Lister), that next to this advance, one of the most notable of the lesser changes has been the decentralization which has sprung up in surgical practice.

London, Edinburgh, and Dublin no longer act as exclusive centres, to which converge the surgical patients from the three divisions of the United Kingdom. Excellent surgical hospitals and homes, and competent and able surgeons, are found nowadays in all provincial towns of any size, while many of the real improvements and advances in surgical technique and surgical methods have had their birth in the country.

In my judgement this great change has been wholly beneficial. It has, I believe, been of enormous benefit to surgery itself, and there is abundant evidence in every town to show that it has been the means of conferring untold blessings on the population of our country, both rich and poor.

I venture to think that it is partly to the recognition of this principle of decentralization, by the Council of our progressive British Medical Association, that I must attribute your kindness in asking me, a provincial surgeon, and not even a very senior member of the Association, to address you to-day. And hence I regard the honour conferred upon me not alone as personal, but as a compliment paid to my colleagues of the Midland Branch and of the town of Leicester.

I propose, in using the opportunity now afforded me, to depart somewhat from usual custom, and instead of attempting a retrospect of recent surgical triumphs, and of advances in surgical technique, I would rather try to throw the searchlight of inquiry in the other direction, and indicate some of the ways in which these very surgical triumphs may themselves throw light upon physiological and pathological problems, and in this way enable surgery in some slight degree to repay something of the debt she owes to these two foundations of her existence.

For when we come to consider the enormous number of what are really human physiological and pathological experiments, which are performed daily, for necessary and well-defined surgical objects, and to save life; when we reflect on the great opportunities which the continuous observation of these operation cases affords, of looking into the inner processes of bodily function, both healthy and diseased, we are bound to inquire whether we, as surgeons, have in this respect carefully observed all that we might have done, and whether we have utilized to the utmost our many opportunities.

Thus, to come closely to the matter of my remarks to-day:

The Large Intestine.

Consider for a moment the very frequent, nay the daily establishment, of fistulae for surgical purposes.

The operations of colotomy, cholecystotomy, nephrotomy, cystotomy, with the resulting fistulous openings into bowel, gall bladder, kidney, and urinary bladder, should enable us, if rightly studied, to observe something of what goes on in the hollow viscera, the biliary canals, and the urinary tract, when the faecal stream or the biliary or urinary flow is wholly or partially diverted from its normal course.

We will consider the fistulous opening in the bowel, established by the operation of colotomy, first. I have in several of these cases tried to ascertain what occurs in the bowel below the colotomy opening by means of the introduction of some insoluble, innocuous pigment, such as hollow suppositories, containing a few grains of sterilized indigo or carmine, and will record the results in several cases.

Case I.—Cancer of the sigmoid colon with obstruction. About 6 in. of the bowel was removed with the growth, and partial end-to-end anastomosis performed; but, owing to the patient's condition from obstruction, a colotomy anus was also established. A week later, after recovery, a carmine suppository was introduced into the rectum. A white gauze plug inserted into the lower colotomy opening showed distinct carmine coloration within twenty-four hours, and this colour continued to be noticeable for several days after the suppositories were discontinued.

Case II.—The second case was one of advanced cancer, with almost complete obstruction high up in the rectum. Here again, after inguinal colotomy, an indigo suppository placed within the rectum was followed by the appearance of indigo at the colotomy lower opening within twenty-four hours. Here the indigo had passed through the malignant stricture.

Case III.—Inguinal colotomy for cancer of the rectum, with ulceration into the vagina. A suppository containing powdered sterilized litmus was introduced into the rectum on November 28th at 8 p.m. The bowels were moved through the upper colotomy opening on November 29th and 30th, and on the 30th the white gauze plug in the lower colotomy opening was stained blue; the blue colour turned red on the addition of acid, thus showing not only that the litmus had traversed the sigmoid flexure, through the stricture, from the rectum, but also demonstrating that the intestinal mucus, and the secretion of the large intestine is alkaline in the absence of faecal matter.

Case IV.—This case is of peculiar interest. An operation for acute appendicitis with abscess, six months previously, had resulted in a fistulous opening into the caecum, which discharged a very little faeces in the right iliac region when the patient assumed the upright position. While recumbent practically the whole of the faeces was passed per anum. Before closing the fistula indigo suppositories were administered twice daily on December 12th, 13th, and 14th. Distinct evidence of indigo from the caecal fistula appeared on December 15th, the bowels having been moved freely on the 13th, 14th, and 15th, and an aperient taken by the mouth on the 12th and 14th. In this case the particles of indigo traversed the whole length of the large intestine within at most three days, and during the time that the natural downward passage of faecal matter was going on, and in spite of the active clearing of the bowel on two occasions by aperients.

From these cases we learn:

First, that in the large intestine, in cases in which the faecal stream has been diverted by a previous colotomy, there is an upward current capable of carrying foreign particles such as powdered indigo along the bowel, and taking about twenty four hours to pass from the anus through the sigmoid flexure to the colotomy opening. The shortest time recorded has been twelve hours.

Secondly, that this current is not arrested by the presence of a stricture in the rectum, provided that there is, of course, some patency of channel left.

Thirdly, from the case of the girl with the caecal fistula, we learn that it is not essential for this upward current that the faecal current should be wholly diverted or absent, or that the

bowel should be prevented from undergoing brisk downward peristalsis, the effect of an aperient.

Fourthly, from the same case, we learn that this ascending current takes about three days to pass from the anus along the whole length of the large intestine to the caecum.

In offering any explanation as to the means by which this upward carriage of pigment particles is brought about we must remember:

1. That in the case of the indigo, at any rate, the particles are insoluble in the intestinal juices. Indigo, administered by the mouth, is recovered, unchanged, as far as microscopic appearance goes, from the faeces, so that the material is conveyed in particulate masses, probably by a mucous stream, and not by the agency of phagocytes or wandering cells.

2. Also the current is absent in the dead bowel, and is not due to capillary flow in a closed tube. If, for instance, indigo is inserted into the lower end of a portion of sheep's colon, removed after death, no ascent of the powder occurs in the tube.

3. Further, even in healthy animals, in the absence of any fistulous opening there is some upward flow, though slight, along the bowel. Indigo, inserted into the rectum of a guinea-pig, may be found when the animal is killed forty-eight hours later in the faeces higher up the colon.

4. Also, the current is quickened by any influence, such as the administration of an aperient, which acts by increasing peristalsis, or, very possibly, by increasing the secretion of mucus. This was shown in the last case.

In fact, a consideration of the facts strongly suggests the explanation, that the particles of indigo, etc., are carried up the bowel by a mucus current, and that, while there is a central downward current of solid or semi-solid faeces, caused by peristaltic contraction, there is going on at the same time, intermittently, or possibly alternating with the downward peristalsis, an upward peripheral mucus stream, covering and hugging the intestinal mucous membrane, and capable of conveying minute particles only along with it.

Some sort of upward intestinal current has been suspected in the large bowel, and hypothetically spoken of as due to reversal of the peristaltic wave. This is an unlikely explanation from the facts mentioned above—that it is present while the downward peristalsis is going on at its normal rate, and also when the bowel is quite empty of any faeces at all.

I venture to think that these facts have a not unimportant bearing on the physiology of the large intestine. By means of such an upward stream the nutritious fluids, and particles, which are being absorbed out of, or squeezed out of, the gradually-solidifying and hardening faeces, as they traverse the colon, are carried gently upwards into the emptying upper reaches of the bowel, and are presented to the free mucous membrane for readier absorption. They too have a direct bearing on therapeutics and on the administration of enemata, both nutritive and purgative.

THE FEMALE GENERATIVE TRACT.

We now pass to the consideration of the female generative canal. Here surgical operations on the Fallopian tubes have afforded opportunities for careful observation.

In a considerable number of cases during the last two years, in which it appeared likely that operation would become necessary on the appendages, after the preliminary douche a little coloured pigment—in most cases purified and sterilized indigo, in a few carmine—has been either placed upon, or inserted just within, the os uteri at varying periods up to twenty hours before operation. Careful microscopical examination of the contents of the Fallopian tubes in these cases, has nearly always shown the presence of indigo or carmine particles, while in several cases the pigment has been found on the peritoneal surfaces of the broad ligament, mesosalpinx, and the fimbriae of the Fallopian tubes. This shows that the particles are carried from the os uteri below, right through the uterus and the Fallopian tubes, to the peritoneal sac around the ovary above.

In the case of these pigment particles, automobility (such as the spermatozoa possess) is of course out of the question, and we must fall back on ciliary action, or an ascending mucous stream along the contiguous walls of the mucous canal.

Before, however, we enter on any explanation, it will be well to analyse the results more fully. The cases observed were:

N. 1. *Polypus and Endometritis, with disease of appendages.*—Indigo inserted three days after curetting. Abdominal section two days later. Double hydrosalpinx; tubes occluded. No indigo found in the contents of the tubes.

P. 2. Indigo inserted three days before operation. *Double Pyosalpinx.* Removal of appendages. Indigo found in the pus and in the pus cells in both tubes.

P. 3. *Abdominal Hysterectomy for Fibroid.*—Indigo inserted three days after cessation of menstruation. Operation forty-eight hours later. Indigo found on the peritoneum and in the tubes.

P. 4. *Left Tubal Mole.*—Ovaries cystic. Right tube healthy. Indigo inserted twenty-four hours before operation. Menses absent about three months. Indigo found freely in right tube and some on the pelvic peritoneum.

P. 5. *Double Pyosalpinx.*—Removal of appendages. Indigo inserted twenty-hours before operation. Indigo was found in both tubes in the pus. Not in the pus cells.

P. 6. *Hysteropexy. Removal Right Fallopian Tube.*—Indigo inserted twenty hours before operation. Indigo found on the peritoneum.

P. 7. *Double Pyosalpinx.*—Indigo inserted twenty hours before operation. Removal of appendages. Indigo found in the pus in both tubes, but not in the pus cells.

N. 8. Carmine in the cervix during onset of menstruation on the first day. Abdominal section twenty hours later. Hysterectomy for fibroids. Menstrual blood escaping from the left tube. No carmine found in uterus, tubes, or on the peritoneum.

N. 9. Indigo sixteen hours before abdominal section for chronic appendage disease, endometritis and retroversion. No indigo in tubes.

P. 10. Indigo inserted into cervix twenty hours before operation. Operation: Hysterectomy. Right ovary, and left ovary and tube removed twelve months before. Indigo found in the right tube. Menstruation absent since removal of ovaries.

P. 11. Indigo inserted in cervix twenty hours before operation. Operation: Hysterectomy. Indigo in both tubes.

P. 12. Indigo in cervix eighteen hours before operation. Operation: Removal of right ovary and tube for ruptured tubal pregnancy. Rupture ½ in. from abdominal ostium. (Left ovary and tube removed two years before.) Indigo found in the bloody mucus in the tube and in the clot occupying the conception cavity.

P. 13. Aged 63. Litmus inserted into cervix twenty hours before operation. Operation: Removal of uterus and tube for calcified fibroid. Litmus in both tubes. Examination forty-eight hours after operation.

P. 14. Litmus on last day of period, twenty hours before operation. Operation: Abdominal hysterectomy, haemosalpinx; chronic endometritis. Litmus very sparingly in both tubes, some blue, some red grains.

P. 15. Litmus inserted into cervix on last day of period, twenty hours before operation. Operation: Abdominal hysterectomy. Pelvis contained blood-stained serum, and menstrual blood was exuding from the fimbriated openings of both tubes. Litmus, some blue, and a few red granules found on the fimbriae of both tubes. Examination made twenty-four hours after operation.

P. 16. Litmus into cervix twenty hours before operation in the intermenstrual period. Operation: Ovariotomy for large ovarian cyst of right ovary. No adhesions. Litmus blue freely in peritoneum over cyst and in the stretched right tube.

P. 17. Indigo into cervix twenty hours before operation. Operation: Ovariotomy for ovarian cyst of right ovary. Right tube distended and stretched over cyst. Haemosalpinx of left tube. Indigo found in the centrifugalized contents of the haemosalpinx.

P. 18. Indigo inserted in cervix twenty hours before operation. Last period over nine days before operation. Removal of appendages for double haemosalpinx. Gonorrhoeal in origin. Indigo found in tubes.

P. 19. Carmine inserted into uterus twenty hours before operation and during the first day of the period. Operation: Double haemosalpinx. Ovaries adherent. Fimbriae closed. No carmine found in tubes.

P. 20. Carmine twenty hours before operation during the intermenstrual period. Operation: Double haemosalpinx adherent. Fimbriae closed. Carmine in the contents of the tubes.

P. 21. Indigo twenty hours before operation. Operation: Right pyosalpinx, with escape of pus per vaginam. Right haemosalpinx with escaped blood clot in peritoneum. Indigo blue found freely in the contents of the left tube. Not in the pyosalpinx. Downward flow of pus from right tube prevents ascent of indigo. Relaxation of pressure caused haemorrhage from the left tube with escape into peritoneum, and upward ascent of indigo.

P. 22. Indigo twenty hours before operation. Operation: Suppurating ovarian cyst. Suppurative peritonitis. Pus in both tubes. Indigo found in the pus in Fallopian tubes.

Thus in these 22 cases in which careful examination was made of the contents of the Fallopian tubes and peritoneum for the presence of indigo introduced into the os uteri at periods up to within twenty hours before operation, there were only four in which no pigment was found.

Of these 4 cases one was a case of double hydrosalpinx, in which any connexion with the uterine cavity was difficult or obliterated.

In one the indigo had been inserted only sixteen hours before operation.

In two cases the indigo was inserted on the first day of the establishment of the menstrual flow, and probably failed to enter the uterus.

On the other hand, positive results were obtained in three cases of double pyosalpinx. In 1 case of uterine fibroid and in 2 cases of tubal pregnancy in which rupture or tubal abortion had occurred. One of these is interesting from the fact that the remaining left ovary and tube had been removed two years previously. The indigo was found in the bloody mucous contents of the tube on the uterine side of the rupture and in the blood filling the conception cavity.

Indigo was also found in 2 cases of chronic appendage disease, in which the indigo was inserted on the last day of the menstrual period, and in 2 cases of hysterectomy, which are of special interest. In 1 the patient was 70, and therefore the uterus was senile. In the other the uterus was removed some months after the artificial menopause produced by oöphorectomy twelve months before. These 2 cases clearly show that this upward mucous stream is not dependent on the functional activity of the uterus, since it occurs in the senile and post-climacteric organ, as well as in the actively functional state.

In 2 cases of large ovarian cysts pigment granules were found on the peritoneum, and in the contents of the tube dilated and stretched over the cyst wall.

In the case of suppurating ovarian cyst with pyosalpinx indigo was found in the pus in the tube. It was also found in 3 cases of chronic inflammatary disease of the appendages; probably gonorrhoeal in origin.

In 1 case of large pyosalpinx and ovarian abscess on one side, and haemosalpinx on the other, operation became necessary while the temperature was 104°, and twenty-eight hours before operation pus began to escape from the uterus. Indigo was found in the bloody contents of the left tube, but not in the pus in the right tube, or in that of the ovarian abscess. No doubt the particles were washed away from the uterine opening of the right tube by the flow of matter from the opening.

I desire also to draw attention to the presence of the indigo within the pus cells in one of the two cases of pyosalpinx. The granules were actually ingested by the cells, and lay scattered as blue pigment grains in their interior. In fact, we had succeeded in feeding the pus cells with indigo, and had produced an intravitam staining.

Two explanations are possible: Either the material had entered the blood, or lymph stream, and had been ingested by leucocytes or phagocytes, which had then migrated into the abscess, or the pus cells had ingested the granules *in situ* in the abscess, after the pigment had been carried thither up the Fallopian tube. This will, I believe, prove to be the true explanation, and also carries with it the interesting fact that pus cells, as such, after their entry into an abscess are capable of ingesting foreign particles into their interior.

In the other three cases of double pyosalpinx examined indigo was found in the pus in the tubes, but not in the cells. Now in these cases there was no manifest discharge of matter from the uterus, though the presence of the indigo in the tubes proves that the communication between the tubes and the uterus was still patent. In fact I believe that this is the case in most, if not all, cases of pyosalpinx. Blocking, temporary and intermittent, no doubt occurs of the lumen of the tube on the uterine side, but bearing in mind how difficult it is, even by operation, to obliterate the channel by any means, short of excision, I think it very probable that some communication exists in most of these cases of secondary infection of tubes with purulent contents, and that an occasional slight escape of pus occurs, with corresponding relief of intratubal tension.

In fact, the whole subject of tubal regurgitation of uterine contents is very interesting. We know from the artificial production of hydrometra and hydrosalpinx in animals, under aseptic conditions, that regurgitation of the hydrometric fluid from the distended uterus, is much prevented by the sudden deviation of direction which the tube takes in passing through the uterine muscular wall. At the same time, no opposition is encountered by the mobile spermatozoa in their upward passage. And we also now know, from the observations I have just described, that foreign particles of a suitable size, if introduced into the vagina, are habitually carried up the whole length of the genital canal in women. It is not absolutely necessary that the indigo should be inserted into the cervix, for, if deposited in the upper vaginal vault, it is still found occasionally in the tubes at the operation.

The question of the size of the particles is an important one. Particles up to the size of lycopodium grains are carried up, but this seems to be about the limit, as I have found lycopodium (a very few grains) in one case only.

This same upward current exists also in animals, for I have repeatedly found indigo particles in the Fallopian tubes of rabbits after insertion of the powder in the vagina.

I wish also to record an observation at this point on the question of mucous currents in the oviduct of birds. After dusting indigo on the cloacal opening, or after insertion of the powder within the cloaca in fowls, the pigment was found, not only upon, but also sparingly incorporated in, the egg-shell, and I have seen it in the vitelline membrane, thus showing that it had passed up the oviduct. Further observations are necessary to ascertain whether this occurs only at certain periods or throughout the egg-laying period.

I feel sure, however, from repeated observations during intra-abdominal inspection of the fimbriated ends of the Fallopian tubes during the menstrual period, that regurgitation of menstrual blood and mucus occasionally occurs from the abdominal ostium of the tubes; moreover, blood is sometimes found free in the pelvic cavity without symptoms, and apart from any question of tubal pregnancy. In fact, I have no doubt that in many cases of dysmenorrhoea in young women, the pain is really tubal in origin, and is due to peristalsis of the tube in its effort to overcome this regurgitant wave. The pain, in fact, is due to tubal, not uterine colic.

Let us for a moment consider one other important fact, depending on the establishment of the presence of this upward, utero-tubal mucous current. Those who are brought in contact with uterine cases know that gonorrhoeal and puerperal poisons, although the most important, do not exhaust all the sources of tubal and peritoneal infection.

The mere exposure of the upper vaginal tract to dirt, to lotions and ointments, to any substance surgically unclean, by whatever means introduced, has in many cases originated the salpingitis and chronic endometritis, and I am not without hope that this picture of the constant upward mucous current which I have described, may produce a greater sense of responsibility in surgeons and tend, perhaps, to check some of the indiscriminate curetting operations which are so fashionable, and which (while the only treatment in some cases) in others only aggravate the troubles they are supposed to cure.

Fortunately the door, though open, is guarded by the watchful peritoneum. Foreign particles and fluids introduced, as it were, guttatim, by the tiny canal of the tube, if not too virulent, are at once incarcerated and rendered innocuous. But it should surely make us all most careful to know, that any powdered substance we introduce into the os uteri will probably be found, within twenty hours, inside the peritoneal cavity.

THE UPPER INTESTINAL TRACT.

I shall say a few words later about the means whereby this current is brought about; meanwhile, we pass to the consideration of the upper intestinal tract and the mucous ducts of the glands opening into it.

The gall bladder is the viscus, which, owing to its frequent exploration and drainage for surgical purposes, is specially adapted for investigation on these lines.

I have examined the bile in several cases of gall-bladder fistula following the removal of gall stones, systematically and daily, for varying periods, indigo being administered by the mouth in cachets containing about 5 gr. during the same period. The bile collected from the fistula is allowed to deposit a sediment, which is examined microscopically, and, in some cases, centrifugalized.

The indigo thus administered by the mouth makes its appearance in the faeces about forty-eight hours later, and colours them a dirty or slaty-blue colour, which on microscopic examination is found to be due to indigo grains in masses. This shows that most of the indigo passes unchanged, by gastric, pancreatic, or intestinal digestion, through the alimentary canal.

The following are the details of four cases examined:

Cholecystotomy for gall stones and drainage, November 8th. On November 20th—twelve days after the operation—the patient commenced taking indigo, gr. v twice daily for one week. Indigo was found in the bile from the fistula two days after taking the drug.

Cholecystotomy for gall stones and drainage of gall bladder on December 1st. Indigo was administered on December 5th, and on December 7th two days later indigo granules were found in the bile from the fistula.

Cholecystotomy for distended gall bladder containing clear, bile-free mucus, due to the impaction of a gall stone in the cystic duct. In this case indigo was commenced four days before the operation. None, however, was found after careful search in the bile-free mucus obtained from the gall bladder at the operation, or in the bile obtained from the

fistula two days later. On December 27th, however—six days later while the patient was still taking indigo, and some 6 oz. of bile and mucus were escaping daily from the fistula, indigo granules were freely found in the mucus, coating the wick of white sterile gauze in the fistula, and in the bile collected in the bottle and flowing from the fistula.

Cholecystotomy.—Indigo administered four days before operation. Gall bladder opened, inflamed; two stones were impacted in the common dilated duct. No indigo was found in scrapings of the gall-bladder mucous membrane, or in the mucus covering the gall stones at the time of operation. Three days later, however, a few indigo grains were found in the bile flowing from the fistula, and two days later still more was found in the mucus flowing from the gall blader and coating the gauze wick.

These cases, then, suggest the fact that a reflux mucus stream becomes established from the duodenal papilla, along the bile ducts to the gall bladder, in cases in which a fistulous opening has been made into the gall bladder and by means of this current the indigo particles are conveyed.

It will no doubt be urged, on the other hand, that the indigo was absorbed in the ordinary way, by blood or lymph stream, from the gastric, or intestinal mucous membrane, and was only detected in the bile after excretion by the liver. There are, however, many facts which oppose this explanation.

We have seen that indigo passes, for the most part, unchanged through the alimentary canal, and is not absorbed from the stomach or intestine. It is, of course, known that soluble indigo, in the form of sulphindigotate of soda, and other soluble dyes, such as carmine solutions administered by the mouth, do colour the bile (see Naunyn on Cholelithiasis. New Sydenham Society).

I find on examination that indigo, itself a very insoluble substance, is slightly soluble in bile, and can be deposited from such solution on evaporation as minute crystalline needles, and never, as far as my observation goes, in the shape of large or amorphous particles. Now the indigo obtained from the fistulae in these cases was in the form of fair-sized irregular masses, sometimes bright blue granules, never crystals. Moreover, it is a suggestive fact that they are found chiefly in the mucus lining the gall bladder, rather than in the rapidly flowing bile.

Further, in the third and fifth cases indigo was absent from the contents of the gall bladder and bile duct at the time of operation, although the patient had been taking it previously, while it was found in the bile and mucus regurgitating from the fistula when this was fully established some days later.

In order to throw additional light on this point, I fed a guinea-pig for some days with indigo, and then, after killing the animal, examined the contents of the gall bladder. No indigo was found in the bile contained in the gall bladder, nor did any crystallize out on evaporating this to dryness. A scraping was then taken of the mucous membrane lining the gall bladder, and numerous bright blue indigo granules were found. The bladder itself was then opened out on a slide and cleared, but no indigo was found in the peritoneal or muscular coats. This observation is also important, as in this animal the bile and gall-bladder currents were normal, and unaffected by fistula.

On these and other grounds I have no doubt that the indigo found in the bile in these cases is actually conveyed along the mucous channel of the bile and cystic ducts from the duodenum, and not by way of the blood or lymph stream. No doubt it is only sparingly present, and considerable examination of quantities of bile and mucus is necessary to find it. But we must remember that the opening of the biliary papilla in the duodenum is only a lateral one—an open window, as it were, past which, and not directly into which, the hurrying duodenal stream of semi-digested food is passing, and it is only such few particles of indigo as adhere and cling round the opening of the duct, that will be carried by the mucous current along the duct to the gall bladder.

It will be suggested that if indigo particles find their way thus, why not particles of food? And, indeed, I think it very probable that such small particles do pass in this manner, from the bowel under the altered conditions of the bile circulation, in fistulae of the gall bladder. I have myself found, in the fistulous bile, along with blood cells, bile pigment, epithelial cells, pus and other substances—particles which look, under the microscope, suspiciously like cellulose, and vegetable fibre.

We must remember that, owing to the surgical operation, and the establishment of the gall-bladder fistula, the normal action of this viscus has been suspended, there is no longer any outflowing stream of mucus passing from the gall bladder along the cystic and common bile ducts into the duodenum. In fact, there are many difficulties in accepting the conventional, bile reservoir, function of the gall bladder. And in view of the demonstrated importance of a continuous mucous stream, along the bile, and other mucous ducts, in the direction of their flow, I am strongly inclined to think that one important, if not the chief function of the gall bladder, is to supply this lubricating stream.

The question of the origin of gall stones also intrudes itself on our notice. Does the demonstrated passage of inorganic particles along the bile ducts from the bowel, under the abnormal conditions of gall-bladder fistula, throw any light on this important question?

I fear at present we are not justified in making any definite statement on this point. Given, however, a temporary cessation of normal bile flow along the ducts, or of a normal mucous flow from the gall bladder—a condition, in fact, produced pathologically, somewhat resembling the condition present in gall-bladder fistula, produced by surgical operation—we may, I think, say this much: that it is probable that not only may the upward passage of even non-motile infective organisms be possible, but that minute foreign particles may, under these conditions, find their way into the gall bladder and serve as nuclei for the deposition of biliary concretions.

We know from Naunyn's valuable work on cholelithiasis (see New Sydenham Society's *Transactions*, 1896) that pathological changes in the epithelium lining the biliary passages, are more important factors in the causation of gall stones than any alteration of the chemical composition of the bile. Naunyn also showed the influence of stagnation of bile in this matter and the important rôle played by pyogenic organisms derived from the intestine, especially bacillus coli, in causing the cholangitis, and catarrh of the mucous membrane of the ducts.

We know from the observations I have described that the temporary diversion, or reversal of the direction of, the bile current brought about by gall-bladder fistula favours the entrance of minute particles from the duodenum into the bile ducts. Does it not, therefore, appear likely that the temporary stagnation of bile flow, probably associated with cholelithiasis, and present in certain pathological conditions of the liver and duodenum, may really operate by bringing about a like entrance of micro-organisms along the common duct, with, possibly, minute foreign particles also, which may serve as condensation nuclei. Is it not probable that many cases of so-called catarrhal jaundice are thus explained?

THE URINARY TRACT.

We now pass to the consideration of the urinary tract, from the kidney to the bladder, and from the bladder to the surface, by way of the male and female urethra.

We will consider the ureters first. Reverse infection of the pelvis of the kidney so frequently occurs from interference with bladder function by septic instrumentation, that the ureter is universally regarded as the usual channel of infection, and not the blood stream. When we come, however, to consider the manner of this ureteral infection, the successive steps are not so clearly known.

In extreme cases of marked obstruction to the outflow of urine from the bladder, in which backward pressure of urine leads to dilatation of the ureters, and in which the interior of the bladder has become infected, by instrumentation or otherwise, it is of course quite possible that the open water-way, by arrest or reversal of current, may explain the upward carriage of infective organisms. At present I have not had an opportunity of testing the transference of indigo to the pelvis of the kidney in these cases. The more important point, however, was, if possible, to determine whether, supposing that from any cause (such as the establishment of a renal fistula) the normal downward current of secretion from the kidney to have been arrested—whether under these circumstances any regurgitation of mucous stream occurs in the normal, or at all events undilated and competent, ureter.

The following case has an important bearing on this point:

Lumbar Nephrectomy for Cystic Destruction of the Kidney by Calculus impacted in the Lower End of the Ureter.—The calculus was detected by a probe in the ureter at the time of the nephrectomy, but the condition of the patient was such that it was thought wiser to bring the open end of the ureter to the skin surface in the loin, and remove the calculus at a later date through a vaginal incision. This was done one week later, and a good recovery ensued. After the operation of nephrectomy the bladder was irrigated daily, and 2 drachms of an iodoform emulsion, containing sterilized indigo, allowed to remain in the bladder.

The fistulous opening of the ureter on the loin was lightly plugged with a little white sterile gauze. This and the muco-pus from the ureter were examined daily, and on three occasions numerous indigo particles

were found, showing that here, at all events, a reverse mucous current had passed up the ureter in the absence of any urine.

The position, then, at present, is probably this: Given an arrest, from any cause, of the normal downward current of urine along the ureter it is possible that a backward mucous current may occur, carrying with it any infective organisms or foreign particles, such as pus, or blood cells, or débris, which may be present in the bladder.

What we do not at present know is, whether this regurgitation occurs in those cases of kidney infection in which there is no direct evidence of arrested secretion. We are not at liberty to assume, however, that even in such cases temporary arrest does not occur. It is, indeed, known that the flow of urine from the ureteral orifices is intermittent under normal circumstances; it is possible that this intermittency may be increased to the point of temporary arrest under pathological conditions.

We still have to consider the question of the entrance of infection into the bladder from outside; the conditions, in fact, of the mucous currents in the urethra.

I will first consider the male urethra. The conveyance of infection from the exterior, in the absence of any outside interference, with a normal flow of urine along a healthy urethra is, of course, practically unknown. But, as in the case of the gall bladder, the frequent performance of suprapubic cystotomy for surgical purposes, in the urinary bladder, affords opportunities of investigating what goes on in the urethral mucous canal.

I have investigated two cases of suprapubic cystotomy in which the bladder was drained by Sprengel's pump after prostatectomy.

Complete Prostatectomy.—October 20th, 1904. Bladder drained suprapubically by Sprengel's pump, blood was present in urine for ten days, then clear. On October 31st, ten days after operation, indigo was inserted within the urethra ½ in. from the meatus in the eye of a Jacque's catheter, and again two days later. The urine drained suprapubically was collected daily, and the sediment examined. Indigo grains were found sparingly in the deposit.

Noticing the difficulty in finding such a minute quantity of indigo in such a large quantity of fluid, and the labour involved in searching for it, in the next case I adopted a somewhat different technique.

Prostatectomy for Adenomatous Prostate and Suprapubic Drainage of the Bladder by Sprengel's Pump.—March 25th, 1905. The urine remained blood stained for one week after operation, but when clear, eight days later, a little sterilized indigo was inserted into the penile urethra just within the meatus, on one occasion only, no urine having been passed per urethram.

A small piece of white sterile gauze was placed at the bottom of the suprapubic tube or silver cannula, and this served as a filter, through which the urine and vesical mucus passed, before being drawn out by the aspiration of the small inner glass tube, through the suprapubic opening.

The gauze was removed twenty-four hours later, and a cover-glass preparation taken of the mucus and urine which it contained. Bright blue indigo granules were freely found in varying sized particles.

Now, since all source of accidental contamination from outside was avoided by a dressing over the suprapubic opening, the indigo can only have gained access to the interior of the bladder by traversing the urethral canal.

Further, we must remember that in both these cases no instruments had been passed and that the urethra was uninjured, at any rate up to the triangular ligament and prostatic portion. The main point, of course, being that all passage of urine had been arrested for some days along the mucous canal.

I have also tried inserting indigo within the urethra alongside of a catheter retained in the urethra and bladder, in cases where it has been necessary for surgical reasons for some days to drain the bladder through a tied-in catheter. In several of these cases I have recovered the indigo from the urine flowing from the catheter, showing that the material has passed centripetally along the urethra to the bladder. I do not feel, however, that much stress can be laid on this, as there is always more or less to and fro, or inward or outward, movement of any instrument tied in the bladder; it tends to be expelled, and is passed back again and re-secured, as the movements of the patient alter its position, and it is thus quite possible that, by friction of the instrument against the wall of the urethra, any material might be mechanically conveyed, in successive waves, along the urethra to the bladder.

This objection does not, of course, apply to the previous cases in which no instrument was used; but, at any rate, the experience of the latter case shows how easy it is for infection to be conveyed from a dirty meatus alongside a retained instrument into the bladder; for if inorganic particles can float, as it were, in the mucous stream which is set up between the instrument and the urethral wall, and are carried thus backwards into the bladder, infective organisms can do the same. It is not necessary to assume that they must be conveyed on the point of, or by a dirty instrument; they may reach the bladder by way of the urethra from the surface at the meatus, after the introduction of the instrument.

In fact, surgeons know well, that even though the urine be received by a tube direct from the catheter into some antiseptic fluid, without contact with the air, yet it is practically impossible to keep the bladder aseptic for any length of time in cases in which an instrument traversing the urethra is tied in the bladder, and I think the above observations throw some light on the manner in which, and the route by which, this infection is brought about. At any rate, they point to the extreme importance of guarding the external orifices, and probably careful disinfection of the external meatus and the application of efficient antiseptic filtering dressings at this spot would have a good influence in preventing bladder infection in the manner above described, especially in those cases (and they should be very few) in which it is necessary to tie an instrument in the bladder.

One word as regards the short female urethra. In one case of vesico-vaginal fistula, with a very considerable opening, in which it was necessary to perform suprapubic cystotomy, and operate from within the bladder, the opportunity afforded by subsequent suprapubic drainage was utilized to trace the urethral mucous stream in the female urethra. A little indigo was inserted just within the meatus, and a small filtering plug of sterile gauze inserted in the suprapubic tube through which the urine was draining. Indigo granules were found in the mucus coating this plug when removed six hours later.

We have thus traced the reflux passage of inorganic particles of a recognizable substance, like indigo, from the surface, along the urethra to the bladder and from the bladder to the upper end of the ureter. In all cases the important associated condition has been that the normal flow of urine has been diverted.

We still require observations on cases of pyelitis, made at the time of operation, when the pelvis of the kidney is first explored, and in which indigo has previously been inserted into the bladder.

Observations on animals will probably be necessary to investigate this point, under conditions in which no previous diversion of the urinary flow has been brought about by surgical operation or disease.

The mode of infection of the epididymis by the tubercle bacillus, or by the gonococcus, or pyogenic organisms requires further examination.

I have not yet been able to test the mucous current in the vas deferens, but I think it likely that sterilized indigo inserted into the prostatic urethra in suitable cases, will be recovered from tuberculous, and other abscesses in the epididymis or the vesiculae seminales. If this should occur, then, the mucous canal of the vas deferens, and not the blood stream, will probably be the route taken.

Respiratory Tract.

With regard to the respiratory tract, and the mucous canals in connexion with it, the accessory nasal cavities, the Eustachian tubes, and the bronchi, any observations on this part of the body are all, of course, open to the obvious objection that foreign particles may be, and no doubt are, carried by the air currents and distributed over the mucous surface.

I should, however, like to mention one case of chronic otitis media, with tympanic perforation, in which sterilized indigo was insufflated for four days into the retropharyngeal cavity. The muco-pus flowing from the external meatus was collected on both sides, and on the fourth day showed abundant indigo granules.

Of course, it will be objected that owing to some effort of sneezing, or blowing of the nose, the material was transported up the canals by a blast of air. The patient was instructed to avoid all such sudden expiratory efforts, and I am inclined to think that the presence of the indigo in the internal ear is not due to this cause.

Supposing, however, that such is the case, it is surely a matter of considerable importance that in, at any rate, cases of perforated drums, not only air currents should pass habitually from pharynx to middle ear, but that foreign particles should also find their way up the Eustachian tubes in the absence, of course, of all instrumentation. The bearing of this on the

question of conveyance of infection from pharynx to middle ear is obvious, though, in the case of tympanic perforation, the important condition of diverted flow is present.

GLANDS.

We now pass to the consideration of the glands with ducts opening on to the surface of the body, and the possible conveyance of pigment particles along the ducts, from the skin to the alveoli of the glands.

The mammary gland, with its numerous ducts opening on the nipple, is the largest and most important of these glands. In a case of duct cancer of the breast, for six days before removal of the breast sterilized indigo was rubbed on the nipple twice daily, and a simple dressing of wool worn. Great care must, of course, be taken to avoid contamination of the exposed breast tissues at the time of the operation, but this, after all, is an object lesson in surgical technique, and the same precautions in the way of repeated washing and sterilization of the skin, which are taken to prevent contamination by skin organisms, will apply to the indigo also. In order to ensure absence of contamination, I have either coated the nipple and surrounding skin to be excised, with a layer of gauze and collodion, or, having turned up the flap of skin to be excised, inwards all round the nipple, I have tied this by a purse-string suture, thus leaving only the raw surfaces exposed.

The whole breast, after removal, is laid on a slab, with the deep surface uppermost, and incisions are made into the breast tissue in the neighbourhood of the ducts and into the portion affected by the cancer. Scrapings were taken from these incisions and indigo granules were found sparingly, but from several parts of the breast. Other cases of mammary cancer have yielded the same result. I have also examined unstained sections of breast tissues obtained in the same way in two cases of cystic disease associated with chronic mastitis, in which indigo had previously been applied to the nipple, and detected it in the breast.

In a case of chronic mastitis, with a scirrhous nodule in one part of the breast, in which indigo was applied for four days before operation, the pigment was found in the portion of mammary tissue containing the ducts, just beneath the nipple, but not in the solid portion invaded by growth. Now, the importance of this fact, of the conveyance of pigment particles from the skin to the deeper parts of the mammary gland, along the lacteal ducts, lies in its application to the question of the transference of infective organisms by the same route.

Here, again, it is a question of conveyance by blood, or lymph stream, as against transference by mucous currents along the ducts, and it seems to me that the demonstration of the passage of inorganic pigment particles by this latter route strongly confirms the suspicion, that it is by these duct channels that pyogenic and probably tuberculous organisms gain access to the mammary gland.

I feel some hesitation, in the present unsettled state of the cancer problem, in mentioning cancer in this connexion. All I will permit myself to say is this: That if, in the course of future research, the exciting cause of cancer shall be proved to be parasitic, the above observations may stimulate inquiry into the nipple route, as a possible channel of infection in cancer of the breast.

CONCLUSIONS.

We have now passed in review the conditions present in the more important mucous canals, and gland ducts opening in the interior of the body, and in one case in the ducts of a gland opening on the skin surface, and a few general observations bearing on the facts so observed may not be out of place.

I think from the observations I have described we may consider it proved, that by some means or other, and under certain conditions, particles of an insoluble substance, such as indigo, inserted into the orifices of a mucous canal, or duct are conveyed along the mucous channel in a reverse direction to that taken by the contents of the tube, or by the secretion or excretion of the glands along such ducts. The conditions which seem to favour this passage are:

First, some interference with the normal flow of the contents of the mucous tube or duct; some arrest or diversion of secretion, such as is produced by a fistulous opening, though it is by no means necessary that this should be complete.

By what agency is this transference of foreign particles brought about?

Ciliary Action.—Though present in the upper generative tract, cilia are absent in the lower genital tract, in the intestinal canal, in the biliary ducts, in the urinary tract, and in the ducts or glands opening on the skin.

Muscular Contraction.—No doubt irregular or reversed peristaltic contractions in the bowel, if present, would bring about the result. It is, however, suggestive that the ascent of the indigo up the colon is not prevented, but rather accelerated, by the increased downward peristalsis produced by purgatives. Reverse muscular contractions are as yet, moreover, unknown, or rather undemonstrated in the bile ducts, urethra, and urinary tubes, Fallopian tubes, or in the ducts of glands.

The phenomenon is not due to physical agency alone, such as capillary action. It is absent in the non-living tube. The transference of particles in empty tubes and ducts is one, and there are other reasons, before explained, for regarding the mucus which coats the walls of the tube, or duct, as the vehicle in which the particles are carried. Further observations are necessary to ascertain whether a reverse current—a sort of mucous backwater—is present in all mucous channels, or whether it only exists where the normal outgoing current of secretion or excretion is interfered with. Such a back current is probably present to a certain extent normally, though much increased by any agency, such as a fistula, which starts a flow of mucus from the other end of the canal.

The essential conditions, then, seem to be a living tube, whose walls are partially, if not wholly in apposition, and lined by a mucous secretion; while the reversal of this mucous current is favoured by any condition (such as a fistula) which leads to arrest or diversion of the ordinary secretion of the viscus or gland.

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The bearing of these remarks on the larger question of infection will be at once apparent.

I am inclined to think that in some cases more attention should be paid to mucous channels as routes of invasion, rather than to the lymph or blood stream. Thus I have spoken of the large share which such a mucous, as opposed to a blood infection, plays in the diseases of the female generative tract. The rapid ascent of the urethra by the non-motile gonococcus, and the colonization of deeper portions of the tube, apart from direct extension of growth, and in the absence of instrumentation or injection, are thus explained. The ascending infections of the kidney by way of the ureter can also be investigated from this point of view.

Our knowledge of the causes which produce biliary and urinary calculi is still very incomplete. The facts which point to the importance of diseased conditions of the mucous linings of the excretory tubes, in favouring the deposition of concretions, are of especial importance from this point of view. And bearing in mind the proved transference of particles, under certain conditions, from duodenum to gall bladder and from urethra to ureter, I hope that further light may thus be thrown on these calculous diseases.

In fact the burden of my remarks points to the necessity for the active recognition of the importance of all communications between the efferent canals of the body and the external world, and thus accentuates the value of personal hygiene and true cleanliness.

Gentlemen, I hope I have not wearied you with these remarks on what may be called surgical physiology and pathology. As I said at first, instead of pointing to new operations or improvements in surgical technique, instead of giving statistical tables indicating case-mortality after operations, I have tried to turn your attention the other way, and to glean a few facts from the many opportunities which modern surgery affords, for the observation of fundamental processes of organic life.

And yet, without the surgical revolution which we owe to a few great men, and which has been one of the glories of our century, these life-giving operations would have been unperformed, and the light which they have shed in many a dark corner of the human body would never have shone.

Though the public (the mass of our fellow-creatures) are only beginning to grasp, as yet very imperfectly, the all-pervading influence which medical and surgical science, and indeed all the sciences which deal with physical and mental efficiency, will assuredly soon exert in the life of the Individual, the City, the Nation, and the State; yet it is surely fitting that we medical men, who know these things, should ever recall the services rendered to humanity by the Pasteurs, the Listers, the Kochs, and all those who have done so much to raise our calling to its present proud position—all those who have made these things possible.

And how better can we show our gratitude to them, than by strenuous individual effort, each of us, in spite of much distraction and scanty opportunity, to add one small fact to the store of garnered knowledge: to bring even one stone to the building of that glorious Temple of Health, whose topmost pinnacle will only be finished when disease and suffering have been finally vanquished?

THE FOURTH CENTENARY OF THE ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

The fourth centenary of the Royal College of Surgeons of Edinburgh was celebrated by a series of functions, beginning on the evening of Wednesday, July 19th, and closing on Saturday morning, when, in the McEwan Hall, the University of Edinburgh conferred the honorary degree of Doctor of Laws on His Excellency the French Ambassador and nine distinguished members of the medical profession, representing various nationalities, who had come to Edinburgh for the College celebration.

Introductory Meeting.

The social and somewhat informal introductory meeting in the Surgeons' Hall on Wednesday evening was a pleasant commencement to the subsequent proceedings. The President and the Fellows of the College received those who were to be made Honorary Fellows next day, as well as a number of specially invited guests. Most of the Fellows still in town were present, as well as a great many from various parts of the country, and one or two from abroad. In all, something like 150 were present. The object was to get hosts and guests acquainted with one another. How well that had been accomplished by and during the celebration was pithily put by Professor Keen, of Philadelphia, when he said, "They were not strangers. The people of Edinburgh had taken them to their hearts and homes, and encompassed them with kindness; they had not only capped them, they had captured them."

Service in St. Giles's.

Officially the celebration was restricted to the two days of Thursday and Friday, the 20th and 21st, and these days were more than full. It began with a commemoration service in St. Giles's Cathedral on Thursday morning at 11.30. This was especially appropriate in view of the relation that existed in olden times between St. Giles's and the College of Surgeons. The various guilds and incorporations of Edinburgh tradesmen seem to have taken a lively interest in the church. As each guild was formed it claimed an altar in St. Giles's, and the brethren became bound for its upkeep and the support of its priest. The brethren of the Surgeons and Barbers "upheld" an altar dedicated to St. Mungo. It was founded in 1451 by John Gray, "Master in Arts and Medicine, Rector of the Church of Kirkliston." In 1505 the Surgeons received from the town a Deed of Constitution, dated July 1st, in which they were bound to "uphald ane altar in the College Kirk of Sanct Geill in the honour of God and Sanct Mongon our Patrone," and by which every person admitted to the craft became bound "to pay at his entry for his upset five pounds usual money of the realm of Scotland, for the reparation and upholding of the altar of St. Mungo for Divine Service to be done thereat." The words are quoted from the Deed of Incorporation. The altar was swept away at the time of the Reformation: where its position was in the church it is not now possible to say. It should be added that at the Chambers restoration the Royal College of Surgeons placed a stained glass window in the clerestory of the cathedral.

The officiating clergymen were the Very Reverend James Cameron Lees, D.D., LL.D., Minister of St. Giles's, one of the King's Chaplains in Scotland, Dean of the Chapel Royal of Scotland, and of the ancient and most noble Order of the Thistle; the Reverend William P. Paterson, D.D., Professor of Divinity in the University of Edinburgh; and the Reverend William P. Gillieson, M.A., Assistant Minister of St. Giles's. The cathedral church was filled by a large company of gentlemen in brilliant academic costume, official robes, uniform, and court dress, representative of the two Royal Colleges of Edinburgh, the foreign guests of the Surgeons' College, the Scottish Universities, Scottish Medical Corporations, the legal profession, other learned bodies (who had met in the adjoining Parliament Hall, kindly lent by the Faculty of Advocates), and the general public. The service, begun with the singing of Psalm c, was throughout dignified and impressive. The prayers were read by Dr. Cameron Lees, the lessons by his assistant, and the sermon was preached by Professor Paterson from the text in St. John ix, 1 to 3: "And as Jesus passed by, he saw a man which was blind from his birth. And His disciples asked Him, saying, Master, who did sin, this man, or his parents, that he was born blind? Jesus answered, Neither hath this man sinned, nor his parents: but that the works of God should be made manifest in him." The theme was the philosophy of human suffering. After the sermon, "Now thank we all our God" was sung by the congregation; and, after prayer, Handel's Hallelujah Chorus and the Benediction closed the service, a fitting opening to a great historic event.

Corporation Luncheon.

The officials of the Royal College of Surgeons and a large number of their guests were afterwards entertained at luncheon by the Corporation of Edinburgh in the City Chambers. The Lord Provost presided, and, although the proceedings were of an informal nature, his Lordship took occasion to refer to the pleasing connexion which had for four hundred years existed between the City and the College, and which, happily, still lasted. The President, reciprocating the good feeling expressed, said he thought the City did a wise thing in its generation when it took over the control of the College.

Commemoration Ceremony.

The next event was the Commemoration Ceremony, in the McEwan Hall, on Thursday afternoon, at 3 30. The order of procession entering the hall was—the Mace, the President, the Right Hon. the Lord Provost of Edinburgh, the Right Rev. and Right Hon. the Moderator of the General Assembly of the Church of Scotland, the Right Hon. the Earl of Stair, the Lord Justice General, the Lord Justice Clerk, the Senators of the College of Justice, the Solicitor-General for Scotland, the Lyon King of Arms, the Principal of the University of Edinburgh, the President of the General Medical Council, the Select Preacher (the Rev. Professor Paterson, D.D.), the Right Hon. the Lord Provost of Glasgow, the member of Parliament for the Universities of St. Andrews and Edinburgh, the member of Parliament for East Edinburgh (Mr. George McCrae), the Right Rev. the Bishop of Edinburgh, the Most Rev. the Archbishop of St. Andrews and Edinburgh, the Vice-President, the Honorary Fellows Elect, the Secretary and Council of the Royal College of Surgeons of Edinburgh, Ex-Presidents of the College, the President's Chaplain; the University Court, University of Edinburgh; the Vice-President, Treasurer, and Council of the Royal College of Physicians of Edinburgh; the Visitor, Treasurer, and Council of the Faculty of Physicians and Surgeons of Glasgow; representatives of the Navy and Army; representatives of the Universities of St. Andrews, Glasgow, Aberdeen, Edinburgh, and of University College, Dundee; the Clergy; the Magistrates of the City of Edinburgh; the Provost of Leith; representatives of legal societies, of medical societies, of scientific societies, and of public bodies; and non-official guests. Never before had so brilliant a company assembled within the McEwan Hall; as a spectacle it was splendid. There were robes of all sorts and of all colours from colleges and schools from all the ends of the earth, there were brilliant uniforms, and in the galleries the gay summer garb of the ladies. For Nature has been beneficent to the functions, since rarely can such continued glorious weather be found in Edinburgh.

When all were seated, the President proceeded to deliver his address of welcome. He thanked the guests for the readiness with which they had responded to the invitation of the College. He traced the rise of the College from its early and small beginnings. He referred to the character and abilities of King James VI, the Founder of the College. He concluded by saying:

> I would express the grateful appreciation of this College of the generous consideration manifested towards us to-day by our sister Corporation—the University of Edinburgh—in according us for this meeting the use of the McEwan Hall. In so doing I cannot refrain from expressing the sense of deep regret which we all feel for the lamented death of the late Principal of the University—Sir William Muir.

The Secretary, Dr. FRANCIS CADELL, then constituted the meeting of the College by reading the following prayer, with which the meetings are always opened, and which is traditionally understood to have been framed by John Knox:

O Eternal God, our loving and merciful Father in Christ Jesus, seeing we are convened to treat of those things which concern our calling, we beseech thee, O Lord, to be merciful to us; and give us grace to proceed therein without malice, grudge, or partiality: so that the things we do may tend to the glory of God, the weal of our vocation, and the comfort of every member of it: through Jesus Christ our only Lord and Saviour. Amen.

CONFERMENT OF HONORARY FELLOWSHIP.

The Vice-President (Sir HALLIDAY CROOM) then presented the various gentlemen who had been selected as worthy to receive the Honorary Fellowship of the College, giving in a sentence or two the main work they had done. Each was then gowned and handed the richly-illuminated diploma of the College, the President extending the right hand of welcome. The following gentlemen were thus honoured:

AUSTRIA.

Von Eiselsberg, Anton, Freiherr, M.D., Professor of Surgery, University of Vienna.

(*In absentia*) Fuchs, Ernst, M.D., Professor of Ophthalmology; Director of the First Division for Eye Diseases in the Allgemeines Krankenhaus, Vienna.

DENMARK.

Saxthorp, Sylvester, M.D., Professor of Clinical Surgery, University of Copenhagen; Surgeon to the Kommune Hospital; Knight of the Order of Dannebrog; formerly Surgeon to His Majesty the King of Denmark.

FRANCE.

(*In absentia*) Guyon, Félix, M.D., Professor in the Faculty of Medicine, Paris; Surgeon to the Necker Hospital; Member of the Institute; Member of the Academy of Medicine.

Lucas Championnière, Just, M.D., Professor of Surgery in the Faculty of Medicine, Paris; Member of the Academy of Medicine.

Poncet, A., M.D., Professor of Surgery in the Faculty of Medicine, Lyons; Corresponding Member of the Academy of Medicine; formerly Surgeon-in Chief to the Hôtel Dieu, Lyons.

Segond, Paul, M.D., Professor of Gynaecology in the Faculty of Medicine, Paris; Surgeon to the Salpêtrière Hospital.

(*In absentia*) Terrier, Louis Félix, M.D., Professor of Surgery in the Faculty of Medicine, Paris; Surgeon to the Hôpital de la Pitié; Member of the Academy of Medicine.

GERMANY.

Von Bergmann, His Exc. Ernst, M.D., F.R.C.S.Eng. (Hon.), Professor of Surgery, University of Berlin; Royal Prussian Medical Privy Councillor; Imperial Russian Actual Councillor of State; Knight of the Prussian Order of Hohenzollern, the Prussian Kron and Red Eagle Orders; Knight Grand Cross (with Diamonds), Imperial Russian Orders of the Holy Anne, of the Holy Stanislas, and the Holy Vladimir; General-Arzt of the Prussian Army, with the rank of Major-General.

Bier, August, M.D., Professor of Surgery, University of Bonn, formerly Professor of Surgery in Greifswald.

(*In absentia*) Czerny, Vincenz, M.D., Professor of Surgery, University of Heidelberg.

(*In absentia*) König, Franz, M.D., F.R.C.S.Eng. (Hon.), Professor of Surgery; Director of Clinical Surgery at the Charité Hospital, Berlin; General-Arzt à la suite of the Army Medical Corps.

Von Mikulicz-Radecki, Johannes, M.D., LL.D. Edin., Glasgow, and Philadelphia, General-Arzt à la suite of the Medical Corps of the Royal Prussian Army; Professor of Surgery and Director of the Surgical Clinic, University of Breslau. Died June 17th, 1905.

On the suggestion of the Vice-President it was agreed to send the diploma of Honorary Fellow to the family of Von Mikulicz-Radecki.

ITALY.

Durante, Francesco, M.D., F.R.C.S.Eng. (Hon.), Senator, Professor of Clinical Surgery, Royal University of Rome; Knight of the Most Distinguished Order of the "Merito Civile di Savoia"; Knight Grand Cross of the "Corona d'Italia."

JAPAN.

(*In absentia*) Saneyoshi, Baron Yasuzumi, Director-General of the Medical Department, Imperial Japanese Navy.

RUSSIA.

(*In absentia*) Subbotin, Maxim Semenovic, Chief of the Surgical Clinic, Military Hospital, Imperial Academy of Medicine, St. Petersburg.

SWEDEN.

Lennander, Karl Gustav, M.D., F.R.C.S.Eng. (Hon.), Professor of Surgery and Obstetrics, University of Upsala.

SWITZERLAND.

(*In absentia*) Krönlein, Ulrich, M.D., Professor of Surgery, University of Zurich.

UNITED STATES OF AMERICA.

Halsted, William Stewart, M.D., F.R.C.S.Eng. (Hon.), Professor of Surgery, Johns Hopkins University, and Surgeon to the Johns Hopkins Hospital, Baltimore.

Keen, William Williams, A.M., M.D., LL.D., F.R.C.S.Eng. (Hon.), Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College; Surgeon to the Jefferson Medical College Hospital, Philadelphia.

Kelly, Howard A., A.B., M.D., Professor of Gynaecology and Obstetrics, Johns Hopkins University; Gynaecologist and Obstetrician, Johns Hopkins Hospital, Baltimore; Corresponding Member of the Société Obstétricale et Gynécologique of Paris, and of the Gesellschaft für Geburtshülfe of Leipsig.

(*In absentia*) Mayo, William J., M.D., Surgeon to St. Mary's Hospital, Rochester, Minnesota.

(*In absentia*) McBurney, Charles, M.D., Professor of Clinical Surgery, Columbia University; Consulting Surgeon to the New York Hospital.

(*In absentia*) Warren, John Collins, M.D., LL.D., F.R.C.S.Eng. (Hon.), Professor of Surgery, Harvard University; Surgeon to the Massachusetts General Hospital.

BRITAIN.

(*In absentia*) Bomford, Lieutenant-Colonel Gerald, M.D., C.I.E., Director-General of the Indian Medical Service.

Cameron, Irving Heward, M.B., F.R.C.S.Eng. (Hon.), Professor of Surgery and Clinical Surgery, University of Toronto; Surgeon to the Toronto General Hospital.

Chance, Arthur, President of the Royal College of Surgeons of Ireland; Surgeon to the Mater Misericordiæ Hospital, and to the Dublin Orthopaedic Hospital; Consulting Surgeon to St. Michael's Hospital; President of the Surgical Section of the Royal Academy of Medicine, Ireland.

Clark, Henry Edward, C.M.G., President of the Faculty of Physicians and Surgeons of Glasgow; Professor of Surgery, St. Mungo's College, Glasgow; Surgeon to the Glasgow Royal Infirmary; Honorary Associate of the Order of St. John of Jerusalem.

Ellis, Herbert Mackay, Director-General of the Navy Medical Department.

(*In absentia*) Fitzgerald, Sir Thomas Naghten, C.B., M.D., Honorary Surgeon, Melbourne Hospital; Consulting Surgeon, St. Vincent Hospital, Melbourne; Ex-President, Inter-Colonial Medical Congress of Australasia; President of the Medical Society of Victoria.

Keogh, Alfred Henry, C.B., M.D., Surgeon General, Royal Army Medical Corps, Director-General of the Army Medical Department.

(*In absentia*) Lord Lister, F.R.S., D.C.L., LL.D., Serjeant Surgeon to His Majesty the King.

In presenting Lord Lister, Sir HALLIDAY CROOM said:

It would be an impertinence on my part to do more than simply mention the name of Baron Lister, intimately as he has been associated with this College and with this school. Renowned as he is as a scientific investigator, and hailed as the prince of English physiologists, he has, by his services to humanity in the treatment of wounds, revolutionized the healing art and rendered his name immortal. It is with extreme regret that I have to announce that ill health prevents his being here to receive the Honorary Fellowship, and I beg you to confer it upon his lordship *in absentia*.

(*In absentia*) MacCormick, Alexander, M.D., Lecturer on Surgery in the University of Sydney; Surgeon to the Prince Alfred Hospital, Sydney; Member of the Royal Society of New South Wales.

Playfair, John, M.D., President of the Royal College of Physicians of Edinburgh; formerly Physician to the Royal Hospital for Sick Children, Edinburgh.

Tweedy, John, President of the Royal College of Surgeons of England; Emeritus Professor of Ophthalmology, University College; Consulting Ophthalmic Surgeon, University College Hospital; Consulting Surgeon, Royal London Ophthalmic Hospital; President of the Ophthalmological Society, London.

Shepherd, Frank J., M.D., Professor of Anatomy in McGill University, Montreal; Lecturer in Operative Surgery.

The various Honorary Fellows, in turn and in a word or two, expressed their thanks for the honour conferred upon them, and offered their congratulations to the College on the auspicious occasion of its fourth centenary.

CONGRATULATORY ADDRESSES.

Congratulatory addresses were next presented by the University of St. Andrews, by the Dean of the Faculty of Medicine, Professor Reid, and the Principal of University College, Dundee, Professor Yule Mackay; by the University of Glasgow, by the Dean of the Faculty of Medicine, Professor Murdoch Cameron; by the University of Aberdeen, by the Dean of the Faculty of Medicine, Professor R. W. Reid; by the University of Edinburgh, by the Principal, Sir William Turner, K.C.B.; by the Royal College of Surgeons, by the President, Mr. John Tweedy. The Royal College of Surgeons of Ireland, by the President, Mr. Arthur Chance. The Royal College of Physicians of Edinburgh, by the President, Dr. Playfair, and the Treasurer, Dr. P. A. Young. The Faculty of Physicians and Surgeons of Glasgow, by the President, Professor H. E. Clark. The Royal Society of Edinburgh, by the senior Vice-President, Professor Geikie. The Edinburgh Medico-Chirurgical Society, by the President, Professor Chiene, C.B. The Edinburgh Obstetrical Society, by the

President, Dr. N. T. Brewis. The Royal Medical Society, by the President, Dr. R. W. Johnstone. The Merchant Company of Edinburgh, by the Master, Mr. John Harrison. The Managers of the Royal Infirmary of Edinburgh, by Mr. Caw, Treasurer, in the absence of the Chairman, the Lord Provost.

The proceedings were closed by singing "God save the King."

Reception in the Royal Scottish Museum.

In the evening, at 9.30, the President and Fellows held a reception in the Royal Scottish Museum, which was attended by some 2,000 guests. To assist in receiving the guests, the President, Sir Patrick Heron Watson, was supported by his daughter Mrs. Haig Ferguson, and the Vice-President, Sir Halliday Croom, by his daughter Miss Croom. During the evening His Excellency the French Ambassador, who had been dining with the Edinburgh Corporation, arrived in company with the Lord Provost, and was duly presented to the President and Vice-President. It was generally admitted that a more brilliant reception was never held in the Museum. The band of the Highland Light Infantry supplied the music.

Luncheon at the College of Physicians.

On Friday, July 21st, the Royal College of Physicians gave a luncheon in their Hall in Queen Street to the Sister College, their distinguished guests, and a few other friends. The proceedings were more or less private.

Garden Party at George Heriot's Hospital.

The afternoon of Friday saw a garden party in the grounds of George Heriot's Hospital, which was attended by well-nigh 2,000 people. The weather was perfect, the sky cloudless, and everything was a success. The company were received by the President and his daughter, Mrs. Haig Ferguson. The quadrangle, chapel, and Board room were open for the inspection of the visitors. The portraits in the Board room attracted much notice. The band of the Highland Light Infantry gave the music, and greatly to the delight of the strangers a number of the Highlanders danced to the music of the bagpipes a reel upon the grass. About 4.30, M. Cambon, accompanied by the Lord Provost and his Excellency's Secretary, M. de Seynes, arrived, and the band immediately played "La Marseillaise," those gentlemen in the neighbourhood uncovering the while.

Banquet in the Music Hall.

In the evening a grand banquet was given by the College to their guests. There were some 350 gentlemen present, many of whom wore court and official costume. The hall was extremely prettily decorated. The reception took place in the adjoining Assembly Hall by the President, Vice-President, Dr. Joseph Bell, a former President, and Mr. Francis Cadell, the Treasurer.

The principal guests were seated at a raised table at one side of the hall. The President had on his right the Lord Provost of Edinburgh, the Earl of Stair, the Lord Justice Clerk, Lord Ardwall, Sir Ludovic Grant, Bart., Professor Freiherr von Eiselsberg, the Lyon King of Arms, the Rev. Dr. Cameron Lees, Dean of the Thistle; the President of the General Medical Council, Sir John Batty Tuke, M.D., M.P., and Sir Alfred Cooper. On the left were His Excellency the French Ambassador, the Lord Provost of Glasgow, Lord McLaren, Lord Johnstone, Sir James Ferguson, Bart., Dr. Halsted, Sir John Murray, K.C.B., the Solicitor-General for Scotland, the President of the Royal College of Surgeons of Ireland, the President of the Royal College of Surgeons of England, the President of the Royal College of Physicians of Edinburgh, the Archbishop of Edinburgh and St. Andrews, and Captain Cuming, R.N.

The croupiers were Mr. Chiene, C.B., ex-President; Sir William Turner, K.C.B., ex-President; Dr. John Smith, ex-President; Sir Henry Littlejohn, ex-President; the Vice-President; the Treasurer; Dr. Joseph Bell, ex-President; Dr. Argyll Robertson, ex-President; Dr. P. McLaren, ex-President; and Dr. James Dunsmure, ex-President.

After dinner the President gave the toasts of "His Most Gracious Majesty the King," "Queen Alexandra, the Prince and Princess of Wales, and the other members of the Royal Family," which were duly honoured. "The Lord Provost and Magistrates of the City of Edinburgh" was proposed by the Vice-President and responded to by the Right Honourable Sir Robert Cranston, Lord Provost. "The Honorary Fellows of the College" was proposed by the President and responded to by Professor Freiherr von Eiselsberg and Dr. Halsted. "The Guests" was proposed by Sir William Turner, K.C.B., and responded to by His Excellency the French Ambassador. "The Royal College of Surgeons of Edinburgh," coupled with the President, was given in an eloquent speech by Sir John Ure Primrose, Lord Provost of Glasgow, and Sir Patrick Heron Watson responded. An interesting feature of the dinner was the entrance of the pipers of the Highland Light Infantry playing in "The Haggis." The banquet was a brilliant success.

A word of praise is due to those who so successfully made the arrangements for the various functions of the celebration that everything passed off without a hitch. If one man more than another deserves credit in this way, surely it is Mr. John W. Dowden, M.B., F.R.C.S.Eng., the Honorary Secretary of the Fourth Centenary celebration, whose endless energy and constant courtesy did so much to make things move smoothly and harmoniously.

Conferment of Honorary Degrees.

The celebrations in connexion with the fourth centenary of the Surgeons' College were brought to a close in academic form on Saturday morning, when the University of Edinburgh conferred the honorary degree of LL.D. on the French Ambassador and nine distinguished members of the medical profession, representing various nationalities. There were present to support the Vice-Chancellor (Principal Sir William Turner), the Lord Provost of Edinburgh, the President and Vice-President of the Royal College of Surgeons, the President of the Royal College of Physicians, the Principal of McGill University, Montreal, Bishop Dowden, the Earl of Stair, etc.

After prayer by the Rev. Professor Taylor, the Vice-Chancellor said:

It is not customary for the Vice-Chancellor at a graduation ceremony to discharge any other duty than that of carrying out the resolution of the Senatus to confer degrees on those who come to receive them; but on this occasion it seems only appropriate that one or two words proper to the occasion should be said by the Vice-Chancellor. It is known throughout the city that the Royal College of Surgeons has had a great festival—a great celebration—of its four hundredth anniversary, and that College has attracted to this city many esteemed members of the medical profession, more especially of the surgical branch of it, to be present at their ceremony. The Senatus Academicus, from old associations with the Royal College of Surgeons, felt that they might very properly avail themselves of this memorable occasion to confer honorary degrees, and they invited several of the gentlemen present to receive them this morning. It would be impossible for the Senatus to confer honorary degrees on all the visitors to the College festival, and so we had to make a selection; and the basis of our selection was this, that we would ask those members of our profession who had come here from various European countries, and also the members of our profession who had travelled thousands of miles across the Atlantic. Opportunity will, without doubt, occur to the University for conferring honours upon those members of the profession who are nearer home. But there is another important incident connected with this festival of the Royal College of Surgeons—namely, the presence of the Ambassador of France. And it was felt that, as the tutor of our founder King James VI, George Buchanan, had held honourable offices as a teacher in the colleges of France, it would be most appropriate that we, the academic descendants of our founder, should on this occasion honour M. Cambon by giving him the honorary qualification which it is in our power to bestow—namely, the degree of Doctor of Laws. I will now ask the Dean of the Faculty of Law, Sir Ludovic Grant, to present in order those who are to receive honorary degrees.

Sir Ludovic Grant in turn presented the following gentlemen to the Vice-Chancellor as worthy to receive the honorary degree of LL.D., making brief reference to the claims of each to the coveted academic distinction:

Cambon, His Excellency M. Paul, G.C.V.O., D.C.L., the French Ambassador.

Cameron, Irving Howard, M.B., F.R.C.S. Eng. and Edin., Professor of Surgery and Clinical Surgery, University of Toronto.

Lucas-Championnière, Dr. Just, F.R.C.S.Edin., Member of the Academy of Medicine, Paris.

Durante, Francesco, M.D., F.R.C.S. Eng. and Edin., Professor of Surgery, and Director of the Surgical Clinique in the Royal University of Rome.

Von Eiselsberg, Anton Freiherr, M.D., F.R.C.S.Edin., Professor of Surgery, University of Vienna.

Halsted, William Stewart, M.D., F.R.C.S. Eng. and Edin., Professor of Surgery, Johns Hopkins University, Baltimore, U.S.A.

Keen, William Williams, M.D., LL.D., F.R.C.S. Eng. and Edin., Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia, U.S.A.

Lennander, Karl Gustav, M.D., F.R.C.S. Eng. and Edin., Professor of Surgery, University of Upsala.

Saxtorph, Sylvester, M.D., F.R.C.S.Edin., Professor of Clinical Surgery, University of Copenhagen.

Shepherd, Frank J., M.D., F.R.C.S.Edin., Professor of Anatomy, and Lecturer in Operative Surgery, McGill University, Montreal.

The VICE-CHANCELLOR said it was not customary at their honorary graduation ceremonies to ask any of the new graduates to say a word or two, but that was a special occasion, and he felt it would not only be gratifying to the Senatus Academicus, but gratifying to the many friends who were assembled at that ceremony, if he requested the French Ambassador to speak a few words on behalf of those honorary graduates who represented European countries, and Professor Keen to say a few words on behalf of those who came from the other side of the Atlantic.

His Excellency M. CAMBON replied briefly, speaking in French. He said he was very sensible of the honour of being called upon to address to them a few words in the name of his fellow doctors of the University of Edinburgh. They were all proud of being enrolled as honorary members of a University which was justly regarded as one of the most famous in the world. Sir Ludovic Grant had spoken of him in too flattering terms, but he was glad that he alluded to the ancient friendship of Scotland and France. He was glad because the allusion reminded him of a striking characteristic of the Scottish people, but one which they themselves were perhaps hardly aware of—he meant their great regard for their ancient traditions and their early history. But with that reverence for the past they combined a zealous and ardent love of progress, and the great progress they had made in every direction was doubtless all the more sound for being firmly rooted in the past. They all earnestly hoped that that great celebration would form an additional guarantee for a good *entente* among all nations. He had himself laboured for many years in that great cause, which he knew they in beautiful Scotland also had sincerely at heart, and he felt sure that the cordial hospitality and the great honours they had lavished upon them all would contribute in no small degree to the advancement of liberty, justice, and peace throughout the whole world.

Professor KEEN also replied.

The Benediction by Professor TAYLOR closed the proceedings.

A BIRD'S-EYE VIEW OF THE CELEBRATION.

ONE WHO WAS THERE sends the following note: This memorable function, for which the College has been planning for some years, is over, and we have time to think if it was a success, and, if so, what made it a success. It did seem to go off well. There was no attempt to improve the minds of the distinguished men who honoured the College by accepting its honorary Diploma of Fellowship, and whom the College delighted to honour. Our own Fellows, many of whom came thousands of miles to be present, did not come to be taught new things, but to recall the old days after long absence. Some had been "furth of Scotland" for nearly half a century. Our guests came to congratulate the College on its length of days, and to wish it many more centuries of prosperity and usefulness. What could the College do if not to be grateful, and try to make all feel at home? The keynote of the whole function seemed to be good comradeship, frankly rendered and graciously received. The great surgeons of Europe and America treated us of this misty island as if we were their brethren, and we tried our best to make them feel at home.

The informal reception by the President and Fellows held in the College Hall on Wednesday evening broke the ice. You cannot be distant and formal over coffee and cigars, with a little of the wine of the country. Old friends met who had not met for years, and all were anxious to be introduced to the great surgeons who had hitherto been each a *nomenes umbra*.

The formal work of the celebration fitly began in the service in St. Giles, to which the Honorary Fellows elect, guests and Fellows of the three Corporations walked in marshalled ranks from the magnificent Parliament Halls, kindly placed at the service of the College. It was meet and right that the College should, in the old Mother Church of Edinburgh, render grateful thanks to the Almighty for its inception, preservation and prosperity of the past four hundred years. Though the daily service it used to support in pre-Reformation days no longer is performed at the altar of St. Mungo, the College still has its memorial window in the chancel of the old pile. None who were present will forget the beautiful words and the reverent manner in which Dr. Cameron Lees voiced the gratitude of the College for its past and intercession for its future. The whole service of prayer and praise and sermon was simple and dignified.

The central function was of course the meeting of the College for the purpose of conferring the diplomas of Honorary Fellowships. It was held in an unaccustomed place—the McEwen Hall—by the courtesy of the University, and though it was a great public function, graced by the presence of ladies and many distinguished guests, and honoured by the presence and approval of sister Universities and corporations, it really had to be a meeting of the College. It was constituted in ancient fashion by the reading by the Secretary of the noble prayer ascribed to John Knox, with which all its meetings have been constituted for more than three hundred years, and then the simple ceremony followed. The Vice-President presented each of the Honorary Fellows in turn to the President, who handed him his diploma, he put on the college gown, and signed the declaration of fealty to the College. Each new Fellow had then the opportunity of thanking the College. Had any one been prolix it might have been tedious; as it was, it was short, simple, and dignified.

The presentation of congratulatory addresses from many corporate bodies, all with brevity and sincerity, concluded a most interesting ceremony.

A great evening reception in the Royal Scottish Museum, and a garden party in the grounds of George Heriot's Hospital enabled the College to ask many ladies and gentlemen to share its rejoicings and to see its distinguished guest. Both of these functions were honoured by the presence of the French Ambassador, M. Cambon. The great banquet in the Music Hall on Friday was a fit close to the proceedings. Though it was long it was not tedious. The speeches were few, but crisp, short, and to the point. The Principal of the University in his happiest vein, not sitting in high state as Principal, but acting as croupier to one of the tables as a Fellow and ex-President of the College, in proposing "The Health of M. Cambon," and the Provost of Glasgow in proposing "The Health of the President," taught the meeting what an after dinner speech should be. The Corporation and the Royal College of Physicians vied with each other in hospitality, and the Resident Fellows did what they could to house their distinguished guests and make them feel at home in Edinburgh. Favoured by magnificent summer weather, the "grey metropolis of the north," for once did not look grey, and the summer was not misty. Women in light summer dresses, men in academic robes or uniforms made the function and even the streets full of colour and light. The blue robes and flat caps of the Fellows of the College were much in evidence. For once a gleam of Paris or Padua enlivened our dark streets and our subfusc clothes. We trust our visitors may carry away with them the same happy memories they have left behind.

MIDWIVES ACT.

LANCASHIRE.

AT the last meeting of the County Council a discussion took place on the registration of midwives within the area of the administrative county. In the course of it the information was elicited that 211 midwives, or 22 per cent. of those within the jurisdiction of the Council, could not sign their own names. It was proposed to arrange for the delivery of lectures for the instruction of the women, and to train others to take their places as they died off.

LEICESTERSHIRE.

The Sanitary Committee, in a report which was adopted at the last meeting of the County Council, referred to the fact that the Education Committee had consented to undertake the training of midwives. It was stated that in all probability there would be accommodation at the Leicester Dispensary for two or three midwives from the county.

SALOP.

We learn from the *County Council Times* that in view of the extreme importance of prompt notification of cases of puerperal fever, without which information it is impossible to carry out one of the most important provisions of the Midwives Act, an arrangement has been made whereby the county medical officer shall be promptly supplied by the district medical officers in the county with copies of the notification certificates. A fee of 2s. 6d. will be paid for each certificate.

SURREY.

The General Purposes Committee has reported that all the municipal and district councils have now agreed that their medical officers shall perform the duties referred to under the Midwives Act. The Committee is not of opinion, however, that county councils are empowered to remunerate medical practitioners called in to assist midwives, nor does it think that any amendment of the law in such direction is either necessary or desirable.

CONTRACT MEDICAL PRACTICE.

NOTICE AS TO DISTRICTS IN WHICH DISPUTES EXIST.

A notice as to places in which disputes exist between members of the medical profession and various organizations for providing contract practice will be found among the advertisements, and medical men who may be thinking of applying for appointments in connexion with clubs or other forms of contract practice are requested to refer to the advertisement on page 75.

MEDICAL AID SOCIETIES.

LUX IN TENEBRIS.—The society in question is one that exploits the medical profession in the country in order to procure dividends for its shareholders. Our correspondent cannot therefore be advised to become one of its medical officers.

MEDICAL NEWS.

THE sixth Congress of Applied Chemistry will be held in Rome in the spring of 1906.

MEDICAL MAGISTRATE.—The name of Dr. Charles A. Hayman, of Clifton, has been added to the Commission of the Peace for Bristol.

YELLOW FEVER IN NEW ORLEANS.—Yellow fever is said to be spreading in New Orleans, 104 cases having been notified within forty-eight hours. The most stringent precautions have been adopted by all southern cities against arrivals from New Orleans.

BEQUESTS TO MEDICAL CHARITIES.—Under the will of the late Sir Theodore Henry Brinkman of Clewer, which has now been proved, St. Saviour's Hospital, Osnaburgh Street, receives the sum of £500, St. George's Hospital £200, and the London Fever Hospital and the Windsor Infirmary, £100 each.

A SCHOOL FOR MOTHERS IN MADRID.—A School for Mothers has been recently founded in Madrid by the Marquis and Marchioness de Casa-Torre. The medical director is Dr. Ulecia, who has charge of a dispensary for sick and weakly children. He gives regular instruction to mothers, making each case as it presents itself the text of a discourse in simple language on the best manner of feeding and generally caring for the child. All the mothers are present so that all may have the benefit of the demonstration. If sterilized milk is considered necessary, it is supplied; food and clothes are also distributed to deserving cases.

PROFESSIONAL EARNINGS IN SAXONY.—The Statistical Bureau of the Kingdom of Saxony has recently published figures which show the professional earnings of medical practitioners in that part of Germany. Of a total number of 1,568 practitioners in 1903, there were 90 with a professional income not exceeding £80; 165 whose earnings did not exceed £140; 290 did not make more than £215; and 320 not more than £315. Incomes ranging between that amount and £1,000 were earned by 611; the number of those whose professional income exceeded £1,000 was 92. The average age of practitioners whose income was from £140 to £315 was between 30 and 40, while that of most of those whose earnings exceeded £315 was between 40 and 50. These figures show that practitioners in Saxony are better off than their brethren in Berlin and the Province of Brandenburg.

THE CARE OF FEEBLE-MINDED CHILDREN.—At an ordinary meeting of the managers of the Metropolitan Asylum District held on July 22nd, the Children's Committee presented a report on the Local Government Board's letter of June 2nd last with reference to the proposal of the managers that feeble-minded children should be dealt with on medical advice and removed from the small homes in London to the working colony provided for cases over 16, and before that age when the circumstances warranted it. The Local Government Board stated that they would raise no objection to the proposal of the managers, provided that in each case the child was unable to attend the special classes of the education authority, and that the managers would make proper provision for classification in the working colony. The Committee had informed the Local Government Board that the proposal referred to was intended to include not only the children unable to attend the special classes, but other children approaching the age of 16, who, while unable to attend the special classes, would, in the opinion of the managers' medical advisers, be more beneficially treated, and be more likely to do better at the working colony, and they had asked them to extend their approval to include those cases.

A DISEASE OF HORSES IN THE CAMEROONS.—To Dr. Hans Ziemann, who has already done great things on behalf of the progress of science in West Africa, belongs the credit of first describing a disease of horses and mules met with in the Cameroons (*Journal of Tropical Medicine*, May, 1905). The outstanding feature of the malady is a progressive enlargement of the superior maxillae, and also of the horizontal veins of the lower jaw. The palatine arch is obliterated and the nasal passages occluded, though apparently no effect is produced upon the contents of the orbit. There is no abnormality of the urine, faeces, blood, or temperature; but, though the appetite is unimpaired at first, emaciation soon sets in, and in four to twelve months from the onset the disease proves fatal, chiefly by reason of the progressive obstruction of the nose and consequent difficulty of respiration, which, in horses and mules, is exclusively nasal. There is evidence that the disease is infectious, and treatment by iodides and inunction of mercury seems to be of value; but the prognosis is very unfavourable in untreated cases. *Post-mortem* examination shows that the swellings are subperiosteal, consisting of hyperaemic spongy tissue enveloped in a shell of compact bone; in the upper jaw the antrum of Highmore was obliterated. Microscopic examination gave no clue as to the nature or causation of the swellings; while the results of inoculation and cultivation of the nasal mucus, which is secreted in excessive quantities, were alike indeterminate. The natives of the Ivory Coast suffer from a very chronic enlargement of the nasal processes of the superior maxilla, which is known as "ngundu"; but Dr. Ziemann points out wide differences between this and the disease he describes, which is, however, in some respects analogous to diseases of bone met with in horses and mules in Madagascar and Indo-China.

THE HYGIENE OF INFANCY IN COSTA RICA.—That the science of midwifery and the care of the infant in Costa Rica leave not a little to be desired may be gathered from a perusal of Dr. Benjamin de Cespedes's carefully arranged little volume on this subject (*Higiene de la Infancia en Costa Rica*. Por Benjamin de Cespedes. Obra premiada con medalla de oro por la Facultad de Medicina. Cr. 8vo, pp. iii and 251.) When he tells us that it is a common custom for the mother to leave her bed on the third or fourth day, and for the attendants to fill the infant's mouth with salt and brandy if there is any difficulty in respiration, we may join with him in regretting that the proposal of the medical authorities to establish a school of midwives in the country was rejected. If patient and nurse will carefully read and follow Dr. de Cespedes's instruction, however, they will gain a good deal. He divides his book into four parts: the first treating in some twenty short chapters of the preventive hygiene of the new-born child, the second of the diseases of early childhood and their prevention, the third of hygienic education for children, and the last of the inter-relation of the State and the child—kindergartens, orphan asylums, lying-in hospitals, and so forth. The author is well acquainted with all the Continental and English authorities and frequently refers to them, but at the same time is no mere slavish follower of their teaching and often has original ideas of his own. He speaks in praise of banana meal, and we have often wondered that this has not been more used in Europe for children's diet, especially as it is now so easily obtainable. Dr. de Cespedes preaches the gospel of open air, cold baths, exercise, and games, and pleads for the introduction of "pelota," baseball, football, and lawn-tennis into the country, but we fear that his counsel is likely to fall on deaf ears. He draws a far from encouraging picture of the Costa Rican mother, whom he describes as a lymphatic, nervous creature, with a pallid face and flaccid muscles, whose chief characteristics seem to be an equal disinclination for exercise or the use of baths.

British Medical Journal.

SATURDAY, JULY 29TH, 1905.

THE PRESIDENT'S ADDRESS.

By the address, dealing chiefly with the highly interesting and supremely important subject of medical education, which is published at page 221, the President of the Association, Mr. Franklin, right worthily inaugurated the great meeting over which he has presided with much dignity and grace, impressing his character and personality upon the office he holds. That office is yearly becoming of greater consideration, not only to the members of the Association, but to the medical profession in all parts of the civilized world, and in an increasing measure to the public, which must realize that the head of an organization numbering 20,000 highly-trained citizens, fulfilling duties essential to the welfare of society, is a man who counts for much as a power for good, and to whose words and actions more than common interest attaches.

The President began his address by giving his hearers some account of the history of Leicester, a city possessing a most interesting past as well as a busy and prosperous present; and then made appropriate mention of those eminent members of our profession who have had some connexion with the town or county.

The main topic of this address was medical education—a subject which has become a burning question—and the President may be congratulated on having escaped the perils of paradox, while with most of his opinions the majority of his audience might be expected heartily to agree.

That the standard of general education required for entrance upon the medical curriculum is too low is a proposition upon which the profession is perhaps more unanimous than upon any other of those occupying attention at the present day. Teachers feel that students come to their medical studies without that degree of mental training which is needed to fit them for their work. Many students are handicapped throughout by this defect, which necessarily lowers the general standard of teaching and examinations, and finally permits the entrance into our ranks of a considerable percentage of persons whose general culture would not qualify them for a second-class clerkship in a public office. Yet, in spite of this unanimity, the Education Committee of the General Medical Council found itself unable to recommend any increase of the standard required at the preliminary examination for the unsatisfactory reason that the "average boy" on leaving a secondary school at the age of 16 is unable to pass a more severe test.

The obvious course to take is that recommended in the President's address, that is to say, to raise the age at which entrance upon medical studies is possible. This is most necessary, and the argument from expense which has induced the authorities to maintain the lower limit is one which does not deserve to outweigh the interests of the whole of medical education. In France and Germany medical education proper is not begun until the age of 19. It is conceivable that the troubles of students and teachers are largely due to the immaturity of the minds which come to our medical schools. Nothing can be worse than for such immature minds to be overworked as they are, or pressed to grasp problems beyond their capacity. No wonder if under these circumstances the earlier examinations are passed by "cram" only and the "science years" fail, as all teachers know that they do fail, to produce any adequate educational effect upon the great majority of students. We are glad, therefore, that the President has raised this serious question, and we hope he will use his influence to prevent it lapsing into the background of things desired but unattainable.

Apropos of the President's remarks on the study of Greek in the University of Birmingham, we are informed that its position with regard to the teaching of this subject was a little misunderstood by the Lord Chancellor, and the wrong impression he conveyed may be deepened by the words of the Presidential address if not corrected. The fact is that the University has a lecturer in Greek, but the proposal of the Senate to convert this lectureship into a professorship had, just before the Lord Chancellor's visit, been rejected by the Council on the ground that there were other subjects more pressing, and that the number of students studying Greek does not at present justify the increased expenditure of £400 a year which would follow on the conversion of the lectureship into a professorship. While sharing to the full the Presidential opinion of the importance of some Greek for medical purposes, it must be allowed that the amount actually required for the intelligent comprehension of medical terms is not very great.

Undoubtedly the teaching of obstetrics is in a very unsatisfactory position, and the majority of practitioners will agree with the President that the present regulation requiring a student to attend a minimum of 20 cases is quite inadequate. Much more detailed practical instruction is requisite, but it is difficult to see how this is to be given except in properly-equipped maternity hospitals. There is, however, every reason to believe that reform in this direction cannot be long delayed.

Most teachers of practical subjects will agree with the President in desiring to see science teaching directed mainly to those parts of the subjects which bear upon the students' future work, and recognize the need that exists for controlling the tendency to require from them an excessive amount of detailed knowledge.

There is food for thought also in Mr. Franklin's reflections upon the present organization of the profession in regard to specialism, although we should be sorry to appear unable to recognize or unwilling to admit the great advances in all departments of practice which have resulted from the labours of those who have devoted time and great technical skill to particular subjects.

Among the President's suggestions for the future none is more worthy of being borne in mind than the importance of at least a year's service in some hospital before the new practitioner is turned loose upon the public. In Germany this has been recognized of late years, and a certain number of passed students are now admitted without salary, but with free board and lodging, as clinical assistants in large hospitals to which no medical schools are attached. These young men add greatly to the

efficiency of the work done in these institutions, while the educational advantages they receive far outweigh the value of the time so spent. In this country the resident staffs of nearly all hospitals are undermanned and often overworked; this is true more especially of hospitals to which no medical school is attached, but there is reason to believe that these appointments are as numerous as can be adequately filled under the present regulations.

The increase in the number of posts during the last thirty years has been unaccompanied by a proportionate rise in the number and quality of the applicants for them, the desire to earn an income as soon as possible drawing away many men as soon as they find their diplomas in their pockets. If the holding of these posts were made obligatory, it is impossible to say offhand how far provision could be made for all students, but undoubtedly the great Poor-law infirmaries offer a vast field for medical study, if the authorities who control them were disposed to recognize the importance to the public of the work in which they would be asked to assist, and would not be deterred by a slight increase of expenditure. Even without seeking the assistance of the Poor-law guardians some considerable increase might be made in the number of resident posts available, for many more clinical assistants might be usefully employed in hospitals where the clinical work now suffers from want of hands to do it. Undoubtedly some additional expense would be incurred, but the change would conduce to greater efficiency; and, if the public can be brought to see that medical education is not merely a question for the medical student or his parents, but a public matter in which the whole nation is profoundly concerned, the actual outlay of money, which need not be great, should be regarded as trifling in comparison with the benefit of obtaining a better-educated body of young medical practitioners.

The eloquent words borrowed by the President to serve as his peroration fittingly conclude an address which directs public attention to the great claims of medical science, and to the spirit in which those who understand it rightly desire to pursue their high calling to their own honour and to the benefit of their fellow-men.

THE ADDRESS IN MEDICINE.

The thoughtful Address in Medicine delivered by Dr. Maudsley before the general meeting of the British Medical Association on Wednesday, July 26th, was worthy of the important occasion by which it was evoked, and will furnish matter for reflection long after the Leicester meeting has passed into history. It is, indeed, full of thoughts and forecasts which should command the close study of the whole profession.

For Dr. Maudsley the bounds which have been set between life and death, between body and mind, between mind and spirit, are either concessions to convenience or confessions of ignorance. But his is not the sterile materialism which blankly denies or shrugs its shoulders and does not know; it is an active and living faith, which looks forward to the ultimate levelling of all artificial partitions, to the recognition of inorganic, of organic, and of spiritual Nature as grades in a continuous scheme woven together by the golden thread of evolution, and hopes by the investigation of the laws of progress in the past to bend them in the future to the service of mankind. He who holds such views cannot sit with folded hands pleading that these laws are rigid and not to be tampered with; it is incumbent upon him to take advantage of their inexorability and to use them with scientific precision for the good of the race.

> He who would be something more
> Than they who laugh, and play, and die, must hear
> The voice of duty, like the note of war,
> Stirring the spirit to brisk enterprise,
> And nerving every sinew to the charge.

The aim of the address is, before all things, practical; it dwells by choice rather with the prospects of medicine in the future than with its triumphs in the past. What, then, does the future hold for our profession? What gifts may we and our successors hope to gather from the lap of destiny and add to man's heritage through all the ages? Dr. Maudsley's answer is clear and confident; as time goes on we must occupy ourselves more and more with the prevention of disease, and especially of the tendency or predisposition thereto. All sound thinkers in every age have held that this should be the first object of medical research; great as have been the blessings arising from a wise empiricism, the march of science should in the end render this unnecessary.

The discussion of the problems underlying prophylaxis against disease forms the most profound and original section of the address. Hitherto attention has mainly been given to the strife against the external agents of disease. It is only natural that the great discoveries of the last quarter of a century, the detection of bacteria and other noxae which attack the body, should have led to unexampled energy in the devising and carrying out of hygienic measures for the destruction of these enemies to life and health. But when, if ever, this victory shall have been won, when the last foe shall have surrendered to an appropriate antidote, a deeper-rooted and more complex problem will remain for solution. Micro-organisms, animal and vegetable, are the *fleurs du mal*; but they will not grow without a suitable soil and a favouring climate. The modern physician must study above everything individual and racial predispositions to disease in general and to particular maladies. Temperament, diathesis, and other similar terms, beloved of our forefathers but now almost disused, must again be considered and with a new significance. The hidden springs of disease, the underlying defects that render a certain proportion, and a certain proportion only, of humanity vulnerable by definite microbes or by hitherto unknown noxae, must be exhaustively investigated, and this investigation must not be merely for academic purposes but must have for its aim the protection of the race. There seems no reason to doubt that by interbreeding of consumptives or of members of stocks tainted with malignant disease families could be obtained whose vulnerability would be infinitely heightened; and the evidence is convincing that drunken, syphilitic and "degenerate" parents beget offspring whose fate hangs in the balance between the asylum and the prison. If these views are true and if they are the expression of an unalterable law, cannot the principle be used in the opposite direction and the law employed to help instead of to maim humanity? This should be the true aim of the new science of eugenics to produce a race bred in a manner that will tend to eliminate the tendency to moral or physical disease. To this end close and at the same time extensive observation of facts is requisite. The balance of forces in a human organism is so complex and so delicate that a molecule on this or the other side may mean the difference between triumph and disaster; as Dr. Maudsley once more points out, genius in

one member of a family is often accompanied by madness in another. For the study of this class of phenomena the general medical practitioner is, by training and opportunity, particularly well-equipped, and to him in large measure we must look for the data of the investigation. It is through him, moreover, that we may hope to bring the opinions of men of science to bear upon the intelligence of the public.

Such being the great future task of medicine it remains to be considered what are the chief aids to be invoked in its prosecution. To these also Dr. Maudsley devotes much careful thought and lucid argument. In the first place, he recommends the study of the works of the great masters of our art who have passed away, for among them one may always find ideas which have been forgotten through being born into an unready world. "There never was one lost good," sang Browning's Abt Vogler; in the realm of thought Dr. Maudsley holds this to be absolutely untrue, and he quotes Descartes's premature announcement of the inter-relation of organs to prove his point. Secondly, it behoves us to become acquainted with the most recent developments of scientific progress, developments which are occupied with probing the causes of things and not merely with the invention of a cacophonic nomenclature. In this connexion reference may be made to recent advances in bio-chemistry. Now that it is recognized that every cell in the body is capable of modifying the working of the whole machine, that it has its own internal secretion, that it takes something from and returns something else to the common stock, research alike into the causes of decay and the means of corroboration must follow. Some progress in this direction was recorded in the recent Croonian lectures before the Royal College of Physicians, and there can be little doubt that scientific attention will now be keenly turned in this direction.

Finally, Dr. Maudsley reminds us in solemn language that whatever may happen hereafter, vices and sins committed upon this earth are expiated here either by the offenders or by those who are vitally bound up with them. From this law there is no escape; he who does not live rightly injures himself and vitiates the race.

THE ADDRESS IN SURGERY.

THE Address in Surgery delivered before the general meeting of the Association on Wednesday by Mr. C. J. Bond, Surgeon to the Leicester Infirmary, will be widely appreciated by the profession as a valuable and much-needed stimulus in an important direction. Instead of dwelling on recent triumphs of surgical skill, Mr. Bond took as his subject some of the problems in physiology and pathology upon which the surgeon has exceptional opportunities of throwing further light. If surgery is to maintain its present high position it must keep up with the times, and it is as true of surgery as it is of medicine that future progress is intimately dependent upon scientific advancement. The seriousness of this requirement is scarcely appreciated so fully as it ought to be. There are not a few surgeons who are disposed to think that there is no opportunity for pathological and other scientific investigations except in the early days of a man's professional career. They are glad to see the young surgeon of the coming generation win his spurs by the publication of some piece of pathological research, but they recognize only imperfectly how desirable it is that this same spirit of scientific inquiry should be perpetuated throughout the professional career and made to yield further fruits from matured experience. Surgical pathology owes much to youthful enthusiasm; but it has, in the past, owed still more to the deeper insight of men who had already attained the highest position in the surgical world, and its future rate of progress will be very largely dependent on the degree to which leading surgeons invest it with the force and vitality of their own abilities. All surgeons, therefore, will find in Mr. Bond's lecture a valuable object-lesson. He shows them, by his own example, how much the busy practitioner can do towards the advancement of science.

Mr. Bond deals with the intestinal, urinary, genital, and other mucous tracts, and shows, by the ingenious method of inserting sterilized indigo and afterwards recovering particles of indigo from a position higher up in the tract, that there is, under certain conditions, a passage of material in the opposite direction to the normal flow. In cases of colotomy, for example, he finds, by placing an indigo suppository in the rectum and afterwards searching for indigo in the colotomy wound, that there is an upward current capable of carrying the insoluble foreign particles of this material along the bowel and taking about twenty-four hours to pass from the anus through the sigmoid flexure to the colotomy opening. In another case, where there was a caecal fistula, he found that the ascending current took about three days to pass from the anus, along the whole length of the large intestine, to the caecum. This last case is of particular interest as the faecal current was not wholly diverted from its normal course and the bowels were undergoing brisk downward peristalsis, the effect of an aperient during the ascent of the indigo. In seeking for an explanation of these very interesting phenomena, Mr. Bond suggests that the particles of indigo are carried up the bowel by a mucous current, and that while a downward current of solid and semi-solid faecal material is going on at the same time, owing to ordinary peristaltic contraction, there is also flowing, either concurrently or intermittently, an upward peripheral mucous stream which closely follows the intestinal mucous membrane, and is capable of carrying minute particles along with it. This upward current cannot, he thinks, be explained as due to a reversal of the normal peristaltic wave, because he has observed it when the downward peristalsis was going on at its normal rate, and also when the bowel was quite empty of faeces. It is a little difficult to form a physiological picture of what Mr. Bond describes as an ascending mucous current. Perhaps the upward ascent of the particles of indigo may be due to the action of those normal contractions of the intestines which were described by Ludwig as "pendulum movements," and were distinguished by him from the downward, progressive peristalsis. The "pendulum movement" is characterized by Ludwig[1] as being "non-progressive and rhythmically recurrent about the same portion of the intestinal circuit." Starling,[2] in discussing intestinal movements, quotes these observations of Ludwig and makes an interesting remark, which is very apposite in the present connexion. "If," he says, "the contents of the bowel are fluid, the mixing effects due to the pendulum movements may predominate to such an extent over the progression due to peristalsis that foreign substances introduced with large enemata into the rectum may travel up past the ileo-caecal valve into the small intestine, or in rare cases may

[1] *Lehrbuch der Physiologie*, Aufl. 2, Bd. 2, p. 615.
[2] Schäfer's *Physiology*, vol. 2, p. 330.

even enter the stomach." At all events, it is difficult to explain the ascent of the indigo except as due to some form of muscular contraction, and it is not easy to understand how sticky material like mucus can form "an upward peripheral mucous stream."

Mr. Bond's observations on the upward passage of inert particles, such as indigo, in the female generative tract are particularly interesting and important. He has succeeded in showing in a large number of cases, where it was necessary for him to operate on the uterine appendages, that when indigo is inserted just within the external os uteri twenty hours or less before operation particles of indigo can be found in the Fallopian tubes, and often on the peritoneal surfaces of the broad ligament, the mesosalpinx, and the fimbriae of the Fallopian tubes. Moreover, it is not even necessary for the indigo to be inserted into the cervix, for, if deposited in the upper vaginal vault he has still found it occasionally in the tubes at the operation. These observations throw an important practical light on the dangers of infective material passing upwards into the body by the vaginal route.

Continuing his experiments on the same lines, Mr. Bond found that when indigo is administered by the mouth, particles of the substance can be recovered from the bile collected from a gall-bladder fistula; and he adduces good reasons for believing that in these cases the indigo has entered the duodenum at the papilla and arrived at the gall bladder by backward passage along the bile duct, and has not reached that viscus by first getting into the blood or lymph stream and then being excreted by the liver. In like manner operations on the urinary tract have given him the opportunity of proving that indigo can pass upwards along the urethra to the bladder and from the bladder to the upper end of the ureter; in all these cases the important associated condition was that the normal flow of urine had been diverted. Another very interesting discovery which Mr. Bond records is that if indigo be applied to the nipple, previous to the removal of the mammary gland by operation, an examination of the excised tissue will reveal particles of indigo in the deeper parts of the mammary gland, along the lacteal ducts. These observations, as he points out, are highly suggestive of the likelihood that infective organisms may travel into the interior of the gland by the same route.

Putting together the general results of his observations, Mr. Bond maintains that he has established beyond all reasonable doubt the fact that under certain conditions minute insoluble particles can travel along mucous canals and ducts in the reverse direction to that of the normal flow. The conditions which favour this passage he regards as being, first, some interference with the normal flow of the mucous tube or duct, and, secondly, some arrest or diversion of secretion such as is produced by a fistulous opening; though, he points out, it is by no means necessary that this arrest or diversion should be complete. Every one who heard the address, and all who read it, must admire the able and lucid manner in which Mr. Bond dealt with his subject.

In considering the agency by which this transference of foreign particles is brought about, he shows that it cannot be due to ciliary action, because cilia are absent in the lower genital tract, in the intestinal and urinary tracts, in the biliary ducts, and in the ducts or glands opening on the skin. Nor does he accept a theory of reversed muscular contractions, because such a reversal has never yet been demonstrated in the bile ducts, urethra, ureter, Fallopian tubes, or the ducts of glands. He inclines to a "mucous backwater" theory, an explanation which regards "the mucus which coats the walls of the tube or duct, as the vehicle in which the particles are carried." We feel that this explanation, owing to the physical characters of mucus, is not without its difficulties, and we are inclined to think that, if only more were known about the physiology of the muscles in the various tracts referred to, muscular action, not necessarily reversed action but action at right angles to the long axis of the tract, after the analogy of the intestinal "pendulum movement," would be found to be an important factor.

THE ANNUAL MEETING.

The annual meeting of the British Medical Association at Leicester this week has been fortunate in the matter of weather. The attendance in the Sections has been well maintained. The total number of members who had registered their names down to midday on Thursday was 850.

The town is very full, as in addition to the annual meeting of the Association there is some horse-racing in progress. During the latter days of the week there will be a fresh diversion in this direction, as an important county cricket match will be in progress, and there will be an influx of the cricket-loving world. The appearance of Leicester seems to have made an excellent first impression on its visitors. It is very clean, and there appear to be fewer quarters of the nature of slums than is usual in so large a town. That it is spreading rapidly is obvious, but the new streets are well laid out, and the Corporation has preserved plenty of open spaces, including at least three parks. The town is easy to explore, as the electric tramway system is very complete and admirably arranged. The fares are very low, and one penny seems to frank the passenger for an endless distance. These tramways must form no small factor in the health assets of the town, for a long ride on the top of a swiftly-moving car is a tonic of decided value, and in Leicester it is within the reach of the very poorest. An excellent rule is in force, which confines smokers to the rearmost seats on the top, those in front of the trolley-post being reserved for non-smokers. Those in search of air can thus get it undiluted by the smoke of foul pipes and indifferent cigarettes. The regulation is one which should be imitated by the London County Council.

Religious Services.

At the service held at St Martin's Church, Leicester, on Tuesday afternoon, at 5 p.m., there was a crowded congregation. A long procession of the choir, clergy, the Mayor of Leicester, accompanied by the Town Clerk, the President of the Association and the two local secretaries in academic costume, the Bishops of Peterborough and Birmingham, moved up the aisle singing Psalms cxxii and cxxv. On arrival at the chancel the Collects for the 5th Sunday after Trinity and St James's Day were intoned, and the anthem "The Wilderness" (Sir J. Goss) was rendered by the choir. The sermon was preached by Dr. Gore, the Bishop of Birmingham, who first recited the Bidding Prayer, and the congregation joined in the Lord's Prayer, with which the Bidding Prayer ends. The Bishop chose as his text Ecclesiasticus xxxviii, 9th and following verses, and St. James v, 14: "Is any sick among you? Let him call for the elders of the church; and let them pray over him, anointing him with oil in the name of the Lord: and the prayer of faith shall save the sick, and the Lord shall raise him up." The preacher said: If a minister of the Gospel of Jesus Christ was still summoned to speak to a congress of the medical profession, it must be because they still recognized that man's nature was spiritual, compounded of body and of spirit, to serve a spiritual purpose; it must be because in that age of marvellous scientific progress they still recognized that man required to be ministered unto,

his nature required to be healed morally and spiritually as well as physically. The ruler and reformer, thinker and artist, physician and teacher, and priest stood side by side around the couch of sick humanity, ministering to his recovery. One of the oldest Christian hymns called God "the persistent energy of the whole universe." Man's nature was created to co-operate with that Divine will and law, and he was dependent for his resources upon the Divine supply. To the progress and recovery of mankind they all in their different ways were set to minister. The physician studied the body of man, that marvellously complex and elaborate and delicate organism; its different parts, the different surroundings of man, and the reaction upon him. The politician and social reformer had their fields of labour in inquiring into history and social influences, and the artist, again, like the physician, was concerned in the body of man, but from a totally different point of view. The priest had to deal with a man's soul, and his capability of fellowship in God, and they had to develop that fellowship. All these were different points of view—legitimate and right—and, more than that, it required the whole faculties of man for the study of one of the various departments. They must be specialists in their own line, but unless they qualified deliberately their specialism, their different points of view would become antagonistic. The physician had to devote his whole time to his special point of view. The Christian teacher took the highest view of man's corporate life. On the part of religion he wanted a sanitary and social education in every way and in all directions. It had been pointed out to them that the Church was a failure, but what was the cause of that failure? It was to be found in the social condition and physical condition of the vast proportion of the population. Heredity, he said, acted upon social environment in which children were born, which left a profound effect upon character. He wanted the Church to develop sanitation and social science: he wanted scientific organization of social work, and of the laws regulating sanitary matters. It must be the experience of very many of them to witness the extraordinary powerlessness of physical social remedies, also the transcendent power of conversion. They recognized how powerless social reform and legislation were unless the will of man was right with God. The Bishop pleaded also that the medical profession should renew the recognition of the spiritual ministry. Referring to the service for the visitation of the sick, he said it was traditional that a clergyman should be sent for, and yet, unless he was very much mistaken, and especially in educated circles, they were in great danger of being practically ousted. He had sometimes heard it said that the Roman Catholic priest knew how to attend at the bedside of the sick, and the Anglican priest did not. If that were so, let them be trained. He was not ashamed to learn, but as they showed themselves fit, let them have a chance to exercise their powers. It was the priest's place to be by the bed of sickness, and he could not conceive any greater cruelty than that of withholding from the soul of man the knowledge of whither he was going and the chance of preparation. A great deal of nonsense was talked nowadays in the name of faith-healing, but it was the duty of both the clergy and the medical man to be at the sick-bed. He urged that there should be co-operation between the clergy and the medical profession; let them recognize one another. Humanity required them all for its progress and recovery, so that mankind might be preserved—body, soul, and spirit—to all eternal purposes. During the singing of the hymn, "O Thou, through suffering perfect made," a collection was taken, the proceeds of which were divided between the British Medical Benevolent Fund and the Royal Medical Foundation of Epsom College. The "blessing" was pronounced by the Right Rev. the Lord Bishop of Peterborough. The attendance at the Roman Catholic service was naturally smaller, but was also good in comparison to the size of the church. The form of service selected was excellent. The initial hymn was followed by a well-sung anthem, and this by the sermon. The preacher was the Rev. H. Reader, who gave a short and simple-worded but eloquent address dealing with the nature of life. In the course of it he pointed on the one hand to the reckless waste of life from avoidable causes such as war, and on the other to the striving for its preservation and improvement by medicine, therapeutics, and preventives. The aims and objects of medicine were in their essence divine, and as a science medicine was essentially good and absolutely necessary. The same could not be said without qualification of all sciences alike. The formal observances of religion were often difficult for medical men, but in their case it might correctly be said *laborare est orare* if they ever remembered the truly high nature of their calling both in regard to their own lives and their influence on the minds of their patients. The sermon was followed by the singing of "Lead, Kindly Light," the service terminating with the Benediction of the Blessed Sacrament.

Election of Chairman of Council and Treasurer.

The Chairman of the Council of the British Medical Association is elected annually, but it has long been the custom that he should hold office for three years. Mr. Andrew Clark, who, after holding the office of Treasurer for the usual period of three years, had three years ago been elected Chairman of Council, was succeeded on Tuesday by Dr. Langley Browne of West Bromwich. He was elected by a unanimous vote of the Council. Dr. Langley Browne has been one of the Representatives of the Birmingham Branch on the Central Council since 1893, and was Chairman of the Pathological Section at the Birmingham meeting in 1892. He has been a member of the Journal and Finance Committee, of the Premises and Library, and of the Medico-Political Committees, and his election to be the Chairman of the Council is sufficient proof that his services in these various capacities have been highly appreciated by his colleagues in the Central Council. The estimation in which he is held in the district in which he resides is further shown not only by the fact that he was President of the Birmingham Branch in 1894, but also President of the Midland Medical Society of the Birmingham General Practitioners' Union, and that he has been a member of the Council of the Birmingham Medical Institute, and a Director of the Birmingham Medical Society. He has been a member of the Town Council of West Bromwich, and Chairman of its Sanitary Committee and of the Free Library Committee. He is also a life member of the Court of Governors of the Birmingham University, and one of its earliest graduates. He has also held the office of President of the Association of Certifying Factory Surgeons. Dr. Radcliffe Crocker, who was elected Treasurer of the Association at the General Meeting on Tuesday, also has a long record of work in the service of the Association. He was for three years Honorary Secretary of the Metropolitan Counties Branch, of which he was President last year. He was elected a representative of the Branch on the Central Council in 1889, and became a co-opted member last year. He is at the present time Chairman of the Marylebone Division and of the Special Chloroform Committee.

Co-option of Members of Council.

At the meeting of the Council on July 25th six vacancies for co-opted members were declared. The result of the ballot was the election of Professor Osler, Mr. Edmund Owen, and Professor Saundby.

Medico-Political and Ethical Committees.

At the close of the session of the Representative Meeting on Wednesday the Chairman declared that the six members elected to serve on the Medico-Political Committee for the ensuing year were Dr. J. A. Macdonald (West Somerset Branch), Dr. McManus (Wandsworth Division) Dr. Latimer (Swansea Division), Dr. Oldham (Lancaster Division), Mr. George Jackson (Plymouth Division), and Mr. H. W. Arnit (Hampstead Division); and that the five members elected to serve on the Ethical Committee were Mr. H. A. Ballance (Norwich Division), Dr. A. G. Bateman, Dr. Langdon Down (Richmond Division) Dr. G. H. Broadbent (Manchester, North Division), and Dr. E. Jepson.

The Annual Meeting of 1906.

An invitation to hold the Annual Meeting of the British Medical Association next year in Toronto presented by Dr. Cameron, was cordially accepted by the General Meeting of the Association on Wednesday.

Invitation for 1907.

An invitation was received on Wednesday to hold the annual meeting of 1907 in Bradford. In accordance with precedent, the formal decision was deferred until next year.

President's Address.

On Tuesday evening the President, Mr. George Cooper Franklin, delivered the address which is published at page 221 before a crowded audience in the Opera House. On the platform were Sir William Broadbent, Sir Charles Ball, Sir Victor Horsley, Sir Constantine Holman, Sir James Sawyer, Professor Clifford Allbutt, Professor Osler, Dr. Langley Browne, Dr. Radcliffe Crocker, Mr. Andrew Clark, Dr. Beverley, Dr. Griffiths, Dr. Groves, and the members of all the local executive committees. After some introductory remarks from the Mayor of Leicester, Dr. V. Astley Clarke, amid great applause, pinned on the President's breast a gold badge presented to him by the members of the Midland Branch. A vote of thanks proposed by Sir William Broadbent was carried by acclamation.

Foreign and Colonial Guests.

The foreign and colonial guests were then formally welcomed by the President and the Chairman of Council. Among them were Professor Howard Kelly, of Baltimore; Professor Wertheim, of Vienna; Professor Karl Hess, of Würzburg; Professor Hartmann, of Paris; and Professor Cameron and Dr. Charles Reilly, of Toronto.

Presentation of Gold Medals.

The President next presented the gold medals of the Association to Sir Constantine Holman and Mr. Andrew Clark, accompanying the presentation in each case with a felicitously-worded review of the great services rendered by the distinguished men whom the Association delighted to honour.

Annual Representative Meeting.

The Annual Representative Meeting held two sessions on Monday, two on Tuesday, and two on Wednesday. The meetings were held in the hall of the Young Men's Christian Association, and every Representative was provided with a numbered seat and table, an arrangement which undoubtedly facilitated business. A large part of the time of the afternoon session on Monday was taken up by the discussion of amendments of Standing Orders. The mode in which nominations to Standing Committees should be made led to a somewhat prolonged discussion, and as the result of the decision eventually arrived at the list of nominations was in the hands of the Representatives during the morning session on Wednesday—an alteration in procedure which constitutes a great improvement. The proposal to apply for a Royal Charter was opposed in a spirited speech by Mr. Armit, mainly, as will be seen, on the ground that the first application would entail a large expenditure, and that if alterations were subsequently desired every supplementary charter would again necessitate a large expenditure. In reply, the Solicitor stated that unless there was serious opposition to the Charter the expense would not be heavy. Finally, at the close of the afternoon session on Monday, Mr. Armit's amendment was lost by 61 votes to 49. On the resumption of the meeting at 8 p.m., the motion of the Chairman of Council that the Representative Meeting should issue the necessary authority for the application to the Privy Council for a Royal Charter for the incorporation of the Association was carried, a vote by card being taken for the first time in the history of the Representative Meeting. At a later hour in the evening the result was declared to be 9,453 votes for the motion and 2,526 against. At the request of a Representative, the Chairman stated that the number of Representatives voting was 87 for and 25 against. It will be observed that the proportion does not differ very largely from that given by the vote by card. The consideration of the report of the Medico-Political Committee on contract practice published in the Supplement last week occupied much of the time of the evening meeting, and it was resolved to refer it to the Divisions for their consideration. It is therefore desirable that members should preserve the copy of the report received with the Journal last week. It was suggested that members of the profession residing in the area of any Division who may not be members of the Association should be invited to attend the meeting of the Division at which the report is discussed, and copies of the recommendations of the Medico-Political Committee with regard to contract practice will be sent to all members of the profession. Again this year the meeting has gone to work in a very business-like way, and has loyally supported the Chairman, who has once more shown his power of combining *suaviter in modo* with *fortiter in re*. There were practically no incidents, and very few jokes. The best, perhaps, was provided without deliberation by the vote of the meeting with regard to smoking. At the first session a motion sent up by the Blackburn Division, "That smoking be not allowed during such time as the Chairman is in the chair," was adopted on a division by a rather small majority. But on that and each subsequent day when the craving became too strong the smokers carried a motion to suspend the Standing Order, and smoked, so that everybody was satisfied. At the end of the session on Wednesday a conversation took place as to the future arrangements for the Representative Meeting during the Annual Meeting. Several Representatives expressed their disappointment that a meeting had been held on Wednesday morning, thus preventing them from attending the Sections. A proposal was made, but rejected, that the Representative Meeting should be held independently of the Annual Meeting. Another suggestion was that the Representative Meeting should begin in the week before the Annual Meeting; another that the meetings should be held also in the evenings of each day of the Annual Meeting until the business was finished. Finally the matter was left without alteration. As a matter of fact, the question will not arise next year, as the Annual Meeting is to be held in Toronto. This will render it necessary to hold the Representative Meeting beforehand in England. Various propositions were made as to the place of meeting—Toronto, Edinburgh, Liverpool, Manchester, and London being mentioned. Finally, it was resolved that the meeting should take place in London at the end of July. The Annual Meeting at Toronto will take place in the last week of August.

The Supplement of this week contains a detailed report of the proceedings of the Representative Meetings on Monday and Tuesday, but we are compelled to defer the report of the subsequent proceedings to a later issue. The Representatives assembled on Wednesday at 10 a.m., and proceeded with the consideration of notices of motion affecting the Representative Meeting. A motion from the Wandsworth Division to provide that where the British Medical Association is given by an Act of Parliament or otherwise a representative position on any permanent Board or Council, the election of the Representative should rest with the Representative Meeting was carried, and the Council was instructed to prepare a scheme to meet such contingencies. The motion of the Manchester West Division, expressing the opinion that the Association would be benefited by more Council meetings, to be held alternately in London and the provinces, was negatived. The motion by the North Manchester Division to give the Representative Meeting the power to elect not less than four nor more than six members of the Central Council was carried, and another made by the Salford Division expressing the view that the proceedings of the Central Council ought to be published in as much detail as those of the Annual Representative Meetings in order to stimulate interest in its doings was lost. The proposal of the Bradford Division that the Council should, on the application of any Division of over fifty members, dele-

gate the power of election of members to the Association to that Division, subject to the right of appeal to the Council, was lost. On the motion of the Stratford Division, the Council was asked to consider the advisability of providing a scheme for the affiliation of local medical societies with the British Medical Association. At the suggestion of the Bradford Division the Council was empowered, after making due provision for expenditure necessary to carry out other objects of the Association, to make grants from the central funds to Divisions or Branches on the advice of the Organizing Committee. A motion made on behalf of the Dundee District expressing the opinion that for facility of reference and to relieve the space of the JOURNAL the proceedings of the Annual Meeting should be published separately as transactions was discussed at some length and lost on the show of hands by a large majority. It was decided on the initiation of the Wandsworth Division that the SUPPLEMENT of the JOURNAL, containing as it does the private business of members, should not be issued with the JOURNAL except to members. A series of resolutions proposed by the Furness Division with regard to the amendment of the Midwives Act led to a prolonged discussion. The first proposed—

> That as no adequate provision is made for excluding ignorant women, the most fruitful causes of septic infection, up to the year 1910; and that, as no adequate provision is made to ascertain that those put on the *Register* have any skill whatever; these should not be placed upon the same *Register* as those later ones who have presumably had some training, or, at any rate, have passed an examination.

This was carried, as was also another expressing the opinion that control over drugs should be withheld from those midwives who have not passed an examination. The motion criticizing the constitution of the Midwives Board, on the ground that it did not contain a sufficient number of general practitioners, was carried, as was also another expressing the opinion that the provision for enforcing the rules regulating the practice of midwives was not adequate. The meeting further resolved that it should be made known to the public that a medical man is not compelled to attend when summoned by a midwife; but a further clause—expressing the opinion that a medical man is justified in refusing to attend cases of septic poisoning in the interests of the public as long as adequate provision is not made for the exclusion of women who had passed no examination—was rejected. A resolution, proposed by Dr. Wolstenholme on behalf of the Salford Division, to the effect that inasmuch as the only legislation existing (according to a communication from the Local Government Board to the Manchester Medical Guild) which enables local authorities to pay fees to medical men when summoned under the Midwives Act to assist midwives is permissive in character, the Government be requested to take the necessary steps for amending the Midwives Act by introducing a section, or otherwise, ordering local authorities to pay such fees, was referred to the Medico-Political Committee. The meeting adjourned at 1 o'clock till 3.30 to afford the Representatives an opportunity of hearing the Address in Medicine.

During the afternoon session the remainder of the business on the agenda was got through. Among other resolutions adopted was one calling attention to the unsatisfactory state of the *Medical Register*, and another condemning the canvassing or any other method of advertising for obtaining members for any institution providing medical attendance on contract or provident principles. On the motion of Dr. Wynne, Representative of the Leigh Division, Lancashire, the meeting expressed its concurrence with the view of the medical men in the district with regard to the proposal to provide an out-patient department in connexion with the hospital there. Dr. Wynne explained that the circumstances of the inhabitants of Leigh rendered any such department unnecessary, and the meeting resolved to recommend that no member of the profession should take any appointment under the Committee of the Leigh Infirmary until it consented to meet the wishes of the medical men in the locality. Subsequently the motion standing in the name of the West Bromwich Division to the effect that, in the opinion of this meeting, it is not advisable for the British Medical Association to undertake medical defence in competition with the existing defence societies was carried on a division by a small majority, the numbers being 50 for and 43 against.

The report on contract medical practice published last week was, after a prolonged discussion, referred by the Representative Meeting on Monday to the Divisions, with a request that it should be considered at the first opportunity. Every member of the Association is therefore requested carefully to preserve the copy of the report which he received with the JOURNAL last week, until the matter has been considered by his Division. The cost of printing the report was very considerable, and the meeting did not think it would be necessary to reprint it.

THE SECTIONS.

BRIEF SUMMARY OF PROCEEDINGS.

THE character and scope of the work of the different Sections will appear from the following short summary of the proceedings. A full report of the discussions and of the various papers read in the Sections will be published in due course.

Wednesday, July 26th, 1905.

SECTION OF MEDICINE.

AFTER some introductory remarks by the President of the Section, Dr. F. M. Pope, Sir Lauder Brunton opened a discussion on the treatment of sleeplessness and pain, referring first to the physiology of the living cell and of the living nerve cell. In sleep there was probably a break in the continuity between the cerebral cells and those by which the organism was brought into relation with the outer world, situated possibly in the basal ganglia. This interruption was probably due to the accumulation of waste products in their vicinity. The influence of the circulation on sleep was discussed, both in relation to contraction of the arteries and to excessive cardiac action. Where rigid arteries were a cause of insomnia the use of massage and the administration of potassium iodide were of especial value; if the insomnia were due to high arterial tension, then aperients like blue-pill and magnesium sulphate were of special use, and this might be combined with the administration of nitrites, phenacetin, and other substances with like effect; if cold feet were the cause, cold affusion followed by dry rubbing was advisable; if dryness of the skin, warm sponging; if indigestion, especially with acidity, the use of alkalies internally and such diluents as warm water. In such cases of indigestion and in others a little moderately-warm food was the best remedy; and if the insomnia were due to acceleration of the heart's action by fever, the wet-pack or cold sponging was indicated. The action of such substances as tea and coffee in relation to sleep was discussed, and of alcohol in helping the linking on of other substances to the nerve cell; thus urethane—an alcohol and urea—was valuable. Chloral, the depressing effect of which on the heart was usually a drawback, was of special use for gouty people whose blood pressure was high. The value of sulphonal, trional, and tetronal, the latter being probably the less useful, was discussed, also that of valerian as a sedative, that of opium both as a direct hypnotic and indirectly as an analgesic, and of the internal administration of alkalies. For periodic headaches he had found a combination of sodium salicylate and potassium bromide of great service. Professor Cushny limited his remarks to the hypnotics. They might in large doses lower the bodily resistance to disease, but so did sleepless-

ness itself. The ideal hypnotic was yet to be found. The depressing action of chloral on the heart and tissues had been over-estimated in its degree and importance; a similar influence belonged to all the chlorine hypnotics, but chloral still remained the best of them. Of the sulphur hypnotics, sulphonal was uncertain in its action and caused tissue changes, as evidenced by haemato-porphyrinuria; sulphonal and trional, he believed, were the most dangerous of all now in use. Urethane was good, but it had to be used in very large quantities. Veronal acted with comparative certainty, in small doses, and without deleterious effects. It seemed to him to be the best of the non-chlorine hypnotics, and to rank with chloral before all the others. He considered that hyoscyamus and hyoscine should be used with caution; the racemic form of hyoscine seemed to be less liable to produce untoward effects, and was of equal hypnotic value. The active principle of cannabis indica, especially if combined with bromide, might prove of service. If acute pain were present, opium was usually required, but if it arose from the nervous system itself and not from acute inflammations, the antipyrin group might serve instead. Sir William Broadbent emphasized the importance of identifying the cause of the sleeplessness before giving drugs. It was very important to be on the look-out for indigestion as a cause of sleeplessness; its influence was often largely mechanical, and a drink of water, by displacing a few cubic inches of gas, might be effective. For high arterial tension as a cause a calomel pill was the best remedy; it often induced sleep long before acting on the bowels. He uttered a warning as to the establishment of drug habits, and considered that the depressing effect of chloral on the heart was especially evident in such lung conditions as emphysema and bronchitis. Dr. Hale White believed that insomnia was sometimes dreamed by patients. He referred to the sleeplessness due to worry, to indigestion, to excessive exhaustion, and to the effect of previous acute febrile disease. Where the disease was incurable and of short duration, as in cancer, or self-limited, as in pneumonia, hypnotics and analgesics were indicated. Where it was incurable and prolonged, as in tabes, morphine should not be given. The usefulness of alcohol as a hypnotic he believed to be exaggerated: too much had to be taken to produce a depressing effect; a little warm food was preferable. Chloral was good, except in the presence of sickness; chloralamide especially good in heart disease; paraldehyde and hyoscine where there was delirium or mental aberration, and heroin where there was coughing. Dr. W. Collier alluded to school pressure as a cause of insomnia. Dr. A. Foxwell emphasized the importance of circulatory insomnia; if due to low blood pressure he gave a full dose of strychnine; he had found dormiol and veronal of value. Dr. Bertrand Dawson referred to the need for local anodynes of persistent effect, and mentioned favourably orthoform and anaesthesin in conditions of superficial ulceration. Dr. F. M. Pope thought paraldehyde of special service in chronic alcoholism. Dr. W. Hadley read a paper on the diagnosis of the varieties of pleural effusion, especially of the tuberculous form, which was discussed by Professor Osler; and Dr. W. B. Ransom read one on the influence of the recumbent posture in eliciting adventitious pulmonary sounds.

Section of Surgery.

After some introductory remarks by the President, Sir Charles Ball, a discussion on the surgical treatment of non-malignant diseases of the stomach was opened by Mr. B. G. A. Moynihan (Leeds). He discussed the subject under four heads: (1) Acute perforation of gastric and duodenal ulcer; (2) haemorrhage from ulcers; (3) chronic ulcer of the stomach; (4) hourglass stomach. In cases of acute perforation of an ulcer he did not practise excision of the ulcer, but was not sure that this was the best practice; possibly the after-condition of the patient was better when the ulcer was excised. He considered lavage unnecessary in recent cases. When the case was met with in the early stages, and the general condition of the patient was consequently good, some reparative operation, such as gastro enterostomy, was indicated, particularly when the ulcer involved the pylorus or duodenum. He considered that operation for haemorrhage was particularly indicated in recurring haemorrhage from chronic ulcer; the mortality from such haemorrhages was high. He had operated on 27 cases for the relief of profuse haemorrhage alone; 4 of them died, the mortality without operation in this class of case being about 90 per cent. In operation for chronic ulcer a variety of conditions had to be met; it was of much importance to localize the ulcer before operation if possible. The mortality of these operations was now about 5 per cent., and gastro-enterostomy had resulted in cure in 80 per cent. Hourglass stomach he considered more common than was generally believed, and he discussed its diagnosis. Professor Saundby (Birmingham) stated that many chronic dyspeptics were quite unsuited for surgical treatment; there were two common types—the chronic atonic dyspepsia associated with neurasthenia and the chronic dyspepsia of elderly people associated with defective teeth. His experience was that operation was not commonly necessary for haemorrhage from gastric ulcer. Haemorrhage from duodenal ulcer was often undiagnosed and not remediable by medical means. He thought that in all cases of gastric ulcer medical treatment should first have a fair trial. Professor Hartmann (Paris) preferred posterior gastro-enterostomy for the majority of cases of non-malignant disease. He gave details of the operation he performed. His failures had occurred in hysterical patients. He did not think that haemorrhage was often an indication for operation. Dr. J. M. Finney (Baltimore) confined his remarks to the special operation of pyloroplasty which he practised. He considered that this operation was possible in practically every case of pyloric obstruction. He agreed that cancer frequently supervened on chronic ulcer. The freeing and mobilization of the pylorus and duodenum be looked upon as an essential part of his operation. Mr. Mansell-Moullin (London) considered that a patient who had had one or two serious haemorrhages from the stomach should not be subjected to the risk of another, but should be treated surgically. He thought that an ulcer should be always excised when possible. Mr. F. S. Eve (London) thought it difficult often to decide whether the cause of haematemesis was ulcer or erosion. Mr. Bruce Clarke (London) stated that in his cases of acute perforation the effused gastric contents had been shown to be bacteriologically sterile in the great majority of instances. Mr. F. C. Wallis (London) advised that when there was any difficulty in finding a perforation the stomach should be opened and examined from the inside. Mr. R. Morison (Newcastle) thought that pyloroplasty was the operation of choice for pyloric obstruction. Mr. C. B. Keetley (London) attached much importance to drainage of the pelvis in acute perforation cases. Mr. Deanesly (Wolverhampton) did not agree that ulcer near the pylorus was usually attended with pyloric obstruction. Mr. L. Bidwell (London) held that there were points in favour of anterior gastro-enterostomy, particularly when the stomach was much dilated. Mr. A. B. Mitchell (Belfast) thought that infolding of the ulcer was all that was necessary in cases of acute perforation. Mr. Moynihan, in reply, said he considered that pyloroplasty was dead; he preferred the posterior operation of gastro-enterostomy. Mr. Leedham-Green (Birmingham) read a paper on some further experiments on the sterilization of the skin. Dr. Pearson discussed the paper, and gave some account of his own observations. Dr. T. G. Atkins (Cork) read an account of a case of acute gangrenous appendicitis in which the cause of death was acetonaemia.

Section of State Medicine.

In this Section the President (Dr. Boobbyer) delivered an opening address on some of the disabilities of the public health service, in which he compared the tendency "to muddle through" with that same tendency as it existed elsewhere. He illustrated his point by reference to the

drawing up of annual reports by medical officers of health, the lack of uniformity in the action of the Local Government Board, and the constant transition of opinion owing to experimental work in preventive medicine. He recommended the establishment of an association of lay administrators and experts in order to discuss bases of public-health action, and for the purpose of propagation of information amongst local authorities. The first discussion, devoted to the question of hospital isolation, was opened by Dr. George Wilson, Medical Officer of Health of Mid-Warwick, who submitted a number of comparative statistics which in his view showed that districts without hospital accommodation had, in respect of scarlet fever, a lower incidence-rate than districts provided with such accommodation, while mortality-rate was about equal. In districts without hospitals, more than half the cases notified were, he said, single cases, and this applied to districts with hospitals when prevalence of scarlet fever outstripped hospital accommodation. If school age were raised to 5 years, there would be much less prevalence of scarlet fever, and also of diphtheria, whooping-cough, and measles. The opener maintained that hospital isolation as a preventive check, more especially in respect to scarlet fever, was practically valueless, reducing neither the fatality nor virulence of the disease. In villages and scattered rural districts the needs of hospital accommodation could be greatly lessened, and at a much cheaper rate, if sanitary authorities were empowered to provide nursing and to pay compensation when the bread-winner was debarred from following his or her employment. He advocated a full inquiry into the whole question by the Local Government Board. In regard to small-pox, he expressed the view that hospital isolation was desirable so long as vaccination was incomplete. Dr. T. Whiteside Hime furnished tables from the statistics of various towns illustrating the "failure" of preventive measures and controlling power to reduce the incidence of notifiable disease. Dr. J. E. O'Connor read a brief paper upon some recent returns as to the isolation of infectious diseases in some of the rural districts of Leicestershire further to illustrate the view that the incidence of scarlet fever in districts having hospital isolation accommodation is greater than in those without any such accommodation. Dr. F. H. Waddy followed with a paper resulting in similar conclusions from facts and figures collected in Sheffield. Arguments in support of hospital isolation as a practical measure were brought forward by Dr. Sidney Marsden, Dr. Cooper Pattin, Dr. Spottiswoode Cameron, Professor W. R. Smith, and others. These speakers drew attention to the relativity of virulence of scarlet fever, the disabilities of hospital isolation as carried out under the regulations of the Local Government Board, the disadvantages of "isolated aggregation," the importance of avoiding discharge of infective persons, present lack of knowledge respecting the etiology and even channels of infection in scarlet fever, the failure to isolate many infective cases and carriers of infection, the fallacies arising from the comparison of statistics only without a careful consideration of collateral facts and circumstances. At the conclusion of the discussion the President spoke strongly in favour of hospital isolation, and summarized many of the arguments in support of it. Dr. George Wilson replied, and moved the following resolution, which was seconded by Dr. C. Killick Millard, and carried:

> That as some doubt has arisen in respect to the value of hospital isolation as a preventive measure in checking the spread of scarlet fever and diphtheria, and in view of the great expenditure of public money which the provision and maintenance of isolation hospitals for these two diseases entails, it is highly desirable that a full and exhaustive inquiry into the whole subject should be carried out with the object of collecting and analysing the large amount of statistical and other evidence now available; and that the Local Government Board, as the central authority, be respectfully requested to institute such inquiry.

INDUSTRIAL HYGIENE.

A DISCUSSION on Physical Deterioration was opened by Dr. Dawson Williams, who produced several tables showing that after the 8th year of age the weight of boys of the artisan classes was very much below the average, especially in the lowest grade schools. He attributed this deterioration to various causes—improper feeding in infancy, mothers among the poorer classes working hard up to the time of their confinement, and intemperance in fathers, which was said by French authorities to be more injurious to children than maternal intemperance. He also mentioned that in London a large number of children sat out of doors till midnight, which involved a large expenditure of nervous energy. He suggested that the medical profession should undertake to collect materials for the further elucidation of this subject. Dr. William Hall (Leeds) read a paper on the Influences of environment on Physical Development. He mentioned the recent statement by a distinguished alienist that environment would knock heredity into a cocked-hat. He pointed out that 40 per cent. of our poor to-day were rickety. Fifty years ago the slum mother was much more sober, cleanly, and domestic than she was now. She was better nourished herself, always suckled her children, and after weaning them gave them nutritious bone-making food, prepared at home. This had all been done away with by the elaborate education system costing 20 millions yearly. Children were now fed on cheap stale food, well seasoned with condiments, which educated them to a love of stimulants in later life. Jewish children in the slums were superior to Christian, as their mothers were better cared for during pregnancy, and 90 per cent. of them suckled their own infants. Later on Jewish children were fed on bone-making material, especially eggs and oil, fish, fresh vegetables, and fruit. Professor J. Anderson, of Galway, thought it would be a very important thing to secure a complete anthropometric survey of the British Isles. The clergy ought to do more than they do to assist in improving the condition of the lower orders. Mr. W. D. Spanton considered that the most prominent causes of physical degeneration were educational high-pressure, cigarette smoking in youth, the love of pleasure, and ergophobia in all classes. Mrs. Dickinson Berry, M.D. (London), considered that children in London schools were improperly fed rather than underfed. She quite endorsed the remarks of Dr. Hall about Jewish children. Dr. Chalmers Watson (Edinburgh) emphasized the importance of fresh facts being sought from the standpoint of experimental medicine, and referred to experiments on diets which he had made in Edinburgh. Dr. V. H. Rutherford (London) recommended the more general teaching of hygiene, and urged the appointment of a Minister of Public Health. The President said that in his district the development of children at the age of 13 was better than it was 30 years ago, but not so good after that age. This he attributed to better feeding of the young, and to cigarette smoking, and to some extent drinking, in boys above 13, and to love of dress in young women, causing them to spend more money on dress and less on food. Business for the day concluded with a paper by Dr. John Strachan, on School Life as a Cause of Physical Degeneracy. He condemned high pressure in schools. He said he considered that the employment of either punishment or prizes, as applied to brain work at school, should be absolutely forbidden.

SECTION OF LARYNGOLOGY.

PROCEEDINGS in this Section commenced with a short and interesting address from the President, Dr. F. W. Bennett of Leicester, who gave a warm welcome to the members present. He gave an outline of the progress of laryngology in Leicester, giving figures showing the great increase in the numbers applying for treatment. He discussed the importance, from a national point of view, of early and proper attention to the sight and hearing, so that every citizen should start life with the best possible chances in the severe competition that lay before him. He spoke of the importance of a due recognition of this by our educational authorities, and stated that the Leicester authorities were about to appoint a medical officer to inspect the children, so that their

parents might be informed and any trouble remedied. Dr. Milligan (Manchester) read a paper on the lines of treatment in preventing acute middle-ear suppuration from becoming chronic. In this connexion he referred to the structural and developmental characters of the middle-ear area, and showed the anatomical connexion of the different bony and soft parts, and said that treatment should aim at cutting short inflammatory process before exudation occurred, at preventing sepsis if the inflammation persisted. He instanced the possibility of septic infection owing to the use of Politzer's bag. He believed in an early incision of the membrana tympani, with all antiseptic precautions, and gave statistics showing its value. After a free paracentesis, and when a bacteriological examination revealed streptococci or Pfeiffer's bacilli, he would advocate immediate posterior external drainage, considering that absence of elevation of temperature, of pain and vertigo, did not contraindicate operation. He regarded an accelerated pulse as of more value than rise of temperature. He advised the removal of any coexisting disease of the nasal and postnasal cavities after the temperature had fallen and remained normal for five days, in the meantime using antiseptic sprays and lotions. Mr. E B Waggett then read his paper, which followed somewhat similar lines. As to treatment, he believed in aiding and abetting the inflammation as far as it was a wholesome reaction against an unnatural irritant, and in preventing accidents which might produce infection. He drew attention also to the use of antitoxins with reference to the theories of immunity. He administered salicylate of quinine in drachm doses of the liquor every three or four hours for a day or two, and sprayed the postnasal space. He did not believe in politzerization, though many times it could be done with impunity, and might start drainage through the Eustachian tube, but, together with Dr. Milligan, he believed that harm often resulted. He also did not believe in injection of fluids into the middle ear. He believed in early paracentesis and in frequent gentle irrigation with boric lotion for several minutes every hour after paracentesis. He never used Politzer's bag until a fortnight after all redness has passed away. Dr. Ouston considered that the most common cause of acute middle-ear trouble was by direct extension from the nasopharynx or by the lymphatics. Education of mothers was very important, as most cases at their commencement were put down to teething. He emphasized the presence of hypertrophy of the posterior ends of inferior turbinals as a cause of the continuance of aural discharge. He used Politzer's bag when there was an adequate opening in the drum. Dr. Gray thought that the main cause of chronicity was the condition of the general health, and that it was doubtful if paracentesis affected the ultimate result, though it relieved pain earlier. Dr. Thorne thought that insufficient preliminary treatment was the main cause for the necessity of paracentesis. He did not agree with politzerization. Mr. Mark Hovell agreed that politzerization was undesirable in acute inflammation of the middle ear, but thought that incision of a bulging membrane should be performed. He did not agree with routine removal of post-nasal growth in acute otitis. Dr. Lake believed in early post-aural operation and drew attention to the usefulness of anterior perforations for drainage. Early incision was important and one should not wait for a bulging membrane if pain were present. Leeches were very valuable. Messrs. Gray, Mark Hovell, Lake, Holt, Laurance, Jobson Horne, Herbert Tilley, Dundas Grant, and Middlemass also spoke. Drs. Milligan and Waggett replied. The President, in summing up, referred to the need for further definite bacteriological work. He thought that the dangers from politzerization with reference to infection had been rather over-rated, but would certainly advise the disinfection of the bag as a more general practice. Dr. Gray read a paper on the pathological conditions found in a subject who had been deaf during life. Dr. Syme read a short paper on a special forceps he had designed for operation on the maxillary antrum, and showed the instrument in question.

Navy, Army and Ambulance Section.

On Wednesday, July 26th, the proceedings of the Navy, Army, and Ambulance Section were opened by the President, Surgeon-Lieutenant Colonel H. W. Kiallmark, who in his introductory remarks said that, according to Major L. L. Seaman, operations in the war between Russia and Japan were not performed at the front; only first aid was given, and the wounded sent to the base as soon as possible. The three great lessons to be learned from the Japanese lay in their use of the three great life-saving factors—a well-arranged medical commissariat, good transport, and rapid dispatch of the sick and wounded to the base. A paper by Fleet Surgeon C. M. Beadnell on the disposal of our wounded in a naval war was then read; the author hoped in the near future to see specially-prepared locations for the wounded laid down in the primary plans of ships, and that they would be cool, well-ventilated, and unhampered by auxiliary machinery. With uniform types of vessels, and the inclusion of a hospital-of-combat in the original plans, there would be little disagreement amongst doctors in regard to the disposal of wounded in a naval war. The hospital-of-combat should, if possible, be double (one forward, one aft) in the larger vessels, but in vessels of medium size a single hospital-of-combat must suffice. The calculation that 10 per cent. of the ship's strength were liable to be disabled probably erred on the side of under-estimation. Watertight bulkheads and partitions, so indispensable to the modern man-of-war, need not be abolished, but they should, by means of automatic self-closing doors, permit of the moving of the wounded in and out neighbouring compartments. Each hospital-of-combat should be in direct communication with the fighting decks by means of passages distinct from ammunition hoists, and be adequately protected. It had been shown in practice that it was possible by installing a well-protected and well-ventilated place for the wounded to leave the fighting decks unhampered. In regard to hospital ships, they were a *sine qua non* in a modern naval war. A paper by Fleet Surgeon O. W. Andrews, R.N., on the arrangements for treatment of the wounded in action on board H.M.S. *Magnificent* was then read. In this detailed arguments were put forward in regard to the ambulance instruction which should be given to officers and men and in regard to the dressing stations required. Every endeavour should be made to afford first aid to the wounded where they fell, but the fighting efficiency of the ship must not be interfered with. When an action was over the wounded requiring major operations would be removed to the place arranged for operations or to a hospital ship. The next paper was by Fleet Surgeon Thomas Austin, R.N., who dealt with the collection and distribution of wounded in a modern cruiser engagement. The author considered that they must look to the shelter of the casemates assisted by the armoured transverse screens for the protection of surgical stations. The sooner the enemy's fire was subdued the fewer would be the casualties: hence the captains of the guns must not have their primary duties interfered with by devoting any of their time to first aid. Fleet Surgeon E. J. Biden then contributed some remarks and suggestions as to the head-dress of certain ratings in His Majesty's fleet; he thought that, in view of the great changes that were taking place in the work to be done, it would be advantageous if the naval straw hat were more generally worn by the men.

Section of Obstetrics and Gynaecology.

The President, Dr. Herbert Ritchie Spencer, cordially welcomed the guests who were present, and whom he invited to take part in the discussion, alluding particularly to the presence of Professor Wertheim, Director of the Gynaecological Department of the Bettinastiftung at Vienna, and that of Dr. Howard Kelly, of the Johns Hopkins Hospital, Baltimore. He hoped that the subject of the day's discussion would attract the notice of general practitioners, for upon them in the main depended the early recognition, and therefore the successful treatment of cancer of the

uterus; he mentioned also that by the exertions of their Secretaries, Dr. Williams and Dr. Louisa Garrett Anderson, a large and unique collection of specimens had been arranged in the museum for the inspection of the members, and would well repay their attention. He then asked Professor Wertheim to read his paper, an abstract of which has already appeared in the SUPPLEMENT. The paper was illustrated by pictures of the various stages in the operation and diagrams of cases of survival after the removal of glands proved by microscopical examination to have been really involved in the disease. According to the statistics quoted, Professor Wertheim's results were now better even than those of Olshausen, though the latter included cancer of the body of the uterus. Dr. Howard Kelly, in an animated address, eulogized abdominal extirpation for cancer of the womb, and on Professor Wertheim's drawings pointed out the variations in his own method of operation. He specially insisted on the necessity of avoiding much manipulation of the ureter; the abdominal method unfortunately did not enlarge the field of operation, and was not only a difficult operation, but in the hands of the less experienced was not a very hopeful proceeding. An interesting discussion followed, in which Miss Aldrich-Blake, Mr. Skene Keith, Mr. Cuthbert Lockyer, Mrs. Scharlieb, Dr. John Campbell, Professor Briggs, Dr. F. J. McCann, Dr. Herbert Snow, and Dr. Inglis Parsons took part, many of the speakers using prepared notes. Dr. Rosenwasser, of Cleveland, Ohio, who had recently had the opportunity of seeing Professor Wertheim's work, said that having done so he felt quite prepared to adopt this operation with confident hopes of success. Dr. Forbes Ross remarked upon the way in which opinion had varied since the Oxford meeting last year, when Olshausen advocated vaginal operation. Miss Thorne suggested that the danger of prolonged anaesthesia in the Trendelenburg position was largely one of fatigue to the patient—especially fatigue of respiration. The President characterized Professor Wertheim's paper as the most important that had ever been brought forward as regards cancer of the uterus or any other part of the body. At the same time he did not think that, in view of the results obtained by Byrne and other Americans, by Sir John Williams, and in a smaller way by himself, high amputation of the cervix, especially with the cautery, would fail to retain its position in the treatment of uterine cancer. A vote of thanks to Professor Wertheim was carried with acclamation.

SECTION OF OPHTHALMOLOGY.

THE President, Dr. G. A. Berry, opened the proceedings of the Section of Ophthalmology by reviewing the progress in this science during the last few years, and then called upon Dr. A. Bronner (Bradford) for his paper. The latter read the notes of a case of slight myopia in which distressing local and general symptoms were relieved by the use of glasses which were much too strong, and referred to the many cases of wonderful cures reported in the lay press from the use of glasses; many of these cures were undoubtedly due to suggestion only. Mr. E. E. Henderson followed with a paper on the action of eserine and atropine on the pupils and the influence on the filtration of the intraocular fluids. Cats' eyes had usually been used in the investigation, and ether was the anaesthetic employed. He described the apparatus used and the method of experimentation. Mr. N. Bishop Harman gave the results of electric treatment of trachoma at the Middlesex Hospital. He had treated 13 cases, some with *x* rays, others with high-frequency current, and others with radium. He explained that in the *x*-ray cases he used *x* rays and nothing else, not the burning rays that are emitted from some tubes. These rays produced no good effect whatever, and after extended trial the old treatment of bluestone, etc., had to be used; 4 of these cases were thus treated; with high-frequency treatment none of the cases showed any improvement. Two cases were then tried with radium, and did no better. Mr. Devereux Marshall gave his experience, and it was entirely unfavourable to the use of both *x* rays and radium. Mr. Cyril Walker was under the impression that the treatment gave much relief if not cure. Colonel Drake-Brockman thought that nitrate of silver was, years ago, by far the best treatment. Now the other compounds of argyrol and cuprol were as good, and were far less painful. Mr. Harman, in reply, said that no amelioration of the symptoms followed the use of the electrical treatment. He now carefully used silver, copper, and expression. Mr. Bishop Harman read a paper on false hay fever. He described the case of a lady who had apparently severe hay fever, and the attack came on each year. He found her astigmatic, and after correction she entirely lost her symptoms. He explained this as being due to an exaggeration in the normal fifth nerve reflex that so frequently started attacks of sneezing. Mr. Devereux Marshall thought that if Mr. Harman's theory were correct it was remarkable that patients should suffer only during the hay season, considering that as much light was present during other months of the year, and also at sea. The President doubted the reflex theory altogether. Mr. Harman thought that after the dark winter the light was felt more than later on, when people were used to it. Professor Hess showed drawings regarding the migration of pigment in cephalopod eyes according to the amount of light allowed to fall upon the eye. Dr. Karl Grossmann followed with a lantern demonstration of natural coloured photographs on cases of lepra ophthalmica as seen in Iceland, and then read a second paper on congenital absence of the dilatation of the pupil. After the use of atropin nothing but the smallest dilatation of the pupil took place, though there was no synechia. There was nystagmus, and a rudimentary lens in the right eye only. When eserine was used, the pupil became slit-like, and no lens was visible. He also showed a hot-air cautery for the treatment of conical cornea; he had used it in five cases with good result. The application might be repeated several times if necessary. Finally, Dr. Cecil Shaw (Belfast) read notes of a case of amblyopia, apparently toxic; it followed influenza, the patient being a man, aged 20, whose sight was much affected during the attack, and was now slowly improving. Mr. Bishop Harman related a somewhat similar case.

SECTION OF PSYCHOLOGICAL MEDICINE.

THE work of the Section of Psychological Medicine was opened by Dr. Alex. Reid Urquhart, of Perth Asylum, in an address of considerable length, in which he dealt with the heredity of insanity. Among the subjects on which he touched were the biological relations of organism to environment, the biometric studies of Francis Galton and Karl Pearson in heredity and variation, and the hereditary conditions prevailing in the transmission of insanity from parent to offspring. He referred to the work of Grainger Stewart and Savage, among earlier British writers, and gave a summary of his own studies embodied in some hundreds of genealogical tables drawn up with special care and accuracy during the last twenty years at Murray's Royal Asylum, Scotland. Many interesting facts and data were thus brought together and shown in graphic form as regards the various phenomena in the genealogical transmission and transformation of insanity, the neuroses syphilis and tuberculosis. The tables were based on the minute and detailed study of 1,104 cases admitted to the asylum, and covered the whole range of mental disease. Particularly interesting were the tables referring to the heredity of melancholia, and of the suicidal and delusional insanities. General paralysis was shown to possess a more complex etiology than mere syphilitic infection, while the complexities introduced into the causation of idiocy and imbecility by tuberculous and alcoholic parentage were clearly explained. Reference was also made, and genealogical tables displayed, showing an interesting affinity—somewhat remote, however—between cancer and the degenerative forms of insanity. Alcoholic insanity was illustrated by many genealogical tables. Dr. Urquhart concluded that the further pursuit of the line of study indicated would probably add much to our knowledge of points hitherto obscure regarding the relations of heredity and mental

disease. The discussion was continued by Drs. Hyslop, Lloyd Andriezen, Fletcher Beach, Arthur Jackson, A. Clapham, A. T. Schofield, David Bower, Johnstone (of Leeds), Robert Jones (of Claybury), and others, and the replies were summed up by the President. Dr. A. T. Schofield (London) read a paper on the extension of psychology in medicine; he urged the importance of the study of normal psychology and morbid psychology for the mental physician. But it should be, he argued, a psychology founded on the scientific data and investigation of the sister sciences, physiology, human and comparative neurology, and cerebral pathology. The conscious normal mind had to be studied as well as the subconscious mind and the alienated mind. In the discussion which followed the President, Dr. Robert Jones, Dr. T. B. Hyslop, and Mr. James Stewart took part. A resolution was passed that the Psychological Section should approach the Central Executive Committee with a view to obtaining aid in making an inquiry into the subject of hereditary mental diseases, and the hereditary affections of comparatively sane families.

SECTION OF PATHOLOGY.

A DISCUSSION on the relationship of heredity to disease was opened by the President of the Section (Dr. F. W. Mott), who, in an able and suggestive paper, emphasized the importance of this method of studying and attacking disease, and of the need for careful accumulation of facts. He exhibited charts of hereditary haemophilia, hereditary Daltonism and hereditary ataxy; with statistics of longevity, presenility, neuroses and psychoses, bearing upon the point. With regard to the influence of toxins upon the germ plasm he instanced his own observations on congenital syphilis, and referred to the experimental work of Dr. George Watson on the transmission of immunity in cases of abrin and ricin poisoning. In conclusion he presented statistics indicating heredity amongst the insane and described the difficulties in obtaining reliable and complete figures even in such institutions as the London County Asylums. Dr. Archdall Reid pointed out the importance of clearly distinguishing between variations and acquirements; the injury to a germ cell by toxins in placental blood did not, he said, necessarily result in variations, that is, an inborn character transmissible to offspring; it might merely result in an acquirement which was non-transmissible. Indeed, this latter was more probable, for otherwise races long afflicted by such a virulent poison as, for example, malaria, should have become extinct by accumulation of injury. Mr. Chas. Bond, F.R.C.S., contributed a valuable paper on sex-correlation and disease, with special reference to deaf-mutism. His investigations bear out and amplify the well known facts of incidence and transmission in haemophilia. Whilst deaf-mutism occurs in males and females almost equally in any given family the incidence, he said, was almost always limited to the members of one sex, although not all the members of that sex necessarily suffered. As to why in some families the boys should be affected, and in others the girls, there was at present no evidence to show. When members of both sexes in one family suffered the births were either twin or contiguous. In this disease there was no evidence of direct transmission. It would appear that sex was a character controlled by the same laws as the transmission of other characters, such as colour of skin, etc., and was determined at the time of the early reduction, division, or sequestration of the reserve germ plasm. Dr. Schuster, Galton Eugenics Scholar, explained the nature of the information required by statisticians from the medical profession for the elucidation of problems in heredity, and pointed out the common defects and fallacies of data as to family histories. Even where a sample only of a given class could be investigated the error was, he said, constant and determinable. Mr. C. C. Hurst, F.L.S., described instances from his breeding experiments bearing upon sex correlation; when black and yellow cats were crossed all male offspring were yellow, all females were tortoiseshell; but in the second generation the colours were uniformly distributed between the two sexes; many similar cases were described. Dr. Gilchrist confined his remarks to the difficulties encountered in defining heredity and disease. The President, in his reply, thanked Mr. Bond for his admirable contribution, and alluded to the evidence of transmitted immunity now being accumulated in Uganda, on sleeping sickness. Dr. Hamilton Wright remarked that the statistics of beri-beri and transmitted immunity were inadequate; with regard to malaria he stated that in the Malay Peninsula in isolated communities adults with numerous parasites in the blood showed no symptoms, whilst the children exhibited every feature of the disease.

SECTION OF DENTAL SURGERY.

MR. MORTON SMALE, the President, opened the proceedings with a short address, in which he described a case of peculiarly chronic neuralgia associated with the non-eruption of a wisdom tooth in the lower jaw. The patient was supplied with a diagram and asked to mark the position of the pain. It corresponded exactly with the area described by Head. A radiograph showed the embedded position of the third molar. The neuralgia was paroxysmal and not cutaneous; there was no inflammation. Dr. Risien Russell (London) opened a discussion on toothache, neuralgia, and remote affections of dental origin. Dr. Russell, who was received with applause, said that he would limit his remarks to the class of case in which morbid conditions in other regions of the head were associated with pain, referred to the teeth and jaws. In a brief summary, he considered the various aspects of neuralgias, noting in passing that notwithstanding the fact that dental causes were so often the cause of remote neuralgias, and that the student was early taught to suspect the dental origin of a large number of neuralgias, yet a considerable number were frequently overlooked. The fifth nerve, from its anatomical and physiological position, as well as its distribution and close association with important organs in the face and head, was particularly liable to neuralgic conditions, both due to local and general causes. The general neuralgias of malaria, rheumatism, debilitating diseases (notably influenza), and diabetes, were then touched upon, the speaker calling attention to the fact that the last-named condition might often explain to the dental surgeon the cause of an obstinate neuralgia, if information was sought from the family doctor. In facial hemi-atrophy a neuralgia frequently antedated the grosser pathological changes. In tabes, the lightning pains were occasionally preceded by facial neuralgia, even anterior to the loss of knee-jerks. Dental surgeons, as well as general surgeons, should be on their guard in the case of neurasthenic neuralgias, and the extraction of teeth for the relief of pain without a hope of removing the pathological lesion could not be too much deprecated. After citing a number of cases illustrative of the various species of neuralgia the speaker went on to describe a second group of cases which proved, as a rule, the greatest stumbling-block to the dental surgeon—namely, neuralgia quinti major, or tic douloureux, in many of which cases every tooth was removed without appreciable relief to the horrible agony. In this epileptiform neuralgia drugs occasionally, and particularly gelsominum, would produce alleviation of a temporary character when given in full doses; the only truly curative method, however, was operative interference and removal of the Gasserian ganglion, which gave permanent relief. The operation, though a grave one, was now eminently successful. Mr. Howard Mummery continued the discussion from the point of view of the dental surgeon, and, in the course of his remarks, referred to the various purely dental causes which were associated with neuralgias of the face. These he demonstrated with diagrams of the areas of local tenderness mapped out by Head. Mr. Urban Pritchard (London) discussed remote affections of the ear associated with dental trouble, especially in infancy, and pointed out that otitis media was now looked upon as due to local inflammatory conditions rather than to remote affections of teething. In the unavoidable absence of the contributors, the Honorary Secretary read the papers of Dr. Leonard Guthrie (London), on the diseases associated

with the first dentition: Dr. Edmund Cautley (London), on the relationship of the teeth to disease in early life; Dr. Robert Hutchison (London), on remote affections due to teething. The proceedings for the day then terminated.

SECTION ON TROPICAL DISEASES.

PROFESSOR R. W. BOYCE, F.R.S., in his introductory address delivered on Wednesday, referred to the work done in tropical medicine during the past year. No outstanding new discovery had been made, but the study of the diseases of animals and experimental infection of animals with human ailments had served to clear up much that was formerly obscure. The enlistment of the botanist, the parasitologist, and helminthologist in the investigation of disease, and especially in tropical medicine, was an important factor of quite recent date, and one that was destined to prove of great service in the study of disease. The Nature of Human Tick Fever in the Eastern Part of the Congo Free State, with Notes on the Distribution of Bionomics of the Tick, was the title of a paper by Dr. John L. Todd, B.A., M.D.M. Gill, and the late J. Everett Dutton, M.B. Liverpool, Major Ronald Ross, F.R.S., read the paper. The conclusions reached by Drs. Todd and Dutton were: (1) That tick fever is clinically identical with relapsing fever, and has for a pathogenic agent a spirillum; (2) the spirillum is probably spirochaete obermeiri; (3) the tick ornithodorus moubata can transmit the spirillum from animal to animal; (4) the transmission is probably not merely mechanical, but some developmental process is carried on in the tick. Mr. R. Newstead (Liverpool School of Medicine) contributed a paper on the pathogenic ticks concerned in the distribution of disease in man, with special reference to the differential characters in ornithodorus moubata. Professor Boyce, Mr. L. Westenra Sambon, Major Ross, Dr. J. C. Graham, (Sumatra), Dr. A. J. Chalmers (Colombo, Ceylon), and Mr. James Cantlie (London) took part in the discussion. P. W. Bassett-Smith, R.N., Fleet Surgeon (Haslar) sent a paper entitled Bruhl's Disease, with special reference to the blood changes found, and the connexion with the Leishman Donovan bodies. Two cases of the disease met with at Haslar Hospital were described. Sir Patrick Manson, K.C.M.G., F.R.S. (London) contributed notes on two cases of febrile tropical splenomegaly (kala-azar), and a suggestion. Sir Patrick stated that the life-history of the Leishman body had not yet been satisfactorily worked out. The question of the identity of the Leishman body and that found in Oriental sore was an interesting pathological point. If Oriental sore bestowed an immunity upon persons attacked against a recurrence, it was well worth considering the feasibility of inoculation against kala azar by infecting healthy persons with emanations from Oriental sore. Major Ross stated that not only camel-drivers suffered from Oriental sores, but mule drivers also. Dr. W. M. Graham contributed a paper on guinea-worm and its hosts. On the Gold Coast, guinea-worm was a great factor in causing disablement amongst the native troops. The periodicity of the disease was most marked, June being the month in which the disease manifested itself; and as it took five weeks for the embryos to develop in cyclops, infection of man probably occurred during July and August. Dr W. C. Brown (Penang), Dr. A. J. Chalmers (Ceylon), Dr. F. M. Sandwith (Cairo and London), Dr. Sambon, Dr. W. T. Prout, C.M.G. (West Coast of Africa), Mr. J. T. Clark (Perak), Dr. C. F. Harford (London), Mr. R. Newstead (Liverpool), Dr. D. E. Anderson (Paris), and Dr. Claus Schilling (Berlin) took part in the discussion. The meeting then adjourned.

THE BRITISH ASSOCIATION.

THE *Times*, as usual, is able to give a more or less inspired forecast of the meeting of the British Association for the Advancement of Science, which this year is to be held in South Africa. This will be the third time the Association has met outside the boundary of the United Kingdom. In 1884 the meeting was held at Montreal, and in 1897 at Toronto. In South Africa the work will be divided between two centres—Capetown and Johannesburg—but the meeting will be of a migratory character. At all the places to be visited elaborate preparations are being made to give the Association a fitting reception, and to accord to individual members an overflowing measure of Colonial hospitality. It is hoped that nearly 400 members and guests from the Mother Country will attend. The opening will be held on August 15th at Capetown, where Professor G. H. Darwin will deliver the first half of his address as President of the Association. He proposes to consider evolution in the world of matter as distinct from the world of life, and will illustrate his subject by considering theories of the intimate constitution of matter and theories of cosmogony. After three days' work at Capetown, the Association will proceed to Durban, and afterwards to Pietermaritzburg, where Colonel David Bruce, C.B., F.R.S., will lecture on sleeping sickness. The members will next go on to Johannesburg, from which they will visit Pretoria, where Mr. A. E. Shipley of Cambridge will deliver a lecture on fly-borne diseases, malaria, sleeping sickness, etc. After visiting Bloemfontein, the Association will proceed to Kimberley and afterwards to Bulawayo, visiting the Victoria Falls of the Zambesi, and returning to Capetown on September 17th. Members will thus have an opportunity of seeing nearly everything of scientific interest in South Africa, and of visiting in a month's tour places which not very many years ago could be reached by explorers only after months of slow and laborious travel. Communications on subjects connected with medicine will be presented chiefly to the Sections of Anthropology and Physiology. In the former the President, Dr. A. C. Haddon, in his address, will deal briefly with the present state of anthropological knowledge in regard to South Africa. The main physical and cultural characteristics of the Bushmen, Hottentots, and Bantu-speaking people will be dealt with, and reference will be made to the migrations of their main groups, as well as the probable place of origin of these three races and their supposed relationships with each other and with other groups. Dr. Haddon will insist on the necessity of studying the environment of a people and of tracing the effects of that environment on their social life and religion, as well as on their arts and crafts. Dr. von Luschan, of Berlin University, will discuss artificial deformities in Africa; his address will be illustrated by lantern views. Dr. von Luschan will also deal with the affinities of the Hottentots. In the Section of Physiology Colonel Bruce will take for the subject of his presidential address, which will be delivered at Johannesburg, the advance in our knowledge of the causation and prevention of stock diseases in South Africa during the last ten years. The diseases he proposes to deal with are rinderpest, nagana, redwater, Rhodesian redwater, horse-sickness, heartwater, piroplasmosis of horses and dogs, and pleuro-pneumonia of cattle. Colonel Bruce's address will be followed by more detailed papers on horse-sickness and rinderpest by Dr. Theiler and Dr. G. Turner respectively. There is to be a discussion on lung diseases in connexion with mining, opened by Dr. Sims Woodhead, and other papers will be read at Johannesburg dealing with dysentery (Colonel Cecil Burt), nervous diseases (possibly Dr. Ferrier), and the life-history of coloured labourers in the Transvaal (Dr. D. Macaulay and Dr. Louis Irvine). At Capetown a discussion on the effect of climate on health will be opened by Sir Lauder Brunton, and continued by Dr. David Ferrier, Professor McKendrick, Dr. Gregory, Dr. Jasper Anderson, Professor Bohr, and Dr. T. A. Mitchell. Dr. Gregory will deal with the so called scurvy of South Africa, Dr. S. Black with leprosy in Cape Colony, and Dr. T. A. Mitchell with the plague, while Dr. Moberly has promised a paper on South African drugs. Horse-sickness and allied diseases will also form the subject of a discussion: this will be opened by Dr Edington, who will be followed by Dr. Hutcheson (Stock Diseases in South Africa), Mr. Lounsberg (Ticks as a Means of Carrying Disease in South

Africa), Professor Sims Woodhead, Dr. William Robertson, and Mr. du Plessis. During the stay at Capetown the Section will visit, by invitation, the Bacteriological Laboratory at Grahamstown and the Leper Asylum on Robben Island. In the Section of Botany the President, Dr. Harold Wager, will deal with some of the fundamental problems which underlie our conceptions of life, and the various complex phenomena connected with it. The structure of the living substance, protoplasm, as it is revealed in plants under the highest and most perfect magnifying powers of the microscope will be considered, and especially the structure of the nucleus, on which all vital processes depend, and the minute structure of the bacteria and allied forms of vegetable life. The problem of the presence or absence of a nucleus in these low forms will be touched on, as well as the possible line of evolution of the nucleus in the vegetable cell. Mr. R. P. Gregory will read a paper in which he will discuss problems of heredity.

MEDICAL PRACTITIONERS AND MIDWIVES.

At a meeting of the London County Council, held on July 25th, it was agreed, on the recommendation of the Midwives Act Special Committee, that the necessary measures should be taken for the promotion in the next session of Parliament of legislation to provide that the Council shall be authorized to pay the fee of a medical practitioner called, at the instance of a midwife, to a case of emergency as defined in the rules made by the Central Midwives Board under the provisions of the Midwives Act, 1902, such payment only to be made when the patient is unable to pay such fee; as well as to enable the Council to recover from the patient, or from any person liable by law to maintain her, the amount of such fee or any portion thereof, should it be discovered after payment had been made that the patient or any person liable by law to maintain her was in a position to pay the whole or a portion of such fee.

THE EDINBURGH CHAIR OF MIDWIFERY.

The Curators of Patronage of the University of Edinburgh will, on a date to be fixed later, proceed to the election of a Professor of Midwifery in the room of Professor A. R. Simpson, whose resignation has been accepted as from August 31st. The University Court has decided to institute a Lectureship in Gynaecology, and there will be an adjustment of the duties of the Professor and Lecturer under the direction of the University authorities. Applications, with testimonials, must be in the hands of the Secretary, Mr. R. Herbert Johnstone, W.S., at 4, Albyn Place, Edinburgh, on or before Friday, September 15th.

Dr. Alexander Cruikshank Houston, F.R.S.E., has been appointed Director of Water Examinations under the Metropolitan Water Board. The salary is £1,000 per annum. There were forty candidates for the post. Dr. Houston is a graduate of Edinburgh, and is the author of several reports to the Local Government Board, the London County Council, and the Royal Commission on Sewage Disposal. To our own pages he has contributed valuable papers on modern systems of sewage treatment in relation to the removal of the bacillus typhosus and allied organisms, and on the natural history, modes of dissemination, and prophylaxis of typhoid fever.

Medical Girl Graduates of Paris. On July 22nd the academic year of the Medical Faculty of the University of Paris came to a close. Among the theses presented on that day were three by ladies, who as the result were admitted to the degree of Doctor of Medicine. Mdlle. Amélie Caroline Massey-Crosse received the congratulations of Professor Budin for her dissertation on certain elements in the prognosis of puerperal infection; Mdlle. Ludmilla Meyer was commended by Professor Hutinel for her thesis on idiopathic spasm of the glottis of gastro-intestinal origin in nurslings; and Mme. Nicia Waynecp, *née* Gourevitch, was specially commended by the jury of examiners presided over by Professor Raymond, for her thesis on tabetic and essential gastric crises.

MEDICAL NOTES IN PARLIAMENT.

[By Our Lobby Correspondents.]

Physical Deterioration was the subject of an interesting debate in the House of Lords at the end of last week. The Bishop of Ripon initiated it for the purpose of calling attention to the report of the Inter-Departmental Committee, and to suggest a further inquiry on infant mortality. He referred to the ominous statement that the population in this country tended to decline, and to decline more rapidly among the intelligent classes than among the poorer and more illiterate classes. It had been stated that if all the large towns were divided into districts, it would be found that the birth-rate was higher in the poorer districts than in the well-to-do. Taking one district, including Bethnal Green, Poplar, and Stepney, and adding Bermondsey to it, and another district composed of Kensington, Marylebone, Paddington, and Westminster, it was found that in one decade the diminution of the birth-rate in the first district was only 0·5, while in the second or wealthier it was 1·9. This was sufficient evidence to justify an inquiry. There was a second point in the relative decline of the population. It was an evil which not only affected these Islands, but extended to our Colonies also. If we were face to face with a stationary population, it was of the first importance to lessen infant mortality. The mortality of infants, which was 154 per 1,000 forty years ago, remained at the same figure to-day, in spite of enormous sanitary improvements. A number of diseases which attacked children had been greatly diminished. The result was that among boys in towns there ought to be 28 more lives per 1,000, and among girls 23; as a matter of fact, we were 29 per 1,000 worse, instead of being 25 per 1,000 better. In Blackburn, Leicester, and Preston the infant mortality was 218 per 1,000; whilst in Dorset, Wilts, and Hereford it was only 97. Where women were employed in mills the mortality among children was highest. There might be other causes for the high death-rate, but inquiry was demanded. The recommendation of the Committee that a woman should not be allowed to go back to work in a mill after childbirth without a medical certificate was a wise one. There should also be some evidence that the child was properly fed. Much could be done to improve the feeding of children by better milk supply and other means. The waste of child-life in this country was enormous, and should be investigated in the interests of the race. The Duke of Devonshire, who followed, pointed out the causes that led to the appointment of the Inter-departmental Committee, and showed that the Government were responsible for it, and would no doubt give full consideration to the valuable report. Although the evidence did not support the view that there was a progressive physical deterioration of the population, the Committee were impressed by the gravity of the facts disclosed and indicated the value of a periodical estimate of the health of the people. He referred to Sir W. Taylor's evidence that 40 to 60 per cent. of recruits were found unfit for service. Whether this unfitness were progressive, stationary, or declining, no time ought to be lost in ascertaining. He urged the importance of systematic and scientific inquiry and hoped the Government were preparing to take action on the report of the Committee. Lord Meath and Lord Shuttleworth followed on the same lines, and then Lord Londonderry, after admitting the great importance of the recommendations made by the Committee, dwelt on the difficulties of carrying them out. Legislation would be required in connexion with some proposals and the Government did not see their way to that. The Board of Education were giving the matter special attention as regards teaching the children the elements of dietary and hygiene, and instituting classes for physical exercises. Lord Crewe criticized the want of action on the part of the Government, and Lord Lansdowne in reply said that the vastness of the programme sketched in the report with its 54 recommendations, made it too large a matter to be dealt with quickly. The departments concerned had not and would not lose sight of the report, and the Government recognized the value of it. The Duke of Devonshire recognized the sympathetic reply of the Government and concluded the debate by pressing for the collection of accurate statistics.

The Sheffield University Bill escaped the threatened opposition last week, and was ordered to be read a third time, with an amendment to Clause 8. The addition made by Mr. Stuart Wortley was to add to the end of the clause the words: Provided always that the fees for attendance and the travelling

expenses of such member payable under Section XII of the Medical Act, 1858, shall not be paid from the funds of the General Council or of the Branch Council for England until such time as, upon the representation of the General Council or of the Privy Council, made in the manner set forth in Sections X and XIX of the Medical Act, 1886, and subject to the provisions therein contained, His Majesty may by Order in Council appoint. The Irish opposition was withdrawn, and the above addition appeased any opposition from the General Medical Council.

Malta Fever.—Last week Mr. Yerburgh asked the Secretary to the Admiralty whether he would state the number of men invalided from Malta fever annually for the ten years from 1895 to 1905; and whether any medical inquiry into the cause of Malta fever had been instituted. Mr. Pretyman replied that a Committee, including representatives of the navy, army, and Colonial services, had been making inquiry since June, 1904, into the causation and life history of Malta fever, under the directions and auspices of the Royal Society. Much valuable information had been gained and had been published in interim reports, which hold out strong hopes of this fever being in the future more successfully grappled with than in the past. The number of men invalided was as follows: In 1897 (the first year in which Mediterranean fever was shown as a distinct heading) the number of invalids was 191; 1898, 149; 1899, 68; 1900, 188; 1901, 163; 1902, 250; 1903, 209; 1904, 191; 1905 (return not yet complete).

Sick Nursing in Workhouses.—Mr. Talbot asked the President of the Local Government Board whether his attention had been drawn to the condition of the nursing of the sick poor in the workhouses, especially in those which contain only a small number of such inmates; what action had been taken in accordance with the recommendations of the Departmental Committee which reported on this subject in November, 1902; and whether he could give an assurance that early steps would be taken to carry out those recommendations. Mr. Gerald Balfour answered that after the Report of the Departmental Committee was issued a considerable number of representations were recieved by the department in connexion with the recommendations of the Committee, and an order dealing with the subject was in preparation.

Small-Pox at Belfast.—On Tuesday Mr. Joseph Devlin asked the Chief Secretary to the Lord Lieutenant of Ireland whether he was aware that a recrudescence of small-pox was threatened in Belfast, and that the Corporation refused, contrary to the especial custom, to supply its aid to the ratepayers except where an outbreak occurred in an applicant's house, or where an order from a doctor or inspector was presented; and whether he would, in the interest of the health of the city, cause representations to be made to the Corporation in this matter. Mr. Long replied that a case of small-pox occurred in Belfast on June 23rd, and the Local Government Board were informed that all necessary precautions to prevent the spread of the disease had been taken. The patient was removed to the small-pox hospital, and the other inmates to the reception house for isolation: the house was disinfected, the bedding, etc., burned, and revaccination freely administered in the neighbourhood. No further case had been reported. The Board had no information that the Corporation had refused to take necessary measures for the protection of the public health.

Mosquito Nets in West Africa.—Mr. Cathcart Wason asked the Secretary of State for the Colonies on Monday if he could now state what steps had been taken to provide mosquito-proof sleeping rooms for railway and other employés in our West African Settlements. Mr. Secretary Lyttelton replied that he had been in correspondence with the governors of West African territories on this subject. Mosquito-proof rooms were provided in the quarters of the railway officials in Lagos; but he might observe that there was no established consent as to the advantage of the use of such rooms over that of mosquito nets, which were provided for all employés on the railways in Lagos and on the Gold Coast.

The Course of Business has been greatly disturbed by the defeat of the Government last week, and private Bills, including the Sheffield University Bill, have been blocked ever since. On Tuesday, as the Government decided not to resign, public business resumed its ordinary course on Irish Estimates; but the temper of the House was not favourable to progress, and the sitting was not concluded till 3 a.m. on Wednesday. Next week will have to be devoted mainly to Estimates, as Supply is very backward, and three more full days have to be given to Estimates before August 4th, when the general closure will take place. The Home Office vote will be taken on one of the early days next week.

THE MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

THE annual meeting of the Association was held at Chandos Street, Cavendish Square, on July 20th and 21st, under the presidency of Dr. T. OUTTERSON WOOD. The presidential address referred in eulogistic terms to the valuable services long rendered by the late Sir John Sibbald, Commissioner in Lunacy, to this Association. His recent and untimely death deprived the Association of a valued president-elect.

Scope of the Work.

Dr. WOOD then surveyed the scope and work of the Medico-Psychological Association, spoke of the important work done by its seven or eight "Divisions," and referred to the gratifying increase of membership and of financial prosperity. He advocated an increase of the Commissioners in Lunacy as a pressing need; and for the Association the services of a paid secretary should, he argued, be sought, to meet the increasing pressure of work. Dr. Wood then dealt at some length with the important subjects of suicide and its prevention, the proper treatment of incipient insanity, the boarding-out system, and the registration of those nurses who possessed the Medico-Psychological Association's certificate of efficiency, and who now numbered over 6,900. On the subject of male and female nurses he held a judicious and balanced view, neither adding unnecessary praise to the one nor detracting from the merits of the other.

Registration of Nurses.

He urged that the Association should work to get a charter under which the nurses could be registered, so as to have a proper *locus standi*, and he stated that H.R.H. Princess Christian, the President of the Royal British Nurses' Association, took interest in the work of the nurses of the Medico-Psychological Association in regard to the care of the insane. —A vote of thanks was unanimously accorded to the President for his address.

Female Nursing of Insane Men.

Dr. GEORGE ROBERTSON read a paper on The Employment of Female Nurses for the Care of Insane Men. The question had been brought forward and discussed at previous meetings. He argued that nursing was better performed, on the whole, by women: that they possessed the "motherly instinct": that they were more bright, tidy, and genial to patients than men; and that they looked better after the bedding and the linen; while troublesome patients were soothed by their tact and gentle influence. In Scotland, he said, female nursing of male patients was being widely adopted, and was there regarded as a practical success; even the Scottish Commissioners in Lunacy praised the system. He pleaded for its wider and more liberal adoption in England.

Mr. JOHN BRISCOE criticized Dr. Robertson's arguments, and stated that his conclusions were rather one-sided. Types of insanity varied, and some were better for male nursing and others for female care. In special cases (epilepsy, mania, delirium tremens) it would be impossible to do without male nurses.

Dr. DAVID THOMPSON, of the Norfolk County Asylum, said he much preferred male nurses. He found them quite as good as the best female nurses, and often better, both in his own asylum and in Continental institutions which he had visited. Nursing was not a monopoly to be held by one sex, and in this respect, as in other so-called "feminine" occupations, such as cooking and dressmaking, it happened that men did the best work or achieved the highest efficiency.

Dr. BEDFORD PIERCE, of the Retreat, York, spoke of the "fatherly" instinct—a feature hitherto ignored by the exclusive advocates of female nursing. This made man as kindly and as tender in his ministrations to his fellow-man as ever a woman could be.

Dr. SHUTTLEWORTH said that the outcome of Dr. Robertson's campaign would be to produce a mere "bread-and-cheese" class of nurses.

The PRESIDENT summed up the discussion, and Dr. ROBERTSON replied, the meeting then concluding for the day.

New Parliamentary Bills.

The proceedings were resumed on Friday. The introduction of two recent Lunacy Bills before Parliament engaged the attention of the President and of members present, and many useful and valuable criticisms were elicited. The PRESIDENT referred to the two Bills in question, and the details were dealt with by other speakers. Bill No. 1 is a Bill to amend the Lunacy Act (printed by order April 17th, 1905), presented to the House of Commons by the Attorney-General of England, supported by the Solicitor-General. No. 2 was a Lunacy Acts Amendment Bill to authorize the London County Council to provide "receiving houses for the reception of persons mentally afflicted, or alleged to be of unsound mind, and to authorize the detention of such persons in such houses, and for other purposes connected therewith." This Bill was presented to Parliament by Sir John Batty Tuke, and had the support of several members of Parliament representing the divisions of the County of London.

Provision for the Insane Poor.

This discussion was followed by a paper on a cognate subject by Dr. HELEN BOYLE, formerly Assistant Medical Officer at Claybury Asylum. It dealt with "Some Points in the Early Treatment of Nervous and Mental Cases, with Special Reference to the Poor." Dr. Boyle said that her experiences of the people in the East End of London and her observations on Continental institutions for the pauper insane led her to the conclusion that overcrowding and slum life made people "go down," or deteriorate physically and mentally—people of the poorer districts, with large families, having no good food, and no idea of hygiene, and prone, therefore, to develop mental breakdown and insanity. The slum-dweller had a progeny which hardly survived beyond the third generation; it then became extinct, but new arrivals took its place, and the cycle of slum dwellings and dwellers was kept up. She did not believe in the actual increase of insanity out of proportion to the increase of population. She advocated prophylaxis, and ventured the opinion that with regard to accommodation and care of the pauper insane, the "cottages" type of building was the most suitable for mental hospitals of the future.

Dr. MILSOM RHODES, who recently sat on a committee which reported upon the asylums of the United States, read an interesting paper on the provision of suitable accommodation for the various forms of insanity. He was not a believer in the alleged rapid increase of insanity, and thought that public asylums in Great Britain were as good as possible as regards accommodation and administration. "The French praised our asylums, our asylum officers, and our lunacy laws." The number of Commissioners in Lunacy, he thought, should be increased. Custodial institutions which boarded huge masses of the chronic and incurable insane were "bad in theory and in practice." Economy was adduced as the reason for their perpetuation, and that was, perhaps, the only redeeming feature. Asylum patients should, he thought, be encouraged to engage in the occupation of the workshops, garden and farm, and kitchen, so as to have a self-supporting value.

Dr. ALAN MACDOUGALL contributed an account of the David Lewis Epileptic Colony at Alderley Edge, Cheshire, which was opened in September, 1904, for the reception and treatment of sane epileptics. The patients were taught industrial habits, while the mode of life conduced to health and improvement of symptoms. A charge of 14s. per week was made to the colonists, male and female. Children were also accepted and trained, while their malady was treated therapeutically.

Tuberculosis in Asylums.

The question of tuberculosis in asylums was brought up for discussion by Dr. GEORGE GREENE, Assistant Medical Officer of Claybury Asylum. The paper was read by Dr. ROBERT JONES, General Secretary, owing to the author's absence. Dr. Greene seemed to contest the prevailing belief in the high mortality from phthisis of asylum inmates and minimized the apparent evil. In the discussion which followed several speakers took part. Dr. ROBERT JONES gave his own experiences of the phthisical death-rates at Claybury and other London county asylums in past years; while asylums differed from one another, the results in each were fairly constant, and the Claybury observations showed that the mortality-rate was very high. He argued that segregation and open-air treatment of the phthisical was an absolute necessity. Dr. CROOKSHANK confirmed his own observations, published six years ago, on the tuberculosis question, and affirmed that the mortality of asylum patients was nearly ten times that of the general population, in so far as the prevalence of phthisical mortality was considered. Dr. LLOYD ANDRIEZEN spoke of segregation, early diagnosis, "tent-life" for the tuberculous and the demented, and gave an account of Dr. MacDonald's work in this respect at the Manhattan State Asylum. Dr. DRAPES condemned the system of heating sanatoriums by steam. Dr. GEORGE ROBERTSON held a non-alarmist view about phthisis and the insane. Dr. URQUHART said that Dr. Toulouse, of Ville-Juif, used "tent-life" for his patients twelve years ago, and other French asylums had followed his practice. Dr. HAYES NEWINGTON advocated sanatoriums with proper ventilation. The PRESIDENT summed up, and Dr. JONES replied. The meeting then terminated.

IRISH MEDICAL SCHOOLS' AND GRADUATES' ASSOCIATION.

THE nineteenth summer general meeting of the above Association, which now numbers 856 members, was held on July 26th at the Y.M.C.A. building, Leicester. There was a very large attendance of members, including Drs. Freer (Stourbridge); Bradshaw-Smith (Burbage) and Stewart (Stoke Bishop), foundation members; Professor Anderson (Galway) Drs. James Craig and Ireland Wheeler (Dublin); Major Moyle O'Connor, R.A.M.C. (Aldershot); Drs. Browne (Winchester); John Campbell (Belfast); Macdonald (Taunton); Wallace-Henry (Leicester); Douglas (Goudhurst); Martin (Sheffield); Skipton (Loughborough); and the Provincial Honorary Secretary, Dr. James Stewart.

In the absence of the President, Sir William Whitla (Belfast), who wrote to express his regret at being unable to be present, Dr. ALFRED FREER, as the Senior Foundation Member present, was voted to the chair.

The CHAIRMAN called on Dr. Stewart to address the meeting in reference to the question of honorary hospital appointments in England. Dr. STEWART detailed the efforts that had been made—in 4 cases successfully—to have the exclusive rule which restricted these appointments to those holding the diplomas of the English Colleges repealed. He said that there was prominent in the English character the love of justice, and that when the governors of any institution in which the restrictive rule existed had it brought home to them that it was unfair (now that all territorial distinctions were abolished by law between the three kingdoms as regards medical qualifications) to put obstacles in the way of those holding such qualifications as the F.R.C.S.I. and M.R.C.P.I., they gladly carried out the principle of the "open door," and repealed the rule. But the difficulty was the expense of bringing the facts of the case under their notice. He was glad, however, to say that with the prospect before them of a large accession of new members, the Council had determined to enter soon upon another assault, and he was sanguine of the same success as had attended similar efforts at Bristol, Hastings, Brighton, and elsewhere.

The proceedings concluded with a vote of thanks to the Chairman, who said he was old enough to remember the instructions he received in Dublin fifty years ago from the teachers in what still was recognized as the best practical school of obstetrics in the United Kingdom, if not in the world.

SPECIAL CORRESPONDENCE.

BIRMINGHAM.

Poisoning by Ice-Cream.—Health of Birmingham.—Colony for Epileptics. Birmingham and Midland Eye Hospital.

IT is alleged that about 150 persons, mostly children, were poisoned last week by ice-cream, which was purchased from a vendor in the street. The matter is being investigated by Dr. Robertson and Dr. McGrindle (medical officer of health and assistant medical officer of health), and the result of their inquiry up to the present has been published this week. It seems that in 52 cases the illness could be directly connected with the ice-cream, while in many of the other cases the illness could be traced to other causes. It is thought that the ice-cream became injurious to health owing to its being prepared under dirty conditions. Nearly all the persons afflicted showed the following symptoms of poisoning in varying degrees. The onset was sudden, occurring very soon after eating the ice, and was characterized by pain in the abdomen, vomiting, and

diarrhoea. In many cases there was a considerable amount of collapse. The children were taken to the various hospitals in the city, where they soon recovered under treatment. Chemical and bacteriological examinations of the ice-cream are being made, as yet with negative results. Neither antimony nor arsenic was found. It is an interesting point that more of the same ice-cream was eaten by other persons without ill effect.

The report of the health of Birmingham for last year has just been issued. There were 16,902 births—that is, 31.5 per 1,000, and this is the lowest on record. There were 10 340 deaths—that is, 10.3 per 1 000, as compared with 17.2 in 1903. The infant death-rate was excessive, there being 3,302 deaths of infants under 1 year of age, which is over 600 more than in the previous year. There were eight cases of small-pox, which occurred in seven separate importations, so that only one resulted as a consequence of the others. The number of deaths from measles is more than in any other zymotic disease—namely, 207. Scarlet fever caused 65 deaths, diphtheria 115, typhoid fever 36. There were 1,110 deaths due to epidemic diarrhoea. Tuberculosis was responsible for 1,071 of the deaths. Enormous areas of the city still require improvement in connexion with the housing of the working classes. The Housing Committee has acted with great vigour and success; 1,119 houses have been condemned as unfit for human habitation (304 were condemned in 1903, 450 in 1902, 15 in 1901, and 0 in 1900). Only 242 houses were made fit.

The Birmingham, Aston, and King's Norton Boards of Guardians have recently acquired an estate in the neighbourhood of King's Norton, which is to be used as a colony for epileptics. It has long been recognized that the present system of the treatment of epileptics and feeble-minded persons is very inadequate; and in 1901 a proposal was made that the Boards of Guardians of the above districts should combine for the purpose of the provision of colonies. This was effected, and a Committee was appointed to inquire into the matter. They were able to collect valuable information, which was submitted to a conference in 1902. Early in 1904 the City Education Special Schools Committee urged the Guardians to provide accommodation for feeble-minded and epileptic children, who on reaching the age of 16 were obliged to leave the special schools, but who still needed further care and protection. It was found that there were 71 epileptics and 69 feeble-minded persons, chargeable to the three Boards, who, in the opinion of the medical officers, might improve in a home specially adapted for the purpose. There were also 70 epileptics and 143 feeble-minded persons who would probably not improve, but who were considered suitable for maintenance in and capable of appreciating such a home. It was agreed that persons over 45 years of age should not be admitted to the home, and that the children should be left to the care of the education authority. Monyhull Hall estate, near King's Norton, has been purchased for the purpose of forming an epileptic colony. It comprises an extensive dwelling-house, with cottages, lodge, and stables, and land with an area of about 128 acres. An additional 46 acres have also been acquired. The accommodation which has been decided upon to provide is for 110 cases from Birmingham, 50 from Aston, and 50 from King's Norton. The estate is within six miles of the centre of Birmingham, and has been purchased very cheaply. The colony can hardly be self-supporting, but the earnings of the inmates will reduce the cost of their maintenance.

The seventy-fifth annual meeting of the Birmingham and Midland Eye Hospital was held last week. The total number of patients treated during last year was 26 831, and of these 1,100 were in-patients and 25,731 out-patients. The average number of beds occupied daily was 73 6, and the average length of stay in the hospital per patient was 24 4 days. The financial statement showed a balance carried forward and partly invested of £13,664.

VIENNA.

Cerebro-spinal Meningitis.—Hospital Abuse.—Professor Benedikt.—25,000,000 crowns for Building Universities and Clinics.—A Lupus Home.

THE recent outbreak of an epidemic of cerebro-spinal meningitis, which, notwithstanding the most stringent prophylactic measures, has not yet been completely stamped out, has furnished occasion for researches as to the spread of the disease. In several of the affected districts it was found that a disproportionately large number of domestic animals suffered from brain diseases, and the officers of the Silesian Health Department have succeeded in finding the diplococcus of Weichselbaum in the discharge from the nostrils of horses and goats. A warning has therefore been issued to all farmers and cattle dealers, and also to milk dealers, calling their attention to these facts, cautioning the public against drinking raw goat's milk, and enjoining strict cleanliness in handling such animals and their products. It is considered probable that the source of infection has been found, and the number of cases is already declining. Whereas in the last week of June 45 fresh cases, with 32 deaths, were notified, July shows only 22 fresh cases and 14 deaths. Since the beginning of the outbreak (April, 1905) nearly 1,000 persons have died of cerebro-spinal meningitis in Austria alone. Treatment by hot baths has now been universally adopted, and seems to do good in cases which are not desperate from the outset.

The abuse of charitable institutions and hospitals is increasing to such a degree that the medical councils of the different counties and cities have determined to take combined action in the matter. Their main object is to reorganize the out-patient department of the hospitals. Hitherto anybody could obtain free medical aid, bandages and medicines if he attended as out-patient. The great majority of hospitals being public institutions, no letter of introduction or recommendation was necessary. The result was that the out-patients numbered thousands every year in every department, fully 50 per cent. of them being people able to pay for medical advice. So serious was the abuse that even magistrates, never very friendly to the medical profession, recognized the necessity of a radical change. The action of the medical councils is endorsed also by local authorities and even by the Government. It is proposed that only emergency cases should in future receive medical aid without discrimination. All other patients applying for treatment as out-patients must produce a certificate of poverty or reduced means, which will be issued on application by the office of rates and taxes. Professors and teachers will be allowed to take patients from their private practice into hospital for purposes of demonstration and teaching, and patients of clubs, Friendly Societies, and the so-called *Krankencassen* will be referred for treatment to their respective medical officers. These new regulations will probably come into operation in October with the beginning of the academic semester.

Professor Benedikt, the well-known specialist for diseases of the nerves and mental disorders, celebrated recently his 70th birthday. Representatives of numerous medical societies of which he is an honorary member presented congratulations. A dinner in his honour was given by the Neurological Society in Vienna.

The Prime Minister has laid before the House of Parliament a Bill empowering the Government to devote 25 000,000 crowns (over £1,000 000) for the purposes of higher education, chiefly for medical teaching. The sum will cover the cost of building a new institute for physico-medical investigations, a new institute for hygiene in Vienna, and a new central home for several medical institutions of minor importance. In Prague both the German and the Czech universities are to be reconstructed; in Lemberg a new clinic for medicine and for surgery is to be provided: and in Cracow new clinics are to be erected and a medical library to be founded. Compared with the high standard of German and French universities, which, moreover, are endowed with ample funds for all kinds of research, even this large sum seems inadequate, and the medical members of Parliament are only partially satisfied with the Bill. It will be passed without difficulty, but not without an undertaking on the part of the Government to keep its eyes open to the wants of the high schools. Already several eminent scientists have refused to accept chairs in the University of Vienna on account of the scanty endowment of its institutions, and now, after Nothnagel's death, when men able to fill the gap left by him are but few, it will be necessary to make up for old neglect in order to induce a physician of sufficient reputation to consent to succeed him.

Under the supervision of Professor Lang, a private hospital was built last year for the treatment of lupus by the new methods. Private contributions have enabled the director, Dr. Tungmann, to add six to the existing sixteen beds, and to increase the number of Finsen lamps to five. The work done in the hospital is not absolutely gratuitious, as well-to-do patients have to pay for each sitting a fee varying between 6d. and 2s. 6d., while for the destitute the county pays the fee, which goes towards the expensive upkeep of the house. The number of permanent cases recorded since the opening of the institution is 92.

CORRESPONDENCE.

GRIFFITHS TESTIMONIAL FUND.

Sir,—Allow me, on behalf of the wife and family of my brother, the late Dr. Griffiths of Bridgend, to express our grateful thanks for the practical sympathy shown by the organizers of and subscribers to the above fund. I know it was a very great source of comfort to my brother to find so many of our professional brethren coming forward to support him in this time of trial and that the amount realized helped considerably to lighten his load. You also, sir, who did so much to forward the fund, I beg to include in our thanks.—I am, etc.,

Bristol, July 25th. John S. Griffiths.

INCOME TAX.

Sir,—It is time the medical profession looked into its income tax. The principle that every citizen should pay the State for protecting his income in proportion to its amount makes no real distinction between two utterly different sorts of income, namely, income from earnings by work, and income from interest on investments. Therefore it is unsound. Interest on investments should be taxed, because in no other way can it be regarded as repaying the State for its protection, but earnings by work ought not to be taxed, because the work itself repays the State for protecting it.

Unsound principle produces unfair taxation, and practically the income tax as levied at present is an unfair tax on industry and intelligence, since it falls most heavily on the most intellectual workers. Such a tax cannot be for the common good. It certainly is not for our good, and we should be wise to protest against it. We should have no difficulty in finding allies.—I am, etc.,

Exeter, July 21st. W. Gordon.

THE SANATORIUM TREATMENT OF CONSUMPTION: IS IT WORTH WHILE?

Sir,—In our present stage of knowledge of treatment of pulmonary tuberculosis, which, as yet, is only experimental, from practical experience I would strongly uphold the sanatorium method as one which gives the best all-round results.

At present, however, it is impossible to collect reliable information dealing with large numbers of cases, since each sanatorium records its results in its own way. I would like to enter a plea for a system of organization in the arrangement of statistics, such as that which prevails on the Continent, so that there may be a common basis in the comparison of results.

As regards the expediency of sanatorium treatment much depends on the following: (*a*) Nature of sanatorium; (*b*) stage of disease on admission; (*c*) duration of stay.

(*a*) A layman afflicted with consumption has usually but the vaguest notions of sanatorium methods and what to do in order to get better. I fully support Dr. Latham,[1] who says that "every patient suffering from consumption is well advised if he goes in the first place to an efficient sanatorium, provided that his general condition is suitable, and the disease not too far advanced." I would lay special emphasis on the term "efficient." Sanatorium treatment to be efficient must be rigid, and attention to detail is the keynote of success. The well-known factors of pure air, regulated rest and exercise, and nourishing food, together with unremitting and systematic medical supervision, give tuberculous patients the best chance of effective resistance to the disease; without this supervision other elements of treatment often fail. In other words, it is not sufficient merely to give directions as to treatment, but one must be ever on the alert to see that one's instructions are followed. This is usually impossible if the patient be left alone or in the care of friends, however considerate. With the best intentions a phthisical patient, through ignorance or wilfulness, often will do himself irreparable harm, and from the point of constant vigilance the general practitioner labours often at a disadvantage, for he does not like to make frequent visits which may seem to the patient or patient's friends unnecessary, yet without this adequate supervision the rate of improvement will be slow.

(*b*) If permanent benefit be desired, the selection of cases must become much more rigid, only that patient in whom the disease is slight being limited to a sanatorium, advanced cases being segregated in specially-designed institutions. Doubt as to efficacy of sanatorium treatment has frequently arisen owing to inclusion of unsuitable cases.

(*c*) Dr. Bushnell, in his interesting letter to the British Medical Journal of July 15th, remarks that "six months' treatment should be a minimum in most cases," and this limit should be striven for in the case of the poor, for whom a year's treatment, as advised by Koch for even the earliest case of pulmonary tuberculosis, is usually impracticable. Permanent arrest cannot be attained by a stay of a few weeks to three months, which is the fashion in many institutions. The educational value of even short sojourns, however, is great, especially when the patient receives definite directions as to his subsequent mode of life; or, still better, when he is taken in hand by an "after-care" committee or can join a "labour colony."—I am, etc.,

J. F. Halls Dally.

Royal National Hospital for Consumption,
Ventnor, July 18th.

Sir,—I have to thank Dr. Don for his further explanation of his position. I cordially agree with him as to the inadequacy of sanatorium statistics and as to the economic extravagance of sanatorium treatment of the poorer classes. I do not, however, share his scepticism with regard to permanence of "arrest," and I am afraid that his reference to the German climate implies ignorance both of the German climate and of the relationship of climate to cure. Nor can I understand his condemnation of the "feed and freeze" treatment. I cannot guess what particular treatment he has in mind, and I do not know what special and sufficient opportunities he has had of forming a comparative estimate as to the efficacy of methods of treatment with reference to such details as food and temperature.

I am quite sure that no sanatorium doctor would wish to alienate the sympathy of general practitioners; but nevertheless Dr. Don must permit me to remark that the general practitioner is in little better position to judge and criticize sanatorium methods and results than the sanatorium doctor to give his views on Caesarean section.

Sanatorium treatment in this country is suffering greatly from the inability—an inability quite honest and natural—of the general practitioner and even of the consultant to understand that sanatorium treatment requires special knowledge and experience, and that only after years of intimate and constant comparative observation is a doctor in a position to lay down the law with regard to food and temperature, exercise, and such like. Unless sanatorium doctors are put in a satisfactory professional position, as in other countries, the sanatorium movement in Britain will continue to result in economic waste, in ill-digested statistics, and in growing public scepticism.—I am, etc.,

Ronald Campbell Macfie, M.A., M.B., C.M.

Penmaenuwayr, July 23rd.

HAY FEVER, CHRONIC RHINITIS, AND ASTHMA.

Sir,—As I have had an experience very similar to that of "F.R.C.S."[2] in this matter, I should much like to say a word. I was never cauterized or treated in any respect surgically like "F.R.C.S.," but I was very kindly, but quite futilely, advised by my colleagues of the profession. Their kindness made a great impression on me, and I am not likely to forget it; but neither, alas! am I the futility of their advice. I have sneezed as many as twenty times in three or four paces while walking, and have been obliged to stop walking while the paroxysms lasted. I have sat up for three weeks, night after night, because I could not lie down. I have been awakened by paroxysms of asthma and difficult breathing. Being of a nervous temperament, I suffered, it is no exaggeration to say, even fearfully from paroxysmal dyspnoea; in fact, although I have had a large experience of sickness of all sorts now, extending for over thirty years, and have seen many cases of asthma, I have never seen any one suffer so much as I have done myself in past years. All this is a thing of the past. I have had no asthma and no hay fever now for many years, and I should be ashamed to have them; in fact, if I have a cold I am ashamed now. I know it is my own fault, not the fault of the weather nor of the climate in which I live, although a kindly and well-meaning colleague told me I ought to leave the bleak cold clay soil and hard climate in which I live. The climate has not changed, but I have.

[1] *Pulmonary Consumption*, page 202. Bristol: John Wright and Co.

[2] British Medical Journal, July 15th, 1905, p. 161.

Neither was it the fault of my ancestors, although I have always been a delicate man. Still I have been sound enough to pass for insurance at ordinary rates. What, then, was the cause of my repeated asthmas, hay fevers, bronchitises? Nothing but too much food; especially too much bread, puddings, and sugar—the things I am particularly fond of, the foods out of which our friends the women make their cancer, poor things, at least in my humble opinion; and having made careful and repeated inquiry into this matter, I think I know. And the cure—well the cure is, as "F.R.C.S." says, to take less food (I never "drank," for though not quite a teetotaler, I have been a practical abstainer all my life). Let no one who has asthma eat more meals than two a day. Let him have no solid food after 2 o'clock, and as a rule, when he has fairly established this habit, he will have no more asthma (and no more insomnia). If that is not sufficient to cure him (but in nine cases out of ten it will be sufficient), let him eat once a day a meal of mixed diet—not more than 12 oz. of mixed food—and he will be cured; at least, I have yet to see the case that will not be cured; of course, supposing that no insurmountable emphysema or secondary chronic or tuberculous pneumonia has set in.

Professor Chittenden deals with this question from the physiological standpoint. But he only says from the physiological standpoint what for many years I have been saying from the clinical standpoint, and what I have succeeded in emptying my consulting-room by declaring: "The average man and woman eats—not a grain or two too much, nor an ounce or two too much, but two or three times as much food as he requires;" and this is the chief cause of illnesses.—I am, etc.,

July 18th. M.D.

THE VALUE OF VACCINATION.

SIR,—In a practice of forty-two years many cases turn up, and on such a commonplace thing as vaccination I think it may be worth while to put on record two cases that came under my notice. In the winter of 1863 and summer of 1864 I was assistant to Dr. Nicolas, F.R.C.S.E., in Portland. I was asked to see a boy at the west of the island. I found a lad of 6 or 7 covered with small-pox—a terrible sight; he died next morning. He had never been vaccinated. It seemed that a sailor in the Fleet at Portland Roads had small-pox, and was removed to the Sailors' Hospital in Portland. The farmer whose son had small-pox supplied this hospital with milk, which was delivered by another son some years older than the sick boy. This boy had been vaccinated, and he must have carried the infection with impunity, and given the disease to the only unvaccinated member of his family; no other case occurred.

When Medical Officer to Castleblayney Dispensary, I visited an infant with small-pox so virulent that the child died that night. This infant had not been vaccinated. The family consisted of a mother and four more small children. The father was a tailor, and worked in Liverpool. A case of small-pox happened in his lodgings there; he got frightened, came home, stayed a week, and returned to Liverpool. There was no other way to account for the small-pox. The father must have carried the infection and given it to the only unvaccinated person in the house. What a nice travelling companion he was! and he probably worked at his trade too. No other case occurred in the district. In forty-one years' practice I have seen but two cases of small-pox in Ireland, where vaccination is right well carried out.—I am, etc.,

Nenagh, July 20th. R. MORTON.

NEW KING'S COLLEGE HOSPITAL.

SIR,—The admirable account which you have given of the somewhat technical block plan is, I venture to think, liable to be misconstrued by some of your readers. The intention was, and still is, to limit the completed hospital to 600 beds, but, for reasons it is not necessary to explain, the instructions overlapped and show over 700 beds.

This reversion to the original intention can be attained by omitting two of the ward blocks, which are on what you aptly term the "spine." This would very materially increase the intervening space between the ward blocks, thereby effecting a most desirable improvement.

I may be permitted to add that there is no intention to materially alter the general lay-out of the hospital, beyond what may be rendered necessary by the reduction referred to, or by internal details contingent upon the medical, surgical and administrative conditions.

It should be remembered that the design under consideration (like those of the other competitors) is only the individual opinion expressed in the form of plans of a complex tangle of valuable facts, and necessary requirements, which had to be unravelled and reduced to be subservient to administrative needs, and was prepared without conference with the hospital authorities.

It is most certainly the fixed determination of the Removal Committee that King's College Hospital shall be, as far as can be attained, ideal in its arrangements for the treatment of the sick.

It may be urged that the site is somewhat limited. In the metropolis that is impossible to avoid, but the new hospital has a unique compensation in having the whole of its great ward blocks facing the "Ruskin Park," so munificently secured by the Camberwell authorities, and practically open country—a magnificent position which no other London hospital possesses.—I am, etc.,

London, S.W., July 13th. WILLIAM A. PITE, F.R.I.B.A.

THE DIET OF THE PRECIBICULTURISTS.

SIR,—It is a pity that Dr. Harry Campbell did not obtain more accurate information before compiling his paper on the Diet of the Australians.[1] The article is not likely to seriously affect the aborigines, but it is not right that such apparently authoritative statements should be allowed to pass unchallenged, and so be handed down as history of a race of people which is rapidly becoming extinct, but which had many fine characteristics before it became contaminated by the Christian civilizing influence of the white man.

It would be a big task to attempt to correct in detail the errors in this paper, for it is a somewhat difficult matter to find any statement which is accurate, almost as difficult as it would be to find a copper-tinted aborigine, a tribe subsisting mainly on vegetable food, a marsupial iguana, a 6-in. grub in a gum tree; or to induce a black fellow to eat a scorpion, centipede, or many other of the animal foods herein prescribed for him, some of which are not to be found in Australia at all. It is sad to throw any doubt upon the beautiful thought of the dog having been "man's companion for many thousands of years," but it has been fairly definitely proved that no kind of dog existed in Australia before the first European landing.

I fail to see what good object Dr. Campbell serves by the revolting story of cannibalism during the funeral ceremony of some tribes, even if it had any foundation of fact, which it has not. All aborigines regard the dead of their own tribe with the greatest superstition and reverence, and guard the bodies and burying places of their own dead with jealous care. Dr. Campbell seems to have got possession of some camp-fire yarns told for the edification of new-chum jackaroos, but they hardly qualify him to write a serious history of our Australian aborigines.—I am, etc.,

London, W., July 24th. ALEXANDER FRANCIS.

THE CONTAGIOUSNESS OF DIABETES.

SIR,—I was recently greatly interested in reading in the June number of *The Dietetic and Hygienic Gazette* an extract from your JOURNAL upon the Contagiousness of Diabetes, by M. Hutinel, in which the author contends that the contagion is contained in the mouth, and that the saliva is the propagating agent.

It would be still more interesting if M. Hutinel would tell us the nature of the infecting agent in the saliva, which he claims produces diabetes, and makes the disease contagious.

I have known for a number of years that diabetes is a transmissible disease, and can be conveyed by the saliva as well as by inheritance. Although I have never been able to discover the germ of the disease in any of the salivary secretions, I have found it in other fluids of the body.

Does not M. Hutinel mean that the disease is infectious instead of contagious?

In my paper "The Etiology and Extermination of Diabetes," which will be read before the New York Academy of Medicine in September next, I show, and verify by ample proof, that diabetes is due to an infection, but I do not consider that it occurs as a result of contagion.

New York. G. LENOX CURTIS.

[1] BRITISH MEDICAL JOURNAL, July 22nd, 1905.

UNIVERSITIES AND COLLEGES.

UNIVERSITY OF OXFORD.

PRESENTATION OF ADDRESS.

IN the Convocation holden on Tuesday, June 20th, a deputation from the medical graduates of the University presented the following address:

To the Chancellor, Masters, and Scholars of the University of Oxford.

We, the undersigned, Members of the University of Oxford, feeling the keenest interest in the welfare of medical education at our University, desire to draw your attention to the action which has been taken by a large number of the Oxford graduates in medicine.

We believe that although Oxford cannot successfully enter into competition with the metropolis and other large centres for the purpose of clinical teaching, the scientific training of the medical student can be most efficiently carried out in the University; and, as a part of the curriculum, we consider that the scientific aspect of pathology and bacteriology, as distinct from morbid anatomy, should be permanently provided for at Oxford.

This object can only be attained by an endowment, which will secure permanent provision for the teachers of pathology, and for the maintenance of the excellent laboratory the University already possesses.

In order to promote such endowment, a meeting of Oxford medical graduates was held upon December 20th, 1904, and the following resolution was passed:

"That with a view to showing the strong feeling the Oxford medical graduates have of the necessity for promoting the study and teaching of pathology, a fund be started for the purpose of assisting in this object; and that it be primarily for the establisment and endowment of a professorship in pathology."

In accordance with this resolution, a "Pathology Endowment Fund" has been started.

We have the honour to be,

Your obedient Servants,

W. S. CHURCH, M.A., D.M., Hon. D.Sc.,
Chairman of Executive Committee.

(Followed by the names of 164 Oxford Medical Graduates.)

THE UNIVERSITY OF DUBLIN.

THE MEDICAL CURRICULUM.

AT a meeting of the University Council, recently held, a number of important regulations affecting students in the School of Physic, Trinity College, were approved.

One of the main objects of the changes introduced is to give more time for the study of the subjects in the preliminary science and the intermediate portions of the medical curriculum. This has been achieved mainly by a readjustment of the arts and medical time-tables and courses, and also by the granting of certain privileges with regard to the arts course to students of medicine. In future (after October, 1905) students will not begin their medical studies until they have passed, in addition to the public entrance examination, a special preliminary examination in arts (or its equivalent). A student who has completed this special examination, which may be regarded as an entrance examination to the medical school, will be granted certain professional privileges enabling him to devote far more time than has hitherto been possible to the study of preliminary scientific and intermediate subjects of the medical curriculum.

The preliminary science courses are to be improved by the introduction of practical courses in physics, zoology, and botany, and by the addition of a special course of instruction in mechanics. Medical students who have passed the special preliminary examination in arts and who have attended the first-year courses of the medical curriculum satisfactorily will in future be permitted to count the medical school examination in preliminary science subjects as equivalent to a portion of the final Freshman (Little Go) examination. Satisfactory attendance upon lectures and courses in the preliminary science courses will also exempt medical students from attendance upon certain arts lectures. At the final Freshman examination medical students who avail themselves of the privileges now granted will be required to pass in mechanics, logics, English, and one language.

The arts course for medical students is to be improved by the introduction of certain compulsory courses of lectures including instruction in English essay writing—which will be given in the four undergraduate Trinity terms. Medical students who have attended these courses satisfactorily, have passed the modified Freshman examination, and who have completed a specified portion of the medical curriculum will be permitted to take their B.A. degree upon passing the examination in ethics and English composition.

In addition to the inclusion of the practical classes in connexion with the preliminary science course, already noted, the chief change in regard to the medical curriculum introduced is that in future the University will require a certificate of attendance upon a course of elementary hospital instruction which must be taken by students during the first winter session in which they begin their clinical work. In future, also, a record of hospital attendance will be required by the University in the case of each of its students.

UNIVERSITY OF LONDON.

MEETING OF THE SENATE.

A MEETING of the senate was held on July 5th.

Advanced Lectures in Physiology, 1905-6.

The following scheme of advanced lectures in physiology for the academic year 1905-6 was approved.

At University.—S. B. Schryver, D.Sc.: Experimental Methods used in Experiments on Metabolism (eight lectures, Wednesdays at 5, October to December). E. H. Starling, M.D., F.R.S.: Recent Researches on the Physiology of Digestion (eight lectures, Fridays at 5, October to December). W. M. Bayliss, D.Sc., F.R.S.: On Vascular Innervation (eight lectures, Wednesdays at 5, January to March). W. Page May, M.D., D.Sc.: The Structure and Functions of the Basal Ganglia (eight lectures, Wednesdays at 5, May to July).

At King's College.—F. S. Locke, M.D.: The Excised Mammalian Heart (Monday, November 20th, at 4). C. J. Martin, M.D., F.R.S.: The Physiology of Defence against Invasion by Micro-organisms (Mondays, November 27th and December 4th and 11th, at 4). T. G. Brodie, M.D., F.R.S., and W. D. Halliburton, M.D., F.R.S.: The Proteids from the Chemical and Experimental Point of View (Mondays, January 8th, 15th, 22nd, 29th, February 5th, 12th, 19th, 26th, at 4). F. W. Mott, M.D., F.R.S.: Recent Neurological Methods and their Results (Mondays, March 5th, 12th, 19th, at 4). C. S. Myers, M.D.: Modern Researches on the Psychology of Memory (Fridays, January 12th, 19th 26th, February 2nd, 9th, 16th, 23rd, March 2nd, at 6). C. S. Myers, M.D.: The Special Senses (Fridays, May 11th, 18th, 25th, June 1st, 8th, 15th, 22nd, 29th, at 4).

At Guy's Hospital.—A. E. Boycott, M.D., and F. A. Bainbridge, M.D.: On the Physiology of Lymph (eight lectures, Thursdays at 4, October to December). A. P. Beddard, M.D., and E. I. Spriggs, M.D.: On Nitrogenous Metabolism (eight lectures, Thursdays at 4, January to March). F. G. Hopkins, M.D., F.R.S.: Chemical Physiology (four lectures, Thursdays at 4, May). J. S. Haldane, M.D., F.R.S.: On Respiration (four lectures, Thursdays at 4, June).

The Brown Animal Sanatory Institution.

The report of the Committee of the Brown Animal Sanatory Institution was received. It stated that the number of new cases treated in the Institution last year was—out-patients 6,015 and as in-patients 437. The number of cases of suspected rabies forwarded to the Institution was very small, and in every instance the examination proved negative. Mr. Steinberger has presented to the Institution a thoroughly efficient lethal chamber.

Award of University Medals.

The University medals for the M.B., B.S. examination and the B.S. examination were awarded to Thomas Lewis (University College) and Thomas Percy Legg (King's College and St. Bartholomew's Hospital) respectively.

Incorporation of University College.

The University College, London (Transfer) Bill received the Royal assent on July 11th. The Act provides for the appointment of five Commissioners charged with the duty of making statutes to carry into effect the transfer of the College to the University. Of these Commissioners, two—Lord Justice Cozens-Hardy and Sir Edward Busk—were nominated by the University; and two—Sir John Rotton and Professor J. Rose Bradford—by the College; the remaining Commissioner is to be appointed by His Majesty in Council, and will act as Chairman. Sir Edward Fry, late Lord Justice of Appeal, has consented to allow his name to be submitted to His Majesty in Council for this post, and it is expected that the Order in Council announcing his appointment will shortly be published.

Vice-Chairmen of Committees.

Dr. P. H. Pye-Smith, F.R.S., and Professor J. Rose Bradford, F.R.S., have been elected Vice-Chairmen of the Committee of the Medical Members of the Senate and the Physiological and Laboratory Committee respectively.

The Rogers Prize.

The Rogers Prize of £100 has been this year awarded to Mr B. J. Collingwood, M.B., B.C., for his essay on Anaesthetics, their Physiological and Clinical Action. The essay submitted by Dr. A. G. Levy was highly commended, and the Senate awarded him an honorarium of £50.

Physiological Laboratory.

Dr. George Oliver has presented the sum of £100 to the funds of the Physiological Laboratory Committee.

The course of lectures on the chemistry of proteids, recently delivered by Dr. Schryver at University College, has been approved for publication under the auspices of the University.

FACULTY OF MEDICINE.

A meeting of the Faculty of Medicine was held at the University of London, on Tuesday, July 18th, 1905, Dr. J. K. Fowler, the Dean of the Faculty, occupied the chair.

The Chairman announced that Dr. Lauriston Shaw had, in consequence of his election to the Senate, resigned the honorary secretaryship of the Faculty. A vote of thanks to Dr. Shaw for his services during the past five years having been carried, it was resolved to postpone the election of a successor till the October meeting.

A Committee on teaching and research in the "advanced" subjects of the curriculum, namely, those studied after passing the intermediate examination, presented an important report. The report contained proposals for the development of research in pathology, pharmacology, and clinical subjects, and made suggestions for grouping the lectureships in subjects such as hygiene, forensic medicine, and mental diseases. The report also dealt with the question of securing funds for the support of medical education and the manner in which such funds should be allocated to different institutions and different subjects. In the final section of the report the Committee made recommendations as to the periodical inspection of the University, of the Medical Schools, and the recognition by the Senate of practical work done by students in the wards and laboratories of the

schools as counting towards the results of the Final Examinations. The report was amended by the Faculty and adopted for presentation to the Senate.

The Faculty approved a report from the Board of Dentistry upon additional teaching required in London upon comparative odontology, the pathology of the teeth, and the mycology of the mouth.

Resolutions were passed indicating the procedure approved by the Faculty relating to theses for degrees in medicine and surgery.

The regulations prepared by the Board of Advanced Medical Studies for candidates desiring to take the degree of M.D. in Tropical Medicine were considered and approved.

LONDON SCHOOL OF TROPICAL MEDICINE.

The following candidates have successfully passed the examination in tropical medicine at the end of the eighteenth session of the School (May to July, 1905):

Dr. J. T. C. Johnson, (Colonial Service); Surgeon E. R. Stitt, U.S.N.; Dr. D. Mackinnon, Dr. F. E. Wood (Colonial Service) with distinction; Miss Commissariat; Dr. W. L. M. Goldie, Dr. J. S. Smith (Colonial Service); Dr. S. G. Allwood; Dr. E. V. Croker (Colonial Service); Dr. A. K. Wellington; Dr. E. Hopkinson, Dr. J. T. Waite, Dr. W. D. Inness, Dr. N. Beaumont (Colonial Service); Dr. H. G. Waters; Dr. T. E. F. Toovey (Colonial Service).

UNIVERSITY OF MANCHESTER.

Diploma in Public Health.—The following have satisfied the Examiners: G. G. Buckley, O. H. Chapman, C. W. Crawshaw, J. Howard, W. C. Rigby.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.

A QUARTERLY meeting of the Royal College of Physicians of Edinburgh was held on Tuesday, July 18th, Dr. PLAYFAIR (President), in the chair.

Admission to the Fellowship.

George Pratt Yule, M.D., M.R.C.P.E., Government Offices, Bloemfontein, was admitted by ballot to the Fellowship of the College.

Admission to the Membership.

Charles John Shaw, M.B., Ch.B., Murthly, was admitted by ballot to the Membership of the College after examination.

Admission to the Licence.

The Registrar reported that since the last quarterly meeting twenty-four persons had obtained the licence of the College by examination.

Curriculum and Examination.

The regulations regarding the single Licence and Membership and Fellowship of the College for the ensuing year, and the regulations for the triple qualification were approved.

School of Medicine of the Royal Colleges.

The Secretary laid on the table the annual statement by the Governing Board of the School of Medicine of the Royal Colleges in terms of the Constitution. The report indicated that the number of classes during the Winter Session, 1904-5, was thirty-nine, and during the Summer Session, 1905, forty-three, and that the number of students during the Winter Session was 1,122 and during the Summer Session 1,237, both so far as could be ascertained, as certain lecturers had not made returns.

Freeland Barbour Fellowship.

The Freeland Barbour Fellowship was awarded to Benjamin P. Watson, M.B., Ch.B.

Hill Pattison-Struthers Bursary.

The Hill Pattison-Struthers Bursary in Clinical Medicine, which is in the gift of the College, was awarded after examination to Mr. Robert Murray Fraser, L.R.C.P.E., L.R.C.S.E.

Expulsion of Licentiate.

By vote of the College, Richard Henry Darwent, a Licentiate of the College, was expelled from the College and deprived of his licence to practise, as granted by the College, and of all his rights and privileges as Licentiate.

MEDICO-LEGAL AND MEDICO-ETHICAL.

DR. GORDON STABLES, R.N.

A CORRESPONDENT sends us copies of two certificates signed in facsimile "W. Gordon Stables, C.M., M.D., Surgeon Royal Navy," in favour of the proprietary medicine called liquozone which recently came before the public in connexion with the death of a child. We do not know what scientific weight may attach to the investigations upon which Dr. Gordon Stables claims to express his opinion, but some of our readers may remember that in 1900 an advertising prospectus then issued by him fell into our hands, in the letter covering which, after asking for an advertisement for his forthcoming book, he said:

"Instead, however, of having a page advertisement at £10 10s., I should advise you to let me give you a page notice in the body of the work itself. This I will only charge £5 5s. for": while in the enclosed prospectus he stated—"A testimonial will, as usual, be appended to each advertisement, and the doctor will make a point of frequently alluding to these in print, and in many other ways. If desired he will send an excellent brief recommendatory letter on your speciality."

Dr. Stables is registered as M.D., Aberd.; he entered the Royal Navy, and was placed on the retired list on June 9th, 1871. We do not think this justifies him in signing himself as "Surgeon Royal Navy," without adding the word "retired."

SALE OF PRACTICE.

"CONTRACT" writes that he has recently sold his practice, and has received half the purchase money. The buyer now wishes to determine contract on the ground that he does not like the locality. The vendor, who is advised to go to the South Coast on account of his health, does not agree to this. Can the purchaser fairly claim to be relieved of his contract, and, if so, on what terms?

*** Under the circumstances the purchaser has no claim to relief from the vendor. He has purchased the practice, and if he desires to get rid of it, he must sell it in his turn to another purchaser.

MEDICAL MEN AND INDUSTRIAL EXHIBITIONS.

J. O. S.—We know of no fundamental objection to a medical man acting as one of the advisory committee of an industrial exhibition; but as these are often promoted by trade coteries mainly for advertising purposes, he should be careful not to be drawn into any false position, such, for example, as finding his name placed upon certificates of merit which may be afterwards used as advertisements.

CERTIFICATES FOR INJURED WORKMEN.

H. R.—The employer is not called upon to pay for certificates given by medical men to persons claiming compensation under the Workmen's Compensation Act, nor to contribute in any way to the medical expenses. The workman is not obliged to put in a medical certificate. If an insurance company requires one it should certainly pay for it.

THE EMERGENCY CALL.

SAMUEL FRASER.—A practitioner called in an emergency is entitled to be paid for his visit, although he surrendered the case to the regular medical attendant who arrived soon after him. If, however, the patient is poor, it might be more dignified to waive any claim and to regard the visit as a friendly assistance rendered to a colleague.

FEE FOR CERTIFYING LUNATIC.

T. W. R.—While the justice who directs a medical man to examine an alleged lunatic can make an order on the guardians for payment of such fee as he thinks proper, there does not appear to be any provision for payment of a medical man for visiting an alleged lunatic at the request of a policeman acting on his own initiative. But as the guardians may pay such fee (when the medical man, called in by the justice, has acted in the case) without an order on them from the justice so to pay, our correspondent might apply to the guardians explaining the circumstances.

MEDICAL ADVERTISING.

W. R.—Our answer to "L. H." was written under the impression that the printed card to which he referred was a card to be placed in the window of one house in each village stating that he called at that house for messages. This is a practice which may be necessary in widely-scattered districts, but must be justified by circumstances. We had no intention of approving of the distribution of cards from house to house in such villages. This would in effect amount to advertising for the purpose of procuring patients, and would be an ethical offence which, if proved, would subject the offender to the censure of the ethical authorities of the Association, if not to that of the General Medical Council. In order, however, to establish the offence it would be necessary to show that there had been a general distribution of the cards.

THE FEES OF ACCIDENT INSURANCE COMPANIES.

A CORRESPONDENT writes that, at the request of a well-known Accident Insurance Company, he made an examination of a case in which a dislocation had taken place and the claim was in dispute; his report was instrumental in arranging matters to the satisfaction of both parties. After some delay he asked for his fee, and received a postal order for 10s. 6d., to which he demurred and claimed a guinea. The letter from the Company enclosing the additional half-guinea contains the following statement: "We got reports at that figure (10s. 6d.) from medical men of the highest standing (from medical baronets downwards) for this amount," upon which our correspondent comments that while he has no wish to criticize the grammatical construction of the sentence, he should be glad to know what may be the recognized fee for such work, if any exists.

*** A guinea is a very moderate fee for such an examination and report, and with all respect to the Company we should be sorry to accept the accuracy of their statement. It rests absolutely with the medical profession to obtain adequate remuneration for their services. The companies desire to obtain the assistance of medical men of good standing, and if such practitioners insist upon being paid a higher fee the companies will yield, as whenever litigation arises they must pay heavily for expert medical evidence besides the legal expenses, and they can protect themselves against such contingencies only by securing the best medical skill for the reports upon claims.

THE TITLE OF "DOCTOR."

DEVON asks whether a L.F.P. and S.G. and L.A.H. Dubl. would be correct in putting on his doorplate "Dr. ——, Physician and Surgeon."

*** The right to the title of "Dr." has been very much discussed, and great difference of opinion exists. We do not know that the Glasgow Faculty of Physicians and Surgeons has ever expressed any opinion upon the question. A resolution in favour of the assumption of the title of "Dr." by all registered practitioners was proposed at the Annual Representative Meeting of the Association at Oxford, and was lost.

CHANGE OF RESIDENCE.

REMOVAL.—(1) We do not think the landlord could legally put up a notice to let until he has obtained possession of the premises—that is, after the expiration of the tenancy, but it would be unusual to insist upon the right to prevent him; (2) there could be no objection to a notice under the practitioner's doorplate to indicate the address to which he is moving; (3) a change-of-address card should only be sent to personal friends and bona-fide patients. Unfavourable comments are constantly made when such cards are sent beyond these limits.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 2, Agar Street, Strand, W.C., London; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone, unless the contrary be stated.*

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Manager, 429, Strand, W.C., on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not at his private house.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London.* The telegraphic address of the MANAGER of the BRITISH MEDICAL JOURNAL is *Articulate, London.*

TELEPHONE (National):— GENERAL SECRETARY AND MANAGER, EDITOR, 2631, Gerrard. 2630, Gerrard.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

DR. PERCY NEWELL (Bexhill) asks for information as to the strength of the saccharine solution injected prior to operations, alone or in conjunction with normal saline solution.

A. S. D. asks suggestions for the treatment of the following case: A young man, aged 24, unmarried, complains of severe itching, sometimes becoming almost painful, on the dorsal surface of the corona glandis. There is a small red eczematous patch on the corresponding surface of the foreskin. No history of specific disease or gonorrhœa; they can certainly be totally excluded. The secretion of sugar is apparently normal, no excess. The trouble is worst when he is walking, from the friction of his clothing presumably. These trifling disorders may seem hardly worth troubling about, but to the general practitioner they are all-important. The patient is a total abstainer.

STRAWBERRIES AND GOUT.

NAVIS has recently had under treatment cases of typical gout which the patients in nearly all cases attributed to the ingestion of strawberries. Acute attacks are, he thinks, certainly more frequent at this season. He asks for information on this subject.

POISONOUS TEA?

"JAN RIDD" writes: I recently attended 3 cases of food poisoning due to kidneys. About a week later after partaking of some tea all the patients vomited, and one had severe pain requiring an injection of morphine. A niece after partaking of the tea vomited. Later a nurse, who was warned only to take food brought from a friend's house, partook of a cup of the same tea, and she vomited an hour or two after, and was unable to continue nursing. She only had a little toast in addition to the tea. The tea was noticed to cause a much deeper coloured infusion than usual. One patient complained of the taste, leaving some of the tea. Is tea likely to cause vomiting from any adulteration? Would the extra strength as regards colouring be sufficient to cause vomiting? A sample has been sent to the county analyst, but the report has not been received yet (fourteen days). Would a tea-taster be likely to give useful information on the subject? The patients' temperature was normal throughout.

ANSWERS.

K. C.—Application should be made to the owners or managers of the various shipping lines. When appointments are made for the voyage only, no uniform is required, but sometimes at least no pay is given.

TUBERCULIN FOR DIAGNOSTIC PURPOSES.

DR. A. M[illegible] (Portici).—The tuberculin supplied by the firm named [illegible] is probably no advantage to be gained by trying other [illegible]. The local condition described does not appear to be capable of explaining the pyrexia, and some other cause for the latter should be sought elsewhere. The joint changes are those usually produced by [illegible] of hallux dolorosus, and it is likely [illegible] condition in the foot. An article by Mr. M[illegible] (vol. I. p. 1614) gives an excellent description [illegible] treatment.

LETTERS, NOTES, ETC.

THE GUINEA STAMP OF SURGERY.

IT appears [illegible] matter of common knowledge—in France that in [illegible] nothing to [illegible] consultation. [illegible] C. a three [illegible] from [illegible] under [illegible] Hearing [illegible] about the case of an employé who was [illegible] by the [illegible] for [illegible] hundred francs [illegible] which she handed him. She had understood that the consultant was a "chirurgien de *cinq louis*".

SCARPA and Rasori were [illegible] at Pavia, and there was no love lost between [illegible]. One day Scarpa after his lecture was standing with some students under the portico of the University. Rasori who happened to pass at the time, let fly a fibe at his brother professor. Scarpa replied: "Some time or other the *razor* must lose its edge." To which came the retort from Rasori: "It will always be sharp enough to cut a *shoe*" (*scarpa*).

A MEDICOCRATIC FORMULA.

IN Sir Mountstuart Grant Duff's *Notes from a Diary* (1898-1901), it is recorded that Lord Fortescue mentioned that the late Empress of Austria had once asked him in Madeira under what form of government they were living; and that he had replied, "Under a medicocracy." He went on to say that Lady Palmerston had once shown him a letter she had just received from the Princess Lieven, which contained "a good formula" for the expression of her own and many other people's attitude towards their doctors: "Méfiance la plus absolue, obéissance la plus servile!"

DISPENSERS, QUALIFIED AND UNQUALIFIED.

MR. G. E. BARLTROP (Walthamstow) writes: With reference to the letters under the heading "Dispensers, Qualified and Unqualified," in the BRITISH MEDICAL JOURNAL of July 1st, may I say that I hold both the certificate of the Apothecaries' Society and the "Minor" certificate of the Pharmaceutical Society? The former certificate authorizes me to act as "an assistant in the compounding and dispensing of medicines," while the "Minor" authorizes me to practise as a "chemist and druggist." The Apothecaries' assistant's certificate may be obtained at the age of 18 and after six months' experience, while the "Minor" necessitates a three years' course, and cannot be obtained under the age of legal responsibility.

THE THIRD STAGE IN THE SEXUAL CYCLE OF THE HAEMOGREGARINE OF JERBOAS.

DR. ANDREW BALFOUR (Director of the Wellcome Research Laboratories, Khartoum) writes to correct an error in the memorandum under this heading, published in the BRITISH MEDICAL JOURNAL of June 17th, 1905, p. 1330: the word "sexual" should have read "non-sexual." Perhaps "developmental" would, he adds, have been an even better term, as it is possible, though not probable, that conjugation may take place between two of the vermicule forms prior to the formation of cytocysts. Of greater interest is the fact that he has recently found what seems to be the same parasite in the mononuclear leucocytes of the peripheral blood of the Norway rat (*Mus decumanus*), while he has also found it free in the splenic pulp of this rodent. The erythrocytes of the rat were unaffected.

SNAPSHOT DIAGNOSIS.

SNAPSHOT diagnosis is always risky, unless it is carefully prepared beforehand. We have known a physician pronounce offhand a new case to be Addison's disease, only to be enlightened by the patient volunteering the information that he was a black man. Another eminent practitioner pointed out to admiring students that the patient's teeth at once indicated to a seeing eye the nature of the disease. The patient, being gratified by the interest shown in his dental apparatus, took it out, and handed it to the doctor with the remark that he would doubtless like to examine it more closely. It is related of Dupré, Professor of Medicine at Montpellier, that seeing a soldier wearing a bandsman's uniform who had just been admitted under his care with bronchitis and emphysema, he asked a student what the man was suffering from. The student could offer no opinion, whereupon the Professor exclaimed, "My dear fellow, don't you observe the barrel-like chest and the typical respiration? It is clear you haven't the medical eye. Well, I will tell you what is the matter. It is a case of mechanical emphysema, caused by blowing the trumpet." Then, addressing the patient, he said, "What instrument do you play, my man?" To which the reply was, "The big drum"! Another time he asked a student about a sailor with an enormous swelling of the cheek. The student could make nothing of it, but Dupré, without hesitation, pronounced it to be a gumboil. Discomfiture followed when the sailor said he had been sent to the hospital for intermittent fever, and forthwith proceeded to rid himself of his gumboil by taking from his mouth a huge quid of tobacco.

PRACTICE IN ALGIERS.

DR. ALFRED S. GUBB writes: My attention has been called to certain advertisements and circulars emanating from a gentleman in holy orders *sans cura* soliciting applications from English medical men provided with a French qualification to practise in France to fill an alleged vacancy at Algiers. This wholly unauthorized proceeding seems to be giving rise to a very natural misunderstanding in regard to myself, and I therefore deem it wise to ask your permission to state that I have been in practice at Algiers for the last two years, and propose returning there in due season.

SANITARY SWEARING.

THE Recorder at the Old Bailey, on July 24th, remarked to a medical practitioner who took the oath in the Scottish form with uplifted arm: "It is a much more sanitary and a much more solemn oath than our own, and, in my opinion, it ought to be made universal."

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

Eight lines and under	£0 4 0
Each additional line	0 0 6
A whole column	2 0 0
A page	8 5 0

An average line contains six words.

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Post Office Orders should be made payable to the British Medical Association at the General Post-Office, London. Small amounts may be paid in postage stamps.

N.B.—It is against the rules of the Post Office to receive letters at *Poste Restante* addressed either in initials or numbers.

An Address

ON

THE STATE AND THE PROFESSION.

By JNO. MILSON RHODES, M.D.,

Chairman of the South Manchester Division of the British Medical Association, Alderman of the County Palatine of Lancaster.

My first duty is to thank you for the honour you have conferred upon me by electing me to fill this chair, and so adding one more to my already numerous public positions. As one who has played a part in public life for a quarter of a century, I am in a position to judge better than many men the relations that exist between the State and the profession.

In discussing this question I am no pessimist. I think that things are improving, that the Government departments at any rate recognize, by their actions, more than they ever did before that the old saying "Salus populi lex supreme" is the right one, but I trust they will go a little faster than they have done and will, in the future, act more on the advice of the sanitarian and give less attention to the clamour of the house sweater and the property jobber.

No one dreads more than I do a rise in rates, and I am fully aware that all the improvements that have been advocated by the medical profession must cost money, but there is one thing the public ought not to forget, and that is the credit side. When I commenced practice the mortality of England and Wales was 22.726 per million of the population. The last report of the Registrar-General gives the figures as 16,230—an enormous saving of life; perhaps the saving of life is better seen by stating that during the last thirty years, while the population of England and Wales has increased by 10 millions, the gross mortality is actually less to-day than it was then.

The wealth of the State depends upon the health of the nation, and this improvement in the health of the nation (and when I speak of the health of the people I am glad to think that the improvement is both in the physical and mental health of the nation as proved by the steady fall in the mortality from diseases of the nervous system) and improved sanitation has resulted in a reduction in the loss of wages from sickness or death; that loss a few years ago amounted to upwards of £30,000,000 in wages alone. To whom is the credit of the reduction in the mortality, the improvement in the mental and physical health of the people, due, if not chiefly to the medical profession? The very knowledge the State possesses that the death-rate has diminished, has for its foundation our certificates (except a few coroner's cases). In spite of that fact, compare the treatment of the medical profession with that of the other officials dealing with the statistics of disease.

The State pays the Registrar-General, the superintendent registrars, the inspectors of registration, and the registrars. The State acknowledges, and rightly acknowledges, that these officials have a right to be paid, but when the members of the medical profession state the fact that they have as much right to be remunerated for their services, their claims are ignored, and they are refused bare justice for their professional services.

I am afraid that, at any rate in the past, sufferance has been too much the badge of all our tribe. We have not looked after our interests and we have not made those who are supposed to represent us to look after them as we ought to have done. At the present time you have in the House of Lords only one member of the profession, one who did really win the honour by his professional work for the welfare of humanity, Lord Lister. In the House of Commons you have a certain number of M.P.'s, but they are *rari nantes in casto gurgite*, and in many cases they sit as party politicians and not professional men and they have neither had the weight or the position to which their knowledge entitles them.

Compare this state of affairs with the other learned professions—you have members of the legal profession all over both houses, from the Woolsack in the House of Lords, right through to the Speaker's chair in the House of Commons, and as you know, the House of Lords contains a whole bench full of Bishops.

Compare this state of affairs with the position of the medical profession.

During a quarter of a century of public life, I can only call to mind one member of the profession holding a ministerial position and that a secondary one, at the Local Government Board.

And that brings me to the question of the Local Government Board. I do not suppose there are six gentlemen here who can say who compose the Local Government Board, as constituted by Act of Parliament. As a matter of law, the Local Government Board is, next to the Cabinet and the Privy Council, the most important body in the State. It is composed of—

The President of the Local Government Board.
The President of the Privy Council.
The Secretary of State for the Home Department.
" " " Foreign "
" " " Colonial "
" " " War "
" " " Indian "
The Lord Privy Seal.
The Chancellor of the Exchequer.

More than a third of the Cabinet.

That is law and theory. As a matter of fact, I believe that the Local Government Board has met about twice in the last twenty years and then for a few minutes, to sign some legal documents.

The real Local Government Board, in a Parliamentary sense, is the President and the Secretary, who, of course, must rely to a great extent upon the advice of the Permanent Secretary and Assistant Secretary. There is not much difference between the term Local Government Board and the "we" of the leader writer in our daily papers.

Now I am quite aware that the inspectors, medical and general, and the other permanent officials are called in to advise, but that does not meet the case.

The work of the Local Government Board to-day, is a totally different thing from what it was when it came into existence thirty-one years ago. Your State fever hospitals, your small-pox hospitals, chronic asylums, epileptic hospitals, as State institutions, were almost unknown; to-day, as you know, their number is increasing by leaps and bounds, not in any sense due to any increase of disease—for statistics show, beyond the possibility of doubt, that the reverse is the case—but to the fact that the public are realizing more and more that to cure is the voice of the past; to prevent, the divine whisper of to-day.

How has the enormous increase of the work of the department that looks after the State hospitals been met? In the last twenty years you have had one additional medical inspector appointed, a sum total of two. The public do not yet grasp the importance of the so-called workhouse hospitals; perhaps it may help them to realize it when I say that there are more beds in the workhouse hospitals of London alone than there are in all the voluntary hospitals of England and Wales put together. The people are streaming into the towns in an ever-increasing ratio, like it or not as we may; these hospitals will increase rather than diminish, and it is for the benefit of the taxpayer and patient that they should be made as efficient as possible. And I may say in passing, that, in my opinion, the Poor-law hospitals, excellent as they now are, do far less to pauperize the people than the so-called voluntary hospitals, the committees of which too often appear to be without an elementary knowledge of what really constitutes true charity. That, however, is a question that cannot be dealt with in the short time at my disposal, but which I hope will be dealt with faithfully.

I must get back to my subject. What I want to point out is that "new occasions teach new duties, time makes ancient good uncouth," and the medical staff of the Local Government Board are numerically unable to get through the work if they are to work reasonable hours.

What is required is a reconstitution of the Local Government Board, so that it may be more progressive in the future than it has been in the past. Why in the name of common sense should it not be once more a Board in fact as well as in name, something similar to the Conseil Supérieur d'Assistance Publique? You cannot do without your President and Parliamentary Secretary and the Permanent and Assistant Secretaries, but why should you not give seats on the Board to, say, the two chief general and medical inspectors and the heads of the legal and audit departments? I can see no reason why you should allow Commissioners in Lunacy to have seats at the Board and refuse gentlemen whose commission is in the Poor-law service. I think I know as much as anyone living of the relations between the Local Government Board and the officials, and no one acknowledges with more pleasure than I do the excellent work that Dr. Downes and Dr. Fuller have done, and I also recognize that the

relations between the Board and the profession are better, but I want to see them better still. The cardinal fault at the Local Government Board is that those in the office rarely come in contact with those outside the office, and they do not realize where the shoe pinches, therefore they have not that intimate knowledge of the subject that the medical and general inspectors have—a knowledge that should be utilized.

If the medical and general inspectors were placed on the Board, I believe we should have far more harmonious working than we have had. Do not go away with the idea that I am condemning the Government department. On the contrary, the longer I have been in public life the more and more convinced I am of the necessity for the central power, and that there are a considerable number of things in which they ought to have more power than they have now. Specially important is this in regard to public appointments like those of medical officer of health, Union medical officers, and vaccinating officers. We have had recently reported, you are all aware, a very grave case of abuse of power by an incompetent council, and it is to be hoped at the coming election that the British Medical Association will make this a test question for candidates for Parliament.

And now, gentlemen, I turn for a few moments to another question, the administration of the Lunacy Laws. We all know the frightful state of affairs that existed when the Lunacy Commissioners were first established, and probably with the laws dealing with mental diseases in a state of chaos, with many cases detained illegally as was then the case, there were reasons why there should be three Commissioners belonging to the legal and three to the medical profession, but, gentlemen, "new occasions teach new duties, time makes ancient good uncouth," and the necessity for the legal Commissioners has passed away. If one legal adviser is sufficient for Scotland, surely we can manage with two in England. The latest idea, I believe, is to increase the Lunacy Commissioners in England by one medical and one legal commissioner. No doubt the number of cases certified under the Lunacy Laws has increased enormously (as you know, that is no proof of an increase in lunacy) and the work of the Commissioners, the miserable detail work, has increased enormously. But is this the right way for the Government to deal with the reform of the Lunacy Laws? Of all the cases of the survival of the unfit that I am aware of, our system of the inspection of lunatics is the most striking example, because you have experts' time wasted on a mass of unnecessary details which benefit neither patient nor ratepayer.

You have 117,000 cases under the inspection of the six Commissioners in Lunacy, who are paid £1,500 a year each, at a total cost of £14,778—a by no means extravagant sum, say 8s. per head. But now let us turn to another class of insane, the insane under the care of the Court of Chancery. These number "about a thousand, of whom one-third are in private dwellings and the rest in asylums." To look after these you have two masters at £2,000 a year, and three visitors (two only medical) at £1,500, a total cost of £15,985. I should like to ask, why should trained alienists have £500 a year less than the legal gentlemen who probably had to gain their knowledge of lunacy entirely after they were appointed? And I should also like to ask, does it seem reasonable that 1,000 Chancery lunatics should cost £2,000 more than 100,000 cases under the care of the Lunacy Commissioners?

We have a right to demand that the profession shall receive justice at the hands of the State. So far, I am afraid, the well-known lines of Byron are applicable to the treatment of too many of the officials of the Local Government Board. In advocating justice, I mean fixity of tenure. I do so quite as much in the interest of the public as the profession. When I was in the United States I carefully inquired into this question and found, as anyone would expect, that where you had practical fixity of tenure there you had a higher type of officer than where the period of office was terminable by some miserable Tammany organization. In the past age, even in the present, we have had great need of organization. I trust that by means of these district meetings we shall bring our forces into line and work for one common purpose. Once become united in our efforts, I believe we shall find the power that has been too far latent becoming active, and the profession will be able to make itself felt in the affairs of the State as it has a right to do.

Bequests to Medical Charities.—Under the will of the late Miss Caroline Mary King, of St. Leonard's-on-Sea, the Ladies' Home and the Buchanan Hospital, both in that town, each receive a sum of £100.

Remarks
ON
THE PROFESSIONAL RELATIONS BETWEEN SPA DOCTORS AND THEIR BRETHREN.

Read at a Meeting of the Harrogate Division of the Yorkshire Branch of the British Medical Association.

By ALBERT MOUILLOT, M.D.,
Harrogate.

In March last Dr. Leonard Williams read a clever and tactful paper to the Balneological Society on the "Ethics of Health Resort Practice," which was followed by a discussion. I took part in the discussion, but it will not surprise those of you who know my limitations as a speaker to learn that I thought most of the points I wished to make after I had resumed my seat. The subject interested me greatly, and when invited by the executive of the Harrogate Medical Society to read a paper, I selected this subject as one which we might discuss amongst ourselves with advantage, but it was afterwards thought that this meeting would be a more suitable occasion, as we might have the advantage of hearing the opinions of those not engaged in Spa practice.

Dr. Leonard Williams charged health resort practitioners by implication with a neglect of correspondence, and an almost wilful desire to differ in points of diagnosis with those who send them patients. Now it is so obviously the interest of all reputable Spa doctors to keep on good terms with those who support them, by advising patients to consult them, that I feel sure that the complaints made against them must arise from misunderstanding of an avoidable nature, and it is with the object of helping to prevent these misunderstandings by showing how they occur, and how they could be avoided, that this paper has been written. I have used in the title the words, "professional relations," rather than the word "ethics," because many of the points suggested are in no wise obligatory in the sense that an ethical rule would be.

Patients who come for treatment to a Spa doctor may be divided into two classes: those who are sent directly to him by their medical men, and those who come by advice of a friend or relation. In my own practice I find the numbers are almost equal.

As I am of opinion that our duties are not quite the same in both classes, I intend treating them separately, taking the case of those sent directly by a medical man first.

Perhaps the best way of bringing all my points home is to begin in the consulting room of the doctor sending the patient, and end with the patient's last visit to the Spa doctor, stating what ought to be done by both doctors, in their own and their patient's interests, and afterwards showing how easily neglect of any of the details may lead to misunderstandings, which, in their turn, may lead to breach of old friendship.

The practitioner, having decided as to the Spa to which he is going to send his patient, should then give the name and address of the doctor to whom he wishes to intrust him. If he should not happen to be able to recommend a name, he should, if time permits, endeavour to obtain one from some colleague. The patient should be told that a letter fully describing his case will be written and sent by post to the Spa doctor, while no suggestion as to what the treatment is likely to be should be made to the patient, or if any such suggestion be made, it should of course also be embodied in the letter. The patient should be asked to write to the Spa doctor a day or two in advance asking for an appointment.

Having promised to write, the doctor should do so at once, when the facts of the case are fresh in his mind. The letter should state the diagnosis arrived at, as well as any details of previous history or treatment he may deem necessary. As a rule the Spa doctor should have a fairly free hand as to treatment, but if the medical adviser has any decided views as to what ought to be done or left undone, those views should be stated.

If the doctor sending the patient attends to these points he will have done all in his power to prevent any difficulties arising. The patient will go to the doctor he has selected, and that doctor will have all the facts before him and the patient will have what is his right, the advantage of the combined intelligence of his advisers.

Now let us briefly state what may, and indeed does, happen if any of these apparently trivial points are omitted. In the

first place, it is not desirable to leave the selection of the medical adviser to the patient, who perhaps arrives at the Spa at night, and does not know whom to ask for advice as to a medical attendant. Even educated patients look to strange people for help in their difficulty. For instance, a medical friend here told me that one of the wealthiest patients he had last season came to him on the advice of the railway porter who carried his luggage to the cab. The porter's advice in this case was sound and disinterested, but it might not always be so, and the patient might in consequence fall into such hands as would give a bad impression of Spa doctors' methods to him and his medical adviser. It is very surprising that patients are so careless in their choice of the doctor on whom to so great an extent a satisfactory return for the time and money spent on their visit depends. Again, if the introductory letter be given to the patient to deliver instead of being sent by the post, that letter may never reach the addressee, for the patient may decide to take the waters without advice, or finding the doctor to whom he was sent engaged or out, may go to someone who is attending a friend or relation. If this happens the Spa doctor is blamed for not answering a letter he never got, or for not writing about a patient he never heard of. I have repeatedly suffered from this myself, more perhaps in my earlier years here than now. If the letter is sent through the post it reaches the addressee even if the patient does not, and one has the opportunity of thanking our *confrère* for his kind intention. The patient may never tell his own doctor what has happened, and many misunderstandings arise from this cause. It is certain that if the patient be advised to write for an appointment in advance, one of the main causes of the "going astray" would be avoided, for frequently he finds that he cannot be seen by the Spa doctor at the time he calls, and as he has probably taken his rooms for a definite period, he dislikes losing a moment, so goes off to a less busy practitioner.

Now, if no letter has been written, or the letter does not state all that was said to the patient, no end of troubles may arise. For instance, nothing is more aggravating than after you have written your prescription, to hear the patient say, "I see you have ordered me baths, Dr. Jones told me particularly that I was only to take waters as my heart was so weak:" or "You have ordered me sulphur water, now my own doctor said I was to take iron as sulphur water was too lowering for me." Again, when no diagnosis is stated the patient may ask the name of his disease, you perhaps say "psoriasis," he says, "My doctor distinctly told me it was eczema." Of course, a little tact may get one out of these unpleasantnesses, but my contention is that they would never happen if the communications between our *confrères* elsewhere and ourselves were managed in what I may call a business-like manner. Again, the doctor sometimes forgets to write when he has promised to do so. The patient arrives in our consulting room, and his first question is, "Have you heard from Dr. 'X' about me?" If doctors would only realize what a disappointment it is to the patient when one has to answer this question in the negative, I am sure they would be more careful in their correspondence. The patient may wish to defer the consultation, but this entails loss of time to him and to the doctor, so I generally advise the patient to allow me to prescribe, promising to wire for the letter and to communicate with the patient if anything in it leads me to change the treatment. It would help us greatly if the doctor sending the patient would leave us a little more latitude as to the duration of the treatment whenever possible. The length of treatment being fixed beforehand often ties our hands in both directions. Sometimes the conventional twenty-one days is too long a period, and sometimes it is too short, so much depending on the way in which patients stand watering-place treatment—a matter which cannot always be determined beforehand.

Having now, I hope, convinced you that medical practitioners sending patients would do well in their own interests, in the best interests of the profession, and the true interest of their patients, to attend carefully to the details I have mentioned, I will now proceed to discuss the duties of the Spa doctor, which are more strictly ethical.

Having received the letter introducing the patient, he should at once briefly acknowledge its receipt, at the same time promising to write fully when the patient leaves. He should place the letter where he can find it when the patient comes, and read it carefully through before prescribing. He should be most particular not to contradict the diagnosis given, for after all what does it matter to the patient whether his disease be called gout or rheumatism, lichen planus or psoriasis, as long as you are sure you are giving him the proper treatment for his disease. If you find anything in the course of your examination of vital importance, say malignant disease, in a case of jaundice, it is advisable to write to the doctor first and ask him to wire instructions, at the same time taking an early opportunity of seeing the patient again. Dr. Leonard Williams, in his paper, says that a Spa practitioner is not a consultant, and that his true position is that of a responsible *locum tenens*. With this I agree. He takes charge of the patient for a definite time, in a definite place, and in the majority of cases his duties end with the last visit of the patient, though it cannot always be so, as the patient may not be returning home for weeks or months, and it is sometimes necessary to give advice as to what is to be done in the meantime. But speaking generally, Dr. Leonard Williams's contention is correct—our duties end with the last visit and the writing of the promised letter. I think the nature of this letter must vary a little. If addressed to a city consultant, who may only have seen the patient once, it is not necessary to discuss future treatment, whereas if the correspondent is the family doctor, he will generally expect, and often ask for some general advice as to diet and future treatment, for though few of us claim to be consultants, we must after many years' experience have some special knowledge of the kind of cases sent to our Spa. In Harrogate, for instance, we might reasonably claim to be experts in gout, rheumatism, obesity, liver and skin diseases, etc. Patients frequently write for advice after they leave, particularly some of those with whom one has been fortunate enough to become friendly. I have two or three times weakly given the advice asked, but nothing on earth would ever induce me to do it again. It is quite wrong, as is also the compliance with the request to call and see how this patient is when you are in town. I am sure it should never be done, except at the request of the family doctor.

The second class of patients are not sent by any doctor, but come on their own initiative, or on the advice of a friend.

Dr. Leonard Williams states that our relations to them are practically the same as if they had been sent, and that the same rules apply. Now, I do not quite agree with this. I at one time wrote to the patient's doctor, when he would let me do so, but I so seldom got a reply that I regretfully came to the conclusion that my letters were neither appreciated nor desired. I now never write unless I have something to state which is of importance to the patient or at the request of the patient. In future I shall adopt the excellent plan suggested by Dr. Luff during the discussion on Dr. Williams's paper, and ask the patient to tell his medical man that if he desires any information from me I shall be very happy to give it at any time. If the patient is not intrusted to you by any doctor you cannot be anyone's *locum tenens*, and are therefore more at liberty to impress your own views on the patient, but at the same time, if you wish any treatment to be continued, you should suggest it being done with the concurrence and under the supervision of the patient's own doctor, if he has one.

As I said before, it is our own interest as well as our pleasure to be on good terms with all who pay us the compliment of sending patients to our care, and most of us do all we can to attain this end. If, therefore, any of our friends feel that they have a grievance, I would ask them to believe that it must be due to some accident, and that if they wrote for an explanation it would generally be found that a satisfactory one was forthcoming. It should not be forgotten that those who have large practices at season places work during their season at a pressure which is almost inconceivable to those who have not experienced it. During this busy period it would not be surprising if at times a promised letter was forgotten, or some other duty omitted. When this happens we have only to beg for forgiveness, but none of us would be guilty of intentional discourtesy.

If this paper helps in any way by its suggestions to smooth the difficulties of our professional relations with our *confrères*, it will have amply repaid me for the time occupied in writing it, and fulfil the purpose for which it was written.

The executors of the late Miss Marianne Frances Hasker, of St. Leonard's-on-Sea, have decided to give securities of the estimated value of £10,000 to King Edward's Hospital Fund for London, on condition that the amount is retained as capital by that fund. This sum will complete the amount necessary to secure the conditional donation by Mr. H. W. Marshall of £12,000 and thus give the Fund a permanent income of £50,000 a year.

An Address
ON
IMMUNITY.

Delivered at the Annual Meeting of the North of England Branch,

BY GEORGE C. H. FULTON, M.B., C.M., J.P.,
President of the Branch.

[ABSTRACT.]

AFTER some preliminary remarks in acknowledgement of the honour conferred upon him by his election to the position of President, Dr. Fulton said that, on reviewing the twenty-three years during which it had been his lot to be a general practitioner, he asked himself what phases of clinical work had chiefly interested him. Etiology and diagnosis had proved most profitable and interesting, but lately "immunity" had been uppermost in his mind, and therefore he had chosen it as the subject of his address. It had long been known that, in the case of many infectious diseases, persons who had suffered from one attack were to some extent protected from a second. But until the true nature of infection was known it was impossible to give any explanation of this protection. This knowledge has been supplied by the modern science of bacteriology. The discovery of the first bacterium was made in 1850 by Davaine, who identified the bacillus of anthrax or splenic fever, and at a later date (1863) showed that the disease could be conveyed by its means. Next came the invention of Koch of solid media on which to grow the organisms, and the possibility of thus obtaining pure cultures of the different kinds put bacteriology on a sure basis. Since then bacteria had been positively identified as the causes of certain diseases, and good reasons had been put forward for regarding them as the cause of a great many cases both chronic and acute.

As for the manner in which these minute fungi produced their pathogenic effect, after various hypotheses had been proved incorrect, it was at length shown that micro-organisms secreted as the result of their own life-activity certain poisons which killed or injured the cells of their host and so produced disease. It was to these poisons or toxins that the pathogenic action of the organisms was due, and certain facts with regard to them pointed very strongly to their being of the nature of ferments.

THEORIES OF IMMUNITY.

Bacteria having been shown to be the cause of certain diseases, and the way in which they acted having been established, the next question which arose was why should the majority of infectious diseases run a definite course, ending in recovery. As an answer it had been suggested that bacterial diseases came to an end because the bacteria died spontaneously when they had exhausted all the nutriment necessary for their existence in the body which they had invaded. This theory, however, was soon abandoned, since micro-organisms could be cultivated on the juices derived from an animal which had just recovered from the very disease which was due to their activity, when, in fact, there was plenty of food left.

The next theory was that of Chauveau, the *Retention Theory*: this supposed that the bacteria died owing to the accumulation of their own excretory life-products. Under certain circumstances this might be true, but when the host was a living body no such accumulation took place.

These theories failing, attention was called to a possible vital reaction on the part of the animal attacked, whereby it was enabled finally to destroy the invading parasites, and at the same time endeavour was made to explain certain other phenomena of immunity, in virtue of which it might be classed as either natural, acquired, positive, or relative.

In whatever way immunity came about, it was evident that if the disease were due to the action of parasitic organisms it could not be said to be cured until all of these had been destroyed or driven out of the body. Some were eliminated by the expectoration, urine, bowels, etc., but these only accounted for a very small proportion of them, and the greater number were in some way destroyed within the body. They might be seen undergoing this destruction in the process known as inflammation, but in cases of general infection it was not so easy to observe what was going on. The bacteria, instead of remaining in one place, got into the general circulation and there multiplied. There was, however, in many cases the same development of a defensive force which resulted in an excess of white blood corpuscles, and was known as "leucocytosis." It was well marked in some diseases, but in others it did not occur, and in these some other protective measure must take its place. Possibly pyrexia was in many cases a defensive measure, since most pathogenic bacteria grew best at the ordinary temperature of the healthy human body; but in any case an explanation of all these phenomena must be included in any theory which attempted to account for the development of immunity.

The first theory of resistance to disease on the lines of vital action was that of Metchnikoff, known as phagocytosis. According to him, the leucocytes attacked and devoured any invading organisms which they met. When they had swallowed and thus destroyed all the invading bacteria the disease necessarily came to an end.

In man, however, phagocytosis was not the most important factor in the struggle with the invading germs, and leucocytes were on the whole rather to be considered as scavengers.

Next came the humoral theory, according to which the fluids of the body, and not the cellular elements, constituted the important factor in opposing the invasion of bacteria. The serum of the blood, even when all formed elements had been removed, still exerted in many instances an inhibitory action on the growth of micro-organisms. There must, therefore, be present in the plasma some substance of a protective nature upon which immunity depended, and to these hypothetical substances Buchner gave the name "alexines." The importance of studying the subject from a chemical as well as from a biological point of view thus became evident.

The foundations of after-progress were laid by Behring and Kitasato, who, in their researches published in 1890, proved that it was possible by injecting animals first with infinitesimal quantities, later with increased doses of the toxins of tetanus, to render them immune to disease. The animals thus treated were able to support with impunity doses of tetanus poison many times as great as would suffice to kill an ordinary non-immunized animal and no ill-effects were produced; and when the injection of the immune serum was administered within a short period of time to an animal previously inoculated with the tetanus bacillus, the disease did not develop. Corresponding observations having been made with regard to diphtheria, the term antitoxin was given to the unknown body on which the phenomena depended. It was shown, too, that the antitoxins in different diseases were not identical. Furthermore, it was proved that antitoxin bodies could be produced not alone in connexion with bacteria, but that by using the same methods serums antitoxic to organic poisons, snake poisons, and vegetable poisons could be produced, and animals immunized.

In most cases a serum thus produced was not antitoxic in the sense of neutralizing the poisons of the micro-organisms, but it destroyed the bacteria themselves when submitted to its action. Such a serum was said to be "bactericidal" instead of antitoxic, and the process by which it acted was called "bacteriolysis." The property resided not only in the blood serum but also in other vital fluids, such as peritoneal exudate.

Much of our knowledge of it was due to Bordet, who in 1891 discovered that if the blood of one species of animal was injected into an individual of another kind, the serum of the latter developed the property of dissolving the corpuscles of animals of the former species. This process was called "haemolysis," and was exactly analogous to bacteriolysis.

The haemolytic serum of a rabbit if heated lost its power, but if a little serum from a normal rabbit were added to it the property returned. The same was true of bacteriolytic serum. It was thus apparent that in the process of haemolysis the interaction of two bodies was necessary to bring about the result. One of these—the alexine or complement—was present in normal serum, whereas the second only developed in immunized animals. The alexine was destroyed by heat, whereas the second, or copula, was more stable. Many different names had been given to these bodies by various workers, but the speaker preferred alexine (help or protection) and copula (a bond of union) for the first and second respectively.

Some serums were haemolytic to the blood of other animals without previous treatment. Possibly in this case the copula necessary for the action was supplied by such serums. In some diseases haemolytic substances might develop in human blood, capable of acting on the blood of another human individual (isolysins), and possibly such substances might exist in cases of great anaemia, the patient thus destroying his own

corpuscles, but there was yet no definite evidence of the existence of such substances (autolysins). Similar "antibodies" could be produced by the injection of many other cells, as, for example, spermatozoa, etc., and the possibility of preparing a serum which should be capable of destroying the cells of a tumour was thus opened up.

Closely allied to these substances were "precipitins," which formed when the serum of one kind of animal was injected into the body of another species. It had been suggested that use might be made of them as a test for human blood.

Further bodies were those known as agglutinins, in virtue of which the serum of an immunized animal caused the micro-organisms of the same disease to adhere to one another (Gruber and Durham, the Widal reaction).

They were not the same as the antibacterial bodies, but seemed to develop *pari passu* in the blood serum. How they acted was not precisely known. Their effect was to render the bacteria less virulent.

The Side-chain Hypothesis.

The theory of the production of immunity and allied phenomena, which at present held the field, was Ehrlich's side-chain hypothesis. Ehrlich looked upon a molecule of protoplasm as composed of a central atom cell with a large number of side-chains of atom groups. The central cell was the mother cell, the side-chains were receptors—or cells having combining affinity with food stuffs, by which nourishment was brought to the mother cell. These receptors were of two kinds—those having power of combining with molecules of simple constitution, and those having power of breaking up compound bodies by ferment action for the purpose of assimilation. If toxins were introduced into the system they were fixed to the receptors by their haptophorous elements, and their toxophorous elements were therefore free, and produced toxic changes. If the dose of toxin were small, the mother cell was able to throw off the receptor plus the toxin, which thereby became free in the blood. As a result of repeated loss there was an over-regeneration of receptors, and the excess became free in the blood as antitoxin molecules.

Haemolysis illustrated the working of this hypothesis. Here the two substances, alexine and copula, were necessary to effect destruction of the corpuscle. Ehrlich's theory supposed that the protoplasm of the corpuscle had not the power of combining directly with dissolved substance (alexine), but could attach itself to a second body produced in immunized animals which, in its turn, could grapple to itself the solvent. Thus the destructive matter was enabled to combine with the corpuscle and dissolve it.

The process by which a bacterial toxin acted on a cell, though at first sight more direct, was found to be very similar to the action of a haemolytic substance on a corpuscle, only the toxin consisted of both destructive substance and uniting substance joined together in one molecule. The two parts in this case were called toxophore and the haptophore. The combined toxic molecule seized on the appropriate side-chains of a cell, and if the number of side-chains thus took up poisonous groups, the cell itself died. If only one or two side-chains were thus attacked, they were themselves killed and dropped off, but the cell escaped. It then proceeded to put out a fresh supply of the particular kind of side-chains of which some had been killed, and the cell thus became furnished with an increasing number of side-chains capable of fixing the particular toxin. It was thus capable of dealing with a larger and larger amount of the poison in the blood around it. In this way animals gradually became able to tolerate much larger doses of the toxin, because the freed side were capable of uniting with the molecules of the toxin before it reached the cells, and in this way prevented any poisonous action resulting. If serum containing free side-chains was injected into another animal, they still performed the same office, and conferred on the second animal the same immunity as that possessed by the original one. The curative and prophylactic action of antitoxin was thus explained. If the bacteria had already gained a footing in the patient, and were pouring out constantly a stream of toxin, the injection of a dose of antitoxin neutralized the poison; so it was necessary to give a large dose of it in order to meet the continuous inflow of toxin. If, on the other hand, a person had not yet got, say, diphtheria, but was exposed to the chance of infection, then a protective dose might be given to anticipate infection. It was important to remember that by administering antitoxin only the free toxin present was neutralized. That which had already entered into combination with the side-chains of the tissue-cells was practically beyond the reach of the remedy; hence antitoxin should be given early in the disease.

In the case of species or individuals naturally immune to certain infections, it must be supposed either that they possessed no side-chains capable of uniting with the toxin of the bacteria causing the disease, or that they normally contained in their system the two substances necessary to repel the bacteria—namely, the alexine and the copula. In those who had been artificially immunized, or who had recovered from a disease (acquired immunity), the copula had been produced by gradual education of the cells to throw it off, and the immunity was "active." When an animal had received into its system a dose of antibacterial serum, and was thereby enabled to resist a disease, it was called "passive," and only lasted so long as the injected serum remained in the body.

The source of the alexine was not quite certain, but it probably in part lay in the leucocytes; it was also a moot point whether there was only one sort of alexine capable, if a copula existed, of acting against all bacteria alike. It had been shown that in chronic maladies the quantity of alexine present tended to fail, and in this way might be explained the tendency to terminal acute infections in these conditions. The use of such remedies as yeast and cinnamic acid might lie in their power of supplying alexines—the yeast perhaps directly, and the cinnamic acid by stimulating leucocytosis, the leucocytes being the main source of alexine.

Of course Ehrlich's explanation of immunity was simply a hypothesis, but it had suggested new lines of research, and these so far had confirmed it.

Finally, it was to be noted that Ehrlich had shown antitoxin to be present in the milk of a nursing mother, and that immunity could therefore be transmitted to her child. This bore out an observation which the speaker himself made in 1898; after the epidemic of small-pox in the North, he had observed, and was the first to point out, that the child of a mother who had been revaccinated during pregnancy was immune to vaccination so long as it remained at the breast, and that the immunity was a passive immunity. This gave rise to considerable discussion in the British Medical Journal, *Lancet*, etc., but was amply verified after the London epidemic of small-pox.

The final result of his study of the whole matter was to lead him to anticipate that when the subject of immunity began to be more clearly opened out, it might be found that the method by which the effects of an invading bacterium were met were merely special manifestations of the normal interdependence of groups of the bodies' cells one on another.

AN EXPERIMENTAL CONTRIBUTION TO THE TREATMENT OF CHOLELITHIASIS *

By WILLIAM BAIN, M.D., M.R.C.P.

[From the Brown Institution, London.]

The experiments described in this paper were undertaken to ascertain (1) the changes, if any, undergone by gall stones introduced into the normal gall bladder, and (2) the fate of such calculi when cholecystitis was artificially produced. Various substances were also given to dogs with cholecystitis in the hope of finding a remedy. Behind these experimental aims there was a clinical one—namely, to learn, if possible, what happens in certain cases of cholelithiasis after a month's use of the Harrogate old sulphur water. One case briefly discussed will sufficiently illustrate this issue.

Mrs. X. had biliary colic, jaundice, and a raised temperature for some weeks before coming to Harrogate. The gall bladder was increased in size, and pressure over it caused pain. An exploratory incision had been advanced, but the patient preferred first to try a course of mineral waters.

When I saw her the temperature was normal, the jaundice had almost gone, and the gall bladder was easily palpated. It appeared about the size of a hen's egg, and was painful on pressure. It may be stated here that the best way of detecting tenderness in these cases is that suggested by Naunyn[1]—namely, to press the fingers under the right costal arch below the hepatic margin, and then ask the patient to take a deep inspiration. When the sensitive gall bladder impinges upon the fingers inspiration suddenly ceases.

The patient also complained of pain in the right subscapular region, and tenderness on pressure was noted over an area about the level of the twelfth dorsal vertebra and 1½ in. to the right of the spine. When

*Read before the Yorkshire Branch of the British Medical Association on June 28th.

present this is a valuable sign of gall-stone disease, and I have observed it when direct pressure over the organ failed to show any tenderness. Boas's[2] description of this referred tenderness may be cited. "Least recognized as a symptom of cholelithiasis," he says, "is tenderness over the posterior surface of the liver. When well marked it extends laterally from about an inch external to the spines of the vertebrae to the posterior auxiliary line and vertically from the eleventh dorsal to the first lumbar spines. To demonstrate this the finger should be pressed against a point to the right of the tenth dorsal vertebra, then against successive points in lines running horizontally outwards opposite the other spinous processes down to the first lumbar spine, first on the one side then on the other. It is then evident which side is the most tender. This symptom, if present during the acute attack, is also invariably present in the intervals, that is, if once present it is always present, and is, therefore, of special diagnostic value in the latent stages; occasionally it may be found years after the last attack of colic. Conversely, if absent in the acute attack it is not found in the intervals."

After taking the sulphur water for three weeks the patient felt perfectly well, the gall bladder could not be recognized by palpation, and pressure over it did not cause any tenderness. Three years have elapsed since the patient was under treatment and she has remained well.

This is by no means a unique example of the effect of the old sulphur water in gall-stone disease, although most of the patients have not improved so rapidly, and the ultimate result has not generally been so satisfactory. The case suggests two questions: First, what produced distension of the gall bladder? and, secondly, why did it subside so quickly under treatment? The enlargement might be due to blocking of the cystic duct by a stone, but this would not account for the jaundice unless the stone was large enough to compress the common duct—a rare occurrence—or it might have resulted from the extension of the spasm to the common duct. The most likely explanation is that the jaundice was due to a catarrhal condition of the common duct, and the distension to the blocking of the cystic duct with a calculus which subsequently dropped back into the gall bladder.

Gall stones are often found after death although their existence was not suspected during life, but it does not follow that they had not produced symptoms. Indeed, Moynihan[3] states that the most cursory examination into the history of a long series of cases treated by operation will show that, in almost all, the earliest symptom—that which has for years caused intense suffering at times—is "indigestion." It may be accepted that gall stones do produce symptoms which are sometimes attributed to the stomach, and that the success of medical treatment largely depends on early recognition of the disease.

As the literature of the subject is very extensive, only a brief reference to the experimental data will be attempted.

The quantity of cholesterine present in normal bile is small—about 0.5 per cent.—but in diseased conditions of the gall bladder it is secreted by the mucous membrane in much larger amounts. Herter[4] found that the injection of bichloride of mercury or carbolic acid into the gall bladder caused an increased secretion of cholesterine. Hartmann[5] examined the bile in 46 cases of cholelithiasis, and found bacteria in 36. Sherrington[6] showed that when the bile stream is retarded an ascending infection from the duodenum quickly occurs.

The connexion between typhoid fever and cholelithiasis has been pointed out by a number of observers. Cushing[7] found that 30 per cent. of gall-stone cases operated upon had suffered from typhoid fever. Curschmann[8] observed that out of 42 cases 13 had a history of typhoid fever.

Gall stones have been produced experimentally by Mignot,[9] Gilbert and Fournier,[10] and others. Gilbert and Fournier injected an attenuated culture of the typhoid bacillus into the gall bladder of a rabbit, and found that in six weeks two small concretions had formed. According to Ehret and Stolz,[11] a diminished motility of the gall bladder or the introduction of a foreign body to retard the flow of bile appears to be a necessary antecedent of gall-stone formation.

Vaughan Harley and W. Barrett[12] performed two series of experiments. In the first series they introduced calculi into the healthy gall bladder, and the dogs were killed at periods varying from six months to a year after the operation. The stones had all disappeared. In the second series cholecystitis was set up by the introduction of micro-organisms. In these "the autopsy revealed cholecystitis, and no dissolution of gall stones occurred."

In my experiments the operative procedures were as follows: After the animal was anaesthetized the skin of the abdomen was prepared, and a median incision 2 or 3 in. long was made from the xyphoid downwards. The gall bladder was drawn forwards and held by Spencer Wells forceps. It was then incised, the bile soaked up, and the stones inserted. Sutures were applied in the usual way, and in a majority of the experiments the gall bladder was stitched to the abdominal wall; in others it was dropped back into the abdominal cavity. When we wished to set up cholecystitis, a culture of the bacillus coli communis in normal saline was injected into the gall bladder before the last stitch was inserted. These cultures were supplied by Dr. Powell White, and were all of the same strain. The mucous membrane of the gall bladder was gently scraped just before the stones were introduced, so as to aid the action of the micro-organisms.

All the dogs increased in weight after the operation, with the exceptions of Nos. 1 and 16, the increase varying from ¼ to 2½ kilos. No. 16 lost 2 kilos, although the animal appeared quite well and lively.

The gall stones used in these experiments were given to me by Mr. Moynihan and Mr. Shattock, to whom and to Dr. Powell White I express my obligations. I must also acknowledge my indebtedness to Professor Brodie for his advice and valuable aid during the operations.

DESCRIPTION OF THE EXPERIMENTS.

Experiment 1. Fox terrier, weight 7½ kilos. Two stones, weighing 1,700 mg., were inserted into the gall bladder and the organ sutured to the abdominal wall. The dog was killed sixty-six days after the operation and the stones had disappeared. The gall bladder was perfectly healthy, and the bile was normal in appearance. The dog lost about 1 kilo in weight, but there was nothing observed at the *post-mortem* examination to account for this reduction.

Experiment 2. Fox terrier, weight 7¾ kilos. Two stones, weighing 1,640 mg., were introduced into the gall bladder and the organ stitched to the abdominal wall. As no trace of the stones was found in the previous experiment, this dog was killed thirty-eight days after the operation. The gall bladder was healthy, somewhat contracted, and the stones were in fragments; when collected and dried they weighed 400 mg.

Experiment 3. Irish terrier, weight 6¼ kilos. Two stones, weighing 1,750 mg., were inserted into the gall bladder and the organ sutured to the abdominal wall. The dog was killed sixty-three days after the operation. The gall bladder was contracted, the mucous membrane quite healthy-looking, and the stones were dissolved; only a blackish residue was seen. As it was fairly obvious from these three experiments that calculi became disintegrated in the normal gall bladder within a comparatively short period of time, it was considered unnecessary to perform further experiments of a similar kind.

Experiment 4. Black terrier, weight 10½ kilos. Two stones, weighing 1,436 mg., were placed in the gall bladder, along with a culture of the bacillus coli communis, and the organ stitched to the abdominal wall. Sixty-two days after the operation the dog was killed, and the stones weighed, after drying, 835 mg. The walls of the gall bladder appeared thick, the mucous membrane was swollen, and of a deep mahogony-brown colour. Minute bubbles of gas could be seen on its surface, and there was an excess of mucus. Histologically the mucosa was thickened, and there was distension of the vessels in the deeper layers.

Experiment 5. Fox terrier, weight 8½ kilos. Two stones, weighing 957 mg., were inserted into the gall bladder, which was then infected with bacillus coli, the incision stitched up, and the organ dropped back into the abdominal cavity. The dog was killed fifty-six days after the operation. The gall bladder was adherent to the liver, but the adhesions were easily broken down. The walls of the gall bladder appeared thick and the mucous membrane was swollen. The organ was full of bile, and the stones weighed 520 mg. Microscopically the appearances were similar to those of the previous gall bladder.

Experiment 6. Collie dog, weight 20¼ kilos. Two stones, weighing 1,220 mg., were inserted into the gall bladder, which was then infected with coli communis, and the organ dropped back into the abdomen. Fourteen days after the operation an exploratory incision was made to ascertain if the stones were in the gall bladder before treatment was begun, but as they could not be felt the animal was killed. As the stones were present this proceeding was not repeated in the remaining experiments. The gall bladder was adherent to the diaphragm. The mucous membrane was swollen, and the bile was scanty and watery. The gall bladder was not kept for microscopic examination. The stones weighed 920 mg., thus losing 300 mg. in fourteen days. This experiment is included to show that the reduction in the weight of the calculi occurs early.

Experiment 7. Maltese terrier, weight 7½ kilos. Two stones, weighing 1,458 mg., were inserted into the gall bladder along with a culture of bacillus coli, and the organ stitched to the abdominal wall. The dog was given 10 oz. of the Harrogate old sulphur water daily for five weeks, and was killed fifty-four days after the operation. The gall bladder was adherent to the liver, its walls were thick, the mucous membrane swollen, and the bile scanty and somewhat watery. The stones were found in small fragments coated with mucus; they weighed 140 mg. The microscopical appearances were exactly similar to those of No. 4.

Experiment 8. Black terrier, weight 8½ kilos. Two stones, weighing 1,570 mg., were inserted into the gall bladder, along with a culture of the bacillus coli, and the organ dropped back into the abdominal cavity. Two ounces of olive oil were given daily to this dog for seven weeks, and the animal killed sixty-one days after the operation. There was inflammation of the mucous membrane of the gall bladder, and the stones weighed 970 mg. I must thank Dr. Scott of Leeds for

examining microscopically this and the remaining gall bladders. As the histological appearances were very similar in all of them, one description will suffice. There was decided thickening of the mucosa, an excess of mucus, and vascular distension of the deeper layers, but no polymorphonuclear leucocytes were observed. In short, the changes were indicative of a mild degree of cholecystitis.

Experiment 9. Collie dog, weight 18¼ kilos. Two stones, weighing 1,590 mg., were inserted into the gall bladder, which was then infected with the bacillus coli, and the organ dropped back into the peritoneal cavity. Two ounces of olive oil were given daily for eight weeks, and the animal killed sixty-three days after the operation. The gall bladder was adherent to the liver, but the adhesions were easily broken down. The gall bladder was contracted, its walls appeared thicker than normal, and the mucous membrane was swollen. There was very little bile in the organ. The stones weighed 750 mg.

Experiment 10. Whippet, weight 7 kilos. Two stones, weighing 1,705 mg., were inserted into the gall bladder with a culture of the bacillus coli, and the organ dropped back into the abdomen. Ten ounces of sulphur water were administered each morning for six weeks, and the dog killed seventy days after the operation. For a few days this dog was not quite well, but shortly after he began to take the water his condition improved and he gained rapidly in weight. The gall bladder was very similar to those described, its walls appeared thick, the mucous membrane swollen, and the bile grumous-looking. The stones were in fragments, covered with very sticky mucus; they weighed 400 mg.

Experiment 11. Irish terrier, weight 9½ kilos. Two stones, weighing 2,600 mg., were inserted into the gall bladder with a culture of the bacillus coli, and the organ sutured to the abdominal wall. Ten grains of ichthoform were given to the dog twice daily in cachet form for seven weeks, and the animal killed sixty-three days after the operation. On *post-mortem* examination the gall bladder was similar to those previously examined, the mucous membrane being swollen, the bile watery, and containing a good deal of mucus. The stones were not dissolved, but diminished in weight to 2,422 mg.

Experiment 12. Collie dog, weight 17 kilos. Two large stones, weighing 2,792 mg., were put into the gall bladder, which was then infected with bacillus coli, and the organ stitched to the abdominal wall. Five grains of urotropin and 1 gr. of iridin in tabloid form was given twice a day to the dog for forty-eight days, and the animal killed sixty-four days after the operation. *Post mortem* the walls of the gall bladder appeared very thick, the mucous membrane distinctly swollen, and there was a fair amount of bile, which looked healthy. One stone was in fragments: the other was markedly reduced in size, and appeared on the verge of breaking up. The stones and fragments only weighed 640 mg. The stones in this case were the heaviest used in any of the experiments.

Experiment 13. Long-haired mongrel, weight 10½ kilos. One stone, weighing 2,608 mg., was introduced into the gall bladder, along with a culture of the bacillus coli, and the organ stitched to the upper part of the wound and isolated from the peritoneal cavity. A cholelysin tablet containing 9 gr. was given twice daily to the dog for seven weeks, and the animal killed fifty-six days after the operation. The walls of the gall bladder appeared thick, the mucous membrane swollen, and the organ contained a quantity of watery bile. The stone weighed 2,186 mg.

Experiment 14. Fox terrier, weight 6 kilos. Two stones, weighing 935 mg., along with a culture of the bacillus coli, were inserted into the gall bladder, and the organ fixed to the abdominal wall. One-tenth of a grain of calomel was given three times a day for seven weeks, and the animal killed fifty-eight days after the operation. The gall bladder contained a moderate quantity of bile, which appeared more watery than normal; the mucous membrane was thickened. The stones weighed, after drying, 485 mg.

Experiment 15. Mongrel, weighing 10 kilos. Two stones, weighing 1,690 mg., were inserted, with a culture of the bacillus coli, into the gall bladder, and the organ stitched to the abdominal wall. Five grains of urotropin and 1 gr. of iridin were given twice daily for seven weeks, and the animal killed sixty days after the operation. The gall bladder was adherent to the liver, but the adhesions were easily broken down. The mucous membrane of the gall bladder was thickened, and of a deep mahogany brown colour. There was a fair amount of bile, which appeared moderately healthy, and the calculi had completely vanished.

Experiment 16. Irish terrier, weight 12½ kilos. Two stones, weighing 2,090 mg., were inserted into the gall bladder, which was then infected with the bacillus coli, and the organ sutured to the abdominal wall. Half a grain of barium chloride was given once a day to the dog for seven weeks, and the animal killed sixty days after the operation. The gall bladder was adherent to the liver, and there was some difficulty in separating the two organs. The gall bladder was full of rather watery bile; the mucous membrane was thickened; the stones were in fragments, their weight after drying being 660 mg. Apart from the extensive adhesions, there was nothing observed *post mortem* to account for the animal's loss of weight.

Table Showing the Chief Details of the Experiments.

No.	Weight of Dog.	Weight of Stones before Insertion	Weight of Stones at Death.	Substance Given	Number of Days Alive after Operation.	Condition of Gall Bladder Post Mortem.
	Kilos.	Mg.				
1	7½	1,700	Disappeared	Nothing	65	Healthy
2	7½	1,640	Fragments, 400 mg.	,,	38	,,
3	16½	1,750	Residue unweighable	,,	63	,,
4	16	1,425	835 mg.	Control	61	Inflamed
5	5½	957	510 mg.	,,	56	,,
6	20½	1,220	920 mg.	,,	14	,,
7	7½	1,458	Fragments, 140 mg.	Sulphur water	54	,,
8	8½	1,570	970 mg.	Olive oil	61	,,
9	18½	1,590	750 mg.	,,	63	,,
10	7	1,705	Fragments, 400 mg.	Sulphur water	70	,,
11	9½	2,600	1,422 mg.	Ichthoform	63	,,
12	17	2,792	640 mg.	Urotropin and iridin	63	,,
13	10½	2,608	2,186 mg.	Cholelysin	56	,,
14	6	935	485 mg.	Calomel	58	,,
15	10	1,690	Disappeared	Urotropin and iridin	60	,,
16	12½	2,090	Fragments, 660 mg.	Barium chloride	60	,,

General Results.

These experiments show that the normal gall bladder will dissolve moderately large calculi in about nine weeks—results in accord with those of Harley and Barrett. That they have an important bearing upon the treatment of cholelithiasis is very evident. Instead of trying to find solvents for gall stones *in vitro* our aim should be to render the gall bladder aseptic, so that its functions are performed in a normal manner.

The next point brought out by the experiments is that when cholecystitis is set up the stones do not disappear, although there is always a reduction in weight, but this diminution apparently chiefly occurred before the inflammation of the mucous membrane was established. In several instances, had it not been for the difference in weight, the opinion from visual inspection would have been that no change had taken place. This will explain the discrepancy between my results and those of Harley and Barrett, who did not weigh the calculi.

Regarding the effect of the various substances given to the dogs, two of them, namely, the mixture of urotropin and iridin, and the old sulphur water gave fairly positive results. Barium chloride was tried because it was suspected that the sulphur water owed its effect to this substance by increasing the motor power of the gall bladder. Unfortunately, the animal lost weight during the treatment. Whether this was due to the disease or the drug I cannot say, but the dose of ½ gr. was probably too large for a small animal.

Ichthoform, calomel, cholelysin, and olive oil had no appreciable effect on the calculi. It is rather remarkable the number of medical men who believe in the efficacy of olive oil in gall-stone disease. One may suppose that the improvement in the patient's condition is sometimes wrongly attributed to the treatment prescribed.

With respect to the sulphur water, the experimental results harmonize with its clinical use. That its beneficial effect in cholelithiasis depends to a certain extent, at least, upon barium chloride, I have little doubt, but further experiments are necessary to establish this.

Regarding urotropin and iridin, it remains to be seen whether clinical experience will confirm experimental results. The clinical test is the crucial one, and if its evidence be favourable it will be easy to determine whether the beneficial results are due to either one or both drugs. The iridin used should be obtained from a trustworthy chemist, as there are worthless imitations on the market. The late Professor Rutherford told me he regarded iridin as the most reliable cholagogue—an expression of opinion with which I agree, so far, at any rate, as drugs are concerned. In estimating the value of mineral waters in this respect, the factors incidental to a health resort, which have a powerful collateral influence, cannot be excluded. Moynihan[13] describes a case of typhoid pancreatitis in which he drained the gall bladder. It was found three weeks after the operation that the bile discharged from the biliary fistula contained large numbers of the typhoid bacilli. Ten-grain doses of urotropin were given three times daily, and they were after four days increased to 15 gr. Eleven days after the drug was first administered no typhoid organism was observed in the bile.

One must recognize that in these experiments the treatment was carried out in cases where the cholecystitis was mild and of recent development—a very different condition to

that which frequently obtains in the human subject. In those cases of cholelithiasis where the walls of the gall bladder are practically converted into fibrous tissue, or where there is persistent blockage of the cystic or common duct, medical treatment is useless; but in the early stage of the disease, with no gross pathological change beyond a slightly-inflamed mucous membrane, improvement may be expected. The importance of early diagnosis must therefore be emphasized. In this connexion two cases recently under my care are of interest:

A lady over 70 consulted me for what she termed digestive disturbance, of more than twenty years' standing—spasms of the stomach and flatulence. Although she described these spasms as being very severe, I do not think she ever had biliary colic. In this case the affection was not suspected, and the only sign of gall-stone disease present was tenderness over the posterior surface of the liver—Boas's sign—which was very well marked.

The second case was a lady of 33, who consulted me for acne. She incidentally mentioned that she had been "liverish" for the last four years, and had tried a number of prescriptions, with little beneficial effect. The symptoms which she ascribed to the liver were a disagreeable taste in the mouth, especially in the morning, muscæ volitantes, irritability, and depression of spirits. She was not troubled with flatulence, nor had she any disagreeable sensations in the epigastric or other regions of the abdomen. On examination the liver was normal in size, but on asking the patient to take a deep inspiration with the fingers hooked under the right costal arch, inspiration ceased with a jerk when the gall bladder was brought against the fingers. The gall bladder could not be felt on palpation, but pressure over it caused distinct pain. Boas's sign was not present. She took a fair amount of exercise daily, and was not addicted to sweets. On inquiring into her history I found she had had typhoid fever four years before.

In treating such cases I would suggest a pint of the old sulphur water before breakfast (if a visit to Harrogate is practicable) and tabloids of urotropin and iridin twice or thrice daily for at least ten weeks. The diet should consist largely of nitrogenous food, and some pleasant form of exercise should be taken. The tenderness of the gall bladder is considerably relieved by the application of mustard bran packs to the hepatic region.

CONCLUSIONS.

1. That gall stones introduced into a normal gall bladder become dissolved within a comparatively short space of time, in about eight or nine weeks.

2. That when a mild degree of cholecystitis is set up gall stones inserted into the gall bladder do not disappear, although there is always a reduction in weight.

3. That ichthoform, cholelysin, olive oil, and calomel do not appear to have any effect in resolving calculi introduced into a gall bladder the mucous membrane of which is inflamed.

4. That during a course of the Harrogate old sulphur water gall stones become disintegrated in cases of cholecystitis experimentally induced.

5. That in the treatment of artificially-produced cholelithiasis a mixture of urotropin and iridin has a pronounced effect in causing dissolution of the calculi.

6. That in regard to the action of barium chloride further experiments are necessary to determine its rôle in experimentally-produced cholelithiasis.

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MEASURES TO REDUCTION IN CALIFORNIA.—The California State Board of Health, in its monthly leaflet for April of the present year, gives some particulars of an organized effort to reduce the chances of malarial infection in certain parts of the State. Last year's marshes near Saint Rafael were inspected by representatives of the Entomological Department of the University of California, and those which were found to be infested with mosquitos were treated with crude oil. The results were very satisfactory, but late in the year the work had to be suspended owing to lack of funds, and the number of mosquitos again increased. This year a large marsh area extending from South San Francisco nearly to San Mateo is the scene of operations. Fresh-water areas, which abound in the region, are filled up with earth, drained, or treated with oil

SEVENTY-THIRD ANNUAL MEETING
OF THE

British Medical Association.

Held at Leicester July 24th, 25th, 26th, 27th, and 28th, 1905.

PROCEEDINGS OF SECTIONS.

SECTION OF STATE MEDICINE.

PHILIP BOOBBYER, M.D., President.

PRESIDENT'S INTRODUCTORY REMARKS.

PUBLIC HEALTH AND PUBLIC OPINION.

BY the memorandum issued to officers of Sections we are told that no addresses are expected from the Sectional Presidents, and that their introductory remarks should not occupy more than fifteen minutes in the making. With this rescript before us we have no option but the observation of extreme brevity in opening the proceedings of our Sections.

I propose to devote the few minutes at my disposal this morning to a consideration of some of the drawbacks from which the public health cause and the public health service suffer, mainly through the lack of organization for securing uniformity of policy and practice among local authorities throughout the country. Under the existing régime, although most of our large towns and districts have well-informed and competent medical officers of health, both large and small districts are frequently far too dependent upon imperfectly-instructed individual opinions for the shaping of their policy and practice, and are thus liable to commit themselves to courses which cannot find justification in the light of up-to-date expert knowledge and experience.

As a nation we are commonly accused of a tendency to muddle along in most of our undertakings, without sufficient system or previously-ordered aim, and I am afraid there is a great deal of truth in this accusation. Wherever we look we see manifestations of this tendency. In private and public business, in education, in diplomacy, in war—in every direction, in fact—we are conscious of its disastrous operation. We have plenty of information at our command if we will only use it aright, and plenty of skill, courage, and energy to execute whatever we undertake; but the want of orderly plan of action too often mars the success of our projects. Let us make a start, we say; we shall see what we have got to do as we go along. The unsoundness of such a slipshod policy is sufficiently obvious without further argument. Our performances in the Boer war afforded us a terrible example of the fruits of such a policy, and the recent achievements of the Japanese in their war with Russia are a fitting object-lesson of the converse. Our Service critics may carp at the carefulness of the Japs, but they would show better taste and more wisdom by a silent and respectful imitation of their methods. As in war, diplomacy, education, and in business, so in public health—we muddle along.

Let us consider very briefly some of the weak points in our machinery of public health administration. More or less independent units of local government constitute an excellent arrangement in theory, but the results of such an arrangement are far from satisfactory in practice when the governing bodies lack the necessary knowledge or desire to do what is best for the communities entrusted to their care. But, in addition to, and perhaps of more importance than, the natural inertia of persons imperfectly instructed in their duties as responsible representatives of the public, there is no regular machinery for instructing local public opinion, and the opinion of the local governing bodies in matters of public health policy, if we except the annual reports of the medical officers of health and the occasional action of the Local Government Board to this end. The report of the medical officer of health frequently fails to perform its ostensible purpose, and, when it fails, commonly does so for one or more of the following reasons:

1. It may be a short and perfunctory production by an underpaid official who is simply appointed to satisfy a minimum statutory requirement, and from whom, consequently, only a corresponding amount of work and expert advice are expected.

2. It may be regarded as the work of a medical faddist who is bound to justify his official existence;

3. It may be considered as a utopian counsel of perfection inapplicable to existing conditions;

4. It may be presented to economists whose one dominant idea is to keep down public expenditure;

5. It may not be read at all, or, if read, it may not be understood; and, lastly,

6. It may not, for lack of knowledge, experience, or independence on the part of the writer, be a suitable report.

The Local Government Board truly exercises a certain amount of supervision over the sanitary policy and practice of local authorities, but, owing to the necessity of avoiding the suspicion of undue interference with the rights and privileges of local governing bodies, the supervision is for the most part altogether inadequate to secure general efficiency. The Board, moreover, commonly and almost necessarily, intervenes only when the fruits of neglect or malpractice on the part of authorities—in the shape of epidemic sickness and the like—have come to their official notice. I know of a large rural sanitary district, at no great distance from here, with a population of between 40,000 and 50,000—a district, too, which has suffered severely from the incidence of small-pox during the past two and a half years—which has no small-pox hospital or other accommodation for small-pox cases, and which, so far as I can learn, has no intention of providing either. No person concerned has taken the trouble to bring this matter to the official notice of the Local Government Board. It is quite possible, therefore, that this deficiency may continue indefinitely. The Local Government Board, moreover, is not in a position to make any systematic effort to secure uniformity of practice and policy among kindred districts throughout the country. Information is given out from the Board occasionally by means of memoranda and notes upon various matters, and the model by-laws of the Board afford excellent guidance to public bodies requiring it: but no statement is made with regard to the extent to which any work or action recommended by the Board has been adopted by local authorities in England and Wales, and one need not attend a Private Bill Committee of the Houses of Parliament to realize the exaggerated respect for precedent entertained by the average Englishman.

It is not my wish to speak disrespectfully of the often monumental work performed by the expert officers of the Board: I only draw attention to defects in a system of administration which are probably inherent and constitutional. We see, of course, a condition of things similar to that I have described—and often in much higher relief—in the various statutory, common law, and customary requirements and practices of our Colonies, of the United States of America, and other autonomous countries. We must not forget, however, that there is one point of view from which diversity of practice and policy in neighbouring States and districts may be regarded with favour. A certain amount of experiment and comparison are desirable for every new departure, and this variety of action affords a series of object-lessons both of "how to do it" and "how not to do it;" but, again, we must not lose sight of the fact that the public are very intolerant of anything in the way of avowed experiment in medical practice. They persist in regarding medicine in all its branches as an exact science, notwithstanding all history, philosophy, and common sense to the contrary.

In discussing with the laity various modern schemes for the improvement of the public health, we are continually met with the assertion or implication that it is damaging to our credit to be continually advocating the supersession of systems and measures and works which were ardently advocated by sanitary reformers in the past. This suggestion ignores the obvious fact that knowledge, and opinion, and fashion are continually moving and changing; that a condition of flux, indeed—if I may be allowed the paradox—is the only constant of man's little day of physical activity. The remarks of the Prime Minister on this head in the House of Commons on May 11th may be taken as expressing a fairly typical educated popular opinion in the matter; and, coming from a public-spirited layman of exceptional knowledge and intelligence, indicate the hopelessness of attempting to induce the average lay mind to perceive in public-health progress a continuity of principle with change of form. Unfortunately, however, in many large and small districts, much is left undone which is not in the experimental stage at all, but in the light of modern knowledge and aims is demonstrably desirable, and even essential, for the comfort and well-being of the community concerned.

It would be easy to continue at considerable length in this strain, but my time allowance and your patience have alike to be considered.

I will conclude with a suggestion for obviating some of the disabilities under which public health authorities and their officers now labour, through lack of opportunity for comparing notes upon many matters in which they must necessarily have a common interest, and respecting which they have often a common need of information and guidance.

It seems to me that the requirements of the situation could be most satisfactorily met by the establishment of an association, society, or guild, combining some of the characteristics of the Municipal Corporations Association and of the Royal Sanitary Institute—an association the members of which would be drawn from the lay representatives of local authorities throughout the country, and from their expert sanitary advisers, medical, clerical, architectural, and engineering. Such an association would enable the administrator and the expert to meet on common ground and discuss together, each from his own point of view, the sanitary questions of the day, both in their general and local application. It might also usefully undertake in a systematic manner certain educational work of a sanitary character which is now much needed, beginning with the public elementary schools of the country, and proceeding thence onwards and upwards. By arrangement with the Royal Sanitary Institute, the Parkes Museum of Hygiene might possibly become the nucleus of a permanent public museum or standing exhibition (similar to, but of ampler character than the existing museum in Margaret Street) which could be utilized by all sections of the community, by all persons and public bodies, in fact, wishing for such instruction and illustration as the museum afforded. The Association should publish a journal and circulate information from time to time respecting matters of sanitary interest, such, for example, as the extent to which novel policies, practices, or systems have been adopted by local authorities, and the degree of success which has attended their adoption. It might even prepare a digest of the more important annual health reports, and of fresh sanitary provisions in Local Acts and Provisional Orders, and thus preserve from comparative waste and obscurity much valuable material, while affording also the members of various local authorities and their officers a ready opportunity of comparing other local administrations with their own.

If such a *Vereinigung* could be established with the approval and under the joint control of the leading municipalities, county councils, and other local authorities throughout the country, I am convinced that it would be found to fulfil a very useful purpose in the directions I have indicated. While not usurping the functions of existing bodies, like the Municipal Corporations Association and the Society of Medical Officers of Health, it would serve to link them all together, by affording a common and neutral platform upon which the administrative, executive, and special expert elements of the local governing bodies could meet and confer, and from which much useful information and potential benefit to the community at large would certainly go forth.

THE SECTIONS.

BRIEF SUMMARY OF PROCEEDINGS.

Section of Medicine.

Thursday, July 27th, 1905.

The proceedings on Thursday commenced with a discussion on the pathology, diagnosis, and treatment of various forms of meningitis, which was opened by Dr. Howard Tooth. His remarks were based on 45 cases of the disease that had been under observation in St. Bartholomew's Hospital, and included 22 tuberculous, 11 post-basic, 2 pneumococcic, 3 streptococcic, and 3 purulent but of undetermined nature. Factors of importance in diagnosis were discussed, including early symptoms, duration, mental symptoms, optic neuritis, squint, tonic muscular spasm, as head retraction, opisthotonos, and Kernig's sign, and characteristic appearances in the temperature curves. In the tuberculous the duration was about fourteen days, and it was practically always fatal; in the pneumococcic it varied from twenty to a hundred days; and in the epidemic form about eleven days. The prognosis was worst in the pneumococcic cases, in the sense that they were the most speedily fatal, and best in the meningococcic cases. Of the 65 cases, 7 recovered and 1 was recovering; of these, 4 were meningococcic cases and 2 of them a year later were in perfect health, 1 was blind, another had ataxy, and both showed mental enfeeblement. There was no specific drug treatment. When a meningoencephalitis was fully established no conceivable operation could be of any avail. Removal of

fluid by lumbar puncture might help in mild cases which tended to recover. The chief hope was from an antitoxic treatment yet to be developed. Dr. T. J. Horder described the pathological features of the cases based on examination of the cerebro-spinal fluid. In the 65 cases 30 lumbar punctures were made, and these included 10 meningococcus cases and 1 streptococcus case; 15 were sterile and 2 were contaminated. Of the 15 sterile cases 12 proved to be tuberculous. In 2 cases rapid improvement followed lumbar puncture. The meningococcus cases showed high leucocytosis, the pneumococcus lower, and the streptococcus still lower; the tuberculous cases even showed a definite leucocytosis. Pneumococci and streptocci were obtained from the blood, but not meningococci. The probable source of infection was the nasal mucous membrane. From recent experience it did not seem probable that an antitoxin would be obtained in the usual way. Professor Osler described his experience of cerebro-spinal fever in America, and compared the disease in its epidemic characters with pneumonia. The ultimate prognosis in his cases had been much better than in the cases in St. Bartholomew's Hospital. Repeated lumbar puncture had done good in cases where the pressure was high. Dr. Montague Murray described cases that he had met with. The President, Dr. Pope, referred to two cases of pneumococcus meningitis, Dr. Camac and Dr. StClair Thomson to the nasal mucous membrane as a source of infection, Dr. S. West to the occurrence of periodic respiration and the indications it gave in prognosis, Dr. W. B. Warrington to the value of lumbar puncture in differential diagnosis, Dr. T. F. S. Caverhill to a recurring epidemic of the disease in an institution; and Dr. Tooth and Dr. Horder replied. Dr. N. Raw then read a paper on human and bovine tuberculosis, with special reference to bovine infection in children, which was discussed by Dr. R. Pratt, Dr. F. H. Jacob, Sir W. Broadbent, and Dr. S. West; and Dr. F. J. Poynton read one on the employment of citrate of soda in infant feeding.

Friday, July 28th.

A discussion on the diagnosis and treatment of cardiac degeneration, apart from valvular disease, was opened by Dr. J. Dreschfeld, who divided the cases into several clinical groups, giving the characteristic signs and course, as far as possible, of each. The following groups were taken *seriatim*, and discussed in some detail: Acute myocarditis, particularly that associated with typhoid fever, diphtheria, pneumonia, and influenza—for such digitalis was not indicated, but ether, camphor, strychnine, and similarly-acting substances should be substituted, while alcohol, if given, should be administered with caution, and methods of depletion were sometimes of service. Chronic myocarditis and myocardial affections connected with such chronic infectious diseases as syphilis, malaria, and tuberculosis were next discussed; then cardiac insufficiency due to intoxications such as those of alcohol, tobacco, and lead on the one hand, and those of Bright's disease, diabetes, gout, Graves's disease, and cancer on the other. It was pointed out that although the treatment of the alcohol heart principally consisted of rest and attention to diet, yet in some cases considerable quantities of alcohol were apparently required. Heart degeneration due to arterio-sclerosis was next discussed, the cases being divided into those with high tension and those with low, the appropriate treatment being given in each case; then heart-muscle failure in chronic lung affections, especially in emphysema and chronic bronchitis; heart strain due to excessive muscular exercise; fatty heart; and, lastly, the senile heart. Dr. W. P. Herringham considered that the majority of the cases of myocardial degeneration were among old people, and held that among them those in whom the heart hypertrophied in response to the stimulus of increased peripheral resistance lived some years longer than those in whom it did not. Reference was made to cases of heart failure occurring in adolescents. Dr. A. Foxwell limited his remarks to chronic cardiac degenerations, particularly discussing the syphilitic form. He referred to the occurrence of pulmonary atheroma in these cases, and to its influence in inducing hypertrophy of the right ventricle. The treatment of chronic myocardial affections was a question of balancing one part of the organism against the other, as they rarely, if ever, occurred alone. Dr. J. Hay contributed a paper on the condition of the venous pulse in the neck in cases of cardiac degeneration, maintaining that the auricular contraction was often simultaneous with the ventricular. Dr. S. West referred to the cardiac dilatation that occurred in simple pyrexia and that in acute infective fevers; he also alluded to the effect of heart failure on the heart itself, the coronary veins being the first to feel the influence of back pressure, and to the marked susceptibility of degenerated heart muscle to the cumulative action of digitalis. Sir James Grant emphasized the fact that patients with serious heart lesions might yet live years of vigorous life, and the importance of maintaining a healthy action of the skin in heart disease. Dr. W. Ewart mentioned the importance of regulated exercise in maintaining cardiac health; to the need for time in developing heart treatment, and to the use of the adrenalin group of substances. Dr. F. M. Pope had noticed the greater prevalence of heart failure in warm weather. After Dr. Dreschfeld had replied, Dr. Bertrand Dawson read a paper on the diagnosis of gastric ulcer, and Dr. Mackenzie Davidson one on the diagnostic value of the *x* rays.

SECTION OF SURGERY.

Thursday, July 27th.

ON Thursday Sir Charles Ball opened a discussion on the treatment of malignant disease of the rectum, illustrating his remarks by a series of lantern slides. These were chiefly of anatomical interest, particularly with reference to the sacral operation. He considered that the early diagnosis of the disease had improved considerably the last few years. The contraindications were the presence of secondary growths and advanced local infiltration forwards to bladder or uterus. He was not in the habit of performing preliminary colotomy unless it was clear that the bowel could not be satisfactorily emptied without it; in other cases he looked upon it as unnecessary and objectionable. If the cancer involved the anal canal he held that the perineal route was the best; in all other cases the choice lay between the sacral and abdominal routes. In the sacral operation he carried his division of bone through the fifth sacral vertebra and removed the entire piece of bone. He held that a sacral anus was necessary in only a very small proportion of cases, and end-to-end suture was rarely successful. The method of choice was to bring the bowel down and suture it to the denuded anus. Professor Hartmann (Paris) gave some statistics relating to 64 cases which he had treated. The sacral route had in his hands been attended with a low mortality; he had lost no patients out of 12 cases so dealt with. Mr. Swinford Edwards (London) had found the proctoscope of much value in early diagnosis of cancer. He advised a preliminary colotomy where the intention was to open the peritoneal cavity or when there was much faecal accumulation above the stricture. Mr. F. C. Wallis (London) showed lantern slides chiefly to emphasize the point that the choice of operation was to be decided by the site of the growth. Mr. Sinclair White (Sheffield) had operated on 25 cases by the sacral operation, with 5 deaths. He had only been able to trace a small number of these, and of 9 which had been done three years 5 had had recurrence. He showed a specimen of cancer associated with a rectal diverticulum. Mr. Mitchell (Belfast) asked for the opinion of the Section on the value of the combined abdominal and perineal method. Mr. Atkins (Cork) thought that with improved technique the abdominal route was likely to bring it more and more into favour. He had never seen any reason to believe that colotomy reduced the rate of growth. Mr. Lynn Thomas (Cardiff) remarked on the disadvantages of the sacral anus; patients were much more comfortable with an iliac anus. Mr. Stanmore Bishop (Manchester) was strongly in favour of a preliminary colotomy. He always now operated by the sacral route. Mr. Deanesly (Wolverhampton) held that the one absolute contraindication was involvement of the bladder and ureters. He considered curetting was a valuable palliative method. He always operated by the sacral route, and thought the best method was to bring down the bowel and suture to the denuded anus. Mr. Ryall (London) had never had a case in which he considered preliminary colotomy necessary. Mr. Jackson Clarke (London) thought that occasionally it was difficult to decide between ulcerative colitis and early cancer. He thought that a preliminary abdominal exploration was often valuable before deciding what to do. He thought the method of bringing the bowel down to the anus was much better than a sacral anus. Sir Charles Ball replied on the discussion. Mr. Sinclair White described the operation of gastro-pyloro-duodenostomy. He had performed the operation five times with good results and considered it superior to gastro-enterostomy in most respects. Mr. C. P. Childe (Portsmouth) read a note on two cases of cancer of the rectum in two sisters, associated with multiple polypi; a third sister also had rectal cancer. Sir

Charles Ball remarked that it was well known that multiple polypi of the rectum were common in members of the same family and that these growths not infrequently became malignant. Mr. L. A. Bidwell (London) read a paper on a case of angio-sarcoma of the omentum in which he had removed the growth. Mr. Sampson Handley (London) gave a lantern demonstration of the epigastric invasion of the abdomen in breast cancer.

Friday, July 28th.

Mr. Jackson Clarke (London) read a paper on congenital dislocation of the hip and its modern treatment. He had operated by Lorenz's manipulative method in seventeen cases since January, 1903, when Lorenz demonstrated his method in this country. He did not consider that open operation was justifiable as a primary procedure in view of the results which were obtainable by the bloodless method. He considered that the dangers of Lorenz's method had been exaggerated. Mr. Jordan Lloyd (Birmingham) thought that the chief credit due to Lorenz was owing to his having shown how far surgeons might go in forcibly correcting these dislocations. In his experience the functional results were on the whole good, but he thought that a certain degree of permanent functional deformity always remained. Mr. Keetley (London) thought that some of the so-called congenital cases were really acquired. To meet the difficulty of keeping the head of the bone in the acetabulum he had sometimes wired it in position. Sir Charles Ball thought there were many advantages in the open operation. Mr. C. B. Keetley (London) read a paper on appendicostomy. The chief indications for the operation were mucous colitis, inveterate constipation, syphilitic ulceration of the colon, and some cases of ileo-caecal intussusception. He suggested that it might also be of use in typhoid fever. He had found 9 cases recorded up the present, and had had 2 cases of his own. Mr. Furnivall (London) had operated on 5 cases of mucous colitis, not by appendicostomy but by caecostomy, bringing out the caecum as in Witzel's gastrostomy; 3 of these cases had been cured by irrigation. An advantage of this method was that the opening closed spontaneously when treatment was discontinued. Dr. Howard Kelly (Baltimore) thought that there might be a tendency in the future to overdo this operation. Cases would have to be carefully selected; in some cases of so-called colitis the lesions were confined to the rectum. Sir Charles Ball inquired as to leakage from the opening. Mr. Keetley, in reply, stated that there was no leakage of either faeces or mucus. Mr. Thomson Walker (London) showed a lantern slide of a specimen from a patient whose prostate had been removed two years before. The patient had died of carcinoma; the specimen showed an absence of anything like stricture. Mr. Barnard (London) thought that in order to avoid any tendency to stricture the bladder should be washed out from the urethra steadily, and the drainage tubes should be removed from the suprapubic wound as early as possible. Mr. Sheen (Cardiff) showed a prostate which he had removed, the prostatic urethra and part of the membranous urethra having come away without any bad result or tendency to stricture. Mr. A. H. Tubby (London) read a paper on acute osteomyelitis and periostitis of the spine. He said that the cases belonged to two types—the one slight, the other severe. The former got well with rest, the latter usually required operation for suppurative collections. Mr. R. Bucknall (London) narrated two cases in which the thoracic duct was wounded in the course of operation in the posterior triangle. Mr. J. Berry (London) read a paper on 67 cases of cleft palate. These cases were unselected, as he had not refused operation on any case under 20 years. He preferred to operate during the third year. He practised the old operation, and attached much importance to detachment of the soft palate. Mr. Cuthbert, Mr. Willis, and Mr. Childe discussed the paper. Mr. Wheeler (Dublin) gave an account of a successful case of the Talma-Morison operation. Mr. Sheen (Cardiff) read notes of a case of ligature of the innominate artery for innominate aneurysm. Mr. J. D. Malcolm (London) described a condition of partial sloughing of the vermiform appendix which he had observed in two cases.

Section of State Medicine.

Thursday, July 27th.

On Thursday Dr. Lionel Weatherly opened the discussion on the provision of sanatoriums for poorer consumptives. Recognizing that there are two broad principles governing the diminution of phthisis—namely, prevention and treatment—the opener limited himself primarily to the question of treatment, and divided his subject into three headings: (1) Are sanatoriums for poorer consumptives necessary and desirable? (2) If so, how are they to be started? And (3) how are such institutions to be maintained and the peculiar difficulties met? In answer to the first question, Dr. Weatherly emphatically declared that if properly worked and regulated sanatoriums were necessary and resulted in substantial good; open-air treatment gave great hope of arrest in the disease, but it involved practically life in the open air and careful feeding, each case being judged individually on its own merits. In regard to the starting of sanatoriums, it was submitted that three classes of sanatoriums were necessary, namely, institutions started and controlled by Boards of Guardians (only 18 per cent. of which were at present doing any substantial work in this direction); institutions for persons just above the pauper class; and, thirdly, sanatoriums for consumptives able to pay 25s. to 40s. per week, the establishment of which seemed to require the provision of capital by philanthropists on trust or interest. As to the special difficulties, Dr. Weatherly named in particular the importance of securing cases in the early stage, and the difficulty of persuading persons in the early stage to enter sanatoriums. He pointed out that much of the difficulty arose from the deficiency of sanatoriums. In Germany there were, he said, seventy-two sanatoriums, in this country there were only twelve, and until there was a marked extension it was hopeless to expect the remarkably good results obtained in Germany. The President advocated the use, where practicable, of unused small-pox hospitals for persons above the pauper class, the establishment in large districts of "homes for the dying," partly on account of thus isolating advanced cases, and the desirability of not applying the statistical test alone in order to determine the value of sanatoriums. He believed that both sanatoriums and isolation hospitals were of great service, *inter alia*, in the direction of educating the public. The discussion was continued by Dr. Caverhill, Dr. Shingleton Smith, Dr. T. N. Kelynack, Dr. Nathan Raw, Dr. W. B. Ransom, Dr. Reinhardt, Dr. Whiteside Hime, Dr. C. R. Drysdale, Dr. Lister, and Dr. Molson. Dr. Kelynack in particular drew attention to the importance of a proper and uniform classification of phthisical cases, the difficulty of obtaining early cases among the working classes who had to give up their bread winning, the serious disadvantages arising from the closure of wards in general hospitals against consumptives, the evils arising from "moral degenerates," and the great importance of after-care. Dr. Raw considered that in time the municipalities would be called upon to grapple with the subject of sanatorium treatment for consumptives above the pauper class. The Boards of Guardians were doing useful work, he said, in isolating some of the most "infectious" cases, and in that way could render valuable preventive service. Dr. Ransom referred to the utility of outdoor dispensary supervision, if properly controlled, and the desirability of general hospitals serving as observation wards. Dr. Weatherly replied. Dr. Kelynack read a paper on alcohol in relation to national vitality, and suggested that a representative committee of the Association should inquire into the whole question of the medical results of alcoholic consumption. The President, Mr. McAdam Eccles, Dr. Robert Jones, Dr. Symes Thompson, and others took part in a subsequent discussion. A resolution in favour of a committee of inquiry was passed. Professor H. R. Kenwood (London) read a paper on hygiene teaching and training at school, and Dr. J. T. C. Nash on shellfish and typhoid fever.

Friday, July 28th.

At the third meeting of this Section on Friday, Bailie W. F. Anderson (Glasgow) opened a discussion on infants' milk dépôts. He claimed that the broad facts of (*a*) high infant death-rates in many large towns, and (*b*) the excessive death-rates among illegitimate children, which were less well cared for than legitimate children, furnished sufficient reason for much greater care in the feeding of infants. He compared the infant death-rates of milk dépôt towns not in England with similar rates in this country, to the advantage of the former. The opener then described in detail the methods adopted in the Glasgow milk dépôts, and concluded with various suggestions as to auxiliary agencies, such as education of girls in domestic hygiene. The Hon. Nathan Straus (New York) sent a paper which was read by the Secretary, and which contained a large body of facts and figures respecting the Straus dépôts, and the results obtained. The writer hoped that the municipality of New York would take over what was at present being

carried on by private enterprise. The President, Dr. T. D. Lister. Dr. Cooper Pattin, Dr. Hime, Dr. Caverhill, and Dr. D. S. Davies (Bristol) took part in the subsequent debate. Dr. Watson Williams (Bristol) opened a discussion on what should be considered as notifiable diphtheria, or the infectivity of latent forms. He subdivided cases into three groups: (1) patients who suffer from none of the usual clinical indications of diphtheria and yet are ill and have nasal catarrh, membranous rhinitis, facial redness, and slight subacute tonsillitis, and which a bacteriological examination prove to be diphtheritic; (2) cases with any of these diphtheritic lesions, but with no general symptoms of ill-health; and (3) persons who present no local lesions and no departure from normal health, but in whom bacilli have been found by culture tests. He thought that, except in contacts, virulent bacilli were seldom present in the throats of healthy persons. In practice, while deriving all available assistance from bacteriology, one must depend largely on clinical conditions. Dr. D. S. Davies, Medical Officer of Health of Bristol, followed with a valuable paper as to practical methods, mentioning especially the establishment of outdoor dispensaries for the treatment or observation of suspicious cases. The subsequent discussion was shared in by Drs. Jobson Horne, Scanes Spicer, Caverhill, Jacob, Pegler, and the President. Dr. Watson Williams and Dr. Davies replied. A paper written by Dr. J. R. Kaye on the midwife and the general practitioner was read by the Secretary, as was also a paper by Dr. Magennis on physical deterioration in the schoolroom.

SECTION OF INDUSTRIAL HYGIENE.

Thursday, July 27th.

ON Thursday a discussion on anthrax was opened by Dr. J. H. Bell (Bradford), who stated that the connexion of the British Medical Association with this disease dated from 1862, when Dr. William Budd of Bristol read a paper on the hitherto unnoticed occurrence of malignant pustule in England. Since then the subject had been frequently discussed at these meetings, which appeared to have been centres from which a knowledge of anthrax had been spread abroad. A valuable contribution to existing knowledge had also been made by Dr. Legge in the Milroy Lectures this year. He drew special attention to the fact that cases of this disease had for so many years escaped detection. A competent observer like Bryant, of Guy's Hospital, said that he had no experience of the disease in the year 1872, the year in which the maximum weight of dry hides was imported into this country, although Guy's was in the proximity of the London anthrax district. In Bradford the prevailing type of the disease had changed from the pulmonary to the cutaneous form. He recommended the extension of compulsory notification and that those who had been exposed to anthrax infection should, if taken ill from any cause whatever, be reported to the manager, and the patient seen by a doctor on behalf of the firm. In all cases, unless anthrax could be positively excluded, 40 c.cm. of Professor Sclavo's serum should be injected at once, and repeated if necessary. A paper by Dr. J. L. Stretton (Kidderminster) was then read by the Honorary Secretary. This, too, advocated compulsory notification of all cases wherever occurring, and the opinion was expressed that cases of anthrax ought to be treated in the wards of a general hospital, but that special wards should be provided by the manufacturers and insurance companies. Dr. Horrocks (Bradford) referred to the peculiar state of well-being which occurred in anthracaemia; it was very deceptive, and generally preceded a fatal issue. Dr. David Goyder (Bradford) referred to the results of the Commission on Woolsorters' Disease appointed by the Bradford Medico-Chirurgical Society. The course of internal anthrax was so rapid, and the insensibility of the patient to his dangerous surroundings was so complete, that he was rarely seen by a medical man until in the jaws of death. The only treatment then of any avail was the injection of serum, and he advocated its use in all cases. After a few observations from the President, Dr. Langley Browne, Dr. Bell briefly replied to the remarks of the various speakers.

Friday, July 28th.

On the concluding day a discussion on accident and poisoning reports was introduced by Dr. W. F. Dearden, Certifying Factory Surgeon, North Manchester. Having stated that in his opinion the status of the certifying factory surgeon was not what it ought to be, considering that he was such an important agent of the Government, he reviewed the various Factory Acts in their bearing on the factory surgeon's duties, of which he gave an outline. He considered that Parliament had been very fickle in the fixing of a time limit of disablement to qualify for notification, and was of opinion that a definite time limit should be abolished, or that, at any rate, it should not be so frequently altered. He pointed out that the certifying factory surgeon's report was a very valuable aid to the factory inspector in his investigations, and referred to the systems in vogue in France and Holland, in which countries the State departments for the control of factories paid special attention to the question of compensation for injuries and accidents. He concluded by referring to the great reduction in the number of cases of industrial poisoning in the last six years — especially of lead poisoning — due to the careful supervision exercised over dangerous trades. Dr. Thomas Watts (Hyde) said he was very pleased that the Government had dropped the Accidents (Mines and Factories) Bill. He was of opinion that the passing of that measure in its original form, which would involve the doing away of direct notification to the certifying surgeon, would have been a retrograde step in factory legislation, and in practice would mean that very few reportable accidents would be notified at all. Dr. C. F. Bryan (Leicester) considered that an alteration was required in the time limit, because serious symptoms might supervene later in persons who were able to be at work for five hours in the three days following an accident. He would like to see the time limit abolished, and cases of accident not due to machinery—for example, from faulty stairs, etc.—reported to the surgeon. Mr. S. H. Knyvett, inspector of factories, thought that lady inspectors were very useful. The personal relationships existing between the factory surgeons and employés were the means of getting valuable information which inspectors could not obtain. The President (Dr. Langley Browne) referred to the system in use in France, Germany, and Austria, in which all accidents were graded by numbers from 1 to 100, to represent the relative degrees of importance. He would be in favour of the combination of the offices of certifying factory surgeon and medical referee, and in small districts that of medical officer of health. Dr. Dearden briefly replied. Dr. Chowry Muthu (Physician to the Mendip Hills Sanatorium, Wells) opened the discussion on poverty in relation to disease and degeneration. He said that all the social evils of the present day had been the outcome of trying to enjoy the sweets of civilization without attempting to take up the responsibility entailed by that civilization. He pointed out how poverty affected a man from infancy to the end of his life. In the poorer classes the mothers were too poor to get sufficient food for their own nourishment, and therefore unable to suckle their children, with the result that the growing generation was fed largely on artificial food. Dr. Hope of Liverpool stated that the deaths in that city among children under 3 months old who were either partially or wholly fed on artificial foods were fifteen times as great as among an equal number of infants fed on breast milk. The speaker considered that infant mortality was more due to improper feeding than to insanitary conditions. The same lack of nutritious food affected the growing child and seriously impaired the development of the adult. As remedies for the conditions mentioned, he strongly recommended the introduction into England of a system similar to the Elberfeld system in Germany, which was an organized attempt whereby well-to-do city men freely gave their services to look after the poor and relieve their necessities without pauperizing them. The German system of compulsory insurance of working men against accident, sickness, convalescence, and old age was also well worth the study of Englishmen. He recommended, in conclusion, milk dépôts, day nurseries for children, open-air schools in the country, and free meals for the poor and destitute. Dr. Charles Reinhardt (London) said that in his opinion the poverty of England was due to four conditions: (1) A faulty system of land tenure, (2) over-population, (3) disease, (4) alcohol. He recommended a garden city scheme, reduction of alcoholic consumption, and hygienic education. Dr. Brown (M.O.H. for Bacup) considered alcohol to be the chief cause of disease. Milk dépôts were useful, but it was more important to nourish nursing mothers so as to enable them to suckle their children. Dr. J. Darley Wynne (Clonmel) considered that bad sanitation, dirt, and want of fresh air had as much to do as poverty with the causation of disease, especially consumption. This remark particularly applied to Ireland. Dr. Bryan recommended that medical men should give free lectures in hygiene more frequently than they

did, in order to educate the people in the laws of health. The President was in favour of milk dépôts. He considered that they were going the wrong way about the treatment of consumption, and should spend money in improving the houses of the poor before they provided them with sanatoriums. Dr. Kenneth W. Goadby read a short paper entitled, A Preliminary Note on the Blood in Lead Poisoning. He said that, at the suggestion of Dr. Legge, he commenced some little time ago to investigate the condition of the blood in lead poisoning. He was able to confirm the observations of other workers as to the finding of basophile granules in a large percentage of the cases which showed a definite anaemia; but he did not consider them to be diagnostic of lead anaemia, as he had found them in other conditions widely different, even in persons who had suffered from malarial fever. Their significance was probably confined to the marking of the establishment of some blood destruction, and their appearance corresponded to the commencement of anaemia, and did not antedate the affection. He found a considerable reduction in the number of red cells in the cases which he examined.

Section of Laryngology.

Thursday, July 27th.

On Thursday the proceedings of this Section opened with papers and discussion on the treatment of tuberculous laryngitis. The first paper read was one by Dr. Jobson Horne, and was of an exceedingly interesting character, being illustrated by specimens and diagrams. A few anatomical points were insisted upon as being of great importance in treatment. He considered tuberculous infection secondary to lung infection generally. The tuberculous process was next considered, and by means of a lantern microscopic sections were exhibited showing the various stages of the disease. A case was discussed showing primary laryngeal infection, but the speaker believed that such cases were undoubtedly very rare. The slides were much appreciated, but unfortunately, owing to pressure of business, it was impossible to exhibit all the slides prepared. Dr. Habershon then read his paper, giving first a brief historical review of the disease. The mode of onset was then discussed, and three views of infection were considered—that of Louis (the corrosive action of the sputum); that of Rheiner (ulceration as a result of friction of cords and other parts of the larynx due to incessant cough); and that of Mackenzie (an infection of the larynx due to some special weakness or susceptibility). The writer favoured the views of Heinze and Mackenzie, and gave statistics to this effect derived from Brompton Hospital. The predisposing causes of laryngeal invasion were then considered. The laryngological appearances of the affected larynx were passed in review, the writer believing that a laryngitis was usually the primary condition. Treatment was divided into prophylactic and local; improvement of general nutrition, tonics, and rest of larynx in the catarrhal stages; rest and local treatment, in which orthoform was specially valuable, in the later stages. The discussion was continued by Dr. StClair Thomson, who considered tuberculous laryngitis to be but a local expression of a general trouble, that no drug had any specific action upon the bacillus, and that local attempts at killing it or completely removing its effects must be for the present abandoned, and could only be used for relieving symptoms. He believed the treatment adopted at sanatoriums to give the best results. Silence was very important; and he gave an account of a case now cured or arrested for two and a half years after five months of silence. Dr. Harold Barwell read a paper on the choice of treatment in tuberculous laryngitis, with a plea for the routine inspection of the throats of consumptive patients. He thought that the object of the treatment should be always kept in view; that is, whether they decided to attempt a cure of the disease, heal the laryngeal lesion, or to merely relieve the symptoms. The cases in which cure could not be expected were those with advanced lung disease, hectic fever, and rapid loss of weight, also cases of miliary tubercle. If no lung disease, however, be recognized, active laryngeal treatment was advisable. Dr. Lawrence considered of very great importance the routine examination of the larynx of a tuberculous patient. Dr. Watson Williams spoke of the value of the silence treatment, and considered it of the greatest value in the majority of cases. Rest implied not only abstention from talking, but the removal of cough. Codeine and heroin were very useful in allaying irritable and useless cough. Active local treatment was often of great value, but the most valuable of all he considered the sanatorium treatment. Dr. Dundas Grant dwelt upon the necessity of balancing the local and general condition. He showed a small glass bent tube invented by Leduc for tracheal injection by the patient himself. He pointed out the importance of differentiating between oedema and infiltration of the larynx. Dr. Atwood Thorne believed that cases should be treated at sanatoriums. Dr. Haring would remove growths if causing dyspnoea and cough, large operations being contraindicated by the grave condition of the lungs. He also advocated sanatorium treatment, with rest of voice, and relief of symptoms locally by drugs rather than by surgical measures. Drs. Bark and Bronner also took part in the discussion. The former expressed his appreciation to Dr. Horne for his very interesting paper. Dr. Bronner strongly advised the use of various strengths of formalin. Drs. Jackson, Syme, and Hunt also spoke, the first-named urging the importance of early treatment. Dr. Scanes Spicer considered free nasal respiration very important in the treatment, and that the respiratory tract should be kept as aseptic as possible. He agreed with the sanatorium treatment, and the return to a hygienic life. The President considered local rest all-important, also the early treatment of cases; and objected to too extensive operative measures, especially upon hospital patients. Dr. Tilley next read an interesting and instructive paper on the symptoms, diagnosis, and treatment of chronic suppuration in the sphenoidal sinus, illustrating his remarks by means of diagrams, specimens, and instruments. He discussed the means of diagnosis and treatment and the dangers to be avoided during operative procedures. He was followed by Dr. Pegler, who did not think the diagnosis of such conditions quite as easy as the former suggested. Dr. Bronner drew attention to the existence of sphenoidal disease, as proved by *post-mortem* examination, with no symptoms of any kind during life, and referred also to possible connexion between optic atrophy and sinus trouble. Dr. StClair Thomson referred to his personal experience of sphenoidal sinus exploration by means of Kilian's method. Dr. Watson Williams also mentioned a method of finding and exploring the sphenoidal sinus without the destruction of part of the smooth turbinate. Dr. Haring also spoke. Dr. Tilley briefly replied, and the meeting then terminated.

Friday, July 28th.

The proceedings commenced on Friday with a paper by Dr. Smurthwaite (Newcastle-on-Tyne) on submucous resection of the nasal septum. The author gave an account of his method of operating, and his reasons for not using a general anaesthetic as a routine practice. He showed some excellent specimens illustrating the various stages of his operation; also a special resector that he had contrived and found useful. His remarks were received with attention, and discussion on them was reserved until the reading of the next contribution by Dr. Pegler, when the two were discussed together. Dr. Pegler's paper dealt with the comparative value of the Moure and Fenster resection types of operations for deflection of the nasal septum. He compared the various difficulties met with during operative procedure, and the best methods of dealing with them, comparing septal fissure with the more extensive resection operations. He preferred a general anaesthetic rather than a merely local one as a general rule, using, however, cocaine and adrenalin chloride locally in addition. Dr. Thorne commenced the discussion, which was continued by Dr. S. Spicer, who compared the necessity for the operative procedure under different conditions. He considered that operation was not required for all forms of obstruction, as in many of these cases the obstruction did not interfere with nasal respiration. He certainly believed in a general anaesthetic, which he thought was perfectly safe in a sitting posture. He specially referred to the difficulty experienced in the case of the projecting part of the maxillary crest. Dr. Ouston then spoke, referring especially to general anaesthesia and its possible danger in the case of chloroform when preceded by the injection of adrenalin chloride in the submucous tissue. Dr. Haring also drew attention to the methods of anaesthesia and the chair used, especially recommending a rocking chair which could be fixed at the time of operation and easily moved backwards if necessity required. The President summed up, and stated that he did not as a rule find stitches necessary, but he did not make as large a primary incision as Dr. Smurthwaite. Dr. Smurthwaite briefly replied. The Section then adjourned to the Department of State Medicine, to attend a joint discussion on the infectivity and notification of

diphtheria, with special reference to latent forms of the disease was proceeding. Dr. Watson Williams was just finishing his introductory paper, and it was followed by one from Dr. D. S. Davies upon the same subject. He considered that from the point of notification it was desirable that all cases showing the Hoffman bacillus should not attend school, but that they did not fall under the compulsory section of the Notification Act. In Bristol out-patient surgeries were established where the children attended and where a trained nurse cleansed daily the affected mucous surface. Dr. Jobson Horne commenced the discussion, and related a case in which during life no bacilli were obtainable, but in which after death the bacillus was discovered in the ventricle of the larynx. He spoke of the great difficulty in the diagnosis of the trouble, and instanced another case which showed the necessity of notification in cases which, although no specific bacillus could be found in them, were yet such as could convey diphtheria to others. Dr. Caverhill spoke of the importance of early recognition and preventive treatment by means of serum injection in all suspected cases. Dr. Jacob then read his paper, insisting upon the importance of an examination of both nose and throat. Dr. Pegler and the President also spoke. Dr. W. Williams briefly replied.

Section of Navy, Army, and Ambulance.

Thursday, July 27th.

On Thursday the proceedings in this Section began with the reading of a paper by Lieutenant-Colonel H. J. Barnes, R.A.M.C., Secretary of the St. Andrews Ambulance Association, who put forward considerations for the establishment of ambulance wagon services provided and maintained by voluntary effort on the part of the community. He described the details of such a service as it already exists in Glasgow, and mentioned that in that city there had never been as much as a suggestion that the service should be carried on by the city authorities, or in other manner than it was. The efficiency of such a service in any large town was absolutely dependent on the telephone service. The average cost per "turn out" in the Glasgow service, including wages, uniforms, telephones, depreciation, insurance, horsing, storing, repairs, rent, and a proportion of the head office expenses of management, was 8s. 2d. It appeared from Lieutenant-Colonel Barnes's paper that the fact that an ambulance wagon service was dependent on the voluntary support of the public was a guarantee that the best service possible would be given, as otherwise subscriptions would not be forthcoming. In a service supported out of the rates there was a risk of it becoming too "official" and not sufficiently sensitive to criticism. Judging from the experience of Glasgow, and allowing for the greater acreage of London, it was reckoned that it would require at least 120 horse-drawn wagons to provide an efficient service for the metropolis; motor-driven ambulances might possibly reduce this number to 100. Surgeon-Lieutenant-Colonel H. W. Kiallmark, referring to London, said that the police were helpless in regard to ambulance service, and that the London County Council scheme would not work. Surgeon-Major Hutton mentioned that in Liverpool the public system under the municipal authority answered well. Captain W. P. Pake remarked that a voluntary service depended on charitable subscriptions, and these might fall off, with the result that the work would be disorganized. Lieutenant-Colonel Barnes said that the voluntary system in Scotland had lasted for twenty-two years. Dr. E. Lynn Jenkins, in a paper on the causation, varieties, and treatment of dysentery on active service, advocated for the relief of pain and tenesmus in acute cases, the administration of the old-fashioned enema of starch and opium. In regard to ipecacuanha, he considered it curtailed the course of the disease in many cases. Major N. Faichnie, R.A.M.C., also contributed a paper on the same subject, and showed that impure water was not the only cause of dysentery. For acute cases he thought the best treatment was sulphate of soda or magnesia, given in as concentrated a form as possible and lukewarm. The earlier the treatment by the sulphates was commenced the greater the chance of its being successful. He emphasized the importance of diet, and described the successful use of digitalis. In his opinion, alcohol did not compare with digitalis as a cardiac tonic and stimulant. Surgeon-Lieutenant-Colonel H. W. Kiallmark referred to his experience of dysentery in the Crimea, where he relied upon rest, clothing, and food rather than upon drugs. Surgeon-Lieutenant-Colonel G. S. Robinson said that the reported freedom of the Japanese armies from dysentery was attributed to sanitation, but it was more probably due to the simple diet of the Japanese soldier.

Friday, July 28th.

On Friday this Section resumed proceedings with a paper by Surgeon-Lieutenant-Colonel G. S. Robinson, on the feeding of the soldier on active service. He considered that the soldier who was well fed was not only in better bodily health and better able to resist disease, but he was more cheerful in difficulties, and therefore more equal to any strain he might be called upon to endure. That opinion, of course, applied more to the British soldier, accustomed to his solid midday meal, than to the Continental soldier. The Japanese authorities had seen the necessity of augmenting the food of their men whilst undergoing the hardships of active service. In regard to drinking water the first thing to be done was to let the soldier realize that the constant drinking of tepid and dirty water was not only injurious but failed to relieve thirst. Concerning cooking, the author maintained that a man was not a fully-trained soldier if he could not himself turn out something tasty in the way of a supper. In the early part of the South African war numbers of men on outpost duty were half starved by not knowing how to cook their ration of meat and flour. The time for serving meals was important, the author stating that on active service with a field hospital he directed the men to have tea immediately on arrival in camp; that took a short time to prepare, and owing to its stimulating effects the men were speedily rested, and after performing their duties were ready for dinner, which had been meanwhile got ready by the cooks. Breakfast was important, because no good work could be got out of men until they had had breakfast. Surgeon-Lieutenant-Colonel Robinson concluded by suggesting that a travelling oven should accompany each unit, and also a travelling bakery with each brigade. Surgeon-Colonel P. B. Giles contributed a paper on the care of soldiers' feet, in which he pointed out that it was not generally recognized that the acridness of the secretions of the feet was the predominating factor in sore feet, and that those suffering from this trouble not only blistered easily, but acquired soft corns of a most intractable form. Rags, bandages, and felt were frequently vaunted over socks, but, in the author's experience, Continental troops, in spite of constant progressive training in marching, suffered a great deal more from feet troubles when on manœuvres than British troops did. Short boots caused hammer-toe, blisters and corns arose from too wide boots, and bunions and overlapping phalanges were created by boots with pointed toes. Therefore, given proper boots and socks, very little special treatment was required. Routine washing of the feet, followed by pickling in a solution of salt and boracic acid, was far more advantageous than ointments or grease of any kind; because grease, even when well fortified with antiseptics, had a tendency at the heat of the body to ferment, and to create the very mischief they were used to prevent. Major G. S. Crawford, R.A.M.C., communicated a paper also on the care of soldiers' feet, in which he declared that much attention was paid to the fitting and care of tunics and belts and the cutting of the men's hair, but very little attention was devoted to the fitting of boots and socks and the trimming of men's toe-nails. To have a dirty rifle was considered a serious offence, but to have dirty feet was not deemed nearly so serious a matter. A paper on first-aid treatment of fractured thigh in military and civil practice by Major J. J. de Z. Marshall, R.A.M.C.(Vols.), was read, in which the author claimed that the method he suggested could be carried out expeditiously and painlessly, and that it placed the limb in the best position for dealing with haemorrhage in a compound fracture and for subsequent permanent treatment in hospital.

Section of Obstetrics and Gynaecology.

Thursday, July 27th.

The Section met on Thursday at 10 a.m. in the Lantern Room, where Dr. S. J. Cameron gave an interesting demonstration of some complications and degenerations of uterine fibroids. On its conclusion the meeting adjourned to their proper room, and Dr. E. Hastings Tweedy read a communication upon the high range of normal temperature and pulse throughout the puerperium. He showed the form of chart now used in the Rotunda Hospital, Dublin, where the test for morbidity now accepted was a temperature above 99° and a pulse above 90, persisting for twenty-four hours. He pointed out that there was no uniformity in the standard of puerperal morbidity adopted in different institutions, and that it was most desirable that

some such standard should be generally accepted. After some remarks by the President, Dr. H. R. Spencer; Professor Corby, Vice-President; Dr. Boxall, Dr. Forbes Ross, Dr. Thomas Wilson, and Dr. Taylor Young, the following resolution, proposed by Dr. R. C. Buist, and seconded by Professor Byers, was carried *nem. con.*:

> That it is desirable that a standard of puerperal morbidity should be fixed for use in maternity hospitals, and that the Council be requested to arrange for a special committee to investigate the matter.

Dr. Thomas Wilson then read a paper on the treatment of cervical cancer in the last two months of pregnancy, with special reference to vaginal Caesarean section, based on two cases in which he had performed the operation himself with complete primary success, both mothers making a good recovery, and both children being born alive and leaving the hospital well. There was, however, early recurrence in one case. Professor Wertheim said that he had performed his abdominal operation on six women in whom cervical carcinoma was complicated by pregnancy. One case died, one was alive and well five, and another four, years after operation; the other cases were more recent. The President alluded to three cases of his own, one of Olshausen's, one of von Ott's, all operated on in the puerperium, and surviving from five to eleven years. He thought it better to allow labour to proceed; the cervix would generally dilate, and the operation would be performed with better chances in the puerperium. Dr. John Campbell (Belfast) read a paper on the significance of pus in the female urethra in gynaecological and obstetrical cases; and Professor Corby described a fibroid tumour of the ovary removed from a hermaphrodite. The patient was deformed, paralytic in one leg from diphtheria, and mentally deficient, and was one of eleven children, of whom one other was afflicted in the same way.

Friday, July 28th.

In opening the discussion on the treatment of albuminuria and eclampsia occurring in pregnancy, Dr. Robert Boxall pointed out that, though eclampsia and albuminuria were intimately associated, no causal relation had been established between them. Pregnant women were more subject to albuminuria than others, and in pregnancy renal disease was liable to occur in an aggravated form, and the liability increased as the pregnancy advanced. Primiparae were especially likely to suffer. After delivery the albuminuria tended to subside in nearly all cases. In pregnancy eclampsia was almost invariably associated with albuminuria, and albuminuria was attended with eclamptic seizures more often than apart from pregnancy. The liability to eclampsia was roughly related not only to the amount of albumen, but also to the scantiness of the urine and to the diminution in the urea excreted. Other factors were the disorganized functions of the liver and other organs, and increased nervous irritability and nerve irritation. From a study of the statistics from the year 1881 to 1903 he had found that the mortality from puerperal convulsions was somewhat greater in Scotland than in England and Wales, and twice what it was in London. Ireland occupied an intermediate position, but the mortality had been increasing in recent years both in Scotland and Ireland, while in London it had remained much about the same. As regarded treatment, he recommended saline purges, with copious enemata of hot normal saline solution, but in albuminuria which under treatment did not improve or in which serious complications were imminent, means should be adopted to terminate pregnancy. Eclampsia might often be warded off by chloral and bromide of potassium. If fits did occur they must be controlled by chloroform, or, if infrequent, by morphine in full hypodermic doses. Bleeding and saline solution might be tried; but if the patient was going from bad to worse, it was merely a question how the woman could be delivered expeditiously, with as little disturbance as possible, either from the action of the uterus itself or from manipulative interference. Dr. Hastings Tweedy, Master of the Rotunda Hospital, Dublin, followed in general agreement with Dr. Boxall, but said he insisted on the danger of giving fluids by the mouth to unconscious patients or even allowing them to remain supine. He deprecated rapid evacuation of the womb. If after full doses of morphine (2 gr. in twenty-four hours) the patient were left alone labour would generally proceed and terminate naturally. Professor Byers said that eclampsia, like dropsy, was a symptom that might depend on various causes—renal, hepatic, or cerebral. The fetus was undoubtedly a factor in its occurrence; the death of the fetus improved the chances for the mother. Mrs. Scharlieb, who had seen many cases in India, endorsed the ancient precept: "Take care of the fits and the labour will take care of itself." Dr. John Campbell said that, unless the fits were very bad, he preferred to give morphine, and, after emptying the bladder and rupturing the membranes, to wait for spontaneous delivery. Dr. Arthur Holmes said the worst cases he had seen were after delivery, and were the fatal ones. Dr. Purslow had had only 3 cases in 6,400 labours. As the general death-rate from puerperal convulsions was 0.3 per mille for Birmingham, his own district must be comparatively immune. After a prolonged discussion and some remarks from Professor Corby (Vice-President), the President (Dr. Herbert Spencer) said that the most remarkable point in the discussion was the gentle treatment advocated by those who had had the largest experience; no one had advocated the many-branched metallic dilators, or Caesarean section, abdominal or vaginal. Dr. Ewen J. Maclean read a paper, illustrated by microscopic and macroscopic photographs, on elephantiasis of the vulva in association with elephantiasis of the left lower limb, and Dr. Inglis Parsons a further report on his operation for prolapsus uteri; and the proceedings terminated with the acclamation of a hearty vote of thanks to Dr. R. H. Spencer, President of the Section, on the proposition of Professor Byers, seconded by Dr. Taylor Young.

Section of Ophthalmology.

Thursday, July 27th.

Work in this Section was resumed on Thursday, July 27th, by the introduction of the discussion on intraocular tuberculosis by Mr. W. H. H. Jessop, who first gave a history of the recognition of the disease, and then carefully analysed twenty cases collected from various sources. In illustration he showed a beautiful series of ophthalmoscopic drawings of a case which he had watched for a considerable time; recovery had so far progressed that the patient's vision had returned to $\frac{6}{9}$. Vitreous opacities, he said, were hardly ever seen with tuberculous lesions of the eye. In gummata there were always dust-like opacities. The question of treatment by tuberculin, as practised by Von Hippel, was carefully described, and the speaker asked for the experience of others who might have tried it. He expressed the view that the only certain method of diagnosing the disease was by inoculation of material from the affected eye into an animal. Professor Hess said he had used tuberculin in twenty-six cases. As to local reaction, he found it only in two cases, and this was the only way in which they should diagnose with certainty the presence of tubercle in the eye. Mr. Hern (Darlington) said that he thought that tuberculin T.R. was useful for diagnosis, but useless for treatment. Mr. Tatham Thompson mentioned a case in which he had performed excision, and the patient died three weeks later from meningeal tuberculosis. Professor Hess said that he should not fear to excise a tuberculous eye, but he thought it seldom necessary. He was under the impression that it was hardly possible that tubercle could be primary in this situation. Dr. Cecil Shaw described a case in which he had excised an eye for tubercle. Symptoms of meningitis came on, but the patient recovered perfect health subsequently. Mr. J. H. Parsons said that many people considered that tubercle in the eye was often primary. Mr. Beaumont (Bath) related a case. Sir Victor Horsley discussed the question of the differential diagnosis from the appearance of the fundus in tuberculous disease and in gliomatous tumours. He asked the members of the Section if this were possible; if it were, they had advanced considerably in their diagnosis. Mr. Bishop Harman said that in cases of pigmentary choroiditis the vast majority were due to syphilis and not to tubercle. Mr. Jessop replied, and laid stress on the fact that if the sclerotic were affected dissemination was very likely to occur; if the sclerotic were not affected, dissemination was not at all likely. Dr. J. Hern read some observations on the effect of the presence of adenoids in the naso-pharynx in some eye affections. The diseases which usually went with this condition were phlyctenular conjunctivitis, eczematous conjunctivitis, photophobia, and weak ulcers. In all these cases the naso-pharynx should be carefully examined. Dr. Benson (Dublin) read a paper on evolution in blepharoplasty, and traced the origin of modern operations from the old scalping procedure which always produced xerophthalmia. He described the most modern operation of transplanting mucous membrane from the lip of the patient, which was

equally applicable to the upper and lower lids; this operation had been done hundreds of times at St. Mark's Hospital, Dublin, and the results were excellent. Professor Hess found that transplantation of mucous membrane was by far the best operation, and he had done it for years. Dr. Henry agreed that it was a satisfactory method. Mr. Tatham Thompson was not so impressed with its utility. The President asked as to its ultimate results, and Dr. Benson said that it was absolutely permanent: as it was a fortnight after the operation so it remained permanently, but the flap should always extend the whole length of the eyelid: partial operations were useless. Dr. Cecil Shaw said that transplanted skin flaps were very satisfactory. Dr. Benson, in reply, said that skin was infinitely inferior to mucous membrane, as all skin contained hairs, and the epithelium was quite unfitted to touch the eye; it remained skin for ever. The President, Dr. G. A. Berry, gave a description of a new test for visual acuteness which was particularly useful for illiterates and children. Dr. Beaumont thought the test appeared to be most useful.

Friday, July 28th.

The discussion on capsular complications after cataract extraction was opened on Friday by Mr. E. Treacher Collins, who showed photographs of the microscopical appearance of eyes in which the capsule had become entangled in the wound; these showed the very imperfect union which occurred under these circumstances; the capsule acted as a foreign body in the wound. He next discussed the effect of adhesion of the capsule to the wound without its being actually entangled. This did not give rise to delayed union, but its ill effect was due to the drawing forwards of the capsule and iris, and this was likely to cause closure of the angle of the anterior chamber, provided it was sufficiently drawn forwards. As regards the prevention of capsular adhesions and entanglement, he pointed out that, although in the case of a simple extraction without iridectomy the chances of capsule complications were diminished, yet it could not be altogether prevented, and he showed photographs of adhesion of the anterior hyaloid membrane as well as of capsule which had taken place after simple extraction. As to the relief of tension after capsule complications, most of the operations did but little good. An iridectomy done opposite the coloboma might, if done early enough, be sufficient to open up the angle; and in some cases it was possible to divide the capsule at the place of entanglement with Lang's knives. As regards the prevention of secondary opacities, he advocated the tearing away of the anterior capsule, and gave statistics of his results. The President said that he thought highly of the use of the repositor in every cataract extraction, but, if glaucoma came on, he always did another iridectomy opposite the original one. Dr. Bronner found that, when using capsule forceps, dislocation of the lens and loss of vitreous were more frequent than when the cystotome was used. Mr. Tatham Thompson said that he had never satisfied himself as to the relative merits of capsule forceps and the cystotome. He was much impressed with the benefit of washing out the anterior chamber with M'Keown's apparatus. Mr. Cyril Walker and Dr. Hern made remarks, and the latter said that he was in the habit of cutting out a circular piece of capsule with the cystotome. Colonel Drake-Brockman said he first of all dilated the pupil fully before the extraction; after the incision he made a triangular opening in the capsule, base up, with a Bowman's needle. He found that he seldom got capsule complication after this. Mr. Parsons spoke on the anatomical aspect, and confirmed the points brought out by Mr. Collins. Dr. Henry thought that the reaction was much less when a peripheral opening in the capsule was made than when a large opening was attempted. Mr. Devereux Marshall thought that the posterior capsule had more to do with the development of secondary opacity than the anterior capsule. Mr. Collier Green expressed his views. Mr. Collins, in reply, said he did not think that a conjunctival flap made any difference to the entanglement or otherwise of the capsule. He was not in favour of irrigating the anterior chamber, on account of the extra risk of introducing foreign material, such as epithelium, into the chamber, which he had known to give rise to cysts in the anterior chamber. He did not think that the use of capsule forceps produced excessive reaction, and he was sure he did far fewer needlings than when he used the cystotome.

Section of Psychological Medicine.

Thursday, July 27th.

On the resumption of proceedings on Thursday, Dr. R. C. Stewart read a paper bearing the title, Short Notes on Lunacy in Leicester, and showed plans of the new county asylum which is in course of erection. The notes on lunacy referred to the history and geography of the occurrence of lunacy in the county of Leicester during the last few decades. He showed, and described briefly, the plans of the new asylum, one conspicuous feature being detached houses (quite separate from the central main building) for the reception of paying patients, male and female, as distinguished from pauper patients who resided in the central building. Dr. T. B. Hyslop (Bethlem Asylum) opened a discussion on occupation and environment as causative factors of insanity. The transformation from rural to urban life, he said, was accompanied by influences which proved deleterious to mental health and stability. (Illustrative cases were cited.) Migration from country to town not only led to the crowding of congested "slum" areas, but the weaker (less energetic and less ambitious) rural population left behind degenerated, partly from its inherent apathy and insufficiency of mental energy, and partly for much intermarriage among themselves. The general tendency, with the advance of hygiene and civilization, to improve the fitness of the female population to become good wives and healthy mothers had not always been fraught with success; women nowadays showed a tendency on their part to depart from their time-honoured rôle in nature, and the child-bearing and child-rearing obligations of womanhood among the middle and upper classes were becoming more and more neglected, the burden or duty of maintaining the slow increase of the population being borne chiefly by the lower classes. This was responsible partly for much of the physical deterioration of the race, the well-bred and well-fed of society neglecting the obligations of maternity; while the prolific poor, the lower, less refined, more ignorant, strata of the masses being thus of necessity made the main source and tributary to the future stream of the Anglo-Saxon race. Diminished virility was one of the results, with concomitant increase of degeneracy of body and brain in the progeny created under such conditions. Dr. Hyslop also referred to the power of religion—the sense of the inscrutable infinite Power that ruled Nature and man—as a vital factor for good if reverently and conscientiously accepted by all men and women alike. A lengthy discussion followed, in which Dr. Robert Jones, Dr. Lloyd Andriezen, Dr. Schofield, Dr. Johnstone (Leeds), Dr. Morrison (Hereford), Dr. Fletcher Beach, and Mr. James Stewart took part; and, after the President's summing up, Dr. Hyslop replied. Dr. W. A. Potts read a paper on the causes of mental defect in children, and supplied a table of classification of the various types of imbecility and weakmindedness. It was discussed by Dr. Fletcher Beach. The proceedings then terminated for the day.

Friday, July 28th.

On Friday Dr. Robert Jones opened a discussion on prognosis in mental diseases. Prognosis when applied according to the principles of medicine was the judgement formed by the physician regarding the future progress and termination of any disease. In the case of disease the prognosis should be clearly and straightforwardly given to the patient's friends and relatives. The questions asked might be "Is there danger to life?"—"Will the illness terminate in recovery or death?"—"Is the illness likely to be a long-continued one?" and in the case of mental disorder, "Will there be any permanent mental weakness left behind after recovery from the attack?" It would be important for the family to know approximately how long the expense of the care and treatment of an insane relative would have to be borne, for of all ailments insanity was one which was costly to nurse and required time for its treatment and recovery. The peculiar constitution of the patient, the general powers of recuperation, the soundness or tainted neurotic quality of his parentage, the actual form or kind of insanity he had developed, and the circumstances under which that development had been reached—all these were points to be carefully judged and weighed by the physician. Hereditary conditions, the epoch of life—puberty, adolescence, pregnancy and the puerperium, middle age and the menopause, old age—all had to be considered. Insanity in whatever form it affected the individual shortened life; the average mortality-rate of the insane population of Great Britain was six to seven times that of the same general population. In European and American asylums 8 to 12 per cent. of the average number resident per annum died. It was estimated that of 100 persons attacked for the first

time with insanity 30 recover and remain well, and the rest die or pass into chronicity, or partially recover to recur again and again. Three out of 10, therefore, may recover and remain sane for the rest of their lives, 7 die insane sooner or later. Complete recovery with immunity against recurrence is somewhat rare and exceptional in cases of insanity. The special proclivity to phthisis renders prognosis grave in many classes of insanity. A higher percentage of girls recover from the insanities and psychoses of adolescence (the period of 18 to 25 years of age) than boys. In young children the occurrence of insanity is of very bad prognosis, and the presence of epilepsy or syphilis renders the prognosis worse. General paralysis and acute delirious mania are of fatal prognosis, the mortality being nearly 100 per cent. By co-operation of bad heredity and a malign environment insanity is variously evolved. A good environment is potent for healthy development in case the hereditary taint is not overpoweringly bad. An interesting discussion followed, in which Drs. Urquhart, Hyslop, Andriezen, Bower, Oswald, Johnstone (Leeds), and Fletcher Beach took part, and Dr. Jones replied. Dr. L. Baugh read a paper on confusional insanity, based on the study of a considerable number of cases. Owing to the lateness of the hour few speakers could take part in the discussion. The President congratulated the author on the excellence and practical insight shown in the paper. The proceedings then terminated.

Section of Pathology.

Thursday, July 27th.

On the Section reassembling on Thursday, Dr. Forbes Ross presented some observations on certain features exhibited by cells in their relation to cancer genesis. The importance of cell polarity and its variations in the determination of both benign and malignant neoplasms lay in its character being more comprehensive than the parasitic theory. Dr. Hamilton Wright described the clinical features and morbid appearances of the various types of beri-beri, and mentioned the constant association of gastro-intestinal symptoms and actual inflammatory and necrotic lesions in the pyloric and duodenal mucosa with the period of invasion. The micro-organism, which he was inclined to regard as specific, was to be found, he said, in the intestinal wall at the site of these lesions, and pure cultures were to be obtained, though in many cases terminal infections occurred. Blood cultures, in his experience, were sterile. The classification of beri-beri which he had adopted as a result of his large experience was as follows: (1) Acute pernicious, (2) acute, (3) subacute, (4) residual paralysis. Hygienic measures had sufficed to stamp out the disease from such institutions as gaols, in which it was at one time endemic. Dr. Hose was disposed to attribute the cause of beri-beri to certain defects of diet, notably to the fungus found in the mouldy rice upon which many of those affected commonly fed. His view, however, was controverted by Dr. G. T. Clarke, who had observed an epidemic of the disease in one only of two institutions under his care, which drew upon the same rice supply. Dr. Mott, the President, and Major Fink, I.M.S., also spoke. A most interesting demonstration of a case of cerebral hemiatrophy was given by Dr. Page May, whose very elaborate and beautiful preparations form a valuable contribution to the morbid anatomy of the condition. Dr. Grunbaum exhibited specimens illustrating the mitoses occurring in the Graafian follicles, and the entire absence of the heterotype division there; this observation applied, he said, not only to the ovary of the mouse, but also to the human and anthropoid ovary. Dr. Bushnell and Dr. Hinds submitted a paper on some aspects of carcinoma ventriculi and its variations in malignancy, with illustrative specimens. A largely attended demonstration of Mendel's laws of heredity was given by C. C. Hurst, Esq., F.L.S., who exhibited examples of his own fertilization and breeding experiments with sweet-peas and rabbits.

Friday, July 28th.

On Friday, July 28th, Major Fink, I.M.S. (retired), read a paper dealing with cancer parasitology; the analogy of tumour formation in plants, due to the activity of myxamoebae which actually fused with embryonic cells, was cited, together with the necessity of studying first the response of unicellular plants and animals to parasitic stimuli and later the resemblance between haematozoa, histozoa and histosporidia and the reactions they induce. His work tended to show the improbability of the bacterial causation of cancer. After the remarks from Sir J. A. Grant (Toronto), Lieutenant-Colonel Birt detailed his cultivation experiments, employing the caffeine reinforcement method, which he proved to be quite unreliable. With this conclusion Dr. Eyre concurred. Dr. Bertram Abrahams then gave an excellent lantern demonstration of certain chronic joint conditions: he pointed out how little bone change was to be found in many of them, and how little skiagraphic evidence therefore could be obtained. He drew attention to the cases of chronic deformity resulting from acute osteoarthritis in childhood, in which the brunt of the lesion fell upon the synovial membrane, whilst there was evidence of rarification of the epiphysial ends of the bone rather than of osteophytic outgrowth. Replying to a question by Dr. Mott, Dr. Abrahams said that he regarded the later changes, particularly those found in the nervous system, as post- or para-infective. Dr. Gilchrist thought that some at least of the bone changes described were really tuberculous. Drs. Eyre and Flashman demonstrated in an able paper the absence of any causal connexion between the Klebs-Loeffler bacillus and general paralysis of the insane. Indeed, the incidence of all diphtheroid organisms in the throats of the insane was no higher than in the throats of the healthy sane under like conditions; and of the Klebs-Loeffler bacillus itself, if anything, lower. Dr. Shennan mentioned some of the latest of Dr. Ford Robertson's results, and the experimental production of symptoms resembling those of general paralysis in a goat by feeding with pure cultures of the organism isolated by Dr. Robertson. A serum obtained from this goat was said to have effected a complete cure in the case of a general paralytic man. Dr. Dimmock gave a practical demonstration of his method of estimating uric acid. Dr. Cammidge outlined the result of his examination of the faeces in pancreatic disease and biliary obstruction. An estimation of the relative amounts of fatty acids and neutral fats in the faeces, with certain other data, enabled a diagnosis to be made as to the site of the obstruction in the biliary tract. There appeared to be a total absence of bilirubin in cases of cancer of the pancreas. Dr. Price-Jones's paper dealt with the leucocytic changes associated with certain infective conditions of the bone-marrow. The President (Dr. Mott) gave a lantern demonstration of his specimens illustrating the etiology of sleeping sickness, pointing out the frequency of perivascular infiltration throughout the nervous system of fatal cases, and the probability of a secondary cause, the diplostreptococcus he had so often demonstrated in such preparations. In experimental trypanosomiasis in cattle, though a vessel might be plugged with the rapidly-dividing trypanosomes, there was no evidence of perivascular infiltration. A specimen of a cervical nerve, the sheath of which was crowded with the diplococci, was exhibited as evidence of a possible path for the virus inducing the chronic meningo-encephalitis from a suppurating gland in the neck. Dr. Mott further showed specimens and diagrams illustrating the brain changes of amentia and dementia, with contrast sections from the cortex of a dog's brain, the arterial supply of which had been cut off by synchronous ligation.

Section of Dental Surgery.

Thursday, July 27th.

The discussion on toothache, neuralgia, and reflex pain of dental origin was resumed by Sir Victor Horsley, who said how much he welcomed the establishment of the Dental Surgery Section, and that he was extremely glad to take part in the discussion. He then proceeded to discuss the various central and peripheral neuralgia of the fifth nerve; the peripheral variety was frequently of dental origin, and an ascending peripheral neuritis might affect the Gasserian ganglion. He then gave the outlines of several cases of bilateral excision of the ganglion of the fifth nerve, the motor roots being retained; the percentage mortality of 100 cases was now only 7 per cent. Mr. F. J. Bennett (London) continued the discussion, regretting the absence of Mr. Lowe, as his own contribution was concerned with eye affections of real or supposed dental origin. Mr. Sydney Spokes described a variety of neuralgia in which the paroxysms were increased when the patient assumed a recumbent position. Mr. H. Baldwin (London) was inclined to insist strongly on the fact that living teeth with inflamed pulps were more often the cause of neuralgias than septic teeth. Dr. Edward A. Bogue (New York) called attention to the presence of cavities in the posterior surfaces of teeth: these were often almost impossible to find. Mr. Huxley (Birmingham) related cases of neuralgia of nasal origin which had been referred to the teeth. Messrs. Lewin Payne, W. A. Maggs, H. A. Fairbank,

A. S. Underwood, J. Rymer, K. W. Goadby, Armston Vice, J. G. Turner, Dr. Brookhouse, and Mr. Sloan contributed to the discussion. The President then briefly summed up the discussion, after which Mr. Mummery made a short reply, Dr. Risien Russell being unavoidably absent. The proceedings for the day concluded with a paper by Mr. Kenneth W. Goadby; it was a preliminary note on the treatment of alveolar pyorrhoea by means of vaccine made from the species of staphylococci present in the alveolar pus. The opsonic method had been adopted in determining the increased resistance following the inoculation. The general symptoms associated with the oral sepsis disappeared under the injection.

Friday, July 28th.

The proceedings on the concluding day of the work of the Section opened with the reading of a paper by Mr. J. F. Colyer (London) on dental disease among horses, which included dental caries, affections of the peridental membrane (tooth periosteum). The specimens shown were obtained from knackers' yards in London. The maxillary teeth were more liable to attrition than the mandibular, the structure of the upper molars predisposing to this. Mr. Colyer said peridontal disease was common—108 cases found in 500 specimens examined; infection of the bone, and finally the antrum, frequently occurred. In the commencement of the disease the small injuries to the gums were always filled with masses of grain. Mr. Sidney Spokes read a paper upon the teeth as a test of age, and proceeded to give some statistics of the ages of boys at a large public school, which showed that 4 per cent. of boys over 13 years had no second molars, over 14, 7 per cent. were still without the whole of their second permanent molars, thus rendering the teeth as a certain test of age very unreliable. Mr. Douglas Gabell (London) gave a short demonstration, illustrated by lantern slides of some pathological conditions in teeth. Mr. J. F. Rymer (Brighton) read a paper on vegetarianism and its effects upon the teeth. Dr. Bogue read a paper on the influence of the arrangement of the teeth into their normal arches on development. Dr. Bogue, who had come from New York for the especial purpose of attending the Association meetings, illustrated his paper with a series of lantern slides showing the relation of the temporary and permanent teeth, the effect upon the permanent teeth both singly and generally by removal of the temporary teeth. He preferred the use of mechanical methods to extraction. In the discussion which followed, Mr. J. F. Colyer, Mr. Edward Lloyd Williams, Mr. J. G. Turner, and Mr. Howard Mummery took part. Dr. Bogue briefly replied. Dr. Astley Clarke (Leicester) read a paper on an unusual case of acute necrosis in a child 2½ years of age. The Secretary, in the absence of the author, read a paper by Mr. Lawson Dodd (London) on an obscure case of alveolar abscess. A vote of thanks to the President and the Secretaries concluded the proceedings.

SECTION OF TROPICAL DISEASES.

Thursday, July 27th.

ON Thursday the discussion on tropical diseases of the skin was opened by Dr. John M. H. MacLeod (London). He said it was hoped that Professor Jeanselme of Paris would have been present to open the discussion. The subject of tropical diseases of the skin was at present almost in a state of chaos both as regarded nomenclature and pathological facts. Dr. MacLeod grouped diseases of the skin as follows: (1) Those that are due to some known parasite; some being (*a*) bacterial, such as leprosy; some due to (*b*) streptothrix inoculation, as madura foot; some to (*c*) blastomycetes, giving rise to conditions resembling lupus vulgaris; (*d*) diseases caused by hyphomycetes or moulds, of which various types of ringworm are examples; (*e*) diseases due to animal parasites. (2) Diseases in which there is strong evidence of parasitic origin, but in which a specific microorganism has not yet been established. Some kind of micrococcus, either of a staphylococcic or streptococcic type, seems responsible, Oriental sore and phagadaenic ulcer of warm climates being examples. (3) Diseases in which microorganisms are generally present, but are probably secondary factors in the evolution, such as prickly heat. (4) Non-parasitic skin affections of the tropics, pellagra being a type. Professor Boyce, Dr. H. Radcliffe Crocker (London), and Major G. H. Fink, I.M.S. (London), joined in the discussion. A paper on pinta was read by Dr. F. M. Sandwith (Cairo and London); he defined pinta as a disease caused by a vegetable parasite which on the uncovered parts of the skin produces various discolorations. Dr. L. W. Sambon (Naples), communicated a paper on pellagra, and suggested that the disease was met with so markedly amongst workers in the maize fields in Northern Italy rather than amongst those who consumed maize, suggesting that maize, though possibly an oecologic factor in the etiology of the disease, was not an agent as hitherto understood. He did not consider the experiments on aspergillus and penicillium convincing. The geographical distribution was undoubtedly more wide than at present believed, especially within the tropics. Dr. J. C. Graham (Sumatra) contributed notes on Framboesia tropica, and described two cases of the disease in European children—one a Dutch girl, aged 4, and another a German girl, aged 6, both residing in Sumatra. Dr. Jeanselme (Paris) sent a paper on notes on pian (yaws), which was translated and abstracted by Dr. F. M. Sandwith. The author's experience was gained in Cambodia. He refutes the idea that yaws and syphilis are the same disease, and gives a table of the differences between the two ailments. Yaws is a markedly contagious disease but is not hereditary. Dr. Karl Grossmann (Liverpool) gave a lantern-slide demonstration of coloured photographs of Icelandic lepers. Mr. John Bell (Hong Kong) contributed a paper, entitled, A Communication on a Tropical Skin Disease, which he ascribed to a parasite—the rhizoglyphus parasiticus. The trouble was located in the sole of the right foot, causing an ulcerative surface as large as the palm of the hand. Dr. Aldo Castellani (Colombo, Ceylon), contributed the following papers:—(1) On the Presence of Spirochaetes in Two Cases of Ulcerated Parangi (Yaws). This announcement is one of the most important discoveries of recent times, considering the fact that the spirochaeta pallida has been found by Schaudinn in syphilis, and considering the relationship said to exist between yaws and syphilis. (2) Observations on Dhobie Itch and other Tropical Trichophytic Diseases. Castellani believes there are many forms of trichophytic affections, and that there are mixed infections of dhobie itch and tinea circinata. Involvement of the scalp in leprosy was described in a paper by Mr. George Pernet. Messrs. A. J. Chalmers, F. M. Sandwith, C. F. Harford, G. H. Fink, D. E. Anderson, and J. Cantlie joined in the discussions.

Friday, July 28th.

Mr. James Cantlie (London) read a paper on sprue, drawing attention to the fact that although several microorganisms had been brought forward as etiological factors in sprue none of them had been substantiated to be any way connected with the disease. Persons living in the tropics were liable to attacks of sore mouth lasting on an average for three weeks and recurring several times during the year. These were preliminaries to sprue, although the disease did not always supervene. Mr. Cantlie mentioned cases of sprue occurring in persons who had resided for as many as seven years in England after leaving the tropics. He condemned the milk treatment of sprue, and advocated fresh-pounded meat, meat jellies, fruit—especially strawberries—as the most speedy and satisfactory diet for the cure of the disease. Lieutenant-Colonel Andrew Duncan, I.M.S., contributed a paper on "hill diarrhoea." The most generally-adopted theory seemed to be the presence of mica in the water consumed, the particles of mica irritating the alimentary tract. Colonel Duncan regarded sprue and hill diarrhoea to be separate diseases. The treatment of hill diarrhoea was rest in bed, peptonized milk, and drachm doses of liquor hydrargyri perchloridi after each meal. The following took part in the discussion on these two papers: Messrs. L. W. Sambon (London), David J. Galloway (Singapore), John Haddon (Berwick), A. J. Chalmers (Ceylon), J. C. Graham (Deli, Sumatra), F. O. Stedman (Hong Kong), C. F. Harford (London), Major G. H. Fink, I.M.S., ret. (London), and John Hutson (Barbados). Dr. J. Tertius Clarke (Perak, Malay States) read a paper on the theories advanced as to the cause of beri-beri. He reviewed the "arsenical," the "rice," the "place," and the acute and subacute infectious forms of beri-beri. From experimental evidence he excluded the bed bug as a transmitter of beri-beri. Dr. Hamilton Wright, late Director, Institute of Medical Research, Malay States, contended that beri-beri was an acute or subacute infectious disease due to a specific organism; the organism was not to be found in food, but one that might be ingested in any food and drink accidently contaminated. Dr. R. Tanner Hewlett (London) sent notes on two cases of beri-beri paresis treated with strychnine injections. Benefit resulted from the treatment, the local use of strychnine having apparently contributed to recovery. The follow-

ing took part in the discussion on beri-beri: F. O. Stedman, D. J. Galloway, J. Cantlie, J. C. Graham, L. W. Sambon, Professor Boyce, and W. L. Strain. Dr. Aldo Castellani contributed a paper on diarrhoea from flagellates. Although flagellates in the intestine were harmless when few, they were most probably pathogenic when in large numbers. Major G. H. Fink, I.M.S.(ret.), read a paper on the mosquito-malarial theory and malarial prophylaxis from the latent phase. Leonard Rogers, Captain I.M.S., communicated papers on the following subjects: (*a*) blood counts in acute hepatitis and amoebic abscess of the liver with further experience of the relationship of the amoeba dysenterica to tropical liver abscess; (*b*) two further cases of snake bite successfully treated by local applications of permanganate of potash, with suggestions for extension of its use. Mr. James Cantlie described seven recent cases of liver abscess, in one of which the right half of the liver was found gangrenous. S. R. Christophers, M.B., I.M.S., and Dr. J. W. W. Stephens (Liverpool) supplied a note on a peculiar schistosomum egg found in the urine of a native of Madras. Dr. Hearsey contributed a paper on malarial fever in British Central Africa. Dr. St. George Gray (Sierra Leone), sent a note on the method of taking quinine in the prophylaxis of malaria. The Section was well attended, and a vote of thanks was passed to Professor Boyce and the secretaries of the Section for the part they had taken in contributing to the marked success of the Section.

ANNUAL PATHOLOGICAL MUSEUM.

THE high standard of excellence set up by the Pathological Museum at Oxford has been thoroughly well maintained by the Leicester Committee, whose efforts, if appreciation could reward them, must have received their due this year. On all hands it has been remarked that the one thing lacking was time to take full advantage of the opportunities offered by the very large collection of well-chosen specimens. With this very thought in mind, the promoters sought to facilitate, by careful arrangement and by stringent elimination of irrelevant material, the ready assimilation of the data upon which were based papers read in the Sectional meetings.

Where nearly every exhibit is presented in the best style, it is difficult and perhaps invidious to draw distinctions, but if the palm is to be awarded for careful putting up of morbid anatomy specimens, it must go to Cambridge University.

The feature of the museum was undoubtedly the very extensive series of preparations of diseases of the female generative organs. The labour of collecting special specimens from almost every museum in London and from many others all over the United Kingdom must have been considerable, and the result reflects the greatest credit upon the Secretaries of the Section of Gynaecology and upon Miss Garrett Anderson in particular.

The very numerous contributions by Mr. C. J. Bond, F.R.C.S., covered the whole realm of surgery from radiography to laryngology, and all alike were interesting; the care with which the particular points of each preparation were indicated being particularly noticeable. The microscopical specimens illustrating the subject of the Address in Surgery were on view, and it may be mentioned that there was throughout the museum a commendable anxiety to furnish microscopical evidence, either from the actual specimens or from photographs and drawings—many of them beautifully executed—of the statements made in describing the macroscopical specimens.

Radiography was again well represented, and this year it may fairly be said that the general level of excellence was higher than heretofore. The most valuable series for general purposes was perhaps that illustrating the possible fallacies of radiographic evidence of calculi; it was shown by Mr. Hurry Fenwick. The very large series by Mr. Thurston Holland gave representative evidence of the present possibilities of *x*-ray work. Mr. C. C. Hurst's specially arranged specimens illustrating Mendel's laws of heredity attracted a great deal of attention.

In the microscope room the spirillum of syphilis was on view, thanks to the kindness of M. Roux of the Pasteur Institute. The preparations by Dr. F. W. Mott of trypanosomiasis and associated morbid conditions well repaid careful examination.

To mention a few of the many interesting exhibits, Mr. Berry's thyroids and Mr. Freyer's collection of prostates both formed striking series; Mr. Jonathan Hutchinson, F.R.S., as in past years, contributed many curious and rare specimens. The material bearing upon Dr. Abrahams's paper on chronic joint disease, exhibited by Dr. Bernstein, made a compact and instructive object-lesson; Dr. Bolam of Newcastle-on-Tyne showed five examples of aneurysm of the left ventricle—a noteworthy collection; Dr. Carnegie Dickson furnished numerous well-preserved specimens of bone marrow under various morbid states, with photographs of the corresponding microscopical appearances; Professor Muir's photo-micro transparencies of intestinal and other parasites were admirably adapted for teaching purposes; but, indeed, to accord all the praise due were to cite the great majority of the contributors and their specimens.

THE POPULAR LECTURE.

THE subject of fatigue and repose was chosen by Professor W. Stirling for his popular lecture at Leicester. Professor Stirling worked all day Friday, July 28th, in the Opera House of Leicester, and by the evening had practically turned it into a physiological laboratory. He had just time to put the last touches to his preparations when an enormous audience began to arrive and filled the vast house to overflowing. The proceedings were opened by Mr. G. C. Franklin, who proved a most popular chairman, and introduced to the assembly the lecturer of the evening, Professor W. Stirling, whom he described as one of the most distinguished members of the medical profession. Professor STIRLING immediately commenced his lecture, illustrating his points by means of actual experiments on the stage, which were then repeated in front of a magic lantern at the back of the hall and thrown upon an immense sheet placed at the back of the stage, so that the minutiae of the experimental methods employed were fully illustrated to every one present. The clear delivery of the Professor, and his avoidance of all technical terms, enabled his audience to follow the lecture without the slightest difficulty. The townfolk of Leicester are especially interested in artistic subjects, and this appreciation of art was skilfully taken advantage of by Professor Stirling, who threw on the screen a large number of magic lantern slides of well-known pictures showing the different points in regard to fatigue and repose that he wished to emphasize. One picture that seemed specially to call for the plaudits of the audience was that of Moses with his hands held up by Aaron and Hur so that Joshua might smite Amalech and his people with the edge of the sword, and attention was particularly drawn to the nervous energy portrayed in the picture by the artist, Sir John E. Millais, as exemplified in the position of the fingers of Moses. When the Professor showed a slide of the superficial muscles of man from Vesalius's *De Fabrica Humani Corporis* (Basel, 1543), his audience did not seem to appreciate the picture till the lecturer said that it was known as the man who was running away from his own skin, a saying which immediately secured the attention of those present. The fatigue as seen in the picture entitled "Worn Out," by T. Faed, aroused a murmur of appreciative sympathy; this was followed by an illustration of Hubert von Herkomer's picture of "Hard Times" from the Manchester Art Gallery; and everyone recognized the absolute faithfulness of the picture to Nature when the Professor drew attention to the utter fatigue of the woman by the roadside, demonstrated by the listless position of the right hand. The toil-worn stonebreaker from the picture of H. Wallis served also to emphasize the teaching of the Professor, and carried conviction to the minds of his hearers. By means of simple experiments well known to medical men, and by taking the different points from the various pictures displayed on the screen, the Professor explained the phenomena that accompany extraordinary exertions either of body or mind, and elucidated the causes that conduced to fatigue. He described fatigue as a result of over-exertion, and above all of sustained and continuous action of an organism on its organs. Not only was the overworked organ itself affected, but in consequence of chemical changes occurring in sustained action without sufficient periods of rest other organs and parts of the body were implicated, and in muscular fatigue particularly the poisonous by-products were not removed with sufficient rapidity. In describing the symptoms of fatigue the lecturer first stated how mental fatigue caused bodily fatigue and *vice versa*. He showed how posture of the body and the facial and general expression, together with the nature of the movements of the body, were indices of the condition of the muscles and also the central nervous system. In commenting on the effects of over-exertion, he observed that it was easier to walk and keep moving than to stand still, and quoted in support of his views the fact that the continuous strain of standing was recognized

by teachers, well known to shopmen, and demonstrated in shop girls. Physical and mental work, with due periods of repose, was beneficial and conducive to nutrition, development, and health, but there was a limit to a man's working power which varied with the individual. The interesting physiological discovery of an elaborate system of sensory nerves in the muscles caused fatigue to fall into the category of warning sensations such as hunger and thirst, so that fatigue might be described as protective in its action, having a double aspect—first a sensation of tiredness more or less definite in character, and secondly a diminution in the power of exertion, so that it was impossible to go on with the effort unless spurred on by powerful excitement or stimulation. Medical men in regard to brain disease were constantly warning the public and pointing out to teachers of youth the disastrous effects of eyestrain. Overwork of the brain, especially in children, soon made itself evident in dullness of perception, impairment of memory, irritability, and listlessness, and these constituted the well-marked phenomena of mental overstrain. The quick, crisp character of the delivery of this lecture by Professor Stirling quite captivated his audience, and this was well shown in the hearty burst of laughter that followed his description of somnolence at sermon-time: the dull dreary drip, he said, of a dry lecture or a monotonous sermon delivered in an atmosphere not too hygienic soon had its effect on an audience; the hearing centre of the brain was lulled to inactivity, neighbouring regions of the brain were speedily affected, resulting in a sudden loss of control and relaxation of the muscles of the back of the neck, whereupon the senseless head nods, and then, when chin meets chest, the sleeper awakes with a start in a state of semi-somnolence. In his observations on the question of retention of memory, Professor Stirling made some very earnest and important statements. He said that Darwin considered attention was one of the most important of all human faculties for the development of human understanding, and with it there must be associated memory, and that depended on the disposition of nerve-cells to retain impressions made on them and to reproduce them as required. In the case of over-exertion of the brain, prolonged rest was a necessity, but sleep and something more were necessary for the restoration of vigorous mental activity. Teachers in schools knew that the effects of excessive mental work could not be immediately compensated by prolonged sleep, the remedy consisting of diminished work and increased recreation. The effort of attention was the expression of a state of tension of the nerve-cells of the brain, and was most exhausting when a voluntary effort was made, so that sustained effort, especially in young children, should be recognised by teachers as most tiring, and frequent intervals for repose were necessary if the receptivity of the nerve-cells was to be maintained. As a practical application of this view, Professor Stirling advocated the changing of subjects of study in school so that brain fatigue should be avoided. The lecturer then proceeded to show how repose was the keynote to all the functions of the body, and explained how the heart and diaphragm beat or contracted frequently. After every beat, however, there was a pause permitting of the restitution of matter and energy, and giving time for waste products to be removed, thus leaving the muscles fresh and recuperated to begin a new beat. In the same way, sleep was a quiescent period so far as the outward manifestation of energy was concerned of the nerve cells. The brain cells required what might be described as a spring clean every twenty-four hours. In addition to sleep naturally obtained, the true repose for many a weary brain was to change to some unexciting but useful occupation—for many something like manual labour in the open air was best—but he emphasized a fact that had not been sufficiently widely recognized—that severe muscular work and great mental activity were incompatible, at least, for most persons, the double tax was too heavy. The experiments of Mosso had clearly demonstrated that severe mental work greatly diminished muscular power. In the opinion of Professor Stirling, one day's rest in seven was absolutely necessary for the body.

Mr. G. C. Franklin complimented Professor Stirling on the lecture he had delivered, and asked Mr. S. Perkins Pick, President of the Literary and Philosophical Society of Leicester, to propose a vote of thanks. This gentleman accordingly did so, and in the course of his remarks described the lecturer as marvellous, and asserted that he had never seen an audience so spell-bound as he had that evening.

The resolution proposing a vote of thanks to Professor Stirling was seconded by Dr. Crossfield, who called upon the audience to show their appreciation by giving vent to their feelings in cheers for the Professor.

In acknowledging the vote of thanks, Professor Stirling said he wished to place on record the debt of gratitude he owed to all those who had assisted him in turning the Opera House into a physiological laboratory, and he did not conclude without a special mention of his assistant "Charles."

A pamphlet containing a selection of quotations about sleep from the Bible, Cervantes, Shakespeare, and other poets, and reproductions of pictures by various painters illustrating the subject was distributed among the audience. The reproductions, which are beautifully executed, comprise the portrait of Andreas Vesalius, which forms the frontispiece of his great work, the illustration known as "The Man Running Away from his Own Skin," from the same book, a portrait of Nicolaus Stenon, from a print by Vilhelm Maar, Millais's "Victory, Oh Lord!" Sodoma's "St. Catherine," T. Faed's "Worn Out," Herkomer's "Hard Times," H. Wallis's "Stonebreaker," and Rembrandt's "Anatomy Lesson."

THE NATIONAL TEMPERANCE LEAGUE BREAKFAST.

The Chairman and Committee of the National Temperance League entertained a large number of the members of the British Medical Association at breakfast on July 27th in the Temperance Hall. This annual breakfast has been held for thirty-six years, and on this occasion was well attended, the chair being taken by Dr. J. W. Leigh, Dean of Hereford, who had seated by him on his left-hand side Sir Victor Horsley, whilst to his right was Mr. G. C. Franklin, the President of the British Medical Association. Amongst others present were Dr. Harry Campbell, Dr. C. K. Millard, Dr. R. Jones, and Dr. F. W. Mott.

After breakfast had been disposed of the Chairman called upon the Secretary of the National Temperance League, Mr. J. T. Rae, to read an appreciation of the services rendered to the cause of temperance by the medical profession. Mr. Rae accordingly read the following:

Address of Appreciation to the Medical Profession.

We desire, on this occasion of the thirty-sixth annual breakfast with members of the British Medical Association, to express on behalf not only of the National Temperance League but of the whole temperance movement, our high appreciation of the important services which have been rendered to the cause by the medical profession through their progressive research and declarations as to the nature and effects of alcohol.

It is significant that the first and most influential publication in connexion with the temperance movement was written in 1785 by Dr. Benjamin Rush, one result of its influence being a memorial from the American College of Physicians to the United States Congress. Since that time a long succession of medical advocates have supported the movement in this country. Among these the names of George Cheyne, Erasmus Darwin, John Higginbottom, R. B. Grindrod, Julius Jeffreys, W. B. Carpenter, Professor James Miller, Norman Kerr, and B. W. Richardson may be recalled.

The delivery in 1874 of the Cantor Lectures on Alcohol before the Society of Arts by the late Sir Benjamin Ward Richardson, F.R.S., marked a period in the scientific study of the alcohol question, and commanded the attention of the whole medical profession. The progressive research which has followed from that time has developed an attitude of mind on the part of medical practitioners towards the dietetic and even the medicinal use of alcohol which has had a powerful effect upon the public conscience, and been of incalculable benefit to the objects which the National Temperance League and its contemporary organizations have in view.

The formation of the British Medical Temperance Association, and of the Society for the Study of Inebriety, has done much to formulate scientific evidence against the use of alcohol; and the several medical declarations which have emanated from the profession have presented that evidence to the public. None has been so significant and important as the recent document signed by 15,000 medical practitioners in support of the teaching of hygiene and temperance in our public schools.

We desire to emphasize the great value to the cause of national sobriety of the evidence presented by the

medical witnesses before the recent Inter-Departmental Committee on Physical Deterioration in certain classes of the community: and we venture to express the hope that the experimental and clinical research, which has established beyond the possibility of contradiction the fact that alcohol is inimical to the best interests of individual and national life, may be extended and demonstrated until the community at large is thoroughly awakened to its responsibility.

In conclusion, we would, on behalf of the great body of temperance workers throughout the kingdom whom we represent, place on record our profound appreciation of the self-sacrifice of the medical profession in applying the principles of preventive medicine to the discouragement of the use of an agent which is responsible for so much deterioration and disease, and we trust that through those representative members here assembled this expression of cordial recognition may be communicated to the whole British Medical Association.

J. W. Leigh, D.D., Dean of Hereford, *President.*
J. Y. Henderson, *Chairman.*
John Turner Rae, *Secretary.*
National Temperance League.

The Chairman, in the course of a speech in support of the address, urged the supreme importance of inculcating at schools the principles of hygiene and temperance, and expressed an earnest hope that students of the medical profession would also be encouraged to study the matter, and he considered they should also receive education on the subject. The Chairman concluded by regretting that members of Parliament were lacking in that education which they ought to have received in order to make them fit and proper persons to legislate for the welfare of the country.

Mr. G. C. Franklin explained that the difficult relations of medical men to the question of alcohol were by no means of recent occurrence. A great deal had been said of late years about legislation for temperance, but he reminded his audience that doctors were brought into the closest of contact with their patients, and all legislation was useless unless the individual was reached. He (Mr. Franklin) would rather trust to influencing individuals than to scores of Acts of Parliament. Referring to the question of drinking the King's health in wine at naval and military messes, it was a great thing that a memorandum had been issued by His Majesty the King to the effect that he did not consider it necessary for young officers to drink his health in wine.

Dr. K. Millard, who also supported the address, spoke on the question of discontinuing the use of alcohol in the treatment of infectious diseases. He quoted the experience of the Temperance Hospital in London, and contended that alcohol, so far from being indicated, in many cases was as a matter of fact contraindicated. He declared, with evident satisfaction, that in Leicester there was not only among the townsfolk, but also among the members of the medical profession, a strong feeling in favour of temperance.

Dr. Harry Campbell observed that doctors were of all men most capable to help the cause of temperance, for the public rightly looked to them for guidance in all matters of health, and that naturally included what they should drink. He emphasized the importance of unanimity in the medical profession concerning alcohol, and urged that the economic side of the question should not be omitted in the instruction given to medical students.

Dr. R. Jones insisted on the fact that the British Medical Association and the National Temperance League were united in an earnest desire to secure the physical efficiency of the people by means of advocating the value of temperance.

After Mr. J. W. Henderson, Chairman of the Executive Committee of the National Temperance League, had spoken, the address was adopted by the meeting, and then Mr. McAdam Eccles proposed a vote of thanks to the Chairman. This was seconded by Dr. Laffan, carried unanimously, and duly acknowledged by the Dean of Hereford.

UNITED KINGDOM POLICE SURGEONS' ASSOCIATION.

A meeting of the United Kingdom Police Surgeons' Association was held at Leicester on July 26th.

Report of Council.

The following report was presented by the Council:

Your Council have pleasure in presenting you their annual report. At the last annual meeting it was resolved:

That the subject of medical witnesses' fees, and the question of the exercise of their discretion in this matter by magistrates' clerks, which in various districts has produced such widely different and sometimes unsatisfactory results, should be brought under the notice of the British Medical Association, and that it should be suggested that representation should be made to the Justices' Clerks' Society, the members of which usually exercise the discretion allowed by the Home Secretary's order to the courts in which these gentlemen serve.

As the result of the transmission of the above resolution to the Medico-Political Committee of the British Medical Association, a Subcommittee was appointed including Dr. Henry Barnes, Mr. Nelson Hardy, and other gentlemen who had paid special attention to the subject, to investigate the operation of the new order of the Home Office relating to medical witnesses' fees. That order had been the result of prolonged action by the British Medical Association in co-operation with the Police Surgeons' Association to obtain more equitable remuneration for medical witnesses. At the time it was promulgated it was understood that the intention was to improve the remuneration of medical men in cases coming before the courts. Individual cases, however, appeared to indicate that the order was somewhat illusory in this respect, and the Subcommittee, after careful consideration, reported:

That no immediate action is advisable, but that the Committee should continue to watch the subject, with a view to action when sufficient evidence of the operation of the Home Secretary's Order shall be available, and that the Committee should take steps to make it known that the British Medical Association will be greatly assisted in dealing with the matter if medical practitioners concerned in cases which illustrate the operation of the Home Secretary's order will communicate statements of the facts to the Medical Secretary.

Your Council are of opinion that, as the Medico-Political Committee proposes to continue to watch the subject, the matter may safely be left in its hands, but your Council regret to learn that the Justices' Clerks' Society, when appealed to, refused to have a conference on the subject.

The question of the payment of medical practitioners called to emergency cases by the police was referred to the same Subcommittee, which included police surgeons of experience. At the instance of the Subcommittee, inquiries have been addressed to the police authorities in all the large towns in the United Kingdom, and the replies having been summarized, the result of these inquiries is stated to be that in the opinion of the Committee the facts ascertained do not indicate any grievance calling for action by the British Medical Association, but that in a few places there appears to be reason for action, and the Association should render such support to the Divisions concerned as may be required if they desire to move in the matter.

As the promotion of medico-legal knowledge is one of the objects contemplated by our Association, your Council believe that members will be interested to know that in the new edition of Taylor's *Medical Jurisprudence*, edited by Dr. Frederick Smith, a number of the new cases have been contributed by two of the officers of your Association, Mr. Lowndes of Liverpool, and Mr. Nelson Hardy of London; and they desire to urge upon the members of this Association to send reports of cases to one of the Honorary Secretaries as provided in Rule 13, by which means a large accumulation of medico-legal facts might be gathered in every year.

The Treasurer's accounts have been duly audited and show a balance in favour of the Association of £41 5s. 7d.

Officers and Council.

The following are the officers and Council for 1905-6:
President: Henry Barnes, M.D., LL.D., Carlisle. *Vice-Presidents:* Sir H. D. Littlejohn, M.D., Edinburgh; H. W. Oulton, M.D., Dublin; F. W. Lowndes, M.R.C.S., Liverpool. *Treasurer:* H. Nelson Hardy, F.R.C.S. (Edin.), 129, Dulwich Grove, London, S.E. *Honorary Secretaries:* W. H. Whitehouse, M.D., Birmingham; W. Powell, M.R.C.S., Cheltenham. *Council:* J. Paul Bush, C.M.G., Bristol; J. F. Craig, M.A., M.D., Birmingham; A. O. Grosvenor, M.D., London; W. J. Heslop, F.R.C.S. (Edin.), Manchester; E. K. Houchin, L.R.C.P., London; L. Maybury, M.D., Portsmouth; J. T. J. Morrison, F.R.C.S., Birmingham; W. Powell, M.R.C.S., Cheltenham; H. W. Roberts, M.R.C.S., London; W. M. Roocroft, L.R.C.P., Wigan; C. Templeman, M.D., Dundee; T. Wallace, M.D., Cardiff.

Medical Witnesses' Fees.

At a meeting of the Council held on July 26th the following resolution was passed:

That the Council of this Association has seen with great satisfaction the action of the Medico-Political Committee of the British Medical

Association on the subject of medical witnesses' fees, and trusts that that Committee will continue to watch over the matter. That a copy of the foregoing resolution be forwarded to the Medical Secretary, British Medical Association, for presentation to the Medico-Political Committee.

PHARMACEUTICAL CONFERENCE.

THE forty-second annual meeting of the Pharmaceutical Conference was held at Brighton on July 25th and 26th, under the presidency of Mr. W. A. H. Naylor, F.I.C., F.C.S., London. The Conference was received by the Mayor and Mayoress at the Royal Pavilion on the evening of July 24th. Dr. Gervis welcomed the Conference in the name of the medical profession. He gave the members the following prescription: R. Aëris Brightonii quantum sufficit. Misce secundum artem. Fiat inhalatio. Sæpissime utenda.

PRESIDENT'S ADDRESS.

On July 25th the PRESIDENT delivered his address, taking as his subject The Principle of Standardization. He said the recognition of that principle, and its embodiment in daily practice, marked the most important advance which pharmacy had witnessed within recent years. Standardization, as applied to a crude drug or a preparation, was understood to imply that by a method of appropriate treatment, ascertained by direct experiment, it had been made to conform to a predetermined standard. The required standard might have a physical, chemical, or physiological basis, and might have reference either to one or more definite principles, or to a mixture of indefinable substances. The object of standardization was to secure uniformity of product, more especially in respect of medicinal activity. It was not necessary to hark back more than a generation to see the ever-lengthening strides which pharmacy had taken in the direction of plant analysis and the isolation of definite principles. Then the maximum of knowledge of the constituents of even the best known and most potent drugs was summed up in the statement that they contained a crystalline principle, generally an alkaloid, and a few remotely proximate and chemically unclassified substances. Before standardization could be brought within the range of pharmaceutical possibility it was necessary to make a more thorough, systematic, and accurate investigation of crude drugs, with a view of obtaining precise information as to the nature of their constituents. The 1867 *Pharmacopoeia* gave detailed directions for the evaluation of cinchona bark and of opium, an innovation that constituted the first serious attempt "by authority" in this country to assay crude drugs. In the following *Pharmacopoeia* of 1885 the principle of standardization was extended to a small number of the preparations of official drugs, comprising the liquid extracts of cinchona and opium, the extracts of nux vomica and opium and cherry-laurel water. As a beginning, the selection made was warranted alike on chemical and therapeutical grounds, but the choice of the extractive form for nux vomica proved to be singularly unfortunate, as, owing principally to the relative variation in alkaloidal content to extractive, it could not be obtained so as to fulfil at the same time the two required conditions of standard strength and pilular consistence. In accordance with general expectation, the succeeding *Pharmacopoeia* of 1898 witnessed a further advance of the principle of standardization. Of the standardized drugs and preparations common to the 1885 and 1898 *Pharmacopoeias*, the processes given for each in the respective editions are characterized for the most part by important alterations. The criticisms that had been made on the processes for standardization in the present *Pharmacopoeia* might be summed up in the statement: (*a*) unnecessarily complex, (*b*) insufficiently accurate, (*c*) tedious of execution. It was gratifying to be able to remark that those who have criticized adversely the processes for standardization of the *Pharmacopoeia* had, as the result of much thought and investigation, made valuable suggestions for their improvement. The President proceeded critically to discuss the official processes and others recommended by various workers as improvements for the standardization of belladonna, cinchona, ipecacuanha, nux vomica, and opium. In regard to the question to what extent the standardized preparations were liable to loss of active principles by chemical change or precipitation when stored under proper conditions, he said his experience had taught him that varying conditions of storage would produce varying changes in the preparations, a behaviour which was characteristic of the large class of galenicals to which they belonged. Under the same conditions of storage they were not equally affected. The preparations of nux vomica and belladonna appeared to be the most stable, the cinchona preparations less so, and the liquid extract of ipecacuanha the least of all. There was small, if any, doubt that the loss referred to was in each case most largely due to precipitation. Whatever, therefore, was likely to have the effect of encouraging deposition should be carefully noted and avoided. From the favourable reception which had been accorded the series of standardized preparations, it was safe to assume that the question of increasing the number in the next edition of the *British Pharmacopoeia* would receive from the General Medical Council the fullest consideration. Other drugs containing known and approved active principles would undoubtedly form the subject of experiment, with the twofold object of embodying their remedial properties in preparations alike convenient and permanent and arriving at suitable processes for determining their therapeutic strengths. The President proceeded to deal with the claims to this form of recognition of Calabar bean, opium, henbane, jaborandi, stramonium, and strophanthus. Dealing next with the aim of standardization, he said that in his estimation the aim should be to produce preparations that would represent the sum total of therapeutic activity of the drugs operated upon, except in cases where it was desired to obtain the medicinal effects of certain definite principles the physiological action of which was indisputable. As an illustration, a preparation of opium might be cited where the presence of narcotine might be considered objectionable. Further, in respect of a given preparation it must be required of the pharmacist to devise suitable processes not only for the estimation of the chief medicinal constituent, but as far as possible the several medicinal constituents and the proportion in which they were present. He would go even further, and say that in the near future it might be necessary to determine certain principles hitherto disregarded which modified the therapeutic activity of the drug. The pharmacologist might be depended upon to point the way, and, despite the heavy tax this call for fuller investigation would put upon the resources of the pharmacist, he was encouraged to believe he would prove equal to the demand. Without reflecting on modern methods of standardization, which had undoubtedly met with general acceptance, he could not suppress the conviction that their tendency was not free from a suspicion of narrowness. The besetting temptation consisted in a disposition to restrict the medicinal properties of a drug to a potent principle the therapeutics of which were universally recognized by clinicians, and, acting on this assumption, to proceed to produce a preparation, and to standardize it on the basis of the particular principle, with little or no regard to other constituents that might, directly or indirectly, be of value. For instance, according to present-day knowledge, the chief active principle of the three drugs belladonna, scopola, and henbane was hyoscyamine. If a tincture of each were prepared so as to contain the same percentage of alkaloid or alkaloidal content, would it be seriously contended that, therapeutically considered, the three were interchangeable, and therefore it was a matter of indifference which of them was selected for use? If the physician found it a distinct advantage to administer the belladonna tincture in one case and the henbane in another, surely it was because he was satisfied that the two preparations did not produce identical results. Might not this be taken as prima facie evidence that there were present in the tinctures constituents other than hyoscyamine or alkaloidal content that had to be reckoned with? The statement had been made that if standardized drugs were used for making the corresponding preparations, there would be no necessity for standardizing the final products. That opium in coarse powder containing 10 per cent. of morphine was used for making the tincture was evidenced by the fact that it was in demand for that purpose. Whether it was customary to determine the morphine percentage in the finished product or to rely upon its being correct he was unable to say. In the absence of accompanying results verifying the accuracy of the statement referred to, he desired to utter a word of caution to those who might deem it sufficient to make their galenicals conscientiously from standardized drugs without introducing the check, provided in each case, for determining their strength. Experiments made, notably with cinchona bark and opium, had convinced him that, except when the same preparation was made from the same sample and under precisely the same conditions, the resultant product fell outside the limit of standard strength.

Moreover, it was advisable that standardized preparations when made and passed into stock should be of the maximum strength, so as to allow of any reduction by precipitation during storage. A series of experiments made with different specimens of the various standardized drugs might show that by following the official process a certain definite proportion of alkaloid was always extracted, but until this had been proved beyond dispute it was certainly unwise to rely on drugs of standard strength for the preparation of galenicals, unless the final product were assayed. While it was an acknowledged fact that definite vegetable principles were in growing demand, yet, on the other hand, there was no perceptible decline in the use of preparations of drugs, those that were standardized being the most favoured. His belief was that the extractive form of galenicals, both solid and liquid, would be used increasingly by the medical profession if pharmacists took pains to equip themselves for the successful investigation of problems connected with the chemistry of drugs.

Reports.

The meeting was attended by nearly 300 pharmacists from all parts of the United Kingdom, and several Colonial chemists were present. Reports showing the satisfactory position of the Conference were presented. It may be explained that the Pharmaceutical Conference is an organization distinct from the Pharmaceutical Society. The Conference concerns itself solely with "the encouragement of pharmaceutical research and the promotion of friendly intercourse and union amongst pharmacists," whereas the Society is a statutory body charged with the administration of the Pharmacy Acts, and the examination and registration of those who desire to be registered under these Acts.

Papers.

Among the papers read were the following: Dr. W. E. Dixon: The Physiological Standardization of Drugs, including a suggested Physiological Standard Test for insertion in the next *British Pharmacopœia*. W. Harrison Martindale, Ph.D.: Further Notes on Radio-activity. T. Maben, F.C.S.: Some Features of the new *United States Pharmacopœia*. A. W. Gerrard, F.C.S.: The Pharmacy of Capsicum. W. Wippell Gadd, F.C.S.: The Chemistry and Pharmacy of the Leaves of Viola Odorata. J. E. Brunker, M.A.: Report upon the Results obtained from the Analysis of Pharmaceutical Preparations by the Union Analysts of the Poor-law Unions of Ireland in the year ended March 31st, 1905.

NOVA ET VETERA.

AN OLD NOTE-BOOK.

Many years since, in looking over the accumulated rubbish of a second-hand book store in Exeter, I came across the manuscript notes of a medical student belonging to a past age. Unfortunately no trace is anywhere to be found which would throw light upon the identity of the industrious student. The book is in crown 4to, bound in parchment, and is stitched together with strips of the same in the old-fashioned way. At one end, which we will call the beginning, the notes are headed "Memorandums of Mr. Cheseldon's Lectures on ye Bones in General," with the date January 11th, 1725-6.

The handwriting is small and compact, but the book is written throughout with wondrous care, and though close upon two centuries old the ink is still almost as black as when the careful student scratched these crabbed little hieroglyphics with the old-time long s's. He begins by laying himself down a rule of conduct, namely:

I shall take but little notice of wt he has mentioned in his Book of Anatomy, but shall chiefly observe what he mentioned yt is not to be found there.

Among the details not mentioned in "his Book of Anatomy" are the following:

The Bones are the firmest and most solid parts of ye body and are its chief support, they serve as Levers for ye muscles to act upon and for ye Defence and preservation of ye most noble parts.

It was a culpable omission on Cheselden's part not to have mentioned this, but it is not the only one, for the student goes on to observe that:

The brain being of a soft and tender substance by which means it is no doubt most fit to perform ye functions for which it was ordained by the all-wise Creator is enclosed by ye bones of ye skull which prevents its being so subject to external accidents as it would otherwise have been.

By-and-by the writer gets into the swim and argues matters out for himself. Still harping on the bones, he says they

are composed of a number of fibres parallel to one another which fibres he (Mr. Cheselden) thinks are thus formed, ye particles of matter which compose it lying in a direct line and near one another by the laws of attraction they approach one another and unite—and a number of these longitudinal fibres being placed parallel with one another also attract one another laterally but not so strongly as the particles of ye longitudinal fibres do one another. For if they did a bone would be as compact and solid as a stone. The structure of a bone is not composed as some say of lamellae placed stratum-super-stratum for tho some bones as those of young persons may be split into lamellae as I myself have experienced having cut them into dice and tried them on an anvil with a hammer. I found they would separate one way, yet this will not hold good in ye bones of adults.

It is interesting to learn how they endeavoured to account for the arrest of growth in bones when arrived at maturity. He says:

Several reasons may be given why the bones and other parts of ye body only grow to a determined size. One may be yt ye fibres every one of which he thinks exists from the beginning have suffer'd as great a distention and are press'd as close together as they are capable of so cannot admit of any further encrease or growth. Another way may be yt whilst a person is young ye viscera may bear a greater proportion to ye other parts than when grown up and so may prepare and concoct a greater quantity of nourishment for ye body at yt time yn afterwards when it is considerably enlarged. And it may be yt ye heart is unable to propel ye blood thro a body of more yn a determined size as a tree is incapable of growing to more yn a certain height because its juices cannot ascend beyond yt height. He is of opinion yt after ye bones have ceased to grow any more yt they again waste and decay for ye possibility of which he brings a proof in his book of Anatomy where he mentions a case in which one half of one thigh bone weighed more than 30 grains more than ye other whole thigh bone.

Another interesting piece of information is that

he (Mr. Cheselden) thinks ye bones of men's legs are stronger in proportion to those of quadrupeds which is necessary because ye body of ye latter is supported by four and yt of ye former but by two legs.

The function of cartilages is also explained very definitely. He says:

the cartilages wch are placed between ye bones he thinks prevents their uniting wth one another wch sometimes happens when they are destroyed or injured wch disease is called anchylosis and renders ye joint ever afterwards stiff and useless.

So much for bones, the notes on which extend over nearly thirty pages. Then we come to "Lectures on the Operations of Surgery, by Dr. William Hunter." Here we are brought at once face to face with a question that has apparently agitated professional circles from prehistoric times right down to our own epoch. He says:

By surgery is meant a manual act or an application of external remedy's but as many external diseases require internal remedy's and vice versa, so we find the province of Physic and Surgery so blended together as to be almost inseparable, and although surgery was doubtless an art in common we find the separation of the two began nearly as ye time of Hippocrates in the more populous places. But a man who practices one ought to be well acquainted with the other. The Boundary's of each have been matter of dispute for many conturys and is still undecided, and we frequently hear of encroachments on one another's practice and it will ever be impossible to settle it.

In the light of present knowledge it looks as if it would eventually be settled by the surgeons laying violent hands on the curative art as a whole. Nowadays when a viscus goes wrong it is removed, as with the appendix or the kidney, or it is shortened, as with the intestines, or decorticated, as in large white kidney, or replaced, as with the thyroid. We must agree with the author that "a physician, who, unless he is master of every disease depending on the structure of the human frame, will make but a sorry figure in this age." The author's own plan is set forth as follows: "For my own part I have left to the Chirurgical Branch those cases in which the artist makes a wound where he does not find one, and those wounds and ulcers in which I believe manual operations to be more useful than medicine, or lastly, whatever relates to the bones." That is a good working rule, and might be re-edited with advantage. It is amusing to read that: "The usefulness of surgery is allowed by all, even those who condemn the practice of physick. The reason seems to be its being external and, therefore, obvious as to its effects, which is not the case with that of physick."

The notes are full of quaint renderings of anatomical and other data, and the thoroughness with which this student of 180 years ago goes into the subject testifies to the high esteem in which anatomy was then held as the fundamental basis of medicine.

Alfred S. Gubb, M.D.Paris, M.R.C.S.Eng.,
Mustapha Supérieur, Algiers.

MEDICAL NEWS.

Dr. Alfred Eddowes, of London, has been elected a corresponding member of the Société Française de Dermatologie.

Surgeon-General Sir Benjamin Franklin, K.C.I.E., late Director-General, Indian Medical Service, has been appointed a Knight of Grace of the Order of St. John of Jerusalem in England.

Alvarenga Prize.—The Alvarenga Prize of the College of Physicians of Philadelphia has been awarded to Dr. Chalmers Watson, Edinburgh, for an essay on The Importance of Diet: an Experimental Study from a New Standpoint.

Bequests to Medical Charities.—The late Miss Agnes Abercrombie, of Doune Terrace, Edinburgh, whose will has now been proved, left £1,000 to the Royal Infirmary, Edinburgh.

A Dental Congress.—On July 28th a Dental Congress organized by the Spanish Odontological Federation was opened at Palma, on the Island of Majorca. It was attended by the majority of the dentists in Spain. The King of Spain was represented, and special delegates were sent by the University of Rome, the Dental Schools of Paris, Lyons, and Bordeaux.

Tropical Research.—At the initial meeting of the Liverpool Institute of Tropical Research on July 31st, Sir Alfred Jones, who has already done much for tropical medicine, was elected Chairman. He dwelt in his speech on the necessity of applying scientific methods to commercial enterprise, especially in the tropics, in which the obstacles of disease had to be overcome, and ended by guaranteeing the institution £1,000 a year for four years. A similar offer was made by Mr. W. H. Lever, and other sums were also promised.

Hygienic Instruction for Teachers.—On the initiative of Professor Debove, Dean of the Medical Faculty of the University of Paris, the French Superior Council of Public Instruction has adopted two measures which seem likely to be useful in the interests of the public health. To the programme of study of Normal Schools for male teachers instruction in the elementary facts of venereal diseases is to be added, and that for female teachers will henceforth include puericulture.

The Metric System.—The Secretary of the Decimal Association has received a letter from the General Council of Chambers of Commerce of the Commonwealth of Australia, stating that at a meeting of that body held in Sydney in June last a resolution was passed expressing satisfaction at the increasing public interest in the metric system of weights and measures. The resolution further expressed the hope that the system may very shortly be adopted for England and the Empire generally.

The Water Supply of Woolacombe.—Last month, as mentioned in our Parliamentary Notes at the time, the President of the Local Government Board stated, in reply to a question in the House of Commons, that his attention had been called to the unsatisfactory character of the water supply of Woolacombe—a Devonshire watering-place—but added that steps were being taken to provide a new and satisfactory supply. Dr. Thomas Young, who practises at Woolacombe, informs us that this new supply, which is brought from Exmoor and is pure and abundant, has now been laid on, and that the occasion was celebrated on August 1st with some solemnity.

David Lewis Epileptic Colony.—In the report of the annual meeting of the Medico-Psychological Association of Great Britain and Ireland, published in the Journal of July 29th, it was stated in the abstract of a paper on the David Lewis Epileptic Colony, read by Dr. Alan MacDougall at Alderley Edge, Cheshire, that "a charge of 14s. a week is made to the colonists, male and female." This is calculated to convey the impression that there is no accommodation for adult patients except such as can only pay the sum specified. It is right, therefore, that it should be made clear that in addition to the four houses at which a uniform charge of 14s. a week is made to colonists, there are two other houses, one for men and one for women, offering more private accommodation. Each of these houses contains twenty beds, of which ten are in two dormitories (six in one and four in the other). The remaining ten beds are in private bedrooms, each provided with a fireplace. In addition to the use of the general living rooms, the occupants of these single-bedded rooms have reserved to them two private sitting rooms. A minimum charge of 50s. a week is made to colonists occupying these single-bedded rooms. A private sitting room is also reserved for the use of the ten colonists sharing the dormitories, and the charge for this accommodation is 30s. a week. The colonists in these houses take their meals together, and meet in the large living room. Special arrangements are made for epileptic children.

City of London Chest Hospital.—On July 26th the Duke and Duchess of Connaught opened a new nurses' home in connexion with the City of London Hospital for Diseases of the Chest, Victoria Park. Sir Edward Sassoon pointed out that twenty-four beds had had to be closed because the accommodation for the nurses was not sufficient. At the present time there were 31 nurses housed in the hospital; the new buildings provided for an additional 10, making 41 in all. The Duke of Connaught said it was to him a very pleasing task to be enabled to open the new home for nurses as his first act for the hospital since he became its President. It was not many months since he had himself been in the hands of the nurses, and he would always remember with gratitude the devotion with which they nursed him. Their Royal Highnesses subsequently inspected the hospital, and received an ovation on leaving from a great crowd which had collected outside the gates.

Continental Anglo-American Medical Society.—The annual luncheon of this Society took place on July 27th, at Leicester, during the meeting of the British Medical Association. Professor Osler presided, and was supported by the following members of the Society:—Drs. StClair Thomson, H. E. Leigh Canney, W. Page May, O. Hobson, Michael Foster, D. E. Anderson, M. W. Gairdner, and F. M. Sandwith. Among the guests were Professor Boyce (Liverpool), Dr. Tyson (Folkestone), Dr. Ewart (London), Dr. Watson Williams (Clifton), Dr. A. R. Cushney (London), Dr. Bertram Abrahams (London), Dr. A. J. Chalmers (Colombo), Dr. Camac (New York), and Dr. G. Wells (Chicago). There were no formal speeches, but Dr. Sandwith reminded the members that the next meeting of the Society would take place in October in Paris, during the Congress of Tuberculosis, when it is hoped that there may be an unusually large gathering. Dr. Ewart, on behalf of the guests, returned thanks to the Society for the hospitality shown them.

Medical Sickness and Accident Society.—The usual monthly meeting of the Executive Committee of the Medical Sickness, Annuity, and Life Assurance Society was held at 429, Strand, London, W.C., on July 21st. The chair was taken by Dr. de Havilland Hall, and there were also present Dr. J. Brindley James, Dr. J. Pickett, Dr. Frederick S. Palmer, Mr. H. P. Symonds (Oxford), Mr. F. S. Edwards, Dr. F. J. Allan, and Dr. J. B. Ball. The accounts presented showed that the number of sickness claims received by the Society during the last few weeks was much less than in a similar period during the winter or spring; but, on the other hand, the more recent claims appear to be of a more than usually serious nature, and there is reason to fear that the list of members permanently incapacitated will have received several additions before the end of the current year. The Society has now been in operation for more than twenty-one years, and a considerable number of those who joined it when it was started in 1884 were already past middle age. As the mortality experience of the Society has been remarkably good, it follows that there are now on the books many members who have reached an age when all illnesses are apt to be serious. Unlike many societies seeming to give similar benefits, the Medical Sickness and Accident Society has not reserved to its managers the right to determine its sickness contracts, and its members are not liable to be informed that their sickness insurance will be discontinued at the end of the current year. This has been the unfortunate experience of too many who have not taken the precaution to ascertain exactly the terms of the "assurance" they had obtained from the sickness society to which they contributed. The Medical Sickness and Accident Society was founded for the purpose of giving aid to medical men in sickness, and especially to those who are permanently incapacitated. Full provision has been made to meet the heavy disbursement caused by this provision, and the large reserves—now amounting to nearly £200,000—are a sufficient guarantee that the Society will be able to carry out in the future as in the past this exceptionally valuable arrangement. Prospectuses and all information on application to Mr. F. Addiscott, Secretary, Medical Sickness and Accident Society, 33, Chancery Lane, London, W.C.

British Medical Journal.

SATURDAY, AUGUST 5TH, 1905.

THE ANNUAL MEETING AT LEICESTER.

THE annual meeting at Leicester is now an event of the past, but it will always be remembered by those members of the British Medical Association who were wise or fortunate enough to take part in it as one of the most interesting and agreeable of these annual assemblies. That the meeting was so successful was due to the admirable arrangements made by the Local Executive Committee, of which the President, Mr. Franklin, was Chairman, and Dr. Frank Pope, Vice-Chairman. On Dr. Astley Clarke, Honorary Secretary, fell, we believe, a great part of the preliminary work, and he was ably seconded by his co-Secretary, Mr. Bolton Carter. If *ars est celare artem*, then Mr. Franklin, Dr. Pope, Dr. Clarke, and their coadjutors may be pronounced artists in annual congresses, for everything worked so smoothly that the inexperienced might have been tempted to suppose that it is the easiest thing in the world to organize the local arrangements for such a gathering. It is, however, as a matter of fact, a very difficult task, and only those who have gone through the mill can realize how much work, how much foresight, and what powers of organization must have been given for many months past to achieve the success of last week.

The Pathological Museum, organized by a Committee of which Mr. C. J. Bond was Chairman, and Dr. R. Sevestre Honorary Secretary, was a collection of more than usual interest, as will be gathered from the reports published in this and previous issues of the JOURNAL. There can be no doubt that the plan of arranging the Pathological Museum so as to illustrate discussions in the Sections is a good one and worthy of imitation in future years. Special arrangements for the entertainment of ladies accompanying members were made by a Committee of which Mrs. Franklin was Chairman, and Mrs. Claude Douglas Honorary Secretary; they were in every way successful, and the entertainment given by the Committee on Thursday evening was very largely attended. In organizing the meeting the local executive had the cordial co-operation of the Corporation of Leicester, and the entertainment given by the Mayor in Abbey Park on Friday evening was one of the most brilliant ever offered to the Association.

The brief accounts published in this and in the last issue of the JOURNAL of the work done in the twelve Sections will be sufficient to show that it reached a high standard of merit, and that many subjects at present engaging the attention of medical practitioners throughout the world were discussed from many points of view. It is hoped to publish full reports of the proceedings of the Sections at an early date.

Not the least interesting feature of the Annual Meeting was the presentation of gold medals for distinguished merit to Sir Constantine Holman and Mr. Andrew Clark. A full account of the ceremony will be found in the report of the General Meeting held on July 25th, which appears in the SUPPLEMENT to this week's issue of the JOURNAL. It may be well to recall that the medal "for distinguished merit" was instituted by the Association at the Annual Meeting held at Manchester in 1877. The medal, which may be in gold, silver, or bronze, is awarded by the Council on a ballot of not less than three-fourths of the members present at the meeting. It may be awarded to "any gentleman who shall have conspicuously raised the character of the medical profession by scientific work, by extraordinary professional services or by special services rendered to the British Medical Association." The first recipients of the distinction were Mr. H. N. Davies, who was awarded the gold medal; Messrs. Washington David, Edgar Dukes, and Edward Stephen Davies, who were awarded silver medals; and Messrs. Francis Henry Thompson, Charles John Jones, George Neale, Philip James, F. W. Parry, Rees Hopkins, Edward Lloyd, and Ivor Ajax Lewis, who were awarded bronze medals, for heroic conduct, self-denial, and humanity at a colliery accident which occurred at Pontypridd. The Association has also in the same way honoured courage and devotion in the persons of Surgeon-Major James Reynolds, V.C., who in 1879 was awarded a gold medal for his heroism at Rorke's Drift; of Dr. F. Ormrod, who received a gold medal in 1888 for the active part he took in rescuing the victims of a colliery accident at Workington; of Surgeon W. H. Parke, who was awarded a gold medal in 1890 for his services with the Emin Pasha Relief Force; of Surgeon-Captain H. F. Whitchurch, V.C., who in 1896 was awarded a gold medal for the gallantry and professional ability displayed by him on the battlefield. A gold medal was bestowed in 1880 on Dr. William Farr for his labours in statistical and sanitary science. Dr. Edward Waters was awarded a gold medal in 1886 for his work in the cause of medical reform; in 1897 gold medals were awarded to Mr. C. G. Wheelhouse and Sir Walter Foster, M.P., for their services as Direct Representatives of the profession on the General Medical Council. The services of the two gentlemen whom the Association delighted to honour last week have been not less noteworthy. The engrossed testimonials presented to them with the gold medals set forth concisely the grounds on which they were awarded. A resolution passed at a meeting of the Council of the British Medical Association held on October 19th, 1904, is to the following effect:

> "That the Gold Medal of the Association for Distinguished Merit be awarded to Sir Constantine Holman, M.D., for his distinguished services to the British Medical Association through the South-Eastern Branch, on the Central Council, as Treasurer, and as Vice-President. Further, for his lifelong and successful labours for the improvement of the financial conditions of the Medical Charities."

A resolution passed at the meeting of the Council held on July 5th, was as follows:

> "That the Gold Medal of the Association be awarded to Andrew Clark, D.Sc., F.R.C.S., on account of special services rendered by him to the British Medical Association."

In congratulating both these gentlemen on the well-deserved distinction bestowed upon them, we may be allowed to give a brief summary of what they have done for the Association and the profession. Sir Constantine Holman has been connected with the Association for fifty-two years and has taken an active part in the promotion of reforms in the Poor Law and in the medical services of the army

and navy, and in helping to further the development of State Medicine, and to secure the passage of the Medical Act of 1886, for which the profession was so largely indebted to the labours of the late Dr. Waters, of Chester. To what he has done for Epsom College, of which he has been treasurer for eighteen years, the flourishing state of that most useful institution bears striking witness. Upon Mr. Clark's work for the Association it is unnecessary to dwell. He has held with signal success the most responsible official positions during a period of transition when statesmanlike breadth of view, clearness of insight, and mingled firmness and tact were especially needed. How conspicuously the late Chairman of Council has displayed these qualities is known of all whose privilege it has been to work in any capacity with him. We are sure that all members of the Association will join with us in wishing Sir Constantine Holman and Mr. Andrew Clark length of days to enjoy the honour of which those who have had the best means of knowing what they have done have judged them worthy.

THE REPRESENTATIVE MEETING.

THE Representative Meeting at Leicester sat on four days, on Monday from 2 p.m. to 10 p.m., with an interval of eighty minutes for dinner; on Tuesday from 10 a.m. to 5.30 p.m., with an interval of about an hour and a half for lunch, and the General Meeting, at which the President, Mr. Franklin, was introduced to the chair; on Wednesday from 10 a.m. to 6.50 p.m., with an interval of two hours for lunch and to permit attendance at the address on Medicine; and on Thursday for one hour, to correct and confirm the minutes. Altogether the meeting was actually in session for nearly twenty-one hours. During that time it got through an immense amount of business. The minutes contain records of over a hundred distinct subjects, and though some of these were disposed of without discussion, others were debated at length and involved the consideration of several distinct propositions in the form of amendments or riders.

One of the most important and interesting matters which came before the meeting was the report of the Council recommending the Association to apply for a Royal Charter. The Council was instructed last year to take the necessary steps to obtain certain alterations in the Memorandum of Association, the main object in view being to obtain power to undertake Medical Defence and to make contributions for benevolent purposes. When the matter came to be looked into in consultation with the lawyers, it appeared that legal difficulty might be encountered in obtaining the sanction of the High Court to the alterations desired, and at the same time counsel strongly recommended that the desirability of applying for a Royal Charter should be considered. Consequently, Mr. Andrew Clark moved, on behalf of the Council, a resolution authorizing it to make an application in due form. Mr. Armit, in moving an amendment to refer the matter back to the Council and Divisions for further consideration, made an able speech, which was really directed against the proposal altogether, mainly on the grounds that the process of obtaining a charter would be very costly, and that, when obtained, it would not give to the Association the hoped-for freedom in the management of its affairs. The amendment led to a spirited discussion, but was in the end rejected after it had been made plain that the grant of a charter need not involve any fundamental changes in the constitution or regulations of the Association. Before the original resolution was put notice was given of a rider instructing the Council to send the draft of the application for the charter to the Divisions with an explanatory memorandum and estimate of the probable cost. It was doubtless with this instruction in view that the Representatives voted on the resolution, which was carried on a vote by card by nearly 4 to 1.

The voting on this motion is of interest from another point of view, since it affords an opportunity of studying the operation of the vote by card. This is the first occasion in the history of the Representative Meeting on which a vote has been taken in this way. As a rule, it has been considered sufficient to take a vote by constituencies—that is to say, each Representative present and voting has cast one vote. In voting by card each Representative casts a number of votes equal to the number of members comprising his constituency. On the present occasion the result of the vote by card was that the resolution was carried by 9,453 to 2,526; this is a percentage ratio of 79 to 21. Some curiosity was naturally felt to know how far this differed from the ratio which would have come out had the vote been taken in the usual way by constituencies. The question was asked, and the Chairman stated in reply that the number of constituencies voting was Ayes 87, Noes 25. This gives a percentage ratio of 78 to 22.[1] The ratios were thus almost exactly the same in the two methods of voting. This is a curious instance of the operation of the doctrine of averages, and is very satisfactory as showing, so far as one instance can do so, that the ordinary system of voting by constituencies really expresses the views of the members of the Association as reflected by the Divisional Representatives.

It may be worth while to study the vote a little further from this point of view. The number of constituencies which elected Representatives was 146, but of those thus chosen seven were not able to attend at Leicester, and deputies were not appointed in their places. The actual number of Representatives was presumably therefore 139. The number who took part in this important vote was 112, so that 27 duly accredited Representatives were not present in the room at the time, or did not vote. The number of members belonging to the Divisions which nominated Representatives was 14,249. The total number of members in the seven Divisions whose Representatives were unable to be present at the last moment was 641, so that the number of members of the Association represented at Leicester at the time when the vote by card was taken was 13,608, and the votes of 11,979 were cast.

The presentation of the report of the Medico-Political Committee on its investigation into the economic conditions of contract medical practice in the United Kingdom[2] led almost at once to a proposal that the recommendations of the Committee, which are reprinted on the first page of the SUPPLEMENT for this week, should be referred to the Divisions. This, no doubt, had the effect of limiting discussion on the subject, but sufficient was said to bring once more into prominence the fact that local conditions vary very much, and that it is therefore essential to obtain the opinions of the Divisions at this stage of the inquiry. The Divisions were therefore requested to hold meetings at an early date for the consideration of the subject, and it is hoped that every member

[1] 77 67 : 22.3.

[2] The full text of the report, embodying not only the recommendations of the Committee on the general subject of Contract Practice, but also special reports on Provident Dispensaries, and on Public Medical Services, was published as a special SUPPLEMENT to the BRITISH MEDICAL JOURNAL, July 22nd, 1905.

will preserve the full text of the report, at any rate until it has been considered by the Division to which he belongs.

A valuable discussion on the administration of the Midwives Act was raised by a series of resolutions moved by Dr. F. G. Daniel on behalf of the Furness Division, expressing among other things the opinion that the provisions for enforcing the rules regulating the practice of midwives are not adequate, and that the representation of general practitioners on the Central Midwives Board is insufficient. Another resolution from the same Division raised the question of the relation of medical men to the public in respect of those cases in which a midwife is instructed to summon the assistance of a registered medical practitioner. The Legislature while very wisely imposing this duty on midwives characteristically omitted to provide any machinery for the purpose. The public has not unnaturally assumed that medical men are under legal compulsion to respond to any such summons, but this is not the case, and the Representative Meeting resolved that steps should be taken to bring this fact to public notice. The Act also failed to make any provision for paying a medical practitioner thus summoned to render service in an emergency, and there appears to be some doubt as to the power of local authorities to make such payments. The matter was referred to the Medico-Political Committee after a brief discussion of the scales of fees drawn up by the Stratford and Norwich Divisions; these scales thrown into a single table will be found on page 139 of the SUPPLEMENT.

THE GOVERNMENT AND THE PROFESSION.

THE office of Lord Chancellor is one of the oldest and most dignified known to the constitution. Its origins go back to a remote period, and though in the increasing complexity of modern government its duties have been limited, its dignity has not been diminished. The office of coroner is also one the history of which goes back to a distant past, and it is perhaps for this reason that coroners still remain under the jurisdiction of the Lord Chancellor, although he is the judicial head of the Chancery courts, whereas coroners' courts are chiefly engaged in matters which pertain rather to the criminal side.

When, therefore, the British Medical Association, acting in conjunction with certain local and general medical societies, having failed to induce Mr. Troutbeck, Coroner for South-West London and for the City of Westminster, to reconsider the unprecedented course of procedure which he had instituted in his courts, came to consider what step should be taken to vindicate the interests of the public and of the medical profession imperilled by Mr. Troutbeck, they were advised that an appeal for justice should be made to the Lord Chancellor as the high officer charged by the constitution with the duty of reviewing the proceedings of coroners. In May, 1903, a deputation from the Association, and the other societies acting with it, presented to the Lord Chancellor a memorial setting out that Mr. Troutbeck had departed from the usual and recognized procedure followed by coroners in accordance with the provisions of the Coroners Act. The Association learnt shortly afterwards that the Lord Chancellor had informed Mr. Troutbeck that before making any reply to the Association he desired the coroner's observations on the memorial, adding, however, the remark "that the Coroners Act appears to describe very fully, for the guidance of coroners, the general course of procedure in relation to medical witnesses." In his defence, addressed to the Lord Chancellor two years ago, Mr. Troutbeck set up an interpretation of the Coroners Act contrary to precedent, and contrary also to the opinion of eminent counsel consulted by the Association: he asserted also that he had not failed, in inquiries held before him, to call any clinical evidence which had any bearing on the cause of death. The Lord Chancellor contented himself with transmitting to the Association Mr. Troutbeck's defence without comment. A statement was at once drawn up and submitted to the Lord Chancellor, giving full particulars of a series of cases in which Mr. Troutbeck's method of procedure had failed to elicit essential facts, thus proving that there existed a serious risk of erroneous verdicts being returned, and showing that his procedure was diametrically opposed to the interests of the community and the most elementary principles of equity and justice. After waiting ten months for a reply, the Association addressed a letter to the Lord Chancellor asking him for an expression of opinion, at the same time submitting particulars of further cases. The Lord Chancellor ignored the application, and it then became necessary to consider what further steps should be taken. It was decided that having failed to obtain a hearing from the member of the Government primarily responsible, it only remained to apply to the Prime Minister as head of the Government. What happened subsequently is fully set out in the report made by Sir Victor Horsley, as Chairman of Representative Meetings, to the Association, published this week as an appendix to the report of the proceedings of the Representative Meeting. An explanatory letter was addressed to Mr. Balfour a little over a year ago. To this no reply was received, but by a curious coincidence within four days of its dispatch a letter was received from the Secretary to the Lord Chancellor. This letter was a somewhat remarkable document to issue from the office of the chief judicial officer of the country. In the first place it stated that the Lord Chancellor had not found it possible to give time for a minute examination of all the facts and arguments placed before him. No doubt the office of Chancellor involves great calls upon the time and energy of the incumbent, but Lord Halsbury possesses an amount of energy and vigour, physical and mental, which may well be the envy of men thirty years his junior, and we venture to think that he might and ought to have found time to adjudicate in a matter involving the life and the honour of the subjects of this realm.

Having made this excuse, however, the Lord Chancellor went on to say that his impression was not in favour of the coroner's practice, but he professed himself unable to exert any controlling power over the coroner's action short of dismissing him for misconduct. This is a most surprising confession. Common report has it that the Lord Chancellor rules the august assembly over which he presides with a rod of iron, and it is therefore strange to find him confessing that he feels unable to exercise any control over a method of conducting coroners' inquests upon which, nevertheless, he cannot look with an eye of favour. Dr. Johnson said that he liked occasionally to have something craggy to break his mind upon. Lord Halsbury possesses so vigorous an intelligence that he must sometimes experience the same yearning. He might find in the problem presented to him the craggy something of which he is in search. At any rate this denial of justice on grounds so flimsy as want of time to read a few pages of

printed matter is intolerable. By the appeal to the Prime Minister the responsibility of this denial is now shared by all the Lord Chancellor's colleagues in the Government. The Prime Minister has failed to reply to two letters addressed to him in his official capacity by an Association representing some 20,000 medical men. He has expressed regret for this omission, and every one will be anxious to acquit Mr. Balfour of any intentional discourtesy. Probably the syllogism which passed through his mind was, This is business to which the Lord Chancellor ought to attend; the Lord Chancellor attends to his business; therefore this business will be done. Q.E.D.

Unfortunately there was something wrong with Mr. Balfour's middle: the Lord Chancellor cannot find time to attend to his business, and can merely form an impression upon which he does not consider it necessary to act. But as has been said, the matter has ceased to be one in which the Lord Chancellor is the only member of the Government concerned. The failure of the Prime Minister to reply to the letters of the Association has produced a feeling of resentment, as was clearly shown during the discussion at the Representative Meeting which preceded the adoption of the resolution embodied in Sir Victor Horsley's report. This resentment can only be deepened by the refusal of the Prime Minister to take any steps to remedy the injustice of which complaint is made. It is commonly stated that under the British constitution there is no wrong without its remedy; apparently the remedy for this wrong is not to be obtained from the present Ministry. But Ministries change, and a general election is at hand.

THE REGISTRATION OF NURSES.

The report of the Select Committee on Registration of Nurses has been published this week, and we print it in full in this issue. It is not a very illuminating document and bears marks of being more or less of a compromise between the conflicting views held on the subject. The report will, however, serve to indicate the lines on which legislation may be expected, and therefore the proposals of the Committee must be carefully considered before Parliament meets again. The main recommendation is that a central body should be set up by Act of Parliament after the pattern of the Midwives Board to make a Register of Nurses and to define and settle the conditions to be fulfilled antecedent to registration. But, unlike the provision in the Midwives Act, the calling into existence of the registered nurse is not to exclude the unregistered nurse from practising for gain. The title of "registered nurse" will be the reward, and sole reward, of registration. This central body would also have to decide what constitutes a proper training school for nurses and to recognize such schools and the certificates of competency granted by them. The central body would also have the duty of publishing the Register of Nurses and removing the names of those who in their opinion have been guilty of misconduct or moral delinquency. These and other duties mentioned in the report would practically create a body to superintend the education, registration, and discipline of nurses very similar to the General Medical Council. The proposal that the registration fee should be one guinea—not a guinea annually—would leave the body very short of funds for carrying on its work. In the last paragraphs of the report the Committee recommend that all nursing homes and institutions should be licensed by the local authority. This would throw upon county and borough authorities the responsibility of inspecting all private hospitals and institutions for supplying nurses to the public. These provisions require serious consideration, and it is fortunate that at the Annual Meeting at Leicester it was determined to refer the whole question to the Divisions of the Association. The report of the Select Committee will enable each Division to discuss and decide upon the merit of definite proposals, and to thrash out by debate the advantages to be gained through the proposed legislation by the public, the medical profession, and the nurses. It is hoped, therefore, that every member will preserve the Supplement for this week until after the question of nurses' registration has been discussed by the Division to which he belongs.

THE REFORM OF THE LOCAL GOVERNMENT BOARD IN ENGLAND.

About two years ago the British Medical Association, after due consideration, drafted a Bill for the reorganization of the Local Government Board in England with the object of converting what is a paper Board into a real administrative Board on the model of the Local Government Board in Scotland. At the same time, with the view of increasing the dignity of the President of the Board, the Bill proposed to recognize the importance of the office by raising it to the rank of a Secretary of State. Subsequently a Treasury Committee was appointed to consider the position and work of the Board of Trade and the Local Government Board. As the result of the report of that Committee Mr. Balfour last Monday introduced into the House of Commons a Bill to make both the Board of Trade and the Local Government Board offices of a Secretary of State. This is the least important of the two reforms asked by the Association, and it is to be hoped the action now taken may not stand in the way of the formation of a practical working Board of which the new Secretary of State will be the president. It must be clearly understood that the change in the style and title of the political chief of the Local Government Board, though it may possibly increase his status and that of the officers of his department, will not in any sense fulfil the demand which has been made for the reorganization of that Board on a sound basis so that it may effectually discharge the duties among others of a Ministry of Public Health.

AN AMBULANCE SERVICE FOR LONDON.

A very interesting and satisfactory debate took place at the London County Council on July 25th on the report of the General Purposes Committee on an ambulance service for London, a full account of which appeared in the British Medical Journal of July 15th, p. 154. Objection was raised by Lord Welby to the establishment of a fresh service, such as that proposed, at the present time, however desirable, in view of the heavy financial commitments of the Council. Sir Melville Beachcroft inquired whether the Metropolitan Asylums Board was not the proper authority to undertake an ambulance service. He wanted to know what was the Board's last decision on the question, and also whether various voluntary agencies doing ambulance work in London had been consulted. Mr. Howell Williams said this was a scheme which had originated with Sir William Collins, and he begged him not to urge it forward at the present time. It was a gigantic scheme, involving at least £320,000 capital expenditure. The annual cost would soon increase above the estimated £9,600 a year. It was, in fact, the "thin end of the wedge." He implored the Council not to embark on this expenditure. The ratepayers were being crushed by the burdens placed upon them. Sir William Collins said no one had denied that London was less well provided with ambulance accommodation than any other large town in any civilized country. The report he had brought up to the Council in 1902 had demonstrated that. Cabs and other inappropriate vehicles were still the most frequent means of conveying the thousands injured annually in the streets of London to the hospitals; it was very painful to watch the arrival of patients by such means at the casualty ward of a large hospital. The Asylums Board did excellent work with infectious and certain other cases, but they had excluded street accidents from their purview; moreover, they contemplated a charge of 7s. 6d. for each removal. His Committee had worked in close touch and in

perfect harmony with the voluntary associations, which did good work, but did not cover the whole field. Lord Knutsford, Sir Herbert Perrott, Sir H. Burdett, and Mr. H. L. Bischoffsheim had viewed their action with a friendly eye. The latter had written to him handsomely offering to present the County Council with the first electro-mobile ambulance, and if it proved satisfactory, he understood that Mr. Bischoffsheim would assist them further. What was wanted was at once to seek the necessary Parliamentary powers to supply or aid the supply of ambulances in London, and show that they meant business and were really in earnest. The Hon. Dudley Leigh said the present system in London if not intensely tragic would be altogether ludicrous. In New York telephonic messages were sent simultaneously for ambulances and to the hospitals. In a few seconds the ambulances were at the scene of the accident with a medical man in attendance. The system was free to rich and poor alike. It was, in his opinion, high time that London adopted an efficient ambulance system. Dr. Cooper twitted Lord Welby on his financial objections: his report reeked of money—"money first and human life second." He implored the Council to put human life first and money in the second place. Mr. A. F. Buxton considered that the voluntary associations could be made equal to the task. Mr. Lampard urged the Council to negotiate further with the Asylums Board. After further debate, the first resolution, authorizing application to Parliament for powers to supply and maintain, or aid the supply and maintenance of, an ambulance service, was passed. The second recommendation, committing the Council to the scheme of the General Purposes Committee for a service with seven stations over a three-mile radius, with telephonic calls and electro-mobile ambulances, was modified, on the suggestion of Sir William Collins, so as to read as follows: "That the scheme for an ambulance service for London set out in the report of the General Purposes Committee be generally approved, and that it be referred to the General Purposes Committee to report further upon the questions raised by the Finance Committee." This amendment having been accepted by Mr. Mackinnon Wood, the Chairman of the General Purposes Committee, was, after some further discussion, adopted by a large majority. After more than an hour's interesting discussion on this subject, the Council plunged into a heavy agenda paper full of educational reports.

ST. HELEN'S HOSPITAL.

THIRTY-FIVE years ago, St. Helen's in Lancashire, although chiefly populated by workers employed in mining and manufacture, had no hospital whatever. It now has one which, owing to the extensions and alterations completed last Christmas, can be compared to any institution throughout the country of corresponding size. Comparable, however, as it is in its equipment, its buildings, and its nursing staff, it differs from all others in some very essential ways. Thus it has no medical staff, and every patient who enters it engages and pays his own medical man, contributing at the same time 1s. a day to the institution, unless he is on the list of subscribers of 1d. a week. The history of the institution was given last winter in the columns of the *St. Helen's Newspaper and Advertiser*, in a series of letters addressed to the boys and girls of St. Helen's by Mr. J. Fenwick Allen. The series has since been republished in the form of a small illustrated booklet and afford instructive reading. The place owes its existence to three persons: one is Mr. Allen himself, who did the whole of the early work of organization; another Mr. A. G. Kurtz, who originated the idea and acted as banker to the institution during its early struggles; and the third the late Mrs. Martha Walker. The latter, to whom great credit is given by Mr. Allen, must have been a curious and lovable character. She was originally a governess, but had married young, and had lived much in the Colonies, where, being early widowed, she had done a great deal of nursing. She ran the little makeshift hospital single-handed for a long time, baths, clean linen, fresh air being her panaceas for everything. She was recommended to Mr. Allen by a nursing home, the superintendent of which said of her: "She is a skilful nurse of great experience, but we cannot do with her here: she has two manias—excessive cleanliness and excessive benevolence." This character proved true in all respects, and it was her mania for cleanliness which eventually led to her leaving the institution. She insisted on putting fresh sheets on every bed every day, and even "Sister Dora," who was then at the zenith of her reputation, failed to convince her that she was thus causing unnecessary expense. The work began in a tumbledown building, and with one patient, who, like all his successors, was a paying patient. The principle of payment thus begun has been steadily maintained ever since. Mrs. Walker rapidly became very popular with the people, and the idea that every one, sick or well, should pay 1d. a week towards the upkeep of the hospital was originally started as a mark of affectionate gratitude to her. Of late years, of course, the institution has received large donations from other sources, but the voluntary payments of 1d. still form a most important part of the income of the hospital. The people in the neighbourhood, indeed, take their responsibilities so seriously that in May nearly all the works resolved to pay an extra penny a week a head in order to wipe out the £3,000 debt left on the new building. The support which this hospital, of over 100 beds, receives in this way is the more remarkable because there is now an entirely free hospital in the same neighbourhood.

THE GERMAN ARMY AND SMALL-POX.

A SHORT time ago a correspondent drew our attention to a statement attributed to a retired Lieutenant-Colonel of the German army, of forty-eight years' experience, to the effect that some years ago he gave "his friends to understand that cases of small-pox in the German army were required by a special and imperative rule to be reported under the designation of 'skin disease,' or some similar evasion, unless they took place near the frontier, in which case it was always possible to suppose that 'the microbe' came from some other country, presumably less perfectly vaccinated." The letter concludes thus: "There is no doubt in my mind that the German military figures do not include one-third of the cases of small-pox which actually took place during the last decade." With the object of discovering if there are any grounds for so serious an allegation, we have caused inquiries to be made at head quarters, and now have before us a reply from the War Office in Berlin, that "no such rule" as the one above mentioned "has ever been made." "Illnesses due to genuine small-pox in the German army have always been distinguished as such in the sanitary reports." To refuse to accept official statistics of sicknesses and deaths when they tell against their views is a favourite device of the opponents of vaccination; it is a very lame device in any case, but particularly in the case of a country like Germany, which affords such explicit information in all official publications and treats the public with the utmost candour.

THE AMERICAN PRESIDENT ON THE MEDICAL PROFESSION.

MR. ROOSEVELT has several times given public expression to the feeling of particular regard which he has for the medical profession. Not long ago he said:

> I think that all of us laymen, men and women, have a peculiar appreciation of what a doctor means, for I do not suppose there is one of us who does not feel that the family doctor stands in a position of close intimacy, in a position of obligation under which one is happy to rest to an extent that hardly any one else can stand, and those of us—I think most of us—who are fortunate enough to have a family doctor who is a beloved and intimate friend, realize that there can be few closer ties of intimacy and affection in the world.

Again, in an address delivered before the Associated Physicians of Long Island the other day, the President said that "there is not and cannot be any other lay

profession the members of which occupy such a dual position, each side of which is of such importance, for the doctor has on the one hand to be the most thoroughly educated man in applied science that there is in the country, and on the other hand, as every layman knows, and doubtless many a layman in the circle of acquaintance of each of you would gladly testify, the doctor gradually becomes the closest friend to more different people than would be possible in any other profession." Mr. Roosevelt went on to refer to the hygienic regeneration of Cuba that has been effected by the United States, which, he said, had never done better work—that is, work that reflected more honour upon the country, or upon humanity at large. He added that "Leonard Wood did in Cuba just the kind of work that, for instance, Lord Cromer has done in Egypt." Mr. Roosevelt's appreciation of the services of the medical profession to nations and mankind is a proof that he has the insight into the realities of things and the breadth of view chacteristic of the true statesman. Utterances such as those which we have quoted will, it is to be hoped, serve to make the public realize the importance of the work which is being done by the medical profession.

PROFESSOR ALEXANDER RUSSELL SIMPSON.

TWICE during the course of the nineteenth century the Midwifery Chair in the University of Edinburgh fell vacant—in 1840, when James Hamilton's long tenure of Professorship came to an end, and when James Young Simpson was appointed; and again in 1870, when what was mortal of the great Sir James had been laid to rest in the Warriston Cemetery. Of the clash of arms that followed, when it was found that Sir James Simpson's nephew, Alexander Russell Simpson, had overcome a powerful competitor and had won his way to his uncle's Professorship, some echoes may be heard even at the present time by such as care to strain their ears to listen; but thirty-five years of constant devotion to the duties of his office have served to prove Professor Simpson to have been no unworthy choice, and have laid the University under a debt of gratitude to him which was partly acknowledged in his election some years ago to the Deanship of the Medical Faculty. Professor Simpson was 35 years old when he was appointed to the Chair, and it is now 35 years since that appointment was made. Born at Bathgate, the birthplace of Professors John Reid and John Fleming, as well as of Sir James Y. Simpson himself, educated in the Bathgate Academy and the University of Edinburgh, apprenticed to Professor Goodsir, and trained for seven years in teaching and practice by his uncle, then at the zenith of his fame (1858-1865), Alexander Simpson had in him much that goes to the making of a professor. He studied for two years abroad, where he acquired a fluency in foreign languages which has since served him well at many an international congress; and he had for five years (1865-1870) the conduct of a busy and extensive practice in Glasgow. Many changes occur in thirty-five years, and Professor Simpson has seen and taken part in a wonderful series of advances and discoveries in connexion with the special branch of medicine which he has taught and practised. He has witnessed the introduction of the aseptic principle into midwifery practice; he has seen a remarkable improvement in the development of obstetric instruments and in the technique of obstetric operations; and he has beheld gynaecology take its place among the most progressive branches of surgery. In all these advances he has played a leading part: he has been able to incorporate in his work the best principles of surgical asepsis; grasping at once the importance of the Tarnier modification of the obstetric forceps, he was the first to adapt the principle of axis-traction to the British instrument and so to bring this great improvement into the armamentarium of every English-speaking practitioner; and, since he moved into the fine new pavilion for diseases of women in the Royal Infirmary, he has had a series of operative successes in gynaecology which have been the envy and admiration of operators much younger than himself. All this has not passed unobserved or unacknowledged by the profession, and Professor Simpson has had honours showered upon him. Thrice President of the Edinburgh Obstetrical Society, the oldest in the world, President of the British Gynaecological Society, Honorary President of the Glasgow Obstetrical and Gynaecological Society, President of the Midwifery Section of the British Medical Association, Honorary Fellow of the American Gynaecological Society, Honorary D.Sc. of Victoria University—these are some of the distinctions that have been conferred upon him. Of the part he has played in the advancement of all good objects and benevolent projects in the city of Edinburgh it is unnecessary to speak, for, although he is retiring from his Chair in the University, it is hoped that he will long be spared to continue to take a share in the work of the Edinburgh Medical Missionary Society, of the Carrubber's Close Mission, and of the United Free Church to which he is so warmly attached. But if, after all, a professor is to be judged by his assistants, as a tree is told by its fruits, Dr. Simpson has no cause to dread the verdict either of contemporary or of future opinion; the teacher who has moulded and directed the energies of such a series of past assistants as Sir Halliday Croom, Dr. Berry Hart, Dr. Freeland Barbour, Professor Clarence Webster (Chicago) and Dr. W. Fordyce may well feel that he is leaving the future of Edinburgh obstetrics in safe and capable hands. Many others who have since achieved success and fame were his assistants in the Infirmary and Maternity Hospital, and his past assistants have themselves been assisted by men who have brought honour to the Edinburgh School. Always ready to see the good in new instruments, in new operations, and in young men, Professor Simpson may congratulate himself upon the vigorous and vital state of the department of medical study and practice in Edinburgh with which his name has been so long and so honourably connected.

A CITY OF EUTOPIA.

IN response to an invitation from the Carnegie Dunfermline Trustees that he should furnish them with a scheme for laying out the park and providing the buildings necessary for fulfilling the conditions of Mr. Carnegie's bequest, Professor Geddes has submitted an elaborate report embodying important proposals for their guidance. This report has, with the consent of the Trust, been published in the form of an artistic quarto volume entitled *City Development*,[1] which is profusely illustrated, and contains, besides an interesting historical essay, plans and suggestions "for conserving and developing the amenities of a small provincial city." Thanks to the generosity of one of its successful sons, Dunfermline is in the happy position of being abundantly furnished with the financial wherewithal necessary for solving the problem which the donor has thus set before his trustees: "What can be done in towns for the benefit of the masses by money in the hands of the most public-spirited citizens?" Professor Geddes has provided the Dunfermline Trust with an all-embracing answer to this question. This is admittedly an age in which civic development is advancing with rapid strides, not only on utilitarian, but likewise on aesthetic and educational lines. Water supply, lighting, drainage, and the various details of hygienic requirements have become accepted necessities in every civilized community, but municipal ambition in the present day is largely concerned with improvements and developments in the direction of greater architectural beauty, increased domestic comfort, and wider facilities by means of open spaces, parks, boulevards, and recreation grounds, for introducing into towns and cities more of the health-giving and sense-satisfying conditions which belong to the country. Professor Geddes fully recognizes this new phase of evolution in city life, but he also pleads for cultural advancement and strongly commends the adoption of such a plan as he has proposed to Dunferm-

[1] *City Development: a Study of Parks, Gardens, and Culture-Institutes. A Report to the Carnegie Dunfermline Trust.* By Patrick Geddes, Professor of Botany, University College, Dundee; President of the Edinburgh School of Sociology. Edinburgh and London: Geddes and Company; and Birmingham: The Saint George Press. 1904. (Demy quarto, pp. 232; 136 Illustrations. 21s.)

line for the practical betterment of all great centres of population. "Civics as an art," he says, "has to do not only with U-topia but with Eu-topia; not with imagining an impossible no-place where all is well, but with making the most and best of each and every place, and especially of the city in which we live!" In the suggestions which he offers for the remodelling of Dunfermline, Professor Geddes demonstrates in detail how it is possible for every municipality to pursue an ideal which shall conserve all the precious historical memorials of the past, make the most of the civilizing and educational movement of the present and conduce to the best and most hopeful interests of the future. His book is a powerful plea for civic and social amelioration and will well repay the careful perusal of all who are interested in the moral and physical welfare of our busy and populous centres of industrial and commercial activity. If the author seems to aspire to a city of perfection, his proposals have at least the merit of practicability, and his most adverse critics cannot deny that their adoption would have the effect of ensuring to a large section of the community more vigorous health and a greater degree of rational enjoyment than is now within the possibility of its attainment.

THE PSYCHOLOGY OF DREAMS.

SHAKESPEARE tells us that we are such stuff as dreams are made of, but he unfortunately does not enlighten us as to the nature of that stuff. There is a vast mass of literature on dreams and dreaming, and there has been much talk "about it and about," but dreamland is still a happy hunting ground for those who, unlike Newton, find satisfaction in the framing of hypotheses. An interesting contribution to the psychological aspect of the subject has recently been made by an American inquirer, Mr. James Ralph Jewel. He sent out a schedule of fourteen questions to students in training colleges, mainly women. To these he received eight hundred replies containing collectively accounts of two thousand dreams. From these Mr. Jewel drew certain conclusions which may be summarized as follows: Dreams can be prevented by suggestion, and probably disappear in direct proportion to the completeness of the suggestion. Neither the season nor the day of the week nor the month has any appreciable effect on dreams, except in so far as winter scenes are more common in winter. There seems to be an "age of dreams," about the time of puberty. Motor activity during sleep is characteristic of childhood: it often persists in adolescence, sometimes till adult life. Dreams differ in a marked manner in relation to age and place, and probably also to nationality. Children dream of events that have greatly moved them immediately after their occurrence; after early adolescence such dreams do not happen for some time; in adults, as a rule, the more important the event the longer is the interval between its occurrence and its representation in dreams. Of dreams classed as premonitory, numerous rational explanations can be given; there remains, however, a small residue that cannot be explained. The judgement is not generally logical in sleep, but it may be so. Even in a state of deep sleep one may know that one is dreaming. Emotions in dreaming are determined by the organic sensations that are present. Morbid fears are easily excited in children by dreams; suggestions that may have such effects should be distrusted. Confusion of the dream with reality is almost universal in children, and very common in adolescents and adults. The influence of dreams on real life is much greater than is generally believed. There may be subconsciously introduced into dreams an element of truth which is not recognized as subjective, and may seem to be of supernatural origin. There is no mode of working of the mind in the waking state that may not occur during sleep. Mr. Jewel's inquiries have added little or nothing that is new to our knowledge of dreams; their value lies in the large accumulation of psychological facts on which his conclusions are based. It must be borne in mind, however, that, apart from the inherent difficulties of such an investigation, an exceptionally liberal allowance must be made for error. The observations necessarily rest wholly on statements which had to be taken for what they seemed to be worth, for it was obviously impossible to test the accuracy or the good faith of those who answered the questions.

WEI-HAI-WEI AS A HEALTH RESORT.

THE report of Mr. J. H. Stewart Lockhart, Commissioner of Wei-Hai-Wei, which has just been issued from the Colonial Office, states that during the year 1904 there was a marked absence, as in previous years, of tuberculous disease among the Chinese living in the territory. The Commissioner thinks the immunity is in part due to the fact that they live in a healthy climate and spend most of their time in the open air. He goes on to say that the climate, "with its delightful sunshine, prevalent throughout the year, and its dry, bracing atmosphere, so fully charged with ozone, is one that appears specially adapted for the home of the consumptive patient or the treatment of his disease." Suitable sites, with a southern aspect, and sheltered from the north by high hills, are said to be plentiful, and the Commissioner sees no reason why a sanatorium for the treatment of consumption should not be successfully established in Wei-Hai-Wei. He cites the opinion of one medical authority who has lived there, to the effect that such a sanatorium would ensure a better prospect of cure than in any place in the United Kingdom. Mr. Stewart Lockhart thinks that the great value of Wei-Hai-Wei as a health resort for Europeans and Americans resident in the East has not received the attention it deserves. "Any one who has enjoyed the invigorating climate of Wei-Hai-Wei will never forget his experience, which it will almost certainly be his desire to renew on the first favourable opportunity." The general sanitary condition of the place is good and is being improved. The general cleanliness of the island and Port Edward, and of the villages throughout the territory, offers a pleasing contrast to the prevailing dirt and unhealthiness in other regions where the cost of sanitary maintenance amounts to alarming figures. Perhaps no truer indication of the healthy nature of the place could be found than the benefit derived from a visit to Wei-Hai-Wei during the warmest and most trying part of the year by the crews of the ships of His Majesty's navy. Officers of that service have frequently told the Commissioner that it requires but a short stay in these waters to produce a most marked change for the better in the health of ships' crews, and an analysis of the sick lists of the various ships during their stay there would result in giving to Wei-Hai-Wei a certificate for maintaining and producing good health which many places could not equal and few could surpass. The value of such a health resort to the British navy on this station cannot be measured in words, but it requires to be emphasized as it seems to be so often overlooked. A useful addition to the natural hygienic resources of Wei-Hai-Wei has been made in the shape of sulphur baths, which have now been completed. The principal civil medical officer of Hong Kong stated that the water of the baths would be likely to prove beneficial as an alterative and for rheumatic complaints, while the Government analyst of Hong Kong, who analysed the water, has certified that the analysis showed it to be a natural sulphur spring water, containing substances of high remedial value. The baths are modelled on those so popular in Japan, and are under Japanese management. During 1904 there was no epidemic of any kind, and no resident suffered from any serious or prolonged illness contracted at Wei-Hai-Wei.

FORENSIC MEDICINE IN FRANCE.

SOME two years ago an Institute of Forensic Medicine and Psychiatry was founded in connexion with the Paris Faculty of Medicine. Its object is to give theoretical and practical instruction to medical practitioners and students, foreign as well as French, who intend to qualify themselves as expert witnesses in courts of law. A special university diploma in forensic and psychological medicine is given to those who have followed

the courses and passed an examination in these subjects. The instruction, both theoretical and practical, has hitherto been purely medical in character. The Council of the University of Paris, thinking it advisable to extend the scope of the training so as to make it available for law students, has decided to grant a certificate in penal science. A scheme of instruction directed to this end has been framed under the direction of the Dean of the Faculty of Law. The course, which will extend over two sessions of six months, will include the following subjects: Criminology and penal science, the penal code, penal procedure, psychological and forensic medicine. Foreigners who have studied law in a university of their own country may, by the authorization of the Dean, be admitted to the courses. Apparently doctors of medicine are not admitted to these courses. This we think is to be regretted, as the instruction in criminology given in them would be most useful to medical expert witnesses.

THE BRENTRY REFORMATORY, BRISTOL.

The Report of Dr. Fleck, Medical Officer of the Brentry Certified Inebriate Reformatory, is well worth the attention of those interested in reformatory work. It shows that excellent work is being done in an excellent way. The institution is a large one of its kind, and at the beginning of the year 199 cases, exclusive of voluntary cases, were under treatment. The results have been very good, seeing what miserable material those in charge of the cases have to work upon. In the words of the report, "The class of people, many of them hardened criminals with scarcely any desire to reform, which is being sent to us has little, if anything, improved: a large percentage of them are mentally defective, and not fit to control themselves when at liberty." Dr. Fleck says: "If reformatory treatment can intercept those thousands who are drifting into asylums through drink, to end their days in a state of vegetative dementia with only the faintest hopes of recovery, and if we can treat and cure 60 per cent. of these—as I have got statistics to show—I think the importance of the work in which we are engaged is proved to be supreme." Dr. Fleck reports that 41 cases out of 69 discharged during the year are doing well. He estimates the percentage of cures at 61 per cent. for males and 58.82 per cent. for females. He insists that nearly every case that has not done well has shown evidence of mental weakness and marked want of self-control while under treatment. A great feature of the treatment at Brentry is the after-care which the institution endeavours to take of discharged patients, corresponding with them once a week, arranging for friends to look after and report on each case, if possible allowing no case to drift beyond help. Considering all the adverse circumstances which contribute to make the task of reforming these patients almost hopeless, Dr. Fleck's results are surprising, and must represent not only a great amount of hard work, but sound diagnosis and scientific treatment. It is to be noted that only two cases were thought eligible for discharge on licence, and that there were only two escapes during the year. We are accustomed to expect satisfactory results from all our reformatories, and Dr. Fleck's results will strike most people as highly satisfactory.

THE INTERNATIONAL STATISTICAL INSTITUTE.

The eighteenth session of the International Statistical Institute was opened at the Imperial Institute, London, by the Prince of Wales on July 31st. The Prince, in his address, recalled the fact that the idea of an international meeting to bring about international co-operation in the collection and analysis of statistics took its origin during the first International Exhibition in London in 1851, when through the influence of Quetelet, who had been mathematical tutor to the Prince Consort, an international organization was formed. The first international congress was held in Brussels in 1853, and another met in London in 1860 under the presidency of the Prince Consort. At another congress in London in 1885, when the Royal Statistical Society celebrated its jubilee, an International Statistical Institute was formed, and had held meetings on seventeen subsequent occasions. The Earl of Onslow, President of the Royal Statistical Society, after thanking the Prince of Wales for opening the meeting, expressed regret that there was not in this country, as in other countries of Europe, any central bureau or government department specially and solely connected with the collection and publication of statistics. He referred to the statistical work of the Board of Trade and of the Board of Agriculture, but curiously enough made no reference to the Registrar-General's Office nor to the Local Government Board, both of which departments are concerned with the collection and analysis of vital statistics, although the amount of work done in this direction by the Local Government Board is not large, and requires further organization. The three sections into which the meeting is divided have since been occupied in the discussion of reports directed by the last congress to be made. In Section I Dr. Bleicher read a report on the mortality of great cities. In the evening the delegates were entertained at a banquet by the Lord Mayor at the Mansion House.

THE MISSION TO LEPERS IN THE EAST.

The report for the thirtieth year (1904) of the Mission to Lepers in India and the East contains a number of items of interest to those who are working at leprosy, especially in our great Indian dependency. During the thirty years of its existence the Society has received £170,000. Building its first asylum in 1875, it has now 42 asylums of its own, while it aids 16 others. It has 20 homes for the untainted children of leper parents. This separation of healthy children is really a, if not the, most important branch of the society's work in the struggle against leprosy. In addition to India, the society is active in various centres of Burmah, Ceylon, China, Japan, and Sumatra. Several asylums in India have been transferred to its care, showing that the endeavours of the mission to lepers are appreciated on the spot, so much so that it receives considerable aid from the Government. The medical side of the work is kept well in view. In many places fully qualified men are in charge of the asylums; in others there are hospital assistants, or helpers, with some medical knowledge. In the East there is no doubt that Western medical influence is called upon to play a preponderating part in the advancement of civilization.

THE REFORM OF THE POOR LAW.

The announcement made by the Prime Minister on Wednesday evening that the Government intend to appoint a Royal Commission on the Poor Law may become a matter of considerable importance to the medical profession, although the question in reply to which the statement was made appeared to limit the scope of the inquiry to the action of borough councils in finding work for the unemployed. Mr. Balfour, however, stated that the Government were anxious that the Commission "should survey everything which appertains to dealing with the problem of the poor." If that intention be carried out the question of medical relief must, of course, come up. In reply to Dr. Thompson, who asked whether the inquiry would extend to Ireland, Mr. Balfour, without committing himself to a definite promise, seemed to favour the appointment of a special commission for Ireland. Having regard to the special peculiarities of the Poor-Law system in Ireland, it would appear at first sight that this would be the preferable course.

KING'S COLLEGE HOSPITAL.

The next session will commence on Tuesday, October 3rd, when Dr. Clifford Allbutt will distribute the prizes and give the opening address on Medical Education in London. The address will be given at King's College in the large theatre at 3 p.m. The annual dinner of old students of King's College Hospital will be held at 7 o'clock on the same evening at the Hotel Cecil, and Mr. Arthur A. Napper will preside. Tickets may be obtained from one of the Honorary Secretaries; Dr. Percy G. Lewis (Folkestone); Major M. Percy Holt, D.S.O., R.A.M.C.; Dr. J. Fredk W. Silk; Mr. Albert Carless; and Dr. John Charlton Briscoe.

MEDICAL NOTES IN PARLIAMENT.

[By Our Lobby Correspondents.]

The Close of the Session.—On Monday Mr. Balfour made the usual motion for taking all the time of the House of Commons for Government business. This marks the beginning of the end, and is usually utilized as an occasion for what is called "the massacre of the innocents," or the dropping of Government measures. There was no occasion for a massacre this year, as most of the Government Bills had died of inanition already, and Mr. Balfour did not even refer to a score or more still kept formally alive on the Order Book. He contented himself with saying that supply would have to be finished forthwith, and certain excess votes passed before the Appropriation Bill could be introduced. The only Bills which have to be passed, he said, were the East India Loans, the Isle of Man (Customs), the Expiring Laws Continuance, and the Relief of Distress (Ireland) Bills, and possibly the Cinque Ports Bill. The Appropriation Bill, authorizing the application of all moneys voted, offers in its several stages opportunity for a general review of the session. This year the temper of the Opposition will render progress necessarily slow; but, in face of the very modest requirements of the Government and the wholesale dropping of their Bills, the Session will be finished by the end of next week.

The Police and Sanitary Committee have issued a special report of some interest which deals with their work of this session. Among other matters they mention that new powers have been allowed to Halifax and Heckmondwike for dealing with manufacturers' effluents. The Committee have sought to give powers on the lines contemplated in the latest interim report of the Royal Commission on Sewage, and they believe useful experience for future legislation will be gained in both places. The Committee also report that the Stockport Corporation produced evidence that they had successfully carried on a system of voluntary medical inspection of the inmates of common lodging-houses where infectious diseases were suspected to exist, and asked for compulsory powers. After careful consideration the Committee consented to give special powers in this direction, which, however, might only be exercised for a limited period on the direct resolution passed by the Corporation that such an emergency existed owing to an infectious epidemic in the neighbourhood. The compulsory notification of tuberculosis of the lung, which was allowed in the case of Sheffield in 1903, has this year been extended in the Bolton Corporation and the Rathmines Improvement Bills, but, like the precedent, only for a period expiring in 1910, when experience of its working in these places will have been gained. Evidence having been given as to the large number of cases of phthisis, ringworm, and trachoma sent down to convalescent homes in Sandgate by Metropolitan Boards of Guardians, special powers were given to the Urban Council for the licensing and control of such homes in their district.

Vaccinated Calves.—Mr. Weir continued his inquiries last week about the disposal of the carcasses of the calves used at the National Vaccine Institution, London, and further pressed the Chairman of the Kitchen Committee of the House of Commons to exclude veal from the dining-room of the House, unless it was known that the calves had not been used at vaccine stations. The President of the Local Government Board assured Mr. Weir that there was no evidence whatever to show that the veal so derived was unfit for human consumption, and pointed out that after the lymph was taken every carcass was carefully examined. The Chairman of the Kitchen Committee gave similar assurances, and said that he felt that no danger could ensue to the honourable member, or any other member, from the consumption of veal in the House of Commons.

The Pharmacy Act and Poisons.—Sir John Leng drew attention last week to the fact that of ten articles scheduled by the Council of the Pharmaceutical Society to be declared poisons, three—namely, acetanilide, soluble salts of oxalic acid, and sulphonal—were excluded from the list of poisons approved by the Lords of the Privy Council. Mr. Secretary Akers-Douglas, in reply, stated that he had communicated on this matter with the Lord President of the Council, who informed him that the Lords of the Privy Council, after consideration of the substances covered by the terms of the resolution of the Pharmaceutical Society, and after taking expert advice upon the subject, decided, in the exercise of the discretion with which they were vested by Section 11 of the Pharmacy Act, 1868, to exclude from their approved list the three substances named.

Mosquito Nets in West Africa.—Last week Mr. Cathcart Wason asked the Secretary of State for the Colonies if he was aware that railway employés in West Africa were constantly stricken with fever through old and defective mosquito nets; and if he would give instructions that the nets in use should be constantly reported on; and that any employé refusing or neglecting to use the same should be liable to instant dismissal. Mr. Secretary Lyttelton answered that he was not in a position either to corroborate or to deny what the honourable member alleged as to the causing of fevers. He could not, however, undertake to direct the holding of inquisitions as to whether railway employés used their nets or not. These employés were adult skilled workmen, and must be regarded as having some personal intelligence and responsibility.

The Education Vote in Supply led to an interesting discussion on Tuesday; and Sir William Anson, in introducing the subject, announced that a syllabus for the teaching of hygiene and temperance in elementary schools had been issued. He acknowledged his indebtedness to Sir Michael Foster and Dr. Hutchinson for their valuable help in drafting the scheme of instruction on lines at once scientific and simple. Sir John Gorst afterwards raised the question of the physique of the children in the schools, and argued in favour of medical inspection, in order that proper feeding and general superintendence might be made more effective. He instanced the effective help so given in Prussian schools, and pointed out how much might be done in such ways to check the spread of infectious diseases and tuberculosis. Later on in the debate Sir Walter Foster reinforced the argument in favour of medical inspection as the only basis for effectively dealing with the question of the underfed and the maintenance of a healthy standard among the scholars. He advocated periodical medical examination of the scholars as the best method of procuring scientific evidence as to the existence of any physical deterioration, and pointed out that any expenditure incurred would be amply repaid by the prevention of epidemics and the consequent closing of schools. Mr. Samuel Smith also expressed similar views. The debate lasted till midnight, and in his reply Sir William Anson admitted fully the importance of medical inspection, and said that he would do his best to promote the medical inspection of the children in the schools. In a very full House the vote was carried by 250 to 220.

Sickness among Troops in Mauritius.—Mr. Reginald Lucas asked the Secretary of State for War, on Tuesday, whether, in view of the fact that the 1st Battalion of the 5th Fusiliers had been quartered at Mauritius for an unusually long period, he could say whether there had been considerable sickness amongst all ranks and whether a date had yet been fixed for a change of station. Mr. Secretary Arnold-Forster replied that this battalion arrived at Mauritius on April 15th, 1903, from South Africa, and was under orders to proceed to India in January next. The average daily sickness for the last six months had amounted to 5 per cent. of the strength, and the report of the general state of health of the battalion was good.

The Local Government Board and the Board of Trade.—The Bill presented by Mr. Balfour on Monday last is a short measure which gives to the Presidents of the two Boards the status of Secretaries of State. When the Bill becomes law there will be a Secretary of State for Trade and a Secretary of State for Local Government. The Bill in no way reconstitutes these Departments, and provides that the emoluments of the two offices shall not be increased till the next Parliament. There is no prospect of the Bill passing this session, unless in the most unlikely event of its being passed *sub silentio*. This would hardly happen in the present temper of the House.

A Medical Consul.—President Roosevelt has appointed John E. Jones, M.D., of Washington, to be United States Consul at Dalny, in Manchuria, which is now in the hands of the Japanese. The appointment is looked upon as a strong proof of the President's confidence in Dr. Jones's capacity.

Ireland.

The Courthouse, Belfast.

At the meeting of the grand jury of the County of the Borough of Belfast, held at the present summer assizes, the following resolution was proposed by Mr. Wood, M.P., seconded by Dr. Williamson, and carried unanimously:

> That, in the opinion of the grand jury of the county of the city of Belfast, the alterations and extensions of the County Courthouse are urgently required for the proper disposal of the business of the county and of the county of the city of Belfast. We express our approval of the steps that are now being taken, and heartily thank the High Sheriff of Belfast (Dr. Henry O'Neill) for the interest he has taken in the matter, and trust that his exertions will meet with success.

His lordship said he entirely approved of the resolution.

Opening of New Operating Theatre, North Charitable Infirmary, Cork.

On July 20th, in the presence of an influential gathering, comprising prominent members of the city and county as well as members of the profession and their friends, the new operating theatre was formally opened. In the unavoidable absence of the Lord Mayor the High Sheriff occupied the chair.

Professor C. Y. Pearson, F.R.C.S., in the course of a statement as to the origin, nature, and arrangement of the building, said that it was some considerable time since the idea had been originated. The surgical staff desired to march with the times. Surgery was a progressive science—in fact, no science had made such progress during the last quarter of a century. The staff of that institution had tried to maintain its position and make it second to none; but they were conscious that their environment was not in accordance with the ideas of modern surgery. A new operation room was an urgent necessity, and fifteen months ago Professor Pearson represented the views of the Infirmary to a respected friend of his. That friend had responded most generously, and the result was the new operation room. Concerning the arrangement of the buildings Professor Pearson said that the small room, which was the first seen by the visitor, was designed as an anaesthetic room. Immediately outside the operation theatre proper was a preparation room, where the nurses would make ready for the operation, and off this was the sterilizing room, fitted up with the latest high-pressure sterilizer, and in which would be installed a sterilizing apparatus heated by electricity. The operation theatre was lighted by a window facing as duly north as possible. Dust was the greatest enemy of the operating surgeon, and consequently the room was ventilated by artificial means—the Plenum system. The ceiling, walls, and wood-work had been specially treated with an enamel of very hard nature, permitting of thorough cleansing. The floor and dado were of terazzo, made from Irish marble. Professor Pearson expressed his thanks to the donor, whom he was glad to see amongst them that day, for a theatre so splendidly equipped.

The High Sheriff then declared the building open, and unveiled a handsome tablet of inlaid marble presented by the medical staff, on which was inscribed, "Through the generosity and benevolence of Miss Belle Honan, this operation room and its annex have been built, 1905." A pretty incident followed: Miss Dorothy Pearson, the Professor's only daughter, stepped forward and presented Miss Honan with a magnificent bouquet of roses.

Mr. Harding, J.P., then proposed the following resolution:

> That we, the Board of Trustees of the North Charitable Infirmary and County and City of Cork General Hospital, and other residents of the city and county of Cork, assembled at this meeting, desire to offer our sincere and grateful thanks to Miss Honan for the munificent gift of a new and perfectly equipped operation theatre to the Infirmary.

The Rev. Canon Galway seconded the vote, which was passed with acclamation, Professor Pearson replying on behalf of Miss Honan.

Dr. Cotter, on behalf of the surgical staff, and Dr. Donovan, on behalf of the medical staff, presented to Miss Honan their expression of the high appreciation in which they held the magnificent gift. After a vote of thanks had been accorded to the High Sheriff for presiding the meeting adjourned to the roof of the Coombemore Ward where they were entertained to alternoon tea.

Scotland.

Aberdeen University Quater-Centenary Celebrations.

In connexion with the approaching quater-centenary celebrations, a meeting of the various subcommittees, appointed to consider and report as to the celebrations which should take place next year to signalize this important event in the history of the University, was held recently in Marischal College, Principal Lang presiding. The meeting was very largely attended and reports were submitted from the Publications, Reception, Hospitality and other Committees as to what had been already done and as to the action which might be taken next year. It is proposed, as already announced, that the celebrations should take place in September next year. Principal Lang made a statement, in the course of which he said, that although no definite information had been received, the University authorities were hopeful that His Majesty the King might see his way to pay a visit to Aberdeen and inaugurate the extended University buildings. He further stated that a gentleman who took a great interest in the University had promised a donation of £1,000 towards meeting the expenses of the celebration, which in all, it is calculated, will amount to about £3,000. Other sums have also been promised, and it is expected that the civic authorities will co-operate heartily with the University in signalizing the fourth centenary.

THE PLAGUE.

Prevalence of the Disease.

India.

During the week ending July 1st, the deaths from plague in India numbered 2,201. Of this number 1,253 occurred in the Punjab, 319 in the Bombay Presidency, 132 in the United Provinces (North-West Provinces and Oudh) and 167 in Burma.

South Africa.

During the weeks ending July 1st and 8th the plague report for South Africa was as follows:

Port Elizabeth.—Fresh cases, 0 and 2; deaths 0 and 1.

East London.—Fresh cases, 0 and 2; deaths, 0 and 0; one suspicious case during week ending July 8th not yet diagnosed.

No cases of plague elsewhere. Rats and mice continued to be found infected at Port Elizabeth, Uitenhage, East London and King Williamstown.

Australia.

During the weeks ending June 10th and 17th the plague report from Queensland was as follows:

Brisbane.—Fresh cases, 0 and 1.

Maryborough.—Fresh cases, 8 and 2; deaths, 7 and 1.

No cases elsewhere.

Hong Kong.

During the weeks ending July 15th and 22nd the fresh cases of plague numbered 15 and 18; and the deaths from the disease 16 and 16 respectively.

Mauritius.

During the weeks ending July 20th and 27th the fresh cases of plague numbered 3 and 2; and the deaths from the disease 3 and 2 respectively.

CONTRACT MEDICAL PRACTICE.

Notice as to Districts in which Disputes Exist.

A notice as to places in which disputes exist between members of the medical profession and various organizations for providing contract practice will be found among the advertisements, and medical men who may be thinking of applying for appointments in connexion with clubs or other forms of contract practice are requested to refer to the advertisement on page 79.

Coventry.

Owing to the occurrence of the holidays, it will probably not be possible to arrange for the proposed conference between medical men and Friendly Societies, as to future charges for club members, for some few weeks yet. Meantime the subject continues to excite a good deal of interest locally, and the *Coventry Reporter*, of July 20th, published a leading article, cautioning the members to take no rash steps in the way of breaking from their present medical officers. It will be remembered that at the meeting of a fortnight ago, there were advocates of the establishment of a local medical institute, a scheme for which they received encouragement from Leamington and other places.

German Medico-Legal Society.—The first meeting of the German Medico-Legal Society will be held at Meran from September 25th to 28th, at the same time as the German Association of Scientists and Medical Practitioners. Among the communications promised are the following: Professor Kratter of Graz, and Dr. Jellinek of Vienna, on death by electricity; Dr. van Kaan of Meran, and Professor Strassmann of Berlin, on morphinomania in relation to crime; Professor Anton of Graz, and Professor Puppe of Königsberg, the mental condition of youthful criminals.

EPSOM COLLEGE.

Founder's Day was celebrated at Epsom College on Saturday, July 29th. The annual prize distribution, suspended last year, was resumed on this occasion, and, falling within the jubilee year of the institution, it attracted a large concourse, not only of parents and friends of the students, but also many well-known and leading members of the medical and other professions. The Head Master presided, and was supported by Sir William Broadbent, Bart.; Sir William Church, Bart. (Chairman of the Council), Sir Constantine Holman (Treasurer), Dr. F. de Havilland Hall, Dr. Galton, Dr. Morgan, Dr. Needham, Mr. Clement Smiles, Mr. J. Paul Bush, C.M.G., Mr. Kiallmark, Dr. Guthrie Rankin, Mr. W. D. Crossley (Bursar), and many others. The cup winners of the cadet corps of the College, commanded by Captain J. H. Newsom, attended in the uniform of the 2nd Volunteer Battalion East Surrey Regiment, and gave a brilliant dash of colour to the dresses of the lady visitors. The Head Master said he did not think it was very easy to say what day ought to be chosen as the exact jubilee of the College. The foundation stone was laid on July 6th, 1853, the College was opened by the Prince Consort and his present Majesty, who was present on the occasion on June 25th, 1855, but the School did not commence operations till October 10th in that year. It was gratifying to know that the first Head Master, who witnessed all those proceedings, was still living and still took the greatest interest in the prosperity of the School. It was not very long since the second Head Master, Dr. West, was laid to rest in the cemetery, and up to the day of his death he took very great interest in all that concerns the School. Of his immediate predecessor, Mr. Wood, he would like to say this very publicly, that he (the speaker) had never ceased since he had been there to feel thankful for the work he did; he laid down his life in overworking himself and in trying to make the School what it was. On this the Founder's Day he would like to refer to John Propert, whose bust they saw looking down on them. The School had sent out many distinguished members into the medical profession and other professions, but, on looking back, he had been struck by some of the records of the fifty years the School had been in existence. It produced a V.C. about twenty-five years ago, whilst in recent years it had gained honour at Sandhurst, and he might specially mention a success which was out of the ordinary run—that in 1882 a member of the School was the head of the batting averages of England. About that time they also produced the champion hurler. During the South African war no fewer than ten old Epsom boys had laid down their lives for their country. They were glad that day to welcome Sir William Broadbent, their Chairman, Sir William Church, Dr. Galton, also Chairman of the Works Committee, who took the greatest interest in everything that had to do with the working of the School, and their Treasurer, Sir Constantine Holman. They were all delighted last year when the King conferred on him the honour of Knighthood, and he would like especially to congratulate him in the name of the School on the very great honour done him that week at Leicester, where the Gold Medal of the British Medical Association had been presented to him. The honour he had won—which they hoped he might live long to enjoy—had been won not by any work for himself but almost entirely in working for others, and that was the highest praise that could be given him. As regards the School itself, it had a very fair list of honours this year. They had been able since last Founder's Day to pass nine boys out of ten through the preliminary scientific examination, and in the London University matriculation out of twenty-two boys who went up fifteen passed, an average of nearly 70 per cent. He congratulated especially two of their scholars, who only went up to Oxford a short time ago—Parkinson, who was first in Classical Moderations, and Sworn who was first in Mathematical Moderations, and he was sure the School wished to congratulate Ridley on winning a foreign Wiltshire County scholarship. Recently he had had the ordeal of an inspection under the Board of Education. It was carried out in June, in order that they might be qualified under the new rules to send boys to the army. The report was exceedingly satisfactory, and they had permission in writing from the Army Council to send in boys for the future.

The prizes were then distributed, partly by the Head Master and partly by Sir William Broadbent, to the successful competitors.

After the distribution, Sir William Broadbent said he first joined his congratulations to those of the teachers and the parents and friends of those who had taken prizes. While it was the duty of an Epsom boy to be zealous in maintaining the honour and credit of the College, that duty and that responsibility were specially placed in the hands of those who had won prizes. It was not only in the prize-winners to-day that one would find the successful Epsom boys of after-life. There were long-distance runners as well as sprinters, and after all life was a long-distance race, and an obstacle race at that, and pluck and perseverance would tell as well as speed and quickness, and adroitness and presence of mind would have their influence as well as intelligence and hard work. One felt that in a public school most boys would rather fail than win a prize or distinction or a place in a form by anything that was underhand or mean, and it was this public-school spirit which made up for so many deficiencies in our educational methods. Most of them would have to work, and it was this work for work's sake, and work in the public-school spirit, that would carry them through in after-life.

Sir William Church proposed a vote of thanks to Sir William Broadbent, which was seconded by Dr. Needham and carried by acclamation.

Dr. Galton said that thirty-five years ago he made the acquaintance of Sir Constantine Holman, who was even then known for his connexion with the British Medical Association and the charitable works of the profession. Some twenty years ago they lost in Surrey Dr. Lankester, and it was as a member of the College and a member of the Council of the British Medical Association, and also as Secretary of the Surrey medical district that he became conversant with the work that Dr. Holman was doing for the medical profession at large and for his own district and his own College in particular. It was in respect of the work done for this College by Dr. Holman that the honour of Knighthood was conferred upon him, and he was sure that no knight in armour ever rode forth in defence of beauty and did more noble work than Sir Constantine Holman had done for the College. Sir Constantine Holman, by his personal efforts, had raised £7,000. He knew himself that on an occasion when money was wanted he had written, personally, as many as five hundred letters to people, and under his auspices the College had flourished. They had thought that this example should not die out of memory in Epsom College, and they had to thank the friends who came around them when the resolution was crystallized and took the form of the Art and Reading Room, which would last as long as Epsom would last, and would mark their appreciation of the good work which Sir Constantine had done there. He thought it was Themistocles—this was especially for the boys—who compared himself to a tree, and said: "Every one who passes by picks a leaf off me; but if there is a storm, or the sun is too bright, you all come and shelter under me." That was what they did in that College with Sir Constantine Holman. They had done their best to make Epsom College sanitary, and the responsibility fell upon the Council, and all that work had been the patient work of his old friend Sir Constantine Holman. Dr. Galton concluded by explaining that the new room was intended chiefly for recreation. He invited Sir William Broadbent to open the building.

Sir William Broadbent said he thought it was a fortunate thing that the Council of the College had recently changed its name. Through the persevering efforts of Sir Constantine Holman it had changed its name without in the least lessening its value as a help to the least fortunate members of the medical profession. He was glad of that opportunity of congratulating Sir Constantine Holman. There were two kinds of success. There was the sense of achievement, of having done something well and thoroughly to which one had set his hand and devoted his attention; and Sir Constantine Holman had that success in the improved name and efficiency and the heightened reputation of Epsom College. There was another kind of success, and they were very glad when they read of the honour conferred by the Sovereign on Sir Constantine Holman, and of the honours which had been heaped upon him during the last few years, all well deserved but all coming rather late in comparison with his deserts. That building, erected in his honour, they knew gave him special

gratification, because it was for the boys, for their reading, for their recreation, and for their pleasure. He had great pleasure in declaring the room open for the use of the boys of Epsom College.

The proceedings then terminated, and the company dispersed through the College grounds, refreshments being served in a spacious marquee, while the Hungarian Band close by played a selection of appropriate music.

LITERARY NOTES.

THE Oxford University Press will shortly issue a work on criminal responsibility by Dr. Charles Mercier. The book is intended to complement that by Sir FitzJames Stephen. The author points out that the question of criminal responsibility should be considered anew by a professional psychologist. Sir FitzJames Stephen was handicapped by insufficient knowledge of the work of the mind in health and disease; moreover, in twenty years our knowledge of insanity has advanced.

We learn from the *Guy's Hospital Gazette* that among the medallions, tablets and other memorials of the famous men whose names are associated with the great hospital in the Borough there is nothing to commemorate the fact that John Keats once "walked" its wards. Of this part of the poet's career Lord Houghton says:

> It soon became apparent that the profession for which young Keats was destined was too unsuitable to be maintained. There remain careful annotations of the lectures he attended, but when he had once entered on the practical part of his business, he found his mind so oppressed with an over-wrought apprehension of doing harm, that he determined on abandoning the course of life to which he had devoted a considerable portion of his fortune.

It would be interesting to know where these "annotations" now are.

In the *New York Post-graduate* for April appeared a paper entitled "Memoranda Relating to the Discovery of Surgical Anaesthesia and Dr. William T. G. Morton's Relation to this Event," by Dr. William James Morton, Professor of Diseases of the Mind and Nervous System and Electro-Therapeutics in the New York Post-graduate Medical School and Hospital, which has now been reprinted as a pamphlet. The story of the discovery was told completely and impartially in the BRITISH MEDICAL JOURNAL of October 17th, 1896. In that account full justice was done to William Thomas Green Morton, and we find nothing essential in his son's pamphlet to add to what was then said. A few interesting details may, however, be gleaned therefrom. After the first operation performed under ether in this country on December 21st, 1846, Robert Liston wrote to his friend and former assistant, Professor Miller, of Edinburgh, as follows:

> Hurrah! Rejoice! Mesmerism and its professors have met with a heavy blow and great discouragement! An American dentist has used the inhalation of ether to destroy sensation in his operations, and the plan has succeeded in the hands of Warren, Hayward, and others in Boston. In six months no operation will be performed without this previous preparation. Rejoice!

The following story is told on the authority of Dr. John H. Brinton, Professor of Surgery in the Jefferson Medical College, Philadelphia, who is said to have related it in a valedictory address delivered in 1892:

> In the early summer of 1864, during the fierce contest in the Virginia wilderness, I was present officially at the head quarters of Lieutenant-General Grant, on whose staff I had previously served. When in conversation with him an aide approached and said to him that a stranger, a civilian doctor, wished to see him for the purpose of obtaining an ambulance for his personal use in visiting the field hospitals. The answer of the General was prompt and decided. "The ambulances are intended only for the sick and wounded, and under no circumstances can be taken for private use." This response was carried as given to the waiting applicant, a travel-stained man in brownish clothes, whom at the distance I thought I recognized. I went to him, and found that he was Dr. W. T. G. Morton. I asked him to wait a minute, and returned to the General. On repeating his request, I received the same answer. "But, General," I ventured to say, "if you know who that man is, I think you would give him what he asks for." "No, I will not," he replied. "I will not divert an ambulance to-day, for any one; they are all required elsewhere." "General," I replied, "I am sure you will give him the wagon, he has done so much for mankind, so much for the soldier, more than any soldier or civilian has ever done before, and you will say so when you know his name." The General took his cigar from his mouth, looked curiously at the applicant, and asked, "Who is he?" "He is Dr. Morton, the discoverer of ether," I answered. The General paused a moment; then said: "You are right, doctor; he has done more for the soldier than any one else, soldier or civilian, for he has taught you all to banish pain. Let him have the ambulance and anything else he wants." Not only this, but I have learned from a printed letter of Dr. Morton, recently sent me by his family, that the hospitalities of the head quarters, ambulance, tent, mess and servant were afterwards tendered him during his stay, by order of the general commanding. Dr. Morton at this time was present as a volunteer surgeon, on the requisition of the surgeon-general, to aid in the administration of anaesthetics to the wounded.

The red light treatment of small-pox is said to have been practised in a crude form by the Chinese from time immemorial. It was used by John of Gaddesden in England in the fourteenth century in the case of a Prince of Wales. A similar method of treatment is described in a French work of the seventeenth century, referred to in the *Gazette Médicale du Centre* of July 1st. The title of the work is curious enough to deserve quotation. It runs as follows:

> Le Cours de Médecine en François, contenant le Miroir de Beauté et santé Corporelle, par M. Louys Guyon Dolois, Sieur de la Nauche, Docteur en Médecine et la Théorie avec un accomplissement de Practique, selon les principes tant Dogmatiques que Chymiques; Avec une Infinité d'Observations, secrets et Expériences, suivant la Doctrine tant des Anciens que des Modernes Médecines, qui ont inventé et découvert la Circulation du Sang, les Veines Lactées, leurs Receptacles, les Vases Lymphées, et autres Nouveautez Anatomiques et Spagyriques; inconnues auparavant; A L'Usage des Médecins, Chirurgiens, Apothicaires, et autres; Et utile aux Communautez, Hôpitaux, et Maisons de Campagne, par M. Lazare Meyssonnier, Conseiller et Médecin ordinaire du Roy et de S. A. R. Docteur de l'Université de Montpellier et Professeur aggregé au Collège des Médecins à Lyon. Septième et Dernière Edition ov ont esté Jointes des Figures des Plantes Nécessaires et celles de l'Anatomie pour se servir utilement de ce Livre et augmentée d'un Discours sur les Maladies vénéneuses qui manquaient à la précédente edition, pour apprendre en bref la Médecine par l'usage de le Doctrine de l'Autheur. A Lyon Aux dépens de Guillaume Babbier M.DCLXXV Avec Permission du Roy.

In the account of the treatment to be pursued, after the inevitable purging and bleeding, comes the following recommendation: "Afterwards the patients are to be wrapped in cloths and sheets dyed red, even the bed curtains and coverlets must, if possible, be of the same tint." The ingenuous author states that the method was used in the time of Galen, who mentions it without condemnation in his book on empirical treatment. When the eruption is fully out the red coverings must be dispensed with. The treatment of small-pox by keeping the patients in a darkened room with the object of preventing scarring is mentioned in the life of St. Catherine of Siena, who lived in the fourteenth century. It is there stated that St. Catherine was beautiful, and the good Lappa, her mother, was doubly proud of her daughter's beauty as she had twice bestowed it upon her. "When the ruthless small-pox came to seize upon Catherine, she, with her mother's love, had kept off all the causes which might have left marks on the pure and virginal face of her daughter. There is nothing so touching as the solicitude of that poor woman of the people watching night and day in the darkened room of her child, allowing not a breath of air nor a ray of light to enter."

The July issue of the *Indian Medical Gazette* is a "Special Dysentery Number." Major C. F. Fearnside, I.M.S., writes on dysentery in the prisons of the Madras Presidency; Major E. Jennings, I.M.S., treats of the disease as it occurs in gaols with regard to etiology, prophylaxis, and treatment; Major F. O'Kinealy, I.M.D., deals with the relation of oral sepsis to dysentery; Captain E. A. C. Matthews, I.M.S., discusses the etiology of dysentery, adding some hints as to treatment; Lieutenant F. Percival Mackie, I.M.S., contributes a note on the use of izal in dysentery; Dr. E. A. R. Newman writes on the drug treatment of dysentery; Major W. E. Jennings, I.M.S., on dysentery and diarrhoea mortality in the Bombay Presidency; and Assistant-Surgeon Babu Amrito Lal Deb, on the treatment of dysentery. Lieutenant V. B. Nesfield describes a chemical process of sterilizing water for drinking purposes for use in the field and at home; to this article are appended notes and bacteriological report by Captain F. N. Windsor, I.M.S. The papers on dysentery were sent in competition for a prize of 100 rupees offered by Messrs. Thacker, Spink and Co., proprietors of the *Indian Medical Gazette*; the judges are Colonel S. H. Browne, Inspector-General of Civil Hospitals, Bengal, and Lieutenant-Colonel G. F. Harris, Professor of Materia Medica in the Medical College of Calcutta.

SPECIAL CORRESPONDENCE.

PARIS.

Académie de Médecine: Dr. Albert Robin.—Apparatus and Technique of Clinical Examination of Respiratory Exchanges: The Action of Metallic Ferments on the Cellular Elements of the Blood, and on the Production of Urea, Uric Acid, and Total Nitrogen. Small-pox in Paris.—Dr. Paul Richer Elected Member of the Académie des Beaux-Arts.—Evening Clinic for Venereal Diseases at Cochin Hospital.

At a recent meeting of the Académie de Médecine Dr. Albert Robin presented the various apparatus and described the technique of the clinical examination of the respiratory exchanges. Formerly this examination was delicate and complicated work for the laboratory, but Dr. Robin and Dr. Maurice Binet have made simple, inexpensive, and easily transportable apparatus, at the same time simplifying the technique, so that the whole process takes an hour and a half at the outside, half an hour for the clinical portion, half an hour for the chemical analysis, and twenty to thirty minutes for the calculations.

Dr. Albert Robin, in collaboration with Dr. Emile Weil, communicated their observations on the action of metallic ferments on the cellular elements of the blood, and on the production of urea, uric acid, and the total nitrogen. It appears that hypodermic injections of metallic ferments, especially electrolytic solutions of gold, cause marked modifications in the cellular elements in the blood. Generally speaking, the injection is followed by a leucocytolysis, which begins after one or two hours, and lasts a variable time, and only in exceptional cases persists after twenty-four hours. Slight in a healthy person with a normal number of white cells, the leucocytolysis is often intense in infections which are accompanied with leucocytosis. The action of the injection is unknown in infections which, like typhoid fever, provoke a leucopexy. The destruction of leucocytes is especially at the cost of the neutrophile polynuclear cells, and secondarily of the lymphocytes. The authors give the results in two very different affections—that is, acute articular rheumatism and cancer of the stomach. From this point of view the metallic ferments possess the same properties as antidiphtheritic and antistreptococcic serums. On the other hand, injections of metallic ferments are followed by a considerable increase in the uric acid excreted, in the urea, and in the coefficient of nitrogen utilized. What is the origin of this uric acid produced and eliminated in excess? Has it any relationship to the leucolysis mentioned above? In a case of cancer of the stomach, after the injection of metallic ferments there was a very marked leucolysis, without a parallel increase in the uric acid. It does not seem, therefore, that the uric acid comes directly from the nuclei of destroyed polynuclear cells and from the nucleinic acid thus set free, as one might at first suppose. These authors think that the uric acid does not alone depend immediately and absolutely on the destruction of leucocytes but that other tissues can contribute to its origin, including the haematopoietic organs. To conciliate these apparently contradictory facts, MM. Robin and Weil suggest the following hypothesis: the leucocytes, as is known, are the carriers of soluble organic ferments, and these ferments, set at liberty by leucocytolysis, show their action on the organism, act as hydrating and oxide-reducing agents, and start the formation of the uric acid and urea. In cancer and cachectic patients, the leucocytes would contain but little diastases, since their destruction is not followed by the effects by which the liberation of the organic ferments is revealed.

During the week ending July 22nd there was a recrudescence of small-pox in Paris, the number of fresh cases notified suddenly increasing to 33 instead of 6 during the preceding week. An epidemic focus was formed in the quarter of the Enfants-Rouges in the 3rd Arrondissement, in which 17 of the cases were notified, whereas from January 1st to July 15th only 6 cases had been notified in this quarter. There were two deaths from small-pox during the week. Active measures were immediately taken, and the danger seems averted of any further spread. The streets of the quarter affected have been cleaned, watered and disinfected. The Antitubercular Dispensary in the Rue de Poitou was used as a vaccinating centre, and during the first five days of the week 4,212 free vaccinations were performed there in the centre of the epidemic focus. The dispensary is to remain open for vaccinating purposes from 8 to 10 p.m. during the prevalance of the epidemic.

Dr. Paul Richer, member of the Académie de Médecine, who is Professor of Anatomy at the Ecole des Beaux-Arts, and an artist himself both in sculpture and engraving medals, and who was a collaborator of Charcot, especially in bringing out the *Iconographie de la Salpêtrière*, has just been elected a member of the Académie des Beaux-Arts, filling the chair of the late Baron Alphonse de Rothschild.

The Municipal Council has recently opened a credit of £200 for the organization of evening consultations for men suffering from venereal diseases. That working men may not lose time during their working hours, this special out-patient clinic will be open every evening at 9 o'clock, except Sundays and fête days, at the Cochin Hospital. Should the experiment prove a success, doubtless similar cliniques will be opened at other hospitals.

CAPETOWN.

South African Medical Congress: Proposed South African Medical Guild.—Birthday Honours.

The seventh South African Medical Congress was held at Maritzburg during the week extending from June 12th to 17th inclusive. The gathering was undoubtedly the most successful that has yet been held, over seventy medical men being present, exclusive of the local practitioners. This is a record attendance, and, although it may seem very small to English eyes, it represents, in this country of magnificent distances, a considerable amount of effort, when we remember that attendance meant, to a large number of those present, a greater sacrifice of both time and money than would be involved in a British practitioner attending a Congress at, say, Moscow. And this leaves out of account the fact that, owing to the unprecedented depression in South Africa, any sacrifice of time and money bears hardly upon our practitioners. The Congress was admirably managed, the arrangements being in the hands of the Natal Branch of the British Medical Association. Especial credit for the completeness of the arrangements is due to the President of Congress, Dr. Hyslop, President of the Natal Medical Council, Principal Medical Officer of the Natal Militia, and Superintendent of the Natal Government Asylum, and to the General Secretaries, Drs. Campbell Watt and Watkins-Pitchford. The Congress worked in six Sections: Subjects of General Interest, presided over by W. Darley-Hartley, M.D., M.R.C.P., of Capetown, Editor of the *South African Medical Record*; Medicine, presided over by A. E. W. Ramsbottom, L.K.Q.C.P.I., F.R.C.S.I., of Bloemfontein, President of the Orange River Colony Medical Council; Surgery, presided over by Sir Kendal Franks, C.B., M.D., F.R.C.S.I., of Johannesburg; Public Health, presided over by Charles Porter, M.D., D.P.H., Medical Officer of Health of Johannesburg, in the unavoidable absence of the Hon. George Turner, Medical Officer of Health of the Transvaal; Gynaecology and Obstetrics, presided over by W. Gordon Grant, M.D., M.S., of Johannesburg; and Special Subjects, presided over by A. M. Fleming, C.M.G., M.B., F.R.C.S.Ed., D.P.H., Medical Director of Rhodesia. The level of the papers was, on the whole, high, and some of the discussions were very instructive, although, owing to lack of time, they were necessarily abbreviated, and in the case of the Special Subjects Section it was not found possible to permit any discussions at all. Amongst the most notable of the papers were the Presidential Address in Medicine, which, from statistics and impressions derived from a part of South Africa the natural conditions of which are exceptionally unfavourable to tuberculosis—the Orange River Colony—in which there is a sparse population, mainly South African born, inhabiting a dry plateau, showed the extent to which tuberculosis is invading South Africa; Sir Kendal Franks's Presidential Address on the Treatment of Gangrenous Hernia; Dr. Ernest Hill's paper on Malarial Fever in Natal; Dr. Aylmer Dumat's paper on the Autointoxications of Pregnancy; Mr. Watkins-Pitchford's paper on Natal Snakes and their Venom; and Dr. Fleming's paper on Blackwater Fever in Rhodesia.

A considerable amount of discussion took place on the report of a Committee appointed at the last Congress to consider the subject of forming a South African Medical Guild as a centre of medical organization for all matters other than scientific work, and Dr. Darley-Hartley made this the subject of his Presidential Address in the General Section. Eventually the principle of a Guild was adopted, but later a pro-

posal definitely to instruct a committee to carry the principle into effect at once was dropped, and it is understood that those interested will move in the matter on their own responsibility. The feeling that some such organization is urgently needed is universal, and, although a strong party maintain that the work could be done by the Branches of the British Medical Association, an insuperable obstacle to this lies in the objection of the practitioners in the Transvaal and the Orange River Colony to establish Branches; whilst, unless an organization extends over the whole of the Colonies, it would be of very little use.

Very general satisfaction is felt at the fact of the Birthday Honours, including a knighthood for Dr. E. S. Stevenson, of Rondebosch, near Capetown. This is a notable departure, as hitherto no honour of any kind has been conferred upon a South African member of the profession *qua* medical practitioner. All previous honours have been conferred for political or war services. Now that the principle has been admitted it is hoped that the turn of Dr. C. F. K. Murray, the President of the Cape Medical Council for many years, who is the recognized leader of the profession in Cape Colony, will not be long delayed. Dr. Stevenson is a member of the Cape Medical Council, and has been twice President of the local Branch of the Association. He also was President of the Congress held at Capetown in 1903. He is a widely-respected practitioner, who, although still in general practice, specializes to a large extent as a surgeon, and he was for many years the trusted medical adviser of the late Mr. Rhodes, whilst he still acts in the same capacity to Dr. Jameson.

BIRMINGHAM.

Ice-cream Poisoning.—Warwickshire County Council Health Report.—West Bromwich Hospital.

THE Medical Officer of Health (Dr. Robertson) presented to the Health Committee on July 25th a full report of the investigations with regard to the recent poisoning by contaminated ice-cream. He had ascertained that there were 56 cases of poisoning, and all of these were under 14 years of age, except four, whose ages were 46, 20, 18, and 17. The onset of the symptoms commenced from half an hour to eight and a half hours after eating the ice. One child ate a farthing's-worth and was ill in half an hour. The symptoms were pain in the stomach and vomiting, and, except in 6 cases, were accompanied with diarrhoea, collapse and headache. On chemical analysis no gross irritant poison was found. Professor Leith, Professor of Pathology and Bacteriology in the University, as the result of preliminary bacteriological examination, reported the discovery of a poison, which in certain doses caused inflammation in and killed guinea-pigs. This was due to the presence of a bacillus, of the colon group, and this fact suggested a faecal origin for the contamination. The vendor of the ice-cream was a boy, and he sold some of it to about 250 persons, so that 4 persons escaped where 1 was made ill. After examination of the manner in which the ice-cream was manufactured the Medical Officer of Health was of opinion that the contamination had occurred while the cream was standing in the cooling shed, after boiling and before freezing. This shed faced three water-closets, and the Italians there seemed not to understand the proper use of these conveniences, since they were in an extremely filthy condition. Possibly excremental organisms were blown into the buckets when the cream was warm and then rapidly multiplied there. This place, however, was no worse than many others, and there was therefore a possibility of similar outbreaks in different parts of the city. Dr. Robertson suggested, as a preventive measure, that a systematic examination of all the ice-stores and factories should be made. A special subcommittee has been appointed, which has authorized the medical officer of health to make the suggested survey and to report to them.

From the health report published by the Warwickshire County Council it appears that the birth-rate for Warwickshire during last year was 29 90, which is higher than in 1903, and is the first year in which there has been no decrease for a long time. The birth-rate in Leamington was very low, only 18.1 per 1,000. The death-rate for the county was 14.18, which is a little higher than in the previous year. Of deaths due to the zymotic diseases measles is the chief cause. Parents, instead of taking care that measles should not arise, seem to look upon it as a necessary evil, and even assist it in spreading, because they think that it is better for the children to have it early. The deaths due to phthisis were slightly less than in the previous year, and they are proportionately more numerous in the more thickly populated districts. The sanitary authorities have issued cards warning persons not to spit in enclosed spaces, more particularly in the schools. Several manufacturers have written asking for these cards to put in their factories and workshops. The number of deaths among infants under 1 year of age was 1,336, and of these 877 were in urban districts and 459 in rural. The infant mortality was slightly higher than in the two previous years, owing to an increase in epidemic diarrhoea. Fifty-one schools were closed during the year on account of infectious diseases—namely, 20 for measles, 15 for scarlet fever, 7 for pertussis, 5 for diphtheria, and 1 each for small-pox, mumps, and chicken-pox.

The annual report of the West Bromwich Hospital, which was published recently, showed that the number of in-patients treated during last year was 782, as compared with 730 in 1903. The out-patients numbered 7,182, as against 6,382 in the previous year. In the eye department there were 127 in-patients and 2,937 out-patients. The cost of maintenance per bed of the number occupied was £48 6s. 8d., as against £50 5s. 10d. in 1903. Mr. W. A. Albright will succeed Sir Ernest Spencer, M.P., as President of the hospital.

LIVERPOOL.

Royal Infirmary: Appointment of Assistant Gynaecological Surgeon.—The Summer Graduation Examination.—Bequests to Hospitals.—Tainted Meat.—Curious Claim under the Workmen's Compensation Act.

THE meeting of the Election Committee of the Royal Infirmary called together to appoint an Assistant Gynaecological Surgeon has chosen Dr. W. Blair Bell for the post. Four candidates applied, two from London and two from Liverpool. Dr. Bell has already made a name for himself in his special department of surgery, and his appointment will enhance the reputation of the practice and the teaching of the Royal Infirmary.

At the summer M.B. Ch.B. examination of the University, Charles Harold Smith obtained first class honours, four candidates obtained second class honours, and five others passed the examination. They were all students at the Royal Infirmary. The proportion of honour graduates is unusually high. The examiners were the same as on former occasions, and there is no reason to suppose that the standard has been lowered in any way.

Under the will of the late Sir John Willox, editor and proprietor of the *Liverpool Courier*, several of the Liverpool hospitals benefit materially. The Royal Infirmary, the Southern Hospital, and the Stanley Hospital each receive £10 000. £10 000 is also bequeathed to the sanatorium in Delamere Forest, to be invested to form what is to be known as the "Lady Willox Endowment Fund." Under the will there will be considerable reversions to various medical charities on the decease of certain beneficiaries who are given a life interest in the estate of the deceased.

In the Birkenhead Police Court a pork-butcher was fined £2 10s., including costs, for having on his trade premises meat which was intended for consumption and was unfit for human food. It appeared that when the Inspector of Meat and Fish visited the shop he found the manager of the business cutting up meat in a back cellar. On the floor was a vessel containing a quantity of meat and hot water. In another cellar was a woman engaged in making pies, and close by there were several pieces of meat spread out on a slab. These were stinking and absolutely unfit for human food. The pies and "savoury ducks" which were manufactured were so highly seasoned that the consumer would not be able to detect that the meat was tainted.

A somewhat unusual claim under the Workmen's Compensation Act was lately heard in the Liverpool Consistory Court. A foreman stone-mason, 43 years of age, was at his work on May 4th when a stone fell upon one of his feet, which is said to have been severely injured, though he was able to walk home the same evening. The same day he complained of some discomfort about his heart. On May 5th and 6th he continued at work, but still complained of his heart, and on May 8th he was seen by a medical practitioner, who attended him till his death on May 20th. Death was due to pericarditis. The medical witnesses for the claimants maintained that the deceased had latent pericarditis to a slight extent, and that the shock and sudden movement of the body when the stone fell upon him had caused palpitation, which, together with nervous shock and fright, had stimulated the

latent pericarditis into a pericarditis with effusion, which was the cause of death. Medical witnesses for the defence, however, spoke to failing to see any connexion between the pericarditis and the accident. The claim was dismissed with costs.

MANCHESTER.

Local Government Board as to Proposed New Lunatic Asylum at Whalley.—School Age for Children.—Diseased Meat in Manchester Market.—Eccles and Eyesight.—Reappearance of Small-pox.

Last week the Local Government Board held an inquiry at Whalley regarding the application of the Lancashire Asylums Board for powers to borrow £32,910 for the purchase of lands at Whalley on which to build a pauper lunatic asylum for the county. It appears that at the present time the total accommodation in the county's five asylums is 10,825, and the number of patients on April 13th 10,612, so that in the whole of the five asylums there are only 213 possible beds left for cases that ought to be treated in asylums. There are in the workhouses 3,136 insane paupers, a great many of whom ought to be in properly-managed asylums. It would appear that at present there is a deficiency of 2,000 beds. The promoters think Whalley a suitable site for an asylum on the colony or ward system. In a report to the Lunacy Commissioners, one of their Commissioners stated that the site although it had some drawbacks had distinct advantages. The probable rateable value of the asylum would be £6,000. Objection was taken to the site partly on the alleged difficulty of draining such a site, and because of its clay subsoil, while it was also alleged that the elevated site was subject to fogs. After hearing counsel the inquiry ended. The Commissioners will give their decision later.

The thirty-five Area Committees within the county of Lancashire have been invited by the County Education Committee to state their views on the question as to the age at which a child should be compelled to attend an elementary day school. The compulsory age is at present 5 years. The County Medical Officer of Health states that the reports of district medical officers agree that whenever measles, whooping-cough, diphtheria, and, to a less extent, scarlet fever break out in a district, young children attending schools are more liable to be attacked than those at home. The educational advantages to children under 5 years of age are not commensurate with the risks incurred. It would appear that physically and mentally children who commence school life at 5 years of age are better qualified to receive knowledge than those who have been attending school previous to attaining this age.

The Chief Veterinary Inspector of Meat in Manchester states that during last year 25 tons of diseased meat were sent in from country districts alone and were destroyed. All this meat, which only included that of cattle, was dressed in the country, and consisted of bare carcasses or parts of the carcasses, according to how the butcher thought he could deceive the inspector. The diseases responsible for this large supply included anthrax, generalized tuberculosis, septicaemia, and malignant tumours. During the last two years there were sent to the Manchester market from the country at least ten carcasses affected with anthrax. Six persons who came in contact with these cases were attacked by anthrax and two of the six died.

The school teachers in Eccles district have been requested to report all cases of defective vision which come under their notice, with a view to prevent eyestrain in the children.

A case of small-pox was reported last week in the Clayton district. Some months have elapsed since a case occurred in or near the city. The last case was discharged from hospital on February 2nd.

The International Congress of Esperantists will be opened at Boulogne this Saturday, August 5th, at 8 p.m., by Dr. Zamenhof. On Sunday there will be a special service in Esperanto at St. Nicolas's Church, and a concert in the evening. On Monday a general meeting. During the rest of the week business discussions will take place in the morning, and concerts, theatrical performances, etc., in the evening, Esperanto being the official language. Special carriages for Boulogne will be reserved by the 10 a.m. train from Charing Cross on Saturday, and the Secretary of the British Esperanto Association, 13, Arundel Street, Strand, London, can arrange for tickets at special fares.

CORRESPONDENCE.

THE NEXT REPRESENTATIVE MEETING, LONDON, 1906.

Sir,—My apology for opening this discussion so soon is that all the facts, conveniences, and inconveniences, etc., of the Leicester meeting are fresh in the minds of the Representatives, and the sooner we consider carefully, widely, and fully what is before us the better will our arrangements be made, the greater pleasure we shall have in our visit, and the more efficiently will our business be done, with the minimum of discomfort.

One Representative told me on Friday last that he was going to Buxton to recuperate after the toils of the meeting, another to Scotland, and so on, so that if we can have our meeting without all this disorganization the better.

We must remember that we may have no entertainments provided for us, and that we must expect only dry routine work in London.

To begin with, it is to be hoped we shall have all the business arranged for us as concisely as possible by the various Committees, Divisions, and Central Council, and, above all things, that we shall have the agenda and reports in our hands ten clear days before the first day of meeting.

If no other entertainment is provided for us, I would suggest that the Representatives and their lady friends should have a day on the river—all the better if a steamer were chartered—that we had lunch either on water or land, and that we dined together in the evening. By this means we should have some social enjoyment, the men would be kept together, and the interests of the Association furthered.

There is really no reason why by proper arrangements the meeting should not be a great success, instead of a merely dry business affair. Further suggestions will no doubt be forthcoming from energetic metropolitan members; but care, of course, must be taken that they do not overdo it in their excess of zeal. Parties might be arranged, also, for seeing the gems of the metropolis with the greatest economy of time and at a minimum of inconvenience and distress.

We might have a social evening arranged at 429, Strand, which would enable members to see the various rooms and offices where £79,000 is invested, and a demonstration at the adjoining printing department, and view the mysteries in the production of the Journal they receive each week, never dreaming of the toil and care as well as expense incurred.

If the metropolitan members form an Arrangements and Entertainments Committee, I should be glad to interview them in October, when the Ethical Committee meets, if desired.

I am certain town members will not begrudge a little trouble—I do not say expense—on behalf of their less fortunate fellows who have more or less long journeys to make and practices to leave.

As to the hour of meeting, we might begin at 4 o'clock, so as to do the business in the cooler part of the day; and as we shall have plenty of time to choose the place of meeting, the cooler and better ventilated place we can find the better. I do not see that we need confine ourselves to the centre of the densely-crowded city. Are there not convenient and quiet meeting rooms at Alexandra Palace or similar places outside?

One cannot help feeling the inconvenience now that we have to go searching for a room instead of having one of our own. How ridiculous it seems to have nearly £80,000 sunk in a building without a room to accommodate 200 members! Truly, such matters do require looking into.

Then, as to the date of the meeting. We ought not to have fixed it in the hottest days, or even the longest. It would have been better, I beg to submit, either in June or late in August. If it had been the latter, important matters from the Annual Meeting at Toronto might have been adjourned to this one.

There is no doubt the tables and cards at Leicester were a great improvement, but I would suggest for the next meeting the numbers and names be on both sides of the card, for the obvious reason that those behind us would see them as well as those in front.

If a list were printed and circulated as soon as possible after taking their seats in their numerical order, and showing where they represent, it would help us to identify any man we wished.—I am, etc.,

Manchester, July 29th. G. H. Broadbent.

REVACCINATION AND ADMISSION TO INSTITUTIONS.

SIR,—With regard to the recent conference of municipal authorities to consider the means for prevention of epidemic small-pox, it has always occurred to me how much could be done by many of us who, like myself, are medical officers to large institutions, such as industrial schools, orphanages, and various homes, by insisting upon the revaccination of all children when admitted.

During the last fifteen years I have revaccinated every child admitted unless the child has but just recently had primary vaccination, and in that period have protected at least 275, the total number of inmates being on the average 150. Possibly I may be acting *ultra vires*, but as the rule of the institution is that every candidate for admission must have been vaccinated before election, I do not ask consent for revaccination; and should the friends grumble at revaccination, my committee support me by saying that in our establishment, at least, revaccination is also compulsory.

I find that at ages between 7 and 10, from 10 to 15 per cent. give results undistinguishable from primary vesicles, even when there are good scars. As many such institutions admit only twice a year, the time and trouble necessary are very trifling.—I am, etc.,

July 25th. PROTECTIONIST.

INCOME TAX.

SIR,—I have read with much pleasure in the BRITISH MEDICAL JOURNAL to-day Dr. Gordon's letter on the distinction which ought to be drawn, in levying income tax, between incomes derived from work and those from investments, and quite agree with his sentiments. The complaint they embody is by no means new. But the distinction needs to be extended to that between temporary investments under which the principal will have disappeared at the end of the time—such, for instance, as a twenty-one years' lease—and permanent ones, in which it will not. In the former case a part of the annual return is really return of capital. Take this case as an example of the inequality of the burden: A. begins practice unusually young without a farthing (except £100 borrowed from a friend). It is in a poor part of a manufacturing district. After about thirty-five years' excessive work, with less than thirty-five weeks' holidays, he finds his income insufficient for the completion of the education of his numerous sons, and therefore sells his life insurance policy, and with the purchase money buys a twenty-one years' leasehold, thus considerably increasing his income in the present at the cost of the future. But now he has to pay tax on the rent, and besides, through the increase in his income, loses the right to the abatement in the assessment of it which he was entitled to before. Yet it is clear that he is absolutely no richer than he was before, and also that, although only "worth" about £4,000, he pays as much tax as other men worth nearly four times as much invested at 4 per cent. He had, moreover, already, during the thirty-five years mentioned, paid income tax on all his savings.—I am, etc.,

July 29th. H. F.

IRELAND AND THE MIDWIVES ACT.

SIR,—As the Midwives Act does not apply to Ireland, our hospitals lose little in not having their trained nurses placed on the roll of certified midwives. The wonder, indeed, is that any names in this country were accepted. When the Act is made to apply to Ireland an opportunity may be afforded our nurses and "women in bona fide practice" to have their names registered. At present, however, the only advantage in being certified is to be legally qualified to practise midwifery in England. It is well known that for many years almost all countries recognized the Rotunda Hospital, Dublin, as the pioneer of improvement and advance in the practice of midwifery, and its power to grant a licence is not of yesterday. Surely, with such a high record, we should not allow ourselves to be absorbed in any other system, but have an executive Board in Dublin, in which our obstetricians and representatives from our maternity hospitals would have a voice in the requirements and training of their own nurses.—I am, etc.,

Belfast, July 29th. S. W. ALLWORTHY, M.D.

SUTURE OF GRANULATING WOUNDS.

SIR,—May I, following your other correspondents, call attention to another application of this principle? In drainage for [illegible]zed collections of pus in the abdominal cavity, and in drainage for diffuse peritonitis, large granulating openings often result in the parietes, which if allowed to heal as they stand leave weak, easily-yielding scars. If, however, such openings are brought together throughout the greater part of their extent some ten to fourteen days after the primary operation the resulting scar is much firmer, and ventral hernia much less likely to result. I have carried out the method with success in several cases.—I am, etc.,

Cardiff, July 24th. WILLIAM SHEEN.

THE DIET OF THE PRECIBICULTURISTS.

SIR,—In the BRITISH MEDICAL JOURNAL of July 22nd appeared the first part of a paper by me on the diet of the Australian aborigines. Without waiting for its completion Mr. Alexander Francis writes concerning it, in your issue of July 29th:

> It would be a big task to attempt to correct in detail the errors in this paper, for it is a somewhat difficult matter to find any statement which is accurate. . . . Dr. Campbell seems to have got possession of some camp-fire yarns, told for the edification of new-chum jackaroos, but they hardly qualify him to write a serious history of our Australian aborigines.

Does, I would ask, Mr. Francis, in sober earnest, consider himself qualified to criticize my paper *ex cathedrâ*? At the end of the second part of my paper (which will be published in due course) is a list of the writings consulted in its preparation, and it is for your readers to decide whether they will accept the authority of men of the stamp of Sir George Grey, E. J. Eyre, and E. M. CURR, who, from the middle of the last century onwards, have been in intimate touch with the natives, and whose writings bear on the face of them evidence of their trustworthiness—whether, I say, they will accept the authority of such men as these, or that of the very positive gentleman who gives them all the lie direct.

Doubtless errors have crept into my paper—that is, from the nature of things, inevitable—but I have spared no pains to be accurate, and your readers may rely upon the substantial accuracy of my paper as it stands.—I am, etc.,

London, W., Aug. 1st. HARRY CAMPBELL.

COMMONLY OVERLOOKED FACTORS IN VOCAL MECHANISM.

SIR,—In my article, "Commonly Overlooked Factors in Vocal Mechanism," published in the BRITISH MEDICAL JOURNAL of March 25th, 1905, p. 647, I omitted to make any remarks on the position of the chest during speaking or singing: and as it is rather an important point, with your permission I will comment on it now.

In all vocal efforts the upper part of the chest should be held up firmly by keeping the shoulders well thrown back, so that breath-pressure can be effectively controlled from below. Without complete mastery of this *fixed high chest position* the voice will be uncertain. Not only does this position of the chest give great control over breath-pressure, but owing to the apices of the lungs being always full the trachea is drawn down and the larynx is fixed, so the adductor muscles of the cords can act to the best advantage, and the greatest possible tension of the cords, consistent with the pitch of a note, is also ensured.—I am, etc.,

R. F. E. AUSTIN,
Major, R.A.M.C.

Station Hospital, Imtarfa, Malta.

OBITUARY.

WE regret to announce the death of Mr. CHARLES HOOPER, Consulting Surgeon, Royal Bucks Hospital, which occurred at Aylesbury on July 16th. Mr. Hooper, who was 75 years of age, had been ill for ten weeks with pneumonia complicated with hydrothorax and later empyema. He bore his sufferings with exemplary patience. He was born at Buntingford, where his father, John Hooper, M.D., was in practice, and studied medicine at King's College, London, becoming a Licentiate of the Apothecaries' Society in 1852, and a Member of the Royal College of Surgeons of England in the following year. He was appointed House-Surgeon to the present Royal Bucks Hospital, then called the Bucks Infirmary, at Aylesbury, where he soon succeeded to the practice of Mr. Henry Hayward. At the time of his death he had been in private practice for upwards of fifty years. Mr. Hooper always took a keen interest in his profession, and was especially attentive to his poorer patients and those in receipt of parish relief; he was much interested in sanitary matters, and held the post of Medical Officer of Health to the Ayles-

bury Urban District Council for many years. He was for nearly fifty years Medical Officer of No. 1 District of the Aylesbury Union, and public vaccinator; for many years one of the honorary surgeons to the Royal Bucks Hospital, and was also local secretary for the Royal Epsom Benevolent College; Chairman of the Aylesbury Division of the South Midland Branch of the British Medical Association; Associate of the Sanitary Institute; Medical Officer to the Post Office. He frequently attended the annual meetings of the British Medical Association. He was a strong Churchman, and acted as churchwarden to the parish church for many years. He was a school manager and trustee of several charities, and the oldest Freemason of his Lodge. The funeral took place on July 20th, and the very large attendance testified to the great affection and respect in which Mr. Hooper was held by his numerous friends and fellow-townsmen. His loss will be particularly felt by the poor, as his good deeds and help in time of trouble were very numerous, and unostentatiously performed. He was a man of upright character, a hard worker who never spared himself—in fact, he died in harness, as he went on with his work for several days after his illness began, and when he ought to have been taking rest.

We regret to announce the death of Dr. Thomas Boles Eames, of Welford-on-Avon, formerly a well-known and highly esteemed medical practitioner in the neighbourhood of Farnworth and Kearsley. Owing to a severe attack of influenza, he resigned his practice in 1891, and went to reside at Llangollen, but two years ago he removed to Welford-on-Avon, near Stratford. Dr. Eames, who completed his 83rd year in January last, was a native of Castle Martyr, near Cork. In that city he received his early education, afterwards studying medicine in Dublin. He became a Member of the Royal College of Surgeons of England in 1845, and in 1859 he obtained the Licence of the Royal College of Physicians of Edinburgh. About 1846 he went to Farnworth as assistant to a local practitioner. After staying there for a couple of years, he started in practice for himself at Lower Kearsley. Besides having a practice covering a district extending as far as Ainsworth, Little Hulton, and Clifton, he was club doctor at the old Prestolee Cotton Mill. On the formation of the Kearsley Local Board, he was appointed Medical Officer, and held the office of Factory Surgeon for the Farnworth and Kearsley districts from 1860 to 1885, when he resigned. He was Medical Officer for Little Lever until he left the locality. During forty-three years Dr. Eames was the only resident doctor in Kearsley. He was a regular attendant at the Ringley Church, and for a long period was one of the trustees of the church and school. In politics he was a Conservative. He was President of the Bolton Medical Society about 1878, and he was one of the founders of the Manchester Medico-Ethical Association. In 1897, when that body celebrated its jubilee, Dr. Eames was the only survivor of the original members.

Lieutenant John Evan Skey, Royal Army Medical Corps, died at Pretoria on July 24th, aged 26. He entered the Army Medical Service as a lieutenant, January 31st, 1903.

Deaths in the Profession Abroad.—Among the members of the medical profession in foreign countries who have recently died are Dr. Josef Brettauer, a well-known ophthalmologist and for many years surgeon to the Municipal Hospital of Trieste, aged 69; Dr. Friedrich Fischer, Extraordinary Professor of Surgery in the University of Strassburg, aged 50; Professor Paul Schultz, head of the department of special physiology in the Physiological Institute of Berlin, aged 41; Professor Moritz Elsner, for many years a worker in the Berlin Institute of Infectious Diseases, aged 44; Dr. F. Freitel, of Berlin, a well-known laryngologist, recognized as an authority on disorders of speech, aged 41; Dr. A. Palmer Dudley, Professor of Gynæcology in Dartmouth Medical College and in the New York Post-graduate Medical School, aged 52; Dr. Edward Stickney Wood, Professor of Chemistry in the Harvard Medical School, and for more than thirty years chemist of the Massachusetts General Hospital, aged 59; and Dr. E. Lewy, of Vienna, a well-known authority on industrial diseases and school hygiene, author of many works on the diseases of miners, of workers in quicksilver, etc., aged 66.

The Royal Dental Hospital of London, Leicester Square, has received a donation of £100 from the Worshipful Company of Grocers.

UNIVERSITIES AND COLLEGES.

UNIVERSITY OF OXFORD.

Final Honour School of Physiology.

Class List.—First Class.—O. L. V. Simpkinson, Corpus Christi; [illegible] Trimmer, Christ Church.

Second Class.—C. N. Binney, Corpus Christi; M. Davidson, Trinity; M. W. Flack, Keble; G. R. Hughes, Exeter; P. T. Spencer Phillips, New.

Third Class.—P. H. C. Fowell, St. John's; J. S. Hewetson, Wadham; S. F. Moore, Trinity; S. S. Stranan, Keeble.

Fourth Class.—K. F. B. Bowes, Queen's; G. A. Hope, New; W. D. Kennedy, University; A. J. W. Milroy, Christ Church; A. H. Savage, New; C. F. M. West, Christ Church.

Passed.—J. E. Kay Mouat, Hertford.

Preliminary Examination: Pass Lists.—The following passed in Mechanics and Physics:

H. C. Bazett, Wadham; A. M. Carr-Saunders, Magdalen; N. G. Chavasse, Trinity; T. Clear, Balliol; D. R. Edwardes-Ker, [illegible] Queen's; G. A. Hutchinson, Balliol; G. L. M. Inkster, [illegible] Laws, non-collegiate; W. O. Little, New; H. H. W. Lydall, Merton; D. P. McDonald, Oriel; L. N. Morrison, St. John's; W. J. Oliver, Oriel; W. G. Pinching, St. John's; J. P. Purnell-Edwards, Christ Church; J. Russell, Balliol; C. J. G. Taylor, University; W. H. Thornton, Trinity; J. T. Wills, non-collegiate; M. Wilson, Hunter-Blair's Hall; C. C. Wilson, Queen's; R. C. Wingfield, Trinity; C. F. Younger, New.

The following passed in Physics:

T. Benthall, Queen's; G. C. Boyd, Lincoln; M. de G. Boyd, Lincoln; G. W. Carte, New; A. R. Chavasse, Hertford; A. W. Donaldson, Hertford; A. M. Lupton, Trinity; J. M. Mason, Jesus; E. H. Udall, Queen's; G. H. Varley, St. John's; W. E. Waller, University.

The following passed in Chemistry:

E. Bate, St. John's; H. C. Bazett, Wadham; W. F. G. Blackler, Trinity; G. C. Boyd, Lincoln; M. de G. Boyd, Lincoln; A. J. B. Carrington University; A. R. Chavasse, Hertford; N. G. Chavasse, Trinity; T. Clear, Balliol; P. G. Doyne, Trinity; D. R. Edwardes-Ker, Brasenose; P. R. Fairclough, St. John's; C. L. Garton, Magdalen; I. H. J. Gillam, Hertford; J. K. Hepburn, Queen's; E. B. Holmes, Queen's; G. A. Hutchinson, Balliol; G. L. M. Inkster, Balliol; E. G. Laws, non-collegiate; J. M. Mason, Jesus; H. G. Morris, University; W. J. Oliver, Oriel; A. S. Roe, Balliol; D. Roy, Wadham; E. P. Sells, Christchurch; G. Stanger, Lincoln; C. J. G. Taylor, University; G. E. Thornton, Oriel; E. H. Udall, Queen's; W. E. Waller, University; M. Wilson, Hunter-Blair's Hall; C. C. Wilson, Worcester; R. C. Wingfield, Trinity; J. H. Worthington, Wadham; C. F. Younger, New.

The following passed in Zoology:

T. B. Batchelor, University; H. C. Bazett, Wadham; P. N. Cave, University; G. H. Cross, Balliol; A. W. Donaldson, Hertford; C. C. Gaunt, St. John's; H. G. Morris, University.

The following passed in Botany:

P. P. W. Andrews, University; H. C. Bazett, Wadham; J. L. Birley, University; W. F. G. Blackler, Trinity; A. M. Carr-Saunders, Magdalen; P. N. Cave, University; H. E. Clarke, Jesus; G. H. Cross, Balliol; G. E. Downs, Magdalen; C. C. Gaunt, St. John's; H. O. S. Gibson, New; G. D. Knox, Balliol; E. L. Pearce-Gould, Christ Church; A. S. Roe, Balliol; H. W. Scott-Wilson, Queen's; G. E. Thornton, Oriel; W. W. Wagstaffe, New; R. O. Ward, Queen's; R. C. Wingfield, Trinity; T. S. Wright, Brasenose.

UNIVERSITY OF LONDON.

The following have passed the Final Examination for the M.D. degree:

Branch I (Medicine).—W. F. Annand, B.S., University College; E. D. Aubin, B.S., Middlesex Hospital; W. H. Bailey, St. Bartholomew's Hospital; A. Bousfield, B.Sc. (University Medal), King's College; A. D. Hamilton, St. Thomas's Hospital; P. G. Harvey, B.S., St. Bartholomew's Hospital; F. Riley, B.S., Westminster Hospital; E. A. Wilson, B.S., University of Leeds; Elizabeth Honor Bone, B.S., Lond. Sch. of Med. for Women.

Branch II (Pathology).—R. H. Elliott, B.S., St. Bartholomew's Hospital.

Branch III (Mental Diseases and Psychology).—Christine Mary Murrell, B.S., Lond. Sch. of Med. for Women.

Branch IV (Midwifery and Diseases of Women).—C. W. Chaplin, London Hospital; V. E. Collins, Guy's Hospital; T. H. Harker (St. Bartholomew's Hospital; C. Oldfield, B.S., University of Leeds; R. H. Paramore, St. Bartholomew's Hospital; Mildred Mabel Burgess, Lond. Sch. of Med. for Women.

Branch V (State Medicine).—F. D. Blaudy, Middlesex Hospital and Victoria University; H. Tipping, University College and Guy's Hospital.

The following has passed the Examination for the M.S. degree:

T. Holmes, M.D. (University Medal), Guy's Hospital.

UNIVERSITY OF EDINBURGH.

University Court.

At a meeting of the Edinburgh University Court held on Monday, July 17th, it was remitted to a Committee to prepare a minute relative to the death of the late Principal of the University (Sir William Muir).

An application by Professor Simpson for permission to retire from the Chair of Midwifery as at August 31st next was granted.

The Court resolved to [illegible] in connection with the [illegible] lectureship in Gynæcology, and to communicate the list to the [illegible] of Patronage when making intimation to them of the vacancy created in the Chair of Midwifery by the retirement of Professor Simpson.

Application for [illegible] Lecturer in Practice of Medicine (instead of in Materia Medica, in which subject he is at present [illegible] graduation in medicine; and Major D. G. [illegible] will [illegible] extra-academical teacher in diseases of tro[illegible] candidates [illegible] with the Diploma in Tropical Medicine were granted.

The Court had under consideration a report by a committee on changes proposed in the curriculum for medical degrees.

The University Assistants for next academical year were appointed; and such of them as are University lecturers were continued in office for the same period.

The following University lecturers were appointed for next academical year: Mr. H. J. Stiles, M.B., F.R.C.S.E. (Applied Anatomy); Dr. T. D. Luke Practical Application of Anaesthetics).

A report by the Committee on the Medical Education of Women was submitted, and an application by the Scottish Association for the Medical Education of Women for continuance of recognition, for next academical year, of the Edinburgh Medical College for Women, Minto Street, was granted.

SUMMER GRADUATION CEREMONIAL.

The summer graduation ceremonial of the University of Edinburgh took place on Friday, July 28th, in the McEwan Hall, which was filled with graduates and onlookers. The meeting was invested with special interest and significance inasmuch as the promoter was Professor A. R. Simpson, whose address naturally took the form of a farewell. A large company followed the Vice-Chancellor on to the platform. After prayer by Professor Taylor, the Dean of the Faculty of Law (Sir Ludovic Grant) presented for the honorary degree of LL.D. Mr. Horace Round, M.A., D.L., the historian.

The promoter then intimated the candidates on whom degrees were to be conferred, and they were presented in turn to the Vice-Chancellor and capped, being introduced by Professor Cunningham, Dean of the Faculty of Medicine; Professor Geikie, Dean of the Faculty of Science; and Sir Ludovic Grant, Dean of the Faculty of Law.

Degree of Doctor of Medicine.—F. J. H. Bateman, M.A., M.B., C.M.; C. M. Begg, M.B., Ch.B.; *R. A. Bellios, M.B., Ch.B.; J. F. G. Bent, M.B., C.M.; H. E. Bower, M.B., C.M.; G. E. Bowker, M.B., C.M.; A. J. Brock, M.B., Ch.B.; *R. D. Brown, M.B., Ch.B.; †J. Burnet, M.A., M.B., Ch.B.; O. H. Chapman, M.B., C.M.; *H. L. Cummieg, M.B., Ch.B.; †J. Davidson, M.B., Ch.B.; †G. A. Davies, B.A., M.B., Ch.B.; *W. E. C. Dickson, B.Sc., M.B., Ch.B. (with First Class Honours); *T. G. B. Dodds, M.B., Ch.B.; †H. J. Dunbar, M.B., Ch.B.; *J. M. Dunoon, M.B., Ch.B.; J. Eason, M.B., C.M. (with First Class Honours); †D. C. L. Fitzwilliams, M.B., Ch.B.; E. Frost, M.B., C.M.; *R. V. Fulton, M.B., C.M. (*In absentia*); R. Gibson, M.B., Ch.B.; C. F. Giddy, M.B., C.M. (*In absentia*); R. M'K. Grant, M.B., Ch.B.; E. D. W. Greig (B.Sc.) M.B., C.M.; †P. S. Haldane, M.B., Ch.B.; A. A. Hall (M.A.), M.B., Ch.B. (with First Class Honours); A. R. Hallam, M.B., Ch.B.; †P. W. Hampton, M.B., Ch.B.; *R. Hardie, M.B., C.M. (*In absentia*); A. K. Hermon, M.B., Ch.B.; *Alice Marion Hutchinson, M.B., Ch.B.; A. L. Hunter, M.B., Ch.B.; H. Jamieson, M.B., C.M.; *P. Jones, M.B., C.M.; †C. T. Cory, M.B., C.M.; *R. M. Leslie, M.A., B.Sc., M.B., C.M. (with First Class Honours); *W. G. Little, M.A., M.B., C.M.; R. J. M'Clelland, M.B., Ch.B.; J. C. M'Conaghey, M.B., Ch.B.; A. MacGregor, M.B., C.M.; †W. M'Lachlan, B.Sc., M.B., Ch.B.; †J. MacNidder, M.B., C.M.; J. D. Macrae, M.B., C.M. (with Second Class Honours); *G. R. Mill, M.B., Ch.B. (with Second Class Honours) (*In absentia*); *F. W. More, M.B., Ch.B.; *U. N. Mukerji, M.B., C.M. (*In absentia*); S. K. Mullick, M.B., C.M. (*In absentia*); C. G. Murray, M.B., C.M.; *G. S. Murray, M.B., Ch.B.; *A. Nasmyth, M.B., C.M.; W. H. Nutt, M.B., Ch.B.; T. E. Nuttall, M.B., C.M.; A. B. Pirie, B.Sc., M.B., Ch.B.; Catherine Mary Richardson, M.B., Ch.B.; *R. G. Riddell, M.B., Ch.B.; *H. M. Roberts, M.B., Ch.B.; †J. K. A. Robertson, M.B., Ch.B.; *W. Robertson, M.B., C.M.; W. A. Robinson, M.A., B.Sc., M.B., Ch.B.; R. G. Robson, M.A., M.B., C.M.; *T. W. Edmondston, M.B., Ch.B. (with Second Class Honours); *W. E. Scott-Moncrieff, M.B., C.M.; J. S. Sewell, M.B., Ch.B. (with Second Class Honours); *S. R. Sibbald, M.B., Ch.B.; *G. F. B. Simpson, M.B., Ch.B.; A. B. Slater, M.B., Ch.B.; *F. S. Stanwell, M.B., C.M.; C. E. Stephens, M.B., C.M.; *D. A. Stewart, M.A., M.B., Ch.B.; A. H. Thompson, M.B., Ch.B.; C. P. B. Wall, M.B., Ch.B. (*In absentia*); *W. Ward-Smith, M.B., Ch.B.; †B. P. Watson, M.B., Ch.B. (with First Class Honours).

‡ Awarded gold medals for their theses. † Highly commended for their theses. * Commended for their theses.

Degrees of Bachelor of Medicine and Bachelor of Surgery.—T. Addis, F. Aitken, J. C. D. Allan, A. C. Alport, A. G. Anderson, M.A., B.Sc., W. Anderson, M. A. Ansari, B.A., F. Baillie, G. S. Banks, M.B., C.M.; F. Barker, J. M. Barkley, G. G. Bartholomew, B. Baty, W. J. E. Bell, N. Black, R. Bladworth, C. E. Blair, G. Blair, R. A. Blake, H. M. Brown, J. W. Cairns, T. Campbell, *H. M. Cargin (*In absentia*), N. S. Carmichael, J. Chisholm, H. P. Cook, (*In absentia*), F. W. Cragg, J. G. Craig, J. A. Cruickshank, W. H. Cusack, A. Dangerfield, T. Davidson, M.A., *J. M. Dickson, M. G. Dill, D. Dakin, H. A. Edwards, I. A. Geer, M.A., B.Sc., C. E. Elliston, H. F. Fenton, F. E. Field, C. N. Finn, N. C. Forsyth, *R. S. Frew, W. G. Fröhlich, J. F. Gallaher, L. P. M. Gardner, H. S. Gaskell, W. Gemmill, M.A., E. G. Girdwood, J. A. Glover, M.A., J. M. Grant, J. Green, Charlotte R. Greenfield, J. C. Grieve, E. J. C. Groves, †I. A. Gunn, M.A., B.Sc., J. T. Gunn, C. Hadden, J. D. Harmer, Ada A. Hatchard, A. S. Hendrie, W. M. Hewetson, H. S. A. Hogg, J. S. Hogg, J. R. Holgate, J. H. Hume, J. Ings, Ada Jackson, J. P. S. Jamieson, S. F. Kark, J. R. Kerr, Ethel Landon, J. M. Lauder, Jas. Lindsay, Jno. Lindsay, A. P. G. Lorimer, J. A. Loughridge, D. H. C. MacArthur, P. M'Diarmid, †P. M'Ewan, M.A., T. A. MacGibbon, B.A., B.Sc., J. D. M'Kelvie, J. MacKenzie, K. W. Mackenzie (*In absentia*), M. Mackinnon, A. C. M'Master, S. M'Naughton, C. M'Neil, M.A., N. N. G. C. M'Vean, W. M'Gill, †W. J. Maloney, S. E. Martin, E. S. Massiah, *G. D. Mathewson, B.Sc., A. Mathieson, D. M. Mathieson, M.A., A. I. Miller, H. P. Milligan, C. E. S. Mitchell, J. S. Mitchell, C. T. Möller, H. B. Morris, D. L. Morrison, H. Mowat, R. E. Moyes, E. B. Munro, A. W. Neill, R. H. Nolan, G. P. Norman, A. J. K. O'Brien, C. R. O'Brien, A. A. Ollivierre, J. S. Orwin, D. H. Paul, J. L. Pearce, †H. E. Rawlence, D. G. Reid, A. O. P. Reynolds, W. E. Reynolds, J. R. Robertson, W. G. Robertson, M.A., W. L. Rousseau, M.A., J. Z. H. Rousseau, B.A., H. M. Bauzier, T. Scoresby-Jackson, †W. M. Scott, W. J. E. Selbeck, M.A., A. J. Shaw, †R. Shaw, D. W. Sibbald, F. M. Simmers, A. Simpson, E. S. Simpson, O. Smith, S. A. Smith, T. R. Smith, A. G. V. van Someren, D. W. Standley, R. C. Standring-Smith, B.A., W. J. Tagoart, W. B. Tannahill, Annie F. Theobalds, J. A. R. Thompson, E. F. Valenzia, F. L. de Verteuil (*In absentia*), *P. S. Vickerman, Helen R. Vickers, Frances M. Wakefield, R. C. Walker, *H. E. A. Washbourn, H. C. Weber, J. D. Wells, F. P. Wernicke, A. Wight, Elsie B. Wilkie, R. Wilkins, H. C. Wilson, †J. Young, J. T. Young.

* Passed with First Class Honours.
† Passed with Second Class Honours.

Master of Surgery.—L. C. P. Ritchie, M.B., Ch.B. Experimental and critical researches with regard to the surgical aspects of the infectivity of the skin-gland secretions: the nature of the temporary and of the permanent skin epiphytes, and the circumstances determining their incidence and duration on the skin; and the value of lanoline employed as a protection to the skin against infection. (Highly commended for thesis.)

Bachelor of Medicine and Master in Surgery.—J. Clark, H. Downes, G. A. Grierson (Second Class Honours); R. W. Telford.

Certificates in Diseases of Tropical Climates: A. C. Alport, M.B., Ch.B.; A. G. Anderson, M.A., B.Sc., M.B., Ch.B.; M. A. Ansari, B.A., M.B., Ch.B.; F. Baillie, M.B., Ch.B.; G. S. Banks, M.B., Ch.B.; D. M'F. Barker, M.B., Ch.B.; N. Black, M.B., Ch.B.; C. E. Blair, M.B., Ch.B.; R. A. Blake, M.B., Ch.B.; H. M. Brown, M.B., Ch.B.; T. Campbell, M.B., Ch.B.; J. W. Cathles, M.B., Ch.B.; D. MacD. C. Church, M.B., Ch.B. (*in absentiâ*); J. Clark, M.B., C.M.; H. P. Cook, M.B., Ch.B. (*in absentiâ*); T. Davidson, M.B., Ch.B., J. M. Dickson, M.B., Ch.B.; R. S. Frew, M.B., Ch.B.; L. P. M. Gardner, M.B., Ch.B.; H. C. Gibson, M.B., C.M. (*in absentiâ*); E. G. Girdwood, M.B., Ch.B.; V. R. Gorakshakar, M.B., Ch.B. (*in absentiâ*); J. C. Grieve, M.B., Ch.B.; Elizabeth C. Gunn, M.B., Ch.B. (*in absentiâ*); J. D. Harmer, M.B., Ch.B.; A. S. Hendri, M.B., Ch.B.; W. M. Hewetson, M.B., Ch.B.; H. S. A. Hogg, M.B., Ch.B.; J. S. Hogg, M.B., Ch.B.; Ada Jackson, M.B., Ch.B.; S. E. Kark, M.B., Ch.B.; J. R. Kerr, M.B., Ch.B.; Ethel Landon, M.B., Ch.B.; J. Lindsay, M.B., Ch.B.; J. A. Loughridge, M.B., Ch.B.; P. M'Ewan, M.A., M.B., Ch.B.; K. W. Mackenzie, M.B., Ch.B. (*in absentiâ*); A. C. M'Master, M.B., Ch.B.; N. N. G. C. M'Vean, M.B., Ch.B.; W. J. Maloney, M.B., Ch.B.; S. E. Martin, M.B., Ch.B.; E. S. Massiah, M.B., Ch.B.; A. Mathieson, M.B., Ch.B.; C. E. S. Mitchell, M.B., Ch.B.; E. B. Munro, M.B., Ch.B.; A. W. Neill, M.B., Ch.B.; G. P. Norman, M.B., Ch.B.; A. J. K. O'Brien, M.B., Ch.B.; A. A. Ollivierre, M.B., Ch.B.; W. E. Reynolds, M.B., Ch.B.; W. G. Robertson, M.A., M.B., Ch.B.; H. M. Sauzier, M.B., Ch.B.; W. M'D. Scott, M.B., Ch.B.; D. W. Sibbald, M.B., Ch.B.; E. S. Simpson, M.B., Ch.B.; T. R. Smith, M.B., Ch.B.; A. G. V. van Someren, M.B., Ch.B.; D. W. Standley, M.B., Ch.B.; K. A. M. Stuart, M.B., Ch.B. (*in absentiâ*); Annie F. Theobalds, M.B., Ch.B.; J. A. R. Thompson, M.B., Ch.B.; E. F. Valenzia, M.B., Ch.B.; V. S. Valiathan, B.A., M.B., Ch.B.; F. L. de Verteuil, M.B., Ch.B. (*in absentiâ*); R. C. Walker, M.B., Ch.B.; H. C. Weber, M.B., Ch.B.; J. D. Wells, M.B., Ch.B.; F. P. Wernicke, M.B., Ch.B.; A. Wight, M.B., Ch.B.; H. C. Wilson, M.B., Ch.B.

Thesis Gold Medallists.—W. E. C. Dickson, M.D.; J. Eason, M.D.; D. C. Fitzwilliams, M.D.; A. A. Hall, M.D.; B. P. Watson, M.D.

The following prizes and scholarships were awarded:—The Goodsir Memorial Fellowship: D. C. L. Fitzwilliams, M.D., Ch.B. The Syme Surgical Fellowship: F. I. Dawson, M.D., Ch.B. The Milner Fothergill Medal in Therapeutics: J. Eason, M.D., C.M. The Ettles Scholarship: W. J. Maloney, M.B., Ch.B., and W. M'D. Scott, M.B., Ch.B.—equal. The Allan Fellowship in Clinical Medicine and Clinical Surgery: H. E. Rawlence, M.B., Ch.B. The Buchanan Scholarship in Gynecology: P. M'Ewan, M.A., M.B., Ch.B. The James Scott Scholarship in Midwifery: W. J. Maloney, M.B., Ch.B. The Mouat Scholarship in Practice of Physic: G. D. Mathewson, B.Sc., M.B., Ch.B. The Charles Murchison Memorial Scholarship in Clinical Medicine: J. P. M'Gowan, M.A., M.B., Ch.B. The M'Cosh Graduate's and Medical Bursaries: W. J. Maloney, M.B., Ch.B. The Beaney Prize in Anatomy and Surgery: W. M'D. Scott, M.B., Ch.B. The Conan Doyle Prize: J. Z. H. Rousseau, B.A., M.B., Ch.B. The Dorothy Gilfillan Memorial Prize: Charlotte R. Greenfield, M.B., Ch.B. The Gunning Victoria Jubilee Prize in Zoology: A. N. Bruce, B.Sc. The Wightman Prize in Clinical Medicine: C. M'Neil, M.A., M.B., Ch.B. The Pattison Prize in Clinical Surgery: F. F. S. Smith.

Doctor of Science: J. D. F. Gilchrist, M.A., B.Sc. A. E. Sprague, M.A., B.Sc.

Bachelor of Laws: G. G. M. Kerron, M.A.

Master of Arts: J. Clark (with honours in Natural Science), A. R. G. M'Millan (with third class honours in Classics), J. A. Sutherland.

Bachelor of Science: T. J. Anderson, J. R. Davidson, M.A., A. D. Edington, W. E. Evans (with special distinction in Botany), W. Forbes, A. J. Merriles, M.A.; W. M'Rae, M.A. (with special distinction in Chemistry), J. Strath, M.A. In the Department of Engineering: A. Bremner, T. A. Young. In the Department of Public Health: R. H. Watson, M.A., M.D. In the Department of Agriculture: A. G. Ross.

Scholarships in Science: The Falconer Fellowship in Palaeontology and Geology has been awarded to R. Campbell, M.A., B.Sc. On the recommendation of the Senatus Academicus, the Commissioners of the 1851 Exhibition have awarded a Science Research Scholarship to P. D. Innes, M.A., B.Sc.

After offering his congratulations to the new graduates, the PROMOTER referred to his own resignation. He recognized that they who would set an age limit to the tenure of such a chair as his were amply justified. There was always a risk that the ageing incumbent of a chair might become an incubus upon it. He could not bear to "dree that weird." Accordingly he had resigned to the charge of the University Court the Commission with which the Curators entrusted him on July 4th, 1850. For, although he was not breathless yet, he judged that, after a course of five and thirty years, it was fitting that he should hand on the torch of midwifery in the University of Edinburgh to an after-runner who might carry it over with a brighter glow to another generation. It was not without a pang that he passed it on. His department yearly grew more intensely, thrillingly interesting to the scientific explorer, and more urgently important to the general practitioner. He referred to the now numerous journals in his department as evidence of the rapidly-growing extent and interest of it. He referred to his apprenticeship to Goodsir. This gave him opportunities for much dissection, and so for acquiring a facility in the handling of forceps and scalpel that had been a lifelong benefit. What was of still greater moment, it brought him under the spell of a man of genius, who was a tireless toiler, and who sought in all his own researches and the work of his assistants what he called "exact truth." He referred to the evil of the apprenticeship system and the easy transference of professors from one chair to another in his student days, to the then archaic examinations and to the transformations in knowledge that he had seen in his time.

At the conclusion of the address Mr. H. J. NORMAN, President of the

Students' Union, presented Professor Simpson with the following address:—

"To Professor Alexander Russell Simpson, M.D., Dean of the Faculty of Medicine.

"In the name of the students and recent graduates of Edinburgh University, we desire on this occasion to express our high appreciation of the good work which you have done for our *Alma Mater* and for the students thereof during a period of thirty-five years in which you have held the Chair of Midwifery. We have heard with regret of your resignation of the Chair. You have ably occupied it, and you have added so much to the renown of our University in regard to the teaching and advancement of midwifery and gynaecology that, in conjunction with your distinguished predecessor, you have caused the name of Simpson in this department of science to rank worthily alongside that of Monro in anatomy and of Gregory in the realms of medicine. This you have achieved, not only by your learned contributions to the literature of your subject, containing many and stimulating suggestions, but also by your practice in the perfecting of technique and in the invention and improvement of the instruments of your craft. Your skill as an operator has redounded to the credit of our school, not only at home, but everywhere abroad, and has not merely maintained, but immensely added to, the fame of our *Alma Mater*. We have to thank you likewise—and this not merely for ourselves, but for the generations of students who have gone before us—for the unflagging interest which you have shown in all matters pertaining to student life. Your desire to foster personal communication between teacher and taught, and your efforts to accomplish this have earned for you the gratitude and kindly wishes of many thousands of students scattered over the whole world. We hope that, though you now sever your official connexion with the University, you will nevertheless continue to take that interest in its and in our affairs which you have so generously exhibited in the past. We pray that you may long continue to enjoy that peace in retirement which no one has better deserved than yourself.

"In the name and by authority of the Medical Faculty Committee of the Students' Representative Council.

"(Sgd.) HUBERT J. NORMAN, Convener.
A. H. SCOTT, Secretary."

The VICE-CHANCELLOR said: Graduates, I cannot but feel that this most interesting ceremonial would be incomplete if a word or two were not said from the Chair on behalf of my colleagues in the professoriate. Allow me to say these few words, not only because I have occupied the chair during the ceremony, but because I am one of the oldest friends of Professor Simpson. I knew him as a boy; I knew him when he came to this University in his teens; I knew him when he was an apprentice to that consummate anatomist, John Goodsir, whose principal assistant I was at the time: I knew him when he took his degree of Doctor of Medicine; and I have been his colleague for thirty-five years. Now I look upon this great assembly as something more than an assembly of persons interested in you graduates; I look upon it also as a testimony of respect and esteem for the colleague that we are about to lose. I regard it as a magnificent send-off. When a friend is about to sail for a distant clime his friends often flock to the steamboat quay to say farewell. Their friend, Professor Simpson, was going to seek during his latter years rest and retirement at the end of a long professorial life, and I feel that many of you have come to give him a good send-off in that rest and retirement of which he now intends to avail himself. Mr. Norman has referred to the eloquent address which we have just heard from Professor Simpson, but I feel that there is something more than the mere eloquence of words in that address. There was a deep feeling in it—a feeling of a kind which it is not perhaps very easy to refer to; but it comes from the heart—it comes from one whose life has been actuated by a strong sense of duty, who has lived amongst his colleagues and his students as one who always felt that he had a task in life to discharge, and he discharged it with consummate ability. And so we, his colleagues in the Senatus, feel that we cannot allow him to separate from us on this occasion without wishing him during the rest of his life—and from what I know of him I am sure it will not be an idle or a wasted life—health and strength to carry on that kind of work which he so well knows how to execute.

Professor SIMPSON, who was cordially received on rising to reply, said he had to thank them with feelings that were too deep for words. He had said that it was not without a pang that he left the place he had filled so long. He should have said that it cost him a great many pangs to leave all those friends of his youth, of his manhood, and now of his old age. But, as he had said, the deepest sorrow was for a man to be leaving his subject just at the time it was becoming more intensely interesting. There was, however, the compensation of knowing that younger men were coming—Mr. Norman and his compeers were coming—and he left to them the subject in which they would win laurels brighter, perhaps, than those that had adorned the brows of their predecessors.

Professor TAYLOR having pronounced the benediction, the graduates filed across the platform and shook hands with the Vice-Chancellor and several of the professors before leaving the hall.

After the graduation ceremony the members of the University Union held a reception in the University Union, and thereafter luncheon was served in the dining hall. About 200 ladies and gentlemen were present. Professor KEEN (Philadelphia) gave the toast of "The University of Edinburgh," and Professor CHIENE, C.B., replied.

UNIVERSITY OF ABERDEEN.

SUMMER GRADUATION.

THE summer graduation ceremony took place in Marischal College on July 19th, Principal Lang, Vice-Chancellor of the University, presiding. Honorary Degree of Doctor of Laws was conferred (*in absentiâ*) on Duncan MacGregor, M.A., M.B., C.M., Inspector-General of Hospitals and Asylums, Wellington, New Zealand: Sir James Thomson, K.C.S.I., M.A., Member of Council of the Governor of Fort St. George, Madras: and Georg Treu, Professor of the History of Art in the Royal Saxon Technical College, Dresden. Ordinary degrees were conferred as follows:

M.D.—W. J. Dewar, *‡F. G. Jones, ‡G. G. Macdonald, J. T. Macpherson, ‡J. S. Milne, M.A., ‡G. Mitchell, *‡H. L. Murray, †A. C. Profeit, †A. C. Reid, M.A.

Ch.M.—‡J. A. Mackenzie.

*Commendation for thesis. † Honours for thesis.
‡ Highest honours for thesis

M.B., Ch.B.—J. M. Adams, A. McR. Donaldson, R. R. Duncan, R. Eager, F. W. Falconer, W. M. Fergusson, G. J. Forgie, R. A. Forster, G. Hall, A. W. Laing, J. McIntosh, J. Mackenzie, K. Mackinnon, G. Milne, J. A. Milne, H. R. Neilson, P. B. Roth, R. F. Russell, J. Silver, C. M. Smith, J. H. Stephen, I. F. B. de Villiers, F. H. Welsh, Cristina Wilson, and D. A. Wood.

The John Murray Medal and Scholarship for the most distinguished graduate (M.B.) of the year has been awarded to Robert Brown.

The Struthers Gold Medal and Prize in Anatomy has been awarded to James Clark.

The following graduates of the University have been approved for the Diploma in Public Health: D. J. G. Johnston, A. McRobbie, and G. A. Mavor (with credit).

VICTORIA UNIVERSITY OF MANCHESTER.

THE following candidates, after satisfying the examiners, have obtained the diploma in Public Health: G. G. Buckley, O. H. Chapman, C. W. Crawshaw, James Howard, W. C. Rigby.

The following lists show the results of the July examinations:

FACULTY OF MEDICINE.

Final Examination.—Part 1. D. Dougal, P. Ferguson, Jane A. Fleming, C. L. Franklin, E. F. S. Green, J. T. B. Hall, C. Hibbert, J. D. Macalpine, R. H. Mercer, F. R. Parakh, G. F. Porter, A. E. Quine, W. H. Ross, H. G. Ward, J. S. Webster, E. Wharton, W. A. Wheeldon, A. W. T. Whitworth, W. Wilson. Part 2. H. Winscow, B. M. Bennett, F. Boothroyd, T. M. Bride, W. J. Cox, C. M. Craig, W. R. Douglas, W. B. Hill, L. Kilroe, A. J. Landman, J. D. Marshall, G. C. Mori, R. Ollerenshaw, H. B. Pare, Ethel M. Phillips, J. Rickards, L. Thorp, D. Wardleworth, S. R. Wilson. The following have been awarded honours—Second Class: C. M. Craig, J. D. Marshall, S. R. Wilson.

Second Examination—(*a*) Anatomy and Physiology: J. Allen, Elsie Brown, J. F. Dow, A. K. Eatock, E. Gandy, J. L. Moir, H. V. White. (*b*) Materia Medica and Pharmacy: J. A. Bateman, R. J. Batty, T. B. Bolton, N. Booth, C. G. Brentnall, C. H. Broomhead, G. Crawshaw, W. C. Dennis'on, H. A. Dunkerley, Frances M. Huxley, F. F. Laidlaw, E. K. Lomas, W. P. Marshall, W. W. Martin, J. Morley, Alice Oberdorfer, T. M. Popple, J. Ramsbottom, J. R. Rigg, M. C. Skillern-Lawrence, H. E. R. Stephens, J. Thompson, R. B. Thompson, W. W. Uttley, T. G. Williams.

UNIVERSITY OF LEEDS

AT a Congregation of the University held on Saturday, July 22nd, at the Medical School, the degrees of Bachelor of Medicine and Bachelor of Surgery were conferred by the Vice-Chancellor on the following, namely:

R. G. Dixon, H. Fearnley, A. Gough, G. H. Hustler, T. E. Lister, F. Whalley.

The following are notified as having passed the earlier examinations for the same degrees:

Final Examination. Part I.—J. P. Bibbey, V. C. Hackworth, D. W. Hardy, and E. W. Reed.

Second Examination. Part I.—A. Perlman. *Part II.*—W. H. Butler, H. L. Eliot, J. H. M. Frobisher, S. M. Hepworth, J. B. T. Keswick, G. A. Mitchell, G. C. H. Nicol, B. C. Piercey, H. Vallow.

First Examination. Whole Examination.—W. Shaw, R. E. Smith, J. N. L. Thoseby.

Part I only.—I. L. Sinson.

Clinical Lecturers

The following members of the honorary staff of the General Infirmary at Leeds have been invited to accept the positions of Clinical Lecturers in the subjects named: Drs. Churton, Barrs, Chadwick, Griffith, and Trevelyan to be Clinical Lecturers in Medicine; Messrs. Ward, Brown, Littlewood, Knaggs, Moynihan, and Thompson to be Clinical Lecturers in Surgery; Dr. J. B. Hellier to be Clinical Lecturer in Gynaecology; and Messrs. Walker, Whitehead, and Hayes to be Clinical Lecturers in Ophthalmology and Otology. Mr. Pearson, the Medical Superintendent of the City Hospitals, has been invited to accept the position of Clinical Lecturer in Infectious Diseases. All these posts of clinical lecturer carry with them a seat on the Faculty of Medicine. Mr. A. T. Bacon, the instructor in vaccination, has been elected to a seat on the Faculty.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN ordinary quarterly Comitia was held at the College on Thursday, July 27th, the President, Sir R. Douglas Powell, Bart., in the chair.

Lectures.—The President announced that the Bradshaw Lecture on Exophthalmic Goitre and its Treatment, would be delivered by Dr. G. R. Murray on November 7th: and the FitzPatrick Lectures by Dr. Norman Moore on November 9th and 14th. The subject of the first lecture would be, John Mirfield (1393) and Medical Study in London during the Middle Ages, and of the second, Dr. Edward Browne (1644-1708) and the Education of Physicians in London during the Seventeenth Century.

Committee on Plague.—The President further announced that the Committee on Plague had waited on the India Office, where they were courteously received by the First Secretary, who expressed his gratitude and approval at the interest taken in the matter by the College, and promised that the recommendations of the Committee should receive immediate and careful attention.

Membership.—The following gentlemen were admitted Members of the College: John Brian Christopherson, M.A., M.D. Cantab.; Lewis Augustus Clutterbuck, M.B. Durh.; Arthur Frederick Hertz, M.A., M.B. Oxon; Conrad Meredyth Hinds Howell, M.A., M.B. Oxon, L.R.C.P.; Henry Percival Johnson, B.A. Cantab., L.R.C.P.; Harold Campbell Parsons, M.A., M.D. Toronto, L.R.C.P.; Wm. Morton Robson, M.D. Lond., L.R.C.P.

Licentiateship.—The Licence of the College was granted to 165 gentlemen.

Communications.

The following communications were received:

(1) From the Clerk of the Privy Council (July 7th) enclosing a programme of an International Congress on Physico-Therapeutics to be held at Liége, August 12th next, and stating that if the College appointed a representative the Lord President would recommend him for credentials as a British delegate.

On the nomination of the President, Dr. Lewis Jones was appointed.

(2) From the Secretary of the College of Surgeons reporting certain proceedings of their Council on July 13th.

(3) From the Chaplain of Bethlem Hospital, asking leave to photograph the portraits in possession of the College of the Doctors Monro, who were successively physicians to the hospital.

Permission was granted on condition that the photographs were only used for the specific purpose named in the request.

(4) From Messrs. Hutchinson and Co., publishers, asking leave to reproduce in a life of Queen Henrietta Maria, by Miss Ida A. Taylor, the portrait of Sir Theodore Mayerne in possession of the College.
Permission was granted on similar terms.

Election of Officers.

On the nomination of the President and Council the following gentlemen were elected censors, other College officers, and examiners:

Nominated by the President and Council.—1905.

Censors.—Joseph Frank Payne, M.D.; Norman Moore, M.D.; Frederick Taylor, M.D.; Sir Thomas Barlow, M.D.
Treasurer.—Sir Dyce Duckworth, M.D.
Emeritus Registrar.—Sir Henry Alfred Pitman, M.D.
Registrar.—Edward Liveing, M.D.
Harveian Librarian.—Joseph Frank Payne, M.D.
Assistant Registrar.—Oswald Auchinleck Browne, M.D.
Elected Members of the Library Committee.—Philip Frank, M.D.; Norman Moore, M.D.; Archibald Edward Garrod, M.D.; Humphry Davy Rolleston, M.D.
Curators of the Museum.—Henry Charlton Bastian, M.D.; William Cayley, M.D.; Seymour John Sharkey, M.D.; John Abercrombie, M.D.
Finance Committee.—F. de Havilland Hall, M.D.; David Bridge Lees, M.D.; Sir Edwin Cooper Perry, M.D.
Examiners.—Chemistry and Chemical Physics: John Millar Thomson, F.R.S.; Frederick Thomas Trouton, F.R.S.; Frederick Daniel Chattaway, Ph.D., D.Sc.; John Addyman Gardner, F.C.S., F.I.C. Materia Medica and Pharmacy: Cyril Ogle, M.B.; John Henry Bryant, M.D.; Joseph John Perkins, M.B.; Francis Whittaker Tunnicliffe, M.D.; James Purves Stewart, M.D. Physiology: Ernest Henry Starling, M.D.; Bertram Louis Abrahams, M.B.; Leonard Erskine Hill, M.B. Anatomy: Peter Thompson, M.D.; Robert Howden, M.B. Medical Anatomy and Principles and Practice of Medicine: Francis de Havilland Hall, M.D.; Samuel Hatch West, M.D.; Theodore Dyke Acland, M.D.; George Newton Pitt, M.D.; William Collier, M.D.; Hubert Montague Murray, M.D.; Norman Dalton, M.D.; Frederick John Smith, M.D.; Walter Essex Wynter, M.D.; John Rose Bradford, M.D. Midwifery and Diseases peculiar to Women: Francis Henry Champneys, M.D.; John Phillips, M.D.; Edward Malins, M.D.; William John Gow, M.D.; Thomas Watts Eden, M.D. Public Health: Part I. Arthur Pearson Luff, M.D. Part II. William Heaton Hamer, M.D. Murchison Scholarship: Joseph Arderne Ormerod, M.D.; Gustave Isidore Schorstein, M.D.

Admission of Fellow.

The Registrar proposed the enactment, for the second time, of the following By-law: That Leonard Rogers, M.D.Lond., elected a Fellow on April 27th last, being resident in Calcutta, be admitted *in absentiâ*, any By-law to the contrary notwithstanding. This was agreed to, and Dr. Rogers was admitted a Fellow.

Reports.

The following reports were received:
1. From Dr. Theodore Williams, on a visit paid as Representative of the College to the new buildings of the University of Birmingham.
2. From Dr. Frederick Roberts, on his attendance as Representative of the College at a Court of Governors of the University of Sheffield.
These reports were adopted, and votes of thanks passed to Drs. Williams and Roberts.
3. From the Committee of Management, dated June 19th, recommending:
(*a*) That the South African College, Capetown, be added to the list of institutions recognized by the Examining Board in England for instruction in chemistry, physics, and biology.
(*b*) That the University of Leeds be added to the list of universities whose examinations are accepted under the conditions of Paragraph 2, Section III, of the Regulations, in lieu of the First and Second Examinations of this Board.
Both recommendations were agreed to.
4. From the Committee of Management, dated July 10th, recommending that Uppingham School be added to the list of institutions recognized by the Examining Board in England for instruction in chemistry, physics, and biology. The recommendation was adopted.
5. The Quarterly Report of the College Finance Committee.
6. The Annual Report of the Library Committee.
7. The Annual Report of the Curators of the Museum.
8. The Quarterly Report of the Examiners for the Licence on the results of the Examinations in April last.

Library.

Books and other publications presented to the library during the past quarter were received, and thanks returned to the donors. Special mention was made of a gift by Miss Greenhill of books and other publications by her father, Dr. Greenhill, and of works presented by Drs. Osler, Allchin, and Payne.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

At a meeting of the College held on July 26th the following gentlemen, having passed the requisite examinations, were admitted Fellows:—
L. Beesly, L.R.C.S.E., Edinburgh; A. Brownlee, L.R.C.S.E., Edinburgh; H. B. Butler, M.R.C.S.Eng., Guildford; D. M. Callender, M.B., Ch.B., Edinburgh; N. R. Dharmavir, L.R.C.S.E., Mexborough; A. d'Souza, L.R.C.S.E., Edinburgh; J. F. Duncan, M.B., Ch.B., Edinburgh; J. Forrest, M.B., Ch.B., Blackpool; A. T. Gavin, M.B., C.M., Dunaskin; B. C. Ghosh, L.R.C.S.E., Punjab; F. C. Hitchins, M.R.C.S.Eng., St. Austell, Cornwall; M. Holmes, M.B., Ch.B., Edinburgh; R. J. Irving, M.B., C.M., Norwich; S. Jesudasan, M.B., C.E., London, N.; J. A. Jones, M.B., Ch.B., Manchester; E. M. Millgow, M.B., Ch.B., Edinburgh; S. H. M'Coy, M.R.C.S.Eng., St. Catharines, Ontario; J. S. Merrilees, L.R.C.S.E., Auburn, Melbourne; J. D. O'Donnell, L.R.C.S.E., Mysore, India; G. B. Pemberton, M.B., Ch.B., Edinburgh; C. G. Webster, L.R.C.S.E., Captain, I.M.S. and C. F. Wilson, M.R.C.S.Eng., Surrey.

The medal and set of books forming the Bathgate Memorial Prize, presented to the College by Colonel William Lorimer Bathgate in memory of his late father, William McPhunn Bathgate, Fellow of the College, was awarded to Mr. Peter Gorrie, 4, Cameron Park, Edinburgh.

CONJOINT BOARD IN IRELAND.

At the Final and Qualifying Examination, Summer, 1905, the following candidates passed:

A. C. Adams, I. Allaun, T. S. Blackwell, R. A. Brown, T. W. Browne, W. W. Boyce, W. E. Brunskill, R. Bury, W. C. Carson, S. C. Clarke, F. Coates, P. V. Dolan, R. W. Harper, P. E. Hayden, J. M. Hayes, H. Hosty, L. McGuinness, J. J. McNelis, H. E. Redmond.

MISS AMY F. NASH (Dublin) writes: Referring to your announcement of the result of the First Professional Examination, Conjoint Scheme, Ireland, you say at the end of the list: "The four following ladies also passed." Forgive me for suggesting that this is scarcely fair to our sex, for two of such four passed with honours and got first and second places out of the whole batch, such two being respectively Ina M. Clarke and "yours humbly."

ROYAL COLLEGE OF SURGEONS IN IRELAND.

Fellowship Examination.—The following candidates, having passed the necessary examination, have been admitted Fellows of the College: Mr. J. Campbell, L.R.C.P. & S.I., and Mr. W. J. Mullin, M.B., B.Ch., New Zealand.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have been approved in the subjects indicated:
Surgery.—*H. J. Aldous, *G. M. Seagrove.
Medicine.—*G. N. Biggs, *†V. H. Blake, *J. L. Meynell, L. W. Roberts, *†L. Sells, *†E. W. T. Watts.
* Section I. † Section II.
Forensic Medicine.—G. N. Biggs, V. H. Blake, E. M. Magill, L. Sells, E. W. T. Watts.
Midwifery.—E. M. Magill, O. C. H. L. Moll, A. R. Paterson, C. A. K. Kenshaw, N. A. Stutterheim, E. W. T. Watts, W. H. Williams, K. M. Wingent.
The Diploma of the Society was granted to the following candidates: V. H. Blake, A. R. Paterson, C. A. K. Kenshaw, L. W. Roberts, L. Sells.

ROYAL NAVY AND ARMY MEDICAL SERVICES.

ROYAL ARMY MEDICAL CORPS.

THE undermentioned gentlemen were successful at the recent examination in London for commissions in the Royal Army Medical Corps:

Marks.	
582	John Allan Anderson, M.B., Ch.B., Edin.
577	Cuthbert Garrard Browne, M.R.C.S.Eng., L.R.C.P.Lond.
568	Hugh Godwin Sherren, M.R.C.S.Eng., L.R.C.P.Lond.
560	Henry Horace Andrews Emerson, M.B., B.Ch.Dub.
549	Wallace Benson, M.B., B.Ch.Dub.
548	Rowland Philip Lewis, M.R.C.S.Eng., L.R.C.P.Lond.
543	George Edward Ferguson, M.R.C.S.Eng., L.R.C.P.Lond.
538	James Herries Graham, M.B., B.S.Durh.
529	Charles Ernest White Spinner Fawcett, M.B., B.Ch.Dub.
519	Thomas Scatchard, L.S.A.Lond.
502	Ronald Anderson Bryden, M.R.C.S.Eng., L.R.C.P.Lond.
499	Arthur Edmund Stewart Irvine, L.R.C.P. & S.Irel.
499	Thomas Bettesworth Moriarty, L.R.C.P. & S.Irel.
499	Alexander Macgregor Rose, M.B., B.S.Aberd., D.P.H.Aberd.
497	Edward Lawton Moss, M.R.C.S.Eng., L.R.C.P.Lond.
495	Edward Guy Anthonisz, M.R.C.S.Eng., L.R.C.P.Lond.
495	Griffith Henry Rees, M.B., B.S.Lond., M.R.C.S.Eng., L.R.C.P.Lond.
484	Vivian Hood Symons, M.R.C.S.Eng., L.R.C.P.Lond.
482	Walter John Weston, M.R.C.S.Eng., L.R.C.P.Lond.
480	Mortimer John Cromie, M.R.C.S.Eng., L.R.C.P.Lond.
479	Percy Farrant, M.R.C.S.Eng., L.R.C.P.Lond.
479	Albert Edward Francis Hastings, L.R.C.P. & S.Irel.
474	George William Webb Ware, M.B., B.Ch., R.U.I.
473	Michael Balfour Hutchison Ritchie, M.B., B.S.Aberd.
470	James Stuart Dunne, F.R.C.S.I., L.R.C.P.I.
466	William McConaghy, M.B., B.Ch.Edin.
461	Francis Cornelius Sampson, M.B., B.Ch., R.U.I.
461	Charles Francis White, M.B., B.Ch., R.U.I.
453	Cecil John Wyatt, M.B., B.Ch.Dub.
450	Wilfrid Cowan Nimmo, M.R.C.S.Eng., L.R.C.P.Lond.
448	Edmund Thurlow Potts, M.D., Ch.B.Edin.
445	Michael Keene, L.R.C.P. & S.Irel.
445	Arthur Drought O'Carroll, M.B., B.Ch., R.U.I.
441	Robertson Stewart Smyth, M.D., B.Ch.Dub.
439	Arthur James Arch, M.R.C.S.Eng., L.R.C.P.Lond.
439	Thomas Somers Blackwell, L.R.C.P. & S.Irel.
430	Harold Edgar Priestley, M.R.C.S.Eng., L.R.C.P.Lond.
426	Alan Cunclife Vidal, L.R.C.P. & S.Edin., L.F.P. & S.Glasg.
425	Philip Jauvrin Marett, M.R.C.S.Eng., L.R.C.P.Lond.
423	Hugh Stewart, M.B., B.Ch.Dub.

Sixty candidates entered for the competition.

INDIAN MEDICAL SERVICE.

THE following gentlemen were successful at the examination for admission to the Indian Medical Service held on July 25th and the four following days:

	Marks.		Marks.
Palmer, C. E., M.B.	3,407	Wright, W. D., M.B.	3,164
Reinhold, C. H.	3,395	Whitamore, V. N.	3,158
Hayden, A. F., M.B.	3,288	Boyd, J. F.	3,150
Newland, B. E. M.	3,393	Sodhi, N. S.	3,082
McDonald, E. J. C.	3,276	Caito, J., M.B.	3,054
Lack, L. A. H., M.B.	3,273	Gray, W. C., M.B.	3,041
Mackenzie, K. W., M.B. ...	3,187	Powell, W. J., M.B.	3,034

Forty-two candidates (twenty-seven of whom had University degrees) competed for the fourteen vacancies.

MEDICAL SPECIALISTS IN INDIA.

THE Indian Government has sanctioned the provisional adoption of the following rules for the granting of specialists' pay to officers of the Royal Army Medical Corps and the Indian Medical Service:
1. Specialist pay is an allowance to officers below the rank of lieutenant-colonel for special sanitary or medical work done for the State, which is not in the power of the ordinary medical officers to perform with the

same efficiency as the specialist. It will not be a personal allowance, but will be granted only to the incumbents of certain specified appointments.

2. Specialist pay will not be given to officers of the Indian Medical Service in civil employ.

3. The services of specialists are absolutely at the disposal of the Government in any way they may direct, without further claim for remuneration.

4. Except in connexion with dental appointments, the duties of specialist appointments must be carried out in addition to ordinary hospital duties qualifications.

5. Officers of the Royal Army Medical Corps in India will be eligible for appointment as specialists under the qualifications laid down by the Army Council for the Royal Army Medical Corps.

6. The eligibility of an officer of the Indian Medical Service for specialist pay will be decided by the Indian Medical Service, whose decision will be based either on certificates of a recognized institution or by the examination of the candidate. An officer may qualify as a specialist at any period of his service: the allowance will be admissible to any officer who is in a position actually to perform the duties for which he is given the appointment.

7. There shall be 108 appointments in India, for which specialist pay at Rs.68 a month shall be granted: of these appointments, 55 will belong to the Royal Army Medical Corps and 50 to the Indian Medical Service in military employ. The selection for appointments will be made under the orders of his Excellency the Commander-in-Chief.

OFFICERS' WIDOWS' PENSIONS AND THE R.A.M.C.

A JUNIOR points out that the widows' pension rules, which are framed for all branches of the service, operate hardly on the R.A.M.C. as follows: In Article 627A, Section VIII, Royal Warrant for Pay, etc., 1900 Edition, it is stated that "an ordinary pension (widows) shall not be conferred if the officer's service does not amount to ten years (or five in cases where his death was caused by disease or injury directly resulting from the proper discharge of his duties)," etc. This is fair and reasonable when applied to the subaltern who joins the service at the age of, say, 18 or 20, and in whom matrimony should not be encouraged under the rank of captain, and until near the age of 32 or so. But the R.A.M.C. officer who enters at, say, 25 or 26, and marries, and dies under 35, may leave a widow unprovided for. He is thus handicapped by five years, compared with the ordinary regimental officer. I suggest that the widows of R.A.M.C. officers should be entitled to pensions when their husbands have served five years. I believe the widows of naval medical officers are entitled to pension from the time their husbands leave Haslar Hospital.

ABOLITION OF PRINCIPAL MEDICAL OFFICERSHIPS IN INDIA.

THE *Madras Mail* of June 30th states: "Amongst the appointments likely to be abolished under Lord Kitchener's Army Redistribution Scheme is that of Principal Medical Officer, Madras Brigade," on which a correspondent, "Sardam," comments: Some four years ago the Principal Medical Officer of the Mandalay District was done away with, and last year that of the Madras District ceased: thus, of six (five colonels, one surgeon-general) such appointments in Madras four years ago, two are gone and one threatened, and by so much are the chances of promotion to administrative rank reduced.

**** Schemes of reform, especially when they include concentration, invariably involve reduction in the number of staff appointments, in all branches of the service. If the scheme is good for India, then it should be effected with as little detriment to individuals as possible. The abolition of the higher medical appointments should be concurrent with making executive service in pay, allowances, and pension all the more attractive.

MEDICO-LEGAL AND MEDICO-ETHICAL.

MEDICAL PRACTITIONERS AND CORONERS.

M.R.C.S. reports a case to which he was called to see a woman, and on arrival found she was dead. She had been ailing for some time, but had not seen a doctor for over a month. He notified the death to the coroner, informing him that he was satisfied that death was due to natural causes. Not receiving an answer in twenty-four hours, he wired, "Can I give certificate?" and received the reply, "Cannot authorize you to give certificate: there will be no inquest; am notifying registrar." Our correspondent asks: (*a*) If the coroner did not require an inquest, could he not authorize me to give a certificate? (*b*) What is the usual procedure in such a case? (*c*) I presume I was right in communicating to the coroner?

**** (*a*) In a case of death, where a coroner after such inquiries as he may deem advisable, does not consider an inquest necessary, he may notify his decision to the registrar of deaths, who must, immediately on receiving such notification, register the death on the information of an ordinary informant, and if the deceased was attended during the last illness by a registered medical practitioner, his certificate must be obtained. The coroner has no direct power to authorize a medical practitioner to give a certificate, but in a case where the practitioner has attended the deceased, and the coroner being satisfied that the death is due to natural causes, and an inquest is not necessary, there is no valid reason why the coroner should not inform the practitioner that he sees no objection to his certifying the cause of death in the usual way. If coroners would more frequently take the trouble to do this, many of the deaths which are now classified as "uncertified" would disappear. If the deceased person had not been "attended" by the practitioner, any certificate he might give would not obtain the registration of the death as "certified."

(*b*) The usual procedure is that adopted in this case. Another course is to report the death to the registrar, who, if it comes within those cases which he should refer to the coroner, will do so by forwarding the particulars on a form supplied him for the purpose by the Registrar-General.

(*c*) There is no statutory obligation imposed on a medical man to communicate to the coroner the details of a death where he cannot give, or is in doubt as to giving, a certificate of the cause of death; it is, however, customary and generally advisable for him to report such cases, as his action often saves delay in the funeral arrangements and inconvenience to the friends and others, should an inquest be considered necessary or even otherwise.

INQUESTS AND MEDICAL EVIDENCE.

MEMBER (Essex) sends a newspaper report of an inquest concerning the death of a female, aged 19 years, at which the jury returned a verdict of suicide by drinking carbolic acid during temporary insanity. It appears that our correspondent was sent for on the girl being found ill, but, as he had to travel five miles, she had died before his arrival. At the inquest the mother stated that she found her daughter moaning and twitching lying on a bed, and that the room smelt strongly of carbolic acid. A bottle containing carbolic acid was on a chest of drawers, and under the bed was a glass which showed signs of the poison. The deceased had previously left a letter for her sister in which she wrote: "I cannot stand it any longer." The father said he "could see his daughter had taken some of the acid" which had been given to him for use in the drains. A police-constable, who was called in after death, stated he "could see from the appearances, besides the smell, what had happened"; and the coroner told the jury it was quite clear that deceased died from carbolic acid poisoning, and that they could come to no other conclusion than that she took it with the intention of taking her life. Our correspondent was not notified of the inquiry, and no medical evidence was given at the inquest. He considers that in a death of this description a *post-mortem* examination should have been made, and asks if it is not usual in such a case to call medical evidence.

**** There is no legal obligation on the coroner to summon medical evidence in every case of inquest, and frequently (especially in country districts) where the cause of death is apparent or suspected the coroner does not subpœna the practitioner in attendance before or after the death. Such practice is often open to grave objection. In the case referred to it would certainly have been more satisfactory had medical evidence been given and possibly a *post-mortem* examination made. The jury and witnesses, however, as well as the coroner, appear to have been satisfied as to the cause of death. The fee for being called to attend the deceased would be payable by those who sent for our correspondent.

THE ETHICS OF CONSULTATION.

TIBIA writes: I called in Dr. X., who is on the hospital staff here, to see a patient in consultation with me; he did so and received his fee. The man, who was suffering from an acute paralysis (accurate diagnosis purposely omitted), caused his friends much worry, to avoid which they wanted him to go into hospital. I objected because (1) he could very well afford to be nursed at home; (2) he did not require any special medical or surgical treatment which he could not obtain at home. (N.B. The hospital has no beds for paying patients.) Some ten days after the consultation the patient's friends called upon Dr. X. and asked him if he could get my patient into the infirmary. He said, "Yes," told them to get a recommendation and told them to see me first; this latter they, of course, did not do. Later in the day he telephoned to the hospital for a bed and sent for the horse ambulance to remove my patient, who was removed without my knowledge and against my expressed wish. Dr. X. did not know the man's condition. Dr. X. did not communicate with me directly, although we were both on the telephone. (The patient only remained in hospital a short time, came out of his own accord and is under me still.)

**** Dr. X. ought to have communicated with "Tibia" before consenting to take the patient into the infirmary.

THE OBLIGATION OF A SUBSTITUTE.

A. W. W. writes: A. and B. are two surgeons in a small country town containing six other medical men. During A.'s absence B. undertakes to act as his *locum tenens*, and in that capacity attends a child of C.'s. About a year afterwards C. sends a polite note to B. asking him to come as soon as possible, as his child has met with an accident a cut head, which he (C.) thinks requires professional attendance. B. ascertains from the messenger that the accident happened the previous day, and sends back note to C. saying he much regrets he is obliged to decline to come owing to his previous attendance for his friend A., and hopes C. will realize the position in which B. is placed, and not think it is any want of courtesy which keeps him away. He also adds that he presumes there is no great urgency in the case as the accident happened the previous day, otherwise he would have come and rendered first aid. C. is annoyed, and writes saying he considers his child's life might have been endangered, and that B.'s conduct appears to him not only a want of courtesy but a want of common humanity, etc. How ought B. to have acted in the case? B. calculated that his non-attendance would probably cause about two hours' delay in obtaining a medical man, as C.'s village was four miles away but connected by telegraph with B.'s town. The bearer of the note was on bicycle. Time 8.30 a.m.

**** A.'s answer was ethically correct. He might, however, have again acted as A.'s substitute if he had supposed that his services were urgently required. C.'s criticism of his conduct can only be based upon the supposed urgency of the case which A. apparently did not recognize.

FEE IN CASE OF HERNIA.

A CORRESPONDENT writes that he was called in on two occasions to reduce a hernia, it being necessary each time to engage the services of another practitioner to administer chloroform. He charged a guinea for the whole attendance, 1 guinea for himself and the other for the chloroformist. The patient, who resides in a house the rental of which

is about £50 per annum, and to whom the usual fee for a professional visit would be 3s. 6d., refuses payment on the ground that his charge is extortionate. Is 2 guineas an unreasonable charge?

*** The fee charged seems to us a very fair one.

ST. JOHN AMBULANCE ASSOCIATION.

E. Bromhall.—Frequent complaints have been made of the way in which the classes of the St. John Ambulance Association are advertised, and efforts have been made to get a uniform system which could be accepted by the profession, but so far without success. We will, however, refer the matter to the Ethical Committee, which may be able to make further representations to the Council of the St. John Ambulance Association.

TITLE OF "DOCTOR."

Ethic complains of the conduct of a newly-arrived medical colleague whose qualifications are L.R.C.P. and S. Edin., but who assumes the prefix of "Dr." on his visiting cards and doorplate. Our correspondent expresses the opinion that this is a fraud which should not be condoned, and quotes a similar case in which the offender was severely censured by the authorities of the local Branch. He wishes to know whether the case is one which should be reported, or what he had better do.

*** Our correspondent can undoubtedly take the sense of the local Division on the matter by reporting it to the Secretary of the Division within the area of which both he and the practitioner complained of presumably reside. It is, however, a point upon which great difference of opinion exists, and he would probably find many to dissent from the strong opinion he has expressed.

RECOVERY OF FEES.

R. S. A. writes that he was attending a patient for some time, but owing to another practitioner being consulted, of whom he did not approve, he gave up the case. The patient died three months later, and her parents, who called him in, now refuse to pay him. Can he legally sue for the amount due?

*** Our correspondent can take action in the county court.

CONTRACTS NOT TO PRACTISE.

Scope writes that he has sold his practice under a condition that he will not practise within ten miles of his former head quarters. He has moved to a town twenty miles away from his former residence, but he finds that some of his old patients persist in coming to him there. He has also gained some reputation for eye work, and has been advised to set up in a place situate four miles from his own residence, and confine himself there to ophthalmic practice. He wishes to know: (1) Whether he is entitled to see his former patients at his present residence. (2) Whether he would be safe in doing "eye work" only within the ten-miles radius?

*** (1) There is nothing to prevent our correspondent seeing old patients outside the ten-mile radius, but he is bound in honour not to encourage them to come to him. (2) Under his agreement, unless the contrary were stipulated, he cannot lawfully practise any branch of his profession within the ten-mile radius.

FEES FOR ATTENDANCE AFTER CONFINEMENT.

Jan Ridd asks whether it is right to make an extra charge for catheterization night and morning, arising in connexion with a confinement where he was paid a guinea and a half for the confinement. If so, what extra charge should he make?

*** The fee for attendance on a confinement usually includes payment for all ordinary services rendered at the time of and for a definite period after the confinement. If our correspondent attended his patient for a longer time than was customary, he is entitled to charge for every day beyond the usual period. The amount charged should be a little less than he would have charged for performing the same services had there been no confinement.

PUBLIC HEALTH AND POOR-LAW MEDICAL SERVICES.

CARE AND CONTROL OF IDIOTS AND EPILEPTICS.

The Royal Commission on the Care and Control of the Feeble-minded sat on July 21st, when evidence was received from Dr. G. Fielding Blandford, Dr. H. Corner, and Dr. G. E. Shuttleworth.

Dr. Blandford said the law should be amended in such a way that control should be exercised over the person of moral imbeciles, the morally insane, or habitual drunkards. There should be special institutions to receive such persons, but they should not be called lunatic asylums. For the administration of the Act and for the inspection of persons so confined there should be a Board of Commissioners, consisting of one barrister and two medical men. To that Board should be also committed the care of the property of such feeble-minded persons as were brought before them; and as contested cases would certainly arise, the inquiry should be held by the legal commissioner sitting with the two medical men as assessors, in the same way as the Judge in the Admiralty Court sat with two Trinity Brethren to assist him. The present system of a Master in Lunacy sitting with about twenty jurymen was as likely as not to lead to a miscarriage of justice.

Dr. H. Corner said that idiots and low grade imbeciles, who needed nothing more in the way of education than could be done by an efficient and trained nursing staff, should be cared for in idiot asylums. The high-grade imbecile, being able to do some remunerative work, should, if possible, be separated from the low-grade cases. On the whole, he would favour the use of asylums for the high-grade cases, as the colony system was much more expensive, and the results of their work would not justify the additional cost in a colony. The asylums or colonies for idiots, low-grade and high-grade imbeciles should be under the existing Idiots Act, 1886, which, however, should be amended, and they should be under the control and supervision of the Commissioners in Lunacy.

Dr. G. E. Shuttleworth expressed the opinion that the Elementary Education (Defective and Epileptic Children) Act of 1890 should be made compulsory on all educational authorities. Some form of after-care was essential in all cases that had required education in special schools. In order to co-ordinate the various agencies at work in connexion with idiots, imbeciles, and feeble-minded or defective persons not certified under the lunacy laws, it seemed desirable that a central supervising Government department should be created *ad hoc*, and that locally the county councils should have full administrative powers.

EXPENSES OF DISINFECTION.

Dee writes: A patient of mine spends the winter in a flat in a South Coast town. This spring one of the maids contracted small-pox. By order of the local authority the patient was removed to hospital and the whole house put in quarantine, and in due course disinfected, repapered, and painted. My patient is now requested to pay all the expenses incurred, including wages to those living in the house and kept from their employment during quarantine, revaccinating them, and redecorating the house. Is this English law? I am medical officer of health for this district, and anything ordered to be done by the local authority is paid for by the same.

*** It is somewhat difficult from the above statement fully to understand the position. Our correspondent does not say whether it is the local authority or the landlord of the house or other party who requests his patient to pay expenses. Undoubtedly the practice in England is that expenses involved under such conditions as these are paid out of the rates.

PUBLIC VACCINATORS AND THE PATIENTS OF OTHER PRACTITIONERS.

Rex.—The question submitted illustrates the unfortunate interprofessional relations which the present Vaccination Order occasionally engenders. In his capacity of public vaccinator A. has to visit a patient of B. to offer to vaccinate; he postpones the case on account of eczema, and calls again. Strictly speaking A. is wrong here; it is no statutory duty of a public vaccinator to "call again," unless sent for; and in the case of the patient of another practitioner he should avoid doing so. On the other hand, the system of payment by results imposed by the Vaccination Acts provides a serious temptation to public vaccinators to hunt up cases for which they would get no fees if not hunted up; and we have no doubt that this provision of the Act was made with that object. A. states that on his second visit he was informed that B. had offered to vaccinate the child "for nothing." B. is a public vaccinator in an adjoining district. If B. vaccinates the child at the expense of the rates, the action is illegal. If, however, he vaccinates gratis to keep the patient in his own hands, we deprecate the proceeding very strongly: but it is better to do the work gratis than to charge an exiguous fee, as is frequently done. We should advise A. not to bring the case before any ethical committee.

HOSPITAL AND DISPENSARY MANAGEMENT.

THE RETREAT, YORK.

We have received the annual report of this well-known institution for the year 1904—the 108th since its opening in 1796. The great work that has been done in initiating reforms in lunacy administration in the past by this institution is a matter of history, and it is therefore gratifying to learn from the present report that, although patients from the wealthier classes are being admitted in increasing degree, there has been no reduction in the assistance given to poorer members of the Society of Friends, and that it carries out as fully as ever the benevolent aims of its founders. The report of the Medical Superintendent, Dr. Bedford Pierce, contains matter of much interest well worth perusal, and the statistical tables are interesting, in that they are amongst the first we have received in which the matter is arranged in accordance with the new scheme recommended by the Medico-Psychological Association. There can be no question, we think, that these tables constitute a considerable advance on the old arrangement. This is not the place for a detailed examination of the new tables, and the matter is only mentioned here because Dr. Pierce devotes some space in his report to their discussion, particularly with regard to Table VIII, which deals with causal factors and associated conditions, and to Table VI, showing the forms of mental disorder amongst the admissions.

Dr. Pierce frankly admits our ignorance of the true causes of insanity, and he uses the term in connexion with these tables only in the sense that it records the various conditions that appear to have contributed to the illness. We have already expressed our opinion on more than one occasion of the value of information gleaned in this manner, but with the above reservation we cordially join with Dr. Pierce when he says that "although the cause may remain obscure, it is hoped that this table will be the means of collecting evidence as to the circumstances under which insanity arises, and thus prove of national importance." With regard to Table VI,

Dr. Pierce refers to the controversy which discussion on this point invariably evokes, and gives it as his opinion that for statistical purposes no classification is likely to be of value.

An essential point in a statistical inquiry is that the things counted under one head shall be of like nature and distinct from other things placed under other heads. But when we consider the forms of mental disorder, this essential point is not attained. For instance, I may succeed fairly well in naming to my own satisfaction the cases that occur, but I am conscious that another observer will give different names to many of the same cases. Both of us, however, would agree in saying that intermediate forms constantly occur, and that the same case may change its character as time goes on. From a practical every-day point of view this matters but little, for we each know what we mean by our names and are conscious of their limitations; yet a statistical inquiry founded upon such an insecure and shifting basis seems to me of little value.

A great deal of what Dr. Pierce says is indisputably true; indeed, the extraordinary differences in the relative frequencies of the various forms of the insanities in different asylums having the same class of patients, as shown in the annual reports of the individual asylums, suggests that these differences may be due to the classification, or in the conceptions which guide the various medical men in classifying their patients, rather than in the patients themselves. It is also true that any classification adopted has, so long as the pathology of the insanities remains obscure, merely a relative and provisional value, but we are not convinced that, bearing in mind these limitations, classification is of no value. On the contrary, the formation of categories is not only an inevitable sequent to, but is a fosterer of careful clinical study, and all that is required to make their collated results of value is a common agreement as to what constitutes the separate categories and a sufficiently broad classification. The new table of the Medico-Psychological Association appears to us to permit of such agreement, and although, like the last, it is of the nature of a compromise, partaking of the advantages and disadvantages of any compromise, it is a notable advance on its predecessor.

Turning to the statistical part of the Medical Superintendent's report, we see there were 175 patients on the register on January 1st, 1904, and on December 31st, 1904, there remained 166. During the year 39 cases were admitted, which is about the average for recent years. Of these 39 admissions 18 were cases of primary dementia (including dementia praecox), 2 were cases of senile or organic dementia, 2 were general paralytics, and there were 2 cases of stupor, and 1 of delusional insanity. As to the various etiological factors in the admissions, in only 3 cases was the insanity ascribable to alcohol, and in only 1 of these was alcoholic intemperance considered the essential factor. Previous attacks had occurred in 12 and an inherited predisposition to mental disease was inferred in 19. Dr. Pierce does not, however, consider that this number exhausts the hereditary influence; but, on the other hand, he is careful to point out that, in his opinion, there is a tendency to lay too much stress on the importance of heredity, and so cause much needless anxiety to the patients or their friends. This is a controversial matter into which we need not enter here, but would refer readers to the report itself. Mental stress was assigned either as principal or contributory cause in 19, and syphilis in 2. During the year 14 patients were discharged as recovered, giving a percentage recovery-rate on the total admissions of 35.9, which is somewhat under the average (40.32) for this institution. An interesting point is brought out also by this table, which shows that the recovery-rate for patients belonging to the Society of Friends was 43.73, whilst that of those not connected with this Society was only 34.99. There were also discharged as relieved 15, as not improved 6, and there were 13 deaths.

The death-rate was 7.59 per cent. on the average number resident, considerably higher than the average of this asylum, namely, 5.45 per cent. The deaths do not call for any particular mention, with this exception, that neither phthisis nor asylum dysentery figures amongst the causes, principal or contributory. Both of these diseases have been entirely absent during the year, the last death from pulmonary tuberculosis having occurred in 1900. No higher testimony to the healthy conditions of life at the Retreat could be given. The general health has been good throughout the year, and the general management is favourably commented upon by the Commissioners, who visited the asylum twice during the year.

JOINT COUNTIES ASYLUM, CARMARTHEN.

On January 1st, 1904, there were 673 patients resident in this asylum, and on December 31st, 674, an increase of 1 patient as contrasted with 23 for the previous year. Notwithstanding this, the average number resident during the year was 670, a record number for this asylum. In 1903 the average was 647. In this year's report, as in that of last year, the question of accommodation comes under notice. Last year the Medical Superintendent, Dr. Edwin Goodall, had to report the asylum as overfull; and this year, though there were at the end of the year 11 empty beds, there were 20 patients sleeping on the floor in the female Night Supervision Dormitories who could not safely be moved from supervision, and 31 male patients were sleeping in the Infectious Hospital, who would have to be moved into the asylum wards in case of the occurrence of infectious disease. This overcrowding appears to be due to the unfortunate inability of the several local authorities to agree as to the division of their separate liabilities.

During the year 128 patients were admitted, whereas in the previous year the admissions numbered 175. Of these 128 admissions, 25 were private patients; of the total number, 21 were readmissions and 0 were transfers from other asylums. In 65 cases the attack was a "first attack" within twelve months, and in 41 of these cases within three months of admission. There were only 12 cases above 60 years of age. On the whole, the admissions appear to have been of favourable character. As to the form of mental disorder, the admissions were classified as follows: Mania, 24; melancholia, 35; delusional insanity, 22; dementia, 25; general paralysis, 6; and imbecility, 8.

Concerning the probable causes of insanity amongst the admissions, Dr. Goodall's report shows that full inquiry was made into the personal and family history of the patients. Hereditary influences (insanity) were ascertained in 38, and, including also allied nervous diseases, in 48, or 40 per cent., of the admissions. Previous attacks had occurred in 24; alcoholic intemperance was assigned as either predisposing or exciting cause in 21, or 16.4 per cent.; venereal disease in 1 case; "moral" causes in 22; and old age and the menopause in 14. Dr. Goodall draws attention to the too-frequent relapses of mental disorder, and points out that the immediate exciting causes are in many cases avoidable, and quotes one or two cases from the admissions of the year under review.

During the year 53 were discharged as recovered, giving the satisfactory recovery-rate of 44.53 per cent. on the admissions, exclusive of transfers: 10 as relieved, 15 as not improved, and 1 as not insane. There were 48 deaths during the year, giving a percentage death-rate of 7.16 on the average numbers resident. Of the deaths, 18 were due to cerebro-spinal diseases, 20 (including 12 cases of phthisis pulmonalis) from chest diseases, and the remainder from abdominal and general diseases. The only noteworthy feature of these deaths is the number dying from phthisis, giving the unenviably high proportion of tuberculous to total deaths of 25 per cent. In the previous year the tuberculous ratio to total deaths was 23 per cent., and the year preceding 28.6. The average tuberculous death-rate for the triennium is thus 25.5 per cent. Such a tuberculous death-rate speaks most urgently for a removal of all difficulties which impede the rapid extension of the present accommodation. The general health was good throughout the year, and no fatal accidents had to be recorded.

COUNTY AND CITY OF WORCESTER LUNATIC ASYLUM.

The annual report for 1904 of this institution, like that of last year, shows the existence of considerable overcrowding. To this, both the Medical Superintendent, Dr. Braine Hartnell, and the Commissioners called attention. It manifests itself in the usual fashion by a high death-rate from tuberculous diseases, asylum dysentery, and by a long list of casualties. The number of patients on the books at the end of the year 1904 was 1,193, whilst, in the opinion of the Commissioners, the accommodation should be limited to 1,168. It is to be hoped that the completion of the Barnsley Hall Asylum will remedy this matter. At the beginning of the year 1904 there were 1,163 patients resident in the asylum, and at the end of the year, as we have said, 1,193. During the year 252 were admitted, of whom 211 were first admissions. Of the total, only 36 were classed as being in good bodily health and condition, 162 were in indifferent health and reduced condition, and 54 were in bad health and exhausted condition. In 103, however, the attack was a "first" attack within three months of admission, and in only 31, excluding 14 congenital cases, was the attack of more than twelve months' duration on admission. The admissions cannot therefore be considered as of unfavourable nature. The admissions were classified according to forms of mental disorder into: Mania 111, melancholia 65, dementia 43, congenital or infantile defect 13, epilepsy 11, and general paralysis 8. As to the probable causes of insanity in these cases, moral causes were assigned in 34, alcoholic intemperance in 21, or 8.3 per cent.; hereditary influences were ascertained in 32, or 12.6 per cent., and indirect family influences were traced in 45, or 17.8 per cent. In 59 cases, or 23.4 per cent., previous attacks were assigned as cause, and the remainder are distributed over the other usually cited factors. Notwithstanding that the mental condition was due in 8 cases to general paralysis, venereal disease is not mentioned as cause in one. During the year 102 were discharged as recovered, giving a recovery-rate of 44.88 per cent. on the admissions; 7 were discharged as relieved, 16 as not improved, and there were 101 deaths. This number gives a death-rate of 8.5 per cent. on the average numbers resident, and were composed of 26 from cerebro-spinal diseases, including 11 from general paralysis; 36 from chest diseases, including 18 from phthisis, 27 from abdominal diseases, of whom 16 were due to colitis and 12 from general diseases. The notable features are the large numbers from tuberculous disease and colitis.

The tuberculous deaths amounting to 19.8 per cent. of the total deaths. The general health does not appear to have been very good. There were 2 cases of erysipelas and 2 of typhoid, the latter all fatal. The number of cases of colitis is not stated, but we note that at the visit of the Commissioners in November, there had been as many as 101. Two inquests were held during the year. In one case the patient had a fractured thigh, and in both cases the staff were exonerated from any blame.

Overcrowding increases enormously the difficulties of treatment and proper classification, impedes at every turn the proper discharge of the already-sufficiently onerous duties of the Medical Superintendent and staff, and has a very bad effect on both recovery and death rates. It is therefore to be earnestly hoped that the recommendations of the Commissioners will be put into effect with the utmost expedition.

WARNEFORD HOSPITAL, LEAMINGTON.

We regret that in our notice of the recent voting at this hospital we transposed the number of votes given to the respective candidates, which should be: Cole 29, Atkinson 58.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 2, Agar Street, Strand, W.C., London: all communications concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone, unless the contrary be stated.*

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Manager, 429, Strand, W.C., on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

In order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not at his private house.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London.* The telegraphic address of the MANAGER of the BRITISH MEDICAL JOURNAL is *Articulate, London.*

TELEPHONE (National):—
EDITOR, 2631, Gerrard. GENERAL SECRETARY AND MANAGER, 2630, Gerrard.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

DR. H. C. ROGERS (Newport Pagnell) writes: Will some reader kindly say if it is practicable to get a village nurse with a fair knowledge of her vocation for the small sum of £50 a year? Is there any establishment, other than the Duchess of Bedford's, which would supply one?

RAYNAUD'S DISEASE.

"CIRCULATION" asks for advice in the treatment of a case of Raynaud's disease of long standing (fifteen to twenty years). The patient has been getting progressively worse within the last few years. The entire hands become affected, but the condition never goes beyond that of local syncope. Several hours elapse on some occasions before the circulation in the hands becomes re-established, and the condition is almost invariably noticed in the morning.

ANSWERS.

COUNTRY PRACTITIONER.—Exophthalmic goitre, which often goes by the name of Graves's disease in this country, is generally called Basedow's disease in Germany.

DR. G. ARTHUR CARDEW.—Application might be made to Miss Kirby, Honorary Secretary, National Association for Welfare of Feeble-minded, 72, Denison House, Vauxhall Bridge Road, Westminster, S.W.

CYMRO.—We are advised that for the visits to London and to Gloucestershire 5 guineas a day and 7*d.* mileage for travelling expenses would be a reasonable charge in the circumstances stated.

DR. R. NITCH-SMITH.—(1) It scarcely falls within our province to offer an opinion on hotel charges. It is always prudent for patients to obtain exact information on such matters beforehand. (2) For the case of exophthalmic goitre, any private sanatorium almost anywhere would do.

REX.—Factory surgeons are appointed by H.M. Chief Inspector of Factories, Home Office, London, S.W. Vacancies are advertised in the *Gazette*, and generally notified in the weekly list of vacancies appearing in the BRITISH MEDICAL JOURNAL.

RHUBARB JAM.

X. Y. Z.—We know of no actual specified poisonous principle which has been isolated from rhubarb jam in a fermented condition. Taking into consideration the fact that the jam would contain in small proportion such substances as chrysophanic acid, emodin, rheo-tannic acid, calcium oxalate, arabic acid, and other bodies, it would seem undesirable to eat the jam in a fermented state. It is quite conceivable that the purgative ingredients may be split up by the bacterial change in question into poisonous substances.

INFANT FEEDING.

DR. SEYMOUR JACKSON (Aberdovey) writes: In answer to "Bachelor," inquiring about infant feeding, in the BRITISH MEDICAL JOURNAL, July 22nd, I think he will find all he wants in Dr. Ashby's *Health in the Nursery*, published by Longmans. It is a book that can safely be put into the hands of any mother, and gives very safe and clear directions on all points in the management of infants and young children.

DR. S. M. HEBBLETHWAITE (Leeds) writes: "Bachelor" cannot do better than get *The Child's Diet*, by J. S. Curgenven (London: H. K. Lewis, 1s. 9*d.*). It contains very much practical information, and is written with a view to perusal by the lay reader. It is an excellent little book.

LETTERS, NOTES, Etc.

WA[illegible].

DR. THOS. D. SAVILL writes: A young man of engaging manners who wishes amongst other things to get the small-pox mark removed from his wife's face, appears to be preying upon the profession. He has left his last address suddenly without paying my fees, and I learn that he left his previous address hurriedly, and without paying the rent.

DR. W. W. WOOLLACOMBE (Sloane Street, S.W.) writes: May I draw the attention of your readers to a man aged [illegible], about 5 ft. 6 in. in height, clean-shaven, fair complexion, pale cheeks, and rather watery eyes, dressed in dark grey lounge suit and bowler hat. He says he is travelling in dress-stuffs, etc., and reports himself as an old medical student of Owens College and Durham who has been in Australia for many years. He gives the name of Warren, and is not safe to leave alone. He called on me four years ago, and left with a hypodermic outfit, and is now at his old practices again.

MEDICO-PSYCHOLOGICAL ASSOCIATION.

MISS A. HELEN BOYLE (Brighton) writes: The report in the BRITISH MEDICAL JOURNAL of my paper read at the annual meeting of the Medico-Psychological Association misrepresents me in several particulars. I never made the statement that I did not believe in the increase of insanity in proportion to the population; what I did say was that I "was not concerned to discuss it." The main point of my paper was omitted, no doubt owing to want of clarity on my part. I wished to urge, as part of the prophylaxis of insanity and nervous disease, the establishment of institutions in England for the treatment of patients long before they become certifiably insane. This is done successfully at Rasemühle, Göttingen, under Professor Cramer; at Zehlendorf, under Professor Max Laehr; and in Glasgow, under Dr. Casswell; and a hospital has lately been started, mainly with the same object, in Brighton. For these institutions it was that I suggested the cottage system.

QUININE AS AN ABORTIFACIENT.

DR. WALLACE EALES (Manchester) writes: Recently I was called to attend a multipara, aged 30. She had aborted some days before I saw her, and was now suffering from haemorrhage. She stated she had missed six weeks, and had been advised to take quinine, which had the desired effect. The symptoms produced were as follows:—About four hours after taking the drug severe labour pains came on, accompanied by vomiting, which lasted several hours; giddiness and deafness, which lasted about twelve hours. Abortion took place about six hours after taking the substance. The dose was 15 gr., and she was recommended to repeat it the following day if the first was not successful. I find it is very common amongst certain classes.

THE TITLE OF L.S.A.

R.N.L. writes to suggest that the Court and Governors of the Societies of Apothecaries in London and Dublin should petition the King for a Royal charter in order that the Licentiates of these bodies should be able to use an intelligible title. He believes that the proper title of the Dublin body is the Incorporated Company of Apothecaries in Ireland.

AN APPEAL.

CAPTAIN FRANK E. GUNTER, R.A.M.C. (68, Torrington Square, W.C.) writes: I beg to acknowledge, on behalf of Mrs. Dodd, the following subscriptions, with many thanks:

	£	s.	d.
Fleet Surgeon Matthew, R.N.	0	10	6
Miss Florence Stackpoole	0	5	0
J. W. B.	0	10	6
Mr. T. Smith	1	0	0
Dr. Harvey	0	2	6
H. S. F.	0	10	0
Amount previously acknowledged	10	14	0

THE TREATMENT OF CANCER.

DR. E. SETON PATTISON (London, S.W.) writes: In spite of the adverse reports of the French Special Commission on the treatment of cancer by Dr. Doyen's serum, the fact remains that he is able to demonstrate that his serum has a very beneficial action in certain cases. I am sure that any one who has visited Dr. Doyen's clinic during the last six months must have been greatly impressed with the improvement in many cases of cancer which apparently were hopeless. I had occasion to be in Paris early in the year and saw some patients who were under treatment; through the courtesy of Dr. Sée (Dr. Doyen's principal assistant) I had the opportunity of seeing some of these cases three months later, and there was wonderfully marked improvement, both in the patients' local condition and general health, with a diminution of pain, and what struck me particularly was the general absence of cachexia. The question of the cure of cancer is apparently still far distant, but if you can even in a few cases relieve pain and arrest for a time the course of the disease, surely something has been done. No mention is made of one class of cases in which the serum has a distinctly satisfactory action, namely, those in which adhesion renders operation extremely difficult or impossible. In many of these cases a course of "Piqueurs" will render the growth both mobile and operable.

ERRATUM.

IN the description of a case of persistent itching around the corona glandis, which was published on July 29th, at page 264, and as to the treatment of which "A. S. D." sought suggestions, the word smegma was printed sugar. The urine of the patient, we are informed, is normal, its specific gravity being 1022, neither sugar nor albumen being present.

SECTION OF OTOLOGY: A CORRECTION.

MR. R. LAKE (Harley Street, W.) writes: In your summary of the Otological Section, annual meeting of the British Medical Association, I am made to refer to the "usefulness" of "anterior perforations." I said "uselessness."

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Eight lines and under	0	4	0
Each additional line	0	0	6
A whole column	2	0	0
A page	5	5	0

An average line contains six words.

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Post-Office Orders should be made payable to the British Medical Association at the General Post Office, London. Small amounts may be paid in postage-stamps.

N.B.—It is against the rules of the Post Office to receive letters as *Postes Restantes* addressed either in initials or numbers.

An Address
ON
RELIGIO OBSTETRICI.

Being a Third Graduation Address delivered at the University of Edinburgh,

By A. R. SIMPSON, M.D., D.Sc.,
Professor of Midwifery and Diseases of Women and Children, University of Edinburgh.

[Abstract.]

[After some introductory remarks on his resignation of his chair, and after referring to the advances in obstetrics, to his experiences as a student and an assistant, and to medical examinations as they were conducted fifty years ago, Professor Simpson proceeded:]

When you compare your own experiences with these, which must appear to you primeval, you will begin to see that stupendous changes have swept over all the fields of medicine during the intervening half-century. You will know that in the pursuit of your profession your mind will be kept engaged with themes of perennial interest, and your present attainment will be an incentive to further effort. And because your diploma bears the honoured seal of a great University, you will never forget that the range of your interest is not confined even within the expansive bounds of medicine, but has a horizon co-extensive with the universe.

Now, the era I have spanned has been one of those "once more" epochs which the Hebrew mind has taught us to discern, when we see the Supreme Power "shake the heavens, and the earth and the sea, and the dry land" (Haggai), "that those things that cannot be shaken may remain" (Epistle to the Hebrews). I do not know in what mood of pessimism I might have stood before you to-day had it not been that, ere the dew of youth had dried from off me, I made friends with the sinless Son of Man who is the well-head of the stream that vitalizes all advancing civilization, and who claims to be the First and the Last and the Living One, who was dead and is alive for evermore, and has the keys of death and the unseen. My experience compels me to own that claim. For to me, as to the Reformers who founded this University, and to a countless throng throughout the centuries of all sorts and conditions of men, He has established a vivid and vivifying correspondence with our super-sensuous environment. He has made us "see" that at the heart of all things there is a Father's heart. He has made us "know" that in the complex play of circumstances the reins of progress are in the hands of a Circumstant who makes all things work together for our good. Held by His pierced hand, I have witnessed on my way through the shifting panorama of a shaking time some tremendous transformations. These have taken place under the influence of two factors. There is, first, the extended range of observation that has been opened to sense, largely by electricity and the spectrum; and, secondly, the guidance that has been given to imagination by the doctrine of evolution. The outer man has acquired instruments of precision, the inner man has been given a clue to guide him through the maze of thought. As science has been seeing more clearly into the constitution and course of things, philosophy has been able to give a clearer interpretation of their meaning. Let me try in seven paragraphs to reproduce and throw on the screen of imagination some of the transformations I have been made to see.

A Physical Trinity.

1. There has emerged from the laboratory of the latter half of the century a luminous trinity. When I first heard of ether it was as of a finer air around our atmosphere that came to us rippling with the rays of light. You have been taught to think of it as the something which no man has seen and that yet fills all space, is present in all things and holds all in its embrace. This basal postulate of modern science is arrived at from the study of matter, which in its ultimate analysis is ether becoming embodied, and which in its turn displays itself under the influence of the third member of the trinity that we recognize as power or energy. When I attended a class of physics we were told of various forces which were each distinct and capable of producing their specific changes. In 1862 the wife of an Anglican dignitary rewarded me for such attention as an assistant may give to one of his master's patients by giving me a copy of the fourth edition of Grove's *Correlation of Physical Forces*—a work that marked the transition from the age of diverse powers at work in Nature to the conception of one continuous energy with varied operations. If I lengthen this paragraph by adding that our textbook in geology was written by Sir Charles Lyell, who was then leading the uniformitarians in their battle with the catastrophists and leading them to victory, and that at his side rose up Charles Darwin to replace the intrusionism that had reigned in biology with the more thinkable theory of evolutionism, you will see that it is now as impossible for my mind to be satisfied with the thought that suited it in my student days, as it would be for my body to put on the jacket I laid aside when as a boy of 15 I left school for the university.

The Earth Grown Old—

2. I have seen the earth grow old. Brought up to believe that it had been in existence only some six thousand years, I know to-day that its age is to be reckoned by thousands of thousands not of years but of ages.

And Still in the Making.

3. We believed that in six days out of chaos it had been given its final form and furnishing. If one poet could sing how all "at once the lion and the worm sprung from the teeming earth," another could picture the lion as he emerged rampant from the clods, "pawing to get free his hinder parts." The mountains passed for everlasting, and time wrote no wrinkle on the ocean's brow. You have arrived on a planet that is still in the making. From some nebula in the far dateless past your world has slowly taken shape and course among other worlds, whose interstellar spaces the photograph shows you to be full of stars unseen by earlier generations. Not the sea only but the solid land, all that is of them, and all that is in them and on them, and in the air around, are subjects of incessant change, till we can project our thoughts to a far-off future when all may be resolved again into the mist from which could be evolved another cosmos.

The Elements Dissolved.

4. The very constitution of the world has changed. In the Chemistry Class-room in 1852 a printed board showed a list of the several elements of which the material world was made, with their atomic weights. We were told that some of these might yet be decomposed and their number added to. But we were also taught that, whatever new elements might yet be found, they were each distinct and intransmutable, compacted of a crowd of particles of the last imaginable degree of minuteness—the atoms. The atom the indivisible unit of matter brought from the very verge of thought to guide the chemist in his research, has itself been atomized, and presents itself to us now as an object built up of many parts. It is no longer a solid block, but an edifice—a laboratory, if you will—into which we can go and see business transacted among the multitude of ions and electrons where physics is fain to borrow the language of biology for its expression. We seem to ourselves to have come into the borderland where the homogeneous first becomes heterogeneous; where the invisible takes on visibility; where ether clothes itself with matter; and where we are definitely told we may see the mutation of one element into another, so that when we have entered an atom that bore over the entrance the sign of a radium workshop we emerge by a door called helium.

Parthenogenesis of Life.

5. The unit of biology has also been transformed. The cell was becoming visible under the microscope about the time when I was born. My master, John Goodsir, was one of the first to see and state its place in the economy of Nature. Another of my teachers, Rudolf Virchow, gave currency to the doctrine of *omnis cellula e cellulâ*, especially through his epoch-marking work on *Cellular Pathology*, which was "Englished" by a man who listened to his lectures at the same time with me. For a generation the cell, with its wall and its contents, its nucleus and nucleolus, its dividings and differentiations, was the ultimate object of research and reasoning for the biologist. It has not abjured its dignity in the category of thought and observation; but we see the simplest expression of life to-day in a speck of life-stuff that we call bioplasm. In thought we pass with ease through the cell wall to look more closely at its kernel. Right into the substance of the nucleus we press and see threads of a life web resolving into chromosomes, which hold and can transmit the peculiarities of various forms of life; and the plasm dot of a chromosome again resolves itself into ids and biophors with their determinants, till we

may well imagine we have come into a vast cathedral from whose roof there echoes to us the sound of the voice of one of our brethren of the centuries B.C., of whom Addison tells us that he called his treatise on anatomy "a hymn to the Supreme Being."

The Continuity of Life.

6. It is here, perhaps, that we find the most thrilling of all the transformations that have taken place in the thoughts of those who have the gift, the right, and the responsibility to think. Man, "servant and interpreter of Nature," soaring among the stars to analyze their elements, or searching out the secrets of the atom and the cell, has found himself an item in a social cosmos, subject through all its bounds to the reign of law. A composite being, formed out of the dust, yet capable of communing with the Spirit, who has not, at any time, anywhere, among any people, left Himself without a witness, he finds that there is nothing alien to him in all the universe. Standing on the summits of creation and summing up in himself the last results of the long processes of evolution, he looks to find his ultimate home in One who is, from everlasting to everlasting, God. He is the more encouraged to such lofty ideal when he traces his genealogy back—away back to where the foundations of the earth were laid. His mind reflects the mind that fashioned its materials, and somewhere among the ions and the biophors, where he can scarcely tell whether the ion is not already instinct with more than electricity, or the biophor holds less than life, he sees the narrow fissure between the unseen and the seen, between the not-living and the living, bridged by a kind of virgin-birth, with repetitions of which in some form natural science will make him familiar as he traces the various stages in his own evolution. For parthenogenesis is found not only among the early forms of life, where the distinction between plant and animal is hard to decipher, and where the non-sentient is passing into the sentient, but again and again in transition pages in the evolution story where we see changes taking place in the types with which the record has been written.

The Individual Life.

7. Each individual from out the race is set before himself distinct from all, yet consociate with all. Our first sight of our individual selves as we emerge upon the field of being is as a microscopic speck of protoplasm. It may not differ in appearance or in composition from such another speck as would grow into a creature of another kind. It may resemble the creatures we call protozoa, because in the school of life they have never gone beyond the alphabet. But it possesses the attribute common to everything that lives of taking into itself what it finds needful from its surrounding elements. Let it respond to the impulses, the claims, of its environment and use the matter it assimilates to grow or multiply, and it will live on; it will develop and reproduce according to its kind. Let it at any stage of its history begin to assimilate for assimilation's sake, and it is ready to die; or worse, it may degenerate. The germ-plasm seen through the microscope was one of a cityful of more than seventy thousand primordial ova, only four or five of which are selected to pass through evolutionary processes that recapitulate at various stages the history of their pre-human genealogy before they come to claim a place in a nation's register. Each of the four, as his evolution still progresses, will find after he has come to himself, and so long as his self-consciousness abides, that the material part of him is subject to incessant change. He is continually putting off his mortal vesture and replacing it with a better-fitting garb. The seven pounds weight of matter that was laid in the infant balance passes all away, every atom of it; and if he reach the Mosaic term of three-score years and ten he is told, though he may not have noticed it, that he has ten times changed the fabric of the frame his spirit tenants. If he be wise, he will long ere then have pondered how the latest fashion of his vestment will be put off—whether in one way or another.

"Not that I would be Unclothed."

In one way. One of the heroes of my opening manhood, one of the most lovable of men, was so great a naturalist that when he died in his prime Sydney Dobell wrote me a note suggesting these four lines for his epitaph:

> He courted Nature for his mistress; wooed her so
> He won her, till, by love made bold,
> She showed him more than mortal man should know—
> Then slew him, lest her secrets should be told.

A few hours before his passing a friend came to his bedside and asked him, "How do you feel now?" and was answered, "I feel just like a creature carried down a river."

In that way, or in this. When I went to practise in Glasgow, the man at the top of the profession, though still in middle life, had resigned the Chair of the Practice of Physic in the Andersonian University, being somewhat delicate in health, and had reached that busy eminence where his fellow-citizens could not let their sick friends die till he had seen them, and where his professional brethren were not quite satisfied that medicine had done its last and best till they had had a consultation with him. When Dr. Andrew Anderson was on his deathbed, one of his fellow-elders who was also ill sent to inquire how it fared with him. "Tell him," said Dr. Anderson, borrowing from Hopeful in the *Pilgrim's Progress*, "I'm in the very middle of the river, but I feel the bottom and it is good."

It may chance that some July day, far down the century, when I have been long in the ether, one or other of you will talk with child or grandchild of the years when the century was young. Among its unforgotten scenes there will rise before your mind the memory of the day when at last you burst the chrysalis shell of pupillage to lift free wings into the azure. You will recall the unusual concurrence of the simultaneous leave-taking of the University by the graduates and their promoter. "We came away," you will say, "a goodly company, all together, through the gateway that leads to the rosy dawn. He passed out, all alone, through the door that looks to the sunset and evening star. He was an old man like me," I forehear you say. "Not a great man, he had been a friend of great men, and came out of a great time in the nineteenth century 'when there was mid-sea and the mighty things,' and it looked to the men of his generation as if old things had all passed away and a new world begun. And he told us that the great lesson he had learned on his way through life was the same that the disciple who leaned on Jesus's breast at supper taught to the fathers, the young men, and the little children of his time when he said, 'The world passeth away, and the lust thereof; but he that doeth the will of God abideth for ever.'" Farewell.

ON THE BEHAVIOUR OF LEUCOCYTES IN MALIGNANT GROWTHS.

BY

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AND

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In the present paper it is proposed to give an account of observations relating to the peculiar behaviour of leucocytes in very early examples of carcinoma occurring in various parts of the human body.

The phenomena described appear to be mainly—if not entirely—restricted to cancer in its earliest stages and not to occur in older growths, in metastases, or in grafts introduced into other individuals.

Our observations at the present moment refer more especially to (1) a small primary rectal tumour, (2) an early case of chimney-sweep's cancer, and (3) an early epithelioma of the penis. In all of these the essential details in relation to the behaviour of the leucocytes are identical and suggest that we are dealing with cytological phenomena peculiar to the earliest phases of the transmutation of normal tissue cells into cancerous elements.

It has frequently been noticed that around areas that are becoming cancerous there exists a marked activity among the leucocytes, and the fact that cells in a cancerous area may contain leucocytic bodies within their cytoplasm has frequently been observed. The latter cases have been regarded generally either as phagocytic invasion of the leucocytes, or as an indication that the cancer cells have assumed a phagocytic character with respect to the leucocytes. The results of the present investigations are not in accordance with either of these views.

It was found in the rectal carcinoma above mentioned, for example (a growth that had hardly attained the size of a bean), that there was a very distinct zone of transition from the normal to the cancerous elements around the periphery of the tumour; that is to say, a zone in which it was possible to pass, within the thickness of a few cells and almost insensibly, from elements that were merely actively dividing in the mucous

layer, to cells that had assumed most markedly malignant characters.

In this and other cases that we have examined, we were irresistibly driven to the conclusion that the growth had not originated from a single cell, or even from a few cells, but was being evolved by the direct conversion of a great many elements definitely functioning as mucous cells into those of a truly malignant type.

Immediately within this outer zone of the tumour the leucocytic crowding was most strikingly apparent, and in a number of cells it was easy to discern the presence of leucocytes which had invaded the cytoplasm of the epithelium where they stained readily as an inclusion. This phenomenon did not occur in the adjacent healthy tissue, and we have been unable ourselves to trace it in inflammatory lesions produced by artificial means.

But the most important, as well as the most singular feature about the intrusion of the leucocytes into the tumour cells lies in the fact that neither the leucocyte nor the invaded tissue cell appears to be injuriously affected. Neither appear to be eventually destroyed, and it was soon found that many epithelial cells which were in stages of active division contained leucocytes that had been engulfed in their cytoplasm. In many instances it was found, moreover, that while the tissue cell was dividing mitotically the included leucocyte was also dividing in a similar manner, and at the same time. Both nuclei either passed through their mitotic evolutions upon separate spindles, or the spindle figures were confused, as is ordinarily the case in the first cleavage of the ovum. It is, we think, clear, from the observations just recorded, that a mixture of the chromosomes derived from the leucocyte and tissue cell respectively is distributed between the daughter nuclei resulting from the mitosis. In this way a complete disturbance of the normal chromosome constituents of the cell will be effected, and the distribution must be of a qualitative as well as of a quantitative character.

It may be well to indicate that if this process be compared to fertilization, there exists an important difference between true gametes and the cells concerned in this anomalous fusion. In the former (gametes) we are dealing with nuclei that have passed through the phases of reduction (maiosis), whereas there is no evidence at present to show that this is so in the case now under consideration. What its relation to the ultimate reduction that does occur in neoplastic cells may be, is a subject for further investigation.

It may be pointed out that the fusion here described in no way corresponds with that union which has been stated to occur between the definite cancerous cells of certain neoplastic grafts.

In bringing this brief communication to a close, we desire to express our indebtedness to the Imperial Cancer Research Fund for a grant in aid of our investigations.

Bequests to Medical Charities.—Miss Margaret Baker, of Brighton, who died on June 11th, left £150 to the Zenana Medical Mission, £50 to the Homœopathic Dispensary, Richmond Road, Brighton, £100 to the Royal Hospital for Incurables, Putney, £20 to the Royal Alexandra Hospital for Sick Children, and £20 to the Sussex County Hospital.

Decline of Typhoid Mortality in Chicago.—A recent bulletin of the Health Department of Chicago issued by Dr A. R. Reynolds, Health Commissioner, announces a further reduction in the typhoid death-rate. It will be remembered that in 1891 typhoid fever was extremely prevalent in Chicago. Indeed that city had the highest typhoid death-rate of any large city in the world, namely, 17.38 per 10 000 of the population. The Commissioner is able to report a rate of 1 93 per 10 000 for 1904. This marked reduction through steady gradations of decline is stated to be due to the recent alterations in the water supply. At the close of 1888 there were but three sewers discharging into Lake Michigan. Subsequently these were increased to 29, and the city water supply was taken from the lake at distances varying from 1,400 ft. to 2 miles from shore. With the increase of sewage in the shore waters typhoid increased, so that the 375 typhoid deaths of 1888 were swollen to 1,997 in 1891. It was then, on the eve of the "World's Fair," that the matter was grappled with. Tunnels were extended and shore intakes abandoned and this policy has been continued, with the result that at present all intakes are beyond the zone of sewage pollutions "under usual conditions." Other similar improvements have been made. At present the mortal statistics of Chicago appear to be favourable, and the death-rate for the week ended May 27th was 11 89 per 1,000.

SEVENTY-THIRD ANNUAL MEETING

OF THE

British Medical Association.

Held at Leicester July 24th, 25th, 26th, 27th, and 28th, 1905.

PROCEEDINGS OF SECTIONS.

SECTION OF NAVY, ARMY, AND AMBULANCE.

Surgeon-Lieutenant-Colonel Henry Walter Kiallmark, M.R.C.S., President.

PRESIDENT'S INTRODUCTORY REMARKS.

In opening the proceedings of the Section, it is my first duty and p easure to thank those members who are attending, and to express a hope that they will take part in the discussion, which should be highly interesting and instructive.

The papers to be brought before you are, as you will observe, well worthy of your attention. Your Committee have thought that it would be well to take the navy papers to-day, the army papers to-morrow, and the ambulance papers on Friday. Under all these headings, much of professional and national interest has arisen since our last meeting.

The Russo Japanese war is such a mine of experience and knowledge, and although the official reports from both sides are not yet issued, sufficient has been published to enable us to realize the almost perfect manner in which the Japanese, at all events, have managed their medical and surgical departments.

Probably the best account we possess of the condition of the Japanese military hospitals is contained in a paper by Major L. L. Seaman, late Surgeon, U.S. Vol. Engineers, published in the *Journal of the Association of Military Surgeons* for January, 1905. He gives a full account of the Red Cross and University Hospitals at Tokio, and speaks highly of all the sanitary arrangements, except the latrines, which are earth closets and antiquated. He found that as a rule no operations were performed at the front, only first aid given and the wounded sent off to the base as soon as possible many cases had healed by the time of their arrival. He also visited the reserve hospitals at Hiroshima on the Inland Sea, which consisted of six divisions with ten corridor wards in each. He noted the constant flooding of floors of operating and dressing rooms with bichloride. He found that the high velocity bullets at short range acted as if explosive ones. Spurious and traumatic aneurysms were frequent, arising from injury to the vascular walls by passage of bullets over them. There were many penetrating wounds of the great cavities, but they mostly did well, the apertures healing under first aid. He was also much struck by the small number of medical cases and the absence of intestinal complaints, etc., which he attributed to the diet of the Japanese soldier—nothing to clog the bowels, which they are taught to keep in good order. The Red Cross ships, which carry wounded from the front to base, will take 200 patients, and are furnished with operating and radiography rooms.

He also visited Simonosaki, which is the base hospital for the navy. Here the wounds were mostly caused by shell—very few bullet wounds—but all the cases did well as a rule.

He draws three great lessons from the Japanese, the three great life-saving factors, namely, medical commissariat, transport, and rapid departure to the base.

He also remarks that the status of the medical officer is properly recognized by rank and emoluments.

Papers No. I and II, on the disposal of the wounded in a naval war, and on the collection and distribution of wounded in a modern cruiser, open up a fruitful source of discussion, as these are subjects which the progress of the Spanish-American and Jap-Russian naval wars have brought under our notice. Inspector-General Belgrave Ninnis, who was President of this Section in 1902, contributed an address in which he ably sketched a plan for dealing with wounded during an action. This was based on the use of hospital ships in attendance on the fleet, on to which sick and wounded could be transferred at once. The arrangement of these ships was complete in his plan.

Dr. T. Cropper Wise, Medical Director U.S. Navy, in the

Journal of the Association of Military Surgery, March, 1905, has studied first aid in naval warfare in the French, Russian, Spanish, and English navies, where the surgeon and his patients are placed under cover in the lower part of the ship, which he considers wrong, as there should be plenty of light and air and easy access to the dressing station. He thinks the medical officer should take his chance like the others.

I would venture to direct your attention to the very exhaustive paper of Surgeon-Colonel Robinson on the feeding of the soldier in active service. The diet of the Japanese soldier, to which I have already referred, has been somewhat strengthened recently on European lines: meat and fish have been added to his staple food of wheat and rice, and they consume a good deal of white bread which they obtain at the canteen, a small amount of stimulant (saki) and cigarettes are added (see *Arch de Méd. et Pharm. Militaire*, November, 1904); they employ a composition called "chonjou" as a prophylactic against beriberi, which is the epidemic from which they suffer most; this is a highly concentrated fluid extract of haricot beans, and contains much nitrogen.

Our two last papers, on Red Cross organization in war and peace, and on the relations of civil authorities and ambulance associations, will give some light and aid to the scheme of the London County Council for establishing an ambulance service in London. This scheme no doubt you have all seen and considered. It will take some time and organization to carry out.

Lieutenant-Colonel Barnes, as the Secretary to the St. Andrew's Ambulance Association, which has met with great success in Scotland, can speak with authority on this most important question. The report of the Metropolitan Street Ambulance Association, by Mr. Reginald Harrison, may well be considered in this connexion.

ON THE DISPOSAL OF OUR WOUNDED IN A NAVAL WAR.

By Fleet Surgeon Charles Marsh Beadnell, R.N.

In view of recent events, a reconsideration of the question of how to deal with our sick and injured sailors in a great naval war will be not altogether inopportune at the present juncture.

What are some of the methods of dealing with the seriously sick or injured on board a man-of-war in action?

1. To throw them overboard.

2. To allow them to lie *in situ*, with first-aid dressings or appliances put on by themselves, their comrades, or the medical staff until a lull in hostilities permits—

(*a*) The medical officer of the ship to repair on deck and administer first aid to the wounded *in situ*: or, if there be no medical officer on board,

(*b*) The evacuation of the wounded into another man-of-war, a hospital ship, or hospital on shore;

(*c*) An organized transport of the wounded into certain non-protected regions of the ship—for instance, the sick bay, ward room, or commanding officer's quarters, where the medical officers will perform any imperative operations.

3. To have an organized system of transport via vertical passages to locations specially constructed, beneath the protective deck, for the reception of the wounded.

4. To convey the wounded into armoured locations situated in the upper works above the water line.

A brilliant writer on current naval affairs has suggested, with a view to leaving the fighting decks unhampered, that in a modern action every combatant should wear a life-belt, and, when incapacitated, should be dropped overboard, where, he argues, the victim would stand a very good chance of being ultimately picked up by the boats of a hospital ship. Throwing an unconscious man into water is to commit murder, to say nothing of the danger of shock and of sharks.

First aid to the injured is now taught to practically every officer and man in H.M. navy, and it is most important that men should be instructed not only how to put dressings upon and arrest haemorrhage in their comrades' bodies, but also their own. A lesson may well be taken from the Japanese, who make their men practise carrying their wounded comrades pick-a-back fashion up and down ladders and most useful on many occasions has this proved to our brave little allies in the Far East. The dressings applied, the man should be carried below, more for the sake of getting him out of the other men's way and out of their sight than with any idea of sheltering him.

All submarines, torpedo-boats, destroyers, gunboats, etc., are compelled, through sheer force of circumstances, to evacuate at the first opportunity their wounded, who will already have received first aid. For this reason all vessels of lighter draught should be well practised in the evolution of running alongside larger men-of-war in the open seas, in order to either evacuate their own wounded or to receive wounded for conveyance to a hospital ship or a hospital on shore. Such ships must not fly the red cross as they are still combatant. Every squadron should be self-containing and independent, at any rate for a time, of a hospital ship, for some of the vessels will have to wait many days, if not weeks, before being able to communicate with a hospital ship.

In our larger ships it has been advised that the wounded be left lying where they fall; then when a remission in hostilities occurs, the surgeons should be summoned from below to administer first aid. This means that while the fighting is going on—and in a running fight it may last for hours, nay, days—the surgeon is compulsorily idle, and when eventually a respite allows of his coming on deck what can he do? Very little more than a man proficient in first aid. He cannot possibly have all his paraphernalia brought up on deck to operate, now in this corner now in that, for no sooner would everything be ready than a reopening of the action compels him and his assistants, together with all his surgical appliances, to hustle below again, if, indeed, all are not meantime blown to pieces.

One 12-inch shell is capable of doing an amount of destructive work equivalent to 52,000 000 foot-pounds. Just picture to yourselves for one moment the deck of a modern ironclad in action, littered with débris, slippery with blood, cramped, with loose obstacles taking charge and rolling from side to side, water splashing everywhere, the atmosphere befogged with smoke and steam, the roar and concussion of guns, the reverberation of bursting shell, the hissing of escaping steam, the shouts of officers and the piteous screams of those in pain, and you will acknowledge, what has been proved up to the hilt by the experiences of the Japanese in the case of the *Hi-Yei* at the battle of Yalu, that any unprotected part of a ship is utterly impracticable for administering surgical relief to the wounded. The hospital-of-combat on board the *Hi-Yei* was the ward-room, and while the surgeons and their staff were attending to the wounded a shell burst in their presence, killing or severely wounding the surgeons, their staff and all the wounded who had been collected there for treatment, besides destroying all the medical and surgical accoutrements. This ship was without medical assistance of any kind until the following day, and when finally a doctor was obtained he found twenty dead and thirty-five wounded. On the *Reina Christina* a shell exploded in the ward-room, used for the time being as a hospital-of-combat, killing every person in it. Here then, are two glaring examples proving the absolute futility of using unprotected sites as hospitals-of-combat.

Such is the excellent organization of our service that if the captain is killed there are other officers willing and qualified to take his place, but by no possibility can the medical officer be replaced; hence to allow him on deck during the fighting is quite inadmissible, and to argue that for the doctor to remain below during hostilities is contrary to all his humane and manly instincts, and that the bluejacket has the right to expect his aid on any and every occasion, is, in our opinion, inconsistent. The doctor may chafe and fret at being kept below, but below he must be until all shell-fire is over.

Assuming, then, that the surgeons and their appliances are to remain below the protective deck and that the wounded are to be sent down to them, it is surely not unreasonable to ask for a specially-prepared locality in which the surgeon may attend to urgent cases, such, for instance, as the removal of tourniquets for the purpose of securing blood vessels, suturing ruptured intestines, doing artificial respiration upon men asphyxiated by noxious gases from a shell explosion. Remember that a large percentage of the cases will require immediate and skilled attention; those who think that a surgical operation will never be necessary on a ship in action, and that first aid will tide the wounded men over until their evacuation into a hospital ship, live in a fool's paradise.

Have any of our ships an easily-accessible hospital-of-combat in which it would be possible to perform surgical operations? Hear the words of one of the smartest admirals of our time:

When the under-water part of a ship is being designed and constructed

every department fights for space and weight—the engineers want space for their main engines, the gunnery officers want space for their magazines, torpedo officers want space for their torpedoes, stores require much space, and every one who wants power to do his work wants space for the engines and machinery to provide that power. The result is that all the under-water part of a ship is very much congested, and it is extremely difficult to find any space there for either doctors or wounded. . . . There is in the present day the same sort of earnest desire to get the wounded down to safety under the armoured deck. But we find that it is most difficult if not impossible.

There is a tacit admission on the part of most naval officers that the wounded must be got down below in some way or another. Admiral Sir N. Bowden-Smith says:

In my opinion, the only solution is that those responsible for the arrangements in each class of ship must arrange a place where the wounded will be least open to damage from wreckage from shell-fire, and where they will least interfere with those combatants who are carrying on the action, for there is one thing in a battle that is, after all, more important than the care of the wounded—and that is, winning the action.

All must agree with the gallant admiral that winning the action is paramount, but we most deferentially submit that it is those who have made the best provision for scientifically dealing with their sick and wounded during hostilities who are most likely to come out of the action victorious. Moreover, instead of the captain and medical officer trying to arrange a place after the ship's commission, why not have a pre-arranged location laid down in the primary plans of the ship?

The Japanese authorities place implicit trust in their medical officers and encourage them in every way to advance their profession and keep themselves abreast of the latest discoveries; the consequence is, their Government medical departments compare favourably with any others in the world, and their four hospital ships are the envy of all Europe. Sir Walter Foster recently commented in the House on the fact that over 13 000 men were lost during the South African war from typhoid fever; whereas in the Japanese army in Manchuria only 1 per cent. of the deaths is due to disease, so scientific and perfect is their system.

The following table shows at a glance the losses suffered by the Japanese at the battle of Yalu River. The percentage of wounded is much lower than any percentage we dare expect in a conflict with a modern power, for the deficiencies in the armaments of the Chinese at that time were notorious.

Official Returns of the Losses of Five Japanese Vessels at the Battle of Yalu.

Ship.	Complement.	Total No. Wounded.	Wounded Per Cent of Complement.	Died on Board or subsequently in Hospital.	Percentage of Deaths out of Total Number Wounded.
1. Matsushima ..	360 0	76 0	21.11	22.0	29.0
2. Itsukushima ..	360 0	18 0	5 00	1.0	5.5
3. Hi-Yei	360 0	37 0	12 61	4 0	11.0
4. Fusoo	360 0	12.0	3 11	3 0	25 0
5. Yoshino ..	330.0	11.0	3 14	1 0	9.0
Total out of five ships ..	1752	164	9.87	31	15.9

We hope, in the near future, to see specially-prepared locations for the wounded laid down in the primary plans of the ship, permanently fixed, incapable of being subsequently misappropriated, cool, well lighted, well ventilated, and unhampered by auxiliary machinery. Naval medical men have been accused of being unable to come to any definite understanding amongst themselves, and of offering conflicting suggestions. It is impossible to frame rules that are universally applicable, on account of the varying types of vessels; procedures that might be adopted on a first-class battleship would be impracticable on a small cruiser. Given uniform types of vessels, and the inclusion of a hospital-of-combat in the original plans, there will be little disagreement amongst the doctors.

The hospital-of-combat should, if possible, be double (one forward, one aft) in the larger vessels, to allow of subdivision of the wounded into urgent and less grave, and to avoid placing all the eggs in one basket. In vessels of a medium size a single hospital-of-combat must suffice. When all water-tight doors are closed there must be free and easy means of ingress and egress by vertical passages, which could well be made to act not only as viaducts for the wounded, but as conductors of fresh air to and foul air from the location. If the hospital-of-combat be ill ventilated, the administration of chloroform becomes dangerous to patient, anæsthetist, and assistants. As to the cubic capacity, this must be left to the constructors; all we shall do is to point out that we probably err on the side of under-estimation in calculating the number of wounded liable to be disabled by the enemy's engines of war at 10 per cent. of the ship's strength. Water-tight bulkheads and partitions, so indispensable to a modern man-of-war, need not be abrogated, but they should allow, by means of automatic self-closing doors, of the translocation of the wounded to and from neighbouring compartments.

The junior of the sick-berth staff should be in charge of the stretcher bearers, etc. If any gun in a casemate be placed hopelessly out of action, that casemate should be at once converted into one of the principal dressing stations.

Each hospital-of-combat should be in direct communication with the fighting decks by means of passages distinct from ammunition hoists, and protected, if possible, by armour; the operating room should contain an operating table, hot and cold sterilized water, drugs, and dressings, means of applying a continuous or alternating electric current, means of administering oxygen (which will be found useful in cases of suffocation from the fumes of a shell explosion), the cylinder containing which may be stored in a subjacent compartment.

There should be a sufficiency of cots and mattresses in the annexed rooms for accommodating the estimated number of wounded.

On the verge of hostilities it is advisable to shift the men into clean clothing, so that any shreds carried into their bodies by shell fragments will, at any rate, be comparatively clean. During the fighting those wounded able to walk will, subject to the consent of their executive officer, proceed to the nearest dressing station; those more seriously hurt should have first-aid dressings applied to them on the spot, and, at the first opportunity, be conducted to the hospital-of-combat. To prevent loss of time the wounded should be lowered by one passage and the empty apparatus of transport returned by a second passage. He only who thoroughly appreciates the significance of that evolution, which on board ship is known as "striking down" the wounded, can form an idea of the awful sufferings that the poor mangled victim will have to endure; they are, however, inevitable, and only justified by the existing circumstances. The wounded may be divided up into those from the mast regions, the decks above the waterline, and the decks below. The apparatus of transport consists of tackle for lowering wounded from the mast regions to the fighting-decks and from the latter to the hospital-of-combat, and stretchers, combination-stretchers, Auffret's gouttières (metal and cane) Gorgas and Loyd's cot, Mowll's patent chair, Macdonald's hammock, Kirker's ambulance-sleigh, Guezennec's hammock, Miller's chaise, etc.

The Japanese, with their wonderful acumen, modified Miller's chaise and employed it at Yalu, according to the relative inclination of the three separate segments of which it was composed—as a sofa, bed, or stretcher.

The essentials of any apparatus of transport for use afloat are lightness, compactness, and the power of retaining its occupant safely in every conceivable position.

A naval action will probably be of long duration, with many and repeated editions alternating with brief remissions, and we shudder at the idea of a system which allows the wounded to litter the decks, hamper the light guns' crews, render the manœuvring of the medium and heavy guns in casemates and turrets quite impossible, and demoralize the survivors generally; for civilized men cannot view with indifference the sufferings of their comrades, and if two or three men are writhing in agony in a casemate the remainder of the guns' crews in that casemate become unnerved, and will remain so until the removal of the sufferers. The battle over, the whole ship is metamorphosed into a hospital and every survivor into a minister to the wounded. The fact that for days and nights previous to the actual battle every man on board has been under mental tension due to loss of sleep and the ever-present dread of being launched into the infinite by mines, submarines, or torpedoes, introduces another element in the shape of the critical and unstable condition of the brain, which may be thrown off its balance by the slightest provocation. Conversely, the mere knowledge that if wounded they may rest confident of help and shelter will have a soothing influence upon the minds of the combatants, enhancing their courage and coolness, and acting as a powerful stimulus to the happy issue of the strife.

Throughout the action all water-tight doors are closed, and will only be opened during some of the interregna of battle.

Under present conditions the only uninterrupted viaducts between the fighting and protected decks are the ammunition hoists. Putting aside the fact that even a sound-limbed and healthy man must be, as Admiral May has put it, a bit of a gymnast to climb up or down one of these hoists, there are other and yet more serious objections to the two-fold employment of these ammunition hoists as viaducts for the upcoming ammunition and the downgoing wounded men, for not only are they not specially constructed for the latter purpose, but their use in this connexion would interfere with one of the most vital conditions of modern warfare, to wit, the rapid and uninterrupted feeding of the guns—"Ye cannot serve God and Mammon," neither can an ammunition hoist perform adequately the function of raising projectiles and detruding wounded. It is earnestly to be hoped that we are not going to wait for the next great naval war to have this forcibly, and in an extremely uncomfortable manner, thrust down our throats, but that we shall recognize the absolute indispensability of specially-constructed passages connecting the fighting decks with the hospital-of-combat. What we would yet like to see, in consequence of the growing importance upon all our modern ships of questions relating to medical matters, is the co-operation of a medical officer with those superintending the construction of the vessels, in order to advise upon questions pertaining to the sick-bay, the hospital-of-combat, the ventilation and heating arrangements of the ship.

The principal argument urged against the detrusion of the wounded to a locality below the protective deck is paucity of space. If the hospital-of combat is allowed for in the original design of the vessel, this want of space will not prove so formidable as when a frantic search is made after the ship has been commissioned and every cubic inch of space monopolized.

It has been contended that the wounded will prefer risking extra wounds to the chance of being dragged alive to the bottom of the ocean, and, like the wounded Spanish sailors at Santiago, will refuse to be lowered to a lugubrious vault. Modern war has proved that a ship does not usually go down at once, for even when badly torpedoed a certain amount of time elapses in which it should be possible to bring most of the wounded on deck, and in the event of the vessel being mined, submarined or rammed, as in the case of the *Re d'Italia* or our own *Victoria* the occupants of the hospital-of-combat will be no worse off than those in the engine-room and stokeholds. On the contrary, the upper deck of a modern man of-war in action will be such a hell upon earth that a seriously-wounded man will, if conscious, be quite eager to gain the comparative quiet and shelter of the hospital-of-combat.

Yet another objection urged is that such a hospital of-combat would be insufferably hot, owing to its unavoidable proximity to the stokeholds and engine rooms. Much may be done in the way of avoiding excess of heat by insulating the hospital-of-combat by a layer of cement, as was done in the *Czarewitch*. Fans electrically driven may also be placed in communication with ventilating trunks. In vessels where the engine power amounts to from 10,000 to 20,000 horse power, a few horse power—say, 15 to 20—might well be spared for cooling the hospital-of-combat on the principle of the diminution of temperature consequent on the spontaneous expansion of air that has been previously compressed, thus furnishing the double advantage of decrease of temperature and increase of fresh air.

It has been argued that all the stretcher bearers will be killed and their apparatus of transport destroyed. If all the bearers are killed and all the transport appliances are destroyed, that finishes the matter, the wounded must lie where they fall; however, a plentiful supply of stretchers and a wise distribution of the bearers will, in most cases, obviate so dire a catastrophe. At Chemulpo the stretcher bearers of the *Variag* certainly experienced difficulty in transporting the wounded, several of them being shot down in the act of doing so; and only five wounded men, of whom two were moribund, reached the surgeon down below. If the *Variag* was unfortunate in her attempt to lower her wounded to the protected decks, there were other ships in those waters not so unhappy in their experience.

The hospital-of-combat in the *Amiral-Baudin*, though falling far short of the ideal, has nevertheless long been in use, and proves that it is at any rate possible to leave the fighting-decks unhampered by installing a well-protected and well-ventilated place for the wounded down below the water line.

The French M.D.G. of the Navy, M. Auffret, alludes to a proposal to erect a hospital-of-combat in the upper parts of the ship where air and light are not at a discount, on condition that it shall be well protected by armour. At present, unfortunately, this proposal is not practicable. The suggestion "was brought forward," says M. Auffret, "by those who could not enter the hospital-of-combat in certain of our ironclads without misgivings. . . . This wish to erect a hospital-of-combat in the upper regions of the ship will not evoke astonishment if we but recollect how stuffy and inaccessible most of these locations are." The obvious and only retort is that well-ventilated hospitals-of-combat with passages connecting them with the fighting-decks can be constructed.

One word anent hospital ships. They are the *sine qua non* of a modern naval war, with its prolonged action, many minor engagements, and vast area of belligerency. If the hospital ship is even in sight of its squadron it must be in the danger zone, and to render aid to a disabled ship during an engagement would place it in much the same plight as an ambulance wagon in the line of fire.

The small boats of a man-of-war will, undoubtedly, all be destroyed. It is now almost universally admitted that no ship will attempt to go into action with any of her boats at the davits. Collapsible boats would occupy less space, be less readily set on fire or converted into secondary projectiles in the form of flying splinters, especially if enveloped in loosely-fitting cord netting, and in the case of abandonment of the ship those boats yet intact could be put to use.

To each naval station there should be at least one hospital ship, which should be expressly built on the lines of a modern hospital and capable of accommodating about 400 to 500 men, and well equipped with steamboats for the purpose of removing wounded men from the warships and succouring the drowning.

In conclusion we cannot do better than quote the words of Chief Surgeon Léo of the French navy:

Contemplating the future rather than the present, having in view especially the belligerent units in the naval programme of 1907, we declare most emphatically, from our experience of recent naval actions, and in virtue of our perfect harmony with the opinions of the majority of medical officers of all navies, that it is the urgent duty of the constructors of our coming fleets to provide upon the magnificent vessels of which it will be composed well-ventilated, well lighted, and well-protected hospitals-of-combat in communication with the upper deck by means of straight passages, allowing of an untrammelled to-and-fro excursion of the apparatus of transport and the rapid evacuation of the wounded from the fighting-decks above.

ARRANGEMENTS FOR TREATMENT OF THE WOUNDED IN ACTION ON BOARD H.M.S. "MAGNIFICENT" ("MAJESTIC" CLASS).

By Fleet Surgeon O. W. ANDREWS, R.N.,
M.B., B.S.Dunelm., D.P.H.Camb.

1. Ambulance instruction should be given to various officers and men in accordance with the recently-issued Admiralty Memorandum on the subject. All those detailed by the gunnery officer to assist the medical officers at general quarters have been instructed in first aid, also midshipmen, and those coxswains of boats and men who could be spared. The exigencies of ordinary work on board ship always render it difficult for men belonging to the seamen class to be spared for instruction in ambulance work, especially in such a fleet as the Atlantic, where a large number of the men are young men under training. The training classes in gunnery, torpedo, seamanship, and steam, and also physical training, added to the ordinary work of the ship, leave little time for instruction in first aid, still ambulance instruction is given systematically by the surgeon, and when reported fit the class is examined by the fleet surgeon. The officers and men detailed on board H.M.S. *Magnificent*, when she commissioned, for the assistance of the medical officers were in addition to the sick-berth staff as follows: chaplain and naval instructor, fleet paymaster, assistant paymaster, 2 writers, ship's steward, master-at-arms and ship's corporals, ship's, captain's, and ward-room cooks, ward-room and gun-room messmen, and ward-room second steward, making, with the medical officers, a total of 19, by no means an excessive number for the requirements of a modern engagement. In *King Edward VII* the staff consists of a fleet surgeon, 2 surgeons, 1 chaplain, 3 sick-berth staff, 1 ship's steward, 1 ship's steward assistant, and 23 bandsmen, making a total of 32.

2. When an action is expected—say, after war has been declared—all surgical instruments, dressings, and drugs not required for first aid would be removed to that part of the middle deck (generally known as the bag flat) abaft P bulk-

head, near to where the chronometers would be stored in action.

3. Two dressing stations (A and B) have been selected, situated as follows:

A. On starboard side of main deck abaft fore-turret, and before K bulkhead, protected by turret, A 3 and A 2 casemates starboard side, B 3 and B 2 casemates port side.

B. On port side of main deck, before after-turret and before O bulkhead, protected by turret, Y 3 and Y 2 casemates port side, and X 3 and X 2 casemates starboard side. The advantages of these positions are:

(*a*) They are places where the wounded are least likely to hamper the fighting efficiency of the ship.
(*b*) There is as much protection as possible here short of being in an armoured compartment.
(*c*) There is a good light.
(*d*) There is a good supply of air.
(*e*) There is an abundant supply of fresh water.

These three last conditions would not be obtainable below the armoured deck.

As regards the question of protection, it has been found by practical experience in the present war in the Far East that there is no place in the ship which can be considered safe in action, so that when it is suggested, as has frequently been done, to remove the medical officers "to some place of safety until after the action is over," the suggestion is based on an assumption which is purely hypothetical, as it is not possible for any one to say which is the safest part of the ship. The conning towers are generally assumed to be the safest places in a ship, and for this reason are, as their name implies, set apart for those conning the ship or fleet, but no one could reasonably expect the medical officers to be placed here in action, in places barely large enough for the purpose for which they were designed; yet if the medical officers are to be kept as much as possible from risk of injury until after the action is over, this is logically their only position if this idea is to be carried out, but as to their proper functions in action we shall have more to say later on.

4. Each of these dressing stations, A and B, is supplied with a box marked A and B (in future these will be cupboards) respectively, containing the following:

A supply of dressings, tourniquets, minor instruments, etc., in accordance with a schedule (omitted to save space) drawn up by me and based on the amount of stores supplied, and first aid bags in accordance with schedule for turrets, casemates, tops, batteries, engine-rooms, and stokeholds.

5. Although these two principal dressing stations, A and B have been arranged with the idea that one medical officer and half of the staff enumerated will be at those places, yet in my opinion I do not consider it desirable or expedient that the medical officers should be confined to those posts. The medical officers should regard these posts rather in the light of rendezvous where they may be found, and they should be free to go wherever their services are most urgently required. The chief idea in having stations A and B is to have some place where those seriously injured, yet able to walk, may go (as, contrary to the generally-accepted idea, so many men seriously injured are able to) where they can be attended to. In *King Edward VII* class the casemate system for the protection of the guns' crews has been replaced by a long belt of armour, 15½ ft. broad and 9 in. thick, except upper strake 7 ft. broad), which is 8 in. thick, composed of Krupp steel, and, in addition there is a protective deck composed of 2 in. of mild steel. The reason for this altered disposition of armour is an increased desire to keep out common shell all along the water line, and so to improve the ship's chance of flotation, but this is done at the expense of the guns' crews, which, while increasing our capability of resisting blows, might diminish materially the ship's capability of dealing blows if one or more guns' crews in a broadside were *hors de combat*. The medical aspect of this belt is that it enables us to revert to methods of lowering the wounded from the upper and main decks which, prior to the introduction of the belt, had been (in ships of the *Majestic* class) abandoned as unnecessary, since under the casemate system there were no men exposed. In the *King Edward VII* there is a lift on the port side of the upper deck amidships, worked by hand, by which the wounded can be lowered to the middle deck. On the middle deck, port side, fore and aft, are two dressing stations, each having a surgeon and one of the sick berth staff, whilst in the stokers' bath-room on the same deck is an operating table and arrangements for performing such operations as would be required by the fleet surgeon, assisted by the chaplain, chief sick berth steward, the ship's steward, and ship's steward's assistant; the wounded on main and upper decks being brought to the lift by the stretcher party, composed of bandsmen. The sketch plans (shown) illustrating the arrangements on board *King Edward VII*, have been kindly furnished by Fleet Surgeon F. J. Lilly, R.N., and show at a glance how the wounded will be dealt with on board that ship. Those of H.M.S. *Vengeance* are taken from the account in the *Health of the Navy* for 1902, published in 1903 by Fleet Surgeon P. B. Handyside, R.N., entitled The Treatment of the Wounded in Action on Board a Modern Battleship.

6. Every endeavour should be made to render first aid to the wounded where they fall, and it is with this idea that so many men are nowadays instructed in ambulance work. Men seriously wounded are liable to have their injuries aggravated, and shock and haemorrhage increased, by being moved during an action. Yet fighting being the object and only object of a man-of-war, the wounded cannot be allowed to interfere with the fighting efficiency, on which not only the safety of the ship or fleet but also of the nation depends, so that not infrequently it may happen that men seriously wounded will have to be placed outside a casemate or turret, and removed by the bearer party to stations A and B, after having first received an injection of morphine in order that their suffering and pain may be reduced to a minimum. For this last purpose it is recommended that:

7. A plentiful supply of hypodermic syringes may be issued in war time for distribution, at the discretion of the medical officer, to persons instructed in the method of injecting morphine solution, and as to the dose which is to be injected.

8. Armoured and watertight doors being closed in action, it would be impossible in ships of the *Majestic* class to remove the wounded from one compartment to another, as has frequently been suggested. Ambulance lifts, stretchers, sleighs, and other apparatus for transporting the wounded will come chiefly into use when a ship hauls out of action for a time, or after the action has ceased.

9. In addition to the above the medical officer, acting conjointly with the accountant officer, must arrange for the supply of food and refreshments to the wounded and also to those uninjured.

10. Before going into action the men should wear clean underclothes and clean clothes generally, as pointed out by Deputy Inspector General S. Suzuki, Imperial Japanese Navy (British Medical Journal, August 13th, 1904, p. 333), in order to reduce to a minimum the danger of sepsis in those who have the misfortune to be wounded. In the heat of action all clothes must necessarily become dirty, still it is better to start with them clean. Every man should wear a clean silk handkerchief (ordinary uniform black handkerchief answers admirably) for use, if required, as an improvised tourniquet, bandage, or sling. (The black silk scarf worn by seamen of the Royal Navy is called a "handkerchief"; on shore it would be known as a scarf.)

11. When an action is over the wounded requiring major operations will be removed with the utmost care to the place arranged for operations, or to a hospital ship. The place selected for operations will, as pointed out by Fleet Surgeon P. B. Handyside, R.N., depend entirely on the damage which has been done to the ship, and it is impossible for any one to forecast which part of the ship will be damaged or not.

THE COLLECTION AND DISTRIBUTION OF WOUNDED IN A MODERN CRUISER ENGAGEMENT.

By Fleet Surgeon Thomas Austen, R.N.

On February 9th, last year, I had the opportunity of assisting in the treatment of the wounded on board the Russian second-class cruiser *Variag*, of 6,500 tons, 23 knots speed, twelve 6 inch guns, and 535 men, as the result of her forty-minutes' engagement with a Japanese squadron. She had been principally opposed by the *Asama*, a first-class cruiser of 9,750 tons, 22 knots, four 8-inch guns, fourteen 6 inch, and 750 men. The *Variag* had been forced to withdraw in a badly damaged state, and the result, I think, may be taken as a fair type of the likely conditions ensuing on a bold cruiser engagement. Of the wonderful fortitude with which the Russian seamen sustained themselves both in action and after it is not my place to speak, beyond that it assisted materially the needed treatment and transport.

The *Variag* is an unarmoured cruiser—that is, there exists

no general system of armour, only the slight necessary protection to gun crews by shields, and to engines by a protective deck. She corresponds, though more modern and bigger, to our *Talbot* or *Hyacinth* classes.

The *Asama* is an armoured cruiser, and as such corresponds in many ways to our County or Cressy classes, having side armour in addition to her guns being well protected by casemates and barbettes. Both ships were of recent construction.

The tendency is now to build cruisers of this armoured type; therefore it is expedient for me to refer only to the conditions that resulted and were observed on board the *Variag*, and then to try to deduct the course to be pursued if engaged in collecting and distributing the wounded of a modern cruiser engagement. Half an hour after the engagement was over the *Variag* returned to Chemulpo Harbour listing to port and her after-end burning. She had been struck below the water-line, and her upper decks and fighting-tops had been swept by shell-fire.

None of the men employed below had been injured, but of the 150 engaged about the exposed parts 40 had been killed outright and 68 wounded.

Shimose—the explosive used in the Japanese service—is as high, if not higher, in explosive force as any of the modern powders, and the shell breaks up into a large number of small fragments, eminently suitable against unarmoured ships.

On going on board it was seen that the dead had been collected and covered over with canvas. There was no time, unfortunately, to examine their condition. The dressing of the wounded went on continuously from 1 30 to 3 45 over two hours, the two medical officers of the *Variag* and three from neutral men-of-war rendering first aid—examining wounds and removing foreign bodies that were easily got at; cleaning, protecting, and fixing injured parts, and administering stimulants, or hypodermic injections of morphine. In this way about 60 wounded were attended to, the remainder not presenting themselves till subsequently.

Nothing beyond first aid was attempted, nor was it possible.

There had been two surgical stations, but the after one had been abandoned owing to a fire in the vicinity; so the forward one was very crowded with wounded. It was also wet owing to the water from the fire hoses; and dark from the failure of the electric light. It was situated on the main deck near the sick-bay quarters. All the instruments had been laid out, but those belonging to pocket cases were mainly employed. Only an examination of the dead could determine to what extent tourniquets and splints were required. The wounded had been moved in the intervals of the action. Canvas stretchers and man-handling were employed in taking them to the bases. There was no special appliance for getting cases from the fighting tops. The ship, being in a sinking condition had to be abandoned. About 12 cases were removed from the fore base on stretchers, taken up a ladder to the gangway—the ladder of which had been somewhat displaced—and carried down to the boats. Starting at 2 45 these cases, the remaining wounded, and the remaining ship's company were portioned off in the boats of the neutral ships by 3.45 without any confusion. The *Pascal* obtained, in 29 cases, the greater number of severe cases. Twenty-eight cases were for ten days on board the *Talbot*, and our proportion of refugees was over 300. Being more fortunate than the *Pascal* and having no major operations the wounds were kept free from infection. One man died from extensive wounds to chest and abdomen. Minor surgery was abundant, and in this I had the able help of Surgeon Keene, of the British merchant ship *Ajax*. The wounded were finally forwarded to Hong Kong by H.M.S. *Amphitrite*, all progressing well.

Taking a modern armoured cruiser of the *Drake* class, where the casemates and barbettes form the main protection for the fighting material and the side armour and protection deck the main protective to the explosive and propulsive material, and knowing that there are no places behind or below the latter where surgical stations can be established, it is to the shelter of the casemates, assisted by the armoured transverse screens, that one looks for some shelter for one's surgical stations. The sick-bay is on the upper deck forward, and gives none. So the material it holds in time of peace must be removed below, emergency dressings having been first placed handy to the signal staff and guns' crews.

The surgical stations are likely to find most shelter and quiet on the main deck in the vicinity of the casemates. Those who fall on the upper deck and in the barbettes and upper deck casemates must remain there to await the arrival, in the lull of the action, of competent ambulance parties. There will probably be a sufficient proportion of cases able to walk who will keep the stations busy during the heat of the action.

There should be two principal surgical stations on the main deck, one forward and one aft, subdivided port and starboard under protection of forward and after casemates and transverse screens; and the material furnishing these should be so simple that it would be easy to move through the armoured screen door to the next group of casemates, and so fore and aft to have planned out places for receiving wounded on either side.

The medical staff should be proportioned equally to the fore and aft main surgical stations. Some advocate that the principal medical officer, at least, should be kept down below the water-line until after the action. I do not agree; he is required at one or other principal surgical station to direct the first-aid treatment and control its organization during its most critical career. Those least injured may be clamouring for most treatment, and if men lose control of themselves confusion must ensue.

I cannot here discuss the composition of the medical staff and their individual duties, nor the advisability of having the dressing ready cut to one uniform size, and the provision of an abundant water supply, and adequate candle lighting. It is stated that it is safer for the station to be on the side of the ship nearest the enemy's gun-fire, but that leaves out of consideration constant manœuvring. With high-angle long-distance firing the chances may be in favour of the near side being less devastated, especially on the upper deck; but I am now dealing with the danger to a surgical station established between decks. If a shell exploded on penetration I should prefer to be on the other side of the midship structures, to avoid the blasting effect and the greater number of flying small particles of metal.

I did not see a case of a wound produced by a splinter, but some of the larger pieces of metal were polished on one side from deflection from more solid structures.

The ambulance parties—which have kept cover during the heat of the action—should be divided into fore and aft sections; they should collect the lying-down cases in the intervals of firing, and carry them on stretchers, or by man-handling, to their respective surgical stations.

Ladder-ways on board ship are difficult to negotiate, but I consider from experiments made that if a transverse hand bar is fixed across the extreme ends of the stretcher handles, the process of lowering from the upper to the main deck is greatly facilitated. It is too short a distance to need special slings or slides. There must be a chair or its like for slinging men from the tops when such are manned, and a special means of transport out of the narrow and tortuous engine-room spaces and ammunition supply platforms, in case of need.

After first aid has been given at the surgical stations, names and injuries recorded, and tallies fixed, those patients that can walk must make room for others. They can be conducted to various spots down below. If the serious cases become too numerous about the surgical stations they must be carried away to the most roomy place available—the ward-room, for instance.

I consider that a cruiser after an action should be cleared at once of wounded if she is to be serviceable, for the crew will want all the available space to rest and reorganize in. If she cannot proceed at once to a near base to renew men and material, a hospital ship is urgently needed to receive the sick and wounded.

And so holding that only major operations of the most pressing kind should be attempted on board, and that the instruments and spare dressings should be preserved below for this purpose, I beg to state that I feel that my primary duty is to combine advanced first-aid treatment with intelligent collection and distribution of wounded in a modern cruiser engagement.

I should like to add my impression of the opinion held by more than one gunnery expert on this subject.

In a well-fought modern engagement the chances of a large number of men being hit has been lessened by the modern armoured groups of guns subdividing and absorbing the fighting material.

The few men that are actually exposed will be those on the fighting bridge and at signal stations, those in the tops directing the range, etc., and a number of messengers.

The sooner the enemy's fire is subdued the fewer will be the casualties. Therefore, as regards the wounded, the captains of the guns must not have their primary duties inter-

fered with by devoting any of their time to tourniquets and dressing bags.

As regards collection, it is not expedient to risk the services of ambulance parties during any part of the fighting.

The medical officer should be preserved below the water-line till after the engagement is over, or till lulls in the action, or till the enemy's fire is no longer accurate.

As regards distribution, there ought to be one hospital ship in attendance on every six battleships and every eight first or second class cruisers.

All the points are interesting, as they aim at maintaining the ship's fighting power to the very end, and simplify the surgical arrangements required.

Fleet Surgeon A. J. J. Johnston held that in the construction of ships some place should be specially built for the reception of the wounded, well lighted and ventilated, and where operations could be performed. That need not occupy much space. Although he advocated the instant transport of the wounded to a hospital ship, that might not always be possible. As regards the position of the medical officer in action, he held that the medical officer's duties were to tend the wounded when they fell, to render first aid, and to relieve pain.

REMARKS AND SUGGESTIONS ON THE HEAD DRESS OF CERTAIN RATINGS IN HIS MAJESTY'S FLEET.

By Fleet Surgeon E. J. Biden, R.N.

In the few remarks I have to offer I propose to consider the question of the head covering of certain ratings in His Majesty's Fleet, with special reference to service in the tropics. You are all familiar with the seaman's straw hat, or "sennet" hat, as it is officially called—a very convenient and efficient head dress, concerning the advantages of which I shall refer to later on. It is not the seaman class I am referring to so particularly, but to the artificer class, or the "white-shirt brigade," as they are sometimes called, including the engine-room artificers, master-at-arms, and ship's corporals, sick-berth staff, writers, stewards, and domestics. These men are dressed in blue or white suits, wear white shirts and collars, and a blue cloth peaked cap with a white linen cap cover in the tropics. By the dress regulations these men are allowed a helmet, but it is optional, and in my experience not one of these men in twenty possesses a helmet or other head covering than the cloth cap, and they may be seen on shore, on duty or on leave, at Malta, Singapore, Hong Kong, and such places, with this very poor protection from the sun.

When serving in the Red Sea I felt it my duty to point this out to my captain, and he gave an order that no man was to leave the ship without a proper head dress. As a result the paymaster one day came to me in great distress, saying his writer was not allowed to go on shore on duty; this was at Suakin, as he had not got a helmet to wear; but eventually he borrowed that of the marine bugler and the situation was saved.

It is a question how far this imperfect protection from the sun is responsible for sickness among the men. The *Health of the Navy* for 1903 gives 172 cases of heatstroke in the total force; but I feel sure the greater number of these were not sunstroke, but cases of heatstroke amongst engine-room ratings, which are only too common when steaming in the tropics. The *Leviathan*, for instance, had 21 cases on her way out to China, and the total number of cases on the China station was 52, and I am unable to state from the returns how many of these cases were due to exposure to the sun or amongst what ratings. Simple continued fever, too, I think is largely due to exposure and the consequent exhaustion. In 1902 there were 1 927 cases returned, and in 1903 there were 983 cases; 305 on the East Indies station, 287 on the Mediterranean station, 172 on the China station.

But it is hardly necessary for me to demonstrate the inefficiency of the cloth cap, and we will go on to consider the best substitute for use in the tropics in peace or war, on duty or on leave.

The helmet, or sun topee in some shape or form, is very useful on shore, but has many objections on board ship or in boats. It is expensive, cumbersome, heavy, easily knocked out of shape, and requires much care to keep it in good order. The marines on board ship have each a special locker built in which to keep the helmet; where space for lockers for 20 per cent. of the rest of the ship's company would be found I do not know, and am afraid the commander and the carpenter would say it could not be done. The helmet is not only inconvenient on board ship and in boats, it is very much so when shooting at a rifle range, as I know from personal experience, and have often seen the marines remove theirs when at the firing point. Why more of the ratings I am referring to as wearing cloth caps do not provide themselves with helmets may, I think, be attributed to the cost, the want of stowage, and its inconvenience generally.

The seaman's straw hat already referred to might be much more extensively worn, I think, by other ratings; its good points were recognized by H. M. Stanley, the African explorer, in his book *How I Found Livingstone*, I think. It is comparatively cheap, light (weighing only 10 oz.), durable and serviceable, being an efficient protection from sun or rain, especially with the brim turned down; it can be easily stowed away, and is smart in appearance. That its utility is recognized by the men wearing cloth caps may be taken for granted, for I have often seen carpenters' mates, and other artificers at work in the sun wearing the straw hat on board their own ship, but they would not have been allowed to leave their ship on duty or on leave wearing the straw hat; and during the Boxer troubles in China in 1900 many officers took straw hats to wear on shore instead of helmets.

So I think, seeing what great changes are taking place in His Majesty's Navy, it would add a great deal to the comfort of a great many if the straw hat were more generally worn. On active service it seems to be recognized that officers should not be too conspicuous and the wearing of a straw hat would make them less so. If a distinction is asked for for different ranks, I would suggest that the brim be folded up at one side and fastened to the crown for petty officers by means of a silk loop over a button, and for warrant and commissioned officers by a narrow gold braid looped over a gilt button.

I hear that among contemplated changes in the uniforms of the fleet the straw hat is to be abolished, and it is rumoured that a soft felt hat after the American pattern, conical in shape, with a narrow brim, is to take its place; another rumour that a sun hat will be substituted; neither of which, in my opinion, would be an improvement.

Fleet Surgeon J. Lloyd Thomas said that the great objection to the straw hat was that it took up so much space for storage on board a ship. The brim did not protect the spinal column at the neck and it was not efficient during early morning or early evening marches, when the sun's rays were intense and refraction and reflection of the same had to be counteracted. A thick hat of felt with a wide brim would be better; it was readily stowed, and, being pliable, could be turned down over the face, at the sides, or over the nape of the neck, as occasion required.

VOLUNTARY CIVIL AMBULANCE WAGON SERVICE FOR CITIES.

By Lieutenant Colonel H. J. Barnes, R.A.M.C.,
General Secretary, St. Andrew's Ambulance Association.

At the present time more interest than has hitherto been the case is being taken in the question of ambulance arrangements for street and other accidents in our large towns, and the details of proposed ambulance wagon services for both the City and County of London are being discussed in the public press. It is noticeable that in all the communications the writers, though they differ on many points, are agreed in assuming that such an ambulance wagon service, horse or motor, must of necessity be placed in the hands of either the fire brigade, police, or other civic authorities. As I hope to show in my paper, there is a third alternative which has not, in my opinion, received the consideration it deserves—that of an ambulance wagon service provided and maintained by voluntary effort on the part of the community. I claim for this system an elasticity, flexibility and absence from red tape almost necessarily wanting in any official rate-supported organization. That such a voluntary provision is quite practicable is shown by the continued existence of the Accident Transport Service, organized in Scotland by the St. Andrew's Ambulance Association. This was started in Glasgow so long ago as April, 1882, with one wagon and one trained attendant, and during the first year dealt with 202 cases; since then the service has steadily increased, until in 1904 there were 18 towns supplied with 23 horse-drawn ambulance wagons, and 6,287 cases were carried during the year. The total number of

patients conveyed since the formation of the service was 64,427, up to May 31st, 1904. The purchase and upkeep of these wagons, hiring of horses and drivers, and the wages of the trained attendants are all defrayed by voluntary public subscriptions. During the year not a single instance of complaint as to the service was made, and no case occurred to which attention was not paid.

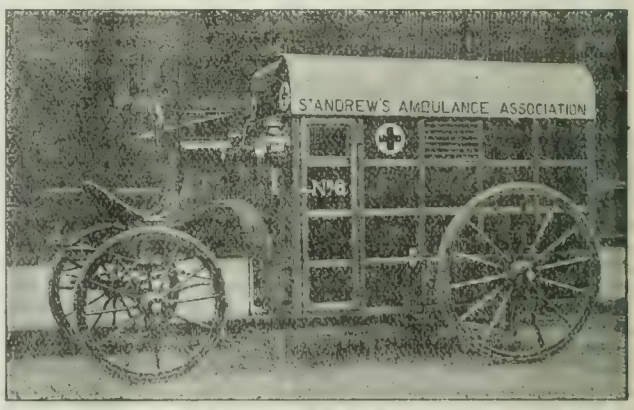
A few details of the most important service—that of Glasgow—may be interesting. This is managed directly from the head office of the St. Andrew's Ambulance Association, and that, in a city so distinguished for its municipal enterprise as Glasgow, there has never been so much as a suggestion that the service should be carried on by the city authorities or in other manner than it is, speaks volumes for the satisfactory way in which the duties have been done. The area served covers 17,605 acres, and includes, besides the City of Glasgow, the burghs of Kinning Park, Govan, Partick, and Rutherglen, and the population is about 925 000. There is at present but one office and one stable from which the whole of this area is supplied, and five wagons are found sufficient for the work. Each wagon, besides the driver, is accompanied by a trained attendant qualified to render first aid in the absence of a doctor. This system, we think, is better than having senior students from the hospitals, as, apart from the difficulty in maintaining discipline, they are inclined to attempt too much in the way of treatment, and the hospital surgeons prefer that the cases should come to the wards practically untouched. "First aid" is, in reality, a specialty, and in a service such as I am describing requires a fairly long training, and it is remarkable how ready and expert the attendants become with practice. Another point in which students are apt to fail from inexperience is in dealing with the police, the public, and the doctor who may be attending to the case. Our men are carefully trained in this respect, and seldom fail to smooth away any difficulties or friction.

The calls, taking the year round, average 11 a day, the highest number in any one day having been 49, on April 5th 1902. By a system of telephone call offices, from which the attendants while out with the wagons report themselves to the Central Office, it is often found possible to attend to two or more calls in the same neighbourhood without bringing the wagon back to the stables; and here I may say that the efficiency of an accident transport service in a large town is absolutely dependent on that of the telephone service. In Glasgow we are pretty well served in this respect, as there are over 27 000 telephones in the area mentioned, and it is rare to get a call otherwise than through their means. As a large number of the public call offices are in tobacconists' and other shops which remain open till midnight, there is no difficulty during hours in which the greater number of accidents occur, in communicating by telephone with the Central Office, and the officials at the Exchange, on being asked for the "ambulance" put the caller through at once. The number of calls in 1904 during the hours from 6 a.m. to 6 p.m. was 2 702, and from 6 p.m. to 6 a.m. was 1,310. There is some room for improvement in the means of telephonic communication during the small hours of the night, as the street fire-alarms are not at present available for the purpose of calling the ambulance; but even so there are, roughly, 1 500 telephones available for the purpose, principally at police stations, cab offices, shipping offices at the docks, engineering works, and other places open all night. The use of the wagons in cases of accident is absolutely free; cases of sudden illness occurring in the streets or public places are also included in the term "accident," such as syncope, epilepsy, parturition, etc. As this is generally known, there is no hesitation on the part of a witness of an accident in ringing up at the nearest telephone for the ambulance. On September 6th, 1902, an electric car got beyond control on a steep gradient in Renfield Street, in the busiest part of Glasgow, and ran down the hill, taking two other cars with it on the way. An onlooker, realizing that accidents were almost inevitable, rang up the ambulance office while the cars were still rushing down, and but three minutes elapsed between the receipt of the message and the arrival of four ambulances on the spot at the bottom of the hill, where the cars had just left the rails and crashed into a shop at the corner, and it was possible to attend to the injured passengers without a second's delay.

Besides its use in accidents, the Accident Transport Service is largely employed by medical practitioners for the removal of cases of non-infectious illness to the hospitals for operation, etc. For this, where patients can afford it, a small charge is made—not much more than would be paid for a cab—and the advantages are obvious, as the invalid is placed on a stretcher on his own bed, carefully conveyed by trained attendants to the warmed ambulance wagon, and not removed from the stretcher until again in bed at his destination. Removals for long distances by train and boat are carried out in a like manner.

For the past two years the advisability of substituting some form of mechanically-driven wagon for the horse drawn vehicle has been under consideration in Glasgow, and a large amount of information from various parts of the world has been gathered and sifted. The conclusion recently come to is that, for the present at any rate, it is better to continue the horse-drawn service as being more reliable and less expensive. Owing to the hilly character of the site upon which Glasgow is built, electrically-propelled wagons, though otherwise suitable, would be liable to run short of power when most needed. No doubt, in a city as flat as London electric motor ambulances would prove satisfactory.

The type of wagon we use in Glasgow—and, indeed, throughout Scotland—has been gradually evolved to meet local requirements, and as it differs in some important respects from those generally used in the South, a short description may not be out of place. From the accompanying photograph



it will be seen that it is hung low, with a cranked back axle, the floor being only 14 in. from the ground, loading being thus comparatively simple and free from risk to the patient. It has Collinge patent axles, with solid butterfly flaps, the front springs being of the best elliptic pattern, and the hind ones improved Wetherill's patent, with india rubber cup-and-ball end springs; the cups and fittings are of gun-metal, and rubber blocks are inserted between the axles and the springs. The tyres are of best rubber, of specially wide section, wired on to the rims. The body is made of the best seasoned ash framing, with mahogany panels and birch boot sides, and the very best material and workmanship are used throughout; this is necessary in order that the wagons should stand the wear and tear of the roughly-paved Glasgow streets. There are two doors—a double one behind for the admission of the patients, and a side door, with drop folding window, for the use of the attendant. A folding step behind forms a seat inside when turned up, and there are two other flap seats. The interior is painted in white enamel, and is kept as plain as possible consistent with efficiency. It is fitted with two rubber-covered stretchers, one above the other, on the off-side of the wagon. The lower stretcher, which is the one principally used, has an adjustable frame and rests on a special spring and horsehair mattress, protected with waterproof cloth and insulated from the floor with rubber blocks. The upper stretcher is attached to the wagon at one side and suspended from the roof by special fittings at the other. A rack for splints, zinc locker in the boot for dressings, speaking-tube to the driver, rubber mat, and a glass water-bottle and tumbler complete the list of the inside furnishings.

Cleanliness is easily maintained in such a wagon, and risk of damage to the fittings or themselves on the part of drunken or delirious patients is reduced to a minimum, while the body of the wagon is so well insulated from road shocks by the springs and rubber blocks that there is no danger of aggravating any injury or causing pain during transport. Over-elaboration of the details in equipping an ambulance wagon is to be deprecated, as the simpler and less complicated the fittings the less risk there is of waste of time by their getting

out of order, and the easier it is to keep the wagon clean and aseptic. The same principle is followed in attending to the sufferers—it is not sought to do too much. For instance, the attendants apply the very simplest first-aid dressing to a wound, and otherwise interfere with a case as little as possible, as the time is so short (about ten minutes) between an accident being sustained and the arrival at the hospital. All necessary cleansing and antiseptic procedures can be better done there. Five wagons are kept for the Glasgow Transport Service, and six wagon attendants, the whole of whom are on duty during the day, a roster being kept by which the night duties are arranged according to wagons, the man who is "first wagon" at night during one week taking "last wagon" during the following week, but all the attendants are on the telephone, and are available in case of emergency at any hour, day or night. The average cost per turn out, including wages, uniforms, telephones, depreciation, insurance, horsing, storing and repairs, and a proportion of the head office expenses of management, rent, etc., is 8s. 2d. Taking the number of turns out at last year's rate, 4,012—this makes a total of £1,638, the whole of which sum, with the exception of the receipts from invalid removals, was provided by voluntary public subscriptions. A gratifying proof of the high estimation in which the Glasgow Transport Service is held by those to whom the risk of accident is most imminent is shown by the fact that the sum of £485 15s. 7d. was subscribed during 1904 by the employés at the various shipyards, engineering and other works, and the greater part of the remainder was subscribed by employers, who also recognize its value in affording prompt and skilled attention to the injured and safe and rapid transport to the infirmaries, thus helping to decrease the claims under the Employers' Liability and Workmen's Compensation Acts. The only purely voluntary ambulance wagon services in England of which I can learn are those of Accrington, where there is one wagon entirely free to all cases, and Ipswich, where there are two wagons, and accidents only are free—both are maintained by public subscriptions under the auspices of the local centres of the St. John Ambulance Association, and appear to give every satisfaction. Indeed, it would seem that the fact that an ambulance wagon service is dependent on the voluntary support of the public is a guarantee that the best service possible will be given, as otherwise subscriptions would not be forthcoming. In one supported out of the rates there is a risk of its becoming too "official," and not so sensitive to criticism. In my opinion the efforts of the Metropolitan Street Ambulance Association would have been more usefully directed towards the establishment of an ambulance wagon service for London maintained by voluntary public subscriptions than in endeavouring to induce the County Council to undertake such provision out of the rates. There should be no difficulty in interesting the public in such a scheme if properly put before them. With regard to London, there is one point which appears to have been lost sight of in the matter, and that is, that there are about 11,600 accidents yearly in workshops and factories there, in addition to 10,000 street accidents, and any scheme to be in any way complete must take account of the former as well as the latter. Estimating on the experience of Glasgow and allowing for the greater acreage in London, I reckon it will require at least 60 horse-drawn wagons to do this efficiently. Motor-driven ambulances might possibly reduce this number to 50, the saving in time being so great. We in Glasgow are enabled to attend more than 4 000 calls yearly and serve a population of 925 000 with 5 wagons simply because it is concentrated on an area of 17,000 acres. The London Metropolitan Police area contains 440 000 acres, and the hospitals are not well distributed from an ambulance point of view, and the journeys would probably take longer than in Glasgow, though by following the system already mentioned—by which the attendants while out with the wagons report by telephone from the hospitals, etc., to the head office—it is possible to save a good deal of mileage.

The Glasgow Accident Transport Service is under the joint control of the Medical Committee and of the Wagon Committee of the St. Andrew's Ambulance Association, and sufficient has been said to make out, I think, a very fair case for such voluntary civil ambulance wagon services where the establishment is contemplated of an efficient method of dealing with the numerous street and other accidents occurring in large towns and cities.

The PRESIDENT said that Lieutenant-Colonel Barnes's suggestion of a volunteer ambulance system on the same lines as the Glasgow Ambulance Association should be followed up. He referred to the excellent work done by the St. John Ambulance Association. In London the police were helpless in regard to this matter and the County Council scheme did not work well. He thought cabs ought never to be used for the removal of patients.

Surgeon-Major G. A. HUTTON said he had listened with very much interest to the paper read on the ambulance service for Glasgow on the voluntary system under the St. Andrew's Ambulance Association. At the first meeting at Ipswich of the Navy, Army, and Ambulance Section he had read a paper on invalid transport of the sick and injured in cities and large towns, and since that time the question had considerably advanced, and it would appear from all the discussions that had taken place that, as far as the voluntary system and the public system under the municipalities were concerned, it must be left for each town and city to adopt such system as would best suit their needs and requirements. In Liverpool, the public system, under the municipal authority instituted by Captain Nott-Bower, the late Chief Constable of the city and now the Chief of the Metropolitan Police, had answered well, and from the paper read the voluntary system had also answered equally well.

Captain PEMBERTON PEAKE urged the municipal rather than the voluntary control of ambulance transport. Voluntary transport depended on the subscriptions of the charitable, and there was a possibility of the subscriptions falling off and the work being disorganized in consequence. If carried on by the municipality there was little chance of abuse, as the ambulance would only be used for transport to public hospitals.

Lieutenant-Colonel H. J. BARNES, R.A.M.C., said the voluntary system had not faded away in Scotland, as anticipated by Captain Pemberton Peake, but had lasted for twenty-two years. Free transport for accidents was defensible, but that the further pauperizing of the population by giving free removal in any case of sickness was advisable was very doubtful, and any difficulty in payment could be met by the elasticity of a voluntary system, as mentioned in his paper.

DYSENTERY: ITS CAUSATION, VARIETIES, AND TREATMENT ON ACTIVE SERVICE.

By E. LLEWELLYN JENKINS, M.B., B.S., M.R.C.S., L.R.C.P.,

Late Civil Surgeon to His Majesty's Forces in South Africa, 1900-2.

DYSENTERY is a disease which has been recognized for very many years, while the terrible havoc which it has wrought in the ranks of different armies in the past is a matter of common history. Broadly speaking, it claims more particular interest for army surgeons than for the general practitioner, for it is essentially a disease associated with the mobilization of a large body of men. During the late South African war, when I was acting in the capacity of civilian surgeon to His Majesty's forces, I had frequent opportunities of witnessing the disease in different parts of the country, and as it included among its victims several of my intimate friends and fellow-workers, I venture to claim more than passing interest in it. The few statistics which I shall make use of in this paper have been sent me from the War Office, through the courtesy of my friend Surgeon-General Keogh, to whom I would express my grateful thanks. These figures must, however, be taken as only approximate; nevertheless, they will serve to support certain observations which I shall bring to your notice. Before discussing the etiology of dysentery, one feels compelled to refer to the bacteriology of the disease, as far as we know of it, and in the light of most recent investigations. Our exact knowledge of this department is at present so very incomplete, and the evidence so conflicting, that it will suffice to say that we believe there to be two or more distinct varieties of the disease, depending on the presence of different micro-organisms. After carefully studying the results of the many researches made in connexion with the disease, it seems evident (1) that a prominent factor present is a variety of bacillus coli communis, known as the bacillus coli dysentericum; (2) that a virulent form of streptococcus is at work, capable of initiating the dysenteric process; (3) that certain bacterial agents, which in themselves are innocent, and incapable of giving rise to dysentery, yet, when associated with the above, both increase the virulence of these, and, by promoting suppuration, stamp themselves as agents of mischief, by preparing the soil for their more active associates.

In discussing the causation of dysentery, we are impressed by the fact how certain conditions are invariably associated with the disease, and especially is this so during active service. Dysentery played a very important part during the late South African war, and figured most prominently in the mortality list. During the early part of this campaign, in the period extending from October 20th, 1899, to September 28th, 1900, there were as many as 11,143 admissions with the disease, whilst the number of deaths recorded reached the high total of 546 or about 49 per 1,000. These figures, however, do not include the cases which occurred in the towns of Ladysmith and Mafeking during their siege. Here, the number of cases in comparison was very much higher, and so was the death rate, a fact we can well appreciate if we remember how in these towns all the conditions were present, and to a marked extent, for the propagation of the disease. What, then, are the causes? Certain conditions, we know, predispose the system to disease, whilst others more directly determine infection. Overcrowding, which seems to be a natural sequence of camp life, is an important cause, for if the sanitary arrangements fall the least bit short of the highest standard the invariable result is the violation of the different laws of hygiene. The more troops are massed together, the greater will be the insanitary conditions which must result. This was the chief factor which determined the prevalence of the disease during the Franco-German war of 1870. The same cause prevailed during the siege of Ladysmith and Mafeking, and so encouraged the conditions favourable to this destructive pestilence. Other factors, however, operate in conjunction with this, and of these the question of food is not the least important. Whenever there is a scarcity of food, and its quality open to suspicion, the incidence of dysentery becomes far greater. The intimate relationship of the disease to famine and distress has been well exemplified by the several epidemics which have occurred in Ireland. During active service we have other additional factors playing an important rôle, conditions which reduce the vitality of the system, thus rendering soldiers more vulnerable to the ravages of this disease. Among these I may mention exposure to alternating periods of heat and cold, bodily exhaustion, lying on damp ground as well as the mental anxiety incidental to a campaign. There are again other conditions which more directly determine infection, such as the pollution of soil and water by faecal material, whilst almost every epidemic of the disease is a proof how infectiousness is conveyed through these media. In camp life the facilities for such contamination are only too evident, and must come into force, unless the most rigid attention is paid to the sanitation. Dysentery, like malaria, shows a partiality for the warmer climates, while its frequency and severity tend to increase as the equator is neared. It is questionable whether it is contagious directly from man to man, but seeing how the disease is more active during hot weather, it is easy to understand how any faecal deposit, if not immediately removed to some distance, soon becomes dry, and thus particles capable of originating the disease can be easily conveyed through the air. Flies, again, I consider as capable of conveying the germs of disease from one place to another, and this is a factor which most textbooks on the subject seem to ignore. These pests exhibit a special attraction for faecal matter in the dried stage, and are capable of directly transmitting the disease to articles of food, milk, and water. These, then, constitute the conditions necessary for the causation of dysentery, and among a densely-massed body of men, such as occurs on active service, we have the necessary facilities for the spread of infection, when once the disease has made its appearance.

Treatment.—Dysentery is so much a preventable disease that the most rigid steps should be taken to counteract its ravages. The vital importance of perfect sanitation is unfortunately not sufficiently appreciated by the responsible people in our army, which is much to be regretted, seeing what a prominent part the disease plays in any military campaign. As a certain writer in reviewing this situation tersely remarks: "British troops entered the war with many determinations. One was to get a 10 per cent. sick list, and they usually got it." That such a calamity may be avoided, and certainly should be avoided, is well demonstrated from the accounts which we have recently received of the Russo-Japanese war, and should the lessons of the late South African war be already forgotten, we learn to-day how the attacks of this disease, consequent on the most imperfect sanitation, have created the most deplorable gaps in the Russian army operating in Manchuria. Thousands of soldiers have succumbed to dysentery, and there can be little doubt what an important factor the disease has played in the Russian defeat. On the other hand, we learn that the Japanese are content with a 1 per cent. sick list. It is not that they are superior to us in the art of healing, but the explanation is that they have applied the knowledge which they have learnt from Western nations more effectively to the necessities and emergencies of war. Not only is their medical department a well-organized one, but they have thoroughly grasped the all-important value of sanitary measures. This should constitute the primary function of the medical service of our army, and to be effective such measures should be thoroughly supported by both officers and men. The ordinary British soldier has but a crude idea of the protective value of perfect sanitation, while our responsible authorities must pay but a poor tribute to his value if in the future they do not insist on the question of hygiene becoming an essential part of military training. Recognizing, then, the infectious nature of the disease, it is most important that all dysenteric stools should be properly disinfected, and either deeply buried at a distance or cremated. The latter is undoubtedly the better and safer plan. The present system of latrines, especially those attached to a temporary camp, leaves much to be desired—not the least evil being the way in which particles of excrement attached to the paper used become conveyed by the wind in all directions.

The soil in the neighbourhood of camps, as well as the supply of drinking water, should be carefully guarded from faecal pollution. Water on active service should always be boiled, for, although filtration may be accomplished by the Pasteur-Chamberland filters fulfilling all bacteriological tests, yet these commodities are very frail and difficult of transit. All foodstuffs should be protected from flies by some kind of mosquito net, whilst the influence of exposure, fatigue, insufficient nourishment, excesses of food and alcohol should be borne in mind as predisposing causes. The most important factors in the treatment of all forms of dysentery are rest and diet. The patient should be strictly confined to bed throughout the attack, whether mild or severe. Any movement in bed is to be avoided as much as possible, so the bed-pan must be used to obviate the necessity of getting up to stool. Fresh milk, if obtainable, is always the best form of food, and about three to four pints may be given during the twenty-four hours in small quantities at a time, and at frequent intervals. In the absence of fresh milk, condensed milk may be substituted; whilst beef-tea, chicken soup, and certain meat essences prove valuable adjuncts. If ordinary milk is not well digested, it may be peptonized, or diluted with either lime or barley water. Any liquid food is best given in a lukewarm state, as cold liquids, by stimulating peristaltic action, tend to aggravate the disease. Our first indication is to relieve the pain and tenesmus in acute cases, and, as far as I myself could judge, there was no better remedy than the old-fashioned enema of starch and opium, each enema consisting of half a drachm of tincture of opium made up with an ounce of starch mucilage. The greatest possible care is required during its administration, on account of the tender and sensitive nature of the large bowel. The patient often finds much relief from the application of hot flannels steeped in a liniment of opium, applied to the abdominal surface, while hot-water bottles to the feet, and sufficient blankets to ensure bodily warmth, constitute an essential part of the treatment. We are next confronted with the necessity of removing foul accumulations in contact with the ulcerated mucous membrane, in other words the bringing about of intestinal antisepsis. This may be done by giving gently-acting aperients, as ½ oz. of sulphate of soda every hour, until copious motions result. Another method is the internal administration of antiseptics, but prior to giving any such drugs it is necessary to allay both tenesmus and pain by the free use of opium.

We have a long list of drugs to select from, but this is a disease which certainly does not react to the supposed benefits of even the newest of alkaloids. Exception, however, must be made to the use of ipecacuanha, which is credited with quite a specific action. It does not curtail the course of the disease in many cases, but, on the other hand, requires careful use on account of its emetic action. It should be given on an empty stomach, and as this drug is much tolerated in dysentery, a dose of about 30 gr. of the powder is necessary every four to six hours, until the motions become yellow and less slimy. Such drugs as salol, or chlorine in solution, do not produce the same happy result as sometimes occurs during their use in enteric fever. Once the acute stage is

passed, and the digestive powers return, the patient's strength must be well maintained, and such additional support as eggs and finely-divided raw meat may be allowed. The stage of convalescence being well established tonics become useful and to accomplish the necessary improvement in health a sea voyage or change of climate is necessary.

VARIETIES, CAUSATION AND TREATMENT OF DYSENTERY ON ACTIVE SERVICE.

By Major N. Faichnie, R.A.M.C., M.B., D.P.H.

Dysentery may be defined as a disease marked by frequent bloody and mucous stools, fever, tenesmus and griping, together with thickening and ulceration of the mucous and submucous coats of the large intestine. As the caecum or rectum is most affected, griping and tenesmus respectively are the most prominent symptoms.

The disease is liable to be followed by multiple abscess of the liver; in my experience, with a single large tropical abscess it has been hard to obtain a history of dysentery.

Varieties.

Dysentery may be:

1. Endemic or amoebic.

2. Sporadic, due to mechanical irritation. In South Africa I saw several cases of this variety due to the carrots in the Maconachie rations; with these men slices of carrots were seen in the stools, so that the ileo-colitis they produced was the result of want of mastication.

3 Epidemic or bacillary. This is the commonest form occurring in the field, and the subsequent remarks will be limited to this class only.

Causation.

Epidemic dysentery is probably due to a group of bacilli, the dysenteric and paradysenteric, which are allied to each other, and to the bacillus coli, their cultural differences being mainly due to the reactions in the sugars. Its relation to simple diarrhoea, cases of which generally remain simple to the end, is important. Dysentery may supervene on diarrhoea, but as it is the exception and not the rule, I think we may take it that when this occurs a fresh infection is the cause.

The disease may be contracted:

1. From impure water.
2. From dust carried about by the wind.
3. From infection by flies.
4 From want of personal cleanliness, especially as regards hands and clothes.
5. From infection from latrines and seats if there are any.

That impure water is not the only cause is shown by the fact that when nothing but tea or boiled water is drunk dysentery still occurs.

Treatment.

1. *Preventive.*

(i) Patients suffering from diarrhoea and dysentery should be made to report sick at once, so as to prevent the fouling of camps.

(ii) All cases of dysentery should be at once isolated, so that their stools may be disinfected.

(iii) Latrines should be carefully covered with earth, and, if possible, sprinkled with chloride of lime, so that the spread of infection by dust and flies may be stopped.

(iv) Before rejoining patients should be made to bathe, if possible, and their clothes be disinfected or replaced.

2. *Removal from the Field.*

Mild cases may get well in a few days and may be allowed to rejoin their units, but more severe cases should be sent to the base, or lines of communication, as soon as possible. Patients kept moving about are extremely liable to relapses, and are also a source of further infection.

3. *Medicinal.*

Cases vary so much that it is difficult to lay down definite rules. Rest and an equable temperature are essential always.

For acute cases I think on the whole the best treatment is that by sulphate of soda or magnesia; this should be given in as concentrated a form as possible, and lukewarm. At first drachm doses may be given every hour till the stools contain faecal matter, and then the interval between the doses increased. When there is no more blood or mucus, perchloride of mercury in 45 minim doses with tr. chloroformi et morphinae every four hours should be substituted. Bismuth and opium and sulphur and opium are also useful at this stage to stop the diarrhoea. When there is much tenesmus a starch-and-opium enema gives relief. The earlier the treatment by the sulphates is commenced the more chance is there of its being successful. In chronic cases I do not think sulphate of magnesia is of use. A dose of castor oil may be given occasionally, followed by bismuth or sulphur and opium; if haemorrhage is very severe ol. terebinth is sometimes useful in checking it. It is when dysentery becomes chronic that local treatment by the bowel proves most useful. A soft rubber tube must be inserted for 20 in. into the rectum, cocaine ointment having first been employed at the anus. A solution of bicarbonate of soda, 60 gr. to the pint, followed by 2 or 3 pints of tr. iodine solution once or twice a day, gives beneficial results.

4. *Diet.*

One of the most important points in the treatment of dysentery is the diet. All food should be given lukewarm, neither hot nor cold. In mild cases milk may be suitable, but frequently it is not so on account of the large wastage produced, and also because of the irritating properties of its curd. In all except the mildest cases, I think whey or albumen water is far preferable to milk, and while the symptoms are acute a total of two or three pints at the most of liquid nourishment in the twenty-four hours is quite sufficient. It may be remembered that many cases of even simple diarrhoea do not improve till whey or albumen water is given instead of milk.

When fresh milk and eggs are not obtainable tinned milk has hitherto generally been the only food available. This often produces nausea and vomiting, and in consequence not only exhaustion, but in some cases starvation; also the very fact of the nausea and the general condition of the patient prevents digestion, and thus an irritating curd increases the inflammatory condition of the bowel. In severe cases of dysentery, even if nausea is not produced, tinned milk is therefore not suitable any more than fresh when the latter is not available. The question of finding substitutes practicable for use in the field, then, becomes an important matter. For this purpose I would suggest two—namely:

1. *Whey.* It should be remembered that whey cannot be satisfactorily made from tinned milk either by fresh rennet or by rennet tabloids. What can be used for the purpose, however, is alum. If one pint of sweetened or unsweetened milk be heated to 150° F. and 20 or 40 gr. of alum be added, a milky or pure whey respectively can be obtained; thus, 1 oz. of dry alum is sufficient to thoroughly curdle 10 pints of milk and the resulting whey has no taste of the alum, and can be flavoured by lemon or orange or coffee essence if desired.

2. *Plasmon.* This can be used by boiling 1½ oz. of the dry powder with water to make stock; this, mixed with 1½ pints of barley water and flavoured as before mentioned, would serve as sufficient nutriment for twenty-four hours, or instead, by simply whipping and flavouring, half the plasmon stock could be made into plasmon sponge cream and could be given alternately with the plasmon and barley-water beverage. Thus I think a supply of alum and plasmon should be included in the supplies of the field ambulances for the future.

In closing I should like to give a short account of two cases under my care in South Africa, from which I think important lessons may be learnt.

1. It was determined to send a man I was looking after, who was suffering from a not very severe attack of dysentery, to the base. The railway staff officer said the train would arrive at 2 p.m.: at 6 p.m. there was no sign of it, so the patients were all sent back from the railway station, the one in question returning in a state of severe collapse, and no pulse could be felt. During the night brandy and ether were given as stimulants, and sinapisms were applied to the heart and feet. Next morning, as he was no better, I determined to transfuse, using an irrigator and the cannula of a pocket trocar. The result was magical. The pulse at once came back, the bowels began to act, and the patient became again an ordinary case of dysentery. In the field, where collapse may come on from various unavoidable causes, I think transfusion should not be forgotten.

2 I took over a patient in a late stage of dysentery, and in spite of all treatment he became so exhausted that I thought

he was going to die, so I transfused him with salt solution. The effect of this was only temporary, and he became as bad as ever. I then gave him 5 minim doses of tr. digitalis every sixth hour, and the effect on the pulse was marked; it became slower and stronger almost immediately. After that I kept him on one small tin of Brand's essence and half a pint of milk and barley water per twenty-four hours as food, and ordered rectal injections of solution of tr. iodine. So long as the digitalis was given the pulse remained good; when it was omitted the beats at once became weaker, and almost disappeared. There is no doubt in my mind that he made a good recovery entirely on account of the digitalis, and yet neither in books on materia medica nor in those on tropical medicine have I seen any special mention made of the use of this drug in this disease. Alcohol, in my opinion, does not compare with digitalis as a cardiac tonic and stimulant, and in dysentery I think alcohol aggravates the symptoms. Therefore the use of digitalis is an extremely important matter, not only on ordinary occasions, but especially in the field, where so many dysenteric patients may die of exhaustion.

The President referred to his experience of dysentery in the Crimea. He relied upon rest, clothing, and food rather than upon drugs. The malady proved very fatal. The sanitation was very bad and exposure to all sorts of weather constant.

Surgeon-Lieutenant-Colonel G. S. Robinson said that the causation of dysentery was attributed broadly to either (1) sanitation; or (2) to bowel irritation (due to chill or improper dieting). The latter was the more important at the commencement of the outbreak. The Japanese freedom from dysentery was attributed to sanitation, but it was more probably due to their simple diet. The report on the late Japanese war showed sanitation to be very inefficient, however. In his opinion the causes in relative importance were: chill, water, and food. During the war he was with the Eighth Division, which after the voyage was hurried to the front out of condition, and made long and rapid marches on half rations ("Starving Eighth.") The result was severe dysentery even when not in a standing camp. The men were unduly fatigued, drank copiously of dirty water, and had insufficient food. Attention to those matters might check the outbreak, which very often commenced as colitis rather than true dysentery. Rest and dieting also were the most valuable curative agencies.

Major J. B. Buchanan, R.A.M.C., said that in South Africa it was noticed that the prevalence of dysentery in the field coincided with the prevalence of flies. The great difficulty of treating dysentery at the front was the fact that the patient was always on the move and often did not reach a stationary hospital for ten days or more, during which time it was difficult to carry out a suitable treatment by sulphate of magnesia or ipecacuanha. Those two drugs were the only drug treatment for dysentery; in the majority sulphate of magnesia proved effectual, but in a few not relieved by magnesia sulphate ipecacuanha was necessary. Opium in dysentery was poison.

Major N. Faichnie, R.A.M.C., said that he considered pure water was a very important thing in the prevention of disease but it was not everything. Experience in India had shown that though there might be many objects in the methods of giving boiled water to the troops in India, there was no doubt that it had done good, as though enteric fever had increased, cholera had distinctly diminished amongst British troops. In many stations where cholera used to occur annually, it now only occurred amongst natives. Secondly, the incidence of enteric fever and dysentery was very often not that of a waterborne disease. Therefore, however important pure water might be, they must look for additional causes. With regard to the treatment of dysentery by ipecacuanha, results seemed to show that there was no advantage in that treatment over that by sulphate of soda, and it was very much more objectionable.

THE MILITARY MEDICAL RESERVE DIFFICULTY.

By Major M. M. O'Connor, R.A.M.C. (Militia).

I propose to deal quite briefly in this paper with my subject, which, though perhaps not altogether of professional interest, may well come under the heading of preventive in contradistinction to curative treatment when it is remembered what an amount of suffering and injury may be prevented in time of a great war by having an efficient and ready reserve of medical officers and orderlies to draw upon when necessary. The subject has been much discussed of late. The late war shows how important it is to be prompt and ready when we remember that the War Office had to employ in South Africa alone between 400 and 500 civil surgeons, and a large number of orderlies taken from various volunteer societies, such as the St. John Ambulance Association, etc., and it cannot be said that they were altogether satisfactory. I approach the matter with a certain amount of diffidence, knowing the time and thought that have been given to it by others far better qualified for formulating a suitable scheme; but I have thought the matter out, as a representative of a large class of medical men, and as one who has endeavoured to find out how such a reserve can be, and is, formed by the other great powers, and I offer it for discussion more than anything else. I trust, therefore, that any officer or member will not hesitate to criticize it as much as possible, and all the more so if he can propose an alternative scheme, short of conscription, that is more suitable and that will meet with public approval. I hope, therefore, that any apparently radical suggestions it may seem to advocate will be thought over, for I speak as an officer deeply interested in anything connected with the success of the R.A.M.C., as well as that of its sister battalion the R.A.M.C. (Militia).

On reading over the account of the late war and the evidence given before the War Commission as regards the medical services, it will, I think, be apparent to all interested that the reserve in the late war was inadequate in *personnel* if not in quality, and that the system of employing civil surgeons pure and simple in haste was not one to be encouraged but rather to be avoided.

It would seem to me that in time of war we have three methods to choose from by which the corps can be kept efficient and complete in quality and *personnel* without disorganizing to any large extent the existing state of affairs:

1. The first is to keep the R.A.M.C. up to war establishment, which would entail having a smaller reserve in time of war.

2 The second is to have a large reserve of civil surgeons and orderlies from the St. John Ambulance and kindred societies.

3 The third is by encouraging the formation of a home or limited medical service, offering inducements to the best men of the profession to accept commissions in it, more especially to the younger members of the profession who are or have been house-surgeons and house-physicians.

Now, as regards the first method, you will all agree with me that, much as it might be wished for, no Government would sanction such an enormous expense as this would entail; nor, indeed, would public opinion allow it.

The second is not one, in my opinion, that could be encouraged, as it was distinctly shown by the evidence that a military training and a knowledge of military details, etc., is necessary in the army; and from the experience I have had for many years, especially in the large garrison of Aldershot, I can see plainly that it is not sufficient for a medical man to have merely the reputation of being a clever surgeon or doctor; it is a great essential factor, certainly, in gaining a reputation for the corps, as it is in civil life; but without that culture, that knowledge of matters that service people are interested in and possess, more or less, as men of education, it would be impossible to keep up the social status and the pleasant social life which follows as a natural consequence, and which the corps now enjoys after many years' struggling (without which life in the service would be intolerable to men of sensitive or refined feelings), if civil surgeons pure and simple were in any large numbers employed. It is a well-known fact (not to mention the impossibility of carrying on the routine work of a military hospital without a knowledge of the forms and customs of the army) that Tommy Atkins has and will pay more respect to a second lieutenant than he will to a civilian of the most exalted position. It is necessary, therefore, to be most particular in giving commissions only to candidates who come up to the proper standard, for it cannot be denied that the word "doctor" alone, owing to the degrading manner in which many civilian medical men—of strange origin, no doubt—carry on their profession, is not always a term of respect, and it behoves the authorities, therefore, to give commissions only to men of good social standing as well as of good professional attainments; and I think it cannot be denied now that as a body the officers of the R.A.M.C., both Regulars and Militia, compare most favourably with any military or civilian medical body in Europe.

I have transgressed somewhat and written at length on this second method of forming a reserve, for many influential officers and civilians have discussed it much of late as a possible and likely method, but in my opinion it is not one to be encouraged.

We now come to the third method, and in my opinion the only possible and sound solution of the difficulty of having a thoroughly efficient and sufficient body of medical men and orderlies for small as well as the great wars, and I bring it forward in all deference for criticism. It has been proposed to form a general medical service and a limited medical service, the officers and men of the former corresponding to the present R A M.C., who should receive good pay and allowances on account of the foreign service they must undertake. In fact, I would give them all the emoluments and advantages that the Indian Medical Staff did and should enjoy now. This might seem to imply that the officers of the R.A.M.C. should be possibly nearly always abroad, for even though many might prefer this, yet this would not be the case, for there would always be a certain number at home, and I would in addition give both branches the power of exchanging temporarily or altogether. This would at once relieve the strain of foreign service.

It may be said at once, How could this be better as regards a reserve in time of war? The answer is this: In Germany, Russia, Switzerland, Sweden, and other European States they have the most skilled and famous surgeons in the army. In peace times these surgeons are, in addition to their military duties, allowed to continue their private work in the neighbourhood of their military charge, and thus these States can afford to employ a very large number of medical men in time of peace and thus have a large body always ready for war. Now, we cannot very well act altogether like these States, on account of our Colonies, and it is, therefore, necessary that we should have a well-paid and attractive General Medical Service, and, in addition, I maintain that if a Home Medical Service were formed, giving less emoluments and smaller pensions, but in consideration allowing the officers to continue their private work as in the Indian Medical Service, and as in the countries named, there would be no difficulty, just as there is none in the countries mentioned, in forming a very large body of military medical men, including the very best men in the profession, who in time of emergency also would be liable for service anywhere.

These officers would be attached to home service battalions, in fact their own territorial regiments if possible, and the Auxiliary Medical Service would be absorbed under this new scheme. Their pay and pension would not be out of proportion to their services, as patriotism, and glory if you like, should make them most willing to serve. To those who could not be given military duty—as their places of residence might make it impossible—I would give a retaining grant of £25 a year, in addition to the pay of their rank when training or doing duty. Thus, I maintain, we could obtain the services of the younger men—house-surgeons, physicians—of our hospitals and the great body of successful practitioners in the country, who would, of course, have to pass a modified military curriculum as at present, for the pay would not be sufficient to make a man content without other emoluments, and the competition in practice would make these officers keep well abreast of the times. Of course, as will be understood, it will be hard for medical officers of Militia to be happy in neglecting their private work—should they have it—if they feel that this military work is only temporary. And I think it will be agreed that it is far better for both the country and the home army, as well as for the reputation of the medical services generally, to have such a body of able and successful men as officers performing this patriotic duty, rather than either medical men of ample means who take it up as a hobby, perhaps, or medical men who, through want of energy, health, or inability, come to grief or fail in the keen competition of private practice. And it will be agreed that if a military medical officer desires, for the sake of pleasure or profit—if you like to put it so—to continue the serious practice of his profession, even into private life, rather than amuse himself with ordinary recreation, he should not be handicapped but encouraged for so doing. It would not be for want of time, for we have this scheme carried out in Germany and Russia and other States, where the military medical officer, knowing he is on the permanent staff of the army, is happy and keen, for the more he does the more he gains, both in reputation and emoluments. By this suggested scheme you would obtain a very large number of medical officers, as in the countries mentioned; and I may add that the social positions of the medical officers are equal, if not better than, their brother officers.

It may now be asked how many medical officers would be gained by such a scheme. I am open to correction, but I understand there are, roughly, about 900 medical officers—half at home and half abroad. Now, the 450 medical officers at home receive, say, at least, £20 000 to £25,000 per annum. Supposing the home medical officer under the new scheme receives £18,000, roughly—or about 25 per cent. less than the general medical officer receives at home now—this would leave £6 000 to £8,000 to increase the pay of the general service medical officer if necessary, and the number on the home medical establishment. Of course, this is put roughly, but it can, of course, be worked out more accurately when necessary.

To summarize, I have accordingly drafted the following details of the scheme, on which I would ask for your criticisms, and if a better one can be suggested all the better, since destructive without constructive criticism cannot bear much weight or alter parts.

1. Form a general or foreign, and limited or home medical service as has been done by several of the European Powers on the lines of the R.A.M.C. as at present constituted, making the present auxiliary medical services the nucleus of the home service.

2. Give them less pay and pension but allow the officers to practise as in Germany, Russia, etc., and as the officers of the Indian Medical Department are permitted to practise.

3. By the saving that this would mean and by a small grant from the State you could obtain a very large number of military medical officers, as the numbers might well be kept up to war establishment at home and the expense would not be so very much more than at present.

4. I would suggest paying the officers of the general foreign medical service branch while serving abroad even better than the officers of the R A M C. at the present time.

5. I would secure the home service officers who are not in garrison towns, or who could not be actively employed, by giving them a retaining fee of £25 a year in addition to the pay while training; they would, of course, be attached to various regiments every year for annual training. This would encourage the younger men of the various hospitals to join, and I would suggest that the commissioned officers of the various home service or county battalions should be invited to nominate a medical man. If suitable in all respects I would appoint him to the battalion or unit, subject, of course, to his passing the military medical course as at present. By this scheme I maintain that you would obtain the best men in the country, both socially and professionally. Of course, in time of emergency they would be liable to serve abroad.

6. They would not be moved about unnecessarily, but, of course, there would be a certain number who would always be available, especially the younger men.

7. I would allow home service officers to exchange for a tour of duty or altogether with foreign service officers and thus relieve these officers, giving, of course, the higher rate of pay and allowances to the home service officers if serving abroad.

8. As regards the men, I would increase the number of home service companies, making the men more efficient in nursing duties, and I would increase the number of officers to three in each company.

9. From the evidence given it would appear that 4 to 5 per cent. of the whole force engaged in a campaign is about the proportion of the non-commissioned officers and orderlies of the Royal Army Medical Corps that should be sent, and I consider that at least 10 per cent. should be the number allowed for in any campaign. From this it would be easy to calculate the number that the actual establishment should contain.

10. I consider that the men of a battalion (two per company) who are at present instructed in ambulance work should be made more use of and thoroughly trained in peace time for ambulance duties, and thus they would be of great use to the medical services in time of war, as suggested by Major Crawford in the lecture he delivered a short time ago before the Aldershot Military Medical Society. By this means the best value could be got out of the men in time of war. This would mean a fairly large number of men to fall back upon if necessary.

10A. I would also endeavour to bring all the various voluntary societies under one head and organize them so that the greatest possible use could be got out of them in time of emergency.

11. The above scheme is a mere skeleton certainly, but all the details could be worked out, and I feel confident that in any national emergency in the future there would always be an efficient and prompt body of trained officers and men ready without much greater cost to the public than at present, and with the least possible disorganization of the existing state of affairs.

No other scheme, short of conscription, will, in my opinion, draw the required number or suitable kind of medical men into the Militia, Yeomanry, or Volunteers, that is, the home medical service, and no other scheme, in my opinion, will solve the difficulty of a reserve. Any criticisms on the above will be welcomed.

Surgeon-Lieutenant-Colonel ROBINSON agreed with the author of the paper that the officers of the Army Medical Reserve were not made use of as freely as they might have been. If they were to be employed more freely in time of peace they might be used to train a reserve of men in nursing duties. The St. John Ambulance Brigade were solely trained in first aid work, which was not so much required on service as nurses. He found they had had absolutely no training in nursing duties. Moreover, they were not very amenable to discipline. If civilians were used, they might be kept at the base in a base hospital worked under civilian surgeons, and liable to discharge for misconduct, etc. Otherwise they must temporarily enlist. If, however, a reserve of men trained as nurses could be formed under supervision of Army Medical Reserve officers, it would be very desirable.

Major W. M. O'CONNOR said that in reference to the various comments by those who took part in the discussion he proposed to take them seriatim. First, as regards the Army Medical Reserve, it would appear the officers were not suitable on account of age and want of knowledge of military details in many cases. But many were employed, and he knew of several instances where they were retained before Militia or Yeomanry medical officers. Secondly, it was stated that the general service medical officers would always be abroad. Generally speaking they would, but, like the Indian Medical Branch, they would get good pay and be allowed to hold appointments (civil). Thirdly, officers receiving a retaining fee of £25 per annum would not give up their practice. Of course that was meant for the young medical men who for the first ten years would not as a rule be settled down, but a large number of the home medical establishment would include the officers permanently employed.

THE CARE OF SOLDIERS' FEET.

By P. B. GILES, V.D., F.R.C.S.,
Surgeon-Colonel S.M.O. XXXth Field Army Brigade, S.M.O. Volunteer Ambulance School of Instruction.

1. THE easiest way to preserve, in an efficient condition, soldiers' or, in fact, the feet of any who walk much is to be always mindful of two factors:

(1) The feet.

(2) Their artificial coverings.

In the feet we have to take notice of (*a*) faulty development; (*b*) vicious secretion.

The faulty developments are: (1) deficiency of arch; (2) exaggeration of arch, with a small heel.

In all cases of deficiently-developed arch there is one cardinal object to attain, namely, to get the arch properly established and maintained.

It matters comparatively little in actual practical treatment whether we hold that the metatarsal phalangeal joints and the phalanges are prehensile or are lifting factors, or a composition of both, so long as we accept the fact that the foot should be flexible, and not rigid, in walking and marching. It will repay all interested in the subject to read *The Human Foot*, by J. S. Ellis.

That the foot should be flexible and not rigid in marching is proved by the success which has attended cases of arch insufficiency when treated by employment of extra work upon the metatarsal phalangeal joints as compared with that of blocking up the foot and so creating a system of walking with a rigid foot. The *raison d'être* being that the metatarsal phalangeal joint exercises both strengthen and develop the anterior tibial muscles, pull up the key of the arch, and at the same time permit the longest period of rest to the parts concerned.

Excessive arch development with a small heel, associated as it always is with more or less eversion of the foot—being, in fact, a very long step towards talipes equinus—is a matter of great difficulty to correct; because, just as the racehorse with everted feet is, from its liability to shin soreness, a constant source of anxiety to the trainer, so is the soldier, unless he is permitted to march on the four-square system—that is, with inverted feet—soon unfit for service.

I have rarely failed to make good walkers out of arch deficiencies under proper training, but I have never been really successful with an over-developed arch accompanied with a small heel.

We are all, unfortunately, cognizant how the secretions of the toes is at all times disagreeable, and frequently amounts to a positive annoyance that is unbearable, but it is not so generally recognized that the acridness of this secretion is the predominating factor in sore feet, and that those who are afflicted with this secretion not only blister easily, but create soft corns of a most intractable form.

In regard to the artificial covering of the feet, socks must be thick, of wool, and have natural-shaped toes. Cotton socks are fatal; they are thin, non-elastic, very absorbent, and with moist feet soon become a veritable sponge. Wool, on the other hand, can be made thick, are elastic, and when covered with perspiration will, if exposed to the air and sun, quickly dry, can be beaten and well rubbed, if washing them is impossible, and come out daily fairly fresh.

Rags, bandages, and felt are frequently vaunted over socks, but my experience and observation with troops in Norway, Germany, France, and Italy, and more recently in a limited degree in Greece and Palestine, is against all these wrappings when used with laced boots, or, to be more correct, in all cases in which the foot is flexible when marching.

In such cases where Blücher or riding boots are used and the foot is more or less rigid, I think wrappings, as compared with socks, are quite on a par—even better, because the back of the heel can be better protected.

Still I am certain of this—that Continental troops, in spite of their constant and progressive training for the work, suffer a great deal more from feet troubles when on manœuvres than English troops do. You may not see them on ambulance wagons, but at night the constant stream of footsore men coming into their billets is very noticeable.

Boots should be large enough to give freedom, antero-posteriorly as well as laterally, without being loose. Loose boots may be easy to slop about in, but are antagonistic to long, sustained marching, as the constant friction causes callosities, corns, and blisters, to prevent which a stiff, as compared with a flexible, movement of the foot is created which soon produces shin soreness.

The soles should be thick, the waist pliable, and the heels large and low, but the *sine qua non* is that the inside of the boot must be cut straight and coincide with Meyer's line, and not turn up at the toe. The upper should be soft, and there should be no harsh seam at the heels.

Short boots create hammer-toe; too wide, blisters and corns; and pointed toes, bunions and overlapping phalanges.

In respect to treatment, given proper boots and socks, very little special treatment is required.

Marching should commence by short distances, and gradually increase. After each march there should be a foot inspection for the first few days by the medical officer, after which by the company officers, only cases of doubt or requiring treatment being sent to the medical officer.

The routine washing, followed by pickling in a solution of salt and boracic acid, will render the most moist feet safe. This treatment is far in front of ointments or grease of any kind, as even when well fortified with antiseptics grease has a tendency at the heat of the body to ferment, and create the very mischief the remedies are used to prevent.

Soaped socks, again, are seldom of service, because the soap being generally of a common kind is either too fatty or contains a large proportion of alkali. If grease of any kind is used it is most beneficial in cases of thin dry feet. Powdered boracic acid is very useful.

Hard corns and all callosities should be treated by soaking in the salt and boracic pickle, and the hard parts removed by a knife, or by scraping; such cases always point to some unequal pressure of the boot, which should be remedied, as callosities are neither natural nor serviceable. Soft corns are best treated by washing, pickling, scraping, and, when well dried, powdering with boracic acid with or without a piece of lint between the toes. Nails should be cut straight, and never round or down to the quick. Blistered feet are best treated by evacuating the fluid, and rest; nothing takes the grit out of a man more than walking with sore feet.

Such are the results of many years' experience.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, Etc.

A FURTHER NOTE ON PARAFFIN IN SURGERY.

A patient was sent to me, some weeks ago, who had undergone operation for empyema of the left frontal sinus. The operation had been perfectly successful; but there remained a very deep and ugly depression in the left frontal region, almost admitting the tip of the little finger. It was lined with thin scar tissue, continuous with the skin of the forehead. Of course, it was impossible to raise this adherent film of scar tissue with paraffin. I therefore dissected it out of the pit, and then, having stopped all oozing by pressure, I filled the pit with half-melted paraffin, in the same way as one would stop a tooth, and drew the skin together over the embedded paraffin. This very simple method has given an excellent result. In a case of femoral hernia, some time ago, I tried to plug the femoral ring, in the same sort of way, with paraffin, but the plan failed. The little wad of paraffin slipped this way and that, and would have been useless, so I did not leave it there. But in any case of a depression in bone, or in rigid tissues, where the paraffin cannot shift its place, this method of levelling up the hole may be worth bearing in mind.

London, W. Stephen Paget, F.R.C.S.

WARTS AND CORNS.

There is no remedy, in the treatment of warts and corns, so efficacious, so simple and so free from any discomfort in application as sea water. For many years I have used and recommended this treatment, after finding that corns, which had quite crippled me, disappeared entirely during a three weeks' stay at the seaside, when I bathed twice a day, staying in the water from ten to fifteen minutes each time. Since then, whenever there has been any threatening of return, I have followed the same course of sea-water treatment, either by bathing or paddling, with similar benefit.

Every one who has carried out this treatment, at my suggestion, has found equal relief.

Those sufferers who live near the sea are able to adopt and carry out this method easily. To those who are not able to obtain the use of sea water directly I recommend the use of "sea salt," dissolved in warm water, in such proportions as to raise the specific gravity of the bath to the level of sea water, such bath to be used every day, and twice a day, if possible, until the corns are softened and can be peeled off easily, as they almost certainly will be at the end of a fortnight.

Warts are treated in the same way. The hand or hands affected are placed in warm sea water or the solution of sea salt twice a day for at least ten minutes at a time.

Warts on the scalp, of cauliflower form, even of considerable size, will yield to this method of treatment (though not so quickly as those on the hands). They are best treated by the application of a compress of sea water, which may require to be maintained in position by a bandage, and left on all night.

I have lately had two cases of cauliflower warts under treatment. The first was on the back of the hand of a child; warm sea water was used, as above directed; at the end of one week the stem was shrinking, and at the end of the second week the wart dropped off. After the lapse of a few weeks I examined the hand, and could find no scar or any other mark to indicate where the wart had been. In the second case the wart was on the scalp of an adult of middle age; it was about ⅝ in. in diameter, and projected ½ in. from the surface of the scalp. This was treated with a compress of sea-salt solution, and in the course of a few weeks it was completely dislodged; the scalp is now quite natural, only a faint red mark indicating the position which the wart had occupied.

Of the minor ailments to which we are subject, there are few which can give more acute bodily suffering, and exert such demoralizing an influence on temper and disposition, as the presence of corns on the feet. Moreover, there are conditions of life in which corns may materially interfere with the efficiency, not only of the individual, but of a body of men; for instance, the marching power of a regiment might be very seriously impaired if any considerable proportion of the men suffered from this cause.

Bearing these things in mind, I am induced to put before my professional brethren my experiences in the treatment of warts and corns, hoping I may thereby be the humble means of contributing to the relief of many sufferers.

Chichester. Arthur Eversheed.

ATHEROMA OF RIGHT CORONARY ARTERY: SOFTENING: RUPTURE.

Mrs. E. B., aged 73, one of the inmates of the Tooting Home, was taken suddenly ill on June 20th, 1905, at 8.25 a.m., with severe pain in the precordial region immediately after ascending a flight of stairs. Up to that time she was in her usual good health, being an active and intelligent woman for one of her years, and had never, so far as I know, complained of being ill.

I saw her two or three minutes after the onset of the attack, and had her undressed and placed in bed. She was very pale and collapsed, and her pulse was 130 and very feeble. The heart sounds were muffled, and could be heard only with difficulty, and no murmurs could be detected. There was some dyspnoea, and the respirations were shallow and slightly increased in frequency. The temperature was subnormal, and beyond some increase in the area of superficial cardiac dullness I could detect no evidence of abdominal or thoracic disease to account for her condition. As time wore on, signs and symptoms pointed to severe haemorrhage, and, despite the treatment indicated under the circumstances, she died at 10.5 a.m., 100 minutes after the onset of the attack.

I opened the chest next day at 3 p.m. The lungs and pleurae were normal, but the pericardial sac was distended with fluid blood to the amount of about 31 oz. I removed the heart in the usual manner. There were no evidences of aneurysm or pericarditis. There was a good deal of fat on the surface of the organ. Its cavities were empty, and the right ventricular wall was extremely thin, but there was no rupture of the heart itself or of the great vessels.

The aortic semilunar valves were all three studded with small calcareous nodules, and one valve showed a small perforation near the centre of its free border. All the other valves seemed competent enough. There were several calcareous plates in the aortic wall close to the valves; one, about the size of a sixpence, was adjacent to the origin of the right coronary artery, which was found ruptured about ⅛ in. from its origin, the perforation being about the size of an ordinary probe point. Subsequent examination showed the seat of rupture to be an atheromatous patch which had undergone fatty degeneration and softening. There was also evidence of calcareous degeneration in the immediate vicinity of the rupture. The left coronary artery presented no naked-eye appearances of disease.

Richard Ahern, M.B., B.S., D.P.H.,
Resident Medical Officer, the Infirmary, Tooting Home, S.W.

A NASAL CALCULUS.

The following case presents points of interest:

A. B., aged 42, complained of "hawking." This was due to chronic pharyngitis. No complaint was made of any discharge from the nose, but the man's speech had a slight nasal accent. On examination, there was observed in the inferior meatus of the left nostril a bismuth-coloured mass, which on probing proved to be a calculus of large size, and forming an almost perfect mould of the cavity. By crushing it I was able to remove it piecemeal, and in the middle was a small bead, which he remembered caused a lot of fuss about thirty-five years ago, but which was thought to have escaped. Projecting from the septum was an unusually long spur, which almost bridged the meatus, and had evidently locked in the small body.

I think the case interesting, first, on account of the great length of time the bead was retained; secondly, because there was almost entire absence of symptoms; and, thirdly, owing to the peculiar anatomical conditions which had led to its retention. I am aware that a spur is frequently found, but I have never seen one of so marked a character.

Blackburn. F. W. Taylor, M.B., C.M.

A CASE OF CEREBRO-SPINAL MENINGITIS.

On Monday, June 2nd, I was sent for to see a little boy in the country, aged 8 years, who was said to be suffering from a stiff neck. The day before he had attended Sunday School a mile from his house, walking both ways. He could not eat much dinner when he came home, and during the afternoon complained of pain in the back of his neck, and thirst; he passed a restless night, and did not get up the next day.

I saw him at 7 o'clock that evening. He was a thin, badly-nourished child; I found him lying flat on his back, with a slight appearance of opisthotonos; temperature 101°. He complained of pain in the upper cervical regions, but was perfectly intelligent. My son saw him at 12 o'clock the next day; he was then quite unconscious, the pupils were

irregular, Kernig's sign was well marked, his temperature was 106 4°, and about a dozen purpuric spots were scattered about his body, more particularly over the buttocks and thigh. We were starting in the afternoon to perform, at my son's suggestion, a lumbar puncture, bearing in mind the case reported by Dr. James Donelan in the BRITISH MEDICAL JOURNAL of May 27th, when a messenger arrived to say the boy was dead.

These brief and necessarily very imperfect notes may be of some interest at this time, when cerebro-spinal meningitis is attracting so much attention on the Continent and elsewhere.

Milverton, Somerset. CHARLES RANDOLPH.

URINARY RETENTION DURING PREGNANCY.

I WAS sent for recently to see a multipara, aged 25. She was in great pain, abdomen fully distended, absolute dullness and vibratory tremor well marked all over the abdomen, bulging of the perineum, and protrusion of the posterior wall of the vagina. She assured me she had passed plenty of urine. There was a history of five months' pregnancy. With slight difficulty I introduced a catheter, and drew off four quarts of urine. On vaginal examination I found an enlarged uterus retroverted and fixed; this I reduced after placing her in the genu-pectoral position.

The interest in this case is the capacity and practically unlimited distension of the bladder. The amount drawn off was carefully measured in an imperial half-pint glass measure (stamped) The abdominal distension had only arisen within the last four days. The patient has, since replacement of the uterus, passed unaided two quarts of urine at a time, and there appears to be no disturbance in the gestation.

London, E. M. CURSHAM CORNER.

REPORTS
ON
MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

YORK COUNTY HOSPITAL.

DERMOID CYST OF THE OVARY IN A CHILD.

(Reported by Mr. W. H. JALLAND, F.R.C.S., Surgeon to the Hospital.)

M. C., aged 7 years, was admitted to hospital on March 25th, 1905, suffering from a large swelling in the abdomen.

History.—She was brought by people who were not related to her, so at first it was not possible to obtain any history of the case. Subsequently, however, the mother wrote saying that the swelling had only been observed for about five weeks, during which time the child had been "off her food" and frequently sick.

State on Examination.—A large elastic swelling was found to fill up a considerable portion of the abdominal cavity: it was somewhat constricted at the umbilicus, and a distinct thrill of fluid was discernible throughout the whole of it. It reached well up under the left ribs, rising somewhat diagonally from the pelvis, where it occupied practically the whole of the hypogastric region. A diagnosis of ovarian tumour was made.

Operation.—On March 28th under chloroform the tumour was removed in the usual way. A large cyst was first reached, which was tapped and a quantity of clear fluid removed. A dermoid tumour was then found which involved the right ovary and broad ligament, and spread right across to the opposite side. The retro-vesical fold of the peritoneum was almost obliterated, but by keeping a sound in the bladder it was possible to save this from injury. The broad pedicle was tied in segments, and the abdominal cavity was washed out with sterilized saline fluid; the external wound was then closed.

REMARKS.—The child made an uninterrupted recovery and was discharged from the hospital on April 29th quite well.

BURRAGONG DISTRICT HOSPITAL, YOUNG, NEW SOUTH WALES.

A CASE OF THROMBOSIS OF THE MESENTERIC VEINS.

(By JOHN MACPHERSON, M.A., B.Sc., M.B., Ch.M.Syd.)

F. O., aged 63 old-age pensioner, was admitted to the Burragong District Hospital on the evening of March 8th, after a journey of twenty-seven miles by road and rail. He had been ill a week, the main symptoms being abdominal pain and vomiting. The physician in attendance had diagnosed his case as one of acute gastritis. On admission he was cold and collapsed, semi-comatose, and with a frequent, feeble, and rapid pulse. Strychnine and stimulants were administered freely, but he succumbed about five hours later.

An autopsy, limited to the abdominal cavity, was performed. A coil of ileum, about 6 ft. in length, extending as far as the caecum, was seen to be ecchymosed, and varying in colour from bright red to dark purple and almost black. Blood was extravasated within the mesentery and in the intestinal walls, the latter being greatly swollen and encroaching upon but not occluding the lumen of the bowel. The lumen throughout contained fluid blood and faecal matter. The peritoneum over the bowel was smooth and shining, with no sign of peritonitis anywhere. Nothing abnormal was detected in the other abdominal viscera, but the mesenteric veins from the implicated bowel were thrombosed and completely impervious.

Thrombosis of the mesenteric veins is not a common lesion, but occurs sometimes after intra-abdominal operations. In the present instance it is impossible to assign any cause. The heart was not examined, but the radial arteries were atheromatous and thickened; nutrition was poor. The old man was living alone and untended in a tent in the bush, supported only by his pension.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

OXFORD AND READING BRANCH.

Oxford, Thursday, July 20th.

A. J. DREW, F.R.C.S.Eng., President, in the Chair.

Bright's Disease.—The PRESIDENT read notes of a severe case of Bright's disease in a boy, which ended in a rapid recovery.

Pocket Test for Albumen.—Mr. H. G. ARMSTRONG followed with a description of his pocket test for albumen, and demonstrated its efficacy.

The Sanatorium Treatment of Consumption.—Dr. COLLIER opened a discussion on the sanatorium treatment of pulmonary tuberculosis. He devoted a good deal of his time to an earnest criticism of a paper by Dr. Pendred, published in the early part of the year, and later gave his opinions about the abnormal food-stuffing that was practised upon the patients in the early days of the sanatoriums. He also spoke about the effects of horse exercise, and condemned as absurd and bordering upon the indecent the four-hourly taking of the temperature in the rectum and vagina. He was in favour of sanatoriums in the high altitudes and sunny parts of Switzerland as opposed to the sanatoriums in the winter in such a climate as ours. —Professor OSLER remarked upon the great importance of early diagnosis, including the examination of the sputum, and, amongst other points opened out by the discussion, he emphasized the enormous number of tuberculous patients everywhere and how impossible it would be to place them all in sanatoriums for the time necessary to complete their cure. At present the educational portion of sanatorium treatment was the most important part of it, and both in institutions and at home other methods of treatment than the open air and isolation and disinfection had also to be carefully worked out.—Dr. PENDRED vigorously defended his own statements and statistics, also his diagnosis and percentages of cure. He remarked how often in persons of advanced years dying of various complaints evidence of healed tuberculous cavities and old pleurisy was found. Dr. REINHARDT spoke about the good effects of sanatorium treatment. He stated that the construction of chalets cost about £100 for each case. He had occasionally met with the "hotel sanatorium" and vigorously condemned it.—Mr. J. H. WALTERS and others also joined in the discussion. Dr. COLLIER in his reply dwelt upon the little attention given to drug treatment.

Cases.—Mr. WHITELOCKE showed some cases of cholecystectomy and cholecystotomy.

Thyroidectomy.—Mr. E. BEVERS read notes of a case of thyroidectomy, showed photographs of the patient, and exhibited the specimen a very large one.—Mr. WHITELOCKE remarked upon the case.

REPORTS OF SOCIETIES

Association of Registered Medical Women.—At a meeting held on July 3rd, Miss Aldrich-Blake, M.S., M.D., in the chair, Mrs. Boyd showed a disorganized kidney full of gravel removed by lumbar nephrectomy from a patient of 28, on whom she had done a nephrolithotomy three years previously. The patient complained of pain in the opposite kidney, and a correct diagnosis was made only after examination of the urine obtained by ureteral catheterization, which gave rise to pain on the sound side. A skiagraph confirmed the diagnosis, showing distinctly the lobulated outline of the kidney.—Miss Murray showed a specimen of diaphragmatic hernia, which occurred in a child of 4½ months. The hernia was subpleural, and contained large and small intestine and one lobe of the liver. There was prolapse of the other lobe of the liver and of the stomach, which was dilated. The chief symptoms were: Recession of chest wall, variable percussion note over the right base and axilla, attacks of dyspnoea and cyanosis, which were temporary, and followed by collapse; no intestinal symptoms. —Mrs. Scharlieb read notes of eight cases of pregnancy complicated with tumours. In two cases there was pregnancy, plus a healthy fibroid situated in the body of the uterus; there was no interference, a normal delivery, and convalescence, with diminution of the tumour. Another case had a rapidly-growing fibroid, with an ovarian dermoid, and pregnancy about three months. The fourth had a fibroid, which proved to be necrobiotic. In both these cases the tumour was removed, normal parturition occurred at full term, and a good recovery. The fifth case was one of fibroid, with normal parturition, but subsequent extrusion and infection of the fibroid. Vaginal myomectomy was followed by sepsis, later panhysterectomy, and a tedious convalescence. Another case had adenoma or carcinoma of ovary, and the tumour ruptured. Caesarean section and ovariotomy were performed, and the convalescence was good (1905). The seventh case was 5½ months pregnant, with glandular carcinoma of the cervix. Porro's operation was performed in June, 1903 and up to June, 1905, there was no recurrence. The last case had a cystic mole, which was spontaneously expelled, and ovarian cysts. The uterus failed to involute. Uterus and ovaries were removed. The latter contained lutein cysts such as had been described by Dr. Lockyer. —Mrs. Boyd mentioned two cases of fibroid complicating pregnancy, one at 4 months, one at term, in both of which supravaginal amputation of the uterus was practised—in the first case without opening the uterus, in the second after delivery of a living child by Caesarean section. The first case recovered well; the second died on the third day with adhesion of a coil of intestine to the area of the previously-adherent fibroid. Also two cases of cancer of the cervix complicating pregnancy, one at 5 months, one at 7 months, in both of which the uterus was removed by abdominal panhysterectomy; in the earlier case entire, in the 7-months' case after delivery of a living child by incision of the uterus. The first case recovered well, and was still free from recurrence after a year; the second case died shortly after operation from respiratory failure, due, apparently, to the prolonged Trendelenburg position. In both the panhysterectomies bleeding was troublesome during the operation from large veins in the base of the broad ligament.—Mrs. Keith mentioned the following cases:

Case I. Mother of eight living children, ten weeks pregnant, suffered from hypertrophied spleen, floating, with long pedicle. Laparotomy: removal of spleen; perfect recovery. Full term normal labour, infant weighing 9 lb. Both did well. Case II. Pregnant for first time, found suffering from right ovarian cyst: laparotomy and removal of cyst. Miscarried of 4-months' fetus on fourth day after operation. She made a good recovery, and has had four children since, all healthy. Cases III and IV. Both between ten and twelve weeks pregnant, and suffering from ovarian cysts. Laparotomy with removal of cysts: good recoveries; full-term normal labours, and healthy children. Case V. a primipara, found to be suffering from a subperitoneal fibroid, size of golf ball, was watched carefully, went on to full term, had a long labour, ending with forceps, child 10½ lb.; no undue haemorrhage. She had had two miscarriages since, at eleven weeks and four months respectively; the tumour had grown to the size of a small apple.

Bequests to Medical Charities.—Miss Ellen Priscilla Bradley, of Eastbourne, who died on July 3rd, bequeathed £1,000 to Guy's Hospital, £200 to the Mother Superior of St. Mary's Hospital and Home, Queen's Square, Brighton, for the general purposes of that institution, and £100 to Princess Alice's Hospital at Eastbourne, all free of duty.

REVIEWS.

CLINICAL MEDICINE.

Professor Huchard's second series of clinical lectures[1] consists of three communications, read before the Academy of Medicine, of numerous hitherto unpublished addresses and of certain portions of his *Treatise on Neuroses*, rewritten and brought up to date. There are in all forty contributions, ranging over the whole field of clinical medicine from the mental condition of neurasthenics to the treatment of high arterial tension, and from the indications for sanatorium treatment to the comparative value of digitalis leaves and digitalin. The work is essentially practical; the pathological aspect of disease is hardly ever discussed. The various sections are of very unequal value; one could wish, indeed, that some of them had not been rescued from oblivion by the pious care of Dr. Huchard's pupils. There is, for instance, a chapter on "pneumonie cérébrale" in children, in which a very ordinary set of symptoms in infantile pneumonia is magnified, on the strength of a single case, into an important and rare type. The chapters relating to diseases of the circulatory system are, as was to be expected, the strongest in the book; the author's well-known views on angina pectoris and its simulants are again and convincingly urged. There are also some useful articles on diseases of the digestive system, of which those upon hepatic disorders are the best; with regard to the respiratory system, the writer is on less familiar ground, and his tread is by no means so sure. One of the most noteworthy chapters is that with which the volume opens; it extends to over fifty pages, and is concerned with the question of blistering. The history of this time-honoured remedy and its vicissitudes in practice are well set forth, and after a most careful review Dr. Huchard concludes that its day is over. He bases his reasoning, which was presented before the Academy of Medicine, upon scientific as well as clinical grounds, and expresses surprise and some little scorn that his views have not been more generally adopted. We would commend to his notice the very practical papers on this subject which have been published by Dr. Caton of Liverpool.

In celebration of his seventieth birthday Professor Senator's assistants and pupils have put together a volume of contributions to clinical medicine.[2] Of the thirty articles which make up the book, one of the most substantial is that by Professor H. Strauss on gastro-intestinal auto-intoxication. He deals with his subject from the chemical standpoint, and, as in all his work, presents in condensed form a mass of valuable information about clinical chemistry. There is a useful discussion by Professor Rosenheim on the dietary treatment of chronic diffuse intestinal catarrh in adults; and of the rest of the book it may be said that though some of the articles are rather scrappy, the majority will be read with interest.

Dr. A. Kühn has put together in a useful volume the important clinical and bacteriological points which are to be considered with a view to the early diagnosis of typhoid fever.[3] The clinical manifestations of the early period of the disease are very fully considered, and there are interesting chapters on atypical forms, the detection of typhoid fever in children, and differential diagnosis. All the more important methods of blood examination which have a bearing on the disease are described, the many different ways of performing the agglutination test are explained, and the significance of positive results with different dilutions of serum is discussed in detail. The chapter on the use of culture media for the differential diagnosis of typhoid bacilli is well up to date, and gives in a clear and concise manner the points of practical interest in the various methods which have recently been recommended. We agree with Dr. Kühn that the ideal medium for isolating typhoid bacilli from faecal material has yet to be found, and we are glad to see that his praise of Drigalski and Conradi's medium is tempered with cautious advice as to the importance of carefully investigating the blue, typhoid-like colonies

[1] *Nouvelles Consultations Médicales, Clinique et Thérapeutique* [New Clinical and Therapeutic Discourses] By H. Huchard, Physician to the Necker Hospital; Member of the Academy of Medicine. Paris: J. B. Baillière et Fils. 1904. (Demy 8vo, pp. 620. Fr. 12.)

[2] *Beiträge zur klinischen Medizin.* Festschrift Herrn Geheimrat Professor Senator zur Feier seines siebenzigsten Geburt-tages gewidmet. Berlin: August Hirschwald. 1905. (Demy 8vo, pp. 461; portrait of Professor Senator. M. 12.)

[3] *Die Frühdiagnose des Abdominaltyphus.* Von Dr. A. Kühn. Jena: Gustav Fischer. 1904. (Demy 8vo, pp. 154. M. 3.60.)

before arriving at a definite diagnosis. Both the clinician and the bacteriologist will feel indebted to Dr. Kühn for summarizing in one volume the extremely scattered and extensive literature on the subject of typhoid diagnosis.

Written for the benefit of beginners in clinical study, the small handbook on auscultation and percussion of the lung and heart,[4] by Drs. VIRES and PAGÈS, makes no pretensions to originality, nor does it attempt to deal with controversial matter. In arrangement it follows much the same lines as those adopted by the smaller textbooks in our own country. The value of close inspection of the form and movements of the chest under varying morbid conditions of lung and of heart is fully considered, and many small but important points dwelt upon that are more commonly seen by experienced eyes than by those of beginners. The usual methods of physical examination and the significance of morbid signs are set forth in clear and terse terms. Some of these, such as the diagnosis of pleuritic effusions by means of combined auscultation and percussion with coins, are but seldom employed in our home schools. The latter half of the work deals with the physical examination of the heart in health and disease, and will be found to include references to the latest work on Stokes-Adams disease, embryocardia, and other anomalies of cardiac rhythm. The book as a whole forms a compact and trustworthy guide to the subject indicated by its title.

PATHOLOGY.

WE thoroughly approve of the motives which appear to have actuated Dr. RICKER in his endeavour to draw up an outline of pathological relations.[5] It is his desire, we gather, to introduce into the study of pathology something more of the philosophical spirit, to call attention to the importance of interpreting the details of pathological processes in the light of certain fundamental elementary principles. The "relations" on which he lays particular emphasis are the conditions which govern the vascular supply of an organ, the relationship of the cardio-vascular to the nervous system, and the influence of these factors in determining local nutrition, hyperplasia, and atrophy. These matters are all of the highest importance, and ought never to be lost sight of, as they not infrequently are, in the detailed study of the morbid processes which are characteristic of any particular disease. But there is such a thing as the wearisomeness of reiteration. Dr. Ricker's leading ideas, though on the whole sound, are neither new nor sensational: they might be quite adequately expressed in a short introductory chapter to any work on general pathology. Repetition, if carried to excess, implies an insult to the intelligence of the reader, and we fear that the average student of pathology will become so wearied of Dr. Ricker's method, as exhibited on almost every page, of translating pathological details into some half a dozen general ideas, that he will cease to attach to these ideas the importance which they deserve.

Dr. SIDNEY MARTIN'S *Manual of General Pathology*[6] consists practically of a series of essays; these are in general of high, though unequal, merit, but can hardly be properly described as a systematic work on general pathology. Within the limits which Dr. Martin has imposed upon himself he is a trustworthy guide, and the present work bears high testimony to his accuracy and his power of concentrated expression. Dr. Martin is at his best in his summaries of Ehrlich's side-chain theory and of Mott's work on degeneration of the neuron. The section on the effects of toxins is excellent, and that on the pathological changes in the blood corpuscles quite sufficient.

The first volume, devoted to general pathology, of Professor ZIEGLER'S textbook of general pathology and pathological anatomy[7] has now reached its eleventh edition. In reviewing recent contributions to our knowledge of pathology, Professor Ziegler pays a high tribute to Schaudinn's researches in parasitology, and also emphasizes the importance of the latest discoveries which have been made on trypanosomiasis, the properties of agglutinins, precipitins, and allied bodies, and the formation of antitoxic and antibacterial substances. He does not consider that the enormous mass of literature dealing with tuberculosis which has been published of recent years has effected any substantial alteration in the views previously held as to the etiology and genesis of that disease; nor has the opinion been in any way invalidated that the tuberculosis of man and of domestic animals is intercommunicable. With regard to a knowledge of the etiology of malignant disease, he does not find that any very substantial advance is to be recorded.

Professor LUBARSCH has commenced the publication of a work on general pathology[8] which is unusually comprehensive in its scope and is likely to prove of great value. In addition to dealing exhaustively with the morphological aspects of the subject, it is the purpose of the author to develop the significance of physiological principles in their bearing on disease, and to bring pathology as closely as possible into touch with practical medicine. The work will be issued periodically in separate instalments and will be completed in about two years. The first part, which is now published, deals with the cell and with the general pathology of the circulatory system. We are very favourably impressed with the clearness and the thoroughness with which Professor Lubarsch treats his subject, and hope to discuss his work in detail when further issues have appeared.

DISEASES OF THE SKIN.

THE issue of a seventh edition of HYDE and MONTGOMERY'S *Treatise on Diseases of the Skin*[9] is a proof of the popularity the book has attained among medical readers. The work of the Chicago dermatologists has already been dealt with in these columns, and its many excellent features described. Advantage has been taken of the opportunity of a new edition to bring the book up to date, so that it is only necessary to say that the success of the treatise is sure to be maintained. One or two friendly criticisms may, however, be allowed. It is not quite correct to say that the term "prurigo" is applied with looseness in this country, at any rate as far as dermatologists are concerned. On the other hand, prurigo mitis of Willan and prurigo ferox of Hebra are one and the same, the difference being one of degree. As to pruritus, it is, after all, only a label attached to a symptom, so that it cannot fairly be called a well-recognized disease. Again, pemphigus hystericus hardly comes into the category of herpes gestationis, seeing that the former is often described as occurring in quite young women, and apart from gestation. With regard to hereditary syphilis, so-called, the English term "congenital" is perhaps the better way of putting it at this stage of knowledge. In the treatment of syphilis intramuscular injection is certainly a better description than subcutaneous, as the latter is apt to be misleading. To say, too, that the injection is to be made into the gluteus without any further details is also somewhat crude. Fig. 49 of hydroa vacciniforme does not convey anything to the reader. Vmarschalko (p. 74) should be von Marschalko. Apart from one or two oversights of this kind, the book is one which can be recommended.

Among the subjects chosen for discussion at the recent International Congress of Dermatology, Berlin, 1904, that of the connexion between morbid skin conditions and metabolic phenomena was one which lent itself to wide survey. Whilst the other reporters selected limited themselves to a more or less general and rapid review, Professor JADASSOHN[10] went into the subject most exhaustively. The result is a paper which covers the ground in the widest sense, and wherein many a future writer will dip for references, for the bibliography, with notes, contains no less than 462 paragraphs,

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[4] *Précis d'Auscultation et de Percussion du Poumon et du Cœur* [Epitome of Auscultation and Percussion of the Lung and Heart]. By Professor J. Vires and Dr. P. Pagès, of Montpelier. Paris: Masson et Cie. 1905. (Crown 8vo, pp. 185.)

[5] *Entwurf einer Relationspathologie.* Von G. Ricker. Jena: Gustav Fischer. 1905. (Demy 8vo, pp. 84. M. 1.80.)

[6] *A Manual of General Pathology.* By Sidney Martin, M.D., F.R.S., F.R.C.P., Professor of Pathology in University College; Physician to University College Hospital, London. London: John Murray. 1904. (Demy 8vo, pp. 592. 12s.)

[7] *Lehrbuch der allgemeinen Pathologie und der pathologischen Anatomie.* Von Dr. Ernst Ziegler. Zwei Bände. Elfte neu bearbeitete Auflage. Erster Band. *Allgemeine Pathologie.* Jena: Gustav Fischer. 1905. (Roy. 8vo, pp. 810, 604 illustrations, some coloured. M. 13.)

[8] *Handbuch der allgemeinen Pathologie.* Ein Hand und Lehrbuch für Aerzte und Studierende. Von Professor Dr. Otto Lubarsch. I Band. I Abteilung. Wiesbaden: J. F. Bergmann; and Glasgow: F. Bauermeister. 1905. (Roy. 8vo, pp. 317; 72 illustrations, 5 plates. 7s.)

[9] *A Practical Treatise on the Diseases of the Skin, for the Use of Students and Practitioners.* By James Nevins Hyde, A.M., M.D., and Frank Hugh Montgomery, M.D. Seventh edition. London: Henry Kimpton. 1905. (Demy 8vo, pp. 938; 107 engravings and 14 plates in colour and monochrome. 28s. net.)

[10] *Hautkrankheiten bei Stoffwechsel-Anomalien.* Referat erstattet dem V. Internationalen Dermatologen-Kongress in Berlin (September, 1904) [Diseases of the Skin in Anomalous Conditions of the Body Metabolism. Report to the Fifth International Congress of Dermatology, Berlin, 1904]. Von Professor Dr. J. Jadassohn. Berlin: A. Hirschwald. 1905. (Demy 8vo, pp. 122. M. 3.)

many giving a number of indications to papers with their titles. After some general introductory remarks, the author reviews the following well-recognized metabolic derangements: Obesity, gout, and diabetes. The remarks on gout will interest many readers. Gout is a magic word, covering a multitude of intoxications of which we know essentially very little, but the term will long continue to be a convenient refuge for the destitute and a fetish that the man in the street will hug to his breast with comfort and complacency, although uric acid is running it hard. The connexion of gout and skin diseases has been grossly exaggerated on the one hand, or denied altogether on the other. That gouty manifestations may play a part in cutaneous ills is undeniable, and where present they should, of course, be dealt with on general principles. It is interesting to note that, although the author sees, for instance, many cases of eczema and psoriasis, gout is very rarely met with by him. He has observed, too, that among the few who exhibit manifestations of gout, mainly Englishmen, he has not seen any favourable result *qua* the skin follow from the application of therapeutic measures directed against the constitutional condition. The chapter on diabetes is also well done, xanthoma diabeticorum being very fully discussed. The internal secretory glands are next considered—namely, suprarenals, thyroid, pituitary body, and genital glands; then follows an examination of the work accomplished in connexion with the intestinal tract, the liver, pancreas, kidney, and the blood. The liver is considered chiefly from the point of view of xanthoma hepaticum so-called. In these sections many points are touched upon, but the net result must be the acknowledgement that our ignorance is great, notwithstanding the large amount of work already done. Much more remains to be done in the way of research, but it is satisfactory to know that progress is being made; we are on the road, and will come within reach of the goal in time. Various other matters are dealt with, such as autotoxic dermatoses, where malignant growths (internal) are present—a subject of some importance. In conclusion, the theory of diatheses is discussed, especially from the point of view of some of the modern French writers. Dr. Jadassohn's industry has produced a report well worth reading by the general physician as well as by the dermatologist.

In the reprint of hygiene of the skin in early infancy,[11] from the treatise on the hygiene and pathology of the suckling, Dr. Paul Gastou reviews the various morbid skin conditions and their treatment. In the early chapters he deals with the etiology and the pathogenesis, touching on the anatomy of the skin, heredity as a factor in causation, and, what is so dear to French writers, the diathesis. The author defines scrofula as a subacute or chronic septico-pyaemia, hereditary or acquired, standing apart from tuberculosis. It is a little difficult for the English reader to follow him here, especially as regards the so-called arthritic and herpetic diathesis. He insists rightly on the influence of disturbances of the alimentary tract. General hygiene, prophylaxis, and treatment are next reviewed, the remainder of the book being devoted to symptomatology and treatment of individual diseases. In ainhum it is the little toe, and not the big, which is usually amputated, nor is there any evidence to support the view that it is a leprous manifestation. From the differential diagnostic point of view, the remarks on papulo-erosive erythema about the buttocks of infants may be mentioned, for it is important to distinguish the condition from congenital syphilitic infiltrations. Congenital syphilis is not dealt with, the subject forming a separate section of the treatise by another author. It would have been more practical had congenital syphilis been included alongside the cutaneous diseases of infants, especially as it was a subject Dr. Gastou was specially fitted to deal with. Taking the reprint as a whole, readers will find in it a good survey of the morbid conditions of the skin met with in the suckling. The illustrations will be helpful, bearing in mind that those representing erosive erythema of the buttocks and legs look very much like what is observed in congenital syphilis.

THE HEART.

Dr. de Cyon's book on the nerves of the heart[12] is a treatise of a most exhaustive character from the pen of a veteran physiologist and physician. Conceived as long ago as the year 1870, this remarkable work teems with historical, scientific, and clinical interest. It traces the lines of thought and experiment which have led to our present knowledge of the subject, and apportions due credit to those who have advanced it, while pointing out with vigour the fallacies, founded upon imperfect observation, which have from time to time retarded its progress. M. de Cyon has written much during the last forty years. His earlier work, published in 1867, on tabes dorsalis, has often been quoted in our own textbooks, but in the course of the last two decades physiology has claimed his attention, and his writings have been chiefly studied in Berlin and St. Petersburg. To attempt anything like a detailed examination of the work before us would make too great a demand upon available space. A long preface on the relations of medicine to physiology and bacteriology laments the lack of State recognition for the former, while it examines, in a very critical and rather scornful spirit, the claims made by bacteriology as an aid to curative medicine. The teachings of Metchnikoff are somewhat ruthlessly dissected, and the powers alike of phagocyte and serum are regarded as unduly exaggerated. The value of bacteriological research outside the body and its result in means of prevention are obviously of more importance in the author's mind than all the serums or tuberculins that can be devised. Much space is devoted to a minute examination of the evidence as to the intracardiac nervous system and the various experimental proofs that have been accumulated by observation of the heart, when removed from the body and artificially nourished, in cold and warm-blooded animals respectively. The conclusions arrived at have already been accepted and included in the standard textbooks, but the story of the steps that have led up to them has more than historic value. The centrifugal and centripetal nerves of the heart are in like manner dealt with. The influences which modify and the laws which govern the action of the cardiac nerves, and, lastly, the theories of the innervation of the heart, are each in turn exhaustively examined, and the work concludes with a very full bibliography, covering the labours of three centuries.

Four years have elapsed since the appearance of the first edition of Dr. Colbeck's *Diseases of the Heart*,[13] and the favourable impression which we then formed as to its value to the student and practitioner has been fully endorsed in more practical fashion by the absorption of the first issue and the demand for a second. The convenience of rapid reference to any obscure clinical point that may arise in the course of practice is very great, and the author has evidently had the practical needs of his readers in mind when deciding as to the form in which his information should be set forth. Hence the style is of necessity somewhat terse, but whatever it may lack in literary form it gains in clearness and precision, and these are the qualities most sought for when clinical information is required. Not much in the way of new treatment has been achieved since the first issue of the book appeared, but a good deal of attention has of late been directed to the question of ulcerative endocarditis. The very numerous forms of systemic poisoning that may give rise to it, the occasional presence of micro-organisms in the blood in such cases, and the association, lately demonstrated by Dr. Horder, between the cardiac condition and the influenza bacillus will doubtless receive further attention in a subsequent edition. The present work is kept within the limit of size of its predecessor, but contains several minor improvements and additions, and we can cordially repeat our previous commendation of it as a useful, concise, and trustworthy guide.

NOTES ON BOOKS.

The lecture on *Ankylostomiasis, or Miner's Worm Disease*, delivered before the Royal Society of Edinburgh last March by Professor Oliver, of Newcastle-on-Tyne,[14] has been reprinted from the Proceedings of the Society. It contains a historical summary of the prevalence of the disorder, and an account of the anatomy and physiology of the worm, illustrated by a photograph, natural size, and by a coloured drawing of the worm and ova.

This issue of the *Beiträge zur klinik der Tuberkulose*[15] contains

[11] *Hygiène et Pathologie cutanées du Premier Age* (Hygiene and Pathology of the Skin in Early Infancy). Par le Dr Paul Gastou. Paris: O. Doin. 1905. (Demy 8vo, pp. 8[illegible]; 12 plates, 7 illustrations. Fr. 4.)

[12] *Les Nerfs du Cœur* (The Nerves of the Heart). Par Élie de Cyon. Paris: Felix Alcan. 1905. (Demy 8vo, pp. 255; 45 illustrations. Fr. 6.)

[13] *Diseases of the Heart*. By Edmund Henry Colbeck, M.D.Cantab., F.R.C.P. Second edition. London: H. Kimpton. 1904. (Demy 8vo, pp. 3[illegible], 43 illustrations. 7s. 6d.)

[14] Edinburgh: Grant and Son; London: Williams and Norgate. 1s.

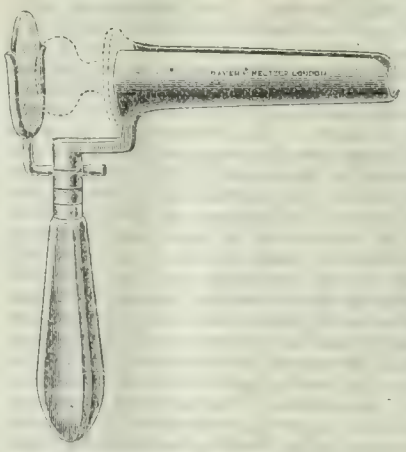
[15] *Beiträge zur Klinik der Tuberkulose*, Band iv., Heft 1. Würzburg. 1905.

several interesting articles. In the first of these Dr. Eugen Binswanger, Assistant Medical Officer to the Dresden Home for Infants, gives an account of some test injections with tuberculin on healthy nursing women. Incidentally he draws attention to the observation that suckling does not appear to be harmful to a consumptive mother, whatever may be said as to its influence on the child. On the contrary, the general and local conditions of certain phthisical mothers under observation appear to have improved whilst they were nursing their infants, possibly as a result of the rest and good food which they enjoyed during this period. Whatever may in any case be decided as to the advisability of allowing a tuberculous mother to suckle her own infant, there can be no question as to the importance of insuring that no one should be selected as a wet nurse who is in any degree affected with tuberculosis. To ensure that those selected were free from tuberculosis injections of tuberculin were given for test purposes. During the year 1904, 78 nurses were injected, and of these 26 showed a positive reaction, whilst of those tested in 1903, 26 out of 91 reacted. As the injections were only given in those cases in which there were no clinical signs of tuberculosis, it appears that of persons who are clinically healthy nearly 31 per cent. may have latent tuberculosis. Dr. Franz Hamburger, Clinical Assistant to the Royal University Children's Clinique in Vienna, writes on the subject of passive immunization through feeding. Although in children above the age of sucklings, and in adults, unaltered albumen is not absorbed, it is so in the newly-born, and thus immunization by means of feeding on the milk or serum of immunized animals is theoretically possible in infants. No antitoxin can be detected in the blood of an adult who has taken antitoxic serums; it can, however, be found in the case of newly-born infants who have taken such serum with their food. Ehrlich showed that newly-born white mice can be immunized by being fed on the milk of an immunized animal. Discussing the possibility of immunizing the human infant in this manner, Dr. Hamburger concludes that as regards tuberculosis, von Behring's plan does not hold out much probability of success. Professor von Behring's Cassel Lecture furnishes the text for another article in this volume—the tuberculosis of infants in the light of old and new researches. In this article the author, Dr. J. Ibrahim, Assistant in the Children's Clinique at Heidelberg, gives reason against accepting von Behring's theory that tuberculosis in infancy is frequently caused by the ingestion of infective milk. He concludes that not the milk but the tuberculous surroundings form the main source of tuberculous infection in infants. Discussing the question of chronic mixed infection in the course of pulmonary phthisis and the serum treatment of this condition, Dr. G. Schröder concludes that the theoretical value of an antistreptococcic serum treatment of phthisis rests on very weak foundation. Dr. O. Roepke speaks favourably to tuberculin in the treatment of laryngeal tuberculosis, and the volume is completed with three short articles.

MEDICINAL AND DIETETIC PREPARATIONS AND MEDICAL AND SURGICAL APPLIANCES.

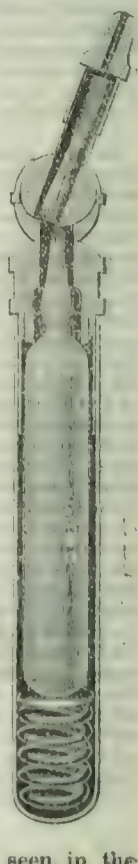
Diabetic Foods.—We have received from Messrs. Callard and Co. a box of their new Casoid meal biscuits, which have been produced recently by this firm for the use of diabetics, and are stated to be starchless. We have examined these biscuits, and find that they are, as stated, entirely free from sugar and starch, and may be safely used in the treatment of diabetes. They are agreeable to the palate, and we expect they will prove popular. We have also received from the same firm a jar of "sugarless" jam. This is a fruit jelly, but we think it unfortunate to call it "sugarless," as, although the amount of sugar, according to our estimate, is very small (1.6 per cent., or 7 gr. to the oz.), it is sufficient to reduce Fehling's solution; and those practitioners who examine new articles of diet before allowing their patients to use them may naturally have their suspicions aroused by obtaining a positive reaction. The quantity present is so small that this jam may be used by diabetics in moderation without danger, and in the case of children, who are so difficult to diet, it will doubtless be found most useful.

A Magnifying Rectal Speculum.—The annexed illustration depicts a new rectal speculum which has been made by Messrs. Mayer and Meltzer to the order of Sir Lambert Ormsby of Dublin. Attached to its opening is a metal half-arch to hold a powerful magnifying glass; this can be turned in any direction or fixed by screwing up the handle. The

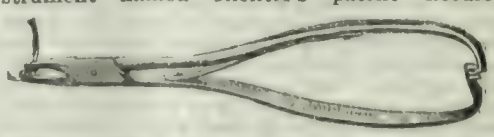


instrument has a split at the side, and being provided with a wooden plug for each end and a convenient handle is easy to introduce. Concerning it Sir Lambert Ormsby writes: "All who have had much special practice in rectal surgery know too well how difficult it is in many cases to explore and accurately ascertain the appearances *in situ* of growths, ulceration, etc., and to observe the normal and abnormal mucous surface of the rectum some inches up from the anal orifice. After careful exploration with the finger one would always like to have an ocular inspection of the cause of pain such as produced by ulceration, haemorrhage, abnormal growths, piles or polypi. This instrument largely magnifies, and thus enables the surgeon to see very plainly the exact condition of the mucous surface of the lower rectum." He has been using it for some months and finds it fully meets the object in view. If necessary a small electric light can be used to secure sufficient illumination.

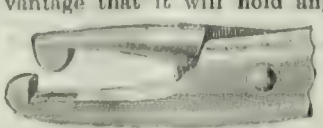
Automatic Capsule Breaker.—The annexed engraving represents in half-section an automatic anaesthetic capsule holder and breaker which has been manufactured to the specification of Mr. Vernon Knowles of Reading by the Dental Manufacturing Company, of Lexington Street, W. The illustration practically explains itself; the capsule to be used is placed inside the holder and kept driven up to its neck by the contained spring. The nozzle of the holder is attached by a socket joint, and at the desired moment the neck of the capsule is cut through simply by bending the nozzle with the forefinger in the direction in which it is wished the spray should fall. The advantages of dealing with a capsule in this way rather than by breaking its neck with a file or cutting it through with a pair of scissors are sufficiently obvious. No particles of glass are scattered, and there is no loss of liquid, since the "aiming" of the capsule and the fracture of its neck are simultaneous. This instrument is well made, and being of a practical character should grow into popular use. Double holders can also be obtained for use in cases in which operation is likely to be prolonged or in which anaesthesia is likely to be not readily procured.



A Needle Holder.—We have received an instrument named Richter's patent needle



holder, which possesses the conspicuous advantage that it will hold any needle in any position. The ingenious and simple mechanism which gives it this advantage is well seen in the



accompanying illustrations. It obtains a very firm—practically an immovable grip of the needle, and this is released automatically at the catch. The holder can be taken to pieces for cleaning purposes. It is made in four sizes, 4½, 5½, 7, and 8 in., and can be obtained from F. L. Anderson, 1, Furnival Street, London, E.C.

AMERICAN MEDICAL ASSOCIATION.

The American Medical Association held its fifty-sixth annual meeting at Portland, Oregon, on July 11th, 12th, 13th, and 14th, under the Presidency of Dr. Lewis S. McMurty, of Louisville, Kentucky.

President's Address.

The President took as the subject of his address, "the American Medical Association, its Origin, Progress and Purpose." He said that when the Association was organized in 1846 it was doubtful if there were more than 25,000 practitioners in the entire United States of America. It was organized as a representative body of delegates from all State, district, county and other medical societies which adopted the code of ethics of the national Association. The apportionment of delegates was on a basis of one for every ten members of the societies represented. For a number of years the body thus constituted was not too large for the discussion of important subjects and the transaction of business. With the rapid increase in population, the admission of new States to the Union, and the settlement of new territories, came a vast increase of practitioners, with a corresponding multiplication of State and county societies. Without change in the apportionment of delegates, the national Association developed into a body too unwieldy for the transaction of business. During the latter years, under the original system of organization, practically every member in attendance on the annual sessions was a delegate. While the work of the sections was carried on with increasing excellence, the important functions relating to legislative and other matters belonging to a great national organization of the medical profession were neglected. The general sessions brought together hundreds of delegates, forming a convention so large that thorough discussion of important questions and judicious action on the same became practically impossible. Moreover, the delegates attending the annual sessions constituted a body annually changing in *personnel*, and the sources of attendance changed with the sections of the country in which the meetings were held. In consequence there could be neither that equal representation of all sections which must obtain in a national body, nor continuation of work from year to year along definite lines. During these early years it was the steady improvement in the work of the sections which drew the best element of the profession to the annual sessions. Many leaders of the profession in the various States attended the sections in which they were interested, and took no part in the proceedings of the general meetings. The sections had now reached such a high degree of efficiency that they had attained the standard so much desired, and ranked as leading special national societies in the several departments of medical science which they represented. As chairman of the Committee on Sections and Section Work, he had carefully studied the workings of the sections. As a result of this experience, he would repeat the recommendation of his distinguished predecessor in that chair, that the secretary of each section should be elected for a term of years. No national society could maintain its efficiency which changed its secretary annually. Again, he would suggest that the officers of the several sections should meet together in conference as soon as practicable after the adjournment of the session at which they were elected, in order that definite plans might be formulated for the scientific work of the next annual session. Speaking of the *Journal of the American Medical Association*, the President said that when it was decided to discontinue the annual volume of *Transactions*, and to establish a weekly journal, the change was viewed with apprehension by many. The influence of this publication, the property of the Association, in stimulating research, diffusing knowledge, elevating professional thought and conduct, and building up this great organization could not be computed. The volumes of the journal marked the steady and continued growth of the Association, and likewise bore testimony to the fact that the journal itself had been a potent factor in that growth. The power exerted by such a publication as a medium of communication among the members of the Association was inestimable, to say nothing of the other more important functions performed by a great weekly journal. At the annual session of 1900 a committee on reorganization was appointed, and one year later, at St. Paul, the report of the Committee was submitted and adopted. It included a new constitution, which altered the basis of apportionment for delegates, so as to reduce the delegate body to 150, and definitely established a close relationship between the national organization and the State, district and county societies. For the first time a practical scheme of complete organization of the medical profession of the United States was provided. Previous to the reorganization, the valuable scientific work of the sections constituted almost the sum total of the effective work accomplished by the Association. Matters appertaining to medical education, to the public health, to national legislation, and to the welfare of the profession received no deliberate consideration; and in consequence no decisive action was carried out. The very objects and aims for which the Association was organized were thwarted by the growth of the Association into an unwieldy delegate body. Under the reorganization, the House of Delegates, in which the membership of the State societies was proportionately represented, now gave deliberate consideration to those important matters, already indicated, which under the former organization were neglected. The influence of the revised plan of organization was immediately apparent in the increased attendance at the annual sessions, and the stimulus felt in every purpose of the Association. Each year the influence had grown, until some idea could now be formed of the great possibilities to come from organization on a definite and practical plan. During the more than half-century of its existence the Association had always brought to its councils the ablest and best men in the profession of America. It had from the beginning been a great power with the profession of America. But the promotion of scientific investigation and the diffusion of medical knowledge were not the only objects of organization. The profession had a most essential and important duty in relation to the public health. Through no other agency could municipal, State, and national health authorities formulate and secure recognition of laws to prevent and control disease. Another duty no less essential was so to regulate and to control medical education that the ignorant and unworthy should not be admitted to the privileges of the profession, thereby preserving the time-honoured standard of professional honour and scientific capability. In this age of organization, without it the profession was powerless to secure the enactment of humane sanitary laws, by which alone the people could be protected from preventable diseases. The welfare of the profession, collectively and individually, could only be subserved by organization. The Committee on Reorganization appointed in 1900 had treated that subject in a masterly manner. After a careful study of the condition of the profession throughout the States with relation to organization, reports were made showing the needs of the profession and the extent of the work required. A uniform plan of organization of State and county societies, making the county society the unit of organization, and federating all State societies in the national Association in harmonious co-operation, had been prepared by the Committee. In the chairman's latest report it was announced that all the States and territories except three, and including Hawaii and Porto Rico, were now organized on a practically uniform plan, with universal local societies, and coincident membership in them and the State associations as the cardinal feature. To illustrate the magnitude of this work the President mentioned that, under the stimulus of reorganization after the plan of the Committee, the Michigan State Medical Association increased in membership in one year from 452 to about 2,100. Texas increased the membership in the same time from 382 to 2,510, while several States quadrupled their membership. It would, however, be realized how much remained to be done when it was considered that few of the States had over 50 per cent. of the eligible members of the profession enrolled as members of the society. What had been accomplished was an assurance for the future. Dealing with medical education, the President said the consideration of that subject in the House of Delegates culminated in the establishment last year of the Council on Medical Education of the American Medical Association. The first annual conference was held in Chicago on April 20th. Representatives of many State examining and licensing Boards of the American and Southern Medical College associations, and of the Government medical services, attended. By securing co-operation of the various State and national bodies engaged in this important work, recognizing the varied interests involved in the numerous States of the Union, and fostering an intelligent public sentiment, so essential for every great reform, the influence of the Association would be of the most effective character. A Committee on Medical Legislation "to represent before Congress and elsewhere the

wishes of this Association regarding any proposed legislation that in any respect bears on the promotion and preservation of the public health, or on the material or moral welfare of the medical profession," was appointed in 1903. With the auxiliary committee, representing every State in the Union, and the several medical departments of the Government service, every representative of the people in Congress could be reached easily. The disregard of good work of the medical profession in the public service (to say nothing of the indignities offered) on the part of Congress was notorious; and it was only by such concentrated power of the profession, intelligently directed, that such injustice might be overcome. The President proceeded to point out that the use of proprietary medicine in the treatment of diseases had become one of the most confusing and demoralizing questions of the day. All proprietary medicines must not be classed as secret nostrums, for there were many honestly-made and ethically-advertised proprietary preparations that had therapeutic value and that deserved the approval of the medical profession. But there were many preparations offered the profession, protected by copyright or trade-mark, with formulae more or less fictitious, which were in fact secret remedies. These preparations were so exploited by the manufacturer that the practitioner was persuaded to use them instead of writing a prescription. The separation of the legitimate pharmaceutical preparations from the class of fraudulent nostrums described was a most difficult undertaking. That perplexing problem forced itself from year to year on the attention of the Board of Trustees in the effort of the Board to keep the advertising pages of the *Journal* free from unethical advertisements. In order to have thorough protection and to make no unjust discrimination, the Board had established a Council on Pharmacy and Chemistry to make the necessary investigations. The Council was composed of pharmacists and chemists of national and international reputation. It would be the aim of the Council to publish in book form a list of the preparations which were not officinal, yet which conformed to the proper ethical standard. The work of the Council would be similar to that of the Committee on Revision of the United States *Pharmacopeia*. In conclusion, the President said the possibilities of the work before them were almost beyond calculation. In acting as the representative and agent of the 120,000 physicians of the United States, the Association was assuming great responsibilities, which would increase from year to year. It would require administrative and executive ability of the highest order to meet these demands; but there was both prophecy and proof in the work already accomplished that men would appear as needed to discharge the supreme duties of a great profession in behalf of science and humanity.

The Oration on Medicine.

The Oration on Medicine was delivered by Dr. Charles G. Stockton (Buffalo) who took for his subject the Delay of Old Age and the Alleviation of Senility. He considered the feasibility of so managing the senile that, once their degeneration had arrived, many of their miseries might be avoided, and the remainder lessened in degree. Senile changes were always pathological, and, therefore, the question of prematurity rested on some pathological reason for cause, or else upon inherent weakness in human vitality. Obviously, real progress could not be made without accumulating data from which to deduce positive conclusions. At present information was lacking on such simple matters as the effect on the organism of diet, exercise, recreation, and rest. To begin with, they must know something about the material with which they had to deal—the inheritance, the reserve powers, the internal resistance of the individual. In fact, very little was known concerning the inheritance of any one. All are more or less obscure in the matter of family history. It would not seem to be altogether impossible to acquire some official record of the physical and intellectual qualities—in other words, strains in men. Love was said to know no barriers, but history failed to confirm this view. If a matter of class, of caste, or rank, had been sufficiently important to control the forming of marriage contracts, it was not impossible to conceive of a more intelligent public sentiment which would make an alliance with a family celebrated for physical, intellectual, and moral superiority a thing greatly to be desired; and conversely, which would lead to the abhorrence of an alliance with a family in which freaks, degenerates and incompetents, or in which a tendency toward lowered nutrition, too early maturity, or premature senility were frequent events. The notion that acquired characteristics could have any transmitted influence on the character of the offspring, as formerly taught by the Lamarckians, was still doing great harm. Young people should be instructed in the fact that the well-being of their posterity depended almost altogether on the native stamina of the germ plasm with which they were endowed. They should be taught to understand the responsibility implied in maternity and paternity, and should be made to recognize that the greatest influence which they could have on the well-being of their children is in the selection of the spouse. The sentiment should be encouraged that parentage was a matter which concerns the public, and especially posterity, more than it did the parent; that the germ plasm of the race was of all questions the most important which concerns it. A bureau for the precise registration of disease and causes of death, together with the chief facts in family and personal history, might be established through legal enactments, reinforced and made active by a high social sentiment. Such a bureau would afford the needed information, and the special study of the material thus provided would result in the formation of guiding principles in human biology and race development. It would be acknowledged that susceptibility towards tuberculosis, insanity, alcoholism, epilepsy, etc., was hereditary. Granting this, it followed that a stock could be developed which practically would be immune to those diseases. None but healthy parents should be allowed to bear children. The brevity of middle age resided, first, in the inherited quality of the organized tissue; second, in the effects of its environal conditions on each organism. Physicians were making it their function to exterminate disease. Why should they be content with merely pointing out that certain disease tendencies were hereditary without taking some practical steps to prevent such disease transmission? It doubtless would be a hardship to the syphilitic to make procreation for him a penal offence. Nevertheless, such a course would be full of beneficence to the race. The amount of nervous and other disease in the innocent resulting from syphilis in progenitors was incalculable. A man had not the moral right to beget disease. The profession of medicine should make its convictions bear fruit, and should teach, and should be expected to teach, that the marriage of a large number of people whose nuptials they now helped to celebrate, should either be prohibited, or else made barren. Middle age could be considerably prolonged, and the infirmities of old age largely mitigated, if they could eliminate from the equation that faulty cell metabolism which arrives through inheritance. The orator went on to consider what might be accomplished in the way of postponing age by the reasonable treatment of even the poor material that came to them. One of these was the improvement in the nutrition of the aged as the result of good teeth. For another great advance they had to thank the oculists. Useful eyesight contributed much toward health and long life, for the reason that it permitted of a continued interest in living which otherwise would be lost. Too often attention was for the first time attracted to arterio-sclerosis by the appearance of fibroid or fatty degeneration, exhibiting itself in the figure, form, and viscera of the individual. Even after these later changes appeared, measures might be adopted to stay the march of progress, but how much better it would be to anticipate it. For instance, by noting the high and rising blood pressure and the physical signs of cardiac strain, by estimating the decline in urinary solids and the rise in urotoxic unit, by measuring the decline in respiratory capacity, or by detecting the falling off in cutaneous secretion, and the loss of the pliability and softness of the skin, we may make ourselves aware that vascular degeneration is progressing. In the earlier steps of arterio-sclerosis, if intelligent study were given to the individual, to his habits of life, to his excesses, and to his deficiencies, very much could be done, and by thoughtful men was done, to delay arterial changes and to restore functional activity. The orator emphasized the importance of judging and correcting the disturbed balance between assimilation and waste—the anabolic and katabolic processes. There were successful methods of lessening the extent of auto-intoxication and of widening the field for the play of nutritional processes. Middle age often brought luxury, and at the same period the contracting arteries narrowed the field of physiologic activities. The circumstances of life and the taste of the man were for indulgence in appetite or for excess in undertakings, while the limitations of the organism were increased. There was abundant proof that even advanced arterio-sclerosis might be so far modified as to delay the oncoming degeneration and to admit of happy usefulness, but the victim must be content with

moderation. Advanced arterio-sclerosis was too generally neglected, and intoxications of one kind or another were for the most part responsible for it. It was well known that the relatively great fatality of pneumonia and other acute diseases was explained by the greater toxaemia which existed late in life. Beside this, the autointoxication increased the blood pressure and induced prematurely the fatal events of cerebral, cardiac, and renal diseases. Almost as deplorable as these were the conditions of unnatural excitement, confusion, and depression from which many people unnecessarily suffered in early old age. Still further there might be found in vascular disease the source of much severe pain from which old people suffered. This pain was often referable to the aorta; at times to those forms of aortitis which Clifford Allbutt had described, and also to aortitis and periaortitis of the abdomen, recently so well set forth by Teissier of Lyons. The latter had also shown that the pain could be ameliorated, the progress of the disease stayed, and even great improvement induced by rational treatment. Aortitis and periaortitis often greatly interfered with the flow of blood into the branches of the abdominal aorta, and as a result the organs supplied by these branches suffered special degeneration. In middle age and later life intractable diseases of the stomach, intestine, kidneys, and other organs could be dealt with much more successfully, and comfortable longevity secured, if more attention were devoted to this pathology. Most of the derangements from which the aged suffered could be classified as belonging distinctly to pathology, but he was afraid there existed a tendency to dismiss these matters as necessary corollaries of senility, without giving them that careful consideration which similar processes received in younger patients. The few who gave senile diseases special study seemed to agree that the complaints of the aged arose for the most part from toxic causes. There was good reason for believing that this toxic state which underlay the decadence of senility took its origin for the most part in the colon. Metchnikoff supported the view that mammals had developed a large colon for the purpose of storing the products of digestion, and that man had inherited an enormous colon at the expense of his longevity. That organ harboured an immense number of bacteria, leading to fermentations, putrefactions, and the production of alkaloids, fatty acids, and toxins which man had to combat for the length of his mortal days. While vitality was young and vigorous the combat was not so unequal, but with failing powers auto-intoxication prevailed in the contest between the internal resisting powers of the organism and the toxic adversary made potent by inheritance. Unfortunately, the degeneration of age first produced functional insufficiency of the organs of elimination, then their degeneration, and as a result the skin, kidneys, lungs, liver were found incompetent in each individual overtaken by years. Experience taught that few patients respond more satisfactorily than the aged. In addition to the usual measures for improving the general circulation, old people were benefited by systematic colonic lavage, stimulating baths with superficial massage, prescribed pulmonary gymnastics, and an abundant drinking of pure water.

The Oration on Surgery.

Dr. J. Collins Warren took as the subject of the Oration on Surgery, "The Surgeon and the Pathologist: a plea for reciprocity as illustrated by the consideration of the classification and treatment of benign tumours of the breast." He said the laboratory worker's range of vision was often at best but microscopic, and it was no wonder that unaided he sometimes misinterpreted the changes rung by Nature on some simple theme. Without the laboratory worker's aid, however, the clinician became swamped in a mass of clinical detail from which alone he had again and again been unable to extricate himself. There could be little question that the combination of energies which accomplished most in surgical progress was that obtained by the co-operation of the laboratory investigator with the surgeon of clinical experience. Too long had these two departments of medicine conducted themselves independently greatly to the disadvantage of both. The clinician and the laboratory man, however, in these days of specialism seemed sometimes in danger of drifting even further apart, and they found some of the modern problems sadly in need of a pathological "clearing-house" to put things on a more practical basis. In no department of surgery had the classification of the diseases of an organ or the pathological nomenclature been more confusing than in the case of the diseases of the mammary gland. Not only had the nomenclature of the diseases of the breast been subject to that continual revision to which all medical terms were liable with advancing knowledge, but in this case national and even local systems had added again to the confusion. The French school, the German, the English, and the American schools of medicine rarely agreed in their description of any tumour of the breast other than carcinoma, and in the case of the inflammatory or involution changes of the breast the varieties in nomenclature were notorious. In view of the always horrible possibility of cancer, however, no woman could regard a lump of any size, shape, or consistency in the breast with equanimity, and in no organ did the presence of disease in its earlier stages furnish fewer data for accurate diagnosis. It behoved the surgeon, therefore, and the general practitioner as well, to be in a position to meet the demand for accurate information with an intelligent and harmonious reply. Such a statement could be furnished only by bringing the modern views of the pathology of these diseases into focus with the clinical pictures which they presented. The material which had served as a basis of his investigation included in all 758 cases of diseases of the breast; 658 cases were taken from the records of the Massachusetts General Hospital. The diseases of the male breast were purposely omitted, and of the total number of cases of diseases of the female breast 10 were omitted because of insufficient data to establish a diagnosis. Acute mammary abscess was also excluded from consideration. With these exceptions all cases of disease of the mammary gland were included which entered the Massachusetts General Hospital during the decade from 1895 to 1905. One hundred additional consecutive cases of disease of the breast had been obtained from his own private practice, making up the total of 758 cases of all varieties with which they had to deal. Pathological reports were available in nearly every case, and in many instances the actual specimens could be obtained and were used for further study and for purposes of illustration; 459 of the hospital cases and 58 of the cases in private practice were cancer of the breast; these were included for purposes of comparison and in order better to establish the significant data for diagnosis. The greater part of the study, however, had been devoted to the benign diseases of the breast, 42 in private practice, 199 in the hospital series—a total of 241 cases of benign diseases of the breast. The orator exhibited the following table, which showed the classification of 758 cases of breast tumour:

	Mass. Gen. Hosp.	Private Cases.	Total.	Per Cent.
Carcinoma	459	58	517	(68)
Fibroepithelial tumours	—	—	(86)	(11)
(1) Fibrous type	—	—	(70)	(9)
1. Periductal fibroma	48	6	54	7
2. Periductal myxoma	10	2	12	1.6
3. Periductal sarcoma	4	0	4	0.5
(2) Epithelial type (cystadenoma)	—	—	(16)	(2)
1. Fibrocystadenoma	3	1	4	0.5
2. Papillary cystadenoma	9	3	12	1.6
Hyperplasia				
1. Diffuse hypertrophy	2	0	2	0.2
2. Abnormal involution (Cystic, 59) (Proliferative, 56)	87	28	115	15
Chronic inflammation	—	—	(28)	(3.7)
1. Eczema of nipple	2	0	2	0.2
2. Chronic abscess	5	0	5	0.6
3. Ductal mastitis	3	0	3	0.3
4. Tuberculosis	13	0	13	1.7
5. Single retention cyst	5	0	5	0.6
Non-indigenous tumours	—	—	(9)	(1.2)
1. Sarcoma	4	0	4	0.5
2. Lipoma	3	1	4	0.5
3. Lymphangioma	1	0	1	0.1
Supernumerary breast	—	1	1	0.1
	658	100	758	—

In the following table the incidence of breast tumours by age decades was shown. This table (page 338) showed that the proportion of cancer to other tumours of the breast was a constantly-increasing one to the end of life. While between 20 and 30 cancer occurred in only 6 per cent. of all cases, after 70 the percentage was 100. All of the twenty-five tumours of the breast occurring in the Massachusetts General Hospital in ten years in women who

	No. of Cases	10-20 Yrs.	20-30 Yrs.	30-40 Yrs.	40-50 Yrs.	50-60 Yrs.	60-70 Yrs.	70-80 Yrs.	80 Yrs.
Carcinoma	459	—	6 12%	67 60%	151 70%	110 85%	80 92%	24 100%	1 100%
Periductal sarcoma	4	—	—	—	1 0.4%	3 2%	—	—	—
Periductal myxoma	10	—	5 10%	1 1%	3 1.5%	1 0.6%	—	—	—
Periductal fibroma	48	4 45%	26 50%	13 11%	4 2%	1 0.6%	—	—	—
Fibrocystadenoma	3	—	1 2%	2 2%	—	—	—	—	—
Papillary cystadenoma	9	—	—	1 1%	3 1.5%	2 1%	3 3%	—	—
Diffuse hypertrophy	2	1 11%	—	—	1 0.4%	—	—	—	—
Abnormal involution	87	—	7 13%	20 16%	45 21%	13 3%	2 2%	—	—
Eczema of nipple...	2	—	—	—	—	2 1%	—	—	—
Chronic abscess and ductal mastitis	8	—	2 4%	2 2%	3 1.5%	1 0.6%	—	—	—
Single retention cyst	5	—	2 4%	1 1%	2 1%	—	—	—	—
Tuberculosis	13	3 33%	3 6%	3 3%	4 2%	—	—	—	—
Non-indigenous sarcoma	4	—	—	2 2%	1 0.4%	—	1 1%	—	—
Other non-indigenous tumours	4	1 11%	1 2%	—	—	1 0.6%	1 1%	—	—
Total cases.....	658	9	53	112	218	154	87	24	1

were over 70 were cancer. The periductal fibromas, on the other hand, were most numerous in the third decade from 20 to 30, and constituted 50 per cent. of all tumours occurring at this period. From this time they gradually diminished in frequency until the sixth decade, after which they disappeared. Of the cystadenomas, it was found the tumour (fibrocystadenoma) was most nearly related to the periductal fibromas appearing in the same decades, the third and fourth, with the majority of the latter, while the papillary cystadenoma, beginning in the fourth decade, continued to the seventh, and therefore belonged to a distinctly later period of life. Abnormal involution reached high-water mark in the fifth decade, 40 to 50, with 21 per cent. of the tumours occurring in that period. This corresponded closely with the average age given for abnormal involution, which was from 42 to 45. The age-incidence of other diseases was of less significance. The inflammatory processes, as might be expected, occurred especially in the early decades, and tuberculosis, in this series of cases, appeared to have affected the breasts of younger women than had generally been believed. The non-indigenous sarcomas of the breast, though few in number, occurred rather in the middle period of life. The orator discussed each variety of tumour in detail, and described the treatment which he had found most successful in each.

THE ORATION ON STATE MEDICINE.

The Oration on State Medicine was delivered by Dr. GEORGE BLUMER (San Francisco), who discussed the influence which the acquisition of tropical territory by the United States had had, and was likely to have, on American medicine. He said it was now almost exactly seven years since, by the terms of treaty following the Spanish war, the United States came into possession of tropical territory in both the eastern and the western hemispheres. It might appear at first sight that, from analogy, they should have been able to foretell the influence which increased commerce with their tropical territory, and the return of their soldiers and sailors with tropical diseases, would have on medicine in the United States. Obviously one would look to the experience of European countries, and notably of England, to form a basis for judgement, for these countries had had tropical possessions for generations. It must not be forgotten that the physical conditions in the United States were different from those in Europe: for while Europe was almost entirely within the temperate zone, portions of America were semitropic, and a few very small areas were actually within the tropical belt. The United States, therefore, presented a much more favourable soil for the transplantation of tropical diseases than Europe. Realizing this, numerous American writers on tropical diseases had sounded, in the last seven years, notes of warning and alarm. The object of his inquiry was to determine, if possible, how great this danger was. What were the prevailing diseases of their tropical possessions? Which of these, if any, had appeared among them; which, if any, had gained a foothold on our soil; and which might possibly become widely distributed? Perhaps one of the most startling results of the increased interest in tropical diseases had been the discovery that large sections of the southern portion of the United States were infected with the hookworm, and that large numbers of the inhabitants were suffering from uncinariasis (ankylostomiasis) or hookworm disease. The starting-point of this remarkable discovery was, almost certainly, the work of Ashford in Porto Rico in 1900. That observer noted the great frequency of the disease in that island, and pointed out that, to a large extent, the disability and wretched condition of many of the natives were due to it. The credit for drawing attention to the probability that the disease was widespread in the Southern States was due to Charles Wardell Stiles, the Zoologist of the Bureau of Animal Industry. Up to 1900 not more than ten authentic cases of uncinariasis were on record in American literature. During 1900 and 1901 only nineteen cases of the disease were reported, but in 1902, following the publication of Stiles's monograph on *The Significance of the Recent American Cases of Hookworm Disease in Man*, the number of reported cases rose at a bound to 524. In 1903, 273 cases were reported; in 1904 334; the number this year would probably not be so large, as the disease was no longer a rarity to southern physicians, and they would not be so apt to record cases. Since 1900 Dr. Blumer had been able to collect from available American literature 1,212 cases, of which 1,095 originated in the United States, and 117 were imported from other countries, mainly from Porto Rico and the Philippines. Separating the domestic from the imported cases they found that the disease was distributed mainly through the Southern States along the seaboard from Virginia to Texas. It was not confined to seaboard States, for Missouri and Tennessee were also infected. The States in which the disease was known to be indigenous, and probably widely distributed, were Virginia, North and South Carolina, Georgia, Alabama, Florida, Louisiana, Texas, Mississippi, Missouri, and Tennessee. This list did not, he thought, include all the infected States. Of the 1,095 cases of domestic uncinariasis reported since 1900, 824 had been observed in three States—Georgia, Alabama and North Carolina. There was little doubt that the stigma of laziness and general inefficiency which had attached for generations to the so-called "poor whites" of the South had been earned by them not as a result of qualities due to innate "cussedness," but because a large percentage were suffering from uncinariasis with the resultant physical and mental deterioration. At present there were two main theories as to the means by which the parasite gained entrance to the body—the one presupposing that it entered through the alimentary canal, the other that it gained entrance through the skin. The advocates of the former theory held that polluted drinking water and food soiled by dirty hands were the means of introduction, the advocates of the latter that the so-called "ground-itch" was the point of entrance of the uncinaria rhabdites. There was a good deal of evidence in support of both views, though the work of Claude A. Smith and of Nicholson and Rankin favoured the idea that the cutaneous form of infection was the more important. In view of this the wearing of shoes, especially during the rainy season, became the most important prophylactic measure, though the necessity for pure water supplies and the proper disposal of excreta still remained of great importance. The stamping out of the disease was of great economic importance to the South, but, further than this, the question arose whether it might not be of importance to other parts of the country. Was there any chance that uncinariasis might become more widely distributed than it was at present? While there had been no lack of physicians who had predicted such a spread, it could not be said that there was much actual evidence that it had occurred. There were a few instances in American literature in which the evidence plainly pointed to infection of natives from imported cases. A variety of circumstances were necessary to its spread; the right kind of soil, sufficient heat, and enough moisture for the parasite, and a lack of certain hygienic precautions on the part of the inhabitants of the area to be infected. Considering the fact that uncinariasis had existed in the South for at least 100 years, and probably longer, it did

not seem very probable that it would ever extend much beyond its present limits. One of the first diseases which the American army surgeons in the tropics had to confront was dysentery. So far as tropical dysentery was concerned, the studies of recent years had taught them to recognize two distinct forms, the bacillary and the amoebic. The bacillary form, of which the acute dysentery of the tropics represented the most common type, was due to an organism first described by Flexner, and closely allied to the bacillus described by Shiga in the epidemic dysentery of Japan. In the chronic forms the amoeba seemed to have held its ground as the main causal agent. The most surprising and unlooked-for result of the stimulus given to the study of dysentery had been the discovery that the same group of organisms which were responsible for tropical bacillary dysentery were also concerned in dysentery in the United States and in certain forms of the summer diarrhoeas of infancy. The first steps in determining these relationships were taken under Flexner's guidance during 1902. Since 1903 investigation had been mainly focussed on the summer diarrhoeas of infancy, the scourge of the tenement districts of the large cities. These studies had resulted in the classification of the bacillus dysenteriae into three main types. On the clinical side it had been shown that all classes of summer diarrhoeas were not due to organisms of the dysentery group but that certain types associated with mucus and blood in the stools were nearly always associated with them. It had also been shown that these organisms, like the pus cocci, might give rise to primary infections, or might play the rôle of secondary or terminal invaders. Mild cases without blood in the stools may also be due to this group of organisms, accurate and early diagnosis only being possible in any type of case by means of a bacteriologic examination of the faeces. In his report on Philippine dysentery Flexner suggested the possibility of serumtherapy in these cases, and the discovery of the relation of the bacillus dysenteriae to infantile summer diarrhoea led to attempts at the production of a curative serum. During 1904 such a serum was used in a number of outbreaks of dysentery and summer diarrhoea. On the whole, the results had been disappointing, but would probably improve as they gained in experience. The work done under the Rockefeller Institute, and summarized by Holt, showed that the serum to be of value must be used early and in repeated doses. As regards the means by which the germ was introduced into the body, there was already some evidence, both from the Philippines and the United States, that contaminated water was at fault. At the time that the island of Cuba was occupied by American troops in 1898 yellow fever had been endemic there for 130 years. A commission composed of Walter Reed, James Carroll, Jesse W. Lazear, and Aristides Agramonte, was detailed to Cuba still further to study the disease. The results were as follows: The proof that Finlay's conception that yellow fever was conveyed by a certain variety of mosquito (*Stegomyia fasciata* of Theobald) was correct. The demonstration that a certain time must elapse after the mosquito was infected before it could transmit the disease; that the causal agent was in the blood during the first few days of the disease; that it could be destroyed by heat, and that it could pass through filters which held back some of the smaller forms of bacteria; the explosion of the old idea that the disease could be conveyed by fomites, unless these were of a character to allow of transmission in them of infected living mosquitos. The story of the remarkable change in the yellow-fever history of Havana achieved by the work of Gorgas reads almost like a romance. The annual number of deaths from yellow fever in Havana for the ten years preceding the establishment of the mosquito theory averaged about 500, and under Dr. Gorgas's administration they were cut down in two years to nothing. Judging from recent reports it seemed likely that Gorgas would repeat his Havana success in the Isthmian Canal zone. They had still to discover the course of yellow fever and to ward off its advances in the Southern States. During and immediately following the Spanish war the accomplishment of greatest importance resulting from the study of malaria in Cuba and the Philippines was the overthrow of the refuge of the careless diagnostician, typho-malarial fever. The study of the distribution of the malarial mosquito had been carried on in Boston by Theobald Smith, in the Valley of the Androscoggin by Jordan, and in Baltimore by Hirschberg and Dohme, but the amount of work which had been accomplished in that direction, and the time and money which had been expended in the attempt to exterminate the malarial mosquito was almost infinitesimal when they considered the territory affected by the disease, and the losses resulting from it. Woldert estimates the annual financial loss in Texas alone at over 1,000,000 dols., and if all the infected zones in the United States were considered, the loss must be appalling. Like yellow fever, malaria was a perfectly preventable disease, but to stamp it out required either destruction of malarial mosquitos, or protection and sterilization of infected individuals. In the United States mosquito extermination had always been the favoured plan, but before it could be accomplished a much more complete knowledge of the distribution of the *Anopheles* was necessary, and much more thorough education of the public as to the necessity of the work. The danger that the disease might be introduced into uninfected areas by soldiers returning from the tropics was a real one, though, as Theobald Smith had shown, it was unlikely that the aestivo-autumnal parasite would be introduced into the Northern States. The work of Ashford in Porto Rico, and of Calvert in the Philippines had shown that filariasis existed in both places. In Porto Rico it was probably widely distributed, as Ashford found it in 30 out of 250 soldiers in the Porto Rican regiment. In the Philippines the extent of the disease was doubtful. Calvert found the filaria in only two out of 426 Filipinos. In the States several domestic and imported cases had been reported since 1898. It was certain that there were in the States varieties of mosquito capable of transmitting the filaria. As these generally belonged to the *Culex* family, which was widely distributed throughout the United States, it seemed possible that there was real danger of new districts becoming infected by returning soldiers or Porto Rican labourers. The fact that Malta fever was present in Porto Rico was first demonstrated by Musser and Sailer, and later by Cox and Curry. In 1900 Strong and Musgrave called attention to its occurrence in the Philippines, and still later cases occurring in returned soldiers were described by Curry and Craig. The number of cases which had been described was small. In the seven years which had elapsed since the first case was reported in the States, no case originating there had been described, and it seemed that there was little likelihood of the disease becoming disseminated in the United States. The presence of the trypanosome infection known as surro, among horses and buffalo in the Philippines, was noted soon after the American occupation, and the results of American researches on the disease might be found in the valuable monograph of Musgrave and Clegg. Some forms of animal trypanosomiasis had appeared in the United States, dourine having been observed in Nebraska. Whether there was any possibility of the introduction into America of human trypanosomiasis would be difficult to determine until they knew more of certain forms parasitic in man and the method of their spread. The form of the disease which was most likely to appear there was the affection known in India as kala-azar or Dum-dum fever. The Reports of the Surgeon-General of the Army for 1902 and 1903 showed that in the Philippines dengue caused in the former year 31.67 cases of sickness per 1,000 of strength, and in the latter year 171.39 cases per 1,000 of strength. In the Isthmian Canal zone it had been studied in the last two years by Sutton and Carpenter, who had shown that it was probably not of the malarial class of diseases, but that it might, as Graham claimed, be transmitted by the mosquito. The disease was one which, judging by its past history, was unlikely to spread beyond the southern parts of this country. During 1902 Asiatic cholera appeared in Manila, spread to the neighbouring islands, and caused over 90,000 deaths before it was stamped out. The incidence of the disease among the whites was comparatively small, but among the natives it ran rife, owing to their lack of hygienic precautions and the favourable temperature conditions. In many instances the disease was not carried, as usual, by contaminated water; in fact, in the large cities indirect contact through food was a much more frequent method of spread. On account of the violent local reaction produced by Haffkine's cholera prophylactic the natives objected to its use, and as the scattered distribution of the population made it almost impossible to control them, this method was given up. The objections to Haffkine's prophylactic led R. P. Strong to attempt the production of a protective serum lacking in the irritating properties of those hitherto used. By a process of bacterial autolysis followed by filtration of the culture he was able to produce a practically non-irritating protective. From the experimental standpoint Strong was able to show that animals and men treated by his method showed but little local reaction, yet developed in their blood substances strongly bactericidal to the cholera spirillum. As the cholera had practically disap-

peared from the Philippines at the time that Strong's work was completed there had as yet been no opportunity to put his method to a practical test. From what was known of the disease there was little likelihood that it will ever get a foothold in the United States under present quarantine regulations. The appearance of plague in several parts of the civilized world in 1900, and especially its appearance in San Francisco and Philippines, called the attention of American medical men to this disease. Most of the American work on the disease had been done in the Philippines, where, according to Munson, 970 cases with 812 deaths occurred between January, 1900, and September, 1903. The outbreaks of the disease in Australia, in Honolulu, in Glasgow, and in San Francisco had served to warn them of the necessity of being constantly on guard against its insidious approach. Two general conclusions were forced on them as a result of this study, one being that many of the so-called "tropical" diseases were widely scattered through the subtropical portions of America; the other that the acquisition of tropical possessions by the United States had had a markedly stimulating effect on American medicine, and had led to valuable work, some of it of the very first rank.

WORK OF SECTIONS.

In the Sections fewer papers were read than usual, but the work was for the most part of a high standard of scientific value. Abstracts of the more important communications will be published in due course in the EPITOME.

BUSINESS DONE.

The main business done by the House of Delegates was (1) the authorization of the publication of a medical directory by the profession itself; (2) the emphatic approval of a systematic movement for the suppression on the trade in nostrums; (3) the completion of the machinery for the systematic development of a higher standard of medical education through the appointment of a salaried secretary to the Council on Medical Education. The Association further adopted a resolution submitted by Dr. Liston H. Montgomery of Chicago, advocating the creation of a new Cabinet office to be known as the Department of Public Health, the secretary of which is to rank with other Cabinet Ministers. The resolution also calls for more stringent laws for the prevention of diseases, and urged on Congress the expediency of taking action in that direction.

NEXT MEETING.

It was decided that the next annual meeting of the Association should be held at Boston. The last time the Association met in that city of light was in 1865.

NEW PRESIDENT.

Dr. William J. Mayo, of Rochester, Minnesota, was chosen President-elect. He was born in Minnesota in 1861, and graduated A.M. and M.D. at the University of Michigan. He is a well-known surgeon and the author, in conjunction with his brother, Dr. Charles H. Mayo, of writings on the surgery of the stomach and biliary apparatus.

PROSPERITY OF THE ASSOCIATION.

The financial reports showed that the Association is in a satisfactory financial state. The circulation of the journal was, on the average, 32,423 weekly.

The meeting was in every way a great success. The registered attendance was 1,714—a number which has not often been exceeded at previous meetings.

[We have to express our thanks to the Editor of the *Journal of the American Medical Association* for his courtesy in sending us advance proofs of the Addresses.]

CONTRACT MEDICAL PRACTICE.

NOTICE AS TO DISTRICTS IN WHICH DISPUTES EXIST.

A notice as to places in which disputes exist between members of the medical profession and various organizations for providing contract practice will be found among the advertisements, and medical men who may be thinking of applying for appointments in connexion with clubs or other forms of contract practice are requested to refer to the advertisement on page 80.

ATTENDANCE ON CASES OF ACCIDENT.

A correspondent writes that a surgeon to a Friendly Society he attended one of the members for a railway accident. The latter made a claim on the company, and was offered £5 as compensation. He then made a further claim for cost of medical attendance, and was allowed £3 more. Our correspondent, learning this, sent in an account for 30s. on the ground that his contract did not include attendance on accidents. This was repudiated by the member with the approval of the secretary of the Friendly Society, and our correspondent sent in his resignation.

*** The contract of a surgeon with a Friendly Society usually includes attendance on accidents, but in this particular case there appear to be circumstances warranting the extra claim. Our correspondent would be justified in bringing the circumstances under the notice of the railway company.

LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

MEMBERS are reminded that the Library and Writing Rooms of the Association are fitted up for the accommodation of the members in commodious apartments, at the office of the Association, 429, Strand. The rooms are open from 10 a.m. to 5 p.m. Members can have their letters addressed to them at the office.

MEDICAL NEWS.

GENERAL LEONARD WOOD, the sanitary reformer of Cuba, has lately been operated on successfully for an exostosis of the skull, the result of a blow on the crown of the head received about a year ago.

Mr. ALEXANDER HAY MONCUR, formerly Provost of Dundee, who died last week, has left an additional £5,000 to the Dundee Sanatorium at Auchterhouse, Forfarshire, which was erected and equipped at his expense some three years ago. In addition he has bequeathed a sum of £1,000 to the Royal Victoria Hospital for Incurables.

ON Wednesday last the amounts received at the Mansion House by the Metropolitan Hospital Sunday Fund, as the outcome of the collections on June 25th, exceeded £75,000. The total this year, therefore, seems likely to be considerably greater than any which has been reached in earlier years.

DR. PAUL RICHER, Member of the French Académie de Médecine, and one of the editors of the *Iconographie de la Salpêtrière*, has been elected a member of the Paris Academy of Fine Arts. Dr. Richer is Professor of Anatomy at the Ecole des Beaux Arts, but he owes the remarkable honour which has just been conferred upon him to his distinction as a sculptor.

INTERNATIONAL CONGRESS OF HYDROLOGY.—The seventh meeting of the International Congress of Hydrology, Climatology, Geology, and Physical Therapeutics will be opened at Venice on October 10th under the honorary presidency of the Italian Minister of Public Instruction, and the acting presidency of Professor A. De Giovanni, of the University of Padua, Senator of Italy. The General Secretary is Dr. Fausto Oreffice, S. Stefano 2,803, to whom all communications should be addressed. There will be an exhibition in connexion with the Congress.

THE TREATMENT OF PLAGUE.—In an article read before the Grant College Medical Society of Bombay, Dr. R. Row recommends the treatment of plague by the method of inoculation with living pyogenic organisms. He does not enter into details of the character or mode of preparation of the material with which he claims to have produced useful results, but states, somewhat vaguely, that "the chief part of the material consists of a species of staphylococcus pyogenes." This material is introduced by local scarification round about the plague bubo in six or eight points, and "allowed to remain there for eight to ten hours so as to take root." Dr. Row enters into a lengthy discussion about the various physiological and pathological processes whereby these inoculations lead to a beneficial result, the gist of his argument being that the pyogenic organisms inoculated counteract the action of the plague bacilli.

British Medical Journal.

SATURDAY, AUGUST 12TH, 1905.

INSANITY AND MURDER.

MURDER is an act so opposed to all social order as of itself to arouse suspicion that the mental constitution of a person who commits it is so out of harmony with his environment that he must be the victim of some temporary or permanent condition which renders him dangerous to the community and to himself. No doubt all crime is against the social code, and therefore connotes either wickedness or disease, but murder is so outrageous a breach of the social system as to afford *prima facie* cause for suspecting the presence of disease and therefore of irresponsibility. While the deed may be either impulsive or truly voluntary, yet in the great majority of instances (not quite in all) insanity is at the root of the matter, and the intention to kill, as distinguished from the intention merely to injure, is morbid.

If this be admitted, then in all cases of murder the state of mind of the prisoner should be investigated by experts in lunacy and criminology, engaged not in the interest of the individual, but of society, and appointed by the court as a part of the judicial machinery for the investigation of such cases. If the experts report that the accused was insane either at the time of the committal of the act or at the time of examination he should be relieved of responsibility, that is to say, he should not be allowed to plead, for to allow him to plead reduces the judicial procedure *ex hypothesi* to a farce; he should be detained during His Majesty's pleasure- or, in other words, he should be sent to Broadmoor, his eventual destination, at once. The experts selected should be men possessing special experience in lunacy practice and if they are criminologists as well, so much the better. They should attend before the judge and jury, and give their sworn opinion at the outset of the proceedings. They would then state any difficulty they may have felt in coming to a conclusion, and would if necessary recommend the postponement of the trial for further examination and report. Then we should have the satisfaction of knowing that a logical method was being followed which did not leave to untrained persons the solution of a difficult problem, often only the more real in those instances in which the more prominent external signs are wanting; thus the incongruity of trying as a responsible agent a prisoner who is really not responsible would be avoided. The true facts as to the mental state of the accused having been placed before the judge, it would be for him to determine the subsequent course of the proceedings. It might be desirable for special reasons that an investigation of the concurrent circumstances should be made, but in any case the main premiss whether or not the prisoner's mental condition is such as to justify his pleading, would have been settled. This proposal involves no interference with the functions of the court; indeed, the reverse is the case, for, if it were followed, the judge and the jury would be placed in possession of facts which are now only accidentally brought before them. At the present time the production of these facts may depend upon the means at command of the prisoner's friends to produce evidence which may be correct, but which (owing to bias) may be exaggerated or even wrong.

To a former article on this subject[1] an energetic protest was made by Dr. Mercier chiefly on the ground that a person may be both insane and responsible. He also asserted that our premisses were incorrect. To the statement made in the previous article that only in cases of exceptional difficulty is it the custom of the Home Office to call in expert evidence before the trial, we must adhere: our contention is that this should be done in all cases. Further we venture to assert that the view that an insane man ought to be held responsible for such a crime as murder is against the clinical experience of the majority of observers. While it may be impossible to enter into the state of mind of an insane person, we know practically that it is the unexpected that generally happens, and we are only too familiar with the mistakes made by even the most experienced in attempting to forecast the future actions of an insane person. Over and over again casualties and "accidents" are caused by an insanity which has been regarded as harmless, and therefore insufficiently guarded, owing as a rule to a too great consideration for the susceptibilities of the friends, who dread the idea of a family taint being officially recognized. They are, however, the first to put forward the plea of irresponsibility after a catastrophe has occurred.

The criminal mind is a bundle of tendencies which may or may not be connected with, or perhaps due to, insanity. It is right that when it leads to consequences injurious to the social fabric it should be taken out of society, but when the "accident," or the fixed intent to murder, is consummated by a diseased mind the scientific and logical method of saving the social system is to seclude, not to punish, the discordant element. We do not subscribe to the doctrine that crime and insanity are indissolubly connected. There will always be material for the hangman, because some natures deliberately prefer to gain their ends at the expense of society. Such persons are quite sane, and prefer to run the risk of their offences: all the more reason is there that when a man is caught red-handed in the commission of homicide there should be an early statement of his mental condition, so that there may be no doubt in the minds of those who are inclined to believe that an offence so heinous cannot be committed by a person of sound mind. It may be objected that a prisoner might be put on trial for murder upon circumstantial evidence where, under ordinary conditions, no question of his sanity would be adduced, his counsel relying upon other methods to secure the verdict in favour of his client. It might be asked if in such a case it is not a work of supererogation to obtain an opinion upon the mental state of an individual who, whether insane or not, might be found not guilty of the offence. The objection does not hold, because, if he is found not insane, the trial would be proceeded with; whilst, if found insane, he would be dealt with on other lines, to his own advantage.

It has been objected that the object of trial is to ascertain whether the prisoner is insane or not. Surely the true object is to find out whether he is guilty or not, and the fact of his insanity has nothing to do with the finding as to

[1] BRITISH MEDICAL JOURNAL, January 15th, 1905.

whether he did or did not commit the offence. If, however, we grant that it is the object of the trial to determine the question of insanity, what can be more expedient than the sworn depositions of experts—men who, from their repute and independent position, can command the confidence of both judge and jury? However good as a psychologist a judge may be, he cannot, without the practical experience which can only be gained by lengthened intercourse with the insane, even approximately interpret the conduct of the lunatic who is arraigned for wilful murder.

THE NEEDS OF OUR OLDEST UNIVERSITY.

Under this title there appeared in a recent number of *Nature* (July 6th) a statement, drawn up by some forty professors and heads of departments in Oxford, of the immediate and pressing needs of that University. The endowments of the University of Oxford have long been insufficient adequately to meet the increased and constantly-increasing demands made upon them. Not only has the range of subjects studied in the University become greatly extended within recent years, especially on the side of the natural sciences, but the number of undergraduates has undergone a very great increase in a comparatively brief period, without any corresponding increase in the means of providing teachers. One result of this, and not the least important, is that many of those who otherwise might be engaged in valuable research, find their whole time absorbed in the work of teaching.

So serious has the deficiency of endowments become that the professors do not hesitate to state the urgent need for over half a million capital expenditure, and an additional income of some £90,000 a year. The requirements of the Faculty of Medicine are certainly not exaggerated in the professors' statement. A capital sum of £46,000 is named for new laboratories, and an additional income of £9,000 a year. This would appear to be a moderate estimate, in view of the conditions. The Chairs of Human Anatomy and Pathology are, we understand, totally unendowed, and there are still no Chairs in Pharmacology, State Medicine, or Experimental Psychology. The Chair of Medicine itself carries only a quite inadequate stipend, and £1,000 a year is still required in the Department of Physiology. Moreover, no suitable provision exists for demonstrators or assistants in any of the subjects just enumerated, while in the case of Pharmacology, State Medicine, and Experimental Psychology even the necessary laboratories are non-existent. The work which is actually being done in Pharmacology has to be carried on in a makeshift shed. The remarkable success with which the medical school has been developed in the last twenty years, in spite of these and many other difficulties, is evidence of the spirit which animates the teachers of medical science in Oxford, and justifies a claim for generous aid in the form of new endowments.

That material help is needed by our universities has been fully recognized. In his speech at Cambridge last year His Majesty the King strongly emphasized the urgent need for fresh endowments of the older universities, if the work they have done for education and for the Empire in the past is to be efficiently continued in the future. That Oxford is fully alive to the urgency of the situation, and is doing all that in her lies to help herself, is evidenced by the remarkable movement initiated quite recently among her medical graduates with the object of endowing the Chair of Pathology.

Medicine and medical education are becoming, and will continue to be, increasingly scientific, and the value of a university training for future practitioners has already been frequently stated. It might, therefore, be properly urged as a matter of really national importance that the universities should be sufficiently endowed for the work which they are called upon to carry out. It is, however, a curious fact that when the "pious benefactor" is abroad, the older universities are usually the last to meet with him. Oxford is a national institution, and national institutions seem to be the business of nobody in particular.

OPSONIC POWER IN TUBERCULOSIS.

To every medical man who values a reputation for being up to date in his scientific information it is absolutely essential to "know the newest" about opsonins. For opsonins are not only scientific, they are also new, and they are highly fashionable. We cannot enter a bacteriological laboratory without hearing them discussed, and the unfortunate person who exhibits a fundamental ignorance of what they mean evokes a genuinely sorrowful sympathy which cannot fail to distress him. Those of our readers who would like to refresh their memories about the elements of this subject will be grateful to Dr. Urwick for his lucid explanation of preliminary details published in the British Medical Journal of July 22nd, page 172.

The term "opsonin," Dr. Urwick reminds us, was invented by Dr. Wright; and, in order to supplement any possible deficiency in our knowledge of the dead languages, he considerately adds that it is derived from a classical word which means "to cater or prepare victuals for." Opsonins are substances, contained in the serum or plasma of the blood, which possess the power of influencing bacteria in such a way as to render them an easier prey to the attacks of leucocytes. This opsonic power is found in the blood of all persons, both healthy and diseased; it differs, however, in degree, an essential difference being that whereas the degree is held to be approximately the same in normal healthy persons, wide variations are found amongst those who are diseased. The degree of opsonic power, in relation to tubercle bacilli, for example, is ascertained by means of the following experiment: A small quantity of the serum to be tested is mixed with equal quantities of (1) an emulsion of tubercle bacilli, and (2) blood corpuscles washed in a 0.5 per cent. solution of sodium citrate in normal saline. This mixture is incubated for twenty minutes; then films are made and stained for bacilli. The average number of tubercle bacilli ingested by each polynuclear white corpuscle is calculated, and the figure thus obtained is termed the phagocytic index. The opsonic power, therefore, is ascertained by calculating the phagocytic index. The index obtained when normal serum is used is taken as the standard and called unity; the opsonic power of the serum taken from persons suffering from tuberculosis is expressed in terms of this standard.

Dr. Urwick has estimated the opsonic power in 54 cases of various clinical types of tuberculosis. It will be clear from a study of his results that there is a wide variation in the opsonic values of his different cases. The lowest figure is 0.3, the highest is 2.6, and between these extremes there is every intermediate degree. It is not easy to regard these results as exhibiting a uniform conformity to any one general principle. The general view is that an increased opsonic power is to be expected where there is an active resistance of the organism to the stimulus of infection and

that decreased opsonic power indicates either an inherent deficiency or the exhaustion of the organism's power of resistance. A detailed discussion of Dr. Urwick's cases would take us too far, but we note that he endeavours to explain them by the aid of various independent hypotheses, and whilst they may not be inconsistent with these hypotheses, they cannot be regarded as providing any strong confirmation of them. But though, as Dr. Urwick frankly admits, the net practical results of his inquiry are not very great, we fully agree with him that a further pursuit of investigations on these lines may prove a valuable aid to clinical bacteriology.

But whilst work on opsonins has not yet advanced far enough to enable it to be said how great its practical value for the clinician may ultimately become, there can be no doubt as to the very great interest and importance of the subject from the purely scientific standpoint. We may remind our readers of the valuable discussion on immunity held at the annual meeting of the Association at Oxford last year. Several of the speakers dealt with the significance of opsonins, and their bearing on the fundamental problems of immunity was exhibited in a particularly able manner by Dr. Bulloch. He showed[1] how Leishman's studies on phagocytosis led to the brilliant observations of Wright and Douglas, and how these, in turn, help to throw an important light on the rival theories of Ehrlich and Metchnikoff.

THE HOME OFFICE AND INDUSTRIAL MERCURIAL POISONING.

In a memorandum issued in July by the Home Office, medical practitioners are reminded that they are required to notify to the Chief Inspector of Factories every case of mercurial poisoning contracted in a factory or workshop, and that a fee of 2s. 6d. is allowed for the report. Proper notification forms for this, as also for anthrax, poisoning by lead, phosphorus and arsenic, can be had on application to the Home Office. Factory surgeons are obliged to investigate and report upon all cases of mercurial poisoning brought to their knowledge by factory owners, and in certifying children and young persons for employment in industries in which mercury is used they are reminded of the undesirability of young persons being employed in mercurial processes, not because they are more susceptible to the poison, but on account of their probable inattention to the precautions that are necessary. The industries in which mercurial poisoning occurs are the manufacture of barometers and thermometers, hatters' furriers' workshops, where fur-pulling is carried on: water gilding; the manufacture of corrosive sublimate, electric meters, and incandescent electric lamps; paint and colour works, places where bronzing is carried on by means of solutions of nitrate of mercury, and in explosive factories where fulminate of mercury is made. Of 56 cases of mercurial poisoning, reported between May, 1899, and December 31st, 1904, the manufacture of thermometers was responsible for 15 cases, electric meters 15 hatters' furriers 10, chemical works 7, water gilding 5, powder factories 3, and photo-engraving 1. Mercurial poisoning is easily caused owing to the fact that mercury gives off vapour at a low temperature. Besides, the salts of mercury are all more or less poisonous. The symptoms of industrial mercurial poisoning develop slowly, often insidiously. Workers exposed to mercury, its salts or vapour, become anaemic after a time, their gums become soft and tender, their breath fetid, and there is often excessive salivation and diarrhoea. The men become depressed and timid and suffer from "tremor," which is observed principally in the muscles of the face, hands and arms. Speech becomes slow and indistinct. The teeth frequently fall out; those that remain are often black and unsightly. It is seldom that chronic mercurial poisoning causes death, but among workers in mercury the mortality from pulmonary phthisis is unusually high. Certifying factory surgeons have power, at their periodical medical examinations, to suspend any worker not only who is showing signs of poisoning but who by his inferior physique, indulgence in alcohol, his careless personal habits and want of attention to regulations, exhibits a liability to mercurial intoxication. To many persons this step on the part of the Home Office may appear to be an uncalled-for interference with the liberty of the subject, and its action as likely to prevent industrial development, but, after all, industries in this country are less thwarted by State regulations than they are in many countries on the Continent. Experience, too, has shown that where attention is given to keeping the mouth and teeth clean, workers in mercury do not suffer in any way like those who are careless and inattentive to these minor hygienic details.

[1] British Medical Journal, September 10th, 1904, pp. 560-563.

RELIGIO OBSTETRICI.

"In seventy or eighty years," wrote Sir Thomas Browne "a man may have a deep gust of the world: know what it is, what it can afford, and what 'tis to have been a man. Such a latitude of years may hold a considerable corner in the general map of time; and a man may have a curt epitome of the whole course thereof in the days of his own life; may clearly see he hath but acted over his forefathers; what it was to live in ages past and what living will be in all ages to come." Professor Simpson's address, an abstract of which appears elsewhere, comes not inappropriately in this, the tercentenary year of Sir Thomas Browne's birth, to remind us that the problems which faced the physician of Norwich in the seventeenth century have to be met to-day not only by the professor of obstetrics in Edinburgh, but by every thinking man in the whole profession of medicine. From the standpoint of seventy years—busy years spent in the study of the beginnings of life—Professor Simpson spoke, with real eloquence and not without emotion, of the true end of life; and he left, we are sure, no doubt in the minds of his hearers what was the rock upon which he had built and what was the hope to which he clung. "Truly," wrote the author of *Religio Medici*, "there goes a great deal of providence to produce a man's life unto three-score:" and from *Religio Obstetrici* sounds out the answering note: "He has made us know that in the complex play of circumstances the reins of progress are in the hands of a Circumstant, who makes all things work together for our good." In his retrospect of the advances and discoveries of the past fifty years Professor Simpson dwelt specially upon the age of the earth as revealed by geology, upon the making of the earth as made known by astronomy, upon the minuteness of matter as expressed by the ions and biophors of the physicist and the physiologist, and upon the immense antiquity of the germ plasm which stretches back, so the biologists tell us, in a marvellous chain of continuities to the very beginnings of time itself. Into these deep mysteries the Christian medical man has sometimes almost feared to look, lest by looking he might lose some of that assurance of faith which his religion had brought to him. But this is not the right attitude. "Have a glimpse of incomprehensibles, and thoughts of things which thoughts but tenderly touch. Lodge immaterials in thy head; ascend unto invisibles; fill thy spirit with spirituals, with the mysteries of faith, the magnalities of religion, and thy life with the honour of God." So counselled Sir Thomas Browne; and so, as our readers will see, Professor Simpson advises us to look at life, for "the advance of science does not involve the retreat of religion." "The Author of these wonders understands them. None other can do so." Thus wrote Pascal, who described "Man as a Nothing in comparison with the Infinite, and All in comparison with the Nothing, a mean between nothing and everything." To the hearers of Professor Simpson's farewell address neither the subject nor the manner of dealing with it can have come as a surprise, and the conjecture may be hazarded that the profession at large will agree that no other theme was to be

expected from one in whose life religion has been so openly the guiding principle and motive force, and to whom it was always possible to combine an interest in "the fairy tales of science" with a "vision of . . . all the wonder that would be." Although in the closing sentences of the address there rung out an almost pathetic swan-song of regret, it was immediately lost again in the strong chord of high faith in the security of the great promise that he that doeth the will of God abideth for ever.

WHAT TO DO WITH OUR INEBRIATES.

In a paper with this title, read before the International Home Relief Congress in Edinburgh, Dr. John Q. Donald, discusses the condition of inebriety and the general indications for its rational treatment. The paper is exceedingly interesting and very simply written. Any one, either medical or lay, wishing to obtain a view of the question could read it with advantage. Dr. Donald said that the whole consensus of scientific teaching points to the fact that alcoholism is not merely a vice, but an actual pathological state of the brain. He defined the different types of the disease, inebriety and dipsomania, and subdivided inebriety into two groups according to the exciting causes. He maintained that all inebriates are easily curable if the cause of their drinking is removed. The paper, however, especially referred to the treatment of dipsomania. The various forms, acute and chronic, were briefly described. The entire incurability of the condition of abnormal reaction to alcohol, and the absolute necessity for restraint while recovery is being effected, were emphasized. Dr. Donald holds strong opinions on the various methods of treatment by drugs which are said to cause an aversion to alcohol, such as have recently been advocated afresh. In analysing cases that had been under his own care, Dr. Donald found that he had been able to cure by other methods 22 per cent. of those who had previously been treated unsuccessfully by drugs. He further found that 27.7 per cent. of the patients who had had drug treatment died, as against 7.3 per cent. of those who had had no drug treatment. He considers patients who have relapsed after drug treatment much more difficult to deal with than others who have not been so treated. Dr. Donald refers at some length to the essentials of institutional treatment, which, in addition to all kinds of protective, hygienic, and therapeutic measures, include the treatment of the patient on the mental side, and a vigorous attempt to alter his point of view and to rouse his dislike and hatred of the poison which is his bane, as well as to give him new and real interests. Dr. Donald is very strong upon the necessity of placing all retreats under licence and inspection in order that proper and efficient treatment should be secured for all cases. He sums up his conclusions thus: "I have tried to impress upon you that inebriety is a disease: that it is a curable disease; that institutional treatment is the principal curative agent; and that laws should exist which would compel every known inebriate to be thus treated."

THE MEASURE OF DAMAGES.

At the Leeds Assizes recently a medical practitioner in Bradford brought an action to recover the sum of £17,200 in respect of damages suffered by him in a tramway accident. Of this claim, £16,000 was for loss of practice. The plaintiff's medical adviser gave evidence to the effect that the plaintiff would not be able to practise for twelve months. The plaintiff's earnings were stated to be £1,300 a year. In the event the jury found a verdict for the plaintiff, with £1,500 damages. We presume that the jury took the view that a little more than one year's income would be sufficient compensation in all the circumstances: but suppose it had been found that the plaintiff was wholly incapacitated, would he have been entitled to such a sum as, when capitalized, would produce him an income sufficient to compensate him for the loss of his practice? The answer to this question must, in accordance with a previous decision, be in the negative. In a case which was heard last year the question was as to the amount of damages to which the plaintiff was entitled by reason of a railway accident. The plaintiff was a young man of 28, who had been trained for the position of a superintending marine engineer. He had trained himself for that, not merely because engineering was a profession to which he desired to apply himself, but because he had the prospect through his relations of filling the post. At the time of the accident he had not obtained the position, but was in the employment of his father's firm, earning £3 a week, and living at home. After the accident he was refused an appointment as a marine engineer, on the ground of his physical condition; the salary attached to that appointment would have been over £500 a year, rising annually. The medical witnesses called at the trial said that the plaintiff ought not to take any place requiring him to go up and down ladders. The jury awarded the plaintiff £3,000, of which £450 was in respect of expenses and loss of income which at the date of the trial had been already incurred. On an application to set aside the verdict on the ground that the damages were excessive, the Court of Appeal declined to interfere, on the ground that the judge who tried the case had been careful to tell the jury that, in estimating the damages, they must not give a capital sum which would produce the income in question, but that they must take all the risks and casualties of life into consideration.

RURAL WATER SUPPLIES.

It is a curious fact, difficult of explanation, that many people take houses in the country without making any inquiry as to the character of the water supply. When actually in residence something occurs to arouse suspicion, and it is then ascertained that the quality is far from being satisfactory, or that the water is actually sewage-polluted. Others erect houses without previously ascertaining whether water of good quality is readily obtainable, and are afterwards subject to great inconvenience and expense in procuring a supply. One of the first points to receive attention in selecting a country residence should be the quality and quantity of the water supply, and it is satisfactory to find that in at least one of the Home Counties the county council is desirous of assisting persons wishing to reside in the district by affording information with reference to the character of the supplies in every parish in the county. This information is contained in a report prepared at the request of the Essex County Council by their medical officer of health, and presented to the Council at a recent meeting. There are apparently very large areas in this county through which water mains ramify, supplying water under pressure and of unimpeachable quality, but the majority of the villages are supplied from shallow wells. Dr. Thresh makes reference to the usually defective character of such wells, but points out that the subsoil yields a perfectly safe water if the site of the well is carefully selected and the well itself properly constructed, and contends that no one need hesitate about residing in the country merely because water will have to be derived from a well. Shallow wells, he asserts, are not necessarily dangerous sources of supply, otherwise the mortality from enteric fever would be much higher in the country than in towns, whereas the exact reverse is the case. Rural sanitary authorities are strongly advised to set an example to builders and others by seeing that all the public wells are properly constructed, and other public sources of supply sufficiently safeguarded. It is sincerely to be hoped that this advice will be followed, as it is disconcerting to be informed that there are many supplies vested in rural sanitary authorities which are fouled by every rainfall, by passing cattle, and by tramps. The subject is of great importance in connexion with the problems of checking rural migration and rendering the country more attractive to the town dweller as well as its bearing upon the health of the rural community and the dairy industry.

MEDICAL CONSULTATIONS IN CHINA.

We are told on high authority that in the multitude of counsellors there is safety. This text, if we remember

aright, is quoted by Queen Elizabeth in *Kenilworth*, whereupon Sir Walter Raleigh suggests that the safety in such cases is for the counsellors rather than for the patient. This ingenious gloss on the text receives an interesting illustration from medical practice in China, if we are to believe an American physician recently returned from the Celestial Empire who has been relating his experiences to a Philadelphia interviewer. "Medical consultations," the physician is reported to have said, "are carried to their extreme limit in China. There, when any one becomes seriously ill, a consultation of fifteen or twenty doctors is held. The doctors fill the house with their arguments. They make as much noise as a political convention. But such a consultation as that would be considered small and futile if a great man—a mandarin, say, of the third class—were to be ill. To consult on his case at least a hundred doctors would gather together. A member of the royal family was taken sick while I was in China, and my Chinese host told me with a good deal of pride that the largest consultation known to history had been held over the sick man. No fewer than 316 physicians, he said, had come from every part of the kingdom to study and discuss the case. The royal patient, I heard afterwards, died. This mammoth consultation had been held in vain." In Europe it has been said that seven doctors in consultation is the maximum number from which any patient has any reasonable hope of recovering. Why this particular number has been fixed upon we do not pretend to know, unless it be the mystical significance that used to be attached thereto. We have ourselves known a patient survive a consultation of twice that number. It is true the lady was a patient in whom an exceptional degree of tolerance may have been established by the frequent use of very large doses of medical advice. She was accustomed to have galaxies of the lights of British medicine around her every few weeks, and in addition to native talent she took every opportunity of seeking counsel of foreign oracles. On one occasion what might have been called an International Medical Congress was held about her bed. Yet she lived several years afterwards.

SUPERSTITIONS ABOUT PREGNANCY AND PARTURITION.

Dr. Isambert of Tours[1] has collected notes about local superstitions still prevalent amongst French countrywomen, notwithstanding the general distribution of education on modern principles throughout the Republic from Calais to the Pyrenees. We find, of course, legends about maternal impressions, but they are of little scientific or practical interest, as apparently authentic cases so often represent pure fancy or coincidence. Pathology shows us that a longing for strawberries in the mother has nothing to do with naevi in the child, and embryology proves that hydrocephalus is not developed through the fact that the mother has been frightened by a man in a very big hat. Certain curious customs, based on an idea that the male has influence on the fetus beyond the date on which he begot it—an idea not unknown amongst uncivilized races—still prevail amongst the French peasantry. Dr. Marignan of Marsillargues attended a woman who put on her husband's hat to hasten labour, preferring it to ergot. Dr. Lalanne repeatedly observed a similar practice in the Landes, the parturient woman turning her husband's hat inside out and then putting it on her head. The idea is carried further in remote districts in Lorraine, the husband's entire clothing being donned as an oxytocic. In the same districts, and in parts of the country round Toulouse the marital cotton night-cap, a familiar object on the head of the French rustic, is used as a pad tied against the vulva to prevent a threatened abortion. The gravest of all lying-in-room superstitions receives much attention from Dr. Isambert, for he dwells on the strange tendencies in certain districts to prefer dirty to clean bed-linen. In the canton of Ligueil, in Touraine, the mother takes the greatest care to collect and soil as much sheeting as possible when she is nearing term, and after being delivered between dirty sheets the supply of foul linen is frequently changed during the puerperium. In one case of puerperal fever Dr. Isambert had the greatest difficulty in getting the soiled sheets removed under his own superintendence, and though his orders were apparently obeyed, he suspects that the dirty linen was replaced in the patient's bed directly his back was turned, to be temporarily put aside at his visiting hour. In the Department of the Var dirty linen is always used to clean the woman after delivery, the washing itself not being undertaken for several hours. The belief in which these insanitary practices originated remains obscure. In the seventeenth century some popular customs appeared to denote that the infant at birth was held as a nobody, an unbaptized child of wrath, unworthy of clean sheets—luxuries provided for a guest. There is no evidence, however, that the practice above described is based on that doctrine: more likely it means that women dread catching cold and associate clean linen with damp, the usual cause of that complication. Probably the same idea explains why women in Ligueil often wear dirty linen throughout the catamenial period. In conclusion Dr. Isambert declares that some of the methods employed to hasten labour in humble cots far from the ignoble strife of the madding crowd of the boulevards are enough to make the modern obstetrician turn pale, yet somehow fine children are born and bred in those parts.

[1] Les Superstitions Médicales (Grossesse, Accouchement), *Journal d'Obstét. de Gyn. de Péd. Prat.*, July 20th, 1905.

AN ANTIMALARIA LEAGUE IN GREECE.

An Antimalaria League has recently been founded at Athens under the patronage of King George, who approved its constitution on May 17th. The President of the League is Professor Hadzimichalis, President of the Superior Public Health Council; the Vice-Presidents are Dr. Const. Savas, Professor of Hygiene and Bacteriology; M. Paul Sconzes, Chairman of the Committee of Management of the Piraeus, Athens, and Peloponnesos Railway Company; M. J. Valaoritis, Subdirector of the National Bank of Greece, and M. Sawroth, Superintendent of Public Works. The general secretary is Dr. John Cardamatis: the treasurer, M. Milt. Negrepontis. The objects of the League are to diffuse the results of modern research on malaria among the people: to study the distribution of malaria and its special characters in various districts: to draw up maps showing the marshes in each department; the removal of pools in the neighbourhood of houses; the investigation of the means of drying-up or purification of marshes; the destruction of mosquitos, the introduction of mechanical means of protection of houses, etc; the supply of quinine gratuitously or at very low prices, and the drafting of a Bill providing for the carrying out of these objects to be submitted to Government.

SPONTANEOUS COMBUSTION.

The belief in the possibility of the spontaneous combustion of the human body has not altogether died out; it still lingers both in the popular mind and in the semi-scientific journalism which caters for sensationalism. In an interesting article which appeared in *American Medicine* of April 22nd, 1905, Dr. John Knott discusses the physical facts which appear to be the basis of this popular belief, and quotes many amusing instances of cases which were accepted by our more credulous ancestors as authenticated proofs of the capacity of the human body to exhibit this dangerous and disastrous phenomenon. There are several scientific reasons, partly fact and partly fancy, which appear to have lent a certain plausibility to the view that such an accident might be possible. It has long been known that many chemical bodies and compounds undergo spontaneous combustion at comparatively low temperatures, and it is also a matter of common knowledge that many gases are inflammable, amongst which may be included some of the intestinal gases, and those sometimes produced by decomposition in the pleural and peritoneal cavities and the connective tissue spaces. Again, alcohol, which some persons are prone to make use of in very large quantities, is particularly inflammable: so, too, are fats and oils,

the abnormal increase of which in the human body is a not infrequent accompaniment of the chronic habit of over-indulgence in inflammable beverages. Lastly, it is a very common belief that certain animal products, and also imperfectly-dried grass or other vegetable material, are liable, when piled up in a heap, to take fire spontaneously. Dr. Knott quotes the "strange accident," considered of sufficient importance to be communicated to Boyle, which happened to a Mrs. Susanna Sewall of Maryland in 1683. This lady, it appears, suffered from "a strange flashing of sparks (seem'd to be of fire) in all the wearing apparel she put on, and so continued till Candlemas." In the presence of several gentlemen "the said Susanna did send several out of her wearing apparel: and when they were shaken it would fly out in sparks and make a noise much like unto bay leaves when flung into the fire; and one spark litt on Major Sewall's thumb-nail, and there continued at least a minute before it went out, without any heat." In the true spirit of scientific inquiry Mrs. Sewall's friends performed an interesting experiment which convinced them that the cause and origin of the fire resided in that lady herself, and was not some accident appertaining merely to her garments. "They caused Mrs. Susanna Sewall one day to put on her sister Digges's petticoat, which they had tried beforehand, and would not sparkle; but at night, when Madam Sewall put it off, it would sparkle as the rest of her own garments did." We cannot wonder that stories of this sort obtained credence when we hear of so eminent an authority as Lord Bacon solemnly asserting that he had himself seen "a woman's belly sparkling like fire." Naturally these matters engrossed the attention of the Royal Society, and we find Paul Rolli in 1745 epitomizing before that learned body the scientific enlightenment of the day in the following remarkable enunciation: "After all this, I say that a feverish fermentation, or a very strong motion of combustible matters, may rise in the womb of a woman with such an igneous strength that can reduce to ashes the bones and burn the flesh." Compared with this vivid picture of the scientific imagination, the well-known stories of drunkards who have set themselves on fire by accidentally applying a lighted candle to their mouths must have been regarded in those days as commonplace matters of fact.

THE WORK OF THE ROCKEFELLER INSTITUTE.

The Rockefeller Institute for Medical Research[1] has issued a second volume of reprints of recent pathological work which has been carried out under its auspices. A large part of the volume is devoted to the study of infantile diarrhœa and its relationship to the bacillus of dysentery, and comprises the report, published under the editorship of Drs. Flexner and Holt, of the investigations conducted during 1902 and 1903. Intestinal bacteriology is also represented by a lengthy piece of research conducted by Dr. William W. Ford on the classification of the human intestinal bacteria and their distribution in different parts of the alimentary tract. There is an interesting clinical and bacteriological study by Drs. Park and Holt of the characters of the milk employed in the feeding of infants in tenement houses in New York and the influence of bacterial impurities. They found that during hot weather, when the resistance of the children was lowered, the kind of milk taken influenced both the amount of illness and the mortality, condensed milk and cheap store milk being productive of the greatest amount of mischief. They point out that when milk is taken raw the fewer the bacteria present the better are the results, and that when organisms of the varieties usually present number more than 1,000,000 per c.cm. the milk is certainly injurious to the average infant. Heat above 170° F. not only kills most of the bacteria present, but also appears to destroy some of their poisonous products. Professor F. G. Novy and Mr. W. J. McNeal contribute an article on the cultivation of trypanosoma brucei. They find that actively-growing cultures possess a virulence which is very nearly the same as that of the original nagana blood, but that attenuation may be brought about by exposure to a temperature of 34° C. They suggest the employment of repeated injections of attenuated cultures as a means of producing immunity.

[1] *Studies from the Rockefeller Institute for Medical Research.* Reprints. Vol. II. New York: Published by the Institute. 1904. (Demy 8vo. pp. 504.)

A MEDICAL GROUP IN THE ITALIAN PARLIAMENT.

A MEDICAL group has recently been formed in the Italian Parliament. The members are Drs. Agnetti, Angiolini, Baccelli, Badaloni, Basetti, Botteri, Cacciapuoti, Campi, Cantarano, Casciani, Castellino, Cartoso, Faranda, Fazzi, Fede, Gatti, Lampiasi, Licata, Maresca, Masini, Masselli, Pianese, Queirolo, Rampoldi, Rummo, Sanarelli, Santini, Santoliquido, Scellingo, and Tinozzi. The new group, which recently held its first meeting, will direct its efforts to influencing all legislation relating to public health and the legitimate interests of the medical profession. Under the auspices of the group, a general Congress of the medical practitioners, Poor-law medical officers, pharmacists and veterinarians of Italy, to discuss questions affecting professional interests, will be held in Rome in November.

THE PRICE OF HEARTS.

WHAT is the market value of a heart? We know that kind hearts are in poetical estimation more than coronets: it is an interesting question how many coronets two hearts in one body are worth. The problem is suggested by the following advertisement which recently appeared in a New York newspaper: "I agree to sell my two hearts, the buyer being entitled to same after my death." It appears that the person thus privileged to possess two hearts is one A. Durr, of New Rochdale, New York State. He is said to be by trade a carpenter, and he is described as being 35 years of age and in good health. He works every day and leads a regular life. Two years ago a physician discovered that he was the subject of the curious anomaly out of which he is seeking to make an unearned increment. It is stated that a "prominent specialist" offered Durr £2,000 for permission to remove one of the hearts, but the offer was wisely declined. The man is said to have been offered large sums for his body after death and to be keeping the amounts secret in order to inflate the price. America is, it would appear, not the only country in which Nature is over bountiful in the matter of hearts. By a curious coincidence the *Journal des Débats* recently announced, on the authority of *La Stampa*, that there is at Basle a man named Joseph de Mai who also rejoices in the possession of two hearts. He, too, wishes to make money out of his malformation, but more fortunate than his Transatlantic compeer, he has already found a market. The London Academy of Medicine has, we learn, bought his body for £3,000. One would be glad to record such an example of enthusiasm in the cause of teratology on the part of one of our medical societies, but is there any of them that could afford to risk such a sum in an enterprise so highly speculative as the purchase of the body of a living man over whom it has no control? It was decided in "resurrection" days that there is no property in a dead body; does the law recognize any right of property in a living one that makes it possible for the owner to dispose of it when dead? In any case, even if a double heart is a marketable commodity, it would be unsafe for the vendor to dispose of his merchandise to a London Academy of Medicine which is not yet "in being."

LEPROSY IN CHINA.

THE last medical reports of the Imperial Maritime Customs of China[1] contain various references to leprosy. Dr. McCartney states that several cases have at last been located in Chung King, although in each case the place of birth was given as several days distant from that city which is far inland on the Yang-tze Kiang. As regards Wenchow, Dr. Plummer reports that he has not met with a case of leprosy after an experience of two years of that place. That does not exclude the possibility of leprosy

[1] Medical Reports for the year ended March 31st, 1904; 66th and 67th issues. Shanghai, 1905. London: King and Son. 1.50 dols.

existing if one pictures to oneself what a Chinese town is like. In and around the Port of Tengyueh, Dr. Ram Lall Sircar, who was the first foreign medical man appointed to this place (1903), has only seen six cases of leprosy, two of which have been under treatment. Dr. Georges Barbézieux contributes a paper of 16 pages on leprosy in the Yunnan. Out of 2,129 natives treated at the French Hospital of Mongtze during 1903, 149 were lepers, that is, 7 per cent. This proportion must not be taken, however, as applying to the population generally, for it is the lepers, says the author, who most willingly consult the foreign doctor, and come long distances for that purpose. Dr. Barbézieux criticizes Dom Sauton's estimate of 12,000 lepers in the Yunnan out of a population of twelve millions, and expresses the opinion that there are probably double this number. On the other hand, the population is only from eight to nine millions. The author has tabulated 85 cases which have come under his observation, and gives details of interest. His conclusions are as follows: Males appear to suffer more frequently than females; the disease appears to find a favourable environment in the high lands, such as those of the Yunnan; it cannot be said that poverty is an immediate cause, although it favours the development, of leprosy; salt fish does not appear to be a vehicle for the leprosy bacillus. But here the author points out that the people live on rice and are cultivators of rice, and the majority of lepers treated were occupied in the rice-fields. Heredity is not a cause of leprosy. As to contagion, which expression the author uses, evidently, in a strictly limited sense, he considers it has little or nothing to say in the matter. In his opinion, leprosy appears to be mostly, if not always, an acquired disease. This is another proof of the sense in which Dr. Barbézieux employs terms in general use with us, but which have a broader application. The fact is that evidence points to leprosy as an infective, contagious disease. Dr. Barbézieux considers the soil of rice-fields, or the air of places so cultivated, will reveal the immediate cause of leprosy, Hansen's bacillus, and he is investigating the matter from that point of view.

THE ABDOMINAL PREGNANCY QUESTION.

Ectopic pregnancy is a subject of interest to the profession at large, as it endangers the life of the patient whatever may be the form which it assumes, cornual, tubal, ovarian, or abdominal. Hence the more clearly its etiology and varieties are defined by experts the better for doctors and patients, for pathological science, and for medical jurisprudence. Great advances have been made during the last forty years, we admit, a truth easy to recognize by a glance at two standard works, Parry's *Extrauterine Pregnancy*, published in 1876, and Dr. Couvelaire's *Etudes Anatomiques sur les Grossesses Tubaires*, which appeared in 1901. At least, authorities seem to be able to assure us that tubal pregnancy is of all forms of ectopic gestation the most frequent, and to demonstrate clearly that it may end within the early months by rupture, which involves great danger, or by what is known as tubal abortion, which often ends by subsidence of all symptoms and spontaneous cure. Of late primary ovarian pregnancy has been admitted by authorities to be possible, mainly on histological evidence brought forward by Mlle. Van Tussenbroek, whilst a remarkable qualification has been advanced by Clarence Webster, who admitted that in one specimen submitted to him for examination the ovary was at all events the host of an ovum, but made out that elements derived from the Fallopian tube, and therefore, according to his views, capable of developing decidual tissue, were to be found in the ovary. Kossmann has a similar theory in respect to ovarian papilloma which he traces to tubal elements. It is, however, the question of the origin of abdominal pregnancy which remains most obscure. Professor J. W. Taylor, in his *Extrauterine Pregnancy*, has thrown much light on the subject, and his demonstrations in that standard work are well known. An instructive case of this condition has recently been brought forward, at a meeting of the Medical Society of Victoria, by Dr. Felix Meyer, of Melbourne,[1] who operated upon a woman, aged 26, for an extrauterine pregnancy three months after term. Menstruation had returned at term, and recurred three times up to the date of operation. Meyer found a fetus, very deformed, 7 in. in length, and not quite 14 oz. in weight, adherent by the cranium to the omentum but otherwise free. The right and left Fallopian tubes were normal, showing no signs of ectopic gestation; the ovaries were apparently the seat of small cystic degeneration. A boggy rounded mass of the size of a large orange lay in the median line, connected with the omentum by numerous strong adhesions, easily divided. The mass was now seen to be adherent to the upper part of the uterus, which was not enlarged, and to the upper portion of each broad ligament; a thin piece of uterine tissue was removed with the mass. Recovery was uneventful. The mass was the placenta, which weighed 18½ oz.—that is to say, nearly 5 oz. heavier than the fetus. Dr. Meyer suspects that at a very early stage the fertilized ovum escaped out of the ostium of the Fallopian tube, and became attached to the posterior surface of the uterus, developing to term. That the tube, after it has expelled an ectopic ovum, rapidly resumes its normal appearance and functions there can be little doubt. The main point not quite clear in respect to abdominal migration of the fertilized ovum is the position of the placenta, some authorities believing that in tubal gestation it cannot leave the tube when the fetus is expelled into the peritoneum. Hence, should the fetus survive and develop in the peritoneal cavity the placenta will remain in the tube though it will soon grow far beyond the limits of the tube. Yet it cannot be denied that in some cases the placenta is entirely outside the tube.

DAY NURSERIES.

One of the charges sometimes launched at the London County Council by its critics is that it takes too grandiose a view of its functions and does but little which will directly contribute to the health and well-being of the population under its surveillance. No such comment can be made upon that latest scheme which has been taken up by it—one of a purely domestic character, and which cannot but be regarded by all as a step in the right direction. The value of day nurseries, or crèches, is in these days beyond dispute. Our own English experience on the point is sufficient, although the number of crèches which have hitherto been at work is very small. Beyond this, however, we have the experience of the Continent, where, at any rate in France, questions which concern the well-being of the infant population have received more attention and intelligent study than has hitherto been the case in England. The benefits of crèches are both in Germany and France so freely admitted that in few towns in either of these countries has a sufficiency of them not been provided. It is true that, as a rule, they are not the direct outcome of municipal effort, but are carried on in the main by philanthropical societies: nevertheless, they receive from the authorities the practical recognition involved by subsidies and other official assistance. As for England, the total number of crèches in existence does not reach 80. Of these, 55 are irregularly distributed within the metropolitan area, seven of the boroughs having no crèches within their boundaries at all. These 55 crèches, however, only provide for about 1,200 children altogether, and the accommodation obviously falls vastly short of what is required. Under the conditions of modern urban life, it is inevitable that vast numbers of the women of the poorer classes should be engaged in other than domestic labour, and be absent for many hours from their homes. Whatever attention their children may receive when worktime is over, all the attention they can get during the day is commonly that which may be given to them by kindly irresponsible neighbours or by other children little older than themselves. It

[1] A Rare Case of Abdominal Pregnancy. *Intercolonial Med. Journ. of Australasia*, April 20th, 1905.

instead of this a number of infants really large in proportion to the population could be kept under skilled care and observation during working hours, the effect upon infant mortality could scarcely fail to be considerable. At the same time these nurseries could be made to play an educational part of no small value. Growing girls distinctly require to have instilled into them some notions of how infants should be managed; and if full use were made of crèches in this direction it might reasonably be hoped that in a few years' time fewer utterly senseless practices would be observed in the houses of the poor than is at present the case. Whether these nurseries should be entirely free to those who use them is from our point of view one of subsidiary interest. Probably, as in similar connexions, the best results would be obtained by imposing a small fee.

THE CHEMISTRY OF BACTERIA.

WORKING in conjunction with his pupils at the Hygienic Laboratory of the University of Michigan, Dr. V. C. Vaughan has lately added some further contributions[1] to our knowledge of the chemistry of the bacterial cell. The bacteria investigated were grown in large tanks, in order to obtain a bulk of material sufficient for chemical analysis, and were then extracted with sodium alcoolate. In the alcoholic extract highly toxic bodies have been obtained from colon, typhoid, and also anthrax bacilli; and from these bodies specific antitoxins have been produced. Special attention has been devoted to the colon bacillus. The toxin obtained from this organism immunizes guinea-pigs against both itself and the living bacillus. It is a complex body, giving the biuret and the Millon reaction, and is freely soluble in water and absolute alcohol, but insoluble in ether, petroleum ether, and chloroform. The alcoholic solution, as obtained from the germ substance by the action of sodium alcoolate, contains two groups of bodies, one of which is poisonous, whilst the other is not actively so. The toxin is precipitated from alcoholic solution by platinum-chloride, the non-toxic body being left in solution. Dr. Vaughan believes that the toxin is composed of a haptophore group and a toxophore group, and, while not prepared to express an opinion as to the nature of the former, is inclined to think, for both chemical and physiological reasons, that the toxophore group is a neurin. Neurin, like the colon toxin, is a highly poisonous body which is not decomposed on being boiled with sodium alcoolate. Physiologically, neurin acts on the respiratory centre, and arrests the respiratory movements, while the heart continues to beat normally. This action is well brought out with the toxins obtained from colon, typhoid, and anthrax bacilli, particularly with the last. When this poison is injected intravenously in doses of a fraction of a milligram, the respiratory movements cease immediately, while the heart continues to beat for five minutes or even longer. Dr. Vaughan finds, with the colon bacillus, that about one-third of the cellular substance can be extracted with alcohol, and that, provided the extraction be repeated three or four times, all the toxin goes into solution. The part of the cell substance which is insoluble in alcohol is completely soluble in water to which a trace of acid has been added, and, although non-toxic, contains substances which are of considerable interest. Amongst these is a haemolysin and a group which splits up the haemoglobin into haematin and a globulin. The haemolysin, which can be precipitated from the aqueous solution by the addition of acid and the application of heat, is thermo-stable, and can be heated to 110° without appreciable loss of its haemolytic properties. It is not active at low temperatures, and requires an incubation period before it manifests its effects. Dr. Vaughan believes this is the first occasion on which it has been demonstrated that a haemolysin can be obtained by splitting up the bacterial cell with chemical agents. He is inclined to the view that bacterial haemolysins are chemical groups in the bacterial molecule, and that those found in solution in culture media result from the normal disintegration of the bacterial molecule, which is always taking place with more or less rapidity.

[1] A Study of Bacterial Cells. Research in the Hygienic Laboratory of the University of Michigan. From the Journal of the American Medical Association.

THE FIGHT AGAINST MALARIA.

REPORTS of successful campaigns against malaria are constantly being published, and the comments on those by the lay press show that a gradual awakening of the people is taking place. No new discovery is generally accepted at first; time is required to instruct the uneducated, and only the wide publication of successful issues with the financial gain accruing thereby will teach the sceptic. Such an example is the striking work that has been accomplished recently by Dr. Bostock at Komati Poort. The methods adopted by the Italians, many years ago now, of making their station buildings and employés' quarters mosquito-proof by means of gauze doors and windows has been followed, and in addition sensible drainage has been employed. The results as indicated in an article in the *Lourenço Marques Guardian* of April 24th, 1905, are very remarkable, the cases of malaria having fallen to a very small figure when compared with previous years. Again, similar encouraging results have been attained, due mainly to the energy of Dr. Darker, in Sapele, West Africa, no deaths from malaria having taken place amongst the resident Europeans during the years 1903 and 1904. To quote only another instance, we have the work done by the military authorities in St. Lucia, West Indies, and the great diminution of malaria that immediately resulted. All those figures are very encouraging, and one of the most hopeful signs is the growing interest of business firms, traders, and railway people in the progress of the work.

WE regret to announce the death of Dr. John William Ogle, Consulting Physician to St. George's Hospital, which occurred at the Vicarage, Highgate, on August 8th, at the age of 81. We hope to publish an obituary notice of the distinguished physician in a later issue.

ON August 3rd a deputation, consisting of Mr. Burt, Sir John Gorst, the Mayor of Huddersfield, Mr. Herbert Samuel, Mr. Claude Hay, Dr. Thompson, Dr. Hutchinson, and other members of Parliament, waited upon Mr. Gerald Balfour at the House of Commons, and laid before him a number of facts and figures relating to infant mortality in certain districts. The President of the Local Government Board, in a sympathetic reply, promised to have inquiries made by special officers of his department in the various centres where the rate of infant mortality was abnormal, and to consider their report carefully with the view to taking action to remedy the evil.

SIR ALFRED JONES, President of the Liverpool School of Tropical Medicine, having offered the services of Professors Ronald Ross and Rubert Boyce to the Mayor of New Orleans in the work of dealing with the outbreak of yellow fever in that city, has received the following telegram in reply: "Grateful thanks on behalf of the city, and accept co-operation of Liverpool School of Tropical Medicine." It is expected that the two professors will leave Liverpool on Saturday, August 12th, in the Cunard liner *Campania*, via New York.

THE SUPPLEMENT for this week contains the minutes of the meetings of the Council held at Leicester during the recent annual meeting of the British Medical Association, a list of members elected to the Association during the three months ending June and a continuation of the notice of the exhibition of foods, drugs, instruments, books, sanitary appliances, etc., held in the Drill Hall, Leicester, in connexion with the annual meeting. In the SUPPLEMENT will also be found reports of Branch and Division meetings held, service notices, vital statistics, vacancies and appointments and the Calendar of the Association.

MEDICAL NOTES IN PARLIAMENT.

[By Our Lobby Correspondents.]

Industrial Diseases.—The debate on the vote for the Home Office last week gave rise to some very interesting speeches on diseases of occupation. Sir Charles Dilke, who led off, strongly condemned the action of the Home Office in not sending delegates of greater weight to the International Conference, and in not agreeing to a treaty with other countries for proscribing the use of yellow and white phosphorus. In the first discussion on phosphorus necrosis the British delegate had said that Great Britain had been so successful in its legislation as to practically stamp out phossy jaw, but had afterwards to admit two cases during the year, and he (Sir Charles Dilke) concluded that there had been three. As all other European countries had joined the Convention against the use of white and yellow phosphorus, he urged that Great Britain should join and try to bring in Japan. As regards the asserted diminution of lead poisoning, he pointed out that there had been 106 cases last year, or a return to the number of 1901. This had occurred in spite of the suspension of workers susceptible to the lead. The suspension rule often involved great hardship, and compensation depended on a certificate of plumbism, which was difficult to get, as lead was often only a contributory cause. He regretted the removal to Ireland of the lady inspector, who had done such good work in the Potteries, and claimed more inspection and a more earnest quest after a leadless glaze as the only means of stamping out plumbism. Mr. Coghill, later in the debate, contended that there had been a satisfactory decline in cases of lead poisoning, due mainly to the increased care and cleanliness of the operatives. It was impossible, he said, to prohibit the use of lead in the Potteries; the leadless glazes had broken down, and could not be used if ordinary trade profits were to be made. Mr. Tennant opposed the view that leadless glazes had failed, and suggested that a small Committee should be appointed to settle this question. He drew attention to the injury done to young persons by making them carry heavy weights upstairs in some of our manufactories, and contrasted our backwardness in this respect with France. Mr. Akers-Douglas defended the action of the Government delegates at the Berne Conference, and contended that the number of cases of phossy jaw had very considerably decreased. There used to be 9 or 10 cases a year, but after passing the rules in 1900 there were 3 cases; in 1901, 4; in 1902, 1; in 1903, none; and in 1904, 1. At the Conference, the British delegate had been able to say that there had been no case this year, but since then 2 cases had occurred. As far as he could see, the total prohibition of white phosphorus would be impossible at the present moment. It would destroy the remainder of the match-making industry in this country. It would require time to learn the processes for using no phosphorus, and he was informed that there was no likelihood of Japan coming in. As regards lead poisoning, he admitted a slight increase of cases in the last two years. The figures must be watched carefully, and it was not justifiable at present to make alterations in the rules. The discussion for the rest of the sitting turned on accidents in coal mines.

The Liverpool Small-pox Hospitals.—Last week Colonel Pryce-Jones asked the President of the Local Government Board whether his attention had been called to the recently published report of the Medical Officer of Health for Liverpool upon small-pox hospitals, in which this officer rejected the conclusions arrived at by the Local Government Board's Inspector, Dr. Reece, that small-pox had been spread by means of these hospitals; and whether, in view of the importance of the question, the Local Government Board proposed to issue any further report or observations on the subject of the Liverpool small-pox hospitals. Mr. Gerald Balfour said, in reply, that he had seen the report of the Medical Officer of Health. The Local Government Board proposed shortly to address a communication to the Liverpool Town Council on the subject of their small-pox hospitals.

The Insane in Belfast Workhouse.—Last week Mr. Joseph Devlin asked the Chief Secretary to the Lord Lieutenant of Ireland whether his attention had been called to the overcrowding of the insane wards in the Belfast Workhouse, due to the fact that the Belfast Corporation refused to supply the necessary asylum accommodation for the patients, and whether this overcrowding was denounced by the official Inspector of Lunacy in December, 1904, who recommended that inexpensive asylum accommodation should be provided for these patients elsewhere: and whether, seeing that in spite of the official recommendation nothing had been done by the Corporation in the matter, and that the number of these patients at the workhouse was increasing, he would order an inquiry into the subject or cause effective representations to be made to the local authorities with regard to it. Mr. Long replied that the number of insane inmates of Belfast Workhouse had in recent years been greatly reduced by the transfer of such persons to the Belfast District Lunatic Asylum. Since 1898 the number of insane in the workhouse had been reduced from 436 to 96. In December, 1904, the inspectors of lunatic asylums recommended that inexpensive buildings should be erected in connexion with the asylum for the accommodation of the insane inmates of the workhouse. The necessary buildings were now in course of erection.

Aylesbury Union and its Medical Officer.—Sir Walter Foster asked the President of the Local Government Board whether he could explain why a district medical officer of the Aylesbury Union, after being re-elected for twenty-three years in succession, had now, when 64 years old and eligible in one year for superannuation, been deprived of his appointment, and whether, in view of the Superannuation Act, 1896, he proposed to take any and, if any, what action in the matter. Mr. Gerald Balfour answered that until recently the late medical officer did not reside in his district, and hence he was only appointed from year to year. He was not informed why, when an appointment had to be made this year, the guardians preferred to appoint the present holder of the office, but it was within their competence to do so if they thought fit. The matter was not one in which he could take any action.

Progress of Bills.—The Medical Act Amendment Bill has been taken up in the Lords by Lord Strathcona, and having been read a second time last week, will in due course pass on to the Statute Book. The Sheffield University Bill has passed the Commons. On the other hand, the Infectious Diseases (Ireland) Bill was dropped with a number of other Bills on Friday in last week.

Infant Mortality and Medical Relief.—Sir John Gorst asked the President of the Local Government Board last week whether he was aware that according to the returns of the Registrar-General the infant mortality per 1,000 births had increased in the year 1904 as compared with the average of 1901-3: in Fulham from 143 to 152; in St. Pancras from 145 to 150; in Bethnal Green from 150 to 157; and in Southwark from 161 to 174; while in Poplar the rate had decreased from 158 to 154; whether in Poplar much more out-relief was given to nursing mothers than in other parishes, and whether the decreased death-rate was attributable to this cause; whether Southwark had last year the highest infant mortality in London; whether the Local Government would inquire in those districts in which infant mortality was on the increase as to what obstacles were placed by Boards of Guardians in the way of parents seeking medical relief for their infant children, and in particular whether it was the practice to grant such relief as a loan; and whether the parents who applied were required to appear before the Board of Guardians or a committee. Mr. Gerald Balfour replied that he believed that the figures were substantially as stated in the question. He was unable to say whether more outdoor relief was given to nursing mothers in Poplar than elsewhere. The place in London which in 1904 had the highest infant mortality, according to the annual return of the Registrar-General, was Shoreditch. There was no evidence, so far as he was aware, that guardians were unwilling to afford medical relief to necessitous parents who were unable to provide such relief for their children. From inquiries which had been made it would appear that it was not the usual practice in London to give medical relief on loan, or to require parents to appear before the guardians or a committee. Even where this was done, the information before him did not point to the conclusion that persons properly entitled to receive relief were thereby deterred from applying for it.

The Strength of the Medical Establishment of the Army.—Mr. Lambert asked the Secretary of State for War on Monday whether there was a properly-trained medical establishment for the balance of any army exceeding 55,000 men taking the

field abroad. Mr. Secretary Arnold-Forster said, in reply, that the war establishment of the army provided for a considerable portion of the medical staff being civilians. As the numbers of the latter available on mobilization had not been determined on, it would not be practicable to give any precise figures on the subject. He might add that the Army Council was aware that the strength of the R.A.M.C. was not adequate, and was making every endeavour to increase it.

A Reserve for R.A.M.C.—On Monday Dr. Thompson asked the Secretary of State for War what steps he had taken to form a reserve of officers for the Royal Army Medical Corps. Mr. Secretary Arnold-Forster replied that the question of whether it might be possible to form a reserve had been under consideration, but no decision had yet been arrived at.

The Volunteers and Medical Examination.—Mr. Lambert asked by what statutory authority Volunteers enlisted for home defence were ordered to be medically examined for service abroad, and Mr. Secretary Arnold-Forster admitted, in reply, that, so far as he was aware, there was no statutory authority for the examination. He said that no such order had been given, but general instructions on the subject had been issued to medical officers to report on the general physical standard of the men. If the men refused to submit, the medical officers would make the best report they could. In reply to further questions as to whether a commanding officer had power to arrest or disgrace any Volunteer who refused to submit to such medical examination, the Secretary of State for War said that no such order as that suggested had been or would be made. The results of the examination had been very satisfactory in those corps in which it had been carried out.

Ireland.

Public Health of Belfast.

At the quarterly meeting of the City Council of Belfast the Medical Superintendent Officer of Health reported that 158 cases of zymotic diseases had been notified, and that 62 deaths had occurred from these diseases, including measles, whooping-cough, and diarrhoea; 104 children under 1 year old had died, being a mortality of 3.7 per 1,000 of population; 863 births had been registered and 472 deaths, being a mortality of 17.1. The one case of small-pox in hospital has now been discharged.

A deputation waited on the Council to protest against the adoption of bacteria beds for the treatment of the sewerage. About 72 acres of slob land are to be reclaimed in which to institute these bacteria beds; and it was stated that the total scheme would cost about £200,000 The deputation urged that the success of the "bacteria-bed" treatment of sewerage had not been proved, and that some other method should be adopted, or, at any rate, the scheme should not be continued till further evidence of its probable results could be given.

The City Surveyor said that in Birmingham "bacteria beds" were being adopted, and that it was proposed in that city to add to the number each year. In Belfast they had been experimenting with these beds for some years. They had worked satisfactorily, and the last bed was an improvement on the former ones; the sewerage passed through it had, according to Dr. Letts, been purified to the extent of 96 per cent. On one of the warmest days of the month there was practically nothing to complain of.

Ambulance Service in Belfast.

The annual report of the superintendent of the Belfast Fire Brigade shows that 2 447 calls were received during the year 1904-5 ending June 30th, being an increase of 54 on last year; an average of thirty-five minutes per journey was occupied from the receipt of the call until the carriage returned to the station; the distance travelled was 8 856 miles, or an average of 3½ miles per case. The number of calls received between 6 a.m. and 6 p.m. was 1,357; and between 6 p.m. and 6 a.m. was 1,090.

The excellence of this work is appreciated highly by the public; all the men have the certificate or medallion of the St. John Ambulance Association, and some fire brigade team always carries off a cup at the annual competition; and their reliable and practical first aid receives high commendation at the hospitals.

THE DIET OF THE PRECIBICULTURISTS.

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III.

Diet of the Australians.

Vegetable Food.

Though the Australians are a genuinely pre-agricultural people, they may be regarded as being on the verge of the agricultural period. Signs of dawning agriculture are seen in the prohibition they put on the destruction of trees which bear useful fruit and on the digging up of plants bearing useful seeds after they have flowered, a restriction which Sir George Grey, writing in 1841, said he never once saw wilfully violated by the natives. Again, they may be said to bestow a rude sort of cultivation when they burn the leaves of a certain kind of yam and scatter them, as a kind of manure, over the still-growing plant.

In those parts of Australia where game is scarce, the natives subsist mainly on vegetable food, and such, according to Bennett, are apt to display a craving for flesh, and to be easily led into cannibalism. Curr declares that all the Australian tribes eat largely of vegetable food, though some more so than others.

Roots.—The varieties of vegetable food consumed are to be reckoned by the hundred. "Roots" are consumed in large quantities, especially those belonging to the natural orders Liliaceae and Orchidae, of which the country affords many species. The women collect them in varieties too numerous to mention. They include several species of orchid; the rhizome of the bulrush, which constitutes the chief food of certain tribes living in marshy districts, and of which the women secure large bundles, which they carry on their heads in nettings; the rhizome of the bracken fern (from which the Japanese obtain large quantities of starch); yams, of which one variety containing 23 per cent. of starch is cultivated in India; the root of the native convolvulus; the bulb of a species of clematis; and the muurang root, resembling a small parsnip, and much esteemed on account of its sweetness. These roots are dug up by means of sticks, and always by the women.

The Smaller Seeds.—Among the more important of these are the seeds of many grasses, including millet, the silver wattle, bower grass, and the grass called jaboola; acacia seeds, and the seeds of the pigweed or purslane of England. These latter have the appearance of gunpowder, and are obtained in large quantities by pulling up the plants, making them into heaps, and after a few days collecting the seeds which have dropped out upon the ground; during the season the natives are said to get into splendid condition on this food. All the foregoing are ground and made into cakes or loaves.

The Larger Seeds and Nuts.—The seeds of the bunya cone constitute a valuable food: the cones are over 1 ft. in length, and the seeds bigger than chestnuts. When the ripening season arrives—generally in January—the natives assemble in the bunya groves from long distances round—sometimes as far as 100 miles; each tribe has its own trees, of which a certain number are allotted to each family as hereditary property—the only instance of such inheritance among the Australians. Among the other larger seeds may be mentioned those of the cycas, pandanus, and several species of leguminous plants, such as the beans of the bean tree. The Queensland nut, about the size of an acorn, is much esteemed both by the natives and Europeans on account of its excellent flavour, and timber merchants are prohibited by Government from felling the trees bearing it; it is, indeed, said to be worthy of extensive cultivation.

Luscious Fruits.—Though the Australians eat many different kinds of fruit and berries, these do not constitute an important part of their food, save as a source of acids and salts. Among such fruits may be mentioned the geebung, which is described as mucilaginous and insipid, and the kangaroo apple, which resembles a potato; the fruits of the Epacridae (dwarf shrubs), for the most part small and containing a large stone, some being known as native cranberries; the native raspberry and the fruit of the pig-face. Wild figs, pears, oranges, blackberries, and gooseberries are said to occur in certain parts, but they do not appear to be of much account dietetically. The southern parts of Australia are remarkably deficient in luscious fruits, one of the few deserving the name being the hurt, which is described as "like a cherry without the pip"; it is gathered in large quantities by the natives, who come from long distances for the purpose,

remaining in the district where the fruit grows as long as it lasts.

Greens.—Central Australia, forming as it does the bed of a dried-up salt-water ocean, abounds in highly saline plants. Some of these, such as the pig's-face (mesembryanthemum) and sow thistle, are, on account of this very richness in saline material, consumed in large quantities. Eyre, writing in 1845, says: "The thick, pulpy leaf of the pig's face is in general use in all parts of Australia which I have visited, and is eaten as a sort of relish with almost every other sort of food." Other green vegetable goods are: clover, the young shoots of the bulrush, and the young leaves of the native cotton bush—these green foods are either cooked or eaten raw—the bases of the inner leaves of the grass tree and the budding leaves of a species of palm tree. The Banksia flowers, called by the early settlers honeysuckle, yield a considerable quantity of a honey-like liquid, which is eagerly sucked out by the aborigines; the plant has a wide distribution throughout Australia.

Mushrooms.—Several kinds of mushroom are eaten, also an underground fungus, about the size of an ordinary turnip, called by the white people "native bread."

Gum.—The gum of the acacia, or common wattle tree, is largely consumed by the Australians, as well as employed for cement, and each man has an exclusive right to a certain number of the trees. As soon as the summer heat is over notches are cut in the bark to allow the gum to exude, when it is gathered in large lumps and stored. Short, in his travels, found a number of bark boughs filled with the gum of the mimosa, and large cakes of it upon the ground. One variety of acacia yields large quantities of gum tragacanth, and in the proper season the natives assemble in the acacia district for the purpose of collecting the gum, these meetings being generally made the occasion of their annual barterings. The gum is not only used for the purpose of chewing, but is apparently regarded as an actual food, though physiologists tell us that it has no nutritive value.

Manna.—This is a sweet substance which exudes from the leaves of some kind of gum tree, and drops in pieces resembling small lumps of loaf sugar. Mixed with acacia gum and dissolved in water, it constitutes one of the few artificial drinks of the aborigines.

Another sweet liquid is obtained by boys by inverting young parrakeets and compelling them to disgorge the honey-dew after they have been fed by the old birds.

Intoxicating Liquors.—Alcohol is unknown, except through the white man. The natives get a certain amount of stimulus by chewing "pitcheree," which is made by munching twigs of a certain plant into a mass, which is then mixed with gum-tree ash; long journeys are periodically made to obtain the twigs. Leaves of a plant called murradutta, supposed to be pitcheree, are dried in the sun for chewing, and are said to possess intoxicating properties.

Honey.—Wild honey is a favourite food, and is obtained in considerable quantity. If the hive has been exposed to the sun the honey is apt to be sour from fermentation. Not possessing vessels, a common plan of consuming it is as follows: a piece of the inner bark of a tree containing an abundance of bast tissue is smeared with honey, which becomes partially absorbed; the mass is then sucked and chewed by all the company in turn, and, when all the honey has been in this way extracted it is replenished with honey and again sent round.

The Gathering of Vegetable Foods.—As with other primitive peoples, the task of gathering vegetable food falls to the women; they dig up the roots with a pointed stick, no light task, as may be gathered from the fact that to obtain a yam one foot long and half an inch round a hole has to be dug a foot square and two feet deep. The children help the women in collecting the vegetable food, and it is not unusual to encounter large parties thus engaged.

The Preparation of Vegetable Foods.

The black fellow prepares his vegetable food in a variety of highly elaborate ways, and is able to convert many acrid and poisonous substances into wholesome and agreeable foods, so skilfully indeed as actually to suggest to Carr Divine intervention—surely no small tribute to the intelligence of these people. How complex are their methods of preparation is shown by the fact that the natives of one district may be quite unable to utilize as foods many of the vegetable substances on which their neighbours subsist, "so little do they look like what man might live on"; as well as the fact that the scientific explorer, Dr. Leichhardt, though he found in a deserted camp a quantity of food in every stage of preparation, was unable, even with the hints thus afforded him, to provide his almost starving party with anything they could eat.

As we should expect, some of the vegetable food, such as luscious fruits, certain nuts and seeds, and green foods, are eaten uncooked. Roots, such as the muurang root, the bulbous root of the common orchid, the root of a variety of sedge resembling celery, are also eaten in the raw state much more frequently than is the case with us moderns, who rarely eat any "roots" uncooked. This fact is of interest as reminiscent of precoctural times, and makes it highly probable that man had already learnt to grub up roots for food before he began to cook them. Other vegetable foods eaten raw are the pig's-face, sow-thistle, and several varieties of fungi.

Methods of Cooking.—Boiling may be said to have been practically unknown to the Australians before they came in contact with the white man, for they were ignorant of pottery, and had not learnt the art of stone boiling in water-tight baskets. Such vessels as they possess are made of wood, bark or the hides of animals. Thus we read that on the march they carry water in bags made from an opossum's hide skinned, after an incision has been made round the neck, from the head downwards, without any further cutting except at the feet; the smaller openings thus made are then tied up, when the bag is ready for use, the fur being inside. Wooden bowls are also employed.

They cook their food over a fire, or in burning embers, or, finally, in underground ovens, which appear to have been employed by all the primitive races of man. A hole is dug in the ground and filled with stones, over which a fire is burnt; the stones and ashes are then raked out, and the article to be cooked is placed between layers of the hot stones; some damp grass or leaves are then put on the top—sometimes the oven is first lined with them—and the contents are covered up with grass, leaves or the like, these being kept in position by a sprinkling of earth. The steam generated by the heat (which is the active agent in the cooking) is thus confined, and after some hours the food is ready for consumption. These ovens are dug wherever the tribe happens to encamp, but sometimes the same ovens are used year after year, and in favourite resorts in South Australia large accumulations of ashes are met with, some of them 5 ft. high and 80 yds round. Certain tribes do not employ oven cooking, but some, at least, of these were formerly in the habit of using them.

Preparation of Vegetable Foods not involving the Removal or Destruction of Noxious Ingredients.—The roots of the parsnip-like muurang are washed, placed in specially-made rush baskets, and deposited overnight in underground ovens, so as to be ready for breakfast next morning; and when several families cook their roots together these baskets may form a pile 3 ft. high. This task is performed by the women, and when it is considered that the baskets can never be used more than twice, it will be allowed that it involves considerable labour. Other roots, such as the bulbs of the clematis and native convolvulus, are cooked in similar fashion. The nut-like seeds of the bunya are roasted after a preliminary bruising, much as we roast horse chestnuts, or they are pounded into a meal called "manu." Various grass seeds are ground by means of stones into flour, which is mixed with water and then eaten uncooked or made into cakes. This practice of eating raw flour is of great interest, as it raises the question whether man may not have learned to prepare his food in various ways before he began actually to cook it. Various roots are similarly pounded up and eaten raw. The grinding of seeds, roots, and other vegetable substances into flour or meal obviously increases their digestibility and saves the work of the masticatory organs. A large number of roots are pounded into paste and then made into cakes and baked. A kind of bread is made from the root of the common fern. The flour which the black fellow is able to prepare is by no means to be despised, for Mitchell, referring to some cakes which the aborigines made from the rhizome of a species of bulrush observes: "They seemed to me to be lighter and sweeter than those prepared from common flour."

Preparation of Vegetable Foods Involving the Removal or Destruction of Noxious Principles.—The objectionable ingredient is either got rid of by maceration by heat, or by a combination of both; or, again, it is neutralized by admixture with some substance. The by-yu, or pulp encasing the nut of a certain palm, is violently cathartic and emetic, as Captain

Cook and his party, who came upon a collection of these nuts in a native encampment, found to their cost. It is prepared as follows: the nuts, which the women collect in March, are placed in shallow pools of water and left to soak for several days, after which they are transferred to holes—about 1 ft. in diameter and 2 ft. to 5 ft. deep—dug in dry sandy soil and lined with rushes; the contents are then sprinkled with sand and covered in with leaves, and in about a fortnight the by-yu is found to be quite dry and fit for consumption, being eaten raw or roasted: the kernel remains poisonous. All the cycadaceous plants appear to be pervaded by a virulent poison. The nuts of the nut palm (Cycas media) are prepared as follows: after the kernels have been bruised they are dried in the sun and then steeped for three or four days in a running stream, whereupon they are pounded between two stones—a large flat bed stone and a smaller one held in the hand—into a fine paste, and finally baked under ashes. The beans of the bean tree are steeped from eight to ten days in a running stream; they are then roasted on hot stones, and afterwards pounded into a coarse meal, which can be kept for an indefinite period: from the meal thus obtained biscuits resembling ship biscuits can be prepared by mixing with water and then baking. The acrid and cathartic nature of the mene (Haennadorum) is destroyed by pounding it along with earth. The root of a plant common about the creeks—probably a lily—is pounded, and in this way much of its pungent juice removed.

The Extraction of Starch and Sugar Unknown.—It is somewhat remarkable that though many of the vegetable substances which the Australians submit to elaborate preparations contain an abundance of starch, these people should not have hit upon the plan of extracting that valuable nutritive ingredient. Nor have they succeeded in extracting sugar, although many of their vegetable foods are rich in it; so much so, that in 1876 an application was made at the Patent Office Melbourne for patenting a method of extracting the sugar from one of these. The explanation of the backwardness of the Australians in these respects is doubtless to be sought for in the fact that, possessing neither metal nor pottery, they lack the means of carrying out the process.

The Storage of Vegetable Foods.—The Australians do not appear to store their vegetable food to the same extent as some other preagriculturists—for example, the Californians—possibly because their roving habits enable them to secure an adequate supply throughout the year. They sometimes store bunya nuts; netted bags are filled with the nuts and buried; after some months they are taken up, and in spite of their offensive smell, are eaten with great relish. Gum is stored in considerable quantity.

The Rotation of Food.

Like all preagricultural people, the Australians are wanderers—that is, they have no fixed abode, but wander about from place to place in search of new pastures and hunting grounds. If a tribe remained at one spot it would perforce starve, for all the game would soon be scared away and all the vegetable food exhausted. Hence they are kept continually on the move, the direction of their wanderings being determined mainly by their search for vegetable food. They visit particular districts when the vegetable foods which grow there are ready to be harvested, hunting game by the way. Thus we are told that in Western Australia every season of the year yields some species of orchid root, and that "the natives regulate their visits to the different districts accordingly." The natives will travel a hundred miles to a bunya district when the nuts are ripe, and remain there so long as they last; and they similarly flock to the acacia districts when the time for gathering the gum arrives. This roving habit induces a similar roving habit in the kangaroos, emus, and other game.

Quantity of Food.

According to Sir George Grey, there are two periods of the year when food is apt to be dangerously scarce, namely, the hottest part of the summer and the height of the rainy season; but he says it is a great mistake to suppose, as some have done, that the natives often suffer from want of food, because, by properly regulating their visits to districts when the vegetable food is ready for consumption, they can secure an abundance throughout the year. He enumerates upwards of 100 different kinds of animal and vegetable food which the natives inhabiting a comparatively small area in South-Western Australia are able to secure; and Curr, referring to certain tribes, says that before the arrival of the white man they were abundantly supplied with animal food in the shape of bird, beast, and fish. Again, we read that during the pig-face season—which lasts from January to the end of the summer—the natives lead a comparatively easy life; also that they get fat during the bunya season, and on the seed of the pig-weed, which in some parts grows in great abundance.

General Observations.

Infants in Central Australia are not weaned till between 2 to 3 years of age, and long before this are given any food which they can eat, "except those kinds of vegetable which are likely to disagree with them." We are expressly told that no ritual restrictions in regard to animal food are imposed on children till after the age of 12 years, which suggests that it enters largely into their dietary.

Curr says that he never even heard of a cripple among them. The natives end the moans of a dying man by the simple expedient of killing him. Even partially bald heads are a rarity.

The Australians employ numerous remedies for disease. A severe flesh wound is treated by first sucking it and then applying a poultice of stewed green leaves; for indigestion the drinking and external application of cold water are resorted to; sometimes the sick person drinks the blood flowing from the cut vein of a companion.

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THE THERAPEUTICS OF YEAST.

We have received from Messrs. Cooper and Co., of South Kensington, samples of Jacquemin's therapeutic yeast, for which it is claimed that it is a pure ferment of grapes—that is to say, a special culture of the saccharomyces ellipsoideus, which will live and ferment actively in the stomach in spite of the acidity of the gastric juices. The specimens we have received consisted of a large bottle of unfermented grape juice and a small bottle containing the ferment. The directions given are to pour the contents of the small bottle into the large bottle, and place the latter in a warm place for a few days until fermentation has started. A tablespoonful is directed to be given in half a tumbler of water, together with a small piece of loaf sugar, twice daily about an hour before meals. By following these directions, the ferment is supposed to grow actively before digestion commences, while its action will be continued upon any sugars which reach the stomach, whether these be natural sugars or the result of the diastatic action of the saliva on starches. We have followed the directions given, and found that in an artificial digestive experiment the wine ferment grew actively in the presence of twice the quantity of normal gastric juice, so far fulfilling the claim made by the maker; but similar experiments made with various pure cultures of yeast gave equally good results, although they had not undergone any special training to stand the acid medium. We also tried two specimens of therapeutic yeast sold under the names respectively of "furunculin" and "zymin." In the case of the former fermentation followed, and budding was marked; in the case of the latter both fermentation and budding were slight. The pure culture yeasts used were: Saccharomyces cerevisiæ (Logos), bottom yeast; saccharomyces cerevisiæ, top yeast; saccharomyces apiculatus, and saccharomyces ellipsoideus.

Therefore the quality of growing and fermenting in the presence of gastric juice does not seem to be peculiar to Jacquemin's special preparation.

We have also given this wine ferment in the manner directed to a diabetic patient who was passing a known quantity of sugar; the case was one of mild diabetes in an elderly man, and the quantity of sugar daily was in round

figures 1,800 gr. on a diet estimated to contain about 3,000 gr. of sugar-forming substances. After the administration of the wine ferment the daily quantity of sugar fell to 1,200 gr., and has continued at that figure up to the present time. The patient's weight has remained stationary. It would seem, therefore, reasonable to conclude that the effect of the ferment has been to decompose 600 gr. of the sugar which would otherwise have passed into the urine. The result is not very great, but it is interesting, and supports the claim that by the administration of yeast diabetic patients may take a larger quantity of carbohydrate food than they would otherwise be able to do. It affords no ground, however, for supposing that the ferment is in any sense a cure for the disease.

Yeast, as is well known, is a popular remedy for boils and carbuncles, and of recent years it has been claimed that it possesses some specific antiseptic properties when taken internally. It has therefore been recommended for use in septicaemia and in septic endocarditis. When the cells are grown in cultures with pathogenic micro-organisms, it has been said that they exercise bactericidal and phagocytic powers over these organisms, and subcutaneous injections of living yeast have been said to be distinctly beneficial in streptococcus and staphylococcus infections. This subject was dealt with by Dr. Walter Malden in a series of researches for which he received a grant from this Association, and a note of his results and conclusions formed part of the report of the Scientific Grants Committee, published in the Supplement to the British Medical Journal of July 1st, page 6. His conclusions are not greatly in favour of these claims for yeast, as he found that it does not possess any direct bactericidal or phagocytic properties, nor when injected subcutaneously does it pass unaltered into the circulation, but is quickly disintegrated and absorbed. On the other hand, when injected into the veins it causes intravascular clotting, and it is therefore dangerous to use it in this way. The effect of subcutaneous injection of yeast on animals infected with streptococcus pyogenes, staphylococcus albus, and tubercle was in some cases to cause recovery, and in others prolongation of life, and he thinks these results are due to the liberation of the nucleo-albumen contained in the mast cell, which acts as a powerful stimulant to the cells of the body generally and causes a large increase in the antiseptic and bactericidal substances normally present in the blood serum. We have no doubt from our own observations that yeast has a powerful effect in putting a stop to the formation of boils. This effect is sufficiently striking when, as sometimes happens, patients recover who have been long under treatment by other means without any good result. It is therefore unquestionable that this substance does contain bodies which possess very active therapeutic properties, and the various pharmaceutical preparations which have been recently brought under the notice of the profession deserve trial, although they may prove in the end not superior to ordinary yeast obtained from a brewery.

It is interesting in this connexion to note that Dr. Schiller, who has recently[1] recommended yeast for the local treatment of acute and chronic vaginitis and endocervicitis, uses yeast fresh from the brewery. Schiller's practice consisted in the local application of yeast every second day. After cleansing the vagina with sterilized water, two teaspoonfuls of yeast and one of grape-sugar solution were introduced into the vagina through a speculum, so that the cervix and walls of the vagina were bathed with it. Schiller preferred to carry out this treatment at the patient's home: otherwise he employed a tampon soaked in grape-sugar solution after a few minutes had elapsed subsequent to the yeast bath. Within twelve hours a vaginal douche was given. In the discussion of the paper[2] Dr. Clarence Webster declared that after study of the literature of the subject, he was not persuaded that this method was any better than other methods already in use. As long ago as in 1852 Mosse described its employment by workers in breweries mostly for boils, acne, and other skin diseases. Sergent, he said, had made experiments to test the germicidal or bactericidal powers of yeast. The staphylococcus aureus was used to inoculate rabbits; their ears were shaved and scratched and yeast rubbed in. It was claimed that recovery took place much more quickly than in the control experiments, but whenever the inoculation was severe the rabbit died. Cronbach also had found with regard to the use of yeast in the vagina for the cure of gonorrhoea that his results were no better than in cases in which ordinary antiseptic treatment was used. Clarence Webster was of the same opinion. Dr. Kolischer said he had had a little experience in the treatment of chronic gonorrhoea with yeast, and it had not been satisfactory, but Schiller's practice of preparing the soil for the yeast was a novelty that might prove of value. Parametritis and salpingitis had followed yeast treatment—a fact which Schiller admitted—but both agreed that the complications were not necessarily consequences of the treatment. Dr. Joseph Lee asked whether the use of yeast would be admissible during pregnancy. Schiller, in reply, observed that Plien used rheol bacilli in the cervix of pregnant women with good results. Rheol is a combination of living yeast and asparagin, kept in paraffin oil with some boric acid. According to Plien's experience, salpingitis had followed when he had applied rheol bacilli to the cervix in cases of acute gonorrhoea.

[1] *Amer. Journ. Obstet.*, May, 1905, p. 635.
[2] *Ib.* June, 1905, p. 825.

LITERARY NOTES.

M. Jules Claretie gives an account in the *Temps* of a book which is probably unique. It is a collection of Victor Hugo's works bound up with a number of photographs, letters from Charles Nodier, Balzac, Michelet, Lafayette, George Sand, Sainte Beuve, and other celebrities—literary, artistic, dramatic, etc., and sketches by the poet himself. The collection, which is a veritable museum, was made by Hugo for presentation to his companion in exile, Dr. Terrier, to whom it is dedicated in the following terms: "I give you this book as to one of the men whom I most love and esteem in the world. In two serious illnesses you have cured my daughter, and you have cured me—I would say 'saved' had not God been there to help you." When Terrier, taking advantage of the amnesty, left Guernsey, Victor Hugo writes under date August 30th, 1859: "A year ago you were with me two or three times a day. You watched over me, my sufferings, my fever, my life. You took care of me and cured me; to me you were part brother and part angel." Then he solemnly blesses the returning exile, and tells him to return to France, which has need of men like him. The book, of which the poet said it might in case of need provide a dowry for some one, was a farewell gift not only from Hugo himself but from his family. A characteristically French touch is seen in the addition of the signature of the poet's mistress to those of his wife and family.

Among the recognized classes of medical practitioners in India is one known as hospital assistant. These hospital assistants go through a course of instruction lasting for three or four years at the several provincial medical schools in India, which are generally maintained by the Government. The hospital assistants are mainly intended for Government service, and are naturally enough required in most cases to serve at small villages scattered all over India, and considerably removed from large cities. They cannot, therefore, keep themselves in touch with the views of their advanced brethren in the profession, and have no means to acquaint themselves with the latest researches in the science of medicine. With the object of remedying this isolation from scientific progress an enterprising hospital assistant, Raghunath Vaman Bapat, has decided to issue from January, 1906, a monthly magazine, entitled the *Hospital Assistant*, cheap enough to be within the reach of the poorest of hospital assistants, and containing among other matter extracts from the medical journals of Great Britain and America.

A very interesting paper on the Pre-Raphaelite Brotherhood, by Professor Byers, of Belfast, appears in the *Northern Whig* of July 15th. He gives a sketch of the history of the famous Brotherhood which is to be fully told by Mr. Holman Hunt, the only survivor of the three founders of the movement, in a volume which will be published in the autumn. In that work, says Professor Byers, reference will be made to a very remarkable Belfast man, Francis M'Cracken, who in the second quarter of the nineteenth century had amassed in Belfast a valuable collection of pictures. A nephew of the celebrated Henry Joy M'Cracken (who was executed in 1798), Francis M'Cracken was born in Belfast on May 29th, 1802. As a young man he showed a deep interest in art, and was very anxious to go to Rome to adopt the profession of a painter, but on the death of an elder brother his father insisted on his entering business. He took the deepest interest in art, both locally and outside Belfast. In 1850, when the School of Design was established (where the present Municipal Technical Institute has its head quarters), he was selected as an original member of committee. He was on

terms of intimacy with Ruskin, Rosetti, and Holman Hunt, and he was the purchaser of an early picture executed by Holman Hunt. Francis M'Cracken died at Holywood on August 23rd, 1863. Professor Byers's article affords striking proof of the versatility of his genius, for he discourses on art with the same mastery of facts and keenness of insight which mark his professional writings.

A dinner was recently given in New York in honour of Dr. Thomas Addis Emmet. The eminent gynaecologist, who took his degree at Jefferson Medical College so long ago as in 1850, comes of a family many members of which have been distinguished in various spheres. Robert Emmet, whose name is famous in the political history of Ireland, was his great-uncle. His great-grandfather, Robert Emmet, the father of Thomas Addis Emmet, a well-known lawyer in New York, was a physician of great prominence in Dublin. His grandfather, Thomas Addis Emmet, who subsequently became a lawyer of great reputation, first studied medicine, and then turned to the law. Being accused of rebellion, he was placed for some time in Kilmainham Gaol, in Dublin, and was afterwards sent for two years to Fort George, in Scotland. After the English treaty with the French he was released, and went to France and Belgium, and ultimately in 1804 to New York. One of his sons was John Patton Emmet, a physician who devoted himself to chemistry, which he taught in Charleston, South Carolina, and in the University of Virginia. The present Dr. Addis Emmet was a pupil of Marion Sims, and was made Assistant Surgeon to the Women's Hospital, New York, in May, 1855. He succeeded Dr. Sims as Surgeon-in-Chief in 1861, a position which he held until 1872. Dr. Emmet's *Principles and Practice of Gynaecology* has been translated into German and French. Dr. Emmet's professional labours have not absorbed all his energies. He made a collection of "Americana" which is said to be one of the most interesting things of the kind. The late Benson J. Lossing and other historians, besides magazine writers, found much of their material in his library and his collection. He has lately published a history of Ireland. Some of his friends, we learn from the *New York Postgraduate*, insist that his devotion to the Green Isle is so fervent that he traces the most of the good in the world to the Celts of Brittany, Scotland, and Ireland. His latest effort is to prove that George Washington was really an Irishman and not of English parentage.

SPECIAL CORRESPONDENCE.

VIENNA.

Sanitary Report for 1900-2.—The Use of Oxygen Gas for the Examination of the Joints by X Rays.—New Imperial Councillors.—Prevention of Infant Mortality.

THE report for 1900-2 on the health of Vienna, recently issued under the direction of Dr. Löffler, President of the Municipal Sanitary Board, contains evidence that, on the whole, the sanitary conditions of the population are showing a steady, although slow, improvement. The mortality for these three years was 20·03, 19·13, and 18·90 respectively per thousand inhabitants. The total decrease of mortality since the introduction of the new sanitary regulations (new sewerage, supply of pure water, improved collection of household refuse, etc.) is 21 per cent., mainly due to a fall of mortality from phthisis and enteritis. Fifteen years ago tuberculosis was responsible for 5·5 per cent. of all deaths in Vienna; now it is accountable for only 3·3 per cent. Small-pox and typhoid fevers are very rare or extinct; in 1902 not a single case of either disease occurred in the city. The serum treatment of diphtheria is a decided success. Whilst before 1894 more than 1,600 children died annually from this disease, the corresponding figures for these years were 306, 387, and 430. Measles is still very rife; 16,270, 12,172, and 15,245 cases were notified, with 731, 634, and 769 deaths respectively. The number of practitioners appointed by the municipality for sanitary work is 108. The number of practitioners in the city has increased in the three years by 185. One chapter deals especially with the question of slums and housing of the poor. The amount of work done can be gauged best by the fact that the number of patients treated by the Poor-law medical officers was 110,512 in 1900, against 95,857 in 1902. The medical supervision of the public and elementary schools receives adequate attention. Stress is laid on the fact that the real danger of tuberculosis for the children lies not so much in disease among pupils as among the members of the teaching staff.

The difficulty of defining, in radiographs, tissues closely adherent to bones has been overcome by Dr. Robinsohn, who found that the inflation of joints with a gas is capable of giving excellent results in *x*-ray work. The principle consists in offering to the rays a specifically lighter medium between two media of nearly equal density. Robinsohn inflated pure oxygen under aseptic precautions into several joints in cats and rabbits. After having obtained good results, he proceeded to experiment on human beings. The injection may be made either under the guidance of the eye, whilst the joint is transilluminated, or after exposing the capsule—for instance, just before operation. By this method, membranes, ligaments, cartilage, ossicles can be made visible. Dr. Robinsohn demonstrated at the meeting of the Surgical Society radiographs of the normal knee in which the contours of the bursa suprapatellaris, the condyles, the alar and crucial ligaments, were easily discernible; and Dr. Wermdroff was able, in conjunction with the originator of the method, to diagnose correctly the different pathological changes in the joints. They found three types of disease: arthritis chronica, confined solely to the joints, without changes in the bones, but accompanied by serous or purulent effusions; chronic arthritis, with diseased osseous and membranous structures; and a third type, characterized by obliteration of the joint, by ankylosis without changes in the bones, simply by degeneration of the capsule. The authors point expressly to the last-mentioned type as a new discovery, the condition not having been visible formerly. The technique of the procedure is very simple, about the same as that for tapping the joint for collection of liquid; precautions are only necessary to prevent an excessive pressure of the gas and to ensure absence of infection.

Five of the most eminent teachers of the University of Vienna have had conferred upon them the title of Imperial Councillor. They are the Professors Kolisko, Lecturer on Forensic Medicine; Paltauf, well known for his researches on serum and his *Hygienic Principles;* Hochenegg, Director of the First Surgical Clinic of the General Hospital; Riehl, the successor of Professor Kaposi; and Wagner von Jauregg, Director of the Clinic for Mental Diseases.

A committee which comprises seventy physicians—amongst them the leading gynaecologists, many specialists for diseases of children, the chief medical officers of health, the President of the Sanitary Department of the State, and numerous ladies connected with medicine—has been formed with a view of encouraging the suckling of infants. The preliminary work of constituting branch dépôts for the distribution of milk and the giving of instruction to mothers was done a few months ago, and now the work is being divided up amongst the medical members. Professors Schauta and Chrobak will, during the summer, hold public courses for mothers and midwives. The specialists for children's diseases are already active, and instruction is being given in the following subjects: (1) Statistical data as to the duration and advisability of suckling; the reasons of inadequate secretion of milk; artificial feeding. (2) Mortality of infants, and its relation to the food of mother and child. (3) Reforms in the instruction of midwives. (4) Suggestions for the promotion of breast-feeding by advice to the lower classes as well as to well-to-do mothers. Dr. Friedzung has worked out a scheme which proposes a sort of insurance for mothers who give their children the breast, and provides them with suitable homes for a short period after confinement, on weekly payment of a small sum from the first month of pregnancy. A more effective protection of mother and infant is also asked for by the committee, and friendly clubs (*Krankencassen*) are to be taxed for the like purpose. The majority of the profession is strongly in favour of the objects of the committee.

HONG KONG.

Report of the Government Bacteriologist for the year 1904.

THE new public mortuary was completed during the early part of the year. It is equipped so that the most varied pathological research can be undertaken. The compound includes two large mortuaries, one research laboratory—for the examination of rats and other animals—and two small laboratories for research work.

None of the workers at the mortuary have suffered from sickness during the year; all are annually inoculated with plague vaccine and also vaccinated against small-pox. The

total number of bodies examined was 1,551, and of these 1 026 were males. This great difference between the number of males and females examined does not obtain in the case of infants under one year. Out of 498 infants, 236 were males. Dr. Hunter, in calling attention to the prevalence of tuberculosis among the Chinese, says: "The ravages of tuberculosis in its various manifestations still accounts for the lives of a very large number of Chinese of all ages. The Chinese appear to be extremely susceptible to tuberculosis. The following dictum, quoted by Clemow, is very true: In China tubercle may be regarded as the principal scourge of the rich class of nobles, while syphilis is the commonest disease among the middle class, and leprosy among the outcasts. In continuation of my researches into the subject, my observations lead to the conclusion that, pathologically, there is little evidence of tuberculous infection through the alimentary tract. If tubercle bacilli enter the system through this channel they never leave evidence of having done so in the intestine. My results bear this out thoroughly."

PATHOLOGICAL INVESTIGATIONS.

Small-pox.—Twenty-eight cases were examined, and the majority were of the severe haemorrhagic type.

Cholera.—Thirty-five cases were brought to the mortuary—all during the months of May, June, and July. The annually-recurring outbreaks of the disease in Hong Kong are due to successive introductions of the infection from Canton and the surrounding country.

Liver Abscess.—This has been the cause of death in one case—namely, that of an unknown Chinese female, about 36 years of age. The liver was uniformly much enlarged, and shining through the capsule of both lobes were numerous yellow patches, variable in size and boggy on palpation. On section of the organ, the liver substance was found beset by numerous small typical abscesses of the liver. Streptococci were found in the pus and walls of the abscesses. There was no trace of old or recent dysentery.

Diaphragmatic Hernia.—Two cases in children who were stillborn. The defect was in the left side in each instance. Through this the whole stomach had passed, along with the omentum, part of the colon, and a considerable portion of the small intestine. The heart was displaced towards the right. The right lung was fully developed; the left, however, was only about one-third its normal size, its development having obviously been arrested by the pressure produced by the abdominal organs in the left thorax. The serous membranes of the peritoneal and thoracic cavities were continuous through the hernial opening.

Tumours.—A number of malignant and non-malignant tumours have been examined. "Opinion is general that new growths are uncommon amongst the Chinese. . . . From what I have seen in the various hospitals for Chinese in Hong Kong I am inclined to the opinion that malignant tumours are by no means uncommon, and if accurate statistics were available the prevalence of malignant disease amongst the Chinese would not fall far short of that found in other countries. . . . The antagonism which is said to exist between malaria and cancer has little to recommend it." A case of tumour of the adrenal is described very fully in the report.

Plague.—The total number of cases examined was 312 and of these 56 per cent. were of the bubonic type 36 per cent. of the septicaemic, and 8 per cent. pneumonic. The largest monthly returns were in May, June, and July.

Plague in Rats.—Throughout the past year 21 907 rats were sent for examination: of these 993 were found plague-infected.

The report also deals at length with "The Age-Incidence of Pneumonia" and "Enteric Fever Amongst the Chinese."

SYDNEY.

Royal Hospital for Women.—Treatment of Consumptives in New South Wales.—A New Morgue.—Bubonic Plague.

THE first completed wing of the new Royal Hospital for Women was opened in May by Her Excellency Lady Northcote. The erection of the hospital is one of the changes brought about by the building of the New Central Railway Station. The old buildings owned by the Benevolent Society, which was founded in 1818, were resumed by the Government nearly four years ago, a sum of £62,000 being given to the Society as compensation. This compulsory removal enabled the directors of the Society to make a change in their methods of administration, and they accordingly determined to separate the several departments of the Society's work. They decided to remove the Women's Hospital to Paddington, the old house, "Flinton," and its five acres of land fronting Glenmore Road being secured for £18,000. Plans for a modern block of hospital buildings were prepared, but the complete undertaking, which will involve an outlay of something like £100,000, is not likely to be accomplished for some years. The wing already completed consists of one ward block of four stories and an operating block. The old residence has been remodelled and turned into a ward, and thus the Society has nearly a hundred beds ready for immediate use. The nurses' home and quarters for the matron are located in a temporary building. The new buildings have been constructed of brick with stone dressings, and the internal construction has been rendered as fire-resisting as possible. Special attention has been paid to lighting, and the appointments of the operating theatre are most complete. The new buildings have cost a little over £25 000. A further sum of £1 500 has been expended on furnishing, to which one lady gave £250 for the furnishing of one ward.

At the invitation of the Executive Committee of the Queen Victoria Homes for Consumptives Fund, the State Premier recently visited Wentworth Falls and opened a new wing of the sanatorium for consumptives there. The additional wing has cost about £3 700 making the total cost of the buildings £10 371. The wards are 12 ft. high, with a space for each bed of 1,200 cubic feet. The new portion comprises the kitchen block and new double and single wards at the south end, the whole being connected by electric bells and with a corridor 6 ft. wide, walled in for the exercise of patients in wet weather. The drainage system is complete, the discharge being into a septic tank some 400 yards distant. These additional buildings give a total complement of 44 beds, and besides there are eight shelters which have been generously given by various individuals. The success achieved in the treatment of pulmonary tuberculosis at this institution is shown by the fact that of 81 patients treated up to December 31st, 1904, 70 were materially benefited, 58 being able to return either to their ordinary working conditions or to selected light employment. Unfortunately, the provision for the treatment of chronic and advanced cases of this disease is far from satisfactory. The only institution at present existent for the housing of this class of patients is the Liverpool Asylum, where a special ward is set apart for them. At the Liverpool Asylum there are 800 men, of whom about 160 are suffering from consumption. The accommodation is altogether inadequate, and the fact that so many consumptive persons are in the same building is not conducive to their comfort or chances of recovery. The Chief Secretary, who recently inspected the building, has decided that these consumptive patients shall be removed as soon as possible to another building. Two sites have been proposed for this new institution, both being on Crown lands with good access. The Chief Secretary is favourably impressed with the system of cottage homes adopted in New Zealand, and it is probable that some similar system will be adopted here.

For a considerable time past great dissatisfaction has been expressed with the morgue accommodation in Sydney. The South Sydney Morgue, which was a commodious and well-lighted building, was removed owing to the resumption of land for the new railway station, and the old North Sydney Morgue has been called into requisition for the whole of the work of the metropolitan area. Representations have been made from time to time by medical men who have been called upon to make *post-mortem* examinations, and by the coroner, of the urgent necessity that exists for a new morgue with suitable adjuncts, but hitherto to no purpose. The Government, however, have now been aroused to see the necessity for this new building, and the sum of £3,000 has been placed upon the estimates for this purpose, so that it is hoped that before long a well-equipped morgue will be provided.

Dr. Ashburton Thompson, the Chief Medical Officer of the Government, reports that there are indications that the plague epizootic among rats in Sydney is dying out. Since April 1st of this year, when the payment was instituted of a capitation fee of 3d. for each rat delivered at the incinerator, between 2 000 and 3 000 rats and mice have been delivered each week at this establishment. Of this number, between 700 and 800 are brought each week to the Board of Health by the staffs of rat-catchers employed by the Board and the Sydney Municipal Council. These are carefully examined in the micro-biological

laboratory for signs of plague and are afterwards burnt in a furnace. No plague-infected rats have now been found for some weeks.

LIVERPOOL.

Annual Report of the Medical Officer of Health for Bootle.

THE annual report on the health of the county borough of Bootle for the year 1904, which has been recently issued, contains much matter of general interest. Bootle is to all intents and purposes a part of Liverpool, and not a large part, its area being 1,576 acres, while that of Liverpool is 14 909. The population is mostly industrial, and the open spaces and well-to-do neighbourhoods are few. In spite of these disadvantages, the health of the borough compares favourably with that of Liverpool and other populous communities. There is also a low death-rate from zymotic diseases. The annual death-rate per 1,000 living was 18 6, that from typhoid fever was only 0 04, and that from phthisis only 0 61. These figures compare very favourably with the corresponding figures for Liverpool and other centres of population in Lancashire and Cheshire. There has been a remarkable and continuous decrease in the number of notifications of typhoid fever during the last few years. Only 22 notifications were made during 1904, and of these four were found not to be cases of the disease. No cases of small-pox or of typhus fever were notified. There was a somewhat severe outbreak of diphtheria, 48 cases being notified and 16 ended fatally—a mortality of 33.3 per cent. The Medical Officer of Health, Dr. W. Naylor Barlow, is of opinion that many of these cases might have been saved if medical advice had been sought earlier and opportunity given for the prompt employment of antitoxin. Great care was taken in visiting houses where cases of measles occurred and in impressing on parents and guardians the necessity for regarding measles as a serious complaint and taking measures to prevent its spread. It proved the most fatal of all the zymotic diseases, with a mortality of 0.77 per cent. The mortality of infants under 1 year was 180 per 1 000 born. The deaths from diarrhoea in infants amounted to 109. This is an increase on the two previous years, in which the summers were wet and cold, but shows a marked improvement on the other years since 1896. Further experience has tended to confirm the view that the principal cause is improper feeding—the result of ignorance, indifference, or neglect on the part of the mothers. The influence of flies as germ-carriers was probably considerable. In many houses where death occurred there was a veritable plague of flies, and, in spite of warnings, vessels containing milk and other foods were left uncovered, allowing these insects to settle on them at their will. In about 20 per cent. of the cases the Lady Sanitary Inspector reported that the children had been extremely delicate from birth; 64 of the children were insured. The Medical Officer of Health believes that intemperance in the parents has a great indirect effect on the disease. The children born of parents markedly intemperate are often weakly and likely to succumb to the first illness which may attack them; and the amount of money spent in drink must diminish the amount available for the purchase of wholesome food. Inquiries as to the method of feeding showed that 15 cases were fed on the breast alone, 7 were partly hand-fed; 88 were fed by hand alone; 3 of the first were weaned very suddenly on account of the mothers being taken ill.

The measures taken by the Medical Officer of Health to control diarrhoea, judging from comparison with other towns, must be credited with a fair amount of success. They included the distribution of a printed memorandum as to the feeding of infants and young children, compiled by Dr. W. N. Barlow, and visits of the Lady Sanitary Inspector to poor houses where births have taken place, and also where a death from diarrhoea has occurred. Lectures on hygiene have been given to the teachers of the elementary schools, but, unfortunately, were not well attended. Dr. Barlow is convinced that the death-rate from diarrhoea will show no material improvement until the dark pall of ignorance with respect to the feeding of children which enshrouds not only the mothers of the poorer class, but also many of the well-to-do class, is removed. Very often the advice of an ignorant nurse especially if she be an elderly woman, is set against the advice of a medical man, invariably to the disadvantage of the latter. The fact that a woman has had thirteen or fourteen children (many of whom have perhaps died of diarrhoea) is deemed by some to be sufficient evidence that she must of necessity know more about the feeding of infants than any medical man can possibly know. Dr. Barlow suggests that in every public school the elementary facts of infant feeding should be taught to the elder girl pupils. He recommends the addition of one or more lady inspectors to the staff, on the ground that the infected houses require to be visited with great frequency. He suggests punitive measures for dealing with parents guilty of gross carelessness in feeding their children, and points out the risk attending child insurance. He is not prepared at present to advise the Health Committee to supply sterilized milk—unless it is prepared to do so free of cost—on two grounds. He believes that those who need it most either cannot afford to buy it or will be too lazy or indifferent to obtain it; further, he thinks it has not been conclusively shown that the use of sterilized milk, according to the present system, has materially lessened infant mortality. With regard to the voluntary notification of phthisis, sufferers from the disease are given a pocket spittoon if they require it. Under the heading "Alcoholism," Dr. Barlow states that many cases have been brought to his notice during the year where women were in the habit of drinking methylated spirits. The cases were discovered during investigations with respect to neglect of children. Its effects have some similarity to those of the French absinthe. The immediate intoxicating effects pass away much more quickly than those which follow the use of beer and whisky; hence the detection of the habit is more difficult. He suggests that the sale should be forbidden altogether to women and children. With regard to the milk supply, that obtained from the urban shippons showed a remarkable freedom from contamination with the bacillus coli, in marked contrast to that obtained from the country. Dr. Barlow deserves to be congratulated on the general sanitary condition of the borough under his care, and for the clearness and interest which are conspicuous features in his annual report.

LEEDS.

Annual Meeting of the West Riding Medical Charitable Society: History of the Society: Its Present Condition.

THE seventy-seventh annual meeting of the Medical Charitable Society for the West Riding of the County of York was held at Leeds on July 20th, under the Presidency of Mr. T. Pridgin Teale. The objects of this Society are as follows: (1) To aid the widows and children of members dying in indigent circumstances; (2) to aid the sisters of such members, being single women or widows, who have lived with their brothers as housekeepers for a period of not less than five years preceding their death; (3) to aid such members as are wholly or partially incapacitated by age or permanent bodily infirmities, or who are disabled by severe illness from practising for a period of six months; and (4) to aid in the education of the children of members thus incapacitated or temporarily disabled. All regular practitioners in the West Riding are eligible for election as members, except those who, without having subscribed to the Society, have been in practice in the Riding for twenty years, or have attained to the age of 50 years. It is a rule that no member or his family shall be qualified to receive the benefits of the Society unless he shall have been a member for five consecutive years immediately preceding his death or incapacity. The election of members takes place at the annual meeting. For purposes of organization the Riding is divided into nineteen districts. Each district has two stewards, to whom all applications for relief are sent in the first instance, and who transmit all details to the secretary one month before the annual meeting. At a conference of the officers and stewards of the Society held just before the annual meeting, all applications are very fully considered, weighed, and discussed, and grants are recommended according to the urgency of each case and the condition of the funds of the Society. The list is finally revised at the annual meeting. To cover cases of urgent need arising during the year the president, secretaries, and treasurer, together with the stewards of the district concerned, are empowered to afford temporary relief to the extent of £20 in any one instance, provided such cases are first applications. At the annual meeting which has just been held forty applications were discussed, including two from those who had had temporary relief under the rule which has been quoted above, and the Society has been able to meet all the cases by distributing among the applicants grants varying from £20 to £60 and amounting in all to a sum of £1,420. Twenty-five of the grants were made to widows of medical men, eleven to children of deceased

members, and four to disabled practitioners. It was also announced at the annual meeting that since the commencement of the Society the sums voted to various applicants amounted to no less than £19 623, or, including the grants just made, to £40 043, and that the Society had expended the sum of £26 326 in the purchase of securities of a nominal value of £30 674, which yield about £1 030 per annum.

Some years ago the story of the origin and early years of the Society was compiled from its authentic records by Mr. Wheelhouse, the Honorary Secretary and Treasurer, whose long association with the Society, dating back to the year 1855, amply qualified him for the work. This story, full of human interest, and reflecting the greatest credit on those who initiated the Society and supported it in the early years of its existence was, at the annual meeting held at Bradford in 1901, ordered to be printed and circulated among the members. It appears from Mr. Wheelhouse's pamphlet that the Society was inaugurated in the year 1828, at a "numerous and respectable meeting of physicians and surgeons of the West Riding of the County of York, held at Turnbull's Hotel, Leeds," with Dr. Thorp in the chair. It was decided that in aid of the purposes of the Society a fund be formed by donations and subscriptions of the public at large and of members of the Society. A circular was issued to all practitioners in the West Riding setting forth the aims of the Society, and appended to this was a first list of 47 subscribers of one guinea per annum. At the first annual meeting, held in 1829 we find the benefactions amounted to £63 18s., the annual subscriptions to £93 9s., and the balance in hand to £139 11s 9d. From this report we quote the following:

> Admonished by the fatal experience of similar Associations which, by a premature dispensation of their funds, have involved themselves in early decay, it is recommended that no case be admitted until the sum in the treasurer's hands amounts to £2,000. To secure means so ample will require the vigorous support, first of members of the profession, and afterwards of the public at large.

Commenting on this later on Mr. Wheelhouse says:

> The public at large, outside the profession, does not seem to have done as much as might fairly have been looked for in the early years of the Society.

The fourth balance sheet shows that £681 was expended in the purchase of £800 3 per cent. consols. The list of annual subscribers, which in the second year had gone up to 160, rose to 206; but in the seventh annual report a note of depression is observed, for the amount derived from this source had fallen to £193, and in the following year it again fell to £178. On the other hand, the funds were steadily growing, but it was not until 1837 that the officers of the Society were able to announce that, after nine years of alternate hope and fear, the sum of £2 000 had been accumulated, and that the period had arrived when the benevolent purposes for which the Society was formed were "no longer the object of vague and distant anticipation, but of actual and immediate realization." In this year two grants of £15 each were made, one to a disabled practitioner, and the other to the widow of a medical man. The confidence of the profession in the Society was increased, and the annual subscriptions rose at once from £178 to £361.

From these small beginnings the Society has gradually attained to its present prosperous condition. The annual subscribers now number 733, but they should be much more numerous, for it is surprising that any one who is eligible for membership should hesitate for a moment to join the Society. Every practitioner in the West Riding should do so, either as a matter of duty or on the ground of policy, for riches may take wings, and no one can be sure that those who are near and dear to him may not at some future date require assistance, and the annual payment of 1 guinea will guarantee the sympathetic consideration of the Society on behalf of any one who may be, unhappily, so situated.

Even in a Society which has possessed so many earnest workers it is not invidious to mention the very special services of the successive secretaries, for the choice has in every instance been singularly happy, and Mr. Garlick, the late Dr. Chadwick, and Mr. Wheelhouse, who happily still holds office, and now has Mr. Rowe associated with him, deserve the deepest gratitude of the Society. Economy in the management has always been most scrupulously observed. For many years two items, and two items only, have appeared under the head of expenditure—namely, a bill amounting to some £20 for printing, and 10s. 6d. for the purchase of a copy of the *Medical Directory*. It is right to note that among the annual subscribers there are about twelve non-medical members, and that the general public have contributed upwards of £4,300 to the invested funds. It is the custom of the members to dine together after the annual meeting, and Mr. Wheelhouse, in responding to the toast of "The Society," expressed the feelings of every one present when he said:

> Would that the originators of the Society and its supporters in the early years of its existence could be with us to-night, for they would see the realization of more than they had ever thought of, or dreamed of, or ventured to prophesy.

SOUTH WALES.

Small-pox at Pontypridd and Barry.—Swansea Hospital.—Dr. Henry Owen's Library.—Maesteg Water Scheme.—Newport's Food Supply.—Cardiff's New College.—Pollution of the Ogmore.—Housing Problem in Monmouthshire.—Welsh Summer Schools' Visit to Cardiff.

A serious case of small-pox was lately reported from Hopkinstown, Pontypridd, the affected person being a man of 60 years of age. He had been ill for a few days, and on July 18th consulted a medical man, who diagnosed the disease. Dr. Howard Davies, the medical officer, was immediately notified, and the patient was removed to the small-pox hospital at Glyntaff. The usual precautions were observed to prevent the spread. A second case, however, has since been reported from the same locality. The patient is a grandson of the man who was removed to the isolation hospital, and lived in the same house. Two further cases of small-pox are now being treated at the Infectious Diseases Hospital, Barry. In both cases the patients are seamen. It has been discovered that one of the sufferers contracted the disease whilst on a visit to a house in Cardiff.

The eighty-fourth annual general meeting of the subscribers to the Swansea General Hospital was held on July 21st, Principal Salmon presiding. The annual report showed that the adverse conditions prevailing early in the year, which were considered sufficiently serious to require the attention of the governors, had in a measure been overcome, the debt having been reduced from £1 677 to £1,084; but was still sufficiently large to cause anxiety and to hamper the usefulness of the institution. A deputation of the governors had waited on the Miners' Association and other trade organizations, was well received, and found reason to believe a materially increased income would result. The renovation, furnishing, and endowment of the children's ward by Mr. and Mrs. John Dyer had been completed, securities amounting to £9,205 12s. 2d. having been transferred to the trustees. The number of in-patients admitted to the wards was 1,471, and to the out-patients' department 5 485—152 and 57 respectively more than in the preceding year. The average number of beds daily occupied was 112 14. The total income was £7 882, against £6 338. The expenditure was £7 134. The average cost per bed had gone up from £60 3s. to £63 12s. 4d., but the cost per patient was reduced from £5 2s. 6d. to £4 17s. The number of patients sent to the convalescent home was 130, and the cost per head was £51 2s. 9d. In moving the adoption of the report, the chairman expressed the conviction that the financial position of the institution would be better during the coming year on account of the interest which would be derived from the Dyer endowment (about £400 a year), and from the William Williams bequest of £2,000, besides promised increased subscriptions from the working men. The report having been adopted, the usual thanks were passed, and a special one thanking Principal Salmon for his services as Chairman of the Board of Management during the year.

Those who put forward the claims of Aberystwith for the Welsh National Library held out as one of the inducements the promise of Dr. Henry Owen to bequeath his collection to the Welsh Library at Aberystwith, "unless an approved place for its reception be provided in Pembrokeshire during his lifetime." It is extremely probable that the saving clause will be complied with, and that a suitable place will be provided for the library in Pembrokeshire during his lifetime. A movement to this end has been set on foot at Haverfordwest, and the Mayor has been approached with the view to calling a town's meeting for the consideration of the matter.

The Maesteg Urban District Council have been constructing a storage reservoir at Blaencwmcerwyn, to hold 30 million gallons of water, at an estimated cost of £29 000. From time to time it has been reported in connexion with the puddle trench excavations that a solid foundation had not been reached, and the Council decided to ask the consulting engineer to the Cray Water Scheme to report upon the matter. The report is now in the possession of the Council,

which is keeping it private until further light has been thrown on the position. £22 000 has already been spent on the scheme. At a meeting of the Maesteg Council held on August 3rd a request was made by the representative of the *South Wales Daily News* for a copy of the report. A member said that he hoped the Council did not intend to accept the report as final. The Chairman said the Maesteg Council did not deem it wise to proceed with the work on the new reservoir just yet in the face of the report, but they certainly had not decided to abandon the scheme. It was the general opinion that the report should not be published yet.

During the past quarter, reports Dr. Howard Jones, Newport's Medical Officer of Health, the meat condemned and destroyed was: Beef, 3,098 lb.; veal, 40 lb; mutton, 40 lb.; pork, 44 lb.; goat flesh, 60 lb.; poultry, 208 lb.; game, 444 lb.; fish, 200 lb.; total, 4,134 lb.

The Building Committee of the South Wales and Monmouthshire University College met on Thursday, under the chairmanship of Dr. W. T. Edwards, and it was decided that tenders should immediately be invited for putting in the foundations, the work to be completed by March 14th, 1906. By that time bills of quantities and tenders for the superstructure will have been received, and the first part of the building will be completed with all speed. The whole cost of these works will be nearly £80 000.

At a meeting of the Maesteg Council on August 3rd, a letter was read from the Clerk of the Bridgend Council drawing attention to the pollution of the river Ogmore, which runs through Bridgend, by the sewage of Maesteg being drained into it. The letter concluded with a warning that the Bridgend Council were determined to prevent the further pollution of the river. It was decided to inform the Bridgend Council that a sewerage scheme was being carried out at Maesteg, and that their attention be drawn to the observation of the county medical officer with regard to the sanitation of Maesteg.

Dr. T. Hall Redwood (Rhymney), one of the members of the Monmouthshire County Council, has, in conjunction with the County Sanitary Committee, prepared a lengthy report on the general sanitary condition of the county. The housing question throughout the county is dealt with at some length. Although improvements are reported in many districts, the general condition of the houses and lack of accommodation still leaves room for considerable improvement. It is stated that Part III of the Housing of the Working Classes Act, 1890, has been adopted by several district councils, but the committee urge that all the councils should adopt it. The difficulty is to provide comfortable, healthy, and suitable houses for the working classes at a rental within the means of those with large families and small wages, and until this be done the present high death rate, especially of infants and children, will be maintained. The report deals with specific districts.

On July 31st the Welsh Language Society opened a fortnight's holiday course of instruction in Welsh at the University College of South Wales and Monmouthshire, Cardiff. The first course was held at Aberystwith two years ago, the second in Bangor last year, and it is fitting that the third should be held in Cardiff, the collegiate town of South Wales. The Welsh course is conducted on lines similar to those which obtain with regard to holiday courses on the Continent. It serves the double object of directing the minds of teachers to the modern method of teaching a language and of impressing upon them the more salient points of Welsh grammar, literature, and history.

CORRESPONDENCE.

INCOME TAX.

SIR,—I think Dr. Gordon might carry his argument a little farther and say that all wealth not worked for should pay its fair share of taxation. He would thus tap a large source of national wealth—namely, economic rent, or what is called unearned increment. This amounts to over £200 000 000 per annum, and is only taxed at the rate of three quarters of a million and the income tax, while the incomes from the hard daily toil of the workers, only amounting to about £1,500 000,000 is saddled with all the taxes of the country, both imperial and local. If Dr. Gordon continues his inquiries into the subject he will probably feel still more tempted to lift up the voice of remonstrance against the inequalities—should we not rather say the iniquities?—of the present incidence of taxation.—I am, etc.,

August 2nd. J. B.

THE DIET OF THE PRECIBICULTURISTS.

SIR,—I am sorry to trouble you further, but Dr. Campbell's letter in your last issue seems to demand some personal explanation on my part to account for my presumption in attempting to criticize his paper on "The Diet of the Australians." I have lived for more than thirty years in Queensland, and a great part of that time was spent in the bush. In my early days I was in close contact with the blacks of various tribes in the Moreton Bay, Burnett and Central Queensland districts, and became acquainted with many of their customs and traditions. Of course, among the innumerable small tribes, all more or less distinct and at enmity with one another, peopling a continent nearly as large as Europe, customs must vary to a very great extent, and Dr. Campbell may have authorities to support his various statements in more or less isolated cases, but I contend that such details as he selects cannot be considered as affording an accurate and comprehensive history of the aborigines of Australia. I saw no indication in the article that Dr. Campbell had drawn his information from such reliable sources as his letter now mentions. It would be extremely interesting to know the exact source of many of the details; whether, for instance, the authority who gives as articles of food ferrets, rabbits and sparrows (all of which are of recent introduction into Australia, and even now are practically only found where the blacks have ceased to exist) is the same who states that the tribes of the North are inferior to those of the South, that some tribes subsist mainly on vegetable food, that certain tribes have domesticated the dingo, etc. It would also be interesting to know whether the authority who records the toothache troubles among the gins makes any note of the serious eye-strain effects which probably follow the collection for food of the microscopical sand-flies.—I am, etc.,

London, W., Aug. 8th. ALEXANDER FRANCIS.

SIR,—Having read the letters of Dr. Harry Campbell and Dr. Alexander Francis on the above subject in the BRITISH MEDICAL JOURNAL of July 22nd and 29th, and although not a medical man, I feel I cannot let them pass without a few remarks on the subject, as it is one that interests me, and one on which I believe I can speak with some little authority.

For the last twelve years I have lived in the southern central districts of Australia, namely, the extreme north of South Australia and the south of the northern territory, and consequently feel confident in writing on this subject in so far as its applies to the above-mentioned district. I can fully corroborate most of the statements made by Dr. Harry Campbell.

Every right-minded man must take exception to Dr. Alexander Francis's phrase that the blacks have become "contaminated by the Christian civilizing influence of the white man." It is not the Christian white men that have contaminated the characters of the blacks, because a Christian cannot contaminate any one's character, that being a contradiction to the meaning of the word Christian (namely, a follower of Christ); it is the men who do not and cannot profess to be Christians that have corrupted the blacks. I cannot agree with Dr. Francis that "it is somewhat difficult to find any statement which is accurate" in Dr. Campbell's paper.

In the McDonnell Ranges the blacks are of a distinctly lighter and more coppery colour, and their hair is almost a dark auburn colour, differing considerably to the (other) blacks nearer the coastal districts in these respects. All the blacks of the Wonkaranta tribe, more or less, are lighter than those of the tribes further south, even only four or five hundred miles away.

The blacks of the districts in which I have chiefly lived certainly live almost as much on a vegetable as on animal food diet.

The tree or root grubs are very often about 4 in. long and about three quarters of an inch thick, and I presume that in some districts they may even exceed these sizes, so that Dr. Campbell's statement is not so inaccurate.

Certainly I have never heard of the blacks near where I lived eating a centipede or a scorpion, but I would hardly like to say that it is not true that they do so in some parts, because what one tribe eats another a hundred miles away or more may consider unfit for food.

Australia is a big word, and there are so very many tribes, so that one must state which tribe or tribes he is speaking about.

All the blacks of the Dieri, Wonkanguru, Wonkarabana,

Tirari, or Yendrawonta tribes amongst whom I have lived certainly, I should say, had dogs long before any white men were in that country, as their (the dogs') names are frequently mentioned and many of their legends refer to dogs, which I presume goes to prove that they have possessed these animals for some centuries probably.

Also amongst the same tribes, or at any rate the Dieri tribe—living between Lake Eyre and Lake Hope on the Cooper Creek—relatives sometimes have to eat a small piece of the calf of the leg of a dead relation, I believe, but it is partially cooked first on the point of a spear and handed to them on it, so I have been informed, but I have not witnessed this myself and so cannot speak with any authority on this subject.

The heathen blacks certainly regard their dead with great awe, and bury them immediately the hole is finished, but that is because they are heathen. I myself have often seen the different effect produced on the feelings of the Christian blacks; they do not fear their dead as the others do.

The "apparently authoritative statements" of Dr. Harry Campbell, as Dr. Francis calls them, are almost wholly correct, and I thoroughly endorse them except for the little slip—probably of the printer's—in punctuation, which makes him seem to say that the iguana is marsupial, which is not worth mentioning, as it is a slip evidently.—I am, etc.,

St. Albans, Aug 8th. H. J. Hillier,
Formerly of Killalpaninna (Cooper's Creek) S. Australia.

DISPENSERS, QUALIFIED AND UNQUALIFIED.

Sir,—With reference to the apparent misunderstanding still existing on this subject, allow me to point out the distinguishing features of the two classes of dispensers so often regarded by hospitals and medical authorities as possessing equal statutory qualifications. In the one class are those who hold the Society of Apothecaries' "Assistant" certificate. It is my contention that this certificate confers no independent qualification at all, and does not pretend to be more than an indication that the holder may be trusted, in the words of the Apothecaries' Act, 1815, "*to act as an assistant to any apothecary in compounding or dispensing medicines*" On this view they are, therefore, specifically shown by Act of Parliament to be unqualified to act on their own responsibility or otherwise than as properly supervised assistants.

In the other class are those possessing the qualification prescribed by the Pharmacy Acts, which invests licentiates with a definite status as responsible individuals in a public sense, and the certificates granted under these Acts are certificates of "competent skill and knowledge." It is a matter for the serious consideration of members of the profession whether they should leave dispensing of medicines to the sole responsibility of those belonging to the former class, especially when strychnine and similar poisons are prescribed, and it would be well for the facts above communicated to be recognized by those who are called upon to appoint dispensers to the sole charge of important dispensaries.—I am, etc.,

Durham, July 30th. Edward Jepson.

CEREBRO-SPINAL MENINGITIS.

Sir,—I recently read a leading article in the British Medical Journal in which doubt was expressed whether direct infection in cerebro-spinal meningitis ever occurs.

Two cases of probable direct infection have come to my notice, and in view of the increasing prominence of this disease I think they are worth recording, although the proof is not absolute.

The first case occurred during an epidemic of cerebro-spinal meningitis in H.M.S. *Northampton* at Chatham, training ship for boys, in December, 1901, and January, 1902, and for permission to refer to it I am indebted to Fleet Surgeon E. C. Lomas. In this epidemic there were 12 cases in the *Northampton* and several deaths. The epidemic began before Christmas and the boys were given the usual Christmas leave.

One boy returned to his home at Portsmouth, developed the disease there and died. His brother, who slept in the same room, died also from the disease in a few days. Unfortunately I have not been able to obtain more definite notes upon this case.

The second case occurred during an epidemic in H.M.S. *Calliope*, also a training ship, in December, 1901. It is possible that this ship may have been infected from the *Northampton*, as boys had been recently drafted to her from that ship. For details of this case I am indebted to an officer in H.M.S. *Calliope*, who noted them in his journal at the time. There were several cases of cerebro-spinal meningitis in the ship, which were sent to hospital, where there was one death. One boy, George Phillips, went to his home at Portsmouth on Christmas leave on December 24th, 1901. He was taken ill and died on December 28th. As no doctor had seen him, an inquest was held. My informant, who was present at the inquest, states that the medical evidence was that the boy died of cerebro-spinal meningitis, and the verdict was in accordance. His brother, an apprentice in Portsmouth Dockyard and also living at home, attended the inquest, and died of the same disease on January 2nd, 1902. He was attended by a civil practitioner, who certified death as due to cerebro-spinal meningitis. In neither outbreak in the *Northampton* and *Calliope* was, I believe, the diagnosis proved bacteriologically, but I think there is little reason to doubt that the cases were those of cerebro-spinal meningitis.

Naval medical officers in recent years have unfortunately become fairly familiar with this disease, and I think the epidemic nature and the high mortality put it beyond mistake. I see that in the severe epidemic in New York isolation is now being practised, and I bring forward these very incomplete notes because I hold that in our present lack of knowledge as to method of infection strict isolation and disinfection should be carried out in all cases.—I am, etc.,

A. W. B. Livesay, M.B., C.M.,
Walmer. Staff Surgeon, R.N.

HAY FEVER, CHRONIC RHINITIS, AND ASTHMA.

Sir,—The letters of "F.R.C.S." (British Medical Journal, July 15th, p. 161) and "M.D." (*ibid.*, July 29th, p. 260) telling of their own cures by reduced diet are valuable. They are what one would expect; they go to support what I have tried to prove (*ibid.*, 1903, vol. i, p. 1080, and Glasgow Hospital Reports, 1901, p. 151) that auto-intoxication is an essential cause of asthma, but is nearly always accompanied by nasal disease. To treat the one without the other sometimes succeeds, often fails. I know of a gentleman who tried all sorts of measures in vain till he gave up meat. But these letters would be doubly valuable if their authors would give their respective heights and weights. To say "must maintain my weight at a point which is 12 lb. less than I used to weigh" is no help, for example, in one of the worst cases I have seen, whose weight is barely 6 st., and height 5 ft. 5 in. Contrary to the common notion, many, if not most, asthmatics, are "lean kine" and under weight. If one man's meat is another's poison, it is also true that what is stuffing for one would be starvation for another. Therefore weights are important.—I am, etc.,

Hamilton, Aug. 1st. James Adam.

OBITUARY.

CHRISTOPHER HEATH, F.R.C.S., LL.D.,

Emeritus Professor of Clinical Surgery, University College, London.

We regret to announce the death of Mr. Christopher Heath, which took place suddenly at his house in Cavendish Square on Tuesday, August 8th. Mr. Heath was for many years a conspicuous figure in the surgical world of London, and his death leaves a gap in the ranks of the profession which will not easily be filled. His commanding presence, his trenchant manner of speech and his vigorous independence of judgement, stamped the impress of his personality on successive generations of students. Although he had retired for some years from hospital and teaching work, he still took an active part in professional life.

Christopher Heath was born in London on March 13th, 1835, and was therefore a little over 70 when he died. He was a grandson of John Heath, a naval surgeon, who served in Lord Howe's flagship more than a century ago. He received his literary education at King's College School and his medical training at King's College and Hospital. At King's College Hospital he was House-Surgeon to Sir William Fergusson, and in later life he was a leading representative of the school of brilliant operators who fashioned themselves on the model of that great surgeon. In 1855 he served in the Baltic Fleet, for which he was awarded a medal. In 1856 he was admitted a Member of the Royal College of Surgeons of England, becoming a Fellow by examination in 1860. In 1856 he was appointed Demonstrator of Anatomy at Westminster Hospital, becoming

Assistant Surgeon and Lecturer on Anatomy in 1862. He also held the posts of Surgeon to the West London Hospital, to the St. George and St. James Dispensary, and to the Dental Hospital. In 1866 he was appointed Assistant Surgeon and Teacher of Operative Surgery at University College Hospital, with which institution his whole subsequent career was closely associated. In 1871 he became full Surgeon, and on the retirement of the late Sir John Eric Erichsen in 1875 he was appointed Holme Professor of Clinical Surgery. On his retirement in 1900 he was appointed Consulting Surgeon to University College Hospital.

As a clinical teacher Heath was pre-eminent. He had the art of presenting the elementary truths of surgery in a clear-cut form which stamped them on the memory of the least receptive, and if he sometimes did not disdain to score a point by a threadbare joke, he never lost his grip of his audience. At the height of his popularity he had a larger following than any of his colleagues. When he operated, the theatre was thronged with spectators from other hospitals, from provincial schools, and from abroad, who marvelled at the artistic skill with which he handled the knife. When he visited the wards men crowded round the beds three or four deep. The more knowing ones hurried on ahead so as to secure favourable positions, and his house-surgeon had to force his way to the bedside through serried masses. When he held his classes for the final examination of the Membership of the College of Surgeons, the theatre was packed with interested onlookers who came to pick up the "tips" which the teacher never failed to scatter, and perhaps to enjoy the discomfiture of candidates under his searching interrogatory.

It cannot be said that Heath's teaching went very deep, but as far as it did go it was admirably clear and mostly sound. He pushed his zeal for the success of his pupils to the degree of giving them hints as to the raiment wherewith they should be clothed before the examiners. On one occasion he urged his flock to appear in evening dress, as was then the traditional custom of candidates from certain other hospitals. The result, if we remember aright, was disastrous, for the examiners treated the unfortunate U. C. H. men as wolves in sheep's clothing. On another occasion a student spoke about the "lumen" of an artery. Heath at once asked the meaning of the cryptic term, and took occasion to warn his class against using such out-of-the way words at the College, where, according to him, phraseology suggestive of new work was regarded with some suspicion. Another characteristic incident occurred in the operating theatre. Heath had removed a tumour which was handed over to the Surgical Registrar, at that time the late Arthur Quarry Silcock. When he returned with his report, which bristled with histological details, Heath at once interrupted him with "I don't want to know that kind of thing. Tell me whether the growth will recur"!

It must be admitted that Heath cared little for pure science. He had, however, strong common sense, and as we once heard Marcus Beck say, the decision with which he gave his opinion often made him a tower of strength to a colleague of larger knowledge but less confident temper. Till his eyesight failed he was a first-rate operator; he never allowed himself to be dismayed by any unexpected difficulty, and was always equal to any emergency. For a time he did not accept the gospel of antisepsis, but a visit which he made to Edinburgh in the mid-Seventies made him an ardent disciple of Listerism. Indeed, he displayed something of the zeal of the convert for at first he insisted on the strictest adherence to the most trifling detail of the ritual.

In 1867 Mr. Heath was awarded the Jacksonian Prize of the Royal College of Surgeons for a monograph on injuries and diseases of the jaws, a subject in which he ever afterwards continued to take a special interest. The work is the standard treatise on the subject in the English language. He was also the author of a manual of practical anatomy of which a ninth edition appeared in 1902; of a *Course of Operative Surgery* of which a second edition was published in 1884; of a *Manual of Minor Surgery and Bandaging* which achieved immense popularity, a twelfth edition having appeared in 1901; of *Clinical Lectures on Surgical Diagnosis* of which a second edition appeared in 1883; and of an essay on the treatment of intra-thoracic aneurysm by the distal ligature first published in 1871 and reissued in 1898. He was also the editor of a *Dictionary of Practical Surgery* which was published in 1883. His writings were marked by the same clearness of view and incisiveness of style which characterized his oral teaching.

At the College of Surgeons Mr. Heath held various official positions. In 1875 he was appointed a member of the Board of Examiners in Anatomy and Physiology, and in 1883 he became a member of the Court of Examiners in Surgery. He was Hunterian Orator and Bradshaw Lecturer to the College. Elected a member of the Council of the College in 1881, he obtained the crowning honour of the Presidentship in 1895. He was at different times examiner in surgery at the Universities of London, Cambridge, and Durham, and at the Royal College of Physicians of London. He was President of the Clinical Society of London in 1890-1; he was also since 1900 President of the Society for the Relief of the Widows and Orphans of Medical Men, in the work of which he took a keen interest. He was a Fellow of King's College, London, and an Associate Fellow of the College of Physicians, Philadelphia.

In 1897 Mr. Heath went to America to deliver the second course of Lane Lectures at the Cooper Medical College, San Francisco, and on that occasion the McGill University, Montreal, conferred on him the honorary degree of LL.D.

Mr. Heath was twice married. He leaves a widow and five sons and one daughter.

The late Dr. WILLIAM FRAZER, of Bournemouth, who died at the end of last month, was one of the many successful practitioners of medicine in England who owe their origin to Ireland and who are proud to remember the fact. He was the namesake and eldest son of the late Dr. Frazer of Harcourt Street, Dublin, where in 1871 he became B.A. of Trinity College, and two years later graduated in medicine, acquiring in the same year the L.M. of the Rotunda Hospital, and the Licence of the Royal College of Surgeons of Ireland. He then joined the P. and O. service, but after a few voyages took up the appointment of Resident Medical Officer at the Royal National Hospital for Consumption at Ventnor, which he held until 1878. The interest which he there acquired in tuberculosis proved enduring, and, after taking his M.D. at Trinity College and the M.R.C.P.I., he established himself at Bournemouth, and there continued to practise until within three weeks of his death. In the course of his twenty-seven years' work there he came to occupy a prominent position among his colleagues, and at the time of his death was Honorary Physician to the National Sanatorium for Consumption and Diseases of the Chest, Bournemouth; to the Royal Victoria Hospital, and to St. Mary's Home for Invalid Ladies in the same town. He had a large practice, and enjoyed very fully the esteem and confidence of his patients; while the desirable position which he held in the regard of his fellow-practitioners is sufficiently evidenced by the fact that he was one of the presidents of the Bournemouth Medical Society. Last year, too, the Irish Medical Schools' and Graduates' Association did him the honour of appointing him to the position of President-elect, but his failing health, unfortunately, made it impossible for him to take up the position this year. He was also a keen supporter of the British Medical Association, and was one of the Secretaries of the Section of Medicine on the occasion of the Annual Meeting of the Association at Bournemouth in 1891, and contributed a few papers to the medical press. Dr. Frazer's time was too fully occupied with the cares of his practice and the interests of his private life for him to take much public part in the general affairs of Bournemouth, but he was always ready to forward its welfare, and was a firm supporter of the Conservative cause. He was also a staunch Churchman, and gave a good deal of quiet assistance to Holy Trinity Church, of which he was sidesman for many years. Although he continued to carry on his work until quite recently, the condition of his health had been viewed with anxiety by some of his friends for a long time; his death, therefore, was not altogether a surprise, but, nevertheless, came as a shock to the large circle of those who had enjoyed either his personal friendship or the benefit of his professional services. He was married, and leaves a widow and two children—a son and a daughter. He was buried in Bournemouth Cemetery on July 29th.

Lieutenant-Colonel WILLIAM MAPLETON, M.B., late Royal Army Medical Corps, died at Joppa, near Edinburgh, on July 29th, at the age of 54. He was the eldest son of the Very Rev. the Dean of Argyll and the Isles, and entered the Army Medical Service as Surgeon, September 30th, 1873, becoming Surgeon-Major, September 30th, 1885; Lieutenant-Colonel, September 30th, 1893; and Brigade Surgeon-Lieutenant-Colonel, November, 1896; and retiring October 7th, 1903. He was in the Boer war of 1881; in the Soudan expe-

dition in 1885, receiving a medal with clasp and the Khedive's bronze star; and in the South African war in 1899-1900, when he was Senior Medical Officer on the lines of communication, and during the defence of Ladysmith Principal Medical Officer at the Intombi Spruit Hospital Camp, and afterwards Principal Medical Officer of a division, being mentioned in dispatches.

Brigade-Surgeon James Hunt Condon, M.D., late Indian Medical Service (Bengal), died at Glasnevin, Dublin, on July 19th, aged 73. He joined the department as Assistant Surgeon in February, 1859, and became Brigade Surgeon, October 19th, 1886.

INDIA AND THE COLONIES.

HONG KONG: REPORT OF MEDICAL OFFICER OF HEALTH FOR 1904.

Climate.

The maximum monthly temperature was attained in the months of July and August, and the minimum monthly temperature was recorded in the month of January. The highest temperature recorded was 91.1° F. on June 26th, and the lowest was 44.8° on December 24th. The total rainfall for the year was 80.41 in., as compared with 93.66 in. in the previous year. The wettest month was August, with 27.64 in. of rain; the driest was January, when only 0.12 in. of rain fell. The greatest amount of rain which fell on any one day was 11.135 in. on August 25th, while no rain fell on 221 days of the year. The relative humidity of the atmosphere averaged over 80 per cent. for seven months of the year. The average daily amount of sunshine throughout the year was 5.2 hours, and on only 51 days was no sunshine recorded.

Water Supplies.

The result of the monthly analyses by the Government Analyst of the public water supplies of the colony showed that its quality was excellent.

General Sanitary Condition.

The houses which are now being erected in accordance with the provisions of the Public Health and Buildings Ordinance of 1903 are a great improvement on the existing type of house, especially in respect of that provision which permits the kitchens of tenement dwellings to extend across only one half of the width of the house. This enables the long narrow living rooms—which constitute the invariable type of the Chinese dwelling in this colony—to be adequately lit and ventilated from the back as well as from the front, and thus a far more sanitary dwelling is secured. A certain amount of land has been resumed in respect of scavenging lanes, its total area being 428 square feet, while in connexion with the general resumption scheme for the improvement of the sanitary condition of the city an area of 24,898 square feet has been resumed during the year in one of the most overcrowded areas, and the buildings are now being demolished for the purpose of forming a wide street through the block. In addition, an area of 1,650 square feet, on which stands a coolie house for the chair coolies at the Peak, has been resumed for administrative purposes.

Population.

The population of the Colony at the census taken in January, 1897, was 248,880, while at the census taken in January, 1901, it was (exclusive of the New Territory) 283,975. This shows the remarkable increase of 35,095 within a period of four years, and affords eloquent testimony of the prosperity of the Colony. The following is the estimated population to the middle of 1904:

Non-Chinese civil community	...	10,181
Chinese population: City of Victoria, including Peak and Stonecutters	...	120,690
Chinese population: Villages of Hong Kong	...	15,914
Chinese population: Old Kowloon	...	68,072
Chinese population: New Kowloon (approximate)	...	20,000
Chinese population: Floating population	...	50,930
Total Chinese population	...	272,306
Army	...	4,350
Navy	...	4,469
Total population of the Colony		361,206

In addition to the foregoing there is a population of about 85,000 in that portion of the Kowloon Hinterland which is not under the jurisdiction of the Board. The number registered for the New Territory in 1903 was 6,207. The city of Victoria is divided into ten health districts, and District No. 5 shows an estimated population of more than 900 persons to the acre, which indicates excessive overcrowding, while the remaining central districts also show far too many persons to the acre. It was hoped that the electric tramway would do much to lessen the overcrowding in the more central districts of the city by enabling the workers to live on the outskirts of the city and come in daily to their work; but, unfortunately, the result has at present been that more workers have crowded into the central districts and use the tramway to go out to their daily work. The proximity to theatres and places of amusement is no doubt the attraction which has led to this migration of the working classes to the more central districts, but this will no doubt be met in due course by the establishment of similar places of amusement on the outskirts of the city when the owners of property realize that they are necessary to the letting of their premises.

Births.

The births registered during the year were as follows:

	Males.	Females.	Total.
Chinese ...	621	321	942
Non-Chinese ...	119	144	263
	740	465	1,205

This is equal to a general birth-rate of 3.3 per 1,000 as compared with 3.2 per 1,000 during 1903, and 3.8 per 1,000 in 1902.

Deaths.

The total number of deaths registered during the year was 6,118, as compared with 6,185 in 1903 and 6,783 in 1902. The death-rate for 1904 was therefore 16.94 per 1,000 as compared with 18.9 per 1,000 for 1903 and 21.7 per 1,000 for 1902. These deaths include 495 from plague.

The total number of deaths among the Chinese community was 5,882, which is equal to a death-rate of 17.18 per 1,000, as compared with 19.1 per 1,000 during the previous year.

The deaths registered among the non-Chinese numbered 236, of which 189 were from the civil population, 34 from the army (including 5 deaths of men who belonged to the North China command and 6 six camp followers, 3 of whom belong to the North China command, and 2 children) and 13 from the navy; this is equal to a death-rate of 12.48 per 1,000. The nationalities of these deaths were as follows: British 74, Indian 70, Portuguese 40, Japanese 16, French 9, Malay and Philippino 8, German 7, American, Austrian and Peruvian 2 each, Norwegian, Italian, Russian, African, Brazilian, and Chilian 1 each.

Only 3 deaths from plague occurred among the non-Chinese community, all of them being Indians. The principal causes of death (other than plague) among the non-Chinese resident civil population were:

Enteric fever	10	Phthisis	28
Cholera	1	Pneumonia	4
Small pox	1	Dysentery	5
Puerperal fever	1	Apoplexy	8
Influenza	1	Bright's disease	3
Malarial fever	4	Alcoholism	5
Septicæmia	1	Beri-beri	2

One of these deaths from beri-beri occurred in a Japanese and the other in a Portuguese.

Age-Distribution of Deaths.

The number of deaths of infants under 1 year of age was 1,207, or 19.7 per cent. of the total deaths. The infant death-rate among the non-Chinese community during the year was 76 per 1,000, as compared with 108.7 per 1,000 in 1903.

Among the Chinese population the deaths of infants numbered 1,187, which exceeds the total number of births registered. Taking, however, the corrected number of births, this gives an infant mortality of 784 per 1,000. This is a very high figure, and the infant mortality is undoubtedly high in the Colony among the Chinese community, though possibly not so high as the foregoing rate indicates, as many births escape registration, while not a few infants are brought to the Colony from China and die here, though they were not born here. A large number of these infant deaths are due to diseases of a convulsive type which may depend for their origin on insanitary conditions generally, and more particularly on improper treatment of the umbilical cord after birth.

Diseases of the Chest.

The number of deaths among the Chinese from respiratory diseases was 1,394, or 23.7 per cent. of the total Chinese deaths. The number of deaths of Chinese from phthisis was 524, or 37.6 per cent. of the total deaths from respiratory diseases.

Nervous Diseases.

The deaths of Chinese recorded under this heading number 543, and no less than 387, or 71 per cent., of these occurred in infants under 1 year of age, the causes of death being convulsions, tetanus, and trismus. Most of the infants are left at the doors of the French or the Italian convents in a moribund condition, and very little information is obtainable concerning them. A Committee which investigated this question during 1903 was of the opinion that some of these infant deaths were brought about by improper feeding, and I understand that instances have been met with in the public mortuary of actual rupture of the stomach or intestine as a result of the feeding of young infants on hard, solid food.

Malarial Fever.

The total number of deaths among the Chinese from malarial fever was 289, while among the non-Chinese it was 12, of which 7 occurred among the troops, 1 in the navy, and 4 among civilians.

A very considerable amount of antimalarial work has been done during the past four years, mostly in the direction of the subsoil draining of swamps and the training of nullahs, and the results of this work will be seen in the following table of deaths from malarial fever for the past five years, which shows a rapidly-falling death-rate. There is no reason, however, why this death-rate should not be reduced still further by a continuance of the work above indicated:

Year.	Deaths Among Chinese.	Deaths Among Non-Chinese.
1900	526	29
1901	541	33
1902	393	32
1903	283	18
1904	289	12

Beri-Beri.

There were 735 deaths among the Chinese from beri-beri, as compared with 379 during the previous year, and 452 in 1902. The deaths among the non-Chinese community numbered 4 only.

The Government Bacteriologist, Dr. Hunter, is engaged on a special research into the etiology of this disease, but the Medical Officer of Health repeats his opinion that the disease is most probably attributable to infected food, such as rice or other grain, which has been attacked by some fungoid growth.

Infectious Diseases.

The total number of cases of infectious disease reported by registered medical practitioners during the year was 758, of which 510 were cases of plague. The following tables show the number of cases of each disease reported during each quarter of the year:

Infectious Diseases.	Nationality.	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	Total.	
Plague	Chinese	7	167	124	9	507	510
	Other Asiatics		2		1	3	
	European	22	5	10	17	54	
Enteric fever	Chinese	3	5	5	44	55	129
	Other Asiatics		7	4	4	20	
	Chinese	1	15	4		40	
Cholera	Other Asiatics			1		1	41
	European		1	1	3	5	
	Chinese	15	15	4	1	51	
Small-pox	Other Asiatics	2	2	1		5	64
	European	2	1	1		4	
Diphtheria	Chinese			1	2	3	6
	Chinese		1	1	1	3	
Puerperal fever	Other Asiatics		1			1	4
	European				1	1	
Scarlet fever	Chinese	1				1	2
		53	453	155	87	758	

Enteric Fever.—It will be seen that the total number of cases of enteric fever reported during the year was 129, as compared with 44 in 1903 and 55 in 1902. The European cases numbered 54, and 24 of these were imported, leaving 30 of local origin, 12 of which occurred on board various men-of-war in the harbour. The Chinese cases numbered 55, while 20 cases occurred among other Asiatics. The most fruitful source of infection of enteric fever in the colony is the eating of raw vegetables in salads, owing to the time-honoured Chinese custom of manuring market gardens with an emulsion of human excreta. This method of cultivation is strictly prohibited in the Colony, and the inspectors are always on the watch to see it does not occur, but the great bulk of the food supply of the Colony is grown in Chinese territory in the Delta of the Canton River, and it is distinctly dangerous therefore to partake of raw salads in this Colony, unless they have been grown in a private garden and under the immediate eye of a European. Oysters are also a source of infection, and these again come from Chinese territory, so that there is no control over the fattening processes which usually precede their consumption. The public water supply of the Colony is above suspicion, but there are a certain number of small streams in the New Territory which may occasionally be used to furnish water to the shipping—though there is no necessity for this, as water can always be obtained from the public mains on payment—and those streams are liable to occasional contamination from market gardens.

Cholera.—A small outbreak of cholera occurred in the Wanchai District during the months of May, June, and July, 41 cases in all being reported, of which two only were known to have been imported. The disease was practically limited to the coal coolies, whose work is of a particularly thirsty nature, and it is more than probable that the disease was contracted on board the ships they were employed in loading, by the drinking of contaminated water which may not have been intended for drinking purposes.

Small-pox.—There was a small outbreak of small-pox in the first half year, 64 cases being reported, of which 5 were known to have been imported. Five of the cases occurred in Europeans, of which 3 were imported, while 5 occurred in other Asiatics and the remainder among the Chinese. One of the European cases died and also one of the other Asiatics, while there were 38 deaths among the Chinese. In spite of the rapid growth of the population, the number of vaccinations recorded yearly has fallen off considerably of late, as will be seen from the following statement:

1898	...	...	...	7,051	1902	...	...	...	6,475
1899	...	...	...	6,529	1903	...	...	...	5,348
1900	...	...	...	4,406	1904	...	...	...	5,555
1901	...	...	...	5,937					

Diphtheria.—Six cases of diphtheria were reported during the year, as compared with 9 in 1903, and 20 in 1902. Three of the cases occurred in Europeans—1 in January, 1 in June, and 1 in September—and 3 in Chinese in September, October, and November respectively. None of these cases proved fatal.

UNIVERSITIES AND COLLEGES.

UNIVERSITY OF EDINBURGH.

The following candidates have been approved at the examinations indicated:

First Professional Examination.—D. C. Adam, D. Aitken, R. J. Allsopp, F. Armstrong, T. H. Balfour, *G. E. K. Branch, J. A. Browne, B.A.; O. S. Bullock, J. R. Bullman, *W. L. Burgess, R. N. Burjorjee, G. L. Cawkwell, J. J. P. Charles, A. D. Child, W. F. Christie, Gladys H. Cook, J. Crocket, J. M. Dalzell, Lucy E. Davies, R. W. Davies, W. N. Davies, Jemima B. Dickie, J. K. M. Dickie, Adelaide A. Dreaper, J. W. C. Dreaver, W. Dunlop, A. L. Dykes, J. E. Elliot, A. M. Elliott, Euphemia L. Farmer, B.A.; H. G. Fellham, W. C. Fragoso, F. R. Fraser, Mary M. Gardner, G. H. Garnett, A. W. Gill, V. H. Gordon, W. T. Graham, E. S. B. Hamilton, H. F. Hamilton, R. Hamilton, *R. C. Harkness, J. Henderson, B. J. O. Hoare, R. L. Hughes, G. R. Inglis, Flora R. Innes, Hannah M. Irving, B.Sc.; H. E. Johnson, J. V. Karve, *R. R. Kerr, *G. E. King, C. G. Kurien, J. M. Lawl, A. J. B. Leckie, Janet Leiper, H. E. A. Lemerle, W. R. Logan, Mary Low, M.A.; W. H. Lowe, R. C. Lowther, W. G. M'Alco, A. D. MacArthur, A. J. M'Connell, P. A. M'Cool, *W. Macdonald, T. M'Feitridge, R. B. Macfie, Mary E. B. Macilwaine, J. Mackail, M.A.; W. M'Kie, G. V. T. M'Michael, R. D. M. Macpherson, C. G. Marais, T. H. R. Mathewson, W. Messer, R. W. Miller, A. M. Minford, J. Montgomery, J. M. Moyes, *J. Ong, M.A.; J. E. R. Orchard, J. E. T. Oxley, L. J. Pace, H. F. Panton, H. Paterson, Ella F. Pringle, N. D. Pringle, Mylanny D. Rees, *D. G. Robertson, J. Robertson, D. M. Ross, W. Ross, M.A.; J. M. Scott, K. R. G. Shah, K. Simpson, J. C. Smith, M.A.; W. Stevenson, C. P. A. Strenghan, R. K. S. Sutherland, J. Swan, A. L. Taylor, J. A. Thompson, J. G. Thomson, M.A.; W. S. Thomson, L. J. Wallis, A. Watson, J. C. Watson, J. P. Wheiler, S. Williams, J. Wilson, D. W. Woodruff, *G. G. Wray, Margaret, C. Young.

Second Professional Examination.—J. L. Annan, J. P. Berry, H. W. Binks, J. A. Brand, E. A. Brummitt, P. D. Cameron, W. D. Coghill, T. Craig, G. H. Dart, Margaret E. Davidson, C. H. Derkson, T. Derrick, C. A. A. Dighton, Joanna M. F. Drake, V. L. Evans, J. Letitia D. Fairfield, W. P. Ferguson, M.A., B.Sc.; T. Fraser, Hester M. Henderson, W. S. Heron, A. M. Hewat, M. Hevas, W. P. Holden, St. G. M. L. Homan, L. Hughes, J. A. Jamieson, H. C. Johnston, W. D. S. Johnston, A. W. Kendall, J. S. Kinross, A. E. Lee, C. R. Letham, H. B. Low, C. W. L. Lüthgen, *G. J. Lust, B.A.; L. G. M'Cune, W. S. M'Cune, T. M'Ewen, R. J. A. Macmillan, D. J. M'Rae, C. J. van der Merwe, J. A. Morris, Ara G. Murchison, A. T. Paterson, O. E. Powell, Barbara Richardson, C. L. D. Roberts, A. H. M. Robertson, R. L. Scott, F. Shannon, H. C. Simpson, J. T. Simson, T. Smyth, Alice M. Thompson, Eleanor M. Thomoson, H. B. Thomson, L. R. Thomson, A. E. Turnbull, A. M. Vlok, Helen M. Wakefield, R. N. Wallace, W. C. Whiteside, G. S. Williamson, E. D. Wilmot.

Third Professional Examination.—A. Arthur, R. C. E. Atkinson, M.A.; R. G. A. Bagnall, C. R. M. Baker, M. M. Sujiad Beg, Mary Brown, E. Burnet, B.A.; R. Davidson, P. Donald, E. W. Dyer, J. G. Fleming, F. S. B. Fletcher, F. H. S. Gardner, K. N. Ghosh, G. H. R. Gibson, J. Gilmour, W. H. Gowans, D. K. Henderson, F. O. Inglis, S. B. Legge, J. P. Lowson, M.A.; E. J. Luck, W. O. S. M'Gowan, J. B. Mackenzie, R. P. M'Morland, G. M'Mullan, W. J. Macnab, J. Mathewson, M.A.; H. L. Morrow, Janet M. Murray, M.A.; A. S. Paterson, A. M'T. Pirrie, C. S. U. Rippon, W. G. Rivers, T. Robertson, A. Rose, M.A., F. Ross, W. S. Stevenson, G. H. Stofberg, H. G. Sutherland, J. A. Taylor, E. W. Vaughan, A. S. Walker, F. E. Wall, R. M. Wishart, A. F. Wright.

Third Professional (New Regulations—Pathology only.)—D. M. Barcroft, F. G. H. R. Black, F. Blamire, R. D. Clayton, J. H. Lamb, J. Macdonald, G. S. Macgregor, G. D. M'Ivor, K. M'Murrirte, J. M. M'Phail, Jamesina J. Marr, C. J. Milne, J. E. Murray, A. J. P. Nowell, J. L. H. Paterson, H. B. Porteous, C. Pycroft, G. Robertson, J. M. Ross, Z. M. H. Ross, Elsie B. Saunders, S. C. Sen, W. O. Welply.

* With distinction.

ERRATUM.—In the list of those upon whom the M.D. was conferred at the summer graduation ceremony at Edinburgh, published on August 5th, the name of Dr. C. T. C. Kingdon, who was commended for his thesis, was incorrectly printed as C. T. Cory.

UNIVERSITY OF LONDON.

THE following have passed the Intermediate Examination in Medicine:

Alicia Pears Aldous, L. T. Baker, H. L. Barker, F. J. F. Barrington† (Scholarship in Physiology), Kathleen Baylis, A. Berostein, Lilias Margaret Blackett, T. L. Bomford, W. F. Bowen, E. W. Braithwaite, J. W. Bride, Kate Brown, A. Burrows, Rhoda Hicks Butler, G. S. Candy, H. B. Carter, S. E. Cathcart, W. Chesters, J. A. Clark, C. Clarke, M. Cohen, S. W. R. Colyer, E. M. Cowell, Winifred Julia Cox, J. W. Cropper, D. W. Daniels, A. Ff. W. Denning, E. J. C. Dicks, D. F. Dobson, Gladys Margaret C. Dunbar, R. C. V. Edsall, D. G. Evans, Vera Foley, H. S. Furness, E. L. Fyffe, E. G. Gauntlett,* W. G. Hiatt† A. E. Gow, T. J. Hallinan, J. M. Hammond, C. H. Heppenstall,‡ Susie Eleanor Hill, F. G. Hitch, M. J. Holgate, H. Holroyd, C. K. Hoskyn, Matilda Hunt, W. Johnson, J. E. L. Johnston, R. H. H. Jolly, A. R. Jones, Rose Fanny Jordan, H. H. King, Elsie Marian Lavman, J. Lewis, E. L. M. Lobb, D. Loughlin, O. W. McSheeny, R. V. G. Monckton, Emily Helen Morris, Florence Muriel Morris, A. T. Naokivell, E. E. T. Nuthall, G. E. Oates, J. G. Owen, W. H. Palmer, J. Parkinson,‡ H. E. Perkins, W. J. Petty, Hilda Margaret Pollard, D. A. Powell, Laura Gertrude Powell, R. B. Price, J. F. E. Prideaux, S. I. Rabbinowitz, J. Ramsay, E. N. Ramsbottom, A. Richardson,† A. M. M. Roberts, K. Robinson, H. A. H. Robson, Alice E. Sanderson, B.Sc., H. A. Sanford, C. F. O. Saukey, W. Scarisbrick, B.Sc., F. C. Searle, F. G. Sergeant, S. R. Shirgaokar, L. J. Short‡ (Scholarship in Pharmacology), J. T. Smalley, G. F. R. Smith, St. J. A. M. Tolhurst, V. Towurow, N. H. Walker, Enid Margaret Walters, A. J. Walton* (Scholarship in Anatomy), C. H. S. Webb,* H. Whitehead,† Margaret Hannah Wild, B.A., H. G. Willis, Sophia Margaret B. Witts, W. W. Wood, A. L. Yates.

* Distinguished in Anatomy. † Distinguished in Physiology.
‡ Distinguished in Pharmacology.

ROYAL UNIVERSITY OF IRELAND.

AT a meeting of the Senate held on Thursday, July 27th, the following Regulations for the M.B., B.Ch., B.A.O. Degrees Examination were adopted, to come into force at the October Examinations of the present year:

1. The Examinations in Medical Pathology and Surgical Pathology shall be separated, 25 marks being assigned to each.

2. The Pass Examination shall be held in all respects in the same manner as heretofore.

3. The further Examination for Honours shall be exclusively a written Examination, and only those candidates can be admitted to it who, upon their answering at the Pass Examination, are specially recommended for admission by the Examiners.

4. Honours shall be awarded, not on the Examination as a whole, as heretofore, but in the following groups:
   (*a*) Medicine, Theoretical and Clinical, including Therapeutics, Mental Diseases, Medical Jurisprudence, Sanitary Science, and Medical Pathology.
   (*b*) Surgery, Theoretical, Clinical, and Operative, including the use of instruments and appliances; Ophthalmology and Otology; Surgical Anatomy; Surgical Pathology.
   (*c*) Midwifery, and Diseases of Women and Children.

5. The candidates qualified to present themselves for honours may select one or more of the foregoing groups.

6. The Honour Papers shall be set on the day following the announcement of the results of the Pass Examination. They shall consist of:
   (*a*) A paper on Medicine and Medical Pathology.
   (*b*) A paper on Surgery and Surgical Pathology.
   (*c*) A paper on Midwifery, and Diseases of Women and Children.

Each paper to be of two hours' duration, and 100 marks to be assigned to each.

7. The honours in each group shall be awarded, taking into account the entire of the marks obtained by the candidate at the Pass Examination in that group, together with the marks obtained on the Honour Paper.

8. The Exhibitions shall be awarded, having regard to all the marks obtained both at the Pass and the Honour Examinations.

The recent examinations have resulted as follows:

First Examination.—J. Anderson, W. J. Ashby, J. S. Bellas, F. Bradley, P. M. J. Brett, J. A. Brown, B. Byrne, S. Campbell, S. R. Campbell, F. S. Carson, A. V. Craig, A. T. Crowley, P. J. Cullinane, W. Dickey, E. S. Dixon, W. Doolin, F. H. Duke, F. P. Ferran, B.A., D. J. Foley, W. A. Frost, J. J. Gilmore, J. A. Hanrahan, J. H. Harbison, A. V. J. Harrison, P. Hayes, R. W. G. Hingston, J. Holland, D. Horgan, J. C. Houston, D. J. Jackson, E. G. Kennedy, E. W. Kirwan, S. C. Letts, D. Lynch, J. M'Cormick, B. M'Cullough, B.A., G. E. A. Mitchell, Eileen M. O'Keefe, J. M. O'Reilly, C. Rouayne, P. J. Ryan, T. Scanlan, J. Spence, A. M. Thomson, M. Twohig, J. F. Walsh, W. O. Wilson, R. Young.

Exempted from Further Examination in Biology.—J. Byrne.

Honours in Botany.—Second Class: W. Dickey, J. A. Hanrahan.

Honours in Zoology.—Second Class: J. J. Gilmore.

Honours in Chemistry.—Second Class: S. C. Letts, W. Dickey.

Honours in Experimental Physics.—First Class: W. O. Wilson. Second Class: W. Dickey, J. J. Gilmore, J. A. Hanrahan.

Exhibitions.—First Class: W. Dickey. Second Class: J. A. Hanrahan.

D.P.H.—Honours, First Class: J. N. Meenan, M.B., B.Ch., B.A.O.; J. H. Campbell, M.B., B.Ch., B.A.O.

CONJOINT BOARD IN ENGLAND.

THE following have been approved at the Final Examination for the Diploma in Public Health:

J. A. Atkinson, R. J. Blackham (Capt. R.A.M.C.), N. Campbell, H. E. Corbin, L. Court uld, J. W. Fox, J. A. Glover, W. L. T. Goodridge, H. L. Hamilton, E. C. Hayes (Capt. R.A.M.C.), H. Holt, P. S. Leican (Capt. R.A.M.C.), N. F. MacLeod, J. Meek (Major R.A.M.C.), J. W. Myler, J. Nightingale, J. F. Powell, J. E. Robinson, E. D. Townroe.

CONJOINT BOARD IN SCOTLAND.

THE following candidates have been approved at the examinations indicated:

First Examination.—R. H. Jones, D. Cogan, T. S. Douglas, J. C. Balsara, W. G. H. Brooks, R. S. Watt, Phiroza Malabari, D. Murphy.

Second Examination.—M. H. Fleming, W. Riddell, G. L. Irwin, A. P. Dias, A. D. Woolf.

Second Examination (four years' course).—G. M. Macleod.

Third Examination.—H. G. Anderson, J. Logan, J. Dawson, A. Baxter, A. Dick, J. A. Smith, K. J. L. Bannerman.

Final Examination.—W. N. Walker, W. W. Dempster, W. P. Timmin, W. de W. Beury, J. Owens, J. Macnamara, L. E. Borden, W. N. Alexander, H. M'Master, J. C. Balsara, J. E. Streeter, J. P. Newton, J. S. Lamech, J. Taylor (with honours), A. Dick, J. Gilbert.

CONJOINT BOARD IN IRELAND.

THE following candidates have passed the special examination for the Diploma in Public Health:

A. W. May, M.D.Dubl., *W. M. G. Guinness, M.D.Dubl., *Major W. J. Taylor, M.B.R.U.I., R.A.M.C.

* With honours.

MEDICO-LEGAL AND MEDICO-ETHICAL.

THE RELATIONS OF MEDICAL PRACTITIONERS TOWARDS UNQUALIFIED PERSONS IN THE TREATMENT OF DISEASE.

WE have had occasion to draw the attention of the profession more than once to the unreflecting support given by certain medical practitioners to unqualified persons who profess to undertake the treatment of diseases. Articles pointing out the injury done to the profession by such conduct may be found in the BRITISH MEDICAL JOURNAL for 1904, vol. i, page 1090, and in 1905, vol. i, page 262. In the ethical column of the JOURNAL we have also repeatedly noticed instances of advertising electricians who evidently look for and in some cases obtain professional support, and who offer to pay liberally by handing over a proportion of the fees received for patients introduced to them. Examples of this were given on page 218 of the present volume. In some of these cases it may be claimed that the unqualified persons employed have provided an electrical installation which few medical men possess, and that they are willing to act under the direction of the medical profession without making any claims to special or secret methods of treatment. A correspondent has, however, sent us a copy of the supplement of the *Wisbech Advertiser* for July 26th, in which there is an advertisement of Mr. Richard Lonsdale, of 315, High Holborn, London, who calls himself a "medical" electrician, boasting of the great curative properties of his "magnetaire treatment." This is supported by testimonials from patients who say they have been cured of locomotor ataxy, chronic rheumatism, paralysis, fits, and the like, and from what the advertisement describes as "honoured preachers." We particularly desire, however, to call attention to four testimonials alleged to be from members of the medical profession. The first purports to be signed by a Dr. W. Forbes Laurie, Physician to the St. Saviour's Cancer Hospital, Osnaburgh Street, Regent's Park, N.W., whose name we have not been able to trace in the *Medical Register* or *Directory*. The second and fourth are from gentlemen whose names appear in the list of members of the British Medical Association. The third is from "Dr. T. O. Dobson, M.R.C.S.L., etc.,

Folkestone," who is not in the present *Medical Register*; but as he states he was 83 years of age at the time of giving the testimonial, he may well have since succumbed to the disease which he testifies to have been so wonderfully relieved by the treatment. The cases of the members of the British Medical Association will be referred to the Ethical Committee, which will no doubt make inquiries as to the genuineness of the testimonials. We hope some satisfactory explanation will be forthcoming, as there can be no excuse for giving support to an advertising quack of this description. If it does not amount legally to the offence called "covering," it violates the spirit of the rule that no qualified medical practitioner should give his aid to unqualified persons who seek to carry on the treatment of disease. It is a very unsound argument that a medical practitioner may, like any other man, testify to the good results he has observed, for it would be very strange if an active remedial agent, even in the hands of an unqualified person, were never followed by beneficial results.

The position maintained by the medical profession is that the application of remedies must be directed by persons who have a general acquaintance with physiology and pathology such as can be acquired only by a regular medical education, and that to entrust the treatment of disease to untrained persons is to run the risk of doing more harm than good. This would be a sufficient statement of the case if these unqualified persons sought in no way to mislead the public; but by their advertisements in the daily press they endeavour to attract patients by means which the medical profession regards as illegitimate, and they hold out hopes of benefit which we know to be unfounded. Therefore there is not only a professional but a moral objection to any support of such persons by qualified practitioners, and the giving of such testimonials must be regarded as a grave professional offence.

INQUEST ON A HOSPITAL PATIENT.

AN inquiry was held on July 24th, by the Coroner for Westminster, into the death of Joseph Towhey, an employé of the Alhambra. He had been suffering, it was stated, from consumption and other complaints for some time, and, being taken very ill on July 21st, he was conveyed to Charing Cross Hospital. There, it was alleged, he was kept waiting an abnormal time and was then told there was no room for him. This treatment, it was suggested, was owing to the employés at the Alhambra having transferred their subscription to another hospital. The deceased after his return to the Alhambra from his visit to the hospital, suddenly died.

One of the house-surgeons of the hospital, giving evidence, said that he saw the deceased in the casualty ward. He complained of a pain in the right side of the abdomen over the region of the liver. He smelt strongly of alcohol, and admitted that he had been a heavy drinker. There was no very noticeable difficulty in breathing, but the witness found the pulse a little rapid. The patient had been at the hospital on the previous Wednesday, when another medical officer had diagnosed the case as one of alcoholic gastritis, and the witness confirmed that diagnosis from his examination. He gave the deceased a draught for his cough and told him that he had not a vacant bed for him then, but that if he came next morning he would be admitted. He walked from the room to the passage outside, and, not seeing any one there to meet him, the witness thought he had come alone. He had heard since that the man had pneumonia.

In reply to the coroner, the witness answered, "I suppose I am liable to make mistakes, like anybody else, but I may point out that some cases of pneumonia have purely abdominal symptoms." In reply to further questions, he said that he knew nothing about the withdrawal of the subscriptions. He did not think Towhey was seriously ill, or he would have called some one else to attend to him. He did not take his temperature, and he considered that he was able to go home alone. He did not think the man was the worse for drink.

Dr. Freyberger said the cause of death was failure of the heart accelerated by acute inflammation of the lung whilst suffering from chronic tuberculosis of the lung. The diagnosis of acute alcoholic gastritis was correct, and the acute inflammation of the lung might have been diagnosable on Wednesday. The failure of the heart must have been coming on for two or three hours, as a clot had formed. If the man's chest had been examined the state of the lungs might have been discovered two hours before death, but it was a hopeless case, and life could only have been prolonged an hour.

The secretary of the hospital having given evidence to the effect that the medical witness could not have been aware of the withdrawal of the Alhambra subscription, Mr. Hughes, who represented the theatre, said that he did not suggest that this withdrawal had anything to do with the way in which the deceased was treated.

In summing up the Coroner said it was difficult to understand why the deceased did not exhibit to the medical officer signs of the great weakness of his state, and thought it was a great pity that the medical officer had relied to a great extent on the diagnosis previously made.

The jury found that death was due to natural causes, adding that in its opinion the deceased was not properly examined at the hospital on the day of his death.

CERTIFICATES FOR INJURED WORKMEN.

H. R.—In answer to our correspondent's further inquiry, it may be pointed out that an injured person claiming under the Workmen's Compensation Act has to give notice of claim to his employer, but he is not obliged to send in any medical certificate. If the employer is in doubt about his accident he may send a medical man to examine the injured person, and he must pay the medical man. No insurance company can compel the workman to send in a medical certificate. No certificate, therefore, should be given unless the employer, or the company acting for him, undertakes to pay the fee for it. The employer does not get rid of his liability to pay by making an arrangement with an insurance company, but he can cover his losses by doing so.

COPIES OF DEATH CERTIFICATES.

L. H. asks: (1) Whether a medical man can legally give copies of a death certificate? (2) Whether the registrar can make a charge for such copies?

*** (1) A medical practitioner can legally give as many copies of a death certificate as he chooses, but they are useless for nearly all purposes, as the law requires a copy of the death registration which the registrar only is in a position to give. (2) The registrar may legally charge for copies of the death registration, but our correspondent is in error in supposing that a poor man is required to pay for a copy for the use of the undertaker. The latter only requires a certificate that the death has been duly registered, and this the registrar is required to give without payment to the person presenting the medical practitioner's death certificate. A copy of the death registration is only required for special purposes, such as to obtain insurance money, etc.

FEES OF LIFE ASSURANCE COMPANIES.

A CORRESPONDENT sends us a letter which he has received from the manager of a life assurance company in reply to a letter from our correspondent pointing out that a fee of half a guinea was inadequate for the examination of a man for life assurance. The form required to be filled up involved the answering of about sixty questions and an examination of the urine was required. The following is a copy of the letter, with the omission of names:

The ——— Assurance Society,
Head Office, ——— London,
——— Branch, ———, ———,
July, 1905.

Dr. ———, ———,

Dear Sir,—I thank you for your report on the life of Mr. ———, and I herewith hand you half a guinea, being my directors' authorized fee for the work. I shall be glad of your receipt in due course.

With regard to your remarks about the amount of fee being inadequate I may say that fees allowed to our examiners are those which are, and have been for many years, in force by all the best and leading companies, and I fail to see why you should be dissatisfied with the half guinea, considering the amount of work which you performed for us. During the course of my twenty years' insurance experience I think this is the second time that an examiner has complained to me about the fees, and I think it is rather unwise of the medical profession to raise the question, as, once upon a time insurance companies did without the assistance of doctors, and to find fault with fees might bring such a thing about again. If any one ought to complain I think it is the poor hard-working agent, who spends hours and tramps miles in trying to get business, and when he secures it he may, on the report of the examiner get nothing at all. Yet the medical man gets his fee, whether the business is completed or not.

I may say perhaps you are lucky you do not live in a big city, where competition in every profession is keen, as I could ring up scores of doctors from this office, and they would gladly call here and make any number of examinations for our fees, and all are first-class men with big practices.

Hoping we may soon have other business with you,
Yours faithfully,

District Manager.

*** Not much importance need be attached to the threat contained in the second paragraph of this letter, for the system of medical examination was established in the interest not of the medical profession, but of the assurance companies. The remarks contrasting the lot of the poor hard-working agent with that of the medical man would be merely amusing if they did not reveal a state of mind which shows that a district manager may entirely fail to understand with what object a medical examination is made. The point of special interest to medical men is contained in the concluding paragraph, which states that scores of doctors are ready and willing to make examinations for the fee named.

MEDICAL ADVERTISING.

ORTHODOX and A. F. S. draw attention to advertisements in the daily press announcing the departure of West End practitioners from home for the holidays, and wonders if an obscure general practitioner were to advertise in the same way what his Branch or the General Medical Council would have to say.

*** We have repeatedly expressed the opinion that it would be better if such notices were omitted, as savouring of advertisement. The essence of advertisement as a professional offence, however, is that it is for the purpose of procuring patients or practice. We do not think, therefore, that such a ground of complaint would be entertained by the General Medical Council, while the British Medical Association has control only over its own members; the gentleman whose advertisement is quoted by our correspondent is not a member of the Association.

DENTAL ADVERTISING.

W. W.—We should certainly regard it as advertising for a dentist to allow tooth-powders and soaps to be exposed for sale labelled "according to the formula of Mr. A. B.," or "recommended by Mr. A. B., L.D.S." If the offender is a member of the British Dental Association, that body would probably undertake to remonstrate with him, or, if he is not a member, a complaint should be addressed to the licensing corporation from which he holds his diploma.

HOSPITAL TICKETS AND MEDICAL RECOMMENDATIONS.

A. H. G. complains that he met with a difficulty in diagnosing a case of injury to the elbow-joint, and telephoned to the local hospital to inquire whether the house-surgeon would radiograph the joint for him. The reply was that, if the case was to remain under the care of our correspondent, the patient would require what he calls a "recommend,"

presumably a hospital ticket of some sort, but if this ticket were not forthcoming, the patient would become a hospital patient.

*** We regard such an answer as most improper, and we would suggest that our correspondent should complain to the senior member of the medical staff. If the patient was not in a position to pay for a radiographic examination outside the hospital, the medical recommendation should have been sufficient, and the information asked for should have been given.

MEDICAL OFFICERS OF HEALTH AND THE DIAGNOSIS OF TYPHOID FEVER.

J. J. D. AND S. H. W. write to complain that in the report of the monthly meeting of the local urban district council, published in a local newspaper, the medical officer is stated to have said, speaking in reference to a single case of alleged typhoid fever which had been notified in his district, that he "denoted very much if the illness was typhoid fever." Our correspondents were the medical practitioners who had had charge of the case, and they complain of such an opinion being expressed publicly by the medical officer of health who had not seen the case.

*** Medical officers of health cannot be too careful in expressing opinions which may seem to reflect on their professional brethren. Although typhoid fever in an infant of 1 year is a rarity, its occurrence is quite possible, and no one is justified in expressing a doubt of a diagnosis given by a colleague when the speaker has not seen the case. Our correspondents would seem to have sufficient reason to carry their complaint before the local Division of the Association.

PROFESSIONAL SECRECY.

J. AUSTRALE.—It is unusual for witnesses to make a statement without being asked to do so, and we certainly think a medical witness should not reveal any facts which have been confided to him by the patient, except in reply to questions and under the distinct direction of the coroner or judge

HOSPITAL AND DISPENSARY MANAGEMENT.

MONMOUTHSHIRE ASYLUM, ABERGAVENNY.

IN this asylum on January 1st, 1904, there were 900 patients, and on December 31st there were 964. The average number resident during the year was 936·2, a smaller number than in previous years. This reduction is due to the opening of new asylums; that it is not an evidence of diminishing insanity is shown by the fact that the ordinary admissions were in excess of the average annual admissions during the past five years, notwithstanding that the year 1904 was the first complete year that pauper patients from the counties of Brecon and Radnor, who had up to then been received at this asylum, were sent to the new asylum at Talgarth. The actual number of admissions was 258 as compared with 220 for the previous year, or the average of the previous years of 220.6. Of these 258 admissions, 229 were ordinary admissions, 9 were private patients, and 20 were patients received under contract from Salop and Montgomery counties. A large proportion of the admissions were in bad health and bodily condition, but in no less than 106 the attacks were "first attacks" within three months of admission. There were 27 readmissions, and the cases were classified as follows: Mania of all kinds, 161; melancholia of all kinds, 34; dementia, 24; general paralysis of the insane, 0; epilepsy, 0; and congenital or infantile mental defect, 21. As to the probable causes of insanity in these, alcohol was assigned as exciting cause in 32, or 12.4 per cent., of the admissions, the so called "moral" causes in 15, venereal disease in 2, periodic changes in 13, previous attacks in 22, bodily diseases in 62, congenital defect in 20, and hereditary influences were ascertained in 35, or 13.5 per cent. During the year 70 were discharged as recovered, giving a recovery-rate of 30.6 per cent. on the admissions (the recovery-rate of the previous year was 39 per cent.): 12 as relieved and 4 as not improved. It is interesting to note that of the 70 recoveries 62 were cases of mania, 2 of epilepsy and 15 of melancholia. During the year there were 99 deaths, giving a percentage death-rate on the average numbers resident of 10.5. Of these deaths phthisis accounted only for 5, the total number of tuberculous deaths (7) giving the low proportion of tuberculous to total deaths of 7 per cent. Contrasted with the average tuberculous death-rate of 16 5 per cent. for the asylums of 500 to 1,000 inmates of England and Wales for 1903, this is very good. There were 38 deaths from cerebro-spinal diseases, including 24 deaths from general paralysis; 46 from chest diseases, including 20 from pneumonia; and the rest do not call for particular remark. All the deaths were due to ordinary causes, and no coroner's inquest was held during the year. With the exception of 1 case of typhoid fever, occurring a few days after admission, there was no illness of epidemic or contagious nature, and the general health appears to have been good. Electric lighting is at present being installed, and the Commissioners speak most favourably of the excellent order and management of this institution.

HERTFORDSHIRE COUNTY ASYLUM.

THE patients belonging to Hertfordshire on January 1st, 1904, were 752 in number, and were distributed as follows: at Hill End, St. Albans, 411; at the Three Counties' Asylum, Arlesey, 332; and at other asylums, 9. On December 31st, 1904, the total Hertfordshire patients numbered 792, of whom 440 were at Hill End, 343 at Arlesey, and 10 at other asylums. The total increase for the county was thus 41 during the year 1904. On January 1st, 1904, there were 501 patients in residence at the asylum at Hill End, of whom only the 411 above mentioned were chargeable to Hertfordshire, and on December 31st, 1904, there remained 600, of whom 160 were chargeable to other counties. The increase of 41 for the county is decidedly over the average increase for the past five years (27.6), and in a few more years' time the excess of accommodation over patients (182 beds) will be exhausted.

During the year 139 cases were admitted to Hill End Asylum, of whom 133 were chargeable to Hertfordshire. Of these 129 were first admissions, and in 100 of the total the attack was within twelve months' duration on admission. The admissions were classified as to forms of mental disorder into: Mania of all kinds, 73; melancholia of all kinds, 30; dementia, 3; general paralysis, 6; acquired epilepsy, 2; and infantile or congenital defect, 15. The table of the probable causes of insanity shows that alcoholic intemperance was assigned as exciting cause in 16, or 11·5 per cent; ascertained hereditary influences in 41, or 22·3 per cent; previous attacks in 22; old age in 11; epilepsy in 1; accident in 4; bodily disease in 12; and "moral" causes in 11. Venereal disease does not appear as a probable cause in one case. During the year 43 were discharged as recovered, giving a percentage recovery rate on admissions of 33·3, 7 as relieved, 45 as not improved, 1 as not insane, and 34 died. This gives the satisfactory low death-rate on the average numbers resident of 5.72 per cent., about the average for this asylum, which is for the past six years 5.92 per cent. The deaths were due in 11 cases to cerebro-spinal diseases, in 14 cases to chest diseases, including 6 deaths from phthisis, in 2 cases to abdominal diseases, in 1 to cancer, and in 6 to senile decay. The general health was good throughout the year, no inquests were necessary, and there was only one serious casualty.

SALOP AND MONTGOMERY COUNTY ASYLUM.

THE annual report of this institution reveals a condition of overcrowding which appears to be rapidly becoming general in the county asylums throughout the country. The Commissioners at their visit last November found 41 patients in excess of the proper number, and the Medical Superintendent Dr. Rambaut, draws attention in his report to the consequent impossibility of correctly classifying the various forms of insanity and disease or properly isolating cases of phthisis, erysipelas, and other preventable diseases. To relieve this to some extent it was proposed to lodge some 35 patients, in addition to the 28 already there, in the Forden Workhouse, but this proposal did not receive the consent of the Commissioners.

On January 1st, 1903, the asylum contained 808 patients, of whom 17 were private patients, not counting those at Forden Workhouse, and at the end of the year there remained 786. The average daily population during the year, including the Forden cases, was 797, an increase of 7 on the previous year. During the year there were 195 admissions, which was well under the average admission rate of this institution for the past ten years which works out at 205.1 per annum. The overcrowding, therefore, does not seem to be due to an increase of occuring insanity but to an accumulation of cases. Of the admissions, 6 were private patients, 46 were readmissions, and 15 were transferred from other asylums. In 44 cases the attack was of more, and in all the others of less, than twelve months' duration on admission. The cases were classified as to forms of mental disorder into: Mania of all kinds, 60; melancholia of all kinds, 53; dementia, 26; delusional insanity, 16; general paralysis, 6; epileptic insanity, 10; alcoholic insanity, 10; and idiocy, 13. As to the probable causes of insanity in the admissions, the insane diathesis, either alone or in combination with other factors, was assigned in 36 cases: alcohol in 10; previous attacks in 34; syphilis in 1; old age and the climacteric in 13; childbirth and lactation in 9; moral causes in 23; epilepsy in 8; other bodily disorders in 10; and in 55 cases no cause could be assigned. Hereditary influences, unless included in the insane diathesis, are not mentioned.

During the year 83 were discharged as recovered, giving the high recovery-rate on admissions of 46.11 per cent., 9 as relieved, removed under contract 20, and as not improved 8. During the year there were 90 deaths. The deaths were due in 20 cases to cerebro-spinal diseases (including 12 cases of general paralysis), in 32 cases to chest diseases (including 17 cases of phthisis), in 3 other cases to general or peritoneal tuberculosis, in 12 to influenza and its complications, in 1 case to enteric fever, in 3 to erysipelas, and in 1 to scalds. The remainder do not call for particular comment. The large number of deaths due to infectious diseases (including in this category those of tuberculous origin) is to be noted on account of its association with the serious overcrowding present during the year. The general health was, Dr. Rambaut says, better than in the two previous years, but he does not describe it as satisfactory.

There were 3 cases of enteric fever, one of which ended in death: 2 cases of small-pox which, for want of an isolation hospital, were treated in a small cottage in the garden, and some cases of erysipelas, whose number is not given, but which in three cases terminated fatally. One inquest was held during the year on a patient who died from acute mania, but who suffered from self-inflicted wounds. Dr. Rambaut does not give the number of major casualties which occurred, though with so considerable overcrowding such accidents would be almost unavoidable. It is to be hoped that the additional asylum accommodation urged upon the Board by the Commissioners will shortly be provided.

SOMERSET AND BATH ASYLUM, WELLS.

OWING to the regrettable death of Dr C. F. Laing, who had been Medical Superintendent of this institution till December, 1904, the annual report for 1904 has been prepared by his successor, Dr G. Stevens Pope, who went into residence at the asylum in March of this year. The Medical Superintendent's report is therefore necessarily confined to a study of the events and conduct of the asylum from the records. On January 1st, 1904, there were 1,384 patients resident in the Wells and Cotford Asylums, and on December 31st, of the same year there remained 1,409, an increase of 25 during the year. The total cases under care during the year in the two asylums numbered 1,662. The report, however, deals mainly with the Wells Asylum, to which the present district is confined. In this asylum, on January 1st, 1904, there were 800 patients resident, and on December 31st there remained 827.

During the year 205 cases were admitted, of whom 176 were first admissions, and in 162 the attack was within twelve months of admission. The admissions were classified according to the forms of mental disorder into: mania of all kinds, 81; melancholia of all kinds, 13; dementia, 4; general paralysis, 7; acquired epilepsy, 2; and congenital or infantile defect, 7. As to the probable causes of the insanities in these cases alcoholic intemperance was assigned in 23, or 11 4 per cent.; hereditary influences were ascertained also in 23; epilepsy was given as a cause in 7; previous attacks in 40; old age and the menopause in 17; venereal disease in only one; "moral causes" in 22; and in 57 no cause could be ascertained. Bodily diseases, other than those given in the list, are recorded only for 7, and this, together with the small number in which hereditary factors could be elicited, form the only noteworthy features of this table.

During the year 99 were discharged as recovered, giving a percentage recovery-rate on admissions of 50·2; 5 as relieved; 5 as not improved; and 88 died. This gives a death-rate on the average numbers resident of 9·9 per cent. Of the 88 deaths 23 were due to cerebro spinal diseases, including 10 from general paralysis; 32 to chest diseases, including 14 from phthisis: abdominal diseases, including 1 death from peritoneal tuberculosis, caused 12; senile decay, 20; and carcinoma of breast, 1. The general health was good throughout the year, and the Commissioners in Lunacy who visited the asylum in February, 1904, spoke in very favourable terms of the general management.

COUNTY BOROUGH OF WEST HAM LUNATIC ASYLUM.

THE fourth annual report of this institution, which was built to accommodate 800 patients, shows that on January 1st, 1904, it contained 836 patients, and on January 1st, 1905, there remained 770. In addition, on January 1st, 1904, there were boarded out at the Brighton Asylum 30 patients, and on January 1st, 1905, these boarded-out cases amounted to 120. Thus, at the beginning of 1904 this asylum was considerably overcrowded, and during most of the year, notwithstanding the large numbers boarded out, the accommodation appears to have been insufficient on the female side. In these circumstances, the Commissioners say, the extension of the asylum has become a matter of pressing moment, and steps are being taken to provide additional accommodation. At the end of the year Dr. Hunter, the Medical Superintendent, states there were belonging to the borough 24 more patients than at the beginning. This increase is the least recorded for the past seven years, but this diminished rate of increase must not, Dr. Hunter says, be regarded too hopefully. The admission-rate—perhaps the most valuable criterion—of the pauper element is shown by Dr. Hunter in tabular form for the years 1859 to 1903, and is found to be for the borough of West Ham about twice that of England and Wales, although the actual proportion of pauper lunatics per 10,000 of population is decidedly less. This discrepancy Dr. Hunter accounts for by the large proportion of senile and physically feeble cases admitted, who quickly die off. Again, although the ratio of insane per 10 000 is less than that of England and Wales (West Ham, 30·3; England and Wales, 31·62 for 1904) the rate of increase has been during the past four years much more rapid. All this more than justifies Dr. Hunter in not regarding the figures in too sanguine a manner. During the year there were admitted 341 cases, of whom 271 were admitted for the first time, 17 were transferred from other asylums, and 53 relapsed cases were admitted. In only about 100 of these admissions did the cases present, Dr. Hunter says, a fair prospect of recovery. In 137 the attack was a "first attack" within three months of admission, in 48 more a first attack and within twelve months after admission, and the remainder were either of more than twelve months' duration or were congenital cases.

The admissions were classified according to the forms of mental disorder into: Mania of all kinds 89, melancholia of all kinds 109, dementia 76, general paralysis of the insane 27, acquired epilepsy 11, and congenital or infantile defect 29.

With regard to the probable causes of the insanities in these cases, Dr. Hunter lays particular stress on the hereditary factor.

In 137 of the cases either a hereditary factor was obtained or congenital defect ex sted. An interesting supplementary table shows that in the three years - 1902, 1903, and 1904 practically 50 per cent. of the admissions for these years had either a definite family history of insanity - direct or collateral—or well-marked signs of congenital defect. Alcoholic intemperance was assigned in 82 cases, or the rather high proportion of 24 per cent. In 78 cases there had been previous attacks, "moral causes" were assigned in 71, venereal disease in 12, old age and the climacteric in 72, and the remainder were distributed over the other usually-cited causal factors.

During the year 103 were discharged as recovered, giving a percentage recovery-rate on admissions of 31.88, 23 as relieved, 125 as not improved, and there were 156 deaths. This gives the enormous death-rate on admissions of 20.13 per cent., and that this is not abnormal for this institution is shown by the death-rate for 1903, which was 18.06, and that of 1902, which was 18.15. It is necessary in this connexion to remember what Dr. Hunter has said about the character of the admissions as regards age and bodily condition. Even taking this into consideration, however, the close connexion between overcrowding and a high death-rate should not be overlooked. Of these deaths 46 were due to cerebro-spinal diseases, including 21 deaths from general paralysis; 41 were due to chest diseases, including 19 cases of phthisis; 14 to various abdominal diseases, including 1 case of tuberculous peritonitis and 8 cases of dysentery, and 49 died from senile decay. There was also 1 death from syncope, 1 from small-pox, 1 from cancer, 2 from general tuberculosis, and 1 accidental death from asphyxia. In connexion with the tuberculous death, it is satisfactory to note that the Committee have approved of the erection of a small isolation block for phthisical patients. There were 2 cases of small-pox in addition to the case which terminated in death, and, doubtless owing largely to the overcrowded condition of the asylum, there appears to have been a considerable number of cases of dysentery. The number of these cases of dysentery is not given in the Medical Superintendent's report, but we note that at the visit in March, 1904, of the Commissioners there had been 47 cases in the eleven months prior to their visit, 10 of whom had died. Two inquests were held during the year, and there were 5 serious but not fatal casualties.

ROYAL ASYLUM OF MONTROSE.

At this asylum the new villa for female patients, which was in process of erection when we reported upon this institution last year, was completed in July, 1904, and there have also been erected four out of eight proposed cottages for the accommodation of married attendants. In both these directions, which are important signs of the [illegible] advent of village asylums and the passing of huge [illegible] Scotland is taking the lead in Great Britain. On May 14th, 1904, there were 7 patients in residence, and on May 14th, 1905, [illegible] During the year, 146 were admitted, of whom 121 were [illegible]. This is an increase of 1 on the previous year, but a decided drop from the admissions of [illegible] any of the four years preceding. [illegible] average [illegible] two years [illegible] May [illegible] of this [illegible] and [illegible] the last [illegible] the [illegible] relieved or [illegible] only half [illegible] cottage for all Scottish asylums. In view of the interest in the boarding-out system which is being evinced on all sides, it would be instructive to know the reason for the small advantage taken at Montrose of this mode of disposal. In commenting upon the admissions, the Medical Superintendent, Dr J. G. Havelock, notes "the large number of patients who were far advanced in years and beyond all hope of recovery, either mentally or physically. It is possible that this may be due to accidental causes to a large extent, and it is manifestly unsafe to draw any conclusions from the experiences of a single year, but on the whole there seems to be an increasing tendency to send troublesome dotards to asylums." Dr. Havelock attributes this in part to a knowledge amongst the patients' friends that owing to the provision of hospital treatment in asylums they will be better looked after in the asylum than is possible at home. That many of these cases could be successfully managed under family care, if there were a closer union of asylums and boarded-out cases in Scotland than at present, seems probable, and it is possible that the want of this co-operation has something to do with the comparatively small proportion of cases treated in this way at Montrose. Of the admissions many were in poor health and bodily condition. In 74 cases the attack was a first attack within three months of admission, in 26 more subjects of first attacks it was of less than twelve months' duration, in 32 not first attacks it was also within twelve months' duration, and the remainder were either congenital cases or of more than twelve months' duration on admission. They were classified as to the forms of mental disorder into: Mania of all kinds, 75; melancholia of all kinds, 42; dementia, 21; general paralysis, 4; acquired epilepsy, 3; and congenital or infantile defect, 3. As to the probable causes of insanity amongst the admissions Dr. Havelock says that "the sources of information at the disposal of the asylum physician are usually meagre, and totally inadequate to compile a correct scientific table of the causation of mental disorder in the cases committed to his care." Nevertheless, from the information at his disposal, the following etiological factors were included in his report: Alcoholic intemperance in 11, or less than 8 per cent of the admissions, ascertained hereditary influences, direct and collateral, in 9, previous attacks in 27, old age in 21, "moral causes" in 17, parturition and the puerperal state in 9, and in 30 no cause could be assigned. During the year 61 cases were discharged as recovered, giving a recovery-rate on admissions of 41·73 per cent; 22 as relieved, 2 as not improved, and 71 died. This gives a percentage death-rate on the average numbers resident of 20.36, considerably above the average (8·61) for this institution, no less than 26 of the deceased being over 70 years of age. The deaths were due in 31 cases to cerebro spinal diseases, including 10 cases of general paralysis; in 20 to chest diseases, including 6 cases of phthisis; in 17 to old age, in 2 cases to abdominal diseases, and in 1 case to self-inflicted cut-throat prior to admission. The general health was good throughout the year, the casualties few in number, and the general management was commented upon very favourably by the Commissioners in Lunacy.

THE ROYAL VICTORIA HOSPITAL FOR CONSUMPTION, CRAIGLEITH, EDINBURGH.

FIFTEENTH ANNUAL REPORT (1904-5).

THE Royal Victoria Hospital for Consumption, Edinburgh, is doing excellent work, and the fifteenth annual report, recently issued, shows that the management of the hospital is not content merely to follow the lead of older institutions. Established in 1887 as a memorial of the Jubilee of Queen Victoria, and thus one of the youngest of the consumption hospitals in the United Kingdom, it shows all the energy of youth, and has already made for itself an honourable name. The Royal Victoria Hospital, as it is now called—the King having recently granted the title of "Royal" to the institution - has certain special features which are worthy of note and, where possible, of imitation. The separation of the hospital proper from the out-patient department—the latter in the crowded part of the city, the former in the purer air of the outskirts—is not peculiar to the Edinburgh Hospital, but the system of home visits to the out-patients by special nurses, and, where necessary, by the medical staff, is a distinctive feature of the Royal Victoria Hospital, which is of great value to the patients and of importance to the general welfare of the community. Another new departure, which increases the scope of the hospital's work and enables a larger number of consumptives to receive its benefits, is the system of "visitant" patients. These patients enjoy the same régime as the other patients, save that instead of sleeping within the hospital they return home at night.

The germ of a consumptive colony for the after-care of patients who are apparently cured has been formed by retaining in the service of the hospital a certain number of patients, more or less certainly cured, who, whilst receiving reasonable remuneration for their services, have the advantage of the régime and surveillance of the institution. The three pavilions erected in the grounds at Craigleith eighteen months ago have proved most satisfactory, and it is hoped that additional pavilions may soon be erected which will increase the accommodation of the hospital by sixty-eight beds. Money is urgently needed for this extension. The report, like almost all reports of hospitals and sanatoriums for consumptives, mentions with regret the large proportion of advanced and unsuitable cases which are recommended for admission and actually sent in. The results of treatment, as shown by the reports of the condition of former patients, continue to be most satisfactory and encouraging.

ROYAL NAVY AND ARMY MEDICAL SERVICES.

PAY OF THE INDIAN MEDICAL SERVICE.

One [illegible] has been drawn by a correspondent [illegible] to an important speech by Sir James Thomson, Chief Secretary, on the introduction of the Budget in the Madras Legislative Council, as reported in the *Madras Mail* of April 4th, 1905. In explaining an increase in the estimates of pay drawn by the Indian Medical Service in civil employment, under the new warrant, Sir James said: "I consider money spent to procure and retain a good medical service is money well bestowed, and that I do not consider the Indian Medical Service is [illegible] I might say adequately—paid even now." Such an opinion, deliberately expressed, in an important official speech, by a man in such a high position in the Government of Madras should be carefully pre-served, especially at a time when the cutting down of high administrative appointments is [illegible] under consideration. Sir James Thomson has doubts whether, even under the new warrant, the medical service is adequately paid. We understand there are curious anomalies in the

pay of medical officers in charge of lunatic asylums and of gaols, the amount of which seems to depend partly on total service and partly on length of departmental service; broadly stated, those in charge of the former, if juniors, receive about 20 per cent. more pay, and if seniors, about 10 per cent. more than those in charge of the latter; we should imagine the responsibility of charge of a gaol was much the same as that of an asylum.

PUBLIC HEALTH AND POOR-LAW MEDICAL SERVICES.

CARE AND CONTROL OF IDIOTS AND EPILEPTICS.

The Royal Commission on the Care and Control of the Feeble-minded met again on July 28th, when evidence was given by Dr. Henry Ashby, Medical Officer of the Special Schools at Manchester, Sir William Venables-Vernon, Bailiff of Jersey, and Dr. Caldecott, Medical Superintendent of Earlswood Asylum.

Dr. Ashby said that in investigating the heredity of cases of amentia—a term which he used to cover all degrees of mental defect in early life—and of epilepsy it was common to find a history of tuberculosis, but he knew of no direct evidence to show that tuberculous parents produced mentally-defective children more frequently than other persons. There was a hereditary tendency towards alcoholism, and alcoholics were often weak-minded, but he had no reason to believe that their children were abnormally-minded as the result of their habits. The evidence which he had been able to collect supported the common view that a tendency towards insanity, epilepsy, and weak-mindedness ran in families. The weak-minded naturally gravitated into the lower grades of society, and in this there were more improvident and other undesirable unions than elsewhere, and the output of feeble-minded offspring was large. Unfavourable antenatal conditions were another factor; overworked and underfed mothers naturally producing children of low vitality and mental backwardness. In the special schools at Manchester it was only the children who had merely minor defects, such as a weak memory for words or numbers, who really gained any permanent good; the rest, whatever they were called, could never be made fit to look after themselves, and their treatment in colonies under supervision and for life was the only solution. In such colonies they might be taught to contribute in some degree to their own support.

Sir William Venables-Vernon gave evidence as to the law in relation to the feeble-minded in Jersey. A law had existed from time immemorial which provided for the guardianship of those who from mental defect of any character were unfit to manage their own affairs.

Dr. Caldecott said that the various grades of mentally-deficient persons required some form of lifelong control and it was unadvisable, he thought to legislate separately for each grade.

At a further sitting on August 4th, evidence was given by Dr. Bedford Pierce, Medical Superintendent of the Retreat, York; Mr. Damer Harrisson, Medical Officer for the Special Schools of the Liverpool Education Committee; Mr. J. C. Turner, Superintendent and Secretary of the Eastern Counties Asylum for Idiots, Imbeciles, and the Feeble-minded; and Mr. E. W. Locke, Superintendent and Secretary of the Western Counties Idiot Asylum, Devon.

Dr. Bedford Pierce said it was perhaps impossible to do anything to control the liberty of adults who had already been at large in the world unless they were decidedly insane, or had become criminals; but he submitted that those children who had exhibited marked mental deficiency at school should not be allowed to go freely into the world until there was reason to believe that the mental deficiency had disappeared. Assuming that special schools were available for all children until they were 16 years of age, he would support the suggestion that special industrial colonies be established for children above that age, and in these every effort should be made to discover their special faculties and to teach them, if possible, how to earn a living. It was only reasonable that children who had required special and costly education should be apprenticed to the State until they were 20 years of age, and that their future should depend upon their success while serving their time. If the feeble-minded on leaving school were practically prevented from marrying by segregation, there would be a considerable reduction in the number of insane, epileptic, and defective persons.

Mr. Damer Harrisson said that in the case of defective children living in poor homes 5 years was a better age than 7 years for their admission to special schools. Extended powers were required by which children who were mentally defective or who were living in a bad environment might be removed to boarding schools. Thence between the ages of 16 and 21, according to the progress made, they should be drafted into industrial colonies. As for children educated in special schools, if on arriving at the age of 16 they were found to be too defective, morally or mentally, to lead the life of ordinary citizens they should be sent to industrial colonies and detained either permanently or until such improvement had taken place that they could be allowed their freedom under protection. It was more especially for female defective children that permanent control was required.

Mr. J. C. Turner described the management of the Eastern Counties Asylum, and Mr. E. W. Locke discussed the disadvantages of having separate legislation for different grades of congenital mental deficiency and placing subjects of this condition under different authorities.

DAIRY FARM INSPECTION.

It is well known that the Dairies, Cowsheds and Milkshops Orders are frequently little more than a dead letter, and that many rural sanitary authorities ignore their duties of inspection and control of dairies and cowsheds. It is therefore satisfactory to find that in the Highworth Rural District of Wiltshire the Medical Officer of Health (Dr F E Streeten) is able to furnish in his annual report for 1904 a very different record to what is usual, and which certainly shows that in his district these Orders are being administered with some degree of efficiency. He is, we think, justified in adding that if the cowsheds and general dairying are being brought under control, greater care should be taken to protect the milk supplies after leaving the hands of the producer. "The present method of conveyance of milk by railway companies," he says, "leaves much to be desired, and the consumer himself needs considerable enlightenment as to the possibilities of germ infection which may be existent in his own house." In the Highworth Rural District there are 208 farms with 4 654 cows yielding approximately 2½ million imperial gallons of milk annually. The number of persons engaged in the milk trade now on register and under supervision are 212, with employés estimated at 581. One large dairy of 55 cows has been subjected to the tuberculin test, two reacting cows being removed from the herd at once. There has been no epidemic disease among the cattle during the year. When infectious disease breaks out on a farm it is at once placed under quarantine. All the farms have been inspected during the year and improvements carried out. Milk from 3,442 cows on 100 farms is sent to London, a considerable quantity goes to Swindon, and a butter industry is carried on. Dr. Streeten reports in detail on the various dairy farms in the 15 parishes of his district, discussing in each case the farmsteads, cooling sheds, pastures, and improvements, and thus furnishing an excellent report on the whole subject.

HOSPITAL ADMINISTRATION AND RETURN CASES.

Dr. Sidney Davies, the medical officer of health of Woolwich, has recently furnished a special report to his authority on return cases and fever hospitals as a source of infection, based on a number of cases of scarlet fever and diphtheria apparently attributable to infection brought back from hospital. From December 21st, 1904, to June 21st, 1905, there were 11 return cases of scarlet fever believed to be due to 9 infecting cases returned from hospital, and 6 cases of diphtheria from 5 infecting cases. The report discusses these cases in detail, and then proposes various remedies. In the first place, Dr. Davies considers that there should be much more intimate co-operation between the medical superintendents of the hospitals of the Metropolitan Asylums Board and the medical officers of health of the metropolitan boroughs, and he suggests some minor ways in which this could be obtained. But as a matter of fact his suggestions are being carried out in some considerable degree, and the medical superintendents do assist the medical officers of health in the very directions he proposes. Secondly, he considers that there is a lack of small isolation wards, and of sufficient skilled assistance. Thirdly, he emphasizes the need for a shortened detention of scarlet fever cases in hospital. Fourthly, he advocates a further development of bacteriological diagnosis, and recommends that no diphtheria patient should be discharged from hospital until two consecutive examinations of the faeces have proved negative. This practice has frequently been recommended, and in some hospitals, such as the Eastern, is, we understand, adopted. Lastly, the discontinuance of the hot bath at the time of discharge is advised. There are few persons who would not agree with most of what Dr. Davies suggests, although it may be submitted that his return cases are far too few to indicate any widespread danger, or need for drastic reform.

INFANT MILK DÉPÔT IN LEEDS.

The Leeds City Council has recently been exercised as to the establishment of an infant milk dépôt. Counsel's opinion was obtained, and was to the effect that the Corporation did not possess powers to carry out the project. It has therefore been proposed that the depôt should be started on a voluntary basis without rate aid, and the Lord Mayor has given £200 towards the £500 needed. Mr. Hawkyard, the Chairman of the Sanitary Committee, has issued an appeal for further subscriptions, and has furnished various statistics as to infant death-rates and their reduction. Infant milk dépôts worked by voluntary health societies are already in existence at York and in Finsbury, the latter being under medical supervision.

VACANT POOR-LAW MEDICAL APPOINTMENTS.

E. H. writes, saying that he has just purchased an old-established country practice, in which his predecessors have held two Poor-law appointments for forty or fifty years past. Our correspondent is now a candidate for these two appointments, but he understands that he will be opposed by a new-comer who has lately established a surgery (without residence) in the parish where he (E. H.) resides. He asks whether there is any ruling or law which makes it incumbent on the guardians to confer one of these appointments on each applicant, or whether they can give both to either of them if they should wish to do so.

*** As our correspondent is the only actual resident in the district which constitutes one of the appointments in question he would, as a matter of course, be elected to that vacancy, unless for some very special reason to the contrary; and as there is no medical resident in the other district (having a surgery there does not for this purpose constitute residence) we know of no rule or regulation which would prevent the guardians from bestowing both appointments on him, as was formerly done on his predecessor, if they think fit.

Bequests to Medical Charities.—Mr. John Earle Welby, of Allington Hall, Grantham, whose will has now been proved, bequeathed £100 each to the Grantham Hospital and the Newark Hospital and Dispensary. The late Mr. Thomas Wilson, of Oakholm, Sheffield, whose will has now been proved, bequeathed £2 000 to the Royal Hospital, Sheffield, and £1 000 each to the Sheffield Infirmary, the Jessop Hospital for Women, and the University College, Sheffield. The late Sir Peter Nicol Russell, of Porchester Gate, formerly of Sydney, New South Wales, who died on July 10th, directed by his will that, subject to the life-interest of his wife, £3,000 should be paid to the Prince Alfred Hospital at Sydney, and £1,000 to the Hospital for Sick Children in the same city.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 2, Agar Street, Strand, W.C., London; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone, unless the contrary be stated.*

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Manager, 429, Strand, W.C., on receipt of proof.

CORRESPONDENTS who wish a notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not to his private house.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London.* The telegraphic address of the MANAGER of the BRITISH MEDICAL JOURNAL is *Articulate, London.*

TELEPHONE: National:—
EDITOR, 2631. Gerrard. GENERAL SECRETARY AND MANAGER, 2630. Gerrard.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

ENGINEER writes: Can any reader tell me if there is a reliable tri-car on the market suitable for a country practice in a very hilly district, often 1 in 7 gradient, and where anything but a 8-10 h.p. car fails? My idea of a tri-car is that it is cheaper than a car, both initially and in upkeep, is more manageable and takes up less room. Anything under 5 h.p. would be unsuitable.

C. J. W. writes: A patient of mine, a young married woman, is suffering from membranous colitis. Tubular casts 6 in. or more in length are frequently passed, and on each occasion this is preceded by a feeling of abdominal distension and *malaise*. I shall be obliged if any correspondent will give the information as to the probable cause and prognosis, and suggestions as to treatment. There is a history of pelvic peritonitis before marriage, possibly of gonorrhoeal origin.

DR. MAJOR STYLE (Moreton-in-Marsh) writes: I should be grateful for any information as to how and where I could get a child aged 5 into an institution where they take cases of ringworm. She has ringworm of the scalp, and has had it for twelve weeks or more; owing to the inability to carry out treatment properly at home, it makes no progress. She is of poor parentage, but has friends who could pay about 5s. a week.

CRUISING PLEASURE YACHTS.

CRUISER writes: Medical men are frequently consulted as to the most suitable cruises to take for health or pleasure and the most satisfactory boat to sail in. Can any reader give a list of the chief British steam yachts cruising for pleasure at the present time and their age and seaworthiness? One can ascertain all other necessary particulars from the owners, but it is very important to know the career of a boat which may have been converted into a cruising steam yacht.

ANSWERS.

DR. S. WESLEY WILSON.—We should advise our correspondent to take no notice of the application.

POST-GRADUATE COURSES.

D.G.H.—The three clinics mentioned are each of them excellent, but very crowded with students. "D.G.H." would probably find that of Professor Pawlik, at Prague, or that of Professor Jauffer, at Buda-Pesth, answer his purpose better.

PHLEGMASIA ALBA.

P.—The occurrence of "white leg" after one confinement does not predispose to its recurrence after a subsequent labour. There is no treatment by which the element of death present in the blood can be counteracted. The classical monograph on phlegmasia alba dolens is by Charles White of Manchester. The last edition of which was published in 1784. Little of importance has been added to our knowledge of it since. The most excellent [illegible] is the article by Matthews Duncan, revised by Gervis, in Quain's *Dictionary of Medicine*.

[illegible] OF CORONA GLANDIS.

DR. T. F. HUGH SMITH [illegible] writes: In answer to the query of "A. S. D." in the BRITISH MEDICAL JOURNAL of July 29th, I wish to state that a case similar to that described came under my notice. An injected pad on the upper surface of the corona, accompanied by much [illegible] towards the end of the day. It [illegible] more than temporary [illegible] in moderately hard work, [illegible] in two weeks' holiday. Without any change in the local treatment the condition steadily improved, was well in a week, and has not recurred.

E. H. writes: "A. S. D." would best treat his patient by circumcision. If this will not be submitted to, [illegible] of carbolic acid or silver nitrate should be adopted, after application of cocaine hydrochlorate [illegible] per cent. If pain continue, this solution would be useful, on flot, until healing is completed.

LETTERS, NOTES, ETC.

[illegible] OF PERNICIOUS ANAEMIA

DR. W. J. [illegible] writes: I have great pleasure in bringing to your notice a method recommended by [illegible] in the treatment of pernicious anaemia. I tried it in a case of pernicious anaemia; little time since I [illegible] with most gratifying results, which have been repeated in [illegible] cases. In one case I used pure fresh blood alternately with haemoglobin; in the other haemoglobin alone: these were rubbed in in association with an oil and vasogen, the friction kept up until the skin was quite dry and the substance rubbed in. I have not leisure at present to give a complete history of the cases. I must leave that for another time. I simply mention the matter now so that it may be put before your readers, in the hope that it may receive a larger trial than I can give it.

THE DUNCAN FUND.

DR HUGH RITCHIE (257, Shankill Road, Belfast), Treasurer of this fund, writes: Dr Duncan of this city died on July 11th, 1905, leaving his widow in necessitous circumstances. She has five children, none of whom are wage earners. An effort is being made amongst his neighbours to collect as much as will tide the widow over her present difficulties. Would you be so good as to acknowledge the following subscriptions? Further contributions, if sent to me, will be gratefully acknowledged, directly and in the JOURNAL.

	£	s.	d.		£	s.	d.
Dr. John Campbell	2	2	0	Miss M. McCullough ...	0	10	0
Dr. Robert Campbell ...	1	1	0	Miss E. McCullough ...	0	10	0
Dr John Tompson	1	1	0	Dr. Simpson	0	10	6
Dr. R. Tompson	1	1	0	Dr. Leatham	0	10	6
Dr. J. Colville	1	1	0	Dr. Ferran	0	10	6
Dr. J. R. Davison	1	1	0	Dr McQuitty	0	10	6
Dr. Alex. Dempsey	1	1	0	Dr William Wadsworth ...	0	10	6
Dr. T. S. Hogg	1	1	0	Dr. M. Aicken	0	10	0
Dr. D. Kirkhope	1	1	0	Dr. Adair	0	10	0
Dr. Jas Fulton	1	1	0	Dr. Coates	0	10	0
Dr. Cecil Shaw	1	1	0	Dr. King Kerr	0	10	0
Dr. E. A. Kirkwood ...	1	1	0	Dr. D. Wilson	0	10	0
Dr. R. C. McCullough ...	1	1	0	Dr. James Taylor	0	10	0
Dr. H. McKisack	1	1	0	Dr. J. W. Taylor	0	10	0
Dr. Hugh Ritchie	1	1	0	Dr. Henry O'Neill	0	10	0
Dr. John Kennedy	1	1	0	Dr. Kevin	0	10	0
Dr. Wm Killen	1	0	0	Dr. William Gibson	0	10	0
Dr. J. Walton Browne ...	1	0	0	Dr. A. H. McMurtry ...	0	5	0
Dr. Richard Purdon ...	1	0	0	Dr. Carroll	0	5	0
Dr. S. B. Smyth	1	0	0	Dr. McDonnell	0	5	0
Dr. James Moore	0	10	6	Dr. Fielden	0	5	0
Miss McCullough	0	10	0	Dr. Dunn	0	5	0

STERILIZATION OF CERTAIN DEGENERATES.

DR. F. H. CRADDOCK, Medical Superintendent to the Gloucester County Asylum, in his annual report, lately issued, refers to this subject as follows: "On December 13th last it was my great privilege to attend a meeting of the Medico Legal Society in London to listen to a deeply-instructive address by a well-known Liverpool physician, in which he strongly urged the sterilization of all degenerates, including not only those certifiably insane, but habitual criminals, confirmed epileptics, inebriates, and several other classes of undesirables who were included under the general heading of 'degenerates.' The importance and urgency of the question were evidenced by the audience, which included representatives of the Home Office, the London County Council, as well as various prison and asylum officials. The reader of the address asserted as a result of carefully-collated statistics that the proportion of mental degenerates was 1 in 50 and of the physically diseased and undeveloped 1 in 5 of the total population; and further, that the cost of maintenance of such mentally and physically diseased persons reached the appalling amount of £45,000,000 per annum. Naturally the narration of such startling facts and the account of the proposed remedy initiated considerable discussion, but, in the words of a well-known member of the London County Council, it was generally agreed that 'one day we shall come to the conclusion that some physical means should be employed to prevent the unfit from producing children.' May I add that the sooner that day arrives the better for the welfare of the nation. To the heroic remedy proposed above I confess I see but one alternative, namely, the life-long segregation of such degenerates. It is hardly likely, I fear, that public opinion is sufficiently advanced to allow Dr Rentoul's remedy to be carried into effect yet, though it is abundantly clear that nothing will have any permanent effect in the desired direction than a measure (whatever it may be) which will render the reproduction of their species by the insane a physical impossibility."

STRYCHNINE—STROPHANTHUS.

CAVE thinks it well to give a warning as to these two drugs. In addition to the ordinary rules for safety as to strychnine, he believes the two should never lie on the same shelf or in the same drawer or cabinet, as on two occasions he very nearly used the strychnine instead of the other. A label for each, written by the same hand, presents little difference.

TREATMENT OF CHOLELITHIASIS.

DR. ARMSTRONG TODD (Monkstown, co Dublin) writes: Apropos of Dr Bain's experiments on the treatment of cholelithiasis, I have had four cases that were very much benefited by acetozone (Parke, Davis, and Co.), which I administered to them on the supposition that the symptoms had their origin in the septic condition of the contents of the gall bladder. I intend giving the drug a further trial.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

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An average line contains six words.

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N.B.—It is against the rules of the Post Office to receive letters as *Poste Restantes* addressed either in initials or numbers.

An Address

ON

ABDOMINAL SURGERY DURING THE LAST TWENTY-FIVE YEARS.

Delivered at the Stoke meeting of the Staffordshire Branch of the British Medical Association.

By G. STOKES HATTON, M.D., F.R.C.S., etc.,

Senior Surgeon North-Staffordshire Infirmary.

[After a few introductory remarks, the President proceeded:]

I have thought of many subjects, but inasmuch as I recognize the fact that I occupy my position more in virtue of my office as Surgeon to the North Staffordshire Infirmary than to any merit of my own, it is natural that I should refer to the work of that institution to furnish me with some material upon which to address you. I shall confine my remarks chiefly to the results of abdominal surgery during the past twenty-five years.

This period takes us back to the days when surgeons were enthusiastic over antiseptic surgery. A complete revolution had taken place in general surgery owing to the discovery of Professor Lister a few years previously that putrefaction in wounds was caused by micro-organisms. So firm was the belief in Listerism that its principles were as rigidly applied to abdominal as to other branches of surgery. Although it is a fact that the methods introduced by Lister have been very considerably modified, and for many years past surgeons have more and more come to rely upon asepticism to prevent sepsis in wounds, nevertheless, had Lister never formulated the germ theory the necessity of adopting aseptic methods would never have been realized. It is the custom to speak of antiseptic surgery and aseptic surgery as though the two principles were antagonistic. This is by no means correct, for although it must be acknowledged that the use of antiseptics as prescribed by Lister is not only in many cases useless but often harmful, nevertheless I do not think the most advanced aseptic surgeon of the present day could do without antiseptics—in fact, the very principles of aseptic surgery demand their use.

Pre-Listerian Treatment of Abdominal Wounds.

Before discussing the effect of antiseptic surgery of the abdomen it will be interesting to consider the methods of treating abdominal wounds before the introduction of Listerism. I have endeavoured to discover to what extent antiseptics had previously been used in the treatment of wounds, and I find in a book written in 1680 the following directions for treating a wound:

> You ought not to close the lips of the wound nor to endeavour conglutination till all foreign matters or whatsoever hurts the wound is taken away, for otherwise after a time it will break out again. Coagulated blood ought to be squeezed out or washt out by a syring with generous wine or wiped away with a spunge, according as the form of the wound will permit—for so as there will be less matter, so will there be fewer symptoms. Hairs, sand, or other filth are to be removed and washt away with warm wine mixed with spirit of wine.

In this same book the following rules are laid down for the treatment of wounds of the peritoneum:—

> If the caul comes forth, and by reason of the cold air, it becomes black, livid or hard, bind it near the sound part; cut it off, letting the rest fall of itself, leaving the thread out: but if it be not altered, but is warm, thrust it in and stitch up the wound thus: First thrusting a needle through the skin and muscles to the peritoneum, but not touching of it, then from within outwards pass through all and tye it; make another stitch an inch farther, leaving an orifice to put in a tent.

Then, again, for wounds of the guts I find the following directions: The wound is to be stitched with the Glover's stitch, and then to be cleansed with warm wine. The wound is then to be stitched, leaving an orifice for a tent or pipe, and then you are directed to foment the parts around with spirits of wine. This surgeon, more than 200 years ago, almost anticipated the antiseptic treatment, for not only did he direct that the wound should be thoroughly cleansed, but he cleansed the surrounding area with spirits of wine and put in a tube to establish free drainage. It is interesting to see how much they respected the peritoneum in those days. As you will note, the suture is to include the whole of the tissues except the peritoneum. Among the various applications for dressing wounds, I find corrosive sublimate and turpentine had a place. It is evident, therefore, that antiseptics were in use more than 200 years ago. It is quite clear, also, that surgeons realized then, or, at all events, shortly after, that gangrene was the result of infection, as I find in the Boyle Lectures, delivered in 1712, the following quotation from a letter written by Dr. Tancred Robinson, who is described by the lecturer as "a curious and ingenious physician." This is what he says:

> Now I have mentioned some uses of the air, in carrying on several functions in animal bodies; I may add the share it hath in all the digestions of the solid and fluid parts. For when this system of air comes, by Divine permittance, to be corrupted with poisonous acrimonious steams, either from the earth, from merchandise, or infected bodies, what havock is made in all the operations of living creatures: The parts gangrene and mortify under carbuncles and other tokens; indeed, the whole animal oeconomy is ruined, of such importance is the air to all the parts of it.

The Dawn of Antisepsis.

I had the good fortune to commence my medical studies when the principles of antiseptic surgery were becoming pretty well recognized but not universally adopted. The opportunity was afforded me of seeing the old and new treatment of wounds carried on side by side in the same ward. I well remember hearing one of the surgeons of St. Thomas's give a short clinic on antiseptic surgery or perhaps it would be more correct to say against antiseptic surgery. He contended that if an operation wound were kept perfectly dry it would unite without suppuration. The first case in the ward was a hernia he had operated upon a few days previously, and he proceeded to dress it. Before removing the piece of dry lint he said: "Now, gentlemen, I will remove this lint and you will see." I will leave you to conjecture what he expected to be able to say, but what he did say was: "Nothing but healthy and laudable pus."

And this is a fair example of the surgery of that day under the old methods of treating wounds. This case did well, except for a small amount of suppuration; but so long as the pus was what they were pleased to call "healthy and laudable," the surgeon was satisfied. I must confess that this surgeon's cases did fairly well, but then he was a particularly clean surgeon and a most careful operator.

Now, on the other side of the ward, the principles of antiseptic surgery were rigidly adhered to, and it was soon apparent that the results were far superior to those obtained by the old method.

Three years afterwards I was resident dresser at the Newcastle-on-Tyne Infirmary, and here I found the antiseptic methods universally adopted. The only difference was that they attached more importance to irrigation and free drainage, and I think, on the whole, the results were better, except that we occasionally had cases of carbolic acid poisoning. There was one point, however, which struck me very forcibly. This was that, although the mortality in such operations as amputations and excisions of breast was exceedingly small, that after abdominal section was not materially altered. This fact was fully recognized, and, although these operations were done in a separate ward, and only a few senior students were admitted, in order to prevent infection being conveyed to the patient, nevertheless, the mortality did not diminish.

Abdominal Surgery in the North Staffordshire Infirmary.

My connexion with the North Staffordshire Infirmary commenced in 1881. The principles of Listerism were at this time fully recognized and rigidly carried out. The results in ordinary surgical operations were very good, but, with regard to abdominal sections, the same condition of things prevailed as at St. Thomas's and Newcastle-on-Tyne, and the mortality after ovariotomies was between 30 and 40 per cent., many dying from peritonitis, and others, I fear, directly or indirectly, from carbolic acid poisoning. These results were, however, I believe, quite as good as those obtained at other hospitals.

There were three surgeons at that time—Mr. Folker, the late Mr. Alcock, and Mr. Spanton—and they were fully impressed with the idea that the carbolic spray was the cause of this high mortality. An attempt was made to use less irritating antiseptics—eucalyptus, sanitas, boro-glyceride, were all tried. From this date forward our results after abdominal section distinctly improved, and it will be my endeavour to follow out these results, and to see what information we can gain from them.

In order to analyse the abdominal sections performed during the past twenty-five years, I have compiled two tables. The first gives the statistics from year to year, taken from the

annual report of the infirmary, the second gives statistics for the same time, divided into five periods of five years each (see p. 374). I think the latter will prove the more useful for comparison, as, by taking the longer period, you eliminate to some extent the effects produced upon the mortality by the accidental introduction of isolated cases presenting peculiar characteristics. These statistics should show, first, the results of antiseptic surgery as applied to the abdomen, and, secondly, they should enable us to ascertain to what extent our results have improved by the abolition of antiseptic and the gradual adoption of aseptic principles.

Ovariotomy and Hysterectomy.

If we commence with the abdominal sections performed for ovariotomy, removal of appendages, and hysterectomies (abdominal and vaginal), and ectopic gestation, we find that during the first period (from 1879 to 1884) we have 34 operations recorded, with 13 deaths.

For the second period (from 1884 to 1889), 32 operations, with 3 deaths.

1889 to 1894, 57 operations, with 3 deaths.

1894 to 1899, 82 operations, with 10 deaths; and in the last 5 years, 140 operations, with 7 deaths; so that the mortality works out for each period respectively 38 2 per cent., 9.4 per cent., 5.2 per cent., 12.1 per cent., and the last five years exactly 5 per cent.

The reduction of the mortality from 38.2 per cent. in the first period to 9.4 per cent. in the second is highly satisfactory.

Causes of Reduced Mortality.

Knowing that the spray had been abolished, I was prepared to find a decided improvement during this period, but I was surprised to find that the mortality had been reduced to about a quarter of what it had previously been. I think it was accounted for, to a very great extent, in other ways. The operations were performed in the Victoria Wards, where the sanitary arrangements were perfect, instead of in the old Children's Ward, where the condition of the drains was not above suspicion. I think, too, more care was exercised over the preparation of the marine sponges.

Another cause, and perhaps a more important one, was the discontinuance of the use of irritating antiseptics for sponging and irrigating the abdominal contents. I am quite sure that the use of irritating chemicals to the intestines was a frequent source of peritonitis. I do not contend that an irritant alone can set up peritonitis, without the aid of micro-organisms, but I do believe that an irritant can set up a temporary paralysis of the gut, and encourage the egress of the colon bacilli through its walls. The destruction of some of the cells of the peritoneal surface of the gut must surely destroy its protecting power. A mortality of over 9 per cent. seems to us, in the present day, a very high one. That it should have fallen in the third period to 5 per cent. was most satisfactory, but why it should have gone up in the next period of five years to 12 per cent. is a problem somewhat difficult to solve. A possible explanation is that our sanitary arrangements were not in a satisfactory condition; but, be that as it may, a new system of drainage was adopted, and in the last period of five years, that is, from 1899 to 1904, our mortality was reduced again to exactly 5 per cent., and in the last year of this period ending in October, 1904, these operations numbered 51, with only 1 death. There were 19 ovariotomies, 12 cases of removal of appendages, 3 vaginal hysterectomies, and 14 ectopic gestations, without a death, and three abdominal hysterectomies, with 1 death.

If we look more closely into the abdominal sections of the last five years we find recorded 60 ovariotomies, with 2 deaths. 37 cases of removal of appendages, with 2 deaths. 11 abdominal hysterectomies with 2 deaths, and 13 vaginal hysterectomies, with 1 death, and 19 cases of ectopic gestation, without a death. I would call attention to the fact that of the 19 cases under the last heading 14 are recorded in the last year, but many of these would have been classified a few years ago as haematomata. During the twenty-five years Cæsarean section has been performed five times with two recoveries. This result is not as good as we could wish, the cause of which I shall endeavour to explain later on.

Removal of Spleen.

The next operation classified is removal of the spleen, which has been performed three times with one recovery. This patient was operated upon by Mr. Spanton ten years ago, and is still, I believe, alive and well.

Colotomy and Enterotomy.

The results of colotomy and enterotomy give little information of any value, as they are done under such varying circumstances—sometimes to provide an artificial anus, and sometimes, in extreme distension from obstruction, merely as an expediency and for the relief of suffering.

Intestinal Obstruction and Intussusception.

Under the next two items—obstruction of the bowels and intussusception—we have 35 operations recorded, with 23 deaths—a mortality of nearly 63 per cent. This I regard as an unsatisfactory result, to which I shall allude later.

Gastrojejunostomy.

The next operation I would call your attention to is that of gastrojejunostomy. The first case operated upon was in 1891 and the second in 1895, but both cases proved fatal. During the last five years, out of nine cases seven recovered. This result, although satisfactory considering the emaciated condition of most of the patients, might be considerably improved upon if cases were operated upon earlier. During the past two years I have operated on four cases in the infirmary. One patient died from shock, two were reported in good health some months afterwards, and the fourth, a woman advanced in years, in whom the growth appeared to be a typical scirrhus (except that the history of gastric trouble dated several years back), is still alive and in fair health, although it is more than twelve months since I operated. From my experience of these cases I should say that most strictures of the pylorus arise from ulceration, and they may, and most of them probably do, become malignant in time but are at first innocent; and therefore I am decidedly of opinion that operation is called for while the patient is in good condition, when the mortality would probably be reduced to as low as 5 or 6 per cent., and in most cases the cure would be permanent. I look forward in the future to a great development in this branch of surgery. According to these statistics, enterectomy was first performed in 1892, and since then eight times only making nine operations with two deaths. I am somewhat surprised at the small number of cases recorded under this heading, but in all probability some cases of enterectomy have been classed as intestinal obstruction or strangulated hernia. The number of cases will no doubt increase as abdominal surgery advances, and the mortality will doubtless be considerably reduced.

Tuberculous Peritonitis.

The abdomen has been opened for tuberculous peritonitis 24 times—at first, probably as the result of a mistaken diagnosis, but subsequently with the object of effecting a permanent cure. Of the first 3 cases done in 1890, 2 died, but since then only 1 case has been lost out of 21, a mortality of less than 5 per cent. That the operation does frequently benefit the patient, and occasionally effects a cure, is within the knowledge of most surgeons, but in what way the result has been brought about no one has yet been able to offer a satisfactory explanation.

Gastric Ulcer.

Under the heading gastric ulcer, you will, no doubt, be surprised that only 3 cases have undergone operation, and of these 1 recovered. This operation I must class under those which have not been altogether satisfactory, and which I will reserve for further comment.

Appendicitis.

We now come to the operation for appendicitis, and I must draw your attention to the fact that those cases operated on in the acute stage are classed under appendicitis, and those in the quiescent stage under appendicectomy.

The first operation for appendicitis was performed in 1891 but to October, 1894, only 4 cases were operated upon, with death; from 1894 to 1899 there were 27 cases, with 6 deaths and from 1899 to October, 1904, 55 cases, with 15 deaths.

The subject of appendicitis has, perhaps, in recent year created a wider interest in the medical, if not in the lay mind than any other disease. It appeared to spring int existence without any definite cause. We had occasionall met with inflammatory conditions in the region of th appendix, which we had designated typhlitis or perityphliti abscess, but these conditions were somewhat rare. No operation was performed unless an abscess had formed an fluctuated, when it was opened, and the condition of th appendix was not ascertained. In my student days it wa

the custom to make a necropsy on all cases that died in hospital, and therefore it is impossible to believe that appendicitis could have existed to any great extent without being recognized. And here let me say that, although the term "typhlitis" has given way to the more popular one of appendicitis, I am by no means sure that all inflammatory conditions of the region of the appendix are caused by inflammation of that organ. Among many old books in my possession, I can only find one case recorded which has any resemblance to an appendix abcess. It occurs in the Boyle Lectures, delivered in 1712, and is given as follows:—

Like to which is the Story of Jos. Lazonius of a soldier of thirty-five Years of Age, who had a Swelling in his right Hip, accompany'd with great Pain, &c. By the Use of emollient Medicines, having ripened the Sore, the Surgeon intended the next Day to have opened it: but about Midnight the Patient, having great Provocation to Stool, disburthen'd himself three Times; immediately upon which both the Tumour and Pain ceased, and thereby disappointed the Surgeon's Intentions.

It was at one time thought by the public that the appendix served as a trap for catching seeds, apple pips, and even plum stones; but, although, no doubt, any large quantity of unabsorbable material lodging in the caecum can set up an intestinal catarrh, which may extend to the appendix, causing appendicitis, it is impossible to believe that anything but the minutest particles can enter the lumen of the appendix and cause by its presence an attack of appendicitis. It is rare, at an operation, to find anything in the appendix but a faecal concretion. I once found in an acute case, in a baby, a few hairs from a badger's-hair toothbrush, but such a case must be regarded as a pathological curiosity.

Appendicitis and Influenza.

I will not endeavour to explain what is the cause of appendicitis, or why it has become so common during the last few years; but it seems a strange coincidence that influenza, which has such a tendency to affect adenoid tissue, should have made its appearance just before adenoid growths in the nasopharynx became so common and the appendix, which contains so much adenoid tissue, began to assert itself. The inference is that influenza may, either directly or indirectly, be responsible for both adenoids and appendicitis. In what manner influenza can, if it does, cause appendicitis one can only conjecture. It may be that some new microbe has been enabled to flourish in the appendix, or more probably the influenza microbe effected such changes in the appendix that the colon bacillus is enabled to more easily traverse its walls and gain access to the peritoneal cavity.

Results of Operation.

Whatever may be the cause of appendicitis, it is clear from these statistics that the disease is on the increase. As a matter of fact the number of acute cases operated upon has doubled during the past five years, in spite of the fact that 37 cases have been submitted to operation during the quiescent period. The mortality since the operation was first performed has been about 25 per cent., and it has not varied during this time to any great extent. I omit, of course, the "interval cases," where the mortality has been nil. It must not be supposed because the mortality has not diminished that our results are therefore not improving. Our results are infinitely better than they were a few years ago, and the reason that the same percentage die is accounted for by the fact that whereas at first it was customary to regard all cases of the fulminating type, or when general peritonitis had developed as necessarily fatal and inoperable, it is now the custom, and has been for many years, to operate on all cases, however desperate, where the evidence of suppuration is clear. If we deducted from our statistics all those acute cases dying within two or three days, which would probably have been left alone ten years ago, our mortality would then be reduced to about 10 or 15 per cent. Although these results are not so good as those obtained in private practice, they are, I think, highly satisfactory considering the fact that many have to be conveyed a distance of several miles to get to the infirmary, when not only do they arrive in a collapsed condition, but the pus must in many cases become dispersed through the abdominal cavity through the jolting which they undergo. We must also take into consideration the delay which must necessarily occur in getting a recommendation and in making arrangements for the patient's removal.

Appendicectomy.

It is the custom of many surgeons to advise appendicectomy in the quiet stage, that is to say some time after an attack; but from my own experience I should say that the most favourable time is immediately after an attack. The adhesions then are fairly easily separated, and these cases have, in my experience, always done well. That the mortality after operation in the acute stage should be 25 per cent., and for appendicectomy, after the acute symptoms have subsided, practically nil, is somewhat astonishing. Surgeons who have operated under the latter conditions can appreciate the difficulties which may occasionally be encountered. I have occasionally come across a small collection of pus, and one frequently finds small concretions outside the appendix. In one case I found quite a nest of concretions lying loose in the pelvis. Why operating on such a case is practically free from risk I will reserve for consideration presently.

Pelvic Abscess.

Under the heading of pelvic abscess are recorded 17 cases, with 2 deaths. Some of these would have their origin in a pyosalpinx and others in appendicitis, which would tend to lower the mortality in this operation to some extent.

Cholecystotomy.

Under the heading of cholecystotomy we have 13 cases, with 1 death. I presume that most of these cases were for the removal of gall stones. Considering the number of gall-stone cases one sees in private practice, one can only express surprise at the small number of cases recorded under this heading. I should certainly have thought that more than nine cases had been operated upon within the last five years, although I know that before that time medical men in the district seldom advised operation for gall stone. Some two or three years ago, at a Stoke meeting, I showed a large number of gall stones, and called attention to the fact that although in the well-to-do patients of the district gall stones were very common, they were either rare among the poorer classes or else medical men were content to treat them medically. Whether on account of these remarks or not I do not know, but certainly we have had more cases sent to the infirmary the last year or two, and probably the number will continue to increase. There has only been 1 death out of 13 cases—a mortality of a little over 8 per cent.—a highly satisfactory result considering the fact that all these cases were of long standing, and most of them complicated. If the stones are lying loose in the gall bladder the operation is a simple one and one of the most satisfactory in surgery, but if there are large stones impacted in the ducts, with intense jaundice, the operation is not only difficult but dangerous, and the ultimate results are by no means satisfactory. Not only are the cases we meet with at the infirmary of long standing, but sometimes the calculi are very numerous. Two years ago the house-surgeon recorded in the *Lancet* a case where I removed 449 gall stones from one patient, and two small ones worked out of the duct afterwards. This, I believe, is a record case. The patient made a good recovery.

Healthy bile has been examined several times and has been proved on each occasion to be sterile: but when the gall bladder is inflamed micro-organisms readily develop, and are capable of setting up peritonitis. Gall stones should therefore be removed early before inflammatory conditions supervene, when the mortality would be very small.

It would appear that cholecystotomy has only been performed on one occasion, and that with a fatal result, which is a further argument for early operation at a time when the bile is sterile.

Unclassified Operations.

I have now to allude to those cases of abdominal section performed within the past twenty-five years, which are not classified under any of the above titles. It is interesting to note that during the first period of five years there were only three such operations, and these were probably cases that proved to be malignant, and the abdomen was closed without anything having been done.

During the next five years the abdomen was not opened a single time, except for the performance of some definite operation. These periods represent the time when the mortality from abdominal sections of various kinds was over 10 per cent., and therefore an abdominal section merely for exploration was not considered sufficiently safe to be justifiable.

In the next five years, 1889 to 1894, there were 15 cases, with 4 deaths: from 1894 to 1899 20 cases, without a death; and in the last five years 109 cases, with 37 deaths. As there is nothing in the reports to show what these operations were done for, these statistics do not bear much significance. The rapid increase, however, of the number of such operations during the last fifteen years is sufficient to indicate that the fear of opening the abdominal cavity no longer exists. This fear,

in fact, disappeared entirely as soon as the principles of aseptic surgery were firmly established. One hundred and nine unclassified cases of abdominal section in five years, with 37 deaths, needs some explanation. Most of these operations were, I suppose, exploratory, and the number of fatal cases is accounted for by the moribund condition of many of the patients. When besought by the patient to attempt operation, it is difficult to deny him that which may give a slight chance of cure, and which, at all events, cannot shorten life to any appreciable extent. These operations, however, do not reflect much credit upon surgery, and when the patient is in a sinking condition, I doubt very much if we are right in acceding to his wishes. It may be argued that it can do no harm to make a small opening to explore, but, on the other hand, death is often attributed to the operation, with the result that the friends and relatives are deterred from consenting to operation in their own cases on some future occasion, when such may be not only advisable, but absolutely necessary to save life. All cases of malignant disease of bowel, uterus, and ovaries should be operated upon at an early stage, or not at all. As the mortality is reduced by excluding some of the more advanced cases, patients will the more readily submit to operation as soon as the symptoms of the disease assert themselves. Many patients put off an operation when it could be performed with tolerable safety, and some time after, when it is absolutely hopeless, implore you to do it. I think, for the sake of others, it is our duty in these cases to explain to patient and friends that the time for operation has passed. If we adopted this principle, I am sure the mortality for exploratory operations would diminish, as also the mortality in many diseases, from the patient's consenting to operation earlier.

Herniotomy.

In analysing the results of our abdominal sections for the past twenty-five years, I thought it would be interesting therewith to inquire into the results of our herniotomies for the same period. I have therefore included them in these statistics. The general condition with regard to the observance of antiseptic or aseptic principles is practically the same in both cases. During the first period of five years, 24 cases of strangulated hernia were operated upon, with 7 deaths; and the next five years 20 cases are recorded, without a death. Although the latter period corresponds to that in which the mortality fell so rapidly, it is rather remarkable that there should be no death in five years.

During the past five years, the mortality for strangulated inguinal and femoral hernia has been 14 per cent., and for the radical cure of the same slightly over 1 per cent. Strangulated umbilical hernia is still a very fatal condition, but the mortality for the radical cure of umbilical hernia has, during the past ten years, been reduced to nearly 4 per cent. Nothing could be more convincing than these statistics to prove that the operation for femoral and inguinal hernia is practically free from risk, if performed on fairly young and healthy individuals. The patient does not die from the operation for strangulated hernia, but from the septic condition existing before the operation. I have often heard house-surgeons who have just come from a London or large provincial hospital express surprise at the marvellous way in which our wounds heal. Our amputations, excisions, and radical cures almost invariably unite by first intention. These tables of abdominal operations prove that our results in abdominal surgery are also, on the whole, surprisingly good. If you refer to the year ending in October last, you will find recorded 19 ovariotomies, 3 vaginal hysterectomies, 7 ventral fixations, 14 ectopic gestations, and 12 cases of removal of ovaries or tubes, without a death.

If, however, we refer to the statistics for emergency cases, our results are by no means good, and this, I contend, is due to the delay which occurs in conveying the patient from a distance, so that the cases become septic before their arrival. It is one thing to prevent sepsis, but it is quite another to deal with an existing septic condition.

Importance of Early Operations.

Our infirmary is, as you all know, in a healthy situation, probably as healthy as any hospital in the kingdom. Our sanitary arrangements are up to date, and the Committee, although our funds are in low water, is always willing to provide what is necessary for the treatment of patients. It is, no doubt, on account of these advantages that the majority of our cases do so well. But the district is a scattered one, and our infirmary is not in a very central position, so that there is delay in conveying urgent cases, and this delay is often increased by the system which, I am afraid, must always prevail in this district, of admitting patients by the recommendation of subscribers.

A short time ago, at one of our meetings, one of my surgical colleagues called attention to the fact that all our cases of intestinal obstruction died, most of them arriving at the infirmary too late for surgical relief. Whether as a result of this I cannot say, but lately cases have been admitted much earlier, they have increased in number, and, what is of more importance, we have had several recoveries.

The remarks I have made with regard to early operation upon strangulated hernia apply with equal force to perforated gastric ulcer and enterectomy. All such cases should be operated upon at the earliest possible moment.

A patient requiring Caesarean section or Porro's operation should be placed under observation at the infirmary before labour has commenced. If the woman has been several hours in labour, and, when thoroughly exhausted with repeated attempts to extract the child, is then removed to the infirmary, her chances are poor; but if, on the other hand, the operation be anticipated and the abdomen opened as soon as labour commences, her chances of recovery will be very great. Since writing the above, I have had an opportunity of carrying out this principle on a private patient with a contracted pelvis. Finding there was no chance of a living child being born *per via naturales*, I made immediate arrangements for her removal to our private nursing home, and after consultation with Mr. Spanton performed Porro's operation, which I consider much safer than Caesarean section. The operation was done on June 2nd, and the patient is now convalescent.

In cases of perforated gastric ulcer there should never be a delay of many hours, or the case may become hopeless. I fully realize myself the great difficulty encountered in persuading patients that an immediate operation is necessary, and in making arrangements for prompt removal. The difficulty is often increased by the fact that a neighbour has been operated upon for a similar thing, but alas! too late, and with a fatal result. While fully realizing the difficulties in the way, the more I see of these operations of emergency the more convinced I am of the fact that unless one can operate early it is better not to do so at all. When brought face to face with a case where consent has been given only too late, one is generally persuaded against one's better judgement to give a last chance, and operate, but perhaps it would be better, in the cause of humanity, to decline to do so, so that the results of such cases shall not have a deterring effect upon others.

Dangers in Abdominal Section.

In most abdominal sections the chief dangers we have to contend with are haemorrhage, shock, and septic infection.

In the treatment of collapse from the results of haemorrhage we have no more valuable remedy than the infusion of saline fluids into the veins or subcutaneous tissue, or by its introduction into the peritoneal cavity or rectum. The increase of blood pressure is immediate and lasting. In the treatment of shock saline solution is of much value, but its action, although rapid, is transient. It is possible, however, to repeat the operation several times. The absorption is rapid, and the peritoneal cavity can be kept constantly filled with the fluid. Mummery says, speaking of intravenous injection: "Its value is limited in shock by the fact that it does not combat the cause of the fall in blood pressure which is the loss of peripheral resistance in the circulation." If too much fluid is introduced into the circulation at one time there is a danger of its escaping into the tissues and causing oedema of the lungs and other organs. Therefore, although the use of saline fluids may be regarded as the most valuable remedy yet introduced for collapse following great loss of blood, yet in the case of shock from paralysis of the vasomotor centre its value is somewhat limited until we can find some drug which will overcome the loss of peripheral resistance in the blood vessels. It is possible that adrenalin or ergot introduced into the circulation with the saline fluid may become a recognized mode of treatment. Strychnine, injected subcutaneously in large doses, has been much relied upon by many surgeons for the prevention and treatment of shock. Mummery, in his Hunterian Lectures, not only condemns strychnine as likely to increase shock, but also brandy and other stimulants for the same reason. He thinks, however, that strychnine, administered in small doses before the operation, may be the means of preventing shock. My own opinion is that many patients suffer from shock from being kept too long without food before an operation, and it is possible too free purgation

may in some cases add to the shock. Too much importance cannot be attached to keeping the patient warm during an operation, and frequent flushing of the abdominal cavity with hot saline fluid is a valuable means of preventing shock. Whether this flushing should be done when sepsis is present is a much disputed point. Some argue that it encourages phagocytosis and strengthens the power of the peritoneum to combat the infection, while others consider that it has a tendency to disseminate the septic material over the abdominal cavity. With the latter view I entirely concur.

Asepsis.

Although the principles of aseptic surgery are now generally recognized, the methods of carrying them out differ widely at different hospitals. The preparation of the patient's skin is generally left in the hands of the house-surgeon, whose principles vary somewhat, according to the hospital at which he has received his training, but in all cases some antiseptic is applied the night before the operation, after a good scrubbing with soap and water and cleansing the skin with ether or spirit. The instruments are sterilized by heat, as also are the artificial sponges and the towels that are used to surround the patient. I have for a long time discarded marine sponges. Although I believe that the breath of the surgeon or his assistant, as also the hair, may be a possible source of infection, we have not yet commenced to wear masks, as is done in some places on the Continent, neither do we insist upon our nurses enveloping their heads in linen caps, though I have no fault to find with those who do so. I am firmly convinced that nearly everything depends upon the personal cleanliness of the surgeon and his assistants, and that when a wound has become infected it has been through the hands of one or other concerned in the operation; for this reason it is advisable that there should be as few assistants as possible. For the sake of argument, let us suppose that, if three people are concerned in an operation, the danger of conveying infection will be 1 per cent.; is it not fair to argue that, if six are concerned in the operation, the risk of infection will be increased to 2 per cent? There is no reason why the patient should incur this further risk. Now, whereas it is generally recognized that the hands are the chief source of infection, it is strange that authorities differ very much regarding the best mode of preparing them before operation. First of all, there are those surgeons who, after washing their hands, soak them for several minutes in strong perchloride or biniodide of mercury solution. By these means they may render their hands fairly sterile, but in most cases it will have the effect of causing an erythema, or even eczema, which will greatly favour the development of germs, and, even if the skin is sufficiently hardened to escape an erythema, it will in all cases be rendered so rough that the hands will not be thoroughly clean for at least a week. For my own part, I rely chiefly on soap and water, rinsing the hands in spirits of wine or turpentine to dissolve the fatty matter in the skin, and then washing again. After this I rinse my hands frequently in an antiseptic before and during the operation.

Many surgeons wear rubber gloves as a routine practice, but there are many objections to their use. First of all, they cause a hyperaemia of the skin and an increase of the number of micro-organisms on the surface. Now, it is an easy matter to prick the finger through the rubber with a needle in sewing up a wound, and thus infect the patient. Rubber gloves are also very slippery, which makes it difficult to tie ligatures. To prevent this some wear cotton gloves over the rubber; but, although I have never tried this method, I cannot help thinking the wearing of two pairs of gloves must interfere with the sense of touch. I never wear gloves myself unless I am doubtful about the condition of my own hands or, in a very septic case, for my own protection.

It is a strange thing that, although so much has been written on the sterilization of the hands, and although it is acknowledged that all attempts have failed to make them absolutely sterile, very little importance is attached to the advisability of preventing them from becoming infected. I am quite sure that dressers and nurses could avoid handling septic wounds and dressings more than they do. Familiarity breeds contempt, and where there are many septic wounds to be dressed it is difficult, perhaps, to avoid conveying infection; but with a pair of dressing forceps and plenty of artificial sponges it is quite easy to dress a case without touching any septic material.

I do not know why the hands should be regarded as the natural habitat of most pathogenic organisms. Possibly the time-honoured custom of shaking hands may be the means of transmitting many septic germs. I have often wondered if wearing gloves in daily life is really a means of keeping one's hands clean or otherwise. No one could dispute the fact that a clean pair of gloves put on for the first time must keep the hands clean; but what about a pair of gloves worn constantly for three or four weeks? You have all heard of the little boy who was reproved by his mother for having dirty hands. "Well," replied the boy, "shall I wash them or put on my gloves?" Now, I do not wish to intimate that medical men are ever guilty of putting on a pair of gloves to hide dirty hands; but what I do contend is this: that in the course of his practice circumstances occasionally arise when a medical man must of necessity contaminate his hands without having an opportunity of rendering them surgically clean. If he then puts on his gloves, will not the warmth, moisture, and lack of ventilation favour the development of micro-organisms? Probably the wisest course would be for medical men to wear washable gloves, and for such gloves to be washed frequently.

The Future of Abdominal Surgery.

Although abdominal surgery has advanced more rapidly than perhaps any other branch during the past twenty years, yet I look for a still greater advance in the future. I do not think this will be brought about by the adoption of more rigid precautions to prevent infection from without, but by the introduction of more improved methods of preventing autoinfection.

The colon bacillus, which has a saprophytic existence in the intestine, on gaining entrance into the peritoneal cavity becomes a parasite of a most virulent type, and if there be any delay in operating the host is claimed as a victim before the surgeon has power to intervene. For the infection to take place it is not necessary that there should be any solution of continuity of the bowel, or even of its mucous membrane. In cases of obstruction the bowel becomes congested, and readily admits the egress of bacteria through its walls; and there seems no reason to doubt the power of the colon bacillus to traverse the walls of the caecum or appendix without any definite ulceration being present. Unless these cases be promptly dealt with there is danger of the patient sinking into a general septic condition, when operative interference is almost hopeless. If we are to improve our statistics in these emergency cases, it is clear that the delay in treatment which generally occurs must be in some way obviated.

A tendency has developed of late to treat all these cases of infection, as one would a septic joint, by thorough flushing with a normal saline solution of sterilized water. I believe that to adopt this as a routine practice is wrong in principle. The abdominal cavity differs greatly from a joint. To bring the solution in contact with every part of the peritoneal cavity is impossible, and the more vigorous the attempt the more will the pathogenic organisms be carried into distant and previously uninfected parts. Besides spreading infection, you are certain to interfere with the process of phagocytosis which Nature is endeavouring to establish in the surrounding area by means of friendly micro-organisms, about which I shall have more to say presently.

Unless almost the whole of the peritoneum is involved, my own practice is to thoroughly cleanse the infected area from pus by sponging with artificial sponges, or, better still, with iodoform gauze, and then to pack the cavity with iodoform gauze, or insert a drainage tube. I believe that these views, however, are not entirely shared by my colleagues.

I have at the present time in the infirmary two patients, whose cases supply, to my mind, overwhelming evidence in favour of sponging and dry packing, instead of flushing. The one was a case of perforated gastric ulcer of four days' standing, where there was evidence of fluid in the lower abdomen. The appendix was therefore first explored and was found to be normal, but there was a quantity of pus in the pelvis, chiefly in Douglas's pouch. As there was nothing in the pelvis to account for the suppuration, the stomach was then explored and a large perforation found on its anterior surface. This was closed by means of silk sutures, as the patient's condition did not admit of excision. In this case the fluid had evidently gravitated from the stomach to the lower part of the pelvis, and the patient's condition seemed desperate.

The second case is one of our nursing staff, who had a perforated typhoid ulcer. In neither of these cases was the abdomen flushed, and they are both making a good recovery.

Mr. Leonard Dudgeon and Mr. Percy Sargent have lately

made some experiments which are likely to have a very important bearing on abdominal surgery in the future. Hitherto, we have been accustomed to regard all bacteria found in the abdominal cavity as highly pathogenic. Among the most important points brought to light by these experiments is the fact that at least one of these micro-organisms has not only very low pathogenic properties, but has a strong protective influence against the action of the colon bacillus. If the intestine is wounded, or any haemorrhage takes place into the peritoneal cavity, a white staphylococcus appears almost immediately in the surrounding area. It is also found in the exudate taken from distant parts. This staphylococcus injected into guinea-pigs some hours before inoculation with the colon bacillus produced some astonishing results. They either recovered or, at all events, lived several days, whereas others experimented upon by inoculation with the colon bacillus alone all died within twenty-four hours. By the behaviour of this staphylococcus we have a good example of how Nature attempts in every case to effect a cure, and, to my mind, sufficient proof that the practice of washing out the peritoneal cavity in septic cases is generally harmful. It can only be justifiable in general peritonitis, as in all other cases it must convey infection to distant parts and wash away the peritoneal exudation containing the friendly white staphylococcus. This does not seem to be the same white staphylococcus that lives in the skin, and its origin is somewhat obscure. It makes its appearance, however, in every lesion of the peritoneum within a few hours, and is evidently a provision of Nature to protect the system against the ravages of the colon bacillus. In every case where this coccus was found to be in excess of the colon bacillus the patient survived. In the action of this coccus we have an explanation of the rapid recovery usually made after ovariotomy in a patient just recovering from peritonitis as a result of twisted pedicle. We are operating in fact in the presence of a victorious army of friendly microbes. The same explanation holds good in cases of appendicectomy performed immediately after an attack of appendicitis, where features of an apparently dangerous character often present themselves, and yet the operation is practically free from risk. These patients do better, I believe, than those operated on in the quiet stage.

I have dwelt more particularly upon the action of the colon bacillus because it is the one most commonly met with. There are many other micro-organisms found in peritonitis, such as the staphylococcus aureus, pneumococcus, the bacillus pyocyaneus, and the streptococcus. The last two are almost universally fatal. For use against the streptococcus we have a serum, which although successful in general septicaemia, is very disappointing in general peritonitis. The explanation of this is to be found in the fact that there is generally a mixed infection, and although the serum may have a good effect over the streptococcus, we do not know what effect it may have upon other germs of a friendly nature; and here, let me remark, that at present we have no means of knowing what micro-organisms are present in any particular case. For antitoxin to be at all reliable we must have a mixed serum, capable of battling against all virulent germs, without having any deleterious effect upon the friendly ones.

These experiments of Dudgeon and Sargent prove many other points of interest, one of which is that the bacillus pyocyaneus is another antagonist to the colon bacillus. In the presence of the former, the latter rapidly disappear. Unfortunately, however, the bacillus pyocyaneus proved a more deadly foe than its predecessor.

It seems probable that ere long some means may be devised for dealing with the more virulent micro-organisms. It may be by means of antitoxins, but more likely, I think, by inoculating the patient with friendly germs.

If the colon bacillus is incapable of developing in the peritoneum of a guinea-pig which has been inoculated with the staphylococcus albus some hours previously, why should not a patient about to undergo an operation on the bowels be inoculated a day previously if possible, or at the earliest possible moment, with the staphylococcus albus?

I feel sure that in the near future an increased knowledge of the bacteriology of the peritoneum will afford us some means not only of preventing sepsis, but also of dealing with it more effectively when it exists.

In conclusion, gentlemen, let me venture to hope that I may be in a position at some future meeting of this Association to demonstrate that we have not only fully maintained our present satisfactory position with regard to abdominal surgery in general, but that our results have undergone a marked improvement in those instances to which I have alluded as being not altogether satisfactory.

I think these improvements may be brought about (1) by operating earlier, (2) by giving up the practice of flushing the abdomen in septic cases, and (3) by taking advantage of that assistance which the study of peritoneal bacteriology is likely to afford.

Abdominal Sections performed at the North Staffordshire Infirmary during Twenty-five Years.

—	1880-84.	1884-89.	1889-94.	1894-99.	1899-1904.
Ovariotomy	24 *9*	22 *2*	39 *3*	47 *4*	60 *2*
Removal of Tubes or Ovary	3 *1*	8	9	17 *1*	37 *2*
Hysterectomy, Abd. ...	2	2 *1*	1	4 *2*	11 *2*
Hysterectomy, Vaginal	1 *1*	...	5	8 *1*	13 *1*
Ectopic Gestation ...	4 *2*	...	3	6 *2*	19
Caesarean Section ...	...	2 *1*	...	...	3 *2*
Ventral Fixation ...	...	...	...	1	7
Removal of Spleen ...	1 *1*	...	1 *1*	1	...
Colotomy	3 *1*	6	8 *3*	4 *2*	16 *8*
Enterotomy	...	...	...	...	3 *1*
Obstruction of Bowels	...	2 *1*	3 *2*	5 *3*	17 *7*
Intussusception ...	...	...	2 *1*	3 *1*	3 *1*
Gastrostomy	...	1 *1*	3 *1*	1 *1*	3 *1*
Gastrojejunostomy ...	...	...	1 *1*	1 *1*	2 *2*
Enterectomy	...	...	2 *1*	4 *1*	3
Pylorectomy	...	...	...	...	1
Enterorrhaphy ...	...	...	...	...	1
Peritonitis, Septic ...	...	...	...	1	1 *1*
Peritonitis, Tuberculous	...	...	3 *2*	10	6 *2*
Perforated Gastric Ulcer	...	...	...	...	3 *2*
Appendicitis and Perityphlitis	...	...	4 *1*	27 *6*	55 *16*
Appendicectomy ...	...	...	1	...	27
Pelvic Abscess	...	...	...	10 *1*	6 *1*
Cholecystotomy ...	...	...	4	...	9 *1*
Choledochotomy ...	...	...	...	...	1 *1*
Others not Classified ...	3	...	15 *8*	20	100 *7*
HERNIOTOMY:					
Strangulation, Inguinal	24 *1*	20	30 *3*	35 *2*	93 *10*
Strangulation, Femoral	...	...	10 *4*	13 *8*	20 *1*
Strangulation, Umbilical	...	1 *1*	6 *3*	10 *3*	7 *3*
Radical Cure, Inguinal	13 *1*	17 *1*	97 *1*	100 *1*	255 *1*
Radical Cure, Femoral ..	...	...	4	15	29
Radical Cure, Umbilical	1 *1*	1 *1*	5	6	1 *1*
Radical Cure, Ventral	...	...	2	6	8 *1*

The numbers in italic denote the mortality.

Dr. Sudhoff, well known in Germany as an authority on Paracelsus, has been appointed Extraordinary Professor of the History of Medicine in the University of Leipzig.

PHYSICAL DEGENERATION AND SYPHILIS.

By Lieutenant-Colonel F. J. LAMBKIN, R.A.M.C.,
Officer Commanding Military Hospital for Venereal Diseases, Rochester Row, London.

With the question of physical degeneration at present so prominently before the public, the attention of the medical profession ought to be called more than ever to that disease which is, *par excellence*, a main factor in causing it. I mean, of course, syphilis. That this disease has been, and is, one of the chief causes of physical degeneration in England cannot be denied, and it is a fact that is acknowledged on all sides. This being so, the question arises as to what steps have been taken and what advance has been made in the treatment of this disease during the last decade.

Preventive measures, such as the Contagious Diseases Act, have long since been abolished, and being, as it were, solely a political question, there is little use discussing them, with the exception of expressing one's opinion that it is a disgrace to the country that, in this era of civilization, such necessary means of prevention do not exist.

But, looking at the question from a purely medical aspect, one would like to know what advancement, if any, has been made in the treatment of syphilis in civil life in England during recent years. Undoubtedly, the actual means at our disposal for the treatment of this disease have vastly improved of late years when compared with what existed formerly. Has full advantage been taken of them? No doubt the immediate signs and symptoms of syphilis have been enormously ameliorated, and the fearful cases of the disease which one used to see are no longer seen, yet, judging from statistics, the after-effects of the disease on the population in general are as bad now, aye, and even worse, than hitherto, the returns of lunacy, general paralysis, tabes, etc., which are due, in all probability, to syphilis, showing a terrible record.

The conclusion one is driven to is that whilst our means of treating syphilis are far more reliable now to what they were of yore, yet that they have not been employed in that organized and systematic manner amongst the civil population which is our only hope of bringing about a permanent cure and thus destroying any chance of the ever-serious after-effects of syphilis. (*Vide* evidence given before the Inter-departmental Commission on Physical Degeneration.)

In the army we have happily, during the last few years, succeeded not only in ameliorating the primary signs and symptoms of the disease, but from the table given here, which is taken from the recently-published Army Medical Reports for 1903, it will be seen that of syphilitic cases the ratios per 1,000 of invalids sent home, and more important still, of those requiring to be discharged from the service on account of permanent unfitness, have been materially decreased, this result being undoubtedly mainly due to the organized and systematic method which has been to a great extent adopted during recent years in the army for dealing with syphilis.

Table showing the ratio per 1,000 of the strength, and the average ratios for 10 years of venereal, among the European troops stationed at home and abroad during the year 1905.

Average strength, 242,182.	Ratio per 1,000.					Average ratio per 1,000 from 1893 to 1902.				
Diseases.	Admissions.	Deaths.	Invalids sent home.	Invalids finally discharged.	Constantly sick.	Admissions.	Deaths.	Invalids sent home.	Invalids finally discharged.	Constantly sick.
Syphilis, primary	21.0	...	0.02	...	2.12	57.5	...	0.04	0.00	5.43
Syphilis, secondary ...	31.3	0.07	1.01	0.82	3.62	43.6	0.12	4.52	1.30	4.70
Totals	52.3	0.07	1.03	0.82	5.74	100.11	0.12	4.56	1.30	10.13
	Continuous treatment, general.					Continuous treatment, not general.				

This system consists briefly as follows:

On the syphilitic patient being admitted into hospital, he is there treated until the active signs of his disease have disappeared, when he is discharged to his duty, but he is not lost sight of then, but, before leaving hospital, the character of his disease is explained to him, and the absolute necessity of continuous treatment extending over a long period is impressed upon him. He is advised to present himself at hospital on one day a week or fortnight, as the case may be. He is thus kept under observation and treatment for as long a time as the medical officer desires. The treatment, which for many reasons is undoubtedly the only practical one of carrying out either in the army or civil life, is the "intramuscular," and this is the one which has given by far the best results. By the intramuscular method is meant the injection of either the soluble or insoluble salts of mercury. The latter have the great advantage over the former of needing to be injected but once a week or fortnight, whereas the former, to be beneficial, must be injected four or five times a week. In the army the insoluble salts are preferably used, and generally in the metallic form, in the form of a cream, the latter is standardized, ℿx containing gr. 1 of metallic mercury. The practice which I advise is that, after the patient is discharged from hospital, he should receive an injection of ℿx, or gr. 1 of mercury once a fortnight, and this done over a period of not less than three months, he is then given no injection during the following two months, but the injections are resumed and continued once a fortnight for the next three months. The patient continues under observation for another two months, and, if he has no recurrence of symptoms, the probability is that he is cured. There are certain essential details to be observed in carrying out this treatment into which it is unnecessary to enter here further than to remark that the patient's body weight is taken carefully and recorded each time he comes up for treatment. Whilst undergoing the above treatment out of hospital, the patient is enabled to carry on all his duties and is not incapacitated in any way.

Other modes of carrying out continuous treatment have been extensively attempted, such as giving the patient a certain number of mercurial pills, one or two of which he is directed to take daily, but this line of treatment, to my mind, need only be mentioned to be condemned, as, in nine cases out of ten, patients either in the service or out of it will not take the medicine ordered once they are rid of pressing symptoms, partly through forgetfulness, very often wilfully.

By the intramuscular method of treating syphilis, be it either by the soluble or insoluble salts of mercury which are used, treatment of the disease can be carried out in that continuous manner which we know is necessary if we are to hope for a permanent cure, and it is through this treatment, to a great extent, that one is enabled to give the above encouraging table, and, with this line of treament becoming more general than it is, the above table can be much improved, and the ratios per 1,000 men invalided either home or out of the service through syphilis reduced to a minimum.

Is there any reason why a similar method of treating syphilis should not be carried out in civil life?

When I have raised this question among professional friends, they have invariably said, "Oh, yes, you can carry out this method of treatment in the service, where you have discip'ine and can order your patients to attend for treatment." Now, I can say, from long experience, that this power of ordering patients to attend for treatment possesses no advantage whatever. On the contrary, I find that in the army men come up for their treatment far more willingly when not ordered, but simply of their own free will, when they understand the necessity of undergoing continuous treatment.

One other reason which I have heard given as to why the intramuscular method cannot be carried on in civil life whilst patients are out of hospital is that the pain of the injections drives patients away. Amongst others, this was the opinion given by one of the London Lock Hospital surgeons. On the contrary, only a few weeks ago I had a communication on this subject from Dr. Henry FitzGibbon, Senior Surgeon to the Dublin Lock Hospital, in which he informed me that both his own experience and that of his colleagues is that the patients attending the Lock Hospital prefer the intramuscular (which has lately been adopted in that institution) to treatment by either the mouth or by inunction.

The treatment of syphilis amongst the civil population of England at present consists, as far as I can gather, of palliating the disease, not of endeavouring to cure it permanently,

much the same as existed in the army until recent years. At the most, the only attempt of giving continuous treatment consists of giving mercury in some shape or form to be taken for a given time. Experience teaches us that the medicine ordered is in nine cases out of ten never taken with any regularity, or that when it is it is taken only when some acute sign of the disease appears. The consequence is that the patient, never getting any continuous treatment, never gets rid of his disease.

No wonder, then, that our lunatic asylums, etc., are fuller than ever.

I feel certain that the subject requires to be taken up seriously by the profession in England and the treatment of syphilis put upon an organized and systematic ground. Such a system is being carried out in Vienna with the best results, the method adopted there being very similar to that which we use in our army. In the *Lancet* of July 15th, 1905, it was reported that in Paris notices have been posted up informing the public of the place and time where they can receive treatment. If this be necessary in Paris, which is so well protected by the State from syphilis, how much more is it necessary in London and our large cities in the United Kingdom?

To grapple with the treatment of syphilis among the civil population of England ought to be the chief object of those interested in that most burning question, the physical degeneration of our race.

SEVENTY-THIRD ANNUAL MEETING
OF THE

British Medical Association.

Held at Leicester, July 24th, 25th, 26th, 27th, and 28th, 1905.

PROCEEDINGS OF SECTIONS.

SECTION OF NAVY, ARMY, AND AMBULANCE.

Surgeon-Lieutenant-Colonel Henry Walter Kiallmark, M.R.C.S., President.

SOME DYNAMIC AND HYDRO-DYNAMIC EFFECTS OF MODERN SMALL-BORE CYLINDRO-CONOIDAL PROJECTILES.

By Fleet Surgeon Charles Marsh Beadnell, R.N.

Preliminary Remarks.

The kinetic energy of a projectile is derived from the latent energy of an explosive within the chamber of a thermo-dynamic machine called the rifle. The actual work capable of being done by the modern small-calibre bullet upon the animal economy is from 1,800 foot-pounds to 2,800 foot-pounds; in other words, it averages about 1 foot-ton.

When the volitation, conformation, and structure of the projectile are favourable from the surgeon's point of view, only a small fraction of this work is expended upon the tissues; from the big-game shooter's aspect these factors are only favourable when the whole of the energy of the projectile is represented as work done upon the anatomical elements. A knowledge of the remaining energies of the projectile is a *sine qua non* if we are to be able to predict the traumatic phenomena eventuating at varying ranges.

Exterior Ballistics.

Owing to the resistance of the air, which varies directly as the square of the velocity for low and high velocities, and as the cube and sixth power for medium velocities, the energy of the projectile diminishes rapidly. Air resistance depends upon the density and the quantity and direction of motion of the atmosphere; the shape, area, calibre, weight and velocity of the projectile.

At low velocities, the displaced air closes in immediately behind the base of the projectile and a whistling noise is heard; at high velocities vacua are formed behind the base, and a detonating sound, owing to collision of the columns of air, is heard.

A cap of condensed gas, $\frac{1}{10}$ in. thick, covers the ogive of a projectile in rapid motion through a gaseous medium. From the shoulder of such a projectile straight lines diverge posteriorly, symmetrically to the trajectory; secondary divergent lines, forming somewhat more acute angles, proceed from the basal cannelure, if there be one; the angles formed by these lines with the trajectory diminish as velocity increases. Minute rotating spherules of air showing vertical motion line the path of the bullet.

Rotation of the Projectile About its Long Axis.

The cylindro-conoidal projectile, revolving about its major axis, advances through the resisting atmosphere with this axis parallel to a tangent to the trajectory at the muzzle. Hence, at long ranges, the projectile strikes a horizontal plane "side on," at extreme ranges "base on." Atmospheric resistance being greater on the posterior than on the anterior half of the longitudinal mid-section of the projectile, counteracts to a slight extent this effort of the projectile to maintain its long axis parallel to the line of departure.

The revolution-speed of the bullet does not decrease so rapidly as the speed of translation, hence rotary phenomena are more marked at long ranges. In such cases the bullet may enter the body, but fail to emerge, rotating rapidly within the tissues until friction with them brings it to rest. That rotation plays a by no means insignificant rôle in the genesis of projectile-traumatisms must be admitted when we consider that the muzzle rotary-speed of the modern bullet is from 2,000 to 4,000 revolutions per second.

Penetrative Energy.

Two bullets of different calibres, but possessing equal energies, do not transmit equal quantities of energy to equal areas of impact, the larger experiences more difficulty in perforation, it may even stop inside the body expending all its energy, whilst the projectile of more reduced calibre, doing less work upon the tissues, continues its course.

Impact.

The energy of the bullet on impact with the body is expended in deformation and heating of the tissues, in deformation and heating of the bullet, in imparting motion to, or modifying or arresting the motion of the tissues, in modifying or arresting the motion of the bullet.

Calefaction.

Heat phenomena, due to impact within the animal body, are very slight. On the other hand, heating of the projectile due to contact with enkindled gases, to friction with the "lands" of the rifle or with the atmosphere or with the ground during ricochet, is considerable, indeed quite sufficient to effectually sterilize it.

Deformation.

Deformation, which may be due to "stripping," ricochet, or impact with resisting tissues, has the double effect of enlarging the impact area and prolonging the projectile's duration of action. Deformations may be classified as:

1. Torsions.
2. Shears.
3. Lacerations.
4. Crushings—mushrooming.
5. Fragmentations.
6. Dislocations—partial or complete.
7. Bendings.

Reciprocal Action and Reaction of Projectile and Tissues.

In traversing the body the bullet acts upon tissues whose force of cohesion uniting the integrant molecules varies immensely, the more solid vigorously resisting disruption, the more liquid, in virtue of the mobility of their molecules, offering less opposition. Conversely, these different tissues vary in their mode of reacting upon the projectile. This mechanism of reciprocal action between projectile and tissues is merely one of force transmission, the work done by the bullet upon the body being equal to the force of cohesion which held together the now-displaced somatic molecules plus the energy communicated to them, for not only does the projectile destroy cohesion, it animates the dissociated particles, converting them into secondary projectiles.

Dynamic Action of the Projectile.

When a bullet strikes a solid body, a series of molecular shocks radiate cone-wise from the point of impact to the molecules on the opposite side, these molecules swing back, and in this way the whole series is set oscillating. If the

shock of impact be intense, molecules of the series farthest from the point of impact part company and fly off, thus explaining the loss of substance which takes place around the inner table around the orifice of entrance and in the outer table around the orifice of emergence, in gunshot wounds of the cranium.

When the tissue molecules offer great resistance to displacement in the projectile's line of direction, they become displaced laterally in the form of a concentric wave which spreads excentrally, secondary waves following in its wake. To these waves must be attributed the presence of radiating fractures in communication with a bullet aperture in osseous tissue.

Secondary Projectiles.

In perforating the tissues, the projectile acts not only like a hammer, driving particles in front of it, and like a wedge, displacing them laterally, but like a gimlet, communicating a part of its rotary motion to them and hurling them into the surrounding tissues like drops of water off a mop. These secondary projectiles, endowed with energy, cleave their way through and act upon the tissues in precisely the same way as the primary projectile: in this manner an organ may have its cohesion so shattered as to be completely disintegrated.

Hydraulic Action of the Projectile.

When a projectile penetrates a closed receptacle filled with an incompressible fluid, it operates as the piston of a hydraulic pump, raising the pressure throughout the whole of the contents. The only part of the human body in which such action takes place is the cranium, though here the effects are masked by hydro-dynamic phenomena. If hydraulic action alone existed, an augmentation of capacity exactly equal to the volume of the bullet would eventuate, whereas this augmentation may be five hundred times the volume of the bullet.

Hydro-dynamic Action of the Projectile.

A vacuum is produced behind a high-velocity projectile in traversing be it a gaseous, a liquid, a plastic, or even a solid medium. Now, during the act of perforating liquid or plastic media it is to the generation of this vacuum that must be attributed the apparent expansion of the whole liquid or semi-liquid mass consequent upon the projectile's outward lateral impulsions. As soon as the molecules thrust aside by the advancing conoid have exhausted their energy they come to a momentary rest and are then forced back, by atmospheric pressure, into the path of the bullet, where collision with returning molecules from the opposite side occasions a recoil followed by fresh lateral expansions and the formation of a secondary vacuum. Thus are determined a series of undulatory movements of decreasing intensity, until a state of repose is reached.

Hydraulic pressure is exerted in equal intensity in all directions, whereas hydro dynamic pressure is especially marked in the line of direction of the projectile. Hydro-dynamic phenomena decrease with the range, owing to diminution of energy imparted to the liquid molecules. Hydraulic phenomena, on the other hand, are independent of range, provided, of course, the bullet retains sufficient perforative energy to effect complete penetration.

Explosive Phenomena.

So-called "explosive" effects are due to sudden enlargement of the impact area resulting from a modification either in the configuration or in the motion of the projectile. To the various eccentricities of volitation, such, for instance, as the "spinning-top," "hour-glass," and "pirouetting" motions of the projectile, must be attributed a considerable percentage of those nondescript traumatisms hitherto dubbed "explosive."

Contact-time and Contact-surface.

The loss of energy on the part of the projectile in its passage through the tissues is contingent upon two factors—time of contact and surface of contact; the latter consists of:

1. Surface of impingement, or the area of the section of the projectile parallel to the plane, or, if the objective possess a curved surface, the tangent-plane, struck.

2. The surface of friction, or the surface-area of the projectile less the surface-area of its base.

At short ranges the surface of impingement and the time of contact are so small that the damage done to the tissues is reduced to a minimum.

We must now consider the action of the projectile upon particular regions of the body.

The Skin.

Surrounding the orifice of ingress, which is circular and smaller in diameter than the projectile, is a whitish rim, visible at the extreme brink of the little depression, and due to the removal by friction of superficial layers of the epidermis. From this orifice radiate minute fissures, and if the introverted sectors of which these fissures are the radii be minutely examined, it will be found that their tips are absent. The size of the entrance aperture increases with the range and with the degree of laxity of the epidermis. Ecchymosis around the entrance aperture becomes more marked with increase of range; at extreme ranges there may be extensive bruising, but no solution of continuity of the skin. The bullet track is usually the shortest distance between the orifices of entrance and exit; its transverse diameter is smaller than that of the projectile. The aperture of egress is equal to, or maybe slightly exceeds, that of ingress, its sectors are everted, and show no loss of substance, except in the case of the highest velocities. The entrance aperture is occasionally, the exit aperture frequently, multiple.

The Bones.

The "flat" and "square" bones and the extremities of the larger "long" bones are neatly perforated; the diaphyses may be tunnelled, but are more frequently fractured; in the latter case minute comminution, together with dispersal of numerous splinterettes to a considerable distance, occurs when velocity is very high, when it is lower, the splinters are larger, less numerous and closer to the fracture.

The age factor must not be lost sight of.

The amount of stress in the bone is of the utmost importance. Thus, in a soldier marching, one tibia may be subjected to a straining force of 150 to 250 lb., while the other tibia is in an indifferent condition of stress. In the former instance, much energy would be expended by the bullet, and consequently much damage inflicted upon the bone; in the latter case the bullet parts with but little energy, and perpetrates less mischief in the bone.

The Cranium and Contents.

Many instances are on record of partial or complete recovery after bullet perforations of both cerebral hemispheres. As the projectile enters the cranial space, intracranial pressure rises, and cerebro-spinal fluid and blood are expelled through the various circumferential foramina. In gunshot wounds of the head, brain matter may protrude not only from the egress but also from the ingress aperture. I remember being much impressed by seeing a Highlander who had walked four miles after the Magersfontein battle with cerebrum oozing from the entrance and exit wounds in the head caused by a Mauser bullet; I took the liberty to make inquiries concerning this man some two months later, and was informed that he was making splendid progress.

Want of time precludes me from quoting more than an isolated example; the photographs (exhibited) will show other and even more remarkable instances of recovery following modern bullet injuries of the brain. Doubtless much of the wonderful anabolic powers exhibited in these latter-day bullet wounds is attributable to the ballistic qualities and "humaneness" of the modern small-bore projectile, nevertheless these marvellous recuperations would not have been so much in evidence during the recent Anglo-Boer war were it not for the extreme skill and untiring care displayed by our army medical surgeons.

After the brief compression of the brain by the projectile there is an increase of bulk due to oedema, which aggravates the cerebral herniae through the bullet orifices. I have never seen brain protruding through an orifice of ingress when death was immediate.

Lateral pressures of the brain are liable to cause death through a mechanical lesion of the respiratory centre, though the heart continues to beat; hence in certain cases of gunshot wounds of the head it is not impossible, at any rate the fact is worth bearing in mind, that death may be averted by timely artificial respiration.

The dense inelastic fibrous membranes of the brain play a most important part in gunshot injuries of the head. The dura mata arrests much of the bone débris that would otherwise be forced by the projectile into the brain, its process, the tentorium cerebelli, shields the cerebellum from a large part of the shock delivered to the cerebrum in bullet perforations of that organ.

Fracture of the orbital plate accompanied by complete

proptosis of the eyeball is not uncommon after bullet perforations of the frontal lobe.

Organs like the stomach, bladder, and intestines are grievously injured, and their contents scattered far and wide if fluid be present in any appreciable quantity; if empty, however, minute apertures are produced, which close immediately after the passage of the bullet and heal by first intention, thus preventing peritoneal infection. The possibility of more than one coil of gut having been perforated must be borne in mind in bullet lesions of the abdomen.

Heart.

Bullet perforations of the ventricular cavities of the heart during a state of complete systole, artificially produced outside the body, show small apertures of entrance and exit; on the other hand, perforations of the ventricles during diastole similarly produced are attended by a great display of energy, as evidenced by extensive ruptures and lacerations of muscle and valves.

Toxic Effects of the Projectile.

The lubricating paraffin with which some bullets are coated acts chemically upon the copper in the sheathing to produce a subacetate of copper. Now only the very smallest traces of this "verdigris" could possibly get access to any bullet wound, and it is not likely that any poisonous effects would follow the application of so minute a quantity of this salt. The brass-sheathed Remington bullet used by the Filipinos in the American-Filipino campaign undoubtedly caused a higher percentage of cases of tetanus amongst the American soldiers than did the nickelled-steel sheathed Mauser bullets with which the Filipinos were also armed. We think, however, that the tetanus was due rather to the greater smashing and lacerating effects of the clumsy 0.44 in. Remington bullet, as compared with the 0.285 in. Mauser, than to any difference in the composition of their respective sheaths. Bullets containing a high percentage of steel in their sheathing rust more easily in wounds than do the cupro-nickelled sheathed projectiles. The power of the bullet at close ranges to "drag" the wad separating it from the explosive into the depths of the tissues, and at medium and long ranges the liability of the projectile to force in particles of clothing, are factors not to be overlooked in connexion with deep suppuration of the bullet track.

Pain and Anaesthesia.

Owing to the extremely short contact-time of the modern projectile—about $\frac{1}{2000}$ second—the pain, which at first sight we might expect to accompany, or rather follow, the actual perforation, is often absent, and even so large a region as the thorax may be completely perforated without the victim being aware at the time of the fact. Local anaesthesia of the bullet track, especially in the proximity of its entrance, is another characteristic of wounds caused by the modern bullet.

Haemorrhage.

External haemorrhage from the apertures is usually very slight; severe internal haemorrhage, however, is not uncommon, as the modern small-bore bullet bores through blood vessels rather than push them aside or cut them completely across, thus giving the inner and middle coats a chance to curl up and the adventitious to contract over them, and so block the lumen, as obtained with the larger, less energetic, and more obtuse-headed bullets in former use.

Conclusion.

The limit of the small-calibre projectile has now been reached—if, indeed, it has not been overstepped—in the case of the 0.243 in. bullet; however, there is, we think, much to be done in other ways without depreciating the ballistic value of the bullet to render yet more humane the small-bore cylindro-conoidal projectile.

ON THE FEEDING OF THE SOLDIER ON ACTIVE SERVICE.

By Surgeon-Lieut.-Colonel G. S. Robinson, Scots Guards (R.P.)

The subject of the feeding of the soldier in the field is one that must interest equally those concerned for his efficiency and for his comfort. The soldier who is well fed is not only in better bodily health and better able to resist disease, but he is more cheerful in difficulties and therefore more equal to any strain he may be called upon to endure. This probably applies more to the British soldier accustomed to his solid mid-day meal than to the Continental or Asiatic soldier. Incidentally, however, I note that the Japanese authorities have seen the necessity of augmenting the food of their men whilst undergoing the hardships of active service.

The subject may be discussed under the following heads: (1) Food. (2) Cooking. (3) Serving. (4) Hospital diet.

1. *Food.*

As to the food itself, the quantity laid down is ample, and during the recent war it was generally of good quality. Meat was, however, always killed shortly before issue, and I used to endeavour to keep it twenty-four hours before use. If this can be managed it certainly makes it rather more tender. "Bully beef" is generally very good but does not lend itself to cooking. The 1-lb. tin was always preferred, being of handy size for the haversack, and having its own opener attached. Tinned brawn makes an agreeable variety and contains more fat to help the biscuits down. The tinned ration of Maconochie and others would appear an excellent means of varying the menu, containing as it does a large proportion of vegetable and broth. It did not, however, appear popular with the men, who complained of its richness. Probably the seasoning is too high for the unsophisticated palate of the soldier. As regards the well-known "dog biscuit," though excellent in quality and most sustaining, it seems somewhat unnecessarily hard. Occasionally other brands were served out and formed a welcome variety. Bread should, however, be issued whenever possible. It is such an important article of diet that men miss it greatly and will do anything to obtain it. Other nations appear to attach more importance to it than we do. During the Crimean war the French always had bread, and I am told used to buy up the old biscuits, make it into some kind of bread and sell back at a profit! A portable bakery should accompany troops and be made use of at every opportunity.

A great deal has been written on the subject of drinking water, the difficulty being that men, when thirsty, will drink the water most accessible, no matter what its quality. To my mind, the first thing to be done is to let the soldier realize that the constant drinking of tepid and dirty water is not only injurious, but fails to relieve thirst. He should understand that an athlete, or a horse in training, would not be allowed to drink continuously, and that the initial craving can be controlled with a little resolution. That the men towards the end of the war found this out for themselves was pointed out to me by the sergeant-major of my battalion, who said that the men seldom made use of their water-bottles when on the march. The only real thirst I ever had was brought on in this way when I was in the Soudan, and it gave me a lesson which I never forgot. Colonials, it is well known, drink nothing but tea at meals, and it is owing to this, I believe, that they owe their immunity from bowel complaints. It would be interesting to know what the percentage of sickness from dysentery and enteric amongst irregular corps was, compared with regulars. Water-bottles should be filled overnight with any weak tea remaining. One advantage of tea in bottles that I have not seen alluded to is, that (in tropical climates) as the day gets warmer so does the tea; till late in the afternoon it approximates to the beverage so called!

2. *Cooking.*

It is, however, to the cooking we must look to get the most good out of the rations, which we have seen to be sufficient, and to ensure that variety which appears to be essential to the well-being of man. Much is, doubtless, being done at Aldershot and elsewhere to promote good cooking at home and in times of peace; but on active service there is a lamentable monotony in the meals provided. The almost universal practice consists of cutting the meat into chunks, filling the "dixie" with water and stewing the whole for two hours. To this is added the dried vegetable ration, but this latter seems peculiarly tasteless, and the men seldom use it if left to themselves. Some more attractive preparation may be forthcoming containing potato and onion, or possibly some green stuff. Much may also be done by the addition of pea flour, curry-powder and dried peas and haricot beans. The two last are much liked, but require soaking for several hours.

But no matter how excellent these stews may be, a roast or baked alternative seems almost a necessity, and this seems at present unattainable. Various expedients were tried. A sergeant told me that a party he was with got hold of a small tin travelling trunk which they used to bury in sand, light a fire under, and so convert into an oven. On a smaller scale I have seen excellent cooking done between the lids of two

"dixies," and I would suggest that some arrangement, by which these lids fitted together to form a small oven, would be a good plan. But a large portable oven on wheels would, there is no doubt, be a great boon, not only for obtaining variety in cooking, but also for baking bread. One great additional advantage would be that cooking could be started before the unit reached its destination and so save much time.

In addition to the company cooks, moreover, I maintain that a man is not a fully-trained soldier if he cannot himself turn out something tasty in the way of a supper. This is a matter to which I think more importance must be attached during training, especially at manœuvres. The soldier is too much accustomed to come back to a "certain place" there to find his dinner awaiting him. In the earlier part of the war I am certain that men on outpost or other duty, away from their companies, were half starved by not knowing how to cook their ration of meat and flour. Later on in the war I often noticed cheery little supper parties of two or three men gathered round a small cow-dung fire, on which were cooking a small portion of meat and a dough-boy (or a damper). The last named, by the way, makes an excellent alternative to biscuit, the fat in its composition taking the place of the missing butter. The mere lighting of a small fire is an art in itself to be cultivated, the natives always getting theirs lit about twice as quickly as our men did.

On this subject a quartermaster-sergeant of Royal Artillery, who was three years in South Africa, writes as follows:

I found as cooks we were absolutely of no use. Often in getting over the country we could and did pick up growing vegetables which when cooked in with the meat ration would have made excellent soup and stew. But we seemed to depend too much on the one man who was the regimental cook, whose qualification for that post was often that he had bad feet for marching or was not too handy round a gun and so was appointed cook. The meal (dinner) always consisted of the "stewed type"—chunks of meat thrown in the oval 12-quart camp kettle, immersed in water, and left to cook for two hours or so. When served up the very appearance of it proved sufficient, and even hungry men would not eat it. I have seen whole kettles full which have never been touched, the men preferring their biscuit and jam.

A man who could concoct a savoury meal out of the ration was rare indeed, and all were anxious to secure him as messmate.

I have repeatedly seen, when trekking with the Bushmen and New Zealanders, the remarkable way in which these men could prepare a meal—that is, coffee or tea, with steak, chop, liver, etc.—and be sitting down enjoying it whilst we were looking for wood or an axe to chop it with.

Had we been instructed how to cook and make simple dishes previous to the war and to look after Number One we should have been as capable as our colonial friends.

We seemed to get on better by messing in small batches, say, of four or eight men. Give these batches their own tea, coffee, sugar, meat, etc., and let them cook for themselves. The men were far more contented and better fed, and they appeared to enjoy the preparation of the meal. The fuel difficulty was overcome in this way too, as each batch "scouted" round for their own wood, instead of an irksome fatigue having to be formed for wood cutting.

3. *Serving.*

Finally, we come to the right time for serving the different meals, and this I consider a matter of special importance. In the brigade with which I served various methods were tried. At first a halt of two hours was made (when feasible) at noon, to enable the men to get their dinners. The unfortunate men reclined for that period in the hot sun whilst the meal was being hurriedly cooked. It was then hastily consumed, and the march resumed immediately after, in the hottest part of the day. One result of this delay was that the column reached its destination two hours later than they otherwise would—perhaps after dark. Consequently, latterly this halt was done away with, and dinners were started after arrival in camp. This, however, made the meal very late, and the men were often too tired to do justice to it. Some regiments used, as an alternative, to cook the meat overnight, the men thus having a cold meal every day.

The method I adopted in my small unit (a field hospital) was to have tea immediately on arrival in camp. This took a very short time to prepare. Owing to its stimulating effects the men were speedily rested, and after cleaning themselves set about their several duties (including the care of the sick and wounded), whilst the cooks prepared the dinners. They were then ready to enjoy their dinners in the cool of the evening. Any meat that could be spared was put away in the haversack for lunch next day.

With regard to breakfasts, I always had the fires lit by the men on night duty, and the meal was served half an hour after *reveillé*. I invariably found that no good work could be got out of the men until they had breakfasted.

4. *Field Hospitals.*

As regards dieting and cooking, my previous remarks apply with equal or greater force. I think in all cases fresh meat should be obtainable for those sick who require it, on requisition by the medical officer. Special biscuit should also be obtainable for men suffering from fever or bowel complaint, as they are quite unable to make use of ration biscuit. Those made from arrowroot or fine flour could often be used—or, better still, some kind of rusk which would make into "bread and milk." Rice, so easily prepared and digested, ought also to be forthcoming. "Ideal" (an unsweetened form of tinned milk) should be provided for those who cannot take the sweeter forms of condensed milk. Unfortunately, it is rather more bulky, owing to its being less condensed. For convalescents, tinned chicken and rabbit are the most appreciated and most suitable diet. Tinned butter, I suppose, is a luxury, but sick men expect to get something a little extra when in hospital.

Small ovens are furnished to field hospitals. My great difficulty, however, during the late war was in getting cooks. A larger number of orderlies and other soldiers should be specially trained as cooks. I do not think that during the two and a half years my field hospital was mobilized I had more than one trained cook serving under me, though the number of men (Volunteers, St. John Ambulance, Cape Medical Staff Corps, and Imperial Hospital Corps) who passed through my hands was a large one. There are, fortunately, always to be found men who have a natural aptitude for cooking, but that is not enough. A man need not necessarily belong to the R.A.M.C. if he can be obtained from the troops to which the hospital is attached.

This matter seems to have been taken in hand by the authorities since the war, as a special section of the corps is now made up of qualified cooks.

Observations.

In conclusion, I wish to state that the above notes and suggestions are taken entirely from my own experience and observations whilst on service. I mention this because I have since read the official report on the medical arrangements in the South African war, and I find, as of course I should expect, that the experience of other medical officers is the same as my own. I hope, therefore, that the subject will be given full consideration by those responsible for the training of the soldier.

The Committee appointed by Surgeon-General Wilson to report on these matters says:

It is considered very desirable that all soldiers should be systematically taught how to cook their rations in the field—especially men of the Army Medical Service and the auxiliary medical services.

And further on:

The Committee attach great importance to the careful instruction of company cooks, and soldiers generally in camp cooking, and consider that a good deal of bowel irritation is caused by half cooked or badly cooked rations on service.

This last statement contains the gist of the whole matter, and justifies me in bringing the subject before a meeting of medical officers rather than of commanding officers. It seems to me that the connexion between this "bowel irritation" and camp diarrhoea, colitis, dysentery, enteric, and cholera is a very close one; and if by careful training, cooking, and dieting, the preliminary cause of this irritation be done away with, the saving to the army and State will be considerable and amply repay the trouble taken.

The President said the food of the soldier was an important factor and was what he had to work upon. He was sorry to find that the soldier's rations had not improved since 1854, especially in the matter of cooking. To give some variety, in the Crimea they made use of an iron pot or gipsy kettle. He described how, in the Crimea, the soldiers threaded small pieces of meat on ramrods and toasted them over a fire. He said that compressed vegetables and tinned meats were not appreciated in the Crimea. The Japanese were teaching them the value of wheat, peas, haricot beans, lentils, and white bread. He emphasized the fact that it was white bread the Japanese preferred, and not brown, because they believed the latter was not so efficient as pure white bread for the purpose of nutrition. Coffee was a good beverage to the soldier, and the beans could be roasted in a frying-pan over a fire. He thought that cocoa might be served out to soldiers, but did not consider that tea was of much use.

Fleet Surgeon J. J. JOHNSTON said, in reference to Colonel Robinson's observations on the bad cooking experienced by the troops on foreign service, he would suggest that if some system were introduced into the army similar to that which existed in the navy—namely, that in a mess every man had to take his turn as "cook of the mess" in rotation—the result would be that on active service every man would be able to cook.

Fleet Surgeon E. J. BIDEN said the preparation and cooking of the food issued was most important; the system in the Royal Navy made each member of a mess take his turn as cook of the mess. Boat cruising had given men experience in cooking without the usual utensils, and proved valuable on campaigning. He thought the use of water should be more under control; in Egypt he found the native custom of rinsing the mouth with water and swallowing only a small quantity was one to be followed. The drinking of large quantities of tepid water by stokers when steaming in the tropics caused distension resulting in constipation and colic.

Colonel E. M. WILSON referred to the arrangements that were made for the teaching of cooking in the Royal Army Medical Corps and auxiliary forces, and expressed a wish that a larger number might be instructed in that most useful service. He also thoroughly agreed with Colonel Robinson in the absolute necessity of some kind of breakfast before commencing the day's work, whether marching or fighting. The principal meal should be in the evening, and Colonel Wilson called to mind a most striking instance during the Zulu war when an attempt was made to march immediately after the mid-day meal under a hot South African sun. The result was that very large numbers of men fell out, and the march had to be abandoned.

Surgeon-Lieutenant-Colonel R. BRADSHAW SMITH said the great importance of teaching men to do without water by their officers was by example—the more they drank the more was wanted. The smallest amount used the brighter and better able to work the men would be.

Surgeon-Lieutenant-Colonel ROBINSON, in reply, said the use and abuse of the water-bottle should be the special care of the company officer. If the water-bottle were resorted to early in the day, incurable thirst was the result; personally, he never took fluid, except at meals, when on the march. Compressed vegetable seemed of doubtful benefit as at present issued. He was inclined to agree with those who attributed undigested vegetable as a frequent cause of bowel irritation and dysentery. Cooking instruction came under two classes: (1) Trained cooks; (2) universal instruction in extemporized cooking. The system in the navy of each man taking his turn in the mess cooking was excellent under the first heading, but the latter could only be dealt with by serving out the rations to groups of men during manœuvres and seeing what they could do.

ON THE CARE OF SOLDIERS' FEET.

By Major G. S. CRAWFORD, R.A.M.C.

THE regulations for the army medical services state that one of the principal points to be attended to in the examination of recruits is to see that the feet and toes are well formed. Having obtained the recruit up to the required standard, the question arises how to look after his feet so that he may be able to perform his military duties, which in most branches of the army involve long marches on foot.

The following points suggested themselves to me when on duty in South Africa, and subsequently as medical officer in charge of an infantry brigade at Aldershot:

Boots.

Boots should be carefully fitted indoors over thick socks. The boots should be laced and the recruit directed to walk up and down the room to see if they are comfortable. The boot should be sufficiently large to allow for the expansion of the foot when hot after marching some distance. Soldiers should never be allowed to wear boots with pointed toes. This requires constant supervision, as most of them have an idea that such boots are smart, and provide them from local boot-makers. Boots with broad toes should be insisted upon. The heels should be broad and not too high. The soles should be thick, but pliant. Hobnails in the soles are useful, as they resist wear, and need not interfere with the pliancy of the sole. The vamp should be pliant over the roots of the toes. The boot should be roomy over the toes. The greater thickness of the great toe and the varying thickness of the toes in different persons has to be considered. If necessary, the boots should be blocked to fit the toes. Pressure on the toes from too short boots or boots with pointed toes must always be prevented. The quarter or hinder portion of the boots must not be too high or it will interfere with the action of the ankle joint. The part covering the ankle-joint should be soft and pliant. The boots should fit comfortably over the instep. If properly-fitting boots cannot be obtained from army stores, specially-made boots should be provided. A large proportion of the men who report sick with blistered feet state that the fitting of boots is very often carried out in a most perfunctory manner. The recruit should be instructed to wear new boots about barracks for some time before going for a long march in them, and to keep them soft with frequent dubbing. After getting wet, boots should be slowly dried away from the fire, and then thoroughly rubbed with dubbing.

Socks.

Socks should be large enough to fit the feet comfortably after being washed three times. If too large they will crease and cause blistered feet, and if too small they will quickly wear into holes. They should be made of wool and contain no irritating dyes. The present regulation grey sock is excellent. Socks should be kept in good repair and darning done evenly, so as to avoid projections which are pressed upon by the boots and cause blistered feet. Socks must be kept clean. A dirty sock is hard, non-absorbent, and harbours germs. The soldier should be provided with at least three pairs of socks, so as to enable him to have a dry, clean pair always ready for use.

Canvas Shoes.

Soldiers should be encouraged to take off their boots and put on canvas shoes after a long march. This enables them to get their boots aired and dubbed, and cools and rests the feet. The trouble of unpacking the kit and getting the shoes out is amply repaid by the comfort of the change.

Feet.

As a general rule soldiers do not keep their feet nearly so clean as they ought. In modern barracks facilities are afforded for ablution, and steps should be taken to ensure that soldiers' feet are frequently thoroughly washed with soap and water. If the feet are naturally tender they should be soaked for a time in a solution of alum, salt, or saltpetre and water the night before a march and zinc or boracic ointment rubbed over them in the morning. In South Africa I found that men could improve the condition of tender feet by rubbing their rum ration over the tender part. Rubbing the socks inside and outside with soap or boracic ointment is very useful.

Common Ailments.

Inflammation and swelling. The common causes are: Rubbing by a seam in the boots, a wrinkle or projection in the sock, grit in the boots, and want of cleanliness. The treatment is to ascertain the cause and remove it. Soak the feet in cold water or alum, and see that the man wears clean socks, and changes into canvas shoes after marches.

Sweaty Feet.

Any tendency to sweaty feet must always be attended to; such men should keep their feet scrupulously clean, and should dust boracic acid or oxide of zinc inside their socks every morning. Rubbing their feet with belladonna liniment very often does good.

Blisters.

Caused by irritation from pressure. Treatment: Remove the cause. If the condition is detected before the blister is raised, get a piece of thick plaster larger than the irritated surface, cut out of this a piece the size of the blister, and apply the rim of the plaster left around the blister. Over this put a larger square piece of plaster with the corners rounded off. This will protect the part from pressure and remain on for several days, even with frequent washing of the feet. When it comes off the part will generally be all right. The plaster should be immersed in hot water before being applied. It sticks better after this than after being warmed before the fire or lamp. If the blister is raised, draw off the fluid as follows: Insert a clean surgical needle into the sound skin one-eighth of an inch beyond the edge of the blister and pass it horizontally into the blister. Slightly raise, and the fluid will drain out below the needle. When the fluid has thoroughly drained away, flatten the skin down and apply a pad and bandage.

Corns.

A hard corn should be carefully pared, and pressure removed by providing roomy boots. Soldiers can pare their own corns if the feet are first soaked in warm water, but it is better to have the operation done under the supervision of the medical officer. Soft corns are generally situated between the toes, and are best treated by wearing digitated socks, or by applying cotton-wool between the toes to absorb the perspiration, and so convert them into hard corns, when they can be similarly treated. Inflamed corns are best treated by removing pressure and applying lead-and-opium lotion. When the inflammation has subsided, they can be treated in the same way as hard corns. If proper attention is given to the fitting and subsequent care of boots, corns ought not to be a source of much trouble.

Chilblains.

A common cause is sitting at the fire with cold wet socks or boots on. The men should be directed to remove wet socks and boots at once on their return to barracks, and put on dry ones. If there is any tendency to chilblains, the affected parts should be gently rubbed with a stimulating liniment and thick socks worn. If cold feet at night are complained of, night socks might be worn. Judicious exercise in such is nearly always most beneficial.

Ingrowing Toenail.

The men should be taught to trim their nails properly. The nails should be cut square. Pressure from wearing boots with narrow toes should be removed. Slight cases are cured by these measures, and by pressing a wick of cotton under the free end and sides of the nail with a probe. Severe cases must be sent to hospital for operative treatment.

The above simple rules, if carefully attended to, reduce very considerably the number of men rendered inefficient from feet trouble. Officers, as a rule, pay too little attention to their men's feet. The importance of the subject and the points to be specially attended to require to be constantly brought to their notice.

Recruiting medical officers should not pass a recruit with deformed feet or toes; men with slight deformities are liable to report sick when they have any irksome duty to perform, and it occasionally happens that men with only a few months' service have to be invalided as they are unable to perform their duties owing to their suffering from flat-foot, hammer-toe, bunion, etc. Such men ought never to have been enlisted. Fitting of boots and socks and the cleanliness of the men's feet ought to receive much more attention from company officers and non-commissioned officers than at present. It is very remarkable how much attention is paid to the fitting and care of tunics, belts, etc., and the cutting of the men's hair, and how very little attention is devoted to the fitting of boots and socks and the trimming of men's toe-nails. To have a dirty rifle is considered a serious offence, but to have dirty feet is not considered nearly so serious a matter.

I may say, however, that things are slowly improving in this direction, and that suggestions made by medical officers are received most courteously, but the difficulty is to get small, though important, details carried out.

This can only be remedied by instructing officers and non-commissioned officers in all matters pertaining to the health of their men.

Captain PEAKE spoke of the importance of properly-fitting boots, a question of great interest in Leicester. The chief point to remember was that the inside edge of the boot must be parallel to "Meyer's line." Meyer's line was a line drawn through the great toe and through the centre of the ball of the toe, and if extended backwards should pass through the centre of the heel. That made a very ugly-shaped boot, but it could be made more symmetrical by adding on to the outside where the toes were not situated. Ingrowing toenail was produced by pressure on the nail from above altering the shape of the nail and expanding it laterally. The shape of the boot was of the utmost importance to the mobility of an army.

Surgeon-Captain J. ELSDALE MOLSON (2nd Volunteer Battalion Essex Regiment) drew attention to the fact that one paper advised soaping of the feet and the inside of socks, while the other said it was a mistake. One paper also advised ointment, but the other paper said it was detrimental, and he wished to inquire what was the opinion of most of those present.

Colonel E. M. WILSON, in a few remarks, referred especially to the necessity of more care and supervision being exercised by company officers and non-commissioned officers in the fitting of boots and preservation of cleanliness of feet. He referred to the number of prizes given for musketry and other exercises, and suggested that a prize might be devoted to that subject, so that men should not only learn to use their rifles but also to walk upon their feet.

SUGGESTIONS FOR FIRST-AID TREATMENT OF FRACTURED THIGH IN MILITARY OR CIVIL PRACTICE.

By Lieutenant-Colonel J. J. DE ZOUCHE MARSHALL, V.D.,
Commanding East Surrey Bearer Company, R.A.M.C.Vols.

A DESIRE for the simplification of first-aid treatment of the injured, whether in warfare or in civil life, is my excuse for the following suggestions in connexion with fractured thigh.

The "rifle splint," providing as it does perfect counter-extension, has been looked upon by all acquainted with it as an ideal remedy in such cases, but I have learned from army medical officers with large experience in the South African war that it was very seldom used in that campaign, owing to the terror produced in the minds of the unfortunate patients at the mere idea of its complicated application in the hands of imperfectly-trained men, of whom, unfortunately, hundreds had to be employed there as stretcher bearers. From what I know of the splendid training of the N.C.O.'s and men of the R.A.M.C., I have no doubt that a squad of them could with ease and expedition apply a rifle splint with a minimum of suffering to a patient, but how often did it happen that a R.A.M.C. squad could be kept together in South Africa? Instead, it was doubtless necessary to place one R.A.M.C. "trained" man in charge of three others of "all-sorts" to make up squads, and Tommy Atkins is just the man to diagnose at a glance whether such bearers were up to their work or not. Hence the yells and screams that dismissed the "rifle splint," and compelled the transport of these cases from the field on a stretcher with little more "dressing" than a bandage or two around the stretcher to steady the body on it.

If this is the case with one well-trained and three partially-trained men, it is awful to contemplate the effects of the efforts of one partially-trained civil ambulance man and three totally untrained men to apply a "broom-handle" and other splints, with about seven bandages, to a case of fractured thigh occurring in one of our streets or factories, and their unrehearsed struggles to get their patient on to a stretcher. For this is the most that civil ambulance teachers can hope for—namely, that one of their certificated pupils may happen to be on the scene of such an accident, and that said pupil may be able to direct the movements of a few untaught men from the crowd.

It stands to reason that in either case, military or civil, the treatment taught and practised should be of the simplest nature consistent with efficiency. The treatment in vogue of securing a long splint with several bandages involves so many liftings of the body and limb that the process, undertaken by amateurs, must be attended by much suffering, for, though a gentle method of introducing bandages beneath the body and limb is sometimes taught, it is seldom put into practice even at civil ambulance examinations, and would doubtless be forgotten altogether in the flurry of an actual accident.

Then why not seek an effective treatment not involving all this tying of bandages around the body and limb?

When I heard of the South African experience against the "rifle splint" I set myself to think out a substitute, and some substitute is now more necessary than ever, for the new rifle, shortened by 5 in., would be less suitable for a "rifle splint" than the old one.

I came to the conclusion that the "taut" canvas of the open or "prepared" stretcher might be utilized as a long counter-extension splint, and the patient's body and limb secured to it by means of ordinary strips of roller bandage applied through brass-rimmed eyelets in suitable positions.

The most important of these eyelets was to be one in the exact centre of the canvas, through which and two others corresponding to about the crests of the ilium a perineal bandage could be applied to fix the pelvis. I at first thought of further eyelets about the knee and ankle, but abandoned them in favour of securing the drawn-down foot by means of a bandage passed round the lower edge of the canvas, behind the centre joint of the "traverse." I have since, however, abandoned all structural interference with the

stretcher, and rely for fixing the pelvis on a roller perineal bandage attached to the upper handles, and for counter-extension on bandages fixed to the patient's foot and lower handles, as will be easily understood by reference to the drawing. I would suggest the following detail:

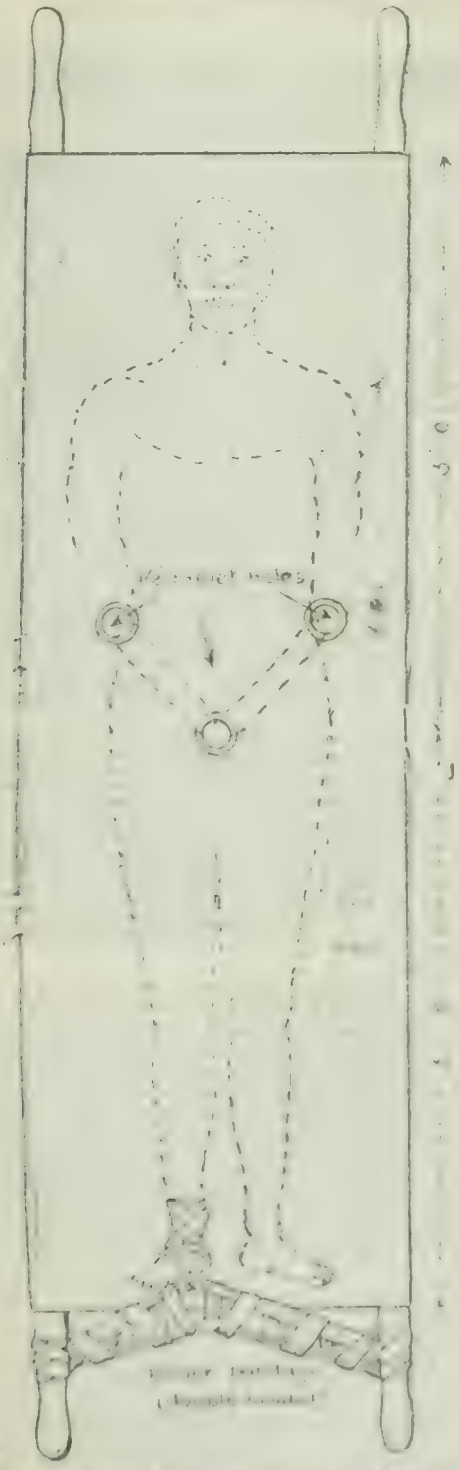


Fig. 1.—View of perforated stretcher. Scale 1 in. to a foot. In the drawing the foot is attached by one long double-headed roller to the lower handles.

The stretcher squad approaches the patient, halts, and lowers stretcher in the usual way. Nos. 1 and 3 prepare stretcher, while Nos. 2 and 4 attend to the patient and carefully straighten out the injured limb, No. 2 making steady traction on the foot, of which he remains in charge. No. 4 binds the injured limb to the sound one at the knees and ankles. Nos. 1, 3, and 4 now take from the surgical haversack and prepare:

(*a*) A six yards ordinary 3-in. calico roller bandage; unroll and double it upon itself; with the loop thus formed make a noose, to be slipped over and tightened on the upper right handle, 2 in. from the canvas. Lay the two tails together

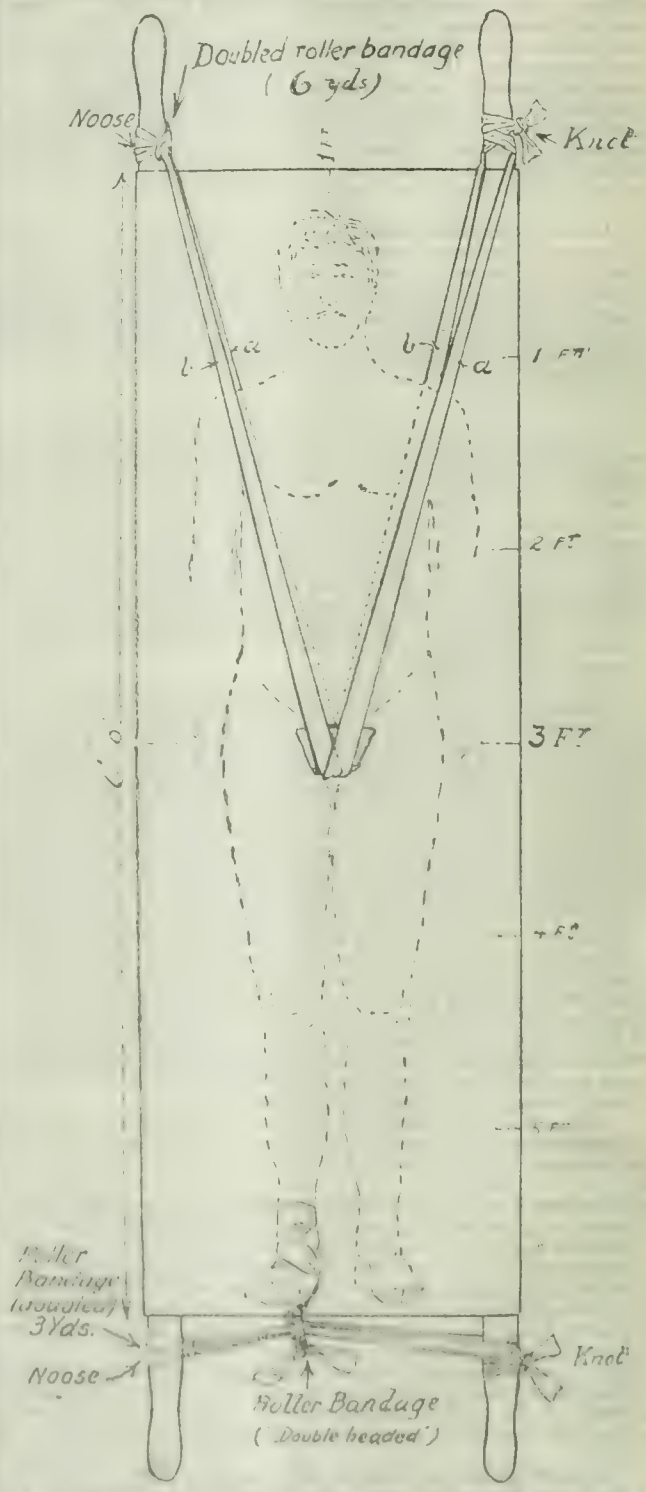


Fig. 2.—Method of providing counter-extension in the "first-aid" treatment of fracture of thigh bone. In the drawing one tail of the long bandage is carried under the right side and over the left, the other tail over the right and under the left side. This would involve more handling the patient with no corresponding advantage. The final knot inside the lower left handle is omitted.

diagonally across the stretcher, tying the ends loosely round the lower left handle.

(*b*) Three yards of similar bandage; double and noose on the lower right handle, 2 in. from the canvas; carry the two ends in opposite directions round the other (lower left) handle, 2 in. from the canvas; make a half-knot, draw tightly; take a turn with each end, knot off inside the handle, and include both tails of the bandage in a final knot to tighten the whole.

(*c*) A two yards similar bandage; unroll half and re-roll as a "double-headed" bandage, and place in No. 3's pocket or within reach of the foot of the stretcher.

The patient is now loaded on to the stretcher by the four bearers in the usual manner. No. 1 takes charge of and keeps up steady traction on the foot of the injured limb; both legs are unbound, the sound one being drawn aside. A large pad of grass or hay is folded square in a triangular bandage and placed on the perineum, the lower tails of the long bandage released from the lower left handle, their centres spread out over the perineal pad, and the ends brought up over the patient's left abdomen and chest to the upper left handle, where, after a couple of turns, they are knotted off. Another bearer (No. 4 for the right thigh, No. 2 for the left) will now take charge of the broken limb, firmly grasping the knee with both hands and maintaining downward traction while No. 1 applies the double-headed roller to the foot, placing the centre of the bandage above and in front of the ankle, crossing the ends behind, carries them again in front, crosses over the instep, and knots off under the sole. The ends are then passed in opposite directions around the centre of the transverse bandage already fixed between the two lower handles and knotted off when the length of the injured limb, as compared with the sound one, has been ascertained.

In the absence of a long roller bandage the pelvis could be easily fixed by a puttie or by a triangular bandage and a couple of pieces of strong cord thus: Open out a triangular bandage and lay it on a clean piece of ground; spread a thin layer of grass, about a foot wide from the point to the centre of the lower border, roll down the point to the latter, and tie a knot on each end. This perineal bandage is about 4 ft. long, 1 ft. of which is well padded in the middle. Take two pieces of stout cord each 2 yards long double and noose their centres over each knot on the ends of the bandage. This bandage could be attached to the upper right handle and laid diagonally on the stretcher, before the loading of the patient, in the same way as the long roller bandage, or, if the knot is not clear of the right shoulder, a narrow-fold triangular bandage should be substituted for the double cord on that side and be secured to the perineal bandage by two safety-pins.

If further support at the seat of fracture is deemed necessary, a few short leg splints could easily be applied round the femur in the usual way, after which the sound limb may be brought alongside its fellow, and both bound together at the knees and feet.

If necessary to remove the perineal pad, the upward traction could be sufficiently maintained for the time by placing the centre of a 4-yard double-headed wide roller on the middle of the upper chest, passing the ends under the armpits, crossing behind the shoulders and knotting off round the upper handles. This method could be adopted in civil practice in the case of a female patient. In the absence of a stretcher, I think the best way of securing counter-extension is that suggested by me in the British Medical Journal of October 28th, 1899, namely: Having gently straightened out the broken limb, place an assistant in charge of its foot, on which he is directed to make steady traction. Place the centre of a narrow-fold triangular bandage on the front of the broken thigh just above the knee, cross the ends behind, tighten and knot off in front. Apply a similar bandage in the same way just below the knee on the sound side, and, seeing that the limb is well drawn down, knot the four ends of the bandages tightly together, finally binding the two ankles together.

For this stretcher first-aid treatment of fractured thigh I claim:

1. That it can be carried out expeditiously and painlessly.
2. That it places the limb in the best position for dealing with haemorrhage in a compound fracture, and
3. For subsequent permanent treatment in hospital.
4. That it reduces to a minimum the suffering and danger during transport caused by sharp spiculae of bone injuring nerves and blood vessels.
5. That, by fixing the patient on the stretcher, it enables him to be carried up or down steep hills, and does away with the risk of his being thrown off in case either of the bearers should stumble while carrying him "shoulder high"—a proceeding in much favour with eminent military surgeons, notwithstanding the warnings against it in textbooks.

While on the subject of stretchers it may not be out of place to enter a protest against the continuance of the present detached stretcher-pillow, which is never by any chance at hand when wanted, because it is too bulky to be taken about with the stretcher. The simple pocket-pillow, an oblong fold of canvas, stitched down on three sides at one end of the stretcher, and capable of being stuffed with grass when required, is far the most useful pillow, is never absent, and does not interfere with the neat closing of the stretcher. If I could only obtain permission I would willingly pay the expense of converting my ten stretcher pillow cases into ten pocket-pillows, and return the horsehair to Woolwich.

Of course, the treatment suggested in my main proposition requires a stretcher, which would be easily obtained in military practice, but not so in civil life. However, with the recent very practical proposition of the London County Council to make their fire brigade stations also ambulance stations the stretcher difficulty and even the wheeled ambulance difficulty will disappear. London firemen, being entirely recruited from the Royal Navy, ought to be easily converted into really first-class ambulance men—to judge by my experience of the numerous coastguards it was my privilege to instruct at Hastings, whose application and intelligence, backed up by their proverbial 'handiness," were above all praise. With a highly-trained ex non-commissioned officer or private of the Royal Army Medical Corps in charge of each of such ambulance stations an enormous step would be taken to secure the safety of the inhabitants of the metropolis, and one which other large cities and towns would be sure to copy.

Surgeon-Captain J. Elsdale Molson drew attention to the useful work done by ambulance dogs in warfare, to which Major Richardson had devoted so much attention, he had trained dogs so successfully.

DYSENTERY AND ITS TREATMENT ON ACTIVE SERVICE.

In the discussion on dysentery and its treatment on active service, introduced by the papers of Dr. Llewellyn Jenkins and Major Faichnie, published in the British Medical Journal of August 12th, p. 323 et seq., the following remarks by Surgeon-Major G. A. Hutton were accidentally omitted:

Surgeon-Major G. A. Hutton said he had listened to the two papers read with much interest. With reference to the preventive means for dysentery on active service, the rules laid down by the authors of the papers were sound enough, but he would warn especially young medical officers, they must not expect too much in war times. The first duty of the army and the generals commanding, was to beat the enemy, and measures recommended by the army doctors, that might be carried out with precision in quiet times and peaceful manœuvres, might be quite inadmissible when an army had to press forward and give battle. He was desirous of mentioning this, as medical officers were apt to be blamed for circumstances quite beyond their control on critical occasions in war times. He had no doubt, with proper tact and common sense, the medical element and the combatant would work together harmoniously. He had generally in his own case found it so, and he thought the army medical officer of the present day was well capable of holding his own. With reference to ipecacuanha in large doses in the treatment of dysentery, this plan, he thought, was introduced nearly fifty years ago into Ceylon by an army surgeon, Dr. Docker, and with most beneficial results. As Colonel Wilson was present he might possibly be able to tell them if any records of this treatment at that time existed in the London office of the Royal Army Medical Corps.

Bequests to Medical Charities.—The late Colonel John Kenelm Digby Wingfield-Digby, of Sherborne Castle, whose will has now been proved, left £500 to the Yeatman Hospital, Sherborne.

Antialcohol Congress in Belgium.—A National Antialcohol Congress will be held at Liége on August 24th, 25th, and 26th. Discussion is to be free, but "opinions and tendencies interested in the production and sale of alcoholic drinks" will not be admitted.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, ETC.

TEMPERATURES DURING THE PUERPERIUM.

THE following temperature observations on lying-in women, made in the course of private practice, may interest those who have taken part in the discussion recently on the conduct of midwifery.

In sixty consecutive cases where fairly rigid antiseptic cleanliness was observed, the average temperature in the left axilla for the days of attendance was found to be subnormal for each day of the puerperium. Eight cases showed a temperature of 100° or over at some or other time during the lying-in period; namely, one case on the same day as confinement with 100°; one case with 101°, 102.2°, 101.8°, 101°, 100° on the third, fourth, sixth, seventh, and tenth days; one case on the fourth day with 100°; one case on the eighth day with 101.2°; one case on the second day with 101.1°; one case on the third day with 103°; one case on the second, third, and fifth days with 101.4°, 101°, 101.2°; one case on same day as confinement with 100.2°.

Only two cases show a continuous temperature of 100° or over for more than one day. Of these, one was confined during acute pleurisy; labour seemed to reduce the temperature, which again rose. This case is seventh in the above eight.

The second case, also second in the above eight, had vaginitis, metritis, and sapraemia: a midwife delivered her in my absence. A large tear occurred in the perineum, and cervical rents were present. The child was conceived prior to marriage.

The highest temperature was 103°. In this tense breasts were the exciting cause, tinea of the breast being also present, infection being got from a child with tinea of the scalp.

In other nineteen cases, the axillary average daily temperatures were all subnormal (Kew certified thermometers being used), and a subnormal axillary temperature seems the criterion. Among these nineteen cases, four had average temperatures above the normal, namely, 98.71°, 99.12°, 100.86°; 99.2° for the axilla. The case with 100.86° had a history of discharge and irritation about the pudenda prior to labour; a midwife was nurse; and, on first examination, I was struck by the adhesions round a partly open os, the raggedness of it, and the feeling of great heat in the vagina; I thought that "fever" was present even then. Metritis and pelvic cellulitis set in, and antistreptococcic serum was used, favourably. The mouth temperature in this case rose to 104.6° on the fourth day, and convalescence was long.

The daily average mouth temperatures give 99.3° on the third day, 99.5° on the fourth day, and 99.5° on the sixth day. For other days of puerperium they range from 98.6° to subnormal. The 100.86° in axilla is represented by 101.5° for six days' average in the mouth. In any cases where a temperature above 100° has developed for length of time it seems to me the chief causes have been, besides chest troubles such as pleurisy and pneumonia:

1. Faulty cleanliness on the part of the nurse—for example, leaving patient for a day soaked in discharge.

2. External skin infection at the perineum, where the skin edge of a perineal rent has been infected.

3. Infection prior to the commencement of labour, where there is a history of pruritus, vaginitis, and leucorrhoea, perhaps gonorrhoea, and where adherent membranes, and early heavy downbearing cause small tears in the cervix in first stage of labour.

There seems little ground for a pretension that high temperatures are specially caused by instrumental delivery. The usual cases of high temperature I have seen have followed easy, almost normal, first labours. The more handling, the more severe the instrumental procedure, the better, almost, seems the puerperium. Out of the first 60 cases quoted, 11 had instrumental forceps delivery, 2 being with chloroform; nevertheless, only 2 showed a temperature of 100°, one on the eighth day, and one on the same day as confinement. In the 19 cases of subnormal temperature two had forceps delivery, while another was transverse, requiring turning, and delivery under chloroform with much manipulation. The averages of these 3 cases are 97.46° (transverse case), 97.73°, and 97.1° (forceps) in the axilla, while 99.12° and 100.86° were got as averages in 2 normal first cases, and 99.2° in a premature, normal, third confinement. The first two cases had different midwives as nurses.

The normal, very easy labour, from its rapidity, produces tears in the cervix and the external outlet that give infection areas. The difficult forceps or turning case seems not to have these. I do not douch after instrumental labour, and the results are better than with douching—why? Is it because vaginal germs are not swept up into rents and cracks unseen? It seems hard that the words "infection from without" should be tacked on only to the doctor and the nurse, when possibly the patient's own skin (perineal), or cervical and vaginal mucous membranes, or pudendal surfaces are at fault, and they alone.

Hockley, Birmingham. JOHN W. DUNCAN, M.A., M.B., Ch.B.

A CASE OF QUININE AMBLYOPIA.

ON March 7th Mr. C., aged 55, a ship's captain, was referred to me by Dr. Burnett, of Saltburn-by-the-Sea, on account of rapidly-failing sight. I found that vision of both eyes was reduced to $\frac{1}{60}$, he was unable to read or write, and there was distinct restriction of the fields of vision on the outer side.

On making an ophthalmoscopic examination I was at once struck by the small size of the retinal vessels, and on asking him if he had taken any drugs quite recently he stated that for three to four weeks he had taken 5 gr. of quinine daily, with the exception of one day on which he took 10 gr. The optic discs were rather paler than normal and their outline was somewhat hazy. As regards the use of alcohol he was very temperate, but up to quite recently he had been a heavy smoker, consuming 4 oz. to 6 oz. of tobacco a week. The tobacco may have been a predisposing cause, but there can be no doubt, judging by the ophthalmoscopic appearances, the restriction of the fields of vision and the rapid recovery he made, that quinine was the active cause, and we had to deal with an undoubted case of quinine blindness. As regards treatment, I advised the administration internally of nitroglycerine, no quinine, of course, to be taken, and the use of tobacco to be much reduced.

For the following notes of the case I am indebted to Dr. Burnett:

March 13th. The patient is taking nitroglycerine; thinks he sees better than he did a few days ago.

April 1st. The patient says "he is a good deal better"; he can read and write, doing so for a few minutes, then resting and going on again. The left field of vision is complete, the right still slightly restricted. The retinal vessels look larger than they did.

April 10th. He states he has been much better for the past week; he can read and write for half an hour at a time, and then can resume after a short rest; he reads a whole newspaper this way; he complained at this time of some staggering and giddiness, so the nitroglycerine was stopped and small doses of potassium iodide given.

Very shortly after this, feeling and seeing so well and equal to duty, he got appointed to a ship and went to sea.

Stockton-on-Tees. G. VICTOR MILLER, M.D.,
Ophthalmic Surgeon to the Middlesbro' and Stockton Hospitals, etc.

MEASLES.

IN the course of a severe epidemic of English measles under my charge at a boys' school here a form of the disease occurred which seems to me worth recording. All the boys in the school who had not had measles before—with the exception of one who is said to have had it in infancy—developed the disease in from ten to fourteen days of the starting of the first case. Ten days later this same boy, whose history is doubtful, became ill with headache, fever, and a sore throat. He was found to have an ulcerated spot on the left tonsil, with great enlargement of the glands at the angle of the jaw on the same side, and on examining his urine it was found to contain a large amount of blood with many epithelial and granular casts; he also had conjunctivitis and some post-nasal catarrh and bronchitis. The febrile symptoms continued for a fortnight, being those of a case of acute nephritis, yet the urine had not the usual characteristics of such cases. To begin with, the boy was passing from 30 oz. to 60 oz. a day; blood continued to be passed in large quantities and accounted almost solely for the amount of albumen present, and the specific gravity averaged 1010. However, casts, which were passed in large quantities during the first few days, soon became less numerous. Vomiting, headache, and a little oedema of the palate were present during the first few days, but except for these, which soon passed off, and somewhat

marked anaemia, no other symptoms occurred. Traces of blood, however, were to be found in the urine for several weeks longer, but by the end of eight weeks it was clear again of abnormal constituents and the boy well on the way to recovery. I am sorry to hear, however, that he has lately been passing some sugar, though without any other symptoms of diabetes.

I cannot but think that this is a case of measles in which the poison, for some reason—possibly because of a former attack—affected the kidneys instead of the skin, entering the system by way of the tonsil.

Dr. J. F. Goodhart, who kindly came down and saw the case, agrees with me in this, and I was interested to hear that he had seen two similar cases; however, they must be rare, and the reporting of this case may be of service to others.

Broadstairs. HUGH M. RAVEN, M.R.C.S., L.R.C.P.

HEALING OF WOUNDS WITHOUT SUPPURATION.

J. W., aged 66 years, was in the summer of 1903 driving a young horse, which ran away and threw him with great violence against a hoarding. His head struck a scaffold pole, and he fell upon the pavement. I saw him a few minutes after the accident, and had him carried into a house close at hand. Dr. Campbell, of Uley, was in the town at the time, and kindly offered assistance, which was as gladly accepted. On examination we found two long cuts in the scalp running from before backwards, one near the middle line, the other a little to the right, and underneath a fracture of the skull, also running from before backwards, just above the temporal ridge. The patient was unconscious at first, and later dazed and bewildered; after the confusion had passed no sign of compression appeared.

We dressed the wounds antiseptically, provision being made for drainage; they healed kindly, and at no time was there the smallest particle of pus to be seen. Distinct thickening formed over the seat of fracture. He made a good recovery, and has followed his work now for some months. This is a case which brings out the difference between what may be expected now as compared with thirty years ago, when I began practice. At that time the occurrence of suppuration after such an accident would have been inevitable.

Dursley. J. F. JOYNES, M.R.C.S., L.S.A.

REPORTS
ON
MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

GREAT NORTHERN CENTRAL HOSPITAL.

AN UNUSUAL CAUSE OF FATAL DYSPNOEA IN A CHILD.

(Reported by BRANSBY YULE, M.R.C.S.Eng., L.R.C.P.Lond., Senior House Physician.)

A CHILD aged 4 years was admitted on May 4th, suffering from dyspnoea. The patient had been previously in this hospital suffering from bronchopneumonia, and had been discharged on April 29th well. The child's mother stated that since it left the hospital it had been quite well until two days previously (that is, May 2nd) when difficulty in breathing commenced, and had since been getting worse.

Condition on Admission.—There was considerable dyspnoea and a good deal of retraction of the ribs. There was also some cyanosis of the lips. The mother gave a history of the child having had previous similar attacks during the last six months. Under these circumstances permission was obtained from the mother for tracheotomy to be done should it become necessary. The temperature was 101°, the pulse 160, the respirations 40. The chest was found to be resonant all over, but there were a few scattered sonorous rhonchi present; heart sounds were normal. The throat was slightly congested, the tonsils were quite clear. Laryngoscopic examination, subsequently made, revealed nothing abnormal.

Progress.—The child was put to bed and a steam kettle and tent were ordered. The patient's breathing rapidly became better, and during the next few days, except for occasional attacks of dyspnoea, the patient continued to improve. On May 10th (six days after admission) the temperature reached normal, and remained so (with the exception of two slight rises) to the end of the illness. On May 17th the child was so much better (he had been taking full diet for several days) that he was allowed to get up for a short time. He continued getting up part of each day until May 24th, on which day the breathing again became embarrassed, and without any obvious cause. Physical signs in chest had in a great measure improved, and nothing fresh was to be seen in the throat. The steam kettle and tent were again ordered, this time, however, with but slight improvement in the condition of the child. During the next five days the patient continued to have severe attacks of dyspnoea every day. The attacks sometimes only lasted a few minutes, at other times they would last over an hour. It was noticed that during sleep the child as a rule appeared to breathe quite easily; at times, however, there seemed to be some obstruction to respiration, and he would sometimes wake up suddenly and have a severe attack. It was noticed also that the dyspnoea was of the expiratory type, and there was very little stridor.

Intubation.—On May 29th the child (who was now taking his food badly, and was beginning to show signs of exhaustion) was breathing so badly that intubation was tried. This did not give any relief. Various other remedies were then tried, for example, vin. ipecac. as an emetic was administered; occasionally relief was obtained. Doses of pot. bromide (5 gr.) and chloral hydrate (1 gr.) were given regularly; no appreciable benefit ensued. Inhalations of oxygen were given, also inhalations of nitrate of potash and strammonium, with the same negative results. Hypodermic injections of morphine (⅛ min.) were tried, and these at first gave marked relief. As a rule, before relief was obtained, the child vomited. These injections, however, soon ceased to give any relief. On June 3rd (thirty days after admission) the child, who had been having slight attacks of dyspnoea all the morning, suddenly became very cyanotic. Immediate tracheotomy was performed (the instruments having been kept ready by the bedside), and the tracheal dilators were inserted, and afterwards the tracheotomy tube, but although the child struggled considerably, he did not breathe. Artificial respiration was performed, and oxygen was given through the tracheal wound, but without effect. This treatment was persevered in for about ten minutes, at the end of which time life was obviously extinct.

Post-mortem Examination.—At the necropsy it was found that the epiglottis, vocal cords, and upper parts of the trachea were healthy. At the lower end of the trachea, immediately above the bifurcation, a large caseous mass was found filling up the lumen of the trachea; on further examination it proved to be a broken-down gland, which had ulcerated through the anterior wall of the trachea.

This had, therefore, caused the attacks of dyspnoea, and later, the asphyxia. The lungs were oedematous, otherwise healthy. Other organs normal.

Remarks.—Cases of children suffering from tuberculous bronchopneumonia, complicated by enlarged bronchial glands, giving rise to dyspnoea from pressure, are common, but in this case the gland had ulcerated through the trachea, and the tuberculosis was limited to the gland, the lung not being invaded by any tuberculous deposit. There were no enlarged mesenteric glands. The case, although, perhaps, not unique, is probably of sufficient rarity to warrant record. My thanks are due to Dr. R. W. Burnet for permission to publish these notes.

ROYAL NAVAL HOSPITAL, PLYMOUTH.

AN UNUSUAL FRACTURE.

(Reported by W. EAMES, Fleet Surgeon R.N.)

[Published by permission of the Medical Director-General.]

ON September 18th, 1903, F. T., aged 33, stoker, was seen by me, complaining of a contusion of the left hip, caused by falling into a boat whilst embarking from the shore on the day previous. On examination there was found to be a movable mass prominent beneath the skin about 1 in. long by ½ in. in breadth and thickness, with rounded cartilaginous edges, situated over the posterior portion of the left great trochanter, the posterior and external edge of which could not be defined as on the opposite side. The fragment was well defined by the radiograph. On interrogation, the patient stated that some three months previously he had fallen whilst descending an iron ladder in an engine-room, striking his left hip against the sharp-edged steps of the ladder, but took no subsequent notice of it. The case would appear to be one of chipping off of the postero-external border of the trochanter, which from the rounded edges of the fragment had occurred some time previously. It caused only slight pain but great inconvenience when lying on the left side. There was no diminished power in the muscular movements of the joint. Removal of the fragment was advised.

MEDICAL MAGISTRATE.—The Lord Chancellor has added to the Commissioners of the Peace for the Borough of South Shields the name of Mr. James Robertson Crease, F.R.C.P and S. Edin.

BEQUESTS TO MEDICAL CHARITIES.—Mrs. Mary Charlotte Chapman, of Evelyn Mansions, Carlisle Place, S.W., who died on July 19th, bequeathed £500 to the Cancer Hospital at Fulham, and £500 to the Hospital for Sick and Incurable Children at Chelsea.

REVIEWS.

DISEASES OF CHILDREN.

DR. PAUL GASTOU has written an interesting little book on coryza in newborn infants with congenital syphilis.[1] As he states, coryza is one of the earliest and most constant of the symptoms, and its value from a diagnostic view is admittedly great; but Dr. Gastou claims, further, that the symptom has an importance of its own, and that many serious complications, and even occasionally death itself, are directly due to the nasal condition. He rightly calls attention to the fact, which is overlooked in many textbooks, that severe interference with both suction and respiration may arise from a condition of coryza before there is any visible discharge from the anterior nares. In such cases there are swelling and tumefaction in the posterior nares, and careful inspection by the mouth will often reveal the specific discharge clinging to the wall of the pharynx. Dr Gastou distinguishes five forms of coryza, and names them either from the sites of the lesion or the effects it produces. Such a division seems somewhat fanciful. It is, moreover, unnecessary, provided it be remembered that coryza can exist without visible external discharge, and that it can give rise to a variety of retro-pharyngeal abscess and to the difficulties of deglutition and respiration before mentioned, which in their turn may be followed by cyanosis and other signs of acute suffocation. The author's last form of coryza, septicaemic rhino-pharyngitis, is even further elaborated into three distinct subdivisions—acute, subacute, and chronic. There is an appalling list given of nearly fifty complications of coryza, ranging from skin affections to spasm of the glottis, visceral hypertrophies, adenoid vegetations, meningitis, encephalitis, and sudden death. It may be said, however, that most would regard the majority of such complications as due to the general complaint, of which the coryza itself is only a part. The author is such an enthusiast on his theme that, to prevent the entrance of harmful organisms to the infantile nares, he advocates a rigorous sterilization of the mother's vagina, not only during parturition, but even during pregnancy. Where syphilis is suspected and coryza in the infant a future possibility, one might agree with him in submitting the child to a mercurial course from its birth; but whether a corresponding early local treatment of the nares, to prevent the advent of coryza, is advisable is at least open to doubt. The mercurial course would be sufficient in itself in most instances. When the stenosis of the nares from coryza is extreme, Dr. Gastou recommends the passage of a stylet, guarded at the point with a pledget of antiseptic wool, followed by various mercurial and antiseptic measures. Nasal obstruction so extreme as to need the passage of such a stylet must be exceedingly exceptional, and the soaking and removal of the crusts by some alkaline application, followed by painting the nares with a mild preparation of oleate of mercury, will suffice for the local trouble in the vast majority of cases. Dr. Gastou may be right in his contention that the local conditions of the nose in inherited syphilis have not received adequate consideration. His little work is interesting and well written, and will repay careful perusal.

DR. GRAETZER'S work, *Practical Pediatrics*,[2] may be well described as a miniature encyclopaedia of the medical and surgical diseases of infancy and childhood. With the translator, Dr. SHEFFIELD of New York, we know of no other book presenting, "in so small a space, such an abundance of practical and clinical material, pathological and bacteriological data, and details of etiology and diagnosis." The amount of information in the original work was great, and Dr. Sheffield has added to it by numerous interpolations of his own, which, in justice to himself and Dr. Graetzer, are rightly indicated by their enclosure within brackets. The condensation employed renders the book a difficult one for continuous reading. The translation is, moreover, avowedly written for Americans, and many expressions occur which appear strange to readers on this side of the Atlantic. In numerous places, again, the text is obscure. At the foot of p. 244, for example, occurs the following note: "*Choc en retour* is defined as a post-conceptional (also ovular) infection of the mother by the *ex patre* syphilitic (also through the infected sperma) semen, whereby the mother presents secondary (even tertiary) symptoms in early pregnancy. Of course, this is not of constant occurrence." These cryptic utterances might well have emanated from the master of the *Cautious Clara*, had that worthy followed a medical rather than a nautical career. The meaning to be attached to post-conceptional syphilis has, however, been a stumbling block to other authors besides the present ones. Dr. Graetzer, as a former pupil of Henoch, has been largely influenced by the teaching of that master, and, as might be expected from this, most of the matter of his book is accurate and reliable. Strong exception, however, must be taken to the advice that one part milk to three of water is an appropriate dilution for an infant 3 months old. The work cannot replace a good systematic treatise on children's diseases. But as an addendum it may prove useful for occasional reference on points that may not have been acquired or that may have escaped the memory.

In his preface to a *Manual of Diseases of Children*,[3] Dr. BURNET states that as students, and even practitioners, have often but little time for reading the larger textbooks on children's diseases, they need some such small textbook as this to aid them in their earlier searches after knowledge. His aim, then, is a modest one, and we fear the same pronouncement must be made as to his performance. The author had, indeed, set himself an impossible task, and no adequate description of most of the medical and many of the surgical diseases of children could be compressed into the space of 400 small pages, even when morbid anatomy is conspicuous by its absence. About 60 of these pages, moreover, are occupied with chapters on diseases of the skin, nose, throat and ear, and eyes. Under such conditions it must needs follow that few disorders receive satisfactory description, and many important ones—with definition, etiology, symptoms, prognosis, and treatment—are dismissed in the course of a single page, or even less. The author may well say that he found a difficulty in determining how much to include and how much to omit. May we say that he has been scarcely happy in his selection on either of these points? In almost every section matters of extreme importance are omitted, nor are these omissions advantageously replaced by frequent statements of more than doubtful validity. In the section on scorbutus, for example, he writes: "In a very short time a localized swelling is noticeable over one or both lower extremities. It may be the knee-joints or it may be the ankles that are so affected." With the above description, the most ardent early searcher after knowledge might be excused for not recognizing such swellings as subperiosteal haemorrhages, unconnected with the joints, nor is any mention made of the characteristic oedema that so commonly accompanies these haemorrhages. Again, he writes, "Fractures occur spontaneously with considerable frequency in these cases," but no indication is given that such "fractures" are due to separation of the epiphyses, owing to the effusion of blood between them and the shafts of the bones. We are further told: "In a few cases nephritis is met with, and in these haematuria and albuminuria are usually present." Now haematuria is an extremely frequent, if not fairly constant, feature in infantile scurvy, and its presence or absence will often clear up the diagnosis in doubtful cases. In the same section no mention is made of haemorrhage into the bowels, stomach, cranial cavity, or even the skin; but under the heading "Haematemesis" scorbutus is given as one of the causes of bleeding from the stomach. In the section, Haemorrhage from the Bowels, tuberculous ulceration is not given as a cause for blood in the stools, although in dealing with tuberculous enteritis he asserts that the stools in that complaint generally contain blood. No mention is made of the importance of vomiting in treating of diphtheria, nor of palsy of the diaphragm in the meagre description of diphtheritic paralysis. In the section on Pleurisy with Purulent Effusion, the author writes: "By far the most frequent cause of empyema is bronchopneumonia. Next in order we might place scarlatina, measles, and diphtheria; and lastly, peri-

[1] *La Coryza Syphilitique, Rhino-pharyngite Purulente Septico-pyohémique, chez les Nouveau-Nés* [Syphilitic Coryza in Newborn Infants with Hereditary Syphilis.] Par M. le Dr Paul Gastou. Ancien Chef de Clinique et Assistant de Consultation. Chef de Laboratoire de la Faculté à l'Hôpital Saint Louis. Paris: O. Doin. 1904. (Demy 8vo, pp. 34. Fr. 1.)

[2] *Practical Pediatrics: a Manual of the Medical and Surgical Diseases of Infancy and Childhood.* By Dr. E. Graetzer. Translated, with numerous additions and notes, by Herman B. Sheffield, M.D., Instructor in Diseases of Children and Attending Pediatrist (O. P. D.) New York Post Graduate Medical School and Hospital; Visiting Pediatrist to the Metropolitan Hospital and Dispensary. Philadelphia: F. A. Davis Co. 1905. (Demy 8vo, pp. 536. 3 dols.)

[3] *Manual of Diseases of Children.* By James Burnet, M.A., M.B., M.R.C.P., Registrar and Assistant to the Extra Physicians, Royal Hospital for Sick Children; Senior Clinical Medicine Tutor, Extra-mural Wards, Royal Infirmary; and Physician to the Marshall Street Dispensary, Edinburgh. Edinburgh: E. and S. Livingstone. 1905. (Cr. 8vo, pp. 400. 6s. 6d.)

toneal conditions. Other causes are much rarer, and need hardly be mentioned in a work such as this." It would be interesting to know how many cases of empyema the author has known with a causal origin in diphtheria. How the author could deem croupous pneumonia so rare a cause that it "need scarcely be mentioned" is difficult to say, more especially as when dealing with the last he had previously written, "One of the commonest complications is empyema." A curious statement is made that the temperature in croupous pneumonia is never less than 104°, and an astounding one that in bronchopneumonia "it is very rare that we obtain definite bronchial breathing." It is news to us, moreover, that aspirin "entirely replaces salicylate of soda in the treatment of rheumatism in childhood." The least unsatisfactory portion of the work is that dealing with infant feeding, but here, again, we would take exception to several of the propositions laid down.

THE APPENDIX AND ITS DISEASES.

The *Vermiform Appendix and its Diseases*,[4] by Howard A. Kelly and E. Hurdon, is in more respects than one a remarkable book. It may be said that twenty years ago the importance of the appendix as a factor in abdominal disease was relatively unrecognized, the term appendicitis was then uncoined. To-day its importance has reached such dimensions that we have a volume of eight hundred pages entirely devoted to a consideration of its structure and its diseases. The book has other claims to distinction; it reaches the high-water mark of medical monographs, both in regard to the learning, research, and clinical reasoning of the text and in the quality of its illustrations. These are really magnificent, and we offer the artists—Miss Huntington and Messrs. Horn, Brödel, and Becker—our congratulations on the brilliance of their work. The first three chapters are devoted to the history of the subject, in which three periods are distinguished: The first is traced from the first recorded case of appendix disease to the establishment of lesions of the appendix as productive of well-defined clinical symptoms, and covers the period 1759-1827. The second extends from this up to the time when appendicitis was recognized as a surgical affection—from 1827 to 1886. The third is held to have been opened by the paper of Reginald Fitz, in 1886, and is the period of deliberate surgical treatment of appendicitis. Following the historical account, four chapters are devoted to anatomy, the first to embryology and comparative anatomy, the others to the normal human anatomy and histology of the appendix. These chapters are exhaustive and splendidly illustrated. The physiological aspect is treated in a short chapter; it is held that the existence of a characteristic function is at present in doubt, and must be decided by further experiment. The consideration of pathological processes opens with a chapter in which a brief description is given of appendicitis in its various phases, apart from symptomatology, and uninfluenced by treatment, and this leads up to a description of autopsy findings. The pathology of the different types of appendicitis is treated very fully; among the most valuable sections are those on the specific inflammatory affections, tuberculosis, actinomycosis, typhoid fever, and amoeboid dysentery. In typhoid fever the appendix is involved in about one-third of the cases, the typhoid lesions may be complicated with secondary invasion by other bacteria, and such cases probably comprise a large proportion of those in which symptoms of an acute perforative appendicitis occur early in typhoid fever; simple acute appendicitis does, however, occur in the disease in the absence of typhoid ulcers. The best general rule is not to operate for appendicitis in the early stages of typhoid fever—say up to about the tenth day—in the absence of exceedingly urgent symptoms. On the general question of the operative treatment of appendicitis the position of the surgeon is defined in a paragraph which we must quote: "While it is generally conceded that as soon as an appendicitis is found to be actively progressive a surgeon ought to be called, it is not always understood that he is not summoned merely because his knowledge of anatomy enables him to find and remove the diseased organ but rather because of his greater diagnostic skill in surgical affections and his more extensive knowledge of their natural history, which cause him to realize more fully the dangers attending each step in the progress of the disease." With this view of the position of affairs we emphatically agree. The proposal to remove the normal appendix as a prophylactic measure is looked upon as a manifestation of hysteria, and the incidental removal of normal appendices in simple cases of abdominal section is a so condemned, but the removal of the adherent appendix in the course of operation for some other condition is approved. Emphasis is laid on the fact that the ideal time for operation in acute appendicitis is within the first few hours; the difficulties in deciding the advisability of operation in the intermediate period is recognized, and while not agreeing with the dictum that "the time for operation is when the diagnosis has been made," Dr. Kelly would delay only in cases undoubtedly on the mend with the reservation that it should always be remembered that marked signs of apparent improvement may be entirely illusory. Much space is devoted to the subject of operative technique. Dr. Kelly's own practice is to use McBurney's incision when no pus is present, and Battle's incision when an abscess must be evacuated; in removing the appendix he uses the clamp and cautery. In the later chapters the neoplasms and specific infections of the appendix are discussed, and appendicitis is further considered in relation to gynaecological and obstetric questions, and in its medico-legal aspects. We have not even named several of the various types of appendix disease of which the volume treats; in one respect it differs from many like publications in that no considerable space is devoted to statistics. It is not an omission which we at all regret. We have found but one error—on p. 576 the words "left behind" are used where the text requires "removed."

[4] *The Vermiform Appendix and its Diseases.* By Howard A. Kelly, A.B., M.D., and E. Hurdon, M.D. London: W. B. Saunders and Co. 1905. (Demy 8vo, pp. 847, 3 plates, 399 illustrations. 42s.)

PRESCRIPTIONS.

Though materia medica and therapeutics are systematically taught in medical schools and form part of the regular curriculum, that department of these subjects which is concerned in their practical application—namely, the art of prescription-writing—is for the most part strangely neglected. The consequence has been that the majority of students have entered the profession without proper training in one of the most important details of their future life's work. It is in great measure this absence of knowledge on the part of the younger members of the profession which has given such an impetus to the present-day traffic in the pills, capsules, and concentrated solutions of enterprising wholesale chemists. These are prepared according to formulae, the details of which, it is true, are published, but which, however convenient and efficacious, are none the less arbitrary and unscientific. The disadvantages which arise from medication carried out on this plan of a certain formula for a certain disease are important from the point of view of the public as well as of the profession. By the use of proprietary drug combinations the idiosyncrasies and individuality of the patient are treated as a negative quantity, while the resource and intelligence of the practitioner are entirely discounted.

The sick public are too easily beguiled by the promise of wonderful cures, and many practitioners of medicine, either from laziness or ignorance, unwittingly pander to the popular craving for specifics by ordering remedies on what is little better than the haphazard plan of the vulgar nostrum vendor. The repeated protests which have been made in the medical press against this pernicious practice do not seem to have so far resulted in its diminution, but the demands which have been formulated for more careful tuition in pharmacy are at last attracting notice. It may therefore be anticipated that, both at home and abroad, the knowledge of candidates in the technique of drug administration will by and by be sufficiently thoroughly sifted in the examination room to ensure greater attention to instruction in this important department of practical medicine. That events are rapidly tending in this direction is evidenced by the publication of many useful treatises on the value of drugs and the proper method of their administration.

Two of these now before us are among the best of their class. One entitled *The Book of Prescriptions*,[5] by Mr. E. W. Lucas, is a concise and well-arranged volume which can be confidently recommended as a trustworthy guide, not only for the student, but also for the practitioner. Every drug in common use is referred to, its physical and chemical characteristics are enumerated, its therapeutic value is discussed, and its dosage clearly stated in quantities according to both the imperial and metric systems. A large number of prescriptions are given in detail, and much care has obviously

[5] *The Book of Prescriptions* (Roasley) Rewritten by E. W. Lucas, F.I.C., F.C.S. With an introduction by Arthur Latham, M.A., M.D., F.R.C.P. Eighth edition. London: J. and A. Churchill. 1905. (Fcap. 8vo, pp. 366, 5s.)

been taken to formulate these in terms of compatibility and palatability. A useful index of diseases and the various remedies which may be employed in their treatment is appended, and for purposes of reference adds to the value of what is otherwise a serviceable book.

The other volume, *Formulaire et Consultations Médicales*,[6] is issued by Professors Lemoine and Gérard of Lille, and, though more elaborate than its English compeer, is no less accurate and commendable. It describes some remedies with which we are unfamiliar in England, but, for the most part, the medicines which are in common use are the same for both countries. The dosage, preparations, and methods of administration of each drug are dealt with *seriatim*. Under most headings a series of formulae are given for the guidance of the prescriber; and a table of incompatibles is provided to guard him against the risk of unsuitable combinations. Treatment by animal extracts (opotherapy) and serumtherapy are shortly discussed, and an entire section is devoted to a description of the various spas and sanatoriums throughout Europe. The detailed directions which are given for the treatment of every important disease are remarkable for the succinct and withal comprehensive way in which they are stated, while the prescriptions which are suggested leave nothing to be desired either in simplicity or perspicuity.

APPLIED ANATOMY.

DR. COHN'S treatise on the palpable structure of the normal human body and its systematic palpation[7] is intended to give a minute description of the anatomy of the body so far as this can be revealed to the sense of touch. It will be published in several parts, of which as yet only the first—on the upper extremity—has appeared. The book owes its origin to the author's use of massage in his practice as a neurologist. He believes that the art of palpation has been much neglected, and that much uncertainty of diagnosis and lack of success in treatment by massage or electricity arise from ignorance of the exact structures that can be felt in the normal body. The student is too apt to regard anatomy as a collection of facts relating to the dead body, and does not apply his knowledge to the living form. A gulf is created between this science and practical medicine and surgery which is only partly bridged by the study of medical and surgical topography. A knowledge of surface markings and the position of various organs does not compensate for the loss of the power of visualizing structures beneath the surface, and of that exact knowledge which the constant application of the educated finger and the trained eye to the normal body brings. Dr. Cohn first discusses the best methods of palpation and then passes to the description of the upper extremity, which for his purpose he divides into seven main regions: shoulder, upper arm, elbow, forearm, wrist, hand, and fingers. The shoulder region he again subdivides into pectoral, scapular, deltoid, and axillary regions. A description of the general configuration of these regions is followed by a minute description of the results of palpation of the skin, subcutaneous tissue, glands, muscles, vessels, nerves, etc.; nothing is too insignificant to escape his notice. The facts are accurately stated, and are evidently the result of prolonged observations both on the living and the dead body. The text is illustrated by several photographs. We look forward with pleasure to the succeeding parts which will deal with the chest, abdomen, etc. We feel sure that the whole work will be welcomed by all those who desire to make anatomy a living science, and not merely the study of dry bones.

DR. FREUND'S treatise on the blood vessels of the normal and diseased uterus[8] is based on work in the Anatomical Institute of the University of Halle and in the gynaecological wards of that university. Dr. Freund is very careful about conclusions in this important publication, and admits that much more work is needed to explain the phenomenon of bleeding, menstrual or otherwise, from the uterine mucosa. The author analyses the appearances which he observed in injections and sections with great care, but the chief merit of the treatise is the artistic excellence of the 17 plates which illustrate his researches. They include 26 beautifully-coloured drawings. A few are diagrammatic. Fig. 24 will probably replace Hyrtl's well-known sketch demonstrating the distribution of the secondary branches of the uterine artery. Dr. Freund finds, as Hyrtl and Sir J. Williams did before him, that these branches run off from the main artery almost at right angles; the giving off of the tertiary branches seems to follow a regular course. The upper secondary branches which run a little upwards as well as inwards, send their branches nearly all straight downwards, but towards the cervix many of these tertiary branches pass upwards and anastomose with similar branches immediately above them. Hence it is easy to understand why in subtotal hysterectomy for fibroids the surface of the stump tends to bleed freely after the ligature of both uterine arteries unless those vessels be secured as low down as possible. The plates include some very fine drawings of double-injected uteri seen in sections, subjects from birth to after the menopause being selected. The best plate is that which represents a fibroid uterus laid open. The contrast between spaces caused by gaps in the lamellae of the hypertrophied uterine wall and spaces which are clearly dilated veins is well indicated. As we have already stated, the author prefers descriptions to conclusions, and we may add that his work is, for its kind, of the highest value, and deserves to be carefully studied by anatomists and by all concerned in the treatment of diseases of women.

THE FREQUENCY OF LATENT TUBERCULOSIS.

PROFESSOR FRANCIS HARBITZ of Christiania, in his record of observations on the prevalence, localization, and modes of dissemination of tuberculosis,[9] from the Pathological Anatomy Institute of Christiania, has brought together a large collection of valuable material and added very interesting deductions. Having in his introduction described the objects which he sought to investigate and the methods employed, he gives details of 275 necropsies on children under 15 years of age. Of this series, 117 or 42.5 per cent. were found to be tuberculous to a greater or less extent, the remaining 158 being free from any evidence of the disease. The percentage of tuberculous cases appears to be exceptionally high, especially when it is noted that the State hospital from which the majority of the cases were taken admits patients suffering from all kinds of diseases and not specially the tuberculous. In the first two years of life the proportion of non-tuberculous cases to tuberculous was 127 to 36, whereas of 22 children dying between 14 and 15 years of age 19 were found to be tuberculous. This comparative immunity of the young infants has a bearing on the question of congenital tuberculosis. A point of importance, which is comparatively new, is the large proportion of cases of latent tuberculosis amongst the children examined. By latent tuberculosis is understood the presence of infective material without any apparent pathological changes either macroscopical or microscopical. The presence of such latent tuberculosis was established by the results of inoculation of animals. In the majority of these cases it was the lymphatic glands which were affected. Two important questions suggested by these cases are discussed: Whether the bacilli in these cases retain their usual virulence, and how long we may assume the bacilli to have remained latent in the glands. It seems probable that in many cases the virulence of the bacilli has become diminished. As to the period during which the bacilli have remained latent, Professor Harbitz suggests that it is only a few months, and at the most a couple of years. The inference is that in the majority of cases the infection of tuberculosis occurs after birth and not during intrauterine life. A separate chapter is devoted to a discussion of congenital tuberculosis. Two cases of probable congenital tuberculosis are recorded, in one of which the child died when only 9 days old, and in the other death occurred at the age of 3 weeks. Other cases, 8 in number, are given of children dying under 3 months of age with undoubted tuberculosis. A most interesting observation is recorded in which a tuberculous mother gave birth to a 6 months child,

[6] *Formulaire et Consultations Médicales.* Par G. Lemoine, Professeur de Clinique Médicale, et E. Gérard, Professeur de Pharmacie à la Faculté de Médecine et de Pharmacie de Lille. Paris: Vigot Frères. 1905. (Fcap. 8vo, pp. 770. Fr. 6.)

[7] *Die palpablen Gebilde des normalen menschlichen Körpers und deren methodische Palpation.* [The Palpable Structure of the Normal Human Body, and its Systematic Palpation.] Von Dr. Toby Cohn, Nervenarzt in Berlin. 1 Teil: Obere Extremität. Berlin: S. Karger; and London: Williams and Norgate. 1905. (Demy 8vo, pp. 216, 91 illustrations. 5s. 6d.)

[8] *Zur Lehre von den Blutgefässen der normalen und kranken Gebärmutter.* [On the Blood Vessels of the Normal and Diseased Uterus.] Von Dr. Richard Freund, Privatdozent an der Universität Halle a. S. Jena: Gustav Fischer. 1904. (Demy 8vo, pp. 86, 17 coloured plates. M. 18.)

[9] *Undersøgelser over Tuberkulosens Hyppighed, Lokalisation og Udbredningsveie.* Von Francis Harbitz. Christiania: A. W. Broggers, 1905. (Demy 8vo, pp. 164.)

which survived only about five hours. Three guinea-pigs were inoculated, two with material from the placenta and the third with portions of the liver and spleen of the fetus. Both the former developed tuberculosis, whilst the last remained free. In the seventh chapter the most frequent seat of tuberculosis and of the entrance of infection in children is discussed. Professor Harbitz finds the respiratory tract a more frequent path of entrance than the digestive canal. The last two chapters are devoted to the prevalence of tuberculosis in adults, and the primary localization of tuberculosis in parts other than the respiratory organs in these older patients. There is much that will repay careful study in these observations of Professor Harbitz, and his work may be recommended to the careful consideration of students of the many problems concerning tuberculosis which are still incompletely solved.

OPEN-AIR TREATMENT OF PHTHISIS.

Dr. Burton-Fanning has produced a very readable manual on *The Open-Air Treatment of Pulmonary Tuberculosis*.[10] In it he has brought together for the use of medical practitioners the details of the most modern treatment of consumption. The first few chapters of the book are devoted to a review of the etiology and symptoms of pulmonary tuberculosis, and the selection of cases suitable for open-air treatment. In the very important matter of selection of cases, Dr. Burton-Fanning does not seem to us to furnish any very definite guide. He emphasizes the importance of an early recognition of the disease, but some of the signs which he mentions as helpful in this—for example, a moist click on auscultation and the presence of bacilli in the sputum—belong to a stage beyond that in which treatment is most hopeful. The classification of cases according to the amount of lung affected, though to a certain extent useful, is, of course, incomplete, and is by itself insufficient as a guide in prognosis. The general condition and temperament of the patient must be taken into account, and the type of the disease deserves consideration in all cases beyond the initial stage. These points are brought out by Dr. Burton-Fanning in the description of the various classes, but they might with advantage have been emphasized earlier. In the description of the Nordrach system Dr. Burton-Fanning appears to have fallen into some slight errors. Rest is insisted upon for the patients at Nordrach as at other sanatoriums, and is supervised and regulated by the physicians, and "forced" feeding in the popular acceptation of the term is not a feature of Nordrach treatment. There is nothing new in this manual; indeed, it would be difficult at the present time to say anything fresh about the sanatorium treatment of consumptives, but the book fulfils its object as a useful and trustworthy guide to the details of the open-air treatment of pulmonary tuberculosis.

HYGIENE OF PUBLIC SCHOOLS.

In judging of the value of a textbook the cautious reader will usually seek to ascertain whether the writer has actual experience of his subject or whether he writes from study of the experiences of others. The appearance of a fourth edition of Dr. Dukes's *Health at School*[11] fully and justly indicates that his teaching has been accepted by a wide circle of readers, who recognize in his thirty-three years of practical experience of school life a trustworthy guarantee that he knows the subject of which he writes. There are probably few questions in relation to the hygiene of a public school an answer to which could not be found in this volume. Dr. Dukes points out to schoolmasters and parents alike the high road to moral and physical perfection, but it is to be feared, as he himself confesses, that such guidance is by no means universally accepted and that too many schools still exist where the errors and negligence of bygone times are perpetuated, although, as he puts it, "first-class fares are charged for third-class accommodation." The vital importance to the future man or woman of skilled guidance during the period of youth and adolescence can hardly be exaggerated, and the strong plea made by the author for more outspokenness on the part of parents in warning their children against the evils that may come upon them before they can realize their importance seems fully justified. Under the less formal relations which now subsist between parents and children such warnings can be more effectively given than in those more precise days where each child stood more or less in awe of its parents, but to be effective the necessary warning and advice must be conveyed in clear and simple terms; this is held to be the duty of the parent rather than the schoolmaster. The necessity for abundant sleep, the evil effects of injudicious feeding, imperfect ventilation, overwork, and excessive play are made the subject of careful consideration, rendered especially convincing by the strong vein of common sense, tempered by practical experience, that pervades the book. If its teachings could be more universally adopted and practised, the upper classes of the community at any rate would be saved from the reproach of deterioration, and the seed of immorality now so abundantly sown in schooldays would not survive to flourish as the full-grown tree of vice in so many high, if secret, places.

[10] *The Open-Air Treatment of Pulmonary Tuberculosis.* By F. W. Burton-Fanning, M.D.Cantab. London: Cassell and Co. 1905. (Crown 8vo, pp. 176. 5s.)

[11] *Health at School, considered in its Mental, Moral, and Physical Aspects.* By Clement Dukes, M.D., B.S Lond., F.R.C.P., Physician to Rugby School. Fourth edition. London: Rivingtons. 1905. (Crown 8vo, pp. 642, 10s. 6d).

NOTES ON BOOKS.

Messrs. Squire and Sons have published a small volume on *Medical and Pharmaceutical Topics*[1] which deals with a large number of matters of practical therapeutical interest. These have all been discussed in the medical journals since the publication of the recent edition of the *Pocket Companion to the British Pharmacopoeia*, and the present addendum is the first of a series intended to serve as supplements to this volume, and to bring its information up to recent date. The contents consist of short abstracts, with references to recent papers on new drugs and new preparations, and, in fact, to all current subjects specially connected with therapeutics. It is therefore likely to be of service in the requirements of daily practice. The volume may be obtained on application to the firm by any medical practitioner.

The second fasciculus of the ninth volume of *Transactions of the Bombay Medical and Physical Society* is in itself sufficient evidence of the scientific work which is now being done in India. The papers include one in which Dr. Arthur Powell draws attention to the neglect in English textbooks of any notice of the occurrence in cases of acute poisoning by arsenic of subserous ecchymoses in the endocardium. He states that in 9 out of 10 consecutive cases of such poisoning he found ecchymoses present in the left ventricle. On the other hand he only found them present in 5 out of 557 bodies in which death had been due to another cause. Moreover, in 4 out of 5 of these exceptional cases, ecchymoses were to be found elsewhere than in the endocardium alone, while in 8 of the arsenic cases they were confined to the left ventricle. In another paper Dr. R. Row gives an account of a careful laboratory investigation of various cases of continued fever of the typhoid type. He has endeavoured to determine their precise nature by estimating the bacteriolytic power of blood drawn from the patients on various members of typho-coli group of micro-organisms. The paper is illustrated by a large number of photomicrographs. He appears to agree with Childe, Spencer, and others, that true typhoid is sufficiently common among the natives of India, and that there are also to be met many cases of mixed intestinal infection. Cases in which the Leishman-Donovan body was discovered in Bombay patients are described by Major C. H. L. Meyer, I.M.S., and Major Childe; in both it seemed possible to doubt whether they were of indigenous origin. Among the records of cases shown is one of cretinism in a Goan boy, of whom a striking photograph is reproduced; although his age is stated to be 17, his appearance is that of a child of 3 or 4.

We congratulate Professor Titchener on his success in the difficult task of translating the first part of Professor Wundt's *Principles of Physiological Psychology*.[2] It is practically essential for every serious student of modern psychology to be acquainted with Wundt's work, and for a large number of English readers this task will be greatly facilitated by the present translation. Wundt's influence on the science of psychology can be best appreciated by contrasting its present status, towards which he has contributed so much, with the

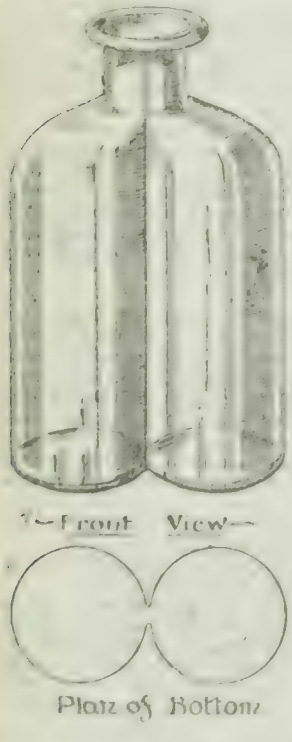
[1] *Résumé of Medical and Pharmaceutical Topics since the Publication of Squire's Pocket Companion to the British Pharmacopoeia.* London: Squire and Sons. 1905. (Fcap. 8vo, pp. 60.)

[2] *Principles of Physiological Psychology.* By Wilhelm Wundt. Translated from the Fifth German Edition (1902) by Edward Bradford Titchener. Vol. I. London: Swan Sonnenschein and Co. 1904. (Demy 8vo, pp. 347, 105 illustrations. 12s.)

chaos of obscurity, prejudice, and unscientific dogmatism in which the subject was involved when the first edition of his work appeared in 1874. But Wundt is not merely the great pioneer of scientific psychology, he possesses the rare gift of genius which enables him to keep pace with the inrush of new ideas and investigations for which his original work provided the necessary stimulus, and to criticize and recast them in the light of his maturer experience. Therefore the fifth edition of Wundt's textbook, published in 1902, has far more than a merely historical value; it presents the principles of Wundt's psychology in a modernized form, remoulded in the experience of recent discoveries. The present volume covers Part I of the German work, which deals with "the bodily substrate of the mental life." We hope that Professor Titchener is continuing his task, and that he will in due course give us a complete English version of the entire work.

MEDICAL AND SURGICAL APPLIANCES.

A New Poison Bottle.—The annexed illustration represents a new poison bottle which is the invention of Dr. G. J. O'Reilly, of Catford, S.E. As will be noted it looks like two bottles with one neck. It is claimed for it that it is simple in construction and that it cannot be mistaken for an ordinary medicine bottle, when once it is taken in the hand. These claims seem to us to be fully justified and the invention to be of distinct value. The use of this bottle in hospital wards and under analogous conditions elsewhere as a receptacle for any liquid of a contingently dangerous character would certainly make misadventures very much less liable to occur. The bottle, we understand, costs very little more than an ordinary bottle and is to be put upon the market by Messrs. Corbyn and Stacey, of Oxford Street. In addition to the uses which we have indicated many of those who dispense their own medicines might save themselves anxiety by making use of this bottle for liquid drugs of a poisonous character.



Wireless Electric Battery.—We have received from the American Manufacturers' (Central) Agency, 80A, Southwark Street, S.E., a sample of a wireless electric battery composed of a dry cell and a small induction coil arranged inside a case. This takes the form of a nickel-plated cylinder with an ebonite insulating piece at the centre, and two ends which are connected to the terminals of the coil. Thus, if one end be held in the hand while the other is applied to some other part of the body surface, a current is felt. The coil is set in action by a simple movement. It is intended for self-treatment by induction coil currents. Though possibly useful in some cases, this instrument is of no special medical utility.

PROFESSOR ESMARCH.—The venerable Professor Esmarch was present at the unveiling of a memorial of himself which has been erected by his friends and admirers in his native place, Tonningen in Schleswig-Holstein. The ceremony took place on August 6th. Professor Esmarch is more fortunate than another luminary of medical science who also had a statue erected to him in his lifetime. The famous anatomist, Hyrtl, was present at the unveiling of his memorial in the Arcade of the University of Vienna, but he could not see it as he was almost blind. Nevertheless, he delivered a vigorous speech in Latin.

NOVA ET VETERA.

ANCIENT SANITATION IN THE EAST.

COLONEL W. G. KING, C.I.E., whose splendid work in the cause of sanitary progress in India has at last received some measure of official recognition, has contributed some interesting notes on ancient sanitation in the light of modern science to the *Arya*, a monthly magazine which takes for its province Aryan religion, philosophy, literature, and science. These have been reprinted in pamphlet form as one of the Eastern Sanitation Series.

Colonel King tells us that in ancient India the system of sanitation was so woven into the religious and daily lives of the people that classes became distinguished from each other by the nature of their sanitary observances. In the Sastras simple and correct principles are laid down as to purity, impurity, and purification, which embraced the whole science of sanitation. The methods of purification used by the ancient Hindus were meant only for individuals scattered over a large area of territory and living simple agricultural and pastoral lives, and were therefore such as were available in everyday life. In illustration of these principles, Colonel King points to the injunctions relative to the protection of the alimentary canal. In addition to requirements as to bathing the whole body and the wearing of clean clothes at meals, it was enjoined not to "crush earth or clods, nor tear off grass." This prohibition, doubtless, had for its object the prevention of the lodgment of parasites under the nails of the fingers which convey food to the mouth, and, according to Colonel King, seems to be directed especially against the entrance into the body of the ankylostoma duodenale, which is excessively common throughout India. Recent investigations by Captain Williams, I.M.S., showed that a large proportion, possibly over 50 per cent., of the native inhabitants of Madras suffer from the parasite; in other areas the proportion is as high as 75 per cent. Moreover, it is directed that food should be given "very hot"; this would destroy any germs it might contain. Protection against intestinal derangements also underlies the injunction that there shall not be eaten "any sweet thing that has turned sour, nor what has been kept a whole night, nor the leavings of another man."

Water must be "collected on pure ground." For the prevention of contamination, it is forbidden to respond to the calls of Nature on the banks of a river or in water; and it is enjoined not to "throw urine or faeces into the water, nor saliva nor clothes defiled by impure substances nor any other impurity nor blood nor poisonous things." To their disregard of these precepts Colonel King attributes a very large proportion of the bodily suffering and death among the Hindus. It is stated in the sacred books that a river is "purified by its currents"; this in practice is treated as meaning that "running water is pure"—a corruption which transforms a wholesome truth into a pestiferous error. As a means of artificially purifying water mention is made of the "clearing nut" (*Strychnos potatorum*), straining through cloth with subsequent exposure to the sun, and the dropping of red-hot balls into the water. This looks like an anticipation of the policy of the tea kettle. Boiled water was also recommended in various disorders, particularly fever. The Laws of Manu contain the following direction: "Far from his dwelling let him remove urine and ordure, far let him remove the water used for washing his feet and the water from his bath." The necessity for segregation during the incubation of disease was fully recognized. Thus, detailed directions are given as to clothing, food, and exclusion from intercourse, not only of those in direct contact with the source of impurity, but of all who might reasonably be suspected of having been in contact with persons under the ban of suspicion.

In reference to plague, the instant evacuation of houses as soon as plague declares itself is clearly recommended in a Mantra which has been circulated since Colonel King called attention to it in 1898. The relation of rats to plague seems to have been recognized, for it is stated that "intelligent people . . . on the moment the rats fall from the roof about, jump about and die . . . will at once leave their houses with their friends and relations and go to a plain." Colonel King points out that the injunction to remove the whole household to unpolluted ground that has never been lived upon by human beings, and not to return to the infected house till lapse of time and special processes for its purification have made it safe, represents the whole policy of the various regulations issued by each local government in reference to plague-infected villages. Even the modern modes of disin-

fection in this disease are strictly in accord with those laid down in the Sastras for inanimate objects—namely, for the flooring of houses, "scraping and burning"; for disinfection of buildings, free exposure to the sun and wind; and for other objects, dry heat or "hot water," and chemicals which are "alkalies and acids."

In the case of Mohammedans, it would appear that the type of sanitation evolved has been more in accordance with the requirements of communities than that laid down by the Sastras of the Hindus, where the individual is more closely considered. In the Koran the importance of sanitation to the welfare of individuals is recognized. In it are found passages like the following: "Water was created for the purpose of cleanliness and purification;" "keep your dress clean; shun filth and uncleanliness;" "God loves those who keep themselves clean;" "if while getting yourself clean you leave any portion dirty, you sin." The injunction not to eat of the flesh of the unclean animal, which was also given to the Jews, and to abstain from all spirituous liquors and intoxicating substances, are important from a hygienic point of view. In practical sanitary works the Mohammedan rulers were not wanting. They have left magnificent examples of public works for the distribution of water by pipes under pressure in Burhanpur, Ahmednagar, and Aurangabad. These grand old waterworks still perform their duty after the lapse of nearly three centuries. The source of the water supplies was in each case the best that could be procured for sanitary safety—namely, subsoil water from a pure locality by means of infiltration galleries, showing that the Mohammedans had skilled sanitary engineers. To this day in Beluchistan the natives form infiltration galleries at high levels, on the same principles, for irrigating their crops in the valleys. In epidemics of plague the Mohammedans insisted on the prompt evacuation of infected houses.

BRITISH ASSOCIATION.

The British Association for the Advancement of Science is now in session at Capetown.

President's Address.

On August 15th the new President (Professor G. H. Darwin) delivered the first part of his presidential address; the second part will be delivered at Johannesburg on August 30th. The following is an abstract of the full report of the address published in the *Times* of August 16th. Professor Darwin said that the rate at which the development of knowledge proceeded was truly astonishing, but, from a wider point of view, the scale of time was relatively unimportant, for the universe was leisurely in its procedure. Whether the changes which they witnessed were fast or slow, they formed a part of a long sequence of events which began in some past of immeasurable remoteness and tended to some end which they could not foresee. It must always be profoundly interesting to the mind of man to trace successive cause and effect in the chain of events which made up the history of the earth and all that lived on it, and to speculate on the origin and future fate of animals, and of planets, suns, and stars. He proposed, therefore, to try to set forth some of the attempts which had been made to formulate evolutionary speculation. The man who propounded a theory of evolution was attempting to reconstruct the history of the past by means of the circumstantial evidence afforded by the present. The historian of man, on the other hand, had the advantage over the evolutionist, in that he had the written records of the past on which to rely. The evolutionist was spared the surpassing difficulty of the human element, yet he also needed imagination, although of a different character from that of the historian. In its lowest form his imagination was that of the detective who reconstructed the story of a crime; in its highest it demanded the power of breaking loose from all the trammels of convention and education, and of imagining something which had never occurred to the mind of man before. The test of a scientific theory lay in the number of facts which it grouped into a connected whole; it ought besides to be fruitful in pointing the way to the discovery and co-ordination of new and previously unsuspected facts. Thus a good theory was in effect a cyclopaedia of knowledge, susceptible of indefinite extension by the addition of supplementary volumes. Hardly any theory was all true, and many were not all false. A theory might be essentially at fault and yet point the way to truth, and so justify its temporary existence. We should not, therefore, totally reject one or other of two rival theories on the ground that they seemed, with our present knowledge, mutually inconsistent, for it was likely that both might contain important elements of truth. We must not scruple to pursue the several divergent lines of thought to their logical conclusions, relying on future discovery to eliminate the false and to reconcile together the truths which formed part of each of them. In the mouths of the unscientific evolution was often spoken of as almost synonymous with the evolution of the various species of animals on the earth, and this again was sometimes thought to be practically the same thing as the theory of natural selection. Of course, those conversant with the history of scientific ideas were aware that a belief in the gradual and orderly transformation of nature, both animate and inanimate, was of great antiquity.

Natural Selection.

Until recently theories of evolution in both realms of Nature were partial and discontinuous, and the chains of facts were correspondingly short and disconnected. At length the theory of natural selection, by formulating the cause of the divergence of forms in the organic world from the parental stock, furnished the naturalist with a clue, by which he examined the disordered mass of facts before him, and he was thus enabled to go far in deducing order where chaos had ruled before; but the problem of reducing the heap to perfect order would probably baffle the ingenuity of the investigator for ever. So illuminating had been this new idea that, as the whole of nature had gradually been re-examined by its aid, thousands of new facts had been brought to light, and had been strung in due order on the necklace of knowledge. The transformation resulting from the new point of view had been so far-reaching as almost to justify the misapprehension of the unscientific as to the date when the doctrines of evolution first originated in the mind of man. It was not his object, nor, indeed, was he competent, to examine the extent to which the theory of natural selection had needed modification since it was first formulated by his father and Wallace. But he was surely justified in maintaining that the general principle held its place firmly as a permanent acquisition to modes of thought. Evolutionary doctrines concerning inanimate nature, although of much older date than those concerning life, had been profoundly affected by the great impulse of which he had spoken. It had thus come about that the origin and history of the chemical elements and of stellar systems now occupied a far larger space in the scientific mind than was formerly the case. The subject which he would discuss that night was the extent to which ideas, parallel to those which had done so much towards elucidating the problems of life, held good also in the world of matter; and he believed it would be possible to show that in this respect there existed a resemblance between the two realms of nature, which was not merely fanciful. As long ago as 1873 Baron Karl du Prel discussed the same subject from a similar point of view, in a book entitled *The Struggle for Life in the Heavens*.[1] Although inanimate matter moved under the action of forces which were incomparably simpler than those governing living beings, yet the problems of the physicist and the astronomer were scarcely less complex than those which presented themselves to the biologist. The mystery of life remained as impenetrable as ever, and in his evolutionary speculations the biologist did not attempt to explain life itself, but, adopting as his unit the animal as a whole, discussed its relationship to other animals and to the surrounding conditions. The physicist, on the other hand, was irresistibly impelled to form theories as to the intimate constitution of the ultimate parts of matter, and he desired further to piece together the past histories and the future fates of planets, stars, and nebulae. If, then, the speculations of the physicist seemed in some respects less advanced than those of the biologist, it was chiefly because he was more ambitious in his aims. The fundamental idea in the theory of natural selection was the persistence of those types of life which were adapted to their surrounding conditions, and the elimination by extermination of ill-adapted types. The struggle for life amongst forms possessing a greater or less degree of adaptation to slowly-varying conditions was held to explain the gradual transmutation of species. Although a different phraseology was used when we spoke of the physical world, the idea was essentially the same.

[1] *Der Kampf um's Dasein am Himmel* (Zweite Auflage), Denicke. Berlin. 1876.

A Political Illustration.

The point of view from which he wished them to consider the phenomena of the world of matter might be best explained if, in the first instance, he referred to political institutions, because they all understood, or fancied they understood, something of politics, whilst the problems of physics were commonly far less familiar to them. This illustration would have a further advantage, in that it would not be a mere parable, but would involve the fundamental conception of the nature of evolution. The complex interactions of man with man in a community were usually described by such comprehensive terms as the State, the Commonwealth, or the Government. Various states differed widely in their constitution and in the degree of the complexity of their organization, and they classified them by various general terms—such as autocracy, aristocracy, or democracy, which expressed somewhat loosely their leading characteristics. But, for the purpose of showing the analogy with physics, they needed terms of wider import than those habitually used in politics. All forms of the State implied inter-relationship in the actions of men, and action implied movement. Thus the State might be described as a configuration or arrangement of a community of men, or it might be said that it implied a definite mode of motion of man—that is to say, an organized scheme of action of man on man. Political history gave an account of the gradual changes in such configurations or modes of motion of men as had possessed the quality of persistence or of stability to resist the disintegrating influence of surrounding circumstances. In the world of life the naturalist described those forms which persist as species; similarly the physicist spoke of stable configurations or modes of motion of matter; and the politician spoke of States. The idea at the base of all those conceptions was that of stability or the power of resisting disintegration. In other words, the degree of persistence or permanence of a species, of a configuration of matter, or of a State depended on the perfection of its adaptation to its surrounding conditions. If they traced the history of a State, they found the degree of its stability gradually changing, slowly rising to a maximum, and then slowly declining. When it fell to nothing a revolution ensued, and a new form of government was established. The new mode of motion or government had at first but slight stability, but it gradually acquired strength and permanence, until in its turn the slow decay of stability led on to a new revolution. Such crises in political history might give rise to a condition in which the State was incapable of perpetuation by transformation. This occurred when a savage tribe nearly exterminated another tribe and led the few survivors into slavery; the previous form of government then became extinct. The physicist, like the biologist and the historian, watched the effect of slowly varying external conditions; he saw the quality of persistence of stability gradually decaying until it vanished, when there ensued what is called in politics a revolution.

Continuous Transformation of Species.

These considerations led him to express a doubt whether biologists had been correct in looking for continuous transformation of species. Judging by analogy, they would rather expect to find slight continuous changes occurring during a long period of time, followed by a somewhat sudden transformation into a new species, or by rapid extinction. However this might be, when the stability of a mode of motion vanished the physicist either found that it was replaced by a new persistent type of motion adapted to the changed conditions, or perhaps that no such transformation was possible, and that the mode of motion had become extinct. The evanescent type of animal life had often been preserved for them, fossilized in geological strata; the evanescent form of government was preserved in written records or in the customs of savage tribes; but the physicist had to pursue his investigations without such useful hints as to the past. The time scale in the transmutation of species of animals was furnished by the geological record, although it was not possible to translate that record into years. The time needed for a change of type in atoms and molecules might be measured by millionths of a second, while in the history of the stars continuous changes occupied millions of years. Notwithstanding this gigantic contrast in speed, the process involved seemed to be essentially the same. It was hardly too much to assert that, if the conditions which determined stability of motion could be accurately formulated throughout the universe, the past history of the cosmos and its future fate would be unfolded. The study of stability and instability furnished the problems which the physicist and biologist alike attempted to solve. The two classes of problems differed principally in the fact that the conditions of the world of life were so incomparably more intricate than those of the world of matter that the biologist was compelled to abandon the attempt to determine the absolute amount of the influence of the various causes which had affected the existence of species. His conclusions were merely qualitative and general, and he was almost universally compelled to refrain from asserting even in general terms what were the reasons which had rendered one form of animal life stable and persistent, and another unstable and evanescent. On the other hand, the physicist, as a general rule, did not rest satisfied unless he obtained a quantitative estimate of various causes and effects on the systems of matter which he discussed. Yet there were some problems of physical evolution in which the conditions were so complex that the physicist was driven, like the biologist, to rest satisfied with qualitative rather than quantitative conclusions.

Natural Selection of the Atom.

The fascinating idea that matter of all kinds had a common substratum was of remote antiquity. In the Middle Ages the alchemists, inspired by that idea, conceived the possibility of transforming the baser metals into gold. The sole difficulty seemed to them the discovery of an appropriate series of chemical operations. The object of alchemy, as stated in modern language, was to break up or dissociate the atoms of one chemical element into its component parts, and afterwards to reunite them into atoms of gold. Although even the dissociative stage of the alchemistic problem still lay far beyond the power of the chemist, modern researches seemed to furnish a sufficiently clear idea of the structure of atoms to enable them to see what would have to be done to effect a transformation of elements. Indeed, in the complex changes which were found to occur spontaneously in uranium, radium, and the allied metals, they were probably watching a spontaneous dissociation and transmutation of elements. Natural selection might seem, at first sight, as remote as the poles asunder from the ideas of the alchemist, yet dissociation and transmutation depended on the instability and regained stability of the atom, and the survival of the stable atom depended on the principle of natural selection. Until some ten years ago the essential diversity of the chemical elements was accepted by the chemist as an ultimate fact, and, indeed, the very name of atom, or that which could be cut, was given to what was supposed to be the final indivisible portion of matter. The chemist thus proceeded in much the same way as the biologist who, in discussing evolution, accepts the species as his working unit. Accordingly, until recently, the chemist discussed working models of matter of atomic structure, and the vast edifice of modern chemistry had been built with atomic bricks.

Divisibility of the Atom.

Within the last few years, however, the electrical researches of Lenard, Roentgen, Becquerel, the Curies, of his colleagues Larmor and Thomson, and of a host of others, had shown that the atom, previously supposed to be indivisible, really consisted of a large number of component parts. By various convergent lines of experiments it had been proved that the simplest of all atoms—namely, that of hydrogen—consisted of about 800 separate parts; while the number of parts in the atom of the denser metals must be counted by tens of thousands. These separate parts of the atom had been called corpuscles or electrons, and might be described as particles of negative electricity. The corpuscles, being negatively electrified, repelled one another just as the hairs on a person's head mutually repelled one another when combed with a vulcanite comb. The mechanism was as yet obscure whereby the mutual repulsion of the negative corpuscles was restrained from breaking up the atom, but a positive electrical charge, or something equivalent thereto, must exist in the atom so as to prevent disruption. The existence in the atom of this community of negative corpuscles was certain, and it was known further that they were moving with speeds which might in some cases be comparable to the velocity of light, namely, 200,000 miles a second. But the mechanism whereby they were held together in a group was hypothetical. Only a year ago Thomson suggested, as representing the atom, a mechanical or electrical model whose properties could be accurately examined by mathematical methods. He would be the first to admit that his model

was at most merely a crude representation of actuality, yet he had been able to show that such an atom must possess mechanical and electrical properties which simulated, with what Whetham describes as "almost Satanic exactness," some of the most obscure and yet most fundamental properties of the chemical elements. *Se non è vero, è ben trovato*, and they were surely justified in believing that they had the clue which the alchemists sought in vain. Thomson's atom consisted of a globe charged with positive electricity, inside which there were some thousand or thousands of corpuscles of negative electricity, revolving in regular orbits with great velocities. Since two electrical charges repelled one another if they were of the same kind and attracted one another if they were of opposite kinds, the corpuscles mutually repelled one another; but all were attracted by the globe containing them. The forces called into play by these electrical interactions were clearly very complicated, and they would not be surprised to learn that Thomson found himself compelled to limit his detailed examination of the model atom to one containing about 70 corpuscles.

The Struggle for Life among Corpuscles.

It appeared that there were definite arrangements of the orbits in which the corpuscles must revolve, if they were to be persistent or stable in their motions. For the purpose of general discussion it might be taken that the number of corpuscles in such a community was fixed; and they might state that definite numbers of corpuscles were capable of association in stable communities of definite types. An infinite number of communities was possible, possessing greater or lesser degrees of stability. Thus the corpuscles in one such community might make thousands of revolutions in their orbits before instability declared itself; such an atom might perhaps last for a long time as estimated in millionths of seconds, but it must finally break up and the corpuscles must disperse or rearrange themselves after the ejection of some of their number. They were thus led to conjecture that the several chemical elements represented those different kinds of communities of corpuscles which had proved by their stability to be successful in the struggle for life. If this were so, it was almost impossible to believe that the successful species had existed for all time, and they must hold that they originated under conditions about which we must forbear to follow Sir Norman Lockyer in speculating. But if the elements were not eternal in the past, they must ask whether there was reason to believe that they would be eternal in the future. Although the conception of the decay of an element and its spontaneous transmutation into another element would have seemed absolutely repugnant to the chemist until recently, analogy with other moving systems seemed to suggest that the elements were not eternal.

Atoms not Eternal.

At any rate it was of interest to pursue to its end the history of the model atom which had proved so successful in imitating the properties of matter. The laws which governed electricity in motion indicated that such an atom must be radiating or losing energy, and therefore a time must come when it would run down, as a clock did. When this time came it would spontaneously transmute itself into an element which needed less energy than was required in the former state. Thomson conceived that an atom might be constructed after his model so that its decay should be very slow. It might, he thought, be made to run for a million years, but it would not be eternal. Such a conclusion was an absolute contradiction to all that was known of the elements until recently, for no symptoms of decay were perceived, and the elements existing in the solar system must already have lasted for millions of years. Nevertheless, there was good reason to believe that in radium, and in other elements possessing very complex atoms, they did actually observe that break-up and spontaneous rearrangement which constituted a transmutation of elements. It was impossible as yet to say how science would solve this difficulty, but future discovery in this field must surely prove deeply interesting. It might well be that the train of thought which he had sketched would ultimately profoundly affect the material side of human life, however remote it might now seem from our experiences of daily life.

Excessive Minuteness of Corpuscles.

The President said he had not yet made any attempt to represent the excessive minuteness of the corpuscles, of whose existence they were now so confident; but as an introduction to what he had to speak of next, it was necessary to do so. To obtain any adequate conception of their size they must betake themselves to a scheme of threefold magnification. Lord Kelvin had shown that if a drop of water were magnified to the size of the earth the molecules of water would be of a size intermediate between that of a cricket ball and of a marble. Each molecule contained three atoms, two being of hydrogen and one of oxygen. The molecular system probably presented some sort of analogy with that of a triple star; the three atoms, replacing the stars, revolving about one another in some sort of dance which could not be exactly described. He doubted whether it was possible to say how large a part of the space occupied by the whole molecule was occupied by the atoms: but perhaps the atoms bore to the molecule some such relationship as the molecule to the drop of water referred to. Finally, the corpuscles might stand to the atom in a similar scale of magnitude. Accordingly, a threefold magnification would be needed to bring these ultimate parts of the atom within the range of our ordinary scales of measurement. He had already considered what would be observed under the triply powerful microscope, and must now return to the intermediate stage of magnification, in which they considered those communities of atoms which formed molecules. That was the field of research of the chemist. The community of atoms in water had been compared with a triple star, but there were others known to the chemist in which the atoms were to be counted by fifties and hundreds, so that they resembled constellations. He conceived that there again they met with conditions similar to those which they had supposed to exist in the atom. Communities of atoms were called chemical combinations, and they knew that they possessed every degree of stability. The existence of some was so precarious that the chemist in his laboratory could barely retain them for a moment; others were so stubborn that he could barely break them up. In that case dissociation and reunion into new forms of communities were in incessant and spontaneous progress throughout the world. The more persistent or more stable combinations succeeded in their struggle for life, and were found in vast quantities, as in the cases of common salt and of the combinations of silicon. But no one had ever found a mine of gun cotton, because it had so slight a power of resistance. If, through some accidental collocation of elements, a single molecule of gun-cotton were formed, it would have but a short life. Stability was further a property of relationship to surrounding conditions; it denoted adaptation to environment. Thus salt was adapted to the struggle for existence on the earth, but it could not withstand the severer conditions which existed in the sun.

[At this point the President announced that he proposed to reserve the consideration of various theories of evolution in the heavens for the second portion of his address.]

Proposed Central Meteorological Department.

In the Report of Council it was stated that a resolution from the Committee of the Section of Mathematics and Physics had been referred to a Committee consisting of Dr. A. Buchan, Dr. H. R. Mill, Dr. Shaw, and the general officers, in which the opinion was expressed that the organization of a central meteorological department for the British Empire would be of the highest benefit to the progress of meteorological science and its application to the economic problems of the various Colonies and dependencies. The Committee drew up a memorandum which had been approved by the Council; in it detailed reasons were given in favour of the creation of such a central department. The objects of the suggested institution were thus briefly stated: "1. To give any information that may be required to the Governments or other authorities of the British dominions as to instruments and methods to be adopted for an effective system of meteorological observations. 2. To compile and publish periodical reports upon the climatic conditions of the various parts of the Empire upon a comparable plan. To form an accessible depository of information upon matters concerning the climates of the whole Empire, and to afford information upon those subjects to inquirers. 3. To provide a scientific staff for the study of the general meteorological conditions which affect the weather in the various British dominions, and in particular to promote the formulation of meteorological laws, and to apply them to explain and ultimately to anticipate the occurrences of normal seasons." A copy of the memorandum was sent to the Colonial Office, with a suggestion that a deputation might

be received. Mr. Lyttelton replied that, whilst sympathizing with the object of the Council, he did not think that there would be any advantage in receiving a deputation until he was in possession of further information. The Committee accordingly drafted further information, in which it was stated, *inter alia*, that the meteorological phenomena which demanded careful study in the first instance were: The conditions of favourable and unfavourable seasons in India; the droughts of Australia and South Africa; and the conditions of favourable and unfavourable Nile floods. With those would be associated the relation of the weather of the Mediterranean to the Indian cold weather anomalies, and the relation of the South Indian anticyclone to the Antarctic ice. It was estimated that the annual cost of the work would be £2,000, rising in five years to £2,500. The estimate was based on the supposition that the Meteorological Committee would be willing to undertake the general control of the department as a branch of the Meteorological Office. The Government grant to the Meteorological Office at present stood at £15,300. This memorandum was sent under a covering letter to the Colonial Secretary.

Appointment of Assistant Secretary.

It was announced that Mr. A Silva White had been unanimously appointed Assistant Secretary in the room of Dr. J. G. Garson, resigned.

Books and Publications.

It was also intimated that the books and other publications presented to or received in exchange by the Association, with the exception of the publications of the corresponding societies of the Association and the annual volumes of reports of the various associations for the advancement of science, had been transferred to the Library of University College, Gower Street, the Council of University College having undertaken to give the same facilities to members of the British Association for the use of University College Library as were granted under similar circumstances by the University of London.

MEDICAL NEWS.

The Union of German-speaking Members of the Medical Profession who are total abstainers will hold its tenth annual meeting in Vienna on September 10th.

It is stated that the Tunbridge Wells Corporation propose to make cerebro-spinal fever a notifiable disease in the borough for a period of twelve months.

The out-patient department of the Westminster Hospital was closed at the beginning of this week for cleaning and repairs, and no patients will be received until September 14th.

The American Association of Obstetricians and Gynaecologists will hold its eighteenth annual meeting in New York on September 19th, 20th, and 21st, under the presidency of Dr. Howard Williams Longyear, of Detroit.

Suture of the Heart.—According to *American Medicine*, a man who was recently stabbed in the heart is lying in a critical condition in the Bryn Mawr (Pennsylvania) Hospital. The blade of the knife, which was about ½ in. wide, perforated the left ventricle, but notwithstanding the gravity of the wound the injured man walked over 50 yards at his natural pace before he fell unconscious to the ground. After his admission to the hospital the surgeons drew the wound of the heart together with five stitches. His condition has remained good, although for a time it was feared he would die. Although the pulse has been very rapid his temperature has remained about normal, and unless some unforeseen complication sets in the surgeons believe that their patient will eventually recover.

Hay Fever and Christian Science.—Dr. Guest, in a recent discussion before the Louisville Medical and Surgical Society, related the following case with the object of showing the part which psychology may play in the treatment of hay fever. He said: "I have a brother-in-law who suffers every summer with hay fever. He has a relative who believes in Christian Science. She told him that she felt positive that she could direct him to a woman, a Christian Scientist, who could cure him. He at first objected because he hated to go to a woman physician. He arranged, however, to communicate with her daily by letter. When his hay fever broke out he suffered with it all that day and night, and the next morning wrote her a note telling her to put him on treatment immediately. When he returned that night he felt improved, and slept better. He wrote his second note next morning, and was much encouraged. The third day he repeated his letter writing, and stated that the symptoms had almost ceased. The running from the nose had almost ceased, the discharges from the eyes had ceased, and he was guying me about being cured by a Christian Scientist when regular physicians could do nothing for it. The night of the third day, when he came home to supper, he found a note from the Christian Scientist stating that she had been in the country, and would put him under treatment the next day. Realizing that all his treatment had been only in his imagination, the symptoms reappeared with the same intensity as before. The day following he made arrangements to leave the city for the summer."

The Anatomical Congress and Servetus.—The International Congress of Anatomy which was held last week at Geneva paid a graceful compliment to the memory of Michael Servetus by placing a wreath at the foot of the monument erected to his memory at Champel. Another wreath was placed there by the British delegates. Servetus, who was burnt by Calvin for heresy in 1553, studied medicine at the University of Paris, and described the pulmonary circulation in his *Christianismi Restitutio*, which shared the fate of its author, and is now one of the rarest of books.

The War Against Mosquitos in America.—Destruction of larvae by petroleum and the weeding out of shrubbery in moist places where the insects breed at various summer resorts in the United States have made many places pleasant to live in where in former seasons patrons of hotels and residents of cottages were disturbed till they were made frantic by myriads of the pests. Reports from various places in New Jersey and Long Island are said to show that the war against the mosquito is likely to end in victory. Southampton and Babylon are freer than they have been for twenty years past. All small streams and creeks about Lawrence and Cedarhurst, and those about the Rockaway Hunt Club were thoroughly cleaned last spring, and the frequent use of oil, sprayed on mud flats at low water, has got rid of the pests. The reclamation of low lands in the immediate vicinity of Atlantic City and the filling in of old cisterns and stagnant pools have practically stopped the mosquito from breeding there.

Royal Sanitary Institute.—The fortieth course of lectures and demonstrations for sanitary officers, given under the auspices of the Sanitary Institute, will be begun at the Parkes Museum on September 19th, concluding on Thursday, November 30th. The course comprises the following lectures: Part I.—Four lectures on elementary physics and chemistry in relation to water, soil, air, and ventilation, and meteorology. Twenty-one lectures on public health statutes (orders, memoranda, and model by-laws of the Local Government Board and the by-laws in force in the Administrative County of London); the practical duties of a sanitary inspector, as for example, drawing up notices as to sanitary defects, drain-testing, disinfection, methods of inspection, note-taking, reporting, and elementary statistics; municipal hygiene or hygiene of communities, including prevention and abatement of nuisances, sanitary defects in and about buildings and their remedies, water supplies, sanitary appliances, drainage, refuse removal and disposal, offensive trades, disinfection. Building construction in its sanitary relations, local physical conditions; measurement and drawing plans to scale. Inspections and demonstrations are arranged in connexion with the lectures, and include visits to disinfecting stations, dairy premises, municipal dépôts, artisans' dwellings, offensive trades, waterworks, common lodging houses, sanitary works in progress, refuse and sewage disposal works, and other public and private works illustrative of sanitary practice and administration. In some of the visits the students are shown the routine of an inspector's office work and duties. Part II.—Seven lectures on meat and food inspection, including taking of samples of water, food, and drugs for analysis. Practical demonstrations of meat inspection are given. Among the lecturers are Dr. Joseph Priestley, Medical Officer of Health, Lambeth; Dr. G. Newman, Medical Officer of Health, Finsbury; Mr. Wellesley Harris, Medical Officer of Health, Lewisham, and Dr. Petronell Manby, Medical Inspector, Local Government Board.

British Medical Journal.

SATURDAY, AUGUST 19TH, 1905.

ERRORS OF DIAGNOSIS AND INFECTIOUS DISEASES.

THE recently-issued annual report of the Metropolitan Asylums Board contains some important figures as to the proportion of cases during the year 1904 which were erroneously diagnosed, and removed on the strength of these erroneous diagnoses to the hospitals of the Board. The total number of cases thus removed was 1,993, or 10.7 per cent. of the total admissions to the metropolitan fever hospitals. The errors varied according to the disease. The percentage on the total scarlet fever cases was 6.7, on diphtheria cases 16.1, and on enteric fever cases 25.9. It is interesting to note the diseases which in these instances are stated to have been actually present. Among the 806 cases wrongly certified as scarlet fever, 120 were stated by the medical officers of the Board to be measles, 130 rubella, 106 tonsillitis, 157 erythema, 84 had no obvious disease, and 86 were not diagnosed. Amongst the 902 cases wrongly certified as diphtheria were 64 of measles, 614 of tonsillitis, 14 had no obvious disease, and 5 were not diagnosed. Amongst the 268 cases wrongly certified as enteric fever were 17 of influenza, 12 of general tuberculosis, 47 of pneumonia, 10 had no obvious disease, and 3 were not diagnosed.

In small-pox error occurred in 12.9 per cent of the total cases removed to the London wharves of the Board. As arrangements are made in regard to this disease for the confirmation of diagnosis at the hospital wharves, it is clear that the removal to the wharves of doubtful cases for verification is in the public interest, though it would be well if a medical man, skilled in the diagnosis of doubtful cases of small-pox, were permanently available before the removal of each small-pox patient to the wharves. The problem will be considered in this article from the standpoint of other infectious diseases than small-pox.

It is noted in the report that these cases were detained in hospital on an average for 25.2 days. Professor W. R. Smith, the Chairman of the Statistical Committee of the Metropolitan Asylums Board, at a recent meeting of the Board stated that the average cost of fever cases to the managers being 38s. a week, the expense on these erroneously diagnosed cases amounts to about £12,000 in the year. He went on to say that some representation ought to be "made to some of the local authorities in London with a view to seeing whether some steps could not be taken to reduce the enormous number of cases improperly sent to the Board's hospitals," and thus diminish not only expense, but also the risk to the 2,000 patients thus "improperly sent to hospital." Such a method of stating the facts without, so far as published reports go, any statement of the circumstances that would lead to a modification of public opinion is damaging to medical prestige, and unfairly so in our opinion.

It might be assumed from such a bald statement of facts —and nothing is so misleading in such a matter as a statement of this character—that errors of diagnosis and doubts as to diagnosis are confined to private medical practitioners, and that no such errors or doubt occur in the practice of the skilled medical superintendents of the Board's hospitals. The latter would be the last persons to confirm this implication. Occasional error is inseparable from the diagnosis of an infectious disease, so long as its symptoms vary, as in scarlet fever, from the most evanescent rash or sore throat at one end of the scale to malignancy of attack at the other. All are agreed that steps should be taken to minimize the number of these errors, but the present cast-iron system of the Board of which Professor Smith is a member does not conduce to this end. So far as doubtful diagnoses are concerned the report just issued gives ample evidence that the inability to suspend judgement shown in the above-quoted remarks is not shared by the Board's medical officers. Thus, Dr. Turner informs us that of 735 cases sent into the South-Eastern Hospital as scarlet fever, in 197 the diagnosis could not be made in the receiving room, though 158 were ultimately diagnosed as such; and that of 551 certified as diphtheria 234 could not be diagnosed in the receiving room, though 154 were ultimately found to have this disease.[1]

Such evidence as this, showing that in 27 per cent. of a series of certified cases of scarlet fever and in 42 per cent. of a series of certified cases of diphtheria the Board's medical officers had to wait for something like three weeks before they could make a certain diagnosis, is sufficient evidence that doubts as to diagnosis and consequent errors of diagnosis are intrinsic phenomena in connexion with infectious diseases, and not solely or chiefly—as recent newspaper paragraphs would appear to imply—the result of stupidity or ignorance on the part of medical practitioners.

Having made this clear, we hasten to express our conviction that the percentage of such errors and of doubtful diagnoses might be greatly reduced under conditions to be named. We do not think that, in the interest of the Board as the hospital authority for London, doubtful diagnoses can be separated from erroneous diagnoses. By their present line of action the Board, if its policy be reflected in the remarks of Professor Smith, is in danger of greatly increasing the public danger from infectious diseases. For the inevitable results of exposure of errors of diagnosis are increased delay in the notification of infectious cases, and in many instances total failure to notify them. A doctor who has had patients prematurely returned home whom he had certified to be suffering from an infectious disease will think twice or even thrice before he notifies the next case of the same disease, and will delay until his diagnosis is quite certain. It may short-sightedly be said that this is a good result. In the public interest it is not so. Although the hospitals are also of great value as humanitarian institutions, their chief object is to prevent the spread of infection. From this standpoint what amount of good are they not prevented from doing when a large percentage of the total cases are kept at home either as doubtful cases or as cases which have been entirely "missed"?

So far as enteric fever is concerned, the proportions of erroneous diagnosis might be enormously reduced by twenty-four hours' delay for the application of the blood-serum test. In diphtheria a bacteriological aid to

[1] It is true that the private practitioner sees the patient earlier than the medical superintendent and before the characteristic symptoms, such as rash or throat exudate have disappeared. But frequently the practitioner is called in after these symptoms have disappeared, and the diagnosis requires to be made constructively.

diagnosis is also available, though in this instance it cannot be too strongly emphasized that delay in treatment by antitoxin should not be permitted. In both scarlet fever and diphtheria the possibilities of mistake on the part of the medical practitioner, and of mistake and of delayed diagnosis and expensive quarantine on the part of the medical superintendent of the hospital, would be minimized if these two and the medical officer of health were in closer touch with each other. The attitude usually taken by the metropolitan medical officer of health is that he cannot in any form be responsible for the accuracy of the diagnosis of notified cases. We incline to the view that if medical officers of health have not the time to help medical practitioners in the diagnosis of doubtful cases, it is desirable that assistant medical officers of health should be appointed in every large borough, in order that this help may be given. At present medical officers of health cannot undertake this duty, and they urge that it does not come within their schedule of duties. A wider and more statesmanlike view of the position would lead to another conclusion.

What, after all, is the main function of both medical officer of health and of medical superintendent of fever hospital? It is, surely, to prevent and diminish the incidence of infectious diseases. And what will more certainly conduce to this result than the searching out of doubtful cases and their efficient isolation either at home or in hospital? Experience is showing that the meshes of the Infectious Disease Notification Act are too wide for the purposes of preventive medicine. Accurate and careful medical investigation must be made in every home in which an infectious disease is either notified or suspected, in order that other overlooked cases may not be neglected. And the tabulated results of every such investigation, so far as they bear on the diagnosis of cases actually removed, should be at the service of the hospital superintendent as well as of the medical officer of health. Meanwhile, it is beside the mark to talk of cases "improperly" removed to hospital, as though infallibility were confined to one part of the medical profession. If the Metropolitan Asylums Board rises to the importance of its position as hospital authority, it is not beyond the range of possibility that in the future such "improperly" removed cases will proportionately increase to a very great extent, the isolation of doubtful cases becoming recognized as the most efficient means of preventing strain on the accommodation from undoubted cases of the chief infectious diseases.

THE DUTIES OF PROFESSIONAL BROTHERHOOD.

We are justly proud of the feeling of professional solidarity that unites practitioners of medicine throughout the world in a commonweal wherein fraternity is not an empty name, but the animating principle which, to use a scholastic term, informs the whole body. We are bound together by what Hamlet calls the consonancy of our studies, and by community of aims and of interests. Of no other profession can it be said with equal truth that it works everywhere by the same methods directed to the same ends. Medical science knows no distinction of race, caste, or creed: whatever is discovered is held to belong by right, not to the individual, but to the community, and is therefore at once promulgated, in a fuller sense than any Papal decree, *urbi et orbi*. Men who in the flesh are strangers know each other as brethren in the spirit, and work together for the furtherance of knowledge. In the sphere of practice, the brotherhood of the profession is not less real. If a practitioner is unjustly accused of any failure or negligence in the discharge of his professional duties, he may rely with confidence on the active support of his brethren. If a medical man through no fault of his own fall by the wayside in his journey through life, he may generally count onhaving helping hands held out to him.

It must, however, be confessed that if the duties of professional brotherhood are thus freely acknowledged in our public relations, the case is not quite the same in our private dealings with each other. The old saying *Invidia medicorum pessima* may be dismissed as a calumny; it is certain, however, that envy, hatred and all uncharitableness, which should be conspicuous by their absence in men who beyond all others are inspired by the spirit of charity to their kind, are too much with us in our relations to each other. To say that this is an outcome of the struggle for existence is an explanation, but not an excuse. The conduct of a medical practitioner towards his professional brethren should be regulated by something higher than the blind forces of the cosmic process.

Professor Osler, whose voice has always been that of a messenger of peace, has a good deal to say on this subject in his farewell address to the medical profession of the United States which appears in the *Journal of the American Medical Association* of August 5th. Speaking, of course, of America he says that in the larger cities professional jealousies are dying out, but are not yet extinct. He cites with sorrow the testimony of a most intelligent and sympathetic layman, who complained that the spirit of bitter antagonism between medical men made co-operation in the working out of a broad plan for the good of suffering humanity exceedingly difficult. Things are much worse in the smaller towns and in country districts. Only those of us, says Professor Osler, who have been brought up in such surroundings can appreciate how hard it is for practitioners to keep on good terms with each other. The practice of medicine calls equally for the exercise of the heart and the head, and when a man has done his best, to have his motives misunderstood and his conduct of a case harshly criticized, not only by the family, but by a colleague who has been called in, is naturally felt as a grievous hardship. It is scarcely surprising, therefore, if, when the opportunity arises, the old Adam prevails and the maligned one repays the treatment in kind.

Dr. Osler says that, as far as his observation goes, there are three chief causes for the quarrels of doctors. The first is lack of proper friendly intercourse by which alone we can know each other. It is, he urges, the duty of the older man to look on the younger one who settles near him, not as a rival, but as a son. Doubtless the younger man will do just as the old practitioner did when he started: he will get a good many of the latter's cases. Professor Osler advises the older man to realize that this in inevitable, unavoidable, and the way of the world. This is a counsel of perfection, but there is no doubt that if practitioners would talk over in a friendly way the first delicate situation that arose, the difficulties would disappear, and recurrences might be made impossible. The young men should treat the sensibilities of their seniors tenderly, deferring to their judgement, and taking counsel of them. A man who may have been held up to us as an example of all that is pernicious may prove to be a very good fellow, the victim

of petty jealousies, and the mark for the arrows of a rival faction. We heartily agree with Professor Osler that the best way to avoid misunderstandings is to know one's professional neighbours and judge their qualities for ourselves, not through the spectacles of other folks' spite or stupidity. It is one of the greatest advantages of membership of the British Medical Association that it offers so many opportunities of friendly personal intercourse by which the feeling of brotherhood is maintained and strengthened.

The second cause of doctors' quarrels is uncharitableness, which Professor Osler denounces as "the most widespread, the most pernicious of all vices, equal in its disastrous effects to impurity, much more disastrous often than intemperance, because destructive of all mental and moral nobility, as are the others of bodily health." It is peculiarly apt to beset all of us, and is the chief enemy to concord in our ranks. Often it is a thoughtless evil, a sort of tic or trick, an unconscious habit of mind and tongue, which gradually takes possession of us. No sooner is a man's name mentioned than something slighting is said of him, or a story is repeated which is to his disadvantage, or the involuntary plight of a brother is ridiculed, or even his character is traduced.

The third cause of misunderstanding is the wagging tongue of the mischief-making gossip, who is always ready to tell tales and make trouble between practitioners. There is only one safe rule, says Dr. Osler: Never listen to a patient who begins with a story about the carelessness and inefficiency of Dr. Blank. "Shut him or her up with a snap, knowing full well that the same tale may be told of you a few months later. Fully half of the quarrels of physicians are fomented by the tittle-tattle of patients, and the only safeguard is not to listen. Sometimes it is impossible to check the flow of imprecation and slander, and then apply the other rule—perfectly safe, and which may be commended as a good practice—never believe what a patient tells you to the detriment of a brother physician, even though you may think it to be true."

All this is summed up in the golden rule of conduct which is applicable to all difficulties of professional life: Do unto others as you would that they should do unto you. Standing, as the best of us do, ever in need of the charity that thinketh no evil in the interpretation of our motives and in the estimation of our acts, let us not view our neighbour's conduct, however inexcusable it looks, in the deceptive light of what appears to our fallible minds to be justice. Let us try to put ourselves in his place, remembering that *tout comprendre c'est tout pardonner*. In any case let us not use him after his desert, for if this measure is to be meted out to all, which of us shall 'scape whipping?

MUNICIPAL CHILD REARING.

In the British Medical Journal of May 6th reference was made to a scheme of child rearing adopted by the municipal authorities of Huddersfield. By way of endeavouring to check the great mortality among infants in that town, the Mayor (Mr. Benjamin Broadbent) offered to give a sovereign to every child which survived the perils of the first year of life. His public-spirited action fired the health authorities to generous emulation; they offered one shilling to the first person who should notify the birth of a baby to the medical officer within forty hours of the event. Lady visitors were also appointed, whose duty it should be to go at once to the house and advise the mother as to the rearing of the babe; they are also expected to inquire into the causes leading to the death of infants. The scheme further provides for the distribution by the medical officer of health of leaflets of instructions as to the care of infants, and for the establishment of a nursery in which infants may be looked after while their mothers are at work. The scheme has aroused the greatest interest, not only in this country, but in remote parts of the world. The Princess of Wales has written to Alderman Broadbent, expressing her entire approval and sympathy with the scheme for the protection of infant life, a subject which interests Her Royal Highness deeply, and her appreciation of the Mayor's private and personal efforts in that direction, which the Princess hopes may meet with complete success. Alderman Broadbent has also received a letter from President Roosevelt, expressing cordial sympathy with the objects of the scheme and the sincere hope that it may prove successful as a means of preventing the untimely death of infants. A representative of the *Daily Telegraph* has been informed by Mr. Broadbent that he has also received communications from the secretary of a native Hindu health society, and from a Commissioner of Demerara and South Africa, asking for particulars with regard to the possibilities of the scheme. Asked about the progress of his own personal scheme in the district of Longwood, where he offered £1 for each baby born during his mayoral year who eventually reached the age of 12 months, Alderman Broadbent is reported to have replied: "No one could have made me believe the difference it has made. In fact, I have laid the statistics before Mr. Gerald Balfour, the President of the Local Government Board." We may be allowed again to express a hope that other municipalities will follow the example of Huddersfield.

METROPOLITAN HOSPITAL SUNDAY FUND.

The Council of the Metropolitan Hospital Sunday Fund met on Friday, August 11th, to receive the reports of the General Purposes and Distribution Committees. That of the former body contained a recommendation that an additional law should be submitted to the consideration of the constituents of the fund at their meeting in December next, enabling the Distribution Committee to make a grant to the Queen Victoria Jubilee Institute for Nurses. After some discussion it was decided to refer this recommendation back to the Committee, in order that it might be further considered. It seemed to be held that it would not be right to make an exception solely in favour of the institute mentioned, since there were other bodies engaged in district nursing which likewise helped to relieve the pressure upon the out-patient departments of the hospitals. The report of the Distribution Committee, which was adopted, recommended the immediate distribution of £71,466 among 162 hospitals and 60 dispensaries. Included among the former were 31 general hospitals, 5 chest hospitals, 18 children's hospitals, 6 lying-in hospitals, 6 hospitals for women, 28 other special hospitals, 32 convalescent homes, 23 cottage hospitals, and 13 other institutions. The sums granted to the general hospitals varied from an award of £6,168 made to the London Hospital, to £42 15s. to the Phillips Homoeopathic Memorial Hospital. The report, among some other points of interest, included a statement to the effect that the Committee had been unofficially informed that the City Orthopaedic Hospital was now prepared to amalgamate with the other two orthopaedic hospitals, provided that the seven propositions put forward by the King's Hospital Fund were slightly modified. Under these circumstances, it was recommended that a grant should be made to this hospital, but not paid unless the scheme of amalgamation was completed. The Committee also recommended that all institutions should in future take the number of attendances instead of the number of cases when calculating the cost of out-patients, and reminded them that the grants were made not for building purposes, but as a contribution towards the direct expenditure on patients.

DRINKING WATER FOR TROOPS.

THE Director-General of the Army Medical Department arranged at Millbank Barracks on Tuesday, August 15th, a demonstration of various methods of sterilizing water for the use of troops in the field. It comprised all those which may be considered to have any decided value, including chemical methods, candle filters, and various heat sterilization machines. The chemical methods shown were the Schomberg process, the Vaillard-Georges process, the Nesfield process, and the bisulphate of sodium and the permanganate of potash processes. The second and third of these seemed to supply palatable waters, and it is possible that all of them might be found useful by individuals, since the chemicals required are easily carried about. None of them, however, seem very likely to be adopted for the use of large bodies of troops. The candle filters shown were arranged by Messrs. Slack and Brownlow of Manchester to demonstrate the evolution of field service filters. There were some seven or eight exhibits, beginning with single candle filters and ending with a service water-cart fitted with Slack and Brownlow's candles, and giving an average yield of about 100 gallons an hour; this water-cart was very attractive, and it seemed as if with some few improvements in detail it might prove everything desired under the circumstances of many campaigns. The Bailey-Denton cart fitted with Berkefeld candles, and some pocket filters were also shown. The chief interest, however, centred round the machines for sterilizing water by heat. Those shown were an apparatus devised by Mr. H. R. A. Mallock, F.R.S., a sterilizer by Messrs. Tuckfield and Garland, Dr. Griffith's apparatus, the Lawrence sterilizer, another known as the Forbes, and Dr. Leigh Canney's boiler. Dr. Griffith considers a temperature of 168° F. sufficient to destroy all organisms of any practical importance, but all the other machines aim at raising the temperature to boiling point if merely momentarily. All the machines were alike in that without exception they exhibited remarkable ingenuity, but they seemed to differ considerably in rapidity of output, coolness of the issuing water, fuel consumption, weight, and apparent solidity and portability. The ideal heat sterilizer should certainly be capable of being carried by a mule, and therefore weigh not more than 100 pounds. None of those shown met this need, and one could not help wondering how some of them would look after a month's hard usage and a few treks over rough country. Nevertheless the inventors have overcome a great many other difficulties, and the Army Medical Department is showing so much energy in the matter that probably every part of the problem of how rapidly to supply troops on active service with sterile water of a pleasant temperature will be solved before long. This being the case it is to be hoped that Mr. Arnold Forster, who was present at the demonstration, will play his part by insisting upon combatant officers learning to regard care of the health of their men as one of their essential duties.

YELLOW FEVER IN NEW ORLEANS.

A MESSAGE dated August 13th from New Orleans, published in the *Times*, states that 105 fresh cases of yellow fever and 9 more deaths were reported on August 12th, the largest number recorded on any day since the outbreak of the disease. A secondary case was reported from the Ardoyne Plantation, in the parish of Terrebone. Fearing that the mosquitos would get into the banana cars, which cannot be fumigated, Surgeon-General Wyman has stopped all shipments of bananas from the city. In a leading article published on August 12th our contemporary states that less than three weeks have elapsed since it was first notified to the public that yellow fever had broken out in New Orleans. Already over 1,000 cases and 171 deaths have been recorded, the Archbishop of New Orleans, Dr. La Chapelle, being among the victims. The *Times* hears also that, in spite of the rigorous measures taken by the Federal and State authorities, there is, so far, very little sign of improvement. On the other hand, the New York *Medical Record* of August 5th says that there are signs that the health officials in New Orleans are getting the yellow fever well in hand, and the prospect of an early subsidence of the epidemic is considered to be good. It adds that it is now generally accepted that the fever got into New Orleans sometime between June 1st and June 15th through fruit vessels arriving from Central America. The disease was not discovered till July 13th. This naturally has greatly increased the difficulty of arresting the progress of the disease, since, when its presence was discovered, there were already many separate foci of infection. Only one of the seventeen municipal districts—the Italian quarter—is infected, and outside of it there have been but 8 cases. These patients have all been screened from mosquitos, and there is no danger of spread of infection from them. The outside quarantine situation has improved a little, Texas and Tennessee having modified somewhat the severity of their restrictions. The only panic-stricken region is said to be Mississippi, in which the towns are even enforcing quarantine against each other in their fear. All passengers from New Orleans are transferred at the Mississippi line to new cars which have been fumigated and disinfected. All the windows have to be closed and nailed down while the train is passing through the State, and in many of the towns the trains are required to run through at a rate of not less than thirty miles an hour.

THE DANGER OF PILGRIMAGES.

A REPORT presented by Dr. Zachariadis Bey[1] on the annual pilgrimage from Egypt to Arabia for the year 1905 presents several interesting features. For the return of this vast number of pilgrims a large quarantine camp has to be established, where the individuals are kept before being allowed to return to the different parts of the country. The strictness of this quarantine is of the greatest importance in preventing the introduction of epidemics of plague and cholera into Egypt, and the description of the camp given by the author shows that every care is taken. The predominant malady this year was a very severe type of dysentery. Most of the cases came into hospital more or less *in extremis*, and consequently it was impossible to follow out any definite lines of treatment. The type of dysentery is not very clearly described, but presumably it consisted of the bacillary form—a form so often associated with epidemics in armies and similar large collections of men when kept under unsatisfactory hygienic conditions. Several cases of small-pox were also treated. The death-rate showed 79 deaths out of 29,964 pilgrims, a fairly satisfactory figure when the general state and condition of these people is considered. The most interesting factor was the discovery by Dr. Gotschlich of vibrios in 6 cases, which, to all intents and purposes, even down to giving a specific serum reaction, resembled those of true cholera. He considers that the finding of such organisms, although there were no chemical signs or *post-mortem* evidences of cholera, agrees perfectly with the epidemiological facts. Such cases are termed latent, the vibrio existing dormant for long periods but capable nevertheless of starting an epidemic. Dr. Zachariadis Bey, on the other hand, seems to doubt the potency of such germs, and considers that they probably remain inoffensive in the intestine and are not specially dangerous. His assertions, in the absence of clinical signs and *post-mortem* evidence of cholera, would seem to be well founded, but the point is one well worthy of further work. This annual pilgrimage must always be a standing menace to the health of Egypt, and it is only by exercising the greatest care in the quarantine camp that its dangers will be successfully combated.

THE CLERGY AND QUACKERY.

AMIDST of the relations of the clergy to quackery, the post has just brought us the last annual report of the Keeley

[1] Conseil Sanitaire Maritime et Quarantenaire d'Egypte. Pèlerinage au Hedjaz. Rapport sur l'Aller et le Retour du Pèlerinage de l'année 1905, présenté par le Dr. Zachariadis Bey, Directeur du Campement Quarantenaire de Tor. Alexandrie: Typo-Lith. V. Penasson, A. V. Horn, Succ. (Demy 8vo, pp. 22.) Conseil Sanitaire Maritime et Quarantenaire d'Egypte. Campement de Tor. Retour du Pèlerinage de l'année 1905. Alexandrie: Typo Lith. V. Penasson, A. V. Horn Succ. 1905. (Demy 8vo, pp. 10.)

Institute, of which the Rev. Canon Fleming, B.D., is the titular head. This gentleman is Chaplain in Ordinary to His Majesty the King, Canon Residentiary and Precentor of York, and Vicar of St. Michael's, Chester Square, London. The pamphlet consists merely of the statements of a number of persons who assert that they have been cured by treatment in the Keeley Institute. Canon Fleming, we presume, figures as "The Chairman" in the dialogues with patients which are introduced into these pages. We note one in particular at page 13. A patient who had been treated for the morphine habit and had relapsed, accounted for his relapse by the fact that when wounded in the South African war he had had a single injection of morphine to ease the pain, the result being that "when the wound had healed he found that the craving for the drug had returned." The Chairman is reported as saying, "I do not think you can at all blame yourself, because in all likelihood if you had opposed your doctor's orders he would have thrown up your case." What a strange notion Canon Fleming must have of the medical profession! A soldier was brought in, wounded and in pain, weak from loss of blood, and was given a hypodermic injection of morphine, probably without his consent being asked, as a matter of routine, to relieve the pain until his case could be properly attended to; so that there can be no question of blame to the patient. But supposing there had been any opportunity for the patient to express his objection to the use of morphine, does Canon Fleming really believe that "in all likelihood" any member of the medical profession would have refused further assistance to the wounded man? As to the statements of alleged cures, we know enough of alcoholics and morphinomaniacs to regard their testimony with extreme suspicion. Perhaps if Lord Brampton had to deal with some of these witnesses, he would arrive at results that would surprise the Reverend Canon and the other gentlemen who allow their names to figure on the Committee of Investigation.

THE JAPANESE RED CROSS SOCIETY.

A CORRESPONDENT of the *Times* gives an interesting account of the origin and development of the Japanese Red Cross Society. He says that although by its creation it is the last, by its organization, wealth and power for good, it is by far the foremost, of Red Cross Societies. It recently had 920,000 members; its funds in hand amounted before the war to £794,000; and it possessed an annual income of £231,000. At present it should have about a million members, and its yearly income should be about £300,000. As wages are about five times higher in Great Britain than they are in Japan, a British Red Cross Society of equal importance to that of Japan would require a war reserve of £4,000,000 and an annual income of about £1,500,000. The idea of creating a Red Cross Society in Japan originated with Count Sano, a man possessed of the deepest humanitarian feelings, who, in 1867, was sent by the Shogun—the Mikado had then not yet been restored to his legitimate position as the real ruler of Japan—to study the Paris Exhibition. Becoming acquainted there with the activity of the Red Cross Society, he resolved to introduce a like organization into Japan. Private enterprise unaided proving insufficient, the promoters obtained the patronage of the Mikado, who was a generous helper of the Society. Nevertheless, the Society would have remained a comparatively small body had not a Government-aided propaganda won the whole nation to the cause. Marquis Ito, who has introduced many great reforms into Japan, used the administrative machinery for making the objects of the Society universally known, and placed it on a broad, democratic, and truly national basis. Regular festivals in furtherance of the cause were organized, with the active patronage of the highest Government functionaries in town and country. These festivals became regular holidays throughout Japan. A decoration was instituted for members with special insignia for large givers. The provision of an adequate staff of female nurses was a matter of great difficulty. Confucius taught that men and women must not sit in the same room, that a woman must not take any object from the hand of a man nor pass it to him. Hence the idea of female nurses appeared an outrage to the Japanese sense of decency. At first an attempt was made to obtain male nurses, but as the most prominent Japanese doctors expressed the opinion that women had a far greater natural aptitude for the work, it was resolved to make an attempt to convert the whole nation to a more broad-minded view as to the duties of a modest and virtuous woman. Princess Arisugawa assembled in 1887 a large number of the foremost Japanese princesses, Ministers' wives, etc., and succeeded in persuading them that it was their duty to learn nursing in order to set the example of self-sacrifice to the nation. Accordingly the foremost ladies of Japan set to work. They met regularly in order to practise nursing, and soon ladies of all classes flocked to the training centres. In this way the doctors were enabled to select those who appeared to be the fittest for their task. On the whole they discouraged society ladies, whose services might have been secured gratuitously but who might have been less amenable to hospital discipline. Therefore nursing was made a paid profession, and it was arranged that the nurses should receive an adequate salary when, by undergoing a long course of practical training and by passing a severe examination, they had proved their ability. Precautions were taken that instruction in nursing should not be wasted on those who did not take the work seriously. The most minute and most businesslike regulations were drawn up, and if a woman, after two or three years' training, wishes to leave her profession without sufficient reason, or is lazy or disobedient, she or her guarantors have to refund all the money which has been spent on her training by the Society. Thus the Japanese, in the face of the greatest religious, financial, and social difficulties, have created the foremost Red Cross organization in the world. In this matter, as in the organization of their medical service, Japan has set an example to this country and to the civilized world in general.

THE ORIGINAL OF SHYLOCK.

WE doubt whether it is generally known among members of the medical profession that there is reason to believe that Shakespeare found the original of Shylock in a physician. Yet that is the belief now held by certain scholars. This opinion is referred to by Martin Hume in his recently-published work, *Spanish Influence on English Literature*. The physician in question was a Portuguese Jew, named Ruy or Roderigo Lopez, whose skill in medicine won for him the favour and patronage of Queen Elizabeth. He is said to have settled in London in 1559, and he was the Queen's chief physician for many years, till he suffered himself to be drawn into the whirlpool of politics in which he found his doom. He held the office of Resident Physician at St. Bartholomew's Hospital between 1567 and 1675, and during that period various orders are recorded in the hospital journals for repairing his house and gardens, and to "board his parloure," in consideration for which he was to be "more painful" in his care for the poor. He received 40s. a year, which with his house and a certain allowance for "billetts and coales," were given him by way of salary. Before 1569 Lopez had become a Member of the College of Physicians, in the roll of which his name appears in the Latinized form "Lopus"; in 1569-70 he was selected to read the Anatomy Lecture at the College, but paid a fine to escape the duty. He was accused of unprofessional practices, but gained the confidence of influential patients like Sir Francis Walsingham and the Earl of Leicester, who probably introduced him to the Queen. Elizabeth granted him a monopoly for the importation of aniseed and sumach in England. Gilbert Harvey wrote of Lopez: "He is none of the learnedest or expertest physicians in the Court, but one that maketh a great account of himself as the best, and by a kind of Jewish practice hath grown to much wealth and some reputation as well with the Queen herself as with some of ye greatest Lords

and Ladies." Lopez was offered fifty thousand crowns to take a part in the Spanish plot to assassinate the Queen, and became compromised so far that he was imprisoned in the Tower in 1594, and tried at Guildhall before a Special Commission presided over by the Earl of Essex. He was condemned, and beheaded on June 7th in that year. Munk says he was hanged; at any rate he was executed. In regard to his having supplied a model for Shylock, Martin Hume points out that the Earl of Essex, who was mainly instrumental in procuring his death, was his bitter enemy; anything, therefore, that presented a Jew like Lopez in an odious light would have pleased the Earl and his party. Lopez certainly figured in other plays soon after his death, as, for instance, in Marlowe's "Jew of Malta" and "Dr. Faustus," in Dekker's "Lady of Babylon," and in Middleton's "Game at Chess." The "Merchant of Venice" was first seen on the stage two months after Lopez's execution, when all the country was ringing with the news of the detested Jew's fate. It was matter of common knowledge that Lopez was a grasping, miserly man; it was believed that he was a poisoner by profession, and that he had only outwardly conformed to Christianity. It may be recalled that when Portia in the trial scene demands that Shylock shall become a Christian he makes no demur. Lopez, indeed, was fond of dwelling upon his Christianity, and constantly speaks in his letters to the Spanish agents of the "great remedy for Christendom" that is to be effected by his means. On the scaffold, even, he is said to have made a despairing reference to his love of Christ. Shakespeare may have had this in his mind when he put these words into the mouth of Antonio:

> The Devil can cite scripture for his purpose.
> An evil soul producing holy witness
> Is like a villain with a smiling cheek—
> A goodly apple rotten at the heart.

THE TEACHING OF TEMPERANCE IN SCHOOLS.

AT the annual meeting of the American Medical Society for the Study of Alcohol and other Narcotics, held at Portland, Oregon, on July 12th, a resolution was passed congratulating the people of the United States on having made the study of physiology and hygiene, including the nature and effects of alcoholic drinks and other narcotics, compulsory for their 22,000,000 children of school age. Great Britain was also congratulated on the fact that more than 15,000 physicians had petitioned for compulsory public school study of the same subject, thus laying the foundation for the future of intelligent sobriety, strength, and efficiency for the whole English-speaking race. Recalling the fact that a committee, composed of professors in the universities and medical colleges in the United Kingdom, with Sir William Broadbent as Chairman, adopted and sent out to all the School Boards of Great Britain a course of study in hygiene and temperance based "upon the scheme prepared for use in the schools of the United States of America by Mrs. Mary H. Hunt," and that when the teaching that alcohol is a poison was unfairly criticized, the British physicians exposed the fallacies of this criticism point by point, the American Society passed a further resolution to the effect that they recognized and heartily welcomed the valuable assistance thereby rendered by these distinguished physicians to the cause of science in its battle against alcoholism. The Secretary was instructed to convey to them through their chairman, Sir William Broadbent, a copy of these resolutions. The Society further expressed its gratification at the evidence that the teaching of physiology and hygiene, including the nature and effects of alcoholic drinks and other narcotics, in American public schools, was resulting in more ready obedience to the laws of health, in a growing sentiment in favour of public sanitation and total abstinence, and in the rapidly-increasing prohibition of alcohol in industrial employments. In regard to this a resolution was passed that the boards of education, teachers, and all entrusted with the instruction of children and young children, should have impressed upon them the importance of the most faithful enforcement of the laws of temperance by providing ample courses of study like that which has now become international by being recommended for Great Britain.

PUERPERAL POISON.

BACTERIOLOGY has made wonderful advances during the past ten years especially in the science of obstetrics, to the great advantage of obstetric art and of humanity in general. Yet, as in any other department of science, these advances must continue, and much remains to be made clear. The various phenomena of puerperal fever are largely due to germs, but we want to know precisely what those germs are. Not long ago experts tended to ascribe puerperal fever to one germ, a species of streptococcus. Recently, however, this theory has been questioned, whilst its supporters endeavoured to make out that other species of germs detected in the blood and discharges of patients with puerperal disease are intruders and not the specific causes of that malady. The importance of pure cultures is evident. Dr. Schwetz, of Lausanne, claims to have observed a case of pure staphylococcic puerperal pyaemia, on the strength of the cultures obtained from blisters.[1] The patient, 28 years of age, was infected through retention of the whole placenta. A rigor occurred on the fourth day, and parametritis developed on the fifth. At the end of a week she was admitted into the Maternité at Lausanne, and then for the first time had the advantages of skilful treatment. But pyaemic symptoms appeared; on the seventeenth day the contents of a blister were examined by Professor Galli-Valerio and found to contain colonies of the staphylococcus pyogenes aureus, without any trace of the streptococcus or any other microbe. Death occurred on the twenty-second day. There were parametritic abscesses, fetid pus in the pleural cavities, and other evidences of pyaemia. Purulent thrombi were detected in the veins of the uterine walls. Thus a very bad case of puerperal infection was caused by the staphylococcus. Dr. Schwetz includes in his report of the above case a note of 12 other instances of the same condition, 2, reported by Dr. C. Lockyer and by Drs. Willis and Spencer, having been observed in England. It is no consolation to find the staphylococcus instead of the streptococcus in a case of childbed fever, as seven out of nine of the reported cases were registered as fatal, Dr. Schwetz's being included, whilst the clinical history of the remainder is imperfect. These four imperfect cases were published by Levy, who found, on examining the blood of the patients stricken with puerperal fever, that whether it was obtained during or between a rigor it contained the staphylococcus pyogenes albus alone, and we may assume that they ended badly, as Levy insists that the species of germ, whether staphylococcus or streptococcus in pus from a puerperal subject, has no influence on either symptomatology or prognosis; in plainer language, the one is associated with as bad results as the other. The pneumococcus may, as in Otto Burckhardt's case, be the sole germ in puerperal infection. Dr. Schwetz notes that its rarity in association with general puerperal infection is interesting when we bear in mind that this germ is so well known in puerperal salpingitis. In Burckhardt's case, just as in Schwetz's staphylococcus series, symptoms were precisely those which are seen in streptococcic puerperal infections. Two instances of gonococcal puerperal pyaemia have been published by Hoche and Frubinsholz, but they are insufficient to demonstrate the degree of severity of infection caused by the gonococcus. As for puerperal fever set up by the bacillus aërogenes capsulatus which causes uterine tympanites, the symptoms are so definite that diagnosis is easy. In the above pyaemic cases the physical characters of the pus have not been described very clearly. Schwetz remarks that more precise description of puerperal pus is to be desired, as Lajotte professes to be able to define the germ from the appearances of pus in peritonitis, particularly in children. The gravest point associated with staphylococcic infection is the question of serum treatment. Antistrepto-

[1] Un Nouveau Cas de Pyémie Puerpérale à staphylocoque pyogène Pure, *Annales de Gynéc. et d'Obstét.*, July, 1905.

coccic serum was employed in Schwetz's case with negative results. It is clear, however, that we should feel sure about our germ before we make use of serum for therapeutic purposes. The above researches show at least that we may detect the germ, and that it may prove not to be the streptococcus, so that antistreptococcic serum would be unavailing; but these researches also teach us that much remains to be learnt about the bacteriology of puerperal infection.

INTESTINAL OBSTRUCTION FROM GALL STONE.

M. Potherat has recently reported a case of this form of obstruction before a meeting of the Société de Chirurgie de Paris.[1] It is important to bear in mind that the clinical history—clear enough, no doubt—was not obtained until after an operation had been performed. The patient, a woman aged 62, was admitted into hospital under M. Michon for obstruction of a week's duration. Pain in the right hypochondrium was reported; vomiting of food and bile, and complete retention of faeces and flatus followed. At length the vomit became faecal. There was no jaundice. The symptoms being urgent, an operation was immediately performed. The incision was made in the middle line, and the obstruction was found to lie in the ileum about 3 in. above the ileo-caecal valve. It was caused by a calculus an inch in breadth, over 1¼ in. in length, and ⅔ in. in thickness. The bowel was opened and the calculus removed. The results were eminently satisfactory. It appears that M. Michon diagnosed correctly the cause of obstruction on account of the age and sex of the patient, the slight degree of tympanites, and the very free bilious vomiting; yet radiation of pain to the shoulder was, as well as jaundice, quite absent. On inquiry after the operation it was ascertained that the patient had been subject to attacks of gall-stone colic for fifteen years. The pains were followed by violent vomiting, and had grown more frequent after intervals—at first as long as eighteen months or a year. During the week preceding operation enemata prevented complete obstruction until the day of admission. It is interesting to note how a calculus of relatively small bulk may obstruct the bowel. Mayo Robson and other authorities on hepatic surgery have recorded cases of this remarkable variety of intestinal obstruction, well known, no doubt, to our readers; but this example recorded by M. Potherat is worth bearing in mind.

A CHAIR OF PROTOZOOLOGY IN THE UNIVERSITY OF LONDON.

The Senate of the University of London had before it on July 26th a communication from the Secretary of State for the Colonies, offering the University the sum of £700 a year for five years for the purpose of instituting a chair of protozoology. Of this sum, £200 a year was stated to be a contribution from the Rhodes trustees, and £500 a year to represent a moiety of a grant originally made from the Tropical Diseases Research Fund (established under the auspices of the Colonial Office) to the Royal Society for the Promotion of Research Work, and by the Royal Society surrendered for the purpose of endowing the chair. Having considered reports upon this offer from the Academic Council, and from the Board of Advanced Medical Studies and the Boards of Studies in Botany and Zoology, the Senate decided to accept the offer, to devote the whole of the £700 a year as salary to the professor, and to set aside a further sum of £200 a year to defray the cost of assistants and laboratory expenses in connexion with the chair.

THE INSANE IN CANADA.

In his presidential address to the American Medico-Psychological Association, Dr. T. J. W. Burgess, of Montreal, traced the evolution of the Canadian asylum system. In 1639 the Hôtel-Dieu of Quebec was founded, and in 1643 the Hôtel-Dieu of Montreal. In early days the workhouse was thought good enough for a lunatic if harmless, and the prison if dangerous. New Brunswick was the first province to make provision for the insane in 1835, the initiator of the movement being Dr. George P. Peters, of St. John. In 1836 the Government of Upper Canada, now Ontario, appointed a commission to report on the care of the insane. In 1841 the gaol at York, now Toronto, was opened for the reception of lunatics. In 1850, under the charge of the late Dr. Joseph Workman, the patients were removed to the asylum on Queen Street, Toronto. In 1856 the Kingston, or what is known as the Rockwood Asylum, had its birthplace in the stable of the Cartwright mansion. The present building was erected in 1862. The London Asylum was established in 1859 in the old military barracks and in 1870 was located in the present institution. In Quebec, Beauport, or Quebec Asylum, was founded in 1845. In 1852 Longue Point Asylum, or L'Hospital St. Jean de Dieu, came into existence, and in 1890 the Virdun, or Protestant Asylum, was founded. There are, in addition, the Hospice St. Julien and the Baie St. Paul Asylum, both of which admit idiots. In Prince Edward Island the asylum dates from 1847, and in Nova Scotia from 1858. In Manitoba the first asylum was opened in 1871 at Fort Garry. It is now at Selkirk. The second was started at Brandon in 1891. The asylum for British Columbia began in 1872 at Victoria, but is now at New Westminster. All the asylums in Quebec are the result of personal benevolence. They are not maintained by the province. Dr. Burgess made a strong protest against this condition of things. He urged that before things could be considered satisfactory in Quebec, the province must provide adequate accommodation for this class of sufferers. He condemned the system of county asylums as met with in Nova Scotia; and especially the combination of a county asylum and poor-house. There was some fear that this system might be introduced in New Brunswick. In that province a patient might be committed on a line from a doctor. This did not sufficiently protect the liberty of the patient. At present, he said, Ontario took the lead, the asylums being State institutions and most of the patients maintained at the expense of the province. In Manitoba and British Columbia the asylums were also State institutions. Dr. Burgess further directed attention to the increase in the numbers of the insane. In 1891, there were 13,342 in a population of 4,719,893; and in 1901, 16,622 in 5,318,606. This showed an increase of 25 per cent. in the insane and only 13 in the total population. He thought this increase was to be ascribed to modern methods of life and the race for wealth. Any hereditary taint was intensified by these conditions. It may be added that, according to the report of the Inspector of Asylums for Ontario, while in 1884 there were 8 insane persons to every 5,000 of population, in 1904 there were 14. The average daily number in the asylums in 1884 was 2,867, and in 1904 the number had increased to 5,500. Dr. Burgess contends that the utmost care should be taken not to allow degenerates to enter the country. Among the native Canadians there was 1 insane person to every 339, but among the foreign element there was 1 to every 243. Among the requirements of the present, the following points were mentioned: "Separate accommodation for idiots, epileptics, inebriates, and the criminal insane; proper means for the segregation of the tuberculous; some provision for the temporary relief of friendless convalescents; and the abolition of political patronage in asylum affairs." The public should undertake the care, training, and education of the mentally defective. Custodial care was not enough. Proper occupation was the essential in the treatment of the epileptic, and the criminal insane should not be housed along with the rest of the insane. Dr. Burgess pleaded very strongly for greater attention to the treatment of inebriates, and said that Canada was behind in this matter.

CHINESE MEDICINE AND AMERICAN METAPHYSICS.

The problem how dried lizards should be classified for duty has lately exercised the intelligence of the Board of United States General Appraisers at New York. The lizards, dressed and dried, stretched on pieces of bamboo,

[1] "Obstruction Intestinale par Calcul Biliaire. Ablation du Calcul par Entérostomie, Guérison," *Revue de Gyn. et de Chir.-Abd.*, May-June, 1905, p. 520.

were imported in pairs, supposed to be a male and female, bound together. It was stated that they were prescribed, together with herbs, by Chinese physicians, the lizards and herbs being cooked together and the broth administered to the patient as a tonic. After consideration, the Board came to the conclusion that the lizards were not used as medicine, but as one of the ingredients to be cooked with herbs to make a medicine, and therefore that although they have for many years been classified for duty as Chinese medicine, they are really dutiable as non-enumerated unmanufactured articles. We all remember the zoological classification of the railway official when confronted with a tortoise: "Cats is dogs, and rabbits is dogs: but this 'ere's a hinsect and must be paid for." The subtle distinction that lizards are not a medicine, but ingredients "to be cooked with herbs to make a medicine," shows that the American custom-house officer need not study Chinese metaphysics to sharpen his intellect.

DANGERS OF THE SEASIDE.

THE *Daily Express*, with the help of the report of the Medical Officer of Health for Wandsworth, has made the discovery that shellfish and ices bring disease and death to visitors to the seaside; or, to put the matter somewhat less brusquely, that the consumption of these delicacies, if they happen to be from infected sources, occasionally causes enteric fever. In one respect this is an opportune discovery, as it comes at a moment when other news is scarce. Its interest, moreover, is materially increased by the fact that our contemporary, with the help of another report, has learned that the impugned articles not only cause enteric but also typhoid fever. This is indeed disquieting, and to those careful parents who do not happen to know that typhoid and enteric are the same thing the statement may seem to afford good reason for countermanding preparations for seaside visits or for at once packing up and returning. Fortunately, however, the custom of eating whelks and cockles, which are the particular shellfish in question, and of eating ices at street barrows is confined to a limited section of the seaside-resorting public. By the rest of the world, thanks to the numerous articles on the subject both in medical and other papers during the last few years, the fact must be sufficiently well known that both shellfish and ices are contingently dangerous forms of food and not to be consumed unless there is full assurance that they come from good sources. On the other hand, it is true that visits to the seaside not infrequently result, not in bettered but in impaired health. Many people seem to regard any seaside town as a kind of hygienic Alsatia, as a place, in short, in which they can throw all the ordinary rules of a healthy life to the winds. This is by no means the case. Sea winds may be pure, but the air of an over-crowded bedroom is as impure and unhealthy by the seaside as it would be inland; wet boots and damp clothing are not less undesirable because of the admixture of a certain percentage of salt; and promiscuous meals of buns and bulls' eyes, though permissible just after a bath, are not less deleterious to delicate digestions because bought and consumed on a beach; nor, it may be added, is blueness of the skin a symptom of undesirable cold any the less because brought about by a sea bath.

EXPERT MEDICAL EVIDENCE IN ITALY.

NOT long ago we announced that the Medical Faculty of the University of Rome had passed a resolution that it was desirable, in order to avoid the differences of opinion between medical witnesses which brought discredit on the profession, that a Board of Experts should be constituted which should report with scientific impartiality on the facts in cases involving medico-legal points. The Medical Faculty of Turin has now expressed its agreement with that proposal, and has further suggested that in case of the Board itself disagreeing, the questions in dispute should be referred to scientific court of appeal composed of members of university faculties or medical academies. The Turin Faculty further points out the need of a special scientific training for medical experts.

AN INSTITUTE OF TROPICAL RESEARCH.

AN Institute of Tropical Research has been established in connexion with the University of Liverpool. Its head quarters are to be the Hartley Laboratories. The object is to collect and tabulate information likely to be of use to science and to commerce; to study the botany, zoology, ethnology, meteorology, and physiography of tropical countries, especially of British colonies; to investigate scientific problems connected therewith; and to train experts in the various branches of applied science. Lord Mountmorres has been appointed Director. The Council of the Institute includes Sir Alfred Jones (Chairman), the Lord Mayor of Liverpool, the Vice-Chancellor of Liverpool University, Professor Rubert Boyce, F.R.S., and others; while on the professorial staff are Major Ronald Ross, C.B., F.R.S., and Professors Herdman, F.R.S., Gonner, Harvey Gibson, and Dr. Benjamin Moore.

L'ENTENTE CORDIALE.

ON Friday, August 11th, a representative party of surgeons from the French fleet, including Dr. H. Léo of the flagship *Masséna* and Dr. Henri Ludger of the *Bouvines*, at the invitation of the Resident Medical Staff, paid a visit to the Royal Portsmouth Hospital. They were received by members of the honorary and resident staff and were conducted over the hospital, with the new portion of which they expressed themselves greatly pleased. They were afterwards entertained at afternoon tea by the Matron. A practical token of their appreciation of the visit was afterwards received by the hospital in the shape of a 100-franc note, and a letter of thanks from the principal medical officers of the fleet.

ON August 9th a memorial tablet was erected by the London County Council on No. 14, Hertford Street, Park Lane, where Edward Jenner, the originator of vaccination, resided in 1803. The tablet is of encaustic ware and green in colour.

M. MEDEIROS, of Rio de Janeiro, a member of the Brazilian Legislature, has submitted to the Chamber of Deputies the offer of a prize of £400,000 to be awarded to the discoverer of a certain means of stamping out consumption.

THE first International Congress of Psychiatry, Neurology, and the Care of the Insane will meet at Amsterdam from September 3rd to 8th, 1907, under the presidency of Professor G. Jelgersma of Leyden. The General Secretary is Dr. J. Van Deventer.

THE adjudicators of the Umberto I Orthopaedic Prize, Mr. Bernard Roth, of London, and Professor Bassini, of Padua, after considering a communication from Professor Carle, of Turin, who was prevented by illness from being present, have awarded the prize to Professor Oscar Vulpius, of Heidelberg for his work *Die Sehnenueberpflanzung* (The Transplantation of Tendons). The value of the prize is £200.

SIR EDMUND HAY CURRIE, the secretary of the Hospital Sunday Fund, has forwarded to the secretaries of the eighty hospitals in the Metropolis having out-patient departments a resolution of the Distribution Committee to the effect that the Committee is of opinion that the serious increase in the number of out-patients (many of whom have trivial complaints) is detrimental to the welfare of hospital and patients, inasmuch as they are a burden to the funds of the hospitals and prevent the hospital staff from giving the necessary attention to serious cases. The committees of the hospitals are invited to express their opinions on this subject and, if they agree, to suggest a remedy before the end of the present financial year.

THE SUPPLEMENT for this week contains reports of meetings of Branches and Divisions, a continuation of the notice of the Annual Exhibition of foods, drugs, instruments, books and sanitary appliances held at Leicester, together with vital statistics, naval and military appointments, and the Calendar of the Association.

MEDICAL NOTES IN PARLIAMENT.

[By Our Lobby Correspondents.]

The Poor-law Commission, which Mr. Balfour announced last week as desirable to be appointed in consequence of the new departure contemplated in the Unemployed Bill, was the subject of several questions. The Prime Minister, in the course of his replies, said that he was disposed to think that the Commission would be better constituted if all the three kingdoms were represented upon it, and if they were enabled to deal with a problem common to all. The fact that the Poor-law system was different in Scotland, England, and Ireland did not seem to him to be conclusive against that view. On the contrary, there might be some advantage in having persons on the Commission who were intimately and practically acquainted with the working of the system in the three countries. He did not pretend that the Government had arrived at a final conclusion, but he thought the precedent of the Poor-law Commission of 1834 ought not to be conclusive against a single Commission for the United Kingdom. He admitted that the proportion of rural and urban population was different in Ireland from what it was in Great Britain; but there was an urban population in Ireland and a rural population in Scotland also. The Commission was not yet constituted and the suggestions made would be considered.

Nursing in Workhouses.—The President of the Local Government Board informed Mr. Talbot that he hoped to be able to issue before the end of the year the order which was announced some time ago to be in preparation with regard to the nursing of the sick poor in workhouses.

The Public Health Acts (Amendment) Bill, which passed its third reading on Tuesday in last week in the Lords, came down to the Commons on the next day, when the Lords were requested to communicate to the Commons a copy of the report of the Select Committee which considered the Bill, with the proceedings of the Committee and the minutes of evidence. This meant that the Bill could not be proceeded with this session. The Bill was mainly concerned with building by-laws in rural districts.

Sterilized Drinks for the Army.—Sir Henry Kimber asked the Secretary of State for War whether, in accordance with the recommendation of the Advisory Medical Board that all fluids employed as drinks at manœuvres, on service abroad, and on active service, should be sterilized by heat, suitable apparatus and equipment for this purpose had been issued to the whole of the British troops in India and South Africa for service in the field and at manœuvres; whether the service of such sterilized fluids had been entrusted to specially-trained men, having no other duties, in each unit, as recommended by the Commission on Dysentery and Enteric Fever appointed by the Secretary of State for War, August, 1900; whether such specially trained men were placed under the direct supervision and responsibility of officers of each unit; and whether the regulations revised in the direction of devolving responsibility upon non-medical officers in the supervision of sanitary services in barracks and camps had been issued. Mr. Secretary Arnold-Forster answered that his honourable friend was mistaken in supposing that the Advisory Board made such a sweeping recommendation as that stated in the question. Trials were recommended, and these had been made, both on service and at manœuvres; further investigations were still in progress. Heat sterilization was being largely carried out at various places abroad, including India and South Africa. The supervision of water supplies and methods of water sterilization, where required, were in the hands of the local authorities, and sanitary officers had been appointed at home and abroad, among whose special duties were the periodical examination of the drinking water supplies, and the diffusion of knowledge of practical sanitary procedure among officers and men. The regulations referred to were contained in the provisional issue of Combined Training, Part VII, Section 157, promulgated with Army Orders of March, 1903.

The Medical Examination of Volunteers.—General Laurie asked the Secretary of State for War whether the circular letter regarding the medical examination of Volunteers, which was stated by him to have been approved by the Army Council and by the Director of Auxiliary Forces, was now being acted upon, and whether any results had reached the War Office. Mr. Arnold-Forster answered that the honourable and gallant member was under a misapprehension. When referring to this matter in the House, he stated that the Army Council were solely responsible for the circular, which was approved by them. The Director of Auxiliary Forces was only responsible for the form of the circular. He believed that a large number of corps had carried out the required examination, and with very satisfactory results, but no official returns had yet reached the War Office.

A Midwife for Stewartstown.—Dr. Thompson asked the Chief Secretary to the Lord Lieutenant of Ireland, last week, if he would request the Local Government Board to explain why they had not insisted on the appointment of a midwife for the Stewartstown dispensary district. Mr. Long replied that the Board were considering the question of making the appointment referred to, but had not yet come to a decision in the matter.

Arsenical Poisoning.—Sir Cuthbert Quilter asked the President of the Local Government Board whether, with a view to giving effect to the recommendations of the Royal Commission on Arsenical Poisoning, the arrangements foreshadowed in his predecessor's statement had now been effected; whether the special inspector and assistant inspector, for whose expenses provision was made in the Estimates this year, had been appointed; and, if so, what was the precise nature of the duties allotted to them? Mr. Gerald Balfour answered that an inspector had been appointed, and arrangements were being proceeded with as to an assistant inspector. It was the duty of the inspector to advise the Local Government Board as to the administration of the Sale of Food and Drugs Acts and other similar Acts, to deal with matters relating to the purity and adulteration of food which were brought to the Board's notice by public analysts, medical officers of health, and others, to obtain information upon special questions relating to the purity and adulteration of food and the use of deleterious substances therein, and to make suitable inquiries and investigations for this purpose. The inspector would make a report, which would be included in the annual report of the Board's medical officer, under whose direction he would act.

Dust Destructors and Public Health.—Sir Thomas Dewar asked the President of the Local Government Board if he would instruct the Board's medical inspector to report to what extent dust destructors similar to that erected by the city of Westminster in the vicinity of Commercial Road, Lambeth, were prejudicial to public health? Mr. Gerald Balfour replied that the Local Government Board had not received any complaint with regard to the destructor referred to, nor was he aware that there was any evidence to show that modern destructors caused nuisance or injury to the health of the populations in their neighbourhood. He did not at present see any sufficient reason to direct a general inquiry on this subject, but he would instruct one of the medical inspectors of the Board to report as to the particular destructor mentioned.

The Maltese Lunacy Board.—Mr. Lyttelton, replying to Mr. Crooks as to what action, if any, he proposed to take upon the protest of the medical men of Malta upon the appointment of Major Lawson by His Excellency the Governor to supervise the Malta Lunacy Board's medical officers in dealing with English patients only; and whether, with the view of aiding the good feeling of His Majesty's loyal Maltese subjects, he would consider the advisability of making Major Lawson a member of the Maltese Lunacy Board rather than a casual supervisor, said that the hon. member's suggestion had been carried out, and Major Lawson had already been appointed a regular member of the Board of the Malta Lunatic Asylum. The duties of the Board were to meet once a week at the lunatic asylum, to discharge inmates when cured, and to testify to the insanity of those admitted during the preceding week. It was never at any time intended that Major Lawson should in any sense supervise the medical officers of the Board or to cast any reflection whatever on the manner in which the Board had performed its duties.

The Drains of Regent's Park.—Mr. Bryce asked the honourable member for Chorley, as representing the First Commissioner of Works, whether the main drain and most of the

other drains in Regent's Park were untrapped, with the result that the sewer gas from the main drain was given off in the centre of roads habitually used by the public; and, if so, what steps the Office of Works proposed to take in the matter. Lord Balcarres answered that no drains for which the First Commissioner was responsible in Regent's Park were untrapped.

The Royal Commission on Tuberculosis.—In reply to Mr. Reginald Lucas, Mr. Gerald Balfour stated last week that it was not possible to say at present when the final report of the Royal Commission would be issued; but he understood that the Commission hoped to make an interim report towards the end of the present year.

The Prorogation.—The Parliamentary Session of 1905 closed in the forenoon of Friday in last week. Both Houses met at 10.30 a.m., and after prayers the faithful Commons were summoned by Black Rod to the House of Lords. There the Royal Commissioners signified the King's assent to the scanty legislative results of the session. The Lord Chancellor read the King's Speech, and Parliament was prorogued till October 30th. On the return to the House of Commons, the Speaker, standing at the table, and not at the Speaker's chair, read the King's Speech and announced the prorogation, and so a session remarkable for the wholesale dropping of Government Bills in its last few days came to an end.

Scotland.

Tuberculosis and the Simple Life.

A lecture on tuberculosis and the simple life was delivered recently at Aberdeen by Sir James Grant, M.D., ex-President of the Canadian Association for the Prevention of Tuberculosis. Dr. Ogilvie Will was in the chair, and there was a large audience. Sir James Grant said he was born and educated in Scotland. He had come to compare notes with the leading authorities in this country to see what could be accomplished by exchange of ideas on certain points. After referring to the work of the Canadian Association for the Prevention of Tuberculosis, he said that in mastering or controlling tuberculosis it was absolutely necessary that there should be thorough organization. Three specific objects were: First, educational; second, preventive; and third, curative. In an educational way a great work was being done by lectures. Then the dissemination of literature was giving people information. With regard to preventive measures, a by-law had recently been passed in Ottawa by which an individual could be punished, even with imprisonment, if found expectorating in the streets, or on the railways, or in the churches. As regarded curative measures, he did not approve of large sanatoriums. If any one in the country developed the disease, all he had to do was to put up a small tent, fit it up with a bed, a stove, culinary apparatus, and get the fresh air and modern attention. The house where a consumptive case had been ought to be thoroughly purified, and when there was a consumptive patient in the house the health authorities should be notified. He thought a proprietor should be fined if he admitted a second tenant into a house where a consumptive had resided before it was thoroughly purified. The reason why so many contracted the disease was that their vitality was lowered. If the simpler life was not followed there was danger of a lowered vitality, and there would be promoted very readily that condition of the system which would enable the bacillus to settle down and generate tuberculosis. He believed that all schools should be examined by medical experts. As regarded food, there was no substance in the whole list of articles of diet that could surpass oatmeal. With regard to drink, the subject had been carefully, solidly, and substantially investigated, and every day it was growing more popular not to use alcoholic liquors. In conclusion, he said that there was nothing so strong, nothing so persuasive as simplicity of life. Sir James Grant referred to an interesting visit he paid to Balmoral, where he had been thoroughly impressed with the remarkable evidence in all the surroundings of Balmoral of a simple life that contributed in no small degree to lengthen the years which enabled Her Majesty, as woman and Sovereign, to influence for good all movements of her time, as if by a unique magnetic power, transmitted to all parts of her Empire, throughout which "she made herself understood, beloved, and revered." The Chairman, in moving a most hearty vote of thanks to Sir James Grant for his interesting address, pointed out that a great deal had been said as to the establishment of homes for the treatment of tuberculosis amongst the working people. He had always had his doubts as to the expediency of this being carried out, on account of the great expense, and the impossibility of treating any large number. He did not think that it had been yet proved that sanatorium treatment was the best possible method, and he was not sure that Sir James Grant was not advocating the right thing when he suggested treatment of a simple character. He had had reason to raise his voice against that disgusting habit of spitting which went on so largely in Aberdeen. One point was known as the "spitting corner"—beside the Queen's statue—where the loafers seemed to have nothing else to do but amuse themselves by expectorating. He was glad to see that in the tramway cars there were notices requesting people not to indulge in this filthy habit. He was sorry to say, however, that the rule was not always observed, and when on several occasions he found fault with people, they seemed to think he was taking a great liberty indeed.

Ireland.

Poor-law Medical Service.

On August 10th a sworn inquiry was, we learn from the *Freeman's Journal*, opened in the Board Room of the Tullamore Workhouse by Sir Acheson M'Cullagh, Medical Inspector of the Local Government Board, into the question of the salaries of the medical officers of dispensaries in the union. This is the first inquiry that has been held into the question of dispensary doctors' salaries.

Mr. E. J. Graham, Clerk of the Union, gave evidence as to area, valuation, and population of the five dispensary districts, and the number of tickets issued during the last four years. He said the guardians had decided to fix the initial salaries at £120 a year with quinquennial increments up to £150, provided the Treasury recouped half the said increments.

Mr. William Adams, J.P., Chairman of the Board, said the guardians now recognized that the doctors were entitled to increased salaries, though at first they rather bitterly resented the mandatory tone adopted by the Irish Medical Association. He hoped Sir Acheson M'Cullagh would urge his Board to get Clause VI of the Local Government Amendment Act, 1902, repealed. This was the cause of all the difficulty.

Dr. G. A. Moorhead, Secretary of the King's County Branch of the Irish Medical Association, and dispensary doctor for Tullamore, swore that the chief drawbacks to the position of dispensary doctor in Ireland were the inadequacy of the initial pay, the absence of promotion, increments, or superannuation, and the arduous nature of the duties. The cost of living had seriously increased. He thought £200 a year a fair salary with a maximum of £300. Dr. Barry of Philipstown, Dr. Foley of Kilbeggan, Dr. Fitzpatrick of Clara, and M'Carthy of Killoughey, gave similar evidence. Dr. Denham stated he would rather have a dispensary in Dublin at £100 a year than one in the country at £200. Dr. Donnelly said he held a country dispensary in Meath, but gave it up, as he practically got no salary whatever. All he got was expenses enough to work his district. In reply to Sir Acheson M'Cullagh, witness said the action of the guardians in increasing the salaries up to £150 was but a step in the right direction.

Fatal Accident to a Medical Man.

On August 8th an inquest was held at Cookstown on the body of Dr. John Auterson, who died from the result of an accident on August 6th. Dr. Auterson was driving along an unprotected road in Drumallan, on his return from an evening visit, when the horse shied, became uncontrollable, and backed over a steep embankment into a field 14 ft. below. The road was very dangerous, and several accidents had occurred in the same way. The doctor was carried into an adjoining house, and subsequently removed to his own house in Cookstown. Drs. Crossett, Burgess, Graves, and Knight hurried to the spot as soon as they were informed of the accident, and did everything possible; but acute peritonitis following the shock supervened, and he never rallied.

Dr. Auterson obtained the L.R.C.P.Edin. in 1868. He had practised nearly thirty years in Cookstown, where he had a large practice, and was highly esteemed and liked by every

one. At the inquest the coroner, medical men, and jury expressed their sympathy with the friends of the deceased.

Death of Dr. D. McMordie (Omagh).

Another very sad death of a medical man in the County Tyrone took place quite unexpectedly on August 11th at Omagh. Some few weeks ago Dr. McMordie passed through a rather severe illness, attended with unconsciousness, but had apparently completely recovered, and had resumed his medical duties. On August 10th he assisted Dr. Fleming at some operations in the Tyrone County Infirmary, and retired that night at the usual hour, but was found unconscious in the morning; he never recovered from this state, and gradually sank in the afternoon. The cause of death, we understand, was meningitis. Dr. McMordie was educated in the Belfast Medical School, and obtained the B.A. of the Royal University in 1897 with honours and an exhibition, and the M.B., also with honours and an exhibition, in 1901; he was a scholar and a prizeman during his undergraduateship, and when qualified, Demonstrator of Anatomy in the College, and Senior Assistant House-Surgeon and Physician in the Royal Hospital of Sheffield. About two years ago he set up at Omagh, and was already making marked progress and gaining a rapidly-growing practice. At the last meeting of the Ulster Branch in Derry he read most interesting notes of an extreme case of cretinism and of a case with unequal palpebral fissure, both illustrated with a series of excellent photographs. Dr. McMordie was singularly clear-headed, clever, and hard-working; he was of a cheerful, steady disposition, and a great favourite with all who knew him, and the deepest sympathy is felt with his parents and relatives.

ANNUAL REPORT OF THE METROPOLITAN ASYLUMS BOARD.

The annual report of the Metropolitan Asylums Board for the year 1904, which has just been issued, is a volume of over 340 pages, and contains numerous charts and tables showing the movements of infectious disease in London. The work of the several departments is summarized in the reports of the Committee of Management, and the report of the Board, signed by the Chairman, Mr. A. C. Scovell, and the Clerk to the Board, Mr. T. Duncombe Mann, summarizes the whole.

The Board possesses 17 infectious hospitals, 5 asylums for imbeciles, a training ship, 15 homes or schools for certain classes of children, and 8 ambulance stations.

Fever Hospitals.

During the year, 21,183 patients have passed through the Board's fever hospitals, and 538 patients through the small-pox hospitals. The fatality-rates among these patients were as under, as compared with the previous year:

	Year 1904.	Year 1903.
	Per Cent.	Per Cent.
Scarlet fever	3·37	3·10
Diphtheria	10·68	9·69
Enteric fever	14·58	15·39
Other diseases	9·23	8·58
Small-pox	6·01	3·38

Special attention is called to the decline in the fatality or case-mortality amongst diphtheria cases which in 1893, the year before the disease was treated with antitoxin, was as high as 30·4 per cent. Since the introduction of the treatment the rate has almost continuously declined. At one of the hospitals a record has been kept of the case-mortality rates according to the day of disease on which the antitoxin serum treatment commenced. Of 204 cases treated during the years 1897 to 1904 on the first day of the disease not a single case died, and amongst 1,278 treated on the second day of the disease the fatality did not rise above 5·4 per cent., whereas amongst cases not coming under treatment until the fifth day and after the rate has been upwards of 22 per cent.

Small-pox broke out in 26 of the 31 Poor-law districts into which the metropolis is divided, the most serious outbreak being that in Bethnal Green, from which district 108 cases were admitted into the Board's hospitals. At the end of the year only 16 cases remained under treatment.

The cases of mistaken diagnosis numbered no fewer than 1,993, a percentage on the total admissions of 10·7. These cases were detained in hospital an average of 25·18 days, against 21·26 in the year 1903. These cases are separately discussed on page 395.

The average periods of detention of recovered patients in the acute hospitals were as under, as compared with the previous year:

	Year 1904.	Year 1903.
	Days.	Days.
Scarlet fever cases	63·00	61·35
Diphtheria cases	52·60	51·88
Enteric cases	60·74	56·59
Small-pox cases	38·86	40·98

A considerable number of patients were transferred to the Northern Convalescent Hospital, and their total periods of residence in hospital were as under:

	Year 1904.	Year 1903.
	Days.	Days.
Scarlet fever	71·86	76·90
Diphtheria	69·76	76·59

Imbecile Asylums.

In the Board's imbecile asylums 8,026 persons have been under care: 5,853 have passed through the various children's homes and schools; and 818 boys have been under training on the training ship *Exmouth*. On the last day of the year there were 17,077 persons in the various institutions, 12,028 being inmates and 5,049 staff.

Children's Homes and Schools.

The Committee for the Children's Homes and Schools draws attention to the apathy displayed by the metropolitan Boards of Guardians in making use of the homes provided for poor children requiring the benefit of seaside air, and for children suffering from pulmonary tuberculosis in its early stages, which is surprising in view of the efforts made to induce the Metropolitan Asylums Board to undertake the treatment of phthisis. The guardians also fail to take full advantage of the excellent training which is given to boys on the training ship *Exmouth*. The guardians of some of the country unions are not so lax in their attention to the best interests of boys under their care, and the number of boys at the *Exmouth* from these unions is yearly increasing.

Ambulance Service.

The work of the ambulance service of the Board has continued to be carried out in the entirely satisfactory manner which has characterized this branch of the Board's work since its inauguration in 1881. The total number of infectious removals effected numbered 29,961, and the non-infectious removals numbered 1,273.

The Ambulance Committee express their great regret that they find themselves still unable to report the acquisition by the Board of legal power to utilize their ambulance service for the conveyance of persons requiring removal other than those suffering from infectious diseases. The Local Government Board have had this question before them since November, 1903. In the meantime any applications for the conveyance of cases of an urgent nature appear to be complied with, as we observe that 68 non-infectious private cases were removed during the year.

The brief summary of the statistical parts of the Board's annual report would not be complete without reference to the excellent tables showing the age-incidence of the various infectious diseases treated in the Board's hospitals and of the varying fatality of each of these diseases according to age.

Medical Supplement.

The medical supplement to the report, edited by Drs. F. M. Turner and J. E. Beggs, each year increases in value, and we sincerely hope that the efforts being made to secure uniformity of nomenclature and classification of complications and causes of death will be crowned with success. The absence of such uniformity at the present time is the one cause preventing the statistics in this report from being the most valuable fever statistics extant.

Several special medical essays are appended to the report. In one of these Dr. W. H. L. Barlow tabulates some recent international statistics which throw light on the relative merits of intubation and tracheotomy. Dr. F. M. Turner con-

tributes a study of the connexion between age and severity of disease in small-pox; 1,884 unvaccinated cases of this disease are classified according to the type and severity of the eruption, and the conclusion is reached on this basis that small-pox (irrespective of the disturbing influence of vaccination) among children under 10 has a tendency to be of a mild type, whereas small pox over 10 years of age tends to assume a severer type. Dr. Turner himself shows, however, in a subsequent table that "if we judge the severity of disease from the death-rate we get quite a different result." Parenthetically we may mention that throughout this report the word "death-rate" is employed when case-mortality—that is, fatality—is indicated. It would conduce to lucidity if these words were employed in a differentiated manner. Returning to Dr. Turner's paper, it is difficult to understand how small-pox can be less severe among children under 5, and yet the fatality among such children is higher than at most other periods of life. We should be better satisfied that the higher fatality of small-pox among children under 5 is "due to the low vitality of young children" if this higher fatality were found to be confined to the first year of life.

Dr. Goodall has a very important note bearing on the origin of "return cases" of scarlet fever. In this note he shows that of 1 000 consecutive cases of scarlet fever 26.0 per cent. were the subject of some complication on admission, 31.1 per cent. developed complications after admission, though one-third of the latter had one or more complications on admission, others developing later. These figures obviously do not lend any support to the suggestion that the complications of scarlet fever are communicable.

Dr. Caiger has also a note of an interesting comparison between the incidence in the South-Western Hospital of rhinorrhoea and otorrhoea in two wards, into one of which only simple and uncomplicated cases of scarlet fever were admitted, while into the other all cases were admitted without selection. So far as rhinorrhoea is concerned, the differences between the two series of cases are so slight that it can be definitely stated that the selection appears to have had no influence. In regard to otorrhoea, the ward for selected cases appears to show some superiority, but the number of cases is too small to enable any positive conclusions to be drawn, and it is highly desirable that the experiment should be continued under rigid conditions as to comparability of cases, especially as to age and sex.

THE DIET OF THE PRECIBICULTURISTS.

By HARRY CAMPBELL, M.D., F.R.C.P.,

Physician, North-West London Hospital and to the Hospital for Diseases of the Nervous System, Welbeck Street.

IV.

THE DIET OF THE CALIFORNIANS.

The Californian or "digger" Indians inhabit territory in the United States of America between 43° and 32° to 30°. Among them we may include the Shoshones who are scattered over South-Eastern Oregon, Southern Idaho, and the whole of Nevada and Utah.

Culture.—These people are fast coming under the influence of the white man and their lands becoming changed by agriculture, mining, and other industries. Until quite recently, however, they were in their original primitive state, and some of them remain so even to this day. They exhibit a very low phase of culture. They do not, speaking generally, cultivate the soil, and are too lazy to hunt, except in a casual way, subsisting chiefly upon the uncultivated kingdom. Religion they have none. They in fact, present, though in a somewhat degraded form, the primitive pre-agricultural phase of culture as it once existed throughout the entire American continent, and were evidently driven into the region they now occupy by more warlike and vigorous tribes. The Northern Californians are greatly superior to the others, the tribes of Central California being the most degenerate. In two industries the Californians display remarkable skill: they are expert tanners and basket makers, their bottles made from closely-plaited grass being marvels of workmanship.

Animal Food.

Almost every living creature that can be procured is acceptable to the Digger Indian. The coast tribes subsist largely on fish, a mode of subsistence which well suits their indolent temperament; many of the inland tribes come down to the coast in the fishing season, remaining there until the shoals leave. They know little of navigation, but sometimes use canoes and rafts when the sea is smooth. Shell-fish are eagerly sought after, notably muscles and clams, which are considered a great delicacy, and in the diving for which they display great skill. Some of the coast tribes show, indeed, a great fondness for the water. We know from the shell mounds found on the coast in different parts of the world that shell-fish entered largely into the dietary of primitive man, and numerous ancient shell mounds are met with in California. Seals and stranded whales are also eaten, and it is an interesting fact that the natives use the dried whale-bone found on the coasts for dyspepsia, doubtless on the same principle as isinglass is employed in our own country as a household remedy for this affection. Fresh-water fish are also eaten, notably salmon, which in proper season abound in many of the streams, constituting, indeed, for some tribes a staple article of food; salmon roe is especially esteemed. Hunting ill-suits the lazy disposition of the Californians, who in this respect stand in sharp contrast with the Australians, though some of the mountain tribes are said to show considerable skill in the chase. Among the animals hunted are: the deer, antelope, elk, mountain sheep, buffalo, coyote, wild cat, beaver, and skunk; rabbits, hares, squirrels, rats, and mice are also eaten. Wild fowl, including the quail, swift, crow, hawk, and owl, are obtained in small quantities. Reptiles, insects, and vermin seem, however, to be preferred to any of these; for example, lizards, snakes (excepting the rattlesnake), toads, locusts, crickets (many of which are large and succulant), grasshoppers, ants, pediculi, earthworms, snails and grubs (such as those found in decayed wood), and chrysalides.

Cannibalism.—The Californians do not appear to have consumed human flesh as food, but portions of the body of a renowned enemy slain in battle were devoured with the object of acquiring something of the warrior's courage.

Domesticated Animals.—The only domesticated animal is the dog.

Methods of Procuring Animal Food.—Being little given to warfare or hunting the Californians possess few weapons; some tribes are provided with guns; others still use the bow and arrow for small game, the arrows being poisoned with the venom of the rattlesnake or with putrid liver. They display considerable ingenuity in making traps and snares. They capture deer by digging in the trail of these animals some pitfalls some 10 to 12 ft. by means of fire-hardened sticks, carrying the earth away in baskets. In stalking the antelope the hunter fixes on his head the horns of this animal by which means he is able to get close to his quarry; or the creature is surrounded by a circle of horsemen and clubbed to death. Ground squirrels are trapped by means of a noose. Wild-fowl are decoyed and netted. Fish are speared, the spears sometimes having movable heads, or caught in nets made of rushes or twigs, or they are procured by poisoning the water containing them, as, for instance, by soap root. Lizards are dragged out of their holes by means of a hooked stick. Ants are obtained by placing upon an ant-hill a piece of bark or fresh hide and brushing off into a bag the swarms as they collect, where they are dried for future use. Grasshoppers are caught in nets, or by being driven into pits, either by firing the surrounding grass, or beating it in gradually-lessening circles.

Methods of Preparing Animal Food.—The Californians do not consume raw animal food to the same extent as certain tribes on the Atlantic coast. Fish they not infrequently eat raw, and at best their cooking of animal food is perfunctory. Thus a rabbit is placed upon a fire and is consumed after the mere surface has been charred, a large portion remaining practically raw. Of one tribe we read "they did not understand dressing food, but were accustomed to throw their game, fish, birds, snakes bats, or rats, upon the fire and eat it, entrails and all, charred on one side and dripping with blood on the other." Fish are sometimes broiled in embers, the bones being sometimes first removed. They cook their white flesh in underground ovens of much the same pattern as those employed by the Australians. The Central Californians cook the flesh of the stranded whale in holes dug in the ground and curbed up with stone-like walls; over these they build large fires to heat them thoroughly, clean out the coals and ashes, fill them with flesh, cover the opening with sticks, leaves, grass, and earth, and thus cook their repast. They also boil their animal food, especially fish, by dropping hot stones into water contained in vessels made of closely-plaited grasses, or into artificially made pools of water. Lizards, snakes, grasshoppers, and ants are roasted alive on a dish containing hot embers, and are either eaten straightway or

used to thicken soup. Crickets were formerly roasted in large quantities by firing the woods. Grasshoppers are dried in the sun, and, thus prepared, can be stored for winter use; or they are mashed into a paste, or ground into a fine powder, mixed with mush, or salted, and then baked in underground ovens and eaten like shrimps. Other insects—for example, caterpillars—are also sun-dried, and then ground into powder. Earthworms are employed in making soup.

Storage of Animal Food.—Fish, especially salmon and smelts, are smoked and dried, in which condition the former are stored in large quantities; meat is also dried. Insects are dried in the sun and stored either whole or ground into powder. Smelts are smoked on low wooden kilns, with interstices to allow the smoke to rise up freely, and then dried in the sun. "An Indian on a journey always has some dried pieces of smelt or rich orange-coloured salmon."

Vegetable Food.

California is rich in wild vegetable foods suitable for man; Powers mentions seventy-three of them as being used by one tribe alone, this number including those employed medicinally, as well as for food, and there is no doubt that most Californian tribes subsist chiefly on vegetable food. According to Powers, the tribes inhabiting oak forests derive four-fifths of their food from the vegetable kingdom, especially from acorns.

Roots.—All sorts of "fleshy roots" are consumed. As in the case of other vegetable foods they are gathered by the women, who "do all the drudgery." These roots are sometimes grouped together as grass nuts, and mostly belong to the natural order Liliaciae. Among them the cammas, sometimes spoken of as the wild potato, is one of the most important; there are several varieties of it; one—the kais—has a root of about 1 in. long and the thickness of the little finger; it is dug up by the women in early June by means of a fire-hardened stick, a single squaw being able to procure half a bushel or more in a day. There can be no doubt that quite a large quantity of starch is provided by these roots, a fact which helps to explain the plumpness of many of the Californians in early youth. Many of the roots are said to be sweet when roasted.

The Smaller Seeds.—Among the smaller seeds are those of the following: A coarse wild grass, a species of yellow blooming, tarry-smelling weed—the oily seeds of which are as "rich as butter"—the crowfoot, a small weed which grows in ravines, the common sand grass of the desert, the bunch grass, wild rice, wild oats, wild wheat and wild rye.

Several methods are adopted for harvesting these small seeds: (1) a large basket is borne on the back, while with a smaller scoop-shaped one, held in the hand the ripe grass is swept and the seeds thrown into the larger basket; (2) the harvester holds a large, deep, conical basket under the left arm, while a smaller one, held in the right hand, is swept in a semicircle among the ripe seeds and brought round to the larger one into which the contents are discharged at every stroke; (3) the squaw carries in one hand a basket and in the other a kind of wicker-work bat with which she beats the grass heads over the basket; (4) a large-handled basket is repeatedly swept through the seed. These various methods of harvesting the seeds of grasses are of great interest as showing that man long before he began to cultivate the cereals was fully alive to their high nutritive value. Not less remarkable are their elaborate methods of milling and grinding the wild grain they harvest, and of converting the grain thus obtained into bread and cakes.

The Larger Seeds and Nuts.—Among these are the seeds of the sunflower, the pond lily, various pines (for example, the nervada nut pine and joint pine), and cactus (for example, the devil's pin-cushion). The mazanita berry is held in such esteem that it is honoured at the time of its ripening with a special dance. In some regions it grows in great abundance. "I have seen," writes Powers, "thickets of them wherein an acre could be selected which would yield more nutriment to human life than the best acre of wheat ever grown in California after the expenses of cultivation were deducted." Acorns occupy a still more important place in the dietary of the Californians; they and salmon have indeed been called the meal and pork of these people. According to Powers four-sevenths of the entire food of the inhabitants of the Californian oak forests consists of acorns, and many old Indians still prefer their acorn meal to the finest wheaten flour. Six different kinds of acorn are used, that of the mountain white oak being the favourite. The acorns are gathered in long conical baskets by the squaws and old men. In these oak districts "the invariable sound that first salutes the ear as one approaches a village is the monotonous thump, thump of the pestles used by the patient women" while pounding acorns; and on a sweltering day not a sound is heard but this "eternal thump, thump" (Powers). When acorns are scarce the Indian secures the stores laid up by the woodpecker, though he would deem it sacrilegious to do this unless hard-pushed. The Californians dedicate a special dance—the "all-eating dance"—of a semi-religious character to this important food. It lasts several hours, and at its finish acorn porridge is handed round and liberally partaken of by the entire company assembled.

Luscious Fruits.—Though doubtless several varieties of luscious fruits enter into the dietary of the Californians, the only varieties I am able to mention are the choke cherry, the astringent, juicy fruit of a species of wild cherry, and the small tomato-like fruit of Lycium Andersonii, in its fresh state "quite palatable." The Indians often dry this fruit and make it into a mash or soup.

Greens.—Of the many kinds of "greens" consumed by the Californians perhaps clover is the most important. When in season it is eaten in large quantities, its early gathering being celebrated by the "clover dance," and at this time a whole village may be seen squatting in a lush clover meadow and snipping off the blossoms with the fore-finger. Wild lettuce is another favourite food, and from it the Indians prepare a salad by placing the lettuce leaves over the nests of the large red ant; the insects swarm over the leaves, leaving a trace of formic acid, which takes the place of our own vinegar. Many green vegetables are prepared by boiling—for example, the leaf of the yellow dock, the highly saccharine buds of the yucca, and the leaves and stems of several large crucifers, which, in the unprepared state contain noxious ingredients. When hard-pushed the Californians will eat almost any kind of green herbage, after suitable preparation.

Flowers.—A sweet flower resembling honeysuckle is sometimes eaten.

Mushrooms.—Some of these are eaten with great relish.

Algae.—The coast tribes include sea-weeds in their dietary. One glutinous variety they press into loaves when wet and subsequently dry in the sun.

Artificial Drinks.—Intoxicating liquors are unknown. In summer they make a drink by soaking mashed mazanita berries in cold water, and imbibe it by means of "the shaggy knob of a deer's tail." They do not appear to chew gum like the Australians, but some tribes chew the twigs of the rabbit bush; men and children are said to munch the kais root all day long. As in the case of other pre-agricultural peoples honey constitutes a staple article of food among the Californians. Most of it is black and bitter.

Storage of Vegetable Food.—The Californians appear to resort to storage of their vegetable food more than any other pre-agricultural people. Acorns are stored in large quantities. Powers describes how each smoke-blackened hut in a hamlet is surrounded by one or more wicker-work, thatched acorn granaries, placed either on the ground, or mounted some feet above it. As many as a hundred bushels have been found in one wigwam. Roots and seeds are by some of the more northerly tribes stored in large wicker boxes, built in the lower branches of strong wide-spreading trees, the trunks of which are smeared with pitch for protection against vermin. Some tribes *cache* their winter hordes under rocks and bushes out of sight of their enemies. Large quantities of pine nuts are *cached* in dry places, and, if properly stored, are said to keep for years. Mesquit pods containing hard seeds are gathered in the autumn and *cached* until spring. The cammas root, bulbous and onion-shaped, is dried in large quantities every summer and stored for winter. The rootlets of rushes are sun-dried and ground to flour, which is capable of storage. Various grass seeds are also stored after having been similarly sun-dried and ground. The prickly pear is stored either after it has been sun-dried or cooked.

Methods of Preparing Vegetable Foods.

The Californians resort to highly elaborate methods in the preparation of their vegetable food. They know how to remove by maceration and to destroy by heat, bitter or poisonous ingredients, how to hull wild grain, how to dry and grind various vegetable substances, such as roots, acorns and wild cereals, and from the flour thus obtained to make variously-flavoured cakes, puddings and gruel; and they have moreover elaborate methods of cookery, boiling their food in watertight baskets, broiling it in embers and steaming it in underground ovens.

Methods of Preparation involving the Removal of Noxious Ingredients.—Acorns, after being shelled and sun-dried, are put

into bottomless baskets placed on a flat stone, and pounded by means of long stone pestles into fine flour; the latter is then transferred to a hole dug in porous soil, such as sand, and water poured in and allowed to percolate slowly, the process being repeated until all the bitterness has disappeared from the mass; sometimes the flour is washed with hot as well as cold water. From the flour thus prepared bread, often flavoured with berries and herbs, is made; as are also puddings and porridge. Acorn bread is black and has the consistence of cheese. The noxious ingredients of many green substances are also removed by maceration; they are put into boiling water for a few minutes, then washed in cold water and squeezed, this process being repeated, if necessary, five or six times, until all the objectional ingredients have been removed. The following are instances of the destruction of noxious principles by heat: The Shoshones render certain poisonous roots edible by baking them in underground ovens: the poisonous buck-eye, a species of horse-chestnut, is prepared by being roasted underground, and then stone boiled to a pulp; in times of dearth the soap root (used for poisoning fish) is eaten after undergoing the following preparation: the roots are made into a heap and covered with leaves; over this a fire is made and allowed to burn for several hours until the poison is thoroughly roasted out and the root has become quite sweet and palatable.

Methods of preparing Vegetable Food not involving the Removal of Noxious Ingredients.—The seeds of grasses, after being parched, are beaten into flour, which, as is the case with the Australians, may be eaten without further preparation, or made into bread, cakes, and mush. The chaff is winnowed from the grains in various ingenious ways: in the case of wild oats the squaw places a quantity of grain in a basket; the grain is then slightly moistened and stirred with a stick; this causes the chaff to accumulate on the surface, when it is burnt off by passing firebrands over it; in the case of sand-grass seeds, the chaff which remains after grinding is winnowed and sifted out. Seeds are also roasted in embers in the following ingenious fashion: Into a basket containing seeds embers are placed, and the basket is swung so as to shake the coals and seed well, and bring them "in continual close contact without burning the seed." The seeds of the joint pine are roasted and ground, and the flour made into bitter bread; those of the pond lily "form an excellent material for bread or panada," and are collected by some tribes in large quantities. A palatable black bread is made from the flour of small black oily seeds. Sunflower seeds pounded into meal constitute a favourite food. Mazanita berries are pounded with a stone pestle, and the beaten mass placed in small quantities at a time on a round mat, which is inclined in various directions to allow the seeds to roll off. The flour thus obtained is stone boiled in a basket-bottle or sand pool, and yields a panada which is sweet and nourishing, or a thin porridge which is eaten "with the shaggy knob of a deer's tail." The cones of the nervada nut-pine are beaten from the trees in early autumn, spread on the ground, and exposed to the sun until the scales dry and crack, thus allowing the seeds, or "nuts," to escape when beaten; the seeds are then roasted. The petah root, after being dried and ground into meal, is eaten raw or made into bread. The dried pods of the mesquit bean are pounded in a wooden mortar, and the flour sifted out and made into small cakes or loaves. The "prickly pear" (obtained from a species of cactus) is prepared thus: the fleshy joints when fully distended with sweet sap, that is in May or June, are broken off with sticks, and after being divested of their prickles, are sun-dried, when they will keep indefinitely. They are prepared for eating by boiling, and adding salt, or, instead of being dried, they are cooked in underground ovens. A hole, or oven, is dug about a yard in diameter and a foot deep, and lined with stones; over this a fire is kindled, and other stones thrown in; when the stones are thoroughly heated, the ashes, and all but a single layer of stones, are removed, and some fresh moistened grass spread in the oven; alternate layers of cactus-joints and stones are now put in until the pile is well rounded; this is covered with sacking, and finally with moist earth. After about twelve hours of steaming the pile is opened, and the mivo, as it is now termed, is eaten with salt, or dried and preserved. Mescal is cooked in a similar way, the ovens in this case being much bigger, and the cooking, which is accompanied by certain ceremonies, occupying two days. In the neighbourhood of the hillsides where the mescal grows numerous ovens, which have been used in previous years, are to be seen. The common reed furnishes what is known as "sugar"; the reeds are cut in early summer, then ground, the finer portions being separated by sifting and constituting a "moist, sticky stuff," which is moulded by the hands into a thick, gum-like mass, and this is roasted till it swells and browns slightly, in which toffy-like state it is eaten.

Starch and Sugar.—As in the case of other pre-agriculturists the Californians are ignorant of the art of extracting starch and sugar from vegetable substances.

Rotation of Food.—Their food is greatly influenced by season. Thus, according to Powers, the northern Californians eat in the early part of the year the sweet inner bark of the yellow pine; next the clover comes into season, then throughout the summer various kinds of roots are ready for consumption; next (about June and July) salmon; after this wild oats and grass seeds, then mazanita berries and pinon nuts, acorns finishing the harvest of the year; while game and vermin of many kinds are eaten at all seasons.

Quantity of Food.—The country of the Californians yields an abundance of food. The rivers at times are said to be black with salmon, which are dried, smoked, and stored in large quantities. Acorns abound in the oak forests, and are, as we have seen, copiously stored, while a plentiful supply of other valuable vegetable food—such as roots and mazanita berries—is available. The country is, indeed, said to afford "every life-sustaining substance, which can be procured with comparatively little trouble," and it is unusual "that a tribe cannot procure a sufficiency food with comparatively little work." Bancroft writes: "Before the arrival of the miners game was so plentiful that even the lazy natives could supply their necessities," and the rivers "were darkened by the black-backed myriads." Salmon was once so plentiful that an Indian could scarcely thrust his spear down without transfixing one or more;" and, according to Powers, a party of six Indians speared over 500 salmon in one night, which would, at a moderate calculation, give 500 lb. to each spearman. On the other hand there is evidence that food is not always so plentiful, for we read that "after a long winter on short commons they are glad to allay hunger by filling their stomachs with the sweet inner bark of the yellow pine," and an old blind Californian was once seen cutting up his sandals for a meal. The Californians are capable of consuming enormous quantities of food at a sitting. Bayert says of certain tribes that 24 lb. of meat was not considered too much for one person, and he mentions the case of a native who ate seventeen melons right off. The same writer refers to the curious custom among some of the natives of attaching a piece of string to a morsel of meat so that they may withdraw the latter after swallowing it, a procedure they repeat as many as a dozen times—"Um den Geschmack davon desto länger zu haben."

Time of Meals.—Whatever be the general custom, in the case of many tribes, at all events, there are no fixed times for meals, food being eaten just when it comes to hand.

General Observations.—Of certain tribes it is specifically stated that they do not drink with their meals, and that they eat little or no salt. All food is eaten cold. Some tribes either drink water out of the hand, or stoop down and drink after the manner of cattle. Wild tobacco is smoked, and sometimes a rude attempt is made at cultivating it by scattering tobacco seeds about the camp, and taking care not to disturb the growing plants. They also from time to time burn the meadows to increase their fertility.

Sweat Houses.—The sweat house, or temescal, as the Franciscan Fathers named it, is a species of Turkish bath in vogue among the Northern Californians, and is regarded as a panacea for every kind of malady. It consists of a hole dug generally by the side of a stream, and roofed over so as to make it almost air tight. Ingress and egress are effected by a small hatchway which is instantly closed upon entering or leaving the chamber. In the early autumn a fire is kindled in the centre and kept alive till the following spring. The bathers squat inside and there remain, in spite of the close, smoke-laden atmosphere, until they break out into a profuse perspiration, when they leave the chamber and plunge into the neighbouring stream. The Central Californians also employ another method of promoting perspiration: a hole, just large enough to receive one person, is dug in the sand, and over it a fire is kept burning until the sand is thoroughly heated; the fire then is removed and the patient laid in the hole, and covered as far as his head with sand; when profuse sweating has been induced he is taken out and plunged into cold water.

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PREVENTION OF CONSUMPTION.

The Sanatorium Movement in America.

In *American Medicine* of June 17th, Dr. William H. Baldwin gives an account of the progress of the sanatorium movement in America. The Channing Home, founded in Boston in 1857, the Cullis Consumptives Home in 1864, and the House of Rest in New York in 1869, were not sanatoriums in the modern sense of the word; they were intended to receive patients who would probably remain until removed by death. Even earlier than these were the Lincoln Home, started in New York in 1839, and the House of the Good Samaritan in Boston in 1861, but they were not meant for consumptives more than for other patients believed to be incurable. Next came the two institutions of the Protestant Episcopal Mission in Philadelphia in 1876, intended especially for consumptives, which took patients in all stages, and treated them. During its existence that organization has cared for more than 3,500 patients. Five years later, in 1881, the Brooklyn Home for Consumptives was founded; it was intended, as its name implies, to shelter those prevented by the disease from caring for themselves or being received elsewhere. St. Joseph's Hospital, in New York City, for poor consumptives was started with the same object by the Sisters of the Poor of St. Francis in 1882. It is impossible to discover in the purpose or conduct of any institution up to that time any ray of hope for the consumptive, any expectation of successful treatment.

The Pioneer of the Movement in America.

The first real advance in the sanatorium movement in America was made by Dr. Trudeau in Saranac twenty years ago. If Koch's discovery was the revelation of a new dispensation, Dr. Trudeau may be considered as the first preacher of the new gospel of "open air" in America. Interest in the subject on the part of those studying the treatment of the disease developed rapidly, and as they came to similar conclusions, and living witnesses from various localities proved the efficacy of the new treatment, other sanatoriums were established, until there are now 135 institutions of various kinds, new and old, in 33 States and provinces in the United States and Canada where tuberculous patients are cared for; one-third of these are in New York and Pennsylvania. Collectively they provide accommodation for 8,400 patients, of which 30 per cent. are in New York State alone. Of these sanatoriums 14 were established in 1902, 24 in 1903, and 21 in 1904, making as many in the last three years as in the seventeen which preceded. The rapid acceleration of the movement, after Dr. Trudeau's beginning, warrants the hope of corresponding future progress.

State Sanatoriums.

The first institution of the kind established by a State or provincial association was the Muskoka Cottage Sanatorium at Gravenhurst, Ont., in 1897, by the National Sanatorium Association, with a capacity of 75. The results were so favourable that another of similar size for people unable to pay was started five years later in the same place. The latter is supported in part by a subsidy of 1.50 dols. per week for each patient from the provincial government, and is therefore quasi-provincial. Resembling this in its relations with the State is the Maine Sanatorium recently established by the State association. This has received aid from the State, though it is not under State control, and in a way it takes the place of a State sanatorium. The first State sanatorium was established by Massachusetts at Rutland, fifty miles from Boston, in 1898. This is a large institution for early cases which had last year an average of 257 patients, and has been in every way successful, 73 per cent. of the incipient cases, in those discharged in the last few years, having been arrested or the patient apparently cured. Patients are required to pay 4 dols. per week, the State making up the remainder of the cost, which last year was 9.36 dols. per week. The next State sanatorium opened was that of New York at Ray Brook in the Adirondacks on July 1st, 1904, for incipient cases, with a capacity for 120. The results so far have been excellent. Admission is granted in the order of applications, with preference to those who are unable to pay, and who, after being recommended by local authorities who assume the charges up to 5 dols. per week, are examined by local physicians appointed for the purpose.

The erection of State sanatoriums has been begun in Rhode Island, New Jersey, Minnesota, Ohio, New Hampshire, Missouri, and Michigan. The Tuberculosis Commission, appointed by the Legislature of 1903 to investigate conditions in Wisconsin, has just made its report, setting forth very clearly the advantages of a State sanatorium. A Bill has been presented to the Legislature now in session asking for 90,000 dols. for the erection of buildings and 25,000 dols. as annual maintenance for them. It has been approved by the Committee on appropriations, and, as the sentiment in the Legislature is strongly in favour of the movement, it will undoubtedly be passed, and a start made this year. It may be said, therefore, that in eleven States and one province State sanatoriums are erected or their establishment assured.

In several other States the question is under serious consideration. Connecticut has no State sanatorium, but gave 25,000 dollars towards the equipment of Gaylord Farm Sanatorium, which cost about 100 000 dollars, the remainder being raised by private subscription, and has given 5,000 dollars a year toward its support for two years. In the District of Columbia, the request made at each of the last two session for an appropriation to start a sanatorium was rejected. In accordance with a resolution passed by the Indiana Legislature, a commission to investigate and report to the next Legislature as to a State sanatorium, has just been appointed, with the secretary of the State association as medical member. In Kansas, a resolution asking for the appointment of a tuberculosis commission to investigate the desirability and cost of erecting a State sanatorium, passed the House, but failed in the Senate. The commission appointed in Maryland, in 1902, to investigate the general facts in relation to tuberculosis in the State, was reappointed last autumn to continue its study, and also to report in 1906 as to the "construction, cost, equipment, maintenance and location of a sanatorium for the treatment of tuberculosis." A bill appointing a commission consisting of two physicians and the commissioner of forestry to build two State sanatoriums in Pennsylvania, and making an initial appropriation of 300,000 dollars therefor, was recently vetoed by Governor Pennypacker, not because of any objection to such institutions for the State, but because the Bill was loosely drawn and opened the way for abuses. In Washington, a Bill making provisions for a site and for preparing plans for the erection of a State sanatorium, was introduced in the last Legislature, but was crowded out in the closing days of the session. There was no opposition. In Kentucky a Committee has been appointed to bring the matter before the Legislature, which meets next year. In South Dakota it is intended to bring the matter to Congress at its next session, but no steps have been taken toward a State sanatorium. In Texas the subject was brought before the Legislature, which has just adjourned, but nothing was done. In Virginia, West Virginia and Montana also, Bills introduced several years since failed, and no efforts are being made at present. The recent California Legislature passed a Bill appropriating 150,000 for a State sanatorium, but the Governor vetoed it. In Arkansas, Arizona, Georgia, Idaho, Mississippi, Nevada, New Mexico, North Carolina, North Dakota and Oregon, report that nothing is being done for a State sanatorium, and failure to furnish any information indicates that nothing has been accomplished in the remaining States.

Sanatoriums for Sailors and Soldiers.

In 1898 Surgeon-General Wyman took up the question of a sanatorium for tuberculous seamen, and after various locations had been investigated the old military reservation at Fort Stanton, New Mexico, was turned over to the Marine Hospital Service in 1899 for the purpose. The reservation contains 38 square miles, most of it under fence, and the accommodations can be indefinitely extended by adding tents. The navy has not yet established a sanatorium, but since December, 1903, has been experimenting with a camp at the naval hospital at Pensacola, Florida, accommodating 50 in tents, and has 8 officers and 64 enlisted men in the army sanatorium at Fort Bayard. The results have been most favourable, leading to studies of sites and plans for a naval sanatorium. The results have been excellent. In 1900, also, Surgeon-General Sternberg established a United States general hospital for tuberculous soldiers of the United States army at Fort Bayard, in New Mexico. The results have been very favourable. There were at the end of last year about 250 under treatment.

MUNICIPAL SANATORIUMS.

As to municipal sanatoriums, the first one established was the Branch Hospital at Cincinnati, Ohio, in 1897, located just outside the city and accommodating 125 persons, free to residents of the city. Next came the Tuberculous Infirmary of the Metropolitan Hospital of New York City on Blackwell's Island, established in 1902. Another municipal institution worthy of notice is the Riverside Sanatorium, established in the following year by New York City on North Brother Island, to which section 139 of the New York Sanitary Code permits the forcible removal of any consumptive, who, by refusing to comply with the regulations of the Health Department, is endangering the health of those around him. In 1903, also, provision was made in the Emergency City Hospital of St. Louis, Mo., for tuberculous patients, and the Tuberculous Sanatorium of the City Hospital of Cleveland, Ohio, was started the same year in an old building. Six months ago the city bought 1,300 acres of land ten miles from the city, beautifully located, with rolling ground, woods, springs, and fine views, where a tuberculosis sanatorium, on the plans for which the architect is already at work, accommodating 200 patients and taking both chronic and recent cases, will be erected.

Special provision was made for the treatment of tuberculous inmates at the State Almshouse in Rhode Island in 1896. This example has been followed since in the State Hospital at Tewkesbury, Massachusetts, the Boston Almshouse, the Erie County Poor Farm at Buffalo, New York, Wayne County House at Eloise, Mich., and the Westchester County Hospital at East View, New York, and the subject is under discussion in various other counties.

HENRY PHIPPS INSTITUTE.

Mention should also be made of the Henry Phipps Institute in Philadelphia for the study and prevention of tuberculosis, in which only people who are unable to pay and whose cases are considered hopeless are received.

SEASIDE TREATMENT OF SURGICAL TUBERCULOSIS.

Although some children are admitted to several of the sanatoriums and hospitals with other tuberculous patients, nothing whatever was done to provide those suffering from tuberculosis of the joints and similar forms of it with the seaside treatment, which has done so much for thousands of children in the large institutions by the sea in France, until the New York Association for Improving the Condition of the Poor demonstrated the advantage of such treatment in its tent camp at Sea Breeze in the year which has just closed. The results were remarkable, and show clearly that the matter should be taken up in a large way at once, preferably, in the opinion of Dr. Linsly Williams, by establishing a sanatorium by the sea under municipal control.

SANATORIUMS IN CANADA.

In the province of Quebec the State has given two tracts of land, one in the Laurentians and the other in Lake St. John district, but has done nothing further. In Nova Scotia a sanatorium was opened last year at Kentville. It is supported by the provincial government. It has accommodation for eighteen patients. There is no provincial sanatorium in Ontario. Provision has been made by the provincial Legislature for giving aid to the extent of 4,000 dollars to any municipality that erects a suitable sanatorium in accordance with the plans approved by the provincial Board of Health, and in addition to this, for making a further annual grant of 1.50 dols. per week per patient toward the support of the institution. As yet, no municipality has availed itself of this offer, but there is a movement on foot in several western counties to erect a joint sanatorium, and the town of Peterborough has also under consideration the erection of a building. In the other three provinces of Canada, efforts in the direction of a sanatorium have so far failed.

MIDWIVES ACT.

LONDON COUNTY COUNCIL.

According to the *Times* of August 14th, at the South-Western Police-court, two midwives, Amelia Hollis, of York Road, Wandsworth, and Eliza Keen, of Hope Street, Battersea, answered to summonses, at the instance of the London County Council, for carrying on their business without obtaining a certificate from an authority under the Central Midwives Board. Mr. J. W. Gedling, prosecuting for the Council, reminded the magistrate that these cases were the first that had been taken under the powers conferred on the Board by the Act of Parliament which came into operation this year. Hollis, it appeared, held a certificate from one of the London hospitals, and had a brass plate affixed to her place, which read "Amelia Hollis, registered midwife." Keen's position was the same though she had not the plate. Both sought to obtain the authority of the Board to practise, but in each case the application was refused, the Board writing: "It is contrary to our practice to give reasons for our refusal," when asked by Hollis for an explanation. Mr. de Grey, after a reference to the Act, remarked that the Board seemed to have absolute discretion. He advised the defendants, however, to take advantage of the opportunity the Act gave them to appeal from the decision of the Board to the High Court of Justice. Mrs. Hollis: But I cannot afford it. Mr. de Grey: Yes, there is that difficulty. Mrs. Hollis: This is how poor women are crushed. I have several children, and have been in practice in Wandsworth for twenty years. I am respected, and the medical practitioners would give me a good character. What am I to do if my living is taken away? Mr. de Grey: You see, you must obtain a certificate from the Board. Mr. Godfrey said he was not at liberty to give the reasons for the Board's refusal. Mr. de Grey: Of course, they may have very good ones for aught I know. The magistrate, under the special circumstances of the case, simply required the defendants to pay the costs of the proceedings—a few shillings.

LANCASHIRE COUNTY COUNCIL.

Dr. Edward Sergeant, Medical Officer to the Midwives Act Committee, in a report to the Committee dated July 18th, states that the total number of midwives remaining on the County Register on June 30th was 1,038, of whom 877 were women certified on the grounds of having been in bona-fide practice since July, 1901. Under Section x of the Act, 669 certified midwives have during the current year given him notice of their intention to practise. Certificates have not yet been issued by the Central Midwives Board to 225 of the county applicants; consequently, these women are not yet in a position to give the notice in question. The majority of the certified midwives now seem to carry out satisfactorily that part of their duties under the Act and rules relating to notification of certain matters to the local supervising authority, the following notifications having been received (to date):—Records of sending for medical help, 211; still-births, 102; death of mother or child before attendance of a medical practitioner, 10. In consequence of cases of women not certified practising midwifery without control, Dr. Sergeant wrote to the Central Midwives Board asking what action should be taken under such circumstances, and the following reply was received from the Secretary of the Board (July 4th): "I have to state that a woman not certified under the Act is subject neither to the jurisdiction of this Board nor to the local supervising authority. She can, of course, be dealt with under the Public Health Acts and the Infectious Disease Prevention Act, and I am afraid it is the only means of dealing with such cases. Such women may continue to practise until April 1st, 1910, at the risk of prosecution by the local supervising authority if they in any way call themselves midwives, or use any similar title. I am afraid no revision of the rules could give power to either the Board or the local supervising authority in such cases, as the matter arises under the Act itself, and an amendment to the Act would, therefore, be necessary." This, says Dr. Sergeant, shows that such women can only be dealt with by the local sanitary authorities, and the importance of their assistance in carrying out the regulations respecting midwives is further exemplified.

SHROPSHIRE COUNTY COUNCIL.

The report of Dr. James Wheatley, Medical Officer of Health to the County Council, on the vital statistics and sanitary condition of Shropshire during the year 1904, which has just been issued, includes a report on the administration of the Midwives Act. It is pointed out that, although the Act has been in force since April, 1903, it was not till considerably later that the Central Midwives Board issued its rules, and not until the latter part of last year that systematic inspection of midwives was begun in the county of Shropshire. The Sanitary Committee of the county council was constituted the local supervising authority, and the county medical officer was appointed the executive officer. The first step taken was to advertise the Act as thoroughly as possible throughout the county. The number of women who up to June 21st, 1903, had sent to the

executive officer notice of their intention to practise in the county was 236. Of 231 midwives now practising in the county only 43 are known to have any certificates in midwifery. Eleven others have had a certain amount of training in workhouses. The remaining 177, with a few possible exceptions among those who have only recently sent in their notifications, have had no training whatever. Among them are 31 who cannot sign their names, and about 21 others who cannot write sufficiently well to keep their registers. In regard to age, roughly speaking, 45 are over 60, and 75 are between 50 and 60. The county council, through the Technical, now the higher Education Committee, has for some years paid for the training of a certain number of midwives, averaging about five each year, at a cost of about £35 each midwife. The training given has been usually three months at a lying-in hospital, and three months as a district nurse. Since the Act came into force the training has practically been confined to midwifery. It became very evident, especially after the rules were issued by the Central Midwives Board, that careful and frequent inspection of the midwives would be necessary. It was a little difficult to form an idea as to the amount of labour that this would entail, but as a basis to work upon Dr. Wheatley estimated that about 200 midwives would register, and that they should be inspected not less than once a quarter. A qualified nurse (Miss Frith), also holding a certificate in midwifery, was appointed to act as a health lecturer under the Higher Education Committee and to carry out the routine inspection of midwives under his supervision. She commenced her work in October of last year, and although most of the work has hitherto been of a preliminary character there is every reason to think that this arrangement for inspection will work very satisfactorily. At present the work of the inspector is to a considerable extent educational. This educational work consists of two branches: (1) Teaching the untrained women how to conduct their work without danger to their patients. (2) Showing them how to fulfil their obligations under the Act. The first of these will remain one of the most important functions of the inspector as long as there are any untrained women on the roll. Although Miss Frith makes the regular routine inspection, Dr. Wheatley takes every opportunity of making himself acquainted with the conditions under which the midwifery practice in the county is carried on. Besides these inspections, he has made personal inquiries into all cases of serious irregularities and into cases in which infection is likely to be spread by midwives. On four occasions already it has been necessary to suspend midwives for varying periods on account of breaches of rules and to prevent the spread of infection. The majority of midwives show a willingness to learn and to conform to the rules. Dr. Wheatley has had startling evidence that many of the trained midwives require supervision as much as untrained ones, although for different reasons. Two of the four midwives who were suspended were trained and held certificates from recognized institutions, yet both were guilty of culpable neglect. Dr. Wheatley adds that the more he sees of the working of the Act the more he is convinced that a great amount of good will result. Primarily the object of the Act is to protect the life and health of mothers, but he thinks it will undoubtedly result in the saving of many infant lives which are now lost through ignorance and neglect to call in medical help.

CONTRACT MEDICAL PRACTICE.

Notice as to Districts in which Disputes Exist.

A notice as to places in which disputes exist between members of the medical profession and various organizations for providing contract practice will be found among the advertisements, and medical men who may be thinking of applying for appointments in connexion with clubs or other forms of contract practice are requested to refer to the advertisement on page 74.

"Clubs."

Dr. Arthur E. Larking (Folkestone) writes: In our efforts to abolish the present system, by which members of Friendly Societies obtain our services by means of a yearly sum of 4s., we must not forget that it is very important to convince the Friendly Societies themselves that such a system is not to their advantage. It is difficult to account for the fact that the sickness-rate of the National Deposit Friendly Society is four times less than that of other Friendly Societies, unless it be that their system induces members to go off the sick fund as soon as possible, because the member knows that by remaining on longer than absolutely necessary he is drawing on his own money invested with the Society. In other Societies all medical men will agree in the huge preponderance of subjective diseases or symptoms, such as rheumatism, lumbago, sciatica, vertigo, and slight ailments of various kinds. I myself am convinced that the members of many Friendly Societies think they are doing nothing wrong by remaining on the funds much longer than is absolutely necessary. If the medical officer suggests this he gets into trouble at once with the members. I had a good example of this some years ago. A man came to me and said he had "weakening of the eyes" and wanted to go on his club. I examined him, and could find nothing the matter except a very slight congestion of the conjunctivae. I gave him a lotion and told him I did not consider him bad enough to give up work. I heard a few days afterwards that he was on his club, and going about abusing me. I went to the medical man who had signed his certificate and asked him why he had put him on the club. He replied, "Oh, I make a rule of never refusing to put a man on his club; it does not pay." The other day a man came to my surgery whom I had seen a month ago with a slight injury to his knee. I did not remember him, and he reminded me that I had put him on his club, and he wanted now to go off. He had had no treament whatever in the meantime. If the Friendly Societies could have facts such as these pointed out to them—and I am sure we could give thousands such—they would perhaps be more inclined to adopt our suggestions.

LITERARY NOTES.

The interesting series of engraved mezzotint portraits of famous physicians, surgeons, and medical writers, formed early in the last century by the well-known medical antiquarian, Mr. T. J. Pettigrew, formerly librarian to the Duke of Sussex, will be sold by Messrs. Knight, Frank and Rutley at their rooms in Conduit Street on August 23rd.

By arrangement with the executors of the late Samuel Smiles, the Walter Scott Publishing Company, Limited, is about to issue a work on *The Nurture and Management of Children* left by the author of *Self Help*. Sir Hugh Beevor, Bart., M.D., who is editing the volume, has made suitable additions to the text.

F. A. Davis Company, of Philadelphia, will shortly publish a *Treatise on the Motor Apparatus of the Eyes, embracing an Exposition of the Anomalies of the Ocular Adjustments and their Treatment, with the Anatomy and Physiology of the Eye Muscles and their Accessories*, by Dr. George T. Stevens, of New York. The work is described as a systematic development of the subject of adjustments of the eyes. It will be profusely illustrated in colours and in black and white, mostly from the author's own drawings.

In an address delivered to the North London Students' Union by the Master of Downing, which is published in the August number of the *University Review*, Dr. Alex Hill touches on the simple life, as to which we are hearing so much at present. He asks what is amiss with the conditions under which we live, and why so many people are whining for a simple life, and he replies: "It is not that they want less. It is that they are troubled with misgivings that what they seem to want, even think they want, they really do not want at all." In illustration of this, he tells the following story: "A great London physician gave this singularly pregnant advice to one of my friends. His patient was a barrister, tall, nervous, over-eager, over-worked. With the patience begotten of routine, Sir William Broadbent tapped a chest which he knew to be sound, and listened to a heart which was beating with the regularity of a church clock. He poked, and prodded, and did everything that was needed to convince his patient that the visit to the doctor had done him good; but he gave him neither directions nor prescription. Just as my friend was leaving the consulting room he asked plaintively, 'But, doctor, you have not told me what I may eat.' 'Eat? Eat what you like, but be sure that you do like it.' Wonderful prescription! It transformed my friend. Instead of bolting a couple of sandwiches in his chambers, or, worse still, deferring lunch until he had time to snatch a bun and swallow a cup of tea, he lunched at his club. He thought about what he was eating. He rejected many things which before he had eaten without thinking, and had suffered for afterwards."

To the *Nuova Antologia* of July 16th Signor Ernesti Mancini contributes an illustrated article on dentistry in antiquity.

Cicero, in his treatise *De Natura Deorum*, ascribes the invention of tooth-drawing to Aesculapius, third of the name. The first mention of dentistry is found in Hippocrates, who in several parts of his writings has a good deal to say about toothache. Long before the dawn of Greek civilization, however, dentistry seems to have reached a high degree of perfection. From the Phoenicians the art found its way to the Etruscans. At the International Congress held in Rome in 1900, Professor Guerini exhibited several specimens of dental art which proved that something very much akin to bridge work was practised in ancient Italy so efficiently that it has lasted thirty centuries. Artificial crowns have also been found in Etruscan tombs. Artificial dentures go back to a remote antiquity. Dr. Deneffe says there is in the museum of the University of Ghent a set of artificial teeth which was found in a tomb at Orvieto with jewels and Etruscan vases; he gives their date as from five to six thousand years before Christ. In a collection of antique surgical apparatus made by Dr. Lambros, there is an artificial denture found in a tomb at Tanagra, near Thebes, which is believed to belong to the third or fourth century before the Christian era. Teeth stopped with gold have been found in Greek tombs. In the temple of Apollo at Delphi there was, according to Erasistratus, a nephew of Aristotle, and physician to Seleucus Nicator, King of Syria *circ.* 354 B.C., a leaden instrument which was used in the extraction of teeth; obviously an instrument made of lead could have been used only for loose teeth. In the Laws of the Twelve Tables made by the Roman Decemvirs in 450 B.C., it was expressly forbidden to bury or burn gold with dead bodies, except when used for wiring the teeth. In the construction of false teeth recourse was had by the ancients to bone and horn; sometimes human teeth were employed. Benzoni found in some mummies artificial teeth made of sycamore. In the first century of our era false teeth were very common among the Romans. The name of a fashionable dentist is enshrined in a line of Martial:

Eximit aut reficit dentem Crescentius aegrum.

Elsewhere he twits a lady with removing her teeth as she takes off her clothes at night. He says rude things of the teeth of two other ladies:

Thais habet nigros, niveos Licania dentes.
Quae ratio est? Emptos haec habet, illa suos.

Dentistry shared in the decay of the arts during the Middle Ages, and we read that when St. Louis died in 1270, although he was only 55, he had but one tooth in the upper jaw. French surgeons, notably Ambroise Paré, took a leading part in the revival of dentistry. Louis XIV's dentist used only instruments of gold in operating on the teeth of his august patient. From the time of Paré onwards the higher dentistry was in the hands of surgeons, extraction being left to barbers and quacks. Artificial dentures in the sixteenth and seventeenth centuries seem to have been intended rather for show than for use. It is recorded of Mdlle. de Gournay—Montaigne's *fille d'alliance*—that she took out her teeth when she wished to eat, and replaced them when she wished to talk. It is surprising to hear that the humble, necessary toothbrush did not come into general use till towards the end of the eighteenth century.

THE PLAGUE.

PREVALENCE OF THE DISEASE.

INDIA.

DURING the weeks ending July 8th and 15th the deaths from plague in India numbered 1,742 and 1,567 respectively. The principal figures during the two weeks were: Punjab, 1,112 and 953 deaths; Bombay Presidency, 321 and 323; Burmah, 157 and 162.

SOUTH AFRICA.

During the weeks ending July 15th and 22nd the plague report from South Africa was as follows: Port Elizabeth.—Fresh cases, 0 and 1; deaths, 0 and 1. East London.—Fresh cases, 1 and 1; deaths, 0 and 1. Rats and mice were found to be plague-infected at Port Elizabeth, East London, and King Williamstown.

AUSTRALIA.

No fresh cases of plague were reported during the weeks ending June 24th and July 1st. The Plague Hospital at Brisbane was closed on July 1st and at Maryborough one week previously. No plague-infected rodents met with since June 23rd.

MAURITIUS.

During the weeks ending August 4th and 11th the fresh cases of plague numbered 6 and 6, and the deaths 6 and 4.

HONG KONG.

Two cases of plague were reported during the week ending August 11th. The number of deaths was 3.

SPECIAL CORRESPONDENCE.

PARIS.

Infantile Mortality at Creusot.—Hygienic Instruction by Posters.—The Quality of Paris Milk.—Institution of a Medical Service for French West African Colonies.—Small-pox in Paris.

AT the closing meeting of the Académie de Médecine before the summer vacation, Professor Pinard read a report on the communication of Dr. Variot, "The Causes of the Low Infantile Mortality in the Industrial Town of Creusot." It is an almost fixed law that infantile mortality is higher in industrial centres than in country districts. The statistics of Milson Rhodes in 1904 for the different English counties show that the lowest infantile mortality, 79 to 100 per 1,000, is found in the agricultural districts of Rutland, Dorset, Oxfordshire, and rises to 175 and 180 in the industrial and manufacturing counties of Warwick, Stafford, Nottinghamshire, etc. From statistics collected by Dr. Briau, of Creusot, and M. Lafret, chairman of the administrative commission of the Hôtel Dieu in the town, it is shown that Creusot is a happy exception to the rule. The statistics for Creusot for the decennial period 1893 to 1902 show 8,054 births; 5,375 general mortality; 891 deaths of infants 0 to 1 year; this makes the infantile mortality for the decennial period 110·4 per 1,000, which is lower than the mean infantile mortality in France, which was 160 during the same period, and much below that in industrial centres and large towns—208 per 1,000 in the towns of 30,000 to 100,000 inhabitants. The town of Creusot is dominated by the immense ironworks of MM. Schneider, in which four-fifths of the working population of 25,000 to 30,000 are engaged. Dr. Variot considers the happy results to be due to the incessant efforts of MM. Schneider, the ironmasters: (1) By raising the salaries of the working men, which allows their wives to freely consecrate themselves to their maternal mission; (2) by the constant amelioration of the surroundings of the working classes, by the hygienic housing and the healthiness of the town; (3) by the generous and intelligent assurance of of gratuitous medical and medicinal assistance. Professor Pinard considers that the predominant factor in these results is the first—in Creusot the women can be really mothers, and nearly all (over 80 per cent.) feed their infants at the breast. A fourth cause to which Professor Pinard calls attention has had a strong influence in reducing the infantile mortality, that is, puericulture before birth. For many years no working woman has been allowed to go down into the mine, and only fourteen married women are occupied in the shops. If girls become pregnant they cease work about the fifth month, and are only allowed to return to work after their confinement, when provided with a medical certificate that they are able to do so without injury to their own health or to that of their infant. Thus there are no premature births from over-work, and weakly infants who die so easily soon after birth are rare in Creusot. A glance at the decennial statistics distinctly shows another fact, that is, the constant and progressive decrease in the natality, which from 855 in 1893 when the town had 28,229 inhabitants has fallen to 592 in 1904 when the population reached 30,584 inhabitants; thus here, as everywhere, "the natality," as says Dr. Morax, "follows the descending curve which the progress of civilization entails."

An attractive poster, illustrated by the artist Carrière and drawn up by Professor Brouardel and Dr. Roux of the Pasteur Institute, has been posted up all over Paris by the enterprise of the daily paper *Le Matin*. The following is the text:

To Mothers of Families.

The mother of a family can protect her own health, that of her husband, and that of her children by observing the following rules:

General Hygiene.—Choose an *airy* apartment, and as much as possible *exposed to the sun*. Keep it in a state of perfect *cleanliness* (sweep and remove the dust with a damp or woolly cloth). *Personal cleanliness* of the whole body and sobriety are indispensable to health. Alcoholic habits predispose to and aggravate all diseases.

Typhoid Fever.—The germs of typhoid fever are found in the dejections of the patients. Contagion occurs by water contaminated by these dejections, or by any other object, especially the linen, soiled by them. *Boil the water* which is used for drinking and the preparation of food. *Avoid touching* the soiled linen. *Wash the hands* before each meal.

Infantile Diarrhœa.—Breast feeding by the mother, or a good nurse, is the best preventive. Failing this, or when this is insufficient, only give to the infants *milk* previously *boiled*, and that at regular intervals.

Only use feeding-bottles without rubber tubes. With the greatest care look after the absolute *cleanliness* of the *bottles* and *teats*, which, after each feeding, must be rinsed with boiling water and kept protected from dust. Call a doctor without delay as soon as a young infant has *frequent stools*, especially if these are discoloured or greenish.

Small-pox.—Vaccination and *Revaccination* alone protect from small-pox contamination. Vaccinate children before the age of 3 months, at the age of 11 years, and at 21 years. (Law of February 15th, 1905.)

Diphtheria.—Diphtheria (diphtheritic angina, croup) is an extremely contagious affection. The germs of diphtheria are contained in the false membranes, the sputum and the mucous flow from the nose. They are especially transmitted by soiled objects, by the products of expectoration and mucous flow. These objects, when not disinfected, preserve for a long time their infective power. *Isolate* immediately from the *patient* the other children. *Send* urgently for *the doctor*.

Tuberculosis, Pulmonary Phthisis.—Tuberculosis is the most widely-spread disease. It is curable. The germs of the disease are contained in the expectoration. Only spit into a spittoon provided always with a certain quantity of liquid. Every expectoration fallen on the ground (floor, carpet, door-mat, pavement, conveyance, railway carriage, etc.) is an agent for the propagation of tuberculosis. The *spittoon* and any *linen* into which the patient may have expectorated (handkerchiefs, napkins) shall be plunged into and kept for five minutes in *boiling water*. *Forbid young children* to pick up and carry to their mouths objects lying about on the ground.

After the Illness.—When one of those diseases or other contagious diseases (measles, scarlet fever) shall have attacked one of the members of the family, whatever may have been the issue, cure or death, *have disinfected* the rooms, bedding, and every object which has been in contact with the patient.

Dr. Henri de Rothschild recently laid before the Société Scientifique d'Hygiène Alimentaire (presided over by M. Ricord, Senator) a note on the question of milk in Paris. From observations and analyses of the milk sold in the twenty arrondissements of Paris it was found that only 22 out of 100 samples contained a normal quantity of fats; the others were bad. The proportion—if the samples are classed by their price—is 91 per 100 bad or very bad for milk sold at 20 centimes the litre, and 75 per 100 bad or very bad for milk sold at 25 to 30 centimes the litre.

M. Roume, Governor General of French West Africa, has just created a Colonial Medical Service, to provide for the native population free medical attendance and advice in matters of general hygiene. M. Debove, Dean of the Faculty of Medicine, has put up a notice announcing that doctors will be engaged for a period of five years, divided into two periods of two years each, followed by six months' leave. The pay will be £400 per annum, and they will in addition have the right to an additional sum of £80 as an indemnity for their removal to Africa, the increased cost of living, etc. The travelling expenses by sea and land are at the charge of the Colonial Administration. M. Roume hopes that these positions will tempt young doctors who wish to economize quickly with a view to subsequently starting practice in France.

During the week ending July 29th the number of fresh cases of small-pox notified, which had been 33 during the previous week, rose to 97; there were 9 deaths. During the week ending August 5th there were notified 17 fresh cases and 7 deaths. The number of cases under treatment in the hospitals was 26 on July 23rd, 73 on July 29th, and 63 on August 6th. During the month of July the Municipal Disinfection Service performed 224 disinfections for small-pox.

LIVERPOOL.

Report of the Medical Officer of Health for the Year 1904.

THE annual report of the Medical Officer of Health (Dr. E. W. Hope) for 1904 has just been issued. It forms a royal 8vo volume of 248 pages in addition to an appendix and numerous large maps, and is embellished with several excellent reproductions of photographs. The area of the City remains as before, namely, 14 909 acres, no addition having been made to it since the inclusion of Garston in 1902. The population is, however, estimated at 723,430, an increase of 6,520 on the previous year. The birth-rate was 33 5 per 1 000 and the death-rate 21.9, the latter being an increase of 2.1 on the previous year, due to the great mortality from infantile diarrhoea that occurred in the late summer and autumn: 1,500 deaths of infants during July, August and September, were registered as due to choleraic diarrhoea and allied causes. The temperature in July was unusually high, the average being 1.4 degrees above that of the previous thirty years. At the same time there was a notable diminution in the rainfall as compared with previous years. The two concurrent climatic conditions were doubtless the chief agents in causing the epidemic of infantile diarrhoea. Great attention has been given to the milk dépôts, and a full account of their arrangements and working is given in the report. Unlike the authorities in the neighbouring borough of Bootle, the authorities of Liverpool seem to have no doubt as to the value of sterilized milk. The case-books in which are entered particulars of every case applying for the Corporation sterilized milk revealed many interesting facts. Over 50 per cent. of the children are stated by the mothers to be ill. A history frequently given is that almost everything in the way of infants' food has been tried without benefit, and that the dépôt has been sought as a last resource. A large number of these infants are recommended to try the milk by the medical attendants, both in hospital and private practice, and they report excellent results in cases where it is used. The staff of the Children's Infirmary have largely recommended the milk. The very ignorant class of mothers persist in decanting the milk out of the sterilized bottle into one with a large tube. To obviate this difficulty, the female inspectors are in the habit of visiting the houses where it is likely to occur. The assistant medical officer of health, Dr. A. A. Mussen, has paid particular attention to the results of feeding with sterilized milk, and has followed up its effects in nearly 6,000 cases. The mortality of infants thus fed was 89 per mille, as against 196 per mille for the whole city, 133 to 138 for the best districts, and 258 to 281 for the worst. It must be remembered that in these latter figures breast-fed children are included. It is clear that if the comparison were made between the children fed on the Corporation milk and those fed by other artificial means, the advantage in favour of the former would be even more forcibly shown.

Typhoid fever shows a marked diminution, 434 cases only having been notified, against 681 in the previous year, and 1,026 in 1902. The fact that the number of cases was also exceptionally low in Bootle points to a real advance in the health of the community in this respect. There was also a notable diminution in the cases of scarlatina. Measles unfortunately shows an increase—696 deaths—mostly in young children, being directly ascribed to it, apart from deaths due to its sequelae. The report emphasizes the urgent need which exists for the provision of hospital accommodation for cases of this disease. Whooping-cough has also been prevalent, and 426 deaths were certified as being directly due to it. Here also the need for isolation is apparent, the introduction of a case of whooping-cough into a court having repeatedly led to the infection of practically the whole of the infant population in the court. The improvement as regards the prevalence of tuberculosis noticed during recent years is maintained, though there has been a slight increase in the number of deaths during the year. Great care has been taken to exclude all kinds of infection from the elementary schools, and where the means adopted have failed to prevent its spread the schools have been closed. About seventy schools have been closed for a longer or shorter time on account of measles, and all the infant schools in the city were closed on this account from June 15th till after the Midsummer holidays. These facts show forcibly how seriously the presence of measles affects the well-being of the community.

With regard to the administration of the Midwives Act (1902) it is stated that since 1895 the Medical Officer of Health has kept a register of the midwives who have been connected with cases of puerperal fever, and in this and other ways has become aware of the qualifications and status of the midwives employed in the city. The report states that one of the points in which the Act needs amendment is in regard to the omission from it of any provision for the payment of medical men called in by midwives under the terms of the Act. With regard to Liverpool this omission has been supplied by the City Council, who have agreed to pay a fee not exceeding one guinea to each medical practitioner called in in the event of his failing to obtain payment from the patient or from the Poor-law authorities. Under the section "Sale of Food and Drugs Act" it appears that 81 informations were laid and 55 convictions were obtained. Great activity has been displayed in regard to the bacteriological examination of milk and other foods and of water. The organisms sought for are B. coli, B. enteritidis sporogenes; and, in milk, B. tuberculosis, by inoculation. Of the samples of milk examined 8.6 were tuberculous: the B. coli was found still more frequently; less common was the B enteritidis sporogenes. All forms of infection were much more frequent in milk introduced from the country, indicating the completeness of the town regulations for securing the health of the cows and the cleanliness

with which the dairy industry is conducted, as compared with places in which there is less careful supervision. Steps are being taken by the City Council to obtain additional powers from Parliament in regard to certain important sanitary measures, notably to facilitate dealing with nuisances and conditions injurious to health arising from noises made by animals kept in confinement; to prevent the continued occupation of cellar dwellings; for checking the spread of ringworm, and for the sanitation of hairdressers' saloons, and various other matters affecting the health of the city. From time to time considerable anxiety was occasioned by the difficulties in the way of dealing with certain parts of the Rivington watershed. The section of the watershed known as the Lever Park threatens to be a source of grave danger to the community of Liverpool, and will require extremely careful consideration to ensure the protection of the community from conditions which in almost innumerable instances have been proved to be the source of dangerous outbreaks of typhoid fever. Allusion is made to the urgent need which exists for the institution of a quinquennial census.

MANCHESTER.

Large Donation to Children's Hospital.—Anthrax in Cheshire.—Scarlet Fever at Rochdale.—Ice Cream in Ashton: Dirty Habits of Vendors.

THE Governors of the Manchester Children's Hospital have received from the residuary legatees under the will of the late Mr. Godfrey Ermen a donation of £12,000. This sum is to be applied in providing the new dispensary and out-patients' department. The name of Mr. Ermen will be associated with the new building.

From the minutes of the proceedings of the Diseases of Animals Acts Committee of the Cheshire County Council we learn that there have been eleven outbreaks of anthrax in the county during the quarter.

There are now only 24 cases of scarlet fever in Marland Hospital, Rochdale. This is the smallest number registered during the last eighteen months, scarlet fever having been epidemic for several months.

An outcry was recently raised in Ashton on account of disagreeable rumours in circulation that the ice cream sold in the town was dangerous. Accordingly the Town Council took the matter up and submitted eleven samples for analysis. Of the samples only one could be considered good. Seven samples contained organisms of bacilli of the "coli" group, thus indicating a certain amount of contamination, and that the ice cream should be regarded with suspicion. Another of the samples was positively dangerous. It appears that in one case the ice cream was actually made in the dolly-tub in which the weekly washing was done. At Rochdale an Italian vendor was fined for omitting to take reasonable precautions in the making of his ice cream. He manufactured his "wares" in the living room of his house, which was in a most filthy condition. A bucket contained milk the surface of which was coated with dust, while the outside of the bucket and part of the inside were thickly covered with dirt. Considering the extent to which the youth of many towns indulge in ice cream, it is satisfactory to find that the authorities are so vigilant.

LEEDS.

The Chair of Surgery.—New Dental Department of the Public Dispensary.

THE resignation by Mr. Ward of the Professorship of Surgery, which is announced, and which the Council of the University has accepted with much regret, happily does not imply that he ceases to be a member of the teaching staff. As senior surgeon to the General Infirmary, Mr. Ward retains his Clinical Lectureship in Surgery, a position which carries with it a seat on the Faculty of Medicine. Mr. Harry Littlewood, M.Sc.Leeds, F.R.C.S., has been elected to the Professorship. Mr. Littlewood, who has held the posts of Honorary Demonstrator in Surgical Pathology and Lecturer in Practical Surgery, will, we are confident, fully justify the choice of the Council by bringing to bear on his work all the enthusiasm for teaching which his colleagues and students know that he possesses, and which has already done so much to maintain and develop the reputation of the Leeds School. The vacancy caused by Mr. Littlewood's promotion will be filled up at an early meeting of the Council.

The new dental department of the Leeds Public Dispensary, which has now been in operation for some little time, was formally opened on July 27th in the presence of a large and representative gathering of the dentists and medical men of the town. Mr. Waid, the Chairman of the Board, presided, and in introducing the Lord Mayor, who declared the department open, discussed the steps which had led to the institution of a dental charity in Leeds. The suite of rooms, which was provided for in the plans of the new dispensary opened last year, is well suited for the purpose. It consists of six rooms, access to which is obtained from the gallery surrounding the large waiting hall. There is a large conservation-room, a waiting-room, and four other rooms, with direct intercommunication, to be used as extraction-room, recovery-room, anaesthetic-room, and nurses'-room respectively. The department has been fitted up in a very thorough and efficient manner. The operation or anaesthetic-room especially attracted our attention with its enamelled iron couch, sterilizing apparatus, instrument cupboards and lavatory basins. The conservation-room is fitted up with three chairs in the meantime. Two of these are of the Ash hospital pattern, and were presented by the makers, and the other, presented by the Dental Manufacturing Company, is one of their twentieth century chairs. We noticed also a Columbia electric engine, a Cuttriss Wallis motor, in addition to the ordinary foot engines of the Parson Shaw pattern. Those who proposed and seconded a vote of thanks to the Lord Mayor, emphasized the importance of developing the department on the lines of a teaching clinique, for if this were lost sight of its utility as a charity would be restricted. The dental staff, which consists of one honorary consulting dental surgeon, six honorary dental surgeons, and six honorary assistants, have arranged their work so that two of them attend every day during the working hours, which are from 9 till 12. The services of Dr. Capper Johnson and of Mr. Harold Collinson have been secured as Honorary Anaesthetists, and there is every prospect of the department, which has been launched with enthusiasm, becoming a success. Thus, then, there is at last rendered possible the providing of a complete course of dental instruction for students desiring their training in Leeds, and the University authorities will lose no time in considering the institution of degrees in dentistry, and the provision of the necessary instruction in subjects not included in the ordinary medical curriculum.

CORRESPONDENCE.

YELLOW FEVER IN NEW ORLEANS.

SIR,—I beg to state that the announcement published on page 348 of the BRITISH MEDICAL JOURNAL for August 12th, and also in many of the lay papers, to the effect that I am about to leave England for New Orleans in connexion with the outbreak of yellow fever, is not accurate. I should like to add that this matter has been given publicity without my knowledge or approval.—I am, etc.,

Cambridge, Aug. 15th. RONALD ROSS.

MEDICAL MEN IN THE AUSTRALIAN PARLIAMENT.

SIR,—The following statement in Dr. George E. Rennie's paper on Australia, published June 3rd, p. 1236, is incorrect:

> "So far in the Australian Commonwealth Parliament the medical profession is unrepresented."

There are five medical men in this Parliament, three or four at least are members of the British Medical Association Hon. Charles Carty Salmon, Victoria (also in the first Parliament); J. Gratton Wilson, Victoria; Wm. R. Nuttall Maloney, Melbourne; Frank Liddell, N.S.W.; Millice Culpin, Brisbane.—I am, etc.,

A MEMBER.

A MINISTRY OF PUBLIC HEALTH.

SIR,—The appointment of a Public Health Minister endowed with expert and Cabinet authority, and at the head of a Public Health Ministry, is a subject to which I have given some attention in the past, and as it appears to be reaching the sphere of practical politics, perhaps a review of the present position may be opportune in the BRITISH MEDICAL JOURNAL.

1. A Bill has been introduced by Mr. Balfour to make the Board of Trade and the Local Government Board offices of a Secretary of State (on the recommendation of a Treasury Committee, subsequent to the presentation of a scheme for

the reorganization of the Board by the British Medical Association some two years ago). Quite recently, too, Dr. T. B. Hyslop, in the Psychological Section of the British Medical Association meeting at Leicester, and the Royal Institute of Public Health have expressed themselves in favour of a Health Minister.

2. Previous to this the Sanitary Institute at Bradford, the International Congress of Hygiene at Brussels, the Royal Institute of Public Health at Exeter, and many individuals and public bodies had expressed full approval of a State expert head of a Public Health Department and Service, evolved from the Local Government Board in part.

3. Not only is medical opinion practically solid in this respect, but it is clear that there is a national awakening to the really priceless value of the health of the individual and the public. I am convinced of this from a knowledge of views from the most varied sources. It remains for the public health "conscience," as it has been aptly termed, to be aroused to such an extent as to require a full realization of the wishes it has expressed.

There can be little doubt that the three years' deliberations of the proposed Royal Commission on the Poor-law, if rightly counselled, will result in a proposition to cleave off the scientific and social problems of preventive medicine from those which are at present considered with these, namely, poverty and non-employment, by the Local Government Board. With such a cleavage a Health Ministry will be incumbent.

4. The recently-formed League for Physical Education and Instruction has among its excellent objects the federation of all workers in the public health (practical, scientific and Parliamentary, the Bishop of Ripon classified them in June). While such a popular stimulus is being given, would it not be well for the League to take a leaf from the book of our captains of industry who are successfully promoting the appointment of a Minister of Commerce with Cabinet rank? It might well formulate a request for a State Chief to consolidate and perpetuate a public health policy.

5. The time is surely past when the expenditure of a few thousands per annum by this great Empire can be held to negative a step which would be one of the soundest investments a nation has ever made or could make—that is, an insurance against disease.

The value of the work of individual Ministers probably would vary, but in the main infinite good would be the issue. If the duties of such an expert Minister be considered, it is seen that it is not such a complicated question as the appointment of a military war Minister might be. I beg to submit the outlines of a scheme for a Ministry for the consideration of those concerned, which I propose to elaborate in a paper at the Congress on Tuberculosis in Paris.—I am, etc.,

F. G. BUSHNELL,
Pathologist, Stephen Ralli Memorial; Vice-President, Devon and Cornwall Sanatorium for Consumptives.

Brighton, Aug. 14th.

I.

A. (a) *Cabinet Minister of Public Health* (expert) presiding over Health Ministry.
(b) Cabinet Minister presiding over Local Government Office.
B. Cabinet Minister of Public Health and of Local Government (non-expert) as an alternative.

II.

A. (a) or B. presiding over a *Public Health Committee* (Advisory): a thinking, collating, initiating, and recording body advising the Minister on all matters relating to public health in the Empire.

A. (a) or B. presiding over a *Public Health Council* (Administrative); a department to administer the public health services, including hospitals of all kinds, sanitary works, vaccination, pathological and public health laboratories, etc., etc. The duties allocated to each member to be defined with the organization of the Health Service.

An Inspection Department: The eyes and ears of the Council, a development of the present system of inspection.

III.

Local Government Office.

A. (b) or B. presiding over a Local Government Office (for business other than Public Health, but otherwise not defined here).

IV.

Public Health Committee (Advisory).

The number of members cannot be stated, perhaps 12: as in proposed Defence Committee to be selected by heads of offices, for capacity, etc., may be temporarily employed; not necessarily senior members of the profession, etc., consisting of

The Minister of Public Health.

Medical representatives of the Public Health Services (Civil, Naval, Military).
Medical representatives of the Education Department, and medical education.
Medical representatives of the Home Office.
Medical representatives of the Colonial Office.
Medical representatives of the Foreign Office.
Medical representatives of the Board of Agriculture (Veterinary Medicine).
Medical representatives of India.
Medical representatives of the Colonies,
and non-expert members.

Public Health Council (Administrative) (England).

To consist of seven: selected, etc., as in proposed Army Council:
The Minister of Public Health.
Representative of Public Health (Civil) Services (England).
Representative of Pathology (Public Health Laboratories), Necropsies, etc.
Representative of Engineering (Works).
Representative of Law.
Representative of Poor Law.
Representative of Parliamentary.
Representative of Finance.
(The General Register Office might need representation on the Committee or on the Council, or on both.)

Inspection Department, consisting of

Principal Inspector (responsible to Minister and Council).
Inspectors (increase of existing staff necessary for England).
Public Health Services (civil, executive, local).

INSANITY AND MURDER.

SIR,—Permit me to welcome the advance of your views on insanity and murder, from the stage they had reached in January last to the stage attained in the BRITISH MEDICAL JOURNAL of August 12th. I note with satisfaction that medical assessors are abandoned: that trial by jury is still to be the practice; that private trial by medical experts is abandoned; and I find no repetition of the protest against the medical examination, after trial, of convicts of whose sanity a doubt remains. So far, so good. The prisoner is to be examined before trial by experts "possessing special experience in lunacy practice." This is a very important proviso, but I do not know that it is an innovation. I have not heard of a prisoner being examined as to his sanity by persons who are experts in engineering or surveying. These experts are to give evidence at the trial, but I cannot make out whether, if their evidence is that the prisoner is of unsound mind but fit to plead, he is to be allowed to plead or no. If a prisoner is of unsound mind but fit to plead, it seems very unjust to deprive him of his chance of an acquittal. If he is not allowed to plead, a prisoner of unsound mind who is charged with a crime of which he is innocent, and of which he could be proved innocent, would be held guilty and sent to Broadmoor for life. Such a course may be expedient, but it seems a queer way of safeguarding the interests of the prisoner. The only matter in which the procedure that you now recommend differs, as far as I can make out, from that actually in force is that the experts are to be nominated by the judge instead of by the Treasury. Whether the judges would care to have this duty thrust upon them I do not know, nor have I heard anything to the discredit of the gentlemen hitherto employed by the Treasury. It seems not improbable that the judges would nominate the same experts that are now nominated by the Treasury. Is it worth while to invoke the tremendous machinery of a leader in the JOURNAL to bring about such a result?—I am, etc.,

CHAS. MERCIER.

August 14th.

SIR,—Though the subject of your article on the above subject is one that it is most difficult to discuss in a short letter, there are a few important points that I would like to draw attention to.

Your statements, that "murder is so outrageous a breach of the social system as to afford prima-facie cause for suspecting the presence of disease, and therefore of irresponsibility," and "in the great majority of instances insanity is at the root of the matter," seem to me to beg the question; but for the purpose of reference let such a premiss be granted.

That, in such cases in which there is any evidence that the accused is of unsound mind, the investigation should be undertaken by experts engaged, "not in the interest of the individual, but of society," would undoubtedly be a great improvement on the present system of permitting medical advocates. The details of the manner in which such a system could be carried

out I will not refer to now; but why should such a procedure be limited to cases of murder only, as you seem to suggest? It is, in many cases, simply a matter of accident whether the crime is one of assault, attempted murder, or murder. One individual—sane or insane—may only have intended to assault another, but the injury may be a fatal one. On the other hand, it may be clear that the one fully intended to take the other's life, but only a slight injury resulted. Surely, as regards the question of the right and proper way to deal judicially with such an individual, the procedure should be the same in either case.

With regard to the question of procedure at the trial of an individual charged with murder, the opinion you express in one part of your article seems absolutely opposed to that expressed in another part; for instance, you say:

> If the experts report that the accused was insane . . . he should not be allowed to plead; . . . then the incongruity of trying, as a responsible agent, a prisoner who is really not responsible would be avoided.

Later on, however, you write:

> Surely the true object is to find out whether he is guilty or not, and the fact of his insanity has nothing to do with the finding whether he did or did not commit the offence.

Although the question of fitness to plead is not an easy one to deal with, I think there can be very few who would maintain that because the accused was insane therefore he must necessarily be unfit to plead. The legal view of fitness to plead—in a few words—is this: Ability of the accused to understand the nature of the proceedings at the trial, and ability to instruct counsel. It cannot be doubted that, judged according to this standard, a large number of insane people must be considered fit to plead.

In the latter part of your article you deal with the objection that, in some cases, counsel might rely upon the question of fact rather than upon the mental state of the accused, and you say:

> The objection does not hold, because if he is found not insane the trial would be proceeded with, whilst if found insane he would be dealt with on other lines, to his own advantage.

This last sentence seems rather ambiguous, and the uninitiated might misunderstand what is implied by the words "to his own advantage." Putting it plainly, he would be detained in Broadmoor Asylum as a criminal lunatic, in all probability for the remainder of his life. Few people, I imagine, would consider such a fate to be to the advantage of any one. At the present time there are confined in Broadmoor Asylum men who have been charged with murder, but who have never been tried, and against whom no direct evidence has ever been brought.

It seems to me, Sir, that the proper course would be for the jury in every case to find a verdict on the question of fact, and that subsequently such an investigation as you suggest should be made by State-appointed experts, who would report to the judge before he delivers sentence on the prisoner.—I am, etc.,

Leamington, Aug. 14th. REGINALD H. NOOTT.

MR. TROUTBECK'S CASE.

SIR,—Captain Booth-Clarkson seems to think the remedy lies in putting out the present Unionist Government and putting in, in its place, a Radical Government; but might this not be only to escape from the frying-pan into the fire? For what Radical Government has ever done anything for the medical profession? or when has Sir Henry Campbell-Bannerman given the vestige of a pledge that he will do more for our profession than Mr. Balfour?

As things are, it seems to me, even on the strange assumption that the conduct of Mr. Troutbeck is more important than all the issues between Unionism and Radicalism, that it would be the height of folly for any Unionist to vote for a Radical Government on the ground that it would show us special favour. What medical men have to do is to use their influence on the candidates, Unionist and Radical, throughout the country.—I am, etc.,

August 7th. E. S.

THE FOOD FACTOR IN HAY FEVER, CHRONIC RHINITIS, AND ASTHMA.

SIR,—The letters of "F.R.C.S." (BRITISH MEDICAL JOURNAL, July 15th), "M.D." (Ibid., July 29th), and Dr. James Adam (Ibid., August 12th) agree in emphasizing the importance of diet in the treatment of the above affections. But they differ materially as regards the nature of the dietetic restrictions suggested. "F.R.C.S." simply restricts the amount, without apparently altering the constitution, of his diet. "M.D." lays stress on reducing the amount of the mainly carbonaceous food-stuffs—bread, puddings, sugar, and the like; while Dr. James Adam refers to a case in which relief followed the entire exclusion of meat.

I would like to point out that a long series of dietetic experiments conducted over a period of upwards of eight years have shown me that all three systems are useful. It is true that some individuals respond more satisfactorily to one system, some to another. But it is also true that cases are to be found, by no means infrequently, which respond almost equally well to any of these systems. For example, a lady of 30 had been placed on Haig's well-known regimen for asthma. The asthma steadily decreased in frequency and severity. In six months it had practically ceased, but she was anaemic, easily tired, and heartily tired of her food. Consequently, she began to take meat and fish in increasing quantities without making other alteration in her diet. Soon her asthma was as bad as ever. She was then dieted as follows: A little strong clear soup, fish, and lean meat (quantity not specified) at each meal; green, non-starchy vegetables *ad lib.*; sugar in all forms excluded, and starchy foods reduced to 3 oz. per diem. As a result, the asthma rapidly ceased, the anaemia and weakness disappeared, but she lost weight materially. After some months of freedom a relapse followed a sudden increase in carbohydrates. Eventually the patient found that by excluding sugar only, and living otherwise on an ordinary mixed diet, small in amount, and taking regular outdoor exercise, she remained in excellent health.

Such histories can, I think, only be explained on the supposition that all three dietetic systems, though doubtless operating in different ways, alike succeed in removing some factor essential for the production of asthma. What is the nature of this factor? I have endeavoured to answer this question in a work now in the press.[1]—I am, etc.,

London, W.C., Aug. 13th. FRANCIS HARE.

THE DIET OF THE PRECIBICULTURISTS.

SIR,—During the recent correspondence on this subject in the BRITISH MEDICAL JOURNAL, frequent mention has been made of the large tree-inhabiting grubs of Australia. A yet more remarkable article of food—the bugong butterfly of New South Wales—is known, largely through the careful investigations of the late Mr. G. Bennett. Of a dark colour, with two black eye-spots on the upper wings, the bugong is remarkable for the large amount of sweet oil which it contains. This is yellowish in colour, said to be nutty in flavour, and is collected wholesale by the natives for food. Swarming at a considerable elevation on the mountains, the insects are found clinging to the outcropping masses of granite; are suffocated by fires lighted under them, and swept off in basketfuls. A circular space is then cleared in the ground, and a fire lighted. The ashes having been removed, the dead insects are stirred about on the heated ground; they are then placed on pieces of bark, and the dust and wings winnowed from the fat, heavy bodies. The bugong are then either eaten straightway, or are pounded in a wooden vessel into doughy cakes; these will not keep over a week, however, unless smoked. The oil is said to cause vomiting when first taken, but tolerance is established in a few days.

As regards the native dog, or dingo, Professor M'Coy has shown that its remains have been found in certain of the superficial and cavern deposits of Australia, associated with those of animals now extinct. Thus, if introduced at all, it must have been by Pleistocene man in the Tertiary Period; by a black race, and not by whites, as some seem to think.—I am, etc.

Bridge House, Sale, Manchester. GRAHAM RENSHAW, M.B.

ST. JOHN AMBULANCE BRIGADE.

SIR,—In the discussion on Major O'Connor's paper on the military medical reserve difficulty, on page 328 of the BRITISH MEDICAL JOURNAL of August 12th, Surgeon-Lieutenant-Colonel Robinson is reported to have said: "The St. John Ambulance Brigade were solely trained in first-aid work, which was not so much required on service as nurses. He found they had absolutely no training in nursing duties." Let me say that the majority of the men of the St. John Ambulance Brigade sent to South Africa had been instructed in nursing duties in accordance with the St. John syllabus in nursing, and accounts received from many sources during the war showed that these men's services in the various hospitals were invaluable. I may also add that the Director-General of the Army Medical Department, Surgeon-General Keogh, C.B.,

[1] *The Food Factor in Disease.* Longmans, Green and Co.

cecently inspected in the Midlands No. 5 District of the St. John Ambulance Brigade, and said: "He looked upon it as a very great privilege that he had been invited to inspect them. It was the first occasion he had seen a muster of the brigade, though it was not the first occasion he had had anything to do with it. He was well aware of the excellent work the members of the brigade had done in the late South African war. He had had a large number under him during the war."—I am, etc.,

GEORGE A. HUTTON,
Surgeon-Major, Honorary Organizing Commission,
August 15th. St. John Ambulance Association.

STANDARD GAUGES FOR HYPODERMIC NEEDLES.

SIR,—Every practitioner of medicine must, from time to time, have noticed the inconvenience caused by the hypodermic needle of one maker not fitting the nozzle of another maker's syringe. Similarly one finds that one maker's lithotrity cannulae will not fit another maker's evacuator.

It seems to me that it would be a great convenience to practitioners generally, but especially to those members of the profession who work in out-of-the-way places, in the tropics and elsewhere, if the British Medical Association were to arrange for the introduction of standard gauges for the nozzles of hypodermic syringes, lithotrity cannulae, aspiration trocars, and such-like instruments.

The screws of microscope objectives were, I believe, standardized by the Microscopical Society with a great access of convenience to every one concerned. Why should the British Medical Association not follow suit and standardize, as far as possible, all medical and surgical instruments which consist of adjustable parts?

The benefits of this standardization could immediately be made available by the construction of what might be called adjusters. Such an adjuster would consist of a part, one end of which would be of the standard size and the other arranged to fit on the non-standard article.

To be complete, each non-standard instrument would require two adjusters, one to make each part adjustable to the standard; thus, in the case of evacuation instruments there would be an adjuster to enable the cannula to fit the standard evacuator and another to enable the evacuator to take the standard cannulae. In time, of course, all non-standard instruments would entirely disappear.—I am, etc.,

July 25th. J. B. SMITH, Major, I.M.S.

SPONTANEOUS COMBUSTION.

SIR,—With reference to the short note on Spontaneous Combustion appearing in this week's JOURNAL it may be of interest to remark that as recently as May, 1841, Jacobs published in the *Bulletin Gén. de Thérapeutique Méd. et Gén. de Paris*, the results of an investigation into twenty-eight alleged cases of spontaneous combustion with the following results: It has always occurred in the human body. It was more frequent in women than men. They were all corpulent or intemperate. There was a light and some inflammable substance present in the room. The combustion was rapid and finished in about seven hours. The subjects were generally old. The room where the combustion took place was filled with vapour, and the walls covered with thick sooty material. The head and extremities remained. Lastly, but by no means the least significant point, is that they were alone at the time.

Walford relates a case in the *Scientific American*, 1870, in which the victim was surrounded by his friends at the time of his combustion.

I have a note to the effect that I have read of two cases of phthisis in which the heads of the patients were surrounded by phosphorescent light; who my authority is I have not recorded.—I am, etc.,

Kingstown, Aug. 14th. ARTHUR G. BENNETT.

OBITUARY.

J. W. OGLE, M.A., M.D., F.R.C.P.,

Consulting Physician, St. George's Hospital.

DR. J. W. OGLE, whose death was announced in the BRITISH MEDICAL JOURNAL of August 12th, was born in 1824, and educated at Wakefield School, the Leeds School of Medicine, and St. George's Hospital. He was a member of the University of Oxford (Trinity College), where he took the degrees of B.A. in 1847, M.A. in 1851, and M.D. in 1857. He was distantly related to Dr. William Ogle of Derby, whose death was recently announced, and to Dr. W. Ogle, who was for some years Assistant Physician at St. George's, and then Assistant Registrar-General. His son, Dr. Cyril Ogle, is now Physician to St. George's. Dr. Ogle joined the school at St. George's in 1847, and was a house-pupil of Mr. Prescott Hewett. He soon distinguished himself by his devotion to anatomy, and served the school as Demonstrator and Lecturer on Anatomy. He was for some years Curator of the Museum jointly with the late Henry Gray, whose early death from small-pox robbed the school of its most brilliant and promising member. On Gray's death Dr. Ogle remained in charge of the pathological department; and lectured on pathology.

In 1860 the *St George's Hospital Reports* were started under the joint editorship of Dr. Ogle and Mr. Timothy Holmes. This series extended to ten volumes, the last of which appeared in 1879. Of these, seven were under Dr. Ogle's joint editorship, after which his place was taken by Dr. Dickinson.

Dr. Ogle became Assistant Physician in 1857 and full Physician in 1866. He resigned that office in 1876, and was elected Consulting Physician in 1877. He was connected by friendship and by community of religious sentiment with most of the leading High Churchmen in Oxford about the date of the early Tractarian movement, such as Sir R. Inglis, Mr. Gladstone, Dean Church, and Dr. Pusey. He early acquired a considerable practice; but his physical stamina were hardly equal to the labour which this and his hospital work entailed, and breaking down under it, he fell into a condition of depression which seriously threatened his future usefulness. He recovered, somewhat strangely, after a severe attack of typhoid fever, and thenceforward remained quite equal to the business and pleasures of life. But he had thought it prudent to resign the office of Physician, and he then resumed his private practice with perfect success. After a few years, however, being left a widower, he thought it better to give up active life, and retired to his son's vicarage of Highgate, where he passed the remainder of a well-spent life, happy in the affection of his children, and enjoying such pleasures as the infirmities of advancing years permitted him to share. Finally, he became partially paralysed both in motion and speech, and his last days were spent in total unconsciousness. Thus he passed peacefully away on August 8th, at the ripe age of 81.

So ended a life which endeared its owner in a peculiar degree to the colleagues amongst whom his lot was cast, and to all who were brought into contact with him as friends or patients. His memory will long be cherished in the school and the hospital which he served so faithfully and so well.

DR. T. J. WHIPHAM writes: During the time he was on the active staff of St. George's, Dr. Ogle devoted a great portion of each day to work in the out-patient room and in the wards of the hospital, where his teaching was highly appreciated by all who followed his practice. He was at the same time a frequent contributor to the medical societies of London and to various medical journals. Were it asked what was the chief characteristic of his medical career the answer would be extreme carefulness in his work. He attached great importance to the accurate record of the cases which came under his observation, and never failed to impress upon his pupils the necessity of preserving such notes for future reference.

Without devoting himself to special practice in any department of medicine he was, perhaps, especially interested in diseases of the nervous system, and in consequence of his extensive observations in this directions he was honoured by such appointments as membership of the New York Society of Neurology and Electrology, and of the New Neurological Society, while the College of Physicians of Philadelphia elected him an Associate Fellow in 1873. In his various publications his accuracy in observation and fullness of detail could not be surpassed. In all his records extensive research into the literature of his subject is abundantly manifested by the numerous and often voluminous footnotes which are appended to his more important publications.

At the College of Physicians of London Dr. Ogle took a prominent part. He became a Fellow in 1855, and was appointed Croonian Lecturer in 1860. In 1873 he was elected Censor, and Senior Censor in 1885, and in the same year he was one of the Vice-Presidents of the College with Dr. Fincham as his colleague. In 1880 he delivered the Harveian Oration, a most learned dissertation, which amply justified the choice of the President in conferring upon him the honour of Harveian Orator.

Dr. Ogle served with remarkable success as Examiner in

Medicine both at Oxford and Cambridge, and in this capacity his tact and ability were especially conspicuous. He was one of those who understand that the function of an examiner is to find out how much a candidate really knows of his work rather than—as not infrequently happens—to discover how far he is ignorant on one or two subjects. His kind and considerate manner would at once put the candidate at his ease, and under Dr. Ogle's viva voce he was always at his best.

It was, however, within that inner circle of intimate friends that "John Ogle" was most appreciated. His never-failing courtesy, his generous disposition, and his kindness of heart all largely contributed to endear him to those who knew him best. They admired him for his uprightness and honesty, they respected him for his indefatigable industry and unselfishness, and they loved him for himself. Of few men could it be more truly said:

> The heights by great men reached and kept
> Were not attained by sudden flight,
> But they, while their companions slept,
> Were toiling upwards in the night.

Dr. Ewart writes: In the death of Dr. John William Ogle the Medical School of St. George's Hospital mourns the loss of one of its most distinguished ornaments. Although he had long been prevented by failing health from taking any active share in the affairs of the hospital and of the school, his name on the list of the consulting staff had continued to represent the best traditions of the past. His too early retirement from the scene of his labours, and his long survival in spite of sufferings borne with admirable fortitude, have afforded his contemporaries an ample opportunity for a deliberate appreciation of his active career. Whether from the great institution which he served so well, from the ranks of the profession which held him in such deserved esteem, or from the circles where he was known and beloved, there has been no dissentient voice. A verdict has been passed which can rarely be awarded to living man: *Nil nisi bonum.* He was pre-eminently good, and that excellence added lustre and grace to his many distinctions. Keen in observation, rapid in induction, he was at the same time a most painstaking worker. To this happy combination medical literature is indebted for a series of valuable contributions which doubtless would have grown to greater proportions had his working days been prolonged. But although he never published any large treatise, considerable work was compressed into a relatively short period, during which he was not so free from the claims of private practice as the majority of young physicians. The range of his writings was not limited to any department of medicine, but his chief contributions were made to the *Transactions* of the Pathological Society, of which he was for many years one of the most industrious members. Pathological anatomy was in those days a comparatively unworked field; and Dr Ogle used the opportunity which it afforded with singular diligence and conspicuous advantage. Some lesions were described by him which had not been previously noted; in particular his name will always be associated with the subject of the balled thrombi in the heart, the pathology of which he was among the first to elucidate. He also gave special attention to the degenerative changes in the nervous system: and he was the author of a monograph on *Puncturing the Abdomen for the Relief of Tympanites.*

The spirit of scrupulous care in which he approached any subject of study is beautifully illustrated in his most elaborate Harveian Oration, a monument of patient research in which his memory will survive with that of his great predecessor.

He was held in great esteem as a clinical teacher. Much of his popularity in this direction was due to his exquisitely kind regard and sympathy for the student. No trouble was ever too great for him that could help his pupils, and he was always ready to enter with them into a friendly discussion of debatable questions, or to point to a way out of their difficulties.

As a physician his success in private practice tells its own tale. His clinical work in the hospital reflected the sound practical views which he had inherited from great teachers, and which his own clinical instinct and resourcefulness enabled him to apply to increased advantage. His diagnosis was usually rapid and correct; and whenever the disease could be identified the best treatment was applied. Dr. Ogle was justly regarded as an excellent physician. His extreme kindness of disposition led him to treat his patients with exceptional gentleness, and he was worshipped by them.

Over and above his natural gifts and lovable qualities, the secret of his success and of the high estimation in which he was held by universal consent was his utter devotion and his faithful service to the interests committed to his care. He has left a great example never to be forgotten by those who were privileged to be closely associated with him, and a memory of unmingled sweetness to be honoured and cherished by many grateful friends.

THE LATE MR. CHRISTOPHER HEATH.

Dr. J. Walter Carr writes: As an old house-surgeon of Mr. Christopher Heath, I should be sorry for his death to pass without some further notice of his strong and characteristic personality, for the influence which he exercised over his students was enormous. Beneath a brusque manner he partly concealed a remarkable degree of genuine, unassuming kindness. Very many old University College men could tell of the time and trouble he ungrudgingly gave on their behalf, going out of his way to do a good turn to a man in difficulty or distress. The interest he took in the work of the Society for the Relief of the Widows and Orphans of Medical Men affords another example of this feature of his character. He was capable of dropping rather severely on the faults or failings of a house-surgeon or dresser, but took good care that no one else should do so. A clergyman once wrote a long letter to the Secretary of University College Hospital, making some trivial complaints that a servant of his in the hospital under Mr. Heath had been neglected by the house-surgeon. The Secretary handed the letter to Heath, who at once entered *con amore* into a vigorous and prolonged epistolatory warfare with the aggrieved cleric, and finally induced him to withdraw his charges. In the routine of teaching he might appear rough and even inclined to bully men often greatly to their ultimate advantage—but as an examiner he was scrupulously fair and just, and most considerate to nervous candidates, far more so often than many apparently gentler examiners. As a teacher the writer always regarded him as wellnigh ideal; his teaching might not be very scientific or very profound, but it had the saving virtue of indelibly impressing itself on the memory, and after all, that is surely the most important point for students. Men never got sleepy when Heath was talking, but learned in a way they could never forget things which were useful to them not only for passing examinations, but afterwards in the rough and tumble of everyday practice. Moreover, he spared no trouble over his pupils; for some weeks before his "final" the writer remembers going with eight or nine others to Heath's house every morning, at 9 o'clock, for an hour's teaching, given absolutely voluntarily and unasked. At times he recommenced his hospital work two or three weeks before the end of the long vacation, merely for the sake of candidates for the final M.R.C.S. in October. He had no doubt the defects of his qualities and made enemies thereby, but he will long live in the memory of hundreds of his old pupils as the finest and most attractive teacher and the strongest and most impressive personality of his time at University College Hospital.

Deaths in the Profession Abroad.—Among the members of the medical profession in foreign countries who have recently died are Dr. Josef von Metnitz, Professor of Dental Surgery in the University of Vienna, and author of several treatises on dental subjects, aged 43; Dr. Schönberg, Professor of Midwifery, Gynaecology, and Diseases of Children in the University of Christiania; Dr. Chaufiery van Ysselstein, sometime Professor in the University of Amsterdam, aged 86; Dr. Bernhard Honsell, Extraordinary Professor of Surgery in the University of Tubingen; Dr. Walther Flemming, Professor of Anatomy in the University of Kiel, aged 62; Dr. Andreas Witlacil, Chief Surgeon of Police in Vienna, and a prominent organizer of sanitary reform, aged 87; and Dr. Turigny, Member of the French Chamber of Deputies for La Nièvre.

UNIVERSITIES AND COLLEGES.

UNIVERSITY OF LONDON.

Amendment of Regulations in Medicine for Internal Students. Among the exceptions from the rule of the Senate to hold on July 26th, published in the [illegible], to the following resolution:

That in the Regulations for Internal Students in the Faculty of Medicine [illegible]; for the paragraph beginning with the words "[illegible] to receive," and ending with the words "in each case prescribe," the following paragraph be substituted:

The Senate has power to grant exemptions from the courses of study

anterior to the Preliminary Scientific Examination and the Intermediate Examination in Medicine in the case of students who have pursued equivalent courses at any of the following institutions recognized by the Senate for this purpose with the approval of His Majesty in Council. Such students shall be permitted to proceed to the M.B., B.S. degrees as internal students, provided that they shall have completed a course of study in a school of the University extending over not less than three years, and passed the Intermediate and Final Examinations for the Bachelor's degrees and such other previous examinations, if any, as the Senate may in each case prescribe.

MILITARY COMMISSIONS NOMINATION BOARD.

Dr. Thomas Buzzard, M.D., F.R.C.P., has been elected Vice-Chairman of the Military Commissions Nomination Board.

VICTORIA UNIVERSITY OF MANCHESTER.

ERIC M. WILKINS, M.B., Ca.B., has been appointed to a Leech Fellowship in Medicine. This is a Fellowship given for the prosecution of original research in some department of medicine. The Council of the University, in memory of the devotion of Professor D. Leech to the interests of Owens College and the University, have named this Fellowship after one who unstintedly devoted his time, his talents, and part of his fortune to the University.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have been approved in the subjects indicated:

Surgery.—†H. J. Aldous, †C. W. S. Boggs, *†H. A. Browning, †G. M. Seagrove.

Medicine.—P. D. Addis, †C. W. S. Boggs, †J. H. Harrison, *F. J. F. Jones, E. B. Miles, *†W. G. O'Malley, †W. V. Pegler, *†N. A. Stutterheim, A. Whitby.

Forensic Medicine.—E. Moir, N. A. Stutterheim.

Midwifery.—E. Moir, A. F. Palmer, F. C. H. Powell.

The diploma of the Society was granted to the following candidates: H. J. Aldous, C. W. S. Boggs, H. A. Browning, E. B. Miles, and N. A. Stutterheim.

*Section I. †Section II.

MEDICO-LEGAL AND MEDICO-ETHICAL.

RESPONSIBILITY FOR CONSULTANT'S FEES.

J. H. C.—The state of things disclosed is not very satisfactory. If a consultant leaves his fees entirely to the general practitioner and does not know whether the latter has included his fees in his bills or not, or has received the money or not, and allows such transactions to drag on for "several years" without trying to put them straight, he deserves to lose his money. B. can compel A. to render an account of all moneys received on B.'s account, but if this shows that there is money due from A. to B., it is probable that payment can be enforced only by civil process.

THE EYESIGHT SPECIALIST AGAIN.

AN Irish correspondent sends us a circular and card issued by one John McGregor, dating from 15, Leinster Street, Dublin, who calls himself a sight testing specialist and an eyesight specialist. These circulars are sent to the heads of religious houses, and in his card he gives a list of convents and Catholic institutions which he claims as patronizing his services.

*** As there is no assumption of medical titles there is nothing illegal in the man's proceeding, but it is much to be regretted that the medical profession should have so much reason to complain of the support given to quackery by the clergy of all denominations.

SHARE OF PRACTICE AND SHARE OF EXPENSES.

LOQUITUR writes that he has purchased one-third share of a practice, and complains that the vendor insists that he shall pay half of the working expenses. Is this customary?

*** Certainly not. Our correspondent should pay only one-third share of such expenses. The usual custom is for all the ordinary working expenses to be paid out of the receipts, and then for the partners to divide the residue in proportion to their shares.

THE OBLIGATIONS OF A SUBSTITUTE.

V. V. V.—If a practitioner is called in to attend upon a patient during the absence of the regular medical attendant, he may, if the patient wishes, continue in attendance until the termination of the illness, but he should offer to retire when the latter returns and look upon himself as a substitute. He is entitled to be paid for his services, but must look to the patient for the fees. He should not try to take advantage of the opportunity to draw away the patient to himself. In the case stated Dr. —— should send in his account to the patient. Our correspondent should only charge for the work actually done by himself.

HOSPITAL AND DISPENSARY MANAGEMENT.

KESTEVEN COUNTY ASYLUM.

THE eighth annual report of this asylum shows that there were 300 patients in residence on January 1st, 1904, and that there remained 367 on December 31st, the total cases under care numbering 411 during the year. There were 102 admitted during the year, of whom 45 were received under contract from other asylums, only 45 belonging to Kesteven. A large proportion of these admissions were, Dr. J. A. Ewan, the Medical Superintendent, says, in a hopeless condition, only 10 being deemed curable. Their bodily condition was in 42 cases good, in 46 fair, and in 14 feeble and exhausted. They were classified as to the forms of mental disorder into: Mania of all kinds 47, melancholia of all kinds 14, dementia 22, general paralysis 3, acquired epilepsy 4, and there were 11 cases of congenital or infantile defect. Hereditary predisposition was traced in nearly 45 per cent. of the county cases, and was assigned as probable cause of the insanity in 20 of the total number. "Moral" causes were assigned in 11 more, intemperance in drink in 2, venereal disease in 3, previous attacks in 4, old age and the menopause in 2, other bodily diseases or disorders in 5, and in 44 no cause was ascertained. There were discharged as recovered during the year 22, giving a recovery-rate on admissions of 43·38 per cent.: as relieved 3, as not improved 3, and there were 16 deaths. This gives a very low death-rate on the average numbers resident of 4·73 per cent. The deaths were due in 4 cases to cerebrospinal diseases, in 6 cases to chest diseases, in 3 cases to nephritis, in 2 cases to cancer, and in 1 to old age. No death was due either to colitis or tuberculous disease. The general health appears to have been excellent, no serious casualties were recorded, and the asylum was maintained, the Commissioners say, in the best of order.

PUBLIC HEALTH AND POOR-LAW MEDICAL SERVICES.

THE NOTIFIABILITY OF HUMAN GLANDERS.

IN the Westminster Coroner's Court Mr. Troutbeck held an inquiry as to the death of Albert Allen, a horsekeeper, aged 45, who died of glanders in the Westminster Hospital on Friday, August 11th. According to a report published in the *Times* of August 16th, Herbert Allen said his brother was taken ill nine weeks before with what seemed to be a cold. It was not until five weeks later that he heard that the illness was glanders. William Cox, horse foreman to the Victoria Omnibus Company, Douglas Street, Westminster, said Allen was employed there. Until the recent outbreak they had not had a case of glanders for eight years. Four horses were now affected. Dr. Cope stated that he attended the deceased from June 13th for what appeared to be an ordinary cold, and there was very little change in the symptoms until July 12th, when some nodules came out on the right arm. Although the man's occupation suggested the possibility of glanders, he did not notify the public authorities, because he did not diagnose the disease. Two days later he sent the patient to the hospital. The Coroner said it was important to remember that there was now an almost certain means of ascertaining whether a horse was suffering from glanders, and for that reason even a suspected case should be reported to the London County Council. Mr. F. C. Mott, House-Surgeon at Westminster Hospital, stated that on the day after his admission—namely, July 14th—the patient's illness was known to be due to glanders, but the London County Council was not notified. Professor Hunting informed the Coroner that the Public Control Department heard nothing of the matter until after the man's death. In summing up, the Coroner said the case was one of considerable importance as affecting the public health, and the illness ought to have been reported, especially on July 15th, when it was definitely known to be glanders. He would go further, and say that even a suspicion should be communicated to the Council's officers. Dr. Cope believed there was no obligation to report human glanders. The Coroner said he was not speaking of legal compulsion, but he put it as a matter of prudence. The jury returned a verdict of death from glanders.

PUBLIC VACCINATORS AND THE PATIENTS OF OTHER PRACTITIONERS.

DR. E. R. FOTHERGILL (Southfields, S.W.) writes: Are you not incorrect in saying A. ought not to have called again when he postponed the vaccination for eczema? Contract (Clause 2) says he must; and what is more, he has to do this without a receipt of another visiting fee. As public vaccinator for two years, I did this; but guardians not being "knowing," I received a second 1s. fee.

*** The wording of Clause 2 in the schedule giving the form of vaccination contract, under the general orders issued under the Vaccination Acts 1867 to 1898, runs thus: "(2) In the case of every child resident in the district who has reached the age of four months, and as to whom he has received the requisite notice from the vaccination officer, he will visit the home of the child within two weeks after receipt of the notice and offer to vaccinate the child with glycerinated calf lymph, or such other lymph as may be issued by the Local Government Board, and if his offer is accepted, will thereupon (or after such postponement, if any, as may in his opinion be necessary) so vaccinate the child." The wording of this clause is far from clear in its definition of the duty of the public vaccinator after postponement of a case. That he is under obligation to vaccinate "if his offer is accepted" is obvious, but it would be straining the words of the schedule to maintain that the vaccinator is bound to repeat visits at the expiry of the certificate of postponement until the child is vaccinated, though we are aware that some public vaccinators do pursue this course. We are advised that public vaccinators would be fulfilling their contracts if, after postponement, they waited until the case was again placed in their hands by the vaccination officer or by the request of the parents. Of course, if the public vaccinator has made an arrangement at his first visit to call again at the expiry of the certificate he is at liberty to do so.

NOTIFICATION OF TWO DISEASES IN ONE PATIENT.

MEDICAL OFFICER OF HEALTH asks if when notifications of two infectious diseases occurring in the same patient and on the same date are sent, a double fee can be claimed.

*** The ordinary practice is, we believe, to furnish a notification certificate for each notifiable disease from which the patient is suffering, and the fee is paid for each certificate.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

Queries, answers, and communications relating to subjects to which special departments of the BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

FISTULA would be obliged for information as to where he could obtain the best pathological account of branchial fistula.

L. C. B. would feel much obliged if some member would suggest the most suitable lavatory basin for consulting room.

HAEMORRHOIDS writes: I have a couple of piles which I fear nothing short of an operation will cure. In common with many medical men, I much dislike the idea of taking an anaesthetic. I should feel deeply indebted to any brother member who has had practical experience in such cases if he would be so good as to say whether they can effectively be operated upon under local anaesthesia, and which is the best mode of procedure.

LIBRARIAN asks: What are the best modern reference books in the English language, in order of merit as far as possible, on: (1) Operative gynaecology; (2) gynaecological anatomy; (3) general gynaecology (textbook); (4) gynaecological pathology.

*** (1) Howard Kelly's work with that title; (2) Hart and Barbour's *Manual of Gynaecology*; (3) there are several excellent textbooks (Galabin, Herman, Phillips, etc.); (4) H. Roberts's *Outlines of Gynaecological Pathology* (five plates and copious references).

"DARK RINGS ROUND THE EYES."

PIGMENT writes: Can you refer me to any book or article dealing with the physiology, pathology, or causation of "dark rings round the eyes," or to an explanation of the special affinity of the part to such pigmentation?

*** The question is obscure. See Champneys's *St. Bartholomew's Hospital Reports*, vol. xv, p. 233, "Pigmentation of Face and other Parts, especially in Women." According to recent researches in French hospitals, the suborbital pigment sometimes comes off, staining the hands face, or handkerchief. This condition is certainly associated with menstrual disturbances in many cases. Jellinek (*Wien. klin. Woch.*, October 27th, 1904) has noted pigmentation of the eyelids as an early symptom in Graves's disease.

ANSWERS.

VAGINAL DOUCHE.

DOUCHE.—If our correspondent will boil the diluted sewage and dissolve in it corrosive sublimate, or mercuric biniodide, in the proportion of 2·75 gr. to the pint, he may safely use it as a vaginal douche. It is better to get it to the proper temperature by letting it cool than by diluting it.

DISEASES OF PREGNANCY.

W. B. C.—We know of no work specially devoted to the diseases of pregnancy that gives an account better than that in the textbooks, such as Dakin's *Handbook of Midwifery*. (London: Longmans, Green and Co. 1897. 18s.)

CRUISING PLEASURE YACHTS.

DR. P. B. GILES (Bletchley) writes: In reply to "Cruiser," I can strongly recommend the *Argonaut*. She is an excellent sea-boat, most comfortable, food good, a great variety, and with the advantage to those who are bad sailors that you can select anything and in any order from the menu which you may fancy, and have not to sit through a set course until what you wish for comes to hand. Also the land excursions are run by the ship and not by an outside agent. Also there are well-informed lecturers to explain all points of interest on the land excursions. The general supervision for the safety of the passengers is most excellent.

POST-GRADUATE COURSES.

DR. LIONEL CALTHROP (Droitwich) writes: On p. 368 of the BRITISH MEDICAL JOURNAL of August 12th, 1905, under the heading "Answers," I notice a reply to "D. G. H." with reference to post-graduate courses, recommending Professor Tauffer's clinic at Buda-Pesth. May I say that having lived and worked in the clinic for several months during 1903 and 1904 I can heartily endorse the recommendation, and if "D. G. H." should require any further information about the clinic I shall be most happy to give it. One of the chief assistants, Dr. Kubinyi, is in London at the present time, and I am sure would also give any information required.

ILLUSTRATIONS OF MALIGNANT DISEASE.

E. W. For the macroscopic appearances of morbid growths, in addition to the older atlases of Cruveilhier and of Carswell, our correspondent might consult the more recent *Illustrations of Pathological Anatomy* by Kast and Rumpel (English edition). For the microscopic anatomy, besides the last German edition of Ziegler's work, most assistance would be derived from the very full work of Hansemann, *Die Mikroskopische Diagnostik der bösartigen Geschwülste*, and also the beautifully illustrated work (in colours) of Borst *Geschwülste*. Feinberg, *Krebsgeschwülste*, gives the literature.

TRICAR FOR COUNTRY PRACTICE.

DR. FRANK F. BOND (Trowbridge) writes: In answer to the query of "Engineer," in the JOURNAL of August 12th, I would suggest that he write to the "Avon Motor Manufacturing Company," Keynsham, near Bristol, for particulars of the "Avon Trimobile," which I think would meet his requirements. I have driven one for three months, so perhaps my recommendation is not a very valuable one, but before purchasing mine, I was in correspondence with a medical man in Bath where the hills are very steep and he speaks very highly of the hill-climbing capabilities of the car. My own experience so far is very satisfactory, and it is certainly cheaper than a big car.

DR. R. J. ANDREWS (Exeter) writes: In reply to "Engineer" in "Queries," p. 368 of BRITISH MEDICAL JOURNAL of August 12th, I have an Avon tricar of 5½ h.p., and which takes hills excellently of any gradient with ease. The car itself cost 95 guineas net, but the total outlay would be about £120. Further particulars forwarded if necessary.

DR. A. C. NICOL (Glossop) writes: In reply to your correspondent "Engineer," I would suggest the Humber Tricar, 5 h.p. I have been working my practice with motors for the last two years, and have found a great saving in both time and money, although I would not advise any one to try it unless he has some mechanical bent. My present vehicle has now been in use six months, and has carried two passengers, weighing together 22 stone, up a hill with a gradient of 1 in 6, and with one passenger, weighing 11 stone, I have climbed a short hill of 1 in 4. If your correspondent cares to write me direct, I shall be glad to give him any further information, and to answer any questions that he may ask.

THE ASSISTANTSHIP OF THE APOTHECARIES' SOCIETY.

F. J.—In order to qualify as a dispenser to a medical practitioner the lady should pass the Assistant's Examination of the Society of Apothecaries of London, regulations respecting which will be supplied on application at the Hall. The examination is divided into two parts, one of which is a practical examination in the compounding and dispensing of medicines, and the other an oral examination in materia medica, chemistry, pharmacy, and the translation of prescriptions. She should read the first three parts and some special sections on organic compounds mentioned in the syllabus of the *Manual of Chemistry*, by Luff and Page (London: Cassell and Company, 1900, 7s. 6d.), and *Materia Medica and Therapeutics*, by Mitchell Bruce (London: Cassell and Company, 1899, 7s. 6d.), not troubling about the therapeutic sections. When she believes she understands these books, she can test and crystallize her knowledge by turning for awhile to a cram book such as the *Apothecaries' Hall Manual* (London: Whitaker and Company, 1903, 2s.), by M. Thomson, but for any other purpose cram books are useless, since the explanations given are too brief. Examinations are held four times a year, commencing on the fourth Wednesdays of the months of January, April, July, and October. The fee is five guineas, and notice of candidature must be lodged fourteen days in advance, together with the fee, a certificate stating the age of the candidate (which must not be less than 18), and a certificate that the candidate has received instruction from the signer in practical pharmacy for six months. The latter may be signed by a registered medical practitioner, a fully-qualified chemist, or an assistant of the Society who is holding a public appointment. The examination throughout is believed to be eminently practical, and the syllabus shows clearly the ground which is covered.

LETTERS, NOTES, Etc.

SPIRILLUM FEVER IN PALESTINE.

A NOTE on this subject from Dr. Cropper, of Jerusalem, was published in the BRITISH MEDICAL JOURNAL of July 22nd, 1905, p. 190. We have since had an opportunity of submitting a slide prepared by Dr. Cropper to Dr. G. C. Low, Superintendent London School of Tropical Medicine, who reports that the spirillum present in the specimen is probably that of relapsing fever (*S. Obermeieri*). He found no malarial parasites.

THE DUNCAN FUND.

DR. HUGH RITCHIE (257, Shankill Road, Belfast) writes: I beg to acknowledge with many thanks the following subscriptions towards this fund. Total already acknowledged, £32 14s. 6d.:

	£ s. d.		£ s. d.
Lieut.-Col. McFarland, M.D.	1 1 0	Dr. J. Hamilton Stewart ...	0 10 6
Dr. A. McConnell	1 1 0	Dr. Lynass	0 10 0
Dr. W. G. Mackenzie... ...	1 1 0	Dr. A. Montgomery	0 10 0
Dr. R. M. Clark	1 1 0	Dr. McLeish	0 10 0
Dr John Barron	1 1 0	Dr. James Craig	0 10 0
A Friend (E. C.)	1 1 0	Dr. McDowell	0 7 6
Dr. G. Robb	1 1 0	Dr. Joseph Martin	0 5 0
Dr Irvine	0 10 6	Dr. H. Moneypenny	0 5 0
Dr. R. Hall	0 10 6	Dr. Bryars	0 5 0
Dr. J. Morrow	0 10 6		

WARNING AGAINST ICED WATER

THE prevalence of dyspepsia in the United States is ascribed by some American authorities to the almost universal habit of drinking large quantities of iced water. What Matthew Arnold called the "stream of tendency" is beginning to flow in the same direction in this country. By way of warning, therefore, we quote the following impressive lines, which we find in a paper by Dr. H. W. Wiley on the Ethics of Pharmacy which was published in the *Journal of the American Medical Association*:

"Full many a man both young and old
Has gone to his sarcophagus
By pouring water icy cold
Adown his not-oesophagus."

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

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N.B.—It is against the rules of the Post Office to receive letters at *Poste Restante* addressed either in initials or numbers.

Remarks

ON THE

CLINICAL AND BACTERIOLOGICAL ASPECTS OF AN EPIDEMIC SIMULATING INFLUENZA,

WHICH HAS RECENTLY OCCURRED IN THE EAST HERTS DISTRICT.

BY

R. A. DUNN, M.D., B.S., D.Hy., D.P.H.; and M. H. GORDON, M.A., M.D., B.Sc.

M.O.H. East Herts and Essex Combined District.

DURING last winter there spread through this district an epidemic which was thought to have been influenza. It was not until the beginning of January that my attention was drawn to what appeared to be some anomalous cases. The first was a girl whose hands were desquamating, and who had previously had an irritable rash and sore throat. Both the history of the case and the character of the peeling led me to exclude scarlet fever. Very shortly after this a medical practitioner wrote to me about a family named E., whose illness he at first diagnosed as influenza, but subsequently suspected to be scarlet fever. The cases were very puzzling. One had what appeared to be scarlet fever, others influenza, whilst another developed cerebro-spinal symptoms. On the death of the latter I made inquiries of the neighbouring practitioners so as to ascertain if they might have had patients under their care with similar symptoms. Some four or five cases which might have been cerebro-spinal fever were thus brought to my notice. Following on these several rash cases were reported to me which closely resembled scarlet fever: also cases of nephritis. Not feeling satisfied that this was an outbreak of scarlet fever I took swabs from the throats of six patients who had recently had these rashes, and sent them for bacterioscopic examination to Dr. Gordon. He failed to find either the streptococcus scarlatinae or the bacillus of Pfeiffer. Next a child died after three weeks' illness with symptoms which might have been due to tuberculous meningitis. A *post-mortem* examination of the head revealed extensive basic meningitis, very dilated ventricles, but no tubercles. Some cerebro-spinal fluid was obtained, together with the choroid plexus, and these were examined by Dr. Gordon. He found some diplococci to be present which closely resembled the gonococcus in morphology, and which did not stain with Gram. Owing to *post-mortem* contaminations this organism could not be isolated.

We next turned our attention to the bacterioscopic examination of the tonsillar and nasal mucus. As a result a non-Gram-staining diplococcus was frequently found.

At the same time I continued to investigate the disease further, and, as a result, arrived at the following conclusions:

First, that an extensive outbreak of disease had been, and still was to a less extent, prevalent.

Further, that this disease was not localized to any one town or village, or group of villages, but had extended throughout the district (and probably much further), attacking nearly every household.

Lastly, that one disease alone was present, although various members of the same family were simultaneously exhibiting symptoms of dissimilar diseases. Amongst this large number of persons attacked the majority were only slightly ill, and considering the disease to be only a bad cold or mild influenza, frequently did not seek medical advice. In a certain number of cases the disease was more severe, and was accompanied by a rash. (In most instances this rash was scarlatinal in character.) A less number of patients developed irregular cerebro-spinal symptoms. A few patients were notified as typhoid fever, others again as diphtheria, and I suspect that several deaths in babies which were attributed to bronchitis and convulsions were in reality due to this cause.

Having now briefly described the outbreak I propose to give various of the symptoms more in detail. I should add here that I did not personally attend any of the cases, but that I obtained my information mainly from the medical practitioners in the neighbourhood or from the patients or their relatives.

The onset was nearly always sudden—the few exceptions were in those patients who, previous to the onset, were suffering from coughs, colds, etc. Sometimes there were rigors or a feeling of chilliness. The temperature as a rule was not high, usually 99° to 101°. Sore throat, often severe and sometimes simulating diphtheria, was a very common symptom. Enlarged cervical glands, especially those along the posterior border of the sterno-mastoid, were equally common. Stiff neck was a very fairly common symptom. It was often slight. In some cases it may have been due to the enlarged glands, but more often appeared to be dependent on a myalgia. Headache (severe and sometimes persistent) and "aches and pains all over" were present in most of the cases. Drowsiness and photophobia were noted in some. Nasal discharge was frequently present; sometimes it was very profuse. Sneezing and running at the eyes were not uncommon. Constipation was met with in a large number of cases, and in some retching or actual vomiting occurred. Peeling was met with on one or two occasions even in the absence of any rash. Herpes, on the whole, was less frequent than I should have expected. It seemed more common in certain districts. Much weakness and debility were the usual sequelae to the disease, which lasted from one to four weeks.

The above symptoms were those usually met with in the mild "influenzal" type of the disease. This type was the rule amongst the adults attacked with hardly an exception. The type met with amongst children was certainly more severe, and all the worst cases have occurred in the young.

I now propose to describe those cases which presented a scarlatinal rash. The onset, as in the previous cases, was sudden. The illness usually commenced with vomiting, headache and sore throat, occasionally with rigors. The temperature was not as a rule very high, about 101° to 102°. The pulse was frequent, often about 120. In several of the cases admitted to hospital it was noted to be small and irregular. The rash appeared within twenty-four hours. It did not invariably commence on the chest, but was often first noted along the posterior border of the sterno-mastoid, and then rapidly spread over the rest of the body. It consisted of an erythematous blush and punctate spots. Most of the erythema quickly subsided, leaving a closely set punctate rash, which was often noticed to be more discrete about the thighs and knees, approaching nearer to the rash of rötheln. A large number of the patients complained of its marked irritability, and some had a local oedema. The rash was of short duration, not usually lasting more than from one to three days, and was followed by desquamation, which as a rule commenced early, sometimes before the rash itself had disappeared. Its character varied considerably. In some cases it was slight and branny, whilst in others the skin peeled off in strips. In some of the cases I noticed a well-marked circumoral pallor. The patients were often light-headed for one or two nights, especially if the rash were well marked. In nearly all the cases the tongue was thickly coated at the commencement. It peeled off the anterior half within twenty-four hours, and frequently left the typical "strawberry" appearance. Sordes were present in severe cases. The throat was injected, sometimes covered with thick muco-purulent discharge, and occasionally something suspiciously like diphtheritic membrane. The cervical glands were enlarged, especially those along the posterior border of the sterno-mastoid. In some these subsequently suppurated. Constipation was frequently met with. Haematuria and albuminuria were present in several of the patients. (It was noted on more than one occasion that the blood was present in larger proportion to the albumen than was expected.) Giddiness was common. A rheumatic condition of the joints was not common. Tenderness and even wasting of the muscles was, however, not infrequent. Conjunctival injection, though slight, was often met with. Profuse nasal discharge nearly always occurred. It commenced two or three days after the appearance of the rash, and lasted only a few days. Several of the patients developed a temporary ear discharge. Recovery was slow and tedious. A very discrete papular rash was sometimes noticed a week or so after the preliminary scarlet rash. Sudaminal rashes were also occasionally met with. Besides the above rashes, purpura was noted in four of the cases. In two of these it appeared late in the disease, and was associated with haematuria; in a third it was accompanied by melaena and a mild "typhoid condition." Epistaxis was reported in a few of the patients. In three children a true urticaria was described. One of them died rapidly with cerebro-spinal symptoms. All three were friends and lived in the same village, but there was an interval of four to six weeks between the individual attacks. Some parents described to me a rash "something like measles," but I did not personally see any true morbilliform eruption.

The description of the cerebro-spinal cases is not so easy, as I have not had the same opportunity of watching the progress of the disease. In many my suspicions were only aroused on receiving the death returns.

The onset varied considerably. In some cerebro-spinal symptoms were the first to attract attention, whilst in others these symptoms followed on those of an influenzal or typhoid condition. Severe headache was a constant symptom. Its position differed in different patients. It was nearly always associated with pain in the back of the neck and stiffness. It was inclined to persist some time after convalescence was established. Pain in the lumbar region was frequently present. Vomiting was an early and constant symptom. Constipation, though usually present, was not invariable. The tongue was thickly coated, and there were sordes on the lips and teeth. The patient was light-headed, and in severe cases unconscious. If the case proved fatal, the end was often ushered in by convulsive fits. The temperature was very erratic; in some it was never high, whilst in others it was 104° or higher before death. The pulse has been noted to be quite regular throughout in some of the cases. Discharge from the ear occurred in several of the cases. In some it was of old standing, and probably gave entrance to the infection. Copious muco-purulent discharge from the nose was nearly always present. The patient usually lay curled up in a state of general flexion. In only a few cases has marked retraction of the head or opisthotonos been noticed. With regard to other nervous symptoms and paralyses, there has been no settled type. Dilatation of one or both pupils seems to have occurred fairly frequently. In severe cases incontinence of urine and faeces was present. This persisted for a considerable time, and was due to a definite paralysis. The other paralyses appeared to be due to trophic changes in the muscles, which showed marked wasting. It is of some interest to note that in two cases the cerebral symptoms followed closely on a tonsillotomy.

It should be borne in mind that every degree of severity was met with, from one of a few days' illness with slight retraction of the head to one with marked cerebro-spinal symptoms, lasting many weeks, and interspersed with relapses. The above classification is therefore purely arbitrary.

Besides the above, several deaths occurred in quite young children, the cause of death being given as convulsions often associated with bronchitis and pneumonia. These children appear to have been ill for only a short time, and as the illness was not thought to be serious medical assistance was not sought for until the patient was moribund. In two such cases a swab from the nose showed a non-Gram-staining diplococcus to be present.

Lastly, there was the typhoid type of the disease. Four patients were notified to me as enteric fever, but, in spite of the fact that in two of them the Widal reaction was present, I am inclined to doubt the diagnosis, owing to the subsequent progress of the cases. One or two others were described to me as "typhoid-like," but without any rise of temperature.

It would seem desirable now to deal with the clinical differential diagnosis—the bacteriological will be considered more especially later. The diseases to which this epidemic have borne the greatest resemblance are: (1) Influenza; (2) scarlet fever; (3) epidemic cerebro-spinal fever. It will be noticed from the cases quoted that, taken individually, it would have been nearly impossible to have distinguished this disease from one of the above three. Taking the cases collectively, however, one is forced to a different conclusion.

Influenza.—The diagnosis of the disease in many cases, especially amongst the adult patients, was undoubtedly compatible clinically with that of influenza. There are few symptoms or sequelae for which influenza has not been held responsible. In my opinion, however, the number of rash cases, occasionally followed by nephritis, the association of cerebro-spinal symptoms, the frequency of stiff-neck, and the severity of the disease amongst children and its mildness amongst adults, are strong points against influenza. The absence of Pfeiffer's bacillus amongst the number of cases especially examined for it are confirmative of this opinion.

Scarlet Fever.—Taken individually, many of the younger patients bore a striking resemblance to scarlet fever. The rash, sore throat, circumoral pallor, vomiting, strawberry tongue, desquamation, and occasional onset of nephritis were extremely suggestive. On the other hand, the absence of much fever and the irritability of the rash appear to be points against scarlet fever. But what was to me far more convincing was the association of the different types of the disease in the some invaded household. On several occasions the adult had an "influenzal" attack, and infected the child, who within a few days developed a scarlatinal type, or vice versâ. Moreover, several of these rash cases were nursed at home, and in no single instance did another member of the same family contract a scarlatinal type. Further, at least two patients with scarlatinal rashes were known to have previously had undoubted scarlet fever. And in not one of six typical scarlatinal rash cases could Dr. Gordon obtain the streptococcus scarlatinae.

Cerebro-spinal Fever.—For some little time I was under the impression that the epidemic under consideration was one of cerebro-spinal fever. Although it corresponded to it in certain particulars—such as its proclivity to attack children and its association with influenzal symptoms as described by Dr. Bruce Low in 1899—still the mildness of the epidemic, the comparatively small number of cases with typical cerebro-spinal symptoms, the infrequency of the two usual concomitant rashes—namely, purpura and herpes—led me to doubt my provisional diagnosis. Further, the fact that no organism having all the characteristics of the meningococcus could be obtained from the numerous cultures which have been made from the nasal or pharyngeal discharges.

The symptoms of those patients who had rashes did not appear to me to correspond with either those of "fourth disease" or rötheln, apart from the fact that the majority of those attacked had no eruption.

There is, however, a striking resemblance to certain epidemics which have previously occurred in England, and which were reported by Dr. Bruce Low,[1] notably that of Raunds, Northamptonshire, in 1891, that of Market Rasen, Lincolnshire, in 1891, and that of Laxfield, Suffolk, in 1894, and more recently to that of Oswestry, Shropshire, in 1903, which was investigated by Dr. Reginald Farrar[2] on behalf of the Local Government Board.

The one feature which has stood out pre-eminently in this investigation has been the consistent presence of a non Gram-staining diplococcus. From the middle of February to the middle of April it was discovered in almost every case which was examined bacterioscopically.

All the cases in the table I have prepared are recent. The only one anterior to December, 1904, refers to a patient whose illness commenced in August, 1904. It must be borne in mind that the cases quoted are only a small proportion of all which occurred. They are therefore useless for gauging either the case mortality or the incidence of the disease on the population. For example, a large number of the cases are reported from Hertford, the reason being that here the material was nearer to hand. It is also fairly certain that they include chiefly the severer cases, as it was these which were especially brought to my notice, many through the death returns. The object of their publication has been to bring out prominently the more common symptoms. That many cases never came under medical treatment the following statements seem to show:

Dr. Patch of Hertford on March 2nd was examining some 20 young adults for admission into the Volunteer service. He found 5 of them had scarlatiniform rashes. Of these all 5 had slight sore throat, 4 had nasal discharge, 4 had headache, 3 had stiff-neck, and 1 had herpes. None of them were being medically treated. Again, the schoolmaster at Birch Green schools stated to me that "there had been a considerable amount of slight sickness amongst the children generally. The duration was usually about a week. The symptoms chiefly noticed were sore throat, cough, and profuse discharge from the nose. Sickness and stiff-neck were not uncommon, together with enlarged glands." The schoolmaster at Birchanger, Essex, told me that "the larger part of the school here have suffered from apparently severe colds. Several had sore throats. Several were sick before the cold. They were generally all right within a few days. Two had severe breaking out about the mouth. One child was stated to have had a fit. Most of those who were ill were drowsy. Headache was common."

In conclusion, my best thanks are due to the kindness and assistance of the various local medical practitioners for permission to visit their patients, and for the material with which they furnished me. And especially are they due to Messrs. Lloyd-Patch and Lawson-Smith, who in addition have allowed me to make use of numerous excellent notes.

I regret that, owing to want of space, it has not been found possible to have printed the tables which had been prepared. These demonstrated, amongst other things, the various symptoms which had occurred in each of 162 patients, the ages of

the patients, in many cases the spread of the disease, and the towns and villages in which it occurred.

Summary of Results.

I must therefore be content to give the following summary of results:

Of 162 patients of whom notes were made, a non-Gram-staining diplococcus was found in 63, 24 of which were obtained in pure culture, and tested by Dr. Gordon.

Of these 162 patients 84 were males and 78 were females.
" " 98 had a temperature below 102°, and 21 a temperature above this.
" " 98 had sore-throat.
" " 96 had nasal discharge.
" " 39 had conjunctivitis.
" " 60 had cough.
" " 49 had a scarlatinal (irritable in 32), 2 a purpuric, 3 a papular, 3 a morbilliform, and 3 an urticarial rash.
" " 49 had desquamation.
" " 29 had herpes.
" " 85 had vomiting.
" " 81 had stiff-neck.
" " 41 had enlarged glands.
" " 103 had cephalic pain.
" " 46 had cervical pain.
" " 20 had spinal pain.
" " 10 had thoracic pain.
" " 14 had abdominal pain
" " 42 had general pain.
" " 11 had oedema.
" " 20 had albuminuria.
" " 9 had haematuria.
" " 23 had rigors.
" " 37 had delirium.
" " 62 had drowsiness.
" " 68 had constipation.
" " 6 had diarrhoea.
" " 31 had retraction of the head.
" " 13 had hyperaesthesia.
" " 9 had dilatation of the pupils.
" " 15 had convulsions.
" " 11 had photophobia.
" " 19 had vertigo.
" " 12 had otorrhoea.
" " 10 had paroses.
" " 10 had unconsciousness.
" " 10 had Kernig's sign.
" " 16 died.

Bacteriological Report.

The following is Dr. M H Gordon's report on the bacteriological aspect of the Hertford outbreak, together with an account of some characters by which various Gram-negative cocci may be differentiated and identified:

On February 10th, 1905 three swabs were received from Dr. Dunn, with the request that they should be examined for streptococcus scarlatinae. The swabs had been taken off the throats of patients suffering from an infectious disease then epidemic in the Hertford district. From the clinical standpoint the precise nature of the disease in question was uncertain, and as a proportion of the cases had developed a scarlatiniform eruption, it was thought possible that the outbreak was in reality one of scarlet fever. I was therefore asked to determine if the bacteriological evidence supported this view or not.

From dilutions of the four swabs cultures were made on a series of blood-serum tubes, and after forty-eight hours' incubation at 37° C., submitted to microscopical examination, with the result that in no case was a streptococcus presenting the morphology characteristic of S. scarlatinae (conglomeration, spindle-shaped and bacillary forms) present. Nor was B. diphtheriae found.

In view of the negative result with respect to S. scarlatinae, the next material was examined not only for that micro-organism, but for B. influenzae and also, at Dr. Dunn's request, for micrococcus meningitidis. The material in question, which arrived on February 14th, consisted of two swabs (*a*) from the throat of a case named B., and (*b*) from the nares of a case P.

It will be remembered that both the influenza bacillus and the meningococcus fail to stain by Gram's method. As by far the majority of the bacteria found both in health and disease in nasal and pharyngeal mucus give a positive result with this stain, the negative reaction to Gram of the two pathogenic micro-organisms in question is of special differential value when identifying them in the secretion of the upper respiratory passages. Accordingly, coverglass preparations were made from each of the two swabs, and stained with Gram, using a dilute watery solution of fuchsin as counterstain. As a result, the influenza bacillus was not observed, but amongst a majority of micro-organisms positive to Gram, some free Gram-negative cocci were seen to be present in both cases.

Cultures from dilutions of the two swabs were made on blood serum tubes as before, and, in addition, surface plate-cultures were made both on blood agar and on ascitic agar. The outcome was negative as regards S. scarlatinae, B. diphtheriae, and B influenzae. On the other hand, both swabs yielded numerous colonies on all three media of a micrococcus negative to Gram's stain. After some difficulty, owing partly to the opacity of the ascitic agar, and partly to the parasitic nature of the coccus, which at this stage refused to grow either on ordinary agar, or on glycerine agar, the micro-organism was isolated in pure culture from the first case (B), and examined, with the result that the cultural characters of the coccus were found to be different from those of the meningococcus in two respects. In the first place, the colonies on ascitic agar were much more opaque, and more granular than those of the meningococcus, and secondly, the coccus grew on gelatine at 20° C., a temperature at which the meningococcus quite fails to develop.

Reference to the literature of Gram-negative cocci showed that these two respects in which the Gram-negative coccus in question differed from the meningococcus were identical with those in which the so-called micrococcus catarrhalis had been found to differ from the meningococcus. I therefore reported to Dr. Dunn that while a Gram-negative coccus had been found belonging to the category of the meningococcus, the coccus in question was culturally distinct from the meningococcus, and that it closely resembled M. catarrhalis.

Before proceeding further it is advisable to refer briefly to the history of M. catarrhalis. This micro-organism was originally found by Seifert[3] in the sputum and nasal secretion of those affected by a small epidemic of infectious bronchitis. From the clinical point of view the epidemic in question resembled influenza, but the disease was milder in type. Later the same coccus was encountered by Pfeiffer, who gave it the name of catarrhalis. Pfeiffer[4] witnessed its presence in large numbers in the secretion of the bronchioles and alveoli of cases of bronchopneumonia in young children, and he observed it to be often associated with the influenza bacillus. M catarrhalis was sometimes found to be intracellular, and in a proportion of the cases so marked was this feature that the secretion of the respiratory passages bore a remarkable resemblance to gonorrhoeal pus. The coccus was not found to be pathogenic for animals. Subsequently Ghon, Pfeiffer, and Sederl[6] described M. catarrhalis in further detail. The importance of this micro-organism, however, arises not solely from the pathological conditions with which its presence in the respiratory passages has been found to be associated, but also, and perhaps chiefly, from the fact that not infrequently in the past M. catarrhalis has been confounded with M. meningitidis.

The prime necessity of excluding M. catarrhalis when examining nasal secretion for the meningococcus has been emphasized recently in a valuable paper by Lord,[9] who, after carefully examining all available reports of the finding of the meningococcus in nasal secretion, showed that out of 53 such statements on record no fewer than 49 cannot be accepted as correct, because the Gram-negative coccus present was not differentiated from M. catarrhalis. It may be added that Lord himself mentions having found M. catarrhalis in the sputum of 12 cases of ordinary bronchitis occurring amongst his out-patients. Finally, while the present paper is being written, an account has been published by Bezançon and de Jong[7] of the bacteriological character of the sputum during an epidemic that occurred in Paris between November, 1904, and February of the present year. The epidemic in question was clinically diagnosed as influenza, but B influenzae was not found to be present. On the contrary, in all of 25 cases examined, the sputum contained a Gram-negative coccus closely allied to, if not identical with, M. catarrhalis.

Having found, therefore, that in both the Hertford cases referred to a Gram-negative coccus was present in large numbers, and that in the instance in which this organism was isolated in pure culture and examined its characters corresponded with those of M. catarrhalis, a bacteriological examination was made forthwith of a large number of further cases occurring in course of the same epidemic. The result of this investigation has been that Gram-negative cocci have almost invariably been found present in the nasal and pharyngeal

mucus of those infected by the Hertford disease. The clinical and epidemiological aspects of this outbreak have been fully dealt with by Dr. Dunn. The bacteriological evidence may be summed up as follows:

In cases examined at an acute stage of the attack cover-glass preparations of the nasal mucus in particular showed Gram-negative cocci to be present in large numbers, far in excess of other micro-organisms, and *pari passu* with the decline of the symptoms, the abundance of these cocci in the mucus

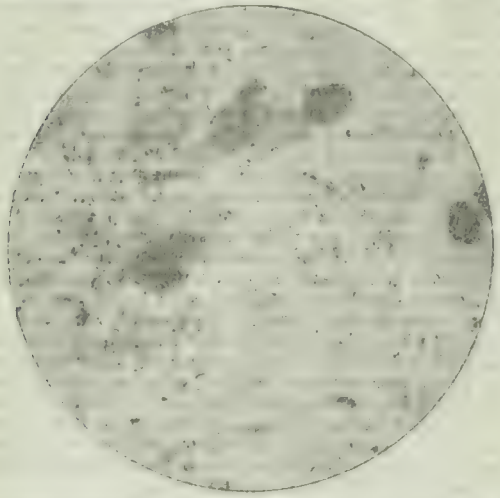


Fig. 1.—Nasal secretion of a case of true influenza showing Pfeiffer's bacillus in large numbers. The influenza bacillus was readily cultivated from this material. Stain, Gram-fuchsin. Magnification, 1,000.

diminished. As regards other micro-organisms present in the mucus, the two with which the Gram-negative cocci were most frequently associated were Hoffmann's bacillus and the pneumococcus. On the other hand, B. influenzae and B. diphtheriae were but rarely met with.

Owing to the abundance of material supplied me by Dr. Dunn, it has been possible to isolate the Gram negative coccus in pure culture from no less than 24 different cases of the Hertford disease, and in each of these 24 instances the characters of the coccus have been submitted to detailed



Fig. 2.—Nasal secretion of a case of the Hertford disease, showing M. catarrhalis in almost pure culture. Stain, Gram-fuchsin. Magnification, 1,000.

observation. A special feature of the present investigation is that all these 24 Gram-negative cocci have been examined in respect of their action upon certain selected carbohydrates of well-known composition but easily decomposable. Through the kindness of the professors and lecturers of St. Bartholomew's Hospital I have also been able to obtain pure cultures of the meningococcus from three fatal cases of cerebro-spinal meningitis, and to examine them in the same way. It may be said at once that although the bacteriological side of Gram-negative cocci appears to have hitherto escaped attention, the results of the present investigation have clearly shown that these carbohydrate tests form a simple and welcome addition to our means of differentiating the micro-organisms in question, and thus promise to be of material assistance in enabling us to form a correct view of the significance of the pathological conditions in association with which certain of these cocci are found to occur. I may add that the system on which the carbohydrate tests have been applied in the present instance to Gram-negative cocci is identical with



Fig. 3.—Nasal secretion of a second case of the Hertford disease. The intracellular arrangement of M. catarrhalis is here seen. The rash was very marked in the present case. Stain, Gram-fuchsin. Magnification, 1,000.

that employed by me recently when investigating a large number of the Gram-positive cocci—namely, streptococci and staphylococci in the same way. Full particulars of the latter inquiry will be contained in the next issue of the report of the Medical Officer of the Local Government Board.

The following are the methods of examination.

Methods employed in examining material from the Hertford cases:

(*a*) *Microscopical Examination.*—Whenever opportunity offered, cover-glass preparations of nasal or pharyngeal mucus or of sputum were examined microscopically. The uniform procedure has been to employ

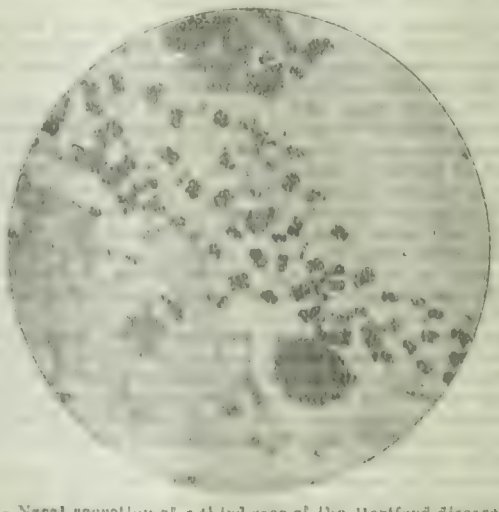


Fig. 4.—Nasal secretion of a third case of the Hertford disease. The occasional tendency of M. catarrhalis to be grouped in tetrads is marked in the present instance. Stain, Gram-fuchsin. Magnification, 1,000.

Gram's stain, in applying which the times found to yield the best results were 2 of a minute in the aniline gentian violet and in the iodine solutions respectively. In decolorizing the preparation in alcohol—the origin of Gram—the practice has been to fill three watch-glasses with alcohol and to pass the preparation through each in turn, constantly moving it about while immersed. It is of importance to remove the preparation from the alcohol at the exact moment when no more stain is given off and before it has had time to take up any of the counter-stain. By this test point is [illegible] the stain, except for the differential colour. In order to have [illegible] with their stain to the alcohol, the Gram-negative bacteria, the prepara-

tion after being washed in water is placed for three to five seconds in a watch-glass containing 0·5 per cent. of fuchsin dissolved in water. By this procedure the contrast between the micro-organisms positive and negative to Gram is well seen, the former being stained violet, the latter scarlet.

(b) Cultures.—In a large number of cases the primary culture was made on blood-serum in the same manner as for the bacteriological diagnosis of diphtheria. But while the Gram-negative cocci met with in the Hertford outbreak developed well on serum, it is preferable to

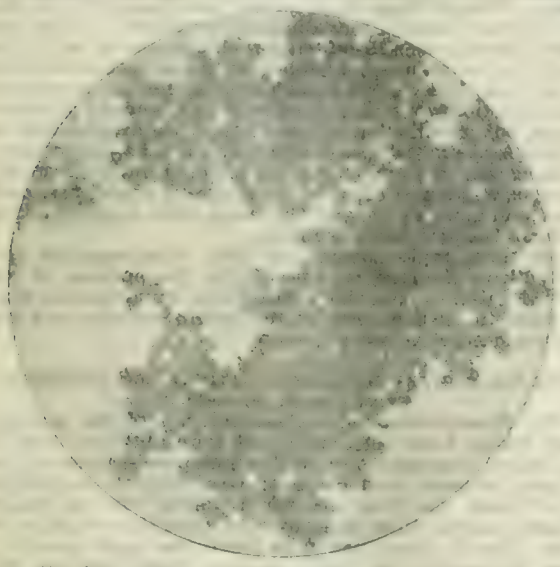


Fig. 5.—Nasal secretion of a fourth case of the same disease. The whole of the dark mass is composed of M. catarrhalis. The present patient had the scarlatiniform rash intensely developed. Stain, Gram-fuchsin. Magnification, 1,000.

The specimen of M. catarrhalis present in the nasal mucus of the above four cases (Figs. 2-5) was isolated in pure culture and tested.

cultivate primarily on plates of nutrose ascitic agar, for by this means the organisms referred to may be at once isolated in pure culture. Nutrose ascitic agar, a convenient short term for which is "nasgar," is a medium originally suggested by Wassermann for the gono-

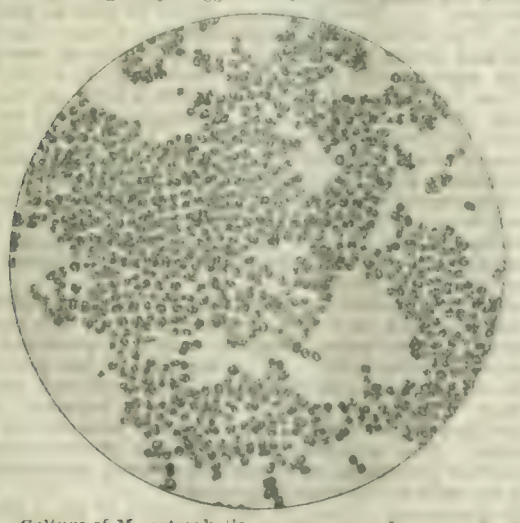


Fig. 6.—Culture of M. catarrhalis on agar, one day at 37° C. Stain, Gram-fuchsin. Magnification, 1,000.

coccus. The nasgar used in the present inquiry was made as follows:

A.—Ascites fluid, 15 c.cm.
Distilled water, 35 c.cm.
Nutrose, 1 gram.

Put in a flask and bring to a boil constantly shaking till the fluid boils. Filter.

B.—Ordinary peptone agar.

Mix one part of A with two parts of B, steam for thirty minutes, filter, and put in tubes.

In examining primary cultures on nasgar plates a convenient plan is to make an impress-preparation from a crowded part of the plate. On applying the Gram fuchsin stain to the impress-preparation, colonies of Gram-negative cocci are at once obvious. It is hardly necessary to remark that impress-preparations made in this way give much more information than smear specimens made with the platinum needle.

(c) Subcultures.—The medium used when testing the capacity of various Gram negative cocci for decomposing various carbohydrates was prepared according to the following formula, for which I am indebted to Dr. A. C. Houston:

Lemco	1 per cent.
Peptone	1 "
Sodium bicarbonate ...	0·1 "
Carbohydrate	1 "

And 10 c.cm. per cent. of a 10 per cent. watery solution of ordinary solid litmus.

The point to be observed is whether the micro-organism under examination produces [illegible] of a



Fig. 7.—Peritoneal exudation of guinea-pig dead three days after intraperitoneal injection with M. catarrhalis. The intracellular arrangement of the coccus is here well seen. Stain, methylene blue. Magnification, 1,000.

given carbohydrate when cultivated in the lemco medium to which that carbohydrate has been added in the proportion of 1 per cent.

Some of the more delicate Gram-negative cocci—for example, the meningococcus and the gonococcus—may fail to



Fig. 8.—Nutrose-ascitic-agar plate culture inoculated with an artificial mixture of M. catarrhalis and M. meningitidis, and incubated for two days at 37° C. The dark colonies with rough edge and halo are colonies of M. catarrhalis. The larger, smooth, transparent colony in the middle of the photograph is a colony of the meningococcus.

(The above photographs were taken by Mr. Albert Norman.)

develop in this lemco medium, but in such cases I have succeeded in obtaining satisfactory growth by adding to the culture a few drops of sterile raw ascitic fluid. The ascitic fluid which I used for this purpose had by a happy thought of Dr. Drysdale been received at once into sterile test tubes at the time that it was drawn off from a patient. After being filled direct from the patient in this way the sterility of the

tubes of ascitic fluid had been proved by incubating them for several days at 37° C. These tubes of ascitic fluid had been subsequently stored in the pathological department of St. Bartholomew's Hospital and Dr. Andrewes kindly allowed me to make liberal use of them.

In examining the action of various Gram-negative cocci on different carbohydrates, I have found it advisable, after inoculating the tubes, to allow them to incubate at 37° C for at least a week. In all cases control tubes were incubated side by side with the inoculated tubes for the purpose of comparison. In this way even small changes in the reaction of the medium were readily perceived.

Some of the less delicate Gram-negative cocci bleach the litmus culture, and it may be difficult at times to decide offhand whether this bleaching is accompanied by an increase of acidity or of alkalinity. In such cases a convenient means of deciding the point is to shake the tube well, so as to aërate the medium, and to then leave the tube at the room temperature for twenty-four hours, by which time the colour of the litmus will be found to have reasserted itself.

The Hertford cases in which a bacteriological examination has been made fall into two groups. In the first series comprised of 11 cases, although a Gram-negative coccus developed on serum tubes inoculated with mucus from the nares or pharynx, the organism was not isolated. In the second series, which included 24 cases, the Gram-negative coccus was isolated in pure culture and examined. Some of the latter cases, in which the coccus was present in large numbers, were at an acute stage of the disease at the time that the bacteriological examination was made, and showed the scarlatiniform eruption particularly well developed. Several cases were repeatedly examined with positive result.

CHARACTERS OF GRAM-NEGATIVE COCCI ISOLATED FROM THE HERTFORD CASES.

Altogether three different kinds of Gram-negative cocci have been obtained from the Hertford cases. Their characters were found to be respectively as follows:

1. The first of the three types was met with far more frequently than either of the other two, and was cultivated from no less than 22 of the 24 cases. For this cause, and also by reason of its great abundance in cases examined at the height of the attack, this particular coccus is especially to be identified with the present outbreak. From the fact that in the majority of instances it grew well on ordinary agar at 37° C., and also on ordinary gelatine at 20° C., it would seem that the present coccus is closely allied to, if not identical with, M. catarrhalis. It is important to note that all 22 examples of the coccus produced an alkaline reaction when cultivated in the lemco-litmus fluid, containing either glucose, galactose, maltose, or saccharose. As regards pathogenicity, I have found that, although the coccus is apparently non pathogenic when injected subcutaneously into mice or guinea-pigs, nevertheless, when administered intraperitoneally, it is capable of producing in both animals a fatal peritonitis. In such fatal cases the coccus is found to be markedly intracellular being enclosed for the most part in leucocytes of the peritoneal exudation.

Having recently obtained a coccus which I have been unable to distinguish from the present one from the sputum of a case of chronic bronchitis, in which it was present to over 100,000 but under 1,000,000 per c.cm., I have little doubt that this coccus obtained so uniformly from the Hertford cases is identical with that found by Seifert, Pfeiffer, Lord, and others, and generally known as M. catarrhalis.

2. The second type of Gram-negative coccus was obtained from 2 cases only, and in both it was associated with B. diphtheriæ. As the result of the bacteriological examination, these 2 cases were regarded as cases of diphtheria rather than of the Hertford disease. Although the present coccus grew well on ordinary agar at 37° C., on which it rapidly formed an opaque confluent growth, greyish-white in colour, it quite failed to develop on gelatine at 20° C. In all the four carbohydrate tests, namely, glucose, galactose, maltose, and saccharose, this coccus rapidly produced a strong acid reaction, thus forming a complete contrast to No. 1. When injected subcutaneously into mice and guinea pigs the coccus produced no lesion, but when injected intraperitoneally it was fatal to both animals, and was found to be markedly intracellular in the peritoneal exudation.

3. The third type of Gram negative coccus was obtained from only 1 of the 24 Hertford cases, but on both of two occasions when the nasal secretion of this case was examined the coccus was found present therein in large numbers. Coccus No. 1 was also present in this nasal discharge, but it was much less abundant than Coccus No. 3. The latter grew well on ordinary agar at 37° C., on which its growth was much less granular, and less opaque than that of Cocci Nos. 1 and 2. As regards shape, smoothness, and transparency, the young colonies of the present coccus on nasgar bore a very close resemblance to colonies of the meningococcus on the same medium. Older colonies of the coccus on agar or on nasgar, however, differed from those of the meningococcus in that they became faintly but distinctly yellow. When first isolated, the coccus refused to grow on gelatine at 20° C., but latterly a slow but unmistakable growth has been obtained on this medium. As regards carbohydrates, the coccus produced an acid reaction when cultivated in the presence of glucose or maltose, but an alkali reaction in the case of galactose and saccharose. As in the case of Cocci Nos. 1 and 2, subcutaneous injections were negative, but when injected intraperitoneally, the coccus was found capable of producing a fatal peritonitis in mice and guinea-pigs, and the cocci were markedly intracellular in the peritoneal exudation.

These three types include all the Gram-negative cocci obtained from the Hertford cases. For the purpose of comparison I will now give the result of an investigation that I have made in the same way of the meningococcus, and some other Gram-negative cocci.

THE CHARACTERS OF GRAM-NEGATIVE COCCI OBTAINED FROM OTHER SOURCES.

4. *The Meningococcus.*—All three cultures of the meningococcus which have been examined were obtained from the pathological department of St. Bartholomew's Hospital, and had been isolated from cases of cerebrospinal meningitis. Two of them had been recovered during life by lumbar puncture, and the third was obtained from the meninges *post mortem*. In all three instances there was good growth on nasgar of circular or oval, smooth, clear, slightly blue colonies.

From their smoothness the colonies of the meningococcus on nasgar suggest to the eye the young colonies of coli on that medium rather than the colonies of staphylococcus albus. On the other hand, the colonies of the Gram-negative Cocci Nos. 1 and 2 on nasgar bear a close resemblance to the rough opaque white colonies of staphylococcus albus. Of the three specimens of the meningococcus examined, two refused to grow on ordinary agar, but the third grew fairly well on this medium. All three absolutely failed to grow on gelatine at 20° C. Two of the meningococci were apt to soon lose their vitality, and it was necessary to subculture them every two days on nasgar; the third meningococcus, however, was much less delicate, and lived for quite a week on nasgar. Although the two more delicate meningococci died rapidly on nasgar, they lived for over a week in broth to which raw sterile ascitic fluid had been added. All three specimens of the meningococcus gave identical reactions in the carbohydrate tests, in applying which a few drops of sterile raw ascitic fluid were found to be necessary in the case of the two more delicate specimens, though the third meningococcus grew well enough in the carbohydrate medium without the addition of ascitic fluid.

The reactions produced were as follows: Glucose acidified, galactose acidified, and maltose acidified; in the case of saccharose, on the other hand, no acid was produced, but an increase of alkalinity. As in the case of the preceding three cocci, subcutaneous injections into mice and guinea-pigs gave a negative result, but when injected intraperitoneally a proportion of both animals succumbed to a peritonitis. The intracellular disposition of the meningococci in the peritoneal exudation was even more marked than in the case of the preceding cocci.

5. *The Gonococcus.* Through the kindness of Dr. Andrewes I recently had the opportunity of examining the gonococcus with the same carbohydrate tests as have been applied to the preceding cocci. The gonococcus which I examined had been isolated by Dr. Andrewes from the urethral pus of a typical case of gonorrhœa by means of a blood agar plate. I found that the gonococcus that developed in large numbers on this plate was far more delicate than any of the previous Gram-negative cocci, and I failed to get growth even on the nasgar medium unless a little fresh human blood was previously smeared over it. The colonies of the gonococcus on blood nasgar were more transparent and smaller than those of the preceding cocci. No growth occurred on gelatine at 20° C. Three colonies of the gonococcus were isolated from the plate and tested in the carbohydrate media to which a few drops of

the raw sterile ascitic fluid were added. At the end of a week at 37° C. acid reactions had appeared in the case of glucose and galactose, but in the case of saccharose and maltose the reaction of the medium was unchanged. All three colonies responded in the same way to these carbohydrate tests.

6. *A Gram-negative Coccus from the Normal Urethra*.—This micro-organism was isolated from mucus present in a sample of normal urine and was found to grow readily on ordinary agar at 37° C., and on ordinary gelatine at 20° C. When examined in the carbohydrate tests the coccus rapidly produced an acid reaction in all four, namely, in glucose, galactose, maltose, and also in saccharose.

The Chief Characters of the Six Gram-negative Cocci.

Number.	Source.	Different Specimens Examined.	Different Colonies Tested.	Growth on Nasgar at 37° C.	Growth on Gelatine at 20° C.	Carbohydrates. Production of an Acid Reaction in			
						Glucose.	Galactose.	Maltose.	Saccharose.
1	(M. catarrhalis.) Nasal and pharyngeal secretion in 22 cases of the Hertford outbreak Sputum chronic bronchitis	23	36	Opaque granular	Positive	—	—	—	—
2	Nasal secretion of 2 Hertford cases in both of which B. diphtheriae also present	2	4	Opaque granular	Negative	+	+	+	+
3	Nasal secretion of 1 Hertford case in which Coccus No. 1 also present	1	4	Clear, smooth, later becomes yellowish	Negative at first, positive later	+	—	+	—
4	(Meningococcus) Lumbar puncture 2 specimens; meninges *post-mortem* 1 specimen	3	9	Clear, smooth	Negative	+	+	+	—
5	(Gonococcus.) Urethral pus	1	3	No growth unless blood added to medium	Negative	+	+	—	—
6	Mucus from normal urethra	1	2	Opaque, somewhat granular at centre but smooth at edge	Positive	+	+	+	+

Conclusion.

It follows from these observations that while the virulence for mice and guinea-pigs of the various Gram-negative cocci examined appears to be of little, if any, value for differentiating them, the effect of these cocci upon glucose, galactose, maltose, and saccharose, respectively, is of much value for this purpose. Owing to the special pathogenic significance of the meningococcus, gonococcus, and possibly also of M. catarrhalis and other individuals of the group, it is advisable in future, when examining a Gram-negative coccus, to test it, amongst other things, in all the four carbohydrate media before considering that its identity has been established. If mistakes are to be avoided, this procedure would seem to be particularly desirable—I may even say necessary—when examining nasal or pharyngeal secretion for the meningococcus, or when examining discharge from the urinogenital tract, or other material, for the gonococcus.

References

[1] Paper read before the Epidemiological Society on January 20th, 1899. [2] Memorandum by Dr. Farrar to Local Government Board, September, 1903. [3] Flügge, *Micro-organismen*, Band ii., 1896, pp. 154-5. [4] Loc. cit. [5] *Zeitschr. f. klin. Med.*, Band xliv., 1901. [6] *Centralbl. f. Bakt. Originale*, Band xxxiv., 1903, p. 641. [7] *Bull. Soc. Méd. Hôp. de Paris*, March 2nd and 16th, 1905.

Old Age.—The London Vegetarian Association has arranged a meeting at which the question what period of life should be termed old age will be discussed by a number of gentlemen between the ages of eighty and ninety, who are still engaged in literary, medical, agricultural, and other work. The chair will be taken by Mr. C. P. Newcombe, who is an octogenarian, and other speakers will be Professor Mayor, Mr. Joseph Wallace, and others. The meeting will be held in the Memorial Hall, Farringdon Street, on October 13th.

RATS IN RELATION TO PLAGUE.

By BRUCE SKINNER,
Lieutenant-Colonel R.A.M.C.

Since the publication in the British Medical Journal of May 6th, p. 994, of a paper on Plague and the Geographical Distribution of Rats, and, indeed, since the following remarks were drafted, I have become indebted to Lieutenant-Colonel Leishman for a reference to a paper by Dr. Rudolf Abel relating to Rats and Plague.[1] This paper contains a record of research into the ancient accounts of plague epidemics extending back to that described in 1 Sam., chap. v and vi. These records associate rodents and many other animals with plague. Dr. Abel comments on the want of reference to rats in relation to the plague epidemics which have occurred in Europe since 1730, and regards this as pointing to the fact that improved sanitation is probably the reason why Europe has since that date been less liable to plague epidemics. He suggests that perhaps *M. rattus* was less predisposed to plague than *M. decumanus*, and that as *M. decumanus* "belongs to the species that now in India and China suffers so much from plague, the rats in South and East Europe ought to have played a much more important part in plague epidemics, which is not the case." "Also," he says, "we are not justified in assuming that *M. rattus* shows less predisposition for plague than *M. decumanus*, as the matter has not been settled by experiment." He concludes that his historical survey shows that the most serious plague epidemics known which ravaged Europe in olden times without special participation of the rats and mice warn us that these rodents must not be regarded as the first cause in the epidemiology of plague.

Dr. Abel has not conceived the possibility that *M. decumanus* may be responsible for the comparative freedom of Europe from plague, as previously explained, evidently because he is under the impression that this species is the rat of the areas of endemic plague. We know, however, that *M. rattus* is the indigenous species of the plague endemic areas; and we are justified in inferring that if the latter species causes or spreads plague, he does not do so in Europe because he is now a very subordinate occupant of that area.

Some further observations on the habits of the different species of rats are, however, required, especially in their relation to plague.

The following extract from a classical writer is not without interest in its bearing on the part played by rats in its dissemination:

> Neither are they (the Iberians) the only sufferers in being tormented with vast swarms of mice, from which pestilential diseases have frequently ensued. This occurred to the Romans in Cantabria, so that they caused it to be proclaimed that whoever would catch the mice should receive rewards according to the number taken, and even with this they were scarcely preserved, as they were suffering besides from want of corn and other necessaries.[2]

Although the word mice is used we may accept it in its broadest sense as a family name, as the differentiation of the family into genera and species seems to be modern. It does not necessarily mean, as I have seen suggested, that the Romans were unaware of the existence of rats.

One point in the above quotation which especially merits attention is that the Romans employed the modern unscientific method of dealing with the mouse family when plague was prevalent.

We in the present day are aware that long-tailed rats suffer from plague. But we are not aware that they initiate plague. Analogy rather points to the certainty that these rats contract plague from some extraneous source, as animals cannot be said to initiate any specific fever.

That source has not yet been discovered. But inasmuch as it must be something outside the rat, it would appear more scientific to adapt our defensive measures to our immediate surroundings rather than to destroy those animals whose misfortune it is to suffer in common with ourselves from pestilence. Further, in our country at least, rats in towns are valuable scavengers.

There are certain seasons when rats betake themselves to houses. For instance, in England, the short-tailed rat, when he has adopted a country life, lives entirely out-of-doors from spring to autumn; in winter he resorts to corn-ricks, bean-stacks, barns, and houses.

The town rat lives usually in sewers. Where there is a *rus in urbe*, some of the town rats may be classed as to habits with the country rat. The great plague epidemics of England raged during the period when the rat lived out-of-doors.

The foreign country which perhaps most interests us, so far as plague is concerned, is India. Inasmuch as India is a country of such vast extent that climatic changes are neither equal nor synchronous in different localities, the habits of rats proper to one locality will be found to vary as to time when compared with those of other localities. Broadly speaking, the wet season, or monsoon, is the great climatic change which most profoundly influences India.

There are but few localities which are so unfortunately placed as to escape the downpour of rain which commences in May or June, or even later, according to the distance of the locality from the south-west source of the vapour-laden winds. And with the advent of the monsoon the rats of India take shelter. "In dry weather most of these gentry live out-of-doors, but the first heavy, steady, soaking rain is the signal for a general invasion" of houses.[3]

The Bombay rats, therefore, should take to the houses in May or June, and the Punjab rats at the end of June or beginning of July. It is possible that in the Punjab the rats may also in the cold weather take shelter, as the cold from November to the end of January is sharp. Perhaps naturalists in India may be able to furnish exact information on these points from various parts. If it be borne out by investigation that rats throughout India live out-of-doors, as in England, during the warm season, and only invade houses during the monsoon, or during the cold months, the fact should cause us to review our ideas as to the part taken by them in the propagation of plague. A glance at Appendix I in Professor Simpson's *Treatise on Plague* will show that in 1904 the plague was at its highest when the rats should have been out in the field, and at its minimum when they took shelter during the rains. See also Diagram B on page 148 in connexion with the fact noted above. [Note.—In Mauritius, while every month shows some rain, the rainy season is from the end of December to the end of April.]

The report of the Sanitary Commissioner with the Government of India for 1903 bears out the same conclusion (see Appendix B to Section VI, Table IV, for the plague incidence, and Appendix to Section I Table II. for the rainfall). Here it at first sight appears that Madras forms an exception, for the plague incidence in that Presidency was most severe in January, during which month the Madras meteorological station showed 4.53 in. of rain, and dry weather in March and April, when the plague deaths were falling. But on more detailed investigation the apparent exception demonstrates the necessity for local comparisons of the rainfall and plague incidence. Some of the Madras districts (see p. 94) did not suffer from plague, while the rainfall was widely different for different stations. Bellary district had the most severe plague incidence in the Madras Presidency, while Bellary station had no rainfall until May. There is not, in the tables relating to Madras, sufficient differentiation of data to argue for or against the contention which has been pointed out above as holding in other areas where the climatic conditions, as well as the plague outbreaks, are more uniform than in the Madras Presidency. The Bengal Presidency also contains some districts where the rainfall is out of proportion to others as to amount and duration, and therefore generalized tables lose much of their value, though even as they stand they show a great fall in plague deaths during the wet months when rats should be in houses. In these cases especially, but in all cases for purposes of exactness, the actual meteorological conditions for each locality should be tabulated with the local plague incidence and with the dates of migrations of rats from houses to the fields and of their return. Broadly speaking the Punjab presents fairly uniform rainfall, and the following table shows the plague-deaths in conjunction therewith in 1904:

As was formerly the case during the great plague epidemics of Europe, plague in India is most acute during the period when the rats are out in the fields. The plague diminishes rapidly after the wheat harvest, almost disappears in the rains, and begins again with the millet harvest. It is not here suggested that the rains have anything to do directly with the plague—the tables show that plague has commenced to fall before the rains begin.

But what I do suggest as borne out by the examination of the habits of the rat, so far as they are known, is that though he suffers from plague he is not the source of the disease. Were he the source, the epidemic should be most acute when the rat is in most intimate contact with the human population. The agriculturist does well to destroy rats on account of the enormous damage they work in the farms; but such a measure carried out as a preventive of plague cannot be regarded as scientific, while it must be classed as waste of energy when the work done is measured against the object aimed at, namely, the reduction of plague incidence. There is nothing to show that destruction of rats reduces plague incidence. It is true now, as formerly, that "even with this they were scarcely preserved, as they were suffering besides from want of corn." Perhaps it may be that the want of food caused by the depredations of rats, made the people more liable to plague. Such depredations are also suggested in the Biblical account of the epidemic among the Philistines: "And in the villages and fields in the midst of that country there came forth a multitude of mice, and there was the confusion of a great mortality in the city."[4] Further on we read: "the mice that have destroyed the land."[5] We shall see later that the same occurred in India.

But inasmuch as rats suffer from plague, which some have suggested is conveyed from them to man by the flea peculiar to *M. rattus* many may consider it politic to exclude rats from dwellings. The feet of rats are covered with an extremely delicate integument. Rats, therefore, avoid lime, for it burns their feet. The free use of unslaked lime placed in rat holes, along the runs they make to water supplies, on the floors of cellars, and generally about the approaches to houses, will keep rats away. *M. decumanus* is an extremely thirsty animal. Perhaps *M. rattus* also possesses an equal love of water. By cutting off the water supply by some such means as that mentioned above the rat will be caused to remove to another locality. Should it be the case that the plague-stricken rat comes to the house to die, the use of unslaked lime in the house as here indicated may suffice to ensure his remaining elsewhere. If unslaked lime is scattered over the mud floors of Indian huts, and subsequently watered, insects will be destroyed, and the suspected plague carrier may possibly be thus removed. But if it be true that plague deaths are fewer when rats swarm in the houses, it would appear desirable not to exclude these scavengers, at least during the rainy season, but rather to ascertain if there is any fact to be learnt from their habits which may give a clue to the source whence plague is derived.

The intelligence, assisted by the acuteness of the sense of smell possessed by *M. decumanus*, and presumably also by *M. rattus*, is so keen, that it is more than likely that rats of either species would not return even in the rains to plague-infected dwellings if the cause of that disease were inherent in the dwellings. The rat, however, does return at that season and remains throughout the rains, so it may be allowed that he cannot be responsible for the recrudescence of plague which occurs after the rains, and which must be due to some other cause apart from rats coming into play after a period of quiescence. In the Punjab the rat returns to the house not later than the beginning of July. The plague begins to increase at the end of September, when the rat is returning to the fields after the rains, and when the cultivator

	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.
LAHORE.												
Plague deaths	...	...	...	...	63,907	40,470	14,770	1,?	?	1,151	1,661	4,187	5,728
Rainfall	...	...	...	...	0.82	0.31	4.19	5.11	2.25	0.10	0.0	0.31	
BOMBAY.*												
Plague deaths	Presidency	...	...	38,476	12,[illegible]	17,571	4,[illegible]	3,268	?	12,424	70,489	37,819	20,179	24,459
	City	...	...	...	...	5,733	1,586	657	147	45	322	272	200	270
Rainfall	...	...	...	...	0.0	...	7.79	18.04	24.?	18.70	0.03	5.91	0.0	0.0
CALCUTTA.												
Plague deaths	...	...	...	24	1,[illegible]	[illegible]16	4,[illegible]	320	74	53	55	70	71	84	68
Rainfall	...	...	...	0.21	0.4	0.72	1.71	1.53	10.7	6.35	10.17	14.02	0.02	0.0	

* The same seasonal relation is shown by the charts in the report of the Plague Commissioners, vol. I, p. 513, and vol. III, p. 647.

is harvesting his millet crops. It continues throughout the cold weather, becomes virulent during the hot weather, and rapidly drops just before the rains, after the wheat crop has been gathered.

It is thus evident that during this period, when both rats and mankind are out in the fields, the latter are liable to attack by some agent common to both [illegible] plague, and that this cause decreases to a minimum during the period when rats and men are most closely associated during the rains.

This common cause is one which has not been in constant universal action throughout India, though it must have been of fairly frequent recurrence in Kumaon and Garhwal. The Indian epidemic of 1896 did not spread from the latter districts, but appears to have originated in Bombay. Plague was discovered in Bombay city in 1896. Possibly it existed in the Presidency before that year, and was only recognized when it had attained epidemic proportions.

What this common cause may be forms a subject for further consideration.

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SEVENTY-THIRD ANNUAL MEETING

OF THE

British Medical Association.

Held at Leicester, July 24th, 25th, 26th, 27th, and 28th, 1905.

PROCEEDINGS OF SECTIONS.

SECTION OF OPHTHALMOLOGY.

G. A. Berry, M.B., F.R.C.S.Ed., President.

PRESIDENT'S INTRODUCTORY REMARKS.

Fifty years ago such rapid strides were made in the science of ophthalmology and in ocular therapeutics that every year brought its record of important discoveries in diagnosis, of new methods of examination, of far-reaching generalizations, often of real advances in ophthalmic surgery. At that time indeed, a few years sufficed to revolutionize the whole science of this department of medicine, until ophthalmology attained to a degree of perfection which led von Helmholtz to say of it that it was "the most strictly scientific department of medicine, the one which most nearly approached to the exact sciences."

That ophthalmology can hardly, with the same justice, be said to occupy so prominent a position at the present day is due to the rapid advances which have been made more recently in other departments, and more particularly in other departments of surgery.

Some few advances in our special science are no doubt of comparatively recent date, for example, the introduction of antiseptic and aseptic measures in connexion with injuries and operations; the use of cocaine as a local anaesthetic; the appreciation of the rôle played by microbes and the toxins they engender, in connexion with various inflammations of the eye; some few points in pathology, notably with reference to tuberculous manifestations; the use of the electro-magnet for the removal of particles of iron and steel, the application of the Roentgen rays for their detection and localization, etc. From the therapeutical point of view, however, there has been otherwise but little advance to record, while the knowledge of the connexion between diseases of the eye and diseases of other parts of the body is hardly less crude than it was fifty years ago, except perhaps as regards ocular manifestations in certain nervous disorders. Latterly, indeed, instead of leading the way the ophthalmic surgeon has mostly had to follow, and adapt to the requirements of his own speciality the advances, so far as they are at all applicable, which have extended the sphere of general surgery.

This comparatively slow advance of recent years is not due to there being nothing left to find out. It is not due to the interest in the special subject of ophthalmology being for the time diverted to branches which seem to offer more scope for research. There is, at least, no dearth of writings on specially ophthalmological topics. It is not due to the absence of experimentation with new therapeutic agents. New drugs are constantly appearing which, if they do not succeed in doing a tithe of what is claimed for them, [illegible] raise one's hopes for the time being. Not a few books [illegible] exclusively to a consideration of new remedies have appeared quite recently. Even in connexion with eye diseases, however, for which it should be possible to estimate the results of treatment, in many cases at least, more fully than for other less accessible organs, there is so often shown the same absence of critical insight into the difficulties of doing so which seems to characterize the majority of writers on therapeutics. [illegible] withstanding valuable discoveries in pathology, we make, it must be admitted, but slow progress in treatment.

The problems which, for us, await solutions are in point of fact numerous enough. But they are for the most part such as seem only likely to be solved when our knowledge of general pathology and of medicine have reached a stage or two further than they have at present. We do not even know yet what it is that determines the selection of certain organs and tissues for the manifestation of certain definite pathological processes. We are consequently and necessarily empirics as regards the manner in which we may try to supplement purely local by more general means of treatment.

But if we cannot to-day check the progress of an optic atrophy, or treat, on anything but empirical lines, a choroiditis; if we cannot prevent the development of a cataract or of a detachment of the retina; if we cannot even cure a conjunctivitis, we may surely hope that some day it will be possible to do all these things, and more.

Because, gentlemen, if our progress is slow it is none the less real. We may have need to be critical—even sceptical—in the present, in view especially of the flood of literature, from which we must separate the chaff from the wheat. But we can afford to be—we have reason to be—optimistic as to the future.

My own predilections have always been for surgery. There is so much pleasurable interest to be got from watching the effect of surgical interference of any kind, so little satisfaction in cases for which one has to rely upon medical treatment alone, that one is apt to forget that the laborious, patient investigations of recent times may, in the perhaps not distant future, turn the tables on surgery. We may some day have to admit that many conditions for which surgical measures seem the only suitable ones at present will allow of rational, successful treatment on medical lines alone. Much of our treatment at the present time may even in the light of future knowledge be of a nature which, if it were then adopted, would be little less than criminal. I may illustrate this by a true story from the past. About 100 years ago there lived a king of one of the most enlightened European States who was in the habit of being periodically bled. One day his physician finding him suffering more than usual from the discomfort of a too generous diet, whipped out his lancet and relieved him of the superfluous quantity of his vital fluid. Next day the monarch's arm was painful and swollen. Phlebitis followed, which in a few days proved fatal. The physician's attentions were rewarded by a pension of £800 a year, to be continued to his son and his grandson. The grandson is still living in enjoyment of that pension.

There are many topics which, though they do not present the interest of novelty, may be discussed with more or less profit at a meeting like this. Formal discussions, with the necessary limitations imposed upon the time allowed for each member to speak, do not often, it is true, lead to much. Yet they sometimes help to lift one out of the groove of self-satisfaction. Those of us who have had an extensive personal experience are apt to think that the only "sensible" men are those who hold the same views as ourselves. But even in our little branch of science it is surely our duty "to prove all things and hold fast to that which is good."

The subjects for discussion at this meeting are ones on which we must all have some ideas, and, as we are not overloaded with papers on other matters, we may hope that others than those who have already intimated their intention of doing so may take part in them. You will see from the programme for the day that we have departed from the usual custom of beginning with the regular discussions. This was necessary, as the gentlemen who are to open the discussions are unable to do so before to-morrow and the day following. The papers have therefore to be taken first, but before entering for the first paper on the list, I have, as your chairman, to offer, in your name and in my own, a special welcome to the distinguished foreign colleague whom we are happy to see

with us here to-day. Most of us are familiar with Professor Hess's interesting and valuable contributions to the science of ophthalmology. We shall all, I am sure, be greatly pleased to hear him express his views on any topic of discussion which may specially interest him.

NOTES OF A CASE OF EMMETROPIA,

IN WHICH DISTRESSING LOCAL AND GENERAL SYMPTOMS HAD BEEN RELIEVED BY THE USE OF — 1 D SPHERICAL WITH — 1 D CYLINDRICAL GLASSES.

By ADOLPH BRONNER, M.D.,

Senior Surgeon, Bradford Eye and Ear Hospital.

WE have all seen many cases in which the correction of small errors of refraction has relieved most remarkable local and general symptoms. But I think that most of you will agree with me that some of the cases which are constantly being reported in the medical and also in the lay press are still more wonderful. In America a well-known specialist published a paper in which he stated that he had examined the eyes of 118 children a year or two ago who suffered from chorea; 113 of these had errors of refraction, and were cured by the use of glasses. A committee was appointed to investigate these facts, and it found that the statements were entirely wrong. Similar misleading reports are, I fear, being constantly reported in our medical journals and small medical pamphlets.

There is no record in many of these reports if the eyes of the patients had been thoroughly examined. Was there any spasm of accommodation or heterophoria? Were the results controlled by the ophthalmometer? Did the patients bend their heads when reading, etc.?

In America heterophoria is the cause of many of these wonderful symptoms, in England a slight error of refraction is said to produce them. Almost all these published cases had already been under the care of some celebrated London specialist, who had of course failed to discover the error of refraction. Patients, and I am sorry to say even some medical men, seem to think much more highly of a specialist if he announces to the world at large that he can cure cases which other surgeons, especially eminent London men, have failed to cure.

The case which I wish to relate to you is one which shows how careful we should be in believing the statements of patients, and how the use of glasses which are absolutely wrong can produce the same wonderful results as the use of glasses prescribed by some eminent eye specialists.

Mr. B., aged 24, came to see me in May. He at once told me that he did not wish me to tamper with the glasses he was wearing, as they were simply wonderful. He only wanted to know if it would damage his general health if he did not wear glasses, as they interfered with his promotion in business. Before he wore glasses, six years ago, he had been in indifferent health, was delicate, not fit to do any work. He also suffered from headaches. He had always seen fairly well at a distance, but had bent his head very much when reading and writing. As soon as he began to wear the glasses his general health improved greatly, and he was a different man altogether, the headaches entirely disappeared, and he had gained several stones in weight. I found his vision with glasses was $\frac{6}{6}$, and he read Jr with difficulty. Without glasses the vision was $\frac{6}{9}$, and Jr was read easily at 15 in. With 0.5 D the vision was $\frac{6}{6}$. On examination with the ophthalmoscope I found that the discs were congested, and that both eyes were practically emmetropic, and perhaps slightly hypermetropic. He was wearing 1 D. spherical and — 1 D. cylindrical glasses. The reason why he got glasses six years ago was because he bent his head when reading, and suffered from nervous debility, and he had heard and read of many similar cases which had been cured by the use of glasses.

In this case the wonderful cure was certainly due to suggestion, and possibly partly to the fact that with the glasses he was obliged to hold his head up when reading.

In conclusion, I should again like to state that I am perfectly well aware how important it is in cases of headache and many other allied symptoms, to examine the eyes most carefully and correct any error of refraction. I have treated such cases for over twenty years. I do, however, think that many of the wonderful cases published are very misleading and unsatisfactory from a scientific and medical point of view, and do not do great credit to our speciality; that many of the cases published have, as far as can be judged by the reports, never been thoroughly examined, and that many could have been relieved by the use of atropine, or by instructions to the patient to hold the head well up when reading and writing; by glasses, or the use of carrings or any suitable counter irritant.

A DISCUSSION ON INTRAOCULAR TUBERCULOSIS.

I.—WALTER H. JESSOP, M.B., F.R.C.S.,

Senior Ophthalmic Surgeon, St. Bartholomew's Hospital.

MR. JESSOP said: The subject was limited to tuberculosis of the interior of eyeball, and therefore included cases affecting the choroid, iris, ciliary body, and retina; the chief part of the paper was devoted to the choroid, and included miliary and solitary tubercle of the choroid. Of solitary choroidal tubercle, an analytical table of 20 cases was given collected from various authors. Statistics were collected as to patients' sex, age, previous history, family history, clinical tuberculous signs in other organs, operation, results, macroscopic and microscopic examination.

Solitary tubercle was generally found as a rounded spherical body of grey, white, or yellow starting beneath the retina from near the optic disc; it seldom tended to infiltrate the retina. Nodules were generally to be seen on it, and often it seemed made up of them.

The retina around was sometimes flecked with spots like diabetic retinitis, but not pigmented, while for a long time the tumour remained subretinal. Yellowish spots might be seen on its surface like lichen, and these were due to caseation. Haemorrhages might occur, but were not often recorded.

In miliary tuberculous choroiditis, tuberculous meningitis was nearly always present. At St. Bartholomew's Hospital, in 15 cases of tubercle of the choroid found in the *post-mortem* room, 14 had tuberculous meningitis, and only one had not; this case had miliary tubercle of lungs, peritoneum, kidneys, spleen, etc. He felt convinced that the two very frequently co-exist, and it was not a fact, as stated by Horner, that the presence of tubercle in the pia mater contraindicated its presence in the choroid.

Tubercle of the iris and ciliary body were next treated, and also the rare condition of tubercle of the retina.

As to diagnosis in tuberculous cases the best test was certainly inoculation experiments.

In many cases, especially when caseation had taken place, the bacillus was not to be found. Giant cells, tuberculous stroma, endothelial cells, and caseation are all of minor importance in diagnosis; other signs of tubercle in the body were of considerable assistance in aiding diagnosis.

In order to limit the discussion, the following questions were suggested as the basis:

1. The relative frequency of primary intraocular tuberculosis.
2. How often was choroiditis met with in acute miliary tuberculosis?
3. What was the value of tuberculins: (*a*) As an aid to diagnosis; (*b*) as treatment?
4. What was the danger of dissemination as a result of excision in intraocular tuberculosis?
5. In tuberculous affection limited to the choroid was there little tendency to pigmentation or scarring of the retina or choroid, and were vitreous opacities seldom present?
6. How often in chronic phthisis, especially pulmonary, were there choroidal lesions?
7. In chronic choroidal tubercle what were the signs of "obsolescent tubercle"?

1. He had never come across a case he could prove to be primary intraocular tuberculosis, and he doubted if such a condition ever existed.

2. From statistics, the percentages of miliary tuberculosis, giving rise to choroiditis, varied greatly, but probably it was to be found in about 50 per cent. *post mortem*, and in from 30 to 35 per cent. by the ophthalmoscope before death.

3. In his own practice he had personally had but little experience of the action of tuberculin, but he was certain that old tuberculin was not trustworthy, and often did much harm. From the excellent results of von Hippel and Schieck with tuberculin TR, he would certainly try it on every doubtful case as a means of diagnosis and in all the cases for treatment. It was necessary to watch the temperature of the patient very carefully, and it should be taken night and morning. The largest dose at start ought not to be greater than $\frac{1}{100}$ mg., gradually increased to 1 mg. for each dose.

4. Excision in intraorbital tuberculous condition of the eye should, he thought, be seldom done, unless there was a great deal of pain or the condition was actually telling on the patient's health. As the condition was not primary, it would only remove one focus

Analysis of 20 Cases of Chronic Choroidal Tubercle.

No.	Age	Sex	Eye	Previous History.	Family History.	Present Condition.	Other Clinical Tuberculous Signs.	Operation.	Result.	Time after First Seeing.	Macroscopic Examination. Ocular.	Macroscopic Examination. General.	Meningitis.	Microscopic.	Bacilli.	Sclera.	Vitreous.
1	M	27	L	Eye congest. headache	—	Diffused yellow chorioido-retinal swelling; retinal haemorrhage	Meningitis	—	+	4 days	Yellow-grey tumour 3 mm. nodules	—	×	Giant cells caseation, tubercle stroma	—	Infiltrated thickened	Normal.
2	M	24	L	Eye. congest.	—	Peripheral pink-grey tumour nodulated	Peritonitis; cerebellar tumour	—	+	5 weeks	Pink-grey tumour nodules	Old peritonitis, cerebellar tumour + brain nodules	—	×	—	Infiltration perforation	Slightly turbid.
3	M	8	L	Opisthotonos	—	White tumour near O.D.	Miliary tubercle of lungs, brain tumour	—	+	5 weeks	Many aggregated nodules	Miliary tubercles of lung bronchial glands; most other organs chronic tubercle	—	No exam.	—	Much thickened	—
4	M	13	R	—	Brother and sister died of phthisis and brain	R.E. papillitis R.E large, milk white nodular swelling above O.D Ret. haemorrhage	Tumour of pons	—	+	3 m.	Not made	Not made	—	—	—	—	Normal.
5	M	19	R	—	—	Two large white tumours above and outer side O.D nodules L.E grey nodules on iris two yellow grey peabig tumours outer border cornea, hypopyon	Maxillary, auricular, clavicular, subclavicular glands	—	—	—	—	—	—	—	—	—	Slightly turbid.
6	M	22	L	—	—	—	—	Ex	—	—	Choroidal tumour extra-bulbar with perforation (sclerotic)	—	—	×	—	Thickened perforated	Numerous cells.
7	F	21	R	—	Two brothers died of phthisis in lung	Eye inflamed. Iritis, yellow reflex pupil; scleral protuberance	Osteitis of metacarpus of thumb	Ex	—	4 years after, sound	Choroidal tumour	—	—	×	× 2 yrs after	Involved	—
8	M	40	—	Syph. 10t keral irido-choroiditis Iridectomy	—	—	—	Ex.	—	—	Nodular tumour from choroido-ciliary border	—	—	×	—	ected	—
9	M	22	L	Injury 11 years ago. Iridectomy hyphoema	Ch. knee tubercle w.d. of phthisis	—	—	Ex	—	2 years after, sound	Large tumour	—	—	×	×	Thickened	—
10	F	42	L	—	—	—	—	Ex.	—	10 years after, phthisis	Choroidal tumour, ciliary body affected	—	—	×	×	—	—
11	M	8	L	—	Father phthisical	R.E iritis; L.E 6 mm. round grey-white tumour	Rickets, bronchial glands; enlarged spleen	—	+	3 months	Choroidal tumour, size hemp seed, above O.D.	Left epididymis caseous, cerebral nodules	—	×	—	—	—
12	F	3	L	—	—	Eyered; post synechiae sclerotic and choroid tumours	Peritonitis; fistula in arm	—	—	—	—	—	—	×	None	Affected, and discharge from it	Turbid
13	F	5	L	—	—	L.E. enlarged; post synech., lens disturbed vessels congested	Thoracic wall abscess cervical glands	Ex	—	—	Globe much enlarged; large tumour, nodules	—	—	×	—	Nodules	"
14	F	18	—	—	Father died of phthisis	Enlarged vessels; big white tumour over O.D	Both apices and pleurisy	Ex	—	—	Aggregated tumour small nodule near it	—	—	×	—	Infiltrated	—
15	F	18	R	—	—	L.E. yellow-white tumour	Swelling of knee	—	+	23 days	Small haemorrhage	Tuberculous meningitis; cerebral and cerebellar tumour	×	×	None	—	—
16	M	28	R	—	—	R.E. large tumour; L.E optic neuritis	Cerebral tumour	—	+	13 months	Confluent tumour	Bronchial glands, caseous cerebral tumour, no miliary	—	—	—	—	—
17	F	8	R	3 years signs of tubercle	Brother died of tuberculosis mm	2 large spherical neuroses over O.D. Scleral swelling	Cervical and peritoneal; arms, legs, abscesses	—	—	V good 4 years after	—	—	—	×	None	Nodule	Normal
18	F	28	R	Mammary abscess tubercle bacilli	Mother and brother died of phthisis	Above O.D. small mass Ciliary congestion.	Scar of mammary abscess	—	—	V N 5 years after	—	—	—	—	—	—	Normal
19	F	6	L	N·1	—	Choroidal mass. 4 mm	Submax., axillary and groin glands	Ex	—	—	Large tumour 9 mm	—	—	×	None	Infiltrated	—
20	M	17	—	—	—	Conjunct. congested. pupil irreg. pseudo-glioma	Abscess bursa lumbar, cervical, soft, palmul nodes, scalp and back	Ex	+	2 years	2 large choroid tumours	Scalp nodules, lungs tubercle	×	×	×	Involved and perforated	—

1 Weiss, *Arch. f. Oph.*, 1899, Bd. 47, IV, p. 11. 2 Haab, *Arch. f. Oph.*, 1899, Bd. 48, IV, p. 224. 3 Mauthner, *Klin. Monatsbl. f. Augenheilk.*, 1881, Band 19, p. 1. 4 Hirschberg, *Neurolog. Centralbl.*, 1882, Band 1, p. 481. 5 Marcy, Augen Tuberkulose, Thesis, Strassburg, 1884, p. 33. 6 Schüler, *Klin. Monatsbl. f. Augenheilk.*, 1884, Band 22, p. 367. 7 Haab, *Klin. Monatsbl. für Augenheilk.*, 1884, Band 21, p. 197. 8 Neese, *Arch. f. Augenheilk.*, 1886, Bd. 16, p. 267. 9 Wagenmann, *Arch. f. Ophth.*, 1898, Band 44, IV, p. 158. 10 Liebrecht, *Arch. f. Ophth.*, 1899, Bd. 36, IV, p. 241. 11 Gutmann, *Arch. f. Augenheilk.*, 1899, Bd. 40, p. 153. 12 Tuyl, *Klin. Monatsbl. f. Augenheilk.*, 1900, Band 38, p. 752. 13 Kunz, *Klin. Monatsbl. f. Augenheilk.*, 1901, Band 39, II, p. 531. 14 Salomon, Soll. Sur Tuberkulose der Chorioidea, Thesis, 1902. 15 Mac Carthy, *Trans. Ophth. Soc.*, III, p. 119. 16 Barlow, *Trans. Ophth. Soc.*, III, p. 134. 17 Jessop, *Trans. Ophth. Soc.*, xxiii, p. 50. 18 Jessop, *Trans. Ophth. Soc.*, xxiii, p. 55. 19 Mellardy, *Trans. Ophth. Soc.*, vol. viii, p. 179. 20 St. Bartholomew's Hospital Ophthalmic Ward Notes, 1896.

of the disease, and the experiences set forth by Rogman seemed conclusive as to the danger. This appeared to be much increased if the sclerotic were involved. Out of 11 cases which ended fatally after the excision of a tuberculous eye no less than eight died within two months of tuberculous meningitis. This was a great contrast to Schieck's 13 cases treated with tuberculin, in which all were cured, and no eye was lost.

5. In miliary tubercle of the choroid he had never seen vitreous opacities, neither were they present in his two cases (17 and 18) of chronic choroidal tubercle, which he knew for certain were cured. After tuberculous choroidal troubles the chief characteristic was the small apparent change in the part of the fundus in which the tubercle existed, and also in another case (18) the absence of any pathological pigmentation even in the neighbourhood of the greatest lesion.

6. In cases at St. Bartholomew's Hospital of chronic pulmonary phthisis, he could find no note of chronic choroidal change. Dr. Carpenter and Mr. Stephenson found in over 119 cases of chronic tuberculosis in children, choroidal changes in 11=9 24 per cent., and arranged them into four groups—(1) solitary, (2) multiple, (3) disseminated, (4) diffused.

7. As to the signs of obsolescent tubercle, his own two cases were the only ones he had to go on in which the presence of tubercle bacilli or tuberculous inoculation experiments made the diagnosis of the case sure, and the lapse of four and five years enabled the so-called "obsolescent" changes to be seen. In these, as the drawings showed, the changes were not in the macular region, but started near the disc, as did also most of the twenty cases detailed. The absence of much scarring and the total absence of pigmentation seemed to distinguish the cases from those of the syphilitic type.

II.—Professor Dr. KARL HESS,

University of Würzburg.

I HAVE made tuberculin injections at my clinic in 26 cases: in 18 of them I employed "alt-tuberculin," in 8 cases TR. All these injections were made for diagnostic purposes; in 50 per cent. of the cases (9 of alt tuberculin and 4 of TR.) we had "general reaction" (fever). In 2 cases only (of iritis) local reaction was evident. Among the cases of iritis alone, general reaction was found in even more than 50 per cent. Besides this general reaction was found once in a case of recent choroiditis and once in a case of keratitis parenchymatosa. I think that only local reaction can be considered as positive proof of the tuberculous nature of an iritis or keratitis. Nevertheless, if we find so often general reaction in cases of iritis which clinically show the same symptoms as those which gave local reaction, it seems probable that a great many of our cases of iritis are caused by tuberculosis. As to therapeutic effects, we have not yet sufficient experience; at any rate, I never observed any ill effects from the tuberculin. In one case of iritis with strong local reaction we saw after this an evident improvement of the disease.

(The observations are going to be published by Dr. Brückner.)

III.—JOHN HERN, M.D., F.R.C.S.Edin.,

Ophthalmic Surgeon, Darlington Hospital.

DR. HERN said: I have had many cases treated by the new tuberculin injected according to Koch's directions. In at least 8[illegible] per cent. of the cases there has been a general reaction, [illegible] local reaction to be seen [illegible] where tuberculous [illegible] of diagnosis it is very useful, but [illegible]; in fact, in some cases it appeared to do [illegible] inflammatory changes in the eye.

IV.—J. TATHAM THOMPSON, M.B., C.M.,

[illegible]

MR. TATHAM [illegible] which had occurred [illegible] which he had excised [illegible] where tuberculous [illegible]. Death occurred [illegible] within three or four weeks.

CECIL SHAW, M.D., M.Ch.,

[illegible] Ophthalmic Hospita[illegible]

DR. [illegible] tercle of [illegible] on the [illegible] eye, and, [illegible] rapidly, the eye was [illegible]. Before enucleation [illegible] retinitis was seen in the right eye, and a few weeks after enucleation signs of meningitis appeared, but passed off. During the next two years or so the patient suffered from tuberculous abcesses and bone affections on the left side, left arm, and left leg. Under fresh air and over-feeding treatment the health was slowly restored, and when last seen the patient seemed in good health except for lameness of the left leg, the result of bone disease in the ankle. The enucleated eye showed a typical tuberculous growth.

VI.—W. M. BEAUMONT, M.R.C.S.,

Surgeon, Bath Eye Infirmary.

THE following case is, I think, of some interest in connexion with several points raised by Mr. Jessop:

M. B., aged 10, was brought to the Bath Eye Infirmary in September, 1900, in consequence of a phlyctenule at the outer margin of the left cornea, which had appeared fourteen days previously. In spite of treatment, it remained in a chronic condition until February in the following year, when it healed. In July it broke down, but was well in October. For more than two years it gave no trouble, but in February, 1904, she returned with a phlyctenule in the same situation. The edges were not at all indurated, and it healed very quickly. In July, 1904, she was admitted into the house with episcleritis of the same eye. Gradually the inflammation became more general, and a very general scleritis developed. In September she was discharged well, and went to Brighton for a change, but returned in October with left iritis. She was readmitted, and the iritis took a month to cure. Under atropine the pupil became perfectly circular and mobile, but there was some uveal pigment on the lens. Vision in that eye, which had been $\frac{6}{9}$, was reduced to $\frac{6}{12}$. A week after her discharge she returned with optic neuritis in the same eye (November 26th, 1904). The condition of the fundus was marked by great tortuosity of the vessels and blurring of the disc. The appearance was unchanged until January, when white spots showed themselves in the macular region of the retina, somewhat resembling albuminuric retinitis, but without the stellate arrangement. The urine had a specific gravity of 1010, but was free from albumen. The sight remained $\frac{6}{12}$, and the field of vision was full. On February 10th, 1905, the spots were more numerous and more generally scattered over the anterior layers of the retina. On March 10th sight had improved to $\frac{6}{9}$, but a fortnight later she complained of enlarged glands in the neck on the left side. During the following few weeks they gradually increased in size and number affected. The preauricular gland escaped, and only the anterior cervical were enlarged. The child was ailing and low-spirited, with a temperature of 99.4°. On April 20th the retinal spots had disappeared, but one of the glands over the clavicle was inflamed, and a week later it was incised. An ounce of thick pus was let out, and on examination quantities of tubercle bacilli were found. During May the gland discharged freely, but early in the month a retinal haemorrhage occurred in upwards and outwards from the disc. A little later she was seen by Dr. Freeland Fergus, who found the papilla in a condition of chronic optic neuritis, but the haemorrhage had disappeared. A very great change for the better took place in her general health, dating from the incision of the glandular abscess. The mother stated that from being dull, stupid, and peevish the child became bright and full of life. Now, more than two months later, she is in excellent health, the glands have subsided, she has no cough, and there are no other signs of tubercle. The right eye was healthy throughout, and vision $\frac{6}{6}$. Her family history throws no light on the case. Her father died of pernicious anaemia; she is one of four children, the others being healthy.

In reviewing the case it seems to me that there are points of obscurity and of interest in it. Did the tubercle bacilli gain entrance by the phlyctenular ulcer? If they did not, what was the cause of the cycle of events, beginning with a phlyctenule, going on to an episcleritis, a scleritis, an iritis, an optic neuritis, a retinitis, and ending with tuberculous glands? The edges of the phlyctenule were not indurated and it always healed perfectly. The iritis was not nodular and there was no tuberculous choroiditis. Dr. J. W. H. Eyre[1] says that a broken-down and ulcerated phlyctenule "makes an excellent nidus for the tubercle bacillus." This, I believe, is the explanation in the case of the patient whose history I have given. With regard to the white spots in the retina a similar condition was noted by Story and O'Sullivan in a patient with undoubted tuberculosis of the retina (Quoted in the *Ophth. Rev.* XIX, 112).

VII.—Sir VICTOR HORSLEY, F.R.S.,

Surgeon, University College Hospital, and National Hospital for the [illegible] Epileptic.

SIR VICTOR HORSLEY rose to obtain the view of the Section on [illegible] raised by Mr. Jessop, that in chronic tuber[illegible] did not occur which could be regarded as specifically [illegible]teristic. He further wished to learn, especially in [illegible] to the case quoted by Dr. Beaumont, whether the view which he understood had been advanced some years ago, that in acute cases of central tuber-

[1] *Trans. Ophth. Soc.*, vol. xvii, p. 13.

oulous infection the changes in the fundus were specifically distinguishable from those set up by or accompanying other forms of intracranial disease, held ground.

VIII.—N. Bishop Harman, M.B., F.R.C.S.,
Ophthalmic Surgeon, Belgrave Hospital for Children.

Mr. Bishop Harman said that from his experience of the blind and partially blind children in London County Council schools, he was distinctly inclined to think that pigmentation was much more associated with choroiditis the result of congenital syphilis than with any other disease of children. He based this opinion on the ease with which a series could be found from the least degree of pigmentation to the grossest, and associated in many cases with the typical stigmata of syphilis.

A DISCUSSION ON CAPSULAR COMPLICATIONS AFTER CATARACT EXTRACTION.

I.—E. Treacher Collins, F.R.C.S.,
Surgeon, Royal London Ophthalmic Hospital.
[Abstract.]

In opening the discussion Mr. Collins classified the complications under two main headings:

I.—Those resulting from adhesion of the capsule to the extraction scar.

II.—Those resulting from opacity occurring in connexion with it.

I.—Complications resulting from Adhesion of the Lens Capsule to the Extraction Scar.

The capsule may be (*a*) entangled in the extraction wound or (*b*) agglutinated to it by inflammatory exudate.

By far the most serious conditions arose from the first of these, for capsule lying in the wound delayed indefinitely the firm healing of the scar, acting as a foreign body. All the three cases in which he had met with this complication had severe iridocyclitis, and two of them had sympathetic inflammation in the fellow eye. Details of the clinical history and pathological appearances of the eyes were given. The sections in all the three cases showed thickening of the sclero-corneal tissue in the vicinity of the wound, due to the spacing out of the layers of fibrous tissue and some round-cell exudate between them. The conjunctival flap was elevated, due to cell infiltration beneath it and there was a large accumulation of cells surrounding the entangled capsule, with some giant cells. The delayed healing of the wound increased the liability of the eye becoming infected from the conjunctival sac.

A less serious condition was caused by adhesion of the capsule to the wound without its being actually incarcerated in it. Either or both ends of the divided capsule may become adherent. A simple agglutination does not delay the healing of the wound, but has a great tendency to draw the capsule and iris forwards, and the more corneal the incision the more will the capsule be so displaced. Advance in the position of the iris tends to close the angle of the anterior chamber and to produce glaucoma.

The fact that an iridectomy has already been done might at first suggest that glaucoma could not be produced, but the angle of the anterior chamber near the scar had invariably been found to be closed by a stump of the root of the iris or by the most anterior of the ciliary processes, which has been held or drawn forwards by the adherent capsule. It is, however, by no means every case of adherent capsule that produces these disastrous results. Sometimes tension is not produced until after a needling due to a fresh adhesion of capsule to the needle puncture or to congestion of the ciliary processes.

The next points for discussion were:

(*a*) How the complications could be avoided.

(*b*) What could be done to remedy the conditions when giving rise to trouble.

The operation of extraction without iridectomy was less liable to lead to adhesion of the capsule to the wound than if an iridectomy were done; however, neither were completely free from the risk, and in one case the author had seen the anterior hyaloid membrane of the vitreous become adherent in a case in which the lens was removed in its capsule without iridectomy; this drew the iris forwards and caused glaucoma.

If a piece of the anterior capsule be torn away with forceps, this risk of adhesion is less than if it be only incised with a cystotome, but the adhesion of the peripheral portion of the capsule is still possible.

Sclerotomy, paracentesis, and needling of capsule have all been tried for the relief of tension, but they nearly always fail, for the angle of the chamber remains blocked as before. An iridectomy, if performed on the opposite side to the first one, may open up the angle, but is not certain of doing so, and leaves an unsightly pupil.

In two cases the author had been able to relieve the tension by dividing the capsule in the same way as an anterior synechia of the iris is divided with Lang's knives.

II.—Complications resulting from Opacity occurring in connexion with the Lens Capsule after Extraction.

There are three causes which lead to this condition:

(*a*) Retained lens substance.

(*b*) Wrinkling of the anterior capsule with new growth of cells lining it.

(*c*) Adventitious fibrous tissue.

The most efficient way to prevent the first two is to tear away the anterior capsule with a pair of capsule forceps instead of simply incising it with a cystotome, as is the more common practice. The development of adventitious fibrous tissue is usually the result of irido-cyclitis, or sometimes an organization of a blood clot on the capsule may produce it.

In 1899 the author determined to remove the anterior capsule in 100 cases of uncomplicated senile cataract with forceps, and to compare these results with those in which the capsule was simply incised. As a rule, he considered needling necessary when the vision was below ⅓.

Of his first 100 cases in which the forceps were used, only 15 required subsequent needling, and no case required a second needling; while in the second series of 100 cases, 4 only required needling, and a period of two years has now elapsed since this second series was completed. As the result of this experience of this method of removing the anterior capsule, he found 25 per cent. of his cases got full vision = 1 with only the single operation: he much doubts if any other procedure would produce such good results.

II.—A. Bronner, M.D.,
Senior Surgeon, Bradford Eye and Ear Hospital.

Dr. Bronner thought that the use of capsule forceps was not unattended by danger. In some cases it was impossible to prevent slight dislocation of the lens and loss of vitreous. If the patient moved, it was much more difficult to quickly withdraw the forceps than the cystotome. Cases of inflammation due to entanglement of the capsule were much more frequent and more dangerous in gouty patients. Dionine drops were very useful if cyclitis should develop, while capsular complications were much less frequent in cases of extraction without iridectomy. If a second iridectomy were necessary, he should not perform it opposite the first, as this increased the astigmatism of the cornea already there. He advised it should be done on either side of the first.

III.—J. Tatham Thompson, M.B., C.M.,
Ophthalmic Surgeon, Cardiff Infirmary.

Mr. Tatham Thompson wished to ask Mr. Collins and the members of the Section whether they could give the results of any experience of the value of the washing out of the chamber by standardized salt solution after extraction. His own experience would tend to show that it was an additional safeguard against the involvement of capsule, and since adopting it he had had a higher percentage of good results without needling, and in no instance had its use been attended with any bad result.

IV. [illegible] Hern, M.D., F.R.C.S.Edin.,
Ophthalmic Surgeon, Darlington Hospital.

Dr. Hern wished to say, first, how much he appreciated Mr. Collins's excellent paper. One point specially struck him, namely, the necessity of leaving a hole in the anterior capsule to enable the aqueous to act on any lens substance remaining; [illegible] leaving a hole in the anterior capsule with [illegible] it to come away with the lens. [illegible] after extraction was small, but in the few cases he had had he always performed Bowman's paracentesis with good results.

V.—G. A. BERRY, F.R.C.S.Edin.,
Ophthalmic Surgeon, Edinburgh Royal Infirmary; President of the Section.

DR. BERRY thought the Section was greatly indebted to Mr. Collins for what was not only a beautiful but also a convincing demonstration. No one with clinical experience could, he thought, doubt that, taken in conjunction with the clinical histories of the cases from which the specimens shown were taken, Mr Collins had successfully demonstrated the true relations between cause and effect. That being the case, the main points for discussion seemed to be how to deal with the risks which presented themselves from these known causes. As regards incarceration of capsule in the corneal wound, he (Dr. Berry) was in the habit of always using the repositor. He agreed with Mr. Collins that this was a useful practice. Though it might not be possible in this way always to get the capsule clear of the wound, it was better, in his opinion, to use the repositor for this purpose than the method practised by Mr. Swanzy, which he had also tried. By that method, while one portion of the capsule might be withdrawn, it seemed not impossible that another might actually be drawn into the wound. Another point, to which Mr Collins did not refer, but which he thought was important, as it might prevent the microbic invasion from without when the healing of the wound was delayed by incarcerated capsule, was the making of a conjunctival flap. Dr. Berry placed great faith in this and suggested that one reason for its usefulness might be the increased phagocytosis which it admitted of. As regards the complication of glaucoma arising from needling leading to agglutination of capsule, the specimen shown, when this had occurred appeared to indicate that the needling had been done in the neighbourhood of the original wound. His practice was always to needle at some point removed from the wound. As to the question of what should be done in the event of agglutination of capsule causing glaucoma, he believed it was best to do an iridectomy opposite to the original one, on the principle, long ago laid down by von Graefe, for cases of idiopathic glaucoma which had not been arrested by the first iridectomy. Although there were many more points which might be discussed, he would only refer to one other—namely, the withdrawal of an opaque remaining capsule from the eye by means of capsule forceps. This he frequently did, with the same precautions of slowly and with side-to side, wheedling movement, dragging it out of the eye, either completely, or, if too much resistance was offered, only partially, in much the same manner as Mr. Collins dealt with the capsule before extraction. Could Mr Collins give any anatomical demonstrations of the state of the eye in which this had been done, particularly any case in which, as might happen, the effect had been unsatisfactory? As regards the rupturing of the capsule with the forceps instead of with the cystotome, he had done this for many years, though he admitted that the choice of cases for either method had, perhaps, with him been too much a matter of caprice. After hearing what Mr. Collins had said on this subject, he might in future be disposed to make a more routine use of the capsule forceps for this purpose.

ON THE FILTRATION OF FLUID IN THE EYE WHEN UNDER THE INFLUENCE OF ATROPINE OR ESERINE.

By E. E. HENDERSON, M.B., F.R.C.S.,
Chief Clinical Assistant, Royal London Ophthalmic Hospital.

I HAVE been for some considerable time engaged in collaboration with Professor Starling on an investigation into the nature of the production of the intraocular fluid. We have already published part of the work,[1] and hope to publish a further part in the autumn. The whole subject is a very intricate one, and the various factors that have to be accounted for are very numerous. The observations I wish to bring before you now relate to only one of these factors, namely, the influence of the size of the pupil as produced by eserine and atropine on the rate of filtration in the living eye at artificially-raised pressures. The observations arose out of a series of experiments in which we were recapitulating some work of Nlesnamoff's.[2] The apparatus made use of was a slightly altered form of the apparatus previously described by us.[1] In this modification a second T piece was added to the horizontal tube, and connected with a compressible reservoir. The tube was calibrated and laid over a scale. Cats were used in all these experiments, and the anaesthetic employed was always ether. In order to get a full action of eserine in cats, it is necessary to instil the solution some time previous to the use of the anaesthetic, as, if only used after anaesthesia has been induced, its action is liable to be very uncertain. Curare is of course inadmissible. The blood pressure was measured in the abdominal aorta. When the cat was fully anaesthetized, the cannula connected with the manometer, pressure bottle, and horizontal tube was introduced into the anterior chamber. The pressure in the manometer was set at about an average pressure, namely, 25 c.cm. of normal saline solution. An air bubble was rapidly introduced, and the pressure in the eye exactly equalized by the pressure bottle. The fluid in the apparatus was either normal saline or Ringer's solution, which had been previously passed through a Berkefeld candle to avoid the presence of any solid particles which might block the filtration channels.

When the intraocular and general blood pressure had reached a constant level, the pressure in the manometer was raised by means of the pressure bottle. The air bubble then began to move towards the eye at a rate which could be measured by the scale attached to the tube. The bubble was prevented from reaching the eye by means of the compressible tube at the other end of the tube. In some of the experiments the rate of filtration was also observed descending, and in these it is interesting to note that the rate was always higher than that previously observed. This, in our opinion, is in part due to the opening up of the filtration mechanism by the previous stretching, and also possibly to interference with the production of the intraocular fluid due to the pressure on the vessels, which may not at once recover their tone. The other eye, which is under the influence of atropine, was next connected with the apparatus, the pressure in which was set at the level found to be correct in the first eye. The pressure was then raised in a similar way and the rates of filtration again observed. We have also tried observing the two eyes simultaneously, but this was abandoned for difficulties of technique. In those experiments in which the blood pressure and consequently the intraocular pressure remained constant, the intraocular pressure in the two eyes—the one under eserine and the other under atropine—remained the same, but at the artificially-raised pressures the rate of filtration was always greater than in the eye with the contracted pupil. As to the cause of this difference we do not feel ourselves able to make any definite statement. Stretching of the spaces at the angle may possibly account for it all. If this, however, is the case, we should expect to find the intraocular pressure at a lower level in the case of the contracted pupil, for the intraocular pressure must, of course, be the direct product of the secretion and absorption of the intraocular fluid. It may also be possible that at these high pressures other channels of absorption are opened up—such, for instance, as the surface of the iris. That the effect is probably not a purely mechanical one is shown by the free filtration observed *post mortem*, although the pupil is then even more widely dilated than under atropine in the living. I do not propose to take up your time by giving you the figures of more than one typical experiment:

Cat Anaesthetized with Ether.

Blood-pressure—average 138 mm., varied very slightly throughout the experiment.

Intraocular Pressure.	Rate of Filtration in Eserine Eye in c.mm. per minute.	Rate of Filtration in Atropine Eye.	Rate of Filtration in Atropine Eye immediately after Death.
26	0	0	15
46	11	8	30
66	16	11	25
86	23	14	31

It will be noticed that the intraocular pressure is the same in both eyes, namely, no filtration took place in either eye at 26 c.cm. pressure.

The expenses of this research were defrayed by a grant from the Scientific Grants Committee of the British Medical Association.

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FALSE HAY FEVER.

By N. Bishop Harman, M.A., M.B., F.R.C.S.,
Ophthalmic Surgeon, Belgrave Hospital for Children.

It is not often that cases of hay fever come the way of the ophthalmic surgeon; they are almost wholly the monopoly of the physician and surgeon who specialize on the respiratory tract, and not a few are gold mines to the quack.

I do not propose to bring forward a new and infallible panacea for the hardy annual of hay fever; indeed, my title tells clearly I wish to deal with some "fevers" called "hay fever" that are not "hay fever," whatever that fever may be. I have observed some half-a-dozen cases all of which had been diagnosed and extensively treated as hay fever, but which I was able to relieve by a very simple procedure—just the relief of the exaggeration of an ordinary physiological reflex. The first case I had of the kind, the one which made me look out for others, was a most striking example, and the details will serve as my text.

A woman, aged 30, born and bred in the Midlands, of high intelligence and training, and who had done responsible work for some years, moved to a southern seaside resort well known for its pine woods. Until this time she had enjoyed excellent health, and suffered from no catarrh other than the simple "cold" not unknown to all of us. The spring following her removal she had violent and recurrent attacks of coryza, with occasional high temperature (102°); the attacks lasted over ten days. The next year there were repeated attacks at the same season of the year over a longer period; and one, the third year, the attacks covered two months. At the first attack her physician diagnosed "hay," or "pine" fever, as it is locally called, but no treatment (and many forms were tried, even to the use of adrenalin) did more than temporarily allay the severity of the attacks. Before I saw the case the patient sent me a letter describing her symptoms: "The fever is just like hay or pine fever, though it does not seem to be caused by either. My nose and eyes run incessantly; sunlight aggravates the symptoms greatly: if I walk or ride I am simply washed away. I get relief best by shutting myself in a room with windows shut and darkened." She noticed that the attacks sometimes began with watering of the right eye.

I had seen most of the members of her family at different times, and records of their cases showed all had astigmatic eyes; often the error was considerable. I suggested if all else failed her eyes should be examined; but the suggestion was rather flouted, as "she could see perfectly." Later I examined her. The naso pharyngeal passages were quite healthy, but the flash of a retinoscopy mirror showed a considerable error of refraction:

R. V. = $\frac{6}{18}$, $\bar{c}$ +3D sphere and −2D cyl. ax. 15° D.O. = $\frac{6}{6}$. L. V. = $\frac{6}{9}$ nearly, $\bar{c}$ +0·75D sphere and −1D cyl. ax. horizontal = $\frac{6}{6}$.

It is now three years since these lenses were ordered—in clear glass for ordinary day use and in medium London smoke tint for use in bright sunshine, and there has been no renewal of the attacks during this period, and there has been no other treatment than the use of these glasses.

The rationale of these cases of false hay fever is perfectly easy of comprehension. The reflex irritation of the fifth cranial nerve from irregular stimulation of the optic nerve forms one of the stock illustrations of "reflexes" in every textbook of physiology. Sneezing is readily excited by the sudden exposure to bright sunlight, particularly when reflected from snow or sea. In these cases the irritating effect of brilliant light is exaggerated by an error of refraction, particularly by an anisometropia. In the case quoted one eye was considerably and the other only slightly astigmatic, so that no accommodative act could diminish the blaze of the irregularly focussed light, and it was noted that the attacks began in the right, the most irregular eye.

Most folk who have travelled even a little must have suffered the reflex of sneezing from exposure to strong and sudden sunlight, and it is quite easy to demonstrate that the liability to the reflex is greater when the refraction of the eye is irregular. Recently I wore for a couple of days a pair of glasses both ill-fitting and with defective lenses, vision was uncomfortably disturbed and lachrymation annoying on the least exposure to sunlight.

"Cures" for "hay fever" have gained such an ill reputation, chiefly through an ill-regulated empiricism, and the cure of all ills by "spectacles" has recently been so vigorously exploited that I almost hesitate to join these two—hay fever and spectacles—in matrimony. But the association of retinal reflexes with the fifth cranial nerve irritation is so certain, that I think we ophthalmic surgeons may be pardoned if we assert that the physician who fails to submit the eyes of a patient suffering from "hay fever" to expert examination has not only not exhausted all the possibilities of treatment, but failed to exclude one of the first causes of trigeminal irritation.

After some discussion, in which several members took part, Mr. Harman said the cases were most frequent in the spring, for then by contrast the sunlight was most irritating; later on usage and the greater protection of trees reduced the stimulus. The cases were very aptly described "vasomotor" by Dr. Bronner. That was just what he meant by a reflex effect. As to the President's objection to his use of a retinal reflex to explain the sneezing, he thought all physiologists were agreed on that point, and the existence of the retinal reflexes was demonstrated by the mobility of the pupil.

ELECTRICAL TREATMENT OF TRACHOMA.

Mr N. Bishop Harman read a paper on the results of electrical treatment of trachoma at the Middlesex Hospital. Cases had been treated with the well-equipped apparatus the hospital possessed with both x rays, high frequency currents, and radium. With regard to the x rays he explained that there were two sets of rays emanating from the tube: (1) The x rays proper and (2) the overflow rays that cause the severe burning of the skin which sometimes occurred: the former of these rays were used. Four cases of trachoma were treated in this manner. Two were young women. In one 50 sittings were made in five months. The right eye showed changes that might reasonably have been produced in this time without treatment, while the left, which was at first unaffected, steadily got bad. The disease subsequently cleared up in the usual manner with bluestone. None of the 3 other cases did any better. The 7 cases treated with high-frequency currents did not improve at all. Of two cases treated with radium one girl had 139 applications between April and October, 1904, but during this time no change for the better could be detected. In another case of the mixed type of trachoma the patient had 37 applications. No change for the better could be detected, but the case got rather worse under treatment.

Mr. Devereux Marshall said he had tried both x rays and radium and was convinced that the cases did not improve under the treatment anything like so quickly as they did under the influence of copper or silver. He had quite given it up.

Lieutenant-Colonel E. F. Drake-Brockman remarked that he was pleased to hear the opinions expressed by the reader of the paper and Mr. Devereux Marshall, as to the result of their experiences with x rays, high-frequency currents, and radium. He had watched with interest all that had been published on the subject and was not satisfied with the results that had been given. As an antiquated practitioner he had always relied on therapeutic applications in trachoma. He had more recently used argyrol and cuprol with massage—a plan of treatment that was painless and excited no terror in the mind of the patients. He had abandoned the more powerful and caustic remedies which were formerly so much used.

Mr. Harman, in reply to some questions asked, said he did not find the use of the x rays relieved the pain of trachoma; he would not use low-tension tubes on account of the serious risks they entailed of burns. As regards the length of time of the application of radium, that depended on the quantity used and the sensibility of the part to which it was applied. He agreed that the use of bluestone might be cruelly rough, but because it was sometimes badly used, that did not diminish its value in careful hands. He did not place much value upon the new colloidal preparations of silver and copper.

CONGENITAL ABSENCE OF THE DILATATOR OF THE PUPIL.

By Karl Grossmann, M.D., F.R.C.S.E.,
Ophthalmic Surgeon, Stanley Hospital, Liverpool.

The following is so unusual a case that it appears to me worthy of description. I had intended to show the little patient at this meeting, and regret that this was not possible. I was able to demonstrate the case last month at the annual meeting of the Lancashire and Cheshire Branch of the British Medical Association in Liverpool. The patient, whose photograph is shown here, is a little girl 5½ years of age, in every respect quite healthy and lively, and well developed both physically and mentally. The eyes are perfectly well formed, except for the following: The pupil of the right eye is eccentrically placed upwards and inwards, and forms a narrow

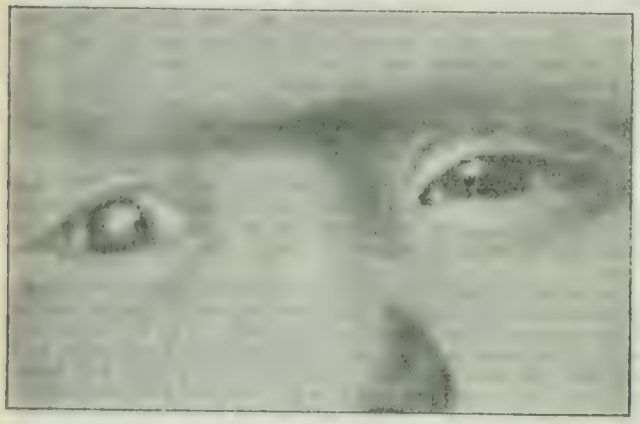
oval in the direction from upwards outwards to downwards and inwards.

Any quick movement of the eyeball is accompanied by a marked tremor of the iris. The eccentricity of the almost slit-shaped pupil divides the iris into a narrow upper inner and a broad lower outer part. The latter shows a number of folds parallel to the corneal margin. The margin of the pupil

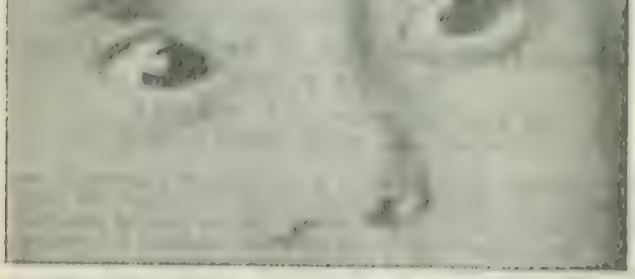


RIGHT. LEFT

has a few fine protuberances, not unlike synechiae. The pupil is of a pure black, and focal illumination does not show any traces of capsular reflex. Careful examination shows absence of lens. After instillation of atropine the pupil becomes a mere shade wider than before. The parallel folds of the iris, described before, become slightly more conspicuous, and in certain directions of the in-falling light it



becomes possible to see a small, opaque mass moving behind the lower margin of the pupil, in the vitreous, evidently a rudimentary lens. It is only possible to see this occasionally and indistinctly owing to the smallness of the lens. There is no trace of any capsular or other membrane within the pupillary area, light passing through the pupil without any optical obstruction. Owing to the small size of the pupil and the slight existing nystagmus it is difficult to examine



the fundus, which, as far as can be made out, appears normal. After application of eserine, which is rather painful to the patient, the pupil contracts, forming almost a narrow slit.

In the left eye exactly the same conditions hold good, the pupil being placed symmetrically to that of the right eye, the only exception being that the lens cannot be seen at all. From the effect of the eserine we find that the sphincter of the iris is present and acting. The very slight effect of atropine shows only the effect of paralyzing the action of the sphincter. As posterior synechiae can be excluded, the absence of any real dilatation of the pupil, corroborated by the numerous parallel folds of the surface of the iris, shows absence of a dilatator muscle; there is no elasticity, acting in a radiate direction, present in the iris. It is interesting to note the position of the pupil; it appears as though the development of the lenses and of the dilatator have a certain interdependence. As I have pointed out on a previous occasion, contraction of the ciliary muscle during accommodation is accompanied by locomotion of the lens upwards and inwards, a locomotion which is shared by the pupil in so small a degree that it is generally overlooked. When the pupil dilates with the relaxation of accommodation, the lens moves again outwards and downwards, accompanied correspondingly by the pupil. The dilatator of the iris is normally larger in the outer or lower outer quadrant of the iris than in the opposite quadrants. This may explain the dislocation of the pupil in this case where the dilatator is altogether absent. I have found no record anywhere of any similar case; any additional observations would therefore be greatly desirable. I may mention that there is no hereditary malformation traceable in this case.

CONICAL CORNEA AND HOT-AIR CAUTERY.

By Karl Grossmann, M.D., F.R.C.S.E.,
Ophthalmic Surgeon, Stanley Hospital, Liverpool.

[Abstract.]

It is not necessary to enumerate the indications for the application of the actual cautery nor to extol its usefulness. The older form of the red-hot iron and the modern forms of the galvano-cautery and the thermo-cautery have, however, the one drawback in common—namely, that they completely destroy the tissue which they touch, also that it is hardly possible to regulate the temperature in any but a very inaccurate way.

Sometimes it is not desirable to carry the cauterization to actual necrosis of the tissue to any great depths, but only to slightly singe the surface. Sometimes even no more than a drying up of the surface is desirable, and here the old forms of cautery are too severe in their action.

This end has been more satisfactorily attained by the application of superheated air, as employed in an instrument devised by Dr. Holländer, of Berlin.[1] The original model of this instrument resembled the "worm" in the old-fashioned hot-water boilers in our houses; a coil of metal tubing was heated by a Bunsen burner, and the heated air in the coil then blown through it by an ordinary indiarubber bulb, as in Paquelin's instrument. The air issues from a nozzle, which can be directed in any way desired. In the instrument as arranged for practical use the Bunsen burner is replaced by a Paquelin, inside which a platinum coil is placed. The air in the coil is heated by the Paquelin, and the rubber tubing is so arranged that the same set of bulbs which supplies the Paquelin with the benzoline mixture sends an ordinary fresh-air current through the heated metal coil, thereby producing the hot-air current. The heated air as it comes out of the nozzle is rapidly cooled by contact with the atmosphere, and thus an easy means of regulating the temperature is arrived at, by varying the distance of the nozzle from the part to be treated. The hot-air current can be started or arrested at any moment by the pressure of a finger on the supplying rubber tube.

This treatment was originally introduced for lupus and angiomata, etc. After having seen it applied in general surgery, it occurred to me that it might be found to be a valuable addition to the instrumentarium of ophthalmic surgery. I have thus employed the hot-air cautery in cases of infectious corneal ulceration, with and without hypopyon and naevus of the lid, also in conical cornea. For the latter this treatment appeared to me particularly appropriate on account of the various degrees of heat that can be applied. The procedure is as follows: The cocainized cornea is placed in the desired direction, so that the apex of the conus becomes easily accessible to the instrument. The hot air stream is then directed on to the apex of the cone. The degree of cauterization can best be measured by previous experiments with bullocks' eyes, etc. The patient's eye, has, of course, to be fixed in the usual manner.

When applying the hot-air cautery for the first time, the following two points were of a somewhat disturbing nature:

1. The fact that it is at first extremely difficult to keep the point of the nozzle steadily directed upon the same spot, while manipulating the air-supplying tube with the same hand. In order, therefore, to avoid cauterizing any other part than the one spot intended, I constructed a small contrivance to act as a shield. The shield having to be transparent, I found a plate of mica, with a perforation large enough to allow the hot air jet to pass through, the most suitable material. It is easy, when using this, to see the whole area of operation, and to avoid mischief. After some practice, however, I found that I could do without the shield altogether.

2. On applying the hot-air blast to the cornea for the first time it is embarrassing to see the cornea flatten, almost collapse and dry up. This was startling. The fact is that the hot-air blast not only dries up the central part cauterized, which becomes white, but that it also dries up the epithelium of the surrounding parts of the cornea, which becomes greyish. These parts, however, are found very soon to resume their old transparency and form, unless indeed the cauterization should have been carried too far, an experience which I, fortunately, have never had. I have always erred rather in the opposite direction of not cauterizing enough, and have repeated the operation two, three, or four times until the desired effect was reached. I should recommend this course always to be followed, all the more so as the reaction under careful manipulation is very small.

I have treated five cases of conical cornea by this method, with the following results:

Case 1.—A. R., 23 years of age, female. Right eye: Vision, hand-movements. Vision after three applications $\frac{5}{5}$ with -2.0.

Case 2.—B. T., 28, male. Right eye, hand-movements; vision $\frac{5}{5}$ without glasses. Four applications.

Case 3.—W. M., 19, female. Right eye, hand-movements: SR. after four applications $\frac{5}{5}$ with -3.0: four applications.

Case 4.—W. M., 19, female. Left eye $\frac{5}{10}$ —10; SL. $\frac{5}{5}$ —1.0; two applications.

Case 5.—J. T., 35, male. Left eye, finger in 3 yards $-5 \bigcirc -6 \operatorname{cyl} \theta$; SL. $\frac{5}{5}$ —2.5; four applications.

The introduction of the use of the galvano-cautery for conical cornea was one of the first applications of this mode of cautery, and was first described in this country by Dr. Andrews in the British Medical Journal, November 8th, 1884. An intricate modification was introduced by Sir Anderson Critchett, and described in the *Practitioner* in 1895, also in *Transactions of the International Congress*, 1899, and in pamphlet form in 1903.

The apparatus was then demonstrated by Dr. Grossmann.

Lepra Ophthalmica.

Dr. Karl Grossmann also showed a beautiful series of coloured photographs which he had taken in Iceland, showing the condition of patients suffering from lepra ophthalmica.

[illegible]

Berl. klin. Woch., 1900, No. 1. *Deut. med. Woch.*, 1901, No. 4. *Berl. klin. Woch.*, 1902, No. 14. *Hygienische Rundschau*, 1903, Nos. 17 and 21.

A CASE OF AMBLYOPIA, APPARENTLY TOXIC, FOLLOWING INFLUENZA.

By Cecil E. Shaw, M.A., M.D.,

Assistant Surgeon to Belfast Ophthalmic Hospital; Lecturer on Ophthalmology, Queen's College, Belfast.

The following case presents several features which seem to make it worth recording:

J. C., a strong young man of 20, a carpenter by trade, was sent to me by Dr. Brownrigg, of Moira, co. Down, on February 10th, 1905, on account of rapidly failing vision.

Family History.—Father, four brothers, and four sisters living and well. Mother died at 42, supposed cardiac affection, and one brother died of scarlatina.

Personal History.—Health always excellent till this illness. On the 3rd a brother had returned home from Belfast suffering from influenza, and the patient slept with him that night. On the morning of the 5th he felt poorly, and lay in bed half the day, but later got up and went out. On the 6th found vision dim, and worse on the 7th, but on the latter day he bicycled some miles to work, though he looked so bad that his father sent him home.

Condition when seen on February 10th.—Right eye: Counts fingers at 2 ft. Field seems contracted below and to left. Left eye: Vision *nil*. Both pupils widely dilated. Ophthalmoscopic appearances normal. Says the sense of taste was lost, but has returned. No headache or general symptoms, except feeling of "sleeping" in right arm.

Course of the Case.—During the next few days the vision became rather worse in the right eye, and was reduced to perception of light. External strabismus appeared seemingly from paresis of left internal rectus and the lids drooped, giving him a heavy sleepy appearance. The "sleeping" in arm extended to right leg, then [illegible] and he became ataxic. On February 21st Dr. Calwell saw him in [illegible] with me, and we advised rest in bed. He [illegible] and we saw him together again, with her medical [illegible] Dr. Charles [illegible]. The next week he was sick every time he tried to sit up, and his legs became very weak. His vision began to improve, and on March 22nd he counted fingers at 12 in. with the right eye and 28 in. with the left. He also recognized colours. The sickness had quite passed off, and strength began to return to his limbs. I found [illegible] was very bad, and from this time on he could tell nothing of what had happened during the first month of his illness, the time being a blank. On April 8th he counted fingers at 20 in. right and 30 in. left: there was no strabismus and the pupils began to contract. He began to stand a little.

On May 5th he could walk fairly well with help, and came to my house again. The vision was improving, and he went home to the country in the middle of May. On June 5th came up to see me again, having walked two miles to the station. He was to all intents in his normal health again, except his vision, which was right $\frac{5}{6}$, left $\frac{5}{9}$, but slowly improving.

Observations.—There seems little reason to doubt that this case was toxic. Mr. Swanzy, to whom I described it, pointed out that the sleepy look, with drooping eyelids, is strongly confirmatory of this. At no time was there the faintest sign of change in the normal ophthalmoscopic appearances, so that a double retrobulbar neuritis was negatived, and even at an early stage no new growth could be conceived which would cause such a combination of symptoms. There was no suspicion of syphilis, and when I put him on mercury and iodide to make sure, it did not suit him.

Having been from home during the past month, I have not seen him again, but I hear that the vision is still slowly improving.

Mr. Bishop Harman (London) said he had two cases under observation of somewhat similar nature. Both were schoolboys of healthy physique and family. One recovered from an attack of influenza with permanent loss of central vision, which necessitated his being trained in a blind school. The other was seen and put to bed at the very outset of the attack, there was a marked degree of choke-disc, and the vision was lost; but in the course of a month vision recovered to $\frac{5}{9}$ in one eye and $\frac{5}{6}$ in the other.

THE EFFECT OF THE PRESENCE OF ADENOIDS AND OTHER ABNORMALITIES IN THE NASO-PHARYNX ON SOME AFFECTIONS OF THE EYES.

By J. Hern, M.D., F.R.C.S.Edin.,

Ophthalmic Surgeon, Darlington Hospital.

The facts on which the conclusions in this paper are based have been chiefly derived from hospital patients, but whenever it has been possible to trace private cases over long periods these have also been drawn on.

Soon after Meyer, of Copenhagen, read his paper before the Medical Congress in London in 1881, and the facial and other indications of adenoids became familiar to us, I noticed, especially in cases of phlyctenular, eczematous, or scrofulous conjunctivitis, or ophthalmia, these indications (of adenoids) were usually present, and unless the adenoids were removed and the naso-pharynx treated, in a very few months the symptoms recurred and the child had to be readmitted, and the tedious process of treating the general condition of the child and local treatment of the eye gone through again: whereas, if the adenoids are removed, the child is not seen again, or, if seen for some other condition, is usually so altered in appearance that one [illegible] the child as the one previously seen with the characteristic nasal discharge, swollen upper lip, and open mouth.

What are the diseases of the eye usually found in the cases under discussion?

1. Phlyctenular conjunctivitis (by far the most common).

2. So-called weak ulcer of the cornea, the non-inflammatory ulcer which looks as if a small piece of the [illegible] surface had been gouged out; sometimes difficult to see unless fuchsin is used.

3. Eczematous keratitis, often called phlyctenular kerato-conjunctivitis.

4. A peculiar irritability or hypersensitiveness of the retina, so that in the absence of corneal ulceration and all usual causes of photophobia there is considerable difficulty in opening the eyes in a bright light.

In all these cases I am convinced a careful examination should be made by a competent rhinologist, for in children adenoids are practically always present. In adults, if no adenoids exist, there is always rhinitis or some marked abnormality, such as much hypertrophied turbinals, deflected septum, etc.

What is the significance of these rhino-pharyngeal and ophthalmic conditions coexisting? Are they related to each other as cause and effect? or, as was taught and commonly believed thirty years ago, are both manifestations of the so-called strumous diathesis? If the latter is correct, how is it that many of these cases are derived from families without a taint of tubercle, and, if carefully traced for years after cure or relief, nothing tuberculous can be discovered? It is unfortunately true that some of these succumb to tuberculous diseases; but have we not here a soil specially prepared for the tubercle bacillus by the non-expansion of the chest, the non-aëration of the blood, by the restless nights and general condition of ill-health going with these diseases of the naso-pharynx?

There can, I think, be no reasonable doubt that the ophthalmic conditions are secondary to the naso-pharyngeal:

(*a*) By the marked lowering of the general health produced.

(*b*) By the actual extension of the inflammatory process up the nasal duct to the eye, in much the same way that adenoids produce deafness by extension of the inflammation up the Eustachian tube to the internal ear.

In several cases of so-called hay fever which I have carefully observed, the first symptom is violent sneezing, then the mucous membrane on the turbinals swells up, and in an hour or less there is a stinging and smarting at the inner canthi, just in the region of the canalicular puncta, then intense congestion of the conjunctiva and all the eye symptoms of this troublesome disease. Here, I think, we have inflammatory action beginning in the naso-pharynx and spreading to the eyes by the lachrymal passages.

EVOLUTION IN BLEPHAROPLASTY.

By A. H. BENSON, M B., F.R.C.S.I.,
Ophthalmic Surgeon, Royal City of Dublin Hospital.

ENTROPION and trichiasis, the turning in of the eyelid and the rubbing of the eyelashes on the cornea, are amongst the very common eye troubles in my country; and so much misery and damage to sight results that it is a matter of the highest importance to find out and adopt the best method of dealing with this dangerous condition.

Trachoma, or granular ophthalmia, is the most frequent cause of this trouble, and inasmuch as granular ophthalmia is endemic, and to be found all through my country (amongst the poorer classes particularly), this question is a matter of especial interest in Ireland.

Numerous as are the operations—they are to be counted by hundreds—that have been and are advocated and practised, very few of them are quite satisfactory, and many of them are entirely objectionable and injurious.

I do not propose to describe any new operation, but to trace the steady advance in a rational direction which has been made in operations for the relief and cure of entropion and trichiasis.

In the good old days, and these days are not so very long past, the ophthalmic surgeon, observing that the eyelashes were turned in and were rubbing on the cornea, and producing the pain and photophobia and the vascularity and ulceration of the cornea, adopted a simple and expeditious method of treatment. He took a pair of scissors and boldly amputated the border of the lid with its offending cilia, its glands and all the rest of it. If thine eyelid offend thee, cut it off and cast it from thee! The relief was immediate, and highly appreciated by the patient, but before long the disadvantages became apparent. The lid, already shortened by the disease, was now too short to completely cover the eye. The absence of the cilia permitted dust and dirt to get more free access to the conjunctival surface, and the want of the lubricating glands produced a dry and hardening influence. The conjunctiva became dry and thick and harsh, and the incurable condition known as xerophthalmia came on, so that the last state of that man's eyes was worse than the first. Plainly, that operation had to be given up. It was then proposed to spare the skin, and spare the conjunctiva, and spare the glands (as far as possible) and excise only the ingrowing cilia.

This was done by making two incisions, one in front of and one behind the line of cilia to be removed. The incisions ran the length of the eyelid and were made to converge above the roots of the lashes so as to excise the portion of the tarsus containing the eyelashes right up to their roots, but as far as possible to spare all the other structures composing the lid border.

This was a great advance, but here, too, the shortening of the lid was considerable, and worse still, the absence of the protecting influence of the cilia exposed the eye to the same risks, though in a less degree, which necessitated the abandonment of the more radical amputation.

It now became apparent that one at least of the objects to be aimed at was the retention of the cilia, and every effort was bent in that direction. It was this stage of development that gave birth to the most numerous crop of operations. They tried to straighten the bent tarsus by dividing it parallel to the lid border, one from behind (through the conjunctiva), another from the front (through the skin). One took out a V-shaped piece of the convex surface of the tarsus, another took away a portion of skin from the surface of the lid, or burned with chemicals or cautery the skin of the lid, so as to produce cicatricial contraction, shortening the anterior surface of the lid in proportion to the shortening of the conjunctival surface caused by the disease. But two wrongs would not make a right, and all this class of operation, after being deliberately weighed in the balance, was found wanting For the lid that was already too short was only rendered shorter still. They then split the lid horizontally, so that the offending cilia were all in the anterior or skin portion, and the conjunctiva was untouched in the posterior portion. A portion of skin was then excised from the lid and the edges sutured together, thus raising up the cilia from the edge of the tarsus and leaving the exposed raw surface of the tarsus visible below the line of the cilia. This surface in healing tended to turn out away from the cornea, and thus gave much relief and diminished the entropion.

This stage may be described as transplantation with loss of skin. Still the fatal error of design remained. All these operators set before themselves the wrong ideal. They strove to make the normal anterior surface of the lid short, instead of striving to supply the deficiency in the posterior surface. They took something away that should have been retained.

The next stage marks an entirely new era in blepharoplasty. The piece of skin which had up to this been removed and thrown away was now transplanted to the raw surface left below the cilia, and thus the eyelashes were mechanically supported from below, and the lid was not shortened. Nothing was thrown away, the cilia were retained, but in a position where they could do no harm, and the lid was not shortened. We all cried "Eureka," and thought for sure perfection had been reached. All set themselves to devise variations in the details of the methods. Some transplanted the skin-flap bodily, without a pedicle, suturing it in its new bed; others left the skin flap attached at each end, and divided it in the middle, and then lifted up each half and sutured it down into the intermarginal cut; others preferred to raise up the flap containing the cilia and buttonhole the skin-flap under it, thus avoiding the ugly gap in the lid border observed in the previous method.

The results of this method of transplantation without loss of skin were immensely superior to all former records, and yet the skin that was transplanted to the lid border was skin, not mucous membrane, and as skin it had hairs on it, small indeed and downy, and very different from the coarse rough cilia whose place they took; but still skin with hairs on it was not a perfect substitute for the conjunctiva. So once more a forward move had to be made. Rabbit's conjunctiva was used, but with poor results, the mucous membrane from the lip of the rabbit, and finally by a logical sequence the mucous membrane from the lip of the patient himself. And here we at present are. Transplantation of mucous membrane from the lip to the eyelid, or labio-chiloplasty is the latest and most scientific procedure for the cure of entropion and trichiasis. Transplantation of the cilia with an addition to the shortened lid has within a few years taken the place of the barbarous amputation of the whole lid border.

The St. Mark's Hospital operation, as I think I may correctly call it, is in my opinion the simplest and most satisfactory of all the varied modifications of blepharoplasty.

The following is the operation as we now perform it: The patient being anaesthetized, and a Snellen's or a Knapp's clamp having been applied to the lid, an incision is made with a Graefian knife along the whole length of the free

border of the lid in such a way that all the cilia are contained in the anterior or skin flap, and no cilia in the posterior or conjunctival flap. The incision is made at least ⅛ in. in depth and rather obliquely forward, so that it allows the wound to gape freely. In case any errant hair bulbs have been left in the posterior segment these can be easily dissected out.

A second clamp is now applied to the patient's lip, and two parallel incisions are made with the Graefian knife through the mucous membrane. The length of these incisions is rather shorter then the incisions in the lid. The ends of these parallel incisions are now connected by short converging incisions so as to make the flap pointed at each end. This flap is then dissected up with a scissors and forceps. It is placed on the finger of the left hand and all submucous fat and connective tissue is cut off with a scissors. A silk suture attached to a fine curved needle is then passed through one end of the flap and it is sutured into one end of the gaping incision made in the lid. The other end is similarly sutured, and each edge is fixed by two or more sutures to the corresponding edges of the lid incision.

The clamp is then removed. Profuse bleeding follows for a few minutes, but soon stops. Contrary to expectation, this bleeding does no injury to the flap if properly sutured, and does not interfere with its vitality in any way.

I usually now close the lip wound with a running suture, though formerly I did not do so, as it readily enough heals of itself.

A dressing of boric ointment is applied to the eyelid, and a simple turn of a bandage is applied. This is changed next day. The operation takes about fifteen minutes to perform.

It is quite remarkable to note the changes that occur in the flap so transplanted. Immediately after the operation the flap is quite white and bloodless. Within twenty-four hours it gets dark red, almost black, and in another twenty-four hours it gets almost its normal red colour again. It is astonishing the rapidity with which its circulation, having been wholly severed, becomes restored.

The sutures may be removed after four or five days. Some use no sutures into the flap, but simply lay it into its place. This necessitates putting sutures into the lid to make the wound gape, and runs a far greater risk of having the flap displaced by any trifling cause; moreover, the sutures do no harm whatever—on the contrary, in my experience the only risk of sloughing of the flap arises from want of proper suturing, for as long as the flap lies in good apposition to the bed into which it is transplanted there is little or nothing to fear.

The great object of all changes in technique should be towards efficiency and simplicity. Whatever complicates the procedure is to be avoided unless it can be shown that it gives better results. Skin sutures to keep the lids open are useless if the flap itself is sutured. The elaborate method of bridge-like suturing without penetrating the flap itself is quite unnecessary and greatly complicates the operation; the flap never dies because sutures pass through it, but because it is not sutured enough.

It is important that the intermarginal incision should be deep, not only in the middle but at its extremities, and if this is done and the transplanted flap is pointed at the ends, as I have described, there is no necessity for making lateral incisions to permit the flap to lie in its place.

A knot on the silk suture used to fix the extremities of the flap considerably aids its accurate adaptation.

It is a mistake to make the flap of mucous membrane longer than the lid incision. Mucous membrane is not like skin, it does not contract to any noticeable degree, and slight stretching of it does no harm to its vitality, but rather aids its proper adaptation to the wound edges, and so the flap should be cut rather shorter (not longer) than the intermarginal incision.

It is quite unnecessary to place the flap upon a special warm bed while clearing off the submucous fat, etc. The warmth of the surgeon's hand is quite sufficient.

It is quite unnecessary to wait for bleeding to cease before applying the flap. I always fix the flap into position while the clamp is still on the lid, and if the flap is properly sutured the rush of haemorrhage which follows the removal of the clamp in no way injures the prospects of good union.

It is not necessary to bandage both eyes.

The operation is equally suitable to the upper and the lower lids, and to all varieties of trichiasis, with or without entropion.

We have at St. Mark's Hospital practised this operation for the past twenty-one years. The first case in St. Mark's Hospital in which mucous membrane was transplanted from the lip to the eyelid was done on April 23rd, 1884. Since then from time to time we have described, with slight variations, the methods we adopted—Mr. Story in the *Ophthalmic Review* and I in the *Royal London Ophthalmic Hospital Reports*—and yet it is surprising how few seem to know anything practically about it, and those who undertake to describe it so confuse the reader with faulty directions and unnecessary complications, that they deter many from trying the operation at all, and those few who do brave the difficulties find their results, owing to faulty directions, most unsatisfactory.

One of the very latest books, entitled, *The Chief Operations of Ophthalmic Surgery*, advocates the depth of the intermarginal incision to be only ⅛ in., advises the application of Mutermilch's uselessly complicated sutures, requires you to wait for all bleeding to have ceased before fixing the flap in position, and—worst fault of all—advises the flap to be one-third longer than the intermarginal incision to allow for shrinking, which never occurs. No wonder that the operation has not become popular when such are the instructions for its performance.

The St. Mark's operation has now been performed many hundreds of times, and with almost uniform success. The transplanted flap almost always lives in its entirety. If any of it fails to live it is usually due to faulty suturing, or to the incision having been too shallow. Even in those odd cases where sloughing of the flap does occur no harm results from the operation but almost always some benefit, and nothing hinders a repetition of the transplantation if required when the lid wound has healed.

The result of the operation once obtained is permanent, for the flap of mucous membrane does not gradually grow smaller (as transplanted skin does), but remains without perceptible change for years and years.

I do not for a moment suppose that we have reached perfection in blepharoplasty, but a great advance in that direction has been made.

Remarks were made and questions asked by Professor Hess, Dr. Henry, Mr. Tatham Thompson, the President, Dr. Cecil Shaw, and Mr. Lawford.

Mr. Benson replied that in his experience the skin-flap, when transplanted, never ceased to cause irritation by reason of the downy hairs and the disintegrated epithelium, even after many years. The only case in which the skin-flap ceased to annoy the patient was where partial sloughing of the surface of the flap had taken place. By modifying the operation it could be made suitable for all degrees of the affection.

A NEW TEST FOR VISUAL ACUTENESS.

By G. A. Berry, M.B., F.R.C.S.Ed.,

Ophthalmic Surgeon, Edinburgh Royal Infirmary; President of the Section.

In connexion with visual acuteness there are two points which can hardly be said to be definitively settled. The one has reference to the scale according to which fractional amounts of the full normal standard should be estimated. The other takes into consideration the nature or configuration of the test objects which may be most suitably used when the scale has been decided upon. Even the normal standard, which is all but invariably admitted to be the most practical one—namely, the acuteness corresponding to the differentiation of the visual images of objects subtending at the eye an angle of 1′—has been called in question.

The commonly-adopted scale, starting from this standard of acuity by which, for example, an acuteness of ½ corresponds to a visual angle of 2′, and an acuteness of ¼ to that existing when distinct vision is only got under visual angles of 4′ and more, is such a natural one that it is difficult to see how one can escape from it. It does, at all events, represent something consistent and reasonable, something which is accurate and therefore scientific. Yet such a scale is far from representing in a satisfactory manner what I have elsewhere referred to as a scale of efficiency. On the other hand, whereas the ordinary scientific scale of visual acuteness is of general application, it is difficult, if indeed at all possible, to formulate a scale of corresponding general efficiency. It is obvious that the nature of employment must to some extent influence the question of efficiency. It must be estimated differently in the cases, for instance, of a skilled workman and of a labourer.

In a recent paper to the Ophthalmological Society I have

reiterated what I have already several times insisted upon, that, as regards any efficiency scale which might be agreed upon, it must satisfy two conditions: (1) It must be correlated in some way to the ordinary scale of visual acuteness, and (2) it must admit of some degree of variability or elasticity, so as to meet the requirements of varying conditions. I have further proposed that the scale should take the form of an efficiency value for each eye separately, each being similarly correlated to the acuteness of that eye, and in such a way, among others, that while full efficiency corresponds to full acuteness, zero efficiency must be assumed to be arrived at before zero acuteness. Shortly, putting η for efficiency, we should have $\eta = f(V)$, and some value of V, which may be denoted by V_o, for which $\eta = o$, while also for $V = 1$, $\eta = 1$.

Again, the suggestion is also made that the total efficiency, E, be taken as some other function of the two separate efficiencies, that is, $E = \phi(\eta, \eta')$ where η is the one and η' the other efficiency similarly correlated to V the one, and V' the other, visual acuteness. This, then, is the suggestion for the details of which I must refer to my paper as to how the first condition I have formulated may be complied with. The way in which the variable factor comes to be introduced will be understood from the proposed basis of η; η is taken as represented by the rate of change in the curve, the values of which are the inverses of the varying degrees of visual acuteness. This rate of change varies, of course, for equal changes in the abscissae. It is therefore not immaterial what portion of the curve is taken.

In the paper referred to this, which forms the basis of the introduction of the variable element, is discussed. I do not propose to refer to that somewhat complicated and, in any case, conventional point here. I merely show some specimen curves which illustrate the matter.

The other question is that of the kind of test object to employ. There can be no doubt that the ordinary Snellen's types comply with the scientific principle on which they are based, and provide a sufficiently accurate, easily applied, practical test for clinical use. I do not think there is any reason to wish for anything better for this purpose, and, in point of fact, others which have been suggested have not succeeded in supplanting them; some, indeed, because they are really less accurate in principle. On the other hand, there are certain defects in Snellen's types which make it possible to conceive of something more suited to particular cases. I need not refer very fully to these defects. They are mainly that the letters used are not all equally legible, that there is a considerable difference in the power which different individuals with the same acuteness possess of guessing at the letters, and there is in this respect also the inconvenience that, having once recognized them, an individual, in the course of examination, more readily reads them again. They are altogether unsuited for children and others who cannot read. Though this is to some extent remedied by using the corresponding illiterate types of Snellen, it is not always easy to get children, at all events, to make them out; and, besides, there is the disadvantage, slight as it may be, of having to use different types for different cases. The illiterate types do not appear, either, to be in such general use as they might be.

For certain purposes a somewhat different system of test may be advantageously used. For these purposes, some of which I shall refer to presently, instead of letters, whose characteristic elements are separated by spaces subtending known angles at the eye examined at definite distances, we may use a number of alternately black and white squares of the same size as these spaces. The surface covered by squares like this should no doubt be of considerable extent when compared to the area of each individual square, on the same principle as that adopted by Snellen for his letters. The way in which these quadrillated surfaces are seen depends upon the distance at which they are placed from the eye, and the degree of the eye's acuteness. The squares I use are 1.5, 3, 6, and 12 mm. in size, subtending angles of 1', 2', 4', and 8', at 5 metres.

At and beyond some particular distance, according to the acuteness of sight, these surfaces no longer appear checked, but either run into lines or simply look uniformly grey. The appearance of lines is due to the eye's astigmatism, and when seen they run parallel with the diagonals of the squares. Whether such lines are seen or not, the surfaces come to be uniformly grey at and beyond some definite distance.

On account of this astigmatic effect it is convenient to be able to test at the same time with surfaces on which the squares run in different directions. With the smaller squares this may be done by having several surfaces arranged along different meridians on the test card. For the larger squares less space is taken up by having the test card circular, so that it can be rotated into any position. Both plans may easily be combined.

The acuteness should, I think, be taken for the position in which the squares run parallel to the direction which their diagonals have when they appear as lines. That is, the surface seen drawn out into lines has to be rotated through 45° from the direction of the lines. On this point, however, there might be a difference of opinion, as, of course, in other ways the acuteness of the astigmatic eye is, generally speaking, greater than that of an eye in which the same degree of defect exists all round.

On the test card there are a number of surfaces which are actually grey, and which can then be used for controlling the statements of the individual under examination.

Surfaces made up of black-and-white equilateral triangles or of hexagons are not so suitable as squared surfaces. Any arrangement, too, of circles does not admit of the application of practically the same test as is made with Snellen's letters. Possibly, however, the merging into grey of black circular discs placed equidistantly from each other—that is, hexagonally on a white surface and at such a distance from each other that there exists on the surface an equal amount of black and white—might be found to be a suitable basis of another kind for a test.

I have used the small 1.5 mm. squares, and also 1 mm. squares for the last twelve years for the purpose of testing the acuteness of vision in cases where it is more than $\frac{2}{20}$, that is, the difference in acuteness of normal eyes. I have also used them for testing the influence of illumination on acuteness.

A test of this kind would no doubt be useful and accurate for anthropological researches in acuteness of vision. An intelligent savage with a squared piece of paper in one hand and a grey one in the other, ought to be able to give an indication of his acuteness of sight by letting one know whether at any particular distance he saw a grey or a squared surface. Children at all events, before they have learnt to read, can do so without difficulty. For good degrees of vision, at all events, the test is, so far as I know, the best way of determining their acuteness. It requires even less intelligence than for Snellen's illiterate types, for which a certain amount of preliminary explanation is required. In this test, however, it is only necessary to ask the child, when pointing to one of the squared or one of the grey surfaces, whether it is like what he holds in his right hand or what is in his left.

Two purposes for which this test may be useful, then, are for the estimation of degrees of super-acuteness and for testing the illiterate. The test further shows at once even slight degrees of astigmatism, and it can be usefully employed in settling the consistency of answers given by any one in whom one may suspect simulation.

PIGMENT MIGRATION.

PROFESSOR HESS showed some very beautiful drawings illustrating the pigment migration in cephalopods' eyes, and explained their significance.

PROFESSOR GOLDWIN SMITH ON LONGEVITY.—Professor Goldwin Smith, who recently celebrated his 82nd birthday at Toronto, when asked by a correspondent of the *Daily Chronicle* if he had any message to his fellow-men appropriate to the occasion, is reported to have delivered himself as follows: "I have the secret of longevity. I have never been abstemious, and have lived pretty much as I liked, but I have always observed moderation. In my youth in England I lived a very active life, following the hounds and mountain-climbing in Switzerland being my favourite recreations."

INTERNATIONAL CONGRESS OF ANATOMY.—The first International Congress of Anatomy has just been held at Geneva under the presidency of Professor Eternod. Five anatomical societies took part in the Congress—namely, the Anatomical Society of Great Britain and Ireland, the German Anatomische Gesellschaft, the Association of American Anatomists, the Unione Zoologica Italiana, and the French Association des Anatomistes. Nearly 200 representatives of anatomy, histology, and embryology were present. The scientific proceedings were of the greatest interest to specialists, and the social entertainments—official and private—were on a generous scale. It was decided that the next meeting of the Congress should be held at Bordeaux at Eastertide, 1906, under the presidency of Professor Vinult.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, Etc.

A "PARAFFIN" TESTICLE.

A man, aged 24, in whom the right testicle was retained in the abdomen, wished for several reasons to have "something done" to correct the apparent "one-sidedness" of his scrotum. There being no sign of the testicle at the external abdominal ring or anywhere in the canal, the impossibility of bringing the testicle down into position, the difficulty of finding it, and the probability of its being quite undeveloped even if it were found having been explained to him, he inquired if there was no means of correcting the deformity and restoring symmetry to the scrotum. I suggested that a "paraffin" testicle might be made, and he readily fell in with the idea. Accordingly, after careful aseptic precautions, paraffin, in quantity sufficient to equal the left testicle in bulk, was injected into the deep tissues of the right side of the scrotum close to the septum. The needle was first passed up to the external abdominal ring, and as the paraffin was ejected the needle was rapidly drawn downwards, so that there was given the semblance of a cord—a condition the patient was most anxious to obtain. The "artificial" testicle thus formed gave no trouble except some slight irritation of the tissues for a few days. An examination of the parts by medical men, who had not been informed of what had taken place, failed to reveal to them anything unnatural or abnormal in the scrotum, inguinal canal, or cord.

London, W. James Cantlie, M.B., F.R.C.S.

LIME WATER IN THE TREATMENT OF WARTS.

I have now, for some time past, been interesting myself in the treatment of warts, and have used almost every form of treatment without having attained what I might call anything like satisfactory results, until a short time ago I quite accidentally observed that lime water acted almost as a specific in warts and allied conditions. The observation was made quite accidentally, as I have already stated, and in this way: Several months ago I had a small wart on the radial border of my thumb which defied all local attempts to remove it, and, very much discouraged after repeated trials I gave up attempting to cure it. About a month afterwards I happened to be taking some lime water for a slight indisposition, and continued this for ten days. At the end of two weeks I noticed that the wart was gone. The two things were so intimately connected that I could not help thinking that the lime water had brought about the cure, so I at once proceeded to put it to the test, and treated every wart I came across with this remedy alone, ignoring all forms of local treatment whatever, and looking on the affection as demanding constitutional treatment alone. The success was most marked, and up to the present I have not come across a case which has not yielded to this remedy, sooner or later. The time taken for the total disappearance of the warts varies from four days to six weeks. Four days is the shortest time in which I have succeeded in curing a wart. The wart in this case was about 2 mm. broad and about the same height; all trace of it with exception of a smooth area corresponding to its base had disappeared at the end of the fourth day. I usually order a wineglassful of lime water, with a little milk added to it, to be taken after the mid-day meal, and have found no occasion either to add to the amount or alter the time of administration.

I bring this simple remedy before the members of the profession, hoping that it will be as useful to them in the treatment of these troublesome cases as it has been to the writer.

J. Burdon Cooper, M.D., B.Sc., B.S.,
Assistant Ophthalmic Surgeon, Royal Victoria Hospital, Bournemouth.

THE POSSIBILITIES OF TUBAL PREGNANCY.

In the British Medical Journal of February 11th an account is given of an interesting discussion on this subject at the Obstetrical Society of Vienna, when Professor Schauta stated that only three cases had been recorded of simultaneous gestation in the right and left Fallopian tubes. A fourth case was brought forward by Professor Weinlechner. On account of the rarity of this condition, perhaps you will allow me space to record a fifth case which occurred recently in my practice.

The patient, Mrs. M., aged 26, was confined of her first and only child six years before. After the birth she was "desperately ill" from "puerperal fever," being confined to bed for three months. Ever since that time she has suffered from irregular and profuse menstruation and from periodical attacks of "inflammation," with great pain and high temperature lasting several weeks, from which she says that she has several times nearly died. She has never since been pregnant. Her last period had occurred six weeks previously; up till then she had menstruated every two or three weeks very profusely. She complained at the time I saw her of great pain in the left iliac region and to a lesser extent on the right side.

She was a thin, pale woman, with the expression habitual to prolonged suffering and invalidism. There was marked tenderness across the lower abdomen, and on bimanual examination a large, tender, fluctuating mass, inseparable from the uterus, and fixed to surrounding structures, was found. On the right side a small mass, elastic, movable, and of about the size of a pigeon's egg, was felt. The cervix was badly torn, and the uterus was enlarged, tender, and firmly fixed to the left side.

At the operation on November 22nd, 1904, I found an unruptured tubal gestation on the right side containing a fetus of about a month. Haemorrhage had occurred and the tube was distended with soft blood clot. On the left side, after separating many old and dense adhesions, I found a quantity of old decolorized blood clot, much of which it was impossible to remove from the bowels and surrounding structures. As much as possible was removed. The tube when freed was found to be distended with blood clot to the size of a hen's egg. It had ruptured posteriorly behind the left broad ligament. No trace of a fetus could be discovered, but microscopic examination of the tube wall showed many decidual cells.

The findings at the operation considerably surprised me. The small lump on the right side was quite in keeping with an early tubal gestation and coincided with the missed period, but in the absence of any history suggestive of a ruptured tubal gestation at an earlier date, and in view of the history of old puerperal infection with recurring attacks of pelvic peritonitis, I had diagnosed the left swelling as being due to a pyosalpinx with adhesions.

Perth, Western Australia. R. Earle Newton, M.B., F.R.C.S.

REPORTS

ON

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

WOOD GREEN HOSPITAL.

A CASE OF ACUTE HAEMORRHAGIC PANCREATITIS.

(Under the care of Dr. Foott.)

Cases of acute haemorrhagic pancreatitis are sufficiently rare to warrant the publication of this case, especially as it is still rarer for a correct diagnosis to be made.

A man, D. W., aged 63, was admitted to the Wood Green Hospital on the afternoon of August 7th, 1905. His medical attendant thought that he was suffering from a calculus in the right kidney. He was stated to have passed blood in his urine. Dr. Foott saw the patient at 3 p.m. He had been a strong, healthy, and temperate man. Since Christmas, 1904, he had not been well, suffering from indefinite symptoms. On August 4th, 1905, he was suddenly taken with severe pain in the umbilical region. There was no sickness.

On examination the temperature was normal, the pulse was 120, the tongue was thickly coated with brownish white fur, and the conjunctivae were jaundiced. The abdomen was much distended, moved badly with respiration, and was asymmetrical, the right flank being more prominent than the left. He complained of much pain in the abdomen, which was tender to both palpation and percussion. The breathing was almost entirely thoracic. On percussion the flanks were dull, particularly the right. The bowels were inactive. He was unable to pass his urine, which was drawn off with a catheter, tested and found to be normal except that some bile was present. An enema brought away some flatus and bile-stained material. There being every indication for exploring the abdomen and a tentative diagnosis of appendicitis, Mr. Edred M. Corner was sent for. Chloro-

form being administered by Dr. Winston, an incision was made through the right rectus muscle. It was noticed that the muscle itself was inclined to ooze freely. On opening the peritoneum a quantity of blood-stained fluid escaped. This fluid was mainly collected in the right flank, accounting for the dullness which had been found there. In exploring the abdomen to ascertain the cause of this, a large roll was encountered transversely across the vertebral column. This roll seemed about as large as a small forearm, and was situated where the pancreas should have been. The lesser sac of the peritoneum was distended with fluid, which could be expressed from it. The great omentum was covered with numerous yellowish-white patches of fat necrosis, varying in size from a pin's head to a split pea. The blood and fluid was sponged away, a large gauze drain placed in the neighbourhood of the foramen of Winslow, the abdominal cavity filled with saline solution, and the wound partially closed. The anaesthetic and operation occupied half an hour. The patient recovered from the operation and improved for a few hours, then he sank and died in about thirty-six hours. There was no *post-mortem* examination.

The above is a perfectly typical case of acute pancreatitis, but presented at least two peculiar features—first, the signs in the right side of the abdomen which raised expectations of appendicitis; and, secondly, the marked jaundice.

REVIEWS.

OPHTHALMOLOGY.

A SMALL book (*The Chief Operations of Ophthalmic Surgery*[1]) has been written by Mr. H. B. GRIMSDALE, who has for some time past been conducting classes of operative surgery at the Royal Westminster Ophthalmic Hospital. It makes no pretension to be more than a practical guide for students, and consequently the operations are not described in such detail as they might be; nevertheless, what is said is certainly practical, and the descriptions are clear. Previous to describing the various operations, a few words are said concerning the diseases for which they are undertaken. There are twenty-three diagrams which illustrate some of the features of the operations, but these are very rough, and the paper on which the book is printed does not tend to improve matters. The volume will certainly be found to be useful in looking up outlines of operations, and it will be a distinct help to those who are going through a course of operative surgery.

In his book on *Errors of Refraction and their Treatment*[2] Dr. CHARLES BLAIR states that his endeavour has been "to supply in a condensed form the more practical and clinical points in connexion with errors of refraction." Condensed it certainly is, and it is difficult to guess who are the people who would require this "clinical pocket-book" though it is written particularly "for practitioners and students." It contains too little, and what is given is in so condensed a form that a beginner would yearn for more enlightenment, while the advanced student would not need the information. Works on refraction have of late years been multiplying out of all proportion to the increase of knowledge, and this book, though containing the views that most people hold, is by no means superior to the many excellent books that have taught successive generations of students for years past, and most of the recent editions of which embrace all, and far more than, that which is contained in this volume.

A really excellent book on *Eye, Ear, Nose, and Throat Nursing*[3] has reached us. The part dealing with the eye is written by Dr. A. E. DAVIS, and that of the ear, nose, and throat by Dr. B. DOUGLASS, both of New York. Primarily the book is written for the use of nurses, though students and practitioners will find it useful. The prevailing idea running through it is cleanliness, and every effort is made to impress upon nurses its extreme necessity and importance when dealing with the eye. After a short chapter on anatomy the subject of nursing is at once entered upon, and to give a general idea of the authors' manner two important rules laid down may be quoted. If adhered to, they would save much suffering and many eyes:

1. Thou shalt be altogether clean and gentle when caring for the eyes.
2. Thou shalt not apply poultices to the eye.

They show in a most lucid manner what should be done by the nurse and surgeon under certain conditions; directions are given how to carry out the things suggested; and, what is almost better, as far as the nurse is concerned, the reason for each thing ordered is given, and the action of drugs is described. Any one reading up a case in this book could not but come away greatly enlightened, no matter how ignorant he may have been before. Whenever necessary, photographs and drawings are given, and, although the book is not crowded with them, yet there are quite enough to illustrate the various things required. What has been said regarding the eye section applies almost equally well to the chapters on ear, nose, and throat, though this occupies only a quarter of the whole book. The volume abundantly justifies its existence, and we feel sure that a nurse reading it will not only be able to take a far greater interest in her cases than before, but will be enabled to understand the why and wherefore of things, and thus become more efficient.

[1] *The Chief Operations of Ophthalmic Surgery: a Practical Guide for Students.* By Harold B. Grimsdale, M.B., B.C., F.R.C.S. 144 pages. London: Office of *The Medical Times*. 1904. (Crown 8vo, pp. 144. 23 illustrations. 5s.)

[2] *Errors of Refraction and their Treatment: A Clinical Pocket-book for Practitioners and Students.* By Charles Blair, M.D. Bristol: John Wright and Company. 1905. (F'cap 8vo, pp. 110. 2s. 6d.)

[3] *Eye, Ear, Nose, and Throat Nursing.* By A. Edward Davis, M.D., and Hermann Douglass, M.D. Philadelphia: F. A. Davis Company. 1905. Demy 8vo, pp. 316. 32 illustrations. 1 dol. 25 c.)

THE CRIMINAL DEGENERATE.

THE dedication "to those who are friends of the man beneath in the battle of life, and foes of the conditions that placed him there" sounds the *Leit-motif* which runs through every chapter of Dr. LYDSTON'S interesting book on the *Diseases of Society*,[4] from the preface, which opens with what the author describes as a legal murder, through all the chapters on social pathology, anarchy, physical characteristics of degeneracy, etc., to the last line of the last chapter in which he eulogises the Elmira system. Dr. Lydston was for some time Resident-Surgeon to the Blackwell's Island Penitentiary, New York, and his experiences there, and his subsequent studies have not only failed to inure him to the hardness of the "unco' guid" to the "man beneath," but have convinced him that the fault of his being there lies not so much in the man himself as with that "something rotten in the state of Denmark" which first of all permitted him to be at all, and then punishes him for being what he is. Dr. Lydston is terribly outspoken and fiercely denunciatory of society's abuses; he tilts fearlessly against the customary theological and legal views of crime and criminals, writes a severe indictment of municipal corruption in America, and is withal perfectly logical and sensible. The aim of the criminologist should be, he says:

(1) To show that moral qualities are ultimately dependent upon physical conditions, even though these conditions are not always demonstrable; (2) to harmonize existing theories of the causes, prevention and cure of crime, and (3) to reduce the subject to a material, scientific, and, as far as possible, evolutionary basis.

For the author, the delinquent, the degenerate, and the insane are products of our social system, and should not be considered as something apart from the general scheme of nature. The criminal and degenerate elements of the social body bear the same relation to the whole that excrementitious matter does to the individual, and the sources of these products should be first considered. Legislation for criminals solely, therefore, will in no way limit their production. "Crime," to quote Ferri, "is a product of adverse social conditions, and the only way of grappling with it is to do away, as far as possible, with the causes from which it springs." The tendency of some schools of modern criminologists to reduce all criminality to a pathologico-anatomical basis is ridiculed by Dr. Lydston, and he gives, as an instance of what he means, a well-known case which happened in Chicago, in which an "expert" testified that a murderer was insane because he showed certain stigmata of degeneracy; and we have lately heard of cases in this country in which cephalometric data were brought forward as evidence of insanity without any obvious mental symptoms. The author has, however, no quarrel with honest workers in this field and pays tribute to Lombroso, though he traverses many of his generalizations. The author is himself, however, not free from the error of an occasional *petitio principii* and appears to be bound to the old theories with regard to brain centres. For this reason his chapter on neurosis in relation

[4] *The Diseases of Society and Degeneracy.* By G. F. Lydston, M.D., Professor of Criminal Anthropology, Chicago-Kent College of Law. Philadelphia and London: J. B. Lippincott Co. 1904. (Demy 8vo, pp. 626.)

to social diseases is perhaps the least satisfactory in the book. As regards preventive and repressive measures, Dr. Lydston speaks out fearlessly. The importance of the hereditary factor in degeneracy is insisted upon throughout, and foremost amongst therapeutic means, he puts marriage control, the establishment of medical boards and the absolute denial to persons with a history of insanity, to the epileptic, and to the actively syphilitic of the right to marry except on the condition of their submission to sterilization, and also the enforced sterilization of all incurable criminals, epileptics and insane. He discusses the objections raised to this proposal and points out in reply to the argument of interference with the liberty of the subject that we already interfere with this liberty in countless ways, that a man is sent to prison for a crime against his fellows. Then why not, he asks, for a crime against posterity? Have the unborn no rights? Although there is much in what Dr. Lydston says, his net has surely too wide a sweep. Every one, however, who has visited large asylums and convict prisons must have been painfully impressed by the number who obviously have been born into the world defective or crooked, who have, consequently, never "had a chance," and who belong to the class Dr. Lydston terms the "better dead." It is impossible, therefore, not to sympathize with our author when he says that an injustice has been inflicted not only upon society, but upon the unfortunate victim himself; but, if all his recommendations were carried out, and every one with a family history of insanity, possibly remote, underwent vasectomy, we wonder how many would escape. Treat every man after the deserts of his grandfathers, and who should 'scape sterilization? While he does not deny the value of punitive measures in the treatment of the occasional criminal, Dr. Lydston is in agreement with other writers that in typical criminals and degenerates it has proved futile, and that the prescription and administration of punishment and reformation should be selective and individual—that is, the punishment should be made not to "fit the crime," but the criminal. The logical outcome of this attitude—the indeterminate sentence—is, Dr. Lydston says, the keystone of the arch of criminal reform. Nevertheless, he would restrict its application chiefly to the juvenile offender and to those among adults who belong distinctively to the criminal class. Dr. Lydston's book, then, does not contain any startlingly new doctrine. His views on this extremely complicated problem of vice and crime have all been advanced before, though perhaps with less imagery and more restraint; and, though exception may be taken to his extreme attitude on some points, his forcible and direct expressions, supported by a wealth of quoted authority and statistical fact, are calculated to do much good in the direction in which most hope of reform is to be looked for—that is, in instructing public opinion and the cultivating a social conscience.

SUCCESS IN PRACTICE.

Success in the practice of his profession is so important for every medical practitioner that any guidance on the subject is worthy of welcome. Dr. Joseph McDowell Mathews's book on *How to Succeed in the Practice of Medicine*[3] is intended to be such a guide, and, though it contains nothing new, its chapters are full of sound sense, pithily expressed. In the preface to his volume the author says: "It has been painful to me to see many of my professional friends die and leave their families in actual want. The reason is plain that it was either their own fault or the fault of their *clientèle*, and how to prevent this happening to others is the main object of the book." The causes of failure in professional life are probably more complex than this statement would indicate; but, given good health, assiduity, a sound training, business aptitude, and a fair share of that important element which, for want of a better name, is called luck, it may be said that no man in the practice of medicine ought to fail either to earn a modest competence or to make moderate provision for those who are dependent upon him. Success in after-life is a very different thing from success at school or college, and it is proverbial that the man of many medals and honours certificates not infrequently fails to fulfil the promise of his student days, and, when brought into contact with the stern realities of the battle of life, drops out of the running from sheer inability to make his knowledge marketable by employing it tactfully and in terms of ordinary business methods. Dr. Mathews has much that is wise to say on the ethics of professional life, the art of successful practice, the choice of work and of a suitable location for its prosecution, the value and limitations of specialism, and the rewards which may be anticipated from honest endeavour and faithful performance of duty. He speaks out of the fullness of a long personal experience, and his precepts may be commended to the consideration of students and junior practitioners, for whom his book is mostly intended.

[3] *How to Succeed in the Practice of Medicine.* By Joseph McDowell Mathews, M.D., LL.D., President of the American Medical Association, 1898-9; Professor of Surgery, Hospital Medical College, etc. Philadelphia and London: W. B. Saunders and Co. 1905. (Demy 8vo, pp. 227, 6 illustrations. 6s. 6d.)

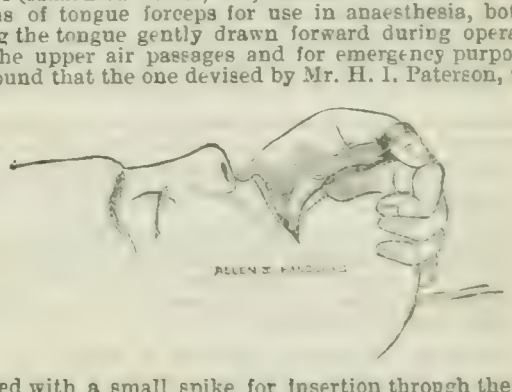
NOTES ON BOOKS.

Mrs. Tennant and Mr. Llewelyn Davies have undertaken the difficult task of compressing the complicated enactments which embody the law relating to factories and workshops into a volume which, so far as the price is concerned, is within the reach of all. The last edition of *The Law Relating to Factories and Workshops*[1] appeared in 1902, consequent upon the passing of the Factory and Workshop Act, 1901, which codified the law upon this subject. The new edition contains the text of certain new Acts, as, for instance, the Employment of Children Act, 1903, and it also gives the text of many orders relating to dangerous trades. It also contains references to more than twenty new cases which have been decided since the publication.

[1] *The Law Relating to Factories and Workshops (including Laundries, Railways and Docks).* By May E. Abraham (Mrs. H. J. Tennant), formerly one of Her late Majesty's Superintending Inspectors of Factories, and Arthur Llewelyn Davies, of the Inner Temple, Barrister-at-Law. 5th edition. London: Eyre and Spottiswoode. (Demy 8vo, pp. 414. 5s.)

MEDICAL AND SURGICAL APPLIANCES.

A Tongue Clip for Use in Anaesthesia.—Mr. H. Bellamy Gardner (Mansfield Street, W.) writes: After trial of many patterns of tongue forceps for use in anaesthesia, both for keeping the tongue gently drawn forward during operations upon the upper air passages and for emergency purposes, I have found that the one devised by Mr. H. I. Paterson, which



is armed with a small spike for insertion through the tip of the tongue, produces less damage to the organ than those which depend for their hold upon the squeezing of the substance. In fact, when it has been sterilized, as it always should be before use, no after discomfort at all is experienced by the patient. In order to avoid certain mechanical difficulties in holding a pair of forceps in position whilst continuing the administration of the anaesthetic, Messrs. Allen



and Hanburys, of Wigmore Street, have made for me a tongue-clip on this principle, through which the anaesthetist can pass his thumb while supporting the jaw with the same hand. The tongue-clip is also useful in operations upon that organ, where it takes the place of a silk ligature, and can be applied or released in a second of time.

MIDWIVES ACT.

GLOUCESTERSHIRE COUNTY COUNCIL.

IN a summary of the annual reports of the medical officers of health for the Administrative County of Gloucester recently presented to the County Council by the county medical officer of health, Dr. J. Middleton Martin, it is stated that a list has been obtained from various sources of over 600 women who have acted as midwives in the county. This is a proportion of about one to every 550 persons in the administrative county. Some of these act only occasionally in this capacity. The number of those who had registered with the Central Midwives Board and had given notice of their intention to practise in this county up to June 9th was 173. A report on the administration of the Act will shortly be presented to the Sanitary Committee.

CONTRACT MEDICAL PRACTICE.

NOTICE AS TO DISTRICTS IN WHICH DISPUTES EXIST.

A notice as to places in which disputes exist between members of the medical profession and various organizations for providing contract practice will be found among the advertisements, and medical men who may be thinking of applying for appointments in connexion with clubs or other forms of contract practice are requested to refer to the advertisement on page 71.

MEDICAL NEWS.

DR. W. H. CLEMENTS, District Commissioner and Government Medical Officer of the Caicos Islands, has been selected for the office of District Commissioner and Assistant Colonial Surgeon in the Toledo District of British Honduras. Dr. Clements is expected to take up his new duties in September.

CONGRESS OF CRIMINAL ANTHROPOLOGY.—The sixth Congress of Criminal Anthropology will meet at Turin on April 28th, 1906, under the presidency of Professor Lombroso. An exhibition of criminal anthropology will be held in connexion with the Congress.

HOSPITAL FOR SICK CHILDREN.—The Committee of the Hospital for Sick Children, Great Ormond Street, has recently received the following donations from the following City Companies: Grocers, £50; Fishmongers, 30 guineas; and Merchant Taylors, 30 guineas.

LEPROSY IN ROUMANIA.—Leprosy is said to be on the increase in Roumania. Till 1895 no special precautions were taken, the disease not being considered contagious. Since then, however, so many cases have been discovered that the authorities became alarmed, and the rebuilding of an ancient monastery at Arnota, on the sea shore, for the internment of lepers was resolved on. It is alleged that the prevalence of the disease has greatly increased in the districts through which the Russian forces passed in 1877-78.

JAPANESE HONOURS FOR AN ENGLISH NURSE.—The Mikado has conferred upon Mrs. Teresa Richardson, a Welsh lady, who for the last fifteen months has worked as a Red Cross nurse among the wounded in the Japanese hospitals, the Order of the Crown (sixth class), the highest decoration for ladies in Japan. The Red Cross Society also awarded her the Order of Merit. For the first nine months Mrs. Richardson worked in the Tokio Hospital; afterwards she was sent to Hiroshima, the Netley of Japan.

A LADY PROFESSOR OF ANATOMY.—Miss Florence R. Sabin has been appointed Associate Professor of Anatomy in the Johns Hopkins University. Her name is well known to [illegible] in the work on the nervous system. Miss Sabin, it may be stated, is not the first lady who has been professor of anatomy. In the sixteenth century Alessandra Giliani [illegible] at Bologna, and Anna Manzolini occupied a [illegible] of Anatomy in the same University in the middle of the eighteenth century. Laura Bassi was Professor of Anatomy in the University of Ferrara towards the end of the same century. She was the author of several works on a subject [illegible] exciting great interest at present, namely, the physical education of children.

MOSQUITOS AND YELLOW FEVER.—The Health Commissioner of the State of Pennsylvania has issued an order to the following effect: "Let no yellow fever mosquito into Philadelphia." He has selected as a special guard of the city gates against the intrusive gnat, an entomologist from the Academy of Natural Sciences, who will be posted at the harbour to watch fruit vessels from foreign ports, and make a collection of mosquitos that come with the fruit. These mosquitos will be carefully examined to ascertain if any of the yellow fever variety are reaching Philadelphia.

"ZOO" TUBERCULOSIS.—Dr. Bissell, City Bacteriologist of Buffalo, New York, has made investigations into the tuberculosis in the elk and red deer paddock at the park "Zoo," with special reference to the probable danger of infection to visitors and persons living in the close neighbourhood of the park. No danger, he believes, is to be apprehended from that source. His report states that since 1898, 20 elk, 7 red deer, 2 buffaloes, 3 monkeys, and 1 wolf have died from tuberculosis. Dr. Bissell recently took cultures from the soil of paddocks to ascertain how much tuberculosis it contains. He states that there is more danger from the ordinary street dust than from this soil. Disinfection of the soil is, therefore, not recommended.

TREATMENT OF SURGICAL TUBERCULOSIS IN CHILDREN.—The American President and Mrs. Roosevelt recently visited the Sea Breeze Home, New York, for the fresh-air treatment of children suffering from surgical tuberculosis. Speaking of his visit, Mr. Roosevelt said: "The hospital has room for only 45 children, and there are more than 4 000 cases of bone tuberculosis in the tenement-house district of New York. The trustees are trying to raise a fund for a hospital which shall hold 400 patients. The Fresh-Air Fund people are obliged to refuse admission to 2,000 or 3 000 applicants annually. I was immensely impressed by the work being done there. I feel that there can be few more beneficial works than that which is being accomplished both in connexion with the Fresh-Air Fund and this seaside hospital for tenement children suffering from bone tuberculosis."

EMBALMING IN ANCIENT EGYPT.—A recent number of the *Revue des Deux Mondes* contains an article by Professor Lortet, of Lyons, in which recent discoveries in respect to embalming in ancient Egypt are described. More than seventy yards of cloth of a width of about 12 in. were used in wrapping a mummy. This cloth was impregnated with a resinous alkaline solution, to which Professor Lortet attributes the preservation of the tissues. Ten large jars, carefully stoppered, full of a yellowish powder, have been found in a tomb near Thebes. On analysis the powder was found to contain an aromatic resinous substance and a large proportion of sodium salts, with some sand and clay. The resinous substance is evidently an extract of various aromatic substances in which myrrh predominates. Cloth dipped in water in which some of this powder was dissolved presents the same appearance and odour as the cloth in which mummies are wrapped.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN.—An appeal, signed by the Duke of Argyll, Vice-President, the Earl of Derby, and others, has been issued by the Royal Waterloo Hospital for Children and Women, Waterloo Bridge Road. It is stated that since the foundation of the hospital in 1816 it has afforded relief to over one million poor patients, both children and women. A hospital was erected on the present site in 1825, and was subsequently enlarged; but in 1902 it was found that the building had become not only out of date from an architectural and sanitary standpoint, but also in some cases an actual danger to the patients from the impossibility of keeping an old building, largely constructed of wood, free from injurious germs. The work of rebuilding was therefore begun at once. The greater portion of the new hospital has now been completed. It is designed to contain 200 beds when the whole hospital is finished, and the total cost, including furniture and apparatus, will exceed £50,000. Towards this rather over £20,000 has at present been obtained. The cost of maintenance of the hospital when completed will probably be not less than £12,000 per annum, towards which there is only £770 per annum assured income available, apart from subscriptions, etc. The help of the charitable public is therefore asked for. An influential Ladies' Association, headed by H.R.H. the Duchess of Albany, collects much help for the hospital, and the ladies have recently formed subcommittees for supplying linen, vegetables, and other useful articles.

British Medical Journal.

SATURDAY, AUGUST 26TH, 1905.

MEDICAL ASPECTS OF THE PARLIAMENTARY SESSION.

Poor in promise and even poorer in performance must be the general verdict on the Parliamentary Session of 1905. Still, there are many matters of medical interest referred to in the survey of the work of the Session which appears in the British Medical Journal of this week at p. 453. It is true the interest is in a minor key, for no great questions of medical reform or public health have occupied the attention of Parliament. Nevertheless, medical topics, and even medical interests, have not been forgotten, and much spade work has been done that will be useful when a more original and creative time begins in a new Parliament. The Government has passed only two Acts of general importance this year—the Aliens Act and the Unemployed Workmen Act. The first of these met with a good deal of opposition from those who feared the loss of the honourable traditions of this country as regards the right of asylum for political refugees. As the Act is passed it is to be hoped that this right will not be greatly curtailed, and that some little good may be effected in keeping out undesirable immigrants. The inspection and examination of these aliens coming to this country will create a new branch of medical service, and it will be necessary to establish at each specified port of entry a regular medical organization for the rapid and efficient performance of these duties. In the course of the discussions on the Bill, the Home Secretary, on behalf of the Government, gave very moderate estimates of the expenditure likely to be incurred. We think the moderate sums named will be largely exceeded when the Act is in operation. Medical inspection, to be of any value for the exclusion of diseased and mentally unfit immigrants, must be searching and careful. The whole service will, indeed, have to be well paid as a responsible department of public work.

The Unemployed Act, as eventually passed, is merely a machinery measure, which will enable municipalities to set up committees with special powers to meet exceptional distress from want of employment. The recognition of the obligation to provide work for the unemployed, other than through the Poor Law, alarmed many persons, but the limitation of the Act to three years and the promise of an independent Commission to inquire into the whole working of the Poor Law in the three kingdoms, enabled the measure to be run through its stages very rapidly in the closing days of the session. However the statute may work, it has served a most useful purpose in forcing the appointment of the Royal Commission on Poor Law. The resolve to institute such an inquiry is one of the wisest acts of the Government since it first took charge of the affairs of the country.

The seventy years that have elapsed since the last Commission have brought about many and great social changes in the condition of the people. A new spirit has grown up in Poor-law administration, and there is conflict between opposing schools of practice. Old methods and old systems are baffled by new and complex problems, and all the while expenditure grows and rates oppress. We therefore welcome warmly the appointment of this independent Commission, no small part of whose work must be devoted to the consideration of a better and more generous organization of the medical service of the Poor Law in all three divisions of the United Kingdom.

The Act amending the Medical Act of 1886 is the only piece of purely medical legislation of which the Session can boast. The difficulty of recognizing Canadian degrees for registration by the General Medical Council arose from the fact that, under the constitution of the Dominion, education was under the local Legislatures of each province, and not under the Dominion Parliament. The Act of 1886 required the Central or Federal Government to be party to the reciprocity and not the Provincial, and consequently no arrangement could be made. The amending Act of this year will enable each Provincial Government to be recognized by the Privy Council as a separate British possession, and so to be on the same level as the other self-governing colonies. The principle of the Act is sound, and its results will, we trust, be satisfactory to both countries. General Laurie, aided by some of the medical Members of Parliament, carried the Bill after a struggle of many years. The lesson to be learned from its passing is, that in all attempts at legislation of this kind, persistent effort is an indispensable quality on the part of the promoters.

The statute which created the Sheffield University deserves mention, inasmuch as it provided, by an amendment inserted in the Commons, that the representative of the University on the General Medical Council should be paid by the University and not by the Council. This novel departure will, if we are not mistaken, have far-reaching effects. A member will now sit on the Council who is not paid from the funds of the profession. He will therefore be in a different position from that occupied by his colleagues. His honorarium as well as his election will come from the licensing body he represents, but he will have an equal voice with all the other members on questions affecting the whole profession. The amendment was, in our opinion, a very doubtful one. It has the merit of saving the finances of the General Medical Council, and suggests a way by which the funds taken in the shape of registration fees from the pockets of the profession might be still further saved for the costly work of inspecting the licensing bodies of the United Kingdom. The new departure may, however, have wider results than were foreseen when it was accepted, especially as the constitution of the General Medical Council has been the subject of more than one question in Parliament during the last few months.

The usefulness of the Lords has been greatly lessened this year. Their Bills have been ignored in the Commons in a remarkable and unprecedented fashion. This cripples and destroys a useful function, hitherto performed in the Upper House, of preparing Bills for the Commons, and so saving time in connexion with measures of a more or less non-party character. The Prevention of Corruption Bill was sent down early this year: and as the Lords had in previous Sessions prepared similar Bills, it was naturally expected that there would have been a chance of legislating

on the subject. The Bill, however, like many others, was crowded out. The Public Health Bill dealing with building by-laws, and specially prepared to facilitate housing in rural districts, had a similar fate. In this latter case there was more excuse, as the Bill left the Lords too late to give it a chance. We notice the matter because it seems to us that the House of Peers should be encouraged to work at comparatively non-contentious subjects of social legislation. If the bad precedent of this year is followed, the Lords will be discouraged from performing a valuable function, and their Chamber will be more and more reduced to a body for registering or rejecting the work of the Commons.

In former sessions lunacy was one of the subjects which the Lord Chancellor repeatedly attempted to legislate upon, but the Bills failed to pass the Lower House. This year the Attorney-General introduced a Bill in the Commons, but it was never even discussed. It is true that it was an inadequate measure. It proposed to enable one visitor to do the work now done by two commissioners visiting together, and to appoint one extra legal and one extra medical commissioner. Much more than this is wanted. The proportion of medical commissioners should be raised to the same relative number as in Scotland, and legal commissioners, who are naturally less useful for the medical work, kept in a smaller proportion than at present. The Bill did take a step towards the treatment of cases of incipient insanity by allowing such patients to be placed under private care for treatment. What we hope will be done in an early session is that a further step shall be taken by establishing hospitals in which acute and early cases, when suitable, can be treated apart from all chronic cases by experts in nervous disease, and under conditions making for recovery.

The Prime Minister, in the last days of the Session, introduced a Bill to raise the Presidents of the Board of Trade and of the Local Government Board to the position of Secretaries of State. The Bill was not dealt with, but we accept it as an earnest of future action. To be satisfactory, however, it must go further than merely increase the salaries and improve the status of two Ministers. It must reorganize the two departments, and in the case of the Local Government Board must constitute a fully-equipped and well-organized department of the State, which will be charged with the care of public health. The many and various medical and sanitary duties now discharged by some half-dozen branches of the Government could be advised, if not controlled, by such a department, not only to the advantage of local and imperial work, but also, we believe, with benefit to the public exchequer.

The Midwives Act of 1902 has been the subject of questions in the House in connexion with the payment of practitioners called in by registered midwives. It is to be hoped that the Local Government Board will issue an order to Boards of Guardians dealing with this matter, and thereby help the working of the Act by facilitating consultations most desirable in the interests of poor women. The movement for the registration of nurses which is a direct outcome of the Midwives Act, has, we observe, made a distinct step forwards this session. A Select Committee, after taking much evidence, has reported in favour of a form of registration which will confer some privileges on registered nurses, but will not make it penal for other persons to act as nurses. Private nursing homes, the Committee advised, should be licensed by the local municipal authority and be open to inspection. These proposals are likely, we understand, to be embodied in a Bill to be introduced next session.

The report of the committee which last year considered the question of physical deterioration excited a good deal of discussion this year on points of medical interest. The feeding of school children was the subject of several debates and many questions, while the lowered birth-rate and the high infantile mortality prevalent in large towns led many members to group all these subjects together in suggestions for preserving the national physique. One important proposal, pressed by Sir Walter Foster and supported by Sir John Gorst, for a system of medical inspection of the children in all elementary schools, commends itself to us as indispensable for any scientific study of physical development, and equally important as an aid to judicious action with regard to the underfed.

In conclusion, we feel bound to call our readers' attention to the increasingly important part played by questions in the House as a means of calling attention to matters connected with the public health. Abuses can be exposed, grievances ventilated, reforms suggested, and in some cases injustices remedied by the wise use of the right of questioning Ministers. The British Medical Association, by its far-reaching organization, affords to every practitioner a means for effectively using this powerful instrument in cases where the ordinary channel of the local M.P. may be for any reason unavailable. We commend its use as a ready means of increasing the political influence of the medical profession.

THE EFFICIENCY OF THE ARMY MEDICAL SERVICE

In his great speech on Imperial Defence delivered at the Mansion House not long ago, Field Marshal Lord Roberts, after calling attention to the general unpreparedness of the combatant branches of the army for war, went on to say that there are other important branches of the service upon the efficiency of which the success of a campaign in no small degree depends. One very important branch, he said, is the medical service. He recalled the great outcry raised during the South African war when it became known that the number of medical officers and nurses was insufficient, and that there was a lack of proper hospital equipment and appliances. Civil surgeons and nurses were hurriedly engaged, additional field hospitals were dispatched, and the timely aid afforded by private persons was eagerly accepted. Nevertheless, for the first few months of the war the medical arrangements were quite unequal to the strain put upon them. For this Lord Roberts does not think any one can be blamed—certainly not the medical officers, who were most devoted and untiring in their endeavours to overcome the enormous difficulties with which they had to contend.

He went on to point out that it had been generally accepted that the maximum strength of any force dispatched from this country would not exceed two army corps—say 75,000 men—whereas the force actually employed amounted to between 300,000 and 400,000, scattered over a vast area with inadequate rail transport, and for the greater part without roads. But, he said, it will not be possible on any future occasion to make allowance s for failure in the medical arrangements. We have been taught by sad experience that we must be prepared for a much larger force being sent into the field than was contemplated before the

South African war, and a much larger percentage of disease. Yet at present we are not much better off as regards medical requirements than we were in 1899; for although the Royal Army Medical Corps was increased by 125 officers and 1,200 other ranks, under Mr. Brodrick's régime, out of its own establishment it can now only provide for an expeditionary force 55,000 strong. It has been proposed to supplement the *personnel* by the addition of 45 per cent. of civil surgeons and 37 per cent. of civil subordinates, which would provide for a force of 73,000 strong. Certain further proposals have been made by the Advisory Board, which, if adopted, would enable the Royal Army Medical Corps to deal with a force 140,000 strong. Both these proposals, said Lord Roberts, are still only under consideration; nothing has been done, and, as matters now stand, the balance of any larger force than 55,000 would have to take the field without any properly trained establishment whatever. No help could possibly be afforded to the Army in India, which would be sadly in need of medical aid in the event of a prolonged war.

In a Parliamentary paper which has since been issued by order of the Army Council, apparently by way of reply to Lord Roberts's indictment, it is stated that the establishment of medical officers has since the war been increased by 125. In reply to a question asked in the House of Commons, however, Mr. Arnold-Forster stated that the Army Council is aware that the strength of the Army Medical Corps is not yet adequate, and is making every endeavour to increase it. From a further reply of the Secretary of State for War, the inference may fairly be drawn that the War Office counts on the numerical deficiency of the regular medical service being made up in case of need by an abundant supply of very highly trained and highly competent civilian medical officers. We have no doubt that if the occasion arose this hope would be justified, for the medical profession is certainly not behind any other class of the community in patriotism. That fact, however, does not warrant the War Office in folding its hands and leaving the provision of adequate care for the sick and wounded in the contingency of a great war to fate or metaphysical aid, especially in view of the fact that the last war proved that civil aid was largely increased in value by some previous military training. Britons have an ineradicable belief in their innate power of "muddling through" the most hopeless situation. That the organization of the War Office is ingeniously contrived to secure the maximum amount of "muddling" is a fact which has received the fullest possible demonstration; but it cannot be assumed with equal confidence that we shall always get "through."

Lord Roberts has done a public service by calling attention to the utter inadequacy of the medical service for the emergencies of an important war. We have ourselves often piped to the same tune, but the War Office has simply shut its ears. Will Lord Roberts succeed in making it dance? We take leave to doubt it. The War Office has, like Teufelsdröckh, found the "centre of indifference" from which it looks out on the efforts of those who strive to bring about a better state of things with the unconcern born of long experience. And it must sorrowfully be admitted that in this attitude it is justified by the example of the people for whose protection the army exists. We in this country pride ourselves on our practical-mindedness, but in regard to Imperial defence we are the veriest dreamers. The British public, when awakened for a moment by a voice of sufficient power, flames up into a glow of indignation, and then forgets all about the matter. It is like the "brooding East" in Matthew Arnold's poem, which

> Bowed low before the blast
> In patient, deep disdain;
> She let the legions thunder past,
> And plunged in [sleep] again.

We have taken the liberty of altering a word in the last line, for the War Office can scarcely be described at any time as plunging into *thought*. It has been said that a country always has the kind of government which it deserves, and it is certain that apathy in the people breeds apathy in its rulers. In this lies the greatest obstacle to army reform.

The country already owes an incalculable debt of gratitude to Lord Roberts for his brilliant services on many a stricken field in India and South Africa, and he has added largely to that debt by his outspoken and vigorous pleading for efficiency in all departments of the army. It is no small effort for a man who might well be content to rest on his laurels to enter upon an oratorical campaign in a cause which, to the shame of the nation be it said, excites little popular enthusiasm. Unlike some other military chiefs, he has the fullest sense of the importance of a medical service to the army. The nation can scarcely refuse to listen when such a man speaks. A thoroughly efficient medical service is a necessary part of any system of Imperial Defence, and we earnestly hope that Lord Roberts will follow up his attack by further efforts to conquer the deadly official apathy which constitutes a grave national danger.

MALTA FEVER.

The third report of the Mediterranean Fever Commission[1] just published contains some very interesting work in connexion with the etiology and propagation of the disease known as Malta fever. The commissioners recently appointed by the Government to investigate this disease have been working long and energetically at the possible routes of conveyance of the specific organism, and it is extremely probable that they have now solved the riddle, Colonel Bruce, who writes the introduction, stating that he believes them to be on the eve of an important and may be far-reaching discovery. New facts often come when least expected, and the latest discovery in regard to Mediterranean fever forms no exception to the rule. With the object of ascertaining by experimental inoculation whether goats could be infected with this disease, the commissioners had six of these animals from two different herds brought to their lazaretto, where Dr. Zammit, on June 14th, 1905, as a preliminary step to the experimental work took blood from each of them and tested the action of their serum on the micrococcus melitensis. To his great surprise he found that the serum of five of those animals when considerably diluted caused agglutination of the microbe, and, obtaining similar results on the following day, he forwarded samples of the blood to the Public Health Laboratory, where Major Horrocks confirmed his important discovery. The clue was here: the goats evidently were suffering naturally from Malta fever, and Major Horrocks, who conducted a careful bacteriological examination of the milk and urine proved that this was so by finding the micrococcus in abundance in the former fluid. Further examinations of animals in herds supplying milk to Valetta Station Hospital, to Valetta, and to

[1] *Reports of the Commission Appointed by the Admiralty, the War Office, and the Civil Government of Malta, for the Investigation of Mediterranean Fever, under the Supervision of an Advisory Committee of the Royal Society.* Part III. London: Harrison and Sons. 1905. (Demy 8vo, pp. 98. 2s. 6d.

Sliema, were then undertaken, and in every herd some individuals were found to be suffering from Malta fever, the micrococcus melitensis being exuded with the milk in enormous numbers when the disease had been present sufficiently long to cause changes in the physical characters of the fluid. At the same time, however, it was found that organisms were excreted in considerable numbers even when the animals were in "full milk," and when no changes had occurred in either the physical or chemical characters of the milk. The importance of those observations cannot be over-estimated, especially when one takes into account the success of feeding experiments in monkeys, and it is clear that goat's milk will now probably turn out to be the main source of the spread of this disease in Malta. The number of goats in Malta is well known; the milk supply of the island is largely derived from them, and they live all over the island in the towns and country in close proximity to man. It may be that Malta fever is really a disease of goats, not producing, as far as at present known, any marked symptoms in them, but capable of being transported to man by their milk, and in him setting up the symptoms of a definite disease. More work still requires to be done as regards the number of goats infected and other points, but prophylactic steps should at once be taken on the work already done. Segregation of infected animals—their infectivity to be judged by the agglutinative power of the blood serum for the micrococcus—and strict boiling of all milk should quickly lessen the prevalence of the disease in man. The further work of the Commission will be looked forward to with the greatest interest by all, especially by the army and naval authorities who have suffered so severely by the ravages of this disease, and the heartiest congratulations must be awarded to Dr. Zammit and his colleagues for the excellence of the work already done.

OUT-PATIENT DEPARTMENTS.

Among the resolutions recently formulated by the Out-patient Committee of the Hospital Sunday Fund was, as already stated in the Journal, one expressing the opinion that the serious increase in the number of out-patients, many of whom have trivial complaints, is detrimental to the welfare of hospital and patients, inasmuch as they are a burden to the funds of the hospitals, and prevent the hospital staff from giving the necessary attention to serious cases. This resolution has been forwarded to 80 hospitals, with a request that their managing committees will express an opinion on the subject, and suggest a remedy before the end of the financial year, if there is any remedy to be found upon which they can all agree. There is little room for difference of opinion as to the great increase in late years in the number of out-patients, who receive treatment at the hospitals otherwise than in the wards, being a serious evil. On the other hand, the statement that this increase prevents attention being given to serious cases is very much open to question. From the reference to trivial complaints the Committee of Distribution would almost seem to be confusing out-patients and casualty patients and not to be aware that it is almost a universal custom for the work in the wards, in the casualty receiving room, and in the out-patient department, each to be carried on by a different set of individuals. Constant attendance at hospitals of many patients is detrimental to their welfare, but only because their *moral* is affected, since they become the recipients of charity, and by no means because the attention paid to them is inadequate. The average patient in an out-patient department has probably quite as much time devoted to him as the average visitor to a Harley Street consulting room, and the persons who suffer are not the patients themselves, but the medical officers in charge of the departments involved by the extra labour imposed, and the general body of medical practitioners whose opportunities for gaining their living are seriously diminished by hospital abuse. Through the latter cause the public in its turn suffers, and if things continue upon present lines the public will suffer still more. What the Hospital Sunday Fund and those able to influence matters should aim at is the reduction of casualty departments or surgery receiving rooms to nothing more than first-aid stations, except for the very poor, and to convert out-patient departments mainly into free consulting rooms for cases sent on to them by the general practitioners in the neighbourhood of each hospital.

TEACHING AND RESEARCH IN PARIS.

Times have greatly changed in France, as elsewhere, since the days when Claude Bernard had for his laboratory in the Collège de France something little better than an indifferent cellar, and Pasteur a kind of something that might have served as a granary in the Ecole Normale. But since no rule lacks an exception, we find some of the most distinguished scientists still without that provision for scientific work which would enable them to follow the bent of their genius without having to think of ways and means. Thus, in Paris, the centre of academic and scientific institutions, we find M. Becquerel making with his own hands the apparatus by means of which he observed the phenomena of radio-activity, and even until quite a short time ago M. Curie was forced to prosecute his studies on radium in a shed which, in its poverty of mechanical or other equipment, rivalled even the room under the roof in which Pasteur did some of his epoch-making work. An examination of the Budget for 1904 reveals the fact that for scientific purposes the sum voted for the universities of France is over 13,000,000 francs—that is, over half a million pounds. Besides this there is a credit of 556,500 francs (£25,000) for the Collège de France, with its forty professors, and, in addition, for the Museum of Natural History in the Jardin des Plantes one of over 1,000,000 francs, or £40,000; so that the budget for science for the past year reaches a sum of something less than £600,000. In France, as in England, the great difficulty appears to be the combination of teaching duties with those of research. The budget draws no distinction between money allocated for teaching purposes and that for research. The chief exception, perhaps, in a modified way, is that for the Collège de France. Each professor must give forty lectures per annum, but it is not possible to go on, year in year out, giving something new at every lecture. The same obtains at the museum. A professor at the Sorbonne or at the Faculty of Medicine during six months has to devote his time to giving instruction to the students who attend his course, while a very large part of his time is necessarily consumed in the examination of the numerous candidates in the Paris Faculty.

OPTICIANS AS OCULISTS.

We regret to see, by a correspondence which has been forwarded to us, that the Surgical Aid Committee of the Metropolitan Hospital Saturday Fund is employing an optician to examine cases referred for spectacles, although they should be aware that such an examination cannot be satisfactory, and is not fair either to the patients, the subscribers to the fund, or the medical profession. Apparently the excuse put forward is that the majority of those who are seen by the optician would find it difficult to attend at a hospital in the daytime. The particular case which brought this practice to the notice of our correspondent was that of a candidate for a post in one of the public services, who had been refused on account of defective sight, and had been supplied with glasses by the Hospital Saturday Fund, which did not in the least improve her vision. The Fund is doing a great work, and in its objects has so much in common with the medical profession that it is to be regretted there should be any divergence in their methods. We cannot believe that there would be any difficulty in obtaining the services of a qualified medical

practitioner to examine cases for the Surgical Aid Committee, and we trust steps will be taken to make this very necessary change.

MEDICAL EXAMINATION OF NEW YORK SCHOOL CHILDREN.

While the health authorities of New York have gradually been extending their supervision of the health of school children, they have not hitherto, we learn from the *New York Medical Journal*, gone so far as to make the general physical condition of a child part of the work of the health department. Until recently all that the medical inspectors in the schools did was to examine all cases as possibly infectious. Later, skin diseases and pediculosis, which was especially prevalent, were included, and monthly examinations have been made for the purpose of discovering such cases. The health authorities have also been employing fifty trained nurses. In Manhattan and the Bronx these nurses subject the children sometimes to daily examinations, besides visiting their homes and advising their parents. Last year it was decided to have a general physical examination made of a certain number of children, which should include all kinds of diseases, bad nutrition, nervousness, mentality, enlarged glands, condition of the breathing organs, vision, and hearing, and all deformities of the spine or chest. No such examination has ever been undertaken before. The work was done by 100 inspectors. Four schools of the primary grade were taken. All of them were in the poorer quarters, but the worst quarters for disease were avoided in order that the results might be taken as general. About 2,000 children a week were examined, one doctor doing about six a day. The work was completed just before the end of the school year and the figures have just been put together. The following are the figures given by Dr. Hermann Biggs: Total number examined, 13,941; bad nutrition, 1,092; swelling in anterior glands, 2,094; swelling in posterior glands, 706; chorea, 136; cardiac disease, 232; pulmonary disease, 204; skin disease, 227; deformity of spine, 118; deformity of chest, 162; deformity of extremities, 210; defective vision, 3,219; defective hearing, 460; nasal breathing, 5,623; bad teeth, 3,314; deformity of the palate, 196; bad mentality, 823; requiring medical attention, 6,294. In the case of many of the children put down as "dull" by their teachers it was found that the cause was either defective vision or defective hearing. With the 13,941 children examined as a beginning the health authorities have begun to keep a card index, which they hope to extend throughout the entire school system. It is intended to examine all diseased children at the end of each month. If it is found that the parents have not consulted a doctor, one of the health inspectors or nurses will visit the child's home. "That every child out of those examined should be found to require medical attention," says Dr. Biggs, "is something to which too much attention cannot be given. The influence these children have on the community's health is very large. The result was a surprise to us, particularly in the number found to have defective vision and swollen glands. The proportion is so high that the city should do something at once to reduce it. It can be done only by increasing the number of inspectors and nurses in order to hold monthly examinations of the general physical condition of children and following up the parents of every child who we see is not getting any attention. As yet we have been able to do only a few schools in Manhattan, but it is our purpose to take in the entire city."

A MEDICAL ANTIQUARIAN.

During the week Messrs. Knight, Frank, and Rutley have held an interesting sale, at their Auction Galleries in Conduit Street, of books, engraved portraits, manuscripts, engravings, and antiquities, formerly the property of Thos. J. Pettigrew, F.R.S., F.S.A., (1791-1865). The sale was by order of the executors of a descendant, in whose possession the collection had remained since the death of the well-known surgeon and antiquarian in 1865. The fact that forty years had passed added interest to a collection which represented the life-work of a man who played no small part in advancing medical and antiquarian knowledge in the earlier part of the last century. In spite of the holiday season the sale attracted a large attendance, and good prices were obtained. The catalogue contained 260 lots, of which nearly half were books, pamphlets, and manuscripts. The first five lots were the earlier volumes of the *Journal* of the British Archaeological Association, in which Pettigrew took a leading part from its foundation in 1843. He acted as its treasurer, and some of the earlier meetings were held at his house. There were several works illustrated by George Cruikshank, in their original paper covers, and bearing the autograph and inscription of the artist to his contemporary and friend, Pettigrew, for whose work on the *History of Egyptian Mummies*, published in 1834, Cruikshank drew the coloured plates. Of this work an important remainder was sold. The original drawings for the coloured plates were included amongst the drawings and engravings. The most important item amongst the books was Lot 76, *Gulielmi Harvei Exercitatio anatomica de motu cordis et sanguinis in animalibus. Francofurti, 1628*, first edition. This small and brief pamphlet, not exceeding in length an average medical lecture or address, realized £30. The catalogue included remainders of some of the well-known works with which the name of Pettigrew is associated, such as the *Bibliotheca Sussexiana*, of which the first volume appeared in 1827 and the second in 1839; Pettigrew's *Medical Portrait Gallery: Lucien Greville*, with George Cruikshank's etched illustrations, 1833. The collection of engraved portraits of physicians, surgeons, and medical writers, chiefly of the latter part of the eighteenth and the beginning of the nineteenth centuries, realized upwards of £50. It included three portraits of Edward Jenner: an impression of the three-quarter length, of the doctor leaning against a tree, drawn and engraved by J. Smith, was sold for £5 15s.: and two others, one by W. Sharp and W. Skelton, after Hobday, in proof state, and the other by W. Say after Northcote, realized £7. There were several portaits which recalled Pettigrew's connexion with the Medical Society of London and the Royal Humane Society, notably those of Lettsom and the Duke of Kent, of which the original copper-plates, engraved by Skelton, were sold. It was through the influence of Lettsom that Pettigrew became Secretary to the Royal Humane Society, and it was there that he made the acquaintance of the Duke of Kent, who appointed him surgeon extraordinary, and subsequently surgeon in ordinary to himself and the Duchess of Kent. In that capacity he vaccinated their daughter, the late Queen: the lymph was obtained from one of the grandchildren of Lettsom. The Duke of Kent brought Pettigrew under the notice of the Duke of Sussex, and the latter made him surgeon in ordinary and also librarian to Kensington Palace, so that indirectly the influence of Lettsom led to the compilation of the *Bibliotheca Sussexiana*. Amongst the miscellaneous engravings, Lot 177—a set of four relating to the *Victory*—realized £7 10s., and were of interest as recalling the fact that Pettigrew's father was a naval surgeon and served in the *Victory*.

JOHN EVELYN IN HIS RELATION TO MEDICINE.

Valuable sidelights on the state of medical science and the condition of the medical profession at a particular period may often be obtained from contemporary letters and records, especially from the personal memoirs which are so precious and delightful a feature of French literature. The memoirs of that malicious gossip, Saint Simon, contain a good deal about the Court doctors who ministered to the complicated bodily ailments of the Grand Monarque. From the letters of Madame de Sévigné we get amusing glimpses of the medical practice of the same period. Pepys has a good deal to say about the doctors of his day, and from him we get vivid snapshots of the Great Plague of London. The graver pages of John Evelyn also teem with references to medicine and its professors. Dr. Leonard Guthrie has reprinted two lectures on the medical history of John Evelyn and of his time, which were published in

the *Medical Magazine*. In them he gives an interesting account of the state of medicine in the time of the famous diarist and of Evelyn's own medical studies. He matriculated at Padua in 1645, and studied physic and anatomy there for about nine months. After attending the anatomy lecture in the morning he used to go to see "cures done" in the hospitals, where, he says, "as there are the greatest helps and most skilful physicians, so there are the most miserable and deplorable objects to exercise upon. . . . They are, indeed, very carefully attended and with extraordinary charity." He alludes to the number of cases of syphilis under treatment. At Padua he purchased from a surgeon, Dr. Leonaenas, some "tables" of vessels and nerves which were the admiration of his contemporaries and the envy of the College of Physicians. In 1667 he presented them to the Royal Society. The tables, which are now in the museum of the College of Surgeons, consist of four varnished deal boards measuring about 6 ft. by 3 ft. On one, says Dr. Guthrie, is fastened an almost complete dissection of the main arteries of the trunk and extremities, two others show the veins, and the fourth the nerves, together with a special dissection of the pulmonary vessels and of those of the liver and stomach. At Venice Evelyn purchased the famous Theriaca, "the making and extraordinarie ceremonie whereof," he says, "I had been curious to observe, for 'tis extremely pompous and worth seeing." This was in 1646, and in 1659, when in London, he went to see the "several drougs for the confection of Treacle and Diascordium and other electuaries which an ingenious apothecary had not only prepared and ranged on a large and very long table, but covered every ingredient with a sheete of paper on which it was very lively painted the thing in miniature, true to the life, were it plant, flowers, animal, or other exotic drug." The table must have been very large, for Venice treacle contained no fewer than seventy-two ingredients, and diascordium nearly as many. The mode of preparation was handed down with scrupulous exactitude for centuries. It comprised remedies for every disease, most of them incompatible and the rest inert. Its chief virtues were supposed to depend on the viper's flesh which it contained, but, as was clearly shown by Drs. Gideon Harvey and Moses Charras in Evelyn's time, any value which it possessed was due to the large proportion of opium and spices included in it. Throughout his long life Evelyn retained his keen interest in medical science. When abroad he never lost a chance of visiting the hospitals, and at home he took an active part in the foundation and administration of more than one. An institution at Amsterdam for lame and decrepit soldiers, to which in 1641 he referred to as "one of the worthiest things that the world can show of that nature," may have given him the idea of founding a similar one in this country. Nell Gwynn is usually credited with the suggestion which came to fulfilment in the shape of Chelsea Hospital, and Dr. Guthrie thinks that Evelyn may have induced her to use her influence with Charles the Second for the accomplishment of his object. Evelyn's connexion with Greenwich Hospital was even closer than with the institution at Chelsea. He was its treasurer; he laid the foundation stone on June 30th, 1696, and he lived to see the first patients admitted and the buildings "very magnificent" in 1705. Evelyn was one of the Commissioners for the care of the sick and wounded and the prisoners during the Dutch war, 1664-72, and the heaviest burden of the work fell upon his shoulders. He remained at his post during the Great Plague at a time when the leading men of the medical profession fled from London. It was Evelyn who suggested to Robert Boyle the foundation of a "Society for the Promotion of Experimental Knowledge," which afterwards developed into the Royal Society. At first it was, as Dr. Guthrie points out, essentially a medical society, for most of its original members were medical men. The frequent references to matters of medical interest make his *Diary* a picture of the science and practice of his day. Dr. Guthrie expresses the opinion, which we fully share, that Evelyn, by his practical knowledge of all that concerned the progress of medicine, and by his intimacy with the foremost medical men of the time, must have done much to advance the profession of which, had his inclinations served, he might have been a distinguished ornament.

MEDICINE AND SUPERSTITION IN THE GAMBIA.

MR F BISSET ARCHER, Acting Colonial Secretary, in his annual report on Gambia for 1904, recently issued as a White Paper, states that the public health of Bathurst was very satisfactory during the year. There was no epidemic disease, and the town was free from any infectious or contagious sickness. He considers the improvement to be due in a great measure to the increased confidence of the people in the treatment received at the hospital. The work of the hospital is doing much to dispel the superstition which is very prevalent among the people of Gambia that all their diseases are attributable to one of two causes—either they have been bewitched, or some enemy has made "gree-gree" against them. There are two forms of "gree-gree." One is administered internally, and usually consists of an infusion made of roots, leaves, and bark from trees supposed to have the required properties; the other is wrought by spells which are worked with much ceremony, the process usually being accompanied by dancing and incantations. The treatment in many cases is to call in a native doctor, who, after examining the patient, writes something in Arabic characters—generally extracts from the Koran—on a wooden slate. The slate is then washed and the dirty infusion is afterwards drunk by the patient. The people have also many herbs which they boil for internal use and external application; shea butter, for instance, is employed for rheumatism, sprains, and bruises. The increase in the number of cases treated by the medical officers seems, however, to show that the old superstitions are beginning to die out. The diseases most fatal among West Africans are acute liver and kidney affections, pneumonia, and phthisis. Intermittent fever is very common but seldom fatal. Many up-country people suffer from aggravated types of elephantiasis and small pox, but vaccination is rapidly superseding inoculation. Great improvements have been made of recent years in the hospital, which is now one of the best on the West Coast of Africa. In 1903 three sisters from the Convent of St. Joseph of Cluny, in France, were engaged as European nurses, and have done excellent work. The medical staff of the Colony consists of a senior medical officer with three assistant medical officers, two of whom are permanently resident at head quarters, while the third is in medical charge of the protectorate through which he travels. This brings him in close touch with the people, and his services are already highly appreciated. The climate of the Gambia is said by Mr. Bisset Archer to be very pleasant and healthy during the dry season. During the wet season, from July to October, the conditions are much the same as elsewhere on the coast; indeed, they are perhaps more trying, as the change from excessive dryness to the damp atmosphere of the miasmic nature so prevalent in the Gulf of Guinea is much more rapid, and therefore more acutely felt, than in the other West African Colonies.

MARSHAL MACMAHON'S MEDICAL ANCESTRY.

THE marriage of Major Henry Vincent McMahon-Dillon R.A.M.C., which took place last week recalls a historical question which has been the subject of persevering inquiry by persons interested in genealogy. Major McMahon-Dillon was described in the announcements of his wedding as a cousin of the late Marshal MacMahon. That the Marshal-President came of a medical ancestry appears to be well established, although the fact was stoutly denied in his lifetime. The whole case is fully discussed by Dr. Cabanès in the first volume of his *Cabinet Secret de l'Histoire*. The *Times* is there quoted as authority for the statement that the Marshal belonged to the MacMahons of the South of Ireland and descended in a straight line from King Brian Boru. That Marshal MacMahon, like Othello, fetched his life and being from

men of royal siege is probably true, but it seems to be not less true that he was the grandson of John Baptist MacMahon, M D., of the University of Rheims, who settled at Autun in 1741. We are at a loss to imagine why any one should have thought it worth while to repudiate a descent from representatives of a profession from which have sprung—to name only the first heads of noble houses that come to hand—Lord Rosebery and Lord Lansdowne. According to Cabanès, John Baptist MacMahon was born in 1715, and at the age of 16 was sent to the College of La Marche in Paris. He chose the profession of medicine, which he tried to reconcile with his illustrious origin by the example of the Duke of Richmond, whom the Royal College of Physicians had elected an Honorary Fellow. In 1739 he was "capped" at Rheims, and in 1742 he settled at Autun. After a time he acquired a considerable practice, but his career as a medical practitioner was brief. A marriage with a widow belonging to a rich and influential family brought him the title of marquis and a large landed property in Burgundy, together with a lawsuit from which he emerged victorious. He died at Spa in 1775, leaving four daughters and three sons, the eldest of whom, by his marriage with the Marquis de Caraman, became the father of Marie Edmé Patrice, Viscount MacMahon, Duke of Magenta, Marshal of France, and President of the French Republic. A younger brother of John Baptist, John MacMahon, also went to Paris in 1735 or 1736, where he entered the Irish College with the object of becoming a priest. Changing his mind he turned to medicine, graduated at Rheims, and got an appointment as surgeon in the French Army. Later he was attached in a confidential capacity to the British Embassy in Berlin, where he seems to have been acquainted with Frederick the Great and Voltaire. Returning to France in 1770 John MacMahon was appointed Medical Officer to the Military School, a post which he held for sixteen years. That he took a serious view of his duties is shown by the fact that he threatened to resign unless the quality of the pupils' food was mended. He married an American lady, Miss Springham Clarke, who died in 1772, immediately after bearing him a son. John MacMahon was held in high esteem as a physician. He was medical adviser to Benjamin Franklin, who in token of his gratitude gave him a gold snuff-box bearing his portrait. He died in 1786. His son Patrick became a Doctor of Medicine, and held the office of librarian of the Paris Faculty of Medicine. He died in 1833.

THE SPREAD OF PLAGUE.

Captain Liston, in a paper read before the Bombay Natural History Society on November 24th, 1904, discusses the possibilities of the spread of plague by fleas. The points he brings forward in support of his contention are largely the same as those of Simond, Ashburton Thompson, Tidswell, Loir and others, and are not in any way convincing. Professor Galli-Valerio, in a note on the part played by the fleas of rats and mice in the transmission of bubonic plague, published in 1902, has critically dealt with the subject, and has shown that the evidence of the flea as a transmitter of plague is by no means proved. The common flea on *Mus rattus* in India is *Pulex cheopis* according to Captain Liston, but he brings forward no definite proofs of its attacking and biting man, nor does he explain how the plague bacilli, which he says he has found in the stomach of this insect, can pass thence into the proboscis when the flea bites another host. Nuttall has shown that bacteria passing through the bodies of fleas and other insects often succumb, and his conclusion, that what we want are more facts gathered by experimental research and fewer opinions, is certainly the correct way of advancing our knowledge of the subject.

SUICIDE IN THE UNITED STATES.

Mr. Frederick L. Hoffman, a well-known American statistician, has analysed the official returns of suicide from fifty American cities. Collectively these report 2,927 cases of suicides in 1904. This gives a rate of 19 5 per 100,000 of population, which is the highest since 1890, when this annual tabulation was begun and when the rate was 12.0 per 100,000. The increase has been constant. San Francisco stands highest with a rate per 100,000 of 23 7 in 1890, 49 9 in 1900, and 72 6 in 1904. On the other hand, Chicago in 1904 had a rate of 20 6, as compared with 23 4, the average of the previous decade. Boston and Brooklyn also show a decrease, while Oakland, Hoboken, St. Louis, Indianapolis, Cincinnati, Orange, and Pittsburg, each show a very considerable increase. In New York, Milwaukee, New Orleans, Rochester, and Buffalo the rate was stationary or showed only slight increase. In Mr. Hoffman's opinion neither the size of the town nor climate supplies an adequate explanation of these discrepancies. He thinks the increasing Jewish element in the population of New York accounts for the absence of an increase in the largest centre of population. On the whole, allowing for accidental fluctuations and offsetting conditions, the figures show an increase in the suicide mortality, and Mr. Hoffman thinks they indicate one of the most dangerous tendencies of American life. He adds the disquieting statement that a still further increase in the suicide rate of American cities may be anticipated in the near future. As far as we can gather, however, the facts do not seem altogether to warrant this gloomy prognosis.

POST-MORTEM CAESAREAN SECTION.

The child when the mother dies at term may live *in utero* for several minutes, provided that the maternal death be sudden. When the mother dies slowly fetal death follows rapidly; indeed, the child may die first. M Rudaux[1] has recently reported two *post-mortem* Caesarean sections following sudden death, and in both the child was saved. The first patient was 28 years of age; when close upon term she was admitted into the Beaujon Hospital, and showed no symptoms of any general malady. The urine, examined repeatedly in accordance with the routine of the institution, was reported as free from sugar or albumen. The fetal head lay in a normal position and all seemed well, when the patient died suddenly. Artificial respiration and other remedies proved useless, and the midwife, seeing that the woman was dead, sent a message to M. Rudaux, but immediately opened the uterus, as she could still distinguish the fetal heart sounds. She delivered a living female child 7 lb. in weight. When M. Rudaux arrived he closed the wounds in the uterus and abdomen. The child was reared. At the necropsy on the mother no cerebral lesion could be detected. The heart was fatty, but the muscular tissue and endocardium were healthy; the liver and lungs were distinctly congested, the spleen soft and the kidneys dark coloured, though otherwise normal. The uterus showed no lesion of any kind; the woman had been pregnant twice. The precise cause of death was not explained in the report. The second patient, daughter of a woman who had died of heart disease during a pregnancy, was 33 years of age; she had been pregnant once, fourteen years before she came under M Rudaux, and was delivered spontaneously at term. At the age of 31 she had an attack of enteric fever; over a year later she became pregnant and during the seventh month fits of dyspnœa, which she attributed to the pregnancy, set in. When close upon term this patient was admitted into the Beaujon Hospital with all the symptoms of asystolism; they subsided under appropriate treatment, but a second attack occurred on the day after admission and proved rapidly fatal. The midwife acted precisely as in the former case; the fetal heart sounds were audible for ten minutes, then they ceased, so she at once opened the abdomen and uterus without waiting for M. Rudaux and extracted the child, a male weighing over 6¾ lb. It was in a state of suspended animation and was only revived and afterwards reared with difficulty. At the necropsy on the mother marked chronic endocarditis and myocarditis were detected with pulmonary con-

[1] *Comptes Rendus de la Soc. d'Obst. de Gyn. et de Paed. de Paris*, June, 1905.

gestion. It is easy to understand that the chances of the child in *post-mortem* Caesarean section are small, whilst in both the cases just related, which occurred in a great obstetrical institution, circumstances were as favourable to the fetus as could possibly be conceived.

HEALTH CONDITIONS OF MADEIRA.

IN the report of His Britannic Majesty's Consul at Madeira, which has just been issued by the Foreign Office, considerable space is devoted to the question of public health. Of late the English visitor to the island has differed very materially from his predecessor of twenty years ago. Formerly a very large proportion of those who came out for the winter were either the victims of tubercle or the friends and relations of persons thus affected. Nowadays the high altitude treatment or the open-air cure have been so widely adopted as to reduce the number of visitors of this class to a minimum, and indeed invalids of any kind other than convalescents or those suffering from overwork are comparatively rare, or at any rate form but a small percentage of the foreign invasion, which is mainly composed of ordinary tourists or those in search of warmth and sunshine. Of these there are large and ever-increasing numbers, but our Consul, Mr. Vicars, points out that, so far, nothing whatever has been done by the authorities to contribute to their health and well-being. The establishment of a modern system of hygiene, and even the elementary appliances of sanitation is, he declares, a matter of urgent importance. So long ago as 1896 the Cortes gave its assent to the undertaking of public works of urgent necessity, yet after the lapse of nine years Funchal is still without a town water supply or drainage, and it is remarkable that, considering the density of the population in the inhabited parts, epidemics are not more common than they are. Last year an outbreak of typhoid in the earlier months of the year gave rise to some alarm among the European residents, and of the 180 cases recorded there were 59 deaths. In the previous year there were 169 cases and 47 deaths—a tolerably high case-mortality. No other epidemic disease, however, occurred, and on the whole the death-rate was for the island unusually satisfactory, the total number of deaths from all causes being 1,334, as against 1,531 in 1903. This with the estimated population of the town works out at about 29 per mille. The increasing activity and influence of the Germans upon the island is especially commented upon, this being described as "one of the most noteworthy features of the year." Two years ago a German syndicate obtained a concession from the Portuguese Government for the erection of sanatoriums for consumptives, both for the poorer classes and the rich, and now a hotel called the "Kurhaus" has been opened on the Mount above the town, and several of the finest properties in Funchal have been acquired by the syndicate, the result of which has been that the price of land has risen considerably, under the idea that still further developments are contemplated. There has also been a considerable increase of prices all round of late, partly from this, and partly from the increasing number of casual visitors, who bring an amount of money into the place which was unknown in former days. It is very difficult now to find a *quinta* to be let furnished for the season under £100, and most of them are much more expensive. However primitive the island may be as regards its water supply, drains, and means of locomotion, the prices, Mr. Vicars declares, are very far from being so.

THE *ENTENTE CORDIALE*.

ON Wednesday, August 9th, Dr. H. Léo of the flagship *Masséna* and the medical officers of the Escadre du Nord of the French navy were entertained at the Royal Naval Hospital, Haslar, by Inspector General Godding and the officers of the hospital. The guests were received at the landing pier by the staff, where they were shown the ambulance boats, and the means for landing and transporting the sick to the hospital. After visiting the wards, the tropical section, and the laboratory, the guests were entertained at luncheon in the officers' mess. After lunch the toasts of "The King," "President Loubet," and "The Officers of the French Fleet" were proposed, and received with great enthusiasm. The latter toast, proposed by Inspector-General Godding, who spoke in French, was responded to in most felicitous terms by Dr. H. Léo of the *Masséna*.

THE CONTENTS OF A HERNIAL SAC.

THE varieties of hernia are indefinitely great, and the same may be said of the contents of hernial sacs. Waring has shown that the fundus of a dilated gall bladder may lie in the sac of a femoral hernia. MM. Broca and Daniel report the discovery of a mesenteric cyst in the sac of an inguinal hernia.[1] The patient was a male child, aged 4, rachitic and neglected. He was brought to hospital on account of a swelling in the right groin which had been observed for four months. A large hernia as big as a hen's egg was detected; it involved the scrotum. It was dull on percussion and reducible, impulse on coughing was marked. There was no tenderness, and no gurgling was heard when the tumour was reduced. Both testes were descended. M. Broca operated, and on opening the sac exposed a tumour which simulated a cyst of the spermatic cord. On opening it about a tumblerful of turbid yellow fluid escaped, then enucleation of the lower pole of the cyst was easily effected. On drawing down the cyst wall it was found to run into the abdominal cavity, several secondary cysts with similar contents were drawn down, and a loop of small intestine followed. The relations of the cyst then became evident; it lay encapsuled in the inferior layer of the mesentery. Its upper connexions were detatched with ease, and the breach in the mesentery was closed with linen thread sutures: no vessels in the adjacent parts of the peritoneal fold involved required ligature. The hernia was of the funicular type, and its sac was extirpated. The patient recovered. MM. Broca and Daniel find only one other instance on record of the presence of a mesenteric cyst in a hernial sac, and in that instance the case differed from theirs in one important respect, for the hernia was irreducible on account of a mesenteric cyst in its sac. As in their case, the hernia was right inguinal and scrotal, but the patient was a man aged twenty-one. The operator and reporter was Mr. C. A. Morton of Bristol. MM. Broca and Daniel add to their account of their own case a valuable summary and analysis of the literature of mesenteric cysts in childhood.

THE Emperor of Austria has conferred a life patent of nobility on Dr. Edmund Neusser, Professor of Medicine in the University of Vienna.

DR. J. MILSON RHODES has been invited by the Italian authorities to prepare a report on infantile mortality for presentation to the International Congress on Public Assistance to be held at Milan in May, 1906.

The SUPPLEMENT to this week's BRITISH MEDICAL JOURNAL contains reports of meetings of Divisions, a concluding notice of the Annual Exhibition of Foods, Drugs, Instruments, Books, and Sanitary Appliances at Leicester, Association Notices, a list of books presented to the Association Library, naval and military appointments, changes of station among army medical officers, vital statistics, and the Calendar of the Association.

[1] [illegible] ; kyste mésentérique par[illegible] ; hernie inguinale ; kyste enflamme. *Rev. de Chir.*, May-June, 1905, p. 447.

Ireland.

Belfast Board of Guardians: Removal of Lunatics to the Asylum.

At the last meeting of this Board, held on August 15th, a report from Sir George O'Farrell, Inspector of Lunatics, was read. Dr. O'Farrell reported that he had visited the Belfast Workhouse on July 31st, and found there 96 lunatics, 53 male and 43 female. Formerly a very large number of such cases were kept in the institution, but with the exception of the reduction in number, practically no change in the patients' care or treatment had taken place since his last visit, although the guardians had endeavoured to make that part of the workhouse set apart for the insane suitable for the detention of harmless and chronic lunatics. Nevertheless each succeeding visit confirmed his opinion that the insane and the ordinary pauper should be treated in distinct institutions, and under separate control and management; he was of opinion that the lunatic department should be abolished, some patients being sent to the asylum, and some, as the dotards and persons of feeble intellect, to the infirm wards in charge of trained nurses. Among the workhouse patients were some idiots of tender years of both sexes, and the inspector emphasized the objection of these being associated with adult lunatics. Many such children were capable of mental and moral improvement: and he thought that Belfast and other large Unions should make a serious effort for the establishment in Ireland of a national institution, such as exists in England and Scotland, for the education and training of imbeciles and idiots. After some discussion it was agreed by the Board to instruct Dr. McLeish, who was in charge of the lunatic department, to transfer these patients in batches of about five weekly to the asylum.

Queen's College, Cork.

The Chairs of English History and Literature, and of Latin, at Queen's College, Cork, rendered vacant by the resignation of Professor Savage-Armstrong and Professor Bunnell Lewis, have been filled by the appointment of Mr. Stockley to the Professor of English History and Literature, and Mr. Thomas Molohan to that of Latin. Both Professors are Irishmen who have won distinction in spheres outside their native land. Mr. Stockley had a most distinguished career in Trinity College, Dublin, obtaining a large gold medal for distinguished answering in English. Since then he has been Professor of English and French in the University of New Brunswick, and was afterwards appointed to the Chair of English in the University of Ottawa—a position he will vacate to take up the same position in Queen's College, Cork. Mr. Stockley, though a well-known and brilliant writer on literary subjects, will find it no easy matter to take the place of so distinguished a scholar as his predecessor, Professor Savage-Armstrong. Mr. Thomas Molohan, M.A., who has been appointed Professor of Latin, is a native of County Galway, and was educated both at Queen's College, Galway, and at Trinity College, Dublin, where at his degree examination he was awarded a gold medal for classics. Mr. Molohan gives up the Classical Professorship of Downside College to come to Cork. The old alumni of Queen's College, Cork, in various parts of the world will rejoice if these appointments popularize the Arts side of a college whose medical school is second to none in Ireland.

THE PARLIAMENTARY SESSION.

The record of the session of Parliament this year is not of great interest in a public sense, and is only in a few points interesting to the medical profession. Parliament began its work unusually late and finished in time for the great grouse festival of August 12th. When Parliament met there was a very general expectation that there would be a dissolution before the session closed, and as a consequence private members, naturally anxious to introduce their pet legislation proposals before any appeal was made to the country, were specially active.

While the Government introduced altogether during the session 68 Bills, private members introduced no fewer than 245, making a grand total of 313. Of the 68 Government Bills 12 were mentioned in the King's speech at the opening of the session, and consequently marked as first-class measures. Only four of these were passed, namely, the Agricultural Rates Continuance Act, the Aliens Act, the Scotch Churches Act, and the Unemployed Act. The last hung long in the balance, was cut down to a merely machinery Bill, and in this form, after a somewhat stormy demand for [illegible] the fourth Government Act of the [illegible] in the King's speech. The other 13 measures [illegible] in the Statute book by the Government were [illegible] departmental and continuance Bills, and two others [illegible] the retirement of Mr. Speaker Gully, and the setting up of the Commission on War Stores and the waste in South Africa. Of the 245 Bills introduced by private members only 6 were successfully passed through all their stages, and only 1 of these, the Medical Act (1886) Amendment Bill of General Laurie, was of medical interest. It was a small measure for enabling Canadian medical men to register their colonial degrees in this country and to serve in the army and navy. It was blocked for many months, but in the last few weeks of the session it got through the House of Commons without discussion or amendment, and met a similar happy fate in the House of Lords while in charge of Lord Strathcona. The steadily-increasing difficulty which private members experience in passing or even securing a debate for their Bills under the new rules of Parliamentary procedure is shown by the results of the session. Of 245 Bills introduced only 6 passed, last year of 159 Bills introduced 12 passed, while in 1903 of 174 introduced only 11 became law. This last session the reference of Bills to the Grand Committees has not worked satisfactorily, and some changes will have to be made to preserve the rights of private members and to give well-considered proposals a reasonable chance of becoming law. Of the 239 private members' Bills lost, only 2 were rejected on second reading after debate; of these one was a Sunday Closing Bill promoted by Mr. Perks and the other a Bill to abolish plural voting, proposed by Mr. Soames. The remainder were dropped or withdrawn. The 51 Bills of the Government which failed were withdrawn in dozens in the closing days of the session. Under Mr. Balfour's leadership the formal withdrawal of Government Bills, which is called "the massacre of the innocents," has been gradually dispensed with, and numerous measures are kept on the notice paper to the end, and then are withdrawn in the last nights of the session just before the rising of the House.

Much regret was felt this session at the dropping by the Government of the Scotch Education Bill, and there was quite an angry debate in the Lords on the manner in which Bills originated in the Upper House had been ignored by the Government. No fewer than 16 Bills dealing, not with political, but with social and economic questions, were passed by the Upper House after consideration in Committee, and not one of them was taken up in the House of Commons. So important a measure as the Bill for the Prevention of Corruption was one of them. The Prevention of Corruption Bill has been a Government measure now for some years, and has passed the House of Lords and been sent down to the House of Commons more than once. Among other Government Bills dropped, the Accidents (Mines and Factories) Bill excited considerable interest among factory surgeons, as it threatened to lessen their usefulness and seriously impair their influence in collecting statistics and observing accidents. In the interests of the profession the Bill was blocked soon after its introduction. The Lunacy Bill of the Government was withdrawn in July. It was regarded as inadequate to meet the requirements of lunacy reform, and will no doubt be replaced another year by a better measure. The Infectious Diseases (Ireland) Bill was a proposal to assimilate the law in Ireland to that in England as regards the notification of infectious diseases and the steps to be taken to prevent the spread of such diseases through the medium of day schools. It excited no interest in the House, and was withdrawn at the end of the session. The Government Bill dealing with the sale of butter is an old friend, and will, no doubt, be useful in fixing a standard for water in butter and in preventing some forms of adulteration. It was blocked from the outset, and never came on for discussion. In the last days of the session the Prime Minister introduced the Bill to improve the status of the Board of Trade and Local Government Board by elevating the Presidents to the rank of Secretaries of State. It was a stillborn measure, and its record disappeared from the order book ten days after its introduction.

Among the 239 Bills introduced and dropped by private members, there were many of great interest from a medical point of view. There were three Bills dealing with public health, two of which were much talked about. The Public Health Bill, introduced by Dr. Hutchinson and supported by the British Medical Association, sought to amend the law relating to the qualifications and tenure of medical officers of

health, but it never got a chance of discussion. The Public Health Acts Amendment Bill of Lord Hylton was introduced, debated, considered by a Select Committee, and passed in the Lords, only to find its death in the Commons. It proposed exemptions for isolated buildings from building by-laws, and would have been useful in promoting rural housing. The third Bill of Sir Alfred Hickman, which has been long before the House, sought to codify local sanitary Acts. The anti-vaccinators had their three Bills introduced, and in due course dropped, while the antivivisectionists were active to the extent of raising a short debate at a late hour one night, and in promoting a Bill called the Dogs Protection Bill, to exempt dogs from being used for experimental purposes. This Bill was kept on the order book to the end of the session, and largely supported by petitions, but never had a chance of passing. The Local Government (Scotland) Act Amendment Bill was introduced once again by Mr. Cathcart Wason to secure for Scotch outdoor medical officers the same security of tenure as that enjoyed by the medical officers of workhouses. The evasion of the Medical Acts by persons trading under the Companies Acts as physicians and as dentists was made the subject of two Bills introduced rather late in the session by Sir John Tuke. They served a useful purpose in calling attention to a danger to the public, and will have effect in checking too easy registration under the Board of Trade. In the early days of the session the question of the registration of nurses was raised by the introduction of two Bills; these were afterwards considered by a Select Committee, which has since presented a report in favour of registration. And lastly may be mentioned an attempt made by Mr. Hayes Fisher to exempt London hospitals from paying rates. The Bill never came on for second reading, and was dropped in due course; so also were Bills to amend the Lunacy Acts for London and to prevent juvenile smoking. When the Bills promoted by the system of private Bill procedure are analysed, it appears that over 150 Bills of a local nature were passed, as well as a number of Provisional Order Bills. Only one Act calls for mention, and that is the Act which constitutes the new University of Sheffield.

The medical interest of the session has by no means been confined to the actual Bills before the House. The columns of the British Medical Journal have shown what a variety of matters of interest have been raised by questions. The prevention of cancer in India, the mortality in South African mines, the salaries of Irish medical officers, the ventilation of the House of Commons, pupil teachers and vaccination, physical deterioration, the cost of death certificates, medical inspectors in Scotland, vaccination fees, the medical inspection of elementary schools, milk dépôts, the plague in India, the death-rate among postal officials, medical officers of health and private practice, the dangers of flock mattresses, post-office officials and medical certificates, small-pox on the R.M.S. *Nile*, the training of nurses in Ireland, spotted fever, homes under the Inebriates Acts, pure beer, typhoid at Lincoln, anthrax, surgeons in the Royal Navy, vaccination marks, Poor law children, uncertified deaths, pathological specimens by post, the reform of the General Medical Council, phosphorus poisoning, erasures from and names restored to the Medical Register, the expense of lunacy, coccidiosis, vivisection, the Tuberculosis Commission, boarding out, fees for attendance at isolation hospitals, the medical examination of Volunteers, vaccinated calves, sick nursing in workhouses, and mosquito nets in West Africa, are some of the subjects raised by means of questions by watchful members of the Commons.

In the absence of any distinctly medical measures promoted either by the Government or private members, the most interesting discussions on questions of public health have naturally arisen in Committee of Supply, and on such other occasions as allowed of criticisms of the administration of the Government. In the debate on the Address Sir Walter Foster raised the question of the present condition of the Army Medical Service, and in the same debate Sir John Gorst began a series of speeches and questions on physical deterioration. Although Army and Navy Estimates were before the House on many occasions, there was no discussion later in the session on the votes for the Medical Department of the either of the services. These votes were never reached under the new rules, although there was a short debate on the report of the Supplementary Army Estimate in March, on the organization of civilian medical service for the army. On the first Consolidated Fund Bill early in the session the subject of underfed school children was raised by Mr. Keir Hardie. Sir John Gorst, Dr. Hutchinson, Mr. Crooks, and Sir Walter Foster took part in the debate.

When the vote came on for the Houses of Parliament after the Easter recess there was a debate of some interest on the sanitation of the House. In the Upper Chamber, later in the session, an excellent debate on physical deterioration was initiated by the Bishop of Ripon, and the cognate subject, the underfeeding of children, was discussed on the Local Government Board vote in the Commons early in June. Lastly, a very instructive series of speeches were made on industrial diseases on the vote for the Home Office. In the absence of any special legislation or urgent questions affecting the public health the session has naturally lacked medical interest, but there has been in all quarters a vigilant observation of matters medical as affecting the public welfare, and a keen spirit of inquiry on many professional subjects.

BRITISH ASSOCIATION.

(*Continued from p. 394.*)

The following notes of matters more or less directly related to medicine have been compiled from the full reports of the proceedings of the British Association for the Advancement of Science published in the *Times*.

Section of Physiology.

In the Physiological Section a discussion on the effect of climate on health was introduced by Sir Lauder Brunton. As a result of the discussion, a special Committee was appointed to consider the question with special reference to South Africa.

Dr. Gregory read a paper on the scurvy of South Africa. He adduced a great number of cases of evidence which had been collected over a great area of the country, for which he argued that the so-called South African scurvy was true scurvy.

Dr. Mitchell gave an exhaustive paper on plague, showing the intimate connexion between plague in man and in rodents, especially rats.

Dr. Black read a paper on leprosy: the distribution and treatment of the disease in South Africa. He expressed a strong opinion that the disease was in no way due to the eating of fish.

Section of Geography.

Changes in Climate.

In the Section of Geography the President, Rear-Admiral Sir W. J. L. Wharton, F.R.S., in his address referred to the Antarctic Expedition. It was now known that both in Arctic and Antarctic regions, as indeed all over the world, ice conditions were simultaneously ameliorating, and theories of alternate northern and southern maximum glaciations seemed so far disproved But this did not mean that climatic conditions in the Antarctic were now less severe—probably the contrary. It had been pointed out by many that land glaciation might arise from varied primary causes, but one obvious necessity was that the snowfall should exceed melting and evaporation. It need not be heavy; but if it were, it might produce glaciation under somewhat unexpected conditions. This would entail a vapour-laden air more or less continuously impinging upon the land at a temperature which would enable it when cooled, either by passing over chilled land or when raised to higher regions by the interposition of mountains, to give up its moisture freely. This condition was not fulfilled when the air as it arrived from the sea was already at a very low temperature. It was his fortune to spend two long seasons in the Straits of Magellan, and he was daily more impressed by what he saw. There one found a mountainous ridge of no great height—very few peaks rising more than 4,000 ft.—opposed to the almost continuous westerly winds pouring in from the Pacific at a very moderate temperature and charged with much moisture. The result was that in the latitude of Yorkshire every mountain mass over 3,000 ft high was covered with eternal snow, and sent glaciers down to the sea. He was convinced by what was going on under his eyes that it only required an upheaval of the land of 2 000 ft. or so to cover the whole of Patagonia with ice. But then the climate would still not be very severe. The temperature of the wind from the sea would be the same, and such part of it as blew along the channels and on the lower land would moderate the cold caused by the ice-covered slopes. The shores of the whole of Western Southern Patagonia, deeply indented with long and deep fiords, indicate, according to all received views of

the origin of such formations, that the land was formerly higher, while signs of glaciation were everywhere present.

The results of geographical research showed that in many parts of the world climate must have greatly changed in comparatively recent times. In the now arid regions of Northern Africa, Central North America, and in parts of Asia there was ample evidence that the climate was in times past more humid. In a remarkable paper on the causes of changes of climate, contributed by Mr. F. W. Harmer to the Geological Society in 1901, it was pointed out how changes in the distribution of the prevalent winds would vastly alter climatic conditions. Like everything else in nature, and especially in the department of meteorology, these questions were exceedingly complex, and similar results might be brought about in different ways, but there could be no doubt that the climate of South Africa would be greatly modified, and more rainfall would occur, if only the cyclonic storms which now chased each other to the eastward in the ocean south of the Cape of Good Hope could be prevailed upon to pursue a slightly more northerly line, and many obstacles to the agricultural prospects of South Africa now existing would be removed. This was, however, beyond the powers of man to effect; but there were other ways of attaining the object, and it was earnestly to be hoped that the attention now being paid to afforestation may result in vigorous efforts to bring about by this means the improvement in humidity so much required in many parts of the country.

Section of Anthropology.

South African Ethnology.

In the Section of Anthropology, the President (Dr. A. C. Haddon) said that three main groups of indigenous peoples inhabited South Africa—the Bushmen, the Hottentots, and various Bantu tribes. In more northerly parts of the continent there were the Negrilloes (commonly spoken of as Pygmies), the Negroes proper, and Hamitic peoples, not to speak of Arab and Semitic elements. He alluded to an obscure race who might possibly be the true aborigines of Africa south of the Zambesi. These were the Kattea—or Vaalpens, as they were nicknamed by the Boers, on account of the dusty colour their abdomen acquired from the habit of creeping into their holes in the ground—who lived in the steppe region of the North Transvaal as far as the Limpopo. As their complexion was almost a pitch black, and their stature only about 1 220 metres (4 ft.), they were quite distinct from their tall Bantu neighbours and from the yellowish Bushmen. The "Dogs" or "Vultures," as the Zulus call them, were the "lowest of the low," being undoubtedly cannibals, and often making a meal of their own aged and infirm, which the Bushmen never did. Their habitations were holes in the ground, rock shelters, and lately a few hovels. They had no arts or industries, nor even any weapons except those obtained in exchange for ostrich feathers, skins, or ivory. Whether they had any religious ideas it was impossible to say. There were no tribes, merely little family groups of from thirty to fifty individuals, each of which was presided over by a head man, whose functions were acquired, not by heredity, but by personal qualities. This appeared to be the most primitive race of all mankind. So little information was available concerning the Kattea that it was impossible to say anything about their racial affinities. Perhaps these were the people referred to by Stow (*Native Races of South Africa*, p. 40), and possibly allied to these were the dwarfs on the Nosop River mentioned by Anderson; these were 1.125 metres or less in height, of a reddish brown colour, with no forehead and a projecting mouth; Anderson's Masara Bushmen repudiated any suggestion of relationship with them, saying they were "monkeys, not men."

The San, or Bushmen (Bosjesman of Colonial Annals), might, with the possible exception of the Kattea, be regarded as the most primitive of the present inhabitants of South Africa. The main physical characteristics of the Bushmen were a yellow skin, and very short, black woolly hair, rolled up into little knots; although of quite short stature, with an average height of 1.529 metres (5 ft. 0½ in.), or, according to Schinz), 1.570 metres (5 ft. 1¾ in.), they were above the pigmy limit of 1.450 metres (4 ft. 9 in.). The very small skull was not particularly narrow, and it was markedly low in the crown; the face was straight, with prominent cheekbones and a bulging forehead; the nose was extremely broad; the ear had an unusual form, without the lobe. Their hands and feet were remarkably small. The dwellings were portable, mat-covered, dome-shaped huts, but they often lived in caves. Clothing consisted solely of a small skin; for weapons they had small bows and poisoned arrows. Their only implement was a perforated, rounded stone into which a stick was inserted; this was used for digging up roots. They frequently cut off the terminal joint of a little finger. They never were cannibals. Cairns of stones were erected over graves. Material did not at present exist for an exhaustive discussion of the exact relationship between the Bushmen and the Negrilloes of the Equatorial forests. On the whole he agreed with Sir Harry Johnston, who said:

> I can see no physical features other than dwarfishness which are obviously peculiar to both Bushmen and Congo Pygmies. On the contrary, in the large and often protuberant eyes, the broad, flat nose with its exaggerated alae, the long upper lip and but slight degree of eversion of the inner mucous surface of the lips, the abundant hair on head and body, relative absence of wrinkles, of steatopygy, and of high protruding cheekbones, the Congo dwarf differs markedly from the Hottentot-Bushman type.

The skin of the Hottentots, or Khoikhoi, as they styled themselves, was of a brownish yellow, with a tinge of grey, sometimes of red; the hair was very similar to that of the Bushmen; the average stature 1 604 metres (5 ft. 3 in.); the head small and distinctly dolichocephalic, the jaws prognathic, cheekbones prominent, and chin small. Shrubsall, who had investigated the osteological evidence, said no hard-and-fast line could be drawn from craniological evidence between Hottentots and Bushmen, on the one hand, and Negroid races on the other, various transitional forms being found; but Bushman characteristics undoubtedly predominated in the true Hottentots. What was now Cape Colony was inhabited solely by Bushmen and Hottentots at the time of the arrival of the Europeans. As the latter expanded they drove the aborigines before them, but in the meantime mongrel peoples had arisen, mainly of Boer-Hottentot parentage, who also were forced to migrate.

One of the most primitive populations of Africa was that of the true, or West African, Negroes. At present this element was mainly confined to the Sudan and the Guinea Coast. The main physical characteristics of the true Negro were "black" skin, woolly hair, tall stature, averaging about 1 730 metres (5 ft. 8 in.), moderate dolichocephaly, with an average cephalic index of 74 to 75. Flat, broad nose, thick and often everted lips, frequent prognathism. West African culture contained some characteristic features. The natives built gable roofed huts; their weapons included spears with socketed heads, bows tapering at each end with bowstrings of vegetable products, swords and plaited shields, but no clubs or slings. Among the musical instruments were wooden drums and a peculiar form of guitar, in which each string had its own support. Clothing was of bark cloth and palm fibre, and there was a notable preponderance of vegetable ornaments. Circumcision was common and the knocking out of the upper incisors. With regard to religion, there was a great development of fetishism and incipient polytheistic systems. Colonel Ellis had proved in a masterly manner the gradual evolution of religion from west to east along the Guinea Coast, and this was associated with an analogous progress in the laws of descent and succession to property, and in the rise of government. Here also were to be found secret societies, masks, and representations of human figures. The ordeal by poison was employed, chiefly for the discovery of witchcraft; anthropophagy occurred. The domestic animals were the dog, goat, pig, and hen. Cattle were absent owing to the tsetse fly. The plants originally cultivated were beans, gourds, bananas, and perhaps earth-nuts. That branch of the true Negro stock which spoke the mother tongue of the Bantu languages some 3 000 years ago (according to Sir Harry Johnston's estimate) spread over the area of what is now Uganda and British East Africa. In the Nile valley these people probably mixed with Negrilloes, and possibly with the most northerly representatives of the Bushmen in the high lands to the east. Here also they came into contact with Hamitic peoples coming down from the north, and their amalgamation constituted a new breed of Negro—the Bantu.

The Hamites were to be regarded as the true indigenous element in North Africa, from Morocco to Somaliland. Two main divisions of this stock are generally recognized: (1) The Northern or Western Hamites (or Mediterranean race of some authors), of which the purest examples were perhaps to be found among the Berbers; and (2) the Eastern Hamites or Ethiopians. Everywhere a Negro admixture had taken place to a variable extent since very early times. The Hamites were characterized by a skin-colour that varied considerably, being white in the west and various shades of coffee-brown, red-brown, or chocolate in the east; the hair was naturally straight or curly, but usually frizzly in the east. The stature

was medium or tall, averaging about 1.670 metres (5 ft. 5¾ in.) to about 1.708 metres (5 ft. 7¼ in.). Roughly speaking, the whole of Africa south of the equator, with the exception of the dwindling Bushmen and Hottentot elements, was inhabited by Bantu-speaking peoples, who were extremely heterogeneous, but who exhibited sufficient similarities in physical and cultural characteristics to warrant their being grouped together; the true Negro might be regarded as a race, the Bantu were mixed peoples. The physical characteristics of the Bantu varied very considerably. The skin colour was said to range from yellowish-brown to dull slaty-brown, a dark chocolate colour being the prevalent hue. The character of the hair called for no special remark, as it was so uniformly of the ordinary Negro type. The stature ranged from an average of about 5 ft. 4½ in. to 5 ft. 7½ in. The Bantu peoples might be roughly divided according to culture into two groups—a western zone, which skirted the West African region and extended through Angola and German West Africa into Cape Colony; and an eastern zone. (1) The western Bantu zone was characterized by beehive huts, the absence of circumcision, and the presence of wooden shields (plain or cornered with cane work) in its northern portion, though skin shields occur to the south; (2) in the eastern Bantu zone the huts were cylindrical, with a separate conical roof. The natives lived in rounded huts with pointed roofs; their weapons comprised spears, bows, with bowstrings of animal products, club and skin shields, but slings were usually absent; knocking out of the lower incisors was general, circumcision was common; ancestor worship was the prevalent form of religion, fetishism and polytheism were undeveloped; masks and representations of human figures were rare, and there were no secret societies; anthropophagy was sporadic and usually temporary. The mixture of Hamite with Negro, which gave rise to the primitive Bantu stock, might have originated somewhere to the east or north-east of the Victoria Nyanza. A factor of great importance in the evolution of the Bantu was to be found in the great diversity of climate and soil in Equatorial East Africa. The earliest inhabitants of South Africa of whom we had any definite information were the dwarf Bushmen, who undoubtedly represented a primitive variety of mankind. In a land abounding with game, they devoted themselves entirely to the chase, supplementing their diet with fruit and roots. There was reason to believe that in early days the Bushmen were divided into a number of large tribes, occupying tolerably well-defined tracts of country, each being under the jurisdiction of a paramount chief. The tribes were subdivided into groups under captains. They showed great attachment and loyalty to their chiefs, and exhibited a passionate love for their country. For hundreds of years these poor people had been harried, and their hunting grounds taken away from them, and hence we must not judge the race by the miserable anæmic remnant that still persisted in waste places. When the written history of South Africa began the Bushmen were already being encroached upon by the Hottentots, who themselves sprang from a very early cross of Bantu and Bushmen. Culturally, as well as physically, they might be regarded as a blend of these two stocks. But the Hottentots could not prevail against the colonists; their improvidence was increased by alcohol, and their indifference to the possession of land, due to their inherent love of wandering, completed their ruin. The Bantu were cattle rearers who practised agriculture. The former industry probably was transmitted from their Hamitic forefathers, who were herdsmen on the grassy uplands of north-eastern Africa, while the latter aptitude was probably due in part to their Negro ancestry. This duality of occupation led to variability in mode of life. The history of the prolific Bantu peoples on the whole indicated that they were as loosely attached to the soil as were the [illegible] the latter, at the least provocation, they would [illegible] country [illegible] another home. In certain lands of the Old World, north of the equator, there was a progressive movement from the stone ages, through a copper age [illegible] that of iron; but the stone-workers of South Africa appeared to have been introduced to [illegible] without having passed through the earlier metal phases, since the occasional copper implements was too limited to warrant the belief that it represented a definite phase of culture. The discovery of the processes employed in working [illegible] in South Central Africa, south of the equator, suggested that the culture was introduced from without, a conclusion supported by the universal use of the double bellows, a contrivance known [illegible] in India and in the East Indian Archipelago. Some ethnologists held that Africa owed to India its iron industry and other elements of culture, as well as the introduction of the ox, pig, and fowl. At all events, they would probably not be far wrong if they assigned a fair degree of antiquity to the knowledge of iron in tropical and southern Africa. The characteristic metal of South Africa was gold, and its abundance had had a profound effect on the country, although it was not employed by any of the native races on their own initiative. The hundreds of ruins scattered over a large extent of country, and the very extensive ancient workings, testified to the importance and the long continuance of this industry: for there could be no doubt that the builders of these wonderful remains came to this country mainly for the sake of its goldfields, though there must also have been an important trade in ivory, and incidentally in other local produce. Further, the discoverers must have come from a country where quarrying and metal-smelting were practised, and this implied the organization of labour, for in early times, as history abundantly proved, mining was always undertaken by means of forced labour. The gold-workers, who probably came from Southern Arabia, belonged to a much higher social order than any of the peoples with whom they came into contact, and with their discipline in war and their industrial training they were able to subdue the Bantu inhabitants over immense tracts between the Zambesi and the Limpopo, to reduce them to slavery, to organize the working of the gold mines, and to establish a chain of forts and a system of communication with the coast. It was greatly to be deplored that in the past irresponsible prospectors had been permitted to rifle the ancient ruins for gold, with the result that not only had very numerous specimens of archæological interest been cast into the melting-pot, but at the same time collateral evidence had been destroyed, and thus valuable data lost to science. Even now the situation was not without its dangers, for the recently-awakened interest in the ruins, and appreciation of their historical value, might lead to unconsidered zeal in excavation.

SANITARY INSPECTORS' ASSOCIATION.

The second London autumn meeting of the Sanitary Inspectors' Association was opened on August 17th with an address from the President, Sir James Crichton-Browne. He said: Topics that not long ago would have been thought suitable only for a medical society were discussed in the streets and across the dinner table, while the newspapers teemed with articles on physical deterioration, infantile mortality, tuberculosis, and cancer research. This was as it should be, for the intelligent co-operation of all classes was needed in carrying on the great work of sanitary reform. Referring to Dr. Maudsley's remarks at the annual meeting of the British Medical Association, recently held at Leicester, as to the want of sobriety in some medical statements and as to the sanatorium treatment of consumption, he said he himself had made and listened to a good many medical statements on popular platforms respecting tuberculosis, but he had never become conscious of the insobriety which had shocked Dr. Maudsley. The annual death-rate from phthisis twenty years ago was 1,827 per million, against 1,203 per million in 1903. The death-rate then from other forms of tuberculosis was 567 per million, against 459 per million in 1903. In as short a period as twenty years the death-rate from phthisis had been reduced as much as 25 per cent. Surely these figures justified some degree of exultation, and warranted speakers in exhorting the people to persevere in the use of the means which had secured such splendid results and to supplement them by other means suggested by our new knowledge of the cause of the disease. Sanatoriums in this country had not yet been in existence for a sufficient length of time to allow of the collection of wholly trustworthy statistics, but the returns, so far as they went, were highly encouraging, and confirmatory of the favourable verdict on sanatorial treatment arrived at by German institutions. Surely even the arrest of the disease, which Dr. Maudsley admitted was secured by sanatorial treatment in advanced cases, was worth saving. With regard to the question of physical deterioration, he said that no one would underrate the importance of the part played by food in physical development, or the sinister effects of a defic[illegible]ency of it, especially when a growth was going on, in the production of degeneration; [illegible] Dawson Williams pointed out, it was going too far to say that the whole of the unfitness of the race was attributable to the lack of food. Luxury had its

degenerates as well as poverty, but poverty was the wholesale degenerator, and it was with immense satisfaction that all who were interested in the public health heard of the intention of the Government to appoint a Royal Commission to inquire into the working of the Poor Law. It was to be hoped that the deliberations of that Commission would lead, not only to the adaptation of the Poor Law to modern social conditions, but to the discovery of efficient methods of dealing with what might be called incipient pauperism, distinguishing between professional paupers and the widely-different classes that were from time to time in need of relief owing to fluctuating economic conditions, sickness, immaturity, or senile decay, and ensuring that there should no longer be death or disease due to actual starvation among us. But they could not sit with hands crossed waiting for the golden age to be conferred by any Government or Commission. They must strenuously persevere in their efforts to ameliorate the condition of the people, and this they could best do by improving their environment in the widest sense. Sir James Crichton-Browne next dealt with the housing problem, and pointed out the advantages from a health point of view of country life as compared with town life. That the townsman was shorter-lived than the countryman was, he said, incontrovertible. Professor Karl Pearson had told us that decadence of character and of intelligent leadership was to be noted alike in the British merchant, the professional man, and the workman, and this he attributed to the fact that the intellectual classes were not reproducing their numbers as they did fifty or one hundred years ago. He was inclined to think, however, that intellectual decadence, if it were upon us, was not altogether due to the causes assigned by Professor Pearson, and was not necessarily destined to deepen as time went on. Many of our finest intellectuals had sprung from the unintellectual class. His own view was that any dearth of ability from which we might be suffering was to be ascribed not so much to the infertility of the cultivated classes as to the artificial production of stupidity in various ways, and to the incessant draining from the country—which was the fit and proper breeding place and rearing ground of intellect—of the best elements of our people to be swallowed up or deteriorated in our big towns. Not less untenable than the notion that the agricultural labourer was dull of intellect was the idea that the city urchin was cleverer and better endowed mentally than the little yokel. The rule seemed to be that the mental development of children was hastened by city life, but soon stopped short. Up till 13 or 14 years of age they were precocious and then came to a standstill. City life at its best was bad for children, involving, as it did, early puberty, exciting distraction, superficiality of knowledge, insufficient repose, and the want of soothing influences that the country afforded; and at its worst, when it meant a tight squeeze in squalid dwellings, poor food, foul air, contact with vice, and manifold temptations, it was utterly demoralizing. It seemed obvious that, if the city went on growing at the nineteenth-century rate, and under nineteenth-century conditions, it would dry up the reservoirs of strength in the population and leave an immense proletariat of inferior quality and without commanders. As things now were, the country was in many parts guilty of sanitary offences as heinous as those of the towns, and was only saved from their consequences by the wider elbow-room it afforded, and the fresh air and unpolluted sunshine it enjoyed. The last Royal Commission that reported on rural housing described the conditions under which many agricultural labourers lived as "physically and morally unwholesome and offensive." But in spite of all this the country, measured by every standard, remained more salubrious than the town. By improving country cottages and adding to them cottages of an improved type, they would in some degree check the exodus from the country, and even set up a backwash from the towns. In order to do this they must have an amendment of the building by-laws, which had been in no small measure answerable for the depopulation of rural districts and for the congested state of the towns. He referred, in conclusion, to the cottages which had been erected at the Garden City, Letchworth, and said that they should have attractions for the well-to-do not less than for the labouring class. The cheap cottage as a family home would create new family affinities and promote the unfolding of faculties that were apt to remain dormant or stunted among bricks and mortar. The farmhouse had, no doubt, many advantages as a country retreat, but the cheap cottage as a family seat and permanent possession was infinitely superior.

Sanitation of Dairies.

Dr. William Daley (Bootle) read a paper on some points connected with the sanitation and management of dairies and cowsheds. The latter pointed to the insanitary conditions prevailing and unclean methods sometimes adopted in the milking of cows, but said that at the same time his experience led him to believe that more children died from the want of milk than from impure milk. Many of the brands of condensed milk now on the market were devoid of fat, and children fed on them slowly died of starvation. That would always be so until legislation prohibited the sale of condensed machine-skimmed milk as a food for children. Sterilized milk had of late, he said, been under suspicion. Some thought that a child fed on such milk might contract scurvy and rickets, and many such cases had been recorded. The contention was that boiling the milk removed or destroyed some of the ferments in it, and, in some indefinable way, brought about deleterious changes, but, until a bacteriological standard was fixed upon and carried, it was safer to boil all milk used for the sole food of children.

Popular Instruction in Sanitation.

Mr. J. Brand (delegate of the Sanitary Inspectors' Association of Scotland) read a paper on this subject. He recalled the words used, over 40 years ago, by the then Lord Derby, to the effect that no sanitary improvement worth the name would be effected, whatever Acts were passed, unless a real and intelligent interest was created in the matter among the people at large. Much had been done in the meantime to instil knowledge into the minds of the people, but much still required to be done. He referred to the importance of teaching habits of personal cleanliness to children by the provision of baths in every school. The cleansing of the school building might also be made a means of instilling habits of cleanliness and orderliness in the children. But instruction should not stop short at the children. The fathers and mothers were often in as great need of instruction. Lectures might be given to them by sanitary inspectors, medical men, and others. A better way, perhaps, was for clergymen, by precept and example, to urge upon the people how necessary it was to do their utmost to preserve health. There was every reason to believe that, with fuller knowledge, riper experience, and a growing public sympathy, the progress of this century would be even greater than that of the last, and, if reward was looked for, it would be found in homes purified, health improved, and minds elevated.

Mr. F. Smith said he believed that in our great towns 25 per cent. of the school children of the age of 10 had not been properly washed for five years. He suggested that children should be taken to the swimming-bath once a week, and, as was done in some places, have a good wash before being allowed to swim.

The President said that instruction in elementary sanitation ought to begin in the home. Young children could not be taught science. It was all nonsense to attempt to instruct them in anatomy, physiology, and chemistry. Let them be taught sanitation and hygiene dogmatically as they were taught morality and religion. The co-operation of the clergy must be obtained. He himself had fallen under the *odium theologicum* because he had ventured to say that the clergy would be very much better employed in teaching hygiene than in preaching silly sermons. Lots of letters had reached him about it from all quarters, but he adhered to his opinion. He was constantly travelling about the country, and he asserted from his personal knowledge that the silly sermon was still a painful fact. They wanted more and more the co-operation of the clergy, but the clergy required a little sanitary instruction, and they might do worse than attend a class formed to give them that instruction.

LEGISLATION AGAINST JUVENILE SMOKING.

The Scottish Antitobacco Society some time ago instituted an inquiry as to legislation against juvenile smoking in foreign countries. The following questions were sent out to British Ministers and Consuls abroad: (1) Is the sale of tobacco, in the country to which you are an Ambassador, so far as the Excise revenue and State regulations are concerned, a State monopoly? If so, from when? (2) Are there any laws or regulations affecting the youth of the army or navy prohibiting them from using tobacco under a certain age? If so, what? How long operative? In naval or military training colleges? (3) Is there, in connexion with the [illegible] higher or lower class schools, any restriction preventing the

use of tobacco under a prescribed age? If so, what restriction? Does it refer to universities, seminaries, or the national school system? The replies received were summarized in the *Times* of August 16th. The British Embassy in Berlin states that the sale of tobacco is not a State monopoly in Germany. In the chief Military College smoking is forbidden to all under-officers, except in a room set apart for the purpose, if they have obtained permission, and if an officer is present. Outside the college under-officers may smoke in private houses and inside restaurants, and during the holidays in public gardens and in the streets, except in Berlin, Charlottenburg, Potsdam, and Gross-Lichterfelde. They may also smoke on railway journeys, except on certain lines. Cadets are not allowed to smoke at all. There is no general prohibition of smoking either for the schools at the higher educational establishments and public schools, or for the inmates of the teachers' colleges and preparatory training schools. Generally, however, the school rules of the individual higher educational establishments forbid smoking altogether to the scholars in their lower and middle classes, and forbid it in public to members of their upper classes. In France, where tobacco is a State monopoly, there are no laws regulating its use. Sir F. Elliot, British Minister at Athens, states that the sale of tobacco in that country "is not exactly a State monopoly; but there is a restriction on the cutting of the leaf for the making of cigarettes. There is no legal restriction on the use of tobacco, but smoking is not much practised among the lower classes by persons under 15 years of age. Fathers of families endeavour as far as possible to prevent their sons from smoking, as being detrimental to health.' Mr. Oliver Wardrop, British Consul in St. Petersburg, states that the sale of tobacco in Russia is not a State monopoly. The only prohibition of smoking to which he alludes concerns the pupils of public schools. Mr. Wardrop adds: "You probably know that certain schismatics and heretical sects in this country (for example, Old Believers and Molokans) forbid their members to use tobacco, and that Count Leo Tolstoy has written against the habit of smoking." From a statement furnished to the British Embassy by the Russian Ministry of Public Instruction, it appears that "pupils at middle educational establishments (so-called gymnasia progymnasia and *Realschulen*) are forbidden to smoke anywhere at all; in the case of pupils of middle and lower technical schools, as well as of schools of trade, of trade apprentices, and of the lower trade schools, smoking is prohibited in all school premises, public places, and streets, the non-observance of these rules being permissible in respect of pupils of middle technical schools on a resolution being passed to that effect by the school board."

Sir Edwin Egerton, British Ambassador in Rome, writes that the sale of tobacco in Italy has been a State monopoly since 1862. In naval and military colleges smoking is allowed during recreation. The use of the pipe, however, is strictly prohibited. Smoking is not allowed in schools; but there are no regulations with regard to universities and seminaries. The British Ambassador in Vienna states that the sale of tobacco has been a State monopoly in Austria for upwards of two hundred years. Only boys attending the lower classes in schools, civil and military, are prohibited from smoking. Writing from the British Legation in Brussels, Sir Brooke Boothby says that in Belgium there is no tobacco monopoly, nor are there regulations "of any kind, State or otherwise, prohibiting youths from smoking.' In Portugal, Mr. de Bunsen writes from the British Legation, the sale of tobacco has long been a State monopoly. Smoking is a punishable offence on board training ships as well as in the colleges for military cadets of tender age. Mr. de Bunsen adds, however, that "the practice of smoking tobacco, chiefly in the form of cigarettes, is almost universal with all ages and classes in this country." In Spain no anti-smoking measures have yet been taken; nor is there any restriction on the use of tobacco in Turkey. There the trade is a monopoly in the hands of a company, which shares its profits with the Government. Mr. E. S. Gray, British Consul in Christiania, writes that in Norway the sale of tobacco is not a State monopoly. The law of April 19th, 1899, enables municipal authorities to pass by-laws to forbid the sale of tobacco to children under fifteen years old for own or others' use. Mr. Gray does not, however, know of any case in Norway where the local authorities have passed such by-laws. Christiania has recently rejected a proposal to that effect. Municipal school rules forbid smoking by juvenile members in public places, and offenders are reported to their parents. This does not refer to universities, seminaries, or national schools. Viscount Hayashi, Japanese Minister in London, states that there is a law in Japan prohibiting persons under twenty from smoking. Parents or guardians who allow their charges to smoke are punished by a fine not exceeding 1 yen (about 2s.). Tobacconists who knowingly sell tobacco to a youth for his personal use are punished by a fine not exceeding 10 yen (about £1). From facts collected by the same Scottish society, it appears that at least nine Legislatures within the British Empire have passed laws against juvenile smoking. So far as Canada is concerned, the prohibition extends to the age of 18 in Ontario and New Brunswick, and to the age of 16 in Quebec, Nova Scotia, Prince Edward Island, British Columbia, and the North-West Territories. In Cape Colony an "Act to prevent the supply of tobacco to youths" was passed a few months ago. This Act provides that "it shall be unlawful for any dealer to sell, supply, or give any tobacco, cigars, or cigarettes to any person under the age of 16 years, unless on production of a written order signed by the parent, guardian, or employer of such person known to the said dealer, and any person contravening this section shall be liable to a penalty not exceeding £5 for each and every offence, or, in default of payment, to imprisonment for a period not exceeding one month." In Tasmania smoking is forbidden to children under the age of 13. A letter from Victoria, written in June last, says: "Our Premier has promised to introduce a Bill, but an outcry of the tobacconists and adult smokers seems to block the effort at present. But our Australian Natives' Association purpose presenting a petition to Government asking for an enactment against juvenile smoking." In the United States a large majority of the State Legislatures have passed laws against juvenile smoking. In one State, Maryland, the age limit is 14; in three it is 15; in a score it is 16; in three it is 17; in eight it is 18; and in as many as ten—Alabama, Georgia, Idaho, Louisiana, Nebraska, Nevada, Vermont, Washington, Wisconsin, and Wyoming—no smoking is allowed under the age of 21. In 35 States the evil results of smoking are taught in the common schools.

LITERARY NOTES.

LADY OWEN, the wife of Sir Isambard Owen, is, we learn from the *Daily Chronicle*, the author of a novel which Mr Eveleigh Nash is about to issue anew. It was written by her some years ago—before her marriage—and was greatly praised by the reviewers. The scene is laid in the Bernese Oberland, and it will appear under a new title, *The Nunnery Wall*.

In the *Journal de Chimie et de Pharmacie*, Professor B. Dambergis of Athens gives interesting particulars as to the treatment of patients in the Asklepeia of antiquity, especially at the famous shrine of Epidauros. In some at least of the temples the springs were of medicinal character. Analysis of certain of the waters has shown that they are similar in composition and properties to those which are nowadays found to be beneficial in the treatment of gallstones and of disorders of the digestive tract. The old temples of Asklepios were therefore, to a large extent, places to which patients were sent to drink the healing waters and bathe in them; the results are, therefore, by no means wholly to be ascribed to the influence of suggestion or mysticism.

At a meeting held on August 14th the Belgian Medical Press Association passed a resolution expressing its regret that the organizers of the various congresses to be held at Liége on the occasion of the International Exposition of 1905 have ignored the medical journals of Belgium, except in as far as concerned the insertion of their own communications. The Association, therefore, decided that in future no communication of the kind should be published unless the organizers of congresses first give representatives of the medical journals the full privileges of membership.

To the current number of the *Cornhill Magazine* Mr. Roden Shields contributes under the title of "A Blurred Memory of Childhood" some reminiscences of the Edinburgh Royal Infirmary where he was a fellow patient with the late W. E. Henley. In the latter part of 1873, being then seven years old, he was admitted under Lister to a private ward in which he shared a bed with another boy, while the other bed was occupied by Henley. He describes Mrs Porter, later immortalized by Henley, in his sonnet on the "Staff Nurse—Old Style," as "a rare old nurse of the old school whose rugged kindliness and the skill of thirty years' experience inspired love, reverence, and awe in doctors and patients alike. The walls of her sitting-room were literally covered with

photographs of former house-surgeons, dressers, and students who had been contemporary with her during her thirty years' ministry." The original of Henley's "Staff Nurse—New Style" was Miss Logan, "the daughter of an Auld Licht minister who had reared her piously, educated her liberally and dying left her unprovided for materially but otherwise thoroughly equipped for her chosen profession." According to Mr. Shields, Henley does her scant justice. He speaks of Lister, "gentle, tender as a mother." Henley's portrait of "The Chief" is said to be absolutely true to life. Mr. Shields gives two instances within his own knowledge which show the stuff of which the hero is made. He says:

> My mother, who had travelled from Glasgow to visit me, was battling along Princes Street one day against wind and rain on her way to the infirmary. Lister happened to be passing in his carriage, and recognized her. He instantly stopped, picked up the poor bedraggled woman in the most fashionable thoroughfare in Scotland, and conveyed her to their common destination. Again, in another little room close to ours lay a poor woman suffering from a tumour or abscess deemed incurable. Lister maintained her there at his own charges for over three years, and restored her to her husband and family in Montrose, healed. Well might Henley say:
>
> "Faultless patience and unyielding will."
>
> Long before her late Majesty made him a peer, Lister secured his lasting fame in the hearts of poor, grateful sufferers as much for the noble qualities of his character as for his rare skill.

Of Henley himself Mr. Shields has the kindliest recollection. He was fierce of aspect, but the children had no fear of him. They were very curious about his writing so much, and asked him to whom he wrote. He replied that it was his grandmother. He told them stories and sang droll ditties, many of them original. Among Henley's visitors Mr. Shields vaguely remembers "a tall thin dark man in a velvet jacket," to whom he used to refer as "you funny man."

To the August number of the *St. Bartholomew's Hospital Journal* Dr. Norman Moore contributes an article full of archaeological lore on the hospital and the Interdict of 1208. On Monday, March 23rd, an interdict was proclaimed throughout England. All the sacraments ceased to be administered, except only those of the dying and the baptism of infants. The bodies of the dead, says Matthew Paris—who was a child at the time, and knew in after-life many people who could remember it—were brought out of the towns and, after the manner of dogs, were buried in byways and ditches, without religious rites. William de Santa Maria Ecclesia, Bishop of London, with the Bishops of Ely and Worcester, communicated to the King the certainty of an interdict if he continued to refuse to receive Stephen Langton as Archbishop, and when they found no sign of penitence in him they placed his realm of England under an interdict. The three bishops were banished for five years; but William, having received a safe conduct from the King from July 14th to September 29th, returned with papal messages. It was probably between March, 1208, and October, 1209, that he issued an ordinance, of which a copy is preserved in the cartulary of the hospital, to the Prior and Canons of St. Bartholomew's Church, and to the Procurator and brethren of St. Bartholomew's Hospital, as to land which they had granted for the burial of the dead during the interdict to Henry, the Mayor, and the citizens of London. Christian burial being forbidden, the Mayor and citizens had asked the Prior and Canons, and the Procurator and brethren for a certain area lying next the hospital on the east side for the public burial of their dead. This was granted, and the place was enclosed. Care is to be taken, says the ordinance, that no bodies of those who chance to die in the hospital are to be buried in this ground. Brethren alike and poor coming to the hospital from other places during the interdict are to be buried as before in a suitable place provided by the Canons till after the interdict. The place granted at request of the Mayor and citizens shall return to the possession of the brethren of the hospital, and after that no one shall bury any one in that area. The ordinance shall in future times keep unbroken peace between the Canons and the brethren of the hospital. The recent discovery of a great many male and female human bones in a part of the ground once covered by Christ's Hospital and not far from the city ditch suggests the question of whether these could have been the remains of the people buried during the interdict, but the ordinance of William de St. Maria, Bishop of London, which is printed by Dr. Moore for the first time, shows that the burial place of that period was on the opposite side of the hospital.

In his "London Letter" to the *Indian Medical Gazette*, which appears in the August number of our contemporary, Colonel Kenneth McLeod bids farewell to the journal with which he has been connected for some forty years. He says the starting of the *Indian Medical Gazette* was coincident with the commencement of his service in India in January, 1866. Since then, as contributor and editor, he has been in continuous and close connexion with the journal. He says it was for a long time unfortunate in its publishers. "The firms which owned and issued it were decadent and impecunious, and for some twenty years its existence was rather precarious. Without the support of the Government of India it would have collapsed, and there was a dismal lack of enterprise and liberality in its management." It was through the wise intervention of Colonel L. A. Waddell, who acted as editor in 1884-5 during Colonel McLeod's absence on furlough, that matters were placed on a more satisfactory and stable basis. He bought the journal, and entrusted its publication to Messrs. Thacker, Spink, and Co., of Calcutta. Colonel McLeod points out that medical journalism has difficulties to encounter in India which are unknown in other countries. Medical journals and societies have accordingly had for the most part a short and fitful tenure of life, and an existence of forty years is as creditable as it is unwonted. The editors have been burdened with other duties, which made journalistic work especially difficult. The first two editors, D. Boyes Smith and J. Purefoy Colles, were employed in the Medical College and College Hospital. The next two, C. R. Francis and J. F. C. Ross, were secretaries in the Medical Department when the whole of the medical administration of the Bengal Presidency, both military and civil, was transacted in the office of the Surgeon-General. C. Macnamara was Professor of Ophthalmic Surgery and Superintendent of the Eye Infirmary, and had a large private practice in Calcutta. During the twenty-two years of Dr. McLeod's editorship he was loaded with labours and responsibilities, official and other, which left very little time for editorial pursuits; those who acted for him during furloughs, and those who have edited the journal since he left India, have all been in a similar plight. The wonder, therefore, is that the *Indian Medical Gazette* has contrived to survive so long under circumstances so embarrassing. The explanation of the matter is, he says, simply the existence of a laudable spirit of professional activity and of a constraining impulse on the part of medical men serving in India to promote medical science, to teach and be taught, to bring their experiences and thoughts into light for the purpose of testing their value by passing them through the crucible of publication and discussion.

In the *Pharmaceutical Journal* of August 19th Mr. H. John Henderson pleads for the issue of a pocket edition of the *British Pharmacopoeia*. He points out that it is a book of 535 pages, measuring 8 in. by 5 in., having a thickness of 1¼ in., and weighing just 1 oz. short of 2 lb. He says it should be a book 6 in. by 3 in., with a maximum thickness of ⅞ in., and weighing not more than 6 oz., bound, not cased, in limp morocco or pigskin, to withstand hard wear and slip easily into the pocket. Mr. Henderson declares that the book in its present form is of a size which makes it unsuitable for use by the class for whom it is primarily intended, and "it languishes in the cold shade of neglect on that account." The contents would also bear condensation. "Under Belladonna Root five lines are occupied in informing the seeker after knowledge that it is nearly cylindrical, that it is entire or split, that it is from ⅜ in. to ¾ in. in diameter, and that it varies from 6 in. to 1 ft. or more in length. This might be the description of a fishing-rod. Vague descriptions of this kind suggest nothing to the mind; they should be relegated to the dust-heap if the pharmacist is assumed to be duly trained. Wordy, windy descriptions as to appearance, size, and colour only serve to illustrate the limitations of language. A short note on its chemical constituents, the combination, if known, in which they exist in the crude drug, with a therapeutical and prescribing note, and a book will exist which will be in the pocket of every medical student and qualified practitioner."

We learn that Mr. Edgar Schuster, the Francis Galton research scholar in national "eugenics" at the University of London, has presented a report containing a preliminary account of inquiries which have been made into the inheritance of disease, and especially of feeble-mindedness, deaf-mutism and phthisis. Arrangements have been made with Mr. John Murray for the publication of a work written by Mr. Galton in conjunction with Mr. Schuster, on families several members of which have won distinction in modern science. This will appear as Volume I of the publications of the Eugenics Record Office, and will contain accounts of the families of some fifty Fellows of the Royal Society.

SPECIAL CORRESPONDENCE.

VIENNA.

Cigarette-smoking and Abuse of Alcohol by Children.—Conditions of the Profession in Vienna a Hundred Years Ago.—The Correlation between the Bovine and the Human Bacillus.—X Rays in Graves's Disease.

At the last meeting of the Superior Public Health Council, Professor Exner, Lecturer on Physiology in the University, brought forward a motion to restrict the sale of tobacco and alcohol to children under the age of 16. He said that experiments conducted with the view of ascertaining the effects of these substances had definitely proved their deleterious influence on the growing organism. It would be well to induce school-teachers to devote part of their time towards the fight against the abuse. A prohibitive law would be only a half measure. A discussion followed, in which the opinion was expressed that such a law would mean an infringement of the individual liberty in education, because some parents allowed and even encouraged their children to drink and smoke. Some figures brought forward in illustration of the actual state of affairs are interesting. Thus, at an inquiry in one of the public schools in the poorer districts of Vienna only 162 of the boys from 8 to 14 years had not yet drunk beer or gin, whilst 20 per cent. admitted smoking. The habit of sending the children to fetch these articles was very often the first inducement to taste them. Not seldom mothers were in the habit of giving their infants a few drops of gin to make them sleep, and continued to do so even when they were able to sleep without help. Interference with growth had been traced to this; this is especially the case in the Czech families, who are very numerous amongst the factory population.

In a paper read before the Society of the History of Medicine, Professor Neuburger reviewed the condition of the profession 100 years ago. In 1800 there were only 260 doctors in Vienna, including 7 professors; there were scores of quacks, and even then the competition was as keen as it is now, so that Professor Frank found it necessary to warn the students against what he called "Iatromania." Then as now the poorer families put their sons into the profession, and their limited means depressed the standard of payment. Quackery was rife and patronized by the highest classes, and "natural cures" and something akin to "Christian Science" were practised even then by members of the fair sex. In an essay on the Choice of Occupation, dated 1801, Professor Frank complained of the overcrowding in all branches of the liberal professions, especially that of medicine, and payment by the State was advocated, as now.

Dr. Weber, at a meeting of the Central Committee for the erection of Open-air Sanatoriums, spoke on the strictly scientific side of the question, and explained the present state of knowledge of the subject. He said that there are two distinctly different types of the bacillus—bacillus tuberculosis humanus, which was pathogenic for man, and bacillus bovinus, which was dangerous to cows and oxen. Under certain conditions, the bacillus bovinus could establish itself in the human organism. The cases of such infection hitherto known had occurred only in children under the age of 10 years, and then this bacillus was mostly responsible for general miliary tuberculosis. Such children might also show, in enlarged glands in the neck, the bacillus of the other type, in addition to the "normal" human bacillus. Weber regards human tuberculosis as the principal source of infection, and therefore persons who might serve as agents in the propagation of the disease ought to be either cured or isolated as far as possible. As, however, it has been proved that the bacillus bovinus may also cause human disease, milk and meat from suspected sources must be destroyed or thoroughly disinfected.

Dr. Stegmann has experimented with x rays on the thyroid gland in cases in which the goitre was too small for operation, or where surgical interference was not allowed. He submitted 13 cases to this treatment. The patients were shown at a recent meeting of the Society of Practitioners. They were mostly girls from 16 to 20 years of age; one was a woman of 42. The circumference of the neck was first measured, and every week the condition of the skin, the weight, and the circumference of neck were noted. In all cases the diameter of circumference was reduced after a few weeks; every other day, or three weeks of the treatment it went as far as 6 cm. (2·37 in.). With careful application of the rays no unpleasant effect on the skin was produced. Two patients suffering from Graves's disease were also treated with remarkable success. After sittings of fifteen minutes each the nervous symptoms disappeared, though the parenchymatous swelling was not much changed, and the continued treatment effected an absolute cure as regards the heart complaints. All other medication was omitted whilst these 13 patients were submitted to x rays, and one had remained free from all relapse since the treatment six months ago.

BIRMINGHAM.

Corbett Hospital, Stourbridge.—Guest Hospital, Dudley.—Infant Mortality in Birmingham.

THE thirteenth annual gala and flower show was held for the benefit of the Corbett Hospital, Stourbridge, on Bank Holiday. Viscountess Cobham opened the show, and she was introduced by Mr. W. B. Cobham, Chairman of the Hospital Board. In former years considerable sums of money have been handed over to the hospital by this means, last year £175 being raised. The flower show this year was a great success, and many well-known ladies and gentlemen of the county figured among the prize winners.

The annual Dudley Horse Show was held on August 9th in aid of the Guest Hospital. Owing to the rain on that day, the profits to be handed over to the institution will be much less than in previous years. Otherwise the show was the usual county function, and a good programme was carried out, in spite of the inclement weather.

In the annual report of Dr. Robertson, medical officer of health, the infant mortality in Birmingham for 1904 is shown to be exceedingly high. There were 3,302 deaths of infants under 1 year of age, as compared with 2,668 in 1903. In the diarrhoea season, 1,139 deaths occurred, as against 731 in 1903 during the same period. The rate of infant mortality was 175 per 1,000 births, and this equals that of 1875; while in 1893, 1896, 1897, and 1900 only was the rate higher than in 1904. More than half the deaths were accounted for by diarrhoea and enteritis, debility and marasmus, bronchitis and broncho-pneumonia. In the Registrar-General's latest report it is seen that Birmingham ranks fourth of the seventy-six largest towns in England and Wales in the extent of its infantile mortality; Burnley, Hanley, and Stockport alone showing worse results.

MANCHESTER.

Port Sanitary Authority.—Application of Shop Hours Act.—Increase of Death rate.

At the monthly meeting of the Port Sanitary Authority, the Medical Officer reported that from June 26th to July 31st the number of vessels inspected was 293, of which 252 were British. This authority has no jurisdiction over the food supplied to the crews of ships, which, however, is liable to examination by the officials of the Board of Trade. The Council of the Association of Port Sanitary Authorities, it appears, is of opinion that port sanitary authorities should have the same powers in the matter that urban authorities possess under food sections of the Public Health Act. Further, that the port authority should have the power of seizing any article of food—such as cargoes of meat—in an unsound condition, and intended for the food of man, which might come under its notice. Municipal authorities at present have no power to deal with unsound meat until it is exposed for sale.

It is interesting to note that steps are being taken in several Lancashire towns for putting into force the provisions of the Shop Hours Act. At Oldham the closing order submitted to the Secretary of State for confirmation applies for the closing of barbers' and hairdressers' shops: 8 p.m. on Monday, 1 p.m. on Tuesday, 9 p.m. on Wednesday and Thursday, 9.30 p.m. on Friday, and 10 p.m. on Saturday. For boot and shoe dealers' and tailors' shops: 9 p.m. on Monday and Friday, 1 p.m. on Tuesday, 8 p.m. on Wednesday and Thursday, and 10 p.m. on Saturday. The Town Council of Rochdale has submitted to the Secretary of State somewhat similar provisions, and so also has the Swinton and Pendlebury Urban District Council.

During the week ending August 12th the death-rate, which in the previous six weeks averaged 17·2, rose to 21·6 per 1,000 of the population. Of the deaths (157 total 261), or 60 per cent., were those of children under 5 years of age, and 39—that is 15 per cent.—were those of persons over 60 years of age. There were 58 deaths from diarrhoea, as compared with an average of 30 in the six preceding weeks, and of these 76

were children under 1 year. During the week 67 fresh cases of dangerous infectious disease were reported, 42 being due to scarlet fever, 11 to diphtheria, 5 to enteric fever, 6 to erysipelas, and 3 to puerperal fever.

SOUTH WALES.

Housing at Brynmawr.—Merthyr Housing Question.—The Medical Officer of Health for Merthyr.—Panteg District Council.—Pontypool Hospital.

At the monthly meeting of the Brynmawr District Council held on August 16th the surveyor reported that a number of defective and overcrowded houses existed in the district. The Council decided that notices should be served to remedy the defects. As regards the overcrowding a member stated that they might go round the whole town for there were plenty of cases other than those referred to. The Council have adopted the housing of the Working Classes Act, but so far the housing question has only been discussed. The medical officer of health reported 6 cases of typhoid fever during the past month. The general system of drainage of the house concerned, he said, was very faulty. There was no reason to suspect the water or milk supply as the cause of these cases.

At a meeting of the Merthyr Urban District Council held on August 16th a communication was read from the Local Government Board stating that they had under consideration the annual report of the medical officer of health of the Merthyr Urban District Council. In view of the statements of Dr. Thomas as to the housing of the working classes, the insanitary condition of the houses and streets, and having regard to the serious prevalence of infectious disease in recent years the Board had instructed their inspector (Dr. Spencer Low) to make inquiry into the prevalence of infectious disease in recent years and into the sanitary circumstances and administration of the urban district, and report to them on the subject. Accordingly the Council was requested to instruct their officials to offer Dr. Low all necessary assistance in prosecuting his inquiries. The letter was dated July 29th. It was stated that Dr Low had already been in the district and every assistance had been rendered him. The deputy clerk intimated that Dr. Low would pay another visit shortly.

Dr. D. J. Thomas, Medical Officer of Health to the Merthyr District Council, has been appointed Medical Officer of Health for Acton. Dr. Thomas is not only a shrewd thinker, but a very capable adviser and administrator in respect of public health duties and problems, and his departure is keenly regretted at Merthyr.

At the monthly meeting of the Panteg Urban District Council, held on August 15th, the Medical Officer of Health reported that during the month an epidemic of measles had occurred in the Mynyhilad district. Referring to a paragraph in the medical officer's report upon the large number of deaths amongst children under 5 years of age, the Chairman and the Council were strongly of the opinion that a conference of the medical men in the county should be called so as to frame a set of rules which would minimize to a large extent the causes of death of young children, and a resolution was passed calling upon the Sanitary Committee of the Monmouthshire County Council to convene such a meeting.

The half-yearly meeting of the Pontypool and District Hospital Governors was held on August 14th at the Town Hall, Pontypool. In his report the Secretary stated that the average weekly number of patients during the past six months was 16, and the treatment in most cases had resulted in the patients being discharged cured. The medical staff had shown great zeal, and their efforts had been ably seconded by the nursing staff. The question of the erection of a children's ward had been fully considered by the Executive Board, and they had decided to defer the question pending an increase in the income, as the upkeep of such a ward would mean a further cost of £300 per annum, in addition to the capital expenditure. The Secretary's report was unanimously adopted. The report of the Treasurer showed that the income during the year amounted to £1,314 10s. 5d., and the expenditure to £913 0s. 9d., leaving a balance of £401 9s. 8d.

Bequests to Medical Charities.—The late Mr. John Ramsden, of Chester, whose will has now been proved, bequeathed £500 to the Chester and £200 to the Chester District Nurses Institution.

CORRESPONDENCE.

ERRORS OF DIAGNOSIS AND INFECTIOUS DISEASES.

Sir,—Your leading article of this week deals with a subject highly important from the point of view of practical sanitary administration. This is plainly shown by one sentence, which reads as follows: "What, after all, is the main function of both medical officer of health and of medical superintendent of fever hospital?"—or as I would prefer, if you will allow me, to put it; "What, after all, is the main function of county council, borough or district council, and joint hospital Boards in this matter, but to work in harmony with a view to prevent and diminish the incidence of infectious diseases?" This is a question which, along with that referred to the Council of the Association by the Public Health Section at the Leicester meeting, urgently calls for consideration and reply. An inquiry must before long be made into the alleged failure of the hospital isolation system, as at present carried out, in the repression of epidemics of the notifiable diseases. This charge needs investigation primarily from the strictly medical point of view—namely, the advisability or otherwise of the indiscriminate removal of cases from home to hospital, and the efficiency or otherwise of hospital disinfection in a broad sense. The questions of extravagances in architecture and general management, of which there are so many complaints against the Asylums Board and other hospital authorities, form matters for important but secondary consideration.

When such inquiry comes to be held, I trust it will not be forgotten that, some sixteen years ago—synchronously with the adoption by the Government of the Notification Act (previously tried in northern cities of the kingdom and provincial towns)—the Royal College of Physicians took up the very question which is the subject of your leading article of to-day, and that their action at any rate led to some immediately practical results.—I am, etc.,

August 19th. F.R.C.P.

INSANITY AND MURDER.

Sir,—When writing upon any subject dealing with insanity it is a foregone conclusion that Dr. Mercier will enter the arena for discussion, and it is a compliment to the points raised when he takes them in hand seriously. It is, however, difficult to believe that he has done more than glance at the heading of the article in the British Medical Journal of August 12th, about which he writes; for a more complete distortion of the matter on his part and a more deliberate assumption of a *volte face* on mine cannot be imagined, and the run of his letter seems to imply that a capitulation has been made to his criticisms and to his dictum that a person may be of unsound mind and yet responsible—that is, fit to plead. If this theory of the responsibility in insanity is the *Leit-motif* running through Dr. Mercier's forthcoming work, of which we have had the advance posters then his trifling banality about "the engineer and the surveyor" may be allowed to pass. These authorities would, under the conditions, be as useful as any others, for the state of mind of the prisoner would then be of no consequence. Up to now the question of insanity in murder trials has been considered one of urgency, but to Dr. Mercier it seems to be a matter of no importance. Whether intentionally or by accident the proceedings in the recent trial of Devereux are in accordance with the views which you have been advocating. He was specially examined before the trial by the Crown experts, and was found to be fit to plead. We may therefore conclude that he was declared by the experts to be sane, and we note that the subsequent proceedings were much simplified. The judge, being satisfied that the state of mind of the prisoner had been satisfactorily determined, very wisely disallowed the collateral issues raised by the prisoner's counsel about the mental state of his ancestors, and the case was allowed to go to the jury on plain issues, untrammelled by any complications about the sanity of prisoner. Had Devereux been first allowed to give evidence and then afterwards been found insane, a great slur would have been thrown upon procedure. As it was, everybody was satisfied that a great bone of contention had been removed by the preliminary examination of the experts (assessors), though some people would have been glad to have had them called at the commencement of the trial to give the conclusions arrived at by their examination.

As one result of the "tremendous machinery" of your leading articles—which are just as potent to crack a nut-

shell as to smash a great wrong—I propose to bring the question of procedure before the Medico-Legal Society, when I hope to have the pleasure of hearing Dr. Mercier on his views, under the presidency of one of the learned judges. It has been all along conceded that in some instances the Crown experts have examined the prisoner before trial. The contention of the articles you have published is that this preliminary examination should invariably be made in all cases of trial for murder, and that it should not be left for an untrained jury to determine or to estimate its influence on the crime.—I am, etc.,

August 18th. THE WRITER OF THE ARTICLE.

THE METROPOLITAN ASYLUMS BOARD AND ITS ASSISTANT MEDICAL OFFICERS.

SIR,—We have felt it our duty to resign our appointments as second, third, and fourth assistant medical officers at the Darenth Asylum in order to call attention to the difficulties we have met with in the fulfilment of our duties. It may not generally be known that the assistant medical officers under the Metropolitan Asylums Board rank as subordinate officers, while the chaplain, steward, matron and head school mistress are principal officers. The result of this is that directions for the care of patients given by an assistant medical officer may be revised by a lay officer of the superior rank, and the assistant medical officer's only remedy is an appeal to the superintendent on every such point.

This is no merely hypothetical objection, but is in actual experience a difficulty which does arise and for which the remedy officially provided is obviously inadequate.

We are prepared, if necessary, to quote instances from our own experience of matters exclusively medical in which a lay principal officer has modified the directions of an assistant medical officer. It is quite clear that no lay officer can be allowed to interfere in medical matters without direct detriment to the interest of the patients. That the assistant medical officers may appeal to the superintendent does not unfortunately secure the patient from harm.

Such intrusions of unqualified persons into purely medical matters are frequent, and would entail upon the assistant medical officers an almost continuous series of complaints. Moreover—and this is a much more serious aspect of the case—by the time the complaint is made the harm may be done and the patient have already suffered from the effect of ignorant interference.

Attempts have been made before to remedy this paradoxical state of affairs, but the facts as they are at present demonstrate the completeness of the failure these efforts have met with.

From the status of the assistant medical officers and the accommodation provided for them, we are led to suspect that the Metropolitan Asylums Board is not particularly anxious to get as assistant medical officers men who will stay for any length of time at the asylums. Now it is obvious if, as it often is, the average stay of an assistant medical officer at an asylum is not more than a few months, his opportunities of getting any thorough grasp of the condition and progress of his patients are very imperfect, and the interests of the patients cannot fail to suffer by this.

These being the conditions under which we have been compelled to do our work, we have been led to the conclusion that it is our duty to resign our appointments.—We are, etc.,

F. R. BARWELL,
G. A. HERKLOTS,
August 23rd. H. P. KENNARD.

THE DIAGNOSIS OF INCIPIENT PHTHISIS AND ITS OPEN-AIR TREATMENT.

SIR, Having read your criticism on Dr. Burton-Fanning's "very readable manual" on the *Open-Air Treatment of Pulmonary Tuberculosis* in the JOURNAL of August 19th, I should like to shortly summarize my four years' experience on the question of diagnosis as honorary physician to a charitable sanatorium.

Among the early signs of phthisis you select for comment "a moist click on auscultation and the presence of bacilli in the sputum."

I suppose most observers would agree that the two most reliable classes of signs are: (1) Alterations in the quality of the breath or voice sounds; (2) adventitious sounds. But opinions differ as to the relative priority with which they make their appearance. Probably in some cases the first noticeable sign is some alteration in the character of the breath sounds, while in others it consists in the presence of crepitations. Symptoms, of course, come into a different category, and should be carefully weighed along with physical signs.

To my mind the most reliable, and in a majority of my cases the earliest, physical sign has been the presence of crepitations. Unfortunately the same meaning is not attached to the same term by different observers. What I call a crepitation, for instance, might be called by some one else a "moist râle" or "moist click" without detracting from its value as an early sign. We describe things as they appear to us, but Medicine affords daily confirmation of the truth: "Things are not what they seem."

The crepitation heard in early tubercle of the lung, generally at or near the apex, which I should call *dry*, Dr. Burton-Fanning is no doubt technically correct in calling *moist*. It varies in character and pitch, but is always "fine," crisp, like the rubbing of hair. Most typically, it consists of a series of rapidly-repeated clicks at the end of inspiration, increased, not dispersed, by coughing. It is frequently necessary to make the patient cough repeatedly in order to elicit the sign. The character of the clicks is not always so typical: they may be scattered and occasional instead of running in series, and may occur at any period of respiration. A common form is a single short sound at the commencement of inspiration following a cough. Dr. West's description of what is heard seems to me very correct:

> Crepitation in the earliest stage may be very fine, and due to the opening out of collapsed air vesicles, or to a little fluid in the air tubes. Fine crepitation cannot be distinguished by the ear from some forms of pleuritic friction, but the distinction is of no importance in the case of phthisis, for at the apex its meaning in either case is the same—namely, tuberculosis [1]

"Dry" crepitation by insensible degrees alters to a sound legitimately called "moist," being obviously due to air bubbling through fluid. But I should call this a "fine moist râle," reserving the term "crepitation" for the earlier sign.

Less common as an initial sign, in my experience—perhaps because one does not often see cases sufficiently early—is a localized alteration in the breath sounds. "Cogged" or wavy respiration may be heard in perfectly healthy chests, and, speaking generally, is not a sign of great value. But in conjunction with the early symptoms of phthisis weak or "cogged" respiration, confined to one apex, may be a sign of importance. That "cogged" breathing does not infrequently indicate early tuberculization is evident from its presence, before all other signs, in those portions of lung which are in process of invasion as the tuberculous process gradually advances from apex to base.

But a more reliable sign consists in alterations in the pitch and audibility of the breath sounds. Caution is required before attributing slightly blowing and more audible respiration at the *right* apex to disease. This may occur at the normal right apex, and may be accompanied by bronchophony. More intense breath sounds on the *left* side are almost certainly evidence of disease, in the absence of local deformity of the chest wall. In either case, if expiration is harsh, prolonged, and possibly separated at its commencement from inspiration by a pause, there is ground for suspecting tuberculous consolidation.

As a rule the disease is well-established before bacilli appear in the sputum; but that does not alter the fact that their presence may be a valuable early sign. I have known cough and hoarseness, there being no signs in the lungs, diagnosed as simple laryngitis, while within a week the sputum was discovered to be swarming with bacilli. In some cases the discovery of bacilli, though late in the patient's illness, may nevertheless be an early sign with a view to definite diagnosis, and may, therefore, materially influence prognosis. For instance a patient remains weak after a pleurisy, continues to cough, with perhaps a quick pulse, and mobile temperature. Nothing can be discovered at the apices; one base is dull on percussion, but nothing can be heard through the thickened pleura except very feeble breath sounds and a few distant, indefinite "clicks." In such a case the discovery of bacilli in the sputum is of great importance, and in the absence of other conclusive signs may even be termed an early one.

May I briefly illustrate these diagnostic points by reference to two cases:

> CASE 1.—There is at the present moment in the Sherwood Forest Sanatorium a girl, aged 17, who was brought to me about three months ago without having had previous medical advice, so that I have been able to watch the case from the commencement, or what was taken to

[1] *Diseases of the Organs of Respiration.*

be the commencement of the illness. The symptoms were such as to raise a suspicion of tubercle, but the signs were so slight for the first month or more as to make one almost doubt their existence. They consisted of doubtfully-impaired percussion note at the left apex, and a few scanty, scattered, barely audible, fine crepitations. The breath and voice sounds appeared normal. At the present time the dulness is still only slight, but perceptible, and the crepitations have become unmistakable to-and-fro fine moist rales with every breath. There has never been a particle of sputum, so that the bacillary test, if needed, has never been available.

Case II.—A young woman, aged 19, came to me complaining of weakness and cough. At the right apex in front the expiratory murmur was prolonged and harsh. The temperature was slightly raised, and after becoming normal was subject to slight oscillations without obvious cause. She remained under observation four months, during the early period of which there was some muco-purulent expectoration in which bacilli were not detected, and occasional crepitations were heard. Finally, all abnormal sounds disappeared, and she completely regained her health. I might still have had some lingering doubt as to whether this was a case of tuberculous infection at all, but for an unexpected piece of evidence which came to light long after the girl was well. Her mother now appeared on the scene, told me she had been coughing for years, and bringing up thick phlegm. On examination one lung was practically airless, and the signs suggested most convincingly the presence of a very old lesion. At the time the daughter was brought to me the two were sleeping in the same bed, and the daughter had remarked, "Mother, I must have taken your cough." Nothing of this was told me until long after the daughter's case had been diagnosed and treated.

May I add, with all respect, that some expressions in your review seem hardly to do justice to Dr. Burton-Fanning's pioneering work on the open-air treatment. The words, "There is nothing new in this manual," are rather calculated—doubtless unintentionally—to convey the impression that it is a compilation drawn from other men's work. Those who have followed Dr. Burton-Fanning's own work on the subject know that such an impression would be contrary to the facts. One of the earliest to practise this method of treatment in Great Britain, his original observations have shown how it can be best adopted to the needs of these Islands, and have been the means of correcting certain details of the treatment held at one time to be more important than has since been found to be the case.—I am, etc.,

Nottingham, Aug. 20th. C. H. Cattle.

"THE OPEN-AIR TREATMENT OF PULMONARY TUBERCULOSIS."

Sir,—In your review of the above manual, it is apparently implied that I made the erroneous statement that rest is not an essential part of the treatment as carried on at Nordrach. This is the opposite of my intended meaning. I appreciate too fully the pioneer work done at the Nordrach Sanatorium to allow my readers to be under any misapprehension about its methods. My point is that at Nordrach all systematic rest is taken in the patients' bedrooms instead of in open air shelters as at some sanatoriums. Neither do I state that forced feeding is practised at Nordrach. Trusting that you may find room for these remarks in an early issue, I am, etc.,

Norwich, Aug. 22nd. F. W. Burton-Fanning.

THE CORONER FOR SOUTH-WEST LONDON.

Sir,—Referring to the letter of "E. S." in the British Medical Journal of August 19th, I think that the remarks on the subject have been presented to him in a somewhat erroneous way. The resolution was brought forward in consequence of remarks made by the Chairman—vide Supplement, July 29th, p. 120, *re* above subject. In proposing the resolution no allusions were made to "putting out" Governments, comparing Governments, or to any probable benefits derivable from Government, or anything said about voting for any Government, but only in regard to the lack of courtesy which we had been told would probably not have been shown to any other profession—vide Supplement, August 5th, pp. 141-2, and Supplement alluded to above.

The voting showed the practically unanimous feeling of the Representatives on this subject, as all seemed to feel that the matter was more immediately important to the profession than many "isms." The mover and seconder of the resolution and a large number of the voters were Conservatives and alluded to the fact.

I quite agree that medical men should use their influence with candidates, both Unionist or otherwise: but, if the profession has to have the status and influence it ought to have, it must also encourage and support the return of medical candidates to Parliament whenever possible.

We have been told again and again by various eminent statesmen of more than one country that if the profession will not take an interest in politics, politics will not take an interest in the profession; and what they meant was supporting candidates of our own cloth, for any profession or class leaving its interests and defence to others will only repeat the experience of the Britons with the Saxons.—I am, etc.,

Cambridge, Aug. 21st. J. Booth-Clarkson.

PHYSICAL DEGENERATION AND SYPHILIS.

Sir,—I have read with interest the excellent article in the British Medical Journal for August 19th on physical degeneration and syphilis by Lieutenant-Colonel Lambkin, R.A.M.C. Those of us who have to treat large numbers of the poorer classes at public institutions cannot fail to deplore the extent to which syphilis exists amongst them, and to realize the importance of thorough and efficient treatment in the early stages. The sooner that we look upon syphilis as a preventable disease, and set about to prevent it, the better for us as a nation. Lieutenant-Colonel Lambkin refers to the improved results which have followed an increased thoroughness of treatment in the army. This is, undoubtedly, a step in the right direction, but when he appears to imply that the routine of weekly intermuscular injections as carried out in the army is going to solve the difficulties of efficient treatment amongst the general public he is, I fear, altogether too sanguine. Let me quote his own words:

> The treatment of syphilis amongst the civil population of England at present consists, *as far as I can gather* (the italics are mine), of palliating the disease, not of endeavouring to cure it permanently. . . . At the most the only attempt of giving continuous treatment consists of giving mercury in some shape or form to be taken for a given time.

Of these two statements, the first is, happily, limited in its application by the words I have ventured to put in italics; it is by no means universally true throughout the country. As regards the second, I fail to see that even the intramuscular treatment offers anything more of a curative kind than the giving of mercury for a given time; it is merely a question of the most convenient method of its introduction.

I fear that Lieutenant-Colonel Lambkin has failed to realize the numerous difficulties which the problem of syphilis presents to the civil surgeon, which are entirely or almost entirely absent in the army. They may be classed under three heads: (1) Dread of publicity, (2) expense, and (3) innate carelessness of the individual.

Speaking from an experience of over fifteen years in a large centre of population, I should say that amongst the well-to-do classes there is little or no difficulty in getting them to carry out a thorough, prolonged, and efficient mercurial treatment, whether by means of pills, medicine, or inunction, and that such treatment produces as successful a "cure" as a course of mercurial injections, if we are sanguine enough to call any of these "cures." Amongst such persons, Difficulty No. 2 does not enter into the case; No. 1 is met by the confidential family doctor or by the metropolitan consultant; No. 3 is diminished by education, and the dread of future disasters.

It is when we come to deal with the middle class and poorer part of the public that these difficulties become so great. In a huge centre such as London, its very size ensures that those who cannot afford to go to a private medical man will not hesitate to attend a hospital or even a special lock hospital, because there is but little chance of being seen there by acquaintances, and large numbers of primary venereal diseases attend in the casualty rooms of the London hospitals daily. Unfortunately the same cause, namely, the vastness of the place, also acts the other way, and the patient is easily lost sight of. I do not see that a man who will not take the trouble to attend once a week or once a month for treatment by pills or medicine is any more likely to do so once a week to have an intramuscular injection. But it is in the large centres of population, such as the numerous provincial cities, that Difficulty No. 1 rises to its maximum. Those who cannot attend for efficient treatment privately, on account of lack of means, dare not come to hospitals on account of the likelihood of being seen there and their ailment suspected by their neighbours, parents, or employers. As a result early cases of venereal disease in such places do not receive medical attention at all, but seek treatment at the hands of unqualified persons, who vary from the bogus "medical institute" to the recognized "clap curer" at the large works who guarantees a

complete cure for sixpence, and does not thereby underrate the value of his cure. This is a very grave fact, and if Lieutenant-Colonel Lambkin will suggest a practical method whereby the poorer classes may be induced to seek proper medical advice in the early stages of syphilis and can be offered at the same time efficiency, freedom from expense, and are ensured privacy, I am sure his civilian brethren will cordially welcome it and assist him to carry it out. In conclusion, I wish to thank Lieutenant-Colonel Lambkin for bringing forward this important subject, which, as he says, "requires to be taken up seriously by the profession in England."—I am, etc.,

ARTHUR HALL, M.A., M.D.Cantab., F.R.C.P.

Sheffield, Aug. 20th.

SPONTANEOUS COMBUSTION.

SIR,—May I be permitted to remind your readers of the fact that a man of so much common sense as Charles Dickens was a firm believer in the occurrence of cases of spontaneous combustion of the living human body?

In *Bleak House*, chapter xxxii et seq., he described the death of the rag-shop keeper Krook from this cause, and evidently spared no pains to make it as thrilling and mysterious as possible. He poured scorn on the "authorities (of course the wisest)" who "hold with indignation that the deceased had no business to die in the alleged manner," and he quoted cases and authorities in favour of his own view.

In the preface to the complete novel, dated August, 1853, he refers to a published correspondence on the subject between himself and Mr G. H. Lewes with such complacency that it is evident that he thought that he had had the best of the controversy, and in conclusion he wrote:

> I shall not abandon the facts until there shall have been a considerable spontaneous combustion of the testimony on which human occurrences are usually received.

The two recorded cases on which Dickens most relied were that of an Italian Countess at Verona in 1731, and that of a woman at Rheims in 1725. He is not the only novelist to make use of such an incident. Captain Marryat disposes of Jacob Faithful's mother in a similar manner when she takes fire on board the barge, but, strange to say, does not set the vessel on fire, although she herself is burnt to ashes. In this, as in other cases, we must suppose that "spontaneous combustion," while generating enough heat to volatilize parts of the body, has an elective affinity for it and it only, which prevents in some mysterious way the spread of the conflagration to surrounding inanimate objects.

Both of the fictitious cases might have only been instances of the inflammability of the living human body, for the possibility of the external application of fire was not excluded in either.

That a body composed four-fifths of water should take fire from a spark or a flame, and continue to burn till only ashes are left, is surely incredible enough without the added wonder of spontaneity, or, as in the case of Mr. Krook, of the volatilization and condensation of some part of the victim into "a thick yellow liquor . . . which is offensive to the sight, and more offensive to the smell. A stagnant [illegible] oil," etc.

The oil drips from the walls of the room above that in which the accident occurred. If an intelligence so active and acute as that of Dickens was imposed upon by the pseudo-scientific evidence in favour of this marvel, it is small wonder that a belief in it dies hard among the wonder-loving and superstitious people who form the majority of the public.—I am, etc.,

London, W., Aug. 17th. E. MUIRHEAD LITTLE.

SIR,—The article in the BRITISH MEDICAL JOURNAL of August 12th on spontaneous combustion recalls to my mind a case which occurred in my practice a year or two ago, which in the olden time would certainly have been classed as one of these cases, and which certainly presented many features difficult of explanation. The facts were these:

An elderly woman, living in a small house by herself, very intemperate, and a large consumer of spirits of all kinds, was last seen alive in the evening, as was often her habit, reading a magazine by candle light. The following morning early a policeman passing noticed smoke issuing from the closed shutters of the sitting-room window, and the house was broken into. The upper part of the walls and the ceiling of the room were much scorched, but the furniture in the room was intact. No trace of the occupant was found at first, but a small heap of black débris was noticed on the floor in front of a chair, which was an iron one, and the chintz cover of which was destroyed. I was sent for, and found this small heap to consist of the broken calcined bones of a human body. They were lying in a small pyramid, on top of which lay the skull. All the bones were completely bleached and brittle, every particle of soft tissue had been consumed. A table covered with a baize cloth within 3 ft. of the remains was not even scorched.

I was not called at the inquest held on this case, but the jury were very much concerned as to the cause of death, and from some remarks made to me by the foreman afterwards there appeared to be a decided opinion that this was a case of "spontaneous combustion."

It seems probable that the woman's clothes caught fire, but how is one to account for the absolute cremation of a body in the midst of a sitting room filled with furniture? I may say the remains were seen with me by a brother practitioner, and we were both agreed that several features of the case were beyond comprehension.—I am, etc.,

Feltwell, Brandon, Aug. 16th. E. G. ARCHER, M.R.C.S.

HAY FEVER, CHRONIC RHINITIS, AND ASTHMA.

SIR,—In reply to Dr. James Adam, my height is 5 ft. 6½ in., and my weight 9 st. 9 lb. When I was at my greatest weight (and also in my poorest health) my weight was rather over 11 st. (11 st. 4 lb. to 11 st. 7 lb.) I am not and never was a very robust man, but I am much more fit for endurance than I have ever been before in my life, and my intellect (such as it is—I used to think more of it than I do now) is clearer, I think, than it has ever been before. I think, if I may venture an opinion on Dr. Adam's case, that his man of 5 ft. 5 in. who weighs only 6 st. is wasted by too much, and probably might be benefited by fasting. Hippocrates, your readers will recollect, speaks of those who ὑπὸ μὲν γαρ πολλῶν ἀποσβέννυται so that I am not suggesting an impossible or unrecognized condition.

Dr. Adam says that he has tried to prove that autointoxication is an essential cause of asthma but is nearly always accompanied by nasal disease. I am sure he is correct, but I should prefer to put the view into the following form: Asthma is essentially a hypertrophy of the transverse elements of the respiratory tract, accompanied by inflammation of the mucous membrane of the posterior nares, the pharynx and the larynx, trachea, and bronchial tubes, frequently accompanied with exudation and hypertrophy of the turbinate bones and other neighbouring structures. Its predisposing cause is the autointoxication of overfeeding. It might be termed rhino pharyngo-laryngo-tracheo-bronchial-catarrh, cum (vel sine) exudatione. And its species would be polysitica, so that the catarrh and the nasal (and other) accompanying disease are both marks of the auto-intoxication.

But I have for a long time now been able to generalize from these experiences and these views regarding asthma to the wider position that almost all diseases—say nine-tenths or perhaps three-quarters of them—are caused by malnutrition, and that the form which this takes is far oftener that of polysitism and pollaki-sitism than of oligo-sitism or oligaki-sitism. They are nearly all autointoxications from too much food (and drink).

Professor Chittenden has dealt with one phase of this question and has shown that the average man eats two or three times as much food as he needs. But the full force of his demonstration and of Dr. Adam's and my own clinical conclusions will not be appreciated until as a profession we see and teach the public that the food we take is in no sense whatever the source of the mechanical energy of the body, and has, in fact, no relation to it at all.—I am, etc.,

August 17th. [illegible] M.D.

POST-GRADUATE SCHOOLS AT MILAN.—By arrangement between the Italian Ministers of Public Instruction and Finance, the official representatives of the province and commune of Milan and the managers of the hospitals of that city, it has been decided to establish post-graduate schools of clinical midwifery and gynecology, diseases of occupation, and contagious epidemic diseases. The first will have 200 beds, the second 60, the third 164, distributed among seven pavilions. Others may be created later. The estimated cost of these establishments is £10,600. The directors are to rank with university professors.

UNIVERSITIES AND COLLEGES.

UNIVERSITY OF LONDON.

PRELIMINARY AND INTERMEDIATE MEDICAL COURSES.

THE University of London has established centres for Preliminary and Intermediate Medical Studies at University and King's Colleges. The fees for the Courses at these Colleges will be as follows:

A. *For Courses Required by the University of London.*

	Course.	Fee.	Attendance.
c	Preliminary Scientific, Part I	£26 5s.	For the Course.
	Repetition ... ... (Practical and Lectures)	£4 4s. per subject (Physics, Chemistry, Botany, Zoology)	For one year.
a	Preliminary Scientific, Part II and Intermediate ..	£57 15s. in one sum; £63 in two equal instalments	In Anatomy, Practical Anatomy and Physiology for 3 years, with single attendances at the Courses in Practical Physiology, Organic Chemistry (Preliminary Scientific, Part II), and Pharmacology and Materia Medica.
	Repetition— Anatomy and Physiology	£3 3s. per subject	For three months.
	Other subjects ..	£4 4s. per subject	For the Course.

B. *For Courses for Examinations by the Conjoint Board.*

	Course.	Fee.	Attendance.
a	First Examination (Parts I, II, III)	£21	For the Course.
	Repetition— (Chemistry, Physics, Biology)	£3 3s. per subject	For the Course.
a	First Examination (Part I) and Second Examination	£57 15s. in one sum; £63 in two equal instalments	For three years, with single attendances at the Practical Physiology Courses.
	Repetition— Practical Physiology	£3 3s.	For three months.
	Anatomy and Physiology	£1 3s. per subject	For each three months' work beyond the three years.

Students may either enter these Centres directly and choose their medical school subsequently, or may enter through one of the following medical schools: University College Hospital Medical School, King's College Hospital Medical School, St. George's Hospital Medical School, or Westminster Hospital Medical School. For any further information application may be made to the Academic Registrar, University of London, South Kensington, S.W.

ROYAL NAVY AND ARMY MEDICAL SERVICES.

THE ARMY COUNCIL AND THE MEDICAL SERVICES.

A PARLIAMENTARY paper was issued on August 11th which gives an abstract of recommendations of the Royal Commission on the Care and Treatment of the Sick and Wounded in War during the South African War, together with the action taken by the Army Council upon these recommendations. The establishment of medical officers has since the war been increased by 125, and the establishment of quartermasters, warrant officers, non-commissioned officers and men, including provision for South Africa, by 1,216, and the question of further increases in both categories is still under consideration. The equipment provided by the Mowatt reserves for three army corps, one cavalry division and line of communication troops has been completed and is being revised. By a Royal Warrant issued on [illegible], the pay of medical officers was greatly [illegible]. A college for the instruction of officers was opened [illegible] and a permanent building is now in course of [illegible]. Officers of over five years' service are [illegible] on a six months' course of instruction, which includes clinical teaching in the various civil hospitals in London by civilian professors. Officers passing certain standards at the examination after the course are eligible for accelerated promotion up to a period of eighteen months, and officers who distinguish themselves in selected subjects are eligible for employment as specialists with extra pay. Promotion to the higher ranks is made upon a system of strict selection based upon positive merit. As the result of these regulations, the supply of candidates has been of the most satisfactory nature. A Royal Warrant was issued in March, 1902, approving of the establishment of Queen Alexandra's Imperial Military Nursing Service. This warrant greatly improved the conditions of service of nurses, and is attracting highly-qualified nurses. An increase of 259 nurses has been made to the peace establishment and this number is being recruited. The needs of all important military hospitals will, it is considered, be met by this addition. The scale of nurses for fixed hospitals in war has been largely augmented. The appointment of properly-qualified sanitary officers to all commands at home and abroad has been approved, and already in all home commands and the important commands abroad these officers have been appointed. To ensure a satisfactory ambulance wagon being provided, a prize was offered by the Secretary of State for War, and many firms competed. After exhaustive trials of many patterns, wagons of a thoroughly satisfactory character have now been selected. A special tent—a modification of the Indian pattern E P. tent—has been designed and made, and has undergone successful trials. Some further alterations have recently been made, and the tent is receiving a final trial before adoption. The provision of further Reserves of Officers and Orderlies is still under consideration. A scheme has been drawn up for the establishment of a Reserve of Civilian Surgeons who will receive military training. A scheme of Special Enlistment to provide a sufficient reserve of trained Orderlies is under consideration.

ANNUAL CAMP OF WELSH BRIGADE.

THE Welsh Bearer Company R.A.M.C.(V.) attended the annual camp of the Welsh Brigade at Porthcawl from August 6th to 13th. The company marched down to Porthcawl Camp from Cardiff a distance of thirty miles, bivouacking en route at Llandough, near Cowbridge. The march was performed under strict service conditions, the men being in full marching order with greatcoats; they slept on the ground without tents. Supper consisted of bread, corned beef and tea, and breakfast of bread, eggs, and tea. The ambulance wagon went with the company and bread and cheese were supplied on the march. Leaving Cardiff at 3 p.m. on August 5th, the company arrived at camp at 1 p.m. on August 6th, every man marching in.

In camp a useful and enjoyable week was spent. The officers in charge were Captain William Sheen and Lieutenant E. J. R. Evatt, and there were 49 men present out of a possible 61. The bearer company furnished the brigade field hospital, through which some 200 cases of sickness and accident passed during the week. The water at Porthcawl being under suspicion, the company was provided with a Berkefeld field filter from which sterilized water was served out for hospital use and to the men every morning.

The company was inspected in camp by the Principal Medical Officer of the Welsh and Midland Command, Colonel A. W. Duke, R.A.M.C., and by the acting Senior Medical Officer of the Brigade, Surgeon-Major Arnallt Jones. Both these officers expressed approval of the appearance and work of the man.

The earlier days of the week were spent in instructional parades. The company also took part in one field day, and on the concluding day marched in the morning to Newton Nottage for bearer company practice. On the afternoon of this day sports were organized with several events open to the brigade, and in the evening there was a smoking concert. Four of the men in camp were trained signallers and did very useful work in signalling the nature of wounds, number of wounded coming in, additional bandages and dressings required, etc. These men were also cyclists.

A new departure was made by messing the men together in a marquee seated at table instead of messing them in their tents. The tent orderlies acted as mess waiters. Thus the men fed comfortably, all waste was avoided and the camp was

kept clean; so clean, that the senior medical officer in his report called attention to the bearer company's lines as an example to the whole brigade.

OBITUARY.

LIEUTENANT-COLONEL PHILIP LE FEVRE KILROY, late of the Royal Army Medical Corps, of Eastfield, Ryde, Isle of Wight, died at Paramé, France, on August 13th, at the age of 61. He entered the Army Medical Department as Assistant-Surgeon, October 2nd, 1865; became Surgeon, March 1st, 1873; Surgeon-Major, October 2nd, 1877; was granted the rank of Lieutenant-Colonel, October 2nd, 1885; and made Brigade-Surgeon-Lieutenant-Colonel, March 10th, 1892. He retired from the service, May 15th, 1895. He had no war record.

BRIGADE-SURGEON THOMAS OLIVER HESSION, late Army Medical Department, died suddenly from heart failure at Norwich on August 13th, aged 70. He was appointed Assistant-Surgeon, December 1st, 1858; Surgeon, March 1st, 1873; Surgeon-Major, January 21st, 1874; and Honorary Brigade-Surgeon on retirement from the service, December 13th, 1882.

MAJOR WILFRED CONSTANT VICKERS, M.B., Madras Establishment, died at Guy's Hospital, on August 18th, aged 42 years. He joined the army as Assistant Surgeon, September 30th, 1889, and became Major September 30th, 1901.

MEDICO-LEGAL AND MEDICO-ETHICAL.

PURCHASE OF PRACTICE.

NEM. CON. writes for information under the following circumstances: A. sells his practice to B., one-sixth of the receipts of which are brought in by a collector in weekly instalments to B. (who does not wish to take the book debts), on a six months' introduction. At the end of that time there are for collection debts prior to introduction and those due for work done during introduction. There will also be book debts for the work B. commences to do after A. leaves the practice. The amount paid by patients is in many cases not equal to the amount being added to their indebtedness on account of continued attendance. If the same collector is employed by A. and B., what is the best way of apportioning amounts collected during the three periods of indebtedness?

*** Where debtors pay their debts by instalments, it is always presumed that the latter refer to those portions of the debts first contracted, if legally recoverable, unless the contrary is specially agreed between the parties. Hence A.'s debts previous to introduction will have priority: then will come those incurred during introduction, and it will only be after these have been satisfied that B. can properly claim the residue.

TESTIMONIALS TO MASSEURS.

B. M. BONE.—We cannot find the name of the supposed giver of the testimonial in either the *Medical Register* or the *Directory* for 1905.

TOUTING FOR PRACTICE.

ETHALTS writes that he would like to have an opinion on the conduct of a medical man, newly come to an eastern town, who makes a point of visiting the wharf every morning to offer his services to the boats lying there, even visiting boats which are under contract to other medical men, according to the custom to allow the captains to telephone for the medical men they wished to attend.

*** So far as we understand this complaint the conduct complained of is touting of a very undignified kind. Unless, however, there is also some misrepresentation or false pretence, such as may lie in the statement that he is the doctor who attends the boats at the wharf, we do not think the offence is one of which any disciplinary authority would take notice. If the offender is a member of the Association the matter might properly be laid before the Division which has the power to settle such questions in accordance with local opinion.

SUPERSESSION.

ERASMO.—S. should not have taken charge of the case without making sure that W. had been properly informed that his services were no longer required. Subject to this, however, he was free to take the case, although W. seems to have been badly treated.

GRATUITOUS ATTENDANCE ON MEDICAL MEN.

SIGMA.—Considering the long duration of the illness and the other circumstances and the fact that the patient was well to do and leaves no one dependent on him, our correspondent may make a reasonable charge for his services. It would be well for him to speak to the father before sending an account, so as to avoid any risk of unpleasant

PROFESSIONAL RELATIONS.

CRYPTO.—We do not think that our correspondent would be justified in refusing professional recognition to a colleague because he came to the place without buying an introduction, has started a cheap club, is sometimes the worse for drink, and asks people why they do not employ him. It is competent for the local Division of the Association to make rules as to club rates to which, if a member, this practitioner would be compelled to conform, but the other matters do not seem to be of the kind with which the discipline of the Association can deal. We should advise our correspondent to treat his colleague with professional courtesy if he is brought into relation with him. If he is the sort of person described his competition cannot be very dangerous, and our correspondent will preserve his own dignity and that of the profession better by being courteous than by himself breaking the rules of professional etiquette and thereby putting himself in the wrong and giving his opponent good cause to complain. He should remember the motto "Noblesse oblige," which those members of our profession who have attained a good position should not forget applies to them in their relations with their less fortunate or junior brethren.

PUBLIC HEALTH AND POOR-LAW MEDICAL SERVICES.

MEDICAL OFFICER OF HEALTH AND NOTIFICATION.

M.O.H. writes: I shall be obliged if you will inform me (1) whether a medical officer of health when inspecting a district should notify cases of infectious disease not under the care of any medical man, and (2) also can he charge for the same?

*** M.O.H. does not state whether he is engaged in private practice as well as being M.O.H. of the district. This is an important point in respect to the questions which he asks. If he is in practice and the notifiable infectious case occurs among his patients it is his duty to notify, and he is entitled to the fee payable for doing so. Whether he is partially engaged in private practice or acts solely as M.O.H. it is in our opinion otherwise when he discovers such cases while "inspecting a district," presumably as the result of information which has come to him in his official capacity. To notify such cases with a view to receive fees for so doing would be not only extremely indiscreet but contrary to the spirit of the office held by M.O.H. If M.O.H. will refer to the Infectious Disease (Notification) Act he will find that the duty of notifying so far as the medical profession is concerned is strictly confined to "every medical practitioner attending on, or called in to visit the patient." Under the circumstances described M.O.H. is not in such attendance, nor has he been called in by the patient or his friends. Even had he been called in by the latter in his official capacity he would be most unwise and would be likely to cause friction with the sanitary authority if he attempted to supplement his professional income in this way.

A STATE SCHOOL OF SANITATION.

THE New Jersey State Board of Health has appointed a commission to consider a proposal to establish a State School of Sanitation in which local health officers would be instructed in their duties, particularly during epidemic of infectious diseases. The method proposed is to hold conferences in the various cities of the State at which instruction will be given, followed by practical demonstrations.

HOSPITAL AND DISPENSARY MANAGEMENT.

DOWN COUNTY ASYLUM, DOWNPATRICK.

IN our report on this asylum last year we noted that during 1903 the patients were in excess of the provided accommodation, but that new residential blocks were in process of erection. From this year's report for the year 1904 we see that these blocks were completed last September, raising the accommodation to 800; so that whilst the excess over the accommodation on January 1st, 1904, was 11, the vacancies numbered 100 on December 31st, 1904. These considerable extensions, which comprised two residential blocks for 150 patients and 50 attendants, a central auxiliary dining hall for 250 patients, and a farmstead, were designed not only to add to ordinary types of insanity but to receive lunatics from the Union workhouses. The Medical Superintendent, Dr. M. J. Nolan, maintains and in this he is supported by Sir George O'Farrell, Inspector of Lunatics, that these workhouse cases could not be "dumped down in close" in a modern detached building of the ordinary type, and that they admitted of suitable distribution through the different wards of the asylum according to the established classification. A subjoined appendix to Dr. Nolan's report gives a summary of the bodily condition and mental state of the patients admitted during 1904 from the workhouse. From this it appears that in only 4 was there no evident bodily disease. In most cases the bodily affections were not severe in character or consisted of physical malformations only, but in the remaining 72 the patients were the subject of very serious conditions. "Such a summary," Dr. Nolan says, "discloses at once of the ignorant contention that the insane in workhouses are of some indefinite colourless type which merely requires herding together, and on whom medical care and treatment are thrown away." It is evident that the cases in the summary belong to the category which Dr. Nolan described in his annual report for 1903 as composed of persons "degraded in habits destructive, often times offering to such physical infirmity as lameness, blindness, or paralysis, and call on the poor "more humane, care, clothing, and special attention from the medical officers and the staff generally, than the ordinary run of cases admitted. But we imagine that it will be admitted that the more or less incurable nature of those cases is to a considerable extent due to the fact, stated by Dr. Nolan in last year's report, that for some time the lack of accommodation has made it impossible to admit any but the most pressing cases into the asylum, and

also that the local occurrence of the conditions he describes does not conflict with the now general opinion that for many of the patients in asylums much simpler and less costly accommodation would suffice.

On December 31st, 1903, there were 663 patients in residence in this asylum, and on December 31st, 1904, there remained 700. During the year 179 cases were admitted, being an increase of 40 on the admissions of the previous year, the comparatively small number of admissions during 1903 being due to lack of accommodation. Of these 179 admissions, all of whom were chargeable to Down County, 143 were first admissions, and no less than 74 were "dangerous lunatics." In 55 the attack was a "first attack" within three months of admission, in 22 more a first attack within twelve months of admission, in 70 the attack was either not a first attack or was of more than twelve months' duration, in 20 the condition was congenital, and in 12 the insanity was doubtful or of unknown duration—not a very hopeful class of admissions. They were classified as to the forms of mental disorder into: Mania of all kinds 48, melancholia of all kinds 91, dementia 10, general paralysis 3, acquired epilepsy 7, and there were 20 cases of congenital or infantile defect. Concerning the probable causes of the insanities among the admissions, Dr. Nolan, who has dealt with this and other questions relating to the increase of insanity in his district in a special report to the Inspectors of Lunatics to be embodied in their forthcoming Blue Book, is careful to point out that the cause assigned in the table of his present report is only the "last straw," the culminating factor in a long chain of events. Keeping this in mind the following etiological factors are mentioned: Hereditary influences in 64, or 35.7 per cent., congenital defect in 11, alcoholic intemperance in 12, or 6.7 per cent; venereal disease in 2, other bodily diseases in 49, previous attacks in 8, and "moral" causes in 9. The "immoral" causes—drink and venereal disease—are thus met with in gratifyingly low proportion in the county of Down. During the year 75 were discharged as recovered, giving a recovery-rate on admissions of 41.9 per cent., 8 as relieved, and 1 as not improved. This recovery-rate of 41.9 per cent. contrasts favourably with the average of 36.7 per cent. for the whole of Ireland, and is largely due, Dr. Nolan says, to the continued successful operation of the "probationary" system. In this connexion Dr. Nolan makes a suggestion worthy of note, that is, the continuance of the capitation grant during a prolonged probationary period, the patients' names still being kept on the asylum books. "The adoption of such a system of relief," he says, "would be of material help to very many cases. At a time when the boarding-out of lunatics is being discussed as a possible part solution of the difficulty of limiting the increasing numbers of the insane in lunatic asylums, such a move would be a practical step in that direction, and a very excellent way to prepare the public mind for the necessary but somewhat unpalatable experiment of 'family care.'" This conjunction of necessary and unpalatable is interesting, but we venture to believe that if the experiment—or better, expedient—of family care be carried out in Ireland it will, in time, be no less popular than it is in Scotland to day.

The deaths at this asylum during 1904 numbered 58, giving a percentage death-rate on the average numbers resident of 8·62. These were due in 11 cases to cerebro-spinal diseases, in 27 to chest diseases, including 11 cases of phthisis, in 15 to abdominal diseases, including 10 cases of dysentery, and in 5 other causes to general diseases. Including the 10 cases of dysentery which terminated fatally there were 50 cases of this disease during the year, and also some cases of erysipelas and influenza, but beyond these the institution was free from zymotic disease. There were no fatal accidents and only 6 major casualties. We have pleasure in recording the presentation to Dr. Nolan by the Committee of the asylum of a gold watch, and to Mrs. Nolan a salver, in appreciation of his able management during the twelve years in which he has acted as medical superintendent.

American Public Health Association.—The American Public Health Association will hold its thirty-third annual meeting at Boston on September 25th, 26th, 27th, 28th, and 29th, under the presidency of Dr. F. F. Wesbrook of Minneapolis. The following is the official programme—it will serve to give an idea of the wide range of subjects to be discussed by the Association: I. Methods of securing more uniform instruction and co-operation in health work: (*a*) education of and co-operation with the general public: (*b*) graduate and under-graduate instruction in hygiene in universities and medical colleges; special diplomas in public health; (*c*) teaching of hygiene to school children; (*d*) instruction for all phases of health work; (*e*) present regulations or laws as to qualifications and methods of appointment for (*a*) executive and (*b*) technical officials. II. Water: (*a*) uses of copper sulphate in public supplies; (*b*) recent investigations concerning the relation of shellfish to disease; (*c*) recent experiences in water purification and protection. III. Tropical hygiene: (*a*) the relation of personal hygiene to public health in the tropics; (*b*) trypanosomiasis; (*c*) protective measures in the work on the Panama Canal; (*d*) further report on yellow fever or relationship of mosquitos to filariasis in Cuba; (*e*) the anaemias of Porto Rico. IV. Diseases common to man and animals: (*a*) newer developments of protective measures in Europe; (*b*) protection against milkborne infection. V. Military hygiene: (*a*) hygienic instruction of army medical officers; (*b*) their powers and duties: (*c*) needed improvements; (*d*) camp sanitation; (*e*) sanitation of an army *en route*; (*f*) recent sanitary experiences in the Japanese army. VI. Quarantine methods: (*a*) present-day methods for the following subjects: (1) Port quarantine, (2) municipal quarantine, (3) State quarantine, (4) national quarantine. VII. Recent researches in small-pox. VIII. Modes of dissemination and rational quarantine in epidemic cerebro-spinal meningitis. IX. Disinfection. X. Sewage and waste disposal: (*a*) Garbage, (*b*) trade wastes. XI. Car sanitation.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

Communications respecting Editorial matters should be addressed to the Editor, 2, Agar Street, Strand, W.C., London; those concerning business matters, advertisements, non-delivery of the Journal, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

Original Articles and Letters *forwarded for publication are understood to be offered to the* British Medical Journal *alone, unless the contrary be stated.*

Authors desiring reprints of their articles published in the British Medical Journal are requested to communicate with the Manager, 429, Strand, W.C., on receipt of proof.

Correspondents who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

Correspondents not answered are requested to look at the Notices to Correspondents of the following week.

Manuscripts forwarded to the Office of this Journal cannot under any circumstances be returned.

In order to avoid delay, it is particularly requested that ALL letters on the editorial business of the Journal be addressed to the Editor at the Office of the Journal, and not at his private house.

Telegraphic Address.—The telegraphic address of the Editor of the British Medical Journal is *Aitiology, London.* The telegraphic address of the Manager of the British Medical Journal is *Articulate, London.*

Telephone (National):—
Editor, 2631. Gerrard.
General Secretary and Manager, 2630. Gerrard.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* British Medical Journal *are devoted will be found under their respective headings.*

QUERIES.

T. Q. would be grateful for advice in the treatment of a case of spastic paralysis following myelitis. Mercurials have been tried without much benefit, and pot. iodid. cannot be tolerated.

Dr. Ethel Williams (Newcastle-on-Tyne) will be very grateful if any member who is a motorist will give his experience of solid tyres, both as to life of the motor and as to comfort in riding; she would also be glad to know of any puncture-avoiding device for use with pneumatic tyres which members may have found effectual.

A General Practitioner who gives a Great Many Anaesthetics writes: I should be much indebted for information on the following points:—(1) Whether the administration of ethyl chloride instead of nitrous oxide gas immediately before administering ether with a Clover or Hewitt's wide-bore inhaler is a safe and satisfactory procedure in all cases, and as reliable and safe as gas? (2) The best or most usual way of doing it? (3) Special indications and advantages of the method?

Viscous writes: A middle-aged lady, on going to the seaside, suffers from discomfort which she is unable to describe. She comes of a gouty stock, is subject to urticaria, and is of a nervous temperament. I am reminded by her of a patient who cannot endure a ride in a closed carriage without feeling ill. Is any drug likely to be of service? The patient attributes her sufferings to "ozone," and I am inclined to think the disturbance is akin to the "phobias" and to "cat-asthma" and the like.

Sympathetic Nervous System.

Abranmuir asks for some references to the literature of the sympathetic nervous system, apparently with especial reference to angina pectoris.

*** The literature of the sympathetic system is a very extensive one. Perhaps no better beginning could be made than with Dr. W. H. Gaskell's paper on the Structure, Distribution, and Function of the Nerves which Innervate the Visceral and Vascular Systems, *Journ. of Physiol.*, vii, 1886. Our correspondent would find Dr. Head's papers in *Brain* of service: Disturbances of Sensation, with especial reference to the Pain of Visceral Disease, 1893, 1894, and Pain in Diseases of the Heart and Lungs, *Brain*, 1896. He would probably find most of what he wants on angina pectoris in Clifford Allbutt's *System of Medicine*. He would find a bibliography of recent literature of the sympathetic in *Quain's Anatomy*, Part 2 of vol. iii.

Clinical Pathology.

W. D. G. asks for information about (1) alterations of the blood in plague; (2) a method of staining spermatozoa with the object of recognizing them in urine; and (3) a "simple test for the complete reduction of Fehling's solution."

*** (1) Zinno (*Centr. f. Bakt.*, Abt. I, Bd. 35, 1904, Ref., p. 164) states that there is a diminution in the number of the red corpuscles, and also, in severe cases, in the number of the whites. During convalescence there is a marked leucocytosis, the increase in the mononuclear leucocytes being particularly great. The presence of eosinophile myelocytes is regarded as characteristic. (2) The recognition of spermatozoa is usually based on the fact that they possess a characteristic shape. Leishman's stain may be found useful. (3) In performing a titration with Fehling's solution the end reaction is obtained when the blue colour disappears. If the Fehling is placed in a white porcelain evaporating dish and the substance to be tested is dropped into it from a burette, there is no serious difficulty, after a little practice, in recognizing the end-point.

ANSWERS.

Diseases of Pregnancy.

Dr. J. Dulberg (Manchester) writes: If your correspondent "W. B. C." will consult Senator and Kaminer's *Health and Disease in Relation to Marriage*, a translation of which by me has recently appeared (published by Rebman), he will find the various diseases of pregnancy dealt with at considerable length.

Diagnosis of Presentation.

Artaxerxes writes: In reply to "Q." in the British Medical Journal of July 22nd, who asks for assistance in diagnosing an occipito-posterior position of the presenting head when the fontanelle is difficult to make out, it may be said that, if abdominal palpation does

not reveal the position it is necessary to pass a finger into the uterus sufficiently far to feel an ear. The direction in which it points and the slope of the side of the head will indicate whether the occiput is anterior or posterior and whether it is to the right or to the left.

TRICAR FOR COUNTRY PRACTICE.

S. N. 72 writes: My attention having been called to "Engineer's" query *re* reliable tricar, I should like to recommend the Alexis machines to his attention. My own is a light pattern tricar, which I quite believe could deal with the gradients he refers to, but as he wishes something over five horse-power, I would suggest the heavier pattern, 6 h.p. twin cylinder design which he can have capable of carrying two passengers besides the driver. I can confirm his idea that a tricar is cheaper than a light car, and better on every point except stability in turning corners, and even that is amply sufficient, providing that reasonable care be taken. I have no pecuniary interest in this car, but having been well satisfied with the treatment I have received from its builders, Taig Brothers of Alexandria, N.B., I can recommend them to brother motorists.

LOCAL ANAESTHESIA IN THE TREATMENT OF HAEMORRHOIDS.

ANTIPILE writes: IN reply to the query of "Haemorrhoids" in the JOURNAL of August 12th, I shall be pleased to give my experience of the trouble, which is very similar to his own, and the subsequent cure thereof. The piles gradually formed during the course of some years until, during last September, they became a constant nuisance, coming down spontaneously when their victim went about, and occasionally bleeding. The protrusion consisted at most of two or three piles, forming a bunch as large as a horse bean, of florid-red congested appearance. It occurred to me the piles might be removed under cocaine, so I consulted a medical friend, and persuaded him to make the attempt. At the "operation," if it deserves the name, my wife acted as assistant, and the trouble and fuss of an operation under general anaesthesia were avoided. It will be understood that my position did not enable me to *see* what took place: but I believe a 10 per cent. solution of cocaine was applied, and a few particles of solid alkaloid as well. The mucous membrane at the root of the piles was incised with sharp-pointed scissors, which should be curved on the flat, and the piles themselves ligatured and cut off. The manipulation must have lasted twenty or thirty minutes, and though at times a little unpleasant, I felt no pain. One or more of the ligatures slipped, but the bleeding was insignificant. In this case the piles were close to the anus, and easily reached. This method might not be efficacious if they were high up and wide dilatation of the sphincter were required. Convalescence was rapid, and I was going about in three or four days. The trouble was cured, and there has been no relapse during eleven months.

LIGATUS writes: In reply to "Haemorrhoids"—speaking solely as a sufferer—I can assuredly testify that internal piles can be painlessly removed by the application—not necessarily injection—of a 5 per cent. solution of cocaine, and then ligatured. It may not be quite so thoroughly done as under chloroform; I had to have it done a second time in the same way six years later.

EXAMINATION FOR M.R.C.P.LOND.

RUSTICUS.—In medicine proper the works of Osler, 4th edition (London: Henry Kimpton, 1901, 18s.); Frederick Taylor, 7th edition (London: J. and A. Churchill, 1904, 15s.); or one or other of the more recent *Systems of Medicine* might be consulted. In nervous diseases the translation of the work of Oppenheim, 2nd edition (London: J. B. Lippincott Co., 1901, 21s.); in skin diseases Mr. Malcolm Morris's *Diseases of the Skin*, new edition, 1903 (London: Cassell and Co., 10s. 6d.); in mental diseases the work of Savage, 3rd edition (London: Cassell and Co., 1891, 7s. 6d.); in Becclere Park and Kenwood's *Hygiene and Public Health*, 2nd edition (London: H. K. Lewis, 1902, 12s.); in pathology Green's *Pathology*, 2nd edition (London: H. Renshaw, 1905, 21s.); and the work of Zeigler (London: Macmillan and Co., 1897, 34s.) might be consulted. A work on bacteriology such as that of Hewlett, 2nd edition (London: J. and A. Churchill, 1898, 6s. 6d.); on clinical methods as that of Judson Bury, 2nd edition (London: C. Griffin and Co., 1899, 21s.); or Hutchinson and Rainy (London: Cassell and Co., 1897, 9s.), would be useful. Among the classics as much sometimes set are Celsus, Livy, and Horace. At least six months should be given to steady reading.

LETTERS, NOTES, Etc.

AN APPEAL.

CAPTAIN FRANK E. GUNTER, R.A.M.C. (Dépôt Barracks, York), writes: I beg to acknowledge on behalf of Mrs. Dodd a cheque for £2 from Lieutenant-Colonel C. F. Willis, I.M.S., with many thanks.

THE DUNCAN FUND.

DR. HUGH RITCHIE, [illegible], writes: I beg to acknowledge with many thanks the following subscriptions towards this fund. Total already acknowledged, £145 0s. 0d.:

	£	s.	d.		£	s.	d.
Dr. Brice Smith	2	0	0	Dr. John Mackintosh	0	10	0
[illegible] Watt	1	1	0	Dr. O'Malley	0	10	0
[illegible], Plymouth	0	10	0	Dr. Ledlie	0	5	0
[illegible]	0	10	0				

GOUT.

DR. K. S. MACDONALD (Edinburgh) writes: In the BRITISH MEDICAL JOURNAL of [illegible] page [illegible] one [illegible] drug [illegible] allow [illegible] only [illegible] Lord Curtisden's Law [illegible] all [illegible] in moderation. The real [illegible] the direct and indirect [illegible] alcohol. [illegible] no alcohol of any kind, and [illegible] If, however, one has got a case of true [illegible] with blood vessels largely dilated over the entire body, blood darkly tinted or bronzed skin, oily yellow from a thick coating of fat, hair thick and white, teeth discoloured, crowded with tartar, lips blue, nose reddish, hypertrophied etc., with pathognomonic tic symptoms, some medical treatment, including aperients and colchicum and restriction of diet, with abundance of hot water to drink, will be necessary, followed by a trip to one of the spas of this country or the Continent to learn discipline. Above all, if the patient declares that life is not worth living without *some* alcohol, a list should be handed to him detailing the usual things recommended and prescribed in gout, but he must bear in mind that the things allowable are not all to be taken at once. It is not the strawberries, or tomatoes, or mushrooms, or oranges that bring on gout, but the other thing. If some liquor must be allowed, one glass of whisky per diem, with plain hot or cold water, potash, or lithia, at 10 p.m. is best. The orthodox fashion is to take the liquor during or after dinner, but I am persuaded that this is wrong. The constant daily sipping of alcohol during meals interferes with digestion and the metabolic changes that take place in the stomach and liver; hence the retention of uric acid in the blood. True, the alcohol is not absorbed so quickly when diluted and taken with a meal, but it is absorbed all the same, and by its constant stimulating action on the capillaries it vitiates the functions of the stomach and liver during digestion, and probably of more distant organs. Some think that if they dilute their liquor largely they can safely take a good deal of it, and straightway proceed to do so. The restraining hand of the physician should here be used firmly, by foretelling the inevitable result of disobedience to the dictates of science; after a few months of disciplinary treatment the desire for alcohol will gradually disappear, and the patient will find that he can not only live without alcohol, but that he will be far better and happier without it. In a word, the treatment most suited for the gouty is a spare diet, but nourishing, little butcher meat, few vegetables and fruit, and no alcohol, and the disease can almost be driven off the face of the earth in spite of the escapades of our grandfathers and the attraction of inheritance.

THE NATIONAL IMPORTANCE OF THE THOROUGH AND SYSTEMATIC REMOVAL OF ADENOIDS IN CHILDHOOD.

DR. GRIFFITH C. WILKIN (Paignton) writes: It was with regret that I found it impossible to attend the annual meeting at Leicester. The short report you give of the address of the President of the section of Laryngology gives me the greatest gratification, showing as it does that the ball I set rolling is not idling (BRITISH MEDICAL JOURNAL, April 8th, 1905, p. 766). What Leicester does to-day every town in England, Scotland, and Ireland will shortly do, and from these centres medical experts will make periodical visits into the surrounding country to examine the children in the village schools. The national importance of the movement is so great and so obvious that the lack of support given at first to the suggestion makes one pause for reflection.

ST SAVIOUR'S HOSPITAL FOR LADIES OF LIMITED MEANS.

WE are very glad to call attention to the good work carried out in a modest unpretending way by this charity which makes provision for a class much deserving of help from the medical profession as well as from the richer portion of the general public. The hospital receives ladies at charges varying from one guinea to two guineas and a half a week. The services of the medical staff are given free, but the names of these gentlemen are a sufficient guarantee, if any be needed, of the value of the work done. During the past year no fewer than 137 ladies received the benefits of this institution, their payments amounting to £882 6s., but the total expenditure of the hospital exceeded £2,000, so that there is much need for help. It is satisfactory to know that no patient is admitted without a certificate from her medical attendant, as well as one testifying to her fitness from a financial point of view. In the past history of this institution there may have been circumstances which have created a certain amount of prejudice against it in professional circles, but we are pleased to say that for the last twelve years the hospital has been under excellent management, and worthily deserves the patronage it enjoys of, among others, Sir R. Douglas Powell and Sir John Williams.

SNAPSHOT DIAGNOSIS.

C. R. J. writes: In the BRITISH MEDICAL JOURNAL of July 29th, under the above heading, you relate the incident of Professor Dupré enlarging on a case of emphysema in a drummer. This incident may have occurred on two occasions, or it may have been credited (or rather debited) to the wrong man; certainly a similar mishap occurred to the late Sir William Mitchell Banks in the early summer of 1890. The patient had emphysema, but was admitted into No. 12 Ward, Royal Infirmary, Liverpool, for a surgical complaint and Mr. Banks (as he then was) demonstrated to five or six of us students the pathology of emphysema, caused by continual playing of wind instruments, with identically the same climax as in Professor Dupré's case.

SALT WATER IN THE TREATMENT OF CORNS.

DR. H. RAINSFORD (Lincoln) writes: Dr. Arthur Evershed's article on treatment of corns by salt water in the "Memoranda" of August 19th is very interesting. Naval surgeons could throw some light on this matter by stating if our sailors suffer at all in this way. If they do it would make it appear that salt-water bathing is not a prevention.

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EDUCATIONAL NUMBER.

SESSIONS 1905-1906.

THE PROFESSION OF MEDICINE.

The profession of medicine, like every other, has its advantages and disadvantages and those who think of entering it should carefully weigh the one against the other so that they may see clearly what they have to expect. For the more definite their conception of the life they will have to lead the more accurately will they, and those under whose tutelage they are, be able to judge of their fitness for it, and the more surely will they be able to avoid the stones of stumbling in their path. With the object of helping young people who have come to the parting of the ways between youth and manhood to avoid making a mistake in a matter of such vital importance as the choice of a profession, we here place before them a dispassionate statement of what lies before one who adopts medicine as a career—the work he will be called upon to do, the rewards he may fairly look for, the sacrifices he may have to make, and the disappointments that may fall to his lot. It must be understood that we speak here of the man of average abilities, with no particular advantages in the way of money or influence, who takes up medicine for a livelihood, and expects a fair return for the time and money spent on his education.

Physical Fitness.

In considering the fitness of any individual for a particular profession, the question of bodily fitness meets one at the outset. The life of a student, as well as that of a practitioner, involves a considerable strain on physical stamina. The more keen a student is in his work the more his health is likely to suffer from the want of adequate exercise, from the strenuous and persistent mental effort required by the present curriculum even from the least ambitious, and from the work and worry entailed by the number and severity of the examinations that must be passed. The risks to the health of the practitioner arise mainly from the unremitting labour which the conditions of professional life involve; except for two or three weeks' holiday in the year he is actually never off duty, day or night, weekdays or Sundays. He must have what Napoleon called the "two o'clock in the morning courage"—that is, he must be in possession of all his faculties, and ready to cope at once with any difficulty, even when called up in the middle of the night. And he may have unpleasantly frequent opportunities of displaying this readiness. The life of a general practitioner is indeed one of the constant meeting of emergencies in which, although a kind of tolerance in time becomes developed, the continuous strain gradually wears out the strongest. Contrary to the popular belief that the doctor bears a charmed life in the sick room and hospital ward, he is much more exposed to infection than most people, and his bodily resistance is often at a low ebb owing to irregularity in meals, exposure to inclement weather, and fatigue. On the other hand, a practitioner who loves his work finds that it brings its own reward exceeding great. Looked at in its hygienic aspect alone, the open-air life of a country doctor is almost as healthy as that of an agricultural labourer, and the medical man knows how to preserve his own health by taking precautions against infection or by the early treatment of various ailments.

The Financial Outlook.

The profession of medicine is a path to fortune only for the few. This fact should be clearly recognized by all who think of adopting it as a career. It has the great advantage, however, that no practitioner who is willing and able to work need starve. Such tragedies as are from time to time revealed when an inquest raises the curtain that shrouds the life of a briefless barrister are practically unknown among members of the medical profession. The generations of men follow each other like the leaves of the forest. The eternal sea of birth and death ebbs and flows unceasingly, and wherever birth or death is taking place there is a sphere for the exercise of the knowledge and skill which are the means of livelihood of the medical practitioner. Few, indeed, there are who become what a business man would consider even moderately rich by the exercise of their profession, but all should be able to earn, say, from £400 to £500 a year. The pecuniary disadvantages of medicine as a profession are the long and costly period of training, and the more or less prolonged time of waiting after qualification before the practitioner can count upon anything like an adequate income. Then the working expenses, including house, carriage, and what may be called professional equipment, are so heavy in proportion to the gross income of a man in active practice, that the chances of being able to save, even to the extent of the return of the original capital, are in a large proportion of cases slight; while reasonable provision for old age, after family expenses are met, is difficult and too often impossible. That which is the legitimate boast of the profession, but at the same time one of its most serious drawbacks from the financial point of view is that the true doctor is working, year in year out, to reduce the incidence of disease in general, and so is directly helping to destroy the sources of his income. The medical man, unlike the manufacturer, who employs it may be thousands of helpers each of whom adds to his profits must as a rule earn every penny himself. It is the chief glory of the medical profession, however, that success in its pursuit is measured not by the money earned, but by the

good done to our fellow-men, and the quantity of new truths added to the sum of knowledge.

The Profession from the Intellectual Standpoint.

That which distinguishes a liberal profession from a trade is that it is practised for the general good rather than for individual profit, and that it affords the fullest scope for the exercise of the highest intellectual powers. The practice of a profession is in fact not merely a means of livelihood, but in itself constitutes a worthy object in life. From the intellectual side there is no career which affords larger opportunities of intellectual achievement or greater pleasure in work for its own sake than the profession of medicine. The training that must now be gone through is in itself one of the best means of exercising and developing the highest faculties of the mind. Of all men doctors should be the farthest removed from superstition and bigotry. The constant contact with the grim realities of life into which they are brought in the course of their practice tends to make them indifferent to the futilities and ineptitudes which occupy so large a space in minds destitute of scientific culture. They are concerned with things, not words; and they are in the happy position that their profession makes it necessary that they should aim at absolute truth undisturbed by prejudice or false sentiment. All through the active life of practice the mind is kept healthy and vigorous by the exercise of the powers of observation, analysis, and judgement.

The Profession from the Ethical Standpoint.

It is probably a result of the individualistic nature of medical practice that doctors are proverbially sensitive and jealous in their professional relations with each other. This, after all, is merely to say that medical practitioners are made of the same clay as other men. Apart from this relish of humanity it may truly be said that no walk of life offers greater scope for the highest development of moral character. The readiness to render assistance, irrespectively of any other consideration than the need of him who asks for it; the alleviation of human sorrow as well as the relief of physical suffering; the courage which never shrinks from meeting infection or from incurring necessary responsibility in the endeavour to ward off death or ease pain; the determination which refuses to yield to the enemy until the struggle is over; the generosity, discretion, cheerfulness, patience, and sympathy which characterize professors of the healing art worthy of the name, go far to redeem human nature from the reproaches of cynics. Even Swift said of the physician who was the noblest as well as one of the brightest of the wits of Queen Anne, that if the world had in it ten men like John Arbuthnot he would burn *Gulliver's Travels*. The sympathy of medical practitioners is not so much an emotion as a motive; it is not indeed a sentiment expressing itself in sighs and tears, but a feeling manifesting itself in active effort for the relief of the sufferer who is in need of help. More than any other man the doctor, in the words of Matthew Arnold, "sees life steadily and sees it whole." He occupies a position of the most delicate trust, the duties of which will tax to the full his strength of mind and will, his tact, and his sense of honour to fulfil worthily. Habits of reticence, of self-control, of disinterestedness, are of slow growth, but the seed of them should be sown in the virgin soil of the student's soul, if they are to bear good fruit later in the professional life of the practitioner.

The Profession from the Social Standpoint.

The medical man has little time for the cultivation of social amenities, and much of his work is of so intimate a nature that the cultivation of extra-professional relations with his patients is apt to be embarrassing to both sides. This to a certain extent tends to deprive him of the social status which is his due. On the other hand, his general influence is of the widest character, probably wider than that of any other profession, and although he has not yet gained any marked political influence, his special knowledge and trained faculty of dealing with facts have already given him a certain indirect power in the State, and must give him increasing importance as civilization advances. A proof of the special value of a medical training, and of the way in which it fits men for leadership among their fellows, may be found in the number of medical practitioners who have done good service to the country and achieved fame for themselves in the work of practical administration in new territories added to the Empire. Sir William MacGregor, Sir George Robertson, Sir John Kirk, General Leonard Wood, and many others could scarcely have done the work for which they will always be held in honour unless they had been doctors before they became empire builders. The foundation of our Indian Empire was to some extent laid by surgeons, and it has since been extended almost as largely by the lancet of the medical officer as by the sword of the soldier.

Conclusion.

To sum up the whole matter: The medical profession affords a fairly certain means of livelihood with unrivalled opportunities for that all-round development of the faculties which, as Goethe said, is a duty of the highest importance for every man; moreover, it opens a field for the exercise of his faculties in which he will have the sense of doing good with greater certainty, perhaps, than in any other. As Carlyle said, whoever is in the wrong, he is in the right Medicine, if practised in the spirit of the great physician already referred to, who, in the words of Pope, "knew his art, but not his trade," whether or not it brings wealth or dignity, cannot fail to give that highest earthly good, the sense of a life spent in the service of one's fellow-men. As an encouragement to those about to enter a profession which, honourable and satisfying as it is in many ways, has its full share of difficulties and trials, we may be allowed to quote the noble tribute paid to it by one who had more opportunities than fall to the lot of most men of knowing what medical practitioners are. In the dedication to *Underwoods* Robert Louis Stevenson writes: "There are men and classes of men that stand above the common herd: the soldier, the sailor, and the shepherd not infrequently; the artist rarely; rarelier still, the clergyman, the physician almost as a rule. He is the flower—such as it is—of our civilization; and when that stage of man is done with, and only remembered to be marvelled at in history, he will be thought to have shared as little as any in the defects of the period, and most notably exhibited the virtues of the race. Generosity he has, such as is possible to those who practise an art, never to those who drive a trade; discretion, tested by a hundred secrets; tact, tried in a thousand embarrassments; and, what are more important, Heraclean cheerfulness and courage. So it is that he brings air and cheer into the sick room, and often enough, though not so often as he wishes, brings healing."

THE PORTALS AND PROSPECTS OF THE PROFESSION.

Having made up his mind to enter the medical profession, the intending student must consider how he is to do so. A candidate may, through ignorance, either choose a portal beset with so many difficulties that time and energy which might more profitably be expended in some other direction are wasted in efforts foredoomed to failure; or, on the other hand, he may select one which too late he finds does not open the way to the goal of his aspirations. If such mistakes are to be avoided, the advice of some one who knows the ground thoroughly is almost indispensable. Nothing can take the place of counsel of this kind, but to those who have no such adviser the following general remarks may be useful.

The Question of a Degree.

Whether the candidate is to aim at a university degree or to rest content with a qualifying diploma is perhaps the first question to be answered. Formerly, the problem was one in which the *res angusta domi* was an important factor, but now that well-equipped universities lie everywhere close at hand, a degree is within the reach of all. If a candidate is ambitious to become a consulting physician, he must, besides obtaining a degree in medicine from a recognized university, become a Member of one of the Royal Colleges of Physicians of London, Edinburgh, or Dublin, according to the part of the United Kingdom in which he proposes to practise. If he intends to devote himself to surgery, he must obtain the Fellowship of one of the Royal Colleges of Surgeons. In other spheres of practice a diploma in medicine, surgery, and obstetrics is sufficient. There can be no doubt, however, that the right to append the letters M.D. to his name gives a practitioner a distinct advantage in the eyes of the public.

The Choice of a Medical School.

Apart from considerations of locality and expense, the choice of a school is generally determined by the reputation of the staff and the opportunities and arrangements for clinical study offered by the hospital. In regard to the former point, it is right to point out that the reputation—even if it be world-wide—of the consulting staff should have no influence on the decision, as they, with few exceptions, take little or no part in the work of teaching. The same remark applies in less degree to the senior members of the acting staff, as they are for the most part compelled by their professional engagements to leave the teaching largely in the hands of their younger colleagues. In regard to the size of the hospital, it must be pointed out that a large number of beds is not always an unmixed advantage; where the number of patients is not excessive, individual cases can often be studied more attentively. The chief consideration, however, is that the teaching and opportunities for training in medicine, surgery, obstetrics, and gynaecology should be good and abundant. The choice of a school may in some instances be determined by the chance of securing an entrance scholarship. In the event of a student wishing, owing to unforeseen circumstances, to migrate to another school in the middle of his curriculum, the only difficulty likely to arise is that he has probably paid a "composition fee" to a particular hospital.

The Cost of Medical Education.

In counting the cost of medical education the manifold helps available for the reduction of expense should not be ignored. At nearly all the schools there are entrance scholarships, and there are besides other pecuniary aids peculiar to individual schools, having perhaps their highest development at the present day in the Scottish Universities; in addition to these there is a goodly number of open scholarships and prizes. For the ordinary student, the cost of medical education resolves itself into the cost of the hospital training and the cost of living during the five years of the curriculum. The composition fee for all the necessary classes at most schools, including hospital practice, may be taken as something between £125 and £150; the exact figures for the different schools may be found elsewhere in the present issue of the British Medical Journal. The cost of living is greater in London and in the older universities of England than at the newer provincial universities, or at those of Scotland and Ireland. Speaking generally the cost for the whole curriculum may be taken as something between £600 and £1,000, the precise amount varying both with the particular place of study and with the individual student's habits, mode of life, and success in passing examinations.

Detailed information and advice as to the medical curriculum will be found in another article.

After Qualification.

After a qualification to practise has been obtained there is usually a more or less prolonged period of transition from the stage of the medical student to that of the established medical practitioner. This period may be put to the greatest profit in gaining experience by serving as house-physician, house-surgeon, or casualty medical officer in a hospital, working as assistant to a busy practitioner, or, like Ulysses, seeing the manners and customs of many men by travel as a ship's surgeon or by serving four years in the Royal Navy.

The Prospects of the Profession.

The particular line a man will follow in his life-work to a large extent depends on his opportunities and aptitudes. If he can afford to wait and has the necessary equipment, then he will probably develop into a physician or surgeon, or a specialist in a more limited sense. If his tastes lie in the direction of general practice he will be wise to distribute his interests and energies over the whole field of medicine. Operative surgery, which in a town may usually be delegated to others, is, to a considerable extent, a necessity for every one engaged in country practice; and the country doctor, placed far away from professional assistance, is, without doubt, the general practitioner in his highest development.

Besides general and consulting practice other opportunities for good work and fair remuneration are offered by the Public Health Service, in which medical men have to initiate and direct the practical applications of preventive medicine, which has a most intimate relation with the social well-being, prosperity, and future development of the nation and empire. The navy, the army, and the Indian Medical Service all offer certain attractions, not the least of which is the certainty of a fair pension at the end of a relatively short term of service. The Colonial Service, the Prison Service, lunacy appointments, and resident Poor-law appointments also offer advantages which are not to be obtained by the general practitioner; most of them, however, have certain drawbacks. Particulars of all these spheres of practice will be found in the following pages. For the few, there are teaching appoint-

ments in the medical schools, which often carry with them opportunities for original research.

The Waiting Time and Some of its Dangers.

The most trying time of the medical man's life, from the beginning of professional study onward, is probably that in which he is waiting for practice. It is then that he may be tempted to allow himself to be farmed by the commercial combinations known as co-operative Friendly Societies; at this period, therefore, it behoves him to be most vigilant in detecting and resolute in avoiding that which is evil or even doubtful. For the young consultant waiting for practice teaching posts, private tuition, and various kinds of literary work, may help to provide a sufficient income. For the man who does not care to buy a practice or a partnership, or who has no private income, there are Public Health appointments, Poor-law appointments, including that of public vaccinator, certain workmen's clubs, and other similar means of finding an opening to general practice. A public appointment, indeed, is often of very great value, even though it bring in no immediate pecuniary advantage.

Conclusions.

It is a sound principle of conduct that the newly-qualified man should associate himself in as cordial a manner as possible with the practitioners already established in the district by attending the meetings of the local Divisions of the British Medical Association, and in other ways showing a disposition to cultivate friendly relations with his brother practitioners and combine with them in their efforts for the common good. Every one of us owes a duty to his profession as well as to the public; and a man who stands aloof in selfish isolation from the struggles of his brethren fails in that duty, and within the measure of his personal influence, whatever it may be, weakens the power and lessens the dignity of his profession.

A practitioner of medicine should, to the best of his knowledge and ability, strictly follow the code of etiquette accepted by the profession, for he may be assured that it has its root in a principle which works for the general good, while for his real success nothing in the end will prove more helpful than a faithful adherence to the spirit of the rule, "Do as you would be done by."

THE MEDICAL CURRICULUM.

The course of professional training through which a student who desires to enter the medical profession must pass is, under existing regulations, essentially the same in all cases. The universities and medical corporations differ from each other rather in the severity of the various examinational tests which they impose than in the subjects of study, which are laid down by the General Medical Council, and are broadly the same for all. The minimum period of study after registration as a medical student is five years, whether the curriculum be passed in England, Scotland, or Ireland, and whether the student is seeking a university degree or a college diploma. Although in the case of the universities the minimum period of study is the same as that for a diploma, some students find, as a matter of fact, that it is necessary to spread their work over a longer period. Before, therefore, deciding upon a university course the intending student should carefully consider the regulations and requirements, and for his guidance in this respect we give in the following pages particulars of the regulations of the various Examining Boards. When the student has decided upon the degrees or diplomas to which he aspires, and has selected the medical school which he desires to attend, he should communicate with the Warden or Dean, who will give him all necessary advice in regard to the mode of entrance, registration, and the details of the best way to prepare for his several professional examinations.

Before he can profitably begin his course of medical study the student must have passed one of the recognized Preliminary Examinations in Arts, a complete list of which can be obtained from the Registrar of the General Medical Council (299, Oxford Street, W.) or from the Registrar of the Branch Council in Scotland or Ireland (48, George Square, Edinburgh, or 35, Dorset Street, Dublin). Care should be taken in the selection of the Preliminary Examination, for in the case of the student seeking a university degree the particular Preliminary Examination laid down by that university must be passed. Thus, for example, the student who has passed the first-class College of Preceptors or the Junior Oxford or Cambridge Local Examination in the required subjects can register as a medical student, and having completed his curriculum obtain the diplomas of L.R.C.P.Lond. and M.R.C.S.Eng., but he will not be admissible to the examinations for the degrees of the University of London. A list of recognized preliminary examinations will be found at p. 474, but the student intending to study in London will find it advantageous to pass the University of London Matriculation Examination, the regulations for which have been recently much modified so as to give a wide choice of subjects, thus adapting the examination to all reasonable requirements. Immediately after passing the required Preliminary Examination the student should enter at the medical school he has selected, and register his name at the office of the General Medical Council, after which he begins to count the compulsory five years of study.

By a recent regulation the Royal Colleges of Physicians and Surgeons do not now require that a student shall have been registered by the General Medical Council before admitting him to their examinations, but he must have passed a Preliminary Examination recognized by the Examining Board in England, and go through a five years' course of medical study. Notwithstanding this new regulation, we advise the student not to neglect registration with the General Medical Council, since he may later seek other diplomas, under the regulations of which registration is necessary.

Under former regulations it was the almost universal custom for students to begin their professional studies in October; but owing to the alterations recently made in the curriculum there is now no special advantage in beginning at that time. At some of the medical schools, indeed, arrangements have been made whereby the student may with advantage enter upon his medical course in the summer session and commence the study of chemistry, physics, and pharmacy, if he has passed a Preliminary Examination early in the year.

It is not necessary or desirable that we should enter into a comparison of the details of the adaptation of the curriculum to the requirements of the various Examining Boards. The following account of the curriculum suitable for the examinations for the diplomas of L.R.C.P.Lond. and M.R.C.S.Eng., given by the Conjoint Examining Board of the Royal Colleges of Physicians and Surgeons will, we hope, prove useful to the student as an example of the general course required for entrance into the profession.

With slight modifications in detail the course of study will be found suitable for the degrees of the University of London, since the curriculum and examinations of the Conjoint Board have now been brought much more into line with those of the universities than was formerly the case. Broadly speaking, there are three stages with three examinations in the student's career: the first is devoted to elementary science, the second to anatomy and physiology, and the third to the purely professional subjects of medicine, surgery, and midwifery, and their special branches.

The First Examination includes: Part I—Chemistry, Part II—Physics, Part III—Elementary Biology, and Part IV—Practical Pharmacy. Pharmacy, however, may be passed separately, and, indeed, may be taken at any stage of the curriculum. Generally speaking, the whole of the student's first year is devoted to the study of the subjects of the First Examination, which is usually passed in three parts: (1) Biology, at the end of the winter session in March; (2) Chemistry and Physics, at the end of the summer session in July; (3) Pharmacy, which may be passed during the first year or be postponed. By recent regulations the courses of instruction for the First Examination must include 180 hours' teaching and laboratory work in Chemistry, 120 hours in Physics and 120 hours in Biology, but the courses need not be completed within one year nor need they run concurrently. The First Examination of the Conjoint Board may be passed before entry at a medical school, but only if the student has taken courses of instruction in biology, chemistry, and physics at a science school specially recognized for the purpose. The courses of instruction in Science may be attended before passing the Preliminary Examination, but will not in this case count as a part of the minimum five years of medical study. Instruction in science at an Institution other than a Medical School will only be counted as a part of the curriculum for a period of six months, and then only if the preliminary examination has been previously passed. Except under very special circumstances, therefore, the student should pass a preliminary Examination in Arts *before* he begins his science work, and should take care to attend lectures and laboratory instruction in Biology, Chemistry, and Physics at a properly-equipped and recognized institution, such as a medical school. In the metropolitan medical schools the students of the first year, except those proceeding to the University of London degrees, generally attend lectures on anatomy and dissect whilst engaged in their science study, a plan which has the advantage of permitting them to see the applications of biology, chemistry, and physics to the study of more professional subjects, although it does not now enable them to enter for the Second Examination earlier than they can if they devote their first year solely to science at a purely science school. The student should always endeavour to complete the First Examination within his first year of study, since delay in passing it either prolongs the course of study or curtails time which ought more properly to be given to purely professional subjects. Before admission to any part of the First Examination a certificate of attendance at a recognized institution on a course of instruction in the subject or subjects for which the student desires to present himself must be produced.

After passing the First Examination the student proceeds to the study of the intermediate medical subjects—anatomy and physiology. The regulations require him to attend, at a recognized medical school, a course of lectures in anatomy (six months), a course of lectures in physiology (six months), a course of practical physiology (six months), and to have dissected for not less than twelve months during regular sessions. The study of anatomy and physiology previous to the date of passing Parts I, II, and III of the First Examination is not now recognized. The earliest time at which he can be admitted to the Second Examination is twelve months after completing the First Examination—that is, twelve months of attendance at a recognized medical school during regular sessions. The student who has followed the usual course and has entered at a medical school in October and completed the First Examination at the end of his first year will therefore devote the whole of his second year to anatomy and physiology, and pass the Second Examination at the end of his second complete year of attendance at a medical school. He will find it greatly to his advantage to have begun anatomy and dissecting during his first year, as is the practice in the metropolitan medical schools, for one year is a short time to devote to the study of two such important subjects as anatomy and physiology. Many students, indeed, require six months longer, and additional time taken at this stage either prolongs the course or curtails the time which should be devoted to purely professional studies. In the case of those seeking the University of London degrees, two years of attendance at a recognized medical school are required after passing the Preliminary Scientific Examination instead of one year.

Having passed the Second Examination, the student begins the systematic practical study of disease by attending the out-patient rooms, at the bedside, in the operating theatre, and in the *post-mortem* room of the hospital, although if he be wise he will have taken the opportunity from time to time during the earlier part of his course of paying occasional visits to the wards and out-patient and *post-mortem* rooms. If he has been industrious and has passed all examinations without mishap, he now has two and a half or three years to devote to the uninterrupted study of the more purely medical subjects. The Third or Final Examination cannot be passed before the end of five years from the date of registration, nor till after the expiration of two years, that is two winter and two summer sessions, from the date of passing the Second Examination. The subjects of this examination may be taken at once, or it may be passed in three parts. One subject of the Final Examination, however—namely, midwifery—may be taken before the rest of the examination at the end of four years of study at a medical school, and not earlier than one year after the date of passing the second Examination. It is important that the student should pass each examination at the prescribed time, otherwise he will be delayed in obtaining his diploma until the lapse of the required time from the date of passing his earlier examinations, or will find it necessary to encroach upon the time which should be devoted to the more important practical subjects of his profession.

Space will not permit us to enter here into full particulars of the lectures and other work which the student must attend during the last two or three years; for this information we must refer him to the official regulations, outlines of which are given below. Speaking generally, however, he must attend lectures in medicine (six months), surgery (six months), midwifery (three months), pathology, including pathological histology and bacteriology (three months), pharmacology and therapeutics (three months), forensic medicine (three months), public health (three

months), together with systematic practical instruction in medicine, midwifery, and surgery, operations on the dead body, attendance on the practice of a recognized hospital (two winter and two summer sessions), *post-mortem* demonstrations (twelve months), and clinical lectures on medicine and surgery (nine months). The student is also required to attend clinical instruction in ophthalmic surgery, insanity, and diseases of women, and to act as clinical clerk and surgical dresser for not less than six months each, and to attend twenty labours. Instruction in vaccination and the administration of anaesthetics and attendance at a fever hospital are also necessary.

REGULATIONS OF THE GENERAL MEDICAL COUNCIL

IN REGARD TO THE REGISTRATION AND EDUCATION OF MEDICAL STUDENTS.

THE regulations of the General Medical Council as to registration, preliminary examination, and professional education must be followed by all medical students seeking to obtain degrees or licences to practise from the universities or medical corporations of the United Kingdom.

PRELIMINARY EXAMINATION.

1. Subject to such exceptions as the Council may from time to time allow, every medical student shall, at the commencement of his studentship, be registered in the manner and under the conditions prescribed by the Standing Resolutions of the Council.

2. No person shall be registered as a medical or dental student who has not attained the age of 16 years; and for the purpose of ensuring the observance of this regulation, every applicant for registration in the *Students' Register* shall be required to produce satisfactory evidence that this age has been attained.

3. No person shall be allowed to be registered as a medical student unless he shall have previously passed a recognized Preliminary Examination in the subjects of general education.

4. It shall be delegated to the Education Committee to prepare and issue from time to time a list of Examining Bodies whose examinations fulfil the conditions of the Medical Council as regards general education.

5. Testimonials of Proficiency granted by Educational Bodies, according to the subjoined List, in Clause 7, shall be accepted, the Council reserving the right to add to or take from the list.

6. A Degree in Arts of any University of the United Kingdom, or of the Colonies, or of such other Universities as may be specially recognized from time to time by the General Medical Council, shall be considered a sufficient testimonial of proficiency.

The student must make application for registration on a special form, to be had on application to the several qualifying bodies and medical schools.

The *Students' Register* is kept by the Branch Registrars, namely, in England, Mr. H. G. Allen, B.A., LL.B., 299, Oxford Street, London, W.; in Scotland, Mr. James Robertson, 54, George Square, Edinburgh; in Dublin, Mr. Richard J. E. Roe, 35, Dawson Street, Dublin.

7. The following is a list of examining bodies whose examinations in general education are recognized by the General Medical Council for 1905 as qualifying for registration as medical or dental student:

I.—UNIVERSITY EXAMINATIONS HELD IN THE UNITED KINGDOM.

A.

Final Examination for a degree in Arts or Science of any University in the United Kingdom.

University of Oxford:
Junior Local Examinations. Certificate to be endorsed as fulfilling [illegible].
Senior Local Examinations. Certificates to be endorsed as fulfilling the Council's requirements.
Higher Local Examinations. Certificates to include the required subjects.
[illegible]. Certificate to be accompanied by others showing that [illegible].
Matriculation. Certificate to include the required subjects.

University of Cambridge:
Junior Local Examinations. Certificate to be endorsed as fulfilling the Council's requirements.
Senior Local Examinations. Certificates to be endorsed as fulfilling the Council's requirements.
Higher Local Examinations. Certificates to include the required subjects.
Previous Examination. Certificates to include the required subjects.
General Examination. Certificates to include the required subjects.

Oxford and Cambridge Schools' Examination Board:
Lower Certificate Examinations. The required subjects to be passed at one time.
Higher Certificate Examinations. Certificates to include the required subjects.

University of Durham:
Examination for Certificate of Proficiency. The required subjects to be passed at one time.
Senior Local Examinations. Certificate to include the required subjects.

University of London:
Matriculation Examination. Certificate to include the required subjects.

Victoria University of Manchester:
Matriculation Examination. Certificate to include the required subjects.

University of Liverpool:
Matriculation Examination. Certificate to include the required subjects.

University of Leeds:
Matriculation Examination. Certificate to include the required subjects.

University of Birmingham:
Matriculation Examination. Certificate to include the required subjects.

University of Wales:
Matriculation Examination; the required subjects to be passed at one time.

Universities of Scotland:
Preliminary examination of the Joint Board of Examiners of the Scottish Universities for Graduation in Medicine and Surgery; the required subjects to be passed at one, or not more than two, examinations.
Preliminary Examination of the Joint Board of Examiners of the Scottish Universities for Graduation in Arts or Science; Certificates to include the required subjects.

University of St. Andrews:
Final Examination for the Diploma of LL.A.

University of Dublin:
Principal Public Entrance Examinations: the required subjects to be passed at one time.
Examinations for the First, Second, Third, or Fourth Year in Arts: Certificate to be signed in the approved form by the Medical Registrar of the University.

Royal University of Ireland:
Matriculation Examination; Certificate to include the required subjects.

II.—GOVERNMENT EXAMINATIONS HELD IN THE UNITED KINGDOM.

Scottish Education Department:
Leaving Certificate Examinations, passes in Lower Grade; the required subjects to be passed at one, or not more than two, examinations.
Leaving Certificate Examinations, passes in Higher Grade or Honours; to include the required subjects.

Intermediate Education Board for Ireland:
Middle Grade Examination; the required subjects to be passed at one time.
Senior Grade Examination; certificates to include the required subjects.

Central Welsh Board:
Senior Certificate Examinations; Certificates to include the required subjects.

III.—EXAMINATION BY CHARTERED BODIES HELD IN THE UNITED KINGDOM.

College of Preceptors:
Examinations for First-class Certificate; the required subjects to be passed at one, or not more than two, examinations.
Preliminary Examination for Medical Students; the required subjects to be passed at one time.

Educational Institute of Scotland:
Preliminary Medical Examination; the required subjects to be passed at one time.

Royal College of Physicians and Surgeons in Ireland:
Preliminary Examination; the required subjects to be passed at one time.

IV.—EXAMINATIONS HELD OUT OF THE UNITED KINGDOM.

University of [illegible]:
Matriculation Examination.

University of [illegible]:
First Examination in Arts.

University of [illegible]:
First Examination in Arts.

University of [illegible]:
Matriculation Examinations.

Punjab University:
Intermediate Examination in Arts.

University of [illegible]:
Intermediate Examination in Arts.

Christian Medical College:
Preliminary Examination.

University of McGill College, Montreal:
Matriculation Examination.

University of Bishop's College, Montreal:
Matriculation Examination.

College of [illegible] of the Province of Quebec:
Matriculation Examination.

Universities and Colleges of the Province of Ontario:
Departmental Arts Matriculation Examination (conducted under the direction of the Provincial Education Department).
University of Manitoba:
Preliminary and Previous Examinations.
University of New Brunswick, Fredericton:
Matriculation Examination.
University of Mount Allison College, New Brunswick:
Matriculation Examination.
College of Physicians and Surgeons of New Brunswick:
Matriculation Examination.
Dalhousie College and University, Halifax, Nova Scotia:
Matriculation Examination.
Provincial Medical Board of Nova Scotia:
Preliminary Examination
Newfoundland Medical Board:
Preliminary or Matriculation Examination.
University of Melbourne:
Matriculation Examination.
University of Sydney:
Matriculation Examination.
First Year Examination in Arts.
Senior Public Examination.
Entrance Examination for Medicine and Science.
University of Adelaide:
Senior Public Examination.
First Year Examination in Arts.
University of Tasmania:
Senior Public Examination.
University of the Cape of Good Hope:
Matriculation Examination.
University of Otago:
Preliminary Medical Examination.
University of New Zealand:
Preliminary Examination for Medical Students.
Codrington College, Barbadoes:
Examinations qualifying for a Degree in Arts at the University of Durham.
Foreign Universities in Europe:
The German Abiturienten-Examen of the Gymnasia and Real-gymnasia: examinations entitling to the French Diplomas of Bachelier ès Lettres and Bachelier ès Sciences, and other corresponding Entrance Examinations to the Universities in Europe.
Egyptian Government:
Examination for the Secondary Education Certificate.

*** (a) No Certificate from the Indian and Colonial bodies in the foregoing Section (IV) is accepted unless it shows that the examination has been conducted by or under the authority of the body granting it, includes all the subjects required by the General Medical Council, and states that all the subjects of examination have been passed at one time, and copies of the form of the required certificate are supplied by the Registrar of the Council for the purpose.

(b) In the case of natives of India or other Oriental countries, whose vernacular is other than English, an examination in a classical Oriental language may be accepted instead of an examination in Latin.

PROFESSIONAL EDUCATION.

The period of professional study between the date of registration as a medical student and the date of the Final Examination for any diploma which entitles its holder to be registered under the Medical Acts must be a period of bonâ-fide study during not less than five years.[1] The course of professional study and examinations must include the following subjects:

(i) Physics, including the Elementary Mechanics of Solids and Fluids, and the Rudiments of Heat, Light, and Electricity. (ii) Chemistry, including the principles of the science, and the details which bear on the study of Medicine. (iii) Elementary Biology. (iv) Anatomy. (v) Physiology. (vi) Materia Medica and Pharmacy. (vii) Pathology. (viii) Therapeutics. (ix) Medicine, including Medical Anatomy and Clinical Medicine. (x) Surgery, including Surgical Anatomy and Clinical Surgery. (xi) Midwifery, including Diseases peculiar to Women and to Newborn Children. (xii) Theory and practice of Vaccination. (xiii) Forensic Medicine. (xiv) Hygiene. (xv) Mental Disease.

The first four of the five years must be passed at a School or Schools of Medicine recognized by any of the Licensing Bodies; but (*a*) the first year may be passed at a University or Teaching Institution recognized by a Licensing Body and approved by the Council where the subjects of Physics, Chemistry, and Biology are taught; and (*b*) a graduate in arts or science of any university recognized by the General Medical Council, who has spent a year in the study of Physics, Chemistry, and Biology, and has passed an examination in these subjects for the degrees in question, is held to have completed the first of the five years of medical study provided that he has registered as a medical student with the General Medical Council. It is also to be noted that a student who has previous to registration attended a course or courses of study in one or all of the subjects—Physics, Chemistry, or Biology—in any university, school of medicine, or teaching institution recognized by any of the licensing bodies, may without further attendance be admitted to examination in these subjects, provided always that such course or courses shall not be held to constitute any part of the five years' course of professional study.

The General Medical Council recommends the Licensing Bodies to require that the fifth year should be devoted to clinical work at one or more public hospitals or dispensaries, British or foreign, recognized by any of the medical authorities mentioned in Schedule (A) of the Medical Act (1858), provided that of this year six months may be passed as a pupil to a registered practitioner possessing such opportunities of imparting medical knowledge as shall be satisfactory to the medical authorities, and that no qualification in Medicine ought to be granted without evidence of clinical instruction in infectious diseases.

[1] For the purpose of this requirement the close of the fifth year may be reckoned as occurring at the expiration of fifty-seven months from the date of registration.

REQUIREMENTS AS TO THE SUBJECTS OF GENERAL EDUCATION TO BE INCLUDED IN THE RECOGNIZED PRELIMINARY EXAMINATIONS IN ARTS.

Subject to the conditions indicated in the foregoing list, Clause 7, the Preliminary Examinations recognized by the General Medical Council are required to include the following: (*a*) English (Grammar, Paraphrasing, Composition, questions on English History and Geography). (*b*) Latin (Grammar, Translation into English from unprescribed Latin books, Translation into Latin of a continuous English passage, and of short idiomatic English sentences).[1] (*c*) Mathematics (Arithmetic, Algebra, including easy quadratic equations; Geometry, including the subject-matter of Euclid Books I, II, III, and simple deductions). (*d*) One of the following subjects: (*a*) Greek (Grammar; Translation into English from unprescribed Greek books; Translation into Greek of short idiomatic English sentences); or (*β*) a Modern Language (Grammar; Translation into English from unprescribed books; Translation of a continuous English passage, and of short idiomatic English sentences).

UNIVERSITIES (INCLUDING THEIR COLLEGES AND MEDICAL SCHOOLS), SCHOOLS OF MEDICINE, AND RECOGNIZED SCIENTIFIC INSTITUTIONS AT WHICH MEDICAL STUDY MAY BE COMMENCED IN THE UNITED KINGDOM.

I.

University of Oxford.
University of Cambridge.
University of Durham (including the Durham College of Medicine and the Durham College of Science, Newcastle-on-Tyne)
University of London, including the following Medical Schools and Colleges: St. Bartholomew's Hospital, Charing Cross Hospital St. George's Hospital, Guy's Hospital, King's College, London Hospital, St. Mary's Hospital, Middlesex Hospital, St. Thomas's Hospital, University College, Westminster Hospital, London (Royal Free Hospital) School of Medicine for Women, Bedford College, Royal Holloway College (Royal College of Science).
University of Liverpool.
University of Leeds.
Victoria University, Manchester.
University of Sheffield.
University of Wales (including University College of Wales, Aberystwyth; University College of North Wales, Bangor; University College of South Wales and Monmouthshire, Cardiff).
University of Birmingham.
University of Aberdeen.
University of St. Andrews (including University College, Dundee).
University of Edinburgh.
University of Glasgow (including Queen Margaret College).
University of Dublin (including Trinity College).
Royal University of Ireland (including Queen's College, Belfast; Queen's College, Cork; University College, Dublin; Queen's College, Galway).

II.

Bristol: University College.
Edinburgh: School of Medicine of the Royal Colleges, Surgeons' Hall School, Medical College for Women.
Glasgow: Anderson's College, St. Mungo's College, Western Medical School.
Dublin: Catholic University Medical School, Royal College of Surgeons' Schools of Surgery.

III.

Bradford: Technical College.
Brighton: Technical Day College.
Bristol: Merchant Venturers' Technical College.
Cambridge: Girton College, Newnham College.
Cheltenham: Ladies' University College.
Derby: Technical College
Dublin: Royal College of Science for Ireland.
Exeter: Royal Albert Memorial College.
Halifax: Municipal Technical School (day classes).
Huddersfield: Technical College (day classes).
London: Birkbeck Institute, East London Technical College, Central Technical College, Westfield College, Battersea Polytechnic Institute (day classes).
Nottingham: University College
Plymouth: Municipal School of Science (advanced day classes).
Preston: Harris Institute
Reading: Reading Institute.
Southampton: Hartley College.
Swansea: Technical College (day classes)

[1] In the case of natives of India or other Oriental countries, whose vernacular is other than English, an examination in a Classical Oriental Language may be accepted as equivalent to an examination in Latin.

THE ENGLISH UNIVERSITIES.

UNIVERSITY OF OXFORD.

There are two degrees in Medicine (B.M. and D.M.) and two degrees in Surgery (B Ch. and M Ch.). The degrees B M., B Ch., may, under favourable circumstances, be obtained in six or seven years from Matriculation

B.A. DEGREE.

The degrees of B.M and B.Ch. are conferred only on candidates who have taken the B.A degree, for which residence for three years within the University is necessary; the examinations, however, for the degrees in Arts and Medicine may be passed in any order, provided the subjoined regulations are complied with.

The degree of B.A. may be obtained in either of the following ways:

(*a*) By passing Responsions (or one of the Examinations which are accepted as equivalent) Moderations, a Scripture Examination, or, in the event of a candidate objecting, an examination in some substituted book; and the Final Pass School in three subjects, two of which may be the same as two in the Preliminary Examinations in Natural Science.[1]

(*b*) By passing Responsions; an additional subject in Responsions, the Scripture Examination; some of the Preliminary Examinations in the Natural Science School,[1] or the Preliminary Examination and the School of Jurisprudence, or the Honour School of Mathematics in the First Public Examination; and one of the Final Honour Examinations.

Responsions and the additional subject may be passed before a candidate is a member of the University;[2] Moderations and Scripture can be passed in or after the second term; the Final Pass School may be taken any time after Moderations; a Final Honour School may be taken at the end of the third or within the fourth Academical year—that is, twelve or sixteen terms respectively; the Preliminary Examinations of the Natural Science School may be taken as soon as Responsions have been passed.

DEGREES IN MEDICINE AND SURGERY.

To obtain the degrees of B.M., B.Ch., the following examinations must be passed:

Preliminary.—The preliminary examination in (1) Mechanics and Physics, (2) Chemistry, (3) Zoology, (4) Botany, of the Natural Science School.[1]

Professional.—There are two professional examinations held twice a year, at the end of Michaelmas and Trinity terms. Each examination shall begin on the Thursday in the eighth week of full term. The subjects of the first B.M. examination are Organic Chemistry, Human Anatomy, Physiology, Materia Medica, and Pharmacy. Candidates who have previously obtained a First or Second Class in the Final Examination in Physiology or Chemistry are exempt from further examination in those subjects. Candidates who have passed the First Examination are admitted at any time, subject to the production of certain certificates to examination in Pathology or in Forensic Medicine and Hygiene. But no candidate is admitted to examination in Medicine, Surgery, and Midwifery until he has attained the twenty-fourth term from the date of his matriculation (six years), and these subjects must be passed at one and the same examination.

D.M. Degree.—A B.M. who has entered his thirty-ninth term is admitted D.M. on presentation of a dissertation approved by the appointed professors and examiners.

M.Ch. Degree.—An examination for this degree is held in June. The candidate must have entered his twenty-seventh term.

Fees.—University: B.A., £7 10s. B.M. and B.Ch., £14. D.M., £25. M.Ch., £12. Every Master of Surgery, being otherwise duly qualified, is entitled without further payment of fees to supplicate for the Degree of Master of Arts, and every Master of Arts, being otherwise duly qualified, is entitled without further payment of fees to supplicate for the Degree of Master of Surgery. Also an annual fee to the University of £2 for the first four years, reduced to £1 when the B.A. is taken. College fees (varying in amount) on taking degrees and for the first four years of membership. Tuition fees, £21 to £30. The cost of living for the four University terms cannot be stated at less than £120, inclusive of fees.

Scholarships, etc.—The several Colleges grant scholarships of £80 a year tenable for four years in Natural Science, Chemistry, Physics, and Biology. Exhibitions of varying value are also awarded in these subjects. Particulars can be obtained on application to the College tutors. A Radcliffe Travelling Fellowship of £200 a year, tenable for three years, is conferred annually; candidates must have taken the B.M. degree. A Philip Walker Studentship in Pathology of £200 a year, tenable for two years, is awarded biennially for the encouragement of research in Pathology.

TEACHING.

The several Colleges provide their undergraduate members with tutors for all examinations up to the B.A. degree. In addition, the University provides the following courses of instruction:

Preliminary Examination.—Courses of lectures and demonstrations in Elementary Mechanics and Physics, in Inorganic Chemistry, in Animal Morphology, and in Botany are given at convenient periods, and are open to members of the University intending to proceed to a medical degree.

The Rolleston Memorial Prize of the value of £70 is awarded biennially for research in Natural Science (including Pathology). Candidates must be graduates of the University or graduates of the University of Cambridge.

Degree of B.A.—The Course of Instruction for the Final Honour Examination in Physiology consists of lectures and practical work, and extends over two years. It is intended for students who have passed the Preliminary Examination in other subjects.

First B.M.—The Instruction in Human Anatomy is by lectures and demonstrations; the dissecting room is open daily, and dissection may be continued during the vacation. The course of instruction in Physiology consists of a course of lectures extending over three full terms, a course of practical instruction in Histology during three terms, and a course of Elementary Physiological Chemistry, with practical laboratory work during two terms. Instruction in Organic Chemistry is given in the Chemistry Department.

Second B.M.—Lectures on Materia Medica and practical instruction in Pharmacology are given during the summer term, and clinical lectures and tutorial instruction and demonstrations in Physical Diagnosis in Regional Anatomy are given in each term at the Radcliffe Infirmary. Lectures in Pathology and practical instruction in Bacteriology and Pathological Histology are given throughout the year in the Pathological Department.

Elementary instruction in Medicine will be given by the Regius Professor of Medicine and the Lichfield Lecturer at the Radcliffe Infirmary, and elementary instruction in Surgery by the Lichfield Lecturer in Surgery at the same place.

UNIVERSITY OF CAMBRIDGE.

BACHELOR OF MEDICINE (M.B.) AND BACHELOR OF SURGERY (B.C.).

A student proceeding to this degree must (1) reside in the University during the required portion of each of nine terms, (2) pass (or obtain exemption from) the Previous Examination, (3) pursue medical study for five years.

There are three examinations for the degree of Bachelor of Medicine. They are partly in writing, partly oral, and partly practical. The examinations take place twice in the year, in the Michaelmas and Easter terms.

The First Examination is divided into two parts: 1. Chemistry and other branches of Physics. 2. Elementary Biology. These two parts may be taken together or separately. Before admission to this examination the candidate must have passed (or obtained exemption from) the Previous Examination. He must also produce certificates of diligent attendance on a course of lectures in Chemistry, and of practical instruction in Chemical Manipulations.

The Second Examination includes Human Anatomy and Physiology. Before admission to this examination the student must have passed both parts of the First Examination, must have practised dissection during six months, and must produce certificates of diligent attendance on a course of lectures on each of the following subjects: 1. Human Anatomy. 2. Physiology.

The Third Examination is divided into two parts, called the First part and the Second part respectively. Before presenting himself for either part, the student must have passed the Second Examination. The First part includes: (1) Pharmacology, (2) General Pathology. The Second part includes: (1) Principles and Practice of Surgery, (2) Midwifery and Diseases Peculiar to Women, (3) Principles and Practice of Physic. The student, before admission to the First part, must produce certificates of attendance on one course of lectures in each of the following subjects: (1) Pharmacology, and (2) General Pathology; he must have attended the practice of a recognized hospital for six months. In the Second part

[1] The four subjects of the Medical Preliminary Examinations are four of the subjects in the Natural Science Preliminary, and can be commenced directly after passing Responsions.

[2] Membership is constituted by Matriculation, and by becoming a member of a College or Hall, or a non-collegiate student.

the student may present himself for examination in any two or in all of the Sections 1, 2 and 3. A student who satisfies the examiners in two of the sections may be exempted from further examination therein; but his name shall not be included in the list of successful candidates until he has satisfied the examiners in the remaining section. The candidates are informed of the result but their names are not published. Before admission to the Second part a candidate must produce evidence that he has completed the five years' course of medical study and obtained certificates of diligent attendance on one course of lectures in each of the following subjects: (1) Principles and Practice of Surgery, (2) Midwifery, (3) Principles and Practice of Physic, (4) Medical Jurisprudence; he must also have attended the Medical and Surgical Practice of a recognized hospital (with clinical lectures) including certain special hospitals and asylums during three years at least. All candidates must also produce certificates of attendance during three months on (1) practical instruction in Pharmacy and Dispensing, (2) clinical instruction in Fevers at a general or special hospital, (3) proficiency in Vaccination from an authorized vaccinator appointed by the Local Government Board, (4) of having attended twenty cases of Midwifery, (5) of having at a recognized hospital acted as Dresser or House-Surgeon for six months, as Clinical Clerk or House-Physician for six months, and as *Post-mortem* Room Clerk.

Act for M.B.—After these examinations have been passed, an Act must be kept in the schools in the following manner: The Regius Professor of Physic assigns a day and hour for keeping the Act, of which public notice has to be given eight days before. The candidate reads a thesis, composed by himself, on some subject approved by the Professor; the Professor brings forward arguments or objections for the candidate to answer, and examines him orally on questions connected with his thesis, as well as on other subjects connected with medicine of a more general nature.

B.C.—As the Third Examination includes operative and clinical surgery, the degree of Bachelor of Surgery is conferred upon candidates who pass it without further examination and without the Act. The degree of B.C. is thus a registrable qualification in Medicine, Surgery, and Midwifery.

Doctor of Medicine (M.D.)

This degree may be taken by an M.B. of three years' standing, or by an M.A. of four years' standing, who has been engaged in medical study for five years at least. In the latter case certificates of attendance on lectures and hospital practice for the M.B. must be produced, and the examinations for the M.B. must be passed. In either case the candidate keeps an Act by reading an original thesis upon which he is examined, and writes a short extempore essay upon one of four topics (at his choice), relating severally to Physiology, Pathology, Medicine, or State Medicine.

Master in Surgery (M.C.)

This degree is granted to a candidate who has completed all that is required for the degree of B.C. at least three years previously; the candidate is either (1) examined in Pathology, Surgery, Surgical Anatomy, and Surgery Operations, the examinations being both written and practical; or (2) submits books or writings constituting original contributions of merit to the science or art of surgery.

Dates, Fees, etc.

The dates of examinations are announced early in the Michaelmas and Lent terms. Each candidate pays £2 2s. to the Registry of the University on giving notice of his intention to offer himself for either part of the First or Second, and £3 3s. for either part of the Third Examination for M.B., but any student who has been exempted from further examination in two of the sections in the Second part shall be required to pay a fee of £2 2s. on admission or readmission to examination in the remaining section. He pays £3 3s. examination fee for M.C. Schedules defining the range of subjects in the First M.B. Examination, and of the Pharmacology and General Pathology in the Third Examination: also schedules for the necessary certificates, and a list of the schools of medicine and hospitals recognized by the University, may be obtained on application to the Registrary of the University, the Registry, Cambridge.

UNIVERSITY OF LONDON.

Under the regulations of the University of London, as now constituted, the degrees obtainable in the Faculty of Medicine are those of Bachelor of Medicine and Surgery, Master of Surgery, and Doctor of Medicine in five different branches.

All students of the University, it is to be remembered, are divided into two classes, Internal students and External students. An Internal student is one who, having matriculated at the University, or otherwise obtained registration as an undergraduate, is pursuing a course of study approved by the University in a School or Schools, or under one or more of the Teachers, of the University. An external student is an undergraduate who is pursuing his education in some other way.

The standard of education required from those who present themselves for degrees, whether as internal or external students, is, as far as possible, the same; but the regulations which affect them differ to some extent. The information which hereinafter follows applies to those who propose to proceed to medical degrees as internal students, and who have not yet commenced their work. Those who propose to study elsewhere than at one of the constituent schools of the Faculty of Medicine of the University should obtain the regulations which apply to them from the External Registrar. There are a few conditions under which exemption may be obtained from examination in certain subjects, or the intervals between examination abbreviated, but to the vast majority of students they have no application.

It may be stated here, that under no circumstances whatever can a degree after examination be granted to any one in less than three years after the date at which he passed the matriculation examination or obtained registration in some other way, and that External students of the Faculty of Medicine must pass not less than five years in professional study subsequent to matriculation. Four of those years must be passed after the Preliminary Scientific Examination, Part I, at one or more of the medical institutions or schools at home and abroad recognized by the University for the purpose; and one year at least of those years must be passed at one of the schools situated within the United Kingdom.

The normal course of an Internal student of medicine is as follows: After matriculation he pursues approved courses of instruction in Chemistry, Physics, and Biology, and then at the end of his first year goes up for the Preliminary Scientific Examination (Part I). This passed, he goes up at the end of six months for the Examination in Organic Chemistry, known as the Preliminary Scientific Examination (Part II). The rest of the second and third years he spends on approved courses of Anatomy, Physiology, and Pharmacology, including Materia Medica and Pharmacy, and then at the end of his third year as a medical student, presents himself for the Intermediate Examination. The next two years he devotes to approved courses of Instruction in Medicine, Surgery, Midwifery, and Diseases of Women, Pathology, Forensic Medicine and Hygiene, and at the end of his fifth year he is entitled to present himself for the final examination for the M.B., B.S. degree, success in which will entitle him to registration as a qualified practitioner. This five years' course, however, is liable to be prolonged by failure at any stage, as there is a minimum space of time fixed between passing one examination and attempting the next.

The Matriculation Examination (see Note p. 479) takes place three times in each year—namely, in the months of January, June (or July), and September. Application for admission to it must be made on a special form about six weeks beforehand, and must be accompanied by a certificate showing that the candidate will have completed his sixteenth year at the date on which the examination commences. It is a written examination, but the examiners are not precluded from putting viva voce questions to candidates if they should think fit. To pass the examination candidates must show a competent knowledge of five subjects, of which one must be English (one paper of three hours), another Elementary Mathematics (two papers of three hours each), and a third either Latin or Elementary Mechanics or Elementary Physics (Heat, Light, and Sound), or Elementary Chemistry or Elementary Botany. The other two may be selected from any of those in the following list, except, of course, those in which the candidate may have already been examined. Unless Latin has already been taken, one of them must be a language—Latin, Greek, French, German, Arabic,* Sanscrit,* Spanish,* Portuguese,* Italian,* Hebrew, Ancient History, Modern History, Logic, Physical and General Geography, Geometrical and Mechanical Drawing, Mathematics (more advanced than in the compulsory examination), Elementary Mechanics, Elementary Chemistry, Elementary Biology (Botany), Elementary Biology (Zoology),* Elementary Physics (Heat, Light, and Sound, or Electricity and Magnetism). Candidates who desire to be examined in the subject against which an asterisk is affixed must give at

least two months' notice. The names of the successful candidates will be published in two lists, a first division and a second division. Communication concerning this examination must be addressed to the Principal of the University.

The Preliminary Scientific Examination, Part I, takes place twice in each year, commencing on the third Monday in January and on the second Monday in July. It consists of two papers in Inorganic Chemistry, two in Biology, and two in Physics, and there are practical examinations in Inorganic Chemistry, Physics, Botany, and Zoology, not exceeding three hours in any one subject; examiners are also at liberty to test candidates viva voce. A student must present himself for examination, either in all of the three subjects together, or in Physics and Chemistry together, or in Biology alone. It is a pass examination only, and the list of successful candidates is published in the alphabetical order of their names.

The Preliminary Scientific Examination, Part II, takes place twice a year, namely, in January and July. It should be passed not later than the end of the second year of study, but cannot be passed within six months of the passing of Part I of the same examination. It is a pass examination, and consists of a three hours' paper in Organic Chemistry, and three hours' practical work, the examiners being at liberty also to test any candidate by viva voce questions.

The Intermediate Examination in Medicine takes place twice a year, commencing on the third Monday in January and the first Monday in July. Candidates must have passed Part I of the Preliminary Scientific Examination at least two years and Part II at least one year previously. The subjects of examination are Anatomy, Physiology, and Pharmacology. In Anatomy there will be two papers, dissection, and an oral examination. In Physiology, two papers and a practical examination not exceeding six hours in length, which will include the preparation and identification of histological specimens, and the performance of simple experiments illustrating points in physiology and elementary physiological chemistry. In Pharmacology there will be one paper and an oral examination, which may include recognition of Materia Medica specimens. It is a pass examination, and the names of the successful candidates will be published in alphabetical order, but any subjects in which a candidate may have distinguished himself will be appended to his name if he has passed in all the subjects at one time. Candidates who have failed in one subject only at this examination may offer themselves for re-examination in that subject, if permitted to do so by the examiners. Three scholarships, one of the value of £40 in Anatomy, another of the same amount in Physiology, and one of £30 in Pharmacology, may be awarded by the examiners to any candidate who, having passed the whole of the examination at one time, has been awarded marks of distinction in one or more subjects; as a rule, no candidate will be allowed to receive the income of more than one scholarship at the same time.

The Final M.B., B.S. Examination takes place twice a year, commencing on the last Monday in October and on the first Monday in May. No candidate will be admitted to this examination unless he has completed the course of study prescribed in the schedule or within two academic years from the date of passing the Intermediate Examination in anatomy and physiology.

The subjects of the examination are Medicine (including Therapeutics and Mental Diseases) Pathology, Forensic Medicine and Hygiene, Surgery, and Midwifery and Diseases of Women. The subjects may be divided into two groups, one of which shall comprise Medicine, Pathology, Forensic Medicine and Hygiene; and the other Surgery and Midwifery and Diseases of Women. Either group may be taken first at the option of the candidate, or the groups may be taken together. The examination in Medicine will consist of (*a*) two papers each of three hours' duration, (*b*) a viva voce examination on cases, (*c*) an examination of a patient with a written report on the case and (*d*) an oral examination on the whole subject. In Pathology there will be a paper, a viva voce and a practical examination in clinical laboratory work, while in Forensic Medicine and Hygiene there will be a paper and an oral examination.

In Surgery there are (*a*) two papers, each of three hours' duration, one on surgery and the other on Surgical Anatomy and Pathology (*b*) a clinical examination on cases, and (*c*) an oral examination on Surgical Pathology, (*d*) another on Surgical Appliances and Surface Marking. In Midwifery and Diseases of Women there will be one paper and a viva voce. Only candidates who show a competent knowledge of all the subjects comprising a group will be passed. There will be no separate examination held for honours, but in the list of successful candidates the names will be divided into an honours list and a pass list, in each of which the names will be placed in alphabetical order. Only those, however, who have passed the whole examination at one time will be entitled to a place in the honours list. In this list the subjects in which they have distinguished themselves will be appended to the names of the successful candidates. The examiners will be empowered to recommend the award of a University Medal to the candidate who has most distinguished himself in the whole examination.

A diploma under the seal of the University, constituting a licence to practise, will be delivered to each candidate when he has passed in both groups of the examination.

DOCTOR OF MEDICINE.

The examination for the degree of Doctor of Medicine is held twice in each year, commencing on the first Mondays in December and July. Every candidate must have passed the examination for the M.B., B.S. of this University unless he became M.B. before May, 1904. Candidates may present themselves for examination in any one of the following branches: (1) Medicine, (2) Pathology, (3) Mental Diseases, (4) Midwifery and Diseases of Women, (5) State Medicine; and, if they wish, may pass also in another branch at a subsequent examination. Candidates for Branches 1 to 4 who have taken honours at the M.B., B.S. examination in the subject in which they present themselves for the M.D. degree, or who, subsequently to taking the M.B., B.S., have conducted a piece of original work approved for the purpose by the University, or have had such exceptional experience in the Branch in which they present themselves as may be approved by the University, may present themselves for the M.D. examination one year after taking their Bachelor's degree. Other candidates must show that they have taken the degree of M.B., B.S. not less than two years previously; and as regards candidates in Branches 1 to 4 either that they have held for at least six months a resident or non-resident medical appointment at a hospital approved for this purpose, or that they have been in qualified practice for not less than five years, or that as regards Branches 2 and 3 they have held in the one case a pathological and in the other an asylum appointment in an institution approved by the University. In each examination for the M.D. in Branches 1 to 4 there will be (1) two papers on the special subject of the branch; (2) a Clinical Examination; (3) an essay to be written on one of two given subjects connected with the branch. In Branch 1 there will also be a paper on Pathology, and in Branches 2, 3, and 4 a paper in Medicine, while in Branch 2 a Laboratory Examination will be substituted for the Clinical Examination held in the other branches.

Candidates in Branch 5 (State Medicine) must show that they have taken the degrees M.B., B.S. not less than two years previously, and that subsequently to taking those degrees they have had (1) six months' practical instruction in an approved laboratory; (2) six months' practical instruction from a medical officer of health, of which three must not coincide with the laboratory work, and three months' practice at a hospital for infectious diseases. The interval between passing the M.B., B.S. and proceeding to the M.D. State Medicine may be reduced to one year, subject to conditions corresponding to those affecting Branches 1, 2, 3, and 4. The examination will consist of two papers in State Medicine (including Hygiene and Forensic Medicine) one paper in Medicine, an essay to be written on one of two subjects of State Medicine, and a practical examination extending over two days, one of which will be devoted to laboratory work, and the other to practical examination in, and reporting on, subjects which fall within the outdoor duties of a medical officer of health; a viva voce is also possible.

MASTER OF SURGERY.

The examination for the degree of Master in Surgery will take place twice in each year, commencing on the same dates as the foregoing, and the general regulations already quoted with regard to the M.D. will practically apply to it, surgery being substituted for medicine. In addition, he must produce evidence that he has held a surgical appointment at an approved institution for at least six months. The examination will consist of (1) two papers on Surgery (one of which may be a case for commentary); (2) an essay to be written on one of two subjects which may be selected from any branch of

surgery; (3) two papers on Surgical Pathology and Surgical Anatomy; (4) a Clinical Examination; (5) operations on the dead body; (6) an oral examination at the discretion of the examiners. Competent knowledge in every subject of the examination must be shown in order to pass.

For the M.S. Degree and all branches of the M.D. a candidate is at liberty to forward a thesis or copies of published works embodying the result of independent research in the subject in which he presents himself for a degree and also any printed contributions to the advancement of professional knowledge published either separate or conjointly. If the examiners consider such thesis or works of sufficient merit they are empowered to exempt a candidate both from the practical and written part of the examination in the case of candidates for the M.D. in Pathology, but from the written examination only in the case of other candidates. They also have power to award a University medal to the candidate who at the examination in any branch passes with most distinction.

Fees.

For Matriculation.—£2 for each entry.

Preliminary Scientific Examination—Part I: £5 for each entry to the whole examination, and £2 for each subject when less than the whole examination is taken at one time. Part II: No fee for first entry, £2 for each subsequent one.

Intermediate Examination—£10 for each entry to the whole examination, and £5 for re-examination in one subject.

M.B., B.S. Examination.—£10 for each entry to the whole examination, and £5 for examination or re-examination in either group.

M.D. and M.S. Examinations.—£20 for each entry.

NOTE.—The following persons may obtain registration as Internal or External students on presentation of documentary evidence as to their condition and a payment of £2: Graduates of such British, Colonial, and foreign universities as are approved by the Senate for that purpose, and those who have passed all the examinations required for a degree in those universities, also women who have obtained Tripos certificates granted by the University of Cambridge, and women who have obtained certificates showing that, under the conditions prescribed by the Delegacy for Local Examinations at Oxford, they have passed the Second Public Examination of that University or have obtained honours in the Oxford University Examination for Women in Modern Languages, and students who hold the Scotch School Leaving Certificate, having passed on one and the same occasion, in the Higher or Honours Grade in all the subjects required by the regulations for the Matriculation Examination, and those who have obtained at an *Abiturien-Examen* the *Zeugniss der Reife* from a Gymnasium or a Real-gymnasium within the German or Austrian Empire, or the *Maturitäts Zeugniss* of a Swiss Gymnasium or *Oberrealschule*, or the *Eidgenössische Maturitäts-Zeugniss* of Switzerland, or the Leaving Certificate of a Gymnasium of the Russian Empire. Their standing as students will date from the Matriculation Examination immediately preceding the date on which their registration was complete.

UNIVERSITY OF DURHAM.

THE University of Durham grants six degrees in the Medical Faculty—M.B., M.D., B.S., M.S., B.Hy., D.Hy. The degrees of M.D., B.S., and M.S. are granted only to M.B. graduates of the University. The degrees B.Hy. and D.Hy. are granted under certain conditions to graduates in medicine of recognized Universities (see pp. 523-4). The University also grants a diploma in Public Health. These degrees are open both to men and women. It is hardly necessary to say that every student intending to attend the University of Durham College of Medicine, Newcastle-on-Tyne, would do well to pass the necessary examination in general knowledge, and qualify himself to obtain the degrees of the University.

Degree of Bachelor of Medicine (M.B.).

Preliminary Examination in Arts.—In addition to the Certificate of Registration, a candidate must pass the Preliminary Examination in Arts for the degree in Medicine of the University of Durham or show either (1) a certificate of graduation in Arts in any university in the British Empire; or (2) a certificate of having passed the First Public Examination for the Degree of B.Litt. of the University of Durham; or (3) (*a*) The First Public Examination in Arts of the University of Durham; (*b*) the University of Oxford Moderations; (*c*) the University of Cambridge Previous Examination; (*d*) the University of Cambridge General Examination; (*e*) the Matriculation Examination of the University of London; (*f*) Durham Senior Local Examination; (*g*) the Oxford or Cambridge Senior Local Examination; (*h*) Oxford and Cambridge Joint Board Examination (Higher Certificate). Particulars as to the Preliminary Examination of the University of Durham can be obtained from the Rev. Henry Ellershaw, M.A., Secretary of the Examinations, the University, Durham, to whom the fee (£1 10s.) is payable.[1]

The Preliminary Examination in Arts is held thrice yearly, in January, March, and September. The next examination will be commenced on September 19th, 1905.

Curriculum—The curriculum extends over five years, of which at least one must be spent in attendance at the University of Durham College of Medicine, Newcastle-on-Tyne, and in the clinical practice of the Royal Infirmary there. First and second year students (dating from registration) are not required to comply with the regulation regarding attendance on hospital practice. Students are recommended to carry out the curriculum on some such plan as the following:

First Winter: Anatomy, Dissections, Chemistry, Physics, Elementary Biology. First Summer: Practical Chemistry, Practical Physics, Elementary Biology (if not attended during the Winter).

Second Winter: Anatomy, Physiology, Practical Physiology, Dissections. Second Summer: Practical Histology, Practical Pharmacy, Materia Medica, Therapeutics, and Pharmacology.

Third Winter: Medicine, Surgery, Hospital Practice, with Clinical Lectures, Public Health. Third Summer: Pathology, Practical Pathology, Medical Jurisprudence, Hospital Practice with Clinical Lectures.

Fourth Winter: Medicine, Surgery, Midwifery and Diseases of Women and Children, Practical Midwifery, Regional Anatomy, Hospital Practice, with Clinical Lectures. Fourth Summer: Operative Surgery, Ophthalmology, Practical Midwifery (if not previously attended), Hospital Practice, with Clinical Lectures.

Fifth Winter: Regional Anatomy (if not previously attended), Infectious Diseases, Hospital Practice, and Clinical Lectures, Practical Midwifery (if not previously attended). Fifth Summer: Clinical Lectures, Mental Diseases, Operative Surgery (if not previously attended).

Professional Examinations—There are four professional examinations conducted in writing, practically, and viva voce, each held twice a year (April and September) *First Examination:* Elementary Anatomy and Biology, Chemistry, Physics. *Second Examination:* Anatomy, Physiology, Materia Medica, Therapeutics, and Pharmacology. *Third Examination:* Pathology, Medical Jurisprudence, Public Health, and Elementary Bacteriology. *Final Examination:* Medicine, Clinical Medicine and Psychological Medicine, Surgery and Clinical Surgery, Midwifery, and Diseases of Women and Children. The *Calendar* of the University of Durham College of Medicine, Newcastle-on-Tyne, contains synopses of the subjects of the examinations and examination papers. Applications for further information should be addressed to Professor Howden at the College. A candidate who has passed the First and Second Examinations of the University will be exempt from the First and Second Examinations of the Conjoint Board in England. Candidates who have completed part of their curriculum elsewhere may pass their First, Second, and Third Examinations *previously* to entering at the College of Medicine Newcastle-upon-Tyne, and previous to passing the Preliminary Examination in Arts of the University.

Degree of Doctor of Medicine (M.D.).

A candidate for this degree must have been engaged in practice for at least two years subsequent to obtaining the degree of M.B. in the University of Durham, and must satisfy the University as to his knowledge of Greek or German. The candidate is required to prepare an essay, which must be typewritten, based on original research or observation, and is subject to examination on the topic of his essay. For particulars as to the degree of M.D. for medical practitioners of fifteen years' standing, without curriculum, see p. 520.

Degrees in Surgery.

Bachelor of Surgery—A candidate must have passed the examination for the Degree of M.B. (Dunelm), and have attended courses of lectures on Operative Surgery and on Regional Anatomy. He is required to perform operations on the dead body, and to show practical acquaintance with the use of surgical instruments and appliances.

Master of Surgery.—A candidate must have obtained the Degree of B.S. (Dunelm) at least two years previously, and have been engaged in practice for that period. The subjects for the examinations are Principles and Practice of Surgery, Surgical Pathology, Surgical Anatomy, Surgical Operations, Clinical Surgery.

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[1] Candidates from Indian Universities must have passed a Matriculation Examination at one of the Indian Universities, and will have to reside for one academic year at the University of Durham College of Medicine at Newcastle-on-Tyne before presenting themselves for the M.B. Degree Examinations. In accordance with the regulations on pp. 68 to 71 of the *Calendar*. If the Matriculation Examination at the Indian University did not embrace Latin and either Persian or Sanskrit then it will be necessary for the candidate to produce evidence that he has passed in Latin and one of those subjects, or in Greek, within twelve months of his presenting himself for the examination for the Degree in Medicine.

DEGREES IN HYGIENE (B.Hy., D Hy.).
For the regulations as to the Degrees, see pp. 523-4.

FEES.

Preliminary Arts Examination for Degrees, £1 10s. First, Second, and Third Professional Examinations (M B.) each £5. Final (M.B.). £10. Examination for the degrees of M.D , B S., and M.S., each £5, in addition to a payment to the University of Durham for each degree of £6 6s.

VICTORIA UNIVERSITY OF MANCHESTER.

Matriculation.—A candidate for the Matriculation Examination is examined in (1) Latin; (2) Mathematics; (3) English Language, Literature, and English History; (4) Two of the following, one of which must be a language: i, Greek; ii, French; iii, German; iv, some other modern language approved by the Board of Studies; v. Elementary Mechanics; vi, Chemistry; vii, Geography or Natural History. Candidates who propose to present themselves in Italian or Spanish, or in a modern language not included in the list, must give notice to the Secretary, Joint Matriculation Board, Owens College, Manchester, on or before March 1st in the year in question.

Matriculation—Before matriculating, which consists in signing the University Register, candidates must produce proof that they are registered students of the University, or of a medical school recognized by it.

DEGREES OF BACHELOR OF MEDICINE AND OF SURGERY (M B , CH.B.).

Curriculum and Residence.—Five years must be spent in study at a recognized medical school subject to registration as a medical student; of these five years, two at least must be passed in the University, and one of these two years must be subsequent to passing the First M.B Examination.

First M B. Examination—Candidates must have attended during at least one year courses of lectures and laboratory work in each of the subjects of the examination—namely: Part I. (*a*) Physics; (*b*) Chemistry. Part II. Biology (Animal and Vegetable Morphology, Physiology, and Laboratory work). The two parts may be taken together or separately.

Second M B. Examination—Candidates must have attended winter courses in Anatomy and Physiology, and a summer course in Materia Medica and Pharmacy, must have dissected for two winter sessions and one summer, and must have had practical instruction in Physiology and in Materia Medica and Pharmacy. The subjects of the examination are: (1) Anatomy; (2) Physiology; (3) Materia Medica and Pharmacy; (3) may be passed separately.

Final M B Examination—Candidates must produce certificates of having attended, in a recognized medical school, courses of instruction in all the subjects of the examination, which are: Part I. (*a*) Pharmacology and Therapeutics, (*b*) General Pathology and Morbid Anatomy. (*c*) Forensic Medicine and Toxicology and Public Health. Part II. (*d*) Obstetrics and Diseases of Women, (*e*) Surgery, (*f*) Medicine (including Mental Diseases and Diseases of Children). The two parts may be taken separately, and any one of the subjects of Part I may be deferred and taken with Part II.

DEGREE OF DOCTOR OF MEDICINE (M.D.)

A candidate must have obtained the degree of M.B. at least one year previously. He must present a printed dissertation, and may be examined on any subject connected therewith.

DEGREE OF MASTER OF SURGERY (CH.M.)

A candidate must have obtained the degree of M.B. at least one year previously, must have been engaged in the study of Practical Surgery in the interval, and have held a surgical appointment for not less than six months in a hospital or other public institution. He must also produce certificates of having attended special courses in Operative Surgery, Bacteriology, and Ophthalmology.

FEES AND DATES OF EXAMINATION.

Matriculation examination, £2; re-examination after failure, £1. First, Second, and Third M.B. Examinations, each £5; re-examination after rejection, £2. M.D., £10; Ch.M., £5 on examination, and £5 on the conferring of the degree.

The Matriculation Examination is held in July (also for schools) and September. The First M.B. Examination is held in June, also in September. The Second and Final M.B. Examinations are held in March and July, and that for the Ch.M. in July.

UNIVERSITY OF BIRMINGHAM.

THE University of Birmingham confers the degrees of M.B., Ch.B., M.D., Ch.M , and also a B.Sc. in the subject of Public Health. The course for the Bachelor's degrees extends over five years from the date of registration with the General Medical Council. As a rule, the first four of these years must be spent in the University, but the Senate has power of recognizing attendance at another University as part of the attendance qualifying for these degrees, and of recognizing examinations passed at such other Universities as exempting from the examinations in Chemistry, Physics, and Comparative Anatomy. In the case of such students at least three years must be spent in attendance upon classes at the University. The fifth year may be spent at any other school or schools of medicine recognized by the University.

DEGREES OF BACHELOR OF MEDICINE AND BACHELOR OF SURGERY.

The student must have passed either the Matriculation Examination of the University or one of the following examinations, which will be accepted in lieu thereof, *for the present*. (*a*) The Previous Examination of the University of Cambridge. (*b*) Responsions of the University of Oxford. (*c*) The Matriculation Examination of any other University in the United Kingdom. (*d*) The leaving Certificate (Higher) of the Oxford and Cambridge Boards. (*e*) The Oxford or Cambridge Junior Local Examinations (First or Second Class Honours). (*f*) The Oxford or Cambridge Senior Local Examination (Honours). (*g*) The College of Preceptors Examination for First-class Certificate. Matriculation Examinations are held in June and September in each year, the Regulations for which may be obtained from the Registrar.

First Examination.—Chemistry and Physics. One year's lectures with practical work.

Second Examination.—Anatomy, Comparative Anatomy, and Physiology. Two winters' and one summer's dissections with lectures in Anatomy; one winter course of lectures and practical Comparative Anatomy; one winter course and two summer courses of lectures and practical work in Physiology.

Third Examination—Pathology and Bacteriology, Materia Medica and Practical Pharmacy. In the former subjects, one course of lectures and practical work during the winter session, with a practical course during the summer session. In the latter subjects, one course of lectures and practical work during the summer session.

Fourth Examination (at the end of the fourth year).—Forensic Medicine, Toxicology, and Public Health.

Final Examination.—Medicine Surgery, Midwifery, Gynaecology, Therapeutics, Mental Diseases, and Ophthalmology. Attendance on General Hospital for a year after the passing of the Fourth Examination, also attendances at Fever Hospital, Lunatic Asylum, Vaccination, courses of Ophthalmology, Medical and Surgical Anatomy, and Operative Surgery.

DEGREES OF DOCTOR OF MEDICINE AND MASTER OF SURGERY.

Candidates for either of these Degrees will be required to comply with the following regulations:

For the Degree of M D—Every candidate for this degree shall present a thesis embodying observations in some subject embraced in one of the departments of the medical curriculum enumerated below, and in addition he will be required to pass a general examination in Principles and Practice of Medicine. It will be in the power of the Board of Examiners to exempt a candidate whose thesis is of exceptional merit from any part of these examinations. A thesis may be presented in any of the following departments of study: (*a*) Anatomy, including Comparative Anatomy, (*b*) Physiology, (*c*) Human or Comparative Pathology, (*d*) Bacteriology, (*e*) Pharmacology, (*f*) Therapeutics, (*g*) Medicine, (*h*) Mental Diseases, (*i*) Preventive Medicine or Public Health, (*j*) Toxicology, (*k*) Legal Medicine (*l*) Midwifery.

For the Degree of Ch M—Candidates are required to comply with the following regulations:

At the end of one year from the date of having passed the final M.B., Ch.B., Examination, candidates will be eligible to present themselves for the higher degree of Master of Surgery.

Candidates for this Degree will be required to comply with the following regulations:

1. Every candidate shall present a thesis embodying observations in some subject embraced in one of the departments of the medical curriculum enumerated below; in addition the candidates will be required to pass a general examination in Principles and Practice of Surgery, and to perform operations on the cadaver.

2. It will be in the power of the Board of Examiners to exempt a candidate whose thesis is of exceptional merit from any part of these examinations.

3. The candidate may be examined in that Department of the medical curriculum from which the subject of his thesis is chosen, and the examiners may require to see the notes of original observations on which the thesis is based. (*a*) Surgery, (*b*) Pathology, (*c*) Bacteriology, (*d*) Gynaecology, (*e*) Ophthalmology.

Degree in Public Health.

For the Regulations for Degree and for the Diploma in the same subject, see p. 525.

Fees.

Matriculation, £2; First Examination, £2; Second, £2; Third, £2; Fourth, £2; Final, £2. Admission fee to Degrees of M.B., Ch.B., £6. The composition fee, £85, is inclusive and payable in four annual instalments—namely, £25, £25, £15 and £20 at the commencement of each year. This fee covers all the courses necessary for the degrees of this and other Universities and the ordinary qualifications of the Licensing Boards. It does not include, however, courses for Public Health Diplomas, nor those for the Preliminary Scientific Examination of the University of London, nor the additional courses required for the Fellowship of the Royal College of Surgeons, and other such higher diplomas and degrees.

Entrance Scholarships.—Sands Cox, 40 guineas awarded to the candidate who obtains the highest marks at the June Matriculation Examination. Sydenham Scholarships, one or more annually, restricted to orphan sons of medical men, elected by the Council, on the recommendation of the Medical Faculty, 40 guineas.

The Winter Session begins on October 2nd, 1905, and terminates on March 31st, 1906.

The Summer Session commences on April 23rd, 1906, and terminates on June 30th, 1906.

Further particulars may be obtained by application to Professor Gilbert Barling, Dean of the Medical Faculty, at the University.

UNIVERSITY OF LIVERPOOL.

Faculty of Medicine.

Students may enter for the degrees of the University of Liverpool, or may study for the degrees and qualifications of the other licensing bodies. The conditions as to the degrees of the University of Liverpool are for the present the same as those of the Victoria University (see p. 480).

Medical School Buildings.—The older buildings have during the past eight years been entirely replaced by spacious and well-equipped class rooms and laboratories for the practical study of all the important scientific subjects which form the basis of medicine.

Medical Research has also been endowed with several new laboratories in which students can pursue research work after graduation.

All the laboratories and class rooms are situated close together, communicating with one another, and are made up of four large blocks of buildings which form one side of the College quadrangle.

The most recent additions are the Johnston Laboratories for Experimental Medicine, Bio-Chemistry, and Comparative Pathology, and the new building recently completed for Anatomy, Surgery, Toxicology and the Dental subject.

The departments of Physiology and Pathology are accommodated in the large block provided by the generosity of the late Rev. S. A. Thompson Yates in 1898.

The Anatomical Department is situated in a separate block and has a complete suite of rooms, including a large and well-stocked museum, and a well-lighted dissecting room on the upper floor, measuring 70 ft. by 40 ft.

Hospitals.—Students may take out their clinical work at the Liverpool Royal Infirmary, or at the United Hospitals Clinical School formed by the David Lewis Northern Hospital, the Royal Southern Hospital, or the Stanley Hospital. Particulars as to fees, appointments, etc., may be obtained from the Secretaries of these schools.

The practice of the Lying-in, Eye and Ear, Women's, Children's, Dental, and Skin Hospitals is also open to students of the Faculty of Medicine.

Fellowships and Scholarships.—Fellowships, Scholarships, and Prizes of over £800 are awarded annually. A Holt Fellowship in Pathology and Surgery, of the value of £100 for one year, is awarded annually by the Medical Faculty to a senior student possessing a medical qualification. The successful candidate is required to devote a year to tutorial work and investigation in the Pathological department. A Holt Fellowship in Physiology, awarded under similar conditions, of the value of £100 for one year. A Robert Gee Fellowship in Anatomy, awarded under similar conditions, also of the value of £100 for one year. An Alexander Fellowship for Research in Pathology of the annual value of £100, renewable. A Johnston Colonial Fellowship in Pathology and Bacteriology (£100 a year, renewable). A John W. Garrett International Fellowship in Physiology and Pathology (£100 a year, renewable). An Ethel Boyce Fellowship in Gynaecological Pathology (£100 a year, renewable). A Stopford Taylor Fellowship (£100 a year, renewable) in Dermatological Pathology. A Thelwall Thomas Fellowship (£100 a year, renewable) in Surgical Pathology. Two Lyon Jones Scholarships, of the value of £21 each for two years, are awarded annually—a Junior Scholarship, open at the end of the first year of study to Liverpool University students in the subjects of the first M.B. Examinations, and a Senior Scholarship, open to all students in the school at the end of the second or third year of study, in the subjects of Anatomy, Physiology, and Therapeutics. The Derby Exhibition of £15 for one year is awarded in Clinical Medicine and Surgery in alternate years. Students may compete in their fourth and fifth years. In 1905 the subject will be Clinical Medicine. The Torr Gold Medal in Anatomy, the George Holt Medal in Physiology, the Kaufhack Medal in Pathology, and the Robert Gee Book Prize, of the value of £5 for Children's Diseases, are awarded annually.

Entrance Scholarships.—Two Robert Gee Entrance Scholarships, of the value each of £25 per annum for two years, are offered annually for competition. The holder is required to take out the Science Course for the University Degree in Medicine.

Communications should be addressed to the Dean, Professor Benjamin Moore, M.A., D.Sc., the University, Liverpool.

Liverpool Dental Hospital and School of Dental Surgery.—The University grants a Diploma in Dental Surgery (L.D.S.) and Degrees in Dental Surgery (B.D.S. and M.D.S.). The courses of systematic instruction are given in the University buildings, five minutes' walk from the Dental Hospital. The two institutions are now closely associated, and the management of the curriculum is in the hands of a Joint Committee. At the Dental Hospital recent alterations have been made, and, as it now stands, this school offers advantages to students which are not excelled anywhere. The ground floor of the building contains the following: Extraction room with all needful appliances; anæsthetic room specially reserved with every convenience; and large waiting room for patients. The first floor has a large Board room and a very comfortable students' room set apart exclusively for the use of students. The whole top floor of the building has been thrown into one fine, airy, and well-ventilated operating room. This room will accommodate upwards of thirty operating chairs, which are of the "Morrison pattern," and each of which has a special electric light (panting pendant) suspended before it. In the basement a very convenient work room has been fitted up, containing the necessary requirements, and there are commodious lavatories for students. A new Laboratory for practical mechanical work has also been constructed so as to meet the requirements of the curriculum. It is adequately furnished with all the modern appliances of a dental workshop. A skilled dental mechanic has been engaged, and students are able to undertake at the hospital the whole of their training in Mechanical Dentistry. The times of the lectures at the University are arranged to meet the convenience of students, thus allowing the maximum time for attendance upon Dental Hospital practice. The staff of the hospital includes seven honorary Dental Surgeons, a Demonstrator, two House-Surgeons, and a Curator. Fees for two years' hospital practice, £21. Apprenticeship: A limited number of apprentices are admitted annually, fees for three years, £105. Further information may be had from the Warden, Mr. W. H. Gilmour. The various Medical and Dental lectures are given at the University of Liverpool.

The anatomical department has been removed to a new building, comprising a spacious Dissecting Room and a Museum which contains an excellent collection of skulls illustrative of human and comparative dental anatomy. Fees: The composition fee for the diploma course (L.D.S.) is. Chemistry and Physics, £11 11s.; all other lectures £50, in two instalments; and for the degree course (B.D.S.) £67 10s., for all lectures (including Chemistry, Physics, and Zoology), in three instalments; two years' Dental Hospital, £21; General Hospital Practice £10 10s.; three years' Mechanical Instruction (pupilage) £ 05.

School of Tropical Medicine.—Courses of instruction are given in Tropical Diseases, particulars regarding which may be obtained from Mr. A. H. Milne, B 10, Exchange Buildings, Liverpool. A diploma in Tropical Medicine is now granted by the University.

Public Health Department.—This is located in a separate building known as Ashton Hall, in which full courses of instruction are given to D P H students.

School of Pharmacy.—Complete courses of instruction are provided, adapted to the requirements of candidates preparing for either the Minor or Major examinations of the Pharmaceutical Society of Great Britain.

Prospectuses and further information may be had on application to the Dean of the Faculty of Medicine, University of Liverpool.

UNIVERSITY OF LEEDS.

THE degrees granted in the Medical Faculty of the University are Bachelor of Medicine and Bachelor of Surgery (M.B. and Ch.B.), Doctor of Medicine (M.D.), and Master of Surgery (Ch.M.)

Candidates for the M.B., Ch.B., must show that they will have attained the age of 21 years on the day of graduation, and that they have attended courses of instruction approved by the University for not less than five years, two of such years at least having been passed in the University subsequently to the date of passing the First Examination.

The examinations to be passed are the Matriculation, the First, the Second and the Final, examinations.

Candidates presenting themselves for the Matriculation Examination in the Faculty of Medicine are required to satisfy the Examiners in: (1) English (language or literature), and English history; (2) Mathematics; (3) Latin; (4) two of the following, one of which must be a language: (*a*) Greek, (*b*) French, (*c*) German, (*d*) some other modern language approved by the Board, (*e*) Elementary Mechanics, (*f*) Chemistry, (*g*) Geography or Natural History.

Exemption from the examination may be granted to applicants holding certificates of having passed examinations of a standard deemed by the Matriculation Board to be at least equal to the Board's own examination.

FIRST EXAMINATION.

Candidates for the First Examination are required to have passed the Matriculation, and to have attended during at least one year the following courses of instruction either in the University, or in an institution recognized for this purpose by the University:—(1) Chemistry, Inorganic and Organic; lectures and laboratory work. (2) Biology (Zoology and Botany); lectures and laboratory work. (3) Physics; lectures and laboratory work.

The examination consists of two parts—Part I being Physics and Chemistry, and Part II Biology. In each subject laboratory work is included but the two parts can be taken separately. The names of the successful candidates are published in alphabetical order.

SECOND EXAMINATION.

Candidates for the Second Examination are required to have passed the First Examination, and to have attended complete courses of instruction approved by the University in Anatomy and in Physiology during four terms; in Materia Medica and Pharmacy for one term. The certificates must show (1) that dissection has been practised during five terms at least; (2) that laboratory instruction approved by the University has been received in Physiology: (3) that practical instruction approved by the University has been received in Materia Medica and Pharmacy. The examination is in two parts, which may be taken separately or together. Part I consists of Anatomy and Physiology, practical work being included. Part II Materia Medica and Pharmacy, includes the recognition of drugs and compounding of medicines.

FINAL EXAMINATION.

The Final Examination may be divided into two parts. Before presenting himself for the first part the candidate must have passed the Second Examination and completed eleven terms of medical study, and before appearing for the second part must have completed his fifth year. In either case the candidate must furnish certificates showing that he has attended courses of instruction approved by the University at the University or in a medical school approved for this purpose by the University. The required courses of instruction are as follows:

(i) Pharmacology and Therapeutics, one term.
(ii) Pathology and Bacteriology, three terms.
(iii) Forensic Medicine, one term.
(iv) Public Health, one term.
(v) Obstetrics and Gynaecology.
(vi) Systematic Surgery, two terms; Practical Surgery, two terms.
(vii) Systematic Medicine, four terms (including one term each Mental Diseases and Infectious Diseases).

As regards hospital work, proof must be furnished—

1. In Medicine and Surgery, of having attended the medical and surgical practice of a hospital or hospitals, approved by the University, during at least three years, of which years two at least must be subsequent to the date of passing the Second Examination, except when exemption has been granted by the Senate, after report from the Board of the Faculty of Medicine. Clinical Medicine, two years of clinical lectures. Clinical Surgery, two years of clinical lectures.

2. In Pathology and Morbid Anatomy, of having attended during at least twelve months, demonstrations in the *post-mortem* room of a hospital, including practical instruction.

3. In Obstetrics, of having attended not less than twenty cases of labour, at least five of which shall have been conducted under the direct supervision of a registered practitioner, and of having continued such attendance throughout the puerperal period.

4. In Gynaecology, of having, during at least three months, received in either a general or a special hospital, approved by the University, such clinical instruction in the diseases peculiar to women as shall be approved by the University.

5. Of having received clinical instruction in diseases of the eye, ear, throat, and skin

6. Of having acquired proficiency in vaccination.

7. Of having acted as a Dresser for six months in the Surgical wards, as a Clinical Clerk for six months in the Medical wards, and as a Clerk for three months in the *post-mortem* room of a hospital recognized by the University.

The subjects of the Final Examination are as follows:

(i) Pharmacology and Therapeutics.
(ii) Pathology and Bacteriology.
(iii) Forensic Medicine and Toxicology and Public Health.
(iv) Obstetrics and Gynaecology.
(v) Surgery: Systematic, Clinical, and Practical.
(vi) Medicine: Systematic and Clinical, including Mental Diseases and Diseases of Children.

Candidates may either present themselves in all the six subjects of examination on the same occasion, or may pass the examination in two parts the first part consisting of two or three of the subjects (i), (ii) and (iii); the second part consisting of the remaining subjects.

Candidates who fail to satisfy the Examiners in the first part must either present themselves again in the subjects as selected, or in all the three subjects of the first part, or in all the six subjects of examination.

The names of candidates who have satisfied the Examiners in the first part of the Final Examination are published in alphabetical order.

The names of candidates who have satisfied the Examiners in all the subjects of the Final Examination, and are recommended for degrees shall be published as follows:

1. Those awarded First Class Honours.
2. Those awarded Second Class Honours.
3. Those who have satisfied the Examiners.

In each list the names are placed in alphabetical order.

DOCTOR OF MEDICINE.

At least a year from his Final Examination must elapse before an M.B., B.S. can present himself for the M.D. degree.

The candidate is required to present a dissertation, and, if

the dissertation be accepted to pass an examination. The dissertation, of which the subject must previously have received the approval of the Board of the Faculty of Medicine, must embody the results of personal observations or original research, either in some department of medicine or of some science directly related to medicine, provided always that original work, published in scientific journals, or in the Proceedings of learned societies, or separately, shall be admissible in lieu of or in addition to a dissertation specially written for the degree. Candidates will be required to write a short extempore essay on some topic connected with medicine, and to answer questions on the history of medicine. They will also be examined orally on the dissertation or other work submitted. Any candidate may be exempted from a part or the whole of the examination if the Board of the Faculty so decide. No candidate will be admitted to the degree unless his application, after report from the Board of the Faculty of Medicine, shall have been accepted by the Senate.

The names of successful candidates are published in alphabetical order.

Masters of Surgery.

Candidates for the Ch.M. degree must hold the M.B. and Ch.B., and have passed the examination for those degrees at least one year previously.

In addition they must furnish evidence deemed satisfactory by the University that since taking the degree of Bachelor of Medicine and of Surgery they have held for not less than six months a surgical appointment in a public hospital or other public institution affording a full opportunity for the study of practical surgery. They must also give notice of their intention to present themselves for this examination to the Registrar before June 1st in writing and pay the fee. In addition they must furnish certificates:

1. Of having attended a special course of instruction on Operative Surgery, approved by the University and of having personally practised the principal surgical operations on the dead body.

2. Of having attended a systematic course of instruction including practical work approved by the University on Bacteriology.

3. Of having attended a course on Ophthalmology and of having received instruction in Ophthalmic Surgery approved by the University.

The subjects of examination are Surgical Anatomy and Surgery, Operative Surgery, Clinical Surgery, Ophthalmology, Pathology, and Bacteriology.

Times of Examination.

1. The Matriculation Examination is held twice in each calendar year, in July and in September.
2. The First Examination in June and in September.
3. The Second Examination in March and in July.
4. The Final Examination in March and in October.

Fees.

1. The fee for the Matriculation Examination is £2; for each subsequent examination, £1.
2. The First Examination, £5; for each subsequent examination, £2.
3. For the Second Examination, £5; for each subsequent examination, £2.
4. For the Final Examination, £5; for each subsequent examination £2.
5. For the examination for the Degree of Ch.M., £5; for any subsequent examination, £2.
6. A fee of £5 on application and £5 on the conferring of the Degree of M.D.
7. A fee of £5 on the conferring of the Degree of Ch.M.

The dates of the payment of fees will be as follows: For the Matriculation Examination in July the first day of June, and in September the first of that month; for the other Examinations held in March, July, September, or October, the first day of the month; for those in June the fourteenth day of May. Cheques and orders should be made payable to "The University of Leeds."

THE ENGLISH COLLEGES.

The Medical Corporations in England are the Royal College of Physicians of London, the Royal College of Surgeons of England, and the Society of Apothecaries of London. The two Royal Colleges now co-operate to hold a series of examinations, on passing which the candidate receives the diplomas of Licentiate of the Royal College of Physicians (L.R.C.P.) and Member of the Royal College of Surgeons (M.R.C.S.). The Society of Apothecaries grants its diploma separately, the letters used to indicate its possession being L.S.A. It is considered by some that those letters do not sufficiently indicate that those who have obtained the diploma since 1886 have been examined in medicine, surgery, and midwifery, and are entitled to registration at the present rate on the strength of this diploma alone. An agitation for alteration in the title of the diploma is now in progress.

CONJOINT EXAMINING BOARD IN ENGLAND.

A candidate who desires to obtain the Licence of the Royal College of Physicians of London and the Diploma of Member of the Royal College of Surgeons of England is required to pass three professional examinations, and to produce evidence of having passed through a stated course of instruction at a recognized medical school. The full period of five years must be spent in professional study after passing the required preliminary Examination, of which six months may be spent at an institution recognized by the Board for instruction in Chemistry and Physics. The candidate must pass an examination in subjects of Preliminary Education before entering the medical school (see page 474). For institutions from which certificates are accepted by the Conjoint Board see p. 513.

First Professional Examination.

The examination consists of four parts: (1) Chemistry, (2) Physics, (3) Elementary Biology, (4) Practical Pharmacy.

A candidate must pass in Parts I and II together, but he may take the remaining parts at different times, or he may present himself for the whole at one time, *or he may take Practical Pharmacy at any time during the curriculum.*

A candidate is required to produce evidence of having received instruction in each of the above-mentioned subjects. (Note.—In the case of students who commence their professional studies after June 1st, 1904, certificates must be produced of 180 hours' instruction and laboratory work in Chemistry, 120 hours' instruction and laboratory work in Physics, and 120 hours' instruction and laboratory work in Biology. These courses need not be completed within one year, nor need they run concurrently, and they may be commenced or attended before the candidate passes the required preliminary examination in general education.) A candidate referred in any part or parts will not be admitted to re-examination for three months. If referred in Chemistry and Physics or Biology he must produce evidence of further instruction. A candidate who produces evidence of having passed an examination for a degree in Medicine or any of the subjects in this examination at a university in the United Kingdom, India, or a British colony will be exempt from examination on the subjects in which he has passed. (Synopses of the subjects of the First Examination are issued by the Conjoint Board.)

Second Professional Examination.

The subjects of this examination are Anatomy and Physiology, and both must be passed at the same time. A candidate must have attended during two winter sessions and one summer session (or fifteen months during the ordinary sessions) at a recognized medical school lectures on Anatomy, Physiology, and a course of Practical Physiology and Histology, and have dissected for twelve months during the ordinary sessions. The study of Anatomy and Physiology before the date of passing Parts I, II, and III of the First Examination is not recognized. If rejected, a candidate, before being admitted to re-examination, must continue his studies for not less than three months.

Third or Final Professional Examination.

This examination consists of three parts: Part I, Medicine, including Medical Anatomy, Pathology, Practical Pharmacy,[1] Therapeutics, Forensic Medicine, and Public Health; Part II, Surgery, including Pathology, Surgical Anatomy, and the use of Surgical Appliances; Part III, Midwifery and Gynaecology.[2] The examination may be passed at one time

[1] Candidates who have previously passed in Practical Pharmacy will not be re-examined in that subject at the Final Examination.

[2] Candidates may present themselves for examination in Midwifery and Diseases of Women at any time after the completion of the fourth year of professional study at a medical school, and not less than one year after the passing of the Second Examination, on production of the required certificates.

or in each part separately. Evidence of attendance at courses of instruction in the subjects of the three parts must be produced, and also of attendance on twenty labours. The candidate must have passed the Second Examination two years previously, and have spent five years in professional study subsequent to passing the required Preliminary Examination. A rejected candidate must produce evidence of further instruction during three months.

All applications with reference to the examinations for the Licence of the Royal College of Physicians of London and for the diploma of Member of the Royal College of Surgeons of England should be addressed to the Secretary, Examination Hall, Victoria Embankment, London, W.C. (telegraphic address, "Conjoint," London), from whom also synopses of some of the subjects can be obtained.

REGULATIONS FOR COLONIAL, INDIAN, OR FOREIGN CANDIDATES AND UNIVERSITY CANDIDATES.

A person holding a Colonial, Indian, or foreign qualification which entitles him to practise in the country where such qualification has been obtained, is after a course of study and examination equivalent to those required by the Regulations of the two Royal Colleges, admissible to the Second and Third or Final Examinations, without any interval. Members of an English, Scotch, or Irish University are under certain conditions eligible for admission to the Third or Final Examination two years after passing at their University the subjects included in the First and Second Examinations of the Board.

A Doctor or Bachelor of Medicine or Surgery of an Indian, Colonial, or foreign University recognized for the purpose, who shall have passed at his University in the subjects of the First and Second Examinations will be eligible for admission to the Third or Final Examination two years after passing in the said subjects.

FEES, DATES, ETC.

First Examination £10 10s. Re-examination, Parts I and II, £3 3s.; Parts III and IV each £2 2s. *Second Examination*, £10 10s. Re-examination, £6 6s. *Third Examination*, £21. Re-examination, Part I, Medicine, £5 5s. Practical Pharmacy, £2 2s. Part II, Surgery, £5 5s. Part III. Midwifery and Diseases of Women £3 3s. Members of an English, Scottish, or Irish University, £5 5s.; for the diplomas, £36 15s.

The examinations are held in January, April, July, and October. A book of questions set at the several examinations is published annually, and can be obtained from Messrs. Taylor and Francis, Red Lion Court, Fleet Street, London, E.C.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

Licentiates.—Candidates for the Licence are now subject to the regulations of the Conjoint Examining Board in England.

Members.—The Membership of the College is granted after examination to graduates in Medicine of recognized Universities, or to Licentiates of the College, being above the age of 25 years, who do not engage in trade, do not dispense medicine, and who do not practise in partnership. Under the provisions of the Medical Act of 1886 the diploma of Membership is not registrable at the present time as a primary qualification, and is therefore granted only to persons already registered, or who have passed the Final Examination for the Licence.

The examination, which is held in January, April, July, and October, is partly written and partly oral. It is directed to Pathology and the Practice of Physic, and is conducted by the President and Censors. Candidates under 40 are examined in Latin, and either Greek, French, or German. Candidates over 40 are not so examined, and the examination in Medicine may in their case be modified under conditions to be ascertained by application to the Registrar. The fee for the Membership is £42, but if the candidate is a Licentiate the fee is the difference between what he has already paid and £42. In either case £6 6s. is paid before examination.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Membership.—Candidates who registered on or after October 1st, 1884, are now subject to the regulations of the Conjoint Board.

Fellowship.—The Fellowship of the College of Surgeons is granted after examination to persons at least 25 years of age who have been engaged in professional studies for six years. There are two examinations—the first in Anatomy and Physiology, which may be passed after the third winter session; the second, chiefly directed to Surgery, which may be passed after six years of professional study. Candidates must pass the Final Examination of the Examining Board in England and be admitted Members of the College before admission to the Second Examination for the Fellowship, except in the case of Graduates in Medicine and Surgery of not less than four years' standing, of universities recognized by the College for the purpose, who are required to attend for one year the Surgical Practice of a general hospital recognized by the College, after obtaining their degrees.

Fees.—At First Examination: £5 5s. At Second Examination: £12 12s. Diploma fee: Members, £3 3s.; non-Members, £13 13s. Further information can be obtained on application to the Secretary, Examination Hall, Victoria Embankment, London, W.C.

SOCIETY OF APOTHECARIES OF LONDON.

The examinations are Primary and Final. The Primary Examination is held quarterly, on the first Wednesday, and on the Monday and Thursday in the same week, in the months of January, April, July, and October. The Final Examination is held monthly.

Primary Examination.—This examination consists of two parts: Part I includes (*a*) Elementary Biology; (*b*) Chemistry, Chemical Physics, Practical Chemistry; (*c*) Pharmacy. A synopsis indicating the range of the subjects in the examination will be sent with the regulations on application. This examination may be passed after registration as a medical student. No professional studies commenced before registration will be recognized as part of the medical course. Should the candidate not succeed in passing in all the subjects of the examination, he will be referred only in the subject or subjects in which he fails. Part II includes Anatomy, Physiology, and Histology. This examination cannot be passed before the completion of twelve months' Practical Anatomy, with demonstrations. These subjects cannot be taken separately except in the event of the candidate having previously passed in one. A schedule of the Primary Examination, to be obtained of the Secretary, must be signed by the Dean of the Medical School or other authority. Candidates will be excused any or all the subjects of the Primary Examination on producing evidence that they have passed equivalent examinations before an examining body recognized by the Society. Candidates referred in Anatomy will be required to produce evidence of further work in the dissecting room before being admitted to re-examination.

Final Examination (Sec. I).—This examination consists of three parts. Part I includes: The Principles and Practice of Surgery, Surgical Pathology, Operative Manipulation, Surgical Anatomy, Instruments and Appliances. Part II includes: (*a*) The Principles and Practice of Medicine (including Therapeutics, Pharmacology, and Prescriptions), Pathology, and Morbid Histology; (*b*) Forensic Medicine, Hygiene, Theory and Practice of Vaccination, and Mental Diseases. Part III: Midwifery, Gynaecology, and Diseases of Newborn Children, Obstetric Instruments and Appliances. Sec. I of the Final Examination cannot be passed before the expiration of 45 months after registration as a medical student, during which time not less than three winter sessions and two summer sessions must have been passed at one or more of the medical schools connected with a general hospital recognized by the Society.

Final Examination (Sec. II).—This examination consists of two parts: Part I, Clinical Surgery; Part II, Clinical Medicine and Medical Anatomy. This examination cannot be passed before the end of the fifth year.

Information as to the details of the course of study required may be obtained on application to the Secretary, Court of Examiners, Apothecaries' Hall, Blackfriars, E.C. The examination offices are open from 10 to 4, Saturdays 10 to 1.

Fee, £21.—Primary Examination, £5 5s.; Final Examination, £15 15s.

THE SCOTTISH UNIVERSITIES.

It will be convenient to give the regulations for Edinburgh in detail, and then briefly to indicate points of difference as regards the other three Universities.

UNIVERSITY OF EDINBURGH.

The following regulations apply to all who began their studies after October 1st, 1892.

Four degrees in Medicine and Surgery are conferred—namely, Bachelor of Medicine, Bachelor of Surgery, Doctor of Medicine, and Master of Surgery. The degree of M.B. is not conferred separately from Ch.B., and vice versa, but M.D. and Ch.M. are separable.

Preliminary Examination.

This must be passed before beginning medical study: the subjects are: (1) English;[1] (2) Latin, Translation and Parsing, Prose Composition, Grammar and Sentences; (3) Elementary Mathematics, Arithmetic,[2] Algebra, and Geometry, Euclid, Books i, ii, and iii (or their equivalents with easy deductions); (4) Greek (Translation, Sentences, and Grammar), or French), or German. [One paper will be set in French and one in German. The papers will be of a lower standard than those set in these subjects in the Arts and Science Preliminaries. The time allowed for such paper will be three hours. The papers will comprise questions in grammar, translations, a piece of English for translation, and some short sentences.]

Excellence in one or more subjects will in some measure compensate for deficiency in others. The examination is conducted by a joint Board of the four Universities, and will be held from September 29th to October 6th, 1905, and from March 23rd to March 30th, 1906, and these dates apply to all the Scottish Universities. The standard of examination corresponds pretty nearly to the certificate of the Scotch Education Department, or the Lower Certificate of the Oxford and Cambridge Schools. Candidates are required to pass in all the necessary subjects at one or not more than two examinations. The examinations of a large number of bodies are taken as equivalents to the Preliminary; these will be found on pages 514 515 *of the University Calendar* (Regulations of the Joint Board of Examiners). The fee is 10s 6d. each time, and is to be sent with the schedule to Mr. T. Gilbert, the University Clerk, not later than September 22nd, 1905,[3] and March 2nd, 1906. The schedules can be had on and after September 8th, 1905, and March 2nd, 1906.

Registration.

The student must register within fifteen days after the commencement of medical study. There is no fee. Forms and information may be had from Mr James Robertson, 54, George Square, Edinburgh, or at the office of the Faculty of Medicine. Candidates for registration must produce evidence that they have attained 16 years of age.

Professional Education.

The course extends over five years. During the first four the student must attend Elementary Botany, Elementary Zoology, Physics, Practical Chemistry, Practical Physiology, Practical Pathology, and Medical Jurisprudence, during courses of not less than 2½ months each, a course of Public Health of 30 lectures; Practical Anatomy during two courses of not less than 5 months each; Chemistry, Anatomy, Physiology, Pathology, Surgery, Materia Medica, and Therapeutics, Medicine and Midwifery, and the Diseases of Women and Infants, during courses of not less than 5 months each. During the fifth, or final year he must be engaged in clinical study for at least 9 months, and must attend a 9 months' course in Clinical Medicine and Clinical Surgery. In all, before graduation he must have attended, for at least three years, a hospital which accommodates not fewer than 80 patients, and possesses a distinct staff of physicians and surgeons, and he must have acted as clerk in the medical and dresser in the surgical wards of such a hospital. He must have had approved opportunities of studying at a hospital *Post-mortem* Examinations, Fevers, and Ophthalmology. He must have had a course of Operative Surgery. Every candidate must attend one of the three following courses: (1) A six weeks' course of clinical instruction in the Diseases of Children; (2) a course of instruction, of at least 18 meetings, in diseases of the Larynx, Ear, and Nose; (3) a course of clinical instruction in diseases of the skin, of not less than 20 meetings. He must have attended a course of 25 meetings on Practical Pharmacy, a course on Mental Diseases, been properly instructed in Vaccination by a certificated public vaccinator, have attended 12 cases of labour, or had 3 months' attendance at a lying in hospital and have personally conducted 6 cases. Certificates for these various courses must attest regular attendance and due performance of the work of the class. The fees vary from 1 to 4 guineas for each class, and the total minimum cost in class, examination, and other fees for the M.B. and Ch.B. may be set down as £150. Two of the five years' course must be taken in the University of Edinburgh. For students beginning their course in winter there may be given the following minimum curriculum for the degrees of M.B. and Ch.B., with suggested order of study and examination:

First Winter Session: Chemistry, Practical Chemistry, Physics,[4] and Anatomy (Lectures). Examination in Chemistry, Practical Chemistry, and Physics. First Summer Session: Elementary Zoology and Elementary Botany. Examination in Elementary Botany and Elementary Zoology.

Second Winter Session: Practical Anatomy, Physiology, Practical Physiology, Surgery,[5] Hospital and Clinical Surgery after Christmas.[5] Second Summer Session: Practical Physiology, Practical Materia Medica, Practical Anatomy, Hospital and Clinical Surgery.

Third Winter Session: Materia Medica, Practical Anatomy, Anatomical Demonstrations, Examination in Anatomy, Physiology, and Materia Medica and Therapeutics (the last may be postponed to the end of the following summer). Third Summer Session: Practical Pathology, Clinical Medicine, Hospital, Examination in Materia Medica and Therapeutics (if not previously taken).

Fourth Winter Session: Pathology, Medicine, Midwifery, and Diseases of Women and Children, Clinical Medicine (with Clerkships), Hospital, *Post Mortems*, and Dispensary, Examination in Pathology. Fourth Summer Session: Forensic Medicine, Public Health, Ophthalmology, Infective Fevers, Diseases of Children, or Larynx, Ear, and Nose, or Skin, Hospital and Clinical Medicine, Dispensary, Mental Diseases.

Fifth Winter Session: Clinical Medicine, Hospital, Infective Fevers, Vaccination, Practical Midwifery.

Spring Vacation and Fifth Summer Session: Operative Surgery, Examination in Surgery and Clinical Surgery, Medicine and Clinical Medicine, and Midwifery, Forensic Medicine and Public Health.

Professional Examinations.

These are four in number, and the first three may be taken in sections as indicated above.

First.—Botany, Zoology, Physics, Chemistry, taken any time after the full specified course in these subjects.

Second.—Anatomy, Physiology, Materia Medica, and Therapeutics, at the end of the third Winter.

Third.—Pathology.

Final.—Surgery, Clinical Surgery, Medicine, Clinical Medicine, and Midwifery, Forensic Medicine, and Public Health at the end of the fifth year.

Failure in one subject does not involve failure in the other subjects of that division. Candidates must be 21 years of age before admission to the degrees of M.B. and Ch.B.

Examination Fees for M.B. and Ch.B.

	First Time.	Re-entry.
	£ s. d.	s. d.
Preliminary	0 10 6	10
First Professional	6 6 0	
Any two Subjects of Ditto ...	3 3 0	
Second Professional	6 6 0	£1 1s. each time for each subject
Anatomy and Physiology ...	4 4 0	
Materia Medica, etc.	2 2 0	
Third Professional	2 2 0	
Final	8 8 0	

N.B.—Surgery and Clinical Surgery count as two subjects, Medicine and Clinical Medicine as two subjects, and Forensic Medicine and Public Health as two subjects.

Degree of M.D.

The candidate must be M.B. and Ch.B. of Edinburgh, must have been engaged for one year in the medical wards of a hospital, or at scientific work at a recognized research laboratory, or in the military or naval medical services, or for at least two years in general practice, and must be 24 years of age. He must write a thesis on a subject not exclusively surgical, and he will be examined in Medicine, and in some of its

[1] In English no set books are prescribed, nor is a general knowledge of the life and works of the greater authors expected of candidates, but one or two questions may be set, giving an opportunity to candidates to show a knowledge of famous literary works. The historical questions will not be confined to any period, but will cover the whole of British History, and will be set in such a way as to give an opportunity to candidates who have confined their studies to a single period to show their knowledge. A single three hours' paper will be set containing an Essay, a Paraphrase, two questions on History, two on Geography, four on Grammar (including correction of sentences, parsing, analysis of sentences, and derivations), two of a literary and general kind. Eight answers will be required. The Essay, the Paraphrase, one answer on History, and one on Geography, will be compulsory.

[2] *Arithmetic* (including Vulgar and Decimal Fractions, Proportion, Percentage, Square Root, Simple Interest); *Algebra* (including Fractions, Factors, Square Root, Equations of the First Degree, Simultaneous Equations of the First Degree, Easy Quadratics, and problems leading to the above Equations).

[3] A student whose native language is not English may substitute his own language for either French or German, and may substitute any other classical language for Latin or Greek.

[4] Three months' course.

[5] Or in Third Winter Session.

special departments. The fee is £10 10s., and the re-entry fee £5 5s.

DEGREE OF CH M.

The candidate must be M B and Ch B. of Edinburgh, have worked one year in the surgical wards of a hospital, or been engaged in scientific work, or in the military and naval medical services, or for at least two years in practice not confined to medicine. He must be 24, must submit a thesis on a subject not exclusively medical, will be examined on Surgical Anatomy, Operations on the Dead Body, Clinical Surgery, and some of its special departments. The fee is £10 10s.

For further details the student is referred to the *University Calendar* (published by Mr. Thin, South Bridge, Edinburgh, price 3s., post free 3s. 6d.), or the *Medical Programme*, price 1d., also published by Mr. Thin, or to the Dean of the Faculty of Medicine, University of Edinburgh.

REGULATIONS FOR GRADUATION OF WOMEN.

When granting recognition to medical schools or teachers for the medical instruction of women, the University Court *requires that the classes shall not be mixed classes, except on special cause shown.*

The University Court has recognized the Medical College for Women, 20 Chambers Street, Edinburgh, as a medical school whose course of instruction qualifies for graduation in Medicine (but see p. 503). Every candidate must produce evidence of having satisfied the conditions with respect to the preliminary examination and registration as medical students, and will be examined in all the subjects necessary for graduation by the Examiners of the University in which she takes her degree. All students not matriculated students of the University attending this school for purposes of graduation must, at the commencement of each year of such attendance, enter their names in a book to be kept in the University for that purpose, paying a fee of the same amount as the matriculation fee paid by students of the University, and having, in respect of such payment, a right to the use of the library of the University.

UNIVERSITY OF GLASGOW.

The regulations are essentially the same as those given above for Edinburgh.

PRELIMINARY EXAMINATION.

The dates of the next two Examinations are the same as those given under Edinburgh. Fees, 10s. 6d. each time. Names to be given in and fee paid by September 11th, 1905, and March 2nd, 1906, to the Assistant Clerk, Matriculation Office. The extent of the Examination will be found under Edinburgh.

REGISTRATION.

Printed form of application may be had from the Assistant Clerk at the Matriculation Office, and this must be transmitted to Mr. James Robertson, Scottish Branch Registrar, 54, George Square, Edinburgh.

PROFESSIONAL EDUCATION.

The minimum cost is about £148, and the course is the same as at Edinburgh.

FEES, ETC.

The total examination fees for M.B., Ch.B, are the same as for Edinburgh, but are differently distributed. The fee for the First and Second is £6 6s., and for the Third and Fourth £5 5s. each. In the event of a candidate being rejected in any of these he may be admitted once to re-examination without payment of further fee, but for a second and for each subsequent re-examination a fee of £2 2s. may be charged.

The regulations at length may be had post free on application to the Assistant Clerk, Matriculation Office, or will be found in the *Glasgow University Calendar* for 1905-6, published by James Maclehose and Sons, 61, St. Vincent Street, Glasgow, price 3s., post free 4s. (see also p. 503).

Queen Margaret College, which provides a course of instruction for women, is now an integral part of the University. (For course of study, etc., see p. 504.)

UNIVERSITY OF ABERDEEN.

The regulations are essentially the same as for Edinburgh.

PRELIMINARY EXAMINATION.

The next Preliminary Examination will be held on precisely the same dates as are given under Edinburgh, and the subjects are the same. Names must be intimated, and the fee (10s. 6d.) paid ten days previously, to the Secretary of the Medical Faculty, Marischal College.

PROFESSIONAL EDUCATION.

The candidate before admission to his Final Examination must produce certificates to the effect that he has attended for at least three years the medical and surgical practice of a general hospital; attended courses in clinical medicine and clinical surgery of not less than nine months each; attended courses in mental diseases and in practical pharmacy; and the out-practice of a hospital, or the practice of a dispensary; that he has acted for a period equal to a winter session both as a Clinical Clerk and Surgical Dresser; that he has attended no fewer than twenty-five necropsies, and taken part in some; that he has attended for not less than three months a fever hospital of at least forty patients, and has had a three months' course on Disease in Children, and the same in Ophthalmology. The total usual cost for M.B. and Ch.B. is about £150.

The fees for Professional Examinations are: First, Second, and Third, each £5 5s.; Final, £7 7s.

Further information will be given by the Secretary of the Medical Faculty, or will be got in the *University Calendar* for 1905-6, published by the University Press, Limited, Aberdeen; price 3s. 6d., or post free 3s. 10d.

UNIVERSITY OF ST. ANDREWS.

United College, St. Andrews; University College, Dundee.

PRELIMINARY EXAMINATION.

The dates of the next two examinations are September 29th to October 5th, 1905, and March 23rd to 29th, 1906. Fees, 10s. 6d. each time. Examination schedules to be returned, filled up, and fees paid by September 16th, 1905, and March 7th, 1906, to the Secretary of the University.

REGISTRATION.

Printed forms may be obtained from the Secretary, and must be sent to the Scottish Branch Registrar.

PROFESSIONAL EDUCATION.

The United College, St. Andrews, offers classes in the subjects of the first two years of the medical curriculum; University College, Dundee, for the full period of five years.

BURSARIES AND SCHOLARSHIPS.

United College, St Andrews.

A list of Bursaries and Scholarships open to competition during session 1905-6 may be obtained on applicat on to the Secretary of the University.

The Bursaries are allocated in the order of merit, the most valuable ones being given to those students who obtain the highest marks in the Preliminary Medical Examination, and who are prepared to take two *anni medici* at the United College, St. Andrews.

University College, Dundee.

A list of Bursaries and Scholarships open to competition at this College during Session 1905-6 may be had by applying to the Secretary of the College.

FEES, ETC.

The total fees for M.B. and Ch.B. are the same as for Edinburgh (22 guineas). The fee for the First Division is £6 6s., and is payable in two instalments of £3 3s. The fee for the Second, Third, and Fourth Divisions of the Professional Examinations are respectively £6 6s., £4 4s., and £6 6s., and are payable in instalments at the rate of £2 2s. for each subject. A fee of 10s. 6d. is charged to all candidates who, having been previously registered, present themselves for re-examination in any one subject.

DEGREES OF M.D. AND CH.M.

The regulations and fees for these will be found under Edinburgh.

THE SCOTTISH COLLEGES.

THE three medical corporate Colleges in Scotland—the Royal College of Physicians of Edinburgh, the Royal College of Surgeons of Edinburgh, and the Faculty of Physicians and Surgeons in Glasgow—now co-operate to hold a series of examinations, after passing which the student is presented with the diplomas of all three Colleges. Each College grants its single qualification only to persons who already possess another and opposite qualification (see below).

CONJOINT EXAMINING BOARD IN SCOTLAND.

A candidate who passes this series of examinations is granted the diploma of each of the co-operating bodies, and is

entitled to register the three diplomas under the Medical Acts, and to write after his name—L.R.C.P.Edin., L.R.C.S.Edin., and L.F.P.S.Glasg.—qualifications which are recognized by the army, navy, and other public services.

Preliminary Examination.

The Educational Institute of Scotland conducts special preliminary examinations in Edinburgh and Glasgow for the Colleges. The next examination will be held on September 7th, 8th, and 9th, 1905 and names must be in, and fees paid by September 2nd. Full particulars may be obtained from S. M. Murray, Esq., LL.D., 40, Princes Street, Edinburgh, Treasurer of the Institute. The entire examination must be passed at one period. A cheque on a private account will not be received in payment of fees. The Preliminary Examination may be passed before any of the Boards recognized by the General Medical Council. A list is given on pp. 53 to 56 of the *Calendar* of the School of Medicine of the Royal Colleges, or in the printed Fasciculus of Regulations.

Professional Curriculum.

The course of study after registration as a medical student must occupy not less than five years, and comprise five winter and five summer sessions; but graduates in Arts or Science of any recognized University, who shall have spent a year in the study of Physics, Chemistry, and Biology, and have passed an examination in these subjects for the degrees in question, shall be held to have completed the first of the five years of medical study. Professional studies commenced before registration will not be recognized, except in the case of Physics, Elementary Biology, Chemistry, Practical Chemistry, and Practical Pharmacy. The fifth year must be devoted to practical clinical work, and six months of this year may be spent as a pupil of a registered practitioner.

The following order of study is recommended as conforming generally to the sequence of examinations, but is not imperative:

First Summer: Physics, Elementary Biology. First Winter: Chemistry, Practical Chemistry, Junior Anatomy, Dissections. Second Summer: Histology, Dissections. Second Winter: Anatomy, Dissections, Physiology. Third Summer: Pathology, Materia Medica, and Hospital Practice. Third Winter: Surgery, Hospital Practice, with Clinical Surgery. Fourth Summer: Midwifery and Gynæcology, Medical Jurisprudence and Public Health, Hospital Practice, with Clinical Surgery. Fourth Winter: Medicine, Hospital Practice, with Clinical Medicine. Fifth Summer: Hospital Practice, with Clinical Medicine, Insanity, Practical Midwifery, Eye Diseases. Fifth Winter: Hospital Practice, Dispensary, Fevers, Vaccination.

Students are also recommended to study in the fifth year the following subjects: Operative Surgery, Diseases of Children, Ear and Throat, Skin.

Professional Examination.

During the five years of the professional curriculum the student has to pass four examinations. Each examination is held six times in each year, four times in Edinburgh and twice at Glasgow, and a candidate may present himself at either place. An interval of not less than three months must elapse between the passing of any two successive examinations, and an interval of two academic years must intervene between the passing of the Second and of the Final Examination. Candidates may enter for all the subjects of an examination at one period, or may enter for any division of subjects. If the latter a higher percentage is exacted. Schedules showing the course of study followed must be submitted before the examinations to one or other of the Inspectors of Certificates: In Edinburgh, Mr. James Robertson, solicitor, 54, George Square; in Glasgow, Mr. Alexander Duncan, B.A., LL.D., Faculty Hall, 242, St. Vincent Street, to whom all inquiries as to professional examinations should be addressed.

First Examination.—This examination may be passed at any time after registration as a medical student by any candidate who has attended the obligatory courses. The examination consists of three parts: (1) Physics, (2) Chemistry, (3) Elementary Biology, and each division may be taken separately.

Second Examination.—This examination may be passed at any time after the end of the second year by a student who has attended courses of Anatomy, Physiology, and Dissection for six months each. The subjects of the examination are: (1) Anatomy and (2) Physiology, including Histology. A candidate may pass in one subject while failing in the other.

Third Examination.—The student must have attended a course of Pathology and of Materia Medica before presenting himself for this examination, the subjects of which are (1) Pathology, (2) Materia Medica and Pharmacy, which must be entered for together.

Final Examination.—The student must be 21, and may not pass this examination till the end of the fifth year. The subjects are: (1) Medicine, including Therapeutics, Medical Anatomy, and Clinical Medicine; (2) Surgery, including Surgical Anatomy, Clinical Surgery, and Diseases and Injuries of the Eye; (3) Midwifery and Diseases of Women and of Newborn Children; (4) Medical Jurisprudence and Hygiene. Candidates may also be examined on Diseases of Children, Diseases of the Ear and Throat, Insanity, Vaccination, etc. The examination may be taken in divisions at different times or all at once.

Table Showing the Fees for the Conjoint Examinations in Scotland.

The Figures signify Pounds Sterling.

	Whole Examination.	Re-entry for all Subjects.	Re-entry in one or two Divisions.	Entry for one Division.	Re-entry for one Division.
Preliminary	1	1	—	—	—
Professional First	5	3	2½	2½	2
,, Second ...	5	3	2	—	—
,, Third ..	5	3	2	—	—
,, Final	10	5	—	6	2

The total minimum cost for Lectures and Examination Fees for the Conjoint Examinations is about £152.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.

Licence.—The Licence is only granted as a separate qualification (in Medicine) to persons (of either sex) who already possess a recognized British, Irish, Colonial, or Indian qualification in Surgery. A candidate, who must not have been rejected within three months by any Licensing Board, is subjected to written and oral examination in Medicine, Clinical Medicine, Materia Medica, Midwifery, and Medical Jurisprudence. The fee for the examination is £15 15s.; it is held on the first Wednesday and succeeding days of each month except September and October. A special examination can be obtained on showing cause and paying £5 5s. extra. Eight days' notice must be given by all candidates to the Secretary of the College, from whom further particulars can be obtained.

Membership.—The candidate, who must be a Licentiate of a College of Physicians, or graduate of a British or Irish University, and 24 years of age, is examined in (1) Medicine and Therapeutics, and in (2) one of the following subjects chosen by him: (*a*) One or more departments of Medicine specially professed; (*b*) Psychological Medicine; (*c*) General Pathology and Morbid Anatomy; (*d*) Medical Jurisprudence; (*e*) Public Health; (*f*) Midwifery; (*g*) Diseases of Women. Further particulars as to other formalities can be obtained from the Secretary. A candidate 40 years of age and ten years in practice *may be excused* any part of or all the examination by the Council. The fee paid by a Licentiate of the College is £21 if licensed prior to August 1st, 1876; if subsequently, £15 15s. Fee for others, £36 15s. The examination is held quarterly (October, January, April, and July), and application must be made a month previous to the date of examination.

Fellow.—A Member, aged 25, and of at least three years' standing, may be elected a Fellow; he pays £64 18s. (including stamp duty). Women are not yet admitted to the Membership or Fellowship. Under certain exceptional circumstances a practitioner of standing has been and may be elected to the Fellowship of the College without examination.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

Licence.—The Licence is only granted as a separate qualification (in Surgery) to persons (of either sex) who already possess a recognized British, Irish, Colonial, or Indian qualification in Medicine. A candidate, who must not have been rejected by any other Licensing Board in Surgery within three months, is examined on one day by written papers, and on a subsequent day orally, on specimens in the wards of a surgical hospital, and may be required to operate on the dead body. The fee is £15 15s., of which £10 10s. will be returned to unsuccessful candidates, and is payable to Mr. James Robertson, Clerk to the College, 54 George Square, Edinburgh, from whom further particulars may be obtained, and to whom eight days' notice must be given. A special examination can be obtained on showing cause. The fee is

£20, of which £10 will be returned to candidates remitted on examination.

Fellowship.—A candidate must have the diploma of the Royal College of Surgeons of Edinburgh, England or Ireland, or of the Faculty of Physicians and Surgeons in Glasgow, or the surgical degree of one of the universities of Great Britain and Ireland, the Licence in Medicine, Surgery, and Midwifery of the Society of Apothecaries of London and the Apothecaries' Hall, Dublin, registered under the Medical Act, 1886; the Surgical degrees of the following Universities: Sydney, Melbourne, Adelaide, New Zealand, Calcutta, Bombay, Madras, Punjab, Canada; must be 25 years of age, and must have been engaged in practice for two subsequent years at least. Candidates who are Licentiates of the Edinburgh Colleges are examined in Surgery, Surgical Anatomy, including Clinical and Operative Surgery, and one optional subject, and in other subjects not adequately included in the examination passed elsewhere. The optional subjects recognized by the College are (1) Ophthalmic Surgery, (2) Aural, Nasal, and Laryngeal Surgery, (3) Dental Surgery, (4) Midwifery, (5) Gynaecology, (6) Surgical Pathology and Operative Surgery, (7) Advanced Anatomy, (8) Advanced Physiology, (9) Pathology and Bacteriology, (10) Medical Jurisprudence, (11) Public Health. The examinations are written, oral and practical. Three weeks' notice must be given to Mr. James Robertson as above, from whom full particulars as to certificates required (among others two from Fellows of the Colleges, of whom one must reside in Edinburgh) may be obtained. The fee is £30 to those who hold the diploma of Licentiate of the College, and £45 to others (no stamp duty is payable on the diploma). Registered practitioners, aged not less than 40, and who have been in practice for not less than twenty years, and who have distinguished themselves in their profession, may under special circumstances be elected without examination. Women are not admitted to the Fellowship.

FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.

Licence.—The Licence is only granted as a separate qualification to candidates who already possess a recognized British, Irish, Colonial, or Indian qualification in Medicine. Candidates are examined in Surgery (including Clinical Surgery) and Surgical Anatomy. The fee is £15 15s. The examination is held quarterly. Further particulars can be obtained on application to Alexander Duncan, B.A., LL.D., Faculty Hall, St. Vincent Street, Glasgow.

Fellowship.—Every candidate must be qualified for two years, and aged 24. The ordinary mode of admission to the Fellowship is by examination and subsequent election. The subjects of examination are either (*a*) Medicine (including Clinical Medicine, Medical Pathology, and Therapeutics); or (*b*) Surgery (including Clinical Surgery, Operative Surgery, Surgical Anatomy, and Surgical Pathology); and one of the following at the option of the candidate: (1) Anatomy, (2) Physiology, (3) Pathology, (4) Midwifery, (5) Diseases of Women, (6) Medical Jurisprudence, Surgery, in one of its following branches, (7) Ophthalmic Surgery, (8) Aural, Laryngeal, and Nasal Surgery, (9) Dental Surgery; Medicine, in one of its following branches, (10) State Medicine, (11) Psychological Medicine, (12) Dermatology. Four examinations are held annually (January, April, July, October). Fourteen days' notice must be given. The fee is £30 unless the candidate desires to qualify to hold office, when it is £50. In the case of a Licentiate of the Faculty, £25 and £15 respectively.

Four Fellows may be elected in each year "in virtue of distinction," and without examination. They must not be less than 50 years of age, and ten years qualified.

THE IRISH UNIVERSITIES.

UNIVERSITY OF DUBLIN.

The University of Dublin grants two degrees in Medicine (M.B. and M.D.) two in Surgery (B.Ch. and M.Ch.) two in Midwifery (B.A.O. and M.A.O.). A candidate for any one of these degrees must be a graduate in Arts and have passed the Previous Medical Examination.

The following schools, in addition to the School of Physic, are recognized by the Board of Trinity College—the Schools of the Royal College of Surgeons in Ireland, the Schools of the Catholic University.

PREVIOUS MEDICAL EXAMINATION.

This examination is divided into three parts: (1) Physics and Chemistry, (2) Botany and Zoology, (3) Anatomy, Practical Histology, and Physiology. The three parts may be taken together or passed at separate examinations. The examinations are held in November, January, May, and June.

DEGREE IN MEDICINE.

The following conditions must be fulfilled in order to qualify for the degrees in Midwifery (B.A.O.), Surgery (B.Ch.), and Medicine (M.B.): The student must be of B.A. standing, and his name must be for at least five (academic) years on the books of the Medical School, reckoned from the date of his matriculation. He may carry on his Arts course concurrently with his Medical course, and he need not have taken his B.A. before presenting himself for his Final Medical Examinations, but he cannot have the Medical degrees conferred without the Arts degree. The following courses must be attended:—Lectures: Winter Courses: Systematic Anatomy, Descriptive Anatomy, first year; Descriptive Anatomy (with Dissections), second year; Applied Anatomy (with Dissections), Chemistry, Surgery, Physiology (two courses), Practical Physiology, Practice of Medicine, Midwifery, Pathology. Summer Courses: Practical Chemistry, Practical Histology, Botany, Zoology, Materia Medica and Therapeutics, Medical Jurisprudence, and Hygiene, Operative Surgery, Practical Pathology. Term Courses: Physics (Michaelmas, Hilary, and Trinity Terms). The student must attend three courses of nine months' attendance each on the Clinical Lectures of Sir Patrick Dun's or other metropolitan hospitals recognized by the Board of Trinity College. One year at a recognized London or Edinburgh Hospital or two years at a recognized county infirmary or recognized Colonial hospital previous to the commencement of their metropolitan medical studies may be allowed, on special application to the Board of Trinity College, to count as equivalent to one year spent in a recognized metropolitan hospital. The following examinations must be passed: The Previous Medical or Half M.B. Examination and the Final Examination. The Final Examination is arranged as follows:—First Part:—Section A.: Applied Anatomy (Medical and Surgical), paper and viva voce; Applied Physiology and Physiology of the Nervous System, paper and viva voce; Materia Medica and Therapeutics, paper and viva voce. Section B.: Medical Jurisprudence and Hygiene, paper and viva voce; Medicine, paper and viva voce; Surgery, paper and viva voce; Pathology, paper, oral and practical. Section A. may be passed in any part of the fourth year, provided the corresponding curriculum shall have been completed, and must be passed before B. can be entered for; Section B. not before Trinity Term of the fourth year. Examination for both Sections are held in November, January, or February, and May or June. Licence fee £5, to be paid on entering for A. Second Part:—Midwifery, paper and viva voce; Gynaecology, paper and viva voce; Obstetrical Anatomy, paper; Medicine—Clinical Medicine; Mental Disease, paper. Surgery—Clinical Surgery, Operations, Clinical Ophthalmology. Both Sections of the First Part must be passed at least one term before any section of the Second Part can be entered for. One Section of the Second Part must be passed in Trinity Term of the fifth year or subsequently; the other two in any part of the fifth year if the corresponding curriculum be completed. Subject to this provision the Sections of the Second Part may be taken in any order. Licence fee £5, to be paid when entering for whichever Section the candidate takes first.

From and after the Summer Session, 1906, a new scheme of examination will come into force. For particulars apply to the Registrar of the School of Physics.

Degree of M.D.—The candidate must have passed all the qualifying Examinations in Medicine, Surgery, and Midwifery, and have taken, or have been qualified to take, the degree of B.A. three years previously. He must read a thesis before the Regius Professor of Physic.

Degree of M.Ch.—The candidate must be a B.Ch. of not less than three years' standing, and have been engaged in practice for two years. Graduates of ten years' standing may be given a special examination.

Degree of M.A.O.—The candidate must have passed the qualifying examination in Medicine, Surgery, and Midwifery. The examination is specially directed to Obstetrics and Practical Gynaecology.

UNIVERSITY DIPLOMAS.

The University grants diplomas in Medicine, in Surgery,

and in Obstetric Medicine. A candidate must have completed two years in Arts and five years in medical studies.

Diploma in Medicine.—The medical course and examination are the same as for the degree of M.B., excepting that attendance is not required on lectures on Botany and Zoology, and that the candidate is not examined in those subjects.[1]

Diplomas in Surgery and in Obstetric Science.—The examination and courses necessary for these diplomas are the same as for the degrees of B.Ch. and B.A.O. respectively.

FEES.

Matriculation, 5s.; M.B., B.Ch., B.A.O., £17; M.D., £13; M.Ch., £11; M.A.O., £5; L.M., L.Ch., L.A.O., £11.

A schedule containing recommendations respecting the five years' medical curriculum can be obtained on application to the Registrar of the School of Physic in the University of Dublin.

ROYAL UNIVERSITY OF IRELAND.

THE University confers the following: Medicine—Bachelor of Medicine, M.B.: Doctor of Medicine, M.D. Surgery—Bachelor of Surgery, B.Ch.; Master of Surgery, M.Ch. Obstetrics—Bachelor of Obstetrics, B.A.O.; Master of Obstetrics, M.A.O. Public Health—A Special Diploma. Mental Diseases—A Special Diploma.

The course for these degrees must be of at least five medical years' duration; but graduates in Arts or Science who have spent a year in the study of Physics, Chemistry, and Biology, and have passed an examination in these subjects for the degrees in question, will be held to have completed the first of the five years of medical study.

Students who commenced their medical studies after January 1st, 1892, must furnish evidence of having been registered by the General Medical Council, as Students in Medicine, for at least 57 months, before being admitted to the M.B., B.Ch., B.A.O. Degrees Examination. No one can be admitted to a degree in Medicine who is not 21 years of age. All candidates for these degrees, in addition to attending the lectures and complying with the other conditions to be from time to time prescribed, must pass the following examinations: The Matriculation Examination (information as to which may be obtained from the *University Calendar*, Dublin: Alex. Thom and Co. London: Longmans, Green, and Co. Price 2s. 6d.; by post, 3s. Extracts can be obtained: Arts, etc., 4d.; Medicine, 2d.), the First University Examination, the First Examination in Medicine, the Second Examination in Medicine, the Third Examination in Medicine, the M.B., B.Ch., B.A.O. Degrees Examination.

The course of medical studies is divided into five periods of one medical year each, during which periods the students must attend such courses of lectures and hospital instruction respectively, and comply with such other conditions as the Senate shall from time to time order.

When a student has fully completed the course of medical studies prescribed for any year, he may proceed with the studies assigned to the year next following without passing the corresponding examination.

There must be an interval of at least one medical year between the passing of one examination and the being admitted to the examination next subsequent. But the Senate may, under special circumstances, allow a candidate to present himself for his following examination within a less interval.

The Senate may allow any candidate who so desires to present himself for the Third Examination in Medicine, and for the M.B., B.Ch., B.A.O. Degrees Examination at the same examination period, provided that an interval of three medical years shall have elapsed from the time of passing the Second Examination in Medicine, and provided that such candidate shall have completed the entire course of studies, etc., prescribed for the five years of the medical curriculum.

First Examination in Medicine.—Candidates may present themselves for this examination after an interval of one academical year from the time of passing the Matriculation Examination, provided they have already passed the First University Examination and completed the First Year of the Medical Curriculum. Candidates at this Examination must answer in the following subjects: Natural Philosophy; Systematic Chemistry; Botany; Zoology. The Examination in each subject consists of three parts: (*a*) A Written Examination; (*b*) an Oral Examination; (*c*) a Practical Examination, except in Chemistry, in which the Practical Examination forms part of the Second Examination in Medicine. Special importance is attached to the practical part of the Examination. The subjects are: Natural Philosophy; Chemistry; Organic Chemistry; and Botany and Zoology. Schedules are given in the *Calendar*.

Second Examination in Medicine.—Candidates may present themselves for this examination after an interval of one academical year from the time of passing the First Examination in Medicine, provided they have completed the Second Year of the medical curriculum. The subjects are: Anatomy, Physiology, Practical Chemistry. Schedules may be found in the *Calendar*.

Third Examination in Medicine.—Candidates may present themselves for this examination after an interval of one academical year from the time of passing the Second Examination in Medicine, provided they have completed the third year of the medical curriculum. The subjects are: Anatomy, Physiology, Materia Medica, Pharmacology, and Therapeutics.

M.B., B.Ch., B.A.O. Degrees Examination.—Candidates may present themselves for this Examination after an interval of such period, not being less than one academical year from the time of passing the Third Examination in Medicine, as the Senate may from time to time prescribe, provided they have completed the entire medical curriculum. This Examination consists of three parts: (*a*) Medicine, Theoretical and Clinical, including Therapeutics, Mental Diseases, Medical Jurisprudence, Sanitary Science, and Medical Pathology; (*b*) Surgery, Theoretical, Clinical and Operative, including the use of instruments and appliances; Surgical Anatomy, Ophthalmology, and Otology (candidates at this examination must exhibit reasonable proficiency in the use of the Ophthalmoscope and Laryngoscope). Surgical Pathology; (*c*) Midwifery and Diseases of Women and Children. All candidates must enter for and go through the entire examination, but a candidate may be adjudged to have passed in any of the foregoing parts in which he satisfies the examiners. Upon completing satisfactorily his examination in all three divisions, the candidate, in addition to the parchment diploma recording his admission to the M.B., B.Ch., B.A.O. Degrees, will receive a certificate of having passed a qualifying examination in the subjects of Medicine, Surgery, and Midwifery.

Honours.—Special examinations for honours are held in connexion with these examinations.

M.D. Degree.—Candidates may present themselves for the examination for this degree after an interval of three academical years from the time of obtaining the M.B., B.Ch., B.A.O. Degrees; but in the case of candidates who have obtained a degree of the University in the Faculty of Arts an interval of two academical years shall be sufficient. Candidates at this Examination must answer in the following subjects: (1) Medicine; (2) Pathology. The Examination in each subject consists of: (*a*) A Written Examination; (*b*) an Oral Examination. In addition every candidate must diagnose at the bedside at least three medical cases and prescribe treatment. He must also write detailed reports on at least two cases to be selected by the Examiners, and discuss the questions arising thereon.

M.Ch. Degree.—Candidates may present themselves for the examination for this degree after an interval of three academical years from the time of obtaining the M.B., B.Ch., B.A.O. Degrees; but in the case of candidates who shall have obtained a degree of the University in the Faculty of Arts an interval of two academic years shall be sufficient. Candidates at this Examination must answer in the following subjects: (1) Surgery, Theoretical and Practical, including Opthalmology and Otology; (2) Surgical Pathology; (3) Surgical Anatomy and Operative Surgery, with the use of surgical instruments and appliances. As far as practicable there will be a Written and Oral Examination in these branches, and in addition every candidate will be required to diagnose at the bedside at least three surgical cases, and prescribe treatment. He must also write detailed reports on at least two cases, to be selected by the examiners, and discuss the questions arising thereon.

M.A.O. Degree.—Candidates may present themselves for the examination for this degree after an interval of three academical years from the time of obtaining the M.B., B.Ch., B.A.O. Degrees; but in the case of candidates who shall have obtained a degree of the University in the Faculty of Arts, an interval of two academic years shall be sufficient. Each

[1] A diplomate in Medicine, on completing his course in Arts, and proceeding to the degree of B.A., may become a Bachelor of Medicine by attending the lectures on Botany and Zoology, passing the Previous Medical Examination in those subjects, and paying the degree fees.

candidate must furnish satisfactory evidence that since graduating in Medicine he has (1) had personal charge of at least twenty cases of labour, and (2) attended during a period of three months the practice of a Clinical Hospital for Diseases of Women, where at least six beds are in constant occupation, or in a special ward of a General Hospital where such cases only are treated, and containing at least six beds in constant occupation. Candidates at the examination must answer in the following subjects: (1) Midwifery; (2) Diseases of Women and Children; (3) Pathology; (4) the Use of Instruments and Appliances. The examination in each subject consists of (*a*) an Oral Examination, with practical illustrations, including use of instruments and appliances; (*b*) a Written Examination; (*c*) a Clinical Examination, as far as practicable.

Exhibitions and Scholarships.—The following Exhibitions may be awarded annually by the Senate: At the First Examination in Medicine, two First-class of £20 each and two Second-class of £10 each. At the Second Examination in Medicine, two First-class of £25 each and two Second-class of £15 each. At the Third Examination in Medicine, two First-class of £30 each and two Second-class of £25 each. An Examination for a Travelling Scholarship in the Faculty of Medicine, value £100, is held in October. The subjects are, in rotation, (1) Anatomy and Histology, and (2) Physiology and Pathology. Candidates who have obtained the M.B., B.Ch., B.A.O. Degrees, either in the year of the Scholarship Examination or in the year immediately preceding, are alone eligible. Dr. Henry Hutchinson Stewart Medical Scholarships are awarded as follows: (1) One Scholarship of the annual value of £10, tenable for three years, for competition in the subjects of the Second Examination in Medicine. (2) One Scholarship is of the annual value of £50, tenable for three years, for competition among medical students of not more than three years' standing, for proficiency in the knowledge of Mental Diseases. In October, 1905, there will be offered for competition among the graduates in Medicine of the University one Medical Studentship, tenable for two consecutive years, of the annual value of £200

Fees.—The fees for the various examinations are as follows: Matriculation, £1; First Examination in Medicine, £1; Second Examination, £1; Third Examination, £1; M.B., B.Ch., and B.A.O. degrees. £2, and on being admitted to degree, £10; M.D. degree, £5; M.Ch. degree, £5; and M.A.O. degree, £5.

THE IRISH COLLEGES.

CONJOINT EXAMINING BOARD IN IRELAND.

THE diplomas of these two bodies are now granted upon terms and after examinations settled between the Colleges.

Preliminary Examination.—Examinations in general education, which fulfil the requirements of the General Medical Council, are accepted by the Colleges (see pages 474-5). The Preliminary Examination of the Colleges is held in spring and autumn, and seven clear days' notice must be given to Alford Miller, Secretary of the Committee of Management, Royal College of Physicians, 6, Kildare Street, Dublin. Preliminary Examinations for the commencement of medical study of the Royal Colleges of Physicians and Surgeons for Sessions 1905-1906 will be held on Tuesday, September 26th, and following days, and Tuesday, October 31st, and following days, 1905. Prospectus can be had on application.

PROFESSIONAL EXAMINATIONS.

There are four Professional Examinations:

The *First Professional Examination* may be passed not earlier than the end of the first winter session. It consists of two Parts: I, Chemistry and Physics; II, Biology.

The *Second Professional Examination* consists of two Parts: I, Anatomy; II, Physiology and Histology.

The *Third Professional Examination* may be passed not sooner than the end of the third year of medical study. It consists of three Parts: I, Pathology; II, Materia Medica, Pharmacy, and Therapeutics; III, Public Health and Forensic Medicine.

Candidates are recommended to present themselves at the same time in all the subjects of each of the above examinations, but may present themselves in one or more of the specified divisions separately, provided they have completed the curriculum as far as concerns the subject or subjects in which they present themselves.

The *Final Professional Examination* may be passed not sooner than the end of the fifth year of medical study. A candidate may present himself in all the subjects at one time, or in one or more in the following groups: (*a*) Medicine, including Fevers, Mental Diseases, and Diseases of Children; (*b*) Surgery, including Ophthalmic and Operative Surgery; (*c*) Midwifery, including Diseases of Women and Newborn Children, and the Theory and Practice of Vaccination. A student at or after the end of his fourth year may present himself in any one of the Divisions I, II, or III, provided he has completed his curriculum as far as concerns the group in which he presents himself. But one of these groups must be deferred till the end of his fifth year.

Four complete years of Medical Study must be attended as a recognized Medical School after passing the First Professional Examination and before completing the Final Examination.

CURRICULUM.

The curriculum, as above stated, extends over five years, and its general arrangement can be gathered from the subjects of the examination which are arranged to test the student's progress. Full details may be obtained on application to the Secretary as above.

FEES.

Preliminary Examination, £2 2s., except in the case of matriculated pupils of the Royal College of Surgeons, who pay £1 1s.; re-examination, £1 1s. First Professional Examination, £15 15s.; Second, £10 10s.; Third, £9 9s.; Final, £6 6s.; Re examination fee is £2 2s. for each Division.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND.

This College continues to issue its Licence in Medicine and the Licence in Midwifery to registered medical practitioners whose names appear on the *Medical Register* of the United Kingdom.

Licence in Medicine.—The subjects of examination are: Practice of Medicine, Clinical Medicine, Pathology, Medical Jurisprudence, Midwifery, Hygiene, and Therapeutics.

Licence in Midwifery.—The candidate must produce certificates of having attended a course of lectures on Midwifery, and of having attended Practical Midwifery and Diseases of Women, for six months, at a lying in hospital or maternity recognized by the College; or, where such hospital attendance cannot have been obtained during any period of the candidate's course of study, of having been engaged in Practical Midwifery under the supervision of a registered practitioner holding a public medical appointment, the certificate in either case to state that no fewer than twenty labour cases have been actually attended. A registered medical practitioner of five years' standing is exempted from the examination by printed questions.

Fees.—Fee for the Licence to practise Medicine, £15 15s. Fee for examination for the Licences in Medicine and Midwifery, if obtained within the interval of a month, £16 16s.—to be lodged in one sum.[1] Fee for special examination for the Licence to practise Medicine, £21. Fee for examination for the Licence to practise Midwifery, £3 3s. Fee for special examination for the Licence to practise Midwifery, £5 5s. The admission fee, less the sum paid to the examiners, will be returned to rejected candidates. The examination for these licences are held in the week following the first Friday in February, May, and November. Notice must be given, and the schedule transmitted at least four days before the first Friday in each of the above months to the Registrar of the Royal College of Physicians of Ireland, Kildare Street, Dublin, from whom further information can be obtained. A special examination can be obtained under conditions which can be ascertained from the Registrar.

Membership.—The examinations for the Membership are held in January, April, July, and October.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

The Licence.—Candidates who hold registrable surgical diplomas, including the licence of the Apothecaries' Society of London granted since October, 1886, are admitted to examination without further evidence of study, but candidates who hold medical qualifications only, including the L.S.A. granted before October, 1886, will be required to produce certificates of two courses of lectures in Anatomy and Dissections, one course of Practical Physiology, one course of lectures in Surgery, and one course of Operative Surgery.

Subjects.—Candidates are examined in Surgery, Clinical

[1] Any candidate who has been rejected at the examination for the Licence in Medicine [illegible] previously, and will be required to pay the full fee of £3 3s. for the Licence in Midwifery.

Surgery, Operative Surgery, Surgical Appliances, and Ophthalmic Surgery. The examination is partly written, partly viva voce, and partly practical. The fee is £26 5s., of which £5 5s. is retained by the College if the candidate be unsuccessful. The fee for a special examination is £31 10s.

Diploma in Midwifery.—A diploma in midwifery is granted after examination to persons possessing a registrable qualification. Candidates must produce evidence of (*a*) attendance on a course of lectures on Midwifery and Diseases of Women and Children in a recognized school; (*b*) attendance on six months' practice of a recognized lying-in hospital or recognized dispensary for lying-in women and children, and (*c*) of having conducted at least thirty labour cases. The fee for the examination is £15 15s., of which £5 5s. is retained by the College if the candidate is unsuccessful.

Fellowship.

A candidate for the Fellowship must make application to the President and Council to be admitted to examination, and, if the Council decide to entertain the application it must lie on the table for at least a fortnight for consideration before it is put to the Council for approval. All the required evidences of study or qualification, fees, and testimonials as to character must be submitted previously to its being so considered, and the candidate will then, if approved by the Council, be admitted to the next Sessional Examination or to a Special Examination if granted by Council, at such date as the President may fix. In order that these regulations may be carried out, candidates are required to enter their names with the Registrar at least one month before the date of examination

Periods of Examination.—Sessional Fellowship Examinations commence, as far as arrangements permit, on the third Monday in February, May, and November. Special Examinations may be granted at other times except during the months of August and September, when the College is closed for the Summer Recess, by the Council if it sees fit, on sufficient cause being shown.

Grades of Examination.—Candidates for the Final Fellowship Examination are divided into two grades: (1) Licentiates or graduates in Surgery of less than ten years' standing, (2) Licentiates or graduates in Surgery of more than ten years' standing. Students not either Licentiates or graduates in Surgery are permitted to present themselves for the Primary Examination under Grade 1 at the end of their third winter course of dissections.

Grade 1.—Candidates are required to pass two Examinations—Primary and Final. But candidates may present themselves for the Final Examination immediately after passing the Primary part, provided they have complied with the necessary regulations. The subjects for the Primary Examination are: (*a*) Anatomy, including Dissections; (*b*) Physiology and Histology; those for the Final are: (*a*) Surgery, including Clinical and Operative Surgery; (*b*) Surgical Pathology.

Grade 2.—The subjects of examination are: (*a*) Surgical Anatomy, (*b*) Surgery, including Clinical and Operative Surgery, (*c*) Surgical Pathology.

Fees.—Grade 1: For Licentiates of the College—for Primary Examination, 15 guineas; for Final Examination, 10 guineas For Licentiates in Surgery of other licensing bodies—for Primary Examination, 25 guineas; for Final Examination, 15 guineas; for Students of the College, Primary Examination, 5 guineas; Final Examination, 20 guineas; for Students of other licensing bodies, Primary Examination, 10 guineas; Final Examination, 30 guineas. *Grade 2:* Licentiates of the College, 25 guineas; Licentiates in Surgery of other licensing bodies, 40 guineas. Extra fee for Special Examination, 10 guineas. In case of rejection, 10 guineas in addition to the special fee, if such has been paid, is retained by the College and is not allowed in the fees for re-examination. In the case of Fellowship candidates who fail to present themselves for the examination at the time fixed, without having previously given at least a week's notice of their withdrawal, 5 guineas of the fee is retained by the College.

Regulations and entrance forms can be obtained from the Registrar at the College, Stephen's Green West, Dublin.

APOTHECARIES' HALL OF IRELAND.

The Licence of this Hall is granted to students who present certificates of having fully completed the course of study as laid down in the curriculum, and who pass the necessary examinations. The diploma of the Apothecaries' Hall of Ireland entitles the holder to be registered as a practitioner in Medicine, Surgery, and Midwifery; with also the privileges of the Apothecary's Licence.

There are four professional examinations, the total fees for which amount to 21 guineas. Ladies are eligible for the diploma.

Candidates already on the *Register* will receive the diploma of the Hall upon passing an examination in the subjects which are not covered by their previous qualifications, and on paying a fee of 10 guineas; if Medicine or Surgery be required 2 guineas extra will be charged.

The fees payable for each examination are as follows: First Professional, £5 5s.; Second, £5 5s.; Third, £5 5s.; Final Examination, £6 6s.

If a candidate gives three clear days' notice of his inability to attend, he may present himself at the ensuing examination without any further fee.

A candidate is allowed for each professional examination which he has completed at any other Licensing Body, except the Final. If he has passed only in some of the subjects in a given examination, he has to pay the whole of the fee for that examination.

The fees for re-examination are: For each subject £1 1s., except in the subjects of Chemistry, Pharmacy, Surgery, Medicine, Second Anatomy, and Ophthalmology, the fees for which are £2 2s. each.

The fee for the Third and Final or Final alone is £15 15s. when the other examinations have been taken elsewhere.

All examination fees are to be lodged in the Sackville Street Branch of the Royal Bank of Ireland to the credit of the Examination Committee.

Applications and schedules, together with bank receipt for the fee, must be lodged with the Registrar, Apothecaries' Hall, 40, Mary Street, Dublin, fourteen clear days before the day of examination.

There are four Examinations—First, Second, Third, and Final. The first three are held quarterly on the Third Monday in January, April, July, and October; the Finals are held in January and July. The First Examination includes Biology, Physics, Theoretical and Practical Chemistry, with an examination at the bench. Pharmacy is put down in this examination, but it may be taken at any of the first three examinations. Candidates holding a pharmaceutical licence are exempt from this subject. Osteology (First Anatomy) is also a subject of the First Professional Examination.

The subjects for the Second Professional are: Anatomy of the whole body (the examination in the subject is practical), Materia Medica and Therapeutics, Physiology, and Practical Histology.

The Third Examination consists of Pathology, Materia Medica if not taken at Second Examination, Medical Jurisprudence, Hygiene.

The Final Examination includes Medicine, oral and clinical; Surgery, including operations clinical and oral; Clinical Ophthalmic Surgery, Midwifery, and Gynaecology. Written papers are required on all these subjects.

Candidates who desire to obtain the Letters Testimonial of the Apothecaries' Hall of Ireland, must, before proceeding to the Final Examination, produce evidence of having been registered as medical students for fifty-seven months; also of having attended courses of instruction as follows:

One course each (winter course of six months) of the following: Anatomy (Lecture), Chemistry (theoretical), Midwifery, Practice of Medicine, Physiology or Institutes of Medicine, Surgery Dissections, two courses of six months each.

Courses of three months.—Materia Medica, Medical Jurisprudence, Chemistry (practical), Practical Physiology and Histology, Operative Surgery, Physics, Clinical Ophthalmology, Biology, Clinical Instruction in Mental Disease, Pathology, Vaccination.

Medico-Chirurgical Hospital, twenty-seven months, to be distributed at the student's own discretion over the last four years of his study. The candidate may substitute for nine months in this hospital attendance six months as a resident pupil. He will be required to present a certificate of having taken notes of at least six medical and surgical cases recorded under the supervision respectively of a physician and surgeon of his hospital.

Three months' study of Fever—which may be included in his twenty-seven months' Hospital Attendance—in a Hospital containing Fever Wards, and having taken notes of five cases of Fever—namely, either Typhus, Typhoid, Scarlet Fever, Small-pox, or Measles.

Six months' practical Midwifery and Diseases of Women

during the winter or summer of the third or fourth year at a recognized lying-in hospital or maternity.

Three months' practical Pharmacy, in a recognized Clinical Hospital or a recognized School of Pharmacy, or a year in the Compounding Department of a Licentiate Apothecary or a Pharmaceutical Chemist.

Each candidate before receiving his diploma must produce evidence that he has attained the age of 21 years.

Each candidate must produce evidence of having before entering on Medical Studies passed a Preliminary Examination in General Education recognized by the General Medical Council, and of having been registered by that Council as a Student in Medicine. Certificates of Medical Study will not be recognized if the commencement of the course to which the certificate refers dates more than fifteen days prior to such registration, except in the subjects of Physics and Biology. This registration is not undertaken by the Hall, but the student should apply to the Registrar of the General Medical Council that he may be so entered.

The details of the course of education required and syllabus of the Examinations will be supplied on application to the Registrar, at 40, Mary Street, Dublin.

NOTES ON MEDICAL SCHOOLS AND COLLEGES.

LONDON.

The conditions and possibilities of medical education in London have been materially altered by the reconstitution of the University of London. Its Medical Faculty is now constituted by the twelve general hospitals of London to which medical schools are attached, and the staffs of these hospitals and schools, together with representatives of some of the special hospitals, constitute the teachers and members of the Faculty. There is now, therefore, a direct and organic relation between the leading hospitals of London and the University such as has never existed before, and the effect of this reconstitution or reconstruction cannot fail to be far-reaching in many directions.

At one time there was reason to anticipate that one result would be that the majority of, if not all, the schools would combine in such fashion as to relieve themselves of the necessity of giving instruction in the earlier subjects of the medical curriculum by providing for this at a common centre. This anticipation has been so far justified that an endeavour of the sort has been made. This, however, must be regarded as having failed, because practically only two formerly independent schools have seen their way to falling in with the idea. These are St. George's and Westminster, which have connected themselves with the "Centres" for Preliminary and Intermediate studies into which University and King's Colleges have converted themselves. Details of the plan were published in the British Medical Journal of August 26th. At the other hospitals, after study of the question, the conclusion appears to have been reached that neither the schools themselves nor their students would gain anything from the plan. It is considered that there would be no saving in expense either to the student or to the school, while the length of the connexion of the former with his Alma Mater would be so materially reduced that he would lose many of the advantages which are gained by long connexion with a great institution and by becoming unconsciously imbued with its spirit and traditions. There would also be so serious a diminution in the number of students at work in the different departments of the school at any one time that it would be difficult to maintain the athletic and other clubs which do so much to render the student's life pleasant, and maintain his health.

What effect the relation now established will have upon the comparative popularity in the schools of the degrees of the University and of the diplomas of the Colleges, as qualifications for admission to the *Register*, remains to be seen. It appears probable, however, that the University road will be more constantly pressed upon the student's notice as the right one for him to follow if he wishes to do the best that he can for himself. In whatever estimation the non-medical degrees of the University may have been held, it is indisputable that, as far as qualifying degrees are concerned, the Bachelorship of Medicine of the University of London has long been recognized as the best evidence of mental ability and solid work with which a young medical man can arm himself. But the paths towards it were in some respects so beset with traps that many men, to whom the examinations themselves would have presented no insuperable difficulty, were led to seek plainer routes to the goal of a diploma entitling them to admission to the *Register* of qualified medical practitioners. Under the new regulations things are improved, and though the standards are in no respect lowered, a candidate is less hampered in his progress by red tape. This improvement, in addition to the great advantage of the new machinery for education which it is believed will be called into existence, is likely to restore to London that popularity as a place of early not less than of advanced medical study which, owing to various circumstances, it has to some extent lost during the past few years. It may thus be anticipated that before long London, in spite of the springing up of local universities, will at last be in the position to which its greatness entitles it of being the Mecca of all those who wish to learn the best in the best possible way. The advantages of pursuing a medical education in London are indeed already so great that they may properly be pressed upon the notice of any student of fair ability who has no special reason for electing to study at one of the provincial centres.

Choice of a School.

The following notes as to the various London schools will, it is hoped, be found useful. Some of them, perhaps, have rather better accommodation for teaching than others, but the courses which they provide are all fundamentally the same, and in all of them the arrangements made are such as to meet the requirements of students of every class—of those who are aiming at the diplomas of the Conjoint Board and Apothecaries' Hall, not less than of those who have the degrees of the London University in view. Special facilities are given to men who have commenced their professional education at the older Universities. Little guide can be given in these columns as to the choice of one school rather than another, since such choice must depend largely on personal factors. In a general way, however, it may be said that while to the student of the day it may be, perhaps, almost a matter of indifference to what school he belongs, there is often a certain advantage in after-life in having been an alumnus of one of the more celebrated schools.

St. Bartholomew's Hospital Medical School.

The Hospital contains 744 beds.

Appointments.—Clinical Clerks to the Physicians and to the Physician-Accoucheur, and Dressers to the Surgeons and in the Casualty Department are chosen from the students. Clerks and Dressers are also selected from the students to attend in the out-patient rooms, in the special departments (Ophthalmic, Orthopaedic, Gynaecological, Laryngological, Aural, Dermatological, Electrical, and Dental), and in the *post-mortem* room. Chief Assistants and Clinical Assistants are selected from qualified men and appointed yearly, to help in the special departments just named. Ten House-Physicians and ten House-Surgeons are appointed annually. During their first six months of office they act as "Junior" House-Physicians and House-Surgeons, and receive a salary of £25 a year. During their second six months they become "Senior" House-Physicians and House-Surgeons, and are provided with rooms by the hospital authorities, and receive a salary of £80 a year. A resident Midwifery Assistant and an Ophthalmic House-Surgeon are appointed every six months, and are provided with rooms and receive a salary of £80 a year. Two Assistant Anaesthetists are appointed annually, and receive salaries of £120 and £100 a year respectively. An Extern Midwifery Assistant is appointed every three months, and receives a salary of £80 a year.

There is a residential college within the precincts of the Hospital.

The ground—10 acres in area—provided for the use of the members of the Students' Union, is at Winchmore Hill, within easy reach of the Hospital.

Special classes for students preparing for the Preliminary Scientific and other Examinations for the M.B., M.D. of the Universities of London, Oxford, and Cambridge, and for the higher surgical degrees at the same Universities, including the M.S.Lond., First and Second F.R.C.S., M.Ch.Oxon., and M.C.Cantab. Special laboratory instruction for the D.P.H. of Cambridge, Oxford, Durham, and London is also given.

Entrance Scholarships.—Five Entrance Scholarships will be awarded after an Examination to be held on September 25th, 1905, and following days. The subjects of examination and conditions of eligibility for these Scholarships are: (1) Two Scholarships, value £75 each, in no fewer than two nor more than three of the following subjects—Chemistry, Physics, Botany, Zoology, Physiology, and Anatomy, limited to students under 25 years of age who have not entered to the medical or surgical practice of any London medical school. (2) One Scholarship, value £150, in not fewer than three of the following subjects—Chemistry, Physics, Botany, Zoology, and Physiology, limited to students under 21 years of age who have not entered to the medical or surgical practice of any London Medical School. (3) The Preliminary Scientific Exhibition of £50 will be given for the second best examination in the same subjects and under the same conditions as (2). (4) The Jeaffreson Exhibition in Mathematics, Latin, and one other language—Greek, French, or German—and of the value of £20. The value of the Scholarships and Prizes is nearly £800 annually.

Communications must be addressed to W. D. Harmer, Esq., M.C.Cantab., Warden of the College, St. Bartholomew's Hospital.

Charing Cross Hospital Medical School.

The Charing Cross Hospital Medical School is one of the Schools of Medicine of the University of London; it is situated in the very centre of London, and easily accessible from all parts. It is within three minutes' walk of the Royal Dental Hospital of London. The Lectures are at hours to suit both General and Dental Students. The Hospital and Convalescent Home at Limpsfield contain 300 beds. Over 2,000 cases pass through its wards each year, and some 22 000 out-patients and casualties are treated. There are Special Departments for Mental Diseases, Midwifery, Diseases of Women, of Children, of the Skin, Eye, Ear, Throat, Nose, and Teeth, for Orthopaedic cases, X Ray, and for Electrical Examination and Treatment. New Biological and Physics Laboratories have recently been established in the school and the Pathological Laboratory has been considerably enlarged.

Appointments.—In the Medical School Demonstratorships and Assistant Demonstratorships (when they fall vacant) are open to students of the school and carry honoraria. The Curator and Pathologist is appointed annually, and receives £100 a year. Medical, Surgical, and Obstetric Registrars to the Hospital are appointed annually, the two former of whom receive £40 a year each, with luncheon in the Hospital. Six House-Physicians, six House Surgeons, and two Resident Obstetrical Officers are appointed each year on the recommendation of the Medical Committee, after competitive examination. They are provided with board and residence in the Hospital. Assistants to the Roentgen-ray and to the Electrical Departments are appointed every six months. They receive an honorarium of 12 guineas, with luncheon at the Hospital. Clinical Clerks and Dressers are appointed in all the general and special departments of the Hospital. Arrangements can be made for students who have not entered for the entire medical curriculum to hold the posts of Clerk and Dresser. Every student holds in turn the appointment of Pathological Assistant, and assists at the Necropsies. The above appointments are open without any additional fee.

Entrance Scholarships.—Five Entrance Scholarships, of the respective value of 100 guineas (Livingstone Scholarship, founded in memory of the late Dr. Livingstone, a former student of this school), 60 guineas, 55 guineas (Huxley Scholarship, founded in memory of the late Professor Huxley, a former student of this school), 40 guineas, and 30 guineas, are open to students commencing their medical curriculum. Three of these (100 guineas, 60 guineas, and 40 guineas) are open to all general students,[1] one (55 guineas) is reserved for the sons of medical men, and one (30 guineas) is open to Dental Students only. All these Scholarships are awarded annually at the commencement of each winter session, after a competitive examination in the following groups of subjects: (1) English, including Language, History, and Geography; (2) Latin and any one of the following three languages—Greek, French, and German; (3) Mathematics, including Arithmetic, Algebra, and Geometry; and Mechanics, including Statics and Dynamics; (4) Inorganic Chemistry and Experimental Physics, including Acoustics, Heat, Magnetism, Electricity, and Optics; and (5) Animal and Vegetable Biology. No candidate may offer himself for examination in more than three of the above groups of subjects, the selection of the groups being left to the candidate. Students who join in the summer session have the same privileges as regards scholarships, medals, and prizes as those who join in October of the same year. The value attached to each group of subjects is 1 000 marks. No credit will be given for any paper in which the candidate obtains less than one-fifth of the total marks. Candidates must be under 25 years of age on the first day of the examination, and must give notice to the Librarian of their intention to compete, and of the groups in which they offer themselves for examination on or before Saturday (10 a.m.), September 23rd, 1905. The examination will commence at the School on Monday, September 25th, at 9 a.m., and will continue during the two following days. The successful candidates will be required to enter forthwith for their complete medical education at the Charing Cross Hospital.

One Epsom Scholarship, giving a free education, is, each winter session, placed at the disposal of the Royal Medical Benevolent College at Epsom, to be competed for by foundation scholars who have passed the Preliminary Scientific M.B. Examination of the University of London.

Two University Scholarships, of the value of 72 guineas each, are open to students from the University of Oxford who have passed the first M.B. Examination, to students of the University of Cambridge who have passed the second M.B. Examination, and to students of the University of London who have passed the Intermediate Examination in Medicine, and who have not entered at any London Medical School. Subjects: Anatomy and Physiology, including Histology. The examination for these Scholarships, which will be partly practical, will be held at the school on September 25th and 26th. Candidates must give notice to the Librarian of their intention to compete on or before Saturday (at 10 a.m.), September 23rd, 1905. The successful candidates will be required to enter forthwith at the Hospital for the completion of their curriculum.

Fees.—The composition fee for general students is 115 guineas; for dental students, 61 guineas; and for University students 74 guineas.

Further information may be had of the Dean, Mr. Herbert F. Waterhouse, Charing Cross Hospital Medical School, Chandos Street, Strand, London, W.C.

[1] Those who enter for their entire medical education.

St. George's Hospital Medical School.

The Hospital contains 351 beds, of which 205 are devoted to Surgical and 146 to Medical cases.

Appointments.—The following paid appointments, amongst others, are open to students after they have held house office: Two Medical Registrarships, each at £200 per annum; Surgical Registrarship at £200 per annum; Curatorship of the Museum at £200 per annum; Assistant Curatorship at £100 per annum; Obstetric Assistantship, Resident, at £50 per annum; two Demonstratorships of Anatomy, each at £50 per annum; the post of Senior Anaesthetist at £50 per annum; the posts (2) of Junior Anaesthetists, each at £30 per annum. Dresserships to the Surgeons and Clinical Clerkships to the Physicians are open without fee to all students of the Hospital. A large number of House Office Appointments, which may be held for six, twelve, or eighteen months, are open without fee to every perpetual student of the Hospital, and are made strictly in accordance with the merits of the candidates.

Instruction.—Great attention is paid by members of the staff to individual teaching. A number of Special Courses are given in which the requirements of University and other Examinations receive careful attention. The following may be cited as examples: (1) Elementary Bacteriology, (2) Advanced Bacteriology, (3) Clinical Pathology, (4) Systematic Pathology, (5) Histological Pathology and Morbid Anatomy, (6) Operative Surgery, (7) Public Health, (8) Tropical Diseases. Special Test Examinations and Classes are held by members of the staff for all examinations.

Entrance Scholarships—in Arts £100, in Science £100, in Anatomy and Physiology £50—are awarded at the commencement of each winter session. The William Brown Exhibition of the value of £100 per annum (tenable for two years) is awarded by examination to a perpetual pupil of the hospital every second year. The William Brown Exhibition of £40 (tenable for three years) is awarded by examination to a perpetual pupil of the Hospital every third year. Other prizes to the value of £200 are awarded annually to the students of the Hospital.

The School possesses an Amalgamation Club, with well-fitted Reading, Smoking, and Luncheon Room, on the Hospital premises. Students have the advantage of a well-filled Library of Medical and Scientific Books, which is kept thoroughly up to date. A Register of Accredited Apartments, and a list of Medical Men and others willing to receive St. George's men as boarders, may be seen on application to the Secretary.

Fees.—Entrance Fee, £21. For University students, £10 10s. Annual composition fee, £31 10s. Preliminary science fee, £21.

Further information may be obtained from the Secretary of the Medical School.

GUY'S HOSPITAL MEDICAL SCHOOL.

The Hospital contains 602 beds in constant occupation; an additional 50 beds have been recently opened on the medical side of the Hospital. Thirty-one beds are set apart for diseases of the eye, and 40 for the most urgent and interesting medical cases, which form the subjects of the weekly clinical lectures. There is a special ward of 32 beds for the reception of cases of diseases of women and for cases of difficult labour. Beds are also allotted to the Throat and Ear Departments, and a small additional ward for children will shortly be opened.

Appointments.—All appointments are given without extra payment, and according to the merits of the candidates, as determined by a committee of the medical Staff. Eight Assistant House-Physicians, 8 House-Physicians, 24 Assistant House-Surgeons, 8 House-Surgeons, and 2 Ophthalmic House-Surgeons are appointed annually. The House-Physicians and House-Surgeons hold office for six months each, and receive free board and lodging in the college, as also do the Resident Obstetric Assistants, of whom 8 are appointed annually, each holding office for six months. Every student is provided with rooms and commons in the hospital during the period of his "take in" as Dresser. In addition to the Clerkships and Dresserships in the medical and surgical wards, students are appointed to the posts of clinical assistant, dresser, or clerk in the special departments of ophthalmology, laryngology, gynaecology, dermatology, otology, electricity, anaesthetics, and dentistry. More than 150 additional appointments have been added to the list of those annually open to students of the Hospital, the majority of them being in the special departments.

The College, fronting the east gate of the Hospital, provides accommodation for 60 resident students. It contains a dining hall, reading rooms, library of general literature, and gymnasium for the use of the residents and of the members of the Clubs' Union. The athletic ground at Honor Oak Park is reached from the Hospital in 20 minutes.

The new Gordon Museum of Pathology, the Wills Library, and the new school buildings in general afford unrivalled opportunities for a liberal education and for research.

Scholarships, Prizes, etc.—Two Entrance Scholarships in Arts: One of the value of £100 open to candidates under 20 years of age, and one of £50 open to candidates under 25. Subjects: English, Latin, Arithmetic, Algebra, Euclid, and either Greek, French, or German. Three Entrance Scholarships in Science: One of £150 and one of £60, open to candidates under 25, and one of £50 to University students who have completed their study of Anatomy and Physiology. Subjects: Anatomy, Physiology, Chemistry, Practical Chemistry, Biology, and Physics. These examinations begin on September 22nd; names must be sent in on or before September 14th. Junior prizes for general proficiency, £20, £15, £10; Arthur Durham prizes for dissection, £15, £5; Hilton prize for dissection, £5; Michael Harris prize for Anatomy, £10; Sands Cox Scholarship for Physiology, £15 for three years; Wooldridge Memorial prize for Physiology, £10; Beaney prize for Pathology, £34; Treasurer's gold medal in medicine, Treasurer's gold medal in surgery, and the Golding-Bird gold medal and scholarship for Bacteriology (£20) are awarded annually after competitive examination. The Gull Studentship in Pathology and the Beaney Scholarship in Materia Medica, of the annual value of £150 and £31 10s. respectively, are awarded without examination to enable research to be carried on in these subjects.

Special classes are held for the Preliminary Scientific and Intermediate M.B. Examinations of the University of London and for the First and Final F.R.C.S.Eng.

Special teaching is also provided to meet the requirements of the Universities of London, Oxford, and Cambridge in General Pathology and Pharmacology.

Fees.—For particulars of new scheme for payment of composition fees apply to the Dean.

KING'S COLLEGE MEDICAL FACULTY.

The curriculum at King's College is now divided into two parts: (1) For Preliminary and Intermediate subjects of study; (2) Advanced or Final studies. The subjects under the first head are taught in the class rooms and laboratories at the College: those under the second at the Hospital. The fees and prospectuses of the two divisions are now separated. Full particulars can be obtained by application to the Dean of the Faculty of Science (Medical Division), Professor W. D. Halliburton, or to the Dean of the Hospital (Dr. Whitfield). The Deans attend daily (Saturdays excepted) for the purpose of seeing students and their friends. Any letters addressed to them during the vacation will receive early attention.

The Hospital contains 220 beds in daily use.

Appointments.—Resident Medical Officers, Clerks, and Dressers are chosen from the students, and the former have rooms and commons free. Two Sambrooke Registrarships, Medicine and Surgery, of the annual value of £50 each, are open to students in higher appointments of the Hospital. Clinical assistants are appointed in the Ophthalmic, Ear, and Throat Departments.

Entrance Scholarships.—1. Two Warneford Scholarships, for the encouragement of previous education, each £100 value; subjects of examination—Mathematics, Classics, Divinity. 2. One Sambrooke Exhibition, of £100, open; subjects of examination, Mathematics, Elementary Physics, Inorganic Chemistry, Botany, and Biology. 3. Rabbeth Scholarship, value £20, in July, for best evidence of early scientific training. 4. Two Scientific Exhibitions, open, given annually, in October, by the Clothworkers' Company, value £60 and £40, for proficiency in any four of the following subjects: Mathematics, Mechanics, Physics, Chemistry, Botany, Geology, Mineralogy, and Zoology, will be open to all candidates who are under the age of 19. 5. Medical Entrance Scholarship, of £50, instituted for students who propose to take their degree at Oxford, Cambridge, or other British University, having already passed the examination of that University in Biology, Chemistry, and Physics.

During the curriculum Scholarships and Prizes of the value of £300 are open to students.

For conditions of scholarships and subjects of examinations apply to the Deans. Examinations commence September 20th.

Fellowship Examinations of the Royal College of Surgeons.—Special classes for the Final Examinations are held, and a special prospectus regarding these classes will be forwarded on application to the Dean.

University of London.—A special class for the Matriculation Examination will commence on September 27th. Classes for the science subjects are held by the Professors of the Science Faculty of King's College, and students avail themselves of their laboratories.

Athletic Club.—All students are entitled to the privileges of the Athletic Club, which manages a large recreation ground of the College at Wormwood Scrubbs.

LONDON HOSPITAL MEDICAL COLLEGE.

The Hospital contains 927 beds.

Appointments.—The salaried appointments open to students are those of Medical Registrar, Surgical Registrar; Medical, Surgical, and Obstetric Tutors; Medical, Surgical, and Ophthalmic Clinical Assistants; Senior Dressers to Out-patients; and Clinical Assistant in the Light Department. There are also 5 Resident House-Physicians and 6 Resident House-Surgeons, 2 Accoucheurs, 6 Receiving-room Officers, and 2 Emergency Officers. In addition there are numerous Assistantships and Clerkships, and Dresserships in the various departments.

Scholarships and Prizes.—The following is a list of Scholarships and Prizes: *At Entrance:* Price Scholarships in Science,

£120; in Anatomy and Physiology, £60; Entrance Scholarships in Science, £60 and £35; Epsom Scholarship, £126; Buxton Scholarships in Arts, £30 and £20. *After Entrance:* Anatomy and Biology Scholarships, £20; Anatomy and Physiology Scholarship, £25; Letheby Prizes, £30; Scholarships in Clinical Medicine, Surgery, and Obstetrics, £20 each; Duckworth Nelson Prize, £10; Hutchinson Prize, £40: Sutton Prize, £20; Sir Andrew Clark Prize, £26: Anderson Prizes, £9; Out-patient Dressers' Prizes, £60; Practical Anatomy Prizes, £10; Douro Hoare Prize, £5; Wynne Baxter Prize, £5 5s.

A special course for the D.P.H. will commence at the beginning of the winter session.

Special classes for the Preliminary Scientific and Intermediate M.B.Lond., the Primary and Final Fellowship, and other examinations are held. Those for the Final F.R.C.S. commenced on September 2nd.

Fees.—The composition is 120 guineas. A reduction of 15 guineas is made to sons of medical men.

New Buildings.—The new departments of Bacteriology, Public Health, Chemistry, and Biology, the new Pathological Institute at the Hospital, and the new Out-patients and Special Departments are now completed and in full use. New Students' Rooms have been added, and a Garden and Fives Court opened for the use of the members of the London Hospital Clubs Union.

Information may be obtained from the Warden, Mr. Munro Scott, at the London Hospital Medical College, Mile End, E.

St. Mary's Hospital Medical School.

The Hospital at present contains 281 beds. The new wing, the ground floor of which, comprising the new out-patient department, was opened in 1898, is now completed, and will be furnished and opened as soon as the necessary funds are forthcoming. This will raise the total number of beds to 341, and will include additional Operating Theatres, a new Clinical Laboratory, Clinical Theatre, and an *x* ray Department. The situation of the hospital in the centre of the residential districts of Paddington, Bayswater, and North Kensington renders it especially convenient to students who wish to reside in the immediate vicinity, and a register of approved lodgings is kept in the office of the Medical School. An Athletic Ground has recently been acquired at North Kensington (twenty minutes from the Hospital), and will be available for football, cricket, and lawn tennis in the coming sessions.

All clinical appointments in the Hospital are free to students of the Medical School, the term of office in each case being of four months' duration, and the Resident Medical Officers are chosen by competitive examination. Six House-Physicians, six House Surgeons, four Obstetric Officers, and two Resident Anaesthetists are appointed each year, and receive board and residence in the hospital.

Entrance Scholarships in Natural Science.—One of £145, one of £78 15s., two of £52 10s., and two of £63 (open to students of any British University) are awarded annually by competitive examination in September.

The Laboratories.—The Physiological Department comprises a Lecture Room specially constructed for practical demonstrations, separate laboratories for Physical Physiology, Chemical Physiology, and Histology respectively, and smaller rooms for research work. Demonstrations on Chemistry are given in the Chemical Lecture Theatre in conjunction with the systematic lectures, and a laboratory is provided for the study of Practical Chemistry, Inorganic and Organic. A special laboratory has recently been provided for the classes in Physics. The classes in Bacteriology and Pathological Histology are held in the Laboratory Class Room, which accommodates 56 students.

A large and well-equipped Bacteriological Laboratory is available for the use of students, and provision is made for instruction and research in Chemical Pathology, for which a special laboratory is available under the direction of the Lecturer on Pathological Chemistry.

Special Tuition.—In addition to systematic courses of Lectures and Demonstrations, special tuition is provided for the Intermediate and Final Examinations of the Universities of Oxford, Cambridge, and London, and for the Primary and Final F.R.C.S.

Preliminary Scientific Course.—A complete course of instruction in Chemistry, Physics, and Biology, recognized by the University of London as an approved course for Internal Students, is held throughout the year, and students may join in October, January, or May.

Fees.—The composition fee for students is £140 if paid in one sum, or £145 if paid in our instalments. University students who have completed their examinations in Anatomy and Physiology are admitted on payment of a composition fee of 60 guineas (£63) paid in one sum, or 65 guineas (£68 5s.) if paid in two annual instalments. University Students, prior to completing their examination in Anatomy and Physiology, pay an annual fee of 25 guineas (£26 5s.). Separate courses of Lectures, Laboratory Work, or Hospital Practice may be taken.

The School Calendar and full information can be obtained from the Secretary, St. Mary's Hospital Medical School, Paddington, W.

Middlesex Hospital Medical School.

The Hospital contains 340 beds. A new wing containing 40 beds and special research laboratories is entirely devoted to patients suffering from cancer. It offers unrivalled opportunities for the study of this disease, both in its clinical and pathological aspects.

Appointments, etc.—Eighteen Resident appointments are open annually to competition among pupils of the Hospital. The officers reside and board in the Residential College free of expense. There are two Casualty Medical and two Casualty Surgical Officers appointed annually. Six House-Surgeons are appointed every year at intervals of two months, after examination; the six House-Physicians are also appointed annually at similar intervals; they must have a legal qualification, or hold a Broderip Scholarship. An Obstetric House-Physician (qualified to practise) is appointed every six months. Non-resident Physicians' Assistants are appointed in the various out-patient departments. In the out-patient department the appointments are: Dresser to the Assistant Surgeon and to the Dental Surgeon, Clerk to the Assistant Physician, Dresser to the Ophthalmic Surgeon, Clerk in the Department for Diseases of the Skin, Clerk in the Department for Diseases of Women, and Dresser to the Throat and Ear Department. There are also Extern Midwifery Clerks and *Post-mortem* Clerks. The appointments are so arranged that every student may during his course hold all the Out-patient and In-patient Clerkships and Dresserships. Each student must have held an out-patient clerkship and dresserships before being eligible to hold in-patient clerkships or dresserships. No student can be appointed to any office until he has passed the Second Examination of the Examining Board in England or its equivalent. Clinical Assistants are appointed in the Children's, Ophthalmic, Skin, and Throat and Ear Departments.

Entrance Scholarships.—Two Entrance Scholarships, value £100 and £60, are open to all gentlemen commencing their medical studies in May or October, 1905. The successful candidates must become general students of the school. Examination on September 25th, 26th, and 27th. Candidates must send in their names to the Dean, stating the three subjects they select on or before September 15th.

University Scholarship.—An annual Entrance Scholarship, of the value of £60, is open to students of the Universities of Oxford and Cambridge who have completed the curriculum for or passed the examinations in Anatomy and Physiology. Subjects: Anatomy and Physiology, including Histology. The examination takes place on September 25th and 26th. Application to be made on or before September 15th. Students joining the school in the previous May are eligible to compete for the Entrance and University Scholarships in that year.

The Freer Lucas Scholarship is annually awarded on the nomination of the head master to a pupil of the Epsom College who has passed the Preliminary Scientific M.B. Examination.

Fees.—The composition fee is 145 guineas for London University students. For students who have passed the Preliminary Scientific (London University), 120 guineas. For students taking the Conjoint diploma, 135 guineas.

Further information may be obtained from Mr. J. Murray, the Dean.

The Residential College is situated in Cleveland Street, W., and has its frontage in the Hospital Garden; it accommodates about 30 students. Warden, Dr. R. A. Young, B.Sc.

St. Thomas's Hospital Medical School.

The Hospital contains 603 beds. It is built on the system of separate pavilions, which are connected by a covered and an open-air corridor. There are separate wards for the treatment of diseases peculiar to women, of diseases of the eye,

and of children under 6 years of age. The Hospital and School are situated along the banks of the Thames between Westminster and Lambeth Bridges, an open-air terrace running the whole length of the buildings facing the Houses of Parliament. There are now four chief Operation Theatres for the Surgical Wards. Besides these there are five other fully-equipped theatres for operations in the various departments of the Hospital. A Clinical Laboratory is provided, in which all the more difficult methods of diagnosis—bacteriological, chemical, and microscopical—are carried on under the direction of a Superintendent.

The Clinical Lecture Theatre is reserved entirely for the delivery of Clinical Lectures and Demonstrations. Its central position in the Hospital makes it possible to illustrate the lectures by patients from the wards and out-patient rooms. Provision is also made for the exhibition of lantern slides, where patients may not be available. The Theatre has also been specially adapted for ophthalmological, laryngological, or microscopical demonstrations. Throughout the academical year Clinical Lectures are delivered here on Medicine, Surgery, and the various special branches of study. The Department for Out-patients has been rearranged, and now consists of a series of rooms, among which are two large, well-ventilated Clinical Theatres provided with ample sitting accommodation, so that large numbers of students are enabled to follow closely the practice and teaching of the out-patient staff.

The new Casualty Department comprises a spacious receiving hall, which runs the whole length of the department, and from which on the one side open out the male and female sorting and waiting rooms, whilst, on the other, are a number of smaller rooms for the examination and treatment of patients. Isolation rooms for infectious cases are placed outside the lodge door. The whole department is tiled, efficiently lighted and fitted throughout on the most modern lines. The ventilation is on the Plenum system. In connexion with it there are an Accident Ward of 20 beds for the reception of urgent male cases, a small but complete operation theatre, and two isolation wards. During the twelve months ending December 31st, 1904, the number of patients admitted into the hospital amounted to 6 653. In the same period 20 705 out-patients have been treated, and in the maternity department 2,049 women have been attended at their own homes. Casualties to the number of 109,545 attendances were treated during the same period.

The *School Buildings*, which are separated from the Hospital by a quadrangle containing a lawn-tennis court for the use of the residents, comprise numerous theatres, laboratories, and class rooms, and are well adapted for the modern teaching of large bodies of students in the subjects of the medical curriculum. A large library and reading room and a very complete museum are open to all students from 9 a.m. to 5 p.m.; Saturdays, 2 p.m. The new club premises, opened in 1894, contain a dining room and smoking and reading room supplied with daily and illustrated weekly papers, and a gymnasium. A cloakroom with lockers, and a lavatory with bath rooms are in the main school building. Students are thus able to spend the whole day at school, all meals being obtainable at a moderate tariff, and they are further provided with facilities for exercise and recreation. A ground of more than nine acres in extent is provided at Chiswick. It can be reached in forty minutes from the hospital; it is admirably adapted for football, cricket, lawn tennis, and athletic sports. It is provided with a pavilion, where refreshments can be obtained.

Scholarships.—Three entrance Scholarships will be offered for competition in September, namely: One of £150 and one of £60, in Chemistry, Physics, and Biology, for students who have not received instruction in Anatomy or Physiology; one of £50 in any two of the following subjects: Anatomy, Physiology, Chemistry, for students who have completed their examinations in Anatomy and Physiology, for a medical degree in any of the Universities of the United Kingdom, and have not entered as students in any London medical school. Copies of the examination papers of last year may be obtained on application to the Medical Secretary. Applications must be sent in not later than September 13th, with a certificate of birth and of Preliminary Examination, and with a notification of the choice of optional subject. Numerous scholarships, prizes, and medals are open for competition throughout the whole career of a student, including a Fellowship of £100 given by the Salters' Company for research in Pharmacology, and the Louis Jenner Research Scholarship of the annual value of £60 for Pathological research.

Appointments.—All Hospital appointments are open to students without charge. A Resident Assistant Physician and a Resident Assistant Surgeon are appointed annually at a salary of £100 each with board and lodging. Two Hospital Registrars, at an annual salary of £100 each, are appointed yearly. The tenure of these offices may be renewed for a term not exceeding two years. Two Resident Casualty Officers are appointed half-yearly at a salary of £100 per annum. An Obstetric Tutor and Registrar is appointed each year at an annual salary of £50. Four House-Physicians, two House-Physicians to Out-patients, four House-Surgeons, four House-Surgeons to Out-patients, two Obstetric House-Physicians, two Ophthalmic House-Surgeons, and eight Clinical Assistants in the special departments are appointed every three months and hold office for six months if recommended for re-election. Clinical Clerkships and Dresserships to the in-patient and out-patient departments are available to the number of 400 each year.

Fees.—The Entrance Fee for First or Second Year's Students is 20 guineas; for Third Year's Students 10 guineas. The Annual Composition Fee is 30 guineas. For Preliminary Scientific Students the fee is 10 guineas. Extra charges are made for materials required in practical courses.

University Examinations.—Special Courses of Instruction for the Preliminary Scientific and Intermed. M.B.Lond., for the Oxford and Cambridge Examinations, and for the Primary and Final F.R.C.S. are held throughout the year. St. Thomas's Hospital is one of the Medical Schools of the University of London.

Lodgings.—A register of approved lodgings is kept by the Medical Secretary, who has a list of local medical practitioners, clergymen, and others who receive students into their houses.

Further information may be obtained on application to Mr. G. Q. Roberts, M.A. Oxon., Secretary, St. Thomas's Hospital, Albert Embankment, S.E.

UNIVERSITY COLLEGE, LONDON: MEDICAL FACULTY.

The Hospital now contains 277 beds, all available for clinical study.

Appointments.—Two Casualty Officers, eight House-Physicians, six House-Surgeons, twelve Obstetric Assistants, Out-Patients Physicians' and Surgeons' Assistants, Clinical Clerks, Surgeons' Dressers, and Ophthalmic Surgeons' Assistants are selected annually from among the students without extra fee. The House-Physicians, the House-Surgeons, and four Obstetric Assistants reside in the Hospital, receiving free board and lodging.

Entrance Scholarships.—The Bucknill Scholarship of £30 a year for four years, and two Exhibitions of the value of 60 guineas each, are offered for competition in September to gentlemen who are about to commence their first winter's attendance. The subjects are Chemistry, Physics, Botany, and Zoology. Two Exhibitions of the value of 80 guineas each are offered for competition in September, the subjects of the examination being Anatomy and Physiology. Only one of these Exhibitions will be awarded to a student who has received his Anatomical and Physiological instruction in University College. The Bucknill Scholar is not eligible for these Exhibitions. The examinations for the Scholarship and Exhibitions will take place at the College on September 26th and 27th, 1905. Notice of intention to compete must be given to the Secretary on or before September 23rd, at the office of the College.

Other exhibitions and prizes of the annual value of about £500 are given in the Faculty of Medicine.

Fees.—University Courses: Preliminary Science, 25 guineas; Intermediate, 60 guineas (two instalments 62 guineas); Final, 80 guineas (two instalments 82 guineas). Conjoint Board Courses: First payment, 30 guineas; second payment, 50 guineas (two instalments 51 guineas); third payment, 80 guineas (two instalments 82 guineas).

Information respecting the Medical Faculty may be obtained from the Dean, J. S. Risien Russell, M.D., F.R.C.P.; the Sub-Dean, Dr. Poynton; or the Principal, T. Gregory Foster, Ph.D.

WESTMINSTER HOSPITAL MEDICAL SCHOOL.

The Hospital contains upwards of 200 beds.

Appointments.—A Medical and a Surgical Registrar are appointed annually, each with a salary of £50. Two House-Physicians, three House-Surgeons, one Assistant House-Physician, one Assistant House-Surgeon, and a Resident Obstetric Assistant are appointed after examination and are

provided with rooms and commons, except the Assistant House-Physician and the Assistant House-Surgeon, who are provided with commons only. The Assistant House-Physician after three months' service becomes House-Physician for a further period of six months, and the Assistant House-Surgeon, after two months' service, becomes House-Surgeon for a further period of six months. Clinical Assistants to the Assistant Physicians and Assistant Surgeons, and to the officers in charge of special departments, are appointed from among qualified students. Every student must perform the duties of Out-patient Dresser for four months, and afterwards hold the office of In-patient Dresser for four months. He is also required to serve two terms of four months each as Clinical Clerk to In-patient Physician. Two Pathological Clerks are appointed every four months to assist in the *Post-mortem* Room. No student is eligible as an In-Patient Dresser or Clinical Clerk until he has passed the Second Examination of the Conjoint Board, or an equivalent examination. Clerks and Dressers in the Special Departments of Hospital Practice are periodically appointed. So far as vacancies permit students of other hospitals are admitted to In-patients' Dresserships or Clerkships.

Scholarships.—The following Scholarships are offered for competition during the year 1905-6: *In September, 1905:* Three Scholarships in Arts, £60, £40, and £30; Scholarship in Arts for Dental Students, £20; two University Scholarships in Anatomy and Physiology, £40 and £30; Two Natural Science Scholarships, £60 and £40; Free Presentation, open to pupils of Epsom Medical College. *In April, 1906:* Two Scholarships in Arts, £60 and £40; two University Scholarships in Anatomy and Physiology, £40 and £30; Two Natural Science Scholarships, £60 and £40.

Fees.—The composition fee is 110 guineas for the course required by the Conjoint Examining Board, and 133 guineas for that of the University of London.

Further information can be obtained on application to the Dean at the Westminster Hospital Medical School, Caxton Street, Westminster, S.W.

London (Royal Free Hospital) School of Medicine for Women.

The Hospital contains 170 beds, all of which are available for clinical instruction. There are separate departments for Obstetrics, Diseases of Women, Diseases of the Eye, Throat, and Ear, Skin, and classes for instruction in Anaesthetics, Bacteriology, etc., in addition to the ordinary Clinical Lectures and Demonstrations and Tutorial Classes. Students also attend the practice of one of the Fever Hospitals of the Metropolitan Asylums Board, and receive special instruction in Lunacy at one of the hospitals under the Asylums Board of the London County Council; they are also admitted to the practice of a number of special hospitals.

Appointments as House-Physician and Surgeon, Surgical and Medical Registrars, Anaesthetists, Medical Electrician, Curators of the School and Hospital Museums, and Clinical Assistants and Demonstrators in various subjects are open to students after qualification.

Scholarships.—An Entrance Scholarship value £30, and the St. Dunstan's Medical Exhibition value £60 a year for three years, extendible to five years, are offered for competition at the end of September in each year. The Bostock Scholarship, value £60 a year for two or four years, is awarded by the Reid Trustees on the result of an examination held in September by the University of London. The holder of the Scholarship must enter the London School of Medicine for Women. The Stuart Mill Scholarship, value £30 a year for four years, the John Byron Bursary of £20 a year for two years, and two Mackay Prizes, value £20 each, the Helen Prideaux Prize of £40, the Mabel Webb Research Scholarship of £30 for two years, together with many other scholarships and prizes, are offered on sundry conditions. Various Missionary Societies also offer scholarships on certain conditions, and assist ladies who wish to go to India as medical missionaries.

The Course of Study includes preparation for the whole course required by the University of London, the Royal University of Ireland, the Conjoint Boards of Scotland and Ireland, and the Society of Apothecaries, London; also for the greater part of the course required by the University of Durham and the other Universities of England which admit women to their degrees, and the University of Glasgow. Special classes are held in preparation for the Preliminary Scientific Examinations of the Universities of London and Durham.

School Buildings.—The entire School has been rebuilt and greatly enlarged. The laboratories are large and well-lighted, and are fully equipped for the Preliminary Scientific and Intermediate M.B. work required by the University of London. There are also a large Library and Common Room for the use of the students, and sets of chambers to accommodate seventeen students.

Fees.—University of London, Preliminary Science Course, £25; course for Intermediate and Final M.B., £135; course after Intermediate M.B., £86. Composition Fee for course of study for other qualifications, £140.

Full particulars as to Curriculum and Scholarships can be obtained from the Secretary, Miss Douie, M.B., 8, Hunter Street, W.C.

Cooke's Medical School, London.

The School is prepared to admit to its supplementary work all who may wish to join the same, but in regard to its curriculum work it does not receive more than half a dozen students in the course of the year; these have special advantages both as regards anatomy and physiology. The fees, we are informed, are but slightly in excess of current charges.

The operations of Surgery are performed on the dead body. Such courses are recognized for army promotion, for the Indian Medical Service, etc.

The School, which is open all the year round, possesses a good collection of anatomical models, physiological and chemical apparatus, and gentlemen preparing for the higher examinations (F.R.C.S. Eng., M.B. Cambridge, Oxford, London, etc.) receive special instruction in the more difficult subjects.

PROVINCES.

The medical schools in England, outside London, which give instruction in the full medical curriculum, are those of the Universities of Oxford, Cambridge, and Durham (University of Durham College of Medicine, Newcastle-on-Tyne); the Victoria University of Manchester; the University of Liverpool; the University of Birmingham; the University of Leeds; the University of Sheffield; and University College, Bristol.

As for Oxford and Cambridge, the opportunities for obtaining a good knowledge of the Preliminary Sciences and of Anatomy and Physiology at these ancient seats of learning are unsurpassed; the teaching staffs are distinguished, and the laboratories are most completely equipped. After three years have been passed at this work and the examinations therein completed it is the rule for their students to proceed for the remaining two years to London or some other large town, where the opportunities of gaining clinical experience are greater. At many of the London schools special arrangements are in existence to meet the case of the men who thus join them after their preliminary studies have been completed. Full information of such arrangements can be obtained upon application to the Deans of the respective schools.

The arrangements and appliances for laboratory and other forms of instruction at the Victoria University, Manchester; at the University of Birmingham; at the University of Liverpool; at the University of Leeds; at the University of Sheffield; and at University College, Bristol, are all very complete, and it is becoming more common than was formerly the case for students to go through their whole curriculum at these centres.

The Medical School of the University College of South Wales and Monmouthshire at Cardiff confines its work to giving instruction in the subjects of the medical curriculum which belong to the first three years.

The General and Queen's Hospitals, Birmingham.

The practices of the two Hospitals are amalgamated for the purpose of Clinical Instruction. The hospitals have a total of upwards of 450 beds for the treatment of Medical, Surgical, and Special cases. There are special departments for Gynaecological cases, and for the treatment of Diseases of the Eye, Throat, and Ear, each department having beds assigned to it. Besides these special in-patient departments, there are at the General Hospital special out-patient departments for the

treatment of Dental and Skin cases, while attached to the Queen's Hospital is a large Maternity Department. During the last year more than 7,500 patients passed through the in patient wards of the two hospitals, while the out-patients numbered more than 90,000. The Medical and Surgical Staff of the hospitals attend daily, and give Clinical Instruction in the Wards and Out-patient rooms between the hours of 9.30 a.m. and 1 o p.m. Clinical Lectures in Medicine, Surgery, and Gynaecology are delivered every week during the Winter and Summer Sessions. Ward Classes are also held by the Physicians and Surgeons for the instruction of Senior Students, the times being announced in the Hospital Time Table of Clinical Instruction. Senior and Junior Tutorial Classes in Medicine and Surgery are also held weekly for the instruction of the Junior Students. Surgical Operations are performed by the various Surgeons and Special Officers daily in the Operating Theatres attached to each hospital. *Post-mortem* Examinations are made daily by the Pathologists, and Demonstrations on recent morbid anatomy specimens are held at regular intervals. A complete Radiographic Department exists at the General Hospital, fully equipped with all necessary apparatus, and the treatment of patients by means of the Roentgen Rays and the Finsen Light is carried on daily.

Scholarships and Prizes Connected with the Faculty of Medicine.—Ingleby Scholarship.—The Ingleby Scholarship, value £10, is offered annually to the candidate who obtains at the June Final Examination the highest marks in the subjects of Midwifery and Gynaecology. *Walter Myers Travelling Studentship.*—Holders of this Studentship, which will be awarded early in October in each year, must be under the age of 30 years at the date of application, and must possess the degrees in Medicine and Surgery of the University of Birmingham. They must also possess the degree of B.Sc., obtained either at the University of Birmingham or London, or Oxford or Cambridge, should such degree be obtainable at either of those Universities. They must study for a year at one of certain Universities in Germany, and any papers that they may publish must appear under the name of the Walter Myers Studentship. The Studentship, which will be of the value of £150, will only be awarded should a candidate of sufficient promise present himself. The subjects in which the student may pursue investigations are pathology or clinical medicine, combined with pathological research. The studentship may be prolonged over a second year, but at a diminished stipend. *Russell Memorial Prize.*—This is a prize of books awarded annually to the student who, not being of more than six years' standing as a student of the School of Medicine of the University, shall pass the best examination in the subject of nervous diseases. *William Richards Memorial Prize.*—This prize, value £3 3s., which belongs to and is adjudicated upon by the University Medical Society, is awarded to the student member of the society who shall send in the best paper during the year, such paper to be read at a meeting of the society. *Sands-Cox Scholarship.*—This Scholarship, value £42, is awarded to the candidate amongst those entering as students of the Faculty of Medicine in the month of October, who shall have obtained the highest marks at the Matriculation Examination in the previous month of June.

(a) No candidate shall be elected whose age exceeds 19 on the first day of the [illegible] (b) No candidate shall be elected who shall not have attained to a position in the first class, and satisfied the Examiners that he has shown sufficient merit for the award. (c) The payment shall be made in two annual instalments, and in the form of remission of fees. (d) The second instalment shall not be paid until the scholar presents a certificate from the Dean, showing that his first year's work has been satisfactory.

Queen's Scholarships.—Queen's Scholarships of the value of £10 10s. each are allotted annually, on the recommendation of the examiners, to the students taking the first place at the Second, Third, Fourth, and Final University Examinations respectively. *Sydenham Scholarships.*—One or more Scholarships of the value of £42 each are offered annually.

The scholar or scholars will be elected by vote of the Council on the recommendation of the Faculty of Medicine. The scholarships are limited to the orphan sons of legally qualified medical men on entrance as first year students of the University. The orphan sons of former students of the Birmingham Medical School will have priority of election. No candidate for a scholarship will be elected whose age exceeds 21 years on the day of election. The scholarship may be held for three years, subject to good behaviour; and one third of the Scholarship will be paid annually.

Clinical Prizes.—The following prizes are given annually by the Clinical Board: Senior Medical Prize (£5 5s.) for students during their final year. Senior Surgical Prize (£5 5s.) for students during their final year. Junior Medical Prize (£3 3s.) for students before the commencement of their final year. Junior Surgical Prize (£3 3s.) for students before the commencement of their final year. Midwifery Prize (£4 4s.) for students during their final year. *Entrance Scholarship for Dental Students.*—One will be offered annually of the value of £37 10s. It will be awarded to the student who, entering for the Dental Degree of the University in October, or having entered not earlier than the previous April, shall pass the best examination in the subjects studied during his apprenticeship.

Appointments open to Past Students.—At the General Hospital: One Resident Medical Officer, salary £70 a year; a degree in Medicine is necessary. One Resident Surgical Officer, salary £100 a year; must be F.R.C.S. One Resident Pathologist, salary £100 a year. Two non-resident Casualty Assistant Physicians, salary £50 a year. Two non-resident Surgical Casualty Officers, salary £50 a year. Two non-resident Anaesthetists, salary £50 a year. Five House-Surgeons, office tenable for six months, £50 a year. Three House-Physicians, tenable for six months, £50 a year. One Resident Medical Officer at the Jaffray Branch Hospital, salary £150 a year. One Resident Assistant at the Jaffray Branch Hospital (post vacant early in April, July, October, and January), tenable for three months. At the Queen's Hospital: Three House-Physicians (post vacant in February, May, and November, tenable for twelve months, at a salary of £50). Three House Surgeons (post vacant in February, May, and November, tenable for twelve months, at a salary of £50). One Obstetric and Ophthalmic House-Surgeon (post vacant in May and November, tenable for six months, salary £20, with board and lodgings, etc.). One Resident Dresser (post vacant on the first day of January, April, July, and October, tenable for three months); candidates must previously have attended all their lectures, etc., and need not be qualified. At the City Workhouse and Workhouse Infirmary: Five Resident Medical Officers. At the Birmingham General and Branch Dispensaries: Eight Resident Surgeons. At the Birmingham Lunatic Asylums: Five Assistant Medical Officers. At the City Fever Hospitals: Three Assistant Medical Officers. At the Children's Hospital: One Resident Surgical Officer, one Resident Medical Officer. At the Birmingham and Midland Eye Hospital: Three Resident Surgeons. At the Orthopaedic and Spinal Hospital: Four Clinical Assistants (non-resident). At the Ear and Throat Hospital: One House-Surgeon, four Clinical Assistants (non-resident). There are also four non-resident Poor-law appointments in the gift of the Board of Guardians.

Besides the above-mentioned positions in institutions in the city of Birmingham, there are numerous resident appointments in the Hospitals in the immediate vicinity which are open to the students of the Birmingham Medical School such as the West Bromwich Hospital; the Guest Hospital, Dudley; the Warneford Hospital, Leamington; the Kidderminster Infirmary; the Worcester General Infirmary; and the Walsall and District Hospital. Most of the above positions are at the present time occupied by past students of the School.

UNIVERSITY COLLEGE, BRISTOL: FACULTY OF MEDICINE.

The lectures and instruction given in the Faculty of Arts and Science of University College, Bristol, are adapted to the various Preliminary Examinations, including the Preliminary Scientific Examination of the University of London; and students can complete in Bristol the entire course of study required for the medical and surgical degrees of the University of London, the diplomas of the Royal College of Physicians of London and the Royal College of Surgeons of England, and of the Apothecaries' Society of London, and for the Examinations for admission to the Royal Navy and the Indian Medical Services, and the Royal Army Medical Corps.

Students of the College are admitted to the Clinical Practice of the Bristol Royal Infirmary and the Bristol General Hospital conjointly, and consequently both these institutions are open to all students.

The Infirmary and the Hospital comprise between them a total of 470 beds, and both have very extensive Out-patient Departments, Special Departments for the Diseases of Women and Children, and of the Eye, Ear, and Throat, besides large Outdoor Maternity Departments and Dental Departments. Students may also attend the practice of the Bristol Royal Hospital for Sick Children and Women, containing 104 beds, and that of the Bristol Eye Hospital, with 40 beds. The total number of beds available for clinical instruction is therefore 614. Very exceptional facilities are thus afforded to students for obtaining a wide and thorough acquaintance with all branches of Medical and Surgical work. Each student has the opportunity of personally studying a large number of

cases and of acquiring practical skill in diagnosis and treatment.

Appointments.—Royal Infirmary: House-Physician, House-Surgeon, Junior House-Physician, and Junior House-Surgeon; Clinical Clerks and Dressers, also Ophthalmic, Obstetric, and Pathological Clerks are appointed. The Dressers reside in the Infirmary in weekly rotation. *General Hospital:* House-Surgeon, Assistant House-Surgeon; Assistant House-Physician, and Casualty House-Surgeon; Clinical Clerks, Dressers, and Obstetric, Ophthalmic, and Pathological Clerks are appointed. The Dressers reside in the Hospital in rotation free of expense.

Scholarships and Prizes.—(1) University Entrance Scholarships, (£50). (2) Lady Haberfield Entrance Scholarships, £30 (about), after examination in subjects of general education. (3) Martin Memorial Pathological Scholarships, two of £10 each. (4) Tibbits Memorial Prize, value 9 guineas, for proficiency in Practical Surgery. (5) Committee Gold Medal for fifth-year Students for general proficiency. (6) Committee Silver Medal for the same (7) Augustin Prichard Prize, value about 7 guineas, for proficiency in Anatomy. (8) Henry Clark Prize, value about 11 guineas, for general proficiency (9) Crosby Leonard Prize, value 7 guineas, for proficiency in Surgery. (10) Suple Surgical Prize, a Gold Medal and 7 guineas in money. (11) Suple Medical Prize, a Gold Medal and 7 guineas in money. (12) Henry Marshall Prize, value about £12. Dresser's Prize. (13) H. M. Clarke Scholarship, value £15, for proficiency in Surgery. (14) Sanders Scholarship, value £22 10s., for general proficiency. Prizes and certificates are also awarded in the various classes of the College

Fees.—The composition fee for the College courses is 70 guineas (or 75 guineas in two instalments). Dental Composition Fee, 60 guineas.

Clinical and Bacteriological Research Laboratory.—This Laboratory has been established with the view of enabling medical men in the West of England to obtain reliable information and reports upon pathological material, to assist them in the clinical investigation of cases presenting obscure symptoms, and to afford them the opportunity of personally carrying out investigations.

Full information can be obtained on application to the Dean of the Medical Faculty, Professor E. Markham Skerritt, University College, Bristol.

University of Leeds School of Medicine.

The Medical School which forms the teaching centre of the Medical Faculty of the University of Leeds is situated in immediate proximity to the General Infirmary where students sufficiently advanced receive their clinical instruction. The buildings were opened in 1894, and contain excellent dissecting rooms, several well-arranged laboratories for Physiology, Pathology and Bacteriology, three lecture theatres and several smaller class-rooms. In addition there are a library and reading-room and two museums, one being devoted to Pathology and the other to Anatomy. The comfort of the students is secured by a common-room and a refectory in which they can take meals. It is estimated by the authorities that the approximate cost of medical education to a student in this University is £188 plus, of course, the expenses of living during the five years covered by the curriculum. The General Infirmary has over 482 beds in constant use, and includes gynaecological and ophthalmic wards and a large new out-patient department. The Ida Semi-convalescent Hospital and Robert Arthington Hospital, Cookridge, attached to the Infirmary, has over 40 beds. The West Riding Lunatic Asylum at Wakefield is also open for the study of Mental Diseases. Students can, in addition, attend the practice of the Leeds Public Dispensary, the City Fever Hospitals (100 beds), and the Hospital for Women and Children.

Appointments.—Senior Anaesthetist, £50. Five Anaesthetists, £25 each. The Resident Medical, Surgical, and Casualty Officers, each at £100 per annum. The Resident Ophthalmic Officer at £50 per annum. A Resident Obstetric Officer at £50 is attached to the Gynaecological Ward and an extensive external maternity department. A Resident Medical Officer is appointed every six months for the Ida Hospital (honorarium, £25). Six House-Physicians, each holding office for six months, and four House-Surgeons holding office for twelve months. Physicians' Clerks and Surgeons' Dressers are appointed for six months; Ophthalmic and Aural Dressers, Gynaecological Ward Clerks, Gynaecological Out-patient Clerks, Maternity Clerks, Assistant Physicians' Clerks, Laryngological Clerks, and Assistant Surgeons' Dressers, Assistant Ophthalmic Surgeons' Dressers, Dressers in the Casualty Room, *Post-mortem* Clerks, and Laboratory Assistants for three months. A Laboratory Curator (£150 per annum) has charge of the new pathological laboratory. Appointments are also open to students at the Leeds Public Dispensary (three Resident Medical Officers, with salaries commencing at £80), at the Hospital for Women (House-Surgeon, honorarium £120, and Anaesthetist £25), and at the West Riding Asylums.

Entrance Scholarships.—The University awards annually a Scholarship in the form of a free admission to the lectures and classes covered by the composition fee. Candidates must have passed the First (Scientific) Examination of the University, or the Preliminary Scientific (M.B.) Examination of the London University. The subjects of the examination are those included in the above examination. The Infirmary also awards a scholarship of the value of 40 guineas in the form of a free admission to the clinical teaching of the Infirmary. The subjects of the examination are: (*a*) Latin, (*b*) Elementary Mathematics, (*c*) English Language (including an essay), (*d*) English History, and (*e*) one of the following languages: French, German, or Greek.

Fees.—The composition fee for the University courses is £67 4s. For those who have passed a Second Professional Examination, 41 and 37 guineas respectively for University or non-University courses.

Further information can be obtained from the Dean, School of Medicine, Leeds, or from the Secretary of the Faculty, General Infirmary, Leeds.

The Victoria University of Manchester: Medical Department.

The Royal Infirmary contains 290 beds; associated with it are the Convalescent Hospital (136 beds) and the Royal Lunatic Asylum at Cheadle, accommodating, with its branches, 350 patients.

Appointments.—The following appointments are made: A Surgical Registrar, at £80 per annum, and an additional £30 is paid to that officer when acting as Surgical Tutor; a Pathological Registrar, at £100 per annum; a Medical Registrar, at £70 per annum; a Director of the Clinical Laboratory at £75 per annum; an Assistant Director of the Clinical Laboratory at £50 per annum, and an additional £25 per annum is paid to the present holder of this appointment for undertaking the *x*-ray treatment of disease: Assistant Medical Officer and an Assistant Surgical Officer, each at £50 per annum: an Anaesthetist, at £50 per annum; an Assistant Anaesthetist, at £50 per annum; a Third Anaesthetist is appointed for six months, 30 guineas; an Accident House-Surgeon is appointed for three months, 20 guineas; Resident Medical Officer, one year, £150 per annum; ditto, at Cheadle, one year, £150 per annum; Resident Surgical Officer, one year, £150 per annum; an Assistant Medical Officer at the Convalescent Hospital at Cheadle is appointed every six months, at a salary of £80 per annum; two House-Surgeons and two House-Physicians are appointed every three months for a term of six months. The House-Physicians and House-Surgeons and Resident Assistant at Cheadle must possess a qualification which can be registered. Four or more Clinical Clerks are attached to each Physician and Assistant-Physician, and to the Obstetric Physician, and four or more Dressers to each Surgeon and Assistant-Surgeon, and to the Ophthalmic Surgeon, and four or more Clerks to the Pathological Registrar, two Clerks to the Director of the Clinical Laboratory, and a number of Clerks, not exceeding six, are appointed to assist the Medical Officer for Home Patients. Accident Room Dressers will be appointed every three months, and will hold their appointments for three months; there will be three Senior Dressers and twelve or more Junior Dressers, the former selected from students who have acted as Dressers in the ward for a full period of six months. Additional Clinical Clerks are appointed to assist in the departments for the Diseases of the Eye, Ear, and Throat.

Entrance Scholarships.—Rogers and Seaton Scholarships (in alternate years), £40 per annum, tenable for two years. Subjects: Greek and Latin. Credit given for knowledge of Geometry, Algebra, French, German, and English. Examination, May, 1906. Dalton (entrance), two of £40, one of which will be awarded annually, except in such years as a Cartwright Scholarship is awarded; tenable for two years. Subjects: Geometry (Euclid I to IV and VI, or the subjects thereof); Algebra (as far as the Binomial Theorem, inclusive); Plane Trigonometry (to Solution of Triangles); Elementary Analytical Geometry, the Conic Sections. Credit given for knowledge of Classics and Modern Languages (including English); Examination in May, 1906. Cartwright Scholarship, £35 per annum, tenable for three years; subjects as in Dalton. Examination in 1906. Hulme, three of £35, one of which will be awarded annually, tenable for three years. Examination in May, 1906. Subjects: English Language (Grammatical Structure and

Outlines of Its History); English Literature (an Essay on some subject of English Literature), and Modern History (Outlines of English History and Geography); with at least two of the following: Latin (Translation at sight; Grammar and Easy Composition); Greek (ditto); French (ditto); German (ditto). Credit given for knowledge of Mathematics (Geometry and Algebra). James Gaskill, two of £35, one of which will be awarded annually, and tenable for two years. Examination in May, 1906. Subjects: Mathematics—Geometry, the subjects of Euclid, I to IV and VI: Algebra, as far as the Binomial Theorem inclusive; Plane Trigonometry (to Solution of Triangles); Elementary Mechanics, including composition and resolution of forces in a plane, centre of gravity of simple bodies, uniform acceleration, direct impact, the elements of Hydrostatics, Boyle's Law. Chemistry: Inorganic Chemistry; Practical work, including preparations, analysis of mixtures of inorganic salts, easy quantitative analysis. Credit given for knowledge of Classics, elements of English Language, Literature, and History; French, German. Dora Muir Scholarship, £25 per annum, tenable for three years, and open to the competition of women students only. Awarded triennially. The scholarship will be awarded on the results of the Examination for the Entrance Scholarship, and candidates may elect to take such papers as they desire from amongst those set for other Entrance Scholarship Examinations, with the sanction of the Senate. Next competition in May, 1908. Sir J. P. Kay-Shuttleworth Scholarship, £30 per annum, tenable for three years, open to the competition of scholars from Sedbergh School, Giggleswick School, and Burnley Grammar School. Next competition in May, 1906. Subjects: Geometry, Algebra, Trigonometry, Chemistry, Practical Chemistry, and Mechanics, as in the James Gaskill. Theodores Modern Languages Exhibition, £15, awarded annually. Examination in May, 1906. Subjects, French and German. Two Dauntesey Medical Scholarships, value £35, tenable for one year. Candidates must not have attended lectures in a medical school. Subjects of examination: Zoology, Botany and Chemistry. The successful candidates must enter for the full course of medical studies at the University. A Matriculation Entrance Scholarship of the value of £30 per annum and tenable for three years, is awarded to the duly qualified competitor who stands highest at the July Matriculation Examination.[1] Grammar School Scholarships, two or three of not less than £15 or more than £30 per annum, tenable for three years, open to scholars of the Manchester Grammar School between the ages of 16 and 20. Subjects: Mathematics with Classics and Physical Science in alternate years. A subject for an English Essay will be set each year. Entrance Scholarships in Medicine.—Two each of the value of £100 will be awarded annually for proficiency in Arts and Science respectively. The award will be made on the proofs of proficiency shown. Robert Platt Physiological Scholarships: Two of £50 each, tenable for two years, awarded as an examination in Physiology, Histology, and Comparative Anatomy. Robert Platt Zoological and Botanical Scholarship—£50 for one year, but renewable for a second year—awarded to the candidate who shows most promise for prosecuting original research in Zoology or Botany. Other Fellowships, Scholarships, and Exhibitions varying in value from £15 to £100 are also offered for award. Honorary Research Fellowships: Tenable for two years, conferring the right of free use of university laboratories, awarded generally in October, on application, with evidence of capacity for independent investigation. Open to students of the University only:—Leech Fellowship: One of £100 awarded annually for excellence and promise in one or more of the subjects of the Second or Final M.B. Examination. Graduate Scholarship in Medicine: One of £25 to £50, tenable for one year, is awarded annually on the results of the Second Examination for the Degrees of M.B. and Ch.B. Robert Platt Exhibitions in Physiology: Two Exhibitions of the value of £15 each are offered annually for the competition of first and second years' students in Physiology. Robert Platt Biological Exhibitions: One or more Exhibitions, each of the value of £15, for the promotion of the study of Biology, are awarded on the results of the class or University degree examinations. Sidney Renshaw Exhibition in Physiology: An Exhibition of the value of £15 is offered annually for the competition of students in Physiology. Professor Tom Jones Exhibition in Anatomy, of the value of £25, is offered annually for competition to first year's students in Anatomy. Dumville Surgical Prize: Value £15. The Prize will consist of Books or Surgical Instruments at the option of the successful candidate at an examination on Systematic Surgery, Practical Surgery, Surgical Anatomy, and Surgical Pathology. Professor Tom Jones Memorial Surgical Scholarship: Value £100, and tenable for one year, will as a rule be offered for competition triennially. Candidates must be graduates in Medicine and Surgery of the University of Manchester, or have passed the Final Conjoint Examination of the Royal College of Physicians and Surgeons of England, and must have spent at least three years of their course of Medical and Surgical study at the University. No special examination is held for the Scholarship. The next award will be made in September, 1907. Turner Medical Scholarship: Value £20, offered annually to the competition of students who have completed a course of medical study in the University extending over a period of not less than four nor more than five years, in which all the subjects of the examination shall have been included. The subjects are: Medicine, Pathology (written and practical), Obstetrics, Practical Surgery, Ophthalmology, Forensic Medicine, Public Health. John Henry Agnew Scholarship: Value £30. This scholarship is open to the competition, annually, of all students in the Medical Department who have pursued a regular course of medical study in the University extending over a period of not less than four years or more than six, and who have attended the course of lectures on Diseases of Children, and is awarded on the results of an Examination on Diseases of Children, Medical and Surgical.

Class Prizes, etc.—Medals and Certificates are awarded on the results of the Class Examinations in each of the subjects included in the curriculum.

Clinical Prizes.—The Bradley Memorial Scholarship in Clinical Surgery, of the value of £20, and two Clinical Prizes, value 6 guineas each, are awarded annually to students of the Royal Infirmary.

Gold Medals are awarded for dissertations of sufficient merit by candidates for the Degree of M.D. Future arrangements are under consideration.

Full particulars as to Fellowships, Scholarships, and Prizes will be found in the *Calendar*.

Fees.—The composition fee for the University courses is £70, payable in two instalments of £35 each.

Prospectuses may be obtained from the Registrar, Mr. E. Fiddes, M.A.

[1] This announcement must be taken as provisional, arrangements being at present under consideration.

UNIVERSITY OF SHEFFIELD: FACULTY OF MEDICINE.

The Winter Session 1905-6 will commence in the new University buildings on Monday, October 2nd. The University was opened on July 12th by His Majesty King Edward VII. The plan of the building is that of four blocks enclosing a quadrangle 154 ft. by 110 ft. The medical department occupies the entire north wing overlooking the quadrangle on one side and Weston Park on the other. The Department of Anatomy occupies two-thirds of the upper ground floor, together with a portion of the lower ground floor, where the reception and storage room is situated. The dissecting room has been designed and equipped to meet all the modern requirements of the student of Anatomy, and is well lighted by six large windows, and floored with non-porous polished oak parquetry blocks. The lecture theatre accommodates 50 students, and is provided with a lantern of modern type illuminated by the electric arc. The anatomical museum has a gallery which is set apart for morphological and anthropological specimens, the floor space affording accommodation for bones, models, spirit specimens, and dissections. Research laboratories are provided for the professor and demonstrator. The physiological department occupies the first floor. In the general laboratory—a large, well-lighted room—accommodation is provided for microscopical work at a bench running the whole length of the laboratory beneath the windows. The space behind is occupied by separate movable tables, each equipped for the purposes of experimental work—an arrangement which permits of the students working either singly or in small groups. The fixed equipment of the room is designed to provide power for machinery, gas, electricity, and water wherever the tables may be situated. The second laboratory, for chemical physiology, is fitted with benches, fume cupboards, etc., for the same number of students as are provided for above. In addition, a large portion of this room is devoted to and equipped for work of a more advanced type. Opening into this laboratory

are a balance room and two rooms fitted for photography, spectroscopy, etc. Opportunities are afforded for research work in three special rooms; one beautifully lighted by windows in two of its walls for general research, another which can be darkened for optical work, and a third, in the basement, is provided with the solid pillars, etc., necessary for work with delicate instruments requiring great stability. In the lecture theatre, seating fifty students, a large amount of space has been left for the demonstration of experiments, and is equipped with the larger pieces of apparatus necessary for such work. The pathological department occupies the whole of the upper floor, and in this, as well as in the anatomical and physiological departments, no space is taken up by corridors, the plan being for the majority of the rooms to lead from one to the other. The students' laboratory, a large and lofty room, is equipped with every modern appliance for microscopical and bacteriological work. The lecture theatre has sitting accommodation for about fifty students. An incubating room, built into the centre of this department, is a special feature; it is so arranged that it can be kept at a constant temperature, thus replacing the ordinary incubating ovens. There is a spacious and well-lighted pathological museum, with gallery. The professor and demonstrators are provided with several research laboratories. The photographic and store rooms are situated in the roof and turrets, well-furnished lecture rooms for other subjects, and the materia medica museum are on the upper ground floor, and the library of the Medico-Chirurgical Society, to which students have access, is on the ground floor beneath, on the level of the quadrangle.

Clinical instruction in Medicine and Surgery is given at Sheffield Royal Infirmary and the Royal Hospital, and in Midwifery and Gynaecology at the Jessop Hospital for Diseases of Women (80 beds). Students are also admitted to the practice of the Borough Fever Hospitals and the South Yorkshire Asylum. The Royal Infirmary contains 247 beds, including Ophthalmic Wards (30 beds) and departments for Diseases of the Skin and of the Ear, Nose, and Throat. The Royal Hospital contains 160 beds, and Dental and Ophthalmic departments, and special out-patient departments for Diseases of the Skin, Nose and Ear, Eye, Throat, and Mental Diseases.

Dental Department.—A complete course of instruction in the subjects required for the L.D.S. is given, Dental Hospital practice being taken out at the Royal Hospital. The three years' course of Mechanical Dentistry may be taken out in the Dental Laboratory of the same institution.

D.P.H. Course.—The courses of instruction for the D.P.H. are recognized by the Universities of Cambridge and London and by the Royal College of Surgeons.

Persons of either sex are admitted to the degrees of the University.

Scholarships, etc.—An Entrance Scholarship of the value of £110 is awarded annually to the best candidate, if of sufficient merit, in Latin, Mathematics, Elementary Physics, Inorganic Chemistry, and English. The "Kaye Scholarship" (being the interest on £900) for second-year students is awarded annually under certain regulations. A gold medal in Clinical Medicine and Surgery is awarded by the Clinical Committee. Certificates and Book Prizes are awarded annually.

Fees.—The composition fee, if paid at the commencement of medical study, is £90. The composition fee for Hospital Practice is £45 in one payment, or £26 on commencing Hospital Practice and £22 twelve months later.

University of Durham College of Medicine, Newcastle-on-Tyne.

A New Wing is in course of erection which will accommodate the departments of Physiology and Bacteriology, and contain a Students' Gymnasium and a set of Students' Union Rooms, and will be completed by the summer of 1906.

The *Royal Infirmary* contains 280 beds.

Appointments.—Assistant Demonstrators of Anatomy and Prosectors for the Professor of Anatomy, Assistant Physiologists, Pathological Assistants, Assistants to the Dental Surgeon, and Assistants in the Eye Department, Throat and Ear Department, and Department for Skin Diseases are elected annually. The Assistant Demonstrators of Anatomy receive £5 each; the others are unpaid. Four times in the year Clinical Clerks and Dressers are appointed for three months.

The New Royal Victoria Infirmary, containing 450 beds, is approaching completion, and will be opened in the course of next summer. In the new Infirmary adequate accommodation will be provided for the study of the various special subjects, in addition to the ordinary Clinical work.

Scholarships.—A University of Durham Scholarship, value £100, for proficiency in Arts, open annually at the beginning of the winter session to intending students. The Dickinson Memorial Scholarship, interest of £400, with a gold medal, for Medicine, Surgery, Midwifery, and Pathology, open to perpetual students in their fifth year. The Tulloch Scholarship, interest of £400 annually, for Anatomy, Physiology, and Chemistry for students at the end of their second year. The Charlton Memorial Scholarship, interest of £700 annually, open to full students entered for the class of Medicine, at the end of their fourth or fifth winter. The Gibb Scholarship, interest of £500 annually, for Pathology, at end of summer session. The Goyder Memorial Scholarship, proceeds of £325; subjects: Clinical Medicine and Clinical Surgery. Luke Armstrong Memorial Scholarship, proceeds of £680, for best essay on some subject in Comparative Pathology. The Scholarship is open to all graduates in Medicine or Hygiene, and candidates for these degrees who have spent at least six months at the University of Durham, and whose age does not exceed 30 years. The Stephen Scott Scholarship in Surgery, interest on £1,000 annually. The Heath Scholarship. The late George Y. Heath, M.D., M.B., D.C.L., F.R.C.S., President of the University of Durham College of Medicine, bequeathed the sum of £4,000 to found a scholarship in surgery, the interest to be awarded every second year. First award in 1896. The Gibson Prize in Midwifery and Diseases of Women and Children, interest on £225.

Fees.—The composition fee for the College course is 72 guineas.

University College of South Wales and Monmouthshire: School of Medicine, Cardiff.

This College, which is one of the Colleges of the University of Wales, has, since its foundation in 1883, prepared students for the Preliminary Scientific Examination of the University of London, and for the corresponding examinations of other licensing bodies. In 1893, Chairs of Anatomy and Physiology and a Lectureship in Materia Medica and Pharmacy were established, making it possible for students of medicine to spend three out of the five years of prescribed study at Cardiff. Arrangements with the Managing Committee of the Cardiff Infirmary give students of the College the privilege of attending this large and well-ordered Hospital, which is situated within five minutes' walk of University College. Many students, especially from Wales and Monmouthshire, avail themselves of the opportunity thus afforded to pursue the earlier part of the medical curriculum near home.

All classes, at the College and at the Infirmary, are open alike to both men and women students over 16 years of age.

The courses of instruction given at Cardiff are recognized as qualifying for the examinations of the Universities, Royal Colleges, and other licensing bodies of Great Britain and Ireland.

Having spent two or three years in study at Cardiff, and having passed the examinations corresponding to these years, a student may proceed to London or elsewhere and complete his qualifying course for a University Degree or for a College Diploma.

Students preparing for the Preliminary Scientific and Intermediate Examination in Medicine of the University of London may compound for their three years' instruction at Cardiff by paying a single composition fee of £57 10s., or by paying £13 13s., £28, and £2, at the beginning of their first, second, and third years respectively.

Students preparing for the First and Second Examinations of the Conjoint Board for England, or for the corresponding examinations of the Conjoint Board for Scotland, or for those of the Society of Apothecaries, may compound for their classes by paying a single composition fee of £41 10s., or by paying £20 and £24 10s. at the beginning of their first and second years respectively.

In 1899 a department of Public Health was established, and Lecturers in Bacteriology and in Public Health and Hygiene were appointed. Medical men preparing for a Diploma in Public Health and Hygiene can attend complete courses of Lectures and Laboratory instruction in this department. These courses are recognized by the Universities of Cambridge and London, by the Royal Colleges of Physicians and Surgeons, and by Victoria University.

Students preparing for a University Degree in Medicine can, with some additional work in the first three years of

their study, take courses qualifying for the B.Sc. degree in the University of Wales.

A course of Lectures to Midwives, adapted to the requirements of the Central Midwives Board, under the Midwives Act, was commenced in October, 1904. The Lectures are suitable both for pupil midwives and practising midwives, as well as for nurses who desire to enter for the examination for certification under the Act.

Scholarships and Exhibitions.—A considerable number of scholarships and exhibitions are open to students of Medicine. The examinations for these take place in September (see Syllabus of Examination, which may be obtained on application to the College Registrar).

Further information may be obtained by application to the Dean of the Faculty of Medicine.

SCOTLAND.

University of Aberdeen.

The Faculty of Medicine comprises twelve chairs, from which instruction is given in all the main branches of medical science, namely, Botany, Zoology, Physics, Chemistry, Anatomy, Physiology, Materia Medica, Pathology, Forensic Medicine, Surgery, Medicine, and Midwifery. Special opportunities for practical instruction are afforded in the laboratories and museums attached to these departments. Clinical instruction is obtained in the Royal Infirmary (accommodating 200 patients), the Royal Lunatic Asylum (700 patients), the Sick Children's Hospital (75 patients), the City Fever Hospital (100 patients), the General Dispensary, etc. (10,000 out-patients annually), and the Ophthalmic Institution (1 600 patients annually). Courses of practical instruction are given in Diseases of Children at the Sick Children's Hospital; in Fevers at the City Fever Hospital; in Insanity at the Royal Asylum; in Diseases of the Ear and Larynx at the Dispensary; in Diseases of the Eye at the Infirmary and Eye Institution; in Diseases of the Skin at the Royal Infirmary. The fee for each University course is, as a general rule, £4 4s; and for a second attendance, £3 3s. Matriculation Fee, both sessions, £1 1s.; summer session alone, 10s. 6d.; Royal Infirmary, Perpetual Fee, £6; or, first year, £3 10s.; second year, £3. The winter session begins on October 16th, 1905. Bursaries, Scholarships, and Fellowships, to the number of fifty, and of the annual value of £1,180, may be held by students of medicine in this University. They range from £8 to £100 per annum, and are tenable in most cases for two or three years.

Edinburgh University.

Practical Instruction.—The following means are afforded for practical instruction: Royal Botanic Garden, Herbarium, and Museum; Zoological Laboratory and Museum of Science and Art; Physical Laboratory; Chemical Laboratories; Dissecting Room, Bone Room, and Anatomical Museum, Physiological Laboratory, Medical Jurisprudence Laboratories; John Usher Institute of Public Health; Materia Medica Museum and Laboratory; *Post-mortem* Department of the Royal Infirmary; and University Pathological and Bacteriological Laboratory; Royal Infirmary of fully 800 beds; Royal Hospital for Sick Children, with nearly 100 beds; Maternity Hospital; City Fever Hospital, with nearly 400 beds; Mental Diseases at Royal Morningside Asylum; Tutorial Classes of Practice of Physic, of Clinical Medicine, and Clinical Surgery, Surgery, and Midwifery.

Fees.—The Sessional Fee for Zoology, Botany (Garden Fee, 4s.), Chemis- [illegible] Materia Medica, Medical [illegible] Midwifery and [illegible] Clinical [illegible] Winter, £4 4s. each. Second [illegible] of [illegible] Practical [illegible] Clinical [illegible] Surgery, [illegible] Medicine, Therapeutics, Practical [illegible] Pharmacology, Ophthalmic Medicine [illegible] for Laboratory [illegible] Practical Physiology (Operative), [illegible] Practical Anatomy, [illegible] Practical Pathology, [illegible] of Children, Diseases of the Ear, [illegible] Larynx and Nose, Diseases of Tropical Countries, [illegible] Diseases of the Skin, Forensic Medicine, Mental [illegible]). £1 1s. Vaccination Fee, £1 1s. Matriculation Fee, £1 1s. [illegible] for each year, or [illegible] for a Summer [illegible]. Library open from 10 to 4. Saturdays, 10 to 1.

Fellowships, Scholarships, Bursaries, and Prizes open for competition in 1905-6:

Fellowships.

1. *The Freeland Barbour Fellowship* of the value of £100, tenable for one year, awarded in July 1906, to the M.B., Ch.B, who gains the highest marks in Anatomy, Physiology, and Pathology, in the Professionals, and who will devote one year to research in Midwifery.

2. *The Alian Fellowship in Clinical Medicine and Clinical Surgery*, of about £48, awarded annually, after competitive examination of the six candidates who obtained the highest marks in the subjects named in the Final Examination.

Funds for Research.

1. *The William Dickson Travelling Fund*, of the annual value of £90, usually divided into grants of varying amounts.

2. *The Earl of Moray Fund for the Promotion of Original Research.*—The annual income is about £630, available for payment of the actual expenses of original research.

3. *Carnegie Post-graduate Scholarships* (£100), *Fellowships* (£150) *and Grants in Aid for Research in Medicine.*—Application forms from the Secretary to the Trust, 14, Hanover Street, Edinburgh. These to be returned by May 1st.

4. *Four M'Cunn Medical Research Scholarships*, each of £100 for one year, but may be renewed for a second year, open to all graduates of not more than two years' standing, after examination in Therapeutics, Public Health, Physiology, and Physiological Chemistry. Nomination necessary. Forms (to be returned by September 1st, for examination in October) and particulars from M'Innes, M'Kenzie, and Lockhead, 7, Gilmour Street, Paisley.

Scholarships.

1. *Three Vans Dunlop Scholarships* of £100 each, tenable for three years, after competitive examination in various subjects of the University medical curriculum.

2. *The Stark Scholarship in Clinical Medicine*, of about £112, tenable for one year, after examination, open to all matriculated students and M.B.'s of not more than eighteen months' standing.

3. *The Thomson Scholarship* of £40 for four years, after examination in Botany, Zoology, and Elementary Mechanics, at beginning of first winter.

4. *Sibbald Medical Scholarship* of £40, tenable for three years, for highest marks in Chemistry, Botany, Zoology, and Physics.

5. *Two Crichton Scholarships for Research*, each of the value of £100, tenable for one year, with power of reappointment, for knowledge of (1) Anatomy, and (2) Physiology.

6. *The Mouat Scholarship in Practice of Physic*, of about £57 (Partly in money and partly in the form of a bronze medallion), for the highest marks in the class of Medicine and in that subject in the Final.

7. *The Murchison Memorial Scholarship*, annually. Proceeds of £1,000 for proficiency in Clinical Medicine. Examination in London in 1906.

8. *The Buchanan Scholarship*, £40 annually, for proficiency in Midwifery and Gynæcology.

9. *The James Scott Scholarship*, about £34 annually, for proficiency in Midwifery.

10. *The Ettles Scholarship in Medicine*, £30 annually, to the most distinguished graduate.

11. *Two Hope Prize Scholarships*, each £30, for one year, for excellence in Chemistry.

12. *The Houldsworth Scholarship*, £46 annually, tenable for one year, with power of re-election, for promotion of research in Pharmacology in that department in the University.

Bursaries.

1. *Town Council Bursaries.* A number are vacant. Apply City Clerk, Council Chambers, Edinburgh.

2. *The M'Cosh Graduate's Bursary*, of about £168, and *M'Cosh Medical Bursary*, of about £12. Tenable for one year. Both for research.

3. *Two Sibbald Bursaries*, of £30 a year, tenable for three years.

4. *Two Thomson Bursaries*, £25 each, tenable for four years.

5. *Five Grierson Bursaries.* Three of £20 and two of £10. Preferential in the first place.

6. *Two John Aitken Carlyle Bursaries*, each £29, tenable for one year.

7. *Four Mackenzie Bursaries*, each of £8, awarded annually in Practical Anatomy.

8. *Renton Bursary*, £20, tenable for one year, with restrictions.

9. *Two Crichton Bursaries*, £50 each, tenable for four years, for Scottish students.

Prizes.

1. *The Medical Faculty Gold Medals*, given to M.D.'s whose theses are deemed worthy.

2. *The Neil Arnott Prize*, £39 annually.

3. *The Beaney Prize*, for highest marks in Anatomy, Surgery, and Clinical Surgery in the Professionals, £32 annually.

4. *The Cameron Prize*, £65, awarded annually for "any highly important and valuable addition to Practical Therapeutics" in the course of the five years preceding the award.

5 *Two Gunning Victoria Jubilee Prizes*, one in Obstetrics, and one in Forensic Medicine and Public Health, each of the value of £50 awarded at graduation in July, 1906.

6. *The Conan Doyle Prize*, of about £32, awarded annually to the most distinguished graduate of the year from South Africa

7. *The Wightman Prize in Clinical Medicine*, £15 annually.

8. *The Pattison Prize in Clinical Surgery*, £11 annually.

9 *The Robert Wilson Memorial Prize in Chemistry*. Silver medal and about £7 annually.

10. *The Dorothy Gilfillan Memorial Prize* of about £11 annually to the most distinguished woman student in the Final M.B., Ch.B.

11. *Gray Prize Essay Fund*. Subject, number, and amount of prizes will be posted at the University gate in March.

12. *The Lord Rector's Prize*.

Lectureship.

The Swiney Lectureship in Geology, value £144 per annum, tenable for five years, is open to graduates, and is in the patronage of the Trustees of the British Museum.

Full particulars of all these will be found in the University *Calendar* for 1905-6, price 3s., or in the *Medical Programme* price 1d., to be had from Mr. Thin, 55, South Bridge, Edinburgh.

EDINBURGH ROYAL INFIRMARY.

There are 900 beds and 100 at the Convalescent House at Corstorphine. For last year the in-patients numbered 11,125, and the out patients 33,412. Instruction is given in all the special departments of medicine and surgery, in gynaecology, ear, throat, and nose affections, diseases of skin, dental work (extraction, stopping, and artificial cases), the administration of anaesthetics, electro-therapeutics, hydro-therapeutics, massage, and *x*-ray work, etc. Women are admitted and receive special and separate tuition on both the medical and surgical sides. Nine resident physicians and ten resident surgeons (three of whom are entirely set apart for the out-patient department) are appointed every six months. They live in the hospital free of charge, save for laundry. They must be registered. Thirty non-resident clinical assistants are also appointed for six months in the various departments. The Physicians and Surgeons appoint their own clerks and dressers, and assistants in the Pathological Department are appointed by the pathologists. Fees: Six months, £4 4s.; one year, £6 6s.; perpetual ticket, £12 if paid in one sum, or £12 12s. if by separate payments.

SCHOOL OF MEDICINE OF THE ROYAL COLLEGES, EDINBURGH.

The teaching is similar to that of the Scottish Universities, and the students receive similar certificates at the close of each session. The courses on the special subjects not included in the curriculum of the Examining Boards are also conducted by teachers specially qualified in each branch, and have for the last quarter of a century formed a special feature of the School.

This School of Medicine is composed of Lecturers licensed by the Royal Colleges of Physicians and Surgeons, and also recognized by the University through their *licentia docendi*, who, for the sake of convenience, lecture in separate buildings near at hand to the Royal Infirmary. The Lecturers form one body, are all subject to the same rules and regulations, and enjoy the same privileges. A new constitution and set of regulations have recently been drawn up, in virtue of which a medical corporation has been formed, recognized by both Royal Colleges; the government of the School is placed in the hands of a Governing Board consisting of five members elected by the Royal College of Physicians, of five members elected by the Royal College of Surgeons, and of five members elected by the Lecturers in the School. This Board, with the assistance of the Standing Committees of the School, supervises the whole management, and specially the maintenance of the efficiency and discipline of the School. The different buildings at present utilized for the purposes of lecturing are the following: (1) Surgeons' Hall, Nicolson Street; (2) Minto House, Chambers Street; (3) Nicholson Square: (4) Marshall Street; (5) the New School, Bristol Street; and other places.

MEDICAL COLLEGE FOR WOMEN, EDINBURGH.

Clinical instruction in the Royal Infirmary qualifies for graduation in the Universities. Precisely the same facilities for medical study are given as to male students in the School of Medicine, Edinburgh. Arrangements, fees, and regulations are similar. All the teachers are qualified lecturers of the School, and their courses admit to the various qualifying bodies for women. The lecturers are also recognized by the University of Edinburgh as giving courses admitting to the degrees of M.B., Ch.B. In the case of those proceeding to such degrees, the same fees as those in the University must be paid. The classes, with the exception of those in the Royal Infirmary, are open to all ladies, whether taking a full medical curriculum or not. Prospectus and all information from Miss H. F. Mackay, 20, Chambers Street (Minto House).

UNIVERSITY OF GLASGOW.

The whole course of study required for graduation at the University of Glasgow can be passed in the Medical School of that University. Besides work of a practical and clinical kind in the hospitals, practical courses are conducted in the laboratories of the following departments: Surgery, Pathology, Public Health, Pharmacy, Physiology, Anatomy, Chemistry, Zoology, Physics, and Botany, the Botanic Garden and the Hunterian Museum being also open to students. New buildings and equipment have recently been provided for Botany at a cost of £19 000, for Practical Anatomy at £13,000 for Operative Surgery at £9 900, as well as for Pathology, while very large additions, costing nearly £8,000, have been made to the Chemistry Laboratory, rendering it probably the most extensive in Scotland. New class rooms and laboratories are now in course of erection for the departments of Physiology, Materia Medica, and Medical Jurisprudence and Public Health, to cost with equipment upwards of £60,000. The University has of late been making efforts to extend and improve the accommodation, especially the laboratories, of the medical departments, to strengthen the teaching staff, and to encourage post-graduate and research work.

Partial Study elsewhere.—Only two of the five years need be spent at the University: the remaining three may be spent in such university or schools, or under such teachers, as are recognized by the University Court.

Bursaries.—Bursaries confined to the Medical Faculty amount in annual value to about £950, while bursaries in any Faculty, amounting to about the same annual sum, may be held by students of medicine, a number of both sets being open to women. Some are definitely restricted to women. Several valuable scholarships may be held by medical students who have graduated in Arts.

Hospitals.—Three very extensive General Hospitals in the City afford exceptional opportunities for clinical instruction, namely, the Western Infirmary (416 beds), near to the University and attended by the bulk of the men students, the Royal Infirmary (622 beds), and the Victoria Infirmary (180 beds); while the Royal Asylum (460 beds), the Royal Hospital for Sick Children (74 beds), the Maternity Hospital (34 beds), the Glasgow Eye Infirmary (100 beds), the Fever Hospitals at Belvidere (680 beds) and Ruchill (528 beds), and other institutions, afford facilities for the practical study of special branches.

Fees.—The matriculation fee for each year is £1 1s., in most cases the fee for each University Class is £4 4s., but in some cases it is £3 3s. For hospital attendance students pay an entrance fee of £10 10s. at the Western Infirmary, with an additional fee of £3 3s. for each winter and £2 2s. for each summer clinical course; while at the Royal Infirmary the fees for the first year are £10 10s. and the total fees £21. The University fee for the four professional examinations is £23 2s. (£6 6s. for each of the first and second examinations, and £5 5s. for each of the third and fourth). For the whole curriculum, the fees for matriculation, class attendance, Hospital attendance and professional examinations, amount to about £150.

Public Health.—A new ordinance empowering the University to confer the degrees of B.Sc. and D.Sc. in Public Health

received the sanction of the King in Council on May 20th, 1903. To be eligible for these degrees candidates must be graduates of a University of the United Kingdom or of some other recognized University.

The Women's Department of the University (Queen Margaret College).—The course of study, degrees, regulations, fees, etc., are the same as for men. Women students have their own buildings, with class rooms, reading room, library, etc., and are mainly taught in classes apart from male students, but have all the rights and privileges of university students. Their clinical studies are taken in the Royal Infirmary, where wards are reserved for their exclusive use, and in its dispensaries; also in the Royal Hospital for Sick Children; the Royal Asylum, Gartnavel; the City of Glasgow Fever Hospitals, Belvidere, and Ruchill; and the Glasgow Maternity Hospital.

Scholarships and Bursaries at Queen Margaret College.—The Arthur Scholarship, annual value £20, tenable for three years. Open to competition by medical students of first year at the First Professional Examination in October, 1904. This Scholarship is the gift of Mrs. Arthur, of Barshaw, and is restricted to women medical students. The following Bursaries are open to students of both sexes: The Dr. Thomas Gibson Bursary, annual value £36, tenable for four years. Open to medical students who are preparing for service as medical missionaries in connexion with the Church of Scotland. Next vacancy in 1905. It will be awarded to the eligible candidate who has gained the highest number of marks in the First Professional Examination. One Logan Bursary, annual value £17, tenable for four years; appointment by the Senate. Next vacancy, 1905. The Mackintosh Mental Science Bursary in Medicine, of the value of £31, is awarded annually to the student (of either sex) attending the class of Insanity, who stands first in an examination in that subject, to be held in June—the Bursar to continue the practical study of the subject to the satisfaction of the Faculty of Medicine. The William Gardiner Bursary, annual value about £14, tenable for two years, will be awarded after the autumn professional examination to the candidate who has passed in Physiology at the Second Professional Examination, and whose aggregate of marks in that subject and in Chemistry and Physics of the First Professional Examination is the highest. It is open in 1905. The following are tenable in any Faculty: "Two Pratt Bursaries (each £20 and tenable for four years), one of which is open in 1905, and two Taylor Bursaries (each £7, tenable for four years), one of which is open in 1905. Three Armagh Bursaries (£48 each, tenable for three years), one open in 1905 to students taking honours in Classics in the Final Examination for the degree of M.A. Two Andrew and Bethia Stuart Bursaries (£50 each, tenable (or three years in Medicine or Law); candidates must have taken the M.A. degree of Glasgow. There is a special Examination. The Buchanan Society Bursaries have, in the meantime, been suspended. The directors have reserved power to award to Arts, Science, and Medical Students, Bursaries tenable at Scottish Universities, the amounts, conditions, and periods of tenure being in their discretion. The Carnegie Trust for the Universities of Scotland is empowered to pay the whole or part of the University ordinary class fees of students of Scottish birth or extraction, under conditions given in the College prospectus. The Dobbie Smith Gold Medal is awarded annually for the best essay on any subject within the Science of Botany. The Brunton Memorial Prize of £10 is awarded annually to the most distinguished graduate in Medicine of the year. The University Commissioners have issued an Ordinance to make regulations for the admission of women to certain other Bursaries, Scholarships, and Fellowships. Miss Galloway will supply details. See Prospectus for 1905-6.

Class and Examination Fees.—The class and hospital fees for the subjects enjoined by Ordinance as constituting a five years' course of study and clinical work amount to about £110 5s. To this must be added £5 5s. for matriculation fees (£1 1s. for each of five years), £23 2s. for examination fees, and £5 1s. for registration as a medical practitioner.

Board for Students. A House of Residence for women students, Queen Margaret Hall, is situated near the College. The cost of board and residence is from 17s. to 25s. per week, according to accommodation. Full information can be obtained from Miss Galloway, Queen Margaret College; or from the Lady Superintendent, Queen Margaret Hall, Bute Gardens, Glasgow.

For further information male students may apply to Mr. W. Innes Addison, Matriculation Office, Glasgow University; women students to Miss Galloway, Queen Margaret College, Glasgow, W., from whom copies of the prospectus may be had.

ST. MUNGO'S COLLEGE (THE MEDICAL SCHOOL OF THE ROYAL INFIRMARY), GLASGOW.

The College buildings are situated within the grounds of the Royal Infirmary, the wards and clinical instruction therein being available for students. Qualifying classes are held during the winter in Physics, Zoology, Chemistry, Anatomy, Materia Medica, Physiology, Pathology, Medicine, Surgery, Ophthalmology, Gynaecology, Diseases of Throat and Nose, and in Public Health Laboratory Work. Instruction is also given daily in the Dispensary by the Assistant Physicians and Surgeons of the Royal Infirmary. During the summer the classes include Botany, Medical Chemistry, Practical Pathology, Practical Physiology, Anatomy, Operative Surgery, Diseases of Children, Clinical Medicine, Clinical Surgery, Medical Jurisprudence, Dermatology, Otology, Bacteriology, and Psychological Medicine. All classes in this College qualify for the diplomas of the English, Scotch, and Irish Conjoint Boards.

Class Fees.—£2 2s. for each class, except Anatomy, £4 4s.; Pathology, £4 4s.; Zoology and Botany, joint fee, £3 3s.; Otology, Throat, and Nose, and Dermatology, £1 1s.

Hospital Fees.—First year, £10 10s.; second year (and perpetual), £10 10s.

Total cost of a qualifying course, including Corporation Licence, about £70.

A *Calendar* giving full particulars of the School may be obtained on application from the Dean, Professor Alex. MacPhail.

GLASGOW: ANDERSON'S COLLEGE MEDICAL SCHOOL.

Classes are conducted in all the subjects of the five years' curriculum. Hospital Practice and Clinical Lectures in Western or Royal Infirmary; Pathology in Western or Royal Infirmary; Vaccination and Dispensary Practice in Western or Royal Infirmary Dispensary. These classes qualify for all the Licensing Boards in the United Kingdom. They are also recognized by the Universities of London, Durham, Ireland, Glasgow, and Edinburgh (the latter two under certain conditions which are stated in the School *Calendar*).

The new buildings are situated in Dumbarton Road, immediately to the west of the entrance to the Western Infirmary, within two minutes' walk of that institution, and four minutes' walk of the University.

The Carnegie Trust pay the fees of students at Anderson's College on conditions regarding which particulars may be obtained from the Secretary, Carnegie Trust Offices, Edinburgh.

A *Calendar* containing full particulars of the School may be obtained from the Secretary to the Medical Faculty, Anderson's College, Dumbarton Road, Partick, Glasgow.

Class Fees.—For each Course of Lectures (Anatomy, Ophthalmic Medicine, and Surgery, Aural Surgery, Diseases of Throat and Nose, and Mental Diseases excepted) first session, £2 2s.; second session (in Anderson's College), £1 1s.; afterwards free. For Practical Classes, in Chemistry, Botany, Zoology, Physiology, Pharmacy, first session, £2 2s.; second session, £2 2s. Reduced joint fees in Zoology and in Botany, for Lectures and Practical Class when taken in same summer session, £3 3s.; for either course separately, £2 2s. Anatomy Class Fees.—Winter: First session (including Practical Anatomy), £4 4s.; second session (including Practical Anatomy), £4 4s.; third session, £2 2s. Summer: Lectures and Practical Anatomy, £2 12s. 6d.; Lectures alone £1 11s. 6d.; Practical Anatomy alone, £1 11s. 6d.; Osteology and Practical Anatomy, £2 12s. 6d.; Osteology alone, £1 11s. 6d. Operative Surgery, £2 2s. (laboratory fee, 10s. 6d.). Public Health Laboratory, £11 11s., or with Lectures, £12 12s. Ophthalmic Medicine and Surgery (including Hospital Practice)—Aural Surgery, Diseases of Throat and Nose, and Mental Diseases, £1 1s. Matriculation Fee.—For the year, 10s.; for the summer session alone, 5s. Western Infirmary—Fees: For Hospital Attendance, £10 10s.; for Clinical Instruction, winter session, £3 3s.; summer session, £2 2s. Students who have completed their Clinical course elsewhere shall be permitted to enter for a six months' course of the Hospital only on payment of a fee of £2 2s. Pathology, £4 4s. Practical Pathology, £3 3s. Pathology Demonstrations only, £1 1s. Vaccination fee, £1 1s. Royal Infirmary.—Fees: Hospital Practice and Clinical Instruction, first year, £10 10s.; second year, £10 10s.; afterwards free. Six months, £6 6s.; three months, £4 4s. Pathology, both courses, £4 4s. Vac-

cination fee, £1 1s. Attendance at the dispensaries of the Western and Royal Infirmaries is included in the hospital fee. Eye Infirmary.—Fee: Hospital Practice and Clinical Instruction, including Lectures at the College, six months, £1 1s. The session opens on Thursday, October 19th, 1905.

University College, Dundee.

Some information as to this College will be found under the head of University of St. Andrews.

The new medical buildings containing laboratories and work rooms for Anatomy, Physiology, Materia Medica, Pathology, Ophthalmology, Public Health, Medicine, Surgery, and Gynaecology are now open.

Dundee Royal Infirmary.—The Infirmary contains 300 beds, with a special ward for the treatment of diseases of children. Four Resident Qualified Assistants are appointed annually. Clinical Clerks and Dressers are attached to the physicians and surgeons, and students are appointed to assist in the *post-mortem* room. Out-patients are seen daily at 9 a.m. There is an Intern and Extern Maternity Department connected with the Infirmary. The instruction given at the Infirmary is recognized for purposes of graduation by all the Scotch Universities, the University of London, the University of Cambridge, the Royal University of Ireland, and by the Royal Colleges of England and Scotland. Further information on application to the Medical Superintendent.

Dundee District Asylum.—The appointments include two qualified Resident Assistants and two Resident Clinical Clerks. Clinical instruction is given.

Fees.—The fee in the case of most of the classes is 4 guineas for systematic and 3 guineas for practical classes. The hospital ticket is 3 guineas a year or 2 guineas a session. The total fees for the five years' curriculum amount to about 100 guineas.

IRELAND.

Students desirous of prosecuting their medical studies in Ireland may attend the School of Physic in the University of Dublin (Trinity College); the Schools of Surgery (including Carmichael College and Ledwich School) carried on under the direction of the Council of the Royal College of Surgeons in Ireland; the Catholic University School of Medicine, Dublin; or the Schools of Medicine of the Queen's Colleges in Belfast, Cork, and Galway. The student will be guided in making his arrangements for clinical instruction by the advice of the teachers of the School which he may select out of those mentioned.

School of Physic in Ireland, Dublin.

This school is formed by an amalgamation of the medical school of Trinity College and of the Royal College of Physicians; the King's Professors of Institutes of Medicine, Practice of Medicine, Materia Medica, and Midwifery being appointed by the latter.

Clinical instruction is given by the staff of Sir Patrick Dun's Hospital. The following Hospitals are also recognized by the Board of Trinity College: Adelaide Hospital, Royal City of Dublin Hospital, Dr. Steevens's Hospital, House of Industry Hospitals, Jervis Street Infirmary, Mater Misericordiae Hospital, Mercer's Hospital, Meath Hospital, the National Eye and Ear Infirmary, St. Mark's Ophthalmic Hospital, St. Vincent's Hospital, Richmond Asylum, St. Patrick's Hospital.

Catholic University Medical School.

Prospectuses and further information about this school, which provides complete courses of lectures as required by the examining bodies, may be obtained from the Registrar of the School, Cecilia Street, Dublin, who has written a very useful *Guide for Medical Students*. The total fees for school and hospital courses is £160, payable as the courses are taken out.

The Schools of Surgery of the Royal College of Surgeons in Ireland.

The Schools of Surgery are attached by Charter to the Royal College of Surgeons, Dublin, and have existed as a department of the College for over a century. They are carried on within the College buildings, and are specially subject to the supervision and control of the Council. The buildings have been reconstructed, the capacity of the dissecting room nearly trebled, and special Chemical, Pathological, Bacteriological, Public Health, and Pharmaceutical Laboratories fitted with the most approved appliances, in order that students may have the advantage of the most modern method of instruction. There are special rooms set apart for lady students. The entire building is now heated by hot-water pipes, and lighted throughout by the electric light. A refreshment room is also open, where students can have luncheon. The winter session commences October 1st, and the summer session April 1st. All the lectures and courses of practical instruction may be attended by medical students who are otherwise unconnected with the College.

Prizes.—The Barker Anatomical Prize (£31 10s.); the Carmichael Scholarship (£15); the Mayne Scholarship (£8); the Gold Medal in Surgery, and the Stoney Memorial Gold Medal in Anatomy; Class Prizes of £2 and £1, accompanied by silver medals, will also be given in each subject.

Prospectus and *Students' Guide* will be forwarded post free on written application to the Registrar, Royal College of Surgeons, Dublin.

Queen's College, Belfast.

The courses of study meet the requirements of the Royal University of Ireland and other examining bodies. The class fee is £2 except in a few cases. The total cost of the medical curriculum of the Royal University of Ireland, including examination fees and perpetual fee for the Royal Hospital, but not including fees for the special hospitals, is about £95. It amounts to about the same for the course of the Conjoint Board in Ireland.

Clinical instruction is given at the Royal Victoria Hospital. An entirely new hospital containing 300 beds was opened in July, 1903, *Fees*, six months, £7 7s.; nine months, £9 9s.; Perpetual, £21 in two instalments. The Maternity Hospital, the Ulster Hospital for Women and Children, the Hospital for Sick Children, the Ophthalmic Hospital, the Ulster Eye, Ear, and Throat Hospital, the Union Hospital and the District Lunatic Asylum, are open to students.

Prizes.—(1) Ten medical scholarships each year, value £20 each; (2) two Dunville studentships (one each alternate year), value £145 each; (3) one Andrews studentship each alternate year, value £145; (4) numerous sessional prizes.

The College contains laboratories in connexion with the departments of Biology, Chemistry, Physiology, Pathology, Anatomy, and Physics and Materia Medica.

All the medical classes are open to women students.

A Students' Union provides dining room, reading room, library, and various recreation rooms.

A pamphlet containing full information can be had free on application to the Registrar, Queen's College, Belfast.

Queen's College, Cork.

The arrangements in the Faculty of Medicine are made chiefly with reference to the requirements of the Royal University of Ireland, but students proceeding for the examinations of the Conjoint Boards of England, Scotland, or Ireland, the Society of Apothecaries of London, or the Apothecaries' Hall of Ireland, can arrange the courses of Lectures which they attend, and the order in which they attend them, to meet the requirements of those bodies. Certificates of attendance in the College are also accepted by the University of Cambridge. The total fees for the College Lectures and Hospital attendances required by the Royal University of Ireland amount to about £85.

Clinical instruction is given at the North and South Infirmaries (each 100 beds). Students can also attend the Mercy Hospital (60 beds), the Cork Union Hospital, the County and City of Cork Lying-in Hospital, the Maternity, the Hospital for Diseases of Women and Children, the Fever Hospital, the Ophthalmic and Aural Hospital, and the Eglinton Lunatic Asylum. The session at Queen's College extends from October to April inclusive (twenty-seven weeks), but arrangements have been made for the delivery of some of the three months' courses of lectures during the months of April, May, and June. The Hospitals are open to students in May, June, and July also.

The College contains Laboratories in the Departments of Biology, Chemistry, Physiology, Pathology, and Materia Medica and Pharmacy, and there are a Botanic Garden and Plant Houses in the grounds.

Scholarships and Prizes.—Eight Medical Scholarships, two in each of the first four years, of the value of £25 each, and in the fifth year the Blaney Scholarship of the value of £32, and a Senior Exhibition, value £30. Three Exhibitions, one in Practical Medicine, one in Practical Surgery, and one in Practical Midwifery, each of the value of £15. Book prizes at the sessional examinations.

Further information (free) can be obtained in the College Regulations, or on application to the Registrar, Queen's College, Cork.

QUEEN'S COLLEGE, GALWAY.

The Lectures of the Professors in the Medical School of Queen's College, Galway, and the Clinical Instruction in the Galway Hospitals, are recognized as qualifying for the Diplomas of the Royal Colleges of Physicians and Surgeons of Ireland, England, and Scotland, and for the Medical Degrees of the University of London and the Royal University of Ireland.

Clinical teaching is carried on in the Galway Hospital, established as a Public General Hospital (in the place of the County Galway Infirmary) by Act of Parliament (1892).

In addition to this, the Galway Fever Hospital[1] is open to Students of the Clinical Class. Here opportunities are afforded for studying the various forms of Fever and Zymotic Disease admitted during the College Session. The Medical Faculty has also made arrangements with the medical officers for the admission of students to the Galway Union Hospital. This Hospital affords an extensive field for the study of all classes of disease, acute and chronic. A special ward is set apart for the diseases of children, in which students will have an opportunity of studying this important class of cases. Opportunities for extra practice and vaccination are afforded at Galway Dispensary, No. 1. Students whose names are on the Clinical Roll of the Galway Hospital may attend any of the above named institutions without further charge.

For further information as to the arrangements for clinical teaching (which are liable to alteration) applications should be made to Professor Pye, Honorary Secretary of the Medical Staff of Galway Hospital.

CLINICAL HOSPITALS OF DUBLIN.

SIR PATRICK DUN'S HOSPITAL.

SIR PATRICK DUN'S HOSPITAL is situated on the south side of the City, about half a mile from the School of Physic, Trinity College. The winter session begins on October 2nd and clinical instruction is given daily by the Visiting Surgeons and Physicians, commencing punctually at 9 o'clock a.m. Operations, except in cases of emergency, are performed on Mondays, Wednesdays, and Fridays. The Clinic for Diseases of Women is held on Tuesdays and Fridays at 10 o'clock. There is a special wing devoted to Fever cases and special instruction is given in the specific fevers throughout the Winter and Summer Sessions. The Extern Department (which is quite new) is fully utilized for teaching purposes, and special classes are held for junior students during the months of October, November and December. Opportunities are also afforded to students for examining cases of throat, ear and eye diseases as well as for performing minor surgical operations and bandaging. In the *x*-ray department the various applications of the *x* rays to the diagnosis and treatment of injury and disease are fully explained and exemplified.

Clinical Medals and Prizes are awarded annually in Medicine and in Surgery. Full particulars can be had on application to the Secretary.

Appointments.—A House-Surgeon is elected each December, and four Resident Pupils are appointed each half-year.

Fees.—The payment of £12 12s. entitles a student to the benefits of Hospital Attendance and Clinical Teaching for the Winter and Summer Sessions. Fee for Winter Session only £8 8s., and for Summer Session only £5 5s. The fees will be received by Dr. E. H. Taylor, Honorary Secretary, or by any other member of the Hospital staff.

RICHMOND, WHITWORTH, AND HARDWICKE HOSPITALS.

These hospitals contain 312 beds: 110 for surgical cases, 82 for medical cases, 120 for fevers and epidemic diseases.

There are special clinics for diseases of the eye, throat and nose, and diseases of women.

Appointments.—A Resident Surgeon and a Resident Physician are appointed every year, receive a salary, and hold office for one year. Eight Resident Clinical Clerks are appointed four times a year, and provided with furnished apartments, fuel, etc. These appointments are open not only to students of the hospitals, but also to qualified and unqualified students of other hospitals.

The Richmond Lunatic Asylum, containing over 1,200 patients, adjoins these hospitals, affording facility for the study of mental diseases.

[1] The Royal University and other Licensing Bodies require a certificate of attendance for three months at a hospital devoted to the treatment of fevers.

Further information can be obtained from the Honorary Secretary, Dr. J. O'Carroll, 43, Merrion Square East, or the Honorary Treasurer, Sir William Thomson, C.B., 54, St. Stephen's Green East, Dublin.

ADELAIDE MEDICAL AND SURGICAL HOSPITALS.

The hospitals contain 140 beds. A House Surgeon and Physician, resident and salaried, is appointed yearly, and four resident pupils are selected half-yearly.

Further particulars may be obtained from Mr. F. T. Heuston, 15, St. Stephen's Green North, Dublin, or any of the members of the medical staff.

ROYAL CITY OF DUBLIN HOSPITAL.

This hospital, in addition to the general Medical and Surgical Wards, contains special wards for Ophthalmic and Aural cases, Diseases of Women, and Diseases of Children. There is also an isolated building for the reception of infectious cases. An entirely new operation theatre has been constructed in accordance with the most modern surgical requirements, Roentgen-ray and Lupus Lamp Departments have been installed.

Appointments.—Clinical Clerks to the Physicians and Dressers to the Surgeons are appointed from the most deserving of the class, and certificates awarded for the faithful performance of their duties. Medical and Surgical Resident Pupils are appointed, and special certificates awarded if merited. A Resident Medical Officer is appointed annually.

For detailed prospectus or further particulars apply to Mr. G. Jameson Johnston, F.R.C.S.I., Honorary Secretary, Medical Board, 13, Lower Fitzwilliam Street, or at the Hospital.

JERVIS STREET HOSPITAL, DUBLIN.

Jervis Street Hospital, from its close proximity to the docks, quays, and large factories of Dublin, receives a large number of urgent cases and accidents, and consequently the facilities for Clinical Instruction are very great. About 120 beds are available. There is a largely-attended General Dispensary, besides special Dispensaries for Gynaecology, Eye, Ear and Throat, etc. Clinical Instruction is given daily both in the wards and dispensaries. Systematic courses of Lectures are given, and illustrated by cases in every branch of Surgery and Medicine. The students attending this Hospital can attend free lectures on Diseases of Infancy and Childhood, and on Orthopaedic Surgery and Appliances, at the Children's Hospital, Temple Street, which contains 85 beds. This facility to acquire a knowledge in Children's Diseases is not afforded to the students of any other Clinical Hospital in Dublin. Two Resident Surgeons and twelve Resident Pupils are appointed annually. Clinical Clerks and Dressers are also appointed periodically. Gold and silver medals are awarded annually by examination, besides other prizes and special certificates to deserving students.

MATER MISERICORDIAE HOSPITAL.

No information has been received as to this institution notwithstanding repeated inquiries.

MERCER'S HOSPITAL.

This hospital, founded in 1707, is situated in the centre of Dublin, in the immediate vicinity of the Schools of Surgery of the Royal College of Surgeons, the Catholic University School of Medicine, and within five minutes' walk of Trinity College. It contains 120 beds for medical and surgical cases, and arrangements have been made with the medical officers of Cork Street Fever Hospital whereby all students of this hospital are entitled to attend the clinical instruction of that institution, and become eligible for the posts of Resident Pupils, etc. There is a large Out Patient Department, and a special department for Diseases Peculiar to Women. There are also special wards for the treatment and study of children's diseases. During the past few years the hospital has undergone extensive alterations in order to bring it up to modern requirements.

Appointments.—A House-Surgeon is appointed annually. Five Resident Pupils, each for six months, and Clinical Clerks and Dressers are appointed monthly from amongst the most deserving members of the class.

Fees.—Winter, six months, £8 8s.; summer, three months, £5 5s.; nine months, £12 12s.

For further particulars apply to R. Charles B. Maunsell, M.B., F.R.C.S., 32, Lower Baggot Street, Dublin.

DR. STEEVENS'S HOSPITAL.

This hospital, situated at Kingsbridge, contains over 200

beds. Three new wards have recently been opened. It affords exceptional advantages for clinical instruction; owing to its position amongst manufactories and railway works a large number of casualties are always under treatment in the institution, while there are to be found occupying its beds at all times numerous cases of acute and chronic medical and surgical disease. There is a ward entirely devoted to venereal diseases, and a detached building for fever cases; in connexion with the hospital is a newly-built extensive out-patient department, with separate clinics for diseases of the eye and ear, skin, throat, teeth, and diseases of women. In addition to these special dispensaries, a general dispensary is held daily. Every opportunity is afforded to the students to become thoroughly familiar with the modern appliances used in diagnosis and treatment of disease. There is also a fully-equipped X-Ray Department and a fully-furnished Pathological Laboratory. Operations are performed on Tuesday, Thursday, and Saturday. Gynaecological operations on Wednesday. There is accommodation in the hospital for four medical, six surgical, and two specialist (Gynaecology and Ophthalmology) resident pupils, who are provided with separate furnished rooms, with coal and gas, and also a comfortable common sitting room for meals, which can be obtained at a reasonable rate.

Fees.—Hospital practice, nine months, 12 guineas; six months, 8 guineas; three months, 5 guineas; Residence: Each three months, 10 guineas, which includes fee for hospital practice and certificate.

A prospectus and particulars may be obtained from the Resident Surgeon at the hospital, or from William S. Haughton, M.D., Honorary Secretary, 30, Lower Fitzwilliam Street.

St. Vincent Hospital.

The hospital contains 165 beds, and has attached to it a crowded dispensary and three special dispensaries. The whole practice of the hospital is available for clinical instruction, which is carried on during the session in the most systematic manner, from 9 to 12 o'clock in the forenoon. Two successive classes, and a special class for junior students, visit the wards each morning under the guidance of the physician and surgeon on duty, by whom instruction at the bedside is given in various details of diagnosis and treatment, and every facility is thus given to students for learning the practical part of their profession. Lectures are delivered on special subjects, and operations are performed in the theatre. The number of major operations performed during the nine months ending June 30th has been upwards of 700. *Post-mortem* examinations are made in the pathological theatre, and frequent opportunities are given for the examination of morbid specimens. There is a museum in connexion with this department. Instruction is also given daily in the dispensaries, from 10 to 12 o'clock, on a great variety of cases, the treatment of such diseases as are there met with forming a most important part of every practising physician's daily work. Two resident medical officers and sixteen resident pupils are appointed annually from amongst the most deserving members of the class. The fees for clinical attendance are the same as at the other Dublin hospitals. Special arrangements have been made with the Fever Hospital, Cork Street, and with other hospitals for providing senior students with clinical instruction in infective fevers, as required by the Licensing Bodies, without extra charge. Further particulars can be obtained on application to the Honorary Secretary of the Medical Board, R. F. Tobin, F.R.C.S.I., 60, Stephen's Green, Dublin.

Meath Hospital and Co. Dublin Hospital.

No information has been received as to this institution notwithstanding repeated inquiries.

Rotunda Hospital.

Master—Dr. E. Hastings Tweedy.

This institution consists of two distinct hospitals, and is the largest Maternity as well as Gynaecological Hospital in the British Empire.

A recently constructed annex contains 40 beds for the treatment of diseases of women.

Over 2,000 patients are admitted annually to the maternity wards, a similar number are attended at their own homes, whilst over 14,000 patients are attended in the out-patient department.

A new Pathological Laboratory has become an important feature of the hospital.

Clinical instruction includes daily lectures and practical demonstrations in Midwifery, Gynaecology, and Cystoscopy.

The diploma from this hospital is granted to pupils on their passing an examination, after a period of six months' attendance on the practice of the hospital.

Paid clinical clerks are appointed (by examination) from amongst qualified men who have obtained the hospital diploma.

The new residential quarters have recently undergone complete renovation and now afford comfortable accommodation. The grounds of the hospital contain asphalt and grass courts for lawn tennis and croquet.

Pupils can enter at any time for a period of one month or longer. The hospital offers exceptional opportunities for qualified practitioners of any nationality who desire to take out a course of post-graduate instruction.

Fees.—Intern pupils: Six months, £21; three months, £12 12s.; two months, £9 9s.; one month, £6 6s. Extern pupils: Six months, £10 10s.

Royal Victoria Eye and Ear Hospital, Adelaide Road, Dublin.

This hospital is an amalgamation of the two institutions which have heretofore given special instruction in ophthalmology separately—namely, St. Mark's Ophthalmic Hospital and the National Eye and Ear Infirmary. This hospital, which was opened in February last, contains 82 beds. Clinical instruction in diseases of the eye, including the use of the ophthalmoscope, is given daily. Operations are performed daily as occasion requires. Instruction in aural surgery is also given. Special classes for practical instruction in the use of the ophthalmoscope, etc., and for the demonstration of cases, are formed from time to time.

CLINICAL HOSPITALS.

Opportunities for clinical instruction and study are afforded by many hospitals which are not directly connected with any medical school, and to these the post-graduate student, and in many cases the student in the fifth year of the curriculum, will find it to his advantage to resort, since they offer great facilities for gaining practical clinical experience. The following pages contain brief particulars as to the more important of them.[1]

London.

Clinical instruction and appointments as Clinical Assistants can be obtained at most of the Special Hospitals in London, as well as at the General Hospitals to which medical schools are not attached. Resident appointments (Resident Medical Officer, House-Physician, House-Surgeon, etc.) are made from time to time, and vacancies are announced in our columns. The appointments are usually for stated periods of six or twelve months.

General Hospitals.

Great Northern Central Hospital, Holloway Road, N.—This hospital is recognized by the Examining Board in England of the Royal Colleges of Physicians and Surgeons as a place of study during the fifth year of the medical curriculum. The hospital contains 162 beds, all of which are at present occupied. The large rectangular and circular wards, each of which contains 20 beds and 4 cots, the operation theatre, and an additional out-patient department general and special, and the pathological departments, have all been erected since 1887. A second operation theatre and a new surgery block containing two observation wards, patients' waiting hall, examining rooms and surgery proper were opened this year. An electrical department and children's ward are now being arranged for. Medical practitioners are invited to attend the general and special practice of the hospital. Clinical Assistants (qualified), Clinical Clerks, and Pathological Clerks are appointed in the general and special departments, and may receive certificates at the end of their terms of office. There are five Resident Medical Officers, one Senior and two Junior House-Surgeons, Senior and Junior House-Physicians, also Pathologist, Registrar, Casualty Officer, and four Anaesthetists. Full particulars of and rules for these appointments can be obtained from Mr. C. F. Peyton Baly, L.D.S., M.R.C.S., Honorary Secretary of the Medical Committee.

London Temperance Hospital.—The Hospital contains 100 beds. The medical and surgical practice is open to students and practitioners. Appointments (vacancies for which are advertised in the medical journals): Surgical and Medical

[1] For Clinical Hospitals in Dublin see p. 506.

Registrars, Resident Medical Officer, one Assistant Resident Medical Officer and Assistant House-Surgeon. For particulars as to hospital practice and classes apply at the hospital.

Seamen's Hospital Society.—Dreadnought Hospital, Greenwich, 225 beds. Branch Hospital, Royal Victoria and Albert Docks; 50 beds. Dispensary in the East India Dock Road, and at Gravesend. The London School of Tropical Medicine is attached to the Seamen's Hospital Society, and is situated within the grounds of their branch hospital in the Royal Victoria and Albert Docks. In this hospital are constantly to be found many cases of tropical disease, and opportunities are afforded to students and others to study Practical Surgery and Diseases Incidental to Tropical Climates. Over 500 students have joined the school since October, 1899, of which number 29 were women graduates. See also p. 518.

West London Hospital, Hammersmith Road, W. (West London Post-graduate College).—The hospital contains 159 beds, all of which are now in occupation. Some 2,500 in-patients are treated in the hospital during the year. The teaching in the hospital is especially devoted to the requirements of post-graduates. The Physicians and Surgeons attend on Mondays, Tuesdays, Wednesdays, Thursdays, and Fridays at 2.30 p.m., and instruction is given by the Assistant Physicians and Surgeons in the out-patient department daily at 2.15 p.m. A course of thirty special demonstrations is given in the wards by the Physicians and Surgeons each session. Operations are performed daily at 2.30 p.m. There are special departments for Diseases of the Eye, Skin, Ear, Throat and Nose, Women, X Rays, Medical Electricity. Post-graduate lectures are delivered daily, except Saturdays, at 5 o'clock. The date of the commencement of each course is advertised in the medical journals. No junior students are admitted to the practice of the hospital. The study certificate of the College is recognized by the Indian Medical and Naval Medical Departments for "study leave." There is a pathological investigation laboratory attached to the hospital in charge of a Pathologist, at which instruction is given in practical pathology and elementary bacteriology and microscopy. A special class in Bacteriology commences the beginning of each month. A large lecture room, together with reading and writing rooms, lavatories, etc., are provided for the use of post-graduates. The fee for the hospital practice, including Post-graduate Lectures, is £2 2s. for one month, £5 5s. for three months, £8 8s. for six months, and £12 12s. for one year. For Post-graduate Lectures alone, £1 1s. for a course of ten lectures. Full particulars of the next Post-graduate Course, and any other information about Post-graduate teaching, can be obtained on application to the Dean, Mr. L. A. Bidwell, at the hospital.

North-West London Hospital, Kentish Town Road.—The hospital, which was established in 1878, provides 50 beds. It is a general hospital. There are two spacious wards for men and women respectively. The children's wards contain 15 cots; a yearly average of 44,000 attendance of out-patients. The special departments include: (1) Diseases of women; (2) diseases of the eye; (3) diseases of the skin; (4) dental. There are two resident officers; an honorarium at the rate of £50 per annum attaches to each post. Operation day, Thursday at 2.30 o'clock. Further particulars from the Secretary at the hospital.

Tottenham Hospital, N.—This general hospital, which is in the midst of a densely-populated neighbourhood of about a quarter of a million of inhabitants, is authorized by the University of London to give certificates of Post-graduate study for the M.D. and M.S. degrees (see p. 477). It is on the high road, South Tottenham, N., within a few minutes' walk of the stations of South Tottenham (Midland Railway), Seven Sisters (Great Eastern Railway), and Tottenham Hale (Great Eastern Railway Main Line), electric trams from Finsbury Park and Hackney pass the door, and it is also connected by tram line with Dalston, Edmonton, Hackney, Holloway, and other parts of North London. It contains medical and surgical and children's wards, having in all 117 beds. There are special departments for gynaecological cases: diseases of the eye, ear, throat and nose; skin diseases; medical electricity and radiography. Operations are performed every afternoon of the week (except Saturday) at 2.30 p.m. There is a pathological department including *post-mortem* room, laboratory, and museum. There are three resident appointments—House-Physician, House-Surgeon, and Casualty Medical Officer, and Clinical Assistants are appointed under certain conditions. Over 20,900 new out-patients were treated during the last year, and 1,093 patients were treated in the wards. Further particulars in regard to the hospital may be obtained from Mr. H. W. Carson, F.R.C.S., Secretary to the Medical Committee, 26, Welbeck Street, W.; or from Dr. A. J. Whiting, Dean of the North-East London Post-Graduate College, 142, Harley Street, W.

CHILDREN'S HOSPITALS.

The Hospital for Sick Children, Great Ormond Street, W.C. (Constituent School of the University of London for the Study of Children's Diseases), contains 200 beds, divided into 102 medical, 73 surgical, and 25 for special and infectious cases. A new surgical ward will be opened shortly containing 21 beds, besides 52 beds at the Convalescent Branch, Highgate. The hospital having been recognized by the Conjoint Board for England as a place where, under the new curriculum, six months of the fifth year may be spent in clinical work, the practice is arranged to meet this need, and is open to students who have completed four years of medical study, and also to qualified medical men. Appointments are made every three months to six Medical Clerkships and six Surgical Clerkships, which are open to students at the hospital. Lectures or Demonstrations, given once or twice every week during both winter and summer sessions, are open, free of charge, to medical practitioners. The sessions are of ten weeks' duration, and begin in October, January, and March. Fees for hospital practice, three months, 3 guineas; perpetual ticket, 5 guineas. Certificates of attendance granted. Prospectuses and further information will be forwarded on application to the Dean, Dr. Voelcker, or to the Secretary, at the hospital.

Paddington Green Children's Hospital—Number of beds, 46; average number of beds daily occupied, 37; average number of in-patients, 668; average number of out-patients, 16,415. Daily attendance of the Medical and Surgical Staff. There are six Clinical Assistants, each Out-patient Physician having two Assistants. There is a Convalescent Home attached to the Hospital at Fair View, Slough, with accommodation for 16 children.

East London Hospital for Children, Shadwell.—The hospital contains 109 cots, one-third being devoted to infants. Two House-Surgeons and two House-Physicians (holding office for six months) are appointed annually. This hospital is recognized by the Conjoint Board for England as a place of instruction for students, at which six months of their fifth year under the new regulations may be spent in clinical work. The following opportunities for the study of the diseases of childhood are offered to gentlemen who have completed four years of medical study, and to those who are already qualified: The practice of the hospital (in the out-patients' department) is open to students every day (except Saturdays), at such hours as the physicians or surgeons for the day are attending. The in-patient practice is open to students holding clerkships or dresserships in the hospital, and to students not holding appointments during the attendance of the physicians and surgeons. A certain number of Clinical Clerks and Dressers are appointed every three months to each physician and surgeon. Gentlemen who wish to hold these appointments must have completed their fourth year of medical study. They are eligible for reappointment at the end of three months. Practitioners and students are admitted to the practice of the hospital in both the wards and out-patient department, and clerkships and dresserships can be obtained. Any additional information may be obtained on applying to Mr. H. Betham Robinson, M.S., F.R.C.S., 1, Upper Wimpole Street, or to Mr. W. M. Wilcox, the Secretary, at the hospital.

North-Eastern Hospital for Children, Hackney Road, Bethnal Green—The hospital now contains 110 beds. Patients in 1904: In-patients, 1,258 (410 under 2 years of age); out-patients, 24,445; new cases, 66,829 attendances. There are special Dental, Eye, and Roentgen-Ray Departments. Particulars of facilities for attending Medical and Surgical practice can be obtained on application to Mr. T. Glenton-Kerr, Secretary.

The Belgrave Hospital for Children.—The hospital has accommodation for 40 children and a very extensive out-patient service. No rule as to the percentage of infants exists, and therefore a very large number of infants under 12 months old are admitted. Medical and Surgical Out-patients are seen at 9 a.m. on Mondays, Tuesdays, Thursdays, and Fridays, to which practitioners and students are admitted. Clinical Assistants to the Out-patient Staff are elected from time to time.

LYING-IN HOSPITALS AND HOSPITALS FOR WOMEN.

Queen Charlotte's Lying-in Hospital and Midwifery Training School. This hospital receives over 1,500 patients annually,

besides having a large out-patient department. Medical pupils are received at all times of the year. Pupils have unusual opportunities of seeing Obstetric complications and Operative Midwifery, on account of the very large number of primiparous cases upwards of three-fourths of the total admissions. Clinical instruction is given. Certificates of attendance at this hospital are recognized by all Universities, Colleges, and Licensing Bodies. Pupil Midwives and Monthly Nurses are received and specially trained. *Fees.*—Medical Pupils, £8 8s. for four weeks, exclusive of board and lodging; Pupil Midwives, £35 for five months. Pupil Nurses, £24 for sixteen weeks, inclusive of board and lodging. The new residence for Medical Pupils opposite, and in telephonic communication with, the hospital is now open. *Terms.*—Full board and residence, £1 15s. per week.

Samaritan Free Hospital for Women, Marylebone Road, N.W.—The Samaritan Hospital treats diseases peculiar to women only. It has 51 beds. It receives qualified practitioners as Clinical Assistants in both in-patients and out-patient departments; fee £3 3s. per quarter. Lectures are given by the Medical Staff on Thursdays at 3 p.m.; admission free.

Hospital for Women, Soho Square.—There is an organized School for Gynaecology open to qualified medical men and students after their fourth year. A limited number of Clinical Assistants to the Physicians in the Out-patient Department are appointed for periods of one or more months. Clinical instruction is given also in the theatre and in the wards. *Fee* for the three months' course, £8 8s., or for one month, £3 3s. Further information can be obtained by letter, addressed to the Dean at the hospital.

Ophthalmic Hospitals.

Royal London Ophthalmic Hospital (Moorfields Eye Hospital), City Road, E.C.—The hospital was founded in 1804 in Charterhouse Square; in 1821 it was moved to a larger building in Blomfield Street, where the work was carried on until 1899; in 1899 the present building in City Road was opened. It contains 138 beds for in-patients, which were occupied during last year by 2,194 persons; twenty beds were closed for want of funds; in the same year the out-patients were 43,038, and the attendances 129,187. Operations are performed daily from 10 a.m. until 1 p.m., and four surgeons attend on each day. Students are admitted to the practice of the hospital. *Fees*, for six months, £3 3s.; perpetual, £5 5s. Courses of instruction in the following subjects are given at the hospital periodically: (1) The Use of the Ophthalmoscope; (2) Errors of Refraction; (3) External Diseases of the Eye; (4) Surgical Anatomy of the Eye; (5) Operative Surgery. Systematic instruction is also given in the Laboratory of the hospital on the Pathology of the Eye. Perpetual students are admitted to the lectures free, with the exception of the course on Operative Surgery. Students of the hospital are eligible for the offices of House-Surgeon, Refraction Assistants, or Clinical and Junior Assistants. Junior Assistants are appointed every three months. Any further information will be furnished by Mr. Robert J. Bland, Secretary.

Royal Westminster Ophthalmic Hospital, King William Street, West Strand.—The hospital has been recently modernized throughout; it contains 40 beds and an out-patient department. The practice is open to practitioners and students from 1 to 4 p.m. daily. Special instruction is given in the Diagnosis, Pathology, and Treatment of Eye Affections, including the Operations on the Eye, the Treatment of Errors of Refraction, and the Use of the Ophthalmoscope. *Fee:* Six months, £3 3s.; perpetual, £5 5s. For particulars apply to Mr. Grimsdale, F.R.C.S., at the hospital.

Royal Eye Hospital, Southwark.—This hospital contains 40 beds and 2 cots. The new patients in the out-patient department number over 25,000 yearly. Operations are performed and patients seen daily at 9 a.m. and 2 p.m. Qualified practitioners and students are admitted to the practice of the hospital. *Fees:* For three months, £2 2s.; for six months £3 3s.; perpetual, £5 5s. Courses on Ophthalmoscopy, Refraction, and Diseases of the Eye, each £1 1s. (perpetual students one course free); Pathology, £1 1s., to cover cost of materials. Tutorial classes arranged to suit candidates for the various examinations. Qualified students of the hospital are eligible for the offices of Registrar and House-Surgeon, may also be appointed Clinical Assistants for six months, and are eligible for re-election. Further particulars may be obtained from Mr. Edwin Easton, Acting Secretary, at the hospital, Southwark, S.E.

Central London Ophthalmic Hospital, Gray's Inn Road, W.C.—This hospital has 26 beds, and possesses facilities for clinical teaching daily. Last year there were 12,820 new cases. Classes of instruction in the use of the Ophthalmoscope, with demonstrations on cases, and also Classes on Refraction, are given during the winter months commencing in October. The out-patient work begins at 1 o'clock, and operations are performed daily between 1 and 4 o'clock. For full particulars apply to the Secretary, Mr. Harry R. S. Druce.

Fever and Small-pox Hospitals of the Metropolitan Asylums Board.

Students are admitted to study at the Fever and Small-pox Hospitals of the Metropolitan Asylums Board after they have completed the third year of medical education, provided they have held the offices of clinical clerk and dresser, and have obtained the sanction of the authorities of the medical school to which they belong. The minimum duration of the course of study at the fever hospitals is two months, and the ordinary course of study at the small-pox hospitals consists of twelve demonstrations. At the fever hospitals the student may attend three days, and must attend two days a week; at the small-pox hospitals the dates and times of demonstrations are notified to students who have entered for a course. They must abide by the rules laid down as to disinfection and other matters, and must satisfy the Board of Management that they are sufficiently protected against small-pox by vaccination or otherwise. A certificate signed by the medical superintendent of the hospital at which attendance is made, and countersigned by the Clerk to the Board, is granted to a student when he has satisfactorily completed the course of study. Qualified medical men are admitted under similar terms and conditions, except that the sanction of the authorities of the medical school is not required in their case.

Fees.—Fever hospitals, two months, £3 3s., and £1 1s. for every additional month; small-pox hospitals, £4 4s. for the course of 12 demonstrations, or (for qualified medical men only) £1 1s. per demonstration, or £2 2s. per course of three demonstrations.

Courses of instruction in the treatment of fevers are usually held three times a year, beginning in January, May, and October respectively; and information as to the classes is furnished to each of the recognized medical schools in the metropolis.

Courses in connexion with small-pox are held from time to time as circumstances permit.

Other Special Hospitals: London.

Bethlem Royal Hospital.—Two Resident House-Physicians are appointed twice a year for six months from recently qualified medical students. Students of certain hospitals are allowed to attend for clinical instruction. Qualified medical men are allowed to attend for three months on payment of a fee. Post-graduate courses are given from time to time.

Hospital for Consumption and Diseases of the Chest, Brompton.—The hospital has been recognized by the Conjoint Board for England as a place where, under the present curriculum, six months of the fifth year may be spent in clinical work. There are 318 beds in the two buildings constituting the hospital, and a special throat department. Pupils are admitted to the in-patient and out-patient practice of the hospital. Courses of lectures and demonstrations will be given during the year. Clinical Assistants are appointed to the Assistant Physicians in the out-patient department, and Clinical Clerks are appointed to the Physicians in the wards. These appointments are tenable from three to six months. The fee for the practice of the hospital is £1 1s. for each month, or £2 2s. for each period of three months, or a perpetual fee of £5 5s.

City of London Hospital for Diseases of the Chest, Victoria Park.—There are 164 beds. The practice of the hospital, both as regards in-patients and out-patients, is open to students and medical practitioners. Certificates of attendance in the medical practice of this hospital are recognized by the London University and London medical examining Boards. Information as to medical instruction can be obtained on application to Dr. Clive Riviere, Secretary to the Medical Committee, at the hospital.

National Hospital for the Paralysed and Epileptic, Incorporated by Royal Charter, Queen Square, Bloomsbury (University of London).—This hospital, with the Finchley branch, contains 200 beds and cots. The out-patient practice and lectures are free

to students and practitioners. Ladies who are post graduates are invited to the lectures. Lectures and demonstrations are given on Tuesdays at 3 30 in three courses—spring, summer, and winter—and the physicians attend every Monday, Tuesday, Wednesday, and Friday for out-patients at 2. Surgical operations are performed on days and at hours of which notice is posted at the hospital. The hospital is a school of the University of London, and has been recognized by the Conjoint Board for England as one of the places where part of the fifth year of study may be spent. Clinical Clerks are appointed to the Physicians for in-patients and out-patients. All communications regarding clinical clerkships, lectures, and hospital practice should be addressed to the Secretary at the hospital.

Hospital for Diseases of the Throat, Golden Square, London, W.—The hospital contains 40 beds for in-patients. There is an annual out-patient attendance of nearly 50,000. Minor operations are performed daily (except on Mondays) at 9 a.m. Practitioners and medical students are admitted to the practice of the hospital at a fee of 5 guineas for three months, 7 guineas for six months, or 10 guineas for perpetual studentship. Each course may commence at any date. Special terms are granted to medical men in actual practice who can only attend the hospital once or twice weekly. Clinical Instruction in the Diagnosis and Treatment of Disease is given daily in the Out-patient Department from 2 30 to 5 p m., on Tuesdays and Fridays from 6.30 to 9 p.m., and on Mondays at 9.30 a.m. Systematic courses of lectures, with Clinical and Pathological Demonstrations, are given in the Winter Session, and are free to students of the hospital. From amongst the students Junior Clinical Assistants are selected, whose duty it is to assist the member of the staff to whom they are appointed. Students are also eligible for the Senior Clinical Assistantships (four), on whom considerable responsibility falls.

Central London Throat and Ear Hospital, Gray's Inn Road.—The hospital contains accommodation for in-patients, and has a very extensive out-patient department (over 50 000 attendances yearly), which is open daily to all medical practitioners and students for the purpose of Clinical Demonstration and Instruction. Fee, for three months' attendance, 3 guineas; for six months, 5 guineas. Courses of practical demonstrations on the special diseases treated at this hospital are held during both the winter and summer months by members of the staff. The dates of these demonstrations are announced in the medical journals prior to their commencement. They are open to qualified practitioners and advanced students of medicine on payment of 1 guinea for each course of six classes, with an additional guinea for attendance upon the out patient hospital practice if desired. Operations on in-patients and on out-patients are performed on Tuesdays and Fridays at 2 p.m. Considerable attention is given to scientific work, particularly with regard to the pathology and bacteriology of the diseases of the ear and upper respiratory passages. Full particulars will be supplied on application to the Dean at the hospital.

Metropolitan Ear, Nose, and Throat Hospital.—The hospital was founded in 1838, and is situated in Grafton Street, Tottenham Court Road. The out-patient department is open daily at 2.30 p.m. to practitioners and students for acquiring clinical instruction and technical knowledge. Operations are performed on in-patients on Tuesdays, Wednesdays, and Thursdays at 9 a.m. Fee for one month's attendance at the hospital £1 1s., and for three months £2 2s. During the forthcoming session demonstrations will be given by members of the staff on the pathology and treatment of diseases of the ear and respiratory passages. Short practical classes will also be held in clinical pathology and surgical anatomy. Weekly clinical lectures are given by the staff on the special disease treated at the hospital; the date, time, and subject of these lectures are previously announced in the medical journals. The lectures are free to all medical practitioners and students.

Royal Ear Hospital, Dean Street, Soho, W.—Courses in Diseases of the Ear and Nose are given by the members of the staff throughout the teaching year. The teaching is of a practical character, and the number of students is limited. Clinical Assistants are also appointed. The new building is now open, and ten clinics are held every week. The surgeons visit the wards daily. For full particulars address the Honorary Secretary of the Medical Board, Mr. A. Logan Murison, 55A, Welbeck Street, Cavendish Square, W.

St. Peter's Hospital for Stone and Urinary Diseases (Henrietta Street, Covent Garden).—Qualified medical men and students are admitted free to the practice of this hospital, which contains 26 beds and has a large out-patient attendance (44,752 for 1904). New cases, 4,074. Operations are performed and consultations held on Wednesdays and Fridays at 2. Clinical instruction is given regularly by members of the staff. In-patients admitted in 1904, 449.

St. Mark's Hospital, City Road, E.C.—Demonstrations are given weekly on Diseases of the Rectum in the out patient department and in the wards. Further particulars can be obtained by application to the Secretary of the Medical Committee at the hospital.

The Hospital for Diseases of the Skin (52, Stamford Street, Blackfriars, S.E.)—This hospital was founded in 1841 as a special school for the study of diseases of the skin, and for improvements in their treatment. Its practice is free to practitioners and students. It is open daily for out-patients at 2 p.m. and on Wednesday evenings at 7 o'clock. Last year 7,525 patients were treated. The pathological laboratory is open for systematic instruction. The light department is in daily use. Occasional lectures and demonstrations are given to which male practitioners are invited.

St John's Hospital for Diseases of the Skin (Incorporated).—The Out-patient Practice (at 49, Leicester Square, W.C.) is open free to the medical profession every week-day from 2 to 4 p m., on presentation of their cards to the Medical Officer in attendance Chesterfield Lectures are given free. The In-patient Department, with 45 beds, is at 238, Uxbridge Road, W. Further particulars may be obtained from Mr. George A. Arnaudin, Secretary-Superintendent of the hospital, 49, Leicester Square, W.C.

Liverpool.

The following hospitals have made arrangements for clinical instruction:

Royal Infirmary.—The Royal Infirmary is directly adjacent to the University and the Medical School, and contains 300 beds. The present building, completed in 1890, has been brought thoroughly up to date, and is one of the best appointed hospitals in the kingdom. *Fees:* The fee for a perpetual ticket is 40 guineas, payable in two instalments. There is no extra fee for clerks and dressers. *Appointments:* A Medical and a Surgical Registrar are appointed annually, with a salary of £100 each. Ten Resident Medical Officers are appointed every six months. They receive board and lodging, with private sitting room, in return for their services. Full particulars may be obtained from the Secretary of the Medical Board, G. G. Hamilton, M.B., F.R.C.S., 34, Rodney Street, Liverpool.

Royal Southern Hospital: Clinical School.—The hospital contains 200 beds; there is a children's ward, and beds are appropriated to the diseases of women, and also for cases of tropical disease in connexion with the Liverpool Tropical School. Clinical teaching is given at the hospital, and arrangements have been made to render it both thorough and systematic. The members of the staff visit the wards daily, and clinical lectures are given each week. Tutorial classes are also held each day, at which the junior students are instructed in the methods of diagnosis, and the seniors are prepared for their final examinations. The Pathological Department has a good laboratory attached, in which the students receive practical instruction. *Appointments:* In addition to the usual clinical and *post-mortem* clerkships, two resident posts of Ambulance Officer are awarded every three months to the students whom the Board may consider most suited to hold them. *Fees:* Perpetual, £26 5s.; one year, £10 10s.; six months, £7 7s.; three months, £4 4s. *Board* (exclusive of fees for Hospital Practice), £15 15s. per quarter. The practice of the hospital is recognized by all examining bodies. Further particulars may be obtained from the Dean, Mr. Newbolt, 42, Catherine Street, Liverpool

David Lewis Northern Hospital, Liverpool.—An associated Clinical School of the Liverpool University (see United Hospitals Clinical School, Liverpool), recognized by all Examining Boards and Universities; 246 beds. Winter Session and Clinical Lectures commence on October 1st. Students of the School are appointed to Clinical Clerkships and Dresserships at the commencement of each session. Arrangements for board and lodging in the hospital buildings can be made for a limited number of students. Special arrangements are made for graduates who desire to undertake clinical research as clinical assistants. A fully-equipped laboratory is attached to the hospital. House-surgeons and Physicians (salaried) are appointed from time to time. For all information as to time-table, curriculum, fees, etc., appli-

cation should be addressed to the Secretary to the Medical Board at the hospital.

United Hospitals Clinical School, University of Liverpool.—This Clinical School has been formed by the association of the following hospitals for purposes of clinical instruction: The Royal Southern Hospital, the David Lewis Northern Hospital, the Stanley Hospital, the Eye and Ear Infirmary, the Hospital for Women, the Infirmary for Children, St. Paul's Eye and Ear Hospital, and St. George's Hospital for Skin Diseases. These hospitals contain in all 840 beds. During the twelve months ended December 31st, 1904, the number of patients admitted to the hospitals was 9 428; the out-patients who attended during the year numbered 83,677. The object of the scheme of co-operation which these hospitals have adopted is that of utilizing to the greatest advantage the large amount of valuable material which they contain. The regulations which govern this co operation have received the approval of the University. The full prospectus may be obtained on application to the Honorary Medical Secretary, Mr. Keith Monsarrat, 11, Rodney Street, Liverpool. The hospitals are so situated as to be easy of access from the University and from one another. While holding the appointments of Medical Clerk and Surgical Dresser students are not permitted to transfer their attendance from one hospital to another during term, but during the fifth year the courses of instruction at all the hospitals are open to them. Clinical Clerks and Dressers to in-patients and to out-patients are appointed at the beginning of each session. In each of the three general hospitals senior students are appointed to accident duty, and while holding this appointment they are provided with board and lodging in the hospital. Students are appointed assistants in the clinical laboratories and to the pathologists at the different hospitals, and during the fifth year act as clinical clerks in the special hospitals or in the special departments of the general hospitals. Medical and surgical tutors are appointed annually in the three general hospitals. There are eleven House-Physicians and Surgeons in the general hospitals, two at £100 per annum, two at £80, two at £70, and five at £60. Resident Medical Officers are also appointed from time to time in the special hospitals. *Fees:*—Perpetual ticket for hospital practice, including clinical lectures, £26 5s.; three months' hospital practice, £4 4s.; six months £6 6s.; twelve months £10 10s. The school is recognized by the Universities of Oxford, Cambridge, London, and Liverpool, and by the Conjoint Boards in England and Scotland.

Eye and Ear Infirmary, Myrtle Street.—The infirmary contains 65 beds. Evening courses of Lectures on Refraction and Medical Ophthalmoscopy and Diseases of the Ear are delivered at this infirmary during the winter months by the honorary medical staff. Students of medicine of Liverpool University have free access to the practice of the infirmary. Out-patient dresserships may be obtained on application to the Secretary of the Medical Board. The infirmary is recognized by the Conjoint Board as a teaching institution.

Liverpool Infirmary for Children.—During the building of a new hospital of 100 beds, the work of the infirmary is being carried on in temporary quarters with 18 beds. In-patients (1904), 313; new out-patients, 13 124; attendances, 63,916; the new out-patient department was opened in January, 1903. The practice of the hospital is free to students, and clinical instruction is given by the medical and surgical staff. The hospital is affiliated to the United Hospitals Clinical School. For further particulars apply to the Secretary of the Medical Board.

MANCHESTER.

In addition to the Royal Infirmary (see page 499) facilities for clinical instruction are afforded at the following hospitals:

Manchester Children's Hospital, Pendlebury.—The hospital at Pendlebury contains 168 beds, and 24 beds at the Convalescent Home, St. Anne's-on-the-Sea. The medical staff see out-patients daily at the Dispensary, Cartside Street, at 9 30 a.m., and visit the hospital at 10 a.m. and 5 p.m. The practice of the hospital and dispensary is free to students accompanying the medical staff.

Royal Eye Hospital.—The hospital contains 110 beds. The medical staff attend daily from 9.30 to 11. Clinical instruction is given to students. Further particulars can be obtained from the Secretary, Mr. W. S. Prophet.

St. Mary's Hospital for Diseases of Women and Children (now amalgamated with the Manchester Southern Hospital and the Manchester Maternity Hospital, under the title of the St. Mary's Hospitals).—One hundred beds, including 33 for the reception of lying-in cases, especially those attended with difficulty or danger. In the out-patient departments students are taught the various methods of examination and diagnosis, and the use of gynaecological apparatus, while in the wards they have an opportunity of becoming familiar with the diagnosis and treatment of graver cases, and of witnessing more important gynaecological operations. The number of maternity cases attended annually is over 3 000 A student attends his first five cases under the immediate supervision of the House-Surgeon and Resident Obstetric Assistant Surgeon. The hospital possesses a library, presented by the late Dr. Radford, consisting of nearly 5,000 volumes, chiefly on subjects connected with obstetrics and gynaecology. There is also a museum, containing a large number of pathological specimens, and a valuable collection of deformed pelves, casts, obstetric instruments, and anatomical models. The gynaecological practice of the hospital is free to fourth and fifth years' students. The fee for the midwifery practice, which includes attendance upon 20 cases of labour, as required by the examining bodies, is £2 2s. Application must be made to the Secretary at the hospital. In the New Hospital recently opened accommodation has been provided for resident students at a cost of £1 11s. 6d. per week for board and residence for the term of three weeks.

Manchester Northern Hospital for Women and Children.—The hospital is situated in Cheetham Hill Road, near the centre of the town, and contains 67 beds. Out-patients are seen daily at 8.30, and the wards are visited at 9 a.m. Secretary, Mr. Hubert Teague, Barton Arcade, Manchester.

NEWCASTLE-ON-TYNE.

Hospital for Sick Children.—There are 70 beds in the hospital, besides an isolated block for infectious and doubtful cases. There is a large out-patient department. The practice of the hospital is open free to all students or qualified practitioners. The number of in-patients in 1904 was 609. The out-patient department is carried on in buildings recently erected in the central part of the city, which are being at present extended at an outlay of £10,000. The number of out-patients in 1904 was 14 220, with 25 125 attendances.

Infirmary for Diseases of the Eye.—This hospital contains 20 beds. Its out-patients number 5,800 annually. Clinical instruction is given daily from 11 a.m. to 1 p.m.

SHEFFIELD.

Jessop Hospital for Diseases of Women.—The number of beds is 72; in the Diseases of Women Department 54, and in the Maternity Department 18. Students can attend the practice of the hospital, and be supplied with cases of midwifery. (See also p. 500.)

BATH.

Royal United Hospital.—The hospital contains 130 beds, and is recognized by the Royal Colleges of Physicians, Surgeons, etc., and licensed for dissections. It contains a library and an excellent museum, in which are a large number of interesting specimens, both in Pathology and Comparative Anatomy. Fees for attendance: Twelve months, £10 10s.; six months, £5 5s. (Temporary pupils can also, by permission of the honorary staff, attend the practice of the hospital by the payment of £1 1s. for each month.) Instruction in Practical Pharmacy for three months, £3 3s. For further particulars apply to the Secretary, Mr. J. M. Sheppard, F.C.I.S.

BIRMINGHAM.

Birmingham and Midland Hospital for Skin and Urinary Diseases.—The practice of the hospital is open to medical students who have passed their anatomical and physiological examinations, and to registered medical practitioners. The fee for a course of three months is 5 guineas. Further particulars may be obtained from the Secretary at the hospital.

BRADFORD.

Bradford Royal Infirmary.—The hospital contains 220 beds. Non-resident pupils are received, and have every opportunity of acquiring a practical knowledge of their profession under the superintendence of a House-Surgeon and House-Physician. One year's attendance is recognized by the Examining Boards. *Fee:* Perpetual, £10 10s.

BRIGHTON.

Sussex County Hospital.—The hospital contains 190 beds (130 surgical, 60 medical), with separate wards for children and separate blocks for diseases of women and for cases requiring

isolation; and the Out-patient Department is attended by 1,100 to 1,300 patients weekly. It is recognized by the College of Surgeons and by the Conjoint Board as a hospital where part of a course of Dispensing may be taken. Pupils are admitted to the clinical teaching at a fee to be agreed upon. Further information may be obtained from the House-Surgeon.

CANTERBURY.

Kent and Canterbury Hospital.—The hospital contains 104 beds. Over 700 in-patients and 1,200 out-patients attend every year. Lectures are delivered weekly during term time to the students of St. Augustine's Missionary College on Practical Medicine by Dr. Gogarty, and on Surgery by Mr. T. W. Reid.

DERBY.

Derbyshire Royal Infirmary.—The Infirmary will accommodate 225 patients. Pupils are admitted to the practice of the Infirmary at £10 10s. a year.

DEVONPORT.

Royal Albert Hospital.—The hospital contains 52 beds, and 6 additional for emergency cases only. A course of Practical Pharmacy is given by the Dispenser on payment of a fee of £5 5s; pupils of the medical staff can attend this course on payment of £2 2s. The number of in-patients in the twelve months ended September 30th, 1904, was 663. In the Casualty Department first aid was given to 2,009 persons, to 453 of whom further treatment was afforded.

EDINBURGH.

Royal Victoria Hospital for Consumption.—Excellent opportunity is afforded for the clinical study of Diseases of the Chest. Special clinics by the staff are arranged from time to time, both in the hospital itself, which contains over 50 beds and in the extensive outdoor department, which has its head quarters in Lauriston Place, close to the University. The number in attendance at these clinics is limited. The fee is £2 2s. for a few weeks' course. Application for places has to be made some time in advance. Two medical appointments in connexion with the hospital are vacant every six months: (1) Resident Physician; (2) Non-resident Clinical Assistant for the outdoor department. The vacancies occur usually in April and October.

Royal Edinburgh Hospital for Sick Children.—The hospital stands in Sciennes Road, about seven minutes' walk from the Medical School and Royal Infirmary, contains over 110 available beds, and is fitted with modern improvements. There are some 1,600 in-patients and 25,000 out-patients yearly. No cases of infectious disease are admitted. The out-patient department (medical and surgical) is conducted in a building adjoining the hospital, and is well equipped. Systematic clinical courses of instruction, at a fee of £2 2s., which qualify for the University and other examinations, are given at various times throughout the year by the ordinary physicians and surgeons. Students may enter at any time. A limited number of clinical clerkships are available, and four resident appointments are made half-yearly. The Registrar of the hospital, Dr. James Burnet, will supply particulars.

Edinburgh Eye, Ear, and Throat Infirmary.—Open daily at 6, Cambridge Street, at 1 p.m., for Eye Diseases; on Monday, Thursday, and Saturday at 12 for Ear Diseases; on Tuesday and Friday at 4 for Throat Diseases. There is a small infirmary of six beds in male and female wards. In-patients, 190; out-patients, 2,800. Fee for three months, £2 2s.

Edinburgh Royal Maternity and Simpson Memorial Hospital has 40 beds, about 360 in-patients and 600 out-patients yearly. Daily clinics are given by the physicians and assistant physicians. Two House-Surgeons are appointed for each quarter. The Milne Murray Home in connexion with the hospital is a residence for students taking their midwifery practice. *Fees:* The hospital fee is £4 4s. per month, and the residency fee 25s. per week. There is meanwhile accommodation for twelve students. The intern and extern practice of the hospital is reserved for the students in residence.

Edinburgh City Hospital for Infectious Diseases at Colinton Mains contains 600 beds, a large number of which are available for teaching purposes. Qualifying courses of instruction are given by the Consulting Physician, Dr. J. O. Affleck, and the Medical Superintendent, Dr. Claude B. Ker, during the winter and summer sessions. The fee is £1 1s. 2,000 patients.

Royal Asylum, Morningside, Edinburgh.—There is a clinical field of 500 beds, comprising all the wards except those for private patients. Students have the opportunity of personally coming in contact with and examining the cases, so as to learn the modes of dealing with patients suffering from mental disease: they are exercised in diagnosis and the drawing up of certificates, the aim being to enable them to recognize its early stages, to distinguish its varieties, to adopt suitable treatment, and to advise the relatives as to sending the patient to an asylum. The course extends through the last month of the winter session and the most of the following summer session, and the fee is £2 2s. Dr. Clouston is the Lecturer on Insanity for the University of Edinburgh.

EXETER.

Royal Devon and Exeter Hospital.—The hospital contains 214 beds, including a Special Children's Ward. There are a Library, Museum, and *Post-mortem* Rooms. Attendance on the practice at this hospital qualifies for all the Examining Boards. Arrangements may be made by which students can attend Midwifery. For further particulars apply to the House-Surgeon.

West of England Eye Infirmary.—This infirmary contains 64 beds. Arrangements can be made for students of the Exeter Hospital to attend the practice of the Eye Infirmary.

GLASGOW.

Royal Hospital for Sick Children.—This hospital, containing over 100 beds (26 of which are at the country branch at Drumchapel) for the non-infectious diseases of children, is open for clinical instruction, as is the dispensary or out-patient department. Students, by paying the fee of £1 1s., are entitled to the practice of the hospital and dispensary for twelve months from the term of entry. In patients, 1,000; out-patients, 9,866. Further particulars may be had by applying to the Resident Medical Officer, 45, Scott Street, Garnethill. The Dispensary is at 11, West Graham Street (within 3 minutes' walk of the hospital).

Glasgow Western Infirmary.—This hospital adjoins the University of Glasgow. Number of beds, 416. The Clinical Courses are given by the Physicians and Surgeons, each of whom conducts a separate class, and students may attend whichever they select at the beginning of the session. Special instruction is given to junior students by tutors or assistants, and Clinical Clerks and Dressers are selected from the members of the class. Special wards are set apart for Diseases of Women and for Diseases of the Skin. In the Out-Patient Departments there are special clinics for Diseases of Women and for diseases of the Throat, Ear, and Teeth. All the courses of clinical instruction are recognized at the University of Glasgow and other Boards in the kingdom. Nine Resident Assistants are appointed annually without fee from those who have completed their course. *Fees*.—(1) Every Student shall pay a fee of £10 10s. for hospital attendance, and this shall be kept quite apart from the fees for clinical instruction. (2) Every Student shall pay £2 2s. for each summer, and £3 3s. for each winter session of clinical instruction, or such other fees as may be fixed from time to time by the managers in conjunction with the University Court. (3) Students who have completed their clinical course elsewhere shall be permitted to enter for a six months' course of the hospital only, on payment of a fee of £2 2s. In-patients, 6,132; out-patients, 22,010.

Glasgow Eye Infirmary.—This infirmary is situated at 174, Berkeley Street, and 80, Charlotte Street, and has 100 beds. Dispensaries open daily at 1 p.m. Operations performed on Monday, Wednesday, and Friday, at 2 p.m. Fees for six months, 1 guinea. In-patients, 1,824; out-patients, 22,207.

LEICESTER INFIRMARY.

In this infirmary there are 240 beds, of which some 220 are in constant use. Of these beds, 42 are in a special annexe known as the Children's Hospital. There are five resident medical officers, and in addition two resident dressers are appointed every six months. The latter receive an honorarium of £10 at the end of their term of office. The work of the hospital, especially on the surgical side, is very extensive, four operating theatres being in use. There is also a large out-patient department; it is fitted with rooms for the accommodation of the members of the staff in charge of the various special departments, and may be regarded as one of the most complete in the kingdom. The opportunities for study are therefore great.

GLOUCESTER.

General Infirmary and Gloucestershire Eye Institution.—The hospital contains 150 beds. Resident and non-resident pupils

are admitted by the General Committee on the recommendation of a member of the Medical Board. Each pupil pays in advance £10 for the first half-year, and £5 for every subsequent quarter, or portion of a quarter, of a year. Each resident pupil has board and lodging in the house, for which he pays in advance 26 guineas for the first half-year, and 13 guineas for every subsequent quarter, or portion of a quarter, of a year. Each pupil pays in advance to the House-Surgeon a fee of £5 5s. for instruction, and a further fee of £3 3s. for every subsequent year or portion of a year. One year spent at this hospital, after passing a preliminary examination, is recognized by the Royal College of Surgeons.

LINCOLN.

County Hospital.—The hospital contains 125 beds and 5 isolation beds. The House-Surgeon is allowed to take two pupils, on terms arranged between the Weekly Board, himself, and the pupils. A fee of not less than £10 10s. is paid by every pupil to the hospital. The House-Surgeon is responsible for the conduct of his pupils. The pupils remain in the hospital only when occupied in performing or observing the actual work of the hospital.

NORWICH.

Norfolk and Norwich Hospital.—The hospital contains 220 beds. Students (non-resident) are admitted according to the following scale: For three months, £3 3s.; for six months, £5 5s.; as permanent students, £8 8s. The resident officers are a House-Physician, House-Surgeon, Assistant House-Surgeon, and Second Assistant House-Surgeon.

NORTHAMPTON.

General Hospital.—There are 174 beds and a large out-patient department. Out-pupils are received, and have every opportunity of acquiring a practical knowledge of their profession. Instruction is also given in Anatomy, Materia Medica, and Pharmacy. Non-resident pupils are taken at a fee of £10 10s. annually.

NOTTINGHAM.

General Hospital.—The hospital contains 241 beds. The Honorary Staff introduce pupils to witness the practice of the hospital on payment of £10 10s. annually in advance. The pupils receive instruction from the Resident Medical Officers.

PORTSMOUTH.

Royal Portsmouth Hospital.—122 beds. One year's attendance is recognized by the Examining Boards. For particulars as to fees apply to J. Stephen Neil, the Secretary of the Committee of Management.

SOUTHAMPTON.

Royal South Hants and Southampton Hospital.—This institution was established in 1838. The out-patients' building was erected in 1887. The number of beds is 130. The in-patients number about 1 600 a year, the out-patients about 6,500. Large additions to buildings, including new isolation wards, new operating room, a new ward block, and a steam laundry, and new night casualty receiving room and nurses' home for 44 nurses have just been completed. The hospital has been registered by the Royal Colleges of Physicians and Surgeons as a "Medical School."

STAFFORDSHIRE.

Staffordshire General Infirmary.—There are 75 beds. The pupils of medical practitioners resident in the county of Stafford are allowed to witness the medical and surgical practice of the infirmary, and to be present at operations. The pupils of the officers of the institution are admitted to these privileges gratuitously, those of other practitioners on the payment of £10 10s. with each pupil.

North Staffordshire Infirmary and Eye Hospital.—The Infirmary has accommodation for 216 patients, including children's wards, eye department, and special ovarian wards, electrical and *x*-ray departments. The attendance of pupils at this infirmary is recognized by all the Examining Boards. Particulars as to fees, etc., may be obtained from the Secretary and House Governor, Mr. Albert E. Boyce, Hartshill, Stoke-on-Trent.

WINCHESTER.

Royal Hants County Hospital.—The hospital contains 108 beds. The Physicians and Surgeons are allowed to introduce a certain number of pupils; the Resident Medical Officers may also receive a pupil, for whose maintenance a certain sum, to be fixed by the Committee, is payable annually in advance. Pupils of medical men not on the staff of the hospital may, with the consent of the Committee, become out-pupils, and see the practice of the hospital, under the direction of the Resident Medical Officer, on the payment of £10 10s. for one year, or £21 for unlimited attendance.

WOLVERHAMPTON.

Wolverhampton and Staffordshire General Hospital.—There are 230 beds. It is recognised by the University of London, the Royal Colleges of Physicians and Surgeons, and other examining boards. The in-patients number 2,382 and out-patients 10 608. The operating theatre, pathological laboratory, and *post-mortem* room are new and well equipped. Special departments for children, gynaecology, ear, throat, and nose diseases, electro-therapeutic and *x*-ray departments. There is an excellent library. The resident officers are a house-physician, house-surgeon, assistant house-physician, and assistant house-surgeon. Pupils are allowed to witness the whole of the practice of the hospital and to be present at operations, and have every opportunity of acquiring a practical knowledge of their profession. Fees: £3 3s. a quarter, £10 10s. the first year, and £5 5s. subsequent years. A course of practical pharmacy is given by the dispenser. Fees, £3 3s. for three months. Application should be made to the Secretary of the Medical Committee Staff.

YORK.

York County Hospital.—The hospital contains 150 beds, including children's ward, eye department and *x*-ray apparatus. Non-resident pupils may be introduced by the Honorary Medical and Surgical Officers, or by the Resident Staff (which consists of a House-Physician and a House-Surgeon) on terms to be arranged with the Honorary Staff. Pupils visit the wards with the members of the Honorary Staff (the House-Physician and House-Surgeon are present at the operations and *post mortems*), and are instructed in the elements of minor surgery by the House-Surgeon in the casualty department. The in-patients number about 1,400 annually, and the out-patients 11,000, who make 44,000 attendances. Further particulars may be obtained from the Senior Resident Officer.

INSTRUCTION IN PRELIMINARY SCIENCES.

THE following institutions are recognized by the Conjoint Board in England for instruction in chemistry, including chemical physics, practical chemistry, and elementary biology. Certificates for Biology will only be accepted from those institutions marked with an asterisk.

Aberystwith.—*University College of Wales.
Banbury.—Municipal Technical Schools.
Bangor.—*University College of North Wales.
Bath.—*Kingswood School.
Bedford.—Grammar School: Modern School.
Berkhamsted.—Berkhamsted School.
Birkenhead.—Holt Schools of Science and Art.
Blackburn.—*Stonyhurst College; Municipal Technical School.
Blaenau Festiniog.—County School.
Bolton.—Central Higher Grade Board School.
Bradford.—*Grammar School; *Bradford Technical College.
Brighton.—*Municipal School of Science and Technology.
Bristol.—*University College; *Merchant Venturers' Technical College; Bristol Grammar School.
Bursiem.—Wedgewood Institute.
Bury.—Bury Grammar School.
Canterbury.—Simon Langton's Schools.
Cardiff.—*University College of South Wales.
Cheltenham.—Cheltenham College.
Clifton, Bristol.—Clifton College.
Cranbrook.—Cranbrook School.
Derby.—*Municipal Technical College.
Devonport.—Municipal Science, Art, and Technical Schools.
Dulwich.—*Dulwich College.
Epsom.—*Epsom College.
Eton.—*Eton College.
Exeter.—*Royal Albert Memorial College.
Felsted.—*Felsted School.
Godalming.—*Charterhouse School.
Grimsby.—Municipal College.
Halifax.—Municipal Technical School.
Hanley.—Municipal Secondary School.
Harrow.—*Harrow School.
Huddersfield.—*Technical School.
Hull.—Municipal Technical School; *Hymer's College.
Leeds.—Institute of Science and Art.
Leicester.—Wyggeston School; Municipal Technical and Art School.
Liverpool.—*School of Science, Technology, and Art.
London.—*The Department of Science and Art, South Kensington.
" City of London School.
" *St. Paul's School, West Kensington.
" *Pharmaceutical Society.
" *Birkbeck Literary and Scientific Institute.
" *South-West Polytechnic Institute, Chelsea.
" *City of London College.
" Polytechnic Institute, Regent Street.
" *Polytechnic Institute, Battersea.
" *Northern Polytechnic Institute, Holloway.

London.—East London Technical College, People's Palace.
" Mercer's School, Holborn.
" St. Olave's Grammar School, Tooley Street, S.E.
" Merchant Taylors' School.
" Technical Institute, Wandsworth.
" Highgate School
" Central Foundation Boys' School, Cowper Street, E.C.
" Municipal Technical Institute, West Ham.
Manchester.—Municipal Technical School.
Marlborough.—Marlborough College.
Middlesbrough.—Middlesbrough High School.
Newcastle-upon-Tyne.—*Durham College of Science; *Rutherford College
Norwich.—Higher Grade Board School; Technical College.
Nottingham.—*University College
Oldham.—Municipal Technical School.
Oundle.—Oundle School.
Plymouth.—*Science, Art, and Technical School.
Portsmouth.—Grammar School.
Preston.—Harris Institute.
Reading.—*Reading College: Reading School.
Rochdale.—Municipal Technical school.
Rochester.—Mathematical School
Rossall, near Fleetwood.—Rossall School.
Salford.—Royal Technical School.
Sherborne (Dorset).—Sherborne School.
Southampton.—*Hartley College.
Southend.—Technical School.
Stoke-upon-Trent.—School of Science and Art.
Stourbridge.—King Edward's School.
Swansea.—Municipal Technical School.
Swindon.—Swindon and North Wilts Technical School.
Tonbridge.—*Tonbridge School.
Towyn (Merionethshire).—Intermediate County School.
Uppingham.—*Uppingham School.
Walsall.—Municipal Science, Art, and Technical School.
Winchester.—Winchester College.

Cape Town.—*South African College.

MEDICAL EDUCATION OF WOMEN.

QUALIFICATIONS FOR FEMALE PRACTITIONERS.

Degrees, Diplomas, and Schools.

The qualifying bodies in the United Kingdom which admit women as candidates for their degrees or diplomas are as follows: The Universities of England, with the exception of the Universities of Oxford and Cambridge, the Universities of Scotland, the Royal University of Ireland, and Trinity College, Dublin; the Society of Apothecaries, London, and the Conjoint Boards of the Royal Colleges of Physicians and Surgeons of Scotland and Ireland. Women candidates for qualification are subject to the regulations of the General Medical Council as to education and examinations in precisely the same manner as men.

The Schools of Medicine which provide a medical education for women only are the London (Royal Free Hospital) School of Medicine for Women (University of London), the Edinburgh Medical College for Women, and Queen Margaret College, Glasgow. Women are also admitted to the Schools of Medicine conducted in connexion with the Universities of Dublin, Durham, Liverpool, Manchester, Birmingham, Leeds, Sheffield, and Aberdeen; the Catholic University, Dublin, Bristol University College, and also to special classes at the School of Medicine of the Royal Colleges, Edinburgh; the Schools of Surgery of the Royal College of Surgeons in Ireland, and of the Queen's Colleges of Belfast, Cork, and Galway. Students of the University of Glasgow receive their education at Queen Margaret College, which is an integral part of the University. Two years only of the medical curriculum can be taken at the United College, St. Andrews; the remaining three years are taken at University College, Dundee, where the whole five years can be passed if desired. Women can also attend classes for the first three years of the medical curriculum at University College, Cardiff.

Some further particulars as to the London (Royal Free Hospital) School of Medicine for Women will be found on page 497, but intending students should write to the Secretary of the School, 8, Hunter Street, Brunswick Square, London, W.C. The prospectus of this School contains an article of advice to students which will be found very useful.

POST-GRADUATION STUDY.

One result of the enormous growth of medical and surgical science and art in recent years is that a practitioner who is unable to keep himself practically acquainted with the details of that growth finds himself after a while at a decided disadvantage. The facility with which he gets through his ordinary every-day work may deceive a man for a time into thinking that he knows all he need, but, sooner or later, if his mind is at all awake, he must become conscious that he is behind the times. He finds that other men around him, carrying on the same line of practice, are employing methods of treatment of which he knows nothing, and instruments of which he barely knows the names; and moreover, that when he meets them in consultation or elsewhere they regard diagnosis and prognosis in the light of knowledge which is not shared by himself. Apart from this, it is of importance to remember that it is chiefly by keeping the mind in a receptive condition that it is best able to utilize knowledge already acquired, since the reception of even one new idea often causes links of association to form with many others, and so increases the professional power of the practitioner. Moreover, there are many special departments of medicine and surgery of which medical students are not required by the regulations of examining bodies to make any very profound study; in after-life, however, when they have left examinations behind them, and have settled down in practice, they often find themselves so placed that more knowledge of some one or other speciality would be of the greatest advantage to them. Dexterity, for instance, in the use of the ophthalmoscope, the laryngological mirror, the aural speculum, or in the performance of minor operations may not only lead to a man's assistance being sought by other practitioners, but enable him in his own practice and with entire justice to the interest of his patients, to dispense in a great many cases with the services of a consultant. Such extra knowledge may often be acquired at a very small expenditure of time and pains, and yet bring in a hundredfold return. Besides this there are certain new branches of study, of which the medical practitioner who desires to do justice alike to himself and to his patients should at least know something. For instance, *x*-ray and other forms of electrotherapeutic work are assuming greater and greater importance; and though it would scarcely be advantageous that a man in general practice should attempt to undertake them himself, it is desirable that he should have sufficient acquaintance with their principles and possibilities to be able to answer questions and advise his patients in respect of them.

Finally, there is in post-graduate study the very important advantage that, by having his mind brought into contact with those of other progressive students of medical science, the inevitable tendency of the isolated worker to fall into mental ruts and to come under the dominion of fixed ideas is counteracted.

Not altogether unsuccessful efforts have been made of late years to obtain practical recognition of the force of these considerations in the case of officers of the army and navy, and it rests with other classes of medical practitioners to apply them to themselves. They have done so of late years with increasing frequency, with the result that the demand for facilities for post-graduate study has been met in the ways of which details are given below. By those medical men who are unable to keep in touch with medical schools or get into touch with post graduate courses, a persevering effort may be made to keep their medical capital in a steadily-growing state by means of recent book and magazine literature alone. In this connexion, in particular, reference may here be made to the many valuable libraries open to medical men. In London the library of the British Medical Association is conveniently situated, and is especially rich in recent works; the superb library of the Royal College of Surgeons in Lincoln's Inn Fields is courteously opened to all practitioners who go through the formality of obtaining a card of introduction from a Fellow or Member; the library of the British Museum is also available on easy conditions; the library of the Royal Medical and Chirurgical Society may be consulted after obtaining an introduction from a Fellow, and the library of the Royal College of Physicians may be utilized after complying with certain easy conditions. Outside London there are valuable libraries in connexion with the universities, and others of great value, such as that of the Royal College of Physicians of Edinburgh, to which recourse may be had by suitable persons.

London.

In London there are four main types of organized instruction available for qualified men. (1) The London Post-Graduate Association has established a system by which cards of admission are issued giving the right to the bearer to avail himself of the clinical instruction of the majority of the

teaching and of a great many special hospitals. At the former the post-graduate is present at the demonstrations given to ordinary students, but at the latter those who attend are principally qualified men. (2) There is the excellent arrangement made by the London Polyclinic by which cases of interest and rarity are examined and demonstrated in consultation with some of the leaders in the profession; in connexion with it a number of practical classes are conducted, which cover all branches of medicine and surgery. (3) Certain general hospitals throw open and limit their practice to qualified men, and at some of them post-graduate medical schools have been organized to meet the requirements of their visitors. Among the latter may be mentioned the West London Post-Graduate College, associated with the West London Hospital in Hammersmith Road, W.; and the North-East London Post-Graduate College, associated with the Tottenham Hospital, at South Tottenham, N. (4) Clinical assistants are appointed in many of the special hospitals of the metropolis, such as the Brompton Hospital for Consumption and Diseases of the Chest, the Great Ormond Street Hospital for Sick Children, the National Hospital for the Paralysed and Epileptic, the Royal London Ophthalmic Hospital, the Golden Square Hospital for Diseases of the Throat, the Bethlem Royal Hospital, the Blackfriars Hospital for Skin Diseases, the Chelsea Hospital for Diseases of Women, and several others.

London Post-Graduate Association.

This Association continues to fill very well the purposes for which it was established, and to those who desire to keep up to date in their clinical work it offers excellent opportunities. The Association is now so well known that it is scarcely necessary to point out that one ticket admits the holder to the Clinical Instruction in the Wards and Out-patients' Departments, the Operations, Necropsies, etc., of the following hospitals:—*General:* Charing Cross, Guy's, King's College, Middlesex, St. George's, St. Mary's, St. Thomas's, University College and Westminster. *Special:* The Brompton Hospital for Diseases of the Chest, the Hospital for Sick Children (Great Ormond Street), the London School of Tropical Medicine, the National Hospital for the Paralysed and Epileptic; the Royal London Ophthalmic Hospital. The wealth of clinical material in London is enormous, and in this way it is thrown open for the very reasonable fee of 50 guineas for a three months' course, or 15 guineas for six months. Particulars may be obtained from the Secretary, the London Post-Graduate Association, Examination Hall, Victoria Embankment, London, W.C., by writing, or personally between the hours of 11.30 and 1, and 2 and 3, except on Saturdays.

London Medical Graduates' College and Polyclinic.

The London Medical Graduates' College and Polyclinic, which was opened in May, 1899 has already attracted to itself large classes of practitioners, and its success fully justifies its foundation.

The College, which occupies premises formerly used as a High School, is situated in central London, being at the corner of Chenies and Ridgmount Streets, about 50 yards to the west of Gower Street. The building, with the additions now completed, is sufficiently commodious for all present purposes.

In the basement is a dark room, against the walls of which are placed 12 seats, each separated from the adjoining one by a partition, and each having its own electric light that can be used in varying strength, naked or shaded. In this room twelve patients can be examined simultaneously, but separately from each other, with the ophthalmoscope, laryngoscope, or other instrument of precision, and their indications demonstrated. An adjoining room is fitted with appliances for instruction in ophthalmic cases, such as type tests, working models of eyes, stereoscopes, lenses, etc.

The ground floor contains class-rooms, which are furnished with black boards and various other appliances for clinical instruction. In one of them is a large and powerful Roentgen-ray apparatus, which is frequently requisitioned in the diagnosis of fractures and deformities. For special occasions the partition dividing one room from the other can be removed, and the two rooms thus united form a class-room of fine proportions.

The first floor is occupied by the library, reading room, and consultation theatre.

The third floor contain an excellent laboratory for bacteriology and chemical pathology, each table having its Bunsen burner, set of reagents, test tubes, etc.

There is a lift to all the floors, and the whole College is fitted with electric light everywhere. At the side of the building is a museum, which is devoted to clinical illustrations; portraits and models of diseased conditions find their place there, and the newest medical and surgical instruments and appliances of all kinds, which can be examined at any time, form a marked feature of this department of the College. The museum has been enriched by a unique collection of valuable pictures of disease, especially skin disease, most of which are painted from life, together with many other specimens of rare clinical value, which have been placed at the service of the Polyclinic by Mr. Jonathan Hutchinson, F.R.S., and the museum has been appropriately named after him—the Hutchinson Museum.

One chief method of instruction provided for the medical men attending the classes is the system of consultations taking place every afternoon. These afford opportunities of studying exceptional forms of disease by the most recent methods of diagnosis. Notes are taken of the cases, and are supplemented on occasions by photographs or other portraits of the rarer morbid conditions.

Lectures on Medicine, Surgery, and their allied subjects are delivered on Mondays, Tuesdays, Wednesdays, and Thursdays at 5.15 p.m. Four sessions of Practical classes, each of six weeks' duration, and a Vacation course of three weeks in September are held during the year. Tutorial classes are also held for gentlemen reading for the higher qualifications.

Full particulars may be obtained from the Resident Superintendent, 22, Chenies Street, W.C.

West-London Post-Graduate College: West London Hospital.

The West London Hospital was the first general hospital in London to organize a systematic scheme for post-graduate teaching, and to devote the clinical material in its wards and out-patient department solely to the instruction of qualified men. The College was started in 1895, and three years later its basis was enlarged by the provision of accommodation for the post graduates in the shape of lecture, reading, and writing rooms, etc., while, owing to the continued growth of the College, these were transferred in 1901 to a building especially constructed for the purpose.

Upwards of 1,000 post-graduates have been enrolled since its establishment, the yearly entry being now about 200.

The hospital, which contains 159 beds, is in the main road, about three miles from Hyde Park Corner; it is within two minutes' walk of the Hammersmith stations of the Metropolitan, the District, and the South-Western railways; it is within ten minutes' walk of Kensington (Addison Road) Station, and twelve minutes' walk of the Shepherd's Bush Station of the Central London Railway; and omnibuses pass the door from Liverpool Street, King's Cross, Charing Cross, Piccadilly, Barnes, and Chiswick. Electric cars from Hampton Court, Twickenham, Hounslow, Uxbridge, Ealing come close to the hospital.

The Physicians and Surgeons attend daily at 2 30 p.m. Post graduates accompany the staff on their visits to the Wards.

Instruction is given in the Out-Patient Department daily at 2 15 p.m. by the Assistant Physicians and Assistant Surgeons. The Out-Patient Department has recently been enlarged, and there is now ample accommodation for post-graduates to see and examine the patients.

There are Special Departments for the Diseases of the Eye, the Ear, Throat and Nose, the Skin, for Diseases of Women, Medical Diseases of Children, and for Orthopaedic Surgery, Medical Electricity, and for x-ray work. Clinical Assistants are appointed from among the post graduates. Practical Classes for instruction in these subjects are held as required. They are limited in number, and each member has opportunities of gaining experience in the methods of examination and treatment. Classes are also held in Tutorial Medicine, Intestinal Surgery, Surface Anatomy, and Clinical Examination of Blood and Urine.

Operations are performed daily at 2.30 p.m. Post-graduates are allowed to stand close to the table, and can see the operations perfectly. The surgeons often avail themselves of the assistance of post-graduates at operations.

Instruction is given in the administration of anaesthetics by the Anaesthetists on the operating days, and post-graduates will be allowed to administer anaesthetics under their superintendence. Special Classes are also held each

session; each member will have opportunities of administering several different anaesthetics.

Post-mortem examinations are performed at 1.30 p.m., and Demonstrations on recent Pathological Specimens are given on Mondays at 12 noon during each session, in the Pathological Laboratory.

Post-graduates also visit the wards in the morning with the House-Surgeons and House-Physicians; they also often render assistance to these officers in the Casualty Department.

Practical lectures and demonstrations are given each afternoon (except Saturdays) at 5 p.m. during the session. Included in this course are lectures by outside specialists on Mental Diseases and on Public Health, and in connexion with the former instruction is also given in certain asylums.

The practice of the Hospital is well adapted to the needs of medical officers of the Royal Navy and officers of the Indian Medical Service who have obtained leave for further professional study, and the certificate of attendance at the College during such leave is recognized by the Admiralty.

The Pathological Laboratory has just recently been completely reorganized and placed in the hands of the Pathologist, Dr. Candler, who attends there during the whole day. Post-graduates are given instruction in Bacteriology and Microscopy. A Special Class meets on three mornings a week from 11 to 1, and post-graduates joining the class can work in the laboratory at other times under the guidance of the pathologist. A class will consist of twelve meetings, and will commence at the beginning of each month. The fee for this class in Bacteriology and Microscopy, including the use of a microscope, will be £3 3s. for one month, or £5 5s. for two months.

A considerable number of gentlemen have studied at the College previous to presenting themselves for the degrees in Medicine of the Universities of Oxford, Cambridge, London, and Durham, also for the Fellowship of the Royal Colleges of Surgeons of England, Edinburgh, and Ireland.

Arrangements can be made for gentlemen working for these higher examinations to be coached in Medicine, Surgery, etc. Full information will be supplied by the Dean.

The hospital is situated in a pleasant residential neighbourhood, within easy access of the park, the river, etc., and there is no difficulty in getting good lodgings.

A certificate signed by the staff will be given at the end of three months' hospital attendance.

The hospital is connected with the National Telephone Company's Exchange, so that post-graduates can receive messages by telephone when at the hospital. (Telephone, Hammersmith 82.)

Arrangements have been made for providing tea for the post-graduates each afternoon, between the hours of 4 and 6 p.m. Smoking is permitted in the reading and writing rooms.

The fee for the hospital practice, including all ordinary demonstrations and lectures, is £1 1s. for one week, £2 2s. for one month, £5 5s. for three months, £8 8s. for six months, £12 12s. for one year, and £25 for a life ticket; all fees to be paid in advance.

A practitioner who cannot attend the whole course may attend any ten lectures or demonstrations during the session for a fee of £1 1s.

A Vacation Class is held each year in August, the fee being £2 2s. for the course of four weeks, including hospital practice, or a ticket for a fortnight's hospital practice, including the lectures, can be obtained for £1 1s.

The fee for a three months' course of instruction in the administration of anaesthetics is £2 2s.

A ticket for any of the above courses will be issued at any date.

On application to the Dean of the College a full prospectus will be forwarded to any gentleman who holds a medical qualification. All communications to be addressed to the Dean, Mr. L. A. Bidwell, Post-Graduate College, West London Hospital, Hammersmith, W.

NORTH-EAST LONDON POST GRADUATE COLLEGE.

This post-graduate school is established in connexion with the Tottenham Hospital, N. (see p. 508), which is recognized by the University of London as a place of post-graduate study for the M.D. and M.S. degrees. Facilities are there afforded to qualified medical practitioners for taking part in the work of an active general hospital, and for attending demonstrations of various branches of Medicine, Surgery, and Gynaecology, with opportunities for clinical instruction in Diseases of the Eye, Ear, Throat, Nose, Skin, in Fevers, the Diseases of Children, Psychological Medicine, the Administration of Anaesthetics, and Dentistry. Cliniques, Lectures, and Demonstrations are given by members of the teaching staff in the lecture room, in the wards, in the various out-patient departments, and in certain affiliated institutions. Operations are performed every afternoon of the week, except Saturday. Special classes, the attendance at which will be limited, are arranged in Gynaecology, the Surgical Diseases of Children, including Orthopaedic Surgery, Diseases of the Throat, Nose, and Ear, Diagnosis of Diseases of the Chest, Diagnosis of Diseases of the Nervous System, Ophthalmoscopy and Refraction, Analysis of Gastric Contents, Clinical Examination of the Blood, Diseases of the Skin, Abdominal Surgery, Radiography, Anaesthetics, Bacteriology, and Medical Electricity. The fee for a three months' course of study, which may be begun at any time, in any single department, is 1 guinea. A fee of 3 guineas admits to the whole practice of the hospital for a similar term (one month, 2 guineas), and a perpetual ticket for the practice of the hospital may, for the present, be obtained on payment of a fee of 5 guineas. Medical practitioners who have attended a three months' course in any department are eligible for appointment as Clinical Assistants in those departments. A certificate, signed by the staff, may be obtained at the end of three months' hospital attendance. A pathological museum and a pathological laboratory are available. A reading and writing room, containing a reference and lending library, is provided, and tea may be obtained. The hospital is connected with the Telephone Exchange (No. 23, Tottenham). The opening lecture of the Winter Session will be given at the hospital at 4.30 p.m. on October 20th, by Dr. Percy Kidd. Additional information, with a syllabus of lectures, demonstrations, and special classes, may be obtained from the Dean of the Post-graduate College, Dr. A. J. Whiting, 142, Harley Street, W.

UNIVERSITY COLLEGE.

Pathological Chemistry.—At University College, London, Dr. Vaughan Harley, Professor of Pathological Chemistry, holds classes in Pathological Chemistry intended for the advantage of qualified practitioners and advanced students. Each course is practical, and includes demonstrations and lectures on the principal points brought out by analysis in the diagnosis and prognosis of disease. Each member of the class is given the actual material to analyse, and from results obtained is required to make the diagnosis, which is corrected if necessary. Thus each man not only does the ordinary class analysis, but he learns to apply his results to practice. Each course includes the analysis of the saliva, stomach contents, faeces, urine, calculi, and pathological fluids, and in the lectures the chemical changes which occur in disease are fully discussed, and as far as possible explained. The laboratory is open from 9 a.m. to 5 p.m., so that the practical work can be done at the hours most convenient to those attending the class. The next class will commence in October. The fee for the class, including apparatus and material, is £5 5s. A department is also fitted up for research work, and is open to all researchers at the fee of £1 1s. a month. A record of the research work is kept. Several workers have received grants from the Scientific Grants Committee of the British Medical Association.

Department of Clinical Pathology.—The top floor of the west wing of the new hospital is equipped for histological, chemical, and bacteriological investigation of the cases in the hospital.

CHARING CROSS HOSPITAL.

Post-graduate Class and Lectures.—Special series of clinical lectures and practical demonstrations, exclusively arranged for the convenience of practitioners and post-graduate students, are given at the hospital throughout the year. The lectures for the year are arranged in three courses, each course consisting of ten meetings, and lasting ten weeks. Two of these courses are held during the winter and one during the summer. The class meets on each Thursday in the Board room of the hospital, and proceeds thence to the wards or to the department in which the demonstration may be held. The fee at present charged for each course of ten lectures is one guinea. The first of the two winter courses of the ensuing academical year will commence on October 12th next, and will be conducted by the members of the medical and surgical staff. Practitioners wishing to join the class can receive any further information as to the dates and subjects by communicating with the Honorary Secretary of the post-graduate class (Dr. Willcocks) at the hospital.

Cambridge.

Special arrangements for advanced study and research were made in 1896 in the University of Cambridge. Graduates of other Universities may be admitted to the University of Cambridge as advanced students. They may pursue courses of advanced study or research, literary or scientific, under the direction of the University teachers, and may become members of colleges without fulfilling the same conditions as are imposed on junior students. Advanced students may, if they wish, obtain a certificate of proficiency in research, or may proceed to the degree of B.A. or LL.B. under certain conditions. In their third or some subsequent term of residence up to the tenth they may become candidates for certain parts of the Tripos (Honour) Examinations, among others the Natural Science Tripos, Part II. Having satisfied the examiners, and after residence of six terms in all, they are admissible to the degree of B.A. or LL.B. The Certificate of Research may be obtained after residing for three terms (one academical year), and when the student has completed six terms' residence he is admissible to the degree of B.A. The facilities for advanced study and research offered by the University include the University Library and the Philosophical Library, while each of the seventeen Colleges possesses its own Library, as do also the respective Natural Science Departments. The department of Zoology and Comparative Anatomy includes a museum of zoology and a laboratory for animal morphology and elementary biology. The new department of botany contains a comprehensive herbarium and a museum of specimens illustrating the morphology and life-history of plants. There are also laboratories and class-rooms fitted for experimental work, while the Botanic Garden contains a large and varied collection, with numerous plant houses and a botanical laboratory. The department of Human Anatomy contains a spacious dissecting room, a museum osteological room, and a number of rooms for special study and research in anatomy, histology, and physical anthropology; upon the last-named subject special courses of lectures are given. The department of Physiology contains a number of rooms provided with electric light and motive power, and with abundant and complete appliances for all kinds of practical work. Special rooms are set apart for histology, chemical physiology, and experimental inquiries, including psycho-physical researches. The new department of Pathology and Hygiene is well equipped for the study of the processes and results of disease and for bacteriological teaching and investigation. The Humphry Museum contains a fine collection of specimens illustrative of morbid anatomy. The surgical portion is of special importance, and includes a large number of interesting specimens presented by the late Sir George Humphry. The Pharmacological Museum and Laboratory possesses a complete collection of the official materia medica and ample appliances for experimental and chemical research on the nature and uses of medicinal substances. Lectures on clinical medicine and surgery are given at Addenbrooke's Hospital by the staff. The departments of Chemistry and Physics are very completely furnished, and several of the colleges also possess chemical laboratories. Certain scholarships are open, including the John Lucas Walker Studentship for Pathology, the Balfour Studentship for Animal Morphology, and the Coutts Trotter Studentship (at Trinity College) for Physiology and Experimental Physics. Special arrangements for Advanced Students have been made by most of the Colleges. Further particulars may be obtained from the Registrary of the University, the Registry, Cambridge.[1]

Edinburgh.

At various periods of the year graduates may avail themselves of short courses in Diseases of the Chest at the Victoria Hospital for Consumption, and at the out-department of that hospital at 26, Lauriston Place, by Drs. R. W. Philip and G. Lovell Gulland; Diseases of Children by the staff of the Royal Hospital for Sick Children; Surgery in Children by Mr. Stiles at the some hospital; Diseases of Ear, Throat, and Nose, at the Royal Infirmary, by Dr. McKenzie Johnston; on the same group of subjects by Dr. Logan Turner and Dr. Malcolm Farquharson at the Cambridge Street Infirmary; Ophthalmoscopy by Dr. George Mackay, at the Royal Infirmary, and by Dr. W. G. Sym at 6, Cambridge Street; on Infectious Diseases, by Dr. Claude B. Ker, at the City Hospital; Practical Bacteriology, by Dr. Shennan, at Surgeons' Hall, and by Dr. J. T. Grant, at the Lindsay Place Laboratory; Electricity in Medicine and Surgery (with Roentgen rays), by Dr. Dawson Turner, at the Royal Infirmary and Surgeons' Hall; and in Diseases of the Skin, by Drs. W. Allan Jamieson and Norman Walker, at the Royal Infirmary.

Various other courses are from time to time available, and are advertised at the beginning of the winter and summer sessions. The Secretary is Dr. Logan Turner, 27, Walker Street.

Trinity College, Dublin, School of Physic.

During the summer session a three weeks' post-graduate course is given. This course includes instruction in Clinical Surgery and Medicine, Ophthalmology, Diseases of the Throat, the Nose and Ear, Diseases of the Skin, Operative Surgery, X Rays, Anatomy, Pathology, Gynaecology, and Cystoscopy. The fee for this course is £5 5s., and arrangements are made by means of which a limited number of the class can live in College rooms and dine in Hall at a charge of £1 per week. Full particulars regarding the classes can be obtained by application to Dr. Alfred R. Parsons, Hon. Secretary, Lower Fitzwilliam Street, Dublin.

School for the Royal Navy, the Royal Army Medical Corps, and the Indian Medical Services.—With the sanction and support of the Board of Trinity College, a School has been formed to prepare candidates for the above services, and a number of lecturers have been appointed in the various subjects of the Examination. The classes, which are largely practical, include instruction in Clinical Medicine and Surgery, Pathology, Theoretical Medicine and Surgery, Midwifery, Operative Surgery (on the cadaver), Anatomy, and Physiology. The various practical classes meet in the departments of the Medical School, Trinity College, where the lectures are also given. Clinical instruction in connexion with the course is given at one of the Dublin hospitals. The classes are held twice each year. Further particulars and a prospectus of the course may be obtained by application to Dr. C. A. K. Ball, Hon. Secretary, Merrion Square, Dublin.

Belfast.

During the summer session special classes are formed in bacteriology, clinical pathology, pathological neurology, and chemical physiology, and during the winter facilities are afforded to medical men to work at these subjects in the pathological and physiological laboratories. Lectures and demonstrations are given from time to time in the Anatomical Department on the Advanced Anatomy of the Nervous System or some department of applied anatomy.

Miscellaneous Special Departments.

It is not difficult to obtain opportunities for the study of any of the branches of surgery and medicine, either in small hospitals specially devoted to them or in the general hospitals which have special departments for light treatment, laryngology, otology, orthopaedics, etc.

Special arrangements for the study of Laryngology exist in London at St. Bartholomew's, St. Thomas's, Guy's, St. Mary's, Charing Cross, and the West London Hospital; for Otology at the London Hospital and the Royal Ear Hospital; and for both subjects at the Golden Square Hospital, the London Throat Hospital, and the Central London Throat Hospital.

At the majority of the special hospitals, also, a certain number of appointments as clinical clerks or clinical assistants are available. These posts are mostly filled by senior students or newly-qualified men. The field is very large, and the opportunity for gaining technical knowledge is great, as the work is done in connexion with, and under the eye of, a member of the staff. At the children's hospitals, both at Great Ormond Street and at Shadwell, and also at the Evelina Hospital, appointments of this kind can be obtained.

At many other special hospitals clinical practice can be attended, and full particulars will be furnished by the Secretaries to those anxious for opportunities of this character.

[1] *Guide for Advanced Students*, compiled by Dr. Donald MacAlister, tutor of St. John's College, and Linacre Lecturer in Medicine, has been printed by the Cambridge University Press, and can be obtained (price 6d.) from any bookseller.

TROPICAL MEDICINE.

It has, of course, always been recognized that there are many diseases and conditions which are either peculiar to warm climates or at least so prevalent therein as to supply the greater part of the work of a medical practitioner in tropical and subtropical regions. No scientific methods, however, were formerly employed in their investigation, and it was

only by actual clinical experience that any real knowledge of them could be gained.

During the past ten years or more, however, the problems of tropical medicine have occupied some of the brightest minds and most highly-trained laboratory investigators, with the result that progress has been immense and knowledge has been acquired of a sort which can be handed on to others. In addition to this, the importance of the subject has been grasped alike by the medical profession, by commercial firms engaged in tropical enterprise, and by local and home Governments. Consequently, a demand for opportunities of obtaining instruction in tropical medicine arose, and was met by the institution of two schools of tropical medicine, the one at London and the other in Liverpool. Particulars of these schools will be found below, and it is to be noted that not only have they met a demand for instruction from medical men with no knowledge of tropical disease, but they have created amongst those whose practical experience of medical work in hot countries is great a strong desire to be in a position to investigate the conditions with which they have to deal upon strictly scientific lines. The general outcome is that the whole character of medical work in the tropics and the Colonies has vastly improved. The movement received great encouragement from Mr. Chamberlain during his tenure of office as Colonial Secretary. His interest in the matter appears to have been inherited in full measure by his successor, Mr. Alfred Lyttelton, and it is now expected of every candidate for the Colonial Medical Service that he shall pass through either one school or the other before his appointment is finally approved. A further and more recent development has been the institution by some of the examining bodies of a diploma in tropical medicine, while arrangements for an M.D. in this subject are, it is understood, practically complete at London University. The nature of the work required will be gathered from the particulars here given with regard to the diplomas granted by Cambridge and Edinburgh Universities, and it seems quite possible that the possession of some such diploma may eventually be demanded by all employers who have medical appointments in the tropics in their gift.

UNIVERSITY OF CAMBRIDGE.

The Cambridge Examination takes place twice a year, in January and in August. The following are the requirements:

Any person whose name is on the *Medical Register* is admissible as a candidate to this examination, provided

(I) that a period of not less than twelve months have elapsed between his attainment of a registrable qualification and his admission to the examination;

(II) That he produce evidence, satisfactory to the Syndicate, that he has diligently studied pathology (including parasitology and bacteriology) in relation to tropical diseases, clinical medicine and surgery at a hospital for tropical diseases, and hygiene and methods of sanitation applicable to tropical climates.

As evidence of study and attainments a candidate may present to the Syndicate (1) any dissertation, memoir, or other record of work carried out by himself in connexion with tropical medicine or hygiene, (2) any certificate or diploma in public health or sanitary science he may have obtained from a recognized Examining Body. Such evidence will be considered by the Syndicate in determining whether he is qualified for admission to the examination, and by the Examiners in determining whether, if admitted, he shall be included in the list of successful candidates.

The examination will have reference to the nature, incidence, prevention, and treatment of the epidemic and other diseases prevalent in tropical countries. It will comprise the following subjects:

1. The methods of pathological and bacteriological investigation. The examination of blood. The examination of faeces, diagnosis and life history of intestinal and other parasites. The examination of urine, chemical and microscopical. The examination of the blood in fevers.

2. The causes, pathology, propagation, distribution, prevention, symptoms, diagnosis and treatment of the epidemic, endemic, and other diseases of the tropics, including cholera, diphtheria: blackwater fever: dysentery: enteric fever: hæmaturic fever: leprosy: plague: tetanus: tuberculosis: typhus fever: yellow fever, or toxic fever, Malta fever, and other specific fevers: diseases due to cestode and other worms: diseases due to protozoa, ulcers, sores, and other affections of the skin: specific affections of the tongue, mouth, and throat: poisonous plants and animals, and by poisonous or irritating insects.

3. The effects produced on the human body by residence in the tropics of seasons and climate, with special reference to the principles of general personal hygiene, and to the principles of water supply, drainage, ventilation, and the disposal of excreta. The prevention of malaria, hospitals, asylums, gaols, prisons, and barracks. Methods of disinfection.

The examination is partly in writing, partly oral, and partly practical and clinical. The clinical part will be conducted at a hospital for tropical diseases, at which cases will be shown to the candidates and commented

Every candidate is required to pay a fee of 6 guineas before admission to the examination. A candidate who, after having applied for admission, fails to present himself at the examination, will not have the fee returned, but will be entitled to present himself without further fee on one subsequent occasion.

Every candidate who passes the examination to the satisfaction of the examiners will receive from the University a Diploma testifying to his knowledge and skill in Tropical Medicine and Hygiene.

UNIVERSITY OF EDINBURGH.

Diploma in Tropical Medicine and Hygiene (*D.T.M.&H.*).—Graduates in Medicine and Surgery of this University are eligible for examination for the diploma on the expiry of a period of six months after they have obtained these degrees. They must produce evidence of having attended approved courses of instruction in Practical Bacteriology, including the Pathogenic Micro-organisms of Tropical Diseases, in Diseases of Tropical Climates, including the zoological characters and the life-history of disease-carrying insects, in Tropical Hygiene, and in the clinical study of cases of Tropical Disease, and certificates of proficiency in the methods of conducting *post mortem* examinations, and of preparing reports on them. Regulations for the diploma will be found on pp. 450-1 of the *Calendar* for 1905-6. The examinations are held in January and July. The fees for the first and any subsequent appearance are: Practical Bacteriology, £1 1s.; Diseases of Tropical Climates, £1 1s.; Tropical Hygiene, £1 1s.; Tropical Clinical Medicine, £1 1s. Total, £4 4s.

LONDON SCHOOL OF TROPICAL MEDICINE.

The Seamen's Hospital Society possesses two hospitals—the Dreadnought Hospital at Greenwich, 225 beds, and the Branch Hospital in the Royal Victoria and Albert Docks, E., 50 beds. It has also two Dispensaries—one in the East India Dock Road and the other at Gravesend, from which the patients are transferred to the hospitals.

The School Buildings, Laboratories, Museum, Library, etc., are within the grounds of the Branch Hospital, Royal Victoria and Albert Dock, Station, Connaught Road, Great Eastern Railway.

Opportunities are afforded to students and others who may be desirous of studying diseases incidental to Tropical Climates and also Practical Surgery before entering the services or going abroad. In the hospitals of the Society are to be found cases of Tropical Disease such as may be met with in actual practice in the tropics. There are three courses in the year, each lasting three months, beginning October 1st, January 15th, and May 1st respectively.

The Laboratory, Museum, Library, etc., are open daily, and clinical instruction is given daily in the wards of the hospitals.

The Lecturers in the School are: Sir P. Manson, F.R.S., Dr. Andrew Duncan, Dr. L. Westenra Sambon, Dr. Macleod, Professor R. Tanner Hewlett, Mr. James Cantlie, Mr. E. Treacher Collins, Dr. Crombie, Dr. F. M. Sandwith, Mr. Goadby, and Professor W. J. Simpson. The Medical Superintendent is Dr. G. C. Low.

Certificates are granted after examination to those who complete a full course.

Resident chambers are available for students, who must be qualified or in the fifth year of their medical studies.

Appointments.—There is a House-Physician, a House-Surgeon, and a Junior Resident Medical Officer, at the Dreadnought Hospital, Greenwich, and a Senior House-Surgeon and House-Surgeon at the Branch Hospital. The pay of these offices varies from £40 to £100.

Prize.—The Craggs Prize of £50 is awarded yearly.

The Prospectus, Syllabus, and other particulars can be obtained on application to the Secretary, Mr. P. Michelli, Seamen's Hospital, Greenwich, S.E., or from the Medical Superintendent at the School.

INCORPORATED LIVERPOOL SCHOOL OF TROPICAL MEDICINE.

This school was established in Liverpool in 1899. Sir Alfred Jones, K.C.M.G., is Chairman. Mr. William Adamson, President of the Royal Southern Hospital, is the Vice-Chairman. H.R.H. Princess Christian is the President. The Duke of Northumberland, K.G., is the Vice-President. It is carried on in conjunction with the University of Liverpool and the Royal Southern Hospital for the purposes of research and clinical teaching respectively. A special ward at the hospital has been set apart for the reception and treatment of Tropical Diseases, and facilities for investigation and study are given in the Johnston Laboratories of the University.

Major Ronald Ross, C.B., F.R.S., F.R.C.S., is the Sir Alfred Jones Professor of Tropical Medicine and Consulting Phy-

sician in Tropical Diseases at the hospital, and Dr. J. W. W. Stephens holds the post of Walter Myers Lecturer in Tropical Medicine to the school. Dr. R. Fielding-Ould, Dr. Balfour Stewart, and Dr. C. Christy have been appointed Assistant Lecturers. The holder of the Walter Myers Fellowship of Tropical Medicine, Dr. J. E Dutton, died while serving on the Congo Expedition on February 27th, 1905. Dr. Wolferstan Thomas and Dr. Anton Breinl have been working on special research in connexion with trypanosomiasis in Liverpool, and are now serving on the Yellow Fever Expedition in Brazil. Dr. J. L. Todd is serving in the Congo. The movement is entirely supported by the voluntary subscriptions of Liverpool merchants and others. The school has organized many important medical research expeditions to West Africa, the Brazils, Egypt, and the tropics. Professor Rubert Boyce, M.B., F.R.S., is Dean of the School, and Mr. A. H. Milne, B.A., is the Secretary.

PSYCHOLOGICAL MEDICINE.

The treatment of mental disease, or psychological medicine, gives employment to a large number of medical men, and forms a distinct career of a kind which is attractive to many men. It cannot at present be regarded as a "service," as those who at present follow it, if not occupied in private asylums, are in the employ of various independent county and other councils. The formation of a general service so far as the public asylums are concerned may yet come, and the attractions of the work as a career may then be increased. Pensions are granted under certain conditions and after a certain length of service.

The study of mental diseases has long been a compulsory subject in the medical curriculum, lectures and attendances at a recognized asylum being necessary before a diploma or a qualification from a university can be granted; but the method in which the instruction is given has of late years greatly improved, and the facilities which exist for its pursuit even by those not exclusively devoted to alienism are now very considerable. Further impetus, moreover, has been given by the adoption by the University of London of Mental Diseases as one of the subjects in which an M.D. can be obtained. In addition to such arrangements, instruction in Psychology itself may now be obtained at several educational institutions in London. Thus, a course of instruction in Psychology is given at St. Bartholomew's, King's, University College, and also at the City of London College and the Birkbeck Institution, while at the former places there are also courses of lectures and practical demonstrations in experimental psychology of a character suitable for students preparing for the M.D. Examination of the London University. As for Therapeutic Psychology, lectures in mental diseases are given at the following London hospitals: at St. Bartholomew's, by Dr Claye Shaw, who gives demonstrations at St. Luke's Hospital, close by; at Guy's Hospital by Dr. Craig, at St. Thomas's by Dr. Rayner, at St. Mary's by Dr. Hyslop, the practical demonstration in connexion with all three courses being given by the respective teachers at the Bethlem Royal Hospital. The Lecturer at the London Hospital is Dr. Kennedy Will, who gives practical teaching at St. Luke's Hospital; at the Middlesex and University College Hospitals, Dr. Mickle (the clinical demonstration being given at Grove Hall Asylum); at Charing Cross, Dr. Percy Smith (demonstrations at Camberwell House Asylum), at the Westminster Hospital and the Royal Free Hospital (for women students). Dr. Mercier (demonstrations at Colney Hatch Asylum); at St. George's Hospital, Dr. Tuke (demonstrations at Hanwell Asylum); at King's College Hospital, Dr. White (practical teaching at Dartford Asylum in Kent). Finally, it is to be noted that the Post-Graduate College of the West London Hospital has two lecturers—namely, Dr. Robert Jones, who demonstrates at the London County Asylum, Claybury, and Dr. R. H. Cole, who demonstrates at Hanwell; while Dr. Stoddart gives a course of Post-Graduate Lectures with demonstrations at the Bethlem Royal Hospital. In addition a certain number of resident clinical assistantships are to be obtained at Bethlem and at St. Luke's Hospitals.

As regards corresponding work away from London, lectures are given usually by the medical superintendent of some asylum in the neighbourhood of the medical schools in the provincial centres, clinical instruction being given at the institution of which he is in charge. At some of these facilities are offered for students either before or after qualification to hold clinical posts for three months or longer.

In Scotland Dr. Clouston lectures at the Edinburgh University and holds classes at the Morningside Asylum. In Glasgow Dr. Yellowlees lectures to the University students, and Dr. Marr and Dr. Oswald also hold classes.

In Ireland corresponding arrangements exist, while the Royal University of Ireland grants a diploma for proficiency in the treatment of mental diseases under the following conditions:

The diploma is conferred only on graduates in medicine of the University.

Candidates must give notice, in writing, to the Secretaries of their intention to present themselves, and must pay the prescribed fee of £2 at least one month previous to the examination.

Candidates who satisfy the examiners will be required to pay a further fee of £3 before the diploma is conferred.

The subjects for this examination are those required by the Hutchinson Stewart Scholarship for proficiency in the treatment of Mental Diseases.

In conclusion, reference must be made to the Medico-Psychological Association of Great Britain and Ireland. This body grants a certificate in Psychological Medicine, after a course of instruction according to the rules of the Association, to candidates duly registered under the Medical Act. The examinations are held in London, Scotland, or Ireland, once a year or periodically, the fee being £3 3s., and serve to test the candidate's knowledge of insanity and his ability to undertake the care and treatment of the insane. The Medico-Psychological Association urges that every medical practitioner should have a competent knowledge of these subjects, and further believes that it is a distinct advantage to candidates for appointments in the Poor-law or other Service, such as the Prison Service, that they should be able to adduce evidence of competent knowledge of the subjects included in the examination.

Its scope is as follows:

1. General symptoms and signs of insanity. Mental competence. Fitness to be at large.
2. Causes of insanity.
3. Forms of insanity:
   - (1) States of weak-mindedness:
     - (a) Idiocy and imbecility.
     - (b) Dementia.
   - (2) States of stupor.
   - (3) States of depression.
   - (4) States of exaltation and excitement.
   - (5) Systematized delusions and hallucination.
   - (6) Impulsive and "moral" insanity.
   - (7) General paralysis.
4. Chief accessories of insanity:
   - (1) Suicidal tendency.
   - (2) Homicidal tendency.
   - (3) Refusal of food.
   - (4) Degraded and perverted habits.
5. Association of insanity with developmental periods: with the reproductive function in its various phases; with epilepsia and convulsive states; and with the bodily conditions.
6. Morbid anatomy.
7. Certification of the insane and other medico-legal aspects of insanity.

Only registered medical practitioners are eligible for the certificate, but it is not necessary that candidates should be registered, or even qualified, before presenting themselves for examination. They may take the examination before graduation, but they will not receive the certificate until they possess a registrable qualification. The examinations qualify for the Gaskell Prize, value £30, and £10 10s. and a bronze medal are offered by the same Association to asylum assistant medical officers for the best dissertation on any clinical or pathological subject relating to insanity. The Hack Tuke Memorial Prize is also awarded for an essay upon a subject connected with insanity.

DEGREES FOR PRACTITIONERS.

Since it was formerly almost the universal custom for medical students educated in London not to seek a university degree, and as that custom still prevails to a considerable extent, a very large proportion of medical men in actual practice in England possess diplomas to practise but not degrees in Medicine. The question of whether a medical man not known to be a pure surgeon should be addressed as "Doctor" or "Mr." is one which the general public has settled, as it settles most things, for itself and according to its own view of the proprieties. Nevertheless, the inability to sign M.D. or of a legal title to the term "Doctor" is often regretted in after-life by those who have not taken a degree. Hence, some universities have issued special regulations under which the degree of M.D. is granted to practitioners of a certain standing under special conditions. The regulations of these universities are stated briefly in the

following paragraphs. The University of Brussels also grants the degree of M.D. to practitioners after examination, without restriction as to residence or curriculum; but this degree is not registrable on the *Medical Register* if obtained subsequently to June, 1886.

UNIVERSITY OF LONDON.

Registered medical practitioners of not less than three years' standing, and not less than 25 years of age, who pass, or have already passed, the Matriculation Examination, or who are entitled to claim registration as students of the University without examination in virtue of any of the conditions described in the note on page 479, and who pass, or who have already passed, the Preliminary Scientific Examination, Parts I and II, may proceed to the Intermediate and M.B., B.S. Examinations without the intervals prescribed by the regulations on producing certificates that they have gone through the courses of prescribed study at any time previously; subject to the proviso that no degree of the University can under any circumstances be granted by examination to any one in less than three years after passing the Matriculation Examination or after admission by the University of the candidate's right to exemption therefrom.

UNIVERSITY OF DURHAM.

The degree of M.D. is granted by the University of Durham to registered practitioners of not less than fifteen years' standing, who have been qualified and in practice for that period, upon the following conditions without residence: The candidate must be 40 years of age, and must produce a certificate of moral character from three registered medical practitioners. If he have not passed previously to the professional examination in virtue of which his name was placed on the *Register* an examination in Arts, he is examined in Classics and Mathematics; if otherwise, he is required to translate into English passages from any one of the following Latin authors: Caesar, *De Bello Gallico* (first three books), Virgil, *Aeneid* (first three books), or Celsus (first three books).

Professional Examination.—The candidate must pass an examination in the following subjects: i. Principles and Practice of Medicine, including Psychological Medicine, Hygiene and Therapeutics; ii. Principles and Practice of Surgery; iii. Midwifery and Diseases of Women and Children; iv. Pathology, Medical and Surgical; v. Anatomy, Medical and Surgical; vi. Medical Jurisprudence and Toxicology. The examination is conducted by means of printed papers, clinically and viva voce, at the College of Medicine, Northumberland Road, Newcastle, and in the Royal Infirmary, Newcastle. The classical portion of the examination may be taken separately from the professional on payment of a portion (£10 10s.) of the full fee.

Foreign and Colonial Practitioners.—Natives of India or the British Colonies are placed on the same footing as natives of Great Britain. Natives of India must produce evidence from an Indian university that they have passed within one year an examination in Latin.

Fees.—The inclusive fee is fifty guineas; if a candidate fail to pass, twenty guineas are retained, but if he present himself again forty guineas only are required.

Dates, etc.—The examinations are held twice a year, towards the end of April and of September. Notice, accompanied by the fee and certificates, must be sent to Professor Howden, Secretary of the University of Durham College of Medicine, Newcastle-on-Tyne, at least twenty-eight days before the commencement of the examination.

UNIVERSITY OF BRUSSELS.

British practitioners of medicine holding medical and surgical qualifications are, in common with legally-qualified practitioners in other countries, admissible without further curriculum to the examination for the degree of M.D. of the University of Brussels.

Examination.—The examination is divided into three parts. The "First Doctorate" includes Medicine, Pathology (with microscopical examination[1]), Therapeutics, Mental Diseases, and Diseases of Women and Children. The "Second Doctorate" comprises Surgery, Midwifery, Hygiene, and Medical Jurisprudence. The "Third Doctorate" consists of clinical examination in Medicine and Surgery, examination in Midwifery with the *mannequin*, Ophthalmology, Operative Surgery (amputation, ligature of arteries in the dead subject), and Regional Anatomy with Dissections. Special importance is attached to practical knowledge. The examination is conducted in French through an official interpreter, but most of the examiners, it is stated, speak English fluently. The examination is viva voce, but a written examination may be obtained on paying a special fee of £1 for each part.

Dates.—The examinations take place on the first Tuesday in November, December, February, May, and June. It is desirable that the candidate should arrive in Brussels on the previous Saturday before 2 p.m. at latest. The whole examination (First, Second and Third Doctorate) may be got through in about a week, and seldom exceeds eight to ten days.

Fees.—Candidates are required to leave their diplomas with the Registrar of the University prior to the examination. The fees are: For inscription of name, £8 12s.; for examination, £13; for legalization of diploma, 8s.; total, £22. If a candidate fail in the first part of the examination the fees for the second and third are returned to him; if in the second, the fees for the third. A rejected candidate may present himself again in three months on paying the examination fees, provided his second appearance be in the same academic year (October 1st to June 30th); otherwise the matriculation fee must be renewed—that is, the fee for inscription of name.

Further particulars may be obtained on application to the Secretary of the University, Brussels. There is an Association of British Graduates of the Brussels University, and the Honorary Secretary, Dr. F. H. Edwards, of Camberwell House, Camberwell, S.E., will be pleased to give information or receive applications for membership. An article containing a full description of everything concerning the degree was published in the BRITISH MEDICAL JOURNAL on September 15th, 1888.

[1] More microscope work is done required than formerly.

PREVENTIVE MEDICINE.

THE division of medicine known as Sanitary Science, or State Public Health or Preventive Medicine, is yearly increasing in scope and importance, and offers a career to men to whom any other path in the profession of medicine might prove distasteful. Strictly speaking, the terms indicated mean the work of a medical officer of health, and they are used more particularly in connexion with the special diplomas in Sanitary Science, State Medicine, or Public Health, one or other of which a Medical Officer of Health for a district of any importance must now possess.

Of late years, however, another kind of work has arisen which might equally be classed under the general heading of Preventive Medicine. It is the outcome of a general recognition that the conditions of modern life in highly advanced States are intrinsically inimical to the physical well-being of those who are submitted to them, and of a belief that the dangers which arise, particularly from educational pressure on the young, demand special measures for their avoidance. This work has not yet reached the stage of precise definition, and still less of demanding special training or diplomas, and its nature will be sufficiently indicated by a reference to the Educational Committees of the country. Many of these already offer appointments of considerable value to medical men in connexion with the public schools, and their number is likely to increase.

Reverting once more to State Medicine or Public Health in the conventional sense of the term, the following represents the legal requirements. A medical officer of health of any county or of any single or combined district with a population at the last census of 50,000 or more, or of any metropolitan district, or the deputy of any such officer must be legally qualified for the practice of Medicine, Surgery, and Midwifery and also be either registered in the *Medical Register* as the holder of a diploma in Sanitary Science, Public Health, or State Medicine, under Section XXI of the Medical Act, 1886, or have been during three consecutive years preceding the year 1892 a medical officer of a district or combination of districts in London or elsewhere with a population according to the last published census of not less than 20,000, or have been, before the passing of the Local Government Act, 1888, for not less than three years a medical officer or inspector of the Local Government Board.

The position of medical officers of health as a whole cannot be considered a satisfactory one, inasmuch as that a large number of those holding the smaller appointments or a combination of small districts are only appointed year by year and are liable to be dismissed if they do not please those who form or can influence local authorities. This must often be the case, for if a medical officer of health does his duty it must

often be impossible to avoid treading severely on the toes of landlords, manufacturers, and other persons of local importance.

The value of the work of a medical officer of health when well done is, however, now becoming so generally recognized that there is some prospect that the Legislature will soon step in and make it impossible for any medical officer of health to be dismissed except with the approval of the Local Government Board.

In the meantime there are many appointments in connexion with the larger towns and under the county councils which are permanent, well paid as compared with many other forms of medical work and in other respects of an attractive character to many men. It should be added, too, that the Local Government Board itself has a staff of medical inspectors, whose initial salary is £500 a year.

Public Health work, of course, is of quite a special character, and it is desirable that any one who wishes to adopt it as a career should turn to it comparatively early, though not before he has obtained some experience of the work of a general practitioner. In any case it is essential he should obtain a diploma in Public Health, and the choice of diplomas now open is considerable. Having done this, the next best step for the man who looks to Public Health as a career is to try and obtain an assistantship to an officer in charge of a large borough or district.

In their general nature the examinations of all the bodies which grant diplomas in Public Health are the same, though they differ somewhat in their reputed difficulty. All of them aim at excluding any candidate who does not appear to have a thorough knowledge of his work in theory and in practice, for the regulations of the General Medical Council demand that the granting of a diploma in Sanitary Science, State Medicine, or Public Health shall be proof of the "possession of a distinctively high proficiency, scientific and practical, in all the branches of study which concern the public health." The tests, in short, are supposed to constitute an Honour and not a Pass Examination. The following constitute the requirements of the General Medical Council:

I.

The Council will not consider the diplomas in question to deserve recognition in the *Medical Register* unless they have been granted under such conditions of education and examination as to ensure (in the judgement of the Council) the possession of a distinctly high proficiency, scientific and practical, in all the branches of study which concern the public health; and the Council, in forming its judgement on such conditions of education and examination, will expect the following Rules to have been observed:

Rule 1.—A period of not less than twelve months shall have elapsed between the attainment of a registrable qualification in medicine, surgery, and midwifery, and the admission of the candidate to any examination, or any part therefore, for a Diploma in Sanitary Science, Public Health, or State Medicine.

Rule 2.—Every candidate shall have produced evidence that, after obtaining a registrable qualification, he has during six months received practical instruction in a laboratory or laboratories, British or foreign, approved by the Licensing Body granting the diploma, in which Chemistry, Bacteriology, and the Pathology of the diseases of animals transmissible to man are taught.

Rule 3.—Every candidate shall have produced evidence that, after obtaining a registrable qualification, he has during six months (of which at least three months shall be distinct and separate from the period of laboratory instruction required under Rule 2) been diligently engaged in acquiring a practical knowledge of the duties, routine and special, of Public Health Administration, under the supervision of

(*a*) In England and Wales, the Medical Officer of Health of a county or of a single sanitary district having a population of not less than 50,000, or a Medical Officer of Health devoting his whole time to Public Health work; or

(*b*) In Scotland, a Medical Officer of Health of a county or counties, or of one or more sanitary districts having a population of not less than 30,000; or

(*c*) In Ireland, a Medical Superintendent Officer of Health of a district or districts having a population of not less than 30,000; or

(*d*) In the British Dominions outside the United Kingdom, a Medical Officer of Health of a sanitary district having a population of not less than 30,000, who himself holds a registrable diploma in Public Health; or

(*e*) A Medical Officer of Health who is also a teacher in the department of Public Health of a recognized medical school; or

(*f*) A Sanitary Staff Officer of the Royal Army Medical Corps having charge of an army corps, district, or command, recognized for this purpose by the General Medical Council. The districts and commands thus recognized are:

Aldershot.	Home.	Northern Command (late Punjab).
Salisbury Plain.	Eastern.	Eastern Command (late Bengal).
Southern and South-Eastern.	North Eastern and North-Western.	Secunderabad and Burma Divisions (late Madras).
Western.	Scottish.	
Dublin and Belfast.	Gibraltar Command.	
Cork.	Western Command (late Bombay).	
Chatham and Woolwich.		

Note (1). The certificate of an Assistant Medical Officer of Health of a county or of a single sanitary district having a population of not less than 50,000 may be accepted as evidence under Rule 3, provided the Medical Officer of Health of the county or district in question permits the assistant officer to give the necessary instruction and to issue certificates.

Note (2). Provided that the period of six months may be reduced to a period of three months (which shall be distinct and separate from the period of laboratory instruction required under Rule 2), in the case of any candidate who produces evidence that, after obtaining a registrable qualification, he has during three months attended a course or courses of instruction in sanitary law, sanitary engineering, vital statistics, and other subjects bearing on Public Health Administration, given by a teacher or teachers in the Department of Public Health of a recognized medical school.

Note (3). A candidate who shall have produced evidence that he has himself held for a period of not less than three years an appointment as Medical Officer of Health of a sanitary district within the British Dominions, and having a population of not less than 15,000, may be exempted from the requirement of Rule 3.

Rule 4.—Every candidate shall have produced evidence that, after obtaining a registrable qualification, he has attended during three months the practice of a hospital for infectious diseases at which opportunities are afforded for the study of methods of administration.

Note (1). Methods of administration shall include the methods of dealing with patients at their admission and discharge, as well as in the wards, and the medical superintendence of the hospital generally.

Note (2). In the case of a Medical Officer of the Royal Army Medical Corps a certificate from a Principal Medical Officer under whom he has served, stating that he has during a period of at least three months been diligently engaged in acquiring a practical knowledge of hospital administration in relation to infectious diseases, may be accepted as evidence under Rule 4.

Rule 5.—The examination shall have been conducted by examiners specially qualified; it shall have extended over not less than four days, one of which shall have been devoted to practical work in a laboratory, and one to practical examination in, and reporting on, subjects which fall within the special outdoor duties of a Medical Officer of Health.

The Rules 2, 3, 4, as to study, shall not apply to medical practitioners registered or entitled to be registered on or before January 1st, 1890.

Conjoint Board in England.

The Royal College of Physicians and the Royal College of Surgeons conjointly give a Diploma in Public Health. The examination of this Board consisting of two parts is held in the months of January and July in each year. Candidates must pass Part I before being admitted to Part II. Candidates may enter for Parts I and II separately, or at the same time, but no candidate's name will be published until he has passed in both parts of the examination. Candidates before admission to Part I must be at least 23 years of age, and at least 24 before admission to Part II. Candidates must produce evidence of having complied with the requirements of the General Medical Council, but the practical sanitary work and the study of infectious diseases may be deferred until Part I has been completed. The examination in each part will be written, oral, and practical [1] The fee for each part is £6 6s., and must be paid three days prior to the day on which the examination commences. A candidate who fails to

[1] The practical examination in Part II may include a visit to, and report on, some selected premises.

satisfy the examiners in either part may present himself again at the examination on payment of a fee of £6 6s. The diploma awarded is entitled "Diploma in Public Health of the Royal College of Physicians of London and the Royal College of Surgeons of England." A candidate intending to present himself for either part of the examination must give fourteen days' notice in writing to the Secretary, at the Examination Hall, Victoria Embankment, W.C.

SYLLABUS FOR THE EXAMINATION.

PART I.

The first part of the examination has reference to the general principles of sanitary science, and comprises the following:

The elements of chemistry, physics, and geology. Methods of examination of water and air for hygienic purposes, including a knowledge of analytical methods and the interpretation of results. The chemical composition of foods, and the usual forms of adulteration. The laws of heat and the elements of pneumatics, hydrostatics, and hydraulics in their relation to warming, ventilation, water supply, and drainage. Principles of building construction in their application to dwellings, hospitals, schools, etc. Meteorology in relation to health; meteorological instruments, their construction and use. The general principles of sanitary engineering, including the disposal of sewage and refuse. The reading and interpretation of geological and ordnance survey maps. The microscopical examination of foods and the detection thereby of the common forms of adulteration. The methods of bacteriological analysis, and the bacteriology of water, air, food, and soil. Disinfectants, their chemical and bacteriological efficacy and use. The general pathology of infections and the diseases of animals that are transmissible to man. Nature of immunity and protection from infectious disease.

PART II.

The second part of the examination has reference to the application of the Principles of Sanitary Science, and comprises the following subjects:

Laws and statutes relating to Public Health, including the model By-laws of the Local Government Board. General epidemiology, with reference to the origin, pathology, symptoms, propagation, geographical distribution, and prevention of epidemic, endemic, and other diseases at home and abroad. Unwholesome trades and the diseases to which they give rise, and the prevention of nuisances arising therefrom. Nature and origin of parasitic diseases. Nuisances injurious or dangerous to health. Causes and conditions which produce climate, general effects of climate, acclimatization. Effects on health of overcrowding, vitiated air, impure water, polluted soil, and bad or insufficient food. Duties of sanitary authorities and their officers.

Vital statistics:—Calculation of population, birth-rate, marriage-rate, and death-rate; mortality from zymotic diseases; sickness-rate; relation between occupation and mortality; life tables, their construction and interpretation of the value of statistical facts, averages, and methods.

The Laboratories recognized by the Board for the courses of Laboratory instruction are:

London.—St. Bartholomew's, [illegible], London, University College, King's College, Charing Cross, St. George's, St. Mary's, St. Thomas's, Westminster [illegible]

Birmingham.—The University.
Brighton.—Technical School.
Bristol.—[illegible]
Cardiff.—University College.
Leeds.—York[illegible]
Liverpool.—The University; School of Science and Technicology.
[illegible]
Newcastle-on-Tyne.—University of Durham College of Medicine.
Sheffield.—University College.

Books of questions set at the examinations for the diploma in Public Health during the years from 1887 to 1904 may be obtained on application to Messrs. Taylor and Francis, Red Lion Court, Fleet Street, London, E.C. Price 6d., post free 6½d. each.

BOOKS.

It is impossible to indicate all the books which may be consulted with advantage by candidates for the various examinations, but the following list of books includes those which are most generally used.

[illegible] *Public Health* (London: Cassell and Co., 1899, [illegible]; [illegible] *Hygiene*, second edition (London: [illegible]; [illegible] *Public Health* (London: [illegible]; [illegible] *Hygiene and Public Health*, second edition (London: [illegible]; [illegible] *Laboratory Teaching of Hygiene and Bacteriology* (London: [illegible]; [illegible] *Hygiene and Public Health*, second edition (London: J. and A. Churchill, [illegible]; [illegible] *Manual of Hygiene and Sanitary Science* (London: [illegible]; [illegible] *Lectures on Hygiene and Public Health*, 3 vols., for reference on special subjects (London: J. and A. Churchill, 1892-4, 50s.); Wynter Blyth's *Manual of Public Health* (London: Henry Renshaw, 1896, 21s.); Kenwood's *Public Health Laboratory Work*, third edition (London: H. K. Lewis, 1903, 10s. 6d.); Wanklyn's *Water, Air, Milk, and Bread Analysis*, four separate manuals (London: Kegan Paul, Trench, Trübner and Co., 5s. each); Thresh's *Examination of Waters and Water Supplies* (London: J. and A. Churchill, 1904, 14s.); Horrocks's *Bacteriological Examination of Water* (London: J. and A. Churchill, 1901, 10s. 6d.); Woodhead's *Bacteria and their Products* (London: W. Scott, 1892, 3s. 6d.); Kanthack and Drysdale's *Practical Bacteriology* (London: Macmillan and Co., 1895, 4s. 6d.); Muir and Ritchie's *Manual of Bacteriology*, third edition (London: Young J. Pentland, 1902, 12s. 6d.); Klein's *Micro-organisms and Disease* (London: Macmillan and Co., 1896, 10s. 6d.); Crookshank's *Textbook of Bacteriology* (London: H. K. Lewis, 1896, 21s.); Hewlett's *Manual of Bacteriology*, second edition (London: J. and A. Churchill, 1902, 12s. 6d.); Daniell's *Textbook of the Principles of Physics* (London: Macmillan and Co., 1896, 4s. 6d.); Balfour Stewart's *Elementary Physics* (Oxford: Clarendon Press, 7s. 6d.); Newsholme's *Vital Statistics*, third edition (London: Swan Sonnenschein and Co., 1899, 7s. 6d.); McVail's *Vaccination Vindicated* (London: Cassell and Co., 1887, 5s.); J. W. Moore's *Meteorology: Practical and Applied* (London: Rebman and Co., 8s.); Scott's *Meteorology*, sixth edition (London: Kegan Paul, Trench, Trübner and Co., 1893, 5s.); Stanton's *Public Health Acts* (London: Knight and Co., 7s. 6d.); Knight's *Annotated Model By-laws*, sixth edition (London: Knight and Co., 1899, 12s.); Corfield's *Dwelling Houses: Their Sanitary Construction and Arrangements*, fourth edition (London: H. K. Lewis, 1898, 3s. 6d.).

It is also desirable to consult several Special Reports of the Local Government Board, etc. (London: Wyman and Co).

* Bacteriology only.

UNIVERSITY OF OXFORD.

The examination, which is open to all persons who possess a medical qualification, is in two parts, conducted partly in writing, partly viva voce, and is in each subject partly practical. The first part comprises the application of Chemistry and Physics to General Hygiene. The second part comprises the following subjects: General Pathology, with special relation to Infectious Diseases; the Laws Relating to Public Health; Sanitary Engineering; Vital Statistics. Both parts may be taken together at the same examination, or they may be taken at separate examinations; but no one is deemed to have satisfied the Examiners in Part II unless he has satisfied the Examiners in the subjects of Part I. The fee for admission to each part is £5. A diploma is issued to every candidate who has passed in both parts of the examination, but no diploma or certificate is given under any other circumstances. Candidates must have satisfied all the rules of the General Medical Council of the United Kingdom relating to the admission of candidates for diplomas in Public Health which are in force at the time of the examination.

UNIVERSITY OF CAMBRIDGE.

Two examinations in so much of State Medicine as is comprised in the functions of Medical Officers of Health will be held during the year 1905-6, in October and April respectively. Each examination will consist of two parts. The next examination for Part I will begin on October 4th, and for Part II on October 9th.

Any person whose name is on the *Medical Register* is admissible as a candidate to this examination, subject to his conformance to the requirements of the General Medical Council as stated at page 474.

A candidate who previous to January, 1902, was admitted or was qualified for admission to the examination, or who had already entered on the course of study prescribed by the Regulations in force before that date, will continue to be admissible on presenting the certificates required under the old Regulations.

The First Part of the Examination will have reference to the General Principles of Sanitary Science, and will comprise the following subjects:

The elements of chemistry and physics: methods of chemical analysis, and in particular the analysis of air and water. The laws of heat and the elements of pneumatics, hydrostatics, and hydraulics, in their application to warming, ventilation, water supply, and drainage. The geological and other conditions determining the healthiness of sites for dwellings. Sources, storage, and purification of water supply. The elements of meteorology in relation to health. Principles of building construction in their application to dwellings, hospitals, and schools. The disposal of sewage and refuse, and the general principles of sanitary engineering. [illegible] The [illegible]istry and use. The chemical and microscopical examination of foods, and the detection of the commoner forms of contamination. The methods of bacteriological investigation and analysis. The bacteriology of air, water, food, and soil. The general pathology of infection, and of the diseases of animals that are transmissible to man.

The Second Part of the Examination will have reference to State Medicine and to the applications of Pathology and Sanitary Science, and will comprise the following subjects:

Laws and Statutes relating to Public Health. The model By-laws of the Local Government Board. Sanitation of dwellings, schools, factories, and workshops, and of villages and towns. Inspection of slaughter-houses, cowsheds, etc. Inspection of meat and other articles of food. General Epidemiology, with special reference to the origin, pathology, symptoms, propagation, geographical distribution, and prevention of the epidemic, endemic, and other infective diseases both of temperate and of [illegible] climates. The methods applicable to the medical investigation of epidemics. Effects on health of overcrowding, vitiated air, impure

water, polluted soils, and bad or insufficient food. Unwholesome trades and occupations, and the diseases to which they give rise. Nuisances injurious or dangerous to health. The effects on health of season and climate. The principles and methods of Vital Statistics in relation to Public Health.

The foregoing schedule is not to be understood as limiting the scope of the examination, which will include every branch of Sanitary Science. No candidate will be approved by the Examiners who does not show a high proficiency in all the branches of study, scientific and practical, which bear upon the duties of Medical Officers of Health.

All candidates will be examined in the provisions of the English Statutes relating to Public Health, but any candidate will be given an opportunity of showing a special knowledge of other Sanitary Laws in operation within the British Empire, provided that, *when applying for admission to the Examination, he give notice* of his desire, and indicate the special law he proposes to offer.

The examination in both parts will be oral and practical as well as in writing. One day at least will be devoted to practical laboratory work, and one day to oral and practical examination in, and reporting on, subjects connected with outdoor sanitary work.[1]

Candidates may present themselves for either part separately or for both together at their option; but the result of the examination in the case of any candidate will not be published until he has passed to the satisfaction of the examiners in both parts.

Candidates must before admission to either part of the examination produce evidence of having satisfied Provisions 1, 2, and 4 of the Rules of the General Medical Council, and before admission to Part II, evidence of having satisfied Rule 3.

Every candidate will be required to pay a fee of six guineas before admission or readmission to either part of the examination, but candidates who have presented themselves before the year 1896 will be readmitted to either part on payment of a fee of five guineas.

Every candidate who has passed both parts of the examination to the satisfaction of the examiners will receive a diploma testifying to his competent knowledge of what is required for the duties of a medical officer of health.

Candidates who desire to present themselves for the examination and the courses of study in the University must send in their applications on forms supplied for the purpose, and transmit them with the fees to J. W. Clark, M.A., Registrary, University of Cambridge, for the April examination on or before March 17th and for the October examination on or before September 15th. The necessary certificates must be sent to the Registrary so as to reach him not later than 10 a.m. on March 30th and September 28th respectively. Cheques should be crossed "Barclay and Co., Ltd." The fee for either part of the examination cannot be returned to any candidate who fails to present himself, but he will be entitled without an additional fee to be a candidate on one subsequent occasion.

Applications for information respecting the examination and University courses mentioned may be addressed to Dr. Anningson, Walt-ham-sal, Cambridge, Secretary to the State Medicine Syndicate.

THE FOLLOWING COURSES OF PRACTICAL LABORATORY INSTRUCTION HAVE BEEN APPROVED BY THE SYNDICATE.

The University Laboratories, Cambridge.	The University of Glasgow.
London Hospital Medical College.	The University of Aberdeen.
St. Bartholomew's Hospital Medical College.	Middlesex Hospital Medical School.
King's College, London.	The Royal Southern Hospital, Liverpool.
University College, London	The Royal Colleges, Edinburgh.
The Royal Army Medical College, London.	Surgeons' Hall, Edinburgh.
Victoria University of Manchester.	Lister Institute of Preventive Medicine
Durham College of Medicine, Newcastle-on-Tyne	Trinity College, Dublin.
The University of Birmingham.	Queen's College, Belfast.
University College, Liverpool.	St. Thomas's Hospital Medical School
St. Mary's Hospital Medical College.	Westminster Hospital Medical School
Charing Cross Hospital College.	University College, Cardiff.
University College, Bristol.	University College, Sheffield.
Yorkshire College, Leeds	Catholic University Medical School, Dublin
Guy's Hospital Medical School.	St. George's Hospital Medical School
St Mungo's College, Glasgow.	
The University of Edinburgh.	

Courses of lectures (and time table), laboratory instruction, and practical sanitary administration are arranged in order to fulfil the requirements of the regulations for the examinations in Sanitary Science held in April and October, and include:

1. Dr. Anningson: (*a*) General course of lectures on the principles of Hygiene, (*b*) practical sanitary (urban and rural) administration, (*c*) administrative work of the Cambridge Borough Infectious Diseases Hospital.

2. Mr. G. H. F. Nuttall, M.A.: Lectures and practical laboratory instruction in Bacteriology and Preventive Medicine at the Pathological Laboratory, Downing Street, Cambridge.

3. Mr. A. E. Shipley, M.A.: Lectures and practical demonstrations in animal parasites at the Pathological Laboratory.

4. Mr. J. E. Purvis, M.A.: Lectures and practical laboratory instruction in Chemistry and Physics as applied to Hygiene, and including the chemical and physical examination of gases, water, sewage, foods and their adulterations, etc., at the Chemical Laboratory, Pembroke Street.

University of London.

The University does not grant a diploma in Public Health, but has established a degree of M.D. in State Medicine, which is open to persons holding the degrees of M.B., B.S. of the University.

University of Durham.

The University grants a Diploma in Public Health (D.P.H.) and the degree of Bachelor in Hygiene (B.Hy.) and Doctor in Hygiene (D.Hy.).

Degree of Bachelor in Hygiene (B.Hy.).—The candidate must be a registered medical practitioner, a graduate in medicine of a recognized University, and not less than 22 years of age. He is not admissible until after the lapse of at least twelve months from his obtaining his first registrable qualification. He must have spent six months of professional study subsequent to the attainment of a registrable qualification in attendance at the University of Durham Colleges in Newcastle-upon-Tyne, in the following manner: (*a*) Three months' course of lectures on Comparative Pathology, with practical work in the Bacteriological Laboratory. (*b*) Three months' practical instruction in the Chemical and Physical Laboratories. This course must not be concurrent with the three months' course of lectures on Comparative Pathology, with practical work in the Bacteriological Laboratory. Outdoor Sanitary Work: (*c*) Six months' practical study of outdoor sanitary work under a medical officer of health, as required by the rules of the General Medical Council. Unless the candidate be one who has himself held appointment as a Medical Officer of Health under conditions not requiring the possession of a Sanitary Diploma under the Local Government (England and Wales) Act, 1888.

The period of six months may be reduced to a period of three months as described by Note 2 in Rule 3 of the Regulations of the General Medical Council (the period of laboratory instruction required under Rule 2) in the case of any candidate who produces evidence that, after obtaining a registrable qualification, he has during three months attended a course or courses of instruction in Sanitary Law, Sanitary Engineering, Vital Statistics, and other subjects bearing on Public Health Administration, given by a teacher or teachers in a department of Public Health of a recognized medical school.

(*d*) Every candidate must have complied with the requirements of the General Medical Council indicated in its Rule 3 and added notes.

(*e*) Course of lectures on Public Health unless he has attended such a course before obtaining a registrable qualification.

The examination is divided into two parts, which may be taken together or separately. Some parts of the examination will be viva voce and also practical.

Part I.—*Sanitary Chemistry:* The examination of Air for Sanitary purposes. Water for Sanitary purposes. Milk and Food. Practical Examination in Chemistry as applied to Public Health.

Physics: The Principles of Physic in their application to warming, ventilation, water supply, and drainage. The [illegible] of Measurement. Viva voce examination in Chemistry and Physics. [illegible] Hygiene, etc. Knowledge of Comparative Pathology, Methods of Investigation and Prevention of Microbic and Parasitic Diseases, [illegible] between Man and the Lower Animals; Morphology of Microbes and Animal Parasites. Methods of Microscopical Examination and Staining. Cultivation of Micro-organisms. The Bacteriological Examination of Water, Air, and Earth. Practical Examination. Candidates will be expected to show a practical acquaintance with the usual methods of Bacteriological examination, and to be able to recognize specimens of Animal Parasites and Pathogenic Bacteria. There will also be a viva voce Examination in the above subjects.

Part II.—*Sanitary Legislation:* Most of the statutes relating to Public Health will be found in Knight and [illegible], and the Bye-laws in the work under [illegible]. Vital Statistics.—Nosology.—Definition, Nomenclature, and Classification of Diseases. Climatology, Meteorology, Geographical Distribution of

[1] The Examination Papers set at former Examinations can be obtained at the Cambridge University Press Warehouse, Ave Maria Lane, London. Price 1s. each net, or by post 1s. 1d.

Health and Disease over the Globe, and in different Urban and Rural Districts of the United Kingdom. Sanitary Medicine. Practical Hygiene. —The preparation of Sanitary Reports, and other Duties of a Medical Officer of Health. The candidate will also be required: (*a*) To pass an examination on medical clinical cases at the City Hospital for Infectious Diseases or elsewhere; (*b*) to draw up outlines for Annual or other Reports of a Medical Officer of Health; (*c*) to report upon the condition of some actual locality; (*d*) to describe the construction and use of Hygienic Apparatus and Sanitary Appliances; (*e*) to examine submitted specimens with the microscope; (*f*) to describe submitted specimens of Diseased Organs and Tissues (Human and other); (*g*) to inspect and describe specimens of Meat or other articles of food.

He must give at least twenty-eight days' notice to Professor Howden, Secretary of the University of Durham College of Medicine, Newcastle-upon-Tyne, and must, at the same time, send the examination fee and the necessary certificates. The fee for the examination is £10 10s., and for the degree, £6 6s.

Degree of Doctor in Hygiene (*D Hy*)—The candidate must be a Bachelor in Hygiene, and must have been engaged for two years subsequent to the date of his acquirement of that degree, in practice, as a medical officer of health. He must write an essay on some practical hygienic subject, selected by himself and approved by the Lecturer on Public Health, and he will be examined thereon. The essays must be forwarded to the Lecturer on Public Health one month before the date of the examination. The fee for the examination for the degree of D.Hy. is £5 and for the degree £6 6s.

Diploma in Public Health (*D P H*)—The candidate must be a registered medical practitioner not less than 22 years of age. Unless he was registered or entitled to be registered on or before January 1st, 1890, he must have spent six months of professional study subsequent to the attainment of a first registrable qualification in attendance at a recognized medical school, in the following manner:

(*a*) Three months' course of lectures on Comparative Pathology, with practical work in the bacteriological laboratory. (*b*) Three months' practical instruction in a chemical laboratory. This course must not be concurrent with the three months' course of lectures on Comparative Pathology, with practical work in the bacteriological laboratory. (*c*) Six months' practical study of outdoor sanitary work, under a medical officer of health, as required by the rules of the General Medical Council. Regulation (*c*) to be omitted in the case of a practitioner who has himself held appointment as a medical officer of health under conditions not requiring the possession of a Sanitary diploma under the Local Government (England and Wales) Act, 1888. (*d*) Three months' attendance—after obtaining a registrable qualification—on the clinical practice and instruction of a hospital for infectious diseases at which opportunities are afforded for the study of methods of administration. (*e*) Course of lectures on Public Health. Regulation (*e*) to be omitted in the case of a candidate who has already attended the course before obtaining a registrable qualification.

The regulations for examination are the same as those for the Degree of Bachelor in Hygiene. The fee for the examination and diploma is £10 10s.

Victoria University of Manchester.

The University grants a diploma and a degree (B.Sc.) in Public Health. In the Public Health Laboratories (York Place) instruction is given adapted to the requirements of (1) candidates preparing for the examinations of the various universities and examining bodies for the diploma of Public Health; (2) candidates preparing for the degree of B.Sc. in Public Health of the University of Manchester; and (3) medical men or students wishing to undertake research in Pathology, Bacteriology, Sanitary Chemistry, etc., or to take post-graduate courses of Clinical Pathology and Bacteriology.

Communications regarding classes should be addressed to the Director of the Public Health Laboratories (York Place), Oxford Street, Manchester. Entries for classes should be made with the Registrar, and fees paid to the Bursar.

Diploma in Public Health.

The examination is held twice yearly, about the middle of January and the middle of July. It is in two parts, and is written, oral, and practical.

A candidate, before entering for Part I, must present satisfactory certificates of having attended an approved course of instruction[1] in Public Health, and of his compliance with Rules 1 and 2 of the General Medical Council,[1] and that the courses and laboratory work indicated have been completed either in the University or in some medical school or college approved by it.

Candidates, before entering Part II, must present certificates of having complied with Rules 3 and 4 of the General Medical Council's requirements.

The two parts may be taken separately or at the same time, but no candidate can be admitted to Part II unless he has already passed in Part I. No candidate's name will be published until he has satisfied the examiners in both parts of the examination.

The fee for each part is £5 5s., and must be paid on or before December 15th or July 1st in each year. For any subsequent examination in the same part the fee will be £3 3s.

Every candidate who has passed both parts of the Examination and who is legally registered, will receive a Diploma in Public Health.

[1] May be modified in the case of practitioners qualified before 1890.

Part I.

The subjects of examination are as follows:

1. *Chemistry as applied to Public Health.*—(*a*) Chemistry, with special reference to the examination of air and water; (*b*) Methods of qualitative and quantitative analysis; (*c*) Elements of Heat, with special reference to warming, ventilation, and meteorology; (*d*) Meteorological Instruments and their use.

2. *Etiology of Disease.*—(*a*) Pathology of Epidemic and Endemic Diseases, including diseases of animals communicable to man; (*b*) Influence of unwholesome food, air, water, occupation, dwelling, climate, season, soil.

3. *Practical Pathology and Bacteriology.*—(*a*) Practical Bacteriology, detection and cultivation of vegetable parasites, bacteriological analysis of air and water; (*b*) Recognition of parasites and of the lesions which they produce in man; (*c*) Recognition of diseased meat.

4. *Microscopy as applied to Public Health.*—(*a*) Foods, their adulterations, contaminations, and parasites; (*b*) Air and Water, their microscopical impurities.

Part II.

The subjects of examination are as follows:

1. *Public Hygiene.*—(*a*) Water Supply; (*b*) Drainage, Sewerage, and Disposal of Refuse; (*c*) Construction of Dwellings, Schools, Hospitals, including their warming and ventilation; (*d*) Geological data referring to the above; (*e*) Interpretation of plans.

2. *Sanitary Law and Administration.* (*a*) Domestic and General Sanitation of houses, villages, and towns; (*b*) Regulation of offensive, dangerous, or unhealthy trades and occupations; (*c*) The prevention and control of epidemic disease by isolation, disinfection, vaccination, and other methods; (*d*) Statutes and By-laws relating to Public Health.

3. *Vital Statistics.*

4. *Sanitary Reporting.*—The candidate will be required to visit and report upon the sanitary condition of some locality assigned to him by the Examiners.

Order of Examination.

Part I.

The examination will include:

1. A three hours' written examination on Chemistry as applied to Public Health.
2. A four hours' practical and oral examination on Chemistry as applied to Public Health.
3. A three hours' written examination on the Etiology of Disease.
4. A four hours' practical and oral examination on Bacteriology, the Pathology of infectious diseases, diseased meat, and the use of the microscope as applied to the examination of food, air, and water.

Part II.

The examination will include:

1. A three hours' written and oral examination on Engineering as applied to Public Health.
2. A three hours' written examination on Sanitary Law and Administration, and on Vital Statistics.
3. Sanitary reporting.
4. Oral examination on the above subjects.

Candidates preparing for the D.P.H. Examination of the University will find it convenient to arrange their attendances in one of the following ways:

1. Beginning in October: Laboratory work from October to March; Outdoor Sanitary work from January to July; Hospital for Infectious Diseases, three months before, during, or after the period of study in the Laboratory.

2. Beginning in January: Laboratory work from January to July; Outdoor Sanitary work from March to October; Hospital for Infectious Diseases, three months before, during, or after the period of study in the Laboratory.

3. Beginning in April: Laboratory work from October to March; Outdoor Sanitary work from April to October; Hospital for Infectious Diseases, three months before, during, or after the period of study in the Laboratory.

4. Beginning in July: Outdoor Sanitary work from July to January; Laboratory work from October to March; Hospital for Infectious Diseases, three months before, during, or after the period of study in the Laboratory.

Candidates are recommended to begin either in October or July, rather than in January or April.

Candidates who have not attended a course of lectures on Public Health as part of the medical curriculum should attend either the general course given during the summer session or the advanced course of lectures on Public Health.

Candidates beginning in July or October may present themselves for examination the following July.

Candidates beginning in January may present themselves for examination the following January.

Degree of B.Sc. in Public Health.

1. Candidates must be graduates in Medicine of this University or of some other University recognized for the purpose.

2. Candidates must produce certificates of attendance at courses of study in the University extending over not less than two years subsequent to their graduation in Medicine,

and must have passed an examination in the subjects prescribed by the regulations.

1. The courses of study include:

(1) The subjects of the diploma in Public Health. (2) An approved advanced course in two of the following subjects: (*a*) Comparative Pathology, (*b*) Physics and Meteorology, including Climatology, (*c*) Chemistry, (*d*) Biology, (*e*) some other Science.

2. Candidates must produce certificates of having attended six months, day by day, with a medical officer of health recognized for this purpose by the University; such period may include the attendance at a Fever Hospital.

3. The candidates must have passed the examination for the diploma in Public Health, either at the end of the first year or second year of study, and must have attained in that examination a standard approved by the Faculty of Science.

4. Candidates must present themselves for examination in the two subjects under (2) at the end of their course of study.

Candidates preparing for the B.Sc. degree must, after attending the D.P.H. courses, apply for admission to two of the following departments: Comparative Pathology, Chemistry, Physics, Biology (Botany and Zoology), where they must devote one year to the study of the subjects indicated to them by the professor in charge of the department.

University of Birmingham.

The University grants the degree of B.Sc. in Public Health, and also a diploma.

(1) Candidates for the diploma must be registered under the Medical Act. (2) The examinations will be held in the months of January and June, and will consist of two parts. No candidate will be allowed to pass Part II until he has passed Part I. (3) Candidates may enter for Parts I and II separately or at the same time. (4) The examination in each part will be written, oral, and practical. (5) Candidates intending to present themselves for either part of the examination must give notice in writing to the Registrar of the University on the date prescribed in the Calendar. (6) The fee for each part of the examination is £2; admission fee to the degree or diploma £6.

Candidates registered under the Medical Act on or before January 1st, 1890, will be allowed to sit for examination on producing certificate of registration. Other candidates will be admitted to examination in Part I on producing evidence of being at least 23 years of age, and of having in all respects complied with the requirements of the General Medical Council. Unless, however, the candidates are graduates in Medicine of the University of Birmingham, or past students who have taken out the whole of their curriculum in the Birmingham Medical School, they must attend the special courses of instruction indicated in Rule 2 and Note 2 of Rule 3 of the requirements in the University of Birmingham itself.

The B.Sc. in Public Health.

Graduates in Medicine of this University may become candidates for the degree of Bachelor of Science in Public Health by conforming to all the requirements laid down for candidates for the Diploma in Public Health, except that after graduating in Medicine all courses of study must be taken out in the University, and they must, in addition have attended a three months' course of Geology in the University.

The examination for the degree is not the same as that for the diploma, a considerably higher standard of knowledge being exacted.

The whole of the instruction, with the exception of outdoor sanitary work, required for the degree and diploma in Public Health can be taken out in the University. Fees: Sanitary chemistry, £8 8s.; caution money deposit, £1; bacteriology, £4 4s.; incidental fee, £1 1s.; geology, £2 2s.; public health lectures, £2 2s.

University of Leeds.

This University gives a Diploma in Public Health, the regulations laid down in respect of it being in accordance with the requirements of the General Medical Council. Special courses of instruction in all the subjects involved have been arranged, and these are equally available either to those preparing for the Diploma of the University itself or to those having other corresponding diplomas in view. The arrangements include lectures in Public Health, Sanitary Chemistry (including practical instruction and study of the Laws of Heat and the use of meteorological instruments), courses of Bacteriology, and attendance at hospitals for infectious diseases, and practical work in sanitation carried on under Dr. Spottiswoode Cameron, Medical Officer of Health for the City. The fee for the latter course is £10 10s.; those for Sanitary Chemistry, Bacteriology, and hospital attendance being £5 5s. each, while an extra fee of £1 1s. is charged to those who have not previously been students at the University.

University of Edinburgh.

This University confers two degrees in science in the Department of Public Health, namely, Bachelor of Science (B.Sc.) and Doctor of Science (D.Sc.).

Bachelor of Science.—Two examinations must be passed, and the candidate must produce evidence of having complied with the regulations of the General Medical Council (see p. 521), and have taken a degree in Medicine in the University of Edinburgh or in a University recognized by it. The subjects of the First Examination are: (1) Laboratory work, practical, written, and oral; (2) Elements of Experimental Physics; (3) Geology, written and oral. The Second Examination cannot be taken sooner than six months after the first. The candidate must have attended a course of lectures (50 at least) in the University of Edinburgh, or in a university recognized by the Court. The subjects of the Second Examination are: (1) Sanitation; (2) Sanitary Law; (3) Vital Statistics; (4) Medicine in its bearings on Public Health; and the examinations in these subjects are taken at one time. (A detailed syllabus is given in the *Calendar*, pp. 305-307. The time-table will be found at pp. 316-319 of the *Calendar*.) The examinations are held in March and July. The fee for each examination is £3 3s. Further particulars may be obtained on application to the Dean of the Faculty of Science at the University Matriculation Office, where the schedules for examination are issued and the certificates of candidates examined.

Doctor of Science.—Bachelors of Science in the Department of Public Health may, after the lapse of five years, proceed to the degree of Doctor in the same Department on presenting a thesis on some subject in the Department of Public Health, or a published memoir of works, and are required to pass an examination in Public Health, and in such of its special departments as may from time to time be determined. (Candidates for D.Sc. in Public Health may appear for examination in any one of the departments of knowledge required for the degree of B.Sc. in Public Health. They are required to submit the subject in which they propose to be examined for approval at least two months before the date of the examination.) Every such thesis must be certified by the candidate to have been composed by himself, and must be approved by the examiners. The thesis must be lodged with the Dean of the Faculty of Science on or before December 1st, and the subject of examination must be submitted before January 20th. The examination will take place about the end of March. The fee is £10 10s.

University of Aberdeen.

The University grants a diploma in Public Health. Candidates for the diploma must have graduated in Medicine in the University, or in a University in the United Kingdom, one year before they receive the diploma; and they must produce evidence of (1) having complied with the regulations of the General Medical Council (see p. 521); (2) of having attended an infectious fever hospital, containing no fewer than 50 beds, for six months; (3) of having obtained, under a competent teacher, during not fewer than ten meetings of not less than one hour each, practical instruction in the drawing and interpretation of plans; (4) if not a graduate in Medicine of Aberdeen University, of having attended a course in the University in one or more of the subjects embraced in the examination for the diploma. The examination consists of two parts: Part I (*a*) Physics, Engineering, and Meteorology; (*b*) Chemistry, Microscopy, and Bacteriology. Part II (*a*) General Hygiene; (*b*) Sanitary Law and Vital Statistics. The examination (which is written and oral) is held in March and July, and notice must be given to the Secretary of the Medical Faculty two weeks before. A detailed synopsis can be obtained from the Dean of the Medical Faculty, or will be found in the *University Calendar* for 1905-6. The fee, which must be paid at the time of giving notice, is £5 5s. The fee for re-examination, £1 1s.

University of St. Andrews.

This University grants a diploma in Public Health. Candidates must have been in possession of a medical degree of this University or of a University of the United Kingdom for at least twelve months previous to admittance to examination. There are two examinations: First, in Chemistry, Physics, Bacteriology, and Meteorology; secondly, in Sanita-

tion, Sanitary Laws, Vital Statistics, Epidemiology and Endemiology and Pathology of Infectious Disease. Fee for each examination, £5 5s. For re-examination, £1 1s. A synopsis of the subjects of examination and books recommended will be found in the *University Calendar*.

Further information will be given by the Secretary of the University, or will be found in the *University Calendar* for 1905-6, published by William Blackwood and Sons, 45, George Street, Edinburgh, price 2s. 6d., or post free, 2s. 10d.

CONJOINT BOARD IN SCOTLAND.

The Royal Colleges of Physicians and Surgeons of Edinburgh and the Faculty of Physicians and Surgeons of Glasgow will grant a conjoint diploma in Public Health, after examination by a Board on which these bodies are represented. Candidates qualified before 1890 will be admitted without evidence of special instruction (though even in their case such instruction is strongly recommended). Candidates must produce evidence of attendance (subsequent to obtaining a registrable qualification) for six months at a Public Health Laboratory, and for six months under a Medical Officer of Health of a county or of a large urban district. There are two examinations, and candidates may present themselves for both of them at one period or for either examination separately. The First Examination embraces the following subjects in their relation to Public Health: Laboratory Work including Chemistry and Bacteriology, Physics, and Meteorology. The Second Examination includes: (*a*) Report on premises visited; (*b*) examination at fever hospital; (*c*) examination at public abattoir; (*d*) epidemiology and endemiology: (*e*) vital statistics and sanitary law; (*f*) practical sanitation. The various subjects of both examinations are detached and limited by synopses given. The laboratory work embraces not only Chemical Analyses, but also Microscopical Examination, Bacteriology, Parasites, etc. At the Second Examination each candidate is required to submit a report on the sanitary condition of premises to which he may be sent for the purpose, and is examined on the Acts of Parliament included under "Sanitary Law." The fee is £12 12s., or £6 6s. in respect of each examination; and candidates referred are readmitted on a fee of £3 3s. in respect of each examination. The examination is held in Edinburgh or in Glasgow, there being two periods of examinations yearly—October and May. The examination in October, 1905, will be held in Edinburgh. Applications for examination in Edinburgh to be sent to Mr. James Robertson, 54, George Square, Edinburgh; and in Glasgow to Mr. Alexander Duncan, B.A., LL.D., 242, St. Vincent Street Glasgow, not later than fourteen days before the examination day. The regulations and synopses of subjects will be found at pp. 58 to 64 of the 1904-5 edition of the *Calendar of the School of Medicine of the Royal Colleges, Edinburgh* which may be had on application to the Secretary, R. N. Ramsay, Solicitor, 27, Forrest Road, Edinburgh.

UNIVERSITY OF DUBLIN.

The diploma in Public Health is conferred after examination upon M.D.'s or graduates in Medicine and Surgery of Dublin, Oxford or Cambridge. The name of the candidate must have been on the *Medical Register* at least twelve months before the examination, and, subsequently to registration, the candidate must have completed six months' practical instruction in a laboratory approved by the University; must have studied practical outdoor sanitary work for six months under an approved officer of health, three of which must be distinct from the time spent in laboratory work, and must have studied for three months in a fever hospital, in which opportunities are afforded for becoming acquainted with methods of administration. [This condition does not apply to candidates registered or entitled to be registered on or before January 1st, 1890.] Examinations are held in December, March, and June, and candidates are required to send in their names at least a week before the first day of the examination to the Registrar of the School of Physic, from whom a full syllabus of the examination can be obtained. Candidates who have registered since January 1st, 1890, are required to make application for permission to present themselves for examination to the Board of Trinity College, submitting at the same time certificates of the required courses of study. The subjects of examination are: Hygiene and Epidemiology (paper); Chemistry (paper and laboratory); Physics and Meteorology (oral); Sanitary Engineering (paper and practical); Vital Statistics and Public Health Act (paper); Bacteriology and Pathology (paper and practical).

Further particulars can be obtained on application to the Registrar of the School of Physic, Dublin.

ROYAL UNIVERSITY OF IRELAND.

The diploma in Public Health is conferred only on graduates in medicine of the University. Candidates may present themselves after an interval of twelve months from the time of obtaining the M.B., B.Ch., B.A.O. degrees. Each candidate who satisfies the examiners must pay a further fee of £5 before the diploma can be granted to him. Every candidate when entering for the Examination must produce evidence of being eligible according to the requirements of the General Medical Council.

Candidates must answer in the following subjects: (1) Physics, (2) Meteorology, (3) Chemistry, (4) Bacteriology, (5) Sanitary Engineering, (6) Hygiene, Sanitary Law, and Vital Statistics. The following are the particulars of the foregoing subjects:

I. PHYSICS. General Laws of Heat: Mechanics, Pneumatics, Hydrostatics, and Hydraulics. [*Everett's Elementary Textbook of Physics.*]

II. CHEMISTRY.—Methods of Chemical Analysis. Normal and abnormal composition of atmospheric air. Pure and impure water. Food and its adulteration. Chemical processes for treatment of sewage. Disinfectants, their composition and mode of action. Poisonous substances used in manufactures. Nature and treatment of effluvia from factories, etc.

There will be a practical Examination, both chemical and microscopical, at which the Candidate must make at least qualitative analyses. [*Wynter Blyth on Food.*]

III. METEOROLOGY.—A general knowledge of meteorological conditions: the reading and correction of instruments, and tabulating the results of meteorological observations. [*Buchan's Handy-book of Meteorology; Moore's (J. W.) Meteorology.*]

IV. SANITARY ENGINEERING AND ARCHITECTURE.—Principles of building construction in their application to dwellings, barracks, hospitals, schools, factories, etc; warming, ventilation, drainage, water supply, in relation thereto. Relation of window space to wall surface. Measurement of cubic and superficial space. Space to be provided per bed in schools, barracks, general and fever hospitals. Natural and artificial ventilation. Various kinds of closets and their position and defects. House drains, their ventilation and flushing. Subsoil drainage. The general disposal of sewage and reuse. Sources, collection, storage, and distribution of water.

In connexion with this part of the Examination, candidates will be required to draw up a sanitary report upon the condition of dwelling-houses or other buildings selected for the purpose, and read plans, scales, sections, etc.

V. BACTERIOLOGY.—The Morphology of Microbes, Artificial Cultivation of Microbes, Staining of Microbes in fluids and in tissues. Modes of inoculation and special characters of Pathogenic Microbes: special characteristics with practical work on Pathogenic Micro-organisms. Aërobic and Anaërobic Bacteria. Nature of immunity from infective disease and modes of producing it, with evidence of having received practical instruction in those diseases of animals that are transmissible to man. Antiseptics and disinfectants. Bacteriological examination of water, air, foods. Sewage. Parasites and other Organisms infecting Food-stuffs or the Human Body. [*Woodhead's Bacteriology: Hewlett's Bacteriology: Frankland's Bacteriology of Water.*]

VI. HYGIENE, SANITARY LAW, AND VITAL STATISTICS.—*Hygiene.*—Diet under different conditions. Diseases produced by unsound fruit. Diseases of animals and plants used as food. Diseases transmissible to man by animals, water, and milk. Characteristics as regards origin, pathology, symptoms, propagation, geographical distribution, and prevention of the epidemic, endemic, and other infective diseases of temperate and tropical climates. Methods of dealing with epidemics. Effects on health of overcrowding. Unwholesome trades or occupations. Nuisances injurious or dangerous to health. Clothing and exercise. Disposal of the dead. [*Parkes and Kenwood's Hygiene; Hamer's Hygiene; Whitelegge's Hygiene.*]

Sanitary Law.—Public Health (Ireland) Act, 1878, 41 and 42 Vic., cap. 74; Parts 1 and 2 or the equivalent sections of English Public Health Act, 1875, 38 and 39 Vic., cap. 54; Public Health Acts Amendment Act, 1890, 53 and 54 Vic., cap. 59; Parts 1 and 3; Infectious Diseases Notification Act, 1889, 52 and 53 Vic., cap. 72; Infectious Disease (Prevention) Act, 1890, 53 and 54 Vic., cap. 4; Sale of Food and Drugs Act, 1875, 38 and 39 Vic., cap. 75; 1879, 42 and 43 Vic., cap. 30, and 1899, 62 and 63 Vic., cap. 51; Epidemic and other Diseases Prevention Act, 1883, 46 and 47 Vic., cap. 59; Public Health (Ships) Act, 1885, 48 and 49 Vic., cap. 35; Public Health (Ports) Act, 50 and 60 Vic., cap. 37; Housing of the Working Classes Act, 53 and 54 Vic., cap. 70. (*Hamer's Public Health and Sanitary Laws.*)

Vital Statistics.—The principles and methods of Vital Statistics in relation to Public Health. Calculations of Death-rates; Life Tables; Death-rates at different periods of life.

CONJOINT EXAMINING BOARD IN IRELAND.

A diploma in State Medicine is granted by these two Colleges after an examination conducted by them jointly. Candidates are required to comply with the requirements of the General Medical Council (see p. 521). The regulations as to study do not apply to practitioners registered or entitled to be registered on or before January 1st, 1890. The examination comprises the following subjects: State Medicine and Hygiene, Chemistry (including Chemical Physics), Meteorology and Climatology, Engineering, Vital Statistics, Law, and Bacteriology. In addition to written papers, the candidates will be examined orally in Hygiene, and practically in the reading of plans, sections, and scales, as well as in Analytical Chemistry, with special reference to air, water,

and food, including the use of the Microscope, and in Bacteriology. They will also be required to read meteorological instruments, and to explain their construction, and will be called upon to make a practical Sanitary report.

The candidate must return his name to the Secretary of the Committee of Management under the Conjoint Scheme, Royal College of Physicians, 6 Kildare Street, Dublin, two weeks before the examination, and lodge with him a testimonial of character from a Fellow of either of the Colleges or of the Royal Colleges of Physicians or Surgeons of London or Edinburgh. If he has been registered subsequent to January 1st, 1890, he must lodge, in addition, a schedule, setting forth that he has attended the necessary courses of instruction as laid down in the Regulations.

The examination is divided into two parts, which may be passed either together or separately. The examination occupies six days.

The fee for examination is £10 10s., for re-examination £5 5s.; the examinations begin on the first Tuesday of the months of February, May, and November.

A special examination for the diploma may, at the discretion of the Committee of Management, be granted on payment of £10 10s. in addition to the ordinary fees mentioned above—except during the months of August and September—and on giving a notice at least one fortnight before the date of the proposed examination.

Detailed Regulations and Schedules can be obtained from the Secretary.

Instruction and Laboratory Classes.

Courses of lectures and laboratory instruction to suit the requirements of candidates for diplomas in Public Health have been organized at the following among other schools, and could probably be arranged for at all of them. In this connexion it is not to be forgotten that the chemical and bacteriological examinations for many of the health diplomas are now so practical and the time allowed so short, that unless a candidate—even though familiar with the duties of a M.O.H.—has a considerable amount of the manipulative dexterity only to be acquired by work in a laboratory, he would not be likely to satisfy the examiners.

London.	
St. Bartholomew's Hospital.	London Hospital.
Charing Cross Hospital.	Middlesex Hospital.
St. George's Hospital.	St. Mary's Hospital.
Guy's Hospital.	St. Thomas's Hospital.
King's College.	University College.
Provincial.	
Cambridge University.	University of Durham College of Medicine, Newcastle-on-Tyne.
University of Birmingham.	University College, Bristol.
University of Liverpool.	Victoria University, Manchester.
University of Leeds.	
Ireland.	
School of Physic, Dublin.	Royal College of Surgeons, Schools of Surgery, Dublin.
Catholic University School of Medicine.	
Scotland	
University of Edinburgh.	University of Aberdeen.
University of Glasgow.	St. Mungo's College, Glasgow.

THE PUBLIC SERVICES.

THE ROYAL NAVY AND ARMY AND THE INDIAN MEDICAL SERVICES.

General Regulations.

The following are the general rules governing admission to these services:

All candidates must be between the ages of 21 and 28 years, must possess registrable qualifications to practise medicine and surgery in Great Britain and Ireland, and must be adjudged by the Medical Board appointed for the purpose to be physically fit for service, must submit to an examination by a Medical Board into their physical fitness before being admitted to the entrance examination. This examination takes place before permission is accorded to competitors at the entrance examinations. Special attention is given to the candidate's power of vision. A moderate degree of myopia is not considered a disqualification, provided that it can be corrected by glasses during operations, and that no organic disease of the eye exists.

Testimony has also to be furnished, or is sought by the authority concerned, with regard to the candidate's moral and general character, and the Secretary of State in each service reserves the right to refuse permission to compete to any candidate.

As the prospect of a medical officer in one of these services attaining to the highest administrative grades depends to a large extent upon the regulations with regard to compulsory retirement at the age of 55, if below a certain grade at that age, there is a distinct advantage in entering the service at as early an age as possible.

The attractions of the Royal Army Medical Corps and of the Indian Medical Service have recently been materially increased owing to the introduction of reforms advocated by the British Medical Journal, and, in addition to improvements in pay, there is now scope for the work of a man who has special ability in some one or other branch of medicine or surgery.

The Royal Navy Medical Service.

A candidate for admission to the Royal Navy Medical Service must be between 21 and 28 years of age, age to be verified by a copy of birth registration, or by a declaration before a magistrate by parent or near relative. He must also produce a certificate of moral character, up to date, and a recommendation signed by a clergyman or magistrate to whom he has been for some years personally known, or by the President or senior Professor of the College at which he was educated. He must be registered under the Medical Act in force as qualified to practise medicine and surgery in Great Britain and Ireland. He must declare—(1) His age and date and place of birth; (2) that he is of pure European descent, the son either of natural-born British subjects or of parents naturalized in the United Kingdom[1]; (3) that he labours under no mental or constitutional disease or weakness nor any other imperfection or disability which may interfere with the most efficient discharge of the duties of a medical officer in any climate; (4) that he is ready to engage for general service at home or abroad; (5) whether he holds or has held any commission or appointment in the public service; (6) that he is registered under the Medical Act in force as duly qualified professionally, and what diplomas, etc., he holds. He must be free from organic or other disease, and his physical fitness for sea service will be determined by a Board of medical officers, who are to certify that his vision comes up to the required standard, which will be ascertained by the use of Snellen's test types.

The certificates of registration, character, and birth must accompany the declaration, which is to be filled up and returned as soon as possible, addressed, "O.H.M.S.," Director-General Medical Department, Admiralty, 18, Victoria Street, London, S.W.

The entrance examination consists of two parts: in Part I, *Compulsory* (*a*) Medicine, including materia medica, therapeutics, and general hygiene (marks 1,200); (*b*) Surgery and surgical anatomy (1,200). The examination in Medicine and Surgery will be in part practical, and will include, beyond papers, the examination of patients and pathological specimens, a knowledge of bacteriology, the performance of operations on the dead body, and the application of surgical apparatus. The attention of candidates is especially drawn to the importance of the section of Operative Surgery, as a competent knowledge in this subject is essential in order to qualify for a commission.

No candidate will be considered eligible who has not obtained at least *one-third* of the maximum marks in each of the above *compulsory subjects*.

Part II, *Voluntary*, consists of two divisions: (*a*) French and German (300 marks each); a knowledge of modern languages being considered of great importance, all candidates are urged to qualify in them; (*b*) Natural Sciences (Zoology, Botany, Chemistry, Physiology, Geology, and Physical Geography, 300 marks each); the two latter subjects are combined for the 300 marks. No candidate will be allowed to present himself for examination in more than two of the (*b*) subjects. Total attainable marks 600 in each division. A number less than one-third of the marks obtainable in each of these *voluntary subjects* will not be allowed to count in favour of the candidate who has qualified in the *compulsory subjects*.

The examination in Chemistry will include the general principles of inorganic and organic chemistry; the preparation and properties of the chief non-metallic and metallic elements and their compounds; the preparation, properties, and classification of the more important compounds, such as

[1] If any doubt should arise as to this question, the burden of clear proof that he is qualified will rest upon the candidate himself.

marsh gas, ethylene, acetylene, methyl and ethyl alcohols, glycerine, ether; formic, acetic, lactic and oxalic acids; cyanogen and cyanides; carbohydrates; fats; proteids.

The examination in Physiology will comprise the minute structure and functions of the various tissues and organs of the body; the physiology of the blood; the nature of food and the processes of its digestion, the mechanics of the circulation and respiration; the physiology of nutrition, secretion, and excretion; animal heat, the nature of sensation, volition, reflex action inhibition and influence of the nervous system on other organs and their functions.

Zoology.—The examination in Zoology will include the general principles of biology and a comparison of animals with plants; the distinctive character of the larger groups of animals—the protozoa, coelenterata, vermes, anthropoda, mollusca, echinodermata, and vertebrata—as illustrated by common types; the elements of embryology; animal parasites.

Botany.—The examination in Botany will comprise the general principles of the morphology and physiology of low forms of life—for example, torula, bacteria, spirogyra, moss, fern; the general morphology of flowering plants; diagnosis of the important British natural orders; medicinal plants.

Geology and Physical Geography.—The examination in Geology and Physical Geography will be limited to general principles, such as: The relations of the earth to the rest of the solar system, nature of the earth's crust, and the chief kinds of rocks, general configuration of land and water, mountains, plains, lakes, rivers, islands, glaciers and icebergs, the ocean currents, tides, winds and storms, dew, rain, climate, volcanoes, earthquakes, distribution of animal and vegetable life.

The appointments announced for competition will be filled from the list of qualified candidates arranged in order of merit; but should it at any time be considered expedient to grant commissions beyond those periodically competed for, the Admiralty has power to admit annually:

(*a*) Two candidates, proposed by the governing bodies of Schools of Medicine in the United Kingdom, who have satisfactorily filled the office of house-surgeon in a large civil hospital for at least six months.

(*b*) Not more than six candidates, according to requirements specially recommended by the governing bodies of such Colonial universities as may be selected, and whose qualifications are recognized by the General Medical Council.

Candidates so proposed are to be approved by the Director-General of the Medical Department, and are to be certified by the governing body proposing them as duly qualified according to the regulations in force for the entry of candidates.

In cases of Colonial nominations, registration of professional qualifications as required by first paragraph above, may be deferred until after the arrival in England of a candidate who has been passed on the station, but a commission as Surgeon will not be granted until the certificate of the Registrar of the General Medical Council has been produced at the Medical Department of the Navy.

Candidates from schools at home will be required to pass a physical examination in London, which will be arranged by the Medical Director-General. Colonial candidates will have to pass a physical and test examination before a Board of Naval Medical Officers on the station.

Copies of the Regulations for entry of candidates for commissions in the Medical Department of the Royal Navy will be furnished on application to the Medical Director-General, Admiralty, 18, Victoria Street, London, S.W.

Successful candidates immediately after passing the examination will receive commissions as Surgeons in the Royal Navy, and will undergo a course of practical instruction in Naval Hygiene, the diseases of warm climates, bacteriology, surgery of gunshot wounds, etc., radiography and the photography in connexion with it at Haslar Hospital. Three prizes of the approximate value of £10 each will be awarded at the close of each session at Haslar to the students who have shown the greatest proficiency, and their seniority in the service will depend on the marks obtained at the examination in London, and at the termination of their studies at Haslar. Surgeons entered without competition will take seniority next after the last surgeon entered by competition. A fee of £1 will have to be paid by each candidate to entitle him to take part in the competition.

Surgeons are only required to provide themselves with a regulation case of pocket instruments, a stethoscope, and three clinical thermometers. All other instruments are provided at the public expense.

Promotion.—(1) An inspector-general of hospitals and fleets will be selected from among deputy inspectors general who have in that rank three years' full pay service, and have not declined foreign service unless with the sanction of the Lords Commissioners of the Admiralty. (2) A deputy inspector-general of hospitals and fleets will be selected for ability and merit from among the fleet surgeons. (3) (*a*) Subject to the approval of the Lords Commissioners of the Admiralty, the rank of fleet surgeon will be granted to staff surgeons at the expiration of eight years from the date of promotion to staff surgeon if recommended by the Medical Director-General and if they have not declined service except for reasons which in the opinion of the Lords Commissioners of the Admiralty are satisfactory. (*b*) Special promotions to this rank will be made at the discretion of the Admiralty in cases of distinguished service or conspicuous professional merit. Such promotions will be exceptional and not exceed the rate of one in two years, or a total number of six at any one time of fleet surgeons so promoted. (4) (*a*) The rank of staff surgeon will be granted to surgeons at the expiration of eight years from the date of entry, subject to the recommendation of the Medical Director-General and the passing of a qualifying examination after the completion of five years from date of entry. (*b*) Special promotions will be made at the discretion of the Admiralty to the rank of staff surgeon in cases of distinguished service or conspicuous professional merit such promotions not to exceed one a year, or a total of eight at one time on the staff surgeons' list. No officer will be so promoted unless he passes the examination prescribed for the other surgeons, but in such a case five years in rank will not be required for so doing. These officers will attain the rank of fleet surgeon after eight years' service as staff surgeon (*c*) When a surgeon's promotion to the rank of staff surgeon has been retarded by failure to pass the qualifying examination, he will, should he pass and be promoted, be dealt with as follows: He will be granted the seniority of staff surgeon he would have received had he passed in ordinary course. He will reckon service for increase of full and half pay only from the date of appointment to full pay as staff surgeon. If on half pay, or placed on half pay when promoted, he will receive the lowest rate of half pay of the new rank from the date of passing the qualifying examination. Where delay in passing the qualifying examination is due to unavoidable circumstances, special consideration will be given. (*d*) The examination for promotion to the rank of staff surgeon will be held by the Examining Board, to which a naval medical officer will be attached to conduct the examination in naval hygiene. The subjects of examination will be in writing, and will include Medicine, Surgery, Pathology, General Hygiene, Naval Hygiene. Earlier promotion to the rank of staff surgeon may be granted to those surgeons who before entry have held the post of resident medical or surgical officer to a civil hospital of not less than 100 beds for a period of not less than six months, provided their conduct and professional abilities have been favourably reported on during the time they have served in the navy. They may be granted from six months' to one year's seniority, according to the time they have held their civil appointments as house-surgeons, but in no case will more than one year's seniority be granted. This only applies to officers who enter by competition. Candidates who at the time of entry into the navy hold or are about to hold posts as resident medical or surgical officer in a recognized civil hospital will be allowed to complete their time in these appointments, provided it does not exceed twelve months. The time served will reckon for increase of full and half pay and retired pay or gratuity on retirement or withdrawal, except that no officer will be allowed to retire on a gratuity until he has completed four years' service, exclusive of the time spent as resident medical or surgical officer. Pay from Naval Funds will not be granted during the holding of the appointment.

Relative rank is accorded as laid down in the *King's Regulations* and *Admiralty Instructions*, and also in the official *Quarterly Navy List*.

Full Pay and Allowances.—The rate of pay of surgeons is on entry £255 10s. a year; after four years' full-pay service, £310 5s. a year; after eight years' full-pay service, or on promotion to staff surgeon, £365; after twelve years' service, £438. Fleet surgeons on promotion, special, or after 20 years in the service, £492 15s. a year; after 4 years' full-pay service in that rank, £547 10s.; after 8 years' full pay service, £602 5s.; and after 12 years' service, £657; Deputy Inspector-General, £766 10s. a year; Inspector-General, £1 300, consolidated. The Inspectors-General at Haslar and Plymouth Hospitals, and the corresponding officer at Chatham Hospital when the new hospital is completed, will be granted an allowance of 10s. a day as charge pay. Deputy inspector-generals, fleet surgeons, and staff surgeons in charge of certain hospitals receive charge pay of 7s. 6d., 5s., and 2s. 6d. a day respectively. The senior medical

officer—fleet or staff surgeon—of ships bearing the flags of flag officers commanding foreign stations and the Channel and Atlantic fleets receive an allowance of 5s. a day. An allowance of 2s. 6d. a day may be granted to the senior medical officer of ships bearing the flag of flag officers not commanding stations or fleets and to ships flying the broad pennant of commodores. Medical officers conducting the course of instruction at Haslar Hospital will receive the following allowances:—The two senior officers employed upon this duty £150 a year each; the junior officer assisting, £50 a year; the junior officer instructing the sick berth staff £50 a year; the officer instructing the sick berth staff at Plymouth, £50 a year. The following charge allowances may be granted to medical officers in charge of hospital ships: if above the rank of fleet surgeons, 5s. a day; if of the rank of fleet surgeon or junior, 3s. 6d. a day. The fleet and staff surgeons serving at the Admiralty and the Marine Rendezvous will be granted hospital allowance of £53 a year in addition to the usual lodging money. Hospital allowances for naval medical officers at home and abroad, in lieu of provisions for themselves and servants, and for fuel and lights are as follows: Deputy inspector-generals, at home, £67; abroad, £112; fleet or staff surgeons, at home, £53; abroad, £112; surgeons at home, £39, abroad, £108. Medical officers employed elsewhere than at a hospital, and not victualled in kind, receive an allowance of 1s. 6d. a day in lieu of above.

Half Pay.—Surgeons under 2 years' full-pay service, 6s. per diem; after 2 years' full-pay service, 7s. per diem; after 4 years, 8s.; after 6 years, 9s.; after 8 years, or on promotion to staff surgeons, after 12 years, 12s; after 14 years, 13s.; after 16 years, and on promotion to fleet surgeon, 14s; after 18 years, 15s.; after 20 years, 17s.; after 22 years, 18s.; and after 24 years, 20s. Deputy-inspector-general on promotion, 25s.; after 2 years' full-pay service in rank, 27s.; after 4 years, 29s. Inspector-general, 38s.

Retirement.—Compulsory retirement will be as follows:

Inspector and deputy-inspector-general of hospitals and fleets.	At the age of 60, or if unemployed for three years. The Admiralty reserves the right to extend the age of retirement of an inspector-general of hospitals and fleets in the interests of the public service, to 62 years.	To be retired at any age if physically unfit for service.
Fleet surgeon, staff surgeon, and surgeon.	At the age of 55, or at any age, if he has not served for three years.	

Gratuities and retired pay will be awarded on retirement and withdrawal on the undermentioned scale:

Rank.	Gratuities.	Daily.	Yearly.
	£ s. d.	£ s. d.	£ s. d.
Surgeon, Staff Surgeon, and Fleet Surgeon:			
After 4 years' full-pay service	500 0 0	—	—
,, 8 ,, ,,	1,000 0 0	—	—
,, 12 ,, ,,	1,500 0 0	—	—
,, 16 ,, ,,	2,250 0 0	—	—
Fleet Surgeon:			
After 20 years' service	—	*1 0 0	365 0 0
After 24 ,, ,, ...	—	*1 2 6	410 12 6
After 27 ,, ,, ...	—	*1 5 0	456 5 0
After 30 ,, ,, ...	—	*1 10 0	547 10 0
Deputy-Inspector-General ...	—	1 15 0	638 15 0
Inspector-General	—	2 0 0	730 0 0

*To obtain this rate an officer must hold the Commission of Fleet Surgeon.

† Or on compulsory retirement at the age of 55.

Voluntary retirement and withdrawal will be allowed as follows:

(*a*) Every officer will have the option, subject to their Lordships' approval, of retiring after twenty years' full-pay service on the scale of retired pay, or with a gratuity, as laid down above.

(*b*) At the expiration of 4, 8, 12, or 16 years' full pay service, every officer will be permitted, subject to their Lordships' approval, to withdraw from the Naval service, receiving a gratuity on the scale laid down above. The name of an officer so withdrawing will be removed from the lists of the Navy, with which all connexion will then be severed.

(*c*) Voluntary retirement and withdrawal at the discretion of their Lordships will be allowed, as a rule, only when an officer is unemployed or serving at home. Under very special circumstances, however, it may be permitted in the case of an officer serving abroad, provided he pays the passage of his successor to relieve him.

(*d*) Applications from officers, not entitled to retire or withdraw, to resign their commissions, will receive every consideration, but no officer will, as a rule, be permitted to resign under three years from the date of entry.

NOTE.—This necessary "subject to their Lordships' approval" for those voluntary or optional retirements, withdrawals, and resignations has of late very greatly qualified them. Loss of full-pay service from sickness or inability to obtain service from no default of the officer, peculiar to the navy as compared with the army, delays these so-called voluntary retirements and withdrawals. An officer retired with less than 20 years' service on account of disability contracted in and attributable to the service, will receive half-pay of his rank or with the consent of their Lordships a gratuity on the scales previously given, but such an officer will not be entitled to receive any special compensation for the disability in addition to the gratuity as above, unless he has received a wound in action or has been injured in duty, when extra gratuity or pension may be awarded.

An officer retired with less than twenty years' service on account of disability, contracted in but not attributable to the service, will receive:

(*a*) If he has over eight years' full-pay service, either a gratuity on the scale given in paragraph above, or half-pay, according as their Lordships think fit.

(*b*) If he has less than eight years' full-pay service, such gratuity as their Lordships think fit, not exceeding the rate of £125 for each year of full-pay service.

Under circumstances other than those specified, and other than misconduct, neglect of duty, etc., an officer retired with less than twenty years' service will not be allowed half-pay or retired pay but will receive a gratuity on the scale laid down above, if he has eight years' full-pay service; should his full-pay service not amount to eight years, a gratuity at the discretion of the Admiralty.

The power vested in their Lordship of granting reduced rates of half-pay and retired pay in cases of misconduct is extended to the award of gratuities on retirement, and the gratuity awarded will be reduced to such an amount as is thought fit.

An officer retiring after twenty years' full-pay service will be eligible, if recommended by the Medical Director General for distinguished or meritorious service, to receive a step of honorary rank, such step to be awarded at their Lordships' discretion, and not to confer any claim to increase of retired pay or of widow's pension.

All retired officers will be liable, till the age of 55, to serve in time of declared national emergency, in a rank not lower than that held on retirement, even if only honorary rank.

This liability will not exist in cases of withdrawal on the conditions specified under voluntary retirement previously.

Retired officers will receive special consideration as regards appointments on shore connected with the Admiralty, now filled by civilians.[1]

The special attention of candidates is directed to the following rules under which officers are allowed to withdraw from the service after four years' full-pay service in the Royal Navy, with the advantage of joining the Reserve of Naval Medical Officers:

After 4 years' service in the Royal Navy, an officer, if he wishes, may pass from active service to the Reserve of Naval Medical Officers, when he will reap the following advantages:

I. He will be granted a gratuity of £500 on passing into the Reserve.

II. His name will be retained in the Navy List; he will retain his naval rank and be entitled to wear his naval uniform under the regulations applying to officers on the retired and reserved lists of His Majesty's Navy.

III. If he agree to remain in the Reserve for four years, he will receive a retaining fee of £25 per annum. If, at the expiration of this period, he agree to remain in the Reserve for a further period of four years, he will continue to receive the same retaining fee.

Should an officer prefer it, however, he may simply enter the Reserve for a period not exceeding eight years, with power to give six months' notice of his intention to resign his position at any time (in which case he will receive no retaining fee). He may also adopt this method of reserve service after the expiration of four years served under the conditions referred to in (III), by renouncing his retaining fee for his last four years' service in the Reserve.

No officer will be allowed to remain in the Reserve for a longer period than eight years.

Officers of the Reserve will be liable to serve in the Royal Navy in time of war or emergency. When called up for such service they will receive the rate of pay, namely, 17s a day and allowances, to which they would have been entitled after four years' service on the active list.

Widow's Pension.—When an officer retires, or withdraws, on a gratuity, his widow and children will have no claim to pension or compassionate allowance.

[1] Recently this has been the case more than formerly.

Miscellaneous.—A special cabin will be appropriated to the fleet or staff surgeon or the surgeon in charge of the medical duties in each ship.

Special regulations have been made as regards the mess expenses of medical officers appointed to the several divisions of Royal Marines for limited periods.

Every medical officer will be required to undergo a post-graduate course of three months' duration at a metropolitan hospital once in every eight years (should the exigencies of the service permit) and this as far as possible during his surgeon's, staff surgeon's, and fleet surgeon's period of service. While carrying out this course the medical officer will be borne on a ship's books for full pay, and will be granted lodging and provision allowances, and travelling expenses as for service under the Regulations to and from his home or port; the fees for each course (not exceeding £25) will be paid by the Admiralty on the production of vouchers at the end of the course. The medical officer will be required to produce separate certificates of efficient attendance in the following:

I. The Medical and Surgical Practice of the Hospital.
II. A course of Operative Surgery on the Dead Body.
III. A course of Bacteriology.
IV. A course of Ophthalmic Surgery, particular attention being paid to the Diagnosis of Errors of Refraction.
V. A practical course of Radiography.

ENTRIES FOR TEMPORARY SERVICE.

The following are the regulations for the entry of Surgeons for Temporary Service in the Medical Department of the Royal Navy during war or emergency: They must be registered under the Medical Act as qualified to practise Medicine and Surgery in Great Britain and Ireland; they must produce certificates of good character; they must be reported physically fit after medical examination; and their age must not exceed 40 years.

Pay and Allowances.

Full Pay.	Half Pay.
22s. 0d. a day. £401 10s. 0d. a year.	10s a day £182 10s. 0d. a year.

Note.—Half-pay is for sickness and extra leave only.

To be granted 30 days' advance of pay on joining a ship after appointment.

To receive the same allowances as are payable to permanent officers of their rank.

Lodging money at the rate of £50 a year is usually allowed when employed on shore without quarters in the United Kingdom, and £24 a year in lieu of rations. In cases, however, of temporary employment on shore, the lodging and provision allowances will be at the rate of 3s. 6d. and 1s. 6d. per day respectively.

If quarters are provided in a medical establishment, an allowance is granted in lieu of provisions, for self and servant, and for fuel and lights at the rate of £39 a year in the United Kingdom, and £108 a year abroad.

Uniform.

Each surgeon to provide himself as follows:
1. Frock coat, waistcoat, and trousers.
2. Undress coat.
3. Uniform cap.
4. Mess jacket and waistcoat.
5. Sword and undress belt.

All as specified in the Uniform Regulations.

To cover the above each officer accepted for service will receive an equipment allowance of £20 (payable on the officer being called up for active service).

The following instruments must be provided by the surgeon:
A pocket case of instruments.
A stethoscope.
Three clinical thermometers.

Messing.

Surgeons will be allowed, when attached to ships in commission, the ordinary ship's rations; but will have to pay about 2s. a day towards the maintenance of their mess as wardroom officers.

Pensions for Wounds and to Widows, etc.[1]

In the event of surgeons engaged for temporary service being wounded in His Majesty's Service, gratuities or pensions, varying in amount according to the injuries sustained, will be granted, on the basis of the awards in similar cases of naval officers.

Should temporary-service surgeons be killed in action, die within six months of wounds received in action, or meet their death by acts of the enemy, the following pensions and allowances will be granted to their widows, children, etc.:

In addition to the foregoing pensions, the widows and children of officers killed in action will be granted the following gratuities:

Widows.—One year's pay of their husband's corresponding rank in the Royal Navy

[1] Unmarried candidates will be preferred.

	Widows.		Children up to the Age of 18 for Boys and 21 for Girls.		Widowed Mothers Dependent on their Sons, if the Latter left no Widows or Children.	Orphan Sisters Dependent on their Brothers, if the Latter left no Mothers, Widows, or Children.
	Killed in Action.	Drowned, etc., by Acts of the Enemy.	Killed in Action.	Drowned, etc., by Acts of the Enemy.	Killed or Drowned, or Suffered Violent Death by Acts of the Enemy.	Killed or Drowned, or Suffered Violent Death by Acts of the Enemy.
	£	£	£	£	£	£
Surgeon ...	80	65	12 to 16	10 to 14	50	50

Each unmarried child under the age of 21, one-third of the gratuity paid to the widow.

These pensions and gratuities can be given only in cases of injury or death caused by acts of the enemy, and not on account of injury, disability, or death, which may result from carrying on the ordinary duties of the service.

Conditions of Service.

To engage for six months certain, but the liability to serve will be limited to five years.

To serve when and where required from the date of signing the declaration.

To be liable to immediate discharge for misconduct or incompetency.

To rank with, but after, surgeons in the permanent service.

To be under the general rules of the service as regards discipline, etc.

To receive two calendar months' notice of services being no longer required.

To be granted a gratuity of two calendar months' pay on discharge, if not discharged for misconduct or incompetency.

Voluntary resignation of appointment will be allowed subject to the convenience of the service, but the gratuity of two calendar months' pay on discharge will be thereby forfeited.

ROYAL ARMY MEDICAL CORPS.

A candidate for a commission in the Royal Army Medical Corps must be 21 years and not over 28 years of age at the date of the commencement of the entrance examination. He must possess, under the Medical Acts in force in the United Kingdom at the time of his appointment, a registered qualification to practise. He must fill up a form of application and declaration, which can be obtained on application to the Director-General, Army Medical Service, 68 Victoria Street, London, S.W., and submit it to the Director-General in sufficient time to permit of reference to the medical school in which the candidate completed his course as a medical student.

The Dean, or other responsible authority, of such school will be requested by the Director-General to render a confidential report as to his character, conduct, professional ability, and fitness to hold a commission in the Corps, and to this report special importance will be attached. After the form of application and the confidential report above alluded to have been received, the Director-General will decide if the candidate may be allowed to compete for a commission in the Royal Army Medical Corps. If approved, he will then be examined as to his physical fitness by a Board of Medical Officers, in accordance with regulations which can also be obtained from the Director-General. The entrance examinations are held twice in the year, usually in January and July. The Secretary of State reserves the right of rejecting any candidate who may show a deficiency in his general education.

An entrance fee of £1 is required from each candidate admitted to the examination, and is payable at the conclusion of his physical examination, if pronounced fit.

A candidate successful at the entrance examination will be appointed a lieutenant on probation, and will be required to pass through such courses of instruction as the Secretary

of State shall decide, and, after passing the examinations in the subjects taught, and satisfying the Director-General that he possesses the necessary skill, knowledge, and character for permanent appointment to the Royal Army Medical Corps, his commission as lieutenant will be confirmed. The commission will bear the date of the officer's appointment as lieutenant on probation.

Entrance Examinations.

Candidates will be examined by the Examining Board in medicine and surgery. The examination will be of a clinical and practical character, partly written and partly oral, marks being allotted under the following scheme:

	Maximum Marks.
Medicine (written).	
A. Examination and report upon a medical case in the wards of a hospital	125
B. Commentary upon a case in medicine	125
(Three hours allowed for A and B together.)	
Medicine (oral).	
A. Clinical cases: clinical pathology	75
B. Morbid anatomy and morbid histology	75
(One-quarter of an hour allowed for each table.)	
Surgery (written).	
A. Examination and report upon a surgical case in the wards of a hospital	125
B. Commentary upon a case in surgery	125
(Three hours allowed for A and B together.)	
Surgery (oral).	
A. Clinical cases, including diseases of the eye; surgical instruments and appliances	
(One-quarter of an hour allowed for this table.)	
B. Operative surgery and surgical anatomy	75
Total marks	800

The following headings are published as a guide to candidates in drawing up their reports on cases:

(*a*) A brief history of the case as given by the patient, including such points only (if any) in the family or personal history as have a distinct bearing upon the present illness or incapacity.
(*b*) A detailed account of the subjective symptoms and physical signs elicited by the candidate's personal examination of the patient, noting the absence of any which might be expected to be present in a similar case.
(*c*) Where there is any reasonable doubt in the mind of the candidate as to an exact diagnosis, he is to give the alternatives, with his reasons for making the selection.
(*d*) A commentary upon the case as a whole, pointing out the symptoms which may be considered typical, and those which appear to be unusual or only accidental complications.
(*e*) Suggestions as to treatment, both immediate and possibly necessary at a later date.
(*f*) A forecast of the progress and probable termination of the case.

Similarly the commentary on the report of a case submitted to the candidate should discuss:

(*a*) The family and personal history and other conditions preceding the development of the condition described.
(*b*) The relative significance of the physical signs, symptoms, other indications of disease noted, and the general clinical aspects of the case.
(*c*) The diagnosis, with reasons for selection of the most probable, when a positive diagnosis cannot be attained.
(*d*) The treatment dietetic medicinal, operative, etc., including a criticism of the plan adopted, and alternative schemes of treatment in cases of disagreement.
(*e*) The morbid appearances, and an account of the *post-mortem* examination (if any).

The examination will be held in London and will occupy about four days.

Having gained a place in this entrance examination, the successful candidate will undergo two months' instruction in hygiene and bacteriology, after which they will be examined in these subjects. The maximum number of marks obtainable at this examination will be 100.

On completion of the above course lieutenants on probation will be ordered to proceed to the Dépôt of the Royal Army Medical Corps at Aldershot for a three months' course of instruction in the technical duties of the Corps, and at the end of the course will be examined in the subjects taught. The maximum number of marks obtainable at this examination will be 100.

Examinations for Promotion.

Lieutenants before Promotion to Captain.

(For Lieutenants appointed after March 31st, 1901.)

This examination may be taken at any time after completing 18 months' service, and will be held in the military district in which the officer is serving.

The subjects of this examination, which are detailed in the *King's Regulations*, are as follows:

1. Regimental duties.
2. Drill.
3. Military law.
4. Duties and accounts connected with military hospitals and their supplies.
5. Other duties of executive medical officers.

Captains before Promotion to Major.

(For Captains promoted to that rank after July 27th, 1895.)

Captains will be examined under the rules laid down in the next paragraph, and will be eligible for acceleration in their promotion to the rank of major under Article 352 of the Royal Warrant, subject to the following restrictions:

(*a*) The acceleration which can be gained by a captain promoted to that rank in January, 1896, will be limited to 6 months, and an officer gaining this acceleration will take precedence after the last captain promoted major on completion of 12 years' service.
(*b*) The acceleration which can be gained by a captain promoted to that rank in July, 1896, will similarly be limited to 12 months, and an officer gaining this acceleration will take precedence next after the last captain promoted to that rank in January, 1896, who may have gained 6 months' service.
(*c*) A captain promoted to that rank in January, 1897, can gain the full acceleration, but will take precedence after any captain promoted to that rank in July, 1896, who may have gained 12 months' acceleration.
(*d*) Officers gaining acceleration under (*a*) will take precedence *inter se* in order as they have obtained a special certificate or passed in the 1st, 2nd, or 3rd class, and a similar course will be followed under (*b*) and (*c*).
(*e*) In all other cases an officer who gains accelerated promotion will be placed for precedence after the last officer (whether subject to acceleration or not) promoted approximately 3, 6, 12, or 18 months before him.

This examination, which may be taken at any time after completing five years' service, will be held in London on the termination of a period of special study. The examination will consist of written papers, essays, oral and practical examinations in the following subjects, which are detailed in the *King's Regulations*:

1. Medicine, including specific fevers.
2. Surgery, including skiagraphy.
3. Hygiene.
4. Bacteriology and tropical diseases.
5. One special subject from the subjoined list, to which additions may from time to time be made:
   (*a*) Bacteriology, including the preparation of antitoxins.
   (*b*) Dental surgery.
   (*c*) Dermatology, including venereal diseases.
   (*d*) Otology, including laryngology and rhinology.
   (*e*) Midwifery and gynæcology.
   (*f*) Operative surgery, advanced.
   (*g*) Ophthalmology.
   (*h*) Psychological medicine.
   (*i*) State Medicine.

Captains serving in that rank before July 27th, 1895, will be promoted under the old regulations contained in Appendix I, Regulations for Army Medical Services, and will not be eligible for acceleration.

Majors before Promotion to Lieutenant-Colonel.

(For Majors promoted to the rank after March 31st, 1895.).

This examination, which may be taken at any time after three years in the rank of major, will be held in the military district in which the officer is serving at times which will be duly notified.

The subjects of this examination, which are detailed in the *King's Regulations*, are as follows:

1. Military law.
2. Army medical organization.
3. Sanitation of towns, camps, transports, and all places likely to be occupied by troops in peace or war; epidemiology and management of epidemics.
4. The laws and customs of war, so far as they relate to the care of the sick and wounded.
5. One special subject from the subjoined list to which additions may from time to time be made:
   (*a*) Medical history of important campaigns.
   (*b*) A general knowledge of the Army Medical Services of other Powers.

Pay, Additional Pay, and Charge Pay.

The following are the rates of pay, additional pay, and charge pay of the officers of the Army Medical Staff and Royal Army Medical Corps, etc., as laid down in the new Royal Warrant.

A lieutenant-colonel appointed one of the Honorary Physicians or Honorary Surgeons shall receive pay at the rate laid down for a colonel of the Royal Army Medical Corps when qualified for promotion to that rank.

A captain of the Royal Army Medical Corps holding the brevet rank of major shall receive pay at 2s. a day in addition to the rates laid down for a captain.

Pay.

—	Inclusive of all Allowances except Field and Travelling Allowances.
Army Medical Service. *At Head Quarters.*	Yearly. £
Director-General	2,000
Deputy Director-General	1,500
Assistant Director-General	850
Deputy Assistant Director-General	750

—	Exclusive of Allowances.
At Other Stations.	Daily. £ s. d.
Surgeon-General	3 0 0
Colonel	2 0 0
Lieutenant-Colonel	1 10 0
Lieutenant-Colonel specially selected for increased pay after at least 8 years' service abroad	1 15 0
Major	1 3 6
After 3 years' service as such	1 6 0
Captain	0 15 6
After 7 years' total full-pay service	0 17 0
After 10 years' total full-pay service	1 1 0
Lieutenant on probation and lieutenant	0 14 0
Adjutant of the Royal Army Medical Corps (Volunteer)	The pay of his rank.
Quartermaster	As a quartermaster of infantry.

Additional Pay.

Officer not serving on the head quarters staff appointed a member of the Advisory Board ... £150 a year.

Officer serving as Secretary of the Advisory Board and Nursing Board ... £100 a year.

	Daily. s. d.
Officer under the rank of lieutenant-colonel holding an appointment as specialist	2 6
Quartermaster in charge of the medical stores at Woolwich	2 6

Charge Pay.

(*a*) Officer in charge of a general or other hospital; or of a division of a general hospital:

	Daily. s. d.
If in charge of at least 50 beds	2 6
,, ,, 100 ,,	5 0
,, ,, 200 ,,	7 6
,, ,, 300 ,,	10 0
(*b*) Officer in command of the dépôt, Royal Army Medical Corps	5 0

The senior officer of the Army Medical Service with an army in the field — A rate to be fixed by the Secretary of State according to the magnitude of the charge.

In a command abroad — s. d.

The senior medical officer, if the number of soldiers is 1,500 or upwards ... 5 0

Extra-Duty Pay.

An officer of the Royal Army Medical Corps, appointed to act as adjutant or quartermaster of the Royal Army Medical Corps (Militia) during preliminary drill or training, shall receive extra-duty pay at the following daily rates:

	s. d.
Acting Adjutant	2 6
Acting Quartermaster	2 0

Reserve of Officers.

On the completion of three years' service, an officer of the Royal Army Medical Corps may be permitted by the Secretary of State to become an Army Reserve officer for a period of seven years, and while so serving he shall receive pay at the rate of £25 a year.

With the sanction of the Secretary of State such officer may be allowed to return to the active list, and if the period he has been in the Reserve of Officers amounts to at least one year, and not more than three years, he shall be allowed to reckon one-third of such period towards promotion, gratuity, and pension.

Pay during Sick Leave.

An officer of the Army Medical Staff or Royal Army Medical Corps may be allowed full pay during sick leave of absence under certain conditions.

Household Troops.

The rates of pay of medical officers of the Household Troops are as follows:

	£ s. d.
Brigade surgeon-lieutenant-colonel	1 15 0
Surgeon-lieutenant-colonel	1 10 0
Surgeon-major	1 3 6
After 3 years' service as such	1 6 0

Retired Pay.

An officer of the Army Medical Service may be permitted to retire, in cases in which such retirement may be deemed expedient by the Secretary of State.

Army Medical Staff.	Daily. £ s. d.
Surgeon-General	2 0 0
Royal Army Medical Corps and Medical Officers of Household Troops.	
Colonel	1 15 0
Lieutenant-colonel, or surgeon-lieutenant-colonel of the Household Troops—	
After 20 years' service	1 0 0
,, 25 ,,	1 2 6
,, 30 ,,	1 5 0
Lieutenant-colonel, after having been in receipt of the increased pay allowed under the terms of the new Warrant, for 3 years, or brigade-surgeon-lieutenant-colonel of the Household Troops—	
Under 30 years' service	1 7 6
After 30 ,,	1 10 0
Major, or surgeon-major of the Household Troops—	
After 20 years' service	1 0 0
After 25 years' service, if his service reckoning for promotion is insufficient to qualify him for promotion to the rank of lieutenant-colonel under Article 251	1 2 6
Major or captain—	Gratuity.
After 5 years' service in the rank of captain	£1,000
After 10 *years' service if the officer was commissioned before the date of the Warrant*	1,250
After 3 years' service in the rank of major, *or, if the officer was commissioned before the date of the Warrant, after 15 years' service*	1,800
After 6 years' service in the rank of major, *or, if the officer was commissioned before the date of the Warrant, after 18 years' service*	2,500
Surgeon-lieutenant-colonel or surgeon-major of the Household Troops—	
After 15 years' service	1,800
,, 18 ,,	2,500

Retirement on Account of Age, or Limitation of Period of Service.

Conditions of Retirement.

The Director-General of the Army Medical Service shall retire on completion of the term of his appointment; and the retirement of other officers of the Army Medical Service (except quartermasters) shall be compulsory at the following ages:

Surgeon-General	£60
Colonel, *promoted to the rank on or after the date of the Warrant*	57
Colonel, *promoted to the rank before the date of the Warrant (subject to Article 558)*	60
Other officers	55

A major shall retire on completion of 25 years' service; or, if he fails to qualify for promotion on the completion of 20 years' service.

A captain or lieutenant shall retire on completing 6 months' service on the supernumerary list.

It shall be competent to the Secretary of State to place a medical officer on the retired list after 30 years' service.

Scale of Retired Pay.

Director-General Army Medical Service.

After 3 years' service as Director-General—

	Yearly.
With 5 years' service	£1,125

Retirement on Account of Medical Unfitness.

Conditions of Retirement.

An officer of the Army Medical Service placed on the half-pay list on account of medical unfitness shall, if not previously retired, be retired from the Army at the expiration of 5 years from the date on which he was placed on the half-pay list, or if reported by the regulated medical authority to be permanently unfit for duty, on the officer's application, at such earlier date as may be decided by the Secretary of State.

An officer, whether on full or half pay, placed in detention as a person of unsound mind, shall be retired from the army, with the retired pay to which he would be entitled if reported by the regulated medical authority to be permanently unfit for duty. If his disability was not caused by military service, and he is not entitled to permanent retired pay by length of service, he shall receive temporary retired pay equivalent to the half-pay, and temporary retired pay, if any, which he

would have received if his disability had been other than insanity.

SCALE OF RETIRED PAY.

Director-General Army Medical Service.

	Yearly.
Under 3 years' service as Director-General, and after not less than 30 years' service	£875

The full text of the new regulations, with appended matter, may be obtained on application to the Director-General, 68, Victoria Street, London, S.W.

INDIAN MEDICAL SERVICE.

Candidates must be natural born subjects of His Majesty, between 21 and 28 years of age at the date of the examination, of sound bodily health, and in the opinion of the Secretary of State for India in Council in all respects suitable to hold commissions in the Indian Medical Service. They may be married or unmarried. They must possess, under the Medical Acts in force at the time of their appointment, a registrable qualification to practise both medicine and surgery in Great Britain and Ireland.

They must subscribe and send in to the Military Secretary, India Office, Westminster, so as to reach that address by the date fixed in the advertisement of the examination, a declaration according to a prescribed form setting forth that they labour under no mental or constitutional disease, or any imperfection or disability that can interfere with the most efficient discharge of the duties of a medical officer.

This declaration must be accompanied by:

(*a*) A documentary proof of age.

(*b*) A recommendation from some person of standing in society—not a member of his own family—to the effect that he is of regular and steady habits and likely in every respect to prove creditable to the service if admitted; and a certificate of moral character from a magistrate, or a minister of the religious denomination to which the candidate belongs.

(*c*) A certificate of having attended a course of instruction for not less than three months at an ophthalmic hospital, or the ophthalmic department of a general hospital, which course shall include instruction in the errors of refraction.

(*d*) Some evidence of having obtained a registrable qualification.

The Secretary of State for India reserves the right of deciding whether the candidate may be allowed to compete for a commission in His Majesty's Indian Medical Service.

The physical fitness of each candidate will be determined by a Board of Medical Officers, who are required to certify that his vision is sufficiently good to enable him to pass the tests[1] laid down by the Regulations.

Every candidate must also be free from all organic disease, and from constitutional weakness, or other disability likely to unfit him for military service in India.

On proving possession of the foregoing qualifications, the candidate will be examined[2] by the Examining Board in the following subjects, and the highest number of marks obtainable will be distributed as follows:

	Marks.
1. Medicine, including Therapeutics	1,200
2. Surgery, including Diseases of the Eye	1,200
3. Applied Anatomy and Physiology	600
4. Pathology and Bacteriology	900
5. Midwifery and Diseases of Women and Children ...	600
6. Chemistry, Pharmacy, and either Botany or Zoology...	600

The examination in Medicine and Surgery will be in part practical, and will include operations on the dead body, the application of surgical apparatus, and the examination of medical and surgical patients at the bedside. The examination in chemistry will be limited to the elements of the science, and to its application to medicine, pharmacy, and practical hygiene.

No candidate shall be considered eligible who shall not have obtained at least one third of the marks obtainable in each of the above subjects, and one half of the aggregate marks for all the subjects.

After passing this examination, the successful candidates will be required to attend one entire course of practical instruction at the Army Medical School and elsewhere, as may be decided, in:

(1) Hygiene; (2) Military and Tropical Medicine; (3) Military Surgery; (4) Pathology of diseases and injuries incidental to Military and Tropical Service.

This course will be of not less than four months' duration.

The candidate's commission as lieutenant will bear the date on which the course of instruction commences, but his rank will not be gazetted until he has passed the final examination.

During this period of instruction each candidate will receive an allowance of 14s. per diem, with quarters, or, when quarters are not provided, with the usual allowances of a subaltern in lieu thereof, to cover all costs of maintenance; and he will be required to provide himself with uniform (namely, the regulation undress uniform and the mess dress of a lieutenant of the Indian Medical Service, as described in Indian Army Regulations, vol. vii, with Sam Browne belt, but without the sword).

A lieutenant on probation who is granted sick leave before the completion of his course of instruction and final admission to the service will receive furlough pay at the rate of 10s. 6d. a day for the period of his sick leave.

Candidates will be required to conform to such rules of discipline as may from time to time be laid down.

At the conclusion of the course, candidates will be required to pass an examination in the subjects taught during the course of instruction.

A lieutenant who, before the expiry of one month from the date of passing his final examination, furnishes proof of his election to a resident appointment at a recognized civil hospital, may be seconded for a period not exceeding one year from the date on which he takes up such appointment, provided that he joins it within three months of passing his final examination and that he holds himself in readiness to sail for India within fourteen days of the termination of the appointment. While seconded he will receive no pay from Indian funds, but his service towards promotion, increase of pay, and pension will reckon from the date on which the course of instruction for lieutenants on probation commences.

Before the commission of a lieutenant on probation is confirmed he must be registered under the Medical Acts in force at the time of his appointment.

Officers appointed to the Indian Medical Service will be placed on one list, their position on it being determined by the combined results of the Preliminary and Final Examinations, and, so far as the requirements of the Service will permit, they will have the choice of Commands in India—that is, Eastern, Northern, and Western Commands, and Burma or Secunderabad Divisions—according to their position on that list.

Though ordinarily employed within the limits of the Command to which they may have been posted, they will be liable to employment elsewhere according to the exigencies of the Service.

No candidate will be permitted to compete more than three times.

Examinations for admission to the Service usually take place twice in the year, in January and July.

Candidates cannot be supplied with copies of past examination papers.

The exact date of the next examination and the number of appointments will be notified in the newspapers in due course.

PASSAGE TO INDIA.

Officers on appointment are, when possible, provided with passage to India by troop transport; when such accommodation is not available, passage at the public expense is provided by private steamer, or a passage allowance granted, if preferred.

Any officer who may neglect or refuse to proceed to India if ordered to do so within two months from the date of terminating his course of instruction, or within 14 days of the termination of his hospital appointment if the Secretary of State for India has permitted him to hold one, will be considered as having forfeited his commission, unless special circumstances shall, in the opinion of the Secretary of State in Council, justify a departure from this regulation.

PAY PREVIOUS TO ARRIVAL IN INDIA.

The rate of pay drawn by Lieutenants of the Indian Medical

[1] These are as follows: (1) If a candidate can read D = 6 at a distance of 20 ft., and D = 0.6 at any distance selected by himself, with each eye without glasses, he will be considered FIT. (2) If a candidate can only read D = 24 at 20 ft. with each eye without glasses, his visual deficiency being due to faulty refraction which can be corrected by glasses which enable him to read D = 6 at 20 ft. with one eye, and D = 12 at the same distance with the other eye, and can also read D = 0.8 with each eye without glasses at any distance selected by himself, he will be considered FIT. (3) If a candidate cannot read D = 24 at 20 ft. with each eye without glasses, notwithstanding he can read D = 0.6, he will be considered UNFIT. N.B.—Snellen's test types will be used for determining the acuteness of vision. Squint, inability to distinguish the principal colours, or any morbid condition subject to the risk of aggravation or recurrence in either eye, may cause the rejection of a candidate.

[2] Candidates who pass the physical examination will be required to pay a fee of £1 before being permitted to compete.

Service previous to arrival in India is 14s. a day, but a Lieutenant (1) who has been permitted by the Secretary of State to hold a hospital appointment will receive no pay while holding it; (2) who is detained by illness in this country will be paid at the rate of £250 a year from the date on which he would otherwise have embarked until the date of embarkation, and at the rate of 14s a day during the voyage to India. (For rates subsequent to their landing in India, see paras. 16, 17, and 18.)

Pay at the above rate is issued in this country up to the date of embarkation, and an advance of two months' pay at the same rate is also made prior to embarkation, which is adjusted in India in accordance with the rate laid down in para. 16.

GRADES AND PRECEDENCE.

The grades of officers in the Indian Medical Service are six in number, namely:

1. Surgeon-General (ranking as Major-General[1]).
2. Colonel.
3. Lieutenant-Colonel.
4. Major.
5. Captain.
6. Lieutenant.

PROMOTION.

A Lieutenant's commission dates from the day on which his course of instruction commences.

A Lieutenant may be promoted to Captain on completion of three years' full pay[2] service from date of first commission, but after completing eighteen months' service and before promotion to the rank of Captain he will be required to pass an examination in military law and military medical organization, the result of which may affect his promotion.

A Captain is promoted to Major on completion of twelve years' full-pay[2] service, but this promotion is accelerated by six months in the case of officers who fulfil certain specified conditions.

A major is promoted to Lieutenant-Colonel on completion of eight years' full-pay[2] service in the rank of Major.

All promotions from the rank of Lieutenant-Colonel to that of Colonel, and from the rank of Colonel to that of Surgeon-General, are given by selection for ability and merit.

On appointment as Honorary Physician or Honorary Surgeon to His Majesty an officer below the rank of Colonel is promoted to that rank, remaining supernumerary until absorbed.

For distinguished service in the field an officer of the Indian Medical Service may receive substantive or brevet promotion.

TENURE OF OFFICE IN ADMINISTRATIVE GRADES.

The tenure of office of Surgeon-Generals and Colonels is limited to five years.

Colonels, if not disqualified by age, are eligible either for employment for a second tour of duty in the same grade, or for employment in the higher grade of Surgeon-General by promotion thereto.

Absence on leave in excess of eight months during a five years' tour of duty involves forfeiture of appointment.

PAY AND ALLOWANCES.

The principal administrative appointments are held by Colonels and Surgeon Generals on the following consolidated salaries:

Colonel, from Rs. 1,800 to Rs. 2,500 per mensem.

Surgeon-General	2 @ Rs. 2,200	,,
,,	2 @ Rs. 2,500	,,
,,	1 @ Rs. 3,000	,,

Specialist pay at the rate of Rs. 60 a month is granted to officers below the rank of Lieutenant-Colonel who may be appointed to certain posts.

The salaries of other substantive medical appointments in the civil and military departments are consolidated and vary from Rs. 450 to Rs. 2,000 per mensem.

Qualified officers of the Medical Service are also eligible for appointments in the Army Department. The salaries of these appointments are from Rs. 600 to Rs. 3,250 per mensem.

Officers are required to perform two years' regimental duty in India before they can be considered eligible for civil employment.

Except in the administrative grades and in certain special appointments, medical officers are not debarred from taking private practice, so long as it does not interfere with their proper duties.

No officer, however employed, can receive any staff allowance in addition to the pay laid down in para. 16 unless he has passed the examination in Hindustani known as the "Lower Standard." The passing of this examination does not of itself bring any increase of pay to an officer, unless appointed to a substantive or officiating charge; but failure to pass disqualifies an officer, even when holding such substantive or officiating charge, from receiving any portion of the staff allowances of the appointment.

Surgeon-Generals and Colonels, on vacating office at the expiration of the five years' tour of duty, are permitted to draw in India an unemployed salary of Rs. 1,350 per mensem in the former, and Rs. 1,000 in the latter case, for a period of six months from the date of their vacating office, after which they are placed while unemployed on the following scale of pay:

	Surgeon-General. Per diem. £ s. d.	Colonel. Per diem. £ s. d.
After 30 years' service on full pay ...	2 5 0	1 14 0
,, 25 ,, ,, ...	2 5 0	1 10 0
,, 20 ,, ,, or on promotion, should this period of service not be completed	2 0 0	1 8 0

The following are the monthly rates of Indian pay drawn by officers of the Indian Medical Service from the date of their arrival in India:

Rank.	Unemployed Pay.	Grade Pay.	Staff Pay.	In Officiating Medical Charge of a Regiment.	To Permanent Medical Charge of a Regiment.
	Rs.	Rs.	Rs.	Rs.	Rs.
Lieutenant	420	350	150	425	500
Captain	475	400	150	425	550
,, after 5 years' service	475	450	150	525	600
,, after 7 years' service...	—	500	150	575	650
,, after 10 years' service	—	550	150	625	700
Major	—	650	150	725	800
,, after 15 years' service	—	750	150	825	900
Lieutenant-Colonel	—	900	350	1,075	1,250
,, ,, after 25 years' service	—	900	400	1,100	1,300
,, ,, specially selected for increased pay ...	—	1,000	400	1,200	1,400

NOTES.—*a.* Unemployed pay is drawn by Officers of less than 7 years' service who are not holding officiating or substantive charge of native regiments. Officers of more than 7 years' service draw grade pay alone when unemployed. Staff pay is the pay of a command, and is drawn in addition to grade pay.

b. House allowance is granted to Officers in substantive charge of cavalry regiments at the rate of Rs.90 a month to Lieutenant-Colonels and Majors, and Rs.60 a month to Captains and Lieutenants.

LEAVE RULES.

(The paragraphs printed in italics apply only to officers in military employ.)

Officers of the Indian Medical Service, below the rank of Colonel, may be granted:

1. Privilege leave under such regulations as may from time to time be in force.
2. *Leave out of India, for no longer period than one year, capable of extension to two years' absence from duty, on the following pay:*

	£
On first appointment	250 *a year.*
After the commencement of the 10th year's service for pension	300
Ditto, ditto, 15th ditto	450
Ditto ditto 20th ditto	600
Ditto, ditto, 25th ditto	700

3. *Leave in India but for the period of one year only, on full military pay and half the staff salary of appointment.*

No extension of leave involving absence from duty for more than two years whether taken in or out of India can be granted except on specially urgent grounds and without pay.

[1] The Director-General, Indian Medical Service, will rank either as Major-General or Lieutenant-General, as may be decided in each case by the Secretary of State for India in Council.

[2] See footnote, page 535.

[3] Note to Paragraphs [illegible]. Under present arrangements, officers of the Indian Medical Service who are not natives of India receive [illegible] allowance, to compensate them for the [illegible] allowance consists of an addition to [illegible] equivalents) equal to half the difference between [illegible] at 1s. 6d. the rupee, and [illegible] at the market rate for each quarter.

An officer unable on account of the state of his health to return to duty within the maximum period of two years' absence, unless he is under para. 36 specially granted an extension of leave without pay, is placed on temporary half pay or the retired list, as the circumstances of the case may require. An officer is also liable to be placed on half pay or the retired list should his health require an undue amount of leave, whether in or out of India.

Leave may be granted at any time but solely at the discretion of the civil or military authorities in India under whom an officer may be serving.

An officer on leave, whether in India or out of India, is required to rejoin at once on being recalled to duty, unless certified by a Medical Board as unfit to do so.

Officers of the Administrative Grades may be granted one period of leave not exceeding eight months during their tenure of appointment.

Extra furlough may be granted to Officers desirous of pursuing special courses of study at the rate of one month's furlough for each year's service up to 12 months in all.

Honours and Rewards.

Officers of the Indian Medical Service are eligible for the military distinction of the Order of the Bath, and for other orders, British and Indian, and for good service pensions.

Six of the most meritorious Officers are named Honorary Physicians, and six are named Honorary Surgeons to His Majesty.

Retiring Pensions and Half Pay.

Officers of the Indian Medical Service are allowed to retire on the following scale of pension on completion of the required periods of service:

	Per Annum. £
After 30 years' service for pension	700
,, 25 ,, ,, ,, ...	500
,, 20 ,, ,, ,, ...	400
,, 17 ,, ,, ,, ...	300

Service for pension reckons from date of first commission, and includes all leave taken under the rules quoted in Paragraphs 22 to 31 (see also Paragraph 42).

A Surgeon General, after three years' active employment in that appointment, is entitled to retire upon a pension of £350 per annum, in addition to that to which he may be entitled under the above scale.

A Colonel is entitled, after three years' active employment in that appointment, to retire upon a pension of £125 per annum, in addition to the pension to which he may be entitled under the above scale, and after five years of such employment on an additional pension of £250 in all.

In each of the above cases stated in Paragraphs 35 and 36 eight months' absence on leave is allowed to count towards actual service in those grades (see Paragraph 30).

A Surgeon-General or Colonel who has completed his term of service and has reverted to British pay may reside in Europe, at the same time qualifying for higher pension.

With a view to maintain the efficiency of the service, all officers of the rank of Lieutenant Colonel and Major are placed on the Retired List when they have attained the age of 55 years; the Director General, Indian Medical Service, when he has attained the age of 62 years and all other Surgeon-Generals and Colonels when they have attained the age of 60 years. But a Lieutenant-Colonel, who has been specially selected for increased pay, if he attains the age of 55 years before he becomes entitled until completion of such service; and in any special case, where it would appear to be for the good of the service that an officer should continue in employment, he may be so continued subject in each case to the sanction of the Secretary of State for India in Council.

Officers placed on temporary or permanent half pay under Para. 27 are granted half pay at the following rates:

	Rates of Half Pay.	
	Per Diem.	Per Annum.
	s. d.	£ s. d.
Under 5 years' service	6 0	109 10 0
After 5 ,, ,, ...	8 0	146 0 0
,, 10 ,, ,, ...	10 0	182 10 0
,, 15 ,, ...	13 6	246 7 6

Officers cannot retire in India on half pay (No. 45, February 28th, 1865).

An officer of less than three years' service, although he may be transferred to the half pay list under the general conditions of transfer, will not be granted any half pay unless his unfitness has been caused by service.

Invalid Pensions.

An officer who has become incapacitated for further service in India on account of unfitness caused by duty may, after he has been two years on temporary half pay, be granted an Invalid Pension on the following scale:

	Per Annum. £
After 16 years' pension service	272
,, 15 ,, ,, ,, ...	252
,, 14 ,, ,, ,, ...	232
,, 13 ,, ,, ,, ...	212
,, 12 ,, ,, ,, ...	192

Time (not exceeding one year) passed on temporary half pay reckons as service for promotion and pension in the case of an officer placed on half pay on account of ill-health in the performance of military duty.

Officers of the Indian Medical Service are liable, after retirement on pension before completing thirty years' service, to recall to military duty in case of any great emergency arising, up to 55 years of age.

Wound Pensions.

Officers are entitled to the same allowances on account of wounds received in action and injuries sustained through the performance of military duty, otherwise than in action, as are granted to combatant officers of His Majesty's Indian Military Forces holding the corresponding military rank.

Family Pensions.

The claims to pensions of widows and families of officers are treated under the provisions of such Royal Warrant regulating the grant of pensions to the widows and families of British officers as may be in force at the time being.

The widows and families of officers are also entitled to pensions under the Indian Service Family Pension Regulations, for the benefits of which all officers must, as a condition of their appointment, subscribe from the date of their arrival in India.

DENTAL SURGERY.

REGULATIONS OF THE GENERAL MEDICAL COUNCIL.

Candidates for a diploma in Dental Surgery are required to produce certificates of having been engaged during four years in professional studies, and of having received three years' instruction in Mechanical Dentistry from a registered practitioner, or at some dental hospital where instruction is given in this subject. One year's bona-fide apprenticeship with a registered dental practitioner, or one year's instruction at a dental hospital, after being registered as a dental student, may be counted one of the four years of professional study. The three years of instruction in Mechanical Dentistry, or any part of them, may be taken by the medical student, either before or after his registration as a student; but no year of such mechanical instruction will be counted as one of the four years of professional study unless taken after registration.

A Register of Dental Students is kept by the Registrar of the General Medical Council, 299 Oxford Street, London.

Preliminary Education.—Dental students are subject to the same regulations as regards preliminary examination as medical students, but professional study may commence by pupilage with a registered dental practitioner.

Diplomas.

The Royal College of Surgeons of England, the Victoria University, Manchester, the Royal College of Surgeons of Edinburgh, and the Faculty of Physicians and Surgeons of Glasgow, each grant a licence in Dental Surgery, and the Royal College of Surgeons in Ireland grants a Licence in Dentistry, in all cases after the student has produced evidence of passing through the stated curriculum and prescribed examinations. Particulars can be obtained upon application to the Secretary of the Conjoint Board in England, Examination Hall, Victoria Embankment, London, W.C.; to Mr. James Robertson, Clerk to the Royal College of Surgeons, Edinburgh, 48 George Square, Edinburgh; to the Secretary of the Royal College of Surgeons in Ireland, Dublin; and as

to the Faculty of Physicians and Surgeons, to Mr. Alexander Duncan, B.A., 242, St. Vincent Street, Glasgow.

The University of Birmingham grants the degree of Bachelor of Dental Surgery to students of its own school who have obtained a licence in Dental Surgery elsewhere at least one year previously, have produced evidence of certain additional study, and have passed the prescribed examination. The University of Birmingham has very recently instituted a licence in Dental Surgery, which will be a registrable qualification.

The Victoria University and the University of Dublin also grant degrees in Dental Surgery, to which no such condition as to antecedent qualification is attached.

Education.

A candidate for the Diploma in Dentistry can obtain the necessary instruction in special dental subjects (the general subjects being attended at some general hospital), at the Dental Hospital of London (apply to the Dean at the Hospital, Leicester Square, W.C.); or at the National Dental Hospital and College, London (apply to the Dean, the National Dental Hospital, Great Portland Street, London, W.); at the Dental School of Guy's Hospital (apply to the Dean at the Medical School, Guy's Hospital, S.E.); at the University of Birmingham (apply to the Dean of the Medical Faculty, University of Birmingham); at Owens College, Manchester (apply to the Registrar, Owens College, Manchester); at the Liverpool Dental Hospital and School of Dental Surgery (apply to the Dean of the Medical Faculty, University of Liverpool); and at the Devon and Exeter Dental Hospital (apply to the Honorary Secretary of the Hospital). The Scottish Schools of Dentistry are the Incorporated Edinburgh Dental Hospital and School (apply to the Dean 31, Chambers Street, Edinburgh); the Glasgow Royal Infirmary, Dental Department (apply to the Dean of the Faculty of Medicine, Mr. R. T. Kent, St. Mungo's College, Glasgow); and Anderson's College Medical School, Glasgow (apply to the Secretary, Mr. D. M. Alexander, 97, West Regent Street, Glasgow. The Irish Schools of Dentistry are the Dental Hospital of Dublin (apply to the Dean) and Trinity College, Dublin (apply to the Registrar).

University of Birmingham.

Degrees in Dentistry—namely, Bachelor and Master of Dental Surgery (B.D.S. and M.D.S.)—are granted by the University of Birmingham. All candidates for these degrees must pass the same Matriculation Examination as that required from candidates for medical degrees. The Degree of Bachelor of Dental Surgery is not conferred upon any candidate who has not obtained a Licence in Dental Surgery from some body legally entitled to confer such qualification. The candidate is not eligible for the degree until a period of twelve months has elapsed from the passing of his examination for the Licence in Dental Surgery. Of this period at least six months must be spent in the dental department of a general hospital approved by the University. *A.* In addition to the Licence in Dental Surgery, the candidate must produce evidence that he has attended the courses required by medical students of the University in the following subjects, and passed the examinations held in the same for medical and surgical degrees: (*a*) Chemistry and Practical Chemistry, (*b*) Physics and Practical Physics, (*c*) Comparative Anatomy, (*d*) Anatomy and Practical Anatomy, (*e*) Physiology and Practical Physiology. *B.* That he has attended the following courses: (*f*) One Course of Lectures on Medicine, (*g*) One Course of Lectures on Surgery, (*h*) Special Courses of Lectures on the Surgery and Medicine of the Mouth, (*i*) Pathology and Bacteriology; and has passed the examinations for candidates for Dental degrees held in each of these subjects. *C.* That he has attended courses in: (*k*) Dental Histology and Patho-Histology; (*l*) Comparative Dental Anatomy; (*m*) Dental Surgery and Prosthetic Dentistry. *D.* That he has received instruction in the Clinical Examination of living cases at the dental department of a general hospital for a period of not less than six months. The final examination will deal with the subjects in Classes *C* and *D*. On the expiration of twelve months from the date of passing the examination for the Degree of Bachelor of Dental Surgery, the candidate will be eligible for that of Master of Dental Surgery. For this degree candidates will be required to submit a thesis containing original work and investigations in some subject connected with Dentistry, which thesis shall be submitted to examiners to be nominated by the Advisory Board. The degree will be awarded or withheld according to the report of these examiners.

The teaching of Dentistry is undertaken by the University acting in association with the Birmingham Dental Hospital and the Birmingham Clinical Board.

Regulations.

Candidates for the Diploma of Licentiate in Dental Surgery are required to pass such a preliminary examination as may from time to time be required by the General Medical Council for registration as a dental student. There are four examinations, and before admission to the Final Examination they are required to furnish evidence (i) of having attained the age of 21 years, and (ii) of having been engaged in professional study for a period of at least four years subsequent to the date of registration as a dental student by the General Medical Council.

First Examination.—Candidates before presenting themselves for the First Examination are required to furnish (i) a certificate of registration as a dental student by the General Medical Council, and (ii) certificates of having satisfactorily attended courses in the prescribed subjects for the First Examination—namely, (*a*) Chemistry, Lectures and Laboratory work (six months); (*b*) Physics, Lectures and Laboratory work (six months).

Note.—Attendance upon these courses may be made at any Institution recognized for this purpose by the University.

Second Examination.—Candidates before presenting themselves for the Second Examination must have passed the First Examination, and are required to furnish certificates of having served for a period of not less than three years' pupilage in mechanical dentistry, either with a registered dentist or in the mechanical laboratory of a dental hospital recognized for this purpose by the University, and of having attended in the University the following courses for the Second Examination: (*a*) Dental Mechanics Lectures (three months); (*b*) Dental Metallurgy Lectures and Practical (six months); (*c*) Dental Materia Medica Lectures (three months).

Third Examination.—Candidates before presenting themselves for the Third Examination must have passed the Second Examination, and are required to present certificates of having attended in the University the following courses prescribed for the Third Examination—namely, (*a*) Anatomy, Lectures (six months); (*b*) Anatomy, Practical (twelve months); (*c*) Physiology, Lectures (six months); (*d*) Physiology, Practical Histology (three months); (*e*) Human and Comparative Dental Anatomy, Lectures (six months); (*f*) Dental Histology, Practical (three months).

Final Examination.—Candidates before presenting themselves for the Final Examination are required to have passed the Third Examination, and to furnish certificates of having attended in the University, or in a Hospital recognized for the purpose by the University, courses of instruction in the subjects prescribed for the Final Examination, namely:—(*a*) Medicine Lectures for Dental Students (six months); (*b*) General Surgery Lectures for Dental Students (six months); (*c*) Dental Surgery, Lectures (six months); (*d*) Dental Pathology and Bacteriology, Lectures (three months); (*e*) Dental Pathology and Bacteriology, Practical (three months); (*f*) Clinical Dental Surgery; (*g*) Clinical Medicine and Surgery (at a recognized General Hospital for twelve months); (*h*) the practice of a Dental Hospital or the Dental Department of a General Hospital recognized by the University for a period of two years.

An Entrance Scholarship, value £37 10s., is awarded annually at the commencement of the Winter Session.

Victoria University of Manchester.

Examinations in Dentistry.—The degrees of Bachelor of Dental Surgery (B.D.S.) and Master of Dental Surgery (M.D.S.) are granted. All candidates are required to have passed the Matriculation Examination as prescribed for the Faculty of Medicine, and to have pursued four courses of study and to have satisfied the Examiners in the four corresponding examinations entitled respectively: (*a*) The First Examination; (*b*) the Second Examination; (*c*) the Third Examination; (*d*) the Final Examination.

First Course and Examination.—Candidates, before presenting themselves for the First Examination, are required to furnish certificates of having attended during at least one year courses of instruction in each of the subjects of the course, in accordance with the University Regulations for attendance and to have passed the Matriculation Examination or such other Examination as may have been recognized by the Joint Matriculation Board in that behalf. The subjects of the First Course and Examination are: (*a*) Chemistry,

Inorganic and Organic; (*b*) Physics; (*c*) Zoology. Candidates may pass in (*a*), (*b*), and (*c*) separately.

Second Course and Examination.—Candidates, before presenting themselves for the Second Examination, are required to furnish certificates of having attended the Prosthetic Laboratory work of an approved Dental Hospital during not less than two years, and certificates of having attended courses of instruction in each of the subjects of the Course in accordance with the University Regulations for attendance. They are also required to have passed the First Examination. [Until October 1st, 1910, these two years may be taken in the laboratory of a registered dentist.] The subjects of the Second Course and Examination are: (*a*) Dental Mechanics; (*b*) Dental Metallurgy.

Third Course and Examination.—Candidates, before presenting themselves for the Third Examination, are required to furnish certificates of having attended courses of instruction in each of the subjects of the Course in accordance with the University Regulations for attendance and to have passed the Second Examination. The subjects of the Third Course and Examination are: (*a*) Anatomy; (*b*) Physiology and Histology; (*c*) Dental Anatomy (Human and Comparative), and Dental Histology.

Final Course and Examination.—Candidates, before presenting themselves for the Final Examination, are required to furnish certificates of having attended courses of instruction in each of the subjects of the Course in accordance with the University Regulations for attendance and to have passed the Third Examination. The subjects of the Course and Examination are: (*a*) Surgery and Pathology; (*b*) Dental Surgery and Pathology, and Dental Materia Medica; (*c*) Dental Prosthetics and Orthodontia; (*d*) Operative Dentistry.

Degree of Master of Dental Surgery.—The Degree of Master of Dental Surgery may be conferred, not less than one year after attaining the Degree of Bachelor of Dental Surgery, *either* (*a*) on presentation of a dissertation on some subject connected with Dentistry, *or* (*b*) on examination. The examination will be on one of certain Dental subjects or groups of Dental subjects to be determined subsequently by the Faculty.

Candidates who have obtained before October 1st, 1905, a dental qualification recognized by the General Medical Council, and who have pursued their studies for such qualification at Owens College or the University and at a recognized Dental Hospital, may be allowed to obtain the degree of Bachelor of Dental Surgery after passing the Third and Final Examination.

Diploma in Dentistry.—A Diploma of Licentiateship in Dental Surgery (L.D.S.Manc.) is also granted. All candidates for the Diploma are required to have passed such a preliminary examination as may be from time to time required by the General Medical Council for registration as a Dental Student. All candidates for the Diploma are required to have pursued four courses of study and to have satisfied the Examiners in the four corresponding examinations entitled respectively: The First Examination, the Second Examination, the Third Examination, and the Final Examination.

First Course and Examination.—Candidates, before presenting themselves for the First Examination, are required to furnish certificates of having attended at least one course in each of the subjects of the examination, in accordance with the University Regulations for attendance, and to have passed such preliminary examination as may have been recognized by the Ordinance of the University in that behalf. The subjects of the First Course and Examination are: (*a*) Chemistry, Organic and Inorganic; (*b*) Physics, including Mechanics.

Second Course and Examination.—Candidates, before presenting themselves for the Second Examination, are required to furnish certificates of having attended, subsequently to registration, the Prosthetic Laboratory work of an approved Dental Hospital for not less than two years, or of having served an apprenticeship to a registered dentist, and certificates of having attended courses of instruction in each of the subjects of examination in accordance with the University Regulations for attendance. They are also required to have passed the First Examination. The subjects of the Second Course and Examination are: (*a*) Dental Mechanics; (*b*) Dental Metallurgy.

Third Course and Examination.—Candidates, before presenting themselves for the Third Examination, are required to furnish certificates of having attended courses of instruction in each of the subjects of examination in accordance with the University Regulations for attendance, and to have passed the Second Examination. The subjects of the Third Course and Examination are: (*a*) Anatomy; (*b*) Physiology; (*c*) Dental Anatomy and Dental Histology.

Final Course and Examination.—Candidates, on presenting themselves for the Final Examination, are required to furnish certificates of having attended courses of instruction in each of the subjects of the examination in accordance with the University Regulations for attendance, and to have passed the Third Examination. The subjects of the Final Course and Examination are: (*a*) Surgery; (*b*) Operative Dentistry; (*c*) Dental Surgery and Dental Prosthetics.

UNIVERSITY OF DUBLIN.

The University of Dublin grants both a Degree and a Licence in Dental Surgery. To obtain the former, candidates must have taken a Degree in Arts; the Licence is awarded to duly qualified persons who have passed the Public Entrance Examination of Trinity College, Dublin.

The Licence.—Before passing the Entrance Examination in Trinity College or immediately after doing so students are advised to begin their three years' course of instruction in Dental Mechanics, and to devote all their time during one year to this subject. Dental Mechanics may be learnt in the Mechanical Department of the Dental Hospital, where a fee of £100 is charged, or from a registered dentist, in which case the fee charged is a matter of arrangement.

Having passed the Public Entrance Examination in Trinity College, students should register themselves as Dental Students at the Registrar's Office in the Medical School, and commence the following course of study, in addition to continuing their work in Dental Mechanics.

First Year.—

Winter Session—	
Anatomy Lectures	£3 3 0
Chemistry Lectures	2 2 0
Physics Lectures	—
Dissections	5 5 0
Summer Session—	
Materia Medica	3 3 0
Practical Chemistry and Metallurgy	3 3 0
	£16 16 0

Second Year.—During this year students should attend Clinical instruction at a recognized general hospital, and continue their attendances at the classes in the Medical School as follows:

Winter Session—	
General Hospital	£12 12 0
Physiology Lectures	3 3 0
Surgery Lectures	2 2 0
Dissections	5 5 0
Summer Session—	
Histology and Dental Microscopy	5 5 0
General Hospital	—
	£28 7 0

Students should pass the Previous Dental Examination as soon as possible after the completion of the above courses.

The subjects of the Previous Dental Examination are: (1) Anatomy, Physiology, and Histology; (2) Physics, Chemistry, and Metallurgy; and (3) Materia Medica. All these subjects may be passed at one and the same time, or each group may be passed separately.

Third Year.—Having passed the Previous Dental Examination, Students should join the Dental Hospital, and attend the Classes and Lectures given there. In this year they should also attend the Course of Lectures in Medicine at the School of Physic.

Dental Hospital	£15 15 0 + *x*
Medicine Lectures	3 3 0
	£18 11 0 + *x*

Fourth Year.—Students should continue their attendance at the Dental Hospital, and prepare for the Final Dental Examination at the end of this year:

Dental Hospital	£12 12 0 + *x*

N.B.—The probable value of (*x*) will be £2 2s. in each year.

Before being admitted to the Final Examination, Students are required to produce certificates of having received three years' instruction in Dental Mechanics, and of satisfactory attendance on the Lectures in the following subjects: (1) Dental Surgery and Pathology (two courses); (2) Dental Mechanics (two courses); (3) Orthodontia; and (4) Dental Anatomy. Certificates of regular attendance (12 months) at a hospital recognized for Clinical Instruction, and of satisfactory attendance during two years at the Dental Hospital, are also required. Students must have passed the Previous

Dental Examination in all its parts, and have attained the age of 21 years.

The subjects of the Final Examination are:

Medicine.	Dental Surgery and Pathology.
Surgery.	Dental Mechanics.
Dental Anatomy.	Orthodontia.

The fee for the Final Dental Examination is £5.

The total fees in order to obtain the Licence are—

Dental Mechanics	£100 0 0
Entrance Fee—	
Trinity College	15 0 0
Lecture and Laboratory Courses, Trinity College...	35 14 0
General Hospital (one year)...	12 12 0
Dental Hospital (two years)...	32 13 0
	£195 17 0
Examination fee	5 0 0
	£200 17 0

The Degree.—The course of study recommended in the case of candidates for the Degree in Dental Surgery is the same as that stated above for the Licence, with the addition of—

Pathology Lectures	£2 2 0
Pathology, Practical	2 2 0
Bacteriology	3 3 0
	£7 7 0

which should be taken out in the fourth or fifth year.

Before presenting themselves for the Final Examination for the Degree candidates must—(1) have passed the examination for the B.A. degree; (2) have attended satisfactorily the courses indicated above; and (3) must have had their names on the books either of the Medical School or of the Dental School for a period of not less than five years. They must also have passed the previous Dental Examination in all its parts, and have attained the age of 21 years.

The subjects for the Degree Examination are—Medicine, Surgery, Pathology, Bacteriology; Dental Anatomy, Human and Comparative; Dental Microscopy, Dental Surgery and Pathology, Dental Mechanics, and Orthodontia.

The fee for the examination is £5.

The Board of Trinity College is willing to consider applications, on the part of qualified practitioners and others, for recognition of courses taken previous to the establishment of the Degree and Licence, in case they proceed to complete the course.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Candidates who register as Dental Students after Jan. 1st, 1897, are required to pass three examinations—the Preliminary Science Examination, the First Professional Examination, and the Second Professional Examination—and to produce the following certificates before admission to the several examinations:

PRELIMINARY SCIENCE EXAMINATION.

1. Of having received instruction at an institution recognized for the purpose in Chemistry, Physics, and Practical Chemistry.

This instruction may be taken prior to the date of registration as a dental student.

2. Of having been engaged during a period of not less than three years in acquiring a practical familiarity with the details of Mechanical Dentistry, under the instruction of a competent practitioner, or under the direction of the superintendent of the mechanical department of a recognized dental hospital, where the arrangements for teaching Mechanical Dentistry are satisfactory to the Board of Examiners in Dental Surgery. In the case of qualified surgeons evidence of a period of not less than two instead of three years of such instruction will be sufficient

This instruction may be taken prior to the date of registration as a dental student.

3. Of registration as a dental student by the General Medical Council, 299, Oxford Street, London, W.

4. Of having attended at a recognized dental hospital and school—
   (*a*) A course of lectures on Dental Metallurgy.
   (*b*) A course of Practical Dental Metallurgy.
   (*c*) A course of lectures on Dental Mechanics.
   (*d*) A course of Practical Dental Mechanics, including the manufacture and adjustment of six dentures and six crowns.

SECOND PROFESSIONAL EXAMINATION.

5. Of having been engaged during four years in the acquirement of professional knowledge subsequently to the date of registration as a dental student.

6. Of having attended at a recognized dental hospital and school—
   (*a*) A course of Dental Anatomy and Physiology
   (*b*) A separate course of Dental Histology, including the preparation of Microscopical Sections.
   (*c*) A course of Dental Surgery.
   (*d*) A separate course of Practical Dental Surgery
   (*e*) A course of not less than 5 lectures on the Surgery of the Mouth.[1]
   (*f*) A course of Dental Bacteriology.[1]
   (*g*) A course of Dental Materia Medica.[1]

7. Of having attended at a recognized dental hospital, or in the dental department of a recognized general hospital, the practice of Dental Surgery during two years.

8. Of having attended at a recognized medical school—
   (*a*) A course of lectures on Anatomy.
   (*b*) A course of lectures on Physiology.
   (*c*) A separate Practical Course of Physiology.
   (*d*) A course of lectures on Surgery.
   (*e*) A course of lectures on Medicine.

9. Of having performed dissections at a recognized medical school during not less than twelve months.

10. Of having attended, at a recognized hospital or hospitals, the Practice of Surgery and Clinical Lectures on Surgery during two winter sessions.

11. Of being 21 years of age.

Note.—Professional study prior to the date of registration as a dental student is not recognized except in the case of Chemistry, Physics, and Practical Chemistry, and of instruction in the details of Mechanical Dentistry (see Clauses 1 and 2), and will not be counted under any circumstances in lieu of part of the four years' study subsequent to the date of registration as a dental student, required by Clause 5.

[1] These lectures may be given either at a recognized dental hospital and school, in which case the lecturer must be a qualified surgeon practising surgery; or they may be given at a recognized medical school, and may form part of the course required by Clause 8 (*d*).

Examinations.

The Prelimary Science Examination consists of Chemistry, Physics, and Practical Chemistry, and will be identical with Part I of the First Examination of the Examining Board in England. Candidates may present themselves for this examination before entering at a dental school on production of certificates of having received instruction in chemistry, physics, and practical chemistry. A candidate who produces satisfactory evidence of having passed an examination for a degree in Medicine, conducted at a University in the United Kingdom, in India, or in a British Colony, on the subjects of the Preliminary Science Examination, will be exempt from that examination.

The First Professsional Examination consists of Mechanical Dentistry and Dental Metallurgy. Candidates who have passed the preliminary Science Examination may present themselves for the First Professional Examination for the Licence after the completion of six months' attendance at a recognized dental hospital and school, on production of the certificates already specified.

At the Examination in Mechanical Dentistry candidates will be required to provide themselves with the following instruments, namely, wax spatula, double-ended sculptors, gouge and handle, vulcanite files, gold files, pliers, pin roughing and bending and snipe-nose cutting nippers, braces and handles, fret saw, one Melotte's moulding outfit, one Bunsen burner (laboratory), fine saws, chasers' 12 in. special blowpipe for mouth, solder tweezers, crown holder, shears curved, collar pliers, N.P. pin nippers plain, rivetting hammer, dividers 4½ in.

The following instruments will be supplied by the hospital at which the candidates are to be examined—namely, hammers for striking up plates, horn mallets, ordinary casting materials and apparatus.

A Synopsis of the Examination in Dental Metallurgy, which will be conducted by written paper, will be found on page 5 of the Regulations.

The *Second Professional Examination* consists of:

Part I.—General Anatomy and Physiology, General Pathology and Surgery.

Part II.—Dental Anatomy and Physiology, Dental Pathology and Surgery, and Practical Dental Surgery.

The Examination is partly written, partly practical, and partly oral.

The Written Examination in Part I comprises General Anatomy and Physiology, General Pathology and Surgery; and in Part II Dental Anatomy, Physiology, Dental Pathology and Surgery.

The Oral Examination in each Part comprises the several subjects above mentioned, and is conducted by the use of preparations, casts, drawings, etc.

At the Practical Examination in Part II candidates may be examined:

(*a*) On the treatment of Dental Caries, and may be required to prepare and fill cavities with Gold or Plastic filling or material, or to do any other operation in Dental Surgery.

(*b*) On the Mechanical and Surgical Treatment of the various irregularities of Children's Teeth.

Candidates who have passed the First Professional Examination at least six months previously may present themselves

[1] These certificates will only be required of students who enter at a recognized dental hospital and school on or after May 1st, 1903.

for the two parts separately, or they may take the whole examination at one time. Before presenting themselves for Part I they must produce the certificates required under Section I, Clauses 5, 8, 9, 10, and 11, and before taking Part II the certificates required under Section 1, Clauses 5, 6, 7, and 11.

Candidates who have passed the Second Examination of the Examining Board in England, or who shall produce evidence of having passed the Examination in Anatomy and Physiology required for the Licence in Surgery of the Royal College of Surgeons of Edinburgh, the Royal College of Surgeons in Ireland, or the Faculty of Physicians and Surgeons of Glasgow, or an Examination in Anatomy and Physiology required for a Degree in Medicine or Surgery at a University in the United Kingdom, will be exempt from re-examination in those subjects in Part I.

Candidates who are members of the College, or who have passed the Examination in Surgery of the Examining Board in England, or who produce evidence of having passed the Examination in Surgery for the Licence in Surgery of the Royal College of Surgeons of Edinburgh, the Royal College of Surgeons in Ireland, or the Faculty of Physicians and Surgeons of Glasgow, or an Examination in Surgery for a Degree in Medicine or Surgery at a University in the United Kingdom, will be exempt from examination in Surgery and Pathology in Part I.

Fees.—The fee for the Diploma of the Licence in Dental Surgery is 20 guineas, and is payable in the following manner—namely:

		£	s.	d.
Preliminary Science Examination.	Each admission ...	3	3	0
First Professional ,,	,, ...	2	2	0
Second ,,	,, ,, Part I ...	2	2	0
	,, Part II ...	3	3	0
Amount payable before grant of diploma	... ...	10	10	0
		£21	0	0

Fees for re-examination will not be allowed to count as part of the fee of 20 guineas payable for the diploma, except in the case of any candidate being on June 1st, 1900, registered by the General Medical Council as a Dental Student, and becoming within six years from the date of his registration entitled to receive the Diploma.

The Preliminary Science Examination will be held in January, March or April, July, and October in each year.

The First and Second Professional Examinations will be held in May and November in each year.

N.B.—All applications with reference to the Examination for the Diploma in Dental Surgery should be addressed to Mr. F. G. Hallett, Secretary of the Examining Board in England, Examination Hall, Victoria Embankment, London, W.C.[1]

Royal College of Surgeons in Ireland.

Candidates for the Licence in Dental Surgery are required to pass three examinations—namely, *Preliminary* (in General Education) *Primary Dental* and *Final Dental*.

Primary Dental Examination.—Every candidate is required, before admission to the Primary Dental Examination, to produce evidence (1) of having passed a recognized Preliminary Examination, and of having been registered as a medical or dental student by the General Medical Council; (2) of having, subsequently to registration as a dental or medical student, attended at a recognized medical school (*a*) one course (six months) lectures on Practical Anatomy, including Dental Anatomy; (*b*) two courses (six months each) Demonstrations and Dissections; the certificate must include a statement that the candidate has dissected the head and neck at least three times; (*c*) one course (six months) lectures on Chemistry; (*d*) one course (six months) lectures on Physiology, including Dental Physiology; (*e*) one course (three months) lectures on Materia Medica; (*f*) one course (six months) lectures on Surgery; (*g*) one course (six months) lectures on Medicine; (*h*) one course (three months) Practical Chemistry, including Metallurgy; (*i*) one course (three months) Practical Physiology and Histology, including Dental Physiology and Histology, human and comparative; (3) of having attended Clinical Instruction at a recognized general hospital for one year. Primary Dental Examination, £10 10s.; Re-examination, if rejected, £5 5s. Fees are not returned to candidates who may fail to present themselves without having given two days' previous notice to the Registrar, or who may have been rejected. All fees are to be lodged to the credit of the Royal College of Surgeons at the Bank of Ireland. A rejected candidate will not be again admitted to examination until after a period of three months.

Exemptions.—Candidates who produce evidence of having passed the Second Professional Examination of the Conjoint Scheme, Royal Colleges of Physicians and Surgeons in Ireland, shall be permitted to present themselves for the Primary Dental Examination on the production of Certificates of having attended Clinical Instruction at a recognized general hospital for one year. One course (six months) of Lectures on Surgery, One Course (six months) of Lectures on Medicine, and One Course (three months) of Lectures on Materia Medica, and shall be exempt from all the subjects of the Primary Dental Examination, except Surgery. The fee for these candidates is two guineas.

Subjects of Examination.—Candidates who have passed in Chemistry and Physics at a First Professional Examination under the Conjoint Board with the Royal College of Physicians in Ireland, or an equivalent Examination, recognized by the College, are exempted from examination in these subjects, at the Primary Dental Examination. Candidates will not obtain credit for passing any part of the examination unless they pass at the same time in at least two of the following subjects, save in case they need a lesser number to complete their examination. 1. Physics: Heat, Electricity, and Light (as in Ganot's *Natural Philosophy*). 2. Chemistry, including Metallurgy; Elementary Chemistry (inorganic), including Metallurgy, as found in Roscoe's *Lessons in Elementary Chemistry*, with a practical Examination in the Laboratory. 3. Anatomy: The Bones, the names and positions of the principal Muscles, Blood Vessels, and Nerves; the elementary anatomy of the Viscera, of the Thorax and Abdomen, and of the Brain and Cranial Nerves; the anatomy of the Mouth and Jaws, and parts in relation thereto. 4. Physiology and Histology: An elementary knowledge of the functions of Digestion, Circulation, Respiration, and the Nervous System; and an elementary knowledge of Histological Structures, the Physiology and Histology of the Mouth and the organs related thereto. 5. Surgery: Inflammation, its varieties and consequences; Fracture, Dislocations, and Injuries of the Mouth, Face, Jaw, and Parts in relation thereto, their immediate and remote effects; Surgical Diseases of Blood Vessels, Diseases of the Mouth, Bones, and Joints thereof, Wound Infection, Pyaemia, Septicaemia, Use of Anaesthetics, Accidents therefrom, and their treatment.

Final Dental Examination.—Candidates must produce evidence of having passed the Primary Dental Examination of this College, or the Third Professional Examination under the Conjoint Board with the Royal College of Physicians in Ireland, or with the Apothecaries' Hall, or an equivalent examination recognized by the College. Candidates are required to produce certificates of having attended subsequent to registration as a dental or medical student: 1. The following courses of lectures recognized by the College: Dental Surgery and Pathology (two courses), Dental Mechanics (two courses). 2. For two years the practice of a dental hospital recognized by the College, or of the dental department of a general hospital so recognized. 3. Of having been engaged during four years in Professional Studies. 4. Of having received three years' instruction in Mechanical Dentistry from a registered dentist.[1] Candidates holding a diploma in Surgery will be admissible to the Final Dental Examination on producing certificates of having attended: 1. One course of lectures on Dental Surgery and Pathology. 2. One course of lectures on Dental Mechanics. 3. For one year the practice of a dental hospital recognised by the College, or the dental department of a general hospital so recognized, where such attendance has been subsequent to the date of diploma. This remission (3) has been made on the understanding that the surgeon devotes his whole time to dental work. 4. Of having been engaged during a period of not less than two years in acquiring a practical familiarity with the details of Mechanical Dentistry, under the instruction of a registered dentist. Candidates are examined in: Dental Surgery—Theoretical (including Dental Pathology), Clinical, and Operative. Dental Mechanics—Theoretical, Clinical, and Practical

[1] A Book of Questions set at the Examination for the Licence in Dental Surgery for the years from 1892 to 1900 may be obtained on application to Messrs. Taylor and Francis, publishers, Red Lion Court, Fleet Street, London, E.C. Price 6d. each, post free 6½d.

[1] The three years' instruction in Mechanical Dentistry, or any part of them, may be taken by the dental student, either before or after his registration as a student; but no year of such instruction in Mechanical Dentistry shall be counted as one of the four years of professional study unless taken after registration. One year's bona-fide instruction from a registered dentist after being registered as a dental student may be counted as one of the four years of professional study.

(including the Metallurgy of the workshop). Candidates must pass in all the subjects at the same time. Final Dental Examination.—Candidates holding L.R.C.S.I., or students who have passed Primary Dental or Third Professional Examination of the College, £10 10s.; re-examination, £5 5s. Fees for Final Examination of all other candidates, £26 5s. Re-examination, £10 10s. Extra fee for Special Examination, £5 5s. Fees are not returned to candidates who may fail to present themselves without having given two days' previous notice to the Registrar, or who may have been rejected. All fees are to be lodged to the credit of the Royal College of Surgeons at the Bank of Ireland. A rejected candidate will not be again admitted to examination until after a period of three months. The Council has power to admit to examination, *sine curriculo*, candidates whose names are on the *Dentists Register*, published under the direction of the General Medical Council, and who are unable to furnish the certificates required by the foregoing regulations, on presentation of the schedule of application as hereinafter set forth, accompanied by any certificate they may have of general or professional education, and by the required fee. The application of the candidate for examination shall be made on a form, obtainable at the College, setting forth a certificate, signed by two Fellows, Members, or Licentiates of a College of Surgeons, and by two Licentiates in Dental Surgery in the Royal College of Surgeons in Ireland [or two members of the British Dental Association, or of the Odontological Society], to the effect that applicant is of good moral character, has been for five years engaged in the practice of Dentistry, is a registered dentist, and has not, during the past two years, attracted business as a dentist by advertising or other unbecoming practices. The examination and fees are the same as for the Final Dental Examination of other candidates.

THE SUPPLEMENT.

THE SUPPLEMENT this week contains a note on legislation which the London County Council intends to promote in the next session of Parliament to obtain powers to pay the fees of medical practitioners called at the instance of a midwife to attend cases of emergency; Association Notices, Naval and Military Appointments, Vital Statistics, Vacancies and Appointments, and the Calendar of the Association.

CORRESPONDENCE.

THE METROPOLITAN ASYLUMS BOARD AND ITS ASSISTANT MEDICAL OFFICERS.

SIR,—In the BRITISH MEDICAL JOURNAL of August 26th is a letter signed by three of the Board's assistant medical officers at their Darenth Asylum, in which they announce to your readers the fact that they have resigned their appointments, and their reasons for this step.

It is true that assistant medical officers rank as "subordinate officers," and that the medical superintendent and the other officials named by the writers rank as "principal officers." In other words, there is a responsible chief or "principal officer" in each department of an asylum, and each has a number of assistants or "subordinates." This is provided by Orders of the Local Government Board, and is a matter over which the Asylums Board has no control; but, so far as I am aware, the arrangement works well in practice, and although the Board constantly has in its service upwards of fifty assistant medical officers, this is the first time the Board has heard any complaint of this kind.

The three assistant medical officers at Darenth Asylum, however, now make a most serious allegation against some one or more of the lay principal officers of having modified their directions in matters exclusively medical, and, moreover, they say that "such intrusions of unqualified persons into purely medical matters are frequent," to the obvious injury of patients.

It is regrettable that such a serious charge should not have been communicated in the first place to the Board, who certainly know nothing of so reprehensible a practice.

It is also unfortunate that the question arises when the Board and its Committees have adjourned for the usual summer vacation, but I have no doubt whatever that the Board will take the earliest opportunity of thoroughly investigating the matter, and of taking such steps as their inquiries may show to be necessary.—I am, etc.,

AUGUSTUS C. SCOVELL,
Chairman of the Board.

London, E.C., August 29th.

CONTRACT MEDICAL PRACTICE.

NOTICE AS TO DISTRICTS IN WHICH DISPUTES EXIST.

A notice as to places in which disputes exist between members of the medical profession and various organizations for providing contract practice will be found among the advertisements, and medical men who may be thinking of applying for appointments in connexion with clubs or other forms of contract practice are requested to refer to the advertisement on page 127.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

A CORRESPONDENT would be glad if any reader could inform him of a good opening for an ophthalmic surgeon (aged 38, Moorfields training) in any British colony.

AUTOMOBILISM.

TYRO would feel obliged for any hints from medical motorists of experience on the economical management of tyres. Replies touching the following points are requested:—(1) Is there any real benefit in the use of patcho, etc., for slits in the cover? (2) Is the best solution that known as Hill's motor solution? (3) Is there any cheap vulcanizer capable of doing satisfactory work?—by "cheap," I mean one of the type of "stitch-in-time vulcanizer," and costing about £1. The maze of advertisements in motor journals is very bewildering to novices. (4) Does raw hide belting make a good "gaiter"?

INFLUENZA WITH PECULIAR COMPLICATIONS.

PUZZLED writes: A lad of 21, with all the symptoms of the nervous type of influenza, with intense headache predominating, was seized on the fourth or fifth day of his illness with violent convulsions. These I did not see, but they were described by an intelligent nurse. On the following morning, I was surprised to find that the lad had apparently had a "stroke," his right arm and leg being paralysed. His power of speech was completely gone, but he could protrude his tongue. His face was not drawn. He was not unconscious. Three days after this, he surprised me by lifting up the before paralysed arm and giving quite a grip with the hand. A similar power of movement had returned to the leg. He now says "Yes" and "No," and can repeat any sentence, but does so like a child learning a lesson. The convulsive seizures have all gone, his temperature is normal, he is very hungry, continually asking for food, and his condition from being one of great gravity is now altogether satisfactory. As I had not met with or read of anything like a similar case, I thought it might be of interest and would like very much to know if a like case has occurred in the practice of any member and if so, if the recovery was perfect. I gave a very gloomy prognosis.

LETTERS, NOTES, Etc.

AN APPEAL.

CAPTAIN F. E. GUNTER, R.A.M.C. (68, Torrington Square, W.C.), writes: I beg to acknowledge with thanks, on behalf of Mrs. Dodd, cheque for £1 10s. from W. T.

THE DUNCAN FUND.

DR. HUGH RITCHIE (257, Shankill Road, Belfast) writes: I beg to acknowledge with many thanks the following subscriptions towards this fund. Total already acknowledged, £50 12s. 0d.:

	£ s. d.		£ s. d.
Dr. Hicks	0 10 6	Dr. John McMurray... ...	0 5 0
Dr. John Jamison	0 10 0		

ERRATUM.—The correct name of the biological product taka-diastase, exhibited at Leicester by Messrs. Parke, Davis, and Co., of 111, Queen Victoria Street, E.C., is as now stated, and not as published in a notice on the subject in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of August 19th. Similarly, the new local anaesthetic and haemostatic, to which attention was intended to be drawn, is eudreuine; while the word "chloretonone" in the same notice should have been printed "chloretone."

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

Eight lines and under	£0 4 0
Each additional line	0 0 6
A whole column	2 0 0
A page	5 5 0

An average line contains six words.

Advertisements should be delivered, addressed to the Manager, at the Office, not later than first post on Wednesday morning preceding publication; and if not paid for at the time, should be accompanied by a reference.

Post-Office Orders should be made payable to the British Medical Association at the General Post-Office, London. Small amounts may be paid in postage-stamps.

N.B.—It is against the rules of the Post Office to receive letters at *Poste Restante* addressed either in initials or numbers.

Remarks
ON
POISONING BY FUNGI:
AMANITA PHALLOIDES.

By CHARLES B. PLOWRIGHT, M.D., F.R.C.S.Eng.,
Consulting Surgeon, West Norfolk and Lynn Hospital; formerly Professor of Comparative Anatomy and Physiology, Royal College of Surgeons of England.

A certain number of cases of poisoning by fungi occur every autumn in this country, although they are not so numerous with us as abroad. It is not long since that the tendency was to regard every fungus other than the common mushroom as poisonous. So far from this being the case, the majority of them are eatable, in the sense that they can be eaten without making the eater ill, when cooked in an appropriate manner. The really poisonous species can almost be counted on the fingers. But we may go even further than this, and say the vast majority of deaths in this country is caused by the consumption of one species, and one species alone. These deaths are caused by mistaking this particular species for the common mushroom which it to a certain extent resembles. This fungus also is the commonest cause of fatal poisoning on the Continent of Europe, where fungi are eaten as food and where all sorts and kinds are pressed into the service of keeping soul and body together, not as we eat mushrooms as luxuries. It so happens that our textbooks lead us to suppose that the poisonous qualities of all fungi are due to the alkaloid muscarin, the antidote for which is atropin. That certain English fungi do contain muscarin is perfectly true, but these are such as can hardly be mistaken for the common mushroom by the most careless. The species which causes so many deaths both here and abroad owes its lethal power not to an alkaloid but to a toxalbumin—phallin. This fungus, *Amanita phalloides*, presents certain very definite botanical characters by which it and its allies can easily be recognized.

During the last thirty years I have been able to trace it as the cause of the following four deaths in and near the town of King's Lynn.

Case I.

R. H., of King's Lynn, a boy aged 12, ate at 11.30 a.m., on Saturday, September 27th, 1879, about a third of the pileus (top) of a specimen of *A. phalloides*, uncooked. He had no symptoms until 1 a.m. the following morning, September 28th (thirteen hours), when he had vomiting, diarrhœa, and great thirst. He was, however, able to eat his breakfast at 8 a.m. Diarrhœa and vomiting occurred again at noon (twenty-four hours). On the following day (September 29th) his symptoms were ameliorated; at 7 p.m. the late Dr. C. Glasier saw him. The above-mentioned symptoms continued and were accompanied by severe abdominal pain. On September 31st, at 7 a.m., he died, slightly convulsed—that is, on the fifth day (81½ hours).

Post-mortem examination showed peritonitis with the lymph; gastric mucous membrane vivid red; walls of the stomach softened, so as to be readily perforated by the finger; gangrenous spots on the mucous membrane of the intestine.[1]

Case II.

J. C. B., a little boy of 5, residing near King's Lynn, ate an unknown quantity of *A. phalloides* between 3 and 4 in the afternoon of August 29th, 1894. He had no symptoms till the middle of the night, ten to twelve hours after eating the fungus, when he had sickness and diarrhœa. Dr. P. de C. Potter saw him about 11 a.m. on August 30th; he had previously had an emetic of salt and water, which acted freely; afterwards a dose of castor oil was given him and milk. The most prominent symptoms besides diarrhœa and vomiting were severe abdominal pain and intense thirst, which continued until 8 p.m. on August 31st, when he became worse and died unconscious on September 1st at 7.30 a.m., sixty-eight hours (fourth day) after eating the fungus.

Cases III and IV.

J. H. R., of King's Lynn, aged 32, on August 8th, 1905, gathered some *A. phalloides*, which he and his family, consisting of the wife, aged 22, a daughter Dora, aged 7, and a son Hughie, aged 1 year and 10 months, ate for their tea. During the preparation of the meal, the mother and the boy (Hughie) ate a certain quantity of the fungi raw. The total amount consumed by the whole family did not exceed ¾ lb. About 6 a.m. Hughie awoke sick, his mother got up to attend to him and was sick too; Dora followed, and the father was taken ill last (eleven hours). The symptoms were the same in all—diarrhœa, vomiting, great thirst, perspiration, and abdominal pain. The latter was intense, of a crampy character, especially worse in the epigastrium, but extending over the whole abdomen. Dr. C. K. Bond, to whose kindness I am indebted for seeing the cases, at about 11 a.m. on August 9th found the whole family very ill with the above symptoms. The little boy Hughie became worse, and on August 10th was convulsed; he had slight distortion of the muscles of the face, slight nystagmus and widely-dilated pupils. He died at 8 p.m. on the third day (fifty-four hours). A *post-mortem* examination was made twenty hours after death. The body was well nourished, hypostatic discoloration was very marked, and there was a distinct icteric tinge. *Post-mortem* rigidity was absent. The stomach was empty. In places the mucous membrane was reddened; the rugæ on the posterior and inferior surface were enlarged and red, and the mucous membrane markedly swollen. Little was seen on opening the small intestine, but the interior of the colon was slightly reddened; it contained some curded milk. The mucous membrane was studded with pearly-white tubercles 2 to 4 mm. in size, consisting of the enlarged solitary glands. The liver was enlarged, very pale, and yellow in colour. The gall bladder was full. The kidneys were congested, the bladder three parts full; the spleen, not enlarged, was darker in colour than normal; the lungs were healthy: both ventricles of the heart were empty, and both auricles filled by soft clot. There was very little blood in the body generally.

I had the opportunity of seeing the mother on August 11th, that is, on the fourth day, seventy-two hours after eating the fungi. She was in bed, markedly jaundiced, and in great pain, rolling from side to side, and very restless. The pain was paroxysmal and cramp-like. She said that it began in the lower part of the abdomen, gradually increasing until it ended in the epigastrium. She was much too ill to examine minutely. During the night she aborted, about the third month. On the next day, August 12th, at 11 a.m., she was scarcely conscious; the pulse was 96, and she lay on her back moaning with her head retracted, restless, throwing her arms about. She had passed no urine; respiration was irregular, suggestive of the Cheyne-Stokes type. At 3 p.m. her pulse was 116, the temperature was 98.2°, the pupils were equal and normal in size. At 7 p.m. the pulse was 110, the temperature 97.6°. She died at 11 p.m. (fourth day).

The man had pain of the same character, much thirst, continued diarrhœa, and vomiting. His face was bathed with perspiration during the paroxysms of the pains, and had the pinched and retracted look which the French speak of as *la face vultueuse*. The symptoms gradually decreased, and he was convalescent on August 15th (eighth day).

Dora (the daughter) was removed to the Lynn Hospital under the care of Dr. J. R. Kingdon, by whose kindness I am allowed to publish the following notes: She was sick on the morning of August 12th (fourth day, 87 hours). The temperature was 99.6°. On August 13th she was free from pain except when the bowels acted; one action consisting of blood-stained mucus and undigested curds. The temperature was 99°, she passed 6 oz. urine, which did not contain albumin; the liver was enlarged, the tongue clean, and the pupils rather small. She complained greatly of thirst. On August 14th the bowels acted five times, the stools containing much blood and mucus. The temperature was 97°. She was given a mixture of chlorodyne and bismuth carbonate, and was fed on albumin water, broth, Benger's food and barley-water. On August 15th three loose motions, with traces of blood-stained mucus were passed. She still had slight tenesmus (eight days after eating the fungus). The face was still pale and pinched. On August 17th (tenth day) she was convalescent.

It is evident that *A. phalloides* is a highly poisonous fungus giving rise to a distinct group of symptoms resembling those of ptomaine poisoning. To it and to its varieties have been traced 18 deaths since 1900 in France alone.

Eighteen Fatal Cases of Poisoning by the Phalloides Group of Amanitae.

No.	Name of Reporter.	Date.	Sex.	Age.	First Symptom Appeared.	Death.	Treatment, etc.	*Bulletin Société Mycologique de France.*
					Hours.	Hours.		
1	Drs. V. and X. Gillot	1900, Sept. 17	F.	12	11	72	Emetics, purgatives, belladonna	1902, vol. xviii, p. 34.
2	,, ,,	,, ,,	F.	9	11	48	,, ,, ,,	
3	,, ,,	,, ,,	F.	3	11	28	,, ,, ,,	
4	,, ,,	1901, Sept. 30	F.	41	10	45		,, ,, p. 41.
5	,, ,,	,, ,,	M.	79	11	63		
6	,, ,,	,, ,,	F.	20	10	106		
7	L. Rolland	1902, Oct. 20	M.	37	10	54	Atropine and morphine hypodermically	,, ,, p. 418.
8	,,	,, ,,	M.	32	10	58	,, ,, ,,	
9	,,	,, ,,	M.	22	10	78	,, ,, ,,	
10	B. Souché	1903, Aug. 13	F.	50	4	43 (?)	Atropine hypodermically	1904, vol xx, p. 40.
11	,,		M.	45	18	48	,, ,,	
12	,,		F.	11	18	96	,, ,,	
13	,,		F.	3	18	96		
14	,,	,, Sept. 1	F.	10	10	104		,, ,, p. 45.
15	,,		F.	7	10	112		
16	,,		M.	4	10	105		
17	Dr. X. Gillot	1904, Oct. 16	F.	34	9	48		1905, vol. xxi, p. 58.
18	V. Harlay	,, Aug. 31	M.	25	17	72		,, ,, p. 107.

The above table shows (1) the long period which usually elapses between the ingestion of the fungus and the appearance of the first symptom, averaging between ten and twelve hours; (2) the average period in which it proved fatal—72 hours; (3) the 6 cases treated by atropine proved fatal, as did the 3 others in which belladonna was given; (4) half the cases were under 20, and a third under 10 years of age.

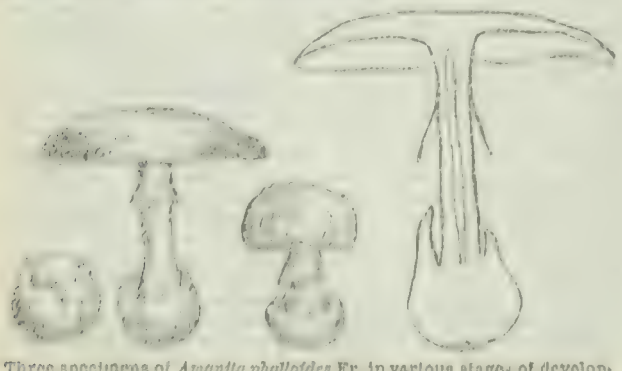
We owe most of our knowledge of phallin to Kobert.[2] He found it to be a toxalbumin, very similar to the toxalbumin ricin contained in the seeds but not in the oil of the castor-oil plant, and abrin in the scarlet and black beans of *Abrus precatorius*—jequirity.

The most commonly observed symptoms in a case of phallin poisoning are, vomiting not occurring for several hours (10 to 12) after eating the fungus, diarrhoea, pain in the abdomen, cramps of the stomach and diaphragm, intense thirst, cold sweats, collapse, sometimes headache, delirium, suppression, more or less complete, of urine, slight but distinct jaundice in the latter stages of severe cases, subnormal temperature, sometimes cramps in the limbs.

Post-mortem Signs.—Absence of *post-mortem* rigidity, marked hypostatic discoloration, inflammation of the gastro-intestinal mucous membrane, localized ecchymoses of the liver, alimentary canal, pleura and lungs, enlarged solitary glands, fatty degeneration of the liver, fluidity of the blood, hyperaemia of the meninges.

Treatment.—The orthodox rule of emptying the stomach and intestines of course applies only to those cases seen in the early stage; usually the patient has been vomiting and purging long before he is seen—of course a dose of castor oil may be required. To relieve the great suffering morphine is almost sure to be required. To decompose any phallin left in the stomach, permanganate of potash, as has been suggested, should be tried. The subcutaneous administration of normal saline solution (sodii chlor. ʒj, aquae Oj) has been used with success.

Dr. Ramond treated five cases of poisoning by *A. phalloides* with hypodermic injections of atropin gr. $\frac{1}{30}$, morphine gr. $\frac{1}{4}$. Three of these died after fifty-four, fifty-eight, and seventy-eight hours' suffering. To the other two he gave injections of 300 c.cm. of artificial serum, and they recovered.[3]



Three specimens of *Amanita phalloides* Fr. in various stages of development. Section of a full-grown specimen showing the volva or poison cup. From Nature (reduced).

The recognition of *A. phalloides* and its immediate allies is not difficult. Although it sometimes resembles the common mushroom, *A. phalloides* is never anything else but white beneath the cap, where everybody knows the mushroom is pink, purplish-brown, or almost black. On the top *phalloides* is frequently nearly white, but one can almost always see traces of yellowish-green, especially about the margin. The stem of the mushroom is nearly cylindrical—that is, nearly as thick above as it is below—but the stem of *phalloides* is always bulbous, and springs out of a cup made by the upper part of the bulb, as shown in the figure, the so-called "poison-cup."

The cup-like base of the stem, the permanently white gills, its shining pale greenish or yellowish-white top, and the fact that it never grows far away from trees, especially oak trees, should enable any one to recognize this most virulent fungus. There is one point more to be remembered about *phalloides*, namely, that it will "peel" almost as well as the common mushroom.

References.

[1] For a full account of this case see *Lancet*, vol. ii, 1879. [2] Kobert, R., *St. Petersburger Medicin. Wochenschrift*, Nos. 51 and 52, 1891, where a full account of the symptoms and *post-mortem* appearances is given. [3] *Bulletin Soc. Mycol. de France*, 1902, vol. xviii, p. 420.

CLINICAL EFFECTS OF ETHER ANAESTHESIA ON RENAL ACTIVITY.

BY

HAROLD PRINGLE, M.D., F.R.C.S.I., Chief Demonstrator, Physiological Laboratory, Trinity College, Dublin.

R. CHARLES B. MAUNSELL, M.B., F.R.C.S.I., Surgeon to Mercer's Hospital, Dublin.

AND

SETON PRINGLE, M.B., F.R.C.S.I., Surgeon to Mercer's Hospital, Dublin.

(From Mercer's Hospital and the Physiological Laboratory, Trinity College, Dublin.)

The following investigation was undertaken with the object of determining clinically the influence of ether anaesthesia on the secretion of urine, both as regards its quantity and its nitrogenous content. The investigation arose from a discussion we had in Mercer's Hospital regarding the relative advantages of chloroform and ether as a routine anaesthetic for operations, more especially in cases with renal disease. The idea for the investigation was suggested to us by a paper read last session at the Dublin University Biological Association by Professor Thompson, giving the results of his experiments on dogs; the method and the periods of collecting the urine employed by us, however, differ from his.

The method we adopted was to take periods before, during, and after anaesthesia, as follows:

Period I. Twenty-four hours, ending at 9 a.m. on morning of operation.

Period II. From 9 a.m. on the morning of operation till immediately preceding the administration of the anaesthetic.

Period III. During the induction of anaesthesia, ending with the abolition of corneal reflex.

Period IV. First half-hour of complete anaesthesia.

Period V. Second ,, ,, ,,

Period VI. Third ,, ,, ,,

Period VII. Six hours following anaesthesia.

Period VIII. Twenty-four hours following Period VII.

The bladder was emptied by catheter at the end of each period.

The total nitrogen was estimated by Kjeldahl's method.

The following tables give the results obtained in ten consecutive cases. All our cases were drawn from among the female surgical patients in Mercer's Hospital. We purposely selected cases involving various operations on limbs, head and neck, and abdomen, so as to obviate as far as possible any special influence of the operation:

The cases were operated on by Mr. Maunsell and Mr. Pringle, and were as follows:

Case.	Age.	Operation.
A	45	Myomectomy and ventrifixation.
B	42	Ovariotomy for small adherent cyst of ovary.
C	25	Curetting.
D	20	Removing tuberculous glands of neck.
E	24	Appendicectomy, hysteropexy, and rectopexy.
F	21	Removal of glands of neck.
G	23	Removal of glands of neck.
H	50	Appendicectomy.
I	18	Removing internal semilunar cartilage of knee.
J	28	Excision of varicose veins.

All these cases ran an aseptic course. In each case the urine was tested before the operation and found normal.

TABLE I.—*Amount of Urine, showing Rate of Secretion in c.cm. per Half-hour.*

Case.	Period I.	Period II.	Period III.	Period IV.	Period V.	Period VI.	Period VII.	Period VIII.
A	21 20	57 5	121.50	3.50	1.70	—	9.30	8.80
B	13.00	24 3	20.00	1 20	0.90	0 5	11.80	8 80
C	37.80	48.7	20.30	4 00	—	—	11.80	10.60
D	14.20	Lost	9.40	5 10	—	—	9.50	7 00
E	20 20	48.7	58.50	3.80	0.71	0.7	14 60	11.20
F	12 50	33.0	15.70	2.50	1 60	—	11.40	8.30
G	12 50	37 5	85.00	4 10	7 00	—	10 00	7 70
H	21.30	27.1	12.20	3.50	3.60	—	12.70	7.70
I	57.40	107.5	123.70	19 00	5.10	—	46.20	Lost
J	32.30	10 4	20.60	9 00	—	—	13 00	9.30
General Average	24.28	42.2	58.73	5.50	2.05	0 6	15.12	8 82

Referring to the above table, we take Period I as giving the normal rate of secretion, being the rate for the twenty-four hours ending at 9 a.m. on the morning of operation.

Period II shows an increase in every case except J, the increase being accounted for by the nervous condition of the patient preceding operation.

In Period III—the period of induction—the rate of secretion shows in some cases an increase and in others a decrease compared with Periods I and II. These figures correspond with the varying results obtained by other observers, on dogs, where the depth of anaesthesia was not uniform.

In Period IV the effect of full anaesthesia becomes apparent, every case showing a great decrease, the average rate of secretion being only 23 per cent. of normal.

In Period V we get a further decrease, the average being only 55 per cent. of Period IV, or 13 per cent. of Period I; and if we except Case G in which the anaesthesia was incomplete during part of this period, the average is only 41 per cent. of Period IV, or 9.3 per cent. of Period I.

In each of the two cases in which the anaesthetic was continued for Period VI, the rate shows a further decrease.

In Period VII, that is, the six hours following anaesthesia, the rate of secretion again rises, but in no case does it reach normal as indicated in Period I.

Period VIII shows a slight decrease in the rate of secretion in every case. In the majority of cases this decrease seemed to have no definite relation to either the amount of fluid taken or the amount vomited during the thirty hours following operation; but three cases, namely, C, D, and H, seem to suggest that these factors may have an influence. In C and D the decrease was small, these cases were given the largest amount of fluid, and did not suffer from post-operative vomiting. In H the decrease was largest, this case received the smallest quantity of fluid and vomited the most frequently. No note was taken of the amount of sweating.

TABLE II.—*Total Nitrogen, showing Rate of Excretion in Grams per Half-hour.*

Case.	Period I.	Period II.	Period III.	Period IV.	Period V.	Period VI.	Period VII.	Period VIII.
A	0 190	0.230	0.530	0.020	0.015	—	0.100	[illegible]
B	0 220	0.290	0.110	0 067	0.066	[illegible]	0 090	[illegible]
C	0 210	0.360	0 250	0 050	—			
D	0.200	Lost	0 090	0 050	—			
E	0.210	0 410	0.300	0.023	0 005	[illegible]	0 1	
F	0.190	0.280	0.130	0 022	0.013	—	0.072	0.140
G	0.190	0.250	0.650	0 033	0.048		0.105	0.140
H	0 130	0 250	0.120	0 036	0.036		0 106	0 150
I	0.270	0 350	0.410	0.101	0.034	—	0.230	[illegible]
J	0.180	0.320	0 210	0.110	—	—	0.100	0.270
General Average	0 206	0 271	0.287	0.045	0.022	0.005	0.132	[illegible]

Referring to the above table, we see that Period II shows an increase in the ratio of excretion of nitrogen in all cases except J, corresponding with the increase in the amount of urine as shown in Table I.

In Period III there is in some cases an increase and in others a decrease, the average, however, being a considerable increase.

Period IV shows a marked decrease in every case, the average rate of excretion of nitrogen being only 22 per cent. of normal, as indicated by Period I. This corresponds closely with the decrease which we saw took place in the amount of urine during the first half-hour of full anaesthesia.

During Period V we find a continued decrease in every case except one, the average rate being 05 per cent. of that in Period IV, or 11 per cent. of Period I. In the one case—namely, G, in which there was an increase—the anaesthetic was unsatisfactory, as mentioned above.

In the two cases which were continued into Period VI there is a slight further diminution, the average rate being only 2.2 per cent. of normal, thus amounting to practical suppression.

In Period VII the rate of secretion of nitrogen again rises in every case, but does not reach normal, the average being 64 per cent.

In Period VIII the rate rises in each case considerably higher than that of Period VII, the average being 37 per cent. increase.

TABLE III.*—*Showing Rates of Secretion of Urine and of Excretion of Nitrogen in Percentage of Period I (Normal).*

	Period I.	Period II.	Period III.	Period IV.	Period V.	Period VI.	Period VII.	Period VIII.
Amount of urine	1	164	[illegible]	23	13		52	43
Total nitrogen	[illegible]	1·31	1·39	22	11	2·2	64	34

* In comparing the averages in any two Periods it is only those cases whose record appears in both columns which are used—not the general average of the Period.

In reviewing the foregoing results, which correspond to those obtained by W. H. Thompson from dogs,[1] we see that during the time of full anaesthesia not only is the amount of the urine reduced—in some cases as low as 3 6 per cent. of normal—but the excretion of the nitrogenous constituents is diminished to such an extent (2 2 per cent. of normal in Period VI) as to amount to practical suppression. And this condition of inactivity of the renal epithelium appears to increase the longer the anaesthetic is continued. We cannot but think that in cases of prolonged ether anaesthesia this inhibition of renal activity must exercise a most injurious effect on the general metabolism and condition of the patient.

In comparing Periods VII and VIII, we see that whereas the amount of urine is greater in Period VII, the N-excretion is greater in Period VIII, which appears to indicate that the kidney substance recovers its power of secretion of water after the removal of the anaesthetic more rapidly than it regains its power of nitrogenous excretion.

In conclusion, we desire to thank Professor W. H. Thompson for his kindness in giving suggestions and facilities in the carrying out of the work.

[1] BRITISH MEDICAL JOURNAL, March 25th, 1905.

NOTE ON HAEMOLYTIC AND HAEMOSOZIC SERUMS.

BY

MARC ARMAND RUFFER and M. CRENDIROPOULO,

(From the Port-Vieux Laboratory, Alexandria.)

THE authors of this paper[1] were the first to obtain a haemosozic serum by injecting rabbits with ox-bile. This serum, when added in certain proportions to ox-bile, prevented the haemolytic action of this latter fluid on bovine red blood corpuscles. The same observers noted that if more bile was added to a quantity of bile neutralized by haemosozic serum, haemolysis took place whenever the amount of serum was increased correspondingly. In some cases, however, the serum of rabbits injected with bile was not haemosozic but haemolytic; and, occasionally, a mixture of such haemolytic serum and haemolytic bile was less active in a concentrated than in a dilute solution.

Later,[2] the same observers showed that the same serum might be both haemosozic and haemolytic. Discussing their first results,[3] they endeavoured to explain these contradictory phenomena by the supposition that

one or more of the haemolysins present in bile may give rise to haemosozin when injected into the blood, while the others have no such effect. Conversely, the haemosozin so produced may have a specific action on one or more haemolysins, and not on the others, and such a serum, mixed with bile, would neutralize one or more of the haemolysins present, without acting on the others at all. If this hypothesis be correct, it follows that haemosozic serum would not prevent haemolysis when once the bile exceeded a certain quantity, because the bile would then contain a certain amount of unneutralized haemolysin sufficient to dissolve the red corpuscles.

With reference to the fact that the injection of bile occasionally produced a haemolytic serum, they suggested the following explanation:

We may assume that just as the haemolysin present in bile gives rise to haemosozin in the serum, so does the haemosozin of bile cause the formation of haemolysin, and that under certain conditions (for example, increased amount of haemosozin in bile, idiosyncrasy of animal, etc.) the formation of haemolysins exceeds the normal, or may even exceed that of haemosozins, with the final result that the serum becomes haemolytic.

In order to demonstrate the truth of these theories it is necessary to show:

1. The presence of two or more haemolysins in bile, of which one or more produce a haemosozic serum when injected into rabbits, whereas one or more does not do so.

2. The presence in haemosozic serum of a haemosozin acting on one or more haemolysins and not on the other haemolysin or haemolysins.

3. The production of a haemolytic serum by the injection of haemosozin.

The following experiments were made to elucidate these questions (space compels us to give but a few illustrative experiments):

HAEMOLYTIC SERUM PRODUCED BY THE INJECTION OF CERTAIN BILE-CONSTITUENTS.

A certain quantity of fresh ox-bile (200 to 300 c.cm.) is precipitated with three times its quantity of absolute alcohol and then filtered. The precipitate is suspended during one night (in the ice-box) in distilled water, containing 2 per cent. chloroform. This is now filtered, and the filtrate again precipitated with three times its volume of absolute alcohol. The precipitate after filtration is dried over sulphuric acid *in vacuo*. This precipitate (in future called "haemosozic precipitate") is now dissolved in physiological salt solution, so that each cubic centimetre contains 2 mg. of precipitate, and this solution is then injected in varying doses into rabbits.

EXPERIMENT I.—*Rabbit 69 received 0.14 of Haemosozic Precipitate in Three Injections in 23 Days.*

	Serum 69.	Physiological Salt Solution.	Haemosozic Precipitate.	Bile.	Blood.	Result.
Tube 1 ..	1	35	—	—	2	++
.. 2 ..	1	30	—	—	2	+++
.. 3 ..	1	25	10	—	2	+
.. 4 ..	1	30	10	—	2	∞
.. 5 ..	1	25	10	5	2	∞
.. 6 ..	1	35	—	5	2	+++

N.B. The experiments were all conducted in the way we have repeatedly described (see BRITISH MEDICAL JOURNAL, June 18th, 1904, p. 1618). The bovine red blood corpuscles were washed twice in normal salt solution and centrifugalized. The numbers refer to $\frac{1}{10}$ c.cm. Thus, 5=0°°.5; ††††=complete haemolysis; +=slight haemolysis; ++ and +++=an intermediate stage; ∞=no haemolysis.

Exactly the same results were obtained with other serums prepared in the same way. It was ascertained also that a temperature of 56° C., acting for 30 minutes, rendered the haemosozic precipitate inactive.

These experiments show that (1) the haemosozic precipitate injected into a rabbit renders the serum of that animal haemolytic. (2) The haemosozic precipitate prevents the haemolysis of the serum so produced, but does not neutralize all the haemolysins of bile.

In our first paper we had stated already that the injection of bile occasionally produces a haemolytic serum. The action of the haemosozic precipitate on such a serum is shown in the following table:

EXPERIMENT.—*Serum 23 is a Haemolytic Serum from a Rabbit Inoculated with Bile.*

	Serum 23.	Physiological Salt Solution.	Haemosozic Precipitate.	Red Blood Corpuscles.	Result.
Tube 1 ..	10	30	—	2	††††
.. 2 ..	10	20	10	2	∞
.. 3 ..	5	25	10	2	∞
.. 4 ..	5	35	—	2	††††

The haemosozic precipitate, therefore, although it has no action on bile, acts powerfully on the haemolytic serum of an animal injected with bile.

HAEMOSOZIC SERUM PRODUCED BY THE INJECTION OF CERTAIN BILE CONSTITUENTS.

Fresh bile is precipitated with three times its volume of absolute alcohol and filtered. The precipitate remaining on the filter is suspended for one night (in the ice-box) in distilled water containing 2 per cent. of chloroform and then filtered. The undissolved part remaining on the filter dissolves slowly in 10 per cent. chloride of sodium. This solution (called in future "biliary haemolysin No. 1") was then used for the injection of animals. (N.B.—One volume of solution corresponds to one volume of bile.)

EXPERIMENT.—*Rabbit 54 received 3 c.cm. of Biliary Haemolysin No. 1 in a Period extending over 18 Days.*

	Serum 54.	Physiological Salt Solution.	Bile.	Biliary H. No. 1.	Red Blood Corpuscle.	Result.
Tube 1	5	35	—	—	2	∞
.. 2 ..	—	35	10	—	2	††††
.. 3 ..	—	35	5	—	2	††††
.. 4 ..	10	20	10	—	2	†††
.. 5 ..	10	30	5	—	2	†††
.. 6 ..	—	30	—	10	—	†††
.. 7 ..	—	35	—	5	2	††
.. 8 ..	—	25	—	5	2	∞
.. 9 ..	10	30	—	10	2	†

The results with the same serum and other serums prepared in the same manner were always the same. By the injection of biliary haemolysin No. 1, therefore, a haemosozic serum is produced which has a slight action on bile, but a marked neutralizing action on biliary haemolysin No. 1.

NEUTRAL BILIARY SERUM PREPARED BY INJECTION OF CERTAIN BILE CONSTITUENTS.

After the precipitation of the haemosozic precipitate (see above) the alcohol is evaporated *in vacuo* over sulphuric acid. The dried residue is then dissolved in a quantity of physiological salt solution corresponding to the quantity of bile precipitated with alcohol. This solution (called "biliary haemolysin No. 2") is distinctly though not so powerfully haemolytic as the original bile, and was used for injection into rabbits.

EXPERIMENT.—*Rabbit 9 received 12 c.cm. of Alcoholic Extract in Five Injections during a Period extending over 35 Days.*

	Serum 9.	Physiological Salt Solution	Bile.	Biliary H. No. 2.	Red Blood Corpuscle.	Result.
Tube 1	3	35	—	—	2	co
,, 2	—	35	—	5	2	,,
,, 3	—	30		5	2	,,
,, 4	—	30		10	2	,,
,, 5	10	25		5	2	,,
,, 6	—	35			2	++++
,, 7	—	35	10	—	2	++++
,, 8	5	30	—		2	++++
,, 9	10	25	—		2	++++

Although the alcoholic extract, therefore, is haemolytic, its injection into rabbits confers no haemolytic or haemosozic properties on the serum of animals so treated.

Further other experiments showed that the haemosozic precipitate from bile did not neutralize the biliary haemolysin No. 2, and the serum of an animal injected with these haemolysins had no effect on a biliary haemolytic serum.

CONCLUSIONS.

1. Bile contains at least two haemolysins or groups of haemolysins: (1) Biliary haemolysin No. 1 (insoluble in alcohol), which produces a haemosozic serum when injected into rabbits; and (2) biliary haemolysin No. 2, which produces no haemosozic serum when injected.

2. Bile contains a haemosozic precipitate which, when injected into rabbits, produces a haemolytic serum.

3. The haemosozic precipitate added to bile never prevents completely the haemolysis produced by bile.

4. The haemosozic precipitate neutralizes the haemolysin insoluble in alcohol (haemolysin No. 1), but not the haemolysins soluble in alcohol (haemolysin No. 2).

5. The haemosozic precipitate prevents the haemolytic action of a serum produced by the injection of bile.

REMARKS.

Since the chemical composition of bile varies greatly even in the same animal, probably therefore the amount of haemolysin and haemosozin in it varies also. We have seen that as biliary haemolysins and haemosozins have very different physiological effects, the injection of bile which contains both necessarily produces very complex changes in the serum of an animal—changes all the more complex as the chemical composition of bile varies considerably. A serum of an animal injected with bile may have the most varied effect on the red corpuscles: and, as we have seen, although as a rule such a serum is haemosozic, sometimes it is haemolytic, sometimes both haemosozic and haemolytic, and sometimes neither.

It appears to us that these experiments throw light on some of the facts which have been observed concerning the serums of animals injected with lower micro-organisms or their products. A culture, whether filtered or unfiltered, whether heated or not, most probably contains, like bile, substances antagonistic to one another; in consequence, the serum of an animal injected with such complex substances may contain several new substances, some of which may inhibit or predispose to infection, some may neutralize and some increase the effects of bacterial poisons, some, again, may have no appreciable specific action whatever. Such a hypothesis may account for the impossibility of increasing the antitoxic power of certain specific serums, or of obtaining a serum neutralizing *in vivo* more than the minimum fatal dose of certain pathogenic bacteria.

REFERENCES.

[1] BRITISH MEDICAL JOURNAL, July 18th, 1903, p. 130. [2] Ibid., 1904, i, p. 658. [3] *Journal of Pathology and Bacteriology*, March, 1904.

A CASE OF EMPYEMA OF THE GALL BLADDER, WITH UNUSUAL SYMPTOMS.

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THE following case is, I think, worth recording, owing to the great difficulty in diagnosis resulting from the unusual physical signs which were present.

In most textbooks it is definitely stated that the dullness caused by a tumour of the gall bladder is continuous with the liver dullness, and that the intestine is never situated in front of an enlarged gall bladder.

In this case there was an empyema of the gall bladder, the result of the obstruction of the commencement of the cystic duct by a calculus. Owing to the fact that the liver was enlarged, so that the anterior edge, which was very thin, reached almost to the level of the umbilicus, though a dull note on percussion was only obtained for 1½ in. below the costal margin, the tumour was situated below the level of the umbilicus. In addition to this, the transverse colon was adherent to the under surface of the liver between its anterior sharp margin and the fundus of the gall bladder, causing a resonant note to be obtained on percussion between the hepatic dullness above and the gall bladder dullness below. Moynihan, in his book,[1] says: "In one case I have found the colon to be adherent to the edge of the liver above the gall bladder, so that on inflation the swelling was recognized as being below the colon, and made less easily palpable. Lawson Tait and Lücke have described cases in which the small intestine was adherent in this position."

As a result of these two factors—low position of the tumour and resonance above it—a wrong diagnosis of appendicitis was made.

The following is the history of the case:

Mrs. B., aged 40, was admitted to the Royal City of Dublin Hospital on Friday, June 9th, 1905. The previous Monday she was suddenly seized with pain in the right side; she vomited everything she took, and her temperature on two occasions during the week was 100° and 101° respectively. Her bowels were confined until Thursday, when they were moved as the result of purgatives and enemata; she had been kept more or less under the influence of opiates during the week owing to the severe pain which was situated in McBurney's spot. On admission her pulse was 60 and her temperature 99°. There was a large oval swelling situated in the right side of the abdomen just below the level of the umbilicus and close to the outer border of the rectus: the liver dullness extended for 1½ in. below the costal margin, but there was a broad band of resonance between this and the tumour; the tumour itself was dull on gentle percussion, but resonant on deep percussion. Though there was no cutaneous hyperaesthesia, the patient complained of so much pain and tenderness over the tumour that it was very difficult to make a thorough examination. The abdomen was not distended, but the muscles were rigid over the tumour, though there was no general abdominal rigidity. The patient was ordered an enema, and hot turpentine stupes were applied to the abdomen; all food was withheld except small quantities of milk and soda water. The bowels were well moved and the patient was better in the evening, the temperature 100° and the pulse 68, and the pain was less severe.

In the morning the patient appeared worse, the temperature 100.8° and the pulse 68, and the respirations 30 to the minute; the abdomen was moving freely with respiration, which did not cause any movement of the tumour; the pain was very severe and paroxysmal, entirely localized to the region of the tumour; there had been no vomiting since admission. A leucocyte count was made, with the following result: Total leucocytes, 22,666 per c.mm.; neutrophiles, 82 per cent.; eosinophiles, 1 per cent.; lymphocytes, 9 per cent.; hyaline, 8 per cent. There was a history of an attack of pain (not so severe as this one) lasting some days eleven years ago, accompanied by jaundice, and disappearing after the passage of gall stones; this, however, was not elicited till after the operation. During the present attack there was at no time any jaundice.

A diagnosis of appendicitis with abscess formation was made, and immediate operation was decided on.

The abdomen was opened over the tumour by an oblique incision passing through the muscles and the outer border of the sheath of the right rectus muscle. The parietal peritoneum was not adherent to the tumour, which was covered by the transverse mesocolon. The caecum and appendix were normal. The anterior edge of the liver was found projecting down to the level of the umbilicus, and underneath it a large tense tumour, covered by the transverse mesocolon, and with the transverse colon adherent to the under surface of the liver, in front of it; the colon and mesocolon, with a layer of lymph, were peeled off the under surface of the liver and the tumour; while doing this some thick pus welled up from the depths of the wound, the intestines were packed off with gauze wipes, and about 4 oz. of pus and mucus were swabbed up. A perforation was then found in the neck of the gall bladder, which was temporarily closed by forceps. The gall bladder was then separated from the under surface of the liver and drawn out of the wound, the neck of the gall bladder and cystic duct were freed, ligated, and divided, some strips of gauze were passed down to the bottom of the wound and the abdominal incision closed except for 1 in. in its upper part, and the patient was sent back to bed.

Everything went well for the first week; the temperature came down to normal on the third day, the gauze was removed on the fourth day, and the stitches were taken out on the ninth day, the wound being perfectly healed, except where the gauze drain had been, and there being scarcely any discharge. That evening the patient's temperature went up to 100° and she complained of cramps in her legs, followed by great pain and oppression of the chest, a great sinking feeling, and a cold perspiration all over the body; the pulse was very weak and difficult to count, about 126. She was given a hypodermic of strychnine

When I saw the patient, about one hour after the attack commenced, she was still complaining of great pain and oppression of the chest, the abdomen was somewhat distended and tympanitic, but was not tender, and moved freely with respiration, which was rapid, about 36 to the minute. The area of cardiac dullness and the heart sounds were normal. The patient was given a turpentine enema, which brought away a lot of faeces and flatus, and gave some relief: the patient had several slighter attacks during the night, but was somewhat relieved by hot stupes over the chest and a second turpentine enema, which got rid of more faeces and flatus; this in spite of the fact that the patient's bowels had been moving regularly every day since the operation. In the morning the pulse was 130, and still weak and difficult to count; a double friction sound could be heard over the apex of the heart; the cardiac dullness was normal. The patient was given a hypodermic of morphine which greatly relieved the pain and oppression, and was ordered a mixture containing salicylate of soda. That evening the patient was better, but a very loud creaking double friction sound could be heard over the whole of the front of the left side of the chest, and a slight thrill could be felt on palpation. The next morning the patient was better and both thrill and friction sound had entirely disappeared. The temperature remained somewhat irregular, rising on one occasion to 100.8°.

On June 23rd the patient complained of pain and cramp in the right leg, which became swollen: this was probably due to a thrombosis of the deeper veins of the leg, the calf of the leg being very tender and the tenderness extending up along the line of the superficial femoral vein in Hunter's canal, although nothing definite could be made out on palpation. A small collection of pus was found in the upper part of the wound and was let out. From this on the patient made a rapid recovery, the temperature becoming normal on June 30th, and the patient being allowed up on July 6th, and leaving hospital with the wound perfectly healed on July 15th.

On examining the gall bladder after removal, it was found to be enlarged to a capacity of 4 oz. The wall was nearly ½ cm. thick and very soft and friable. There was a round perforation 1 cm. in diameter in the neck, which had been closed by a layer of lymph and the adherent transverse mesocolon, and through which the leakage had occurred when these were peeled off. There was a soft round stone the size of a cherry-stone in the commencement of the cystic duct, the wall at this spot being ulcerated nearly through its entire thickness.

It is worth mentioning that the fluid in the fundus of the gall bladder was a clear, thick mucus, but that in the neck of the gall bladder was a thick, odourless pus of a light greenish colour. Both stab and streak cultures in agar-agar were made of this pus during the operation. The infection proved to be one of the bacillus coli communis.

REFERENCE.

1 *Gall Stones and their Surgical Treatment*, p. 136.

SEVENTY-THIRD ANNUAL MEETING

OF THE

British Medical Association.

Held at Leicester, July 24th, 25th, 26th, 27th, and 28th, 1905.

PROCEEDINGS OF SECTIONS.

SECTION OF DENTAL SURGERY.

MORTON SMALE, M.R.C.S., L.D.S., President.

PRESIDENT'S INTRODUCTORY REMARKS.

THE recommendation from the head quarters of the Association that Presidential Addresses at Sections are not required has my hearty approval. I do not, therefore, intend to waste the time of the Section or your patience with any address as your President.

Our programme is very full, the subject for discussion very important, and the time at our disposal so short, that it would amount to impertinence to direct your attention away from the subject we are met to discuss.

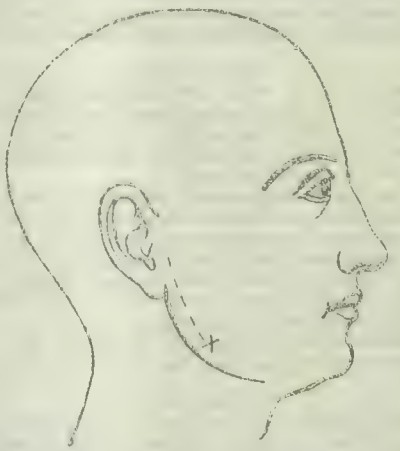
May I be pardoned for calling attention to a case recently under my care that is not altogether foreign to our discussion. The patient, a lady between 25 and 30 years of age, who had been under my care for some time without mentioning that she had suffered severely from neuralgia, told me at a recent interview that for some years she had periodically suffered from neuralgia of a severe type, and that she had taken large quantities of antineuralgic drugs for the purpose of obtaining relief, prescribed by medical men at different times.

The pain was severe, and radiated about the region of the ear; so much so, indeed, that she had feared aural trouble, and had consulted an aural surgeon about it.

On carefully examining the mouth I found the third molar absent, there was not then and there never had been any inflammatory trouble in the region, there was no history of the removal of the tooth or of its eruption. It seemed possible, therefore, that that tooth might be the cause of the trouble, and that the pain was due to some efforts on the part of the tooth to erupt, or to some pressure on the tooth in front of it leading to absorption of its root, or to some pathological condition that might end in the two teeth being joined together by the formation of pathological cementon.

A radiograph was taken, and is now shown, in which you will see that the wisdom tooth is deeply imbedded and wedged between the second molar and the ascending ramus of the mandible in such a position that it was impossible for it to reach the surface. It was decided to remove the second molar at the next attack, but up to this date one has not occurred, although several months have elapsed, which makes me think the two teeth are now cemented together.

With the object of verifying Dr. Head's very careful investigations about the region of pain in dental and other lesions, I have asked the patient to mark on a sketch of a face the exact region of the pain, which I now show you. In returning the drawing, she says: "I have marked a cross on the drawing



where the pain was worst; from there it went by the dotted line to my ear. The whole of the jaw on that side used to get tender, but I do not remember any pain in the tongue." Mr. Henry Moon, in Bryant's *Surgery*, was the first to endeavour to locate the lesion of the teeth by the seat of the referred pain. Dr. Head has carefully supplemented this by his very excellent work on the same subject. He points out that, to use his own words, "each organ in the head stands in relation with one or more areas on the surface. To these areas pain is referred, and over them the skin may become tender when the normal condition of that organ is disturbed." Thus, given a knowledge of the distribution of the tender areas, it is easy to determine to what area the referred pain must have belonged, and thus indirectly to arrive at the peccant tooth. We must all know from experience how valuable an aid to diagnosis this may be when our patients are unable to name the tooth which has given rise to both local and referred pain, and there must be few of us who have not drilled into a sound tooth because of the local symptoms, ignoring the referred ones, which probably would have directed us to the right tooth.

A DISCUSSION
ON TOOTHACHE, NEURALGIA, AND REMOTE AFFECTIONS OF DENTAL ORIGIN.

I.—J. S. RISIEN RUSSELL, M.D., F.R.C.P.,

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I HIGHLY appreciate the honour you have done me in entrusting the opening of so important a discussion to my care, and I thank you most cordially for the confidence which this implies. I can assure you that if I fall short of your expectations by not embracing enough in what I have to say, it is not because I have devoted too little time and care in the preparation of my remarks, but because I feel that the subject is so large that it is impossible to deal with it at all comprehensively in the time at my disposal.

This being the case, I have thought it best to limit myself to one aspect of the subject, and to endeavour to bring before

you some of the ways in which diseases which in no way depend on morbid conditions of the teeth cause pain which is referred to the teeth, or to parts to which pain is commonly referred when disease of the teeth is in reality responsible for it.

If in the remarks which follow I appear to hold a brief for the class of case to which I refer, please do not put a wrong construction on this. No one can be more fully alive to the importance of the opposite side of the question, a side which reference to Mr. Mummery's abstract shows me that he is dealing with fully. I naturally refer to the class of cases in which disease of the teeth accounts for pain which has been supposed to be due to some other cause, and in which it falls to the lot of the dental surgeon to discover the real source of the pain in some affection of the teeth which he can remedy, and thus relieve the patient of his suffering.

As students we have had so impressed on us by our teachers that no more potent cause of neuralgic pain in the face is to be found than some disease of the teeth, that it is a matter for surprise that medical men so often neglect the simple precaution of examining the teeth or of submitting their patients for this examination to a dental surgeon where neuralgia of the face is complained of, which leads the patient to consult them. Nevertheless, this simple precaution is only too often neglected, and as a consequence erroneous diagnoses follow, and incorrect modes of treatment naturally result in failure.

It is not because I do not appreciate the importance of this aspect of the subject, therefore, that I am contenting myself with this brief reference to it, but because I feel that I cannot deal with the whole of our subject in all its bearings in the time at my disposal, and, further, because I am in the fortunate position of being able to leave this side of it to one who is far better able to do it justice than I am. Mr. Mummery will be able, from his large mine of practical experience, to bring before you facts far more convincing than any that I can possibly pretend to have in my possession.

Similarly I do not intend to touch on diseases of the eye in their bearings on our subject, as I see that no less an authority than Mr. Lang is to give us the benefit of his experience in this connexion. Dr. Urban Pritchard's name on the programme relieves me of the necessity of saying anything about the ear and nose, though I must be allowed to occupy some of your time in considering the accessory sinuses, in so far as morbid conditions of them produce pain which simulates toothache or neuralgia. The fact that Dr. Leonard Guthrie and Dr. Edmund Cautley are making communications which deal with the affections of childhood that should concern us in a discussion of this kind further assists me in my endeavour to prevent myself from attempting to embrace too wide a field in the remarks that I have to offer you.

A discussion of this kind would be far from complete without reference to the most important work that has been done on the subject by Dr. Head, but as Mr. Mummery intends to deal with this, I am relieved of the responsibility of attempting to place before you the complicated problems involved in Dr. Head's discoveries.

It is impossible to deal with the part of the subject which I have selected as coming within my province in this discussion without appearing to be bringing an indictment against the dental surgeon—a state of things that implies a discourtesy scarcely to be expected from a guest who has been so privileged, and who has been accorded so hearty a welcome as you have given me to-day. That this seeming want of courtesy is not intended I feel sure that you will, however, believe, and I am confident that you will not regard anything I say as a breach of privilege on my part. Indeed, I hope I have sufficiently confessed to the sins of those of us who belong to the department of our profession in which I practise to make you tolerant of any remarks that I may have to make, which appear to criticize the dental surgeon.

It is a matter of great satisfaction to me to feel that my presence among you to-day, and the presence of gentlemen like Mr. Lang and Dr. Pritchard, who practise in other special departments of medicine and surgery, is a clear indication that you are fully alive to the importance of men from different departments of our profession meeting together, and exchanging views, for this can only lead to a closer co-operation in our work, which cannot fail to be of the utmost benefit to our patients and ultimate good to mankind. We have much to learn from you, and that you think that there is some little, at all events, that you can learn from us is evident from the invitation you have given us, not merely to come and hear what you have to say, but to express our views with respect to the important questions under discussion.

The frequency with which pain affects the region with which we are concerned can scarcely be a matter for surprise when we think of the numerous and complicated connexions of the fifth nerve, its relations within the skull, the fact that its branches pass through so many bony foramina, and that in their ultimate ramifications they come into relationship with so many important structures, morbid conditions in any one of which may engender pain that is referred to one or other of the areas supplied by the branches of the fifth nerve. In addition to this we have to remember that many general affections are responsible for pains that have the head and face as their seats of election.

Some of the conditions which are responsible for pain referred to the teeth, or to regions in which pain is complained of when the teeth are at fault, are so common, and their importance so well recognized by dental surgeons, as well as those engaged in the practice of other branches of our professional work, that they call for little more than passing notice.

In this category may be placed the neuralgia experienced in anaemia and that due to the rheumatic or gouty state, or to malaria. Instances must be within the knowledge of most of us in which pain, unaccounted for by any affection of the teeth, or unremedied by appropriate treatment of any defects that happen to be present in connexion with the teeth, has nevertheless yielded to appropriate treatment by iron, quinine, or antigouty or antirheumatic lines of treatment.

It would be idle for me to dwell upon the effects of debilitating diseases—of which no better example can be cited than influenza—to an audience such as I am addressing, for you are as much alive to the fact as I am that in such cases measures calculated to improve the general nerve tone do far more to relieve the neuralgia than can any local measures directed to the teeth, to which, nevertheless, the pain may be referred in such cases.

Similarly, it is not my intention to take up your time by reference to such a rare condition as aneurysm of the internal carotid artery as a cause of neuralgic pain of the face, nor can I permit myself more than a passing notice of the rare and interesting disease, facial hemiatrophy, which affection may have its other manifestations preceded by pain referred to one or other of the branches of the fifth nerve.

Diabetes may pass unsuspected by one whose duties cannot be said to include an analysis of the urine, but he may gain much valuable assistance from information to be derived from the family doctor, to whom the real cause of the neuralgia may be well known, and who may have considered it judicious not to make known to the patient the real nature of his case, owing to its gravity. To the physician examining a case of the kind in search of a cause for the neuralgia, the fact that the knee-jerks cannot be obtained may suggest an examination of the urine, and he may find that it contains sugar. But this method of examination cannot reasonably be expected of you.

Mr. Lang may have something to tell us of how the ophthalmic surgeon may discover in the eye changes that indicate that neuralgia that is not due to any defect of the teeth has diabetes as its cause.

Reference to the behaviour of the knee-jerks in this disease leads me to say a word or two with regard to tabes. This disease, as we are all aware, commonly manifests itself in its early stages by pain; which pain, however, commonly makes itself felt in regions remote from those with which we are concerned in this discussion. There are, however, cases of tabes in which severe pain is felt in the distribution of the fifth nerve, a class of case that may well come under your observation in an early stage, before the patient's general condition has become sufficiently pronounced to lead him to consult a physician with regard to his ailment. Recognition of this class of case may lead you to divert the patient into the appropriate channel, where his disease, early recognized, can be early treated. Among the notable signs that such cases may present, even in as early a stage as I am suggesting, may be analgesia of the face—widespread, it may be, in its distribution. The pupils may attract your attention from their small size or their inequality; and even now such patients, submitted to more systematic examination, may be found to have lost their knee-jerks, and this, remember, without as yet any signs of ataxy or inco-ordination that can be determined by the most delicate tests that can be employed.

When I recall cases of hysteria, such as one in which a

patient deliberately produced a condition of one of her lower limbs that led a surgeon to amputate it, and that, not content with this, she afterwards produced a similar condition of the remaining lower limb, which, however, led to her fraud being detected, I cannot help feeling that you may have some such cases in which teeth that are blameless are extracted in consequence of the misrepresentations of patients of the kind. And when I further think of another case, in which a girl was able to induce surgeons to trephine her for cerebral tumour on no less than four different occasions, I feel that scarcely any apology is needed for the suggestion I have just made that dental surgeons have reason to be on their guard. That pain referred to the face may be of hysterical origin is beyond question, and without wishing to be thought disrespectful to the teeth, I cannot help feeling that if a patient can so readily make up her mind to part with a limb, it is scarcely likely that she will be any the more loth to permit the extraction of one or more teeth, if indeed she does not solicit this, with a view to relieve a pain which, whatever its true nature, does not depend on any disease of the teeth. It is just possible, however, that this operation may not be of sufficient magnitude to satisfy her morbid craving for sympathy and notoriety.

In my own experience, neurasthenia has not supplied many instances in which the pain complained of could be mistaken for the neuralgia engendered by disease of the teeth without the patient's general neurasthenic symptoms being sufficiently evident to prevent mistakes in diagnosis. Nevertheless cases do occur in which the local pain in the face is in excess of the general signs, and leads to the suspicion of a local cause, where in reality treatment directed to improving the general nerve tone, rather than any measure directed to the teeth, is best calculated to bring relief. The following case shows how much care is needed to prevent us from falling into grave errors in diagnosis in some of these functional cases:

I was once consulted in regard to a highly neurotic man. He had always been making much out of little, constantly complaining of this or that ailment, with the result that members of his family came to treat his complaints with little concern. The reason that I was consulted was owing to a pain on one side of his face, which he complained of, and which he had originally attributed to a tooth. He had first consulted a dental surgeon, who was induced to extract the tooth. As the pain continued, however, he believed that the operator had injured his jaw in the process of extraction, and that if this could be put right he would be relieved of his pain. Of the numerous medical men he saw one sent him to a spa for antigouty or antirheumatic treatment, in the belief that the neuralgia was of the so-called "gouty" or "rheumatic" origin. All such treatment was, however, to no purpose, and his pain continued. When the history of his case was related to me, it seemed certain that the case was one of a particular variety of neuralgia, about which I shall have a good deal to say. When I examined the patient, however, I had to give up this idea, as the case was obviously not of this nature. It was evident that the man was suffering from the general symptoms of neurasthenia, in combination with the local pain, to account for which I could discover no organic disease of the nervous system, although I examined him with very great care, notably for intracranial tumour. Treatment directed towards neurasthenia failed to relieve him. In the process of exclusion I first obtained the assistance of a dental surgeon, who pronounced him free from any local condition of the teeth to account for his trouble. Next an ophthalmic surgeon was equally unsuccessful in discovering any cause for his pain. Lastly, I sought the assistance of a surgeon skilled in the examination of the nose and its accessory sinuses, and on his transilluminating the antrum on the side of the pain a shadow was seen, indicating the presence of pus or some solid growth in this region. Exploration under an anæsthetic resulted in the evacuation of a large amount of most offensive pus, and there seemed good reason to believe that the poor man's sufferings were at an end. Instead of this, however, he continued to complain of the old pain, and was as neurasthenic and miserable as ever. Further exploration resulted in some of the contents of the antrum being removed and submitted to microscopic examination, when it was found that a sarcomatous growth occupied this region. The superior maxilla was removed, but the growth was too extensive to permit of the hope of more than temporary relief.

This case illustrates the importance of continuing to search for organic signs in spite of their absence when the patient first comes under observation, and in spite of the most pronounced evidences of functional disorder. So neurotic was this man that he was regarded as a hypochondriac, *malade imaginaire*, and so forth, and yet you have heard how serious was the organic condition that underlay this functional exterior. The case further serves to illustrate a most important group of cases, in which disease begins in the antrum, without being in any way dependent on the teeth, but in which nevertheless the dental surgeon is the person first consulted. He will thus oftentimes be in a position to direct such patients into the appropriate channels when the disease is not advanced, and when there is the possibility of complete removal of a growth by radical surgical intervention. Even in the absence of so serious a condition as new growth, the less grave, though none the less painful, condition of abscess of the antrum may thus be recognized early, and dealt with directly, instead of the patient being allowed to continue to suffer pain, while teeth are being extracted without any relief resulting.

What is true of this case in its bearings on the subject with which we are engaged is also true of all of the accessory sinuses, and Dr. Urban Pritchard will, I am sure, be able to bring most interesting and important facts to your notice in this connexion.

The next group of cases to which I wish to direct your attention is important from the standpoint that my experience tells that these cases prove a stumbling-block to the dental surgeon more commonly than do many of the other conditions to which I have already alluded, or with which I have yet to deal. I refer to what is known as neuralgia quinti major, "epileptiform neuralgia," or "tic douloureux." In this affection, which most commonly attacks persons about the middle period of life, paroxysms of pain of the most diabolical description occur in the distribution of one or other of the branches of the fifth nerve. Such cases almost invariably find their way to the dental surgeon long before they fall into the hands of those who are more familiar with their true nature, and who know that it is useless to extract teeth in the hope of relieving the pain; for, obscure as is the etiology and pathology of the affection, it is abundantly evident that the pain is in no way engendered by affections of the teeth, and that the extraction of teeth is powerless to put an end to the torture which the unfortunate victims of the malady have to suffer. Time after time cases of the kind have come under my observation, in which no teeth have been left in the jaw on the side of the pain, without the slightest relief having been afforded to the sufferer who has undergone the sacrifice. Indeed, more than one dental surgeon has admitted to me that he has extracted what he felt certain was a tooth free from blame simply to satisfy the importunity of the patient, whose repeated pleadings to be relieved of the supposed offending tooth had resulted in his extracting it contrary to the dictates of his better judgement.

If my remarks on this occasion bear no other fruit than that of bringing some of you to believe in the existence of this malady, which, despite its apparently close relationship to the teeth, in reality has nothing to do with them, and has to be relieved by measures which are of a totally different description to anything the dental surgeon attempts, I shall feel that I have not failed entirely in the task which I have undertaken at your instigation.

I see from the programme that Sir Victor Horsley is to speak of neuralgia of the fifth nerve, and as the probabilities are that his note contains important reference to the subject with which I am now dealing there is scarcely any need for me to say much more in this connexion. There is no more satisfactory class of case to be dealt with by the surgeon in so far as affections of the nervous system are concerned. There is but one treatment that can afford these unfortunate sufferers instant and permanent relief, and that is the operation which has as its object the removal of the Gasserian ganglion. Operations such as that of dividing the peripheral branches of the nerve, or excising portions of them, can only bring temporary relief; sooner or later the pain will return. The only permanent cure that can be effected is by removal of the ganglion. There was a time, however, when one scarcely dared recommend the operation without the gravest anxiety, owing to its formidable nature and the risks which attended it. Now all is changed, for since Krause introduced his method of reaching the ganglion and removing it nothing is more satisfactory than the operation and its results. I do not hesitate to recommend it, even in people of somewhat advanced years, for I have experienced nothing but good from the measure in the hands of my colleague, Sir Victor Horsley.

Having lauded the operation in the way that I have done, I feel it incumbent on me to refer to a case in which, to my knowledge, this procedure was recommended for the relief of facial neuralgia, but in which the patient was fortunate in not consenting to undergo the operation. Surprising as it may seem, the teeth had not been examined by those responsible for taking the view they did of the patient's condition, which led them to recommend this means of attempting to relieve her of her suffering. The patient subsequently consulted another medical man, who found the teeth in an exceedingly bad condition, and obtained the assistance of a dental surgeon, who extracted stumps, and

cured the neuralgia, without its being necessary for the patient to undergo an operation of the magnitude which had been considered necessary by those whom she had originally consulted. The kudos which the doctor gained from this case must make him thankful that he remembered one of the first lessons we have instilled into us when as students we are introduced to the subject of neuralgia and its treatment.

Apart from the temporary relief which morphine affords these sufferers when they are under the influence of the drug, gelsemium is the only medicinal agent that appears to have any decided effect in such cases. To be of much avail it has to be given in full doses, and may then permit the patient to avoid a surgical operation for a time. Two cases of the kind are at present under my observation, in both of which the attacks of neuralgia were so severe that I thought it unlikely that anything short of operation would be of much service to them, and yet both patients have had their pain sufficiently mitigated to allow them to postpone operation, which is, however, their only certain chance of cure.

Yet another class of case, in which my work has brought me into contact with the dental surgeon, and in which he has had the earliest opportunities of investigating the case, is where the patient has been suffering from organic intracranial disease, in which one of the earliest symptoms, if not *the* earliest, has been pain referred to the distribution of one or other of the branches of the fifth nerve. The most important cases of the kind fall conveniently into one of two groups, those in which the pain is due to a tumour growing at the base of the brain and involving the fifth nerve, and those in which this nerve is involved in gummatous meningitis. Examples of both varieties of cases have come under my observation, as instances of which the following may be cited:

A patient who was unaware that he had contracted syphilis, nevertheless suffered from some swellings on his limbs, which proved to be gummata. He subsequently became attacked by pain, which was referred to a tooth in the upper jaw on one side. For this he consulted a dental surgeon, but nothing that was done gave relief, and ultimately the tooth was extracted with no better result. By this time the pain had diffused itself from the original seat so as to invade the temporo-parietal region on the same side, and there was a great deal of tenderness in this region, as is so common in these cases of intracranial syphilis. There was no optic neuritis, nor were there any evidences of involvement of other cranial nerves, in addition to which it was evident that although the pain was referred to the distribution of the fifth nerve, the nerve had not as yet undergone any serious destruction, for there was no evidence of anaesthesia of the face, nor were the muscles supplied by its motor division paralysed. Under an appropriate course of mercurial treatment the pain, which extraction of the teeth had failed to relieve, disappeared, and although the patient was left somewhat of a wreck, with neurasthenic symptoms for a time, consequent on all the pain he had suffered, he ultimately made a complete recovery.

Another case that may be cited with advantage, in view of the fact that there was no evidence of destruction of the fifth nerve, as revealed either by anaesthesia or any paralysis of the muscles supplied by its motor division, is that of a man who was known to have contracted specific disease, and whose first symptoms of intracranial syphilis consisted in neuralgic pains of the face. It was only when he commenced to have subjective sensations down one side of the body, which were clearly premonitions of an impending attack of Jacksonian epilepsy, that the true nature of the neuralgia from which he had been suffering was suspected, and vigorous antisyphilitic treatment instituted.

With such cases before us it is impossible to avoid the speculation that some such instances must from time to time come under the observation of the dental surgeon, owing to the belief that the teeth are at fault. Certain it is that many such patients do not seek the advice of the neurologist until long after the pain first commenced, by which time the real nature of the case is beyond question, for quite apart from whether optic neuritis has developed or not, there is probably some anaesthesia of the affected side of the face, to which there may or may not be added paresis of the masseter and temporal muscles, which may become atrophied, and paralysis of the external pterygoid, which is revealed by deflection of the chin to the affected side when the mouth is opened.

Some of the cases that belong to the category now under consideration are liable to be confounded with cases of epileptiform neuralgia (tic-douloureux), but in the latter affection there is no anaesthesia, whereas in the cases due to organic lesions, such as tumours involving the fifth nerve, defect of sensibility is sure to be determined in time if the tests are carefully applied. This rule by no means necessarily applies to some of the syphilitic cases, however, in which there may be a great deal of pain, referred to the distribution of the branches of the fifth nerve, when the meninges at the base of the brain are involved in gummatous infiltration without evidence of destruction of the nerve, and consequent anaesthesia or disturbance of its motor functions.

One particularly distressing case that I must refer to in this connexion serves well as an illustration of how two very distinct sources of pain may exist where a tumour at the base of the brain is responsible for pain in the distribution of the fifth nerve, in that it may, of course, in addition, occasion the ordinary pain in the head which any intracranial growth may engender, irrespective of whether it involves the fifth nerve or not.

The case was that of a man suffering from a tumour of the pituitary gland. He suffered from pain in the distribution of the fifth nerve on one side, which was, however, not relieved when the tumour of the pituitary was removed. So intense was the pain which persisted in the distribution of the fifth, that another operation had to be undertaken for the removal of his Gasserian ganglion, a procedure which dispelled the pain from his face, but unhappily left him still with the headache of intracranial disease, probably due to recurrence of the growth originally removed from the pituitary gland.

In conclusion, I am anxious to obtain from you, in the discussion that is to follow, your experience, more especially of cases of epileptiform neuralgia (tic-douloureux), affections of the accessory sinuses, and cases of gross intracranial disease, in which pain referred to the teeth is one of the earliest indications of the morbid condition present.

II.—J. Howard Mummery, M.R.C.S., L.D.S.,
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Dr. Risien Russell having opened this discussion from the medical side, it remains for me to deal shortly with the remote effects of dental origin which we can more definitely assign to the surgical and dental side of the question. At the last meeting of the British Medical Association at Oxford, a full discussion took place in this Section on oral sepsis, so that I do not propose to dwell on that part of our subject, although of course the title of our discussion at this meeting includes those very numerous complications due to extension of suppurative processes from the mouth and teeth, and the question of remote affections due to teeth cannot be completely considered without some reference to these conditions.

To place the subject clearly before you for the purposes of discussion, I have considered it under several subdivisions, and propose to deal with them in order as far as I am able, but time will not allow me to deal with any more than a portion of the subdivisions to which I have referred in the published abstract.

Toothache.

Toothache or odontalgia is not a disease in itself, but a symptom, and we should apply the term "odontalgia" to pain distinctly referred to an individual tooth, distinguishing it from neuralgia, in which the pain is not referred to the tooth or is only associated with local toothache.

By some authors the term "odontalgia" is used to indicate pain in or around teeth and treated under the headings of local and referred odontalgia, but I think that, at all events for the purposes of discussion, it is better to confine the term odontalgia to cases of toothache, in which the pain is definitely referred by the patient to a particular tooth or teeth, and consider all cases of referred toothache under the subject of neuralgia. It is very difficult, however, to draw a hard and fast line between neuralgia and toothache—toothache is often associated with neuralgia and frequently assumes a neuralgic character.

When pain is due to irritation of the pulp without exposure—it is local in character—the tooth is very sensitive to heat and cold, and is readily distinguished as the exciting cause of the odontalgia. It is otherwise, however, when the pulp is exposed, whether from caries or accident—violent pain may be caused by the application of heat or cold, but the pain is frequently referred to some other region and the tooth as the exciting cause may be overlooked; the pain has become neuralgic.

The exciting causes of toothache are:

1. Irritation and exposure of the pulp from caries, erosion, or attrition.

2. Secondary deposits in the pulp—as "pulp stones" in caries—sometimes giving rise to odontalgia, but very frequently to referred neuralgic pain.

3. Localized suppuration of the pulp. Very severe toothache is caused by local suppuration in the pulp, especially when confined under a filling. Intense local pain is often experienced when the pent-up pus is allowed to escape on removal of the filling, the alteration of blood pressure in the pulp appearing to be the cause of this very severe paroxysm.

4. Direct traumatism—exposure by fracture of the tooth.

5. Exostosis—cementosis. The pain is both local and diffused, percussion causing distinct pain in the tooth.

6. Periostitis, due to direct injury or septic extension from the pulp. The pain in inflammatory conditions of the peridental membrane is of a more continuous character and associated with great local tenderness.

7. Alveolar abscess.

8. Pain from exposure of the cementum in pyorrhoea.

9. Necrosis of the root.

10. Pin-point absorption of the end of the root, in which the irregularity of the process of absorption leaves sharp spicules of cementum and dentine surrounding the nerve trunk, that cause severe local pain, especially on pressure—a condition of the tooth very difficult to diagnose.

11. Difficult eruption and malposition of teeth, as from impacted wisdom teeth. The pain from this cause would, however, usually fall under the head of neuralgia.

The pulp of a tooth being very freely supplied with blood vessels and nerves, and closely confined within a hard resisting cavity, is especially prone to suffer from acute inflammatory conditions, the swelling which accompanies inflammation leading to severe pressure upon the pulp tissue.

Caries causes toothache by direct exposure of the pulp, or by penetrating to within a short distance of the pulp, the softened dentine allowing the passage of various irritants—as thermal changes, acids, etc.; but it is a fact that has been often noted that caries in its early commencement will often cause toothache, although when the disease is further advanced there may be little or no pain, but it recurs with great intensity when the pulp at last becomes exposed. Our present knowledge of dental histology does not enable us to explain exactly how sensation is conveyed from the enamel, an extravascular tissue to the pulp, the intermediate tissues remaining intact. The same conditions which cause localized toothache may also give rise to neuralgia.

Neuralgia.

Pain referred to regions in the course or area of distribution of a nerve. Like toothache, neuralgia is not a disease *per se*, but a symptom due to some lesion frequently obscure and often connected with the teeth. The pain in neuralgia is frequently localized at its commencement, but when persistent, often extends beyond its first area of incidence, and is frequently associated with some lowered condition of vitality or enfeebled state of the body following general disease. As stated by Dr. Creighton, "a molecular condition of nerve originally peripheral and limited has become central and diffusive."

Neuralgic pain is usually intermittent in character; in some cases it is purely functional, there being no concurrent degenerative changes, in other cases there is structural degeneration, either as a cause or following upon the neuralgic attack.

In studying neuralgia in connexion with the teeth we have to bear in mind the very wide connexions of the fifth nerve—its many important ganglia, the ophthalmic, the sphenopalatine, submaxillary, and otic, which, belonging to the sympathetic system, are the channels by which reflex impulses are conveyed. It has been estimated that the number of ultimate nerve filaments of the fifth nerve is above 30,000 on each side of the body.

Time will not permit me to enter fully into the relations of the fifth nerve except to remind you of some very important facts in relation to its anatomy and physiology which are essential to the clear understanding of the very extended intercommunications of this important nerve and to more easily comprehend the very widespread effects to which irritation of any branch may give rise. In its origin it is in intimate connexion with every cranial nerve from the third to the twelfth, and with sensory spinal nerves. It is joined in the Gasserian ganglion by filaments of the carotid plexus of the sympathetic.

The researches of Dr. Gaskell and Dr. Ferrier point to the fact that we should not consider as heretofore that the fifth nerve resembles a spinal nerve with its separate sensory and motor roots, but that in the process of evolution the third, fourth, the portio minor of the fifth, the sixth and seventh cranial nerves, have lost their sensory divisions, and these sensory divisions have been replaced by the sensory division of the fifth nerve. Dr. Ferrier describes the motor division of the fifth nerve as a fully-formed segmental nerve of which the sensory division has undergone complete degeneration. What we know as the sensory division of the fifth has thus taken the place of the lost sensory divisions of the cranial nerves and is in intimate relation with the complicated visceral connexions of the glosso-pharyngeal vagus and spinal accessory nerves.

These researches have a very strong bearing upon the widespread reflex disturbances which we find in connexion with the fifth nerve. Neuralgia in areas supplied by the fifth nerve may be set up by peripheral irritation of the ultimate nerve fibres and end organs—as in neuralgia from an exposed pulp. It may arise from compression of the nerve or its branches, as from pulp stones, exostosis, or impacted wisdom teeth; it may arise from disease, or deposits in the nerve itself; or it may be due to impulses conveyed through the sympathetic system (reflex neuralgia). With that terrible disease called epileptiform neuralgia—neuralgia quinti major, or tic-douloureux—it does not fall to my lot to deal in this discussion, as it is now considered not to be caused by pathological conditions of the teeth, but to be "a definite disease of the nervous system, with a distinct course and character."

Some other forms of neuralgia due to tumours involving the fifth nerve do not come under our consideration here, but with certain forms of the so-called neuralgia minor the teeth are intimately concerned.

This neuralgia minor includes (according to Dr. Head[1]) two forms of neuralgia of different origin:

1. Visceral referred pain.
2. True neuralgia minor.

1. *Visceral Referred Pain.*

This is not always strictly neuralgic in character, but may be a fixed pain in certain regions, and acting in certain places rather than a typical neuralgic pain. The referred pain from an exposed tooth pulp generally occurs in paroxysms, and is usually referred to a definite area on the head, where there exists an exalted state of sensibility to stimuli—this area remaining tender between the paroxysms.

This visceral referred pain is characterized by pain in areas which do not correspond to the distribution of the peripheral nerves and by its association with tenderness of the superficial areas of the head.

2. *True Neuralgia Minor.*

True neuralgia minor is described as a second form of neuralgia minor, which may be due to some distinct disease of an organ, but there are no tender areas, or, if they are present, they represent the distribution of the nerve which is involved in the disease.

Such neuralgia minor may occur from inflammation of the peridental membrane of some particular tooth, or it may be caused by a growth within the orbit.

This form of neuralgia minor very closely resembles neuralgia major (epileptiform neuralgia), and, according to Dr. Head, it is impossible to say in the early stages which of these diseases it will prove to be, neuralgia major being almost invariably mistaken for neuralgia minor at first.

Neuralgia major is to be distinguished from both neuralgia minor proper and visceral referred neuralgia by the fact that we cannot in neuralgia major detect any connexion between the pain and disease of any organ to which the affected nerve is distributed. The violent pain will often start from a part or an organ which is in an absolutely healthy condition. This is a very important point to be remembered in the diagnosis of neuralgia.

These minor neuralgias have a great tendency to cause pain in remote and healthy organs; but these organs are not the starting points of the pain—an exposed pulp of a lower molar will cause intense pain in the ear, and glaucoma will cause severe pain in healthy teeth.

The great distinction between the two forms of neuralgia minor is that visceral referred pain does not correspond to the peripheral distribution of the nerves, but the pain and tenderness is central to the peripheral nerves. Neuralgia minor proper follows this peripheral distribution, and thus, as pointed out above, very closely resembles neuralgia major in the character and distribution of the pain.

General conditions, as fatigue, lowered vital conditions due to disease, have a great effect upon neuralgia minor proper, greatly increasing the attacks of pain. Anæmia or other general diseases, by lowering the resistance in the nervous system, have a very marked influence on neuralgia minor, and in visceral referred neuralgia some cause of visceral referred pain that was pre-existent and probably would not have excited pain in other circumstances gives rise in this

[1] Article, Trigeminal Neuralgia (Clifford Allbutt's *System of Medicine*, vol vi).

condition of diminished resistance to neuralgia of a severe type.

We have, therefore, to remember that neuralgia minor proper causes typical neuralgic darting pains, but the pain follows the distribution of the peripheral nerves, and is frequently due to the disease of some organ. It is to be distinguished from visceral referred neuralgia by the absence of tender areas and the different distribution of the pain, and from neuralgia major by the absence of any discoverable disease in the latter as the cause, and by the very severe and intractable nature of the disease as it becomes fully developed.

I shall refer later to these effects of concurrent or antecedent constitutional conditions when I deal with the tender areas, and the results that such conditions bring about in the spreading of these tender and painful areas beyond their usual limits.

Although it is important to distinguish between these two forms of minor neuralgia we are more concerned in this discussion with visceral referred pain.

Visceral Referred Neuralgia.—Dr. Head, in a most interesting communication to the Neurological Society in 1893, drew attention to the fact that "each organ in the head stands in relation to one or more areas on the surface."

To these areas pain is referred, and over them the skin may become tender, when the normal condition of that organ is disturbed—such organs as the nose, the eye, the ear, the teeth, the tongue, the salivary glands, the tonsils, the larynx, and, lastly, the brain itself.

He points out that these tender areas do not correspond to the distribution of the branches of the fifth nerve, they show great sensitiveness to tactile impressions, and exaggerated reaction to heat and cold.

As pointed out when speaking of toothache, in the first stages of caries, before the pulp cavity has been encroached upon the pain is distinctly referred by the patient to the tooth, and as long as this local pain persists the tender areas described by Dr. Head are not developed, but when the pulp is reached and the pain assumes a darting neuralgic character, these tender areas are found and are often noticed by the patient.

These areas have been carefully mapped out by Dr. Head (as shown in the diagram—prepared from his original article), who by means of touching the skin of the face with the blunt head of a pin, and noticing the limits within which this touch was felt as a prick, or as a distinctly painful impression, was able to ascertain what particular area corresponded to the occurrence of neuralgic pain caused by any particular organ, such as a tooth, on areas involving loose tissue, as the lower part of the chin and neck; the limits of the areas were ascertained by gently pinching the loose skin.

There are certain spots in these areas, called the maxima or maximum spots, and the pain is localized by the patient in these maximum spots. When the maximum spot is touched he will often complain of a distinct exacerbation of the pain from the tooth. The tender area is only developed after the neuralgia has lasted several hours, and disappears within twenty-four hours of the extraction of the offending tooth. The pain will, however, sometimes spread widely, and even affect the arm. I shall dwell on this spreading of the pain and tender areas in shortly describing a case of neuralgia which has been recently under my care.

Neuralgia may arise from dead teeth, the patient complaining of pain running along the jaw; but this pain is usually only aroused by direct stimulation of the diseased part, and does not often arise spontaneously. If the pulp of a tooth has died and inflammatory conditions have spread to the periodontal membrane, neuralgia may arise from nerve branches in the surrounding tissue being involved in the inflammatory process, but in this case the pain much more closely resembles, both in its direction and character, that produced by neuralgia major, following the course of the nerve, and not involving the segmental areas.

The areas which are especially involved in diseases of the teeth are: The fronto-nasal, naso-labial, temporal, maxillary, mandibular, mental, hyoid and superior laryngeal.

Fronto-nasal.—This area becomes tender in disease of the upper incisors, as also in affections of the substance of the cornea, the anterior chamber of the eye, and the upper part of the nose.

Naso-labial Area.—Upper lip, tip and under surface of the nose, and on the cheek and part of the lower lip. This is tender in affections of the canine of the upper jaw.

Temporal Area.—This area is involved in disease of the second bicuspid of the upper jaw. Attention is drawn to the importance of this area, as it is present in glaucoma, and "it is associated with the upper gastric area of the chest (seventh dorsal), and therefore with the presence of nausea and vomiting."

Maxillary.—This is affected by the first upper molar. Pain in the part of the cheek which lies over the upper jaw.

Mandibular.—Over the coronoid process, the ramus, and part of the body of the lower jaw. It is affected in disease of the second and third molars of the upper jaw. The maximum spot lies a little in front of the tragus of the ear, and to this spot the pain is referred. The upper wisdom tooth occasionally causes tenderness over the hyoid area.

Mental.—The maximum spot of this area is close to the point of emergence of the mental nerve. It also includes the anterior border of the tongue. The teeth which affect this area are the incisors, canine, and first bicuspid of the lower jaw.

Hyoid.—This area involves the lobule of the ear, and there is tenderness of the meatus and of the edge of the tongue. The maximum lies just behind and below the angle of the lower jaw. Another maximum spot is in the meatus. The patient complains of pain in the ear and behind the jaw in affections of the first and second molars of the lower jaw. The widespread nature of this area involving several organs leads to errors in diagnosis, the lower molars often causing severe pain in the ear, which is very liable to be mistaken for disease in that organ.

Superior Laryngeal.—Affected by the wisdom tooth of the lower jaw and the posterior part of the dorsum of the tongue.

The second upper bicuspid sometimes affects the temporal and sometimes the maxillary areas; but, according to Dr. Head, it never affects both areas at once, but sometimes one and sometimes the other, and appears to have an alternative nerve supply. The upper wisdom tooth also will sometimes cause tenderness over both the mandibular and the hyoid areas simultaneously. The lower incisor tooth being but rarely affected, it is difficult to isolate them, but they probably affect the mental area.

The second lower bicuspid sometimes affects the hyoid and sometimes the mental area.

During eruption of the third lower molar the pain is often referred to the hyoid area, and not to the superior laryngeal. This Dr. Head believes to be caused by the irritation of the second molar from the pressure of the erupting wisdom tooth.

During eruption of this tooth there is often found to be pain and tenderness in the arm and thumb on the same side.

These most important researches on the localization of neuralgic affections should be of the greatest value in diagnosis, and, perhaps, hardly enough attention has been given to them by the dental surgeon, who has many opportunities of confirming them, and especially of observing the exceptional cases where the areas of pain do not appear to correspond to those described, and also in endeavouring to clear up those anomalous cases already mentioned, where pain is referred sometimes to one area, sometimes to another. These difficulties, and the tendency to spreading which is produced by the state of the system accompanying many diseases, often render the exact localization a matter of great uncertainty, Dr. Head considering that the referred pain and superficial tenderness produced by the inflammation of the pulp of a tooth will tend in these conditions to spread beyond the limits usual when that particular tooth is affected. So far is this the case that he says that in cachectic conditions, as in phthisis, there is a tendency for referred pain to spread, whatever the organ in which it originates, and he mentions a case of phthisis in which, with an exposure of the pulp of the second left lower molar, the whole of the same side of the head and neck and arm ached, and the power of lifting the left arm was temporarily lost, although the patient could use her fingers perfectly. Another factor leading to confusion in diagnosis he refers to as follows:

When any two organs send impulses into the same segments of the central nervous system, an affection of the one which causes referred pain and superficial tenderness tends to cause a reflex disturbance in the other organs that refer into the same areas. For instance, an inflammation of the pulp of the wisdom tooth in the lower jaw causes a soreness of the fauces and swelling on the same side as the diseased tooth. Glaucoma will set those teeth aching which refer into the same areas that have become tender owing to the rise of tension in the globe.

Neuralgia dependent upon the teeth was held by Trousseau and others to be accompanied by tenderness over the first two cervical vertebrae, but I do not know how far this observation has been corroborated by other observers.

Neuralgic pain of a severe nature may occur in edentulous

jaws in the wasted alveoli of the teeth, these cases being often of a very obstinate nature and difficult to relieve.

A patient, a lady of about 45, was sent to me by the late Sir James Paget complaining of very severe neuralgic pain in the lower jaw on the right side. She referred the focus of the pain to a spot on the edentulous jaw corresponding to the socket of the second bicuspid. The teeth had been extracted many years previously, and there was no fistula or any sign of a root having been left behind. Sir James Paget suggested that, if I could find no dental cause for the pain, it might be well to cut down upon the bone and scrape it; this was done under an anaesthetic. After making an incision in the gum over the seat of the pain, I freely scraped away the periosteum and the surface of the bone with a sharp spoon. The patient felt relief immediately on recovering from the anaesthetic, and has never had any return of the neuralgic pain.

Similar cases have been recorded by Dr. Gross of Philadelphia, whose explanation of the condition is that the small nerve branches in the wasted alveolus have been compressed by the deposition of ossific matter. In the cases which he describes, he resorted to excision of the portion of alveolus; in the case I have quoted above free scraping of the bone was found to be perfectly effectual.

There are some peculiar cases occasionally met with that are very difficult to explain, in which the locality of the pain cannot easily be referred to the nerve distribution.

Pain from exposed pulps of teeth is frequently not found in the offending tooth, but in another tooth in the opposite jaw on the same side. Tomes mentions a case in which pain from an exposed pulp in a lower second molar was referred to the corresponding upper tooth on the same side; and so certain was the patient that the pain came from an upper tooth that he was under the impression on recovering from the anaesthetic that the upper tooth had been extracted.

I have myself met with a precisely similar case in my own practice, in which no arguments could convince the patient that he was mistaken until the lower tooth (a second molar on the left side) had been removed and the pain ceased. The lower second molar refers to the hyoid area, and the upper second molar to the mandibular area. These two tracks, as shown in the diagram, are in close contact, approaching one another very closely at the anterior border of the ear. If there is any overlapping of these areas in certain cases, it is possible to understand that this is a case such as Dr. Head refers to, where two organs send impulses into the same segments of the central nervous system—an affection of the one causes a reflex disturbance in the other which reflects to the same area.

Another case I have met with is more difficult to explain. The patient, a man with very sensitive teeth, always feels the pain caused by the excavation of a cavity in the upper jaw in the corresponding tooth of the lower jaw, and not at all in the tooth operated upon. This is the case with all the upper teeth from the second bicuspid on one side to the same tooth on the other side—all having been filled.

The case of neuralgia to which I referred above, and which has been recently under my care, is a very interesting one in many respects:

The patient, a young lady, in July, 1904, complained of pain in a right upper canine tooth, which had been recently filled. The cavity was a small one and did not approach the pulp; the filling was removed and a plastic one substituted, but the pain still continued, and was so persistent that it was thought advisable to extirpate the pulp under an anaesthetic. This was done and the pulp apparently completely removed; a broach could be passed freely up to what seemed to be the apex of the root canal, but the pain still persisted. It was referred to the tooth- to the naso-labial area, but chiefly to the fronto-temporal, the maximum spot being just over the outer canthus. The pain was now accompanied by nausea and vomiting, which occurred with great regularity every morning on waking, and the nausea continued until about 1 o'clock in the day, there being little or no neuralgic pain at this time. The pain generally came on in the afternoon and evening, and was severe while it lasted. There was great tenderness of the skin of the scalp felt on combing the hair. An examination of the tooth showed that the root canal was in an apparently healthy condition, but the pain being so persistent, I at last decided to extract it. On splitting open the tooth a small pulp stone was found at the apex of the root, inclosing a small piece of hyperaemic pulp. This was such a small stone that it was impossible to detect it while the tooth was *in situ*, the probe passing apparently quite freely to the end of the root. After the extraction the pain ceased and there was no recurrence of the nausea and vomiting the next day. This happy state of things did not, however, continue long.

In October severe pain came on in the first upper right molar, and the sickness recommenced as before. I removed an amalgam filling on the distal side of this tooth, and found that it was very near the pulp cavity, but on excavating I found the main pulp cavity completely obliterated with secondary dentine, and therefore decided to extract this first molar. The root nerves were partly calcified, and there were innumerable spicules of secondary dentine dispersed throughout the portion of the pulp that was not fully calcified. This operation immediately gave relief to all the symptoms, but again only for a time, when the pain and sickness again appeared.

Although the neuralgia had been so persistent in its recurrence, it did not appear to me to resemble the symptoms of neuralgia major, and having found what appeared to be a cause of pain in the deposits in the pulp, I removed the second molar and a very small and useless wisdom tooth. There was some deposit in the second molar calcification just commencing, but none apparent in the wisdom tooth.

The patient had all the time complained of some pain in the second lower molar on the same side, and although the pain ceased for a time after the extraction of the upper teeth, pain and vomiting again appeared, with severe pain in this lower molar. After some hesitation I consented to remove this tooth—the opposing teeth being lost—but with some fear that the cause might not be in the teeth.

However, after the extraction of this last tooth, the nausea and vomiting gradually ceased, and the pain disappeared—the patient now saying she feels perfectly well. Curiously, the lower molar had an apparently healthy pulp, free of any secondary deposit.

There were some suggestions that this was a neurotic case, and I believe it was so considered by the consultant who saw the case once only, but the presence of the pulp stones, and the clear way in which the patient indicated the exact situation of the painful areas, would suggest that this was a case of true referred neuralgia.

With the pain in the face was associated acute pain in the forearm, and occasionally over the region of the biceps; the pain extended also to the fingers, following the distribution of the radial nerve, as clearly indicated by the patient.

This case appears to me to be particularly interesting in connexion with some observations of Dr. Head's before quoted. The patient had a short time previously had an attack of influenza, and this may very considerably have influenced the neuralgic condition as Dr. Head says: "Sometimes an attack of influenza will leave behind it persistent neuralgic pains which may belong to both the visceral and peripheral nerve types." And another important point is that the nausea and sickness were concurrent with pain and tenderness in the fronto-temporal area, the chief pain being felt at the maximum spot of this area, but this was associated with tenderness in the temporal area noticed on combing the hair on that side. As explained above, the temporal area is the special one involved in cases of nausea and vomiting.

Dr. Head quotes a case of a young man, aged 18, who suffered from pain in the temporal area in connexion with the second upper bicuspid. When the pain in this area was severe he suffered from nausea, which was relieved on extraction of the tooth. With regard to the previous influenza, this author says:

A patient suffering from anaemia, influenza, or some other chronic condition of ill-health, may be quite free from neuralgia; but should some irritation arise in any organ, such as a tooth, the pain will assume a very severe neuralgic character, and in these cases will spread widely beyond the areas first involved.

I am inclined to look upon this case as one of neuralgia due to the irritation caused by the secondary deposits in the pulps of the teeth and aggravated by the cachectic state following influenza—showing both visceral and peripheral referred pain, the painful areas spreading widely beyond their original limits.

I should like to point out the necessity of searching for every cause of dental irritation before resorting to severe surgical operations for the relief of neuralgia. There are many instances where the extraction of an impacted wisdom tooth or the treatment of an exposed pulp, or even the removal of a tooth that had penetrated the antrum (as in the rare case described by Cryer), have cured immediately cases of neuralgia where the severe operation of extirpation of the Gasserian ganglion would probably have been performed had not the exciting cause been discovered. There seems great reason to believe that neuralgia that is peripheral in its origin, arising perhaps from an exposed pulp or an impacted wisdom tooth, may if neglected set up degenerative changes in the nerve, and a simple operation that would have cured it completely in the early stages may from this cause be later quite ineffectual.

With regard to the treatment of neuralgia, it is a curious and well known fact that both in the major and minor types ill-directed operations, such as division of an afferent nerve outside the area of the real lesion, will effect a temporary cure, and scraping or drilling into the bone may have a similar effect—probably by some shock to the nerve centres that has a temporary inhibitory effect. Dr. Head looks upon the minor operations of this nature, such as resection or stretching, as

"no more than a profound kind of counter-irritation." In neuralgia major, however, the heroic operation of extirpation of the Gasserian ganglion has so far effected a permanent cure of every case in which it has been carried out—thus rendering it possible to treat with success this terrible disease which had so far baffled the skill of both physician and surgeon.

With regard to the treatment of the minor neuralgias, when a connexion can be established between the pain and a pathological condition however slight in a tooth, we are fully justified in removing that tooth and any others that may seem to be involved. Mr. Tomes is very emphatic on this point; he says (*Dental Surgery*, p. 556):

> Wherever there is distinct reason for connecting one or more teeth with the origin of the pain, no dental surgeon will hesitate for one moment at removing the teeth, unless he sees his way clearly to curing the morbid condition without sacrificing the tooth.

Reflex Affections due to the Teeth.

By a reflex we mean a bounding back or return of an impulse—"the essence of a reflex action is transmutation by the irritable protoplasm of a nerve cell of afferent into efferent impulses" (Foster).

If a sensory nerve is stimulated it may, by reflex action, produce simultaneously movement, secretion, and consciousness.

We see a reflex secretion of tears, from pain in a tooth nutritive changes may take place in the eye, the nutrition of the hair follicle may be so affected by reflex nerve action that the hair over a definite nerve area will be blanched.

Reflexes may be motor, secretory, tactile, or inhibitory. Reflex affections of the eye: These are some of the most important reflex affections connected with teeth, but I will not dwell upon this part of the subject, as it has been assigned to one much better able to deal with it than I am, but I will ask you to allow me to give some details of one very remarkable case on which I should like to hear the opinion of those present at this meeting.

A very interesting case of orbital cellulitis with complications came under my notice which I think deserves to be mentioned in this connexion on account of the very rare nature both of the dental condition and of the eye trouble.

> A young lady, aged 17, of delicate constitution, a patient of mine, came under the care of Sir Anderson Critchett in April, 1884, and he has kindly provided me with the notes of the case read before the Ophthalmological Society in that year.
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> When he first saw the patient there was proptosis of the right eye, with throbbing pain in the orbital and frontal regions, accompanied by a slight rigor and a temperature of 100° F. On consultation with Mr. Lawson immediate operation was decided on, and an incision was made into the orbit through the upper lid. No tumour was found or pus, but there was a free escape of sero-sanguineous fluid. The pain ceased after the operation, but the proptosis continued. Ten days after the operation the sight of the left eye became affected, there was turbid aqueous humour and dim vision, the right eye meanwhile improving. In thirty-six hours the left eye became normal, the right eye relapsing, these alternations continuing about every fourth day for fourteen days; the proptosis of the right eye then became very pronounced and the frontal pain severe. Free incisions were made and a portion of the lachrymal gland removed. Again there was no pus, only serum.
>
> On the 24th the right eye became absolutely blind. Again the right eye improved and the left relapsed, and from that time a slow recovery took place, and normal vision was restored, with cessation of the frontal pain. The patient had rather large teeth with defective yellow enamel as far each side as the second bicuspid, above and below, but only one molar tooth—the left first lower molar, with a rocky and defective crown. There were large hard elevations of the mucous membrane in the position of the molar teeth on each side above and below, forming four lumps, on which she closed. With a sharp probe a hard substance could be felt in the situation of the first molar on the right side, but it did not give exactly the sensation of enamel. The bicuspids were extracted for chronic periostitis; they had very imperfect crowns, and very deeply-planted strong roots, hooked at the apex. Eleven teeth of the permanent series were still unerupted. Commenting on this case, Sir Anderson Critchett says: "Whether the dental abnormality had any bearing upon this peculiar attack I must leave others to determine," and in a letter to me of last month's date he says: "So far as I know the case still remains unique."

In the light of this first attack the further history of this case is very interesting.

> Five years later I saw this same patient in consultation with Mr. Godlee. She was suffering again from severe frontal neuralgia. No further eye trouble, but there was some tenderness felt on pressing these tumefactions on the gum, but no sign of the eruption of any tooth. Mr. Godlee made an incision along the gum on the right side of the upper jaw under chloroform and exposed not the crowns of the teeth but the bony crypts in which the teeth still lay, these he chipped away, and I extracted the teeth with considerable difficulty; the antrum was laid bare during the operation as the second molar was occupying the floor of that cavity. The two molars on the left side were also removed from their crypts, but the antrum was not there involved. The teeth had very imperfect crowns and large fully-formed recurved roots. The neuralgia ceased after the operation, but owing to the bad state of health of the patient the antrum gave a great deal of trouble and so much of the floor being removed it still remains permanently open although healthy.

A very interesting development of this case occurred in June of this year since I commenced compiling my notes of the case for this meeting.

> The patient came to me complaining of pain in the left upper canine root, which has been crowned for fifteen years, that and the corresponding crowned canine being all the teeth she had left in the upper jaw. She complained that it felt loose, but it did not appear to be so. I tried the usual remedies, but the periostitis still continued until, on June 26th, she told me the left eye had become troublesome and her medical attendant had feared there was pus in the orbit. There was great tenderness over the left eyeball, swelling in the orbit above and below the eye, and pain in the left orbital region. I advised immediate extraction of the root; this was done under nitrous oxide. It was a very large root and not in the least degree loose; it was in fact extracted with considerable difficulty. There was a small area of thickened and inflamed periosteum at the root, but no abscess. Transillumination of the antra showed that they were both perfectly clear, both the antral and orbital areas being remarkably transparent. All pain and all trouble in the eye ceased after the extraction.

This affection of the left eye took place just twenty-one years after the first attack in the right eye, and would certainly seem to point to the teeth as the probable cause of the first attack. It would be interesting to know if this morbid condition of the eye was due to a reflex disturbance or to the absorption of bacterial poisons from the diseased root. In the first instance it appears as if the right eye could scarcely have been affected by the absorption of bacterial poisons, as there was no apparent suppuration or disease around the buried teeth, and of course no caries, as they had remained unerupted.

This appears to be such a remarkable case that I have dwelt upon it in some detail, and I must leave it for those who follow in the discussion to shed if possible some light upon this remarkable complication.

With regard to affections of the ear I have myself met with a case of deafness on the left side from the delayed eruption of an upper wisdom tooth—very considerable deafness had existed for some months which was much relieved immediately on the extraction of the tooth; hearing being fully restored the same day. When I mentioned this rapid recovery, in communicating the case to the Odontological Society, it seemed to be met by some incredulity on the part of some of the members, but a case is recorded by Mr. Catlin and quoted by Dr. Maughan of deafness in the right ear that had lasted some four days cured in an hour by the extraction of a right lower molar. As Dr. Maughan says in referring to this case:

> The inhibition of hearing is readily understood when one remembers the proximity of the middle root nuclei to the auditory nerve centre.

As referred to above, a sense of weight and difficulty in raising the arm is occasionally found in connexion with severe toothache in lower molars; a case[2] is mentioned by Salter, and in my own case whenever I suffered from bad pain in a left lower molar I could only raise my left arm with great difficulty, and experienced a sense of weight and fatigue in the arm almost amounting to pain.

Reflex cough from teething has been recorded. Sir Lauder Brunton mentioned a case recorded by Paasch in a paper read before the Odontological Society in 1880. A child four months old suffered from paroxysmal laryngeal cough, during which it was nearly suffocated. The gums on the front of the lower jaw were much swelled. On the eruption of the incisors the cough ceased.

One of my own children, when two years old, who was not suffering at the time from any cough or cold, I found sitting up in bed with a continuous spasmodic cough that had continued for an hour. Suspecting an erupting second molar might be the cause, I incised the gum. He immediately lay back in bed and fell fast asleep, and there was no return of the cough.

Trophic changes may occasionally accompany visceral referred pain, as in a case that came under my notice many years ago. A lady, aged thirty, consulted me with ptosis of the left eye, accompanied by complete blanching of a lock of hair over the left temple. There was no toothache, but neuralgic pain in the left temporal region—from which she suffered previous to the blanching of the hair. The second upper left molar I found tender on percussion, and finding it contained a partially dead pulp beneath a filling, I removed

[2] *Transactions* of the Odontological Society, February, 1893.

the tooth. The ptosis was relieved the next day, but the lock of hair remained permanently white.

Time will not permit me to draw attention to all the reflex disturbances from the teeth—much less to dwell upon those affections of remote origin which result from the extension of diseased processes from these organs—but in the printed abstract I have enumerated the principal ones. I must apologize for the great length of this opening paper, but the subject is such a very wide one that I have found it very difficult to condense it. I hope, however, that what I have submitted to you may help to serve as a basis for the discussion on which we are now entering. I have done little more than throw out suggestions of the lines the discussion may take, especially as to the channels by which these remote effects are produced.

III.—URBAN PRITCHARD, M.D., F.R.C.S.,
Aural Surgeon, King's College Hospital.

BEFORE passing on to the consideration of my subject—remote affections of the ear, nose, and pharynx of a dental origin—it will be well to remind you that affections of the ear due to dental trouble are neither so numerous nor so frequent as was formerly supposed. At the same time, it is most important to bear this possible cause well in mind when making a diagnosis; for, unless we do so, we may fall into the error of mistaking some remote dental trouble for disease of the ear.

The two most obvious affections of the ear that result from dental irritation are otitis and otalgia, included, in common parlance, in the term "earache due to toothache."

Earache may be due to one of the three following causes:

1. Acute inflammation, as in otitis media or externa.
2. True neuralgia—that is, neuralgia of the ear itself.
3. Reflex neuralgia, due to reflex nerve irritation.

1. Although it was formerly supposed that neuralgia was the most frequent cause of earache, otologists now for some years have been agreed that this trouble is far more commonly the result of inflammation—that the earache of infancy and childhood is, in fact, due almost invariably to otitis, and not to "mere neuralgia."

2. In adults, however, true neuralgia is met with more frequently, caused by the same conditions as those which produce it in other parts of the body. Neuralgia, it must not be forgotten, often accompanies ague: thus, in districts where ague is prevalent, it is included in what is commonly known as dumb ague—that is, ague taking the form of neuralgia, and which is usually periodic in character.

3. Reflex neuralgia is produced by distant nerve irritation, and the earache, which so often attends toothache, is due, reflexly, to the dental irritation in the majority of cases. Now and again, however, we may meet with a case where there is no true reflex irritation; in these the neuralgia probably results from the brain being unable to localize the source of irritation, and, in error, referring it to the ear instead of to the teeth, in the same way as dental pain may be ascribed to several sound teeth as well as to the one that is diseased.

Teething in Infancy.

The reflex irritation produced by teething in infancy is undoubtedly far-reaching: intestinal disturbance and brain symptoms are instances of this; therefore, it is not surprising that the ear also is sometimes affected by it.

During the infantile teething stage it is not uncommon to get acute otitis media, followed by perforation of the membrana tympani and suppuration. This inflammation was formerly put down to reflex dental irritation, but of late years our ideas have been modified owing to the more recent researches into the pathology of inflammation; and especially to our knowledge on the effect of adenoid vegetations, and of the catarrhal inflammation from the naso-pharynx extending through the Eustachian tubes to the middle ear. Some otologists, indeed, deny that there is any connexion between the otitis and the dental irritation. But can we say this? Personally, I think that dental irritation is a factor in these cases of suppurative otitis media both in the causation itself, and also in the keeping up of the inflammatory condition. For though it is true that reflex nerve irritation cannot, by itself, produce the inflammation—for this is now known to be the result of a microbic infection—yet its effect on the tissues will be such as to render them less resistant to the invading microbes. Again, the induced nerve condition may render the reparative process less vigorous, and thus prolong the suppuration.

If this hypothesis is correct it will account for the fact that, during the teething stage in infants, suppuration of the middle ear is not only more difficult to heal, but that it returns so readily, much more so than later on in life. Again, it will make us realize more clearly the great importance of maintaining the vigour of the body; malnutrition is a strong factor in keeping up chronic suppurative catarrh in young children, and therefore strict attention to the feeding of the infant forms a most essential part of the treatment. I only wish that some of you, gentlemen, could help in this matter by finding a satisfactory means of overcoming the dental trouble.

Unerupted, Buried, and Carious Teeth.

These are undoubtedly a source of aural neuralgia in older children and in adults, though I think they are but very rarely the cause of keeping up otitis.

It is quite common in aural practice for patients to complain of earache, more persistent though less acute than is usual when it proceeds from acute inflammation; and where, on examination of the membrane and meatus, etc., no signs of inflammation can be found; and moreover, where the hearing power is quite normal. In many such cases the earache is due to dental irritation, resulting from an unerupted wisdom tooth, probably on the lower jaw. But there may be another source of the trouble—namely, it may arise from arthritis of the temporo-maxillary joint. Therefore, under such circumstances we otologists, before we can decide the matter, have to consider the special indications of the following possible causes:

1. Dental irritation from an unerupted or carious molar.
2. Arthritis of the temporo-maxillary joint, as shown by tenderness on pressure over the joint, especially when moving the jaw.
3. Simple neuralgia of the ear itself, among the causes of which we must not forget dumb ague.

I need not remind my dental *confrères* that swelling of the face is a common result of extension of dental and alveolar inflammation. This is nearly always confined to the parts anterior to the auricle, but now and again—very rarely—I have seen the swelling and infiltration on the mastoid process, and then it may be easily mistaken for deep-seated mastoid disease. Here, again, the careful examination of the membrana tympani and the meatal walls, together with the application of the hearing tests, will clear up the diagnosis; for if these are normal it will show that the auditory apparatus itself is free from disease, and therefore not the cause of the oedematous swelling of the soft tissue on the mastoid process.

The Effect of the Removal of a Number of Teeth on the Hearing Power.

It is sometimes stated that in certain cases of deafness the removal of a fair number of teeth has resulted in a marked improvement in the hearing power.

I have myself been given a history of such experiences by some—not many—of my patients, and I am prepared to admit that there is some truth in the statement. But, admitting it, we must ask ourselves the question, Are these cases merely instances of *post hoc non propter hoc*, or is the improvement in the hearing power actually the result of some reflex nerve influence of dental origin?

Now, I am inclined to think that these are cases of merely *post hoc*, except in so far as the removal of the teeth may have improved the general health; and we otologists are all well aware that deafness, especially nerve deafness, is greatly influenced by the general nerve tone. And, indeed, I am willing to go a little further, and to admit that in oto-sclerosis, where the condition is due to a localized ostitis of the bony envelope of the internal ear, that it is just possible that a beneficial change may be produced by the removal of a large number of teeth. Perhaps when we have come to understand better than we do at present the causation of this intractable and obscure disease, we may be able to clear up this question of dental influence and the connexion between the two more satisfactorily.

Pegged Teeth.

Although the consideration of pegged teeth in the question of the diagnosis of congenital syphilis affecting the internal ear scarcely comes within the scope of this subject, perhaps I may be permitted to allude to it here on account of its extreme importance. For as it is only in the early stages of this said condition that treatment is of any avail, it is essential that a correct diagnosis should be arrived at in its first stages; moreover I have come to the conclusion that this cause of nerve deafness is much more common than is generally supposed. How often do we find, after removing adenoids in the case of

older children—and thus getting rid of the middle-ear source of deafness—that our patient, after the first improvement, gradually becomes deafer and deafer; the tests proving the loss of power to be due to changes in the internal ear.

Almost all these cases, I believe, result from congenital syphilis; in many the advent later on of the interstitial keratitis may clear up the diagnosis; but a careful inspection of the teeth will often make the surgeon suspect the presence of the insidious disease of the internal ear before operating on the adenoid vegetations; and he will thus be enabled to give a more guarded and a more correct prognosis.

The Nose and Pharynx.

Although it is almost impossible to comprehend how septic inflammation can extend directly from the teeth to the auditory apparatus, it is not difficult to realize that it may reach it through the antrum of Highmore, the nose, naso-pharynx, and Eustachian tubes. Again we can easily understand that the septic condition of the teeth, by setting up stomatitis and pharyngitis, may occasionally reach the middle ear. This latter course of infection is rare; the former is also uncommon; although its first stage (that is, suppuration of the antrum of Highmore) is of frequent occurrence. That is to say, we often meet with septic disease of a tooth, leading to infection of the antrum of Highmore. (Here again I feel that I am perhaps travelling a little outside of my subject, for this is a direct and not a remote affection of dental origin; but its frequency and its importance will, I trust, justify my alluding to it here.) As the fangs of the upper teeth, especially the first molar, often project into the antral cavity, it is obvious that any septic condition of these teeth may readily infect that cavity, and set up antral suppuration.

Now, if I may be allowed to say so, Mother Nature has not been very successful in making provision for the drainage of the antrum, except under its normal conditions; for the opening, often only a small one, is towards the upper part of the cavity, appearing in the nose just above the inferior turbinal body. The result is that when the suppuration occurs in the antral cavity it is very apt to become chronic and to persist, only the overflow of the purulent fluid finding its way out—by a top window, as it were. Constant septic irritation causes thickening of the lining membrane of the antrum, with folds, projections, and granulations.

The irritation caused by the pus passing into the nose may produce nasal polypi around the antral opening; or the pus may infect some of the other accessory nasal sinuses. Again, the purulent discharge, passing down the back of the nose into the pharynx and carried into the stomach, is liable to affect the digestion.

Or we may get septic absorption from the antrum, etc., with its constitutional effects. And although the system very seldom gets a dose of septic poison sufficiently large to produce marked pyaemia, there is frequently a slight constitutional disturbance which cannot be accounted for until the antral disease is discovered.

The risk of serious septic constitutional disturbance is, however, far greater in those cases where the other accessory sinuses become infected.

The treatment of antral suppuration is to be directed to freer drainage, and to such antiseptic cleansing as will reduce the septic condition to the point where the natural defensive powers of the body are able to take up the work and vanquish the remaining sepsis. For it must be remembered that though it is impossible to make these septic cavities scientifically aseptic, yet it is in our power to so far reduce the poison that Nature will be able to complete the work and make the surfaces surgically aseptic.

You are all aware that there are two methods of operating in such cases. One is to drill into the antrum through the alveolar process where a tooth has been removed, and thus get drainage from the lower part of the antral cavity, and afterwards to depend upon syringing with antiseptic solutions right through from the alveolar opening to the natural exit through the nose.

The second method is the radical operation; which consists in making a large opening into the antrum above the alveolar process, and also a large opening into the lower meatus of the nose. This, together with curetting the diseased mucous membrane, and the application of gauze dressings, etc., forms a much more satisfactory way of dealing with the advanced, or the worst cases of antral suppuration, and with those which have not yielded to the simpler operation.

My object in pointing out the serious complications that may arise from antral suppuration, and the difficulty in the treatment of these cases that are far advanced, is to emphasize the importance of early treatment, and to urge our dental *confrères* to remove the prime cause of this condition before serious mischief is done. Strictly speaking, antral suppuration should never occur if the patient will come soon enough to the dentist, and if the dentist will but take "the bull by the horns" without delay, and at once remove the offending tooth or teeth.

As regards the effect of dental disease on the throat there is little that has to be said.

Occasionally, as already stated, stomatitis and pharyngitis have been produced by septic poison due to diseased teeth, but this has been of but rare occurrence in late years, because the importance of antiseptic surgery is now generally acknowledged by the dental profession; instruments are sterilized before they are employed, and thus the risk of infecting the gums by forceps, rendered septic from previous use, is avoided.

IV.—EDMUND CAUTLEY, M.D.Cantab., F.R.C.P.Lond.,
Physician, Belgrave Hospital for Children, and the Metropolitan Hospital

THE RELATIONSHIP OF THE TEETH TO DISEASE IN EARLY LIFE.

THE teeth in relation to disease in early life must be considered from two points of view—namely, their eruption and their decay. The eruption of the teeth is a physiological process which ought not to give rise to any ill effects. Like other physiological processes, it may not run a normal course and may be associated with local or general disturbances of health, just as in the analogous processes of menstruation and pregnancy.

By the public, and to a less extent by the medical profession, teething has at one time or another been assigned as the cause of almost all infantile ailments. We frequently hear "gum rashes" and "convulsions" ascribed to teething, and it is very common to hear such expressions as "cutting the teeth with bronchitis" or "with diarrhoea." In fact, diarrhoea is so often assumed to be synonymous with teething that it is rashly neglected in consequence. Even the somewhat uncommon condition of acholia has been ascribed by Cheadle to reflex irritation of the liver during teething although it may occur before teething commences.

I am strongly convinced that dentition is only indirectly the cause of most of these numerous ailments, and that usually the true source of the illness is not discovered. A diagnosis of "teething" covers numerous sins of omission in the investigation of infantile ailments.

In one way teething may have a distinct effect. It is, not infrequently, associated with swelling and tenderness of the gums, irritability, fretfulness, sleeplessness, and fever. During febrile states the secretion of digestive juices is deficient. The local irritation causes food to be bolted. In consequence of the fretfulness being ascribed to hunger an extra quantity of food is given to keep the child quiet. Hence it is only natural that attacks of diarrhoea may ensue. The febrile state also renders the child rather more liable than usual to bronchitis.

The association of rickets with delayed or difficult dentition is also a factor of importance. In rickets there is a great constitutional liability to catarrhal affections of the mucous membranes, especially those of the alimentary and respiratory tracts. The slight disturbance set up by teething may act, then, as an exciting cause. Rachitic children are more liable than normal ones to convulsions. It is doubtful whether teething alone can cause convulsions, but in the presence of rickets, and alimentary disturbance, the additional irritation of teething may give rise to increased alimentary trouble. A fit may then be induced by reflex alimentary disturbance or alimentary toxaemia. The eruption of the canine teeth, in my experience, is the most often associated in point of time with convulsions in infancy, and it is at this time that the influence of rickets is usually well marked. Further, at this age foods unsuitable in quality and quantity are often given, foods which are liable to set up gastro-enteric disturbance, especially if they are bolted.

Pure reflex disturbances from the teeth are rare. In a few cases I have not been able to find any other explanation for simple retraction of the head, a symptom which is more often due to the various forms of meningitis or pneumonia. I doubt fits ever being due to such reflex action. The complete eruption of the supposed offending tooth is not often followed by immediate cessation of the fits.

Passing to the results of early decay of the teeth we are on

more certain ground. Good mastication is a source of good health and depends on sound teeth. There is no shadow of doubt that careful attention to the milk teeth and their preservation as long as possible are of the utmost value to the child. Up to the age of 10 years mastication is performed by the temporary teeth, reinforced after the fifth year by the first permanent molars. During this period of life growth is very rapid. It is interfered with by caries of the teeth, leading to refusal of food; to the bolting of food and imperfect mastication, on account of pain: to periostitis, alveolar abscess, and even necrosis of the jaw; to septic conditions of the mouth, ulcerative and other varieties of stomatitis, possibly Vincent's angina; to adenitis and increased susceptibility of the glands to tuberculous infection; and to constitutional effects from the absorption of toxins, or the swallowing of septic material from decaying dentine or food retained in the cavities of the teeth. The general health of the child, other factors being equal, is in inverse ratio to the caries of its teeth. Physical deterioration or, rather, imperfect physical development is probably as much due to this cause as it is to dietetic conditions and hereditary tendencies. It is extremely common for the temporary teeth to be entirely neglected because they are temporary, and in this neglect the first permanent molars are often included, for they are often regarded as part of the temporary set. Hence they frequently become carious and have to be removed.

I attach very much more importance to decay of the teeth in early life as a cause of ill-health and disease than I do to the processes of eruption. And I attach still more importance to neglect of the hygiene of the teeth as a cause of early decay than I do to the influence of soft or "pap" food, which has recently been incriminated. There is no evidence that the functions of biting and chewing are insufficiently performed, especially among the lower classes, in which caries is so common.

V.—Robert Hutchison, M.D., F.R.C.P.,
Assistant Physician, London Hospital.

REMOTE AFFECTIONS DUE TO TEETHING IN CHILDHOOD.

It is customary to ascribe to teething the occurrence of various remote disorders, usually of the nervous system, which are sometimes observed in young children. It is doubtful, however, whether this belief, deeply-rooted though it may be, rests upon any very satisfactory basis. The hypothesis of a "reflex exciting cause" is too apt to be regarded as a sort of *deus ex machinâ* which is dragged in to explain the occurrence of symptoms for which no other adequate cause can be found. A good example of this is presented in the case of convulsions, which are often set down forthwith to the fact that the child is cutting teeth. And yet I think that all unprejudiced observers will admit that convulsions in young children are but rarely caused by the irritation excited by the cutting of teeth. It is now well recognized that most cases of convulsions in early childhood have rickets as their primary cause, and that the unstable condition of the nervous system which rickets induces may be made to pass on into convulsions by the action of many exciting causes, of which the cutting of teeth may be one, although it is very far from being the commonest. For my own part I should say that colic is by far a commoner excitant of convulsions than irritation of the gums is. On the other hand, there are a few remote disorders of which one can say quite confidently that they may be either caused or aggravated by the process of dentition. Bronchitis and diarrhoea are two good examples. Beyond all question there are babies who take an attack of catarrh of the bronchi or bowels as each tooth is coming through, and in whom the association between the two processes is evidently a close one. What the connecting link may be it is difficult to say. It is possible that the irritation in the gums induces through the medium of the nervous system a congestion of the bronchial tubes and intestines which predisposes to catarrh, though I confess that such a mode of production does not strike one as being very likely. On the other hand, it is quite as likely that the impairment of the general health which the painful cutting of teeth may be expected to produce simply lowers the child's power of resistance for the time being and so predisposes to the occurrence of bronchitis or diarrhoea from chill or other cause. An instance of what more forcibly suggests a true reflex process is to be found in the aggravation of eczema of the face and head which undoubtedly happens whilst teeth are being cut. I have repeatedly noticed that if a baby suffers from facial eczema the process is apt to take on a much more acute and inflammatory character as each tooth is coming through. It would seem that one has here to do with a congestion of the blood vessels of the face which may be reflexly induced through the medium of the fifth nerve. That the cutting of many teeth simultaneously may also lead to cerebral congestion with head retraction and so simulate meningitis is, I think, possible, for I have seen cases which appeared to be of that nature, but I believe that the frequency of such occurrences tends to be exaggerated. The whole subject is one on which it is difficult to speak dogmatically, and I offer the above note simply that it may help to serve as a basis for discussion.

[On the motion of the President the discussion was adjourned to the following day.]

VI.—Sir Victor Horsley, F.R.S.,
Surgeon, University College Hospital, London, and the National Hospital for the Paralysed and Epileptic.

In reopening the discussion adjourned from Wednesday, Sir Victor Horsley said that the Association was to be congratulated on the establishment of a Section in dental surgery, and further that he was much interested in the subject of the discussion and glad of the opportunity of taking part in it. As a rule the dental surgeon saw the earlier pathology of cases of trigeminal neuralgia (to which he would confine his remarks), such as did not generally come to the notice of the surgeon, who saw the pathology of the later stages. It was possible to divide the pathology of these cases of trigeminal neuralgia into an early or congestive stage and a later, or cicatricial. The essential matter of diagnosis in any given case was to determine if the cause were central or peripheral, and we were in a position, he thought, to reply to the question in Mr. Mummery's paper and to distinguish between the peripheral or central origin. It was certainly difficult to classify the cases, but it was becoming increasingly easier.

In the first place, with regard to the peripheral origin, he had seen cases where the neuralgia had arisen from an ascending neuritis, traceable to chronic osteitis of the tooth sockets. Cases of bilaterality involved the most serious questions for the patient. In distinguishing between organic and functional origin, it was possible to distinguish between the two by the physiological factor of hypersecretion. If hypersecretion was definitely associated with the onset of the paroxysmal pain, the case was organic and not functional; bilaterality involved in its treatment the removal of both ganglia, and was very serious, as though the motor root of the fifth nerve might contain afferent fibres one must be left. Sir Victor Horsley went on to describe a bilateral case in which there was removal of one Gasserian ganglion and both roots of the fifth; the pain was abolished on that side, but the patient returned, asking for the removal of the other ganglion. If both roots on each side were removed no muscular movement of the lower jaw would be possible. The second ganglion was removed, but the motor root was left. A slight amount of obliquity of the bite occurred, which fortunately was not very marked, and the pain has so far remained cured.

With regard to cases of central origin, the causation appeared to be primary neuritis of the ganglion itself or inflammation rapidly reaching it—for example, acute inflammatory conditions of the ganglion of unknown cause, inflammation associated with the micrococcus of herpes, chronic inflammation, and sclerotic changes. In most cases the ganglion was found flattened by cicatricial tissue, but in one case was congested and swollen. Treatment was, as a rule, only efficacious when the ganglion was removed. Section of peripheral branches of the fifth after failure to obtain relief by removal of teeth or curetting of bone was of doubtful value, as reunion generally occurred in eighteen months to two years' time, with the re-establishment of the neuralgia.

The removal of the Gasserian ganglion must be left to the patient's own choice, as it was a serious operation, but was not now so serious as it was at one time. The death-rate of over 100 cases was only 7 per cent., including haemorrhage and septic complications. The arterio-sclerosis which appeared so constantly associated with the disease of the ganglion accounted for 5 of the 7 cases by haemorrhage. Practically, up to the age of 55 there was no death-rate. With regard to the eye, the risk was very much smaller than at one time; but although the eye is not lost so often, there yet remains some unknown factor which occasionally produces keratitis.

In conclusion, Sir Victor Horsley said he had been very anxious to take part in the discussion, as they now seemed to be in a position to distinguish between central and peripheral origin of trigeminal neuralgia, the early diagnosis of which rested with the dental surgeon in most cases.

VII.- F. J. Bennett, M.R.C.S., L.D.S.,
London.

EYE AFFECTIONS OF DENTAL ORIGIN.

I crave your indulgence; believing that Mr. Lang would deal with this subject in detail, I purposely adopted a fragmentary treatment of the subject, which I fear will be only too apparent to all present. In all diseases remotely connected with the teeth, it is to the medical profession that we must first look both for opinion and record of cases. This is no matter of surprise, as from the very nature of the case the symptoms are misleading, and the patient is the last person to associate his trouble with the teeth.

It is in this sense, therefore, that we find the most complete records of eye affections dependent on the teeth come from the pens of the ophthalmic surgeons, such, for instance, as those of Mr. Henry Power and Sir Job Collins. It is true that numbers of cases have been recorded from time to time by dental practitioners, but the subject has never, I believe, been treated by them in any detail. Time does not, of course, permit me to attempt such on the present occasion; nevertheless I shall try, in what I have to say, to view the matter from the dental standpoint. As such practitioners, we are very familiar with the vagaries of tooth disease, and can form some clear ideas as to the classes of case which are likely to be responsible for lesions in such structures as the eye.

From such experience I would say that it cannot be too carefully borne in mind that in by far the larger number of cases of eye disease due to the teeth the eye lesion is brought about by the direct spread of the disease from the teeth. This should in no way surprise us, considering the near proximity of the orbit and its contents to the teeth and jaws. This direct spread of disease may take place by way of the antrum and the various sinuses, along the course of the muscles and nerves and by way of the cellular tissues, and many of the ingenious arguments adopted by the earlier writers might have been saved by a timely recognition of this fact. Thus, in a case recorded by Mr. Power as a typical instance of reflex amaurosis from irritation of dental branches of the fifth nerve, which happened to a man in whom a splinter of wood protruded from the apex of a first upper molar, swelling and pain of the cheek occurred, followed by blindness in the corresponding eye. After suffering for twelve months the cause was discovered and the tooth and splinter removed, upon which the sight was quickly restored. Sir Job Collins, in alluding to this case, says "there was repeated discharge of spoonfuls of pus in the neighbourhood of the lower eyelid, probably from empyema of the antrum, with necrosis of the orbital plate." It is clear, therefore, that this case should be regarded as due to the direct spread of disease and not to reflex action. Many similar cases might be recorded.

In looking over the various reports, I find almost invariably a record of dead teeth. This would suggest that it is the products of decomposition which are the source of the irritation. In order to make this quite clear I will quote a remark from the same authority. He says:

> I believe it is by the inflammatory or necrotic process, either started in the maxilla by a periodontitis or accompanying an acute antral abscess, and spreading by contiguity to the orbital periosteum or cellular tissue, that orbital and ocular symptoms supervene. When vision is thus affected the lesion may be erroneously set down to reflex amaurosis

—as in the case of the splinter of wood which I have just mentioned. In the case recorded by Pasquier there was fracture of the alveolus following extraction of an upper molar succeeded by necrosis, orbital pain, tumefaction of eyelids, amaurosis and dilated pupil, and there occurred abundant thick, fetid discharge. "In these cases," says Sir Job Collins, I submit the pressure and traction of inflammatory products on the optic nerve occasion temporary amaurosis, and the extension of the inflammation to the nerve itself may occasion permanent amaurosis, just as is seen in cases of cellulitis of the orbit." He gives illustrations from cases by Salter, Brück, Pollock, and Gaine. Of course it is fully agreed that in cases of muscular spasm reflex action does take place. I have quite lately seen an instance of facial spasm with twitching of the eyelids or blepharospasm in connexion with a lower wisdom tooth which was loose and elongated. The interesting feature and one which appeared to prove, in a most crucial manner, a connexion between the tooth and the spasm, was that on pressing the side of the tooth the twitching immediately stopped. I concluded that the spasm was caused by the gaseous and fluid products of decomposition, dissecting their way through the cellular tissues and facial muscles till they reached the terminal nerves, and that by pushing the tooth a vent was made for the escape of such matter and so the spasm was stopped. I inclined to this view partly because I had seen cases of pain and stiffness of the muscles in the temporal region which had been relieved by treating the roots of the teeth antiseptically. I therefore removed the tooth and found a carious cavity leading to the root canals which were untreated and in a septic condition, the periosteum and cementum were also much thickened by chronic inflammation. On seeing the patient after three days I found the facial and orbital spasm still present and contrary to my first idea the disease may turn out to be of deeper origin.

A similar case of reflex action is mentioned by Power in von Graefe's practice. The blepharospasm ceased almost instantaneously when pressure was applied to a point below the inferior third molar tooth. At this point an incision was made down to the bone, but without effect. It was then found that pressure on the infraorbital and temporal nerves materially diminished the spasm; section of these nerves was performed, and the spasm immediately ceased. It returned, however, in a fortnight. Section of the inferior dental nerve ultimately caused the blepharospasm to cease entirely, and it had not reappeared after four weeks. This is a short time to pronounce it a cure. It also may have been disease of the Gasserian ganglion, as the second and third divisions of the fifth were affected.

Other cases of facial and orbicular spasm are recorded by Mr. Henry Sewell and by Mr. Boyd Wallis in the *Odontological Society's Transactions*. The suggested line of reflex action given by Sir Job Collins is as follows:

> Irritation of sensory branches of the fifth may occasion either radiation or neuralgic pains to other branches of the same cranial nerve as in localized supraorbital neuralgia, or so-called reflex spasm, where motor branches of the same nerve are affected, causing contraction of the temporal and masseters. It is only a short step from this to facial spasm or spasm of the external rectus, the seventh and sixth nuclei being in close company with the motor root of the fifth in the pons Varolii.

Of course we know nothing really concerning these reflex actions. We merely conjecture the paths along which they may travel and much has yet to be learned. Possibly a useful comparison might be made with the behaviour of bullets and other septic foreign bodies lodged in the muscles in other parts of the body, and the frequency or otherwise with which they set up reflex actions.

Although we may say that almost invariably a dead and septic tooth is the source of the mischief in these cases of eye lesion, whether by direct spread of disease or by setting up reflex actions, yet there is the singular case recorded by Mr. Tomes which is yet unexplained—the case of a girl whose teeth erupted very irregularly as to time and with great difficulty, and on such occasions gave rise to the most severe cellulitis and vision was for some time lost. The teeth were ill-formed but otherwise sound. We may, perhaps, suppose that this case was analogous to the instances of difficult eruption of wisdom teeth where cellulitis frequently occurs although the teeth are sound so far as caries is concerned. This case appears to bear a strong similarity to the case recorded by Mr. Mummery yesterday; it may, indeed, be the same case; he mentions orbital cellulitis and proptosis alternating between the two eyes and alludes to the densely hard gums and to the exposing of the crypts of the teeth, the case extending over a period of twenty-one years.

I may remark in conclusion that Sir Job Collins speaks of having searched the records of the Ophthalmological Society, and throughout the ten volumes he finds no record of cases of glaucoma, no reflex amaurosis, no phlyctenular ophthalmia, no ophthalmoplegia, no failure of accommodation attributed with any assurance or proof to dental lesion.

VIII.—Sidney Spokes, M.R.C.S., L.D.S.,
Dental Surgeon, University College Hospital.

With regard to neuralgia, I should be glad to know what explanation Dr. Risien Russell or Mr. Mummery could give to account for those cases in which the pain arises from a dental cause, but only comes on when the patient lies down at night-time. Some change in the blood pressure in the pulp due to the horizontal position would seem to be a factor. The three papers

by Drs. Guthrie, Cantley, and Hutchison are valuable contributions, but the last one appealed to me the most, inasmuch as it is admitted that painful dentition may be one cause for infantile disturbances, and that some such conditions, as, for example, eczema, may be exaggerated by the coincidence of teething. That reflex irritation may be caused by dentition is proved by the occurrence of cough regularly present in some cases on the eruption of successive teeth, analogous to the well-known ear cough and of no more serious significance. But that in other cases the reflex disturbance is of a different kind and of more serious moment I am fully persuaded, and that relief may be obtained by a simple incision experience in many cases has satisfied me. These have been cases in which not all the gum has been inflamed and sore from a stomatitis of gastric origin or improper feeding, but where there has been a hot, turgid, swollen gum only over the coming tooth. I have seen convulsions cease and not again recur without reason to suspect rickets or that it was pure coincidence. In fact, I believe that all three of the causes mentioned by Dr. Guthrie—reflex, pyrexia, and nervous instability—are probably concerned at the same time even if one alone is considered insufficient. The administration of a purge in relieving neuralgia of a visceral reflex nature is an old practice as shown in an essay, I think by Sir Charles Bell, in which croton oil was shown to produce wonderful results. One of my own patients who suffered from temporal and brow neuralgia for some years had the teeth eliminated as a cause and his antrum opened without relief. The pain disappeared finally after a stone in the bladder was discovered and removed by Mr. Rickman Godlee.

IX.—H. Baldwin, M.R.C.S., L.D.S.,
London.

I do not think sufficient notice has been taken in the discussion of the kinds of teeth which do cause dental reflex pains—that is, neuralgia—and teeth which do not. Sir Victor Horsley said something this morning the purport of which I wish to repeat—namely, that we must not allow exceptional cases to interfere with the broad lines upon which diagnosis should proceed. I admit there are exceptions to any rule, yet I hold it to be a sound working rule on which to proceed at first in diagnosing any case of dental neuralgia that "live" teeth with irritated pulps do cause or may cause neuralgia, and "dead" teeth with extirpated pulps or no pulps do not. The exceptions to this rule are very few, and will be found to consist of dead teeth with a very small and hidden abscess at the apex of a fang. This principle of diagnosis allows us to at once decide the teeth which should be under suspicion. I cannot approve of placing exostosis and other results of sepsis in dead teeth on a par with irritated dental pulps as causes of neuralgia. It is not necessary to extract these neuralgia-causing teeth when localized. The neuralgia is due to the pulp, and by its extirpation the pain can just as certainly be cured as by extracting the tooth. In most cases in private practice this proceeding is the most satisfactory. The neuralgia areas of Dr. Head, brought before us by Mr. Mummery, are an immense addition to our knowledge, and will be found to be justified as substantially correct; presumably they represent not so much areas in which the patient feels the pain as areas of hyperaesthesia in the skin. Two indications of unfailing diagnostic importance are that pain deeply in the internal ear, when of dental origin, is always from a lower tooth far back; and pain radiating downwards to the shoulder, and especially to the arm (often partly paralysing the arm and hand) is always from a lower tooth at the back. With regard to bilaterality, one of the clearest characters of dental neuralgia, and one of great diagnostic importance, is that it is "unilateral," and never bilateral, unless, as personally I have never known, there are two exactly similarly placed irritated pulps on both sides of the mouth. Two cases of dental neuralgia seated in unusual positions have occurred in my practice. This year a lady at a consultation incidentally remarked that for two months she had suffered intense spasmodic pain in the neck. On inquiry, I found the seat of the pain to be exactly at the insertion of the trapezius into the occipital bone, and to be unilateral. There had been no pain in the teeth. A buccal cavity in a second upper molar on the same side (right), with an irritated pulp, was found. Killing this pulp entirely and immediately cured the pain. The other case was a relative of mine. On several occasions he suffered acute pain in the left mammary nipple. This was always temporarily dispelled by applying oil of cloves to an exposed pulp in a lower back tooth on the same side, and was definitely cured by killing the pulp with arsenic. In cases of dental neuralgia, more likely than not, there will be no pain in the diseased tooth at the time, though there may be in other teeth on the same side, in the wrong teeth, as we say. Local pain in the diseased tooth, and dental neuralgia, are largely complementary to one another. When one begins the other stops, and if during an attack of dental neuralgia the diseased tooth causing the pain be made to ache by, say, mechanical irritation, then the neuralgia at a distance will immediately cease. I had intended to allude to several other points, but I have already reached the time limit.

X.—Dr. E. A. Bogue,
New York.

Dr. Bogue said he could not adequately discuss the papers read yesterday, as that particular line of work had largely passed out of the practice of both himself and of those with whom he was most intimately associated in New York. As illustrative cases might serve to clear up some few of the obscurities of practice, he mentioned four wisdom teeth shown him by Dr. Ainsworth of Boston, and taken from the mouth of his own son. These teeth had from two to four cavities each, quite below the margin of the gum, some of them not detected until after the extraction of the teeth. This led him to think that a more careful and minute examination of the teeth—individually, one by one—might often reveal the cause of some of the obscure neuralgias spoken of. Another case of interest was that of a young lady who had been for twenty years in his hands, and who, on breaking a tooth and losing the filling, went to a *confrère* in another city to have the filling replaced. This gentleman forgot to saturate the sensitive cavity with carbolic acid before filling it. Pain supervened, and the operator removed his filling and applied carbolic acid, telling the patient to go to a friend of his should there be any continuation or recurrence of the pain. The pain did recur, and the patient applied to the dental surgeon who was recommended to her, and this gentleman undertook to remove the living pulp from the right inferior second molar, cataphorically. He did not get it all out, for when five months later the tooth was brought to Dr. Bogue by the father of the young lady, he found the dried-up pulp still remaining in the roots. The history of the case revealed so many of the symptoms alluded to yesterday that he might perhaps rehearse them. After the anaesthetic effects of the cataphoresis had passed off pain recurred, and a filling was removed from the first inferior molar, and with the cataphoric current its living pulp was also supposedly removed. The pain again recurring the antrum on the right side was opened through the nares. A week or two later a bicuspid was removed, and the antrum was again opened through the socket of this extracted tooth. Subsequently a section of the inferior maxillary nerve was made, also a cutting down to the external carotid with the intention of ligaturing it, though this was finally not done, but one of the kidneys was taken out. This history, therefore, involves five months of almost constant pain, so severe that the outcries of the patient compelled the family to remove their sleeping rooms to the top of the house. The removal of the original tooth stopped the pain.

XI.—Frank E. Huxley, M.R.C.S., L.D.S.,
Dental Surgeon, Birmingham Dental School.

Mr. Huxley said, with regard to the sensitive and painful areas indicated by Dr. Head, that although these might be valuable aids to diagnosis, they must bear in mind that there were notable exceptions. He instanced a case in which a third lower molar with an exposed pulp set up pain always referred to the supraorbital region. When treated by an arsenical dressing the pain was again referred to the same region. Another example of difficulty of diagnosis he mentioned was in a case of nasal polypus, which set up a severe neuralgia. The cause of the pain was not for some time detected, and one prominent symptom was pain and tenderness of the upper canine bicuspids and first molar of the same side. This almost led to interference with the antrum, which was suspected as a possible cause. He might here point out that the sign of tenderness of teeth to percussion might be misleading. This of course usually indicated local periodontitis. The teeth might, however, become tender in just the same way as the scalp when the hair was disturbed. In the case quoted, cocaine spray within the nostril caused temporary cessation of the neuralgia. A third case Mr. Huxley quoted had all the characteristics of so-called epileptiform neuralgia. The pain

was paroxysmal and was determined by movements of the mandible. There was hypersecretion from the nose, and lachrymation. No dental or other organic cause could be detected, but treatment for gout seemed to give some temporary relief. The patient had been unable to follow his employment for some weeks, and severe operative treatment was seriously considered. He, however, made an effort to take up some light work in the Eastern Counties, and happily this change of climate was followed by first a gradual and then a rapid improvement. At the end of two months the attacks have almost ceased spontaneously.

XII.—J. Lewin Payne, M.R.C.S., L.D.S.,
Assistant Dental Surgeon, Guy's Hospital.

Mr. Payne understood Dr. Cautley to say that pure reflex effects due to the teeth were rare. That contention would, he thought, be opposed by the majority of the members of that Section. They probably all had some experience of cases where patients attributed pain to a tooth which was perfectly healthy, whereas the true cause of the pain was to be found in another region of the mouth. This often occurred in relationship with certain teeth. Thus: (1) Pain originating in a diseased lower wisdom tooth might be referred to the first lower premolar on the same side; (2) pain originating in an upper molar (especially the wisdom tooth) referred to a lower molar; (3) pain originating in a lower molar referred to an upper molar. He remembered one case in particular where considerable difficulty arose in persuading a nurse that the pain from which she was suffering was due to an upper wisdom-tooth. She came to him complaining of pain in a left lower second molar, and insisted that this tooth should be treated. The lower molar had a small gold filling in the crown, but, after carefully applying the ordinary tests, he found no reason to suspect that disease was present in that tooth. The left upper wisdom tooth was badly carious and the pulp exposed, and he felt convinced that the wisdom tooth was the cause of her trouble. The nurse absolutely insisted that the lower molar should be treated, and he finally yielded to her request. The gold filling was removed from the lower molar, but, no disease being discovered, another gold filling was inserted. The patient found that her pain still persisted after this treatment, and at last consented to the extraction of the left upper wisdom tooth, with the result that the pain immediately disappeared. Mr. Mummery's reference to a case of neuralgia of dental origin where pain arose when combing the hair had interested him very much, as he had a patient where similar symptoms occurred in connexion with antral suppuration. He thought that, with all the evidence which existed of reflex pain due to teeth, it was clear that the condition was by no means a rare one. Mr. Payne proceeded to ask why these reflexes were so common in connexion with the teeth. He considered the reasons were: (1) The delicate nature of the structure of the tooth pulp; (2) the confined area in which the pulp was situated; (3) that reparative process was almost impossible in the pulp. In conclusion, he should like to refer to Dr. Leonard Guthrie's statement that the salivary secretion was suppressed during painful dentition in children. He could not agree with that view, and he believed most dental surgeons would maintain that during painful eruption in children the salivary secretion was nearly always increased.

XIII.—W. A. Maggs, M.R.C.S., L.D.S.,
Dental Surgeon, Guy's Hospital.

Mr. Maggs recorded a case of facial neuralgia sent to him at Guy's Hospital by Mr. A. E. Prideaux of Dorchester.

The patient, J. S., aged 31, a shipper in a timber yard, complained of pain on the left side of the face, which had persisted for about three years. The attacks were severe and frequent, and had occurred at intervals of about ten minutes until four months previously when he returned home from America. Latterly the attacks were brought on by eating and drinking only. Sleep had at no time been interfered with.

Condition when seen.—The teeth missing on the left side were, in the upper jaw, the first premolar and all the molars, and in the lower the first molar only. The left second upper premolar had mesial and distal amalgam fillings, and both the lower molars had amalgam crown fillings. Mr. Prideaux wrote: "The four fillings were all small, and well lined with Harvard cement." All the other teeth were free from caries, and firm in their sockets, and appeared healthy. The pain could not be referred by the patient to any tooth, but was said to be confined to the left side. It corresponded to the distribution of the second and third divisions of the fifth nerve, the infraorbital and molar regions being chiefly affected. No hyperaemia of the part existed, and there was no sign of antral trouble or growth. No indication of syphilis, or of alcoholism, was detected. A radiograph, taken at the time did not reveal pulp stones, or any abnormal condition. Inasmuch as there was no dental or other cause discernible the case was regarded as one of tic-douloureux.

Treatment.—The extractions and fillings previously done not having given any benefit, and the pain having diminished in intensity as well as in frequency, no dental treatment was adopted. General directions as to diet and avoidance of alcohol were given, and quinine recommended internally. Mr. Prideaux had recently written: "J. S. still has attacks of pain, but at longer intervals than before."

Mr. Maggs referred to several cases of reflex symptoms due to teeth. He spoke of one patient who suffered from spasmodic cough with the eruption of each of his temporary and permanent teeth. He had seen blepharospasm in an old man relieved by the extraction of septic roots in the front of the upper jaw. He considered that reflex symptoms were not infrequently seen during the teething of children, and said that such irritability and feverishness often ceased with the eruption of each deciduous tooth.

XIV.—H. A. T. Fairbank, F.R.C.S., L.D.S.,
Surgical Registrar, Charing Cross Hospital.

I believe dentition has practically no direct effect upon the ears. Otitis media occurring during dentition is the result of coincident adenoid vegetations. The mouth may share in a general gastro-intestinal disturbance occurring during dentition; the inflammatory condition of the mouth may spread to the naso-pharynx, and so otitis may be set up. I have not been able to find a case, among infants, in which pain about the ear could be considered to be due to the teeth. Rubbing of the ears in infants is probably indicative of some slight inflammation of the middle ear. Convulsions occurring during dentition are, I think, due to intestinal toxaemia, and are not due to dental irritation. Cases of stomatitis are frequently seen among the out-patients at a children's hospital, yet convulsions do not occur among these cases, unless of very severe type, associated with a considerable amount of septic absorption. Dr. Guthrie has referred to infantile scurvy as a possible cause of soreness of the gums during the period of dentition. I have seen a case of this class which responded to anti-scorbutic remedies, and which had been previously treated by lancing of the spongy gums under chloroform. Dr. Guthrie's warning is, therefore, perhaps not absolutely unnecessary. As to older children, referred pain of dental origin does not seem to be very common; at any rate, my experience of it is exceedingly small. Two cases of pain about the mastoid process due, apparently, to dental trouble have, however, lately come to my notice. In both cases the patients were girls, and in both the age was about seven years. One of these girls had complained of pain behind the right ear for two weeks. A carious lower first temporary molar was removed, and the pain cured immediately. In this case some adenoid growths were removed at the same time, so it is possible that the pain was due to otitis although there was no obvious sign of this trouble. Non-suppurative, chronic, or subacute ear trouble does not recover at once on removal of the adenoids which are the cause of the trouble. The other case was very similar, though no adenoids were removed in this case. Extraction of a lower molar was followed by immediate relief.

XV.—A. S. Underwood, M.R.C.S., L.D.S.,
Dental Surgeon, King's College Hospital, London.

Mr. Underwood quoted 2 cases of peripheral neuralgia of dental origin. First, a small cavity filled with amalgam (not approaching pulp) which caused violent paroxysmal neuralgia disappearing on removal of filling and treatment of cavity. Second, persistent pain (paroxysmal) not yielding to devitalization. Pulp stones were subsequently found and removed, the pulp was eventually devitalized, and finally the tooth removed. The pain slowly subsided in six week. The speaker referred to a case of exposure in a lower bicuspid causing sensations referred by the patient to a healthy upper bicuspid; to a case of neuralgia of complicated origin partly due to septic roots and exposed nerves; when these were removed, pain returned at the menstrual period and finally ovarian trouble was detected and operated upon, when the neuralgia disappeared. He mentioned a case of neuralgia associated with diseased teeth accompanied by alopecia in the area corresponding to the affected side.

XVI.—J. F. RYMER, M.R.C.S., L.D.S.,
Brighton.

MR. RYMER thought more attention should be devoted to the electrical currents produced by many causes in the mouth, which tended to set up chronic neuralgia. He urged the necessity of considering the simple causes of neuralgia besides remote and complicated cases.

XVII.—K. W. GOADBY, M.R.C.S., L.D.S.,
Dental Surgeon, Seamen's Hospital, London.

MR. GOADBY called attention to the minute and microscopical cavities formed in the early stages of dental caries, often in interstitial positions. There was no cavity to be seen macroscopically, but sections of such teeth when viewed under the microscope showed a distinct area of caries, spreading downwards to the pulp, with a chronic irritation and often direct infection of the pulp. Such insidious infection with an apparently unbroken enamel surface were fruitful causes of neuralgia. He also cited a case of pain referred from arthritis of the temporo-maxillary articulation to the ear and to the first upper molar. The patient was under treatment by baths in Germany for some time for the ear pain.

XVIII.—J. G. TURNER, F.R.C.S.,
Dental Surgeon, Royal Dental Hospital.

MR. TURNER called attention to those cases in which tooth pain was symptomatic of remote disease. Among such diseases were true trigeminal neuralgia, chronic nasal catarrh, tumours, hysteria, glaucoma, iritis, cancer of the tongue (Head). He quoted two cases of trigeminal neuralgia, as they seemed to show that the disease might arise from septic tooth trouble; and that, later, a consideration of the point of commencement of the pain in the attacks might lead to the detection of the origin of the disease.

CASE I.—M., aged 45; seen June 12th, 1896. Complains of paroxysmal pain of left side of face, lasting one or two minutes, and recurring at intervals, sometimes four times a day, at others pain is almost continuous, with exacerbations. The pain begins in the left maxilla, over the position of the bicuspid roots, and spreads to the supraorbital, infra-orbital, nasal, and temporal regions. Any stimulus, such as the act of mastication, is sufficient to start the pain. The first attack was three years ago, when it seemed to begin in the dead left upper bicuspids, which were extracted with granulation masses attached to their roots. Relief followed for a time. The upper lip is swollen and tender after the attacks, and the soft parts seem to be always slightly swollen over the left upper bicuspid region, where also the mucous membrane is always slightly tender, and the bone is thickened. No disease of other parts could be made out; no history of syphilis; no improvement under drugs.

CASE II.—F., aged 60; first seen July 7th, 1897. Shooting pains in right mandible five years; remembers no abscess; teeth have been extracted without relief. Pain begins in the position of the second bicuspid. On cutting away a piece of bone in this position a cavity in the bone ½ in. deep was found, but no pus could be detected. Some relief followed. This year (1905) she has undergone extirpation of the Gasserian ganglion for relief of true trigeminal neuralgia.

The anatomical fact of the proximity of the inferior dental nerve to the roots of the grinding teeth, and the clinical fact that an "alveolar" abscess might expose the nerve in the floor of the abscess cavity (he had seen at least three such cases) strongly supported the view of a possible dental origin of an ascending neuritis or perineuritis leading to true trigeminal neuralgia. The following case illustrated the spread of nasal pain to the teeth:

M., aged now 36. Complains of throbbing pain in the right temple and over the eye in the position of the supraorbital notch, accompanied by a sense of weight and tension in the right nostril and inability to breathe through the nostril, and of similar pains to a less degree on the left side. There is chronic nasal catarrh, and adenoids were removed at the age of 25. As the pain gets worse it spreads to the right upper teeth as far forwards as and (?) including the canine. As the pain goes off this last extension disappears first. Three years ago Dr. Lack excised the anterior part of the middle turbinate bone under cocaine. This was immediately followed by great pain in the right upper teeth as far forwards as and (?) including the canine. The teeth were also very tender. This passed off in an hour or so.

Since the operation the nasal neuralgia had been less frequent, and no spread to the teeth had been observed.

In two other cases of nasal neuralgia which he had noted pain seemed to spread to the inferior dental nerve; but of this he was not certain.

Tooth pain of hysterical origin might be very persistent; and, apparently, difficult to diagnose.

A girl at 25 came complaining of pain and tenderness due to an abscess over the left upper biscuspids. Her history was that to relieve persistent pain all her teeth (some 25 in all) had been extracted, the roots scraped, and pulps taken out, and then the teeth replanted. The explanation of the pain was that "the roots were thick and pressed on the bone." X rays showed that all the teeth were now undergoing absorption.

He extracted the abscessed teeth; but though local signs subsided pain continued, and eventually he explored the antrum, with negative results—except that pain followed the knife and was now referred to the antrum. He considered the whole thing hysterical, and urged work to distract her thoughts; with the result that she began to forget her pain. About this time she became engaged, and this completed her cure. After her engagement it became necessary to extract the remaining teeth and to scrape the bones to remove spicules of tooth-roots: operations far more severe than that of exploring an antrum, but followed by no more pain than would be expected. Since her marriage she had remained well.

For records of tooth pain due to glaucoma, iritis, and cancer of the tongue Mr. Turner referred to Dr. Henry Head's work on Disturbances of Sensation, with Special Reference to the Pain of Visceral Disease (*Brain*, Part iii, 1894), and he drew attention to the explanation given that when two organs of the head referred to the same "pain area" they might also refer pain to each other.

With reference to referred pains of truly dental origin, the speaker thought a distinction might be drawn between the referred pain of such conditions as abscess, osteitis, periodontitis, or gingivitis, and that due to pulp irritation. He had seen a case of referred pain due to septic osteitis of dental origin, but the pain was localized, and, though throbbing, not of a shooting character. Again, in these widespread inflammatory conditions stooping or movement greatly aggravated the heavy throbbing pain. He had also seen the pain of an abscess distinctly periodic, so that it was mistaken for malaria. True neuralgia minor was more likely to be due to pulp irritation, though mechanical stimuli applied to either cementum or dentine might produce referred pains.

The neuralgia might be referred from the offending tooth to almost any other of the same side, and to almost any part of the fifth nerve, and sometimes farther afield. Dr. Head's explanation of radiation of pain as occurring in depressed conditions might be applicable here, as the most marked cases of diffusion the speaker had seen had all been in neurotic subjects.

The only rule, *qua* true neuralgia minor, he could formulate was that pain spreading down the neck, and perhaps to the arm and chest, or pain in the ear, was due to a lower molar or bicuspid.

When neuralgic pain gave way to local tenderness, then only did it become possible, without careful examination of the teeth, to localize the offending tooth: that is, when the pulp died, and septic trouble began. Now, as to Head's areas: the speaker had been able to verify accurately, he thought, the mental, hyoid, and mandibular, and most of the maximum spots. Indeed, he thought these alone might prove to be of very great assistance in diagnosis of such obscure conditions as pulp stones, or pin-point absorption. He thought enough attention had not been paid to Dr. Head's work, and though they might not often be able to see the full clinical picture of pain, maximum spot, and tenderness of a particular area, yet experience might help them to utilize the patient's history in filling in the gaps, or in drawing conclusions from an imperfect picture; and they might sometimes be able to divert attention from the teeth to the true cause of pain. As a comment on the papers relative to children's tooth troubles, Mr. Turner said he would like to cite the following case:

A girl, aged 22, during eruption of her upper wisdom tooth had pain over the eye and below the ear, with tenderness; the mouth was hot and dry and gum tender over the tooth. This lasted two weeks and ceased when the tooth erupted. The eruption of the other upper wisdom tooth was accompanied by similar symptoms, but in this case lasted only three hours—she fell asleep at the end of this time and on awakening the tooth was "cut," and pain and discomfort gone. She said she had always suffered in this way when cutting teeth ever since she could remember. She was otherwise perfectly healthy.

He would like to add to these disjointed remarks that he had seen a case of keratitis punctata which he thought due to septic absorption from pyorrhœa alveolaris; and that some French authors attributed alopecia areata to reflex disturbances of dental origin.

XIX.—W. Armston Vice, M.B., M.R.C.S., L.D.S., Leicester.

Mr. Armston Vice wished to emphasize his belief that the great majority of cases of facial pain complained of as neuralgia were cases of reflex pain of dental origin, which was curable by proper dental treatment, and that, although the pain might be diffused over a large area with a tooth as the centre, the neuralgia ceased when the exciting cause was treated. It seemed, therefore, that in cases of facial neuralgia the patient should be handed over to the dental surgeon before general treatment was adopted.

XX.—J. O. Brookhouse, M.D., Senior Physician, General Hospital, Nottingham.

Dr. Brookhouse thought that the statement of Sir Victor Horsley, that the differentiation between central and peripheral neuralgia of the fifth cranial nerve could be determined by the presence or absence of hypersecretion, must be received with some reservation. What might be described as fulminating cases of facial neuralgia were rare. He referred to two within his own experience, doubtless central in origin, but in neither was hypersecretion present. In the first the sufferer was a medical man, and the nerve involved the mental branch of the inferior dental. This was removed at its exit on the face, and relief to pain followed for about three months. Upon its return, however, the late Sir James Paget was consulted, and he gave a most unfavourable opinion and prognosis. Dr. Brookhouse was urged to do something more, and consented to remove and destroy the nerve throughout the length of the dental canal in the lower jaw. This was done, and relief followed for nearly a year, at the end of which time pain returned with the greatest violence, and after some months of agonizing pain and suffering the gentleman committed suicide. The other case occurred in the person of a collier, and in that instance the second division of the fifth was the nerve involved. This was destroyed in like manner, and again relief was obtained, but incomplete, and Dr. Brookhouse lost sight of the man. With reference to the removal of the Gasserian ganglion in these cases, Sir Victor Horsley had told them that the mortality was only 7 per cent. This might be so in his experienced hands, but in the hands of the general surgeon he believed the mortality was much higher. Leaving this question, a previous speaker had referred to rheumatism in connexion with oral sepsis, and Dr. Brookhouse was able to bear testimony to this as a cause. But not only so, for he was firmly convinced that oral sepsis, due to decaying and offensive teeth and roots, alveolar pyorrhoea, and other similar conditions, was responsible for not only the indigestions but for the anaemias, debilities, and impairments of general health so constantly seen in the practice of medical men. Neither did he think the fact was as yet sufficiently and extensively recognized as it was necessary it should be if they were to deal successfully with the disorders of the stomach and digestive organs generally. A large and extended experience both in hospital and private practice justified him in speaking upon this subject, to which he had for many years paid special attention, with emphasis and authority; and he was glad to have an opportunity in that Section of bearing testimony to the alliance and interdependence between medical and dental practice.

XXI.—J. S. Sloan, M.S., F.R.C.S., Assistant Surgeon, Leicester Infirmary.

Mr. Sloan confined his remarks to a short note on the neuralgias of the face and head caused by malignant disease. In these cases it was extremely easy to overlook the central origin of the disease, more especially was that so when carious teeth, or teeth and gums in a state of chronic inflammation, were present in the mouth. Malignant disease of the base of the skull or the facial bones was so frequently associated in its earliest stages of neuralgia simulating common dental neuralgia that great care should always be exercised in excluding growth in all cases of referred pain.

XXII.—Morton Smale, M.R.C.S., L.D.S., Dental Surgeon, St. Mary's Hospital, London; President of the Section.

The President, in bringing the discussion to an end, quoted a case of hysterical toothache in a girl of 16. No dental cause was found by Mr. Smale, who sent the patient away. A few weeks later, at breakfast one morning, her hand and arm were found oedematous and much inflamed. She was at once taken to Sir William (then Dr.) Broadbent, who found a ligature tightly tied round the upper part of her arm. The papers of Dr. Risien Russell, Dr. Guthrie, Dr. Cantley on the previous day, and Sir Victor Horsley on that day had emphasized very many important considerations; thus, in influenzal, hysterical, or neurasthenic conditions they had evidence that the dental surgeon should seek other causes, and, when unable to find a cause dentally for neuralgia, should be on his guard and recommend the patient to see a doctor, lest the pain should be an early sign of tabes, syphilis, intercranial growth or diabetes. It had been shown also that inflammation could spread along the Eustachian tube to the ear, or externally to the mastoid region; that in children local bloodletting is valuable in some few cases, but that gastro-intestinal and other constitutional disturbance is answerable for the severe symptoms; that unerupted teeth, or chronically inflamed roots, may give rise to distant trouble, which in cases of eye complications may be due to continuity of inflammation. There were also strong arguments in favour of much more careful examination for hidden cavities in teeth, and for the use of transillumination and radiography of the sinuses. Tic-douloureux, or epileptiform neuralgia, had been shown to have other than dental origin, and the diagnosis could generally be made by careful examination. The records of Sir Victor Horsley showed the operation of removal of the Gasserian ganglion to be the only method of cure.

Reply.

Mr. J. Howard Mummery, in commenting on Sir Victor Horsley's communication, said he thought it was particularly interesting to the members of that Section, showing that neuralgia major was a distinct disease from the minor neuralgias associated with the teeth. Another point of great interest was the successful treatment of the bilateral cases, the method Sir Victor Horsley described appearing to be a great advance in the operation of extirpation of the Gasserian ganglion on both sides, which had hitherto been virtually prohibited in consequence of the serious effects produced in the motor areas.

With regard to the case of orbital cellulitis quoted in the opening paper, he had little doubt that the case referred to by Mr. Bennett was the same one. For some little time the patient had been taken from his (Mr. Mummery's) care, by the father, owing to some little misunderstanding; he subsequently brought her back to him, and he had no doubt that it was during this interval that the consultation with Mr. Tomes (of which he had had no previous knowledge) took place. It was difficult to understand how this could have been a case of extension; there did not seem to be any sufficient local inflammatory condition to cause these eye troubles; the crowned root had been in a perfectly healthy condition for fifteen years, and the slight periostitis shown by the small hyperaemic spot on the peridental membrane would scarcely account for any such result. He had certainly been inclined to look upon this case as one due to reflex disturbances although Sir Job Collins seemed to consider that nearly all cases implicating the eye, with the exception of muscular spasmodic cases, were not due to reflexes.

Mr. Baldwin spoke of his having referred to toothache and neuralgia being concurrent: he did not necessarily mean that the toothache and the neuralgia were both experienced at the same time, although that was quite possible, but that one might have a local toothache and also neuralgic pain from the same tooth: the definition of toothache in his paper had been pain referred to a tooth, not in and around a tooth, which he would call concurrent neuralgia.

With regard to Dr. Head's areas, the areas were characterized by hyperaesthesia of the skin, and the pain was referred to the maximum spot of the particular area—in most cases being only felt at the maxima, although in some instances also referred by the patient to other parts of the same tender area. The chief characteristic of these areas, however, was that they were areas of tenderness. The pain felt in the external auditory meatus was due to one of the maximum spots of the hyoid area, which had two maxima, as pointed out in the opening paper. It was not figured in the diagram, as not appearing in the coloured area it might cause some confusion.

In the case described by Mr. Baldwin the pain appeared to correspond to the sterno-nuchal area—an area not affected by the teeth, but generally by disturbances in the thorax or abdomen, and it was difficult to understand how this area became affected.

With regard to the distinction between living and dead teeth, he thought he had explained in the paper that dead

teeth and periosteal troubles did not cause visceral referred pain and tender areas, but might occasionally be the cause of darting neuralgic pain, so that when he referred in his abstract to exostosis and conditions that arose from dead teeth, he did not indicate that these were frequent causes, but one of the occasional causes of neuralgia, and it seemed to him that it would be scarcely logical to say that we could simplify the matter by excluding all dead teeth, for Mr. Baldwin himself acknowledged they might sometimes be the cause of neuralgic pain, and in dealing with the subject in a paper of this kind it was necessary to mention all causes, usual or remote.

With regard to the question of killing pulps of teeth with arsenic instead of extracting the tooth, of course in the majority of cases this was much the better practice, but in such cases as the one he had mentioned in the paper, the difficulties in the way of this treatment were very great. The presence of the pulp stones make the operation of destroying the pulp with arsenic a very tedious and painful one, and a patient already racked with neuralgia would rarely submit to it; there was also the danger of leaving a small portion of pulp enclosed by secondary deposit still alive.

In reply to Mr. Huxley, he would say that there certainly seemed to be notable exceptions to the exact areas of pain and tenderness mapped out by Dr. Head as referring to individual teeth; these could only be cleared up by careful and extended observations. Many of these cases Dr. Head would explain as due to "spreading," while some were not cases of "visceral referred pain" but "neuralgia minor proper." The case of apparent neuralgia major described by Mr. Huxley was interesting in connexion with Sir Victor Horsley's remark that hypersecretion indicated organic and not functional disease—this by its being spontaneously cured, not perhaps being a case of neuralgia major.

Dr. Brookhouse also mentioned a case of true neuralgia major in which there was no hypersecretion.

It would be noticed, however, that Sir Victor Horsley said "I consider it (hypersecretion) a diagnostic sign of the organic origin of the neuralgia when associated with the initiation of the attack," and one did not either gather from his remarks that all cases of neuralgia major were accompanied by hypersecretion, but that when it did exist at the commencement of the disease it indicated its organic origin.

Dr. Bogue said that in America they did not meet with these severe cases of neuralgia from diseased teeth. This might perhaps be explained by the fact that in this country these cases were often seen for the first time when neuralgia was well established and they had not the same opportunities of detecting these early cavities that they had in America where there seemed little doubt that people took more care of their teeth and had them more frequently examined, leading to these early cavities being more often detected and treated. Still, this would hardly fully account for these severe cases not being met with on the other side of the Atlantic.

With regard to Mr Turner's remarks and also to Mr. Payne's reference to neuralgia from healthy teeth, these were cases apparently which Dr. Head considered were due to impulses from different sources referred to the same area and were very important points to remember in the diagnosis of visceral referred pain.

In cases of pyorrhoea where the surfaces of the teeth are much exposed one met with darting neuralgic pain running back to the angle of the jaw, which was not connected with any tender areas and would be referred to by Dr. Head as cases of neuralgia minor proper.

In pyorrhoea however, one might get both neuralgia minor proper and referred visceral pain, as they had inflammation of the peridental membrane and exposure of the tooth tissues giving rise to the one, and secondary affections of the pulps of the involved teeth might give rise to the visceral referred pain referred to the areas implicated by the diseased teeth.

Referring to both Mr. Turner's and the President's remarks, they must never forget the possibility of many of these cases being hysterical, but they had a good means of discriminating these hysterical cases in Dr. Head's areas, as no patient without previous knowledge of their location would be able to describe their limits accidentally. Mr. Goadby's would appear to be one of those exceptional cases in which the tender area did not correspond to the correct tooth, as the area affected should have been the maxillary. All would agree with Mr. Sloane that it was most important for the dental surgeon to be on his guard against the confusion of neuralgic pain due to malignant disease with the referred neuralgia due to teeth. He (Mr. Mummery) had in his mind a case in which epithelioma of the antrum was treated for a year as polypus of the nose. It had been accompanied by persistent neuralgic pain, especially at night; the growth caused deformity of the alveolar border and palate, and there was little doubt that the tissue removed as polypi was a portion of the epithelial tumour of the antrum.

A PRELIMINARY NOTE ON THE TREATMENT OF ALVEOLAR OSTEITIS (RIGGS'S DISEASE) BY MEANS OF VACCINE.

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In a paper contributed to the discussion on oral sepsis last year I made a preliminary note of the many pathological conditions associated together under the common name of "pyorrhoea alveolaris," briefly indicating some of the more important divisions, clinical and pathological, under which it seemed possible to group the various cases for convenience of description and perhaps of treatment. A table of inoculation experiments was also given and a considerable amount of evidence of experimental nature adduced of the action of the pus of pyorrhoea cases in causing general disturbance, besides the more immediate local effect. I also gave direct proof of the evidence of blood infection from inflammatory processes of the gums, and suggested that the effect of alveolar disease upon the general health was probably of a symbiotic or mixed variety. Since writing that paper I have continued my work more or less along the lines I have indicated, but rather more directed to the bacteria obtainable by the methods already worked out than to the elaboration of new methods for the isolation of such bacteria as required new and special media. Some attempt has also been made to endeavour to obtain bacterial evidence that would be of value from the diagnostic as well as the treatment point of view.

Hunter in several communications has called attention to the more grave affections which are to be found associated with, and directly attributable to, septic conditions of the mouth, the conditions he sums up in the general term "oral sepsis." Hunter has, moreover, demonstrated the connexion between several grave diseases and the often neglected condition of the oral cavities.

In the course of my researches on the bacteria in alveolar osteitis I have been struck with a certain and not infrequent class of case that, although not exhibiting any serious general symptoms, yet show a marked similarity in what may be very well called minor ailments—not, perhaps, in themselves of great moment to the patient individually, but when taken as a whole make up the general feeling of "below par."

The cases are the subjects of chronic alveolar discharge sometimes marked, sometimes quite small, but at some time or another a considerable amount of pus is present along the gum margins, where it may be found by gently pressing upon the anterior and posterior surfaces of the alveolus with the finger and thumb. In many instances the pus may be easily observed without the necessity of applying any pressure. Although not being ill in the popular sense of the word, that is, incapacitated from work, these individuals are constantly complaining of general *malaise*, of headache, of slight but continued gastric troubles, and, as a general rule, of slight or severe constipation. They have not the earthy pallor of marked oral sepsis but have a grey appearance, especially under the eyes. There is invariably a degree of anaemia consisting in a reduction of red blood corpuscles and haemoglobin with a slight leucocytosis. Commonly a well-marked acne is present, but only rarely of a decided pustular nature. The affection is mostly confined to the cheeks and the alae of the nose and is associated with a good deal of redness and pigmentation of the affected part. There are generally a considerable number of acne pustules, small in size, on the back and rarely on the chest. Those on the face often do not suppurate. The following blood examinations illustrate the anaemia, of which no other cause was discoverable than the condition of the mouth. (See Table I, p. 563.)

The anaemia in these cases will be seen to bear a resemblance to Hayem's anaemia of the first degree in the character of the colour index. Poikilocytes and microcytes are not uncommon. No nucleated red cells were found.

In Case 1 the blood examinations embrace a period of a year, and it is very important to observe that, although treatment of a general nature was in progress during the whole of the time, the improvement is most marked at (1) the removal of

TABLE I.—*Blood Examination in Alveolar Osteitis.*

Case.	Date.	Hb.	R.B.C.	W.B.C.	Ratio.	C. Index.	Notes.
Miss S.	June 22nd, 1904	74	3,850,000	10,000	385 : 1	0.9	Chronic discharge of pus from gum margins. Under treatment two years, and shows great improvement. General and local treatment. Sent into the country for two months.
	Sept. 30th, 1904	70	3,900,000	9,000	437 : 1	0.8	Small sinus found leading to minute sequestrum 2 mm. in length, which was removed; gums cauterized. General and local treatment continued.
	Oct. 28th, 1904	80	4,000,000	8,000	500 : 1	0.9	
	Feb. 6th, 1905	70	3,930,000	10,000	393 : 1	—	
	May 1st, 1905	77	4,[illegible]0,000	10,000	476 : 1	0.7	One week after injection of staphylococcic vaccine.
	June 5th, 1905	80	3,860,000	8,000	482 : 1	0.9	One week after injection of staphylococcic vaccine. O.L. = 100 : 100. No pus. No nucleated red cells and no mast cells found. Slight pathlocytosis and some microcytes, September 30th, 1904.
Con. B.	Nov. 18th, 1904	78	3,600,000	9,000	400 : 1	0.9	Local treatment of mouth and gums. Cautery, etc.
	Dec. 17th, 1904	92	4,440,000	8,000	551 : 1	1.0	Only local treatment. No injection on account of kidneys.
Mrs. B.	—	72	3,200,000	9,000	355 : 1	0.9	Chronic alveolar osteitis, alveolus almost entirely wasted. Teeth all loose, and no sockets.
Miss R.	Nov. 17th, 1904	70	3,800,000	9,000	422 : 1	0.8	Old chronic case, twelve years' standing; much pus, teeth very loose.
Miss P.	April 8th, 1905	80	3,500,000	8,000	437 : 1	1.0	Severe chronic alveolar osteitis; much pus. General symptoms marked.
Miss F.	July 12th, 1905	75	3,550,000	10,000	355 : 1	0.9	Chronic alveolar osteitis untreated.

Thoma-Leitz apparatus. Haldane's apparatus.

the small sequestrum, and (2) the inoculation with staphylococcal vaccine.

It is interesting to see what a marked influence the small local suppurative area effected on the blood, and it seems to point to the great influence very small suppurative areas exercise when once the anaemia has become established.

Case II shows the rapid effect of local treatment.

Finding that there were a certain number of symptoms more or less common to the class of case with well-marked pus formation, I commenced the critical study of the bacteria present in the pus and endeavoured to determine which, if any, of the organisms I could isolate in pure culture were related to the affection.

Cultures were therefore made on various media that had been found particularly suitable for the growth of mouth bacteria and the various bacteria obtained submitted to tests with the serum obtained from the individual case and from control normal persons.

Agglutination and estimation of bactericidal power gave only negative results although a large number of bacteria were experimented with.

The position was somewhat perplexing. A well-marked case showed apparent evidence of toxic infection, but no bacteria were obtainable from the blood taken under aseptic precautions, and the serum of the case gave no bactericidal effect on the organisms tried, and no agglutination other than that given by the control bloods, but at the same time the filtered cultivations made from the mouth direct on broth and inoculated into animals at times gave rise to severe illness.

About this time I had occasion to make cultivations from one of the cases (No. 1), which had been under local treatment for some eighteen months. This case, a somewhat severe one at the outset, had been under constant local treatment, and also general treatment for the anaemia and chronic constipation. A considerable improvement in her general condition had taken place, but the blood had not become normal, and frequently dropped back, although she was sent into the country for three months. There was, in addition, a chronic pharyngitis.

I saw her on February 6th, 1905, her blood condition being again somewhat low. The gums were still red, and there was in one or two positions in the molar region a very slight discharge of pus, only obtainable by pressing the gum vigorously.

The socket of one of the affected teeth was carefully cleaned out with sterile wool, washed out with 1 per cent. lysol, and the electric cautery applied to the gum and alveolar margin. A cultivation was then made from deep down in the pocket on agar, serum agar, and broth.

Only staphylococci and a short bacillus were obtained. No bacteria were seen in the curettings direct.

The staphylococci obtained appeared to differ from the ordinary laboratory cultures of that organism, and its cultural reactions were, therefore, somewhat closely studied.

Lehmann and Neumann in their *Bacteriology*[1] call attention to the similarity existing between the various members of the group staphylococci, and propose to group them all under the collective term staphylococcus pyogenes. Neumann's experiments are referred to, in which he showed that the staphylococcus albus could be caused to form yellow, and even a red, pigment. Galloway and Eyre[2] have also shown that the staphylococcus albus, when submitted to a continued course of anaërobic cultivation, suffered a considerable diminution in the rate of its liquefaction.

The staphylococci obtained from the mouth in cases of alveolar osteitis show certain of the above-mentioned characteristics which might place them in a separate variety, but it seems inadvisable to add to the already large number of varieties of the group cocci, so for the present no such variety will be suggested; at the same time it is necessary, in passing, to note some of the differences which are met with.

The rate of liquefaction is very slow in all cases when the organisms are obtained with proper precautions from deep in the gum pockets. The liquefaction is, as a rule, saccate with the staphylococcus aureus, but in the ones obtained from the mouth, and which do eventually produce liquefaction, the form is stratiform at first; later, after many subcultures, the stratiform liquefaction may change.

The colour of the organisms is also very different from the usual "staphylococcus orange," and is generally of a dirty brown, or perhaps yellowish, tint, and only rarely after subcultures becomes a proper orange.

The form of the colonies also differs considerably from the normal. They are small and raised and conglomerate, or flat and viscous, and do not grow freely at first. The staphylococcus albus is also present in some cases, and behaves in a similar manner as regards liquefaction and form of colonies. It often happens that little or no liquefaction occurs even after some time.

In virulence the mouth organism is frequently surprisingly high. Several rabbits were inoculated with agar cultures emulsified in sterile broth; a dose of 1 to 1½ c.cm. causing death in three weeks. In four cases the rabbits were killed in the first week. These had been inoculated intraperitoneally. Slight or little local reaction was observed, but in all four cases the kidneys were full of pus, with abscesses in the cortex. No suppurative foci were found elsewhere. The organisms were recovered in pure culture from the kidney pus.

A consideration of the above results shows that the staphylococci met with in alveolar osteitis may be related to the local as well as general conditions of infection, moreover, it is well known that the staphylococci are able to produce extremely chronic forms of suppuration as well as remaining quiescent for considerable periods, only resuming their activity at long intervals.

I therefore thought it of importance to examine the general resistance of the individuals suffering from the chronic alveolar inflammation to the staphylococci present in their mouths.

The method of Leishman and Wright appeared to be the best to adopt; and I desire here to thank Professor Wright for his kindness and assistance in demonstrating the technique of his method to me. The method used consists essentially

TABLE II.—*Opsonic Index to Mouth Staphylococcus. Cases of Alveolar Osteitis (Riggs's Disease).*

No.	Name.	Date.	Opsonic Index.	Nature of Case.
1	Miss S.	Feb. 6th, 1905	0.69 to 1.00	Anaemia, chronic constipation, chronic pharyngitis, alveolar osteitis.
2	Miss R.	—	0.60 ,,	Anaemia. Chronic alveolar suppuration fifteen years' duration.
3	W. C.	—	0.56 ,,	Chronic alveolar osteitis, slight acne. (Hospital.)
4	Mrs. H.	—	0.35 ,,	Anaemia, chronic alveolar osteitis; much pus.
5	Mrs. P.	—	0.52 ,,	Chronic alveolar osteitis and chronic constipation. Recurrent attacks of acute gastritis.
6	Miss I.	—	1.00 ,,	Slight alveolar discharge, wasting of sockets, no anaemia. (Dry pyorrhoea.)
7	Mrs. C.	—	0.79 ,,	Alveolar osteitis, acute: much pus.
8	Miss W.	—	0.65 ,,	Slight alveolar osteitis, acute deep facial acne, six alveolar abscesses, etc. (Hospital.)
9	Mrs. H.	—	0.84 ,,	Chronic alveolar ostitis; little pus. Under treatment for some time.
10	Miss P.	—	0.73 ,,	Chronic alveolar osteitis; much pus. Anaemia, chronic constipation, depression; much wasting of alveolus.
11	Mrs. W.	—	0.56 ,,	Chronic alveolar osteitis, under treatment ten years. Facial eruption over bridge of nose.
12	Mrs. A.	—	0.56 ,,	Chronic alveolar osteitis, under treatment some time. Slight occasional rise of temperature at night.
13	Miss C.	—	0.81 ,,	Slight gingivitis, no anaemia, alveolar abscess.
14	Mrs. G.	—	0.18 ,,	Chronic alveolar osteitis; much pus and calculus; not treated. (Hospital.)
15	W. H.	Feb. 14th, 1905	0.63 ,,	Acute alveolar osteitis; much pus.
16	G. 1.	June 16th, 1905	0.80 ,,	Pernicious anaemia, marked alveolar osteitis and pus. (Hospital.)
17	Mrs. A.	Feb 14th, 1905	1.00 ,,	Chronic gingivitis with occasional acute stomatitis and pharyngitis.
18	Mrs. E.	May 12th, 1905	0.30 ,,	Chronic alveolar osteitis, occasional acute abscesses, glycosuria.
19	Miss F.	—	1.04 ,,	Chronic alveolar osteitis, much pus; not treated. (Hospital.)
20	G. 2.	—	1.04 ,,	Slight gingivitis, many roots and carious teeth. (Hospital.)

OPSONIC INDEX.—Average of englobed cocci in 20 white cells; time, 30 minutes. Emulsion of 24 hours agar culture staphylococcus from mouth in normal saline (0.85 per cent.). 2 vol. serum; 1 vol. corpuscles; 1 vol. culture. Stained Leishman.

of determining the relative value of the patient's serum as compared with a normal individual in promoting the ingestion of the given species of bacterium by the phagocytic (polymorphonuclear) white corpuscles.

The average number of cocci ingested by a number of white cells is determined in each case, and the ratio of the two averages gives what is known as the opsonic index, or phagocytic index, for the special organism tested.

It is unessential to enter further into the method, which is fully described by Wright[3] in various papers.

The above table gives the first twenty cases of alveolar osteitis which were tested for opsonic power.

Several other bacteria were also tested in a similar manner, and although in some cases the opsonic power was found to be low, especially in one class of case, no such general and constant relation appeared to exist. I look on these cases as ones of mixed infection, and I am at present inclined to regard the general symptoms as due to the staphylococcal influences and the local condition to the combined action of the staphylococci with another organism.

Wright has, however, shown that in acne and sycosis staphylococcal resistance is low, and that if the resistance be increased by the use of staphylococcal vaccine the local condition undergoes direct improvement.

I have already called attention to the special symptoms of a general nature which are met with in the species of chronic alveolar disease under discussion, and I thought, therefore, that in view of the general as well as the local affection some good effect might be obtained by raising the general resistance of the individual to the staphylococcus.

Cases were, therefore, selected and the patients consented to a trial being made.

The cases selected, the details of which are appended, are given at length below. They include chronic ones of several years' standing, some have been under treatment of a local nature for some time, and although considerable improvement has been effected there was a constant tendency to recurrence together with the almost constant presence of pus along the alveolar margins.

Two cases were inoculated without any local treatment, and in two others no local treatment beyond cautery was used.

In all cases a considerable improvement in the general symptoms took place, and in those cases in which the blood count was made a concomitant rise in a blood condition also occurred.

In a few instances some reaction occurred after the injection, generally before the third day, but in 2 cases delayed until the seventh and eighth days respectively. There was little rise of temperature, but headache and pains in the back were noted together with a general feeling of *malaise*. Any local suppuration was also increased for the time and in the case of acne spots increased in number. All the reaction effects passed away in the course of a day or two, and in one case only did they occur with the second injection.

Those cases examined during the first few days after injection showed the negative phase as described by Wright. In several instances the negative phase was very prolonged, and in other instances the positive phase was succeeded by another negative phase, the opsonic index falling to a somewhat low level but not to as low a level as before treatment.

The patients have in all cases expressed themselves as entirely satisfied with the improvement, and in several instances have put on weight and have stated that the feeling of fatigue on slight exertion has disappeared and that they were able to undergo considerable exertion without discomfort.

Two cases of obstinate and chronic pharyngitis associated with alveolar suppuration and one case of acute deep acne associated with general oral sepsis have also entirely cleared up under the injections.

One case of chronic antral suppuration has also been treated with, so far, excellent results.

The charts give some of the results to the present date, and show in a concise form the general results of the treatment by inoculation. In Table II I have set out the preliminary test of opsonic index in a series of the first 20 cases examined, together with a brief note of the special features of the case. Four cases gave a fairly high index and no inoculation was performed; 1, a case of pernicious anaemia, had also a high opsonic reaction. Several other of the cases were not treated for various reasons. It will be seen, however, that the opsonic index of the majority of the cases was distinctly low to the organisms tested. In counting the slides, I have adopted the method of numbering on the back of the slide and not noting the number until the slide was counted. In this way the personal equation tends to be eliminated. The reaction was always performed within three days, and a control serum always obtained from a normal individual when the test serum was taken.

Short History of Cases Treated with Staphylococcal Vaccine.

CASE I.

First seen October, 1903. Acute oral sepsis, several alveolar abscesses, much pus from gum margins, 14 teeth and roots extracted.

February, 1904. Pus still obtainable from gums, but a good deal of improvement in general condition.

June, 1904. Local treatment still producing but little diminution in discharge, which becomes more pronounced at intervals. Under general treatment since February, pil. hyd. subchlor., iron and arsenic; later haematogen. Sent into country for three months.

October, 1904. Blood examination shows very little improvement; small sinus found in upper jaw leading to minute sequestrum, which was removed and the cavity curetted. This was followed by a distinct improvement in the blood condition. Slight amount of laryngeal paralysis present. Pure culture of staphylococci from the gum pockets and sinus. Improved for a time, but relapsed after influenza attack. Local application of cautery and destruction of gum pockets was commenced in November, 1904.

March, 1905. First injection of staphylococcal vaccine. Gum margins at first decidedly worse, but rapidly improved, as well as the pharyngeal condition. Patient is a singer, and says her voice is rapidly improving, and that she can sing without fatigue and with much less effort. The injections were continued; marked improvement in blood and in general condition. Her teacher confirms the improvement in the voice.

CASE II.

Very chronic alveolar osteitis. Has been treated on and off for ten years. First molars with entire loss of alveolus, about half of the alveolus in the upper and lower central incisor regions absorbed

Anaemia, with recurring fits of depression. Curious yellow and bronzed appearance of skin, which is almost olive colour. Chronic constipation and recurrent headache and neuralgia. Gums very swollen and much pus. Local treatment: antiseptics, styptics, cauterization of gum margins, etc. General treatment: pil. hyd. subchlor., strychnine. Gradual improvement in blood and local suppuration, which tends to recur on omission of local treatment.

March, 1905. Commenced inoculation. Well-marked general reaction for two days, with local exacerbation of suppuration, which subsided in a week. Colour of face clearing, and patient expresses herself as feeling less depressed.

May, 1905. Skin almost normal in colour.

July. Local treatment omitted for three weeks: two small tags of gum with a little pus in one interdental space. No general suppuration; feels quite well, and not, as is usually the case, distressed by the hot weather.

CASE III.

Hospital case. Man with long history of alveolar discharge has attended at intervals for some years. No general symptoms complained of. Has considerable number of pustules on neck, back, and arms. These gave pure staphylococci on bacteriological examination. The pustules remain a long time—often several weeks—and are a very long time healing.

February, 1905. Commenced inoculation without local treatment.

March. Slight diminution in discharge, and some shrinkage of gums, showing a layer of calculus, which was accordingly removed. This patient showed a much lower opsonic reaction to his own staphylococci than to the laboratory culture. A vaccine of the native staphylococci was therefore made and injected. The gum continues to shrink and to become more normal in colour, and to show very little pus.

July. Pustules have cleared up.

CASE IV.

Long-standing alveolar suppuration (eight years). Commenced local treatment in July, 1904. Extraction of eight teeth whose alveolus had been absorbed. Much improvement in general condition, but local suppuration continues, especially when local treatment is omitted.

March, 1905. Inoculation commenced. Staphylococci in pus.

June. Still local discharge at times, but much less, and very little discomfort. Third upper molar the worst, and as it was difficult to treat the gum pocket with cautery, it was removed.

July. Still slight discharge in several pockets, but the pus has changed in character, and is now very thick. Cultivations made and no staphylococci found but a short bacillus. This inoculated into a rabbit produced a marked local lesion on subcutaneous inoculation. The organism was recovered in pure cultivation.

CASE V.

Chronic alveolar inflammation with little pus. Gums very purple and injected. Has been under observation some four years. Acute abdominal pain and vomiting at times, and before treatment was losing weight. Three years' local treatment had not eradicated the gum inflammation, and although some decrease in the flabbiness of the gum had occurred there was still well-marked gum disease. Little or no wasting of alveolar process, however.

Inoculation was commenced in April, 1905, and up to the present steady progress has been maintained in the decrease of hyperaemic and congestive appearance. In addition there have been no attacks of abdominal pain and an increase of 2 lb. in weight. At the present time there is no pus to be seen.

CASE VI.

Hospital case. Alveolar suppuration of the upper and lower incisor regions, a good deal of salivary calculus, thickened and hyperaemic gum margins extending to the second bicuspid region, general *malaise*, and complains of very quickly becoming fatigued.

March, 1905. Teeth scaled and antiseptic local treatment commenced.

May. Very little if any improvement; constant discharge of large amount of pus from gums, which are still very swollen.

May 20th. Injections commenced. Seven days after the first inoculation the gums were very turgid and the pus was undiminished in amount.

June 6th. Very little pus to be seen at all; patient feels very much better.

July 3rd. No pus on pressing gums; hypertrophied gum pale and shrunken. Gum margins cauterized.

CASE VII.

Hospital case. Many dento-alveolar abscesses and a number of septic roots and badly carious teeth, which were removed. Deep acne, most acute near alae of nose and on the nose itself. Dusky, ashy skin. Two months after removal of the teeth there is still a good deal of discharge around the teeth remaining, and the acne is no better, although the colour of the skin has improved a great deal.

April 21st. First inoculation followed by a sharp reaction, with acute headache and some vomiting. Two large acne pustules on either side of the nose.

May. Acne distinctly less; several small pustules present, but much smaller than before. After the last injection a large deep pustule appeared, and caused swelling of the whole of the right side of the face.

June. No reaction after the last injection, and no marked acne pustules. The mouth is now practically free from inflammation, and there is no pus present.

July. No return of the acne or mouth suppuration. There are no acne pustules, and have been none for more than a month. Patient feels very much better.

CASE VIII.

Chronic alveolar suppuration of ten years' standing. All teeth very loose and most of the alveolus destroyed. Has been under careful treatment for some time and has had several of the loose teeth removed. Chronic dyspepsia, anaemia, and constipation. Acneform eruption over nose and face rather following the arrangement of butterfly lupus. Complains of great depression. Marked reaction after first injection, and face became much worse. After second injection also had reaction and depression which lasted a week. The gum discharge improved after the second dose—the lower teeth more than the upper ones. At the third inoculation nuclein[1] was ordered, a drachm twice daily. There was no depression and the opsonic index rose somewhat rapidly. The patient is still under treatment.

The two remaining cases, 11 and 14, are still under treatment and appear to be improving.

The last case on the chart is not one of alveolar osteitis, but of chronic antral suppuration, which has been treated in a similar manner to the other cases described above, and shows some points of interest. The antrum became infected from the right upper bicupsid; at the time there was a good deal of alveolar suppuration as well, and it is quite possible that the alveolar trouble was associated with the initiation of the antral disease. The antrum was opened and drained in 1902. Three subsequent operations were performed during 1903-4. The last one was an extensive one, the whole of the outer wall being removed and a large opening made into the nose. Subsequently the ethmoidal cells were opened.

In March, 1905, there was still some discharge, sometimes a large quantity; the patient, though much better in health, still was very thin, and remained below her normal weight; there was a good deal of pain at times. In May, after a careful bacteriological examination of the pus and the determination of the opsonic index to the staphylococci found, inoculation was commenced. Considerable discomfort was experienced after the injection, but in ten days' time the discharge was much diminished.

On July 21st, the patient had suffered no pain for more than a month; there was no discharge, and she had gained 4 lb. It is, of course, early to say she is cured, but the most unpleasant symptoms, from the patient's point of view, have been diminished, and she is better than she has been for at least two years.

The blood counts of Case 1 were kindly given me by my friend, Dr. Goodbody, who has been treating the case for the anaemia.

In reviewing the cases and the results of treatment by means of inoculation several matters of interest of a purely technical order that are hardly germane to our present purpose could be discussed, but I propose to pass these by for the present and to make a few general deductions from the more strictly clinical aspect of the cases. In obtaining the pus for examination from the gum margins in order to prevent contamination from the saliva I now make use of a capillary tube with a double bulb. The top bulb is heated in the spirit flame and the capillary point passed into the socket of gum pocket. The sharp edge of the glass tube can be used to detach material from any situation and the contraction of the air causes the pus or tissue to pass up the stem into the lower bulb. In the laboratory the top bulb is attached with sealing-wax to a Wright's tube and teat for manipulative purposes.

In examining the opsonic power I find that three days is about the limit that the serum can be kept to ensure accurate results.

Wright has pointed out that the second or subsequent inoculation should not be performed during the negative phase. In some cases I find that the negative phase is prolonged and also that after gaining a higher level than normal a subsequent diminution apparently takes place (Case 1). It is inadvisable therefore to make a second inoculation, unless the opsonic index be again noted, and found satisfactory.

It will also be seen on reference to the table that some cases, namely, 4, 3, and 10, although showing a decrease in the local pus-formation and a distinct improvement in general health yet have not entirely lost the local disease.

From a bacteriological point of view this is explainable when we consider the very large variety of bacteria present in the alveolar discharges, any of which can presumably contribute to a condition of mixed infection, but at the same time it is to be noted that in cases where the phagocytic power of the blood has undoubtedly undergone a most distinct change for the better, a concomitant change in the local lesion has also taken place.

It appears fair, therefore, to conclude that some of the cases of alveolar osteitis, or Riggs's disease, are caused by staphylococci, and that the general symptoms of blood destruction and anaemia are attributable to the haemolytic ferments which are known to be associated with the growth of this class of bacteria. Cf. Case 1.

TABLE III.—*Tabulation of Results of Vaccination.*

Case No.	Date.	Opsonic Index.	Inoculation.	Remarks.
1 (S.)	Feb. 6th, 1905	9 : 100	—	Blood Ex. Hb. = 70 ; R.C. = 3,933,000 ; L. = 9,000.
	March 1st, 1905	—	0.5 c.cm. Staph. = 20 millions	
	March 12th, 1905	130 : 100	—	Much improvement in mouth. Had reaction on third to fourth days.
	April 2nd, 1905	—	—	
	May 8th, 1905	—	0.5 c.cm. St. V. = 200 millions	
	May 11th, 1905	120 : 100	—	No reaction or after-effect.
	May 17th, 1905	230 : 100	—	No pus in mouth. Pharyngitis almost disappeared.
	May 24th, 1905	80 : 100	—	Gums and mouth much inflamed. Pharyngitis returned. Influenza.
	June 1st, 1905	73 : 100	1.0 c.cm. broth culture, Staph. aureus	Mouth better. Little pus. Throat cleared up. Blood : Hb. = 77 ; R.B.C. = 4,760,000 ; L. = 10,000.
	June 5th, 1905	100 : 100	—	Blood : Hb. = 80 ; R.B.C. = 3,860,000 ; L. = 8,000.
2 (R.)	Nov. 17th, 1904	—	—	Hb. = 70 per cent. ; R.B.C. = 3,800,000 ; W.B.C. = 9,000.
	March 27th, 1905	60 : 100	—	Marked discharge of pus from gums.
	April 11th, 1905	60 : 100		
	April 13th, 1905	—	0.5 c.cm. St. = 200 millions	Well-marked reaction.
	May 10th, 1905	100 : 100	0.5 c.cm. Staph. = 500 millions	Marked improvement, general and local.
	May 17th, 1905	150 : 100	—	No reaction to injection.
	June 16th, 1905	150 : 100	1.0 c.cm. Staph. = 800 millions	No reaction after injection.
	June 18th, 1905	97 : 100	—	No reaction. Gums normal. (Negative phase.)
3 (W. C.)	Feb. 8th, 1905	56 : 100	0.5 c.cm. St. broth c.	Many acne spots. Much discharge.
	May 30th, 1905	54 : 100	0.5 c.cm. St. broth	Diminution of acne on back. Discharge much less. Gums less swollen.
		99 : 100 (S. albus)		
	June 20th, 1905	88 : 100	1.0 c.cm. St. = 500 millions	
4 (H.)	March 27th, 1905	35 : 100	—	Under treatment some time. Extraction and curetting.
	April 12th, 1905	50 : 100	1.0 c.cm. St. V. = 300 millions	Continued discharge.
	May 11th, 1905	70 : 100	1.0 c.cm. St. V. = 500 millions	Decrease of discharge. Feels better.
	June 8th, 1905	100 : 100	1.0 c.cm. S. V. broth	No after-effect.
	June 16th, 1905	52 : 100	—	Negative phase.
5 (P.)	April 12th, 1905	70 : 100	—	
	May 23rd, 1905	52 : 100	—	Three days after acute gastritis attack. Gums very purple. Stomatitis. Pus.
		to B. coli, 70 : 100		
	May 23rd, 1905	—	0.3 c.cm. St. V. broth	Marked reaction and depression. Gums much worse.
	June 23rd, 1905	98 : 100	—	
	July 5th, 1905	—	1.0 c.cm. S. V. = 40 millions	No reaction.
	July 18th, 1905	93 : 100		
7 (M. C.)	May 6th, 1905	79 : 100	—	Under treatment some time. Much pus. No calculus.
	May 23rd, 1905	73 : 100	0.5 c.cm. S.V. = 200 millions	Gums very swollen and red.
	May 30th, 1905	50 : 100	—	Gums worse. Much pus. Marked reaction.
	June 6th, 1905	100 : 100	0.5 c.cm. S.V. = 200 millions	Very little pus.
	June 20th, 1905	100 : 100	0.5 c.cm. S.V. = 500 millions	
	July 3rd, 1905	—	—	Actual cautery to gums where loose. No pus.
	July 18th, 1905	—	—	No pus. Gums almost healed.
8 (W.)	April 12th, 1905	65 : 100	—	Two months after extraction of teeth no better. Slight gingivitis and pus.
	April 21st, 1905	—	0.5 c.cm. St.V. = 20 millions	Marked reaction. Headache and vomiting. Acne worse.
	April 28th, 1905	50 : 100	—	Acne rather less. Gums less red.
	June 12th, 1905	—	1.0 c.cm. broth = 100 millions	No reaction.
	June 20th, 1905	56 : 100	1.0 c.cm. S.V. = 300 millions	Acne much less.
	July 18th, 1905	100 : 100	—	All acne disappeared. Mouth normal.
10 (P.)	March 29th, 1905	75 : 100	—	Much alveolar destruction. Much pus. Depression.
	April 8th, 1905	—	0.2 c.cm. St.V. = 200 millions	Marked reaction. Hb. = 80 ; R.B.C. = 3,500,000 ; W.B.C. = 10,000.
	May 17th, 1905	150 : 100	0.5 c.cm. S.V. = 200 millions	Actual cautery to gums. Feels much better. Face clearer.
	June 2nd, 1905	107 : 100	—	
	June 8th, 1905	66 : 100	—	During menstruation with much pain.
	June 14th, 1905	110 : 100		
	June 20th, 1905	—	1.0 c.cm. St.V. = 500 millions	Taking nuclein : 3j bis die.
	June 21st, 1905	40 : 100	—	" "
	June 22nd, 1905	62 : 100	—	" "
	June 23rd, 1905	85 : 100	—	" "
	June 24th, 1905	100 : 100	—	" "
11 (W.)	May 30th, 1905	56 : 100	—	Under treatment 3 years. Rigg's disease. Chronic acne. No pustules.
	June 2nd, 1905		0.5 c.cm. S.V. = 200 millions	Marked reaction. Joint pains.
	June 6th, 1905	52 : 100		
	June 14th, 1905	108 : 100	—	Face improved.
24 (J.)	June 20th, 1905	18 : 100	—	Untreated case. Much pus.
	July 4th, 1905		1.0 c.cm. S.V. = 400 millions	Severe reaction. Second day vomited.
	July 7th, 1905	80 : 100		Pus distinctly less.
34 (B.)	April 4th, 1905	41 : 100	—	Chronic antral empyema 3 years. History, four operations
	May 23rd, 1905	—	0.5 c.cm. S.V. = 24 broth	Blood stained pus. Marked reaction.
	June 6th, 1905	100 : 100	—	Feels much better. Pain less : discharge less.
	June 8th, 1905		1.0 c.cm. broth S. [illegible]	Hb. [illegible]95 ; R.B.C. = 4,587,000 ; W.B.C. 9,020.
	June 19th, 1905	69 : 100		
	July 21st, 1905	100 : 100	1.5 c.cm. St.V. = 400 millions	No pus. Feels much better. Has gained 4lb.

It is also important to bear in mind, in treating any given case with staphylococcal injections, that the toxine of this group of bacteria is especially liable to attack the kidney, and, moreover, I have pointed out the abscess formation produced in susceptible animals—no doubt, a condition largely determined by the selective action of the staphylococcal poisons for the kidney tissue.

But another consideration is also possible. Since the cases of alveolar suppuration are associated with a diminution in the general resistance of the body to the staphylococci, and since these organisms are present in the disease, the condition of the gums in cases of Bright's disease is one of some little importance in general medicine.

With regard to the anaemia present in the cases described: First, I have not observed anaemia in cases of simple dental caries without gum and alveolar trouble, and there appears no evidence for supposing that simple and uncomplicated dental caries is able to produce any profound intoxication *per se*. When inflammatory processes of the gum and bone are set up the reverse is the case, and considerable anaemia of a secondary septic nature occurs, as has been pointed out by Hunter; but in all the cases I have examined the blood characteristics have been those of a secondary anaemia of a chlorotic type. In these septic anaemias I have not met with any of those especial characters that appear so constantly related to progressive pernicious anaemia.

I have only had the opportunity of examining one case of pernicious anaemia, and in that case the opsonic index was 0.8, or 80 per cent. of normal, and there was well-marked alveolar suppuration.

One point in connexion with the manipulation in the determination of the opsonic index is worth recording.

The number of the cocci taken up by a given corpuscle is more a factor of the time during which the serum is allowed to act than of the number of cocci present or the amount of the serum used.

A series of tubes made with respectively one, two and three volumes of serum gave practically the same opsonic index for the same time; when the time was varied the control and test serums gave an exactly comparable ratio, although the number of cocci in the individual corpuscles was smaller in the ten-minute than in the thirty-minute tubes. The experiment was tried on several occasions with a similar result.

In summing up the results of the investigation I am of opinion, as the result of the experimental data given, that:

1. Certain varieties of alveolar suppuration, designated as alveolar osteitis from the gradual replacement of the bone by granulation tissue, are frequently associated with staphylococci.

2. That in this class of case the affection is more than a mere local one, as evidenced by the low opsonic index given.

3. That the injection of vaccines prepared from the organisms concerned produces an increase in the opsonic power and that this is associated with an amelioration of the general and local symptoms.

4. That the method of Wright applied to the diseases of the mouth as described above opens up a new field for the treatment of oral disease and especially in the treatment of chronic antral and perhaps nasal suppuration.

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A NOTE ON DENTAL DISEASES IN HORSES.

By J. F. Colyer, M.R.C.S.,

Dental Surgeon, Charing Cross Hospital.

During the past year, with the kind assistance of Mr. W. Willis, I have had the opportunity of examining close on 500 skulls of horses which have died in London. The study of dental disease amongst the lower animals has attracted the attention of but few investigators, and, as far as I know, no really systematic work has been done. One cannot help feeling that we have too long neglected the field of research, and that a more extended knowledge of dental disease in animals would tend to broaden our conception of diseases connected with the teeth, and so allow us to arrive at more correct conclusions.

First, with regard to caries. In 66 of the specimens caries was noticed; in some cases the condition was slight, affecting only one tooth, whilst in others examples of extensive destruction of the masticating apparatus were met with, as many as ten teeth being affected. The manner in which the tooth undergoes destruction naturally differs from that seen in the human being, owing to the difference in the structure of the teeth. In man, when once the breach in the enamel has been made, the disease progresses rapidly in the dentine, the covering of the enamel giving way subsequently, and so producing a well marked cavity full of carious dentine. In the horse, owing to the arrangement of the tissues, the carious dentine is to a great extent removed by the process of mastication, so that we have a more or less cup-shaped depression formed, lined with a thin layer of softened tooth tissue. Caries is much more common in the maxillary than in the mandibular teeth, only 3 cases in the mandibular teeth being noted; in one, the distal cusp of the right third molar was affected; in the second case, that of an old animal, there was approximal caries between the left third and fourth premolars and the right fourth premolar and first molar; in the third case the right third premolars were affected in the crowns. The first molars are by far the most liable to be attacked, and the caries, although usually occurring on the occluding, may also attack the approximal surfaces of the teeth. The skulls examined have been chiefly those of old horses, and although caries is more common in the old, cases were seen in quite young horses, and in one of about the age of 4 years the crowns and approximal surfaces of many of the teeth were diseased.

Closely related in appearance to caries is a condition of unequal attrition of the teeth. In this the wear of the tooth tissue is irregular, and cup-like depressions are formed, but with this difference from caries—namely, the surface is hard and polished. In over seventy specimens this condition was noticed, the maxillary, and especially the first molars being, as in caries, the most liable to attack. In some specimens the cupping and caries were both present. It is, too, not an uncommon condition to find one tooth in the series much worn, sometimes to the level of the gums. Cupping seems to suggest some inequality in the density of tooth structure, and this point I hope to investigate more fully. That the maxillary teeth should be so much more liable to attack by wear than the mandibular is probably to be accounted for partly by the general arrangement of the tooth tissues in the maxillary compared to the mandibular teeth and partly to the fact that the maxillary is the fixed point or mortar—the mandibular teeth acting as the pestle. A maxillary molar of a horse presents near its centre a comparatively large area of dentine, and the constant pounding of the mandibular tooth in this would, if the dentine be of poor structure, be liable to cause excessive attrition. That the irregular wear of the tooth may have some influence in determining the caries in many cases is possible as the cup depression would allow the lodgement of food.

A point also to be considered in endeavouring to discover the cause is, "Has the horse in its diet anything liable to cause caries?" Under natural conditions the diet consists of grasses, and at certain times of the year grass seed, but the horse, as we see him and use him, is supplied with a liberal allowance of grain, such as maize, oats, etc., and the more work required the more liberal as a rule the allowance. In the grain thus introduced we have the carbohydrates from which by fermentation lactic acid may be produced.

Periodontal Disease.

The result of the examination shows that periodontal disease is common amongst horses; no less than 166 specimens showed more or less injury of the periodontal membrane, ranging from slight injury of the gingival margin to the most aggravated form of periodontal disease. The first sign of disease is a slight injury of the gingival margin, resulting in the destruction of the portion of muco-periosteum filling the intervals between the teeth. The spaces are seen in the maxilla on the buccal side, in the mandible on the lingual side. Into the space formed food and other matters collect, undergo fermentation, leading to destruction of the adjacent tissue, so that in time a distinct space is formed between the teeth, in which fodder, etc., become firmly wedged. As the disease progresses the periodontal membrane becomes more and more involved, leading to extensive destruction of the bone, infection spreading in the maxilla to the antrum, setting up antral suppuration, and in the mandible to the body of the bone, causing suppuration. If a horse be examined in which the disease is advanced, the muco-periosteum is seen to be inflamed and thickened, and a profuse muco-purulent discharge will be noticed around the teeth, the breath being

extremely offensive. The mandible is much more liable to attack than the maxilla, and as far as my observations go spaces are seen rather more between the anterior premolars than the molars, but this point must be noticed, that the spaces formed between the premolars do not seem to set up the same amount of trouble as those found towards the back of the mouth. In the maxilla, spaces seem to occur with the greater frequency towards the back of the series. As a result of the spaces the teeth become painful to pressure, and the function of mastication is interfered with, leading in many cases to marked irregular wear of the teeth.

In some cases only one or two spaces are seen, in others huge gaps occur between nearly all the teeth. The fact that the spaces start on the buccal sides of the upper teeth, on the lingual aspect of the lower teeth, and that the bone destruction is greatest in the region where the force of mastication is most felt, is interesting.

In animals kept in captivity periodontal disease is by no means uncommon, and much the same changes in the tissues are met with as in horses, absorption of the septa between the teeth and progressive destruction of the alveolar process being most marked in the region where mastication is most felt. In man, too, similar changes are seen.

In the horse the disease would seem to be purely local in origin. The injury of the muco-periosteum is probably due to foreign bodies in the diet, or it may be to the grains of corn being wedged in on the one hand by the cheek and on the other by the tongue. Once the space is formed the progress of the disease can be easily understood, namely, the fermentation of the lodged food and the resulting tissue destruction.

In searching for a cause of this periodontal disease in horses, the only point that occurs to me is that the diet of the working horse is not the natural one. In the wild state, as was mentioned in dealing with caries, the diet consists of grasses, and the mastication of these would not injure the tissues, but with the introduction of corn we have an element liable to be wedged between the teeth and so cause injury. Once the injury to the periodontal membrane has taken place, the further stages of the disease are easily understood.

A consideration of the periodontal disease in the horse and other animals would indicate that the disease as seen in man is probably much more local in origin than has usually been considered, but into this question I do not propose to enter. My endeavour has been simply to place before you the bare facts as I have met with them, in the hope that others with more time to spare may take up the question and investigate it more thoroughly, for I am convinced that we have much to learn from the study of comparative dental pathology.

THE TEETH AS A TEST OF AGE: A NOTE ON ERUPTION.

By Sidney Spokes, M.R.C.S., L.D.S.Eng.,
Dental Surgeon, University College Hospital.

As was recently pointed out in the *Lancet*, there are numerous practical occasions when the age—usually of a minor—is of forensic interest. The fact may be required for registration purposes (marriage, census returns, or death), for exemption from attendance at school, and under the Employment of Children Act, 1893, for indictments under the Criminal Law Amendments Act, 1895, and the Prevention of Cruelty to Children Act, 1904, for superannuation, and notably in the application of the legal presumptions that a child of less than 7 years is incapable of committing an indictable offence, and can only be punished, if under 14 years of age, on proof of actual malice. English statutes usually impose the onus of proof upon the defendant; at the common law, in cases of dispute, infancy is presumed. Certificates of birth, baptismal registers, and, as with a case in 1808, the receipted entry in an accoucheur's daybook, have all been produced and admitted as valid evidence. There are, however, cases where documentary evidence is not forthcoming; the ages of these persons must be presumed. They include persons born abroad, orphans, and homeless wanderers.

Recent Acts have adopted the principle of facial diagnosis:

> Where a child is . . . . alleged . . . . to be under any specified age, and the child appears to the Court to be under that age, such child shall, for the purposes of this Act, be deemed to be under that age, unless the contrary is proved.

The state of dentition may *assist*, and this, I think, is the most that we can say.

Since the introduction of the system of birth registration there has not been the same necessity as formerly for estimating the age of an individual by physical appearances. Still there is occasionally a difficulty in the production of the certificate of birth in disputed cases, and especially in the case of an unidentified dead body the question of age may be of importance. Thus, in the Goswell Road murder it was desirable to know the age of the girl found dead, but when Mr. Smith Turner in 1883 showed the jaw at the Odontological Society there was a difficulty in deciding. Mr. Charles Tomes thought the age of the girl must have been between 14 and 16. He pointed out that the statistics with regard to the condition of the teeth at this age were not quite so satisfactory as could be wished. It was comparatively easy to get the jaws of young children, but more extended observations were required before we could be quite sure as to the normal condition of the teeth between the ages of 9 and 14 years. The late Sir Edwin Saunders, in the hope that he might assist in the prevention of the employment of young children in factories, examined the mouths of several hundred children of known ages, and was of opinion that, from their great uniformity of configuration, size, and arrangement, the teeth possess characters more definite and constant than any other parts. Their physiological history is consequently more precise, and subject to less variation, than that of any other organ. His examination of 227 boys aged 13 years showed that 25 per cent. of the second permanent molars were absent. In 111 girls 14 per cent. were absent. But he seems to have adopted the principle of assuming the presence of the fourth when the other three were fully erupted, and thought that of the 338 children of 13 years of age, no less than 294 might have been pronounced with confidence to be of that age from the inspection of their teeth. He did not contend that the teeth are to be regarded as affording equally accurate indications of physical strength, but that their development affords the best criterion of age, and he gave instances in which the dentition alone enabled him to give the correct age, although the bodily appearances indicated retarded, or, on the other hand, precocious development. According to more modern ideas the development and eruption of the teeth are considered to be affected by general constitutional conditions, and it is thought that, whilst in congenital syphilis eruption may be premature, in rachitis it is delayed. Mr. J. G. Turner has collected some cases showing that in cretins the dentition is very much delayed. Dr. Hastings Guilford, however, describes a case of arrested development where the individual was an infant as regards his generative organs, a child of 2 or 3 as regards his physiognomy and configuration of head, a little over 3 as regards height, about 6 or 7 as regards his epiphyses, and as regards his teeth about 11. His actual age was 12, and the case goes to bear out the contention of Sir Edwin Saunders.

In the case of permanent molars it has become the habit with some practitioners to call a tooth by an eruptive name, but, in the same way that one imagines the "6-year-old molar" improperly described as such, so there is reason to think that the "12-year-old molar" is really one that might be put half a year later on.

The short note I now communicate does not, of course, attempt to give accurate figures as to the age at which the permanent teeth erupt or cut through the gum; but, having the tooth charts of a number of boys of known age in a large public school, it seemed possible to deduce some figures showing to what extent the second permanent molars may be expected to be present in the mouth at the ages of 12, 13, and 14 years.

In 49 boys between the years of 12 and 13, 16 (32 per cent.) had all four second permanent molars erupted; 5 (10 per cent.) had all four absent. These boys should have accounted for 196 second molars; 32 per cent. of these were fully erupted, 38 per cent. were erupting, and 28 per cent. were absent. Of the latter, 34 were missing from the maxilla and 22 from the mandible. Taking, then, the erupted and the erupting together, 71 per cent. of the second permanent molars were visible in the mouths of those boys who had not completed their 13th year.

In 638 boys between the years of 13 and 14, the percentage of those with all four second molars properly erupted rose to 62, but 4 per cent. had all four absent, 5 per cent. had three absent, 7 per cent. had two absent, and 7 per cent. one absent. Of the teeth themselves, 62 per cent. were present, 23 per cent. were in process of eruption, making 85 per cent. visible in the mouth, and 14 per cent. absent.

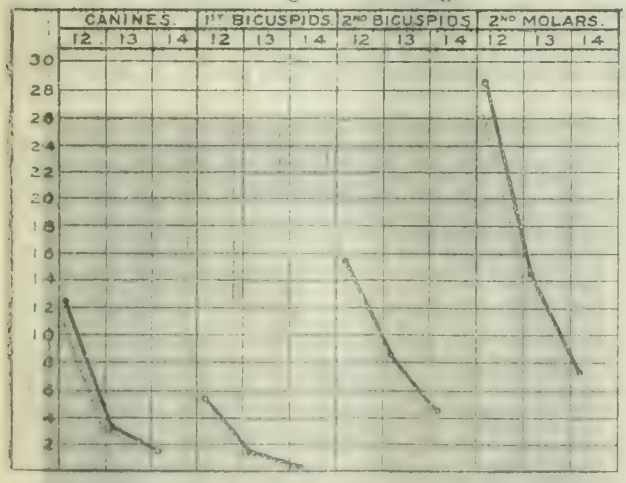
Of 492 boys between 14 and 15 years, 404, or 82 per cent., had all the four second molars in place; only 2 per cent. had all four absent, 2 per cent. had three absent, 3 per cent. had two

absent, 7 per cent. had one absent; 10 per cent. of the teeth were in the eruptive stage, making 92 per cent. visible in the mouth, and 7 per cent. were still absent.

The examination of boys over 15 showed that in some cases second molars were absent and others only just showing; in some others the third molar, or wisdom-tooth, was visible. I am afraid I cannot hope to make the enumeration of these figures very interesting, but every care was taken to ensure accuracy. They must speak for themselves, but I think we must confess that we are unable to rely entirely upon the teeth as a test of age. In some cases we can say affirmatively that the individual has, in all probability, reached a certain age. We cannot so certainly say negatively that he has not attained a stated age. Certain other conditions of the denture may possibly have to be considered, as, for instance, the previous extraction of the first permanent molar which favours the earlier eruption of the second molar.

Of the missing molars, 329 were from the maxilla and 229 from the mandible.

With regard to the other permanent teeth, 12 per cent. of canines were absent in those under 13 years of age, 3 per cent. in those under 14, and 1 per cent. in those under 15. Here, again, a large proportion were upper teeth; only 18 lower canines were unerupted. The first bicuspids were more constant, due allowance being made for the removal of some for regulation purposes; 5 per cent. were absent at 12 years, 2 per cent. at 13, and 0.86 at 14 years. As might be expected, a larger proportion of second bicuspids were unerupted, and here the lower ones were most frequently missing. The percentages were: 15 at 12 years of age, 8 at 13, and 4 at 14. Of course, the presence or absence of all teeth should be taken into account in endeavouring to estimate age.



Examination of the Dentition of 1,179 Boys.

Age.	Number Examined.	Number Abnormal	Percentage of Unerupted Permanent Teeth: Canine	First Bicusp.	Second Bicusp.	Second Permanent Molar.
12 to 13	49	34 (69 %)	12	5	15	28
13 to 14	638	[illegible] (59 %)		2	8	14
14 to 15	492	[illegible] (22 %)	1	0.86	4	7

THE INFLUENCE OF ARRANGING IRREGULARLY-PLACED TEETH INTO THEIR NORMAL POSITIONS.

By E. A. Bogue, M.D., D.D.S.,
New York.

I was invited by the Committee to furnish something of dento-surgical interest to be read at this meeting—for instance, "The Influence of Development on the Arrangement of the Teeth." This invitation furnishes me with the title of my subject, which will be "The Influence, on Development, of Arranging Irregularly-placed Teeth into Normal Positions."

Before starting to consider the question that I am about to bring before you, let me say that I have not been unmindful of the influence of adenoid vegetations in producing the irregularly-placed teeth which are so generally, if not uniformly, found in connexion with mouth breathing, high arches, and nasal stenosis; but all that has purposely been left out, that our attention may be drawn to certain features that have been less discussed, if, indeed, discussed at all. I am clearly of the opinion that neglect is at the bottom of the worst cases we have to treat, that early treatment of the conditions now to be considered will result in the prevention of much of the evils of those conditions, and that preventive medicine is the highest level of that art.

Many of the evils that we as orthodontists are called upon to treat, and many of the diseases which confront the rhinologist, arise from a deficiency in the vital force of the child—an inability to overcome some mechanical obstruction.

Every developmental process is an expression of vitality. Every defect in formation or function is an indication of a deficiency in a motor centre of power sufficient to overcome obstructions. The expression of deficiency is various.

One of the most common expressions, and one that every dental surgeon and rhinologist should recognize, is irregularity in the arrangement of the teeth of the child. Sometimes this irregularity shows itself in the temporary teeth, sometimes it shows first in the malarticulation of the first permanent or principal molars.

The lower principal molars have upon their outer or buccal side three cusps or tuberosities; upon the inner or lingual side they have two. The upper molars have two on either side. In the normal position of these teeth when closed the anterior buccal cusp of the upper molar and the anterior lingual cusp sit astride of the outer ridge of the lower first molar, just posterior to, and nicely fitting in with, the anterior buccal cusp of the lower molar.

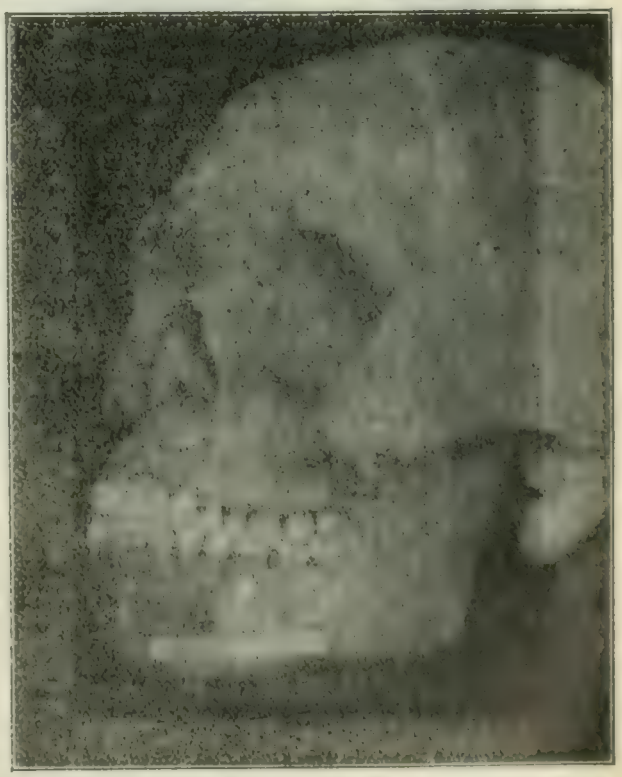


Fig. 1.—Normal adult articulation.

This arrangement is made necessary by the greater width of the upper incisor teeth over the lower incisors.

The same general arrangement exists in the case of the temporary teeth, so that the careful observer may detect irregularities in the positions of the temporary teeth, that are

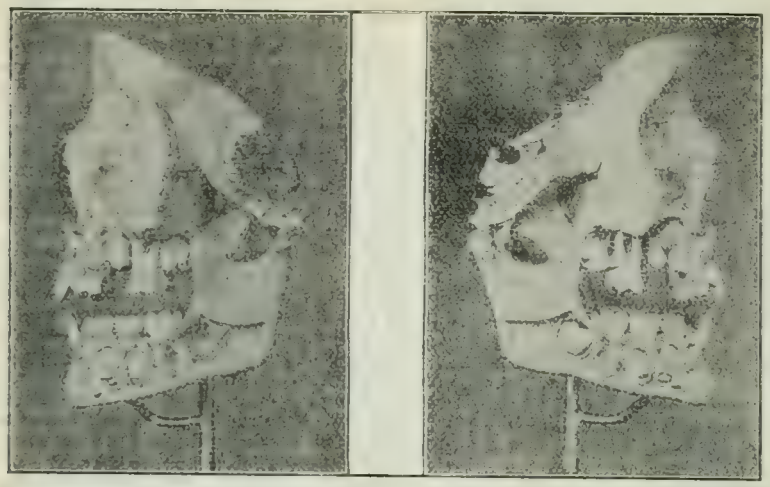


Fig. 2.

sure indications of malpositions among the permanent teeth that are not yet erupted.

Whenever there has been loss of temporary teeth, or even excessive decay and a loss of considerable portions of the temporary teeth, the principal molars, which are either in the process of development, or are just erupting, are pressed forward by the eruptive processes, and seek to occupy the places of tissue lost by decay, or of the missing temporary teeth.



Fig. 3.

For example, a temporary tooth becomes decayed; the pulp is exposed and dies. The process of absorption of the roots, so far as such absorption is dependent upon the pulp, ceases; solution from whatever cause is slower; hence this pulpless tooth is an obstacle to the regular development of the tooth beneath, and if this tooth succeeds in emerging from beneath the temporary tooth it is deflected from its proper place in the arch.

If the cavity of decay be upon the posterior approximal side of the temporary tooth, towards the erupting first molar, this first molar sometimes leans forward into such a cavity enough to lose its proper position and its antagonism with the lower molar.

If, as in the illustration (Fig. 2), the last temporary molar is lost and the first molar is decayed on its posterior approximal surface, the tendency of the incoming first permanent molar is to occupy both vacancies and to come forward the full width of a tooth or more.

Not only will it come forward, but in coming forward it advances on the lines of the arch of the jaw, and the further forward it comes the narrower becomes the space between it and its opposite molar on the same jaw. Fig. 3 shows on the right side a second permanent molar that has come forward owing to the extraction of two bicuspids and the first molar until it touches the cuspid.

It is plain to see that extraction has not made room here, but has greatly diminished the arch.

These principal molars occupy in the adult normal jaw the middle of the arch from before backward between the cuspid and the wisdom tooth. As they are in a sense the keystones of these antero-posterior arches, they become upon their eruption the keys to the situation, for if these four keystones or pillars to the dental arches are normally arranged at the period of their development they support the jaws during the shedding of the temporary teeth and their replacement by the permanent ones, and we are almost certain that all the other molars posterior to these will be correctly arranged. It is also almost certain that the teeth anterior to these keystones with whose development and proper placing in their alveoli



Fig. 4.—Canine crowded out of the arch; bicuspids "bunched," canine crowded inwards, and lateral incisor protruded.

we have to deal may be easily inducted into their places, should they erupt irregularly, practically without pain, and therefore without detriment to the well-being of the child, whose growth is not thereby inhibited, and whose usual avocations are but slightly interfered with.

These permanent molars, then—let us suppose a case of upper teeth—which have been deflected from their normal positions occupy a certain amount of room (space) anterior to

what they should, and consequently they crowd out of place the other permanent teeth anterior to the molars, either by a narrowing of the arch and a protrusion of the incisors, or a bunching of the bicuspids, or both (Fig. 4); for it must be remembered that the teeth of any given individual are adapted to the size of that individual's jaw and alveolus. [There is no such thing as large teeth in small jaws and alveoli, for the alveolus is formed upon the jaws after the crowns of the teeth are complete, and it forms around the roots of those teeth that are themselves in process of ormation.]

But this is not all the mischief caused by the decay of these temporary teeth. The development or displacement of even one permanent molar further forward on the arch than it should be, therefore narrowing the arch, confines and cramps to a considerable extent all those contiguous bones that are in process of development at just this period, and obstructs their growth, so that unless aid is rendered and the mechanical obstruction is removed, the face never gets its full development, the vault of the palate is more or less deformed; there is not room for the tongue, still less for the free use of it, nor for vocal resonance, which fails unless there is ample room and a broad and well-formed palatine arch, nor for full and free inspiration, owing to a diminished nasal meatus, so that often we find mouth breathing supervening upon the loss of certain of the baby teeth, and the development of the permanent molars too far forward in the arch.

It will be perceived, therefore, that if at a very early age we can positively diagnose present or impending irregularities of the permanent teeth, it will also be possible in most instances to correct those irregularities, and without extraction, during the eruption of the permanent teeth, beginning the operations while the temporary teeth are still among the instruments to be acted upon, broadening the arches and correcting the articulations of the principal molars.

If this is done at this early age not only will the growth of the superior maxillae and the alveoli be promoted, but the growth of the adjacent bones of the nose, palate, head, and face, will also be promoted. Instead of narrow or saddle-shaped jaws with deficient nasal passages, obstructed oftentimes by undue and excessive convolution of the turbinated bones and by lymphoid growths, which growths are promoted by the contracted regions in which they lie, we shall have a resumption of growth in the maxillae, palate bones and nasal bones, and probably as well in the ethmoid and sphenoid bones. The nasal septum will be straightened considerably by broadening the arch of the upper jaw, and as this broadening relieves the pressure so proper nutrition is encouraged, and Nature is allowed to exert her influence toward a development, not only of the septum, but of all the sinuses, which become freer and more nearly normal. As this gives better respiration, the lungs themselves become enlarged, the strength of the patient increased, and the dignity of expression, which comes with distinct speech, good articulation and resonance of voice follows as a matter of course. I will try to exhibit a few specimens of these results as I close.

I am aware of the objections raised to these views, especially on the part of those who say that, having been brought up to extract teeth, both for children and adults for the correction of certain irregularities, they cannot see why patients should be allowed to seem "all teeth" when the extraction of a few of the seemingly superabundant ones would so easily correct the difficulty. It is evident that those who make this claim cannot have considered with sufficient care the processes of growth and the results of a little easily-obtained expansion in the regions under discussion.

At birth the ethmoid bone is small, very incomplete, and imperfectly ossified. The hard palate at the height of the arch is above the Eustachian tube. In the adult the hard palate is below this tube; consequently, as Dr. Swain, Professor of Otology and Laryngology, Yale University, has correctly observed in one of his papers:

> the palate has grown away from the base of the skull. What has accomplished this? It has been the downward growth of the superior maxillary bone, the septum and the pterygoid processes of the sphenoid, so that in a certain sense of the word the palate of a young child is supposed to grow down instead of up. It is safe to assume, therefore, that this downward growth is an extremely important process in our present consideration, and it may be looked upon as a part of the normal growth of the superior maxillary bone.

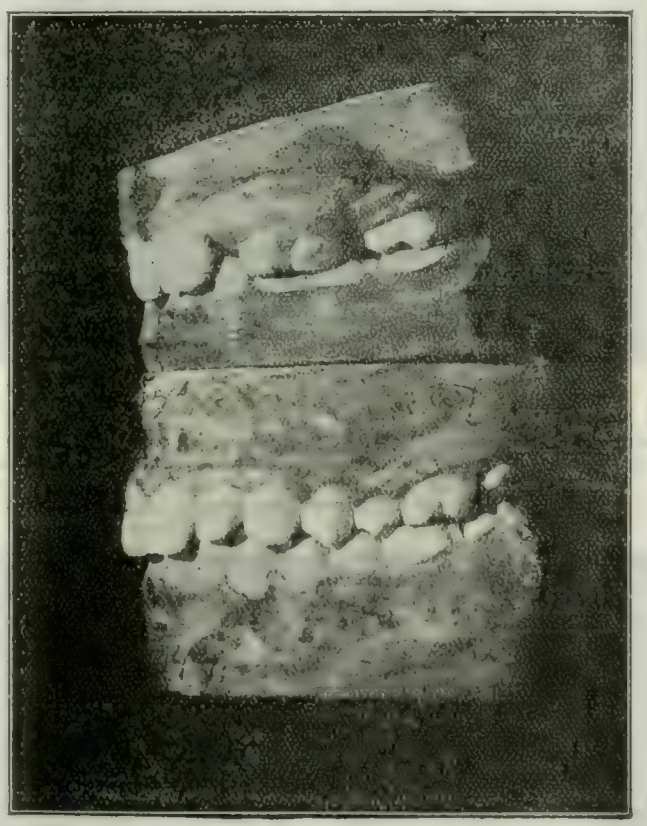


Fig. 5.

Now it happens that the sutures of most of the bones of the head and face do not solidify until adult life, some of them not until middle life; they are, therefore, during all this time subject to change, and if expansion of irregular dental arches is accomplished previous to solidification, it is almost always the case that, stimulated by the removal of undue repression of the parts seeking development, renewal of growth will take place, and one or two years is quite sufficient time for the changes of such growth to produce a nobler countenance out of a most unpromising one. These changes can be best noticed by photographs taken before and after the operations, by models of the teeth made at the same time as the photographs, and, if the operator so wills, by plaster casts of the face, which are easily made, and are unimpeachable witnesses as to what occurs.

I have been working along these lines for about five years, aiming to correct irregularities in the positions of the teeth as early as I could get control of them, and that is often from the sixth or seventh year, the very climacteric in the child's life when growth begins to manifest itself most strenuously. The results, not only in my own hands, but in those of my son, and one of my former pupils, Dr. Kelsey of Baltimore, and in a few cases in the hands of other practitioners, have gone far to convince me not only of the soundness of my position, but of the soundness of the hypothesis upon which I have worked.

I find by an examination of many hundreds of aboriginal skulls, in the development of which Nature has been free to work her will without the assistance of man, and where the so-called accidents of development occurred as they do with us civilized races, though probably not with the same frequency, that in all those cases where irregularities in the development and positions of the upper teeth exist there are also irregularities, more or less strongly marked in the development of the maxillae and the palate bones, and seemingly in the vomer, the sphenoid and ethmoid as well, and that the nasal septum particularly is sure to be crooked and the turbinated bones so excessively curved as to materially interfere with the proper openings of the nasal meatus. And when I say irregularities of the upper teeth I am not forgetting that

the upper jaw with its teeth is dependent upon the lower for correctness of position.

Per contra, by just so much as the permanent teeth are regular in their development, and are regularly placed in their arches, all the sinuses of the maxillae and facial bones are better developed, the nasal septum becomes straighter, the turbinated bones less obstructive, the sphenoid and ethmoid larger proportionately to the size of the skull, and the facial bones occupy positions that add the dignity of strength to the individual.

Fig. 5 is an illustration taken from J. H., 8 years old. The upper model shows the condition on May 6th, 1900: the lower that in May, 1902. The fixtures remained on for two years from the time they were placed. The actual time occupied in moving the various irregularly-placed teeth into their present positions was sixty days interspersed in different periods during those two years. There was absolutely no pain. Adenoids were removed in this case prior to the enlargement of the arch. There was no recurrence of that tissue. The face and nose both show the enlargement, and the teeth retain their normal positions; breathing normal, general development rapid.

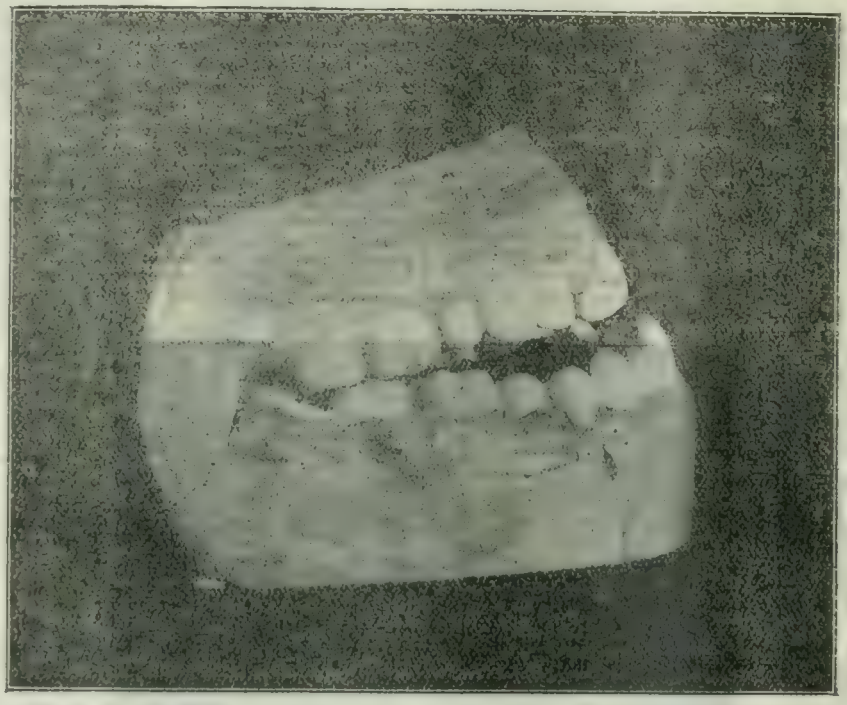


Fig. 6.

Figs. 6, 7, and 8 are taken from a young man, aged 25, a patient of Dr. Kelsey of Baltimore. The fixtures were placed in May, 1904; Fig. 7 shows the same mouth in May, 1905; and Fig. 8 the same mouth before treatment and after. The two upper arches are placed side by side for comparison.

Upon asking the patient whether he could breathe any better than before the operation, his reply was: "Breathe! I never could breathe before, but now I breathe with perfect ease."

Another case was that of a boy, aged 10 years, a patient of Dr. J. G. Palmer of New York. He was a stooping, round-shouldered, mouth-breathing, delicate boy, whose very walk betokened his feebleness. The applications of apparatus for regulating have been irregular—on and off almost at the will of the patient—but the final illustration shows the stage which the boy had reached when 14 years of age, at which time he had nearly lost his stooping shoulders, entirely quit mouth breathing, strengthened and developed in a remarkable degree, and, I am told, is now willing to wear an apparatus continually. No thought of improving his breathing and of his general health was entertained when the enlargement of the arch was undertaken.

Do not understand that the single phase that I have to-day presented is any more than one phase in conditions that have taxed the intelligence and the patience of both rhinologists and dentists to the last degree, but if my *confrères* may be helped over some few of their perplexities by a recognition of their causes and a prompt and early application of the simple mechanical apparatus necessary to correct these deformities, I shall be very glad to have been the instrument through which such a presentation has been made.

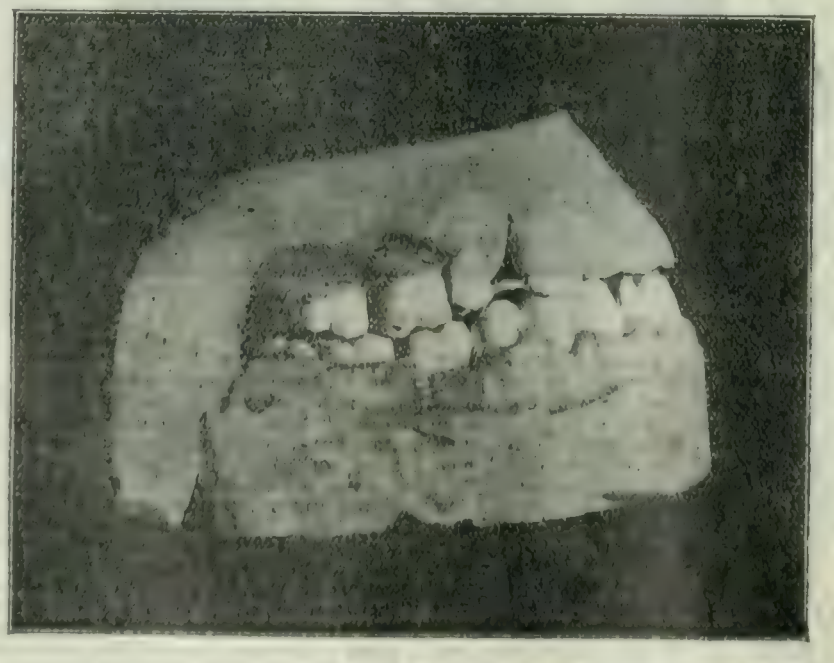


Fig. 7.

Four days after mailing this essay to the Committee, I noticed in the *Dental Cosmos* for May, 1905, a paper by Hofzahnarzt W. Pfaff, of Dresden, Germany, entitled Stenosis of the Nasal Cavity, caused by Contraction of the Palate, and Abnormal Position of the Teeth: Treatment by Expansion of the Maxilla, that had been read at the St. Louis Congress, while I was ill in the hospital, and is along almost precisely the same lines as my paper.

I take pleasure in calling your attention to this paper as strongly confirming the views just presented for your consideration.

As the two papers were the results of two persons, the one in Germany, the other in America, working unknown to each other on the same subject, the results are worthy of note, and while both papers are far from being exhaustive, they at least indicate a subject for future investigation.

Mr. E. LLOYD-WILLIAMS was sure that he only expressed the sense of the Section by thanking Dr. Bogue very heartily for visiting the meeting, for however much he disagreed with



Fig. 3.

the non-extraction and expanding method of treating all irregularities, he always felt that one should listen carefully to what Dr. Bogue said, as he (Mr. Lloyd-Williams) had had the privilege of seeing models of his cases, and he was aware of the careful and scientific way in which he went to work. Expansion had been freely tried in our practices, and had not proved successful.

Mr. J. F. Colyer (London) said Dr. Bogue placed too much stress on the influence of teeth in the development of the jaws and adjacent bones. Indeed he rather led him to believe that the teeth played the major part in that development. The speaker thought Dr. Bogue lost sight of deeper causes, and his own feeling was that the development of the nasal fossa, etc., influenced the arrangement of the tooth rather than vice versa. Dr. Bogue lost sight of influence of muscles, etc. They must appreciate this, because it naturally influenced treatment. In many cases the treatment rested with restoration of nasal function, development of mastication, etc. Dr. Bogue would think that broadening arch affected the nasal septum, but the act of broadening was simply to spread the arch, and therefore influenced in but a slight degree the development of the jaw. Dr. Bogue asked it they had considered the value of expansion. They had found that permanent results were not possible. The jaw grew backwards, and therefore had but little influence whenever the teeth were in position in producing an increase in the size of the arch.

Mr. J. H. Mummery said he would like to ask Dr. Bogue a question with regard to the two skulls shown side by side on the screen. The two skulls appeared to be of totally different types—one seeming to be a brachycephalic broad type of skull and the other to be a dolichocephalic skull. The jaw in each case struck the speaker as normal in relation to the particular form of skull, and he would like to ask Dr. Bogue if Dr. Bonwill's equilateral triangle measurement was applicable to these long-headed skulls.

Mr. J. G. Turner thought the crux of the paper was that as an accessory cause, or as sole cause in some cases, the forward movement of the first permanent molars following early loss of temporary teeth, produced bunching of the permanent teeth, or superior protrusion, and induced suppression of growth. This would produce an irregular eruption—teeth, as it were, dotted about in more or less relation to their proper eruptive positions. How could the deformed but regular dental arch of superior protrusion, and bunching of the teeth, be due to this one cause? Dr. Bogue expressly wished to exclude adenoids, while recognizing their effects. But the speaker thought he had not been careful enough to indicate which of his cases were subjects of adenoids, which not, and which operated on. The young man who breathed might have been a case of atrophied adenoids. The last quoted case was certainly one of adenoids. Mr. Turner asked whether forward movement of the first molars into a position which admittedly was normally occupied by teeth (the bicuspids) really narrowed the dental arch; whether the induced crowding and resistance to eruption really reacted unfavourably on the growth of the bone, and if so why extraction should not be followed by all the results claimed for expansion, and how he deduced that the want of growth of the nose and facial bones was sequent on this. How would he show that the relief of this repression by expansion apparatus actually induced or stimulated fresh growth. Did Dr. Bogue think it possible, as Mr. Turner was inclined to think, that by use of an expansion apparatus during the growing period the bones could be drawn apart at the sutures and growth at these parts stimulated? Dr. Bogue's idea that the obstruction by the crowded teeth might delay growth suggested that in ordinary adenoid cases the lateral pressure of the cheeks and lips might have an actual repressent action on growth—a point of distinct importance.

Dr. Bogue, who was in very indifferent health, briefly replied.

VEGETARIANISM AND ITS EFFECTS UPON THE TEETH.

By James F. Rymer, M.R.C.S., etc.,
Brighton.

With the advance of civilization our food in this country has probably undergone a more radical change than that in any other. Let us visit any general store in a country village, and we find the whole shop filled with provisions of all sorts from foreign lands, which fifty years ago would have been impossible. Towns and villages less than a century ago supplied only the simple products which were cultivated in season upon our own lands. All this is important for us to bear in mind, and the changed conditions give us a great variety of food other than meat. I must here pause and point out how wrong our accepted dietary system seems to appear.

Quite recently a most valuable work has been brought out by Professor Russell H. Chittenden, of Yale University, entitled *Physiological Economy in Nutrition*, published by William Heinemann, 1905. It is a work containing some most startling facts, which will probably in the near future upset all the present ideas in regard to dietary, etc. In a short paper like this it is only possible for me to most briefly point out one or two matters from this work which should concern us as dentists, namely, his two great experiments with athletes, the first, a body of gymnasts from the Hospital Corps Detachment, United States Army, Newhaven. These men had been in the habit of enjoying large meals of meat, etc., as it was thought that this was necessary, owing to their active exertions, and the large amount of nitrogen and uric acid secreted in a day was thought to be due to muscular wear; all this Professor Chittenden has proved to be wrong, the large amount of nitrogen, etc., being due to the large amount of food taken. His experiments and elaborate tables of dietary, which at first sight are almost of a starvation character, have proved absolutely sufficient to not only keep the general health in good order, but also the muscles firm and strong, with a normal quantity of nitrogen, etc., secreted according to the food taken. These experiments lasted from October 2nd, 1903, to April 4th, 1904. The men were most successful in the competitions in the "World's Fair" in July, 1904.

The second series of experiments was with athletes from Yale University, of the same character, with equally good results. The diet tables are elaborate for each case. I give, for example, food for one day: Griddle cakes, bananas, cream, sugar, rice croquette, bread, apple sauce, fried potatoes, coffee, vegetable soup, macaroni, beans, potatoes—all these in small quantities.

In conclusion, he states, from an economic and sociological standpoint, we learn that hitherto we have allowed far too much albuminous or proteid food to be taken. But perfect mastication is necessary in order to obtain these results. This is most important for the poor; but the education as to proper food must be started early in life—that is, before the

palate has become used to luxuries and large quantities—our health would be better, the digestive organ would not be overworked and cause disease. He states that one half of the 118 grams of proteid food considered at the present day a proper standard, would be found sufficient.

If it is proved that these experiments are absolutely correct, it then follows that the teeth of man have been given twice the amount of work for which they were formed. Little wonder, therefore, that man's teeth are not in as satisfactory condition as they should be. Dr. Newsholme, the Medical Officer of Health for Brighton (who may be also considered an authority upon dietary), in his work on *Hygiene and Public Health*, states his chief reasons for advocating the use of animal food is one of greater convenience—namely, less bulk of food is necessary; but in a conversation with him recently he said that after Professor Chittenden's researches his own views would probably be considerably modified. I quote a passage from his book:

Under the ordinary conditions of town life there is considerable danger of indulging in an excess of nitrogenous food, and vegetarians may therefore do good by showing that meat is not absolutely necessary, and can often with advantage be largely replaced by vegetable food. If we include milk, cheese, and eggs, the objections to it partially disappear; and it would be well if it were much more widely known, especially among the poor, that on these, together with vegetables, health can be maintained with the addition of meat or no meat.

Vegetarianism! What is it? In my endeavour to try to enlighten myself and others I have been much struck by the paucity of literature bearing upon it, and what works there are must be termed antiquated, somewhat unscientific, and written with strong bias. The latter characteristic alone renders them unreliable. I will here quote briefly a few of the reasons given by the real advocates of vegetarianism.

Professor William Newman, in his work on *Fruits and Farinacea*, says: "The teeth of man cannot have been formed for flesh food," and he gives his reasons. With regard to the salivary glands, he says: "In man they are large; in fish entirely absent, and in amphibious mammalia nearly so; whilst in the carnivora they are very small." So, he says, this is another proof. Certainly these facts are worth noting. Again, with regard to the perspiratory glands, man has them in abundance, as well as herbivora. They are absent in carnivora, for meat produces but a small amount of animal heat, so they are not required.

Thomas Bell, in his work on *Anatomy*, also came to the conclusion that the teeth of man were formed for a frugivorous diet only.

Sir George Baker advocated a strict vegetable diet in all diseases of a gouty origin, and gave a practical demonstration. For the purposes of this experiment two subjects were chosen, A. and B. A. was to live for some weeks on a vegetable diet, while B. was to have a full meat diet. A. had scarcely a trace of uric acid in his urine, B. had a quantity. They changed places. B. was now free from uric acid, whilst A. had a quantity.

H. S. Salt advocates vegetarianism for reasons of morality. He finds that vegetarians neither want to smoke nor take alcoholic drinks. It is economical also, while others practise it for what is termed the higher life. They say their minds and thoughts are purer, etc. Others have a horror of the idea of a beast being sacrificed to appease their hunger. A few, and a very few, are compelled to become temporary vegetarians for a time at any rate, owing to the "doctor's orders"—these we will not consider. Lastly, there are some who are vegetarians for the reason, and the most important of all, that of "economy."

Undoubtedly this subject will come to the front, and very shortly, for we know that the future head master of England's greatest school is a strict disciple of a frugivorous diet system. And we, as dentists, are certain to be asked by the scholars' parents what effect such a diet will have upon their children's teeth. It behoves us, therefore, to find out all that we possibly can upon this matter.

There is something more important than this, namely, "The Education Question." We are constantly being reminded that the children in the very poor schools of England cannot make progress, owing to malnutrition, defective teeth, and the like; so dentists will be called upon to remedy this great defect, if it is in their power. Here, again, vegetarianism may be the means of solving this most difficult problem. We know for a fact that the teeth of the "masses of the poor" are in a deplorable condition. The chief reason for this is that the mother during pregnancy, at the time when the "foundations" are being laid for the offspring, has either insufficient material or material of the wrong kind. Being poor, meat is out of the question, so alcohol is substituted, whereas if we could preach the doctrine of a cheap vegetarian diet, containing all the necessary elements to build up strong tissue, we should have children born who would bring forth good teeth. Then when the children attend school from an early age the education authorities, where poverty is proved to exist, should be compelled to give one nourishing meal a day to those requiring it. From the Manchester Vegetarian Lectures I extract the following:

A nutritious, palatable vegetarian meal of soup, consisting of pearl barley, peas, wheat bread, with suitable flavouring, can be provided for 12,000 children at a cost of two guineas, which works out at a fraction over one twenty-third part of one penny per head.

But this, I should say, is too low an estimate. I cannot do better than give a few examples of suitable diet for the poor, which are so ably demonstrated by Dr. James Niven, Medical Officer of Health for Manchester, in his lecture delivered at the Victoria University, Manchester, on February 10th, 1904; but you must remember that this lecture was given before Professor Chittenden's discoveries, so probably Dr. Niven's views, like Dr. Newsholme's, may be considerably modified, and he would be content with half the quantities I am about to give you. He says:

It is essential in particular that the poorer classes should be more acquainted with the value of the cheaper sources of proteid, such as herring, the pulses, oatmeal, flour; how to cook them, and to what extent they can afford to use meats.

The present accepted diet, by Atwater, for a working man is as follows:

Proteid, 125 grams; fat, 125 grams; carbohydrates, 450 grams.

Dr. Niven gives the following. I quote one example only, which is a normal one, for a hard-working man:

Article.	Price.	Proteid.	Fat.	Carbohydrates.
4 herrings	2d.	104.25	39 24	
Bread, 1 lb.	1d.	29.75	—	232 25
Margarine, 4 oz. ..	1d.	—	101 00	
Sugar, 4 oz.	½d.	—	—	96.00
Potatoes, 1 lb.	½d.	5.40	—	15.50
Tea (luxury)	½d.	—	—	
Flour, 3 oz.	½d.	8.40	—	59.31
Total	5½d.	147.81	140.24	473.46

You will see how admirably this diet works out with Atwater's system; for a child half the quantity would suffice, and if we accept Professor Chittenden's conclusions, half this again would be sufficient; so we arrive at the interesting fact that a child can be well fed for the sum of, say, 1½d. a day.

It is important for us to bear in mind, and make it widely known amongst the poor, the great value of the herring. It is cheap, and the most nourishing of all fish.

Having said so much concerning the poor, the rich (or those who devote their lives to society and pleasure, and live a somewhat artificial existence) deserve also caution as to their mode of living, especially during the pregnant period, and they should be instructed how to have their infants fed. Much ignorance exists to-day amongst the upper classes as to the food values. I need not detain you with the middle classes, for their lives, as a rule, are the most natural. If something in the nature of this advice could be adopted, the children would obtain all that is necessary to form good teeth and bones. We should also have fewer eligible army recruits rejected owing solely to faulty teeth.

Let us now pass on to further consider vegetarianism. For the sake of convenience I shall place it under two classes, namely:

A. Strict vegetarians, who only take a frugivorous diet, eggs, milk and cheese (under A, as a subdivision may be included those who even refuse to allow eggs, milk and cheese, to form part of their diet.)

B. Those who abstain from flesh food of all sort, but allow fish.

Let us consider the latter, class B, first. For some years I have been dental surgeon to a large private community of men, numbering some two hundred. This is the only branch of the community in this country; other branches are scattered all over the world. They live in their own secluded grounds. Members of this Order join chiefly when young men; their rules are severe. The Order has been established and carried on without a break for 993 years. The only rule which concerns us is that relating to their diet. Under no circumstances do they ever taste animal food; but they are

allowed fish, vegetables, fruit, milk, eggs, cheese, and a small fixed amount of alcoholic beverages. We find here a healthy body of men, whose lives are devoted to study and literary works, with a certain amount of time for manual occupations and exercise. It is true that, by the rules of the Order, a most regular life is led. On the other hand they are cheerful, with active brains. Disease and illness are the exception, and from statistics which have been furnished me, I find that the average age they attain is 78 years. I should mention that before anybody can be admitted as a member of this Order, a strict medical examination has to be undergone. We must remember that fact.

Many of the inmates have from time to time been under my care, and I can without hesitation say that the dental profession would not have required so many members if as little attention were necessary as is found in this establishment. Ordinary dental caries is a rarity, and this, I think, goes to prove that meat tissues which lodge between the teeth are responsible for interstitial caries due to decomposition. The same applies to fish, but it is not necessary to masticate fish in the same way as meat, so there is not the liability for it to be forced between the teeth. Another cause for this happy result would be due to the large amount of stale bread which is taken. One result of this special diet is worthy of your notice. In numerous instances I have noticed that the whole of the teeth are ground down. In some cases the cusps have disappeared entirely. This should go a long way to prove that the teeth of man were originally formed for a mixed diet.

Instead of caries, I have noticed a slight general chronic periostitis, especially in those over 50, but even in younger men. It is not sufficient to produce actual pain, but enough to cause the teeth to loosen, so a considerable number work out and have to be restored by means of dentures; this is not what we term pyorrhoea alveolaris.

My experience with strict vegetarians, under class A and its subdivision, is somewhat limited. It is, for many reasons, hard to follow up these cases. Many start the practice late in life, when their systems do not require much nourishment, so these are useless for test purposes. Others "try it" vigorously for a short period, then give it up; a few will persist and become strict vegetarians, although they are totally unfitted for this special diet. These may be termed "faddists." One case in particular I was able to keep under observation for some years. It was that of a gentleman reduced to the verge of starvation, thin and anaemic. His teeth, although not worn, were all loose and useless. I strongly advised him to give up this diet, or else his mind and body would speedily give out. He promised to do so, but instead he gave me up.

I heard subsequently that he had become imbecile. Here was a case for "rump steak," etc. I mention this because, although we are practising dentistry, it is our duty at the same time to point out any error of judgement; whether it be wrong diet, alcohol or smoking, we must, I think, point out the cause, though we may lose a patient through doing what is right. The case I have quoted proves, I think, that strict vegetarianism is not suitable for all.

We are justified in arriving at the following conclusions:

That vegetarianism is not harmful to the teeth, but if adopted, either from choice, economy, or by medical advice, we as dentists should insist that crusts and stale bread should be used to compensate for the absence of the exercise of breaking-up "meat fibre," etc.

The following sections of the public should be urged to use a plentiful supply of vegetable food:

The poor women in the slums who are about to become mothers. We know from experience that they are badly nourished, and, as before stated, spend what little they have on alcohol at the expense of proper nutriment, often, no doubt, through ignorance. Meat (good meat) is out of the question owing to the expense, so for the sake of the offspring's teeth it is our duty to educate these poor human beings as to what they should eat.

The poor children attending our public schools should be provided with a substantial vegetable meal, so that their teeth may be provided with the proper salts, etc.

Many come to us in private practice, martyrs to "neuralgia." We inspect their teeth and find them sound. This so-called "neuralgia" is often chronic migraine, due to uric acid circulating in the brain. This can be much ameliorated by our advising our patients to abstain entirely, or almost entirely, from meat diet, especially beef. It is wonderful what relief is thus given.

Meat diet is not advisable for those with a gouty diathesis. We are all aware how the membranes surrounding the teeth are affected in gouty subjects. So here we should use our influence with our patients.

I have purposely omitted giving many tables of the different vegetables, cereals, etc., and their relative food values, as they alone would have occupied the whole time allotted to me. There is much, without doubt, that I have left out; but the subject is one of such grave importance, considering the present condition of the teeth of our poorer brethren, that if, after discussing this matter, we are able to formulate a cheap, acceptable, nutritious diet, and urge the necessity of proper mastication, which could reach the slums in our cities, by means of circulars sent to the various Boards of Guardians and heads of public institutions, our time will have been well spent. We should have started at the very foundation of dental defects and diseases, and not wait for them to first appear; we shall then, to a large extent, prevent caries; and when it does occur, it will be less frequent and severe, and easier to arrest.

Lastly, we are all aware that in many countries, such as Japan, China, etc., practically no meat has ever been consumed, rice being the chief article of food; by recent events we know that neither mind nor body suffers. A medical gentleman who has lately returned from Japan, after many years' practice in that country, assures me that the general health, including the teeth, is extremely good.

AN OBSCURE CASE OF ALVEOLAR ABSCESS.

By F. Lawson Dodd, M.R.C.S.,
London.

In January, 1895, a lady, aged 42, complained of toothache from a carious right lower first molar. She saw a dentist, who filled a large cavity. As the tooth still remained uncomfortable after treatment she again consulted the dentist, who saw no reason for interference. There was a sensation of the tooth being "too full." Later a small swelling appeared under the jaw, neither hard nor red. This persisted, though sometimes getting smaller, until a small opening appeared, through which there oozed a thin, watery discharge. This went on for some months, until one day what seemed a mucous cast of a small sinus about three-quarters of an inch long came away, and the patient saw a medical man about it. The patient was then (July, 1896) advised to see a dentist. This she failed to do, as her dentist happened to be away at the time, and she would not see the assistant. She then went to a hospital to see a surgeon. By this time granulations had appeared around the opening, and these were removed in order that the abscess might drain more freely.

The patient at this time (September, 1896) looked pale and thin, and was advised to return to the hospital after her holiday. On her return the sinus was scraped under an anaesthetic, and the patient returned home feeling ill. Three days after the wound was dressed with gauze and collodion. The fifth day from the operation the patient complained of irritation, and at night the throat was sore and covered with white spots. The temperature was 103°. After a restless night patches of erythema appeared on the legs, and a rash on the body. She was again seen by the surgeon in consultation. There was a cough, with expectoration; a bright red rash with slightly raised and irregular spots. Severe irritation accompanied each fresh crop. On the ninth day after the operation she was seen by a second physician. She was then very ill, with a temperature of 105°. The lips, eyelids, and nose were blistered and swollen. Different kinds of spots, more like pemphigus, were mixed with the others, some of them suppurating later. Towards the end of the second week there was severe diarrhoea and exhaustion, and later a swelling on the left side of the abdomen had to be opened (October 11th, 1896).

While in bed another small opening occurred at the side of the former swelling under the jaw, near the part that had been scraped, and which had quite healed. In November this was again scraped under an anaesthetic, but it did not heal. In January, 1897, a further scraping was intended, but the patient drew attention to a right lower molar which had a filling in it, with the result that she was sent to consult me.

On July 15th, 1897, I first saw the patient. She appeared ill, and could only walk with difficulty. There was a sinus on the right side of the neck leading up to the lower border of the mandible. The opening of the sinus was about 2 in. below the lower border of the horizontal ramus. There was no tenderness, swelling, or pain. A few granulations were noticeable round the opening.

On examination within the mouth there was a right first molar containing a moderate-sized amalgam filling in the crown. There was no thickening, papilla, or swelling traceable. There was no physical sign that this tooth was connected in any way with the sinus. I decided to remove the filling (although apparently sound), and on doing so found the pulp chamber filled with a fetid gelatinous material stained to an inky blackness. Having removed as much as possible, after syringing out the cavity I left it for two days.

On July 17th I again syringed out the cavity and pulp chamber. After this the nozzle of the syringe was inserted into the cavity, and the space around packed with gutta percha. Water was then forcibly injected into the tooth. After two or three attempts drops of water carrying some small fragments of the black jelly-like substance oozed out of the opening of the sinus.

On July 19th I extracted the tooth, and within two days the sinus had closed up, and the opening presented the appearance of a dimple. The rapidity of the healing process was most striking.

Subsequently I noticed in treating other teeth the great tendency to suppuration.

REMARKS.

The importance of careful examination of all teeth in such cases, and the precautionary removal of even small fillings.

The danger of infection through a layer of dentine, or from a pulp sealed up under conditions which favour the development of virulent anaërobic or facultative-anaërobic organisms.

The frequent inverse relationship between the seriousness of the local symptoms and the general constitutional effects.

The importance of always bearing in mind the possibility of widespread constitutional results from apparently small dental causes.

NOTE.—The illness which occurred after the first scraping was in no way connected with the operation, which was carried out under the most careful aseptic conditions. The infection in the course of this illness must have been due to one of the following causes: (1) From the ether inhaler, or the vaseline with which the face was smeared: (2) the infectious material afterwards found stored up in the pulp chamber of the implicated tooth. The patient suffered from defective sight for many years, but she says that this grew "distinctly worse" after the illness.

AN UNUSUAL CASE OF NECROSIS OF JAW IN A CHILD.

By ASTLEY CLARKE, M.D.,
Physician and Radiographer, Leicester Infirmary.

AN unusual case of necrosis of the jaw which I wish to bring before you for discussion is that of a little girl, aged 2½, who began her illness last September. She had previously never had any illness, and was a well-nourished healthy little girl. She had been staying in the country for two months during the summer, and, apart from a "blister" on the left heel, which had been a long while healing, had been perfectly well. Special care had been taken of her; with regard to drinking water it had all been boiled, and the soft water in which she had her daily bath, which was noticed to be darkish and rather smelling, was always boiled.

In September she was ailing, with slight pain in the back part of the left lower jaw. There was no redness or swelling present. The temperature was normal.

This condition continued for two or three weeks, the tongue getting more thickly covered with fur, and the gums gradually getting more inflamed. On October 20th the lower central incisors were loose, and in a few days were shed, and then rapidly the disease progressed, and a secondary broncho-pneumonia was set up early in November. The temperature was never higher than 101°. The child was extremely ill.

Antistreptococcic serum was injected by the rectum on several occasions, as it was thought that puncturing the skin in this septic condition might set up abscess. This proceeding was followed by improvement in the general symptoms.

During November all the teeth of the lower jaw and three necrosed fragments of the lower alveolus were cast off, and also two upper teeth. The tiny specks of the second teeth were also shed from the lower jaw in three or four places.

The child gradually improved, but the lower jaw shows still some dead bone protruding, and the lungs are now not clear at the bases, but the child is running about and happy. During the whole of the illness great care and attention was devoted to local mouth washes of mild antiseptics.

I bring this case forward as a peg for many points of discussion, on which I venture to ask your opinion. Cases of cancrum oris, gingivitis, and even necrosis are by no means very uncommon after specific fevers, and likewise of course following poisoning by phosphorus, but what I may call an idiopathic necrosis is fortunately rare.

In order to focus remarks may I ask your views on:

1. Cause. In this case it seemed possible that the sore on the heel might have been infected by the foul-smelling soft water in the bath.
2. Frequency of such cases.
3. If a case were sufficiently early recognised would free incision of the gum be the best treatment?
4. Value of antistreptococcic serum, especially per rectum.
5. The question as to early removal of loose teeth. Is it desirable?
6. Prognosis, especially with reference to second dentition.
7. The age at which artificial teeth or other apparatus for correction of deformity of the jaw might be employed.

Mr. H. A. T. FAIRBANK said: I should be inclined to agree with Dr. Clarke as to the cause of this necrosis being infection through the sore on the heel. Necrosis of the jaw due to infection through the blood is not so uncommon as is usually supposed. As to incisions, one has to decide whether the necrosis involves the alveolar portion of the jaw or the body of the jaw. If the alveolus alone is involved external incisions are not necessary. If the body of the jaw is involved external incisions are necessary, and should be made early in the case. Drainage is the aim of the treatment, and the body of the jaw cannot be drained into the mouth. In a series of over 50 cases in children of necrosis of the lower jaw, excluding a few mild alveolar cases, every case had eventually to be incised through the skin. Incisions should be made early, therefore, when the body of the jaw is involved, in the hope of limiting the extent of the necrosis. This case being confined to the alveolus should, I think, have been incised through the gums: the general condition of the child seemed to indicate early incision in this case. As to removal of loose teeth in these cases, when in doubt such teeth should certainly be removed.

Mr. E. LLOYD-WILLIAMS was glad to have listened to the record given of this case as he had one under his care at the present time of a similar character but confined to the left side of the mandible. The child, a little girl aged 5 years, had been ill for about a year. The local symptoms had been treated by free incision, when pus was present, the removal of all loose teeth, and healthy conditions of life in the country. He depended largely, however, upon treatment which had not been mentioned, namely, antiseptic mouth washes. It was generally supposed that the mouth could not be disinfected, but he had believed thoroughly in combating the septic condition present.

Mr. J. G. TURNER thought that local infection was a possibility from the sponge or some other unboiled accessory of the bath. The character of the sequestra seemed to show that the jaw was meeting a local attack; there was an equal layer of dead bone over the roots of two permanent molar teeth thrown off, as if the local attack had spread up the socket and been repelled always at the same depth. He had seen a case of acute ulcerative stomatitis in a child in which all the teeth were lost, with abundant suppuration, including the first permanent molars; and if a layer of bone had been added over the roots of these the case would have been on all-fours with Dr. Clarke's. As to treatment, local incision would be desirable, but in an infected cavity a wound might be more dangerous than the provision of drainage, as the result of extraction in this case showed. He would be inclined to rely on a good nurse and swabs.

CONGRESS OF FRENCH ALIENISTS AND NEUROLOGISTS.—At the Congress of French Alienists and Neurologists recently held at Rennes, it was agreed that the meeting in 1906 should take place at Lille. Professor Grasset was elected President. The subjects proposed for discussion are: (1) Cytological, bacteriological, and experimental study of the blood in the insane (reporter, M. Dide); (2) the senile brain (reporter, M. Léri); and the responsibility of hysterical persons (reporter, M. Anthenume).

ITALIAN SURGICAL CONGRESS.—Under the auspices of the Italian Surgical Society, a Congress of Italian Surgeons will be held at Pisa this autumn under the Presidency of Professor Antonio Ceci. The opening meeting will take place on October 29th. On the occasion of the Congress a magnificent new clinic will be opened in the University of Pisa.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, Etc.

THE RATIONAL TREATMENT OF CAPILLARY HAEMOPTYSIS IN PHTHISIS.

"The anatomical condition in haemoptysis," says Professor William Osler,[1] "is either hyperaemia of the bronchial mucosa (or of the lung tissue) or a perforated artery." I desire to expound what I believe to be the master-principle which should govern the treatment of the former of these conditions—where the haemorrhage is capillary in origin and slight in character.

Many times has it happened that a patient of mine has expectorated a drachm, or half a drachm of blood on waking in the morning. I used to follow a procedure, warranted, indeed, by some books and teachers (for example, Dr. Osler), but not very successful, nor, I think, sufficiently well considered. I kept my patient quiet in bed, and gave tincture of hamamelis by the drachm, or liquid extract of ergot by the scruple; I also made the bowels move freely, and tried to quiet the cough at night by morphine lozenges. During the day the haemoptysis usually lessened or disappeared, but next morning it was usually as bad as at first; and the like happened during many days, no progress being observable. Somehow, I knew not why, the haemoptysis at last would cease, the patient would get up, and go about as before. This tidal movement of the patient's condition, according to which the improvement gained during the day would be lost during the night, gave me matter for reflection, and I searched for some point of difference between the daily and the nightly circumstances of the patient, on which point that fluctuation might depend. Soon I came to believe that the point of difference most relevant to the matter in hand was the fact that during the day the patient's head and shoulders were considerably raised, especially so at meal times; while during the night the whole of the body lay supine, the head alone being slightly raised. Was I really, during the daytime, by merely propping up the head and shoulders, effectively bleeding, as it were, the thorax into the abdomen and legs, and thus (according to the principle of a hydraulic fall) sufficiently relieving the congestion of the "bronchial mucosa or lung tissue"? And, if so, why should I not achieve success by merely maintaining during the night the posture which was so profitable to the patient during the day?

Next, I searched all the textbooks I could get, in hopes of finding the treatment of slight pulmonary haemoptysis sufficiently well expounded. But, to my surprise, many of the best textbooks are silent concerning the posture of the patient; many very curtly recommend what they call the "semi-recumbent position"; one, with more lucidity, recommends what he calls the "semi-sitting" position, which evidently means that the trunk of the bed-patient must be inclined at an angle of 45 degrees above the horizontal plane; one recommends the supine position, which, in my opinion, is the position most favourable to hypostatic congestion and consequent haemorrhage of the lung tissue. I venture to think that the best lines I found were those written by Dr. Montague Murray in the article on Haemorrhage contributed to the third edition of *Quain's Dictionary of Medicine*: "The patient must be kept absolutely still in bed, with the shoulders well raised, and the body efficiently and comfortably supported."

Then I remembered how, in the course of a three years' experience of workhouse infirmary practice, I had, by raising the head and shoulders, and thus, with the help of gravitation, bleeding the thorax into the abdomen and legs—brought back from mortal danger dozens of aged men and women, whom I had found supine fighting for their lives against hypostatic congestion of the bases of the lungs. I remembered also a surgeon once telling me how distressed he was at the frequency with which his elderly patients, lying in bed for a few days after a seemingly successful minor operation, got hypostatic pneumonia and died.

Again, Professor Osler says soon after the words above quoted: "Even when the patient insists upon going about, the bleeding may stop spontaneously." A candid admission, which strongly hints that it is better for the patient to be upright even with activity than supine even with rest. Small wonder, I thought, that some patients, greatly daring, forsook their beds and walked and were healed.

[1] *Principles and Practice of Medicine*, Second edition, p. 543.

Thus, altogether, in view of my experience and information concerning hypostatic congestion of the lungs, I came to feel fairly sure that, in cases where there was pulmonary hyperaemia as evidenced by haemoptysis, the supine attitude was a strongly predisposing cause of the blood-spitting, and that this fact was the key to a rational and successful treatment.

Accordingly, when next confronted with a case of morning hyperaemic haemoptysis, I made my theory the basis of my practice. With the help of a bed-rest padded with stout pillows, I so propped my patient that as he lay in bed the axis of the trunk and head made an angle of between 30 and 45 degrees with the horizontal plane. In this position the patient remained throughout the day and the night; next morning there was no haemoptysis; there was only a tinge of that characteristic colour which is derived from the remains of the stale and altered blood that had oozed out the previous day. The haemoptysis had been cured, and, when it had been absent for two days, I considered that the blood vessels were fairly well sealed, and let my patient gradually resume his previous pursuits. As he had, a little while before, suffered for seven weeks great anxiety on account of his intractable morning haemoptysis, he firmly believed that I had this time saved him from a good deal of trouble.

Ever since that case I have made it a matter of routine, in attacking the morning haemoptysis of phthisis, to treat hypostatic congestion as the root of the evil. I still try to quiet the cough, I still keep the bowels moving; but I have renounced hamamelis and ergot, and now rely on what seems to me to be the far more rational and effectual method—of altering the patient's position from the supine to the semi-sitting by day and by night; and I feel confident that if this theory, and the practice of it, receives the favourable attention of my fellow-practitioners, many patients will have much less distress, and many doctors much less anxiety, and that a vast volume of misery will thus be escaped.

Birmingham. Charles Gaskell Higginson.

AN EXTENSIVE HERNIA OF THE DIAPHRAGM.

Quite recently I was called upon to make a *post-mortem* examination of the body of a miner who had been severely crushed by a fall of stone on April 20th last. He was laid up for fifteen weeks, and on feeling better he resumed work on August 15th, and worked six shifts in the pit. On the evening of August 22nd he was seized with severe pain all over the abdomen, and died on the morning of August 23rd.

Examination made forty-eight hours after death: On removing the sternum the left side of the chest was found to be occupied by the stomach and a large portion of the colon; the lung was compressed and lying against the spine. On further examination a large rent of the diaphragm was found on the left side, and nearly large enough to receive the closed hand.

There was some emphysema at the root of the neck. The stomach on being removed was found to be very attenuated and enlarged, and some of its contents were escaping from a perforating ulcer which had formed on the posterior aspect of the viscus. The heart and other viscera were healthy.

Death was due directly to the perforating ulcer allowing some of the contents of the stomach to escape into the pleural cavity.

The most remarkable feature of the case is the fact that the man was able to do work with some of the viscera occupying such unnatural positions in the body. The doctor in attendance during the fifteen weeks had not been able to definitely diagnose the condition of the injury.

I must tender my best thanks to Dr. Pain, who assisted me in the examination; also to Dr. Morgan, of Sunderland, who took the notes of the case.

Durham. Edward Jepson, M.D.

THE HEARING AFTER COMPLETE OTECTOMY.

That a man may have good hearing after the removal of the membrane and most of the contents of the middle ear has been doubted, and I am told that one aural surgeon advises against my operation on the ground that it would destroy the hearing.

I have, however, published many cases that have recovered with good hearing after otectomy, and more than one case has regained a fair amount of hearing after years of almost total deafness.

That such improvement does not pass off with the lapse of time is true of all the cases I have watched. It is also true

that the hearing often continues to improve long after the operation.

Let me for once be bold enough to say that I believe that the value of the membrane as an agent of audition has been generally over-estimated. The value of a damaged membrane is undoubtedly very small, and the amount of energy daily expended at some hospitals in the attempt to get perforations to heal might well be directed to some more useful purpose.

The case of T. E. should be studied by any one interested in the cure of suppurative otitis, and who is not paralyzed as to his judgement by otological tradition. This man, who is living within a few miles of Coventry, came to the hospital at the end of 1903. He had been under the usual unsatisfactory treatment. He was very deaf, could just hear a loud watch on contact with each auricle. A foul discharge came from each ear through tiny perforations. He had suffered since infancy. On January 1st, 1904, I did otectomy on each ear. I found a largish cholesteatoma in the left cavity. There was no rise of temperature or complaint of pain after operation. There was a good deal of trouble with granulations, and I had to scrape them away more than once. The ears were sweet by the end of the month, and by the end of February they were dry and glistening. He could then hear a watch quite 3 ft. off each ear—further off, indeed, than I could. I saw him last about eighteen months after operation, and the ears were quite healthy, his hearing being very good indeed.

Coventry. F. Faulder White, F.R.C.S.Eng.

INFANTILE CONVULSIONS.

Is treatment by hot bath sound and scientific? Eustace Smith (*Diseases of Children*, p. 299) advises bath ten to twenty minutes without diagnosing; Osler (*Practice of Medicine*, p. 947) mentions it as an almost universal custom; Semple (*Diseases of Children*, p. 258) the same. In *Quain's Dictionary of Medicine* the bath is believed to be of doubtful utility. It is, however, stated by Dr. E. Smith (p. 457) that the bath is to be used with great care in pneumonia; while *Quain's Dictionary* gives contraindications, "syncope and collapse of lung." Churchill (*Diseases of Children*, 1850, p. 109) treats entirely on rational principles without reference to bath.

I was called to see a boy of about 3 who had been placed in a hot bath for convulsions. Cheyne-Stokes respiration, cyanosis, and a very irregular weak heart were present, with entire absence of conjunctival reflex. By treatment at the end of an hour the cold extremities, cyanosis, unconsciousness, irregular heart and breathing vanished, and on examination I detected basal consolidation with bronchial catarrh and some tonsillitis, with a temperature of 103°, which yielded to treatment in a few days.

An inquest on a male child of 17 months, whom the parents treated by hot bath, whom I saw immediately after death, and who presented a cyanosed appearance, and gave signs by percussion of consolidated lung, was held at Hammersmith, when a *post-mortem* examination was ordered. The brain was pale, anaemic. The left lung had hepatized patches (sank in water); apex of right and middle lobe hepatized (soft influenza lung of Stokes); otherwise the lungs were oedematous. Bronchi up to larynx inflamed, evidently not over a week. Larynx healthy, and vocal cords were flaccid. Stomach empty, but gastro-intestinal canal inflamed (catarrh) right to the anus, and from the duodenum to the anus fluid normal contents were found. On the liver were a few pale patches (ischaemic?), evidently on section following the distribution of vessels. The heart was sound, and contained a very small semi-organized clot on each side. No serous fluid in cerebral ventricles, pleura, or pericardium. The cause of death in the latter case, and the dangerous symptoms in the former, were probably cerebral.

Churchill states that anaemia is probably the first state of the brain in convulsions. A hot bath with cold affusion to the head would bring blood to the surface of the body, and probably still further deplete the brain. *Post mortem* there are ischaemic states in liver and brain, and although I could give many cases of infantile convulsions treated as are ordinary epileptic seizures, by attending to general comfort and to constitutional troubles, and consider with Dr. Montague Murray in *Quain*, that the bath is of doubtful utility, still there is a vast experience against us. I have seen a child in membranous croup speedily develop perspiration and healthy action, with cessation of convulsions, after a blanket bath; probably this kind of bath induces skin action, and does not prevent the respiratory action of the skin. In the *post-mortem* examination the heart was apparently healthy, although no doubt the tissues were full of influenza bacilli, and yet, although the child was well nourished and healthy, it succumbed. Dr. H. gave evidence at the inquest, and agreed with the pathology, but thought death was not hastened by the bath. I stated that the bath did probably hasten death, and the Coroner was inclined to agree with me. Evidently the heart did not fail in the case, and in the case which survived the heart was sound. That convulsions should occur is probably due to the unequal distribution of blood in the system, caused by inflamed foci in these cases, and in my hands poultices to consolidated lungs with suitable treatment have given good results. That baths are used successfully to reduce temperature is undoubted, but that caution is necessary in their use seems to be equally certain. Whether the cause of death in such cases is to be sought for in the unstable nervous system of the child or otherwise must be determined by further inquiry.

London, E.C. J. Reid, M.D.

BRAIN ABSCESS AND MIDDLE-EAR DISEASE.

A question was asked in the British Medical Journal of July 1st as to the relative frequency of cerebral and cerebellar abscess due to middle-ear disease. Attention was also drawn to the divergent opinions expressed in different text-books.

On examining the in-patients' register of the Central London Throat and Ear Hospital I find that in fifteen years (1890 to 1905 inclusive) 17 cases of brain abscess are recorded, upon most of which I was privileged to perform autopsies. Of these, 11 were situated in the temporo-sphenoidal lobes, and 6 in the lateral lobes of the cerebellum.

Of the cerebral, 7 were males aged respectively 18, 23, 24, 26, 27, 33, and 40, while 4 were females aged 3½, 17, 20, and 23.

In the cerebellar group 4 were males aged 14, 14, 22, and 22, the 2 female cases being aged 12 and 13.

Of these 17 cases 5 recovered—3 cerebral and 2 cerebellar. It may be further noted that of these 4 were females and 1 a male, the female ages being 3½, 12, 13, and 17; the male was aged 24.

These figures support Bowlby's experience that cerebral abscesses are commoner than cerebellar when due to suppuration of the middle ear. In no instance was tubercle bacillus found in the abscess, although in 4 cases it was demonstrated in the ear discharge during life.

Wyatt Wingrave, M.D.,
Physician and Pathologist to Central London Throat and Ear Hospital.

OEDEMA OF THE UVULA.

The following uncommon complication of child-birth occurred in the case of a primipara on June 1st—namely, oedema of the uvula.

My patient had a comparatively easy labour, considering it was her firstborn; everything was normal. After being made comfortable in bed she complained of her mouth and throat feeling dry. On being given a little water she found she could hardly swallow it, and said there was something in her throat which she could neither swallow nor cough up. In a few minutes she was choking—simply gasping for breath, and becoming cyanosed. On looking for the cause of the trouble I found the uvula swollen and oedematous, filling the whole of the fauces. Seizing the uvula with a forceps, I snipped it off with scissors down to the base, this giving immediate relief; hardly any bleeding took place. The piece I removed soon became flaccid, a colourless watery fluid oozing away. The throat healed up within a couple of days. I could find no reason for this complication, the patient being a strong, healthy woman (aged 27 years), who never had any trouble with her throat before, and was all right up to the time her throat felt dry.

I should be glad to hear of any similar case.

Oedema of the uvula generally occurs in cases of extreme debility—anaemia and Bright's disease (Osler)—but I have never read of a case connected with parturition. I remember hearing of a midwifery case which ended fatally in which an early symptom was suffocation, and death occurred in a few hours.

Huddersfield. Reginald W. T. Clampett M.B.

Bequests to Medical Charities.—Mr. George Winn, of Kingston-on-Hull, whose will has now been proved, bequeathed £500 to the Royal Infirmary, Hull, and a similar amount to the Hull and Sculcoates Dispensary.

REPORTS
ON
MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

KIMBERLEY HOSPITAL.

STRICTURE OF THE OESOPHAGUS: GASTROTOMY: DILATATION FROM BELOW.

(Reported by E. Oliver Ashe, F.R.C.S.Eng., Surgeon to the Hospital.)

The patient, an otherwise healthy man of 38, was suffering from inability to swallow solid food, caused by the accidental swallowing of some undiluted Scrubb's ammonia about eighteen months ago. He suffered very severely from pain and haemorrhage at the time, and the difficulty in swallowing began to trouble him from the first. For the last few months he had been unable to swallow anything but liquids, even such foods as custard and thin maizena failing to pass down. His weight had fallen from 14 st. 7 lb. to 9 st. 12 lb., and he had become very weak.

On examining the oesophagus with a bougie an obstruction was found 14½ in. from the teeth, and the very smallest bougie could not be passed through it. Having to work for his living, and feeling that the increasing weakness would soon prevent him from doing so, the patient was fully prepared to take any risk so long as there was a chance of relief, so I decided to dilate the stricture from the stomach.

On May 24th, 1905, after the usual preparation, the abdomen was opened by a median epigastric incision. The stomach was then opened by a vertical incision, and its interior explored with two fingers. The cardiac orifice was found with some difficulty, as it was much contracted, and seemed to be higher up and much less accessible than was anticipated, and to get at it satisfactorily the wound had to be enlarged until the whole hand except the thumb could be introduced.

Working very carefully, a Symonds's conical oesophageal bougie No. 12 was passed along the fingers into and finally through the stricture, though considerable force had to be used and much time spent. After this larger and larger bougies were passed, until the largest available (No. 22) had been used, and then a large curved pair of clamp forceps was passed through the stricture and opened as far as seemed prudent, to still further stretch the citatricial tissue. This dilatation took a long time, both on account of the firmness of the stricture and of the way in which the stretching process seemed to inhibit respiration, the breathing frequently almost ceasing, and a pause having to be made until it was sufficiently re-established to allow of further stretching.

The wound in the stomach was sewn up with an inner continuous catgut suture through all the coats, and an outer row of interrupted Lembert sutures of fine silk through peritoneum and muscular coat only, and the abdominal wound was sutured in layers. The operation lasted an hour and three-quarters.

The recovery was uneventful, except that the skin sutures of silkworm gut irritated a little and had to be removed on the fifth day, and a fit of sneezing a few hours after burst the skin-wound open from top to bottom. The deep layers, however, held firm, so the skin wound was stitched up again and gave no further trouble. For four days he was fed by enema entirely, and thirst was kept down by enemata of water; on the fifth day he was allowed to swallow chicken broth and water in alternate tablespoons every two hours; these quantities were gradually increased, and on the eighth day he was given thin maizena, on the ninth custard and jelly, on the fourteenth lightly-boiled egg and bread and butter, and on the sixteenth day he was given minced chicken and mashed potato, and on the twenty-second a chop. From this time he was allowed to eat anything, so long as he chewed it very thoroughly.

On the eighth day from the operation a No. 18 bougie was passed from the mouth without much difficulty, four ¼ gr. cocaine lozenges having been slowly sucked just before the bougie was passed, to diminish the irritability of the pharynx and oesophagus.

It was then found that the obstruction seemed to be double, both in passing and withdrawing the bougie the bulb "hitched" twice, there being apparently about 1 in. between the two hitches, and the one nearest the mouth seemed the firmest. This, I fancy, was the real stricture, the lower and softer one being, perhaps, due to the sphincter action of the cardiac orifice. There was also a slight but quite definite hitch opposite the cricoid, as if this naturally narrow part had not quite escaped the corrosive action of the ammonia.

On the ninth day No. 19 was passed, on the tenth No. 20, and as No. 20 did not pass quite so easily, it was passed again on the eleventh, twelfth and thirteenth days. On the fourteenth day no No. 21 being available an attempt was made to pass No. 22 but it failed, and as there was no difficulty in swallowing food and No. 20 now passed quite easily, I decided not to push the dilatation further.

The patient was now taught to pass the No. 20 himself, and this he did once a day. He left hospital on the twenty-ninth day with instructions to pass the bougie every day for a fortnight, then every other day for a month, and then gradually to pass it less and less frequently as he found he was able to do without it.

At no time after the operation did he have any pain after food, nor did he have any difficulty in swallowing. A few days after he got home he reported that he could eat and enjoy "anything and everything just like the rest of the family." It is, of course, too early to form any opinion as to the permanency of the cure, but in several of the reported cases the relief has been permanent, and I am tempted to hope that it may prove so in this one.

REVIEWS.

HANDBOOKS OF MEDICAL DIAGNOSIS.

Dr. Musser's well-known guide to *Medical Diagnosis*[1] now appears in the form of two volumes. The scope of the work is sufficiently indicated by the title, and no doubt it will prove of considerable use to those practical workers who, unable to revisit their hospitals for post-graduate work, desire to keep abreast of the more advanced clinical methods as practised to-day. The original purpose which this book was designed to fulfil was laudable, and judging from the number of editions it has gone through, there is evidently a great need for such help as is provided by the decidedly original way in which Dr. Musser treats his subject. It may be described as a summary of all the methods practised for the recognition of disease with which are combined accurate accounts of the respective diseases. Dr. Musser's large practical experience has proved of immense value, for he has thus been enabled to enrich his volumes with some excellent photographs of disease; he has further laid other well-known works under contribution for the purposes of illustration. A certain sense of dissatisfaction, however, remains, probably more by the fault of the subject than of Dr. Musser; the scientific data on which the various clinical investigations rest are not explained, and pathology is almost ignored or only referred to in a very cursory manner. Can any student or practitioner be properly instructed and kept abreast of modern methods without close attention to pathology? It may be argued that the subjects of medical studies should be split up and, as it were, specialized, that to the pathologist should be relegated all scientific methods of investigation requiring elaborate physical, chemical, or bacteriological investigations; that others should devote themselves to the study of purely clinical problems, and yet another group to the study of treatment. But such a system is bad and must involve the loss of those admirable methods of teaching which are justly recognized as amongst the most cherished heirlooms of British schools. The true clinician should deal with the diagnosis, including in a wide sense pathology and etiology, as well as with the treatment of disease. It may be that posterity will be compelled to forego our older methods and adopt such a one as has apparently been developed with success by Dr. Musser. We admit under protest the obvious convenience of having such a valuable reference book as he has provided, we admire the method of pictorial illustration, though we are obliged to confess that many of the woodcuts and even of the plates are almost unnecessary and may tempt the reader to rely upon them instead of betaking himself to the bedside and *post-mortem* room, but Dr. Musser must forgive us if we say that we do not like the divorce of diagnosis from other subjects dealing

[1] *A Practical Treatise on Medical Diagnosis for Students and Physicians.* By John H. Musser, M.D. Fifth edition. In two vols. London: Henry Kimpton. 1904. (Demy 8vo, pp. 1,213. 395 illustrations, 63 coloured plates. 35s.)

with disease. We will conclude with expressing the hope that Dr. Musser will publish a complete system giving us more of his own individual experience, his own estimate of the value of various clinical methods of examination, as well as supplying the results of his treatment of the maladies with which he is so well acquainted; lastly, we would ask for the proper juxtaposition of pathological facts with the bedside manifestation of disease.

MEDICAL EXAMINATION IN LIFE ASSURANCE.

THE first edition of *The Medical Examination for Life Insurance*,[2] by Dr. GREENE, was reviewed in 1902, and in reading over the criticisms then published it seems that we dwelt rather too much upon its faults and too little upon its merits. Certainly we rise from a perusal of the present edition with the feeling that Dr. Greene has brought together a most valuable collection of facts bearing upon the various problems met with in life assurance. He has done well to designate the section devoted to the physical examination of the chest and abdomen, and containing seventy-nine pages, the "Students' Section." The methods of examination detailed and the illustrations given in this section are excellent, but the medical examiner for life assurance should not require to be instructed in these matters. As might have been expected, the subject of appendicitis receives much greater attention than was bestowed upon it in the first edition, and the rules governing acceptance in cases with a history of appendicitis in the past are eminently practical. Dr. Greene's remarks on the examination of female applicants are worthy of careful attention. He expresses the opinion "that whenever a competent woman physician is available she should be employed in the examination of these cases." Every medical examiner should be familiar with the "Examiner's Decalogue." If this were the case much trouble at the head office would be spared and much unnecessary correspondence avoided. With judicious pruning Dr. Greene's book might well take the first place among works on life assurance, but as at present arranged the busy medical examiner would experience some difficulty in getting the assistance he required.

CAISSON DISEASE.

WHILE giving in his essay on *Caisson Disease*[3] an interesting and comprehensive account of work in caissons, especially as carried on at Newcastle-on-Tyne, Dr. PARKIN deals also at considerable length with deep-water diving, and the dangers incidental to both. His description of caissons, their construction and ventilation, and of the means of ingress into and of egress from them, is at once accurate and complete. As the symptoms the workmen suffer from are the result of immersion in compressed air and the sudden transit from a high to normal atmospheric pressure, the term "caisson disease" is to some extent a misnomer. Beyond the fact of the men, especially newcomers, experiencing pain in the ears from pressure upon the membrana tympani, and also in the frontal and maxillary sinuses, they do not, as a rule, suffer during the time they are in compressed air. It is after decompression that the worst symptoms arise, such as severe muscular pains, epistaxis, paralysis, and convulsions. The liability to compressed-air illness increases with the depth, the greater pressure required, and the longer the men work without a break. After discussing the various theories that have been advanced to explain caisson disease, the opinion is expressed that the malady is the result of the liberation of gas in the tissues and in the blood. Using pithed frogs, Dr. Parkin repeated several of the experiments originally carried out by Dr. Leonard Hill of exposing frogs to high pressures of oxygen and of suddenly decompressing them. In the animals thus operated upon he found that the gas which had been dissolved under pressure in the blood was after rapid decompression set free in the small blood vessels wherein the circulation became arrested owing to the presence of large bubbles of air. As regards treatment, Dr. Parkin considers recompression and gradual decompression the most important means of treating patients who are suffering from caisson disease. Not only do the pains not recur when the patients have been thus treated, but paralysis may disappear owing to reabsorption of the air-bubbles in the capillaries of the spinal cord which, by causing injurious pressure and interruption of the blood stream, are believed to be the cause of the symptoms. The essay is illustrated by drawings of lesions experimentally produced in animals by Dr. Parkin, also by plans made by the author which not only make the thesis pleasing and easy reading, but with the text show that Dr. Parkin has taken an intelligent interest in the subject upon which he has written. The essay is one of real merit and worthy of the recognition it received at the hands of the Examiners in Medicine of the University of Durham.

SUNLIGHT AND DEGENERATION.

EVERYBODY must have been struck by the negroid type of face so frequently seen in London; in such cases, whether the complexion be dark or fair, the contention of modern anthropologists that the ancient population of these islands belongs to a Mediterranean race strikes home at once as being at least a partial solution of the question of the origin of the British people. We find the town dwellers of to-day predominantly of a dark complexion; town life is supposed not only to attract dark people, but also to produce them—a fact which Major WOODRUFF, in his book on *The Effects of Tropical Light on White Men*,[4] attributes to the increased light in cities. There is more behind this. The cause of England's greatness, he thinks, is to be attributed to the influx, at periods, of northern races. These northern races, dolichocephalic and blonde, have provided the progressive elements, the elements productive of intellect, morals, and civilization generally, among the darker races among whom they burst at various epochs in the world's history. In their freshness and vigour they have made the nations they have conquered great; in the process of time they have by intermarriage been swamped, and with their decadence has fallen the glory of their adopted lands. These northern races, the salt of the earth, were once dark. They were driven north, says Major Woodruff, and grew larger heads and lighter skins, the former through the struggle for existence in the inhospitable north, the latter through want of light. Mankind to-day profits by this evolution. Though in Britain we are breeding out, it is said, the northern strain, in the United States constant reinfusions from the parent stock are maintaining in that country a sufficient purity of the source of light and leading. That is to say, the Northern States are doing so, while the Southern are adapted only to dark races. And all this is due to the effect of light. In 1895 Von Schmaedel announced "that skin pigmentation of man was evolved for the purpose of excluding the dangerous actinic or short rays of light which destroy living protoplasm." Major Woodruff, adopting this as his text, has brought much interesting matter together with a view to showing that excessive light is destructive of energy as well as of complexions, and leads to degeneration. Among other arguments in support of the case against sunlight it is stated that the vast majority of animals live in darkness, hiding from the light. We were under the impression they did this to hide from their enemies. We learn now that a "day animal exists solely because its opaque armour keeps out the deadly arrows of light." Scientific investigations, such as the influence of different rays upon man, both separately and conjointly, and the protective influence of colour not only of the skin but of the clothing are touched upon in this work, but much remains to be done before we can accept the view that "the shadow'd livery of the burnished sun" is an index of degeneracy. If there be any truth in the idea such investigations should be specially valuable to a race whose empire embraces so many lands the light of which is tropical, so that rules may be framed whereby we may be enabled to continue our civilization without deteriorating. Major Woodruff's contribution to the problem presents us, he thinks, with material to

> stimulate the young men to work in the direction of investigating tropical hygiene. . . . It is to be hoped also that we shall hear no more of those remarkable assertions that climate has so little effect on men out of their zones, that white men can remain in the tropics indefinitely and be healthy—assertions which practically accuse Nature of not knowing her own business when she pigmented the natives of the tropics.

Judging by Major Woodruff's remarks about the Philippines the United States might find advantage in studying English

[2] *The Medical Examination for Life Insurance, and its Associated Clinical Methods*, with chapters on the Insurance of Substandard Lives and Accident Insurance. By Charles Lyman Greene, M.D. Second edition. London: Kebman, Limited. 1905. Demy 8vo, pp. 466, 99 illustrations. 12s. 6d.

[3] *Caisson Disease, including the Physiological and Pathological Effects of Compressed Air.* M.D. Essay, University of Durham (Gold Medal, 1904). By Alfred Parkin, M.D., F.R.C.S. Eng. Newcastle-upon-Tyne: *Daily Journal* Office. 1905. (Demy 8vo, pp. 39, 20 illustrations.)

[4] *The Effects of Tropical Light on White Men.* By Major Charles E. Woodruff, A.M., M.D., Surgeon, U.S. Army. London: Kebman, Limited. 1905. (Demy 8vo, pp. 158. 10s. 6d.)

customs in tropical climates: but there can be no doubt that in our own case we have something to learn about the protective influence of colour as applied to our clothing in the tropics.

THE TREATMENT OF CHOLELITHIASIS.

THE writer's intention is well shown by the title of his small pamphlet on cholelithiasis.[1] He has consulted the works of most of the physicians and surgeons who have dealt with the question whether diseases studied under the head of cholelithiasis are remediable without the help of the surgeon. We recognize many of the principles already enunciated by Naunyn, Neumeister, Riedel, Körte, and others, and look in vain for any solid personal contribution from Dr. CLEMM upon this important question. He gives a brief digest of the opinions expressed by Kehr, and subscribes to many of his contentions. Operation should be resorted to if there is intense colic requiring morphine: cases of hydrops and suppuration of the gall bladder, and of occlusion of the bile passages of long duration not yielding to medical treatment, should be treated surgically. Operation should be performed in cases of jaundice which do not depend upon occlusion of the bile passages, or upon incurable liver disease, because many such cases depend upon inflammatory changes present in the pancreas. Other conditions are mentioned which also require operation, but Kehr, with an experience of 720 cases of operation, apparently thinks that the advantages of surgical treatment do not render it preferable to internal treatment. Dr. Clemm then proceeds, in the seventh section of his short treatise, to discuss in detail the various forms of internal treatment, and passes in review those which are already well known—for example, treatment by careful dieting, based upon English and American habits, by exercise, by purgation, and by various drugs, such as Durand's use of turpentine and olive oil, etc. Evidently Dr. Clemm's object is to recommend a plan of treatment which may be carried out at home without recourse to Carlsbad or Neuenahr. In addition, he takes considerable pains to show the advantages of treatment by the internal use of such soaps as are produced by the interaction of sodium and oleic acid, preferring this to the compound of oleic acid with potassium or ammonium; such preparations may also be applied externally over the liver. The old argument is advanced that because pure cholesterine or mixed cholesterine and bilirubin calcium stones undergo dissolution when placed in such solution as sodium oleate, the same remedy when administered by the mouth or skin is also capable of relieving the gall bladder and its passages of obstruction by stones. If Dr. Clemm had only given us his experience of the value of this method of treatment when unassociated with all the other various methods which are of time-honoured renown, there might be some advantage to the reader. Dr. Clemm's contribution to the treatment of this important malady does little more than bring to our notice this new form of treatment without convincing us that it is any better than older and more expectant methods.

GASTRO-INTESTINAL DISEASES.

DR. BOARDMAN REED, of Philadelphia, writes to complain of the review of his work on *Diseases of the Stomach and Intestines*, which appeared in the first volume of the BRITISH MEDICAL JOURNAL for the present year, p. 994. While explaining that the unfavourable opinion of his book in that notice has not been generally shared by the medical press, and differing, as no doubt he has a right to do, in many matters of opinion from our reviewer, he complains of three misstatements in the following words: "The reviewer asserts that there is an absence of any reference to the value of blood-counting in the diagnosis of appendicular abscess, and complains further of what he terms an extraordinary claim of the author's to treat Bright's disease successfully by secondary static currents. Both these are misstatements. The former point is fully covered on p. 178 in the lecture on *The Blood in Gastro-intestinal Diseases*. The treatment of Bright's disease is not discussed in the work, but on p. 281, in considering the therapeutics of static electricity, passing mention is made of the fact that in certain forms of renal disease which result from gastro-intestinal troubles, the secondary static currents have been found effective. In the communication on this subject, to which reference is made in a footnote, pains are taken to disclaim that the cases cured in this way were fully-established Bright's disease, notwithstanding that albumen and casts had often been present in the urine. Another misstatement which any careful reader of my book will be able to deny emphatically is that the author is not clear as to the value of stomach washing. Only the most superficial dipping into the book could have left such an impression. The indications and contraindications for gastric lavage are most clearly and positively laid down both in Lecture XXIX on *Intragastric Methods of Treatment, etc.*, pp. 313-320, and also in the chapters on the Treatment of Cancer of the Stomach, Chronic Gastritis, etc." With regard to these complaints we may say that Dr. Reed does not deny that he has omitted to refer to the value of blood-counting in the section on the Diagnosis and Symptoms of Appendicitis, and it is not an answer to that complaint that a reference to the point is to be found in a general chapter on blood-counting in another part of the book; the second complaint can be best dealt with by quoting the author's own words on p. 958: "In a paper recently written by me concerning autotoxic forms of nephritis, 18 cases were reported showing albumen and casts which had developed apparently as a result of digestive disorders. All but one were cured or markedly benefited by a persistent employment of the static wave and static-induced currents." We are not able to follow the distinction between "autotoxic forms of nephritis" and Bright's disease, nor do we think that any guarding of the statements in Dr. Reed's original paper to which he has referred can be fairly taken to modify the statement we have quoted from the text. With regard to the third complaint, that the author is not clear as to the value of stomach washings, we can hardly admit that this can becalled a misstatement; it is a matter of opinion whether the author has made it clear under what circumstances the practitioner should use the stomach tube. We should deeply regret to do any injustice to an author, but we may add that in pointing out some of the defects in this book we have by no means exhausted those we had noted in carefully reading it through.

NOTES ON BOOKS.

IN *An Introduction to Pharmacognosy*,[1] Dr. S. E. JELLIFFE has given us within a very moderate compass an account of the characters and chemical composition of the animal and vegetable materia medica. The volume is intended primarily for students of pharmacy, and a special feature is the large number of illustrations of the microscopical appearances of drugs. The work is a careful and concise statement of present knowledge of the characters of the most important crude drugs.

The title of Dr. CARRUTHERS's short account of *Urine Examinations made Easy*[2] arouses the suspicion that the book is meant to be an addition to those "short cuts" to knowledge which are so eminently unsatisfactory. Dr. Carruthers has, however, merely written a brief account of this subject for the benefit of nurses who are learning to appreciate certain matters in connexion with the examination of urine. The contents of the book consist of brief notes on the more ordinary urinary tests, and special reference is made to the need for care in the preservation of the specimens, and just so much instruction is given in more technical matters as would enable a nurse who takes an intelligent interest in his or her work to make reliable routine observations. For such workers it will serve as a useful guide.

May's Medical and General Collector's Book[3] consists of 60 pages ruled so as to show the name and address of debtor, ledger number, balance owing, and amount received by collector. There are, in addition, special pages for alteration of addresses, general remarks and notes, and a cash account. It is published at the price of 2s., and seems well adapted for its purpose.

[1] *Die Gallensteinkrankheit, ihre Entstehung, Verhütung und Heilung durch innere Behandlung.* Cholelithiasis, its Frequency, Origin, Prevention, and Treatment. Von Dr Walther Nic. Clemm. Berlin: Georg Klemm. 1903. (Extra crown 8vo, pp. 96. 2 M.)

[1] *An Introduction to Pharmacognosy.* By Smith Ely Jelliffe, M.D., Ph.D. London: W. B. Saunders and Co. 1904. (Demy 8vo, pp. 205. 10s. 6d.)

[2] *Urine Examination made Easy.* By Thomas Carruthers, M.A., M.D., Ch.B. London: J. and A. Churchill. 1904. (Demy 8vo, pp. 32, interleaved. 1s. 6d.)

[3] *May's Medical and General Collector's Book.* Printed by Frank Sidebotham, Heath Town, Wolverhampton.

BRITISH ASSOCIATION.

(Continued from p. 459.)

SLEEPING SICKNESS.

AT Pietermaritzburg on August 24th, Colonel DAVID BRUCE, R.A.M.C., C.B., F.R.S., delivered a lecture on Sleeping Sickness, with lantern slides. We have again to express our indebtedness to the *Times* for its report of the address. The lecturer introduced the subject by showing that it was by no means impossible that sleeping sickness might pass southward from Lake Victoria and Central Africa and reach the Zambesi, or even invade some parts of the Transvaal. The disease was endemic on the West Coast of Africa, especially in the basin of the Congo, and here it had been known as long as we had any history of that country. Slaves taken from the West Coast had died of the disease in the West Indies and other countries, but without spreading the disease to their immediate neighbours.

Sleeping sickness first broke out in the province called Busoga. It was probably introduced when Emin Pasha's Sudanese and their wives and followers, numbering some 10,000, were brought into and settled in Busoga. These natives were brought from the Congo territory, a country in which the disease had been endemic for a long time, and, therefore, it was hardly to be expected that this large number of natives would not contain a certain number suffering from the first stages of the disease. As Busoga was well adapted for the spread of sleeping sickness, in a few years—namely, in 1901—the disease had attained such dimensions that in a short time it reduced the most populous and fertile province of Uganda to a depopulated desert. Sleeping sickness depended essentially on a disturbance of the functions of the brain. A slow, chronic inflammatory process went on for years among the brain cells, which in time interfered with their function, and gave rise to the peculiar symptoms of the disease. But for a long time—sometimes for years—the preliminary symptoms might be of so slight a character that there was no suspicion that there was anything wrong. A patient might go about doing his ordinary work for years without his friends noticing that there was anything the matter; but gradually a slight change in his demeanour became evident; he was less inclined to exert himself, he lay about more during the day; and at last his intimates saw that he had the first symptoms of this fatal malady. His symptoms gradually deepened, and after a year or so—it might be longer—he was unable to walk, unable to speak, and even to feed himself, and he gradually sank into a comatose condition and died. Sleeping sickness was caused by the entrance into the blood of a minute protozoal parasite called trypanosoma gambiense. This micro-organism was first named and described by Dr. Dutton, who recently lost his life on the West Coast of Africa while pursuing the study of the disease. The trypanosome was an active, wormlike creature, which lived among the red blood corpuscles, where it could be seen wriggling about with great activity if the blood were examined under the microscope with a magnification of 200 or 300 diameters. If blood from cases of sleeping sickness were examined with sufficient care this parasite would be found in every case. It was also found in fairly large numbers in the lymphatic glands of the body, and as the disease became advanced it could always be found in the cerebro-spinal fluid which bathed the brain and spinal cord.

Sleeping sickness in Uganda had a very peculiar distribution, and the country could be divided into sleeping-sickness areas and non-sleeping-sickness areas. An examination of the natives living in the sleeping-sickness areas showed that some 30 per cent. of them were in the early stages of the disease, and their blood contained these trypanosomes. On the other hand, although a large number of natives were examined in the non sleeping-sickness areas, in not a single case could a trypanosome be found; further, when blood or cerebro-spinal fluid was injected under the skin of a healthy monkey the animal caught the disease and died after several months with typical symptoms of sleeping sickness, and its brain showed the characteristic alteration in its substance which was found in sleeping sickness in man. When the Royal Society Commission which had been sent to Uganda in the spring of 1903 had discovered these facts, they came to the conclusion that this trypanosome was the true cause of the disease. The next point they took up was to try to discover the reason of the curious distribution of the disease in Uganda. Sleeping sickness was found only in a narrow area lying along the shore of the lake. It was found on both banks of the Nile as far as Lake Albert; it also occurred round the shore of Lake Albert and passed north along the Nile almost as far as Wadelai. The disease was very common among the inhabitants of the numerous small islands which dotted the northern part of Lake Victoria. It was evident, then, that the disease had some predilection for the vicinity of open water, and the commission set about to try to find out the cause of this. In South Africa there was a disease among cattle and other domestic animals, also caused by a trypanosome—the trypanosoma brucei. This trypanosome was conveyed from the sick to healthy animals by means of a biting fly, the *Glossina morsitans*. It was, therefore, thought that in all probability sleeping sickness would be found also to be conveyed by a biting fly. Large collections of all the biting flies of Uganda were made, and the astonishing result was arrived at that the distribution of sleeping sickness and of a biting fly, the *Glossina palpalis*, corresponded absolutely with one another. Experiments were then made, which showed that this biting fly, *Glossina palpalis*, could carry the disease from the sick to the healthy for a period of at least forty-eight hours. Experiments made with other species of biting flies, made under exactly the same conditions, failed to give any result. Lastly, tsetse flies caught in the sleeping sickness areas and placed straightway on healthy monkeys conveyed the disease in every case. This disease, which killed every one it attacked, had already caused the death of some hundreds of thousands of natives in Central Africa. It was slowly spreading wherever there was a *Glossina palpalis* to convey it. It was now spreading north along the Nile from Lake Albert. It was slowly spreading round Lake Albert, had reached the south of Lake Victoria, and there was no saying to what extent it would further devastate this country. There was a danger of its being conveyed across British East Africa into the "fly belts" of the east coast; even danger of its being conveyed to India, where a similar disease, called surra, existed among horses, and where there might exist a biting fly capable of spreading it.

SECTION OF PHYSIOLOGY.

An address on the advance in our knowledge of the causation and methods of prevention of stock diseases in South Africa during the last ten years to the Section of Physiology was delivered at Johannesburg by Colonel DAVID BRUCE, C.B., F.R.S., R.A.M.C., President of the Section. The following is an abstract of the address as it appears in the *Times* of August 30th. He said South Africa was particularly rich in diseases affecting domestic animals. Among the most important were: East Coast fever; ordinary redwater or Texas fever; biliary fever of horses; malignant jaundice of dogs; nagana or tsetse-fly disease; trypanosomiasis of cattle; rinderpest; horse-sickness; catarrhal fever in sheep; heartwater of sheep, goats, and cattle. These diseases might be divided into two main divisions: A division, in which the parasite was known; and B Division, in which the parasite was unknown. A. Parasite known. I. Diseases caused by parasites belonging to the genus piroplasma: (1) East Coast fever (Koch), P. parvum; (2) Redwater or Texas fever, P. bigeminum (Theiler); (3) biliary fever of horses, mules, and donkeys, P. equi; (4) malignant jaundice of dogs, P. canis. II. Diseases caused by parasites belonging to the genus trypanosome: (1) Nagana or tsetse-fly disease, T. brucei (Bradford and Plimmer); (2) trypanosomiasis of cattle, T. theileri (Bruce). B. Parasites unknown.—I. Rinderpest. II. Horse-sickness; catarrhal fever of sheep; heart-water of sheep, goats, and cattle.

East Coast Fever.

That name was given by Professor Koch; in the Transvaal the disease was usually called Rhodesian redwater. That term was not a good one, since the disease was not restricted to Rhodesia, nor did it arise there, nor was this a disease similar to the ordinary redwater. Ten years ago East Coast fever was unknown in the Transvaal. The first known outbreak occurred only some three and a half years ago, when it broke out at Koomati and Neilspruit, in the Barberton district, and in the east of the Colony. The disease had broken out some time previously in Rhodesia, and the outbreaks in both Colonies were due to infection from Portuguese territory. It had already produced an enormous amount of damage among stock, and was probably the most dangerous disease that the people of the Transvaal had to cope with at the present time and for some years to come. East Coast fever was first studied by Koch at Dar-es-Salaam, in German East Africa, and he at first mistook it for ordinary redwater. It seemed to be endemic along a great part of the East Coast of Africa, but restricted to a narrow

belt along this coast-line. The cattle inhabiting this region had become immune to the disease, but cattle passing through the coast district to the interior, or brought to the coast district from the interior, were apt to take the disease and die. It was by the importation of cattle, therefore, which had passed through the dangerous coast district that the disease was introduced into Rhodesia and into the Transvaal. The disease only attacked cattle, but in them was exceedingly fatal: in every hundred cattle attacked only about five recovered. The duration of the disease after the first symptoms had occurred was about ten days. The cause of the disease was a minute blood parasite called the Piroplasma parvum (Theiler). This parasite lived in the interior of the red blood corpuscles. As in the case of so many of these blood diseases, the parasite causing it was carried from the sick to the healthy by means of a blood-sucking parasite. In that disease the tick which most commonly transferred the poison or living parasite from one animal to another we know as the "brown tick," (*Rhipicephalus appendiculatus*). These ticks were very hardy, and in the intermediate stages could resist starvation for long periods, so that a larva of nympha or adult tick might remain perched at the end of a blade of grass for some months without finding an opportunity of transferring itself to a suitable animal. Thus it came about that, even if all infected cattle were removed from a field, the ticks in that field would remain capable of transferring the infection to any healthy cattle which might be allowed into this field for a period of about a year. At the end of a year or fifteen months, however, the infective ticks were all dead, and clean cattle might be allowed into the field without any risk. A single ox might spread this disease for a distance of some 200 miles, if trekking through the country at the average rate of ten miles a day. For example, an ox was infected by a tick: for fourteen days the animal remained apparently well; it had no signs of disease, nor had it any fever. It was capable of doing its ten miles' trek a day. At the end of fourteen days the temperature began to rise and the animal to sicken with the disease, but for the next six days the ox was as a rule able to do its ordinary day's march. During most of this time the brown ticks had been crawling on to this ox, becoming infected, and dropping off every three or four days. It could readily, therefore, be seen how much mischief a single infected animal could do to a country between the time of its being infected by the tick and its death some twenty-four days later. As a matter of experience, however, the disease had never been found to make a jump in this way of more than fifty or sixty miles, as it was very rare that a transport carrier would take his oxen more than that distance during the twenty days. At the present time there were about 500 infected farms in the Transvaal. During last year some 15,000 cattle had died of the disease, and in the affected districts it might be said that there were still some 30,000 cattle alive. When one considered the value of the cattle dead of this disease, which might be said to be about £200,000, it was evident that money spent on the scientific investigation of the causes and prevention of stock diseases was money well spent. During the last three years an immense amount of work had been done in the elucidation of this disease. In 1903 Professor Koch was asked by the South African Colonies to study this disease in order to try to find some method of artificial inoculation or some other means of prevention. The difficulties were great, and Professor Koch presented several reports. In his third and fourth reports he recommended that cattle should be immunized by weekly or fortnightly inoculations of blood from recovered animals, extending over a period of five months. Even though this method of Koch had given the desired result, namely, that it rendered the inoculated cattle immune to the disease, it was evident that the method itself could hardly be made a practicable one on a large scale in the field. At present, therefore, we must look to some other means of preventing the disease and driving it out of the country than preventive inoculation. Much could be done to prevent the spread of this disease by ordinary methods. For example, in the case of Texas fever in Queensland dipping cattle in solutions of arsenic or paraffin, in order to destroy the ticks, had been fairly successful. Again, the fencing of farms must also be useful in the same direction. In May, 1904, an intercolonial conference held at Capetown resolved that the only effective method of eradicating East Coast fever was to kill off all the cattle in the infected areas, and to leave such areas free of cattle for some eighteen months. By this means all the centres of infection would be destroyed, and at the end of eighteen months, as all the infected ticks would be dead, it was evident that the disease would be completely stamped out. There was no doubt that this drastic method would be the quickest and most complete one of getting rid of this extremely harassing disease. If compensation were given it could be done at a cost of, say, a quarter of a milion. The Government decided, however, that on account of the difficulty of carrying out such a drastic scheme another policy had to be considered. This policy provided for the fencing-in of infected farms, places, lands, or roads on generous terms; the compulsory slaughter of stock with compensation in the case of isolated outbreaks; the removal of all oxen from infected or suspected farms; and, lastly, the stabling of milch cows in infected areas. It was quite evident that under this less drastic policy the final stamping out of the disease would be a much slower process than if the more drastic scheme of compulsory slaughter of all cattle on infected areas had been carried out. The benefits, however, from the modified scheme were undoubted, and if carried out thoroughly and intelligently for a period of several years would probably result in the stamping out of the disease.

Redwater and Texas Fever.

This was a most interesting disease, and of great importance to stock farmers. It only affected cattle. It was found in almost every part of the world. It was first studied in North America; hence the name Texas fever. Kilborne and Smith discovered that it was caused by the presence in the red blood corpuscles of a protozoal parasite closely related to the parasite found in East Coast fever—the pinoplasma parvum. This organism was called P. bigeminum. They further discovered that the parasite was conveyed from sick to healthy cattle by means of a tick. Texas fever was introduced about 1870, and was now endemic throughout most of South Africa. For many years the native cattle had been immune to the disease; on account of being born and bred in a Texas fever locality they had inherited a degree of resistance to the disease which enabled them to pass through an attack when they were young, and so they became immune. But there was one peculiarity about Texas fever which did not occur in Rhodesian tick fever, and that was that the blood of an animal which had recovered from Texas fever remained infective—the germs remained latent—and so the native cattle of South Africa, although apparently healthy, were capable of infecting imported susceptible cattle with this very fatal malady. The disease had become of secondary importance to South Africa in these days. The native cattle had become naturally immune, and the disease was fatal only to susceptible imported cattle. This, of course, discouraged the importation of prize stock. In regard to methods of conferring immunity on susceptible cattle many had been tried, but none were absolutely free from risk.

Biliary Fever.

This was a disease of horses, mules, and donkeys very similar to redwater in cattle, and was caused by a closely allied parisite, the piroplasma equi, discovered for the first time in South Africa by Bordet, Danysz, and Theiler, and named by Laveran of Paris. The native South African horse was, like the cattle, immune to the disease. It was conveyed by a tick, which had been shown by Theiler to be the "red tick" (*Rhipicephalus evertsi*), the infection being taken in the nymphal and transferred in the adult stage. Theiler had made the very important observation that if a horse were injected with blood from a donkey which had recovered from the disease, as a rule a mild form of the disease would be produced, so that this opened up a method of immunizing susceptible horses which might probably prove of practical value.

Tsetse-fly Disease.

This fly renders thousands of square miles of Africa uninhabitable. No horses, cattle, or dogs could venture, even for a day, into the so-called "fly country." Ten years ago it was thought that the tsetse fly killed animals by injecting a poison into them, in the same way as a snake kills its prey. In 1895, on account of serious losses among the native cattle in Zululand from this plague, Sir Walter Hely-Hutchinson, then Governor of Natal and Zululand, started the investigation of the disease. The result was the discovery that tsetse-fly disease was not caused by a simple poison elaborated by the fly, but by a minute blood parasite which gained entrance to the blood of the animals. This parasite was known by the name trypanosoma, which signified a screw-like body. Ten years ago two species only had attracted much attention—one living in the blood of healthy rats, discovered by

Surgeon-Major Lewis in India; and the other, a trypanosome, found in the blood of horses and mules suffering from a disease known in India as "surra." As the result of this investigation in Zululand, which lasted two years, it was proved that this trypanosome was undoubtedly the cause of the death of the horses and cattle struck by the fly, and that the tsetse-fly merely acted as a carrier of this blood parasite. These trypanosomes consisted of a single cell, and were sinuous, worm-like creatures, provided with a macronucleus and a micronucleus, a long terminal flagellum, and a narrow fin-like membrane continuous with the flagellum and running the whole length of the body. When alive they were extremely rapid in their movements, constantly dashing about, and lashing the red blood corpuscles into motion with their flagellum. These organisms multiplied in the blood by simple longitudinal division, and often became so numerous as to number several millions in every drop of blood. They were sucked, along with the blood, into the stomach of the fly, lived and multiplied in the alimentary tract for several days, and, when the fly had its next feed on an animal, took the opportunity of gaining access to the blood of the new host, and so set up the disease. Experiments were made which showed that the fly could convey the parasite from affected to healthy animals for at least forty-eight hours. Lately, however, evidence had been brought forward to show that an enormous multiplication and development of the trypanosomes took place in the fly's intestine, a few trypanosomes multiplying to masses containing numberless parasites within twenty-four hours. This multiplication of the trypanosomes in the tsetse-fly was discovered by Gray and Tulloch, two young Army medical officers, while working in Uganda on "sleeping sickness" during the present year. Not only was it found that the tsetse-flies could convey the disease from sick to healthy animals, but it was also proved that the wild tsetse-flies brought from the "fly country" and straightway placed on healthy animals also gave rise to the disease. The question then arose as to where the tsetse flies living in the "fly country" came by the trypanosomes. There were no sick horses or cattle in the "fly country." Investigation brought to light the curious fact that most of the wild animals—the buffalo, the koodoo, the wildebeeste—carried the trypanosomes in small numbers in their blood, and it was from them that the fly obtained the parasite. The discovery that the wild animals acted as reservoirs of the disease accounted for the fact that tsetse-fly disease disappeared from a tract of country as soon as the wild animals were killed off or driven away. In 1895 the living trypanosome which caused the tsetse-fly disease was sent to England in the blood of living dogs in order that it might be studied in the English laboratories. These trypanosomes had been kept alive ever since by passage from animal to animal, and had been sent all over Europe and America, so that our knowledge of this kind of blood parasite had rapidly grown. Since 1895 many other trypanosome diseases had been discovered in all parts of the world. The latest and most important of these was one which affected human beings, and was known as "sleeping sickness." That disease which occurred on the West Coast of Africa, particularly in the basin of the Congo, had within the last few years spread eastward into Uganda, had already swept off some hundreds of thousands of victims, was spreading down the Nile, had spread all round the shores of Lake Victoria, and was still spreading southward round Lakes Albert and Albert Edward. The disease was in all respects similar to the nagana or tsetse-fly disease of South Africa, except that it was caused by another species of trypanosome and carried from the sick to the healthy by means of another species of tsetse fly—namely, the *Glossina palpalis*. During the last ten years, therefore, we might say that we had discovered the cause in the shape of the small blood parasite trypanosoma; we had found that the reservoir of the disease existed in the wild animals, and that we could blot out this disease from any particular tract of country by the simple expedient of destroying or driving away the wild animals. We still had no means of preventive inoculation or successful medicinal treatment in this disease. Trypanosomiasis of cattle was of no great practical importance.

Rinderpest.

In the diseases of the second group no parasites could be detected by the microscope or by culture; but it was equally true that they must be present in the blood and fluids of the sick animals in some form or other. In all probability they were ultra-microscopic. This was borne out by the fact that they were able to pass through the pores of porcelain filters, which kept back the smallest micro-organisms we were able to recognize. The first of the second group of diseases was rinderpest, which had overrun and devastated South Africa within the last ten years. Rinderpest had been known from time immemorial in Europe and Central Asia, and was an exceedingly fatal disease, killing 90 to 100 per cent. of the cattle attacked. In parts of the country where there were few or no cattle the epidemic spread by means of the wild animals—particularly the buffalo—which had been exterminated in many places. It was to Koch that the honour was undoubtedly due of first publishing a practical method of immunizing cattle against rinderpest. He arrived at Kimberley on December 5th, 1896, and in two months was able to report two methods of immunizing, namely, by the injection of rinderpest bile, and, secondly, by the injection of serum from immune animals. In the last recrudescence in the Transvaal, in 1904, Mr. Stewart Stockman, the principal veterinary surgeon, and Dr. Theiler, were enabled to stamp out the disease rapidly and completely. The contagion or cause of rinderpest was absolutely unknown. It was in the methods of protective inoculation that the great advance had been made in our knowledge of this disease. Ten years ago no means were available to stay the progress of this plague; now, as soon as it appeared, it could be immediately attacked and stamped out. Up to 1903 immune serum and virulent blood were injected at the same time, in order that the animal might pass through a modified attack of the disease. Since 1903, however, in the Transvaal this method had been stopped, and the "serum alone" method introduced.

Horse Sickness.

This was a disease which only affected equines—the horse, mule, and rarely the donkey. It carried off thousands of horses every year. If it could be coped with the Transvaal might become one of the best horse-breeding countries in the world. Ten years ago nothing was known as to the causation or prevention of the disease. Credit was due to Dr. Edington for having accurately described the lesions and shown its ready inoculability, period of incubation, etc. Horse-sickness was common in Natal, Zululand, the greater part of the Transvaal, Rhodesia, Bechuanaland, and Portuguese East Africa. In Cape Colony it occurred in epidemics, with intervals of ten to twenty years. It prevailed chiefly in the lowlying localities and valleys, and was but rarely met with in elevated exposed positions. Season had also a remarkable influence on its development, it being exceedingly common in summer and disappearing on the appearance of the first frosts of winter. There could be no doubt that the disease was caused by some form of blood parasite. A small quantity of fluid taken from any part of a horse suffering from horse-sickness was capable of giving rise to the disease if injected under the skin of a healthy horse. Although every drop of blood must contain many of the organisms of this disease, the most careful examination of such blood under the highest powers of the microscope revealed nothing. What the nature of this parasite was one could not tell. On account of the small quantity of blood which would give rise to the disease if injected under the skin, and the large quantity required before the disease could be conveyed through the stomach, it had long been supposed that it must be conveyed from sick to healthy horses by means of some biting insect. Experiments had been made within the last few years by Watkins-Pitchford and others in order to clear up this aspect of the question. But, up to the present, the particular biting insect which was the carrier of the disease had not been discovered. Much persevering work had, however, been done within the last ten years in regard to its prevention by protective inoculation. In this important work Bordet, Edington, Koch, Theiler, Watkins-Pitchford, and others, had laboured for many years, and, according to recent reports, with some measure of success. The man who discovered a practical method of dealing with horse-sickness would be one of the greatest benefactors of this country.

Bequests to Medical Charities.—Mr. John Walsh, of Southport, and late of Broomhall Field, Sheffield, whose will has now been proved, left £50 each to the Royal Hospital and Royal Infirmary, Sheffield; £100 to the Jessop Hospital for Women and £50 to the Free Hospital for Sick Children, Sheffield.

The University of Giessen will celebrate the 300th centenary of its foundation in May, 1907.

PRISON MEDICAL SERVICE.

The prison department consists of two branches—the convict service and the local prison service. These are now practically amalgamated, and the officers of each branch are freely interchangeable. In the case of the smaller prisons the medical officer is usually a local practitioner, but in the case of the larger prisons the medical officers are appointed by the Convict Prison Board or the Prison Commission, and form practically a special service. The Chairman of the Board is Sir Evelyn Ruggles-Brise, K.C.B. Application for employment may be made to the Board on a special form, which, we understand, can be obtained from the Secretary, Major E. G. Clayton, Prison Commission, Home Office, London, S.W.

The number of vacancies is not large and the prospects of promotion are bad. This is due in part to the fact that the rate of pay of the higher appointments depends upon the number of prisoners in the particular prison, and that the total number of prisoners in the country is not increasing in proportion to population.[1]

Convict Service.—Four deputy medical officers at £250, rising to £300; four medical officers at incomes ranging from £300 to £550.

Local Prison Service.—Ten deputy medical officers at £250, rising to £300; nine medical officers at £200; three medical officers at £250; three medical officers at £300, rising to £390; six medical officers at £400, rising to £500. Quarters, or an allowance in lieu, are granted to those who give their whole time to the service.

MEDICAL APPOINTMENTS IN THE COLONIES.

1. Medical appointments are from time to time filled up by the Colonial Office in the following Colonies and Protectorates: British Guiana, Jamaica, Trinidad, Windward Islands, Leeward Islands, British Honduras, Fiji, Sierra Leone, Gambia, Gold Coast, Lagos, Northern and Southern Nigeria, East Africa and Uganda Protectorates, British Central Africa, Somaliland, Ceylon, Straits Settlements, the Federated Malay States, Hong Kong, Mauritius, Seychelles, Cyprus, Gibraltar, St. Helena, and the Falkland Islands. In Ceylon, Jamaica, and Mauritius, vacancies are almost always filled locally by the appointment of qualified native candidates. As a rule officers are required on appointment to undergo a three months' course of instruction at the London or Liverpool School of Tropical Medicine, and to obtain a certificate of proficiency before taking up their appointment.

It is for the West Indies and the East and West African Colonies and Protectorates that medical officers are chiefly required.

2. The majority of the West Indian appointments involve medical charge of a district, including, as a rule, the care of a hospital, poor house, asylum, or other institution, and free attendance on the aged and children.

N.B.—*Passage money on first appointment, and leave of absence on half-pay (in addition to the ordinary annual vacation on full-pay, not exceeding three months in two years), are granted only in the cases specified in the Colonial Regulations. Leave on half-pay is not granted before the completion of six years' service, except on the ground of illness or urgent private affairs. With regard to pension, medical officers are usually on the same footing as other Government servants: but in cases where private practice is allowed the rule is that they are not usually entitled to pension.*

3. The following is a short account of the appointments in the separate colonies:

British Guiana.—42 appointments. Candidates must have held for at least six months a resident medical appointment in some public institution. Officers are appointed on two years' probation as supernumeraries and are paid a salary at the rate of £300 per annum with quarters, without the right to private practice. Supernumerary officers, married or single, who obtain leave to reside out of the quarters provided for them will not be entitled to lodging allowance. After serving for two years, if appointed to the permanent staff, the officer will receive £400 per annum, rising by increments of £25 annually up to £700 per annum. A Government medical officer on being appointed to a district, and a supernumerary on being appointed to act in charge of a district, will receive a salary of £500 per annum, but will not receive any increments thereto until entitled to such increments by length of actual service. Every medical officer appointed to a district or to act in charge of a district will receive a travelling allowance at a rate varying from £100 to £150 per annum as the extent of the district may require. He is allowed private practice. No more than £30 is allowed for passage money on first appointment. There is a Widows' and Orphans' Fund in the colony to which all Government servants are compelled to subscribe at the rate of 4 per cent. on their salaries. The Governor now has the power to appoint private practitioners to perform the duties of medical districts on temporary agreements, and in recent cases vacant appointments have been filled in this way.

The conditions of medical appointments in British Guiana are now under consideration with a view to revision.

Jamaica.—The appointments, 54 in number, are mainly district appointments with private practice allowed; the salary paid by Government varies from £100 to £250 per annum. New-comers are, in some cases, attached for a while to the public hospital in Kingston, and given an allowance at the rate of £200 per annum, but not permitted to undertake private practice. Some medical officers receive a varying capitation allowance for attendance on immigrants. There is a Civil Service Widows' and Orphans' Fund established by law, to which all medical officers are obliged to subscribe at the rate of 4 per cent. on their salaries.

Trinidad and Tobago.—In Trinidad there are 32 appointments. Under the terms of the Ordinance regulating the medical service, officers are appointed in the first instance on two years' probation as supernumeraries. They receive a salary of £250 per annum with furnished quarters, and are usually attached to the Government hospital; the salary assigned to the district appointments, to which they are promoted as vacancies occur, is £300, which is increased to £400 and upwards by various allowances for horse, house, or otherwise. These posts carry the right to private practice. After every five years' service an officer is given an additional personal allowance at the rate of £50 per annum. All officers hereafter appointed are required to contribute 4 per cent. of their salaries to the Widows' and Orphans' Fund. But for the past few years no appointments have been made under the Ordinance, and officers appointed have received a fixed salary of £250 per annum without any subsequent increment, and in a few districts a system has been introduced by which the work is performed by private practitioners under temporary contracts. The question of revising the terms of appointment is under consideration.

In the island of Tobago there are three district appointments with salaries of £250 per annum with quarters.

Windward Islands (Grenada, St. Lucia, St. Vincent).—The 22 appointments are, with few exceptions, district appointments with the right to private practice attached; the salaries paid by Government vary from £250 to £400, with allowances in certain cases. The Governor has the power to transfer a medical officer from one island to another at his discretion.

Leeward Islands (Antigua, St. Christopher and Nevis, Dominica, Montserrat, Virgin Islands).—The 25 appointments are of the same nature as in the Windward Islands. An officer when first sent out is not appointed to a particular island, but to the service of the Leeward Islands, with a salary of £250, and the Governor decides as to the district which is to be allotted to him. He is liable to be transferred at the Governor's discretion to any medical district in the Leeward Islands, and in certain districts may be required to perform magisterial duties. The medical officers receive fees for successful vaccinations, *post-mortem* examinations, attendance, and giving evidence at courts of justice, certificates of lunacy, and, in the larger islands, for burial certificates. They are also allowed private practice.

British Honduras.—There are five medical appointments (besides the principal post of Colonial Surgeon). One of the medical officers is paid $1,200 a year, two are paid $1,080 a year, and two are also district commissioners, and receive $1,500 for the combined posts of medical officer and district commissioner. Unless they already possess a diploma of Public Health, medical officers are liable to be required before they join the colony to undergo a course of instruction at a laboratory of Public Health or analogous institution. The dollar = about 4s. 2d.

Fiji.—The medical service has recently been reorganized, and officers appointed in future will be styled Government Medical Officers, and receive a salary of £300, rising by annual increments of £10 to £400. They will be allowed private practice, so far as is consistent with the proper discharge of

[1] Intending applicants would do well to consult a memorandum prepared for the use of the Parliamentary Bills Committee of the British Medical Association, and published in the British Medical Journal on April 23rd, 1892.

their duty to the Government. They will be required either to take charge of hospitals or of districts, at the discretion of the authorities. The posts will be pensionable. As at present arranged, there will be ultimately fifteen of them, in addition to a Senior Medical Officer (who at present receives £450 and £50 allowance for house rent), and a Chief Medical Officer (£600 a year).

Government Medical Officers will be given free quarters or an allowance in lieu thereof.

Ceylon.—The Principal Civil Medical Officer receives Rs. 15,000, rising by annual increments of Rs. 500 to Rs. 18,000 per annum. There are an Assistant Principal Civil Medical Officer and a Medical Superintendent of Lunatic Asylum on Rs. 8,000—Rs. 10,000. The Registrar of the Medical College, Colombo, and the Director of the Bacteriological Institute receive Rs. 6,000—Rs. 8,000; the Surgeon-in-Charge of the General Hospital Rs. 5,000—Rs. 8,000.

There are seven Colonial Surgeons (Rs. 6,000—Rs. 8,000), twenty-three Assistant Colonial Surgeons (Rs. 3,000—Rs. 5,000), twenty-six Deputy Assistant Colonial Surgeons (Rs. 1,500—Rs. 2,500), and forty-nine Sub-Assistant Colonial Surgeons paid at from Rs. 900 to Rs. 1,600 per annum. Private practice is allowed to the subordinate officers, but the Colonial Surgeons may take only consultation practice. The Medical Service of Ceylon is mainly recruited from among gentlemen born in the island but possessing British diplomas. A revision of the salaries of the higher posts is under consideration.

Straits Settlements.—Two house-surgeons in the General Hospital, Singapore, and one in the General Hospital, Penang, on £300 rising to £360, with free quarters. There are ten other subordinate posts in the Medical Department, with salaries varying from £300 (rising to £360) to £780 (rising to £900). Some of these posts have free quarters attached, and the holders of some are allowed private practice within limits. The salary of the Principal Civil Medical Officer is £1,000.

Federated Malay States.[1]—There are 18 district surgeons and a medical officer to the Malay States Guides, on salaries of £360, rising to £480. There are also four State surgeons, on salaries varying from £480 (rising to £540) to £720 (rising to £840).

Medical officers have no claim to private practice, and the enjoyment of it will be strictly subject to the permission of Government. The private practice to be obtained is limited, Government officers, the wives and families of certain classes of officer, and in some States the employés of neighbouring mines, being attended free. There are two assistants in the Institute for Medical Research, on salaries of £360 to £420. These are non-pensionable, and the holders are eligible for appointment as district surgeons.

Hong Kong.—Principal Civil Medical Officer, £800, rising to £1,000. There are two health officers of the port, four medical officers of health, and four assistant surgeons, with salaries of £480, rising to £720. Most of these appointments are pensionable. Private practice is not allowed, and free quarters are only given in a few cases.

In Hong Kong, the Straits Settlements, and the Federated Malay States, officers whose salaries are fixed in sterling are paid locally in dollars, at a rate of exchange fixed monthly by the Government and based on the average exchange value of the dollar during the preceding month.

Mauritius.—There is a Head Quarters Staff consisting of a Director (Rs. 10,000), an Assistant Director (Rs. 8,000), two Sanitary Wardens (Rs. 6,000), one Assistant Sanitary Warden (Rs. 5,000), an Assistant Medical Officer, Port Louis (Rs. 5,000), a Police and Prisons Surgeon (Rs. 6,000), and a Health Officer (Rs. 5,000). There is also a Medical Inspector attached to the Immigration Department.

In the rural districts there are various medical officers, most of whom receive Rs. 6,000 a year, and are not allowed private practice.

Free quarters are not given in most cases. The service is mainly recruited locally.

N.B.—*There are Widows' and Orphans' Pension Funds in Ceylon, Straits Settlements, the Federated Malay States, Hong Kong, and Mauritius, to which all permanent Government servants are called upon to subscribe at the rate of 4 per cent. on their salaries.*

Officers in the service of Mauritius are required annually to contribute 2 per cent. of their salaries towards their pensions.

Seychelles.—There are four medical appointments. The Government Medical Officer receives Rs. 4,000. The Assistant Government Medical Officers receive Rs. 3,000. The holders of these latter appointments have free quarters. Private practice is allowed.

Gibraltar.—There is a surgeon of the Colonial Hospital receiving £275, £55 as Medical Officer of the Civil Prison and Lunatic Asylum, and horse allowance of £42, with private practice. There is also an Assistant Surgeon with a salary of £300 per annum, but without private practice, who is Police Surgeon, Port Surgeon, and Surgeon to the Port Office without additional emoluments.

Cyprus.—There is a Chief Medical Officer paid at the rate of £500 per annum, two District Medical Officers paid at the rate of £250 per annum, and one paid at the rate of £200, rising by £10 a year to £250, all enjoying private practice and receiving 2s. per diem forage allowance; these are the only medical appointments in the island which are open to English candidates.

St. Helena.—The Colonial Surgeon receives £300 per annum, and £30 horse allowance. Private practice is allowed.

Falkland Islands.—There are two appointments, one of which is paid at the rate of £300 per annum, with £25 as Health Officer, and the other at the rate of £200 per annum, with £36 as Deputy Postmaster. The holder of the latter post is required to enter into an agreement with the West Falkland Medical Association, in accordance with which he renders professional services to the members of the Association and their families, their employés and their families, in return for £200 a year, and certain payments by the employés. Private practice is allowed to both officers.

East Africa, Uganda, British Central Africa and Somaliland Protectorates.—The salary of a medical officer in these protectorates is £400 per annum, rising to £500 per annum by annual increments of £20. There are twenty appointments of this rank in the combined medical staff of the East Africa and Uganda Protectorates, seven in British Central Africa, and two in Somaliland. In East Africa and Uganda there are also two appointments as Assistant Principal Medical Offier at a salary of £550 per annum, rising to £600 per annum by annual increments of £25, and certain special appointments at salaries of £600 or £650 per annum. The salary attached to the appointment of Principal Medical Officer is £800 per annum, rising to £900 per annum by annual increments of £50, in the case of East Africa and Uganda, and £500 per annum, rising to £600 per annum by annual increments of £25, in the case of British Central Africa.

Medical Officers are permitted to take private practice on the understanding that they give precedence to their official duties.

Free passages are provided to the Protectorates. Under the present leave regulations officers are entitled to two months' leave on full pay every year, subject to the exigencies of the service, and are allowed to accumulate this leave up to six months—that is, if they remain at their posts for 2½ years they are entitled to six months' full-pay leave with a free passage either way. These regulations may shortly be modified.

Officers appointed are required to undergo a three months' course of instruction at the London School of Tropical Medicine or the Liverpool School of Tropical Medicine, and to obtain a certificate of proficiency before proceeding to the Protectorate.

4. All applicants for medical employment in these Colonies must be between the ages of 23 and 30,[1] and must be doubly qualified; preference will be given to those who have held hospital appointments as house-physicians and house-surgeons; certificates of moral character and of sobriety will be required, and every officer before being appointed will be medically examined by one of the consulting physicians of the Colonial Office: Sir Patrick Manson, 21, Queen Anne Street, Cavendish Square, London, W.; Dr. Andrew Davidson, 11, Morningside Place, Edinburgh; and Dr. Hawtrey Benson, 57, Fitzwilliam Square, Dublin.

5. In addition to the ordinary medical appointments in these Colonies vacancies also occasionally, though very rarely, occur for which specialists are required for example, to take charge of a lunatic asylum: and the particulars of chief medical officer in some of the larger Colonies have not been given, as the headship of the Medical Department in such Colonies, requiring administrative as well as professional qualifications, is not reserved to the ordinary medical staff of the same Colony, but is often filled up directly by transfer, and sometimes from outside the service.

6. Applications for medical employment in these Colonies

[1] The salaries are undergoing revision.

[1] Except in the case of East Africa, Uganda, British Central Africa, and Somaliland, where the limits of age are 25 to 35.

from persons in the United Kingdom must be addressed to the Assistant Private Secretary, Colonial Office, Downing Street, S.W. Out of the total number so applying a list of candidates will be made, who will be considered as vacancies occur, but no promise whatever can be held out that candidates, even if they are placed on the list, will eventually receive an appointment. It is not possible to forecast either the number or the nature of the vacancies which will arise in the course of any given year, and it is not expected that candidates should hold themselves in readiness by refraining from other employment, as usually, when selected for an appointment, they can be allowed sufficient time to make their preparations and to terminate their existing employment.

7. Information as to the West African Medical Staff is given in a separate memorandum below.

8. *South Africa.*—Medical appointments in the Bechuanaland Protectorate and Basutoland are made only on the recommendation of the High Commissioner for South Africa, who usually appoints local candidates. Appointments of medical officers to the South African Constabulary are made by the High Commissioner on the recommendation of the Inspector-General. The Secretary of State does not select candidates for these appointments, and no register of candidates is kept at the Colonial Office.

Medical appointments in the Transvaal and Orange River Colony are only made on the recommendation of the Governor of those Colonies. The supply of candidates in the colonies is understood to be sufficient, and it is not anticipated that there will be any demand for the services of medical men from this country for ordinary appointments. Information as to the conditions of practice in these Colonies can be obtained from the Emigrants' Information Office, 31, Broadway, Westminster, S.W.

Medical appointments in the Cape and Natal are made only by the Colonial Governments. Information with regard to appointments in these Colonies can be obtained from the Agent-General for the Cape, 100, Victoria Street, S.W., and the Agent-General for Natal, 26, Victoria Street, S.W.

Appointments in Rhodesia are made by the British South Africa Company, 2, London Wall Buildings, E.C.

INFORMATION FOR THE USE OF CANDIDATES FOR APPOINTMENTS IN THE WEST AFRICAN MEDICAL STAFF

1. The medical services of the West African Colonies and Protectorates (namely, the Gambia, Sierra Leone, the Gold Coast, Lagos, Southern Nigeria, and Northern Nigeria) form one service under the above name. All the medical officers for the service are selected by the Secretary of State for the Colonies, and are on one list for employment and promotion.

SALARY AND ALLOWANCES.

2. The grades and salaries of medical officers are shown in the following table:

Grades.	Gold Coast, Southern Nigeria, Northern Nigeria.			Sierra Leone, Lagos.			Gambia.		
	Minimum Salary.	Annual Increment.	Maximum Salary.	Minimum Salary.	Annual Increment.	Maximum Salary.	Minimum Salary.	Annual Increment.	Maximum Salary.
	£	£	£	£	£	£	£	£	£
Principal Medical Officer	1,000	50	1,200	800	50	1,000	—	—	—
Deputy Principal Medical Officer	700	25	800	—	—	—	—	—	—
Senior Medical Officers	600	20	700	600	20	700	500	20	600
Medical Officers ...	400	20	500	400	20	500	400	20	500

3. The allowances are as follows:

(*a*) *Duty Pay.*—A Deputy Principal Medical Officer or Senior Medical Officer receives duty pay at the rate of £100 a year while acting for the Principal Medical Officer.

In the Gambia a Medical Officer while acting for the Senior Medical Officer in charge of the Medical Department receives duty pay at the rate of £50 a year.

Duty pay at the rate of £60 a year is also paid (1) to each Deputy Principal Medical Officer or Senior Medical Officer while employed in Ashanti or the Northern Territories of the Gold Coast, and (2) to not more than two officers of either of those ranks in Northern Nigeria, when similarly employed in outlying districts, at the discretion of the High Commissioner.

(*b*) *Horse or Hammock Allowance.*—An allowance of 2s. 6d. a day is paid to every medical officer for personal conveyance while on duty at his station, for any periods during which he was required by Government to keep, and has actually kept, a horse, carriers, etc., for the purpose.

(*c*) *Transport of Stores.*—The Government carries free of cost a reasonable amount of stores for every medical officer, the amount in each case being fixed by the local Government.

(*d*) *Travelling.*—Medical and other officers travelling on duty in a Colony or Protectorate are entitled to repayment or any actual out-of-pocket expenses which they may necessarily have incurred. In some cases, in lieu of the repayment of expenses, a travelling allowance is given, which is estimated to cover the average cost of travelling.

(*e*) *Field or Bush Allowance.*—An allowance of 5s. a day is paid to all medical officers, whatever their rank, while employed in the field or bush, away from recognized stations. Officers, while in receipt of this allowance, are not entitled to any repayment or allowance under (*d*) above.

(*f*) *Allowances on a Military Expedition.*—All medical officers, whatever their rank, while employed with a military expedition, will be paid an allowance of 10s. a day; and they will also be given free rations, or an allowance of 3s. a day in lieu of rations, whenever other officers employed with the expedition are given free rations or an allowance in lieu of rations. While in receipt of these allowances medical officers will not be entitled to any repayment or allowance under (*d*) and (*e*) above.

(*g*) *Outfit Allowance.*—An allowance of £12 is paid to every medical officer before his departure on first appointment for the purchase of camp outfit (*see* under "Outfit").

(*h*) *Special Allowances.*—Allowances varying in amount up to 10s. a day are paid to medical officers detailed for certain special duties—for example, sanitary duties in large towns, the charge of laboratories for research, etc.

Medical officers when acting as Assistant District Commissioners on the Gold Coast, in addition to performing their medical duties, receive duty pay at the rate of £80 a year, and when acting as District Commissioners in Ashanti at the rate of £140 a year.

LEAVE OF ABSENCE, PASSAGES, ETC.

4. Medical officers are in general subject to the Colonial Regulations in force for the time being, Chapter XVIII of which contains the rules specially applicable to West Africa. A brief summary of these rules is given here for convenience.

5. The ordinary tour of residential service is one year, followed by leave with full pay during the voyages to and from England, and for four or two months clear in England, according as the officer is returning for further service in West Africa or not. If an officer is detained beyond the year, additional leave is given with full pay for ten days in respect of each completed month beyond twelve, whether he is returning or not. If he is invalided before the end of the year, the leave with full pay is for the voyages and for ten or five days in respect of each completed month, according as he is returning or not. Leave granted on the understanding that an officer will return is known as "return leave," and any pay drawn in respect of such leave is liable to be refunded if he does not return.

6. Leave may be extended for a limited period with half or no pay on the ground of ill health, or without pay on other grounds.

7. Free passages are given to all officers who are granted leave as above. A free passage is also given on first appointment, subject to the officer signing an agreement under which he is liable to refund its cost if he relinquishes his appointment for any other reason than physical or mental infirmity, or is removed for misconduct, within three years from the date of his arrival in West Africa.

8. Half pay is given during the voyage out on first appointment.

9. Fuller information on these points will be found in the Colonial Regulations, which are published in the annual Colonial Office List (Messrs. Waterlow and Sons, Great Winchester Street, E.C., price 10s. 6d.), or may be consulted on application at the Colonial Office; and a copy of Chapter XVIII may also be obtained free on application to the Colonial Office.

GENERAL CONDITIONS OF ENGAGEMENT.

10. Every medical officer, unless exempted from this condition on account of previous Colonial service or for any other reason, is engaged in the first instance on probation for one year from the date of his arrival in West Africa. If it is established to the satisfaction of the Governor or High Commissioner that an officer is not qualified for efficient service in West Africa, the Governor or High Commissioner, subject to the confirmation of the Secretary of State, will have full power to cancel his appointment at any time within the year without giving him any further compensation than a passage back to England, which will be granted only at the discretion of the Governor or High Commissioner.

11. At the end of the year of probation the officer may, on the recommendation of the Governor or High Commissioner, subject to the approval of the Secretary of State, be confirmed in his appointment with effect from the date of his first embarkation from England for West Africa; and unless it is expressly continued in this manner, the appointment will cease at the end of the year.

PRIVATE PRACTICE.

12. All medical officers, except the Principal Medical Officer, in each Colony or Protectorate, are allowed to take private practice, provided that it does not interfere with the faithful and efficient performance of their official duties, but it is within the power of the Governor or High Commissioner to withdraw or suspend the privilege in such places and for such periods as he may consider desirable.

OUTFIT.

13. *Instruments and Drugs* and all medical appliances are supplied by the Government. Medical officers are not required to provide themselves with microscopes, which are supplied, when necessary, by the Government.

14. *Camp Outfit* on the following scale must be taken out by every medical officer, and an allowance of £12 is given for its purchase: Camp table, 2½ ft. by 2 ft., camp bed (straps, etc.), hurricane lamp (with spare chimneys and wicks), enamelled basin, camp chair, portable bath, Berkefeld filter, stable bucket, mosquito curtains; tents are supplied by the Government, if required.

15. *Clothing, etc.*—The following are recommended: Thin gauze vests and drawers, one or two pairs of thick Jaeger drawers, thin flannel shirts, white shirts, turn-down collars for wear at head quarters (not required in Northern and Southern Nigeria), merino socks, one or two pairs of woollen socks, thick woollen cholera belts, thin flannel pyjamas (and two thick), flannel dressing gown, medium greatcoat, light tropical mackintosh (the seams should be sewn throughout, as those fastened only with composition fall to pieces after a few weeks), umbrella (either white linen with green lining, or ordinary black with white cover), shooting boots; a pair of high indiarubber rain boots for crossing swamps, etc., is useful; brush, comb, shaving brush, razor, glass, tooth brushes, powder, sponge, soap, candles, needles and thread, etc.

16. *Miscellaneous Outfits.*—Table-ware (not required in Southern Nigeria)—plates, dishes, glass, knives, forks and spoons, cruet, tea and coffee pot, cups and saucers, jugs, etc.; table cloths, napkins, dusters, glass cloths. Corkscrew, turnscrew, tin-opener. Kitchen ware (not required in Southern Nigeria)—kettles, cooking utensils, towelling. Camp canteen, water-bottle, waterproof sheet, thick blankets, towels, sheets (if desired), pillow cases. Good watches or jewellery should not be taken out: a small clock is useful. Lounge chair (for voyage). Shot gun, ammunition, hunting knife and belt, etc., if desired. Tin boxes to hold 65 lb. or less, are better than wooden boxes or portmanteaux. Transport is effected by means of native carriers, whose average load is 50 lb. each.

N.B.—A complete set of winter clothes and winter underclothing may be required on board ship if an officer's leave of absence takes him to England in the cold weather. Arrangements might preferably be made for these to meet the officer during the voyage, as they are apt to get destroyed if kept unused in West Africa.

17. The above lists are only intended as a guide to requirements. Many articles can be obtained in West Africa, though at a rather higher price than in England. As a general rule it is desirable for officers to take out as little as possible with them, but circumstances vary, and a newly appointed officer should always, if possible, consult some one who has recently been on the Coast. If he applies to the Colonial Office he will be placed in communication with some officer at home on leave of absence, who will be able to advise him what to do.

UNIFORM.

18. In Northern and Southern Nigeria there is a uniform prescribed for medical officers in common with other civil officers, particulars of which can be obtained from the Colonial Office. In the other Colonies medical officers at present wear no special uniform.

QUARTERS.

19. At all the recognized stations free single quarters, furnished in most cases, are provided for medical officers, or an allowance is paid in lieu of quarters. Information as to the nature of the quarters, the amount of furniture supplied, etc., may be obtained on application at the Colonial Office.

PENSIONS AND GRATUITIES.

20. The ordinary regulations relating to pensions and gratuities for West African service can be consulted at the Colonial Office, but for convenience a brief though necessarily incomplete account of them is given here.

21. On attaining the age of 50 years, or after 18 years' service (of which at least 12 must have been residential), an officer is qualified for a pension calculated at $\frac{1}{40}$ of the last annual salary for each year of service.

22. If invalided after a minimum of seven years' service, he is qualified for a pension calculated at the same rate.

23. If invalided before completing seven years' service, he is qualified for a gratuity not exceeding , of a month's salary for each six months of service; provided that he has been confirmed in his appointment, and that he is specially recommended by the Governor or High Commissioner for such gratuity.

24. For the purpose of calculating the *amount* of these pensions and gratuities, leave of absence without salary is not counted, while leave with half salary is counted half.

25. In addition to the ordinary regulations, an officer of the West African Medical Staff enjoys the following special privilege. At the end of nine years (of which not less than six must have been residential) he will be permitted to retire with a gratuity of £1,050, or at the end of 12 years (of which not less than eight must have been residential) with a gratuity of £1,250. All claims to pension are, however, forfeited on the receipt of such a gratuity.

APPLICATIONS FOR APPOINTMENTS.

26. Applicants for appointment as Medical Officers in the West African Medical Staff (the higher grades will usually be filled by promotion from the lower) must be British subjects of European parentage, and between 25 and 35 years of age; they must possess a complete double qualification, and must be on the *Medical Register*.

27. Preference will be given to unmarried candidates. Married ones are not excluded; but it should be remembered that passages for wives and children are not provided by the Government, that houses for them are rarely available, and that, except in the case of an officer dying on active service, no provision is made by the Government for a widow or orphans.

28. Candidates should, in the first instance, apply in writing to the Assistant Private Secretary to the Secretary of State, Colonial Office, Downing Street, London, S.W., stating generally their qualifications and enclosing a certificate of birth. A form of application will then be forwarded for them to fill up and return together with testimonials.

29. Candidates whom it is proposed to select for appointment will have to be medically examined by one of the medical advisers of the Colonial Office (or, in the case of those residing in a Colony, by a medical officer appointed by the Colonial Government), and no appointment will be made unless the candidate is declared to be physically fit for service in West Africa.

30. Candidates for medical appointments in West Africa are allowed to express a preference for any particular Colony or Protectorate, and their wishes in this respect will be borne in mind and met as far as possible, but they are liable to be posted in the first instance, or transferred afterwards if necessary, to any other West African Colony or Protectorate at the discretion of the Secretary of State.

31. Transfers from one Colony or Protectorate to another will, however, be made as seldom as possible, and will usually be restricted to the following cases:

(i.) If an officer is appointed in the first instance as supernumerary to the establishment in one Colony or Protectorate, pending the occurrence of a vacancy in another Colony or Protectorate.

(ii.) If an officer applies himself for transfer in the same grade.

(iii.) On promotion.

(iv.) Temporary transfers in cases of emergency.

INSTRUCTION IN TROPICAL MEDICINE.

32. Every candidate selected for appointment will, unless the Secretary of State otherwise determines, be required to undergo a course of instruction for two or three months either at the London School of Tropical Medicine, Royal Victoria and Albert Docks, East London, or at the Liverpool School of Tropical Medicine at University College, Liverpool. The cost of the tuition fees, board, and residence during such instruction, amounting to a maximum of £25 in all for three months, will be borne by the Government; and a daily allowance of 5s. (but no pay) will be paid to each candidate during the course, and may be continued subsequently up to the date of embarkation. These payments will be made subject to the candidate's signing an agreement by which he will be bound to refund them (1) if he declines to accept an appointment in any of the Colonies or Protectorates for which he may be selected by the Secretary of State, (2) if he fails to obtain the certificate referred to in the next paragraph, or (3) if he relinquishes the West African service for any other reason than mental or physical infirmity, or is removed for misconduct, within three years of the date of his arrival in West Africa.

33. Every candidate sent to either of the schools is required to obtain a certificate showing that he has satisfied the school authorities with regard to his regularity of attendance, progress, and proficiency, and for this purpose to undergo any examinations which they may consider necessary; and if he fails to obtain such a certificate, he may not only be called upon to refund the payments made to him or on his behalf (as provided in the previous paragraph), but his selection for the West African Medical Staff may also be cancelled.

34. Half pay begins from the date of embarkation.

35. If a medical officer has for any reason not taken a course of instruction prior to appointment, he is required to take it during his first leave of absence, and to obtain the certificate before he can be confirmed in his appointment. In this case the tuition fees, but not the fees for board and residence, will be paid by the Government, and no daily allowance will be given in addition to pay.

36. The seniority of Medical Officers is reckoned generally from the date of their embarkation in this country, but in the case of those who have taken a course of instruction before proceeding to West Africa, a period is added equal to the period during which they have actually been under instruction. This addition, however, is only made for purposes of promotion, and does not affect pensions, gratuities, or increments of salary. Seniority alone does not, moreover, give any claim to promotion.

BRITISH PRACTITIONERS ABROAD.

THE following notes give some indication of the conditions under which medical men possessing British degrees or diplomas are at liberty to carry on regular practice outside Great Britain and Ireland.

FOREIGN STATES.

Austria.—It is necessary to pass the State examination, or to obtain a University Degree in Medicine, a necessary preliminary to which is naturalization as an Austrian subject. Recognition of foreign diplomas may be obtained on passing certain examinations.

Belgium.—Permission to practise must be obtained by foreign practitioners through a duly appointed Medical Board. So stringent are the formalities that it is held by His Majesty's Minister at Brussels that the difficulties are prohibitive. No foreigner has, as a matter of fact, received permission to practise since 1893.

Bulgaria.—Foreign medical graduates are sometimes granted permission to practise after passing a viva voce examination conducted in the Bulgarian language.

Denmark.—Foreigners are allowed no privilege in respect of exemption from examination.

Egypt.—Permission to practise is accorded by the Director-General of the Sanitary Department to registered British practitioners upon proof of identity and a certificate of good character from the British Consul-General.

France.—The degree of M.D. obtained by examination before a French faculty (Paris, Montpelier, Nancy, Bordeaux, Lyons, Lille, or Toulouse) is required. This regulation applies to Algiers. The degree, however, confers the right to practise only if it has been obtained on precisely the same conditions as those to which French students are subject—that is to say, before registration as medical students they must produce evidence of having passed the examination for the French diploma of Bachelor in Classical Education (Arts and Philosophy) and the Certificate in Physical, Chemical, and Natural Science, and they must go through the regular curriculum of professional study, and must pass all the five professional examinations required of French students. The degree of M.D. is still obtainable by holders of British diplomas under the old conditions of exemption, at the discretion of the Minister of Public Instruction, from any preliminary examination in Arts or Sciences, and from portions of the professional curriculum or examinations. The degree obtained in this way will not, however, confer the right to practise in France, or in any of its Colonial possessions. The walls of hospitals and laboratories are still freely open to foreigners; and for those who may wish to obtain the purely honorary M.D. degree the facilities offered in the way of dispensation from preliminary examinations are even greater than heretofore. Application for such exemption must be addressed to the Minister of Public Instruction, to whom the documents showing the examination passed by the candidate in his own country, and the degrees or qualifications possessed by him must be submitted. Fees to the amount of £60 must be paid. The *Progrès Médical* (14, Rue des Carmes, Paris) publishes a "Students' Number" every year about November, in which full information is given as to teaching and examinations in every medical school in France.

Germany.—Any person may practise medicine in this country, but does so at his own peril unless he has passed the Staats Examen. The latter alone confers recognition as a legal medical practitioner, and must be passed even by those who are already graduates of German Universities. It takes place every year in November, and can be held by a Medical Board of Examiners at any German University. The application of a candidate for admission to the Examinat on must be accompanied by certificates of admission to the University from a German Public School, and of at least nine half-yearly terms of medical study at a German University. The candidate must also have passed the previous medical examination, and immediately afterwards have taken out at least four half-years' study at the University. He must also have taken practical part for at least two half-years in medical, surgical, and midwifery clinics, have personally attended two labour cases in the presence of his teacher, have had half a year's practice in an ophthalmological clinic, and have been instructed in vaccination and acquired dexterity in its practice. The Examination comprises the following subjects: Anatomy, Physiology, Pathological Anatomy and General Pathology, Ophthalmology and Surgery, Medicine, Midwifery and Gynæcology, Hygiene. It is very similar to most qualifying examinations in this country, but the clinical

part is a better test for general practice than is the case in most of our examinations. In both the medical and the surgical parts the candidate has, on two succeeding days, to examine a patient in the presence of the examiner, to give the etiology, diagnosis and prognosis of the disease, and to arrange a plan of treatment, immediately after which he draws up a report of the result, which is countersigned by the examiner; then, on the same day, he prepares a critical report at home, which is presented to the examiner next morning, with the date and the candidate's signature affixed. During the next seven days he has to visit both the patients assigned to him at least once, or if required by the examiner, twice daily. He must also write an account of the progress and treatment of the disease, and in case the patient dies within the seven days, he must give a written opinion of the cause of death. A similar clinical examination is held in ophthalmology and in midwifery, and the candidate's knowledge of children's diseases and of mental diseases also tested. The Government reserves to itself the right to exempt from this examination men of medical distinction under certain conditions, but the latter have no application to foreign medical men. Very occasionally also certificates of study at other than German universities and medical schools are accepted in lieu of some of those described herein.

Greece.—A State examination must be passed, but graduates of foreign schools may take their examination in French or German.

Holland.—Foreigners are required to pass the State examination, but registered English medical men are entitled to exemption from part of it.

Hungary.—An English diploma does not entitle one to practise in Hungary without certain formalities of confirmation, owing to the fact that there is no International Convention between England and that country.

Italy.—A foreigner must (*a*) obtain an authorization (*abilitazione*) from one of the Royal Universities of Italy; or (*b*) if he desires to practise only among foreigners, he is at liberty to do so. In Italy medical studies are conducted in Government Universities under the immediate supervision of the Ministry of Public Instruction in Rome. There are several universities, one in each of the most important centres of the Kingdom, such as Rome, Turin, Naples, Genoa, Palermo, Pavia, Pisa. There is only one medical degree in Italy, and it is that of Doctor in Medicine and Surgery. The title is conferred by the Rector of each University in the name of the King. The examination can be passed at any of the universities, and the students can transfer themselves from one to the other. An original thesis must be presented.

Monaco.—The following British qualifications are, for the purposes of medical practice in the Principality of Monaco, considered equivalent to the French Diploma of Doctor of Medicine; the degree of Doctor of Medicine of the University of "the United Kingdom of Great Britain," and the diplomas of Fellows of the Royal Colleges of Surgeons and Physicians of London, Edinburgh, Dublin, and of the Faculty of Physicians and Surgeons of Glasgow. Every application for leave to practise must be accompanied by the diplomas of the applicant or by copies of those documents certified as correct either by a Consul of the Principality or by the Mayor of Monaco. The applicants must enter into an undertaking to live in the Principality and to practise their profession during the whole or part of the months of May, June, July, August, September, and October, agreeably to Article 1 of the Ordinance of May 29th, 1894.

Portugal.—The State examination must be passed.

Norway.—The State examination must be passed. The Government may, however, grant permission in individual cases to persons who produce satisfactory evidence that they possess the requisite knowledge.

Roumania.—The State examination must be passed (viva voce).

Russia.—Foreign medical men must pass a comprehensive examination at the Medical Academy of St. Petersburg or one of the universities of Russia, and must know Russian. Those who have not a B.A. degree must pass an examination in general education, and in Greek and Latin.

Servia.—No permission to practise can be obtained by any one other than Servian subjects irrespective of examinations.

Spain.—The Spanish law of September 9th, 1857, gave to the Government, acting on the advice of the Council of Public Instruction, power to recognize medical studies pursued abroad, and to grant to persons holding a regular diploma obtained in another country the temporary right of practising medicine in Spain. On the downfall of Queen Isabella a more liberal spirit prevailed, and on February 6th, 1869, Señor Zorilla issued a decree declaring that foreign degrees should be held as equivalent to Spanish, and granting foreign doctors the right to practise in Spain on production of their diplomas and payment of 500 pesetas (£20). This ministerial order has recently been rescinded. A Royal decree, dated November 7th, 1902, revives the law of 1857, but suspends its application till a new ordinance has been promulgated. Foreign doctors now practising are to be compelled to comply with the new enactment within six years.

Sweden.—The State examination must be passed. Some reduction in curriculum may be granted.

Switzerland.—A qualified English practitioner desiring to practise in Switzerland, even if he practise only among his own countrymen, is required to pass the Federal examination in that country. The degree of Doctor of Medicine does not give the right to practise. The Federal examination may be passed at Basle, Zürich, or Berlin in German, and at Geneva or Lausanne in French. The applicant is advised to obtain from one of his teachers in this country an introduction to a professor at the university at which he proposes to pass the examination. His proper course would be to call upon the Rector of the University. We are informed that every information would be afforded, and that no difficulties are placed in the way of candidates. At the University of Zürich, the three examinations which it is necessary to pass are held as a rule at the following periods of the year: *First Examination:* End of January and mid-September. *Second Examination:* End of January and mid-September. *Third Examination:* Beginning of January, end of May and beginning of October. At Basle the next examinations are in October. At Geneva the examinations are held in the third week of October, and in the second week of July, at the opening and conclusion respectively of the winter and summer session. At Lausanne the examinations takes place as follows: *First and Second Examinations:* April and October. *Final Examinations:* February and March, and June and July.

Turkey.—An examination in the chief branches of medicine and surgery must be passed at Constantinople (fee, £4 10s.) Before being admitted to the examination the candidate must present a diploma from a medical school recognized by the Government of the country in which it is situated.

AUSTRALASIA.

South Australia, New South Wales, Queensland, Western Australia.—Medical men holding British medical degrees or diplomas entitling them to registration in the United Kingdom under the Medical Act of 1858 can obtain admission to the Register in these Colonies upon furnishing proof of identity with the right holders of the qualifications produced, and upon payment of any fees that may be for the time being in force.

New Zealand, Tasmania.—A Register is maintained by the Colonial Medical Council, and admission thereto can be obtained upon equivalent terms to those indicated in the foregoing paragraph.

AFRICA.

Cape Colony, Natal.—Application for permission to practise must be addressed to the Colonial Secretary of either Colony, who will grant it upon the recommendation of the Colonial Medical Council concerned. The recommendation is always made in the case of medical men who produce proof that they are the rightful owners of degrees or diplomas entitling them to registration in Great Britain and Ireland under the Medical Act of 1858. The fee for registration in Cape Colony is £5 and in Natal £1.

Transvaal, Orange River Colony.—The regulations are of a corresponding character to those indicated above.

Rhodesia.—A licence to practise costs £5, and is accorded to the legal holders of degrees and diplomas entitling them to admission to the *Register* in Great Britain or Ireland upon application to the Administrator of Rhodesia.

NORTH AMERICA.

The United States.—Each of the States has its own laws and regulations: some of them will admit any man to the Register who holds a diploma or degree wherever obtained: the majority require the candidate for registration to submit to an examination. An attempt to bring about reciprocity between the States is now proceeding. Changes are frequent, and any one proposing to practise in America should address special inquiries to the Medical Board of the State in which he desires to settle for information as to the regulations in force.

Nova Scotia.—This colony admits to its Register any person in lawful possession of a certificate of registration by the General Medical Council of Great Britain.

Prince Edward's Island.—All persons duly registered by the General Medical Council of Great Britain and Ireland can obtain registration in this colony.

British Columbia.—The College of Physicians and Surgeons of British Columbia, which is the licensing body of this province, admits to its Register all persons who are registered to practise in Great Britain under the Imperial Medical Act, and who have not lost the benefit of such registration by any misconduct or otherwise.

Ontario.—Practitioners who have been on the *Register* of the General Medical Council for five years may be registered in this colony on payment of the fees and on passing the Intermediate and Final Examinations. Those who have not been five years in practice must pass all the examinations.

Quebec.—The College of Physicians and Surgeons at Quebec is the licensing authority for this province: is prepared to admit to its Register persons who are already registered in Great Britain, provided that the possession of a diploma granted in the province of Quebec privileges its holder to registration in the United Kingdom. At present this is not the case: so, before admission to the Register in this colony, a British registered practitioner must pass sundry professional examinations, and in addition may be subjected to an examination in the subjects of General Education.

SOUTH AMERICA.

South American Republics require any one who seeks permission to practise to pass an examination irrespective of any degrees which he may hold, and the examinations are conducted as a rule in Spanish.

THE SMALLER BRITISH POSSESSIONS.

West Indies.—In British Guiana and throughout the West Indian Islands registration can be obtained by any medical man who is qualified for admission to the *Register* in Great Britain and Ireland, proof thereof being demanded.

In the small British Colonies scattered throughout the world no difficulty is raised to the practice of medicine and admission to the *Register*, if one is kept, in the case of any medical man who is in a position to prove his qualification to registration under the Medical Act of 1858.

THE PLAGUE.

PREVALENCE OF THE DISEASE.

INDIA.

During the weeks ending July 22nd and 29th and August 5th, the deaths from plague in India numbered 786, 1,024, and 1,054 respectively. The largest returns are from the Bombay Presidency, where the deaths from plague numbered 471, 615, and 734 during the three weeks in question. In the Punjab the deaths from plague during the weeks ending July 22nd and 29th amounted to 49 and 128 only.

SOUTH AFRICA.

During the weeks ending July 29th and August 5th, with the exception of one case of plague at Port Elizabeth during the week ending August 5th, no further cases were reported from any part of Cape Colony.

Rats and mice continue to be found infected at Port Elizabeth, East London, and King Williamstown.

AUSTRALIA—QUEENSLAND.

During the week ending July 8th 1 fresh case of plague was reported at Cairns and 1 case (fatal) at Ipswich.

During the week ending July 15th 1 fresh case of plague occurred at Cairns.

During the week ending July 22nd no case of plague was reported from any part of Queensland.

MAURITIUS.

During the weeks ending August 18th and 25th the fresh cases of plague numbered 7 and 1; and the deaths from the disease 5 and 1.

HONG KONG.

During the week ending August 19th fresh cases of plague numbered 6 and the deaths from the disease 6.

THE STATISTICAL INVESTIGATION OF CANCER.

THE Imperial Cancer Research Fund has recently issued its second annual report, and Part I, dealing with the statistical investigations of this disease, is now before us. It is written by Dr. E. F. Bashford, the General Superintendent of Research, and deals in a most comprehensive manner with the investigation of cancer so far as this has been or can be elucidated by statistical inquiries on behalf of the Fund.

THE LIMITATIONS TO THE STATISTICAL INVESTIGATION OF CANCER.

There are doubtless, as pointed out in the report, limitations to such an inquiry, and the statement of these forms a considerable portion of this report. It has been found necessary, in the first instance, to pay constant heed to the variations, both in quantity and quality of the information derivable from different sources, and to reject some of the methods employed by others in collecting and utilizing statistical data.

The frequency with which medical statistics on cancer have been compiled without any cognizance being taken of the actuarial corrections required before comparisons can be made, is very properly emphasized. Dr. Bashford particularly alludes to the failure of most statistical inquiries to utilize some such method of correcting for the error due to the survival of a large number of persons to higher ages, as was described in the *Proceedings* of the Royal Society (Vol. LIV) by Messrs. King and Newsholme.

THE BEARING OF BIOLOGICAL INVESTIGATION ON CANCER STATISTICS.

Dr. Bashford is strongly of opinion that recent experimental study of cancer has modified to an important extent the views that must be taken of the utility of cancer statistics. Thus it has been established by the researches in connexion with the Imperial Cancer Research Fund that (*a*) cancer is an identical process in all vertebrate animals, and (*b*) it develops at a time which conforms in a striking manner to the limits imposed by the long or short compass of life in different animals. It has been shown also: (*c*) That cancerous tissue can be artificially propagated in the short-lived mouse by actual transference to another individual, but only to one of the same species. "*The processes by which growing cancer cells are transferred to a new individual are easily distinguishable and fundamentally different from all the known processes of infection.*" We italicize the above words, as they are an important pronouncement on the subject of the supposed infectivity of cancer. It is added that the balance of evidence appears to favour the view that the limitless growth of experimentally-produced cancer is a cyclical form of proliferation "which is frequently renewed," and which "in the first instance is added on to the terminal phases of normal proliferation in different tissues." This view being accepted, "carcinoma and sarcoma agree in possessing all the pathological and cellular features of malignant new growths; they differ chiefly in the nature of the tissues composing them."

A CANCER CENSUS.

When the Statistical Committee of the Imperial Cancer Research Fund first began its work, it had to decide whether it should adopt the method of investigating by a sort of census enumeration of cancer which had been adopted in Germany, Baden, Holland, and Spain. Dr. Bashford, who had investigated the results obtained in Germany, reported that "the value of the results obtained by tabulating the figures was not commensurate with the labour and expense necessary to collect them." The figures thus collected included to an enhanced extent all the fallacies inherent to mortality returns, and the attempt to have such a census in England was wisely abandoned in favour of a more detailed utilization of our national death statistics, and of the compilation of hospital statistics on a uniform basis. Meanwhile, it may be stated in brief that the cancer census of October 15th, 1900, in Germany has left all the problems of cancer exactly where they were.

UNIFORMITY IN HOSPITAL STATISTICS.

The co-operation of most of the metropolitan hospitals has been secured, and by this means a card index has been secured of nearly all the cases of cancer occurring in these hospitals, giving information as to primary and secondary position of the cancer, whether a microscopical examination has been made after operation or after death, etc. It is hopeless to attempt any correlation between the death-rates from cancer in the general population and the proportion of cases occurring in a hospital or group of hospitals. Dr. Bashford has wisely refrained from any such attempt, but has made most important use of the hospital statistics collected by him. He has correlated the exact results of autopsies and microscopical examinations with the opinions formed by the physician or surgeon on the nature of the disease from which the patient was suffering, and in this way has secured a valuable estimate of the relation between the absolute incidence of cancer and its incidence as recorded by the tabulation of the certified causes of death.

THE IMPORTANCE OF MICROSCOPICAL EXAMINATION.

It soon became apparent from the hospital returns that only cases in which the results of microscopical examination had been carefully recorded were strictly comparable, and therefore valuable for statistical purposes. Analysis of the hospital returns showed that microscopical examination is relatively more frequent when tumours occur in parts readily accessible to complete physical examination. Thus there were found to be three groups, one in which such a microscopical examination is usual; one in which it is less frequent; and one intermediate between the two. Using this classification Dr. Bashford next formed three anatomical groups: (*a*) "accessible," (*b*) "inaccessible" to careful physical examination, and (*c*) an intermediate transitional group. The tables show that in each of these groups erroneous diagnosis of malignant new growth is not infrequent, owing to the fact that such new growths are devoid of a specific symptomatology. This is an error in two directions, cancer failing to be diagnosed on one side, and operative surgery and microscopic examination frequently showing the existence of conditions wrongly diagnosed as malignant new growths among intra-abdominal and other tumours. Dr. Bashford draws attention to the similarity of the above classification to that adopted in the paper referred to above, and adds that, although "the accessible and inaccessible groups of the present investigation are not strictly identical with those of King and Newsholme, the more extensive data at our disposal, and the unequal distribution together with the nature of the fallacies in diagnosis which are revealed in them, constitute a complete justification of the grounds on which that classification was adopted by those authors."

COMPARISON OF CLINICAL MANIFESTATIONS WITH THE RESULTS OF MICROSCOPICAL EXAMINATION.

During 1903, 683 cases of malignant new growth returned from the hospitals were correctly diagnosed, 152 not diagnosed and 31 growths wrongly diagnosed as cancer. In 1904-5, the first group comprised 2,267, the second 430, and the third 189. Classifying these cases as above, it is found that of accessible growths 91.7 were correctly diagnosed and 8.3 not diagnosed; of inaccessible growths 61.4 per cent. were correctly diagnosed and 38.6 per cent. not diagnosed; while of intermediate growths 88.6 per cent. were correctly diagnosed and 11.4 per cent. not diagnosed.

The difficulties of diagnosis are most pronounced in children, investigation in them being entirely objective and the absence of specific symptoms being most felt.

The question naturally arises, What would be the effect on our national cancer statistics were it possible to determine the disturbance introduced by cases wrongly diagnosed as cancer and not diagnosed respectively? One cannot apply any correction from hospital statistics to general mortality statistics, as has been attempted by some, because the estimate of the proportion of cases wrongly diagnosed is based on operation cases, while the estimate of the proportion of unrecognized new growths is based to a greater extent on *post-mortem* materials.

It is pointed out that although the national mortality returns compare in accuracy to (though probably less accurate than) the tabulation of the clinical diagnoses of cases dying in hospital rather than to the results obtained after *post-mortem* and microscopical examination, the national returns can in time be made to furnish valuable returns by adopting a classification of local distribution which will conform to the probable nature of the new growth. Dr. Tatham, of the General Register Office, has done a national service in adopting the classification of the Cancer Research Fund for the national returns, and in years to come valuable deductions will be able to be made from our national statistics.

DISTRIBUTION OF SARCOMA AND CARCINOMA AT DIFFERENT AGES.

The importance of this local classification is obvious when

we remember that nearly half of the deaths certified as due to malignant disease do not specify whether the disease is carcinoma or sarcoma. By adopting a local classification of hospital cases it was possible to distinguish three zones—one in which all the cases were carcinomata, another in which they were all sarcomata, and a broad intermediate zone in which both forms are represented in varying proportion; and in time similar results will be obtainable from Dr. Tatham's tables.

An impression is prevalent that sarcoma is most common in the young. The figures given in this report serve to dispel this impression. The national returns for cancer of the globe of eye, orbit, arm and leg, pelvic bones, and buttock were taken—which are known to be nearly all sarcomata—with the result that the death-rate at each age-group is found steadily to increase with advancing years in the manner long known to be characteristic of carcinoma. Dr. Bashford remarks: "This result has an important bearing on the investigation of the nature of cancer; for it suggests that sarcomata and carcinomata are manifestations in different tissues of an essentially similar process. It suggests that the anatomical distinctions between them and the sites at which they are respectively more frequent cannot be expected to throw light on the fundamental phenomena of either carcinoma or sarcoma, and the characters in which they are identical thereby acquire added significance."

The Age Incidence of Cancer.

Both for sarcoma and for carcinoma increased frequency is manifested as life advances. The work of the Imperial Cancer Research Fund also shows that this is a law common to all mammals, whether they are long-lived or short-lived. In Englishmen cancer is ten times as fatal at the age of 70 as at 30.

The higher incidence of cancer in later adult life and in old age corresponds with the decline in reproductive activity. This, however, Dr. Bashford regards as a coincidence, in view of the occurrence of cancer in castrated and spayed animals at the same ages as in entire animals.

The investigations made by the Fund show that in lower animals as well as in man, "The number of cases recorded depends on the number of aged animals that have come under observation." In 27,000 mice only 11 cases of carcinomata were found, or 1 in 2,500, a very large proportion of these mice being young animals. In cattle, cancer is chiefly found in aged cows. Ordinarily cattle are not kept until the cancer ages; hence, out of 62,935 cattle slaughtered in the Glasgow abattoirs during 1902, only 27 cases of cancer were discovered, and these were all aged cows imported from Ireland. In 1903 at the same abattoir 47,362 cattle were slaughtered, and 131 cases of cancer were discovered, of which 116 again were found in aged cows from Ireland. In this year the proportion of 2·8 per 1,000 was higher than the cancer death-rate for man at all ages, and this result was produced by the presence of a relatively small number of aged cattle. Actinomycosis and other tumours not truly cancerous were strictly excluded from these results. These results are so important that we may italicize Dr. Bashford's observation on them:

"*These figures indicate the probability that, when the full facts are known, the recorded incidence of cancer at all ages will approximate in cattle and in mice to that at all ages in the human subject.*" Figures on a smaller scale as to the dog, horse, and cat confirm this conclusion. Cancer can easily be found if aged animals are examined.

It may possibly be urged that the above figures indicate the existence of an endemic centre of cancer in Ireland. Observations of endemic centres in which the age-incidence of cancer is ignored are, however, absolutely futile. It is important to add that in the investigations of the Fund on the conditions governing the artificial transmission of cancer in mice only young animals have been employed, in order to be free from the risk of the sporadic appearance of malignant new growths.

The Span of Life and Cancer.

The data accumulated by the Fund are necessarily at present limited, but they indicate that "the time at which malignant new growths appear in animals stands in direct relation to the absolute duration of life in long and short-lived animals respectively, so that the ratio of the periods of relative freedom from cancer to the absolute durations of life is the same."

The span of life of the individual is not the same as that of the separate organs and tissues contributing to its maintenance, and the varying age-incidence of cancer in different organs of individuals of the same species presents contrasts similar to those found in different species with long or short lives. Thus in the short-lived chorion "epithelioma appears at an interval after fertilization which corresponds to its senile stage of proliferation." Similarly with cancer of the mamma and uterus. The view taken by Dr. Bashford, that "the unbounded growth of cancer follows on the terminal phases of normal cell-multiplication makes the age-incidence of the disease a necessary consequence," commends itself as fitting in with the known facts of the case.

Cancer in Ireland.

This paragraph of the report need not be enlarged upon, as it merely confirms the unfavourable criticism of the Irish national statistics of cancer which in an expanded form were published some time ago in our columns.

Ethnological Distribution of Cancer.

The co-operation of the Secretaries of State of the Colonies has enabled much interesting information to be collected bearing on the distribution of cancer. Reports of cases have been received, and arrangements have been made for the examination of specimens from these cases. Only preliminary results are so far capable of being stated, but these are interesting. Thus, for the first time, specimens of cancer, both sarcoma and carcinoma, have been obtained from native races inhabiting various tropical regions. "Within the short period during which the inquiries have been made in the regions where intercourse with civilized man is at its minimum, specimens of undoubted malignant new growths have been obtained."

The difficulty has been encountered that in aboriginal populations the older persons, who would be expected to show most cancer, still prefer to consult native medicine men. Notwithstanding this and other difficulties cancer has been found to occur among all races and under all climates throughout the British Empire.

Bearing of the Provisional Results upon the Reputed Increase of Cancer.

The statistical data so far ascertained show that if England be taken as a standard, there is a gradual diminution in the precision and completeness with which cancer is recorded, Ireland showing less of these qualities, and outlying parts of the empire still less of them. The importance of systematic and exhaustive inquiry is shown by the fact that the investigations of the Imperial Cancer Research Fund have discovered sixteen cases of undoubted malignant new growth in fish, whereas no authentic case in fish was previously known. Also by the fact that it has been found that cancer is much more common in mammals than had previously been supposed by the medical profession. A graduation similar to that in different races of mankind is evident when domesticated are compared with wild animals. "The extent to which cancer is recorded is inversely proportional to the difficulties which have to be overcome in obtaining information." The final words of this part of the report are so important that we think they should be quoted in full: "All these considerations emphasize the fundamental importance of a knowledge of the proportionate number of individuals of different ages in any group of men or animals when estimating the relative recorded frequency as distinct from the absolute incidence of cancer among them. They also prove the important part which careful observation and accurate statistical methods play in modifying the prominence assigned to the variations in the cancer death-rates of different countries, and of the same country at different periods. *There is nothing in the statistical investigations of the Imperial Cancer Research Fund which points to an actual increase in the death-rate from cancer.*

THE AFRICAN PYGMIES.

We are indebted to Dr. G. D. Mackintosh, of Clapham, for the following notes as to the African pygmies, who have lately excited a good deal of interest among London sightseers. The party, lately exhibiting at the Hippodrome, consists of four males and two females.

1. "Bokani," the chief, is a well-set-up little man, with a short pointed beard; he is 35 years old; his height is 1.367 metres; his weight is a little over 7 st. He has a fairly intelligent face of a chocolate colour, of the higher negro type; his general muscular development is good. He has lost all his upper incisor teeth, and one or two of the lower ones; the other teeth are fairly sound; he has his full

complement of molars. He has an excellent voice, which is heard to advantage in the strange chant with which he accompanies his dance at the Hippodrome. He wears a porcupine quill through a slit in his nose, and pieces of inlaid wood, cylindrical in shape, as large as a man's middle finger, are thrust through holes in the lobes of his ears.

2. "Mafutiminga," the second man, is a very plump specimen of humanity. He is covered with a copious layer of adipose tissue, which is especially prominent over the gluteal regions, as in the case with all the pygmies, and particularly so in the instance of the two women. He has a complete set of teeth, well separated from each other, with the exception of the loss of one of his incisors. He is 22 years of age, his height is 1.378 metres, and his weight is the same as Bokani's.

3. "Matuka," male, aged 23, height 1.311 metres, and weight 4 st. 11 lbs., is well developed, and has a full set of teeth.

4. "Mongungu," the youngest of the males, is a strong young fellow 18 years of age; his height is 1.158 metres, weight 3 st. 7½ lb. He has just cut his wisdom teeth, which are of earlier development in African races than in Europeans.

5. "Amooriape," female, aged 32 years, has menstruated regularly every month and never had a child; her height is 1.286 metres, and her weight 3 st. 11 lb. She has a series of cicatrices on her forehead and on the surface of the abdomen, due to cuts from one of the sharp arrow-heads, a favourite native remedy for pain and congestion. Her cheeks are drawn in in folds, reminding one of those of some of the higher apes. She has all her teeth in a fairly sound state, except one molar.

6. Last, but not least, we come to sweet-tempered "Kuarhe," the belle of Ituri. She is a very well-developed little woman of a pleasing cast of countenance, and is always ready with a smile. Her age is 22, height 1.334 metres, and weight 5 st. 6 lb. She has well-developed mammary glands and menstruates regularly once a month. She has never been pregnant. She wears two lip-rings, one on each side of her upper lip, and has also a central perforation from which the ring has been removed, probably to facilitate eating.

The pygmies are a gregarious, nomadic, hunting race, and keep no domestic animals, depending entirely upon their skill with bow and arrow and spear for their sustenance. They travel about in groups of 100 to 200 following the game, and are always to be found in the greatest numbers where their prey is abundant.

Cannibalism is quite unknown amongst them. They like their meat and fish well done, and will refuse with disgust raw or underdone food.

The poison used for the arrow-heads consists of a mixture of putrid flesh and red ants pounded together, and is carried in a calabash at the side, so that the arrows can be dipped into it immediately before using them.

The wealth of a native consists largely in arrows, which are most elaborately and carefully made with a keen "broad-arrow" blade of polished steel; besides their use in war and sport, the arrow-heads seem to be of universal application; heads are shaved with them, food divided, sticks cut, etc.

Cowries are highly valued, much more so than beads, which are only used to ornament the women's waist bands. All wear waist cloths of small dimensions, which are made of woven tree fibres, in their own country.

The marriage customs appear to be similar to those of the other West Coast negroes with which I am acquainted. When a man wishes to marry a girl, he takes his wealth of arrow-heads, cowries, or what not, and lays them before her father. This wily gentleman usually shakes his head and says, "Not enough; my daughter is pretty; bring more; and besides, I have plenty of arrow-heads." The suitor departs, and reluctantly brings more of his precious store of hard-earned cowries: but human nature is very much human nature in the tropical African forest, and the girl he has set his heart on the pygmy lover will have, cost him what it may. Eight years is the usual age for marriage, but I do not for a moment suppose that this is actually the age of puberty. So far as I can ascertain, twelve appears to be the average age of commencing ovulation. I cannot make certain of the time when male puberty begins, but it is certainly two or three years, if no more, earlier than in Europeans.

There is a vast store of interest in connexion with the physical peculiarities, manners, and customs of the various tribes of negroes along and adjacent to the West Coast of Africa—a subject to which I have devoted a good deal of attention and hope to devote more if I get the chance of re-visiting the country.

It would seem almost impossible that these little men should be able to attack and kill the vast African elephant, but it is so; armed merely with the spear and bow and arrow, the tiny hunter stands behind a tree as the animal passes and plunges his spear into a vital point, the hunter then scrambles up the tree like a monkey, and, as the elephant departs, follows him up, sometimes tracking him for days and days until the great beast drops from sheer exhaustion.

[illegible]-lored a sign of good luck in Africa.

LITERARY NOTES.

DR. JOSEPH J. KINYOUN, in an address recently published in the *Maryland Medical Journal*, points out that dysentery is one of the oldest diseases of which we have a record. It has been described in a fairly accurate manner as long ago as 1550 B.C.; Hippocrates described the disease in detail in the fourth century B.C., and it is mentioned by Herodotus; Galen refers to it as one of the disordered conditions of the body juices: he regarded the bile as being chiefly at fault, and considered the liver the primary seat of the disease. This was the generally-accepted view in the medical profession until the beginning of the seventeenth century, when Morgagni made *post-mortem* examinations of dysentery cases, and found that the lesions were in the large intestine.

Some one quoted to Charles Lamb the trite saying, "When Greek meets Greek, then comes the tug of war," whereupon Elia stammered the illogical but unanswerable reply, "When *you* meet Greek, you can't read it." Of course, as long as Greek is retained as a compulsory subject, it must be assumed that this remark could not be applied with truth to most doctors of medicine. Nevertheless it must, we fear, be admitted that medical Greek is of as barbarous a quality as medical Latin. When any one thinks he has found some new thing and wants a name for it, he takes the first Greek words that come handy and jumbles them together in a verbal mass representing a fortuitous concourse of etymological atoms. The noble Greek tongue is like so many of the abbeys which were used as quarries for the building of stables and barns. Dr. Achilles Rose, of New York, has for years protested against these outrages on the language of Hippocrates, but his voice is that of one crying in the wilderness. But he is not discouraged, and in the *St. Louis Medical Review* of July 1st he says the barbarisms of medical nomenclature are largely attributable to the general forgetfulness of the fact that Greek is still a living language. Hence the Greeks who could decide as to the propriety of a new term are not consulted. He holds that the only way to purify our technical speech is to ask the advice of our Greek colleagues of the University of Athens and follow it. Dr. Rose tells us that in 1821 there appeared a medical lexicon by L. A. Kraus, in which the most frequently used terms of Greek origin were enumerated for the purpose of indicating incorrectness of formation wherever it occurred. From Kraus it may be learnt that in his day monstrosities of terminology existed which have since been eliminated. But not a few have come into use in comparatively recent times which Dr. Rose would like to see reformed altogether. Thus, as we learn from a paper by him which was published in the *New York Postgraduate* for September, 1901, chlorosis should be *chloriasis*: cholelithiasis should be *chololithiasis*: chromatosis should be *chromatismus*. Neither policlinic nor polyclinic is a sound word; if we are to be "pure" we must say *astyclinic*. Gastroptosis, enteroptosis, splanchnoptosis should be *gastroptosia*, *enteroptosia*, *splanchnoptosia*: glycosuria should be *glycuria*: haemophilia should be *haemorrhophilia*: idiotismus (meaning congenital mental deficiency) should be *moria* or *idithiotis*: ovariotomy should be *oothicotomy*. The words *psychopathia* and *psychiatria* are not Greek words; they belong to that class of terms that have been coined by somebody who never spoke Greek, never could think in Greek, and only knew the language from grammar and lexicon. They remind one of the lady who learned English at home by the aid of books alone, and who, looking up the English of "*Gott schutz Dich!*" found *schutzen* to guard, to shelter, to protect, to dam and electrified her friend with "God dam you!" *Phronopathia*, we are assured, is the proper name for disease of the mind. In his recent paper he deals with the nomenclature of gastrology. He points out that as "gaster" means the belly, it is wrong to restrict the adjective "gastric" to things relating to the stomach. Ectasia should be *ectasis*. Gastrosuccorrhoea was more correctly called by our forefathers *chylorrhoea*: but Dr. Rose says "If

we wish to be very exact, let us call it *chylorrhoea gastrica*, by no means as some have suggested 'gastrorrhoea,' for that would be another barbarism." "Rhoea" can be affixed to a word meaning a liquid, but not to one denoting an organ; thus "metrorrhoea," "otorrhoea," "gastrorrhoea" are wrong. Incidentally we learn from Dr. Rose that there is in the Surgeon-General's Library at Washington an *Onomasticon sive Lexicon Medicinae* by O. Brunfels, a folio volume printed at Strassburg in 1534, which is perhaps the oldest medical dictionary in print.

Reference was made in the British Medical Journal of August 19th to Roderigo Lopez, who was physician to Queen Elizabeth, and who is believed by some authorities to be the original of Shylock. A few further particulars as to this remarkable personage, for which we are indebted to Mr. Sidney Lee's Life of him in the *Dictionary of National Biography*, may be of interest to some of our readers. Roderigo figures in the census of foreigners living in London in 1571, as a resident in the parish of St. Peter le Poer, and is described as "Dr. Lopus, a portingale, householder denizen," who "came into this realm about twelve years past to get his living by physic." Among his colleagues at the hospital was the famous surgeon William Clowes, who in a work on *Gunshot Wounds* (1591) remarks that Lopez "showed himself to be both careful and very skillful, not only in his counsel in dieting, purging, and bleeding, but also for his direction of Arceus' apozema," a remedy which Lopez caused his assistants at St. Bartholomew's to adopt. An "apozema," we know, was a decoction of various medicinal substances, but who was Arceus? Before 1569 Lopez was admitted to the membership of the College of Physicians, but he seems to have been sometimes in trouble with his brethren. In 1571 the College ordered him to return a fee which he had received from a servant of Lord Burghley on undertaking to cure a swelled shin bone. Later, in 1586, when he basked in the favour of the Court, he is referred to in comments on the chief doctors of the day, written by Gabriel Harvey, on his copy (now in the British Museum), of *In ivdaeorvm Medicastrorum Calumnias et Homicidia pro Christianis pia exhortatio. . . A Georgio Maria Vyreceburgio Doctore Medico Marpurgi et aliis*, 1570. Of Lopez, Harvey writes that, though "descended of Jews," he was himself a Christian. "He is," Harvey continues, "none of the learnedest or expertest physitians in the Court, but one that maketh a great account of himself as the best, and by a kind of Jewish practis hath growen to much wealth and sum reputation as well with ye Queen herself as with sum of ye greatest Lordes and Ladyes." Lopez's attendance at Court soon brought him the acquaintance of the Earl of Essex, who thought to make use of him to get political intelligence from Spain. The cautious physician refused the Earl's offer of employment, and communicated the negotiation to the Queen. He consented, however, to act as interpreter to Antonio Perez, a victim of persecution at the hands of Philip of Spain, whom Essex and his friends brought to England in 1590 in order to intensify the hostility of the English public to Spain. In the summer of 1593 Lopez divulged to Antonio and his friends some professional secrets "which did disparage to the Earl's honour." Lopez's ultimate conviction may, according to Mr. Sidney Lee, be as fairly ascribed to political intrigue and religious prejudice as to the weight of evidence against him.

PREVENTION OF CONSUMPTION.

Durham.

The sixth annual report of the Society for the Prevention and Cure of Consumption in the County of Durham records another satisfactory year's work at the Stanhope Sanatorium, which was founded by the Society in 1898 and opened in May, 1900. With the opening of the extension of the south block at the close of last year the Sanatorium now contains accommodation for 27 men and 18 women. These 45 beds represent the limit of the accommodation at Horn Hall, and, as the beds for men are insufficient to meet the demands of the county, the Committee makes an urgent appeal for funds to enable it to establish a sanatorium for women and children. This would allow of all the beds at Horn Hall being available for men. The Sanatorium has practically been self-supporting from the beginning, many of the beds being supported by the subscriptions of working men, who during the year were enabled, as the result of their contributions, to send in 26 patients free out of the 136 admissions. As the result of five years' work 380 cases have been treated and discharged. Of 221 "early" cases, 170 were able to return to work, and of these 150 are still at work. Of 159 "advanced" cases, 74 were enabled to return to work, and 40 of these are still at work, some of them having continued at their employment for four years. As the report puts it: These figures answer the question, Is it worth while?

MEDICAL NEWS.

The will of the late Mr. Christopher Heath has been proved at £7,799.

Professor Poliwyssotzki, Dean of the Medical Faculty of Odessa, has been appointed Director of the Institute for Experimental Medicine at St. Petersburg.

A medical exhibition organized by the *British and Colonial Druggist* will be held this year in the New Horticultural Hall, Vincent Square, Westminster, on October 2nd, 3rd, 4th, 5th, and 6th.

A provincial session of the Royal Sanitary Institute will be held in conjunction with the Yorkshire Branch of the Incorporated Society of Medical Officers of Health in the Guildhall, York, on October 7th, at 11 a.m. A discussion on pure milk supply will be opened by Mr. C. W. Sorensen.

The report for the second quarter of 1905 by Dr. A. Scarlyn Wilson, Medical Officer of Health for Hastings, states that the rate of infantile mortality, 134 per 1 000, was unusually high; the birth rate, 17 9, though very low as compared with the rates in other parts of the country, was above the average of the corresponding quarter for the previous four years; the general death-rate was 12 8.

Within the last month the hydrotherapeutic resources of Harrogate have been reinforced by the opening in the Royal Baths Gardens of some rooms devoted to a form of treatment which has hitherto been available only at the French spa, Plombières les Bains. It consists in douching of the rectum and colon with the natural water of the Spa, and in following this up by an ordinary external douche. The arrangements at Harrogate for its administration appear to be very complete. The rectal douche apparatus is an improvement upon that used at Plombières, while the form of external douche adopted is that known as the Tivoli.

Theodore Billroth.—A memorial tablet has been placed on a house at Greifswald where Billroth lived in his student days. The inscription is as follows: "Theodor Billroth, born at Bergen on Rügen, April 26th, 1829; died at Abbazia, February 6th, 1894. Greifswald 1848 to 1849."

Belgian Congress of Neurology and Psychiatry.—The first Belgian Congress of Neurology and Psychiatry will be held at Liége on September 28th, 29th, and 30th under the patronage of the Government and the Honorary Presidency of the Ministers of Justice and Agriculture. Among the questions to be discussed are the following: (1) Work considered as a therapeutic agent; (2) lumbar puncture from the diagnostic and therapeutic points of view; (3) the sense of pain. Visits will be paid to the principal university establishments and to the lunatic asylums of the district. The General Secretary is Dr. Massaut, 19, Boulevard Defontaine, Charleroi.

Prize Competition for the Prevention of Lead Poisoning.—The International Association for Labour Legislation is prepared to offer the subjoined prizes for the best effective means that can be devised for the prevention of lead poisoning in men employed in mining, smelting, and refining lead ores, and in persons who manipulate lead compounds or are otherwise brought into contact with them. A prize of £250 is offered for the best treatise on the prevention of lead poisoning in mining and milling lead ores; a prize of £500 for the best treatise on the prevention of lead poisoning in smelting and refining works; two prizes, (1) £125, (2) £75, for similar treatises relating to white-lead works, paint works, manufacture of electrical accumulators, etc.; four prizes, (1) £75, (2) £50, (3 and 4) £37 10s. each, for house, ship, and coach painting, etc.; and four prizes ranging from £75 to £37 10s. for the best treatise on the prevention of lead poisoning in trades where raw and manufactured lead are consumed or handled, as in type foundries and printing offices. The essays must be sent in to the International Association for Labour Legislation, Basle, Switzerland, not later than May 15th, 1906. Leaflets giving full information concerning the prizes and the terms of competition can be had by applying to the Honorary Secretary, British Association for Labour Legislation, Club Union Buildings, Clerkenwell Road, E.C.

British Medical Journal.

SATURDAY, SEPTEMBER 9TH, 1905.

THE AGE OF CANCER.

In another column we publish a summary of the statistical portion of the second annual report of the Imperial Cancer Research Fund. The least mathematical of our readers need not be alarmed by the word "statistical," for although the report deals with figures, the teaching of these figures is so interwoven with matter relating to the biological and pathological aspects of cancer as to constitute a truly interesting as well as an important report.

Although the results so far obtained by the Imperial Cancer Research Fund are far from being sensational, they represent a large mass of important work, not only in the direction of clearing away misapprehensions and mistakes, which are so prevalent with regard to this subject, but also in establishing promising lines for further inquiry. A mere enumeration of some of the results thus far obtained will make this sufficiently clear.

It has been established that cancerous processes are identical in all vertebrate animals, and that both in short-lived and in long-lived animals the period of maximum occurrence of cancer conforms most strikingly to the compass of life.

Experiments in engrafting cancerous growths in mice show that the processes by which cancer cells are transferred to a new individual are easily distinguishable and fundamentally different from all the known processes of infection. The establishment of this thesis will necessitate either the abandonment of the view that cancer is due to an infective process, or the discovery of some new method of infection hitherto unknown. The immense importance of this conclusion in relation to the occurrence of "cancer houses" and endemic centres of cancer prevalence need not be emphasized. It must be admitted that the evidence on which the existence of such cancer localities has been accepted is not satisfactory, for the records have failed to make due allowance for the age distribution of cancer, which is an essential condition of accuracy in the investigation.

The hospital statistics which have been collected illustrate the necessity for microscopical confirmation of the diagnosis of cancer. They show clearly that cancer has no specific symptomatology, and that clinical errors in diagnosis are inevitable, this being particularly obvious when the cases examined are classified into those accessible and those not accessible to physical examination.

One result which will be unexpected to most persons is the fact that sarcoma as well as carcinoma conforms to the law of increasing incidence with advancing age, contrary to the usual teaching that sarcoma is most frequent in the young. This important statistical fact has important pathological bearings. It at least suggests the view taken by Dr. Bashford that sarcoma and carcinoma are manifestations in different tissues of an essentially similar process.

The age-incidence of cancer is the key which opens the door of all statistical problems relating to cancer. The non-recognition of this fact has produced the multitudinous blunders in statistical inquiries concerning this disease. It has not always been recognized that 2 years old in one species of animal may correspond to 60 years old in another. The results obtained by the co-operation of the veterinary surgeon of the Glasgow abattoir are most interesting in this connexion. Cancer was very rarely found among the great majority of the cattle slaughtered at this abattoir, but was quite common among the aged cows transmitted from Ireland. There is reason to believe that the results of certain experiments on lower animals, if not made on young animals like those in connexion with the Imperial Cancer Research Fund, are fallacious, owing to the failure to recognize the possibility of the occurrence of sporadic cancer in aged animals. Observations on mice and other animals confirm the trend of the observations on cattle, and render it highly probable that when the true facts, corrected for age-distribution of the animals in each species, are known, the incidence of cancer in such animals as cattle, horses, mice, etc., will approximate to that in man. If this induction be confirmed, it is clear that our hitherto too limited outlook on the causation of cancer will need to be revised. Civilization and its circumstances must necessarily retreat into a very second-rate position in relation to it. If cancer occurs in wild as well as in tame animals, in savage as well as in civilized man, the essential factors of its causation are remote from civilized life. Local irritation, alcohol, industrial influences, and the circumstances of modern human life, may have their influence in setting up cancerous irritation, but in considering them it must still be borne in mind that cancer occurs when most, if not all of them, are entirely absent.

At every step we are, in fact, brought back to some reminder of the essential importance of the age-distribution of cancer: in other words, to the relationship between cancer and the span of life. Not the least interesting part of the report of the Imperial Cancer Research Fund is the application of this doctrine to cancer of different parts of the body. One part of the body becomes old before another. The age-incidence of cancer in the reproductive is lower than in the non-reproductive organs of the body. The chorion supplies us with an extreme instance of this important doctrine, for the old age of the chorion occurs in intrauterine life, and so likewise does its cancer.

The importance of the same point is illustrated in the ethnological inquiries of the Fund. Cancer has seldom been found in aboriginal savage races, in part because medical men have had very few opportunities of investigation, and in part because the proportion in these races who attain old age is relatively small. Cancer has recently, however, been discovered in savage races in tropical and other regions, and it cannot, therefore, be said to be a phenomenon of civilization. Whether there is more or less of it among savage than among civilized races can only be determined when much more protracted and exhaustive inquiries have been made than have hitherto been practicable.

The question of the alleged increase of cancer has frequently been discussed in these columns, and it is not proposed to reopen the discussion on this point; but the considerations which have been already enumerated, and the fact that in conclusions to the con-

trary the importance of accurate statistical methods has been so generally overlooked, make it justifiable to suspend judgement, and to say, in the words of the Superintendent of the Imperial Cancer Research Fund, that there is nothing in the statistical investigations of this Fund which points to an actual increase in the death-rate from cancer.

THE SECTION OF DENTAL SURGERY.

WHEN the Section of Dental Surgery, whose proceedings at Leicester we publish in this issue, was formed two years ago, its promoters sought justification in the plea that there was on the borderlands of medicine and dentistry a large area of common interest, discussion of which would be of mutual benefit. A glance at the names of those who took part in the discussion on toothache, neuralgia, and remote affections of dental origin, and a perusal of the proceedings will show the justice of the plea.

In opening the discussion Dr. Risien Russell drew attention to the large number of general diseases of which dental pain may be a symptom. The neuralgia of anaemia, and that due to a rheumatic or gouty state, to malaria or to influenza may be felt in the teeth. An aneurysm of the internal carotid artery, facial hemiatrophy, diabetes, or tabes may cause neuralgia of the fifth nerve. Hysterics and neurasthenics may cause pain referred to the teeth, but in these cases great care must be exercised, lest a true local lesion be overlooked. Epileptiform neuralgia, intracranial syphilis and tumours, and antral tumours, all cause dental pain of most pronounced type. In diagnosing these cases eye symptoms, or the presence of anaesthetic areas, are of great value. Discussing epileptiform neuralgia, Sir Victor Horsley gave his opinion that some cases originated as an ascending neuritis due to chronic osteitis of a tooth socket: he also urged that if hypersecretion was definitely associated with the onset of the paroxysmal pain the case was organic and not functional. Other speakers added to this list nasal neuralgia, glaucoma, iritis, and cancer of the tongue. Dr. Head, in his work on visceral referred pain, shows that the eye, tongue, and certain teeth when diseased refer pain to the same skin area, and hence sometimes to each other. Mr. Mummery quoted the same author, urging the importance of "Head's areas" in the diagnosis of doubtful cases. These areas, which are specific for special teeth, are patches of skin to which the pain of the diseased organ is referred; they are hyperaesthetic, and the pain is often referred to a maximum spot. They follow no peripheral nerve distribution, but may be somatic in origin. A distinction was clearly drawn between this form of tooth pain and neuralgia minor, which follows the course of the fifth nerve, or is referred from one tooth to another or to a spot definitely in the course of the nerve. The only rules that can be formulated for the diagnosis of neuralgia minor seem to be that pain is always on the same side as the offending tooth, and that pain in the ear or down the neck is due to a lower back tooth. Dr. Head's explanation of "spread" as due to lowered physical conditions may be taken as explaining muscular paresis and pain in such remote parts as the arm and hand sometimes found to be dependent on teeth.

Under certain circumstances neuralgia minor may be produced by a septic root, but in the great majority of cases it is due to an irritated tooth pulp, or to the remnants of a pulp left in a broken-down tooth. Remote conditions of the eye or ear of serious moment are apparently due to direct spread. In records of eye cases the tooth causing the trouble, as Mr. F. J. Bennett pointed out, is almost always dead. In ear disorders due to the teeth the trouble spreads by way of the fauces and Eustachian tube. Reflexes of the eye and ear were quoted; and on this point Dr. Urban Pritchard said "reflex nerve irritation cannot by itself produce inflammation . . . yet its effect on the tissues will be such as to render them less resistant to the invading microbes . . . during the teething stage in infants, suppuration of the middle ear is not only more difficult to heal, but returns more readily." This may be compared with the well-known fact that facial eczema in babies is apt to become more acute as each tooth is cut.

The discussion served to define the modern attitude towards "teething." There are reflex troubles apparently dependent on "teething" alone, but the concomitant conditions are all important. It is not teething that induces gastro-intestinal catarrh, but gastro-intestinal catarrh that induces painful teething. The mouth as a part of the intestinal tract suffers at the same time as the stomach and intestines, and the tooth erupts through a gum already tender. The intestinal catarrh is to be attributed to dirty milk or other improper food. Similarly, convulsions are common in rickety children, and the slight reflex disturbance of cutting a tooth in an unhealthy child may determine a fit at that time; the complete eruption of the tooth is, however, seldom followed by immediate cessation of the fits. The gastro-intestinal condition is, again, of great importance. At present it is not proved that "teething" by itself can give rise to pyrexia. Some such sequence as the following would go far to establish the claims of "teething" as an important factor in the production of children's ailments. Following pyrexia comes a failure of secretion of digestive fluids; local irritation of the gums causes food to be bolted, and the child's fretfulness is ascribed to hunger; more food is given to keep the child quiet, and the whole process ends in gastro-intestinal catarrh and diarrhoea. Teething is a normal process, but, like any other normal process, it may be deranged.

The discussion should be of great value both to the medical man and the dentist in pointing out the cases in which consultation would be of mutual help; but we should be glad of some hint as to why such conditions as anaemia, or depression after influenza, should give rise to dental pain. "Spread," in Dr. Head's sense may be an explanation; the first stage of pyorrhoea or caries may be present, but incapable of causing pain except in a condition of depression. Or, again, has trauma no part in producing teething troubles in infants? A hard crust or jagged bone may cause an abrasion which becomes the starting point of infection, and leads eventually to all the gastro-intestinal troubles above referred to.

An important series of cases was touched on by the President and by Mr. Mummery, those in which neuralgia is set up by an unerupted or malplaced tooth. The President (Mr. Morton Smale) quoted a case in which an unerupted lower wisdom tooth was the cause. There was no inflammation, and after some years the pain ceased; x rays showed the third molar impinging on the roots of the second. Mr. Mummery quoted a case recorded by Dr. Cryer, of Philadelphia, in which removal of misplaced teeth erupted into the antrum cured neuralgia. Mr. Smale explained his case as pain due to pressure-absorption of the second molar,

and subsequent union by cementum or cessation of the attempt at eruption: but Dr. Cryer's case goes unexplained. Why a tooth lying quiescent in a bony crypt, or erupting into a healthy antrum, should cause pain seems a mystery, and we should like to see all such cases examined in this sceptical spirit.

The papers read at the Section are all of scientific and practical value. We should single out as of special importance that by Mr. K. W. Goadby on the treatment of alveolar osteitis by a vaccine; and as of practical value to the sociologists Mr. J. F. Rymer's paper on vegetarianism and its effects upon the teeth, showing at how small a cost children, adults, and pregnant women may be fed on a palatable vegetable diet, and yet remain sound in tooth and body.

Dr. Bogue came from New York to read a most suggestive and well-considered paper on the possible influence of an ill-expanded dental arch on the development of the bones of the face. We recognize his scientific enthusiasm, and offer him our grateful thanks for coming to broach his ideas personally to us.

ASIATIC CHOLERA IN GERMANY.

The occurrence of two cases of cholera at Hamburg has drawn public attention to the fact that during the second half of August a number of cases occurred on the rivers and canals of East and West Prussia. Apparently the infection has been carried by Russian raftsmen on the Vistula, and it is proposed to exclude them from Germany. The Vistula in the earlier part of its course forms the boundary between the Austrian province of Galicia and Russian Poland; flowing then northward by Warsaw, it traverses Western Prussia and opens into the Baltic near Dantzic; it is connected by a tributary, the Brahe, and the Bromberg canal with the River Netze, which runs westward to join the Warthe, a river flowing from the neighbourhood of Lodz in Russian Poland through Posen to join the Oder about fifty miles east of Berlin. The Oder is connected with the Spree by a canal.

The most serious news is that certain towns on or near the Vistula have become infected. Six cases with one death are reported from Kulm on the Vistula, a little below the point at which the Brahe falls into it, and seven from the convict prison of Krone near Kulm. The nature of the disease from which the convicts were suffering seems first to have been recognized in the person of one of their number who had been removed to the convict prison of Gnesen, at some distance south of Kulm. The authorities at Kulm and Krone are confident of their ability to localize the disease, but it is disquieting to hear of cases among the garrison of Thorn, and in the person of an engine driver in that town, which is situated on the Vistula a little above its confluence with the Brahe. Apparently, also, there is a risk of the disease becoming established as far south as Galicia, for three cases occurred between August 22nd and August 30th in the family of a boatman who had returned there from the Vistula district of West Prussia. A sanitary commission is sitting daily at Dantzic, and temporary cholera hospitals are being built there. Cholera barracks have also been opened at Koepenick, on the Spree, a few miles east of Berlin, and in connexion with the Moabit Hospital in Berlin itself. The German authorities have also established twenty observation stations on the rivers Vistula, Brahe, Netze, Warthe, Oder, Memel, and Spree, and the Russian Government has established similar posts on the Vistula in Poland. Ten fresh cases were reported in Germany on September 5th, and twenty on September 6th; and altogether 99 cases, with 26 deaths, have occurred in the German Empire down to September 5th; no less than sixteen districts have been declared infected.

The cases at Hamburg would seem to have no direct connexion with those which have occurred in West Prussia. The first case at Hamburg was in a Russian transmigrant, and its nature was only recognized after *post-mortem* examination on August 27th. A second case, said to be of mild type, has since been notified. Great improvements have been introduced into the water supply and sanitation of Hamburg and Altona since the great outbreak of cholera in 1892, and there seems good reason to hope that the precautions taken will prevent the establishment of an epidemic in that city. Meanwhile, embarkation of Russian transmigrants has been stopped; the American Board of Emigration has given notice that all steerage passengers from Bremen and Hamburg will be kept under observation for six days before embarkation, and has dispatched two medical inspectors to Hamburg.

Epidemic cholera has been slumbering in Russia for at least a year past, and several cases of suspected cholera have occurred this week in Moscow among travellers from Poland. It will be remembered that last April the Russian Government summoned a large number of medical men to a conference at Moscow. This conference was to have considered the means which were to be taken to check the spread of the epidemic, but owing to political unrest in Russia it achieved little or nothing in this direction.

Whether cholera in Russia is connected with the outbreak which occurred in Persia last October it would be difficult to say. The recently-published report of Major Sykes on the trade of the Kerman consular district incidentally furnishes a graphic account of the circumstances of the cholera epidemic which broke out at Kerman in October last. It was originated by a pilgrim from Meshed, in the north-east of Persia, who was taken ill and died of cholera a few miles outside the city, to which he was returning. His friends washed his body in the neighbouring stream, and brought all his clothes into Kerman to be sold, a proceeding which was rapidly followed by the appearance of the disease in epidemic form. A complete panic immediately ensued, the first to yield to it being the authorities of the city. The entire Persian official community ran away in a body, followed by every one in the place who could get hold of a horse or conveyance to take him away into the country. As a result the surrounding villages immediately became affected by the disease, which was thus rapidly disseminated about the neighbourhood. In the city business was brought to an absolute standstill, the carpet trade for which it is famous suffering especially. The only bright side of the picture, Major Sykes relates, lay in the heroic labours of the doctors of the Church Missionary Society, who stayed to fight the epidemic. Fortunately the cold weather was at hand, and at the end of a couple of months the worst was over. Major Sykes points out the crying necessity of properly-trained Persian medical men and the equal need of training the people to follow a few simple hygienic rules.

The Local Government Board in England issued on Monday, September 4th, to certain port and riparian sanitary authorities a circular letter, in the course of which it

stated that cholera has reached the Baltic by way of the river Vistula, and the Local Government Board in Scotland issued a letter in almost identical terms on the following day. The statement that cholera has reached the Baltic seems to go rather beyond the information available through the ordinary channels, but no doubt the existence of cholera on the Vistula, and not very far from its mouth, is a serious menace to Dantzic, and the statement that the ports of the Baltic and some of those of the North Sea are threatened with the disease is fully justified. That being so, the Local Government Board does well to invite authorities of British ports trading with Baltic and North Sea ports to be on their guard against the importation of cholera by vessels from such ports. If any one of the Baltic ports becomes definitely infected with cholera, it will be the duty of the British sanitary authorities to take the action prescribed by the Cholera Order of 1896 with regard to vessels arriving from infected ports. These precautions are pretty well known. In the first place it is the duty of the Customs officer on visiting a ship to ascertain whether it is infected, and, if he has any reason to suspect infection, or if the ship has come from an infected place, he is instructed to require the master of the ship or the surgeon, if the ship carries one, to give a certificate. The Customs officer further has power to order such a ship to moor at some selected place, and in that case to notify the sanitary authority. The duties and powers of a medical officer of health to a port sanitary authority are comprehensive; in the first place he is required to visit any ship detained by the Customs, and he has power also to visit and examine any ship whether reported by the Customs or not. If he finds the ship to be infected he must examine every person on board and cause any infected person to be removed to some hospital or other suitable place appointed for the purpose. He also has power to retain suspicious cases for a period of two days. Persons on board the ship who are in good health cannot be detained, but the medical officer is required to take note of each person's name and destination, and to notify the local authority of the district to which he intends to proceed. With regard to the infected ship itself, the medical officer of health has power to take such steps as may appear to him to be necessary for preventing the spread of the infection, and the master of the ship must carry out his directions. Further, in the case of a ship not found to be infected, but carrying passengers in a filthy or unwholesome condition, or coming from a place infected with cholera, the medical officer of health has power to require the names and destinations of such persons to be taken. Lastly, he has additional powers with regard to disinfection of infected ships and those which come from infected ports.

We give in another column some particulars of the precautions already adopted by the medical officers of the port sanitary authorities of the Humber, Tyne, and Thames, and there is every reason to believe that, even should cholera become established in the Baltic or North Sea ports, the scourge would be excluded from this country. The responsibility which rests upon Germany at present is very great. In spite of the invaluable contributions which German men of science have made to the study of bacteriology, practical sanitation in the smaller towns of that country is still in a very backward state, and conditions are allowed to exist which would make the hair of a medical officer of health of an English municipality stand on end like quills on the back of the fretful porcupine.

THE BAWDEN TRUST AND UNIVERSITY COLLEGE.

The mode of distribution of the munificent gift of Mr. E. G. Bawden to London is fully explained in the letter of Mr. Edgar Speyer, published in another column. It will be seen that the King's Hospital Fund receives £5,000, and various hospitals and convalescent homes important sums. The largest and most interesting donation, however, is that of £16,000 for advanced university education and research, to complete the sum of £200,000 required to bring about the incorporation of University College in the University of London. The whole of the sum required for the incorporation of University College has now been raised. The original appeal, issued in May, 1903, was for 1,000,000 sterling, but the minimum required for the purpose of incorporation was £200,000, made up as follows: For new site and buildings of the School of Advanced Medical Studies, £70,000; to provide for removal of the boys' school, £60,000; to extinguish the debt to the College bankers, £30,000; towards a Maintenance Fund, £30,000; for adaptation of present buildings, £10,000. In order to carry out Mr. Arnold Mitchell's design for the school another £40,000 will be required. In addition to all this the institution has received £62,000 for the building of the new medical school and the nurses' home from Sir Donald Currie, and £26,000 for the endowment of chairs and special purposes, making a grand total of £288,000. It will be remembered that of the sums required for the School of Advanced Medical Studies and the nurses' home, £102,000 was given by Sir Donald Currie. The Bill for the incorporation of the College received the royal assent on July 11th. It appointed a commission to make statutes to carry into effect the transfer of the College to the University. The Commissioners are Sir Edward Fry (appointed by the Crown), Lord Justice Cozens-Hardy and Sir Edward Busk (appointed by the University), and Sir John Rotton and Professor Rose Bradford (appointed by the College).

OUT-PATIENT DEPARTMENTS.

In a comment in these columns a few weeks ago on the complaint of the Metropolitan Hospital Sunday Fund that the growth of out-patient work was detrimental to hospitals, the suggestion was made that the remedy lay in reducing hospital surgeries to first-aid stations and in transforming out-patient departments into free consulting rooms. In this idea there would be nothing impracticable in the majority of hospitals, and in some, though but a very limited number, a certain degree of approximation to it has already been reached. In one hospital, indeed, the conception, as will be seen from a reference to the correspondence columns, has been put into practice with great completeness. At this institution, the Bolingbroke Hospital, Wandsworth Common, casualty patients are only seen once unless they bring a card signed by a registered medical practitioner. The same principle is observed in the out-patient department proper, and in respect also of its eye, throat, and electrical subdivisions. No patients are admitted to them at all unless they are either accompanied by their own medical attendant or bring a card or letter from him. The patient when he has been seen is given a letter addressed to his medical attendant, containing the opinion of the consultant on the case and his advice as to treatment. No medicines are dispensed, and if any are required they must be got through the private medical attendant. This plan has been carried out at Wandsworth for several years past; no difficulty appears to have arisen, and the work has gradually increased. It is safe to say that it has proved quite satisfactory to all concerned, because the Bolingbroke Hospital has long been popular both with the surrounding population and the local medical men. The circumstances of this hospital and its neighbourhood are to a certain extent peculiar, and it is possible that the Bolingbroke plan could not be adopted, unchanged, at all hospitals; nevertheless, something of the same sort might be done at all institutions, and in many localities the general circumstances are so entirely on all-fours with those which

exist in South-West London, that precisely the same system might be adopted with equal success.

THE PIONEER OF PUERPERAL ANTISEPSIS.

THE man who discovered the cause of puerperal fever, and showed how it could be prevented, and who might, if circumstances had been favourable, have anticipated the wonderful work of Lord Lister, is surely a notable enough personage to deserve a biography. Dr. Theodore Duka has published in English a brief account of Semmelweiss's life and work. Dr. Schürer von Waldheim has now written a much fuller biography.[1] It gives, as is fitting, more space to the account of his work, of those who helped and those who hindered its recognition, than to the events of his personal and family life. The history of his discovery is familiar to many. He was assistant in charge of the Lying-in Hospital at Vienna. On taking up his duties he was horror-stricken at the terrible mortality from puerperal fever. Looking into the matter, he noticed that this mortality was almost entirely in the division of the hospital which was attended by medical students; the death-rate in the division used for the instruction of midwives was low. Semmelweiss pondered upon this, but for long could think of no explanation. A close friend of his, Dr. Jacob Kolletschka, poisoned his finger at a *post-mortem* examination, and died of pyaemia. Semmelweiss studied with sad interest the record of his illness and of the *post-mortem* examination. As he did so, the thought flashed into his mind that the morbid process which killed his friend was the same as that from which the puerperal women died. This explained the difference between the two clinics. The medical students went to the one with their hands stinking from contact with dead bodies, and they poisoned the patients. The midwives had not touched the cadavera, and their patients were confined in safety. It explained, also, another fact that had puzzled Semmelweiss; this was that the mortality among the women who had been delivered on their way to the hospital was much less than those who were delivered in the hospital. The reason was that the women whose children were born before admission were not examined—that is, were not infected. This was clear to Semmelweiss: and he sought for a chemical which could free the hands from the cadaveric smell. He found such an agent first in chlorine water, then in solution of calcium chloride. He gave orders that no one should examine any patient without first well washing his hands in this solution. The effect of this regulation was at once to bring down the mortality to a level not higher than that in the division attended by midwives. This took place in 1847. Had Semmelweiss's example been followed in lying-in hospitals all over the world puerperal fever might have then been banished from lying-in hospitals, as it has been to-day by the application of Lord Lister's discoveries, and pyaemia might equally have been banished from operation wards. Why was it not followed? One great reason was that Semmelweiss did not write. He seems to have had an aversion to the pen. His discovery was made known to the world, not by Semmelweiss himself, but by Skoda, a general physician, and Hebra, a dermatologist. Although these men achieved the highest eminence in their own departments, it is not surprising that their descriptions of the results attained by another person in a department other than their own did not command universal attention. Semmelweiss's teaching was opposed by his senior colleague, Klein, by Scanzoni, and many other obstetricians of the time, whose names we need not resuscitate, nor need we analyse their motives. Semmelweiss published nothing about it till the autumn of 1857, and then it was in the Hungarian language, the use of which then, as now, shuts off those who have no other from the civilized world. The real publication of his discovery was not till 1860, when his work on the etiology, nature, and prevention of puerperal fever appeared in German. In this work he not only set forth his views, and the facts which had led him to adopt them, but he hit out at his opponents with a vigour and directness which helps the reader to understand how it was that his views met with so much opposition. All this is fully set out in Dr. Schürer von Waldheim's biography, which is therefore of great interest to the student of the history of midwifery, and indeed to all interested in the history of medicine.

[1] Ignaz Philipp Semmelweis. Sein Leben und Wirken. Lehre der Ätiologie und Natur, Verhütung seines Todes. Sein Leben und Werk. Judgements of His Contemporaries and Successors. Von Dr. Theodor Schürer von Waldheim. Wien und Leipzig: A. Hartleben. 1905. (Demy 8vo, pp. 256. M. 5.)

INTERNATIONAL ASSOCIATION FOR LABOUR LEGISLATION.

A LITTLE over a year ago, as the result of a conference of scientists and medical men held in Basle, Switzerland, there was founded the International Association for Labour Legislation. Professor Bauer of Basle has been one of the pioneers of the movement which, begun in an unostentatious way, bids fair to achieve important results. As the principal object of the Association, upon whose Central Board sit experts drawn from the various countries of Europe, is to secure better health for the workers by improving the conditions of labour, it will be the aim of the Association to watch industrial legislation in this and other countries, to foster international labour treaties, and to assist in raising the backward state of labour legislation in smaller countries to the level of that which prevails in larger. The prevalence, among other industrial diseases, of lead poisoning and of phosphorus necrosis in all countries where lucifer matches are manufactured, points to the need for industrial reforms and to some united action on the part of the various European nations. It is not so long since in Britain the hours of toil for children were so long and pressed so heavily upon the children as to rob them of the joy of living, and that women were ground down under industrial conditions that weighed heavily upon them and interfered with their duties of maternity and womanhood. While in England the conditions have materially improved it is not so in several of the countries on the Continent. Apart from dangerous trades there are many industrial problems awaiting solution. To enable each country to act alone and in concert there has been appointed in each country a Committee of the International Association to look after its own industrial legislation, and whose object is not so much to oppose or thwart legislation as to unofficially guide the Government as far as it possibly can in matters of industrial reform. The British Branch of the Association is composed of Mr. Sidney Webb, President, Mr. A. Henderson, M.P., Treasurer, Miss S. Sanger as Honorary Secretary, and the following as members of the Committee: The Earl of Lytton, Mrs. J. R. Macdonald, Professor T. Oliver, M.D., F.R.C.P., Mr. D. J. Shackleton, M.P., Mrs. H. J. Tennant and Miss Gertrude Tuckwell. The office of the Association is in Club Union Buildings, Clerkenwell Road, E.C.

THE CARLSBAD SEASON.

THE season that is now ending at Carlsbad has been, from the point of view of the number of cure-guests registered, the most successful on record. They are estimated to number 58,000 in 1905, more than double the number registered only twenty years back. The municipal authorities of Carlsbad, and the inhabitants generally, have made great efforts to keep pace with the rapidly-increasing demands upon the town's resources. It was only a few years ago that the magnificent Kaiserbad was erected at one end of the town in reinforcement of the three other bathing establishments that already existed; and in these four bath-houses nearly 400,000 separate baths were supplied in the year 1904. Now, it has been found necessary to erect a fifth large bathing establishment, which is rising at the other end of the town, near the new Post Office, and is expected to be open next season. One feature of the attendance which is lamented by Carlsbadians is the diminishing number of English visitors. It is true that their places have been more than filled by the increasing number of Americans. Mainly for their accommodation a large and expensive hotel has lately been erected in

the part of the town known as the West End, up on the hill. Quiet visitors, however, who seek health from the waters of Carlsbad and the beautiful pine forests that surround the town need not be deterred from a visit to the place by the imaginative accounts they may read in certain newspapers of the parties and functions given at this hotel by "cure guests" of the new type. There is an abundance of hotels and well-regulated lodging-houses where the true Carlsbad cure can be practised without distraction. As the roads through the municipal forests are closed to automobiles, there are ample opportunities for undisturbed indulgence in the walking exercise in the pure pine laden air, which is so important a part of the cure. The prices of most things, and especially of mules, have tended to increase at Carlsbad. But the standard of good cooking is high at all the many restaurants, small as well as large, modest as well as pretentious, and therefore expensive; and it is by no means necessary, in order to secure appetizing and wholesome viands, to go to restaurants where a band performs at meals, and the once frugal Carlsbad supper is turned into an elaborate dinner. To those who can properly appreciate the health-giving virtues of the Carlsbad waters and the open-air life, the same facilities as before are offered, and the municipality is always on the alert to meet its growing requirements and to maintain and increase its old reputation as a health resort in the truest and best sense of the term.

A SANATORIUM FOR CONSUMPTIVE CHILDREN.

An appeal has recently been issued on behalf of a sanatorium for consumptive children which it is proposed to erect on a site already acquired between Holt and Cromer in Norfolk. It is proposed to commence with a building to accommodate twenty-five children, which can be extended as funds become available. The amount required to make this beginning is estimated at £8,000. The scheme has the patronage of a number of influential persons, and the committee of management, with the Rev. E. C. Bedford as chairman, has issued a preliminary circular setting forth the aim of the committee, and appealing for funds. There is no question as to the necessity of sanatorium accommodation for children suffering from tuberculosis. The number of children affected with this disease is enormous; the accommodation for their treatment is extremely small. We are therefore in sympathy with any effort which may lessen this disproportion. We have, however, some doubt as to the success of the present venture—not from the financial point of view, for we may assume that the money will be forthcoming for this as for any scheme for the benefit of sick children, but with regard to the magnitude of the results as compared with the cost. Does the committee realize, for example, how long it may be necessary to keep a consumptive child in the sanatorium in order to effect any lasting improvement? If any shorter period of residence is made the rule, the "sanatorium" becomes little more than another convalescent home. We note that there are two medical men on the committee of management, who presumably act as the advisers of the committee on the medical aspects of the work. One of these is a physician to the Homœopathic Hospital; we have not been able to find the other name in the *Medical Directory* for 1905. It is, perhaps, fair to assume that the sanatorium will be under the auspices of the so-called "homœopathic" practitioners. It seems curious to find the fresh-air treatment of consumption included in the practice of homœopathy. On the principle which the name implies, consumption should rather be treated by the close and impure atmosphere which plays so large a part in its causation, with, perhaps, a course of tubercle bacilli taken internally. We seem, however, to remember having heard that homœopathic remedies are rendered more efficacious by dilution; and, after all, the maximum dilution of a dose of tubercle bacilli with fresh air may come to much the same thing as giving the patient the purest air obtainable in this country. Putting aside all question of the relation of open air treatment to homœopathic principles, it would seem that if the sanatorium is to be under homœopathic auspices the Committee should notify the fact. There are, no doubt, many believers in homœopathy who would more readily subscribe to an institution knowing it to be under the management of those who share their belief but there are others who might feel some disappointment if, after subscribing to the institution, they found that it was under the management of a special medical sect. If it is to be a homœopathic sanatorium, let it be called so; we can then wish it every success in its object of alleviating suffering without any reserve such as we feel at present.

MEDICAL EXPERT WITNESSES.

We print elsewhere a brief note of the final result of the prolonged legal proceedings in which Sir Patrick Heron Watson, of Edinburgh, became involved with regard to evidence given by him in a case in which a lady sought a legal separation from her husband on account of his alleged cruelty. Sir Patrick Heron Watson first of all examined the patient at the request of her legal advisers. The opinion he formed and expressed to her agents was unfavourable to the lady's contention. Nevertheless, she persevered in her action. Nearly two years later Sir Patrick Heron Watson again examined the lady in consultation with two other medical men, this time on behalf of the husband. In making a statement to the husband's legal advisers, he communicated to them not only the observations made at the second examination, but also those made and the private notes taken at the first examination. It was contended on behalf of the lady that this was a breach of confidence for which he was liable in damages. The House of Lords rejected this contention. The Lord Chancellor, in giving judgement, said that a witness in the box was absolutely protected from the evidence there given, and that the protection extended to the statement made to a solicitor of the nature of the evidence the witness was prepared to give. Sir Patrick Heron Watson has therefore won his case, and the opinion of the Lord Chancellor to the effect that any other decision would have been disastrous to the cause of justice will be generally approved. At the same time it is not possible for the medical profession to look on the case with complete satisfaction. We do not know what considerations induced Sir Patrick Heron Watson, after he had seen and examined the lady at her own request under the circumstances mentioned, to consent subsequently to examine her again on behalf of the husband. He was a voluntary witness, and might quite easily have declined to examine her on behalf of her husband with a view to giving evidence. We feel very strongly that in not declining he committed an error of judgement. Once in the witness-box he was bound to speak the whole truth if required by the court to do so, but he need never have gone into the witness-box at all.

PERFORATING DUODENAL ULCER SIMULATING APPENDICITIS.

M. Terrier recently recorded before the Société de Chirurgie de Paris a case of considerable interest. Symptoms of general peritonitis such as are so often caused by perforation of the vermiform appendix developed, and an abdominal incision failed to reveal the precise origin of the peritoneal inflammation. In reality there was a perforating ulcer in the duodenum.[1] A man, 22 years of age, previously in good health, was seized at 3 a.m. with intense pain in the epigastrium. Eight hours later M. de Rouville examined the patient. The features were pinched, the pulse 160, the temperature normal, and vomiting absent. The epigastric region was resonant and not tense, although the pain according to the patient's own account originated there it had spread and was now most intense about McBurney's spot. Perforation of the appendix was diagnosed and the usual incision made in the right iliac region. A quantity of pus escaped, but the caecum and

[1] Perforation d'un Ulcus Duodénal [illegible] pour Appendicite. Diagnostic de ces Perforations. Développement de l'Ulcère au dépens d'un Adénome Brunnerien. *Rev. de Chir. et de Chir. Abdom.*, May-June, p. 526.

appendix were found to be normal. The patient died forty-eight hours after the operation. A small triangular perforation with thick borders was detected on the posterior aspect of the duodenum; on microscopic examination it was found to be due to adenoma of Brünner's glands, the muscular coat being infiltrated with glandular tissue. M. Tuffier dwelt on the diagnosis of perforating duodenal ulcer. No doubt if an intelligent patient could give a clear history of no burns and no gastric symptoms, and could clearly localize the initial pain in the epigastrium, then it would be just possible not only to diagnose the perforation but also to ascribe it rightly to ulceration following adenoma. Certainly in this case the patient correctly localized the original pain, but he was too ill to give any further clinical history, and referred the maximum seat of pain, several hours after the beginning of the attack, to McBurney's spot. Tuffier noted that sudden acute pain was the first symptom in 18 out of 23 cases of perforating duodenal ulcer, but it was nearly always diffuse from the first, whilst in 15 of the 23 cases appendicitis was diagnosed, the pain being most severe in the right and inferior part of the abdomen in six of these misinterpreted cases. M. Quénu announced that he would shortly report a similar case. M. Routier had observed another with the error in diagnosis reversed, appendicitis being taken for perforation of the duodenum. M. Faure insisted that there was a pathognomonic symptom of affections of this kind seated above the umbilical level —namely, thoracic pain between the shoulders or in one shoulder. M. Tuffier had not distinguished this symptom. In reply to M. Routier he remarked that as it not rarely happened that appendicitis caused pain referred to the epigastrium it also happened, though seldom, that pain at McBurney's spot was the first symptom of the perforation of an ordinary gastric ulcer. We all know, as do our French surgical brethren, that McBurney's spot is by no means a sure fingerpost to the site of an acute abdominal lesion.

THE TREATMENT OF LEPROSY.

IT may be remembered that last year Captain Rost, I.M.S., reported that he had succeeded in cultivating the bacillus of leprosy, and with a substance made from it on the lines of tuberculin, which he called "leprolin," he had obtained encouraging results in the treatment of leprosy. Since that time marked improvement in the symptoms, although not actual cures, have been obtained in various parts of India. Recently Captain Rost was put on special duty at the Pasteur Institute, Kasauli, in order that his results might be verified, and a report by Lieutenant-Colonel Semple, Director of the Institute, has just been issued in Simla. Experiments were carried out by Colonel Semple, with the co-operation of Captain Rost, from January to April of the present year. The experiments were carried out with the media prepared by Captain Rost from leprosy cases he selected, and the report states that Captain Rost agreed that the methods adopted were what he himself wished done to demonstrate his method of culture of the leprosy bacillus, and every possible condition that Captain Rost could suggest for their success was tried. One series, for example, was made under artificial conditions of atmospheric pressure similar to that of Rangoon. The result was, however, a total failure, it being found that when the precautions possible in a well-equipped laboratory were taken to exclude errors from contamination, no growth whatever took place in the media inoculated with leprosy bacilli, and Colonel Semple states that if these precautions had been adopted by Captain Rost when experimenting in Rangoon, "the chances are that the literature from his pen on the subjects of the cultivation of leprosy and the preparation of leprolin would never have been published." The cultivation of the bacillus having failed, there could be no preparation of leprolin from such cultivation. The following is Colonel Semple's summary of his conclusions: "1. Captain Rost has failed to demonstrate a growth of the leprosy bacillus in his media at Kasauli. I have followed, and carefully repeated his experiments, and tried others of my own, and have also failed to obtain a growth. 2. The material used to inoculate the media was chosen by Captain Rost himself, and without doubt it was taken from leprosy cases, and contained leprosy bacilli in large numbers. It was considered by Captain Rost to be as very suitable for the experiments carried out. 3. From the fact that the leprosy bacillus has not yet been cultivated on any artificial medium that we know of, the preparation of leprolin is at present an impossibility. 4. Defective technique in the preparation of his media, and in eliminating the subsequent contaminating growths are the probable causes which have given rise to Captain Rost's mistakes. When a sterile medium was used and subsequent contaminations avoided, the results were invariably no growth. (5) The temporary benefits said to have been obtained by the use of the so-called leprolin may have been due to the filtered toxins from the contaminated media used in its preparation—one of the many so-called cures for leprosy which have from time to time during the past century gained a short-lived reputation. Much sympathy will be felt for Captain Rost, as he has for years worked diligently in his leisure hours at his various researches with improvised apparatus, owing to there having been no Government laboratory in the province of Burma, and in a hot, damp climate, in which the difficulties of avoiding contaminations of cultures are infinitely greater than in temperate countries. Now that a bacteriological laboratory is being started in Rangoon, it is to be hoped that he will be given facilities for working under less unfavourable conditions."

APPENDICES EPIPLOICAE MISTAKEN FOR FETAL MEMBRANES.

DR. TÖPFER, in the course of a discussion before the Hamburg Obstetrical Society on relaxation and perforation of the uterus,[1] related how he was once called in consultation about an abortion. The doctor apparently had failed to get away all the membranes; he made out that the uterine cavity was 5½ in. in length, and in clearing the cavity he drew out two structures which he believed to be fragments of placenta. It is not stated whether he used his hand alone or made use of the curette. Dr. Töpfer on exploring the uterus made out its length to be under 3 in. There were several small perforations in the region of the right cornu, and the two structures which had been removed proved to be appendices epiploicae. The abdominal cavity was opened, the perforations in the uterine wall closed by suture, and the curette was applied to the uterine cavity. There was no complication during convalescence, but Dr. Töpfer believed that it would be safer as a rule to remove a uterus damaged in this manner after delivery or abortion. This case should be borne in mind by all who practise midwifery; perforation by the curette or by the hand may occur even when but little or no force is used, and the perils of the entry of even the smallest structure from the uterine cavity into the peritoneal cavity are evident.

PLAGUE IN PERU.

THE British Consul-General for Peru, Mr. St. John, in his report on the trade and general condition of that country during the past year, states that bubonic plague is now established in an endemic form in a number of places on the Peruvian coast. Though doubtless the malady was not recognized, or at all events not notified, at first, the existence of cases began to be officially known in May, 1903, and in all, up to the end of 1904, 1,110 cases were reported. Many more, Mr. St. John thinks, must have escaped attention, as there has always been extreme disinclination on the part of the poorer classes in the towns to avail themselves of the medical assistance given in the lazarettos, although it was considered that in the Lima lazaretto especially the treatment was successful. Of the 1,110 cases reported, 558 died—a mortality of almost exactly 50 per cent. It is stated that the sanitary condition of all the towns leaves a good deal to be desired, although the Lima municipal authorities deserve credit for the manner in

[1] *Centralbl. f. Gynäk.*, No. 20, 1905, p. 636.

which they coped with the outbreak. Quarantine is practically abolished unless deaths or suspicious cases have occurred during the voyage, but passengers are compelled to submit to various regulations with regard to medical examination, disinfection of luggage, etc. At Paita, Callao, and Ilo, the Clayton apparatus for the disinfection of ships is in use.

A COLOSSAL PRIZE.

It was stated in the BRITISH MEDICAL JOURNAL of August 19th that a member of the Brazilian Chamber of Deputies had proposed that a prize of £400,000 should be offered for the discovery of a certain method of stamping out consumption. It is stated that the proposal has been approved by the Brazilian Parliament. The offer, however, is larger in scope than we had been led to believe, for it appears that the prize will be given to any one, native or foreign, who shall discover a certain means of prevention or cure of syphilis, or tuberculosis, or cancer. The Brazilian Minister of the Interior will, it is said, refer the proposal to a Committee composed of a representative of the National Academy of Medicine, and four other members of kindred bodies in France, England, Germany, and Italy. The Brazilian Government will regulate the meetings of the Committee.

THE HISTORY OF SCIENCE.

THE Historical Congress held at Rome in 1903 appointed a permanent International Committee to organize an international gathering of those interested in the history of the natural sciences. The Chairman was Professor Paul Tannery, of Paris, who died a few months ago. In place of him the Committee has now unanimously elected as its Chairman, Dr. Karl Sudhoff, who has just been appointed Professor of the History of Medicine in the University of Leipzig. The members of the Committee are Drs. Benedikt of Vienna, Blanchard of Paris, Bobynin of Moscow, Cajori of Colorado Springs, Carpi of Rome, Enestrom of Stockholm, Favaro of Padua, Giacosa of Turin, Guareschi of Turin, Günther of Munich, Heath of London, Korteweg of Amsterdam, Loria of Genoa, Petersen of Copenhagen, Rubio of Zurich, Saavedra of Madrid, Smith of New York, Teixeira of Oporto, and Zeuthen of Copenhagen.

INTERNATIONAL TUBERCULOSIS CONGRESS.

We may remind readers that the International Tuberculosis Congress is to be held in Paris from October 2nd to 7th. The full programme was published in the BRITISH MEDICAL JOURNAL of July 15th, p. 155. We are requested to state that the National Association for the Prevention of Consumption is acting for the authorities of the Congress in this country. It has approached the railway companies, who have granted a very considerable reduction of fares. Return tickets, London to Paris, available for fourteen days, will be granted at the following prices: South Eastern Railway—First class, 58s. 4d.; second class, 37s. 6d. L.B. and S.C. Railway—39s. 3d., 30s. 3d., a reduction of more than one-third. Intending travellers should apply to the National Association for the Prevention of Consumption, 20, Hanover Square, W.

THE INTERNATIONAL SURGICAL CONGRESS.

THE International Surgical Society will hold its first Congress at Brussels from September 18th to September 23rd. The association was founded in 1902 to bring together surgeons from all parts of the world for the study and discussion of certain surgical subjects previously notified, and calling for the co-operation of large numbers. The number of members from the several countries is limited, and the affairs of the Society are administered by a permanent International Committee composed of one delegate from each nation; the nations at present represented are Germany, France, and Great Britain. During the Congress a general meeting of the association will be held to appoint the International Committee to select subjects for discussion and the readers of papers, to fix the next place of meeting, and to elect the president. A considerable number of members from various countries have already announced their intention of being present in Brussels, and Mr. Reginald Harrison asks us to state that the Belgian Committee will be pleased to send invitations to fêtes, etc., to any foreign member who proposes to attend the Congress, if he will without delay send an intimation to the Secretary-General, Dr. Depage, 79, Avenue Louise, Brussels.

CRETINISM AND ALLIED DISEASES.

IN spite of the enormous progress in medical knowledge which the last decade has witnessed, there are still many maladies which, at all events as far as regards their etiology, remain as great a puzzle to us as ever. Not the least notable and interesting of these is the group of diseases which form the subject of Dr. Bayon's little volume,[1] but the latter demands attention not only on this account, but from the fact that the author has previously published numerous contributions upon cretinism and goitre, and has made them his special study. The present work is an Italian presentment of the German original, but—as is specially stated in the preface—not a translation. It deals at considerable length with the question of diagnosis, and brings our knowledge of the entire subject thoroughly up-to-date, while the illustrations, which are for the most part photographs of cretins, are also useful. An excellent feature of the book is the extraordinarily full bibliography or rather bibliographies, it affords. Not only is there a general list, covering 24 pages at the end of the book, of works and papers in all languages, treating on the subject, but the various chapters on the anatomy, pathology, etiology, etc., of the disease have each a separate bibliography appended. A lengthy table, moreover, gives the various causes which have been suggested as provocative of cretinism, and the authorities supporting them. Unfortunately, the book is devoid of index—a far too common fault in Continental literature.

THE Emperor of Austria has made Dr. Karl Toldt, Professor of Anatomy in the University of Vienna, a life member of the Austrian House of Lords.

THE Ophthalmological Congress, which held its annual meeting from August 2nd to 5th, awarded the Graefe Medal to Professor Hering, of Leipzig, for his work in the domain of physiological optics.

IN addition to the gift of £5,000 from Mr. Bawden, King Edward's Hospital Fund for London has this week received cash and securities of the estimated value of £10,000 to be retained as capital, being part of a bequest made by the late Miss Marianne Frances Hasker of St. Leonard's. The King has also sent his annual subscription of £105 to the Fund.

FLEET-SURGEON J. LLOYD THOMAS, R.N., of the *Excellent*, has been selected to represent the Medical Department of the Royal Navy at the Military Medical Congress to be held at Detroit at the end of this month. The Medical Department of the Army will be represented by Lieutenant-Colonel Rainsford, C.I.E., R.A.M.C., Principal Medical Officer, Bermuda. The Indian Medical Service will also be represented.

CONTRACT MEDICAL PRACTICE.

NOTICE AS TO DISTRICTS IN WHICH DISPUTES EXIST.

A notice as to places in which disputes exist between members of the medical profession and various organizations for providing contract practice will be found among the advertisements, and medical men who may be thinking of applying for appointments in connexion with clubs or other forms of contract practice are requested to refer to the advertisement on page 71.

[1] *Eziologia, Diagnosi e Terapia del Cretinismo: con particolare riguardo alle altre malattie della glandola tiroide, gozzo, e Mixedema.* By Dr. P. G. H. Bayon. Turin: Unione Tipografico-Editrice. 1904. Sm. 8vo., pp. 191, 14 illustrations.

Ireland.

Queen's College, Cork.

President's Report.

The report of Dr. Windle, President of Queen's College, Cork, for session 1904-5, has just been issued as a Parliamentary paper. The number of students attending the College during the session was 251, as against 225 during 1903-4; 240 were matriculated and 11 non-matriculated.

The President reports that the work done in the College during the session has been of a satisfactory character, and a fair list of honours and distinctions obtained at the Royal University of Ireland is appended. The President refers to the evident unwillingness of candidates from the College to present themselves for honours, more particularly in medicine, which he attributes partly to the present system of examination for honours and pass adopted at the University, and to the insufficient number of examiners appointed from the College by the University. Chemistry, amongst the earlier group of subjects, is unrepresented, whilst it is deemed most unsatisfactory that in such important subjects at the final examination as pathology, medicine, and midwifery the College is wholly without representation. It is obvious that students examined by extern examiners are at a great disadvantage, because they are being examined by men whose views and methods may differ, and even very widely differ, from those of the teachers under whom they have been trained.

"One result of this is that students, being aware of the disadvantages under which they are placed, too often devote a large portion of their time to cramming up the kind of questions which they imagine that their foreign examiner is likely to set. Such a plan is ruinous to all true education, and an institution which in any way encourages such a system is doing an injury to education rather than promoting it."

President Windle anticipates, owing to the system of examination of which he complains, a decline in the number of students presenting themselves for examinations in the Royal University of Ireland. He thinks it would be better for the students rather than enter the profession of medicine merely as diplomates to enter for the London University as extern pupils.

The President insists strongly on the necessity for a subdivision in some of the Chairs of the College. The Chair of Anatomy should be separated from that of Physiology. The Chairs of Botany, Zoology, and Geology also need subdivision; he also recommends the institution of a Chair in Pathology in place of the present Lectureship.

Belfast District Lunatic Asylum.

Dr. William Graham, Medical Superintendent of this asylum, has just submitted the seventy-fifth annual report, for the year 1904. He states that 132 males and 134 females were admitted during the year; the total number under treatment was 633 males and 692 females; 81 males and 73 females were discharged; 63 males and 37 females died, being a mortality of 9·5 per cent. On December 31st, 1904, 489 males and 582 females remained. Of the 266 patients admitted 79 came from the workhouse, making a total of 673 from that institution during the last seven years, of whom 111 recovered and 43 were relieved, and 162 died. The low rate of recovery in workhouse cases considerably alters the percentage of recoveries.

Dr. Graham calls attention to the inadvisability of sending idiots and imbeciles to asylums, and lays emphasis on the fact that it is not the proper place for their education and training; although frequently urged by the inspectors in the reports, no improvement has yet been effected in this respect.

The principal feature in the mortality is the large and increasing number of cases of general paralysis of the insane; 23 deaths were due to it, 9 to phthisis and 4 to tuberculosis; there were no deaths from accident or suicide. Special attention has been paid to out-door employment and recreation, and two new farms adjoining the present grounds were bought. These bring the asylum grounds at Purdysburn to the county road, and prevents any encroachment from other buildings in the future.

The gross expenditure for the year amounted to £23,958 7s. 8d., being a net capitation cost of £21 4s., or £1 7s. 2d. less than last year. In 1902-3, the cost of provisions per head was £9 0s. 2d.; in 1903-4 it was £8 9s. 9d., while in this year it has been further reduced to £7 12s. 2d.; the new dietary scale came into operation during this period; £1,610 2s. 7d. had been received for farm produce, etc.

The report of Sir George O'Farrell, Inspector of Lunatics, which is added, contains much interesting and important matter. Of the 1,071 patients in the institution only 91 were well educated, and only 172 could read and write well.

Public Health of Belfast.

The Medical Superintendent Officer of Belfast reported to the monthly meeting of the Council on September 1st that 187 cases of zymotic disease had been notified during last month, including 74 cases of simple continued fever, and 46 of typhoid, with 17 deaths; there were registered 1,133 births and 702 deaths, including 180 from zymotic disease (chiefly diarrhoea, measles, and whooping-cough, which are not notifiable); 250 children under one year of age died during this period; the annual death-rate from all causes was 20.4. A mortality of 17 in 46 cases of typhoid, or 37 per cent., is so exceedingly high that one is forced to the conclusion that many cases of typhoid are not notified; even if all the cases of simple continued fever be classed as typhoid, the mortality is still very high, about 14 per cent.; the type of typhoid fever so far this autumn has been rather mild; the mortality from the disease known or classified as simple continued fever is generally about 2 or 3 per cent.

Ballinasloe Union.

After a long conference the dispensary medical officers of the Ballinasloe Union and the guardians have arrived at a settlement of their differences regarding salaries. With one exception all the doctors will receive £120 a year, with an increase of £7 10s. every third year, until a maximum of £180 is reached. Dr. Duffey, who is excepted from this arrangement, receives an increase of £10 every third year from the date of his appointment, and his maximum is fixed at £200.

CHOLERA IN GERMANY.

Precautions at British Ports.

The prevalence of Asiatic cholera among men employed on the waterways of North-Eastern Germany, and the death of a Russian transmigrant from the disease in Hamburg, has led the Local Government Boards in England and Scotland to issue a circular letter to port sanitary authorities calling their attention to the possible risk of the importation of the disease from Baltic and probably North Sea ports. Already the authorities of the chief ports of the United Kingdom trading with the Baltic were on the alert, and precautions of the nature of those which were proved efficient in 1892 have been put into force. We append notes on the arrangements in the Humber, Tyne, and Thames.

The Humber.

Consequent on cases of cholera having been reported to have occurred on the Continent, increased vigilance is being exercised in the medical inspection of all vessels arriving at the ports of Hull and Goole from suspicious ports.

Hull is a great emigrant port, and the yearly average number of emigrants arriving during the past seventeen years has been 45,050.

Circulars showing the infected or suspicious ports are issued every alternate week to shipowners, pilots, and others concerned, and the crews of vessels arriving from these ports are subjected to a rigid medical inspection, and any suspicious case of illness removed to hospital for observation.

In view of the association of the ports of Hull and Goole with Indian, Russian, and German ports, increased vigilance is being exercised with regard to both plague and cholera especially of all vessels carrying emigrants or transmigrants. Calcutta is declared an infected port as regards both diseases.

During the two months ending August 31st 23 vessels arrived from Indian ports, as follows: Karachi, 16; Bombay, 5; Calcutta, 2. Seventy-eight vessels arrived from Russian ports, 69 from German ports, and 136 from Dutch and Belgian ports. During the two months named, the number of emigrants and transmigrants arriving was as follows:

	Emigrants.	Transmigrants.
July	175 ...	... 5,187
August	430 ...	... 4,752

Special hospital accommodation is provided for port cases at the ports of Hull and Goole. In the event of patients from suspicious or infected ports being removed to hospital for isolation, specimens from the patients are submitted for

bacteriological examination. At Hull where all vessels are medically inspected and, if infectious disease exist, detained for disinfection, a thoroughly equipped disinfecting station has been erected at a cost of upwards of £5 000. It is used conjointly by the city and port authorities.

The officers of the authority consist of a medical officer of health, two deputy medical officers of health (one for Hull and one for Goole), and three inspectors, who are all in telephonic communication with H.M. Customs and the various shipping offices.

The Hull and Goole Port Sanitary Authority was constituted a separate authority in 1887, its members being appointed by the Hull City Corporation and the Goole Urban District Council, Alderman Evan Fraser having been Chairman since its constitution.

The Tyne.

The Medical Officer to the River Tyne Sanitary Authority has already made very complete preparations for any emergency and the greatest vigilance is being exercised. As the traffic between the Baltic and the Tyne is considerable—sometimes as many as six vessels arriving from the Baltic in one day—Newcastle and the seaboard towns are very important centres during the present cholera scare. The Medical Officer is aided by his four qualified inspectors; all ships from the Baltic and Hamburg are boarded night or day, and any suspicious case is at once reported to Dr. Harker.

The floating hospital near the mouth of the Tyne is fitted up with every convenience, and is ready; in addition, there is close to it another float provided with efficient appliances for disinfection of the most recent type. A steam ambulance launch is also kept in readiness to transport suspicious cases at once to the floating hospital. No communication of an infected subject with land need, therefore, take place at all.

Vessels arriving from Hamburg have been boarded and examined during the last few days, but fortunately all have shown a clean bill of health.

Should perchance any case of cholera be found, Dr. Harker will doubtless apply for further powers, and will put into action the Cholera Order of the Local Government Board of 9th November, 1896.

The Thames.

Dr. Herbert Williams, Medical Officer to the Port of London Sanitary Authority, has issued the following official statement with reference to the procedure adopted as to ships arriving in the Thames:

All vessels coming from ports infected, or suspected to be infected, with cholera are stopped at Gravesend and visited by one of the medical officers of the Port of London Sanitary Authority. Every person on board is medically examined, and if found free from disease allowed to land in London, subject to their furnishing the medical officer with their names and addresses to which they are proceeding. The medical officers of health for the various districts are notified that persons from vessels coming from infected ports are proceeding into their district, and they are kept under observation by the medical officers of health for the districts concerned during the incubation period of cholera. Three medical officers are engaged in the work of boarding ships at Gravesend. In the event of any persons on board incoming vessels being found with symptoms even suspicious of cholera, they are immediately removed to the Port Sanitary Hospital at Denton, and the vessel and all infected effects thoroughly disinfected.

SPECIAL CORRESPONDENCE.

MANCHESTER.

Amount and Distribution of Hospital Sunday and Saturday Fund.—Contributions to Medical Charities.—Railway Ambulance Work.—Cost of Inmates of Lancashire Asylums.—Coroner and Verdict of "Temporary Insanity."—Cost of School Nurseries.—Progress of New Infirmary.—Bolton Hospital Saturday Fund.—A Year's Sanitation.—Tuberculous Disease and Milk Supply.—Light Treatment of Skin Diseases.

The amount distributed by the Hospital Sunday and Saturday Fund amongst the medical charities of Manchester and Salford this year is the same as in 1904, namely, £7 500. The following are the grants that have been made: Children's Hospital, £1,240; Royal Infirmary £1 216; Sick Poor and Private Nursing Institution, £757; Hospital for Incurables, £591; Salford Royal Hospital, £538; Ancoats Hospital, £499; Southern and Maternity Hospital, £469; Royal Eye Hospital, £467; Northern (late Clinical) Hospital, £431; St. Mary's Hospital, £414; Hospital for Consumption, £359; Hospital for Skin Diseases, £146; Ear Hospital £95; Christie's Hospital (Cancer Pavilion), £81; Victoria Dental Hospital, £61; Hulme Dispensary, £52; Lock Hospital, £43; Cheriton-on-Medlock Dispensary, £27; Homœopathic Institution, £9.

It is gratifying to find that the Co-operative Wholesale Society, out of a large profit for the present year has voted £310 to charities; to the fund for rebuilding the out-patient department of the Children's Hospital, £105 Convalescent Home in connexion with Ancoats Hospital, £105, Wattstown colliery explosion relief fund, £100.

The Great Central Railway has now 1,334 servants qualified for ambulance work. It must be a source of satisfaction to the public to know that in case of accident on this line, there are more than a thousand well-trained servants competent and ready to give first aid to the injured.

At the recent meeting of the Lancashire Asylums Board held at Preston, the General Purposes Committee reported that the average weekly cost of maintenance during the twelve months ending March 31st, of inmates in the various asylums was: Lancaster, 9s 5½d.; Prestwich 9s. 0¾d.; Rainhill, 9s. 2½d.; Whittingham 8s 10¾d; and Winwick 8s. 2½d. It was stated that the credit balance in favour of the Asylums was £60,120, also that it did not seem possible to run any asylum at a lower figure than 8s. 9d. per head. It was claimed that the Lancashire Asylums are the cheapest in Europe. It was also resolved that it would not be wise to reduce the cost of maintenance to 8s. 2d per head as was proposed.

The Manchester Coroner had before him last week the case of a person who cut his throat because he had been unfortunate in business. The Coroner remarked that in 999 cases out of 1,000 a verdict of "Temporary Insanity" in a suicide case was a pure farce. It was distressing to the relatives to have, without any reason, a record left in perpetuity that there was insanity—a record which might be referred to at any time. The verdict of the jury was the simple one of "Suicide." The Coroner remarked that he hoped in time people would begin to understand that a verdict of that kind was a proper verdict and conveyed no reflection.

In connexion with the question of "School Nurseries" and the age limit at which children should be admitted to school, Dr. Day, speaking at a meeting of the Garstang Educational Committee, stated that if children under 5 were not allowed to attend school Lancashire would save something like £800,000 per year.

At the last meeting of the Infirmary Board it was reported that excellent progress had been made with the work of laying the foundations of the New Infirmary, and, as a matter of fact, the contractor is four months ahead of the time specified in the contract. It was resolved to empower the contractor to go on with the building to the height of the first floor, which is to be concreted to protect the new masonry during the winter. It is proposed to light the new infirmary with electricity.

For the past quarter of a century the Bolton Hospital Saturday Committee has yearly raised large sums of money for the Bolton Infirmary by a penny-a-week collection. If every workman in all branches of industry contributed one penny a week, the annual sum would be much larger. The sum raised this year is £2,942, which exceeds by £50 the sum raised in 1904. Over £40,000 has been collected since the penny-a-week scheme was inaugurated.

The annual report of the Sanitary Committee of the Corporation states that during the past year the number of complaints of nuisances dealt with was 2 815. Over 80,000 inspections of various kinds were made and the district inspectors had applied water and other tests to the drainage of 5,403 houses, warehouses, and other buildings. Notices to the number of 11,743 for the abatement of nuisances of various kinds, including defective drainage, were served. The number of lodging houses is 1 300 to which 3 065 day and 258 night visits were made. A large number of underground bakehouses were closed, and many of those remaining have been placed in a satisfactory condition. The number of insanitary dwellings certified to the Committee was 756, or 90 more than in the previous year. Of these 683 were ordered to be closed, but only 217 orders were actually executed, the owners having agreed to make the alterations necessary to satisfy the Committee. The house-drainage department had, after notice, or at the request of the owners, examined 5,766 dwelling houses and 762 business premises, at a cost of £3 3 87, of which amount £28 594 was charged to the owners, and the remaining £6,992 to the city funds.

Dr. Greenhalgh, Medical Officer of Accrington, has called attention to the high death-rate from phthisis and other forms of tuberculosis in the town. One cause, it is suggested, is the

use of milk from cows suffering from tuberculosis. It has been resolved to have a veterinary inspection of all the cows supplying milk to the borough; the first cows inspected will be those within the borough itself.

During the week ended September 2nd there were 892 attendances at the Skin Hospital. Of these, no fewer than 209 were treated in the "light-treatment" department.

BIRMINGHAM.

Consumption in Derbyshire.—Hospital Service at Old Hill.—Corbett Hospital, Stourbridge.—Outbreak of Small-pox at Nuneaton.—The Royal Commission on the Care and Control of the Feeble-minded.—Dudley Ophthalmic Institution.—Death of Mr. Charles Duncan Soutter.

THE Medical Officer of Health for Derbyshire, Dr. Barwise, has addressed every district council on the subject of a proposed sanatorium for consumption. The disease is so widespread that it causes 10 per cent. of the applications for parish relief, and causes about 850 deaths each year in the county. He wants £10,000 for 40 beds and 20 acres, and suggests that the annual expenditure would be £1,200. He believes that if the cases could be treated early enough a four-months' course at such a sanatorium would result in 33 per cent. being practically cured, while 50 per cent. of the rest would be so relieved as to enable them to work three or four years more. He hopes that large firms, Friendly Societies and philanthropic people in the county will come forward and help to maintain such an institution.

On August 20th the annual service arranged by the various Friendly Societies in the Old Hill district, on behalf of the Birmingham and Dudley hospitals, took place in the afternoon in a field lent for the purpose by Mr. A. E. Sidaway. A procession of the members of the Friendly Societies, headed by bands, paraded the principal streets. Several local gentlemen gave addresses at the service on hospitals and hospital work.

The annual meeting of the governors of the Corbett Hospital at Stourbridge was held on August 21st, Mr. W. B. Collis in the chair. A sterilizing chamber has been erected at the hospital. The institution has been well supported during the year. The late Countess of Stamford and Warrington bequeathed £100; the Fêtes Committee handed over £175; the Horse Show only produced £25. There has been £350 less of expenditure than in previous years, but, nevertheless, the demands on the resources of the hospital are greater than ever, and this increase cannot longer be fully dealt with. There has been a marked increase in the number of surgical operations. It is hoped to extend the women's ward this year. Viscount Cobham was re-elected president, Mr. W. J. Amphlett treasurer, and Mr. A. W. Worthington secretary. It is desired that there should be a home in connexion with the hospital to which children may be sent who, although convalescent, are not sufficiently recovered to go to their homes.

There is a serious outbreak of small-pox at Nuneaton. Thirty persons have been removed to the isolation hospital in eight days. This is the second outbreak in Nuneaton this year and the third in about eighteen months. With one exception the whole of the cases in the present outbreak occurred in children under 12 years of age, all of whom were unvaccinated. The medical officer of health and the inspector of nuisances are taking every step possible to stamp out the epidemic. There is a house-to-house visitation in the affected area, and the local medical men find their hands full with vaccinating the children. Two parents were summoned on August 24th for neglecting to notify cases of small-pox. One was fined 40s. and the other 10s. An outbreak of typhoid fever has occurred at Atherstone, and the medical officer of health, Dr. Mears, points out that in case of a further epidemic of small-pox he will have nowhere to send the cases, unless the present cases of typhoid and scarlet fever are removed to their homes. He strongly urges the District Council to try to expedite matters in regard to the erection of the new hospital.

The Local Government Board, acting as the mouthpiece of the Royal Commission on the Care and Control of the Feeble-minded, has addressed the Stoke-on-Trent Board of Guardians with respect to an inquiry to be made in Staffordshire into the number of the mentally-defective persons there. The Board requests the Guardians to facilitate and assist in meeting the wishes of the Royal Commission. Two medical investigators have been appointed by the Royal Commission to make the inquiry. Dr. W. A. Potts, of Birmingham, is to act for the Stoke-on-Trent Union. He has been requested to put himself into communication with the medical officers of the Poor-law areas in order to see the inmates of the Poor-law institutions, infirmaries, workhouses, casual wards, and schools, so that he may note and classify the mental defectives therein. He is also requested to make inquiries from the relieving officers as to the same classes comprised among those receiving out-door relief. The Stoke-on-Trent Guardians have given instructions to their officers to give every facility to Dr. Potts.

In connexion with the Guest Hospital at Dudley arrangements are being made for the forming of a branch for the treatment of diseases of the eye. It will be supported by a special fund, and the honorary surgeon will be Mr. B. St. Clair Roberts. The in-patients will be treated at the Guest Hospital and the out-patients at the Dudley Dispensary. The scheme, which has been prepared by a joint subcommittee, will now be considered by the Hospital Board.

The news of the death of Mr. Charles Duncan Soutter has been cabled over from Java, where he has been accidentally drowned. He was on a trip as surgeon to one of the vessels of Messrs. Alfred Holt. He qualified as M.R.C.S. and L.R.C.P. in 1900, and has held the posts of House-Physician, Obstetric and Ophthalmic House-Surgeon, and Resident Surgical Assistant at the Queen's Hospital. He was also a civil surgeon in the South African Field Force. Mr. Soutter was very popular in Birmingham, where he received his medical education, and was liked by all who knew him. The announcement of his death has been received with great regret by his many friends.

SOUTH WALES.

Small-pox at Barry, Rhondda, and Pontypridd.

THE steamer *Muristan* arrived at Barry on August 29th, when the master reported that two Arabian firemen belonging to the crew were suffering from small-pox. The Medical Officer of Health, accompanied by the Chief Port Sanitary Inspector, immediately boarded the steamer, and had the men, who are suffering from a mild form of the disease, conveyed to the town infectious diseases hospital. The *Muristan* came to Barry from London and Hamburg, another case having been landed at Gravesend when the steamer was on the Thames. An outbreak of small-pox has occurred in the Rhondda Fach at a house occupied by an Irish family in Wattstown (at which place the recent colliery explosion occurred). As far as can be ascertained the outbreak appears to be due to an Irishman of the migratory class, who formerly contracted the disease in a mild form at a common lodging-house on his way from Ireland through Cardiff and Pontypridd. Two married women at Wattstown, whose house the man visited, are now affected, and have been removed to the Isolation Hospital at Ystrad Rhondda. The man had the disease in such a mild form that its real character was not at the time discovered, and it was not until the two women were taken ill and after there had been nearly a score of contacts, that it was recognized as a case of small-pox. Dr. J. D. Jenkins, the medical officer of health, immediately grappled with the situation, and revaccinated all those who were suspected with having come into contact with the two women now laid up. It is, therefore, hoped that these precautionary measures will prevent a spread of the disease.

SYDNEY.

Sir Philip Sydney Jones.—The Australasian Medical Congress at Adelaide, 1905.—The Australasian Trained Nurses' Association.—Adulterated Bread.—Leprosy among the Kanakas.—The Sydney Abattoirs.

GENERAL satisfaction has been expressed not only by the profession but also by the public at large at the honour of knighthood conferred upon Dr. Sydney Jones of Sydney by His Majesty the King. Sir Philip Sydney Jones is a native of Sydney, and holds the qualifications of M.D.Lond. and F.R.C.S.Eng. He has for many years held a leading position in the profession in Sydney, and at present is Vice-Chancellor of the University. He has also been prominently identified with many charitable movements, and has taken a leading part in the establishment of sanatoriums for the open-air treatment of pulmonary tuberculosis in New South Wales. The Council of the New South Wales Branch of the British Medical Association has decided to mark the appreciation of the honour conferred upon him by collecting subscriptions to defray the expense of having his portrait painted in oils, and the

University Senate is to be approached to secure its consent to allow the portrait to be hung in the Great Hall of the University.

The Australasian Medical Congress will be in progress at Adelaide when these lines are published. The arrangements are well in hand, and it is anticipated that the gathering will be highly successful. His Excellency the State Governor is interesting himself in the matter, and has promised to entertain the members. The President is Professor Stirling, M.D., F.R.S., the Professor of Physiology in the University of Adelaide. This will be the seventh meeting of the Congress, but it is felt by a large number that some changes are necessary. At present there is no permanent organization, and the resolutions which have been passed, bearing on important public questions, have to a large extent remained dead letters. At the beginning of this year the Council of the New South Wales Branch of the British Medical Association decided to ascertain the views of the other Australasian Branches on a proposal that the present Congress should be transformed into a biennial or triennial meeting of the Australasian Branches of the British Medical Association, somewhat on the lines of the annual meetings of the parent Association, so that the local State Branches might be able to carry on the policy laid down at the Congress. While general approval has been expressed of this proposal, several difficulties have arisen which will inevitably delay its being carried to a successful issue at present. It is realized, however, that such a change is necessary in the interests of the organization of the profession throughout Australasia, and that it will tend very materially to strengthen the influence of the British Medical Association in this country.

The Australasian Trained Nurses' Association, which was inaugurated largely as a result of the labours of the late Dr. Norton Manning, held its annual meeting recently. The total number of trained nurses on its register is now 759, as against 689 last year. The total membership of the association in Australasia is now 1,389, made up of 1,015 general, 249 midwifery, and 125 medical. The number of medical members of the association is now 91. It was stated in the report that the Royal Victorian Trained Nurses' Association had raised some objections to certain features in the training in vogue under the rules of the A.T.N.A., notably the absence of central examinations, the registration of midwives without a certificate of general training, and the recognition of private hospitals as training schools. The balance-sheet showed the Association to be in credit by £690 17s. 11d. The income for the year (including £248 brought forward) amounted to £792. It was decided that on and after June 1st, 1906, no nurse trained at a training school, general or special, under the control of the A.T.N.A. should be admitted to membership of the A.T.N.A. until she had passed the final examination of the Association, and that an entrance fee of £1 1s. be charged, such fee to entitle the successful candidate to full membership for the first year. Other resolutions were passed providing for candidates producing proof of having attained to the standard of general education laid down by the council, and that after September, 1905, the journal of the Association should be published monthly.

Some rather strong remarks on the quality of bread supplied to the inhabitants of Sydney were made by Mr Hamlet, the Government Analyst, in the course of an address to the Ladies' Sanitary Association recently. He reviewed the adulteration of bread with alum, copper sulphate, darnel seeds, damaged flour, ergotized grain, moulds, and bacteria, and explained the questions of the adulteration by excess of water and the intentional omission of salt and natural phosphates, the addition of water being held to be on a par with the adulteration of milk with water. The conditions giving rise to bad bread were often brought about through bad flour, by using bad water, or by false ferments introduced into the dough through carelessness or ignorance. The desire of the public for a pure white loaf was to some extent responsible for this adulteration, but the householder had a right to get good bread containing 7 per cent. of proteid, the minimum of acidity, with not more than 40 per cent. of water, and a sufficiency of salt and phosphate of lime. These remarks of Mr. Hamlet led to the publication of an angry letter from the President of the Master Bakers' Association, in which the truth of Mr. Hamlet's statements as to the adulteration of bread in Sydney was denied.

A rather remarkable medico-legal case recently came before the criminal court in Sydney. A woman was convicted of attempting to poison a Kanaka (a native of the South Sea Islands) by administering food containing arsenic and strychnine. After the trial was concluded it was found that the victim of the attempted poisoning was suffering from leprosy, and the Attorney-General ordered a further inquiry before the Judge as to whether the symptoms which had been ascribed to arsenical poisoning might not have been due to the leprosy from which he was suffering. Evidence was given by Dr. Ashburton Thompson, the President of the Board of Health, and other medical officers, all tending to show that the victim had undoubtedly suffered from arsenical poisoning in addition to the leprosy. The conviction of the prisoner has accordingly been sustained. However, the discovery that two of these Kanakas are suffering from leprosy has aroused the fears of a number of people living in the district that others engaged in the sugar industry on the Clarence River may also be suffering from this disease. To settle all doubts on this point it has been decided by the Chief Secretary, after consultation with Dr. Ashburton Thompson, to have all the Kanakas collected at a convenient centre, and a medical officer from the Board of Health has been dispatched to make a careful examination of them.

In consequence of complaints made by a deputation which recently waited on the Chief Secretary, to the effect that the abattoirs, under the existing arrangements, were a nuisance to the residents of the neighbourhood, the Board of Health was requested to make an investigation of the condition of the abattoirs. It is stated that steps are being taken to remedy several defects, and more modern machinery has been introduced for the purpose of treating the waste products in such a way that the noxious odours will be prevented. In view, however, of the contemplated transfer of the control of the abattoirs to the City Council it was not deemed desirable to carry out further alterations at present.

CORRESPONDENCE.

THE METROPOLITAN ASYLUMS BOARD AND ITS ASSISTANT MEDICAL OFFICERS.

Sir,—We thank Mr. Scovell for his prompt reply to our letter which appeared in the British Medical Journal of August 26th, and are pleased to note that he considers the question one of sufficient importance to occupy the early attention of the Board. From the opinions which he has expressed we are forced to believe that the Board can neither be fully acquainted with the position of its medical officers, nor with the working of the rules by which its institutions are governed.

We trust that a thorough inquiry will place these matters in a true light, and until such inquiry has been held the object of our resigning will not have been attained, and the position of the assistant medical officers under the M.A.B. will continue to be an extremely unsatisfactory one. We are, etc.,

Francis R. Barwell.
Gerard A. Herklots.
H. P. Kennard.

Darenth Asylum, Dartford, Kent, September 5th.

Sir,—The assistant medical officers of one of the Metropolitan Asylums Board's asylums in 1899 made a complaint in writing to their Committee, that they ranked as "subordinate officers," whilst the matron and others ranked as "principal officers."

The Chairman of the Board writes concerning a similar complaint made in the British Medical Journal of August 26th: "This is the first time the Board has heard any complaint of this kind."

When such a statement is made by the Chairman, it will be readily understood that by writing to the Journal the assistant medical officers of Darenth are more likely to draw the serious attention of the Metropolitan Asylums Board to their complaints than were myself and others who adopted the course the Chairman of that Board suggests as the proper course to be pursued.—I am, etc.,

F. J. Stuart.

Northampton, Sept. 4th.

POOR-LAW MEDICAL OFFICERS AND SUPERANNUATION.

Sir,—The case of Dr. Lee, of the Aylesbury Union, which you commented on in the columns of the Journal some time ago, is still as far as ever from redress.

The matter was taken up by our Association, and representations made to the Local Government Board. Sir Walter Foster kindly assisted us by asking a question in the House of Commons, with the result known to your readers.

The present state of affairs seems to be this. No district medical officer, non-resident in his district, can be sure of a superannuation, however long he may have contributed to the Superannuation Fund, or however long and meritorious may have been his services. Yet he is compelled to allow a deduction from his salary each year for that purpose.

This is little short of a fraud on the non-resident medical officer. It is true that, if he lives long enough, he may get refunded all that has been deducted in the past; but comparatively few reach the superannuation age, and the contributions of the majority are practically forfeited to pay for the superannuation of their longer-lived and more fortunate brethren.

But in the case of non-resident officers this forfeiture is for no corresponding gain on the part of the longer-lived members of that class; it is simply confiscated, as far as they are concerned.

The gravity of the injustice becomes more apparent, when it is seen that this class is not an inconsiderable one, and that many of its number are compelled to be non-residents.

A Royal Commission is about to sit on the present state of the Poor-law Service, and this great failure in the working of the Superannuation Act ought to come under its notice.

The President of the Local Government Board, by his answer to Sir Walter Foster, as reported in the JOURNAL of August 12th, p. 349, has officially confessed the inability of his department to afford a remedy; so that it would seem that, in the absence of fresh legislation, there is a very patent wrong without a remedy.—I am, etc.,

MAJOR GREENWOOD,
Honorary Secretary, Poor-law Medical Officers' Association of England and Wales.

London, N.E., Aug. 28th.

THE GOVERNMENT AND MR. TROUTBECK.

SIR,—I see from the remarks of Captain Booth-Clarkson in the current issue of the BRITISH MEDICAL JOURNAL that, to my regret, I have to some extent misrepresented the position which he took in this matter. Yet his view was not entirely so non-political as he now suggests, for his words, as reported, are: "He had always gone with the Conservative party, but it was really now a very serious question with him whether he should not resign from that party"—from which it would surely follow that if other Conservatives were to be guided by his threatened example, the victory would be deliberately given to their opponents.

What I protest against is the idea that Unionists should throw Unionism to the winds and allow a Radical Government to be installed merely because the present Lord Chancellor and Mr. Balfour have been discourteous in not answering a letter, while there is no guarantee whatever that the Radicals would be one bit more favourable to the profession. Such an idea, for a convinced Unionist, seems preposterous. Unionists as well as Radicals deplore the dilatoriness of the Lord Chancellor and the seeming discourtesy of Mr. Balfour, and the resolution to which Captain Booth-Clarkson refers expresses their feelings accurately; so, in the meantime, I think, "the punishment fits the crime."

It would, of course, be extreme folly for the profession to take to party politics except for the very strongest reasons. The profession must trust to the sense of justice of both political parties and of the public, and, as Captain Booth-Clarkson suggests, work out its own salvation. This, happily, it is busy doing, thanks to the revived energies of the British Medical Association and the vigorous initiative of men like Sir Victor Horsley. We cannot be too grateful for the help given us in our corporate capacity by Sir Victor, who has set a splendid example to some other eminent men, who act as if they would be lowered in a sphere whence they could look down with contempt upon the struggles of their poorer but not less well-deserving brethren on whose shoulders they have risen. A weak sentimentalism has kept the profession too long from asserting itself, but it is now being recognized that a strong organization will benefit the public as much as the doctors. A strong medical organization is essentially the one that will never harm the public, for medical men, having the poor and the suffering always with them, will always have their charity and generosity called forth.—I am, etc.,

August 26th. L. S.

THE [illegible] MEDICAL BENEVOLENT FUND.

SIR,—I have just been re-reading the annual report of the British Medical Benevolent Fund, which has recently been forwarded to [illegible]. Its pathos is haunting, and I feel impelled to write this letter in the hope that it may do some little to arouse a greater interest.

Several reflections come to one. The first that many of these sad cases should not be in such dire straits, for surely none of us should enter on the responsibilities of marriage unless some provision at least can be made for those who may by calamity be left to face the world alone. But this granted, the report shows how hard must be the struggle in many a professional home, if after long years of work the sad state of affairs here revealed should yet be possible.

But to turn to the report itself—and I confine myself to the Grants Department, as the Annuity Department is dependent on invested funds—162 cases were dealt with during 1904, and the reports of these succeed one another in such a sad monotony that it is almost impossible to draw attention to special cases. But consider such items as these: "Widow, aged 42; income, £20 a year; six children." "Widow, aged 43; no income; keeps house for two sons, who are labourers in a wire mill." "Widow, aged 53; no income; ten children, of whom five are dependent." "Widow, aged 32; no income; health broken down; three children; husband died of plague." "Widow, aged 62; dependent upon parish relief; does a little knitting, but eyesight failing." And so one could go on through this direful record, which is an epitome of untold sorrow.

And what are we doing to meet the crying need? The total income to this fund last year was £2,043. There are more than 28,000 members of the profession in Great Britain; that is to say, we contribute 1s. 5d. each! Truly, Sir, this ought not to be, and I am confident that medical men only require to have the facts adequately represented to them to rise to this responsibility. Surely we can manage an average of 5s. a year, and raise this fund to £7 000. We hear much of the development of the corporate life of the profession, but such corporate life will ever be incomplete unless we lend a ready, helping hand to those members or their dependents who are overtaken by calamity.

Bis dat qui cito dat. Will not every one who may read this letter, and who is not yet a subscriber, promptly forward his remittance, and so help to save us from this reproach?—I am, etc.

August 23rd. J. P.

AMERICAN SANITARY METHODS.

SIR,—I beg to enclose an extract from a letter dated August 25th, sent to me by Professor R. W. Boyce, F.R.S., of this University, who is visiting New Orleans for the purpose of studying American methods of dealing with yellow fever. The extract will probably interest medical men, as it well describes the smartness and vigour of the methods referred to. With regard to the concluding passage, I should like to say that I not only dreamt that antimosquito work would be carried out to such a degree, but have always wondered why this was not done five years ago, and for other mosquit-oborne diseases as well as for yellow fever. The Americans seem to have a simple logical way of doing things which is not shared by every other nation.—I am, etc.,

Liverpool, Sept. 5th. RONALD ROSS.

Extract from Letter dated New Orleans, August 25th, 1905, from Professor R. W. Boyce to Professor R. Ross, University of Liverpool.

"Without exaggeration, the work in New Orleans beats anything one has dreamt of. The stegomyia is controlled; every citizen has made a point of helping; lectures are given every night in the various churches; brigades and and antistegomyia societies have been organized; days have been set apart for universal house fumigation, and it is more like real war than anything I have seen. It is all organized on a military plan, and if there is any opposition with Italians, the soldiers go down in a few minutes and settle the matter. You little dreamt that antimosquito work would be carried to such a degree."

THE BAWDEN FUND.

SIR,—My friend, Mr. E. G. Bawden, of the Stock Exchange and Clapton, has entrusted me with a sum in cash and securities of about £100,000 to be applied to purposes of charity and benevolence, and for the advancement of knowledge, especially in aid of human suffering.

After careful consideration I have decided, with his concurrence, to apportion this sum in the form of capital to be

vested in trustees, and to be known in each case as the "Bawden Fund," in the following manner:

	£
For the Advancement of Knowledge.	
Fund for advanced university education and research to complete the sum of £200,000 to bring about the incorporation of University College in the University of London ...	16,000
Whitechapel Art Gallery	2,000
Horticultural College, Swanley (for preparing women for emigration and colonial life)	1,000
Charity Organization Society	3,000
Emigration.	
East End Emigration Fund (Joint Committee)	10,000
United British Women's Emigration Association	2,000
Hospitals.	
King Edward's Hospital Fund	5,000
London Hospital	5,000
City of London Hospital for Diseases of the Chest, Victoria Park	3,000
Poplar Hospital for Accidents...	3,000
National Hospital for the Paralysed and Epileptic	3,000
Royal Waterloo Hospital for Children and Women	2,500
Cancer Hospital, Brompton	2,500
German Hospital	2,500
Queen Charlotte's Lying-in Hospital	2,000
Clapham Maternity Hospital	1,000
Royal Hospital for Incurables, Putney	2,000
Holiday Funds.	
Children's Country Holidays Fund	10,000
Women's Holiday Fund	2,000
Factory Girls' Country Holidays Fund	2,000
Convalescent and other Homes.	
Metropolitan Convalescent Institution	2,000
Mrs. Gladstone's Free Convalescent Home for the Poor ...	2,000
East Anglian Sanatorium (Maltings Farm Branch)	1,000
Kelling Open-Air Sanatorium	1,000
Mary Wardell's Convalescent Home for Scarlet Fever, Stanmore	1,000
Homes for the Aged Poor, Anerley	1,000
St. Mary's Home for Working Women	2,000
Institutions for Homeless and Crippled Children.	
Dr. Barnado's Homes	2,000
National Refuges for Homeless and Destitute Children ...	2,500
Invalid Children's Aid Association	2,000
Haven for Homeless Little Ones	2,000
Cripples' Home and Industrial School for Girls	1,000
National Industrial Home for Crippled Boys	1,000
	£100,000

I need hardly add how great a privilege I feel it to be that it should fall to me to make this announcement of Mr. Bawden's noble gift.—I am, etc.,

London, E.C., Sept. 2nd. EDGAR SPEYER.

PHYSICAL DEGENERATION AND SYPHILIS.

SIR,—I have read with pleasure the article in the BRITISH MEDICAL JOURNAL of August 19th on physical degeneration and syphilis by Lieutenant-Colonel Lambkin, and also the criticism thereon by Dr. Arthur Hall in the current number, which demands some answer. As the point at issue is the relative value of intramuscular injections in the treatment of specific disease, the following experiences are apposite.

A little more than twelve months ago Dr. Stopford Taylor, after a visit to Brussels, introduced the intramuscular treatment of syphilis at the Liverpool Skin Hospital, and since that time it has been consistently carried out with very remarkable results. Over 500 injections of 5 minims of oleum cinereum (containing 40 per cent. of metallic mercury) have been administered by us during that period, and the success of the treatment has been such as to lead to conclusions directly opposed to those of Dr. Hall. Any one who has had any experience of the relative value of oral medication, inunction, and intramuscular injections in the treatment of syphilis must admit that the last is the surest, speediest, and best method. Dr. Hall "fails to see that even the intramuscular treatment offers anything more of a curative kind than the giving of mercury for a given time," by any other method. But experience has shown us that cases under our own observation, which had proved most rebellious to oral treatment and inunction rapidly improved when intramuscular injections were administered. Two cases stand out very prominently as illustrations of this fact. One, a sailor, had extensive specific ulceration of the scalp. He was at first treated by the mouth with full doses of liquor hydrarg. perchlor. and potassium iodide. Although he attended hospital regularly, and, so far as could be ascertained, took his medicine regularly, he made absolutely no progress. Inunction was then tried, but with an equally unfavourable result, and he was rapidly drifting into a condition of cachexia, when treatment by injection was begun. At once a gratifying improvement set in, and in a few weeks the ulceration of the scalp was completely healed. In another case, a woman who had had an obstinate ulcer on the lower lip, which, according to her statement, had broken out nineteen years ago during her first pregnancy, had been treated for syphilis by various doctors for years without improvement. After only five intramuscular injections—equivalent to 10 gr. of metallic mercury—the ulcer healed, and during the months she has continued to report herself and receive further injections there has been no return of the condition.

A great hindrance to the treatment of syphilis is the loss of self-respect which many patients develop coincidentally with their chancre. They cease to take an interest in themselves, and consequently omit to take medicine after the first bottle or two, and are very irregular in attendance at hospital. This obstacle is met effectually by intramuscular injections, for a week's medicine is administered at a dose, and nothing is left to the patient's memory, while the improvement which usually follows even one injection is so apparent to the patient that new hope is infused into him, and he turns up again for treatment at the appointed time.

Dr. Hall does "not see that a man who will not take the trouble to attend once a week or once a month for treatment by pills or medicine is any more likely to do so once a week to have an intramuscular injection." To test this idea I have compared the case-papers of thirty hospital patients, chosen at random, who were treated by oral medication, with a like number, also chosen haphazard, treated by the intramuscular method. In regularity and frequency of attendance the latter far surpass the former. The reasons of this are obvious: (1) Many patients come to hospital as a last resource. They have been treated *ad nauseam* with pills and potions, often without result, and if, on coming to hospital, they are offered more pills and mixtures they have not faith to believe that treatment on the old lines will produce new results, so they are careless about taking their medicine, and gradually drift into a condition of despair, and soon cease attendance. But intramuscular injections impress them as something new: and if it is explained to them that the disease from which they suffer is a species of blood poisoning they conclude (unscientifically, perhaps) that medicine injected into the buttock is much more likely to find its way into the blood than drugs taken by the mouth. (2) Intramuscular injections produce such a rapid improvement that no undue tax is made on the sufferer's patience. In less than a week after the first injection there is usually a distinct improvement in the patient's sense of physical well-being, even though to his eye there may be no change in the appearance of his disease. His feeling of improvement, however, encourages him to return at the end of the week for another injection, and his confidence in the treatment is soon established. During the past twelve months we have had patients come specially from long distances to receive their injections when the date fell due. One, a travelling acrobat, has on different occasions come all the way from Bournemouth and Dundee to have his injection; and another, who has removed from Liverpool to Wales, comes at regular intervals for treatment.

All our patients, both at hospital and in private, have been civilians, and our experience bears out Lieutenant-Colonel Lambkin's contention that this method of treatment is as easily carried out in civil life as in the army. There is no doubt that to prevent the offspring of syphilitics being physically degenerate the best method yet suggested is the thorough and prolonged treatment of all syphilities by the intramuscular method. At a later date further details of our experience with this treatment will be published by Dr. Stopford Taylor and myself. Meantime let it suffice to say that the method is the most efficient known to us for dealing with syphilis. Its results are speedy and certain: its risks, with care, are infinitesimal, for in over 500 injections we have had no complications such as abscess, embolism, or the puncture of an artery; and it is practically devoid of pain. If the medical profession would only adopt this method experimentally for a few months such a conviction of its superiority would seize them that the old methods would be relegated to oblivion and the physical fitness of the nation be very much increased.—I am, etc.,

ROBERT W. MACKENNA, M.A., M.B., Ch.B.

Liverpool, Aug. 28th.

SIR,—In Dr. A. Hall's letter on this subject in the BRITISH MEDICAL JOURNAL of August 26th he says: "I do not see that a man who will not take the trouble to attend once a week or once a month for treatment by pills or medicine is

any more likely to do so once a week to have an intramuscular injection." In reference to this, my opinion is that it is very easy indeed to see why a patient would prefer to go once a week to have an intramuscular injection rather than to go once a week or once a month to get medicine which he will have to take regularly until his next visit. In the case of the visit for the injection, he gets the injection and he has not to do anything until his next visit. In the case of the visit for medicine, it is only the beginning of his work; he has to take the medicine regularly, and every one knows the difficulty of getting patients to take medicine regularly unless they have symptoms present. Indeed, it seems to me that the intramuscular method does away with the dread of publicity; his friends cannot ask him why he is always taking "that medicine." It minimizes the expense and provides a remedy for the innate carelessness of the individual—the three points on which Dr. Hall lays stress.—I am, etc.,

Wark-on-Tyne, Aug. 28th. R. F. CAMPBELL, M.B.Aberd.

CONSULTATIVE OUT-PATIENT DEPARTMENTS.

SIR,—In your leaderette on out-patient departments which appears in your issue of August 26th, concerning the recent resolutions formulated by the Out-patient Committee of the Hospital Sunday Fund, you suggest as a remedy for the excessive numbers which attend there that the casualty departments should be nothing more than first-aid stations except for the very poor, and that the out-patient departments should serve mainly as free consulting rooms for cases sent up by the general practitioners in the neighbourhood of each hospital. This is the method on which the out-patient department of the Bolingbroke Hospital has been worked now for several months. The procedure for cases attending is as follows:

In the casualty department all cases are seen once and are attended to by the casualty officer. If further treatment is required the patient is given a card, which has to be brought signed by a registered medical practitioner, and a patient who does not bring his card properly filled up is not seen after the first visit. In this way the general practitioners in the district act as the almoners to the hospital.

In the out-patient department the surgeons and physicians do not see patients unless they are accompanied by their own medical attendant or bring a card or letter from such medical attendant. This applies both to the ordinary surgical and medical out-patients, and also to the special gynaecological, eye, throat and ear, and electrical departments. These patients, when they have been seen, return to their own medical attendant with a letter from the consultant with his opinion on the case and advice as to treatment. No medicinal treatment is given either in the casualty or the special out-patient departments; if medicine is required it is given by the patient's own medical man.

This method has been employed for some years in the casualty and throat and ear departments with great success, and latterly it has been extended to the other special departments which have been newly instituted.

In this way the out-patient departments serve as free consulting rooms for the poor in the neighbourhood.—I am, etc.,

GERALD S. HUGHES,
Bolingbroke Hospital, S.W., Aug. 27th. Medical Superintendent.

THE MANAGEMENT OF THE BREATH IN SINGING.

SIR,—From a paragraph in *Le Figaro* of August 11th I understand that important information has recently been gathered by the *Gazette Médicale* relating to the immunity of singers from tuberculosis. All the artists appear to agree that their art has a beneficent effect upon the organs of respiration, and M. Isnardon, of the Paris Conservatoire, goes so far as to assert that only singers know how to breathe properly. The use of the term "diaphragmatique" seems, however, to have aroused the indignation of Dr. Bonnier, who deplores the wholesale ruination of voices by methods based upon physiological misunderstanding.

This is a further example of what invariably happens when the voice is made the subject of discussion. There is a deadlock owing to the inability of either side to understand the other, and although many true things may be stated by both, the subjects of respiration and vocalization are not made any clearer.

I am convinced that the fault lies with the physiologist. He is the one upon whom the onus of understanding and explaining the proper functions of the human body must undoubtedly rest. From him the musician and everybody else has to learn, and if there is any obscurity about the action of the respiratory and vocal organs involved in producing the sound of the voice, it is for him to devote his time to its elucidation.

The important points to remember in this investigation are briefly as follows:

1. The singer requires a large volume of air and particular control over it.

2. He must be able to take in a full breath rapidly, and distribute its output over a period of perhaps 10 to 15 seconds.

3. Not only the output of air, but also the air-pressure in the chest must be included in the control.

4. The air-pressure in the chest and windpipe is alone responsible for the sound of the voice, and every vocal act must be physiologically associated with an expiratory act.

5. The onset of a vocal sound by approximation of the vocal membranes requires an absolutely coincident respiratory act to produce the air-pressure for their vibration.

6. Every emphasis must also rely upon the expiratory muscles to supply the increase of pressure for a louder sound.

7. The fundamental physical principle of the voice is the transformation of air-pressure in the chest into sonorous vibrations by means of the "reed action" of the vocal membranes. This involves regulation of the breath, and unconscious action of the vocal reed only, and must be entirely free from any constriction of the throat by contraction of muscular organs above the reed.

The movements and positions of the tongue, lips, palate, and jaw belong to another department, and will not be considered here, although up to a certain point they form a physiological subject. The actual acoustical effects of diction and voice-tone, important as they are to the right understanding of the voice as a whole, are not likely to appeal to more than the few who interest themselves specially with that part of the question.

But what kind of breathing is necessary everybody connected with the use or training of the voice must know. And the physiologist should have no difficulty in ascertaining the best means of containing and regulating even and continuous air-pressure in the chest, if he will only think of what the singer wants, and not hang upon the simple "in and out" action described in textbooks.

There can be no doubt that a singer requires, in the first place, full use of his ribs and diaphragm. The greatest increase in rib-expansion is obtained with the movable lower ribs and not with the rigid upper ones. On the level of the tip of the xiphoid cartilage, or rather below it, expansion affects the widest part of the lungs and commands the greatest volume of air.

With expansion of the ribs there must always be some contraction of the diaphragm, or the full quantity of air would not enter the chest. When the ribs are fully expanded more breath may be obtained by the further contraction of the diaphragm by itself, without increasing intra-abdominal pressure. This is the legitimate diaphragmatic breathing of the singer, who finds that continuity of voice-tone and air-pressure are maintained by keeping his ribs expanded, thereby including a large volume of reserve air in his chest.

This diaphragmatic breathing does not involve any distension of the lower part of the abdomen. It is as if only the crura of the diaphragm were contracted, drawing downwards the extreme bases of the lungs, and pushing the liver and neighbouring viscera forwards. There is some bulging of the abdominal wall at the epigastrium, but none at and below the umbilicus. Opposition to this action is offered by the rectus abdominis, and especially by its head, and when a singer can keep his ribs fully expanded, and can command a good quantity of breath, controlled by the opposed action of the crura of the diaphragm and the head of the rectus abdominis, without doubt he is using his power of breathing advantageously for the voice.

That such a form of breathing is diaphragmatic cannot be disputed, but it is also costal, for the ribs remain fully expanded as long as possible, and only yield when they must—to complete a phrase. Physiologists must not confuse it with breathing that is diaphragmatic only.

Intra-abdominal pressure must be avoided for several obvious reasons, but when costal and diaphragmatic action take place in proper proportion there need be no increase in that factor. On the contrary, full costal expansion with the epigastric movement above described actually diminish it, as proved in practice by the flattening of the umbilical and iliac regions.

This is a kind of diaphragmatic breathing probably unknown to the majority of physiologists, which musicians may often talk about without any real knowledge of its conditions. I should be inclined to call it "epigastric breathing," to disentangle it from the older and more general term of "diaphragmatic," which means something quite different in physiology.

Anyhow, it is for us who are occupied with these scientific questions to remove misunderstanding as far as possible by knowing and teaching the truth about this as of the other natural functions of the human economy.

Certainly the singers are right in claiming a development which is antagonistic to tuberculosis, but there are many excellent breathers among athletes and others who might make a similar claim. The practice of singing is not the only way to develop the chest and the organs of respiration, although a very good one.

As to the ruination of voices, that will always occur so long as those who profess to teach do not really know their subject to its very foundation.—I am, etc.,

W. A. AIKIN, M.D.Brux.,
M.R.C.S., L.R.C.P.Lond.

London, Aug. 17th.

HAY FEVER, CHRONIC RHINITIS, AND ASTHMA.

SIR,—As I conceive that I shall be only one of a great number of correspondents seeking further illumination as to "M.D."s "clinical conclusions," I shall be in no way surprised if this letter should be crowded out. Neither shall I be disappointed so long as other questioners elicit some further information from "M.D."

We are all familiar with the unfortunate termination of the experiment of one of the researchers of the past. He had succeeded in training his donkey to do without food, but unfortunately the death of the donkey intervened just in time to prevent the completion of the experiment.

Can it be that "M.D." has successfully carried out in his own person the experiment that only just failed in the case of the ass? At all events, "M.D." is afraid that the result of his "clinical conclusions will not be appreciated until as a profession we see and teach the public that the food we take is in no sense whatever the source of the mechanical energy of the body, and has, in fact, no relation to it at all."

I am sure that "M.D." will forgive a trifling hesitation on the part of myself and others in abandoning for the sake of his "clinical conclusions" all those prejudices which we had vainly imagined to be of the essence of natural philosophy. It is hard at first to fling away the whole cherished doctrine of the conservation of energy, but of course this must go at bidding of the "clinical conclusions." Since the combustion of food has "no relation" to "mechanical energy"—otherwise motion it can have no relation to the production of heat. In fact, we must forget that it ever seemed to us that chemical action had any relation to the production of energy, heat, electricity, or any other "mode of motion."

We cannot, of course, vie with "M.D." in his use of the Latin and Greek tongues, but we suppose he would describe the position of all so-called natural philosophers prior to his advent as "oligo-gnosis vel oligaki-gnosis." Why under these circumstances should "M.D." tell us that, though his intellect is clearer than it ever was before, he used to think more of it than he now does? Surely, had his intellect remained in its first beclouded state, medical literature would never have been enriched by his description of asthma as "rhinopharyngo-laryngo-tracheo-bronchial-catarrh, cum (vel sine) exudatione species polysitica." There has been nothing like this since Aristophanes, and we believe if "M.D." would try again, after a little more fasting, he could even beat the "λεπαδο-τεμαχο-σελακο-," etc., of his master. Moreover, without this new clarity of his intellect human thought might never have achieved his generalization, from the fact that when he ("M.D.") ate less his asthma got better, to the tremendous conclusion that "almost all diseases say nine-tenths or three-quarters of them—are caused by malnutrition . . . oftener poly-siteism and pollaki-siteism than oligo-siteism and oligaki-siteism."—I am, etc.,

FRED. E. WYNNE, M.B.

Leigh, Lancs., Aug. 27th.

SIR,—The letters which are now appearing in the JOURNAL on the above-named subject bring to my remembrance a book on asthma and its treatment by diet published years ago by Mr. Pridham of Bideford.

A case, first published in the BRITISH MEDICAL JOURNAL of 1860, and quoted in a work[1] of mine on asthma, seems to me worth reproducing once more very briefly.

A clergyman, aged 70, had been asthmatic for ten years. He was unable to lie down at night, and every morning a copious heavy expectoration was thrown off from his lungs.

In the belief that this expectoration must greatly exhaust his system, he was placed on the following dietary:

At 6 a.m. Cup of coffee.
At 9. Breakfast: tea or coffee, eggs and chop.
At 1. Lunch: bread, cheese, porter.
Dinner, tea and supper following later in the day.

This patient, despite his protests, was persuaded to abate three-quarters of the total amount of food taken in twenty-four hours. The result was that at the end of a week he could sleep comfortably lying down. He got a healthy appetite, and was able to resume his clerical duties, which had been for many years suspended.

My own experience can supply cases very similar to the above. I will merely mention one. A gentleman dwelling in a large house in Belgravia came to me, and from what he reported I told him he might get rid of his asthma if he gave up all late dinners and lived in the frugal way I suggested. He replied: "Thanks for your advice, but for one in my position to carry it out is impossible; to begin with, my cook would at once give notice."

In a month I saw this man again. He told me he really had followed my advice, and the result was most satisfactory; he had not had such a month of comfort for a very long time.

Some time after I met him in Manchester Square, when he stopped me and told me he was convinced that asthma was entirely a complaint of the stomach.—I am, etc.

Bognor, August 26th. JOHN C. THOROWGOOD, M.D., F.R.C.P.

THE EFFICIENCY OF THE ARMY MEDICAL SERVICE.

SIR,—I read with pleasure the article in the BRITISH MEDICAL JOURNAL of August 26th dealing with that portion of Field-Marshal Lord Roberts's magnificent speech which referred to the efficiency of the Army Medical Service. I do not think that even that great soldier has ever done more yeoman service to his country than he has recently done by calling attention to the unpreparedness of the country for war. "Lest we forget—lest we forget," and we have been criminally forgetful of the lessons of the Boer war. I am pleased to see the efforts made by the National Service League and other bodies recently to stir up the dormant nation; but it seems very difficult to rouse, and, as you say, the "deadly official apathy" constitutes a grave national danger.—I am, etc.,

C. J. MACLEAN.

Glasgow, Aug. 30th.

SPONTANEOUS COMBUSTION.

SIR,—Cases such as Mr. Archer describes are the real puzzle. There is no case in which a body is known to have set fire to itself. Dr. Poore drew an analogy between this and the burning of a haystack, and renders the occurrence no more probable than before. But there are several well-known and well-authenticated cases in which living persons, usually fat, and, I think, always alcoholic, have caught fire and burnt to death in a way that is hitherto unexplained. Two things are remarkable in these cases: First, that they appear to have suffered no pain, for they have been found sitting quietly in the position of rest and in the form of life, except that they were all charcoal, even to the moustache; and secondly, that the fire hardly ever spreads to surrounding objects.

Experiments, not very satisfactory, have been made to show that they are due to the gradual soaking of the tissues with small doses of CO. I think they will be found in any book on medical jurisprudence.—I am, etc.,

W. P. HERRINGHAM.

London, W., Aug. 28th.

A DISCLAIMER.

DR. DENNIS VINRACE writes to say that some time ago his attention was directed to the prospectus of the Bucci Medicine Syndicate, in which he was described as Chairman-Director. Dr. Vinrace states that the use of his name was entirely unauthorized, that he had no previous knowledge of it, and never had any connexion with the concern. He desires to place on record his repudiation of the syndicate, both on behalf of the medical profession and himself.

[1] *Thorowgood on Asthma and Chronic Bronchitis*, page 72.

OBITUARY.

PHILIP HENRY MULES, M.R.C.S., M.B.,

Ophthalmic Surgeon, Wrexham Infirmary; formerly Surgeon to the Royal Eye Hospital, Manchester.

WE regret to announce the death at the age of 62 of Dr. Mules at his residence, the Old Parsonage, Gresford, Denbighshire, on September 1st. Dr. Mules received part of his medical training at St. George's Hospital, London, and part in Edinburgh, where he took the degree of M.B. in 1870. After devoting some years to general practice, Dr. Mules began to specialize in eye diseases, and attained great distinction as an ophthalmic surgeon, for his reputation extended beyond England. In 1884 he gained the Prize Medal of the International Society for the Amelioration of the Condition of the Blind, awarded by the Paris Society. While in Manchester Mr. Mules was Surgeon to the Manchester Royal Eye Hospital and Altrincham General Hospital. In Altrincham, where he was Chairman of the Gas Committee, he practised for many years. On leaving Manchester he took up his residence in Gresford, and his practice extended to Chester and Wrexham. About five years ago Dr. Mules succeeded the late Dr. Charnley as Ophthalmic Surgeon at the Wrexham Infirmary. In his quiet and picturesque home he devoted much of his spare time to gardening. His garden at Gresford was quite unique in its way.

Dr. Mules made many contributions to the literature of his subject, and added some useful operations. His best known contributions to medical literature were papers on evisceration of the globe and the introduction of an artificial vitreous (1885) and on ptosis (1894). Dr. Mules also wrote on tubercle of the organs of vision, septic ophthalmitis, and the lymphatic system of the eyeball in relation to Graves's disease. Dr. Mules leaves a widow, two sons, and four daughters.

SURGEON ALEXANDER WILLIAM FLOOD, R.N., F.R.C.S., died at Bundoran, co. Donegal, on the 3rd instant. He entered the Royal Navy Medical Service as Surgeon, March 11th, 1871, and retired therefrom, July 3rd, 1874.

SURGEON-GENERAL WILLIAM M'CONAGHY, M.D., Indian Medical Service, died at 5, Granville Place, Portman Square, on September 3rd, aged 60. He joined the department as Assistant Surgeon, October 1st, 1869, and was appointed Surgeon-General with the Government of Bombay, October 30th, 1902. He had no war record.

BRIGADE-SURGEON-LIEUTENANT-COLONEL MATHEW MORIARTY GALLWEY, late Royal Army Medical Corps, died at 3, Suffolk Place, Pall Mall, on August 30th, aged 63. He entered the Army Medical Service as Assistant Surgeon, October 1st, 1867; was promoted to be Surgeon, March 1st, 1873; Surgeon-Major, October 1st, 1879; granted the rank of Lieutenant-Colonel, October 1st, 1887; made Brigade-Surgeon-Lieutenant-Colonel, August 1st, 1893; and retired August 22nd, 1897. He had no war record.

DEATHS IN THE PROFESSION ABROAD.—Among the members of the medical profession in foreign countries who have recently died are Dr. A. J. Kunkel, Professor of Pharmacology in the University of Würzburg; Professor Heinrich Laehr, of Zehlendorf, the Nestor of German alienists, aged 85; and Dr. Paul Schubert, of Nuremberg, a well-known ophthalmologist, and a recognized authority on the history of medicine, aged 56.

ROYAL NAVY AND ARMY MEDICAL SERVICES.

EFFICIENCY OF THE ARMY MEDICAL SERVICE.

"PROGRESS" writes: The information given by the Army Council as to the measures taken to improve the efficiency of the Medical Service, so far as can be gathered from the leading article in the BRITISH MEDICAL JOURNAL of August 26th, omits some important points. The Council does not state what has been done to fix responsibility on combatant officers for omitting to carry out the reasonable recommendations of the sanitary officers, or how far instruction has proceeded in the direction of making combatant officers acquainted with the ordinary measures calculated to maintain themselves and the men under their command in good health. This instruction is now given to pupils in some of the public schools in the country, I believe.

Army medical officers have always known what to do and how to do it, but it was not the duty of any person to carry out their recommendations; and the War Office, according to its tradition, was always careful not to fix responsibility in that respect on the combatant. If things went wrong and sickness resulted the combatant was not asked to explain. It was always the doctor who could only recommend and had no power to carry out sanitary measures except with the assistance of the officer commanding the unit. Has all this been changed? The Army Council does not inform us.

Some years ago a principal medical officer at Aldershot induced the general to permit quartermasters of regiments to be instructed in sanitary duties, after the manner of sanitary inspectors in civil life. The instruction was given by Royal Engineer and medical officers. It was very popular, and almost every quartermaster in Aldershot volunteered to undergo it. At the end of the course several of those officers paid £1 to be examined by the Royal Sanitary Institute, and I understand passed creditable examinations and received certificates from the Institute, which probably would be of use to them when they retired from the army. Has this system been continued? I may explain for non-military readers that in a regiment the quartermaster has to attend to the cleanliness of the barrack, and occupies somewhat the position of an inspector of nuisances from a sanitary point of view.

LIEUTENANT-COLONEL THOMAS HENRY FIASCHI, D.S.O., of the Australian Army Medical Corps, has been granted the fifth class of the order of "SS Maurizio e Lazzaro" and the fourth class of the order "Corona d'Italia" in recognition of valuable services rendered to His Majesty the King of Italy.

THE MILITARY OPERATIONS IN NIGERIA.

DISPATCHES relating to operations in Northern and Southern Nigeria in 1904 appear in the *London Gazette* of August 25th: but, with the exception of a reference by Sir F. D. Lugard, the High Commissioner, to "the good services of Dr. Ellis, West African Medical Staff," they do not contain anything of special interest to medical readers.

AN INTERNATIONAL CONGRESS OF MILITARY SURGEONS.

COLONEL NICHOLAS SENN, Surgeon-General of the State of Illinois, has recently suggested that a Congress devoted to military medicine, surgery and hygiene should be organized. They whose duty it is to plan and carry on war, to kill, maim, starve, and disable, says the distinguished Chicago surgeon, have secrets to guard, that they may accomplish their designs with the least sacrifice and with the greatest loss to the enemy. But medical officers, he adds, have no secrets to observe, for their duty consists in saving life, and their services, not limited by strategical lines, are given to the sick and wounded without distinction between friend and foe. Dr Senn explained that under the term "military" he included the medical corps of navies. The Congress which he wishes to see brought into being would concern itself as much with the naval as with land forces.

SERVICES OF VOLUNTEER MEDICAL OFFICERS.

SURGEON-CAPTAIN JOHN ORTON, M.D., 2nd Volunteer Battalion Royal Warwickshire Regiment, writes: As a Volunteer medical officer, I am desirous of raising in your columns the question of remuneration for our professional services which we render to this branch of the military service. The recent Army Order, which has attracted so much public attention, has imposed a great deal of extra labour upon medical officers who are held responsible for the medical efficiency of Volunteers in their respective battalions, and it is, in my opinion, quite time that we combined to press upon the Government our claim for some payment for our services. In the case of the battalion to which I belong, over 600 men attended camp this year, and as I am the sole medical officer a great deal of my time has been required to carry out the Army Council's Order; and as to do this I have had to report upon the general physique, number of teeth, etc., with a view to the men being called upon to go upon active service abroad—in fact, to act as a recruiting medical officer, is it not our right to ask that we shall be recompensed at so much per head? Some medical officers I know spent most of their time whilst in camp doing nothing else but medical examinations—truly a poor holiday for a general practitioner, who requires a little rest from routine work when he gets away.

FACTORY GIRLS' COUNTRY HOLIDAY FUND.—An appeal signed by the Bishops of Southwark and Kensington, Mrs. Creighton, Mrs. Garrett Anderson, and Mr. Arnold White, is made for subscriptions to this fund. 3,700 girls have already been sent away for a week or fortnight. We are informed that the money already subscribed is exhausted. Subscriptions and donations will be thankfully received and acknowledged by the Honorary Secretary, Miss Paget, or by the Honorary Treasurer, Mrs. Bedford, St. Peter's Rectory, Saffron Hill, London, E.C.

INDIA AND THE COLONIES.

HEALTH OF HONG KONG.

The Colonial Office report on Hong Kong, recently published, records considerable progress in sanitation and methods of dealing with disease. There are at the present time several hospitals in the city. The Civil Hospital contains 150 beds, and 2,585 in-patients and over 13,000 out-patients were treated last year, only 223 cases of malarial fever being admitted as against 346 in the previous year. The Victoria Hospital for Women and Children, which was opened in 1903, and is situated on the Peak, has 41 beds available. Infectious diseases are treated in the Kennedy Town Hospital, in the main building of which there are 26 beds, where 78 cases of plague and 5 of cholera were dealt with last year. The bulk *Hygeia* is mainly appropriated to small-pox cases. In addition to the foregoing there are special Chinese institutions, notably the Tung Wa, a hospital managed by a committee of Chinese, and receiving an annual grant of 6,000 dols. from Government. Here both Chinese and European methods of treatment are employed according to the desire of the patient, but it is satisfactory to note that the former are gradually giving place to more enlightened methods. This is no doubt due to the influence of the Kong Kong College of Medicine, which was founded in 1887 for the purpose of teaching surgery, medicine, and obstetrics to the Chinese, and has shown itself to be of great value in spreading a knowledge of Western medical science. The report states that 87 students have been admitted and 19 have qualified up to the end of 1904. Many have taken posts under Government, and the senior students have also frequently rendered aid during epidemics. Plague conditions are apparently improving, only 495 persons having died from the disease, as against 1,251 in the previous year, this being the lowest mortality since the first outbreak of the disease in 1894, with the exception of the years 1895 and 1897. On the other hand, there was an outbreak of beri-beri which resulted in 735 deaths. There has been far less opposition shown to the cleansing and disinfection of houses, but the overcrowding question is still acute, the new electric tramway, instead of tempting the coolies into the suburbs, having had the effect of bringing the labourers into the city to live, and to take advantage of the cheap fares to go out to their work, and the number of persons per acre in the built-over area of the central districts has increased to the very high figure of 608. A wide street is, however, being driven through one of the most densely crowded parts. It has been decided to teach hygiene in all Government schools, and a suitable textbook has been prepared and issued.

HOSPITAL AND DISPENSARY MANAGEMENT.

SUFFOLK COUNTY ASYLUM.

On January 1st, 1904, there were 711 patients resident in this asylum, of whom 674 belonged to the county of Suffolk, and on December 31st, 1904 there remained 818, of whom 689 were Suffolk county cases. The numbers resident during the year averaged 779, being an increase of 124 on the average of the previous year.

Dr. J. R. Whitwell, the Medical Superintendent, gives a coloured graphic chart, which shows that, whilst the admissions and discharges (including the deaths) for the past fourteen years do not evidence any marked upward movement, the number of cases remaining or accumulating in the asylum has steadily increased from the 670 of 1891 to the 689 of last year. In Suffolk, therefore, like other counties, the increase of asylum patients is mainly due to accumulating, not occurring insanity. The asylum is provided with accommodation in excess of the requirements of the county, the excess amounting at the end of 1904 to 211 beds, which were filled up—with the exception of a working margin—by out-county and private cases. A map of England and Wales, giving by varied shading a comparative survey of the ratios of insane to general population in the different counties, shows that Suffolk compares favourably with other counties of similar type. The map further illustrates the fact that there is a smaller proportion of insane in densely-populated counties than in sparsely-populated districts: but it is evident, as Dr. Whitwell states, that this is largely due to immigration of vigorous people into large centres, and is of economical rather than etiological significance. Another point is that,

With reference to the prevalence of drunkenness in the various counties it would appear that many of the counties remarkable for the small proportion of insanity are at the same time remarkable for the very high proportion of drunkenness, notably Durham, Northumberland, and South Wales, counties with an annual rate of drunkenness far in excess of any other counties in England. Unfortunately, interesting as these figures are and valuable from an administrative point of view, the more detailed the analysis made of them, the more impressed is one with the enormous difficulty involved in any examination made by taking the county as the unit basis for comparison, since for this purpose, it appears to be too cumbersome, too complex, and too variable to admit of any real comparison.

During the year 297 cases were admitted, of whom 259 were first admissions. This is a decrease of 44 on the admissions of the previous year. Of the total admissions 191 patients belonged to the county as contrasted with 205 for the previous year. The majority of the admissions were in fair bodily condition, but in 37 cases the age was over 65 and in 22 over 70. In 80 the attack was a "first attack" within three months of admission, in 26 more a first attack within twelve months of admission, and all the rest were either not first attacks or of more than twelve months' duration, or were of congenital origin. The admissions were classified as to the forms of mental disorder into: Mania of all kinds 121, melancholia of all kinds 85, dementia 58, general paralysis 7, acquired epilepsy 11, and cases of congenital or infantile defect 15. Concerning the probable causes of insanity amongst the admissions—not including transfers—hereditary influences were ascertained in 65, or 41 per cent. (though Dr. Whitwell considers this proportion utterly erroneous and insufficient), alcoholic intemperance in 24, or 12 per cent., previous attacks in 60, "moral" causes in 36, periodic causes in 45, and other bodily diseases and disorders in 33. Venereal disease is not mentioned in any one case.

There were 38 cases discharged as recovered during the year, giving a percentage recovery rate on admissions of 20.54; 37 as relieved, 8 as not improved, and there were 97 deaths. This gives the high percentage death-rate on the average numbers resident of 12.45. The deaths were due in 22 cases to cerebro-spinal diseases, in 29 cases to chest diseases, including 16 cases of phthisis, in 20 to abdominal diseases, and in 26 to general diseases, including 20 from senile decay. The general health appears to have been good; no major accident of any kind occurred, and the Lunacy Commissioners speak in highly commendatory terms of the management of this asylum.

MEDICO-LEGAL AND MEDICO-ETHICAL.

MEDICAL EXPERT WITNESSES.

In the action Watson *v.* M'Ewan, heard on appeal by the House of Lords shortly before the vacation, the appellant was Sir Patrick Heron Watson of Edinburgh, and the respondent was a Mrs. M'Ewan, the wife of an electrical engineer in Edinburgh. It appeared that the married life of the respondent and her husband was unhappy, and eventually she left his house at his request in September, 1901. Sir Patrick Heron Watson was asked by her agents to visit her and make an examination, which he did on October 24th, 1901, and on the same afternoon he expressed views to her agents of a nature that rendered it evident that his opinion was adverse to the respondent in reference to the action proposed. She nevertheless raised such an action in December, 1902, applying for separation and aliment and the custody of the child of the marriage. Sir Patrick Heron Watson was not asked to give evidence on her behalf, but on October 21st, 1903, Sir Patrick Heron Watson, along with Sir Henry Littlejohn and Dr. Joseph Bell, made an examination of the respondent on her husband's behalf, and Sir P. H. Watson reported the result of his examination, his opinion of the case, and the nature of the evidence which he was prepared to give to her husband's agents: he also gave information as to certain matters which he alleged he had ascertained as the result of his prior examination in October, 1901, and communicated the contents of certain private notes made at the time of that examination. When the case came for trial he was examined as a witness for the respondent's husband, and gave evidence as to matters he alleged he had learnt on the occasion of his professional visit to the respondent in October, 1901, and produced his private notebook. Mrs. M'Ewan averred that in showing the notes and voluntarily giving evidence Sir Patrick Heron Watson acted wrongfully and in the violation of the duty of secrecy which he owed to her; in consequence she had been wounded in her feelings, injured in character, and suffered loss and damages estimated at the sum of £2,500. She further averred that the note contained a slander upon her—namely, that she had communicated to Sir Patrick Heron Watson her desire at the time of his visit in October, 1901, criminally to procure abortion and endeavoured to obtain his assistance and co-operation. The point submitted to the House of Lords on behalf of the appellant was that the action was brought against him on account of the statements made in the witness-box. The Scottish Court refused to entertain an action for what was said in the witness-box, but allowed a trial in respect to the communication Sir Patrick Heron Watson had made to the husband of the respondent, his counsel and agents before the

trial. The issues authenticated and signed by the Lord Ordinary were in the following terms:

(1) Whether on or about October 22nd, 1901, the pursuer employed the defender as her private and confidential medical adviser to advise her as to her state of health, and in the matter of an action of judicial separation proposed to be instituted by the pursuer against her husband, Thomas M'Ewan, and in pursuance of said confidential employment communicated to the defender the evidence proposed to be led on her behalf, and submitted herself on or about October 24th, 1901, to an examination by the defender at her father's house in Dalmeny; and whether the pursuer, having raised an action of separation and aliment against Thomas M'Ewan, which was defended by him, the defender in breach of such confidential employment voluntarily disclosed to Thomas M'Ewan, to William Robson, S.S.C., Edinburgh, his law agent, and to the counsel engaged on his behalf, or to one or more of them, matters relative to the pursuer and her state of health, ascertained in the course of said confidential employment, and the nature and result of the examination of the pursuer made as aforesaid, to the loss, injury, and damage of the pursuer? (2) Whether the defender falsely and calumniously stated to the said Thomas M'Ewan, to William Robson, and to the counsel engaged in the action on behalf of Thomas M'Ewan, or to one or more of them of and concerning the pursuer, that the pursuer at the time of the defender's said examination in October, 1901, was bent upon inducing labour so as to free her of any permanent reminder of her marriage with Thomas M'Ewan, meaning thereby that the pursuer was desirous criminally to procure abortion or uses of like import and effect to the loss, injury, and damage of the pursuer?

The LORD CHANCELLOR, after the case had been opened, observed that the Scottish Court had, rightly or wrongly, drawn a distinction between what was stated to the agent and what was said in open court. He supposed that the judges felt that the protection for what was stated in open court was unarguable. The whole question was, Did the same privilege apply to a statement made to counsel and agent?

Mr. HALDANE, K.C., who appeared for the respondent, said that his proposition was that in this case they were dealing with a skilled witness called by the respondent's husband who was not entitled to communicate the information acquired in his professional capacity to others than the party who employed him.

The LORD CHANCELLOR observed that there was a natural feeling that a medical man should not disclose information he acquired in his professional capacity when called in to make an examination, no matter for what purpose, but thought the proposition that a person called as a witness could refuse to answer because he was employed by some one on the other side was surprising.

Mr. HALDANE said that his contention was that the information acquired was the property of the client, and that the appellant was not at liberty to disclose it to the other side.

The LORD CHANCELLOR said that after fifty-five years at the Bar he had never heard such a privilege claimed.

Mr. HALDANE said that he quite agreed that Sir Patrick Heron Watson could not be sued for anything he said in the witness-box; the point was that in making the preliminary communications he was not making them in discharge of his duty. He was not privileged when he said to the agents of the husband, "Yes, I shall give evidence"; he ought to have said, "No, I will not give information; I will not commit a breach of confidence." As he did not say that, he was not protected.

The House of Lords allowed the appeal, with costs.

The LORD CHANCELLOR, in giving judgement, said that he did not think the question arose as to the confidential nature of the employment between a patient and a medical man, and did not propose to express any opinion upon what would be the legal determination of that question if it arose. The broad proposition, upon which he entertained no doubt, and which seemed to him to be the only question which properly arose, was the immunity of a witness from evidence given in a court of justice. It was too late to argue upon that, for it had been decided by complete authority. The immunity of a witness from responsibility for evidence given in a court of justice had been too well established to be shaken. The ingenious suggestion which had been made that although a witness was protected from anything in respect to evidence actually given in a court of justice, yet no such protection existed in respect of his attendance on a solicitor who reduced to writing the evidence the witness was about to give was, he believed, raised for the first time in that case. It appeared to him that the privilege which surrounded the evidence actually given in a court of justice necessarily extended to the information communicated to the solicitor engaged in the conduct of the proceedings. Unless a witness was protected in making his preliminary statement to a solicitor of the party engaged in the case the protection afforded to him in the witness-box would be practically no protection at all. In this case there was no communication to strangers or to persons outside the litigation. The communication was made to the counsel and solicitor, and under these circumstances it was the duty of the person who was to become a witness to tell the truth and the whole truth. He thought the privilege was the same whether the evidence was given in the box or whether the statement was communicated to the solicitor in the case, because the same thing would be said in the court as in the statement.

INSURANCE FEES.

DR. W. COTTON.—We know nothing against the company whose letter is sent, but we think our correspondent acted quite wisely in refusing to examine cases for less than a guinea.

CIRCULARS TO PATIENTS.

FELLOWSHIP.—The circular should merely express regret that, owing to ill-health, Mr. or Dr. So-and-So is retiring from the practice at such-and-such a date, and that from that time it will be continued by our correspondent alone. The circular should be signed by our correspondent, and care should be taken that copies are only sent to bonâ-fide patients.

RELATIONS WITH AN UNQUALIFIED DENTIST.

BERKSHIRE writes: A registered dentist lives about ten miles from this town, but employs an unqualified *locum*. Ought I to give anaesthetics if asked to do so by the *locum*? (2) Am I justified in giving anaesthetics for the principal (though registered) who employs an unregistered and unqualified assistant?

*** (1) Our correspondent should not give anaesthetics for the assistant, but (2) is not forbidden to do so for the principal.

ATTENDANCE ON NURSES.

GENTIAN writes: I have been asked to attend if and when required upon nurses in a home six miles away, and to state what charge, if any, I will make for (1) visits, and (2) medicines. But for the distance I would not make any. Kindly let me know what is the right thing to do.

*** Under the circumstances we think that our correspondent would be justified in charging his ordinary fees.

VALUE OF SHARE.

A CORRESPONDENT asks what would be the value of the third share of a dispensary and private practice of between £700 and £800 per annum in a good working-class district, with a public appointment of £70 a year, where the confinements are about 40 in the year, fees from a guinea upwards. A minimum income for three years of £300 per annum is guaranteed to the purchaser of the third share. The practice has been established fifteen years.

*** We think £600 would be a fair price.

CLASSES ON SELF-AID.

F.R.A.S. writes: Would you inform me whether it would be in accordance with the etiquette of the profession for a member to establish a class for "self-aid" during the winter months for those outside the profession?

*** We presume our correspondent means something of the same nature as the ambulance classes which a few years ago were very commonly held by members of the medical profession. There is no objection to such classes in themselves, but exception has often been taken to the way in which givers of them have advertised the classes, and consequently themselves, by handbills, circulars, and other means.

MAY A NURSE BE EMPLOYED AS A DISPENSER?

DEVON writes: I am in want of a dispenser. Should I be correct in engaging the services of a trained nurse who could act in that capacity and at the same time help in the surgery work and assist in other ways in which a nurse is qualified to do?

*** There is no objection to a nurse being employed to dispense under the supervision of her employer, or to do other work within her capacity, such as dressing wounds, but in the words of the resolution of the General Medical Council, she must not be allowed "to attend or treat patients in respect of matters requiring professional discretion or skill."

MEDICAL ADVERTISING.

G. P. sends us the subjoined cutting from a local paper and expresses the opinion that it "savours of advertising, and ought to be considered in

the light of unprofessional conduct": "Dr. S—— is on holiday at Blank and Dr. F—— W——, a young man who has had a distinguished college career, is acting as his *locum tenens*."

*** Undoubtedly if the responsibility for such notices could be brought home to the subjects of them they would be deserving of grave censure, but in the absence of any evidence we are bound to assume that these notices originate with a local reporter who can find nothing more interesting to send to his paper.

CARE OF INSANE RESIDENT PATIENT.

X. Y. Z. writes that he lately had in his house a resident patient under certificate, at a charge to include two nurses, etc. For a considerable time the patient was seriously ill, requiring constant attention, and although she had an outside medical attendant, he often was not at hand, especially during the night. He wishes to know: (1) Whether he is not entitled to be paid extra for these professional services; (2) whether he is entitled to compensation for carpets in the patient's bedroom soiled by her dirty habits.

*** (1) This depends on the original agreement. If the contract with the patient's friends was for residence only, he would be entitled to payment for medical services rendered. (2) He would be entitled to compensation for all damage done by patient.

REFUSAL TO PAY.

E. E. L. writes that he attended a small farmer, a member of a club, for some time, and at the termination of the illness sent in his account, which was ignored by the patient. He consulted a solicitor, who advised him that he could not recover from the patient, but might do so from the club. He wishes to know our opinion on the matter.

*** If our correspondent is not medical officer to the club he should be able to recover his account in the county court from the patient. It is not clear where the liability of the club comes in. If the patient in the first instance sent for the club medical officer, and he refused to attend, it is possible that the patient might recover from the club the amount he had to pay the other practitioner, but the latter would himself have no claim against the club.

INTRODUCTION OF PURCHASER OF PRACTICE.

A CORRESPONDENT asks with regard to the sale of a practice: (1) What is the usual course to be adopted with regard to the introduction of the purchaser? (2) What is the average length of introduction?

*** (1) The purchaser usually resides with the vendor during the period of the introduction and assists him in the practice as a partner. During this time the vendor takes every opportunity to introduce him to as many of the patients as possible. He may also send out notices to old patients, stating that he has transferred his practice to the other. (2) It is not easy to say what is the average length, as this is always settled by agreement; but nothing less than six months is of much use.

EMPLOYERS' LIABILITY ACT.

A CORRESPONDENT writes that a man in the employment of a railway contractor breaks his leg by slipping while carrying a sack in his ordinary work. His employer pays the ordinary wages for two weeks after the accident, when he disclaims all responsibility, on the ground that the society in which he insures his workmen will not admit any claim. Does an accident of this kind come under the Employers' Liability Act?

*** Accidents of this kind usually give rise to claims under the Workmen's Compensation Act, 1897, and its Amendments. Section VII of this Act is as follows: "This Act shall apply only to employment on, or in, or about a railway, factory, mine, quarry, or engineering work, and to employment on, in, or about any building which exceeds 30 feet in height, and is either being constructed or repaired by means of a scaffolding, or being demolished, or on which machinery driven by steam, water, or other mechanical power, is being used for the purpose of the construction, repair, or demolition thereof." It is not clear that the accident described does come under this section.

VERDICTS AT INQUESTS.

A CORRESPONDENT sends the newspaper report of an inquest, from which it appears the deceased injured his leg while alighting from a cart, and died four days after. At the inquest the medical practitioner who attended deceased testified that he had a simple fracture, which was set all right, but that he died of syncope when suffering from delirium tremens and alcoholic convulsions. The jury ignored this evidence, and returned a verdict "that deceased died from a fracture of the leg accidentally caused whilst driving."

*** The oath which is administered to a coroner's jury concludes with the words "to the best of your skill and knowledge," the last word referring to local knowledge, which may operate in two ways. In most cases, where death arises from circumstances outside the deceased's control, this local knowledge is invaluable, but in cases where death arises from the action of the deceased, such as suicide or alcoholic poisoning, local sentiment may cloud the true facts—as shown by the verdict in this case—and *non-sequitur* verdicts may be recorded. The medical man and the jury both probably utilized their local knowledge in different ways, and if twelve of the jury chose to ignore part of the medical evidence the coroner has no alternative but to accept their verdict, even if he himself did not agree with it. We know of no instance of an inquest being transferred to another place because of local feeling, as in a criminal trial sometimes.

PUBLIC HEALTH
AND
POOR-LAW MEDICAL SERVICES.

CEREBRO-SPINAL FEVER

THE Local Government Board has recently issued to borough councils, town councils, and urban and rural district councils a memorandum on cerebro-spinal fever. Having reason to believe that the fact that cerebro-spinal fever has recently been somewhat extensively prevalent in Central Europe and in America, has given rise in some quarters to a doubt whether the disease may not have newly extended to or have been developing in this country, the Board has thought it desirable to state that, so far as it has been able to ascertain, there is no ground for such apprehension. It appears, in fact, to be probable that cerebro-spinal fever is at the present time not more prevalent in this country than it has been from time to time during the last quarter of a century. Nevertheless, the Board considers that sanitary authorities should be on the alert to detect the presence of the disease in their districts, or to satisfy themselves as to its absence; and to this end the Board has issued a memorandum, which has been prepared by its Medical Officer, dealing generally with the characteristic symptoms of the disease, and especially with its minor and anomalous manifestations. In the memorandum it is pointed out that cerebro-spinal fever is not of rare occurrence in the United Kingdom. In the course of the last forty years this malady is known to have been prevalent in a considerable number of different localities in England and Wales, several of these local outbreaks having taken place in recent years. In some instances they have formed the subject of investigation by a medical inspector of the Local Government Board, whose report has usually been made public. Occurrences of cerebro-spinal fever have also been observed in Scotland and in Ireland. There is, indeed, as will appear later, reason for belief that this disease is even less uncommon in this country than the foregoing particulars would seem to indicate. After rehearsing the ordinary symptoms and diagnostic signs, Mr. W. H. Power points out that while these features are characteristic of cerebro-spinal fever of typical and severe sort, experience has taught that this fever appears in milder or in anomalous forms which lead to its being mistaken for other ailments of more common occurrence. Illustration of this is afforded by certain localized outbreaks of cerebro-spinal fever in the eastern counties in 1890, where this disease was generally mistaken for sunstroke or for enteric fever, or was looked upon as a new form of illness; by the prevalence of what would seem to have been cerebro-spinal fever in Northamptonshire in 1900-1, where the malady was for the most part diagnosed as pneumonia or as sore throat; and by the occurrence of cerebro-spinal fever in Irthlingborough in the present year, where many of the persons attacked were regarded as suffering from influenza. In these anomalous forms of cerebro-spinal fever many, or even most, of the symptoms associated with the recognized type of the disease may be absent, while in mild cases they may be so slight or of such brief duration as to escape notice. It is, however, for such cases that it is necessary to be on the outlook, whether in relation with a definite occurrence of cerebro-spinal fever in a locality, or by reason of the prevalence in a particular neighbourhood of illness not clearly referable to definable cause. In these circumstances there would be advantage in the local medical officer of health endeavouring to secure, by arrangement with the medical men practising in his district, information as to the existence of cases of the kind in question. Failure to recognize cerebro-spinal fever is also apt to happen when the malady is of the "fulminant" variety, in which death ensues rapidly. In these instances the disease has been mistaken for typhus fever, idiopathic tetanus, or malignant measles. An important aid to diagnosis may be found in examination of cerebro-spinal fluid withdrawn from the lower part of the spinal canal by lumbar puncture for the presence of the "diplococcus meningitidis intracellularis" of Weichselbaum—a micro-organism which is now generally regarded as the specific cause of cerebro-spinal fever. After stating that there is as yet no definite knowledge as to the way or ways in which its transmission may take place, Mr. Power says that since, however, the possibility of direct personal infection cannot, on the evidence available, be excluded, it will be wise to endeavour to secure, as far as practicable, the isolation of the sick from the healthy. It will also be advisable to apply suitable measures of disinfection to premises that have been occupied by the sick, and to articles that may have been in relation with them.

ANNUAL REPORT TO ESSEX COUNTY COUNCIL

THE report of Dr. Thresh, County Medical Officer of Health, for 1904 has recently been published. The report, as usual, is divided into two parts, the first part consisting of a consideration by Dr. Thresh of the vital statistics of the Administrative County of Essex, and the second part of a summary of the reports of the different medical officers of health.

In his introductory preface Dr. Thresh calls attention to the widened scope of public health work, and the need for a broader outlook in the work of medical officers of health, particularly in regard to non-notifiable diseases such as diarrhœa and tuberculosis.

The estimated population of the administrative county is given at 913,480 for the middle of 1904, the added estimations of the local medical officers of health being 912,978, consisting of 667,404 in the 32 urban districts and 245,574 in the 18 rural districts.

The birth-rate was 27.5, being 28.8 for urban and 24.2 for the rural districts. These figures are below those for 1903, and for the mean 1890-1902, but the decline is relatively less than for the rest of England and Wales. The deaths in the county numbered 12,101, the excess of births over deaths numbering 13,047.

The county death-rate continues low, being 13.25 for 1904. This is the crude death-rate. The corrected death-rate is 12.94 for the county, while for the urban districts it is 13.47, and 11.99 for the rural districts. Dr. Thresh in particular draws attention to the fact that the county death-rate for 1904 is from 2.5 to 3.5 per 1,000 lower than that for England and Wales—a very satisfactory state of affairs.

The infantile mortality is 135, well above the mean, and entirely due to the abnormally heavy diarrhoea rate.

The zymotic death-rate is 2.04, being above the England and Wales rate of 1.94, the excess being due to the diarrhoea rate of 1.139, as compared with 0.86 for the whole country.

The cancer death-rate of 0.717, although higher than for previous years, yet remains considerably be ow that for England and Wales.

The phthisis death-rate is 0.951. Colchester, Waltham Cross, and Woodford started systems of voluntary notification during the year, while it is recommended in some of the other annual reports. Dr. Thresh suggests a county institution for training patients in the ways of avoiding distributing infection, and for advanced cases.

In regard to notifiable diseases, more cases were notified than in 1903 for all except typhoid and continued fever, but when the increase of population is taken into account, the rate for 1904 of 7.4 is one of the lowest recorded. 112 cases of small-pox were notified, with only two deaths, a fatality-rate of 1.8 per cent. Dr. Thresh ascribed this exceedingly low fatality to mildness in type of the disease. Of the cases Dr. Thresh remarks that very few of the 1,704 cases were traced to infection carried by tramps. On the other hand, the mistaken diagnosis of cases of small-pox as chicken-pox accounted for a considerable proportion of the cases, including 41 cases at Walthamstow.

Scarlet fever was very prevalent in Essex during 1904, 3,534 cases being notified, but the fatality-rate fell to 1.78, the type being very mild. The percentage of cases removed to hospital varied from 0 to 100. For the urban districts the percentage was 52, and for rural 49.

The 1,764 cases of diphtheria gave a fatality-rate of 9.2. Dr. Thresh compares this with the pre antitoxin rate of about 20 per cent., and points out that the 163 deaths of 1904 would have been 362 had the fatality of ten years ago prevailed.

The prevalence and mortality-rates from typhoid fever are the lowest on record in the county.

Measles was unduly prevalent, causing a death-rate of 0.29 per 1,000 as compared with 0.256, the mean of the previous 14 years. Whooping-cough on the other hand shows a diminution of 0.272 compared with 0.335, the mean of the previous 14 years.

Diarrhoea was very fatal in Essex during 1904, causing a death-rate of 1.14. About one-third of the infants dying during the year succumbed to this malady. It caused 8.6 per cent. of the total deaths in the administrative county.

In the section on sanitary administration Dr. Thresh contents himself with a review of some of the chief sewage works in hand or completed during the year, and with a summary of some of the other subjects (dust destructors, water supplies) mentioned in the annual reports. The remainder of the volume is a summary of the reports of the different medical officers of health.

PUBLIC HEALTH IN HAVRE.

THE British Consul-General's report on the consular district of Havre furnishes some information on the population and public health of that city. The former, by the last census of 1901, was 130,196, and the birth-rate last year is given as 28.8 per mille. In the last quinquennial period it was 30.4, in the period 1892-9, 31.8, and in the previous decade 32.8 per mille, so that it would appear to be steadily falling. The death-rate for last year was 24.3, and that of children under one year was equal to 184 per 1,000 births. The municipal authorities nevertheless (says Mr. Hoare) are proud of the fact that the births are always in excess of the deaths, which is by no means common in France; and he further remarks that the death-rate might well be reduced by sanitary improvements and a reduction in the number of liquor-shops, of which there are over 1,200 without counting cafés and hotels. But though no large town in England has anything like the high death-rate of Havre, the place is in reality very healthy, and there is very little in the way of epidemic disease. Tubercle is one of the chief causes of death, and with a view of checking its ravages, and the increase of deaths among children from diarrhoea and enteritis, a society known as the "Œuvre de la Goutte de Lait" has been established, which aims at furnishing every one, rich and poor, with a supply of the best and purest sterilized milk. The milk, which is in all cases tested for quality, is delivered to the purchaser in a basket with nine divisions, in each of which is a bottle containing the exact quantity to be given to the child at each feeding time, this quantity, of course, varying according to the age of the child. Every child is registered on the books of the society, and has to be brought weekly to be seen and weighed by the medical man in attendance at the establishment. The price of the nine bottles varies with the status of the child's parents, the very poor paying 1½d., the well-to-do artisan 3½d., and the richer classes from 6d. to 7½d. The society is composed of three classes of members—"benefactors," subscribing £6 or more, "founders," subscribing £4, and "active members," 8s.—and its work is spoken of in terms of high praise in the report.

FEES FOR DELIVERY UNDER MIDWIFERY.

A DISTRICT Medical Officer writes to ask what fee he can claim for attendance in a case of premature labour at a confinement of a pauper [illegible] delivery [illegible] for the case to be [illegible] and for [illegible] more than one guinea.

*** Our correspondent is by Sect. CLXXXIII of the Consolidated Order of July, 1847, clearly entitled to a fee of £3. He cannot claim anything for the assistance rendered by his partner.

CERTIFICATION OF INSANE PATIENT FOR COUNTY ASYLUM.

PRIVATE PRACTITIONER asks if he [illegible] and over his private patient [illegible] to the Visiting Committee [illegible] to the Poor Law Medical Officer [illegible] to the asylum.

*** The facts of the case should have been stated much more explicitly. But assuming, as in most probably the case, that the hitherto "private patient" is now in such circumstances as to require relief for his proper care and maintenance, it is quite in order for him to be visited and certified by the medical officer of the union. The justice acting in the case has a discretionary power, but practically follows the regular course—that is, calls in the union medical officer.

MEDICAL OFFICER OF HEALTH AND NOTIFICATION.

WE have received a communication from a much respected correspondent expressing disagreement with an answer given to M.O.H. in the BRITISH MEDICAL JOURNAL of August 26th, page 466. Our correspondent is quite clear in his mind that "whether M.O.H. is in practice or not he must, on discovering a case of notifiable disease which has no medical attendant, and which has not been notified, take steps to have the case notified, etc."; and he adds that he, being a medical officer of health, engaged also in private practice, has always acted on this view, and that as the cases under this heading are very few, the idea of thus supplementing his income is somewhat absurd. To sum up, he says: "There can be no doubt that it is his duty to notify, and that he is legally entitled to the fee of 1s."

*** Our correspondent in our opinion is wrong. The first quotation given above indicates that he is confusing a legal and a moral duty. If it is his legal duty to notify any case not previously notified, the question whether the case "has not been notified" by another practitioner has no bearing on this duty; as every medical practitioner is bound in accordance with the Act to notify if he is attending on or called in to visit the patient. It is only under such circumstances that the legal obligation to notify arises. Everything turns, therefore, upon the point whether the M.O.H. in his official capacity is thus "attending on or called in to visit the patient." We maintain that this is not so. Of course he will enter in the notification register every case he discovers which has not previously been notified. He will, in our opinion, be unwise if he claims a fee for so doing.

PUBLIC VACCINATORS AND THE PATIENTS OF OTHER PRACTITIONERS.

A PUBLIC VACCINATOR writes: Before the appearance of your editorial note on Public Vaccinators and the Patients of other Practitioners, on p. 419 of your issue of August 19th, I had requested the Local Government Board to favour me with their ruling as to what should be the line of conduct of public vaccinators in carrying out Clause 2 of the Instructions issued in their contracts. The enclosed letter seems to indicate a reasonable compromise, and to coincide closely with your own view of the duties imposed.

[Copy] Local Government Board, Whitehall, S.W., August 22nd, 1905.

Sir,—I am directed by the Local Government Board to advert to your letter of the 10th instant, and in reply to your enquiry I am to state that although, on the expiration of the period for which a certificate of postponement of vaccination is given, it rests primarily with the vaccination officer to follow up the case if he has not received a further certificate of postponement, or one of the certificates referred to in Paragraph 2 of the Instructions to vaccination officers in the fourth schedule to the Vaccination Order, 1898; yet the Board considers that a public vaccinator, when he has given a certificate of postponement, should again visit the house of the child before the expiration of the certificate in order to ascertain whether the child may properly be vaccinated, and in that case should either vaccinate the child or otherwise give such direction as the occasion may require. In cases in which, on account of the child's health, it is not probable that the child can be vaccinated for a considerable time and the child is likely to be under the care of a medical man for a prolonged period, the Board considers that after his first visit the public vaccinator may properly leave it to the medical attendant to fill up further certificates of postponement.

I am, Sir, your obedient servant,
H. C. MONRO, Assistant Secretary.

THE DISPOSAL OF SCARLET FEVER PATIENTS.

T. H. submits the following query: A man suffering from scarlatina residing in one sanitary district walks into the surgery of a medical man in another district. Here he is told the nature of his illness and goes home. The medical officer of health of the district in which the man resides says the case is not notifiable to him until visited by the medical man at the patient's home, and also that the patient should have been detained, and sent to the hospital in the district in which the doctor resides. Will you be good enough to give your opinion on these points?

*** The case stated by "T. H." is one of special difficulty. According to the strict letter of the law, the case of scarlet fever should have been notified to the medical officer of health "of the district"—that is, of the district in which the case was first diagnosed. It would have been wise on "T. H.'s" part, though not his statutory duty, to notify also to the medical officer of health of the district in which the patient lives. By doing the latter he undoubtedly facilitated the early isolation of the patient; by doing the former (which was his only statutory duty) he would merely have facilitated the disinfection of his own surgery. For the medical officer of health of the district in which the patient resides to say that "the case is not notifiable to him" until medically visited at home is to have regard to the letter rather than to the spirit of the Infectious Disease (Notification) Act. The question as to whether the patient should have been detained at the surgery and not sent home can only be answered with a fuller knowledge of the special facts of this case, especially as to the line of action in which the greatest safety of the public lay. It is often unwise to send patients home; it should not be done without special precautions.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 2, Agar Street, Strand, W.C., London; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone, unless the contrary be stated.*

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Manager, 429, Strand, W.C., on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not at his private house.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London.* The telegraphic address of the MANAGER of the BRITISH MEDICAL JOURNAL is *Articulate, London.*

TELEPHONE (National):—
EDITOR, 2631, Gerrard. GENERAL SECRETARY AND MANAGER, 2630, Gerrard.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

G. L. would be grateful for advice in the treatment of cases of chronic sciatica in miners. Salicylates, etc., have been tried.

"TAURUS" wishes to enter into communication with any members who may have held medical appointments to English mining companies in Spain.

A MEMBER writes: Can any one suggest a home or hospital suitable for a case of chronic rheumatoid arthritis, with extreme nerve depression? Twelve shillings a week could be paid.

DR. WALTER GRIPPER (Wallington, Surrey) asks members to recommend from personal experience an electric lamp of the standard pattern which can be used comfortably for reading, etc., and also has an efficient arrangement for ophthalmoscopic and laryngeal use.

MOTOR CYCLE writes: Can any reader advise me in selection of a motor bicycle? The roads in my country district are of good surface but very steep. I want as light a mount as is compatible with efficiency, and one that will start without exertion on my part. Any hints on the subject generally would be welcomed.

THE LATE CARMICHAEL PRIZE COMPETITION.

DR. THOMAS LAFFAN (Cashel) asks the competitors for the above to communicate with him.

TREATMENT OF NEURALGIA BY VIBRATION.

INQUISITIVE asks for information concerning the treatment of neuralgia, etc., by vibration.

*** Some good results have been claimed for the treatment of neuralgia, etc., by the percuteur of the late Dr. Mortimer Granville. It consists essentially of an ivory knob attached to the Neef's hammer of a portable faradic coil, and may be driven by one or two dry cells.

PERSPIRATION OF THE HANDS.

SUDOR, a member of the profession, asks for a remedy for excessive perspiration of the hands, which is partly of nervous origin, as it is much worse when he anticipates having to shake hands. He has tried dilute sulphuric acid and belladonna externally without relief. His hands at some times of the day are quite dry, but after a meal, particularly when tea or coffee has been taken, the palms become bathed in perspiration.

COLEY'S SERUM.

SERUM asks for the result of experience of Coley's serum in cases of sarcomata. In a case now under his care the growth is in the abdominal cavity and fairly large. How many injections might be given before causing a rise of temperature? Does it in some cases fail to produce a rise? The pamphlet states that the dose is ½ min. Does this mean ½ min. only of serum, or is the entire contents of serum diluted to represent ½ min.? Any general information would be very acceptable.

WANTED A PROGNOSIS

NECROSIS writes: Three weeks ago a man was kicked on the head by a horse. A piece of the scalp with periosteum larger than a five-shilling piece was scooped right out leaving absolutely bare bone to that extent. The soft parts have closed in until the exposed bare bone is about half the size, and seems the limit of effort of the soft parts. The wound is quite sweet. I should feel obliged for speculations as to the future of this injury. The patient, a man—is 56 years of age and temperate and healthy. There is absolutely no sign of any change in the bone, it being exactly the same to-day as it was after the injury. The man has not had a bad symptom and the temperature has been normal throughout.

ANSWERS.

HUBERT E. GIBBINS, M.B.—Virol is said to be a preparation of bone marrow, with malt extract, egg, and lime phosphates. It has a sweetish, subacid taste, and would not be suitable for a diabetic patient on strict diet except in strictly limited quantities.

P. F. C.—We understand that at the Royal Dental Hospital, Leicester Square, the cases approved by the Examining Committee can obtain artificial dentures at a cost of £2 for an upper and £2 for a lower set. Failing this our correspondent might approach the Surgical Aid Society, Salisbury Square, Fleet Street, London, E.C., after, perhaps, obtaining in the first place the co-operation of the vicar of the parish.

GUARDIAN.—No private asylum or registered hospital receives patients at less than 1 guinea a week, so that, having regard to the patient's means, the only place available would seem to be the county asylum. The terms on which a patient would be received into Bethlem might be obtained on application to the Clerk, Bethlem Royal Hospital, S.E. Dr. Neil, Warneford Asylum, Oxford, would state lowest terms on which cases could be admitted there.

INTESTINAL DYSPEPSIA.

D. G. M. M.—Our correspondent will probably find what he wants in vol. I of Hemmeter's *Diseases of the Intestine*, pp. 405-432, published by Rebman Limited.

HARROGATE WATERS.

J. P.—If our correspondent will write to the Manager of the Corporation Springs, Harrogate, the water in bottles will be forwarded to him. It is necessary to send cash to approximate amount and to pay carriage. We are informed that at the present time sulphaqua charges are arranged to produce baths of a similar sulphurous nature; furthermore, the chemists at Harrogate prepare effervescent salts for drinking purposes representing the active constituents of the sulphur springs.

CLINICAL PATHOLOGY.

DR. L. C. S. BROUGHTON (Birmingham) writes: As a simple test for the complete reduction of Fehling's solution, your correspondent "W. D. G." will find the following method reliable: Mix together on a white porcelain surface a drop each of dilute acetic acid (*B.P.*) and a solution of potassium ferrocyanide (20 gr. per fluid oz.). To this add a drop of the clear supernatant fluid, when the merest trace of unreduced copper will strike a reddish-brown coloration. Instead of using acetic acid a saturated solution of boric acid will do equally well.

METHYLATED CHLOROFORM AND ETHER.

G. S. H.—Methylated chloroform and methylated ether, when properly *rectified*, are safe anaesthetics, and by some considered safer than the more expensive preparations. This does not, however, apply to the absolute ether, specific gravity 0·717, which contains methylic ether, and is not a safe or reliable preparation for general anaesthesia. The rectified ether prepared from methylated alcohol, specific gravity 0·720, should be used. The usual objection urged against the methylated products is that they are not free from methyl impurities, and so their use causes more nausea and vomiting than the ethyl alcohol preparations. This is, however, only true when they are badly prepared and imperfectly rectified.

CRUISING PLEASURE YACHTS.

S. H. writes: In answer to "Cruiser," he would find the *Midnight Sun*—formerly, I was told on board, a North German-Lloyd boat—very comfortable, and carrying a very attentive staff, from skipper to cabin boy. One advantage is that all the berths in a cabin are on the same level. The table is liberal, and cooking excellent. The *Midnight Sun* (with tonnage of 3,178) is unusually steady, scarcely rolling at all, and even on the Dogger Bank pitching very little in such weather as there was in June. She has a well-equipped photographic room. The land excursions from the Norwegian fjords are paid for on board, and admirably arranged and carried out. The *Ceylon* is an old P. and O. boat, and was, in 1900, very well found and comfortable, and my information this year is that all the arrangements continue very good, and that the meals and attendance are quite satisfactory. The *Argonaut* seems too well known to need further laudation. In her cabins the berths are upper and lower. There are many other pleasure yachts, but I have not any experience of them.

SOLID TYRES.

DR. CHARLES CORBEN (Caldicot, near Chepstow) writes: In answer to Dr. Ethel Williams's query in the BRITISH MEDICAL JOURNAL of August 26th, p. 467, I have done practically all my work with a motor car for five years. I had a 6 h.-p. Daimler with solid tyres all round. The car is still going, and, although not by any means up to date, is quite serviceable. The back wheel tyres last me on an average a year. I live in the country and traverse a very hilly district and many lanes and bad roads. The comfort is not, of course, as great as with pneumatics, but the increased reliability and freedom from anxiety amply repays. I have now lately got a 12 h.-p. Wolseley with solids on the back and pneumatics in front which greatly increases the comfort with very little danger of puncture. In spite of the length of time I have motored, nothing would induce me to use pneumatic-tyred back wheels unless I could afford to employ a very expert mechanic who could change the rims quickly. I should have wheels with removeable rims, and carry a spare rim with tyre inflated all ready.

ETHYL CHLORIDE AS AN ANAESTHETIC.

DR. G. A. H. BARTON (Anaesthetist, North-West London Hospital) writes: In reply to the queries of a "General Practitioner," who gives a great many anaesthetics, I should like to say that: (1) The ethyl chloride-ether sequence is as reliable and safe as the gas-ether sequence: also, if properly given, the induction is smoother and more rapid: (2) The best method is to introduce from 3 to 5 c.cm., according to age, etc., into the bag of the inhaler and apply with the indicator at 0; after a very few breaths the indicator is gradually and tentatively moved on till it stands at full—generally in about two minutes or less. The patient is then quite ready for operation, and the indicator may be turned back a little till the point is found at which a good anaesthesia can be maintained with the smallest consumption of ether. During the two minutes' induction I generally allow a breath or two of air. This and the early gradual turning on of ether are the secrets of success. I have tried several other plans: (3) the advantages are that under the combined vapours the patient goes under very smoothly, there is far less resentment to the ether; and, if I may put it so, there is no intersequence between the sway of the two anaesthetics, as frequently happens between gas and ether. The only indication for the latter sequence is an expressed preference on the part of patient or surgeon for gas. I hope shortly to publish a little pamphlet dealing with the various methods of using ethyl chloride.

LETTERS, NOTES, ETC.

ERRATUM.—In the list of institutions, mentioned in last week's issue, whose laboratory courses qualify for the Diploma in Public Health of the University of Cambridge and of the Scottish Conjoint Board, the name of Anderson's College Medical School, Glasgow, was omitted.

GOUT.

J. M. W. writes: As an unfortunate gouty subject, may I ask Dr. K. N. MacDonald why I must limit my use of vegetables and fruit?

COMPLICATION OF DISEASES.

DR. G. D. MACKINTOSH (Clapham) writes: The following amusing letter was recently received by a London doctor: "Sir,—Will you kindly send me a Bottle of Medicine Ive got Indisjestion. Panes in the Stomack panes accross the Kidnies Bowells relaxed and a bearing down feeling at the Thunderment 5 Times to the Back today. Yours Thankfully Mr. — — ——."

REFRACTION.

A MEMBER B.M.A. will find all he requires in the last (12th) edition of Hartridge's *Refraction of the Eye* (London: J. and A. Churchill. 1903. 6s.). Should this not be enough he can read Ernest Clarke's *Refraction of the Eye* (London: Baillière, Tindall and Cox. 1903. 5s.), Kenneth Campbell's *Refraction of the Eye* (London: Baillière, Tindall and Cox. 1903. 5s.), or Stanford Morton's *Refraction of the Eye*, sixth edition (London: H. K. Lewis. 1897. 3s. 6d.).

THE DUNCAN FUND.

DR. HUGH RITCHIE (257, Shankill Road, Belfast) writes: I beg to acknowledge with sincere thanks the following subscriptions to this fund. Total already acknowledged, £51 17s. 6d.:

	£ s. d.		£ s. d.
Dr. Kirk	2 2 0	Dr. Wm. Calwell	1 0 0
Dr. John D. Rice, New Eltham, London... ...	1 1 0	Dr. R. J. Johnston	0 10 0

MUNICIPAL CHILD REARING.

DR. JAMES BARR (Liverpool) writes: In your leaderette on the above subject in the BRITISH MEDICAL JOURNAL of August 19th I read with some astonishment that the health authorities of Huddersfield have "offered 1s. to the first person who should notify the birth of a baby to the Medical Officer within forty hours of the event." This is a sporting offer, but it is to be honed that the Medical Officer, for his own sake, won't so largely increase the population as to seriously deplete the coffers of the health authorities.

CURED BY A LAUGH.

J. McM. writes that some years ago he saw a case of ascites which was cured—or at least temporarily relieved—by a fit of laughter. The patient was making his will, when a cat in the room disturbed the equanimity of the lawyer, causing him to indulge in phraseology not of a strictly legal character. The patient laughed heartily, and from that date began to get well; but, unhappily, the cause again came into force after some years. J. McM. has looked upon the case as being due to rupture of the parietal peritoneum and absorption by the cellular planes. The fact that the man cried out with pain at the time, he considers, lent support to this theory.

SIX CHILDREN IN TEN MONTHS.

FROM last week's issue of the *Kentish Express and Ashford News* we learn it is recorded on a tombstone in Boughton-under-Bleau churchyard that a parishioner, who died in 1861, at the age of 81, had six children in ten months, twins being followed ten months later by quadruplets. On the other side of the tombstone the death of the father is recorded at the age of 72 in 1810. He died five months before the quadruplets were born; their birth, death, and burial taking place within the same year. Our contemporary observes that the mother, who at the time of the birth was only 30, must have had a good constitution, for she lived fifty-one years after.

LOCAL ANAESTHESIA IN THE TREATMENT OF HAEMORRHOIDS.

C. T. writes: I read with interest "Antipile's" letter in the BRITISH MEDICAL JOURNAL of August 26th. For some years past I have been in the habit of using a local anaesthetic for the removal of external piles; but instead of cocaine alone, have found the use of a solution of cocaine, eucaine, and morphine more satisfactory (½ gr. of the last, to 1 gr. of each of the others, in 3ss of water). Frequently I have dispensed with ligatures without any ill results whatever. I can confirm "Antipile's" statement as to the rapidity of recovery. Moreover, patients are often much less scared about an operation under a local anaesthetic than about one under a general.

THE TREATMENT OF RINGWORM OF THE SCALP.

DR. GAVIN STIRLL (Clapham) writes: I have just read Dr. E. Harding Freeland's communication on the treatment of ringworm of the scalp, in the BRITISH MEDICAL JOURNAL of July 22nd. Having had a few cases lately which I have treated with success, induces me to state the following. Thoroughly rub benzoline into the affected parts with a piece of cotton-wool; then with a clean piece of cotton-wool rub in a weak solution of perchloride of mercury, after this rub in thoroughly salicylic acid ointment. The benzoline and perchloride of mercury should only be used for from three days to one week, according to the severity of the case, the salicylic acid ointment alone being used to finish the treatment.

AN OLD STORY RETOLD.

THE following report of a conversation heard near a tenement appeared in a recent number of *Appalcotts Magazine*: "'Did that there woman from the mission give yo a call yistiday?' 'Deed and she did. Them kind makes me tired. Didn't she set for a good hour talkin' to me about sannytation an' hygeeny an' how I ought to give civilized milk to my baby, an' all that sort o' rubbish, until I got tired an' I sez to her, sez I, 'I did she have any babies of her own?' An' when she looked foolish an' said as how she was 'Miss Brown,' I sez, sez I, 'Well, seein' that I've buried ten, I don't see as no one has any call to tell me how to rare up babies, 'speably some one as never rared up none of her own.' I guess that dashed her so she won't be apt to come 'round givin' me no more of her gab about civilized milk an sannytation an' sich nonsense.'"

ETHYL CHLORIDE IN MIDWIFERY.

DR. ARTHUR G. WILKINS (Ullswater) writes: As ethyl chloride has probably been little used in midwifery, and I have employed the drug in many confinements, it may be of interest to point out that the period of analgesia is greatly prolonged during labour; 50 c.cm. may be trusted to give at least five minutes' anaesthesia. This fact is probably partly due to the worn-out condition of the patient, partly to the self-hypnotism which is so marked in chloroform anaesthesia in confinements. Anyhow, the practical point is that ethyl chloride anaesthesia gives one great command over uncontrollable pains towards the end of the second stage, and ample time for the performance of the ordinary obstetrical operations. Moreover, when necessary, it can be given by a district nurse with comparative safety, or the inhaler held on by the unskilled hands of the "handy woman" during the application of forceps.

SNAPSHOT DIAGNOSIS.

FLATUS writes: Reading the stories recently told in the BRITISH MEDICAL JOURNAL under the above heading reminds me of one related concerning one of my old teachers. He wished to impress upon his pupils the value of observation. In illustration of his point he drew attention to a patient lying in a bed near by, remarking that the patient played on a wind instrument, and adding that probably he was a member of the Salvation Army. To corroborate his diagnosis he asked the patient if he were a Salvationist, to which he received an affirmative reply. Encouraged by his success he asked him if he was a bandsman. Again he was right. He then asked if he played a wind instrument. The answer was also satisfactory. Then he turned to the class saying that he had no doubt he could tell the kind of instrument, remarking that it was no doubt a trombone. On asking the patient "What sort of instrument did you play?" the reply came "A concertina, sir." Needless to say the class laughed.

CLAY PILLS AS A TREATMENT FOR PILES.

GENERAL PRACTITIONER writes: The following occurred in my practice last week: "M.," a well-built, strong man, was suffering from diarrhoea, with blood and slime in the stools. Some years ago he suffered from external piles. History: Plenty of beer. Diagnosis: Internal piles and diarrhoea. "M." asked me if I had heard about clay as a treatment for a condition such as his? Answer: "No; how do you use it?" "I get yellow clay, make a pill of it, and my trouble ceases." "Well," I said, "I know nothing about it; but if it has cured you before now, you can try it again, but not with my sanction." "M." did. He swallowed a bolus about 1 drachm, and next day he expressed himself as well. No abdominal pain, no diarrhoea, no blood, no heat or pain in the rectum. "M." informs me that it is an old and common cure in this district, and nearly always successful. Perhaps some of our great students of therapeutics can throw—through your valuable columns—some light on what is to me a strange phenomenon. It may be "Great Caesar's," but my patient insists on a yellow clay. I shall be pleased to send a specimen if required.

WHITE BREAD.

DR. BINNIE DUNLOP (Woodford Green) writes: I am surprised that medical men and all enlightened persons who take an interest in the good health of the people do not condemn the use of white bread and all the other stuffs that are made of refined flour instead of the whole wheat. Is it not a fact that white bread causes constipation and indigestion? And yet white bread with meat and potatoes may be said to be our national diet. The vitality of childhood and youth seems in most cases to overcome the want of waste matter in this *régime*, probably by the taking of an excess of food. When the period of growth is passed, however, the period of probable suffering begins. The thought of the thousands of young adults who are thus led to the habitual use of aperients appals me, these aperients being cunningly advertised by companies or too casually prescribed by the family doctor. It seems to me that the poor, who can only afford a little vegetables and fruit, and who are not brought up to the free use of wholemeal bread, must suffer from constipation and indigestion. If that is so, then has not our profession a duty to perform in the matter when public-spirited men in these days are aiming at improvement of the national health?

VENOUS MURMURS.

DR. T. HOUGHTON MITCHELL (Ambleside) writes: Stethoscopic examination of the right jugular vein prior and subsequent to intravenous saline injection might throw more light on the causation of venous murmurs. Potain, in his *Du Sang et des Anémies*, from experiments he performed, states that "the greater the fluidity of the circulating liquid the more intense is the blowing it produces in the tubes wherein it circulates." Trousseau asserts that it is impossible to deny that the quality of the blood possesses an influence on the production of the blowing sound. The strength of the blowing sound is greater if, in addition to the nervous state of the vessel, there exists greater fluidity of the blood. Guttman ascribes these murmurs to the whirling vertiginous movement of the blood in the jugular vein as it flows from the relatively narrow vein into the relatively wide bulb, and states that acceleration of the flow increases the loudness of the murmur. Hilton Fagge attributes it to diminution of the volume of blood in anaemic conditions and consequent shrinkage of the veins—excepting where they are held apart by the dense cervical fascia—the passage of the blood from its shrunken into its wider portion producing a *veine fluide*.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

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An average line contains six words.

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Post-Office Orders should be made payable to the British Medical Association at the General Post Office, London. Small amounts may be paid in postage stamps.

N.B.—It is against the rules of the Post Office to receive letters at *Poste Restante* addressed either in initials or numbers.

A Lecture

ON THE

X-RAY DIAGNOSIS OF RENAL CALCULUS.

Delivered at the Sick Children's Hospital, Great Ormond Street.

By MORTON SMART, M.B.,

Honorary Physician in charge of X-Ray Department, Sick Children's Hospital, Great Ormond Street.

In the following lecture I shall endeavour to treat the above subject from the point of view of the general practitioner, as I have found that the average general practitioner does not fully understand or realize the difficulties or fallacies of renal radiography. I may almost say that in connexion with knowledge of this subject general practitioners may be divided into three classes:

1. Those who have no knowledge of the *x* rays beyond knowing that it is possible to take a photograph of the bones and some of the internal organs.

2. Those who have a slight knowledge of *x*-ray phenomena, but who believe that any stone may be easily demonstrated by the application of the rays in a general sort of way.

3. Those who have a wider knowledge of the subject, and who understand and fully realize the difficulties to be overcome in obtaining reliable results.

Since Professor Roentgen published his account of the discovery of the *x* rays, and described their power of penetrating certain substances, perhaps the most popular application of these rays has been towards the discovery of foreign bodies in the human frame. With foreign bodies such as needles, pins, and bullets, etc., the results are comparatively easy to obtain on account of the greater opacity of such substances compared to the tissues in which they may be embedded. But the application of the rays to the discovery of the presence or absence of pathological deposits—such as calculi in the kidney, ureter, or bladder—is much more difficult and much more unsatisfactory. The results obtained have given rise to a great deal of adverse criticism, and in some respects have caused this method of diagnosis to meet with a great deal of opposition. Unfortunately there has been, and still is, good reason for such a state of affairs; but the great improvement which has recently taken place in *x*-ray apparatus and methods of procedure warrants, in my opinion, this method being allotted a high place in the diagnosis of renal calculi. Perhaps before proceeding further it would be as well to roughly outline something about the properties of the *x* rays and the method of their production, as this will give a better understanding why they may be of use in the diagnosis of renal calculi.

I do not intend to go very deeply into the scientific aspect of the many different forms of rays, but before describing anything about the *x* rays it is necessary to mention something about the "cathode" rays. Both *x* rays and cathode rays can be produced from what is technically known as a Crookes's tube. This form of tube is a glass bulb of a certain definite shape and which has platinum wires let in at each end. The platinum wires are intended to carry currents of electricity, and, as the passage of such currents generates heat and causes expansion of the wire and glass, platinum is chosen because the coefficient of expansion of glass and the coefficient of expansion of platinum are almost identical. Metal discs—usually aluminium or platinum or both—are fixed to the ends of the wires. The ends of the bulbs are then carefully sealed and the tube exhausted by some very powerful pump till there is a very high vacuum. The ends of the wires are then attached to the positive and negative poles of a strong induction coil, and when the current is turned on it forces its way across from the positive to the negative pole, and causes a series of phenomena which result in the production of the *x* rays. The current thus passes from the positive to the negative pole in the tube, and when it reaches the negative pole it there produces the cathode rays.

The cathode rays are particles of electricity which are shot off from the negative pole; they travel in straight lines, and are shot off with tremendous speed—a speed which has been computed to be equal to one-third the speed of light, or about 20,000 miles per second. The most interesting property of the cathode rays is the power which they possess of producing the well-known *x* rays.

Whenever the cathode rays come in contact with a solid obstacle the *x* rays are produced. In a Crookes's tube used for *x*-ray production the obstacle for the purpose of causing obstruction to the cathode rays is the platinum disc which forms the positive pole, and when the cathode rays strike this disc the *x* rays are generated. When the cathode rays strike the positive pole they are not reflected, but what happens is, that as each negative corpuscle which constitutes the cathode rays strikes the target, there is emitted by this sudden stoppage a single wave of *x* rays. With regard to the uses of the *x* rays as a diagnostic agency, this depends entirely on the power of the *x* rays to penetrate certain substances. In connexion with another form of energy, namely, light—the terms transparency, translucency, and opacity are used, denoting the degree to which light is able to pass through certain media and affect the retina of our eyes. For instance, we call glass transparent and gold opaque, but at the same time a sufficient thickness of glass and a very thin film of gold behave in quite a reverse way; and if we break up white light by means of a prism into its constituent parts and take any one colour, such as red, we find that such rays will not pass through green glass, because the glass absorbs them, and thus, even in thin films, glass must be considered opaque to this form of light. Now, the *x* rays have the power to behave in exactly the same manner—that is, they can pass through certain substances and be so little absorbed that that particular substance may be said to be transparent to the rays, whilst other substances absorb the rays, and therefore appear to be opaque. The uses, therefore, of the *x* rays as a diagnostic agency depend upon this property, and it may be as well to point out that an *x*-ray photograph—say, of the hand—does not show the bones themselves, but only an image of the *shadows* of the bones.

The *x* rays are invisible to the unassisted eye; but when a tube is in action it appears greenish in colour, due to the rays causing the glass to fluoresce. The action of the rays is very closely akin to that of light and ultra-violet light on silver salts, and this action is made use of in taking *x*-ray photographs. In the photographic plates which are most suited to the action of the *x* rays silver bromide is combined with gelatine, and the rays decompose the bromide into the subbromide, which, by development, is reduced to black metallic silver. Now, when it is remembered that the rays pass through the flesh to a greater degree than through the bones, it will be readily understood that by placing the hand over a silver bromide plate and exposing to an active *x*-ray tube, the rays which pass through the fleshy part will have a greater effect on the silver bromide than the rays passing through the bones, and thus, on reducing the sub-bromide to black metallic silver by development, the result will be a negative showing a contrast in shadows of the different parts. Bearing this in mind, it will be easy to understand why the *x* rays may be useful in demonstrating the presence of a calculus. As I have already remarked, the *x*-ray diagnosis of renal calculi has not in all cases proved satisfactory; and this applies more particularly to adults than to children, because in the latter the rays are more able to penetrate, and thus a clearer image is obtained.

The object of the method is to obtain a photographic negative of the kidney region, with a view to seeing whether or not there is evidence of the presence of a stone.

The most important factors in determining this point are:

1. The size of the stone.
2. The composition of the stone.
3. The size of the subject under examination.
4. The condition of the kidney.

I intend to discuss the above four factors separately, but it must be clearly understood that the taking of a successful *x*-ray picture does not depend on them alone, because there are many other factors which can be discussed more conveniently when describing the technique of the method.

Size of the Stone.

Renal calculi vary in size to a very wide degree. Some are only about as large as a small seed, and some may be so large as to weigh about 2 oz. or more. A small stone offers very much less resistance to the rays than a large one, and therefore the shadow may be so slight and so small as to be easily missed, even although such a shadow is actually present in the negative.

Composition of the Stone.

Renal calculi may be conveniently divided into three groups—(*a*) acid group, (*b*) alkaline group, (*c*) bacterial group. The acid group contains the uratic and oxalate of lime stones; the alkaline group contains lime phos-

phate stones; and the bacterial group contains the ammonio-magnesic phosphate stones. Pure uric acid stones offer very little obstruction to the rays, and therefore are far the most difficult to detect. Fortunately, a pure uric acid stone is extremely rare, and usually has a sufficient covering of oxalate or phosphate of calcium to cause sufficient density to throw a shadow. The uric acid stone (combined with the oxalate or phosphate of calcium) is said to be the most frequent kind of stone, and it is unfortunate that it should not be the most opaque to the rays. The oxalate of calcium stones throw the densest shadow, and pure phosphatic calculi are the most difficult to see, while the urates come somewhere between.

Size of the Subject.

This has to be taken into account much more particularly in connexion with adults than with children, on account of the greater resistance of the parts in adults. As the production of a shadow of a stone upon a negative depends on the strength of the rays which pass through the body and affect the plate, and as the strength of the rays which reach the plate depends upon the resistance offered to their passage from the tube to the plate, it follows that a fat adult's body will cause more obstruction to the rays than the body of a child, and therefore the action on the plate will be correspondingly less in the case of the adult.

Calculi embedded in the kidney are surrounded by the kidney tissue, abdominal contents, abdominal walls, and blood, all of which offer resistance to the rays, and, in fact, nearly approach the opacity of the stone itself. In other words, the ratio of opacities between body plus stone and body minus stone approaches more nearly to unity the greater the thickness of tissues through which the rays have to pass. Thus it will be seen that the thinner the patient is the more active are the rays which pass through to the plate, and the result on the plate is therefore correspondingly greater. Probably this is one of the main reasons why renal radiography is more successful in children than in adults.

Condition of the Kidney.

In certain cases calculi may be embedded in the kidney and cause more or less induration of the kidney tissue by setting up chronic interstitial nephritis. This tends to increase the opacity of the kidney to the rays and may even obscure the stone altogether. Again, in cases where there is much pus the stone may be entirely obscured by the dense shadow which pus causes. Another point to be remembered is that the nearer the object is to the plate the greater will be the contrast in the negative. Thus in taking a negative of a patient with suspected stone, one's object is to get the kidney as near as possible to the plate. The average distance of the kidney in the adult is about 2 in. from the posterior abdominal wall and a good deal less in a child, and the greater the distance is the less defined are the outlines of the shadow produced. This is another reason why renal radiography is more satisfactory in children.

Having explained the main causes of the difficulties I shall now discuss the question of technique, and I do not speak too strongly when I say that the question of technique is a most important one, and that individual cases almost entirely depend for good and reliable results on attention to the detail of technique. The first important step is the preparation of the patient. Every case before being photographed should have a strong purgative, as it is essential to have the bowels as thoroughly emptied as possible of gas as well as solid matter. In hospital it is better to give every case an enema a couple of hours before the photograph is taken, but this is not absolutely necessary and is difficult in private. The empty bowels offer great resistance to the rays, and when full this resistance is greatly increased, so that one may almost say that no case ought to be photographed until this matter has been attended to. Gas in the bowel may be the cause of a mistake in diagnosis, because the rays pass through the gas much more easily than through the solid contents, and therefore affect the plate more strongly, and this has the effect of giving the negative a blotchy appearance which may totally obscure the shadow of a stone.

All clothing should be removed from the part of the patient's body which is to be represented on the negative. This is necessary because clothes would offer a certain amount of resistance, though slight, and this is better avoided. There is also the danger of buttons, etc., causing a shadow, which might be mistaken for a stone. For a reason already explained, the plate must be brought as close to the object to be photographed as possible, and several methods have been recommended to bring the kidney as near the plate as its position will allow. The plate may be placed flat on the table, and the patient placed in the exact position over the plate, and the Crookes's tube is placed in front. This position, with a flannel binder round the abdomen to restrict the breathing as much as possible, is quite suitable for children, because the exposure necessary is so short that the slight breathing movement possible does not have time to cause any material effect on the result.

In adults, however, especially when stout, breathing movements are very liable to cause a blurring of the negative, and for this reason it is essential to try to eliminate, or at least to diminish, such movements as much as possible. It has been shown that the kidney moves very much during respiration, and this is another reason why every precaution must be taken to restrict breathing during exposure, as any movement will tend to cause a blurring of the kidney region on the negative. One method—which, however, is by no means perfect yet—is to use an automatic arrangement which only allows the tube to generate rays during the respiratory pause. This will undoubtedly become a useful method in large, stout patients when the automatic arrangement is simpler and more perfect. In children the abdominal binder is convenient, and answers the purpose if the exposures are short. A very good method is to place the patient face downwards on a canvas-topped table, and place the plate on the back, and have the excited tube underneath. The canvas offers practically no resistance to the rays. To get the back as straight as possible and thus allow the plate to get into close apposition to the back as is necessary, an air-tight cushion is placed between the canvas and the abdomen, the cushion offering practically no resistance to the rays. Thus in this position the weight of the patient to a great extent acts by keeping the respiratory movements within bounds. Having placed the patient in one of the described positions, the *x*-ray tube has to be arranged with the anti-cathode—that is, the positive pole—directly over the middle line at the level of a point between the umbilicus and the lower end of the sternum. I make it a rule in every case to take in both kidney regions and both ureters in each negative, because it has occurred that the stone has been in the opposite kidney to the one suspected. With the tube, patient, and plate in the selected position, the negative will show a shadow of the vertebrae, transverse processes, the lower ribs, and the pelvic bones. The size of the plate must be large enough to take all this in. In children a suitable size is 12 in. by 10 in. After exposure, which varies according to many circumstances, the negative is ready for development. Care and attention to detail during development is undoubtedly one of the great factors in obtaining good results, and in all cases of suspected stone I think the development should be done personally, as much information may be gained during the process. I do not propose to discuss the question of development in this article, as it is so important that it is better discussed separately. If, when the negative is developed, a stone shows well or is suspected, it is important to take a photograph again two or three days later under as nearly similar conditions as possible.

I have already referred to stereoscopic photography in connexion with radiography, and I consider that all cases of suspected stone should be examined by this method. The method is not a difficult one, but it requires a good deal of extra work and is also more expensive, but the results are well worth the sacrifice.

In the non-stereoscopic negative the object under examination is seen with regard to two dimensions only, namely, length and breadth, and no information is gained with regard to the third dimension—depth or perspective—and therefore the advantage of a method which will show the object in the three dimensions will be obvious to all. The method is as follows: Some form of plate holder is necessary which will allow the negative in its envelope to be securely held, and which will allow the negative to be easily removed without moving the patient, and another one placed in exactly the same position. The tube holder is graduated so that the tube may be easily moved a distance of 2½ in. without disturbing the position of the patient. The distance of 2½ in. is the distance between the centres of the two eyes. The tube, patient, and plate are now placed in one of the described positions for an ordinary photograph and the exposure made. The negative is then carefully removed and another one placed in exactly the same position without moving the patient or tube. The tube is now dis-

placed to the side for a distance of 2½ in. by moving the tube-holder to the point already ascertained. Another exposure is then made, and the two negatives are then developed. They are reduced to a convenient size and mounted on ground glass or opal, and when thus prepared and examined with a good stereoscope a view of the object is obtained showing the true perspective. In the diagnosis of fractures and dislocations this method is invaluable. A good negative for a suspected renal calculus should show a clear definition of the transverse processes of the vertebrae, the last two ribs, the crest of the ilium, and the outline of the kidney and the psoas muscle.

Certain conditions have given rise to fallacies, and this fact has led to the performance of an operation in several instances, when no stone was discovered. Perhaps one of the commonest causes of a fallacy is a flaw in the film of the plate, but this can be avoided by exposing two plates one on the top of the other at the same time. In this way two images are obtained, and if the same shadow shows on the two plates at exactly the same spot, and of the same shape, one can reasonably say that such a shadow is not due to a flaw in the film.

Another cause which I believe has led to at least one serious error in diagnosis was due to the shadow of a button appearing in the region of the kidney, but of course this can be easily avoided by making it a rule that all clothing should be removed from the part to be exposed.

Another possibility which might give rise to error is a mark which sometimes appears on a plate as the result of development. I have heard of at least one case where this has been mistaken for the shadow of a stone, and this only emphasizes my remark that development is a very important factor towards good results, and should be done personally.

Perhaps the most serious cause of a fallacy, and the one which offers the greatest difficulties in overcoming, is the presence of calcareous glands in the neighbourhood of the kidney and ureters. In a recent number of the British Medical Journal Mr. Hurry Fenwick showed several photographs which very distinctly exhibited the shadow of what appeared to be a stone in the ureter. The case was again carefully photographed, but this time with a metal catheter lying in the ureter, and when developed the negative showed that the so-called stone in the ureter lay outside the ureter and not in it. The shadow was afterwards proved to be due to calcareous glands. Some cases have been reported where the physical signs caused the impression that a stone was present, and although repeated photographs gave no evidence of a stone, an operation disclosed a small accumulation of gravel.

From my experience of actual cases I feel that I am in the position to deduce the following conclusions:

1. That the method is an extremely useful auxiliary to the ordinary methods of diagnosis.

2. That the method should be resorted to in every case of suspected stone, and that no operation should be decided upon until the case has been carefully photographed.

3. That the method entails a great responsibility and should in every case be carried out with the greatest possible care, for the patient's sake as well as for the operator's reputation, as a mistake may lead to such serious consequences.

4. That the great increase in the power of the apparatus used, and the increased knowledge of how to obtain the best results, will soon enable *x*-ray specialists to exclude all doubt in the interpretation of a negative.

5. That in cases where the negative shows the shadow of a stone and an operation is decided upon, the patient should be rephotographed under as nearly as possible similar conditions a day or so prior to the operation. I consider this necessary, because in one case a patient was photographed and a diagnosis of renal calculus was made. The operation took place some time afterwards, and no stone was found in the kidney. Another photograph was taken shortly after the operation, and the stone was again seen, but this time it was in the ureter. During the interval between taking the photograph and performing the operation the stone had moved downwards.

6. Lastly, I think every case should be taken stereoscopically at least once.

Surgeon-Lieutenant-Colonel C. R. Kilkelly, C.M.G., M.B., late Grenadier Guards, has been appointed House Governor and Medical Superintendent of the Convalescent Home for Officers at Osborne, in place of Commander Powell, resigned. Mr. Edgar Hoffmeister, M.B., has been appointed a member of the Consulting Staff.

FURTHER REMARKS ON THE TREATMENT OF RINGWORM OF THE SCALP BY THE *X* RAYS.

By J. M. H. MACLEOD, M.D., M.R.C.P.,
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In a recent issue of the British Medical Journal (July 1st, 1905), I discussed the treatment of ringworm of the scalp by the *x* rays, and my remarks were based on an experience of about 60 cases so treated at Charing Cross Hospital and elsewhere. In that contribution, which was written about two months before its publication, I described the technique we employed, and pointed out wherein it was defective, the chief difficulty at that time being the measuration of the dosage sufficient to produce a defluvium of the hair without destroying the hair papillae and so preventing regrowth. For this purpose we depended almost entirely on Sabouraud and Noiré's pastilles of platino-barium cyanide.

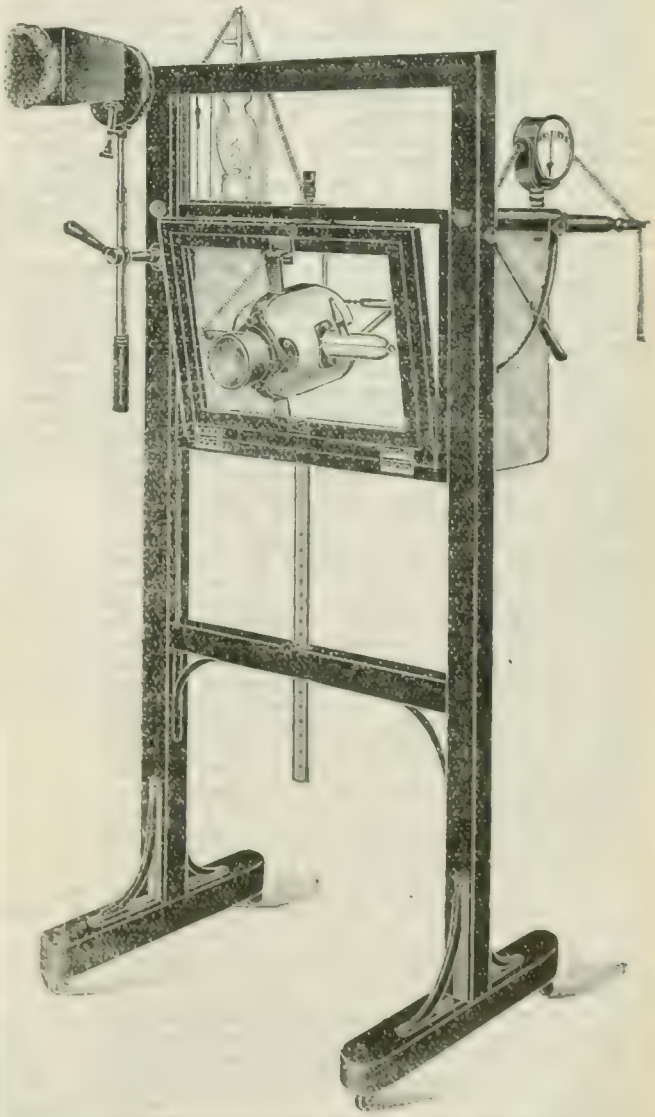


Fig. 1.—*X*-ray stand for the treatment of ringworm, etc.

At the time when the paper was written we were fortunate in having at the hospital two regulating tubes which under the relatively constant conditions of having a current of half a milliampère in the secondary circuit and a spark gap of about 3½ in., and with the patient at a distance of 15 cm. from the anticathode, produced the desired effect on the scalp, with an exposure of about fifteen minutes. Unfortunately, a few

weeks later these tubes both wore out, and we had considerable difficulty in obtaining substitutes which gave as satisfactory results, for several of the tubes employed, instead of producing the defluvium in fifteen minutes, required about double that time to do so, as indicated by the pastille, or necessitated more than one exposure. If the treatment of ringworm by the *x* rays is to be a practical success and a real saving of time, it is necessary that a single exposure should produce a clean defluvium of the area exposed without impairing regrowth. As the effects of the *x* rays are cumulative, to have to give repeated exposures seems to me to subject the patient to greater risk, and certainly with the long exposure of about fifteen minutes it is unsafe to re-expose the same area for at least twenty-one days.

In view of these facts, I have been trying for the last three months to find out what degree of tension was required in the tube to give the desired effect and at the same time to improve the technique with regard to the measuration of dosage and other details. With this object the following apparatus has been constructed, and by means of it the chief difficulties have been overcome.

The electrical current is obtained from a lighting main continuous current. A "dipper" mercury break is employed and a 12 in. spark coil. Connected with the break is an instrument known as a "speed counter," which records on a dial the number of plunges of the dipper into the mercury of the break. The dial is divided into fifteen divisions, each of which are subdivided into two. Each subdivision indicates 500 plunges of the dipper into the mercury, and when the indicator has passed once round the dial 15,000 plunges, or "makes" and "breaks" of the primary current are recorded. The dipper is adjustable and is fixed so that it will plunge 1 cm. into the mercury and the speed of the break is regulated so that it will give about 1,000 plunges per minute.

A special stand to hold the tube has been made for me by Mr. Alfred Dean, to whom I am indebted for many valuable hints in its construction. The accompanying illustration (p. 619) will serve to show its structure. It consists of a wooden upright stand inside which is fitted a series of three wooden frames, in the central one of which a modification of the London Hospital Shield of lead glass is fixed to hold the tube. These frames are fitted with hinges and a pivot in such a manner that the shield can be moved in any direction required. To the opening in front of the shield lead glass cylinders of diameters varying from 11 cm. downwards are fixed. These are of such a length that when the patient's scalp is placed against the mouth of the cylinder, it will be 15 cm. distant from the anticathode. A maximum diameter of 11 cm. is chosen because beyond that the rays become blurred, and it is of primary importance to have as uniform an exposure of the whole area exposed as possible. At the junction of the shield and the cylinder a small metal disc is adapted to hold the platino-barium cyanide pastille, which can be removed at any time during the exposure to compare it with the standard tint. On the left column of the stand Dean's modification of Benoist's radiometer on a sun and planet system is fitted to ascertain the quality of the rays. Two horizontal arms are fixed towards the top of the stand, from which glass protecting screens hang down. On the left arm a Villard's soupape is placed to impede the reverse current from the tube, and on the right arm a milliampèremeter to indicate the current going through the tube. Besides the meter a lever is fixed at the angle between the right arm and the column, which works on a quadrant divided in centimetres, and adjusts the spark-gap between the two poles situated at the ends of the arms so that when the lever is moved down to say 10 cm. on the quadrant, it means that a spark-gap of 10 cm. has been interposed. These various instruments are all connected in circuit. To produce the defluvium at one sitting the following conditions are adequate: (1) a tube of such tension that the rays from it show 3 to 4 degrees of penetration as indicated by the radiometer; (2) a spark-gap of about 10 cm.; (3) a current of about two-fifths of a milliampere in the secondary circuit; and (4) about 10,000 interruptions of the primary current. Before exposing the scalp, the tube is regulated to fulfil the above conditions, and an exposure is then given, which is continued till the indicator on the speed counter records 15,000 interruptions, the pastille being examined occasionally to avoid going beyond the required tint, and the state of the tube being kept as constant as possible during the exposure by means of the regulator and the resistances.

All this may seem to be complicated and perhaps unnecessary, but a permanent alopecia is a serious thing, and it is wise to take every precaution to avoid it. To depend entirely on the pastilles, though they have proved so reliable, does not seem to me to be advisable, as it is not inconceivable that while adjusting them they may accidentally have become damped or be otherwise altered, and give a false reaction time in consequence. Besides, by the above arrangement it is possible to prescribe so many discharges from a tube, the tension of which is kept as constantly as possible of the required degree for any special therapeutic purpose, with the amount of current passing through the tube also kept under control.

I have described this apparatus at some length, not because it professes to be anything more than an adaptation for specific purposes of several well-known appliances, but rather that others interested in the subject may improve upon it, so that in the end we may have an *x*-ray apparatus and a system for therapeutic purposes which will enable us to prescribe an accurate dosage of rays of a desired type, and give us a definite standard by which the results of different observers may be compared.

THE RECENT CHOLERA EPIDEMIC IN PERSIA, 1904.

By JOSEPH SCOTT, M.B., C.M.,
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Previous Epidemics.

An epidemic occurred in Teheran in 1861, reappearing in a milder form in the summer of 1862. From the autumn of that year Teheran was free from cholera until the summer of 1867, when a very severe epidemic broke out; this is the only epidemic which is known to have come from the west by way of Tabriz. Cholera reappeared each succeeding summer until 1872; subsequently Teheran remained free, but it was occasionally reintroduced from other parts of Persia. In 1889 cholera again appeared, following the pilgrim route from Mesopotamia via Kermanshah and Hamadan, but stopped


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short at Koom. In November of that year, after a heavy fall of snow, the epidemic ceased. Cholera again appeared in 1892 in many parts of Persia. Cholera has frequently visited Kermanshah, as is natural seeing that it is located on one of the great pilgrim routes.

Early in April, 1904, I was deputed to go to Kermanshah to investigate the outbreak of cholera there. At the beginning of the year cholera was reported to have broken out at Kerbela, the great pilgrimage town in Mesopotamia where thousands of Persians and other Mohammedans of the Shia sect pass a few months every year. Quarantine, which had been established at Kasr-i-Shirin, near the Turkish frontier, against arrivals from Turkey, was abolished on January 21st for all persons having already undergone quarantine at any of the cordons established by the Turkish sanitary authorities; all other arrivals had to submit to twenty-four hours' observation. In March a muleteer on his way from Bagdad to Kermanshah was taken ill on the road and died on his arrival at the latter place. Several other cases occurred in the pilgrims' quarter, and, probably through Jewish women having bought clothing and bedding belonging to cholera patients, the contagion spread to the Jewish quarter. Strong measures were then taken; the town was put in as good a sanitary condition as possible, and disinfection of the infected houses was carried out under the supervision of Government officials. The Customs officials (Belgians) were entrusted with the management of the quarantine, and stations were established at Kasr-i-Shirin, Mahidasht, and Bisitun (see map).

Previous epidemics have generally lasted a shorter time, with a greater daily mortality, in contrast with the late epidemic, which was introduced from Bagdad about March 14th; the daily mortality was never very great, but a steady cholera death-rate was maintained. One feature of the late epidemic was that females were proportionately attacked more frequently than males.

Water Supply.

Most of Kermanshah is supplied from the springs of Sarab district, about three miles distant from the town; unfortunately the water runs in an open channel, and is liable to contamination from several villages built on the slopes of the stream.

Wells are uncommon except in the Maidan Mollah Abbas Ali district; none exist in Shahr-i-No. The tanks of the different houses are mostly connected with each other, the water flowing from house to house; it is not difficult to conceive how a waterborne disease like cholera can thus be spread, especially in a country where the house tank is utilized for washing almost everything used in the daily routine of life.



Sketch showing how quarantine posts in the immediate vicinity of the town of Kermanshah were avoided. To enforce quarantine regulations a very strong military cordon would be required. Q. Quarantine.

Sewers.

Kermanshah is unique in that a large part of the town has a system of sewers; unfortunately in the lower-lying parts of the town they are not covered in, thus becoming a public nuisance; they are very objectionable, especially in the summer months, when water is scarce; part of the sewage water is used in the cultivation of vegetables, but the greater part drains into the Karasu river.

Sanitation.

Houses are generally overcrowded and unhygienic, as many as seven or eight people living in a single-roomed house.

Cholera Hospital.

An old caravanserai was set apart for this purpose. Only the poor and destitute were received as patients; it was of little real utility.

Breakdown of Precautions.

The sale of fruit in the bazaars was for a time prohibited by the Governor of the province. Measures which could have stopped the epidemic and have prevented its spreading to other provinces—such as cleaning the town, disinfecting the houses and clothing of patients and contacts, notification of cases, free distribution of medicines and disinfectants, etc.—although originally started, fell to the ground through weakness on the part of the Governor in supporting these measures because of the protests of a few bigoted and discontented persons against the innovations of the European doctors.

On April 20th and 21st a demonstration was made against the European medical officers who were entrusted with carrying out protective measures in Kermanshah, it being rumoured that the outbreak of cholera was a fiction and that the doctors had poisoned the town water supply. From this date onwards all sanitary precautions in the town were abandoned.

Origin of the Epidemic.

Cholera had practically disappeared, when Aga Fazel Mamegani, one of the leading high priests of Kerbela, who was proceeding on a pilgrimage to Meshed with a large following, broke through the cordon at Kasr-i-Shirin, and was allowed to enter, remain in, and leave Kermanshah without submitting to any quarantine regulations. On May 8th, the son of one of the Mullahs of Kermanshah having died from cholera, a sudden panic took place, and about one-third of the population left the town, camping under trees or in tents near villages. From this date the infection spread through the whole district, and whilst the mortality seems to have been very great in some villages, as in Hadjiabad, where out of a population of 250 souls 40 or 50 fatal cases occurred, in others it was limited to one or two deaths. Finding the district as bad as the town, people began to return on May 30th.

Aga Fazel again broke through the cordon at Kangavar, which had been isolated, being infected, and from the time of his passage through Kangavar one traces the spread of the contagion along the high road from Kangavar to Koom and Teheran, and along the road from Kangavar to Hamadan and towards Azerbijan.

The first case of cholera in the town of Hamadan occurred shortly after the arrival of Aga Fazel, who preached against the faithful being prevented from visiting the sacred shrines, and described the quarantine measures as innovations of the "Feringees."

In Hamadan the disease broke out in the beginning of May, and in the village of Kabudrahang alone 80 cases and 50 deaths were reported during the space of sixteen days. The mortality in Hamadan is said to have reached at the end of June 100 a day. At about the same time a serious outbreak of cholera in Malayer, Tusirkan, Nehevend, Doaletabad, and Burujird was reported.

Kurdistan was for some time kept free from cholera, most stringent quarantine regulations having been enforced on the road from Kermanshah to Senneh, Kurdistan. The epidemic however, reached Senneh from Penjwin, in Turkish territory

Quarantine.

Theoretically quarantine should be an efficient protection against cholera being introduced into a community; practically it is a failure, notably as carried out in the province of Kermanshah. Quarantine regulations can be of little use unless they are stringent and thoroughly carried out. Unfortunately the temptation to evade such regulations is in proportion to their stringency. It is impossible to secure the absolute honesty and efficiency of every individual in a large body of poorly-paid soldiers charged with the carrying out of the details of a system which entails great personal inconvenience, and loss to travellers and merchants. Therefore if the strength and usefulness of the quarantine chain is to be measured by its weakest link, a very slight acquaintance with its working will prove how very weak it is. Even if the utmost care, honesty, and intelligence succeed in excluding individuals suffering from or likely to suffer from cholera, there is no guarantee that the germ of the disease may not be introduced. It is impossible, short of absolute and complete isolation, for any practicable system of quarantine to deal with such cases. Ordinary quarantine, in my opinion, instead of proving a defence, may actually increase the risks of an epidemic; it fosters a sense of false security and neglect of the first principles of public health—pure water, good food, etc. No attempt was made to isolate the different arrivals, or disinfect clothing and personal effects of cholera patients, pilgrims, and travellers; regulations were evaded and cases were concealed.

The accompanying maps show how easily muleteers and travellers evaded the different quarantine posts. The march of the epidemic can be traced through the plain of Irak with its multitude of villages, on to the great shrine of Fatima at Koom, and so on to the capital. From Koom the epidemic worked its way south to Kashan and Ispahan. From the capital it gradually spread to Meshed in the east, Resht and Tabriz in the north-west. Dr. Vaume, of the Turkish Sanitary Board, who was entrusted with the supervision of the quarantine measures, succumbed to the disease. Nomadic tribes scarcely suffered, whilst villagers suffered heavily, which is not to be wondered at, as Persian villages are most insanitary. Trade was completely paralysed for a time, and the Customs receipts fell considerably. Every pilgrim carries a leather bottle containing water when on the road, and is never very particular where he fills the same. At Koom the bodies of cholera patients were washed in the river which flows close to the great mosque, the same water being used for domestic purposes. It is estimated that from 50,000 to 100,000 pilgrims pass Kermanshah yearly *en route* to Kerbela, Nejef, and Kazimein.

On entering Turkish territory at Khanekin pilgrims are subject to a quarantine tax of 10 pias, gold. Corpses, of which a great number are annually sent to Kerbela for interment, pay a tax of 35 krans to the Turkish authorities in Kermanshah, and a further tax of ½£ Turkish at Khanekin. A permanent quarantine post is maintained at Khanekin by the Turkish Sanitary Board to supervise the traffic and examine the bodies.

Statistics.

From figures supplied by the Minister of Customs and Posts the approximate mortality is given, and is generally conceded as much underestimated.

Provinces.		Provinces.	
Kermanshah	5,000	Mazanderan	2,000
Hamadan	3,000	Khorasan	5,000
Irak	1,000	Ispahan	2,000
Tusirkan	1,500	Shiraz	15,000
Koom	1,000	Arabistan	2,000
Teheran	20,000	Azerbijan	8,000
Kazvin	200		
Gilan	3,000	Total	68,700

Recommendations.

In order to prevent further outbreaks and protect Persia against returning pilgrims, the following precautions are, I think, necessary:

The provision of a permanent camping ground at Kasr-i-Shirin, where pilgrims would be housed in large corrugated iron sheds, the ground being at some distance from village and oil works. Such a camp should be furnished with the latest sanitary arrangements; sufficient latrine accommodation should be provided, the water supply being pumped from the river bed and stored in a cistern, and from thence supplied by means of pipes on the tap system; in this manner the water supply would be safeguarded; a special washhouse provided and the ground drained. No great difficulty should attend the carrying out of the above measures, as Kasr-i-Shirin being a frontier Customs post, a permanent Customs staff already exists.

RATS IN RELATION TO PLAGUE.

By LIEUTENANT-COLONEL BRUCE SKINNER,
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II.

THERE have been periods when in India rats have proved themselves most destructive to the crops; in ordinary seasons their destructive proclivities are sufficiently trying to the agriculturist, but in some years their depredations call for special remark. Thus, in the Bombay Agricultural Report for 1895-6 we read that rats were in such large numbers in Karachi and Hyderabad that rewards were offered for their capture (p. 24). But the most interesting among several

references to the damage worked by these rodents is the following:

The Bombay Agricultural Report for 1892-3, in recording the work done during that financial year, states on p. 32:

Rats have caused considerable anxiety, appearing first, as they did in the locality where they first appeared in 1878, that is in the Eastern talukas of Belgaum. They were reported also from Sind and the Deccan, but they did most harm in the Karnátak (Bijápur, Belgaum, and Dhárwár).

The numbers, however, never became very numerous. But again, as in 1879, the plague* was stayed by opportune heavy rain and by an enormous increase of ticks, which appear to be ordinary cattle ticks. It is still doubtful whether this parasite infested healthy rats, or whether it attacked them when weakened by the heavy rain. A recommendation was made by this Department that the subject of rat plagues* should be recommended for study by the Imperial bacteriologist in the hope that inquiry may show a means by which rats may be inoculated with a contagious disease not communicable to man or to domesticated stock.

It is a most unfortunate fact that the Imperial bacteriologist was that year transferred to another department, and no record can be traced which will afford a clue to any attempt at the elucidation of rat plagues.* With regard to the reference to the years 1878 and 1879, we find in the Report† of the Indian Famine Commission presented to Parliament in 1881:

The autumn crop of 1878 and the spring crop of 1879 were both below average, especially in Guzerat and Katiawar, and a great portion of what was then produced was destroyed by an extraordinary plague of rats which infested the Southern Deccan and South Mahratta districts; rewards were given for their extermination, and over 12 millions have been destroyed.

Perhaps others may be able to give a reference to the source whence the information was obtained that on this occasion likewise the rats were affected by cattle ticks. A responsible Government official would not have made the statement without substantial evidence. We therefore accept it as a fact that rats died on both those occasions while infested by cattle ticks, and perhaps owing to a disease produced by the ticks. It is to be hoped that further investigation will demonstrate the importance of this neglected record.

If this disease were plague we should expect to find some evidence of its occurrence among the people, at any rate in 1893, were there any reliable means of diagnosis. There were not any such means, neither were the figures, which show an increased fever mortality in 1893, reliable; those who furnish the figures recognize their unsatisfactory value.† It is not until the Bombay epidemic of 1896 that the pestilence is recognized; it is then also realized that the disease must have been in existence for some time in the Presidency. There is, however, no definite evidence that plague existed in the Bombay Presidency before 1896; it can only be presumed.

Starting on the presumption that plague was present in 1893 among rats, and perhaps among men, how did the rats contract the disease? But before proceeding it may be not amiss to follow the account of the first recorded plague epidemic found in the Bible.

In the first place the ark captured by the Philistines was taken to Azotus and placed near an idol. On two consecutive nights the idol was overthrown; we may not unfairly assume that an earthquake may have been the cause of this catastrophe. The people of Azotus next suffered from emerods. There was a great mortality in the city, and an invasion of mice (or rats) in the villages and fields.

The people of Azotus attributed their misfortune to the captured ark, which they proceeded to remove. As it was carried from city to city the plague went with it. The perigrination of the ark being marked by plague breaking out at each fresh spot where it rested led the Philistines to determine on returning it to the Israelites from Ekron, where it had finally arrived bringing with it "deadly destruction." Thereupon they placed the ark on a cart drawn by two kine and let them take it where they pleased. Five of the lords of the Philistines followed the cart, which was taken to Bethshemesh, territory of the Israelites, after seven months —Josephus[2] says four months—in Philistia. The Philistines having noted the reception of the ark by the Israelites, who were at that time reaping their wheat, returned to Ekron. They are not reported as having held any communication with their enemies; they were not sent for that purpose, but merely to report whether the ark had returned to its original owners.

Judging by this record, the only living things which served as a link for the carriage of the plague were the kine. The latter the Israelites slew and burnt with the wood of the cart as an offering. They, however, contracted plague, from which some 70 men and 50,000 of the people died. The ark was then removed to another place, but apparently without any further extension of the epidemic.

This epidemic has been accepted by modern writers as having been one of bubonic plague. Josephus says "they died of a dysentery or flux." Further, he says that when the ark reached Bethshemesh, and the Israelites approached the ark, 70 of them died of the plague. He does not mention the "50,000 of the people" recorded by the Christian Bibles as victimized by a "great and holy God." Keeping, however, to the account in the Bible, we have here a graphic description of a plague epidemic setting forth the various special points noticeable in similar epidemics to-day. The period of the epidemic in Philistia corresponds with that of its duration in India—some seven months before the wheat harvest, when rats are out in the fields. The only point hitherto unrecognized about this story is the part taken by the cattle. These constitute the only living connexion between the plague-stricken Philistines and the Israelites, who had no sooner received the ark and the attached cattle than they became plague-stricken, although the cattle appear to have been slain and burnt on the day of their arrival.

In the Biblical account the plague among the men of Bethshemesh is attributed to their having looked into the ark (in the Douay Bible "because they had seen the ark"). This view of its origin was calculated to cause enhanced respect for the sacred coffer among a superstitious people. This point is, however, only a matter of opinion, superadded to a record of facts which otherwise is curiously in accord with what is known of plague to-day. If, therefore, we omit this speculation, which would endow the ark with the attributes of a Pandora's box, we find ourselves in face of the probability that the kine, the only living connexion between the plague-striken Philistines and the Israelites across the border, were the vehicles of the plague. And that they may have been the source of the disease does not, when it is realized that plague is caused by inoculation, appear to be unlikely, were there any evidence that the kine were themselves suffering from any disease.

The only point which can be regarded as such evidence is that the kine of their own free will took a road which led in a direction directly away from their calves—an unnatural proceeding which can only be accounted for by the presumption that their milk had run dry. A subsidiary point is that the Philistines would not have handed over healthy kine to the Israelites so long as they had diseased ones available for the purpose.

This is but slender evidence to adduce in a scientific paper were it not supported by the fact already recorded that in 1893 there was in certain parts of Bombay an enormous increase of cattle ticks which assisted in staying the "plague"—that is, the devastating effects—of rats. This leads, naturally, to the consideration of cattle diseases, and to the possibility of the extension of any cattle disease causing plague to rats, and also to man, by the agency of ticks.

The study of cattle diseases in India can only be said to be a modern development. The Agricultural Department began its reports in 1884, while the Veterinary Reports have only taken definite shape within the last decade. The earlier returns of cattle diseases are acknowledged to be unreliable, but even so they furnish evidence of the principal cattle diseases which is borne out by more recent and increasingly accurate returns. Omitting surra, with which the name of Dr. Lingard is associated, we find the principal cattle diseases to be rinderpest, foot and-mouth disease, and anthrax. From anthrax has recently been differentiated ghotwa. Quarter-ill and pleuro-pneumonia also are frequent cattle diseases.

Rinderpest, or steppe murrain, is endemic and rampant in India and in the Steppes of Russia, from which it has periodically invaded Europe. It was not known in South Africa previous to 1864. It is only too well known in South Africa in the present day. The micro-organism of this murrain is not known; nevertheless inoculation causes the disease. It may therefore be spread by ticks.

"It is amenable to the repressing effect of heavy and sustained rain."[3]

"Cattle disease is as well known in Kumaon as small-pox among human beings," and also in Garhwal. Cattle disease is here called *mán*, and is the same as rinderpest.[4,5]

The last extension of rinderpest to England was in 1872. It did not then or in 1866 cause plague among human beings, though ticks abound in this country. At that period rats

* Not pestis, but devastating swarms of rats.

† See the previously-quoted Famine Commission Report, and the Report of the Indian Plague Commission, 1898 and 1899.

were not under suspicion—if there had been increased mortality among them it would probably have escaped record and perhaps observation.

Foot and mouth disease is endemic in the same localities, whence it spreads to Europe. This disease was specially prevalent in the districts in which the rats referred to above died with cattle-ticks on them.[6] The diagnosis of this and other cattle diseases did not formerly rest on a very satisfactory basis. It is only of recent years that the efforts of the Veterinary Service in India have led to more accurate returns from places coming under the immediate supervision of experts.

Quarter-ill, or charbon symptomatique, has a well-marked bacillus bearing no resemblance to that of plague.

Pleuropneumonia and anthrax possess their own specific bacillus, about which there is no reason to doubt.

Ghotwa, or ghotu, or galghotu has been described by Veterinary-Captain W. T. Pease[7] as corresponding to buffel-seuche in Hungary, and very nearly resembling glos-anthrax. He first reported the occurrence of this as a distinct disease in 1896. Galghotu was previously reported[8] as being the same as glos-anthrax (in 1883 by Veterinary-Colonel J. A. Nunn). "This disease is most prevalent in the rains, but may appear at other time of the year and specially following the Christmas rains." This disease is caused by inoculation, but it may be introduced by ingestion, probably through wounds on the lips and tongue. The characteristic bacillus is described on p. 5 of the paper. "It attacks most commonly young buffaloes which are in good condition, but older animals also get it. Cattle and swine also take the disease spontaneously. Besides the means of natural infection described by Captain Pease on p. 2 of his paper, it is obvious that this disease is one which might be spread by ticks or mites.

Here we have well-marked cattle diseases whose existence in India can be traced at least as far back as the records of Europeans go. They have been present from season to season in some part or other of the country. There would appear to be no obvious reason why any one of them, even if pathologically related, should be the source of pestilence among men, unless it can be shown that there is present another factor, and that is a vehicle from cattle to men and rats.

There are certain meteorological and telluric conditions which become appreciable to man by their results in the plant and animal world. "A good year for stone fruit," or "a bad year for blight," are expressions indicative of our ignorance of the intimate causes which favour the development of stone fruit or the predominance of blight. Ignorant of the causes, we have to remain content with the facts which force themselves on our perception. Similar ignorance at present hangs round the bearing of the connexion between earthquakes and certain plague epidemics. The atmospheric and telluric conditions attending earthquakes we may be allowed to presume to be conditions favouring the development of the vehicle of plague. Such a presumption will be in keeping with the known fact that earthquakes have been frequently recorded as preceding and attending outbreaks of plague, while certain species of insects and plants may find in earthquake years the favourable conditions necessary for their propagation in such numbers as to defy the control of man, to his ruin, and even to his destruction.

At least the fact remains that the spread of the lower organisms is dependent upon their finding in new countries conditions favourable to their existence—conditions which are periodic in their occurrence, otherwise, if permanent, the organism would have been established.

We have next to find the agent which periodically assumes such importance as to be able to cause plague epidemics. From what has already been stated, this agent flourishes in India in comparatively dry weather, is virulent in hot dry weather, and is dormant during rains or very cold weather, except under such artificial conditions as will counteract rains and extreme cold.

We have reason to believe that rats may die through the agency of cattle ticks, and these animals fulfil the above conditions.

Probably the best-known ticks are those which have been found to infect animals with the pirosoma.

The cattle tick of India appears to be of the same species as that which carries the pirosoma of Texas, or red-water fever.[9] This tick is described by Colonel A. E. Queripel,[10] under the name of *Ixodes bovis*. Neumann[11] classifies it as *Rhipicephalus annulatus*, but does not mention its occurrence in India. Other species[12] of tick have since been shown to convey the pirosoma.

Texas fever does not appear as yet to have become epizootic in India, while "cattle ticks" are to be found throughout the country. But the mere presence of cattle ticks will not present a solution of the problem, for ticks which infest cattle are world-wide in their distribution. It is obvious that either the cattle disease which furnishes the *materies morbi* of pestilence must be of localized and unusual occurrence, or the tick or mite which spreads the disease must be one whose distribution area corresponds only to the endemic areas of plague, whence it spreads on occasions specially favourable to its temporary existence in other regions. In Burmah, for instance, there are numerous varieties of ticks, but as up to the present plague is rare in that country whereas cattle diseases are common, these ticks are not of themselves at present the vehicles of pestis.

It is not likely that *Rhipicephalus annulatus* is the originator of plague. Were it the originator, the areas in which it is indigenous would be endemic plague areas. They are not endemic plague areas. Were that species of tick the vehicle from cattle to man, we should expect to find the reverse order occur, and plague to become endemic in Australia and South Africa.

The distribution of ticks and mites is a science which like many others is of comparatively recent growth, and such knowledge as has been acquired has not been completely systematized as yet. It is therefore impossible to state with exactitude what ticks were present in the Indian plague areas before the present plague epidemics occurred. It is consequently at present impossible to say whether any special variety of tick has lately appeared and become responsible for the carriage of pestilence to man, unless it can be shown that *Hyalomma aegyptium* has spread from Bombay into other plague-infected areas.

What may be suggested as required is a tick with a distribution such as that of *Ornithodoros savignyi*[13] (Egypt, East Africa, and "even in Asia") or *Dermacentor reticulatus*[14] (Europe, Caucasus, Turkestan, Persia, Amur, Siberia) or *Hyalomma aegyptium*[15] (Southern Europe, probaby whole of Africa, Asia Minor, Persia, Turkestan, Mongolia, Bombay). A tick such as one of the above, normally inhabiting endemic plague areas, and extending its borders during favourable years, would satisfactorily account for the extension of plague during periods favourable to its existence in a new station.

Another factor in the problem is that of the active period of ticks and mites. These Acaridea pass their parasitic period either on animals or plants, in some cases during their whole career; in others, during one phase of their existence. For instance, the Trombidiidae pass the mature stage on plants. From the eggs come larvae, which attach themselves to animals, from which they fall off as pupae, which in temperate climates hibernate, living during this period on the juices they have extracted from their animal host. After hibernation they become mature forms. The Ixodidae, on the other hand, lay their eggs or produce their young in the earth. When hatched, the young attack their future hosts, only dropping off when the period of delivery of the female is at hand.

During the period when these young or eggs are in contact with the soil, they are liable to be washed away or rendered inactive by heavy rain. This may be assumed to constitute sufficient reason for the comparative quiescence of plague during the monsoon in India; while in temperate climates a similar inactivity would be evident during hibernation. Artificial conditions would modify this natural process; such conditions as protection from rains or cold if the eggs were deposited in a house. This would explain the occurrence of cases of plague during the rains in India, or during the winter in Russia and Europe.

The carriage of plague in ships (hitherto attributed to pest-bacillus in the cargo finding an inoculable spot in the victim) would become more readily explicable were it clear that the eggs of a plague-infected species of the Ixodidae were present in cargoes of wheat, the larvae on birth finding occasional hosts during the voyage, or when the cargo was unloaded. Further, if the climatic changes of the country where the cargo was discharged were unsuited to the tick its reproduction and the concomitant spread of plague should cease. On the other hand, the arrival of plague in a country usually unsuited to the plague tick would only become epidemic when meteorological and perhaps telluric conditions were such as to favour invasion by that particular species.

The knowledge of the distribution of ticks requisite for the demonstration of the above is not yet available. But what is possible of demonstration is whether pestilence may be com-

municated to rats by inoculation with the *materies morbi* of a cattle-disease.

Lieutenant-Colonel Leishman has throughout taken an interest in this subject and has now joined in the investigation of this point, regarding which we hope to make a further communication. In the meantime what has been written above may lead to fruitful investigation in plague areas, especially by officers of the Veterinary Services in India.

At the same time it has to be borne in mind that the tick may be the medium by which infection is conveyed from the soil to both man and beast, as well as from beast to man.

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AN INVESTIGATION ON THE REGENERATION OF NERVES,

WITH REGARD TO THE TREATMENT OF CERTAIN PARALYSES.

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[Part II.]

In a previous communication, published in the British Medical Journal of April 29th, 1905, it was shown that the central end of one nerve is capable of establishing connexion with the distal ends of two and presumably more than two nerves. The nerves used were the external and internal popliteals which innervate antagonistic muscles. It was shown that a very useful function could be obtained in this way. As the result of counting the fibres in the regenerated nerves it was seen that a single axis cylinder in the central nerve split up into two or more branches at the place of section, and each of these could establish a connexion with a fibre in a distal nerve. It seems probable—and especially where a small nerve is used—that the nerve fibres do not reach the normal number, and presumably the function of the muscles cannot be quite as efficient as in the healthy state. It was also evident from the axon reflex phenomenon that some of the fibres which come from the splitting of a single axis cylinder may supply antagonistic muscles. It is impossible to say what proportion of fibres do this, but from the very vigorous axon reflex obtained it seems that a considerable number have this arrangement.

When a nerve is divided and immediately sutured, the fibres of the central end are described as dividing and forming a kind of brush. These have a wavy course, and ultimately one branch from each axis cylinder joins with or grows down a fibre in the distal nerve.

The remainder of the branches from the central fibre gradually disappear. But if a more than corresponding number of fibres be present in the distal end some of these branches instead of disappearing remain permanently and have a definite use. I attach considerable importance to this splitting of the axis cylinder. If a single motor cell is supplying antagonistic muscles, it is evident that there is a certain amount of waste of nerve and muscular energy. Accurate dissociated movements will be impossible, or at any rate only possible by ceasing to use such muscular fibres as are thus innervated. This is a very serious drawback to nerve crossing. That this is no theoretical objection I hope to show, and suggest a very simple remedy. Most of the nerve suturing has up to the present been done with the facial and spinal accessory which are quite analogous to the motor nerves of the limb. After facio-spinal-accessory anastomosis any movement of the face has been associated with elevation of the shoulder and bending of the neck, owing to simultaneous contraction of the trapezius and sterno-mastoid muscles. This improves to some extent with time as the result of re-education of the cortical and other centres, but seems never quite to disappear. Ballance and Purves Stewart [1] have reported 7 cases (in one the hypoglossal and facial were used) and say: "So far in our series of facio-accessory cases, we have not observed any independent movement of the face unassociated with that of the trapezius and sterno-mastoid, although in several cases minimal innervation of the trapezius is sufficient to cause facial contraction."

The following experiment in a dog gave the best functional results I have seen, and single axis cylinders dividing to supply antagonistic muscles were not present.

Dog V. Left leg operated on January 17th, 1905. About one inch of the external popliteal nerve was excised. The internal popliteal was separated into two parts. The separation was made between the fascicular bundles, and as little damage as possible was done to the nerve tissue. These were then cut transversely across, and the smaller part was sutured to the distal end of the external popliteal. The larger one was then fixed by a single suture to the distal end of the entire internal popliteal (see Fig. 1). Union of the wound took place by first intention.

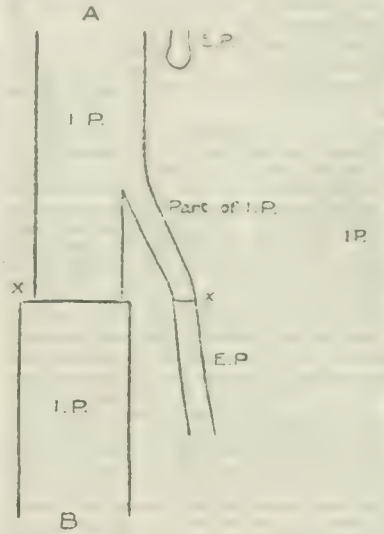


Fig. 1.

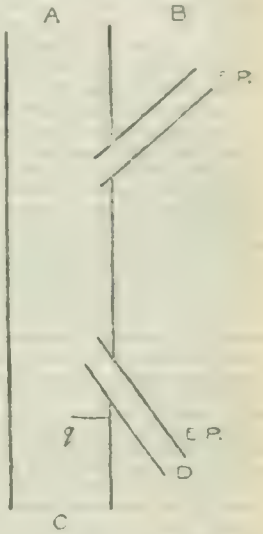


Fig. 2.

March 7th, 1905. Dog walked fairly well and nearly always on the plantar surface of the foot; no ulcers had formed on the dorsum. The original wound was opened up. Two small bulbs had formed at x x, where the suturing had been done, but these were not in contact with one another.

June 7th, 1905 (141 days). The function was practically perfect, and it was almost impossible to tell which leg had been operated on. Scratching, which I regard as the best test of accurate co-ordination in the dog, was done nearly perfectly. The animal was anaesthetized and electrical stimulation performed. The internal popliteal was cut across at A, and stimulation here produced a vigorous response in the muscles at the front and back of the leg. The internal popliteal was then divided across at B, and stimulation at A now produced only contraction of the extensors of the toes. Stimulation at B gave no contraction of the extensor muscle. This showed the axon reflex was absent, and none of the axis cylinders had split to give branches to antagonistic muscles. The anterior and posterior sets of muscles were now dissected out; they were well developed and nearly as bulky as on the opposite side.

Dog VI. The left leg operated on February 17th, 1905. The same operation was performed as on the previous dog, a little over ¾ in. of external popliteal being excised. Union took place by first intention.

March 10th. Animal up to the present has always kept the leg raised off the ground.

April 25th. It was noticed that the function was not quite so good as it had been a week or two previously. The animal very often walked on the dorsum of the foot and a small ulcer had formed here. The wound was reopened, and it was found that the bulbs at x x had fused considerably. The narrow popliteal space in the dog renders this difficult to avoid. The bulbs were separated by cutting between them and the wound sutured.

June 20th. The function had greatly improved, but was not by any means perfect; the animal, however, rarely went over on the dorsum of the foot, and the ulcer here had healed.

Conclusions.

Both clinical and theoretical considerations point to nerve splitting being preferable to suturing two distal nerves directly to the central end of one of them. The functional result in Dog V was the best I have obtained up to the present. Dog VI is of special interest. Where the bulbs fused, fibrils from one axis cylinder presumably grew down into the two distal nerve trunks. The separation of the bulbs, even though it destroyed a good many fibres, resulted in a rapid and considerable improvement. In facio accessory anastomosis it would be wise to split the latter nerve into two strands, injuring the actual nerve fibres as little as possible.

One of these should be attached to the distal cut end of the facial, and the other to the whole of its own distal end. This would abolish associated movements of the shoulder, or, at any rate, reduce it to a very small amount, for a few fibres at the angle of splitting would possibly be injured, resulting in their growing down the nerves to both sets of muscle. No very considerable atrophy of the muscles would take place after this, as the fibres of the central end would multiply at the point of suture.

It is suggested that nerve splitting should be made use of in the treatment of suitable cases of anterior poliomyelitis for the same reason.

In Part I of this paper it was suggested that nerve implantation would be of service where a considerable length of nerve was destroyed as the result of traumatism or other cause. It would be advisable, if possible, to make some use of the central end of the injured nerve. The following experiments were made to elucidate this point, and they show several interesting results.

Dog VII had the left leg operated on on September 3rd, 1904 (Fig. 2). About 1 in. of the external popliteal was removed. The internal popliteal was cut nearly half-way through, and into the gaps the central and peripheral ends of external popliteal were fixed by single sutures of chromicized catgut. Some superficial suppuration took place but did not extend deeply, and an ulcer formed over the os calcis, which subsequently healed. On December 22nd, 1904, the dog walked well, and rarely went over on the dorsum, except when standing on the hind legs, when the left foot doubled over; jumping was well performed. The leg muscles were smaller than those on the opposite side.

February 21st, 1905 (171 days). Dog was anaesthetized and the nerves stimulated. Internal popliteal and external popliteal were cut completely across at A and B, stimulation at A with the faradic current caused contraction of both flexor and extensor muscles of the toes, but the former were the more powerful. Stimulation of external popliteal at B caused the same thing, but not so vigorously, and the flexor muscles still predominated. After cutting the internal popliteal at C, stimulation here resulted in forcible contraction of the extensor muscles; in fact this was more powerful than on stimulation of the external popliteal at B.

In Dog VIII the same operation was performed and it was tested electrically after 128 days. Stimulation of the external popliteal at D resulted in contraction of the flexor muscles of the toes. After cutting the internal popliteal nearly half-way through at Q (Fig. 2), this axon reflex was lost. This shows that it was probably only those fibres which were thus cut across at the operation which had divided and sent branches to antagonistic muscles.

It is evident that the trunk of the internal popliteal between the two points where external popliteal was implanted in it, contained at least four varieties of fibres which are shown in Fig. 3, and the condition is a very complex one.

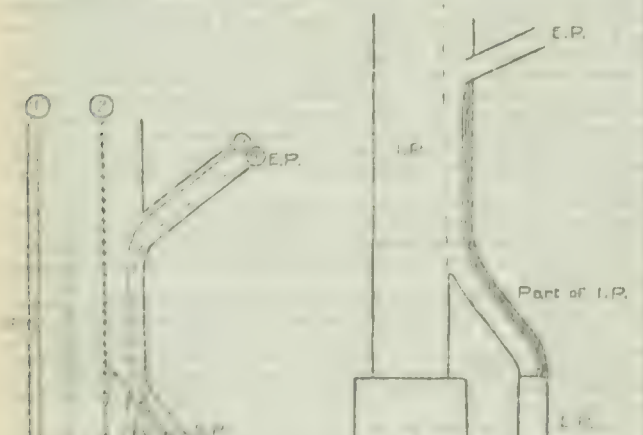


Fig. 3. Fig. 4.

A very important point is that it is presumably a matter of indifference what length of external popliteal is excised. After loss of a short part of a nerve trunk in a limb the two ends can be brought together by stretching the nerves and relaxing the limb. An interval of not more than 2 in. at the most can be bridged over by some material which offers an absorbable scaffolding down which nerve fibres can find their way. This is supposed to act as a guide to fibres coming from the central end, but I am not aware that this has actually been proved. It seems immaterial what absorbable substance is used for this purpose. A piece of nerve excised from some animal apparently does no better than several strands of catgut. But none of these methods can offer the inducement that a degenerated nerve *in situ* does, for this exerts a definite chemiotactic attraction for nerve fibres to grow down it. When this interval of about 2 in. is exceeded the resources of surgery are at present very inadequate. Probably even at this limit the functional result would be unsatisfactory. The very extensive operation of shortening the limb by resecting the bone to allow of the separated ends of the nerve being approximated is advocated, but this results in mutilation and is a serious operation. Nerve implantation in these cases is almost ignored. Cheyne and Burghard[2] mention it only to condemn it.

The cause of failure seems to be due to the fact that only the sheath of the sound nerve is opened, and few, if any, of its fibres are divided. When the injured nerve is implanted in such a way it has no chance of getting any fibres to grow down its trunk. It is essential that considerable gaps dividing many of the fibres should be made in the second nerve, and into these gaps the central and peripheral ends of the injured one should be fixed. It is a dubious point as to whether one ought to use the central end of the injured nerve as in the above experiment. The hind legs of the dog do not allow one to judge accurately of the finer movements. As far as can be decided from these cases, it would be better not to use the central end in this way. Dog VII showed that the contraction resulting from stimulation of the external popliteal central to the graft was less vigorous than that resulting from the axon reflex, or in other words, the fibres actually proceeding from the central to the peripheral part of the implanted nerve produce less result than those which are coming from the sound nerve by axon splitting into the implanted nerve.

The alternative method allows of splitting of the healthy nerve and does away with the axon reflex. It can be easily seen that certain strands in a nerve occupy a particular position in the nerve trunk. For example, the external popliteal fasciculi occupy the outer part of the sciatic trunk, and can easily be dissected for a considerable distance up the thigh. In fact, they seem to be anatomically separate up to the pelvis, and it is not uncommon to find the sciatic nerve coming out of the sciatic foramen in two trunks, the external and internal popliteal separated by some of the fibres of the pyriformis muscle. The same separation can be made for a shorter distance with the muscular twigs coming off from the nerve trunk. To apply this to the condition in question the piece of internal popliteal sutured to the distal end of the external popliteal can be separated up along the dotted line. (See Fig. 4.) If a short cut be made in this for the central end of the external popliteal to be inserted, some of the external popliteal's fibres would now reach their own distal trunk. At the same time few or none would run into the rest of the internal popliteal going to the flexor muscles, and no associated movements would result. A part of the internal popliteal which is split off plays somewhat the rôle of a graft (part shaded to the right of diagram), while the rest of the split consists of internal popliteal fibres going now by means of the external popliteal to the extensors of the toes and peronei. The actual condition of the nerves can be seen by a glance at the diagram. This form of nerve implantation would be chiefly applicable to the arm and forearm for anatomical reasons.

I have to thank Professor Osborne for many suggestions and for his valuable help in performing the electrical stimulation.

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A PROBABLE EXPLANATION OF SOME DROWNING ACCIDENTS.

By HUGH LAWRIE, M.B., C.M., D.P.H.,

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THE following experience occurred to me on July 8th, and may throw some light upon the too frequent occurrence of drowning accidents in swimmers.

I had been cycling on the morning round, covering perhaps about five miles altogether on indifferent roads. It was a very hot day, and I was perspiring freely, though the pace was easy. While returning about 1 p.m. I met a friend and

proposed a swim in the lodge* on the grounds connected with his house. To this he readily agreed, adding that perhaps it would put an edge on our appetites for lunch on such a hot day. Situated practically on the side of a hill this lodge is about 150 yards long by 10 or 12 yards broad. Its depth varies from a few inches on its upper side to 6 or 7 ft. near the embankment. It is supplied by a stream from the highlands above and by springs in its own depths. By reason of these springs its waters are usually cold. I plunged in on the deep side at one end, and swam strongly for about half the length of the lodge, side stroke. I stood up here in about 4 ft. 6 in. of water to listen to the watchman say that he was about to run the lodge dry, as a portion of the containing wall was giving way and required repairing.

I noticed here that the top and back of my head ached considerably, and that I was giddy. The giddiness did not alarm me, as I have felt giddy many a time after a prolonged swim on my back, and I know of similar experiences in others. I swam now in the opposite direction on my back, and at every stroke the headache became more severe, until it was almost unbearable. I assumed the breast stroke, and kept my head out of the water altogether, which somewhat mitigated the headache, but during this time there occurred the strange part of my experience. I became very drowsy, muscular effort was feeble and sluggish, just like the slow movements of one half asleep, and, worst of all, a pronounced indifference to everything seemed stealing over me. In fact, I simply felt like letting my head fall forward and going to sleep. I slowly reached the bank, and after resting with a hold upon it for a short time I clambered out with considerable difficulty. I was in the water only for a few minutes, yet I felt chilled. The giddiness passed off shortly after dressing. I mounted my bicycle and slowly rode home, a distance of about a mile. I partook of a fair meal about 2 p.m., and as the headache persisted rather severely I lay down and directly went fast asleep. On awaking an hour later the headache was gone, and I felt as well as usual, so much so that I played and enjoyed two hours of hard tennis before 6.30 p.m.

This set of symptoms which I have endeavoured to portray is evidently connected with disturbance of the circulation of the brain, and is probably of an anaemic rather than a congestive nature. The vertigo suggests anaemia of the cerebellum and the cold water as the principal cause, since the colder the water and the longer the back of the head is under water—as, for instance, in swimming on the back—the more pronounced is the vertigo. The drowsiness, the sluggish muscular efforts and indifference to surroundings are probably to be ascribed to anaemia of the cerebrum, and are the precursors of complete unconsciousness. Hallucinations in respect to surroundings might conceivably have supervened upon the indifference followed by submersion and fatal consequences. To put it briefly, the swimmer simply loses consciousness from cerebral anaemia—in other words faints, goes under, and, but for immediate assistance, must inevitably perish. This explanation is probably nearer the truth than that with which we are so familiar at this time of the year—that is, "he was seized with cramp and sank."

What are the causes that may be contributory to this end? Pathologically aortic disease and cardiac dilatation, either from obstruction or excessive beer drinking, are probably causes of the gravest importance, and no one suffering from any of these complications should ever risk himself in deep water. But, apart from disease, there are several other conditions not generally regarded as pathological which will contribute to death from drowning. I should instance as important in this category prolonged and severe muscular effort from racing, cycling, etc., even if followed by a short rest preparatory to swimming, and flatulent dyspepsia. Both of these circumstances may materially interfere with the heart beat—the one from exhaustion, the other from pressure; and when to those a plunge into cold water with a probable increased strain on the heart from swimming, together with the greater effort necessary in breathing, is added, the impulse of the heart may be so enfeebled as to fail in supplying the brain with the necessary quantity of blood.

In my own case—and I do not suffer from aortic disease or cardiac dilatation—probably the cycling together with the hot weather had produced a certain amount of exhaustion, although it was not perceptible to me when I entered the water. Besides, there was very little food in my digestive system, for I had partaken of a very light breakfast, and, thanks or otherwise to a strong seidlitz powder earlier in the day, little or nothing remained of the previous day's food. I have noticed that one does not always experience the same comfort or pleasure after bathing, for some unexplained reason. Many a time I have seen swimmers and others emerge from the water looking ghastly and feeling rather sick and ill. Eructations are a great relief in those circumstances and are followed by marked improvement of all the symptoms. My stomach must have been empty of food, as it was over four hours since breakfast, but whether the stomach was distended with gas or not I do not at this moment remember, though I am willing to believe that there was an accumulation of wind.

* A small reservoir common in this neighbourhood, and used for industrial purposes.

Conclusions.

All those who are in the habit of swimming in deep water should from time to time submit themselves for medical inspection, even if they are supposed to keep themselves always in condition by uninterrupted swimming exercise all the year round. Especially is this important for those who indulge in open-air swimming only, during warm weather, perhaps restricted to the short summer holiday at the seaside. This class cannot have "worked up the necessary muscle," to use a cycling phrase, for a prolonged swim, and any attempts at such a feat might easily result in disaster. By submitting to medical inspection any cardiac affection would be detected, while at the same time a suitable inquiry as to the state of the digestive system would elicit any facts pointing to atony of the stomach walls with consequent distension by gas. Atony of the stomach is usually associated with a general atonic state; and although cold bathing is eminently beneficial for this condition, any attempt at prolonged swimming is a positive danger.

It should be the duty of parents to ascertain if their children who are fond of swimming are perfectly sound and in good health, so that they might give the necessary restraining counsel to lads of daring, should circumstances demand it.

To enter the water with a full stomach is probably as dangerous as with an empty one, though this may be a matter for doubt. The happy mean, say about two hours after breakfast or lunch, is probably the best time to undertake a good swim. I should also certainly disapprove of swimming in cold water on any occasion in which the intestines had been emptied by a purgative and the circulation probably depleted thereby. In this instance we have a low-tension circulation, especially if accompanied by a fast of several hours, and sudden immersion might conceivably cause fainting with serious results. Instruction in what one might call the physiology of bathing should be considered indispensable to the members of every swimming club, and especially to all boys and girls who are learning the art. Suggestions, perhaps, rather than rules might be indicated which would prove serviceable for the purpose of instilling in the young a knowledge of the conditions favourable and unfavourable to indulgence in the exercise of swimming.

REMARKABLE CASE OF WOUND OF THE ABDOMEN, WITH PROLAPSE OF THE LARGE INTESTINE: RECOVERY.

By

O. W. ANDREWS, Fleet Surgeon, R.N. and F. COCK, Surgeon, R.N.

On Friday, May 26th, 1905, A. C., aged 59 or 60, was discovered lying on a footpath leading though a field of barley adjoining the Gibraltar Golf Club course at Campamento. He was apparently in a moribund condition suffering from shock caused by a wound of the abdomen received in an affray; his clothes were blood-stained, and there was a cut in his trousers, on the removal of which a mass of intestine was found to be protruded through a wound in the left flank. There was some oozing of blood, and the clothes in contact with the bowel were anything but clean. The man was evidently very poor, and looked at least 70 years of age, and was nearly blind.

Assistance was sought at the Polo Club, situated about a quarter of a mile away, and a bed with a wire mattress was obtained from the village, and on it he was carried to the inn.

On arrival he was placed in an outhouse to which chickens and other animals had access. A surgical aid box was next procured from the Polo Club, which was some 300 or 400 yards off, and this was found to contain the following articles:

Flannel roller bandage, unbleached calico, cotton-wool, iodoform, carbolized catgut ligatures, boric acid done up in 1-drachm packets, and some rusty surgical needles. The needles were soon polished with emery cloth, and then boiled; some of the calico—for use as a drain, as will be shown later—was boiled, and an abundant supply of boiling water and water which had been boiled was soon ready.

Surgeon Cock, who also happened to be playing golf, arrived and assisted to wash and return the bowel; the latter, which was about 4 ft. in length, and fortunately uninjured, had escaped through a wound 2½ in. in length, horizontal in direction, situated in the left inguinal region, with its outer extremity just internal to the anterior spine of ilium, exposing Poupart's ligament.

Each portion of the gut was most carefully washed with boiled water, and returned into the abdominal cavity, a drain composed of the sterilized calico being inserted, and the wound sewn up with "blanket-stitch" sutures passing through the whole thickness of the abdominal wall (without needle-holders or forceps it was impossible to suture the muscles apart from the skin, but this was done on a subsequent occasion). Sufficient space being left for the drain, the wound was bathed with a solution of boric acid, and covered with a pad of cotton-wool sprinkled with iodoform, kept in place by a broad flannel roller bandage. The time which had elapsed from when he was injured to when the intestine was returned could not have been much more than one hour, or less than fifty minutes.

The patient, who seemed moribund when first seen, rallied shortly, and bore the operation of returning the bowel and suturing the abdominal wall remarkably well; in fact he had recovered so much by the time that this was completed, that he was able to express his gratitude for what had been done. He was given some opium to allay the pain and keep the bowels at rest, and written instructions were left with a man who could speak English as to the necessity for keeping the patient absolutely quiet, and that he should only be given milk or water in the smallest possible amounts so as to moisten his lips. The injured man's home was in the village of Campamento, some 400 yards from the inn, and whether the innkeeper was desirous of getting rid of him, or the friends were anxious to get him home, is uncertain, anyhow despite the written orders he was moved that evening, and without any ill-effect.

After-progress.—He was visited by us next day, May 27th. He had passed a quiet night, free from pain, but had only slept for about three-quarters of an hour. Pulse 80, somewhat irregular and intermittent; temperature 98°. The wound was bathed with 1 in 1,000 solution of hydrarg. perchlor., a cyanide gauze drain introduced in place of the improvised one of calico, and a pad of gauze and cotton-wool was placed over the wound and bandaged. He had been able to pass water satisfactorily, and had no acute pain in the abdomen. After the wound had been dressed ¼ gr. of opium was administered, and was repeated at 10 p.m. It should be mentioned that there was a little oozing of blood from the wound.

May 28th. The patient was not seen by us this day, but he was visited by Dr. J., who was watching the case in a judicial capacity. He reported next day that satisfactory progress had been made, but that there had been some tympanites and sickness. Dr. J. requested us to continue the care and treatment of the case, as we had treated it in the first place, but each day visited the patient when we were there, and was on all occasions most kind and anxious to assist us in every way, and when the ship left visited the patient and carried on our treatment.

May 29th. Patient passed a fair night. Temperature 98.4°, pulse 80, full and soft, with occasional intermissions; there was some slight distension of the abdomen, but no symptoms of peritonitis. Wound dressed as before. Drain changed. Still only taking milk in very small quantities and a little broth. Patient vomited at 6 p.m., and at 6.30 p.m. fell asleep and slept till 5 a.m. next day

May 30th. Was given some milk on waking, which he immediately vomited. He was visited by us at 2 p.m. Temperature 99°, pulse 75; he had taken and retained one egg beaten up in ½ pint of milk since 11 a.m. There was still some oozing of blood from the wound. Abdomen somewhat distended, and patient suffering from occasional tormina. He was given a large soap-and-water enema containing 1 drachm of tinct. valerian; this was followed by a copious evacuation in which were some scybala, after which he was considerably easier.

May 31st. At 1 p.m. we received a note informing us that the patient was much worse and had been bleeding all night. Dr. J. had been summoned and had changed the dressings. On our arrival, about 2 p.m., we found that at 1.30 a.m. and again at 9 a.m. patient had vomited some brown coloured offensive fluid; that which he had last vomited had been kept, and it had a slightly faecal appearance and odour. His abdomen was a little distended, but there was no rigidity and no tenderness except close to the wound. He had slept for an hour and a half during the previous evening, but had only dozed lightly during the night. The bowels had not acted again since the enema, but flatus had been passed. Nourishment still entirely liquid. He received ¼ gr. of opium at 5.30 and 9 p.m. yesterday and at 5 a.m. to-day. 5.30 p.m. Dressings changed; some blood was observed on the dressings, but all haemorrhage or oozing had ceased: temperature 99.2°, pulse 72; patient quite comfortable.

June 1st. The patient had a good night, slept from 9 till 11 p.m.; he was then awake for a short time, after which he slept for the remainder of the night. At 5 p.m. he seemed listless and apathetic, but apparently free from pain. Tongue clean and moist, pulse 70, without intermissions, but weaker than before. Temperature 99.0°. When the dressings were changed it was noticed that a small knuckle of gut was protruding from and adherent to the wound. He was given another enema containing tr. valerian, but only a slight action resulted.

June 2nd. Temperature 97.8°, pulse 64. The patient slept for two hours and dozed lightly during the rest of the night. There was a slight cough, and with each cough a sharp pricking sensation in the wound (due to adhesions) The bowels were opened naturally three or four times; there had been no sickness for two days, and there was no flatulence, hiccough, or distension. The dressings removed were slightly stained with serum. The adhesions of the bowel to the edges of the wound were broken down with the handle of a scalpel, the knuckle of bowel returned into the abdomen, and deep, buried, catgut sutures were put in so as to unite the cut edges of the muscles, only just enough space being left for the drain. By this time the patient was taking more food—namely, bread and milk, egg beaten up with milk, broth and meat extract, and jelly. His voice was stronger and general appearance greatly improved.

June 3rd. Temperature 97.7°, pulse 92, quite regular. Sleeping a little better.

June 4th. Temperature 97.8°, pulse 90. Bowels opened twice after taking 1 drachm of Carlsbad salts. Slept for seven and a half hours last night, only waking once. Given solid food to-day for the first time in shape of bread and butter and minced beef.

June 7th. Drain taken out and not replaced. Superficial sutures at inner edge of wound had given way, but not the deep ones.

June 8th. Temperature 98.6°, pulse 90. Bowels opened three times. He was free from pain, taking plenty of nourishment, and smoking as usual since the 5th. There was no sign of prolapse of the intestine.

Result.—June 10th. H.M.S. *Magnificent* left Gibraltar, and we did not see C. until we returned on June 26th, by which date he had completely recovered. The wound had entirely healed, and there was no sign of ventral hernia, as we had rather feared there would be. On July 4th we visited him just before leaving with the Atlantic Fleet for Brest; he was walking about and seemed in excellent health and spirits, and, in accordance with our directions, wearing a pad and bandage over the site of the injury.

Considering the age and conditions under which this man received his wound, it seems to us a good example of how much can be done under unpromising conditions, with slight resources, provided strict asepsis be maintained.

A METHOD OF GUARDING THE PERINEUM IN LABOUR.

By W. J. CAIE, M.A., M.B.,
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Not the least important part of the second stage of labour is that known as the "guarding of the perineum" against laceration and rupture. There are several time-honoured methods which have received more or less acceptance, notably the direct and indirect methods, but all of these, to which I have given a prolonged trial, seem to me to break down sooner or later, and I therefore venture to put forward one or two suggestions which are the outcome of my own experience, as I hold that, given a reliable method of guarding the perineum, in the hands of a practised accoucheur, rupture ought to be a very rare accident indeed, while I urge that not nearly enough importance is attached to keeping the perineum intact as a certain means of preventing many of the *post-partum* diseases to which women are liable, not to speak of the annoyance caused by suture and subsequent removal of stitches during the puerperium.

I shall enumerate, first, the points in which, in my opinion, the various methods break down, and thereafter put forward a few suggestions whereby I think these failures may, to a great extent, be obviated.

(*a*) In attempting to pull forward the vertex by passing the left hand between the thighs of the mother and employing traction on the scalp.

(*b*) In "supporting the perineum" in the direct method by pressure thereon of the concavity between the thumb and forefinger of the right hand.

(*c*) In endeavouring to push the fetal head forwards by the indirect method either by inserting two fingers in the rectum or by pressure behind the anus.

(*d*) In the delivery of the shoulders.

(*a*) In most textbooks great stress is laid upon this method

of traction forward by the left hand upon the vertex, but it seems to me that its value as a means of getting the head forwards is almost *nil*, until the danger point of a ruptured perineum is practically past; granting that it is of any value, it must tend to promote premature extension, which is the very thing we want to avoid. When the head is distending the perineum, and the point of greatest tension of the forehead thereon is reached, the occiput is firmly fixed behind the pubic arch, and no amount of traction forwards will relieve the tension on the perineum at that stage. The occiput cannot, in other words, be pulled forwards without causing the forehead to rotate forwards, thus increasing the strain upon the perineum. Besides, even if we allow that traction forwards is of any value at that time, I do not think it reasonable to suppose that any appreciable amount of force can be exerted by mere pressure forwards, and that too at a great mechanical disadvantage upon such a thing as an extremely slippery vertex.

(*b*) This method, whereby the perineum is safeguarded by pressure of the concavity between the thumb and first finger of the right hand, seems to me to break down because, at the part of the perineum where most support is required, the point where normally would be situated the junction of the two labia majora behind, least support can be given. The two lateral parts are undoubtedly supported by the thumb and forefinger, but, at the apex of the concavity between the latter, little if any support can, I hold, be given, and it is just here where lacerations commence, and therefore most support is required. The apex of the concavity between the thumb and forefinger is quite soft, and can exert scarcely any lateral pull towards the middle line of the perineum. In addition to this, the parts are usually very slippery, and do not admit of much prehension.

(*c*) Any push forwards, either per anum or by pressure behind it, is largely negatived by the fact that the occiput is more or less fixed behind the pubic arch, just at the time when there is most danger of perineal rupture, and, therefore, any attempt to push forward is futile. In fact, any pressure from behind forwards seems to me to have the effect, not of pushing the head forwards, but of producing a small amount of rotation of the head round an axis through the points where the occipital or parietal bones, as the case may be, impinge on the pubic arch. After the occiput has passed these points, pressure from behind forwards will certainly drive the head forwards, but, as I have already observed, the danger point of rupture has then passed.

(*d*) Too little attention seems to me to be paid to delivery of the shoulders in preventing laceration of the perineum, as a large proportion of ruptures is caused, not by delivery of the head, but by faulty delivery of the shoulders.

I shall now venture to give a short outline of a method which I have employed in a large number of cases with very satisfactory results.

When the fetal head is moderately distending the perineum, the latter and the parts adjacent are thoroughly dried with a hot sterilized towel; all moisture must be wiped off. At the moment when the tension on the perineum is approaching its maximum—this can be determined easily with a little experience—the left hand of the accoucheur is employed in pressing slightly upon the vertex to prevent any premature or sudden expulsion of the head; there is no necessity for passing the arm between the thighs of the mother. The right hand then grasps the perineum in the manner alluded to in (*b*), but with this important difference: that between it and the perineum is interposed a hot sterilized towel—the small rough sanitary towelettes are excellent for the purpose—in such a way that the edge of the concavity between the thumb and index finger, the edge of the towel, and the lip of the perineum are just in line with each other, a double fold of the towel to fit into the apex of the concavity having previously been made, to supply the deficiency alluded to at that point. Firm pressure is then exerted at every pain, through the bitemporal diameter of the fetal head, if there appear to be any undue stretching or tendency to laceration. No attempt is made to push the head forwards until the occiput ceases to engage behind the pubic arch. By these manœuvres three purposes are served:

1. By firm pressure through the bitemporal diameter premature extension of the head is prevented, without retarding its progress.

2. By means of the drying of the parts and the hot towel a much firmer grip, and consequently much greater support, of the perineum can be obtained than could possibly be produced by the bare hand on a surface which is usually very slippery.

3. Uniform pressure is obtained on all parts of the perineum, and the part where there is most stretching receives its due measure of support.

On the head being delivered, and when restitution has taken place the shoulders are lying in the anterior posterior diameter of the outlet, and their delivery again endangers the perineum to a much greater extent, I think, than is usually supposed, chiefly due to the prevailing practice, as recommended in textbooks, of allowing the posterior shoulder to be born first. If, now, after the head is born we exercise gentle traction backwards, the next pain will usually cause the anterior shoulder to free itself from its position behind the pubic arch, while the perineum lies over the posterior shoulder and is subjected to only a moderate degree of tension, and if the outlet is narrow the anterior arm can usually be extracted with very little difficulty after the anterior shoulder is born, thus substituting a much smaller diameter of the child. If we allow the posterior shoulder to be born first, the anterior shoulder remains firmly fixed behind the pubic arch, while the posterior shoulder sweeps over the perineum and stretches it again to its utmost limit. No "guarding" can be carried out at this point, because if any pressure backwards on the shoulders be exerted, the progress of the child is seriously retarded.

I put forward this brief outline of my modified method with a considerable amount of diffidence, knowing that it is at direct variance with some of the textbook canons of the second stage of labour; but I can only say that since I have employed it in about 400 consecutive cases of labour I have found it singularly effectual, and I should be extremely interested to hear how it fares after trial by more practised hands than my own.

A CASE OF QUADRUPLETS.

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Mrs. G., aged 32, of French extraction, married twelve years, with a family history of twins on her maternal side, gave a personal history of six previous confinements, resulting in delivery of ten children in following sequence: Twins, triplets, a single child, then twins again, and two single children, all of whom are living except the triplets, which were premature (seven months). In addition, eighteen months ago, she had placenta praevia at five months with decomposing fetus, necessitating removal piecemeal under anaesthesia.

On May 22nd the patient was examined, owing to slight escape of liquor amnii, and twins (at least) diagnosed, as two or more fetal heads could be felt in her enormously-distended abdomen, but no distinct fetal heart sounds could be made out owing to loud uterine souffle.

On May 26th, being then eight months pregnant, slight uterine contractions came on at 2 a.m., with only slight pain. The head of the first child—a boy—was found on perineum, and it was born within an hour. The membranes of the second child being ruptured a head was felt presenting, but it was delayed by the third child's feet at the brim, being impacted against the head of the second; this necessitated slight chloroform anaesthesia and introduction of the hand to push up the feet of the third child, and to bring down the second child's head into cavity of pelvis. The child—a boy—was easily and rapidly delivered by forceps about three-quarters of an hour after the delivery of the first. The third—another boy—was easily seized by the feet and delivered five minutes later, but was stillborn and resisted all efforts at resuscitation. The pains now became much stronger, and after rupturing the membranes a fourth child—a girl—was born as a breech presentation a quarter of an hour after the third.

Until then there had been no haemorrhage whatever, but it now became very free, and although the huge flabby uterus contracted fairly well, simple expression was unsuccessful to expel the secundines, and the hand had to be introduced, and each of the four adherent placentas were manually removed separately, the haemorrhage being then controlled by a hot antiseptic douche. There were four distinct and separate placentas about 5 to 6 in. square and four separate bags of membranes, although the second and third placentas were found united after removal by a band of membrane some 4 in. or more wide. The patient had a slight elevation of temperature on the second and third days, which intrauterine douching reduced; with this exception, mother and her three children

(two boys and one girl, weighing each about 5 to 6 lb.) are now thriving.

Playfair quotes statistics showing that the relative frequency of the occurrence of quadruplets varies from 1 in over 2,000,000 births in France to 1 in 185 000 in Ireland.

PRIMARY MALIGNANT GROWTH OF LIVER.

By J. BRUCE-BAYS, M.D.Lond,
Grahamstown.

THE following case, the fourth of a series under my care, is of interest from the obscurity of the symptoms and the rapidity of the fatal termination.

Dassien, a Kaffir aged about 40 years had been engaged on Friday in unloading heavy goods from the train, and was then apparently in good health. On Saturday at midday he passed water, but on Sunday being unable to do so he sent for me. I found him lying in his hut complaining only of inability to micturate. There was no history of previous illness, nor of any injury. The abdomen, somewhat distended, was dull in the lower part on percussion. On passing a soft catheter a few drops only of urine flowed away. As the man was somewhat collapsed, though able to stand upright, I sent him into the Albany General Hospital, under my care, where he died soon after admission.

On making a *post-mortem* examination the abdomen was found to contain a large amount of clot, the blood having apparently come from the liver, which was much enlarged, weighing 7 lb. 7 oz., about half of it consisting of new growth. All the other viscera were healthy, no trace of any tumour being found in any other organ. Dr. G. C. Purvis, who kindly examined the growth, described it as a multiple cylindrical cancer of the liver, and reported as follows:

"The individual tumours varied very much in size; the smallest was about the size of a pea and the largest that of a walnut. The tumours were scattered throughout the liver. The colour of each growth was almost white, the consistence that of cheese. Each growth was surrounded by a white fibrous tissue capsule, and the liver cells in the immediate neighbourhood of the capsule much atrophied, and contained yellowish grains of pigment. The tumour itself was composed of irregularly-disposed tubules of columnar cells, and the lumen of the tubules contained some secretory substance of a homogeneous appearance, which stained of a greenish colour with methylene blue, and of a deep red tint with eosin. The stroma, which was apparently composed of ordinary white fibrous tissue, was scanty, so that the tubules almost touched each other. Many of the nuclei of the cancer cells were undergoing [illegible] changes.

SINGLE KIDNEY: URETER PASSING TO OPPOSITE SIDE.—A singular anomaly has been reported by Horand ("Absence congénitale du rein droit, ure ère droit desservant le rein gauche.") *Bulletins et mém. de la Soc. Anat. de Paris.* April, 1905). In the necropsy on an infant born at the seventh month, which had died of athrepsia when under 4 months of age, he found that the right kidney was entirely wanting, nor was there any trace of a right renal artery or vein. The left kidney was in normal position, hypertrophied and lobulated. The left renal vessels showed no anomaly. The pelvis of this single kidney passed into a ureter of large calibre, which ran downwards towards the right, passing in front of the left common iliac artery, much posterior to the left sacro-iliac synchondrosis, and sweeping round the inner wall of the bony pelvis on the right side internal to the vessels. Finally, it passed through the walls of the bladder, opening on the right side at the normal level of the right ureteral orifice. A left orifice was [illegible]; it was permeable and passed into a rudimentary left ureter. This canal ended in a thin filament at the point of the brim of the pelvis where the normal left ureter passes downwards; it was totally disconnected from the left kidney. The left vesicula seminalis was absent, but the left vas, epididymis, and testis showed no abnormality. The left suprarenal capsule was well developed, the right was detected greatly atrophied and flattened against the left side of the vertebral column; it possessed a small capsular artery and vein. He also observes that the surgeon might be badly puzzled in examining a patient with renal disease if no anomaly of this case existed. The cystoscope would show a [illegible] coming from the left ureteral orifice, whilst the left, apparently normal, gave passage to none. The symptoms might justify nephrectomy, but in such a case the surgeon might remove the left kidney under the false impression that the latter existed and was normal.

SEVENTY-THIRD ANNUAL MEETING

OF THE

British Medical Association.

Held at Leicester, July 24th, 25th, 26th, 27th, and 28th, 1905.

PROCEEDINGS OF SECTIONS.

SECTION OF STATE MEDICINE.

PHILIP BOOBBYER, M.D., President.

A DISCUSSION ON ISOLATION HOSPITALS.

I.—GEORGE WILSON, M.A., M.D., LL.D., F.R.S.E.,
Medical Officer of Health, Mid-Warwickshire Combined District.

IN undertaking to open the discussion on this wide and now much vexed question of hospital isolation, I may explain at the outset that the facts and opinions which I have to lay before you are based on the experience gained in the sanitary supervision of a large combined district comprising three urban and seven rural districts during the long period of thirty-two years. I wish also to make it clear that, like a great many other enthusiasts in those early days, I held the strongest possible views concerning the value of hospital isolation, not so much for the benefit of the patient, or of the householder, or employer of labour, but for the benefit of the public at large, as a most important aid in controlling the spread of such dangerous infectious diseases as small-pox, scarlet fever, diphtheria, and enteric fever. I therefore commenced to urge the erection of isolation hospitals shortly after I was first appointed, but in order that they should not become too heavy a burden on the rates, I have all along advocated combination of districts to embrace as wide workable areas as possible, and by that I mean areas with an outside radius of about twelve miles from the hospital site. For half of the districts, and more than half of the population, such combinations were secured and hospitals erected for other diseases as well as for small-pox at a comparatively early date, but with respect to the other districts there were recurrent difficulties in inducing sanitary authorities to combine, and, failing combination we had to do the best we could: we had recourse to quarantine as much as possible, paying for nursing in severe cases, as well as other precautionary measures, and on the whole with very gratifying results. I for one, therefore, welcomed the passing of the Isolation Hospitals Act of 1893. This Act ought to have greatly facilitated the combination of large hospital districts in administrative counties, but, unfortunately, small boroughs of 5,000 or 10,000 inhabitants were exempted from the operation of the Act unless with consent, and that is generally by no means easy to secure. Then, too, another difficulty has arisen with regard to the new rural districts embraced in unions extending into adjacent counties which were created by the Local Government Act of 1894. It turns out that adjacent county councils have no power to issue a joint order to embrace the separate districts in any such overlapping union, even when the district councils concerned have agreed to combine. As an instance in point, I may mention that such an order was issued nearly two years ago by the Warwickshire and Northamptonshire County Councils, combining three districts, including the town of Rugby, and also an adjoining rural district, after a full legal agreement had been entered into by the district councils concerned, but the order was found to be *ultra vires*. It therefore devolved upon the Local Government Board to hold a separate inquiry, and a Provisional Order has at last been obtained.

I refer to this phase of the subject in passing because I hold that until larger powers are conceded to the Local Government Board and county councils to include in a county any borough, whether small or large, in a hospital district, to rearrange such districts, and to issue joint orders so as to include districts in adjoining counties, it would be a sheer waste of money for small urban or rural districts to provide properly-equipped hospitals for their own separate and sole use. I think, too, that districts without hospital accommodation situated in the neighbourhood of county

boroughs should be able to claim admission for their patients on equitable terms, when combination with outlying districts cannot be conveniently arranged, because it is found that infectious illness generally spreads from large towns to suburban districts.

But the question of hospital accommodation in respect to small urban and rural districts has been rendered still more difficult of solution by the memorandum issued by the Local Government Board several years ago, with all its restrictions as to the sites of small-pox hospitals. This memorandum, as you all know, lays it down that any such site shall not be "within a quarter of a mile of any hospital, whether for infectious diseases or not, or a workhouse, asylum, or any similar institution, or a population of as many as 200 persons; or be within half a mile of a population of as many as 600 persons."

Now with all due deference to the Local Government Board and its distinguished medical staff, I have always been of opinion that if a hospital site is large enough you can, without risk, use a block for small-pox cases which is properly isolated and cut off from the rest of the buildings, provided the staff is properly isolated too. In the early days, before this memorandum was issued, ordinary hospital blocks were repeatedly used in my district, and only on one occasion did the infection spread to an adjoining ward, and I believe that could have been prevented. I venture to think that the risks of aërial convection have been greatly overrated, though I can well imagine that the policy of the Local Government Board has been based on the principle of erring on the safe side. Many years ago I had reason to believe that in respect of two cases the *virus* of the disease (I won't say *microbes*) was wafted across a narrow street; and in several instances I have known of cases cropping up along the ambulance route in crowded thoroughfares. Infection through such limited distances one can well understand, because you can smell a bad small-pox case on entering the sick room, or even a fairly large ward. On the other hand, I have the experience of a large hospital hut which was hurriedly erected, close to Rugby in the early days, and within a few yards of a much-frequented road, to cope with a serious outbreak of small-pox, and though it had a complement of thirty-two beds and was full then and repeatedly pretty well filled in after-years, its proximity to the road did not terrorize the passers-by, and I knew of no cases infected in this way. While, therefore, I am fully cognizant of the many able reports and the strong statements which have been given in evidence from time to time to prove the aërial convection of small-pox for long distances, I have always been of opinion that the cases which do undoubtedly crop up in the vicinity of large small-pox hospitals are due either to infection from severe cases conveyed along converging and crowded routes, or to ambulant cases among the friends of patients going to inquire for them.

But this doctrine of aërial convection of infection to long distances has taken root, and we know that in this most unscientific of all sciences—modern medicine, with its bacteriological crazes—a doctrine which has been once established can withstand a lot of criticism, whether of the higher or humbler sort, and I am quite content that mine should be classed in the latter category. Well, let that be as it may, we have only to look at the enormous amount of money which has already been lavished—and many, like myself, think needlessly lavished—on this dual system of hospital installation, to at any rate come to the conclusion that there are abundant reasons after all these years of extended experience for an authoritative revision of the evidence.

I may say that in my own district we have now four fully-equipped joint small-pox hospitals, so distributed as to meet the requirements of the whole of the combined district, and all these have been erected within the past few years, and the sites paid for out of current rates without any assistance from county councils or the Local Government Board; but the weary negotiations as to sites and the free fights and warm discussions which I have had to face have made me often feel that the life of a medical officer of health is not always a very happy one, were it not that the discussions are so enlivening and sometimes so amusing, and one is always fortunate in having many strong backers.

But these nice new hospitals, judging from past experience, although they have all recently received a few patients, will very likely in recurring periods remain vacant for years; and were I a firm believer in sanatoriums as *sine qua non* or "is-it-worth-the-while" establishments in the much-exploited raid against tuberculosis, I would advise their being used for that purpose. Certainly there would be very little risk of disseminating that disease if the patients were summarily discharged to their own homes when any outbreak of small-pox occurred.

And here I may be permitted to say that I have often felt envious of the medical officers of health of county boroughs—like Leicester, for example—who, untrammelled by the interference of the Local Government Board or fussy administrative county councils, can cut the Gordian knot when a serious outbreak of small-pox threatens by clearing out their scarlet fever or other wards, distributing the patients to their homes, with no resulting spread of disease, and converting the establishment into a small-pox hospital for the time being.

But leaving that daring and apparently successful experiment to speak for itself, I think, as medical officers of health, we are all agreed that if vaccination and revaccination were universally acquiesced in (and, perhaps, after putting it gently in this fashion, who knows but Leicester may, after this discussion, lead the way?) small-pox hospitals could eventually, and at no very distant date, be altogether dispensed with. In Germany, where vaccination and revaccination are compulsory, it is well known that there are no small-pox hospitals, and none are required. But in this free country, where, I think, the community has a little too much licence in some directions, I am afraid that small-pox hospitals will remain necessary adjuncts to prevention for many years to come, though without vaccination and revaccination there is always imminent risk of an outbreak passing beyond control. That is why in towns where vaccination has been greatly neglected—and I have had experience of one such town—the Leicester method, notwithstanding its admitted success hitherto, must always be more or less fraught with danger. So long as you can catch all your cases and have room to isolate them, and segregate all your contacts and bribe or induce them to be vaccinated, all is well; but when all your available wards become cram full and still cases keep cropping up, what then? Well, there is no need to prophesy.

And now I come to another and perhaps still more controversial phase of the subject. Apart from small-pox, I may safely say that the only disease which has had a full and prolonged trial as to the value of isolation as a preventive measure has been scarlet fever. For several of my own districts we have had separate blocks for diphtheria and enteric fever for a good many years back, but scarlet fever has all along been the disease which has laid the greatest tax on the accommodation in times of prevalence. In the early days, as I have already admitted, when the disease was of a much severer type than it has been during recent years, I attached so much importance to the value of hospital isolation as of prime benefit to the public that I urged the admission of patients free of charge, and that course has been pursued ever since. At first there was considerable reluctance on the part of parents to consent to the removal of children, but the hospital soon became so popular that of late years the difficulty has been in refusing admission. And this difficulty is sometimes made very acute, because in respect to poor patients, such as pauper patients, club patients, or dispensary patients, the medical attendant naturally recommends removal because he cannot receive any extra fees for attendance. In rural districts, too, we have this further difficulty, that in some parishes the influential people are so nervous that they press for removal whenever even a slight outbreak occurs. The disease is no longer characterized by its old terrors, and yet much of the old dread attaching to it remains. Last year the mortality of scarlet fever throughout England and Wales was only a third of that for whooping-cough, less than a half of that from measles, and only a little more than half of that from diphtheria. Thus the rates per 1 000 of the population, exclusive of the large towns, were respectively: For scarlet fever, 0·09; for whooping-cough, 0·27; for measles, 0·23; and for diphtheria, 0·14. Thirty years ago the fatality of the disease was variously estimated at from 7 to 10 per cent. of cases, but of late years, as proved by the Notification Act, it has only varied from about 1·5 to 2 per cent. In short, the type of the disease has become so mild that many cases escape notification altogether, because they are not suspected. I am of opinion that this change in type is to be attributed to the greatly improved sanitary condition of elementary schools, and more particularly of their outside offices, as well as of the home and its surroundings. Some strong advocates of the great value of hospital isolation go so far as to assert that the mildness of type and lowered mortality are due in great measure to the results of notification and the advantages

of hospital control, but I think that the statistics which I submit in the accompanying table will assist in dispelling that delusion:

MID-WARWICKSHIRE COMBINED DISTRICT: SCARLET FEVER STATISTICS.

TABLE I.

Note.—This Table appeared in the Report on the Combined District for 1901.

—	Mean Census Population, 1892-1901.	Number of Cases Notified during Ten Years 1892-1901.	Annual Attack-rate per 1,000 of Population.	Number of Cases Admitted into Hospital, 1892-1901.	Percentage of Admissions to Cases Notified.	Total Number of Deaths.	Annual average Death-rate per 1,000 of Population	Annual Average Fatality-rate Per Cent. of Cases Notified.
Districts with Hospitals.								
Warwick Urban ...	11,896	547	4.6	475	85	7	0.059	—
Kenilworth	4,358	137	3.1	93	68	Nil.	—	—
Warwick Rural ...	11,474	535	4.6	452	84	6	0.052	—
Solihull ,, ...	13,720	419	3.0	239	57	8	0.058	—
Yardley ,, ...	25,544	1,230	4.8	817	66	18	0.070	—
Totals	68,992	2,868	4.28	2,076	72	39	0.058	1.36
Districts without Hospitals.								
Rugby Urban	14,016	*(154)	(1.1)	—	—	2	0.016	—
Rugby Rural	14,494	354	2.4	—	—	10	0.068	—
Crick ,, ...	2,355	45	1.9	—	—	4	0.176	—
Meriden	11,120	414	3.7	—	—	15	0 130	—
Southam ,, ...	10,071	363	3.6	—	—	3	0.030	—
Totals	52,086	1,330	2.55	—	—	34	0.065	—

* Notification not in force in Rugby Urban till 1900. In all the other Districts the Notification Act was adopted in 1890.

TABLE II.

Note.—This Table is Based on the Statistics Collated from the Annual Reports for 1902-3-4.

—	Mean Annual Population, 1902-3-4.	Total Number of Cases Notified during 1902-3-4.	Average Annual Attack-rate per 1,000 of Population	Total Number of Cases Admitted into Hospital, 1902-3-4.	Percentage of Admissions to Cases Notified	Total Number of Deaths, 1902-3-4	Average Annual Death-rate per 1,000 of Population	Average Annual Fatality-rate Per Cent. of Cases Notified.
Districts as above, with hospitals ..	82,020	1,222	4.90	803	65	23	0.093	1.88
Districts as above, without hospitals ...	57,610	831	4.80	—	—	14	0.081	1 63

In the first table, which appeared in my annual report for 1901, you will observe that there are two groups of districts—those provided with hospitals and those without hospitals—and that in the latter is grouped the growing town of Rugby. With the exception of Rugby, notification was adopted in all the other districts in 1890, and, though the figures for all the other districts are complete for the ten years 1892-1901, as notification in Rugby was only voluntary, the average incidence-rate and fatality-rate for the two groups cannot be accurately compared; still, if you look at the figures applying to the separate districts you will see that the incidence or attack-rate was lower in the districts without hospitals than in those provided with hospitals. You will also observe that in the hospital districts the average percentage of cases admitted into hospitals was large, amounting to 72 per cent., and in one district—the Borough of Warwick—it reached 85 per cent.; and yet in Warwick, with a much smaller population than Rugby, the deaths numbered 7, and all of them occurred in hospital, while in Rugby, with no compulsory notification and no hospital, the deaths during these ten years only numbered 2. At the same time it has to be admitted that the total average mortality-rate for the ten years was fractionally higher in the districts without hospitals than in those with, but the difference is so exceedingly slight that no inference can be attached to it either way.

If, however, you compare the total averages of the same two groups of districts for the years 1902-3-4, when compulsory notification was in force in all of them, you will see that all the rates are distinctly lower in the districts without hospitals. The incidence-rate is lower, the general death-rate is lower, and the fatality-rate per cent. of cases notified is also lower. It is true that the average percentage of cases admitted into hospital in the hospital group of districts is not so high as during the previous ten years, but that was due to the fact that in 1902 scarlet fever was so prevalent that a large number of cases had to be refused admission.

I have to add that the two groups of districts are fairly comparable as regards condition and employment of population, being partly urban and partly rural, and you will see that the total mean population in each group is sufficiently large for reliable statistical comparisons. And what are the inferences which may be fairly drawn? First and foremost, I think, that hospital isolation after long years of trial has utterly failed in controlling either the incidence or mortality-rate of scarlet fever; and, secondly, that there are no grounds for assuming that it has contributed in any degree to the much milder type of the disease.

Further, although the statistics scarcely warrant the inference that isolation hospitals contribute in any appreciable degree to the spread of the disease, we all know that there is always a small percentage of return cases, and that this percentage would be much larger were it not for the great care which is exercised in detaining any patients with any signs of throat congestion, sores in mouth or nose, or discharges from the ears, or suppurating neck glands, and detaining them sometimes for long periods until they are apparently well. We all know, too, that in mixing up mild cases with severe cases in open wards the symptoms of the former often become aggravated. Indeed, of late years I have become more and more forced to the conclusion that slight cases have a better chance of speedy recovery in their own homes, and also that the risk of infection spreading in the household, however poorly circumstanced it may be, is not nearly so great as is generally believed. For example, in the districts without hospitals, more than half the cases notified are single cases, and this also applies to the districts with hospitals whenever the available accommodation fails to cope with all the cases for which admission is claimed.

But, admitting all this, I still think that hospitals are of use for the reception of exceptional cases—cases, for instance, which crop up in connexion with certain workshops, milk-shops, or dairies, or in lodging-houses, or amongst servants, or severe cases which cannot be properly nursed at home. But for the isolation of these severe cases there ought to be far more single or small wards, because, apart from over-crowding, there is undoubted risk in the aggregation of cases. That is why we so often hear of that to me strangely anomalous disease called post-scarlatinal diphtheria.

I have come to the conclusion, too, that inasmuch as hospital isolation is practically valueless, except in very rare cases, as a protection to the public, there should be a minimum charge for all patients, and that people too poor to pay should be regarded as in receipt of pauper relief.

With regard to diphtheria and hospital isolation, the same conclusions apply. Many slight cases are notified nowadays which in premicrobial days would not have been regarded as diphtheria. Hence the fallacies attaching to the apparently lowered fatality-rate. The *mortality* from the disease has not been lowered; on the contrary, it has increased in spite of hospital isolation and serum treatment. If all that is claimed for diphtheritic antitoxin serum, alike in respect to prevention and cure, stands the test of time, hospital isolation should eventually be dispensed with. But to me it seems that if the serum treatment assists in getting rid of the membrane and curing the disease, it looks as if in the long run it also sometimes assists in killing the patient. But that is quite another story. I may, however, claim consensus of opinion in this, that if the school age of children were raised to 5 years, the prevalence of scarlet fever and diphtheria, as well as of whooping-cough and measles, would be greatly lessened. It has also been my experience that in small urban and rural districts, school closure is still as necessary in repressing outbreaks of scarlet fever and diphtheria in districts provided with hospitals as in districts without them.

In respect to enteric or typhoid fever, I need only say that with improved sanitation and purer water supplies, the disease, which is largely on the decrease, should eventually become as rare as ague now is in this country; and when severe scattered cases do crop up, there is no reason why, if proper precautions are taken, they should not be treated in general hos-

pitals, when accommodation in isolation hospitals is not available. Further, I am of opinion that in small towns and scattered rural districts the needs of hospital isolation in exceptional cases, whether of small-pox, scarlet fever, diphtheria, or enteric fever, would be greatly lessened, and much expense saved, if sanitary authorities were empowered to provide home nursing, and to pay compensation when on public grounds the breadwinner is debarred from following his or her usual employment. Finally, it has always to be borne in mind that when there is any sudden and serious outbreak of any of these diseases, from whatever causes, no reasonable amount of accommodation can cope with it.

But though my limit is up, I think I have said enough, and more than enough, to show that the value of hospital isolation has been greatly overestimated as a preventive measure, and that the time has arrived when a full and exhaustive inquiry should be undertaken in respect to the whole subject, in order that sites may not be needlessly multiplied nor money needlessly expended.

II.—J. E. O'Connor, M.B., D.P.H.,

Medical Officer of Health, Leicestershire and Rutland Combined Sanitary Districts.

Some five years ago I had occasion to report to the Corporation of a seaside resort, for which I was health officer, that although the preventive measures in connexion with the administrative control of scarlet fever had involved an expenditure of time and money exceeding the presumed requirements of all other infectious diseases we had been systematically unsuccessful in our efforts to obtain an appreciable diminution in its prevalence. And although I had heretofore advocated additional hospital accommodation I was constrained to concede that the disease had increased in prevalence almost *pari passu* with increased provision for its isolation. I have now to record a confirmatory if disconcerting deduction, towards which I am impelled by some three years' experience of hospital isolation in one of the larger combinations of sanitary districts. The districts to which I allude, thirteen in number, are situated in the counties of Leicestershire, Rutland, Northamptonshire and Warwick, and have an approximate population of 105,000. Three of these districts are urban and I do not propose to refer to them save to submit that in so far as can be ascertained from somewhat scanty statistics the one district possessing an isolation hospital is precisely that which has the highest attack-rate from scarlet fever.

It is to the incidence of the disease in rural districts that I have directed particular attention, and for this purpose I prepared a statistical synopsis showing in how far hospital isolation has coincided with any increase or diminution of disease prevalence. Such statistics I, however, regard as of but qualified value, inasmuch as they are open to many of the objections which are rationally raised to numerical contrasts between districts of diverse character. Such as they are, they serve to show that during the past decennium the rural district which has *par excellence* suffered most from scarlet fever is the one which has most consistently appealed to hospital isolation. And it is here relevant to remark, as regards the general control of the disease in these various rural districts, that the hospital isolating districts are precisely those which have directed more particular attention to other administrative measures. The expenditure which hospital isolation engenders has led to increased vigilance; and, moreover, steam disinfection has not been available in districts unprovided with hospitals. Despite their various administrative advantages, the hospital isolating districts have still to show a greater prevalence of scarlet fever. It is when we proceed to an examination of the incidence of scarlet fever in the separate parishes of a hospital isolating rural district that we meet with material of real value in gauging the utility or otherwise of isolation hospitals. For we are in a position to effectually cope with such factors as climate, wave periods, environment, population-density, and social variations, which each and all play so important a part in the interpretation of morbidity tables. Each village is a separate unit under one sanitary authority, one health officer, and one system of administration. The social, sanitary, and economic circumstances of each of these units are well known to a medical officer, and when, as is commonly the case, some of these villages resort to hospital isolation far more consistently than do others, we have material available which I submit is of incomparably greater value than that which is ordinarily adduced in respect of larger centres. I propose primarily in this category to deal with the rural district of Blaby adjoining this town.

The district, whose enumeration at the last census was 16,569, has an area of 31 597 acres, comprising 26 parishes. Ten of these parishes possess populations of over 700, and jointly include some five-sixths of the total inhabitants of the district. The isolation hospital having been in use for ten years, I now submit the following table, arranging these parishes according to the percentage of scarlet-fever cases which have been removed to hospital. I exclude from it the year 1895, for the first six months of which the hospital was not available. Its inclusion would not, however, modify the subjoined sequence.

Group I.

Parish.	Population, Census 1901.	Cases Notified, 1896-1904.	Cases Removed to Isolation Hospital.	Percentage Removed to Isolation Hospitals.
Whetstone	1,113	30	24	80
Blaby	1,842	98	76	77
Kirby Muxloe ...	820	65	41	63
Glenfield	907	129	77	59
Oadby	1,890	50	27	54
Group II				
Enderby	2,638	64	14	21
Croft	740	14	2	14
Countesthorpe ...	1,429	59	8	13
Cosby	1,351	35	2	5
Narborough	902	10	0	0

Having arranged these parishes according to the percentage of scarlet fever cases removed from each to the isolation hospital, I find that they fall into two groups, having respective populations of 6,662 and 7,060. The former may be tentatively termed the "hospital isolating" and the latter the "home isolating" group. I now proceed to illustrate the incidence of the disease in each of these groups taken as a whole:

—	Population.	Notified Cases.	Removed to Hospital.	Percentage Removed to Hospital.	Attack Rate.*
Group I. ("Hospital Isolating") ..	6,662	372	245	66	0.2
Group II. ("Home Isolating")	7,060	182	26	14	2.8

* Calculated on census population 1901, the deviation from the mean being insignificant.

There are no geological, sanitary, or economic contrasts to account for the remarkable antithesis in the incidence of scarlet fever in the two groups. Nor do the notified cases of preceding years throw any light on the subject. The one salient if disconcerting conclusion to which I am reluctantly driven by a dispassionate consideration of the facts and figures before me is that in this district, as in many others, the hospital isolation of scarlet fever has signally failed to fulfil the sanguine anticipations of its earlier apologists. A synopsis of cases occurring each year in each separate village sheds no sufficient sidelight to justify a material modification of the evidence before us. The disease has been consistently prevalent year after year in the "hospital isolating" villages to a far greater extent than in the "home isolating." In the latter the more recent characteristics of the disease have been sporadic cases or small outbreaks of a trivial type without recrudescence or fatality. Indeed there has not been a single death for seven years in the whole district among "home isolated" patients, although 143 notified cases and numerous unnotified have been so treated.

In the contiguous rural district of Hinckley 86 per cent. of the population resides in five parishes, whose census enumerations were each over 700. The accompanying synopsis shows the scarlatina statistical history for the past decennium:

Parish.	Population. Census 1901.	Notified Cases of Scarlet Fever.	Percentage Removed to Hospital.	Attack Rate.*
Burbage	2,136	69	60	3·1
Stoney Stanton ...	1,505	17	35	1·1
Barwell	2,721	16	33	0·6
Earl Shilton	3,845	32	9	0·8
Sapcote	847	12	8	1·4

* Calculated on census population 1901, the deviation from the mean being insignificant.

It will be observed that only one village has utilized the hospital with anything savouring of consistency. That village having sent 60 per cent. of its cases to the isolation hospital, has suffered three times as much from scarlet fever as have the remaining villages, which in the aggregate sent only 20 per cent.

There is but little of utility to be gathered from the scarlatina history of two other hospital-isolating rural districts for which I am health officer, save to say that in one—the rural district of Oakham—hospital isolation having been in vogue for six years, we have had the customary quotum of return cases, and an appreciable increase in the attack rate.

Just as rural districts supply material for studying the results of hospital isolation not ordinarily obtainable in large centres, so also it is in rural districts that we have most opportunity for ascertaining with some degree of precision the nature and extent of the facilities which have been offered for exposure to infection in each individual instance. I can, as a result of my own observation, confidently submit that the part which notified cases play in the dissemination of scarlet fever is merely subsidiary to the mischief wrought by unrecognized and unnotified cases, which, now that the type of the disease is so attenuated, are far more frequent than is generally supposed. In approximately three-fourths of initial cases in households with which I have to deal, there is not the semblance of any direct exposure to the infection of a notified case. In other words, the disease has, as a rule, been derived from an unascertained source. Hospital isolation or no hospital isolation, the real diffuser of infection—the transient, atypical, unnotified case—remains untouched. And herein lies in large measure the explanation of the inefficiency of hospital isolation as a preventive measure. We are maintaining in hospital not the patients who most commonly spread the disease, but others who would in any case be kept under observation, and more or less effectually isolated at least from other households. Until some reliable method of locating unnotified cases is evolved, hospital isolation must obviously be *pro tanto* inefficacious.

The atypical case accounts for much, but is inadequate in explaining the actually greater prevalence of scarlet fever in those villages which have most regularly resorted to hospital isolation. To account for this we must unless content with the [illegible] hypothesis that the coincidence is fortuitous [illegible] some other factor. And at least one such factor is [illegible] the "infecting case" which so frequently results from the aggregation of patients in hospital pavilions [illegible] who, after their discharge from hospital, diffuse infection and provide "return" cases. It is in villages that [illegible] have most abundant opportunities for accurately [illegible] particulars serving to confirm the presumption that although these cases may be but relatively few their importance lies in the frequency with which they occur [illegible]. On repeated occasions I have had [illegible] proving not only the recrudescence of epidemic [illegible] closely in the wake of the return of patients [illegible] but also the inexpicity of many cases which [illegible] successfully steered through the initial stages [illegible] to resist the milder type of infection. I [illegible] that special observation in any community of [illegible] proceeding results in hospitals would [illegible] to the absolute [illegible] of [illegible] the [illegible] of return cases by [illegible] modified procedure.

[illegible] would [illegible] a false feeling of security, and [illegible] to overlook the far-reaching importance of [illegible] infection which is customarily fostered by the [illegible] patients in isolation hospitals. [illegible] with hospital isolation as at present [illegible] as it might, could, would, or should be [illegible] extensive experience, I have for years held that the [illegible] of scarlet fever patients in hospital wards, even with what is ordinarily accounted ample air-space, is unscientific and insalutary. I desire segregation of the sick not aggregation, and under existing conditions the former is, in the majority of instances, more effectually secured in the patient's own home than in the so-called isolation hospital.

I may, in conclusion, add that my observations as to the spread of infection by atypical cases are by no means confined to scarlet fever. We are all fully cognisant that the transitory tonsillitis of a trivial type is too often a true diphtheria, and I suggest that here also, advantageous though it undoubtedly is, hospital isolation has wofully failed to lead to that reduction of attack-rate which was at one time confidently anticipated.

III.—F. H. Waddy, M.D.Glasg., D.P.H.,

Medical Officer, South District, Sheffield Union.

Dr. Waddy said: A year ago I contributed to the Congress of the Sanitary Institute at Glasgow a paper containing statistical tables of the recurrence of scarlet fever in houses in Sheffield during the four years 1900-03, which showed that the hospital system had not proved efficacious in preventing the recurrence of scarlet fever in the home. The tables dealt with every case of scarlet fever which had been entered in the registers kept in the department of the medical officer of health, amounting to nearly 7,000 in the four years.

This series, impartially dealt with, is large enough to justify us in drawing general inferences from it. Indeed, the proportions of recurrence from year to year are so uniform as to indicate a regular state of affairs, and not merely an occasional occurrence.

The paper I refer to is published in the December issue of the *Journal of the Sanitary Institute;* and, as the statistics themselves are incontrovertible, I propose now to deal only with the inferences which may be drawn from them.

The experience of a quarter of a century has brought into prominence many grounds of objection to the fever hospital system which have only been discovered by trial. Overcrowding has been charged with intensifying the character of attacks in cases which were originally of a mild type. The infection of doubtful cases either with the disease at first suspected, or a different one, the prevalence of complications, and the occurrence of "cross" infection, cannot be disputed. Furthermore, the frequency of "return" cases constitutes a real menace to the public.

All these points may perhaps be regarded as remediable defects in the administration of the system. But there are other disadvantages inseparable from the system itself, such as the enormous expense entailed. Very real objections, also, can be urged on grounds of social and domestic sentiment; and even ethical considerations may enter into the question.

It is not my purpose to deal in detail with any of these defects or disadvantages or objections, except only in so far as it is necessary to refer to the "return" cases.

The question which I began to investigate four years ago in Sheffield with regard to scarlet fever was that of the extent to which the hospital system had effected the prime object of its existence in the prevention of the recurrence of fever in the home. I was not aware at that time that controversy on this point was already being waged, and I quite expected to find that the houses from which cases went to hospital presented subsequent cases less often than those in which cases remained at home.

Many of you, no doubt, will share the astonishment I felt when I found year after year that among those houses from which cases went to hospital there were no cases after the first in 75 per cent.; whereas among those in which cases were treated at home the proportion of non-recurrence amounted to 85 per cent. Obviously the houses in which cases were treated at home were better off in respect of recurrence than those from which cases went to hospital.

Supposing that we can discover an adequate explanation of this astonishing result, the question still remains: Does the hospital system justify its existence as a preventive measure?

If, after cases have been taken to hospital from some of the houses, the second occur in those houses nearly twice as many subsequent cases as occur in the houses in which cases remain at home, what benefit can be conferred upon the community by their removal to hospital? Surely the only justification of the system (as a preventive measure) must rest upon its

ability to confer upon those houses from which cases went to hospital an advantage with regard to non-recurrence over those in which patients were treated at home.

Now to a certain extent the facts of the case do admit of a ready explanation. The houses from which patients go to hospital are just those which present greater possibilities of recurrence. This point I have investigated very fully; and I have found that the houses from which patients were removed to hospital were worse off in respect of recurrence than the other houses, not only in simple proportion to their worse conditions, but to a degree exceeding that proportion. The proportion (not the actual number, but the proportion) of persons who took scarlet fever next after a preceding case sent to hospital was 6 per cent. of all the susceptible inmates remaining in the home. And the proportion of persons who took scarlet fever next after a case kept at home was 5 per cent. of all the susceptible inmates remaining.

But as I explained at some length in my paper, we get more accurate results for comparison by considering the number of instances instead of the number of individuals. Take the figures for the year 1902. In 690 instances the patients were taken to hospital; in 675 of these instances some susceptible person remained in the house. In 173 instances another case followed—that is, in 25 per cent. On the other hand, cases were treated at home in 878 instances; in 852 of these instances some susceptible person remained in the house. Another case followed in 145 of these instances—that is, in 17 per cent. The proportions for the year 1903 are similar.

Let me emphasize this point by repetition. Consider 200 houses in which beside the case of scarlet fever there was some other susceptible person. From 100 houses the case went to hospital. Another case followed in 25 of these. In the other 100 houses the case was treated at home; in only 17 of these did another case occur.

This result is so disappointing that we naturally hesitate to accept it. But there is no way to escape it. What we have to do is to look for an explanation of it.

From the tables and charts which I prepared, it can be seen at a glance that two-thirds of the total recurrence in each group of houses took place early—that is, within twelve days of the onset of illness. Indeed, in the "hospital" group, two-thirds of the total recurrence was accounted for by cases which became ill not later than seven days after the removal of the primary case, and which might, therefore, be reasonably regarded as having become infected before the primary case was removed.

"But," some one asks, "is it fair to hold the hospital system accountable for these cases which the hospital never had a chance of preventing? How can it be expected to prevent this early recurrence?" That is the crux of the whole question. If the system is admittedly incapable of preventing the major portion of the recurrence, how can it be advocated as a preventive measure? Nevertheless, my own opinion is that even in the matter of this so-called "inevitable" recurrence, the system is sometimes answerable by reason of the delay which precedes the patient's removal.

This is one of the disadvantages inseparable from the system. I believe that it has no chance of proving efficacious in crowded neighbourhoods (without the adjunct of enforcing quarantine of all the "contacts") until we have obtained methods not only of certain and early diagnosis, but also of immediate removal.

In small towns, especially fashionable towns, and in rural districts, the conditions are quite different. Yet in the rural districts of Leicestershire, as we shall shortly be informed, the use of the hospital has been found not an unmixed benefit.

Passing from the consideration of "early" recurrence, we are confronted by a far more disquieting subject when we turn to contemplate the "late" recurrence. Even when proved by incontestable figures, we find it hard to believe that whereas the proportion of instances with recurrence up to fourteen days was half as great again in the "hospital" group as in the "home" group, yet later than fourteen days the proportion was twice as great, and between the thirtieth and eightieth days was three times as great. Now a comparatively small percentage of "return" cases is capable of producing this disproportion.

Between the thirtieth and eightieth days after the onset of illness of the primary case the recurrence in the "home" group amounted to 1.4 per cent. of the primary instances. Allowing that the houses in the "hospital" group are by reason of their inferior circumstances half as liable again as those in the "home" group to secondary cases, then the recurrence during this period ought not to exceed 2.1 per cent. of the total number of instances of admission to hospital.

For instance, let us suppose that the conditions of liability to recurrence which prevailed in Sheffield applied also to a town with a hospital having ninety-six instances of admission every year. Let us suppose further that the patients are detained (on an average) until the fiftieth day after the onset of illness, and that during the thirty days following their return home another case occurs in two instances. These are no more than might have been expected to occur under any circumstances, even if the patients had been treated at home. But if three such cases were to arise in a year, then we should expect to find that while two of them might be attributed to other sources, yet the third would prove to be a genuine "return" case, caused by the patient coming home from hospital.

It is obvious that in the case of smaller hospitals admitting not more than about 30 cases annually the significance of the "return" cases might be entirely lost sight of. A single instance during a whole year would not be held of much account; yet it would represent a percentage of recurrence twice as great as that which occurred in Sheffield during the same period (fiftieth day to eightieth day) among houses in which the patient was treated at home.

The practical conclusions to be drawn from a study of these Sheffield statistics are that during the four years under consideration the hospital system was ineffectual with regard to the "early" recurrence, and prejudicial with regard to the "late." Our scarlet fever hospital must accordingly be regarded for the present as a last resort for those unfortunate patients who cannot possibly be treated in their own homes.

IV.—R. Sydney Marsden, M.D., D.Sc., F.R.S.E.,
Medical Officer of Birkenhead.

Dr. Sydney Marsden said: I assume that we all consider a case of scarlatina as an infective focus of activity. What is the argument which has been adduced so laboriously by all the previous speakers? Why, this: That if you remove it to hospital it will do more harm than if you let it stay at home. Is this common sense? Again, Dr. Hime quotes Dr. Killick Millard's diagram as showing that when cases were sent out from the Leicester Fever Hospital the epidemic gradually declined, the only inference being that this was a consequent result due to homœopathic treatment. He did not say that the disease declined to a much greater extent in the surrounding districts not affected by Dr. Millard's cases. Therefore the inference was totally unwarranted, and the explanation of decline is evidently that other causes are at work which are not entirely understood. It also points to the fact that we are as yet quite in ignorance of the real nature of the method of infection in scarlatina. As regards Dr. Wilson's remarks on diphtheria, my own experience shows that the use of antitoxin has very largely diminished the death-rate in true and severe cases of the disease. I am in agreement with Dr. Wilson in his views with regard to small-pox hospitals and the risks of aërial convection of small-pox; but I go further, and say that in the present condition of our knowledge of the subject and the fact that scientific opinion amongst many of the best sanitarians in this kingdom is against the aërial theory—that the Local Government Board is not justified in its present far too severe requirements with regard to small-pox hospitals.

V.—H. Cooper Pattin, M.D.,
M.O.H., Norwich.

Dr. Pattin rose solely to press upon the meeting the importance of giving attention to the effect of Local Government Board recommendations as to hospital ward construction for scarlet fever, which substituted in practice isolated aggregation for isolation. The remedy was to provide small wards for one, or at most two, cases, arranged like a stable of loose-boxes, with glass partitions going right up to the roof. In fact, what was wanted was a possibility of practising true isolation.

VI.—J. Spottiswoode Cameron, M.D.,
M.O.H., Leeds.

Dr. Cameron had unfortunately not heard the earlier papers, but he had heard that of Dr. Waddy. Dr. Waddy did not tell them what was the size of the Sheffield Hospital in comparison with that of the town. If all the cases of scarlet fever

could not be sent to hospital, the M.O H. would naturally choose to send the case from a large family in a slum neighbourhood rather than from the larger house of a middle-class family. Neither did Dr. Waddy compare the attacks amongst the individual susceptibles left at home; he took only houses. In the crowded house from which the cases went to hospital the susceptibles were probably more numerous; in the middle-class families, generally a smaller family, the susceptibles might perhaps be fewer.

VII.—W. R. SMITH, M.D., D.Sc., F.R.S.E.,
Professor of Forensic Medicine, King's College, London.

PROFESSOR SMITH considered that to discuss the question of hospital isolation only from statistical returns introduced serious fallacy. At present our knowledge of the etiology of disease and of the channels of infection was extremely limited, and yet without such facts it was impossible to say what was or what was not the real cause of the variations shown by statistics. Collateral facts and circumstances, not only of each district but also of the causation of each disease, needed to be considered. The period of infectivity and the time of discharge from hospital also exerted an influence. On the whole, a clear case had, he thought, been made out for inquiry, not into statistics only but into the whole question of hospital isolation and the various circumstances affecting it. He therefore advocated the appointment of a Royal Commission.

VIII.—EDWARD HAUGHTON, M D.,
London.

DR. HAUGHTON considered the aggregation of infectious cases in hospitals calculated to develop a worse type of disease. The case of those whose isolation was consequent on mistaken diagnosis was also often very hard and no compensation was given. The great expenditure of public money was also a great evil and ought to be the subject of further inquiry. With regard to the analogy between scarlet fever and several other zymotics, there was no pathological reason why the arguments used against isolating scarlet fever should not be equally true of plague, cholera, and small-pox, at least in certain respects. As for "return cases," so-called, they might often be explained as having arisen from the same insanitary conditions under which the first cases arose. "Prompt isolation" was also criticized, as meaning sending patients, often against their will, to hospitals before there was reasonable possibility of correct diagnosis, with the result of often sending almost healthy people to compulsory detention and so injuring their business.

IX.—J. M. MACKENZIE, M O.H.,
Kirkby-in-Ashfield.

MR. MACKENZIE gave the statistics with regard to the incidence for eight years of scarlet fever, diphtheria, and enteric fever in a population of 1,400 persons amongst whom no isolation was available other than that which can be practised in the houses of the working classes. The number of scarlet fever cases was 426, but more than one case occurred in the same house only in 12.3 of all the cases.

RESOLUTION.

A RESOLUTION was passed calling upon the Local Government Board to institute a full inquiry into the subject of hospital isolation.

NOTE.—The opener of this discussion was followed by Dr. T. Whitesido Hime, the publication of whose paper is unavoidably postponed.

A DISCUSSION ON SANATORIUMS FOR THE POORER CONSUMPTIVES.

I.—L. A. WEATHERLY, M.D.Aberd.,
Bath.

I no not attempt to pose as an expert with regard to the treatment of consumption, or as anybody with very large practical experience of sanatorium treatment. I simply come before you as one who for the last seven years has had a heartfelt interest in the whole subject and some practical experience of the working of these sanatoriums.

I propose to open this discussion under three headings:

1. Are sanatoriums for the poorer consumptives necessary?
2. If so, how can they best be started, and how best maintained?
3. What difficulties have they to contend with, and how can those difficulties best be overcome?

We have had lately a great deal in the newspapers as to whether the sanatorium treatment is worth while. I take it that anything is worth while if it does good, and I do not doubt for a moment that the sanatorium treatment for consumptives, if properly worked and regulated, does an enormous amount of good.

What have we before us to-day? We have it borne in upon us with no uncertainty that there has been no other treatment for consumption by which the disease can be more readily arrested; I will not use the word cured, because I believe that once a consumptive always a consumptive, and, however you may treat a sufferer from the disease, he is always a creaking door, and, if not looked after, he must collapse. I believe the open-air treatment is a necessity, and the only treatment by which we can have any great hope of arresting the disease. Let us see what it means. It consists in making the patients see that they must live practically in the open air. It consists also in feeding them properly. The system of stuffing all sanatorium patients, I believe, has gone by, and each case is now taken on its individual merits. The cases also require the most constant watchful medical supervision. That to my mind is one of the most important portions of the treatment—the constant supervision which means so much rest and so much exercise, and a rest from the cares and trivial excitements which are so harmful. Can we for one moment say the poor can get this if they have no sanatorium? Hospitals shut their doors to them, convalescent homes will not take them in, and what, then, are they to do? It has been said by some people: "You can send these people out to farmhouses, or into the country, and it is just as good as a sanatorium." In the first place, where is the money coming from? And, secondly, if they go, where is the supervision? It is tampering with the disease in this kind of way that does much to discredit the open-air treatment.

The question as to the necessity of sanatoriums for the poor is, then, I answer, in the affirmative, for they cannot be treated any way else.

I come next to the question how sanatoriums can best be started and maintained. They should be of three classes. I have been in communication with no less than 769 Boards of Guardians, and find that only 18 per cent. of that huge number are doing anything at all for their poor consumptives. To give you an instance of what can be done by the expenditure of a little money in that way, the guardians of Bath went to the Government a little while ago and got power to raise the sum of £1,900, repayable over a certain number of years. For that what have they done? They have obtained authority for allocating certain wards to this purpose, fitted them with proper windows, made them as dust-proof as can be, and fitted them to treat no less than 50 cases of consumptives. Prior to this the consumptives in the workhouse averaged not more than 4 or 5. The people were very loth to go to the infirmary and be classed as poor, but the moment these special wards were instituted they began to come in, and to-day these wards are quite full, and they are thinking seriously of enlarging them. Think what good they are doing, though I admit the cases they get are as a rule not those from which complete or even partial recovery can be expected. They are at any rate segregating the consumptives and keeping from the midst of many of the poor foci of definite infection.

The next class which should be considered are those who, though above the poorest of the poor, cannot afford to pay to go into sanatoriums. How can institutions for these best be started? For these we shall get no help from Government, and we must seek assistance from urban and rural district councils, under the Public Health Act of 1875, the working classes, from the manufacturing districts and manufacturers, and the philanthropic public. In this way much may be done.

In the district of England in which I live we have started sanatoriums for sixty cases of the poor, and we have forty beds absolutely free. They are maintained already practically in perpetuity. The patients come in without any charge at all, and their maintenance is paid for by urban district councils, rural district councils, by gentlemen who have collected money to maintain it, by working men, who by their money alone have supplied us with three beds, by manufacturers, and by the philanthropic public.

For the beds which are not free, we need not—in fact we cannot charge more than 10s. a week. To maintain this sanatorium costs £4,000 annually, to which the philanthropic

public supplies the small sum of £800 a year. If this can be done in one group of counties, it can be done in all.

Another class of sanatoriums very much needed is for those patients who could afford to pay and would willingly pay 25s. to 30s., 35s., or £2 a week. These should be on the lines of the Rupertsheim Sanatorium, which is an adjunct to the ones at Frankfort. People at once philanthropic and businesslike could, I believe, be found to lend money on trust for the building of these sanatoriums, content with getting their 2½ per cent., and then the patients could be charged, and the profits which accrued could go to class 2, to do away, as far as possible, with the need for philanthropic help in that class. A sanatorium for sixty patients can be quite easily run at a charge of 25s. a week per bed. When we started the sanatorium in the three counties, we were often met, when addressing public meetings, with the query, "Are you certain you can maintain a sanatorium for 25s. a week per bed?" We all said we were. We have now been long enough in existence to know what our expenses are, and we are able to say definitely that that sanatorium of sixty patients can well be run and leave a margin at 25s. per patient. That is giving them a splendid sanatorium—electric light over the grounds, thoroughly good and well-cooked food, and constant medical supervision.

Now comes the question, what are the difficulties these sanatoriums have to contend with, and how best can they be overcome? I take it the first great difficulty is that of getting cases in the early stages. This is largely due to the fact that we have too few sanatoriums at present in England. Germany, with only one-quarter more in population than we have, has to day 72 sanatoriums for the poor, with an accommodation for 6 000 beds. They deal with 18 000 to 20,000 patients every year, and their population is only one-quarter more than ours. To day we have only 12 or 13 sanatoriums for the poor, accommodating only 600 or 700 persons.

We cannot look askance at what sanatoriums have done until we have sufficiently tested them. Statistics recently published by the Imperial Health Bureau in Germany of the working of their sanatoriums—of the work among something like ten thousand patients—have proved distinctly that the Germans are doing a noble and a great work. They have in that time arrested the disease in nearly 90 per cent. of the early cases, and in over 80 per cent. of all cases. Of these in Germany 92 per cent. were still at work eighteen months after treatment; two and a half years after treatment 82 per cent. were still at work; three and a half to four and a half years after, 66 per cent. were still at work.

We can get as good results in England with our English poor consumptives as the Germans can. It is not a matter of climate; it is a matter, to a certain extent, of situation, of supervision, of food, and so on. Our statistics in English sanatoriums are not as good as a whole, because we get a vast amount of cases which are hopeless. Of 85 cases which we have taken in at Winsley, 47 have been classed in Class 3; they were really not suitable cases for sanatorium treatment. We hope for some good to be derived, but it is hopeless to expect any permanent benefit. With cases in which any good could be expected our percentage of recoveries has been as good as that of the German sanatoriums. Facts which we cannot overlook are the difficulty of getting in early cases, and that of having such limited accommodation. The next cause of difficulty lies with the patients themselves. A consumptive in the early stages does not know he is consumptive. He often has not been to a medical man, and often the medical man only thinks the man is run down, and tells him to go for a change of air or something. We constantly find that consumption is not diagnosed until the disease has made serious inroads upon the constitution. There is no doubt the medical profession, and the medical men connected with the clubs, must keep their eyes much more open than they have done for these early cases of consumption, and urge them to take advantage of the only treatment that can get them better.

Then we have a difficulty in getting the patients to come in. There is no doubt that however much you tell a consumptive that, if he does not do so-and-so, the grave is opening to him, he is optimistic, he does not believe you. Education will soon tell these consumptives that their only hope is in early sanatorial treatment.

II.—R. Shingleton Smith, M.D., F.R.C.P.,

Consulting Physician, Bristol Royal Infirmary.

Dr. Shingleton Smith believed that if we were ever to stamp out tuberculosis the disease must be attacked amongst the poor, for so long as it existed amongst the poor it would be disseminated amongst all classes. In order that sanatoriums for the poorer consumptives might not fall into disrepute there must be some selection of cases. The medical attendants of candidates for admission to the Winsley Sanatorium were now asked to bear in mind:

1. The most suitable case for a course of treatment limited to sixteen weeks is one newly detected, and found to have nothing more than signs of consolidation at one apex, or some similar lesion.
2. Cases with a greater extent of one lobe of one lung affected. These may do sufficiently well.
3. Cases with fair extent of disease in one lobe and slight disease in a second might be admitted, but only if otherwise the indications are favourable, and if there is a prospect of carrying out after-treatment for the requisite time.
4. Cases complicated with laryngeal disease should be admitted only if the affection of both larynx and lung is in an early stage.
5. Cases with disease dating back for several years should be excluded.

The two important problems now before them were: (1) How to secure early cases, and (2) how to get enough money to deal with them. We all had to assist in the former, and Dr. Weatherly has shown an excellent way of securing the latter by the aid of various public bodies, assisted by the philanthropist.

III.—T. N. Kelynack, M.D., M.R.C.P.,

Honorary Physician, Mount Vernon Hospital for Consumption, Hampstead and Northwood.

Dr. Kelynack said that although the hygienic management of consumption afforded the best method known to modern medicine, the public and profession were in danger of being discouraged because rapid and permanent cure was not effected. Optimists, believing that so-called open-air treatment afforded specific virtues, had made unwarrantable claims, deceiving themselves and others. There was now no adequate selection or satisfactory classification of cases. Incipient cases among the poor rarely sought medical advice. There was no satisfactory agreement among medical men as to what were "early" cases, or patients who might be expected to prove "economic cures." The Poor-law authorities could not be expected to be able to deal satisfactorily with the consumptive poor. It was unfortunate that most of the general hospitals and convalescent homes closed their doors to—or, at all events, discouraged the admission of—consumptives. Many chronic cases improved greatly under treatment, and the results were often, economically viewed, exceedingly good. Not a few cases were virulent from the beginning, and could not be expected to be benefited by residence in any institution. He also dealt with the economic aspects of the question. Sufficient time for treatment must be allowed if arrest was to be secured. The psychology of the consumptive required careful consideration. Under the present methods of conducting institutional treatment of the consumptive poor, many sufferers were undergoing moral deterioration, and, itinerating among the various chest hospitals and sanatoriums, were becoming "consumptive vagabonds." The use of the word "cure" was unjustifiable. Residence in sanatoriums, even for comparatively short periods, often secured much improvement in the general state while leaving the local condition but little altered. German statistics were not applicable in this country. Among workers relapse was exceedingly common, and recrudescence commonly followed a return to the old non-hygienic conditions of life. There was urgent necessity for more systematic efforts for adequate "after-care." At the present time there was no uniformity in action, no co-operation, no comparison of methods, and a thorough inquiry by a Royal Commission might be expected to afford much directing light on the problem of the consumptive poor.

IV.—Nathan Raw, M.D., F.R.C.P.,

Physician, Sanatorium for Consumption, Heswall.

Dr. Raw referred to the relative scope of work on behalf of consumptives to be expected from local authorities on the one hand and by Boards of Guardians on the other, pointing out that the latter, by isolating advanced cases, were able to assist in removing foci of infection.

V.—W. B. Ransom, M.A., M.D., F.R.C.P.,

Physician, General Hospital, Nottingham.

Dr. Ransom advocated the close union of sanatoriums with general hospitals, in which the patients should at first be watched and suitable cases selected for further treatment in

the sanatorium. Even quite early cases should not be sent to an industrial sanatorium without such preliminary observation, as the earliest case might prove acute and hopeless. Good work might also be done in dispensaries and out-patient departments of hospitals by the appointment of specially-trained nurses to visit patients in their homes. Sanatoriums formed only one, but an important, factor in the treatment and prevention of phthisis.

VI.—CHARLES REINHARDT, M.D.,
Visiting Physician, Hailey Open-air Sanatorium, Wallingford.

DR. CHARLES REINHARDT referred to the enormous cost of consumption, amounting every year to some four million sterling in London and a similar sum in New York. When an active worker was stricken down with consumption the community suffered a loss equivalent to some £300. A much smaller sum of money would suffice to provide such treatment as would rehabilitate 90 per cent. of all cases recognized and dealt with without culpable delay. It was the duty of the public to see to the provision of such treatment. Those responsible in the matter had been discouraged and misled by those who had caused the erection of costly, substantial, if not palatial edifices, involving an expenditure of from £500 to £1,500 per bed, whereas the best treatment in every respect could be provided on the chalet system at a total cost per bed of less than £100, including chalets, administrative block, furniture, and even the freehold of the ground within fifty miles of London, as he himself had proved by actual experience.

VII.—T. WHITESIDE HIME, M.D.,
Bradford.

DR. HIME disputed Dr. Weatherly's statement made as an argument in favour of sanatoriums being provided by local authorities that "the law must be changed if we are to look for any considerable decline in the death-rate from consumption." The statement was contrary to the fact. For scarcely any disease had declined in England during the last 50 years so much as consumption, and it was a disease which neither the central nor local governments had attempted to deal with during that time. No idea had existed that the disease could be successfully dealt with; we had not ventured, in our ignorance, to call it "preventable," and we had attempted nothing directly against it, and yet a wonderful improvement had been effected. Sanatoriums would benefit the patients treated, but whether they would diminish endemic tuberculosis any more than hospitals for infectious diseases had done infectious diseases, was yet to be proved. The great difficulty ahead was the existence of sanatoriums provided by mere speculators with a view to pecuniary profit, where the provision of the necessary measures of treatment depended on the decision of men ignorant of what was necessary for successful treatment, but very anxious to earn dividends. Dr. Hime referred to such places, within his own knowledge, where the local village doctor received a trifling salary for an occasional visit—was, in fact, practically a "cover" for the owners of this commercial speculation—and where the structural and other arrangements of the places were of a beggarly and unsuitable kind. He urged that this sort of farming should be prohibited by law just like baby-farming. It robbed the deserved patients, and did a great injury to a method of treatment which promised great advantages. The miserable result, in every way, of the work of these "farming sanatoriums" was calculated to bring the whole movement into undeserved discredit. The sanatorium method had been originated and developed by the enthusiasm of a couple of enthusiastic men, who devoted their whole life-work to it, whose life was spent among their patients, constantly investigating what was good, or better, or required improving, for the benefit of each individual case, and for the whole system. Sanatorium treatment called for high qualifications, skill, and devotion on the part of the medical superintendents, who ought always to be resident. To entrust a sanatorium for consumptives to the charge of young inexperienced men, who accepted them for a few months immediately after qualifying as a temporary engagement, like a voyage as ship's surgeon, was to endanger the lives of the patients and bring discredit on the whole system. The method of treatment was the very opposite to what it was often supposed to be. It was not a mere method of monotonous routine—the same for every one. To be successful it called for constant and minute supervision of every patient, with diligent investigation of symptoms and detailed modifications of treatment to meet the constantly-changing conditions.

VIII.—C. R. DRYSDALE, M.D., M.R.C.P., F.R.C.S.,
London.

DR. DRYSDALE was of opinion that the open-air treatment was far the best ever proposed, (1) because it gave the most cures and (2) because it was the best way of preventing the contagion of the healthy. His experience at the Mount Vernon, long before the Nordrach system was spoken of, with open-air treatment and good food was encouraging as far as it went. But patients were only allowed to remain three or four months in his hospital, and, although they usually improved greatly during their stay, they almost always fell back again when they went home, and died. The same thing held true for Davos. A patient of his, a pupil of Mr. Hadley, went to Davos and examined sputa for several years, himself suffering from the disease. He mentioned that almost all the patients at Davos did well when there, but subsequently went home and almost all died. The richer patients who could stay in sanatoriums for four or five years often recovered, but alas! the poorer classes usually succumbed. One-ninth of the deaths in London were of phthisis, one-fifth in Paris, and one-fourth in Vienna This showed that the question was full of difficulty, and proved that, although as many sanatoriums for the poor as possible should be erected, yet that it seemed impossible for any large city to do much for this disease. When the conditions of life were better, when overpopulation was less prevalent, we might hope that sanatoriums would be more feasible for all consumptives.

IX.—THOS. D. LISTER, M.D., M.R.C.P., F.R.C.S.,
Assistant Physician, Mount Vernon Hospital for Consumption.

DR. LISTER said that several speakers had spoken of what should be done for the poorer consumptives, and he wished to draw attention to what was being attempted by one class of the poorer consumptives—namely, the thrifty class. Dr. Weatherly, in his paper, spoke of the German national assurance system in dealing with tuberculosis and its excellent results. In this country the nearest thing to universal industrial assurance was afforded by the great Friendly Societies and the other organizations of the working classes. They were voluntary bodies, and hence included a certain amount of favourable selection, unlike the German compulsory system, which covered all the workers. As a result of a visit of some leaders of such societies to Germany, it had been decided to carry out a similar scheme in this country. The scheme with which he himself was associated as a member of the executive was as follows: The Societies would make a very small levy on their members, and devote the proceeds to the maintenance of the early cases of phthisis among their number. A large site had been secured, and it was proposed to erect thereon an institution for the treatment of 200 patients, of whom about two-thirds of the cases—the convalescents, it was hoped—would be housed in "ward pavilions" and durable but cheap buildings on the "chalet" principle. The remainder would be housed—chiefly cases soon after admission—in a central block with which the administrative departments would be connected. The essential point of the scheme was that every bed would be endowed before the institution was opened by allotment among the affiliated societies, which together represent already something like two millions of the workers in London and the district, and that no cost of maintenance would fall upon the public. Success in carrying out this scheme depended: First, on early diagnosis. As the work became known among those who had patients who were members of "clubs" there would be no difficulty about early diagnosis, for it would be recognized that early cases only would have the opportunity of being taken away, and possibly cured, and so removed from the daily burden of the doctors' work. Secondly, the co-operation of the patients themselves was necessary. The scheme of which he was speaking came from, and before, a thoughtful and cautious class of workers among whom education was easily carried out. It was proposed to ask the aid of their doctors in this education movement, and to aid their efforts by articles written in the trade and Friendly Society journals by authorities, such as have recently been written by Dr. Latham and others. Thirdly, something must be done to prevent relapses. There was no such thing as a clinical immunity to tuberculosis. A laboratory immunity might possibly exist,

but early relapses in cases of arrested phthisis placed under circumstances in the slightest degree unfavourable must be feared by all. It was proposed under this scheme to teach patients in whom the disease was arrested new occupations of a suitable kind, and to use the knowledge and influence of their societies to find them healthy employment under new conditions on leaving the institutions. He considered the movement to be a most promising experiment in industrial assurance, of wide-reaching importance, and one worthy of the co-operation and encouragement of all members of the profession.

X.—J. Elsdale Molson, M.D.,
Chelmsford.

Dr. Molson said that the extravagant promises and expectations of results to be obtained from sanatorium treatment had done great harm, as also extravagance in building the sanatoriums of which the Midhurst Sanatorium, costing £120,000 for 100 beds was one of the most startling examples. Municipalities would do well to make use of sanatoriums, Brighton being a good example of the benefit obtained. Lake Saranac Sanatorium in the Adirondacks was splendidly carried on, and there they had also tested the benefit of judiciously carried out tuberculin treatment, when added to open-air treatment and skilfully administered on suitable cases.

XI.—Thomas F. S. Caverhill, M.B.,
Edinburgh.

Dr. Caverhill stated that in Edinburgh every fourth industrial worker died of consumption, and gave the results obtained in (*a*) a cottage sanatorium without resident medical officer; (*b*) a small sanatorium with resident medical officer. In the former 76 cases had been admitted in the past six years; 52 left fit for work, 18 left very much improved but not fit for work; 4 were not improved and 2 died. In the larger sanatorium established three and a half years ago, out of 48 patients who had been under treatment over three months 30 were in full work, 6 were capable of light work. While walking and hill-climbing from nine to ten miles daily the average gain in weight of these 30 was 19½ lb. Of those who left under three months and who were able for work the average gain in weight was 11¼ lb. No selection of cases was made. Every patient whose digestive system was intact was admitted. There was no provision made for the treatment of such cases in Scotland, and these cases with few exceptions would have all been dead. These two sanatoriums had been established on the Görbersdorf Nordrach system, where walking and hill-climbing up to ten to twelve miles daily was a prominent feature. He did not consider that the Dettweiler (Falkenstein) system, which was more of a rest cure, was suitable for poorer consumptives who had to go out in all weathers and earn their living.

ALCOHOLISM IN RELATION TO NATIONAL VITALITY.

By T. N. Kelynack, M.D., M.R.C.P.,
Honorary Secretary of the Society for the Study of Inebriety: Editor of the *British Journal of Inebriety*: Consulting Physician to the Dalrymple Home for Inebriates.

In the much-discussed report of the Inter-Departmental Committee on Physical Deterioration, issued last year, it is definitely stated that, "as the result of the evidence laid before them, the Committee are convinced that the abuse of alcoholic stimulants is a most potent and deadly agent of physical deterioration."

In this dogmatic expression of opinion it is claimed that there are focussed the results of many years' scientific study of the alcohol problem.

Clearly the so-called drink question is essentially a medico-sociological one. It has been viewed from many standpoints, but the fundamental biological aspect has until recently been neglected or only superficially studied.

In the light of modern research, it seems most desirable that we, as pathologists and physicians, students of disease and practitioners of medicine, should be in a position to express in precise terms such of the conclusions of recent investigations as may afford guidance in the prophylaxis, alleviation, or cure of a morbid condition which it is claimed is threatening individual efficiency and undermining national vitality.

The thinking layman is taking a deep interest in the study of alcoholism, and very rightly is turning to the medical profession for instruction in the science of the disease, and asking for rational direction in what I may call the art of its arrest.

Although of recent years many members of our profession have devoted great attention to the scientific investigation of alcoholism, I fear their observations have oftentimes been incomplete, their conclusions imperfect, and their recommendations injudicious.

Even still with regard to the use of alcohol in health and its employment in disease, opinions are conflicting and practice very variable.

The not unnatural result of this contradiction of teaching and difference of procedure among members of the medical profession is that the laity are taking their own course, formulating their own dicta, urging their own ideas, and seeking irregular and irrational methods of treatment.

The so-called temperance reformer has in the past oftentimes been an extremist, a faddist, an intemperate advocate of intoxicating schemes, but I venture to believe that at the present day there is strong evidence to show that there is an urgent desire to base opinions and energize effort on well-ascertained facts and sound scientific principles.

If this be so it is manifestly desirable that we, as medical men, should afford the assistance which is claimed of us.

I do not intend to enter on any of the many theoretical considerations which cluster about this subject, but would rather urge the necessity of dealing with pressing practical points.

Permit me to touch on just one or two which seem to require immediate attention.

Recently, nearly 15,000 medical practitioners have expressed the opinion that it is very desirable in the interests of the public health that instruction be given in our public elementary schools on the principles of hygiene and temperance, and yet I suppose, even in this select gathering of experts, there are very few of us who would agree as to the physiological and pathological data concerning the action of alcohol which are desirable for presentation to children.

Again, I find that in various parts of the country medical officers of health are issuing official placards after the French pattern, in which statements are made which certainly are not supported by the profession as a whole.

Further, from time to time medical men, in our Journal and elsewhere, advocate the employment of various agents and agencies in the treatment of inebriety which experiment and experience would seem to show are purely empirical, and undoubtedly lack the rational basis of knowledge of the pathology of the morbid condition.

In the past this Association, through its Inebriety Committee, accomplished much in the formation of professional opinion regarding the need for special legislation for the protection of the inebriate. The action of this Association undoubtedly assisted greatly in the passing of the Inebriates Acts, and the establishment of reformatories, retreats, and suitable institutions for the management of inebriates.

In the light of the declaration of the Inter-Departmental Committee on Physical Deterioration, and the contentions and conclusions of many recent students of the alcohol question, I would suggest the desirability of considering the appointment of a thoroughly representative Committee of this Association to collect evidence regarding the alleged influence of alcoholism in lowering national vitality.

Mr. McAdam Eccles, F.R.C.S., desired, as one who gave evidence before the Inter-Departmental Committee on Physical Deterioration, to make three remarks: (1) The report made a very definite statement; (2) they must be prepared by careful and temperate statements to push the recommendations of the report; and (3) he firmly believed that national vitality was sapped by want of sufficient and proper food, and that this want of sufficient food was to a large extent due to the waste of money on alcohol, money which might be spent on food for parent and child.

Dr. Symes Thompson urged upon the Section the importance of carrying out the suggestions made by the author of the paper. Those suggestions were calm, forceful, and temperate. Whilst it was true that total abstainers were most forceful in their teaching, it rested also with the whole profession to do its part. Patients were sometimes unwilling to accept non-alcoholic teaching coming from known teetotalers, whilst the firm and forceful advice of a man who had not publicly avowed his adherence to total abstinence was readily followed.

Dr. C. R. Drysdale said that alcohol was evidently a

narcotic poison like chloroform and ether. To call it a food, as Liebig did, seemed absurd when the number of diseases it caused were considered. Clinical medicine was the test of all theories as to diet and regimen. In Paris hospitals, next to phthisis, alcoholic disease was the most common cause of fatal disease. On the Continent of Europe medical men were taking sides against alcohol. In Paris there had been a great falling off in the use of wine by the medical men. At the International Alcoholic Congress in Paris a physician said: "Le médecin Française ne boit que de l'eau." The conclusion of all the arguments he had listened to on the alcohol question was that medical men would confer a great benefit on society if they were total abstainers from alcoholic drinks.

Mr. Ward Cousins (Portsmouth) said that the relation of alcohol to national vitality would never be known in the British Islands until we obtained a modification of the present system of death registration. Medical men could never certify to the exact cause of death until the certificate was converted into a confidential document. The profession ought to be protected in telling the truth whenever its statement would distress their patients and cause them trouble and inconvenience. The registration of secondary causes of death only led to serious inaccuracy in our national tables. The British Medical Association had this important matter in hand and he believed that their united efforts would never be relaxed until the profession were protected and their vital statistics made truthful and correct.

Mr. Soltau Eccles said that important recommendations had been advocated for the teaching of hygiene in primary schools, but nothing had been said with reference to such teaching in our great public schools. As many of our future legislators were educated at these schools it was of the utmost importance that scientific instruction should be given at these and other high-grade schools on personal and public hygiene, and by practice, as well as precept, on the dangers of alcoholic beverages.

Dr. Symons said medical officers of health must regard alcohol as one of the great causes of disease and poverty, and it was their duty to draw attention to its injurious action, and for this purpose posters, he thought, could properly be used.

Dr. Robert Jones had had the privilege to present some of the evidence in regard to alcohol before the Physical Deterioration Committee. That Committee had asserted most definitely and dogmatically that alcohol was a most potent factor in the production of degeneration, and it was most opportune that Dr. Kelynack's proposal should be brought forward. It would be nothing less than a calamity if the extensive findings of a special Committee dealing with the health and therefore the commercial efficiency of the people were to be passed over in silence. He agreed with the interesting remarks of the Chairman as to the incidence of insanity caused by alcohol, and it was interesting to find that insanity due to alcohol among women was higher in Nottingham, where so many women were employed in factories, and who spent their leisure in the pursuit of banal pleasures. Such an incidence was surpassed only in Glasgow among men, where drinking habits were acknowledged to be most common. It was well known that alcohol was a poison to the neurotic, but the neurotic person did the work of the world, and an authoritative statement coming from the body of the medical profession would be most desirable at this stage, when a general change seemed to have come over members of the medical profession in regard to the value of alcohol, and a change which was fully described by Sir Thomas Barlow on March 24th this year, and was referred to in the British Medical Journal of April 1st, 1905.

HYGIENIC TRAINING AND TEACHING AT SCHOOL.

By Henry Kenwood, M.B., D.P.H.,
Professor of Public Health, University College, London.

At such a meeting as this there is no occasion for me to offer an apology for a short paper upon a subject which deals with a matter of such national importance as that of the hygienic training and teaching of the young. We are all too painfully aware of the large amount of wasted health, energy and life, which results from ignorance and neglect of the laws of health, and which apart from the misery it entails, constitutes itself such a heavy economical loss to the State.

The ignorance among the poor of household management and of the principles of hygiene is responsible in no small measure for their high preventable mortality, their inferior physique, their intemperance, and their poverty.

The radical cure for all these evils is a suitable hygienic education, moral and material. We ought not to allow any of our poor, middle or better class children attending school to "complete their education" without the knowledge of a few important facts of hygiene which can determine so much their future health, happiness, and usefulness.

But if it were necessary to make an apology at all for introducing this subject, it would be made on the grounds that one hears and reads such varying opinions of what the scope of this hygienic instruction should be that it seems desirable to discuss the subject further until the best and most workable scheme has been evolved.

What we want is, in the words of the late Sir John Simon, "That education which by model and example would lead the poorer classes of society to know cleanliness from dirt, decency from grossness, human propriety from brutish self-abandonment . . . an education which would teach them to feel the comfort and profit of sanitary observances, and would apply their instincts of self-preservation to the deliberate avoidance of disease."

The need of bodily health as the foundation of sound mental work is universally recognized, and the training and teaching of children to observe those habits of cleanly decency which are the very basis of a healthy life, and the care for the hygienic environment of the scholar, are grave responsibilities attaching to all those to whom young lives are entrusted.

The school régime, then, must be made to afford every opportunity for healthy bodily development, not only by training the scholars in suitable physical exercises and in encouraging them in a good selection of games, but also by continually presenting an object-lesson of the recognized importance of fresh air, cleanliness, etc. The teacher can do much by example, precept, and personal influence to create "a sanitary conscience" among the rising generation. To these ends he should enlist as far as possible the co-operation of parents in the home, and he should bring his personal influence to bear upon them in certain cases. The training in the observation of sanitary precepts is a form of moral training, and if the home influences are antagonistic to those of the school the home influence will often prevail. A dirty and neglected child indicates the necessity of attempting to do something to improve the parents. The child will often be the medium for this parental education, but sometimes the local sanitary authority may be used with advantage, especially if it has a female health visitor in its employ.

There is, of course, a very wide distinction to be drawn between what the teacher should know and practise and what the scholar should be taught and trained to do; and in drawing up a detailed syllabus for the latter we have only to ask ourselves at every step, Is it essential that he should know this? Is it knowledge which he or she can apply? In my opinion it would be a wicked and stupid waste of time to teach scholars under 14 years of age the structure of the lungs and the mechanism of respiration. In order to impress upon him the importance of fresh air it is sufficient to base the teaching on the results of common experience and a simple experiment with a candle.

Indeed, it is almost sufficient to impress upon the scholar certain rules upon healthy living, and to give reasons for them; and at the same time to train him in hygienic habits while at school.

It is often contended that the youth of the scholars and the limited time available render adequate treatment of so extensive a subject as hygiene impossible. The justness of the contention depends entirely upon what is regarded as adequate. In my judgement of what is adequate, the subject could be sufficiently taught at the cost of only one half-hour per week during the last two years of compulsory school attendance, always providing that the scholar is receiving the object lessons of hygienic surroundings and practice during the whole of the school age.

Whereas from the very commencement of school life the object lessons of a sanitary environment should always be presented to the child, and he should be made to pay regard to the uses of the sanitary apparatus and other provisions for his health and comfort, it would be a mistake to carry him beyond this until he reaches the age of 12, except it be that certain sanitary precepts might figure in his copy-books and reading primers. Having reached the age of 12, he should commence to receive definite instruction in domestic and personal hygiene. As I have already indicated, the teaching

at this age must deal only with elementary and practical facts of importance, illustrated by the concrete where possible, and by object lessons; and these must be so clearly presented that they are understood and carry conviction. The teaching must deal with the most simple, the most easily understood, the cheapest and most practicable means of translating sanitary precepts into practice, not losing sight of the fact that it is the positive rather than the negative which must be presented to the scholar.

The conduct demanded of the scholar will constitute the moral training necessary, and the school buildings and fittings should, so far as possible, illustrate all necessary hygienic observances. I have found by personal experience that it is most valuable in enabling the teacher to insure that he has been understood by those he is teaching if at the end of each of his practical lessons, he questions some of the pupils and invites questions from them.

The aim, therefore, should be to instil those elementary principles of hygiene which relate to the person and the home. The matters, therefore, on which the children should be instructed are: The importance of and the way to secure—

1. Fresh air.
2. Cleanliness of surroundings.
3. Cleanliness of person (body, teeth, hair).
4. Cleanliness of habits ((spitting, etc.).
5. Healthy bodily functions (regularity of bowels, etc.).
6. Suitable clothing (sufficient protection, woollen garments next to skin, etc.).
7. Food (clean utensils, protection from dust and dirt, etc.).
8. Temperance in alcohol.

There is much to be said against the negative results of an education in which girls are largely separated from domestic influences and experience during the most impressionable years of life, and there is no doubt that the elementary facts of cooking and infant-rearing should be taught to every female child, and there should be a kitchen and a workroom in connexion with every girls' department. Girls should therefore be taught in addition:

9. The selection of food, marketing, and elementary cooking, namely, the preparation of simple dishes by the simplest means.
10. How to feed and manage babies.

All this matter should be taught conversationally and in a homely way (avoiding all technical and scientific terms) and illustrated by facts and objects which fall within the range of family life. As local conditions should to some extent determine the kind of instruction and advice given, the teaching should largely be impressed upon the scholars by local references, etc. For this and other reasons it seems desirable to demand no book-learning of the scholar and to give the teacher ample scope and discretion in the treatment of this subject.

The child learns best from one of his school teachers, who, moreover, has training and experience in teaching children; and these considerations, added to the fact that a special teacher for this subject is so apt to exceed the simple requirements of the scholar, cause me to feel very strongly that the professional lecturer on hygiene should be excluded from schools, although he is a *sine qua non* for teaching and training the teachers in training colleges, and, perhaps, for advanced pupils attending continuation classes.

Few things more impress themselves upon the scholar than when one of their number is singled out for some special duty. It would, therefore, be a most telling means to our end if one scholar in each class-room were constituted the sanitary monitor for the week. It would be his duty, during his week of office, to see that the ventilators were open, that the class-room was well flushed with fresh air upon every available opportunity, that dust did not accumulate, and that all sanitary requirements were observed in the use of sanitary conveniences provided.

There should also be some supervision and control over the scholars in the playground. They should not be allowed to "run wild." More in the direction of character formation and moral training can be done by effective supervision and control in the playground than in the class-room.

SHELLFISH AND TYPHOID FEVER:

A Further Short Contribution.

By J. T. C. Nash, M.D.Edin., D.P.H.Cantab.,
Medical Officer of Health for Southend-on-Sea.

In the first place, I should like to express my appreciation of the honour of being invited to read a paper before the Section of State Medicine on the subject of the part played by shellfish in the incidence of typhoid fever.

My personal subsequent experience has amply confirmed the opinions I ventured to lay before the Epidemiological Society of London in April, 1903, in a paper on The Seasonal Incidence of Typhoid Fever and of Diarrhoea, in which I insisted on the large part played by shellfish in such seasonal incidence. I beg leave to quote from that paper as follows:

> It is my opinion that if proper measures are . . . taken . . . so as to limit the excessive breeding of flies . . . and failing this, if foods of all kinds are properly protected from flies, I think we shall see a great reduction in the incidence of diarrhoea, and a moderate reduction in the incidence of typhoid fever.
>
> A proper control of shellfish, on the other hand, will, I think, secure a notable reduction in the seasonal incidence of typhoid fever, and a moderate reduction in the incidence of diarrhoea. Both sets of measures together will, in my opinion, very considerably reduce the incidence of both forms of disease.

This paper, from which I have quoted, is published in the *Transactions* of the Epidemiological Society, N. S., vol. xxii, 1902 and 1903, and to save time I beg to refer to the original paper for the arguments and evidence I there adduced in support of the theory which I then advanced that "the seasonal incidence of typhoid fever in this country, particularly in well-drained towns with a good water supply, has a closer relationship with the consumption of infected shellfish than with any meteorological or geological phenomena."

The paper was read in April. The first proof of it for publication in the *Transactions* came into my hands on September 23rd, 1903, when I was able to add the following note:

"Since constant publicity has been given to the dangers of shellfish during the last nine or ten months, there has been a very notable reduction of typhoid fever in London, Southend, and elsewhere."

I was able to show that in Southend, for instance (against an average of 46 cases in an average residential population of 23,657 persons during the months of January to September for the eight years 1895-1902), there had occurred only 18 cases in 1903 among an estimated residential population of about 35,000.

In other words, instead of an average attack-rate of 2 per 1,000 during the first nine months of the year as based on the notification returns for the years 1895-1902, there had been an attack-rate of only about 0.5 per 1,000 during 1903. I was further able to state that in no less than 17 of the 18 cases in 1903 a history of shellfish had been traced. These figures and facts appeared to indicate (1) that in spite of (my) warnings and reports published almost monthly in the local newspapers since June, 1902, there still remained some persons foolhardy enough to continue to eat shellfish from polluted sources. (2) That this number of shellfish consumers had, however, been very materially reduced. (3) That apart from shellfish, typhoid fever would be almost unknown in Southend.

The final proof of the paper was submitted to me on November 5th, 1903, when I was able to add the following very interesting sequel:

> During the latter end of August and September, 1903, a large number of labourers were imported into Southend in connexion with the building of a new sea wall and esplanade.
>
> The majority of these men had not heard of the dangers attaching to shellfish, and finding a plentiful supply of oysters to hand a little way out (where the Leigh swatch which receives the Leigh sewage effluent enters the main waters of the estuary and where also a storm overflow occasionally discharges) several partook freely of them. The result was a considerable incidence of typhoid fever and of diarrhoea among these men, especially during the last week in September and the first week in October.

The outbreak was confined to these labourers. One of my predecessors, who had been hot on soil pollution as the reason of endemic typhoid fever in Southend, suggested to me that the outbreak was probably due to the men turning over old polluted soil. This view could not commend itself to me, and when I ascertained that the labourers were partaking freely of shellfish I personally visited each gang, warning them of the dangers, and informing them that several of their mates were stricken with illness. Printed notices of caution were also exhibited along the line of works. These notices were put up on September 30th, 1903, and almost every man on the works forthwith ceased to eat shellfish, with the result that the sharp outbreak of typhoid fever among them terminated abruptly by October 9th, 1903. By systematic inquiry I learnt that about 40 per cent. of these labourers ate shellfish, against about 60 per cent. that did not. Every case of typhoid fever

which occurred among these navvies occurred among the smaller shellfish-eating section.

A sensational confirmatory piece of evidence as to the part played by the shellfish in the incidence of typhoid fever among these men was this: The home of one of those navvies was in East Ham. Returning for a week-end, he took up a large number of oysters as a special treat for his friends. He collected these oysters from the same polluted source. About twenty persons in East Ham partook of these oysters, and I understand that within a month nine or ten of these persons were down with typhoid fever.

Since 1902 I have had systematic inquiries made as to whether shellfish had been eaten in every case of infectious disease notified to me. These inquiries brought out the following interesting figures:

Cases of Infectious Diseases inquired into in 1902, 1903, and 1904

	Total Number of Cases.	Shellfish eaten or handled.	No Shellfish eaten or handled.
All other infectious diseases, including small-pox, diphtheria, chicken-pox, erysipelas, scarlet fever, but excluding typhoid fever	830	6 (0.7 per cent.)	824 (99.3 per cent.).
Typhoid fever alone	149	93 (62.6 per cent.)	56 (37.4 per cent.).

The small proportion of shellfish eaters among the cases of other infectious diseases indicates that shellfish have (as we are already well aware) absolutely nothing to do with these other diseases.

On the other hand, the high proportion of shellfish eaters among the typhoid fever cases speaks for itself; and it must further be remembered that, among the fifty-six cases which were stated not to have eaten shellfish were a large number secondary to shellfish cases, and therefore indirectly attributable to shellfish.

Prior to 1894, the incidence of typhoid fever ranged even higher than the height shown for 1894, but prior to 1894 there was a question of a certain practitioner (who has since left town) having notified some doubtful cases as typhoid fever, which unduly swelled the list of notifications. He may or may not have been justified in these notifications for aught I know, but, as I have heard that there was some doubt cast upon many of his notifications, I have omitted statistics for the years prior to 1894.

In 1895 and subsequent years it was held that soil pollution was the principal source of the endemic typhoid fever which had existed in Southend for years, and measures were pushed for introducing a new sewerage scheme. The water supply had always been above suspicion. The new sewerage scheme was finally brought into use in 1898, at an expense of £50,000 to the Corporation. Now what I want to draw particular attention to is this: During the four years 1895-98 there was a noteworthy drop in the relative incidence of typhoid fever in Southend before any sewerage scheme would be brought into use. Why was this if soil pollution existed and continued as the source of typhoid fever? The evidence is against soil pollution as a cause. But there is another contemporary event which, to my mind, explains this marked drop in the incidence of typhoid fever.

It was early in 1895 that, through a communication of Sir William Broadbent to the BRITISH MEDICAL JOURNAL, the medical profession at large began to realize that typhoid fever could be conveyed by oysters. Prior work and investigation on this point had already been done by Cameron in 1881, and by Newsholme and by Conn in 1894, but that of Cameron had long since been forgotten; that of Newsholme was not embodied in any printed form which would reach the profession at large, while that of Conn was of American origin, and, therefore, unknown to the bulk of the British profession.[1] The knowledge of the risk of typhoid fever arising from eating oysters thus began in 1895 to disseminate among members of the medical profession and through them this knowledge began to filter through to the public. Naturally a considerable proportion of the public soon became more cautious as to eating oysters of doubtful origin. I think we see the effect of this spreading knowledge of danger among the profession and the public in the immediate reduction of typhoid fever incidence in Southend by about 45 per cent. as compared with previous years, and this reduction was effected before any improved sewerage scheme could possibly come into operation. Between 1897 and 1898 the new sewerage schemes were carried out. Coincidently a still spreading knowledge of the dangers connected with sewage-polluted oysters also obtained. As a result, we find during the years 1899 to 1903 a still larger reduction in the incidence of typhoid fever in Southend.

In spite, however, of sanitary improvements and of a lessened consumption of polluted oysters an undue amount of typhoid fever still prevailed in the borough. The problem of its cause still awaited solution when I took up the duties of medical officer of health in August, 1901. My previous bacteriological knowledge and experience had led me to conclude that the typhoid bacillus was probably almost invariably introduced through the mouth, and, as a good drinking water was supplied in Southend, and oysters were to some extent already under observation, I extended my inquiries to other forms of shellfish. In 1901 I ascertained by my inquiries that cockles had been eaten in 27 out of 39 cases I investigated; but in 1902 an outbreak in June and July enabled me to forge the links of the chain of evidence inculpating cockles, as recorded in a paper I read before the Congress of the Royal Sanitary Institute at Manchester in September, 1902.[2]

Subsequent observations, some of which I have ventured to detail in this paper, have amply proved that in Southend, at any rate, endemic typhoid fever was almost wholly due to the consumption of polluted shellfish.

But the effect of discovering the causal connexion of imperfectly-cooked polluted cockles with typhoid fever has had much more than a local result in the diminution of this fearful disease. The incidence of typhoid fever in London has also been greatly reduced since 1902, and I venture to think a great many other towns in this country have shared in this happy diminution of typhoid fever. As far as Southend is concerned, cockles are now collected from layings far removed from any obvious pollution, cleansed in pure water, steamed for five minutes, all operations being carried out in galvanized-iron receptacles instead of wooden tubs, etc.

If the result of the last few years' crusade I have carried out against polluted cockles is that the incidence of typhoid fever in this country generally has been reduced even only 10 per cent. a great work has been achieved. In my own district the reduction has been one of nearly 90 per cent., and I have every confidence that this improvement will be maintained. I naturally view these facts with the liveliest satisfaction.

I should have liked to have been able to turn for a brief moment from the subject of shellfish and typhoid fever to the subject of the agency of flies in the spread of typhoid fever and diarrhoea, but I fear lest I have already exceeded the time and space limit allotted to my paper, so shall content myself by venturing to direct your attention once again to the quotation from a former paper given in my opening remarks in the present short paper, which records my unchanged and even strengthened conviction that "if foods of all kinds are properly protected from flies we shall see a great reduction in the incidence of diarrhoea and a moderate reduction in that of typhoid fever."

I cannot, however, leave the subject of typhoid fever in connexion with shellfish without reference to the important contribution to the subject made by Dr. R. M. Buchanan at the Glasgow Conference of the Royal Sanitary Institute in 1904. Dr. Buchanan has proved the existence of typhoid bacilli in large numbers in shellfish taken from a suspected area almost two months after the time when the human infection took place, and he pertinently points out that this is a point of great interest from an epidemiological as well as a biological point of view.

The work of most investigators hitherto has been to indicate that the typhoid bacillus rapidly dies out in sewage. In a cockle and a "muskin" (mya arenaria) Dr. Buchanan found the typhoid bacillus almost in pure culture in great numbers, while the B. coli was represented by one or two colonies only. He suggests that in the cockle and "muskin" the typhoid bacillus finds a suitable host for its protection against destructive rivals.

The above is corroborative of Dr. Klein's findings that the B. typhosus actually multiplies within the cockle. Dr. Buchanan estimated that a cockle he examined bacteriologically contained no fewer than 3,000,000 virulent typhoid organisms. In connexion with suspected cockles, then, at any rate, the specific pollution may have occurred many weeks or even months before ingestion.

A second point of very considerable importance inquired into by Dr. Buchanan was the extent to which shellfish in the vicinity of a sewage outfall showed sewage contamination, and, again, at what distance from the outfall they ceased to show evidence of such defilement. In the area around the outfall which showed obvious signs of sewage pollution almost every individual shellfish examined showed evidence of such defilement by the presence of virulent B. coli. On the other hand, shellfish gathered at a distance of a mile or more from the outfall were entirely free from bacillus coli and allied organisms.

This is a very important investigation of Dr. Buchanan's, and clearly indicates that a zone of pollution extends some distance from a sewer outfall, but that at a distance of a mile or more from such outfall in a sea bay there is no longer any evidence of pollution, all the shellfish gathered from a distance of a mile or more from the sewer outfall being free of "indication" organisms.

Incidentally, this observation bears out the conclusions arrived at by Klein, Boyce, Hewlett and myself as the result of numerous bacteriological investigations—namely, that shellfish under normal conditions do not contain the B. coli. My own observations further indicate one of two possibilities—namely, either (1) that the bacillus enteritidis sporogenes is a normal inhabitant of the mussel; or (2) that the spores of this organism can be carried many miles from a sewer outfall, and infect shellfish far removed therefrom. On the whole, the evidence so far obtainable is against the latter supposition, and is in favour of the former.

I have made no reference in this paper to the work of the Royal Commission on Sewage Disposal in connexion with shellfish, partly because that work is probably already familiar to those interested in this subject, and partly because I felt it to be impracticable to even merely mention the numerous points with which it teems. I should, however, like to be permitted to pay a tribute to the labours of the Commission, and one cannot but view with admiration the laborious scientific investigations and admirable reports of my friend, Dr. A. C. Houston, as bacteriologist to the Commission. His work is monumental, and has proved a reliable guide post in subsequent investigations.

I regret that, owing to the stress of other work, I have been unable to collect facts and figures from my colleagues in the public health service in other towns which might have thrown further light on the rôle of shellfish in the spread of typhoid fever. But in a former paper I gave figures and constructed diagrams which indicated that polluted shellfish had played a very large part in the incidence of typhoid in many of our coast health resorts (Brighton, Yarmouth, Blackpool) and in our great metropolis, and probably in other large centres of population such as Manchester and Liverpool, and even in inland counties such as Wiltshire.

Epidemics of typhoid fever are generally due to polluted water or polluted milk supplies.

Endemic typhoid fever is, in my opinion, too often attributed to soil pollution or dustborne disease. That such sources exist is, I think, beyond doubt, but in a paper in the *Journal of State Medicine*, December, 1903, I gave several reasons why such means of infection must be very rare. More likely sources which should be thoroughly investigated are polluted dietetic articles, and chief among these I place all forms of shellfish. Uncooked vegetables (particularly watercress) are also responsible for many cases. In the late summer and early autumn flies without question carry infective material to many articles of food, particularly milk, sugar, condensed milk, jam, and sweet fruits.

The original source of the infective material, though difficult to actually identify, is easily comprehended when it is remembered that some 25 per cent. of typhoid convalescents excrete living typhoid bacilli in the urine for weeks and even months after apparent recovery. This fact, pointed out by Dr. Horton Smith in his Goulstonian Lectures in 1900, is of great importance, and justifies the expression of an opinion that either all typhoid convalescents should be treated with doses of urotropin before final discharge, or at any rate that the urine should be carefully examined as to the absence of typhoid bacilli prior to considering a patient as safe to pass into the outer world.

NOTE AND REFERENCE.

[1] Dr. Bulstrode, in his report on Oyster Culture in Relation to Disease, makes reference to even earlier communications, which had, however, quite faded out of recollection in the dim vista of the past, and had probably never made much impression. [2] *Jour. San. Inst.*, vol. xxiii.

A DISCUSSION ON INFANT MILK DÉPÔTS.

I.—BAILIE W. F. ANDERSON,

Convener of the Health Committee, Glasgow.

IN opening this discussion Bailie Anderson said that having been struck by the infantile death-rate in Glasgow, he took the trouble to communicate with the Consuls in sixty of the leading cities of the world, to find out how England and Scotland compared in regard to the infantile death-rate. The returns he obtained gave the population, the general death-rate, and the infantile death-rate. He found as an argument in favour of infantile milk dépôts, that in one or two cities where the general death-rate was pretty high, the infantile death-rate was as low as in this country. When he looked for the reason the only one he could find was that the municipality had awakened to the sense of their responsibility and that they had instituted milk dépôts. It was very surprising to find that in Buenos Aires, with a population of 870 000, and a general death-rate of 16 20, they reached the low water mark of infantile mortality, for the rate was only 91 per thousand. Then they found that at Christiania and Stockholm the low rate of 100 per thousand was reached. The best they could do in Britain was something like 140 per thousand. Barcelona had a lower infantile death-rate than Glasgow, although the general death-rate was 26.63. If it was possible in Buenos Aires to have a death-rate amongst infants of 91, and in Christiania and Stockholm of 100, while the death-rate of England was 153, and of Scotland 127, surely the time had come when, whether they felt exactly sure of their ground or not, they should at least make an effort in the direction of seeing what could be done towards saving the lives of the children. In Glasgow they had established a milk dépôt, where they prepared the milk and made it ready for distribution. At first they took the dairymen into their confidence, and asked them if they would be willing to assist in the distribution; they were willing to give them 15 per cent. profit. They were afraid of municipalization at first, but he was glad to say that after twelve months' experience competition had become very keen among the dairymen to get the orders. It was only twelve months since they started, and after the first six months the machinery had to be altogether recast. They started with 14 babies upon their books, but now had something like 800; the number of babies was increasing, and the demand for milk growing larger than they could meet. In addition, some of the outside municipal authorities were asking to be supplied with the milk, but they were unable to do this at present. In Glasgow there was a very great number of people living in single rooms, and they might understand what the character of the ordinary milk was after it had stood on the dresser or the shelf of these rooms for a little time. Instead of being a food it was practically a poison. The milk supplied to the infantile dépôt came from the farms which supplied the Glasgow hospitals; it was required to come from non-tuberculous cows, and be conveyed in properly-sealed cans, each containing 10 gallons, the total for each day being 115 gallons. Proceeding, Bailie Anderson said: Before using the milk a sample of it was taken and tested at the dépôt, and another was sent to Dr. Buchanan, the Bacteriologist. The milk was then poured into a 60-gallon tank, and from there flowed into a separator of the Alpha-Laxal type. This was principally used for cleaning purposes, the refuse being sent daily to the bacteriologist.

The milk, on leaving the separator, passed into three 30-gallon portable tanks, and from there into the mixing tank, where it was again strained. Thence it passed to the bottle-filling machine, one of the Ross-Jones Patent (Liverpool). This machine was worked by one girl, and was capable of filling 2 000 bottles an hour. Attached to the machine was a steam spray for cleaning it.

The Trolleys.

Each trolley is capable of holding 540 bottles, or 60 baskets. The milk sterilizer had a capacity of 1,080 bottles, or one day's supply for 120 children. The time allowed for a single operation was generally one hour, divided as follows: Twenty minutes in raising the temperature of the milk from, say, 60° F. to 212° F., remaining at 212° F. for ten minutes; cooling with water sprays from 212° to 70°, twenty minutes; while ten minutes was spent in charging and taking out; 7,500 bottles passed through the sterilizer each day, or one day's supply for about 800 children, being run with the machine on trolleys. The breakages in the sterilizer generally ran from 5 to 10 per 1 000.

The cold chamber had a total capacity of 2,000 bottles, but

generally 1,080 (two trolleys) was the charge at a time. It was cooled by one of Messrs. H. and J. West's refrigerating machines through the evaporation and condensation of carbonic acid gas. The falling temperature of the milk in the inside of the chamber is indicated on the outside wall of the chamber. This refrigerating machine was also used for cooling another chamber mainly used for keeping milk before treatment.

The bottle-washing machine now in use was, Mr. Anderson continued, the patent of Goldman and Co., London. The cleansing of the bottle was absolutely independent of the girl attending. It had an output of 20 bottles per minute, or 1,200 per hour, with one girl feeding it, one girl fetching the bottles from the steep tank, and one girl packing the clean bottles. Each bottle is washed three times, receiving clean water each time, and finally rinsed by the machine before taken off.

Steep Tanks.

The return bottles were placed in portable steep tanks with plenty of soda and water. The temperature of the water was then slowly raised to close on boiling point, and gradually cooled before being washed.

Concluding, Mr. Anderson said that the dépôt was entirely for the children of the poor. In Glasgow very often after confinement the women went to work again, and the little one was left to the tender mercies of an elder member of the family. Sometimes it was left in the care of a neighbour. He thought that the British Medical Association ought to urge that if it was necessary to license a person for a place to keep pigs it was equally necessary that a woman should have some qualification before she was permitted to undertake the care of children for the sake of a few coppers. Young girls, moreover, should be taught something about physiology, and women ought not to be permitted to work either right up to or immediately after their confinement. While the milk dépôt was started in Glasgow for the poor, better class people were now asking for the milk. Of course they had had difficulties. But, generally speaking, the experiment had been very successful.

II.—The Hon. NATHAN STRAUS,

New York.

THE conditions of a wholesome milk supply, though sufficiently simple, are extremely difficult of attainment. These conditions are: Healthy cows, clean stables, careful processes of milking, and prompt transfer of the milk in perfectly clean and close vessels from the cows to the consumer. When I first became interested in this subject—thirteen years ago—I found all of these requisites flagrantly violated in the milk supply of the great cities of this country. The inspection of cow stables to detect the presence of disease was neither careful nor constant; milking was done, in most cases, under conditions indescribably filthy, and most of the milk served to families was from thirty-six to forty-eight hours old before it reached them. The systems of milk inspection which were then adopted were directed almost solely to the detection of two abuses—skimming and adulteration with water—and to cutting off the supply of one kind of diseased milk, that drawn from tuberculous cows. The latter duty has usually been performed by State officers; the former is an exclusively municipal function. The public inspection of milk in the United States was thus, up to a recent date, directed mainly to the prevention of fraud, and rarely, if ever, to the discovery of pollution. Except as to the stamping out of tuberculosis, consideration affecting the public health received only incidental attention. As Professor Sedgwick said some twelve years ago in regard to Boston, "Public milk supplies may not be legally watered, but they may be stale, or polluted, or infected."

It appeared to me, as it had done to previous investigators in this field, that the time had come when we should be no longer satisfied with merely preventing the cheating connected with lowering the nutritive quality of milk, and that some systematic effort should be made to restrain its influence in the propagation of disease. It needed no expert knowledge to recognize the fact that polluted or stale milk carried with it the seeds of disease and death. While we have in pure, sound milk Nature's most perfectly combined elements of nutrition, I found that there was practically no milk delivered for general consumption in American cities that was fit to be used in its natural state. It needed but little reflection to be impressed with the fact that no plague by which a city was ever ravaged had yielded so plentiful a crop of deaths as that which is reaped every year from the seeds of contagion deposited in the infant system by millions of noxious bacteria developed in milk.

When this subject first engaged my attention, I found as to New York City (forming the present boroughs of Manhattan and the Bronx in the greater city) the following state of facts: The recorded births of the three years 1890-92 were 135,602; allowing for the fact that only five-sixths of the actual number are believed to be reported to the Board of Health, the real total may be placed at 162,721. During the same period, the deaths of children under 5 years of age were 52,213, or over 32 per cent. of the whole number of births. That one child out of every three that were born should die before attaining the age of 5 seemed to me like part of a system of permitted murder. The further fact that from 15 to 18 per cent. of all these deaths occurred in the five weeks between July 3rd and August 6th indicated the true source of the trouble. In 1891, the number of infant deaths in these five weeks was 2,658; in 1892 it was 3,440, an increase of 782. Coming down to the specific causes, it was found that diarrhoeal diseases accounted for about half of all this infant mortality. In the five weeks in question, the deaths of children under 5 from this group of diseases was 1,209 in 1891, and 1,617 in 1892.

Here was the evidence of a steadily increasing infant mortality in the hottest season of the year, traceable to a cause usually associated with the poisons bred in cow's milk more abundantly at that season than at others. It was not a violent assumption that much of this mortality was preventable, and that the most direct and effectual method of prevention was to place milk suited for infant nutriment within reach of the poorest. After making a thorough examination of the subject, and taking counsel with physicians both at home and abroad, I began to experiment in 1893 with one milk dépôt. More than a thousand sick babies were fed on the pasteurized and modified milk preparations, as to whose necessity for infant food I found medical testimony practically unanimous. Most of the children were ill with cholera infantum, and the benefit due to the improvement in their food was immediate and amazing. The system of pasteurization adopted was that prescribed by Dr. Rowland G. Freeman, of New York, by which the milk is exposed for twenty minutes to a temperature of 167° F. It has been demonstrated that tubercle bacilli die at 158° F., when submitted to that temperature for ten minutes. It is therefore reasonably certain that by this process all noxious germs in the milk are completely destroyed, while the nutritive qualities of the most perfect of Nature's foods are not sensibly impaired. I had a special preparation for babies' food made according to a formula supplied by Dr. Freeman. To this I added another from a formula supplied by Dr. A. Jacobi, and both have been sold in my dépôts ever since, as follows, at a uniform price of 5 cents:

5 to 6-oz. bottles formula No. 1, or
5 to 6-oz. ,, ,, No. 2, or
8 to 3-oz. ,, ,, No. 3, or
8 to 3-oz. ,, ,, No. 4, or
2 to 16-oz. bottles pasteurized unmodified milk.

In addition to these modified milk foods, barley flour has been sold. This was intended to meet a want keenly felt by the poor of wholesome nutrition at a price within their means for children beyond the infant state of growth.

The first year's experience showed me that the indirect results of my efforts were quite as valuable as those that could be directly traced to them. The standard of quality of the milk supply of the poor had been raised in the whole area adjoining my milk dépôt, the people being quick to discern the superiority of an article furnished at a low price over the more or less tainted and also more costly one they had been accustomed to use. The visiting physicians of the Board of Health and all physicians doing charitable work among the poor have been, from the beginning of my work, supplied by me with all the pasteurized and modified forms of milk which they required, free of expense.

It has been my effort from the first to have the milk sold at my dépôts so drawn, handled, and transported as to reduce to a minimum the chances of pollution. The milk is cooled thoroughly before shipment, kept cool in the process of transportation, and, on arrival at New York, is at once taken to the main laboratory and placed on ice, preparatory to being turned into the bottles to go through the process of pasteurizing. Before this, however, it is run through a separator for the purpose of freeing it from all mechanical impurities. It has been a rigidly-observed rule that, without respect to demand, no bottle of pasteurized milk should be sold twenty-four hours after its preparation. Experience has taught my staff not a little as to the details to be observed in the effort

to secure the most perfect results, but these are the main lines on which the business has been conducted.

In 1894 preparations were made to supply natural, pasteurized, and modified milk on such a scale and at so many different dépôts as might make a perceptible impression on the milk supply of New York, and so reduce the sum of its infant mortality. The character of the summer was well calculated to put the experiment to a severe test. The average temperature of the latter part of June, of the whole of July, and of part of August was unusually high, and much higher than of the preceding year. For the first quarter of the year the mortality of children under 5 showed more than the proportional increase which might be expected from the increase of population, the ratio of which was about 3 per cent. per annum. There were 4,108 children's deaths in the first quarter of 1894, or 10 per cent. increase over the same period of 1893. For the second quarter, the deaths in 1893 numbered 4,386, and in 1894, 4,483. As in the second quarter my milk dépôts were open, I was encouraged to believe that this arrested increase might in part be due to their influence. The mortality statistics for July and August confirmed me in this belief. For July, 1893, the deaths of children under 5 numbered 2,796, while for the same months of 1894 they were only 2,562. In August, 1893, they numbered 1,686, declining in the same month of 1894 to 1,559. Thus, instead of the increase of 10 per cent. in the mortality of children with which the year had started, the two most fatal months of the years showed a decrease of 8 3 per cent. The deaths under five years for July and August, which, had they followed the rate of increase established during the first quarter of the year, would have numbered 4,930, were only 4,111. Here was an apparent saving of 819 lives in two months, or a decrease of the toll levied by death on the children of New York of sixteen out of every hundred.

The year 1895 was one of relatively high mortality in New York, the death rate being 23 11 per 1 000, against 22.76 per 1,000 in 1894. But it is a striking fact that while the total increase in the number of deaths was 2,245, the increase in the deaths of children under 5 years of age was only 663. As these latter accounted for 41.9 per cent. of the total number of deaths, and for only 29 5 per cent. of the increase, the evidence seemed conclusive that decided progress had been made in the saving of infant lives. In 1896, the death-rate was 21.52 per 1,000, the number of deaths decreasing as compared with the previous year by 1,798. Of this decrease 1,414, or over 78 per cent., was due to the reduced number of deaths of children under 5 years of age. During the three months of June, July and August, there was a decrease of 512 deaths of children under 5, as compared with the previous year. Still more striking was the decrease in the number of children's deaths in 1897: while for the eight months ending August the deaths under 5 years were 12,734 for 1896, and 13,287 for 1895, they were only 10,962 for 1897. For June, July, and August the deaths under 5 years of age numbered 5,041 in 1897, against 5,671 in 1896, a decrease of 630, or about 11 per cent. A comparatively cool summer had something to do with this sudden fall in the infant death-rate, and to the improved sanitary conditions of the city must be accorded their fair share of credit; but, as every physician knows, neither a slight fall in the average summer temperature nor cleaner streets and better-regulated tenements will greatly abate the prevalence of infant diarrhoea if the feeding bottles contain the germs of disease.

The following table shows that even the comparatively low level of infant mortality reached in 1897 has been considerably improved on in more recent years:

Population, Deaths, and Death-rate of Children under 5.

Year.	Population.	Deaths.	Death-rate per 1,000 per annum.
1891	188,703	18,224	96.5
1892	194,214	18,684	96.2
1893	199,885	17,865	89.3
1894	205,723	17,558	85.3
1895	212,983	18,221	85.5
1896	218,544	16,907	76.0
1897	222,387	15,395	69.2
1898	226,515	15,591	68.8
1899	230,842	14,301	62.3
1900	235,386	15,648	66.8
1901	240,100	14,809	61.6
1902	245,202	15,019	61.2
1903	250,518	14,462	54.8
1904	256,137	16,197	63.0

Assuming, as I think I have some right to do, that the steady decrease above indicated in the infant mortality of New York during the last eleven years has been closely related to the work of my milk dépôts, it is instructive to note that while in 1893, the year before my service was on a sufficiently large scale to be a recognizable element in the milk supply of New York, the death rate of children under 5 was 89.3 per 1,000, it had been reduced by 1897 to 69 2 per 1,000. The reduction, continued somewhat irregularly since that year, reached its lowest figure in 1903, when the rate fell to 54.8 per 1,000. But perhaps the most impressive demonstration of the saving of infant lives which has been effected in New York since the beginning of my work is to be found in the fact that while the average mortality among children under 5 for the quinquennial period 1891-5 was 90.6 per 1,000 per annum, the rate for the five years 1900-4 was 61.2 per 1,000 —a reduction of 32 4 per cent. Or, to put the case in another way, the increase in the infant population of the city, on the average of the two periods compared, was 22½ per cent.; but while the annual average of deaths in this population in the five years 1891-5 was 18,110, it was only 15 203 in the five years 1900-4. Obviously had the ratio of deaths to population in the first quinquennial period represented the mortality of the last one, we should have had an average of 22,185 infant deaths per annum, so that the saving of infant lives effected in the ten years during which my infant's milk dépôts have been fully equipped and organized is not less than 6 982 per annum. By pushing the comparison back to a period antedating any effort to improve the milk supply of New York, a still more striking saving of life could be shown. There has, of course, been a continuous improvement in the sanitary conditions of the city during the period under review, but I think I am right in the assumption that these are insufficient to account for the results I have summarized in the absence of any successful effort to place pasteurized milk food within reach of the children of the poor.

This assumption becomes invested with the certainty of a demonstration, when the following table is examined of the infant deaths and death-rate for the three hottest months of the year—June, July, and August—when the peril to child life is greatest and the distribution of pasteurized milk has been on the largest scale.

Deaths and Death-rate of Children under 5 Years of Age for the Months of June, July, and August.

Year.	Population.	Deaths.	Death-rate.
1891	188,703	5,945	126.0
1892	194,214	6,612	136.1
1893	199,886	5,892	117.0
1894	205,723	5,788	112 6
1895	212,983	6,183	116.1
1896	218,544	5,671	103.8
1897	222,387	5,401	90.7
1898	226,515	5,647	89 1
1899	230,842	4,629	81.2
1900	235,386	4,562	77 5
1901	240,166	4,642	77.3
1902	245,201	4,389	71.6
1903	250,518	4,037	64 5
1904	256,137	4,805	74.5

It will be perceived that in the year before I began the systematic prosecution of my work the infant death-rate for the summer quarter reached the appalling figure of 136.1 per 1,000 of the population under 5 years of age. Last year the ratio was reduced to 74.5 per 1,000. In other words, had the infant mortality of the same quarter of 1892 been reproduced, relatively to the population, in 1904, the number of deaths would have been 8,725 instead of 4 805. I do not think it is a hasty induction from the facts to claim that the most important element in the saving of these 3,920 infant lives has been the improvement of the character of the milk food supplied to the children of the New York poor.

An interesting and very convincing illustration, on a small scale, of the good results attending the pasteurization of milk food for children is furnished by the history of the establishment of a plant in the Infant Asylum at Randall's Island, New York.

In 1897 the death-rate amongst the waifs picked up in the streets of New York and taken to the hospital of this institution was 44.36 per cent., a rate so high as to become a matter of grave concern to those in charge. I asked permission to supply the Asylum with all the pasteurized milk they required. This offer was declined, and the appalling death-rate

continued. Finally, in 1898, I secured permission from President John W. Keller, of the Department of Charities, to instal in this Asylum a complete plant for the pasteurization of milk foods. For the three years preceding this installation the ratio of deaths to the number of children under treatment was as follows:

1895. Children treated, 1,216; deaths, 511=42.02 per cent.
1896. Children treated, 1,212; deaths, 474=39.11 per cent.
1897. Children treated, 1,181; deaths, 524=44 36 per cent.

The pasteurizing plant was installed in the early part of 1898, and the death-rate immediately dropped as follows:

1898. Children treated, 1,284; deaths, 255=19.80 per cent.
1899. Children treated, 1,097; deaths, 269=24.52 per cent.
1900. Children treated, 1,084; deaths, 300=27.68 per cent.
1901. Children treated, 1,028; deaths, 186=18.09 per cent.
1902. Children treated, 820; deaths, 181=22.07 per cent.
1903. Children treated, 542; deaths, 101=18.63 per cent.
1904. Children treated, 345; deaths, 57=16.52 per cent.

In short, had the same ratio of deaths to the number of children treated been maintained in this institution during the last seven years which was established during the preceding three years, the number of deaths would have been 2,604, instead of 1,349. It would be difficult to find a more impressive demonstration of the value of the use of pasteurized food in the feeding of infants. The demonstration was all the more striking because no other change whatever had been made in respect of either diet or hygiene in the management of the institution.

If it be conceded that the direct and indirect influence of my milk dépôts has had a perceptible influence in lowering the annual infant mortality of New York, it must follow that the work of these dépôts, so extended as to include practically the whole milk supply of the infant population of the city, would make a much more decided impression on the death-rate. An organization so comprehensive as this would require belongs to the sphere of municipal rather than of private effort. I am at present engaged in the building and equipment of a new laboratory, with a pasteurizing plant of much larger capacity than that which I now employ. That the limit of the capacity of my present establishment is being rapidly reached may be inferred from the subjoined figures, showing the increased monthly demand of the present year as compared with the corresponding months of 1904. The figures represent the various sizes of bottles, and are thus merely a general indication of the amount of milk consumed.

Bottled Milk Dispensed from the Straus Dépôts.

	1904. Bottles.	1905. Bottles.
January	162,903	198,928
February	153,274	196 579
March	178,813	228,313
April...	171,617	244,665
May	172,196	261,387
June (to 15th)	79,219	133,058

As there is a fractional loss on every bottle of milk sold, taking no account of the thousands distributed to families who are unable to pay for them, it is obvious that the work in which I am engaged must, at the present rate of expansion, shortly transcend the bounds of private effort. No better proof of its utility could be given than the remarkable elasticity of the demand now fairly established for my milk foods. The tenement house population of New York have learned their value in the saving of children's lives, and I contemplate with dismay the time when any organization which I am able to provide will be inadequate to supply the demand for them. I can only trust that before that time arrives the city itself may be prepared to accept the obligation, which no other agency can so well discharge, of making a supply of a wholesome milk food for infants a municipal function, and so stamping out the seeds of a plague more destructive than any that is to be dreaded under the conditions of our modern civilization.

III.—Thomas D. Lister, M.D.

Physician to Out-Patients, Royal Waterloo Hospital for Children and Women, London.

Dr. Lister said that the basis of the whole position, which at last was becoming generally recognized, was that health might be made or marred for life in the first twelve months of existence. All who considered the question of national degeneration, and the feeding of school children, were forced at last to the consideration of the origin of all the later troubles, the habitual malnutrition of infants. The significance of infantile mortality statistics did not lie only in their magnitude. There was something beyond. The case mortality varied, but the damaged survivors of each group of sick infants suffering from food disorders became units later on in the statistics of the Registrar-General. The milk dépôt has for its object the supply of a clean, pure, nutritious food in a convenient form, and in such a way as to reduce to a minimum the risks of contamination. It was not an ideal method of infant feeding, nor did it reform the milk supply as a whole, though it might do much to improve the latter. The possibility of the occurrence of scurvy in children fed on sterilized milk had been greatly exaggerated, and even if it did occur, the danger was minimal compared with the greater evils of infantile diseases produced, in part at all events, by bad feeding.

IV.—H. Cooper Pattin, M.D.,

Medical Officer of Health of Norwich.

Dr. Pattin wished to remind the Section that reduction of infantile mortality involved much more than a rationalized feeding of infants; that it was but a part, though a very important part, of a very complicated problem. For example, nearly one-third of the deaths of infants in his city were due to virtually prenatal causes, and to reduce these it would clearly be necessary to deal with the feeding of the mothers. It was all-important to keep in mind the fact that the feeding of infants was but a portion and not the whole of the problem before them. He was in favour of educating children at school in the hygiene of milk, of pasteurization rather than sterilization; but more than either, he was in favour of complete control from cow to consumer; and of the sale of milk for human consumption being permitted only in bottles or other sealable vessels.

V.—T. Whiteside Hime, M.D.,

Bradford.

Dr. Hime said that it was rather startling how every preceding speaker had ignored the far-reaching political, social, and socialistic questions involved in this proposal to induce municipal authorities to establish dépôts for milk supply, in order to relieve mothers of their responsibility to suckle their infants. Would it be well on the whole for the nation to increase the growing want of sense of duty and responsibility, even if the infant death-rate is lowered? The question of the quality of the milk supplied had not been referred to. He had found that in many towns a milk was being supplied the quality of which was unknown. It was the same for infants of 3 months as for the newly-born, and consequently quite unfit. He had found that in some towns it was not sterile. Heating the milk did it a great harm; it deprived the lact-albumin of its natural property of killing B. coli, and thus deprived the infant of a great protection.

VI.—D. S. Davies, M.D.,

M.O.H., Bristol.

Dr. Davies said that this question was not urgent in Bristol. In ordinary years the infant mortality did not exceed about 140 per 1,000 births, and in 1903 dropped to 114. With regard to the practical aspect of the question, he had watched the work for some time, but could not see that there was at present evidence that the milk distribution always reached the class which needed it, but this was essential. The mere establishment of milk dépôts, and indiscriminate distribution of milk to all and sundry, would result, he feared, in disappointment some statistics he had seen owed their apparent improvement to the climatic conditions of the much-quoted year 1903, the autumn of which was free from extremes of temperature and from autumnal diarrhœa, and therefore unusually favourable to infant life. He was inclined to favour private enterprise in this matter.

VII.—Philip Boobbyer, M.D.,

Medical Officer of Health, Nottingham; President of the Section.

The President said that it was difficult to apply a statistical test to an estimate of the value of milk sterilization or other means of improving the health of the poorer infant community. Fluctuations in the infant death rate were, under

existing circumstances, largely due to, largely dependent upon meteorological conditions. Since 1891 he had circulated an infant-feeding leaflet recommending only boiled milk, variously diluted, sugared and creamed, to suit children at different ages. He regarded scurvy rachitis as for the most part a simple bogey where the milk was fresh. There was much hand-feeding, but very little scurvy rachitis. He had an exact record of the medical history of 32 children brought up under his own observation on boiled milk, without a single instance of illness in any way attributable to the artificial feeding. He was still, therefore, prepared to recommend the sterilization of milk intended for hand-fed children by boiling. In his opinion it would be better to leave the establishment of milk dépôts, as in his own city, to private enterprise. The local authority should, he thought, content themselves with effective supervision.

WHAT IS NOTIFIABLE DIPHTHERIA?

A Combined Discussion by the Sections of State Medicine and Laryngology, Otology, and Rhinology.

I.—P. Watson Williams, M.D.Lond.,

Physician to the Bristol Royal Infirmary, and in Charge of the Department for Diseases of the Throat; Physician to Clifton College; Lecturer on Practical Medicine, University College, Bristol.

DIPHTHERIA IN REFERENCE TO THE INFECTIVITY AND NOTIFICATION OF THE LATENT FORMS.

The diagnosis of any infective illness, apart from its purely scientific interest, is often a matter of great and far-reaching importance in practice, and very frequently the greatest difficulties arise in connexion not with the severe but rather with the slighter attacks.

Thus, with diphtheria it is not the well-developed attacks, with definite membranous exudation in the fauces or other parts of the upper respiratory tract, but latent attacks, which are prone to escape recognition, or to give occasion for any doubt as to infectivity or notifiability.

It may be well to state what we mean by "latent" diphtheria. If we may define diphtheria as any pathological condition, local or general, due to infection by specific diphtheria organisms, diphtheria is "latent" when such pathological conditions are unaccompanied by obvious illness. Thus a nasal catarrh, increased pulse frequency, an irritable heart, a redness of the fauces, or slight tonsillitis, may severally be the only symptoms, and yet, if due to diphtheritic infection it is pathologically diphtheria. But the presence of virulent diphtheria organisms in the nose and throat, unassociated with any local or tissue changes is not diphtheria, although in recent contacts such inoculation may rapidly pass into diphtheritic infection.

The diphtheria organism is not only exceedingly polymorphic, but variable in its virulence from the highest virulence to absolute non-virulence, while the susceptibility of the host likewise varies within such wide limits that, however expert the bacteriologist, he must often be unable to determine the clinical import of the micro-organisms discovered in his laboratory. It is our uncertainty as to the limits of normal variation of the diphtheria organisms, both in respect of virulence and morphology, that makes it very difficult to exactly define what must be regarded as clinical or infectious diphtheria.

For the purposes of discussion, it seems necessary to classify these forms, and to avoid ambiguity I suggest that we provisionally adopt Wesbrook's classification of diphtheria bacilli into three main groups; the granular, the barred, and the solid or evenly-staining bacilli. These again are each subdivided into types depending on their size and shape.

Thus we get type A, the forms commonly described as "involution forms": A, granular; A_1, barred; A_2, solid-staining.

Type C, commonly described as long diphtheria bacilli: C, granular; C_1, barred; C_2, solid-staining.

Type D, usually described as short diphtheria bacilli: D, granular; D_1, barred; D_2, solid-staining.

Now Wesbrook's D_2 is frequently called the "atypical form" of diphtheria bacillus, and is probably identical with the Hoffmann or pseudo-diphtheria type of other observers.

The Hoffmann bacillus, although so usually comprised in the pseudo-diphtheritic group, is distinguishable from the Klebs-Loeffler bacillus by morphological characteristics, and by certain cultural and biological features. Notwithstanding the oft-quoted experiments of Salter, Trumpp, and of Hewlett and Knight, I think the weight of evidence is against its having any clinical import whatever; but whether the true bacillus when attenuated by prolonged action of the mucosa with which it is in contact may lose its virulence, and under certain conditions favourable to its growth regain virulence is quite another matter.

The import of the Hoffmann bacillus cannot, however, be lightly dismissed. Heaven reports that he has observed apparent infection of others in a family by persons whose cultures only yielded Hoffmann's bacilli, "in one instance a culture from a case, many cultures from which never showed any organisms save Hoffmann, was found by Dr. Klein to kill guinea-pigs like diphtheria does; and in another instance a child with only Hoffmann died in a few days."[1] A large school of observers in France especially and America, for example, Wesbrook and Gorham, certainly regarded Hoffmann's bacillus as a modified and attenuated diphtheria bacillus, and Joseph Priestley has recorded an outbreak of infective throat attacks in a Lambeth school characterized by tonsular exudation and pyrexia, and in which the typical Hoffmann bacillus was present in 38 out of the 43 cases.

Now it is only the clinically mild and doubtful cases that come within the scope of our discussion, and these we may subdivide into three groups:

1. Patients who afford none of the usual clinical indications of diphtheria, are not definitely ill, and yet are found to be anaemic, have increased pulse frequency, are poorly, in association with nasal catarrh, membranous rhinitis, faucial redness, and slight subacute tonsillitis, otorrhoea, sores, etc., which on bacteriological examination prove to be diphtheritic.
2. Cases with any of these diphtheritic lesions but with no general symptoms of ill-health.
3. Persons who present no local lesions and no departure from normal health, but in whom diphtheria bacilli have been found by culture tests.

With regard to the Group 1, there is much reason to regard all cases in this group as true diphtheria, and to isolate, notify, and treat them as such till repeated bacteriological examination has shown them to be free from diphtheria bacilli, or until with lapse of time and the absence of all symptoms there is reason to regard them as non-infectious. I dissent from the view now so generally held that so long as a few atypical diphtheria bacilli can be recovered from the nose and throat the patient must be infectious. But when such bacilli, or even the short barred form (D_1 of Wesbrook), is associated with nasal catarrh, chronic tonsillitis, or with abnormal faucial redness, with or without clinical symptoms, such an individual must be considered a source of danger if allowed to mix in a susceptible community until the organisms are proved to be non-virulent. I may give the following example from my own recent experience:

A boy, X., having had tonsillitis, returned to his boarding school sixteen days late, mixing freely with young boys in the school and in the boarding-house of twenty boys aged from 11 to 13. He had a sore finger, and consequently went to the matron night and morning to have it dressed. Four days later the matron had a sore throat, which suggested diphtheria clinically, and proved to be so bacteriologically (C_1, D_1). The boy was examined, and found to have a persistent nasal catarrh, supposed to be due to a cold in the nose. Cultures showed that D_1 and D_2 bacilli were present in the nose in small quantities. The temperature was normal, but the pulse unduly frequent; otherwise X. was in fair health. After isolation and two negative nose and throat cultures he was liberated, but other boys developed slight sore throats, which soon passed off. Three weeks from the first examination, after local antiseptics had been discontinued for some days, X. was found to have a return of the nasal catarrh, and swabs showed that D_1 and D_2 were once more present. Meanwhile, another of his companions had slight tonsillitis, and a culture yielded short diphtheria-like bacilli (D_1).

X. was once more isolated, and after local antiseptic treatment he yielded negative cultures. Local antiseptics being discontinued some days, he gave again negative cultures, but the third lot of cultures during this isolation showed that C and D_1 were present in the nose. Now this was six weeks after the initial examination, and they then proved to be non-virulent when tested for virulence. But the same organisms persisted at least for a further four weeks, two successive cultures often being negative.

As for Group 2, many instances are recorded of outbreaks of diphtheria due to persons who, though in good health, have a persistent nasal catarrh, which bacteriologically proves to be diphtheria. An instructive, but by no means isolated example,

[1] *Public Health*, vol. xv, p. 529 et seq.

which I referred to in the last edition of *Diseases of the Upper Respiratory Tract*, was recorded by Dr. Davies as follows:

A patient of a medical man suffered from an indefinite form of sore throat, and three weeks later the doctor's two children attended a party at the lady's house and were fondled by her. At intervals of eleven and sixteen days the children developed nasal membrane without other disturbance of health, and portions of the membranes having been found by Dowson to contain the true bacillus material was also submitted to Klein, who also found the disease to be diphtheria of a virulent type when tested by inoculation of guinea-pigs. Active local antiseptic treatment had been employed for some two months, when the children were declared practically free from the disease. But at the end of two months their mother sickened with a disease which also proved to be true diphtheria and the bacillus was again recovered from the children's nasal membrane. The malady ran a mild course, and at the end of another month no diphtheria bacilli could be recovered from any one of the three patients.

Many investigations bearing on the relationship of chronic membranous rhinitis have been recorded, and Graham-Smith collected reports of 52 cases by various observers, which showed that 43 yielded virulent Klebs-Loeffler bacilli. Undoubtedly children with diphtheritic membranous rhinitis would be a fruitful source of infection to others if allowed to go to school, yet often enough the patients exhibit no general symptoms of ill-health, and the only indication that there is anything the matter with them is the persistence of a stuffy cold, and the existence of a membranous exudation, which can be detected on careful examination of the nasal passages.

As regards Group 3, it has been repeatedly demonstrated that virulent bacilli are present in the noses or throats of a large proportion of doctors, nurses, and students who have been in attendance on cases of diphtheria, but it has yet to be shown that such infected contacts are liable to spread diphtheria, or are actively infectious till they develop local symptoms. In one large hospital where cases of diphtheria were admitted, the resident medical staff had their own noses and throats cultured, and of the five individuals, all were "positive," only one throat culture being returned as negative, but they continued their work with no harmful result. We could never push the view to its logical conclusion that all infected contacts should be notified and isolated, and as a matter of fact we are guided by clinical experience, and only isolate and treat those who show symptoms, or who, being young children, are of the susceptible age.

Difficulties have occurred in my experience in dealing with patients who, without any discoverable local disease, afforded bacteriological evidence of infection by true diphtheria, and in the majority of instances coming under our notice they were presumed to be virulent, inasmuch as we were requested to notify them as cases of diphtheria.

At the Deaf and Dumb Institute at Bristol, in which there were forty-four boys and girls between the ages of 8 and 15, and fourteen adults, a case of clinical and undoubted diphtheria appeared on March 28th, and was at once removed to the fever hospital.

On March 30th the throat and nose of every inmate was examined and cultured by Dr. George Parker and myself, with the result that twenty were found by the Bristol Health Department to have diphtheria bacteriologically. (Only one of the twenty was an adult.) Of the children fifteen had nasal infection (1 A, 5 D, the remainder D_1), and three had only throat infection (C and D), while one was nose, throat, and ear (D).

Had all been infected we should have felt no hesitation in allowing their free intercommunication, but circumstances made it impossible to isolate the infected persons, and they were allowed to mix freely with the others. The only precautions observed were: (1) That a dose of 500 units of antidiphtheritic serum was administered by the mouth, and (2) the nose and throat of every inmate was sprayed with boracic acid or biniodide of mercury solution, 1 in 2 000, daily.

On April 18th cultures were again taken, and three who were negative on the first culture gave positive results this time—two in the nose and one in the throat.

It would be useless to follow minute details with regard to these cases, but it is sufficient for our purpose to point out that in this community of 44 children 19 had diphtheria bacteriologically, and that despite the very free intercommunication between all the inmates, not one developed clinical diphtheria; while, after the lapse of two months, the bacilli had entirely disappeared on culture, with one exception, which was then removed to the fever hospital.

We have observed no paralytic sequelæ, nor have any of the inmates exhibited any local or general departures from the limits of normal health, with this exception, that the pulse was unduly frequent in a large proportion of the children, though not more in those who had yielded positive cultures than in the negative cases, and in no case was there observed any irregular action of the heart. All have gone about as usual, and have done their full work and play. Albumen was found in 10 out of 44, but only 2 of the 10 had ever been positive, and 1 of these had had scarlatina.

Thus, 19 persons infected by recent contact with a case of diphtheria were allowed to mix freely with all the other non-infected children and adults.

We found that not only were there no subsequent cases of diphtheria but that the number of infected persons diminished week by week; while very few of those not returned as positive at the outset yielded positive results on later culture, although at the end of two months one positive report was received.

During one of the diphtheria outbreaks at Cambridge in 1901 Cobbett reports[2] that an isolation home was formed where 18 children were intermingled, 11 who, without being ill, were found to be carrying about the diphtheria bacillus, 2 mild cases of clinical diphtheria, and 5 convalescents from Addenbrooke's Hospital.

It is very interesting to note that, the virulence of the bacilli having been tested subsequent to the admissions to the home, 5 who had only non-virulent bacilli were living with 12 others infected with diphtheria, of whom 8 were proved to have virulent infection. Yet no fresh case arose, and, moreover, the non-virulent infections did not alter their character.

As a rule, a susceptible person infected with virulent diphtheria will develop symptoms within a few days, seldom exceeding seven, if an acute attack is going to develop at all. Yet may we not infer from clinical experiences and recorded investigations that the Klebs-Loeffler organism may be implanted in the nose or throat of a more or less susceptible host, and if of low virulence remain quiescent, or may lose all virulence? But when from any cause the affected territory becomes inflamed the virulence of the diphtheria bacilli becomes more active, and they increase in number, and are liable to cause the development of clinical diphtheria in the host, or to spread to intimate contacts, such, for instance, as the boys and girls in the same class-room or dormitory.

With the interchange of "flora" there is a "progressive increase in the property of infectiveness," as it was termed by the late Sir Richard Thorne Thorne, and with it a morphological change in the organisms from the so-called pseudo-diphtheria type, or D_1 or C_2 of the Wesbrook to the more characteristic D or C or C_1; then, with increasing virulence of the organism and multiplication of the bacilli, in the young community till a characteristic faucial diphtheria appears in one or more susceptible subjects. An example of this method of propagation occurred some time ago in one of the houses at Clifton College.

But even in infected communities long periods may pass without outbreaks of diphtheria arising. Hence Goadby from the simple bacteriological examination (without inoculation) of 100 healthy children in a school in which no diphtheria had occurred for two years, found the diphtheria bacillus in 14 out of 42 children with unhealthy throats, and in 4 of the 58 with healthy throats. There is little room for doubting that if the noses had been cultured a very much larger number would have yielded diphtherial organisms. Probably the children who live in such districts are in a safer condition from being infected, or shall I say "vaccinated" with diphtheria of low virulence. In no other way can we explain the local prevalence of virulent nasal diphtheria instanced by Lambert Lack,[3] who, in recording his 23 cases of fibrinous rhinitis associated with virulent Klebs-Loeffler organisms, stated that they were so common as to amount to 2½ per cent. of all the children attending his hospital practice. In such districts it would be futile to notify and quarantine all the healthy children whose noses were infected, for they would soon be re-inoculated after return to school life. Our attitude should be quite different, however, when dealing with schools or communities where diphtheria is rare, and we have to deal with boys and girls who are practically free from diphtherial infection. If a clinical case of diphtheria arises, it is well to culture the immediate contacts and isolate those affected, until by local treatment they are free from diphtheria organisms, but such an ideal method of procedure cannot

[2] *Journal of Hygiene*, 1901.
[3] BRITISH MEDICAL JOURNAL, ii, 1338.

always be adopted. Even then the difficulty is to decide how long should such prophylactic measures be carried out, and what are or are not potentially virulent diphtherial organisms.

I fear I have done little more than indicate some of the difficulties in connexion with diphtheria. But I venture to think that several practical suggestions may be obtained from a fuller consideration of nasal infections.

The nasal passages are the normal portals for respiration, and it has been calculated by StClair Thomson and Hewlett that, at the lowest estimate, 1,500 organisms are inhaled into the nose every hour; while it must be a common event in the average London atmosphere for 14,000 to pass into the nose in a single hour. Nevertheless, it has been demonstrated that expired air is practically germ-free, and that all, or almost all, micro-organisms have been arrested in the nasal passages before the inspired air reaches the trachea. For the most part, the micro-organisms and various impurities are arrested in the vestibule by the vibrissae, and the remainder are rapidly removed from the mucous membrane, partly by the action of the ciliated epithelium of the Schneiderian membrane, partly by the downfall of mucus.

From the investigations of Park and Wright and others, there is good ground for believing that the nasal secretion directly inhibits the growth and vitality of the organisms before they are carried down through the posterior choanae to the naso-pharynx and fauces.

It is obvious that large numbers of any pathogenic organisms in the atmosphere inspired must be frequently entering the nasal passages, yet we find that the normal individual does dispose of them without suffering from infection. The initial lesions, in cases of actual infection, are seldom found in the nose, but in other regions where natural protection is less complete. Thus, in scarlatina and in diphtheria it is the throat which, in the vast majority of cases, suffers first and foremost: the faucial lesion often spreads in various directions, but rarely to the nose, and when the nose becomes secondarily affected by extension of the disease from the throat it indicates a very severe attack; hence, in diphtheria, a secondary extension of membrane to the nose is of grave significance and often fatal. Is not this due to its indicating that the infective process is so virulent or the resistance of the patient so overcome that the normal protective processes have broken down?

On the other hand, a primary nasal diphtheria is almost invariably mild in its clinical course, in fact it is usually a purely local affection, although in a large proportion of cases the membrane yields a pure culture of typical long Klebs-Loeffler bacilli which prove highly virulent to guinea-pigs.

It is noteworthy that if the nose and throat of contacts be cultured, the nose is very much oftener infected than the mouth. Thus in the institute already referred to, in which Parker and myself had 19 children out of the 44 returned as positive, we found that—

The nose alone was infected in	12
The throat	3
Both nose and throat	3
Nose, throat, and ear	1

Heaven from the culturing of two schools found—

Nose only affected ...	17 with diphtheria	93 with Hoffmann	
Throat	1 ,,	5 ,,	
Both throat and nose ...	5 ,,	8 ,,	

Gorham[4] gives the following results (deduced from one of his tables):

In two infected schools	Nose affected ...	3 with diphtheria-like bacilli		50 out of 191 examined
	Throat... ...	17 ,, ,, ,,		
Healthy lodgers	Nose	82 ,, ,, ,,		94 out of 400 examined
	Throat... ...	12 ,, ,, ,,		
Healthy school children not contacts	Nose	119 ,, ,, ,,		13 affected out of 504 examined
	Throat... ...	17 ,, ,, ,,		

Now, we have very strong evidence that if the throat only be examined for diphtheria-like organisms a very different result would be obtained. Thus, Graham-Smith[5] gives two tables of collected statistics to show the percentage of diphtheria bacilli in normal persons, and he found that in 3,374 persons examined, the throats yielded morphologically diphtheria-like organisms in 108, with 9 instances of virulent and 26 of non-virulent diphtheria bacilli; while in 1,149 persons examined, they not having been recent contacts, the throats yielded 3 instances of virulent diphtheria bacilli and 19 non-virulent. Graham-Smith concludes that:

> Amongst persons who have had no opportunity of acquiring the bacilli from clinical cases or contacts virulent bacilli are present in very small numbers.

I think we are warranted in assuming that, except in contacts, virulent bacilli are seldom present in the throats of healthy persons. But we cannot accept Graham-Smith's statistics as evidence that the nose is not frequently infected in healthy persons with diphtheria-like organisms.

It is remarkable how long diphtheria will persist in the nasal passages. The study of 220 fatal cases of diphtheria, by Councilman, Mallory and Pearce, and the investigations into the bacteriology of nasal sinusitis by Howard and Ingersoll of Cleveland, show conclusively that diphtheria bacilli, like Friedländer's bacillus, the bacillus of influenza and various pyogenic organisms may reach and persist in the accessory sinuses. We are well acquainted with nasal accessory sinus cases which continue to discharge for years, and we can thus readily explain a persistent recurrence of diphtheria bacilli which is sometimes observed in nasal discharges despite most careful antiseptic nasal irrigation.

For instance, a boy under my care had slight nasal diphtheria in December, 1904, and after three nose and throat cultures was allowed to return to school in February. He had pleurisy later, and a nose-and-throat culture was taken—both negative. But later, four months after the attack of diphtheria, the nose yielded a positive culture.

Now we have already dwelt on the dangers that may arise from latent diphtheria of the nose, and we may recall, as examples of diphtheria outbreaks arrested and stamped out by bacteriological investigation, the outbreaks at Bristol, at Cambridge, and at Colchester which have been recorded by Heaven, Cobbett and Graham-Smith, and which constitute triumphs in practical research work. In mentioning these, I am aware that it would be easy to multiply illustrations proving the practical value of cultures in the diagnosis and control of diphtheria. No one feels more indebted to the bacteriologist than I do, and this is, I think, borne out by my constant resort to their help in practice; but is there not a real danger of misinterpreting the lessons conveyed by such work as I have alluded to, and of too readily accepting the view that every entirely healthy individual whose nasal swab yields diphtheria bacilli is a danger to the community unless isolated and treated as a potential source of diphtheria, even if the culture yields nothing more than the forms known as D_1, the small barred diphtheroid bacilli? Probably the reply would be that diphtheria organisms are well defined and their presence shows that the host has been in contact with the disease, and that it is communicable to others.

Is this true? There are about twenty morphological varieties of diphtheria bacilli, and the long forms and the short forms are both associated with mild and with severe or fatal cases; and, while many experts deny the possibility of distinguishing between Hoffmann's bacilli and short diphtheria bacilli, others recognize no such distinction, and maintain that Hoffmann's bacilli are but attenuated diphtheria.

A few months ago I was confronted with this difficulty in connexion with a large public school. An outbreak had occurred in a house of 43 boys. Those who were not attacked were sent home, and any of them who, while remaining healthy had yielded diphtheria bacilli on culture, were required to produce certificates of two negative nose and throat cultures before returning; whereas those who had suffered were required to have had three negative cultures from the nose and throat.

Meanwhile at least four weeks' Christmas holidays had intervened, but many of the boys' cultures were reported as showing Hoffmann's bacilli, and had I insisted on these being kept away till clear of Hoffmann's bacillus the interference with their school life would have been very serious. This would have been very absurd unless one had insisted on the whole school being cultured, for I had no manner of doubt that many of the hundreds of boys who had not been cultured would be found to be equally affected if the swab test had been applied.

No cases of diphtheria arose from the presence of these fairly recent contacts returning with Hoffmann's bacilli in their noses or throats.

A little time back an attempt was made to get beds set aside in the metropolitan fever hospitals for patients infected with Hoffmann's bacilli. Why, if such a practice were enforced, we should have half the healthy poor in isolation wards.

[4] *Journal of Medical Research*, vol. vi, 1901.
[5] *Journal of Hygiene*, 1903.

It may be urged that, in persons who are recent contacts with clinical diphtheria, any positive diphtheroid bacteriological results must be regarded with grave suspicion—an argument that at once concedes that the culture test largely depends for its value and reliability on the clinical fact of recent contact. Hence even such doubtful forms as that known as Wesbrook's D_1 must be carefully noted in recent contacts, whereas their presence in healthy persons who are not contacts is probably of little importance. Of these I have recently had the following examples. A boy in a boarding-house of forty-four scholars had a slight sore throat, cultures were negative from the throat, and positive from the nose, C_1, D_2, subsequent cultures all negative. Another boy in a house of sixty-eight boys had tonsillitis, his nose gave positive culture (D_1 D_2), and the throat negative; he recovered very quickly, but a week later, antiseptic applications having been used meanwhile, the nose still yielded the same organisms. Another boy, in a house of forty-four boys, had a very slight sore throat, but his cultures yielded exactly the same result. In no one of these large school-houses, where the boys were all freely mixing, eating, sleeping, and playing together, had there been any cases of diphtheria for years, and no case had arisen subsequently. There was nothing in any one case to suggest diphtheria clinically, and in two of the cases the health was excellent except for the most transient departure from the normal.

These were instances of sore throats; cultures were made by Professor Kent, a skilful bacteriologist, for our medical officer of health, and returned as positive diphtheria; but as in none were there any nasal symptoms, I could not notify them as diphtheria.

It may seem a simpler matter to regard as true and infectious diphtheria, and to notify them as such, all patients whose nasal passages exhibit abnormalities of the mucosa in association with diphtheria bacilli; yet we meet with conditions where it is difficult to put such views into practice. For example, I would cite the case recorded by my colleague, Dr. J. O. Symes, of Bristol,[6]

That of a schoolgirl, aged 10, who had suffered from atrophic rhinitis of at least seven months' duration. Cultures from the nose showed the presence of long diphtheroid bacilli. An outbreak of diphtheria occurred in her school, and she was therefore excluded from the school. The cultures were submitted to Professor Klein, who reported that it was a virulent diphtheria bacillus. After exclusion from school for nine weeks she was allowed to return to school, but even so long as sixteen months after the first examination the long diphtheria-like bacillus was present.

Now, if this was an isolated instance, it might reasonably be inferred that this case was a chronic nasal diphtheria and had caused the outbreak occurring in the school; yet that this view was not taken is shown by the fact that the child was allowed to return to school with the diphtheroid bacilli still in the nose, without any secondary outbreak arising in consequence. But Symes examined in all 23 cases of atrophic rhinitis, and in 20 he found a bacillus resembling in morphological and cultural characteristics the Klebs-Loeffler bacillus, and in 17 (of the 20) the organism was described as of the long variety. In two instances the inoculation tests were applied, one being tested in a private laboratory and one at the Jenner Institute. In both the reports stated that the morphological and cultural characteristics were those of diphtheria bacilli, and that the organisms were pathogenic to guinea-pigs, producing the same lesions as the Klebs-Loeffler bacillus. This bacillus of atrophic rhinitis is stated by Symes to be more curved, thinner, and more highly metachromatic than the Klebs-Loeffler organism, in size, shape, and beading closely resembling the tubercle bacillus. Either this bacillus referred to by Symes is really a diphtheria bacillus, morphologically modified, and the individuals who harbour this diphtheria bacillus may mix freely with other children without harmful results; or, without being a true diphtheria organism, it resembles it morphologically, and also in its pathogenic properties towards guinea-pigs. Which is it?

The temptation to err on the side of absolute safety and to regard every person in whom any diphtheria-like bacillus can be discovered as a potential source of danger will appeal to most practitioners as an easy way out of all difficulty, but such an attitude is not only unworthy of a scientific profession, but must inevitably break down in practice. The general public look to us for guidance, and it is incumbent on us to determine how far preventive measures are necessary in the light of well-ascertained facts, and not take refuge in a system of too timid precautions. In practice, while deriving all available assistance from bacteriology, we must depend largely on clinical conditions, and we know that with diphtheria, as with scarlatina, measles, influenza, mumps, and other infective diseases communicated by personal contact, there is an ascertainable limit of infectiousness for the vast majority of cases, and that in the absence of any pathological conditions in the nose, throat, or ear, the presence of specific organisms of doubtful virulence does not necessitate indefinite prolongation of isolation, and certainly does not warrant notification as diphtheria.

[6] BRITISH MEDICAL JOURNAL, February 25th, 1905, p. 422.

II.—D. S. DAVIES, M.D.,
Medical Officer of Health of Bristol.

DR. DAVIES stated that the ten years' average mortality from diphtheria in Bristol to 1900 was 14 per 100,000, and in 1899 it was 10 per 100,000. No hospitals were needed and no special measures were taken. An invasion of virulent diphtheria took place in 1900, and gave rise to a maximum rate of 58 per 100,000 in 1902.

From 1895 to 1902 all the bacteriological work in diphtheria was done in the private laboratory of the Health Office, so that every case passed under his own observation.

He then gave the following account of the method of dealing with diphtheria adopted in Bristol:

1. Marked clinical cases are notified and dealt with in the usual way, bacteriological confirmation is obtained if possible in each case, but a negative result is not held to contradict notification made on clinical appearances, though the absence of Klebs-Loeffler bacillus and the presence—for example—of streptococci might modify the vigour or duration of subsequent preventive measures.

2. The finding of Klebs-Loeffler bacillus in the absence of clinical symptoms (as it practically always results from a search amongst contacts instituted in consequence of the occurrence of a clinical case) is generally held to warrant notification. This can, of course, only be secured with the concurrence of the medical attendant. Notification is asked for because it gives a necessary hold over the movements of infective contacts, who, though themselves immune, may communicate infection to others.

Technically, it may be urged, such contacts are not suffering from diphtheria, they are only carrying it.

Strictly, to follow the wording of the Notification Act, notification is only in order in cases where the medical attendant is of opinion that the person notified is "suffering" from one of the scheduled diseases. Notification might, therefore, in such contact cases be declined by the medical attendant, and could not be enforced. Invariably I have found private practitioners most willing to help, by notification or otherwise, so soon as they understand the principles underlying our action.

What happens in a typical instance is this procedure:

(*a*) A private practitioner notifies a case of diphtheria.

(*b*) If he has sent in no culture, one is requested.

(*c*) He is also requested to examine the contacts and take swabs for bacteriological examination, from both nose and throat, especially from those of school ages, in the affected house; if he cannot afford time to do this, assistance from the Health Department is offered.

(*d*) The results from the laboratory are communicated to him, and notification is requested in the case of those showing morphologically unmistakable Klebs-Loeffler. This facilitates the securing of preventive treatment to many throats and noses, potential sources of infection, assists the control of school attendance, and is undoubtedly essential for limiting the spread of diphtheria in a community. Such cases will be received into hospital.

(*e*) The laboratory results often include certain cultures which do not show characteristic Klebs-Loeffler bacilli, but do show doubtful or "suspicious" forms (including "Hoffmann").

The view we have adopted for practical purposes in regard to these "suspicious" forms is that where they are found during the prevalence of diphtheria in virulent form, in close association with undoubted cases of diphtheria (that is, amongst close "contacts" at home or in school) they are potential sources of infection, probably not in every case, but in a sufficient number of cases to make it essential not to neglect them.

Notification in such cases is left to the discretion of the medical attendant.

Notified or not, school attendance is inhibited.

These cases are not generally admitted to hospital, but in exceptional circumstances have been, and have taken no harm.

Notified or not, these cases are not treated as coming within the 126th Section of the Public Health Act (exposure of infected persons), as they are "carrying," rather than suffering from, diphtheria: and this condition is one obviously not contemplated by the Act, whose framers knew very little of the natural history of the diphtheria organism.

Local treatment is considered to be suitable for these cases. This is secured either through the medical attendant, or, more commonly, in working-class districts, by establishing an out-patient surgery, in charge of a trained nurse, under the supervision of the assistant medical officer of health. Here "suspicious" cases are encouraged to attend three or four times a week to be carefully syringed and sprayed in nose and throat, or ears, as may be necessary; periodical assays of their condition are bacteriologically made, and we believe considerable good has resulted. We have established such an out-patient surgery in various districts of Bristol, on four occasions, as each district in turn became involved. On two occasions a diphtheria hospital proved convenient—once a disused small-pox hospital; once we had to hire a couple of small houses for the purpose.

III.—W. JOBSON HORNE, M.D., M.R.C.P.,

Surgeon, Metropolitan Ear, Nose, and Throat Hospital.

DR. JOBSON HORNE confined his remarks to the doubtful cases, and more particularly to cases of *diphtheria sine diphtheria*. As an extreme instance, he referred to a case in which no bacteriological proof of diphtheria could be found during life, whilst *post mortem* a culture of the organism could only be obtained from a ventricle of the larynx. Responsibility for the final opinion could not be placed upon the bacteriologist, although his report was of the most valuable assistance to the clinician. Speaking of the latent forms of diphtheria, Dr. Horne referred to the part played by the fauces in the presumably healthy adult in conveying diphtheria to children, and the necessity for suitable treatment of the fauces in such adults as a preventive measure.

IV.—SCANES SPICER, M.D.,

Surgeon, Throat Department, St. Mary's Hospital.

DR. SCANES SPICER approached the question from the field of view of the out-patient department of a general London hospital, where for seventeen years he had twice a week had constantly to be picking out the diphtheritic cases from the non-diphtheritic. Primarily he relied on the classical clinical symptoms, and if positive he acted on such as regards notification. Bacteriological examination followed, and almost invariably agreed with the clinical signs. Cases which clinically were probably but not certainly diphtheria were dealt with by taking them into the isolation wards and then testing bacteriologically. If positive these were then notified, and if negative they were kept until resolution permitted discharge. He believed that in this way, by arresting "suspect" cases, much spread had been prevented, though doubtless many latent cases had escaped. This must continue to exist until there was a systematic and rapid bacterial examination, on the spot, of all nose and throat cases attending the out-patient departments. If there were nose or throat symptoms plus Klebs-Loeffler bacillus the case should be notified.

V.—T. F. S. CAVERHILL, M.B.,

Edinburgh.

DR. CAVERHILL said that the County Council of Haddington enabled each practitioner in the county to send all his morbid specimens to a laboratory for examination at the public expense. In the western district of that county the local authority provided a supply of antitoxin to every practitioner. He could, therefore, in doubtful cases, inject a poor person at once and those in attendance on the patient. He would check the spread of the disease in the latter case, and in the former the patient got the full value of the antitoxin treatment at the earliest possible moment. Experience showed that antitoxin injected as late as the fourth day of the disease had no influence on the course of the disease.

VI.—L. H. PEGLER, M.D.,

Surgeon, Metropolitan Ear and Throat Hospital.

DR. PEGLER asked if the attention of the openers of the discussion had been drawn to the occurrence of a form of membranous rhinitis in children in which the Klebs-Loeffler bacillus was undiscoverable. He had found this simple disease fairly common in his out-patient department at the Metropolitan Ear and Throat Hospital. There seemed to be no tendency to spread to the naso-pharynx, and the cases yielded to careful treatment by cleansing with detergent lotions and simple antiseptic remedies. He was in considerable doubt as to whether these cases were notifiable. Dr. Pegler also remarked that careful search of the oro-pharynx and naso-pharynx was important in cases which were notified week after week as yielding Klebs-Loeffler bacilli to cultures long after all symptoms had disappeared, thus preventing the individual from returning to school if a child, or, in the case of young adults, to their customary occupations. The inconvenience thus caused to the parents was very great. He had several times found that the cause of this lingering presence of bacilli could be removed by carefully extirpating by means of *morcellement* every trace of unhealthy tonsil tissue in which crypts could be discovered. In these recesses the bacilli had obviously lurked, as proved by the fact that after the simple operation the swabs taken no longer called forth an unfavourable report. In other cases he had found adenoid, or naso-pharyngeal, tonsillar tissue to be the offending source of the trouble.

VII.—F. H. JACOB, M.D., M.R.C.P.,

Assistant Physician, Children's Hospital: Assistant Physician, General Hospital: Pathologist, City of Nottingham.

DR. JACOB said diphtheria had been prevalent in Nottingham during the last few years, and on several occasions had invaded the Children's Hospital. As a part of the endeavour to prevent reinvasion, he was asked to examine every child admitted for the diphtheria bacillus. It was thought wise, moreover, to examine the nose as well as the throat of each child, for the reason that in two previous invasions an unsuspected nose was shown to be the primary offender. The swabs were inoculated within a few hours on fresh blood serum and incubated for eighteen hours. A film from each tube was stained with Loeffler's blue, and in the majority of cases a second film was stained by Neisser's method. They were taken during the months of March, April, May, and June of this year. In 113 cases a good growth was obtained both from the nose and throat, the results being as follows:

Diphtheria Bacilli Present.		*Pseudo-Diphtheria Bacilli Present.*	
In nose and throat	2	In nose and throat	15
In nose and ear (otitis)	1	In nose only	41
In nose only	1	In throat only	21
In throat only	2		77
	6		
Both bacilli absent	30		

The percentage of children in whom the pseudo-diphtheria bacillus was found was 68, which was much higher than was commonly recorded. The explanation was that whereas only 31 per cent. of the throat swabs showed pseudo-bacilli, the percentage of the nose swabs showing the same bacilli was 49. The number of cases recorded was but small, yet they constituted, he thought, strong evidence in favour of the view that the pseudo-diphtheria bacillus was as normal an inhabitant of the naso-pharynx as was the bacillus coli of the large intestine, and no one had yet proved it capable of taking on pathogenic action as so often did the bacillus coli.

THE MIDWIFE AND THE GENERAL PRACTITIONER.

By JAMES ROBERT KAYE, M.B., C.M.Glasg., D.P.H.Camb.,
Medical Officer, West Riding County Council.

IN discussing the midwife and the general practitioner I shall be content with merely pointing to a few phases of the Midwives Act which seem to me to afford material for deliberation.

Some may think that in recent years there has been too much "midwife" literature, and that it is perhaps not entirely advantageous for the public to be continually hearing from the platform and the press of the perils of childbirth. No one, however, will gainsay the necessity for an improvement in the present state of things, not only by reducing the prevalence and fatality of septic and other complications among parturient women, but also by ensuring that every child shall be so received into this world and subsequently tended as to conduce, as far as possible, to its future welfare.

That, I take it, is the laudable object which the Midwives Act will achieve in time, but not by any rapid or revolutionary strides, and certainly not by attempting to suddenly transform the present race of midwives into trained nurses.

The scope of the Act, briefly put, is as follows: No woman is to call herself a midwife unless certified. Women in future will only be certified after due training and examination. All women practising as midwives are to abide by prescribed rules, and act under the control of local supervising authorities. The perfection of these requirements is, however, postponed, because it has been necessary to make the following concessions: (1) Up to March 31st, 1905, any woman could claim to be certified if she had been in bona-fide practice for one year. The great majority of those on the roll have come in under this head. (2) Up to April 1st, 1910, any uncertified woman can attend women in childbirth without a doctor, providing she does not hold herself out to be a midwife.

The first of these concessions was in accordance with the custom of Parliament in protecting, as far as possible, the established interests of those already practising any art which it is sought to regulate. The second was a kind of compromise between that section of the promoters who desired forthwith to prohibit any midwifery work by uncertified women, and the section (including the Government advisers) who were altogether averse to the inclusion of a clause prohibiting uncertified practice.

The women, therefore, who may be engaged to attend confinements in this country without a doctor are as follows:

1. Midwives enrolled by reason of having passed an examination held by the Central Midwives Board after due training. (The first examination has only just been held.)

2. Midwives enrolled by reason of holding some recognized diploma of training or examination. (No more can now come into this category.)

3. Midwives enrolled by reason of having been in bona-fide practice for one year prior to the Act. (This class is also closed.)

4. Women who, not having become enrolled, may take advantage of the delayed penalty clause, and attend confinements until March, 1910, if not holding themselves out as midwives. This class can only exist till the date named.

It will be seen that in the natural order of things the time will arrive when every certified midwife on the roll has been specially trained and examined before admission, but the Act makes no provision for the training of these future midwives, and the existing agencies are altogether inadequate to provide the necessary annual output of trained midwives. The consequences must be quickly felt in the shape of a great dearth of midwives, and it may be doubted whether the medical profession is capable of supplying the gap, especially if it is true, as stated by some observers, that no less than 60 per cent. of the births in the past have been attended by women only. Even if the training facilities be augmented so as to produce the required number of midwives, the difficulty will not be got over, because the class of people who have hitherto depended on Mrs. Gamp's unaided services cannot afford the fees demanded by a person who has to recoup herself for the expense of training on the present scale.

Under these circumstances, it behoves us to retain for the present the services of the "bona-fide" midwives as far as is reasonably possible, and to take steps for their steady improvement, rather than their harassment, by the immediate and unbending enforcement of every detail of the rules and regulations. At present these women constitute the great majority of those on the roll, and although they are often ignorant and illiterate, they are for the most part willing, sympathetic, and deserving women, whose services can scarcely be dispensed with.

Although the Legislature has recognized the necessity and the justice of admitting these women to the roll, the rules require them to at once behave in all respects like the trained midwives, and unless some little elasticity is for a time permitted, it is to be feared that many of these simple women will relinquish the work before sufficient time has elapsed for their places to be properly filled. Anyone familiar with the conditions under which the majority of these untrained midwives work in the poorer parts of the provinces, might have hesitated to require them to carry to all their cases a complete outfit of articles which they do not understand and cannot be expected to use—for example, douche apparatus, catheter, thermometer, etc.

Many women in rural places have only a few cases a year, and yet it is just in those places where their services are at present most indispensable. They make very little money, and not infrequently it is only the urgent plight of their neighbours that has led them to take up and follow the work. Ask them to acquire an outfit involving an expenditure which they regard as considerable, and comprising articles which to them are useless, and they at once talk of retiring. They ask where is the justice of having admitted them to the roll only to press them out of it by insisting on their complying strictly and immediately with the same regulations as if they were trained women devoting all their time to the work.

I recently inquired of the Central Midwives Board if it would be within the discretion of a local supervising authority to overlook the omission of, say, a catheter or a douche apparatus from an untrained midwife outfit. To this the reply was: "The Board has no power to dispense with the observance of its own rules."

It is no wonder that a considerable proportion of the untrained midwives have declined to get enrolled, whilst their places have been filled by others who, with not nearly so useful an experience, have seized the opportunity of joining the ranks, being unable to resist the chance of getting a certificate so cheaply.

How does all this affect the general practitioner? Its immediate effect in many rural places has been to abolish the handy women on whom it has been necessary to rely, not for scientific midwifery work, but for common-sense handling of cases pending the arrival of the practitioner. The new Act has made these useful women so fearful of consequences that they strictly refuse to have anything to do with the patients whom they used formerly "to put to bed," and the busy practitioner finds himself at present far from blessing the new state of things. The complete lists of midwives are not yet available, but so far as the notices have already come in, there are several extensive districts in the West Riding of Yorkshire which will be without a single certified midwife; and, on the other hand, there are districts where they are too numerous, the example of one woman getting certified on slender grounds having been followed by such others as could in any way claim the necessary twelve months' practice.

It is questionable whose lot is at present the happier—the busy practitioner in the district where the midwives have failed to get certified, or he whose district abounds with "bona fides"; whose certificates enable them to cater for business, but who cannot possibly understand the rules. These rules are beautifully complex, especially in the part dealing with the sending for medical aid. If it is desired to draw a midwife's attention to her duty in regard to a feeble premature child, for instance, one has to refer her to "Sec. E, Rule 17 c (11) (b)," and when she gets there she has to go back some 400 words to find the key which makes sense of the regulation, and tells her she must decline to attend alone, and must advise that a doctor be sent for.

It is this question of sending for medical aid which is the chief difficulty in the working of the Midwives Act. The prescribed form for calling in the doctor is to be filled up and signed by the midwife, and looks like a very important summons made out on her authority for the immediate attendance of the medical man. But, according to Rule 17, it is not the midwife's duty to send at all, but merely to recommend that the doctor be sent for, and if this recommendation is not complied with, she must not remain with the patient. Therefore the form which the midwife sends to the doctor is merely a translation on to paper of the verbal wishes of the patient or her relatives, and it is from the latter that the fees must be recovered.

This uncertainty about fees has naturally caused considerable comment amongst practitioners, and it is understood that the Central Midwives Board are devoting themselves to the difficult problem presented to them. If the doctor is to regard the summons from the midwife as a statutory document, it is perhaps reasonable that he should assume that it carries some official guarantee, but we have seen that this is not so. The midwife merely places her official endorsement on the patient's request for medical help, and it is from the patient, or her representatives, that any fees must be recovered. It is difficult to see how this can be remedied, for, supposing a fee be guaranteed out of public funds, the result would be equivalent to a State subsidy on the practice of midwives. In such circumstances every parturient woman would be encouraged to engage a midwife instead of a doctor, resting secure in the knowledge that the midwife must, on the slightest irregularity, call in the doctor, whose fee would be provided by the State.

It would be well if some modified arrangement could be arrived at which would meet the present difficulty without being open to abuse. A case has recently come before me where the Poor-law medical officer (in private practice) was sent for by the midwife to deliver a woman who was practically a pauper. Had he been engaged to attend her as a pauper, the Poor-law authorities would have paid his fee, but in the actual circumstances he can get no remuneration. Within twelve hours of sending for a doctor, the midwife must post a record thereof to the local supervising authority. Suppose the same patient, while under the doctor's care, develops some infectious ailment: has the midwife no further intimation to send to the L.S.A.? It would appear not, because Rule 18 (3) says: "These cases are included in the notice already sent."

Another similar point is this: When a certified midwife takes a case of ordinary monthly nursing under the direction throughout of a registered medical practitioner, she is presumably under no control from the L.S.A. so far as that case is concerned. If such a patient develops septic complications, there is no obligation to notify to the L.S.A., and all that the midwife has to do is to disinfect herself and her instruments and clothing "to the satisfaction of the local sanitary authority." In county areas the local sanitary authority have no concern with the midwives, and this raises also the grave question as to the prudence of a midwife's clothing being sent to a fever hospital for disinfection.

With regard to the various notices which are to be forwarded to the L.S.A. by the midwife, divergent views are held as to the action to be taken on receiving them. Clearly, every notice carries some responsibility to the recipient, otherwise it might as well not have been sent. But what precisely is to be the action of the L.S.A. on receiving notice that medical aid has been sent for in a remote part of a wide county because a child cannot take nourishment.

It seems to me that for the present the needs of the case would be met by the L.S.A. keeping in index form, under each midwife's name, a record of all notices sent from her. If thereupon it should appear that a particular woman's career requires investigation, we have Rule 20 which authorizes an inspection of her place of residence when thought necessary, and an investigation of her mode of practice.

In inspecting the place of residence attention will be directed to its cleanliness and general sanitary state, for although the rule only requires the midwife to be cleanly, she cannot be sufficiently clean in a dirty house.

But as to investigating her mode of practice: how is this to be carried out and to what extent? Can we visit the patient's house and interview the patient and her friends, see the condition of the lying-in room, and of the child? In the case of an excessive proportion of stillbirths, or premature births, or deaths of infants, are we to follow up past cases, and set on foot inquiries into the moral tone which pervades the woman's practice? Or does an investigation into the mode of practice mean an inquiry into the manipulative details of her work?

It must not be thought from the tone of these hurried and disjointed remarks that I hold a brief against the Midwives Act. On the contrary, I recognize in it a great opportunity for the advancement of the public health and future well-being of the race; but, like all good work, it will require to be done slowly. We must not think to rapidly wipe away the large number of existing midwives, even though they be untrained and unscientific. These very women constitute a power which, if properly directed, may enlighten just the large stratum of the community among whom infantile mortality is most rife. Numerous bodies are now properly devoting themselves to the important question of training candidates for future work, but it seems to me that a great opportunity will be lost if we fail to use the existing untrained midwives as channels for the dissemination of some of the simple rules as to the care of infants and the importance of proper feeding, clothing, and cleanliness.

Unlike the trained midwife, these women in the provinces live actually in the same circle as their patients, and any little advancement in their sanitary knowledge is bound to be bearing fruit at all seasons in a much greater ratio than follows from a trained midwife, whose beneficent influence is only exercised during the lying-in period.

For this reason, as well as for the reason that we cannot at present replace these "bona-fide" women, I would advocate their considerate treatment by the authorities and their gradual enlightenment by simple directions, personal advice, and, if possible, local lectures and demonstrations.

PHYSICAL DETERIORATION IN THE SCHOOLROOM.

By Edward Magennis, M.D., D.P.H.,
Dublin.

The frequent discussions that have taken place recently on physical deterioration led me to believe that a short paper on the above subject might be of some interest to the members of the State Medicine Section of the British Medical Association, and first I would say just a few words on physical deterioration generally in Ireland.

During the past fifty years Ireland has lost by emigration about 4 000 000 of her people, and of these about 80 per cent. have been between the ages of 18 and 35 years, so that during this period upwards of 3,000 000 of young, healthy adults, the bone and sinew of the country, have gone to enrich other lands, and of those remaining there is necessarily a large proportion made up of the old and infirm.

The effects of this extensive emigration have been summarized by a competent authority thus:

1. Depletion of the population.
2. Lowering of the marriage-rate.
3. Alteration of the age-distribution of the population.
4. Lowering of the birth-rate: and
5. Depending upon the lowered birth-rate a diminished natural increase of the population.

These five factors acting in sequence and conjunction disturb the normal stability of the population, and induce conditions which are favourable to the production of insanity. The depletion of the population chiefly affects its sexually-efficient units, and by so doing tends to lower the marriage-rate among the remaining sexually-potent units in the population.

The growing disinclination to marriage is one of the most observable features in the vital statistics of the country. There can be little doubt that there is some relation between a declining population and a high lunacy rate, and, as if to corroborate this, insanity is largely on the increase in Ireland.

According to the published returns the number of lunatics under care in 1880 was 250 per 100,000, or 1 in 400; and in 1902 the number was 499 per 100,000, or 1 in 200; and, if the number of idiots and lunatics at large is added, the whole represents 1 in 170; moreover, 50 years ago the number is said not to have exceeded 1 in 730.

In my opinion the cause of the physical deterioration in Ireland is the emigration of the healthy male and female adults, and the consequent intermarriage among a reduced and enfeebled population; and in my opinion this, too, is the primary cause of the increase of the insane.

Many causes are alleged for the increase of insanity, such as poverty and adverse circumstances, with the resultant worry and pain; the depressant effects of our climate; and the theory of accumulation. All these I would classify as auxiliary causes. Alcoholism and vice I would place rather as symptoms of an already diseased brain.

With a declining and enfeebled population can we view with other than extreme anxiety and apprehension the future physical and mental condition of the school children of Ireland? From the sixty-ninth report of the Commissioners of National Education in Ireland it appears the total number of pupils on the rolls of the National Schools was 737,089, in Model Schools 8,969, and in Convent and Monastery Schools 110,769, making a total of 856 827.

What is the condition of the vast majority of these children on entering the schoolroom of a morning? Many of them are obliged to walk, perhaps two or three miles, it may be through rain, sleet, or snow, and when they arrive their clothes may be soaked with water. They enter a bleak, cold room, in which perhaps there may not be a fire, or if there be it is most inadequate, and here they are compelled to remain for hours, shivering with cold and altogether in a most pitiable condition. There is no provision made by which, at least, the outer garments could be dried during their stay.

The schools, as a rule, are placed on unhealthy sites, their general construction is bad, and the sanitary or insanitary state of the out-offices seems to be undreamt of by anybody. The lighting, ventilating, and heating are nearly always defective, and the seats are constructed without regard to age or size.

This state of affairs is evidently not peculiar to Ireland, for the officers of the London County Council, who surveyed the 438 non-provided schools, considered 25 per cent. of them altogether unsuitable, and 78 per cent. of the school drains, having been tested, had been declared unsatisfactory. Little, if any, attention is paid to the posture of the children, cleanliness, games and plays, signs of fatigue in the youths,

mental deficiency, defective vision, defective hearing, and the danger of communicable diseases.

True, there are inspectors of schools; but, unfortunately, like the chiefs in other Governmental departments in Ireland, there is a great tendency for these inspectors to constitute themselves a sort of superior police. Frequently on entering a schoolroom their first hurried move is to examine the roll-book in order to discover the teacher in some error of count as to the number of children present. The inspector's first duties should be to see to the physical well-being and the education of the children, and to be the friend and adviser of the teacher.

The condition of school life in Ireland must be brought prominently before the public, and precautions taken that our few remaining youths will be properly provided for when in the schoolroom, and their physical development in no way impeded. We should stimulate our people to fall into line with other countries where the preservation of youthful health and development is looked at from a national standpoint. A medical inspection of schools should be imposed as a public duty on every school authority.

In Japan there are 8 424 medical inspectors of schools, in Brussels 52, in Paris 128, and in America over 500. When the State recognizes its serious responsibility and appoints a Minister of Public Health; when our schools are placed under proper medical inspection; then the physical well-being of our children will be properly supervised, and the entire community improved.

A PRELIMINARY NOTE ON THE BLOOD IN LEAD ANAEMIA.

By KENNETH W. GOADBY, D.P.H.Cantab.

SOME little time ago my attention was called by Dr. T. M. Legge to a paper by Drs. J. E. G. van Emden and Kleerekorper, following up the work of Hamel on the condition of the red blood corpuscles in lead poisoning, and giving what they claimed as a diagnostic sign of lead intoxication. At Dr. Legge's suggestion I commenced to make some observations on the subject, but owing to the pressure of other work the investigations are by no means complete; at the same time a preliminary note may perhaps not be out of place.

The individuals examined in the present instance were workmen engaged in (*a*) white lead factories (*b*) lead smelting, desilverizing and litharge manufacture.

The anaemia of lead intoxication is too well known to warrant any description here, but it is interesting to note the wide divergence of opinion of the blood counts given by various observers. Thus Zinn says that the reduction in red corpuscles is not profound—about 4,000 000—but that the haemoglobin is decreased to about 58 per cent. Oliver in the Goulstonian lectures, 1891, says he has rarely found the number of red corpuscles to be normal in number in lead workers, ranging from 2,500 000 to 4 000 000, but the haemoglobin sinks to 45 to 50 per cent. of normal. Oliver and most other observers agree that there is no increase in the number of white corpuscles. It will be seen on reference to the appended chart that three of the cases examined were below the figure given by Oliver; these men had no other symptom of lead poisoning, and only one had a blue line on the gums. They were doing their ordinary work without discomfort and had no paralysis or colic. Tremor of the hands was, however, present.

White Cells.

There is little to observe concerning the white cells. Differential counts were made in seven instances, and give little indication of any change. If anything, there appears to be a slight increase in the number of lymphocytes in relation to the actual number of polymorphonuclear leucocytes, and, in certain cases, a slight total relative leucocytosis. There was no increase in the eosinophile cells, nor were any narrow cells seen. There was no alteration in the staining properties of the white cells, and the phagocytic power appeared normal.

With regard to the colour index, Hayem says there is no increase, but in two of the cases below some increase appears to have taken place; the number of cases examined is, however, too small to make a general statement. The diminution of the red cells is often quite out of proportion to the amount of discomfort of the patient.

Red Corpuscles.

Malassez, Grawitz, and others have noted the presence of megalocytes and megaloblasts. In the cases I have examined (30) by means of stained films there was a well-marked poikilocytosis in the worst cases, while irregularity of the corpuscles was a common feature in most; even when there are but few irregular red cells, there is, however, generally some amount of vacuolation of the erythrocytes, which are much more easily broken up on the slide in making the films than is the case in normal blood, or in, say, the anaemia of malaria.

Microcytes are also common, as is irregular staining of the cells, especially with Leishman's stain. Nucleated red corpuscles are far from common, and I have only met with them in a few instances, and never in large numbers. The blood platelets appeared normal, and there was no increase in the time of coagulation of the shed blood.

In staining the films with haemotoxylin eosin, or with Leishman's stain, many of the red cells exhibit a certain amount of granularity and some irregularity in the general staining of the cells. The granules, described by Plehn in malarial blood and by Schumann in bothrocephalus anaemia, and by White, Pepper, Stengel, Grawitz, and others in lead anaemia, have been the cause of considerable discussion, and are the granules mentioned at the commencement of this note as of so-called diagnostic importance in lead poisoning.

The nature of the bodies, often called Plehn's bodies, is not certain. Grawitz considers that they are granular degeneration of the red cells. Bloch states that they are not nucleinic acid as they have no especial affinity for methyl green, and they do not appear to be chromatin as they stain blue by Nocht's method, which stains chromatin red. The same applies to the staining by Leishman's stain, by which they are coloured a faint blue-green. These granules appear in most cases of secondary anaemia when the blood destruction is at all marked, and are to be regarded as a sign of degeneration.

In some thirty cases of lead anaemia from which I have made films these granules were invariably present, often in large numbers. I have seen them in quite slight cases. I am not, however, inclined to regard their presence of diagnostic importance in lead poisoning. They may, however, be considered as giving evidence of the progress of blood destruction as far as the red cells are concerned, and as they are easily stained would give, perhaps, some indication of the blood condition, but they are certainly, in my opinion, not to be regarded as of diagnostic importance.

It is, perhaps, interesting to note that in lead poisoning jaundice is rare. The appended table gives the blood examination of 10 cases of lead anaemia:

Blood Examination of Lead Anaemia.

No.	Hb.	R.B.C.	W.B.C.	Differential Count Per Cent A	B	C.	D	E.	F.	G.	H.	I.	J.	K.	Col. I	Work.	Notes.
	per cent																
1	60	3,460,000	7,000	20	8	6	63	3	0	4		+		+	0.7	Paint Mill	5 years.
2	45	[illegible]	9 000	38	7	8	46	1	—	+	+	+	+	+	1.4	Paint Mill	10 years.
3	55	[illegible]	20,000	32	4	4	58	2	0	+	—	+	—	+	1.0	Packer W. L.	4 years.
4	60	[illegible]	10,000	34.5	5	8	55	1	0	+	—	+	+	+	3.0	Grinder	6 years.
5	75	3,210,000	8 000	41	1	4	52	2	0	+	+	+	—	+	0.9	White Lead	8 years.
6	60	4,147,000	10,000	32		1	59	2	1	+	+	+	+	+	3.0	Press & Stoves	5 years.
7	65	3,700,000	[illegible]												0.9	Still	20 years: double wrist-drop 2 years
8	65	[illegible]	10,000									+		+	0.7		
9	50	[illegible]	[illegible]						—			+		+	0.6	W. Beds	10 years.
10	60	[illegible]	[illegible]	16	0	14	70		0			+		+	1.0	Packer	

A.—Lymphocytes. B.—Transitional. C. Large Hyaline. D.—Polymorphonuclear. E. Eosinophile. F. Basophile. G. Microcytes. H.—Megalocytes. I. Poikilocytes. J. Nucleated Red. K. Plehn's bodies.

Corpuscles, Thoma Lentz. Haemoglobin, Haldane's Instrument. Films, Stained Leishman.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, Etc.

OBSCURE CASE OF SKIN PIGMENTATION SUCCESSFULLY TREATED WITH ARSENIC.

I should like to draw attention to a peculiar case of skin pigmentation of obscure origin, which recently came under my notice. The patient came to me with patches of well-defined pigmentation on the chest, presenting exactly the appearance and arrangement of leucoderma, only in this case the lighter portion was the normal and the browner the abnormal condition. There was no shading off of the one degree of colour into the other. The pigmented portions could be distinctly marked out with a pencil. Apart from this condition the man was in perfect health. His occupation of copper worker would scarcely throw any light on the question; and such conditions as Addison's disease, or the various pigmentary skin lesions described in books on dermatology, were excluded by the absence of any symptom or condition beyond the well defined patches of pure colour alone. The history given was that it had existed for seven years, and that he had been under treatment of various kinds without success. Under the circumstances, I scarcely hoped to do very much, but thought I would try the effect of arsenic, and prescribed 7½ minims of the official tincture three times a day; a little of the nitrate of mercury ointment was also prescribed more as a placebo than for any other reason. At the end of a fortnight the pigment had entirely disappeared and the skin absolutely clear.

Landore, Glamorgan. ERNEST BRICE, L R C P.

THE X RAY APPEARANCE OF OSTEO ARTHRITIS.

Some years ago attention was called to the Roentgen-ray appearance of osteo-arthritis, but the opportunity of making comparisons between the two hands of the same patient has not previously occurred.

Fig. 1 is a skiagraph of a quite normal hand, Fig. 2 of the opposite hand profoundly affected with osteo arthritis in an acute stage. The contrast is so great that little need be pointed out to the careful observer. The thinning of the bone at the joints, accompanied by an increase of the minute definition of the cancellous tissue, is the main characteristic of the x-ray appearance in this disease.



Fig. 1.—Normal right hand of patient suffering with osteo-arthritis.

Viewed from the distance of a few feet the effect is as if a hand drawn in charcoal had been partly rubbed out at the joints. Closer investigation will show a fine pencilling in these regions resembling slightly a skeleton leaf.



Fig. 2.—Left hand of patient suffering with osteo-arthritis.

There is no other disease in one's experience that gives an x-ray appearance in any way resembling this, and hence it is absolutely diagnostic. All other joint affections more or less blur the outline and give a less pleasing photograph than the normal. Osteo-arthritis considerably adds to the brilliancy of the image. Recently two cases of supposed tuberculous joint trouble have, to the surprise of those attending the cases, given this unmistakable evidence of the nature of their disease.

E. W. H. SHENTON,
Radiographer to Guy's and St. Peter's Hospitals.

REVIEWS.

A COUNTERBLAST.

Few who are acquainted with the practical application of medicine to the requirements and necessities of the sick will be found to deny that the modern and rapidly-growing science of bacteriology has already been of immense service to both physicians and surgeons. By its aid diagnosis has, in many instances, been invested with certainty; prognosis has become possible in terms of greater scientific accuracy; prophylaxis has acquired a widely-increased scope of application; and treatment has had brought to its service methods which often ensure alleviation and vastly increase the chances of cure. The enthusiasm which accompanies all new methods and discoveries is proverbially accompanied by a risk of claiming for them more than they are capable of performing, but in this fact there is no reason for a wholesale

denunciation of the work which that enthusiasm has created and fostered. It needs but time and further investigation to eliminate what is useless or unreliable; eventually the kernel of true knowledge abides as a permanent addition to the sum total of human advancement.

In a work entitled *Physician versus Bacteriologist*,[1] recently published by Dr. O. ROSENBACH, of Berlin, due allowance has not been made for this invariable accompaniment of every step in the onward progress of man's conquest over the hidden things of nature. In the domain of bacteriology, as in so many other departments of science, research has tempted investigators sometimes to confuse fact with theory, and to regard as conclusive, results which have not stood the test of time; but when all this is allowed for, the achievements of this department of biological science are still sufficiently important and convincing to establish bacteriological methods as an integral part of preventive and curative medicine.

Though Rosenbach claims to appreciate fully the importance of microscopic study, his attitude towards what has so far been accomplished by bacteriology is clearly revealed by the following quotation from his translator's preface:

> The bacteriologists, by means of fallacious conclusions, have established—in opposition to all common sense—the dogma that all infectious diseases are caused by bacteria, and that all diseases in which so-called specific bacteria are found are infectious diseases. Since this unsubstantiated teaching has become so popular that it is matter of common comment in the daily press, and all the world is thus driven to really dangerous bacteriophobia, it is certainly opportune to have Rosenbach's views on such aberrations.

The extravagance of this statement is enough of itself to create distrust of the argumentative fairness of a volume, the perusal of which more than justifies a protest against its dogmatic, and in many instances unwarrantable, assertions. An author who ventures to assert that the "communicability of influenza from one individual to the other can only be a very rare occurrence" (p. 111); that in cholera "the bacillus is surely an accident, no essential cause in a logical sense" (p. 201); and that "modern hygiene offers a stone in the place of bread, presents unproved dogmas and facts of the laboratory as substitutes for active aid and practical accomplishments" (p. 274), can hardly be surprised if statements which are so little in accordance with generally-accepted views are received with scant tolerance. Yet a volume of 455 pages is devoted to their exposition. The result is an unconvincing, and in some passages an incomprehensible, tangle of argument, assertion, and misstatement. It would seem that the author's manuscript has sorely tried his translator's powers, but there is surely no excuse for presenting English readers with such enigmatic passages as the following:

> Adaptation is that form of bodily labour modified by practice in which gradually, when the new, more powerful stimulation no longer changes its potency, a condition of stability again becomes manifest in which, therefore, an increased but constant additional production is accomplished (p. 86).

> So long as infection was looked upon as something mysterious, and very many diseases which to-day are regarded as infectious were not considered such, fear was also present, it is true, but only of patients who showed great destructions externally, and only in greater epidemics, in which infection or its consequences were apparently tangibly horribly manifest (p. 232).

We are also introduced to a variety of words, the interpretation of which will puzzle most of those whose patience allows them to wander any distance through the pages of Dr. Rosenbach's book—"tinction," "analogization," "spunging," "subsumed," "punctuating," may be mentioned as a few examples. The book is one which will not repay perusal, and is not worthy of the time that must have been spent over even such an imperfect translation as is presented to us.

SCROFULA AND TUBERCULOSIS.

DR. GASTOU in the full title of his monograph speaks of scrofula as a septic-pyohaemic diathesis (*terrain*), hereditary or acquired, and as a selective affection of the lymphatic system and its dependencies. His main contention is that the term scrofula, which, after having been used to designate various lesions which were tuberculous or syphilitic, has almost fallen into disuse, represents a clinical and anatomical reality. According to the views of the majority of modern writers scrofula as a distinct entity does not exist. When it does not represent lesions which are definitely tuberculous, the term is used to express the tuberculous predisposition or diathesis. Dr. Gastou, however, considers that there is a true scrofula distinct from tuberculosis, with distinctive lesions, which are distinguishable clinically and anatomically from those of tuberculosis and of syphilis, which they superficially resemble. To support this contention is the object of this pamphlet; whether or no he succeeds in convincing his readers, the author has produced a most interesting monograph, which will well repay perusal. Dr. Gastou defines scrofula as a true medical septic-pyaemia (*septico-pyohémie médicale*) characterized clinically by the existence of prolonged, diffuse, and multiple suppurations. He recognizes three types of the affection: (1) A facio-cervical type, (2) a cutaneo-mucous type, and (3) a chloro-leucaemic type; these may exist singly or may be associated. The scrofulous individual may recover spontaneously or he may rarely die of cachexia, but generally he becomes tuberculous. To cure scrofula is therefore to prevent tuberculosis. In elaboration of his thesis the author first sketches the history of scrofula in medical writings, and the evolution of existing limitations of the term, including in this part of the subject some account of the doctrine of the infectious nature of scrofula. Formerly considered a glandular and local disease scrofula has now come to be considered as a lymphatic and general affection. Part II contains cases, well illustrated by photographs, showing various tuberculous and syphilitic lesions which have been classed as scrofulous, as well as some cutaneous infections similarly misnamed. Part III is taken up with the consideration of scrofula in the modern acceptation of the term—its course, evolution, pathological anatomy, diagnosis, and treatment. This part is also illustrated by descriptive cases, with photographs. The question of diagnosis seems to be dismissed somewhat shortly considering that the author is insisting that scrofula is a condition to be differentiated from tuberculosis. Perhaps, however, this may be explained by the author's remark that scrofula is a morbid condition, not a disease.

CLINICAL DIETETICS.

THE dietetic management of disease is no less important than its therapeutic treatment. But, whereas an attempt, however inadequate from the practical point of view, is made to instil into the undergraduate's mind some elementary notions of drugs and how to prescribe them, there is little, if anything, provided, either at our universities or schools, in the way of definite and well-planned instruction in clinical dietetics. It is not going too far to say that in most diseases success in treatment rests, to some extent, on the way in which the patient is fed, and that in many the whole question of life or death depends for its determination on the skill and care with which the daily diet is regulated to the capacities of the invalid and the requirements of his disorder. But, despite this admitted fact, the everyday treatment of disease is in no department so haphazard as in that of alimentation. Dr. BURNET'S book on *Foods and Dietaries*[3] is one of the attempts which have been made to remedy this evil, and it may be assumed, from its having reached a fourth edition, that it has hitherto fulfilled a useful purpose and appealed to a considerable section of the medical public. One reason for this popularity is doubtless the practical and readable way in which the subject is handled. The directions given are clear and comprehensive, but they are purely empiric, and no scientific system of selection on the basis of food values is attempted. This plan has the advantage of simplicity, but is not conducive to an accurate and comprehensive view of the part which food ought to play in the daily regimen of the sick room. To enumerate all the diseases which are to be found in the *Nomenclature* of the College of Physicians, and to attach to each a special formulary of comestibles which are, or seem to be, specially indicated, may be convenient, but is mere rule-of-thumb. It is true that there are certain disorders which demand this differentiation, because they depend in their essence upon such departures from normal metabolism as to make it essential that certain articles of dietary should be either withheld or modified. But because this is the case in a few instances it does not follow that every ailment must be individually catalogued in order that it may be labelled with a special diet scheme. The old adage that "one man's meat is another man's poison" is more literally

[1] *Physician versus Bacteriologist* [illegible]. By Professor Dr. O. Rosenbach, of Berlin. Authorized translation by Dr. Achilles Rose. New York and London: Funk and Wagnalls Company. 1905. (Demy 8vo, pp. 455.)

[2] *La scrofule, étude clinique, pathogénique et anatomique sur la diathèse tuberculeuse chez l'enfant et chez l'adulte*. Par Dr. P. Gastou. Paris: O. Doin and A. Maloine. 1905. (Demy 8vo, pp. 412. Fr. 7.)

[3] *Foods and Dietaries: A Manual of Clinical Dietetics*. By R. W. Burnet, M.D. Fourth edition. London: Charles Griffin and Co., Limited. 1905. (Crown 8vo, pp. 264. 4s.)

true in sickness than in health, and therefore, apart from a few special ailments in which certain rules of alimentation are the primary considerations in treatment, it is of greater importance to inculcate general principles than to tabulate a long series of dietaries, many of which are necessarily mere repetitions of others, and none of which can have the least pretension to specific value. This criticism is offered in no spirit adverse to Dr. Burnet's book, which is carefully planned, and reflects credit on the pains which have been taken in its compilation, but the work belongs to a class of literature which is not quite up to the requirements of the day, in that it deals with formulae rather than with principles, and attempts, in order to make these formulae comprehensible, an enumeration and description of disease necessarily imperfect and inadequate. In the introduction a brief account is given of the physiology of digestion, and an appendix to the book contains a useful and valuable summary of food recipes suitable for sick-room requirements.

THE HEART.

While the heart and great vessels have formed the theme for many major and minor works in our own country, it is interesting to note the manner in which the familiar problems are studied and discussed on the other side of the water. Dr. Satterthwaite, judging from his book *Diseases of the Heart and Aorta*,[4] is a clinical physician well versed in all that has been written, but with a keener eye for what he and others have observed than for the theories that such observations have evolved. The work as now presented in book form has for the most part appeared in various medical journals from time to time in the form of clinical papers. Collected and brought up to date by the inclusion of the latest views on the subject, they may be read by those who have much to do with heart disease with interest and profit. The writer makes no secret of the fact, only too well known to the more experienced, that clinical diagnosis is fallible, and he shows with refreshing candour the actual percentage of error that has been found in the diagnostic abilities of the leading physicians who have given their experience to the world. With the foreknowledge that even the most skilled diagnosticians are liable to error in 39 per cent. of their cases, the reader will not be inclined to apply too universally the laws that are laid down for his guidance. The variations, complications, and collateral conditions that may be present even in the simplest forms of heart disease are duly thought of, and as each division of the subject is dealt with in a special chapter a few illustrative clinical cases are appended. The rarer conditions, such as aortic obstruction without regurgitation, are carefully described, and such points as the clinical distinction between the fatty heart and the heart with fatty degeneration are thoroughly examined. Angina pectoris is described for the most part through the writings of other authorities, and all the theories are duly set forth. The wide diversity of opinion as to its actual causation only serves to emphasize the fact that no common ground of agreement has yet been arrived at. The whole book, although disfigured here and there by small errors which more careful revision might have removed, may be commended as the work of one who has studied and knows his subject well; it is written in a pleasant style that should be appreciated by the graduate who wishes to improve his clinical knowledge by the comparison of his own with that of one more experienced than himself, but it is not a book for the beginner.

MEDICAL AND SURGICAL APPLIANCES.

The Need of Cleaning or Disinfecting the End of the Stethoscope, and How to Conveniently Do It.—Mr. Herbert J. Robson, M.R.C.S., L.R.C.P. (Leeds), writes: The diagrams below represent a stethoscope-end disinfector, which has been used in my practice for some time. Its use is urged not only for the sake of cleanliness, but as a preventive against the possible spread of certain diseases by the stethoscope. Bearing in mind the recent valuable observations and work of Mr. C. J. Bond on "the ascending currents in mucous canals and gland ducts, and their influence on infection," and its direct application to the skin with its many gland ducts, the need of this care in the use of a clean stethoscope to a patient's chest is forcibly brought home to one. In certain houses the end of the stethoscope can be conveniently washed before use, but how often, through carelessness, is this not done where it could be done! and how often is it quite impossible to get it washed without the giving of some extra trouble to one's patient and loss of time to one's self! The simple apparatus figured below save both time and trouble. An apology seems almost necessary in bringing this matter forward, and in figuring such simple articles as a stamp-wetter and a golf-ball-cleaner, and in suggesting these as part of one's armamentarium. But a moment's thought convinces one that after all such apology is not called for when one remembers in the past how few times the stethoscope got cleaned, and how many chests—dirty, diseased, or otherwise—it daily came into contact with: and, furthermore, how few at present pay any regard whatever to the chest-end of the stethoscope, be it cold or be it dirty.



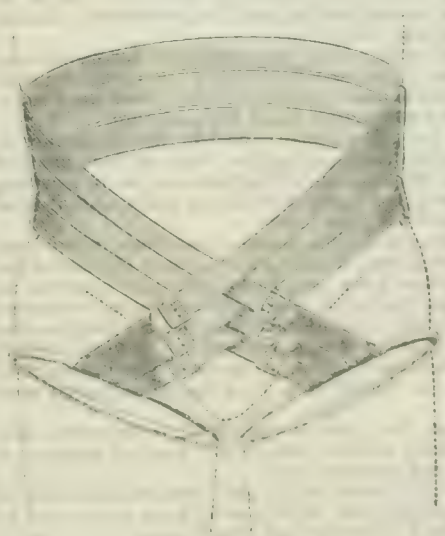
Fig. 1, for home use, is an ordinary glass stamp-moistener, the sponge of which is moistened with a 1 in 1,000 hydrarg. perchlorid. solution.



Open. Closed.

Fig. 2, for pocket use, is a rubber golf-ball cleaner, the sponge of which is similarly moistened with a 1 in 1,000 hydrarg. perchlorid. solution.

A Belt for Visceroptosis.—The annexed engraving depicts an abdominal belt which has been made by Messrs. Bailey, of Oxford Street, W., at the suggestion of Mr. A. Alison Bradburne, F.R.C.S.Edin., of Southport, Lancashire. Little explanation of its construction is required beyond stating that the thigh rings are of indiarubber tubing covered with flannel, and the three strands of bandage of 1¾ in. elastic webbing. They are kept parallel by passing each through its own partition in the "uprights" placed at each side and somewhat posteriorly; in some cases it may be of advantage to pin the strands together as they interlace just above the pubes. The belt is intended for use in cases of gastroptosis or of dilated stomach when difficulty is experienced in emptying the organ, and obviously by the use of suitable pads it can be made to meet other indications likewise. Mr. Bradburne has found that the support afforded to the stomach by the belt greatly relieves cases of "toxic headache," while among the advantages claimed for its construction are (1) that it supplies at a low cost a comfortable abdominal belt with interchangeable and easily renewed parts; (2) the pressure is adjustable, and braces up the hypogastric region without pressing upon the stomach itself; (3) the abdominal muscles are left free, and the belt can be kept on while exercises designed to strengthen the muscles are being used. The belt certainly seems calculated to meet satisfactorily the indications offered in lax conditions of the abdominal wall.



[4] *Diseases of the Heart and Aorta.* By Thomas E. Satterthwaite, M.D., New York. New York City: E. R. Pelton. 1905. (Demy 8vo, pp. 304.)

PROPOSED RECEIVING HOUSES FOR ALLEGED LUNATICS IN LONDON.

At a recent conference of the Medical Superintendents and Medical Officers of the Metropolitan Infirmaries and Workhouses it was resolved to request the Metropolitan Boards of Guardians to oppose the proposal of the London County Council to establish receiving houses for alleged cases of lunacy.

The following memorandum has been circulated to Boards of Guardians in London:

MEMORANDUM.

The present method of procedure adopted in cases where the alleged lunatic cannot be adequately looked after at home is as follows: The relieving officer, either upon his own authority in obvious cases of mental derangement, or upon the direction of a Justice of the Peace after a medical examination in less apparent cases, conveys the alleged lunatic to the workhouse or infirmary for detention until the justice decides whether the case is fit to be discharged or is to be transferred to the county asylum. Opinions as to the legal extent of this preliminary detention vary. Some authorities regard 17 days as the limit, whilst others maintain that it can be extended to 31 days. The London County Council proposes to abolish the system of preliminary detention in the workhouse or infirmary, and to take the cases directly into asylums which are to be built in London, and which are to be called receiving houses.

Among the reasons put forward by the London County Council Committee for the contemplated change the first is that Boards of Guardians will no longer require their present mental wards and attendants. This statement is entirely fallacious, for the great majority of cases treated in these wards, although temporarily insane and requiring control or observation, are not asylum cases, but are patients suffering from delirium tremens, epileptics, imbeciles, dements, and the many cases of acute delirium arising in patients who are being treated for some bodily disease in the ordinary wards of the infirmary. These will still require the maintenance in the mental wards and the attendants.

The growing unwillingness of the London County Council and the Metropolitan Asylums Board to receive cases of senile dementia into their asylums suggests that the Boards of Guardians will be compelled to provide permanent accommodation for this class of case.

Again, the report states that cases suitable for workhouse care have been sent to county asylums, while cases of acute lunacy requiring immediate treatment have been kept back, perhaps to the utter extinction of all hope of cure.

The adoption of the principle involved in the former assertion would necessitate the retrograde step of keeping the chronic harmless lunatic in the workhouse, a proceeding which has been justly condemned for many years, and against which current opinion is very firm.

The latter statement, "that acute cases have been kept back" is very misleading. The London County Council must know that these cases have only been kept back because its own Asylums Committee has been unable to allocate vacancies until a considerable period—sometimes a month—has elapsed. Moreover, these cases, instead of having "their hope of cure extinguished," have progressed favourably, and have finally gone to the asylum in a much-improved condition.

This attempt on the part of the Council to prove that lunatics are not well treated under the present system is abundantly disproved by statistics:

In 1902, out of 8,076 cases of alleged lunacy admitted to metropolitan infirmaries and workhouses, 3,920 were sent to lunatic asylums and 3,560 were discharged cured.

In 1903 the figures were: 8,004 admissions, 3,792 sent to asylums, and 3,443 discharged cured.

In 1904 7,654 were admitted, 3,716 sent to asylums, and 3,155 discharged cured.

The reason of this large percentage of cures lies in the fact that the mental state is often merely a symptom of a disordered bodily condition, and clears up entirely when that condition is cured. It is the deliberate opinion of the Conference that the alienist who confines his attention to, and whose horizon is bounded entirely by, lunacy is not the best person to have the care of mental cases in their early stages. What is wanted is great general experience, both medical, surgical, and mental, and in no body of practitioners does this combination exist more markedly than in the medical staff of the great Poor-law institutions.

The fact that each infirmary or workhouse has but a few mental cases at any one time enables an amount of individual attention to be bestowed on each case which would be impossible in large receiving houses unless a very large medical staff is to be engaged.

A special point to be remembered is that the nursing of mental cases under the present system is undertaken by trained nurses as distinguished from asylum attendants.

Although not a medical point, it may be well to point out that the claim of the London County Council that its officers would be better able to determine the social position and settlement of the patient than the present relieving officer is inherently absurd; the latter official, with his local knowledge, must have greater sources of information at his command.

It is understood that the London County Council proposes to make accommodation for 1,000 cases by building four institutions containing 250 beds each. The cost for the buildings alone will probably be not less than £300 per bed. Furniture will be a large item, and there will be an ambulance service, ambulance attendants, male and female lunatic attendants, inquiry officers, clerks, and a medical staff. It must not be forgotten that this large expenditure will be additional, and that there will be no corresponding diminution of expense in the establishments of the Boards of Guardians, for with the exception of the actual cost of the rations of the lunatic and the expenses incurred on the removal of the cases to an asylum, the whole care of the insane patients is undertaken by the ordinary staff.

The stigma of lunacy must not be forgotten; the Council may call these proposed institutions receiving houses, but in the minds of the public they will always be lunatic asylums and its ambulances will inevitably be associated with lunacy.

It is impossible to overestimate the disadvantage in which a person is placed when it is known that he has been "put away" as a lunatic. But there is no stigma under the present system.

A person taken to the infirmary for some mental trouble is simply a patient who has gone there for ill-health, and no odium of the asylum rests upon him. The friends of patients do not object to the detention in infirmaries or workhouses, but they have a very keen horror of an asylum.

The necessity for the attendance of the patient's friends at the magisterial examination and the customary visiting of the patient will involve loss of time and cause considerable expense to the alleged lunatic's wife, husband, or other relations, who may have to walk half across London instead of being within very easy access as at present.

These cases will also be withdrawn from the supervision of the guardians, who, by the keen interest they take in the welfare of the cases coming from their respective districts and by their visits to the mental wards, exercise a very beneficial influence upon the treatment of these unfortunate patients, and also ensure that there shall be no undue haste in hurrying them off to an asylum.

At the same time, a very great check upon ill-treatment will be lost, for the principle of allowing the same authority to have at once the control of lunatics and of "alleged cases of lunacy" is opposed to the spirit in which the lunacy laws were framed. There is at present an independent examination of the "alleged lunatic," and if a mistake be made it can be rectified when the patient is transferred to the asylum; but with the asylum authorities taking charge all through, a most important safeguard is lost to the poorer class of patients.

The rigid physical examination which every patient undergoes when leaving the Poor-law institution, and again when entering the county asylum, at once detects any signs of injury and places the responsibility upon the offending parties; but there will be no longer the same inducement to detect and to make public these cases of injudicious restraint when all parties are servants of the same authority.

In conclusion, the Conference desires to point out the utter absence of any valid reason for altering the present system, which works exceedingly well, and would suggest that if any modification be required, it is in the direction of giving statutory power to the guardians to enable them to detain suitable cases for a somewhat longer period than is now possible, and so prevent a further number of persons from being stigmatized and classified as lunatics. The Conference, therefore, requests that your Board will see fit to oppose the passing of the Bill.

THE PATHOLOGY AND TREATMENT OF VERTIGO.

At a recent meeting of the Otological Society of the United Kingdom, the President (Dr. Thomas Barr) in the chair, a discussion was opened by Sir Victor Horsley and Dr. Risien Russell on vertigo, its pathology and treatment.

Sir Victor Horsley, in his introductory address, confined himself to true rotation, to an actual sense of rotation on the part of the patient, or to actual rotation as a forced movement, and such rotation, as a rule, accompanied by nausea. His experience, he said, was drawn practically from only two classes of patients—namely, cases of destructive ear disease on the one hand, and new growths on the other. He had seen, of course, a considerable amount of Ménière's disease that had been referred to him from time to time. Severe vertigo was a sudden disturbance of equilibration, and what they wanted to know was whether that disturbance occurred in the periphery—that was to say, in the semicircular canal—and whether that disturbance in the periphery was produced by pressure in the middle ear on the labyrinth or by direct disease of the labyrinth. Then they wanted to know whether the mischief was not really in the trunk of the vestibular nerve, and then, again, whether it might not be in the bulb, whether it was in the cerebellum, whether it was in the pons, or in the crus, and, finally, in the cortex, and particularly that of the temporal lobe. It was necessary to introduce into his remarks an allusion to the discussion of the question as to whether the faculty of orientation in space were represented in the cerebrum, and he was about to suggest that that representation was principally in the temporal lobe. Passing to a consideration of the phenomenon itself, Sir Victor Horsley said he desired to maintain the position that it was a physiological condition strictly analogous to the onset of an epileptic fit or to the onset of trigeminal neuralgia. Such a sudden physiological disturbance of the central nervous system as that in severe vertigo could only be analogous to a condition of things in which there was a summation of stimuli. To begin with the peripheral mechanism, cases of semicircular canal disease required more attention in the direction of localization. If they had a more minute localization of peripheral disease, then they should have the groundwork of a more correct localization of central disease. Proceeding next centralwards, they came to the trunk of the vestibular nerves. That was a less complex part of the subject, because he was not aware that true vertigo had resulted from disease of the vestibular nerve, except when that had occurred in the form of new growths. It was of course quite possible to imagine that in cases of extensive caries in the petrous bone neuritis of the vestibular nerve should occur. Passing next to the medulla itself, they were in great difficulty in regard to the exact localization of disease of the eighth nerve and disease of the medulla itself, because in all those cases of eighth nerve implication the region of the auditory striae and the lateral recess of Luschka was the common situation of new growths. It was almost impossible, then, to differentiate between disease of the trunk of the nerve, as it lay under the peduncle of the flocculus and disease of the cerebellar nuclei of Deiter's nucleus or the other vestibular nuclei. In every case of disease of the vestibular nerve or its nuclei they had to consider two different things, both of which were disorders of equilibratory orientation, not only the true rotation which afforded the only means of correct localization, but also that disorder of equilibration which was called titubation. That was the first stage in the equilibratory mechanism at which titubation came in as a clinical symptom, and he desired to suggest that a lesion situated anywhere from that point to the temporal cortex might cause titubation. He also desired to suggest for discussion in the localization diagnosis that they did not get true rotation from simply middle-ear trouble, meaning by true rotation, objective rotation, forced movement; such forced movement did not occur until the nerve structure, that was the vestibular trunk or the wall of the labyrinth, was implicated. Passing next to the cerebellum itself, he said that in the cerebellum they had two totally distinct organs. One was the lateral lobe of the cerebellum and the other the vermis or the median portion of the cerebellum. The vermis was concerned with rotation round a horizontal plane of the body. The lateral lobe was concerned with the so-called surface movement, or *mouvement de manège*—that was to say, rotation round the vertical axis of the body, and often in a circle with a large radius. From either of those two organs or divisions of the cerebellum there might occur the rotation of a vertigo the localization of which was comparatively precise. He next considered the relation between the cerebellar part of the mechanism of equilibration and the cerebrum. The lateral lobes of the cerebellum were not directly united with the cerebrum. They were connected by the middle peduncle with the pons. The pons was connected by means of the outer part of the crus with the temporal lobe directly by Türck's bundle. Passing on to the pons, he demonstrated by means of lantern photographs the remarkably localized lesions and the resulting clinical phenomena produced in rabbits shot while running away from a gun, single pellets not infrequently penetrating the cerebellum. One photograph demonstrated a rabbit's brain in which a single pellet passed through the petrosal portion of the lateral lobe, and superficially through the tip of the temporal portion of the cerebral hemisphere. That animal immediately sprang into the air and exhibited the typical rotation fits around a longitudinal axis. It had skew deviation, right eye directed downwards, contracted pupil, left eye directed upwards, with dilated pupil, and the limbs of the opposite side rigid—in fact, all the concurrent phenomena of lesion of the middle peduncle of the cerebellum. This was shown to be in fact the case by subsequent microscopical investigation. The next photograph demonstrated was rather more striking in one sense, because it showed the forced movement of rotation, and not from any actual destruction, but simply from a bruising of the middle peduncle—that is, the pons. The rabbit lay on the ground perfectly unconscious, with the typical cerebellar attitude, the fore limbs in rigid extension, the head drawn strikingly to the right, the homolateral hind limb semiflexed, the contralateral fully extended. A photograph of the base of the animal's brain showed that no shot had penetrated the brain, but that one pellet had fractured the petrous bone, and had produced a little bruising of the middle peduncle of the cerebellum, and slightly of the trapezium, especially where the fibres dipped into the raphé. That animal, in addition to the forced attitude, also exhibited markedly the rotation movements, and also circus movement. Sir Victor Horsley cited a case of a boy who was flung off a see-saw and landed on his head; he developed vertigo, evoked by lesion of the middle peduncle of the cerebellum, and also presented the most interesting concurrent symptom of auditory amnesia. The case, exhibiting as it did in an unusually clear manner the association of auditory amnesia, rotation, vertigo, hemianopsia, raised for discussion the question of the representation of orientation and equilibration in the cerebrum. Hitherto most attention had been directed on the question of orientation in the cerebrum to the excito-motor or kinaesthetic part of the pallium, the ascending frontal gyrus, and it was to those centres for the movement of the upper and lower limbs and trunk that the idea of the orientation of the body in space had been ascribed. Since the most direct anatomical connexion that was known of definitely between the pons and the cortex was that part—the posterior two-thirds—of the temporal lobe, they should regard that as the centre of orientation. It had long been established by Dejérine that that portion was in direct connexion with the pons by Türck's bundle. They ought, therefore, to find in cases of lesion of that part that the patients at least had that disturbance of equilibration which he had referred to—namely, titubation. These considerations brought Sir Victor Horsley to the conclusion that if in any given case of vertigo they attempted a differential diagnosis of the seat of irritation, they must first endeavour to localize the direction of the sense of vertigo and the direction of the forced movement. Having done that, they must next endeavour to exclude functional cases, and he suggested that they ought to be able to exclude all cases arising simply neurasthenically. The next step must be to make a complete examination of the central nervous system, and by such means only could a correct localization of the cause of the disturbance of equilibrium be obtained. His experience, based upon certainly a large number of organic lesions of the equilibratory region, especially pontine and cerebellar regions, was that such titubation and vertigo were increased on closing the eyes. Speaking of treatment, he said, as regards middle-ear disease, that was simple—namely, they treated the disease of the bone and the disease of the mucous membrane by ordinary surgical rules. As regards Ménière's disease—that was to say, where in conditions of gout or allied stages congestion of the semicircular canals had been diagnosed, and the cases had been referred to him with the view of division of the

eighth nerve—he could only say that, although he had been quite ready to divide the eighth nerve, he had never yet done so. The only reason he could assign was that he had usually suggested that such cases should be treated first with (1) Weir-Mitchellism, (2) with hydrobromic acid, and (3) with anti-gouty treatment, and they had not returned. Whether the treatment had been successful and the operation rendered unnecessary, or whether the patients had taken other advice, he could not say. At any rate, he had never had occasion to divide the eighth nerve, though others had, and that was one of the reasons he was glad to join in the discussion that evening; the experiences of those who had divided the nerve or destroyed the labyrinth would be very valuable. With regard to disease of the central apparatus, such disease was almost invariably a new growth, and then treatment became simply a question of the removal of the growth in accordance with the localization of its seat.

Dr. Risien Russell considered vertigo from the medical aspect, and in the stricter and more limited sense of the term, namely, as a subjective sensation of movement of an individual in some direction in space, whether that be accompanied by actual movement of the person or not, or a subjective sensation that surrounding objects, in reality stationary, were in motion. The term, he said, was, of course, also applied to a vague sense of light-headedness, without any definite sense of displacement of the body in any given direction, and without the sense of rotation of surrounding objects. Even in the more limited sense the subject was a very large one. Speaking of intracranial suppuration, which had its origin in the ear more frequently than elsewhere, he said that as the original ear affection might be attended with vertigo, it became of extreme importance, when that symptom was due to grave intracranial mischief, that it should be recognized, and care taken not to allow any local affection of the ear too much weight in the interpretation of the symptoms. In dealing with organic intracranial disease he limited himself to a consideration of gross diseases of the cerebellum or temporal lobes and extramedullary lesions at the base of the brain. The vertigo in itself did not necessarily distinguish between a lesion at the base of the brain and one of the ear, for its characters might be the same in both. When the left temporo-sphenoidal lobe was affected, any indications of the sensory form of aphasia, which was known as word-deafness, were of the greatest possible value, as lesions of the hinder part of the superior temporo-sphenoidal convolution were responsible for producing that form of aphasia. It was also important to search for any indications of commencing hemiplegia. Passing to gross lesions of the cerebellum, matters, he said, were somewhat different, for without assistance from other defects, and by confining attention to vertigo alone, they might be able to decide between local ear disease as opposed to disease of the cerebellum. His experimental observations on that point left no doubt in his mind that in lesions on the same side the direction in which the animal rotated when the eighth nerve was irritated was the opposite to that in which it rotated when a unilateral ablation of the cerebellum had been performed. Apart from the forms of intracranial disease he had been considering, there were certain other organic affections of the nervous system that must not infrequently first come under the observation of the otologist. He referred notably to diseases like disseminate sclerosis and tabes, the former of which was especially likely to do so, for vertigo was a common symptom in that disease. In tabes, however, vertigo was not nearly so common; although cases of the kind must come under the observation of the otologist, owing to vertigo, it was much more likely that they would do so owing to deafness, which was to be accounted for by an atrophy of the auditory nerve. In discussing idiopathic epilepsy, he said, whether there had been loss of consciousness or not had always been regarded as of paramount importance in the diagnosis, he felt sure that otologists would bear him out when he said that an attack of auditory vertigo might be so sudden and violent that the patient was stunned, and undoubtedly did lose consciousness, or, at all events, suffered from so much mental confusion that it was practically impossible to distinguish between that state of things and the transitory loss of consciousness that might result in the *petit mal* attacks of epilepsy associated with vertigo. While far from wishing to undervalue the loss of consciousness in the diagnosis, he contended that certain reservations were necessary if that symptom were not to be allowed to mislead them. Vertigo of epileptic origin might be either unattended with loss of consciousness, or the loss might be so slight that it was almost impossible to be sure that there had been any such defect. It was with the transitory attacks of loss of consciousness attended with vertigo that he was dealing. In regard to those he thought it might be safely said that it was only in the severe attacks of auditory vertigo, in which the patient was liable to be thrown to the ground, that consciousness might be blurred, and that it was only in the *petit mal* attacks, unattended by falling, that there was likely to be no loss of consciousness, or that the loss was so slight as to make it difficult to be sure whether that was or was not the case. Much valuable consideration might be derived from considering the relationship of tinnitus and deafness to vertigo in such cases. Either or both of those symptoms might be the accompaniment of an epileptic attack, but apart from accidental complications neither was present in the intervals between the attacks. Therein was a difference of the greatest possible diagnostic importance, for in auditory vertigo, although both might be accentuated in association with the attack, their tendency was to exist in lesser degree in the intervals between the attacks. Vertigo, not adequately accounted for by what had been discovered in the ear, might be due to a functional affection of the nervous system, such as neurasthenia and hysteria. In neurasthenia the giddiness did not usually come within the stricter sense of the word vertigo in the way they had limited it for the purposes of discussion. The vertigo, as a rule, was unattended by auditory symptoms, though tinnitus as an accompaniment was by no means uncommon. Deafness, on the other hand, was exceptional, for it was more common for the subjects of this affection to suffer from hyperacuity of hearing. The vertigo complained of in hysteria might have all the characters of that due to ear disease. The absence of local signs might put the otologist on his guard, but he might be left in a state of uncertainty as to the correct diagnosis, which could possibly be arrived at by a more general investigation of a case, aided, it might be, by suggestion, to which such patients might so readily respond. In conclusion, he emphasized the importance of attempting to arrive at a correct diagnosis in view of the prognosis and treatment of vertigo due to functional disturbance of the nervous system on the one hand, or to serious intracranial disease on the other.

The President said the knowledge of the relation of ear disease to vertigo, inaugurated by Ménière in 1861, had been a great gain, not only to otology, but to general medical science. Vertigo, both as related to the ear and in its wide aspect, was a subject well fitted for discussion at that Society. It was one not only of interest to the otologist, but it was also of great interest to the general practitioner, to the physician, to the surgeon, and to the physiologist.

Dr. Dundas Grant said that it would probably be expected of the aurist that he would be inclined to diagnose Ménière's disease too readily in the cases of vertigo which came before him, but the speaker had frequently seen cases in which the general physician appeared to have diagnosed Ménière's disease on data which the well-equipped aurist would consider quite insufficient. Dr. Grant also referred to the recently-published experiments of Dreyfus, which proved that quinine had a decidedly sedative action upon the vestibular nerve. It was not necessary to give it in doses which would produce deafness; a small dose which scarcely touched the power of hearing was sufficient to quiet the vestibular nerve.

Mr. Richard Lake spoke with reference to the gouty cases mentioned by Sir Victor Horsley in which operation had been found to be unnecessary. Mr. Lake did not think it sufficient to assume that the treatment had been effective; he believed there was always an auditory lesion as well as a gouty condition and tendency. As the vertiginous attack became more remote, in time the ear gradually recovered to a considerable extent.

Dr. Urban Pritchard thought that all otologists would agree that in eight or nine out of ten cases of rotatory vertigo there was no difficulty in coming to a diagnosis; the presence or absence of nerve deafness and tinnitus helped them so much. But there was a small residuum of cases in diagnosing which the aurist would wish to be also a general surgeon and physician.

Dr. William Hill said he had hoped to hear a clearer expression of opinion as to whether otologists had any ground for believing there was any definite gross lesion in the nervous system or in the ear in the majority of their cases of vertigo. From his own practice he could not bear out what Dr. Pritchard had said. He (Dr. Hill) had not found out that the fact of the patient being deaf or having tinnitus had any very great bearing on the case from his point of view.

Dr. Herbert Tilley narrated an instructive case in which a complication of vertiginoid symptoms was found on application of the electric brush to be attributable to simulation on the part of the patient, who had just been suffering from otorrhœa, and who had previously got through an attack of meningitis.

Mr. E. B. Waggett inquired about the relation between nystagmus and vertigo. He had in mind a case in which very marked nystagmus was invariably caused by inflation of the ears in a young woman who had sclerosed ears, but no vertigo was produced.

Mr. Hunter Tod inquired from Sir Victor Horsley in what proportion of cases were there changes in the optic fundi if the cause were central, and whether the presence or absence of pathological changes in the fundi could be considered of diagnostic value.

Dr. Hugh E. Jones cited two cases of fracture of the base of the skull followed by aural vertigo, which disappeared after the post-aural operation and the removal of thickened bone in the region of the aditus.

Sir Victor Horsley, in reply, said that in several cases in which he had done the post-aural operation he had looked for nystagmus, or at any rate for deviation, and had found it absent. With regard to optic neuritis, he had never seen it in simple chronic otitis media, and if that were true in the experience of others besides himself, the occurrence of optic neuritis was of absolute value for intracranial localization of disease.

Dr. Risien Russell, in reply, said that Mr. Tod had obtained from Sir Victor Horsley what he (Dr. Russell) wanted to hear from otologists, namely, how far ear disease might simulate intracranial affections.

THE NEW SYDENHAM SOCIETY.

The forty-seventh annual meeting of the New Sydenham Society was held at Leicester on July 28th during the meeting of the British Medical Association. The chair was taken by Mr. Henry Power in the unavoidable absence of the President, Professor Osler. The report for the year 1904 was read. The subjects illustrated in the *Atlas* were enumerated in the report, and it was also announced that the income for the current year would allow of the publication of a printed volume of selected essays, partly from German sources, which would include among other subjects several reports on the parasite of syphilis. The decision of the Council to allow members to select one volume annually from the Society's back stock without payment, and the appointment of Dr. A. E. Russell as Acting Secretary, were also announced.

In reply to questions by Dr. Coombs and Dr. Furlong as to the likelihood of an appendix to the Lexicon being issued, the Chairman pointed out that though a large amount of material had already been accumulated by Dr. Sedgwick and himself, the funds of the Society would not allow of its issue, at any rate for the present.

Mr. Hutchinson said that though it must not be assumed that he spoke as representing the Council, he would like to be permitted to enlarge a little on the statements made in the report. The Society, which had for several years issued only its *Clinical Atlas*, was likely in the future to revert somewhat to its original function—the translation and publication of printed volumes. These volumes, however, would not be large works, but would consist of short selected monographs bearing upon prominent questions of the day. Thus, for instance, the forthcoming volume would contain, with other papers by different authors, translations of those on the parasites of syphilis and variola. An annual volume of this kind might be made to supply the best and most recent information on the topics concerned, and could be issued promptly. The *Atlas* would still be the Society's principal work, and four fasciculi would be issued each year. Members would receive, in addition, the annual volume, and would further be entitled to select each year a volume from the Society's stock in hand. This was, he thought, a liberal offer, and he earnestly hoped that members would see their own interests and also the interest of the profession in endeavouring to increase the scope and membership of the Society. He would appeal to the younger and more active members of the profession on the plea that the *Atlas* and the annual volume would deal with practical topics, and would illustrate the foremost and most original views respecting them. The selection of subjects for illustration was decided by a large Committee. It was not true that the *Atlas* had dealt chiefly with rare affections and recondite speculations. It had already, among a host of other subjects, devoted much attention to syphilis, to the effects of arsenic, to fractures and dislocations, to drug eruptions, and was now dealing with eruptions due to the bites of insects. It could not be asserted that these were subjects with which the family practitioner was not concerned. The *Atlas* was indeed, he ventured to assert, a work which every practitioner would do well to have constantly at hand. To those members of the profession who had earned the means and the right to rest he would make appeal on other grounds. They might suitably subscribe in the capacity of patrons, and in recognition of the fact that the Society was doing good work for the advancement of medical science.

The report and balance sheet were then adopted.

The subjoined list of officers for the ensuing year was then submitted to ballot, and those named in it were duly elected. Votes of thanks to the retiring members of Council, to the local secretaries, to the Chairman, and to the British Medical Association for granting the use of a room for the annual meeting, were then proposed and seconded.

Mr. Power, in replying to the vote of thanks to the Chairman, laid great stress on the invaluable work which Mr. Hutchinson had done and was doing for the Society.

President.—William Osler, M.D., F.R.S., LL.D.

Vice-Presidents.—Theodore D. Acland, M.D., T. Clifford Allbutt, M.D., Tempest Anderson, M.D. (York), Sir Thomas Barlow, Bart., M.D., R. L. Bowles, M.D., *Thomas Buzzard, M.D., A. H. Carter, M.D. (Birmingham), Sir W. S. Church, M.D. (Pres. R.C.P.), William Collier, M.D. (Oxford), *Sir W. Tennant Gairdner, M.D. (Edinburgh), *J. Hughlings Jackson, M.D., Lord Lister, *H. W. Page, F.R.C.S., Sir Richard Douglas Powell, Bart., M.D., Philip H. Pye-Smith, M.D., F.R.S., John Tweedy, F.R.C.S., *Professor G. Sims Woodhead, M.D. (Cambridge).

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Treasurer.—Henry Power, M.B.

Auditors.—Leonard Sedgwick, Esq., Waren Tay, Esq.

Honorary Secretary.—Jonathan Hutchinson, F.R.S., LL.D.

Acting Secretary.—Alfred E. Russell, M.D.

* Those marked with an asterisk were not in office last year.

The Committee in charge of the *Clinical Atlas* comprises the following: Dr. J. Michell Clarke (Bristol), Dr. Cullingworth (London), Dr. J. Hall Edwards, Dr. John Fawcett (Guy's Hospital), Dr. Colcott Fox (London), Dr. G. A. Gibson (Edinburgh), Dr. Gilchrist (Baltimore, U.S.A.), Dr. Goodall, Dr. Grey, Mr. R. Marcus Gunn (London), Dr. Arthur Hall (Sheffield), Dr. Herman (London), Dr. Arthur Latham (London), Dr. Cuthbert Lockyer (London), Dr. Geo. Murray (Newcastle), Mr. Rushton Parker (Liverpool), Mr. D'Arcy Power (London), Mr. W. G. Richardson (Newcastle), Dr. Rolleston (London), Mr. S. G. Shattock (London), Dr. E. Stainer (London), Dr. Unna (Hamburg).

THE REPORT OF THE INSPECTOR UNDER THE INEBRIATES ACT.

Dr. Branthwaite's report for the year 1904 is well worth the perusal of those who are either interested in the subject of inebriety or in any doubt about its practical importance. Eleven reformatories are now at work and in these 143 persons are under detention.

Magistrates and Local Authorities.

While the value of the work continues to be generally recognized, it is unfortunately hampered in several directions. Dr. Branthwaite points out that no inebriate can be committed to a reformatory under Section 11 of the Act (police-court recidivist) without the voluntary co-operation of the local authorities and local justices. In many places for various reasons, or rather, prejudices, this co-operation is not obtained, the result being that the Act is rendered a dead letter in these districts. The local authority is expected to make a certain contribution to the cost of maintenance of the persons committed, failing which there can be no Treasury grant. If they decline to contribute they on their part make it useless for the justices to commit inebriates to the reformatories. Then, again, the justices themselves show a great unwillingness to commit persons whom they have power and facility to commit, and disappointment often results also from their committing cases for too short a time, notwithstanding the fact that those committed for the full period of three years

give the best results. Reluctance to commit cases sufficiently early also accounts for a number of failures.

Reformable and Irreformable Inebriates.

The report shows that up to the present time the least possible use has been made of the powers given by the Act. It has practically only been put in force to clear the streets of a fraction of the persons who are an intolerable nuisance and practically irreformable. Many cases eligible for committal continue to come before the magistrates, but they are not committed because they are not bad enough. Dr. Branthwaite quotes instances to show that the reformable inebriates are permitted to remain at large until they have become irreformable. He says that "nearly all the cases hitherto committed either under Section I (criminal inebriates) or Section II (police court recidivists) might have been sent to reformatories on an average about five years before they were eventually so treated. At the commencement of those five years they were already inebriates qualified for committal, and at that time probably capable of reformation. But the subsequent years of neglect with their oft-repeated sentences, their resulting mental deterioration, organic disease, squalor and immorality, effectually removed all hope, and now leave us to deal with something that must be detained for the good of others, but is without possibility of reformation." He does not hesitate to put the blame for the partial making of these cases upon the right shoulders. "When all is said and done, the responsibility for good or bad results must therefore depend largely upon the action of committing authorities." "I have yet to hear of a single instance, man or woman, who, committed four times in one year, has subsequently recovered without the exercise of some restraining influence other than the repeated infliction of prison sentences."

Criminal Inebriates.

Dr. Branthwaite has much to say on the subject of the committal to reformatories of criminal inebriates. The Act provides that "any person who is an inebriate, and who in consequence of that state commits an offence which is punishable by imprisonment or penal servitude," may be sent to an inebriate reformatory instead of to a prison. He calls attention to the principle of treatment rather than of punishment involved, for, of course, the Act was never intended to apply to persons with power to keep sober, and he shows as regards deterrent effects of the two methods, that inebriates themselves consider detention in a reformatory a more penal matter than a few months in prison. The power conferred by this section of the Act is little used. During 1903, 272 persons were prosecuted for felonious wounding and 945 for wounding not amounting to a felony. Of the total number 856 were committed for trial. It is certain that a large number of these were led into crime by drink, yet only one was committed to an inebriate reformatory. During 1904, 77 persons were committed to reformatories under this section, 69 for cruelty to children.

During the whole period that the Act has been in force only 248 persons have been committed to reformatories as criminal inebriates, and but for the energy of the National Society for the Prevention of Cruelty to Children less than 50 cases would have been dealt with.

Suicidal Inebriates.

The question of suicide among inebriates is important. During 1903, 2,399 cases of attempted suicide were recorded by the police, and 2,359 were charged at the police-courts with the offence. Drink was probably the cause of two-thirds or three-fourths of these; 2,094 were discharged, and (adding another 8 cases left over from previous year) 273 committed for trial; 85 of these were sent to prison, and 4 to inebriate reformatories. In 96 per cent. no real effort was made to prevent recurrence. The trouble and expense of hearing 2,359 cases at police courts and 273 trials with these results speaks for itself. Dr. Branthwaite cites a number of cases personally known to him in which inebriates with this tendency actually succeeded in the end in taking their own lives. In these cases the attempts are very rarely made except under the influence of drink.

Among 8,000 inebriates under treatment in retreats and reformatories, only five have attempted suicide while under detention, only one not being accounted for by brain trouble or the effects of drink. Most inebriates charged with suicide do not belong to the irreformable class. The very attempt at suicide indicates some vestige of self respect. They are hopeful cases, and, according to Dr. Branthwaite, form a class by themselves, inviting treatment in the best conditions.

Prevention.

Much of the report for 1904 is a plea for better preventive methods. Each succeeding year's experience tends to confirm the opinion that the mental defectives among our inmates to-day are the backward, feeble-minded, and neurotic children of yesterday, many of whom, had they been taken in hand, were so slightly defective at the start as to be capable of improvement, and might have been made decent members of the community.

Dr. Branthwaite repeats that his "mentally defective" class of case tallies almost without variation with the managers' "irreformable" and his "sane" with their "reformable." There is an excellent and detailed sketch in the report of two cases, a "reformable" and an "irreformable," and diagrams of the life-histories of the two cases are given which are highly convincing as they stand.

Finance.

The question of finance is treated at some length. Dr. Branthwaite maintains that the expenditure involved is amply justified, and in the end probably as cheap as the penal system.

The average cost of reformatory inmates is about 14s. 6d. a head a week. He is equally emphatic on the utter uselessness and wastefulness of the penal method which is still so largely followed. Speaking of habitual inebriates, he says, "A great deal of money is uselessly spent upon them which cannot be considered as otherwise than utterly thrown away. Those cases which have been haled up, fined and imprisoned for years, now chronic and apparently irreformable, cost us anything up to £20 or £30 a year at the lowest computation, and their name is legion. Besides being expensive, they are an intolerable nuisance and a danger; they reproduce their like, and by their influence and example they are making other drunkards for us to pay for in the future. They become delusionally insane, and add to the lunacy bill.

"They become diseased, prematurely aged or decrepit, and the burden of their maintenance falls upon charity or the Poor Law. They die and are buried by public money. Are those among us who are political economists, and who control this expenditure, satisfied to consider this outlay inevitable? Satisfied to pay this money year after year without hope of return, accepting with scarcely an effort of resistance the certainty of added expenditure as the result of unrestrained multiplication?"

"With regard to the economy of committing reformable persons to institution care at the very start of their career, there can be no possible doubt. The reformable case I describe is a good example of the value of such a course. The first bad and expensive year (1899) was the evident start of many to follow. The woman would certainly have become a permanent charge had not her reformatory sentence cut the story short. As it is, money may be said to have been already saved in this case. The total freedom from expense on this woman's account during three years of respectability and liberty enables us to spread over five years the £70 spent upon her in the reformatory. The average expenditure for five years is therefore about £15 a year, which is not more than half the amount that would have been incurred had the system of short prison sentences been persisted in. And, in addition, a wastrel has been turned into a wage-earning and self-respecting woman."

It is to be hoped that medical men, who in general seem of late to have taken a new view of the curability of early alcoholism, will lose no opportunity of impressing these facts upon those responsible for the placing of the cases within reach of treatment. They may rely upon the reformatories giving the utmost possible value for the money expended, whereas the prison system gives none.

No more striking picture could be given than the appended diagrams illustrating the inebriate histories of the two women. The one is as gratifying to contemplate as the other is appalling. Both women appear now to be what their treatment at the hands of the State has made them.

The "drunk and disorderly" episodes are represented by black spots, the white spaces represent periods of liberty, the black spaces periods of imprisonment, the grey spaces periods of detention in a reformatory.

In the "reformable" case (Diagram 1) the woman became suddenly worse in 1899, being brought before the magistrates four times in one year. She was sentenced, therefore, to a reformatory at the earliest possible moment, and for the

Diagram 1. Reformable case treated early.

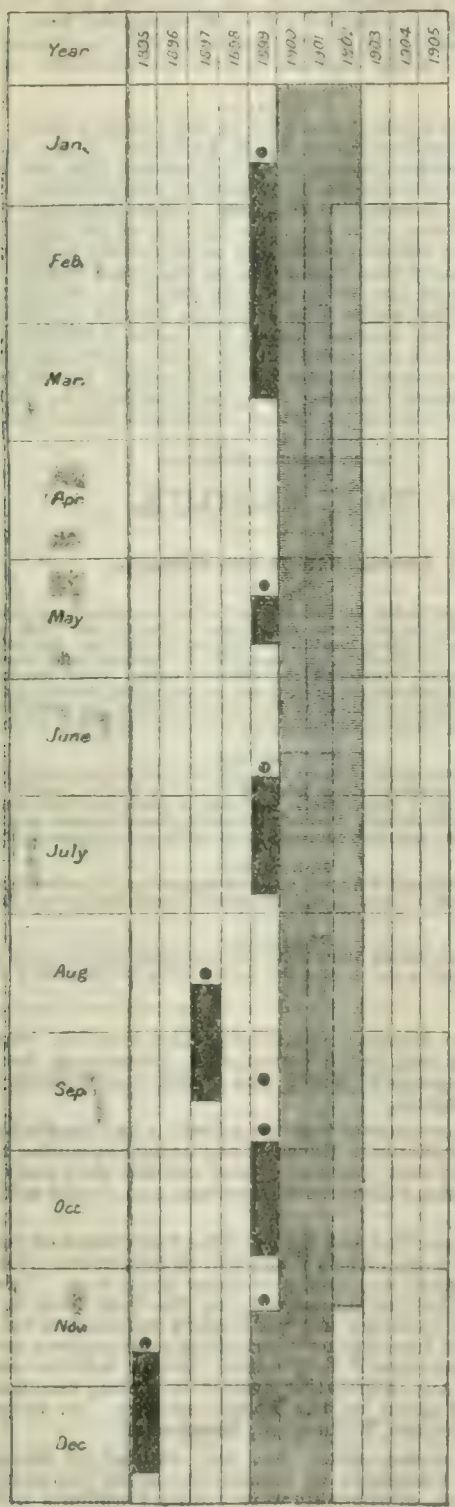
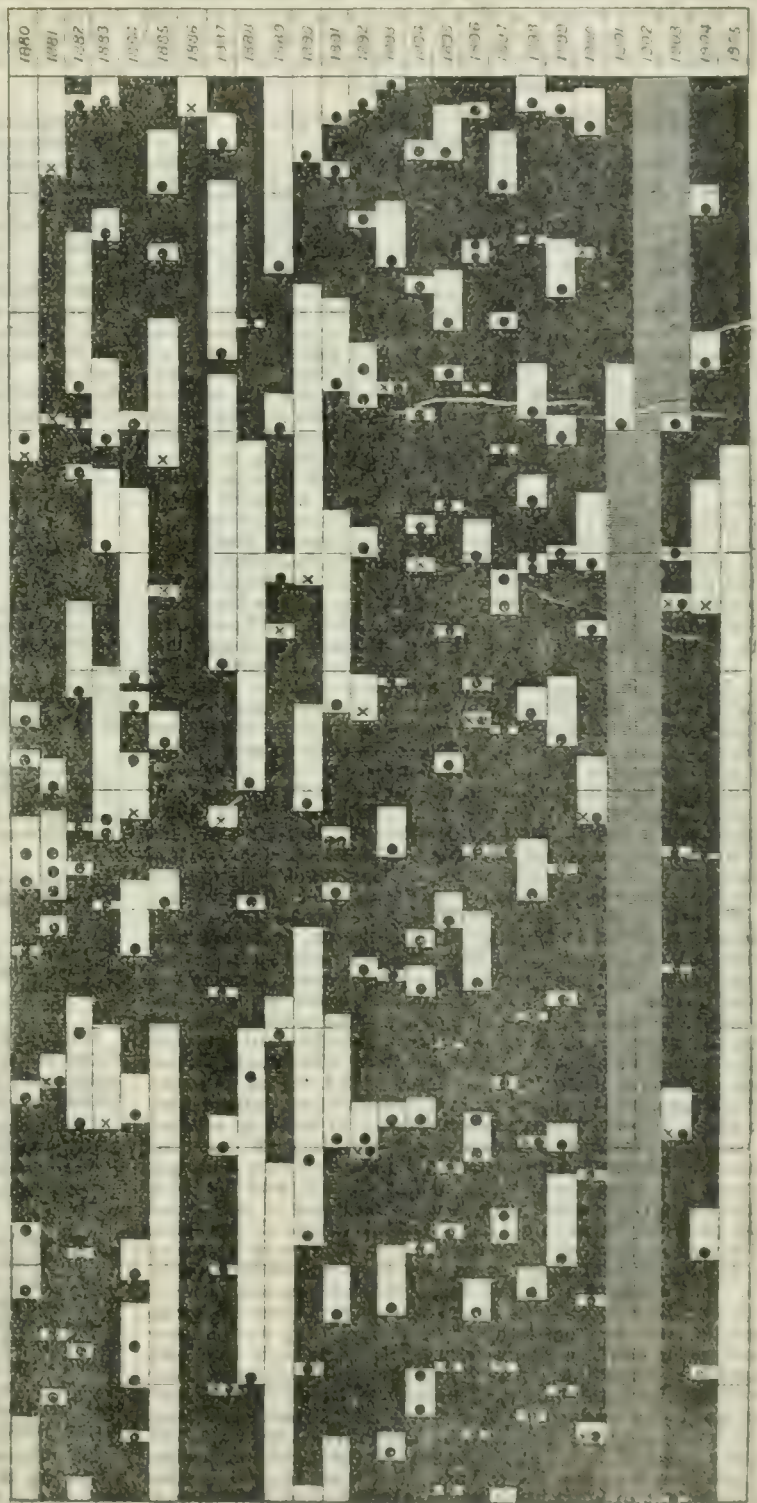


Diagram 2.—Irreformable case: 22 years in prison.



longest possible time. She was released for nine months on licence. Three years have passed and she has never again relapsed.

The "irreformable" case (Diagram 2) had spent the best part of twenty-two years in prison before being committed to a reformatory. She had further committed twenty-four

indictable offences (marked in the diagram by crosses) during that period under the influence of drink. She was committed to a reformatory for two years only, and relapsed at once on her release. Not having been recommitted, she is still spending her life in prison, degraded, half-sane, and incurable.

PREVENTION OF CONSUMPTION.

WEST INDIES.

THE Dispensary of the Trinidad Association for the Prevention of Tuberculosis was opened on August 2nd by His Excellency Sir Henry Moore Jackson, K.C.M.G. Among those present were the Hon. Dr. J. A. de Wolf (Surgeon-General), Drs. J. R. Dickson, E. Prada, Norman, J. W. Eakin, P. T. Villian, J. A. R. Stallmeyer, C. F. Lassalle, R. F. Black, C. F. Knox, E. Savary, F. E. Bass, T. B. Kenny, J. Meyer, and G. H. Masson. The Hon. Dr. de Wolf said that in the island of Trinidad consumption did not confine its ravages to any race or colour. He would take the years 1894 and 1903 for comparisons. In 1894 there were, from tuberculous diseases, 600 deaths in the colony, of which 184 were in Port of Spain; in 1903 there were 620 deaths in the whole Colony, and 311 in Port of Spain. From phthisis pulmonalis in 1894 there were 524 deaths in the Colony and 164 in Port of Spain; and in 1903 547 deaths, of which 232 were in Port of Spain. Dr. Dickson had made a careful analysis of the Registrar-General's returns, and he would not give them in detail; but they showed that while the general death-rate, both of the whole Colony and Port of Spain, had diminished in the period of ten years from 1894 to 1903, the mortality from tuberculous diseases had been about the same for the whole Colony, and had considerably increased in Port of Spain, and that notwithstanding their improved sanitary condition. At the same time, the mortality from malarial fever and bowel complaints—which were the principal diseases to which they were subject in this clime—had diminished. It had been felt for some time among the medical profession in Trinidad that something ought to be done so as to follow the good example set in other countries. The credit for making the first movement in the matter belonged to their present secretary, Dr. Masson, on whose initiative some months ago a meeting of medical men was called, and then and there was formed the Association for the Prevention and Treatment of Tuberculosis. The meeting undertook to contribute the necessary funds for initial expenses, and decided to establish a dispensary. Membership up to the present time was confined to the medical profession, but they now invited all to join and give them their sympathy and active co-operation, and more especially to help them with money subscriptions. Their field of action would probably be amongst the poor, so the medical staff had given their services, of course, for nothing, and they looked forward to secure the co-operation of some charitable lady who would follow cases, or some of them, to their homes, and see on the spot that the measures enjoined upon the patients were carried out, and also to report such exceptional cases of need as seemed to call for further assistance in the way of medical comforts. Although the work would lie principally amongst the poor, yet they must not consider that it was purely a charitable work, because by fighting the disease in the homes of the poor they were removing possible sources of contagion and danger from themselves and family. They would have to deal chiefly with incipient cases that held out some hope of cure. With regard to those cases in an advanced state, it would still be necessary to treat those of the poorer classes in hospital: and he hoped that before long they would have proper wards built for their treatment. Although they had not made a general appeal as yet to the public for assistance, there had been some generous persons who heard of the movement, and had already given them valuable assistance in fitting up and equipping the dispensary. They invited the public to join the Association. If their appeal to the public met with the generous response they hoped for, they aspired to the establishment of a sanatorium on some breezy height, and he might say they had already had the generous offer from Messrs. Rust of such lands as might be required on the ridge adjoining the North Post, and he believed it was very suitable. The sanatorium would form an inestimable boon to sufferers, and a means of saving many lives. His Excellency and Lady Jackson had kindly consented to be their patrons, and with such an auspicious send-off, he felt they could not but attain success. His Excellency said he believed they had led the way in the West Indies. Here they could not begin with a sanatorium, but he hoped it might not be many years before they got one. He expressed his very hearty sympathy with the campaign, and hoped it would be very soon carried out to a successful issue. The Bishop proposed a vote of thanks to His Excellency the Governor and Lady Jackson, which was seconded by Dr. Masson.

AUSTRALIA.

According to a report of a visit to the "King's Table Land Sanatorium" in New South Wales, published in the *Hobart (Tasmania) Mercury*, Australia only possesses this one sanatorium for the treatment of pulmonary tuberculosis. This institution is situated on the Blue Mountains, near Wentworth Falls, some 70 miles from Sydney, at an altitude of 3,000 ft. The buildings are low, inexpensive, erections of wood so arranged that in addition to the usual windows the upper halves of the walls may be raised on hinges; the occupants of the wards thus have the benefit of the freest ventilation. The general plan of treatment is based on that of Nordrach, and the results have already been most satisfactory. The sanatorium was officially opened for the reception of patients on February 18th, 1903, the funds for its erection being provided by the Queen Victoria Memorial Fund.

THE PLAGUE.

PREVALENCE OF THE DISEASE.

INDIA.

DURING the weeks ended August 12th and 19th the deaths from plague in India numbered 1,372 and 1,740 respectively. During the week ended August 19th the principal mortality occurred as follows: Bombay Districts, 1,204; Bengal Districts, 38; North-West Provinces and Oudh, 32; Punjab, 31; Central Provinces, 26; Central India, 11; Hyderabad, 8; Mysore, 140; and in Burmah, 99. No deaths from plague reported from Rajputana, Kashmir, North-West Frontier Provinces, or Baluchistan. At Sabara during the week ended August 12th 447 persons died of plague.

SOUTH AFRICA.

During the weeks ended August 12th and 19th the plague report was as follows:—Port Elizabeth: Fresh cases of plague, 1 and 1; deaths from the disease, 1 and 1 respectively. No plague cases reported from any other part of South Africa. At Port Elizabeth, East London, and King Williamstown rats and mice continue to be found to be plague-infected.

MAURITIUS.

During the weeks ended August 31st and September 7th the fresh cases of plague numbered 8 and 7, and the deaths from the disease 4 and 7 respectively.

HONG KONG.

During the weeks ended August 26th and September 2nd the fresh cases of plague numbered 4 and 5, and the deaths from the disease 3 and 4 respectively.

BEQUESTS TO MEDICAL CHARITIES.—The late Mr. Samuel Child left £100 each to the Birmingham Dispensary, the Birmingham Dispensary Relief Fund, and the Birmingham Children's Hospital.

THE annual congress of German scientists and medical men is to be held at Meran in the week beginning September 24th. It is announced that 144 persons have entered their names as proposing to attend the scientific sections, and 362 the medical sections.

THE annual meeting and dinner of the Association of Public Vaccinators of England and Wales will be held at the Midland Hotel, Manchester, on Friday, October 27th, 1905. This is the first time that the annual meeting has been held in the provinces, and from the interest already manifested by the members in the surrounding district it is confidently expected that a large number will be present. Dinner will be served at 6.30 p.m. Any information desired by public vaccinators will be gladly given by the Local Secretary, Dr. Sarjant, 1, Grosvenor Terrace, Withington, Manchester.

AN official return states that the number of students attending the University of Vienna during the last summer session was 6,164, of whom 812 were ordinary students in the medical faculty. There were, in addition, 28 women medical students and 234 students in special subjects. In the medical faculty of the University of Innsbruck there were 89 students; in that of Graz 170 and 3 women students. In the medical faculty of the German University of Prag there were 150 students and 7 women, and in that of the Czech University of the same city 201 men and 4 women. In the medical faculty of the University of Lemberg there were 87 male students and 10 women, and in that of Krakau 130 male and 22 female students.

THE DIET OF THE PRECIBICULTURISTS.

By Harry Campbell, M.D., F.R.C.P.,
Physician, North-West London Hospital and to the Hospital for Diseases of the Nervous System, Welbeck Street.

V.

The Diet of the Botocudos.

The Botocudos, Puris, and Caraodos are wild tribes inhabiting the western parts of Brazil between the Parahiba and Coutas rivers. In the early part of the nineteenth century they were naked nomad hunters, using stone axes and living in temporary dwellings made after some primitive method, as by driving a few palm branches circlewise into the ground and inclining them so as to meet at the top. Until recently they were wholly ignorant of agriculture, and even to this day retain, in spite of their contact with the European settlers, many of their pristine customs. The Botocudos have long been the irreconcilable foes of the settlers and the dread of the neighbouring tribes, and it is to them rather than to the Puris and Caraodos that this account applies.

They are a dolichocephalic people, who roam naked in the woods in quest of roots, berries, fruits, palm-cabbage, honey, frogs, snakes, grubs, "man, and other large game," cannibalism being at one time rife among them; with the exception of serpents, all kinds of animal food are acceptable. Larvae are eagerly sought for, especially in the decayed parts of trees and in bamboo trunks. They possess the domesticated dog.

The women, to whom—as is usual with primitive peoples—falls all the drudgery, dig up edible roots. Thus, Von Martius writes, "All the household work falls upon the women, even sometimes the building of the huts"; and Maximilian, Prince of Neuwied, describes how he saw a number of Botocudos women, each laden with a heavy sack, marching in single file after their day's labour.

Game is grilled on a spit, or cooked in underground ovens, as is also vegetable food. Maximilian came upon a band of these people grouped round a large oven fire and enveloped in a cloud of smoke. Food is also cooked in ashes and in bamboo stems. Vegetables are sometimes boiled "*in einem schlecht gebrannten Topfe*," which is often a bamboo stem in which, with great care, water can, it appears, be boiled.

Von Martius, to whom we are chiefly indebted for our knowledge of the Botocudos and neighbouring tribes, gives the aboriginal method of preparing wholesome meal from the poisonous manioc, and then goes on to describe a shorter one which consists in cutting the roots into slices, or long pieces, spreading them out to dry, and finally cooking them in ashes or underground ovens.

The chief weapons employed are the bow and arrow, the spear and the stone axe.

The Diet of the Fuegians.

These people inhabit the southernmost part of South America—the Terra del Fuego. They are a dark-haired dolichocephalic, copper-coloured people of moderate stature, and are apparently derived, like the Botocudos, from the original dolichocephalic race which migrated from Europe into America across the land which formerly united the two. In spite of the great cold of their country they wear no clothes, but are said to keep themselves warm by smearing their bodies with grease and yellow ochre—a veritable grease paint. Their habitations consist of a few poles fixed circlewise into the ground, drawn together at the top, covered with bark, and with moss stuffed in the intervals between them. They wander about in families, rather than tribes, in search of food. There are several tribes, some living mainly by war, plunder, and the chase, and others chiefly on the harvest of the sea.

Animal Food.

One of the chief animals hunted is the wild llama. Birds and eggs are sought after. The coast tribes live on seals—otters, porpoises, fish, shellfish and sea eggs.

In seasons of distress they become cannibals, eating their old women even before their dogs, which are more useful. The victims are suffocated in smoke by their own relations, the arms and breasts being eaten by the women, the legs by the men, the trunk being generally thrown into the sea. A terrier-like dog is employed in the hunt.

Methods of Procuring Animal Food.—A bone-tipped spear is the chief weapon employed; the bow and arrow (stone-headed) and sling are also used. Seals and porpoises are hunted from canoes with the help of dogs, and speared. Fish are caught with a line. The Fuegians are expert swimmers, and both sexes dive for sea eggs. Birds are caught while roosting, also by dogs, or they are shot with the bow and arrow, or stoned.

Methods of Preparing Animal Food.—Animal food is sometimes eaten raw, sometimes roasted over a fire. A Fuegian when given a live fish, instantly killed it by biting it near the gills and without further ado proceeded to devour it.

Vegetable Food.

With the exception of a few berries, chiefly of the dwarf arbutus and a fungus, the Fuegians eat no vegetable food. This fungus is a bright yellow variety which grows plenteously on beech trees. It is collected in large quantities by the women and children and is eaten uncooked. The women, we read, catch fish, gather shellfish, dive for sea eggs, make baskets and water buckets, and do all the drudgery—the old tale.

When ill the Fuegians drink plenty of water to promote perspiration.

The Diet of the Esquimaux.

Though the Esquimaux—so called on account of their being raw flesh eaters—are a most interesting people, as showing to what adverse conditions man can adapt himself, a study of their dietetic customs does not throw much light on the evolution of man's diet, inasmuch as these people are peculiarly circumstanced, and can scarcely be said to represent a normal phase in that evolution.

They are of all homogeneous races the most widely spread, ranging between Alaska and Greenland along a coast line of 5,000 miles. They all speak the one language, showing no greater dialectual differences than obtain between English and broad Scotch. There is some doubt as to their racial affinities: their language, legends and customs connect them with the American redskins, while in their use of the dog-sledge they resemble more the races of the Asiatic Polar regions.

In common with the seal, walrus, bear, and other Arctic animals, they are furnished with a thick layer of subcutaneous fat, in adaptation, doubtless, to the Arctic cold. They are an amiable and happy people, little given to quarrelling or bad language; their language is, in fact, said to be devoid of any abusive term, so that it is actually impossible to swear in it! In winter they live in huts made of stones covered over with moss, or of snow and ice; in summer they dwell in tents made of skin. Their two most characteristic possessions are the kayak, or canoe, consisting of hairless sealskin stretched on a wooden or whalebone frame, and the stone lamp, without which existence in the Arctics were impossible. The lamp serves to light the hut during the long Arctic night, which in some parts lasts over 120 days, to melt the ice for drink and dry the frozen garments, as well as for cooking purposes; indeed, much as the Esquimaux values blubber as a food and as providing fuel for cooking, he prizes it still more as providing oil for his lamp. So hardy are these people, however, that they are said to be able to pass months, or even the whole winter, without a lamp or fire of any kind (Rae). To keep themselves warm the Esquimaux rely chiefly on their clothing; the effect of a fire inside a hut would too often lead to an inconvenient dripping from the roof and walls.

Metal—often obtained from wrecks—now generally takes the place of stone in the manufacture of their weapons and implements. Rae once saw an ice chisel made of stone, this being the only stone implement he encountered.

Contact with civilization has had a sadly deteriorating influence on these people, causing them to lose their former manliness and to become drunken and debased.

Animal Food.

The food of the Esquimaux is derived chiefly from the cetacea, such as the seal, walrus, and whale. The reindeer and musk ox are a favourite food, and when they can be hunted constitute the chief source of it. The bear, fox, and hare are also eaten; also wild fowl, which are in some parts numerous. When winter comes and the Esquimaux move into their huts fish may largely take the place of meat. During the season salmon is abundant.

The dog is used for drawing the sledge.

Methods of Securing Animal Food.—The seal is speared or harpooned, the hunter cunningly imitating the appearance and movements of the animal, and thus being able to approach within striking distance; or again, he will watch over a seal-hole, which he will do in the bitterest cold for hours or even days together. The musk ox, after being brought to bay by dogs, is either speared or shot with the bow and arrow.

Reindeer are either shot in a similar manner, or caught in pitfalls dug in the snow, or chased in kayaks and speared while swimming. Birds are netted. Salmon are caught by damming the outlet of a stream at half tide; when the tide ebbs they are then easily speared.

Preparation of Animal Food.—Much of the animal food is eaten raw; when frozen the Esquimaux appears to relish it uncooked. Cetaceous animals, providing as they do fuel for their own cooking, are often cooked, while the deer and musk ox, not furnishing the necessary fuel, are more generally eaten raw. The flesh and uncooked marrow of the former animals are highly esteemed. The skin of the seal, porpoise, and whale are eaten raw; that of the Greenland whale, which is described as ¾ in. thick and as having the appearance of india-rubber, "is good eating in its raw state, even for a white man" (Nansen). Captain Hall was, as a special compliment, offered a piece of whaleskin by an Esquimaux woman, though not before she had first carefully licked it all over to remove the dust! The Esquimaux, in fact, regard the whaleskin as "the acme of deliciousness" (Nansen), and being as tough as india-rubber the enjoyment of it can be protracted indefinitely. The blubber of the cetacea is said to have a sweetish, somewhat mawkish taste.

The following is a description of a raw seal feast: First the skin and blubber were separated; the body was then opened and the blood, which is considered very precious, scooped out; the liver was then cut into pieces and distributed among the party and eaten with small pieces of blubber; finally, the ribs were sent round for picking.

The raw viscera of the ptarmigan are considered a great delicacy. They and their contents are eaten "in a twinkling," says Nansen. A Greenlander who accompanied this explorer on a hunting expedition "devoted a day to tearing the entrails out of all the ptarmigans, but as they numbered more than a hundred he could not devour the whole on the spot, and gathered up the remains for a feast."

Sometimes meat is allowed to decompose, when it is known as "mikiak," which is eaten without further preparation; a highly esteemed dish of this kind consists of "rotten seals' heads."

Animal food when cooked is either roasted or stone-boiled in stone saucepans. Captain Hall tells how he met three men in a tent doing full justice to a dish of smoking-hot seal blood, adding that he himself found it excellent.

Storage of Animal Food for Winter.—Food is abundantly stored for winter. In the frozen state it keeps indefinitely; sometimes it is dried.

Vegetable Food.

The country of the Esquimaux affords but a scanty supply of vegetable food, and this only at certain seasons and in limited areas. Some of the tribes, such as the South Bound Esquimaux, the most northerly people in the world, are without any kind of vegetable food whatever.

The vegetable foods include the cranberry, bilberry, dandelion, sorrel, angelica, Iceland moss, and a few flowers, [illegible] and roots. They are eaten, for the most part, raw, though some [illegible] are made to undergo a preliminary process of fermentation such as occurs in the preparation of sauerkraut. Seaweed, either unprepared or after being washed in fresh water, is consumed in considerable quantity and is often eaten with blubber.

Vegetable food is also procured from the stomach of the musk ox and reindeer, that of the latter containing the highly-prized Iceland moss. The gastric contents of these animals are [illegible] a great delicacy, and in the form of [illegible] lumps are frequently to be seen in the snow huts. If a Greenlander kills a reindeer, writes Nansen, "and is unable to carry much of it home with him, he will, I believe, secure the stomach first of all; and the last thing an Esquimaux lady enjoins on her lover when he sets off reindeer hunting is that he must reserve for her the stomach of his prey," which contains "a delicious collection of the finest moss and grass [illegible] the reindeer picks out for himself. It has been [illegible] in the process of semi-digestion, which [illegible] provides a somewhat sharp and [illegible]

An [illegible] are prepared as follows: A woman chews a piece of [illegible] with the food which accumulates in her mouth [illegible] and the [illegible] of this has collected the [illegible] to soak in it, and in due time are taken out and eaten [illegible]

Storage of Vegetable Food.—Berries and reindeer moss are stored for the winter. [illegible] with Southerners are provided with [illegible], tobacco, spirit and flour.

Quantity of Food.—The Esquimaux can consume large quantities of food. They are said to eat "till they cannot move." Two of them have been known to dispose of a seal at a sitting. Captain Hall says: "No human stomach but an Eskimo's could possibly hold what I saw these men and women devour." One man, who had been for a long time without proper food, gorged himself on a pile of frozen seal, and without apparent discomfort "swallowed enough to have killed six white men," and followed this by drinking two quarts of water!

It is not surprising that they can go for a long time without food, for though they have their seasons of plenty, they sometimes have to endure long periods of famine, when they will eat almost anything, not disdaining to make soup of their skin jackets, or even their old trousers!

Time of Meals.—There are no fixed times for meals. "They did not eat all at once, but each man when and as often as the impulse prompted him." They would appear, however, to make their principal meal before going to bed.

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MEDICAL NEWS.

A MEDICAL assurance company is being organized in France by members of various protection societies. The Society proposes to make temporary weekly payments to members suffering from accident or disease; the arrangements under this head appear to be similar to those made by the Medical Sickness, Annuity, and Life Assurance Society. The French Society also proposes to pay pensions after a certain number of years.

WE are asked to announce that in consequence of a family bereavement Dr. E. Markham Skerritt will be unable to fulfil his engagement to preside at the annual dinner of the old and present students of the Medical Faculty of University College, London, on October 2nd. The chair will be taken by Sir Thomas Barlow, Bart., K.C.V.O.

A DEATH under chloroform was recently the subject of an inquiry before the borough coroner of Wigan. The deceased, a widow, was admitted into the Wigan Infirmary in order to undergo an operation. Chloroform was administered, but before the operation was commenced it was noticed that the patient was in a moribund condition. A *post-mortem* examination was made by Dr. Batten, who attributed death to fatty degeneration of the heart.

CHILD LABOUR.—The Corporation of Sheffield has passed a series of by-laws imposing some restrictions on the employment of children of school age either in domestic work, in shops, as errand boys, or in the streets. It was stated that there are at present about fifteen thousand children in the city who, though nominally attending school, are really engaged in various paid occupations.

THE late Mr. George Gilhesby, of Gateshead, whose will has now been proved, bequeathed a sum of £10,000 to the Gateshead Dispensary. The governors of the institution are to be allowed to use the amount in any way they think fit, but the wish is expressed that the fund should be known by the testator's name, and a portion of it specially devoted to the relief of cases coming from the factories and workshops in Gateshead itself and its immediate neighbourhood.

THE INTERNATIONAL MEDICAL CONGRESS AT LISBON.—The Travel Bureau, 29, Cockspur Street, London, asks us to state that it has reserved a number of first-class cabins on the R.M.S. *Ambrose*, leaving Liverpool on April 9th and Havre on April 12th. The *Ambrose* will call at Oporto, where she will remain about thirty-six hours; the return journey can be made from Lisbon about April 29th by a steamer of the same line. The return fares will be £11 11s. from Liverpool and £12 12s. from London. Berths can be booked either at the Travel Bureau or at the Booth Steamship Company, Limited, 30, James Street, Liverpool. The Bureau also proposes to arrange excursions at reduced rates to various parts of Portugal and the south of Spain. It will also arrange for the overland journey via Paris and Biarritz. Further particulars can be obtained on application to the Secretary of the Travel Bureau.

British Medical Journal.

SATURDAY, SEPTEMBER 16TH, 1905.

THE MEDICAL WORK OF THE LOCAL GOVERNMENT BOARD.

THE annual report of the Medical Officer of the Local Government Board of England and Wales for 1903-4 was issued this week.[1] It contains the usual selections from the reports of the Board's inspectors published during the year to which the report refers, and also a series of appendices on the scientific investigations carried out for the Board.

A good deal of space, both in the preliminary observations of the Principal Medical Officer and in the body and appendices of the report, is given up to the question of the part played by the rat in the dissemination of plague. The International Sanitary Conference held in Paris in October, 1903, was called together largely to consider this matter, many foreign Powers desiring to impose very stringent regulations with regard to the destruction of rats on board ship. The British Government, advised in this matter by the Local Government Board, resisted many of the proposals on the ground that they were unnecessarily stringent. This opinion rested largely upon investigations made by Dr. Klein in the previous year, which led him to the conclusion that plague existed in the rat in two forms, the one a virulent and presumably highly infectious strain, and the other—which he considered proper to the rat—of comparatively insignificant virulence and correspondingly feeble infectiveness.

A report by Dr. Theodore Thomson summarizing the general effect of the inquiry and scientific investigations carried out for the Local Government Board was presented to the Paris conference. Dr. Thomson concluded that the part played by the rat in the transmission of plague to man, although real, fell far short of the importance generally attributed to it. He admitted that the rat suffered readily from plague, and was capable of transmitting the disease to man, and that wherever man was there the rat abounded; but he did not think it possible to estimate accurately the degree of danger or the risk of plague-infected rats gaining access from shore to ship or from ship to shore, and thought the risk of the production of plague on shore by shipborne rats much smaller than was commonly apprehended.

The volume contains a further report by Dr. Klein on the morphological, cultural, and physiological properties of the two types of plague bacillus previously described by him. These investigations confirmed his previous conclusions, and illustrated the stability of the two different strains of bacillus; the bacillus of the human type is highly pathogenic to rodents, that of the rat type much less so; the former retains its virulence in subcultures, while the latter soon loses it. He found, further, that it was possible so far to diminish the virulence of the human type as to cause it to approach very nearly that of the rat; this he did by inoculating plague material of a high degree of virulence into rats antecedently protected by the administration subcutaneously of Haffkine's prophylactic.

With regard to the best method of killing rats on shipboard, a report is published by Dr. J. S. Haldane, F.R.S., and Mr. John Wade, D.Sc. Attention was chiefly directed to the Clayton process, which consists of drawing air containing the products of combustion of sulphur through the hold of the vessel; the gas thus taken into the hold contains all the residual nitrogen of the air, together with about 15 per cent. of sulphurous acid, and a good deal of sulphuric acid in suspension. Dr. Haldane observed no evidence of appreciable damage, even the tarnish of brass fittings being quite superficial and easily removed; on the other hand, the smell left in the bedding and woollen materials was extremely unpleasant. The gas failed to penetrate the cargo, although Dr. Wade's experiments showed that the uniform diffusion of 0·5 per cent. of sulphur dioxide through a hold will kill rats within two hours. With regard to the destruction of bacilli, he found that the duration of exposure was of much more importance than the percentage of sulphur dioxide actually present in the air. Dr. Wade's general conclusions are that, with the exception of cotton, the disinfection of material in bale cannot be effected by means of sulphur dioxide, and that it is very doubtful whether it is possible to distribute through a loaded hold a percentage of sulphur dioxide sufficient to kill every rat. Other methods of destroying rats on board ship are discussed by Drs. Haldane and Wade, including the burning of sulphur in the ship, the use of liquid sulphurous acid, and the injection of carbonic acid and carbonic acid gas. They conclude that on the whole, provided the necessary apparatus can be supplied and worked at a reasonable cost, the Clayton process, in instances in which it is desired to destroy rats before discharge of cargo, would probably be more useful in large English ports than any of the other methods discussed.

In his notes upon local administration Mr. W. H. Power draws particular attention to a report by Dr. Reece on the Spennymoor urban district of the county of Durham, as an illustration of the conspicuous failure of a local sanitary authority to appreciate the responsibilities and duties which Parliament had devolved upon it. The district has frequently been reported on by medical inspectors of the Board, and in 1901 and 1902 the Durham County Council made formal complaint to the Local Government Board that the Spennymoor District Council failed to carry out their obligations under the Public Health Act of 1875, and that the death-rates, general and special, were abnormally high. The attitude of the district council in the matter of selecting and appointing executive officers helped to afford a clue to the maladministration to which Dr. Reece's report bears testimony. It is stated that formerly the medical officer of health received a salary of £100, but on the appointment of the present holder this was reduced to £75; he was subsequently appointed medical superintendent at the isolation hospital; and for the services rendered in the latter capacity, including the control of the hospital, the attendance on the patients therein, and the provision of their medicine, Dr. Reece calculated that the amount offered by the district council was equivalent to a sum of 1s. 1½d. a day throughout the year. Despite such discouragement, the medical officer has, Dr. Reece stated, rendered good service to his

[1] London: Wyman and Sons; Edinburgh: Oliver and Boyd; Dublin: E. Ponsonby. (4s. 9d.)

authority, but "unfortunately the council have not always taken advantage of the reports of their medical officer of health." Dr. Reece calls attention to the extraordinary high rate of uncertified deaths in this district—a matter which has already been discussed in our columns more than two years ago. At that time it was pointed out that in 27 per cent. of all the deaths registered burial took place without either a medical certificate being given or an inquest being held by the coroner. The reason why no medical certificate was forthcoming in 22 per cent. of the deaths was that the patients had been attended by unqualified practitioners up to the time of their deaths: further, it appeared that of the deaths in children under 5 years 30 per cent. had been under the care of a particular unqualified man. The county council pressed the Registrar-General to take effective action in this matter, but an attempt made by the Registrar-General to bring pressure to bear was soon abandoned. Mr. Power advises the President of the Local Government Board that it is greatly to be desired that legislation giving power to the medical advisers of local authorities to make prompt inquiry in the matter of uncertified deaths be undertaken as soon as opportunity affords. We hope that Mr. Gerald Balfour will see his way to accept this advice.

There is one other paragraph in the introductory remarks of the chief medical officer which we trust Mr. Balfour will bring to the notice of his colleagues in the Government. Mr. Power points out that in addition to the services rendered to the Government in connexion with the Paris Convention, he was called upon to advise on public health questions affecting this country's dependencies and colonies referred to the Local Government Board by the Foreign Office and by the Colonial Office, and that he had also been consulted respecting legislative measures contemplated by the Privy Council having a direct or indirect bearing on health questions. It is of course necessary that the Government should have expert advice on all such matters: but the fact that there is no department specially organized for dealing with it, and that we have in this country no consultative committee on public health is a matter deserving of the most serious consideration of the President; its settlement would mark appropriately the elevation of his office to the rank of a Secretaryship of State.

PSEUDO-THERAPY AND DEMAGOGY.

A WEEK or so ago Sir John Gorst made an important speech at Hanley on certain medical aspects of sociology, and it is somewhat remarkable that it should have attracted so little attention. The word important is perhaps ill-chosen, as possibly in such a connexion it necessarily implies an address which, either from its contained matter or from some other cause, is to be regarded as a valuable contribution to the settlement of a matter of public moment.

The problems which Sir John Gorst brought under consideration are certainly of the greatest moment; but as for the quality of his comments upon them we may at once confess that we should not have imagined that it was possible for any public speaker, whose habitual rostrum is not an extemporized platform in Hyde Park, to mix up false and true in such an inextricable tangle or exhibit such dangerous confusion of thought.

The audience which Sir John Gorst was addressing was a mass meeting, summoned by the National Union of Gas-workers and General Labourers, and his speech was in support of a motion to the effect that free medical advice should be placed within the reach of all by publicly-supported hospitals and dispensaries, the advice being in no way associated with Poor-law administration.

In addressing such an audience upon such a topic it might have been reasonably expected that a man of Sir John Gorst's position and experience would at least have explained its full bearings, and carefully weighed the advantages and disadvantages likely to accrue, before asking his audience blindly to say bravo to the proposal. Instead of this, however, he practically contented himself with drawing hysterical contrasts between the respective lots of poor and wealthy persons, more especially in the early days of their existence. The discreditable height of the infant mortality-rate, the evils resulting from misdirection of effort in the teaching given in the public elementary schools, the destructive ravages of tuberculosis, the spread of epidemics, were all directly or indirectly ascribed to the neglect of Government and to the denial to the people of their moral and legal rights. As a collective body, his audience, he said, neglected the health and vigour of individual citizens, from the cradle to the grave. Let them attend to this matter, and, putting their shoulders to the wheel, demand the remedy and see that they got it—namely, free medical attendance for all of them, untrammelled by any restrictions. Why should they be any worse off than their German rivals? Let them think of the preparations for the child of the rich—nurses, doctors, and loving forethought—and then of the poor man's child, which had to struggle into the world as best it could—a way of putting things which seems to show that Sir John Gorst has not made any very deep study of the mechanism of parturition. The parents of the poor child were, he said, deterred from calling in a doctor, in a difficult case, notwithstanding their legal right, until the last moment when perhaps the child's life could no longer be saved. All children were born fairly well-nourished, but the moment they were born deterioration set in, in fact the mortality in this country was a frightful disgrace to civilization. It was due to the exigencies of industrial life which obliged the poor mother to become the breadwinner of her family. She had to return to her work as soon as she rose from her bed, robbing her child of its mother's milk, robbing it of her care. With better instruction to girls in the schools, free milk and free medical attendance, the mortality would be materially reduced. Sir John Gorst would have none of the "survival of the fittest," it was not a case of the survival of the fittest, he said, for many of the fittest died, and many of those who were not the fittest lived.

He was partly right and partly wrong when he said that Boards of Guardians and Municipal Health Councils were generally in conflict with one another, and that while the latter knew the danger of epidemics and besought the parents to send for a doctor, the Board of Guardians said, "No; you shall be brought up before the Board, and you shall have the doctor's fee charged against you as a loan." Thus, he said, were the children robbed of the medical relief to which they had as much legal right as a duke to his estate. As a general result, epidemic disease was not discovered as it should be at the beginning, and the foolish economy exhibited in deterring the parents from sending for the doctor was paid for subsequently by the enormous expense to which the public was eventually put. A further result was the spread of tuberculosis; but for

this society was duly punished, because the rich caught the disease from the poor.

Sir John Gorst asserted his belief that the results of a partial examination of schools to detect evidence of deterioration had been so terrible that the Government dare not face the result of an official examination of all the children in the country, and alleged that children in German schools were as carefully examined before admission as if they were recruits for the army. That was what was wanted in this country, in addition to the free medical attendance afforded to all workers in Germany.

Many of these statements, of course, are more or less true; but nothing is so misguiding as a half-truth, and we cannot help regretting that in addressing such an audience Sir John Gorst did not focus his facts a little more accurately, and that he should have refrained, for instance, from adding that in Germany all workers are compelled to make provision against sickness. It may be thought, too, that Sir John might have permitted himself to let drop just a hint that one reason why the poor mother is forced to neglect her children and sally forth in search of paid labour is that not uncommonly the person who, with her, is directly responsible for their being, neglects to supply her with a fair share of his own earnings, preferring to spend them on beer and betting.

It would also have been interesting if he had explained how it is that the unfit, whom he delicately described as "not the fittest," survive, in spite of the present denial to the British workman of his right to free medical attendance and the correlated neglect to meet his medical needs in any other way. Incidentally, the thought occurs that if the fittest, who according to Sir John Gorst die, are the offspring of parents who prefer to shuffle off all their responsibilities on to the State and their neighbours, the fact that they fail to justify Darwin's theory may be one not altogether to be regretted.

These, however, are but minor points, and we pass on. As a profession it is conceivable that we should not be by any means indisposed to welcome the provision of State medical attendance on the poorer classes, for as a profession we should then insist upon adequate payment for work which, as individuals, we now for the most part do for nothing. We are, however, in our work as medical men, brought intimately into contact with the working classes, and are in a position in some degree to gauge their views. We should be loath to believe that, with increasing power, they have so far lost all independence as to wish to have all natural burdens removed from their shoulders; year by year they show an increasing readiness to support voluntary hospitals, and we do not believe that they will accept Sir John Gorst's remedy if the pros and cons are properly put before them. In any case, we are certain that if, as Sir John apparently wishes, the bonds of all parental responsibility are to be loosened, the evils to which he rightly points will grow very much worse than they are now.

What, however, we particularly object to in Sir John Gorst's whole attitude is that he contents himself with crying to the people merely to cut down the weeds. He blinds the people, and is apparently blind himself, to the fact that a cut-down weed will grow again, and by a catch-penny cry of free medical attendance leads them to aim at what, after all, would be a mere whitening of the sepulchre. Neglect, real or fictitious, on the part of the community to afford medical treatment to its poorer member is not the root of the evil. No amount of free medical advice could do more than make the surface look somewhat less black, and puericulture, not pediatrics, is the true remedy for infant mortality. If Sir John Gorst is truly anxious for reform, he must dig much deeper, and, amongst other things, call upon the people to set its own house in order.

What the people should demand from the Central Government is the reform of the Public Health Service, beginning with the Local Government Board, the latter being given, as the Prime Minister has proposed, the authority and status of the office of a Secretary of State. Then, and then only, will it be able to exercise efficient control over those conditions which interfere with the well-being of the working class population and make for deterioration and enormous loss of life among the young. From local authorities, on the other hand, they should demand the appointment of a medical inspector in every school in order that the fit and unfit be duly separated, those who are a danger to their companions excluded, and no child overstrained: the provision of a really pure milk supply to every quarter of a town, and the introduction of really practical lessons in simple cookery as part of the ordinary curriculum of every girls' school. These are the reforms which are really required and for which we and others have steadily asked.

At one time it seemed as if Sir John Gorst would prove a valuable recruit to the cause of reform: but on more than one occasion lately he has spoken and acted in such fashion as to weaken the sympathies with the movement of many equally powerful advocates, and those who have reform at heart are now inclined to say of him, "Oh, save us from our friends!"

COMBINED SANITARY DISTRICTS.

THE Local Government Board is to be congratulated upon the firm stand it has taken in connexion with the appointment of a medical officer of health for the Chipping Sodbury Rural District. Shortly after the passing of the Public Health Act, 1872, several of the Gloucestershire urban and rural sanitary authorities, including that of Chipping Sodbury, decided to form a combined sanitary district for the purpose of appointing a joint medical officer of health; Dr. Francis T. Bond was elected to fill the position, which he held uninterruptedly until May of the present year, when he was re-elected by all the councils concerned with the exception of that of Chipping Sodbury. At the end of last year that district was enlarged by the addition of three parishes which had formerly been included in Barton Regis, a district which had become almost entirely absorbed in the city of Bristol. These three parishes have an area of 6,452 acres, a population of 4,483 persons, and a rateable value of £21,718. The area of the old Chipping Sodbury district was 63,284 acres, and the population in 1901 was 17,621, an increase on that recorded in 1891 of about 5 per cent. When the additional area was added to the district, the Council desired Dr. Bond to undertake its administration without any addition to his salary of £115 per annum—a sum which had remained unaltered since the date of his first appointment. Upon his objecting to such an unreasonable proposal, the Council took the first opportunity of dismissing him from his position, the duties of which he had faithfully discharged for nearly a third of a century. After issuing an advertisement, which stipulated that candidates should reside within the district, the Council elected a local practitioner at an annual salary of £120; but in order

to obtain a moiety of this amount from the county council sanction to the appointment had to be sought from the Local Government Board.

While the Board was considering the matter a conference of representatives from the district councils remaining in the combination was held. At this conference resolutions were unanimously carried expressing the opinion that there were many advantages to be gained from retaining the complete combination and in securing the services of a whole-time medical officer of health. A second unanimous resolution, couched in the most temperate and conciliatory terms, asked the Chipping Sodbury Council to again join the combined councils in the election of a medical officer of health. The Chipping Sodbury Council might at this stage have very well, and without any loss of dignity, given way; but a majority of the members refused to listen to reason, and requested the Local Government Board to sanction the appointment of the gentleman they had previously elected. As we have already announced, the Board refused to give this sanction, and in the communication conveying the refusal suggested that the council should reappoint Dr. Bond, and thus "render it unnecessary for the Board to consider whether they should take further action in the matter."

This scarcely-veiled threat can only have reference to the exercise of the powers under Section 286 of the Public Health Act, 1875, enabling a compulsory combination to be formed by the Board. In at least two instances these powers have been employed, so that precedents are not wanting.

When the District Council considered the Board's communication on September 6th, the discussion revealed a singularly defiant spirit among the members, twenty-eight of whom voted in favour of a resolution which was opposed by only three, that "they adhere to their previous decision." It is a pity that the very evident desire of the Local Government Board to terminate the controversy in a friendly manner has not been successful, for it must be evident to all those interested that in the end the Board is bound to win.

BRITISH MEDICAL ASSOCIATION: TORONTO MEETING, 1906.

The meeting of the Canadian Medical Association recently held at Halifax, N.S., under the presidency of Dr. John Stewart, of that city, was a brilliant success. The following addresses were given: Surgery, Professor Caird (Edinburgh); Medicine, Dr. D. A. Campbell (Halifax); Ophthalmology, Dr. S. W. Sterling (Montreal); Gynæcology, Professor Howard Kelly (Baltimore). The Association, with Professor Alexander McPhedran as President, adjourned to meet at Toronto in 1906 in conjunction with the meeting of the British Medical Association.

NEW WORK ON SPIROCHAETES.

The *Berliner klinische Wochenschrift* for September 4th, 1905, contains two additions to the rapidly increasing literature of [illegible]. The more important is from Professor Lesser's clinique and is a report of work done by Paul Mulzer under the direction of Dr. Hoffmann, whose previous studies on the subject are well known. Mulzer's researches fall under three heads. In the first place he sought the spirochaete pallida in [illegible] cases of undoubted syphilis, primary and early secondary. Any doubt as to the [illegible] of the cases by taking a serial [illegible] with a stout platinum wire, or preferably by actually scraping the lesion with a sharp spoon. In 20 cases appropriate staining methods revealed its presence; the two failures he accounts for, one as due to lack of experience on his own part, the other to the rubbing causing an effusion of blood instead of lymph. The organisms were usually solitary: now and then a couple were interwoven and in one case a retiform conglomerate of 20 to 40 was seen, such as has been described in the pemphigus serum of congenitally syphilitic children. The second series of experiments was in the nature of a control; the smegma of fifteen healthy people and the secretion from 41 cases of skin disease, including several of tertiary syphilis, was similarly examined. In healthy smegma no spirochaetes were found. This result is in agreement with the researches of Csillag and Beidal and Bataille but contrary to those of Róna and Merge-Krönig, who have reported their occasional presence in these circumstances. Of twenty-nine cases of disease of the genitals, spirochaetes could only be demonstrated in eight, comprising balanitis, papilloma, and carcinoma. In the glands, which were swollen as a result of balanitis, puncture revealed no spirochaetes. Thirdly, Mulzer seeks to differentiate the spirochaete found in non-syphilitic cases from the spirochaete pallida. He says that with practice this is quite easy to do; the latter is smaller, slighter, and paler, and its curves are sharper and more corkscrew-like than in the former, in which they are longer and smoother. Moreover, the syphilitic form stains more deeply, and with Giemsa's method shows a reddish-violet tint, which contrasts with the blue colour of the larger parasitic form. Mulzer believes that the spirochaete pallida is found constantly in the products of syphilis while in the infectious stage, and that it does not occur in other diseases or in health. The other contribution is by Professor Ponhoff, of Marburg, and consists mainly of a long extract from a recent communication by him to the Marburg Natural History Society, in which he claims to have isolated a small spirochaete from pustules of calf-vaccinia. Photomicrographs are given, in some of which a spirochaete or two may be seen, but it is evident that further research is necessary before this organism can be considered to have earned the name which Professor Bonhoff has given it—namely, spirochaeta vaccinae.

THE LIABILITY OF SURGEONS.

We learn from the *New Zealand Medical Journal* that a charge of manslaughter was recently brought against Dr. J. C. Collins, late Senior Medical Officer of the Auckland Hospital, in connexion with an operation performed upon one Wallis White at the hospital on May 18th, 1904. Mr. Justice Edwards, in his charge to the Grand Jury at the Supreme Court, made the following observations: "Dr. Collins was charged with causing the death of the man Wallis White by performing an unskilful operation. The law on the subject protected any one from criminal responsibility who performed a surgical operation, provided it was done with reasonable care and skill, having regard to the patient's condition at the time and all the circumstances of the case. What was suggested was that Dr. Collins did more than was necessary. Every person who performed an operation was required to be possessed of reasonable skill, but he was not bound to have the skill of a first-class London specialist. If every surgeon was required to exercise skill as great as that of the foremost surgeon of the day his life would become intolerable, and he would be unable to live. At the same time he was required to exercise reasonable care and skill. The first question to be considered was, did Dr. Collins exercise reasonable care and skill? If they thought that he did not, then a true bill should be returned against him. It must be clear to justify the charge, first, that reasonable care and skill were not exercised; and, secondly, that lack of reasonable care and skill caused or accelerated death. There was no suggestion, so far as he knew, that what was done caused the man's death, but it was suggested that it accelerated death. It was for the jury to say whether there was any evidence that it did. So far as the depositions went, there was no evidence that it accelerated the man's death. If he had been the magistrate, probably he would

not have committed Dr. Collins. He had carefully examined the evidence of Drs. Neill, Savage, Gillon, Purchas, Bull, and Marsack, as given in the lower court, and it appeared the utmost any one of them could say was that what was done "may" have accelerated the man's death. There was, it appeared, but small chance of life in any case. So far as he could see, no witness could say positively that the operation either caused or accelerated death. If it was clear that there was not evidence that the operation caused or accelerated death they should throw out the bill. They had all heard a great deal—and many thought it was correct—to the effect that surgeons were much too prone to look into people's bodies to see what they could find there. If this were so, it was quite desirable that it should be checked; but it was no justification for finding a surgeon guilty of manslaughter without any evidence that prying into the man's body did cause or accelerate death. If they found that there was any evidence upon which twelve reasonable men could be expected to find that Dr. Collins did cause or accelerate the death of Wallis White, they must return a true bill, although a petty jury might still acquit him; but to do so they must be satisfied that there was evidence of acceleration of death. The grand jury by a majority returned a verdict of "No bill." The majority was not announced, but it was understood that the bill was thrown out by 17 to 3.

THE STUDY OF INEBRIETY.

With the double object of celebrating the twenty-first year of its existence and of perpetuating the memory of its founder, the late Dr. Norman Kerr, the Society for the Study of Inebriety has determined to found a Norman Kerr Lectureship. The sum estimated to be required for its upkeep is £300. About one-third of this amount has already been received, and it is believed that as soon as the project becomes generally known the rest will be forthcoming from those who would like to join in honouring the name of a man who did so much to put the study of inebriety upon a scientific footing and at the same time help to further the investigations which he so ably commenced. So sure do the promoters feel of success that the date and place of the first lecture have already been determined—namely, Tuesday, October 10th, at 8.30, in the rooms of the Royal Medical and Chirurgical Society, 20, Hanover Square, W. Dr. T. D. Crothers, Professor of Mental and Nervous Diseases in the New York School of Clinical Medicine, who is also Secretary of the American Society for the Study of Alcohol and Narcotics, and editor of the *Quarterly Journal of Inebriety*, published in America, has consented to deliver the inaugural lecture. His researches on the subject are well known, and it is hoped that there will be a large and representative gathering to welcome him. The lecture will be preceded by a reception by the President of the Society (Dr. Harry Campbell) and the Council, and followed by a conversazione. Admission will be by tickets, and these can be procured on application to the Honorary Secretary of the Society, Dr. T. N. Kelynack, 120, Harley Street. Donations towards the lectureship can be sent to the Honorary Treasurer of the special fund, Mr. McAdam Eccles, 124, Harley Street.

NURSING A L'ANGLAISE.

In a recent issue of the *Journal de Médecine de Paris*, Dr. A. Lutaud, after reference to the favourable impression made upon our French visitors last October by the appearance of English wards and nurses, says that it is no longer necessary to go so far to see a hospital which is an equally attractive spectacle, but merely to Bordeaux. In this city Dr. Lande, who was once its mayor and is now charged with the administration of its hospitals, has set to work, and in the short space of one year, and in spite of much opposition, has completely transformed the Tondu Hospital. He has introduced a complete copy of the nursing arrangements in an English hospital, not forgetting the training school, and the movement is considered to be already a proved success. Those who have any doubts upon the subject, says Dr. Lutaud, have only to visit the hospital to be convinced. They will see there a number of young women cheerfully carrying out duties which hitherto it had been deemed impossible they should perform, while everything in the place breathes of moral and physical cleanliness. No one appreciates the value of the change more than the patients themselves, who are delighted to find themselves looked after by cheerful, attentive, and kindly young women nurses. Dr. Lutaud hopes that the reform thus initiated will spread throughout all French hospitals. This will certainly be the case if, as they should, the middle classes in France appreciate the fact that nursing offers an honourable and praiseworthy career to their daughters. The care of the sick ought not to be turned over, as at present, to women of the peasant and inferior servant class. On the contrary, it is well-educated women who should undertake the work, and they should be accorded a suitable meed of social recognition. The occupation is one to which young women whom lack of a marriage portion is likely to debar from matrimony can devote themselves with very much more advantage to the public than by merely taking employment in telegraph and other public offices. On the other hand, the authorities of hospitals must not forget that if they wish to attract women of the right class into their service they must insist upon their nurses being treated with respect and pay them reasonable salaries. These are words which might well be echoed among the infirmary committees of many Poor-law unions in England.

HYPEREMESIS: SECONDARY CANCER OF UTERUS: CAESAREAN SECTION.

Uncontrollable vomiting of pregnancy is a well-known condition, and primary cancer of the uterus is a common disease, which has been known to complicate pregnancy. M. Couvelaire[1] has published a case where there was uncontrollable vomiting, but it was partly due to cancer of the stomach, and where there was secondary cancer of the gravid uterus. The patient was 35 years of age. On October 11th, 1901, she was admitted into hospital as a primipara in the second month of pregnancy, subject to uncontrollable vomiting. Pinard examined the case, and found that the uterus, which extended 3 in. above the pubes, was perfectly normal. He also detected a new growth in the stomach. The patient was kept at rest for several days and fed on very small but frequent doses of milk and water; the bowels were kept open. It is interesting to find that the gastric irritability diminished greatly. By April 5th the pregnancy had developed satisfactorily, and there was no evidence of disease of the uterus or cervix; the gastric tumour had not increased. Within a month after that date diarrhœa, ascites, and œdema of the lower extremities and abdominal wall developed. On May 17th—301 days after the end of her last period—M. Pinard examined the patient, and found very distinct evidence of cancer of the cervix and lower uterine segment. The tissues had become very firm, and natural delivery was clearly rendered impossible. Pinard on the next day opened the uterus, and delivered a female child weighing 6½ lb., which seems to have breathed before delivery, as it died one hour after delivery from dyspnœa, and its bronchi were found filled with air and meconium. The uterus had to be amputated high up on account of the friable condition of the diseased tissues in the lower segment. The diseased stomach was easily recognized by palpation, and the colon and small intestine were found healthy. The clamp was used for the uterine pedicle, the stump coming away on the thirteenth day. The patient, though very ill, managed to survive the operation for fifty-one days. The stomach was very generally infiltrated with cancer, the colon was infected; but although the cervix was the seat of secondary cancer, it had not yet become ulcerated, and, strange to say, the big pit, so familiar to operators twenty years ago, when the serre-nœud was used

[1] "Métastase utérine d'un cancer de l'estomac survenue, au cours d'une grossesse, après [illegible] césarienne." *Comptes Rendus de la Soc. [illegible]* Mai, 1905.

in hysterectomy, formed by the sloughing away of the uterine pedicle, had not become extensive, as is the rule when it is in proximity to cancerous growths.

THE HEALTH OF STEERAGE PASSENGERS.

A REPORT recently issued by the Department of Commerce and Labour in the United States throws a certain amount of sidelight on the health commonly enjoyed by emigrants during their voyage across the Atlantic. It appears that during the three years ending June 30th, 1905, altogether 1,932,934 persons started for New York from ports in Northern and Southern Europe. The greater part of them, or 1,351,221, were from ports in the north, the rest from ports in the south. Of the total, 158,866 were children under 8 years of age, and of these, again, 31,873 were babies less than a year old; in addition, 116 infants were born during the course of the voyage, two of their mothers dying during childbirth. Among the grand total of nearly two million passengers, there were altogether 423 deaths, or about 22 out of every 100,000 passengers. It is possible to represent this as an annual death-rate by taking the average length of a voyage as twelve days. The average annual death-rate would be 6.6 per 1,000. The highest proportion of deaths seems to have occurred during January in each year, which is the time when the traffic is at its lowest, and the lowest in May, when the traffic reaches the maximum. These figures, of course, represent the voyage in a very favourable light, but, if the deaths are assigned roughly to the age-periods of under 8 and over 8, it becomes obvious that a voyage across the Atlantic under the circumstances of life in the steerage of an emigrant ship is an extremely trying thing for the young. Thus practically half the deaths noted took place amongst children under 8 years of age, though the latter numbered little more than one-fourth of all the passengers. If the figures concerning them are extended as before, they nearly equal so high an annual rate as 40 per 1,000. As for the causes of the 423 deaths they were as follows: Heart failure, 75 (20 children); pneumonia, 64 (37 children); inflammation of the bowels, 40 (35 children); meningitis, 34 (14 children); convulsions, 38 (all children); apoplexy, 17; alcoholism, 17; "marasmus" or "weakness," 17 (13 children); tuberculosis, 16 (8 children); bronchitis, 15 (12 children); "congestion," 10; 5 children died from scarlet fever and 5 from measles. The remaining 47 deaths were due to miscellaneous causes. Only 1 was the result of an accident, but, on the other hand, 23 were due to suicide, and of 7 other there is no explanation, for the persons concerned simply disappeared.

BILHARZIA DISEASE OF THE RECTUM.

SINCE Bilharz in 1851 detected a nematode in cases of haematuria in Egypt, much has been discovered about the schistosomum haematobium, and the pathology, diagnosis, and treatment of the diseases caused by that parasite. A most instructive monograph on the morbid conditions which it sets up in the rectum has recently been written by M. Maurice Letulle.[1] It is based on a remarkable oversight in diagnosis. A chemist, aged 68, from St. Pierre, Martinique, came under his care two years ago in the Hôpital Boucicaut, Paris. The patient suffered from chronic disease of the rectum, which was diagnosed as diffused inoperable cancer, but it continued for a long time. His business was ruined by the volcanic eruption in Martinique, and the unfortunate man went to Paris. There he lived for a few months in abject poverty, and contracted phthisis. Dysenteric diarrhoea, the chief clinical symptom of his original complaint, became aggravated; there was also constant fetid sero-sanguinolent discharge from the anus. Cachexia from these causes, added to starvation, had reduced this man of 5 ft. 5 in. in height to under 4½ st. in weight. The lower part of the rectum was converted into an immovable rigid cylinder, not very tender to touch. The patient could still eat. His hospital physicians now admit that they made one great oversight, for neither the faeces nor the rectal discharge were systematically examined. They knew that the disease could not be pure dysentery, and syphilis was excluded, but were unaware of the existence of bilharzia disease in Martinique; they concluded that there was diffuse rectal cancer, though the long history seemed strange. Letulle adds that the eggs of bilharzia have been detected in the faeces of a native of Martinique, and that these ova bore a lateral spine, whilst in haematuria cases the spine in the ovum is terminal. The patient died: the rectum was carefully examined, and its diseased condition was purely due to bilharzia disease; ova of the most characteristic type were found buried in the muscular coat; in some cases their membrane was ruptured, and phagocytes were seen invading it. The pathological changes in the histological elements of the rectum are minutely described by M. Letulle, and demonstrated by a good series of illustrations. Bilharzia disease of the rectum, when advanced as in the above case, would appear, in Letulle's opinion, to be incurable by any known drug or surgical operation. As in actinomycosis, we hardly know how to reach the parasite. We seek, says Letulle, for a specific which can reach and kill the female schistosomum in the patient's blood, so that it can no longer keep on laying its eggs in the rectal mucosa, and thus indefinitely protract the chronic inflammation which it excites.

[1] Le rectum Bilharzien. *Revue de Chirurg. Abd.*, July-August, 1905, p. 659.

NATURAL IMMUNITY IN PLANT LIFE.

IN an interesting piece of research conducted in the Jodrell Laboratory, Royal Botanic Gardens, Kew, Mr E. S. Salmon has found[1] various methods of inducing susceptibility to the attacks of certain fungi in the leaves of plants which are incapable, when in their normal condition, of being infected by these organisms. Susceptibility to infection may be produced, for example, in leaves which have been injured by a cut or burn. In explanation of this result Mr. Salmon advances the view that in consequence of the vitality of the leaf cells being affected by the injury, either the protective enzymes or similar substances normally present are destroyed or become weakened, or the production of these protective substances by the protoplasm is interfered with in the neighbourhood of the injury. On the same hypothesis, he explains the fact that a similar susceptibility can be produced in leaves which have been exposed to the action of alcohol, ether, chloroform, or heat, since it is known that protoplasmic functions are temporarily inhibited by anaesthetization, and that a high temperature may partially or entirely inhibit the process of the secretion of an enzyme. To this loss of immunity, brought about by causes which affect the vitality of the leaf, Mr. Salmon finds parallel instances in the animal kingdom. Thus the decrease of vitality caused by fatigue, the action of drugs, abnormal food, or unfavourable environment has in many cases been found to induce susceptibility to certain bacteria in the case of animals which are immune under normal conditions.

[1] *Annals of Botany*, vol. xix, No. 74.

CONSERVATIVE SURGERY OF THE OVARIES AND UTERUS.

WE all remember how Lawson Tait, to whom abdominal surgery owes so much, was proved after some experience to be wrong in his practice of removing ovaries and tubes for chronic or even for recent acute inflammation. Oöphorectomy was greatly abused by inferior operators; the after-results were often lamentable, and the medical press at home and abroad published grave criticisms, such as Doléris's *Plus de mutilations inutiles*. The bad results were due in part to neuroses, but much more to inflammatory changes in the stumps of the amputated appendages. Even the great surgeon who introduced the operation seemed to overlook the fact that the diseased tissues of an inflamed tube and its adjacent peritoneal investment are pathologically and surgically different from the healthy tissues of the pedicle of a common ovarian cyst. The

ligature around the stump of a pyosalpinx lay in a most unfavourable position, and it seems a wonder that pelvic abscesses and exudations were not more frequent. In consequence of these bad results a yet more radical kind of operation came into vogue; in order that no stumps of appendages should be left attached to the uterus, that organ was removed as well as the tubes and ovaries. Yet those who complained of the older operation as a useless mutilation were hardly justified in advocating the removal of the uterus, except on very good grounds, and experience did not support them in this respect. In the great majority of cases of chronic inflammation of the appendages it is the Fallopian tube that is chiefly diseased. The ovaries, save when the seat of suppuration, are usually subject to sclero-cystic changes of small importance. On that account Tuffier[1] advocates systematically an operation already in favour with some gynaecologists, namely, amputation of the tubes alone, carefully excising their attachment to the uterine cornua. This excision requires some skill, especially to ensure haemostasis, as ligatures applied to uterine tissue are prone to slip, and in two of Tuffier's cases this occurred and a pelvic haematocele developed. Tuffier has performed this systematic salpingectomy thirty-two times; all the patients recovered, the only immediate complications were the haematoceles just noticed; in a third case fungous endometritis, which existed before the operation, continued so that the uterus was ultimately removed, and in a fourth this radical measure was demanded on account of tuberculous disease which had evidently extended into the uterine tissues when the tubes were removed. The remaining twenty-eight patients were well, the period continuing regular and normal. Granted that the tube is not the seat of very recent inflammation, the ovaries fairly sound, the uterus healthy, and the patient young and free from neuroses, this conservative procedure is, in Tuffier's opinion, of high value.

AN ANTICHOLERA CHARM.

A GENTLEMAN who signs M D. after his name has written to the *Morning Post* to say that in view of the possible spread of cholera to this country he thinks readers may be interested to know of "a simple, safe, and certain means of preventing infection." His description of this marvel is as follows: "Take a piece of pure copper the size of half-a-crown and about one-sixteenth of an inch in thickness. Perforate it near the edge, so that the disc may be suspended by means of a silk thread or cord from the neck, and let it lie in immediate contact with the abdomen about 2 in. above the navel. The attrition of the disc between the skin and the garments will ensure the absorption by the skin of sufficient copper to render the wearer immune from attack. When cholera is in a locality or during an epidemic the disc may be worn continually." The sceptical might be inclined to imagine that this is a mere charm, public attention to which is drawn for the benefit of the chemist who is stated to keep such discs on hand. Not at all; it is a "scientific prophylactic"; but the science mixed up in it is not the paltry superficial science of to day; it is the thoroughly sound science of a century or more ago. Lest there should still be doubters, we hasten to add that, armed with one of these discs, the writer of the letter was bold enough to visit St. Petersburg in 1894, during an outbreak of cholera, and escaped unscathed. We congratulate him upon his courage, and are left wondering how it is that the hundreds of doctors and attendants on cholera patients likewise usually escape infection although they wear no discs. The explanation probably lies in the fact, now absolutely proved, that cholera is not an "infectious" disease at all, and that an individual can only acquire it by getting into his mouth some portion of the intestinal discharge from a cholera patient's bowel, either in his drinking water, in his food, or on his dirty fingers. The arrest of an epidemic depends mainly upon the care which the public authorities take to protect the sources of drinking water from contamination, and the sole personal precautions required are minute cleanliness, personal and domestic. These facts cannot be too well known, and any one who advocates any kind of silly practice such as that herein described does a public injury.

[1] Conservation des ovaires et de l'uterus dans les opérations pour annexites. *Rev. de Gyn. et de Chirurg. abdom.*, July-August, 1905, p. 723.

PERFORATION OF THE UTERUS.

A MOST instructive discussion on perforation of the uterus took place during the annual meeting of the American Gynaecological Society last May. The speakers—men of repute beyond the limits of the States—related their experiences with a candour deserving of imitation as well as praise. The discussion followed the reading of a communication by Dr. Jarman of New York.[1] He and those who criticized his views plainly declared that there was a great deal of gynaecology about; that the best and most experienced specialists not rarely had accidents with the curette and dilator; and that practitioners with little or no special training went about with sharp curettes in their midwifery bags, and were too ready to employ them, although the fingers were often the best instruments for the removal of pieces of placenta. There was much discussion about the relative merits of the blunt and sharp curette. Experience proves that a doctor need not tremble if he finds that he has perforated the uterus with a sound or curette, nor rashly determine at once to open the abdomen and remove the uterus. On the other hand, recorded cases of absence of any ill-effects after this kind of accident must not induce him to talk lightly about poking holes in the uterus. The dilator has proved very dangerous, causing what Dr. Jarman terms "accidental rupture," rather than "perforation." In one of his own cases where abortion had occurred at the third month and scraping was indicated, dilatation was effected by Wylie's dilator, the forceps was introduced, and to his amazement intestines were pulled down into the vagina. The uterine cavity was cleaned, gauze applied for drainage, and the patient recovered. Dr. Lapthorn Smith, of Montreal, who admitted that he had perforated the uterine walls seven or eight times, observed that he opened the abdomen in two cases, and found that the dilator and not the curette had caused the accident. But the curette may make in the uterine walls a bad hole quite big enough to allow of prolapse of intestine. Dr. Palmer Dudley, of New York, related such a case in his own practice. The intestine was reduced and the patient kept quiet in bed; she afterwards gave birth to two children. Dr. Lapthorn Smith spoke of another curette accident after abortion. About ten yards of gauze were introduced when the scraping was finished; the operator then felt some alarm about the capacity of the uterus, but it was found that the gauze had passed into the peritoneal cavity through a rent in that organ, as was proved at an abdominal section. Dr. L. Smith noted that the uterus in these cases was very soft, and in this particular instance he found great difficulty in closing the rent because the stitches would not always hold. This difficulty about the sutures has been advanced, we may observe, by the advocates of the treatment of rupture of the uterus by gauze packing in preference to abdominal section and suture. The ease with which gauze may be pushed through a hole in the uterus must be borne in mind, for, contrary to the Italian proverb—he who goes gently does not necessarily go safely though he may go very far—as far as ten yards of gauze, in fact. Dr. Wathen, of Louisville, considered that when scraping was needed the sharp curette was necessary, and the man who could not use it without great danger of perforating the uterus had better refer the case to one who could. The dilator, in his opinion, was used too much in these abortion cases; the finger was the right instrument for dilatation. Dr. Jarman himself related cases of perforation by the curette where there had been no recent delivery nor abortion. In one instance where the "minor" operation of scraping had been practised for chronic endometritis abdominal section was performed. Blood was found in the pelvic cavity, coming from a fair-sized artery, which was secured. Dr. Jarman

[1] Accidental Rupture of the Non-parturient Uterus, with Report of a Case. *Amer. Journ. Obstet.*, July, 1905, p. [illegible].

perforated with the curette after dilating a uterus with a view to cure double pyosalpinx without removal of the appendages. The instrument passed into the peritoneal cavity almost directly he applied it to the endometrium. The abdomen was opened, and a small perforation was detected in the posterior aspect of the uterus. As for the uterine sound, the speakers in the discussion all agreed that perforation of the uterus by that instrument was quite frequent, and, as a rule, not serious, though at the same time the sound was a perilous instrument for more than one reason in the hands of the inexperienced. In respect to other instruments, Dr. Henrotin, of Chicago, referred to a case where a douche nozzle was found in the abdomen. Dr. Jarman related an instance of perforation of the vagina by a nurse. When administering a douche the nozzle got loose and lay in the rectum, and the water passed freely into the bowel till collapse occurred. The missing nozzle was found and extracted, and the patient recovered. We have said enough to justify an opinion expressed above that this discussion was of high importance. The instruments which damage the uterine walls are not intended for major operations mostly undertaken by surgeons and gynaecologists; on the contrary, they are devised for the treatment of diseases which constantly come under the care of the practitioner; he, therefore, should be thoroughly cognizant of their dangers.

URACHUS SIMULATING VERMIFORM APPENDIX.

THE vermiform appendix is undoubtedly at the present day one of the best-advertised structures in the human body, and current medical literature is full of records of errors of diagnosis, inflammation of the interesting vestigial relic in question being often mistaken for inflammatory disorder of other structures, whilst the reverse error seems equally frequent. Even when the abdominal cavity is opened, a Fallopian tube or a Meckel's diverticulum may at first sight look like an appendix. The urachus is a structure on which less attention is bestowed by the medical public, although surgeons experienced in abdominal operations recognize it as an excellent guide when opening the peritoneum. Hence, seeing that the peritoneum is very often opened, it is not surprising to find that anomalies and diseases of the urachus have been noted by several writers, especially Delagenière of Le Mans,[1] Bland-Sutton,[2] and Alban Doran,[3] whilst Lawson Tait based on his own experience of the urachus his own strange theory of allantoic cysts. Taking the above facts into consideration, it is interesting to find, according to a report of the recent meeting of the Deutsche Gesellschaft für Gynäkologie,[4] that Dr. Opitz of Marburg exhibited a sausage-shaped body found adherent to the parietes when a secondary laparotomy, presumably for adhesions, was performed. It at first seemed to be a vermiform appendix dragged upon by adhesions, but microscopic examination proved that it was a urachal cyst.

AN ASH SUPERSTITION.

THE Shrew Ash in Richmond Park, in which the late Sir Richard Owen took so much interest, is in danger of falling to pieces, and efforts are being made to induce the Office of Works to take steps for its preservation. In connexion with this subject Lady Owen has written an interesting letter, in the course of which she says that her late husband had often said that Queen Elizabeth was reported to have rested more than once under its spreading branches. She then gives the following details with regard to the superstition associated with the ash: "He also related that when he first came to live here (now nearly seventy years ago) poor women from this village and others adjoining used to bring their babies, carrying them round the tree so many times, repeating some kind of doggerel rhyme, which was supposed to preserve the child from blindness, as far as I can remember."

INTERNATIONAL CONGRESS ON TUBERCULOSIS.

DR. CHARLES THEODORE WILLIAMS, Consulting Physician to the Consumption Hospital, Brompton, and a member of the Advisory Committee, King Edward VII Sanatorium, and Dr. Herbert Timbrell Bulstrode, one of the medical inspectors of the Local Government Board, and Lecturer on Preventive Medicine at Charing Cross Hospital Medical School, have been appointed to represent His Majesty's Government at the International Congress on Tuberculosis to be held in Paris next month. In all thirty-three countries have responded to the invitation of the French National Committee, and the congress will be formally inaugurated on Monday, October 2nd, by the President of the French Republic. The business of the congress will be conducted in four sections; the president of the section of medical pathology is Professor Bouchard, of that of surgical pathology Professor Lannelongue, of that on the preservation of infant life Professor Grancher, and of that on social hygiene and the protection of adult life Professor Landouzy and M. Paul Strauss. MM. Casimir-Perier and Léon Bourgeois are honorary presidents, the acting president is Dr. Hérard, and the vice-presidents are Professors Chauveau and Brouardel.

THE INTERNATIONAL SURGICAL CONGRESS.

THE first congress of the International Surgical Society will be formally opened at Brussels on Monday next at 2 p.m. in the Palais des Académies, when the chair will be taken by Baron Van der Bruggen, Minister of Agriculture; at 3 p.m. a discussion on the value of the examination of the blood in surgery will be opened, and in the evening the Belgian Surgical Society will hold a reception. The mornings of Tuesday and Wednesday will be given up to visits to various hospitals in Brussels; on Tuesday afternoon discussions will take place on hypertrophy of the prostate and on the diagnosis of surgical affections of the kidneys; in the evening Professor Kocher, President of the Congress, will hold a reception. On Wednesday afternoon there will be a discussion on the surgical treatment of non-cancerous affections of the stomach, and in the evening there will be a gala performance at the theatre. On the mornings of Thursday and Friday practical demonstrations will be given at the Institute of Anatomy; on Thursday afternoon the treatment of articular tuberculosis will be discussed, and in the evening there will be a banquet followed by a reception at the Hôtel de Ville. On Friday afternoon there will be a general meeting, and on Saturday morning a discussion will take place on the treatment of peritonitis. At midday there will be an excursion to Tervueren, and on the following Sunday, Monday, and Tuesday excursions to Ghent and Bruges, to Antwerp, and to Liége respectively.

THE Committee of the Cardiff Infirmary at its meeting on Wednesday last resolved to appoint a committee to inquire into the question of the circumstances of out-patients.

PROFESSOR WILLIAM OSLER, of Oxford, has accepted the post of Thomas Young Lecturer on Medicine at St. George's Hospital, and will give a series of lectures and demonstrations at the hospital next spring on the diagnosis of abdominal tumours.

THE authorities of the London Hospital have determined to make a practical trial of the value of opsonins, prepared as described by Messrs. A. E. Wright and Douglas last year, in the treatment of local tuberculous lesions. The work

[1] Traitment de l'ouraque dilaté et fistuleux. *Archives provinciales de*

[2] A Case of Cyst of the Urachus, with Notes on Urachal and so-called Allantoi

[3]

[4]

will be under the direction of Dr. W. Bulloch, bacteriologist to the hospital, with the aid of a paid assistant.

Surgeon-General Suzuki has been nominated to represent the Imperial Japanese navy at the annual meeting of the Association of Military Surgeons of the United States to be held at Detroit at the end of this month. Surgeon-General Suzuki has announced his intention of contributing papers on his experiences during the war which has recently come to an end.

The report of the Commissioners in Lunacy dealing with the year 1904 was issued this week. It appears that the number of persons under care as duly certified insane on January 1st, 1905, was 119,829, being 2,630 in excess of the number recorded on the same day in 1904; the increase, however, was smaller than in previous years. The increase in 1904 was mainly in the county and borough asylums. The report discusses in detail the distribution of pauper insane in counties and boroughs, the apparent result being to show that pauper lunatics are more numerous in certain rural counties than in some of the counties where the population is far more dense. We shall hope to recur to this subject in an early issue.

Scotland.

The Sanitary Association of Scotland.

The thirty-first annual congress of the Incorporated Sanitary Association of Scotland was opened at Inverness on September 7th, when the President, Dr. J. C. McVail, delivered an address. He said that in the seventeen years since the Association last met in Inverness, Scotland, especially rural Scotland, had witnessed a sanitary revolution; then there was not in Scotland a single medical man wholly engaged in sanitary work, now every county had its medical officer and sanitary inspector, and towns so comparatively small as Paisley and Leith had the whole-time services of such officials. As to the effects of this sanitary revolution, he noted that the mortality in Scotland had increased between the first and second decades after 1855, when compulsory registration was introduced. After the second decade the mortality steadily diminished, the greatest diminution being in the large urban areas, which began with the highest rate, and in which sanitary effort was first called forth by urgent necessity. The city death-rates were now within reasonable distance of the earlier country rates, and he believed that these could be reached or passed if the same energy were to be devoted to prevention of pollution of city air as had been exhibited in some other sanitary directions. Dr. McVail then discussed some of the reforms still needed. Why, he asked, had not the Local Government Board in Scotland the same position as the English Board with regard to scientific researches in the matters relating to public health, and why should not the Board have such a staff of medical inspectors as would enable it to make a complete and systematic sanitary survey of every public health area in Scotland, so as to advise local authorities of the weak spots in their armour and to urge forward the laggards in the battle against disease? Why, he also asked, should not some attempt be made by means of central supervision to bring about something like uniformity in the conditions affecting the milk supply of the country? The Association then discussed the subjects of the standard of fat in milk and meat inspection. In the evening the annual dinner took place at the Caledonian Hotel.

Ireland.

An Outbreak of Typhus.

An outbreak of typhus fever has occurred in the parish of Clonmany, Minshowen, in the north-west of Ireland. The nurse of the fever hospital (niece of Dr. Sigerson, of Dublin), two patients, and two wardmaids have died of the disease. Many families have been attacked, and the local authorities are taking all precautions under the direction of the medical officer, Dr. D. Doherty. It is stated that difficulties are met with as to the funeral, owing to the panic of the peasantry, and a gravedigger who was employed at the interment of one of the victims has been stoned.

CHOLERA IN GERMANY.

Our Berlin Correspondent writes:

It is satisfactory to know that the sporadic occurrence of cholera cases in the Eastern provinces has not found Germany unprepared. As early as January last the possibility of introduction across the frontier had been taken into serious consideration, and a circular note on the subject was at that time addressed to the Federal German Governments by the Central German Ministry of the Interior. And now every possible precautionary measure is being taken and nothing is being hushed up or hidden from the public. On the contrary, the population is being encouraged to co-operate with the medical authorities in doing all it can to prevent all spread of the disease. Up to September 10th the number of cases in Germany was 139, with 46 deaths.

The Central Committee of the German Imperial Council of Health for the Prevention of Epidemics held a meeting in the office of the Imperial Board of Health in Berlin on September 9th to discuss precautionary methods against the spread of cholera. Delegates from all the German Federal States and of the Prussian Central authorities were present, and the meeting was presided over by Dr. Koehler, Head of the Imperial Board of Health.

Professor Gaffky (Koch's successor as Director of the Infectious Diseases Institute) read the report, which places beyond doubt the fact that the disease was introduced into the Prussian Vistula district by Russian raftsmen about the middle of last month. It has since appeared along the Vistula and its western waterway in about fifty different places. All these cases can be traced to the water traffic; they must be considered as isolated cases of infection, and, thanks to the prompt and energetic measures taken there has been no formation of local epidemic centres. The three cases that have occurred in Hamburg had a similar origin.

The rivers and waterways, of which mention has been made, are being most carefully watched, and every vessel or raft examined at least once in twenty-four hours. Dr. Gaffky thinks the confident hope that an epidemic will be averted justified.

Professor Kirchner gave a detailed account of the measures taken by the Prussian Government. Dr. Nocht, harbour medical officer in Hamburg, sketched the plan of action of the Hanseatic authorities; and the meeting concluded by a free exchange of opinions regarding the treatment of emigrants from the east of Europe.

The number of new cases reported in Prussia was as follows: On September 7th, 15 cases, 6 deaths; September 8th, 19 cases, 7 deaths; September 10th, 16 cases, 6 deaths; September 11th, 15 cases, 6 deaths; September 12th, 8 cases, 3 deaths; September 13th, 15 cases, 4 deaths. The total number of cases reported since the outbreak began down to September 13th was 179, and the total number of deaths 65.

CONTRACT MEDICAL PRACTICE.

Notice as to Districts in which Disputes Exist.

A notice as to places in which disputes exist between members of the medical profession and various organizations for providing contract practice will be found among the advertisements, and medical men who may be thinking of applying for appointments in connexion with clubs or other forms of contract practice are requested to refer to the advertisement on page 74.

It appears that there are 25,000 unvaccinated children in Derby. The parents of many have been "fined," but the payment of the fines has not been enforced hitherto. The Watch Committee has now decided to comply with the demands of the Home Office, and has intimated to about fifty of the fined antivaccinators that, unless they pay by a specified day, distress warrants will be issued. The arrears of payment are very large.

SPECIAL CORRESPONDENCE.

VIENNA.

An Outbreak of Cholera Asiatica.—Age for Marriage.—Transmission of Syphilis to Monkeys.—The Winter Term.

The occurrence of three cases of cholera Asiatica within one week in Padew, a village on the Austro-Russian frontier, has led to vigorous action. It had been for some time known unofficially that in Warsaw and Lodz, places which suffered terribly during the late political troubles, cholera had disappeared, and preparations had been quietly made in Austria to meet any emergency. Strict watch is being kept on the Vistula, as it is across this that fugitives and deserters, as well as traders, enter Austrian territory from Russia. Information concerning the disease and the value of prophylactic cleanliness is being given to the public, and the point is mentioned that acid beverages are useful because the bacillus of cholera does not develop in an acid medium. The sale of fruit and import of cattle from Russian sources have been stopped for the moment.

Dr. Beyer, a leading neurologist, and director of a private hospital for mental diseases, read a paper before a recent meeting of German psychologists on the best age for marriage. He remarked that such an important change as was effected by the union of man and woman was capable of seriously telling upon the mental and nervous faculties, especially in the female sex. As a rule, among the well-to-do classes of the population the man, he believes, marries too late, whilst the poorer classes do not take such a long time in deciding the question. Labourers, small tradesmen, and so on, marry very early. Just the reverse holds good of women; they marry early if rich, while the poor girl is generally obliged to wait. Too early marriage may, he thinks, cause severe nervous shock and neurasthenia. Most psychoses begin about the 20th year, and the younger and the less developed a woman is, the easier she will succumb to mental disease. Given any tendency in this direction, her first pregnancy and confinement may provoke an attack. The best age for marrying in temperate zones is, he considers, the 21st year in women and the 25th year for the male sex; after these, the 30th and 36th year respectively. Mania gravis and eclampsia are not rare in older primiparae, but in them are likely to pass away quickly.

At the last meeting of the Vienna Academy of Science, Professor Finger reported on his experiments on transmission of syphilis to monkeys. He inoculated 24 monkeys of the genus cynocephalus, rhesus, and macacus with human syphilis and 18 with monkey syphilis. The latter inoculations were all successful; of the first, only 21. The results were absolutely identical in each experiment, although the manifestations were different from those in the human subject. It made no difference whether the virus was of human or of monkey origin. An incubation of at least ten days was necessary. The average duration of incubation was twenty-two days (twenty-four days in man). The primary sore was a copper-coloured nodule which soon ulcerated and exuded a yellow secretion. The ulcerations set up ran into one another, forming larger round or kidney-shaped ulcers. The base was only slightly indurated. Finger inoculated syphilis on four generations of cynocephalus without any apparent weakening of the virus; therefore he does not believe that it will be easily possible to obtain a vaccine body by passage through monkeys. He also examined the parasiticide power of such serum, and the action on living or destroyed syphilis virus. The results were entirely negative. Two cases of recent human syphilis were treated with serum from apes whose syphilis had passed off. Nevertheless the secondary manifestations appeared in due time in both men. In order to clear up the controversy regarding the infectivity of tertiary syphilis, Finger excised a gumma and used its contents, together with some particles from the indurated surrounding tissue, for inoculation on a C. hamadryas. After twenty-four days, typical indurated sores appeared on the inoculated eyebrow. Histological examination of one of these showed the same changes in the cutis as are found in human syphilitic sores.

The next winter term, lasting five months, will begin on October 2nd, and with short interruption at Christmas time, clinical work may be carried on by foreign medical students throughout this period. Besides the usual lectures on surgery, medicine, gynæcology, and diseases of the eye, skin, and ear, several special courses on dissecting work, morbid anatomy, special surgery, and bacteriology will be held. Lectures in the English language will be given on certain subjects (syphilis, children's diseases, haematology, obstetrics), if more than five apply for them to the lecturer. The fees vary between £2 2s. and £5 5s., according to the duration of the course. The winter term is most suitable for study in Vienna, as the courses are at least 50 per cent. longer than in the summer term, and the number of patients is much larger.

MANCHESTER.

Middlewich Diphtheria Epidemic.—Milk Sterilizing Dépôt in Dukinfield.—Preservatives in Milk and Potted Lobster.—Cost of Boarding-out Children.—Port Sanitary Authority and the Inspection of Food.

The Local Government Board called the attention of the Middlewich Urban District Council to the fact that the returns made to the Registrar-General for the last quarter showed five deaths from diphtheria in the Middlewich district, and requested that the medical officer be asked to prepare a report upon this continued prevalence of the disease. The medical officer reported that during the last seven months of last year 67 cases of diphtheria were notified, 8 of which proved fatal, and in the first five months of this year 26 cases were notified and 9 proved fatal, the mortality in the latter case being represented by 34·5 per cent. The medical officer considered that the continued prevalence of the disease was due to the non-existence of an isolation hospital, the want of means of securing efficient isolation in small cottages, and the existence of a large number of intermediary cases unrecognized. There are only three medical practitioners in the town, all of whom refused to employ antitoxin. The Council provide "outfits" for the medical practitioners to examine swabs bacteriologically, but none was used. The Council also provides antitoxin. A copy of the medical officer's report has been sent to the Local Government Board.

It appears that the Dukinfield Town Council some years ago were pressed by the Cheshire County Council to establish a sterilized milk dépôt. This they did at considerable cost. After two years' experience there was no appreciable decrease in the infant mortality-rate, and the dépôt was closed. The climax has now been reached, for the Town Council have now resolved that an effort be made to sell the apparatus.

At Salford on September 6th, at the instance of the Corporation, five milk dealers were summoned under the Food and Drugs Act for selling milk not of the nature, substance, and quality of the article demanded. It was stated that three of the samples purchased were found to contain 10, 24, and 26 grains of boracic acid per gallon respectively. Another sample contained one part of formalin to 140,000 parts of milk, and another 1 in 150,000. The Milk Dealers' Protection Association asked that the summons should be withdrawn on the understanding that a circular be distributed among the members in Manchester, Salford, and the surrounding townships warning them that it was contrary to the law to use preservatives. The Health Committee agreed to this course being adopted, because they felt that the issue of the circulars would have a better effect than pressing the summonses against the defendants. On September 1 a Blackpool tradesman was summoned for a breach of the Food and Drugs Act by selling potted lobster containing 61 gr. per pound of boracic acid. The retail merchant was altogether innocent, as he sold the food just as he received it from the wholesale manufacturer. It was stated that the wholesale dealers were prepared to bear the whole of the responsibility. The defendant was fined with costs. The Royal Commissioners' decision permits the use of not more than 35 gr. of boracic acid for this form of food.

The Chorlton Board of Guardians has been asked by the Petersfield Union to support a resolution to increase the weekly amount payable for boarded out children. The Clerk of the Union regards the boarding out system as the ideal one. If children could be got into respectable homes for 6s. a week it would be well, he thinks, for the children, but to expect people of the industrial class to keep a growing child on 4s. a week the sum sanctioned by the Local Government Board was nonsensical, having regard to the cost of children in cottage homes. The Board agreed to support the resolution.

The Manchester Port Sanitary Authority is still pressing its view regarding the inspection of food landed from vessels arriving at the Ship Canal. At a previous meeting of the Authority it was stated that the riparian and municipal authorities had no power to deal with unsound meat until it came to be exposed for sale. The Clerk has now presented a

report on the legal aspect of the question, pointing out that local authorities have power to seize unsound food in preparation for sale in any place, such as a warehouse, auction room, or shop. The sheds and warehouses at the docks could therefore be examined, but in the opinion of the Clerk a ship would not come within the provisions of the Acts under which the other power existed. It was decided to take steps to secure power for the Authority to appoint an inspector to examine all food as it was unloaded from the ships, and a deputation was appointed to wait upon the authorities in London to that end.

BIRMINGHAM.

Small-pox Epidemic at Nuneaton.—Potteries Joint Hospital.—The General and Queen's Hospitals, Birmingham.—Coventry.

The recent small-pox outbreak at Nuneaton has been traced to a schoolboy, but where he contracted it is unknown. Nineteen of the cases are attributable to him, for all of them attended the same school. There have been 40 cases in all, and of these only 3 were in adults. Only three of the patients had been vaccinated. All possible precautions were taken to prevent the spread of the disease, and seem to have been successful. Two of the cases were discharged on August 30th, and ten more on September 2nd. The Medical Officer of Health has been instructed to prepare a detailed report of the epidemic to the Local Government Board.

At a meeting of the Hanley, Stoke-on-Trent, Leuton, and Langton Joint Hospital Board on September 1st, Dr. Marion Mackenzie resigned her post of Resident Medical Officer at the Bucknall Hospital, and Dr. Janet Mouat was appointed to succeed her. The Local Government Board has indicated to the Hospital Board that it is making a mistake in not providing accommodation for cases of enteric fever, and in reserving the hospitals for scarlet fever and diphtheria. It points out that enteric fever is a far more severe disease than scarlet fever, that the mortality caused by it is greatest among persons in the prime of life, and that the chance of recovery depends largely upon proper nursing and diet. Without isolation it is a disease that frequently spreads through a household. The Local Government Board is of opinion that the Joint Hospital Board is not making the best use of the accommodation which it possesses in the interests of the health of the district. Dr. Phillips suggested that a pavilion of twenty-four beds should be used for enteric cases, as he thought there would still be sufficient beds for the other cases. During the last quarter 108 cases had been admitted, and of these 46 were suffering from scarlet fever and 56 from diphtheria; 138 patients were discharged, 11 died, and 81 remained under treatment.

Mrs. John Poncia, who died last month in her 86th year, has among other charitable requests left £10,000 to the General Hospital, £10,000 to the Queen's Hospital, Birmingham, and £10,000 to the Hyde Road Orphanage, Edgbaston.

The Sanitary Committee of Coventry, in pursuance of the discretionary powers granted to the educational authorities by the new code with regard to the admission to school of children under the age of 5 years, has expressed to the authorities the hope that in view of the extensive prevalence of infectious diseases in the infants' schools, and in the interests of the general health of the children, the Education Committee will try its best to discourage the attendance in the schools of children under 5 years of age. In this the Sanitary Committee has followed the excellent example of the City of York Sanitary Authorities. The Secretary of the Coventry and Warwickshire Hospital has written to the Board of Guardians for Coventry asking them to reconsider their decision not to subscribe to the hospital funds. It is now, he states, a general practice for the local hospitals all over the country to receive pecuniary assistance from the Board of Guardians. During the last year a considerable number of surgical cases sent in by the district medical officer of the Union had been treated in the Coventry and Warwickshire Hospital, and in most cases without tickets, because the Board were non-subscribers. The treatment of parish cases at the hospital is a great saving to the ratepayers of the city; but if the guardians refuse to subscribe to the hospital, the latter receives nothing at all in return.

The sixty-fourth session of the School of Pharmacy of the Pharmaceutical Society of Great Britain will be opened on Monday, October 2nd, at 3 p.m., when the Hanbury gold medal will be presented by the President, and Sir Boverton Redwood, F.I.C., will deliver the inaugural sessional address.

CORRESPONDENCE.

IDIOSYNCRASY IN REFERENCE TO MUSHROOM POISONING.

Sir,—We are in the midst of the mushroom and fungus season, and the important paper published in the British Medical Journal of September 9th from the pen of the very distinguished mycologist, Dr. Plowright of Lynn, will have claimed widespread interest amongst your readers. Dr. Plowright records three groups of cases which have fallen under his personal notice in which poisoning resulted from the mistaken recognition of the fungus eaten. This is, indeed, the chief aspect under which all facts of this kind have as yet been examined. Will you allow me to ask the attention of the profession to another, that, namely, under which, owing to the idiosyncrasy of the recipient, mushrooms and other fungi, of unquestionable repute and perfectly sound, may become injurious?

It is, I believe, generally supposed that if a fungus disagrees it does so by causing stomach and bowel symptoms, and that the onset of these is speedy. Neither of these statements is true. The symptoms of fungus poisoning vary exceedingly in character (as probably do the poisons which excite them), and it is a most peculiar feature in some of them that their incidence may be delayed for very considerable periods. This latter circumstance has no doubt led to the non-recognition of the true cause of many attacks of illness which were really due to meals which had been taken several days previously.

I am anxious to obtain evidence on the following question, and shall be obliged if those who possess facts will kindly communicate them, either privately to myself, or, with your permission, through the medium of your Journal.

Putting aside all cases of mere stomach and bowel disturbance, which are common enough and easily assigned to their cause, have cases been met with frequently during the last few months in which the principal symptom has been severe pain, referred chiefly to the walls of the chest and abdomen, without sickness or diarrhœa? The pain in the cases to which I refer is very severe and peculiar, and is never described as griping; and it is such as to suggest to the surgeon the passage of a gall stone; and it is sometimes followed by slight jaundice and bile in the urine, which may seem to confirm that suspicion. There is never, however, any special tenderness over the gall bladder, and sickness may be wholly absent. I have, I believe, good reason to believe that the whole group may be caused by sound mushrooms, and that there may have been an interval of forty-eight hours or more between the meal and the first occurrence of pain, during which time the unsuspecting victim may have felt in perfect health.

I will not at present enlarge upon the subject, but may possibly do so on a future occasion, as a medical friend in whose case I have taken great interest has kindly supplied me with very detailed facts. It may be well, however, to mention the following as the points to which special attention is asked in the record of cases:

What was the interval between the last eating of mushrooms and the first symptoms?

What was the first symptom?

The character of the pain should be described as accurately as possible and its duration.

Was there dryness of the mouth?

Did bile appear in the urine?

—I am, etc.,

London, W., Sept. 11th. Jonathan Hutchinson.

THE GOVERNMENT AND MR TROUTBECK.

Sir,—The advice under the above heading given by "E. S." to the profession in the British Medical Journal of September 9th, page 656—namely, "that it would be extreme folly for the profession to take to party politics except for the very strongest reasons" and "to trust to the sense of justice of both political parties and the public," is suggestive of that "passive defence" which has always failed, and is directly opposed to the advice given by various statesmen in several countries. It is also directly contrary to the teaching of all history and experience. Any nation or class adopting such a course of procedure—it could not be called action—will always fail to obtain or retain its rightful position and privileges. Had the Japanese adopted this principle in regard to their adversaries, and depended on either political or public justice, the Russians would now have been in Tokio and the Japanese

either exterminated or enslaved, in which latter position a good many authorities would like to see their medical officials.

The Monmouth Division, according to the SUPPLEMENT of September 9th, page 197, has also taken action in the above matter as realizing the very serious principle at issue for the profession. This action of the Monmouth Division should receive support from every British and Colonial Branch, as the subject most seriously concerns the whole profession of the Empire.—I am, etc.,

Cambridge, Sept. 11th. J. BOOTH-CLARKSON.

THE BRITISH MEDICAL BENEVOLENT FUND.

SIR,—"J. P." suggests that the profession requires only to be told that many of its members lead a hard life for it to open its hands generously. I think not, for the fact is that most of us are too hard driven to spare the money, and we also feel that it is the public for whom we do so much that should subscribe liberally to our institutions. For every practitioner who has no work, there are a hundred who have the work but not the full reward, and the first step towards preventing destitution for their widows and children is to include in the medical curriculum a course of medical politics, in order that the new entrant may know not only how to cure his patients but also how to make a living. As an illustration, I may give my own case of having to work for the Poor-law guardians at a totally inadequate salary, simply because my general practice is too poor to stand the competition of a subsidized outsider who, my "employers" say (truthfully alas!), will be glad to take my post. On all sides it is the same story—the work is there and the doctor must do it, but pay him for it?—Never.

Here is an interesting little case: A well-to-do farmer is interested in the old nurse of his family, and has found employment for her in his dairy. She is ill with a complication of diseases, and I am in constant attendance on her for some eighteen months till her death, and run up a bill at low fees for close on £50. She dies destitute; the farmer pays her living expenses during her illness, and the funeral expenses at death, and suggests that I should make a small charge—say £2 or £3 for out-of-pocket expenses in the way of dressings, etc., supplied, but as regards my most moderate bill for attendance, he absolutely repudiates responsibility. It seems all right, and perfectly legal, but mark that it is again the doctor who loses.

The fact is we take the whole population under our care—rich or poor—and it seems only fair that the public in turn should see that we neither want in old age, nor that, if calamity strike us, our widows should starve.

"J. P." suggests that the fund might be raised to £7,000 by a contribution of 5s. from every medical man. May I suggest another method?

There are, I should think, quite 1,000 physicians, surgeons, and general practitioners (of whom I am one) who give their services gratuitously to large and small hospitals and other charitable institutions. Would it be too much to ask these institutions to contribute a sum of 10 to 100 guineas annually to the British Medical Benevolent Fund? This would be a small return to the profession for the enormous amount of work which its individual members do for the public; and we should feel, also, that the saddle is on the right horse. I for one am quite ready to bring this proposition before the Committee of the cottage hospital which I have the *honour* to serve, if others will support me. I am, etc.,

September 11th. SWEATED.

A SANATORIUM FOR CONSUMPTIVE CHILDREN.

SIR,—Referring to your note in the BRITISH MEDICAL JOURNAL of September 9th, I think I ought to claim for Northumberland, through the generosity of Mr. Roland Phillipson, the founding of the first British sanatorium for consumptive children. At my suggestion an appeal was issued, and on April 29th last the funds were voted, and the foundation stone was to be laid [illegible] September 16th.

The scheme embraces a boys' farm colony (farm of 170 acres), a boys' convalescent home, and (strictly isolated) a children's consumptive sanatorium.

The first will be self-supporting, the second is provided for, and money has been given to the sanatorium for some 64 children. The scheme includes the support of the Newcastle and Gateshead Children's Holiday Association, for which the [illegible] and honorary secretary, Mr. John H. Watson, has already an income of over £3,000 a year. I have no doubt whatever that sufficient income will also come in to maintain the sanatorium, and keep the children long enough to effect permanent benefit.

The sanatorium will cost about £30 a bed, is open to all children without respect of creed, and will, I hope, prove of great service in stamping out consumption among the children of the poor.—I am, etc.,

Newcastle-on-Tyne, Sept. 10th. T. M. ALLISON, M.D.

THE OPEN-AIR TREATMENT OF PULMONARY TUBERCULOSIS.

SIR,—I feel impelled to protest against Dr. Burton-Fanning's statement "that at Nordrach all systematic rest is taken in the patients' bedrooms instead of in open-air shelters as at some sanatoriums."

Setting aside the fact that a bedroom at Nordrach is for all practical purposes an open-air shelter, I must say that a vast deal of systematic rest at Nordrach is, and always has been, taken outside the patients' bedrooms in the open air; while at, at least, one of the largest houses rest is taken in a good-sized open-air shelter "as at some sanatoriums."

I should not have inflicted this letter upon your space, but it seems to me that this ambiguous statement about Nordrach might cause a good deal of misapprehension to some of Dr. Burton-Fanning's readers.—I am, etc.,

R. MANDER SMYTH.

Linford Sanatorium, New Forest, Aug. 29th.

HAY FEVER, CHRONIC RHINITIS, AND ASTHMA.

SIR,—There are probably other readers besides myself of the interesting letters of your correspondent, "M.D.," who would be glad of some explanation from him of the somewhat cryptic statement that until the profession "see and teach the public that the food we take is in no sense whatever the source of the mechanical energy of the body, and has, in fact, no relation to it at all," we shall not be able to properly appreciate the teachings either of Professor Chittenden or himself. If the mechanical energy of the body is not derived ultimately from the food we eat, *tant soit peu*, whence does it come?—I am, etc.,

September 7th. A PUZZLED M.D.

SIR,—It appears to me that the discussion under the above heading is about to be vitiated by a confusion of ideas. The questions we are called upon to settle are: (1) Can existing disease be arrested by appropriate diet, and (2) can disease in general be prevented by appropriate diet?

The first question has been answered affirmatively and conclusively by several of your correspondents, more particularly "F.R.C.S." The second question can also, to my mind, be answered affirmatively if less conclusively. In its consideration we should take the widest standpoint, discriminate most carefully between cause and effect, and, above all, begin at the beginning. If a child is born alive into this world and subsequently dies, obviously it died in consequence of being overpowered by some force it encountered in this world.

What are these forces? They are food and air (including temperature). They ought to and do produce life; if misapplied they produce death. Plainly it was no use to give the child good air and bad food, nor good food and bad air, but, on the contrary, a sufficiency of both.

Now, as the very same forces react on and produce life in our bodies in after-life as did at birth, obviously the necessity of a sufficiency is just as imperative.

What is a sufficiency of food? The answer is, that amount which, when introduced into the body, will counterbalance the material used up by it, in the processes of growth, tissue change, and waste. An insufficiency either in the form of too little or too much is equally harmful; the former resulting in inanition, and the latter in disease.

It is this latter point that is so important. Even the profession, and most certainly the public, does not seem to grasp that all that portion of the food put into the body capable of digestion and assimilation must be digested and assimilated, and that when there is excess, an immense strain is thrown on the organs in their efforts to counteract and get rid of the products of such over-assimilation. When these efforts fail, disease supervenes.

Now, considering the infinite gradations of wear and tear to which different bodies, and the same body at different times, are exposed, it is obviously useless to attempt to define in pounds and ounces the exact amount of food suitable. That must be left to the common sense of those who have it. But the standard to be striven for is "sufficiency." Nor would it

be wise to affirm that in one or two generations disease would be entirely banished, for we are the "heirs of the ages," and as such the inheritors of a most abominable legacy begotten of centuries of foul and foolish feeding. But that we can by avoiding the excesses of our ancestors escape their diseases, is to my mind in the highest degree probable.—I am, etc.,

London, E.C., Sept. 8th. HOPE GRANT, F.R.C.S.E.

SIR,—I may be like the patient animal referred to by Dr. Wynne (BRITISH MEDICAL JOURNAL, September 9th, p. 609) in many respects. I wish I had its endurance certainly, but I do not think that I am about to die. I do not feel like it, although unfortunately a long experience has taught me that in this as in so many other matters the unexpected is apt to happen. Also I recognize that one's general opinion may be quite correct, and yet fail to cover the given case, especially when applied to organized bodies so complicated as human beings. Nevertheless I am firmly of opinion that the large majority of cases of illness—say nine-tenths or three-quarters of them—are caused by over-eating (and drinking, for for brevity, I include both in the one term) rather than under-eating.

It is part of my case that attenuation as well as obesity is often the effect of too much food. Of course it follows from this view that the chief means of attaining long life is by restriction of the diet. May I say that oligo-siteism is a shorter expression than restriction or reduction of the diet, and that busy men like to reduce their words as much as possible, for their own sakes, for their printers' sakes, and for their readers' sakes. Dr. Wynne seems to underrate his powers of word-making, and his reference to Aristophanes makes one think that he too has been smitten by that love of Greek culture whose music has proved so siren-like a decoy to allure others of us from the smooth waters of professional success into the tumultuous and rock-broken billows of attempted progress which threaten to engulf us. But if, to hold an opponent up to ridicule, I were suggesting new terminology, I should try to keep my words pure and to use one tongue or another. I should either have written ὀλιγο-γνῶσις εἴτε ὀλιγακι-γνῶσις in Greek, or I should have said oligo-gnosis or oligaki-gnosis in English; but I should have refrained, in giving a lesson to my opponent, from the hybrid expression oligo-gnosis *vel* oligaki-gnosis, since that is neither one thing nor another. Dr. Wynne must try again. Be this as it may, I think that he will find it difficult to compress into a shorter name the ideas conveyed in my somewhat long term covering my view of the complex pathology of asthma. At least I have found it so, and he will confer not only on me, but on humanity, a service if he will provide us with a briefer and still as descriptive a name.

We have, however, more serious work on hand than bandying words, and I wish to address myself to the criticism of my view that the food we take is in no sense whatever the source of the mechanical energy of the body, and has in fact no relation to it at all. When this idea was, about a year ago, suggested to me by an American correspondent, Mr. Hereward Carrington, I thought for a short time, as Dr. Wynne evidently does, that it was unworthy of a moment's consideration. I thought it violated the law of the conservation of energy, and I thought it did all the bad things that Dr. Wynne fears. Now the view is proved, or at least so strong seems the body of evidence for it, that I may say it is almost proved to my mind; but I do not say other things which Dr. Wynne attributes to me. I do not ask him to abandon all those prejudices which he had vainly imagined to be of the essence of natural philosophy. Of course I do think we ought to abandon all "prejudices," but I suppose my critic to be using irony, so will not waste words.

I did not say, and I do not think, that food is not the immediate source of the heat of the body. I think it is the source of the animal heat, or I should rather say (as my critic would, I imagine) it is the cause of the maintenance of the animal heat.

Next, I do not ask him to abandon the law of the conservation of energy. On the contrary, I contend that my view is compatible with that law. I am talking of the mechanical energy of the body, of the ploughman's work, of the navvy's work, of Dr. Wynne's work in advising his patients, and of the work of the poets and sculptors of all time. I do not think that the animal heat, or the food from which it comes, is the cause of any form of that work, although I recognize that all those kinds of work are performed, and can be performed only by means of a warm human body. The chief function of the food is, I think, to maintain the animal heat. I suppose my critic agrees with me here, at least in believing that this is a function, even if he does not think it is the chief function of the food?

Assuming agreement to this extent, I also assume the proved position of science that heat is convertible into mechanical work. Convertible, yes, but not always converted. If heat is used to raise the temperature of water, the heating is the equivalent of the mechanical work which it might have been used to do. But, if it merely heats it, raises a volume of water through so many degrees Fahrenheit, then it does no mechanical work; and, if the heat evolved by the combustion of the food were not used in raising or in maintaining the temperature of the body, the body could not be the agent or instrument for doing mechanical work. I believe that it is from the universal assumption, without any proof, that the food is the source of the mechanical work of the body, that the almost universal custom of mankind obtains to take much more food than is necessary, and that the almost invariable advice of their medical advisers sanctioning this course has arisen. It seems to me that it would be as reasonable to assume that the violin or the piano or the harp were the cause of the music they emitted as to assume that the body is the source of the mechanical work which vital energy enables it to be the instrument of doing. Or, it seems to me, it would be as reasonable to assume that the motor in the bottom of the electric tramcar is the source of the work that drives the tram, because without the motor the work could not be done, and because the more miles the tram runs the more does the motor waste and need repair, as to make similar assumptions for the body and its relations to food. What becomes of the violin music, or the piano music, or the harp music when the hand of the musician is absent, or of the motion of the motor when the trolley is off the wire? I conceive, then, that vital energy bears to the body the same relation that electrical energy does to the tram-motor or that the hand of the player does to the various instruments, which yet emit, even under the hand of the same player, music distinguishable kind from kind. Well, I shall be asked what is vital energy. I think it is, like electricity or gravitation, one of the forms of the universal energy whose existence modern speculation assumes, a view in which I humbly concur. These powers are inferred from their effects, but are never directly perceived. Perhaps I shall be told that we know the source of electricity or gravitation, but not of vital energy. I reply I am not at present concerned to show the source of vital energy. I am concerned only with its existence. Perhaps some day we shall know more about its cause. Meantime I infer its presence from its effects, as I do the presence of gravitation and electricity from their effects. Further, I am not satisfied with the assumption of science that gravitation is a property of matter. I think matter is rather a property of gravitation, by which I mean this: When it became necessary to show the existence of the drawing or attracting power of gravitation, matter arose in order to show it. The necessity of manifesting the power of gravitation compelled the origin of matter. Dr. Wynne will see, I hope, that all that science is entitled to say is that wherever matter is there gravitation is, and wherever gravitation is there matter is, and that the one is related to the other and the other to the one in strict proportion. But what warrant has she for her invariable and cool assumption that matter is the cause of gravitation? None at all. It may be the other way about.

Now about the food and its mechanical work.

Is Dr. Wynne satisfied with the present position of science as to the calorie value of food and its application to the needs and to the treatment of the body? I am not. The theoretical conclusions as to the energy value of food may be approximately correct; but their application to practice is far more pretentious than illuminating. I know that a woman weighing 100 lb. subsisted for three years on an average of 8 oz. of mixed diet a day, of which the calorie value was about 658 C. As a calorie has a value of 3,088 foot-pounds or so, her total daily intake from her food was 2,031,904 foot-pounds. But no physiological authority known to me believes that this is more than a third or a fourth of what is necessary to life. Again, how much heat is required to maintain the animal temperature? I once calculated roughly that it requires the expenditure of 780 foot-pounds of heat energy to raise 1 lb. weight of the human body 1° F. in temperature. On anything like this basis it is impossible to account for my patient's work out of her food. The food must all have been used in maintaining her bodily temperature. Did she lose weight during the time? No, she gained 4 lb. If

she averaged even one quarter of a day's work of a man she must have done something like 350,000 foot-pounds of work. I do not see how it could have been got from the food at all, and I suggest that it came from another source—namely, the inflow of vital energy, which in sleep flows into the human body so long as that body is in a state sound and fit to receive it; for the lady is not in the unresponsive condition of my much-enduring and patient analogue, but is, on the contrary, very much alive to-day. What, then, is the function of food besides the maintenance of the animal heat? It is to keep the machine in repair. But so beautifully does the human machine work that very little food is required for this purpose. How much? Well, I do not know, and shall be very thankful if Dr. Wynne or any other man will tell me. No doubt the more the body works the more it wastes, but the waste of the body, so long as it keeps in health, is very little increased by extra work—a little, no doubt, but very little. And the excreta of the body bear very little proportion to the work done, but bear, on the other hand, a very distinct and calculable proportion to the amount of the food taken.

Lastly, I ask my critic why, if food is the source of the exertion of the body, we go to bed when tired and not to the dining room? Has he considered the functions of sleep in the body, its power to eliminate waste, and to enable the body to receive an amount of vital energy from the limitless stores surrounding it sufficient to perform the work of other days?

I am sorry to have written so long a letter; I thought I could have made it shorter.—I am, etc.,

September 9th. M.D.

SIR,—The fact, clearly indicated by Dr. John Thorowgood's two cases,[1] that asthma may in many cases be rapidly relieved and held in abeyance indefinitely by simply cutting down the amount of an ordinary mixed diet, does not seem to be widely known. Why? Many reasons may be advanced.

One is suggested by the conclusion reached by Dr. Thorowgood's second patient—namely, that asthma is entirely a complaint of the stomach. The gastric origin of asthma is endorsed by many members of the medical profession. But asthma in its most violent form is well known to follow meals in those who have never experienced gastric discomfort of any kind. We may then either assume a "latent" dyspepsia—an assumption which indicates a distinct tendency to argue in a circle—or, more reasonably, we may connect, as did Salter many years ago, the onset of the asthmatic paroxysm with the absorption of food and with its presence in the blood, rather than with its extravascular digestion in any part of the alimentary canal. This assumption is consistent both with cases associated with dyspepsia and with cases not so associated. Moreover, it leads us to transfer the starting-point of asthma from the digestive mucosa to the blood, and the nervous responsibility from the pneumogastric to the vaso-motor system. Thus are we brought to consider seriously what seems the only tenable theory of the mechanism of the asthmatic dyspnoea, namely, that it depends upon the presence of the bronchial mucosae, and not upon bronchial constriction. No view other than this enables us to understand the wide relationships of asthma (both direct and inverse) which have been long known to exist, not only with hay fever and chronic rhinitis, but with recurrent and chronic bronchitis, and with many essentially vaso motor affections, such as migraine, angina pectoris, and epilepsy.

But another, and probably more important, reason why the therapeutic potentialities of diet in asthma are not widely recognized, consists in the fact that pathology as yet has hardly commenced the study of carbonaceous metabolism. Of the absorbed products of gastric and intestinal digestion, by far the larger part is carbonaceous, not nitrogenous; and yet it is to the latter that laboratory investigation has been mainly, if not exclusively, directed. This omission, large as it is, results quite naturally from what to me seems an entirely unwarranted and premature assumption—namely, that the physiological functions (carbonaceous katabolism or combustion, carbonaceous anabolism such as fat formation, and menstruation), which together constitute the carbonaceous expenditure of the blood, are invariably adequate to deal with the carbonaceous income of the blood. But if we postulate, as we may fairly do, an occasional inadequacy no matter how slight in the sum of the expenditure for which these "decarbonizing" functions are responsible, then it is at once clear that there will, sooner or later, occur an ultra-physiological or pathological accumulation of unoxidized or imperfectly oxidized, carbonaceous material in the blood. Such an accumulation, being itself a result of inadequacy of physiological decarbonization, would demand the intervention of ultra-physiological or pathological decarbonizing functions, which would of course vary widely in nature with the proclivities and environment of the individual.

In a work to be published next month[1] I have argued that asthma may be regarded in a large class of cases as one of these pathological functions, and that it disperses the accumulation on which it depends, through the increase of combustion involved in the exaggerated muscular exertion of dyspnoea. Further, I have attempted to show how the recurrence of the decarbonizing paroxysms may very often—though by no means always—be obviated by simply preventing the recurrence of the carbonaceous accumulation. To this end we may operate by many means. On the one hand, we may reduce the carbonaceous income; and this in several ways. Obviously Dr. Thorowgood's dietetic prescription is one. On the other hand, we may increase the carbonaceous expenditure; and this, again, in several ways. But probably the best and most rapid results follow the employment of several means concurrently.—I am, etc.,

London, W.C., Sept. 12th. FRANCIS HARE.

[1] BRITISH MEDICAL JOURNAL, September 9th, 1905, p. 609.

INSANITY AND MURDER.

SIR,—Dr. Nootl's criticism on the above article contained in his letter published in the BRITISH MEDICAL JOURNAL of August 19th is a thoughtful contribution to the subject, and since pressure on space does not allow a complete reply, I must content myself with a few remarks.

Dr. Nootl's indictment that "one part of the article seems absolutely opposed to that expressed in another part," does at first sight appear to be justified, but perhaps he will kindly allow me to explain that the necessity for compression within limits prevented me from fully elaborating the argument—*brevis esse laboro, obscurus fio.* The paragraph which he quotes, beginning "surely the true object, etc.," was written to oppose Dr. Mercier's view that the object of the trial was to prove or disprove the insanity of the prisoner, and I meant to affirm that the medical and the legal questions were different, and that the existence of insanity was a matter altogether separate from the fact of his having committed the crime, and that it—the question of sanity—should not be left for the jury to determine, inasmuch as an inquiry of that sort was beyond their competence to decide.

Dr. Nootl's experience of the inmates of Broadmoor Asylum leads him to think that a large number of insane people must be fit to plead, that is, able to understand the nature of the proceedings and able to instruct counsel. It is not easy to think that an insane person does either properly understand procedure or is able to instruct counsel except in a distorted way, and, therefore, it would seem to be placing him in a false position to make him plead. The phrase "to his own advantage" has been correctly interpreted by Dr. Nootl, and I still think that if found insane detention in Broadmoor is the best thing for him and for others.

Finally, Dr. Nootl is evidently dissatisfied with the present system of procedure, and he would have the State-appointed experts make their report to the judge before he delivers sentence.

This course would be better than the present system, but why not have their evidence at the first instead of at the last? The knowledge that the prisoner was or was not insane would be of great assistance to the court in many ways, always supposing that the trial was allowed to proceed.—I am, etc.,

August 25th. THE WRITER OF THE ARTICLE.

HOSPITAL OUT-PATIENTS.

SIR,—It must be gratifying to all those who have taken an interest in hospital reform to find that the Metropolitan Hospital Sunday Fund Committee do at last recognize the seriousness of the great increase in the number of out-patients (many of whom have trivial complaints), and are of opinion that such an increase is detrimental both to the welfare of hospitals and of patients.

May I be allowed to say that this was exactly the conclusion arrived at some years since when the Hospital Reform Association was making investigations into the subject? This condition of affairs applies not only to the metropolis,

[1] *The Food Factor in Disease.* Longmans, Green, and Co.

but to the whole of the United Kingdom; and it is to be sincerely hoped that the Hospitals Committee will during the coming session take steps to inform the various hospital authorities of the necessity of bringing about some reform in this direction. I believe myself that the conclusion already arrived at by the Hospitals Committee should be given much more publicity than they have hitherto obtained. This is not merely a professional but a public question: and, unless the press have ample opportunities of discussing the question, little or no good will result. The hospitals depend on public support entirely, and therefore it is manifest that they ought to know whether their monies are wisely or unwisely spent by the hospital authorities.

I would suggest that the Hospitals Committee should take steps to ascertain by personal investigation the condition of affairs at present existing in our big towns. Although the method would prove rather expensive, yet all general practitioners would be inclined to believe that the expenditure would be amply justified. I am making this suggestion through the BRITISH MEDICAL JOURNAL because I have no other opportunity of doing so.—I am, etc.,

Cardiff, Sept. 6th. T. GARRETT HORDER.

SUNLIGHT AND DEGENERATION.

SIR,—I have been much interested in your remarks on Major Woodruff's book. With all due respect to him, I am inclined to think his views are dangerous and likely to lead us as a profession into error.

It is not the sunlight which is a cause of degeneration, it is the sun's heat. The reason the Northern races are more active is because the North is more bracing. We all know how much easier it is to go a long walk or cycle ride, say, in Yorkshire than in Devon or Somerset.

With regard to the negroid type of face, I contend, Sir, that this has no connexion with descent from Southern races (it is prevalent in the children of drunken and syphilitic parents); it is simply a degeneration back towards our savage ancestors, North or South East or West; this type of face is found amongst the lower classes of mankind, it has to do with the brains of the individual; it is more common among the lower classes whose ancestors have used their muscles and not their brains as a means of obtaining a livelihood. A frequent cause of dark complexion is said to occur in children whose parents, not wanting them, have during pregnancy taken oxytoxics.

I deny, Sir, that there is more light in cities; there are in all cities heaps of streets into which the direct rays of the sun practically never penetrate.

Excessive sunlight may produce degeneration, but that absence of sunlight causes degeneration there is absolutely no doubt. Absence of sunlight interferes with the development of the blood with all its attendant disadvantages, anaemia, general malnutrition, etc., and thus lowers the resisting powers of the body to diseases, tuberculosis, and the like.

Although we all know the value of sunlight, which we require quite as much as plants, we neglect it to a certain extent. Sunlight is a powerful germicide; exposed to sunlight wounds heal more rapidly: not only does the blood develop more, but the skin is more healthy, and hair and nails grow more rapidly, being an absolute proof of the increased nutrition of the body. Moreover, the cure of consumption is due more to sunlight than fresh air; in the high Alps, where the light is greater; in Australia, Africa, etc., where there is more sun there phthisis rapidly improves, and if we could only obtain the sunlight without its enervating heat we should do much for our tuberculous patients. The Crystal Palace would make a perfect sanatorium for the treatment of phthisis.

In conclusion, Sir, I am of opinion that the theory that sunlight causes degeneration is very dangerous, and one which should not be accepted by the profession without considerable inquiry. I am, etc.,

Leytonstone, Sept. 10th. ARTHUR TODD-WHITE.

THE IMPORTANCE OF VAGINAL EXAMINATION EARLY IN PREGNANCY.

SIR,—The two following cases emphatically point to the importance, I should say the necessity, of insisting upon making a vaginal examination in every primipara, also in multipara, when an unusually long time elapses between the pregnancies.

Mrs. A. B., last year consulted me as to her state, and after abdominal palpation and auscultation I expressed the opinion that she was pregnant. Owing to great discomfort being felt at the approach of full term, a vaginal examination was made. The usual landmarks were absent and in their place a bulging ovoid mass presented. The patient was sent to a London hospital, and as labour set in, Caesarean section was performed. A large pedunculated subperitoneal fibroid was found impacted below head of child.

Mrs. C. D., on April 6th, sent for her medical attendant when labour commenced; at the end of twenty-four hours forceps were applied three separate times without advancing the head. The aid of a neighbouring practitioner was obtained and he applied forceps, but a determined attempt to bring down the head failed. The apparent obstacle was a firm but elastic swelling in Douglas's pouch. The patient was sent up to a London hospital, and Caesarean section was performed. In this case the swelling was found to consist of a dermoid cyst.

In the former case the operator was of opinion that a few weeks before term it would probably have been possible to have pushed up the obstructing fibroma.

In the second case induction of labour would probably have been the best course to have followed, as it was ascertained that the patient had previously given birth to a seven-months child.

In no course of lectures and from no work upon midwifery have I learnt the desirability of making a vaginal examination during—especially early in—the period of pregnancy. The operator in the former case informed me that he undertook the attendance of no labour without an examination per vaginam as soon as he was engaged.—I am, etc.,

Sept. 13th. COUNTRY PRACTITIONER OF TWENTY-FIVE YEARS' STANDING.

TEETHING AND CORNEAL ULCERS.

SIR,—Most of us have read with interest and profit the discussion on dental surgery in last week's BRITISH MEDICAL JOURNAL. Perhaps you may allow me to name one eye disorder in connexion with "teething" which came under my professional observation, and which I did not notice had been mentioned in the course of the debate. The subject was a healthy baby, but as each tooth erupted through the gums a corneal ulcer was produced on the eye on the same side as the erupting tooth. When the tooth came through, with a little treatment the ulcer disappeared.—I am, etc.

Manchester, Sept. 11th. A. G. FRASER.

PUBLIC VACCINATORS AND GENERAL PRACTITIONERS.

SIR,—In the regulations issued by the Local Government Board for the guidance of public vaccinators and vaccination officers the latter are instructed to send to the public vaccinator the names of children not yet vaccinated as soon as they reach the age of 4 months and 7 days; though the inference is that the vaccination officer should not send in the names at an earlier date, I see no regulation forbidding them to do so if they wish.

In this particular district the public vaccinator calls when a child is two to three months old to inquire when it would be convenient to the parents to have the child vaccinated; he must therefore have received the names from the vaccination officer or registrar, the families not being his own patients. I may state that this is not an "infected area," nor has it been so declared during the present public vaccinator's tenure of office.

I should be glad to know if this practice is illegal and, if so, how to stop it, for, though it may be a beneficial proceeding from a public health point of view, some parents object to it, and it tends to increase the feeling of irritation felt by many general practitioners towards the public vaccinators as likely to deprive them of fees and at the same time to increase the heavy burden of the rates.—I am, etc.,

September 7th. C. R. J.

*** It is not legal for a vaccination officer or a public vaccinator to approach parents and offer to vaccinate until the child has reached the age of 4 months, when the parents make a spontaneous request for the services of the public vaccinator. The duties of the two officials on this point are defined in Section 11, First Schedule, and Section VI (*a*), Fourth Schedule, of the General Order of the Vaccination Act, 1898. The age at which vaccination is compulsory was extended by the Act of 1898 from 3 months to 6 months; this was one important principle of the Act, which arranged that the machinery for compulsion should only begin to move when the child is 4 months old. To begin official procedure before

this period is a violation of this principle of the Act. If our correspondent is correctly informed, he should lay the matter before the Local Government Board.

PAPER BAGS AND OTHER SOURCES OF DISEASE.

SIR,—There are many sources of disease apparently so self-evident that they receive slight attention by the authors of textbooks. And this is my apology for directing the wider notice of the profession to the subject. The following are a few of the innumerable ways by which infectious diseases are, quite unintentionally, spread, for "thoughtlessness is precisely the chief public calamity of our day."

Paper Bags.—To open them, the practice of blowing against their edges, and into them, is very common; and nearly all confectioners fruiterers, grocers, and purveyors of food adopt this plan. The possibilities which might ensue if the breath were infected by the germs of a specific disease can be easily imagined.

Waste Paper.—The use of old newspapers, etc. (often bought at ragshops) in poorer districts, to wrap food in, also deserves attention.

Drinking Glasses.—Even at many high-class schools, thirsty boys and girls are inadequately provided with clean drinking utensils, and drink after each other. The remedy is simple: every child might be provided with a glass in a wicker cover to take to school.

Eating.—The danger to adults, and particularly children, who bite sweetmeats, etc., after each other, is obvious, and should be explained to them.

Kissing.—This danger has often been referred to, and the practice of children kissing each other at school should be prohibited.

If the heads of schools at the commencement of this session and of all subsequent ones would give an interesting little health lecture to their charges, I am satisfied it would do a great amount of good.

I might conclude by saying that my experience extends to a period not far short of a quarter of a century; and I am confident in my own mind many cases I have attended could have been traced—and some were—to such causes as indicated above.—I am, etc.,

MYER DUTCH, M.D., D.P.H.Cantab., etc.

Cricklewood, Sept. 12th.

"THE PIONEER OF PUERPERAL ANTISEPSIS."

SIR,—The above is the heading of an editorial notice in the BRITISH MEDICAL JOURNAL of September 9th of Waldheim's biography of Semmelweiss. I have read the notice with much interest and sympathy. It is well that we should be reminded from time to time of what we owe to the discoveries of that great benefactor. In our desire, however, to do full justice to his memory we should, I think, be careful not to use terms that seem to suggest that he was the only pioneer of puerperal antisepsis. As a matter of fact, there are several who deserve that name. Amongst them is one whose claims are very generally and quite unaccountably overlooked. I refer to Oliver Wendell Holmes, who published a remarkable essay on the subject in 1843, several years before Semmelweiss began his observations. I have no intention of entering into the question at any length now, as I hope to have an opportunity of dealing with it next month in an address on this very subject which I have promised to deliver at Marlborough before one of the Divisional meetings of the Association.—I am, etc.,

London, W., Sept. 9th. CHARLES J. CULLINGWORTH.

P.S.—By a curious coincidence, there appears in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of September 9th an announcement of my address side by side, as it were, with an instance of the use of that very mode of expression against which it is one of the objects of the address to protest.

HEALTH CONDITIONS OF MADEIRA.

SIR,—As the somewhat alarming article in the BRITISH MEDICAL JOURNAL of August 26th, p. 452, under the above heading may possibly tend to prevent intending visitors from wintering in Madeira, I hope you will find space in your valuable paper for the following lines. Although tuberculous patients visit Madeira in much fewer numbers than formerly, a certain percentage still winter here with great benefit to their health, and this is especially marked in that class of case accompanied by profuse expectoration and violent cough. With regard to non-tuberculous cases, a considerable number suffering from winter cough, asthma, renal disease, and malaria derive the greatest relief. Sufferers from winter cough obliged to pass their days indoors in England during the winter are able in the mild and equable climate of Madeira to lead an absolutely open-air life from November to May, and after two or three winters spent in this way may find themselves once more able to stand the winter at home. Renal cases benefit by the tendency of the climate to induce free action of the skin, thus relieving the overtaxed kidneys of a certain part of their work. With regard to asthma, I may say that in eight years, during which a considerable number of asthmatical patients have passed through my hands, I have only met with a single case that did not do extremely well, and as to malaria, the increasing number of sufferers from this malady, notably officers serving on the West Coast of Africa who spend part of their sick leave in Madeira, is proof of the efficacy of the climate.

The sanitary condition of the town certainly leaves much to be desired, although even in this respect it is questionable whether Funchal is worse off than some of the favourite resorts on the Riviera; safety from typhoid fever can easily be secured by only drinking water that has been either boiled or filtered—a precaution to which great attention is paid in all the hotels frequented by visitors. With regard to the so-called typhoid epidemic, the great majority of cases occurred amongst the lower classes of the Portuguese, and these latter have only themselves to blame, owing to their utter ignorance of hygiene. Out of the 180 cases recorded in 1904, only 3 occurred in visitors, all followed by complete recovery, although there were a few cases amongst the European residents. The present condition of health of Funchal has probably never been better, and the high death-rate—29 per mille—may safely be ascribed to the extremely high infant mortality amongst the lower Portuguese classes—a mortality which is undoubtedly owing to their unwholesome surroundings, their dislike of fresh air, and the unsuitable food given to their children.

Living in Madeira is certainly rather expensive for the householder, but visitors in hotels are able to live as cheaply as elsewhere, as these latter offer excellent accommodation at extremely reasonable rates.—I am, etc.,

J. GEDDES SCOTT, L.R.C.P.Lond., M.R.C.S.Eng.

Funchal, Madeira, Sept. 4th.

*** Our remarks were founded on the official report of the British Consul in Madeira.

DIGITALIN.

SIR,—One of the most important drugs in the *Pharmacopoeia* is undoubtedly digitalis. In most cases of heart disease it is at some time, and for a time, our sheet-anchor, and in functional disturbance of the heart it is often indispensable. Some cases of insomnia are, too, accompanied by arrhythmia of the heart, and in these cases sleep is greatly promoted by a small dose of an effective digitalis preparation at bedtime. Sometimes it will do all that is wanted—an interesting discovery I have only made lately, though the fact may be well known to many. It necessarily follows that the preparation of digitalis chosen should be thoroughly reliable. But are they always? When one thinks of the large distribution and abundance of the digitalis purpurea, and how easy it is to get unlimited supplies in the best condition, one would imagine that no drug in the *Pharmacopoeia* would be more constant in sufficiency of its specific activity to produce some physiological effect. Is it so? Experiences I have had have led me to suspect that either some specimens of digitalis are very deficient in active principle or that some pharmaceutical preparations may be at times exceedingly inert as regards any specific effect on the heart. I could give instances, but respect your space, which I know is limited for correspondence. Generally speaking, I have found the well-got, well-dried, well kept leaf freshly powdered and made into a pill or infusion the most to be depended on. But the tincture is also often quite reliable. Sometimes, I am certain, it is not so. I would advise medical men to bear this fact in mind if they concede that it may possibly be a fact, and if they get a case where they feel sure digitalis should act and prove beneficial, and they prescribe it and get no result, to change the pharmaceutical form of the digitalis preparation, and sometimes to go as far as to change also the place from which the presumptively defective preparation has been issued.

"Digitalin," a word usually denoting a complex substance, would be a valuable addition to pharmacology and therapeutics if it were certain that it contained all or much of the heart-influencing principle of digitalis. I am inclined to

think that, as usually met with in commerce, it does not. It may contain some of the active principles, and may even be poisonous, but yet not contain the heart-influencing substance. Now, I have no hospital appointment, I have no licence to make experiments on animals, and therefore there remains only one animal I can experiment safely on, and that is myself. By "safely" I mean in respect of legal consequences; and I have experimented on myself very extensively in order to gain a better knowledge of the action of remedies. Wishing recently to find out whether or not the digitalin now distributed was less unreliable than it was many years ago, I ordered a sample from a first-rate wholesale house, made up into small pilules containing $\frac{1}{30}$ gr. each.

The first night I took one, the next two, the next four, the next five—equal to $\frac{1}{3}$ gr. digitalin—a very large dose. No effect whatever being produced, next night I took seven pilules, and next night ten pilules—equal to $\frac{1}{3}$ gr. digitalin—an enormous dose. The ten pilules did give me a very slight sense of gastric discomfort but did not produce the least effect on the heart. I conclude that this sample of digitalin contained none of the cardiac regulating principle at all. I am inclined to think that Nativelle's digitalin does contain the true heart principle. I have found even one granule ($=\frac{1}{30}$ mg.) did produce a distinct though slight effect on the heart, which was more noticeable with two granules. With three granules the effect was so marked that I did not care to go beyond. I wrote the firm and detailed my experiences. They frankly told me that the "digitalin" supplied was made in Germany. They also said that the active principle in Nativelle's digitalin was digitoxin, and that Nativelle's preparation was official in the French *Pharmacopoeia*.—I am, etc.,

Blackpool, Aug. 23rd. WM. HARDMAN.

MARSHAL MACMAHON'S MEDICAL ANCESTRY.

SIR,—I have been interested in your leaderette with reference to the late Marshal MacMahon, which is in many respects correct. There is no doubt whatever that the late Marshall was the grandson of John Baptist MacMahon, M.D., Medical Staff Royal Hôtel des Invalides, who was born in Limerick in 1715, married Charlotte de Belin, daughter of Marquis d'Equilly, and died in 1787. His eldest son, Maurice Francis MacMahon, Baron de Sully, was the father of the Marshal, but there were two other sons, as well as three daughters, and the family is at the present day very largely and intimately connected with the best blood of France. Dr. MacMahon's father, Patrick, married Margaret, the daughter of O'Sullivan Bear, and was a direct descendant *not* of King Brian Boru (correctly, Brian Boruumha) but of Mahon his brother, who was slain at Clontarf in 1014 in the great battle against the Danes. On his mother's side he was a direct descendant of William Neilan, a famous colonel of cavalry in the service of Charles I.

The late Marshal MacMahon did certainly not repudiate his descent from a member of the medical profession, for he was to my knowledge as proud of that fact as he was to his descent from the best and bravest of Thomond and Munster.

In this connexion it may be interesting to note that another ancient Royal Irish family, the O'Connors, have been intimately associated with the medical profession. The direct descendants of this family (at one time kings of Connaught) have also fared well in foreign lands, but they left Ireland much earlier than the MacMahons, after the siege of Limerick. They soon rose to very high positions in France, and one, General O'Connor, is at the present time Commander of the Algerian Army, and is reputed to be one of the ablest of the French generals. Students of racial characteristics may be interested to know that the members of this historic family retain many of the characteristics of their remote ancestors, and one at least now living might have been born and bred in Galway, the "Citie of the Tribes."—I am, etc.

Florence, Aug. 27th. GERALD GARRY, M.D.

A NOTE ON FILARIA GIGAS.

SIR,—Owing to my being on leave of absence, I have not been receiving my copy of the BRITISH MEDICAL JOURNAL with regularity, and my attention has just been drawn to a note on the above subject in the issue of the JOURNAL of June 17th, p. 1329.

The body which I described provisionally as filaria gigas was shown at the meeting of the British Medical Association in 1902, where it was examined by several authorities, and is figured in the issue of the *Journal of Tropical Medicine* of October 15th, 1902. I was then very careful to emphasize the provisional nature of the description, and Dr. Low may rest assured that as soon as I am satisfied that the body was an accidental contamination I shall be the first to admit it. I am sure, however, he will pardon me if I cannot accept the decision of even such a distinguished observer as being final when it is based on nothing more substantial or scientific than a few crude experiments with gummed slides, and the fact that some years afterwards he identifies what is "clearly an insect's hair" with the body described by me, the slide of which he has not even beside him for purposes of comparison.—I am, etc.,

W. T. PROUT,
London, S.W., Sept. 12th. Principal Medical Officer, Sierra Leone.

INDIA AND THE COLONIES.

INDIA IN 1903.

THE REPORT OF THE IMPERIAL SANITARY COMMISSIONER.

THE separation of the offices of Director-General, Indian Medical Service, and of Sanitary Commissioner with the Government of India, took effect on September 6th, 1904, on which date Lieutenant Colonel John J. W. Leslie entered on the duties of the latter appointment. To him has fallen the task of preparing the report, in which are summarized and discussed the statistical and sanitary facts for the year 1903 relating to the whole Indian Empire. This report is constructed on the same plan, and is drawn up in the same condensed form as its recent predecessors. The statistical tables have been compiled by Captain S. T. James, M.B., and present no novelty. Instructive *précis* of research in various directions are continued, the information being brought down to the time of compilation. Abundant references are given to the sources from which the data have been derived. The Sanitary Commissioner has very wisely adhered to the model which has been designed by his forerunners as best adapted for the concise display of all the material bearing on the health of Indian communities collected and published by provincial and departmental officers. The following sketch of the sanitary state of India in 1903 has been drawn up in series with the articles relating to the year 1902, which appeared in the BRITISH MEDICAL JOURNAL of September 24th, p. 773, and October 22nd, 1904, p. 1098, where references will be found to five similar summaries for previous years.

General Character of the Year 1903.

The meteorological conditions of the year were favourable. There was some delay in the arrival of the Arabian Sea branch of the monsoon, and the late and scanty fall was associated with unusual heat in northern and western India. On the other hand, the Bengal Bay current was unduly prolonged, giving an excess of rain in September and October to areas under its influence. The rainfall for the whole of India was in excess to the amount of 0.30 in. Harvests were good, and the supply of food abundant and moderate in price. The country was at peace, and the employment of troops on foreign service was on a restricted scale, consisting of an annual average of 852 European troops operating in the Aden Hinterland, whither also 983 native troops were sent, of 3,174 native troops constituting the Somaliland field force, and 1,745 the China Garrison. The Thibet Mission started in March, and was accompanied by an annual strength of 929 native soldiers. The Delhi manœuvres and durbar were attended by 774 European and 61 native troops. The actual number of troops despatched is not given, and the causes of sickness and mortality among these bodies are shown in relation to the strengths quoted.

Vital Statistics of the General Population.

Birth and death registration is still so uncertain and unequal that its results are useful only as broad representations of the public health. There was a slight fall in the birth-rate from 39.38 to 38.96. The provincial extremes were 46.13 (United Provinces) and 26.51 (Coorg). There was a rise of 3 per 1,000 in Madras, due no doubt to better registration. The birth-rate exceeded the death-rate in eight provinces, but in Bombay the death-rate was 12.09 per mille, and in the Punjab 6.1 higher than the birth-rate. This was due to the high plague mortality. There was also a slight excess of deaths in Coorg and Upper Burma; but registration is still very defective in both these small provinces. The death-rate for India was 34.7, against 31.49 in 1902. There was a rise in every province except Bengal, Assam, and Ajmere-Merwara. Urban rates are still higher than rural. Female mortality

was higher than male in the United Provinces, the North-Western Frontier Province, Ajmere-Merwara, Bombay, and the Punjab, the excess in the Punjab amounting to 8.5. Infant mortality was very high in all provinces; the death-rate per 1,000 births in the Central Provinces and Berar, which have now been combined, reaching 285.1 for male and 257.0 for female infants. The rates in the United Provinces were also very high (279.1 and 269.1), owing to an unwonted severity of measles.

Prevalent Diseases.

The statistics of the general population indicate a rise in the mortality caused by fevers, plague, cholera, and bowel complaints, and a slight decrease in small-pox. The death-rate from "fever" was 19.66 in 1903, against 19.17 in 1902, the aggregate reaching nearly 4½ millions. The term is a very loose one. Captain Leonard Rogers, I.M.S., made inquiries regarding 1,000 deaths which had been returned as caused by fever in 1903 in the district of Dinajpur in Bengal, and found that 318 of these had been due to malarious fever, 217 to pneumonia, 90 to phthisis, 23 to bronchitis, 102 to diarrhoea, 18 to enteric fever, 61 to dysentery, 104 to infantile debility, and 67 to "other causes." There was undoubtedly an excess of malarial fever in 1903 owing to the irregular, excessive, and prolonged rains. In the European army, native army, and in prisons the death-rates from fevers were 4.68, 1.77, and 1.56, against 4.29, 2.17, and 2.02 in 1902, and from intermittent and remittent fevers 0.74, 1.54, and 1.30, against 0.70, 2.17, and 2.02 in the preceding year, showing a decrease under both heads in these communities. Some action of a limited kind was taken in places for the suppression of malaria by drainage and antimosquito operations, but these do not appear to have been very elaborate or effective, and even in prisons the Sanitary Commissioner pronounces the efforts made in this direction as "partial and perfunctory." There was an increase in the sale of quinine by public agencies in some provinces. The mortality caused by kala-azar in the province of Assam continues to fall, but doubts are expressed regarding the accuracy of the figures relating to this malady. A very full and interesting summary of the work done by Leishman, Donovan, Christophers, Rogers, and James with reference to the parasite which is believed to be the cause of this disease is given under "general remarks." The mortality attributed to plague amounted to 865,578, against 583,937 in 1902. This total, which is the highest attained since the introduction of plague into India in 1896, is probably short of the actual, because many plague deaths are entered as "fever." Plague mortality in 1903 was twice as great as that from cholera, two and a half times as great as that from dysentery and diarrhoea, more than seven times as great as that from small-pox, and about one-seventh of the total number of deaths recorded under the heading "fevers." Deaths were registered in all provinces, but the highest numbers were returned by Bombay, the Punjab, United Provinces, Bengal, Central Provinces, Hyderabad, and Mysore. A good digest of recent researches is given, the most important outcome of which is the evidence adduced as to the agency of the rat in the maintenance and revival of epidemics. The increase of cholera mortality from 1.01 to 1.37 per 1,000 was shared by all provinces except Assam, Madras, Bombay, and Ajmere-Merwara. The *Kumbh Mela* at Hurdwar, a bathing festival of special sanctity which occurs every twelfth year, and is attended by a specially-dense crowd of pilgrims from all parts of Upper India, was, as on previous occasions, greatly instrumental in disseminating cholera. Circumstances favourable to dissemination were no doubt in existence, but the evidence furnished by provincial sanitary reports strongly indicates the agency of pilgrims in spreading the disease. The mortality caused by diarrhoea and dysentery usually rises and falls with the fever mortality, and was higher in those provinces in which fever rates were excessive. Attention is drawn to the excess of dysentery among tea-garden coolies in Assam. The death-rate among them from cholera was lower than that of the population of the province. Some gardens, however, suffered severely. The record of small-pox mortality is satisfactory, but is still heavy, the total number of deaths registered being 93,603. The disease [illegible] in the United Provinces and Punjab. It is noted that the best vaccinated district of the latter (Kangra) "had as usual the lowest death-rate."

Prisoners.

The section of the Sanitary Commissioner's report devoted to the gaols of India is specially interesting on account of the careful and suggestive remarks made on the general and sanitary conditions affecting crime and criminals in India and the incarceration of suspects and convicts. A comparison with past years reveals a gradual improvement in both sickness and death rates, of which the year 1903 is the culmination. The year was, on the whole, a healthy one, and food was plentiful and cheap. Crime in India is apt to increase with poverty and want, and the reduction in the number of prisoners, which was due in part to the release of convicts on Coronation day, was mainly caused by conditions of comfort and prosperity. The death-rate of the year was 21.38, against 24.85 in 1902, and 26.87 in 1901. The rates of four preceding quinquennial periods ending 1885, 1890, 1895, and 1900 were 35.96, 33.95, 30.63, and 29.97. The principal causes of sickness and mortality in gaols are malarious fevers, phthisis, anaemia and debility, pneumonia and other lung diseases, and dysentery and diarrhoea. These causes account for 65 per cent. of sickness and 70 per cent. of mortality. There was a marked reduction in all of them excepting phthisis as compared with past years. They belong mostly to the class of specific infectious diseases, and their prevalence and fatality proclaim loudly the necessity, strongly urged in this report, of adopting measures to exclude the entry of infectious disease into and prevent the spread of these in gaols. That measures designed to the former end are fairly effective is indicated by the fact that plague caused only 34 cases and 23 deaths in prisons. There were 97 cases and 57 deaths from cholera, against 36 and 24 in 1902, and 62 cases and 6 deaths of small-pox, against 47 and 6. There was a decided fall in the number of dysentery cases and deaths, the rates being 88.8 and 3.73, against 96.4 and 5.135; phthisis caused 942 cases and 392 deaths, against 1,127 and 470. That gaol conditions are not so detrimental as gross ratios might indicate is proved by the better health of long term as compared with short term convicts. Still there is much room for improvement, more especially as regards space and ventilation and arrangements for segregation. These remarks apply very forcibly to phthisis, the mortality caused by which (3.85) contrasts most strikingly with that of the native army (0.68). It is significant that the death-rate rises with the length of incarceration. The great mortality caused by pneumonia (3.62) also indicates reform in housing and clothing. The observations recorded by the Sanitary Commissioner on preventive measures, general and special, are sound and well-timed. Fewer cases of cerebro-spinal meningitis occurred—34 with 27 deaths, against 136 and 108, and 141 and 102 in 1902 and 1901. Relapsing fever lingers in the Bombay gaols, the number of cases being 102 with 8 deaths, against 218 with 4 in 1902. Of enteric fever, 45 cases were diagnosed with 25 deaths. Single cases occurred in 21 gaols. Only 6 cases of beri-beri were returned from Assam and Burmah, and 26 cases with 8 deaths of epidemic dropsy took place in the Barisal Gaol, Bengal. Influenza and mumps prevailed in several provinces, but on a reduced scale. The returns contain only one case of Mediterranean fever.

European Troops.

The strength of the European army in India was 70,445, of which 1,020 were marching, 774 at the Delhi manœuvres and durbar, and 832 on service in the Aden Hinterland. The bulk of the army was therefore located in cantonments throughout the year. New arrivals amounted to 24,830, against 15,126 in 1902. Sickness-rates were lower, and the death-rate was 13.05, against 14.68 in 1902 and 16.69 in the quinquennium 1897-1901. The invaliding rate was also lower, 29.29 against 37.25 and 35.05. The chief causes of sickness were, as usual, venereal diseases and ague, and of mortality enteric fever and hepatic abscess. One hundred and fifty-eight soldiers were invalided on account of bilharzia infection, contracted mostly if not entirely in South Africa. The death-rate of troops on service at Delhi was 10.38, and in the Aden Hinterland 27.64. There was a rise in the prevalence of influenza, and, as might be expected, of cholera, of which 81 cases with 57 deaths occurred. Tables are given showing the great reduction in the incidence and mortality of this disease among both European and native troops. In the former a reduction of mortality is shown from 1.30 to 0.58 per mille, and in the latter from 3.0 to 0.34. The improvement has been gradual. From small-pox there were 68 admissions and 8 deaths, against 23 and 4 in 1902. There was a reduction in the prevalence and mortality of ague and remittent fever, the latter probably due to changes in diagnosis. On the other hand, there was an increase in simple continued fever, which term connotes a group rather than an entity. Only 8 cases were

returned as Malta fever, the diagnosis of which is still subject to grave doubts. A large portion of this section of the report is devoted to enteric fever, regarding the causation and prevention of which authorities are still at variance, and though much work, admirably represented, has been done recently by many workers, much more remains to be accomplished in order to place these subjects in a position of practical usefulness. There was a rise in the admission-rate of 1903, but a slight fall in the death-rate, from 4.29 to 4.19. The rates, which fell greatly during the Boer war owing to the reduction of drafts, have risen on resumption of importation of young lives, but still remain far below the former high level. There were 12 cases of plague with 2 deaths. The stations furnishing cases were in the Bombay and Madras commands, and considering the severity of the disease in the general population the fewness of cases in the army is very satisfactory. The death-rate of phthisis was lower, also of pneumonia and other respiratory diseases. The admissions and death-rates from dysentery were reduced, but those of diarrhoea slightly increased. The figures relating to hepatic abscess were also lower. Barrackpore, whose sanitary condition is bad, retains its predominance in respect both of dysentery and hepatic abscess; venereal diseases were less severe, the admission-rate being 247 per mille. The Sanitary Commissioner lays stress on the need of searching and sympathetic preventive action as regards both men and women. The death-rate of men was 13 24, of women 14.18, and of children 36.99, all in favourable contrast with the rates of the preceding year.

(To be Continued.)

NATAL.

Health Report for 1904.

Dr. Ernest Hill, the Health Officer for the Colony of Natal, discusses in his report for 1904 the chief items of importance in respect to the health of the Colony. The arrangement of the report is, perhaps, open to some criticism. Such a report should commence with vital statistics, and it is convenient for the consideration of infectious diseases and methods of prevention to follow thereon. General sanitary matters may suitably come subsequently. To begin with sanitary law and water supply, and proceed to hospitals, and then infectious diseases, and lastly vital statistics, is confusing. The census gives a population of 101,183 white people, of whom 58,077 live in the towns (Maritzburg 16,245, Durban 33,282). The death-rate was 10 89, and the birth-rate 31 10. There were 18 cases of plague, and 1,238 cases of small-pox recorded. The plague was almost limited to Durban, the infection possibly having come from Johannesburg; 4 patients were Europeans, 8 Indians, and 6 natives: 13 cases proved fatal, the one European who succumbed being a sanitary inspector, a victim to duty All the cases were bubonic, and connexion with rats was distinctly traceable in 7 out of the 18, who had lived in premises in which plague-infected rats were found. Dr. Hill believes this second appearance of plague in Durban was a "recrudescence," and not a reintroduction, and he favours the view that plague is carried on in a mild form in the rat, comparatively few individuals dying, and then the disease again breaking out in man. In former reports attention has been drawn to the fact of neglected vaccination, and now retribution has come in the loss by small pox of 361 lives, 23 of them Europeans, and expenditure from the public revenue of £23,000. The disease establishing itself among the natives spread readily, owing to intercommunication between kraals, and a total lack of isolation of native cases at the commencement. Infected persons are shown by Dr. Hill to have conveyed the disease from kraal to kraal. Enteric fever attacks were 44 per cent. less than in 1903. The medical officer draws attention to the unsatisfactory condition of legislation dealing with death registration, vaccination, and food adulteration. There appears to be much yet remaining to be done in respect of general sanitation, milk supply, school hygiene, and water supply, but on the whole there is evidence of progress, and Dr. Hill is to be congratulated on the work accomplished.

ROYAL NAVY AND ARMY MEDICAL SERVICES.

ARMY MEDICAL REDISTRIBUTION IN INDIA.

The Governor-General of India in Council has approved the following redistribution of the administrative changes of the Principal Medical Officers under the rank of Surgeon-General consequent on the redistribution of the army:

Northern Command.—1st (Peshawur) Division, 2nd (Rawul Pindi) Division: Abbottabad and Sialkote Brigades (the divisional Principal Medical Officer to administer the Nowshera and Mardan Brigades direct). 3rd (Lahore) Division: Sirhind and Jullundur Brigades, Kohat Brigade, Derajat and Bannu Brigades (the divisional Principal Medical Officer to administer the Mooltan and Ferozepore Brigades direct).

Western Command.—4th (Quetta) Division: Kurrachee Brigade (includes the civil medical administration of Sind). 5th (Mhow) Division: Jubbulpore and Jhansi Brigades (the divisional Principal Medical Officer to administer the Nasirabad Brigade direct) 6th (Poona) Division: Bombay and Aden Brigades (the divisional Principal Medical Officer to administer the Ahmednagar and Belgaum Brigades direct).

Eastern Command.—7th (Meerut) Division: Bareilly and Garwhal Brigades. 8th (Lucknow) Division: The divisional Principal Medical Officer to administer the Allahabad and Fyzabad Brigades direct. Presidency and Assam Brigades: The civil and sanitary commissioners' duties hitherto performed by the Principal Medical Officer, Assam, to be now arranged for by the civil authorities.

Secunderabad Division.—9th (Secunderabad) Division: Bangalore and Southern Brigades (the divisional Principal Medical Officer to administer the Secunderabad and Madras Brigades direct).

Burmah Division.—The divisional Principal Medical Officer to administer the Rangoon and Mandalay Brigades direct

With the exception of the administrative charge of the Derajat and Bannu Brigades, which is reserved for a Lieut.-Colonel of the Indian Medical Service, all the above are Colonels' appointments, to be divided equally between the Royal Army Medical Corps and the Indian Medical Service, but no particular appointment will be reserved for either service. The revised arrangement will not affect the rule laid down in the footnote to paragraph 37, Army Regulations, India, vol. vi, 1904 edition. Principal Medical Officers concerned will continue to be, as heretofore, visitors to lunatic asylums in their respective administrative areas.

It is further noted that the above redistribution will take effect from October 1st next, and the following appointments of Principal Medical Officers are made by the Commander-in-Chief:

Peshawur Division, Colonel W. L. Chester, M.B., R.A.M.C.; Rawal Pindi Division, Colonel B. M. Blennerhassett, C.M.G., R.A.M.C.: Abbottabad and Sialkote Brigades, Colonel H. R. Whitehead, R.A.M.C. Lahore Division, Colonel H. J. W. Barrow, R.A.M.C.; Sirhind and Jullundur Brigades, Colonel H. Hamilton, M.D., C.B., Bengal Establishment: Mhow Division, Colonel W. S. Pratt, M.B., R.A.M.C.; Jubbulpore and Jhansi Brigades, Colonel J. F. Williamson, M.B., C.B., C.M.G., R.A.M.C.: Poona Division, Col. F. W. Trevor, M.B., R.A.M.C.; Bombay Brigade, if an incumbent is not appointed by October 1st, the senior medical officer on the spot is to take charge; Aden Brigade, Colonel J. S. Wilkins, D.S.O., Bombay Establishment (Lieutenant-Colonel W. G. H. Henderson, Bombay Establishment, to officiate during the absence of Colonel Wilkins on leave); Meerut Division, Colonel W. E. Saunders, C.B., R.A.M.C.: Bareilly and Garwhal Brigades, if an incumbent is not appointed by October 1st, the senior medical officer on the spot is to take charge; Lucknow Division, Colonel G. D. N. Leake, R.A.M.C. (Lieutenant-Colonel D. Wardrop, M.B., R.A.M.C., to officiate during the absence of Colonel Leake on leave); Presidency and Assam Brigades, Colonel H. K. McKay, C.I.E., Bengal Establishment; Secunderabad Division, Colonel A. F. Dobson, M.B., Madras Establishment; Bangalore and Southern Brigades, Colonel P. H. Benson, M.B., Madras Establishment; Burmah Division, Colonel T. J. H. Wilkins, Madras Establishment.

SERVICES OF VOLUNTEER MEDICAL OFFICERS.

A. M. R. writes: The proposition put forward by Surgeon-Captain Orton in the British Medical Journal of September 9th, p. 610, that he and others like him should be paid a capitation fee for conducting the physical examination of the men of the Volunteer battalion to which he belongs would not and could not be entertained by the War Office for a moment. Surgeon-Captain Orton comes into camp for a week or a fortnight, as the case may be, to perform those medical duties in connexion with the Volunteers which an R.A.M.C. officer has to undertake for the regular—and in many cases for the militia as well—troops under his professional care. The army medical officer has to undertake recruiting duties, physical and other examinations for the regulars and militia, without any additional pay. Surgeon-Captain Orton presumably receives the same financial treatment as his brother Volunteer officers, and he must be prepared to perform the duties which fall to a medical officer as willingly as they doubtless perform their military ones. Whether in future the "elect" of the Volunteers will receive during their training the pay and field allowances of their rank is quite a different question to putting forward a claim for a capitation fee for a physical examination under the present Volunteer regulations and allowances Personally, I hold that they should be paid on some such basis as the Militia and Yeomanry are during their trainings. But for medical or other Volunteer officers to consider that their time spent in camp should partake of the nature of a "holiday"—a kind of pseudo-military picnic—or that they are sent to the seaside or into the country by a sort of War Office "fresh-air" fund as "trippers" is not the way to wring such a concession from the authorities It is to be regretted that Surgeon-Captain Orton's "holiday" failed him so lamentably; it is still more to be regretted that he should think fit to parade such a plaint in the press, lay or professional. How can we conscientiously "press upon the Government our claim for some payment of our services"? How can we ask, with any likelihood of being taken seriously, to be considered a genuine factor in the scheme of Imperial and national defence? How can we stand any chance of convincing a sceptical War Office that we do not want to "play at soldiers" if our officers complain that their camp—because of some extra duty—has turned out a "poor holiday"?

MEDICO-LEGAL AND MEDICO-ETHICAL.

OPTICIANS AS OCULISTS.

We have received a copy of the prospectus of U[illegible] College, Bristol, for the season 1905-6, from a correspondent who draws attention to the advertisement on the first page inside the cover, of a firm of "Eye-sight and Spectacle Specialists," which contains the following: "Upon the first symptoms of eye-strain appearing advice as to the need of glasses to protect the eyes ought to be had without delay. Continuous neglect of defective sight is one of the most fruitful sources of serious eye troubles. Students ought to be especially careful—All advice willingly

given. Eyesight Testing Rooms." As this advertisement undoubtedly claims that these so-called "Eye-sight and Spectacle Specialists" are competent to examine eyes and prescribe spectacles for all defects of vision, and as we have formerly pointed out this is impossible to do without the use of mydriatic drugs, the statement is misleading to the public, and we regret that it has been permitted to appear in the prospectus of a college which possesses a medical school. As the Council includes a good many members of the medical profession we hope steps will be taken to prevent such an advertisement being accepted in future.

THE USE OF MEDICAL NAMES IN TRADE ADVERTISEMENTS.

L.R.C.P.EDIN. writes: Being a regular reader of the BRITISH MEDICAL JOURNAL, I always glance down the ethical column. Invariably one notices a colleague being reprimanded for some or other offensive doing or saying. Now I wish just to take one, for instance the man who gives a testimonial to some concern whether worthy or not. Well, what happens? he is at once referred to the Ethical Committee, whether innocent or guilty. Perhaps the same individual did so without thought of doing harm or hurting the feelings of his fellow-brethren. On the other hand, you take up a weekly paper and you see what Sir Frederick Treves or Mr. Eccles, F.R.C.S., has said against alcoholism; you read on and at the end you have a glaring advertisement recommending somebody's preparation of phosphorus, or perhaps a more useless drug. Would it not be better if such statements made by some of our highest-rank medical men were copyright and published in the ordinary press, and not allowed to wander for the benefit of some patent medicine company? My object for writing this note is because patients often tell me they are taking so-and-so, they saw it recommended by So-and-so, when it was really only a catch advertisement.

*** When attention is drawn to the name of any medical practitioner in trade advertisements it is not our practice to notice the matter in this column, but to refer it to the Secretary of the Ethical Committee, who writes a letter, the form of which has been approved by the Committee, drawing the attention of the practitioner concerned to the use of his name and asking him to take steps to have it stopped. We think, therefore, that the word "reprimand" is scarcely applicable. With regard to our correspondent's second point, it would undoubtedly be in accordance with medical opinion if the law prevented the use of extracts from speeches reported in the public press as baits to advertisements. So far as this JOURNAL is concerned, care has been taken to copyright its contents so as to prevent this abuse, but there is apparently no copyright in speeches published in the daily papers, as was lately decided in the case of an eminent statesman whose speeches were published without his consent.

THE RIGHT TO A FEE.

B. writes: A., a general practitioner, goes away for a holiday, and B., another practitioner practising in the same town, was doing his work for him during his absence; a patient of C.'s, another practitioner, calls at C.'s with a dislocated shoulder, but finding he is out goes to A.'s with the same result, but as he is leaving A.'s house B., who is driving near, sees him, stops, and takes him back into A.'s surgery, where he reduces the dislocation. Next morning C., whom B. has informed, sends B. a cheque. To whom does the fee belong, A. or B.?

*** If A. had been at home he would have seen the patient and had the fee; as B. got the case owing to A.'s absence, and as he had undertaken to do A.'s work for him the fee belongs to A., subject to any arrangements A. and B. may have made for the remuneration of B., such as sharing the fees for work done.

FEE FOR ATTENDANCE BY DEPUTY.

R. F. writes that while he was away from home a confinement which he had been engaged to attend occurred, and the patient was attended for him by another medical man. On his return he went on with the case, and, on the patient's convalescence, asked for his fee, but was refused, on the ground that no service had been rendered. He wishes to know what he can do.

*** As the patient accepted the services of his deputy she is bound to pay the fee agreed upon, and, if it is refused, our correspondent should have no difficulty in recovering it in the county court.

MASTERS AND SERVANTS.

B. D. C. writes that he was called in to attend the wife of the butler of a well-to-do person. The patient resided with her husband, and acted as one of the servants of the house. On making his visits, our correspondent was frequently interviewed by the mistress and questioned as to the progress of the illness. On the patient's convalescence he suggested that the account, or part of it, should be defrayed by the master, but he declined, and repudiated any liability on his part for medical expenses incurred by his servants. Our correspondent's solicitor advises him that he would have no chance of recovering against the master. What remedy has he?

*** Our correspondent can only look to his patient for his fee. It has been decided in the courts that a master is not liable for the medical expenses of his servants, unless he specially makes himself responsible for the same. In this case he does not appear to have done anything to incur such responsibility.

MIDWIFERY CONTRACTS.

LEGAL.—The husband of a lady requests a medical practitioner to call on his wife with a view to attending her in her confinement. The practitioner visits the lady at a distance of 2½ miles from his residence, and is duly engaged and consulted as to nurse, etc. About two weeks later the engagement is cancelled by the husband on the ground that the doctor resides too far off; but he offers to pay for the latter's visit. A fee of 1 guinea is charged, but only 5s. is sent. Could the practitioner recover the balance in the county court?

*** Strictly speaking, a contract cannot be annulled by one of the parties without the consent of the other, but consent in this case would appear to have been given. The only question that remains is, what might be fairly charged for the visit. The practitioner would only be entitled to recover his usual fee for visiting a patient of this lady's social position distant 2½ miles from his house.

OBITUARY.

THOMAS HERBERT LITTLEJOHN,

M.B., C.M., F.R.C.S.Edin., D.P.H.,

Medical Officer of Health for Hampstead.

WE sincerely regret to announce the death of Dr. Thomas Herbert Littlejohn at the early age of 38 years. He was educated at the Edinburgh Academy and subsequently studied medicine at the Edinburgh University; he took the degrees of M.B., C.M., in 1889. He was then appointed house-surgeon in the Royal Infirmary to the late Mr. John Duncan, and afterwards held similar posts at Carlisle and at Preston. On returning to Edinburgh he passed the examinations for the Diploma of Public Health and the Fellowship of the Royal College of Surgeons. For several years subsequently he assisted his father, Sir Henry Littlejohn, in his duties as medical officer of health, and in 1896 was appointed Medical Officer and Public Analyst to the Borough of Scarborough and also medical officer to the local infectious hospital.

On the late Dr. Edmund Gwynn's retirement, Dr. Littlejohn was appointed to succeed him as Medical Officer of Health for Hampstead. Entering upon his duties with zeal and enthusiasm, he displayed great talent as an ardent and skilled sanitarian, and rapidly earned the esteem and respect of all with whom he came in contact. Towards his medical brethren he showed the greatest courtesy and consideration, and was always ready to advise and help even in the most minute details to the utmost of his power. His reports were always concise, yet withal comprehensive, and from time to time he contributed articles on Public Health to the *Edinburgh Medical Journal*.

A cultivated and genial gentleman, he was very anxious about his work, and held a grave view of his responsibilities. For some months he had suffered from insomnia, which caused him to resort to hypnotics to procure sleep, and after a dose of sulphonal taken on the evening of August 31st he never thoroughly regained consciousness, but died at 5 a.m. on September 4th from cardiac failure.

Dr. Littlejohn leaves a widow to mourn his loss, and to her we tender our heartfelt sympathy.

SURGEON-MAJOR-GENERAL PHILIP BROKE-SMITH, M.D., Army Medical Staff (retired), died at Cheltenham on the 4th inst., aged 71 years. He entered the Army Medical Service as Assistant Surgeon, September 15th, 1857; became Surgeon December 2nd, 1871; Surgeon-Major, March 1st, 1873; Brigade-Surgeon, May 7th, 1882; Surgeon-Colonel, November 17th, 1886; and Surgeon-Major-General, December 15th, 1892. He retired from the service July 18th, 1894. He had no war record in the Army Lists.

PUBLIC HEALTH

AND

POOR-LAW MEDICAL SERVICES.

RELATIONSHIP BETWEEN MEDICAL OFFICER OF HEALTH AND PRACTITIONER IN REGARD TO INFECTION.

SCARLATINA asks our opinion on the following circumstances, which must be related in some detail if the opinion is to be of value. "Scarlatina" is medical officer of health of the district in question, and is also engaged in private practice in it. He will be referred to hereas M.O.H., and the practitioner as P. The latter asked M.O.H. to visit and confirm the diagnosis of two cases of scarlet fever in a lodging house. This was done; P. being informed at the interview that the sanitary inspector would inspect with a view to securing measures for control of infection. The infected family were visitors, and took the whole house rather than have the two children removed to an isolation hospital. A few days later M.O.H. was informed by the sanitary inspector that a healthy child of the same family, and living in the same house, was mixing with

other children on the beach, etc. M.O.H. thereupon called at the house, and dissuaded the mother against continuing this practice. Next day the father asked M.O.H. to call upon him on the same subject, which he did. During this interview P. entered the room (not the sick room) in which the father and M.O.H. were consulting, accused the latter of unprofessional conduct, and demanded to know what right he had to visit the house without first seeing him. P. also told the parents there was no reason why the healthy child should not go on the beach, but that she "must not go in crowded halls, etc."

*** Two points arise: First, as to the degree of quarantine which should be enforced for healthy members of the implicated family, and second, as to the relationship in this matter of the M.O.H. (also a practitioner) and the family practitioner. Both of these points involve some latitude according to the special circumstances of each individual case, and they illustrate the importance of so carrying out official duties that there shall be no excuse for resentment on the part of the family practitioner. On the first point it is the duty of the M.O.H., in accordance with the Local Government Board regulations, "to visit the spot . . . and in case he is not satisfied that all due precautions are being taken;" to "advise the persons competent to act as to the measures which may appear to him to be required to prevent the extension of the disease." It is also clear that if the attendants on scarlatinal patients mix with the rest of the household, and "inmates of the house visit the sick room," as is stated to have occurred in this case, the child in question is liable to carry infection, and should not be allowed to play with other children either on the beach or elsewhere. This being so, it was the duty of the M.O.H. to warn the parents against permitting this. On the other hand, in view of the necessity, not only for professional reasons but also to aid in securing efficient co-operation, of avoiding all jealousy on the part of a brother practitioner, it would have been much better if the point as to quarantine of the healthy child had been settled at the first consultation of M.O.H. and P., and if, failing this, M.O.H. had again communicated with P. on the subject. If P. persisted in taking a more lax view on this point than M.O.H., it might then have been necessary independently to give strict official instructions as to the quarantine of the child. It must be pointed out, however, that to prove a case under Section 126 of the Public Health Act, 1875, more evidence would need to be forthcoming than would be likely to be available in this case.

SURREY.

THE population of the County of Surrey is estimated at 558,555. The birth-rate for 1902 was 23.6, the death-rate 11.4, and the infant mortality-rate 108 per 1,000 births. Dr. Seaton, the medical officer of health, remarks that the great lesson of the cool, wet years of 1879 and 1903, in contradistinction to 1904, was that by following Nature's scavenging methods, and keeping down the nuisance from flies and dust when the earth temperature is high, a great saving of infant life may be effected. The condition of dwellings, the cleanliness of the milk supply, and the proper methods of infant feeding are quoted as factors influencing the infant mortality. Dr. Seaton quotes from a number of the local reports as to the condition of housing accommodation and general sanitation in the county, which on the whole appears to be improving, and an important section of the report records the action taken under the Midwives Act (334 midwives in the county), but certainly the most instructive portion of the report is that dealing with disinfection. The medical officer has made an investigation into the methods practised in the county, and has tabulated his findings and made some notes thereon. As regards room disinfection he advocates "the well-established system of sulphur fumigation." He adds: "I have always maintained its efficiency in spite of its detractions by those whose work is mainly confined to laboratory experiments. My opinion has been based on many years' observation of the practical results of the method." Special attention is drawn to the importance of disinfection of clothes, of "the infectious material of typhoid," and of personal disinfection, dress, hands, nails, hair, etc., and with regard to these matters Dr. Seaton hopes shortly to draw up rules which may be generally adopted.

NORTHAMPTONSHIRE.

IN his annual report for the County of Northampton for 1904 Dr. C. E. Paget estimates the total population at 213,874. The birth-rate was 24.6, the death-rate 13.7, and the infant mortality-rate 116 per 1,000 births. Zymotic death-rates were also low, being 0.94 for the whole county, notwithstanding the fact that there was an enormous increase of scarlet fever prevalence in the county during the year (1,127 cases) and a relative increase in enteric partly owing to an outbreak of 38 cases at Finedon. The medical officer draws attention to greater need for the disinfection of clothes. It seems that many districts have no disinfecting apparatus. Continuous progress has been made to provide adequate water supply, and there seems to be no diminution in the endeavour to prevent overcrowding of small houses, and to secure the provision of a better class of cottage property. Rather more has been accomplished in 1904 than in previous years in preventing river and stream pollution, though some marked instances of pollution require abatement without delay. One of the most interesting parts of the report deal with the results of veterinary inspection of cows and cowsheds in the Kettering district. Out of 286 cowsheds, 243 were found in satisfactory condition, 29 were unsatisfactory, and 14 were not in use. A separate inspection of every cow yielding milk was made, numbering in all 1,731, and only 66, or 3.81 per cent., were found to be suffering from abnormal udders. Of the 65 only 11 udders were in a condition to render the milk harmful to consumers. There were 1 cases of acute mastitis, 2 of tuberculous mastitis, and 3 of udder eruptions. The veterinary surgeon points out that clinical examination of udders is not wholly reliable as "large numbers of tubercle bacilli may be found in the milk of cows who show no clinical evidence of udder mischief." He advocates making the tuberculin test compulsory. The usual abstracts and statistical tables are included in the report.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 2, Agar Street, Strand, W.C., London: those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone, unless the contrary be stated.*

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Manager, 429, Strand, W.C., on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not at his private house.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London.* The telegraphic address of the MANAGER of the BRITISH MEDICAL JOURNAL is *Articulate, London.*

TELEPHONE (National):—
EDITOR, 2631, Gerrard. GENERAL SECRETARY AND MANAGER, 2630, Gerrard.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

AJAX asks the nature, action and composition of yohimbine, said to be a new alkaloid.

E. W. J. LADELL asks for advice as to the treatment of the following case: The patient, aged 26 and otherwise healthy, has tonsils which are only slightly enlarged. In one of them there is a sinus about ½ in. deep which is constantly filling up with an offensively-smelling material like sebaceous matter.

FORMIC ACID.

QUERY will be obliged for any information on the therapeutics of formic acid and the formates. It is claimed that they cause increased muscular vigour generally. In what way? (See BRITISH MEDICAL JOURNAL, April 1st, 1905, p. 741.)

INSTRUMENTS FOR THE DEAF.

DELTA asks the name and address of the firm which had upon view at the exhibition during the annual meeting at Leicester a hearing appliance for the deaf.

ANSWERS.

ERRATUM.—In Dr. Barton's reply to queries *re* the ether chloride-ether sequence, in the BRITISH MEDICAL JOURNAL for September 9th, p. 615, the word printed "inter-sequence" should be "interregnum."

X.Y.Z.—Candidates for the Prison Service should not exceed thirty years of age. Full particulars and forms of application may be obtained from the Secretary, Prison Commission, Home Office, Whitehall, S.W.

MOTOR CYCLES.

DR. FRED. C. H. HOME (Egham Hill, Surrey) writes: In reply to "Motor Cycle," I should be happy to give him any hints towards the selection of a motor bicycle after three years' experience of their utility if he cares to communicate with me. Doubtless he will receive many suggestions as the result of his questions, and may not care to write various correspondents. To suit the requirements specified by him I would direct his attention to the consideration of two makes—namely, (*a*) Phoenix two speed chain-driven cycle, (*b*) Humber light-weight chain driven with free engine.

CRUISING PLEASURE YACHTS.

CRUISER is obliged to "S. H." on the above subject. It appears that most of the yachts are old and disused for their original purpose. Can "S. H." or any other reader state really what age the various yachts are? Is there at present a British cruising pleasure yacht built for the purpose and not converted, and under 10 years old?

RUPTURE OF THE VAGINA DURING PARTURITION.

J. J. B.—The classical paper is by Goldson on "An Extraordinary Case of Lacerated Vagina at the Full Period of Gestation," 1787; there is also a good paper by McClintock (*Dublin Journal of Medical Science*, 1866). The subject is discussed by Dr. Herman in his article in the volume edited by Dr. Playfair for *Allbutt's System* on gynaecology, and in most of the larger textbooks.

PERSPIRATION OF THE HANDS.

DR. NORMAN MEACHEN (London, W.) writes: In answer to "Sudor" I would recommend frequent washing of the hands with formaldehyde soap, such as the No. 20 in Midgley's series of medicated soaps (Manchester), after which they may be bathed with a solution of tannic acid in absolute alcohol, 20 per cent., and then thoroughly dried. Extreme moderation in tea is also advisable.

"WANTED, A PROGNOSIS."

DR. W. SYKES, F.S.A. (Paignton), has seen several cases of injury similar to that upon which "Necrosis" asks for a prognosis, all of which have ended in a similar satisfactory manner. After some weeks (length of time not noted) the bare bit of bone becomes loose, and can after a time be lifted up and removed, when it is seen that it has been thrown off as a thin shell like fragment by granulations which have sprung up all over the underlying piece of skull, the resulting granulating wound healing as an ordinary ulcer from the edges, finally forming a depressed cicatrix.

FIELD NATURAL HISTORY.

B. W.—Messrs. Bolton of Birmingham supply crayfish, frogs and all the usual types of animals and plants necessary for a course of practical biology. There is an excellent little book which would probably suit our correspondent's requirements as to recognizing the common algae,

etc. It is entitled *Ponds and Ditches*, and is by Mr. C. Cooke, a well-known author. The book is one of a series known as *Natural History Rambles*, published by the S.P.C.K.

ETHYL CHLORIDE.

DR. W. J. MCCARDIE (Birmingham) writes, in reply to the inquiry published August 26th, p. 467: The administration of ethyl chloride from the bag of a Clover's inhaler is as safe as and much more convenient than that of nitrous oxide before ether. All that is necessary is to spray 3 or 4 c.cm. of ethyl chloride into the Clover's bag, to ask the patient to breathe very quietly, and to immediately apply the inhaler. A tap or hole with plug may be fitted in the angle-piece of the bag, and ethyl chloride gradually sprayed in if wished. The special indications are as for nitrous oxide. The chief advantages are much greater convenience, quicker induction of anaesthesia, and no cyanosis. Ether should be gradually turned on after six or seven breaths of ethyl chloride.

MEMBRANOUS COLITIS.

BACHELOR writes, in reply to the query of "C. J. W.," published August 12th, p. 368: My experience of membranous colitis, limited to two cases only, confirms the view that its causation is in some way due to disease of the uterus or ovaries (Osler, p. 544). The first case was a nulliparous woman, aged twenty-four, married eighteen months; had suffered from dysmenorrhoea for several years subsequent to a fall from a bicycle, and had suffered from membranous colitis for twelve months. Examination showed her to be suffering from retroflected uterus and ovaritis. The second case was a nulliparous spinster, aged 48, suffering from ovarian pain and tenderness concurrently with rheumatic pains in limbs and head. In both cases the appearance of the tubular cases ceased after remedying the utero-ovarian troubles. The first case has since become pregnant and borne a full-time child.

CLAY PILLS AS A TREATMENT FOR PILES.

DR. JOHN H. CLARKE (London, W.) writes: Your correspondent, "General Practitioner," who relates the interesting case of internal piles cured with clay pills in the BRITISH MEDICAL JOURNAL of September 9th, suggests that perhaps "some of our great students of therapeutics can throw some light" on what to him is a strange phenomenon. Without pretending to be a "great student," I may be able to give your correspondent some assistance by referring him to the article "Alumina" in any homoeopathic *Materia Medica*, my own *Dictionary of Practical Materia Medica* among the number. Alumina, oxid of aluminium, is "pure clay." Common clay is not pure, but the bulk of it consists of a hydrated silicate of alumina, and any physiological or therapeutical properties it may possess must be ascribed mainly to the alumina it contains. So far as my information goes, Hahnemann (*Chronic Diseases*, vol. ii) was the first to test alumina (or "argilla") physiologically, and he demonstrated that amongst other properties it had a very decided action on the rectum and anus, producing constipation and symptoms of piles, which have provided homoeopaths with indications for its use in these affections ever since. Therefore "clay pills" as a remedy for piles do not constitute a strange phenomenon to homoeopaths. It may be interesting in this connexion to note that common alum—a double sulphate of aluminium and potassium with water, one of the most potent astringents known—is also one of the leading remedies amongst homoeopathe for aggravated cases of constipation and piles, and it is also the chief homoeopathic antidote for many of the effects of chronic lead-poisoning, notably the constipation.

LETTERS, NOTES, Etc.

SOME DYNAMIC AND HYDRODYNAMIC EFFECTS OF MODERN SMALL-BORE CYLINDRO-CONOIDAL PROJECTILES.

FLEET-SURGEON C. MARSH BEADNELL, R.N., writes to correct a slip of the pen in the paper published in the BRITISH MEDICAL JOURNAL for August 19th, page 376. On page 378, in the twelfth line from the end, please read "pushes them aside or cuts them" in place of "push them aside or cut them."

SPONTANEOUS COMBUSTION.

DR. J. J. STACK (New Cross) writes to call attention to a case of spontaneous combustion recorded in the BRITISH MEDICAL JOURNAL of April 21st, 1883, p. 841, by Dr. Mackenzie Booth of Aberdeen. Dr. Booth pointed out that the term had been applied to two conditions—(1) spontaneous ignitability, (2) increased combustibility. Dr. Booth's case belonged to the second category.

THE DUNCAN FUND.

DR. HUGH RITCHIE (257, Shankill Road, Belfast) writes: I beg to acknowledge with many thanks the following subscriptions to this fund. Total already acknowledged, £56 10s. 0d.:

	£ s. d.		£ s. d.
Dr. Alex. Duncan, Ballyonora	1 1 0	Dr. Wm. McHarry, Grosvenor Lodge	1 1 0
		Dr. John Patrick	0 10 0

AN ERROR OF DIAGNOSIS.

RABELAIS mentions employing the "pecuniary apostem" as a surgical operation frequently performed in his day. The following "modern instance" we take (via the *New York Medical Journal*) from the *Indian Medical Record*, for July 15th, 1905. The scene of the brief but poignant drama is laid in India. Physician (with his ear to patient's breast): "There is a curious swelling over the region of your heart, sir, which must be relieved at once." Patient (anxiously): "That 'swelling' is my pocket-book, doctor. Please don't relieve it too much."

MENSTRUATION ESTABLISHED AFTER CALOMEL.

DR. ARTHUR TOOR WHITE (Leytonstone) writes: A patient of mine, aged [illegible] years, had not menstruated, and that at the age of 16. For [illegible] years she had been under treatment by doctors and hospitals for [illegible], but without result. She is housekeeper to another patient of mine who is in the habit of taking 1 gr. doses of calomel, [illegible] regularly as a "corrective." One night she took one of the [illegible], but without any result that she had ever heard [illegible]. The next night she took another dose, and the following day [illegible] menstruated. She has been [illegible] ever since, for [illegible] months, and has improved in health and appearance. She is not married. I do not remember hearing of such a case. Possibly, however, it may not be so uncommon; but, at any rate, it might interest some of your readers.

WHITE BREAD.

DR. THOS. WM. BLAKE (Bournemouth) writes: I quite agree with Dr. Bennie Dunlop's remarks in your issue of September 9th, p. 616, on the now universal use of white bread and its baneful effects as an astringent, added to which is its less nutrient properties. Our ancestors were wiser in their generation in using the whole meal, or that denuded of its outer coat of bran only, leaving the nutrient second coat ground with the flour, giving it a creamy tint, instead of the pure white less-nutritious centre flour to be used alone. Well do I remember the truly nice home-made bread and its appetizing odour, fresh from the oven, in my home of fifty years ago, and also the benefit and strength one felt after a meal of it, taken alone or with other food. Now the white bread does not retain the natural moisture of the whole-meal loaf; it dries quickly, is tasteless, and non-nutrient. Its astringency destroys the natural peristaltic movements of the bowels, tends to haemorrhoids, and impairs digestion. It is saddening to see and know that the baking-oven to be found in every old cottage and farmhouse is now in disuse, and that supplies of white bread are purchased at the village stores instead, to spare the housewife trouble, and resulting by its use in weedy and ill-nourished children in place of the rosy chubby-looking youngsters one saw around the cottage doors half a century ago. Herein is one of the secrets of deterioration of physique. "If the *good* is not known to them most people are satisfied with the *bad*." Many good things of the past are forgotten, or gone out of use—wholesome bread in particular.

"POST-MORTEM" CHANGES.

MR. CHAS. L. ROTHERA (Coroner for Nottingham) writes: During the last month my attention has been drawn (when viewing bodies at inquests) to certain *post-mortem* degenerative changes which appear to have been of a quite unusual character and I think a description of them may be of interest to your readers. My mortuary attendant, my officer, and the medical man concerned in the last case all say they have seen nothing so remarkable before and certainly I have not during the fourteen or fifteen years I have been coroner. I may premise that all the cases in which the peculiarity has been observed (four within three weeks) were stout fleshy bodies in which death was due to heart weakness in comparatively young people with no special history of beeriness, and, moreover, the weather has not been particularly damp or hot. Within thirty-six hours after death the body, especially about the head and shoulders has gone very dark coloured, in one case black as a negro, in another a peculiar green-black and much mottled and marbled, and the whole body has blown up until the lips have become enlarged to the size of a full-blooded negro's, the tongue has been forced out of the mouth to its full length till it quite covered the chin, the eyelids have swelled like a blister, the penis swollen as thick as a forearm and the scrotum distended like a bladder, and in the case of a female the anus, vagina and labia forced outwards to bursting point. At a casual glance the bodies presented the appearance of having been in water for two or three weeks, but the swelling and distension were more marked than is common even in such cases. What can be the explanation?

MEDICAL DESCENDANTS OF THE FAMILY OF JEAN D'ARC.

DR. NORMAN LEYS (Medical Officer, Karonga, Nyassaland) writes: In the BRITISH MEDICAL JOURNAL of March 18th there is a short editorial on the subject of certain descendants of Joan of Arc's brothers who are doctors in France. If my own family tradition is correct there are others of the same ancestry who follow the same honourable pursuit in Britain. I write in the hope that through your kindness this tradition, of great interest to many in the family I belong to, may be brought to trial. The facts, so far as I know them, are as follows: The name Leys (which is my own) is fairly common in parts of Aberdeenshire, Inverness-shire, and Banffshire. The story goes that when the fortunes of Joan of Arc's family were low, in the end of the fourteenth century, a brother fled to Scotland, at that time an ally of France, and that my own people are his descendants. So far as I can learn, it is unlikely that all the Leys's are so descended. The supposition is that the spelling Lys was changed to a spelling more familiar, and already existing in the district. In this incredulous age such a tradition, which was simply oral, and was without known documentary evidence, seemed to me and others nothing more than an amiable expression of family pride. But a few years ago an aunt of mine by marriage was surprised to come across a dentist in Arcachon who claimed to be of the family of Joan of Arc, and noticing her name, asked if she was any relation of the Rev. Peter Leys. This gentleman, my grandfather, once a Presbyterian minister in Strathaven, Lanarkshire, was known to this French dentist as a member of a branch of his family long ago settled in Scotland. The Rev. Peter Leys's ancestors came from Aberdeenshire. My uncle wrote to this M. Lys of Arcachon, but got no answer. Whether the man is dead or not I know not. But perhaps you will be so kind as to put me in the way of learning if anything is known of a Scotch branch of the family by those apparently distinguished doctors of the name in France. The only other point I know is that in our family there is supposed to be a Peter in each generation.

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N.B.—It is against the rules of the Post Office to receive letters at *Poste Restante* addressed either in initials or numbers.

SEVENTY-THIRD ANNUAL MEETING
OF THE
British Medical Association.

Held at Leicester, July 24th, 25th, 26th, 27th, and 28th, 1905.

PROCEEDINGS OF SECTIONS.

SECTION OF OBSTETRICS AND GYNAECOLOGY.

HERBERT SPENCER, M.D., President.

A DISCUSSION ON THE DIAGNOSIS AND TREATMENT OF CANCER OF THE UTERUS.

I.—Professor Dr. WERTHEIM,
University of Vienna.

SINCE the autumn of 1898 I have, with a few exceptions to be mentioned later, operated on all cases of carcinoma affecting the cervix and portio vaginalis by the abdominal route in

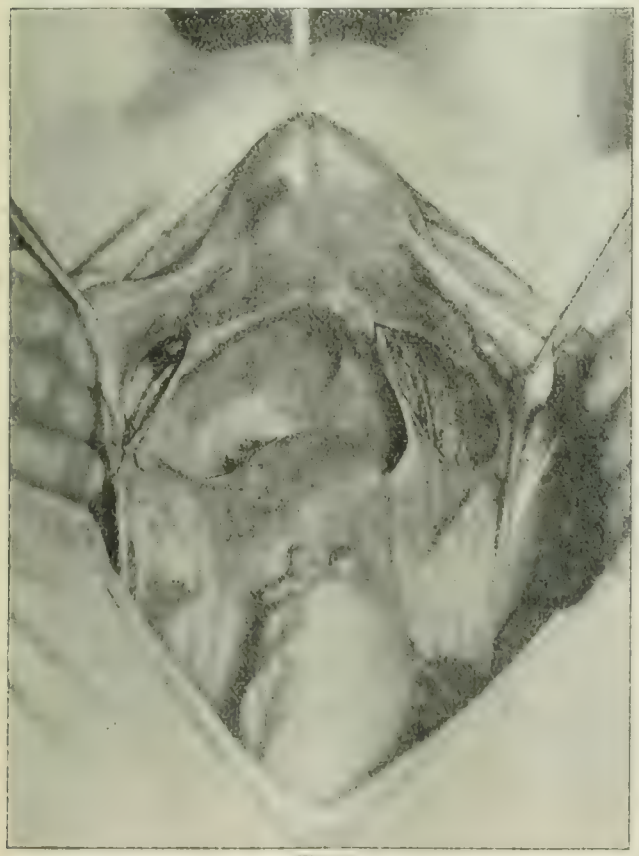


Fig. 1.

such a way that, by freeing the ureters and separating the bladder and rectum, I have removed the cancerous uterus, together with a great deal of the surrounding cellular tissue and lymphatic glands.

The following are the details of this operation: After a careful preliminary treatment of the cancer per vaginam by scraping it and burning with Paquelin's cautery, and after a minute disinfection, the patient is placed in Trendelenburg's position, and the abdominal cavity opened by a median longitudinal incision between the symphysis pubis and umbilicus.

1. By dividing the posterior layer of the broad ligament the ureters, which appear through the peritoneum, are exposed up to their entrance into the parametrium. It is necessary to avoid isolating them all round, and their surrounding vascular network must be spared as much as possible.

2. After dividing the peritoneum the bladder must be separated from the uterus.

3. Then follows the ligaturing and division of the infundibulo-pelvic, the broad and round ligaments. The order in which these first three steps follow each other may be varied.

4. The next step is the ligaturing and division of the uterine vessels with the surrounding cellular tissue. For this purpose the following manipulation serves: The index finger of one hand is pushed along the ureter through the parametrium towards the bladder until the tip of the finger appears there; the vessels are then raised on the finger which covers the ureter, so that the ligaturing and division of the vessels can take place without injury to the ureter. The bleeding of the uterine ends of the vessels is stopped by clamps or ligatures.

5. As soon as the uterine vessels are divided the vesical portion of the ureters has become easily accessible and the preparation of the ureters can be completed. In simpler cases the pars vesicalis separates without any difficulty, partly by using the blunt end of the finger, partly with a few strokes of the scissors, up to its ending in the bladder, and the bladder itself is separated in its deeper part from the tumour and from the vagina. If the ureter is fixed the advantage of the abdominal route is most apparent, as by careful preparation one can separate even firmly-fixed ureters

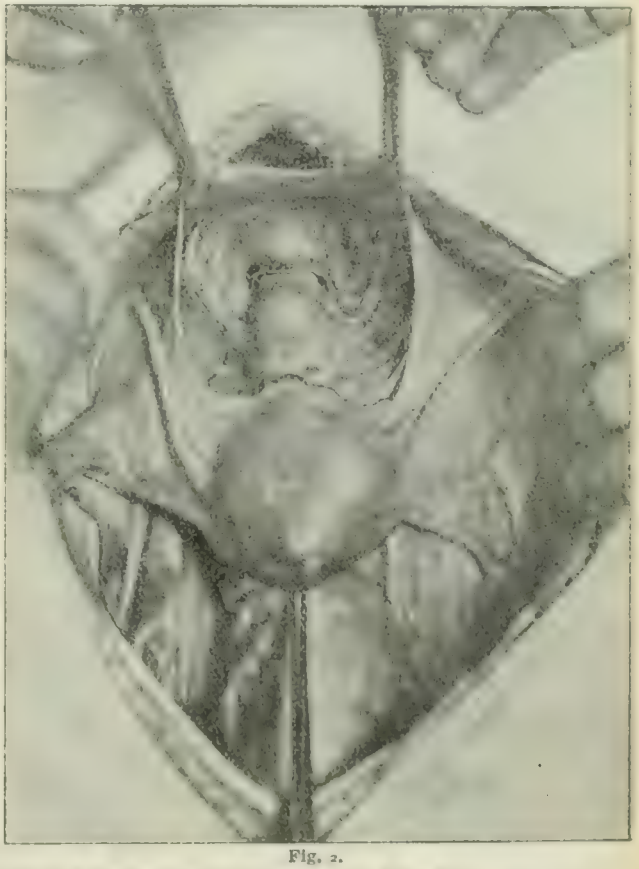


Fig. 2.

from the tumour without any danger to them.

6. Next follows the division of the posterior layer of the peritoneum and the separation of the rectum from the vagina. The isolation of the carcinomatous organ has now been sufficiently effected, and its removal follows.

7. For this purpose the two layers of the parametrium are taken off as close as possible to the pelvic wall, and

8. The vagina is cut across. The seventh step can be carried out without any loss of blood by applying to both layers of the parametrium before dividing them four or five bent clamps at each side, which can be replaced later by ligatures. Before the eighth step commences the vagina is cleansed out again by dry wiping with sterile gauze. To avoid infection from the cancer, strong clamps are applied to the vagina before its division, so as to isolate the cancer from the vagina, which is divided below these clamps. Bleeding from the para-

vaginal tissue is stopped by stitching round the vaginal stump. The division of the vagina, after the preceding application of such clamps, is preferable to the procedure at first adopted—namely, extracting the uterus through the vagina, having first loosened it all round—on account of the more effectual control of bleeding by the former method.

9. For the purpose of extirpating the lymphatic glands in the neighbourhood it is necessary to prolong the incision of the peritoneum upwards. The great iliac vessels are, as a rule, already bare; if not, a blunt division of the cellular tissue with the fingers suffices. Every lymphatic gland at all enlarged in the region of these vessels up to where the aorta divides and downwards as far as the obturator foramen must be extirpated. Careful checking of bleeding must be undertaken here also.

10. The wound must be treated as follows: The cavity created by the removal of the tumour is filled in loosely with iodoform gauze, which extends to the vulva. An exact closing of the peritoneal cavity over this gauze drainage is effected by the sewing up of the anterior and posterior flaps of the peritoneum. The final step is suture of the abdominal incision in layers.

The after-treatment is relatively simple. The strips of iodoform gauze are removed in from five to ten days successively. By obtaining primary union of the wound we allow the patients operated on to get up on the fifteenth day after

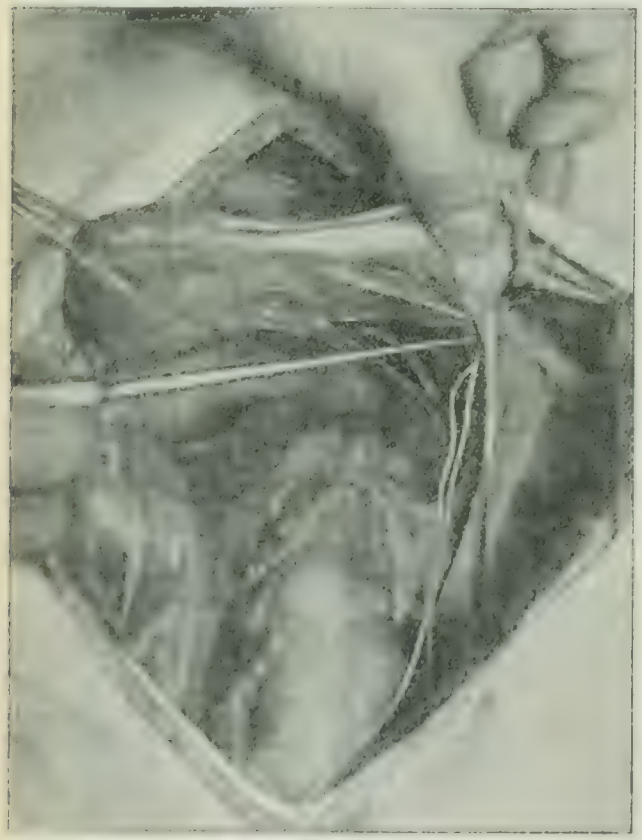


FIG. 3.

the operation. The greatest care has to be bestowed on the bladder, which is in most cases more or less paralysed, and must therefore be emptied by the catheter at regular intervals, besides methodical washing out with a 3 per cent. solution of boric acid or other suitable liquids. The bladder usually recovers its functions when the patient gets up.

In some cases, after the lapse of the first few days ureterovaginal fistulae develop through secondary necrosis of the ureter. Sometimes they close again of themselves after cauterization with iodine or copper sulphate; but in other cases nephrectomy must be performed later—a proceeding which we prefer in these cases to the reimplantation of the ureter into the bladder, because the fistulous ureter is embedded in the cicatrix. The nephrectomy was very well borne in the 3 cases in which it was necessary. The more, however, we mastered the technique the seldomer did necrosis of the ureter occur, and only once in the last 50 cases.

In this respect it is important, when freeing the ureters, to avoid as far as possible completely raising them and injuring the uretero-vaginal vascular network (see publications of Sampson at Howard Kelly's clinic).

According to the plan of operation and after-treatment laid before you, from the autumn of 1898 up to the present time 270 cases have been treated.

The duration of the operation was at first from two to two and a half hours; now, for easier cases, it is only one hour, in more difficult cases one hour and a quarter. For a long time we could not reduce the mortality below 15 to 18 per cent.; the cause of death was only rarely attributable to infection and peritonitis, and in only one case was it due to pyelitis, which supervened after necrosis of the ureter. The great majority of deaths were the so-called heart deaths. The end occurred within the first twenty-four to forty-eight hours from a kind of collapse, without a trace of infection or peritonitis. A thorough change in this respect first occurred when we set about administering the anaesthetic after the preliminary preparation for the operation (scraping and cauterizing of the cancer by Paquelin's cautery and disinfection). By this means we save half an hour of anaesthesia. Moreover, lately I have preferred to use Roth-Dräger's apparatus for oxygen



FIG. 4.

inhalation and the so-called Billroth's mixture for the anaesthetic.

Since we have in this way curtailed the duration of anaesthesia we have, in the last 30 cases, only lost 2.

I need only express in a few words the reasons which induced me to give up the operation of vaginal extirpation of the uterus, hitherto generally practised in cases of cancer of the womb.

I may be allowed to remark how extraordinarily sad have been the results of vaginal extirpation of the cancerous uterus until quite recently.

As far as Vienna is concerned, the statistics of Kunuer and Waldstein, taken from the clinics of Chrobak and Schauta in the years 1900 and 1901, show that out of 100 cases of uterine cancer for which medical aid was sought only 15 were submitted to operation, and that of those operated on scarcely

one-third remained in health—that is, the real efficacy was 5 per cent.

What especially saddened me in this was that so many victims of the disease were not submitted to operation, although amongst their number there were well-preserved and even strong individuals, to leave whom to their fate, without an effort to save them, required considerable resignation. But the local examination had shown that the cancerous growth had already spread greatly; that perhaps the vaginal vault, and even the vagina itself, were already attacked; that the cellular tissue round the uterus was infiltrated, and the uterus itself firmly fixed against the wall of the pelvis.

In such cases it had been an established doctrine to give up all hope, and not unnecessarily to endanger the sufferers by the operation of extirpation of the uterus, as, on the one hand, there was no prospect of a permanent cure; and, on the other hand, the danger of such an operation was considered too great, on account of the difficulty in controlling haemorrhage, and the possibility of wounding the ureter, bladder, or rectum. The desire to offer some hope of recovery to those women, who were, so to speak, shut out from life, was to me the instigating motive.

Of course, previous proposals and attempts had been made in different quarters to extirpate the cancerous uterus by the abdominal method, with the more or less pronounced intention of extending the indications for operation.



Fig. 44.

Of German authors, Veith (1891) may be specially mentioned here. Occasionally, also, such operations were undertaken when the ureters had been attacked by cancer, and the lymphatic glands in the neighbourhood were removed along with them.

W. A. Freund, the originator of the abdominal method of extirpation of the uterus, and his pupils have published on their part their experiences in this respect. I myself have, since the year 1894, occasionally operated on very difficult cases of cancer of the uterus by the abdominal route, and have also, in cases of necessity, carried out a resection of the ureter and bladder. Also Latzko (Vienna) is here to be mentioned.

The operator to whom the credit is due of having first carried out the systematic extirpation of the lymphatic glands of that region is Ries of Chicago. But all these proposals and attempts on the part of many operators fell short for the want of a definite and systematic plan. They only found effect in isolated cases as opportunity offered. In view of the enormous progress in the technique of abdominal operations, it seemed to us necessary to carry out these proposals on a larger and more definite scale. To this task I have devoted myself since 1898. After special and encouraging attempts on the cadaver, and after a thorough consideration of a suitable plan of operation, I set about to carry out my plan.

As I have before mentioned, my first thought was only to hold out a possibility of relief for those advanced cases in which the vaginal operation was considered contraindicated. I then extended my aspirations to all cases of carcinoma of the uterus, with the idea that the abdominal operation, being so much more radical, would also be able to effect more in all those cases in which, according to the views prevalent at the time, vaginal extirpation of the uterus could have been carried out.

As is evident from these explanations, extirpation of the lymphatic glands was by no means the exclusive nor even the principal object of my proceedings. On the contrary, I have from the very beginning attached more importance to the thorough removal of the cellular-tissue network round the uterus. I may say that, in my opinion, the treatment of the ureters described, and the possibility offered in the

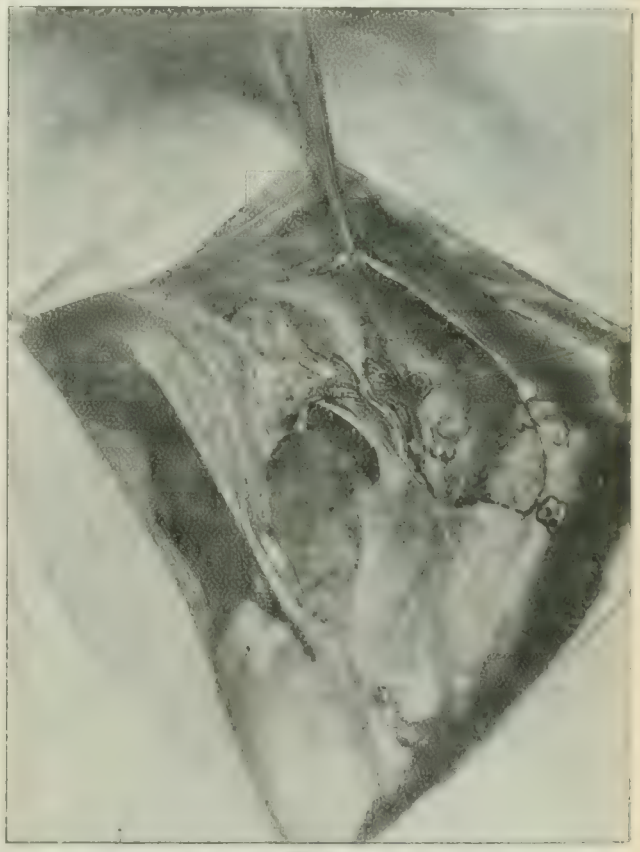


Fig. 45.

way of removing the parametrium together with the uterus, is the principal object, and that the resolve to methodically extirpate the regional lymph glands was an addition.

Gentlemen, the carrying out of my aspirations has been no easy task. I quite leave out of the question here the great physical exertion which the carrying out of this operation, especially in its earlier years, imposed on the operator and his assistants. I refer, above all, to the high mortality, which, as before mentioned, could not for a long time be reduced by any means, and the heavy responsibility which our actions and endeavours entailed was lightened only by the consciousness that we were dealing with women who were otherwise irretrievably doomed, and who hailed with joy any attempt, however dangerous, to afford them relief.

But we had the satisfaction of seeing, soon after the com-

mencement of our endeavours, and later on more and more, that our suppositions were correct.

The proportion of cases suitable for operation rose from 15 to 30 per cent., then to 50 per cent., and will probably rise higher in the future. Many women, who were everywhere else excluded from operation, were operated on by us and have completely recovered.

Already, after the first cases, we could also discern the technical superiority of our operation. In how exact and neat a manner could even large and massive infiltrating cancers, connected with the uterus, be detached! How safely, without causing any injury, could closely-attached ureters be separated from the cancerous uterus! Firmly-fixed bladders could be separated from the tumour without being opened, and, if this was impossible, they could be resected and repaired by careful suturing, and, in the same manner, resections of the ureters and the rectum could be done surgically.

A further extraordinary encouragement to persevere in our efforts resulted from the histological examination of the lymphatic glands and parametrium. Here, at last, the opportunity offered to receive enlightenment about the condition of the neighbouring tissues in the different stages of uterine cancer.

I might well dwell on the fact that the histological researches carried out by us have become the groundwork in this direction. Many thousands of sections in series were made and examined by us with the greatest care. In 28 per cent. of the cases the regional lymphatic glands were affected with cancer. The cancerous glands were always enlarged, and generally very considerably so; only in a few cases was the enlargement inconsiderable. In the elongated, spindle-like glands, which, so to speak, only represent a thickening of the lymphatic ducts, we never found carcinoma.

In a further 30 per cent. of the cases the glands were more or less considerably enlarged, but no carcinoma was found in them, only hyperplasia and infiltration. Places of predilection for the appearance of cancerous glands were the regions between the external iliac artery, the hypogastric artery, and the obturator foramen; as a rule, when these glands are removed the obturator nerve is exposed. In the great majority of cases, where diseased glands are found, it is a case of advanced cancer; in only a few of the cases were they present in the early stage.

All these facts have been corroborated later by other operators, who have associated themselves with us in our proceedings—Zweifel, Döderlein, von Rosthorn, Kleinhans, Krönig, etc.

As through these investigations the foundation was laid for the knowledge of the conditions of the glands in the region of the uterus, in the same way the histological examination of the parametrium showed that, in 22.5 per cent. of the cases, this tissue, though when investigated it was found to be soft and distensible, yet was cancerous; on the other hand, in about 14 per cent. of all cases, though there was considerable infiltration, yet no carcinoma could be found.

In answer to the question In what stage of the disease are the lymphatic glands affected by cancer? it appears from our investigations (vide Kundrat) that in 10 per cent. of the cases, notwithstanding the absence of cancer in the parametrium, the glands were cancerous; and vice versa in 27.5 per cent., though cancer existed in the parametrium, yet the glands were free from it. In 40 per cent. of the cases the parametrium and lymphatic glands were free from cancer, and in 20 per cent. both were affected. These investigations and their results were also corroborated by later authors (Kermauner, Laméris, Krömer, Baisch, Pankow, etc.).

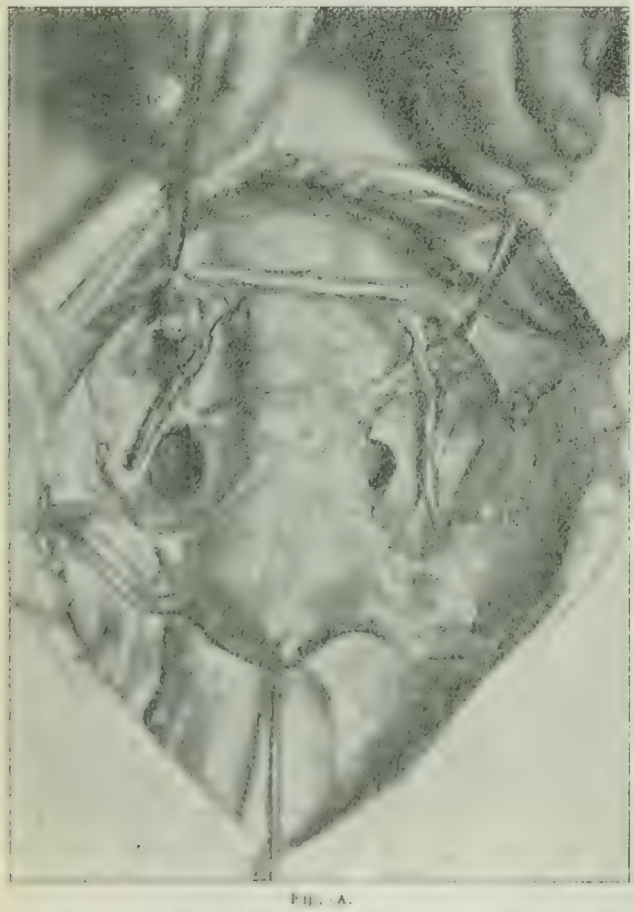


Fig. A.

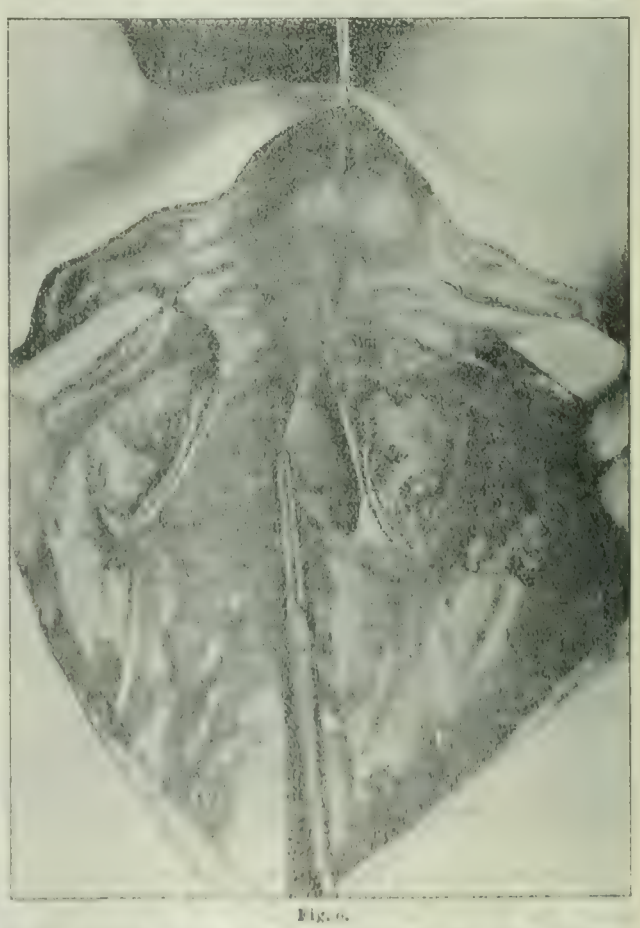


Fig. B.

The most important conclusion resulting from these investigations is that in only 40 per cent. of the cases can the usual vaginal extirpation of the uterus be considered a radical operation.

Gentlemen, you will agree that the result of our histological researches, as well as the enormous increase of cases suitable for operation and the undoubted technical superiority of our operative measures, were all well adapted to strengthen us in our belief that we were on the right road.

We could naturally only arrive at a definite and real decision by the determination of the after-results, which we

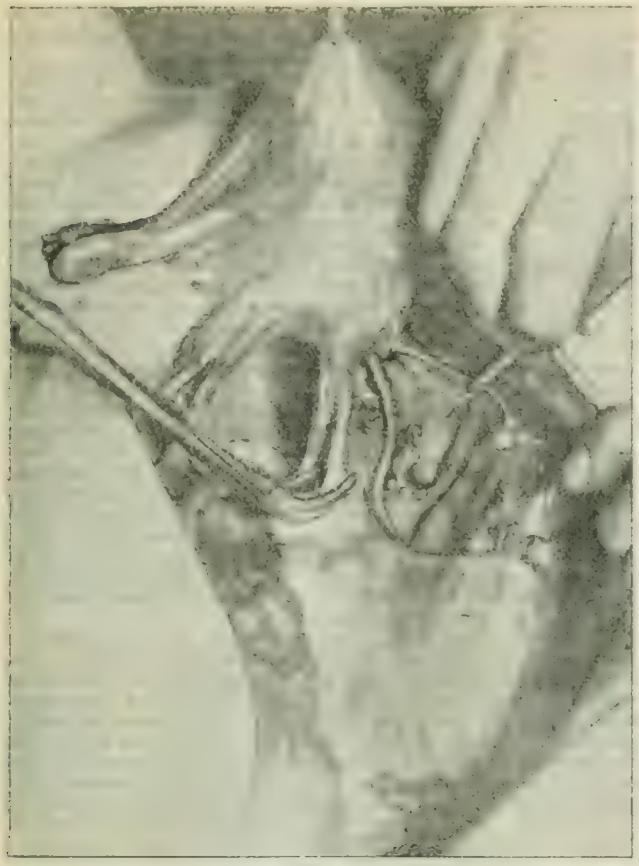


Fig. 7.

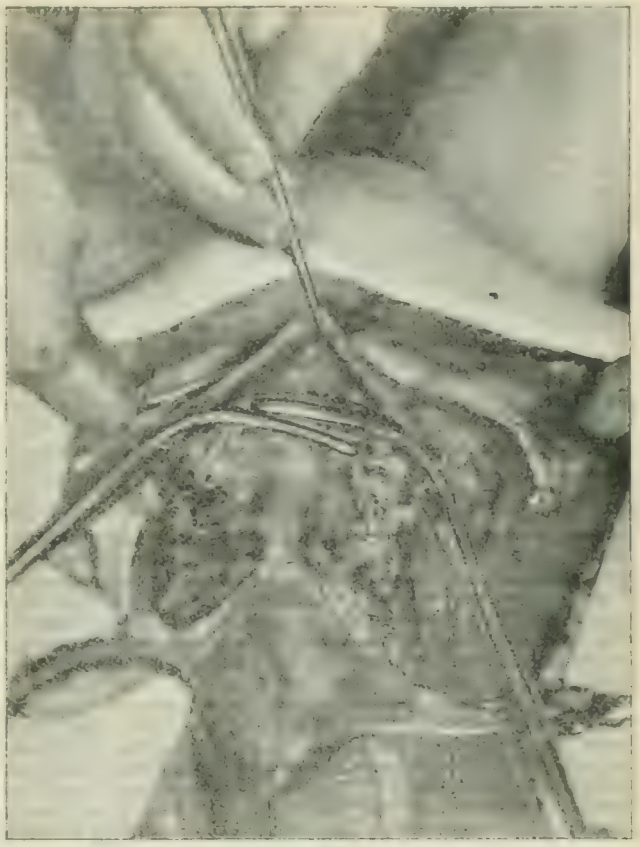


Fig. 8.

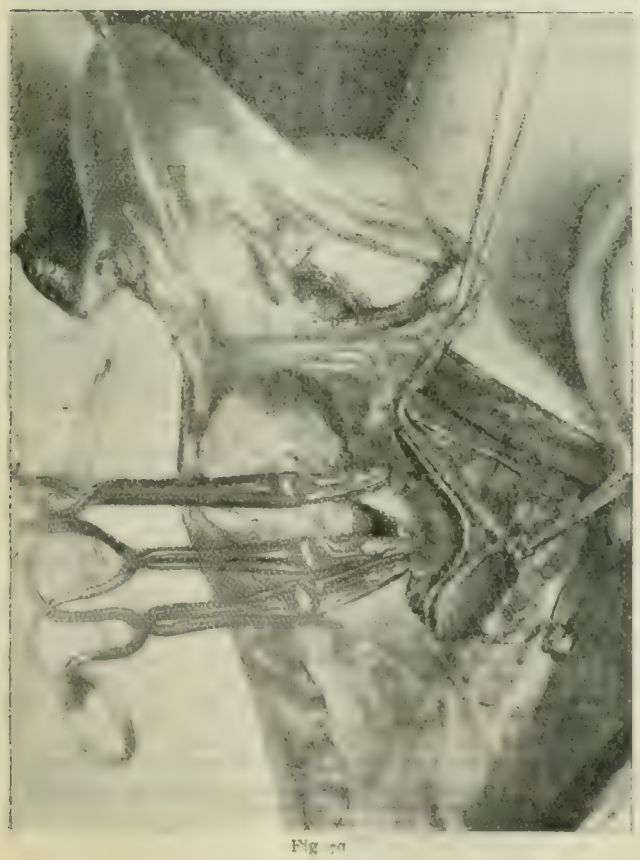


Fig. 9a.



Fig. 9.

waited for with anxiety and which we registered at regular intervals. Already in this respect, after two years, we had the certainty that, in spite of the severest objections and our own critical examination, the after-results were superior to those which had been achieved by the usual method of vaginal extirpation. Of the recurrences in scar and stump, otherwise so frequent, we saw nothing. Nearly all the relapses which came under our notice were in the lymphatic glands. And to-day, after six and a half years of continual activity, and having operated on over 270 cases, the superiority of our after-results has become a certainty.

Of cases operated on by our method, 60 to 70 per cent. remained free from recurrence, after four to five years' observation—a result hitherto attained by nobody else; and if one estimates the number of these cases according to the proposal of Winter—not from the number of those operated on, but from the number of patients seeking relief, an achievement of 20 to 30 per cent. results.

For the purpose of comparison, I have drawn up the following table, for the understanding of which I must premise that A (that is, the absolute result, according to Winter) is reckoned by the formula $\frac{O \times D}{100}$; but if one wishes to take into account the primary mortality, according to Waldstein, the formula is $\frac{O \times D \times (100-M)}{10,000}$. If a small figure is attached to the letter A it indicates the number of years after operation. Thus A_5 equals the absolute result five years after operation, O denotes the percentage operated on of those seeking relief, D the percentage of those operated on remaining free from recurrence, M the percentage of primary mortality, that is, that due to the operation itself, whether recent or remote. The statistics which I have used for comparison are the very latest produced from Germany and Austria.

As you can see from this table, the efficacy of the work which we have done is four or five times that done in Vienna up to the year 1895, and about three times that of Zweifel (Leipzig). We also claim a like superiority over the statistics of Pfannenstiel and Olshausen, if we take into account that they include cancer of the body of the uterus. How great a difference in after-results is produced by excluding cases of cancer of the body can readily be seen from Döderlein's figures; there A_5 = 19.6 per cent., but by deducting cases of cancer of the body, A_5 comes down to 10.4 per cent.

Wherein now does the superiority of our results lie? Is it in the removal of the regional lymphatic glands, or is it in the greater capability of our operation as regards removal of the diseased uterus?

No decisive opinion can yet be given as to the value of extirpation of glands, but in the majority of cases in which cancerous lymphatic glands have been removed there has been recurrence of the disease. Some of the cases, indeed, are free from recurrence after 3 to 3½ years, and I have had some tables prepared to demonstrate to you the circumstances. However that may be, it is certain that the superiority of the abdominal operation depends principally not on extirpation of glands, but on the complete removal of the cancerous uterus, that is to say, on the possibility of operating in severe cases and, at the same time, of removing more of the tissue of the parametrium.

It is these factors which are decisive for future proceedings, for do not believe that all cases which heretofore were considered inoperable, but on which I operated, would have relapsed; a large number of those women are perfectly healthy to-day after the lapse of three, four, and five years.

Scarcely any other reports exist up to this time on the extended abdominal operation; a great number of other operators have indeed joined us, but the time during which they have practised the method is still too short for them to report on their after-results: what results there are, however, are in perfect accord with mine.

Döderlein obtained A_2=42.3 per cent. (35.4), and at the meeting of the German Gynaecological Society held a few weeks ago Zweifel (Leipzig) expressed himself as extraordinarily satisfied with his results. It is incomprehensible to me how Jacobs,[1] out of 95 abdominal hysterectomies, saw no case without recurrence; doubtless he has not long operated in such a radical way, which is proved by the fact that he did not, on principle, expose the ureters. But equally unintelligible is it also that in his 81 cases treated by

[1] *Lancet*, May 6th, 1905.

COMPARATIVE STATISTICS OF OPERATIONS FOR CARCINOMA OF CERVIX UTERI AND PORTIO VAGINALIS (EXCLUDING CARCINOMA OF CORPUS UTERI).

To obtain the "real efficacy" per cent. after a number of years, denoted in the table by A, these results are calculated according to the formulae (1) of Winter $= \frac{O \times D}{100}$, (2) of Waldstein $= \frac{O \times D \times (100-M)}{10,000}$, the latter results being placed within brackets.

Wertheim. Report of the First 178 Cases.	Zweifel. Gluckauf, *Hegar's Beitr.*, 1902.	Chrobak Knauer, *Hegar's Beitr.*, 1901.	Schauta. Waldstein, *Arch. f. Gyn.*, 1901.	Pfannenstiel. *Monatsschr. f. Geb. u. Gyn.*, 1901, p. 615.	Olshausen. Deutscher Gyn. Kongr., 1903.	Döderlein, *Hegar's Beitr.*, 1904.		
						Carcinoma of Cervix and Body.	Cervix Carcinoma only.	Cervix Carcinoma only. Operation after Wertheim.
A = 29.4 (11)	A = 9.1 (8.5)	A = 4.9 (4.6)	A = 3.4 (3.1)		A = about 15 (14.1)	A = 19.6 (16.4)	A = 10.4 (8.7)	
O = 92	O = 25.7	O = 11.7	O = 14		O about 40	O = 48.3	O = 44	
D = 74	D = 38.4	D = 38.4	D = 25		D = 38	D = 40.6	D = 23.7	
M = 40	M = 6.6	M = 5.6	M = 10.1		M = 7.3	M = 10.4	M = 10.4	—
A_4 = 21.5 (13.4)	A_4 < 13.1 (8.9)	A_4 = 11.1 (5.9)	A_4 = 11.4 (6.6)	—		—	—	—
O = 58	O = 46.7							
D = 37	D = 34							
M = 11	M = 6.7							
A = 29 (15.2)	A_3 < 10.6 (5.1)	A = 6.5 (3.1)	A_3 = 6.6 (5.1)	A = 16.5 (10.3)	A_3 = 25 (21.1)	—	—	—
O = 41				O = 31.7	D = 62.2			
D = 41				D = 36.5				
M = 12				M = 5.1				
A = 17.6 (14.4)	A_2 < 11.6 (11.5)	A_2 = 7.4 (7)	A_2 = 8.6 (7.7)	—	A = 30 (25.4)	—	—	A = 42.2 (41.4)
O = 47.7					D = 74			O = 45.7
D = 37								D = 94.5
M = 22								M = 10.5
	The "less than" sign is used here because in A_1, A_2 and A_3 carcinoma of body not been included		Including cancer of body	Including cancer of body	Including cancer of body			

O denotes the number of cases that were operated on out of 100 seeking relief.
D denotes the number of cases that remained healthy out of 100 operated on.
M denotes the number of cases that succumbed to the operation and the effects only out of 100 operated on.
A_5 = the efficacy after 5 years.
A_4 = the efficacy after 4 years, etc.

vaginal hysterectomy recurrence took place in all. This is contrary to the experience of the most diverse operators, and can only be explained on the supposition that the carcinomata were, in his cases, specially malignant.

If the superiority of the results obtained nowadays by the abdominal method over those formerly obtained by vaginal extirpation of the uterus must be acknowledged, on the other hand we must not forget that, owing to the great progress made during the last ten years in the technique of the vaginal operations, there is at the present time also more work done by the latter method than was even the case formerly.

To-day, even in the vaginal operation, we expose the ureters as a preventive measure and push them out of the way, and, together with the uterus, we remove more of the parametrium tissue, especially if we have made sufficient room by extensive incisions after the method of Schuchardt.

Unfortunately, these aspirations, to which, in Vienna, Schauta has especially devoted himself, are of too recent a date for us yet to express an opinion on them; but this much, at any rate, can now be laid down:

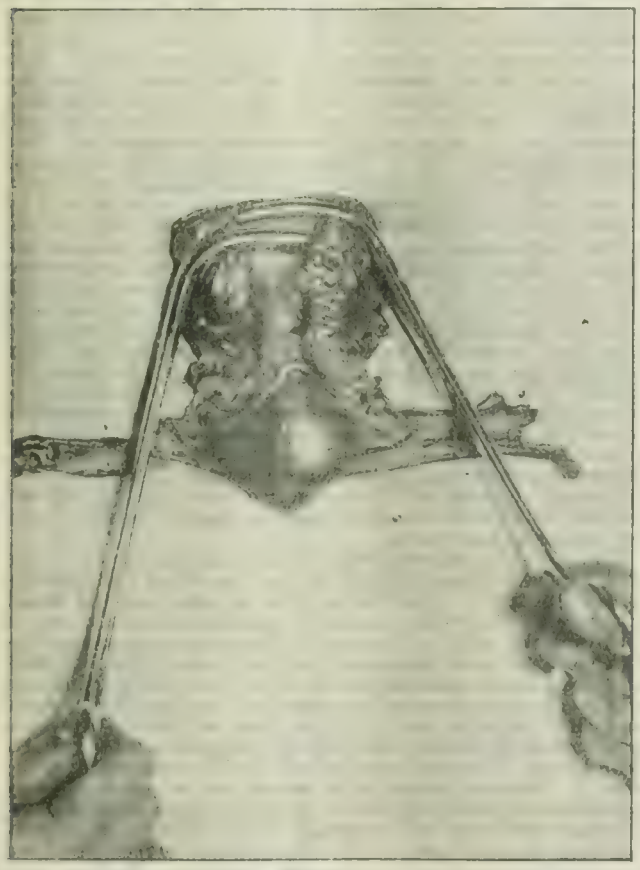


FIG. 6A.

1. That these extensive vaginal operations are more difficult than extensive abdominal ones.

2. That to-day there is no difference between the mortality of the two operations.

3. That, in spite of all skill and technique, the vaginal operation does not permit of so much of the parametrium being removed as does the abdominal.

4. That the vaginal operation by no means permits of the removal of the glands which lie on the iliac vessels.

Gentlemen, though we are happy in the conviction that our systematic measures have improved the after-results in cases of cancer of the uterus, yet we cannot conceal from ourselves that our task is by no means completed. We shall only obtain entirely satisfactory results when we have no longer (as has latterly been the case) to face the great majority of our patients in an advanced condition of the disease. We must endeavour to contrive that women who are afflicted with uterine cancer seek our aid as early as possible. For this purpose, it is necessary, on the one hand, that women should definitely understand that they ought to consult a doctor immediately on the earliest manifestations of the disease; and, on the other hand, doctors and midwives must be again and again reminded of their responsibility by pointing out to them the possibility of cure of cancer by operation if they are applied to in time. Winter of Königsberg has done much in this direction by his well-directed aims in addressing himself to the public as well as to the midwives in popular writings. His suggestions seem to have fallen on fertile soil in Austria and Germany, and everywhere others are following his example; but do not let us suppose that by this means the extensive operation can be made superfluous. There will always be cases when the simple operation of extirpation of the uterus will be insufficient. Many women cannot overcome their dread of operation, and, in spite of all admonitions, only realize the seriousness of the situation when it is almost, or indeed quite, too late. In other cases the cancer develops in such an insidious manner that the first symptoms appear relatively late. Only when the radical extent of the operation and its early achievement coincide shall we rest thoroughly content with our attainments.

We do not mean to say, however, that we advocate the performance of the extensive abdominal operation in all cases of uterine cancer on principle. We now exempt cancer of the body of the uterus from it, because it is much less malignant than the carcinoma of the cervix as regards its extension beyond the bounds of the uterus. Also for cases of cancer of the portio in the early stage, where it is necessary to use the microscope in order to make sure of the diagnosis, we are inclined to content ourselves with vaginal extirpation of the uterus, because in these cases also, with few exceptions, the cancer does not tend to attack the parametrium and the regional glands.

Perhaps we shall at a future time succeed in distinguishing at an early stage the less malignant forms of carcinoma from the more malignant ones, for the former of which vaginal extirpation might suffice. But since it has been possible to lower the mortality of the extensive radical operation as much as has been done of late years—both Krönig and Döderlein report also most excellent results, the latter having had no death amongst his last twenty-five patients—it is no longer so urgently necessary as it formerly was to differentiate between such cases. The greatest impediment to the general undertaking of the operation has, indeed, been removed by the lowering of the mortality, and it will become still more the imperative duty of operators to show themselves less averse to it than they have formerly been.

Gentlemen, I have already trespassed so much on your kind indulgence that I will only say a few words on the subject of improvement in diagnosis. On this subject there is really no essential difference of opinion. The necessity of the frequent use of the microscope in doubtful as well as in early cases of carcinoma of cervix and portio vaginalis is to-day generally recognized.

Errors, indeed, occasionally occur, and confusion arises between syphilis, tuberculosis, etc., in spite of every precaution and care.

It may sometimes happen that even the microscope fails, although in some particular point the carcinomatous nature of the tissue change may be clearly evident. This, however, must not prevent us recognizing that in the microscope we possess a particularly useful instrument for distinguishing early cases of the disease.

The microscope is, however, of still more value in diagnosing cases of carcinoma of the body of the uterus. Here we chiefly depend on an examination of the particles of tissue which we have removed from the uterine cavity, and even though their nature can, in most cases, be easily recognized, yet it is by means of the microscope that we can secure reliable information. To diagnose from the symptoms alone and, on that score, to undertake an operation is by no means permissible; for in old women there are still other conditions which have nothing to do with carcinoma of the body of the uterus and yet have quite similar symptoms.

II.—Howard A. Kelly, M.D.,

Professor of Gynaecology, Johns Hopkins Hospital, Baltimore, U.S.A.

That I have long been interested in this great question any one who will consult my *Operative Gynecology*, vol. ii, will see. There, following the initiative of my associate, Dr. J. G. Clark, I extended the field of the radical operation for cancer by ligating the arterial trunks high up, by removing all accessible glands and all the neighbouring tissues, with the cervix. This work was done at a time when the radical abdominal operation had as yet attracted no widespread

attention in Europe. More careful study showed that cancer of the cervix was not analogous to cancer of the breast, in that the glands were not, as a rule, involved. Dr. J. G. Sampson showed, too, with Wertheim, that what we had often considered to be metastases were, as the study of serial sections showed, plugs extending *per continuitatem* from the diseased cervix. It became, therefore, important to focus the attention upon the most widespread extirpation of the uterus, with the bases of the broad ligaments.

This operation, as I practise it in the Johns Hopkins Hospital, has been worked out by my assistant, Dr. Sampson, to whose numerous and invaluable papers I refer. Let me briefly touch upon the technique:

1. Clean up the cervix by a thorough curettage.

2. Until one has gained experience in locating the ureters, it is of service to catheterize them.

3. I prefer the median abdominal incision. We have used the Poten incision with great satisfaction, but I often set it aside as time-consuming.

4. The posterior peritoneum is opened at the infundibulo-pelvic ligament, and the peritoneum of the pelvic wall is drawn towards the median line. The ureter goes with this, and ought not to be detached from it (Sampson).

5. A little further dissection exposes the uterine artery at its origin, where it is to be tied.

6. The bladder is freed, and the vesical end of the ureter clearly exposed.

7. We have now to deal with the base of the broad ligament, which is the crux of the situation; the first step is to tie the one or two large veins crossing the ureter, and divide them.

8. The ureter is now bared from end to end in its pelvic portion, but at no point detached.

9. One now proceeds to free the ureter from the broad ligament and to lift it up to one side. This must be done with the utmost gentleness; avoiding pinching, squeezing, or pulling and sharp flexions, so as not to hurt the delicate ureteral vessels, thus avoiding a common cause of ureteral fistula.

10. Both broad ligaments thus freed, one then ligates and divides the tissues postero-lateral to the cervix (utero-sacral folds).

11. The posterior peritoneum is then divided and the uterus dissected free here and drawn further up.

12. The large veins under the ureter are now ligated at a distance from the uterus, and the vagina is thus approached well below the disease and

13. Clamped and divided with a cautery.

14. The ureters should now be covered in by drawing up the peritoneum over them and stitching it high up.

15. I use a vaginal drain in all these cases; I would only close the wound in the rarest cases.

The bad sequelae of this operation are: Shock from undue prolongation; loss of life in feeble patients unable to stand the strain; peritoneal sepsis, or sepsis of the abdominal wound; injuries to the ureters; vesico-vaginal fistula; pyelonephritis; and recurrences.

I wish to emphasize the importance of using long instruments in working deep down in the pelvis, and of packing off the wound by great thick gauze pads; I do not mean an ordinary, but a tremendous packing. The operation has its sad limitations; it requires great skill and experience, and many surgeons cannot have this experience, and many never acquire just the particular skill demanded, and this means a great loss of life, which offsets the good results in the hands of a few men.

Great hope, I am sorry to say although I have been an advocate of this operation from the first—does not lie in this direction, for it scarcely touches the great cancer question affecting all classes.

More hope, I think, lies in the direction of Winter's efforts in the dissemination of knowledge touching the early symptoms of cancer, so that women shall apply at once when they note an atypical bleeding or discharge, and the profession will give more prompt and earnest attention to these symptoms.

Let us, Mr. President, ladies and gentlemen, put forth some of the same earnestness which we are thus devoting to the working out of an improved operative technique, into the investigation of the cause of cancer. I more than suspect that this will be found to reside in the moral sphere, as has been proven in tuberculosis, typhoid fever, syphilis, gonorrhoea, etc. Take, for example, tuberculosis: proper food, cleanliness, good clothing, room, sunlight, ventilation and abundant water in dwellings, recreation for young and old, municipal hygiene, and right wages would, if all co-operated, purge our territory of this great white plague, would it not? Typhoid fever is a filth disease, due to the ingestion of human excrement, and is entirely within the control of the communities in which it abounds. A tyro in medicine can prescribe the method of getting rid of syphilis and gonorrhoea. I appeal to the profession at large if it is not worth while to realize more fully our responsibilities with regard to these great questions, and then see if incidentally (?) we did not light upon the cause of this great scourge.

III.—Cuthbert Lockyer, M.D., B.S., F.R.C.S., M.R.C.P., Senior Out-patient Physician, Samaritan Free Hospital for Women, London.

Since I began the operation of vaginal hysterectomy for cancer I have seen in my out-patient clinic 4,000 women for various pelvic diseases. Of these, 85 were suffering from cancer of the uterus, and of this number only 17 were found to be operable. Over 2 per cent. of my patients, therefore, have sought treatment for carcinoma uteri. Twenty per cent. of the cases seen were submitted to vaginal hysterectomy. This is a much higher percentage than that usually given by operators in this country, who run no risk of vitiating their statistics. I remove the uterus if I think that the patient will in any degree, however small, benefit by the operation. The result has been that in 3 cases I had to leave cancerous material behind in the parametrium, and the so-called "recurrence" was, in fact, a continuation of the growth; in 1 of these 3 cases the patient died nine months, in another eleven months after operation; of the third I can get no history. On the other hand, I have been agreeably surprised at the result of hysterectomy in a case which seemed hopeless, but which has remained free from recurrence for eighteen months; and the same remark applies to another case, which has remained free from recurrence for one year. I therefore feel very strongly that the patient should in all cases be given the benefit of a doubt and the uterus removed whenever the removal is possible. Even when hysterectomy fails as a radical operation, removal of the uterus diminishes the amount of sepsis and renders the patient's latter days more tolerable. Moreover, something can be done for recurrent cases by high-frequency currents and by the action of radium. I add full details, in tabular form, of 17 cases of vaginal hysterectomy for cancer of the uterus.

The operative technique which I employ is that which has for many years been in vogue at the Samaritan and Charing Cross Hospitals. Ligatures of silk are used for the broad ligaments. The vaginal vault is not closed at all, but is lightly packed with 10 per cent. iodoform gauze, and the ligatures on the lateral stumps are left sufficiently long for traction to be made upon them at the end of a fortnight. In cases where cancer has invaded the bases of the broad ligaments and the tissue is too friable to hold a ligature, I secure haemostasis by forceps, keeping up forcipressure for twenty-four hours. The peritoneal gauze drain is removed at the end of thirty-six hours, after which the vagina is lightly packed with gauze daily for the following three or four days. Primary mortality has been nil. Convalescence, as a rule, has been smooth, except for a slight rise of temperature for a few days immediately following the operation. To this, however, there was one notable exception in Case 10, where secondary haemorrhage from the right uterine artery occurred thirteen days after the operation, and after the temperature had been normal for a week, the bleeding was so excessive that the patient's life was endangered. The stump around the ligatures had become gangrenous, and it was in the separation of the ligatures and slough that the bleeding occurred. It came from the right side, and five months later recurrence took place in the same situation.

Of the 17 cases in which vaginal hysterectomy was performed thirteen were cases of cancer of the cervix; in the remaining four the cancer was in the body of the uterus. Of the 13 cervical cases two have been operated upon during the last year, and, for statistical purposes, will therefore be excluded, leaving eleven on which to base calculations as regards results. In three of these eleven cases the removal of the entire growth was impossible, and hysterectomy was performed as a palliative measure; in four others recurrence took place, and in the remaining four there has been no return of the disease. Taking the cases of recurrence I find, in Case 3, the disease reappeared one month after the operation, in Case 7 five

I.—*Table of Vaginal Hysterectomy for Cancer of Cervix.*

No.	Patients' Initials.	Age.	Date of Vaginal Hysterectomy.	Date of Recurrence.	Date of Death.	No Recurrence.	Nature of Growth and Remarks.
1	Mrs. F.	34	June, 1901	—	—	No recurrence	Squamous-celled epithelioma.
2	,, W.	39	October, 1901	Immediate continuation of growth	9 months after operation	—	Squamous-celled epithelioma.
3	,, H.	35	October, 1901	Within a month along lower edge of vaginal incision by implantation	5 months after operation	—	Squamous-celled epithelioma.
4	,, B.	60	May, 1903	March, 1904	August, 1904	—	Pyometra; squamous-celled epithelioma.
5	,, T.	42	June, 1903	—	—	No recurrence	Adeno-carcinoma of cervix.
6	,, S.	41	July, 1903	Immediate continuation of growth	No reply	—	Diffuse epithelioma.
7	,, E.	58	July, 1903	December, 1903	January, 1905	—	Epithelioma of vaginal fornix involving uterus secondarily.
8	,, G.	73	November, 1903	—	—	No recurrence	Squamous-celled epithelioma.
9	,, Wi	53	March, 1904	Immediate continuation of growth	August, 1904	—	Squamous-celled epithelioma.
10	,, Wa	35	May, 1904	January, 1905	Still living	—	Adeno-carcinoma of cervix.
11	,, R.	50	July, 1904	—	—	No recurrence	Squamous-celled epithelioma.
12	,, C.	52	September, 1904	—	—	No recurrence	Diffuse adenomatous growth in cervical canal very haemorrhagic.
13	,, P.	37	February, 1905	—	—	No recurrence	Squamous-celled epithelioma.
		Av. 46					

Nature of Growth.	Cases of Recurrence.
2 squamous epithelioma ...	Continuation of growth.
1 adeno-carcinoma ...	
Squamous epithelioma ...	within a month of operation.
Epithelioma of vagina ...	,, 5 months ,,
Adeno-carcinoma ...	,, 8 ,, ,,
Squamous epithelioma ...	,, 10 ,, ,,

Nature of Growth.	Cases of Non-recurrence.
Squamous epithelioma ...	free 4 years after operation.
Adeno-carcinoma ...	,, 2 ,, ,,
Squamous epithelioma ...	,, 1½ ,, ,,
Squamous epithelioma ...	,, 1 year ,, ,,
Diffuse adenoma ...	,, 10 months after ,,
Squamous epithelioma ...	,, 5 ,, ,, ,,

II.—*Carcinoma of Cervix Uteri in Relation to Fertility and Married Life.*

No.	Patient's Initials.	How Long Married.	Children	Miscarriage	Last Pregnancy.
1	Mrs. F.	12 years	2	2	3 years before operation.
2	,, W.	20 ,,	1	1	17 ,, ,, ,,
3	,, H.	20 ,,	3	3	12 ,, ,, ,,
4	,, B.	35 ,,	3	1	Widow 20 years.
5	,, T.	22 ,,	3	7	5 years before operation.
6	,, S.	21 ,,	7	0	2 ,, ,, ,,
7	,, E.	24 ,,	3	1	?
8	,, G.	? ,,	9	0	?
9	,, Wi.	33 ,,	10	2	10 ,, ,, ,,
10	,, Wa.	17 ,,	3	1	2 ,, ,, ,,
11	,, R.	26 ,,	8	4	16 ,, ,, ,,
12	,, C.	30 ,,	14	0	7 ,, ,, ,,
13	,, P.	18 ,,	6	0	7 ,, ,, ,,

Thirteen Cases of Cancer of the Cervix Uteri:

Age of Patients.	Date of Deaths from Recurrence.
5 under 40 years.	1 five months after operation.
2 ,, 50 ,,	2 nine months after operation.
6 ,, 60 ,,	1 ten months after operation.
2 ,, 70 ,,	1 seventeen months after operation.
1 ,, 80 ,,	

Recurrence after Hysterectomy:—Recurrence, 7; no recurrence, 6; = nearly 54 per cent. of recurrence.

Relation of Fertility to Cancer of Cervix:

No. of Cases.	No. of Pregnancies, including Miscarriage.	No. of Cases.	No. of Pregnancies, including Miscarriage.
1	2	1	8
3	4	1	9
1	5	2	12
2	6	1	14
1	7		

13 cases, 93 pregnancies = average of 7.

IV.—*Carcinoma of Body of Uterus in Relation to Fertility and Married Life.*

No.	Patients' Initials.	How Long Married.	Children.	Miscarriage.	Last Pregnancy.
1	Mrs. P.	21	1	1	20 years before operation.
2	,, M.	?	1	0	Widow 30 years.
3	,, S.	28	6	2	25 years before operation.
4	,, M.	8	1	0	24 ,, ,, ,,

No. of Cases.	No. of Pregnancies, including Miscarriages.
2	1
1	2
1	6
—	—
4	9

4 cases, 9 children = average 2¼.

Age of Patients with Cancer of Body of Uterus:
1 aged 61 years. 1 aged 57 years.
1 ,, 59 ,, 1 ,, 46 ,, } Average = 55.

Relation of Fertility to Cancer of the Body of the Uterus:

No. of Cases.	No. of Pregnancies, including Miscarriages.
2	1
1	2
1	6
—	—
4	9

4 cases, 9 children = average 2.25.

III.—*Table of Hysterectomy for Cancer of the Body of the Uterus.*

No.	Patients' Initials.	Age.	Date of Vaginal Hysterectomy.	Date of Recurrence.	No Recurrence.	Remarks and Nature of Growth.
1	Mrs. P.	57	November, 1902	—	No recurrence	Adenoma malignum.
2	,, M.	61	March, 1904	September, 1904	—	Adenoma malignum. Recurrence in floor of urethra, growth showing metaplasia of gland epithelium into horny squamous pearls.
3	,, S.	59	May, 1904	—	No recurrence	Adenoma malignum.
4	,, M.	46	March, 1905	—	No recurrence	Adenoma malignum.

Cases of Non-recurrence.—1 free 2½ years after operation; 1 free 14 months after operation; 1 free 4 months after operation.

months, in Case 10 eight months, and in Case 4 ten months after operation. All cases of recurrence, therefore, have occurred within the first year after operation. Of those cases which are still free of the disease, Case 1 has been free for over four years, Case 5 for two years, Case 8 for one year and eight months, Case 11 for one year after operation. With regard to these cases I reaped a good deal of encouragement to persevere with apparently hopeless conditions. Only Case 1 could be considered to be in an "early stage; Cases 8 and 11 were particularly surprising to me by the favourable results obtained. In Case 8 the patient was aged 73 and the mother of nine children. The entire cervix was a solid mass of cancer, the canal was obliterated, and the cavum uteri distended with a glairy non-purulent discharge.

The extent of the disease and the uncertainty of complete removal made me regard the operation as a purely palliative measure at the time it was carried out—that is, in November, 1903—but there is as yet no sign of a recurrence, and the patient's health at the present time is good.

With reference to the type of growth: In the four recurrent cases three were squamous-celled epitheliomata of the portio, and one an adeno-carcinoma. In the four non-recurrent cases three were squamous-celled epitheliomata, and one an adeno-carcinoma. In my series, therefore, the malignancy in the two types of growth is equal.

With regard to age and fertility as etiological factors, the average age of the patients in my series of cancer of the cervix is 46 years. Five patients were under 40, two under 50, six under 60, two under 70, one under 80 years. The youngest patient was aged 34, and the eldest 73 years. The average number of pregnancies was seven.

Vaginal hysterectomy was performed four times for cancer of the corpus uteri. There has been one recurrence. The non-recurrent cases have been free from a return of the growth for two and a half years, fourteen months, and less than one year respectively. The case of recurrence I am inclined to regard as of the nature of a metastatic growth present before hysterectomy, and which I had failed to recognize. It was localized to the floor of the urethra, and the patient was sent to me for urethral growth. This I failed to find, but discovering the cancer of the body of the uterus I performed hysterectomy in March, 1904. In September, 1904, I found a large growth in the floor of the urethra, spreading towards the base of the bladder.

All four cases were examples of adenoma malignum, the recurrent case shows beautifully the metaplasia of gland-epithelium into horny squamous pearls.

The average number of children borne by women suffering from cancer of the body was two. The average age of the patients 55 years. This series of cases of vaginal hysterectomy for cancer of the uterus has taught me that implantation of cancer cells by sharp-cutting instruments is a fact to be dreaded. In Case 3 recurrence took place along the lower edge of the vaginal incision after removal of 2 sq. in. of the posterior vaginal wall.

I now burn away all the redundant growth by the actual cautery before beginning hysterectomy, and being fully convinced that cancer cells succumb to heat more readily than to any other influence I intend to use the galvano-cautery knife instead of scissors and ordinary scalpel. I believe that vaginal hysterectomy will always have a legitimate place in surgery, but only in early cases can it do permanent good. The future surgical treatment of carcinoma uteri will consist of a compromise between vaginal hysterectomy for early cases and the abdominal and combined method for cases which are more advanced.

IV.—SIDNEY KEITH, M.B., C.M., F.R.C.S.Edin.,

Surgeon for Out-patients, Samaritan Free Hospital, etc.

MR. SIDNEY KEITH regretted that he had not been able to be present at the commencement of the meeting. When he accepted the invitation to attend it he had had some hope that he might be able to bring forward some information about a somewhat extensive experiment he had been carrying out with his brother for over two years, but, unfortunately, results gained with cases of cancer of the uterus had not been very satisfactory. But, as he had had disappointments for eighteen years, he expected he would be disappointed again. He strongly advised the abdominal route in most cases, and he thought that with a complete view of the field the operation was not, as a rule, very difficult, and that a free view was more important than anything else.

V.—MRS. MARY SCHARLIEB, M.D., M.S.,

Senior Physician for Diseases of Women, Royal Free Hospital.

I WISH to record my gratitude to Professor Wertheim and Professor Kelly for the help and teaching we have received from them to-day. Abdominal hysterectomy for cancer of the uterus has been little recognized by British gynaecologists up to now, and last year, in the discussion at Oxford on Dr. Olshausen's paper, only Dr. Ross and I demurred to his preference for the vaginal route and advocated the advantages of the abdominal operation.

I have removed the uterus by abdominal section 17 times for malignant disease:

Papilloma	1
Squamous-cell epithelioma cervicis uteri	1
Adeno-carcinoma	7
Sarcoma corporis uteri	4
Endothelioma corporis uteri	1
Endothelioma cervicis uteri	1
Uncertain	2
Total	17

The ultimate result in these 17 cases was as follows:

There were free from recurrence:	
After 4 years	1
,, 3 ,,	2
,, 2 ,,	1
Recurrence observed:	
After 15 months	1
,, 12 ,,	1
,, 10 ,,	1
,, 12 ,, (from cerebral disease)	1
Not heard of	8
Died day of operation	1
Total	17

One of these cases was of especial interest, as it was that of a woman six months pregnant on whom Porro's operation was performed, as delivery *per vias naturales* was impossible owing to malignant disease of the vaginal portion of the cervix. The date of this operation was June 16th, 1903, and up to July, 1905, the patient is free of all sign of recurrence.

VI. JOHN CAMPBELL, M.D., M.Ch., M.A.O., R.U.I., F.R.C.S.Eng.,

Senior Surgeon, Samaritan Hospital for Women, Belfast.

THE admirable paper which has been put before us by Professor Wertheim has aroused two opposite emotions in my mind. I now regard the future of operation for cancer of the cervix with more hope than I did on entering the room. Some years ago, when vaginal hysterectomy was warmly advocated, I took it up with great enthusiasm, and performed a considerable number of operations. In doing so I came to classify roughly cancer of the cervix clinically under two heads as regards prognosis: (1) In those cases in which the disease appears to have arisen in or near the vaginal aspect of the cervix, and in which it spreads along the vaginal aspect towards the fornices, the outlook is bad, no matter how thoroughly vaginal removal is done. Possibly the more extensive operation practised and recommended by Professor Wertheim may yield better results, because it enables a large portion of the upper end of the vagina to be removed. My own results by the vaginal route have been so bad that I have come to doubt whether in well-marked cancer of the vaginal portion it is worth while to put the patient through the danger and anxiety of complete vaginal hysterectomy. None of the cases which I have been able to trace have lived more than eighteen months after operation. I admit that most of my cases have only come under my care when the disease was advanced, and I hope that by the adoption of Professor Wertheim's operation I may be able to attain much better results in the future. (2) In those cases in which the disease is situated high in the cervical canal the vaginal method yields me a greater measure of success. But even here I am not satisfied with the results. Out of fifty such cases operated on by me by vaginal hysterectomy not one has lived longer than three years. Unless I find that by Professor Wertheim's methods my results are greatly improved, both in cases affecting the vaginal aspect of the cervix and in those involving the cervical canal, I shall be compelled to regard the less extensive operations, such as high removal of the cervix, as yielding as good results with less risk than the more dangerous and extensive operations. Professor Wertheim

has given me great hope by his splendid results. The second feeling which Professor Wertheim's paper has aroused in me has been one of disappointment. As I have to deal almost exclusively with cases which are pretty far advanced, I was in hopes that his operation would have enabled me to attack cases which were inoperable by the older method. However, his results are so admirable that they mark one of the greatest advances that has ever been made in the treatment of cancer of the uterus.

VII.—L. B. Aldrich-Blake, M.S.,

Surgeon, New Hospital for Women, London.

I had proposed to read a paper before this Section on the sixteen cases which comprised my personal experience of abdominal hysterectomy for cancer of the cervix up to the end of May of this year. It was, however, thought better by those responsible for the conduct of the meeting that my contribution should be taken as part of this discussion, an arrangement to which I willingly acceded.

In order to take up as little as possible of your valuable time, I have put the most essential points concerning these sixteen cases in the accompanying table, and I propose only to point out the main features of the operation as I have performed it, to mention any special complications in connexion with the actual cases, and to summarize the results.

I am well aware that the number of cases is too small, and most of them are too recent for any reliable deductions as to the prospect of cure when compared with the same disease removed by vaginal hysterectomy.

After vaginal hysterectomy, so far as I have seen or read, the majority of recurrences take place either in the vaginal scar or in its immediate neighbourhood, and strange as it may seem to some, it certainly appears to me much more easy to get a wide removal of vagina when operating from above than from below, and I think there can be no question as to the possibility of freer removal of cellular tissue about the cervix by the abdominal route. The fourteen specimens (two of the series have unfortunately been lost) which are shown in the Pathological Museum I think support this statement.

Another point is the removal of glands. I have not systematically removed glands from the iliac vessels. I have done so in one case, in which they were palpably enlarged, without any particular difficulty, but it adds to the length of an operation, which, in any case, I have found to take a good deal of time, and I have not yet satisfied myself of the value of the proceeding on practical grounds. The very considerable number of cases remaining well over a large number of years after vaginal hysterectomy (such as those recorded by Dr. Lewers) shows that glandular affection is not an early accompaniment of cervical cancer. The removal of iliac glands is therefore a question on which my mind is open. In Case 2 of this series I certainly think the recurrence took place in the iliac glands on the right side, for it was in this position that I could feel a hard fixed mass when I examined her a year and nine months after the operation. If I find, as time goes on, that any considerable proportion of cases recur there, while remaining free elsewhere, I shall not hesitate to add removal of these glands to the operation as I now perform it. But, quite apart from the glands on the main iliac vessels, I find in these operations very constantly one, or occasionally two, glands in the cellular tissue of the broad ligaments on each side. They are situated along the course of the uterine artery, usually just above, or above and outside, the line of the ureter. In ten cases I have removed visible glands from one or both sides in this situation, and in three of those cases microscopical examination has shown them to contain malignant growth growth which by the vaginal method would, I think, undoubtedly have been left behind.

If the relative value of the abdominal *versus* the vaginal route be capable of solution by statistics, it is obviously unfair to compare abdominal hysterectomy for more advanced cases with vaginal hysterectomy for only more circumscribed and earlier cases.

It is because I have used the abdominal route in all the operable cases I have had in the last three years that, although the number is small, I thought a short report of them might have some value.

In deciding as to operability, I have not considered a certain amount of palpable involvement of the vagina any bar to the operation, especially if the spread were posterior. Loss of mobility of the uterus I have judged in each case on its merits. Where the fixity was combined with rigidity and infiltration of the fornices, I have not operated: where, on the contrary, the fornices felt elastic, I have several times found the fixation of the uterus quite accounted for by old intraperitoneal inflammatory adhesions, which make operations more difficult but by no means impossible.

With regard to the actual mode of operation, I have only in one case scraped away the growth per vaginam immediately before the hysterectomy. In all the others I have merely had the vagina repeatedly douched, and then lightly packed with iodoform gauze before the operation. This pack absorbs blood or discharge which would collect in the upper part of the vagina during the early part of the operation; it is drawn out from below directly the vagina is incised from above.

I do not mean at all that preliminary scraping may not be advantageous, but, to my mind, in the majority of cases the prolongation of the operation outweighs the value of the practice.

It appears to me that in operating there are two ways of dealing with an infected area. First, to reliably disinfect it, which in the case of cervical cancer I believe to be impossible; the second, to make the area as clean as you can, and then regard it as dirty, which is the line I take here.

Any instrument, sponge-holder, etc., which enters the vagina is set aside until it has been boiled, and if I am obliged to touch the cervix, I at once cleanse my fingers in perchloride of mercury solution. That the risk of infection is not unduly great (this method is combined with adequate gauze coverings to every part except that being actually operated on) is evidenced by the fact that so far I have seen no subsequent peritonitis, and that in 15 out of the 16 cases the abdominal wound healed throughout by first intention. In 2 there was some suppuration affecting the fatty layer only, the muscular stitches not requiring removal.

For these results I am duly grateful to my most able assistants, sisters, and nurses.

For the operation a good Trendelenburg position is essential. I have followed more or less closely the plan of operating recommended by Dr. H. Kelly. Quite the most difficult and tedious, but I believe valuable, part of the operation consists in securing the veins in the base of the broad ligament outside the line of the ureters and dissecting them inwards, together with all surrounding cellular tissue above and beneath the ureter. This is the direction of the chief lymphatic vessels from the cervix, and if the disease has gone at all beyond the uterus these are the tissues in which it would probably be found.

The bladder in front being separated from the vagina as low as is thought necessary, the vagina is opened here with a knife. The wound is held open with volsella, while the original vaginal pack is withdrawn by a nurse and a wide strip of folded gauze is passed into the vagina from above, and a considerable length drawn through so as to sweep out the vagina.

The rest of the circumference of the vagina is now divided with the knife or curved scissors, and the uterus, etc., removed, together with a good cuff of vagina.

The gauze is again drawn upon, and a small amount is packed into the raw cellular space above the cut vagina, which is left widely open.

The peritoneum of the pelvis is united from side to side by a continuous fine silk suture, the pelvis washed out with sterilized saline solution, and the abdomen closed in three layers.

Urine by catheter eight-hourly for forty-eight hours, when the vaginal pack is withdrawn. After that the patients are allowed to pass it naturally if they can. But if much vagina has been removed it is often four or five days before natural micturition is resumed.

With regard to the actual cases: all were married women or widows: one had had no child: nine had had less than six children: six had had six or more children.

Age.—Two were under 35, that is, 32 and 34 years; one was between 35 and 40: three were between 40 and 45; one was between 45 and 50; six were between 50 and 55; two were between 55 and 60; one was over 60, this was the patient who had had no children.

Nature of Growth.—Twelve cases were epithelioma: three cases were adeno-carcinoma; one a lymphatic endothelioma. In three cases the glands removed from the base of the broad ligaments show definite malignant growth; these cases are all epitheliomata. In seven other cases the glands removed

Tabular Notes of Sixteen Consecutive Abdominal Hysterectomies for Cancer of the Cervix all followed by Recovery.

No.	Age	State.	Symptoms complained of.	Local Condition.	Date of Operation.	Complications.	Healing of Abdominal Wound.	Date of Discharge.	Pathological Findings.	Date and Condition when last seen.
1	Mrs L., aged [illegible]	M. [illegible] years Ch. 6 Misc. 5	Creamy vaginal discharge pain in sacral region, loss of flesh	Hard raised growth surrounding os. Limited	May 27, 1902	None	1st intention	June 17, 1902	Epithelioma of cervix; growth extends outwards on portio vaginalis ¾ in. from external os, and 1 in. up canal	May, 1905; reported by Miss Macdonald, M.B., to be "quite well" locally and in better health than for years.
2	Mrs T., aged [illegible]	M. [illegible] years Ch. [illegible] Misc. 0	Offensive blood stained discharge for 2 months, backache loss of flesh	Massive hard growth from right of cervix slight thickening in right utero-sacral and broad ligts. Extensive	June 13, 1902	None	1st intention	July 5, 1902	Epithelioma of cervix; growth consists of a rounded mass 2½ in. in diameter from right half of cervix	Gained flesh and strength, and was free from sign of disease when seen 16 months after operation; last seen March, 1904, recurrence high in right of pelvis fixed to bone; died July 9, 1904.
3	Mrs B., aged [illegible]	M. [illegible] years Ch. [illegible] Misc. [illegible]	Blood-stained discharge for 6 weeks offensive	Growth size of small cherry projecting from os; interior of cervix hard and nodular Limited	July 15, 1902	None	1st intention	Aug 2, 1902	Epithelioma of cervix; cervical canal invaded by a small triangular area of well-defined hard growth, rather more extensive on right than left side. (Cherry like growth had been previously removed)	Heard of July, 1905, as "quite well."
4	Mrs L., aged [illegible]	Wid Ch. 5 Misc. [illegible]	Blood-stained discharge for a year bloodings for a month, no pain, menopause 7 years ago	Bulky, hard, nodular cervix, bleeding freely per rectum growth felt up to or beyond internal os, anterior lip of cervix excavated. Extensive	Nov 28, 1902	Retention of urine for 10 days	1st intention	Dec. 20, 1902	Squamous epithelioma; remarkable for very large cells with deeply-staining nuclei; cervix much enlarged, entirely occupied by growth, spreading ½ in. above internal os	Seen June 1st, 1905; weight before operation 7 st. 9 lb., now 8 st. 11 lb.; looks and feels well; vaginal scar freely movable, no sign of recurrence.
5	Mrs W., aged [illegible]	M. [illegible] years Ch. 7	Offensive yellow and bloody discharge 2 months; losing flesh 6 months	Hard, nodular, friable cervix; growth surrounds os and extends just on to vagina posteriorly. Fairly limited	Mar 10, 1903	None	1st intention	March 30, 1903	Adeno carcinoma; cervix nodular and ulcerated; the growth extends up to the internal os, and below just on to the vagina posteriorly	Seen June 15th, 1905; suffers from "flushings," otherwise well; no symptom nor sign of recurrence.
6	Mrs M., aged [illegible]	M. [illegible] years Ch. [illegible]	Profuse discharge, frequently blood stained for 6 months, losing flesh and strength	Hard, nodular growth of post. lip, bleeding on touch; uterus retroverted and adherent Limited	April 21, 1903	None	1st intention	May 11, 1903	Squamous epithelioma; growth size of walnut on post. lip reaching back to vaginal reflexion posteriorly and on the left; up the canal growth did not reach internal os	Seen December, 1903; vaginal scar thin and pliable, no sign of recurrence (used to live at Whetstone, address now unknown).
7	Mrs B., aged [illegible]	M. Ch. 12 Misc. [illegible]	Irregular bleeding and offensive discharge for 3 months; "regular" until losses began; dull pain in back and down right thigh several months	Large, hard, nodular cervix; growth encroaches slightly on right anterior quadrant of vagina; canal excavated. Per rectum bulky growth is judged to reach beyond internal os. Extensive	Oct. 11, 1903	Inflamed vermiform appendix adherent to ovary removed; growth through to bladder, so a piece excised and wound sutured; vesico-vaginal fistula followed on 4th day	Some suppuration in fatty layer at lower end of wound; healed by granulation	Feb 6, 1904. Urine leaks slightly per vaginam, but 7 oz. at a time are passed naturally	Epithelioma of cervix; glands from both broad ligaments also show growth; cervical canal infiltrated with growth extending ½ inch into body; considerable excavation	Heard of in July, 1905, as being alive and "wonderfully better."
8	Mrs. B., aged 32	M. 15 years Ch. 1 premat.	Profuse discharge often blood-stained for 4 months; discharge offensive 1 month; aching and bearing down in left side for same time	Hard, nodular, "mushroom" growth occupying posterior lip, extending back to vaginal reflexion; bleeds freely on touch; anterior lip healthy. Limited	Jan. 1, 1904	Tubes dilated and adherent. Left one-horned uterus	Some suppuration in fatty layer on 6th day; skin and subcutaneous parts healed by granulation	Feb. 13, 1904	Epithelioma atypical. Strands and masses of irregularly-shaped cells, in places the growth resembling a sarcoma. Hard mushroom-like growth from posterior lip, attached by a short, very wide stalk	Seen June 15, 1905; no sign of recurrence; still anaemic
9	Mrs. M., aged [illegible]	M. 36 years Ch. 5 Misc. 0	Polypus removed at Chelsea 3 years ago, occasional floodings for 3 years; losses very severe and frequent for last 5 months; regular up to commencement of these losses; aching pains several months; no loss of flesh	Cervical canal excavated, walls ragged and very friable; profuse bleeding on examination; vaginal surface of cervix apparently healthy; slight thickening of right fornix. Extensive	April 29, 1904	Enlarged glands felt and removed from iliac vessels on each side	1st intention	May 31, 1904	Adeno-carcinoma of cervix and lower part of body of uterus; abscess containing a drachm of pus in anterior wall of uterus; iliac and broad ligament glands showed only inflammatory changes	Seen July, 1905; no sign of recurrence; well in self.

10	Mrs. W., aged 58	M. Ch. 9 Misc. 3	Bleeding off and on for 2 years; menopause at 42	Cervix lacerated; vaginal aspect covered with red slightly raised patches which bleed readily and are hard and friable. similar patches on upper part of anterior vaginal wall; "wet silk sensation" marked; fornices free. Extensive but not advanced	May 13, 1904	2 in. of vagina removed with uterus on account of extent of disease; troubled by several ounces of residual urine after operation	1st intention	June 4, 1904	Epithelioma of cervix. extending 1 in. up canal; 2 in. of the vagina removed with uterus	June, 1905, no sign of recurrence; urine normal, still some residual urine found, but it gives rise to no symptoms.
11	Mrs. S., aged 47	M. 15 years Ch. 1 Misc. 2	4 months' continuous haemorrhage; for last 2 weeks floodings so profuse that patient has fainted. constant pelvic pain for 4 months, worse at night	Cervix excavated so completely that the position of its junction with vagina posteriorly can only be inferred from level of cervix in front. walls of cavity rugged and breaking down bleeding very free uterus not freely movable. Very extensive (Although growth was far beyond uterus posteriorly it did not appear to implicate region of ureters, and as patient was very anxious for any chance operation was undertaken)	Feb. 10, 1905	Growth curetted away as far as possible, immediately before the hysterectomy. Week after operation cellulitis began about rectum and went on for 10 weeks	1st intention	May 11, 1905	Epithelioma of cervix and vagina: growth infiltrates whole thickness of cervix; proximal ends of utero-sacral ligts. cancerous; distal portions show no growth; much necrosis and considerable inflammation throughout growth	Came up on May 21; looks thin and ill but says she feels better; much thickening felt per rectum. watery offensive discharge p. vag., the top of vagina has not quite closed. Probably recurrence in pelvis as well as inflammatory thickening. June, 1905; husband came up to say patient had an attack of pain in pelvis on June 4, and died quietly on June 6, 1905.
12	Mrs. F., aged 48	Wid. Ch. 3 Misc. 0	4 or 5 months' vaginal discharge, often blood-stained; 4 months' soreness and irritation of vulva; discharge offensive; uterus retroverted and rather fixed; no pain; no loss of flesh; menopause 1½ years ago	Cervix is covered with a nodular raised growth. which extends rather further on left than right side, but does not quite reach vaginal reflexion; bleeds readily; purulent vaginitis present. Rather extensive	March 7, 1905	Ovaries and tubes embedded in old inflammatory adhesions	1st intention	March 28, 1905	Adeno-carcinoma; growth extended outwards from os for about ¾ in. all round, and ¾ in. up the canal, and is deeply excavated on right side	Seen July, 1905; no sign of recurrence; feels well.
13	Mrs. H., aged 41	M. 22 years Ch. 6 Misc. 1	Both ovaries removed 12 years ago for pain and metrorrhagia. Blood-stained discharge for 7 months. ceased after operation 12 years ago	Hard nodular growth surrounding external os; bleeds constantly; uterus movable; limited	March 21, 1905	Slight cystitis after operation	1st intention	April 11, 1905	Lymphatic endothelioma of cervix; whole cervical wall infiltrated with branching growth, which tends to grow through the stroma in lines; uterus without tubes or ovaries; body much atrophied; growth affects whole cervix; encroaching slightly on vagina behind	Seen July, 1905: no sign of recurrence; feels well.
14	Mrs F., aged ...	M. Ch. 3	Backache for a year. pain in abd. radiating down thighs for 3 months; no discharge until 5 weeks ago after a vaginal exam.; losing flesh 6 months	Hard nodular growth just within os; hardness extends just to vag. on left. vaginal aspect of cervix shows purplish nodules. canal somewhat excavated; uterus movable	April 11, 1905	A good deal of old inflam. thickening about tubes and ovaries	1st intention	May 7, 1905	Epithelioma; extending ¾ in. above internal os; the right anterior portion of cervix just below internal os was excavated so deeply that only a shell remained; gland from right broad ligt. shows no growth; gland from left broad ligt. contains pus, and is infiltrated with malignant cells	July, 1905, seen by her doctor who writes that she is well and has no sign of recurrence.
15	Mrs B., aged 54	M Ch. 1 Misc. 3	Pelvic pain and backache for 6 months. Menopause 6 years ago. (Carc. diagnosed Dec., 1904, but patient then refused operation)	Hard nodular slightly-raised growth on posterior lip and vaginal wall; anterior lip very hard but not nodular; bleeding on touch	May 16, 1905	—	1st intention	June 1, 1905	Epithelioma of cervix; gland from broad ligament shows malignant growth	July, 1905, her doctor reports her to be "well in health and free from any local trouble."
16	Mrs. C., aged 54	Wid Ch. 4 youngest 17	Continuous blood-stained discharge for 6 months, offensive. backache 3 months; loss of flesh and strength 6 months	Cervix nodular and hard quite to vaginal reflexion all round; bleeds freely; slight thickening posteriorly and in left brd. ligt. but uterus is movable. Per rectum growth extends upwards about 3 in. as a bulky mass. Extensive	May 26, 1905	Bladder accidentally perforated by finger when separating it, hole sewn up, 2 layers of suture; no fistula resulted	1st intention	June 8, 1905	Epithelioma of cervix, cervix enormously elongated, occupied throughout by friable growth, encroaching about ¾ in. on the body	July, 1905; well and free from recurrence.

show no growth microscopically, but well-marked inflammatory changes.

Complications.—Briefly, I have wounded the bladder twice—once purposely for removal of growth, once accidentally with the finger when separating it. A vesico-vaginal fistula followed after four days in the first case; the accidental wound was sutured and gave no trouble subsequently.

After-results.—Length of time since operation: Three were operated on more than three years ago. Two are living and apparently quite well; one died of recurrence two years and a month after operation. Three were operated on more than two years ago. Two are living and well; one has been lost sight of, but being a limited case is possibly well. Four were operated on more than one year ago; these four are all alive, and three have been recently examined and show no sign of recurrence: the fourth is said to be wonderfully better a year and eight months after the operation, which included removal of a piece of the bladder (a case in which after operation I gave a hopeless prognosis). Six have been operated on within a year; of these one only lived five months; this is the only one of eleven sufficiently remote cases who has died within a year, the only one also who is believed to have recurred within a year. In no case has the recurrence been primarily in the vaginal scar, which, in my opinion, points to the recurrence there after vaginal hysterectomy being due to proximity of the division to growth, rather than to implantation at the time of operation.

VIII.—Professor Henry Briggs, F.R.C.S.Eng., etc.,
Surgeon to the Liverpool Hospital for Women.

Dr. Briggs had tabulated all his cases of vaginal hysterectomy performed for uterine malignant disease; 3 of sarcoma of the cervix, 49 of cancer of the body, and 109 of cancer of the cervix. Amongst these 161 cases,

	Cancer of the Cervix.	Cancer of the Body.
Upwards of five years ...	12 out of 63 (19.01 per cent.) patients remain well	5 out of 14 (35.9 per cent.) patients remain well
	1st and 2nd Year.	1st and 2nd Year.
Under the five years' limit	22 and 18 died	4 and 6 died.

The mortality from the operation was 3.7 per cent., being 6 in 161, and one-half of these patients, debilitated by heart disease and sepsis, died from shock, two, three, and thirty hours (sepsis) after operation; 2, on the eighth day, of septic peritonitis, and 1 on the thirty-fifth day, of embolic septic pneumonia. This low surgical mortality tended to encourage operation on advanced and unsuitable cases. In a few instances Dr. Briggs had dissected the bladder and the ureters, inflicting reparable or irreparable damage to them. Such advanced cases would yield discouraging results by either the vaginal or abdominal route. Hence every writer turned towards an earlier diagnosis. Dr. Briggs thought the employment of douches and tonic and styptic medicines, before a diagnosis was made, often misled sufferers from cancer at an early stage, when errors as to the supposed bloodless character of the discharge might be checked by the use of specimen pads of gauze, to which the chemical tests for blood could be applied. By clinical and pathological experience in the disease a diagnosis could usually be made. The best clinical and pathological investigation may fail to establish the differential diagnosis in cancer, endometritis, and adenoma of the body of the uterus. Many authorities wrongly considered the uterine corporeal glands lay upon the musculature, as it were, separated by a "dado line"; hence, to them, even minor degrees of glandular infiltration would appeal, also wrongly, as evidence of malignant disease. He had had ample proof that doubt in diagnosis in some early cases was prudent, because our present histological knowledge did not permit of a positive diagnosis. The interpretation of these morbid changes at an early stage, occurring immediately before, at, or after the climacteric, exposes the pathologist or operator to error, unless by him an active round-celled infiltration and glandular activity and excess were for the time regarded as inconsistent with a final diagnosis that the disease is non-malignant.

IX. F. J. McCann, M.D., F.R.C.S.Eng., etc.,
Physician to the In-patients, Samaritan Free Hospital for Women.

Desire to add my thanks to Professor Wertheim for his interesting and instructive demonstration on the surgical treatment of uterine cancer.

Whatever method of treatment is ultimately decided upon as being the best, it is to early diagnosis that we must look in order that cases may be sent for treatment in the initial stages.

I wish to take this opportunity of entering a strong protest against the proposal to scatter broadcast leaflets detailing the symptoms of uterine cancer, for it would tend to produce a state of mental unrest which might, indeed, originate the disease which it was intended to remedy; for mental anxiety may yet be shown to be a predisposing factor in the etiology of cancer. It is to improved medical education that we must look for help in the early diagnosis of this disease. As an early sign the presence of discharge—watery in character, at times tinged with blood—is of great importance, and this will be found to precede the onset of haemorrhage. Haemorrhage usually results from injury to the growth either during sexual intercourse or from the injection syringe or other instrument, and when once produced tends to recur. Indeed, I have operated on three patients where no history of bleeding could be obtained—only the presence of a watery discharge, slightly stained with blood.

It is therefore imperative that all cases of discharge or irregular bleeding should be subjected to a local examination. It is affirmed that patients do not come for advice until it is too late; frequently, however, no local examination is suggested, and unless the profession takes up a strong position in this matter, and local examination in cases of discharge or irregular bleeding is strongly urged, no improvement will result in the early diagnosis of cancer.

Many examples of chronic hypertrophic enlargement of the cervix with marked erosion offer difficulty in diagnosis, and in these doubtful cases I believe the best practice is to remove the cervix by supravaginal amputation, even although the verdict of the microscope may be against carcinoma. This operation may then become an important prophylactic measure. It should be performed so that accurate apposition by suture of the wound-edges is obtained.

I am still one of those who believe that supravaginal amputation of the cervix has a place in the treatment of uterine cancer. It should be reserved for early examples of the papillomatous or polypoid type of carcinoma arising from the portio vaginalis. Such growths do not infiltrate their base of origin until late in the disease, and so may be completely removed by a partial operation. Many published records prove that cures may be obtained in such cases by supravaginal amputation.

For other cases of uterine cancer hysterectomy is the operation, but whether by the abdominal or vaginal route is still *sub judice*. My experience of the abdominal route is small, but I have removed the uterus by vaginal hysterectomy in 60 cases with two deaths. I will give the after-results of the first 40 cases.

Cancer of Cervix, 28 Cases.

1 died five days after operation.
Alive and well:
1 over eight years.
1 over five years (left for South Africa).
2 over three years.
4 two years and over.
10 over one year.
1 alive and well under one year.
2 recurred within two months.
1 died eleven months after operation from secondary pulmonary disease (sarcoma of cervix).
1 died seven months after operation; ? morphine poisoning.
1 died six months: secondary hepatic disease.
1 died eight months; uraemia.

Cancer of Body, 12 Cases.

1 died six days after operation.
3 alive and well at periods from four to two years.
1 died one year and ten months after operation.
1 died eight months after operation; secondary hepatic growth.

It seems to me that the benefit obtained by the abdominal method is probably due to the fact that a larger portion of the vagina is removed, and that this is more important than the extirpation of the glands. This, however, may also be accomplished by the vaginal method if Schuchardt's operation be performed. If, however, any extensive operation be advised we must be able to promise the patient a chance of life not less than after vaginal hysterectomy and a freedom from recurrence, greater.

X.—Herbert Snow, M.D.,
Senior Surgeon to the Cancer Hospital, London.

We cannot but appreciate the honour of Professor Wertheim's presence here and the merits of his lucid address, as well as

the very interesting supplement to it by Professor Howard Kelly. But I do not think we should blind ourselves to the demerits of the operation he proposes, however we may admire his marvellous technical skill. There is a certain halting note in his paper which I should like to see cleared away. He speaks with warm praise of the abdominal route, yet ends by returning (in some cases, at least) to the vaginal. He doubts the wisdom of removing the lymph glands; and on that point I noticed that in some enlarged glands he excised no cancer deposit could be subsequently detected. Well, I have never yet known a case of malignant disease with enlarged glands in which the enlargement was not due to actual deposit. And, if you do not want to remove the glands, I am at a loss to discover what advantage abdominal hysterectomy for cancer may be supposed to present over vaginal. I hardly think English surgeons will be disposed to follow Professor Wertheim in his preference for the former, with its serious disadvantages. In the second place, I should like strongly to deprecate implicit reliance on the microscope in diagnosing early cancer. In the uterus many normal conditions closely simulate malignancy, and may deceive even expert pathologists not instructed in the physical conditions of the case. I know of many such cases, and of numerous hysterectomies in consequence, the cases subsequently proving to have been non-malignant. I think I remember one or two others cited in the work of Dr. Lewers. There can be no doubt that many such operations have been performed for tuberculous and other non-cancerous lesions. I strenuously maintain that the diagnosis should always mainly turn on the presence or absence of *pain*, with the other clinical signs; that the microscope should only be resorted to to confirm or disprove this. Lastly, I submit that no one who systematically treats inoperable cases medicinally with opium and cocaine will fail to recognize the merits of these drugs in arresting the disease, or will invoke those egregious failures—*x* rays, radium, high-tension currents.

XI.—J. Inglis Parsons,

Physician to the Chelsea Hospital for Women, etc.

Dr. Inglis Parsons said they must all admire Professor Wertheim's skill and his results. No doubt he had saved some lives, but in spite of the elaboration of operations the mortality from this disease continued to increase, and was still 23,000 per annum for Great Britain. It therefore behoved them to consider other methods of treatment. His best results for carcinoma of the cervix by operation were attained by amputation of the cervix with the actual cautery. Infection which might take place with a knife could not occur if the cautery were used. For inoperable cases he had had considerable success with the use of salicylate of soda, based on the saccharomycete theory. All the cases were curetted so as to clean the ulceration, and a piece of the growth removed for examination so as to confirm the diagnosis. The first case came from Dr. Grant of Chatham, and the disease remained in abeyance for four years, when growth began again. Another case, sent by Dr. Maguire, of Kew, was a monthly nurse, and she improved so much that she was able to take cases for Dr. Maguire for two years. He had treated 20 cases; the pain was relieved in all of them, and in 50 per cent. life was prolonged beyond the average. He observed that if the patients were reduced by haemorrhage, this medicine did not do much good. As to the administration he had tried large and small doses over short and long periods, also saturating the system. The best results followed from moderate doses over prolonged periods—from 5 to 10 gr. three times a day with a little strychnine to counteract the lowering effect of the drug. Every three months it was advisable to stop the drug for a fortnight, and then resume it again. His experience of the high-frequency current was not good; as far as he could see, it had no effect on the disease. On the question of diagnosis he quite agreed with Professor Wertheim, that it was necessary to examine the growth under the microscope in every case. Unless he had done this, his own results would have been vitiated as in no less than seven cases growths sent to him as malignant had proved on microscopical examination to be innocent.

XII.—M. Rosenwasser, M.D.,

Cleveland, Ohio, U.S.A.

Having recently had the pleasure of seeing some of Professor Wertheim's work at Vienna, I am glad to be able to testify to the value of the extended abdominal section. The professor deserves great credit for developing this operation, originally made to meet the necessities of those cases of uterine cancer which had been pronounced as inoperable. His results are very gratifying. They are due not only to his personal equation of skill, but to a number of essential elements: First, the patient is placed in the best possible condition previous to operation; secondly, no anaesthetic is administered for the preliminary work of curetting and actual cautery; thirdly, the hospital furnishes the best facilities for clean work and trained assistance; fourthly, thorough knowledge of the topography ensures simple technique and rapidity of operating, rendering it practically bloodless. It would be well for Professor Wertheim to tell us on what symptoms he relies in distinguishing between the early cases and between those further advanced in deciding whether to do the vaginal or the abdominal operation. I fear from the discussion that this point is not well understood. I thank you for the courtesy of the floor.

XIII.—F. W. Forbes-Ross, M.D., F.R.C.S.,

London.

Dr. Forbes-Ross said that last year, when Professor Olshausen of Berlin addressed the Section, vaginal hysterectomy was generally accepted by those present, as the best procedure. Mrs. Scharlieb and himself, as Mrs. Scharlieb had already mentioned, had been the only speakers who strongly advocated the abdominal operation. Since then Jacobs and Dr. Wertheim had read papers in England, and these great masters had produced an advance in the operation for cancer of the uterus which was immeasurable in importance. He did not see why gynaecologists did not treat glands in all cases as surgeons did cancerous glands in other cases of cancer, such as in the mamma. He was interested to note that Professor Wertheim described two cases—one in which the parametrium was infiltrated with lymphocytes and contained no cancer cells, and another in which there were no lymphocytes but many cancer cells. He was certain that, although Professor Wertheim had not said so, the cases which did best would be the lymphocytic infiltrated cases. As regards diagnosis, it was essential to remember the work of Sir John Williams, where he described the piling up of cells in the gland acini; and he (the speaker) was reading a paper at this very meeting in the Pathological Section on the significance of this fact in early diagnosis of cancer of all organs, especially as regards a matter he had impressed on this Section last year when discussing Drs. Wilson and Savage's case of malignant deciduoma—that leucocytes had a distinct rôle in cancer genesis. He referred to the small harm done by extensive disturbance of the pelvic cellular tissue, and instanced extensive removal of intestine, and work in removal of the rectum by Miss Aldrich-Blake.

XIV.—Miss Mary Thorn, M.D.Brux.,

Anaesthetist to the New Hospital for Women, etc.

In Miss Thorn's opinion, the danger of prolonged anaesthesis was greatly owing to the Trendelenburg position, which, when maintained, caused great fatigue, more especially of the muscles of respiration.

XV.—Herbert Spencer, M.D.,

Obstetric Physician, University College Hospital; President of the Section.

The President considered this paper of Professor Wertheim the greatest which had been published on the operative treatment of cancer of the uterus, and indeed he thought on cancer of any other organ. The facts given in the table were remarkable. It was noteworthy that Professor Wertheim's statistics were complete, and dealt with a larger number of cases carefully followed than had ever been published. He himself had been convinced of the value of the operation of abdominal hysterectomy in certain cases of cancer of the cervix by studying the statistics, and especially the statistics of Professor Wertheim, whom he had had the pleasure of seeing perform the operation. He had himself usually practised high amputation with the galvano-cautery in this disease mainly on account of the excellent results obtained in that way by Byrne, Baker, and others, and the universally bad results obtained by vaginal hysterectomy by Jacobs, Pestalozza, and Halliday Croom. His own results of high amputation and vaginal hysterectomy in nearly fifty cases of cancer of the cervix had been a little over 2 per cent. immediate mortality. His complete results he would only give in cases of cancer complicating pregnancy. He had operated

on three out of nine cases seen. These three cases treated by high amputation after delivery all remained well after eight to twelve years, and so far as he knew there were only two other cases (Olshausen's and von Ott's) which remained well for five years. With such results from the simple operation of high amputation (and the body can be removed afterwards if preferred without any appreciable risk), he advised members not to be too enthusiastic in carrying out the extensive abdominal operation. Professor Wertheim's paper showed that cancer could be successfully removed by the abdomen which could not be so well dealt with by the vagina; and he (Dr. Spencer) intended in future to perform the abdominal operation in cases in which it was doubtful if the uterus could be removed with safety by the vagina, but for early cases of cancer of the portio he would continue to practise high amputation and vaginal hysterectomy with the galvano-cautery, which had given him and others excellent results.

PROFESSOR WERTHEIM'S REPLY.

I AM very sorry that, on account of my limited knowledge of the English language, I am not able to answer directly the objections, which have been made. I will therefore confine myself to a very few remarks, and later on, when the discussion has been published in the BRITISH MEDICAL JOURNAL, I will answer in detail. I am glad to hear that Howard Kelly agrees with me upon most points of the question. I know well the work done by him and his renowned school, the Johns Hopkins Hospital, and that was one of the first places where the large abdominal operations for cancer of the uterus were performed, and the excellent publications of Clark, Cullen, and especially of Sampson, are of the greatest importance for us all. I am well aware that there are still many gynaecologists who are not inclined to concede that the abdominal way is preferable for operating for cancer of the uterus, but the force of my statistics is, I think, great enough to meet all possible objections. As to the primary mortality on which the opponents of the abdominal operation especially insist, I have to repeat that in the last 40 cases we have been able to reduce it to 7 per cent. When we first began our work the difficulties were very great, and, as I said in my paper, we were only helped to bear the responsibility for it by the consciousness that we were dealing with women who were otherwise irretrievably lost. Much experience has now been gained, and those who follow us will find their way already prepared.

THE HIGH RANGE OF NORMAL TEMPERATURE AND PULSE THROUGHOUT THE PUERPERIUM.

By E. HASTINGS TWEEDY, F.R.C.P.I.,
Master, Rotunda Hospital, Dublin.

AMONGST the many myths of our profession there is none more common than the belief that puerperal sepsis has long since ceased to be a scourge, and this is the belief generally entertained by practitioners concerning their own districts. One cannot peruse current periodicals even for a short time without the prevalence of this idea becoming apparent. There appears to be an almost universal assumption that this black scourge of the past has ceased to be a terror to the lying-in woman because of increased knowledge and greater precision in obstetrical technique.

A reference to the Registrar-General's reports, however, shows little, if any, improvement in the death-rate from sepsis. This is flippantly accounted for by the assumption of a higher diagnostic skill among the younger race of practitioners as compared with those who went before them, and by the increased carefulness which is now displayed in furnishing statistical figures. Have we not all long since been satiated by the assertions of our friends as to the immunity from sepsis enjoyed by their patients? and are they not ever ready to refer us to longer or shorter periods in which no record of such a cause of death can be found in their practice?

It is known to us all that many fatalities from sepsis are not registered as such. We are also aware that memory often fails to recall disasters of a distant past, and that statistical results quoted from memory are the most fallacious of fallacious figures. Even were we disposed to ignore these sources of error, and accept without reservation these honest beliefs, they would nevertheless utterly fail as proof of the non-existence of septic infection.

Success in obstetrical practice, as it exists in the larger maternity hospitals, or in the district of the private practitioner, is more accurately gauged by a low percentage of morbid cases than by any table of septic mortality.

We need constantly to be reminded nowadays that septic deaths did not occur as a rule in the private practice of obstetric physicians living in the pre-antiseptic era to an extent sufficient to excite local alarm. Then, as now, men practised midwifery for long periods with an entire freedom from septic mortality, and these periods of immunity extended also to the maternity hospitals.

It will probably come as a surprise to some that, in the year 1766, 611 women were delivered within the walls of the Rotunda Hospital, with a maternal mortality from all causes of three, nor is this seen to be a very exceptional year, for a low death-rate is also recorded during many other yearly periods. In fact, a perusal of the old records makes one at first rub one's eyes with astonishment at the comparatively good results obtained.

It is not until we compare figures by the thousand that the superiority of the present-day methods asserts itself, and this superiority is seen to be overwhelming if our judgement be not based on a death standard alone.

It rarely falls to the lot of the private practitioner to be able accurately to tabulate his cases by thousands, and therefore from a statistical standpoint, individual experience expressed by a mortality-rate is for the most part of little value. In a standard of morbidity, however, we possess a ready and certain means for determining success either in private or hospital practice, whether the number of those attended be few or many.

In the early history of the Rotunda Hospital about the period before alluded to (1766 to 1780), maternity patients slept two in each bed. They lay on tick bedding, in a condition none too clean. The water supply to the hospital was provided by means of a pump drawing a well which must almost certainly have been contaminated. In the report from which I have obtained this information, the Master seeks permission from the Governors of the hospital to employ two men to clean out the hospital cesspool, which had become a grievous nuisance to his patients and to the neighbourhood. In spite of all these disadvantages the total yearly death-rate frequently stood at seven with a total of 800 or 900, or even at a lower figure.

If figures such as these prove anything, they prove that the majority of women will survive the processes of childbirth under the most disadvantageous circumstances. If, however, there should be neglect in carrying out the well-recognized principles of asepsis, a small minority alone will pass through this ordeal unscathed.

In proof of the latter statement I adduce the temperature records of the Rotunda Hospital for a portion of two months in the years 1879 and 1880. These charts, which have fortunately been preserved, contain the temperatures registered of ninety-nine patients, and a reference to the ward books of the same periods proves conclusively that the hospital was in a more than usually healthy condition at this time. Carbolic acid and Condy's fluid were in general use, and the hygienic state of the institution had markedly improved, and yet an analysis of these ninety-nine records cannot fail to surprise us.

Forty-eight out of these ninety-nine charts record a morbid state of temperature; of these, nine reached up to or above 105° F., eighteen more were up to 103° F., whilst in only five instances is the range of temperature up to but not above 101° F. Moreover, in reading the notes of the apparently normal cases, one is compelled to suspect that the temperature did not accurately express the true condition of affairs. I find the following notes appended to no less than ten of these, all occurring in one of the two bound books containing forty-nine and fifty charts respectively:

1. Chill, pain in abdomen.
2. Chill, erysipelatous patch over buttocks.
3. Succession of chills, headache.
4. Great pain in abdomen.
5. Great pain in abdomen, also down legs.
6. Chill.
7. Chill.
8. Feeling very weak and faint when sitting up.
9. Chills, lochia fetid and scanty.
10. Series of chills, face flushed, lochia very fetid and scanty.

Results such as these compare badly with our present-day statistics, which show for the six months ending April 30th,

1905, that amongst 918 women delivered in the wards of the hospital, there were 58 cases recorded as morbid, a percentage of 6.31.

An analysis of these 58 cases will show that our results are still more favourable than the bald statement of the figures would lead one to believe. In 48 instances the temperature and pulse did not remain above the normal for longer than four days, and of the remaining 10, morbidity in 5 cases did not exceed five days' duration. In the other 5 the morbid state persisted for twenty-one, sixteen, eleven, eleven, and eight days respectively. Until private practitioners can produce results as good, if not better, than these, they may be perfectly certain that their technique lacks perfection.

It is necessary to add that none of these cases gave rise to serious anxiety, and all save two had normal records of temperature and pulse for thirty-six hours before leaving the hospital.

It may possibly be argued that an apyrexial puerperium is neither normal nor to be desired, and that a temperature elevated within reasonable limits exercises no injurious influences.

We all know that numberless women have passed through the ordeal of sepsis with constitutions irrevocably shattered, and important organs hopelessly damaged or destroyed. It is, moreover, probable that vital forces are never fully restored to those who have suffered from a septic disease, even in a mild form, and none can doubt that the exhausting influences of childbearing are due to a septic dyscrasia rather than to the exercise of a normal function.

The question now arises, What are the physical indications of puerperal morbidity? and the answer, strange to say, is one on which there is at present no definite agreement.

Some years ago it was considered that slight pyrexia should be looked on as due to physiological processes, and to mark its high limit an arbitrary line was placed at a temperature of 100.4° F. by Continental authorities. In the Rotunda Hospital this arbitrary line has until lately been fixed at 100.8° F. Modern authorities, however, have nearly all arrived at the opinion that the processes of childbearing have none but the most transitory effects in elevating temperature above that which is considered normal in health. Our maternity charts clearly demonstrate the truth of this belief, and, moreover, show the fallacy of estimating morbidity by any arbitrary range of temperature when taken without consideration of another important factor—the pulse.

I cannot too strongly urge on my professional brethren the importance of arriving at some common basis for determining morbidity other than that of this most unsatisfactory temperature limit. I trust that this subject will be seriously taken in hand by those members of our Association interested in the subject, and I for one will gladly co-operate with the heads of other maternity hospitals in an effort to establish a common standard on which to base our returns of morbidity. Only in this way can we gain a clear insight into the efficiency of our methods, for the adoption of a common standard would enable us to compare our results with other statistics compiled on a similar basis.

It is only by being armed with such precise data that we will be enabled with force to urge the adoption in practice of the means which procure the smallest percentage of morbidity.

There are many objections to be urged against the arbitrary limit to a temperature of 100.4° F. It is an unsatisfactory indication of the well-being of the lying-in woman. Were such a temperature maintained for even a few consecutive days the woman would certainly be in an abnormal condition. Again, it is unsatisfactory because of the fact that it takes no account of the sudden and transitory rises of temperature which may easily extend beyond this limit without adversely affecting the patient, and without being even remotely allied to septic absorption as we understand the term. It is an unreliable indication in that it depends entirely upon the accuracy of a clinical thermometer, and those of us who know how frequently these instruments are at fault can appreciate the uncertainty of statistics relying on such a basis alone.

A morbid state, if of septic origin, will most certainly show itself by an acceleration of the pulse as well as by a rise of temperature, and it is upon the knowledge of this fact that our present method of estimating morbidity in the Rotunda Hospital is based.

Our bed charts are arranged so as to make these two records apparent at a passing glance. The high range of normal temperature is placed at 99° F., that of the pulse at 90 beats per minute. It is certain that even a mild condition of septic absorption will prove sufficiently potent to cause these limits to be overstepped, and will at once put us on our guard, and enable us to take prompt means to deal with the abnormal condition.

The pulse chart acts too as a ready corrective of faults of the thermometer, and the two taken together greatly aid us in detecting mistakes in either.

In order to eliminate the sudden and unimportant exacerbations of temperature from our morbidity list, we do not enter in our records as morbid any case where morning and evening pulse and temperature are not recorded as abnormal on three consecutive occasions, or, to put it in other words, until the abnormal condition has made itself apparent for twenty-four hours. Furthermore, we do not take into account the irregularities of pulse or temperature so frequently observed within twenty-four hours of the period following delivery.

It is conceivable that a hectic temperature might be present without fulfilling these conditions, but such an eventuality need not be seriously considered.

We have sufficient proof in the Rotunda Hospital that the method I have indicated works with smoothness and absolute simplicity. It enables one to notice at once the true condition of the patient, and it directs the attention to deviations from the normal where a definition of morbidity based on temperature alone would at times fail to ensure the early recognition of the patient's state.

The President thanked Dr. Tweedy for his very important paper, and agreed that the varying standards of morbidity at present employed in different institutions were unsatisfactory.

Professor J. W. Byers (Belfast) was in thorough agreement with the Master of the Rotunda that the time had come for adopting a common standard of morbidity as to puerperal infection. Different views as to what constituted sepsis existed, and this only gave rise to confusion. He agreed that a correlation of pulse and temperature was much better than either of these factors alone, and it would be a good thing for a committee to be appointed by the Council of the Association to look into the question.

Professor Henry Corby (Cork) quite agreed with Dr. Hastings Tweedy. In peritonitis they all knew the pulse was really a better indication in many cases than the temperature. In the Cork maternity practice, under the most adverse circumstances, there was comparatively little sepsis; and it occurred to him that though they were aware that pulmonary embolism and uterine troubles might, and did, result from early rising during the puerperium, yet it was possible that increased temperature and pulse-rate were often due to keeping women too long in the rigidly supine position.

Dr. R. Boxall agreed as to the advisability of having some fixed standard for puerperal morbidity. He was specially interested in the matter at the present moment, when he and his colleague, Dr. Dakin, had the matter under consideration in revising the form of charts for the York Road (General Lying-in) Hospital. To the importance of the opening remarks of Dr. Hastings Tweedy's paper he desired to draw particular attention, for inasmuch as the death returns given in the Registrar-General's reports were furnished by the general body of practitioners throughout the kingdom, it was obvious that those reports might be taken as indicative of a serious amount of mortality. As he had recently dealt with this subject in a paper read before the Obstetrical Society of London, he would at the present time merely draw attention to the fact that neither in England and Wales, Scotland, Ireland, nor in London, was there evidence of any appreciable decline in the mortality from puerperal sepsis in general practice.

Dr. R. C. Buist (Dundee) supported Professor Tweedy's suggestion as to the fixation of a standard of puerperal morbidity. The results of a bacteriological investigation of puerperal cases normal according to present conventions which had been carried out in Dundee Royal Infirmary by one of the resident physicians had shown bacterial presence in the uterine cavity in a relatively small number of patients whose pulse and temperature gave no indication of infection. He moved:

> That it is desirable that a standard of puerperal morbidity be fixed for use in maternity hospitals and that the Council be requested to arrange for a special committee to investigate the matter.

Professor Byers seconded the motion.

Dr. Thomas Wilson did not think that, however desirable it might be to establish a standard of puerperal morbidity, it was the province of the Council of the British Medical Asso-

ciation to take the initiative in the matter, but rather of some body which should include the Presidents of the London and Edinburgh Obstetric Societies, and of the Obstetric Section of the Royal Academy of Medicine in Ireland.

Dr. Forbes-Ross was unable to support the motion in its present form, but quite agreed that a uniform standard was desirable.

Dr. Taylor Young considered that they were quite in order in asking the Council of the Association to take action in the matter, in fact, that was the only way the Section could legitimately promote the desired uniformity.

Dr. Buist pointed out that the motion requested the Council to arrange for a special committee to investigate the matter. From his knowledge of procedure in similar circumstances he was convinced that the committee, if appointed, would not only not be limited to members of the Council, but would be comprehensive, and include representatives of all the Societies mentioned by Dr. Wilson.

The resolution was carried *nem con.*

THE TREATMENT OF CERVICAL CANCER IN THE LAST TWO MONTHS OF PREGNANCY,

WITH ESPECIAL REFERENCE TO VAGINAL CAESAREAN SECTION.

By Thomas Wilson, M.D., F.R.C.S.,
Obstetric Officer to the General Hospital, Birmingham.

More than a quarter of a century ago Dr. Herman, in a paper published in the *Transactions of the London Obstetrical Society*, collected and examined the records of 180 cases of cervical cancer complicating pregnancy, and showed that the dire effects of the disease fall equally upon the mother and the child. Of the 180 mothers, 72—equal to 40 per cent.—died, 13 of them undelivered, 11 from rupture of the uterus, and 48 from various other causes, including exhaustion, haemorrhage, and septic affections. The fetus is liable to premature death and expulsion, and even when it arrives at full term encounters grave risks during delivery; thus, of 94 cases in which its fate was mentioned, Herman found that in no less than 36—equal to 38 per cent.—the child was born dead.

The principles upon which the treatment of this formidable conjunction of circumstances should be based are still the subject of much discussion. Before the publication of Herman's paper one set of authorities reasoned that the fate of the mother was inevitable, her end being only a question of time; all efforts were therefore to be directed to procure the birth of a living child. In opposition to this line of treatment the earliest possible induction of abortion or premature labour was recommended, especially by Lee and Scanzoni; this course, however, was condemned, because, while spoiling the chances of the child, it offered no distinct advantage to the mother.

Caesarean section, first recommended by Oldham, was practised by some operators on the ground that it saved the child's life, and was mostly better for the mother than forced delivery through the vagina. Dr. Herman in his paper enunciated the principle that where possible the cancer should be removed either during pregnancy or at the time of labour, and concluded that where this could not be done the safety of the mother was best promoted by bringing the pregnancy to an end as soon as possible.

A clear distinction was thus drawn by Herman between operable and inoperable cases, and since the time of his paper the radical treatment of operable cervical cancer, when it coexists with pregnancy, has been undergoing a gradual development on the same lines as that of cases of the disease apart from pregnancy. At first in pregnancy the cancer was left severely alone, the only interference being dilatation to make delivery possible; then it was found that the removal of most of the growth and the use of the actual cautery diminished the risks of bleeding and infection during labour. Next followed radical removal of the disease by high amputation of the cervix, carried out on regular lines in suitable cases. Then vaginal hysterectomy became relatively safe, and was applied at first accidentally, and afterwards deliberately to cases discovered in the early months of pregnancy. Of late years attempts have been made by many operators to establish abdominal hysterectomy as the operation of choice for all cases of cervical cancer, and it seems likely that the immediate mortality of the operation may soon be reduced within reasonable limits. When this has been accomplished it will be possible to compare the total results, immediate and remote, obtained by this method with those obtained by the vaginal route, and then obviously the question of the best method of radical operation for cervical cancer will be set at rest. In the meantime the immediate risk of the abdominal operation is too great and the remote advantages not proved, so that in this country, at any rate, the preference is still generally given to the vaginal route.

In the last two months of pregnancy the uterus, with its contents, is so large that until recently it has been considered impossible to remove it through the vagina. Dührssen's method of so-called vaginal Caesarean section has cleared away this difficulty, and it is now possible to operate through the vagina even at the full term of pregnancy. When confronted with a case of cervical cancer in the last months of pregnancy, we have, therefore, a choice of three methods of radical operation—namely, Freund's abdominal method of hysterectomy, Dührssen's vaginal method, and some form of combined abdominal and vaginal hysterectomy, such as Zweifel's.

When the first of the cases about to be recorded was seen by me, a choice had to be made between these various methods of operating, and as the combined method did not appear to offer any distinct advantages the decision had to be based upon a consideration of the relative merits of the abdominal and vaginal methods. The technique of abdominal hysterectomy, the method of extracting the fetus, the means of amputating the uterus and of preventing haemorrhage are well known, but the dangers even in the most skilled hands are very considerable, the immediate mortality averaging at least 20 per cent. The risk of implantation of cancer cells in the freshly-cut tissues cannot be estimated, but is probably at least as great in the abdominal as in the vaginal method. In the one case the diseased cervix may lead to cancerous infection of the divided vagina and pelvic connective tissue, as well as of the peritoneum and of the margins of the abdominal incision, while in the other accidental tears of the vagina and vulva, as well as the cut vagina and pelvic connective tissue, may be inoculated. On the other hand, the vaginal method, with suitable precautions, offers less risk of septic infection of the peritoneum, while the methods of arresting haemorrhage are equally as certain as those employed in the abdominal operation. The risk of lacerating or otherwise injuring the bladder, ureters, or rectum is somewhat greater in the vaginal method, but can be obviated with considerable certainty by correct methods of operating, which should ensure the bladder, and with it the ureters, being well pushed upwards in the earliest stages of the operation. The probability that less shock to the patient will be incurred, the avoidance of an abdominal scar with the consequent risk of hernia, and especially the lower general mortality of vaginal operations, all count in favour of the vaginal method. As regards the fetus it seemed probable, in my case, that an eight months child could be readily extracted through a pelvis which had already sufficed for the normal delivery of children at term; the fetal head, moreover, which was felt movable in the lower abdomen, could be well pushed down into the brim, and its size was estimated to be at any rate not larger than the average at full term. For all these reasons the vaginal method of operating was decided upon.

The method of delivering the child during the operation also required consideration. The choice lay between turning followed by extraction and the application of forceps after the head had been guided bimanually into the pelvis. Version would require the introduction of the hand and half the forearm into the uterus, and valuable time might be lost in delivering the head; it therefore appeared that the application of forceps would offer the best chance to the child, while it would not cause more danger to the mother's soft parts; delivery by the forceps was therefore decided upon, and the result fully confirmed the wisdom of the choice.

The necessity of avoiding as far as possible the implantation of cancer germs in the freshly-cut tissues suggested in my first case that the incision into the cervix and uterus should be confined to the anterior wall, which was unaffected by cancer. In the second case also an anterior incision only was made, the anterior portion of the cervix being less diseased than the posterior. Dührssen recommends that both anterior and posterior walls should be divided in the middle line, but the experience of my two cases shows that this does not present any advantages over the single incision, while it is obvious that the latter is preferable whenever it can be made through healthy tissues.

Case I.

A 5-para, aged 32, cervical cancer at the end of the eighth month of pregnancy; bronchitis and general debility; no symptoms of cancer until the sixth month of pregnancy; vaginal Caesarean section; placenta velamentosa; living child; smooth recovery.

H. D., a poor hard-working woman, aged 32, was admitted to the Birmingham General Hospital on June 25th, 1904, far advanced in pregnancy, and suffering from cervical cancer. There had been five previous labours at full term, all of them easy and natural, except the first, which was terminated by forceps. The woman found herself pregnant for the sixth time in November, 1903, and went on without any unusual symptom until May 23rd, 1904, when two clots as large as the hand were passed; red discharge was profuse on that day and the next, and continued to a less extent for a week, after which it ceased until June 10th, when large clots were again passed and red discharge began and continued for four days; for three days before admission there had been very little discharge. The patient says she has not lost flesh, but has felt so poorly that for the last thirteen weeks she has been unable to go on with her work. She is of medium height and build, is not anaemic, and not obviously emaciated; there is marked weakness, and a troublesome cough with some mucous expectoration: bronchial râles are heard scattered over both lungs. The urine, of specific gravity 1010, is neutral in reaction and shows a trace of albumen.

On admission, the pregnant uterus extended upwards to the thoracic margin; the fetus was lying with the head downwards, and movable above the brim; the back was to the mother's right: the fetal heart was heard far over on the right side below the level of the umbilicus. The external pelvic measurements were 28, 25, and 18.5 cm. There was no pain. Clots of blood were being passed from the vagina, and a pedunculated firm friable growth, the size of a Tangerine orange, was felt attached to the posterior lip of the cervix. Portions of the growth could be detached by the finger nail, and a similar friable growth could be felt extending for 1 in. upwards inside the posterior wall of the cervical canal. From the size of the uterine tumour the pregnancy appeared to have reached the end of the eighth month. The last period was said to have lasted from November 6th to the 13th, on which datum the pregnancy had reached the thirty-fourth week; the woman's history, however, was not very accurate or reliable.

Under an anaesthetic the pedunculated mass was cut away, and the growth in the posterior lip of the cervix removed as completely as possible by the curette. The growth was limited to the cervix, which could be brought down by volsellae: the fornices, as felt through the vagina and rectum, were free from infiltration. The cervix was dressed with solution of chloride of zinc 40 gr. to the ounce, and a wool tampon saturated with emulsion of iodoform in glycerine was inserted into the vagina. This dressing was repeated twice a day until July 2nd, when the uterus and its contents were removed by the vaginal route. Before the operation was commenced the fetus was observed to be lying in the same position as on admission, and the head could be easily pressed downwards into the brim of the pelvis.

Operation on July 2nd.—The remains of the growth formed a small nodular mass just inside the posterior lip of the cervix. A transverse incision was made through the anterior attachment of the vagina to the cervix, and the bladder was pushed upwards; the anterior wall of the cervix was divided in the middle line, the edges of the incision were pulled down by volsella on either side, the bladder was pushed further upwards, and the median incision prolonged for about six inches. A strong silk suture was then passed on either side of the upper part of the incision to serve as guides, and the volsella were removed. By bimanual manipulation the head was pressed into the pelvic brim: the membranes were then ruptured, the forceps were applied to the head, and the child delivered, the cord being immediately clamped and divided. The uterus was then again drawn down by the strong silk sutures that had been applied for the purpose, and without waiting to deliver the placenta, the median incision was continued until, with the help of traction from below and pressure by an assistant from above, the uterus was delivered. Forceps were now applied to the broad ligament on either side and to the posterior vagino-peritoneal attachment, the tissues being divided successively as the forceps were applied. After the uterus had been removed in this way the forceps were allow to remain, a long strip of iodoform gauze being introduced into the bottom of Douglas's pouch and another being packed round between the bundle of forceps and the wall of the vagina.

The child, a female weighing 2,333 grams, was livid and stillborn, but was soon resuscitated by artificial respiration aided by a warm bath and the use of cold affusions. The child's figure was well rounded, and there was not much down on the skin; the nails extended beyond the ends of the fingers and as far as the ends of the toes. The fronto-occipital circumference of the head measured 31.5 cm.; the bi-zygomatic diameter measured 7.5 cm., the bimastoid 7.5 cm., and the biparietal 9 cm.; the maximum vertico-mental diameter was 11.5 cm. The child thus presented the characters usual at the end of the eighth month of development.

At the end of the operation the maternal pulse was 120 and the surface cold; reaction took place speedily after the patient was returned to bed. The forceps were removed from the vagina forty-eight hours later; during these 48 hours there had been much cough, and frequent vomiting. Afterwards the woman made an excellent recovery; the vaginal gauze packing was removed on the sixth day; the highest temperature, 100°, was recorded on the fourth evening; the pulse gradually dropped, and from the eighth day onwards never went above 80. The patient was discharged greatly improved in her general condition on the twenty-second day after operation, and on that date the child, which had to be bottle-fed because the breast milk failed, was thriving and weighed 2,800 grams. Unfortunately, after being sent home the child ceased to do well; it was readmitted to hospital in a condition of marasmus on August 3rd, and died at the age of 7 weeks on August 19th.

On making inquiries for the purposes of this paper I am indebted to Dr. James Rust for the information that on June 2nd, 1905, the patient "is now very weak, thin, and anaemic, suffering from constipation alternating with diarrhoea. There is very offensive vaginal discharge, slightly bloody. The pelvis is occupied by a large hard nodular mass the size of a fetal head at term; the mass descends low in the vagina and rises about 2½ in. above the symphysis pubis."

The placenta weighed 350 grams, measured 15 cm. by 12 cm., and had been attached to the fundus and upper part of the anterior wall of the uterus. The cord was 40 cm. long; 6 cm. before joining the margin of the placenta the umbilical vessels sent off large branches which coursed over the membranes. The uterus after hardening measured 18 cm. by 14 cm. by 8 cm., the anterior and posterior walls each being about 3.8 cm. in thickness. The incision made at the operation extended as high as the front of the fundus and measured 17 cm. in length. The cervical canal, 4 cm. long, showed on its posterior wall some small granular elevations representing the base of the growth that had been removed by the curette; section shows that the growth had infiltrated the terminal part of the lip, and had not extended on to the vaginal wall. The cervical canal in the upper three-fourths of its extent appears to be normal. Under the microscope the growth proved to be a squamous epithelioma showing only a few scattered cell nests. The cervical glands showed no evidence of malignant change.

Case II.

A 3-para, aged 29, cervical cancer in the last month of pregnancy; onset of cancer symptoms coincided with date of conception; vaginal Caesarean section; child living; good recovery.

S. G., aged 29, was seen with my friend Mr. I. B. Richardson on August 13th, 1904. She had borne three children by natural labours at full term, the last in March, 1902, and now considered herself about eight months advanced in the fourth pregnancy. The last regular period was in November, 1903; from December 17th to 21st there was a very scanty show, and for a few weeks from that time, according to the woman's volunteered statement, there were bleeding on coitus and some irregular losses of blood; since then there have been constant discharges of thin blood-stained fluid, and in the last month occasional moderate haemorrhages. There has been no pain. On August 12th considerable loss of blood with clots occurred, and Mr. Richardson, then called in for the first time, found that there was cancer of the cervix, and at once asked me to see the patient with him. On examination the diagnosis of cervical carcinoma and pregnancy at the eighth month was confirmed, and the patient was sent in to the General Hospital on the same evening.

On the following morning a careful examination was made under an anaesthetic. The uterus extended upwards to the margins of the thorax. The external pelvic measurements were 26, 23, and 20 cm. The child was lying with its head movable above the brim, small parts in front and to the right, back to the left, and breech at fundus; the fetal heart was heard far back on the left side. The cervix was patulous for one finger, the internal os closed; inside the canal the mucous membrane was soft and velvety: at the free end of the cervix was a ring of firm inelastic tissue extending further upwards inside the posterior lip, where it was bounded at its upper limit by a transverse sulcus situated about 1 in. above the tip of the cervix. The ring of firm tissue extending completely round the external os, was thin in front and wide behind, like a signet ring. In the speculum the mucous membrane inside the cervix was of a dark purple colour, and rather coarsely papillary in appearance; the tip of the cervix and the outer surface of the posterior lip appeared dull red in colour and smooth, this appearance extending upwards inside the posterior lip as far as the sulcus above mentioned. The fornices were free, and rectal examination showed that there was no infiltration of the connective tissue surrounding the cervix. The firm tumour tissue was curetted away as completely as possible, and a portion of the posterior lip removed by scissors; very free bleeding ensued, requiring the application of two silk sutures. The vagina was copiously douched, and a dressing of chloride of zinc solution and iodoform glycerine tampons applied as in the first case; this dressing was repeated twice on the following day.

Operation on August 16th.—The fetus was ascertained to be presenting as before. The cervix was drawn down, and after incising the anterior vaginal insertion transversely and pushing up the bladder, the anterior wall of the cervix and lower uterine segment was divided in the middle line for about 5 in. The fetal head was guided into the pelvis by bimanual manipulation, and after rupture of the membranes was fixed by an assistant pressing from above: the forceps was applied, and the child delivered. Then by pressure from above and traction from below the uterus was lowered, and the anterior wall further divided in the middle line, until the organ could be delivered; during this process the placenta presented, and was removed before the complete delivery of the uterus. Forceps were then applied to the broad ligaments and posterior vagino-peritoneal septum, the tissues being divided as the forceps were applied. Iodoform gauze was packed into the lower part

of the peritoneal cavity and round the forceps. A tear on the inner part of the right labium majus required two silkworm-gut sutures. The whole proceedings, from the beginning of the vaginal incision until the dressings were applied, lasted thirty minutes: twenty minutes later the pulse was slow, regular, and firm, and the patient conscious.

The child, a male weighing 2,565 grams, and measuring 44 cm. in length, was stillborn, but soon revived under artificial respiration. The form of the body was well rounded, there was a moderate quantity of vernix caseosa, and downy hair was present over the trunk and to a less extent over the limbs and face. Both testicles were in the scrotum. The nails extended to the ends of the fingers, but not to the ends of the toes. The circumference of the head measured 30 cm. The maximum vertico mental diameter was 12 cm., the occipito-frontal 11 cm., the bi-zygomatic 8 cm., the bi-mastoid 8 cm., and the bi-parietal 9.25 cm. There was right facial paralysis from the pressure of the forceps, but this completely disappeared by the fourth day. The mother's milk failed, and the child required to be bottle fed: when discharged on September 8th he weighed 2,800 grams and appeared to be thriving; afterwards, he began to waste, and died at the age of 4 months.

After the operation the mother complained of thirst and backache for the first forty-eight hours, at the end of which time the forceps were all removed. There was some distension on the third and fourth days. The gauze packing was finally removed on the seventh day. The temperature rose to 101° on the evening of the fifth day, and to 100° on four occasions, but for the rest varied between 98° and 99 5°. The pulse never rose above 92. The woman made an excellent recovery, and when discharged, on September 8th, the vaginal wound had healed with the exception of a small surface, which was covered with healthy granulations.

The placenta was normal and healthy, weighing 466 grams; the cord was 45 cm. in length. The uterus, 1,282 grams in weight, shows an irregular granular ulcer, larger on the posterior lip, but extending all round the external os. The tissue in the base of this ulcerated surface has the characteristic structure of a squamous epithelioma, with a large number of well-marked "epithelial pearls."

The immediate result of the operation in both these cases left nothing to be desired. The children were delivered alive without difficulty, and continued to thrive as long as they were carefully looked after in hospital; their subsequent deaths appeared to be due in each instance to ignorance or carelessness on the part of the mother. The mothers made good recoveries, the result being especially satisfactory in the first case, where the woman was in very poor condition at the time of operation. The early recurrence of disease in this patient is extremely disappointing, because the growth was polypoid, and appeared to have invaded merely the tip of the cervix, and because the necessary incisions seemed at the time of operation to be placed wide of the growth.

Orthmann has collected 29 cases of vaginal Caesarean section for cancer with 5 deaths, equal to 17 per cent. Only 12 of the cases were operated upon in the last two months of pregnancy, and 3 of these 12 died, 1 of haemorrhage, 1 of peritonitis, and 1 of sepsis which was present before operation. Eleven of the 12 children were born alive. In 6 of the cases in which the weight of the child was given it was greater than in my first case, the three heaviest children weighing 3,700, 4,000, and 4 250 grams. It appears that the latest development of the vaginal method of operating in these cases offers as good a chance of survival to the child as the abdominal method.

The development of the radical methods of operation is yet too recent to allow of a correct estimation of the remote results of operation in cancer complicated by pregnancy. In France even now a very despondent view is taken of the chances of cure of the mother by radical operations, so that the practice in that country is to do nothing to interfere with the chances of the child. Many isolated cases of freedom from recurrence for three or more years have, however, been recorded, as well as a few larger statistics which give hope of even better results being obtained in the future by early diagnosis, and immediate radical operation. For example: Hense, out of 41 cases of cancer removed during pregnancy, labour, and the puerperium, found 10, equal to 24 per cent., remaining free from recurrence, as compared with 30 per cent. in non-puerperal cases; and Glockner in 14 cases had 25 per cent. permanent cures, as compared with 34 per cent. for cervical cases generally.

In a recent communication to the London Obstetrical Society Professor H. R. Spencer gave the results of his experience of cancer of the cervix complicating labour in advanced pregnancy, and related three cases where delivery took place through the natural passages and where the cervix was removed by high amputation during or after the puerperium; all three patients remained well from eight to eleven years after the operation. Stress was laid upon the importance of preventing implantation of cancer cells in healthy tissue during the operation, and for this purpose the use of the actual cautery in making the necessary incisions was warmly recommended. The results thus obtained prove that in some cases of squamous epithelioma limited to the vaginal cervix, high amputation is an effective radical operation. In most cases, however, the choice will lie between the abdominal and the vaginal methods of total hysterectomy, and in the early months of pregnancy the decision will depend upon the method generally adopted by the operator in cases of cervical cancer.

My experience in two cases shows that the operation of vaginal Caesarean section even in the last months of pregnancy is not a difficult one in suitable cases, that the immediate risk to the mother is not great, and that the chances of the child are very good. The value of the proceeding depends, however, upon the remote results as regards recurrence of cancer, and until these can be estimated and compared, the question of the best method of operating, abdominal or vaginal, remains an open one.

Professor WERTHEIM (Vienna) said: During the past eight years I have had under my care 6 cases of cancer of the uterus complicated by pregnancy. In only one of them was the pregnancy advanced to full term; in another the pregnancy was in the sixth month; in the other 4 cases in the first four months. In all 6 cases I performed the abdominal operation by the method I described here yesterday. As you know, the gynaecologists hold that cancer of the uterus, complicated by pregnancy, is specially malignant, on the supposition that pregnancy and labour favour in a particular way the propagation of the disease into the parametrium and lymphatic glands. Therefore even such operators as still persevere in the vaginal way of operating on cancers of the uterus prefer the abdominal way in this complication, in order to make the operation more radical (Winter). On this account, though I am very favourably considering the vaginal Caesarean section, I did not employ it in any of these cases. In the case in which the child was living at full term I of course delivered it by the ordinary Caesarean section before extirpating the uterus. It is very remarkable that we found the lymph glands affected in only one of our cases. Unfortunately this case was the one which died, about three weeks after operation, succumbing suddenly to an embolism of the pulmonary artery. The other five cases survived. Only in one of them the disease recurred, about one and a half years after operation; four cases, though very advanced, are till now free from relapse, amongst them the case in which the pregnancy was at full time and which was operated on five years ago, and another case (the pregnancy in the sixth month), which was operated on four years ago. In view of the universally-established doctrine that cancer of the uterus, complicated by pregnancy, is especially malignant, the good after-results obtained are very remarkable. Döderlein, who reported some months ago about six cases operated on in the same way, had also very satisfactory after-results.

The PRESIDENT said that Dr. Wilson had clearly shown that the uterus could be removed per vaginam without difficulty at the time of labour. The object of operating on these cases, however, was to cure the patient, and, as far as he knew, there were only five cases of labour in advanced pregnancy complicated with cancer of the cervix in which the patients had remained well for five years. Three of these had been operated on by himself by high amputation, and remained well for from eight to twelve years. The others were operated on by von Ott and Olshausen, and remained well for eight and a half and five and three-quarter years. Professor Wertheim had that day added a sixth case which had remained well for five years after Caesarean section followed by the extensive abdominal hysterectomy. This case he regarded as most important; the operation possessed the advantage over the operation recommended by Dr. Wilson that local implantation could be avoided. With regard to the five cases above mentioned (which had all been operated on during the puerperium), it had occurred to him that possibly the results were more favourable during that time when the tissues were undergoing involution.

BEQUESTS TO MEDICAL CHARITIES. The late Mr. Patrick Bermingham, of Kingstown, Dublin, whose will has now been proved, bequeathed £250 to the Hospice for the Dying, Harold's Cross, and a similar amount to each of the following institutions: The Jervis Street Hospital, the Catholic Lying-in Hospital, and St. Michael's Hospital.

THE INFLUENCE OF THE PRESENCE OF PUS IN THE FEMALE URETHRA ON THE PROGRESS OF GYNAECOLOGICAL AND OBSTETRICAL CASES.

By John Campbell, M.A., M.D., F.R.C.S.Eng.,
Surgeon to the Samaritan Hospital for Women, Belfast, and Consulting Surgeon to the Belfast Maternity Hospital.

The majority of specialists are in the habit of systematically examining the urethra for pus in every case of pelvic disease coming under their notice. From its presence or absence many of them form an opinion as to the future of the case, and base both their prognosis and treatment to a great extent upon the condition of the urethra. The great majority of general practitioners, however, including those who do a large amount of obstetrical work, do not look for pus in the urethra in examining their cases, and do not think of it as a possible factor in the progress of their patients who are recovering from confinements or suffering from some gynaecological ailment. The object of the present paper is to direct the attention of the general practitioner to this matter from a purely practical standpoint; to show how prevalent pus in the urethra is in gynaecological cases and how frequently it is found in parturient women; to point out that it contains in many instances virulent septic micro-organisms; to prove that it is often associated with unsatisfactory recoveries after operation or labour; and to plead for more careful investigation of the matter by the profession at large. If any apology were necessary for bespeaking attention to the subject, it would be sufficient to mention the fact that puerperal fever is practically a thing of the past in lying-in hospitals and is still as prevalent as ever it was in private practice, and to remind you that a certain section of the profession charge you with being the cause of this state of things, and that an increasing proportion of the public regard you as being responsible for all inflammations following childbirth. It is therefore incumbent upon the general practitioner either to stamp out puerperal fever and show as clean a record in family practice as the lying-in hospitals do in theirs, or to prove that certain cases carry in their own persons septic organisms and may in that way become septic under the most careful medical attendance. I believe that the simple examination of the urethra for pus will explain many an obscure case of puerperal septicaemia and save many a man from unjust blame, and on that account I ask your attention to what I have to say.

I.—*The Prevalence of Pus in the Urethra in Gynaecological and Obstetrical Cases.*

One naturally expects to find that a considerable number of women who seek relief for pelvic ailments have pus in the urethra or in Skene's glands. In 544 consecutive cases examined in private practice I found that 135 had pus in the urethra or in Skene's glands. In the majority it was abundant, but in 10 there was but a trace. The important thing is that in this series, which may be looked upon as typical—including, as it does, women of all ages, married and single, rich and poor—24·7 per cent., or practically one-fourth of the whole number examined, had pus in the urethra or urethral glands. This may be taken as a fair average for gynaecological cases in private practice. Turning now to hospital statistics, I found that in 372 patients consecutively examined at the Samaritan Hospital for Women, Belfast, 135 had pus in the urethra or Skene's glands. This works out at 36·2 per cent., which gives an apparently larger proportion of pus cases among the poorer classes than among the mixed classes in private practice. The disproportion is apparent rather than real, and arises from the fact that the affection is usually associated with very chronic ailments, and that chronic hospital cases keep coming to the same institution off and on for years, while private patients similarly afflicted are disposed to seek advice from a great variety of practitioners, and seldom stay under the care of any one specialist for very long. Thus these cases tend to aggregate in hospital practice.

The interesting thing is that nearly one patient in every four gynaecological cases has pus in her urethra—in other words, is continually carrying about with her a focus of septic infection. Now this only applies to patients seeking advice about pelvic ailments, and affords us no idea of what proportion of the female population in general has pus in the urethra. The figures I have given show that 916 cases from both hospital and private practice had contaminated urethras in 29·4 per cent. The percentage in the general feminine population cannot be anything like so great, but the proportion among women sexually active must be considerable, rendering the matter of great importance alike to the gynaecologist and to the obstetrician.

Let us now turn to the parturient woman for a moment. Dr. John M'Liesh, of the Maternity Hospital attached to the Belfast Union Infirmary, has given me some valuable statistics regarding the relationship between the presence of pus in the urethra and convalescence after labour. He specially examined 120 cases for me, and found pus in the urethras of 18 of them. The remaining 102 had none. This gives 15 per cent. as the proportion of lying-in women of the workhouse class whose urethras contain pus—a very high percentage when we recollect that pus in the urethra so often goes with sterility.

II.—*Micro-organisms in Pus from the Urethra.*

Dr. Carnwath, of Queen's College, Belfast, has examined the pus from 100 urethras for me. The vulva and parts about the meatus urinarius and vaginal entrance were washed, well bathed with 1 in 2,000 perchloride of mercury lotion, again bathed with sterilized water, and finally touched with absolute alcohol. The urethra was then carefully squeezed by a sterilized finger, and the pus expressed taken up on a sterilized wire loop and used to make films and cultures. In the first cases examined we found that though the films showed micro-organisms to be present in abundance, yet the culture tubes gave little or no growth. This Dr. Carnwath attributed to the inhibitory influence of a trace of perchloride of mercury. We therefore, in the latter cases, omitted the bathing with the perchloride, and relied on careful washing and bathing with sterile water and the application of alcohol, and got free growths in the tubes. I here draw attention to this, as I shall later on refer to it in speaking of the inhibitory influence of perchloride of mercury as an important factor in treatment. As my present object is simply to show that urethral pus contains septic micro-organisms, it will be sufficient for me to give a rough statement of Dr. Carnwath's results. Many of the cases showed evidence of mixed infection. Staphylococcus pyogenes albus was present in about 96 per cent. of the cases, streptococci were found in about 6 per cent., and gonococci in 2 per cent. Organisms capable of producing septic infection are, therefore, prevalent in pus from the female urethra, or Skene's glands.

III.—*The Association of Pus in the Urethra with Unsatisfactory Recoveries after Operation or Labour.*

Cases of endometritis associated with pus in the urethra are notoriously troublesome. No matter what line of treatment you adopt, the patient's health will in a good number of cases be only temporarily improved. Moreover, operative interference in the shape of curetting is very often followed by an aggravation of some symptoms or by the advent of others. So disappointing have my own results been that I am disposed to avoid active measures as far as possible. The graver gynaecological affections, such as uterine fibroids, are also adversely affected by the existence of pus in the urethra, both as regards their progress and the results of operation. This is not to be wondered at when we remember that pus in the urethra is merely a striking local manifestation of a state of the system which is general. The statistics of Dr. McLiesh, taken from the Maternity Hospital of the Belfast Union, show that the average temperature is higher after delivery in cases with pus in the urethra than in those without. His results are so good all round that they probably encourage us to under-estimate the significance of the presence of pus. Among 102 cases without pus in the urethra, the average temperature for a week after delivery was 98.7°, while among those with pus it was 99.1°. The highest temperature in those with no pus was 100·2°, which was noted in 2 cases, one being a primipara and the other in her fifteenth confinement. The highest temperature among those with pus was 102.8°. This occurred in a primipara. These temperatures in 120 cases were all taken in the mouth and armpit simultaneously, so as to avoid possible error, and in every case the two readings were in agreement. I submit that these figures show that pus in the urethra has an adverse influence over the puerperal state, even in cases so carefully looked after as Dr. McLiesh's are. I think I am entitled to argue that this influence would have been more apparent had the confinements been conducted as they usually are in private practice. The existence of pus in the urethra shows that the lying-in patient is threatened from several points. Her system is already more

or less under the influence of septic micro-organisms, even though their effects may not be apparent. Germs from the urethra may multiply in the vaginal secretions during a prolonged labour. Pus from the urethra may be carried up to the cervix by the examining finger or into the uterus by the hand or instruments in operative deliveries. Primiparae are more liable to suffer than multiparae on account of their greater liability to laceration of the cervix, vagina, and perineum. In this connexion it is worthy of note that Dr. McLiesh's highest temperature of 102.8° occurred in a primipara with pus in her urethra. Cases illustrating the tendency of patients with pus in the urethra to do badly after labour are numerous. I give two examples:

Case I.—A young lady in excellent health married a man who had contracted gonorrhoea some years previously. She soon became pregnant, and during the fourth month had a bad attack of acute cystitis. Her urethra was at this time found to contain much pus, and her relatives were warned that her labour was likely to be a complicated one on that account. She recovered from the cystitis, and continued well until her confinement, at which she was attended by her own doctor and myself. Needless to say we used every precaution, knowing that we had to deal with a risky case. Her labour was a normal one, and beyond a slight perineal laceration, which was stitched, there was no complication. At the time of the confinement pus in the uretha was still abundant. For the first two days after labour she had a rise of temperature with a maximum of 104° F. Afterwards she progressed favourably. This patient suffered somewhat in spite of every precaution. How much worse would she have been had the pus in the urethra been undiscovered, and no precautions taken!

Case II.—A young lady was dilated by me for dysmenorrhoea about a year before her marriage. Soon after marriage she conceived, and in due course was confined in England, whither she had gone to reside. She had a very severe attack of puerperal septicaemia, which led her medical attendant to spend several nights at her house and to have the advice of a London consultant, who injected her with antistreptococcus serum. She ultimately recovered, and subsequently had a second child, though her health has never been good.

Six years after her marriage she again consulted me on account of general ill-health and some pelvic symptoms. I found much yellow pus in the urethra. Now, in this case I know that the patient had no pus in her urethra before marriage, and my opinion is that after marriage she contracted a urethritis, that her puerperal attack was due to the same micro-organisms as were keeping up a chronic discharge of pus from her urethra, that the lacerations incident to a first confinement made her an easy prey at the first labour, that the absence of extensive lacerations allowed her to escape at her second labour, but that she was in a state of health which favoured the onset of another septic attack under slight provocation. It is worthy of note that her relatives were firmly convinced that her septic illness was due to some negligence on the part of her doctor, and that his anxiety for her recovery and his remaining with her for several nights was evidence of conscious guilt. Had the pus been detected before labour and a word of warning thrown out the doctor's credit would have been saved. Cases of this type are probably more numerous than many medical men think.

Practical Deductions.

I would strongly urge that every gynaecological patient and every pregnant woman should be examined as to the presence of pus in her urethra, and that the general practitioner should look upon the existence of pus in the urethra as an indication that gynaecological affections complicated by it will be obstinate, and that labours accompanied by it will be dangerous. No man would with a light heart undertake the care at her confinement of a woman who had a sinus discharging pus into her vagina. It is only a matter of common sense that he should, as far as he can, protect his patient and himself from the effects of a septic urethra.

Treatment.

In gynaecological cases the main thing is attention to the general health, vaginal cleanliness, and as little handling of the pelvic organs as possible. In endometritis the curette should be avoided, as a rule, unless there is haemorrhage, and the endometrium should be swabbed with carbolic acid on a Playfair's probe. The crystalline carbolic should be liquefied by heat, and the probe dipped in it and laid aside while the vagina is being douched. This gives the carbolic time to recrystallize on the probe. A stronger application can thus be introduced beyond the cervix than could be done with liquid preparations.

In labour cases having pus in the urethra the external genitals should be washed in the usual way, and well bathed with 1 in 2,000 perchloride of mercury solution. This is not enough. The urethra must be squeezed free from every trace of pus, either in urethra or Skene's glands, and the meatus thoroughly bathed with the perchloride lotion. In all pus cases delivery should be followed by one intrauterine douche of 1 in 2,000 perchloride of mercury solution, which should be given as soon as the placenta has come away. This is a measure attended with no risk, provided that any residual fluid be expressed when the binder is about to be applied. As previously mentioned, the inhibitory influence of even small quantities of perchloride of mercury upon germ growth is great, and it gives time for fresh lacerations to become less absorbent than they are during the first twenty-four hours.

Dr. Thomas Wilson had for several years past paid attention to the very frequent occurrence of discharges, clear and turbid, from the female urethra. The clinical relations of such cases had strongly suggested the conclusion that in the great majority the affection was a chronic result of infection by the gonococcus, that it was in fact of the same nature as gleet in the male. The results of the bacteriological examinations detailed by Dr. Campbell were not incompatible with this view, and it was probably safe to accept urethral discharges in the female as at least, in the great majority of cases, presumptive evidence that any accompanying inflammatory disease of the generative organs depended upon the gonococcus for its origin. Dr. Wilson entirely concurred in the extreme importance of paying attention in obstetric and gynaecological cases to any urethral discharge that might be present.

Dr. Boxall had recently been asked how it was that in dealing with the statistics of the York Road (General Lying-in) Hospital he was able to explain the absence of puerperal sepsis produced as the result of undetected previous gonorrhoeal infection in a certain number of cases. He could only explain this absence by the fact that every patient was treated on the principle of having possibly been previously infected with the gonorrhoeal or other septic organisms and was as a routine practice douched both before and after delivery with sublimate solution. The facts related by Dr. John Campbell served to confirm this explanation.

REMOVAL OF A TUMOUR FROM A HERMAPHRODITE.

By Henry Corby, M.D.,
Professor of Midwifery, Queen's College, Cork.

Willie S., aged 15, was admitted to one of the male surgical wards of the Cork South Infirmary last October. He was a "hermaphrodite." The external genitals presented the appearance of those of a female with the exception that what seemed to be a non-developed penis protruded from between and well beyond the labia majora. Commencing close to this protuberance there extended backwards a slit in the urethra, and owing to the child having suffered at times from urinary incontinence his mother had always kept him in petticoats. His features were those of a boy and his voice was distinctly masculine. There was an abnormal development of adipose tissue all over the body. One leg was shorter than the other, and he could not abduct the legs completely. Indeed, owing to the proximity of his knees to each other he walked with difficulty and had a shambling gait. He had six toes on each foot, and a supernumerary finger on one hand had been removed when he was a baby. His intellectual powers were distinctly below the average, and he presented other indications of sporadic cretinism. The family history was very interesting. His mother informed me that she had twelve children. All were born at term except the tenth and eleventh. The tenth was born at seven months alive, but died, the eleventh was born at six months, also alive, but died. There was apparently no syphilitic taint in either parent. My patient Willie was the eighth child, and a remarkable thing was that the fourth child was also a "hermaphrodite," as the mother expressed it, "exactly the same as Willie." That child lived 8 months and died of dyspepsia. Three out of the family of twelve are living, and one of the three suffers from paralysis of the foot, the result of diphtheria. With the exception of the hermaphrodite that had died all the other children that were born at term and died were carried off by pulmonary tuberculosis. The father is dead but was healthy.

The mother, from whom I got the family history, was healthy. She was of somewhat large build; her features were coarse, and on her face there was marked hirsute

developments. I have been told that she recently died of cancer of the stomach. She was a particularly intelligent woman, and of her own accord mentioned that she and her husband were second cousins, and she was strongly of opinion that this consanguity was the cause of her having given birth to the two hermaphrodites. In proof of her contention she told me that her husband, who was a market gardener, had noticed that if he planted seeds taken from cabbages which had grown near each other the resulting plants were not at all as vigorous as would be the case when he took the seeds from cabbages which had been grown at a distance from each other.

Willie came under my care because of a large tumour occupying the central portion of the abdomen between the pubes and the umbilicus, but more to the left of the median line. It was firm and resistant, and somewhat movable with the abdominal walls; but I must candidly confess that not only could I not make a differential diagnosis as to its nature, but I could not even hazard a decent guess. Under those circumstances I decided on cutting down on the growth and attempting its removal.



Fig. 1.

In the course of the operation I found as I was nearing the tumour a number of large veins were coursing over it, and it occurred to me it might be a sarcoma. On proceeding further, however, I discovered it was attached to a pedicle which extended upwards and to the left, and with a little more dissection I was able to trace this pedicle into the abdominal cavity. I then realized that I was dealing with a solid tumour of the left ovary, which had grown between the muscles of the abdominal walls. I tied the pedicle, and removed the tumour in the ordinary way. I then asked myself how an ovarian tumour came to be extra abdominal, and it occurred to me that there must have been originally a hernia of the ovary into the inguinal canal. Eventually, tumour formation set in, and as the growth progressed mainly to the right, the tumour came to occupy a central position. In proof of this opinion being correct, a little further investigation showed me that in tracing up the pedicle I had slit open the inguinal canal. Even here nature seemed to hesitate as to whether this strangely-developed child was a male or female, and the ovary, comporting itself as a testicle, had slid along the inguinal canal. I got a couple of fingers into the peritoneal cavity and felt a uterus about the size one would expect to find in a girl of 15. During convalescence suppuration took place in the wound, mainly owing to the low vitality of the tissues, but as I had separately sutured the peritoneum, fortunately none of the pus got into the abdominal cavity. Prior to the patient's discharge from hospital the mental weakness became more marked. The mother afterwards removed her to the Union Hospital, and she is now an inmate of the lunatic division, but one of the physicians to that institution informed me he would classify her as an idiot, not as a lunatic. The tumour weighed 6 lb. on removal, and the pathologist to the hospital informed me that it was fibroid. I may mention that when washing up after the operation I suggested that the patient should be taken to the women's ward, but the nurses vigorously protested, and no matter what anatomical



Fig. 2.

proof I could produce on the subject, they absolutely declined to recognize "Willie" as a member of their sex, and accordingly my interesting patient was sent back to the male ward, and was afterwards known as "Willie Mary." She got no hint as to the definite discoveries made on the operation



Fig. 3.

table, and it was quite evident from the remarks she made that she had no suspicion she was other than a male. This extraordinary child was under my care about six years ago owing to its hermaphroditic condition, and, as I have stated, on

that occasion an examination of the external genitals caused me to come to the conclusion that I was dealing with a male, or, in other words, spurious hermaphrodite. As I had not a clear recollection of what I discovered at the time, and as I was anxious to make the notes of the case as complete as possible, since the above was written I decided on paying it a visit at the Union Hospital and making a further examination. Accordingly I did so, and found that what I have called the labia were covered with coarse, ruginous integument, such as is found on the scrotum. The protrusion, which after the operation I assumed to be an enlarged clitoris, proved to be a confused soft mass consisting of glans penis and prepuce. I could pass a probe along the urethra to the extent of about ⅔ in.; it then emerged at the slit on the under surface already referred to, and this slit was about ½ in. in length. Though my finger got into a *cul-de-sac*, there was no trace of a vagina, or if it were present it was completely sealed up. I was able to feel the body of the penis down as far as the arch of the pubes, and found that it was about the size of my index finger. Clearly, then, he had a penis, and what I called the labia were in reality the two halves of the scrotum which had failed to unite in the course of development. He still retains, and of course has a certain amount of claim to, the name of Willie. Though he is in the women's ward at the workhouse, the nurse in charge of him informs me that he resents the imputation that he is a girl, and she significantly added that when he wants to micturate he generally asks to be allowed to assume the erect posture. McMurrick, in his work on the development of the human body, alluding to true and spurious hermaphrodites, states that true hermaphroditism is "a term which should be reserved for possible cases in which the genital ridges give rise in the same individual to both ova and spermatozoa." "Such cases," he adds, "are of exceeding rarity in the human species, although occasionally observed in the lower vertebrates, and the great majority of the examples of hermaphroditism hitherto observed are cases of the spurious variety."

As my patient can claim to be the possessor of a uterus and now one ovary, and of a penis and two halves of a scrotum, he is clearly a true hermaphrodite, and is a representative of McMurrick's class of "exceeding rarity." Had his hermaphroditic brother plus sister survived to the present day the rarity, at least in Cork, of true hermaphrodites would be somewhat diminished. I have often heard of the superior intuitive perceptivity of women, and it is for psychologists to say how it came about that an imponderable quality called feminine instinct enabled the nurses of the Cork South Infirmary unerringly to declare, though anatomical facts were apparently entirely against them, that whatever else the patient might be it certainly was not a girl, and that its proper place was not amongst the women but with the men. However that may be, I am sure none will deny that the rechristening was appropriate, and that my interesting patient is fully entitled to his or her name—Willie Mary.

The PRESIDENT said he had once met with a tumour of the round ligament which simulated an ovarian growth, and asked Professor Corby whether he had been able to feel the uterus.

Professor CORBY replied that he had been able to feel the uterus, and it was quite impossible that in this case the tumour could have been one of the round ligament.

SOME COMPLICATIONS AND DEGENERATIONS OF UTERINE FIBROMYOMATA.

By S. J. M. CAMERON, M.B., B.Ch.,

Assistant to the Regius Professor of Midwifery, University of Glasgow; Research Student, University of Glasgow.

KNOWING that the time at our disposal is limited, I have in this lantern demonstration excluded many complications and degenerations of this variety of tumour. I trust, however, that the photographs and photomicrographs about to be shown may not be devoid of interest.

Although adenomyoma of the uterus does not properly come under the above heading, yet, as it is the first time the Section has invited exhibition of this tumour, I thought it might not be out of place to show my slides of this interesting growth.

PRIMARY CARCINOMA OF THE FALLOPIAN TUBE COMPLICATING UTERINE FIBROIDS.

Mr. Bland-Sutton kindly gave me this specimen, which he removed during my term of office as resident medical officer to the Chelsea Hospital for Women. The patient was aged 49 years, and had borne one child. She complained of an abdominal swelling of four years' duration, and inability to control her urine. There was much leucorrhoeal discharge and severe haemorrhage, which had weakened her considerably. On examination it was found that the abdomen was distended unevenly by a tumour which extended midway between the umbilicus and xiphoid cartilage. It had an irregular surface, was of dense consistency, painless, and freely movable. There was a loud *souffle* in the left iliac region. The cervix was situated high in the vagina, and the fornices were represented by shallow grooves; the tubes and ovaries could not be palpated.

Pathological Examination.—The uterus contains many large fibromyomata while the ovary and left tube are normal. The total length of the right tube is 8 inches, 4 inches of unimplicated tube existing from the uterus to the commencement of the growth. The oval growth itself measures other 4 inches. The tube is thus lengthened and considerably thickened, a marked dilatation taking place 4 inches from the uterus to accommodate the new growth. A kink in the tube exists between the growth and the uterus which prevented some blood-stained fluid from escaping into the uterine cavity after the specimen was removed. This liquid material, however, could be easily forced into the cavity by digital pressure. The tube both in its unimplicated portion and over the new growth has an opaque white appearance. The tumour resembles in shape a small spinning top with the pointed extremity directed towards the uterus, while the broader end, measuring 2½ inches, projects towards the fimbriated extremity which is represented by several furrows at the tubal ending. On splitting the tube covering the tumour, it is found to originate in the anterior wall at its lower part. The tube wall covering the growth gaped widely when incised, and without any difficulty the superior and posterior walls could be lifted from the smooth surface of the tumour. These portions were very thin, either from the pressure of the new growth, or perhaps from a pre-existing hydrosalpinx. Covering the smooth free surface of the tumour is a thin layer of blood-clot, which thus separates the growth from the inner surface of the posterior and superior tube wall. The tapered extremity of the growth, as mentioned above, is directed towards the uterus, and on examination of the inner surface of the dilated portion of the tube in that region one readily finds the narrower continuation of the tube to the uterus, so that the dilated and undilated portions of the tube resemble very closely a retort, in the dilated portion of which a foreign body exists, large enough to occupy the space, but intimately connected with the limiting wall, only anteriorly and low down. On the inner wall of the tube, near the fimbriated extremity, and towards the upper surface, there is a small patch of growth, which has a papilliform appearance; it abuts directly on the tube wall, and measures 3 c.cm. in length and 1½ c.cm. in breadth. The cut surface of the tumour is oedematous, and the colour resembles that of light cheese. In the centre of the growth there is a portion of tissue about the size of a sixpenny piece where the tumour has a very soft consistency. The ovary is in no way implicated in the growth, and is separated from the tube by an unaltered mesosalpinx, and the ovarian ligament and tubo-ovarian fimbria are well marked, the ovary thus lying in the concavity beneath the elongated tube—a condition very frequently noticed in hydrosalpinx.

Microscopic Examination.—A section of the attenuated tube, taken from that portion of it covering the tumour but not involved in the growth, shows a degeneration of the plicae, epithelial lining, and muscular coat. The plicae are represented by mere undulations, and the epithelial lining by a few flattened cells. An occasional acinus is seen immediately underneath some of these undulations. They are narrow, elongated spaces, probably owing their origin to fusion between adjoining plicae. There is a fairly general hyaline degeneration in the muscular coat towards the inner surface, but towards the peritoneal coat the nuclear staining is much more distinct; many of the muscle cells have been replaced by fibrous tissue. The blood vessels are poorly developed, in striking contrast to the vessels which are present in the hypertrophied and undistended portion of the tube. A section taken from the tumour growth and including the affected wall of the tube shows the peripheral part of the tube to have a similar structure to that described above, but here the hyaline change is much more general. The inner part, however, is in contact with richly cellular material, and degenerate muscular tissue corresponding to and continuous with that described in the wall can be seen projecting into the mass, interposing between the various cellular collections, and at parts there is a definite boundary of degenerate muscular tissue around these cell groups. Some of these intervening strands contain a round cell formation in their fibres, and also some blood vessels, whose walls consist of a single layer of cells. The enclosed cellular masses, which at parts are quite continuous, form in this way extensive areas. The individual cells vary in size and shape for the most part polygonal but having a fair amount of round cells scattered throughout the field. The round and oval nuclei stain well, and, like the cells, show considerable variation in size. In some of the cells karyokinetic figures are observed, while at other parts of the tumour the whole structure is obliterated through necrotic change. A section taken through the tube midway between



Fig. 1.—Stereoscopic photograph of primary carcinoma of Fallopian tube. The tube has been split over the growth to show its origin from the anterior wall of tube low down (note that the superior and posterior wall is uninvolved).

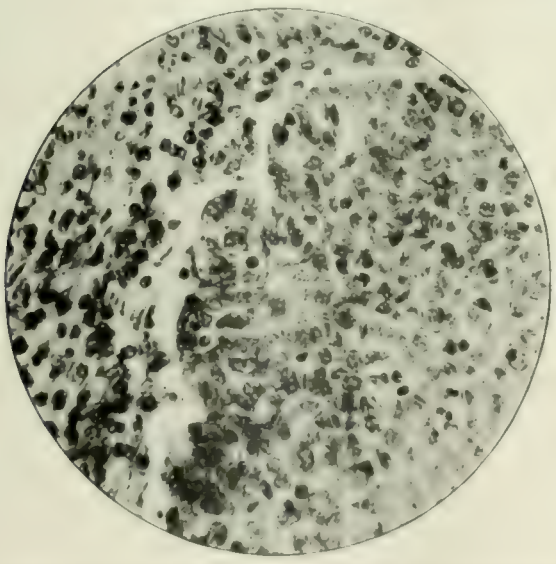


Fig. 2.—Cancer alveolus in primary carcinoma of Fallopian tube.

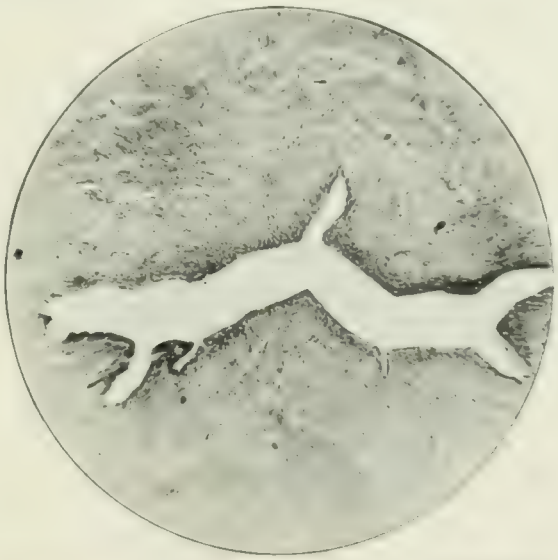


Fig. 3.—Section of tube between the carcinoma and uterus to show its freedom from new growth.

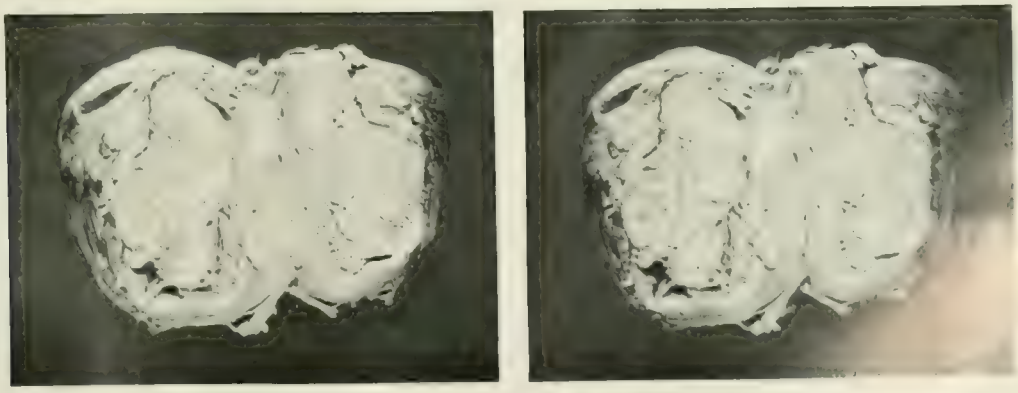


Fig. 4.—Stereoscopic photograph of cystic degeneration in capsule of fibroid.

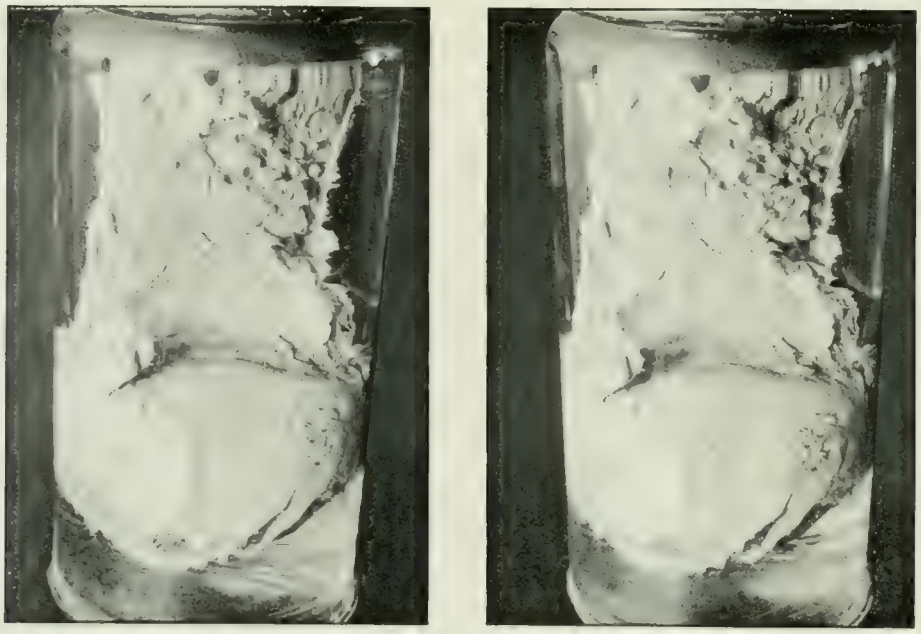


Fig. 5.—Stereoscopic photograph of perforation of uterine wall (see most dependent part in photograph) by the calcified tumour free in uterine wall.

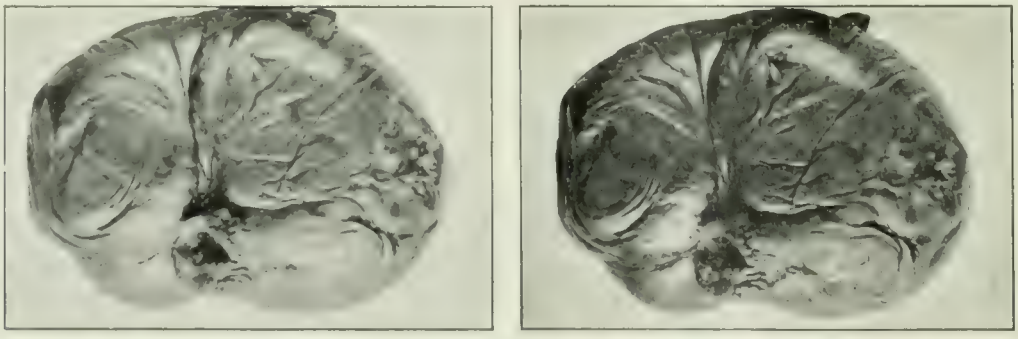


Fig. 6.—Acute torsion. Stereoscopic photograph of tumour (note the pedicle below).

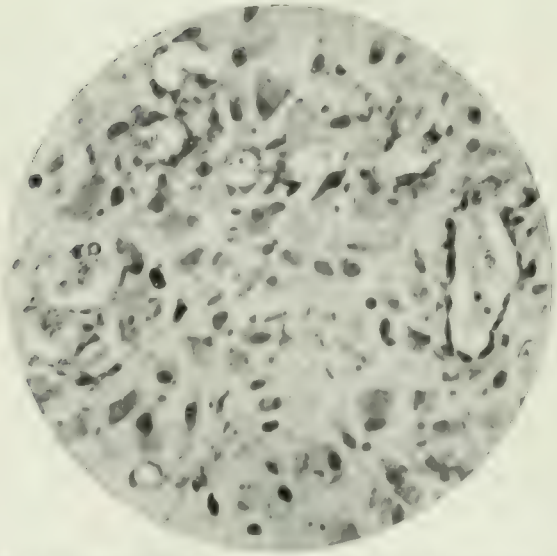


Fig. 7.—Decidual coils in fibromyomatous polyp complicating pregnancy.



Fibro-muscular tissue. Endometrium.

Fig. 8.—Endometrial origin of an adenomyoma.

the tumour and the uterus shows that there is marked hypertrophy of the muscular tissue, but it has not undergone degeneration, and the blood vessels are of large size. The plicae of the tube are simple and thickened, covered by columnar epithelium, and no trace of tumour growth exists, the lumen being absolutely free, so that the examination proves conclusively that the condition is one of primary carcinoma of the tube attached to a uterus containing fibromyomata. It may have been secondary to a hydrosalpinx, as many of the anatomical and pathological appearances present are found in that condition.

Sarcoma Originating in a Uterine Fibromyoma.

The illustration which I now show you is a specimen of a sarcoma originating in a uterine fibromyoma. I removed it by hysterectomy from a patient, aged 62 years, who had sought advice owing to frequency of micturition, failure in general health, and increase in size of an abdominal tumour, of which she had been aware for a period of twenty-nine years. No free fluid nor any adhesions were found on opening the abdomen. The tumour was single, and sprang partly from the anterior wall and partly from the fundus of the uterus, the adnexa of which were normal. The growth seems to have originated in an intramural fibroid, and the following are its dimensions: 8½ in. long, 8 in. wide, and 3 in. antero-posteriorly. The uterus is slightly enlarged, its interior being quite smooth, and the endometrium atrophic. The tumour on removal was soft, semifluctuant, and of reddish colour; the ovarian arteries were the size of the brachials, greatly elongated, and markedly tortuous. On incision, the growth is found to be limited by a portion of uterine muscle, which at no part is very thick, and towards the upper part the tumour is found to be covered only by the peritoneum. No great amount of blood escaped from the cut surface, but there was a considerable amount of mucus-like material in the centre of the new formation. Some portions were of a cheese-like character. Other portions had a similar colour but were of a coarser aspect. The whole consistence of the tumour was very fragile and the two halves tended to fall asunder; the greater portion had the consistence of soft putty and had a somewhat vermilion tint, a few patches of such coloration occurring in the cheese-like and more coarsely-granular portion. The blood vessels underlying the peritoneum were empty and very large.

Histological examination shows a highly-cellular structure the elements of which have, for the most part, a fusiform shape. Towards the peritoneal surface they can be seen invading the normal muscular tissue, whilst a section taken from the more deeply-seated part shows the actively-growing cells penetrating the débris of what I take to be fibromyoma. It is extremely difficult to state definitely whether the growth is penetrating altered fibrous or muscular tissue owing to the fact that the nuclei and cell outlines have been obliterated, probably by an oedematous condition produced by the sarcoma. Such a condition seems to be of fairly frequent occurrence in uterine sarcomata, and it will be recollected that this tumour on incision bore out this point, as a considerable amount of mucilaginous material was present. Throughout the growth giant cells are seen, some of which contain as many as six nuclei, whilst here and there haemorrhages have taken place.

It has been denied by some authorities that sarcomatous degeneration of fibroids can occur; but, from a review of the cases reported, one is forced to resist this view. It would appear that uterine sarcomata growing in the uterine wall (muscular) may start in the areas affected by fibromyomata—that is to say, they may be submucous, interstitial, or subperitoneal. When they result from the degeneration of a fibroid tumour they may involve it partially or totally; and, owing to the vitality and extent of the growth, it might be a matter of great difficulty to state precisely in which of these areas the growth had arisen. As a general rule, the sarcomatous area is softer than the fibromyoma in which it occurs.

A point of some interest in connexion with sarcomata of the uterus is that sometimes they can be shelled out exactly like a fibromyoma. The history of the case related is strong presumptive evidence in favour of the degeneration of a fibromyoma into a sarcomatous tumour. In 100 cases it occurred in one instance, and this seems to be about the average.

Carcinoma of the Body.

The association of adenocarcinoma of the uterine body with fibroids is more than a mere coincidence. Thus Haultain, in his recent report on 120 cases of fibromyomata, found it as frequently as five times, and Wilson, in 13 cases of cancer of the body, observed that in 6 cases fibromyomata were present, although I have to extend my series to Case 104 before finding this complication.

A fair average would seem to be from 2 to 3 per cent., carcinoma of the vaginal portion of the cervix with uterine fibroids being very much more uncommon. It is a matter of some difficulty, however, to distinguish cases of carcinoma of the body from cases of adenocarcinoma of the cervix which have extended to the uterus. In the specimens which I have seen the infiltration of the uterus by the new growth has been diffuse, due probably to the existence of the disease for a considerable time before the uterus was removed. The greater frequency of this malignant condition in fibromyomatous uteri may be due to the endometrial changes which fibromyomata produce, that is, adenomatous formation and chronic congestion. The patient on whom I operated was aged 58, and her medical attendant was aware of the presence of fibroids for many years, but as these were of small size and did not markedly inconvenience the patient operation was not resorted to. A year before operation haemorrhage commenced and gradually became more severe, until she had an alarming haemorrhage a few days before operation. Pain was a later and very distressing symptom. The uterus was enlarged and contained many small myomata, interstitial and subperitoneal.

The carcinoma involved the whole endometrium and consisted of soft, pouting masses, filling the uterine cavity, and of outrunners, which invaded the uterine muscle almost to the peritoneum. At the lower part the disease had extended beyond the wall of the uterus. Pain as a comparatively early symptom of malignant disease of the uterine body is doubted by some authorities, but it may be considered one of the earlier symptoms relatively to carcinoma cervicis. The growth, as will be seen from the accompanying illustration, is a typical adenocarcinoma invading the uterine muscle. The type is for the most part inverting: finger-like processes project into the acini, with frequent apposition at their tips. In some parts of the growth the form is everting.

Uterine and Ovarian Arteries.

Fibromyomata very frequently are accompanied by marked increase in size of the ovarian and uterine arteries. In a well-marked condition the vessels may approach in size the common carotid; they are frequently greatly increased in length and markedly tortuous. On microscopic examination it is found that the circular and longitudinal muscular coats are very much hypertrophied, and in some cases there is a tendency to excess of fibrous tissue, especially in the internal coat. There is frequently a certain amount of endarteritis, but, as a rule, this condition is not severe. Clinically it has been observed that uterine fibroids are frequently accompanied by a blowing murmur, like the uterine souffle, but the seat of such a murmur has not been accurately described. Many seem to think that it is due to the circulation of the blood in the tumour itself, but I am quite convinced that it is usually produced in the vessels of the broad ligament, and somewhat less frequently in those vessels underlying the peritoneal covering of the growth. In support of this statement I have on two occasions in cases where those large vessels had been elevated by the tumour growth into the abdominal cavity been able to determine the situation of the pulsating vessels by abdominal palpation, and at the same time to note that in those localities the blowing murmur reached its maximum intensity. Occasionally, in a very mobile tumour, the pitch of the note can be altered by changing the position of the tumour. Again, I have noted well-marked bilateral murmurs in a fibroid where almost complete cystic degeneration had taken place, so that it is unlikely that such a murmur could be produced by circulation in the growth. It has been stated by some that such a blowing murmur is not detected in ovarian cysts, but my friend Mr. Leitch showed me a case of ovarian cyst in which there was an extremely loud blowing murmur, and at operation the pedicle was found to be large and vascular, so that there is strong evidence in support of the production of such murmurs in the vessels contained between the layers of the broad ligament. In some cases, however, where the murmur is best heard in the mid-line, it will be found at operation that considerable enlargement exists in the blood vessels underlying the serous covering of the tumour.

Cystic Degeneration.

Cystic degeneration occurring in fibroids is fairly frequent, and may take place in a young subject or in one who is many years over the menopause. Thus, I have removed a fibroid

from a patient aged 25 years, in which two well-marked cystic spaces existed, whilst I have noted its occurrence in cases where the age of the patient was over 50 years, and who had sought relief owing to the increase in size of the tumour through such degeneration. It may occur in the tumour mass alone, or may be accompanied by simple ovarian cystic degeneration or by a hydrosalpinx, of which latter condition this illustration shows that variety known as "hydrosalpinx follicularis."

One finds that cystic change may be either diffuse or localized, and I wish to bring under your notice a form of degeneration which is probably of fairly frequent occurrence, although no mention is made of it in the textbooks which I have consulted. You will note from the illustration that the change is quite limited to the proper capsule of the tumour. On opening this specimen one noted the presence of a glairy, mucilaginous material enveloping the intramural fibroid and separating it from the wall of the uterus. In another specimen this change had also taken place, but only a part of the proper capsule was implicated. It is of some interest to conjecture the ultimate result of this change, and I have been fortunate enough to obtain the accompanying photographs from a specimen in the Hunterian Museum of the University of Glasgow. Here one notes in the first illustration that the solitary tumour lies free in the wall of the uterus; complete peripheral calcification has taken place, whilst, as a usual accompaniment, there is liquefaction of the tumour centre. The probable explanation is that cystic degeneration had taken place in the proper capsule of the tumour, and, as the blood supply diminished, peripheral deposition of lime salts was the result. Besides this, you will observe that the second illustration shows a complication to have arisen, regarding which I find no note in the literature—namely, perforation of the uterine wall caused by the calcified tumour.

One of the earliest changes in the histogenesis of cystic fibroids is a disappearance of the nuclear staining in the connective tissue. The fibres then seem to swell and disappear, and only secondarily are the muscle cells similarly affected. This is well seen in the accompanying photograph. Such progressive changes may give rise to spaces of a large size, the walls of which resemble somewhat the interior of the heart cavities through the projection into the spaces of the relatively unaltered muscular tissue. The contents of the spaces may be of reddish tint, owing to haemorrhage into the cavity, and in one instance Dr. J. K. Kelly showed me a specimen in which a large space existed filled with blood clot. In many cases there seems to be a general diffusion of blood pigment in oedematous fibroids, giving them a reddish tint, and one has no hesitation in asserting that some cases of so-called necrobiosis occurring in fibroids are nothing but oedematous fibroids, plus diffusion of haemoglobin. I have failed to confirm the assertion made by Haultain that thrombosis of the vessels is of frequent occurrence in cystic fibroids.

In every case in which thrombosis appeared to occur it was determined by microscopic examination that the clot was of recent formation, and new tissue formation in the clot was quite absent.

In a uterine fibroid which I removed owing to persistent haemorrhage and large size, there were dotted here and there over the cut surface small yellow nodules about the size of a split pea. From the microscopic examination of these portions, together with parts of the surrounding tissue, they would seem to be areas of localized oedema.

Mast cells seem to be of fairly frequent occurrence in tumours undergoing myxomatous degeneration, and in connexion with fibroids undergoing cystic degeneration I have found cells closely resembling mast cells, as the granules are extremely coarse, while the nucleus stains but faintly, and is situated towards the periphore, and, from the illustration you will see that it appears like a cavity. Numbers of these cells occur between the muscle bundles, and may persist in the centre of a field all other parts of which have undergone the cystic change. Some of the cells do not have a vacuolated nucleus, and their central part may stain darker than the peripheral portion. Besides this I have noted eosinophiles. It is probable that these large cells are derived from the connective tissue elements.

Myxomatous Change.

To illustrate myxomatous change in fibroids I exhibit the accompanying photomicrograph, taken from a portion of a tumour 9 lb. in weight, growing for the most part in the broad ligament of a barren woman, and originating from the uterus below the attachment of the Fallopian tube. Here one notices the complete transformation of connective and muscular tissue into myxomatous structure whilst the nuclei show but little loss of staining reaction. It is a curious fact that many broad ligament tumours undergo myxomatous change; and recently I have found this change in a spindle-celled sarcoma growing in the broad ligament. It is also a point of some clinical import that tumours undergoing cystic and myxomatous change give an impression of a bullock's heart shape to the examining hand on the abdominal wall.

Torsion of the Pedicle of a Subserous Myoma with Rotation of the Uterus.

This specimen I removed by myomectomy from a patient aged 45 years who for six days had complained of severe abdominal pain, and whose pulse rate was 130 and temperature 99°. On examination I thought I had to deal with a solid tumour of the ovary whose pedicle had undergone torsion, as the uterus could be partly separated from the large tumour. This accident I have twice witnessed, and as the complication of acute torsion of a uterine fibroid is of very rare occurrence the probability of its being a subserous myoma was not entertained. On opening the abdomen the growth was found to spring from the fundus, and the pedicle had three twists from right to left directed anteriorly towards the middle line. A few recent adhesions to the omentum and intestines were present, and the separation of these gave rise to no trouble. There was also a little free fluid in the abdominal cavity. At the same time it was noted that the uterus had rotated forward almost through two right angles so that the right tube and ovary lay to the left of the mid line. The tumour was removed by myomectomy together with another small subperitoneal growth in the neighbourhood, and the congested uterus was replaced. Hysterectomy was considered, but, as the successful result showed, the proper treatment was adopted.

The specimen weighs 4½ lb., and measures 8 in. long by 6 in. deep. The pedicle is deeply injected, whilst the whole tumour surface has a deep red colour, some parts being almost black. At the part most distant from the pedicle the peritoneum is seen to be thickened, and covers over a space measuring 1 in. by ¾ in., which contains clotted blood. The pedicle is short and very fragile. It is about the thickness of two fingers, and a large vein contained therein is dilated sufficiently to admit the tip of the little finger; two arteries are also seen somewhat compressed. The tumour on section has a dark beefsteak appearance, blood oozing from the cut surface. Large venous sinuses are cut across, from which blood can be expressed. Whorling is distinct, and no spaces containing blood clot are present in the central part of the tumour. The ovaries and tubes were normal.

On histological examination the venous sinuses in the pedicle are found to be enormously dilated, and in their lumen blood clot exists. Everywhere the small capillaries are markedly distended. The arteries, on the other hand, are compressed. A fair degree of periarteritis is noted. The general muscular tissue shows a diminution in the number of nuclei, this varying in the different fields examined. It can be taken as a rule, however, that where the nuclei are most plentiful there the nuclear staining is quite deep, whereas at other parts large areas are present in which, perhaps, only two or three faintly stained and shrunken nuclei exist. In the less affected parts, except for a certain lack of definition in the cell outline, there is no marked change such as occurs in the most distant parts of the tumour. In the latter situations the vitality of the tissue at certain parts has been seriously affected, and the vessels are very numerous and dilated. The muscular tissue in these areas is represented by a few droplets, or by an almost homogeneous material enclosed by connective tissue strands. It is a point of some interest that the connective tissue can be seen surrounding the muscle bundles and completely isolating it from the vessels. Here and there the muscular tissue of the most distant vessels has suffered, and all that remains of the wall is the elastic fibres, as can be demonstrated by orcein staining. This almost constant isolation of the muscular tissue from the walls of the blood vessels would tend to point to the origin of the tumour from the general musculature and not from the wall of the blood vessels.

Chronic Torsion of the Pedicle with Omental Adhesion to a Calcified Tumour.

In contrast to the foregoing case of acute torsion of a subperitoneal fibroid, I would direct your attention to this photograph which illustrates chronic torsion of the pedicle of a subperitoneal myoma. Although the twists have been straightened out, it is yet possible to note their markings on the pedicle. The pedicle here is long in contrast to the short pedicle in the case of acute torsion. Chronic torsion of a long pedicle I have observed in another case, and the patient

suffered no inconvenience from it. The peripheral calcification and central liquefaction of the tumour are well seen, but the most interesting condition present is the wide adhesion existing between the omentum and the tumour surface. The vessels in the omentum are large, and the omental tissue between them is atrophied. Alban Doran has noted this change in one of his many valuable communications to the literature of fibroid tumours. The pathological conditions present here might prove serious, as a calcified tumour with a long pedicle could readily injure some of the abdominal viscera if the patient fell. Again, strangulation of part of the intestine might occur, and in labour the vascular omental adhesion be ruptured during the changes in position occupied by the uterus from the onset of labour to the completion of the third stage. Seldom does one find adhesions of any degree of density complicating the fibromyomata, unless the tumour is undergoing degenerative change or accompanied by disease of the ovaries or tubes or, in rarer cases, of the appendix.

Fibromyomatous Polyp Complicating a Three Months Pregnancy.

Time does not permit one to describe the effect of pregnancy on fibroids, and so it is my intention to bring under your notice this single case. In January, 1905, the patient, a multipara, aged 44, came complaining of constant floodings of three months' duration; she was excessively stout, and on examination one found a large fibromyomatous polyp 3 in. long projecting through the cervix and occupying a considerable part of the vagina. The uterus was about the size of a three months pregnancy. The tumour was removed, but next day the patient aborted. She had never missed a period, but had bled evidently right on from the time of conception, probably three months before. On examining sections of the tumour, I found that the epithelium covering its most dependent part had a stratified squamous form. This is well seen in the photomicrograph, and we may consider the tumour to have been present for some time in the vagina. The connective tissue in the thick lower portion showed no change, but instead of the narrow portion above being covered by a single layer of columnar epithelium on a lymphadenoid stroma, a transmutation into decidual tissue had taken place, and the epithelium instead of being columnar had a low cubical form. The cells are quite characteristic, having an epithelioid form and possessing a large nucleus, as you will observe from the accompanying photomicrograph; some are more attenuated and possess long protoplasmic processes, and contain a single large nucleus. The blood vessels are engorged, and while the majority of the gland acini are lined by columnar epithelium, here and there the lining is low cubical. The examination of this specimen would therefore lead one to conclude that when a submucous fibromyoma is extruded into the vagina and pregnancy supervenes the so-called mucous membrane may undergo changes analogous to those in the uterus.

Localized Telangiectatic Condition of a Fibroid with Tuberculous Disease of the Ovaries and Tubes.

This specimen was removed by Dr. J. K. Kelly of Glasgow from a multipara. At the operation adhesions between the tumour and the omentum were found, so that one was led to observe the tumour structure and the condition of the appendages for a pathological lesion which would account for such adhesions. The uterus is uniformly distended by a large intramural fibroid, a part of which presents a normal appearance macroscopically and microscopically. The greater part of the tumour, however, has a deep reddish tint, not unlike the colour of a fibromyoma undergoing "red degeneration." One can observe, however, on examination of the cut surface at this part, that a large number of spaces of variable size exist, and on microscopic examination it is found that the blood channels are greatly dilated and lined by an attenuated layer of endothelium. This can be readily seen in the accompanying photomicrograph. The surrounding muscular tissue has also undergone a pathological change, as some parts of it show an absence of nuclei, and loss of definition in the cell outline. The remaining nuclei, however, for the most part, are seen to stain deeply, and in some cases they occupy the centre of a vacuolated cell. In some fields they are as numerous as in normal growths, but here, also, there is a tendency for the cell outline to become indistinct. The ovaries and tubes are matted together, and on examination typical tuberculous lesions are found. This is shown in the photomicrograph taken from the affected tube, in which there is abundant newly-formed tissue, and numerous giant cells. It seems to be the experience of observers that the ovaries not infrequently remain unaffected in cases of tuberculous salpingitis.

Adenomyoma of the Uterus.

I do not mean to occupy your time by going minutely into the pathology of these tumours, as I think the illustrations quite explain their characteristics. You will observe from the appearance of the adenomyomatous uterus shown that it differs from a fibromyomatous one, in having no whorling and possessing no definite capsule. Three layers can as a rule be easily distinguished, an inner layer consisting of thickened endometrium, a middle layer consisting of the tumour structure, and external to this the ordinary fibromuscular structure of the uterus occurs with the covering of peritoneum. The only other condition which I know resembling this is a uterus the seat of fibrosis, but here, as a rule, the uterus is much smaller. Haemorrhage is the outstanding symptom of such tumours, and according to the reports of operators who have performed oöphorectomy, no abatement in the bleeding results from this operation.

It would seem that the favourite site of these tumours is in the region of the tubal angle. In a specimen investigated by Mr. Leitch and myself it did occur here, and you will observe from the photomicrograph that the cells lining the space possessed cilia.

These spaces as a rule are quite characteristic, being lined by columnar epithelium and surrounded by a lymphadenoid stroma, which thus separates it from the muscular tissue. Occasionally you can observe the "goose-step" arrangement of the acini, and in cases where cystic distension occurs in the spaces flattening of the epithelium results. From the accompanying photomicrograph the origin of an adenomyoma from the endometrium is seen. Here you observe a part of the endometrium projecting into the fibro-muscular substance which is closing in on each side and will finally isolate it, although sometimes it may remain in communication with the endometrium by a strand of lymphadenoid tissue. Adenomyomata do not recur if removed, but you will observe that such tumours may have a decided tendency to become malignant, as this photomicrograph of adenocarcinomatous tissue was taken from a tumour which elsewhere had a typical adenomyomatous structure.

The next photograph illustrates a specimen of cystic adenomyoma of the cervix. The growth was the size of a cocoanut on removal, and on examination it presented many cystic spaces, which gave to its surface the appearance of a multilocular ovarian cyst. The growth is seen to be made up of regularly lined spaces, the columnar cells of which rest immediately on fibro-muscular tissue. Numerous processes project into the lumina, and fusion at their tips results in some cases, so that secondary spaces are formed. Where cystic distension is greatest, the epithelium is markedly flattened or destroyed. From sections of a vaginal tumour which Mr. Leitch and myself have recently had sent us we have no doubt as to the occurrence of adenomyoma in the vagina, and, consequently, the possibility of their Wolffian origin.

A DISCUSSION ON THE TREATMENT OF ALBUMINURIA AND ECLAMPSIA OCCURRING IN PREGNANCY.

I.—Robert Boxall, M.D.Cantab., M.R.C.P.Lond.,
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In selecting the treatment of albuminuria and eclampsia occurring in pregnancy as a subject for discussion, the Committee responsible for the work of this Section are to be congratulated. For it provides a matter of interest alike to the physician and obstetric physician, and in some instances also to the neurologist, ophthalmologist, and anaesthetist, as well as to the chemical pathologist.

While many ingenious theories have been advanced to explain the renal insufficiency which is prone to supervene in pregnancy, no adequate solution has yet been offered, and it is not known precisely on what the process of fatty degeneration of the renal epithelium depends.

And, further, though the occurrence of eclampsia and the presence of albumin in the urine are intimately associated, it by no means necessarily follows that either bears a causal relation to the other.

The precise cause of the eclamptic fit is equally obscure, but is now generally regarded as in the main dependent on

toxins produced by faulty metabolic changes and deficient elimination by kidneys and liver.

To the following points, concerning which most are agreed, attention may be directed:

I.—*Pregnant Women are more subject to Albuminuria than others, and in Pregnancy Renal Disease is liable to occur in an Aggravated Form.*

Not only is kidney inadequacy likely to arise in the course of pregnancy, but in women who are the subjects of chronic nephritis the disease is especially liable to take on an acute form when pregnancy supervenes. The reasons usually accepted as accounting for this excessive liability to and aggravation of the renal disease are the general rise in blood pressure and the parenchymatous changes in the kidneys, liver, and other organs incidental to pregnancy.

II.—*Albuminuria is more likely to occur in Women Pregnant for the First Time and in an Aggravated Form.*

The reason usually assigned for this is that owing to the resistance of the abdominal walls the intra-abdominal pressure is usually greater in first than in subsequent pregnancies. The increased pressure in the abdomen exerts its influence on the renal veins, retarding the return of blood from the kidney, and causes inadequacy by setting up a process of fatty degeneration in the renal cells.

III.—*The Liability to Albuminuria and to Aggravation of the Disease Increases as Pregnancy Advances.*

Owing to the increasing enlargement of the uterus the intra-abdominal pressure is raised and becomes specially marked when the uterus is abnormally large, as in hydramnios and in multiple gestation. It is possible, also, that in the latter case a larger amount of effete matter passes from the fetal into the maternal circulation than can be adequately dealt with by the kidneys and other organs.

IV.—*At the Termination of the Pregnancy the Albuminuria almost invariably Tends to Subside.*

By evacuation of the uterus the intra-abdominal tension is at once relieved, and consequently the albumin as a rule rapidly subsides and in a few days disappears altogether, exception being of course made in those instances where a condition of renal inadequacy had been established antecedent to the pregnancy. But here also, at the termination of the pregnancy, effete matter ceases to be poured from the fetal into the maternal circulation, and improvement in the renal condition may be consequently effected, as in some of those cases of aggravated renal incompetence occurring in the earlier months of pregnancy, in which nothing proves effectual till the uterus is evacuated either naturally or by abortion artificially induced.

V.—*Eclampsia occurring in Pregnancy is almost invariably Associated with Albuminuria.*

Generally the albumin (mainly in the form of paraglobulin) is in considerable quantity, so that the urine becomes solid, or nearly so, on boiling. The urine under the microscope yields sometimes blood, and usually hyaline and granular (fatty) casts. Except where chronic nephritis has existed before the pregnancy, the albuminuria and other attendant symptoms do not as a rule show themselves till the last two or three months of gestation. The pulse is usually full, bounding, and incompressible. Oedema is sometimes present, even to a marked degree, but may be absent. Lumbar pains, persistent headache, nausea and vomiting, obstinate constipation, giddiness, defects of vision and ringing in the ears are often complained of. Epistaxis and other haemorrhages are likely to occur and the fetus often dies from apoplexy of the placenta.

VI.—*Eclamptic Seizures more frequently occur in the Albuminuria of Pregnancy than in Cases of Albuminuria occurring apart from Pregnancy.*

Though the fits are essentially uraemic in character it is probable that factors other than the renal inadequacy but likewise incidental to pregnancy, often play an important part in their production. Hence the greater liability to eclampsia when albuminuria occurs during pregnancy than in the non-gravid state.

VII.—*The Liability to Eclampsia bears a Rough Relation not only to the Amount of Albumin but also to the Scantiness of the Urine and to the Diminution in Urea.*

As an index of renal inadequacy and consequent liability to eclampsia the amount of albumin forms a fair guide, but the total amount of urine passed in the twenty-four hours should be noted and estimation of the urea undertaken. In chronic nephritis, unless an acute exacerbation occurs during pregnancy, the total amount of urine is not diminished but often increased, and the liability to convulsions is by no means marked.

VIII.—*Other Factors Determining the Liability to Eclampsia are the Disorganized Functions of other Organs, Notably the Liver, Increased Nervous Irritability, and Nerve Irritation.*

In most cases dying of eclampsia marked parenchymatous changes have been observed not only in the kidneys but also in the liver and in other glandular organs. It is probable that in many cases, at any rate, the liver plays an important rôle in the causation of eclampsia. It is favoured by obstinate constipation and finds expression in various digestive disturbances, such as ptyalism, pyrosis, nausea, and vomiting, and in its most severe form by pernicious vomiting, jaundice, and acute yellow atrophy of the liver. And there is no doubt whatever that, whether the eclampsia be the outcome of renal

Registered Births, Deaths, and Death-rate (per 100,000 Births) from Puerperal Convulsions in England and Wales, Scotland, Ireland, and London for each Year, 1881-1903 inclusive.

Year.	England and Wales.			Scotland.			Ireland.			London.		
	Births.	Deaths and Death-rate from Puerperal Convulsions.		Births.	Deaths and Death-rate from Puerperal Convulsions.		Births.	Deaths and Death-rate from Puerperal Convulsions.		Births.	Deaths and Death-rate from Puerperal Convulsions.	
		Deaths.	Death-rate.		Deaths.	Death-rate.		Deaths.	Death-rate.		Deaths.	Death-rate.
1881	883,642	391	44	—	—	—	125,847	32	25	132,904	35	26
1882	880,014	407	45	—	—	—	122,648	33	26	133,302	29	21
1883	870,722	329	36	124,458	49	39	118,163	20	16	134,503	27	20
1884	906,150	351	38	129,157	46	35	118,875	40	34	135,051	26	19
1885	911,170	432	46	126,100	36	28	115,951	37	31	132,952	30	22
1886	903,896	335	36	127,890	37	29	113,927	37	31	134,330	35	25
1887	946,331	396	41	124,418	47	37	112,464	20	25	133,359	24	17
1888	870,868	362	41	124,269	50	40	109,557	36	34	131,761	15	11
1889	865,044	343	35	122,38	53	43	107,841	26	24	132,93	17	12
1890	869,937	396	45	121,11	45	36	105,254	20	22	128,161	27	21
1891	914,457	373	40	126,9	59	46	108,116	17	14	134,484	30	22
1892	916,057	333	37	125,04	72	57	104,234	15	14	132,138	22	16
1893	944,112	379	41	127,110	60	47	106,[illegible]	34	32	131,062	31	23
1894	940,859	359	39	124,367	54	41	105,354	36	34	131,484	24	18
1895	970,971	375	38	126,434	45	35	[illegible]	[illegible]	[illegible]	144,755	19	14
1896	918,309	282	30	120,172	67	51	[illegible]	41	37	135,033	21	15
1897	921,693	314	34	[illegible]	54	41	[illegible]	4	4	144,137	20	14
1898	921,265	356	41	[illegible]	71	55	[illegible]	19	18	140	17	12
1899	[illegible]	347	37	[illegible]	75	57	[illegible]	74	69	133,114	20	14
1900	[illegible]	387	41	[illegible]	69	52	104,[illegible]	45	44	144,694	20	14
1901	930,807	376	40	[illegible]	[illegible]	41	[illegible]	[illegible]	42	141,632	25	17
1902	949,569	402	42	[illegible]	56	41	[illegible]	4	43	[illegible]	54	37
1903	948,374	409	43				[illegible]	[illegible]	44	[illegible]	41	28
		Mean	[illegible]39		Mean	[illegible] 42		Mean	34		Mean ...	18

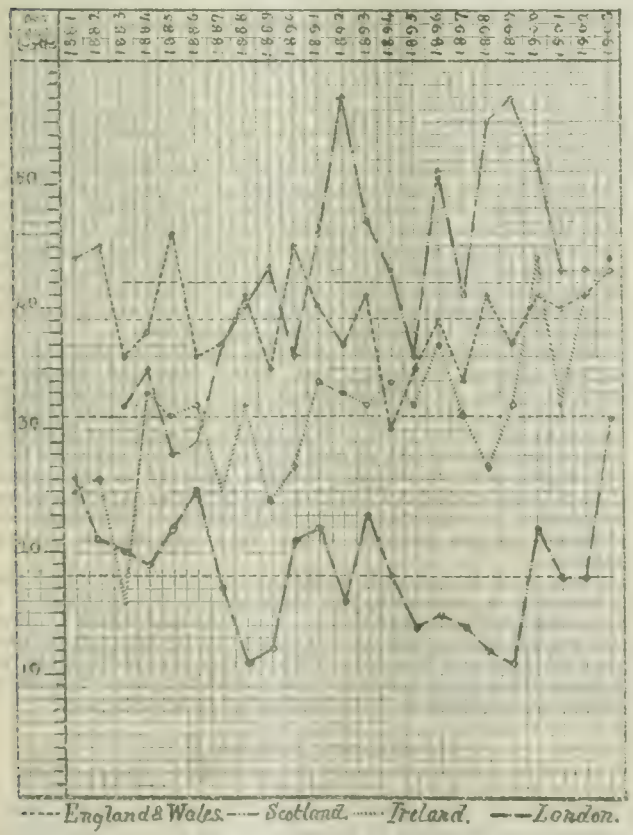
or of hepatic incompetence or of both, the liability to convulsions is increased in any case where an increased irritability of the nerve centres naturally exists, and also where excessive stimuli are brought to bear as in prolonged and unusually painful labours such as are often met with in very young and elderly primiparae, and where manual or instrumental procedures are adopted.

Matters such as those above mentioned constantly obtrude themselves in determining the precise course of treatment to be recommended in any particular case. And, though it is possible to lay down certain broad principles of treatment both in albuminuria and in eclampsia, each case will be found to present its own peculiar features and to require very careful consideration.

For, be the treatment what it may, the fact remains that both albuminuria and eclampsia occurring in association with pregnancy are grave complications and not infrequently baffle every attempt at alleviation. In any event, these occurrences are the source of grave apprehension and not infrequently prove fatal to the mother, and are still more likely to become disastrous to the offspring.

In looking up the reports of the Registrar-General for England and Wales, I find a table therein given for the years 1901, 1902, and 1903 of the deaths returned as either caused by, or as associated with, pregnancy or child-bearing. For these three years the births were 2,818,577, and the deaths returned under the head of acute nephritis were 179, of chronic Bright's disease 345, and of puerperal convulsions 1,185, out of a total of 6,706 from all the accidents of childbirth put together.

Death-rate (per 100,000 Births) from Puerperal Convulsions in England and Wales, Scotland, Ireland, and London.



I have extracted the deaths from puerperal convulsions and expressed them in relation to the number of registered births (which, for all practical purposes, may be taken as representing the number of confinements) for each division of the kingdom and for London. This record begins with the year 1881, and ends with the year 1903, except in the case of Scotland, in which the figures for 1881 and 1882, and up to the present for 1903, are not available. I have given the result in the form of a diagram. From this it appears that the death-rate from puerperal convulsions is, on the whole, somewhat higher in Scotland than in England and Wales, and in both more than double that of London, while Ireland holds an intermediate position. And that, while the death-rate in England and Wales and in London has remained fairly stationary, there has been a considerable tendency to increase of recent years both in the case of Scotland and of Ireland. In the light of this record the present-day methods of dealing with the disease cannot be regarded with any marked degree of satisfaction.

As has already been remarked, it seems probable that the renal incompetence is but a part—albeit, an important one—of a complex, and at present little understood, condition, of which albuminuria is the main expression and eclampsia its chief ultimate development.

The treatment of this condition constitutes the prophylaxis of eclampsia.

At present very little is really known of the actual causes which antedate the appearance of albuminuria, but I think that it is safe to assume that if more attention were paid than is usually the case to the general hygiene of pregnancy much of this incipient danger would be averted. For instance, a nutritious and well ordered diet, with regular meals, should in all cases be insisted upon; exercise in the open air and the avoidance of all occasions which expose the patient to breathing a hot, vitiated atmosphere should be enjoined; suitable clothing should be worn, and tight corsets in particular should be avoided; above all, special attention should be paid to the bowels so as to secure daily relief. I have seen the condition induced solely by saturation with alcohol taken to the extent of two bottles of brandy a day and continued for months, entirely under the mistaken impression of the patient and her friends that it was the right thing to build up the system for the approaching confinement.

One cannot but wish that our maternity hospitals, as for instance in Paris, were provided, not only with special wards for the treatment of disease occurring during pregnancy, but also with a special department where women who are able to work either in the house or garden attached to the institution are kept under observation for two or three months prior to delivery. Such a department would have a distinct educational value on women about to become the mothers of the future generation, and afford the means of systematic observation on such conditions as we are now discussing.

But, as it is, unless oedema sets in, or some other serious symptom, such as persistent headache, defective vision, uncontrollable vomiting or jaundice, leads the patient to seek medical advice, no attention is directed to the condition until it has persisted for a considerable time. Indeed, it not infrequently happens that the occurrence of an eclamptic fit is the first indication of danger. Then the urine is examined, and is found to be loaded with albumin. But on reading the case backwards, in the light of the history subsequently obtained, it is fairly obvious that a more or less dangerous but obscure condition has been in existence for some time.

It seems to me highly probable that if we could get into touch with these cases at an earlier stage the results would be much better than they are at present. Much may doubtless be done by testing the urine in all cases during the last two or three months of pregnancy. If the patient is known to have been the subject of chronic renal trouble, in view of the likelihood of acute exacerbations to occur, the urine should be frequently tested during the earlier months also.

As long as the chronic nephritis merely persists, the usual measures of treatment will suffice; but it is advisable, directly the albumin evinces a tendency to increase, to take more active measures.

And in all cases during pregnancy where albuminuria persists, particularly if it be associated with the passage of casts, and with diminution in the quantity of urine and in urea, it is advisable at once to place the patient under a strict régime—to enjoin rest, or at least to keep the patient in an equable temperature, to place her on a restricted diet, to keep the bowels freely open, to flush the kidneys, and to promote the action of the skin.

The diet in all cases should consist mainly, if not entirely, of milk; but in those cases where milk alone is not readily tolerated, farinaceous foods may be allowed. Meat should be rigidly excluded. Lemonade, made with fresh lemons, and barley water may be freely taken. When the patient's general condition allows, the plan adopted in Tarnier's clinique in Paris has much to recommend it. A free clearance of the bowel is effected, and water alone is given for the first forty-eight hours. After this, milk, from which the cream has been separated, is exclusively given. Such separated milk can

usually be obtained at a very cheap rate from all the larger dairies, and were it more generally known, might be usefully employed in this and many other conditions.

As regards the precise form of purge, I consider that—the main object being in the first instance to clear the bowel—no hard-and-fast rule can be laid down. But I think that it is a mistake to use very drastic measures (unless the patient be comatose), and that there is a decided advantage in the continued use of salines, such as apenta water, compound liquorice powder, and compound jalap powder. I have often given sulphate of magnesia and sulphate of soda in 1-drachm and ½-drachm doses together every half-hour or oftener, till it began to trouble the patient. Then, and in all cases failing relief by other measures, within a reasonable time it should be followed up by copious enemata of hot normal saline solution allowed to flow slowly into the bowel. By this means not only is the bowel thoroughly cleansed, but by absorption the kidneys are flushed and free perspiration induced. It is probable that additional advantage might be obtained by adding acetate of soda or other diuretic to the normal salt solution.

If under treatment no improvement is effected within a week or ten days, and in every case where serious complications threaten, means should be at once adopted to terminate the pregnancy. But, inasmuch as evacuation of the uterus, though it will almost invariably cause the albumin to diminish, is liable to aggravate the danger temporarily, it is usually a mistake to resort to this measure until some endeavour has at any rate been made to effect improvement in the condition of the patient; and even in severe cases where the woman is within the last month or so of term, it is usually better to allow forty-eight hours' preparation, unless eclampsia threatens, or such severe symptoms as visual disturbance or paralysis indicate imminent danger to the retina or brain. In any case, where eclampsia threatens, where the urine is suppressed or markedly diminished and the total solids deficient, further measures are called for.

If fits supervene, it is advisable to get them under control as soon as possible, for each fit increases the liability to persistent coma and brings the case appreciably nearer a fatal termination, either from general exhaustion, cardiac failure, oedema of the lungs and glottis, or sometimes from cerebral apoplexy. The mere tendency to eclampsia may be often controlled by chloral—given either by the mouth or rectum—in ½-drachm doses, combined with a drachm of bromide of potassium, and repeated, if necessary, every hour.

By this method an opportunity is often afforded of using other remedies such as those indicated above, and of supplementing them by more active measures all tending in the same direction. Either the hot bath or the hot-air bath or hot pack may be advantageously employed in combination with an ice-cap, or, better still, with an irrigating water-cap to the head. The patient should be subsequently enveloped in blankets, and a free action of the skin maintained. I have frequently employed hot linseed and mustard poultices and dry cupping of the loins, in some instances with apparent advantages in the relief of lumbar pain and in promoting the action of the kidneys. But should a fit actually take place—and certainly, if one fit is rapidly succeeded by another—chloroform should be administered. When the fits occur at long intervals, morphine in ⅓-gr. or ½-gr. doses given hypodermically, and repeated sufficiently often to put the patient well under its influence, is preferable, for there is an obvious disadvantage as well as danger in keeping the patient under chloroform for hours together.

But if no improvement shows itself, the question of phlebotomy and saline injections may be usefully considered. If the woman is plethoric, deeply comatose, and cyanosed, the tension of the pulse great, and the urine scanty, bleeding to the extent of 20 oz. or more is often advantageous. By bloodletting the fits are usually lessened in severity and in frequency of occurrence, and the patient often regains consciousness at once. The bleeding may be followed up by intravenous saline injections, using for the purpose either normal solution with or without the addition of acetate of soda, 1 drachm to the pint of water, which has been previously sterilized by boiling. But the effect of this requires careful watching, for I have more than once seen consciousness again lost long before the amount of saline solution passing into the vein reached the quantity of blood removed.

If, however, the case is of a serious nature, it is better, as a rule, not to waste time over these measures, especially if the condition of the patient is going from bad to worse, though they may often be carried out with advantage contemporaneously with preparations for emptying the uterus. In many cases the fetus will be already dead, and, if born alive, its chances of surviving are not very great, and need not be seriously considered when the mother's life is in imminent danger. The object in view should be to empty the uterus with as little delay as possible, yet with a minimum degree both of uterine action and of artificial interference. All the conditions present in each case require to be carefully weighed. The best method of procedure will be found to depend on a variety of circumstances. In some cases in which the fits are not severe, and occur at long intervals, but in which no decided improvement is manifest, labour may be induced by passing a bougie to the fundus and by rupturing the membranes. This and every other manipulation should be done while the woman is under chloroform; but, the manipulation over, it is well to discontinue the chloroform. Dilatation of the cervix may be awaited while the patient is kept under the influence of chloral or of morphine. If, however, labour sets in, and the pains assume a particularly painful and persistent character, as often happens in very young and very aged primiparae, chloroform should be again resorted to. Under chloroform, which for this purpose need not be given so as to keep the patient deeply under, such pains will be almost invariably found to improve in character and the labour to proceed more rapidly; otherwise, labour may be allowed to run its ordinary course, chloroform being reserved for the expulsive stage alone. The labour over, the fits usually subside, and the condition of the kidneys likewise shows, as a rule, an immediate and marked improvement in a copious flow of urine, with diminution in the albumin and increase in urea.

In other cases, in which the fits are more severe and of frequent occurrence and coma pronounced, it is necessary to keep the patient under the influence of chloroform, to dilate the cervix artificially, and to deliver expeditiously. Now, for dilatation of the cervix under such circumstances, either dilators, such as Hegar's followed by the use of Champetier de Ribes's bag, or by manual dilatation, may be resorted to. Some claim special advantage for dilators such as Bossi's or Frommer's, others employ incisions into the cervix to effect rapid enlargement of the cervical canal, but not having made personal trial of these methods, I shall leave others who have had special acquaintance with them to speak as to their efficacy. But the cervix having been sufficiently dilated, delivery of the fetus should be completed either by natural efforts—for the expulsive pains are often particularly strong—or by forceps, craniotomy, or even sometimes by version, whichever offers, according to the circumstances of the case, the easiest and most rapid method of completing delivery.

As a substitute for any forcible method of dilating the cervix followed by delivery as above described, Caesarean section either by the abdomen or through the vagina by separating the bladder, incising the cervix and lower uterine segment and subsequently suturing the wound, has been suggested and carried out, as also slitting up the perineum with the object of more readily effecting delivery in primiparae. But of these methods I have had no personal experience, and at present, by a general consensus of opinion, they stand condemned, except perhaps under very exceptional circumstances.

From what has already been said, it will be gathered that personally I approach the subject of the treatment of eclampsia with an open mind. The question which I always ask myself in deciding on the course to be adopted in each case is—How can this woman be delivered expeditiously, yet with as little disturbance as possible either from the action of the uterus itself or from manipulative interference?

II.—HERBERT SPENCER, M.D.,

Obstetric Physician, University College Hospital; President of the Section.

DR. SPENCER, after thanking Dr. Boxall for his very valuable paper, and the table of statistics as to the incidence of the mortality from puerperal convulsions in the different parts of the British Isles, pointed out the extreme importance of the subject of the discussion to the general practitioner as well as to the consultant obstetrician.

III.—E. HASTINGS TWEEDY, F.R.C.P.I.,

Master, Rotunda Hospital, Dublin.

PROFESSOR E. HASTINGS TWEEDY said: My first and very pleasing duty is to congratulate Dr. Boxall on the excellence of the communication he has just submitted to us. We all

feel that this paper will for long remain one that must be referred to hereafter by those engaged in the close study of eclampsia, and Dr. Boxall may feel fully assured that it was not in vain he has compiled these difficult and important statistics. We possess sufficient anatomical and clinical evidence to justify the belief that a poison generated by the woman herself, or by her fetus, gives rise to eclampsia. It is very unlikely that this toxin is contained in the blood stream, and the belief that blood-letting can be relied on to remove a certain amount from the system is not tenable. It is possible that the depletion of the vessels may induce an inflow from the more solid tissues of the body, and the stream thus induced may help to dislodge the convulsive toxin. Before entering on the consideration of treatment I desire to direct attention to a common complication of eclampsia, "oedema of the lungs" so-called. Without for one moment denying its existence, I believe it is very often confused with a much more common complication, namely, flooding of the lungs with medicines, and fluids formed in or placed in the mouth. If a nose tube be passed on a patient whose reflexes are unimpaired it will readily enter the stomach, but in the case of the deeply unconscious, the tube will pass with much greater certainty into the trachea. A similar course must, I feel convinced, be taken by the croton-oil drops placed on the back of the tongue. The treatment of eclampsia as carried out in the Rotunda Hospital with gratifying results consists in the immediate injection of ⅓ gr. of morphine. This is followed at intervals by other hypodermic injections of the drug until the symptoms are ameliorated, or until 2 gr. have been administered in twenty-four hours. A soft, funnel-ended tube is passed into the stomach (if the patient be unconscious), and by its means the stomach is thoroughly washed out; a large dose of castor oil, mixed with croton oil, is then poured through the tube, together with about 1½ pints of warm water. Other drugs may at the same time be passed down the tube, according as the patient's condition seems to call for them. No nourishment is given throughout the eclamptic illness, experience having shown that the digestive function is in abeyance. A similar tube is now passed into the rectum, and the lower bowel is lavaged with copious quantities of warm water. This plan is much more efficient in bringing about an action of the bowels than the mere injection of soap-suds or other forms of enemata. Before finally withdrawing this tube as much saline solution is poured into the bowel as it will contain. A catheter is now passed; and a hot poultice being placed over the loins, the patient is turned, and carefully kept on the side position, to ensure the escape of fluids which form in the mouth. In some cases saline solution is injected beneath both breasts. The woman is not disturbed by further interference for twelve hours, and then only in the event of symptoms showing no amelioration. Labour is never induced, nor is its onset desired. Even during the second stage it is seldom accelerated.

IV.—Professor J. W. Byers, M.D., M.A.O.,

Professor of Midwifery and the Diseases of Women and Children, Queen's Hospital, Belfast.

Professor Byers said the difficulty in discussing such a subject was owing to the fact that so little was known scientifically of the causation of the complication. Some thought they had grouped under the term eclampsia a number of disease entities each due to a different pathological lesion, while others held that eclampsia was the result of a poison—a toxin or series of toxins—manufactured by the mother and fetus. No one had yet isolated this specific poison; but for the time the toxin view might be accepted as a working hypothesis, and certainly clinical and pathological evidence supported this view. Probably in the future, as the result of combined clinical, chemical, and laboratory investigation, they might find a solution of the question. There were certain points which must be borne in mind in the etiology of eclampsia: (1) Why is eclampsia so common in primiparae? His own experience bore out Professor Schauta's statistics that there were nearly five times as many cases in primiparae as in multiparae. No clear scientific evidence had yet been given to explain its more frequent incidence in primiparae. (2) Why is eclampsia commoner in certain districts than in others? He brought out this fact in his paper at the Geneva Congress of Obstetrics in 1896. (3) Why is eclampsia commoner in certain years than in others? (4) The influence of the fetus as one factor in the problem of the causation was important. He might give some evidence in support of this: (*a*) When the fetus dies in pregnancy the danger of eclampsia for the mother is much diminished or overcome; (*b*) in twin pregnancy there is a greater risk of eclampsia; statistics showed that while there was 1 twin pregnancy to 13 normal pregnancies in eclampsia, there was only 1 twin pregnancy to 80 in pregnant women generally; (*c*) it has been demonstrated by French observers that the transmission to the mother of substances injected into the fetus ceases almost immediately after its death. As to the prophylaxis he was in entire agreement with Dr. Boxall, but sometimes in spite of all they did convulsions arose. As to the treatment, he favoured the administration of morphine, with purgation and salines, and this treatment was in most cases sufficient; but if this method failed and the patient was getting worse, he would act as in the case of any patient whose state seemed to indicate that the labour should be terminated with as little delay and with as little disturbance as possible. He thanked Dr. Boxall for his interesting paper.

V.—John Campbell, M.D., M.A.O., F.R.C.S.Eng., etc.,

Senior Surgeon, Samaritan Hospital for Women, Belfast.

Dr. Campbell said: I am so far in agreement with what Dr. Boxall has said that I shall confine my remarks to two points in the discussion. Reference has been made to the greater frequency of eclampsia in primiparae. I would suggest that the explanation of this is a simple one. It means that pregnancy has the power of showing up any renal deficiency that may exist in the patient. In fact, any woman who has gone through her first pregnancy and labour successfully may be regarded as having thereby got a certificate that her kidneys are in a fairly satisfactory state. Two facts support this view: (1) Many cases have a history of having suffered from albuminuria before marriage, or even having had one or more severe attacks of nephritis in their younger days; (2) the occurrence of eclampsia in families is somewhat remarkable. I have myself several times attended sisters for this affection. These two facts point to the existence of some congenital renal weakness which is brought out by pregnancy. In speaking of treatment, I shall only refer to that of patients who are already in convulsions. My own practice is to put such patients at once under chloroform, to rupture the membranes, and empty the bladder. The chloroform is then stopped, and the patient kept under morphine until spontaneous delivery has taken place. In the majority of cases this will occur, but in a few I think more energetic measures become necessary. If, in spite of the use of morphine, the patient's condition is rapidly getting worse and the prospects of early delivery are remote, it becomes necessary to resort to manual dilatation of the cervix and evacuation of the uterus.

VI.—Thomas Wilson, M.D., F.R.C.S.Eng.,

Obstetric Officer to the General Hospital, Birmingham.

Dr. Wilson emphasized the variety in the symptoms that characterized eclampsia, and remarked that if, as was probable, the affection depended upon toxaemia, the poisons must be multiple. The fetus and placenta were likely sources of toxins, and in severe cases delivery, either hastened or induced, was indicated. Dr. Wilson had not seen any distinct advantage resulting from the use of morphine, and in his practice limited the administration of chloroform to a few whiffs at the height of severe fits, and to surgical anaesthesia during any operative proceedings. The use of saline subcutaneous infusions had appeared to be of considerable benefit in the treatment of eclampsia. In certain cases where the induction of labour was necessary vaginal Caesarean section presented distinct advantages over such methods as dilatation by the fingers or by Bossi's dilator.

VII.—Arthur Norman Holmes, M.B., B.Ch., B.A.O.,

Assistant Master of the Rotunda Hospital.

Dr. Holmes said that, having seen and treated a large number of eclamptic cases in the Rotunda Hospital, the facts which struck him most were: (1) That some of the worst cases he had seen occurred during the puerperium, which was in direct contradiction to the teaching found in obstetric textbooks; (2) that the only fatal case during the past year was one in which the convulsions started after the birth of the child; (3) that in the two worst cases—the fatal one mentioned being one of them—there was marked jaundice, pointing to some hepatic lesion being present concurrent with the usual renal one. He upheld the morphine treatment as having been productive of the best results; he believed that the morphine acted in an inhibitory manner upo

the toxins by delaying metabolism. The failure of the treatment was in many cases due to the fear of "pushing" the morphine far enough.

VIII.—J. INGLIS PARSONS, M.D., M.R.C.P.,
Physician, Chelsea Hospital for Women, etc.

DR. PARSONS said that the symptoms of eclampsia were exactly those of uraemia as described by Hilton Fagge. Was it necessary to imagine they were dealing with anything more than Bright's disease aggravated by the presence of the fetus? The kidneys of a mother suffering from albuminuria were unable to do the excretory work of her own body even without that of the fetus. As in most cases the mother improved soon after delivery had taken place, he was strongly in favour of taking steps to bring on labour as soon as possible with the help of chloroform, which tended to control the fits. The general treatment should be that of uraemia—saline aperients, milk diet, promotion of the action of the skin, and the avoidance of opium.

X.—EWEN J. MACLEAN, M.D., M.R.C.P.Lond., F.R.S.Edin.,
Senior Gynaecologist, Cardiff Infirmary, etc.

DR. MACLEAN was gratified that Dr. Boxall had resisted the possible temptation of adding to the already long list of theories about the causation of this "disease of theories." He agreed that the subject under discussion in regard to both pathology and treatment was in an unsatisfactory condition, and referred to Herman's figures as having an important bearing on the view held by some that evacuation of the uterus was the best line of treatment. The detection of albuminuria during pregnancy should put the practitioner on his guard; at the same time, it should be remembered that renal inadequacy might be present without the urine showing the albumin reaction. A case in illustration of this point was cited in which pregnancy was associated with complete amaurosis, no albuminuria, but inadequacy to the extent of passing only 12 oz. in twenty-four hours. Under the exhibition of thyroid extract in 10-gr. doses, six-hourly, the amount rapidly improved though the sight was unaffected. He had tried, though only with other therapeutic measures, the thyroid treatment in the following series of 9 cases of eclampsia. In this series 8 were primiparae between the ages of 20 and 30, 8 of the mothers recovered, 6 of the children were dead born. Bossi's dilator and instruments of a similar class had a limited application only.

X.—F. W. FORBES-ROSS, M.D., F.R.C.S.,
London.

DR. FORBES ROSS pointed out that, while Professor Tweedy had stated that the poison was in organic or mechanical combination with the solid tissues, Professor Byers had said that it was probably circulating in the blood. Both these ideas, in his own opinion, were equally correct. In tetanus the toxin which caused the convulsions was in organic combination with the brain cells. This was also the case, perhaps, in eclampsia, and was shown by the first symptoms being merely functional, and then organic after the toxin or toxins had acted on the tissues. The benefit conferred by salines in these cases was due to the fact that they diluted the blood and therefore the poison, just as adding water to spirit delayed and rendered its action more mild. He thought that the disease was really a chronic form of what in malignant forms was known as acute yellow atrophy of the liver; it appeared to him that the disease which ended in eclampsia was the same in all cases—from mild cases with toxic symptoms, but no albumin, up to those grave cases in which there was profound parenchymatous change and jaundice, coma, and death, as in those *post partum* cases quoted by Dr. Holmes, of Dublin. The speaker agreed with Professor Byers that the fetus was itself one of the causes or one factor in the problem of the causation of eclampsia, and quoted a case in which the mother regularly showed profound symptoms of poisoning when the fetus arrived at the age of 4 months. He had then regularly terminated this woman's pregnancy for five consecutive years in order to spare her kidneys, and succeeded so well that in the seventh year she gave birth to a full-time boy, who was now 7 years old, and the mother was a woman in robust health. He thought that when a woman showed signs of albuminuria and kidney disease, casts, and deficiency of waste products in the urine, there ought to be no hesitation in advising and performing an operation for terminating the pregnancy at once, for the claims of the woman were surely greater than of a fetus which might possibly and probably would die before or after birth; in the latter event leaving the mother permanently damaged and liable to the same trouble in subsequent immediate pregnancies. On the other hand, if the pregnancy were terminated in the early months, even several times in succession, in time the woman in some way improved in health and subsequently might go to term with a later pregnancy with a healthy child, whose existence might be valuable for successional reasons. He thought that students of puerperal eclampsia might gain some valuable hints in the toxic pathology if they would peruse Dr. F. W. Mott's work on the chemistry of toxic poisoning in some nervous diseases, as probably eclampsia was allied to cholin poisoning or something very like it.

XI.—C. E. PURSLOW, M.D., M.R.C.P.,
Honorary Obstetric Officer, Queen's Hospital, Birmingham, etc.

DR. PURSLOW said that the main difficulty, when confronted with a case of puerperal convulsions occurring in the last weeks of pregnancy, was to decide as to the wisdom of taking steps to induce labour when that had not already begun. He had treated cases on both plans, and on the whole had come to the conclusion that the best results were obtained in those cases in which the convulsions were treated by morphine, saline infusion, and sometimes venesection, and nothing was done to bring on labour. He found that labour pains usually came on in a few hours, and that the results were better than when active measures were taken to empty the uterus. He had met with two cases which seemed to him to belong to a different class, and to approach those of acute yellow atrophy of the liver; in each of these cases there was profound interference with the functions of liver and kidneys; the secretion of the latter in one case entirely ceased for six days before death. There was jaundice in each, and the patients rapidly sank into a typhoid condition, and died in spite of all treatment, the latter including the induction of abortion. The pregnancy in each case had advanced to the sixth month. The circumstances in each case were curiously similar, the patients being over 30 years of age, single, and illegitimately pregnant for the first time, and each suffered acute mental distress on first learning of her condition, and rapidly developed convulsions and the other symptoms described. Dr. Purslow considered the condition to originate in profound disturbance of the nervous system.

XII.—ARTHUR J. SHARP, M.D., F.R.C.S.,
Nottingham.

DR. SHARP thought the subject was of great importance to the general practitioner. Prognosis was most difficult. Cases which at first appeared most grave might, if the crisis were safely got over, quiet down and go on to natural labour at full term, while others might go downhill rapidly almost before the diagnosis was clear. Cases simulating acute mania might occur without convulsions, and albumin might be absent from time to time, even in a fatal case. Worry appeared to play a part in the causation of some cases. Testing the urine in every case of pregnancy was a valuable suggestion, but in the poorer classes the medical man was too often called in only when some catastrophe was impending.

XIII.—J. W. DRAPER, L.R.C.P., M.R.C.S., etc.,
Aldmondbury, Huddersfield.

DR. DRAPER stated that his earlier cases, two in number, were severe, both being fatal, while his later cases, six in number, occurring fifteen years later as a group in a period of two years, were all treated by chloroform and rapid delivery, and all recovered, showing that in one group of cases they might be more successful than in another. Inasmuch as primiparae, and especially unmarried primiparae, were more frequently affected by this disease, he suggested the probability of chronic mental strain as possibly capable of inducing acute convulsive attacks, and that in some cases treatment by suggestion with or without producing the hypnotic state might be useful for prophylaxis, and even for treatment, since suggestion was frequently capable of abolishing pain, procuring sleep, inducing anaesthesia, controlling vomiting, and even in preventing epileptic convulsions.

XIV.—HENRY CORBY, M.D.,
Professor of Midwifery, Queen's College, Cork.

WITH regard to the causation of the disease I fear we have very little definite information. It would seem that there is

some toxic product which should have been removed mainly by the kidneys, but it is not necessary that the kidney should be actually diseased. Its insufficient action is one of the principal points to be attended to if we want to prevent the onset of the disease. As to actual treatment I find that one of the previous speakers considers the reason why better results have not been obtained from morphine is because the drug has not in some instances been sufficiently pushed. I have myself pushed the morphine treatment, and am afraid I helped also to push one or two of my patients into another world. Many years ago, when attending a very bad case of puerperal convulsions, after using other treatments, I injected pilocarpin, and though I believe recovery was largely due to that drug, I would not be disposed to use it again, as in this case it produced alarming effusions into the bronchial tubes, and quantities of froth came up through the mouth. I believe it is important to eliminate the poison as much as possible by the emunctories, and I consider the saline treatment has much to recommend it. The saline tends to stimulate the kidneys and dilute the poison.

XV.—J. Ford Anderson, M.D.,
Hampstead.

Dr. Anderson attributed eclampsia generally to incompetent kidney, although there might be no albumin and no casts. A low specific gravity was of serious import, and should be treated by rest, a light and liquid diet, and eliminants for kidney, and bowels, and skin. But, besides the condition of degeneration of kidney, epileptic conditions simulated true eclampsia, and should be treated by bromide of potassium. He was not in favour of emptying the uterus as a matter of routine, but used chloroform and nitrite of amyl to abate the violence of the fits.

XVI.—Herbert Ritchie Spencer, M.D., F.R.C.P.,
Obstetric Physician, University College Hospital; President of the Section.

The President thought the main points of the discussion were their ignorance of the pathology, the uncertainty of prognosis, and the recommendation of gentleness in the treatment of these cases. Personally, he thought morphine was the best means at their disposal for checking the convulsions, though it should be given with caution. He was alarmed at the large number of mechanical dilators which were being advertised in the medical journals at the present time. They were capable of inflicting severe injuries when used by inexperienced hands. Abdominal Caesarean section was, in his opinion, quite unjustifiable in this disease, for the patient could be delivered more rapidly and with less risk by the vagina.

Reply.

Dr. Boxall, in reply, said that he wished to correct a misapprehension which he might have conveyed to some minds, for he was by no means an advocate of *accouchement forcé*. But it did undoubtedly happen that, no matter what treatment be adopted, in some few cases the patient's condition would be found to be gradually going from bad to worse, and it was obvious that unless something further was done a fatal result must necessarily soon occur. In those cases evacuation of the uterus, though it might not be successful in saving the patient's life, at least offered her a chance. Certain variations in the tendency to eclampsia according to season and locality had been referred to by several speakers, and no doubt often occurred. He had recently visited the West Indies, and much evidence had lately been brought forward at the Obstetrical Society of London and elsewhere of the excessive frequency and of the extreme severity of eclampsia in the East Indies, in both instances far exceeding anything met with in this country. It appeared that eclampsia was particularly common in all countries where inflammatory hepatic and renal conditions were specially prevalent. With regard to the chart which he had put before the Section, it must not be taken as showing that eclampsia was not as common in London as in other parts of the country, for mortality was largely dependent on the possibility of obtaining timely assistance. In London and in other large towns all cases were within easy reach of skilled treatment, and one would expect the mortality to be consequently lower. He wished to emphasize the importance of the remarks made by Dr. Hastings Tweedy with reference to the prevention of oedema of the lungs, and agreed that it was most important that in an unconscious patient means should be taken to prevent the saliva from entering the trachea. Many years ago attention had been drawn by Dr. John Phillips to the dangers resulting from the use of pilocarpin in cases of eclampsia. He was glad to hear such an authoritative and emphatic expression of opinion from Professor Spencer as to the use of instruments specially devised for rapidly dilating the cervix.

A CASE OF ELEPHANTIASIS OF THE VULVA IN ASSOCIATION WITH ELEPHANTIASIS OF THE RIGHT LOWER LIMB.

By Ewen J. Maclean, M.D., M.R.C.P. Lond., F.R.S. Edin.,
Senior Gynaecologist Cardiff Infirmary, Consulting Gynaecologist Porth and Mountain Ash Cottage Hospitals, etc.

The case was admitted to the Cardiff Infirmary in December, 1904, and was sent to me by Dr. Lloyd of Llantradach, from whom I obtained important points in the history.

The patient was single, 19 years of age, and complained of swelling of the right lower limb for "as long as she could remember," and, for the last four or five years, of steadily-increasing enlargement of the external genitals with, in the erect posture, dragging pain and disability for walking and housework. It was not the condition of the limb which occasioned her distress so much as the vulval growth, which latter, when the patient stood, was pendent between the thighs for some 7 or 8 in.

Both her parents had been married twice and both had had children by their previous conjugal partners. From the point of view of etiology of the condition under consideration, the following points are noteworthy: The mother by her first husband had had three children, all of whom were healthy, and from this marriage there had been no miscarriages. By her second husband (the father of the patient) she had had five children and four miscarriages. In the sequence of pregnancies the patient was the product of the fourth—the second, third, and fifth being early miscarriages, thereafter a full-time child, then another miscarriage.

The father's first wife had presented him with two children, one of whom was deaf and the other had "died in her confinement." When it is added that the father had for seven years, in an earlier period of his life, mixed freely with and lived among the natives on the borders of New South Wales, the presumption of a specific taint must be entertained. The patient's brothers and sisters however, are stated to be free from evidences of the kind, and the paternal taint is not admitted.

As to the patient's personal history, she had never been abroad, her general health had been good, and she had had no important illnesses. The catamenia had been regular and normal, with latterly some amount of leucorrhoeal discharge. No frequency of micturition or dysuria had been complained of.

A decided enlargement of the right buttock, the right lower limb, and the right side of the vulva were noticeable at the time of birth. The hypertrophy of the limb, in particular, had been steadily progressive, whilst that of the vulva was stated to have become troublesome only from puberty onwards. The catamenia first appeared at the age of twelve years. No data were obtainable as to when the vulval enlargement first became noticeably bilateral. It was during the two years prior to admission that the bulk of the vulval condition had been sufficiently marked as to cause inconvenience in standing and walking, and to interfere with the performance of household duties. There had been no erysipelatous or other acute inflammatory attacks in the affected parts, and no history was obtainable of any characteristic specific symptoms.

The following are the notes of the condition on admission:

The patient is fairly well nourished, though of anaemic and sallow complexion, with dark eyes and black hair. The teeth are regular and good. There is no fullness of the thyroid, and no enlargement of the lymphatic glands is detected. The physical signs of the heart and lungs are normal. The temperature is normal, and the average pulse-rate 90 to 100. The analysis of the urine is normal.

The right buttock is bulky and more prominent than the left, and the right lower limb is enormously increased in girth, more especially below the knee (see Fig. 3). There is a sense of fullness and resistance in the right iliac region. The lower limbs are apparently equal in length, whilst the comparative circular measurements are as follows:

Maximum Girths in inches.

	Right limb.	Left limb.
Thigh	... ... 29½	... 15
Leg	... ... 27½	... 11
Knee	... ... 18	... 13
Ankle	... ... 13½	... 7½

The general surface of the affected limb is parchment-like and brawny in consistence, with a wide distribution of a dry eczema and copper staining, such as might result from a chronic dermatitis. The tissues do not pit on pressure. There are some traces of copper-coloured spots on the trunk and opposite limb.

The labia minora of the vulva are very markedly thickened and elongated (see Fig. 1), no traces of the clitoris being discernible. The lower half of the growth resulting from this hypertrophy is much increased in all diameters, and is covered by hard, non-friable, warty vegetations separated by numerous clefts of varying depth. A heavy disagreeable odour emanates from the secretion in these interstices.

In the erect posture the vulval mass is pendent to the extent of some 7 or 8 in. In the recumbent, with the weight



Fig. 1.—Elephantiasis verrucosa vulvae.

of the growth supported, the line of demarcation between the larger and the lesser labia is clearly defined. (See Fig. 2.)

The mass may be raised and separated mainly into a right and a left half. The vestibule is then seen with a normal meatus urinarius in the centre of its base. A soft thick hymen admits one finger, and the uterus is found lying somewhat retroverted and of normal dimensions. No abnormal condition of the appendages is detected. The perineum is unaffected. Subsequently blood films were carefully examined on several occasions, but no evidence of the presence of any of the filariae was obtained.

I am indebted to Dr. Schölberg, Bacteriologist and Assistant Pathologist to the Cardiff Infirmary, for the following report of the condition of the blood:

Blood Examination.

Red blood corpuscles		4,280,000 per c.mm.	551
White blood corpuscles		7,700 per c.mm.	1
Differential count on 400 leucocytes.	Neutrophiles ...	70·25 per cent.	..
	[illegible]	[illegible]	..
	Large mononuclears	[illegible]	..
	Eosinophiles ...	8.00	..
	Basophiles ...	0·25	..
		100.00	

The most striking feature is the eosinophilia.

Operation.—Some ten days after admission I amputated the vulval mass through the bases of the labia minora, the haemorrhage being controlled by preliminary clamping with broad ligament forceps, and after the amputation by pressure forceps and ligatures. The inner and outer cut edges were then brought together by a continuous silk suture, and the resulting horseshoe-shaped wound healed well, the patient leaving the infirmary on the eighteenth day after operation.

Fig. 3 is from a photograph taken before the date of discharge.

The condition of the limb causes the patient little concern, and shortly after her return home she assumed an active share of domestic duties.

Anatomy.—The base of origin, configuration and dimensions were as stated above. The cut surface of the mass was of a yellowish-white colour, and exuded colourless lymph fluid on pressure. Fibrous bands were seen intersecting the surface.



Fig. 2. Showing the unaffected labia majora.

A section for microscopic examination was taken from the apex of one of the low papillae, and under the low power (Fig. 4) the thickened epidermis and corium are seen with, in the deeper parts, abundant interlacing fibrous tissue, in which are set well-marked blood vessels and multiplied lymphatics.

Under the higher magnification (Fig. 5) the marked dilatation of the lymphatic spaces is still more evident, and groups of infiltrating, small round cells are seen. These have been more commonly noted in relation to the blood vessels and especially round the veins.

Remarks. The occurrence in this country, in a patient who has never been abroad, of elephantiasis of the vulva and elephantiasis of one of the lower extremities in congenital association is sufficient warrant for the recording of the case.

It is fair to assume that the condition of the vulva and that of the limb are due to a common cause—namely, lymphatic obstruction. The configuration of the affected parts and the histology of the vulval mass conform to what is generally accepted as characteristic of elephantiasis. As to the cause, it must have been in this instance operative during the intra-uterine existence of the patient. On this point Ballantyne, in his well-known work on antenatal pathology, says that the

pathogenesis of congenital elephantiasis has that common character of antenatal morbid states—obscurity. He goes on to refer to J. Schnitzler's case[1] where there was some evidence that an amniotic band was an etiological factor. Further, to the view held by some that the disease is referable to transplacental transmission of a true elephantiasis arabum, or again to a family predisposition to neoplastic changes, or to a long-continued irritation of the subcutaneous tissues by some toxin circulating in the blood.

There is no evidence that any of these alleged possible causes was present in this case.

Radcliffe Crocker comments on the rarity, especially when congenital, and the sporadic incidence of elephantiasis in this country, and to the frequency with which a history of recurrent erysipelatous attacks is found when the limbs are affected.



Fig. 3.—Showing the elephantiasis of the right lower limb. Taken after removal of vulval mass.

Kelly, in his *Operative Gynaecology*, vol. i, p. 181, says that in his experience elephantiasis of the genitals is not rare, and recalls the well-known fact that the negro race is specially liable. Also that the clitoris and labia minora are more often affected than the labia majora, and that the condition is due to a chronic inflammation obstructing the lymph channels, the essential factor being, most commonly, syphilis.

On the other hand, Kelly notes that the associated occurrence of elephantiasis of the limbs with that of the genitals suggests the diagnosis of true elephantiasis, presumably meaning thereby that such a condition would be due to a filariasis.

In this relation Manson may be quoted. In *Tropical Diseases* (p. 545) he says the filaria is rarely found in the blood of persons with elephantiasis arabum, because that disease is due to an abnormal method of reproduction by the adult worm.

Normally, filaria Bancrofti produces free swimming embryos, that is, filaria sanguinis hominis. These embryos do not obstruct the lymphatics. Abnormally, the parent worm produces immature ova. These block the lymphatics and probably die, but do not get into the blood stream. Manson remarks on the rarity of vulval elephantiasis as compared with a similar condition affecting the leg and scrotum.



Fig. 4.—Photomicrograph × 36, showing thickened epidermis, with increased fibro-connective tissue supporting multiplied lymphatics and well-marked blood vessels.

Dr. Renner[2] recorded a case of elephantiasis of the vulva occurring in an English woman resident in Sierra Leone. The filaria was not found in the blood, and from this fact and from the rarity of the condition amongst the natives of a certain part of the colony, where almost every male has lymph scrotum, he inclined to the view that elephantiasis vulvae was not due to the filaria.

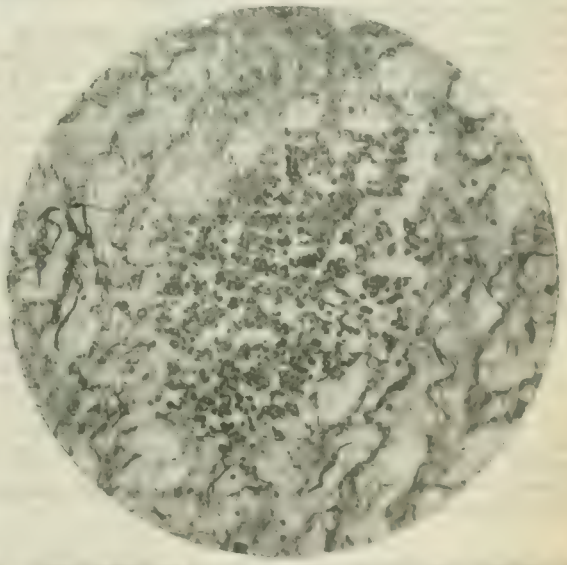


Fig. 5.—Photomicrograph ×120, showing dilated lymph spaces and one of the areas of infiltrating small round cells.

Duff Bullard[3] records a case where both labia and clitoris were involved, and where there was no history of syphilis. He quotes Osler as stating that the filaria was not found in the American cases of elephantiasis, and also Jonathan Hutchinson as expressing the opinion that English elephantiasis may be the same as that occurring in the tropics.

Hart and Barbour[4] agree with the majority of authors recording English cases that syphilis is the most common cause. They also agree that elephantiasis vulvae usually develops during the age of greatest sexual activity.

In many cases recorded and indexed as elephantiasis no claim is made for other than a purely traumatic origin. Lydston's article[5] and Hamann's case[6] are illustrative of this. Probably also Halliday Croom's case,[7] where the condition developed after suppuration of the right inguinal glands.

Another class is illustrated by Kidd's case, referred to in Gould's *Year Book of Surgery* (1897). Here the patient, aged 33, had never been abroad, and there was no history of syphilis. The vulval tumour, pendent half-way to the knees, was lobulated and composed of oedematous fibrous tissue with many lymph-clefts, the epithelium being little thickened. Gould remarks that it was probably a molluscum fibrosum, and not true elephantiasis.

The time allotted does not permit, nor is it the purpose of this communication to include, reference to the very wide range of literature on the subject of elephantiasis generally.

Apart from the two classes of cases referred to above, the number of recorded instances of elephantiasis vulvae in this country is very small, and, with reference to the case which is the subject of this paper, I have not been able to find an account of a similar one.

For the photographs I am indebted to Dr. Samuel, House Surgeon, Cardiff Infirmary, and to Dr. W. D. J. Morris, Cardiff.

References.

[1] *Wien klin. Rundschau*, ix, 1105, 1895. [2] British Medical Journal, September 24th, 1898. [3] *New York Med. Record*, 1899, lv, p. 128. [4] *Manual of Gynaecology*. [5] *Chicago Medical Record*, 1892, vol ii. [6] *An. Gynec. and Ped.*, Boston, xiii, 1899-1900. [7] *Edin. Med. Journ.*, xxxviii.

Mrs. Stanley Boyd, M.D., asked whether any ulceration was present in association with the hypertrophy in Dr. Maclean's case. She had seen two or three cases of marked hypertrophy associated with ulceration about the perineum and urethra, in all of which there was a possibility of syphilitic infection, and in one there was the association of trauma as evidenced by a recto vaginal fistula. In all the condition had existed for some length of time.

Dr. Taylor Young congratulated Dr. Maclean on his good luck in coming across such an interesting case, and said he deserved the thanks of the Section for bringing forward the particulars of his well-prepared paper. Only one case had come under his own observation, and it was especially interesting inasmuch as the patient sought advice because of an ulcerative condition which had started, and which subsequently was proved to be malignant.

Dr. Thomas Wilson congratulated the author on his interesting and full report of a condition rare in this country. He had not seen a case of true elephantiasis in his own practice, but referred to two specimens of the condition in the Birmingham University Museum. The condition was sharply marked off from the ulcerative hypertrophy, probably syphilitic. The term esthiomene of the vulva may perhaps properly be preserved.

Professor Byers thanked Dr. Maclean for his excellent scientific report of a very interesting case. He thought they had grouped under the term elephantiasis vulvae many different conditions—a true elephantiasis, another condition with no specific history, and a third type with ulceration, probably syphilitic.

The President said that he had never seen a case at all resembling this interesting one of Dr. Maclean's. He was well acquainted with hypertrophy of the labium minus, both in recent cases of syphilis, in which ulceration was often present, and in chronic cases in which there was no ulceration. Dr. Matthews Duncan had written a great paper on three cases which he regarded as lupus, though personally he (Dr. Spencer) thought they were due to syphilis. But Dr. Maclean's case was quite different in that it was associated with elephantiasis of the leg.

FURTHER REPORT ON A NEW OPERATION FOR PROLAPSUS UTERI, WITH NOTES OF 93 CASES.

By J. Inglis Parsons, M.D., M.R.C.P.,

Physician to the Chelsea Hospital for Women.

Rupture, or weakness of the pelvic floor, is a fertile cause of prolapsus uteri. When this has been restored by operation, some of the patients recover, but there still remains a large number where the prolapse persists and something more has to be done. The fault then lies in the uterine ligaments.

In order to meet these cases, the operation of ventrifixation or ventrisuspension was introduced. When the prolapse is not beyond the first degree, and the abdominal wall is firm, a good result follows. The same may be said of slight prolapse associated with retroflexion. I have had most gratifying results in the latter class of cases, using only two sutures of silk to hold up the uterus to the abdominal wall. If, however, the uterus is procident and the prolapse has existed for some years, a great many stitches are necessary. When the patient has not reached the menopause, this fixation of the uterus interferes with the expansion of the uterus during pregnancy. If the patient is over the menopause, the abdominal wall is often so lax that the uterus drags it down into a pouch, or it fails to unite, and comes away altogether.

It was in order to meet this deficiency in our methods that I introduced the operation of injecting the broad ligament with quinine. The idea is to cause an effusion of lymph in the utero-pelvic band within the broad ligaments, so that repair would take place.

There is usually no rise of temperature and no inflammation, nor is there any pain.

Dr. Galabin, in his *Diseases of Women*, is kind enough to mention my operation, but speaks of it as painful. The reverse is the case. Unless there is a rise of temperature (which very rarely happens) the patients have no pain at all, and nothing like what they have after repair of the perineum.

The procedure is very simple, and can be done in any private house without the numerous accessories and aseptic precautions required when the peritoneum is opened for ventrifixation. It only takes a few minutes to do, so the patient is not under the anaesthetic long. I did one case under gas and oxygen in five minutes from start to finish.

When pessaries and hygienic measures, such as rest, fresh air, tonics, astringent douches, etc., and repair of the pelvic floor, have been tried and fail to keep up the uterus, my own operation will be found of much value, because it is free from risk, does not interfere with pregnancy, and can be done in any private house, without sterilizers and other accessories.

The solution used for injection consists of 12 gr. of sulphate of quinine dissolved in 30 minims of distilled water, and 30 minims of dilute sulphuric acid. This makes a solution of 1 in 5. It is necessary to have quite 2½ minims of dilute sulphuric acid to every grain of quinine to prevent precipitation. At a temperature of 60° F. the solution remains clear for any length of time if kept airtight. At lower temperatures some precipitation may occur; the bottle should then be stood in warm water until the precipitation disappears.

The making of the quinine solution should only be entrusted to a thoroughly reliable dispenser, because if it is not made properly the operation will fail.

The operator must see that the syringe is in proper working order and that there is no leakage at any of the joints. Unless this is done, the solution may all drop into the vagina instead of going into the ligament. The quantity of the solution which I now inject is 1 drachm into each ligament. At first I began with 30 minims, and have gone on increasing the amount, but I find it is not advisable to go beyond 1 drachm each side. Anything beyond this amount is liable to cause a rise of temperature.

The patient is prepared for the operation by douching the vagina with hydrarg. perchlor. 1 in 2,000. The bowels are thoroughly cleared out, and an enema is given the morning of the operation.

With an ordinary case of prolapse in the first stage, the patient need only lie in bed the previous day. But when we have to deal with a case of chronic procidentia in an old woman it is advisable to give her a week's rest, so as to allow the displaced organs to resume their normal relations as much as possible before the operation. The procident uterus must be put back and kept there with a pessary. Any ulceration of the cervix must be healed up. If the bladder is in an unhealthy state it should be washed out with boracic acid solution and urotropine given by the mouth.

Another point is to feed the patients up beforehand. In the case of full blooded countrywomen this is not necessary, because they react well to the injection. The pale, anaemic townswoman, worn out by the birth of many children, or the society woman, often of weak constitution and exhausted by a constant round of amusements, requires to be toned up beforehand so as to react to the injection.

Table of Cases.

No.	Initials	Age.		Duration of Prolapse.	Date of Injection.	Temperature.	Results.
1	M. H.	61	Hospital	7 years	June, 1897	Slight rise	Very good. Uterus keeps up. Works hard.
2	E. W.	37	Hospital	10 years	Feb. and July, 1898	Normal	Procidentia recurred.
3	E. W.	39	Hospital	2 years	February, 1898	Normal	Works in a laundry. Quite well.
4	E. P.	44	Hospital	15 years	Feb and Aug., 1898	Normal	Much better. Uterus keeps up.
5	A. J.	29	Hospital	18 months	March, 1898	Normal	Has had a full-term child, 1899. Very well.
6	J. B.	46	Hospital	7 years	March, 1898	Normal	Fairly good. Much better.
7	A. C.	55	Hospital	16 months	March and April, 1898	Normal	Very good. No further trouble.
8	M. R.	51	Hospital	10 years	March and April, 1898	Normal	Good. Can now do household work.
9	S.	66	Dr. Aikman	12 years	April, 1898	Normal	Very good. No further trouble.
10	L. A.	68	Hospital	36 years	April and May, 1898	Slight rise	Very good. Quite well.
11	D. Y.	32	Hospital	9 years	May and June, 1898; May, 1899	Normal	No procidentia; still some prolapse.
12	P. H.	45	Hospital	13 years	June and July, 1898	High temperature	Quite well.
13	W. B.	29	Dr. Whitcombe	2 years	July, 1898	Normal	Had full-term child. 1899. Uterus keeps up.
14	A. C.	50	Hospital	10 years	July, 1898	100.2°	Good. Is now able to work.
15	A. H.	55	Dr. Whitcombe	10 years	January, 1899	Normal	Good.
16	A. W.	30	Dr. Jago	6 years	March, 1899	Normal	Very good.
17	H. M.	40	Hospital	6 years	March and April, 1899	Normal	Fairly good. Cystocele gives trouble.
18	C. J.	30	Dr. Lauchlan	4 years	April, 1899	Normal	Very good
19	E. W.	35	Dr. Chilcott	1 year	November, 1899	Normal	Good. Not been seen lately.
20	C.	64	Mr. Bland-Sutton	Procidentia 5 months	November, 1899	Normal	Good.
21	S. L.	47	Dr. Brown	20 years	November, 1899	Normal	Fairly good.
22	S. G.	65	Hospital	7 years	Jan. and Feb., 1900	Normal	Very good.
23	S. M.	62	Hospital	4 years	Feb. and March, 1900	Normal	Quite well. Works at wash-tub.
24	H. C.	41	Dr Fenton	6 years	Feb. and April, 1900	Normal	Very good.
25	S. G.	67	Dr. Fenton	25 years	March and April, 1900	Normal	Very good.
26	N. C.	38	Dr. Orr	9 years	April 2 and 26 1900 (two)	Normal	Very good. Works the whole day standing.
27	L. M.	21	Hospital	3 years	April, 1900 (one)	Normal	Fairly good. Some prolapse still. Full term child 1905, under Dr. Maclean.
28	E. W.	32	Hospital	7 years	May, 1900 (one)	Normal	Very good.
29	A. L.	25	Hospital	3 years	April, 1900 (one)	Normal	Good Ovariotomy. Polypus removed.
30	H. P.	48	Dr. Fenton	4 years	June, 1900 (one)	Normal	Fairly good.
31	M. P.	47	Dr. Cowen	24 years	July, 1900 (two)	Normal	Very good Has recovered use of her eyes.
32	R. W.	45	Dr. Fowler	8 years	October, 1900 (two)	Slight rise for 24 hours	Uterus keeps up. Requires pessary for retroversion.
33	A. P.	57	Hospital	2 years	October, 1900 (one)	Normal	Lost sight of patient.
34	E. B.	43	Dr. R. Duncan	10 years	October, 1900 (two)	Normal	Much better. Can do housework.
35	C. C.	40	Dr. Fenton	2 years	November, 1900 (two)	Normal	Uterus held up. Not seen lately.
36	L. M.	43	Dr. Buckle	15 years	Oct. and Dec., 1900	Normal	Uterus keeps up. Wears pessary for cystocele.
37	H.	62	Private	2 years	November, 1900 (one)	Normal	Very good.
38	C. B.	55	Mr. Bland-Sutton	18 years	January, 1901 (two)	Normal	Good.
39	C. T.	55	Hospital	8 months	Jan. and Feb., 1901	Normal	Uterus keeps up.
40	F. B.	42	Dr. Cowen	19 years	January and February, 1901.	Normal	Good.
41	C. L.	58	Dr. Bell, Rochester	15 years	February 28th, 1901	Normal	Failed.
42	M. B.	64	Hospital	26 years	June 6th and July 4th, 1901	Normal	Very good.
43	A. J.	25	Hospital	3 years	July, 1901	Normal	Good.
44	L. L.	23	Private	4 years	October 14th, 1901	Normal	Good.
45	M. W.	49	Dr. Michie	25 years	October 18th and colpoperineorrhaphy	Normal	Good.
46	E. R.	74	Hospital	45 years	October 18th, 1901	Normal	Very good.
47	S.	42	Dr. C. Keith	12 years	November, 1901	Normal	Very good.
48	M. G.	51	Hospital	2 years	December 5th, 1901	Normal	Good.
49	C. J.	37	Hospital	1½ years	January, 1902	Normal	Very good.
50	M. W.	56	Hospital	33 years	January, 1902	100.2°	Very good.
51	E. M.	34	Dr. G. Cowen	1 year	March 13th, 1902	Normal	Very good.
52	W.	31	Dr. Brook, Lincoln	2 years	April and November, 1902	Normal	Very good. Delivered of a child April, 1905.
53	A. M.	35	Hospital	2 years	March 17th, 1902	Normal	Very good.
54	H. B.	34	Dr. Sedgwick	3 years	April 10th and 24th, 1902	Normal	Very good. Delivered of a child April, 1903.
55	S. F.	34	Dr. H. Menzies	4 years	April 21st and May, 1902, and colpoperineorrhaphy May, 1902	Normal	Very good.
56	P.	33	Dr. Thoresby Jones	6 years		Normal	Good.
57	E. B.	40	Hospital	20 years	May 26 and 15 and June, 1902	101°	Very good.
58	E. C.	35	Hospital	16 years	June 5th, 1902	Normal	Good.
59	E. R.	53	Hospital	12 years	June, 1902	Normal	Good.
60	R. S.	28	Dr. Banham	5 years	July 3rd, 1902	Normal	Very good. Delivered of a child, 1903.
61	K. L.	33	Dr. Bathurst	10 years	July 3rd	Normal	Very good.
62	C. T.	56	Hospital	3 years	November 11th	Normal	Good.
63	B.	38	Dr. Thoresby Jones	7 years	November	Normal	Very good.
64	R. J.	47	Dr. Cowen	20 years	January 8th and 19th, 1903	Normal	Very good.
65	J. W.	57	Dr. Pentold	27 years	January 22 and Feb. 5, 1903	Normal	Fairly good.
66	R. S.	30	Hospital	4 years	February 12 and colpoperineorrhaphy	Normal	Very good.
67	A. D.	31	Dr. Thoresby Jones	6 weeks	March 5th	Temperature rose 14 days after operation	Very good.
68	L. T.	24	Hospital	2 months	March 23rd	Normal	Very good.
69	L.	48	Dr. W. H. Bourke	5 years	April	Normal	Very good.
70	H. P.	50	Hospital	10 years	May 18th, 1903	Normal	Good.
71	P.	33	Dr. Keightley	3 years	March, 1903	Normal	Good.
72	M. D.	42	Hospital	2½ years	March 18th, 1903	Normal	Improved.
—	M. D.	—	Hospital	2½ years	July 10th, and colpoperineorrhaphy	Normal	Good.
73	L. H.	30	Dr. Adams	3 years	July 3rd, 1903	Normal	Good.
74	S. G.	70	Hospital	2 months	July 3rd	Normal	Good.
75	E. S.	47	Hospital	9 years	July 16th	Normal	Very good.
76	J. C	44	Dr. Bovill	4½ years	July 16th	Normal	Very good.
77	A. R.	63	Dr. Cayley	25 years	October 29th	High temperature for 3 days	Good.
78	E. P.	34	Dr. Huxley	1 year	August, 1903	Normal	Improved.
79	A.	60	Dr. S. Kent	15 years	December, 1903; May, 1904 and March, 1905; and colpoperineorrhaphy	Normal	Third injection succeeded, but first and second failed.
80	R. H.	46	Hospital	2 years	January 10th, 1804	Normal	Very good.
81	M. P.	30	Hospital	Procidentia 2 months	January 10th, 1904, and colpoperineorrhaphy	Normal	Very good.
82	H. S.	44	Hospital	10 years	January 19th, 1904, and colpoperineorrhaphy	Normal	Very good.
83	M. R.	63	Hospital	Many years	February 2nd	102.8°	Very good.

Table of Cases (continued).

No.	Initials.	Age.		Duration of Prolapse.	Date of Injection.	Temperature.	Results.
84	R. S.	38	Hospital	4 years	March 8th	100°	Good
85	A. N.	45	Dr. Phillipps	5 months	April 11th, and perineorrhaphy	Normal	Good.
86	H. W.	28	Hospital	2 years	April 26th	Normal	Very good.
87	J. Z.	42	Dr. Lytle	17 years	April 12th and 26th, and colpoperineorrhaphy	Normal	Good.
88	E. D.	68	Hospital	30 years	May 24th	Normal	Good.
89	A. S.	62	Hospital	4 years	June 2nd	103° for 2 days	Very good.
90	M. D.	45	Hospital	8 years	October 11th	100°	Fairly good.
91	I. M.	34	Hospital	7 years	November 4th	101°	Good.
92	L. B.	46	Dr. Bathurst	12 years	October 18, and colpoperineorrhaphy	103°	Very good.
93	R. G.	42	Hospital	12 years	October 25th, November 8th	Temperature high	Good.

For this purpose they are put on a full meat diet, with iron, port wine, or burgundy, and extract of bone marrow.

A special syringe makes the operation easier. That which I employ has a long, straight, thin, but rigid nozzle, so that it does not block the view when passed into the vagina. At the end of this is the needle, 1 in. long, preferably of platinum, so as not to corrode. The body of the syringe holds about 3 drachms, and has the quantities marked on the piston and a revolving disc. By this means the quantity to be injected can be marked off and not exceeded.

Operation.

An anaesthetic is usually given. I have done some half-dozen cases without, but the patients feel a sharp smarting pain when the injection is being made. This gradually passes off in ten minutes.

The patient is placed in the lithotomy position, and a Clover's crutch is used to keep the legs steady. The vagina is given a final douche of hydrarg. perchlor. 1 in 2,000. A Sims's speculum is then introduced to hold down the posterior wall, while a retractor lifts up the anterior wall of the vagina. For some of the chronic cases of procidentia of many years' standing it is necessary to use two lateral retractors to prevent the bulging in of the dilated vaginal walls, which would block the view.

The sound is next passed into the uterus to ascertain its direction, and the bladder is also sounded to ascertain its position and limits.

After the sound is withdrawn, a straight probe, rather stiff and covered at the end with cotton-wool is passed into the uterus and held horizontally.

In this position the broad ligaments form two triangular spaces with their base towards the operator, filled in by the vaginal walls and levator ani. Crossing this space from the outer side to the inner are the uterine arteries and veins and the ureters.

The syringe is taken in the right hand, and the quantity marked off on the piston with the revolving disc.

If the cervix is normal in size, the puncture is made about three-quarters of an inch from its edge, and slightly below the level of the external os. When the cervix is enlarged, the spot to be punctured will be proportionately nearer. The needle is directed a little downwards and outwards. In this position the uterine artery and veins are on the inner side, while the ureter is above and somewhat inside.

The needle point should feel quite free when it is in the cellular tissue. The full length of the needle is inserted, but the syringe should not push up the vaginal walls.

The solution is now slowly injected, and spread out from side to side.

After both injections have been made, the probe, speculum, and retractors are withdrawn, and the operator proceeds to antevert the uterus bimanually. This is an important step, because a return of the prolapse is much less likely to occur with the uterus in this position.

A cup and stem vaginal pessary is next introduced into the vagina with four tapes attached, two in front and two behind. These are tied to a band round the waist. By this means, if the pessary is properly made and does not come untied, it is impossible for the uterus to come down while the effusion is forming.

After-treatment.

The bowels are opened the day after the operation. The pessary is removed on the fourth day. By that time there is, in the large majority of cases, enough effusion to hold up the uterus although it is not complete under a week.

On examination, the uterus is found in position at a good elevation, while the effusion feels like a band between the uterus and the pelvic wall. It is firm and resilient, and not hard like parametritis.

Patients should be instructed not to lie on their back, but as much as possible on the face, so as to throw the fundus forwards.

The length of time that it is necessary for a patient to rest after the operation depends on the duration of the prolapse and the extent of it. For cases in the first stage it is only necessary to lie in bed for a week or ten days. This is followed by rest on a sofa for another ten days. After that the patient can go out for a drive and receive her friends, but is not allowed any active exertion until after another ten days. It is advisable, as the patient gets out of bed, to fit her with a pessary so as to assist the ligaments. It is only necessary to wear this for a month or two until the fibrous tissue has formed.

The reason for this is quite obvious. When the lymph is first formed it has very little resisting power to a downward strain. As organization proceeds, and it turns into fibrous tissue, it continues to become stronger. Nature takes her own time to do these things, and although we force Nature to do the repair, we cannot make her accomplish it in a shorter time than she is accustomed to. From our experience of the repair of ligaments after dislocation of an ordinary joint, we know that it takes quite two months before the joint can stand any strain, while it does not regain its full strength for some months longer.

The same principle applies to these cases. We must therefore avoid much strain on the uterine ligaments during the first two months by keeping the patient at rest part of the time, and by the use of pessaries. The improvement in the ligaments after the operation sometimes goes on for some months longer. The new tissue appears to get stronger as time goes on.

When, as sometimes happens with anaemic, weak women, there is very little effusion, a second injection will nearly always succeed in producing a reaction, but it should not be done before a fortnight has elapsed from the first injection; and the amount of the solution injected should not be so much, or there may be a rise of temperature. I have not known any harm come from this beyond having to keep the patient in bed longer than usual.

In dealing with chronic cases of procidentia, say of ten to twenty years' standing, it is generally, but not always, necessary to inject twice in order to produce a permanent result. Under these conditions if the first injection produces a reaction, there should be an interval of three weeks before a second is given.

Although the vaginal walls usually improve, and recover their tone to a great extent after the uterus is held up, it is advisable to do colpoperineorrhaphy if the perineum is ruptured, or if there is a dilated vaginal outlet. It helps to take the strain off the uterine ligaments, and also makes the patient feel more comfortable. By taking a sufficiently large triangular flap from the posterior vaginal wall, and combining this with the flap slitting operation, the vagina can be restored to its virginal size, and the perineum made larger than it ever was before.

Results.

It is eight years since the first patient was operated on. I have now lost sight of her, but I saw her six years after the operation, and she was still well then and able to earn her living. Eighty per cent. of the cases had complete procidentia,

and several of them for many years. Every available treatment had been tried. Some of them had made the round of the hospitals before coming to me.

One very gratifying result, but which I expected, is to find that the operation in no way interferes with pregnancy. No less than six patients have had full-time children without any difficulty.

Details of the first 40 cases were published in the BRITISH MEDICAL JOURNAL in 1901, and I now include a further group of 53 cases, making 93 in all.

Speaking generally, there is great improvement in nearly all these cases, and only one entire failure. About 80 per cent. are completely relieved of their prolapse.

Nine of these last fifty cases had procidentia for more than twenty years before coming to me, while nineteen had procidentia for more than ten years. No greater test than this could very well be made.

For women with a flabby abdomen, not suitable for abdominal fixation, there is no other operation or treatment that could do the same for them. The short time in which the operation can be done and the practical absence of pain and shock afterwards make it possible for even very old women. For instance, Case No. 40 on the list was 74 years old, and another was over 70, and several over 60.

The six patients who have had children have not had any recurrence of procidentia, but the uterus was a little lower than it was before they became pregnant.

Recurrence of the prolapse took place in three cases three years after operation, and in one who had chronic bronchitis and much coughing in five months.

REVIEWS.

PHYSIOLOGY.

THE two volumes entitled *Studies in General Physiology*,[1] by Professor LOEB, of the University of California, are a compilation of papers written since 1889. Altogether 38 papers are included, and, as Professor Loeb points out in the preface, all these papers centre round one leading idea—namely, "that it is possible to get the life-phenomena under our control, and that such a control and nothing else is the aim of biology." The subjects of the essays are very diverse, including heliotropism, organization, and growth, cleavage, regeneration, brain physiology, physiological effects of ions, artificial parthenogenesis, etc., but to any one who reads them in chronological order, according to which they are arranged, the process of evolution of Professor Loeb's work will become evident. Only thirteen of the papers were originally published in English, the remaining twenty-five having been written in German and translated by Professor Martin H. Fischer for the present volumes. It is impossible to discuss adequately so many papers upon such diverse subjects, and we can only touch upon a few of the interesting questions dealt with. Professor Loeb does not accept Weismann's theory of determinants, and says: "According to this theory things are already definitely determined in the germ-plasm, which, to my mind, are functions of circumstances that first make their appearance in much later stages of development" (p. 319). This is the view which Sachs took, since he believed that in the case of plants the primary formative substances are only capable of producing root and shoot, but that from these substances others are later developed capable of producing more detail until ultimately substances are evolved capable of producing the sexual organs. Professor Loeb showed by his experiments on the development of fish embryos with suppressed circulation, in which experiments he prevented the heart from beating by a solution of KCl, that "the origin, pathway, and the branching of at least the larger blood vessels are independent of the blood pressure . . . the mechanical causes for the growth of the vessel walls are therefore not to be sought inside the vascular lumen, but in all or in single cells of the vessel wall. The giving off of branches is determined by internal causes acting within cells of the vessel wall . . ." (pp. 301-2). He leaves open the question as to whether or not the circulatory system formed in the absence of a circulation is closed—that is, whether or not the capillary branchings of the arteries of the yolk pass over into the capillaries of the veins. In a paper upon the physiological effects of lack of oxygen, Professor Loeb shows that "in certain cases, at first molecular and later morphological changes are brought about through lack of oxygen, which in their turn are the causes of the suspension of life phenomena"; and he adds, "further investigations may possibly be able to show that the *sudden* cessation of life-phenomena through lack of oxygen may generally be attributable to structural changes. Were this the case, it might point the way, perhaps, to a clearer understanding of the action of many poisons" (p. 423). Professor Loeb's experiments as to the effects of certain salt solutions upon living protoplasm, with which several of the papers are concerned, are extremely interesting. He found that "the striped muscles of a frog beat rhythmically (like the heart) if put into a $\frac{N}{8}$ NaCl or NaBr solution," and he says "it is only the presence of K and Ca ions in the blood that prevents striated muscles from contracting rhythmically in the body" (p. 541). Here, perhaps, we have an explanation of the first cause of chorea! Professor Loeb found that by making certain changes in the constitution of the sea water the eggs of the sea-urchin (Arbacia) could produce perfect embryos without being fertilized. These changes were "either a reduction of the Na or Ca ions, or an increase in the Mg (or K) ions, or both"; and he says "the only reason that prevents the sea-urchin from developing parthenogenetically under normal conditions is the constitution of the sea water. . . . . All the spermatozoon *needs* to carry into the egg for the process of fertilization are ions to supplement the lack of the one or counteract the effects of the other class of ions in the sea water, or both" (p. 542). He further suggests that it is "not impossible that a transitory change in the ions of the blood may also allow complete parthenogenesis in mammalians" (p. 543). Space will not permit us to go further into these interesting volumes, but enough has been said to show the importance of the physical surroundings in influencing living things. Professor Loeb more than once insists on the importance to the biologist of a thorough knowledge of inorganic chemistry, and he certainly shows the powerful effects of simple salts upon living protoplasm. The book is altogether most suggestive and well worthy of the attention of medical men.

The late Professor IMMANUEL MUNK was widely known as one of the most prominent physiological investigators of Germany. His textbook of physiology[2] was, however, never much used in this country, probably because we have in our own language several books dealing with the subject on equivalent lines. It had reached a sixth edition before his death, and the present (seventh) edition has been edited by Professor SCHULTZ, who states in the preface that his aim has been to preserve as much as possible the original text, which in its lucidity reflects so much of the personality of the deceased author. Advance of knowledge has, of course, rendered it necessary to amplify and modify some of the statements which appeared in earlier issues. This has been particularly necessary in relation to the sense organs; the chapters dealing with these have been largely rewritten and treat the subject with special completeness. The work as a whole aims at giving to students and practitioners a succinct account of physiological processes, and does not pretend to be a complete work of reference for those engaged in research. Its 700 pages are packed with information, and in many parts much compression has been necessary. In some cases this has led to an omission of detailed explanation and elementary exposition, which the beginner so badly needs. Histological descriptions are given with greater fullness than is usual in German physiological textbooks, and a short but useful chapter on embryology is appended. The solidity of the text is relieved by a few well-selected illustrations.

Mr. HODGKINSON LACK, considering that physiology has made so rapid an advance during recent years, has thought it desirable to set down in simple language the elementary factors in the various branches of the science. In *An Introduction to Physiology*[3] he says: "It seems hardly necessary to add that this little volume is not by any means intended to replace the standard textbook. Still less is it intended to encourage cramming." He regards his book "as an introduction, and an incentive to the further study of one of the fundamental sciences of the practice of medicine." The book in truth is chiefly composed of lists of physiological

[1] *Studies in General Physiology.* By Professor Jacques Loeb. Vol. xv. Series II of the Decennial Publications of the University of Chicago. In two parts. London: T. Fisher Unwin. 1905. (Demy 8vo, pp. 782. 31s. 6d.)

[2] Immanuel Munk's *Lehrbuch der Physiologie des Menschen und der Säugetiere für Studierende und Aerzte.* Bearbeitet von Professor Dr. P. Schultz, Physiol. Institut., Berlin. 7th Auflage. Berlin: A. Hirschwald. 1905. (Demy 8vo, pp. 700; 153 illustrations. M. 14.)

[3] *An Introduction to Physiology.* By L. A. H. Lack, M.B., Ch.B. Edinburgh and London: W. Green and Sons. 1905. (Demy 8vo, pp. 227. 8s.)

statements arranged in the 1, 2, 3, 4, 5 style, statements culled from the popular textbooks of physiology. It is a typical "cram" book, and is fitted in no way to act as an incentive to the student or to make him think. Mr. Lack is content with the statement that physiology has during recent years made rapid advances; he shows no signs of ever having studied this advance or of having investigated the physiological archives in the preparation of his book. It is typical of the method by which the student is crammed by successful medical coaches, and shows to what a degree real education is abused by the examination system at present in vogue. The whole system is arranged to make the student cram, cram, and cram multitudinous names and so-called facts from the beginning to the end of his five years' curriculum. To think, to work out problems honestly and thoroughly, to be filled with the desire to make accurate scientific observations, and to become trained in the power to do so—these, the real ends of education, are lost in the mad scramble to gain the ill-assorted, unco-ordinated mass of knowledge which is at present demanded of the student. Hence the success of the crammer, who by his 1, 2, 3, 4, 5 system makes the student learn by rote stuff to think out which no time is given him. While this system lasts Mr. Lack's book will serve the student's turn and help him to "get through."

In its general arrangement Dr. SIMON'S *Textbook of Physiological Chemistry*[1] does not differ materially from the majority of such books. The substances of physiological importance are first considered under the three classical headings of proteids, carbohydrates, and fats. The processes of digestion and absorption of food are then studied. This is logically followed by a description of the excretions, whilst the concluding chapters deal with the animal cell, the blood, and the various tissues and organs taken one by one. The author is evidently well versed in the doctrines of modern chemistry, and the practical methods for qualitative and quantitative analysis are accurately and clearly described. The book will therefore be useful to students, investigators, and physicians as a practical guide, for no important method is omitted, and many of the more recent have not yet appeared in any other textbook. The best part of the book is that which treats of the proteids and their decomposition products. It is quite evident that Dr. Simon has made them a special subject of study. The manner in which he elects to classify them, however, will be very confusing to students; the word albumin, for instance, is sometimes used as equivalent to the simpler proteids and sometimes restricted to a special group of these. The words nuclec-albumins and nucleo proteids are used for different classes of complex proteids, and although Dr. Simon here follows the example of some other writers, the practice is perplexing and ought to be abandoned. In the description of the albuminous bodies, and in certain other parts of the book, the subject-matter is well up to date; but this is not the case throughout. We should not, of course, have expected to find the formulae for such substances as tryptophane and adrenalin correctly given, for the constitution of these materials has only been determined accurately within the last few months; but we should have expected some reference to the work of Morawitz and Delezenne on blood coagulation, and some allusions to the precipitin test for blood. The whole question of immunity (toxins, antitoxins, agglutinins, etc.) is omitted. The faults of the book are those of omission rather than of commission. The omission of bibliographical references is justified in the preface, for it is stated that the book is intended primarily for the student. But such an omission prohibits the extensive use of the book to the investigator. The absence of illustrations is another weak point; drawings of apparatus would have made the descriptions of analytical methods still clearer. There are no chapters on general metabolism or animal heat, which is rather surprising, seeing that in America there are so many centres where metabolic inquiries are in progress. We should also have expected to find in a new book some general statements concerning the velocity of ferment actions and the methods of determining it. The subject of autolysis also is surely of sufficient importance to merit more than the half-page allotted to it. So far as it goes, the book, as we have said, has its good and useful features; we, however, see nothing in it to make it replace the other numerous well-known textbooks on the subject. There is no spark of originality in it; it is a mere compilation, but, unlike many compilations, it has the advantage of being accurate and trustworthy.

In *Directions for Laboratory Work in Physiological Chemistry*[2] Dr. JACKSON has published a guide for systematic work in a course in physiological chemistry such as is given in the majority of the American medical schools. The experiments he gives are simple and of a form which does not overstep the possibilities of equipment and time available in the average laboratory. The text preceding the experiments is limited to an explanation merely sufficient for a correct understanding and performance of the work indicated. Direct explanation of the results of the experiments is purposely omitted, so that the student may be led to reason these out for himself. The course is thoroughly practical and well arranged, and the value of the book is increased by an appendix in which is given the methods for the preparation of the solutions, reagents, and materials used in the course.

OBSTETRIC MEDICINE.

DR. QUEIREL'S volume on clinical obstetrics[3] is a collection of clinical lectures, based upon cases occurring in his practice. The first nine deal with syphilis in its effects upon the pregnant woman and the fetus. These contain good advice, but nothing very novel. Then comes a lecture on hysteropexy, in which its effect in the event of subsequent pregnancy is discussed. We observe that the author thinks hysteropexy a very valuable operation; but to prevent trouble should pregnancy occur, he advises that the highest suture passed through the uterus should be one or two centimetres in front of the line joining the insertions of the tubes. Next we have three lectures on nephropexy. The purport of their teaching is that this operation ought only to be done when the symptoms are so severe as to prevent a working woman from earning her living, and the possibility of their being due to neurasthenia has been eliminated. But when done, the fixity of the kidney is not affected by subsequent pregnancy. The fourteenth lecture relates a case in which for some obscure abdominal symptoms in pregnancy first an exploratory laparotomy was performed, and then labour induced, with a satisfactory result both for mother and child. Dr. Queirel gratifies himself with the ingenious speculation that there may have been a twist of a Fallopian tube, which he unconsciously undid when he passed his hand into the pelvis. The two following lectures are about ovarian cysts, and the next on triplet pregnancy; they are instructive to the student. Then comes an excellent account of external version; the method is described, and its advantages insisted on. Placenta praevia is the next subject of instruction; and Dr. Queirel's teaching has at least the merit of simplicity. His rule is in every case in which haemorrhage is great enough to be alarming to make a large opening in the bag of membranes. A case is related in the twentieth lecture of sudden death of a pregnant woman during thoracentesis. It is not stated on which side the patient was lying while the operation was being done. The twenty-first lecture draws a sharp distinction between phlebitis and phlegmasia dolens; the latter disease being, in Dr. Queirel's opinion, a manifestation of septic infection. The four following lectures deal with symphysiotomy and Caesarean section. The author relates a fatal case of symphysiotomy in a pelvis supposed to have a conjugate of 7 cm., but afterwards found to have a conjugate of only 5 cm. He enlarges on the danger of trying to deliver by symphysiotomy in too small a pelvis. But, on the other hand, he is in favour of symphysiotomy in cases of only slight obstruction at the brim, in preference to forceps or version. In speaking of Caesarean section, he says—and the remark, we fear, applies to other countries than France—

> How certain women come to us martyrized, we may well say, by practitioners who no doubt have a conscience, but an incomplete notion of the indications in a malformed pelvis.

The last three lectures deal with cases of gynaecological interest. The teaching is thoughtful, suggestive, and shows the author to be possessed of wide knowledge, sound judgement, and the faculty of clear exposition. We commend the book to the perusal of all who are interested in its subject-matter.

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[1] *A Textbook of Physiological Chemistry*. By Charles E. Simon, M.D., late Assistant [illegible] Johns Hopkins Hospital, Baltimore. Second edition. [illegible] 1905. (Demy 8vo, pp. 560, 14s. net.)

[2] *Directions for Laboratory Work in Physiological Chemistry*. By H. C. Jackson, Ph.D. Second edition. New York: Wiley and Sons; and London: Chapman and Hall. 1905. (Demy 8vo, pp. 104, 5s. 6d.)

[3] *Leçons de Clinique Obstétricale* (Lessons in Clinical Obstetrics). Par le Dr Queirel, Professeur de Clinique Obstétricale à l'Ecole de Médecine de Marseille, etc. Deuxième série. Paris: G. Steinheil. 1905. (Demy 8vo, pp. 244. Fr. 6.)

Opinions may differ as to whether the form of questions and answers is the best way of serving up to the student mind its necessary obstetric food. Opinions may also differ as to the quality of the food so presented. But the fact that Dr. ASHTON'S *Essentials of Obstetrics*[1] has gone through six editions is evidence that there are minds to whom the form of a catechism is one that commends itself; and the position which the author holds in his own country is one which entitles his views to consideration, even by those who may think that they could improve upon them. The book is not a large one, and makes no claim to be exhaustive, but we fear that any one who should present himself at an English examination table possessing only the knowledge contained in this book would find himself in bad case. In *post-partum* haemorrhage, for instance, we believe English teachers would with one accord say that it was essential to see if there was a bit of retained placenta or chorion which was causing it—a possibility not mentioned in this book; and essential also that the student should know how much saline fluid he might safely infuse into the vein of an exhausted patient—another thing which he would not learn here. They might perhaps in the present day reject a candidate who would propose to inject blood or milk into a vein, as he is here told he may.

[1] *Essentials of Obstetrics*, arranged in the form of Questions and Answers prepared especially for Students of Medicine. By William Easterly Ashton, M.D., Professor of Gynaecology in the Medico-Chirurgical College of Philadelphia, Obstetrician to the Philadelphia Hospital. Sixth edition. London: Henry Kimpton. 1905. (Pp. 256; 75 illustrations. 4s.)

THE FIFTY-NINTH REPORT OF THE COMMISSIONERS IN LUNACY FOR ENGLAND AND WALES.[1]

THE number of certified insane persons under care on January 1st, 1904, was 119,829, of whom 9,640 were private cases, 109,277 were pauper patients, and 912 were criminal lunatics. Of the total number, 87,091 were maintained in county and borough asylums; 17,806 in workhouses and metropolitan district asylums; 8,090 in registered hospitals, licensed houses, and in naval and military hospitals; 759 in the criminal lunatic asylum at Broadmoor; 521 were private single patients, and there were 5,562 outdoor pauper lunatics. For purposes of comparison, we subjoin a table showing the relative distribution of patients in 1903 and 1904.

Year.	County and Borough Asylums.	Workhouses and Metropolitan District Asylums.	Registered Hospitals, Licensed Houses, and Naval and Military Hospitals, etc.	Broadmoor.	Private Single Patients.	Outdoor Pauper Lunatics.	Totals.
1903.....	84,549	17,787	8,083	759	505	5,516	117,199
1904.....	87,091	17,806	8,090	759	521	5,562	119,829
Increase	2,542	19	7	0	16	46	2,630

THE INCREASE OF INSANITY.

The report shows a total increase in the numbers of the certified insane for the year 1904 of 2,630 on the previous year. This increase is less than that of any of the preceding three years—which for 1903, 1902, and 1901 was 3,235, 3,251, and 2,769 respectively—and is less by 14 than the average annual increase for the previous five years. Compared with 1903, the private patients have increased by only 89, the criminal lunatics (154 of whom are detained in county and borough asylums) by 35, and the pauper patients by 2,506.

The increase is thus practically confined to the pauper class maintained in county and borough asylums. The total increase on the numbers of private patients is 50 below that of the average increase during the past ten years, and is 139 less than the increase which occurred in 1903, the increase in the total number of private patients being entirely due, the Commissioners say, to the growing numbers of patients transferred from the pauper class, to which they had been admitted on reception, to the private class. The increase of 2,506 among the pauper patients is less by 471 than the increase of 1903, and the total number of 109,277 for 1904 forms 91.1 per cent. of the whole number of the certified insane. This proportion of pauper to total insanity is practically the same as that which existed in 1903. These figures are gratifying, but a reference to the ratio of insanity to population shows that there is still an upward tendency, particularly with regard to the pauper elements. On January 1st, 1904, the ratio of total lunatics per 1,000 (estimated) general population was 34.71, or, expressed otherwise, there was 1 insane person in 288. On January 1st, 1905, the ratio per 10,000 was 35.09, or 1 lunatic in every 285.

From Table II Appendix A of the report it will be seen that, whilst the ratio of private lunatics to population has actually declined from 2.83 to 2.82 per 10,000 of population, pauper insanity has increased from 31.62 to 32.00 per 10,000. Nevertheless, this table shows a sensible diminution in the rate of increase with regard to both pauper and total insane, the parallelism between the fluctuations in these two classes being shown graphically in a chart facing page 5. An interesting, though perhaps hardly new, fact is brought out by the Commissioners' remarks upon the distribution of the pauper insane in counties and boroughs illustrated by two maps, one of which shows, by means of varied shading, the comparative density of population of the administrative counties in 1901, and the other the comparative distribution in the same year of the pauper insane. These maps show that there is no apparent relationship between density of population and the ratio of insanity, many of the sparsely-populated counties giving the highest proportion of insane to their respective populations. For example, Hereford, Radnor, Wilts, Cardigan, and Montgomery—all of them counties amongst the least densely populated—have high insane ratios; whilst many large towns like Leeds, Sheffield, Bradford, West Ham, Croydon show comparatively low ratios of insanity. Doubtless the extensive migration of the younger and more vigorous people of both sexes from rural districts into large industrial centres, which may be observed in most counties, contributes to the production of this contrast between the density of population and the ratio of insanity. We do not gather that any inverse relation of this kind is maintained by the Commissioners, but we note that it is shown in thirty-seven of the fifty-four administrative counties given in the maps.

ADMISSIONS.

Under this head also there was a hopeful fall in numbers during 1904, the total number—22,142—being less by 75 than those of 1903, the ratio of admissions per 10,000 of population falling from 6.66 to 6.56, and the ratio of first admissions to population—perhaps the most valuable index to the rate of occurring insanity—falling from 5.50 to 5.40 per 10,000. Of the total admissions, 2,455 were of the private, 19,450 of the pauper, and 237 of the criminal class. Perhaps the most gratifying feature of this report is that whilst the ratios of admission to population of the private and criminal patients remain stationary that of the pauper patients has fallen from 5.86 to 5.76 per 10,000. The sexes were fairly evenly divided, 10,823 being males and 11,319 females. The average annual admission rate during the five years 1899-1903 gives the percentage of females as 51.0, which, as the Commissioners point out, is below the relative proportion of females in the population at large. A point of some interest is the disparity between this proportion and that of the total insane population, the ratios of patients to 10,000 population on January 1st, 1905, being, males 33.43, females 36.63. The inference from this is that there is a greater tendency among females than amongst male patients to accumulate in institutions, owing to their lower death-rate. The growing tendency to send aged persons into asylums, the subject of unfavourable comment by almost every medical superintendent, is again noticed by the Commissioners, who show in tabular form the increasing proportion of annual admissions above 65 years of age. These aged admissions have steadily risen from 9.9 per cent. of the admissions for the years 1884-8 to 14.3 per cent. in 1899-1903. This tendency, from whatever source it arises, has an unfortunate influence both in asylums and on the community. As regards the condition of the patients in respect to marriage, Table XVII shows that during the quinquennium 1899-1903 there were at marriageable ages, and in proportion to the general population, considerably more single than married or widowed persons admitted. Of the total admissions for 1904,

[1] The Fifty-ninth Report of the Commissioners in Lunacy to the Lord Chancellor. London: Wyman and Co. 1905. 3s. 6d.

18,232, or 82 3 per cent., were first admissions, which is in almost the same proportion as the previous year (82.6 per cent.). The table showing the forms of mental disorders amongst the admissions relates to 1903, and follows the classification adopted in previous years. Excluding idiot establishments, the average of the five years, 1899-1903, gives 5.4 per cent. of congenital insanity, 41.4 per cent. of mania of all kinds, 30 per cent. of melancholia, 4 per cent. of delusional insanity, 6.4 per cent. of general paralysis, and 12.8 per cent. of dementia.

THE PROBABLE CAUSES OF INSANITY.

Turning to this very vexed question the Commissioners carefully premise that the determination of the cause of any disease is difficult, in respect to mental diseases is often based on but slender evidence, and that the list of "causes of insanity" which they publish must be accepted as merely provisional in nature. In this report they direct special attention to one of these, namely, alcoholic intemperance. This was assigned by the superintendents of institutions for the insane in 22.7 per cent. of the male and in 9.4 per cent. of the female admissions during the five years 1899-1903, the rates for private patients being—males 16.7, females 8.6; and for pauper patients—males 23.6 and females 9.6. The returns made to the Commissioners from county and borough asylums range from 3 to as much as 40 per cent. By collating the returns from the borough asylums with those of the asylums belonging to the counties in which the boroughs are situated the Commissioners have obtained material upon which they have drawn a map showing the comparative prevalence of insanity ascribed to intemperance. This map contrasts markedly with the map mentioned as showing the relative distribution of pauper insanity in the counties of England and Wales, counties with a low rate of insanity having a high proportion of cases admitted with a history of intemperance and vice versa, but on the other hand the map shows a distinct correspondence to another map, also given, showing graphically the proportions of drunkenness in the various counties as obtained from criminal and judicial statistics. With regard to the other usually-cited causes of insanity amongst the admissions of the same period of five years, hereditary influences were ascertained in 18.8 per cent. of the males and 24.9 of the females; previous attacks in 16.1 per cent. of the males and 22.4 of the females; congenital defect in 6.1 of the males and 4.0 per cent. of the females; periodic causes, puberty, old age, and the menopause in 8.4 per cent. of the males and 15.3 per cent. of the females; venereal disease in 4 0 per cent. of the males and 0.8 per cent. of the females; bodily diseases or disorders in 13.5 per cent.; the so-called "moral" causes in 21 65 per cent.; and in 16 2 per cent. no cause could be assigned.

DISCHARGES.

During the year 1904 there were discharged as recovered 8,119, giving a recovery-rate on the admissions, exclusive of transfers and readmissions, of 36.67 per cent. This was lower than the rate for 1903 (37.35), and also below the average of the ten years 1895-1904, which was 37.7. As regards sex, the recovery-rate was higher amongst females (40.15) than amongst males (33.02), and was highest in the registered hospitals (45.21), and lowest in provincial licensed houses (33 43). The recovery-rate for county and borough asylums was 36.25 per cent. The total number discharged as "not recovered" was 6,220, but from this number are to be deducted 3 973 transferred to other institutions, and 88 technically discharged owing to lapse of reception orders. The absolute discharges as unrecovered were thus 2,159, or 9.7 per cent. of the admissions.

DEATHS.

The deaths (excluding idiot establishments) during 1904 numbered 9,285, or 52 more than those of 1903. The death-rate calculated on the average number daily resident was 9.95 per cent., being lower than that for 1903 (10 20 per cent.), but slightly above the average rate for the decade (9.78 per cent.). The lowest death-rate was at Broadmoor, namely, 2.12 per cent. Table XIV, Appendix A, showing the causes of death in the patients who died in county and borough asylums, hospitals, and licensed houses gives the number of deaths as 9,334, of which 3,242 (including 1,625 cases of general paralysis) were due to diseases of the nervous system, 2,286 to general diseases, including 1,605 cases of tuberculous disease either pulmonary or other, 1,076 from diseases of the respiratory system, 1 24, from diseases of heart and blood vessels, 638 from diseases of the digestive and genito-urinary systems, 14 from diseases of the lymphatic system and ductless glands, 961 from marasmus, etc., including old age 927, and 72 from accident or violence.

GENERAL HEALTH.

The Commissioners are able to report that during 1904 there has been no marked example of the introduction of infectious disease into asylums, only sporadic cases having occurred in several institutions. Dysentery, they say, still remains the most prevalent affection of this class. In this matter, however, there has been an appreciable diminution as compared with 1903. Last year, it may be recalled, the Commissioners drew up some interesting tables showing the relative incidence of dysentery and tuberculous diseases in three groups of asylums—(A) those with more than 1,000 inmates daily resident, (B) those with more than 500 and less than 1,000, and (C) those with less than 500. These tables tended to show that the incidence of both these diseases was heaviest in the asylums of Group A. This year a similar comparison is instituted, but, unlike last year, the incidence-rate of dysentery is found to be highest in the asylums of Group B, the relative proportions being 11.0 per 1,000 inmates for Group A, 14 1 per 1,000 for Group B, and 6.4 per 1,000 for Group C. The asylums of less than 500 inmates thus show a notable relative freedom from dysentery. With regard to the incidence of tuberculosis as indicated by the tuberculous death-rate of these institutions, parallel results have been obtained, Group A having a tuberculous death-rate of 17 5 per 1,000, Group B of 19 0 per 1,000, and Group C of 13.4 per 1,000. Fluctuations within wide limits have occurred in the different institutions, but the inference in favour of small institutions from these comprehensive figures is unavoidable.

AVERAGE WEEKLY COST.

The average weekly cost of maintaining in county and borough asylums for the year ending March 31st, 1904 (exclusive of repairs, alterations, and additions), was:

In county asylums	10s. 1¾d.
In borough asylums	11s. 3½d.
In both together	10s. 5d.

The cost in county asylums, compared with the previous year, has risen by 1¾d., and in the borough asylums by 7d., or in both together by 3d.

THE TRANSFERENCE OF AGED LUNATICS FROM WORKHOUSES TO ASYLUMS.

The Commissioners give some interesting and significant figures under this head. The disproportionate increase of senile paupers admitted into asylums has impressed the Commissioners at their visits as a growing evil. They have obtained definite information as to the number of all persons of 70 years of age and upwards admitted direct from workhouses, the results of which are to be found in Appendix A, Tables XXVII and XXVIII, and they have also endeavoured to elicit expressions of opinion from the medical superintendents of asylums. The figures are important. During 1903 and 1904 no less than 1,455 persons over 70 years of age were sent to asylums from 393 union workhouses. The replies of the medical superintendents as to the advisability of this transference appear to have been given with considerable reservation, but the Commissioners express their conviction that it is incumbent on the guardians, both on account of the patients themselves and the asylums which, owing to lack of proper accommodation at the workhouses, have to receive them, to provide special care and accommodation for inmates whose mental derangement is mainly due to the advance of years.

The figures deal only with the pauper insane in workhouses, and do not touch the much greater number of those of the same age-period removed to the asylums direct from their homes. The question is one of great importance, and it is to be expected that in the near future some means will be devised whereby many thousands of these incurable senile cases will be suitably provided for without uprooting them from their accustomed abode and throwing an additional burden on already overcrowded asylums, which are, or should be, primarily hospitals for the cure of mental diseases.

BEQUESTS TO MEDICAL CHARITIES. The late Mr. Charles Kentland, of Balham, whose will has now been proved, left £100 each to the Royal Hospital for Children and Women, the Royal National Hospital for Consumption, the Royal Hospital for Incurables, the National Hospital for the Paralysed and Epileptic, the Bolingbroke Hospital, and the Merchant Seamen's Hospital.

OPENING OF THE MEDICAL SCHOOLS.

The arrangements for the opening of the Winter Session in the Medical Schools and Colleges in the United Kingdom, as far as they are at present completed, are as follows:

LONDON.

St. Bartholomew's Hospital and College.—The Winter Session will begin on Monday, October 2nd. Beyond the usual Old Students' Dinner, which will be held on the same evening in the Great Hall of the hospital at 6.30 for 7 o'clock, there will be no inaugural ceremony. At the dinner the Chairman will be Mr. Anthony Bowlby, C.M.G., while Lord Ludlow, Treasurer of the Hospital, will be the guest of the evening.

Charing Cross Hospital Medical School.—The Winter Session will commence on Monday, October 2nd. On that day at 4 p.m. there will be a distribution of prizes and an Address by Sir James Crichton-Browne, F.R.S. The Old Students' Dinner will be held on Tuesday, October 3rd, at 7.30 p.m., at the Hôtel Cecil, Dr. W. C. Bosanquet in the chair.

St. George's Hospital Medical School.—The Winter Session will begin on Monday, October 2nd, being inaugurated by an address from Mr. R. Brudenell Carter, Consulting Ophthalmic Surgeon to the hospital. The Annual Medical School Dinner will be held the same evening at the Whitehall Rooms, Hôtel Métropole, at 6.30 for 7 p.m., the Chairman of the evening being Mr. A. Williams West.

Guy's Hospital Medical School.—The Winter Session will begin on Monday, October 2nd. A House Dinner will be held the same evening in the College Dining Hall at 7.30 p.m., Dr. Pye-Smith, F.R.S., in the chair. The first meeting of the Pupils' Physical Society will be held on October 12th, at 8.30 p.m., when an address will be given by Professor William Osler.

King's College, London.—The Winter Session will begin on Tuesday, October 3rd, with an Introductory Address at 3 p.m. by Professor T. Clifford Allbutt. The Old Students' Dinner will be held in the evening at the Hôtel Cecil at 7 p.m., Mr. Arthur A. Napper in the chair.

London Hospital Medical School.—The Winter Session will commence on Monday, October 2nd. In the afternoon between 3 and 5 p.m., the honorary staff will hold a reception at the College, in order to give old students an opportunity of seeing the improvements recently effected in the hospital. The Annual Dinner will be held at Prince's Restaurant on October 2nd, at 7.30 for 7.45 p.m., instead of as heretofore at the College itself. Sir Frederick Treves, Bart., will preside, and will make the presentation to Mr. Munro Scott of some antique silver which has been subscribed for by present colleagues and old students in appreciation of the value of his twenty-five years' service as Warden of the school.

St. Mary's Hospital Medical School.—The Winter Session will begin on Monday, October 2nd, with an Introductory Address by Dr. W. J. Harris, Medical Tutor of the School and Physician to out-patients at the hospital. He has chosen as his subject "The Public and Medical Education." The Annual Dinner will be held on Tuesday, October 3rd at the Whitehall Rooms, Hôtel Métropole, at 7 p.m. Dr. Carey Pearce Coombs will take the chair, and past and present students are equally invited to attend.

Middlesex Hospital.—The Winter Session will commence on Monday, October 2nd. In the afternoon at 3 p.m. an introductory address will be delivered by Dr. R. A. Young, and on its conclusion the prizes awarded during the past year will be distributed by Sir Richard Douglas Powell, Bart., President of the Royal College of Physicians. The Annual Dinner of past and present students will take place the same evening at 7 o'clock at the Trocadero Restaurant, Dr. W. Essex Wynter in the chair.

St. Thomas's Hospital Medical School.—The Winter Session will open on Monday, October 2nd, without any formality. The Annual Dinner, which all former and present students are invited to attend, will take place on the preceding Saturday night, September 30th, at the Hôtel Cecil. Mr. Bernard Pitts will be in the chair.

University College, London.—The Winter Session of the Medical Faculty will commence on Monday, October 2nd, when an Introductory Lecture will be given at 4 p.m. by Professor H. R. Kenwood, its subject being Preventive Medicine, Past and Prospective. On its conclusion, the Flaxman Galleries, the laboratories, libraries, museums, and wards will be thrown open for inspection. The Old Students' Dinner will be held the same evening, at the Hôtel Cecil, when the chair will be taken by Dr. E. Markham Skerritt.

Westminster Hospital Medical School.—The Winter Session will begin on Monday, October 2nd. There will be no introductory address. The Annual Dinner will take place on the same evening, at the Trocadero Restaurant; the chair will be taken by Mr. Gustavus Hartridge.

London School of Medicine for Women.—The Winter Session will open on Tuesday, October 3rd. On the preceding day at 4 p.m. an address will be delivered on "Ideals of Study" by Mrs. Bryant, D.Sc., Litt.D. The Old Students' Dinner will not take place until December, the date at present fixed being the 13th of that month.

London School of Tropical Medicine.—The winter's work will commence on Monday, October 2nd, but its formal inauguration will not take place until Wednesday, October 11th, when an Address will be delivered by Professor G. H. F. Nuttall, F.R.S., of Cambridge. On the same evening will take place the first annual dinner of the students of this school; the place chosen is the Gaiety Restaurant, and Sir Ralph Moor, K.C.M.G., formerly High Commissioner of Southern Nigeria, will occupy the chair.

PROVINCES.

University of Birmingham.—The Winter Session will commence on Monday, October 2nd. By way of inaugurating the session a *conversazione* will be given in the buildings appropriated to the Medical Faculty. The Dean, Professor Barling, and other members of the Faculty, will hold a reception, and demonstrations and exhibitions of a suitable character will be given in the various departments.

University College, Bristol.—The Winter Session will commence on Monday, October 2nd. There will be no inaugural ceremony.

University College of South Wales and Monmouthshire, Cardiff.—The Winter Session will begin on Tuesday, October 3rd. There will be no formal inauguration of work.

University of Leeds.—The Winter Session will open on Monday, October 2nd.

University of Liverpool.—The Winter Session will begin on Monday, October 2nd, without any formal ceremonial.

Victoria University, Manchester.—The Winter Session will begin on Monday, October 2nd, but this year there will be no inaugural ceremony.

University of Durham College of Medicine, Newcastle-on-Tyne.—The Winter Session will commence on Monday, October 2nd, without any opening ceremony.

University of Sheffield.—The Winter Session will commence on Monday, October 2nd, but no introductory address will be given. In the evening the annual dinner will be held as usual.

SCOTLAND.

University of Edinburgh.—The Winter Session will commence on Tuesday, October 17th.

Medical College for Women, Edinburgh.—The Winter Session will commence on Tuesday, October 17th.

Edinburgh Extra-Academical School.—The School will open on Tuesday, October 17th.

University of Aberdeen.—The Winter Session will commence on Monday, October 16th.

University of St. Andrews.—The Winter Session will commence on Friday, October 13th.

University of Glasgow.—The Winter Session will be opened on Thursday, October 19th. The Winter Session of Queen Margaret College Medical School for Women will begin on Thursday, October 19th.

Anderson's College Medical School.—The Winter Session will open on Thursday, October 19th.

St Mungo's College, Glasgow.—The Winter Session will open on Thursday, October 19th.

University College, Dundee.—The Winter Session will open on Monday, October 16th.

IRELAND.

University of Dublin: School of Physics.—The Winter Session will commence on Monday, October 2nd.

Royal College of Surgeons in Ireland: Schools of Surgery.—The Winter Session will commence on Monday, October 2nd.

Queen's College, Belfast.—The Winter Session will begin on Tuesday, October 17th.

Queen's College, Cork.—The Winter Session will begin on Tuesday, October 17th.

THE CONDITION OF THE MEDICAL PROFESSION IN NORWAY.*

By Dr. E. Due.

[In the composition of this article the author has had the assistance of Dr. R. Hansson, General Secretary of the Norwegian Medical Association.]

In order to obtain a licence to practise in Norway it is necessary to have passed the medical examinations at the University of Christiania and to produce certificates from the chief physicians of the State Hospital, where the clinical instruction is given, of having satisfactorily worked at its different services, namely, one semester at each of the two medical services, one each at the two surgical services at the lying in hospital and children's hospital, half a semester in the service for skin diseases, and another half at the service of ear and throat diseases. A certificate is also required from the Professor of Pathological Anatomy of having under his supervision performed at least one *post-mortem* examination (with additional demonstration and report). The medical examination, to which only college graduates are admitted, is taken in three sections. In the first the student is tested in botany, zoology, chemistry (oral and experimental), anatomy (oral and manual), medical physics and physiology. In the second he is examined in pharmacology, toxicology, general pathology and pathological anatomy, special medical pathology and therapy, surgical pathology and therapy, dermatology, syphilis, and leprosy, and ophthalmology. An essay on a subject connected with one of these branches is also required. In the third part the student is examined in clinical medicine and surgery, gynaecology, diseases of children, obstetrics, operative surgery and surgical anatomy, hygiene, and forensic medicine. An essay dealing with a question belonging to one of these branches must be presented. The length of the curriculum is commonly seven years—namely, from two and a half to three, from three to three and a half, and from a half to one year for passing the three sections respectively. More than one year is not allowed for the last. In conferring the licence to practise, the Dean of the Medical Faculty, in the presence of its members, receives the oath from those who have passed the examinations that they will do the work of a physician to the best of their ability and in accordance with the law of God and the dictates of their conscience.

A list containing the names of all authorized practitioners and their place of residence is published every year by the director of civil medical affairs, and sent to all superior magistrates and civil medical officers; it is also sent to all the drug stores of the kingdom.

Those who have successfully passed all the medical examinations are officially designated as candidati medicinae (Cand. Med.). Doctores medicinae (Dr. Med.) are those candidati medicinae who have successfully defended an original scientific thesis in a public disputation, and have delivered three discourses on subjects propounded by the Medical Faculty; for the preparation of these discourses only a certain time is allowed. The degree of Doctor can be taken only by those who have passed the medical examination with honours. In 1904 there were 1,210 authorized physicians, and of these 45 were doctores medicinae; popularly, however, an authorized physician is called "doctor."

The Government may grant a limited or unlimited licence to practise medicine to persons who have not passed the medical examination, when they have given satisfactory evidence that they possess the necessary skill. Of later years such licence has been given only to physicians who have passed their examination at a foreign university and afterwards a particularly specified one at Christiania.

Rights and Duties of Practitioners.

Apart from the privilege of treating also those diseases which are forbidden quacks (vide infra), and prescribing all kinds of medicine from the drug stores, and of exemption from serving on juries or performing kindred judicial functions, a private practitioner has no particular rights as against the public: on the other hand, he has no special obligations. It is his duty under certain circumstances to give immediate notice to the Board of Health of cases of grave contagious diseases which he may meet with; he has also to report each obstetric operation which necessarily involves the death of the fetus, and each induced abortion, accompanied with a brief history of the case.

A civil medical officer (*Distriktslaege* or *Stadsfysikus*) has to send an annual report to the Director of Civil Medical Affairs. This report must contain accurate and detailed information as to the sanitary and medical conditions in his district; a statement of the number of cases of epidemic and venereal diseases which have been under treatment; the number of reported tuberculous cases which, owing to secretion, come within the scope of the law on tuberculosis; the mortality statistics; the work of the midwives; vaccination, etc. Private practitioners have only to fill up a scheduled list, and give information about obstetric operations that have been performed, vaccinations and revaccinations; in those towns where in case of death no certificate is required by a doctor, the private practitioner has also to make up a list of those of his patients who have died in rural districts; the sheriff's officer fills up the certificates of death which the practitioner (but only in regard to persons who have been under his professional care) has to sign or correct when sent to him by the Board of Health.

Official Medical Services.

At the head of the office of civil medical affairs, which belongs to the Department of Justice, is a director, who is always a medical man. Norway is divided into 158 medical districts, among which 6 of the largest towns themselves form districts. Each district is managed by a civil medical officer, whose business it is to superintend the hygienic conditions, including the inspection of factories and workshops, and the care of the sick; to inspect drug stores, control the work of the midwives, the vaccination service, to furnish medical aid to sick persons, and exercise a surveillance over the tuberculous patients, lepers, and poor lunatics. He is also *ex officio* president of the Board of Health, of which there is one in each community; to this latter position also, however, a private practitioner can be appointed when there is no medical officer resident in the community. In 1904 this was the case in 86 of all the 611 communities of the country.

Subordinated to a *Stadsfysikus* (medical officer of health of the six largest towns) are special physicians who are paid by the community for attending the sick poor; they are furthermore bound to assist their superior officer in dealing with epidemics, and in case of need to take charge of a small hospital, for which he commonly receives additional remuneration. In the capital, moreover, two physicians are officers under the *Stadsfysikus* as health inspectors. The district physicians and *Stadsfysici* are nominated by the Government, the others by the community.

Professional Earnings.

The salary of a university professor increases from 4,500 to 6,600 kr.[1]; as chief physicians and clinical teachers in the hospitals, nine of them receive an additional salary of 1,200 kr; some have besides private practice or other secondary source of income. The salary of a civil medical officer (*Distriktslaege*) is paid by the State, and begins with 1,500 kr. (in the three northern counties with 2,000 kr.), increasing after ten years' service by 400 kr. and after fifteen years by 500 kr. more. Travelling expenses in the case of official journeys and visits to the sick poor are paid by the State; in the latter case the cost of maintenance is paid by the community. In journeys undertaken for the purpose of presiding at meetings of the Board of Health and looking after boarded-out children maintenance is also paid by the State. The annual expenses of the State under this head amount to 300,000 kr. The average

* This paper was intended for the Special Number of the British Medical Journal, published on June 3rd, but came to hand too late for insertion in that issue.

[1] 1 krone (kr.) = about 1s. 1½d.; 9 kroner (crowns) = about 10s.

annual income of a district physician may be estimated at 5,000 kr.

The salary of a *Stadsfysikus* (civil medical officer of health for one of the six largest towns above-named) is from 4,000 to 8,200 kr., one half of which is paid by the State, the other by the community. Subordinate physicians, who are in the service of these city communities, and whose business it is to attend the sick poor, etc., are paid from 1,000 to 2,400 kr. a year; their average annual income may be estimated at 4,500 kr. The salary of community physicians in the smaller towns varies, according to population, from 200 to 1,200 kr. Their total average income per year may be estimated at 4,000 kr.

In rural districts the fixed pay of community physicians varies inversely with the density of the population—200 to 400 kr. and 500 to 1,000 kr. respectively; when attending the sick poor their travelling expenses are refunded by the State, and their maintenance (4 kr. per day) is paid by the community. Their average annual income may be estimated at 3,500 kr., or probably less.

The income of physicians entirely relying on private practice is, of course, mainly dependent on personal or professional qualities. The number of physicians, however, having in late years increased undoubtedly far beyond the actual want, the economic situation of many of them is very precarious.

The ordinary medical fees in smaller towns is: For a consultation at the doctor's office, 2 kr.; on further occasions, 1 kr.; for a first visit, 3 to 4 kr.; further visits, 1.50 to 2 kr.; night visit, 4 kr. In rural districts: For a consultation, 2 kr., respectively 1 kr.; for visits within 5 kilometres (= about 3⅛ English miles), 5 kr.; within 10 kilometres (= 7 English miles), 8 kr.; for each 5 kilometres in addition, 2 kr.; for travelling expenses extra. Night visits are usually paid from 30 to 50 per cent. in addition to the fees above named. In the capital the ordinary fee for a consultation is from 2 to 5 kr.; for a first visit, 4 to 6 kr.; night visits are charged 50 per cent. additional.

The Profession and the Law.

Since 1900 there has been a Medical Forensic Commission, whose head quarters are at Christiania; its members are appointed by the Government for a period of ten years. It consists of two branches, the one composed of three experts in pathological anatomy, obstetrics, and surgery, the other of two with special experience and skill in mental diseases; one of the members is appointed President of the Commission. Besides these permanent members, five supplementary members are also appointed by the Government for a period of ten years. If it appears desirable to call in the aid of other specialists, the Department of Justice may, at the instance of the Commission, appoint one or two extraordinary members who are especially conversant with the subject to be dealt with. Among medical forensic experts are directors of insane asylums and other experienced alienists, the professor of forensic medicine, civil medical officers, police and prison medical officers, and other practitioners whom the Department of Justice may appoint. Copies of medical forensic investigations, transacted in criminal cases by the experts, are sent to the Medical Forensic Commission. For a *post-mortem* examination a fee of 20 kr. is paid, and for other examinations and inspections 10 kr. In addition to this, remuneration is paid for travelling and maintenance.

Quackery.

The law on quackery provides that in case a person to whom a limited licence to practise medicine has been granted attends sick people to a greater extent than his licence permitted, and thereby inflicts material bodily or mental damage, he is punishable with imprisonment or fine and forfeits his licence. The same penalty may be inflicted on any one who, not possessing a licence to practise, who treats patients suffering from epidemic or infectious diseases, including tuberculosis, or gives himself to be duly qualified or uses medicines which the druggists are forbidden to sell to everybody, or is a tramp, or has served a period of penal servitude, or has not lived three years in Norway. When a quack has done material bodily or mental injury to a servant or other person entitled to free medical aid, the person who has neglected his duty to provide such regular help is fined. The enforcement of this law as to quackery has been very remiss, especially in earlier times, because of the difficulty of procuring evidence sufficient to convict. Recently, however, a change seems to have occurred, especially since the Supreme Court, in two judgements delivered in 1903, interpreted the law in a stricter sense than had previously been the case. Domestic quackery is to a large extent dying out. With the object of suppressing the traffic in secret remedies, a law was passed last year under the terms of which the Government or the Department of Justice can forbid the sale of particular medicaments the composition of which is kept secret, or the price of which is out of proportion to the specified ingredients. A remedy the sale of which has thus been prohibited must not be advertised in newspapers, magazines, or in any other way.

Contract Medical Practice.

The Poor Law compels the community to supply the sick poor with free medical aid and hospital treatment. In almost all towns and other places, however, where numbers of working men reside, sick benefit societies have been established, by means of which persons of scanty means can obtain medical aid in case of sickness by a relatively trifling weekly or monthly contribution.

The Norwegian Medical Association has fixed minimum rates for its members in their relation to benefit societies, and no members of the Association—of which more than 90 per cent. of the medical men in Norway are now members—is allowed to accept the post of medical officer to such societies at less than the minimum rate.

The minimum subscriptions per annum paid for medical attendance are: For single persons, 4 kr.; for married men with their family (children under the age of 15), 7 kr.; for widows with children under the age of 15, 5 kr. The clubs which also supply their members with drugs free must pay a little higher rate—from ½ kr. to 1 kr. in addition to the minimum subscriptions above named. Moreover, extra allowances are generally made for operative midwifery, major operations, vaccination, and the medical examination of new members. In most cases the members also pay an additional fee for night attendance. Members of clubs must not have a yearly income exceeding 1,200 kr. (£66 10s.), unless they pay an annual additional subscription in proportion to their revenues, as a rule fixed to 1 to 1½ per cent. of incomes exceeding 1,200 kr.

Gratuitous help is furnished in Christiania at the out-patient department of the different services of the hospitals. Moreover, at a clinic for the necessitous, medicines prescribed are furnished gratis by the city. In cases of accidents and emergencies immediate help is provided from a communal dispensary.

In the country several communes have made a contract with their medical officers by which, besides a fixed annual salary, a scale of pay has been drawn up for consultations and journeys, etc. As an example, the following scale, from a commune in the northern part of Norway, is given: Fixed salary, 600 kr.; fees in private practice, 2 kr. for the first consultation and 1 kr. for each subsequent one in the same illness. Journeys up to 15 kilometres[1] are paid for with 6 kr.; when the distance is greater, 2 kr. for each 5 kilometres or part thereof is added. This addition is paid out of the communal funds; in this way the practitioner is paid for his work according to the distance and time spent, while all the inhabitants of the commune (*herred*) pay about the same wherever they live. For night journeys and on Sundays from 2 to 3 kr. in addition is paid. The scale is in force only when immediate payment is made. Surgical and obstetric operations are paid for according to the practitioner's estimate. The additional payment for night and Sunday visits above mentioned is not made for obstetric aid and accidents. In poor practice the same is paid for consultations as in private; when visiting the sick poor in their homes, maintenance is paid even for shorter journeys than 3 kilometres.

Practitioners in the employment of railway companies receive, in addition to free tickets for themselves and their families within their respective districts, a fixed annual salary proportionate to the members of the railroad medical aid association.

Practitioners engaged by a society of which firemen, policemen, and other subordinate functionaries of the Christiania commune are bound to be members, receive an annual salary of 1,000 to 1,800 kr., according to the number of the members.

Medical Societies.

The Norwegian Medical Association (*Den Norske Laegeforening*), established in 1886, has for its object the promotion

[1] 15 kilometres = 9.3 English miles.

of the influence of the medical profession in all matters concerning it and general social questions, the safeguarding of their economic and professional interests, and the encouragement of scientific work. The governing body of the Association consists of a president, a vice-president, a secretary-general, an editor of the scientific part of the Journal of the Association, and six representatives of the six provinces (*stift*) into which the kingdom is divided. Besides these, the three largest towns (Christiania, Bergen, and Drontheim) also have their representatives in the governing body. In urgent cases the Representative Committee, consisting of the members of the governing body living in Christiania, can take the necessary steps. But the general secretary has in most cases charge of the current affairs in the intervals between the biennial meetings, carries on the correspondence with the subdivisions of the association, etc. The general secretary also manages its bureau, which supplies information about vacant places, provides *locum tenentes* and assistants, etc.

A periodical (*Tidsskrift for den Norske Laegeforening*, Journal of the Norwegian Medical Association) is issued twice a month. It is conducted by the general secretary in regard to all matters relating to medical ethics, economic and professional interests, especially in relation to medical aid associations and communes, social questions, civil medical administration, and the like; the scientific part of the Journal is under the direction of a special editor.

A general meeting of the members is held triennially. In each county *Amt* the members form a subdivision, holding ordinary meetings every year. Every fully-qualified Norwegian practitioner may become a member. About 90 per cent. of all medical men are members of the Association. The annual payment is 12 50 kr., including the subscription to the Journal of the Association.

The Association has also drawn a code of rules for practitioners in relation to ordinary benefit clubs, railway benefit clubs, communes, etc., and fixed a minimum tariff of fees as above stated. It is a rule that all members of the Association are in honour bound not to accept any post in communes, benefit clubs, and the like, unless with the consent of the local branch and the general secretary of the Association.

A more detailed view of the programme and the activity of the Association will be found in *Compte Rendu du Premier Congrès International de Médecine Professionelle et de Déontologie Médicale*. (Paris 1900, page 443 et seq.)

The Norwegian Medical Society in Christiania was established in 1833 and has mainly a scientific aim. A monthly periodical (*Norsk Magazin for Laegevidenskaben*) is issued; it receives a subvention of 2,000 Kr. from the State. The Society administers a legacy, the interest of which is given to practitioners who, by travelling, wish to perfect themselves in the medical sciences.

Of the Relief Association for Norwegian Practitioners and their Widows, established in 1853, every qualified practitioner may become a member. The annual payment is 15 kr. On application grants are made out to practitioners who are or have been members, or to their widows.

At the end of 1904 its funds amounted to a little over 400,000 kr., of which the half consisted of donations; the membership was 381.

The funeral fund of qualified practitioners (*Norske Laegers Begravelseskasse*) is a mutual association, the object of which is to secure to the family an immediate pecuniary help in case of death (1,000 kr.) The membership is at present 234.

SOCIAL POSITION.

The social position of the medical practitioner is not so good as it used to be, notwithstanding the increase in professional skill. The overcrowding of the profession in recent years has made the struggle for life very hard for many.

In politics physicians, with a few exceptions, have never played any prominent part.

STATISTICS.

The number of qualified practitioners was in 1860, 334; in 1880, 565; and in 1900, 1,121; the population in those years was respectively about 1,600,000, 1,910,000, and 2 234,000. Thus, while the population during the last twenty years has increased only by 17 per cent., the number of doctors has advanced by 98 per cent. After deducting 72 practitioners who lived in foreign countries, and 95 who had not settled definitely, in 1904 623 were living in towns and 420 in the country. The proportion of practitioners to population was for the former 1 to 1,080 and for the latter 1 to 3,860; 383 held appointments for the most part either in the service of the State or of a community; 31 were women.

MORTALITY AMONG JEWS.

IN discussions on the rate of mortality from some special group of diseases, the statement is often met with that Jews suffer more or less than the general population from the disorders in question. Such assertions are for the most part based on very insufficient evidence, and indeed it is rarely that anything like proof is offered.

It would not, however, appear improbable that greater susceptibility to some morbid influence and an increased resistance to others should be shown by Jews, seeing that these differ from their neighbours not alone in race, but also in habits of life, and especially in diet.

The bulk of the Hebrew population of London is resident in the East End and engaged for the most part in sedentary occupations; they abstain, as is well known, from certain forms of food, are large consumers of fish, and indulge but little in alcoholic beverages. It is undoubtedly to be expected *a priori* that the people in question should show a distinction in their diseases corresponding to the difference of race and habits.

Serious difficulties confront us, however, when the attempt is made to estimate the comparative mortality among Jews from any given malady. From the point of view of vital statistics, it is much to be regretted that no religious census is taken in this country, the Jewish population of London being variously calculated from 100,000 to 150,000, a difference which presents an insuperable obstacle to calculating proportionate mortality with anything approaching to scientific accuracy. Further, it must be borne in mind that the population under consideration differs greatly from that of London in age-distribution: this fact alone accounts for many erroneous conclusions hastily arrived at. How great this difference is will be seen from the fact that whereas of the whole number of deaths in London in 1903 the percentage occurring in persons over 45 years of age was 41.6 and over 65 years 20.8, among Jews it was 23.7 and 12.2 respectively.

In a paper recently read before the Statistical Society by Mr. S. Rosenbaum he estimates that in 2,000 of the Jewish population in the borough of Stepney 138 males and 145 females are under 5 years of age, while in 2,000 non-Jews in the same borough there are found at the same age 128 males and 127 females. On the other hand, he reckons that in the same number only 131 males and 132 females over 45 years of age are to be found among Jews, whereas among non-Jews there would be 172 males and 182 females. He estimates the total Jewish population of the borough as 120,000. These figures have been arrived at by an ingenious method of calculation, but even their author would scarcely hold them to be undoubtedly accurate, and, in the opinion of many, the total Jewish population of the borough is exaggerated. Unfortunately, also, it is impossible to make use of the figures arrived at by Mr. Rosenbaum for the purpose of estimating the rates of mortality from different causes, as we have no means of discovering the number of deaths in the borough of Stepney from various diseases which occur among Jews and non-Jews respectively.

Number of Deaths from Certain Diseases in 100 Deaths from All Causes at All Ages.

	All Causes.	Diseases of Nervous System.	Diseases of Heart Vessels.	Diseases of Respiratory System	Diseases of Digestive System	Cancer.*	Phthisis.	Other Tuberculous Diseases.
Jewish population of London, 1903-4	100	14 6	7·7	22.3	13.7	2.4	5.9	2.0
Registration London, 1901	100	5 2	12.4	8 7	5 4	6.7†	9 9	3·9

* Males, 2.0; females, 2.8. † Males, 5.4; females, 8.0.

The chief material for estimating the mortality among Jews is to be found in the reports of the Burial Society of the United Synagogue. This Society undertakes from 80 to 90 per cent. of the burials, and the cause of death is, in about 4 out of 5 cases, copied from the medical certificate. From the statistics published by this body the above table has been prepared in which the figures are compared with those given by the

Registrar-General in London for 1903. In dealing with the Jewish deaths, the average of the two years 1903-4 has been taken in order to avoid the error which might arise from the small mortality in one year from some of the causes stated.

One of the first facts that strikes us in examining the above table is the marked difference in mortality from phthisis, this disease, which accounts for nearly 10 per cent. of the total deaths in London, apparently being responsible for only about 6 per cent. of the mortality among Jews. The difference is even more marked if "other tuberculous diseases" are taken into consideration, the total figures being then 13.8 and 7.9 respectively. This would seem to show that the generally-accepted idea that Jews do not suffer from consumption to any great extent is correct. The fact, however, that no less than 22.3 per cent. of the Jewish deaths are ascribed to diseases of the respiratory organs as against only 8.7 per cent. in the case of the general population arouses the suspicion that, among the former, deaths from phthisis are not infrequently described vaguely as from disease of the lungs. Reckoning the total of the Jewish population of London at the problematical figure of 140,000, the death-rate from phthisis and diseases of the respiratory organs together works out at 380 per 100,000 living, while the Registrar-General returns 397 per 100,000 as a death-rate for phthisis, bronchitis, and pneumonia. It must also be remembered that we are only dealing here with not more than 90 per cent. of the Jewish deaths. At the same time it is probable that some part of the marked mortality from chest affections shown in the United Synagogue returns is due to a great prevalence of bronchitis in children, who apparently form so large a proportion of the Jewish population, the deaths under 5 being 56 per cent. of the total, instead of the 41 per cent. we should expect from the Registrar-General's returns. Whether this is due to the proportion of children being greater or to an enhanced mortality among them, or, as is probable, partly to both causes, it would affect the figures in the same way. Unfortunately, the facts at our disposal do not enable us to ascertain how many of the deaths from diseases of the respiratory organs occur among children.

The percentage of Jewish deaths from cancer—2.1 among males, and 2.8 among females—is strikingly small compared with the general percentage of 5.4 and 8.0 respectively. The facts, however, are not quite as remarkable as would appear from these figures, as the Hebrew population contains, as has been noted above, evidently fewer persons of cancer age. The Semitic race appears, nevertheless, to be distinctly less susceptible to this malady, as even when those over 35 years of age are alone considered the difference is sufficiently marked. Cancer was in 1903 the cause of 13 per cent. of the deaths of persons over 35, while among Jews it accounted for only 8 per cent. of the deaths at the same ages.

There is some reason, however, for believing that this smaller susceptibility is confined to the earlier ages, as in the United States it was found that children born of Russian and Polish mothers (mostly Jews) have a very low cancer mortality when all ages are considered, but suffer to a degree well above the average at ages over 45, and for those of 65 and over the rate is the highest shown by any nationality in the Union. If this be true, we should expect the cancer mortality to be low among the London Jews, in view of the unduly large proportion of persons under 60 years of age.

The consideration of these points indicates how complicated is the question, and how difficult it is to avoid being led to an erroneous conclusion.

It will be noted that among Jews the proportion of deaths from diseases of the nervous system is far in excess of that found among the general population, while the reverse is the case with diseases of the heart and vessels. The latter is what was to be expected from the fact that Jews are not accustomed to engage in work which involves violent exertion, and the low mortality from these diseases is probably entirely a question of occupation and not of race. With regard to nervous diseases, it is little to be wondered at that a people who for the most part came to this country as refugees from a land where they and their fathers had suffered from the cruellest persecution of modern times should show an undue susceptibility to nervous disorder. That such is the case is not only shown from the figures before us, but will be borne out by the experience of every one who has practised among these people.

It is more remarkable that so large a proportion of Jewish mortality should be due to diseases of the digestive system. It has so often been asserted that the Jewish method of slaughter of animals intended for food, and of inspection of carcasses, is greatly superior to that in general use, and abstention from pork and shellfish is so universally considered hygienic, that we should have expected that Jews would be exceptionally free from diseases of the chylopoietic viscera. From the facts before us it would appear that, however beneficial the Jewish method of preparation of food may be to the general health, it puts an undue strain upon the digestive organs.

It is much to be regretted that the figures given by the Burial Society of the United Synagogue are so meagre that it is impossible for the statistician to draw from them any but the most general conclusions, and they are almost useless for purposes of comparison if anything like scientific accuracy is to be aimed at. It may be pointed out that an insuperable difficulty in dealing with the figures published by the Society arises from the fact that no account is given of the number of diseases at different ages from various causes, and it may be suggested that those who have the preparation of the report will find no great difficulty in publishing a table similar to the Table IV in the recent report of the medical officer for the borough of Stepney. As the bulk of the Jewish population is to be found in that borough, such a table, if published by the United Synagogue, would be invaluable for comparison with the vital statistics of the general population of Stepney as well as with those given by the Registrar-General.

The material at present at hand is so insufficient that it is not suggested that the few conclusions which it has been possible to arrive at in this paper are of any great value, but they are merely put forward as suggestive of the considerable difference which exists between the Jewish mortality and that of the general population. It will be seen also from what has been said that the question is a very complicated one, and for many reasons it will repay a careful study when the necessary figures are more easily obtainable.

REPORT OF THE MEDICAL OFFICER OF THE LOCAL GOVERNMENT BOARD, 1903-4.

The following is an abstract of some of the more interesting articles which are published in this report:

Epidemic Dermatitis.

Dr. Monckton Copeman investigated an outbreak of epidemic skin disease which occurred at the Central London Sick Asylum, Hendon, in 1903. This disease he found to be similar in general characters to a malady, originally termed "epidemic eczema," which had previously come under observation at various metropolitan infirmaries. The affection presents itself under a plurality of forms, and does not always conform to a strictly eczematous type. In the severer cases there is a considerable rise of temperature, and the cutaneous eruption is associated with marked irritability and itching. Desquamation is a constant feature, and ranges in extent from the mere casting off of powdery scales to the shedding of the entire cuticle over the affected regions. Compared with previous outbreaks, where the constitutional symptoms were frequently severe and the mortality reached as high a figure as 10 per cent., the Hendon disease was decidedly mild in type. Only two deaths occurred, and one of these was largely attributable to other causes. The persons attacked were, with few exceptions, of comparatively advanced age and the subjects of chronic ailments of various kinds. In the course of his inquiries into the causation of the disease, Dr. Copeman found he was justified in excluding the possibility of skin irritation by unsuitable clothing or bedding or from the use of bad soap. Nor was there any evidence that the disease was produced by infection from without or by transmission from case to case. Investigation of the dietary elucidated the fact that there were only three articles of which all the patients partook—namely, bread, butter, and milk. Against the first two of these no evidence was obtained which raised any doubts as to their wholesomeness, but a strong suspicion arose that milk played an important part in the causation of the disease. All the inmates, with a few exceptions, consumed milk, and amongst these exceptional persons no instance of the disease occurred. When Swiss milk was substituted for the ordinary milk supply all the patients suffering from the malady at once began to improve. In previous epidemics of the same disorder suspicion has fallen on the milk, but no very tangible *materies morbi* has been found by either bacteriological or chemical examination. In

the Hendon outbreak, however, a clue was afforded by the observation that the milk remained good for an abnormally long time. Consequently special attention was directed to the detection of preservatives, with the result that in all the milk in question the presence of formalin was established—a substance which dangerously impairs the nutritive value of any article of diet to which it is added. This discovery raises an important question. Owing to its high antiseptic potency, formalin is largely used by milk vendors, the amount ordinarily employed being about 21 mg. per litre. Some indication of the extent to which this preservative is employed is afforded by the statement of Dr. Hake that the sale of formalin to milk vendors in 1894 amounted to 15,000 gallons. In view of the strong suspicion raised by Dr. Copeman that the presence of formalin in milk may have a causal relationship to epidemic dermatitis, it is, as he says, very desirable that in the case of any future outbreak special attention should be paid to the examination of milk for preservatives. If the dangerous influence of formalin should become more definitely established, the further question will arise whether salicylic acid and other commonly-used antiseptics may not also have a deleterious effect upon susceptible individuals.

PLAGUE IN 1903.

Dr. Bruce Low has prepared a summary of the progress and diffusion of plague throughout the world during the year 1903. From this we learn that in that year the ravages of plague in India far exceeded those of any previous years in which the disease was epidemic. The cases reported amounted to 1,127,205, and the deaths to 865,747. The general behaviour of the disease was similar to that observed in previous years, the maximum of cases being noted in March and April, and the minimum during the months of June and July. The incidence of the disease was most severe in the Presidency of Bombay, the Punjab, and in the United Provinces of Agra and Oudh. In China plague again became epidemic in Hong Kong during 1903. There were 1,415 recognized cases and 1,252 deaths, giving a case mortality of 88.4 per cent. The disease also assumed epidemic proportions in Canton and the adjoining towns and villages. Australia suffered very slightly from the disease. Two cases were reported in Sydney, 11 in Fremantle, and 22 in Brisbane. Isolated cases also occurred in a few other towns. In Egypt the total number of cases for the year was 303, the deaths amounting to 160. In an official report on the subject, Sir Horace Pinching, Chief of the Egyptian Sanitary Department, says: "It is interesting to note that the period in Egypt when most cases of the disease appear corresponds with the period when rats are breeding. Almost invariably in the houses where cases occur, and in those adjoining, dead and dying rats are found." The returns for Natal give 223 cases for the year, with 163 deaths. The great majority of these, namely, 203 cases with 147 deaths, occurred in Durban. In Cape Colony Port Elizabeth suffered rather severely, 135 cases with 75 deaths being officially notified; 33 cases, of which 17 proved fatal, were reported from King Williamstown, and 32 cases with 20 deaths from East London. In England and Wales there was a considerable diminution in the number of ships arriving at various ports with cases of plague or suspected plague on board. The total number of these suspected ships amounted to only eleven, yielding 12 cases; from none of them was a single plague case landed on English soil.

DISINFECTION OF SHIPS BY SO_2.

Drs. Haldane and Wade publish detailed reports on this subject, with special reference to the use of the "Clayton process." The "Clayton" apparatus consists of an iron furnace specially constructed to burn sulphur. Air is drawn through this by means of a Root's blower, the products of combustion being cooled by passing them through a cooling apparatus below the furnace before they reach the blower. They are driven onwards through a flexible rubber hose which can be introduced into any part of the ship. The gas consists of the residual nitrogen of the air, together with about 15 per cent. of sulphurous acid, and a good deal of sulphuric acid in suspension. All rats and insects in a ship, Drs. Haldane and Wade tell us, would be destroyed in less than two hours by the uniform diffusion of 0.5 per cent. of sulphur dioxide. This condition is easily realized in the case of cabins and empty holds, but, owing to the rapid absorption of sulphur dioxide by most articles of cargo, cannot, as a rule, be realized in a loaded hold. Pathogenic bacteria, such as those of plague and cholera, require a somewhat larger percentage of the gas, but, under the same conditions and with the same limitations, plague germs would be destroyed in six hours at most by a gas containing 2 per cent. of sulphur dioxide. The typhoid bacillus is considerably more resistant, but would certainly be destroyed in twenty-four hours under these conditions. Anthrax spores were not found to be affected by sulphur dioxide. Most articles of cargo absorb relatively large volumes of sulphur dioxide, but give it up again more or less readily when exposed to air. A bale of wool absorbs at least ten times its volume of the undiluted gas, and a bale of jute about four times its volume, but a bale of cotton probably absorbs none at all. Flour absorbs about four and a half times its volume of undiluted SO_2, and retains a small fraction of this very tenaciously. Dry textile fabrics and metals are not as a rule affected by SO_2, but are injured when exposed to the direct action of "Clayton gas," owing to the presence of free sulphuric acid. Covering with paper or a thin coat of whitening is sufficient to shield these goods from this injurious effect. Most dry foodstuffs, especially when in a state of powder, absorb sulphur dioxide, and in many cases retain enough of the gas, in combination as a sulphite, to impair the flavour. The amount thus retained in flour is sufficient to sterilize yeast. Moist food stuffs, such as fruit, vegetables, and meat, are uneatable after exposure to sulphur dioxide.

TYPES OF PLAGUE BACILLI.

Dr. Klein has continued his researches on the bacteriology of plague, and adheres to the view which he expressed in last year's report that two strains of bacillus pestis are to be recognized—namely, (1) the virulent "human" type, and (2) the less virulent "rat" type. These types, he maintains, differ from one another in morphological, cultural, and physiological respects, and the differences are of a definite and permanent character. The bacilli of the "human" type are of a more or less cylindrical shape; in gelatine cultures the growth of the colonies is at an early stage conspicuously granular and more or less opaque in aspect; the bacilli are very virulent for the human species, and cultures of the organisms are highly virulent for rodents. The bacilli of the "rat" type, which has presumably passed through several generations in the rat, are less cylindrical than the "human"; they exhibit oval and coccus-like forms, and show a rapid tendency to undergo involution. The growth on gelatine in early phases is of conspicuous translucency and the colonies are less angular than those of the "human" type. Their action on the guinea-pig (and presumably on man) is less virulent, and by transmission in artificial cultures virulence is rapidly lost. Dr. Klein does not think that the "rat" type is merely due to an attenuation of the more virulent organism by continued residence on artificial culture media, because the "human" type retains a considerable degree of virulence through many generations of subcultures for several years, whereas the "rat" type quickly loses its virulence almost completely. Moreover, the "human" type rapidly recovers full virulence by a renewed passage through the animal body whilst the original virulence of the "rat" type, when once lost by artificial culture, cannot be regained by animal passage. Dr. Klein recognizes that these two types of bacilli have in all probability descended from a common stock. He has not, however, succeeded in converting the "rat" into the "human" type, though he has met with more success in his efforts to modify the "human" into the "rat" type. For this latter purpose he employed passage through rats which were antecedently protected by subcutaneous inoculation of Haffkine's prophylactic.

THE DIFFERENTIATION OF STREPTOCOCCI.

Dr. Gordon has conducted an elaborate investigation into the differentiation of streptococci by the physiological method. He used as his medium ordinary meat broth, which was freed from sugar by cultivation with B. coli. The broth was then sterilized, cleared, made slightly alkaline, and coloured with litmus. As the result of later experience, he now recommends Lemco broth as being preferable to this medium, on the grounds that it is cheaper, more quickly prepared, more uniform in composition, and, being sugar-free, does not require preliminary cultivation with B. coli. To the liquid medium a certain organic test substance is added. In the medium so prepared the organism to be investigated is cultivated, and it is ascertained, by observing the colour of the litmus, whether or no the test-substance is decomposed with the formation of acid products. As the result of experiments with a very large number of carbohydrates, glucosides, and alcohols, Dr. Gordon has selected seven test-substances as being of particular value in the differentiation of streptococci.

These are saccharose, lactose, raffinose, inulin, salicin, coniferin, and mannite. In addition to these, tests in litmus milk and neutral red broth are also used. Dr. Gordon submitted 300 examples of salivary streptococci to these nine tests. They all exhibited in common the characteristics of giving a positive reaction to the saccharose test and a negative reaction to the mannite test. In the remaining seven tests, however, they differed so much that they were broken up into forty-eight different types. The same nine tests were applied to streptococci isolated from various cases of disease in the human body, and here again much variety was found, the twenty different specimens examined falling into no less than ten separate types. Examination of thirteen streptococci isolated from various septic and septicaemic processes yielded six different types. The commonest were those giving positive reactions to saccharose and lactose alone, or positive to these two substances and also to salicin. Three types, however, gave a positive reaction to mannite. On the other hand, none of these septic streptococci gave a positive reaction with raffinose or with neutral red, and five out of the six failed to attack coniferin or to clot milk.

As contrasted with these streptococci of sepsis, interesting differences were obtained with streptococci of ulcerative endocarditis. Five streptococci, isolated from cases of ulcerative endocarditis, were differentiated into four types. All of these clotted milk, and three of them were positive to raffinose and to neutral red. They were all negative to mannites. Comparing the streptococci found in normal human saliva with those isolated from the human body in disease, Dr. Gordon finds that two of his streptococci isolated from patients suffering from ulcerative endocarditis gave reactions identical with the two types found to occur with the greatest frequency in normal saliva. The virulent streptococcus which occurred with greatest frequency in septic processes was fourth in order of frequency amongst the salivary streptococci, and this same organism, together with the organism which is first in order of frequency amongst salivary streptococci, was isolated from a sample of pneumonic sputum. These observations are obviously of interest from the standpoint of clinical pathology. Dr. Gordon also records some interesting preliminary observations on the application of the same method for the differentiation of staphylococci.

The Influence of Symbiosis on Bacterial Virulence.

There are good clinical and epidemiological grounds for believing that the virulence of organisms which produce certain specific diseases may be enhanced by the simultaneous presence in the body and the symbiotic action of some other micro-organism. Thus the severity of an attack of diphtheria, tuberculosis, or scarlatina may be increased owing to the simultaneous presence of the streptococcus pyogenes, and similarly it is thought that infection with typhoid or cholera organisms may more readily take place or occur in a severer form if some variety of coli bacillus which is capable of producing gastro-enteritis happens to be ingested along with the specific organism. Dr. Klein has been endeavouring to throw further light on this subject by making experiments designed to provide an answer to the following question: "Granted an originally pathogenic microbe which again and again, when inoculated into an animal, does not for one reason or another exert its pathogenic effect, is it possible to render such animal susceptible to that microbe by fostering the latter within the animal under symbiotic conditions, that is, in company with another microbe of one or another kind?" The specific organisms which he employed were attenuated typhoid cultures, attenuated cholera cultures, and diphtheria bacilli taken from dry agar cultures, all of which organisms were known to produce little or no effect when inoculated intraperitoneally into guinea-pigs. Other organisms were inoculated concurrently with these, and as the result of his experiments Dr. Klein found that a real enhancing influence was exerted on the B. typhosus, and to a less extent on the vibrio cholerae, by the following organisms: A strain of B. coli obtained from ice-cream, the bacillus of Gaertner, and particularly the anaërobic organisms B. (enteritidis) sporogenes and B carnis. A similar increase of virulence was obtained for B. diphtheriae by placing it under symbiotic conditions with streptococcus pyogenes. These very interesting results were obtained by inoculations into the peritoneal cavity. Further observations, as Dr. Klein points out, are required concerning the symbiotic influence of pathogenic microbes, and also of microbes usually considered non-pathogenic, when they are introduced into the body by the alimentary canal and by the respiratory tract, the two usual portals of entry in human infection.

Characters of Proteus Toxin.

Dr. Sidney Martin has continued his researches on this subject. He finds that, besides the toxic effect of the proteus toxin, which was fully described in his last report, the toxic reaction is mainly shown in the development of an agglutinin in the blood. This agglutinin is formed fairly rapidly and in comparatively large quantities. The toxin of proteus vulgaris therefore behaves, in this respect, like the toxins of the coli and typhoid groups of organisms. No very clear indication was obtained of any large formation of antitoxin by the injection of the proteus toxin into rabbits.

Chloroformed Calf Vaccine.

Further observations and improvements on the chloroform process of preparing vaccine lymph are recorded by Dr. Alan Green. The optimum temperature for the preparation of the material appears to be about 20° C. The following bacteria, in addition to those mentioned in previous reports, are killed by the chloroform process at 20° C. in from three to eight hours: Streptococcus pyogenes, B. proteus vulgaris, B. prodigiosus, B. pyocyaneus, B. fluorescens liquefaciens, B. typhosus, B. coli communis, B. diphtheriae, B. mallei, B. tuberculosis, spirillum cholerae asiaticae, and micrococcus melitensis. The issue of chloroformed vaccine for general vaccination purposes has been attended with excellent results: 65,735 vaccinations have been performed with material issued after an average interval of seventeen days since its collection from the calf; they yielded a total case success of 98.6 per cent., and an insertion success of 94 per cent.

THE INTERNATIONAL CONGRESS OF SURGERY, BRUSSELS.

[From Our Correspondents.]

There has long been need of a Society of Surgery which should embrace all nationalities. It is much to be cognizant of the literary work of surgeons practising in countries other than one's own; it is more, far more, to know something of their personality, to learn at first hand their views upon questions of present interest, and to have an opportunity of seeing their operative work. The establishment of an international society could afford one these opportunities and advantages.

The recent formation of the Société Internationale de Chirurgie is a matter upon which all surgeons are to be congratulated. The inaugural meeting of this Society is being held in Brussels from September 18th to September 23rd, under auspices of the most favourable kind. Over 650 surgeons have already been elected to the Society, of whom one-third are present at this its first triennial Congress. This number is made up of the following nationalities, taken in the order they were submitted to a meeting of the International Committee, at which nearly all the twenty-three delegates from the same number of countries were present: Finland, 7; Great Britain, 40; Turkey, 4; Switzerland, 28; Sweden, 14; Germany, 150; the United States of America, 55; Austria, 40; Belgium, 50; Canada, 11; Denmark, 7; Egypt, 12; France, 100; Spain, 7; Greece, 9; Holland, 32; Hungary, 16; Italy, 17; Norway, 11; Portugal, 10; Roumania, 14; Russia, 20; Servia, 6.

Professor Theodor Kocher was elected the first President of the Society, and his installation was recognized and acclaimed by surgeons of all nationalities as the best possible choice. With the single exception of Lister there is, as we all recognize, no surgeon of the present generation who has done so much for surgery as Kocher. His work on hernia, upon the stomach and intestines, upon the diseases of the tongue, upon the diseases of the genito-urinary system, his recent colossal work upon compression of the brain, his work on the diseases and injuries of the spinal cord, his recent achievement—the performance of 3,000 operations upon the thyroid gland, each one of these sufficient in itself to make the reputation of a surgeon—are all incidents in the gigantic contribution which it has been his privilege to make towards the science and the art of surgery. No other selection than his for the office of President was possible, and it is a matter of remark among the surgeons present at the Congress that his acceptance of this high honour affords the happiest augury for the present and future success of the Society.

The inaugural meeting of the Society was held on Septem-

ber 18th at the Palais des Académies at 2 p.m. The Congress was opened in a speech of welcome and encouragement by Baron VAN DER BRUGGEN, the Belgian Minister of Agriculture, who conveyed the best wishes of the King, under whose patronage the Congress meets. Speeches of welcome were made by Dr. DEPAGE, the President of the Société Belge de Chirurgie; by Dr. CH. WILLEMS (Ghent), the Belgian delegate to the Congress; by M. LOGIE, the Inspecteur Général de Santé, and by Professors DE MORISTAN and JONNESCO.

A brief address was given by Professor KOCHER, his remarks dealing chiefly with the subject of cancer. He dwelt upon the necessity for international effort in the elucidation of the problems of this disease in the direction of investigation into its cause or causes, in the earlier recognition of its first manifestations, in the closer study of the "precancerous" conditions, and in the imperative necessity of "precocious" operations. The opinion was expressed and emphasized by the high authority of the speaker that, as matters now stand, operation, and operation alone, offers any prospect of health to the patient. Cancer, it was pointed out, is, in its earlier stages, at the time when it should be treated surgically, a purely local disease, completely and permanently eradicable by operation. The secondary deposits, the general infection in cancer, are preventable conditions, and not necessary incidents in the course of the disease.

The ceremony of inauguration lasted over an hour; after a brief interval the first meeting of the Society was held. The subject chosen for discussion was the value of the examination of the blood in surgery. Reports were presented by M. de la Torre (Madrid), Professor Sonnenburg (Berlin), Professor W. W. Keen (Philadelphia), and Dr. Depage (Brussels). The general opinion expressed by these distinguished surgeons was that the examination of the blood had won its place among other clinical methods, that its consideration as a solitary factor was wrong, but that taken in conjunction with other clinical evidences its value was undeniable. Contributions to the discussion were made by Dr. Pengniez (Amiens), Dr. Rouffart (Brussels), Dr. Gron (Nancy), and Dr. Le Grand (Alexandria). The latter surgeon spoke of the high importance of increased leucocytosis in the diagnosis of hepatic abscess.

The second meeting was held on Tuesday, September 19th, at 2 p.m. The subjects for discussion were the treatment of prostatic hypertrophy and the diagnosis of the surgical diseases of the kidney. Reports upon the former subject were presented by Professor Rydygier (Lemberg), Mr. Reginald Harrison (London), and Dr. Rovsing (Copenhagen); upon the latter by Dr. Kummell (Hamburg), Dr. Albarran (Paris), and Dr. Giordano (Venice).

The meetings are well attended. Surgeons from all parts of the Continent are present, and America is perhaps better represented than any other country. From Germany come Professors Sonnenburg, Freudenberg, and Kummell; from Austria Professor v. Eiselsberg; from Sweden Professor Lennander; from Paris Professors Hartmann, Tuffrei, Albarran, Bazy, Pozzi, and Walther; from America Drs. W. W. Keen, Collins Warren, Maurice Richardson, A. Cabot, McCosh, Binnie, and Roswell Park; from England Reginald Harrison, Harry Fenwick, Mayo Robson, Waterhouse, Lynn Thomas, and Moynihan. In the Palais des Académies is a superb display of surgical instruments and appliances of every kind. At the Hospitals St. Jean and St. Pierre operations are conducted every morning, and at the latter a demonstration of Bier's method of treatment in tuberculous joint in disease was given by Dr. Klapp.

Lavish hospitality is being dispensed. Large dinner parties are given every evening. On Monday a reception was given by the Société Belge de Chirurgie, and on Tuesday by Professor Kocher.

Certainly nothing could be more satisfactory than the conduct of affairs of business and of entertainment up to the present.

THE CHOLERA.

DOWN to midday on September 18th, 202 cases of cholera and 75 deaths had been reported in Prussia. Cases of the disease are reported to have occurred at Stettin, Breslau, Marienwerder, Dantzic, and Posen. Up till midday on September 20th no fresh cases had been reported in West Prussia.

In view of the importance attached by the Tyne sanitary authorities to the cholera epidemic, three medical men have been appointed to assist Dr. Harker, the medical officer. There is now a continuous medical service, three qualified medical men taking shifts of eight hours each, boarding every vessel arriving in the Tyne from the North Sea ports. One of these medical men is a distinguished bacteriologist and assistant to the Professor of Bacteriology at the College of Medicine, Newcastle-on-Tyne, and another holds the D.P.H. The greatest vigilance is being exercised under the direction of Dr. Harker. One or two suspicious cases have come under observation, but so far there has been no cause for alarm.

LITERARY NOTES.

THE Library Association at its Conference drew attention to the badness of modern art papers, and now Mr. R. W. Sindall, an authority on the manufacture of art paper, has published a pamphlet in which he says that the unpleasantness and fatigue caused from the reflection of light from the surface of highly-glazed art papers is a matter of common experience. While he condemns strongly the use of art paper for ordinary letterpress work, he states also that the use of poor paper, closely-printed letterpress, unsuitable surface, outrageous colours, and other defects in paper generally, are fruitful sources of injury to the eyes and brains of the readers. Although possibly the injury done to the eyes by the use of such paper is somewhat exaggerated in the above remarks, yet there can be few who have not been annoyed and fatigued by having to read books printed on paper so highly glazed that the light is reflected from it almost like a mirror. Such paper we have known to be used even in scientific textbooks. It is to be hoped that if the attention of publishers is called to it, they will cease to make use of such paper which frequently makes the reading of their books a weariness instead of a pleasure.

In an able article recently published in the *Westminster Review* Mr. Charles Rolleston strikes a very clear note of warning for the future of the nation if the causes underlying the present prevalence of both mental and physical deterioration among certain classes of the community are allowed to continue unrestrained in their manifold operations. At a time when this subject is so prominently in the public mind, much that is beside the mark is apt to receive undue attention, and generalities founded largely upon assumption frequently gain a wider hearing than they deserve, so that it is pleasing to find a writer who places his subject on a practical footing with deductions founded on fact. Regarding the matter from the lowest motive of commercial advantage, if £31 6s. per annum is the calculated value to the State of each able-bodied adult, while £480 is the national loss for every child becoming a pauper or a criminal, it would obviously be to the national gain both mentally and physically to obtain the maximum of ability with a minimum of debility in these respects. In the struggle for existence and the survival of the fittest, while "modern humanitarian sentiment forbids us to eliminate the worthless, or even to allow Nature to do so," it is only just commencing to be borne in upon our civilized notions of humanity "that we should use every legitimate effort to restrict, as far as possible, the multiplication" of the unfit. Not only in the annual discharges from asylums as "cured," but in the freedom accorded to the uncertified who are "on the borderland," may be seen some of the best examples of the way our humanitarianism falls short of its duty. The author very rightly urges that greater legislative powers should be afforded to the State to bring up those children whose parents have forfeited all right to their privileges by their habits of life and consequent neglect of their offspring. He combats the arguments that a certain section of the community is sure to bring against any measures in this direction. Among the causes of the deterioration are instanced intemperance, gambling, unhealthy trades, and overcrowding in insanitary dwellings, acting as they do directly upon the individual and indirectly upon the social organism. The Garden City movement is welcomed as in every way excellent not only as a gain to the individual workman but as likely to prove productive of better work to the employer. It is surely in directions such as these, whereby not only those who are incompetent to rear children may be deterred from begetting them, but also whereby the value of labour may be intensified by taking care that the environment is best suited to the production of health and happiness in the individual worker that we must look for the solution of existing defects in order to check effectually the deterioration which has become a matter that must be tackled with all our forces to prevent its sapping the life of the nation. That there is "an appalling amount of suffering" among the children of the slums is no less a fact than that to a large extent its prevention is a

possibility, and, since herein lie many of the sources of the present growing deterioration, surely, in the closing words of the writer, "it only remains for this generation to apply to them the methods of common sense, so as to save the next generation from untoward consequences, and arrest the progress of national decay before it is too late."

Among the books announced by Messrs. Archibald Constable and Co. for early publication is *Leprosy and Fish Eating* by Mr. Jonathan Hutchinson. The volume will contain information as to the history of leprosy, its prevalence in different countries, and the circumstances under which it had disappeared from many. The author contends that the disease is not ordinarily contagious, and that its real cause is the use as food of badly-cured fish. He argues that the segregation of lepers is useless, and compulsory laws wholly unjustifiable. Mr. Hutchinson gives some account of his tours of inquiry in South Africa and in India, and discusses the measures for the suppression of the disease best adapted for different countries. The volume will contain maps and illustrations. The same publishers announce a new book on tropical diseases by Sir Patrick Manson, and a work on the bacteriology of peritonitis by Drs. Leonard Dudgeon and Percy W. G. Sargent.

MEDICAL NEWS.

The one hundred and first session of the Royal Medical and Chirurgical Society of London will commence on Tuesday, October 24th, at 8.30 p.m.

A course of lectures on the prevention of infection will be delivered at Gresham College by Dr. E. Symes Thompson, Gresham Professor of Medicine, on October 3rd, 4th, 5th, and 6th, at 6 p.m.

Dr. F. J. Waldo, Barrister, of the Middle Temple, His Majesty's Coroner for the City of London and Southwark, has been placed by the Lord Chancellor on the Commission of the Peace for the County of London.

Dr. Barnardo, whose name is so well known as the founder of the National Incorporated Society for the Reclamation of Destitute Waif Children, died on September 19th; he was in his 60th year and had suffered for some time from angina pectoris.

Medical Magistrates.—Dr. J. Blair, Honorary Assistant Medical Officer to the Royal Albert Edward Infirmary, and Dr. George Wolstenholme, have recently been appointed magistrates for the County Borough of Wigan.

The Local Government Board has issued to local authorities an order called the Organization (Unemployed Workmen) Establishment Order, 1905, establishing distress committees of the Common Council of the City of London and of every metropolitan borough council, and also a central body for the whole of the administrative county of London.

As the result of the resignation of three of the assistant medical officers of Darenth Asylum, and of the correspondence which subsequently took place in our columns, the Metropolitan Asylums Board has appointed a special Committee of nine members to inquire into the whole circumstances which had led to the resignations. It is hoped that the report of the special Committee will be presented to the Board at its meeting on October 14th.

The Society of Abstaining German-Speaking Medical Practitioners, which numbers over 200 members, is holding its annual meeting at Meran during the session of the Congress of German Scientists and Medical Men. Professor Sims Woodhead, of Cambridge, President of the British Medical Temperance Association, is an honorary member of the German society.

The Harben Lectures of the Royal Institute of Public Health will be delivered in the lecture room of the Institute on Tuesday, October 10th, Thursday, October 12th, and Tuesday, October 17th, at 5 p.m. on each day by Professor Thomas Oliver, Physician to the Royal Infirmary, Newcastle-on-Tyne, the subject of the lectures will be, Some of the maladies caused by the air we breathe in the home, factory, and the mine, including a description of caisson disease or compressed air illness.

The situation in New Orleans as regards yellow fever is reported to have been steadily improving during the past two weeks, and the number of cases notified daily to have dropped to a low figure. From the beginning of the outbreak in August to September 6th, 2,111 cases in all had been recognized and 294 deaths had occurred. On the other hand, conditions in some of the neighbouring cities, which have relied upon shotguns instead of oil and culicicides, have, according to the *Medical Record*, grown worse.

The collection of relics of Dr. Livingstone in the possession of the Royal Geographical Society include a section of the great tree at Chitambo in Central Africa beneath which the great explorer's heart lies buried, some leaves from the tree, a portrait bust, his sextant and maps, the medal presented to him by his native followers, and some of the slave chains which he brought back with him to England. To this collection is now added a collar once worn by him, presented by Sir Clement Hill, who has just retired from the position of Superintendent of African Protectorates in the Foreign Office.

At the North London Police Court recently a young married man was sternly rebuked by the presiding magistrate, and condemned to a penalty of a £5 fine or a month's imprisonment for wilfully exposing himself in public when suffering from an infectious disorder. Having presented himself at the Great Northern Central Hospital with a sore throat he was informed that he had diphtheria, and was asked to remain in an isolation room until he could be sent to a fever hospital. He refused to remain, but promised to return in an hour, and was warned that meantime he was a danger to other people. He did not return, but three days later visited a private surgery, where he was given a tonic and told he could go to work. There seems to have been nothing at that date to suggest diphtheria, and the man himself said nothing about his visit to a hospital, or what he had been told. The defendant's excuse was that on leaving the hospital (where the diagnosis made was bacteriologically confirmed) he felt so much better that he thought the diagnosis must have been erroneous.

Natural Immunity to Putrefactive Bacteria.—Mr. R. Greig Smith, D.Sc., Macleay Bacteriologist to the Linnean Society of New South Wales, has contributed to its *Proceedings* a paper on the origin of natural immunity towards the putrefactive bacteria that normally inhabit the intestines, in which he endeavours to show (1) that bacteria traverse the intestinal wall, (2) that agglutination is of importance in the production of immunity, (3) that there is a "close analogy or identity between the production of bacteriolytic bodies and the digestion of food," (4) that "natural immunity . . . . is occasioned and maintained by the comparatively few bacteria which, in crossing the intestinal wall and possibly gaining access to the body fluids and organs, stimulate the cells to produce immune bodies." Granted that these four points required establishment, it nevertheless appears that not a single new fact or piece of evidence of any kind is brought forward by him, and even his theoretical deductions have no coherence. Again, the author's style does not lend itself to lucid explanation. Speaking of agglutination as a definite chemical phenomenon, he says "flocculation has not been deeply studied, especially with regard to the precipitation of the weak organic acids and bases, but when it shall have been, there can be no doubt that parallels will be found to show that agglutination and precipitation are one and the same thing." Surely this is reminiscent of the imaginary brother's probable predilection for cheese. It is not often nowadays that one meets with such statements as the following in scientific papers: "Does it not seem possible," Mr. Greig Smith asks, "that the non-continuity of the epithelium of the alimentary tract of young animals is the means by which an all-wise Providence endeavours to accelerate the formation of protective bodies before the immunity bestowed upon them by parents has become exhausted." It is, of course, true that many of the micro-organisms under consideration have been empirically dubbed non-pathogenic, and shelved, without searching inquiry into the causes of their impotence. In the present state of our knowledge of immunity it does not require a very vivid imagination to apply the principles which hold for pathogenic organisms to others which do not as a rule induce disease; it would be far more profitable to institute an inquiry into the changed conditions which occasionally allow our natural immunity to fade into a serious susceptibility. But perhaps this paper is only an introductory study to some such piece of solid work.

Bequests to Medical Charities.—The late Mrs. Irene Forrest, of Lytham, Lancashire, who died on August 17th, left £1,000 to the Lytham Cottage Hospital.

British Medical Journal.

SATURDAY, SEPTEMBER 23RD, 1905.

THE DIAGNOSIS AND TREATMENT OF CANCER OF THE UTERUS.

ONE of the most important discussions at Leicester was that which took place in the Section of Obstetrics and Gynaecology, after the reading of the paper by Professor Wertheim of Vienna, on cancer of the uterus. Professor Spencer, the President of the Section, described the paper as "the greatest which had been published on the operative treatment of cancer of the uterus." So it may possibly prove, but time is needed fully to show it. Its novel points, though most important, are fewer than might be expected.

Let us glance for a moment at the treatment of uterine cancer at present generally carried out in this country. That treatment is to remove the uterus by the vagina in all cases in which the organ is still movable, those only excepted in which the uterus is too large to be extracted by the vagina. A few operators are content, in some early cases of cancer of the cervix, to amputate the cervix only, leaving the body of the uterus. Most English teachers hold that recurrence is often due to accidental fouling of the wound with bits of cancer during the operation, and they therefore take precautions to prevent such fouling. They find the mortality in carefully-selected cases is small, 2 or 3 per cent., and the after-results good, in that a considerable percentage of cases remain well for many years afterwards. A few surgeons report that in nearly all their cases speedy recurrence takes place, and their more successful critics would explain this by faulty technique. We pass this by, however, as it was not discussed at Leicester.

Professor Wertheim asked for no change in the present mode of dealing with cancer of the body of the uterus, or early cancer of the cervix. His paper dealt with cases in which, at the time the patient applies for treatment, the disease has already spread beyond the cervix. The practice in England has hitherto been to let such cases alone, or be content with palliative treatment. This has been taught as the proper course, for two reasons. First, the greater danger, arising from the greater difficulty, of the operation in such cases. When the uterus is fixed, so that it cannot be pulled down, that fact alone makes all the manipulations more difficult; when the tissues about the uterus are infiltrated with cancer their recognition by touch is not easy, and the friability of the new growth brings with it liability to mishaps in the ligature of vessels and the separation of bladder and ureters. If this were all, it would only be a reason for the cultivation of operative skill. The great reason against vaginal hysterectomy for cancer which has extended beyond the uterus, is the impossibility by that method of operation of getting away the whole of the disease. The surgeon is operating in the dark: he cannot see the tissues he is dealing with. In the rejection of vaginal hysterectomy for cases of cancer which has extended beyond the uterus, Professor Wertheim is in harmony with the teaching of the English schools.

A few operators in Europe and in America have in recent years dealt with such cases by abdominal section. But the mortality of such operations has been high; and the value of the operation cannot be estimated until those who have survived it have lived for several years. Until the other day English operators had only before them the great danger and difficulty of the operation, without evidence of cure; and therefore most of them looked upon such proceedings as interesting displays of anatomical knowledge and surgical dexterity, hardly justifiable in institutions professedly worked for the benefit of the patients.

The novelty and the value of Professor Wertheim's paper consisted in this, that he is the first who has brought before an English assembly evidence that when cancer has extended beyond the uterus, it is still possible to remove it by abdominal section with a small mortality, and a reasonable prospect of freedom from recurrence. The operation is a very difficult one, not only because it requires delicate dissection, but also from the mere physical exertion involved. Professor Wertheim has performed it since 1898 in 270 cases. The mortality was for a long time from 15 to 18 per cent.; but out of his last 30 cases he has lost only two. Dr. Wertheim thinks that shortening the duration of the operation has much to do with the improved results, for the patients seemed to die from collapse from heart failure, without a trace of infection or peritonitis. His early operations lasted from two to two and a half hours; now he only takes half that time. He also attaches importance to the mode in which the anaesthetic is given. It appears, therefore, that by Wertheim's method a skilful operator can remove cancer of the uterus and the cellular tissue with a mortality but little in excess of that which attends vaginal hysterectomy. This, however, is a small matter, for no one has doubted the possibility of removing the uterus and its adjoining tissues and glands. The question is, Is it worth doing? Are the patients cured? Dr. Wertheim's results are surprising. No less than from 60 to 70 per cent. of his cases have remained free from recurrence after four to five years of observation. Such results have been attained by no one else.

We shall not enter upon the technique of the operation. But it will be well to point out what is the object of the operation, and what there is new about it that Dr. Wertheim has to teach. What are the facts upon which Dr. Wertheim's success depends? Many operators before him have treated advanced uterine cancer by abdominal section with the object of removing the cancerous uterus, cancerous cellular tissue, and cancerous glands. It has been familiar to morbid anatomists, long before the dawn of abdominal surgery, that in cancer of the uterus the glands are not affected till very late in the course of the disease. So that a surgeon who operates to remove glands infiltrated with cancer secondary to uterine carcinoma, is operating to remove a disease which is very widely spread. But Dr. Wertheim does *not* operate to remove cancerous glands. If, having the abdomen open and the uterus removed, he finds glands enlarged, of course he removes them. But it is not the object of the operation, and he finds that when glands are affected recurrence usually takes place. The new and important fact that Dr. Wertheim has to teach is that the

cancer in the cellular tissue is not a metastasis, but a direct local outgrowth from the disease in the uterus, and that this local outgrowth can be isolated: that even when there is a large mass of cancer in the pelvis apparently involving bladder and ureters, it yet can often be separated from these important organs, and be so completely detached and thoroughly removed that recurrence does not take place.

It is plain that Wertheim's results show that the powers of the surgeon in dealing with cancer of the uterus are much more extensive than has hitherto been thought; and as showing this it may well deserve the eulogy of Professor Spencer, exaggerated as this may at first seem to be. Different speakers, among others two medical women, Dr. Aldrich-Blake and Dr. Mary Scharlieb, related results which show that in London the operation may be performed with as good immediate results as in Vienna, although their cases were too recent to prove the permanent benefit of the operation.

We may repeat for the sake of clearness that Wertheim's operation is not a substitute or alternative for vaginal hysterectomy. Vaginal hysterectomy will in all probability continue to be done, in cases like those for which it has hitherto been so successfully performed. But there are cases in which cure by vaginal hysterectomy cannot be effected, and for them Wertheim's method is applicable. It marks a great step forward, enabling the surgeon to cope with a large number of cases he has hitherto been obliged to designate as "inoperable."

ARMY SANITATION.

THERE is ample food for reflection on the subject of sanitation in the army, contained in a presidential address by Lieutenant-Colonel Firth, R.A.M.C., at the Royal Institute of Public Health.

After statistical demonstration of the deplorable morbidity and mortality existing in the British army, especially in India, previous to 1858, and a comparison at the latter period between the mortality of civilians and soldiers in England collated from the Report of a Commission on "The Health of English Soldiers Quartered in England," Lieutenant-Colonel Firth goes on to show how the Commission traced the excessive mortality among soldiers to defective sanitation in barracks. The improvement in health of the soldier of to-day is set forth in a table comparing the statistics of 1859 and 1903. In this it is apparent that the admissions to hospital have fallen 25 per cent., the deaths by about 250 per cent., while the invaliding has slightly increased—about 16 per cent.—as also has the time lost to the State by each sick soldier. No mention is made of the immense influence the reduction of length of service, and especially foreign service, has had in reducing the morbidity and mortality of the soldier. Lieutenant-Colonel Firth then proceeds to point out how loss through sickness (apart from wounds) on field service is attributable to enteric fever and dysentery. "One realizes how large a part the so-called preventable diseases still play in rendering an army non-effective."

In accounting for the improvement in the health of the army at home, Lieutenant-Colonel Firth is of opinion that this is due to the generally-improved sanitary conditions throughout England, and that "much of the satisfactory sanitary circumstances of our home garrisons depends upon the excellence of the organized civil sanitary effort existing in their immediate neighbourhood." He laments the want of organized sanitary effort in the army, and concludes by a sketch of a military sanitary organization, which may be summed up as follows: A sanitary bureau at the War Office, as a section of the office of the Director-General of the Army Medical Service, controlled by a competent sanitary officer responsible for the sanitary conditions of the army and its surroundings. Working under him would be the sanitary officers of commands, divisions, or districts. These sanitary specialists would be staff officers of the commanding officer of each area. Under the latter would be the officers in medical charge of units and certain sanitary inspectors. The officers in medical charge of units would work "by order" of the commanding officer instead of "recommending" as at present. He contemplates a sanitary section of the Royal Army Medical Corps maintained in the four large commands of Aldershot, Salisbury Plain, Colchester, and the Curragh, qualified to deal with water supply and purification in the field.

We have from time to time pointed out in these pages the necessity, if efficient sanitation is to be realized in the army, for giving a position of greater authority to the officers of the Royal Army Medical Corps. Although Lieutenant-Colonel Firth would divorce medical treatment from sanitation, in practice every officer of the corps must be a sanitarian. Later in his career the officer may specialize along the sanitary line. Therefore we have maintained that in matters of health the Royal Army medical officer should be given a position of authority in the army. That such a result will ultimately come about, after much hammering, we have no doubt. What is difficult to understand is how the powers that be, slow-moving as they are, do not seize the situation and by a stroke of the pen place sanitation in the army on a satisfactory basis.

With the object of again raising the question we invite the attention of the nation (we will not say the Army Council) to the present position of affairs, and to the urgent need which exists for a military sanitary scheme. The rudiments are already in existence. The War Office recognizes the necessity for it, for at least a year ago it altered the regulations in such manner as to attach "grave responsibility" to General and other officers commanding if the advice of medical officers "is neglected without adequate reason." The machinery also exists in part, for we have been informed that sanitary specialists have been appointed to commands; we are aware that the Director-General of the Medical Service already possesses a "Sanitary Bureau . . . as a section" of his office. We observe in the *Journal of the Royal Army Medical Corps* for August that a sanitary section of the Corps was contemplated, a section "trained in the method of preparing pure from suspected water," as well as in other sanitary matters, and we hope that the period of contemplation has by this time passed into the phase of action. We thus see the rudiments of Lieutenant-Colonel Firth's scheme in existence. But an important item we do not see—the "officers in medical charge of units." These were recognized as necessary by the Committee on the Reorganization of the Army Medical Services as far back as 1901. Perhaps they exist "behind the veil," but we have not yet heard that lieutenants, on completion of their course of instruction, have been "attached for duty to a battalion, regiment, or other unit." As soon as this has been effected we see no difficulty in the realization of Lieutenant-Colonel

Firth's scheme. It only involves the putting boldly into execution principles which have been enunciated by Royal Commissions and accepted by the country as essential to army medical efficiency. The only obstacle appears to be coyness on the part of the Army Council.

But it is not only to the War Office that we must turn for sanitary reform. Why is it, we must ask the India Office, that our troops in India suffer so enormously from enteric fever? We will answer the question for them. It is because they do not take adequate steps for the prevention of disease. In England the local sanitary conditions are so good that when the soldier leaves these shores he is unfitted to cope with the insanitary conditions of an insanitary country. He has not been immunized as his ancestors were by having survived insanitary surroundings. On arrival in India, the truth of this statement is further borne out by the fact that the military hill stations are in themselves remarkably free from enteric fever because the sanitation is well in hand in those localities. Still the soldier in hill stations suffers from enteric fever, because he contracts it on the way up. There is no sanitary organization to ensure his obtaining pure water on the march to the hills. He marches through country the water supplies of which have been fouled by natives, and he is not provided with adequate means of sterilization; neither is he trained to restrain himself from quenching his thirst at a native hut on the road, or from drinking from a hill runnel which has drained cultivated land the depository of ordure.

A medical officer marches with the regiment, but he has no staff for the sterilization of water obtained from a well in common use between the village and the camping ground, located without regard to its drainage area. Hence it is that we find in Table II of Lieutenant-Colonel Firth's address that while in 1903 the deaths among soldiers per 1,000 of strength were 3.41 in England, those in India were 13.33. If the India Office quickened to its responsibility in this matter by organizing a sanitary corps, we might look with equanimity on a frontier campaign. We might even smile at the thought of an invasion of India, secure in the knowledge that while the health of our army was maintained by an efficient sanitary corps, that of the enemy would be decimated by waterborne diseases. We should then profit by the experience bought in Africa at the cost of a mortality of 69 per 1,000—more than half of which, Lieutenant-Colonel Firth informs us, was caused by enteric fever, and not far short of one-tenth by dysentery. Surely we have said enough to arouse from their apathy the two great offices responsible for the health and efficiency of our armies?

TREATMENT OF PERFORATING TYPHOID ULCER.

An interesting review of modern practice in cases of perforating typhoid ulcer has recently been made public by Dr. Domela, of Tunis.[1] He notes that this complication, when we compare the statistics of authorities like Murchison and Osler with those of Dieulafoy and Strümpell, appears to be twice as frequent in the Anglo-Saxon race as among Frenchmen and Germans. Medical treatment is useless; the few reported recoveries probably represent errors of diagnosis or lucky accidents, such as limiting peritoneal adhesions. Though surgical interference has saved many lives, still its results are not highly satisfactory. The opening of the abdomen and management of the diseased intestine demand very skilled surgery, not always at hand, and Domela shows that even the expert cannot consider his results brilliant. His note on the reports of French operators is of interest. Lejars has collected 25 cases of abdominal section for perforating typhoid ulcer. He registers 6 recoveries, but Dieulafoy considers that only 3 are above dispute. Firmey's series of 47 such operations includes 13 recoveries, almost 28 per cent. Abbé makes out 3 certain cures in 17 undoubted instances of perforating typhoid ulcer; Mauger reports 25 recoveries in 107 cases. Domela admits that better results have recently been reported, but in series too small to be convincing. The author shows that the great bar to success is the presence of more than one ulcer and the possibility of a second perforation. He reports Dieulafoy's case, in which Routier promptly operated. The perforation was discovered, it lay 2 in. above the ileo-caecal valve and there were a few drachms of liquid faeces free in the peritoneum. The intestine was sutured and the peritoneal cavity cleaned. The patient did well for several days, but died ten days later with the characteristic symptoms of perforation. At the necropsy pus and liquid faeces were found in the right iliac region, and it seemed at first sight as though the repaired ulcer had given way. The ileum was carefully examined, and then it was found that the sutured perforation had cicatrized perfectly, but two more recent perforations were detected not far from the first. Clinical reports from medical wards, as in one case published by Domela, show that second, not secondary, perforations sometimes occur and kill the patient in those rare instances when the first, treated medically, fails to prove fatal. Domela considers, on the strength of the above clinical and surgical evidence, that after surgical treatment of a perforation by suture alone, there is always danger of perforation occurring in adjacent ulcerated tracks. Therefore he suggests ileo-colostomy with exclusion of the ulcerated part of the intestine, after the suture of the perforation and cleansing of the peritoneum. By this method the diseased track could be kept well at rest until the ulcers had completely healed.

We should have liked to have seen some mention of British and American statistics included in Domela's paper. Herringham and Bowlby's case, in which symptoms of perforation were observed and abdominal section performed yet no lesion discovered, is of much interest.[2] Bowlby and Brunton at the same time published a successful case of operation for perforating typhoid ulcer.[3] Hector Mackenzie, in a clinical lecture on perforation in typhoid fever, reported two successful operations for perforation by Battle, and introduced some instructive statistics from British and foreign hospitals showing the frequency of perforation. The most complete monograph on the subject of recent date was made public by R. Harte and A. P. G. Ashhurst of Philadelphia, early in 1904.[5] Those writers carefully examined the records of 302 patients who, during the course of typhoid fever, submitted to abdominal section for intestinal perforation, or for peritonitis without actual perforation. They registered 94 recoveries and 208 deaths, a mortality of 74.03 per cent. The series is very carefully analysed, and the mortality, it will be seen, corresponds fairly well with Mauger's, quoted above, which was over 78 per cent. In 80 of the fatal cases the cause of death

[1] "Un Nouveau Traitement des Perforations Typhiques de l'Intestin," *Revue de Chirurg. et de Chirurg. Abdom.*, July-August, 1905, p. 69.

[2] *Med. Chir. Trans.*, vol. lxxx, p. 127.

[3] Ibid., p. 119.

[4] *Lancet*, vol. ii, 1903, p. 863.

[5] "Intestinal Perforation in Typhoid Fever," *Annals of Surgery*, vol. xxxix, 1904, p. 8.

after operation was noted, being registered as: Pre-existent peritonitis, 44 cases; toxaemia of typhoid fever, 9 cases; exhaustion, 5; intestinal haemorrhage, 3; intestinal obstruction, 3; "other causes, uninfluenced by the operation," 15: and lastly (most important in relation to Domela's paper), peritonitis from subsequent perforation, 10 cases. No doubt this proportion of perforations independent of the original lesion repaired by the surgeon is fairly high. But an extensive plastic operation on intestine on a patient with typhoid perforation may, we suspect, involve shock which cannot improve the already impaired vitality of the inflamed intestine, and may promote just what it is designed to prevent.

THE QUATERCENTENARY OF SIR THOMAS BROWNE.

Sir Thomas Browne, the author of *Religio Medici*, was born on October 19th, 1605, and the quatercentenary will be celebrated at Norwich on the same date this year. The memorial statue of Sir Thomas Browne, erected in the Market Place, will be unveiled at 12.30 p.m. by Lord Avebury, F.R.S.; afterwards a luncheon will be held at the Blackfriars Hall. At 8.30 p.m. there will be a service in memory of Sir Thomas Browne in the Church of St. Peter Mancroft, Norwich, near which he lived for many years, and in which he worshipped, and lies buried; the sermon will be preached by the Right Rev. Bishop Mitchinson, Master of Pembroke College, Oxford, of which college Sir Thomas Browne was a member.

THE WINTER SESSION.

In another part of this issue (p. 731) will be found details as to the opening of the winter's work at the various medical schools. It will be observed that practically all the schools in England and the provinces start proceedings on the first Monday in October. In Scotland, on the other hand, none of the schools begin their labours earlier than October 16th, while in Ireland, Dublin favours the English practice, and Cork and Belfast that of Scotland. The old-time inaugural address shows a tendency to go out of fashion, since only eight of the thirteen London schools included in the list have arranged for an address this year, while eleven out of the twenty-one London and provincial medical schools taken together have resolved to begin work without any formal ceremony whatever. The practice of holding an old students' dinner at the beginning of the winter session seems to retain its popularity, and one is to be held this year at every school in London. The new departure at the London Hospital in the shape of an informal afternoon "at home" by the staff, may be expected to find imitators, for it is obviously an excellent fashion of keeping up interest in their Alma Mater in old students, and of enabling them to re-knit the threads of early friendships. In addition to these schools the arrangements made at three other institutions may be noted. Thus, at the Post-graduate College of the West London Hospital, the opening of the winter session will be graced by the delivery of an address by the President of the Royal College of Surgeons at 5 p.m. on Wednesday, October 11th. Tea and coffee will be served at 4.30 p.m., and a ticket of admission to the ceremony will be sent to any gentleman who expresses his desire to be present to the Dean of the School. At the Royal Dental Hospital, Leicester Square, the send-off to the session is to take the form of a *conversazione*, at which the prizes gained during the past year will be distributed by Professor Osler, F.R.S. This event is to take place on Friday, October 13th, at 8 p.m., at the Royal Institute Galleries, Piccadilly, W. Finally, comes the opening of the sixty-fourth session of the School of Pharmacy, conducted by the Pharmaceutical Society of Great Britain, 17, Bloomsbury Square. It takes place on Monday afternoon, October 2nd, and an address will be given by Sir Boverton Redwood, F.I.C., F.S.E. On the same occasion the Hanbury Gold Medal of the Society will be presented to one of its honorary members, Dr. Ernst Schmidt of Marburg. This medal is awarded biennially under the terms of the Hanbury Memorial Fund for high excellence in the prosecution or promotion of original research in the chemistry and natural history of drugs.

FRIENDLY SOCIETIES AND THE MEDICAL PROFESSION.

According to a report in the *Sheffield Independent* a meeting of the Twentieth Century Equitable Friendly Society was held recently at the Stag Hotel, Sheffield, to further a proposal to establish a United Friendly Societies' Medical Association. Mr. W. H. Smith was in the chair, and complained that Friendly Societies were not treated as they should be by the medical profession. Mr. J. E. Bradwell gave an address on the subject, in which he stated that seventy medical associations were already federated under the name of the Medical Alliance and that during the last three years eleven more associations had been formed in the Sheffield district. He alluded to attempts at what he called medical coercion at Chesterfield and Holmfirth, and strongly advised the Friendly Societies of Sheffield to support the Medical Alliance. The Secretary of the Council of the Sheffield Friendly Societies stated that that body was entirely in sympathy with the proposal. Whatever may be the sentiments of the Sheffield Friendly Societies, the movement is not likely to meet with the approval of the medical profession. During recent years many schemes have been put forward to cheapen medical services and reduce the already scanty earnings of many practitioners; none are more injurious to the practice of the ordinary general practitioner than these amalgamated medical services of Friendly Societies. They are really nothing more than medical aid associations. Many of the members of the Friendly Societies are chiefly attracted by the offer of cheap medical attendance, and in some cases the medical service is thrown open to any member of the public willing to pay a small weekly pittance. No practitioner should countenance such associations. The acceptance of office in them is to enter the practice of his profession under the most humiliating conditions. For a very modest salary he has to bind himself hand and foot as the servant of those who often despise him for accepting their terms. No class of men regard the blackleg with greater contempt than the ordinary members of Friendly Societies, and they are quite shrewd enough to understand the position to which a medical man sinks when he accepts posts in direct opposition to the expressed sentiments of his profession.

THE SUPPRESSION OF SMALL-POX.

In *American Medicine* of August 26th there is published a paper read before a conference of State and Provincial Boards of Health of North America at Washington in May last, by Professor Bracken, M.D., Secretary and Executive Officer of the Minnesota State Board of Health, on the subject, What Action should be taken to Suppress Small-pox? In anticipation of the conference Professor Bracken had asked the views of various public health officials, scientists, and practitioners, and twenty-nine replies are quoted. All the correspondents are thoroughly in favour of vaccination, though two appear to have some doubt regarding compulsion. The main question was the comparative merits of vaccination and so-called quarantine, which is described as "the attempt to control a contagious disease by restraining diseased and exposed individuals." Dr. Bracken holds that "the restraint of infected individuals by quarantine accomplishes but little in the control of any disease, and this should be abandoned when science has fully demonstrated that a disease may be controlled more completely by other methods." For small-pox that, of course, means vaccination, and concerning it Dr. Bracken writes: "Vaccination can suppress a small-pox epidemic without quarantine. There can be no epidemic of small-pox in a well-vaccinated community. We should live up to our scientific knowledge, and abandon

quarantine as an attempted means of controlling small-pox, for we have in vaccination a reasonable, scientific, and successful means of suppressing this disease." These views are of interest in this country, where what in America is called quarantine is occasionally advocated in substitution for vaccination. Evidently the medical men quoted by Dr. Bracken are in practical agreement with the 1,100 medical officers of health whose declaration, published several years ago by the Jenner Society, was in effect that vaccination can prevent small-pox, and that small-pox cannot be prevented without its aid. In America, as in Britain, Germany is in this matter the model which is set up to be copied in the suppression of small-pox. One of Dr. Bracken's correspondents says: "As soon as we have as good and as well-enforced vaccination laws as those of Germany, the attempt to control small-pox by means of quarantine should be abandoned." But in America, as in this country, there is no evidence that German procedure is about to be followed. Even Professor Bracken himself strikes a warning note when he says "Physicians should use their influence in favour of vaccination, for they know this to be the only satisfactory means of preventing small-pox. They should not place themselves in a false light, however, by trying to force legislation demanding compulsory vaccination laws." The warning is worthy of attention. It goes without saying that whatever action medical men take in support of vaccination will, by the Anti-Vaccination League, be attributed to interested motives. That, of course, is no reason for medical silence concerning a measure so important for the protection of the public against small-pox. Silence, indeed, would be criminal, but, so far as may be, medical advocacy of vaccination should perhaps take the form rather of demonstrating—and every epidemic furnishes additional material for so doing—its value and necessity, and so leading the public itself, and Parliament as representing the public, to see the importance of providing for its systematic practice, both in infancy and at school age. A general election in this country cannot now be much longer deferred, and if every medical man would only take the opportunity of enlisting in favour of obligatory revaccination the sympathies of the candidate whom he himself supports, the new Parliament would undoubtedly be much more favourably disposed to proper legislation on the subject than the present Government and Parliament have shown themselves to be.

THE VITALITY OF THE TYPHOID BACILLUS IN OYSTERS.

Dr. Klein has made a further report to the Fishmongers' Company containing particulars of experiments on the vitality of the bacillus of typhoid fever and of sewage organisms in oysters and other shellfish. It furnishes an excellent body of evidence in confirmation of previous work of Klein, Herdman and Boyce and other investigators, and of the practical utility and value of the nutrose-lactose-litmus-crystal-violet agar medium, commonly called, after its inventors, the Drigalski-Conradi medium. This culture medium possesses the enormous advantages of excluding, largely if not entirely, bacteria which are not of the coli-typhoid group, and by isolating in a positive way B. coli and B. typhosus. The former organism produces on this medium in twenty-four to thirty-six hours, at 37° C., a red colony, due to acid production, and the latter—the typhoid bacillus—a violet-blue colony. Dr. Klein certainly makes out a very strong case for the regular use of Drigalski's medium in the isolation of the coli-typhoid group of bacteria in oysters, water, milk, etc., and he recommends its primary use in plate cultures, suspicious colonies being subcultured in McConkey broth, neutral red broth, litmus milk, and gelatine. The characters obtained on these media, if taken with microscopic examination in hanging drop, are likely to lead to positive and fairly reliable results. If Dr. Klein's recent work on the typhoid bacillus in oysters does nothing more than elucidate and familiarize English bacteriologists with the use of Drigalski's medium, it will have served a useful purpose. But that, of course, was not the object of the investigation, which was the behaviour of the typhoid bacillus in the oyster. Dr. Klein claims that on at least four occasions he has discovered the typhoid bacillus in shellfish derived from polluted sources, namely, in oysters from Grimsby in 1895, in oysters from America in 1903, in some Southend mussels in 1904, and again in the same year in some oysters from Langston Harbour, near Portsmouth. In the present report he describes in considerable detail the bacteriological characters, as now differentiated, of the typhoid bacillus and the various methods which should be adopted in its isolation, and he then proceeds to recount the three series of experiments undertaken. Series A deals with the vitality of the typhoid bacillus in clean oysters under varying conditions; Series B deals with the same in relation to mussels and cockles; and Series C concerns observations and experiments on oysters kept in sterile sea water infected with human faecal matter. Without entering into details, we may say that Dr. Klein confirms the findings of Herdman and Boyce that the oyster can retain the living typhoid organism for some days, but that the organism does not increase in the body or tissues of the oyster, and eventually dies out. In Dr. Klein's experiments oysters infected with huge numbers of B. typhosus (160,000,000 of the bacilli each) and then kept in clean sea water, frequently changed, were able to clean themselves to such a degree that in six days' time none could be found in one-tenth part of the oyster. Oysters similarly treated, but kept out of water, dry, should diminish the number of bacteria, but to a less extent. From this latter fact it is argued that the removal of the bacilli is not merely a "washing-out" but a definite devitalization of the microbe by the oyster. It will, of course, be understood that the oysters enormously infected with the typhoid bacillus are indistinguishable to the eye from non-infected normal oysters, though the lay mind appears to expect some macroscopic change. The cockle, according to Dr. Klein, differs in a somewhat dangerous way from the oyster in that the cockle is capable of absorbing, proportionately, more organisms, and does not possess the same devitalizing property; indeed, it would appear from these experiments to offer to the B. typhosus even facilities for increase. From these facts Dr. Klein concludes that for oysters from polluted beds several days in clean water is the desirable treatment before placing on the market; whereas to render cockles safe under similar circumstances steaming under pressure for at least three minutes is necessary. Dr. Klein furnishes some facts which, he claims, are definite proof that B. coli is as foreign to the oyster as B. typhosus, and that when it is present it is derived from the surroundings and that recently, and is a positive indication of pollution. Oysters from clean places and oysters kept in clean water are, he alleges, free from B. coli, and the implied suggestion of the Royal Commission on Sewage Disposal that it is otherwise is, in Dr. Klein's view, incorrect. The report is illustrated with some excellent photographs of plate cultures.

GASTROTOMY FOR EXTRACTION OF A FORK AND A CANNULA.

An interesting case of operation for the extraction of a foreign body from the stomach was reported at a recent meeting of the Société de Chirurgie de Paris by M. Chénieux.[1] A man aged 38 was in the habit of cooling his throat before he submitted to cauterization of the larynx by pressing the handle of a fork against the fauces. One day he let go of the prongs, so that somehow the fork was swallowed before he could catch hold of them again. He went to a hospital at once; there was but little pain; a few strings of blood were seen in some mucus which he coughed up, and nothing could be detected on palpation. By the aid of the *x* rays the prongs of the fork were very clearly distinguished 1½ in. below the level of the left nipple. The patient was compelled to fast completely for a day, then Chénieux operated. A vertical incision was made about ½ in. to the left of the middle line, beginning

[1] Corps étranger de l'estomac, Gastrotomie, Guérison, *Rev. de Gynéc. et de Chir. Abd.*, July August, p. 718.

just below the ensiform cartilage, and continued halfway down to the umbilical level. The operation was difficult, as the patient was very fat and took the anaesthetic badly: besides, a large dilated transverse colon lay in front of the stomach. Chénieux succeeded in bringing the handle of the fork in line with the incision and opening the wall of the stomach in front of it. Then the fork was removed by aid of forceps, the operator steadying the edges of the wound by sutures held in his left hand. Chénieux maintains that by this method the operator's hand is not soiled, and there is little risk of contaminating the peritoneum and the abdominal wound. The stomach had contracted firmly on the foreign body, and lay high up, showing the necessity of a high incision through the parietes. The incision in the stomach was closed with two layers of sutures, the abdominal wound united, and drainage dispensed with altogether. Recovery was uninterrupted. Godineau, of Angoulême, performed gastrotomy on a girl, aged 6, convalescent from diphtheria. She had swallowed a cannula used for irrigation of the mouth. No inconvenience followed. The cannula could be defined one inch to the right (*sic*) of the umbilicus. The operation was performed on the nineteenth day; the foreign body, which lay along the great curvature, was easily extracted, the stomach was closed with a double layer of sutures, and the abdominal wound shut up without drainage. The child suffered from vomiting for a few days, but made a good recovery both from the operation and from diphtheria. The boldness of the operator, when we consider the patient's condition, deserves commendation, and it is well that it was rewarded by success.

LOCALIZING VALUE OF MOTOR AGRAPHIA.

Dr. J. W. McConnell, of the department of Neurology of the University of Pennsylvania, has published in the *Medical Bulletin* of that university a case of tumour of the left first and second frontal convolutions in which motor agraphia was the chief localizing symptom. The rarity with which agraphia occurs as a separate and distinct symptom appears to be in the majority of instances the great objection to the acceptance of its localizing value. The patient was a married man, a carpenter, aged 28, whose family history was unimportant. There was no history of lues, and he was right-handed. For five years—from 1899 to 1904—he suffered from generalized epileptic convulsions. In May, 1904, he had his first epileptiform attack without loss of consciousness, the spasm being apparently limited to the right side of the face. A few days later five attacks were witnessed by a skilled observer. The patient, recognizing the oncoming of an attack, walked across the room; before going two steps his right lower face was in clonic spasm, which quickly involved the right upper face and occasionally the rotators of the head to the right. The eyelids were in violent clonic spasm, but on forced separation of the eyelids the globes were found to be not deviated. Requested during an attack to make certain movements, the patient at once did so. The seizures lasted about eighty-five seconds, and were followed by mental confusion and seemingly apprehension. He could correctly answer questions put to him immediately on the cessation of the spasm, but his replies were difficult to understand on account of thickness of articulation, which lasted five or six minutes. On admission into hospital nothing abnormal was found in the limbs or trunk, but the right lower face was paretic and there was some weakness of the right orbicularis oculi and levator palpebrae superioris. There seemed to be some blunting of sensibility on the right side of the face. Articulation was defective, but there was no aphasia. He was asked to write, but the specimen was largely a series of meaningless strokes. The pencil was properly held and well managed, but efforts were fruitless. The result was the same on attempts at spontaneous writing or from dictation. Writing from a copy was practically perfect. The optic discs were healthy. He was trephined by Dr. C. H. Frazier, and a tumour was found lying across the foot of the second frontal convolution, encroaching somewhat on the lower half of the first, slightly upon the upper posterior portion of the third frontal convolution and the anterior edge of the precentral convolution. The tumour was removed, and after recovery from the operation, the right lower face was more paretic than before and there was some weakness of the right hand. The agraphia shortly began to improve, so that three weeks after the operation he could write spontaneously, with good construction and almost perfect spelling. He left the hospital apparently well on the way to complete recovery. Dejérine and others have held the belief that the motor speech centre (Broca) is capable of acting as executive both for spoken and written speech and that if a motor graphic centre did exist its destruction would abolish the possibility of executing any kind of writing. Cases supporting this view all show, however, a lesion of the entire left third frontal convolution and invading neighbouring convolutions. Cases of aphasia without agraphia are, however, recorded in which the foot of the left second frontal convolution was not at all involved. Oppenheim has recorded a case of pure motor aphasia in which the patient was able to write during his seventeen years' illness. Cases of pure motor agraphia on record are few in number, but they afford evidence in favour of a motor graphic centre. The present case is adduced as one proving that motor agraphia is an entity of localizing value and that it is due in right-handed persons to a lesion limited to the foot of the left second frontal convolution.

SANITATION BY ELECTRICITY.

Under this somewhat sensational title Dr. F. W. Alexander, M.O.H., Poplar, furnishes a report to his authority on the manufacture and use of electrolyzed salt water for disinfecting purposes. This "Hermite process" has been known for some time, and has been used in the treatment of sewage effluents, etc., but Dr. Alexander advises his authority to instal plant for the production of electrolyzed salt water for the ordinary purposes of disinfection, and he claims that the "liquid is a germicide, a disinfectant, an antiseptic, a deodorant, and a bleaching agent," and would be useful in hospitals, for the disinfection of clothing, as a medicine for internal use, for spraying throats, and "cutting short an epidemic of diphtheria," as an antiseptic dressing, in midwifery, and for flushing sewers. It is a somewhat formidable claim to make, and it is suggested that not only is electrolyzed water an agent of almost universal utility, but would be cheaper than the disinfectants at present in use. This may be so, for Dr. Alexander reports that £200 worth of fluid and £59 worth of carbolic powder were distributed last year to the inhabitants of Poplar in £127 worth of bottles and £24 worth of bags, while the labour "of making up and serving out" involved an outlay of £291 10s. 9d. It thus appears that £748 is expended annually (not including the Works Department) at Poplar in disinfection. As many as 65,650 bottles (16 oz.) containing altogether 6,565 gallons of disinfecting fluid and 107,000 bags of carbolic powder were distributed last year to the public from the various dépôts of the Poplar Borough Council. This certainly seems a large amount of disinfectant to supply gratis for more or less indiscriminate use. It is suggested that all this can now be done away with by the introduction of electrolyzed water. The report opens up a large field for reflection. The medical officer adds, "In conclusion, I beg to state that, in my opinion, the health of the district must be materially enhanced by the use of electrolyzed salt water as a disinfectant, and a great saving of money will be assured to the ratepayers," all of which we accept with some reserve.

BACTERIA IN RAILWAY CARRIAGES.

Dr. J. J. Kinyoun has been making a bacteriological examination of American railway coaches[1] with the object of throwing some light on the question how far the railway carriage is an agent in the dissemination of tuberculosis and other infectious diseases. Seven samples of carpet

[1] *Medical News*, July 29th, 1905.

dust were carefully examined microscopically, and were inoculated into 14 guinea-pigs. Several films from each sample were stained for tubercle bacilli, but in no case was this bacillus found. Of the guinea-pigs inoculated, 8 gave negative results, and none developed tuberculosis; in 2 a pneumococcal infection was produced, and in 4 a staphylococcal infection. In the case of 29 sleeping-cars, 3 day coaches, and 2 smoking-cars dust was collected by means of absorbent cotton swabs from the surfaces of the seats, bedding, curtains, and woodwork. Sixty-four animal inoculations were made from the specimens so obtained, with the result of positively identifying the tubercle bacillus only in one instance. The pneumococcus was found in 5 animals, pyogenic streptococci in 2, staphylococci in 2, and the colon bacillus in 2; 6 developed haemorrhagic septicaemia and 1 malignant oedema; 1 yielded a streptothrix, and from 1 the diphtheria bacillus was obtained: the remaining 43 animals gave negative results. It was found that in the car from which the tubercle bacillus was obtained many cases of tuberculosis had on various occasions been carried to the southern health resorts, though there was no evidence that any such cases had been carried on the particular trip immediately after which the dust was collected. Samples of dust from the air of various carriages were collected, and were inoculated into 96 animals. One of these developed tuberculosis, 8 a pneumococcus infection, 4 a staphylococcus infection, 5 general septicaemia, and 1 malignant oedema; 76 animals gave negative results. It is interesting to note that the greatest number of pneumococcal infections from the air was obtained from the smoking cars. A bacteriological examination of 21 specimens obtained from the drinking cup provided in one of the Pullman coaches demonstrated a pneumococcus which was only slightly pathogenic, a streptococcus and a staphylococcus which were not pathogenic at all, and a diphtheria bacillus which caused the death of a guinea-pig weighing 300 grams in less than four days. This last discovery is significant, and Dr. Kinyoun very properly remarks that the drinking cup, while not yielding a large number of pathogenic organisms, is evidently an agent in the dissemination of disease.

SANATORIUMS FOR WORKERS SUFFERING FROM TUBERCULOSIS.

THE appeal, which we publish elsewhere, signed by Her Royal Highness Princess Christian as President of the Committee for establishing sanatoriums for consumptive workers will, we hope, meet with a generous response. The scheme, which has secured the approbation and practical support of the Princess, has already been described in the columns of the BRITISH MEDICAL JOURNAL on various occasions since its inception some three years ago. In some respects it is a new departure, for although it is not the first scheme under which sanatoriums have been established by voluntary contributions from the charitable and maintained by the subscriptions of those from whose ranks the patients are drawn, it is the first attempt on a large scale to organize the treatment of consumptive workers by the large Friendly Societies and trades-unions of this country. These Societies expend large sums every year in sick pay to their members, and some recent investigations in one of these—the Ancient Order of Free Foresters—has shown that the average amount of the sick pay to a consumptive member is three times as great as the pay to any person dying from another disease. This agrees generally with the experience of the sickness insurance companies in Germany, and the success of the sanatoriums which these insurance companies established for consumptives gives encouragement to those who have started this scheme in England to expect similar good results, economic and hygienic, from the establishment of sanatoriums for consumptive workers in this country. The site for the first sanatorium is already obtained, and we may feel assured that, as soon as the required funds have been collected as the result of the Committee's appeal, the building will soon be erected. The Committee has wisely decided not to build too elaborate a sanatorium, recognizing that it is not the building which cures, but the method of living, and that much of the patient's time will be spent out-of-doors. Many of those who have been treated within the institution will be advised to continue as far as possible the treatment after their return to their homes. If these individuals have learned to associate the successful treatment of consumption with palatial buildings they will feel the impossibility of attempting to carry out such treatment in the very different surroundings of their own homes. The National Committee for the Establishment of Sanatoriums for Workers suffering from Tuberculosis is composed of men who have sound business training, and who have taken steps to find out what is needed. It is not only because of the national importance of the scheme itself, but probably as much because the carrying out of the scheme is in such good hands, that it has received the patronage and active support of the influential persons who have given their names as vice-presidents.

THE AIR OF LONDON.

AT the recent Congress of the Royal Institute of Public Health held in London, among other papers read was a suggestive one by Dr. Glover Lyon on "the Air Supply of London." After drawing attention to the importance of fresh pure air in London, Dr. Lyon suggests the introduction of fresh air into the central districts by passing it through the railway tubes. He states that the dimensions of the Great Northern tube is 14 ft. by 16 ft., and that if air be passed into the city through it at fifteen miles an hour enough air would be introduced to displace the air in two miles of streets, 30 ft. wide, every hour. At present the up and down tubes are in connexion with one another, the result in Dr. Lyon's opinion being that the air is merely churned up between the two tubes. Whereas, if the tubes were separated and down-cast shafts placed at the suburban end of the up tube and up-cast shafts in the streets in the central parts, air would be taken up to the centre from the suburbs, and in a similar way by means of a down tube air could be removed from the central parts to the suburbs. Dr. Lyon even goes further, and suggests that the suction of the tube might be used to ventilate some of the large buildings, such as Lloyds. We are not told, however, whether this proposed method of refreshing London is to be used by day or night or both, but it would appear that by day such a use of the railway tubes is not altogether practicable, as the air contained in them is in part, at all events, exhausted by combustion, respiration, etc., and that which is not exhausted is not improved by its passage through the tubes. Another proposal is that as property falls in, or leases are granted, landlords should pay fines sufficient to pay off the money borrowed to carry out improvements in the direction of creation of open spaces and laying-out of parks. Dr. Lyon urges that regulations should be drawn up for the adequate provision of open spaces in the building and rebuilding of cities. This idea is, of course, widely held, and is happily coming into practice under the Building Act, under improved building by-laws, and in such experiments as that of the Garden City at Letchworth. We doubt if the railway companies are at present prepared to allow their tubes to become ventilators instead of railway tubes, or that landlords are disposed to pay "fines" for the provision of open spaces; and, on the whole, it seems to us more practical at present to proceed under the Building Act and in the direction of encouragement of garden city principles than of ventilating tubes.

THE PREVENTION OF DEATHS IN COAL MINES.

A PAPER of great interest to medical men was read at the annual meeting of the Institution of Mining Engineers in Manchester last week by Mr. B. H. Thwaite, entitled, Can Explosions in Coal Mines, with their Associated Toxic Fatalities, be Prevented? Absolute prevention of explosions was, he thought, impossible, however perfect the precautions were in theory, owing to the marsh-gas exuding from the carbonaceous strata. In future, however, "it would be possible to prevent the death of eight out of ten men who died through the toxic influence of carbon mon-

oxide that was produced by the partial oxidation of coal-dust ignited by the explosive combustion of the marsh-gas. The coal-dust extension of the marsh-gas flame was the principal source of that gaseous element which Dr. Haldane had put as the prime cause of 70 to 90 per cent. of the deaths resulting from an ordinary coal-mine explosion. This is carbon monoxide, the highly toxic gas. It was pretty certain that this was not produced by the combustion of marsh-gas. The latter was the igniting agent of the toxic gas producer—coal-dust—and, therefore, neglecting the small proportion produced by the smouldering timber, if this coal-dust were removed from the workings as fast as produced, the toxic dangers to life associated with marsh-gas explosions in coal mines, which they knew to be responsible for from 75 to 90 per cent. of the fatalities, would be eliminated." After referring to the low death-rate among coal-miners from phthisis, which he attributed to the antiseptic inhalation of finely-divided coal or carbonaceous dust, he suggested that the Government should undertake an investigation to ascertain how far it would be possible to remove the coal-dust without detriment to the healthfulness of coal-miners. Even with the coal-dust remaining as at present, it would be possible to prevent or reduce the deaths from the toxic effects of carbon monoxide by establishing a supply of oxygen along the line of working operations, which should automatically escape whenever an explosion of marsh-gas occurred, while at the same time a whistling noise or other audible sounds should be produced which would guide the victims to find their way to the nozzles of escaping oxygen. This method was founded on the assumption that pure oxygen displaces carbonic monoxide from its combination with the haemoglobin of the blood corpuscles.

A POLITICAL HOSPITAL.

IN his report on the trade of Khorassan for the fiscal year just ended—a report, it may be parenthetically remarked, which is remarkable for its thoroughness, and may well serve as a model for consular publications of this nature—Major Molesworth Sykes, His Britannic Majesty's Consul-General and Indian Government Agent, has some remarks upon the Consulate Hospital at Meshed, which are remarkable, as showing the great influence that an institution of this kind may have in politics. The hospital is even now a very humble edifice, and the space available for in-patients and for the performance of surgical operations exceedingly limited, but until quite lately the place was little more than a collection of black hovels. In February of the present year, however, the Government of India gave a grant of Rs. 5,000 for the improvement of the hospital, and a further donation from the same source is shortly expected towards putting it in a complete state of repair and making needful additions, so that, when finished, there will be a suitable operating theatre, a room for the dressing of surgical out-patients, and an ophthalmoscopic dark room. Even with the modest means available, an immense amount of work has been done. In the course of the year 48,017 cases received treatment, though, owing to the restricted accommodation, only 52 were in-patients. The average daily attendance of out-patients was 114, the proportion of men to women being about 2 to 1. The fame of the hospital has spread far and wide, and the sick and injured are brought even from far-distant Herat for treatment. All the patients are supplied with drugs free of charge, and many of the wealthier classes have been attended at their own homes. In March this year there were serious riots at Meshed, the relatives of the Mohammedans killed by the Armenians in the Baku massacres swearing on the Koran at the Shrine that they would exterminate every Armenian in Meshed: but during all the looting that went on the British Consulate was held inviolable by the rioters from the universal sense of the great benefits that the hospital connected with it has conferred upon the people. The work of 1904 seems to have been unusually severe, for the year was marked by a very severe epidemic of cholera, the disease entering Persia by the pilgrim route from Baghdad, and eventually affecting almost all the cities, as has been previously described in the BRITISH MEDICAL JOURNAL. It appeared in Meshed late in July, and by the beginning of September, when it died out, the number of victims was no less than 8,000. As Major Sykes places the population of the city as somewhere between 70,000 and 80,000, about one person in ten must have died, so that in the most accurate sense of the term Meshed may be said to have been decimated. The population is described as being very mixed. There are a large number of Azerbaijan Turks, and thousands of Hazaras, with numerous Armenians, Russian Jews, and sundry people from the Caucasus. The floating population of pilgrims during the summer is stated to be enormous, and the Surgeon of the Agency, who is engaged in taking anthropometric observations and measurements, has a clinic which for diversity of type must be almost without equal.

A GERMAN VIEW OF MEDICAL RESPONSIBILITY.

OUR Berlin correspondent writes: The question how far a medical practitioner is in duty bound to provide medical treatment for his patients while away from home or otherwise temporarily prevented from attending to his practice, has just been decided by the Prussian Medical Court-of-Honour in a case, the facts of which were as follows: Dr. X., a practitioner in a Prussian town, attended a patient, N., living in a neighbouring village, who was suffering from a fracture of the ankle joint: Dr. X. was usually sent for in the patient's carriage. On the occasion of the last visit paid by Dr. X., the fifty-first, he told his patient to send for him in three days. But before the third day he found himself unexpectedly obliged to leave home for several weeks, and instead of temporarily transferring his practice to one or more colleagues, as the general German custom is, or otherwise providing a substitute, he made no arrangements beyond leaving orders to his housekeeper to tell all who might come that he was away from home, and that some other medical man must be applied to, if necessary. N., on being informed of Dr. X.'s absence, neglected to call in other advice until, after the lapse of some weeks, the foot had grown considerably worse, so that amputation was necessary. Thereupon N. brought an action against Dr. X. in a civil court, and lost his case. But the medical court of honour took up the matter, and gave judgement against Dr. X., with a fine of M. 500 (£25), costs, and deprivation of the vote to the Medical Council for the forthcoming electoral period. The reasoning by which this decision was arrived at may be summed up as follows: The case in point can only be judged by examining the fundamental question, whether a medical man temporarily prevented from visiting the patients under his care is in duty bound to provide for a continuation of an adequate medical treatment. The Medical Court answers this question in the affirmative; nor can it accord any weight to the strictly legal consideration, whether a medical man is or is not entitled to cancel his contract with his patient, since the Court has to deal with the ethical bearings of the matter. The crucial point thus is, that a medical man who leaves the patient entrusted to his care without help acts unjustifiably, and that conscientious exercise of the medical profession can mean nothing less than solicitude for one's patient, even to the disregard of one's own personal convenience. The defendant alleged that he had fulfilled his duty by the order which he gave his housekeeper, but this the Court denies. That the patient had the option of consulting another medical man was held to be no mitigation of Dr. X.'s unjustifiable course of action.

ATTRACTIONS AT THE WILTS COUNTY ASYLUM.

UNDER the above title, we notice in the Yeovil *Western Gazette* an account of the impressions made by a visit to the Wilts County Asylum upon the Rev. A. S. Murray and Mr. H. Scott, two members of a deputation from the Warminster Board of Guardians. Both of these gentlemen were of opinion that the surroundings of the inmates were much too luxurious. The books, carpets, cages of parrots and canaries—unaccustomed splendours in the homes of

the patients—struck the reverend gentleman as utterly redundant, and Mr. Scott, who frankly admitted that he had no idea that such a place existed, stated that the asylum was better than many noblemen's houses in which he had been. Another thing which struck Mr. Murray was that "half of those he saw in the asylum spoke to him the same as anybody in the Board might." As we are sure, from the fact that this utterance was received with loud cheers, that no reflection upon the sanity of the Board was intended, we can only assume that, in the opinion of those present at the meeting, numbers of the inmates were unnecessarily detained in the asylum, voluntary prisoners in a palace of ease. Without any particular application to this asylum, it may be said that there is a modicum of truth in this statement, and also in Mr. Murray's belief that many patients could be cared for by their own friends at home, though we beg leave to doubt the accuracy of his deductions from what he saw at his visit. Our county asylums are still too much "model lodging-houses for the insane," as Sir John Batty Tuke called them many years ago, and too little hospitals for the cure of disease, and we are reminded of the remark made by Féré that the state of luxury of many of these institutions prompts the inquiry whether the philanthropists who presided at their installation have not been more preoccupied with the eventuality of their own sequestration, than with the well-being of the "*pauvres diables qui n'y peuvent rien comprendre.*" Unfortunately, there does not exist at present any adequate machinery for the care and inspection of harmless lunatics in their own homes, nor have the Boards of Guardians, speaking generally, exerted themselves to make proper accommodation for many cases of senile dementia, who are thus bound to be received by asylums, but who might if such provision existed, be very well maintained in less expensive establishments than our county asylums. With reference to this particular institution, however, we may point out that, notwithstanding the carpets, mirrors, and birdcages which so impressed the deputation from the Warminster Board of Guardians, the average weekly cost per head of the Wilts Asylum for 1904 was only 9s. 10½d., while the average for all county asylums in England and Wales for the same year was 10s. 1¾d. Another point occurs to us. The Committee of the Wilts Asylum in their last report urged the desirability of all the Boards of Guardians within their district keeping in as close touch as possible with the asylum, a recommendation with which we heartily concur; but we regret to note that Warminster was one of the Board of Guardians mentioned as not having sent any representatives during 1904!

CHEESE-MAKING.

IN the June and August numbers of the *Annales de l'Institu Pasteur* M. Mazé discusses the agency of micro-organisms in producing the various fermentative processes associated with cheese-making. The essential element in cheese manufacture, he points out, is the setting to work of lactic acid fermentation, together with all the phenomena which accompany this change. Lactic fermentation eliminates, or at least restrains, all the other fermentative processes to which milk is liable; it facilitates drainage, and communicates to the casein and the cream a choice delicacy of aroma. When the process of maturation sets in there are still left some lactic ferments which help to r...der part of the casein soluble, and it is desirable that they should perform this function to as large an extent as possible. At this stage, it is true, the agency of other ferments is also at work. These evince their activity by the production of casease or the evolution of ammonia, but it is to be noted that a cheese gains in quality in proportion to the restriction in activity of these casease or ammonia producing ferments. It has long been known that lactic acid and ammonia play an important part in cheese manufacture, but the best cheeses are precisely those which contain little or none of these substances. The reason for this is not that lactic acid is a dangerous ingredient for consumption, but that the free acid or its ammoniacal salts mask the aroma, which is so difficult to preserve, of the lactic fermentation. Ammonia is detrimental for the same reason, and also because it is a product of catabolism which is not tolerated by the organism. When absorbed it is arrested by the liver and transformed directly into urea. Another injurious property of ammonia is that it favours a too complete liquefaction of the casein, and assists the formation, by means of nitrogenous fermentation, of toxic products, which may prove injurious to the consumer. The introduction of pasteurization in the milk industry is of great advantage in the preparation of cheese, because it enables the manufacturer to get rid of injurious ferments by this process and then to add those ferments which are beneficial. The temperature employed is 65° C., which destroys for the most part the vegetative forms of those types of micro-organisms which are capable of development in milk. The so-called thermophile organisms, which are not destroyed by this temperature, are relatively rare in milk. Spores, of course, are not killed; but since the material is liberally inoculated with active lactic ferments immediately after the pasteurization is completed, the development of the sporing organisms which have retained their vitality is held in check. In the process of pasteurization it is very important, in order not to impair the quality of the cheese, that no portion of the milk should be exposed to a higher temperature than 65° or 66° C.; but unfortunately, with the apparatus usually employed, it is not possible to fulfil this condition. M. Mazé recommends the application of heat by means of vapour saturated with a substance which has a boiling point between 65° and 66°, and delivered in a closed space under atmospheric pressure. By this method the danger of overheating is completely obviated. When once the curd is moulded and drained the only danger of infection is from the surface, but this risk is guarded against by the introduction of suitable fungi, such as *Penicilium album*, which gain a start over airborne spores and injurious organisms and prevent their development. When once the cheese has acquired its mycelial covering it is safe from contaminations. With regard to the part played by *Penicilium album*, we are told that it grows very well on the acid curds. It borrows its nitrogen from the casein without secreting any appreciable amount of casease, and possesses the property, which is of particular interest to the cheese-maker, of destroying lactic acid and lactose. These two substances ought, in fact, to disappear almost entirely from properly-ripened cheeses. *Penicilium album*, therefore, prepares the ground for the casein ferments, which are unable to develop in acid media; but as soon as the lactic acid is nearly eliminated, these set to work, and ripening commences. The mould, therefore, is to be regarded as the necessary intermediary between the lactic ferments which are indispensable for cheese production and the casein ferments which are no less indispensable for ripening.

THE SPIROCHAETA PALLIDA.

PROFESSOR RILLE AND DR. VOCKEROIDT[1] state that their own investigations corroborate the results of the previous workers who have found the spirochaeta pallida not only in the genital regions of syphilitic patients, but also in skin papules far remote from the genital organs. They also claim to have found this organism in certain sites in which it has not hitherto been observed, namely, in the efflorescence of psoriasis palmaris, in moist papules between the toes, and in papules on the scalp. Throughout their research, which covered a wide range of syphilitic manifestations, they met with very few negative results. They failed, however, to find the spirochaeta pallida in a case of syphilis haemorrhagica neonatorum, in which the blood and the papular skin eruptions were investigated during life, and most of the internal organs afterwards. Negative results were also obtained in a case of osteoperiostitis gummosa of the skull. As regards technique, the authors recommend that the excoriated surface of the site to be investigated should be firmly scraped with a scalpel or sharp spoon. The serous fluid so

1 *Münchener medizinische Wochenschrift*, pp. 1610. August 22nd, 1905.

obtained should contain the spirochaetae in relatively large numbers, and is free from large fragments of tissue, which would render the search for the organisms difficult. Thin films are made, fixed in absolute alcohol for ten minutes, and then stained over-night, or for at least four hours, in a 1 in 10 dilution of Giemsa's solution. In looking for the spirochaetes the red-blood corpuscles should be first examined, because the micro-organisms are very frequently found attached to these bodies. The authors are much impressed with the constancy of this relationship of the parasites to the red corpuscles, and quote the similar observations of Ploeger, who regards this association as characteristic, and suggests that the spirochaetes may be disseminated through the agency of the erythrocytes.

GENERAL PHELPS ON LUNACY.

The gallant President of the National Antivaccination League was in good form at a guardians' meeting last week. The subject under discussion was the great increase in lunacy. Some people talk of love as leading to insanity, and others blame alcohol. But General Phelps, as reported in the *Birmingham Evening Dispatch*, knows better, and those who know him can have no difficulty in knowing what he thinks he knows. He declared that "neither drunkenness nor love affairs were causing more insanity," and he thought that they would "find that the one cause of the increase was vaccination." Of course it was, and it appears that all the King's Norton Guardians but himself must have been vaccinated, for he evidently regards them all as madmen. He cannot hope for their permanent recovery, but he really would like that they might be blessed with just a brief period of temporary sanity to enable them to see the real truth of the vaccination question. A mere glimpse would be enough. "If ever they had a sane moment, they would find that vaccination produced small-pox, promoted cancer, and resulted in a great increase in insanity." It is seldom we agree with the President of the Antivaccination League, but we are bound to admit that there is a sense in which vaccination is related to lunacy and lunatics. If there were no vaccination there would be no antivaccination, and no Antivaccination League, and no president of the league. In these quiet times, when Parliament is not sitting, and the supply of nonsense is consequently at so low an ebb, it is very good of General Phelps to step into the imminent deadly breach, and he deserves the thanks of all of us for his very pleasant little contribution to the national gaiety.

ANKYLOSTOMIASIS.

In the *Journal of the American Medical Association* of August 26th, 1905, Leonard writes on ankylostomiasis as seen in Grenada, British West Indies. The disease, as in the other West Indian islands, is very prevalent in Grenada and gives rise to the usual symptoms. It is interesting to note that both species of the parasite were found, the old world variety, A. duodenale, and the new Uncinaria Americana, first described by Stiles in America. Ground itch, a form of dermatitis known locally as "chauffie," is very common, and owing to the prevalence of this complaint Leonard considers that the common mode of infection is through the skin. The peculiar bluish-black pigmentation of the tongue, described previously by many medical men practising in British Guiana and the West Indian Islands, was also noted in the coloured races. There is strong probability that this marked feature is peculiar to individuals suffering from ankylostomiasis, though authorities in Egypt and India state that it is not seen in those countries. Thymol was the drug found of most use in the treatment, as much as 40 gr., repeated every hour until 120 gr. had been taken, being given. With the exception of dizziness, and a sensation of fainting in some cases, no ill effects were seen. The same journal states that recently an examination of 115 Porto Ricans in San Francisco revealed the fact that over 60 per cent. were found to be suffering from uncinariasis. The climate of California is considered to be favourable for the spread of the disease, and if this is so the source of infection is certainly present. These facts would seem to point to the necessity of some form of medical inspection and treatment of labourers and coolies from infected areas on their introduction into places so far free of the disease.

PARISH REGISTERS.

Parish registers were sometimes very diligently kept by incumbents during the eighteenth century, and their examination occasionally affords curious insights into popular customs and beliefs. Now and then particulars are given of the causes of the deaths recorded. Dr. Alexander Leadman of Pocklington published a short time ago some entries of this kind from parish registers in the East Riding of Yorkshire which were noticed in our columns at the time. A correspondent now sends us some notes from the parish register of Barleston, a small agricultural village in Mid-Staffordshire. From 1721 to 1759 the vicar carefully recorded the age and the cause of the death of every person buried in the parish. During this period there were 179 burials, namely: Of persons under 1 year old, 29; from 1 to 15, 16; from 16 to 40, 27; from 40 to 70, 55; from 70 to 80, 21; from 80 to 90, 27; over 90, 2; age unknown, 2. He ascribed the deaths to the following causes: Old age, upwards of 65 years old, 48; fever, 34; infancy, 22; small-pox, 14; consumption, 11; unknown, 5; cancer, chincough, decay and dropsy, 4 each; accidents, apoplexy, childbirth and sudden death, 3 each; cripples, jaundice, "long ill," pleurisy and stone, 2 each; convulsions, "distracted," executed, measles, rupture, strangury and "surfeit by drinking water when hot," 1 each.

MALTA FEVER.

To the *Journal of the Royal Army Medical Corps* for September Major Horrocks and Dr. Zammit contribute articles on Malta fever. Two of these papers, containing the important observations on the occurrence of the disease in goats, have already been noted in the British Medical Journal of August 26th, p. 447. In another communication Major Horrocks gives some interesting details of the experiments on the mode of conveyance of the micrococcus melitensis to healthy animals. He brings forward experimental evidence to show that the germ may be absorbed in dry dust or in food by monkeys. When transmitted through an unbroken mucous membrane the process of absorption is comparatively slow, and under these conditions the wave of fever appears to be prolonged. On the other hand, when absorbed through a crack in the mucous membrane or in the skin, the absorption is rapid, the fever curve usually rising rapidly and falling rapidly. He also finds that healthy monkeys may become infected by urine secreted by diseased ones, the probable route of infection being by the paws, which have become soiled with the secretions. His experiments on mosquitos as carriers were uniformly negative. This latter point is important, as it would indicate that infection in man is probably by food or by dust, the former channel being the more likely in view of the recent researches on the organism in goat's milk.

Professor E. J. McWeeney, Bacteriologist to the Local Government Board in Ireland, has been appointed to represent the Royal College of Physicians in Ireland at the International Congress on Tuberculosis to be held in Paris at the beginning of October.

It will be remembered that at the Annual Representative Meeting at Leicester it was unanimously resolved to appoint an Irish Committee, having a constitutional position parallel to that of the existing Scottish Committee. The Committee consists of one secretary from each Branch in Ireland, of the Irish members of the Central Council, and, in addition, one elected member from each Branch. The first meeting of the year will be held in Dublin on Saturday, October 14th; the place and hour have not yet been fixed.

Scotland.

The Chair of Midwifery at Edinburgh.

The contest for the Chair of Midwifery at Edinburgh, rendered vacant by the resignation of Professor Alexander Russell Simpson, is exciting much interest. We have received copies of the letter of application of Dr. Berry Hart and Dr. Ballantyne. Dr. Berry Hart is Lecturer on Midwifery and Diseases of Women at the Surgeons' Hall, Edinburgh, and Gynaecologist to the Royal Infirmary; Dr. Ballantyne is also a Lecturer on Midwifery and Diseases of Women at the Surgeons' Hall, Edinburgh, and is Physician for Diseases of Women and Practical Obstetrics at the Western Dispensary; Sir Halliday Croom, Consulting Gynaecologist, Royal Infirmary, and Lecturer on Midwifery and Diseases of Women in the Edinburgh Medical School; Dr. Haultain, Assistant Gynaecologist at the Royal Infirmary, and also a Lecturer on Midwifery and Diseases of Women, Edinburgh Medical School; Dr. Freeland Barbour, Junior Assistant Physician to the Gynaecological Department of the Royal Infirmary, and Physician to the Royal Maternity Hospital; Dr. James H. Ferguson, Lecturer on Midwifery and Diseases of Women, Edinburgh Medical School, and Gynaecologist, Leith Hospital; and Dr. W. E. Fothergill, Lecturer on Midwifery, Victoria University, and Assistant Physician, Northern and Southern Hospitals for Women and Children, Manchester, are also, we understand, candidates for the Chair. The applications will be considered by the Curators of Patronage of the University of Edinburgh on October 2nd.

The Royal Infirmary, Glasgow.

While cutting the foundations for the new buildings of the Royal Infirmary a great number of bodies have been discovered in the space lying between the main infirmary buildings and the St. Mungo's Medical School.

One of the leading local weekly papers made this discovery the text of a somewhat sensational article, in which it was suggested that some of the old cholera pits had been opened. There seems to be no reason for the suggestion that these are the remains of cholera patients. The bodies were found in large pits about 18 ft. square, in which the coffins are closely piled in several layers. With the exception of a few remains, which are evidently those of subjects used in the neighbouring anatomical school, all the relics were found in coffins. As far as can be determined, the ground has not been used as a burial place for upwards of sixty years. During the removal of the remains several coins have been discovered, and the most recent was a medal dated 1860. In any case, even if the ground has been used for the interment of fever patients, no anxiety need be felt that the turning-up of the soil will lead to an outbreak of disease. Previous to the actual cutting of the foundations trial shafts were sunk at various points, and samples of the soil taken from different layers of the coffin area were examined bacteriologically. Repeated examinations by the bacteriologists both of the Infirmary and the municipality showed that the soil contained no virulent pathogenic organisms. As a matter of fact, only those organisms which are normally present in earth were discovered. The remains are being disposed of as follows. The woodwork of the coffins is collected and burnt in three of the town destructors; while the human remains, consisting of bones and some adipocere, are packed into cases and removed for reinterment in Riddrie Cemetery.

The Old Hospitals of Glasgow.

In the September number of the *Glasgow Medical Journal* Dr. James Erskine gives an interesting account of the old hospitals of Glasgow. Throughout the lowlands of Scotland there existed numerous hospitals for the reception of the sick and poor even in pre-Reformation days. For the most part these institutions were closely associated with the ecclesiastical organization of the times, and were situated, as a rule, near some great highway of commerce. The oldest Glasgow hospitals were situated in the vicinity of the cathedral. The most ancient hospital of which we have a record was in Polmadie. It was known as St. John's Hospital. The exact date of its foundation is not known, but it existed in the reign of Alexander III, and is mentioned in a charter of Robert the Bruce, given in 1316. Sometime about the middle of the fifteenth century St. John's Hospital ceased to exist. Its endowment was for a time employed for improving the music in the choir of the cathedral, and ultimately was transferred to the Collegiate Church of Dumbarton. About the same time that St. John's Hospital came to an end a new hospital was founded in 1460 by Bishop Muirhead on the site of the present Barony church and Macleod Street. St. Nicholas Hospital, as it was called, provided accommodation for twelve poor men and a priest, who acted as magister. In 1716 the administration passed into the hands of the magistrates of the city, and in 1778 the buildings were in a ruinous state. The Town Council took over the site, contributing £5 to the hospital funds. The site was sold about the beginning of the nineteenth century. The Town Council still administers the revenue, and it is given in moieties of £3 to pensioners, of whom there were recently twenty-one on the roll. At the back of the St. Nicholas Hospital a small hospital, fitted for the reception of four poor men, was known as the Back Almons House, the revenue of which was divided in 1011 between the two guilds of the merchants and craftsmen. The latter guild erected in 1605 a small hospital for poor freemen of trades rank. This building existed till about the beginning of the last century. The present Trades House was erected in place of its old hall in 1791.

Little St. Mungo's Hospital was the name of another of these old institutions. There was previously a chapel of this name, but on the building becoming ruinous it, along with the grounds, was sold to the Town Council about 1600, to be converted into a hospital for the use of the poor for all time. Despite this the Town Council in 1754 sold the site, which was then occupied by the famous old Saracen Inn, a building only demolished a few months ago.

Up to the sixteenth century leprosy was rife in Scotland, and numerous leper houses were provided all over the country. In Glasgow, accommodation for lepers was provided by the Saint Ninian's Hospital, situated on the south side of the river, near the Glasgow Bridge. The date of its foundation is unknown, but it certainly existed long before 1494, and the hospital buildings only disappeared about 1730. Their existence can still be traced in the names of Hospital Street and St. Ninian's Street.

No mention of special accommodation for plague occurs in the burgh records till the middle of the seventeenth century, when special huts were erected. In the minutes of the Town Council these are described as "ludges" made of "dails" and "spairs," with straw for bedding. The councillors were told off in rotation to visit the plague colony. A minute of February 20th, 1647, runs, "James Robiesonne, Baxter, is made choyce of to be visitoure of the muire, quhair the oncleane fokes ar, and to set doune in a register all occupantes daylie anent the infection . . . and to tak notice of the graves."

The only other place for dealing with disease mentioned in the sixteenth century is an old form of lock hospital. In the Kirk Session records of 1592 and 1600 it is called the house or lodge "beyont the Stable Green Port for women affectit with the Glengore."

No provision for the general medical treatment of the sick poor existed till the Town Hospital was founded in 1733. Previous to that the Faculty of Physicians and Surgeons had offered gratuitous service, and for a time the Town Council had provided a physician or surgeon, an apothecary, and a stonecutter, but owing to lack of funds had had to discontinue this arrangement in 1684. The funds for the Town Hospital were provided by the General Kirk Session, the Merchants' House, the Trades' House, and the Town Council. A small assessment was made on wealthy citizens, the highest rate being 12s. 6d. upon each £1,000 of reputed wealth. In the Town Hospital the medical and surgical treatment, together with the medicines, was for many years supplied gratis by the Faculty of Physicians and Surgeons. No provision for clinical instruction existed in the Town Hospital, and it was to supply clinical tuition that the Royal Infirmary was started in the end of the eighteenth century. It is interesting to note that the leading promotors were the Professors of Logic and Medicine in the University. The Royal Infirmary at first consisted only of the present "front building" and accommodated 136 patients, but had soon to be enlarged.

The old Tain's Hospital was really a poorhouse accommodating necessitous poor as well as sick and insane. The accommodation for the insane was so inhumane that a special asylum for the insane was built in Parliamentary Road in 1810. This was used till 1843, when Gartnavel was opened, and the directors of the Tain's Hospital acquired the old asylum in Parliamentary Road as a poorhouse and asylum. The original Town Hospital buildings were thereafter only used during fever epidemics. On the passing of the Poor Law Act

of 1845 the Parliamentary Road buildings were taken over by the Parochial Board, and were in use as the city poorhouse till a few months ago.

After the institution of the Royal Infirmary fever cases were accommodated in it, but at various times special fever hospitals were opened. None of these were permanent institutions till the Parliamentary Road Hospital, built as a temporary measure in 1864, was found so necessary that it was taken over by the Police Board and was definitely maintained as a permanent fever hospital. It is interesting to note that this was the first municipal hospital in this country.

THE FATHER OF THE FACULTY OF PHYSICIANS AND SURGEONS.

Dr. John Burns, of Fitzroy Place, Glasgow, and Bridgeton, recently entered upon his 91st year. He has practised in Bridgeton for over sixty years, and, in spite of his advanced age, still attends daily to a large practice. He is the father of the Faculty of Physicians and Surgeons of Glasgow.

ANDERSON'S COLLEGE MEDICAL SCHOOL, GLASGOW.

Dr. Hugh McLaren has been appointed Professor of Materia Medica at this school, in room of Professor Barclay Ness. Dr. Ness resigned the Materia Medica chair on being appointed to succeed the late Professor R. S. Thomson in the chair of Medicine.

Ireland.

QUEEN'S COLLEGE, BELFAST.

SIR DONALD CURRIE has notified his intention of presenting to Queen's College, Belfast, the sum of £20 000, provided that a similar sum is contributed by other friends. It is announced that a large portion of the desired £20,000 has already been promised.

CONTRACT MEDICAL PRACTICE.

NOTICE AS TO DISTRICTS IN WHICH DISPUTES EXIST.

A notice as to places in which disputes exist between members of the medical profession and various organizations for providing contract practice will be found among the advertisements, and medical men who may be thinking of applying for appointments in connexion with clubs or other forms of contract practice are requested to refer to the advertisement on page 75.

COVENTRY FRIENDLY SOCIETIES AND MEDICAL FEES.

THE conference proposed some time ago (on receipt of a communication from the Coventry Branch of the British Medical Association as to the proposed raising of fees for club patients) between the medical men and a deputation from the Friendly Societies has been delayed owing to the holidays, but now Dr. Snell, Honorary Secretary of the Branch, has suggested September 29th for the meeting, and the Committee of the Coventry and Warwickshire Hospital has given the use of the Board-room for such conference. The secretaries of the Friendly Societies were called together on September 14th to hear a communication from Dr. Snell and to make arrangements for the deputation. Mr. W. PARKER presided.

Mr. H. SMITH, the Societies' secretary, read the correspondence which had taken place between himself and Dr. Snell. The former had informed the latter that the deputation desired to ascertain whether the proposed adult fee of 4s. was to be final, and also to discuss the juvenile fee of 4s. In reply, Dr. Snell had informed him that a deputation representing the juveniles had already been met, but that the Branch Chairman agreed that the subject might be reopened at the proposed conference as an act of grace. The secretaries present at the meeting showed a keener objection to the juvenile fee than to the adult.

Some discussion took place as to the finality of 4s., and Mr. SMITH stated that while some doctors with whom he had spoken expressed the opinion that there was no present intention to go beyond 4s., others had told him they would have been satisfied with 3s. 6d. He thought the aim was to abolish contract practice entirely, and said a medical man had put before him the suggestion that the clubs should cease to provide for medical attendance, and he (the Secretary) thought if they did there would be less going "on the box" than there was now. Certainly he was of opinion that if members had to pay for certificates and medicine they would not go so often to the doctor.

At the end of the discussion a resolution was passed that the societies would meet the medical men on the condition that they were to be allowed to raise (1) the question whether 4s. was final, and (2) the payment for juveniles. Arrangements were made for representatives to be chosen from each order of Friendly Society in the city. One member present said he did not think his Society was competent to go with the deputation, as it had never paid less than 4s. for medical attendance, and at one time paid as much as 5s.

SPECIAL CORRESPONDENCE.

VIENNA.

The Epidemics of Cholera and Meningitis.—Two Cases of Sclerodema Cutis.—A Lecture on the Danger of Public Elementary Schools.—A Meeting of the Society of Teetotal Practitioners.

THE outbreak of cholera in Galicia, thanks to the watchfulness of the sanitary authorities, has been confined so far to the locality in which it first appeared. Beyond the 6 cases first notified, out of which 3 died, no fresh case has been reported for a week. The other epidemic—that of cerebro-spinal meningitis—has now died out in Austria; sporadic cases are still occasionally notified in the larger towns, but such have occurred for years. This result may be ascribed to the instruction given to the population, who have been taught to understand that their own welfare requires absolute promptness in dealing with the infection. The disinfection of houses and household furniture and personal apparel has been effected by formalin gas, generated in a special apparatus within the rooms. All sanitary stations have been fitted with this apparatus, the cost of which is small as compared with the result, when it is remembered that no detriment to the goods under treatment is caused.

At a recent meeting of the Vienna Society of Practitioners Professor Spiegler showed a patient suffering from scleroderma—a disease of which, he said, as yet but little was known. The patient, a man of 60 years, suffers from a peculiar form of this skin disease, the pathological changes of the head and neck being sharply defined by his shirt collar. Above this line the tissues are infiltrated and the eyelids are everted. On both hands he has a plaque of scleroderma, which is also sharply defined towards the wrist by a line corresponding with the cuff. Compression, with consecutive ischaemia or stagnation, is probably the reason of this condition. When seen for the first time, two years ago, the scar showed a similar line of demarcation corresponding with the brim of the hat. Since then the infiltration had spread over the whole of the head. Below the collar line the skin was in a normal condition. The case of a young lady who habitually wore very tight gloves was also demonstrated. In this the scleroderma was also sharply defined by the end of the gloves at the wrist.

The recommencement of school work always causes anxiety to parents on account of the supposed increased risk of infection with measles, scarlet fever, diphtheria, and whooping-cough. In view of this, Dr. Stekel has recently delivered a popular lecture in which he stated the danger of school infection to be exaggerated. The importance of the point lies in the fact that in Austria education is compulsory on all children over 6 years of age. Dr. Stekel endeavoured to show that the danger of infection was greater during play than during school time, and consisted in contact with recently convalescent children in public gardens and elsewhere.

When the Antialcohol Congress was in progress in Buda-Pesth, the Society of Teetotal Practitioners in Vienna held its annual meeting in the halls of the Medical Society. A large number of professors and doctors came to hear the lectures delivered by Professor Forel and Dr. Bleuler, the Swiss leaders of the temperance movement. The former urged that alcohol should be sold only on prescription by a medical man, and sold only by duly-qualified chemists, just like opium. The director of the children's hospital, Professor Kassowitz, said that he had ceased to use alcohol in his wards for two years, and was satisfied with the results. The number of new members was 195, mostly practitioners, and it is noteworthy that a great number of students have also joined the Society. Drinking is regarded amongst students as a *conditio sine qua non*, but the value of temperance is obtaining greater and greater recognition among them.

MANCHESTER.

Investigation of Number of Underfed Children.—Annual Medical Report on Salford: Number of Breast-fed Infants: Deaths from Diphtheria: Antitoxin Treatment: Expectation of Life in Salford and Manchester.—Provision by Municipal and other Authorities for Underfed and Starving School Children.

The investigation of the number of school children who are underfed in Blackburn has been undertaken and reported on by the medical officer. Inquiries into the 540 houses which he had been led to believe might contain underfed children showed that in 364 there was no such underfeeding. Of the remaining 176 cases, there were seven families (with 19 children) in which underfeeding might result owing to permanent poverty of the parents; sixty-nine families (with 238 children) in which underfeeding was occasioned by temporary illness, loss of employment, or other unavoidable causes; and nineteen families (with 56 children) in which underfeeding was probable owing to parental neglect. The age of the children was from 3 to 14. The medical officer estimates that not more than 1.3 per cent. of the 22 952 Blackburn school children are underfed, and that the question of underfeeding in Blackburn at present is not so acute as to demand direct municipal interference. Amongst the contributory causes in home life to which he points are alcoholism, laziness, and indifference and bad management by the parents. The Leigh Town Council is also bestirring itself in regard to the same question.

From the report of the medical officer of health for Salford for 1904 we take the following interesting particulars: The estimated population is 228 983—males 110,672, and females 118,311. Under 5 years old the number is put down at 27,597; between 5 and 15, 48,441; from 15 to 25, 46,964; and from 25 to 65, 99 367. The number of births registered was 7,261—3,730 males and 3,531 females—equal to a birth-rate of 31.7 per 1,000 of the population. The birth-rate for the seventy-six largest towns was 29.1, and for England and Wales 27.9. The bodies of no fewer than 322 stillborn children were buried in cemeteries—an extremely unsatisfactory state of affairs; as yet the registration of stillbirths is not compulsory. The total number of deaths was 4,809—2,537 males and 2,272 females, equal to a death-rate of 21 per 1,000. Under 5 years of age the death-rate was 80.8. There were 1,399 deaths of infants under 1 year of age, equal to a death-rate of 193 per 1,000 births. Zymotic diseases were the chief cause of death amongst infants—537, against 381, the average of the preceding five years. The deaths from zymotic diseases were principally due to diarrhoea, 294; tuberculosis, 94; whooping-cough, 62; measles, 52.

Some striking facts were discovered in relation to the feeding of infants. The Health Committee was desirous of providing sterilized milk for 100 infants, and an inquiry was made into the feeding of 1 595 infants. It was found that only 156, or 9 8 per cent., were fed artificially. As these were scattered in different parts of the town, it did not appear that the expense of the experiment would be justified. The most remarkable fact is the very large proportion of the infants which were fed from the breast. Compared with the eight Lancashire towns as regards infantile mortality Salford stands sixth, the rates being: Oldham, 155; Bolton, 167; Preston, 183; Manchester, 187; Blackburn, 192; Salford, 193; Liverpool, 196; and Burnley, 233.

There are some interesting points regarding diphtheria. There were 422 cases of diphtheria notified, with 116 deaths, equal to a death-rate of those attacked of 27 per cent. As to age, 366 cases, or 87 per cent. were children under 15, and 165 cases, or 39 per cent. were under 5 years of age, the mortality among the latter being very heavy, reaching 42 per cent. of the cases. The antitoxic treatment is now extensively used at the Ladywell Sanatorium. The medical officer was instructed to prepare a report to enable the Health Committee to judge whether the large expense was justified. Antitoxin treatment was begun in 1895, and the results of home and hospital treatment were compared. It appears that the death-rate since 1895 has slightly diminished in the hospital, whereas it has increased 33 per cent. in the home-treated cases. Thus apparently with a much more virulent form of the disease, the hospital mortality has remained at 20 per cent. As to expectation of life, the carefully-prepared tables show that a male child born in Salford had an "expectation of life" of 33 3 years, whereas in London it had 40 9 years, in Brighton 44 9, and in England and Wales 44.1 years. A Manchester-born child has an expectation of life of 34.7 years. By the time five years is reached, however, the Salford child of 5 has an expectation of life of 48 years, as compared with 45.6 in Manchester, and this improvement is maintained throughout the remainder of life. There is a higher expectation of life of females of all ages. Out of 100,000 females born, 63,909 reach 10 years and 31,012 reach 60 years. Out of a similar number of males, 60,296 reach 10 and 25,206 reach 60 years of age.

A committee appointed by the Education Committee—under the provisions of the "Relief (School Children) Order, 1905"—to prepare a report on underfed children at public elementary schools has presented an elaborate document. Hitherto voluntary effort was the only means of meeting the case. In 1904-5 the experiment was tried of charging 1d. each for dinners, whilst cases of necessity were reported to the office by the teachers. The demand for penny dinners gradually decreased, and when the number of meals supplied was at the highest point there were about 200 paying 1d. and 2,300 who were on the free list—that is, one meal per day for five days. The meal consisted of pea soup and bread, varied in certain cases by the provision of milk and bread on Fridays, served in the schoolrooms on the school desks, the teachers kindly giving assistance. The recent Order of the Local Government Board shows that both that Board and the Board of Education look to the co-operation of the local education authorities with the Poor-law guardians. The assistance to be given by the education authority must be strictly limited to administration, as opposed to actual expenditure; such expenditure has to be met by the guardians, the education authorities having no power to incur expense. The education authority has now the experience of twenty-six winters to rely upon. The object of the Local Government Board is to adapt certain provisions of the Poor Law to the relief of children (under the age of 16). The provision of schoolrooms, etc., was unsatisfactory. It is assumed that for the future special provision must be made in certain districts for supplying children with food. The number of daily meals provided will have to be decided by the guardians. The area embraced by the scheme has eighty-four public elementary schools, attended by 59,000 children, representing a population of 295,000. Going on the basis of last year's statistics, it is assumed that 10 per cent. of the public school children of the area, or 5,900, will require to be provided for. Assuming that 250 would be quite as many as could be catered for at one meal, and that each centre could be worked on a double-shift system, twelve centres would be required. Applications may be made to the guardians or the relieving officer, and may be made by the managers of a public elementary school, a teacher, or an officer duly empowered by the local education authority. The applications relate to children who may be sent to the school without proper nourishment (1) because the parents are permanently impoverished; (2) because of temporary illness, loss of employment, or other unavoidable causes; (3) because the parents, though capable of making this provision, have neglected to do so.

BIRMINGHAM.

Health of Handsworth.—Death of the Coroner for South-East Staffordshire.—The Midland Counties Home for Incurables, Leamington.

In his annual report for Handsworth Dr. Richmond, the medical officer of health, notes the increase in population from 53,000 in 1901 to 61,500 in 1904. There were 1,436 births registered during last year, 755 males and 681 females. The birth-rate was 23.4, which is less than in 1903, when it was 24 6. The deaths recorded were 754, which makes a death-rate of 12 2. The report is reassuring in that it shows that an increasing number of persons are being vaccinated. The deaths that have occurred from small-pox in this district during past years have been chiefly in adults who have not been vaccinated since infancy. Dr. Richmond urges revaccination in all adult persons. Only one case of small-pox has been notified during the past year, and there has been no death from this disease since 1894.

Widespread regret is felt at the death of Mr. Harry Arthur Pearson, M A., His Majesty's coroner for the South-East District of Staffordshire, who died at his residence at Handsworth from apoplexy. He was the eldest son of the late Mr. J. N. Pearson, of Forcroft, Handsworth, and a member of a large family well known and highly respected in the Midland

district. The late coroner was a barrister, and a member of the Oxford Circuit, and he acted on several occasions as deputy stipendiary magistrate for Birmingham. In his official capacity as coroner he made himself respected by the judgement and care with which he performed his duties. He was possessed of a large fund of humour, which endeared him to all who knew him. He was a Master of Arts of Cambridge, and President of the Graduates' Club. He took a prominent part in the public affairs of the city of Birmingham.

Some additions to the Midland Counties Home for Incurables in Leamington are to be built in memory of the late General Radcliffe, who took such great interest in the working of the Home. The first part of this memorial scheme is to be commenced immediately, and by its means accommodation will be provided for fifteen additional patients.

SOUTH WALES.

Crickhowell District Council.—Sanitary Committee, Glamorgan County Council.—Dairymen in Conference.—Cardiff Infirmary.—Small-pox at Pontypridd.

In his report to the Crickhowell District Council, Dr. Philip E. Hill, Medical Officer of Health, made the following important statement:

On August 26th Mr. Hurley received a telegram that a serious leakage had taken place in the Brynmawr sewer, and he at once communicated with the Brynmawr Council. On August 29th, in company with Mr. Hurley, I inspected the sewer, and found that at the west end of the portion above the Post Office, Clydach, a large overflow had taken place at an inspection chamber, the pipes having evidently been running under pressure above their normal capacity. At the time of my inspection the flow was within 1 in. of the top of the pipe, or practically a full pipe. The overflowing sewage had run half-way down the mountain side, judging by the nature of the vegetation. Such periodical leakages exist, and I may state that they occurred on nine different occasions. In order to obtain these dates, twenty-nine visits were made to this pipe line up to August 22nd by your officers—a task involving much sacrifice of time and labour, which should not be expected of them; and I would suggest that it should be under the daily supervision of an official appointed by the Brynmawr District Council, so that all leakages (and they are sure to be recurrent) should be immediately dealt with. Typhoid fever has been endemic amongst the population of Llanelly (Breconshire) for over thirty years, and an epidemic is still in progress, as demonstrated by the fact that 14 cases have been notified during the present year, 11 out of this number since June 28th. A water poisoned by typhoid bacilli has been allowed to flow as from a fountain during the whole of this period, from time to time, and has been the direct source of disease, suffering, and death to hundreds. There are various modes of dying (adds Dr. Hill). Familiar as I am with death in its manifold shapes, I cannot but feel that were a choice of the method allowed me, I would elect death by water poisoned by strychnine or arsenic in preference to water poisoned by typhoid, as being more rapid, more humane, and less costly, but I am very much inclined to think both are equally criminal. In these days of rapid progress of sanitary science it is a matter of astonishment and regret to me that any sanitary authority dares to continue to be the means of so much bodily suffering, sickness, and death as has been caused by this faulty sewer.

The Council decided that copies of the report should be sent to the Local Government Board, the Education Committee of the Breconshire County Council, and the Brynmawr Urban District Council.

The proposed county water scheme was again discussed by the Sanitary Committee of the Glamorgan County Council at their meeting held on September 8th at the County Offices, Westgate Street, Cardiff, when it was resolved that a conference, consisting of representatives of various district councils in the county and certain representatives of the Sanitary Committee, be held to discuss the question thoroughly, and the time and date of the meeting will soon be fixed. The annual report of the County Medical Officer for 1904 was received and a subcommittee was appointed to consider it. Dr. Williams states that:

There are several matters that yet require more attention by the Sanitary Committee—namely:

1. The sanitary inspection of schools, and the
2. Medical inspection of scholars.
3. The provision of sanatoriums for the poorer consumptives.
4. The veterinary inspection of dairy cattle and cowsheds.
5. The inspection of meat and other articles of food.
6. The amendment of the Rivers Pollution Prevention Acts, or the promoting of a Bill with a view of obtaining a special Act.
7. The prevention of the miners' disease—ankylostomiasis.
8. The county water scheme.

Although the county council has no direct control over several of the above, yet much can be achieved by urging and helping local authorities to carry out their duties. The consideration of the proposed county water scheme is a matter of the greatest importance.

The annual conference of the Federation of Dairymen and Cowkeepers' Associations was held at Cardiff Town Hall on September 12th, when the delegates were received by the Mayor, who assured the delegates that they need have no fear that the Cardiff Corporation would ever compete with them by inaugurating a municipal milk supply. Mr. A. Hailwood (Manchester), who was re-elected President, responded on behalf of the conference. The conference was resumed in the evening, when a discussion was opened by Mr. Hailwood on the food value of fluid milk as compared with that of condensed milk. It was pointed out that fluid milk contrasted very favourably with some of the condensed milk sold in tins, and attention was directed to the fact that in this country all dairies and cowsheds were regularly inspected and kept clean, whilst the authorities saw that the cows were healthy. As a result the public were supplied with pure fluid milk, but it could not be said that some of the foreign milks imported into this country came from clean and healthy farms. The farmers were robbed of a million of money annually by the sale of condensed milk, and all dairymen, said Mr. Hailwood, should see that they supplied their customers with milk of good quality, so that they would not adopt the practice of using condensed milk. A discussion then took place on the advisability of power being vested in county councils of preventing impure milk being sent into other districts. The Cardiff Corporation, it was intimated, were very strict with cowkeepers, and it was held that farmers in infected areas should be prevented from selling their milk after it had been condemned until the area had again been certified as healthy. Mr. Blackburn moved:

That the Federation, recognizing the importance of a pure milk supply, is of opinion that the responsibility of carrying out the Dairies, Cowsheds, and Milkshops Orders should devolve on the county councils rather than on district councils, and that no milk should be sold from any farm or cowshed until a certificate has been obtained that the premises are in a sanitary condition and the cows healthy.

The resolution was passed, and a copy ordered to be sent to the Local Government Board. Mr. T. Green (Cardiff) read a paper urging the importance of the provision of refrigerator vans for the conveyance of milk on railways.

The first annual charity trip in aid of the Cardiff Infirmary and Seamen's Hospital took place on September 12th, and was a great success. The excursion was to Weston, Clevedon, and Chepstow. The movement was inaugurated by Mr. W. Symonds (Chairman of the Red Funnel Line), with the object of assisting these institutions. The *Gwalia* was selected to convey the trippers. The Post Office band (by kind permission of Mr. Spenceley, Postmaster, Cardiff) was in attendance, and played selections of music. Mr. Symonds states the results, financially, have not yet been tabulated, but he believes the proceeds will be substantial.

Another case of small-pox has been notified at Pontypridd. The patient is a woman, and she has been removed to the small-pox hospital. The case is a mild one.

CORRESPONDENCE.

THE TREATMENT AND PREVENTION OF TUBERCULOSIS IN BRITISH COLUMBIA.

Sir,—In compliance with your request that I furnish you with some information regarding the existing conditions *re* tuberculosis in British Columbia, I beg to submit the following:—

The population of British Columbia is about 200,000. The deaths from consumption are over 200 a year. At the present time there is no special means of dealing with consumptives in our province; they are even refused admission to our general hospitals. As a result, consumption is on the increase in British Columbia, and most unquestionably will continue to increase in more than ordinary proportions for the reason that our climate has a certain reputation in Eastern Canada and even in England, and numbers of afflicted ones come to our country too often with the saddest results. I have known of more than one death among consumptives neglected and alone in out-houses and deserted shacks, and it is felt in British Columbia that this state of affairs should not be permitted to continue. Consequently the following action is being taken:

A British Columbia Society for the prevention and cure of tuberculosis has been formed. Amongst its many objects are: First, that every effort be made to construct, equip, and main-

tain a sanatorium for the care and cure of consumptives. Secondly, that the Association encourage the formation of local societies, the objects of which are to be:

(*a*) To collect funds for the maintenance of a consumption sanatorium.

(*b*) To look after the interests of local consumptives.

(*c*) To establish a course of lectures on consumption and insanitary conditions favourable to it in our public schools.

(*d*) To ask for a municipal grant from local authorities towards the maintenance fund.

(*e*) To ask clergymen of all denominations to devote one Sunday sermon in each year to health matters, referring especially to consumption, the collection to go towards the maintaining of the consumption sanatorium.

Local societies have already been formed in most of our principal towns, and it is hoped that by the end of the year every town, village, and district in British Columbia will have its society.

The funds collected are passed into the hands of three trustees, who are public men of high standing—namely, the Chief Justice of the province and the managers of two of our leading banks. The principle adopted is to ask for small subscriptions, so that all classes can join. Each subscriber is asked to sign a paper agreeing to continue his subscription every year for ten years.

It is hoped that when a maintenance fund of reasonable proportions is thus secured for a term of at least ten years that there will then be no difficulty in raising sufficient money to build and equip an institution worthy of the proposed work.

I believe we have in the Kamloops district in British Columbia such conditions as should make it second to no other location for suitability as a site for sanatorial purposes. I happen to have before me my official report for the year 1902, in which, referring to a site for a sanatorium, I find the following:

> Kamloops is on the main line of the Canadian Pacific Railway, about 250 miles from Vancouver. It has an elevation of 1 100 ft., and is within what is called the "Kamloops Dry Belt." This dry belt extends from Spence's Bridge to Shuswap, and from about fifty miles up the North Thomson River to below Nicola Lake—roughly, 100 miles by 100.

The official reports for 1900 give the highest temperature as 93 4°, and the lowest as 10.1°. It is only right to say that both extremes last but a day or two. The official reports state that the lowest temperature reached in December was 16°, and in January 15 4°.

The rainfall for the year was 8.45 in., and for five months, from November to March inclusive, was 2.09. This, for Kamloops, was a high rainfall, for the average of a group of previous years was 6 25 in., and the average for a group of previous winter months was 1.55 in. The snowfall is light, being, for 1900, 2 in. in January, 0 8 in February, 1 in March, 2.2 in November, and none in December, which means that snow will never prevent outdoor recreation and exercise.—I am, etc.,

C. J. FAGAN,
Secretary, Anti-Tuberculosis Society for British Columbia, and Secretary, Provincial Board of Health for British Columbia.

London, W.C., Sept. 18th.

SELF-SUPPORTING SANATORIUMS FOR CONSUMPTION AMONG THE WORKING CLASSES.

SIR,—An organization has been formed to carry out the above-named important object. How important it is can best be realized by a consideration of statistics which Dr. Latham submitted at the last annual meeting of the Hospital Saturday Fund. He stated that in London alone 10 000 persons die every year whose valuable lives might be saved with proper treatment, to say nothing of the thousands who are slowly moving to their doom.

Again, taking London by itself, he computes that no less than 80,000 of its population are stricken with one form or another of tuberculosis, and makes the startling deduction that one in every sixty-five will be dead in five years' time from a preventable disease.

The monetary loss to the industrial classes is appalling, and though there are no actual figures to go by, some comparative idea can be formed by the estimate, which Dr. Herman Briggs, the well-known health officer of New York, calculates, costs £60,000,000 annually to the United States.

Owing to the work of the Poor Law Unions and the few Consumption Hospitals and the National Association for the Prevention of Consumption, in which His Majesty the King takes a deep personal interest, the death-rate from tuberculosis has been reduced during the last sixty years by no less than two-thirds, which means a saving of 75,000 lives a year.

The National Committee, of which Her Royal Highness Princess Christian is President, has been established under the auspices of the Hospital Saturday Fund, for the establishment of sanatoriums for workers suffering from tuberculosis; it is an exceptionally representative body, including delegates from practically all the great Friendly Societies and trades-unions, and the work is receiving enthusiastic support in all directions.

The Special Appeal Committee consists of Her Royal Highness Princess Christian of Schleswig-Holstein, Her Highness Princess Victoria of Schleswig-Holstein, the Duchess of Somerset, the Marchioness of Londonderry, the Earl and Countess Cadogan, the Earl and Countess of Derby, the Bishop of Stepney, the Lady Brassey, the Lady St. Heliers, the Hon. Harry Lawson and Mrs. Lawson, the Hon. Mrs. William West, Lady Duckworth, Sir William Taylor, Captain Balfour, M.P., and Lady Nina Balfour, Mr. Moore Bayley, Mr. Walter Burns, Mrs. James Coats, Mr. Eric Hambro, M.P., and Mrs. Eric Hambro, Mr. Charles and Mrs. Rubé, and Mr. Van Alen, and it appeals to the public for £50,000 to provide the building and acquire the site for a first sanatorium for the accommodation of 200 patients. About £6,000 has already been promised, and a suitable site has been secured at Benenden, Kent.

The various societies and trades-unions guarantee the cost of maintenance, but under the terms of their constitution, they can only make small donations towards the building and purchase of land. The sanatorium, therefore, will be self-supporting, and no appeal for funds will ever be made to the public again.

The following extract from Dr. Latham's address is extremely interesting from the economic point of view:

"Mr. Alfred Chapman and Mr. Russell, of the Ancient Order of Foresters, have made an important investigation into the cost of consumption to a single court of the Ancient Order of Foresters. The result of this investigation is so striking that there is reason to hope that all the Friendly and Allied Societies will make exhaustive inquiries into the subject. Mr. Russell finds that the average cost of sick pay to a consumptive member of his court is three times as great as the pay to any person dying from another disease. A man dying from consumption costs the society £21, and a man dying from another disease costs £7."

In pressing this appeal, enough has been said to bring home to the public the awful condition of things which this movement is organized to cope with; no words are needed to make it more impressive—the pathos lies in the figures quoted above. In this sense it must appear personally to every one, but it gains additional force, in that it is economically sound and its working is based on the principles which govern the great industrial benefit societies, and applies the sound principle of thrift to the greatest of all blessings, health. It is a practical movement against one of the worst scourges of our country, and in this sense becomes a truly rational one.

The Special Appeal Committee earnestly invites employers of labour, trades' unions and Friendly Societies who have not yet joined the movement to do so. The Secretary, Mr. E. Douglas White, will be pleased to give full particulars to any one applying to him.

Donors of £10 10s. and upwards will be entitled to have their names recorded as founders of the Institution; and donors of £250 and upwards will, in addition, be entitled to name a bed. Donations should be sent to Mr. E. Douglas White, Secretary to the Special Appeal Fund, at the offices of the Committee, 19, South Molton Street, Bond Street, London.

We are, etc.,

HELENA, *President*.
A. WILLIAM WEST, *Treasurer*.
E. DOUGLAS WHITE, *Secretary*.

THE PREVENTION OF CONSUMPTION.

SIR,—The paragraph in the BRITISH MEDICAL JOURNAL of September 16th, p. 664, concerning Australian sanatoriums for consumptives is misleading, inasmuch as the Wentworth Falls Sanatorium is not the only one in existence. In the last edition of my book on Sanatoriums for Consumptives a number of others are referred to. Some are, no doubt, more strictly speaking, chest hospitals or convalescent homes for con-

sumptives, but this cannot be said of the James Brown Sanatorium and the Nunyara Sanatorium at Belair, near Adelaide.—I am, etc.,

Crooksbury Sanatorium, Sept. 16th. F. RUFENACBT WALTERS.

THE OPEN-AIR TREATMENT OF CONSUMPTION.

SIR,—Dr. Weatherly is reported as having said at the Leicester meeting: "I will not use the word 'cured,' because I believe that once a consumptive always a consumptive; and however you may treat a sufferer from the disease, he is always a creaking door, and if not looked after he must collapse."

This is a great swing of the pendulum, but I feel sure it is the opinion of the majority of medical men; but how can it be reconciled with statistics of various sanatoriums, in which cures reach even 90 per cent. in slight cases? My own feeling is that "cure" is the wrong word. To be cured there should be neither symptoms nor physical signs. Of over a dozen cases I have sent to sanatoriums during the last two years not one has returned without either symptoms (cough, etc.) or physical signs, and the general practitioner who knows his patient sends him to the sanatorium and watches him afterwards is undoubtedly the best judge as to whether he is cured or not. My point is that these statistics of cures do harm, for the patient is naturally very disappointed to find there is still something wrong after some months' residence in a sanatorium. I have no doubt about the good produced by the treatment, but I have great doubts about the cures.—I am, etc.,

Bath, Sept. 20th. W. H. COOKE, M.D.Brux., F.R.C.S.Eng.

IDIOSYNCRASY IN REFERENCE TO MUSHROOM POISONING.

SIR,—With reference to Mr. Jonathan Hutchinson's letter on this subject in the BRITISH MEDICAL JOURNAL of September 16th, I think the case described below will be of interest, although I do not consider idiosyncrasy is proved. The symptoms described by the patient, however, are very typical of the cases mentioned by that gentleman.

Sergeant-Major L., R.G.A., picked some mushrooms on the morning of September 7th; these he and his wife had for breakfast, a friend of his also partaking of them. Twenty-four hours later, on waking up, he felt as if there was a lump in his chest, and he had great difficulty in breathing; he, however, had some breakfast and went to his work. One and a-half hours after the first symptoms the pain in his chest became very acute; it commenced just below the ensiform cartilage and passed to the back of his chest and under the left shoulder blade.

The pain he described as of a piercing character, and he found the greatest difficulty in breathing; he states he had never suffered such agonizing pain in his life; it became so severe that he had to leave his work. He also states that he had a feeling of numbness in his left arm. The pain continued very severe, and was so acute in the evening that a hypodermic injection of morphine was given; this and mustard poultices to his chest gave him relief. Next morning the pain was not nearly so severe, but he still had great difficulty in breathing.

He states that his mouth was very dry and continued so for forty-eight hours after the first symptoms. A few days later he had a very slight attack of jaundice; his conjunctivae were yellow. I did not test his urine for bile, but from his appearance I have no doubt it was present. The pain and difficulty of breathing continued for several days (five or six), but not of the same acute character, and though now free from all pain he still states he has a feeling of tightness over his chest and cannot breathe as freely as before. He had no diarrhoea or vomiting, and no pain whatever in the abdomen. The sergeant-major states that his wife vomited after eating the mushrooms, but his friend who ate them had no symptoms of illness whatever. The patient states he has eaten mushrooms hundreds of times, but was never ill after doing so before.—I am, etc.,

L. T. NASH,
Military Hospital, Golden Hill, Isle of Wight, Sept. 18th. Lieut.-Col., R.A.M.C.

A SANATORIUM FOR CONSUMPTIVE CHILDREN.

SIR,—As Chairman of the Committee of the proposed Children's Sanatorium, and one of the signatories to the appeal recently published in the newspapers, I desire to make some observations upon the article which appeared in the BRITISH MEDICAL JOURNAL of September 9th, p. 599. To deal with the points raised *seriatim*:

1. The Committee fully realizes that the period must be long during which the child patients are kept at the sanatorium, and the cost will doubtless be considerable, but the question of duration of residence, and consequent expense, can hardly be used as an argument against the necessity and desirability of providing such a sanatorium as is proposed. Similar sanatoriums are to be found in France and elsewhere. Moreover, the Committee hope that, apart from the endowment of cots, and annual subscriptions and donations, help will be forthcoming in the shape of contributions from friends of the patients, and from parochial organizations, charitable societies and other hospitals, which may send children for special treatment at the sanatorium.

2. There are three doctors upon the Committee, as the enclosed prospectus will show: one, the Secretary of the Kelling (C. O. S.) Sanatorium; another a well-known lady doctor who has herself founded and maintains more than one sanatorium for adults; and the third, a visiting physician to the London Homoeopathic Hospital.

3. As the appearance of this gentleman's name is particularly animadverted upon in your article, it may be said that from the first inception of the scheme, he has given valuable advice, and has rendered great service to the Committee.

4. The sanatorium, however, will not be worked upon homoeopathic lines, and as the main part of the treatment will consist of skilled nursing, fresh air and sunshine, and good food, together with suitable physical exercises, the question of homoeopathy or allopathy will hardly arise.

5. The medical supervision will probably at first be given by a visiting physician from a neighbouring town, and as the number of patients increases a resident doctor might be employed. The Committee, however, have not yet fully considered this matter since the scheme is only in its intial stage as yet.

I may add that much welcome support has been received already from various sources, but a great deal remains to be done before the amount asked for is obtained, so that I earnestly ask you to give my letter the same publicity which your article has received, and I trust you will be able, after reading my reply to your criticisms, to recommend, unreservedly, this splendid scheme to the many readers of your JOURNAL.—I am, etc.,

EDWIN C. BEDFORD.

The Rectory, Great Ormond Street, W.C., Sept. 14th.

DYSENTERY AND ITS TREATMENT ON ACTIVE SERVICE.

SIR,—Surgeon-Major Hutton[1] is quite right in attributing the ipecacuanha treatment of dysentery to the late Surgeon-Major Docker. He first tried it in Mauritius, and when he went to Ceylon in 1861 his plan was to administer 20 to 30 gr. ipecacuanha, the patient having taken 20 to 30 drops tr. opii fifteen minutes previously; at the same time a mustard plaster was applied to the epigastrium. In case the drug was not retained it was repeated, but the opium and mustard generally prevented vomiting. Profuse sweating followed, with relief to symptoms. A second dose was occasionally required—rarely a third, provided the case was not more than of two or three days' standing.—I am, etc.,

OWEN OWEN,
Cheltenham. Brigade-Surgeon (retired).

HAY FEVER, CHRONIC RHINITIS AND ASTHMA.

SIR.—As "M.D." has so courteously supplied that further explanation of his views on the sources of the "mechanical energy of the human body" for which I was genuinely anxious, I can do no less in thanking him than drop the note of personal badinage.

I speak only the literal truth when I say that I am glad to know that by an alteration in his habits "M.D." has succeeded in ridding himself of so distressing a complaint as asthma, but at the same time I dissent as strongly as possible from the conclusions which he has drawn from this experience, unsupported as it is, as far as his letters go, by any similar results in his own practice.

"M.D." challenges me to "compress into a shorter name the ideas conveyed in his somewhat long term covering his view of the complex pathology of asthma." Well, I think "respiratory catarrh" would meet the case, but I do not want either to compress or to expand his meaning. If asthma is synonymous with catarrh of the various portions of the

[1] BRITISH MEDICAL JOURNAL, August 19th, 1905, p. 383.

respiratory mucous membrane enumerated in his definition, how does he account for the extremely common cases of such catarrh which are familiar to every one, but which present none of the symptoms ordinarily connoted by the word "asthma?" Whatever asthma may be, it certainly is not "catarrh" or any other kind of inflammation; and no preliminary array of Greek roots or even Sanskrit roots will justify a definition that ends with the Greek word "catarrh." Such an attempt at "definition" is merely a misleading confusion of ideas.

However, the main point of "M.D.'s" letter is the attempt to justify his statement that the food we take is not the source of the energy of the body. It is here that his mind soars into those transcendental regions whither I follow him with diffidence. He asks us to believe that this energy, instead of being liberated by the chemical processes going on in the body, is somehow "received" during sleep, which "enables the body to receive an amount of vital energy from the limitless stores surrounding it." This is very pretty and very transcendental, but, as Bishop Butler said of the doctrine of Necessity, "Even if it be true, it is for us as though it were not true," and I fail to see that "M.D.'s" somewhat nebulous dissertation on the relation of matter to gravitation adds any plausibility to his contention. However, he says, after drawing various analogies, "I conceive, then, that vital energy bears to the body the same relation that electrical energy bears to the tram motor." Herein I agree with him entirely, but I must remind him that the current in the overhead wire does not get there mysteriously out of the "*Ewigkeit*," but is the direct outcome of the combustion of certain tons of coal at the nearest generating station! "M.D." admits that the combustion of food is the source of the heat of the body; he admits that it might be partially converted into energy, but refuses to admit that any of it is actually so converted. He prefers the hypothesis that mechanical energy drops down to us in some mystic fashion from interplanetary space. Now we know that the best modern steam engine, in developing the energy demanded of it, wastes from 80 to 90 per cent. in the development of heat. The proportion is probably similar in the case of the living body, but the superiority of the body as a machine lies in this, that both heat and energy are required and used.

When "M.D." comes down from this doubtful dealing in imperfect analogies to mere facts and figures he betrays the same habit of loose thinking. In basing certain conclusions on his observation of a single case, he is content to tell us that he "roughly calculated that it requires the expenditure of 780 foot-pounds of heat energy to raise 1-lb. weight of the human body 1° F. in temperature." After this we are not impressed by his dictum that "on anything like this basis it is impossible to account for my patient's work out of her food." Quite so. "Rough calculations" are no use in physiology, and I recommend to "M.D." a reperusal of Sir Michael Foster's textbook.

The fact is, Sir, that the processes which lead to the production of energy in the mammalian body are so well ascertained, and so perfectly analogous to the processes of other forms of the conversion of energy, that it would only be waste of your valuable space to write any more in demolishing the fanciful and ill-considered theories of "M.D."—I am, etc.,

Leigh, Lancashire, Sept. 16th. FRED. E. WYNNE, M.B.

THE IMPORTANCE OF VAGINAL EXAMINATION EARLY IN PREGNANCY.

SIR,—Under the above heading an anonymous country doctor in the BRITISH MEDICAL JOURNAL of September 16th gave short notes of two recent cases where, for want of it, Cæsarean section had to be resorted to on account of tumour obstruction. Now I have no doubt that most medical men could cite similar cases, and others where the routine practice of early vaginal and, I would add, abdominal examination would have prevented many of the accidents of pregnancy. Some of the most painful cases I have seen in this connexion have been those of false pregnancy, where patients, after engaging doctor and nurse, and made the other needful preparations, are, after months of joyful expectation, confronted by the ghastly fact that they are not pregnant at all.

Many years ago I remember being called in to assist in a supposed difficult labour, where I found the patient in bed tugging at a roller towel and being assisted in her efforts by sympathetic neighbours, and it certainly was not likely to increase her respect for the profession to be told that her baby clothes would not be required.

It seems to me remarkable that our schools of medicine should allow men to enter upon practice so careless of the grave responsibility which a midwifery engagement involves; that in very few cases do they do more than enter the name and address amongst their engagements, with frequent results such as in your correspondent's practice and others with a less happy ending. Every medical man should adopt the custom of satisfying himself by a full examination as to the local and general condition of the patient, and decline to attend any one who refuses this necessary measure. Moreover, he should make it a point to keep the selection of the nurse in his own hands. Many painful recollections of lives sacrificed through ignorance and carelessness, when the usual method of leaving it to the patient or her friends makes me emphasize this precaution.—I am, etc.,

Nottingham, Sept. 19th. GEORGE ELDER, M.D.

SIR,—In reply to "A Country Practitioner of Twenty-five Years' Standing" on the importance of vaginal examination early in pregnancy, I should like to say that when I learnt my midwifery at the Victoria University and St. Mary's Hospital for Women, Manchester, the importance of this early examination was always insisted upon by Sir William Sinclair and Dr. Donald, my teachers, and that I have found it recognized and practised by all men who conduct their cases in scientific method.

I need hardly say it is my own practice; and in the case of so-called "good-class" practice, as my midwifery practice is, a simple statement of its importance quite reconciles the patient to the procedure in the large majority of cases. In the one or two instances where there has been any demur and the necessity questioned, I have adopted the plan of saying that *not* to examine as I propose incurred a certain amount of risk to the patient of later complications, but that if she chose to run them I had done my duty in warning her and suggesting the precautionary treatment.—I am, etc.,

A TOWN PRACTITIONER OF SIX YEARS' STANDING.

September 16th.

TEETHING AND CORNEAL ULCERS.

SIR,—Dr. A. G. Fraser draws attention in the BRITISH MEDICAL JOURNAL of September 16th to the fact that at this year's meeting of the Section of Dental Surgery no mention was made of the relation between "dentition and corneal ulcers," I presume as an example of reflex irritation. Is it not time this respectable but antiquated bogey were buried? I feel so confident that the perpetuation by the profession of the fallacy that teething is the cause of so many ailments is accountable for many deaths, because, instead of going deeper for the cause of an illness, so many rely on the diagnosis of teething, and it may be as a cloak also for ignorance. If this purely physiological process—namely, the normal growth of the teeth causing absorption of the gum, does lead to such pathological conditions as corneal ulcer, convulsions, eczema, bronchitis, etc., then why not account for "growing pains" in the same way? We hear a great deal of the diseases of dentition, but never as the result of carious teeth, which most adults know from experience can be painful enough, nor yet of any disturbance from an impacted wisdom tooth. Strange that so much reflex mischief should follow one particular physiological process. A whole mass of semi-digested, fermenting, and decomposing food may pass down a long length of highly sensitive intestine, inflating the same with the products of decomposition, pressing upon plexuses of nerves, setting up a poisoned state of blood, yet nothing is heard of it; but a harmless and necessary tooth is no sooner found exposed than all the previous ailments are at once put down to its charge.—I am, etc.,

Darwen, Sept. 18th. F. G. HAWORTH, M.B., C.M., D.P.H.

TREATMENT OF RINGWORM OF THE SCALP BY THE X RAYS.

SIR,—I must congratulate Dr. Macleod upon the very ingenious apparatus which is figured in the BRITISH MEDICAL JOURNAL of September 16th for the treatment of ringworm of the scalp by the x rays.

Considering that we have at present no really reliable radiometer to measure the rays directly, and that when various tubes are used under apparently similar conditions, the readings of the radiometers are not comparable as regards therapeutic effect. The idea of regulating the exposure by the number of interruptions in the primary circuit is certainly an improvement on present methods, though it may seem like a

step in the wrong direction to depend upon the measurement of the ingoing current, when the output of rays which it will develop may be modified by so many conditions, both in the coil and tube.

The adoption of this method renders it necessary for each worker to determine experimentally for each apparatus which he has in his charge the number of interruptions necessary to produce a defluvium; but once this has been done it would seem that the method is capable of being rendered almost automatic provided that all the other conditions can be kept constant—namely, voltage in primary, dip of contact breaker, current in secondary, vacuum of tube, and distance of the patient from the anticathode.

Being impressed by the rather unsatisfactory state in which x-ray dosage at present is, I have preferred, in treating ringworm, to give frequently-repeated exposures, and watch the reaction as it develops, rather than give a large dose at a single sitting. I consider it to be as good a method as can at present be employed, depending as it does for its safety and efficacy merely upon the operator's accuracy of observation, backed by experience.

Where the disease is at all extensive I have found it essential to remove all the hair from the head, and not only from the affected areas, as when any hair is left recurrences are very liable to occur when the diseased hair begins to fall.

Where an extensive epilation is desired the treatment by a single sitting is not readily applicable, for the circular areas which are treated leave untreated patches in the angles between them, which it is very difficult to deal with.

With the method of repeated exposures a much larger area can be exposed at one time, for the tube may be placed at a greater distance; in fact, I find it possible to treat the whole hairy scalp in four exposures.

I have two masks made which fit over the children's heads, one having a strip of lead foil 3 in. broad running from back to front, thus protecting the portion of the scalp underneath it from the action of the rays, and leaving the sides open, the other having the sides covered with lead foil, but the back and front unprotected. Four scalp areas are thus marked out—back and front, right and left sides—and the masks protect the parts not under treatment. An exposure of ten minutes' duration is given on each of these areas twice a week at a distance of 8 in. from the anticathode, and at the end of a month the hair begins to get loose, and the scalp shows signs of erythema. The rays are then stopped, and in a week or ten days the scalp is bald, and the child can be pronounced free from infection.

I have treated over 50 cases by this method, both at the Liverpool Skin Hospital and also in private for Dr. Stopford Taylor, and have never seen a permanent alopecia produced.

As the method is very simple in its application, and requires no apparatus beyond the lead masks, I have thought that some of your readers who possess coils might care to give it a trial.—I am, etc.,

Liverpool, Sept. 19th. WALTER C. ORAM.

PUBLIC VACCINATORS AND GENERAL PRACTITIONERS.

In the editorial note appended to the letter of "C. R. J.," published last week, p. 681, there was a printer's error which unfortunately escaped correction in proof. The first sentence should have read: "It is not legal for a vaccination officer or a public vaccinator to approach parents and offer to vaccinate until the child has reached the age of 4 months, unless the parents make a spontaneous request for the services of the public vaccinator."

ROYAL NAVY AND ARMY MEDICAL SERVICES.

EFFICIENCY OF THE ARMY MEDICAL SERVICE.

Miss F. Lankester, Secretary of the National Health Society (53, Berners Street, Oxford Street, London, W.), writes: In your "Notes of the Royal Navy and Army Medical Service," in the British Medical Journal of September 9th (p. 610), reference is made to the training in hygiene and sanitation given to quartermasters at Aldershot just before the South African war.

Your correspondent there states that these officers were examined by the Royal Sanitary Institute, which may be correct, but certainly many of them were examined by the National Health Society, and received certificates from this Society.

The excellence of the papers sent in by many of the quartermasters at these examinations showed the interest taken by them in the subject, and bearing in mind the duties of the regimental quartermaster, there can be no question as to the value and importance of such training to these officers and to the troops, whose health depends so much on the cleanliness and sanitation of their quarters.

It is much to be desired that the training of quartermasters of the army in hygiene and sanitation, which was probably interrupted by the war, may not only be continued but extended.

MEDICO-LEGAL AND MEDICO-ETHICAL.

THE CORONER FOR SOUTH-WEST LONDON.

An inquest was held at Battersea on Wednesday, August 30th, by Dr. Henslowe Wellington, acting as deputy for Mr. Troutbeck, the coroner for South-West London, on the body of Francis Percival Phillips, a tobacconist, aged 48.

The evidence showed that on Saturday, August 26th, the deceased left his house apparently in good health and cheerful spirits. Two hours later he was found dead among the bushes on Wandsworth Common by a keeper. His throat had been cut; a blood-stained razor was found close to his right hand: under his body was a phial (cork, and on search being made a bottle which had contained oxalic acid was found. Medical evidence as to the cause of death was given by Dr Freyberger. Having examined the body, he was of opinion that the deceased had drunk oxalic acid, and then cut his own throat: death was due to loss of blood and suffocation consequent on the wound in the throat.

This evidence having been given, the Deputy Coroner commenced to sum up the case, when Dr. H. B Greene asked whether all the witnesses had been called. Having been informed that this was the case, so far as the Deputy Coroner was aware, Dr. Greene said that he had been called by the police. The Deputy Coroner then asked the jury if they were satisfied with the evidence, and an affirmative reply was given. The following remarks were then exchanged:

Dr. Green: Then I want to make a statement. Is it usual for the medical man who attends in such a case, which might very well be taken for one of murder, to be ignored at the inquest?

The Deputy Coroner: The jury have said they are satisfied with the evidence they have heard. I can hear no statement from you in open court. If you wish to raise any question of principle I can hear you afterwards in my private room.

Dr. Green: It is to my mind a scandal that the case should not be investigated properly. I wrote to you and I wrote to the coroner about it, but I had not even the courtesy of a reply. The bottle was not found until I suggested it.

The Deputy Coroner: I do not know about your letter just now—that is not the point. The foreman has already said the jury are satisfied with the evidence.

Finally the jury returned a verdict of "Suicide."

THE ETHICAL POSITION OF A MEDICAL OFFICER TO A SANATORIUM OWNED BY LAYMEN.

O. A. S. writes: In what way does the General Medical Council view the position of a qualified and registered man who acts as medical officer to a sanatorium for phthisis, the proprietorship of which is in lay hands? Is there any objection, ethical or otherwise, to a man accepting such a position?

*** The only pronouncement made by the General Medical Council which has any reference to the association of medical practitioners with lay bodies is that of June 6th, 1800, which expresses disapproval of medical practitioners associating themselves with medical aid societies which systematically practise canvassing and advertising for the purpose of procuring patients. There is no reason to believe that the Council would extend this disapproval to a sanatorium for phthisis any more than it has done to hydropathic establishments and lunatic asylums; and in principle there is no objection, ethical or other, to the acceptance of the medical officership to a sanatorium owned by laymen.

THE USE OF MEDICAL NAMES IN TRADE ADVERTISEMENTS.

Dr. A. G. Bateman (General Secretary, Medical Defence Union) writes: In reference to the letter in the British Medical Journal of September 16th, headed The Use of Medical Names in Trade Advertisements, I am directed to state that Mr. McAdam Eccles, F.R.C.S., placed the matter of the unwarrantable use of his name in the advertisement referred to in our hands, and we at once wrote to the advertising firm calling for its withdrawal. The firm in question immediately apologized for the said use, and stated that they had instructed their agents to withdraw the name of Mr. Eccles from all advertisements in future. This result was most satisfactory, and it would be advisable if other medical men whose names are used in a similar manner were to take the same course adopted by Mr. Eccles.

PAYMENT OF *LOCUM TENENS*.

"Beacon" writes that he engaged a *locum tenens* to act for him from Monday evening, August 28th, for two weeks, but asked him to come at 2 p.m. on the Monday to be introduced to some of his patients. He returned from his holiday on Monday, September 11th, and relieved the *locum* on Tuesday morning at 9 a.m. On proceeding to settle, he was surprised by a demand for an extra day's payment. He wishes to know whether this demand was legal, equitable, or according to the recognized usage of the profession.

*** It would appear that the engagement of the *locum tenens* properly terminated at 3 p.m. on Monday, September 11th. As he acted for our correspondent till Tuesday morning, he was clearly entitled to an extra day's payment.

OBITUARY.

JOHN HALL, M.R.C.S.,
Sheffield.

MR. JOHN HALL, who had been in failing health for some time, passed away on September 10th, in his 78th year.

He was born at Greasboro', near Rotherham, of which place his father, the late Rev. Francis Hall, was the vicar. He was one of a large family, and was himself the third and last-surviving son. He was educated at Christ's Hospital, and later entered the Sheffield Medical School. After obtaining the diplomas of M.R.C.S.Eng. and L.S.A., he became Assistant, and afterwards House-Surgeon at the General (now Royal) Infirmary. On leaving this institution he started private practice in partnership with late Mr. Edward Martin, and was a most successful practitioner. For many years he was surgeon to the Post Office.

For some time past, owing to failing health and advancing years, his active connexion with the profession had ceased. He leaves a widow, a daughter, and two sons. Of the latter, Mr. T. Walter Hall is a well-known solicitor, and the other, Dr. Arthur Hall, is physician to Sheffield Royal Hospital.

Mr. Hall was held in high esteem by his professional brethren, an esteem which his long and honourable career had justly earned, and among his patients he counted many life-long friends.

His death is another link gone with the past. All associated with the Royal Infirmary on the medical staff and Board of Management at the time he was House-Surgeon have long since passed away. The old order has given place to new, and it is interesting to recall that the in-patients at that time numbered less than 1,000 annually, against nearly 4,000 last year; and whereas the operations in one year about that time were returned as 33, the last year's record reached a total of 2,800.

FARQUHAR MATHESON, M.B., C.M.

THE death of Dr. Farquhar Matheson, of Soho Square, at the end of last month, removes one of the most prominent personalities in the Scottish strongholds of London. He was a cadet of an old Highland family, and was born at Dornie, Kintail, in Ross-shire, in 1840; he studied medicine both in Glasgow university and in that of Aberdeen. In 1868 he graduated M.B., C.M. at the latter, and after spending a couple of years in the tenure of various appointments he took up his residence in London, and remained in practice there up to the time of his death. He turned to ear and throat work early in his career, and having studied the subject under Dr. Harvey at the Royal Ear Hospital in Dean Street, Soho, he was eventually elected Surgeon to that institution, and continued to perform the duties of the office until quite recently. Other professional appointments which he held were those of Honorary Aural Surgeon to the Royal Caledonian Asylum, Honorary Surgeon to the Scottish Hospital Corporation, and Surgeon to the British and Foreign Musical Society, and to the Jew's Free School. He was also a Fellow of the Otological Society of the United Kingdom and a member of the British Laryngological and Rhinological Association. He belonged likewise to the British Medical Association and contributed to the BRITISH MEDICAL JOURNAL a few papers on laryngological subjects.

Personally Dr. Matheson was a typical Highlander in the best sense of the term, of commanding presence, pleasing address, and unbounded hospitality. He was thoroughly versed in Gaelic lore and a good speaker in the language. To give a complete account of his career in this connexion would necessitate a history of the whole Scottish movement in London during the past thirty-five years. The fortunes of the old Gaelic Society, now a powerful and influential body, were at a very low ebb when he first came to London. He was its President for several years, and it was to his activity that its revival was greatly due. For fifteen years he held a commission as Surgeon in the London Scottish Volunteers and started the annual contests for Scotsmen which are now one of the best recognized events of athletic London. He also took part in the movement which led to the establishment of occasional Gaelic services at the Scottish Church in Crown Court, and was a Governor of the Royal Scottish Corporation. With the Highland Society of London (part of whose work it is to assist deserving Gaelic-speaking students by bursaries to a university career) his connexion was long, close, and invaluable. He was its joint honorary secretary for the long period of twenty-five years, and gave up the work only this year. Allusion to his impending retirement was made at the last annual dinner of the Society, when the Prince of Wales was present as a guest, by the President, the Marquis of Tullibardine. Owing, he said, to his advancing age, Dr. Matheson felt unable to continue the work any longer, and they would thus lose the aid of a man who had rendered them such magnificent service and who had been their right hand and counseller for more years than the speaker could remember. Shortly after this dinner a large sum of money was collected with the intention of making a suitable testimonial to Dr. Matheson, but his death occurred before the final arrangements connected with the project could be completed.

Dr. Matheson—who, it may be noted, was also on the Commission of Peace for the County of London—was married, and is survived by a wife, two daughters, and one son, the latter being a member of the medical profession.

JOSEPH GREASLEY, M.R.C.S.Eng., L.R.C.P., L.R.C.S.Edin.—Many of our readers will hear with deep regret of the death of Dr. Joseph Greasley of Leicester, which occurred from pericarditis at the beginning of this month, after an illness lasting little over a fortnight. Dr. Greasley received his medical education at Edinburgh, where he gained a silver medal both in chemistry and in anatomy. He became M.R.C.S.Eng. and L.R.C.P., L.R.C.S.Edin. in 1877, and eventually took up his residence in Leicester. At the time of his death he had been engaged in general practice in that town for nearly thirty years, and during that period devoted a good deal of his time to the affairs of the Wycliffe Society for Helping the Blind. He had under his charge all the blind in Leicester in whom the Society interested itself, and attended also to the medical requirements of the residents in the Wycliffe Cottage Homes for the Blind. The loss of his generous and ready assistance must be a serious blow to this Society, and will be felt in other quarters likewise. He was a member of the local Division of the British Medical Association and on the Executive Committee for the annual meeting in July last, and the esteem and respect in which he was held by his colleagues is sufficiently evidenced by the fact that, in addition to the presence at his funeral of a number of medical men in a private capacity, the Association was officially represented by Dr. Astley Clarke, the Honorary Secretary of the Midland Branch. The Wycliffe Society and the Prudential Assurance Company also sent representatives. Dr. Greasley was married, and has left a widow and one son, to whom we tender our sympathy.

SURGEON WALTER MOSES GIBAUT, Army Medical Service, retired, died at Surbiton on September 6th, aged 73. He entered the service as Assistant Surgeon, February 3rd, 1854; became Surgeon, September 22nd, 1863; and retired, October, 1871. He was in the campaign in the Crimea from February to August, 1853, and was at the siege of Sebastopol, receiving the medal with clasp and the Turkish medal.

THE death is announced of Dr. SARAH B. FLEMING, one of the pioneers of the woman-doctor movement in America, and the first woman upon whom the University of Syracuse, in the State of New York, bestowed a degree in medicine. She was born in Bradford, Pennsylvania, some seventy years ago, and received her degree in 1873. She was a member of the New York State Medical Society and of the Medical Society of Washington, and carried on the practice of her profession in Washington, Baltimore, and Rochester, but for some years past had lived in retirement in California.

PUBLIC HEALTH
AND
POOR-LAW MEDICAL SERVICES.

WATER SUPPLY REGULATIONS.

A MEETING of the Joint Committee on Water Regulations was held at the Guildhall, London, on September 19th, under the presidency of Dr. Robert Crawford of Greenock. The committee comprises representatives of the municipalities of the chief water undertakings of the kingdom, of the Royal Institute of British Architects, the British Association of Waterworks Engineers, and of the Plumbers' Company. A report was presented containing particulars of the practice of fifty-four of the principal water undertakings of the United Kingdom, showing a great deal of variation in the regulations as well as in the rate of consumption of water in

different places. The value of standardization in fittings in the interests both of manufacturers and consumers had been recognized by the committee, and with the assistance of representatives of the manufacturers the simpler types of fittings in common use, which were found to cause the principle waste of water and inconvenience to consumers, had been standardized. Alderman Gainsford of Sheffield, in moving the adoption of the report, said that the Local Government Board model set of regulations were antiquated, and expressed the hope that the new draft prepared by the Committee would be adopted by the Board. The report was adopted, and it was resolved to submit the draft model code to the Local Government Board.

PUBLIC HEALTH IN MIDDLESEX.

THE public health administration of the county of Middlesex has been recently reorganized, and a whole-time medical officer of health appointed. Dr C. W. F. Young, who was for some time Assistant Medical Officer of the London County Council, is now Medical Officer for the county, and his annual report for 1904 is substantial evidence of excellent work already done. The county consists of a total of 36 sanitary districts, 30 urban, 4 rural, and 2 municipal boroughs—Ealing and Hornsey. The total population is estimated as 930,215, and is of course, especially in the urban districts, rapidly increasing. Some idea of the degree of increase is shown in the fact that in the 1901 census the number of inhabited houses enumerated in the urban districts was 125,204, as compared with 84,667 in 1891, though some of this increase is accounted for by the creation of new urban districts from the rural parts of the county. The birth-rate for 1904 was 28.3 for the county, but as high as 33.7 in Wealdstone, 34.8 at Brentford, 35.4 in Edmonton, and 36.7 in Southall-Norwood. The most marked instance of a low birth-rate in a district of any size is that of Hornsey, with 19.6. The death-rate was 13.8, as compared with 17.4 in London. The age and sex constitution in the county generally, as compared with age and sex constitution in England and Wales, is favourable to the production of a low death-rate. The infantile mortality-rate in 1904 was 136, as compared with 146 in London and in England and Wales, and the zymotic death-rate 2.0. Dr. Young devotes some 45 pages of his report to summaries recording the occurrence and modes of prevention of infectious diseases and valuable sections of the report deal with the provision of isolation hospitals and methods of disinfection as practised in each district. The whole of this body of information is well and clearly stated. An important matter in a county like Middlesex, where rapid extension is taking place in the proper control of house building and the laying out of streets with a view of preventing the formation of slum areas in the future, and Dr. Young deals fully with this subject, as also with the various methods of sewage disposal in the county. He rightly gives an important place to the control of the milk supply. The names and addresses of 585 midwives in the county have been obtained, 312 of whom have been certified by the Midwives Board. The medical officer has made 472 visits to midwives to supervise and also to explain the Act. Abstracts of the local medical officers' reports are incorporated, and the whole volume of nearly 300 pages makes up a succinct and complete account of the public health administration of the county.

CERTIFICATES OF PAST VACCINATION.

V. writes: Until recently I held the appointment of deputy public vaccinator, and during the small-pox epidemics two or three years ago I was required to do the whole of the work of a large district. During this time I vaccinated some thousands at a vaccination station and at their homes. A few months ago the vaccination district was divided into three, and I no longer have any share of the work. I have had, and still have, numerous requests for certificates of successful vaccination or revaccination performed two and three years ago, particularly from candidates for the post office. Each application necessitates a search in old registers, kept at the Guardians' Hall, through hundreds of names, for it is seldom that the date of vaccination is remembered. I would like to know: (1) Considering that I am not now a public vaccinator, must I give these certificates? (2) If not, to whom must the person apply? (3) Can any charge be made for such certificates?

*** The questions of our correspondent necessitate for answer a minute knowledge of the Vaccination Acts of 1868-9 and 1871, and they bring to light the slipshod way in which the Act of 1898 and the amended Regulations of 1898 were drafted. In answer to "Vaccinator's" questions: (1) "Vaccinator" is under no statutory obligation to issue any such certificates either in respect of primary vaccinations or of revaccinations, as he is no longer a public vaccinator, or acting as deputy; all such duties close with the expiration of a contract. (2) No legal charge can be made for such certificates and he should refuse to issue them. If, however, "Vaccinator" had still remained a public vaccinator he would yet be under no obligation to search the registers and issue "copies" of certificates in case of primary vaccination, as the Sections XXI and XXII Consol. Act, 1868-9, 30 and 31 Vict., cap. 84, clearly define any second certificates as "duplicate" certificates, to be made at the time of issue. In case of revaccination his duty is not so clearly defined, as "the public vaccinator, it required, shall deliver a certificate." In spite of ambiguity of phrase on the part of the Section IX, 34 and 35 Vict., cap. 98, 1871, we hold that application for such certificate must be made at the time of inspection. (3) This is provided for: Section XXIV, 30 and 31 Vict., cap 84: "The vaccination officer shall at reasonable times allow searches to be made in his registers and give a copy of certificates of vaccination on payment of a fee of sixpence for each search and threepence for each copy." Further (Section XII, 34 and 35 Vict., cap. 98, 1871): "Where it appears to the public vaccinator of any district, upon personal examination of any child resident in such district who has not been successfully vaccinated by him, that such child has been successfully vaccinated, the public vaccinator may, on the request of the parent of such child, grant a certificate to that effect," which is to be equivalent to a certificate of successful vaccination by that vaccinator. But we may note that neither this section nor any other makes it incumbent on any public vaccinator to make an examination which will afford such evidence or defines (which is important after the enactment of the Act of 1898) where such examination shall be made.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 2, Agar Street, Strand, W.C., London; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone, unless the contrary be stated.*

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Manager, 429, Strand, W.C., on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not at his private house.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Attiology, London.* The telegraphic address of the MANAGER of the BRITISH MEDICAL JOURNAL is *Articulate, London.*

TELEPHONE (National):—
EDITOR, 2631, Gerrard. GENERAL SECRETARY AND MANAGER, 2630, Gerrard.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

WE would request correspondents who desire to ask questions in this column not to make use of such signatures as "A Member," "A Member B.M.A.," "Enquirer," and so on. By attention to this request much confusion would be avoided. Correspondents are asked to write upon one side of the paper only.

SENIOR would be glad to know if there are still any surgical instrument dealers in London who will buy second hand instruments. All good, and some of the latest fashion. He has not seen any advertisement of such lately.

DICKENS is anxious to secure a copy of some pictures of "Dickens's Doctors," which were sent round at Christmas time a few years ago by some firm to the medical profession. He does not remember the firm, and would like information on this point, and also the loan of a copy for a few days, if possible.

TREATMENT OF MENTAL DEFICIENCY.

WHITWORTH desires to hear of an institution where a young woman, 20 years of age, who is slightly mentally affected, could be admitted for curative treatment.

*** Application might be made for admission to the Royal Albert Asylum, Lancaster, now described as a "Training Institution for the Feeble-minded of the Northern Counties," terms and particulars to be obtained on application to the Principal and Secretary, James Diggens, Esq.

TREATMENT OF MUCOUS PATCHES.

PUNJAB writes: A young man had syphilis some years ago, and had irregular and insufficient treatment. Last year he had a tender swelling over an upper rib cartilage, which soon yielded to intramuscular injections of mercury weekly, of which he has since had twenty-four. For some time he has had no symptoms, and is in the best of health. He is anxious about the persistence of mucous plaques inside each cheek—thickened, whitish, smooth patches crossed by fine lines—but which do not cause any inconvenience. Chromic acid, solid silver nitrate, papain, and copper sulphate in black wash have been applied without result. Are the patches of any importance, and is other local treatment advised?

ANSWERS.

LAZY.—The surgical portion of the Fellowship Examination of the Faculty of Physicians and Surgeons of Glasgow is, we believe, held to be less severe than the F.R.C.S.Edin.

ANTITUBERCULOSIS.—We have made inquiries about von Ruch's watery extract of tubercle bacilli, which does not appear to have been used in this country; it can now be obtained we believe, from Messrs. Allen and Hanburys, Limited, Vere Street, W., who could probably supply also the literature regarding its use.

J. S. J. might consult Mr. George Pernet's article on Pediculosis in *The Encyclopaedia Medica*, vol. ix. where he will find the information he asks for under pediculus pubis. The nits are deposited on the hairs. The young hatch out in a week, and reach maturity in two weeks. It may be added that the female pediculus very soon begins to propagate the species.

R.—(*a*) Dr. Milne Bramwell's book, *Hypnotism, its History, Practice, and Theory* (London: Grant Richards, 1903 18s.), is probably the best book on the subject. (*b*) The chemistry of the thyroid gland is discussed by Professor Halliburton in Schäfer's *Textbook of Physiology*, vol. i, p. 88, *et seq.* (*c*) Full details as to the preparation of Leishman's stain may be found in Stephens and Christopher's handbook, *The Practical Study of Malaria*, p. 12. Burroughs, Wellcome and Company put the stain up in tabloid form. To make the solution, one tabloid is dissolved in 10 c.cm. pure methylic alcohol. A few drops of this are poured on the blood film, no previous fixing being required. After one minute distilled water in equal quantity is added and mixed with the stain, and this is allowed to stand for five minutes. Wash off next with distilled water. Allow some of this to remain on one minute. Dry and mount.

INSTRUMENTS FOR THE DEAF.

DR. WILLIAM HILL (London, W.) writes: "Delta" probably refers to the telescopic cone-shaped instrument with a saucer-like collector which was shown by Arnold; it can be obtained from any of the well-known makers of medical instruments. I have found it serviceable in several cases. Mayer and Meltzer supply a smaller instrument, but on the same pattern as that exhibited by Arnold, which is handier for the pocket, and they are fitting this up with a binaural arrangement which will, I think, increase its usefulness.

TREATMENT OF ENLARGED TONSILS.

MR. H. CLAYTON FOX, F.R.C.S.I. (London), writes in reply to Dr. Ladell's query, published September 16th, p. 687: May I suggest that this is a case of enlarged tonsils with either a supratonsillar recess or abnormally large follicles: thus a cavity exists where secretions accumulate, are retained, and become infested with microbes giving rise to fetor, etc. The correct treatment in this case would be removal of the tonsils by morcellement.

THE ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH AND THE DISPENSING OF MEDICINE BY MEMBERS.

INTENDING CANDIDATE.—Applicants for the membership of the Royal College of Physicians of Edinburgh are required to sign the following statement regarding the dispensing of medicines:

"This is to certify that I. ..... do not dispense medicines for gain, either personally or through agents, and promise should I be admitted to the Membership or Fellowship of the Royal College of Physicians of Edinburgh, to surrender the Diploma of Membership or Fellowship, should I adopt such practice subsequently to obtaining the said Diploma."

ETHYL CHLORIDE.

DR. G. W. BAMPFYLDE DANIELL (late Anaesthetist to the Tottenham Hospital, etc.) writes in answer to inquiry published in the BRITISH MEDICAL JOURNAL, August 26th, p. 467: "General Practitioner" will find a description of Clover's inhaler with tap on angle-mount and method of use in conjunction with chloride of ethyl in the JOURNAL of April 23rd, 1904. For the last three years I have largely used Dr. Hewitt's wide-bore inhaler, with slight modification, as described in the JOURNAL of October 10th, 1903. I shall be pleased to send illustrated pamphlet giving fuller details if your correspondent desires.

THE M.R.C.P.LONDON.

MEDICUS.—Candidates for the membership of the Royal College of Physicians of London must be at least 25 years of age, must be possessed of satisfactory testimonials from Members or Fellows of the College, and must satisfy the Censors' Board as to the sufficiency of their general education; if under 40 the rule is to examine them in Latin and in Greek, or French or German. They must not be engaged in trade, dispense their own medicines, or carry on practice in partnership. In the professional examination there are two four-hour papers, one on medical anatomy and the principles of medicine and the other on the practice of medicine (including the principles of public health) and on psychological medicine. There is also a clinical examination conducted in the wards of some hospital. In addition, the candidate's general professional attainments are tested by *viva voce* questions on two separate days. The examination is searching, the standard high, and any candidate who presents himself should certainly be proficient in microscope pathology.

MEDICAL DESCENDANTS OF THE FAMILY OF JEAN D'ARC.

MR. GEO. S. S. HIRST, M.B. (Treherbert) writes: Dr. Norman Leys might get some information concerning his descent if he looked up the following references: Lys - In Bury's *Hampshire Genealogies*, p. 69. Ley—*Harleian Society*, vol. ix, pp. 127 and 129; Hoare's *Wiltshire*, vol. iv, pp. 1 and 110; *The Western Antiquary*, vol. iv, p. 175; Bank's *Dormant and Extinct Baronetage*, vol. iii, p. 436; *The Visitations of Cornwall*, J. L. Vivian, p. 288. Leye—Bridge's *Northamptonshire*, by Peter Whalley, vol. i, p. 224. The spelling "Leys" is, I believe, modern. With all respect to the tradition in the family of Dr. Norman Leys, I can hardly believe it likely that a descendant of one of Joan of Arc's brothers would be a Presbyterian minister, especially so as the creed professed by him remains to this day strong in the very districts the family is said to hail from. It may be taken as a rule that all family traditions of glorious ancestry, unless supported by heraldic or other documentary evidence, simply exist to satisfy the innate pride of ancestry we all possess. If the family of which Dr. Norman Leys is a member has borne or does bear a coat of arms much information could be derived from this.

LETTERS, NOTES, Etc.

DR. R. CLARKE WAKEFIELD (London, N.W.) writes: Your correspondent "Country Practitioner of Twenty five Years Standing" will find full particulars as to examination of patients during pregnancy in Dr. Herman's excellent paper on the Midwifery of the Future, *Clinical Journal*, March 8th, 1902, p. 313.

GOVERNESSES' BENEVOLENT FUND.

WE are asked to call attention to the case of Miss Rosalind Geere, a candidate for an annuity from the above fund. She is one of the eight daughters of the late Mr. George Geere, Surgeon, of Brighton, and for the last thirty years has maintained herself by teaching; she now finds increasing difficulty in doing so owing to competition, and is without other sources of income. Proxies may be sent to Mr. T. Leigh, M.R.C.S., 12, Grand Parade, Brighton.

SPRUE.

DR. J. REID (London, E.C.), writes, Sir T. Brunton's book on *Disorders of Assimilation*, pp. [illegible] 1901, will probably excuse me for bringing two cases under the notice of your readers. One had suffered from diarrhœa for over a fortnight with bloody stools, and when I saw him he had twenty motions in twelve hours, aphthous mouth, with consolidation at the base of a lung. Under treatment, with warm water injections, pieces of membrane came freely, and when they were examined they were found to be epithelial lining of the bowel, including glandular openings. The second case had colicky symptoms, with constipation, and pustules on the palate. The colic was a bad complication, and at one time there was a suspicion of appendicitis. In both there was tenderness over the colon. Warm water injections brought away large masses of membrane, at first like masses of fat, but on examination really freshly-shed epithelium, and certainly, if not alive, very recently dead, inclining one to call it a case of acute desquamative colitis. Under treatment the epithelium became non-staining, and finally disappeared. I wonder if Sir T. Brunton's fat in the faeces was examined under the microscope. Both cases had a rheumatic diathesis, and possibly the desquamation is akin to that on the epidermis, and also the kidney in some cases of influenza and rheumatism, etc. Probably tropical diseases, barring those due to tropical fauna and flora, will be found also in temperate climates on more exact inquiry. The gut in chronic rheumatic cases is often thin.

INTRACRANIAL ABSCESS SECONDARY TO EAR DISEASE

WHEN TEXTBOOKS DIFFER writes: I am much obliged to Dr. Wyatt Wingrave for the interesting information which he gives in the BRITISH MEDICAL JOURNAL of September 9th, 1905, p. 578, regarding my query of July 1st, as to which is to be regarded as the common site of abscess of the brain—temporo-sphenoidal lobe or cerebellum—in cases secondary to middle-ear disease. If this happens to catch the eye of Mr. Joseph Cumming, perhaps he will take up the gauntlet, and give us some statistics in support of his statement that in such cases "the cerebellum is the commonest seat of abscess in the brain." (I quote from his *Aids to Surgery*, p. 226.)

CLAY PILLS AS A TREATMENT FOR PILES.

DR. G. C. CREIGHTON (London, W.) writes: There is no doubt that the clay pill is gradually disintegrated as it passes along the intestines. Its action is purely mechanical and almost identical with that of bismuth. Clay is a hydrated silicate of aluminium, and cannot possibly enter into chemical combination within the body—unlike aluminium sulphate. The yellow colour would be due to some oxide of iron being mixed with it—too little to have any effect; but as some clays contain particles of quartz it probably signifies in this case a finer sort of clay. The effect attributed to it—removal of pain and diarrhœa, etc.—is quite possible and solely due to the excessively fine state of division of the particles. In Norfolk and Birmingham fuller's earth has been used—of almost identical composition. It is said to be "healing to the inside." I should like to learn from "General Practitioner" in what part of the country the man lives. It seems probable that the bolus was swallowed soft. A lump of unburnt brick would hardly be taken to relieve pain. I may add that *Chambers's Encyclopaedia* states that "clay is eaten by the Botocudos and other savage tribes, as also in Georgia and the Carolinas by negroes and poor whites."

ETIOLOGY AND SUGGESTED CURE OF CANCER.

OMEGA writes: Bacteria and embryonic remains having been disposed of as a cause of cancer, we are driven to think of other causes. We know that the essence of cancer is the uncontrolled multiplication of cells, usually epithelial, and also that certain physiologists have proved the presence of electrical currents in epithelial cells. The uncontrolled multiplication of cells occurring in cancer must of necessity be due to forces generated in the cells, whereby they thus become malignant. Supposing this force is a form of electricity (and how can this be disproved?) we can conceive of "electric ions" in the cells to be so affected as to cause cell division. Cancer usually affects tissue which is growing old. The age of the cell no doubt alters its metabolism, altered metabolism means altered electric currents in the cells. We can imagine an absence of outside counteracting electrical force due to alteration in the metabolism of cells, at certain times, thus upsetting the electrical balance between the cells, this being partly also due to nerve influence. Thus we can conceive an uncontrolled electrical storm among the "ions" of the cells leading to endless cell division, because the form of electric energy in these cells has failed to find in the cells around the suitable balancing electric force. It would be interesting in this connexion to study the effect of different forms of electrical currents on living cancer cells, so as to see if any controlling action could be brought to bear on their multiplication.

POST MORTEM CHANGES.

DR. FRED. J. SMITH (London, W.) writes: May I point out to Mr. C. L. Rothera, in reply to his letter in the BRITISH MEDICAL JOURNAL of September 16th, that in the last edition of Taylor's *Medical Jurisprudence*, he will find his cases paralleled and explained, so far as explanation is possible, under the heading of "Decomposition."

FLIES AND INFECTION.

THE considerations concerning infection and flies by waterborne disease have been neatly summarized by the *Charlotte Medical Journal* as follows: "The drinking water, the patient, and the fly, and the greatest of these is the fly. We must have the water—let us see that it is pure; we may have the patient—let us see that he is clean; but the fly must go."

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

Eight lines and under	...	...	...	£0 4 0
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Post-Office Orders should be made payable to the British Medical Association at the General Post Office, London. Small amounts may be paid in postage stamps.

N.B.—It is against the rules of the Post Office to receive letters as *Poste Restantes* addressed either in initials or numbers.

Remarks

ON

THE SURGICAL TREATMENT OF NON-CANCEROUS AFFECTIONS OF THE STOMACH.

Delivered at the Opening of a Discussion at the International Congress of Surgery held at Brussels, September, 1905.

By A. W. MAYO ROBSON, D.Sc., F.R.C.S.

Mr. President,—I feel, Sir, that it is a great honour to have been invited to open the discussion on this important subject at the first Congress of the Société Internationale de Chirurgie, and in thanking the Committee I cannot but feel that the honour is one, first, to my country, and next to myself, for I am well aware that in this assembly are surgeons of world-wide repute who have quite as much claim to speak authoritatively on this theme, which is everywhere engaging attention.

An experience of nearly 500 operations on the stomach that I have personally performed, and of a considerably larger number of gastric cases on which I have been consulted, but where other means of treatment have been followed out, must be my excuse for accepting the office of *rapporteur*.

The subject is so large and offers such a wide field for discussion that I do not propose to enter into the etiology, symptomatology, diagnosis, prognosis, or medical treatment of those cases, but to confine my remarks entirely to the surgical treatment of non-malignant stomach affections.

By far the greater number of stomach ailments are purely medical from first to last; I think, therefore, that gastric cases should come to the surgeon through the physician or the regular medical attendant, whose duty it is to discriminate between the functional cases that will yield to medical treatment, the cases of organic disease that should have a fair trial of general treatment before the question of surgical treatment is raised, and the more serious cases in which the aid of surgery ought to be at once invoked.

If a rule had to be formulated as to what non-malignant stomach cases are suitable for surgical treatment, I should say that whenever a patient with a gastric ailment suffers from serious disability, pain, or malnutrition that fails to yield in a reasonable time to general and medical treatment efficiently carried out, the question of surgical treatment should be raised.

There are dyspeptics from alcohol, over-feeding, mental anxiety and neurasthenia that can, as a rule, be cured by rest and general treatment, and in which the question of surgical treatment can seldom arise. Even in certain organic diseases, such as acute gastric ulcer with pain and vomiting, rest and medical treatment will effect a cure in a great proportion of cases; but in relapsing or in chronic ulcer of the stomach or duodenum, in perforation, in recurrent haemorrhage, in disabling adhesions from perigastritis, in hour-glass stomach, in obstructive dilatation, and in some other conditions, medical should give place to surgical treatment.

Simple Ulcer.

The surgical treatment of ulcer of the stomach, apart from its many complications, has given rise to more controversy than has perhaps any other question in gastric therapeutics. I think the physicians have been apt to underestimate the grave mortality of gastric ulcer, even in the face of such statistics as have been given by Debove and Rémond, which are accepted and quoted by Einhorn. Out of 100 cases, 50 resulted in perfect cure, 13 died of perforation or peritonitis, 5 from haematemesis, 20 from phthisis, 5 from inanition, and 7 from other complications.

Leube has said that one-half or three-fourths of all cases of gastric ulcer will be cured by four or five weeks of medical treatment, but, if not cured in that time, they will not be cured by medical treatment alone; in this view I thoroughly agree.

More recent statistics have been furnished by Dr. Bulstrode, who analysed all the cases admitted into the London Hospital for gastric ulcer from the beginning of 1897 down to 1902. They were just 500 in number, 98 men and 402 women. Out of this number, no less than 48 (nearly 10 per cent.) died from peritonitis; 13 (or 2·5 per cent.) from haematemesis; and 28 (5·5 per cent.) from other causes. The total number of deaths was 89, or approximately 18 per cent., taking all the cases together. Had all the slighter ones been left out, and only those reckoned in which the gravity of the symptoms suggested the possibility of operation being advisable, the rate of mortality, bad as it is, would have been far higher.

The question of the actual rate of mortality, however, is not the only one that requires to be considered; 82 per cent. of the cases of gastric ulcer admitted to the London Hospital were discharged as relieved or cured. It would be exceedingly interesting to ascertain what was the relative proportion of these two classes; how many were really cured—that is to say, left the hospital perfectly well, without suffering pain or inconvenience when taking ordinary diet, and, what is especially important, remained well. Some idea can, however, be formed by ascertaining the number of patients admitted into hospital with gastric ulcer who had already been treated for and cured of similar attacks. Dr. Bulstrode has done this, and has calculated that out of the 500 cases no less than 211 (42 per cent.) had suffered in this way previously. In 116 there had been only one previous attack; in 41 there had been two; in 15, three; and in 39, four or more. In other words, gastric ulcer recurs or relapses in at least two-fifths of the cases which are apparently cured.

Bad, however, as this sounds, it is not yet the worst. These figures do not include any of the cases admitted suffering from what may be called the sequelae and complications of gastric ulcer. They do not take into account the cases admitted for pyloric stenosis (which Gerhardt and Warren both estimate at 10 per cent.), hour-glass contraction, gastric dilatation, chronic dyspepsia, constant vomiting, perigastric adhesions, cardiac stenosis, and those numerous other disorders caused by the cicatrization of ulcers healed long since. Nor do they take into account those cases in which carcinoma has developed at the site of the old ulcer, which Hauser estimates at quite 6 per cent. When allowance has been made for all these cases, which certainly cannot be described as cured, it must be admitted that the proportion of patients suffering from gastric ulcer of sufficient severity to require treatment in hospital, which are discharged as cured in the full sense of the term—in the sense in which a surgeon would use it after an operation—is not a very high one, not nearly so high as is generally imagined.

We may thus, on ample evidence, accept the fact that at least 25 per cent. of all cases of ulcer of the stomach, treated medically, ultimately succumb to the disease or to one or other of its complications. As surgeons we only see the worst cases that have failed to yield to medical treatment: yet arguing from my own experience alone in over 300 operations of various kinds for non-malignant diseases of the stomach which had failed to yield to medical treatment, the total mortality in this worst class of cases has only been a little over 3 per cent.

The surgical treatment of ulcer apart from complications is first to complete the diagnosis by opening the abdomen, and this I prefer to do by a vertical incision through the inner third of the right rectus, when by splitting the muscle and afterwards suturing the aponeuroses separately, a firm scar results, without danger of hernia; moreover, it is easy to lengthen the incision without interfering with the umbilicus.

The history of the time of onset of pain after food will be some guide as to the site of the ulcer—for instance, if the pain has occurred immediately after food, the ulcer will probably be near the cardiac orifice or on the lesser curvature; if two to three hours after, it will be at the pylorus, and if four hours after meals and relieved by food, the ulcer will generally be found in the duodenum.

Should the area of ulceration appear to be limited and freely accessible, the question of *excision of the ulcer* may be worth considering. If the ulceration is at the pylorus, especially if it be associated with thickening resembling a neoplasm, and if the pylorus be free from adhesions, the removal of the ulcerated pylorus may be advisable, for it has to be borne in mind that chronic ulcer has in many cases been the site of origin of cancer. I have excised the pylorus or otherwise removed the ulcerated area nine times for chronic ulcer, all the patients having recovered from the operation. The ultimate results are no less interesting than instructive; six of the patients are now living and in good health from one to seven years after operation; one cannot be traced; one relapsed three months after pylorectomy; and in one case, after two years of health, fresh ulceration with perforation occurred.

If, however, the pylorus is fixed by adhesions, and its removal would be difficult, or if an ulcer of the stomach be adherent to the liver or pancreas, it is much wiser to be content with the operation of gastro-enterostomy, which yields such satisfactory results, both immediate and remote.

Even after the excision of an ulcer it may be wise to perform a gastro enterostomy in order to set the stomach at rest and secure the healing of other ulcers that so frequently co-exist with the one causing serious symptoms.

With few exceptions the operation of choice in chronic ulcer of the stomach is *gastro-enterostomy*, which, by affording a free outlet from the stomach, prevents stasis of food, relieves hyperchlorhydria and secures physiological rest to the whole organ. Moreover, it is an undoubted fact that gastric ulcers are generally multiple, and that not infrequently duodenal ulcers coexist; the removal of one ulcer would therefore not be likely to cure the disease, whereas a gastro-enterostomy will prove curative to both gastric and duodenal ulcers, whether one or many be present.

Duodenal ulcer is, I feel sure, a much more common disease than is generally appreciated, for some of the patients afflicted with this disease appear at times to be unusually hearty, their only complaint being that of a burning sensation three to four hours after meals—a pain that may be aptly termed a "hunger pain," since it is relieved by taking food. These patients are frequently awakened by similar sensations about midnight or at 1 or 2 o'clock in the morning, and have either to take a dose of carbonate of soda or a drink of milk to relieve their discomfort, yet at any moment they may be attacked by perforation or haemorrhage. In other cases the well-known symptoms of duodenal ulcer are present, and are associated with melaena or haematemesis.

For duodenal ulcer I do not think any other operative procedure than gastro-enterostomy is either necessary or advisable unless there be perforation, and even in case of perforation, if the patient is in a fit condition to bear it, a gastro-enterostomy ought to be done at the same time that the perforation is repaired.

I prefer the *posterior operation* both for gastric and duodenal ulcers, making the opening into the stomach close to the lower border and the opening into the jejunum as near to the duodeno-jejunal junction as practicable. I never see regurgitant vomiting, and as a rule recovery is as smooth as after a simple ovariotomy.

The after-results of gastro-enterostomy in ulcer of the stomach, pylorus and duodenum are really very remarkable; the pain vanishes, food can be taken freely, anaemia disappears, and the patient as a rule rapidly puts on flesh, so that I have seen several double their weight within the first few months after operation.

STATISTICS OF POSTERIOR GASTRO ENTEROSTOMY.

Including every instance, whether simple or malignant, in which I have performed the operation of posterior gastro-enterostomy, either in hospital or in private practice, there have been 186 cases, of which 179 recovered from operation, thus giving a mortality of 3·7 per cent.

In giving the statistics of the treatment by posterior gastro-enterostomy of ulcer of the stomach and duodenum, including the serious complications of haemorrhage and hour-glass contraction, it is necessary not only to show the immediate risks but also the ultimate results.

As the after-histories are almost impossible to obtain with any degree of accuracy from the class of patients seen in hospital, I have preferred to base my observations on my private cases in which the after-histories have been kindly furnished by the medical colleagues with whom I was associated.

Of the 97 posterior gastro-enterostomies that I have performed in my private practice for ulcer, or its complications, 96 have recovered, thus giving an operative mortality of 1·1 per cent., and in this 1 fatality the patient was operated on in the country for haematemesis, which had recurred several times, and I had not the opportunity of seeing her afterwards, or of carrying out the after-treatment. Death occurred from asthenia a week later. There has been no death in my last 77 gastro-enterostomies for ulcer.

Out of the 96 recoveries—

Eighty-four are in good health now, at periods varying from within a year up to five years after operation.

Two were alive and well three years subsequent to operation, but no reply has been received as to their present condition.

Two were alive and well some time after operation, but no word has been received of them later.

One lived in good health for two and a half years, and when travelling in Italy died of acute pneumonia.

One remained in perfect health for three years, but has lately had some vomiting.

One lived in good health for three and a half years after operation, and then developed cancer in the abdomen.

One lived two and a quarter years, and died of cancer of the stomach.

One had perfect health for a year, when tumour at the pylorus developed, but no further operation was permitted, and she died two months later.

One had improved health for two and a half years, when she had haematemesis, and died shortly after an attack.

One was well for two years, when she had recurrence of vomiting. A further operation was performed, but the old gastro enterostomy opening was found to be perfectly patent, and, though the patient is living, her condition is not satisfactory.

One has never been well since operation two years ago, and has now developed a tumour in the colon.

Thus it will be seen that 89 out of 97 posterior gastro-enterostomies for ulcer performed in private practice resulted in cure.

In 4, after one year and two months, two and a quarter years, two years, and three and a half years respectively, cancer developed in the stomach or intestines.

In 2, relapse occurred after two and a half years and three years respectively.

In 1 no material benefit was derived by operation.

In 1 death followed from asthenia a week after operation.

HAEMORRHAGE.

I feel sure that the opinion held by many practitioners that bleeding from the stomach and duodenum rarely proves fatal, requires careful revision, just as does the question of its treatment.

In order to facilitate discussion, it is desirable that we should not consider the vomiting of blood from cirrhosis of liver, aneurysm, heart disease, or other general conditions which are only amenable to medical treatment, but that our remarks should be confined to two classes of cases:

1. The acute, often very severe attacks of gastrorrhagia that occur in young anaemic women suddenly without any warning, and often without any symptoms pointing to ulcer of the stomach, attacks that at the time appear very alarming, but which usually cease spontaneously, and do not tend to recur.

2. The cases associated with chronic ulcer in which there may be:

(*a*) An acute fulminating haemorrhage, ending rapidly in death.

(*b*) Severe bleeding, which though arrested temporarily tends to recur in a few hours or a few days and which after one or more relapses may prove fatal.

(*c*) Slight frequently-recurring haemorrhage, tinging the vomit and leading to anaemia.

(*d*) A more or less daily slight bleeding into the bowel that may only be noticed as melaena by a skilled observer when advice for anaemia and ill-health is sought.

I could give examples of all these varieties, as I have had operative experience of them all, and have also had the opportunity in several cases of examining the stomach at the time the bleeding was going on.

In the first class of cases occurring in anaemic girls and young women, seeing that under rest and treatment the haemorrhage usually ceases and does not tend to recur, operation is seldom required and is rarely justifiable; but that no absolute rule can be formulated is shown by cases on which I have operated; some of which I have reported in *Diseases of the Stomach* (second edition, Baillière, Tindall and Cox).

Recurrence of bleeding is the indication for operation, and personally I should not hesitate to advise it in any case where the bleeding has recurred, or when it is continuing in spite of general treatment.

In the second class, the fulminating haemorrhages are often almost beyond relief, as death occurs before operation can be arranged for; in one case that I saw personally, the patient was apparently well one hour, and dead half an hour later, but if the haemorrhage does not lead to sudden death and shows signs of continuing, and there is a history suggestive of chronic ulcer, operative treatment should be resorted to without delay.

In the other forms of haematemesis coming under the second heading, the bleeding is associated with obvious organic disease, and recurrence of haemorrhage will be almost certain to take place unless the disease giving rise to it is arrested. In advocating surgical treatment for those cases, one of the strongest arguments in its favour is that by the

same operation the bleeding can be arrested, and the disease giving rise to it cured.

Although operation while the bleeding is in progress is as a rule undesirable, it cannot always be avoided, as in order to save life it may be necessary to act at once; when, if the patient is in a fit condition to bear it, the stomach should be opened and the bleeding vessel found if possible and ligatured, or otherwise treated locally.

If the bleeding be from an ulcerated pylorus or from some obvious spot on the stomach wall easily accessible, the ulcerated area may be excised, and at the same time a gastro-enterostomy should be performed to secure physiological rest. If, however, the patient is too ill to bear an exploratory gastrotomy, I have found gastro-enterostomy alone to be sufficient to arrest the bleeding, and when the operation is undertaken in a quiescent period, between the attacks of bleeding, unless the ulcer is very obvious, I decidedly prefer to adopt the indirect method alone.

By indirect treatment I refer to gastro-enterostomy, which in my experience affords the most useful and safest method of treatment; for at the same time it drains the stomach of its irritating contents, and prevents distension and stretching open of the bleeding vessels, while it secures healing of the bleeding ulcer, and also of any other gastric or duodenal ulcers that may be present.

Statistics.

I have operated while the bleeding was going on in 4 cases, and all the patients recovered and remained well. In 2 numerous bleeding points were ligatured *en masse*, and gastro-enterostomy was then performed; in 2 gastro-enterostomy was performed without ligature of the bleeding vessels.

In 22 patients operated on for haematemesis between the attacks a gastro-enterostomy was immediately successful in 20, was followed by death from exhaustion at the week end in one, and in another case operation was followed by recurrence of bleeding a month later.

Adhesions of the stomach to adjoining organs or to the abdominal parietes are generally the result of perigastritis due to gastric or duodenal ulceration, though they may result from extraneous causes, such as gall stones, pancreatitis, hepatic abscess, and colitis.

However occurring, they are frequently a source of great irritation and of severe pain, setting up a chronic dyspepsia which, as one might expect, resists all medical treatment. The pain is most pronounced when the stomach is adherent to the anterior abdominal wall, for not only does it give rise to chronic painful dyspepsia, but also to severe pain on movement, and if the adhesions be away from the extremities of the stomach they may give rise to hour-glass deformity.

When the adhesions are at the pylorus they may lead to dilatation of the stomach owing to kinking, as I pointed out in a paper before the Clinical Society of London in 1893 when I related a number of cases in which great benefit had been derived by the comparatively simple operation of gastrolysis—an operation which had, I believe, not been previously suggested as a definite procedure.

My experience of the operation of gastrolysis, including those cases where it has been an adjunct to other operative procedures—for instance, to operations on the gall bladder and bile ducts and pancreas—has been extensive, and a number of cases have been recorded in my work, *Diseases of the Gall Bladder and Bile Ducts* (Baillière, Tindall, and Cox). So far back as 1890 I pointed out the frequent association of dilated stomach and cholelithiasis, owing to adhesions of the pylorus to the gall bladder.

As an operation *per se*, gastrolysis can only rarely be sufficient, for if the perigastritis has been extensive and the adhesions are numerous, a mere division of them without an omental plastic procedure would only lead to their reformation. Where the adhesions are very firm and extensive, and have led to secondary dilatation of the stomach, as after subacute perforation of the duodenal or pyloric end of the stomach, I always perform a gastro-enterostomy either with or without gastrolysis, so as to secure thorough drainage of the stomach and a cure of the ulcers that have set up the perigastritis.

Some years ago I proposed, in cases where adhesions around the pylorus had been separated that, if practicable, the right border of the omentum should be brought up and interposed between the recently separated surfaces, so as to prevent short intervisceral adhesions; and an extended experience of this procedure—omphaloplasty as an adjunct to gastrolysis—has led me to continue the practice, which has been acknowledged and adopted by other surgeons in like cases. Possibly the use of the Cargyle membrane or of mucilage may be of service, but I have had no experience of either method.

In separating adhesions it should be borne in mind that they are as a rule protective, and in some cases may cover up a perforation, which their separation may reopen; but under such circumstances the adhesions will be so firm and so extensive as to preclude the operator being content with gastrolysis alone.

The immediate results of simple gastrolysis are generally good, and, as the operation has no mortality *per se*, it alone may be sufficient in occasional cases. The ultimate result in a number of my early cases has been excellent, but in others a further operation—such as gastro-enterostomy—has been necessary.

Perforation.

While any discussion on the surgery of non-malignant disease of the stomach would be incomplete were the subject of perforation to be left out, the views of the profession are so definitely made up on it that I think it should not take up too much of our time.

Though patients do occasionally recover from perforation without operation—as I myself have witnessed, and have subsequently proved by having to operate later for other complications resulting from the ulcer that had perforated—yet the exception only proves the rule, and I think we shall all agree that if we can operate on cases of gastric perforation within a few hours of the accident success will be considerable, whereas every hour of delay will add to the danger.

In the second edition of *Diseases of the Stomach* a table of collected cases is given that shows the serious results of delay:

	Total Cases.	Recovered.	Died.	Percentage of Deaths.
Under 12 hours	49	35	14	28·5
From 12 to 24 hours	33	12	21	63·6
From 24 to 36 hours	16	2	14	87·5
From 36 to 48 hours	2	—	2	100·0
Over 48 hours	33	16	17	51·5

In Mr. Crisp English's latest statistics on a series of 60 consecutive cases operated on at St. George's Hospital, the mortality was 48 per cent.

Although the symptoms of ulcer may be latent in about 20 per cent. of cases and only slight in others, yet in fully 50 per cent—or probably more—there are serious symptoms of ulcer which should lead to very thorough medical treatment, or, that failing, to curative surgical treatment, before the onset of perforation. So that besides advocating early operation in case of perforation, I think we ought to urge quite as strongly preventive treatment; in other words, the curative treatment of ulcer, so as to save the serious sequelae of perforation and haemorrhage.

In the operative treatment of perforation much will depend on the variety, whether acute, subacute, or chronic. In acute cases, where the peritoneal cavity is flooded with the stomach contents, I strongly advocate, after closure of the perforation, lavage with normal saline fluid, followed by suprapubic drainage. In subacute perforation, where the accident has occurred when the stomach was empty and where the opening is probably small or even partly occluded by lymph or omentum, the abdomen will be much less soiled and cleansing may be accomplished by thorough wiping with gauze swabs, when drainage may be unnecessary.

In chronic perforation extravasation is limited by a protective barrier of lymph. The effusion usually makes its way upwards, being recognized as a subphrenic abscess for which incision and drainage are required without disturbance of the limiting barrier and without any attempt to suture the stomach for closure of the opening, for which Nature is as a rule quite competent. If the perforation be near the pylorus, a gastro-enterostomy may be advisable, both in order to secure healing of the perforated ulcer and any other ulcers that may be present and to stave off the after-effects of contraction and consequent stenosis. Even where the ulcer is not near the pylorus and the patient is in a condition to bear it, the performance of gastro-enterostomy may be a wise procedure for securing complete rest to the stomach and healing of the perforated and any other ulcers.

As surgeons we cannot rest content with a 40 per cent. to

50 per cent. mortality, for if we can have cases of perforation handed over within a few hours of rupture, we should be able to diminish the death-rate to 10 per cent., or possibly even 5 per cent., as in a series of cases lately reported by Dr. T. S. Kirk (*Medical Press and Circular*, March 20th, 1905) where of 11 cases of perforation, 10 were operated on in from one and a quarter to ten hours after the accident and all were saved.

Hour-glass contraction of the stomach, so far as it comes under the notice of the surgeon, is, excluding cancer, dependent on contraction due to ulceration or on adhesions. It must be far less common than is usually thought, for I have personally operated on 25 cases, and a colleague has operated on 18; of these 43 cases, 37 were the result of ulcer or perigastritis, and in 2 the stomach was trifid.

Surgical treatment is alone of service in this disease, and the conditions to be aimed at are (*a*) to overcome the obstruction, and (*b*) to secure physiological rest for the healing of the ulcer.

The operations available are: (1) Gastroplasty, (2) gastro-enterostomy, (3) gastrolysis (4) gastro-gastrotomy, (5) excision of the ulcerated area or partial gastrectomy, (6) divulsion of the stricture, and (7) jejunostomy.

Before any curative precedure is adopted it is essential that a complete examination of the whole of the stomach should be made, otherwise a stenosis near the cardiac end may be missed, as in at least two recorded cases. The choice of operation will depend on the condition found.

If adhesions be the cause of the constriction, their treatment by gastrolysis will be necessary, though other treatment will at the same time usually be called for, as in one of my cases, where a gastro-enterostomy and in another where gastroplasty was performed.

If the constriction be near the centre of the stomach and free from active ulceration, and if the pylorus is patent, a gastroplasty alone will be required. In my own 10 cases of simple gastroplasty all the patients recovered and 6 are known to be in good health at the present time from two to five years later; 1 was known to be well a year later, but no further record is obtainable; 1 required gastro-enterostomy two years later for ulcer of the pylorus, the gastroplasty being then quite sound; 1 was well for four years, had recurrence of ulceration and died of haematemesis; 1 writes to say that after five years she has had some pain, but does not need medical attendance.

If the pylorus be also stenosed, a gastro enterostomy must be associated with the gastroplasty, but if a double stomach sac exists, with stricture in the centre of the stomach and at the pylorus, it may be advisable to do a gastro-gastrostomy together with a gastro-enterostomy, or, better, a gastro-enterostomy with two openings into the jejunum, one from either sac; this I propose to perform should such a case come under my notice again.

If active ulceration with considerable induration be present, the proximal cavity being dilated and the pylorus patent, a posterior gastro-enterostomy will answer all the indications. In 7 cases of hour-glass stomach on which I performed posterior gastro-enterostomy, all recovered, and 5 are well at the present time, two to five years after operation; 1 died of cancer of the sigmoid flexure four years later, and 1 of cancer of the stomach within a year of operation.

If the induration and ulceration are forming a tumour that is doubtfully malignant, it may be wise to excise the ulcerated area. This I did with success in one of my cases, which on examination afterwards proved to be cancer developing on ulcer; the patient lived for four years and enjoyed perfect health for over three years.

If the pouches on each side of the constriction are dilated and the pylorus is patent, a simple gastro-enterostomy may be performed instead of a gastroplasty.

Divulsion of the stricture or of the pylorus is not as a rule advisable, as being unlikely to give permanent relief, though in one reported case of stricture near the cardiac orifice, divulsion appears to have answered when associated with a gastro-enterostomy.

Jejunostomy as a temporary measure is advisable if the patient is very feeble, and if the stomach presents signs of very extensive disease that would involve a long operation.

TETANY AS A COMPLICATION OF GASTRIC DILATATION.

This serious and often fatal condition must be rarer in point of observation than in fact, for I have seen a considerable number of cases and have operated successfully on several.

In a paper published in the *Lancet* of November 26th, 1898, I had the honour of first suggesting the surgical treatment of tetany due to gastric stasis by pyloroplasty or gastro-enterostomy. These operations act by draining the stomach, at the same time removing the source of the poison and arresting the painful pyloric spasm, thus by one operation removing the causes which combine to produce the tetany. In that paper I gave several marked examples of the success of this treatment, which I have since proved by additional cases to be reliable and efficient.

The operation which I now advocate is posterior gastro-enterostomy, the effects of which are more satisfactory than those of pyloroplasty, though the modification known as Finney's operation may possibly prove to be equally efficient.

The prognosis of tetany medically treated has been shown by various writers to be extremely serious; for instance, Frankl-Hochwart gives the mortality as 90 per cent. Almost without exception tetany of gastric origin occurs in old-standing disease, so that if surgical treatment were adopted earlier in these disabling conditions we should banish altogether that class of cases which furnishes us with the desperate forms of this complication.

DILATATION OF THE STOMACH.

From the point of view of treatment it is of importance to distinguish between *primary*, atonic or idiopathic, and *secondary* or obstructive dilatation, for the former, unless accompanied by stasis with serious inanition, is a condition that is usually amenable to medical and general treatment, and one in which surgical measures are seldom called for; whereas in secondary or obstructive dilatation, whether from external pressure, growth, hypertrophy, stricture, persistent spasm, or adhesions, medical treatment has decided limitation, and should not be too long persisted in after stasis is found to exist.

Dilatation may exist without stasis, though there is seldom stasis without dilatation.

A stomach that is not empty six hours after a meal is under suspicion, but if after eight hours remnants of food are found in the lavage stasis undoubtedly exists.

If, with stasis, visible peristalsis be present, obstruction exists that will only be cured by surgical treatment. If there be no obvious peristalsis, yet stasis persists after lavage and general treatment have been tried, surgical treatment should replace medical treatment.

Pain and loss of flesh associated with dilatation are also indications for surgical treatment if general means have failed to relieve.

OPERATIVE MEASURES THAT MAY BE EMPLOYED IN DILATATION.

1. Gastroplication in simple dilatation has, I think, seen its day, and is now seldom performed. I performed the operation some years ago on two occasions; in one patient it seemed to have been of benefit, for he was reported to be quite well when heard of three years later; but in the other I had to perform a gastro-enterostomy three months later, and the patient was then cured and remains well. Personally I do not think I shall repeat the operation, as if such cases fail to yield to medical and general means gastro-enterostomy had better be performed at once as being more likely to effect a cure.

2. Pyloroplasty, though an immediately successful operation and attended with little danger in suitable cases, has proved disappointing in the long run in many of the cases, not only in my own experience but according to the reports of many other operators. Out of 28 pyloroplasties that I have performed, 8 have required a subsequent operation, and I have heard of another patient who was quite well after pyloroplasty for nine months, but who, I am told, died of tetany a year later. In 16 of my cases the results have been excellent, and the patients are in good health from three to ten years later, but in all these cases there was no active ulceration of the pylorus at the time of operation. Two are said to have developed cancer of the pylorus six years and one and a half years subsequently.

3. Finney's operation, which, though a modification of pyloroplasty, is really a gastro-duodenostomy, is still on trial, but some surgeons who have tried it speak well of it, as it provides a free exit from the stomach into the duodenum, which from its size is not likely to contract. As it can be done in favourable cases with little disturbance of the viscera, it would seem to be an operation with a future, though Munro

of Boston, U.S.A., says that the operation has not given good results, and has been abandoned by him.

4. Pylorodiosis, or Loreta's operation, is an operation that has had a very thorough trial at the hands of many surgeons; it is, I believe, now seldom performed, not only because its good effects are in many cases only transient, but also because it involves much more danger than more efficient operative procedures. Although all the patients on whom I performed Loreta's operation or Hahn's modification recovered and were immediately benefited, yet a secondary operation had to be performed in several of the cases. Other surgeons have, I believe, had a similar experience. When giving the Hunterian Lectures at the Royal College of Surgeons, I collected a series of 78 operations from various sources, and found that the mortality had been no less than 29.7 per cent. I think, therefore, that both on account of the increased risk and the uncertainty of the operation, it is inadvisable.

5. Gastrolysis alone I have already referred to as being of service for stenosis, the result of adhesions in exceptional cases, though as an adjunct to other operations it may be often required.

6. *Gastro-enterostomy* is undoubtedly the operation to be relied on before all others in the treatment of secondary gastric dilatation, and in that form dependent on obstruction at the pylorus the results are simply marvellous. Pain, vomiting, and indigestion as a rule disappear within twenty-four hours of operation, food can be taken and retained, and weight is rapidly regained. The anterior operation does not in my experience yield the same results as the posterior, and is apt to be complicated by regurgitant vomiting, and later by peptic ulcer of the jejunum. The posterior operation is the one that should be performed wherever possible, as it involves no more difficulties than the anterior, can be performed in an equally short time, and is not followed by regurgitant vomiting, and extremely rarely by peptic ulcer of the jejunum.

I always perform it unless the mesocolon is contracted and seriously shortened, or unless the posterior wall of the stomach is so involved in disease that it is not available for the anastomosis.

The secrets of success are to make the anastomotic opening as near the lower border and pyloric end of the posterior surface of the stomach as possible, and to leave as small a distance as practicable between the opening in the jejunum and the duodeno-jejunal junction. Though, personally, I prefer to make the junction by a serous and a marginal continuous suture around a decalcified bone bobbin that dissolves in forty-eight hours, as the method has given me such satisfactory results, yet the suturing may be done without the bobbin and in exactly the same way as when the bobbin is used. For several years I have not used the Murphy button in this operation, and as it practically saves very little time and is liable to fall back into the stomach and produce further disturbance, I cannot recommend its employment. My special rubber-covered clamps and the round, curved needles that I have used for intestinal and stomach surgery for several years facilitate the operation.

Stenosis of the cardiac orifice of the stomach due to the cicatrization of an ulcer which has failed to yield to treatment by bougies may at times be advantageously treated from the gastric aspect by opening the stomach and dilating from below, after which the opening may be kept patent by the regular use of bougies introduced through the mouth.

I have had no experience of the method of dividing such a stricture by means of a string worked rapidly up and down like a "bow string" nor of the methods of instrumental division which have always seemed to me to be dangerous. While treatment is being pursued, a gastrostomy will enable the patient to be nourished, and it is advisable to keep the gastrostomy opening from completely closing by the occasional passing of a bougie so that it may be used for feeding if the stenosis of the cardiac orifice or lower end of the oesophagus should recur. I have two patients living some years after a gastrostomy performed under these conditions and they still occasionally make use of the artificial opening in the stomach and find no inconvenience from it.

Acute Dilatation of the Stomach.

In the great majority of cases the issue has been fatal, and all treatment has been unavailing. But the disease is by no means necessarily lethal, as I have had in my own experience 3 cases in which the symptoms have subsided as the result of treatment and the patients have progressed to recovery.

In the early stages, recourse should be had at once to lavage of the stomach. If the organ rapidly fills after it is emptied the tube may be left in for a time or the lavage repeated. The position of the patient may be altered, so that he lies prone in bed, with a pillow under the pelvis and the lower part of the abdomen. In the severer instances it may be advisable to open the stomach and drain, performing in fact a gastrostomy.

Although gastrostomy has hitherto proved fatal, an examination of the recorded cases shows that all the patients upon whom it was practised were moribund or almost in the last extremity; the operation is, therefore, one which has not yet had a fair trial.

As I have suggested before, recourse may be had to gastro-enterostomy, whereby the stomach is drained continuously into the intestines. This I would advise in case of failure of other remedies, if the intestines do not participate in the distension.

Acute Post-operative Dilatation of the Stomach.

Some of the cases of ileus after abdominal operations are due to acute dilatation of the stomach from primary gastric atony, which, once initiated, tends to persist and get worse, owing to the distended stomach dragging on and kinking the duodenum, thus leading to shock by pressure on the heart, without there being any sign of sepsis. In some cases the duodenum participates in the dilatation, apparently owing to pressure of the superior mesenteric vessels on the third part of the duodenum which they cross transversely; it is in such cases that the prone position may afford some relief. In all cases of ileus after operation the use of the stomach tube should not be neglected, and if repeated lavage, the prone position, and general treatment fail to bring about relief, the question of gastro-enterostomy should be considered if the intestines do not participate in the paralysis.

Gastroptosis may be present in a marked degree without giving rise to any symptoms, but, on the other hand, it may be associated with most distressing neurasthenia and with gastric and intestinal atony.

In these cases surgical means should not be resorted to until medical and general treatment, massage and rest, and the wearing of a suitable belt have been throughly tried.

If there be associated pyloric stenosis, a gastro-enterostomy may be required, but if the pylorus be patent, Beyea's operation of shortening the gastro hepatic and gastro-phrenic ligaments has given good results in his hands in 11 cases and the operation has also proved successful in the practice of other surgeons.

Tumours of Inflammatory Origin.

Although it does not come within my province to-day to deal with cancer of the stomach, I feel that I must briefly refer to the fact that quite a number of cases of tumour of the stomach and pylorus, resembling cancer in all respects except in the long history, may be of an inflammatory nature and quite curable by operative treatment. I have seen a considerable number of these cases in which gastro-enterostomy has been performed under the idea that the gastric or pyloric tumour causing stenosis was of a malignant character and that the cases would die in a few months, whereas complete and perfect cure resulted and they are strong and well years later. As a result of these measures I am loth to deny a patient the benefit of surgical treatment even in the presence of tumour suspected to be cancer, unless enlarged glands and ascites prove definitely the malignant character of the growth.

While on the subject of tumour of the stomach, one must not forget that syphilis may give rise to a tumour of the pylorus or other part of the stomach closely resembling cancer. So that the history must not be ignored in these cases, and, if there is any suspicion of syphilis, a course of medical treatment should precede any operative procedure.

Acute phlegmonous gastritis may be circumscribed or diffuse, and may occur at any stage. The diffuse form appears to be inevitably fatal, all the recorded cases having died rapidly. Although gastrectomy might be salutary, yet the condition of the patient is one that in all the cases hitherto reported would seem to have been hardly justifiable. The circumscribed form in which there may be one or more abscesses in the stomach wall is less acute and its course more prolonged. An exploration of the stomach may reveal the cause, and lead to the evacuation of pus. I have recorded[1] a case that I think was of this character, in which evacuation of the abscess into the stomach and posterior gastro-enterostomy were followed by complete and permanent cure.

Congenital hypertrophic stenosis of the pylorus must be, from

the number of reported cases, far from rare, and according to Monnier 80 per cent. of cases die unless treated surgically. Some few cases have been recorded as having yielded to medical and general treatment, but this should not be persisted in so long that the patient is too ill to bear surgical treatment.

Whenever the combined symptoms of vomiting with visible peristalsis and pyloric tumour are present, surgical treatment alone is likely to be of service. Four operations are available: (1) Pylorectomy, (2) pyloroplasty, (3) pylorodiosis, and (4) gastro-enterostomy. Mr. H. S Clogg has collected 33 cases of operation for congenital hypertrophic stenosis.

Pylorectomy has been performed on 1 occasion unsuccessfully by Stiles. He pronounced it as unnecessarily severe, and this seems to be the feeling of surgeons generally.

Pyloroplasty has been performed on 6 occasions with 2 deaths. The method is, as a rule, easy, and has in several cases given very good ultimate results; probably the more extensive operation of Finney, which is really a gastro-duodenostomy, and which, so far as I am aware, has not yet been performed in this condition, will answer better than simple pyloroplasty. The drawback to pyloroplasty is the tendency to recontraction, but as in hypertrophic stenosis there is no active ulceration this objection may not apply to the same extent that it does in ulcerative stenosis of the pylorus; and in those cases that have recovered from the operation the after-results have been all that could be desired.

Loreta's operation has been performed on 10 occasions with 6 recoveries. The objections to its performance are that the operation is liable to the accidents of extensive laceration and haemorrhage, or in case of recovery to relapse. In view of the facts that although it has succeeded in some cases statistics show it to be more dangerous than pyloroplasty, and the after-results are not very good, it is not likely to continue to hold a prominent place in stomach surgery.

Gastro-enterostomy has been performed seventeen times, only 7 of the patients having recovered, but in one of these cases a Murphy button was employed to effect the anastomosis, and to it death was due. In 3 the fatal result was caused by complications which might be avoided in the future, and in 3 the patients were too ill at the time to bear any operation.

The operation of choice would therefore seem to be either pyloroplasty or gastro-jejunostomy, which can now be performed with much greater success than heretofore.

The points to bear in mind are—not to defer the operation too long, and to select either one or other of the operations that I have named according to the conditions found when the abdomen is opened.

Congenital stenosis of the pylorus may be complete at birth and form what is known as atresia of the pylorus. It is characterized by rapid death from inanition, owing to the vomiting of all food taken. No case of this kind has, I believe, been operated on; but, should the condition be recognized in time, it is one capable of relief either by pyloroplasty or gastro-enterostomy.

There are, however, cases of narrowed pylorus, not amounting to complete stenosis, in which digestive troubles begin in childhood and continue throughout life, leading to dilatation of the stomach and to distressing digestive symptoms. I have seen several of these in young adults, where there had been no history of ulceration to account for the stenosis, and in which a posterior gastro-enterostomy has proved curative. The condition has also been described by Maylard, who has mentioned several cases in which he has successfully operated. Seeing that in these cases of congenital stenosis there is no active ulceration at the pylorus, pyloroplasty may be safely done—or, better still, Finney's operation; though personally, I prefer the method of posterior gastro-enterostomy, which has given such good results.

Injuries of the Stomach.

In injuries of the stomach, whether caused by stabs with a sharp instrument, or laceration the result of a blow in the epigastrium, or gunshot accidents, operation should be resorted to at the earliest moment. Even if there is a doubt about the diagnosis of perforation, it will be safer to explore than to leave the case in doubt. Should there be any doubt as to whether a wound has perforated the stomach, air may be injected through an oesophageal tube, when, if the organ is intact, it will become distended and plainly outlined; whereas, if perforation has occurred, the air will escape into the peritoneal cavity.

In the case of a stab or gunshot wound this method of diagnosis is, however, unnecessary, as, if the wound has perforated the abdominal wall, exploration for the purpose of repairing injuries should be set about at once. Although a wound may have been repaired in the anterior wall of the stomach, the surgeon must not rest satisfied until he has carefully ascertained if there is any perforation on the posterior wall, and he should also try to make certain that the posterior wall of the stomach has not been seriously damaged, as in one case of this kind related by M. Emile Forgue, injury of the posterior wall, though not sufficient to perforate, led to subsequent ulceration, and to speedy death from haemorrhage. The possible existence of multiple wounds must also be borne in mind.

Although the results of abdominal section for gunshot injuries in the recent war in South Africa were extremely unfavourable, and better results were obtained by rest and general treatment, it has to be borne in mind that the performance of abdominal section in war time presents very different conditions to operations performed in civil practice; moreover, the small-sized bullet travelling at an extremely high velocity, actually produces a very small visceral opening, and as many of the injuries occurred in soldiers whose stomachs were empty, there was no leakage of the visceral contents. Thus, the lessons of the South African war have little application to civil practice. The record of cases quoted by Forgue and Jeanbrau show that the mortality increases in direct proportion to the delay. For instance, in 13 cases of wound of the stomach alone without injury of other viscera, where operation took place within six hours, there were 9 recoveries and 4 deaths; but of 6 cases in which operation took place at a later period, there were only 2 recoveries.

In injury of the stomach due to the swallowing of caustic fluids the treatment will depend on the extent of the injury and the nature of the fluid swallowed. It is usually necessary to avoid feeding by the mouth, and at first, probably, rectal feeding will answer all requirements for two or three days. If, however, the pharynx, the oesophagus, and stomach are then discovered to be seriously injured, it may be wise to perform a jejunostomy in order to maintain the strength of the patient without contaminating the wounded surfaces by food or other irritants. At a later stage, should cicatricial stenosis of the pylorus occur, with consecutive dilatation of the stomach, gastro-enterostomy must be performed; or should there be stenosis of the cardiac orifice, a gastrostomy may be required. It is a mistake to postpone a resort to surgery until there is no other alternative but that of leaving the patient to die of inanition.

Hyperchlorhydria.

The term hyperchlorhydria is used to define that condition in which there is secreted a gastric juice that contains an excess of hydrochloric acid, which is associated with very definite symptoms of pain and discomfort directly the stomach has parted with the food from the last meal, a distress that is sometimes known as "hunger" pain.

The conclusions arising from a large experience of these cases is that such symptoms are generally, if not always, associated either with ulcer of the stomach or of the duodenum or both. If the symptoms are not relieved by careful dieting and medical treatment, surgical means should be resorted to in the shape of gastro-enterostomy; an operation which under these circumstances is attended with little or no risk, certainly not more than 1 or 2 per cent., and which from personal operative experience I can say is likely to prove absolutely curative.

Under this same heading may be classed *spasm of the pylorus*, or Reichmann's disease, which is usually associated with excessive acidity and dilatation of the stomach. After failure of general means, surgical treatment may with confidence be recommended.

Pylorodiosis, or stretching of the sphincter, may be effectual in relieving spasm and in producing immediate relief to the obstruction, but it is apt to be followed by relapse from laceration of the mucous membrane and consecutive irritation leading to cicatricial stenosis; or if the stretching has been insufficient the spasm speedily recurs.

I have therefore given up Loreta's operation in favour of posterior gastro-enterostomy, which is not only a more efficient but a very much safer procedure, and one which proves curative in these cases.

Persistent Gastralgia.

Cases must have occurred in the practice of every physician

in which, although the positive signs of ulcer were absent, gastralgia of such intensity had persisted, and in case of temporary relief had recurred so regularly, that the patient was brought to the last stage of exhaustion by an utter inability to take food because of the pain induced by swallowing even a mouthful of solids. Some of these cases are doubtless due to simple ulcer, but in others the absence of tenderness in the epigastrium, of rigidity in the recti, of regular vomiting, and of haematemesis, makes the diagnosis extremely doubtful. Even rectal feeding and absolute rest in bed do not always cure the condition, and the patient gradually loses weight and strength and passes into a state of chronic invalidism, without any positive sign of organic disease. After all ordinary means have failed, gastro-enterostomy is well worthy of consideration, and I know by practical experience in several cases how beneficial it may prove.

Conclusions.

In giving my views on the surgical treatment of non-cancerous diseases of the stomach, I have recorded, not only the immediate results of operative treatment, but have done my best to ascertain the after-results of the cases operated on and the present condition of the patients after they have returned to their ordinary mode of life. With this end in view I wrote to the medical attendants of all the patients on whom I had operated in private, and directly to all my hospital cases. With only one or two exceptions the kindness of my medical *confrères* has enabled me to trace all my private cases, but, as can be readily appreciated, the record of the hospital cases is much less complete.

The results incorporated in this paper will, I hope, prove of interest, for the subject is of considerable importance, especially in connexion with the operation of gastro-enterostomy, which is still regarded by many as on its trial. A physician of great eminence told me that he hesitated to recommend it, first, on account of the danger of the operation itself, and secondly, because of certain complications, such as regurgitant vomiting, which were apt to follow its performance.

The first objection can at once be disposed of by my showing that in a large series of cases the operative mortality of posterior gastro-enterostomy for ulcer in my private practice has been only 1 per cent., and that I have had a consecutive series of 77 cases without a death; moreover, even including every one of my cases, both malignant and simple, in hospital and private, the total mortality has been only 3.7 per cent.

With regard to the second objection, of the complication of regurgitant vomiting, this does not occur if the simple rules that I have mentioned are followed out, and I cannot see either the necessity or desirability of adding to the length of the operation by occluding the pylorus, or by short-circuiting the jejunum in order to avoid a complication which should never occur.

The after-results of gastro-enterostomy due to pyloric obstruction are most satisfactory, but the same cannot be said in atonic dilatation, for which surgical treatment is rarely justifiable.

As a means of securing rest to the stomach, pylorus, and duodenum in haematemesis or melaena from ulcer, gastro-enterostomy has proved most efficient, and it is rarely necessary in such cases either to perform an exploratory gastrotomy for the purpose of seeking the bleeding point or to perform excision of the ulcer.

In the treatment of chronic ulcer the after-results of the operation of gastro-enterostomy have shown in my hands 92 per cent. of cures; but in estimating the value of gastro-enterostomy we must not lose sight of the fact that if gross organic damage, with distortion of the stomach and intense perigastritis with adhesions have occurred, simple drainage of the stomach cannot undo the mischief of years of disease, it can only enable the stomach to discharge its contents without serious effort and pain, and by averting the accumulation of irritating secretion it allows the old ulcers to heal and prevents the formation of new ones. It should not, therefore, be forgotten that many of these patients with advanced disease, though saved from the dangers of haemorrhage and perforation, can hardly hope to be able to throw aside all prudence in diet, nor should they be led to suppose that if they depart from moderation in living will they be spared from some of their old pains and inconveniences.

Though the immediate effects of pyloroplasty are excellent, and in some cases absolutely curative, yet it must be confessed that the operation, ingenious and safe as it is, is too frequently followed by relapse to enable it to hold a place in the surgery of pyloric stenosis from ulcer, though it may possibly have a rôle in spasm or hypertrophy of the pylorus, especially in the congenital form, in which disease it has in fact given very fair results.

Perhaps the more extensive opening made by Finney may prove more successful, but the time has not arrived to pronounce an opinion on the after-results of Finney's operation.

I think that I have said enough to show that although in the early stages of diseases of the stomach medical treatment has a great rôle to play, yet that the time has passed when the physician is justified in persisting with medical treatment month after month and year after year in cases which, if handed over to the surgeon in time can be effectually cured, and that with little risk, but in which, if transferred in the later stages, when deformities have been produced, when the vital forces have been sapped, or when malignant disease has supervened, relief only, and that with increased risk, can be afforded by surgical treatment.

Reference.

1 *Diseases of the Stomach*, p. 469.

SEVENTY-THIRD ANNUAL MEETING

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PROCEEDINGS OF SECTIONS.

SECTION OF SURGERY.

Sir Charles Ball, M.D., F.R.C.S., President.

A DISCUSSION ON THE SURGICAL TREATMENT OF THE NON-MALIGNANT DISEASES OF THE STOMACH.

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In order to endeavour to facilitate discussion and to render methodical what might otherwise be haphazard, and prompted only by momentary impressions, I have had printed the material upon which the remarks I have now to make will be based; and I have, in addition, prepared a detailed account of all the cases of non-malignant diseases of the stomach upon which I had operated up to June 1st of this year

The subject with which we are to-day concerned is the surgical treatment of the non malignant diseases of the stomach, and I have, for the purpose of simplifying discussion, divided the subject into four groups:

1. Perforating ulcer of the stomach and duodenum.
2. Ulcer of the stomach or duodenum in which treatment is urgently required on account of haemorrhage.
3. Chronic ulcer of the stomach and duodenum.
4. Hour-glass stomach.

It will be seen that I have included ulcers of the duodenum in the subject for discussion; indeed, I could hardly do otherwise, for, clinically and pathologically, the two diseases are closely allied, and in practice they not seldom exist together.

1. *Perforating ulcer of the stomach and duodenum* is of three varieties: Acute, subacute, and chronic.

In acute perforation the ulcer gives way suddenly and completely. A larger or smaller hole results, and through this the stomach contents are free to escape at once into the general cavity of the peritoneum.

In subacute perforation the ulcer probably gives way almost as quickly as in the acute form, but, owing to the small size of the ulcer, or to the emptiness of the stomach, or to the instant plugging of the opening by an omental flap or tag, or to the speedy formation of lymph which forms, as it were, a cork or lid for the ulcer, the escape of fluid from the stomach is small in quantity and the damage inflicted thereby is less considerable. The symptoms at their onset may be as grave as those in acute perforation, but on opening the abdomen the ulcer may be sealed over, and no further escape of fluid is occurring. Free fluid is always present in the abdomen; it is clear and it is sterile. It is due to the response made by the

peritoneum to the threatened invasion by the harmful contents of the stomach or duodenum.

In chronic perforation the ulcer has slowly eaten its way through the stomach coats, and a protective peritonitis has had time to develop at the base. The escape of stomach contents is, therefore, merely local; barriers of lymph confine the fluid to a restricted area, and perigastric abscess forms. A chronic perforation occurs more frequently on the posterior surface of the stomach, and the perigastric abscess occasioned thereby is recognized as "subphrenic." The acute and subacute forms of perforating ulcer are more common on the anterior surface.

Recovery from these conditions is possible apart from operation. It is, however, doubtful whether recovery ever does follow the acute perforation of an ulcer. It is more than probable that the patients who recover have suffered from the subacute rather more than the acute form.

With regard to treatment, four points especially seem to me to need discussion:

(*a*) The necessity or propriety of the excision of the ulcer.

(*b*) The desirability of lavage or drainage of the abdomen.

(*c*) The need for the performance forthwith of gastro-enterostomy.

(*d*) The desirability of emptying and lavage of the stomach.

(*a*) There is certainly no need to excise the ulcer, and most surgeons, including myself, do not excise as a routine procedure. In carrying out the excision precious time may be wasted, bleeding may be profuse, and there may be much soiling of the parts as a result of the continued escape of fluid through the opening in the stomach.

(*b*) The question of the desirability of lavage or drainage of the peritoneum is determined chiefly by the time which has elapsed since the perforation occurred, but other factors which bear upon this point are the presence or absence of vomiting, the size and number of the perforations, the extent and character of pre-existing adhesions which have limited the spread of the escaping fluids. The earlier the case is seen the less need is there for lavage or drainage, and vice versa. If lavage is used drainage is necessary, and should be free.

(*c*) The need for the performance of gastro-enterostomy at the time of the closure of the ulcer will depend upon the position of the ulcer and upon the existence of more ulcers than one. If the ulcer be near the pylorus, on either side, and the passage be blocked by the infolding which is a necessary part of the suture, then gastro-enterostomy must be performed. The frequency with which gastro-enterostomy, either at the moment or in a later stage, is necessary is referred to in my summary of cases.

(*d*) The emptying and lavage of the stomach is a matter which should receive attention far more frequently than it does. The stomach is almost always full of a dirty turbid fluid, which has to be mopped up constantly from the opening in the stomach. It is a simple matter, one which renders the operation simpler and cleaner, to empty the contents through the stomach tube.

Subacute perforating ulcer—a condition which has passed almost unrecognized—differs in many respects from the acute form. There is little or no leakage into the peritoneum; by the time that the ulcer has penetrated in its languid process the serous coat of the stomach, a strong barrier of lymph has been thrown out to protect the peritoneum, or the tiny opening has been instantly plugged with omentum. The fluid found in the peritoneum is clear serous effusion, possessing an active antibacterial property. If such an ulcer lie near the pylorus, there is no need to separate the ulcer from its adhesions if these are firm. A gastro-enterostomy may be performed, and the ulcer be left untouched.

2. *Ulcer of the Stomach or Duodenum in which Treatment is urgently required on account of Haemorrhage.*—The bleeding from gastric or duodenal ulcers is recognizable either as haematemesis or as melaena. In lesser degree these symptoms are seen not infrequently; in their severer forms they are of dire significance, and may be the sole cause of the patient's death. It is but rarely that the surgeon is called upon for so momentous a judgement as is necessary in cases of severe haematemesis or severe melaena, for the condition of the patient is poor, even at times desperate. Operative intervention is therefore hazardous; yet a continued bleeding will in certain cases inevitably end in death.

It is necessary to emphasize the fact that haemorrhage may manifest itself under entirely different circumstances in different patients. In some it is the earliest, and for a time the only symptom of gastric disturbance; in others it is the last expression in a long and tedious course of symptoms. In other words, the haemorrhage may occur from an acute or from a chronic ulcer of the stomach or duodenum. It will be found, when the clinical history of a series of cases is examined, that whereas in the latter the bleeding varies within the widest limits as regards both quantity and frequency, in the former the clinical history is repeated in case after case in a most remarkable manner.

Haemorrhage from an Acute Ulcer.—Under the term "acute ulcer" of the stomach are probably included several varieties of pathological conditions which are different in causation, different in destiny, but alike in the single fact that their clinical recognition is due to the bleeding which occurs from them in abundant quantity. There is the ordinary peptic ulcer; there is the minute erosion, barely recognizable even on close scrutiny, which yet opens up a vessel; and there are "weeping patches" and "villous areas," and similar indeterminate and unnumbered conditions which have been recognized when the stomach has been explored during life. To the clinician all these conditions are betrayed by their tendency to haemorrhage.

In almost every instance the haemorrhage is the first symptom. Even on close inquiry it is difficult to elicit any history of antecedent gastric discomfort. The vomiting of blood comes unexpectedly and suddenly; a large quantity of blood is lost, and the patient suffers, often in an extreme degree, from the symptoms of haemorrhage. The pulse becomes feeble and fluttering, the face waxen, the breathing rapid and shallow, the body surface cold or clammy. For a time the symptoms may give rise to serious alarm, but a rally is seldom long delayed. The bleeding is checked spontaneously, and vomiting is rarely repeated, or, if repeated, the quantity of blood lost is but small.

In several of my cases a sudden, apparently causeless, haemorrhage has ushered in a long train of symptoms of dyspepsia. The acute ulcer has been the precursor, or rather the earliest stage, of a chronic ulcer.

The characteristics of haemorrhage from an acute gastric ulcer are, therefore, spontaneity, abruptness of onset, the rapid loss of a large quantity of blood, the marked tendency to spontaneous cessation, the infrequency of a repetition of the haemorrhage in anything but trivial quantity, and the transience of the resulting anaemia.

Haemorrhage from a Chronic Ulcer.—The bleeding from a chronic ulcer of the stomach or duodenum may vary within the widest limits both of frequency and of quantity. For convenience of description I should arrange the cases in four groups:

(1) In the first the haemorrhages are latent or concealed. The blood is small in quantity, and may be recognized only after minute examination of the stomach contents or of the faeces. The estimates given by various writers as to the occurrence of haemorrhage in ulcer vary between 20 and 80 per cent., and we are entitled to assume that this wide divergence of statement is due not so much to differences in the symptoms of ulcer, but rather to the varying degrees of closeness with which the causes are observed, and to differences in the frequency and minuteness of examinations of the stomach contents or the faeces. It would probably not be rash to assume that all ulcers of the stomach or duodenum bleed at some time or other; but, if the bleeding be trivial and infrequently repeated, it is never likely to obtain clinical recognition.

(2) In the second group those cases should be included which are characterized by intermittent haemorrhage. The bleeding is copious but transient, and occurs at intervals of two, three, or more months.

In all the cases in this group indigestion is a prominent symptom. The haemorrhage often occurs without cause, but at times there may have been noticed an exacerbation of gastric discomfort and uneasiness for a few days. Anaemia is almost constant.

(3) In the third group the cases are characterized by haemorrhages, which are rapidly repeated, and on all occasions abundant. In the majority of patients the symptoms of indigestion which have been noticed for months or years before have undergone an appreciable increase in the recent days. Then, suddenly, the haemorrhage occurs—a large quantity, a pint or a pint and a half, of blood is vomited. The patient may faint from loss of blood; he shows always the general symptoms of bleeding. For twelve to twenty-four hours the vomiting ceases, to reappear at the end of this time, without apparent cause, and in equal or greater quantity. A second latent period is followed by a further haemorrhage, and so the patient becomes in a condition of the gravest peril.

(4) The fourth group would comprise those cases in which the haemorrhage occurs in enormous quantity, inundating the patient and leading to almost instant death. The opening of the splenic artery, the aorta, the vena cava, or the pancreatico-duodenal vessels allow of the so rapid escape of blood that the patient dies as surely and as swiftly as if his carotid or femoral vessels were divided. Such cases, fortunately, are rare. In my own experience only one such example has occurred, a large oval opening being then found in the splenic artery.

If, then, we accept the classification, in cases of haemorrhages from gastric or duodenal ulcer, into the four groups suggested, we may define their characteristics as follows:

(1) The haemorrhage is latent or concealed, is always trivial, and often inconspicuous (an inconsiderable factor).

(2) The haemorrhage is intermittent, but in moderate quantity, occurring spontaneously and with apparent caprice at infrequent intervals. The life of the patient is never in jeopardy from loss of blood, though anaemia is a persisting symptom.

(3) The haemorrhage occurs generally, but not always, after a warning exacerbation of chronic symptoms. It is rapidly repeated, is always abundant, its persistence and excess cause grave peril, and will, if unchecked, be the determining cause of the patient's death.

(4) The haemorrhage is instant, overwhelming, and lethal.

Treatment.—In dealing with haemorrhage from the stomach or duodenum two plans may be followed. By the first, the surgeon makes a search for the ulcer or ulcers, and deals with them directly by excision, ligature, cauterization, or otherwise; by the second, he deals with the haemorrhage indirectly by performing gastro-enterostomy as speedily as possible. By this operation the stomach is emptied and allowed to contract, and opportunity is thus given to the ulcer to heal.

With regard to the former method—the method of search for, and direct treatment of, the ulcer—there can be no question that it is the more desirable. When a vessel is bleeding the surgical indication is to secure it with a ligature, or in some other direct method to effect its closure. In many cases this is possible. The ulcer can be felt when the stomach is gripped between the fingers, and it can then be easily excised. This I have done in four cases. In other instances, however, the ulcer may be found adherent to the pancreas, to the liver, or even to be excavating these organs; or, as in one case of my own, a large mass of induration may be found around the ulcer, and innumerable dense adhesions may also be present; or more ulcers than one may be found—one ulcer may be felt in the stomach and one in the duodenum; or, finally, the most deliberate search of the whole stomach may fail to disclose any sign of ulcer. In all these circumstances the excision of the ulcer or the direct treatment of the bleeding-point may be impossible, and recourse would then, of necessity, be had to the indirect method—the performance of gastro-enterostomy.

An inquiry into the records of cases which have been dealt with by the direct method shows that the bleeding point may be impossible to discover; that although blood can be seen to well up from the stomach wall, no single point can be recognized as its source. The whole surface seems to be weeping blood. Furthermore, when a definite excavation or erosion or ulcer has been recognized, and has been treated directly by ligature, cautery, excision, or curettage, and the stomach closed, the haemorrhage has continued as freely as before, and has proved fatal. At the *post-mortem* examination of such cases a second ulcer or multiple ulcers may be found, or it may happen that no obvious source of the bleeding is discoverable. Local treatment of the supposed source of the haemorrhage has, therefore, not always met with adequate success.

For these reasons many surgeons, including myself, have felt that, at any rate in the earlier cases treated, surgical methods have missed their mark. Painstaking investigation of the mucosa has proved futile, and ligation of the actual or supposed source of the blood has not achieved its purpose. The belief was therefore expressed and acted upon that in many cases local treatment was unnecessary; in many it was impossible; in all, the desired end—the arrest of haemorrhage—could be secured at least as well by other and safer methods. Gastro-enterostomy, it was found, led, in all my cases, to an instant cessation of the bleeding and to the speedy and complete healing of the ulcer. The explanation of this was, it seemed to me, as follows: In all cases of haematemesis or melaena the tendency to spontaneous cessation is known to be remarkable; the cause of the continuance of the haemorrhage in certain cases, I concluded, after an examination of several cases during operation, must be distension of the stomach. In most of the patients upon whom I operated the stomach was so tightly inflated that manipulation of it was difficult; in one the distension was so marked that I had to puncture the stomach before beginning the anastomosis with the jejunum. The operation of gastro-enterostomy could be seen to result at once in an emptying of the stomach into the jejunum. In cases of haemorrhage, therefore, I advocated the performance of gastro-enterostomy as the safest, speediest, and surest method of checking the outpouring of blood. My own practice has justified my advocacy of this method: in no case have I found reason to regret having adopted it. In all, the arrest of the haemorrhage has been complete and permanent.

This, however, has not been the experience of others. Many cases are recorded where haemorrhage continued after gastro-enterostomy had been performed, and proved fatal. Kocher, Quenu, and Petersen, all have met with this experience. In other recorded cases I am disposed to blame, not the gastro-enterostomy for failing to arrest the haemorrhage, but a Murphy button which had passed into the stomach, for causing its continuance.

The cases in which gastro-enterostomy has failed to arrest the haemorrhage are few, and in some of these the means employed in making the anastomosis are perhaps not free from blame.

It is, therefore, clear that both the direct and the indirect method of dealing with the ulcers have at times proved unavailing. The safest course to pursue, whenever it is possible, is to secure, first of all, the bleeding point, if it can be determined with certainty, and subsequently to perform gastro-enterostomy.

3. *Chronic Ulcer of the Stomach and Duodenum.*—Chronic ulcer of the stomach is, in certain cases, the result, or the remainder, of an acute ulcer which, for some reason, has refused to heal. In other cases no history of acute ulceration can be elicited; the symptoms come on insidiously and increase so gradually that it is often impossible for a patient to give an approximate statement as to the time when the inaugural symptoms were first noticed. In a few of my cases quite characteristic chronic ulcers have been found in conditions which show without doubt that months or years before there had been a subacute perforation of an ulcer, with adhesion of the ulcer to the liver or abdominal wall, and some destruction of these latter where they formed the protective base of the ulcer.

From the statistics which have been collected by Welch, Fenwick, and others, it would appear that, though acute ulcer is very much more frequent in the female than in the male, the reverse holds good with regard to chronic ulcer. Of 89 cases of ulcer seen by Fenwick, 30 were acute, and of these 3 were in men and 27 in women; and 59 were chronic, 44 in men and 15 in women. Dr. Seymour Taylor estimates that in chronic ulcer 72 per cent. are in men, 28 per cent. in women. In my own series of 198 cases, 84 were men and 114 women. The ages varied from 17 to 73. It has seemed probable in a very few cases in my series that the condition of ulceration had been determined by some congenital fault in the stomach, similar to, or of the nature of, the so-called "congenital hypertrophic stenosis."

The conditions which chronic ulcer in the stomach may cause are linear scarring and puckering of the stomach, circular scarring, which at the pylorus gives rise to a considerable narrowing of the outlet of the stomach, and in the body of the organ causes hour-glass stomach, induration and thickening in and around the ulcer, so that a definite and palpable tumour is formed, adhesions which fix the ulcer to the liver, pancreas, diaphragm, or abdominal wall, each of which may be deeply eroded by the ulcer.

The presence of an ulcer in the stomach may be recognized at once, or it may be difficult or even impossible to demonstrate. If the ulcer be small it may perhaps be recognized as a small shot-like nodule in the mucosa, or by an inability to slip the mucosa away when the stomach is gripped between the finger and thumb, or by slightly stretching the walls of the stomach over the finger, when a very pale spot may be seen at once. It is possible to confuse the irregular ridges raised up by the contracting muscle of the stomach, and some yellow cords, possibly lymphatics, on the posterior surface, with an ulcer, but a little experience enables one instantly to differentiate. The surgeon may be much aided in his search by observing an enlarged gland, appropriately termed the

'sentinel gland" by F. B. Lund, on the lesser curvature, or more rarely on the greater curvature. The gland being found, its tributary area will show evidence of ulceration if careful search be made. This is more especially useful in cases where recent inflammation has occurred, as in perforation or haemorrhage.

The tumour-mass which results from the exudation and induration around the base of an ulcer may be almost impossible to distinguish from a malignant growth. In my early cases I made at least three such mistakes, and patients whom I then supposed to be suffering from carcinoma, too advanced for removal, are to day quite well, and the tumours have disappeared. On the contrary, I have, in one case, mistaken a malignant growth near the pylorus for a simple one, and though in this instance the possibility of the grafting of malignant disease on the base of a chronic ulcer cannot be denied, the length of life (14 months) seems more in keeping with the suggestion of a mistaken diagnosis. I am strongly of the opinion that I can now differentiate between simple and malignant tumour masses without difficulty. In malignant disease the growth is irregular, nodular, gritty on the surface, the edge is infiltrating, and the glands are hard. In simple disease, the surface everywhere is smooth, the peritoneum has a milky opacity, and the glands, if enlarged, are soft. Intimate adherence to the parts around is more often seen in simple than in malignant disease.

In the majority of the cases in which the surgeon is called upon to interfere for symptoms due to chronic ulcer of the stomach the ulcer will be found at or near the pylorus. In such cases, either by reason of the induration around the ulcer, or because of the contraction which occurs in the attempt at healing, a definite and constant obstruction is placed in the way of the food in its passage to the duodenum. As a result of this, a dilatation and a hypertrophy of the stomach are found, and investigation by the aid of test meals shows that there is stasis of the gastric contents, sometimes for many hours. In the most characteristic of such cases the patient is a thin, haggard, dejected-looking individual, with cold and cyanosed extremities. He has little or no zest for food, and by long and bitter experience has learnt that any, the slightest, indulgence in the luxuries of the table will be visited upon him in subsequent disasters. He has learnt that solid foods are not for him, that they cause pain, and flatulence, and cramp both in the abdomen and in the limbs. Food taken remains stagnant for days, and the débris may be recognized four or five days after in the vomit. The most phenomenal instance of this stagnation in the stomach was afforded by a patient of mine, who vomited in May plum-stones that he remembered to have swallowed the preceding August. In the later stages, tetany and the most painful nocturnal cramps in the limbs may be noticed. Constipation is also a constant feature. In other cases, an ulcer at the pylorus may be associated with an ulcer in the body of the stomach, or the latter may exist alone.

The diagnosis of ulcer in the stomach is not made as often as it should be, and practically nothing has been done in aiding us to determine the position occupied in the stomach by an ulcer. It is generally assumed that vomiting, or haematemesis, or melaena, or all three, must be present before a reasonably safe diagnosis can be made. I have found that, as a rule, the existence of the ulcer can be asserted, and its exact position foretold, with an approximation to accuracy.

The time of the onset of pain after food is a matter of the greatest importance. Its significance has been scoffed at by many an able physician, but of its value I am abundantly confident. The researches of Professor Birmingham upon the anatomy of the stomach make it quite easy to understand how it is that the nearer an ulcer lies to the cardia, the sooner is it brought into contact with food, and the sooner, therefore, will pain thereby be elicited. If pain comes on within half an hour of the taking of food, the ulcer is almost certainly within the cardiac half of the stomach. In such a case, at the time of operation, an ulcer may be seen at the pylorus, and the observation of pain early after food at once be discredited. But a further and more careful search will reveal a second ulcer in the position that might have been foretold. It has seemed to me that the want of recognition of the undoubted true relationship between the taking of food and the onset of pain is due to ignorance of the fact of the multiplicity of gastric ulcer in a large proportion of cases.

I have not found that postural changes, and the influence they have upon the pain, are of much significance.

Dr. James Mackenzie, of Burnley, some time ago called my attention to an observation of his which was to this effect: that tenderness upon the surface of the body gave an indication of the position of an ulcer in the stomach. Upon a line drawn from the xiphoid cartilage to the umbilicus, the higher the tenderness, the nearer would an ulcer, which was the cause of it, be to the cardia; the lower the tenderness the nearer would an ulcer be to the pylorus. The tenderness is best elicited by pressure upon a restricted area, or by pinching up the skin between the finger and thumb. During the last twelve months or more, I have put this matter rigidly to the test. There can be no doubt that when an ulcer is near the cardia, and on the lesser curvature (a common position), there is tenderness high up in the epigastrium and to the left, and in some patients there is tenderness along the left costal arch, or pain may be elicited by firm pressure with the finger along the rib-margin. Tenderness above and a little to the right of the umbilicus is elicited in cases of pyloric ulcer.

The radiation of the pain is also of value. I have noticed that in three cases where ulcers on the lesser curvature or on the anterior surface of the stomach near to the pylorus were adherent to the under surface of the liver, the pain radiated upwards to the right side of the chest and into the right breast. In two cases where ulcers were found adherent to the diaphragm on the left side the pain radiated upwards into the left breast.

In pyloric or duodenal ulcer, with some plastic peritonitis around the ulcer, there has been a sudden exacerbation of pain on laughing, or when a deep breath is taken, and the patient feels that something drags when she attempts to straighten herself.

It is highly desirable that in the future accurate observations should be kept upon all these points, so that we may be in a position to assert with reasonable probability not only that an ulcer is present, but to say also where it lies, and whether it has contracted adhesions in any particular direction. This is work that must be done, and can indeed only be done by the surgeon. The evidence of the *post-mortem* room is of infinitely small significance compared to the evidence that he can bring in such a matter.

Vomiting is in many cases an inconspicuous and infrequent symptom. It is only in cases of marked obstruction to the onward passage of food that it is fairly constantly found. It is not frequent as a symptom because it is not elicited. Patients find, by experience, that there are certain foods, chiefly solids, that cause vomiting always; they discontinue these foods and cease to vomit. But vomiting, when thus latent, so to speak, can always be aroused by a return to the former dietary.

In many cases of chronic gastric ulcer the physical signs may be conspicuous by their absence, there may be no dilatation of the stomach, no local tenderness, no gastric stasis, and no obvious peristaltic waves, yet the surgeon is justified in operating if chronic inveterate dyspepsia is present, and he will find abundant justification in almost all cases in the conditions disclosed when the abdomen is opened. There may be an ulcer of the lesser curvature adherent to the diaphragm or to the liver, or an excavating ulcer on the posterior surface, the pancreas being deeply eroded, or adhesions, localized or widespread, indicating a former subacute or acute perforation, or an hour-glass stomach. The fact is undoubted that in many cases dyspepsia of the inveterate type depends upon an interference with the mechanics, not with the chemistry, of the stomach. The history which is told by patients who suffer from chronic ulcer is monotonous in its repetition of the same facts: there are constantly-recurring "attacks" of pain, vomiting, distension, loss of weight; in the intervals comparative freedom from suffering exists, but the intervals become by degrees shorter, and the attacks more severe, until finally all solid foods are abandoned, and the patient drifts into the chronic misery of the dyspeptic. Rest in bed and rectal feeding give a brief respite to suffering, but surgical treatment alone is of any real value. The operation that has to be done varies with the conditions found. Adhesions should always be separated, if possible, though, when the condition which produces them has been caused to heal, they will often disappear of themselves. Excision of a single ulcer, if a single ulcer be happily found, should be undertaken. As the cases are seen now, multiple ulcers are the rule, but the second and all later ulcers are not improbably due to infection from the first, and it is, therefore, almost certain that when the benefits of surgery in this class of case is realized we shall be called upon to treat the conditions in an earlier stage, and single ulcers may then be

found. Being so found, it will, very probably, be the best treatment to remove them. At present the two operations practised are gastro-enterostomy and gastro-duodenostomy, by Kocher's method or by Finney's method.

The results of the surgical treatment of the simple diseases of the stomach, both in its immediate benefits and in its remote results, are such that it is not too much to say that in all cases of chronic ulcer of the stomach the question of operation should be considered, and should be considered early. The complications of ulcer of the stomach, perforation, haemorrhage, and cancer are preventable conditions. A reference to my case-records shows that perforation and haemorrhage occurred almost always in cases of ulcer in which medical treatment had been tried with little success. The opinion of all surgeons with great experience in these matters is that cancer of the stomach is engrafted upon ulcer, or is secondary to ulcer in the majority of cases.

In the early days of stomach surgery the results were not such as to justify any enthusiasm, but the results now obtained show that for chronic ulcer the treatment should be surgical, and not medical. The mortality is less, the results better, and the risks from lethal complications are avoided.

The question as to the operation to be practised is still open for discussion. In the early days the indication to be met was gastric retention, due to mechanical blocking of the pylorus. In such cases gastro-enterostomy was and is the operation of choice. The results are remarkable, and will probably challenge favourable comparison with the results of any other surgical operation elsewhere. For chronic ulcer at or near the pylorus, with thickening and induration, I think that gastro-enterostomy will remain the operation of choice.

When the ulcer is in the body of the stomach, or, at any rate, does not involve the parts in the immediate neighbourhood of the pylorus, other measures will probably displace gastro-enterostomy, at least to some extent. Finney's operation of gastro-duodenostomy has been devised for the purpose of affording in the normal position an outlet to the stomach which is much larger than the normal, and is of such capacity that subsequent narrowing in the process of cicatrization cannot affect it materially.

4. *Hour-glass Stomach.*—An hour-glass stomach may be congenital or acquired. Congenital hour-glass stomach, the existence of which I have formerly disputed, is extremely rare. Only one possible case has been reported. Acquired hour-glass stomach may be due to the contraction of a chronic ulcer situated in the body of the organ, to cancer, to localized perforation (subacute perforation) of an ulcer in the body of the stomach followed by adhesion and anchoring of the stomach to the anterior abdominal wall or to the pancreas, and, finally, to perigastric adhesions which compress the stomach at or near its centre. In one remarkable case upon which I operated two constrictions were present, so that a triloculated stomach was formed.

The stricture which divides the stomach into two portions may be placed at any point between the cardiac and pyloric orifices. As a rule it is nearer to the pylorus than to the cardia, and as a result of the obstruction which it causes the cardiac pouch undergoes a marked dilatation. In the great majority of cases the greater curvature is pulled upwards to the lesser, but in two cases I have seen the normal outline of the greater curvature has been unaltered, the lesser curvature being tucked down towards it.

Hour-glass stomach is very much more common than was formerly believed. I have operated upon 19 well-marked examples. The condition, I believe, is occasionally overlooked, owing to an imperfect examination of the stomach. Two cases at least of this kind are reported. When, as not seldom happens, there is an obstruction at the pylorus as well as in the body of the stomach, the food, after passing from the cardiac into the pyloric pouch, again meets with an obstruction, and finds great difficulty in escaping through the narrowed pylorus into the duodenum. The pyloric pouch then becomes gradually dilated and hypertrophied. It may, indeed, be so large that when the abdomen is opened it is mistaken for the whole stomach and a gastro-enterostomy is performed between it and the jejunum. Such an operation is, of course, doomed to complete failure; for the symptoms are mainly due to the stenosis between the cardiac and the pyloric pouch, which is unrelieved. The most necessary precept to bear in mind in operating upon the stomach is that the whole stomach, from cardia to pylorus, should be seen and felt before any anastomosis is made. In at least three recorded cases a lack of adequate and precise knowledge of the condition of the stomach has led to futile measures and fatal results.

The diagnosis of an hour-glass stomach can generally be made with confidence if attention is paid to certain signs. These are:

1. If the stomach tube be passed, and the stomach washed out with a known quantity of fluid, the loss of a certain quantity will be observed when the return fluid is measured. Wölfler, who called attention to this sign, said that some of the fluid seemed to disappear "as though it had flowed through a large hole," as indeed it has in passing from the cardiac to the pyloric pouch (Wölfler's "first sign").

2. If the stomach be washed out until the fluid returns clear, a sudden rush of foul, evil-smelling fluid may occur; or if the stomach be washed clean, the tube withdrawn and passed again, in a few minutes several ounces of dirty, offensive fluid may escape. The fluid has regurgitated through the connecting channel between the pyloric and cardiac pouches (Wölfler's "second sign").

3. Paradoxical dilatation—if the stomach be palpated and a succussion splash obtained, the stomach tube passed and the stomach apparently emptied, palpation will still elicit a distinct splashing sound. This is due to the fact that only the cardiac pouch is drained; the contents of the pyloric remain undisturbed and cause the splashing sound on palpation. For this phenomenon Jaworski has suggested the appropriate name "paradoxical dilatation." Jaboulay has pointed out that if the cardiac loculus be filled with water, a splashing sound can still be obtained by palpation over the pyloric pouch. The sign of paradoxical dilatation is best elicited after washing out the stomach in the ordinary manner. When the abdomen is examined at the completion of the washing, and when the stomach has been apparently drained quite dry, a splashing sound is readily obtained, for some of the fluid used has escaped into the pyloric pouch through the connecting channel.

4. Von Eiselsberg observed in one of his cases that on distending the stomach a bulging of the left side of the epigastrium was produced; after a few moments this gradually subsided, and concomitantly there was a gradual filling up and bulging of the right side.

5. Von Eiselsberg also called attention to the bubbling, forcing, "sizzling" sound which can be heard when the stethoscope is applied over the stomach after distension with CO_2. If the two halves of a seidlitz powder are separately given and the stomach be normal or dilated, no loud sound is heard anywhere except at the pylorus; if a constriction is present in the stomach, a loud, forcible, gushing sound can be easily distinguished at a point 2 or 3 in. to the left of the middle line.

6. I first called attention four years ago to a sign which I have since found of great service in establishing a diagnosis of hour-glass stomach. The abdomen is carefully examined, and the stomach resonance percussed. A seidlitz powder in two halves is then administered. On percussing after about twenty or thirty seconds, an enormous increase in the resonance of the upper part of the stomach can be found, while the lower part remains unaltered. If the pyloric pouch can be felt or seen to be clearly demarcated, the diagnosis is inevitable, for the increase in resonance must be in a distended cardiac segment. If the abdomen be watched for a few minutes, the pyloric pouch may sometimes be seen gradually to fill and become prominent.

7. Schmidt-Monard and Eichhorst have seen a distinct sulcus between the two pouches inflated with CO_2. This condition I have twice seen very distinctly.

In many cases of hour glass stomach, as I have said, there is, in addition to the constriction in the middle of the organ, a narrowing due to old ulceration at the pylorus. It is because of this dual stenosis that the treatment by operation is often a matter of difficulty. In such circumstances no single operation will suffice to cure the patient; for if gastro-enterostomy is performed between the cardiac complement and the jejunum, food will escape through the isthmus into the pyloric pouch, and there stagnating will undergo decomposition and cause distension, flatulence, pain, and the occasional vomiting of putrid fluids. If the anastomosis is made between the pyloric pouch and the jejunum, the symptoms which the operation was destined to relieve will persist. In these cases, therefore, a double operation must be performed; a free passage must be made from the cardiac pouch to the pyloric, and thence to the jejunum. The following operations may be performed:

1. Gastro-enterostomy, single or double.
2. Gastroplasty.
3. Gastro-gastrostomy or gastro-anastomosis,

4. Partial gastrectomy.
5. Dilatation of the constriction.
6. Monprofit's operation: Double gastro enterostomy in Y.

II.—Robert Saundby, M.D., M.Sc., F.R.C.P.,
Professor of Medicine, University of Birmingham.

Some degree of courage seems to me to be required in a physician to face an audience whose minds are flushed with the recital of Mr. Moynihan's brilliant successes and filled with the anticipation of the future undisputed dominion of surgery over the entire field of medical practice. Nor are surgeons alone in this forecast, for Professor Clifford Allbutt sees no room in the future for the non-operating practitioner. This view seems to me to leave out of account the rarity of the qualities which go to the making of a physician and a surgeon respectively, and the still greater rarity of the union of these qualities in one individual. The man who shines as an operator is seldom patient of the slow processes by which a medical diagnosis is reached, and prefers to cut them short by an exploratory incision. I do not wish to claim for physicians a monopoly of diagnostic skill—for of that kind, derived from experience which in its marvellous rapidity seems almost intuitive, surgeons have their full share—but the method of the trained physician appeals to a different but not an inferior order of mind and by no means deserves to be neglected, for it fills a gap which would otherwise yawn very widely. When all the crooked ways of pathology shall have been made straight and all the rough places of diagnosis plain, then may not surgery itself be reduced to mechanism and the surgeon be superseded by a girl pressing a button? Until that day arrives there should be room for both types of consultant.

Stomach conditions are pre-eminently those in which the co-operation of the medical and surgical elements in consultation is desirable. It is not satisfactory that a patient who has been seen by a physician and advised against operation should be afterwards seen by a surgeon, and an operation undertaken with a negative or possibly fatal result. Such errors might be prevented if, when an operation is contemplated, the two consultants were allowed to meet and discuss the question of treatment.

We may all heartily agree in congratulating surgery upon the great advances made in the successful treatment of formerly incurable cases of stomach disease; and in offering my tribute of admiration to Mr. Moynihan, who is one of the most prominent exponents of this department of surgery, I shall only express the general feeling of this Section. The cases he has laid before us, with few exceptions, justify his practice by their remarkable results, and are thereby placed beyond criticism. But a physician may be permitted to point out that he usually sees another aspect of these diseases, which makes him demur to the conclusion that such cases as those related are the rule even among those that come under the headings of "haemorrhage from gastric ulcer" and "chronic gastric ulcer." Haemorrhage from gastric ulcer is common, but rarely calls for operation; I have on several occasions consulted with a surgical colleague in the face of recurrent haematemesis, but no operation has been performed, and I have never had a fatal case. But I make a wide distinction between gastric and duodenal ulcer, for in haemorrhage from the latter cause I am of opinion that surgical help is imperative. In the treatment of chronic gastric ulcer I am satisfied with the results of medical means which cure a large proportion of cases, although, where the ulcer fails to heal or adhesions or constrictions follow, the indication for surgical assistance cannot be disputed.

The greatly-diminished mortality after stomach operations, so admirably illustrated in the splendid series of cases supplied by Mr. Moynihan, cannot be left out of account in estimating the propriety of operative interference in old-standing cases of ulcer. This is a condition which is rarely fatal when diagnosed and treated medically, and so long as the rate of surgical mortality was high, the risk to life might be allowed to outweigh the advantage of operation, but at present the operation in skilled hands is one which deserves to receive the support of the profession.

But such a passage as that on p. 31 of the volume of cases which Mr. Moynihan has laid before the Section is at least open to the possibility of being mistaken for a claim to extend exploratory operations beyond legitimate limits. The passage reads: "The surgeon is justified in operating if chronic inveterate dyspepsia is present, and he will find abundant justification in almost all cases in the conditions disclosed when the abdomen is opened." If it is intended to confine this expression of opinion to those cases in which there is a history of old gastric ulcer, I have no objection to it, but it might be taken to go much further than this. There is a numerous class of persons who suffer from "chronic inveterate dyspepsia" of nervous origin, which often goes on to atonic dilatation with recurrent gastritis, who are not only not benefited by operation, but are frequently made distinctly worse, while the operation exposes them to a risk of loss of life which is in no way imperilled by the disease. The failure of surgery to relieve these cases is attested almost unanimously by those surgeons who have been extensively engaged in operations on the stomach. There is another large group of cases of "chronic inveterate dyspepsia" depending upon improper mastication. These patients are either unable to provide themselves with artificial teeth or have failed to get a comfortable set, or are too impatient and nervous to get accustomed to their use. For their relief a surgical operation is not required, nor is it justified until the *indicatio causalis* has been fulfilled, even if some relief to their discomfort is afforded by making a large hole in the stomach.

III.—Professor Henri Hartmann, M.D.,
Paris.

I have performed 119 operations for non-malignant diseases of the stomach. For some of them I will content myself by mentioning the names:

4 perforated ulcers,
5 pylorectomies,
1 excision of lesser curvature,
2 gastroplications and gastropexies combined,
1 gastroplasty,
1 pyloroplasty,
1 duodenostomy,
1 gastrolysis,
1 section of kink of the pylorus.

Gastro-enterostomy.—The operation which I generally consider the best in the treatment of the non-malignant diseases of the stomach is gastro-enterostomy. Therefore this operation I am going to consider. I have performed it 102 times. The first 55 cases have been published already (*Travaux de Chirurgie Anatomo-Clinique*, première série). They are divided in two series.

The first series includes the cases operated on while I was assistant to Professor Terrier:

21 cases ... 5 deaths ... 23.7 per cent.

The second includes the cases operated in my clinic up to January, 1903:

34 cases ... 3 deaths ... 8.8 per cent.

My last series, still unpublished, includes:

47 cases ... 3 deaths ... 6.3 per cent.

The operative mortality has consequently been constantly diminishing. Now, I dare say that if the French physicians would advise the operation in time, which is unfortunately not the case, the operative mortality would be reduced and we should see almost all our patients cured.

The operation I perform resembles in many points the one described by my friends Dr. Mayo Robson and Dr. Moynihan (*Diseases of the Stomach*). I practise posterior gastro-enterostomy. I do not use clamps; I put the patient in a slight degree of the Trendelenburg posture. In that position all the contents of the stomach are in the cardiac part, and, if the patient is well anaesthetized, nothing escapes when you open the stomach.

I only leave about 8 or 9 cm. between the duodeno-jejunal flexure and the anastomosis, so that the gut descends in a straight line from the flexure to the posterior wall of the stomach.

I make the sutures with silk in two plans. The inner one embraces all the coats; it closes the cavities, and is haemostatic. The outer one includes the serous and muscular coats. I use the ordinary sewing needle, and make a continuous suture, knotting it several times, specially in the points where vessels are bleeding, and at the points where the suture is passing round the ends.

I make a long fixation of the intestine, going obliquely down and to the right; I open the stomach and the bowel only at the level of the inferior right part of the apposed portion.

As for the suture, I never had any accident. The complications I have observed most frequently are pulmonary. For

that reason I consider as very important the care of the mouth during the days previous to the operation. When, after the operation, the tongue is somewhat dry, the temperature higher than 37·5° C., I wash out the stomach with boiled water.

Only once have I observed a circulus vicious; in that case I did not fix the stomach satisfactorily at the opening in the mesocolon, which led to an ascent of the intestine loop through the opening. Sometimes I noticed a slight bilious regurgitation, but it ceased after washing out the stomach, followed by the immediate introduction through the tube of 150 to 230 c.cm. of milk.

Remote Results.—In the case of pyloric stenosis and in moderate haemorrhage recurring many times, the patients are cured by gastro-enterostomy. The remote results are also good in intractable ulcers not cured by medical treatment, or patients who suffer from hyperacidity, and who present the symptoms that I have described under the name of pyloric syndrome (pain and dyspeptic troubles arising three or four hours after meals without stasis of food) without or with hypersecretion of gastric juice (gastrosuccorrhoea).

Indications.—We do not accept the opinion of surgeons who say that operation is good in every case of intractable dyspepsia. If this practice is followed, a successful operation often results in therapeutical failure. Generally the mistake comes in the cases of nervous dyspepsia. Atonic dilatation with gastroptosis is rarely an indication for surgical interference. Out of my 119 operations there are only two such cases. These cases can be generally cured by medical treatment combined with a *sangle de Glénard*.

In pyloric stenosis the operative treatment is indicated as soon as the diagnosis is made. I cannot understand the distinction between the serious strictures and those in which the physician can relieve the painful symptoms for a time by diet. The cause remains, the patient gradually becomes weaker, and instead of coming in good condition, he comes to the surgeon more or less cachectic and often succumbs to pulmonary complications.

I am not so absolute in the case of ulcer without pyloric stenosis. The acute ulcer, without any complications, is cured by medical treatment. In chronic ulcer I think that surgical treatment is indicated only in the case of an ulcer with mechanical troubles, and in those of an ulcer which gives the pyloric syndrome. Delay is of no avail. Even if the ulcer can be cured, this cure will be followed by a fibrous stricture more serious than the spasmodic troubles from which the patient previously suffered.

I do not agree with the surgeons who say that excessive haematemesis needs an operation. The operative mortality is high, the cure by medical treatment frequent. I operate only when there is distension or peristaltic contractions of the stomach, and then I do only gastro-enterostomy. This operation—emptying the stomach, ensuring rest of the organ—is sufficient to arrest the haemorrhage. On the contrary, I operate in all the small and repeated haematemeses.

Choice of Operation.—When one has decided upon an operation the question arises: Which is the best? I do gastrectomy only in those cases in which I fear a carcinomatous grafting; in nearly all the cases I do gastro-enterostomy which seems to be, in non-malignant diseases of the stomach, the best operation. Twice I combined with success, in very severe cases of idiopathic dilatation and gastroptosis, gastroplication and gastropexy.

IV.—J. M. T. Finney, M.D.,

Surgeon, Johns Hopkins Hospital, Baltimore.

Dr. Finney first described the operation of pyloroplasty described by him in 1902. He then reviewed the history of similar operations and modifications of his own operation, and went on to a discussion of the indications for and contra-indications to the operation of pyloroplasty. After a general discussion of the points for and against the operations respectively of gastro-enterostomy and pyloroplasty, he gave a summary of his results in 25 cases—namely, a mortality of 3; and reported 112 cases collected from the literature, with a mortality of 10 cases, 8.9 per cent.

V.—C. Mansell Moullin, M.D., F.R.C.S.,

Senior Surgeon, London Hospital.

Dr. Mansell Moullin said: I have listened with much pleasure to the remarks of previous speakers upon this subject. It is one in which I have always taken a great deal of interest, and which, it has always seemed to me, is not only fairly straightforward, but is likely to become more so as our means of diagnosis—for that is the real difficulty—become more accurate. The chief point, naturally, is the question of treatment; and, to simplify matters as far as possible, there are, it appears to me, certain forms of non-malignant disease which without further mention may be placed entirely upon one side. In perforated gastric ulcer, for example, and in those cases in which a sudden exacerbation of the symptoms, with definite increase in local tenderness, gives reasonable cause for suspicion that perforation is imminent, there can be no doubt. There may be a question as to the particular method of operation, but there can be none as to the immediate necessity for one. Every one, too, will admit that in cases in which previous disease has caused some definite structural alteration in the stomach which interferes with its work—as, for example, pyloric stenosis, hour-glass contraction, or dense adhesions tying it down to some neighbouring structure—a surgical operation affords the only possible hope of curing the patient. There is no other way of dealing with a structural alteration of this character.

All such cases as these, therefore, may be placed on one side. There is only one thing to do for them, and that is to operate; and there is only one point that requires discussion, and that is the kind of operation advisable in each. But there are some other conditions about which there is not the same unanimity of opinion, and to these I shall devote the few minutes at my disposal.

I shall not bring forward any statistics. I have operated upon 115 cases in the last five years; and it is not possible to distinguish the deaths due to the operation from those in which it was due to the state that rendered the operation necessary. In many instances the operation has been undertaken literally as a forlorn hope. I have only declined to operate upon 3, and they all died within twenty-four hours of my seeing them.

The cases of non-malignant disease about which it seems to me there may be room for discussion are, first, those in which there is haemorrhage, threatening life either immediately or remotely: and secondly, those in which the loss of blood is insignificant, but the persistence of pain and vomiting suggests the presence of a chronic gastric ulcer.

With regard to the first of these, I entirely agree with Mr. Moynihan in separating cases of haemorrhage from erosions or acute ulcers, from those in which the past history points to the presence of a chronic ulcer. The rate of mortality is very different. That of the former, taking all hospital cases together (that is to say, cases of sufficient severity to be admitted as in-patients, and of course there are many other lighter ones which, if counted in, would reduce the percentage still further), is under 3 per cent. That of the latter is variously estimated at from 16 to 18 per cent. The reason is obvious. In the latter a blood vessel of some size—often an artery—is exposed on the surface of a chronic ulcer the base of which is so hard that the artery cannot contract, and owing to the action of the gastric juice, no permanent thrombus can be formed. The treatment, therefore, should be different. In the former operation is very rarely required; in the latter, if there has been one really severe haemorrhage, or two of moderate amount, it should be the rule, without more delay than the condition of the patient demands. But I do not agree that operation is never required in acute haematemesis. I have seen several patients die whose lives, I believe, might have been saved, and I have seen many in whom the haemorrhage, which persistently recurred before the operation, ceased to do so afterwards. The mortality of under 3 per cent. of all cases taken together, upon which great stress is placed by those who advocate doing nothing, is quite misleading. No one proposes, or ever has proposed, to operate upon all cases of acute haematemesis. It is only the very small minority of really severe cases—perhaps ten in a hundred—in which the question is so much as raised; and of that ten, if left alone, it is admitted three die. I admit the difficulty of finding the bleeding-point or points (it is not so difficult during life while bleeding is going on as it is after death, when the patient has lost every drop of blood in the body), and also that of stopping the haemorrhage when found; but, all the same, I maintain that if all those ten serious cases were submitted to operation (I do not propose the ten should be, for even of these there must be some selection) it is not likely that three would die.

With regard to the kind of operation advisable, I am strongly in favour in all cases of dealing directly with the bleeding-point. Gastro-enterostomy should be done if there

is time for it, as a precautionary measure, but it cannot be relied upon to stop acute haematemesis. It will do so generally, but it cannot be relied upon to do so always, and it certainly will not arrest the bleeding from an artery exposed on the face of a chronic ulcer. To stop the haemorrhage is the first thing; to prevent its recurrence comes next.

In the other class of case to which I alluded, those in which haemorrhage is insignificant, but in which the persistence of pain and vomiting leads to the suspicion of chronic gastric ulcer, the question seems to me to be mainly one of diagnosis. If pain and vomiting are due to the presence of a chronic gastric ulcer, that pain and vomiting will continue so long as the ulcer is there (and probably after it has healed, kept up by the contracting scar) unless some means can be devised by which the stomach can be made to cease working and empty itself at once. It tries to do this by vomiting. The only way in which it can be enabled to do it, consistently with the maintenance of life and health, is by gastro-enterostomy. The pain of indigestion and of gastric ulcer is due not to the contact of the food with the walls of the stomach, as is usually imagined, for the walls of the stomach are quite insensitive to all such stimuli, but to dragging upon the nerves in the parietal peritoneum; and it is so much more severe when there is an ulcer, because absorption from the surface of the ulcer causes some degree of inflammation of the peritoneum in its neighbourhood. It is the contraction of the stomach, pulling upon the nerves in the parietal layer, made infinitely more sensitive by inflammation spreading from the sore, that causes pain. The way to stop this pain is to stop the contraction, and this can only be done by a gastro-enterostomy—either dividing very freely the great band of muscular fibres which surrounds the prepyloric portion, or else opening up the cardiac end so widely that the whole of the contents pass at once into the intestine without the prepyloric part having a chance of contracting. For this reason alone I am a strong advocate for the operation of gastro-enterostomy in every case of chronic ulcer of the stomach in which the pain and vomiting interfere in the least with the active enjoyment of life, and the results are excellent.

I have made a point of tracing out all my old cases, and since I have adopted the plan of making the opening at the cardiac end sufficiently large, there is nothing left to be desired. Whether the opening is on the anterior or posterior surface seems to me to be of little consequence so far as the stomach is concerned. It soon becomes the most dependent part. As I always make an intestinal anastomosis between the two sides of the loop in addition, I am never troubled with any fear of what has been called a vicious circle.

With regard to excision of the ulcer in addition to gastro-enterostomy, in many instances there is no option; it cannot be done. But wherever it can be done I believe it always should be, if for no other reason, for fear of cancer. There is no doubt that the proportion of cases in which cancer develops on chronic ulcer of the stomach is very much higher than is usually believed. It is usually put down at about 4 per cent., but this is certainly wrong. According to Jedlicka, working in Maydl's clinic, cancer of the stomach originates in more than half the number of instances from some old chronic ulcer; and according to a Russian of the name of Szapeshko, out of 100 cases of cancer there were only 10 in which it had not originated in this way. Gastro-enterostomy, by preventing any further irritation of the sore, would probably lessen this proportion; but excision is much more effectual, and for that reason I always excise when I can.

VI.—FREDERIC EVE, F.R.C.S.,

Surgeon, London Hospital.

ONE of the debatable points in gastric surgery is the treatment of haemorrhage. Few will be inclined to dissent from the opinion of the able opener of this discussion that in haematemesis from the various forms of acute ulcer the bleeding is usually checked spontaneously, and therefore that operative treatment is not often required.

The diagnosis between acute and chronic ulcer therefore becomes of the utmost importance. In many instances a diagnosis may be effected on the lines indicated by Mr. Moynihan. He lays down as a general indication, that in acute ulcer haemorrhage is the first symptom, and that it is difficult to elicit any history of antecedent gastric discomfort: whereas in chronic ulcers there is a history of inveterate dyspepsia with recurring attacks of pain and vomiting: and haemorrhage, if present, is usually intermittent and repeated. If these general rules were universally reliable the task of the surgeon would be considerably lightened. Unfortunately, I have not by any means found them to bear the test of experience, and in order to illustrate this point I will refer briefly to four cases in which I have found them illusory:

The first case was a woman aged 33, who was admitted to hospital with the following history: Indigestion for twelve months; gastric pain and nausea for six months. Three days before admission she vomited a pint of blood and immediately after admission about half a pint. Four hours later she vomited 8 oz. When I saw her she was collapsed and required infusion with saline solution before operation. Dr. Lewis Smith and myself diagnosed chronic ulcer, and I operated, but found only three small "weeping" points on the posterior wall near the cardiac end. These were touched with the thermo-cautery.*

Another patient, M. L., had four attacks of gastric pain, etc., with haematemesis at intervals covering a period of four years. She came under my care in the fourth attack with acute abdominal pain, much tenderness, shock, a rapid and feeble pulse, as if a chronic ulcer were leaking into the peritoneum. On opening the stomach two small bleeding points on the mucous membrane only were found.

A third patient, E. L., had suffered with indigestion for twelve years, during which she had six attacks of pain and vomiting after food and haematemesis was present in four attacks. A congested patch of mucous membrane, but no definite ulcer, was found on the lesser curvature near the cardiac end. The affected area of mucous membrane was excised, the edges drawn together, and the stomach closed without gastro-jejunostomy. Thirteen months afterwards she was quite well, and had no return of her trouble.

In a fourth case the patient had suffered for eighteen months with stomach trouble, and had had three attacks of haematemesis, the last a few days before she came under observation. Careful examination of the stomach showed only a "weeping" point near the cardiac end.

All these patients were women, and their ages varied from 19 to 33. The result of my experience leads me to be extremely doubtful as to what condition may be found in young anaemic women, no matter what the symptoms. On the other hand, in males and in somewhat older women the general rules for distinguishing between acute and chronic ulcer quoted above will usually be found reliable.

It has been a matter of surprise to me how many patients come under observation with haematemesis, usually recurring, epigastric tenderness, and dyspepsia, pain sometimes of many years' duration, and yet on opening the stomach and most carefully inspecting its interior nothing is found. I have operated on three such cases, two being males. In each case I closed the stomach without performing a gastro-jejunostomy.

The curative effect of a gastro-enterostomy on chronic ulcer is now so well established that it requires no comment. I am of opinion that all cases of suspected chronic ulcer which do not definitely yield to medical treatment should be operated on. The cases should be carefully followed up, for one of my patients on whom a posterior gastro-enterostomy was performed for chronic ulcer died some time after with perforation. Excision of the ulcer, except in severe haemorrhage, is, I believe, unnecessary. It is rarely practicable on account of the position of the ulcer, adhesions to important structures, or to a multiplicity of ulcers; and, when such a procedure is feasible, I look upon it as adding an additional and unnecessary danger. Further, excision alone does not remove the conditions which led to the formation of the ulcer. When practised it should be followed by a gastro-enterostomy.

I would urge that in many cases of ulcer of the stomach it is necessary, and that in all it is much more satisfactory, to make a careful inspection of the interior of the stomach. In some cases the existence of adhesions, of definite cicatrices, thickenings, and deformities may leave no room for doubt as to the existence of an ulcer; but I would not myself rely on such slight indications as "a small, shot-like nodule in the mucosa" or "an inability to slip the mucosa away when the stomach is gripped between the finger and thumb." On one occasion I made certain of the existence of a chronic ulcer owing to a round, pale, apparently cicatricial, patch on the lesser curvature; but on exposing the interior the mucous membrane corresponding to the patch was perfectly natural. For some time I have made it a practice to examine the interior of the stomach in every case, and I find that I can do this efficiently through an opening in the posterior wall, to which subsequently the jejunum may be attached. A short, large size vaginal speculum and a head lamp are necessary. If this plan were always carried out the difficulties of differentiating a chronic and a carcinomatous ulcer would disappear, as a portion of the margin of the ulcer could be taken for immediate microscopic examination.

I may say that I always employ posterior gastro-jejunostomy

* This patient died on the seventh day after the operation from exhaustion. *Post mortem*: nothing further than the previous was found in the stomach. The wound was healed, and there was no peritonitis or other septic complication.

by simple suture unless it is rendered impossible by adhesions. On the single occasion in which for speed I used a Murphy button it stopped at the ileo-caecal valve, caused obstruction, and had to be removed. If the opening is made in the lowest part of the stomach I have found it unnecessary to make it oblique from above downwards and to the right. In performing the posterior operation I have always united the jejunum directly without any "slack," and have "anchored" the efferent loop to the stomach. It is advisable to fix the opening in the transverse mesocolon by a few points of suture to the posterior wall of the stomach, otherwise the opening may compress the efferent loop of jejunum or may lead to an internal hernia. I never perform anastomosis of the intestine, having only met with a vicious circle in one case. The patient commenced to vomit bile about ten days after the operation, but usually only vomited about once in the twenty-four hours. A month after the first operation I did an intestinal anastomosis, and found the difficulty to be due to a somewhat acute bending of the efferent loop to the left. The peritoneum was covered with miliary tubercles which had developed since the first operation, and this had led to the formation of adhesions about the efferent loop of the jejunum.

The operation of pyloroplasty I have only performed once for a cicatricial contraction of the pylorus. The patient was completely relieved for three years, when the trouble returned, and subsequently a posterior gastro jejunostomy was performed. The pylorus had recontracted.

In order to give greater scope to this discussion I will briefly refer to the treatment of gastroptosis, which has not so far been touched on. I have operated on four cases, two being treated by gastropexy and two by gastro-enterostomy. All were jointly under the care of my colleague, Dr. Bertrand Dawson, and myself. All the cases presented the characteristic feature that the lesser curvature was below the level of the pancreas. The duration of the symptoms varied from sixteen to three years, and these consisted of pain after food, vomiting, dyspepsia, and inability to digest solid food. In two cases there was a history of haematemesis. Free hydrochloric acid was absent in the first case and present in the others.

Case I.

The first case, E. C., was operated on in August, 1903, and the dependent greater curvature was raised and fixed by several silk sutures, forming a horizontal line, to the anterior abdominal parietes about 2 in. above the umbilicus. The stitches were passed through the omentum and great curvature of the stomach and then through the parietal peritoneum and subjacent muscles. The improvement was considerable at first, but was not completely maintained. Her doctor writes me, July 20th, 1905: "Mrs. C.'s life has been quite bearable since the operation, which it was not before." She is able to digest fish, chicken, mutton, but still has attacks of vomiting occasionally.

Case II.

J. B. had suffered with gastric trouble for sixteen years. The liver was considerably prolapsed, and the stomach greatly dilated. The first step in the operation, therefore, consisted in raising and fixing the liver by four strong silk sutures passed through its anterior surface and edge, and then through the anterior abdominal parietes just below the costal margin. This procedure, by pulling up the gastro hepatic omentum, produced a considerable raising of the stomach. The greater curvature was also raised and attached by two sutures to the anterior parietes. It is now fifteen months since the operation, and she reports herself as being greatly benefited. Before the operation "she was constantly laid up," had pain, with vomiting after all nourishment, even soda and milk. Now she is able to do her housework, can digest fish and ordinary solid food, but not beef.

In both cases the gastro-hepatic omentum was extremely thin and much stretched—in fact, of such tenuity that it seemed quite useless to try to shorten it by means of puckering sutures. This plan was discussed and discarded, as the membrane would inevitably have torn. The best chance of improving the condition of the stomach seemed to be by supporting the "sagging" greater curvature. There did not appear to be any condition which might be called a kinking of the pylorus, but a derangement of the mechanism of the organ, owing to the greater curvature being so much below the level of the pylorus. The position of the stomach in both cases might have been still further improved by passing sutures through the lesser curvature and under surface of the liver, and I intended to try this on a future occasion. I find that it has already been carried out by Bier of Griefswald.

It must be confessed that the results of these operations are not ideal, although the patients were greatly improved. They indicate, however, the lines along which we may proceed without the interference with the functions of the stomach associated with gastro-enterostomy. I have operated on two cases of gastroptosis by gastro-enterostomy, and this procedure has given very satisfactory results. The improvement was especially marked in a case of great dilatation of the stomach with gastroptosis and a history of gastric trouble for three years, culminating in distinct gastrectasis. Eighteen months after the operation she had put on flesh, and was able to eat anything but pork. The great curvature in the middle line was 1½ in. above the umbilicus. She had, however, had five or six attacks of sickness since the operation. Gastro-enterostomy was indicated because there was distinct evidence of retention of gastric contents, and she had suffered with haematemesis on eight or nine occasions, once to the extent of half a pint of bright blood. An examination of the interior of the stomach showed no sign of ulcer or cicatrix, and the pylorus was natural.

In a second case gastro-enterostomy was selected owing to the presence of a distinct cicatrix on the lesser curvature. The result was equally satisfactory.

VII.—W. Bruce Clarke, M.B., F.R.C.S.,
Surgeon, St. Bartholomew's Hospital.

(1) General Evidence of Museum Specimens.

The evidence derived from this source, though necessarily incomplete, is very valuable, as it shows the results of medical treatment, and proves the futility of this method of treatment in many cases.

The lantern slides, nine in number, which are thrown upon the screen illustrate the following points:

(1) (2) (3) are examples not only of ulceration, but of ulceration in which death ultimately occurred, after years of pain and discomfort, from extension of the ulcerative process into an artery of considerable size. The arteries involved are the splenic, the pancreatic, and the pancreatico-duodenal, and death occurred in each case within a few hours of the commencement of the bleeding. In case (2) the bleeding all took place into the bowels, and there was no haematemesis. They all occurred in men between the ages of 34 and 56.

(4) and (6) are examples of ulcers in the immediate neighbourhood of and involving the pylorus, and the symptoms were those of pyloric stenosis. The first of them proved to be innocent, and the second malignant; but both could obviously have been relieved by gastro-jejunostomy. The pylorus is, in my experience, a very common site for such ulcers.

(5) is an instance of fibromyoma in which death occurred from perforation.

(7) and (8) are instances of large ulcers in which a considerable portion of the stomach wall is involved. The ulcers have partially healed, but a large perforation is visible in one case and two perforations in the other. There is a history of more than two years of stomach symptoms in both cases.

(9) is an example of a duodenal ulcer situated half an inch beyond the pylorus, in which death occurred from perforation; the symptoms were first noticed six months before death.

It is noteworthy that every one of these cases occurred in men; that in all of them the symptoms were of long duration. All of them, including the malignant case, would certainly have received considerable benefit from the operation of gastro-jejunostomy had it been performed at an early stage of the disease.

Perforating Gastric and Duodenal Ulcers.

If these cases are seen shortly after perforation has taken place—say, within twelve hours or less—the diagnosis is usually not difficult. In both cases the patient is seized with a sudden pain in the epigastrium, with faintness and symptoms of collapse. The severity of the symptoms depends largely on the size of the perforation, and to some extent on the stage of digestion and the length of time which has elapsed since food was partaken of. When the stomach or duodenal contents escape into the peritoneal cavity, the situation of the pain depends on the course which these contents follow. Duodenal contents generally pass down under the great omentum towards the right iliac fossa. Stomach contents are spread out on the upper surface of the omentum, and tend to flow towards the left side of the abdomen.

When a stomach ulcer is close to the pylorus its contents may pass down on the right side of the abdomen, and the symptoms it produces will lead the surgeon to suspect a duodenal ulcer.

Ulcers which are situated on the front of the stomach or duodenum are more easy of diagnosis than those which are situated behind. The distinction between a gastric and

duodenal ulcer is mainly arrived at by noticing whether the upper part of the right or left rectus is in a state of spasm. The right rectus is almost sure to be involved when the perforation is within half an inch of the pylorus.

The Operation.

In many instances there can be no doubt that the contents both of the stomach and duodenum are sterile, and it is equally certain that slight cases (probably those in which there is only a small escape of intestinal contents) are capable of recovery without operation. Recovery takes place more rapidly after operation than if no operation is undertaken, as the following cases indicate.

Early in the present year I was asked to see two cases which had been admitted into St. Bartholomew's Hospital within an hour or two of one another. The first had been seized shortly after breakfast with a sudden pain in his abdomen, with faintness and collapse, and was brought to the hospital in an ambulance. When I saw him about two hours later there was acute pain in the upper part of the abdomen. He had somewhat recovered from the collapse. The upper part of his right rectus was hard and board-like to touch. I operated on him through the right rectus, and found an ulcer situated close to the pylorus, so close that it was difficult to say whether it was in the stomach or duodenum. The pylorus was tightly contracted, and there was a history of vomiting of varying severity from which he had suffered for several months previously. The fluid which had escaped from the intestinal tract did not amount to more than an ounce probably. I performed a gastro-jejunostomy, and inserted a drainage tube about 3 in. below the operation wound, but made no attempt to remove any of the extravasated fluid. In forty-eight hours the patient was perfectly comfortable, and made a speedy recovery.

The symptoms from which the second case was suffering were almost identical in character, but far slighter in amount. So slight were they that at first I felt considerable doubt as to whether a perforation had taken place or no. The patient was accordingly put to bed and kept under observation. For the first day or so he remained much in the same condition, his tenderness then began to increase, and I was desirous of operating, but he was then unwilling to submit to it. He eventually made a good recovery, it is true, but only after a long illness, which was far more severe than in the case of the first man, due probably to repeated small escapes of fluid, which set up local peritonitis. But the contrast between the two cases was remarkable.

An efficient means of providing for the escape of the fluid that comes from the intestinal tract is, to my mind, the key-note to success in these cases, as it enables the ulcer to close itself by forming adhesions to some surrounding viscus. The importance of providing for efficient drainage and of handling the intestines as little as possible was brought home to me in one of my earlier cases, which I saw with Dr. Hayward of Wimbledon, and the details of which I have already published.[1] Suffice it here only to say that, owing to adhesions between the stomach and diaphragm, I could not get at the ulcer to close it, though I could pass my finger up under the ribs and feel the open mouth of the ulcer. I had to be content, therefore, with the use of a drainage tube, which proved perfectly successful

If the stomach is full at the time of operation it is advisable to take means to empty it of its contents, which can be done either by emptying it through the open ulcer, or by gentle washing out from the œsophagus.

It is, I am sure, quite useless to attempt the cleansing of the whole peritoneum. I have, on several occasions, seen as much as half a pint of half-digested food lying in the peritoneum. I have removed as much as could be easily got at through the operation wound, and inserted two or three drainage tubes in various parts of the peritoneal cavity, but practically no fluid has ever come out through them. In my later cases I have dispensed with most of these tubes, and have never seen any untoward result follow in consequence.

My remarks on this subject apply, of course, chiefly to those cases of perforation which come under the surgeon's care soon after their occurrence at a time when the effused fluid, for which I have almost invariably had cultures taken with a negative result, is absolutely sterile.

If an operation is performed at a later stage of the disease when septic peritonitis has supervened it is the peritonitis which must be treated rather than the ulcer, which has probably been closed by adhesions. Any attempt to find it and stitch it up at this stage will probably prove a more dangerous procedure than leaving it alone.

If there are many adhesions, and the patient's condition is bad, as it is almost sure to be, the insertion of drainage tubes wherever the collections of septic fluid are to be found, without much attempt at washing out, will be the safer procedure. Cases of peritonitis, whatever be the cause, will do better if the cellular tissues of the body are flooded with saline solution, which is introduced into the body through the axilla under the pectorals and elsewhere. As much as 15 pints of saline solution may be introduced in twenty-four hours with success by this method. A copious flow then occurs from the peritoneum through the drainage tubes, and a marked improvement takes place oftentimes in a few hours, whilst the patient escapes the severe shock which is always entailed by handling the intestines in the ordinary method of peritoneal flushing.

Mode of Closing Ulcer.

I have already pointed out that there is good reason to believe that an ulcer readily heals if it is placed in such a condition as to permit of adhesions being formed between it and a neighbouring viscus. If this be a correct view it should teach us to simplify the procedure which is adopted for closing an ulcer by operation. There is, I am sure, no need to excise the ulcer; it often gives rise to bleeding which may be difficult to arrest in the hardened and thickened tissues which often surround the ulcer, and it certainly prolongs the operation when time is valuable.

The ideal method of closure is, no doubt, to fold inwards the edges of the ulcer and bring the coats of the stomach into close apposition. It is the method which I usually employ when it is possible, using a continuous stitch of fine silk or catgut, and a small curved Hagedorn needle. The catgut is prepared by the Moschowitz method.

When the edges and neighbourhood of the ulcer are much thickened it is quite impossible to infold its margin. Any attempt to do so is certain to cause the stitches to cut out, and is liable to produce haemorrhage. In these cases I usually content myself with stitching some catgut backwards and forwards across the ulcer and covering it with an omental graft. The employment of an omental graft is always a wise precaution when it can be made use of without much disturbance of the parts. I have never lost any case through a failure to close the ulcer at the time of the operation.

It is sometimes difficult to determine whether an ulcer should be described as gastric or duodenal, owing to its close proximity to the pylorus. These cases are, I believe, invariably accompanied by considerable pyloric spasm, and the patients generally give a history of several months of gastric trouble, in which vomiting after food has been a prominent feature. In such cases it is useless to be content with closing the ulcer. In two cases of this nature which have come under my care I have performed a posterior gastro-jejunostomy at once, and brought the edges of the ulcer together by a single stitch at the same time.

Before leaving this portion of one's subject, it may not be inappropriate to refer to the method which I usually employ for the discovery of the exact situation of the ulcer at the time of operation.

As soon as the abdomen is opened, usually through the right or left rectus, the character of the free fluid which is always present is noted. If it is small in amount and clear in character, the perforation is likely to be found in the duodenum, and the direction from which the fluid proceeds is noted and traced until the opening is found. If, on the other hand, the fluid is more abundant and free gas issues from the peritoneum, a stomach ulcer will probably prove to be its source. The front surface of the stomach is at once palpated by the finger, and, as far as possible, brought into view. The duodenum is next searched, and lastly, the back wall of the stomach, which can sometimes be completely reached through the foramen of Winslow, but it may be necessary to make a hole through the transverse mesocolon to ensure complete exploration, and if so it is well to remember that a hole in this situation can be utilised if necessary for a posterior gastro-jejunostomy, and if it is not required for this purpose, should be sewn up again for fear of the possibility of a hernia taking place into it.

Occasionally even such a complete search as this will fail to discover the seat of the ulcer. In one case on which I operated I saw some stomach contents near the spleen, but failed to find the opening of the ulcer until my attention was directed to it by gas bubbles, which issued from one part of the attachment

[1] *Clinical Journal*, vol. xxv, p. 247.

of the great omentum to the great curvature. When once found it was easily closed.

The after-treatment of the patient is of some importance. No food should be given by mouth for twenty-four hours or longer. From ¼ to ½ pint of hot water may be given in small quantities by mouth during the first twenty-four hours, but food must be administered by the agency of nutrient enemata. They should consist of egg, brandy, and some milk, with a little saline solution added. If the patient is much collapsed it will be advisable to increase the amount of saline solution, and to flood the cellular tissue with it as well in the manner I have just described. If an enema administered in the ordinary way is not readily tolerated, a gravitation enema may be substituted for it. The fluid is placed in a vessel at the side of the patient's bed, and kept warm by means of an ordinary night-light. A siphon is attached to the vessel, and to the lower end of the siphon a catheter is attached and inserted into the anus. By means of a stop-cock or clip the rate of flow can be regulated, so that only a few drops per minute find their way into the rectum. By this plan of administration discomfort is avoided, because the rate of flow and the absorption are equalized. After twenty-four hours have elapsed stomach feeding may be started, in company with nutrient enemata.

The remarks which I have just made are based on the experience derived from the treatment of 15 cases of perforating ulcers, 13 of which recovered and 2 died. One of the fatal cases was not seen by me till more than twenty-four hours had elapsed. She was much collapsed, and had a large quantity of stomach contents, which, however, were quite sterile, in the peritoneal cavity at the time of operation. She never rallied from the operation. The other fatal case, when he was first attacked, did not appear to be sufficiently ill to warrant an exploration of the abdomen, and he was treated by the expectant treatment. His abdomen was not opened until the eighth day, when there were well-marked signs of septic peritonitis, and nothing could be done but drain the peritoneum. Under similar circumstances I should certainly, in the light of further experience, explore at once, and in all probability with a successful result.

But there is a further point to be considered in these cases. Though immediate death has been averted by surgical operation, it by no means follows that the tendency to ulceration has been removed, and that the patients are all in sound health.

Two of these cases have returned to place themselves again under my care. One, a woman, in whom the ulcer at the time of operation was a very small one, has been dieted and treated by medicine with, for the time being, complete success. It remains to be seen whether she will remain well. The other case is a man who is at present under my care in hospital. He is much improved in appearance and general health, but complains of a good deal of pain after food, and in all probability a gastro-jejunostomy will be needed for his complete recovery.

Chronic Gastric Ulcers.

Under this heading may be classed a great variety of cases. In some of them an ulcer has infected the surrounding peritoneum, and as a result an abscess has formed somewhere in the subphrenic region, and demands surgical interference. We have seen from the photographs that have been thrown upon the screen how extensive may be the process of ulceration in some cases, and how possible is the formation of abscess in such cases. Such abscesses in all cases require evacuation, and need hardly detain us further. The object of our discussion to-day is to learn how best to avert their occurrence by timely surgical interference at an earlier period.

The main question, then, to be determined is, when should medical treatment be abandoned in favour of surgical? The ulcers which occur in early and middle adult life are very difficult to cure. Any one who will inquire into the histories which are given by these patients will be surprised to find how frequently a recurrence of symptoms takes place after the patient is supposed to be completely cured. A short time back I had a patient under my care who gave the following history, which is a very typical one:

He was, he informed me, forty-two years of age, and was suffering severely from dyspepsia. He stated that his trouble began about five years previously with violent pain, which came on about an hour after food. It was usually relieved by vomiting. He attended as an out-patient at the London Hospital, and a few months later was admitted into the wards, carefully dieted, and treated with drugs. He left the hospital quite well and remained so for a short time. He had not, however, returned to his ordinary diet for more than a few weeks before his symptoms returned, and in a few months he was as bad as ever, and quite prevented from earning his living. He again sought admission to a hospital and his symptoms disappeared for a while, only to return again in due course. This condition of affairs had been repeated on some half-dozen occasions. The periods of intermission were of varying duration, and occurred sometimes without any cause or any special method of treatment. When he came under my care he was thin and haggard-looking, and said he had lost a good deal of flesh lately. He was placed in bed and dieted, and improved considerably. His abdomen was opened through the left rectus muscle and the stomach exposed. Its anterior surface was puckered up and fixed by a few adhesions to the under side of the diaphragm. The adhesions were separated without much trouble, and a posterior gastro-jejunostomy performed, the opening between the stomach and jejunum being fully 2 in. in length. A speedy recovery resulted, and the patient a year later stated he was perfectly well and had gained more than 2 stone in weight.

In many cases the ulcer is placed close to the pylorus, and involves it, in consequence of which the stomach becomes dilated and hypertrophied, and is unable often for a considerable time to pass its contents on into the duodenum. The condition is further aggravated by the pyloric spasm which supervenes, and sometimes reduces the patient in a short time to the verge of starvation.

Cases of this description are liable to be mistaken for cancer, and in some instances a case which begins as a simple ulcer takes on a cancerous condition later. I have recorded[2] a striking example of this condition, in which I performed a pylorectomy for a supposed cancerous mass involving the pylorus, which proved on microscopic examination to be a simple ulcer with a tiny mass of malignant disease in one part of it. The distinction of innocent from malignant disease in this situation is attended by considerable difficulty, and is probably in some cases impossible. A gastro-jejunostomy proves a great source of relief in either case, and the chances of an immediately fatal result are exceedingly remote.

Gastric Haemorrhage.

It is but rarely that the surgeon is called upon to operate for haemorrhage from the stomach. As we have already seen in the lantern slides which have been thrown upon the screen, ulceration may take place into a large artery, and if this occurs it is very doubtful whether it would be possible to secure the bleeding-point in time to save the patient's life; but there are cases in which alarming haemorrhage occurs, and which may be spoken of as capillary haemorrhages from the stomach rather than haemorrhages consequent on gastric ulcer. I have described a case of this kind[3] in which the patient became pulseless, and surgical interference seemed to offer the only chance of success. When the stomach was opened no ulcer could be detected; there was, however, a point from which a little blood was oozing. A fine silk stitch was passed round the bleeding point, after which a second was found and treated in a similar manner. The patient made a good recovery.

Instances have been recorded in which no bleeding-point was discovered. In such a case a gastro-jejunostomy, by allowing the stomach to contract, would probably give the patient the best chance of recovery.

VIII.—Rutherford Morison, F.R.C.S.,

Surgeon, Newcastle Infirmary.

In the *Lancet* of February 11th, 1905, p. 351, I offered what I considered to be good reasons for believing that pyloroplasty is the operation of election for pyloric stricture. In the *Lancet* of March 11th, 1905, p. 638, Mr. G. Grey Turner, Surgical Registrar of the Royal Infirmary, Newcastle, published notes on the after-history of 17 of my cases of pyloroplasty varying from 10 years to 5 years and 3 months after operation. These two papers gave fuller particulars than is possible now. Since then we have obtained the further histories of 11 cases at periods sufficiently remote to be of value, making 28 in all. In 4 of the 28 cases stomach symptoms have recurred, and in all of these gastro-enterostomy was performed. The particulars of these recurrent cases are as follows:

Case 1. A man, aged 38. Pyloroplasty, March, 1897, for ulcer on posterior wall of pylorus. Well until early part of 1901 (that is, 4 years), then recurrence of pain after food and vomiting, in attacks which lasted about a month and recurred annually. He was readmitted June, 1904: he had been ill for three months with vomiting and pain, and he had lost weight. Stomach much dilated, vomited matter sarcinous. The second operation showed an oedematous mass at the pyloric end of the stomach, which was dilated. Posterior gastro-enterostomy; recovery. Has remained well up to date (1 year).

[2] See British Medical Journal, 1905, vol. i, p. 472.

[3] *Clinical Journal*, vol. xxv, p. 287.

CASE II.—A man of 56. Pyloroplasty, September, 1897, for tight stricture of pylorus. He remained well until May, 1902 (that is, five years), when he began to be troubled by occasional attacks of vomiting and indigestion. A year later his attacks became more frequent, and during the six months preceding the second operation he vomited daily, and was obliged to live on liquid food. Second operation, May, 1904 (seven years after first). Stomach dilated: an inflammatory mass outside of pylorus: from interior of stomach pyloric outlet contracted. Posterior gastro-enterostomy; recovery.

CASE III.—A woman of 45. Pyloroplasty March, 1899, for scar of ulcer at pylorus. For twelve months was very well, and could take any sort of food, then recurrent attacks of stomach trouble. Second operation June, 1903—that is, four years later. Stomach not dilated: no ulcer seen or felt. Pylorus admitted three fingers with ease; anterior gastro-enterostomy; recovery. Still has occasional attacks of stomach trouble.

CASE IV.—Man of 48. In July, 1900, pyloroplasty performed for stricture of pylorus, with recent ulceration just on stomach side. He made a good recovery, enjoyed better health than he had done for years, was able to take any kind of food, and maintained his usual weight. Readmitted June, 1905; symptoms began three months before (that is, four years and eight months after the pyloroplasty): they were typical of duodenal ulcer. Second operation showed an ulcer in the second part of duodenum; the pyloric exit easily admitted two fingers. Posterior gastro-enterostomy; recovery.

It will be noted that gastro-enterostomy was not required in these cases on account of recurrence of the stricture, but because fresh ulceration had occurred in the stomach, and that the period which had elapsed between the first and second operations was in every case a long one. Case I, four years; Case II, five years; Case III, four years; Case IV, four years and eight months.

Of the remaining 24 cases, 2 complain of symptoms just as before. One of these was a patient with a definite pyloric stenosis very suitable for the operation, the other was a hopeless neurotic.

Ten complain more or less of stomach symptoms which usually consist of attacks of stomach trouble. All are much better than before and nearly all have gained weight considerably.

Twelve are perfectly well. In 8 the operation was performed from ten years to five years ago, and in 4 from four years to twelve months ago.

My belief is that gastro-enterostomy is not likely to maintain its present reputation. It is improbable that so much interference with the anatomy and physiology of digestion as this operation involves can be tolerated without some ill-effects. The conviction gained from my own experience is that the patients on whom I have performed pyloroplasty are more vigorous and better than those on whom I have done gastro-enterostomy.

The operation of gastro-enterostomy is, however, available when pyloroplasty is not, and my own best results have been obtained by a bone button made for me by McQueen of Northumberland Street, Newcastle. For many years I was a strong advocate of simple suture, indeed, so far as I know, I was the first to practise and to preach an inner continuous suture of catgut, watertight and haemostatic, through all the coats and an outer interrupted Lembert of silk in gastric and intestinal surgery. The button, however, is easier, simpler, and quicker, and no other instruments are required.

I am indebted to Mr. G. Grey Turner for the following note of results:

From January, 1904, to end of June, 1905, that is, eighteen months, in infirmary and private hospital there have been 27 cases of posterior gastro-enterostomy (for non-malignant diseases of the stomach) performed with the Morison button. There was one death, a patient who succumbed to pneumonia on the seventh day. Necropsy showed that the abdominal conditions were perfect.

IX.—F. C. WALLIS, M.B., F.R.C.S.,

Assistant Surgeon, Charing Cross Hospital.

Diagnosis.

IT IS most important that the main diagnostic points of perforating gastric ulcer should be recognized at once by all medical men in practice, and an equally important point is that the gravity of such symptoms should be recognized. A previous history of dyspepsia, a sudden pain in the abdomen, usually associated with collapse, disappearance of or greatly diminished abdominal respiration, rigidity of the abdominal muscles, especially of the recti—these are the main important symptoms. The fact that the pulse may not be rapid is in favour of the patient always, but is never an indication to await events, this is still too often done with most unfortunate results. When the pulse rises in number and diminishes in quality the chances of a patient's recovery are materially lessened.

Operation.

After the abdomen has been opened through a sufficiently long incision the fluid which wells up is sponged out, and the perforation is rapidly sought for. If this is not discovered at once, the stomach should be incised through its anterior wall sufficiently to admit a finger, when the perforation will at once be found, and at the same time the rest of the stomach can be carefully investigated.

In most cases it is better to close the perforation, and not to attempt to excise the ulcer. In many cases where the perforation is small it will be found that chronic ulceration extends for a considerable area around the ulcer, and to remove this a partial gastrectomy would be necessary.

The Cleansing of the Peritoneum.

In most cases where the extravasation of the stomach contents has been limited to the upper part of the abdomen, swabbing out and cleansing with hot saline swabs will be sufficient. But when the extravasation is general and associated with peritonitis, thorough irrigation with large quantities of hot saline of the whole abdomen should be carried out, and ample drainage provided. In addition subcutaneous infusion of saline should be carried out, 10 to 12 pints of saline being slowly infused at the rate of about 1 pint in an hour and a half.

In carrying this out it is not desirable to keep the needles in the same place for more than three hours; after this time they should be removed and reintroduced elsewhere. If the needles are kept in the same place all the time an abscess is nearly sure to occur.

Chronic Ulcers of the Stomach.

Mr. Moynihan's suggestion as to the seat of pain indicating the situation of the ulcer is important and interesting, and further investigation into this is desirable.

The fact that chronic ulceration of the pylorus may continue for years, causing great thickening, many adhesions, and ulcerating cavities, and still remaining non-malignant in character, is well borne out in the case of a patient recently operated on by me.

The general appearance and vigour of these patients is out of all keeping with the size and duration of the growth if it was malignant.

The value of gastro-jejunostomy is well shown in the following unusual case:

Pyloric Stricture: Dilatation of Stomach: Gastro Jejunostomy: Murphy's Button: Recovery.

Admitted July 8th, 1903, to the Metropolitan Hospital, under the care of Dr. Oswald Brown, having on the previous day swallowed (? ½ oz.) hydrochloric acid in mistake for medicine. She was treated at once, and vomited much blood before admission. The condition of the mouth and tongue bore out the patient's statement.

After ten days' treatment in the medical wards and gradual return to ordinary diet, there was some vomiting on July 22nd, and again on the 27th, when at 4 p.m. it became faecal in character. B.N.O. two days, with tenderness in epigastric and left hypochondriac regions, and Dr. Oswald Brown asked Mr. Wallis to open the abdomen.

Operation on July 28th, under chloroform, the abdomen being opened in the middle line by incision 1 in. below the ensiform cartilage to 1 in. below the umbilicus in the middle line. The stomach was found enormously dilated, and the pylorus constricted by a broad cicatricial band. The stomach was opened on its anterior surface midway between the greater and lesser curvature and somewhat nearer the cardiac end. 10 oz. of black stinking fluid was let out, and gastro-jejunostomy performed by a Murphy's button. The peritoneum was united by continuous silk suture, and the rest of the wound by deep silkworm gut stitches.

July 28th. On recovery from the anaesthetic the patient was made to sit up in bed on a bed rest and nutrient enemata given till the afternoon of next day, when milk and water (½ oz.) half hourly was given by the mouth.

August 6th. Stitches removed: healing by first intention.

August 18th. Full diet; putting on weight; no signs of button.

August 31st. *X* rayed at St. Bartholomew's, button found on left side, evidently in stomach.

This patient has been seen since, and is in excellent health; became pregnant soon after her return home, and had a baby.

X.—C. B. KEETLEY, F.R.C.S.,

Senior Surgeon, West London Hospital.

MR. KEETLEY was of opinion that in perforation of the stomach, as of the intestines, the state of the pelvis was the

key to the situation. Its examination through a special suprapubic opening was the work of only two minutes, and it generally required swabbing out and also drainage by gauze. What precise and trustworthy rules could be laid down as to what cases to drain and what not to drain? In nearly all cases safety lay in drainage and in the careful arrangement of the (gauze) drains—careful toilette of the peritoneum preceding, of course. With regard to lavage, the opinion of Mikulicz, that it excites a useful leucocytosis, should be remembered. Nor should Sergeant's suggestion, that it might do harm by washing out phagocytes, be forgotten. What excites recurrence in gastric, as in other haemorrhages, is sepsis encouraged by want of rest. Asepsis and rest were made easily attainable by the operation of gastro-jejunostomy, whose value in haemorrhage was first demonstrated by Willoughby Furner of Brighton. In the common cases of severe haemorrhage from some vessel in the base of an ulcer in the posterior gastric wall and adherent to the pancreas or the pillars of the diaphragm the radical and not unjustifiable plan was, after emptying the stomach and packing the field, to peel the stomach away from the pancreas and sew up the rent in it. The bleeding point was now altogether outside the stomach, and could be packed and drained after scraping, and the bleeding point ligatured if necessary.

XI.—E. DEANESLY, M.D., F.R.C.S.,
Surgeon, General Hospital, Wolverhampton.

DR. DEANESLY said: In discussing various points in the surgical treatment of non-malignant disease of the stomach, I propose to confine myself to facts and opinions based on personal experience, and to follow the order of the opener of the discussion. With regard to the diagnosis of perforation of the stomach, I have experienced the usual difficulties in distinguishing it from acute appendicitis and other acute abdominal affections attended with collapse. Like others, I have opened the abdomen, in which the symptoms apparently clearly pointed to perforation, and, in spite of careful search, found nothing. I have also made two errors which I believe are original and worthy of mention. In one an enlarged spleen with lymph on the capsule was discovered; and the case was one of enteric fever. In the other there was no abdominal lesion, and death was due to diabetic coma. In both cases the history, onset, and symptoms strongly suggested perforated gastric ulcer. In cleansing the peritoneum I usually prefer simple swabbing, and I have drained through the loin and sometimes also the pelvis. Gastro enterostomy as an addition to closing the perforation I have never performed, and should only do so where the pylorus was obstructed. Most of my operations have been performed for chronic ulcer. Mr. Moynihan says that in the majority of cases of chronic ulcer calling for operation the ulcer is near the pylorus. This has been my own experience, but I do not agree with him that in these cases, owing to the induration or contraction of the scar, there is generally a definite and constant obstruction to the passage of food to the duodenum. In many cases the pylorus was obviously narrowed or obstructed, but in a larger number no obstruction could be detected, and the ulcer was situated a long way from the pylorus. In several cases the ulcer or its scar was situated on the posterior wall, many inches from the pylorus, and no obvious dilatation or hypertrophy of the stomach was found. Nevertheless, gastro-enterostomy gave immediate and permanent relief of the symptoms. This leads me to touch upon the question of the mechanics of gastro-enterostomy. A recent writer in the *Annals of Surgery* has shown by experiments on animals that even after the establishment of an efficient gastro-jejunal fistula food continues to leave the stomach mainly through the pylorus unless the latter is considerably obstructed. If this also occurs in man it is difficult to explain the relief of symptoms which may certainly follow the performance of gastro-enterostomy with an unobstructed pylorus. As to the indications for gastro-enterostomy, I agree with Mr. Moynihan that the surgeon is generally abundantly justified in operating on many cases in which there is no dilatation, no local tenderness, no gastric stasis, and no obvious peristaltic waves, but where chronic inveterate dyspepsia is present. The indications on which I act in such cases are constant pain after food and a history suggesting ulcer in the past. I have seldom failed to find the ulcer, and gastro-enterostomy has always given relief. In regard to the technique of gastro-enterostomy my practice is similar to that of Mr. Moynihan, that is, I practise the posterior operation and I use simple continuous suturing. I do not, however, excise mucous membrane, and I have invariably made a transverse incision in the intestine exactly halving its circumference in the manner used by Kocher in his anterior gastro-enterostomy. This, of course, limits the size of the opening to about 1½ in., much less than that recommended by Mr. Moynihan, but I have not hitherto found it insufficient or show signs of subsequent contraction. I believe with Mr. Moynihan that practically the invariable cause of regurgitation of bile and establishment of a vicious circle is kinking of the intestine at the site of anastomosis. I verified this condition in an early case, and have ever since followed Mr. Moynihan's plan of making the ascending loop as short as possible. Since doing so I have had no trouble with regurgitation. As regards results, I have ascertained the subsequent history of all my cases up to the present date, and have had recurrence of symptoms in three cases only. In one there are occasional attacks of pain, but weight and strength are maintained. In two others weight is maintained, and there is no evidence of stasis of food, but attacks of pain and vomiting are frequent. These cases are still under investigation. In all others the cure after one to four years appears to be complete.

XII.—LEONARD A. BIDWELL, F.R.C.S.,
Surgeon, West London Hospital.

MR. BIDWELL said: The first point which I should like to refer to is the choice between the anterior and posterior operation for gastro-enterostomy. I do not think that an absolute case has been made out in favour of the posterior operation in every case. Personally, I still do the anterior operation quite frequently. In cases of largely-dilated stomach I believe that the anterior operation affords a more dependent opening than the posterior, since, in the latter case, the anastomosis is fixed in the hole torn in the transverse mesocolon, and the dilated stomach hangs down below the opening; whereas, after an anterior operation the weight of the jejunum pulls on the anastomosis, and makes it the lowest point in the stomach. Of course, I realize the danger of constriction of the colon by the loop of jejunum, but this is not serious if the anastomosis be made at a sufficient distance from the ligament of Treitz. I also find that vomiting occurs for the first day or two after an anterior operation, and practically never after a posterior one: the vomiting, however, ceases when the patient is propped up in bed. The classes of cases in which I use the anterior operation are: (1) When the stomach is greatly dilated, (2) when the stomach is much fixed by inflammatory adhesions, and (3) in advanced malignant cases. In cases of gastric or duodenal ulcer and of chronic gastritis I practically always do the posterior operation. The necessity for having the anastomotic opening at the lowest point of the stomach is also an argument against pyloroplasty and against Finney's operation. Some years ago I read a paper before the Association upon some cases of pyloroplasty, which I then considered an excellent operation; since then out of 7 cases I have had to do gastro-enterostomy upon 5 on account of recurrence of the symptoms. I have, therefore, given up the operation. I should like to raise a note of warning against combined operations. Mr. Moynihan refers to several, where serious operations were done at the same time as the gastro-enterostomy. I think that this adds a considerable amount of anxiety to the surgeon, and should not be recommended.

XIII.—A. B. MITCHELL, M.B., F.R.C.S.I.,
Surgeon, Royal Victoria Hospital, Belfast.

MR. MITCHELL, dealing very briefly with the question of perforation, said that he had operated on 24 cases, in all of which the perforation had been found; of these 9 died. In the last 21 cases there were 6 deaths. He thought excision of the ulcer quite unnecessary. He ventured to disagree with Professor Saundby, who stated that perforation never occurred while a patient was under careful medical treatment. Two of his cases perforated while undergoing a course of rectal feeding in hospital. The advantage of operation in chronic cases was now well established. The success of gastro-jejunostomy was universally acknowledged. He therefore proposed to confine his remarks to operations which had proved inefficient—in the sense that a permanent cure had not resulted.

Mr. Mitchell proceeded: No disappointment could be more bitter than to have a patient come back some time after a serious operation with the complaint that she was as bad as ever. In order to save others from a similar disappointment the following cases are recorded:

CASE I.—*Excision of Ulcer: Relapse after one Year.*

Miss S., aged 24, had suffered for seven to eight years from very severe pains after food. She had been treated by most skilful physicians. On two different occasions she had submitted to eight weeks' rest in bed, rigid dieting, and even rectal feeding, but without avail.

On February 1st, 1902, I operated in a nursing home in presence of Sir William Whitla. A small ulcer about the size of a sixpence was found on the anterior surface of the stomach, and was freely excised. No other ulcer could be found. She made a good recovery.

Two months later she wrote that she was very well, and "could take ordinary food with comfort." In January, 1903, she reported herself as being in good health. But the following April she came to me complaining of a relapse of her old symptoms. She saw me two or three times, and got some relief from diet and drugs; but her condition was not satisfactory.

This case I had published as a success.[1] A record of its failure seems to be of importance in view of the fact that many eminent surgeons have recommended excision as the operation of choice where it can be easily carried out; for example, Mr. Mansell Moullin, in an interesting article in the BRITISH MEDICAL JOURNAL of October 17th, 1903, says: "The ideal mode of treatment is by excision. . . . The scar left is a simple linear one, not likely to contract or lead to the development of adhesions." He then refers to a series of eight cases, all of which, he reports, did well. The subsequent history of these cases would be interesting. As the result of my own case, and for the reasons which I shall shortly submit, I no longer regard excision as an efficient operation.

CASE II.—*Ulcer Infolded: Complete Relief for One Year: Relapse: Gastro enterostomy: Cure.*

Miss M., aged 32, had suffered from typical symptoms of gastric ulcer for about twelve years. She had been submitted to the most careful and thorough medical treatment, but without relief. In October, 1902, she entered a nursing home, and on operation I found a large ulcer on the anterior surface extending across lesser curvature to posterior surface, with numerous adhesions. This ulcer was simply infolded by a long line of continuous suture which extended about four-fifths round the stomach, thus securing complete rest to the ulcerated area, as suggested by me in 1901. The immediate result was all that could be desired. Within ten days she could eat all kinds of food with perfect comfort. She remained in excellent health for sixteen months, with the exception of chronic constipation to which she had always been a victim, and which was not in any way affected by the operation.

Her former symptoms then began to come back, and she gradually got worse, till she was as bad as ever. She told me she "had boasted so much about her cure after the operation that she was ashamed to let any one know how bad she was." Medical treatment was again tried and failed. She herself asked whether nothing more could be done. I suggested gastro jejunostomy. She at once consented, and again entered the nursing home.

On July 7th, 1904, one year and ten months after the first operation, I did a posterior gastro-jejunostomy, at the same time producing an artificial narrowing of the pylorus by the insertion of a few Lembert sutures. She made a rapid recovery, and left the home within three weeks feeling quite well. She now reports herself in perfect health, stating that her digestion is normal, and she has no further need for aperient medicine.

I have no doubt this result will be permanent. At this operation a circular scar could be seen surrounding the stomach, where the line of continuous suture had been inserted, and a few slight adhesions were present. When the stomach was opened, the portion originally infolded, consisting of indurated cicatricial tissue, could not be felt by the finger introduced into its cavity. The mucous membrane was quite smooth and velvety over the site of the operation. A fresh ulcer had, however, formed higher up on the posterior surface.

This case was also published by me as a success.[2] I have here to withdraw my former recommendation, and acknowledge that "simple infolding of the ulcer is an inefficient operation."

CASE III.—*Hour-glass Stomach: Gastro-gastrostomy: Complete Relief for over a Year: Relapse: Perforation: Recovery after Operation: Symptoms Persisting: Gastro jejunostomy, followed by Relief.*

Miss M. D., age 41, had suffered from her stomach for twenty-six years. In March, 1902, I operated, and found a well-marked hour glass stomach. Gastro-gastrostomy was performed. Relief was immediate and apparently complete. For more than a year she enjoyed excellent health; then she began to complain of the old pain and her condition gradually got worse. In April, 1903, she came to town to see me. I was from home. While in her sister's house she suddenly perforated. She was operated on and the perforation sutured by Dr. John Campbell. She made a good recovery, but soon after getting up began to suffer from pain and vomiting. We tried rest and medicine, but without benefit, and when she ventured the remark that she simply could not continue to live in her present state, I with considerable diffidence put before her the possible benefits of gastro-jejunostomy. She decided to have this done. Accordingly, she entered a nursing home, and on November 30th, 1903, I performed the posterior operation. Very great difficulty was experienced owing to extensive adhesions, the anterior surface of the stomach being firmly fixed over a large area. She suffered for some time from regurgitant vomiting, but this eventually completely disappeared, and she is now well, having successfully braved her third and, I trust, last abdominal section within twenty months.

CASE IV.—*Gastric Duodenostomy: Complete Relief: Relapse after Eighteen Months: Posterior Gastro jejunostomy: Cure.*

Miss M. K., aged 48, was operated on for old-standing stomach trouble, characterized by persistent vomiting and pain, by Dr. John Tennant and myself in the Ulster Hospital on July 11th, 1902. Pyloric obstruction due to cicatricial contraction, with some silvery adhesions, was found to be the cause of her symptoms. The first portion of the duodenum was long, and came freely into the operation wound. A gastro-duodenostomy was performed. She made a rapid recovery, got complete relief from all her discomfort, and left hospital one month after operation, feeling in excellent health, and having gained 1 st. 5 lb. in weight. Four months later she reported herself as being quite well, and her weight, which previous to operation was only 4 st. 1 lb., had increased to 6 st. 10 lb.—a total gain of 2 st. 9 lb. This patient remained in good health for over eighteen months. She then came to me, stating that the old pain and vomiting had returned. She was submitted to the most careful medical treatment, but steadily got worse. She vomited everything, and constipation was very troublesome. I finally recommended her to submit to another operation.

October 12th, 1904, I performed a posterior gastro-jejunostomy, and she is now able to take all sorts of food without discomfort, and, as usually happens after this operation, the constipation has been relieved. The cause of relapse in this case was the formation of adhesions round the gastro duodenal opening, and a considerable degree of gastric ptosis, which prevented the artificial opening acting as an efficient drain to the stomach.

This case was recorded as a success,[3] but here again I have to venture the opinion that the old operation of gastro-duodenostomy is not an efficient one. I do not, of course, include Finney's method of gastro-duodenostomy, of which I have no personal experience.

The question naturally arises, Is there any satisfactory reason why these operations, which at first seemed to produce such brilliant results should ultimately have to be condemned as failures? The answer is, Yes.

In the first 3 cases no attempt was made to interfere with the action of the pyloric sphincter, which, continuing to act, prevented complete rest, and caused the retention in the stomach of certain irritating substances. In the fourth case, the artificial opening being made close to the original ulceration, and being limited in size by the site selected, became obstructed by surrounding adhesions. It would, therefore, appear that those surgeons are correct who take the view that the most efficient surgical procedure for the relief of symptoms dependent on gastric ulcer or its sequelae is to be found in a properly-performed gastro-jejunostomy; or possibly, in cases of ulceration at some distance from the pylorus, the modern method of gastro duodenostomy suggested by Finney, which is really a modification of pyloroplasty, may be found satisfactory.

The advantages of such a proceeding are that we secure:

1. Prolonged rest to the stomach.

2. Efficient gastric drainage, thus getting rid of the evil effects of excess of acid and other irritative substances. It thus deals not only with the actual ulcer, but with what I may call the "ulcerative habit" which these patients have acquired.

3. We provide a cure for multiple ulcers, should more than one be present at the time of operation.

4. Chronic constipation, probably one of the causes of the relapse of ulcers, which have undergone cure by medical treatment or otherwise, is almost invariably cured.

How this cure of constipation is effected may be open to question. I think, however, the two chief elements are:

1. That fluids are no longer absorbed in large quantity from the stomach, but find their way freely into the intestine, and act as an intestinal flush.

2. That the digestive process which now takes place in the bowel, instead of in the stomach, acts as an intestinal stimulant and aperient.

In future, therefore, it is my intention when called on to operate for gastric ulcer to go straight for a gastro-jejunostomy. Should the case be one of hour-glass stomach, I shall first do a gastroplasty to relieve the constriction, to be immediately followed by Finney's gastro-duodenostomy, or Hacker's posterior operation, should the patient's condition permit of the double operation.

[1] *Trans. Ulster Med. Society*, 1902-3.
[2] Ib'd.
[3] *Trans. Ulster Med. Society*, 1903-4.

It is not the object of this paper to discuss the merits of the various methods of gastro-jejunostomy—suffice it to say that my own practice favours the posterior method, according to the modern plan of making the junction as close to the origin of the jejunum as can be conveniently done, or as will admit of efficient drainage.

Gastro-jejunostomy, whilst it is the operation of election—an operation which Mr. Moynihan says is suitable to every case, and always efficient—is, in the experience of almost every operator, liable to be followed occasionally by very troublesome regurgitant vomiting. I am aware that modern technique has greatly reduced this risk, but as it is a possible complication, the best and most efficient method of dealing with it is a matter of importance. Here again I regret to have to record a most disappointing result.

Mrs. D., aged 38, who had suffered from symptoms of gastric ulcer for eight years, was operated on by me on May 3rd, 1904. A posterior gastro-jejunostomy was done, but the jejunal loop was left about 8 in. long. Regurgitant vomiting set in on the third day, and though not very severe, persisted in spite of all treatment, including lavage. She declined further interference, and left hospital five weeks after operation, able to get about, but still vomiting at frequent intervals.

She came to me at the end of September, four months after operation, looking very thin and weak, and stated that she was getting steadily worse; she had no pain, but severe nausea and vomiting, occurring sometimes daily; at other times at intervals of two or three days. She again went into hospital, where I opened the abdomen. Professor Sinclair kindly assisted me, and gave me the benefit of his advice. It was decided to perform a lateral anastomosis between the ascending and descending loops of jejunum; this was done at a point about 4 in. from the junction with the stomach. This procedure presented no special difficulty, and the patient rallied well, but the operation did not afford the slightest relief to the vomiting, which continued till her death ten days later. There was no trace of peritonitis or other complication, death being due to exhaustion.

I submit for your consideration the specimen removed from this patient, which shows both the anastomotic openings to be widely patent. The old gastric ulcer is nowhere to be seen.

Bearing on this subject the following quotation from Cheyne and Burghard's *Surgical Treatment* is of interest:

It has been suggested that the Y operation should be employed for these cases; but this operation had better be the original procedure if it is to be performed at all. In the case of which we are speaking it is more troublesome than the lateral anastomosis and is not really more effectual.

This expression of opinion coming from so high an authority had great weight with me, my own inclination being in favour of the Y operation.

About a week later I performed an anterior gastro-enterostomy on a young girl. Her stomach was extensively diseased, and so bound down by adhesions that a posterior junction could not be effected. She was too weak to bear the Y operation, so I had to content myself with fixing the jejunum to the stomach wall for about 1 in. on each side of the anastomosis. Regurgitant vomiting was very severe and persistent. On the 10th day I again operated. I divided the bowel immediately above the junction with the stomach; closed the distal end, making a blind cul de sac. The upper or duodenal end was then implanted into the descending loop of jejunum about 3 in. below the stomach. Relief was immediate and complete; she never vomited again, and made a rapid recovery.

This method is, therefore, in my opinion, preferable to the lateral anastomosis in such cases. If the junction can be successfully carried out, it can hardly fail to be efficient.

In submitting these few cases for the consideration of this Section I am quite aware that the failures I have related may have been due to some defect on the part of the operator, and we all know what a slight error can mar an abdominal operation, for there, indeed, it may be said our patient's life "hangs on a thread"—but I shall be fully satisfied if this record has the effect of saving any other surgeon from the mortification which I have experienced on account of them.

SOME FURTHER EXPERIMENTS ON THE STERILIZATION OF THE HANDS AND THE SKIN.

By CHARLES LEEDHAM-GREEN, F.R.C.S.,
Birmingham.

AT the annual meeting of this Association in Oxford last year I had the privilege of laying before you the results of a series of investigations which I had made to determine the relative efficiency of various methods employed in the sterilization of the hands of the operating surgeon; and I pointed out that the result of these experiments was to show that of all the methods which up to that time had been advocated Fürbringer's was by far the best, and that the only one which approached it in efficiency was Ahlfeld's simple hot-water-alcohol method; further, that all the other methods must be condemned. Among these were included all forms of simple mechanical cleansing, aqueous solutions of carbolic acid, perchloride and biniodide of mercury, izal, lysol, permanganate of potash (Kelly's method), spirit soap, and "sublamin." I then showed that even the two methods singled out as being of value (Ahlfeld's and Fürbringer's) were far from perfect, and could not be always relied upon to render the hands non-infective in a surgical sense. I then described how I had been led to modify Fürbringer's method by combining the alcohol with the sublimate, and that this modification had proved to be a distinct improvement. My experiments with this preparation, however, at that time were comparatively few. This inquiry I have since continued, and the results are such as now permit me to speak with greater confidence of the value of antiseptics in alcoholic solutions. No other method has, in my experience, proved so efficient as that which I suggested last year—namely, a preliminary wash with soap and hot water, followed by rubbing the hands with sublimate-alcohol—1 in 1,000—and then polishing with a dry sterile cloth. During the past twelve months several valuable papers have been published by other workers on this subject, to some of which I must briefly allude. The opinion as to the efficiency of alcoholic solutions of antiseptics has been steadily gaining ground, though there are many points about which the various experimentalists still differ. My condemnation of spirit-soap has been confirmed by Engel.[1] This preparation, which, when introduced by the late Professor Mikulicz in 1899, was hailed with much enthusiasm as a sure and rapid means of attaining the desired sterility, thus receives further adverse criticism. I have tested it in all sorts of ways, and find nothing to justify its retention as a serviceable disinfectant.

Within the last few months two important works have been published, one by Engel[2] and the other by Sarwey.[3] From a large number of carefully-devised experiments both have arrived at certain conclusions which largely agree with my own that antiseptics in alcoholic solution are much more efficient than aqueous ones, and that Fürbringer's method, where the alcohol is followed by an aqueous sublimate solution is much less efficient (Engel says 25 per cent.) than an alcoholic solution of the mercuric salt alone. Engel, however, goes on to say that an alcoholic solution of "sublamin" (mercuric-sulphate ethylenediamine) is decidedly superior to a similar solution of perchloride of mercury. He quotes a number of experiments with a view to prove that in "sublamin"-alcohol we have a practically ideal sterilizing agent, free from all irritating action upon the skin, and capable of rapidly destroying not only the bacteria on the surface of the hands, but also the microbes in the deeper layers of the epidermis.' If this indeed were so, then the long and toilsome search for a perfect disinfectant would be at last rewarded.

I wish I could speak with the same confidence in confirmation of this view, but I am obliged to confess that I cannot. When I compared the bactericidal powers of sublimate-alcohol and "sublamin"-alcohol on test objects, such as silk threads and glass beads infected with the ordinary pus cocci, I was unable to detect an appreciable difference in their relative powers; but when tested against more resistant microbes, the sublimate-alcohol proved much the stronger. When I compared their relative efficiency as hand sterilizers it was seldom that the sublimate-alcohol did not give the better results. The difference, it is true, was not very great, but still it was appreciable. It is claimed by Engel that "sublamin"-alcohol 2 to 1,000—has unusual powers of penetrating the skin, and is thus able to destroy the microbes in the deeper layers of the epidermis. This, he states, is due to its loosening the epidermal tissues, and rendering the skin soft and smooth. I am very sceptical of this penetrative action. I remember how this quality was strongly claimed for the aqueous solution of this antiseptic, which, however, in my own hands, and now in those of other investigators,[4] has proved to be of little value. I attribute the inferior results I obtained with "sublamin" alcohol partly to its lower bactericidal power, but principally to the very fact which Engel regards as a special virtue of the sublamin solution—namely, the very slight astringent power it possesses. The astringent action of the sublimate-alcohol causing the skin to harden and the epidermal cells to adhere more firmly together, is to my mind one of its great advantages. For, as I pointed out last year," the value of the alcoholic method is largely due to its power of hardening the skin and rendering the detachment of the superficial cells and the adherent microbes less

easy, and it is because sublamin-alcohol has a softening rather than an astringent action on the epidermis that it is of less value as a skin disinfectant than sublimate-alcohol—at least, so it has proved in my hands. Therefore, I believe that in sublimate-alcohol we have the most efficient agent which has yet been discovered for the disinfection of the hands; but it is to be remembered that, even with the use of this superior agent, the hands are never rendered sterile in the strict bacteriological sense of the word. The most that can be obtained is a material reduction in the number of organisms and such changes in the surface of the skin as to render the microbes still present less easily detachable.

I have explained elsewhere[7] that the most powerful agent known is not necessarily the most suitable one to adopt in all cases. It may be that for some susceptible hands one of the less-astringent solutions—for example, sublamin-alcohol, lysoform-alcohol, or even plain alcohol—is the best for frequent use; but it is none the less important to know which agent is the most powerful in cases where special care is needed.

I have thought it might be useful to show graphically the relative values of the more-commonly used agents as revealed by my own experiments. Such a representation cannot for many reasons be more than a rough guide as to the efficiency of the various methods; it is designed to show the relative, rather than the actual, value of the several agents. It seemed to me an effective way of bringing home to the surgeon the vast difference there is between the earlier methods and those advocated in recent years.

I have hitherto spoken of the sterilization of the surgeon's hands. I now wish to present to you the result of a research made on somewhat similar lines, in order to determine the most efficient method of sterilizing *the skin of the patients* prior to operation.

At first sight it would seem reasonable to suppose that the method found to be most effectual in the one case would also prove to be the best in the other. This has been assumed by almost all investigators, but I think I shall be able to show that it is not a just conclusion. Each has its own special difficulties to be overcome.

In the case of the surgeon's hands we have to recognize two important facts: First, that the nail-folds and any accidental cuts in the skin afford admirable lurking places for dirt and micro-organisms, against the removal of which these roughnesses of the skin present considerable mechanical obstacles. Besides this, the hand of the surgeon almost of necessity comes into frequent contact with virulent septic matter, and therefore is liable to become severely contaminated.

But in the case of the patient, unless he is suffering from some septic condition, it is exceptional for his skin to be virulently infected. I do not by this statement mean to infer that pathogenic organisms are not frequently found on the skin of persons who have not come into contact with septic matter, but I wish to emphasize the fact that the organisms which are there under ordinary circumstances are usually of slight virulence and are unlikely to give rise to severe septic trouble.

It might, therefore, readily be inferred that it is a much easier task to effect the sterilization of the patient's skin than of the operator's hands. But those observers who have made comparative tests of these have generally come to the conclusion that the hands are more readily sterilized than the skin. Haegler[8] accounts for this by the fact that the firm cuticle of the hands permits of a vigorous and effective mechanical preliminary scouring, which would be inapplicable to the tender skin of the other parts of the body. So that the use of the nailbrush, loofah, and sand, which may play a considerable part in the mechanical cleansing of the hands, is almost wholly prohibited from use on the skin elsewhere.

There are, however, other facts which have not so far, I believe, been considered by experimentalists, but which must be carefully regarded before any decision upon the best methods of sterilizing the skin of the patient can be arrived at.

When placing the conclusions of my experiments before you last year, I drew particular attention to the fact that any method of sterilization which causes the hands to become rough and cracked is at once to be condemned for habitual use, no matter how efficient soever the method may be theoretically. For I showed that a roughened or cracked skin could not be sterilized by any means whatsoever. This consequently limits the surgeon in his choice of efficient methods. It entirely prevents him from using any spirituous solutions of antiseptics. The most powerful of all the sterilizing agents—for more than a very short period. This limitation does not apply so strictly when dealing with the patient's skin. So long as the antiseptic employed does not give rise to an acute dermatitis, it is of little or no moment if it renders the skin slightly rough for a few days. Again, in naming the conditions which are used for sterilizing the hands, it is necessary to limit the time employed in the process. Roughly speaking, any method that requires more than fifteen minutes is impracticable for ordinary use. But here too the limitation does not apply in sterilizing the patient's skin. There is no difficulty in employing a process which requires even twenty-four hours to complete, if by that means a satisfactory result can be obtained.

My method of procedure was on the lines of my previous experiments,[9] though I have made more extensive use of a preliminary artificial inoculation of the skin with a culture of a readily recognized non-pathogenic micro-organism, generally one of the sarcinae. As a preliminary to all the methods tested, the skin was first shaved and then thoroughly washed for five minutes with soap and hot water, with the use of loofah and fine marble dust.

In seeking an effective method of sterilizing the skin of the patient, my first step was to determine whether the aqueous solution of antiseptics which was found to be so inefficient in hand sterilization, would be more effective when applied to the skin generally.

A Graphic Illustration of the Relative Efficiency and Approximate Value of Various Methods Employed in the Sterilization of the Hands.

The figures represent the appearance of agar Petri plate cultures after inoculation with a scraping taken from hands which had been previously cleansed by a variety of methods.

For the purpose of this comparison the hands were artificially inoculated with a pure culture of a non-pathogenic microbe (one of the sarcinae), which, when tested with regard to its power of resistance to antiseptics, had been found to be almost exactly that of the staphylococcus aureus.

For this special purpose each method was tested eight times, and the average number of colonies which developed after the incubation of the plate for six days is depicted in the several diagrams.

The small pointed object in each figure represents the sterilized ivory slip used to take the scraping from the hands.

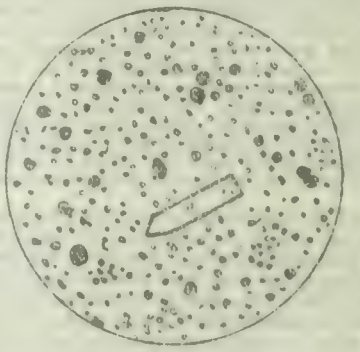


Fig. 1.—Washing in soap and hot water for fifteen minutes.

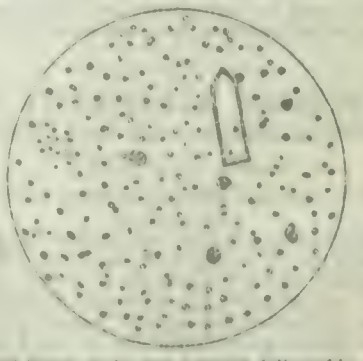


Fig. 2.—Soap and hot water for five minutes followed by the use of an aqueous solution carbolic acid (1 per cent.), lysol (2 per cent.), or perchloride of mercury (1 in 1,000) for five minutes.

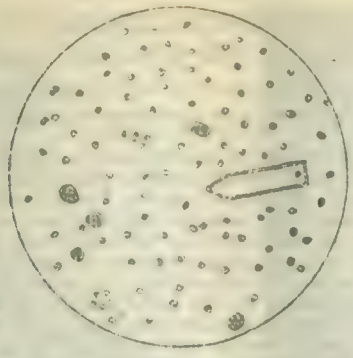


Fig. 3.—Kroenig and Blumberg's method. Soap and water for ten minutes, then a hot aqueous solution of sublamin (mercuric-sulphate-ethylenediamine), 3—1,000, for five minutes.

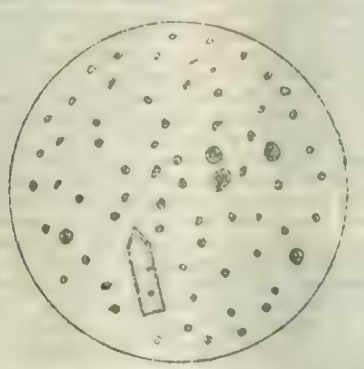


Fig. 4.—Kelly's method. Soap and water, five minutes. Saturated solution of permanganate of potash, five minutes. Saturated solution of oxalic acid, five minutes.



Fig. 5.—Spirit soap (50 per cent. alcohol), five minutes.

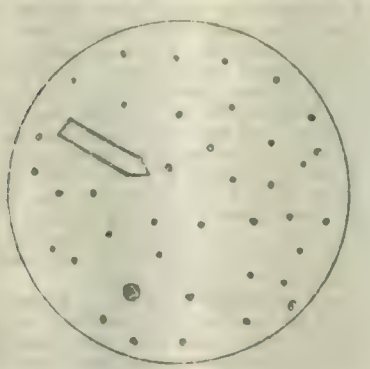


Fig. 6.—Ahlfeld's method. Soap and water, five minutes. Methylated spirit, five minutes.



Fig. 7.—Fürbringer's method. Soap and hot water, five minutes. Methylated spirit, five minutes. Aqueous solution of perchloride of mercury, five minutes.



Fig. 8.—Engel's method. Soap and water, five minutes. Alcoholic solution of sublamin (mercuric-sulphate-ethylenediamine), 2—1,000, five minutes.



Fig. 9.—Soap and hot water, five minutes. Alcoholic solution of biniodide of mercury (1—1,000), five minutes.



Fig. 10.—Soap and water, five minutes. Alcoholic solution of perchloride of mercury (1—1,000), five minutes.

When criticizing the use of aqueous antiseptics for the hands, it was pointed out that the most powerful that could be used had repeatedly been shown to be incapable of killing pure cultures of the common pus organisms with any certainty under fifteen to twenty minutes, even when the microbes were purposely fully exposed to the action of the antiseptic—

a condition which is certainly not fulfilled in the case of the microbes of the hands, where they are mixed with the dirt and fatty and albuminous débris, and are thus protected from the action of the antiseptic.

But though this is an obstacle in the way of their use for cleansing the surgeon's hands, the same does not necessarily apply in the case of the patient's skin, which admits of being prepared by a prolonged process. It has been therefore suggested by various surgeons that after the preliminary washing the skin be rubbed with an antiseptic solution, and a compress moistened in the solution be kept in contact with the surface for any length of time, from twelve to twenty-four hours prior to the operation.

At first sight this appeared to offer a distinct advantage, for not only would it give a much longer time for the antiseptic to act, but the maceration of the surface epithelium occasioned by the compress would afford the chemical greater opportunity to penetrate the deeper layers of the epidermis.

But experiments with aqueous solutions of all the antiseptics in common use, even those of the greatest strength that could be tolerated, proved that this method, so far from rendering the skin more sterile, had rather the opposite effect. For not only did the compress, how frequently soever renewed, fail to destroy the micro-organisms situated on the skin, but it loosened the surface epithelium, rendering it easily detachable under the surgeon's manipulations. In other words, these watery, antiseptic compresses do little for and much against the desired sterilization. The watery solution of sublamin was found to be no exception to this statement. I then turned my attention to the spirituous solutions. I was curious to learn whether, by prolonging the action of these by means of a compress, it would be possible to obtain an appreciable improvement in their efficiency.

The time at my disposal does not permit of my entering into the details of these experiments, the relation of which I must leave to subsequent publication.

To state the results briefly: I found a decided advantage in this prolongation of the action of the spirituous antiseptics over the manner of using them as advocated for the sterilization of the hands. A greater proportion of the tests proved sterile, and in no case was there any marked infection. The results of the tests with the various solutions applied thus to the skin worked out in the same order of efficiency as when used in sterilizing the hands, though in an enhanced degree. Although these experiments are as yet incomplete and imperfect, they leave no doubt in my mind that we have in the alcoholic compresses a means of readily and materially reducing the infectivity of the skin to a degree which at present it is not possible to attain when treating the hands.

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A NOTE ON CONGENITAL DISLOCATION OF THE HIP-JOINT AND ITS MODERN TREATMENT.

By J. JACKSON CLARKE, M.B.Lond., F.R.C.S.,

Surgeon, North-West London Hospital and City of London Orthopaedic Hospital.

CONGENITAL dislocation of the hip must now be classed with congenital club-foot among curable affections. This really great advance in surgery is due to Lorenz,[1] who discovered that in this condition certain muscles are lengthened and not shortened, as was formerly believed, and perfected the manipulative and gymnastic system of treatment. If the patient is submitted to treatment at a suitable age and the surgeon is experienced in the various steps of the operation, the method involves no serious risk, and patients invariably improve in general health and strength during the after-treatment, most of which can be carried out at home under the supervision of the family medical practitioner.

The scientific basis of this treatment, its technical details and results, have hardly yet been appreciated by surgeons generally, or even by many of those who devote particular attention to deformities; this is evidenced by the fact that in recent years before this Association statements have been made which have left the impression in this country that the Lorenz open operation gives better results than his manipulative method; and also to the effect that the latter method is better suited to unilateral than to bilateral cases.

From the study of a series of 17 consecutive cases which I have treated by the manipulative method since January, 1903, when Professor Lorenz kindly operated on one of my patients for me, I have arrived at the opposite conclusions, namely, that the open operation is no longer justifiable as a primary surgical procedure, and that the manipulative method of treatment is called for in bilateral cases. Later in the present year I intend to publish a detailed and critical account of this series of cases. The method itself I have described elsewhere.[2]

In this short paper I can only deal with general conclusions based on those cases in which two years or thereabouts have elapsed since the commencement of treatment, illustrating those now well-established results by photographs and skiagraphs.

The condition of a child with double congenital hip dislocation is shown in Fig. 1, taken from a patient aged 8, on whom I operated in November, 1904, and whose course of treatment is not yet completed, but is so far most satisfactory. The marked lordosis and the elevation of the great trochanter are well shown. Other features are marked limitation of abduction, an undue hollowness of Scarpa's triangle, and, above all, the well-known and distressing waddling gait. As a contrast to this the present appearance (Fig 2) of the patient who was operated on in January, 1903, may be given. There is no trace of lordosis, and the previously stunted appearance of the patient is transformed into a perfectly just proportion, and the anterior superior spine and the great trochanter are in their normal relative positions.

The child walks well without any trace of the previously-marked waddling. There is no comparison between such a result as this and what can be obtained by the open operation, not to mention the more serious risks of the latter. My own experience has taught me that no one, however practised he may be in general surgery, can obtain successful results without considerable practical trial of the method. Even after ten years of persevering work with manipulative methods—first a method based on my own pathological studies, and later an extensive trial of Lorenz's manipulative method—it was only by personally assisting Lorenz that I really grasped the essential features of his method, and even then I had to repeat the first two operations that I did after Lorenz's visit to London. Only experience of all the details, and of all the modifications of the operation and after-treatment required by particular cases, can enable the surgeon to obtain success.

As an example of a successful result in a case of unilateral dislocation, I may adduce the results shown in Figs. 3 and 4. When I operated, on June 17th, 1904, the patient, then aged 3 years, presented the typical symptoms, and the diagnosis was confirmed by the skiagraph reproduced in Fig. 6. The child now walks and runs in a normal manner, and the weight-bearing power of the limb is normal. This last feature is seen still better in another equally successful case (Fig. 5) operated on about the same time. A slight degree of abduction (as shown in Fig. 4 in the skiagraph,



FIG. 2.—A typical case of double congenital hip dislocation two and a half years after operation. Patient aged 5 years.

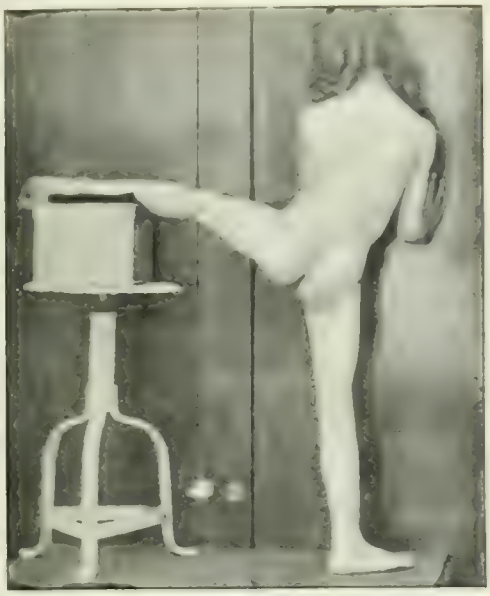


FIG. 5.—Another unilateral case: right-side, showing the weight-bearing capacity of the limb after operation.



FIG. 1.—A typical case of double congenital hip dislocation before operation. Patient aged 5 years.



FIG. 6.—Skiagraph of the pelvis of the patient shown in Fig. 5 before operation.



FIG. 4.—The same patient as in Fig. 3 seen from behind; the previously shortened limb is now apparently longer than its fellow.



FIG. 7.—Skiagraph of the same patient two years after operation.



FIG. 3.—A unilateral case (right side) two years after operation.

TO ILLUSTRATE MR. JACKSON CLARKE'S PAPER.

Fig. 7) is purposely maintained, and it makes the previously shortened limb for a time virtually longer than its fellow.

Skiagraphs are helpful in enabling us to distinguish that rare affection congenital coxa vara and other conditions from congenital hip dislocation; they also help in demonstrating the results of treatment. They should be taken with the limb held in an inverted position.

A good deal has been said concerning the anatomical effects of Lorenz's manipulative operation. Doubts have been expressed as to whether the reduction is a true one. It has been proved to be so in some cases where patients have succumbed to infective fevers after or during the course of treatment. The point is really not so important as it might appear. So long as the functional effect is satisfactory, all the previous disabilities being permanently removed, it hardly matters whether or not a portion of the joint capsule intervenes between the femoral head and the acetabulum till it is removed by pressure-atrophy. In nearly every case the head of the femur can be brought to rest on the acetabular surface, whether at the time of operation or subsequently.

The dangers of the treatment have been greatly exaggerated. Up to the age of 4 years there is no need to cause anything approaching to violent laceration of muscles; a deep massage of the stretched adductors is all that is necessary to prepare for reduction, in addition to passive hip flexion and extension done rhythmically and gradually increased.

In older children up to the age limit the necessary manipulations can be rendered free from danger by suitable preliminary preparation.

Mr. JORDAN LLOYD said he had been present at Professor Lorenz's demonstration in Liverpool, and had followed his methods precisely since in several cases. The results on the whole had been satisfactory, but in every one of his cases a certain amount of limping still remained. He thought the public had been led by the public press a few years since to expect too much from the surgical treatment of congenital hip dislocation. Absolute cure—in the lay sense of the term—is practically impossible, but that immense improvement by treatment can usually be attained is undoubted.

REFERENCES.

[1] A. Lorenz, *Centralbl. f. Chir.*, No. 33, 1895. [2] *Congenital Dislocation of the Hip.* Second edition, 1905.

OBSERVATIONS ON STERILIZATION OF THE HANDS.

By C. YELVERTON PEARSON, F.R.C.S.,
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IN consequence of the discussion which took place last year at the Oxford meeting, and more especially as the result of Mr. Leedham-Green's communication at that meeting, I modified the method which I had been previously employing for hand disinfection, which consisted up to that time of a slight modification of the method used by Mr. Lockwood. The method I now employ is as follows:

A. *Preparatory.*—For hands not already prepared for sterilization a preparatory process has to be gone through, which consists of careful trimming of the nails, washing with ordinary soap and hot water, then, if the skin is at all rough, they are well rubbed with Brooks's "Monkey Brand" soap or with sterile sea sand so as to render the skin smooth and remove redundant epithelium. This preparatory process is not necessary in the case of those whose hands are already in good cosmetic condition. The only form of nail-cleaner I employ is a piece of sterilized orange wood.

B. *Disinfection Process.*—This is divided into three stages:

1. Washing for five minutes with spirit of green soap and very hot water. The scrubbing is done under a tap of running water, and two sterile nail brushes are used in succession.

2. *Dehydration* by carefully rubbing the hands and forearms with pieces of gauze soaked in methylated spirit; this occupies three minutes.

3. *Disinfection proper*, by rubbing for two minutes with gauze soaked in a 1 in 500 solution of mercuric biniodide in 70 per cent. alcohol. The biniodide is washed off with methylated spirit; the hands are then washed in normal saline solution.

With the aid of our pathologist, Dr. A. E. Moore, I had this method of disinfection carefully tested by bacteriological experiments according to the method used by Mr. Leedham-Green, that is, the hands and the grooves around the nails were scraped with roughened pieces of ivory, which were then dropped into culture tubes containing glycerin-agar at 42° C., incubated at 37° C. for six days, and then carefully examined with a magnifying lens.

The first series of experiments were made on normal hands. The scraping of the right and left hands was conducted separately, and regarded in the tables as distinct experiments. In the eighteen experiments recorded in the following table, eight distinct individuals were experimented upon.

TABLE I.—*Experiments on Normal Hands.*

No. of Experiment.	Individual Experimented upon.	Hand Tested.	No. of Colonies.	Remarks.
1	Surgeon	Right	1	Accidental contamination of surface from air.
2	,,	Left	3	
3	Sister	Right	6	
4	,,	Left	0	
5	Matron	Right	0	
6	,,	Left	10	Wedding ring worn.
7	Nurse	Right	0	
8	,,	Left	1	
9	Nurse	Right	1	
10	,,	Left	0	
11	Matron	Right	0	
12	,,	Left	2	Wedding ring worn.
13	Nurse	Right	1	
14	,,	Left	0	
15	Sister	Right	1	
16	,,	Left	0	
17	Dresser	Right	8	
18	,,	Left	1	

Thus, out of 18 experiments, *absolute sterility* was obtained in 8; and, as Mr. Leedham-Green regards those cases as being practically sterile in which the number of colonies does not exceed twenty, it will be seen that *practical sterility was obtained in all the experiments.* In only one instance was the same individual experimented upon a second time. The number of individuals experimented upon, in my opinion, largely enhances the value to be attached to the observations.

In the second series of experiments an emulsion of hay bacillus, with spores well developed, was rubbed into the hands for about two minutes. The hands were then disinfected by the same method, and tested as before. Tubes containing glycerine-agar were inoculated at 42° C., and incubated at 37° C. for five days, and examined. The experiments were conducted on six separate individuals, and, as each hand was tested separately, the results are recorded in the following table as twelve distinct experiments.

TABLE II.—*Experiments on Infected Hands.*

No. of Experiment.	Individual Experimented upon.	Hand Tested.	No. of Colonies.	Remarks.
1	Matron	Right	1	
2	,,	Left	0	Ring worn.
3	Nurse	Right	23	
4	,,	Left	3	
5	Nurse	Right	50	
6	,,	Left	42	
7	Student	Right	16	
8	,,	Left	5	
9	Dresser	Right	1	
10	,,	Left	2	
11	Student	Right	8	
12	,,	Left	10	

Thus, out of 12 experiments conducted on hands infected with the highly-resisting organism, the spore-bearing hay bacillus, practical sterility was attained in 9, absolute sterility in 1; in 3 there was moderate infection; in no case was there severe infection.

In the experiments numbered 7 to 12 inclusive, owing to the absence of ivory slips, the hands in each case were scraped with sterilized steel nibs. In order to test whether the lacquer, which dissolved off somewhat in the agar, had any inhibitory action on the growth of the bacillus, after the colonies had been counted, the tubes, without interference, were boiled for ten minutes, sloped and again inoculated on the surface with the same bacillus, which grew as luxuriantly as usual. The experiments were otherwise carried out under the same conditions as the others in the series.

Experiments Nos. 3 and 4 were made on the hands of a

nurse who had little previous experience in hand disinfection; and Nos. 5 and 6 were done in the case of a nurse who had only just returned from a holiday in the country, and whose hands presumably were not in good cosmetic condition.

In all instances control experiments were made to prove the sterility of the culture medium, with satisfactory results. Very special care was taken to remove the mercuric biniodide by washing with plain methylated spirit. The hands were then washed for some time in hot saline solution so as to render them soft, and favour the separation of epidermis by the scraping process with the ivory slips.

Observations.—Judging from the results which I have obtained, I think the following conclusions are justified:

1. It is possible by the method I have used to secure complete disinfection in the case of normal hands.

2. With reasonable care it is possible to obtain practical disinfection in the case of those whose hands are already infected.

I may further point out that the time taken in the process may, in the case of those who are accustomed to practise it, be safely reduced, thus:—Washing and mechanical cleansing, three minutes; dehydration, three minutes; disinfection with biniodide, two minutes.

Although it has been shown by Mr. Leedham-Green that spirit soap possesses no advantages as a disinfectant, I continue to employ it because it is more easily applied than soft soap, and readily penetrates beneath the nails.

Finally, I think it will be generally admitted that even if the operator and his assistants wear gloves, it is just as necessary that they should disinfect their hands with the same degree of care as if none were worn. The method I have advocated I believe to be reliable; and, though it may not suit all hands, up to the present I have only met with one or two who found any marked irritation from employing it.

ON SPONTANEOUS GANGRENOUS FORMATIONS IN THE VERMIFORM APPENDIX, WITH TWO CASES.

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In this paper I propose to record certain facts which have led me to believe that small gangrenous patches may develop in the wall of the vermiform appendix without causing any symptoms until after the dead part is well defined. These patches must be carefully distinguished from a general sloughing of the appendix or of any considerable portion of it.

In the first case of this kind that came under my care, a patient, whose age was 46, had a history of abdominal pains extending over fifteen years. For more than a decade, however, there had been only two serious attacks, and in these the pain, although very severe, did not last more than about twelve hours. These attacks occurred respectively fifteen months and three months before the illness now under consideration. On this occasion the patient was seized suddenly with an intense pain in the abdomen, followed by vomiting, slight intestinal distension, and a complete absence of any evidence of a passage downwards of the bowel contents. I have no record of the temperature and pulse, but they were only a little above normal, and the mischief was attributed by the gentlemen in charge of the case to obstruction of the intestine rather than to inflammatory trouble.

The vermiform appendix was removed twenty-eight and a half hours after the pain began. There was some slightly turbid fluid like very thin milk in the pelvis. The small intestines were partly collapsed and partly distended. There were no peritoneal adhesions. A gangrenous patch was found near the tip of the appendix. The patch was less than ½ in. in diameter. It extended through the walls of the appendix, and was well defined but still continuous with the adjoining tissues, so that the tube had not burst.

This operation was performed ten years ago, and I have seen similar gangrenous patches on several occasions since, but the explanation of the condition which I now suggest did not occur to me until after one of these cases came under my care last year.

A lady, aged 21, complained of slight pain in the right side of the abdomen; this was persistent for over thirty hours. The bowels did not act, but constipation was habitual. The temperature rose to 100° F. and the pulse to [illegible]. The patient did not appear to be seriously ill-disposed. During the following twelve hours, however, the abdomen became distended and hard, and vomiting commenced and was soon constant. The patient rapidly lost strength and was obviously very ill. The pulse rose from 90 to 130, but the temperature only rose from 100° to 100.6° F.

The abdomen was opened forty-four hours after the illness began. The vermiform appendix lay high up outside the ascending colon, and in contact with the small intestines.

It was surrounded by flaky lymph, but was in no way shut off from the sac of the peritoneum by adhesions. There were a few ounces of slightly turbid serous fluid which was free in the peritoneal sac, and yet was collected in the hollow of the loin pouch around the seat of mischief.

There were no peritoneal adhesions, unless the easily-broken-down flaky lymph adjacent to the appendix could be so described. The intestines were greatly distended. There were three separate gangrenous patches in the wall of the appendix all less than ¼ in. in diameter, and all attached to the adjacent tissues of the appendix wall, so that there was no rupture of its tube.

The only points to which I wish to direct attention in these cases are the presence of well-defined gangrenous patches in the walls of the appendices, and the symptoms which arose in association with the development of these patches.

It seems to me that such gangrenous patches, when found so early in the course of an illness, and when the evidences of inflammation are not well marked, cannot be the results of inflammatory changes. An inflammation terminating in gangrene gives rise to symptoms of febrile disturbance of a sthenic type. It is attended by an increasing pulse-rate. The pulse beats are full and bounding at first, but become small and feeble later. The temperature rises to 103° or 104° F. or higher. The tongue is furred. Perspiration may be profuse at the onset, but the skin is more often hot, dry, and harsh if gangrene takes place. The inflamed area is tender, and, when the parts are exposed, there is unusual vascularity and obvious swelling of the tissues in the neighbourhood. Moreover, the symptoms of such an inflammation become progressively more severe for about three days before the process terminates in recovery, in pus formation, in local sloughing, or in death of the patient.

Such a history was entirely absent in both the cases I have referred to. In both, the evidences of inflammation were very slight, and yet, twenty-eight and a half and forty-four hours, respectively, after the first symptoms were noted, well-defined gangrenous patches were found.

It is important to note that there are conditions in the human body in which a spontaneous gangrene, unaccompanied by pain or symptoms of any kind, is well known to take place. For example, senile gangrene is occasionally painless. In the wall of an ovarian tumour, also, it is not uncommon to observe large patches of tissue, with a well-defined irregular margin and of a greyish-yellow colour, in which the circulation has evidently ceased. These patches are always at a distance from the pedicle, and there can be little doubt that in such conditions and in senile gangrene a chief cause of the local death of tissue is a deficient vascular supply to the affected part. The gangrenous patches in the walls of an ovarian tumour may be so smooth and unirritating that they cause no symptoms whatever, and, even when the abdomen is opened, there may be no peritoneal adhesions or other evidences of irritation. A death of tissue without pain or other symptom also frequently takes place in the walls of the stomach and of the duodenum. The first sign of this condition in these organs may be a profuse haemorrhage into the alimentary canal or a sudden onset of symptoms of perforation of the bowel. This last form of local death has a very special significance when considered in association with the small gangrenous patches sometimes found in the vermiform appendix.

It has for a considerable time been known—and Sir William Macewen, in the Huxley Address[1] delivered at Charing Cross Hospital last October, brought together the evidence—that, especially in herbivorous animals, including man, the secretions of the caecum exercise a distinct and powerful digestive action on the contents of the colon.

He stated that "in the herbivora the caecum is enormously developed, and in the solipedes the caecum is the chief digestive organ, the stomach occupying a secondary place." Moreover, he associated the secretions of the appendix in man with those of the caecum as exercising a digestive action.

It seems to me that the resemblance between the appendix and the stomach in their functions extends to their pathology, and that localized patches of gangrene may develop in the wall of the appendix, as in that of the stomach, without causing any immediate symptoms.

In the case of the stomach it is fashionable to call perforating ulcers "peptic"—a description which indicates that they are induced by a digestive action of the gastric juices. It seems, however, quite certain that such action must be preceded by some change which either kills the tissues or so lowers their vitality that a digestive effect becomes possible.

This preliminary change has been attributed to nervous and to vascular influences, and it seems not improbable that both are concerned. There can be no doubt that a shutting off

of the vascular supply is one of the earliest changes leading to the formation of a gangrenous patch, whether in the stomach or in the vermiform appendix. It is equally certain that if such an arrest of the blood supply to a small area or to several small areas in a vermiform appendix, or in the stomach, should take place without causing any pain, the dead tissue, as in the case of the dead wall of an ovarian tumour, might at first give rise to no irritation of the peritoneum. So far as I am aware, there are no data to show how long a gangrenous patch may exist in the wall of an ovarian tumour without causing symptoms. In the case of the appendix also it is possible that a patch might be dead for an appreciable time before any symptoms of mischief would develop, but in this organ septic influences would quickly permeate the dead tissue, and the further development of the case would depend on the nature and quantity of the septic germs first gaining access to the peritoneum.

It is quite certain that in the two cases especially under discussion the irritating material first entering the peritoneal sac was not markedly, if at all, pyogenic in character. Probably a staphylococcus having a strong tendency to induce a serous exudation was the first organism to escape. In the second case in particular there was evidence that a very slight peritonitis existed for thirty hours before any serious symptoms arose, and in both cases the indications were those of a diffusing peritonitis of an asthenic type causing paralysis of the intestine and symptoms of ileus rather than those of an inflammation in the appendix itself. It seems to me that the symptoms followed the formation of these patches, and that there was nothing to indicate exactly when the localized death of tissue occurred.

It is obvious that if gangrenous patches may occur without pain or inflammation, they may also be found in association with a true appendicitis. When these conditions develop together, if there should be an obstruction to the exit of the contents of the appendix into the caecum, the internal pressure would be apt to lead to an early rupture at the site of the gangrene. If this occurred much flaky lymph would be rapidly thrown out, and in a very few hours only a sloughy, ragged perforation would be observed when an operation or a *post-mortem* examination was performed.

It seems to me possible also that, as in the stomach so in the appendix, a gangrenous patch may form, and may give rise to no symptoms of sufficient severity to attract attention until the dead tissue separates.

I am inclined to think that conditions arising in these ways may be not uncommon. It is very difficult to understand why the vermiform appendix should rupture so frequently as it does, and so very early in the history of the illness—or at least in the obvious history—unless there is some weak place in its wall. We know that this tube occasionally becomes distended to a considerable size, and our knowledge of inflammatory mischief in other parts—in the Fallopian tube and in the gall bladder, for instance—would lead us to expect that universal adhesions would almost invariably occur around the appendix before its rupture took place if the mischief was due to an inflammation extending from the mucous membrane outwards, either with or without distension of its lumen.

I submit, then, for consideration that cases in which symptoms begin very insidiously, and others in which a very rapidly fatal issue is determined, may be due to a spontaneous formation of a gangrenous patch in the wall of the appendix, or to such a condition associated with a catarrhal appendicitis. It is obvious, on the other hand, that if the pathology which I have suggested affords a true explanation of some of these conditions, the mischief may be localized by adhesions, and an abscess may form, as frequently happens in the case of a perforating gastric ulcer.

I by no means intend to suggest that the occurrence of a spontaneous gangrene explains more than a limited number of instances of mischief in the appendix; but it seems to me not improbable that a considerable number of those cases in which a rupture of the appendix is found when the parts are not shut off by adhesions, and when there has been no violence, may eventually be attributed to this cause. If such mischief may arise the fact is of the utmost importance, and it is clear that immediate operative treatment is as urgently necessary as it is when the wall of the stomach or of the duodenum is involved.

The mortality from operations for such conditions should be exceedingly low if the treatment is undertaken sufficiently early before a peritonitis spreads and the small intestines become paralysed. This is especially true when the appendix is concerned, because the whole diseased part may be removed. But the diagnosis of these conditions so early is a matter of great difficulty. It is, therefore, of the greatest importance to determine whether such early operative treatment would prove harmful in the numerous cases in which recovery might be expected to take place without surgical interference.

In such cases the inflammation usually commences in the mucous membrane and in this condition also it would appear that by operating sufficiently early it must be possible to remove the whole of the disease before the peritoneum becomes affected. Under such circumstances operative treatment should be nearly, if not quite, as safe as it is when all inflammation has subsided. If, then, it is possible that a spontaneous gangrene may occur, and if it is considered how doubtful the prognosis of a case is during the first twenty-four hours of a disease of the vermiform appendix, and how safe an operation is at this time, the conclusion is forced on us that if we are to save the cases of spontaneous gangrene it is necessary to operate as soon as possible whenever appendix trouble is diagnosed.

I do not think that the mortality of the simple cases would be increased by adopting and acting on this view, and there cannot be the slightest doubt that those conditions in which the mischief is of a very serious kind, whether the symptoms be urgent or not—conditions such I have recorded in the early part of this paper—would have their mortality very greatly lowered.

It is true that, by waiting until it is certain that an operation must be performed, many patients would be saved from surgical interference for a time at least; but it is impossible to be sure that by delaying interference we do not lose the only chance of helping the patient. If we try but are unable to tide the patient over the acute condition, those cases in which we are forced to interfere will be subjected to operation at the worst possible time for surgical treatment, that is, when the evil effects of the initial inflammatory mischief have fully developed. Both the cases of which I have given notes died, whereas both would almost certainly have recovered if the operations had been performed early.

The view that a spontaneous gangrene of a small patch, or of patches, in the wall of the vermiform appendix may occur enables us to understand many of the misleading conditions which may arise, although the suggestion that a patient may for a time appear quite well and yet may have such a very serious lesion does not seem to facilitate the making of a diagnosis. Nevertheless, this fact—if, as I believe, it be a fact—shows how exceedingly dangerous it may be to delay the removal of a diseased vermiform appendix, even where there seem to be no urgent symptoms.

The object of these notes is to emphasize this view and to give a rational explanation of some of these cases, rather than to discuss the large and difficult questions of the diagnosis of these conditions and the indications for treatment. There is no organ the diseases of which present themselves with a greater variety of symptoms than those found in connexion with mischief in the vermiform appendix. I think, however, that we will gain something towards understanding the diseases of the appendix—and this is the first step to their treatment—if we recognize that certain conditions hitherto regarded as due to an inflammation of the appendix are really caused by a peritonitis arising as a consequence of a non-inflammatory disease of this tube.

REFERENCE.
1 *Lancet*, 1904, vol. ii. p. 995.

REPORT ON THE SURGICAL TREATMENT OF CHRONIC GASTRIC ULCER AND GASTRIC DILATATION BY THE OPERATION OF GASTRO-JEJUNOSTOMY AND JEJUNO-JEJUNOSTOMY.

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I had the pleasure of reporting to the Oxford meeting of the Association 20 cases of chronic gastric ulcer and dilatation treated by the combined operation of gastro jejunostomy and jejuno-jejunostomy, and I then stated that 15 of the cases were absolutely free of all their old symptoms, and that 4 complained more or less of dyspeptic troubles, though in a much lesser degree than before their operation, and that 1 did not seem to be benefited. I now propose to lay before you

the life-history of these cases since the date of their operation, from which we will be able to gather whether the primary benefit they obtained has been maintained, as by this means alone can we judge whether the operation is capable of conferring lasting benefit or not, as by some more or less sceptical people the operation is yet regarded as being on its trial.

These sceptics assert that in a considerable number of cases the old symptoms return, and that other new ones arise, in consequence of, and as a direct result of, the operation, such as peptic ulcer of the duodenum, conditions produced by fresh adhesions, giving rise to various vague pains in the upper abdominal segment. They also assert that the anastomotic opening is very likely to close, and hence the original state of things is reproduced, and that, therefore, the operation does not give the lasting benefit that has been expected of it. To answer these objections, I have instituted a careful inquiry into the history of my 20 cases reported last year. I am aware that the number is not large enough to draw any absolute conclusions from, but yet I think we can obtain a very considerable amount of information from them. With a view to try and formulate some uniform standard by which to judge these cases, I sent to nineteen of them the following questions (one case is now in America. Case No. 16 in my series, and I learn she is quite well, never suffers any distress, and has been able to resume her duties as a housekeeper):

1. Have you any pain, if so, when?
2. Do you vomit, if so, when?
3. Have you vomited blood since your operation?
4. Has your weight increased?
5. Are you able to resume your usual occupation without discomfort?

To these questions I have received sixteen replies; the remaining cases cannot be traced.

Subjoined is an analysis, in tabular form, of the replies received. From these tables it will be seen that:

93.4 per cent. were free of all pain,
93.4 per cent. ,, ,, vomiting,
100 per cent. ,, ,, vomiting of blood,
73 2 per cent. had increased in weight, and
100 per cent. were able to resume their usual occupation without discomfort.

There was no death in the series, nor have I had a death in another series of 20 cases since operated upon.

This result shows that 93.4 per cent. of the cases were cured by the operation, and that 6.6 per cent. were greatly relieved, but that all were well enough to resume their occupations—a result that I do not think any other operation in surgery of such magnitude can show better results. On further analysing these cases we find 11 were males with an average age of 32.5 years, 9 were females with an average age of 30.3 years, and the individual ages varied from 12, the youngest, to 73, the oldest, both being males.

On turning now to the conditions of the stomach found, I find that chronic ulcer causes various forms of white hardish flat patches, various forms of linear and circular or stellate scars, and adhesions, some velamentous and hard, and others very vascular, which bind the stomach to neighbouring organs or omentums. In one case there were ridges as thick as a lead pencil on the posterior wall, and in another a globular tumour mass surrounding the pylorus, but this was not stony hard, and it was quite regular and smooth. These being apparently the characters of a simple non-malignant growth or inflammatory mass, as distinguished from the stony hardness and irregularly-shaped and bossed appearance with infiltrating edges of malignant growth, by close attention to these characteristics we can distinguish a simple from a malignant mass.

The situation of the ulcer is important, and I find out of the 20 cases it was situated thirteen times nearer the pylorus, six times nearer the cardiac end, and the ulcers were multiple in 9 cases, the additional ulcers being situated in both anterior and posterior walls in about equal proportions.

With reference to the position of adhesions, they were found in all parts of the stomach, the latter being adherent to gall bladder, liver, anterior abdominal wall, and omentum. Thus in the majority of cases we find we have to deal with an ulcer more often situated near the pylorus than near the cardiac end of the stomach. It would be very important before operating in such cases that we should have some idea of the locus of the ulcer, and I think a very close analysis of the various symptoms—pain, and its time relation to the taking of food, the direction in which it shoots, together with the time relation of vomiting to the intake of food, and the effect of change of posture either in producing pain or aggravating pain already existing—will help us to form a correct conclusion as to the seat of the ulcer or ulcers.

I think we may take it as a fact that the sooner pain commences after the intake of food the nearer is the ulcer to the cardiac end of the stomach, and this, whether we regard the pain as being produced by the direct contact of the food with the base of the ulcer or whether it is produced by the contraction of the muscular walls of the stomach on the ulcer and its surrounding irritated tissues, including the peritoneal coat. I have always found that pain commencing 1½ to 2½ hours after the intake of food enabled me to diagnose the ulcer as situated at or near the pylorus, and this was verified by operation *de vivo*.

Again, pain produced by pressure over the region of the pylorus indicates that the ulcer is at or near the pylorus, and radiating pain upwards and to the right—especially when this pain is aggravated, as I have frequently seen it, by an uneasy motion of the body—indicates adhesions in that region. I have at present under my care a male patient who has intense pain on slight pressure near the ninth costal cartilage on the left side and who always gets pain about half an hour after eating even simple food, and I am sure he has an ulcer near the cardiac end, and most probably near the lesser curvature. I have come to regard a fixed pain increased by pressure, located about an inch above and to the left of the umbilicus, as indicating adhesion of the gall bladder to the pylorus and contiguous portion of the greater curvature, as I have seen these adhesions so frequently in both gall-bladder and stomach operations, in cases where this pain was well marked.

As regards the value of vomiting, I think the sooner it occurs after the taking of food does it show that the ulcer is located near the cardiac extremity of the stomach, and that when it does not occur for two to two and a half hours after, it indicates that the ulcer is nearer to the pyloric extremity.

I do not think the occurrence of haematemesis will give us any clue to the locus of the ulcer, at least, in my cases it has not done so, yet when symptoms of pain, vomiting, haematemesis, and tenderness be all absent and only the symptoms of inveterate dyspepsia present, the stomach may be crippled by ulceration and tied down by adhesions. This condition was well shown in case No. 19 of my series, where the stomach was literally dug out of a bed of adhesions, and yet the only symptoms complained of were "pain in the centre of the stomach and inveterate dyspepsia."

I think this case proves that when there is inveterate dyspepsia, together with motor insufficiency as indicated by test meals, the surgeon is warranted in exploring the stomach and giving the patient the benefit that is likely to ensue from the separation of adhesions, thorough rest, and drainage of the stomach contents, by means of a properly-conducted gastro-jejunostomy or gastro-duodenostomy.

I am therefore of opinion that in all cases of chronic gastric ulcer and in all cases of inveterate dyspepsia the surgeon should at once proceed to one or other of those operations, and I would hope, now, that gastric surgery has made such strides, that the physician will send such cases on to the surgeon at once for operation when he has exhausted all that medical treatment can do, and not keep them over on purely medical treatment until they are worn out both in mind and body and reduced to such a degree of chronic starvation that they are hardly in a fit condition to undergo any operation.

Surgery cannot be expected to undo the pathological havoc produced by the cicatrization and contractions of ulcers, with its attendant loss of motor power, and its functionally-useless peptic glands. Surgery can step in and cure chronic ulceration if the ulcers are single and the above-mentioned pathological states have not taken place.

As regards the technique of the operation, I have nearly always done the posterior gastro-jejunostomy of von Hacker, modified to suit each case. I have always sutured both ends of the jejunal loop to the opening in the gastro-colic omentum as it serves to prevent hernia into the lesser peritoneal sac, and it also serves to give the necessary oblique direction to the anastomotic opening so necessary to direct the passage of the food into the distal jejunal loop. I frequently do a jejuno-jejunostomy, where there are adhesions, as explained in my former paper. I only once used the Murphy button, I now invariably use simple suture and clamps.

As regards the after-effects of the operation, I nearly lost one case from regurgitant vomiting, in which a vicious circle had clearly been established, but a timely jejuno-jejunostomy relieved the condition, and the patient made a rapid recovery. The semi-erect position is always adopted after

TABLE I.—*Cases of Gastric Ulcer, etc., with Condition to Date, July 15th, 1905.*

No.	Name and Date.	Sex.	Age.	Symptoms and Description.	Conditions Found: Operation.	Result.	Remarks.	Condition to Date, July 15th, 1905.
1	A. J., July, 1901	M.	75	Ailing for 9 years, constant epigastric distress and distension, irregular vomiting of large quantities of decomposed food, contents of stomach putrid on withdrawing, HCl present	Largely-dilated stomach, partial pyloric stenosis, whitish patches, remains of healed ulcer in anterior wall near pylorus; gastro-enterostomy, Murphy button	Cured		Died a year ago of bronchitis. Stomach was quite cured
2	C. H., Sept., 1901	M.	–	Had severe influenza, and complained of great stomach distress after food, great depression, constipation, insomnia	Stomach splash well marked, treated by dry diet, lavalment of stomach, etc.	Not relieved	Convalescence slow; seen in September, 1903; was then quite well	Continues quite well.
3	Miss D., Oct., 1901	F.	54	Ailing for several years, well-marked gastric dilatation and gastroptosis, apparently due to large movable right kidney, very severe vomiting for months	Right kidney fixed, duodenum adherent to peritoneum over renal vessels	Cured	This case was peculiar; the severe vomiting was at once cured by the fixation of the kidney, and ultimately all stomach symptoms ceased, she is now in perfect health;	No pain, no vomiting, no haematemesis; weight increased. Is in excellent health.
4	D. O'L., Jan. 31, 1904	M.	37	Complaining for several years of symptoms of indigestion; was accustomed to eat largely of potatoes; for past 12 months has severe pain, which is getting much "more severe" for several weeks past 1½ to 2 hours after food, relieved by vomiting. Occasional attacks of vomiting of large quantities of "sour stuff"; haematemesis on two occasions, the last three weeks ago	Largely-dilated stomach; ulcer at pylorus, which was a good deal contracted; gastro-jejunostomy	Cured	Vomited occasionally during convalescence; went home in five weeks; eating simple foods; weight, 5 lb. increased	Cannot be traced. When last heard of was quite well.
5	R. D., Feb. 5, 1903	M.	21	Ailing for 9 years, with constant distress after eating, lasting hours at a time; attacks of acute stomach distension causing great distress and cardiac disturbances and depression, insomnia, constant constipation; about 1 month before coming under treatment he had an attack of haematemesis, great loss of flesh, and languor	Gastro-enterostomy; atonic dilated stomach; cicatrix of ulcer near pylorus, about ½ in. below lesser curvature; no adhesions	Cured	Every form of treatment was tried for 3 years without any benefit; now reports himself as a changed being; no stomach distress, depression gradually passing off, also insomnia and constipation; weight increased. Dr. Benson, Dublin, who saw case before operation, reports he could hardly conceive any surgical proceeding could make such a change in such a short time	Continues to improve, no pain, no vomiting, no haematemesis; weight increased. He has resumed his work as concert singer.
6	J. P., March 3, 1903	M.	54	Complaining for 20 years or more of chronic dyspepsia, great distress for several hours after meals and constant belching off of very fetid gas; obstinate constipation; loss of flesh; weight 126 lb., great depression and irregular sleep	Dilated stomach, several white patches on anterior wall of stomach; no adhesions; condition, atonic dilatation; posterior gastro-jejunostomy	Cured	On third day after operation had some regurgitant vomiting, which ceased when patient was put in upright posture. April 15, 1904. Says he feels better than he has for 40 years	Feels fairly well when careful of diet; lives under very bad hygienic conditions; no pain, no vomiting, no haematemesis; weight 3 lb. less than he was 6 months ago. "I am not as well as I would wish, but I am very much better than before the operation."
7	W. S., Feb. 1, 1904	M.	47	Complaining for 6 years of fullness and soreness 1 hour after meals; did not vomit; for past 12 months this distress is so great that he can hardly continue at his business; he has lost flesh; weight only about 1 year ago 117 lb., now only 104 lb.	Hour-glass stomach, the pyloric pouch being small, and a large opening between that and the cardiac pouch; between the pouches was a V-shaped cicatrix, the base of the V being downward; it was very hard and of a pure white colour, the jejunum was adherent for 7 or 8 in. to the under surface of the gastro-colic omentum, and the pylorus and duodenum were adherent to the gastro hepatic omentum	Cured	Uneventful recovery, lost all symptoms; states he feels as if he had a new stomach; weight 114 lb., and is stronger than he has been for 12 months past	Is in good health unless he indulges in errors of diet. Has resumed his business.
8	J. C., May 2, 1904	M.	29	For 10 years past suffered from severe attacks of dyspepsia, due at first to irregular meals, for 4 years past great loss of appetite and heaviness after meals; no actual pain, great tendency to vomit in early mornings; has been very nervous, never remembers sleeping more than 1 hour at a time; awakened by stomach distress; now finds it impossible to continue at business, his distress is so great; all kinds of treatment have been tried by many different physicians with nothing but some slight temporary benefit; weight 107 lb., usual weight 10 years ago, 121 lb.; stomach extends to within 2 in. of symphysis pubis, under CO_2 gas	There were considerable adhesions of the pylorus to the gastro hepatic omentum, producing a kinking of the pylorus, which evidently narrowed its lumen; a cone-shaped ulcer very hard and white, was found 2 in. from pylorus, near the lesser curvature; the posterior gastric surface was adhering to the gastro colic omentum; posterior gastro jejunostomy, rapid recovery.	Cured	Rapid and uninterrupted recovery; no vomiting after operation; is now free of all symptoms; sleeps soundly the night through and feels an entirely different person; in 6 weeks he has increased 8 lb. in weight	Is quite well except on errors of diet and on excess of alcohol.

TABLE I (*Continued*).

No.	Name and Date	Sex.	Age	Symptoms and Description.	Conditions Found: Operation.	Result.	Remarks.	Condition to Date, July 15th, 1905.
9	H. M., June, 1904	F.	—	Three and a half years ago sicked with severe menorrhagia and metrorrhagia. At Christmas, 1902, had pain after eating, which became much worse in March, 1903. In April, 1903, she noticed she always had pain 2 hours after eating, shooting under left breast, and in about 10 minutes after the onset of pain she used to vomit, and this would repeat itself 3 or 4 times. Toward end of April she had a severe attack of haematemesis, which recurred in 2 days, the second being very black. Under treatment she got relief, but in October the pain and vomiting returned, and she had severe haematemesis early in December. She is emaciated and very anaemic. Weight 115 lb.; usual weight 126 lb. to 130 lb.	There was a hard, indurated oval patch, about 1 in. long and ½ in. broad, situated in the centre of the anterior wall of the stomach; there were numerous adhesions about the pylorus and posterior wall of stomach	Cured	Kindly sent by Dr. Kelleher (Macrooni) labelled "gastric ulcer"; rapid convalescence; eating fish and bread on fifth day after operation without the least discomfort. Was only able to take small quantities of peptonized milk for 4 months before operation. Left hospital 26 days after operation. At end of February she had vomiting of large quantities of yellowish fluid night for about a week. Is now (April 20) perfectly well; weight 122 lb.	States she is now quite well; no pain. Has had an attack of vomiting of green bile once in 4 or 5 months. Is perfectly able for her duties as midwife to a large maternity department of a union hospital. No haematemesis; weight increased to 133 lb., an increase of 11 lb.
10	K. H., March, 1904	F.	37	Had severe attacks of gastric ulcer, for which she was medically treated, etc. See Case 1 in paper	See Case 1 in paper. Operation, gastro-jejunostomy and secondary jejuno jejunostomy 9 days after	Cured	September 1, 1904.—Is now quite free of all symptoms, is much stronger, anaemia gone; weight, 9 lb. increase	Is now a strong, healthy woman. No pain, no vomiting, no haematemesis, weight greatly increased, all anaemia gone.
11	E. O. N., April, 1904	F.	—	All the symptoms, gastric ulcer for 8 years past; at first 10 minutes after food, vomiting, relief; several attacks. Haematemesis, bright red blood; four attacks, in last haematemesis, severe pain 1½ to 2 hours after food	Gall bladder adherent to pylorus, and adjoining parts of stomach; considerable posterior adhesions, jejunum adherent to under surface, gastro-colic omentum. Operation, posterior gastro-jejunostomy and jejuno-jejunostomy	Cured	No symptoms after operation, convalescence smooth. September 2, 1904.—Seen to-day, is now quite well, lost all pain after eating; weight increased 9 lb.	Is in excellent health, and is able to eat all kinds of food; no pain, no vomiting, etc.
12	J. R., April, 1904	M.	—	Ailing since childhood with gastric symptoms, chief of which was irregular vomiting; pain after food, at various times; great emaciation, intense neurasthenic symptoms, lassitude, headache, impossible to learn his lessons	Stenosis of pylorus and greatly-dilated stomach; most probably this was a case of congenital stenosis of pylorus; gastro-jejunostomy and jejuno-jejunostomy	Cured	All gastric symptoms gone; can eat plain food without pain or discomfort; neurasthenic symptoms gradually disappearing; weight increased 11 lb.	Is now growing a strong lad, eating all kinds of food. No pain, no vomiting, no haematemesis, weight increasing rapidly. Neurasthenic symptoms vastly better though not gone.
13	W. M., May, 1904	M.	—	Ailing with symptoms of chronic indigestion for 1½ years. Treated in several hospitals; relieved for a time. On admission complained of a continuous left epigastric pain; pain 1½ to 2 hours after food, relieved by vomiting. Has had one attack of haematemesis, which was not severe. Blood bright red, about 3 oz.	Adhesion of pylorus to gall bladder, cicatrices of two ulcers, one on anterior wall, 1 in. below pylorus in greater curvature, the other on a corresponding situation in posterior wall. Gastro-jejunostomy and jejuno-jejunostomy	Relieved	He is free of all digestive symptoms, but still complains a good deal of the epigastric pain. This is the only case of the series that is *not cured*. September 24, 1904.—The epigastric pain has nearly ceased.	No symptoms of indigestion now. The epigastric pains that persisted for some months after operation is gone. No vomiting, no haematemesis, weight increased. Has developed a cinder-shifting left kidney.
14	F. M., May 10, 1904	M.	—	Complained for 5 or 6 years of severe epigastric pains, especially worse on any movement of the body, pain 2 hours after food relieved by vomiting, which occurs irregularly; never had haemorrhage, considerable emaciation and loss of strength, unable to work. Case 11 in paper	See Case 11 in paper. Gastro-jejunostomy and jejuno-jejunostomy	Cured	This was the worst gastric case I ever operated on. The stomach was literally dug out of a bed of adhesions, and yet, after the double operation, he never even vomited once. August 29, 1904.—Seen to-day; is much stronger, no pain after food; had some diarrhoea; weight, 8 lb. increase	All old stomach symptoms gone; no vomiting, no haematemesis; weight *not* increased. This is accounted for by the fact that the least error in diet brings on diarrhoea.
15	M. I., May 18, 1904	J.	—	Ailing with symptoms of chronic indigestion for 4 or 5 years; pain after meals at various intervals of time; occasional vomiting large quantities of food; 1 attack of moderate haematemesis 2 weeks ago (and this is the reason for his seeking treatment); considerable emaciation. Height, 5 ft. 11 in., and weight, 8 st. 10 lb.	Adhesion of gall-bladder to pylorus; adhesions of omentum and colon to stomach; cicatrix of ulcer 2 in. from pylorus on greater curvature; similar cicatrix on posterior wall; moderate dilatation; gastro-jejunostomy and jejuno-jejunostomy	Cured	Rapid and smooth convalescence; left hospital in 26 days; has since complained of some uneasiness after food, and had a severe attack of haemorrhoids September 6. His uneasiness after food has passed away. Weight, 9 st. 8 lb. Operated upon for haemorrhoids to-day. September 24.—Is now well	Is now in good health; is able to eat all kinds of food; no symptoms of pain, vomiting, haematemesis, etc.
16	L. C., June 2, 1904	F.	—	Has been 11 years in America; had uterine troubles—chronic endometritis and retroflexion for years; 3 years ago began to complain of pain after meals and used to get very hungry in 1 hour after eating a full meal, and since has complained of chronic indigestion and flatulence; never vomited blood; under dilatation with CO_2 gas stomach descends to symphysis; has lost flesh	Considerable gastric dilatation; narrowing and thickening of pylorus; cicatrix of ulcer 1 in. below pylorus in anterior wall; no adhesions; gastro-jejunostomy and jejuno jejunostomy	Cured	Rapid and smooth convalescence; left the home in 27 days, eating simple foods without any discomfort, and put on 4 lb. weight	Is now in America, and writes that for several months in winter she was troubled with flatulent distress, but she is now quite well. She states she has increased in weight. No particulars as to pain or vomiting.

TABLE I (*Continued*).

No.	Name and Date	Sex.	Age.	Symptoms and Description.	Conditions Found: Operation.	Result.	Remarks.	Condition to Date, July 15th, 1905.
1	K. F., June 21, 1904	F.	18	Has a rheumatic history since age of 16; since age of 18 has had a "delicate stomach"; has had numerous attacks of haematemesis, but never in large quantity. Last attack 14 days ago. Lost all her teeth at age of 19, and this affected her mastication. Appetite bad. Bowels constipated. Considerable pain varying from ½ to 1½ hours after food, which she felt very much in middle of her back; vomiting always relieved this pain; complains of constant pain to left of umbilicus and in left iliac region. She is very tender in region of right costo-sternal angle, and lower limit of stomach extends to level of umbilicus; exercise increased her pains, and she has a right movable kidney	Lesser curvature adherent to abdominal wall by slender fibrous bands. Very dense adhesions of gall bladder to pylorus. Broad band of adhesion from under-surface of liver to middle of anterior surface of stomach. Puckered cicatrix in pylorus, causing considerable narrowing of its lumen; cicatrix very white in both anterior and posterior walls, 1½ in. from pylorus; stomach dilated to level of umbilicus; gastro-jejunostomy and jejuno jejunostomy	Cured.	Rapid smooth convalescence. Left hospital within the month, eating ordinary plain food without discomfort. September 1, 1904: Seen to-day; feels better than for years; vomited once since; weight increased by 6 lb.	She is perfectly well. No pain, no vomiting, no haematemesis; weight the same; anaemia quite cured; bowels now quite regular; and is able to do her work as clergyman's housekeeper.
2	E. O. K., July 2, 1904	F.	20	Healthy up to 4 years ago, when she complained of pain after eating. During August, 1903, she complained of burning sensations in her stomach, vomiting mouthfuls of a watery acrid fluid; in November, 1903, she had chronic symptoms of gastric ulcer, was successfully treated in hospital by Dr. P. T. O'Sullivan for them, readmitted, now complains of constant epigastric pain, more severe towards 9th and 10th costal cartilage on left side, over which she is tender, also tender over gall bladder; has severe neurasthenic symptoms	Gall bladder densely adherent to pylorus and adjacent part of greater curvature; gastro-colic omentum unusually thick, and contained many very dilated veins; it was densely adherent to posterior walls of stomach; in breaking through some veins were torn, which caused troublesome haemorrhage; cicatrix of ulcer in posterior wall, gastro jejunostomy, and jejuno-jejunostomy	Cured as regards gastric symptoms	Made an excellent convalescence, but not so smooth as some of the other cases; complains still of her neurasthenic symptoms, but in a lesser degree	When last heard of in December, 1904, was well. Cannot now be traced to date.
3	H. O., July 1904	F.	22	From puberty she ailed with menstrual irregularities. These are now all right; 3 or 4 months ago patient complained of pain in "centre of her stomach," pain after food, much increased if she lay on her back; never vomited food or blood; after a dose of calomel she vomited bright green bile; her case is characterized by an absence of symptoms, save pain after eating	Liver adherent to diaphragm, gastro hepatic omentum was a mass of adhesions, so that none of its anatomical constituents could be seen. There was no apparent separation of stomach from colon. Jejunum adherent to gastro-colic omentum and to other coils of itself. Liver directly adherent to stomach. On separating adhesions gall bladder was found distended with gall stones (20). Bleeding from deep adhesions, severe (checked with adrenalin chlor. sol.). On breaking through gastro-colic omentum, only a small portion of stomach—which was very constricted—could be drawn through, so the gastro-jejunostomy was done by simple suture without clamps; there was a U shaped cicatrix in posterior wall and a puckered cicatrix surrounding the pylorus. Gastro-jejunostomy and jejuno-jejunostomy, and then cholecystotomy. Gall bladder drained for five days	Cured	The interesting feature of this case is the grave pathological conditions found and so few symptoms. She left hospital quite well on the 20th day after the operation	Up to six weeks ago was perfectly well; since complains of pain one hour after eating, and also of pain in region of gall bladder.
4	A. B., July 15, 1904	F.	24	Since age of 14 has been complaining of her stomach. June, 1903, had pain 1½ hours after eating and haematemesis; had several similar attacks since; has great tenderness over middle of epigastrium. Weight, 126 lb.; is too weak for an operation for a while	Operation a week after admission; gastro-jejunostomy and jejuno-jejunostomy, stomach slightly dilated, pylorus thickened, but peritoneal coat moved freely on deeper coats; the thickening was annular; the anterior wall of stomach was very white; gastro-colic omentum densely adherent to posterior wall of stomach in neighbourhood of pylorus; dense thick cicatrix in posterior wall	Cured	Recovery complete. Left hospital August 28 free of all pain, and eating simple foods without distress or pain. Weight, 126 lb., being an increase of 6 lb. September 7, 1904: Seen to-day; weight, 130 lb.; fat and ruddy in appearance; eating all kinds of food without distress or pain	She is now a fat ruddy looking girl. She has no pain, but has had occasional attacks of vomiting, but each time this preceded the monthly period. No haematemesis; weight increased; can eat any kind of food: cured

TABLE II.—*Analysis of Questions.*

Letters denote sex and numbers were consecutive	M. 3	M. —	M. —	F. 24	M. 7	M. 31	M. 4	M. 37	M. 29	F. 27	F. 37	F. 26	M. 12	M. 45	M. 35	M. 37	F. 34	F. 29	F. 50	F. 23	F. 20	Total No.	Total Yes.	Cannot be Found	Total Number.
	Case 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20				
Have you any pain when ...		No		No		No	No	No	No	No	No	No	No	No	No	No		No		Yes	No	15	1	4	20
Do you vomit after eating ...		No		No		No	No	No	No	No	No	No	No	No	No	No		No		No	Yes	15	1	4	20
Have you vomited blood since your operation		No		No		No	No	No	No	No	No	No	No	No	No	No		No		No	No	16	0	4	20
Has your weight increased		No		Yes		Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No		No		Yes	Yes	5	11	4	20
Are you able to resume your usual occupation, without discomfort ...		Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No particulars, is in America.	Yes	Cannot be traced to date.	Yes	Yes	0	16	4	20
		This was his condition when last seen		Is now in perfect health ...		Is now in excellent health	Suffers occasionally from flatulence and distress after meals	Is in very good health, unless he indulges in errors of diet ...	Is in good health when he keeps free of alcohol	Had one severe attack of vomiting; in perfect health; carrying on duties of midwife	Is now a strong and healthy woman	Is in excellent health	Is now a strong and healthy lad	Is well, but complains of pain produced by cinder-shifting left kidney	Gets frequent attacks of diarrhœa on least error of diet	Is in good health	Writes from America, she is now quite well	Is now a strong, healthy woman	Was quite free of symptoms when last seen in December, 1904	Complains of pain one hour after eating; also of pain in region of gall bladder	The occasional attacks of vomiting she connects with menstruation				

As 4 cases cannot be traced, it leaves 16 cases to ascertain how they are in regard to the five questions asked.

1. Pain.	93.4 % free of pain.
2. Vomiting.	93.4 % free of vomiting.
3. Vomiting of blood.	100 % free of vomiting blood.
4. Increase of weight.	73.2 % increased in weight.
5. Able to resume occupation.	100 % able to resume occupation.

operation. I think whenever a long loop of jejunum is used to effect the anastomosis a secondary entero-anastomosis should be made. This plan I have adopted in most of these series of cases, and I know of no class of surgical operation in which the convalescence is so smooth. Of late I have adopted the short loop suggested by Mr. Moynihan, and so far I have not seen a case of regurgitant vomiting. I have never seen a case where the symptoms seemed to indicate closure of the anastomotic opening, and I know one case of my colleague, Dr. H. K. Townsend, where from other causes the abdomen was reopened a considerable time after the original operation, and the anastomotic opening was perfect as to position and size. I have never seen hemorrhage into the stomach, internal hernia, separation of the anastomosis. I have seen in one case adhesion which completely changed the direction of the anastomotic opening, necessitating an entero-anastomosis to relieve the regurgitant vomiting set up, and in one case I have seen what seemed to be a peptic ulcer at the point of which subsided on a regulated diet.

Hour-glass Stomach.—I think there can be no doubt but that hour glass stomach is nearly always an acquired affection. As Moynihan states, only one possible congenital case has been reported.

The cases I have seen, while operating *de visu* or at *post mortem* examinations, seem to be produced by the contractions of cicatrices of old ulcers or by adhesions. I had one very well-marked case of the latter where a thick, strong adhesion passed from the anterior abdominal wall downwards and to the right, being attached to the anterior wall of the stomach and then to the gastro-hepatic omentum, producing a deep sulcus between the resulting pyloric and cardiac pouches.

In all cases I have seen the sulcus was in the greater curvature and generally near the pyloric end. When the pylorus was obstructed as well, the pyloric pouch was more or less dilated. The diagnosis can generally be established by either Wolfler's first and second signs, or by von Eiselsberg's signs. In putting these signs into practice, I now use hydrogen gas, instead of the two halves of an ordinary seidlitz powder, as I find you can regulate the quantity of hydrogen introduced so as not to produce pain or over-distension, which you cannot do by the quantity of gas generated by a seidlitz powder in two halves.

The method I adopt is this: I fill a two-gallon bag, with hydrogen, generated from zinc and sulphuric acid; I have a three way stop-cock attached to this two-gallon bag. To one of the outlets of this cock I have an ordinary stomach tube attached and to the third outlet, an ordinary delivery tube. The stomach is then well washed out and the stomach tube attached to the two-gallon bag of hydrogen introduced. Compression of this bag is then made, and the gas passes slowly into the stomach, which can be seen to fill up, and both by palpation and percussion its exact position and shape can be easily de-

monstrated. In the case of hour-glass stomach mentioned the diagnosis was made plain, for when the left pouch got full and distended the left side of the upper abdomen, further pressure on the bag distended the pyloric pouch, a hissing sound being distinctly heard, and the interval between the pouches was so marked that one of the students standing by remarked "Are there two stomachs there?" Then pressure on the cardiac pouch is made and the gas flows back into the two-gallon bag, and then the pyloric pouch can be emptied into the cardiac, by pressure on it, and this, again, by further pressure, can be emptied into the bag. In this way I have on several occasions distended two or three stomachs with the same bag of gas. Of course, the thinner and more lax the abdominal wall, the easier this hour-glass condition can be diagnosed in this way, but I have seen one case where there was a good deal of abdominal adipose tissue in which the hour-glass condition was easily made out. As regards the treatment of this class of case, I think each case must be treated as seemeth best to the surgeon at the time of the operation.

In one of my cases the pyloric pouch was small, and the opening between it and the cardiac pouch seemed large enough, so I simply did a gastro-jejunostomy to the cardiac pouch. This operation was done in February, 1904, and the patient is now quite well, but he says he suffers from flatulence if errors in diet are made. In another case I did a gastro-gastrostomy, and then a gastro-jejunostomy and jejuno-jejunostomy, and this case too is quite well. Unfortunately the case referred to above, in which the diagnosis was so plain, declined operation, and I have lost sight of the case.

I have never done partial gastrectomy in simple non-malignant cases, but I have done it on two occasions in malignant cases, both of which died. Monprofit's operation I have never done.

Dilatation of the Stomach.—Dilatation of the stomach is, in my opinion, a much commoner affection than is generally supposed, and it and a certain degree of gastroptosis is frequently found in women who have borne many children and who have lax abdominal walls and a tendency to uterine and kidney displacements. I believe in by far the larger number of cases of gastric dilatation—even in simple atonic dilatation—there is more or less narrowing of the pyloric orifice, either from old ulceration or from pressure exerted on it from without, either by adhesion or from the pressure of growths, or from the direct pressure of a mobile right kidney on the duodenum, or from the kinking of the duodenum produced by the dragging of perirenal adhesions.

In many of our textbooks this condition is hardly alluded to, though Osler[1] says considerable attention has been directed in Germany by Litten, Ewald, and others to the association of dilatation with dislocation of the right kidney. I would be inclined from my experience to go much farther than this, and say that there is a direct causative condition produced by the dislocated kidney either pressing directly on the duodenum or by causing a kink in it by perirenal adhesion. I have on several occasions heard patients remark that, when lying in bed and on their right side, their resulting stomach discomfort was much less, and this I explained by the fact that for the time being the drag or pressure of the kidney on the duodenum is released, and then a passage of the food takes place quicker and with less difficulty, as the narrowing of the duodenum is for the time being released.

Whenever I see a case of gastric dilatation, which is not clearly produced by contraction of the pylorus, I look out for movable right kidney as a cause, and I invariably find it.

Simple atonic dilatation occurs generally in patients who are debilitated from one cause or another, and whose general nutrition is below par, and whose fat is generally absorbed, and these are the cases where one is likely to find movable kidney.

I am firmly convinced that even when a freely-mobile kidney is not found, in a large number of atonically-dilated stomachs, cinder-shifting kidney will, and that this exerts an influence on either the pylorus or duodenum, narrowing its lumen, and so acting as a cause of pyloric obstruction, and then the weakened muscular tissue of the stomach stretches, under the back pressure of the food that cannot be propelled through the narrowed pylorus. In the treatment of this class of case, dilatation of the stomach associated with dislocation of the right kidney or a cinder-shifting right kidney, I have found the operation of fixing the kidney relieve all the gastric symptoms at once, and in time, under a properly-regulated hygiene, diet and strychnine, I have seen the stomachs restored to, or nearly restored to, their normal size and regain their lost motor and digestive functions.

In one very remarkable case—that of a lady sent to me by my friend Dr. R. H. Townsend of Queenstown—in which there was a dilated stomach resulting well [illegible] and in which violent vomiting was [illegible], I decided to do at once a gastro-jejunostomy, but on further examining the case I found a freely-mobile kidney, and as the patient was not at all in a fit condition for such an operation as gastro-jejunostomy, I fixed the kidney, with the result that the vomiting ceased at once, and has never recurred; and now, four and a half years after the operation, she is in perfect health, with no evidence whatever of a dilated stomach. I have gained similar results in a good number of similar cases, so that I am of opinion that in simple gastric dilatation, and in atonic dilatation, before gastro-jejunostomy is decided upon, a careful examination of the right kidney should be made, and if there is the least reason to suspect that it is mobile, it should, in the first instance, be fixed and the result awaited, before recourse is had to gastro-jejunostomy; and it is, in my experience, in these cases of simple atonic dilatation that the operation of gastro-jejunostomy gives its worst results.

REFERENCE.
[1] *Principles and Practice of Medicine*, 1904, p. 474.

A DISCUSSION ON THE SURGICAL TREATMENT OF MALIGNANT DISEASE OF THE RECTUM.

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INTRODUCTORY REMARKS.

THE surgical treatment of cancer of the rectum has been much discussed of recent years, the literature of the subject is voluminous, and the published statistics of radical operation very considerable, relating both to immediate mortality and the question of recurrence.

Some enthusiastic surgeons have published results showing such low death-rate and frequent freedom from recurrence that they excite the envy of less fortunate operators, while others, discouraged by frequent failure and rapid recurrence, have apparently restricted the radical operation within very narrow limits indeed.

Although this is not the first time that this subject has been chosen for discussion at an annual meeting of the British Medical Association, it was thought that the time had come when it might be useful to review the large amount of work which has been already accomplished, to endeavour to estimate what real progress has been made, and to attempt to define the scope of the various operations for extirpation of cancer of the rectum. It is not probable that the discussion will disclose anything in the way of sensational innovations; but by "marking time" when the glamour of novelty has passed away, we can appreciate with a more judicial mind what are the methods of treatment likely to receive general acceptation and to be adopted as standards until that time—which we all, I am sure, look confidently forward to—when that earnest band of men who are devoting their lives to cancer research solve the problem of the cause of this terrible disease, and show us how its cure may be effected; then possibly the hypodermic needle may be enabled to claim a greater success than can to-day be achieved by the most extensive surgical procedures conducted with scrupulous attention to elaborate technique.

The more encouraging results obtained in recent years are due to many causes—early diagnosis, better selection of suitable cases, greater attention to the preparation of the patient, improved methods of operation and the details of operative technique.

Early Diagnosis.

The trivial symptoms which mark the onset of cancer of the rectum render its recognition in the early stages a matter of some difficulty: how often have we in the past seen cases in which a slight diarrhœa has gone on for months, or in which a considerable loss of blood at stool is attributed to piles or other rectal trouble of little consequence, when a rectal examination reveals a cancerous mass so extensive that a radical operation cannot be seriously considered.

The importance of these apparently trivial symptoms is, however, becoming more fully recognized by medical men, and the number of early cases seeking surgical relief is now certainly greater than it was a few years ago; a larger proportion of cases, therefore, are suitable for radical operation when first they come under the surgeon's notice.

Although the early symptoms may be so slight, diagnosis by digital examination is usually simple, as the great majority of cases originate within easy reach of the finger. Adeno-carcinoma, the form occurring within the rectum, commences in the mucous membrane, infiltrates the muscular tunic and subsequently the perirectal tissues, consequently involvement of the mucous membrane can readily be detected by touch, and if a tumour is detected over which the mucous membrane can be felt uninvolved and freely movable, it may be confidently asserted that the case is not one of carcinoma, although it may possibly be a sarcoma. Again, if the tumour is obviously in the mucous membrane, but has not yet implicated the deeper tunics, as indicated by its free mobility over the muscular coat, it may with equal confidence be asserted that the tumour, although probably adenomatous, has not as yet, at any rate, become malignant.

Selection of Suitable Cases.

Reckless operation on cases that are too advanced, in which the immediate risk is great, and rapid recurrence, if the patient recovers the operation, certain, has done much to discredit operations in these cases, and published statistics, so often fallacious on surgical subjects, are possibly more misleading upon results of excision of cancer of the rectum than of almost any other surgical procedure. It is, however, certain that if adeno-carcinoma of the rectum is operated on early enough, before the perirectal tissues are much encroached upon, the results now attainable are admirable, both as regards immediate recovery and freedom from recurrence.

In my own practice several cases of excision of undoubted adeno-carcinoma of the rectum have remained well after periods of from ten to fifteen years.

In estimating the suitability of a case for operation, evidence of secondary infection either in the liver or deep abdominal lymph glands must be carefully looked for, and next to this the most important point to pay attention to is the mobility of the mass in the pelvis, as estimated by digital examination; if freely movable, the case may be considered favourable, as it is probable that the disease is as yet confined to the bowel tunics: a less degree of mobility indicates that the surrounding soft parts are to some extent involved, and it may in consequence be inferred that the difficulties of the operation will be much increased, and the danger of rapid recurrence so great, that if this evidence of involvement of soft parts is at all considerable—especially if the bladder, prostate gland, or uterus are adherent to the tumour—radical operation is best declined. If the mass is quite fixed, indicating involvement of the bony pelvis, operation is usually contraindicated.

Preliminary Preparation.

A thorough and intelligent preliminary preparation of the patient is of real importance. Four or five days before, free purgation should be commenced, and continued till the day previous to operation, when a copious enema should suffice to completely empty the colon; the patient is to be well fed with food that will leave but little residue, and the night before operation a full opiate is to be administered to check peristalsis. Another enema may be given a couple of hours before operation, and when the patient is well under ether, a thorough washing-out of the rectum and lower part of the colon with a 2 per cent. solution of creolin or other antiseptic solution should be employed. This preliminary preparation is quite essential; it is well known that the septicity of the intestinal contents increases the longer they are retained, and that a thorough evacuation—carried out during several days previously, tends largely to diminish the risk of wound contamination in these cases; but it may not be possible to effect this thorough evacuation, large masses of scybala may block the colon above the seat of disease, or the stricture may be so tight that complete obstruction has supervened; these are cases in which a previous colotomy is clearly indicated; some surgeons, indeed, recommend colotomy previous to all excisions of the rectum, but where the bowel can be efficiently evacuated I am satisfied that it is unnecessary and objectionable, as it causes delay and subjects the patient to a double operation; where, however, complete evacuation is impossible without colotomy, it should be certainly undertaken as a preliminary, or, if obstruction is complete and attended with much meteorism, the method of intestinal drainage introduced by the late Mr. Greig Smith is probably preferable.

Methods of Operation.

The choice of operation depends largely upon the situation of the cancer, if involving only the anal canal, especially if only a portion of the circumference of the bowel is implicated, the perineal route is still probably the best; in all other cases the choice of route lies usually between the sacral and the abdominal. Of the vaginal route I have no personal experience.

Perineal Route.

Perineal excision, formerly the only method employed for the removal of rectal cancer, is now not so frequently undertaken, and should, I believe, only be adopted in cases which involve the anal canal, as incontinence of faeces is a necessary result of excision of cancer in this way. If only a portion of the circumference of the bowel is infiltrated, an incision is to be carried round that portion of the anus corresponding with the disease, and the levator ani divided to a similar extent. Vertical incisions are then to be made on either side, but well free of the growth, and carried up the rectum to a point sufficiently above the cancer; the flap thus formed is to be freed from its connexions, drawn down, and a clamp applied to the healthy tissue above; the disease is then cut away, any vessels bleeding are to be ligatured, and the cut end of mucous membrane attached to the skin by deep and superficial sutures. In passing the deep sutures care must be taken that they are passed not only through skin and rectal wall but also under all the perirectal tissues, and in sufficient number to obliterate any cavity outside the rectum in which blood or serum may collect; this is a matter of high importance in the prevention of sepsis. The contrast between wounds of the anal canal alone—such as pile and many fistula operations—and those wounds which penetrate the entire rectal tunic, and so open up the superior pelvi-rectal space, is very marked, sepsis to any serious extent being excessively rare after pile operations, but common after wounds, such as excision of the rectum, which open through the rectal wall above the pelvic diaphragm; yet both these wounds are exposed to the same sources of infection from intestinal contents. There can, I think, be no doubt that the difference is due to the fact that, once the superior pelvi-rectal space is opened up, blood and serum are likely to be widely diffused, and form a suitable culture medium for the growth of bacteria. It is therefore imperative to close the deeper portion of the wound efficiently by deep sutures, or, if this is found to be impracticable, to ensure free drainage by means of tubes, iodoform gauze packing, or by leaving the wound freely open.

When the disease extends round the entire circumference of the anal canal, excision can be carried out in like manner, the amputated rectum being sutured to the skin.

In connexion with perineal excision, it is well to remember that, in some rare instances, it may be possible to prolapse the entire disease through the anus. This may be the case in single nodules occupying portions of the circumference of the bowel low down, and also when the disease completely surrounds the intestine, either rectum or colon, an intussusception may be induced which becomes long enough for the cancer to reach the anus; when it is possible thus to extrude the entire growth through the anus, excision can be very easily accomplished, the wound, carefully sutured, being returned within the anus; such cases usually do well, as the fact that the disease can be protruded indicates that the perirectal tissues are not as yet involved.

Sacral Route.

In the early days of perineal excision it soon became evident that this route was unsuitable for cancers which extended a considerable distance up the rectum; it was therefore sought to obtain more room, first by posterior incision, then the coccyx was removed, and finally, by Kraske's sacral incision, a great impetus was given to the efficient treatment of extensive cases. Kraske's original incision has been much modified by other surgeons. The method which appears to be best is as follows:

The skin over the sacrum is to be cleansed antiseptically and an incision made from the middle of the sacrum to within about an inch of the anus; this exposes the fibrous coverings of the bone with the attached ligaments, and the connexions of the levatores ani to the coccyx and to one another in the middle line. An incision is now made through the musculature below the tip of the coccyx, and with American pruning shears the ligaments—first on one side of the coccyx and then on the other—are severed, while a third section is carried transversely through the fifth sacral vertebra, and the triangle

of bone thus separated from its attachments is easily removed. This transverse division of the sacrum is practically that recommended by Bardenheuer, which I consider far the best line of section. When made through the fifth sacral vertebra sufficient room is usually secured; but a further bone section can readily be made if required; it is, however, of great importance to keep it as low as possible, so as to insure the safety of the nervous supply of the sphincteric apparatus. The removal of the entire piece of bone is unattended with subsequent trouble, and is, I think, to be preferred to any of the osteoplastic operations which have been recommended. The American pruning shears cut the bone cleanly without much bruising, and more rapidly than other instruments. The posterior surface of the rectum is now exposed, and a clean dissection made exposing the external muscular coat of the bowel, all connecting bands being divided, between ligatures, if likely to contain any vessels of considerable size. It is somtimes easy and desirable, as suggested by my colleague Taylor, to open the peritoneum on both sides early, and free adhesions until a loop of bowel can be drawn out; the rectum is now crushed with a powerful clamp and divided between two ligatures above the disease, the cut mucous surface being disinfected with crude carbolic acid or the actual cautery, and the diseased portion widely removed. At other times it is more convenient to divide the intestine in the first instance below the disease, while in a few cases I have found it necessary to make this preliminary division through the cancerous mass, removing both diseased ends subsequently. We now have to decide whether the case is one in which a sacral anus should be made; an end-to-end resection be performed; or the lower portion completely removed without injuring the pelvic diaphragm or sphincteric apparatus, and the upper portion brought out and fixed at the normal anus. Formerly a very large proportion of cases were completed by the formation of a sacral anus: and in my own series a large number of the earlier cases were thus terminated, although I now know that many of them were suitable for an operation that would retain sphincteric control with an anus normally situated. I believe that a sacral anus is necessary only in a very small proportion of cases—namely, those in which the disease is extremely extensive and involves the anus to such an extent that it is impossible to retain the surrounding musculature in any useful condition, and also in those rare cases in which it is found impossible to free the upper segment sufficiently to bring it down for a resection or normally-situated artificial anus. Such cases are, however, exceptional. Should, however, the case be considered one in which a sacral anus is necessary, the upper segment is to be freed above the disease which is to be removed, making sure that the section traverses the bowel well free of infiltration. The free lumen is now to be brought out over the divided sacrum and sutured to the skin.

A resection, with end-to-end junction, if a fair amount of healthy bowel exists below the disease, may sometimes be a possibility, and in the rare cases in which it succeeds the result is very perfect. The conditions under which this operation is performed are extremely unfavourable for good union; in the first place, there is not a uniform covering of peritoneum; secondly, the solid faeces of the colon exercise a considerable tension upon the bond of union. To dilate the anus for the passage of faeces, even under normal conditions, necessitates a very considerable strain, and if, as is usually the case, the bowels are kept confined for many days after operation, the strain will be so great as almost certainly to tear through the new bond of union even if tolerably firm. It is well therefore, if the surgeon attempts this method, to commence free saline purgation after the second day, and in this way as far as practicable to assimilate the case to that of the small intestine with its fluid contents, where we know the results of end-to-end junction are so much better than they are in the colon. The method of junction may be by suture, decalcified bone ring, or Murphy button at the discretion of the surgeon.

In three cases in which I attempted to get end-to-end junction a posterior fistula formed, and although a good result was finally obtained after closing of the fistula, I now think it better to suture only the front and sides of the bowel in the first instance, leaving the posterior portion open, and close this posterior opening by a subsequent plastic operation. In a case in which I adopted this method the line of union was more satisfactory.

The method which promises the best results in a very large majority of cases is undoubtedly that of Moulonguet (Soc. de Med. d'Amiens, July, 1890). He dissects out the lower portion of bowel to the upper surface of the pelvic diaphragm, and the entire mucous membrane down to its junction with the scaly epithelium of the anal canal, but carefully preserves the entire sphincteric apparatus from injury, and then frees the upper end sufficiently to bring it out at the anus, without tension, and suture it there, thus making an artificial anus at the normal position, completely provided with an efficient sphincteric control. There is usually no great difficulty in freeing the upper portion sufficiently to bring it down to the anus, even where an extensive excision has taken place. It is a good plan to keep the ligature on the proximal end of the intestine for forty-eight hours, so as to permit some adhesions to take place before the wound becomes soiled with faeces. The danger of necrosis of the intestine is the one drawback to the employment of this method. In my own cases a small portion of the gut sloughed in two instances, but not sufficiently to prevent an excellent result from being eventually obtained. By this operation an opening directly external, controlled by an efficient sphincter, is obtained.

Vaginal Route.

As involvement of the recto-vaginal septum occurs early in many cases, excision of a portion of the posterior vaginal wall together with the cancer has been tolerably frequently practised, and in three cases under my own care this was done without difficulty, the vaginal wound being closed by sutures; but in my cases, although the operation was primarily successful, recurrence was rapid, and such must very frequently be the case where the perirectal tissues are so much invaded. The excision of cancers confined to the rectal tunic by incision through the healthy vagina appears to present a better prospect, and has been put in practice by many surgeons, especially by Murphy of Chicago, and in suitable cases it is no doubt a good method, but I am unable to speak of it from personal experience.

Abdominal Route.

Excision of the rectum from above appears first to have been performed by Czerny in 1883, in a case in which he found the perineal route to be impracticable, and although its claims have been strongly advocated, especially by Quénu and Hartmann, it has not yet assumed the position in surgery which I believe it will eventually hold. The advantages are (1) after the abdomen is open it is possible to estimate exactly the extent of disease, and the degree, if any, of lymphatic and peritoneal involvement, so that if the disease is found to be too extensive the operation can be terminated as an ordinary colotomy, or if this is considered to be unnecessary, the abdominal wound may be closed and the case allowed to run its course; (2) as the mesocolon is divided the superior haemorrhoidal artery is secured, and also the two middle haemorrhoidal arteries at an early stage, so that the operation is almost bloodless; (3) a complete removal of the lymph glands and ducts most likely to be involved is quite possible; (4) as the bowel is securely tied above and possibly below the disease, wound soiling from intestinal contents is reduced to a minimum.

These are very important advantages, which appear to me sufficient to extend largely the scope of the operation; many cases which have been treated by trans-sacral incision would, I believe, have given a better result by this method, which has hitherto only been adopted in very extensive cancers of the rectum, and usually terminated by bringing out the divided colon either at the original abdominal wound or through a separate incision in the iliac region. If, of course, it is necessary to terminate the case by a permanent colotomy, this must be considered a very serious objection, but I am convinced that it is possible to bring the divided colon down to and fix it in the anus in a large proportion of cases, without any wound whatever of the anal canal or pelvic diaphragm, and so obtain a perfect sphincteric control. The operation is best conducted as follows: The preliminary preparation having been carried out as previously indicated the patient is placed in the Trendelenburg position as nearly vertical as possible, in order that the intestines may fall out of the pelvis and so give plenty of room. The abdomen is opened by a long vertical incision, which separates the fibres of the left rectus muscle, and the extent of disease determined. If movable, and the peritoneum free from infection, excision may be proceeded with. A loop of pelvic colon is drawn out, and the point at which the mesocolon is longest determined. The average greatest length is about 6 in., and, if found as long as this, the divided colon can be brought to the anus without undue tension. If, however, it

proves to be considerably shorter than this limit, the case will probably have to be terminated in colotomy. The colon is ligatured after crushing firmly in two places, and divided, the cut ends being disinfected with crude carbolic acid and tied up in aseptic gauze. It will be observed that the point selected for division has no direct reference to the seat of disease; it is chosen so as to give as long a mesocolon as possible. The mesocolon is now divided between clamps down to its attachment, and, if the Paquelin cautery is used, top sewing of the divided edge is rendered unnecessary; the attachments of the lower portion are ligatured piece by piece, and divided until a point is reached at which the posterior surface of the rectum ceases to be covered by peritoneum; the superior haemorrhoidal artery will have been ligatured in the lower portion of the mesocolon thus tied; the lateral ligaments are then tied with the peritoneum covering them and divided; these will include the middle haemorrhoidal artery upon each side; the peritoneum in front, as it is reflected off the front of the rectum, is now divided, thus completing the separation of the peritoneum from the rectum.

By blunt dissection the bowel can now be cleared right down to the pelvic diaphragm, and, if possible, firmly ligatured below the seat of disease. An assistant should now thoroughly wash out the anal canal and rectum up to the point at which it is ligatured, after which it may be divided from above, below the seat of ligature. The end of the colon is now brought out at the anus and fixed there, after the mucous membrane of the lower segment has been dissected away after the method of Moulonguet; this appears preferable to any attempt at end-to-end junction, for reasons already given. If it is thought desirable to employ drainage, an incision for the insertion of a tube or iodoform gauze can be made through the pelvic diaphragm at the apex of the coccyx. In three cases of this operation I had no difficulty in bringing down the pelvic colon to the anus as above described. Where the mesocolon is too short, the operation must be completed by colotomy.

II.—F. SWINFORD EDWARDS, F.R.C.S.,
Surgeon, West London Hospital.

MR. SWINFORD EDWARDS said: I think it probable that most of us are in accord that the operation of excision of the rectum is a satisfactory one, and, indeed, an imperative one in certain selected cases of carcinoma recti—that is, in cases in which we can be morally sure of removing the whole disease. Unfortunately, most cases do not present themselves to the operating surgeon until either the growth has passed beyond the limit of the bowels, or the glands and lymphatics have become involved. The position of the growth, whether high up or low down, makes no difference with regard to the question of excision, but early diagnosis is of vital importance. With this object in view no symptom of rectal or lower bowel trouble, however slight, should be disregarded by the practitioner.

A careful examination should at once be carried out after a thorough evacuation of the bowel contents. First, by the finger, and if the trouble is not then apparent the whole of the rectum and possibly sigmoid colon should be inspected by means of Strauss's aero-proctoscope. This does not entail anaesthesia, and is by no means a difficult proceeding. Within the past week I have, by means of this instrument, located a commencing carcinoma, beyond the reach of the finger, and on many occasions it has been of the utmost use in diagnosing lesions above the pelvic brim. I have recently published a small monograph on carcinoma of the rectum based on forty consecutive cases of excision of the rectum by the coccygeal or sacro-coccygeal route, showing a mortality of only 7.5 per cent.

Of these 40 cases (the last of which was operated upon in October, 1903), 10 were traced for only a year or under, I regret to say. Of the remaining cases, 13 are now in good health—1 after ten years, 2 after four, 3 after three, four after two, and [illegible] after one year.

Recurrence took place in 1 after eight years—if indeed this can be called a recurrence—in 1 after four years, in 1 after three, in 3 after two, and in 3 within one year.

I would like to ascertain the opinion of this meeting on three points:

1. The question of a previous colotomy. For my part, and in spite of the necessary delay, I strongly advise this course where the peritoneal cavity is likely to be opened, and in cases where, owing to rectal stenosis, there is likely to be a large faecal accumulation for which even a course of aperients and enemata extending over many days may be ineffectual. In such a condition one runs the risk of having the wound flooded with faecal matter during the operation. This unfortunately happened in two of my cases. One died of septicaemia, and the other recovered, but only after prolonged suppuration.

2. As to laying open the peritoneum as a routine practice. I have always endeavoured to avoid opening the peritoneal cavity in cases in which colotomy has not previously been performed. Nor do I find that recurrence is appreciably higher in these cases, but rectorrhaphy or suture of the proximal to the distal segment is not so easily carried out, and one has to content oneself oftener with the formation of a sacral anus.

3. As to whether a partial excision is to be recommended in any case. In other words: Suppose a carcinoma is limited to the posterior or postero-lateral wall, is it advisable to leave the anterior wall intact, or should a complete segment of gut be removed, looking to the fact—if fact it is—that cancer of the bowel tends to spread laterally rather than upwards and downwards. In No. 5 of my series of cases—that of a middle-aged lady operated upon ten years ago—I performed this limited operation after excision of coccyx, and she is alive and well up to this day, though troubled with some prolapse through the sacral anus, which I have offered to rectify by operation. Another much more recent case has proved equally satisfactory; indeed, in this case, recovery took place with use of normal anus, and the patient, who is a golfer, writes me that he is playing better than ever.

III.—HENRI HARTMANN, M.D.,
Paris.

DR. HARTMANN said: Since January 1st, 1896, I have had the opportunity of treating surgically 64 cases of malignant disease of the rectum. In 43 cases I have been obliged to limit myself to a palliative operation, which has always been inguinal colostomy. In 21 cases I was able to excise the tumour.

Inguinal Colostomy.—I employ in inguinal colostomy McBurney's method of opening the peritoneum, as in the operation for appendicitis. I make on the left side the same incision and the same muscular dissociation, without cutting anything except the skin and the peritoneum. I draw the colon forwards until its mesenteric attachment is on a level with the external incision. I pass through the mesentery, close to the gut, a Kocher forceps, and through the slit I insert with the forceps a roll of iodoform gauze, and I pack with gauze all the wound around the bowel. Two days later I make with the thermo-cautery a small longitudinal opening of the bowel beyond the spur. The tenth day I remove the gauze. At last, after three weeks, the patient has a regular anus whose mucous membrane spontaneously turned out is exactly fixed to the skin. Such an operation is very simple and the results are excellent. One patient only died, a very old man, who twelve days after the operation was afflicted with senile insanity, and died on the twenty-second day. The other forty-one patients made a good recovery, with cessation of their troubles and great improvement during a time varying from four months to two years and a half. I have never observed the eventration of the cicatrix, nor prolapse of the gut.

Radical Treatment.—Out of 21 excisions of rectal cancer, 20 were cured, 1 died. These excisions were carried out by various methods. In a case of malignant tumour of the ampulla, with prolapsus, I made the excision directly, and reduced the parts after a continuous suture. The patient operated on on February 7th, 1903, is, two years and a half later, without recurrence. Several patients have been operated on by the old proceeding of Lisfranc; one remained well nine years, and has now cancerous disease of the liver without any local recurrence.

At the present time I only operate in two ways:

When the cancer is situated below, involving the anus more or less, I content myself by extirpating the tumour, and bringing the superior part of the section to the skin, preserving, if possible, part of the normal anus.

When the cancer is higher, I take out through the perineum the rectum without opening it. I operate in the following way: After having closed the anus by a purse-string suture, and done the toilet of the region, I cut the skin. The incision begins behind the scrotum, divides itself at the level of the anus, which it surrounds, and continues on the left lateral part of the coccyx; I excise this bone, and I put the finger

just in front of the sacrum, pushing forward with the rectum the involved glands. Then I make the rectum free in front, separating it from the urethra and from the prostate, just as in the first step of the perineal prostatectomy. At this moment the rectum is only fastened by the levator ani and the fascia sacro-recto-genitalis. I cut these parts from the back to the front with a pair of scissors, bringing down the rectum and opening the peritoneum. The operation is then the easiest one; you can draw down the rectum, tie the vessels of the mesorectum beyond the tumour, cut the bowel between two elastic forceps, and suture the margin of the remaining bowel to the skin. I never employ a preliminary inguinal colotomy.

I have obtained in this way 12 recoveries in 12 cases; 3 have had a recurrence after six, seven, and eight months; the 9 others are cured after five years and a half, two years, eighteen months, sixteen months, fifteen months. The last are too recent to be able to judge.

The operation seems now to me quite benign, and without doubt we should have many permanent cures if the diagnosis were made sooner, and if, in cases of patients with rectal troubles, the physician would make a digital examination which they too often neglect.

IV.—E. Stanmore Bishop, F.R.C.S.,

Surgeon, Ancoats Hospital, Manchester.

My contribution to this discussion is based upon the experience gained from 35 cases, of which I have complete records of 22.

I do not think that it is possible to diagnose absolutely in every case between adenomatous and carcinomatous growth in the large intestine. The age of the patient is no criterion. One of the most swiftly-growing carcinomas I have seen was in a young woman of 38. Indeed, the younger the patient the more rapid has been the growth and the swifter the recurrence. The absence of bleeding on touch is perhaps the most dependable sign; but even this in the earlier stages is not certain, as in Case III, where at first rectal touch was not followed by blood, yet the growth developed rapidly, and recurred quickly after removal. Besides, this test is not possible in sigmoid growths which the finger cannot reach. The one feature to which I should attach most importance is the loss of flesh which accompanies the malignant growths. This is, however, a late symptom if we are to interfere with advantage, and should not be waited for. If a growth of any kind is present, it is, I conceive, our duty to remove it, and leave the determination of its character to post-operative examination.

The symptoms and signs presented by these cases are variable within certain limits, but the presence of any one and *a fortiori* of any two should render an examination of the rectum compulsory. Such an examination will in the majority of cases, though not in all (Case XXII) clear up the diagnosis sufficiently to determine our course of action.

Pain may be entirely absent, as in my sixth case. As a rule, some variety of it—either dull aching in the region of the sacrum, as in Case XV, colicky pain as in Cases XXII, XVII, IV; pain in the rectum itself, as in Cases IV and VIII; aching in one or other inguinal region or down the legs—will show itself sooner or later. Pain is usually paroxysmal when noticed in the abdomen, and is often succeeded by an imperative desire to defaecate.

One of the most constant signs is the passage at some time of mucus and blood per rectum. This was noted in 13 cases. It is frequently accompanied by tenesmus, although this symptom most often is associated with the formation of an intussusception if the growth is above the rectum. The presence of a growth in this situation appears to have a great tendency to invert itself into the more fixed bowel below, the growth itself forming the apex of the intussusceptum. Yet in Case XXII, although tenesmus was present, no blood or mucus was ever seen, and at operation there was no trace of intussusception.

Defaecation is usually modified in some way. Either there is, as most frequently happens, a steadily-increasing constipation, ending somewhat suddenly in absolute obstruction, as in Cases VIII, XIV, XV, XIX, and XX, or there are attacks of diarrhoea alternating with this, as in Cases II, IV, XI, and XVII. Occasionally, if the growth is low down, there may be incontinence of faeces, as in Cases XI and XVIII. Tenesmus with passage of blood and mucus has been noted in Cases I, IV, VIII, IX, and XII. The desire to defaecate may be more frequent and imperative than usual, and there may be difficulty and pain during the act itself. Some alteration in the manner in which this function is discharged is, indeed, the symptom which most often first attracts the attention of the patient or his medical attendant to the condition present.

I have never found micturition affected, except in very late cases, and but very seldom even in these.

Vomiting is of course a very late symptom. I have seen it in 5 cases, always associated with entire obstruction and some distension of the abdomen. This distension of the abdomen is not always alike. It has been markedly confined to the region of the caecum, as in Case XV, in the early stage. The caecum could be clearly outlined below, and was distinctly tender. In another (No. XIV) the flanks were flattened, whilst the central region was distended. In a third (XI) the swelling was entirely below the umbilical level. Later, of course, the entire abdomen becomes barrel-shaped.

Borborygmi have only been noticed three times, and visible peristalsis twice. The sphincter is usually unaffected, together with the first 1½ in. or 2 in. of the rectum. In one case (XVIII) the growth appeared to start as an epithelioma at the junction of the anal skin and mucous membrane, growing outside as a mass the size of a small fist, and upwards in the lumen of the gut for 6 in. or 7 in. in scattered patches, mainly on the posterior wall.

I have learnt to be very suspicious of all cases of haemorrhoids, and of fistula in ano, especially if multiple; and would suggest that no such case should be operated upon until the surgeon has perfectly satisfied himself that carcinoma higher up the rectum is not present. Case XIII is illustrative of this point.

Prolapse of the rectum was said to have been present in Case XII, but it was not so when seen, and personally I have never come across such a condition.

Examination with the finger usually detects the disease. It may be an isolated growth, usually on the posterior wall, as in Cases V, VII, and X. It may take the form of a stricture, or appear as an invagination, the lower edge of which is covered by a hard, friable mass, breaking down easily, and bleeding almost on touch. It may, if seated at the junction of the rectum with the sigmoid, require bimanual examination to detect it. It can usually be seen with the proctoscope, and then presents a reddened, nodular appearance; but the sense of sight does not give nearly so clear an idea of the condition present, or its possibility of removal, as does that of touch. It may not be possible to say more than that some increased resistance can be felt, as in Case XXII.

I have practised almost every operation advised for the removal of these growths. If very high and invaginated, I have found Maunsell's operation very satisfactory. I have a case—but this was a non-malignant adenoma of the sigmoid—alive and working at his old trade, whose growth was removed in this way in March, 1900. If lower, I believe the Kraske operation to be the best. This method gives very good access and perfect control over the affected segment. If the peritoneum is boldly sought, and divided early in the operation, the bowel descends with fair readiness, and the healthy proximal end may easily in most cases be sutured to the unaffected segment above the anus, which with that segment should always be preserved if possible, the peritoneum being previously united to and around the drawn-down gut so as once more to completely close the abdominal cavity. All operations from within the dilated rectum or from the perineum or vagina I have definitely given up; they have always proved unsatisfactory in my hands. Weir's operation I have performed once with a fatal result; I do not propose to repeat the attempt. Gouilloud in France removes everything below the colotomy wound. This would be useful in certain cases, but I have no experience of it and it would necessitate maintenance of the colotomy opening.

But in all cases I venture to put in a plea for preliminary colotomy. At the time this is done the descending colon is drawn down as far as it will come. I have never seen this proceeding impede the descent of the gut at the time of excision, and the additional safety to the patient and comfort to the surgeon when once this is done—and the area of his more important operation is made and kept free from faecal soiling during the process of healing—is so great that I feel sure that any surgeon who will fairly compare two cases treated the one with and the other without this previous diversion of the contents of the intestine will never after undertake an excision without it.

When once the lower gut is reunited and all probable danger of return of growth excluded, the reclosure of the inguinal opening is very easy and safe. Without this pre-

liminary the operation of excision and the after-treatment becomes a never ending struggle with sepsis, which is almost inevitable, and the wound breaks down, becomes filthy, intensely painful, and, if at last it heals up, the bowel is so distorted and compressed by scar tissue as at last to require the colotomy which ought to have been done at first. I have had one experience of this kind which has convinced me of the absolute necessity of this preliminary measure in all cases. It has, moreover, the advantage that, if excision should prove impracticable, the most urgent danger is removed and the patient is rendered safe from death by actual obstruction. What plumber would attempt to remove and reunite sections of piping unless he had first turned off the gas or water circulating through them?

In some cases of localized growth in the sigmoid this may be included in the loop drawn out at the time of colotomy, and be removed after union has taken place to the abdominal wall. I prefer this to excision and immediate reunion for two reasons: First, the presence of the growth and the consequent distension of the colon above in patients who procrastinate, as all tend to do, may have produced mucous colitis in the colon above, and the temporary opening and drainage of the gut will be the best means of restoring the healthy condition required for satisfactory reunion; and, secondly, the calibre of the two segments which we propose to reunite will become much more equal if some delay is allowed after the opening of the proximal gut.

Case I (15).

Mrs. H., aged 40. Growth at junction of sigmoid with rectum. Colotomy, January, 1899. Bowel had no mesosigmoid, sutured to abdominal wall. Bowel opened second day. Much sickness and straining. Union of bowel to abdominal wall yielded. Faeces escaped into peritoneum. Death third day.

Case II (35).

Mr. W. (seen with Dr. Smith), aged 38. Smooth stricture felt at first examination per rectum at junction with sigmoid. No ulceration, bleeding, or special tenderness. Admitted index finger easily. Faecal masses felt above, which were removed by use of glycerine suppositories. Some mucus, no blood. Dilatation by bougies for some weeks.

On July 5th, 1890, the stricture had become hard, fixed posteriorly, although fairly free in front, and much narrower, so as no longer to admit the finger tip. The stools were liquid, containing blood and mucus in small masses. She had lost flesh and was beginning to look haggard. Colotomy in inguinal region was done on July 12th, and the bowel opened three days later. Recovery. Seen on November 26th, 1890. Still felt pain in back and anus, but had lost the look of malignancy, and was gaining strength. Since lost sight of.

Case III (416).

On November 25th, 1890, I was requested to perform colotomy by Professor Hare on a patient of his with symptoms of obstruction from rectal carcinoma. There was some difficulty in bringing up the sigmoid, owing to the shortness and fatness of its mesentery. The large intestine generally was smaller and more empty than is usual in these cases; the parietal peritoneum was fixed to the skin, and the bowel itself to this edge, it being also supported by two silkworm-gut stay sutures through the mesosigmoid. The bowel was opened on the third day; all went well with the exception of a small abscess which burst in front of the anus. This incident, and the rapid emaciation of the patient, together with some facts in his general history, induced Professor Hare to think that the growth felt per rectum might be tuberculous; and, as about that time there was a great belief in Koch's tuberculin, Dr. Gumpert was asked to inject the patient.

On February 23rd, 1891, ½ mg. was injected subcutaneously without any apparent result.

On February 27th, 1891, 1½ mg. were again injected. The temperature began to rise within eighteen hours from that time, and reached 103° on March 1st, falling to 99° on March 2nd. At 11.30 a.m. on the same day another injection of 1 mg. was given. The patient died twenty-four hours later. At the autopsy both rectum and bladder were found to contain a large amount of epitheliomatous growth.

Case IV (66).

Mrs. L., aged 54, admitted April 25th, 1892. For twelve months she had suffered from persistent diarrhoea, with passage of blood and pus. There was great pain on defaecation, with incessant tenesmus, also pain across the sacrum. Per rectum, the sphincter and bowel for 1 in. appeared healthy, then carcinomatous growth could be felt extending upwards for some 2 in. The finger could, however, be passed through this, and recognized apparently healthy bowel above.

On May 6th the sigmoid colon was fixed in the abdominal wall by two silkworm sutures. There was some little difficulty in finding the large intestine, owing to the immediate prolapse of omentum and distended small bowel immediately on opening the peritoneum. When these were replaced the sigmoid was found by sweeping the finger inwards from the outer pelvic brim. Its mesentery was contracted, and it was with some difficulty brought to the surface. A good spur was thus almost impossible to obtain, and the continuity of the two segments of gut remained and complicated all the course of the later rectal excision. The bowel was opened on May 10th, four days later, and the spur threads removed on the 19th.

On May 20th, excision of the rectum by the Kraske incision. As the growth had now spread downwards, nearly involving the sphincter, the whole lower portion of the bowel including the anus was removed, the proximal portion of the gut sewn to the skin above by silk. The peritoneum was opened in front during the operation but was at once closed by catgut suture. The deep wound caused by the removal was closed by six silkworm sutures, and two large drainage tubes placed so as to drain the deeper portions. The vagina was not opened. The operation lasted two hours, most of the time being taken up by haemostasis. The patient was much collapsed but rallied well, and on the 21st was very comfortable, and everything appeared in good condition. Already, however, some faeces had passed through the posterior wound, showing inefficiency of the inguinal anus. At 6 p.m. on the same day the posterior wound had yielded, the bowel was retracted, and more faeces were passing into and between the raw surfaces. There was much offensive serous discharge from the drainage tubes.

On the 22nd a free stool had passed both by the inguinal and the sacral openings. The patient was placed in a hammock and slung in a bath of weak creolin. This was repeated daily for an hour at a time, and later for several hours, but the posterior wound could not be kept clean.

On May 31st she vomited some clotted blood. The wound sloughed, and on June 3rd she began to be delirious, the breath acquired an odour of acetone, and she died on June 10th.

Case V (141).

W. W., aged 58, admitted August 18th, 1894. Nine months previous to admission a rectal polypus was removed per anum. Then for six months he was treated by Dr. Carne Ross with cinnamon with much improvement, gaining 3 st. in weight during eight months. Five or six weeks previous he noticed blood in the faeces, sometimes accompanied by mucus. There was no pain. Frequency in defaecation had been present for two or three weeks. There was a growth on the posterior wall about the size of a walnut, sessile, nodular, fairly hard.

On August 21st the rectum was opened by a posterior incision beginning at the coccyx and reaching down as far as the upper limit of the sphincter, which was untouched. The growth and surrounding wall for a distance of 1 in. was removed. The mucous membrane of the neighbouring rectum was united to the skin, and the wound packed with gauze around a large rubber tube. The tube was removed on the fourth day, the gauze remaining.

On September 8th the wound was noted as slowly healing. There was incontinence of faeces if there was any tendency to diarrhoea.

On September 14th the wound was healthy; the mucous membrane was smooth as far as the finger could reach.

On October 2nd healing was complete, but the internal scar, though smooth, presented three hard nodules. Examination produced no bleeding.

On January 13th, 1895, he presented himself again. There was a patch 1½ in. by 1 in. of recurrent growth on the left side of the rectum about 3 in. above the sphincter. This was quite movable on the parts beneath. The surface was breaking down, but did not bleed much on examination.

On January 15th, the rectum being dilated, this patch was removed by scissors from within. There was very free haemorrhage, and several pressure forceps were left *in situ* owing to the collapse of the patient, which, however, began to pass off before removal from the table. The plugs and forceps were removed on the second day. During convalescence several small abscesses under the skin required opening; but on February 10th the rectal wound was healed, and the examining finger could feel no sign of recurrence, only the smooth scars of the previous operations.

He was discharged on February 22nd apparently well, but cannot since be traced.

Case VI (148).

W. E., aged 20, admitted November 30th, 1894. Since February, 1894, had been in Mullingar Army Hospital. Before this, during parade, he had noticed rumbling sensation in the abdomen, followed by sudden desire to defaecate, blood and mucus escaping. An inch and a half from the anus was a long 1 in. stricture, which was firm and gristly to touch, with a nodulated lower opening.

On December 9th it was noted that during his stay in hospital the bowels had been moved daily, the stools consisting of small fragments the thickness of the little finger. No blood had been passed.

On December 14th the rectum was dilated and examined under chloroform. There was a reddened crescentic rim at the lower end of the stricture, projecting into the lumen. No ulceration.

On December 21st inguinal colotomy was performed. The abdomen was much distended, and it was impossible to bring the sigmoid outside the abdominal wound, so a tube was stitched into a small opening made in the gut. Through this there was at once a free passage of a large amount of thin faeces. The wound was packed and closed around by suture of the gut to the skin. On December 23rd the tube was removed. On December 26th an ulcer was found at the upper point of the junction between the skin and mucous membrane of the intestine. This was dressed with arg. nit., and soon healed.

January 8th, 1895. Kraske's operation. The coccyx and 1½ in. of the left side of the sacrum were removed. With much difficulty the mass, which had grown rapidly, was detached from the bladder in front and from the sacrum behind; when loose all round the upper extremity was clamped by elbowed forceps and cut away. The lower 1½ in., including the anus, as it appeared to be healthy, was left, although it had been

divided posteriorly in order to gain room. This was now reunited. The clamps were left, and the large cavity remaining packed with gauze.

January 17th. The cavity was lined with healthy granulations, but there was great difficulty in keeping the wound clear of faeces, although the upper end of the distal segment of bowel was plugged by gauze from the colotomy opening.

February 3rd. The posterior cavity was noted as contracting, but faeces still passed in spite of the gauze plug. The dressing was very painful. The patient was very emaciated, though taking food well.

February 17th. Similar condition, but wound has still further contracted.

February 24th. Faeces ceased to pass through the posterior wound, which was filling up well.

March 23rd. Had gained nearly a stone in weight; is now 8 st. 6½lb. The wound was nearly closed.

March 29th. The mucous membrane was removed for a distance of ¾ in. from the upper portion of the distal end of the bowel at the inguinal wound. This portion of the intestine was then closed above by sutures, and the mucous membrane of the proximal extremity united to the skin above it.

April 28th. The posterior wound was still open, but practically dry. The weight of the patient had increased to 9 st. 6 lb.

May 1st. The finger passed into the anus, touched a small opening the size of a pin's head by the sacrum. There appeared to be no cavity beyond. The surface of the internal scar was puckered, but smooth. The colotomy wound acted well. The bowels acted regularly, and there was no diarrhoea. Control was wanting. Was very useful in the ward, so that he remained somewhat longer than was necessary, but was now discharged.

Case VII (185).

Mary R., aged 43. In January, 1895, this patient had vaginal hysterectomy performed for carcinoma uteri. The growth recurred in and around the scar, producing rectal obstruction, for which inguinal colotomy was done on June 11th, 1895. She recovered, but died about six months later from the original disease.

Case VIII (204).

Mr. J. W., aged 71. Constant wish to defaecate, with pain for two or three months; always worse after food, relieved by brandy or by a free evacuation. The pain, however, was increasing, and at the time of examination he was never more than half a day without it. This was sometimes followed by sickness. There was no blood or membrane in the faeces. Rectal examination showed a hard cartilaginous ring, completely encircling the gut at a height of 4 in. from the anus. Bimanually a hard mass could be felt blocking up the pelvis.

January 21st, 1896. No stool had passed for seven days; there had been persistent tenesmus. Inguinal colotomy was performed. The omentum was adherent, and contained carcinomatous nodules, which were also spotted over the small intestine. The sigmoid was empty, and was readily brought to the surface. The parietal peritoneum was sewn to the skin, but the bowel was simply fixed by spur sutures of silkworm gut. Two days later, there having been much straining, two loops of small intestine were found at the morning dressing to have forced themselves out, one above and one below the sigmoid. The large intestine was opened. No result. As at the first operation the sigmoid had been found empty, and some of the small intestine collapsed, it was considered probable that the obstruction was higher up in the ileum, owing to secondary growths; so, as the upper loop of small gut was distended, and appeared the most unfit for return, it also was opened. Merely gas and mucus escaped.

On the 24th some formed faeces had escaped from the sigmoid. Only fluid from the small intestine. The skin around soon began to be excoriated by the material escaping from the small intestine, and a tube was tied into the proximal extremity, so as to carry its contents away from the wound. This tube was, however, soon forced out; it was replaced, and still more firmly secured, but was again pushed out by the intense peristalsis its presence appeared to produce. It was therefore discarded. The surrounding surfaces had been protected by ung. boracis, but this had but little effect. Ung. plumbi acet. with lanolin acted much better, and beneath it the surface of the skin became much healthier, but the patient steadily lost ground, and died on February 12th.

Case IX (244).

Mrs. T., aged 50, admitted December 5th, 1896. Sent by Dr. Scott, Gorton. First noticed frequency in defaecation, with passage of blood and mucus, in January, 1896. For the last few months had had difficulty in defaecation. Began to lose flesh three months ago, and during that time had noticed a sensation of great coldness about anus and buttocks. There had been pain with tenesmus for nine or ten months.

Examination, December 6th, 1896. About 4 in. from the anus there was a hard annular growth in the rectum, the upper margin of which could not be felt. Bimanually it appeared to be continuous with some resistance in the left inguinal region.

December 11th, 1896. Inguinal colotomy. The growth could scarcely be felt from above with the hand in the abdomen. The sigmoid came up easily, and was fixed in the wound.

December 13th. The colon was opened: flatus escaped.

On the 18th a well-formed spur had formed. Hard scybalae had been coming away daily with some assistance. All went on well, though pain was felt from time to time over the sacrum, and the patient greatly improved in general condition until January 6th, 1897, when she left the hospital, refusing any further operation.

June 1st, 1897. Her medical attendant, Dr. Scott, reported that the lower bowel was impervious and fixed. The artificial anus acted perfectly: there was no incontinence. There was not much pain, but a good deal of tenesmus, with passage of blood and mucus per anum.

Case X (267).

Mrs. E., aged 50, Barrow-in-Furness. History wanting.

Examination, October 24th, 1805. By the left side of the uterus was a mass the size of a fist, not movable, hard, apparently connected with the uterus, and passing outwards without defined external margin to the wall of the pelvis.

November 3rd. Median laparotomy. The mass previously felt was found to be the hardened, nodular, and fixed sigmoid flexure, which was altered in this way for 10 to 12 in. There was no mesosigmoid, the bowel being only covered for two thirds of its circumference. Colotomy was done on the right side, a new incision being made in the right inguinal region. The caecum was also fixed by the disposition of the peritoneum, and could not be brought up, but a circular area of its wall was fixed by Lembert sutures to the wound and left exposed. The median incision was then closed.

November 5th. The caecum was opened.

November 10th. The patient was much improved in condition, the new anus acting well. The median incision had healed per primam. She recovered and returned home. Nothing further was ever heard of her.

Case XI (310).

Mrs L., aged 47. Admitted December 14th, 1898. Had noticed for the last three years that she had some difficulty in defaecation. Had suffered from haemorrhoids for about eighteen years more or less. Two years previously to examination she began to have intermittent swelling of the abdomen with pain, lasting for a few days and then disappearing. Was examined nine or ten months ago, when some tightness was found in the rectum. At that time she was passing at times some blood and mucus. There had been marked want of control over the faeces for about two months. Sometimes she was free from pain, then diarrhoea came on with pain. The pain she described as being similar to labour pain, and was most intense on the left side in the inguinal region. She had not lost weight, but thought that she had become somewhat thinner during the last two weeks.

December 16th, 1898. The abdomen was slightly distended, entirely below the umbilical level. The caecum and transverse colon were distended. No glands could be felt in the sacral cavity or in the upper course of the intestine. On opening the vulva, dark venous blood escaped, which came from the os uteri. Two inches above the anus a circular nodular stricture was found in the rectum, with some scattered nodules on the posterior wall. The bowel was adherent behind, but in front the vagina appeared to be free.

December 18th. Left inguinal colotomy was performed, the bowel being opened on the 20th.

January 8th, 1899. The patient being in the lithotomy position, the anus was dilated, and the mucous membrane was separated from the skin at the muco-cutaneous junction. Above the internal sphincter the wall of the bowel was cut across transversely, and brought down through the anus until healthy gut was reached. The freed portion was gradually cut across, the upper intestine being united to the skin, as it was divided by silk sutures. A gauze plug was introduced for a short distance.

January 13th. The wound was somewhat tense and reddened on the second day, but this soon disappeared under the use of boracic fomentations. Irrigation with dilute iodine solution was repeated twice daily after the third day, when the gauze plug was removed. She made a good recovery, but left the hospital, refusing closure of the colotomy wound, to which she had become accustomed. Letters of inquiry have been returned through the Dead Letter Office.

Case XII (385).

W. S., aged 43, sent by Dr. J. Wilde Smith, March 26th, 1900. Six or seven months previously, on lifting some heavy bales, the patient felt pain over the hypogastrium, and some prolapse of the rectum. One month later there was a second prolapse after defaecation. Thirteen to eighteen months ago had an attack of nausea, with some regurgitation of green, bitter material, which lasted about fourteen days. Since noticing the pain, had passed small amounts of blood, sometimes as often as twelve times in a day, with great tenesmus, which is increasing. Mucus has also been passed frequently. There had been neither tenesmus nor passage of blood or mucus previously to the attack of pain. The patient had never been stout, and did not think that he had lost flesh, and his weight was always between 9 and 10 st.

On examination, the sigmoid flexure appeared to be invaginated into the rectum. A long smooth mass could be felt projecting from above into the lumen of the latter, around which the finger could be passed with ease except on the left side. At the apex of the intussusception its orifice could be felt, surrounded by a tight constriction. The walls of this stricture, which does not appear to extend beyond ½ in., are rough, firm, easily broken down, but do not readily bleed.

Left inguinal colotomy was done on March 27th, 1900, the bowel being opened on March 29th. This opening functionated well, no further stool passing per anum; mucus, however, was still, with diminishing frequency and amount, passed by this route.

April 10th. Median coeliotomy. Peritoneum was found perfectly healthy. An intussusception was easily found of the sigmoid into the upper part of the rectum. It was isolated by flat sponges and treated *à la* Maunsell. The section of the intussusceptum was made just below the posterior reflexion of the peritoneum. The abdomen was closed and sealed by celloidin. The anus was later blocked off from the wound by a gutta percha barrier.

Some difficulty resulted from a severe cough from which the patient suffered, and the wound became infected by discharges from the anus, necessitating its reopening down to the muscular wall, but eventually it perfectly healed.

On July 3rd the artificial anus was closed.

Perfect recovery and maintenance of good health up to June, 1905 (last report).

CASE XIII (440).

M. N., aged 31, admitted June 4th, 1901. For three or four years before admission the patient had noticed some pain around the anus. Twelve months before the present date she had had an attack of influenza, since which time there had been losses of blood more or less ever since per anum. She had always suffered from constipation, but for the last eighteen months this had been much more marked. Walking had been difficult, mainly from asthenia, for twelve months, during which time there had been loss of flesh. Five weeks previous some piles had been removed.

Examination, June 7th. At the upper extremity of the rectum was a circular hard mass, which had become somewhat invaginated downwards: the parts were movable, painless, and did not bleed on touch.

June 10th. Left inguinal colotomy. This was very easily performed. The bowel was opened two days later.

On June 15th, after a weak formalin injection on the 14th, an urticarial eruption showed itself on the extensor surfaces of the arms, thighs, knees, pharynx, and palate, which disappeared by the 19th.

June 20th. Exploratory abdominal incision. Intussusception seen from above, but it was so low in the pelvis as not to be reachable from this direction. Abdomen closed.

June 24th. Lithotomy position. Douglas's pouch opened and peritoneal reflexion divided. Rectum dilated, growth seized and brought down; 2 in. of bowel resected and healthy portions reunited. Some small patches of growth felt above; these were curetted away, but probably all was not entirely removed. Patient was becoming still more emaciated. This operation was followed by much sickness and much foul discharge from the rectum.

July 12th. Discharged; some improvement, but rapid return of the rectal growth.

September 21st, 1901. Returned; carcinoma filled the rectum from ½ in. above the anus to the base of Douglas's pouch; offensive discharge from the rectum; the growth was, however, movable on surrounding parts. The risk of further interference being explained to her and her friends, and Weir's operation appearing to give some chance of a good result, on September 27th, the patient was placed in the elevated pelvic position, and Drs. Hutton, Walker, and Mr. Rodocanachi undertook the work from the side of the perineum. The abdomen was opened by a long median incision to the right of the previous one. The rectum was identified and traced upwards to a point in the sigmoid flexure, where the mesentery appeared long enough to permit of the proximal end of the bowel being brought down to the level of the anus. Here it was divided, and the proximal end brought up and out of the median wound. The distal portion was then separated by successive ligatures and snips of the scissors. The anus being already dilated, a curved forceps was now passed up it, appearing in the lumen of the gut. On reaching the level of Douglas's pouch the peritoneum was divided all round, and further attempts were made to loosen the attachments of the bowel at this point. Sutures being placed in the upper extremity of the distal portion, their long ends were placed in the grasp of the forceps, and attempts were made to invaginate the bowel from above downwards. This failed, because the bowel began to yield at the level of the growth. The bowel was then divided transversely above the sphincter from below and separated upwards. The vagina was opened during this manœuvre. The bowel being now free it was removed through the anus. The proximal end of the sigmoid was now drawn down and through the anus, to the invaginated mucous membrane of which it was firmly united. A drainage tube was placed on the left side of the bowel projecting through the perineum. A gauze drain was placed on the right side also, projecting through the perineum. The operation, which was long and tedious, was followed by great collapse and later by peritonitis; death on October 1st. It is not, I think, an operation to be recommended.

CASE XIV (500).

Mrs. M., aged 62, sent by Dr. Edlin, Lovenshulme, September 18th, 1902. Had always been constipated. On several occasions had passed three or four days without an alvine evacuation. For the last fourteen days before examination neither flatus nor faeces had been passed. She had previously had three severe attacks of pain, the first two months before, the last fourteen days before, all with pain located in the right hypochondrium, and in epigastric region, requiring morphine. At intervals since the last attack there had been severe griping pains, accompanied by borborygmi, and the visible contraction of distended coils which at the time of examination occupied the central region of the abdomen. The lateral areas were rather flattened. Even in the central area the distension was not very marked. There had been no vomiting, and food of a light character had been taken and retained. Several times in past years there had been pain in the right hypochondrium associated with transient jaundice. Temperature, 98.6°. Pulse 64, regular and full. Countenance placid. Tongue clean and rather dry. Per rectum: Uterus small, senile; behind and to the right very high up was a small mass rather harder than the rest, tender to touch and slipping away from the finger. No rectal stricture was found. The descending colon in a coil of large calibre was felt, and also was impacted in the ileum. Small doses of calomel and belladonna were given with terebinthinate enemata.

September 19th. A small soft stool was passed, but the abdomen was still distended and the pulse smaller and thinner.

September 21st. As no further action of the bowels had been obtained and the distension was increasing whilst the patient was becoming weaker, a median incision was made in the pubo-umbilical line. There was no peritonitis. The small and large intestines alike were tensely distended. A large volvulus of the sigmoid presented. At its point of twist a small hard nodular stricture was found. This was isolated by sponges, whilst the bowel above was opened, allowing the escape of a large quantity of gas, with fluid greenish-brown faeces. This was left open until the end of the operation. The bowel above and below the stricture was clamped and divided, the strictured portion being removed. A purse-string suture was placed in each end and the two segments reunited over my own decalcified bone bobbin. A double layer of Lembert sutures were carried around the gut, the mesentery being united by Lembert sutures. The drainage opening in the bowel above was then washed and closed by a double layer of Lembert sutures arranged vertically so as to prevent narrowing of the lumen. The whole was then reduced into the abdomen, which was closed, most of the distension having disappeared. No great amount of shock. The operation was completed by 2 p.m. At 9.30 p.m. the bowels had acted freely several times.

September 22nd. There had been two actions during the night, but these were not so free. There had been some griping pain, and the pulse was less strong and somewhat irregular. 9 p.m. Some pain over the epigastrium, passing down towards the caecum.

September 23rd. Pain less, but deep breathing excited it. There had been no further action of the bowels since 5 p.m. on 22nd. Temperature had never been above 99°. The abdomen was supple, the pulse regular and fuller, 88.

September 24th. Pulse became more rapid, 120. Temperature 101°. Abdomen supple, but large intestine, especially descending colon, was becoming distended. Face became pinched, and general expression apathetic. 5 p.m. No flatus or stool. Pulse irregular, very rapid.

September 25th, 11.30 a.m. Death.

This case appears to show that the use of bobbins, or indeed any mechanical means of union in the large intestine, is unwise. Fluid faeces passed easily; when more solid masses began to come down, the appliance became blocked, and in view of the patient's condition any further interference was impracticable.

CASE XV (503).

Dr. W., aged 52, seen April 24th, 1902. Had always had regular alvine evacuations except for the first day or two whenever he went for a holiday. There had been some dyspepsia for about one year.

On the night of April 18th, 1902, he was awakened by intermittent spasmodic pain, which was chiefly felt over the sacrum; by the morning it had passed round to the front on the right side. It was associated with much borborygmi, but could be alleviated to some extent by lying on the back and flexing the thighs. On this day, there was a slight action with the passage of much flatus.

On the 22nd, flatus ceased to pass. Increased resistance over the caecum was noticed on the 21st. Enemata of soap and water were used on 22nd without result. Hunyadi Janos and p. rhei co. were taken on the same morning, and vomited in the afternoon. This was the first vomit. The same day, in the evening, he took mag. sulph. and pot. bitart. followed the next morning by a liquid stool.

On the 24th, the abdomen was found to be moderately distended. There was a firm, rounded, tympanitic mass in the right iliac fossa; this could be clearly outlined below as clear from the pelvic wall, and was tender on pressure. There was also tenderness over the left upper half of the abdomen, especially in the splenic region, which was removed by vomiting, which has occurred twice since the first note. Temperature 98.4°; pulse 76, thin. The pain, which had been easy on the 23rd, returned on the 24th, and was severe. This was most marked over the caecum, and intensified when the swelling there was most prominent. Sixteen ounces of warm olive oil was passed into the bowel by a funnel and long tube and retained.

April 25th. Some of the oil had returned, bringing with it some faecal hard masses. At noon another stool, which was thin and soft. There was no further sickness, and the caecal mass was less tender. The rest of the abdomen was supple and free from pain or tenderness. The oil was repeated. Calomel and belladonna were given in small doses. In half an hour another soft stool was passed.

April 26th. Three free evacuations of liquid material mixed with small soft faecal masses. No mass could now be felt anywhere in the abdomen.

April 28th. Had steadily improved, but this morning he passed about an ounce of bright blood per anum. For the first time he admitted that he had passed this before about half a dozen times during the past five years.

He returned home apparently well on May 1st, and went as ship's surgeon to New York, but on the voyage home he had apparently an exactly similar attack, and returned on June 14th, 1902, having passed no stool since June 7th. There had been no vomiting, but the abdomen was much more distended than before, and a dull area about the size of a cricket ball was found above Poupart's ligament on the left side. The same treatment was again tried, but with no result; so on June 17th inguinal colotomy was done. The abdomen was extremely tense, and on opening the peritoneum some clear serum escaped in a jet. The sigmoid was found [illegible] and opened slightly on the 18th to permit of escape of faeces, more freely on the 19th. As a consequence of the long delay, owing to his refusal to consent to operation, this was followed by the discharge of large amounts of mucus, due to the colitis

which had been produced. This continued until July 16th. Its passage greatly irritated and inflamed the parts around, and a small abscess formed in the subcutaneous tissue: but ultimately all healed perfectly, and he went to the seaside on July 28th.

He was advised to be content with what had been done, but he, and especially his friends, were anxious for the removal of the growth. He consulted a London surgeon, who also advised excision, and ultimately he went to Scotland, where he was operated upon for this purpose, and died three days later.

CASE XVI (553).

J. L., aged 50. Admitted September 11th, 1902. Bowels had always been regular until three months previous to examination, since which time he had been constipated. This condition was associated with aching pain over the sacrum and right lumbar region. There were also aching sensations in the calves of the legs; this mainly on the left side. There had been passage of blood and mucus for six weeks.

Examination per rectum. There was a nodular growth projecting into the upper lumen of the rectum, bleeding on touch, apparently limited to the wall of the gut, and not infiltrating the parts around.

Operation, September 24th. A vertical incision made in the outer border of the left rectus permitted an examination of the growth from above. This was nodular, very deeply placed in the pelvis, but circumscribed. A fresh opening was made inside the anterior superior spine, and the sigmoid drawn through and fixed there. On the 26th the bowel was opened. A free action was obtained through the new anus on October 2nd.

Nothing noteworthy occurred during his convalescence, but on November 11th the growth was found immovably connected with the sacrum. He refused any further interference.

CASE XVII (580).

Mr. U., aged 47. Sent into private hospital December 5th, 1903. Bleeding from the rectum had first attracted his attention. This was seen in February, 1903. This was followed by frequency in defaecation, which had increased, until at the time of examination he was forced by pain to rise three or four times in the night. He would then pass a small amount with relief, which lasted for a short time. Lately the bowels had been relaxed. The amount of blood lost was increasing, and this loss occurred once or more every day.

Per rectum, a thickened condition of the rectal wall very high up could be felt, which bled on examination, and obstructed the lumen of the gut, but it was so high, and the patient was so stout, that it could not be outlined distinctly bimanually. With Kelly's rectal speculum it could just be seen—a reddened, finely nodular growth, entirely surrounding the lumen.

December 13th, 1903. Inguinal colotomy was done. Through the wound some exploration was attempted, but everything in the abdomen was loaded with fat, and the patient showing signs of collapse the sigmoid was brought up and fixed in the wound.

December 15th. The bowel was opened. There had been very slight distension, but some hiccough. The patient became faint during the removal of the superfluous gut, which bled freely. He, however, quickly recovered.

December 20th. The artificial anus functionated perfectly, and the tissues around healed rapidly. On this date, whilst in the Trendelenburg position, the abdomen was opened in the median line. All the tissues were loaded with fat; the bladder, mesentery, omentum, appendices epiploicae were all thick with adipose deposit. The rectal mass could be felt, but it was impossible to get beneath it, and removal in this direction being obviously impossible, the abdominal wound was closed.

December 24th. Healing of the median wound had been uninterrupted. Hardly any chloroform sickness. Temperature, pulse, and respiration all normal. Renewed examination per rectum showed the great improbability of safe removal without excision of a large amount of the sacrum, and as bleeding had ceased since the formation of the artificial anus, he was advised to be content with what had already been done. Convalescence was delayed by the formation of an abscess in the thick fatty subcutaneous layer, but ultimately he recovered perfectly, and returned home well on January 20th, 1904.

CASE XVIII (671).

Mrs. S. S., aged 57. Admitted February 13th, 1905.

First noticed momentary pain in the rectum about two years previously. Had found a growth near the anus for the last eight or nine months. There had been faecal incontinence at times for four to five months. A great deal of mucus and some streaks of blood had been seen. There had been some loss of flesh.

On examination a mushroom-shaped growth was seen springing from the skin around the anus on the left side, and from the mucous membrane lining the rectum for about 4 inches from the anus. The ischio-rectal tissues were somewhat infiltrated. The lower part of the rectum was transformed into a rigid tube.

February 16th. Inguinal colotomy: the bowel being opened on the 18th. The patient did not improve very rapidly, and for this reason any attempt at excision was postponed from time to time until

March 6th, when the rectum, sphincter, coccyx, and part of the posterior vaginal wall were removed through a posterior median incision starting well above the base of the coccyx, and after passing downwards diverging just above the sphincter, so as to enclose the external growths and 1 inch of healthy skin all round. The growth now could be felt to extend fully 4 inches continuously up the bowel. Then about 2 inches of normal gut intervened, before isolated deposits were found once more extending for about 1½ inches. The bowel was well pulled down, and fixed by mattress sutures of silkworm gut, so as to open just below the sacrum, the wholly diseased lower segment being taken away. The vaginal wall was reunited by catgut sutures, and the large posterior cavity filled with iodoform gauze. The bowel itself was ligatured before division, and this ligature was left on. This was removed on the 10th owing to the fact that the temperature rose to 101.8°. On its removal, about 6 drachms of foul material escaped. Some sloughy lower portion of the bowel was removed on the 15th.

The catheter was used from the 1st until the 24th.

March 21st. The vagina had opened up again, and that canal was common with the wound.

April 14th. All looked healthy, but the vagina had not completely closed. A large amount of mucus came at first from the lumen of the lower gut, but this had at this date almost ceased. One or two spots in the calibre of the bowel immediately above the sacral anus have a suspicious feel.

May 14th. Discharged well. The suspicious spots had disappeared.

CASE XIX.

Seen with Dr. E. E. Smith. Sudden obstruction, great distension; stricture felt. Death same day as that of visit.

CASE XX.

Seen with Dr. E. E. Smith. Sudden obstruction, distension, vomiting. Death after colotomy, M.R.I.

CASE XXI.

Mrs. L. B., aged 28. Admitted June 5th, 1905. Frequency of defaecation with slime and blood three or four weeks before birth of last child, April 11th, 1905. For seven months has felt ill and run down. The labour was prolonged, but otherwise normal. On rising afterwards diarrhoea began again with blood and mucus, and has steadily increased, with pain and tenesmus, as well as a feeling as if the bowel was not completely emptied. Has lost flesh. Mass in rectum about 3 in. above anus. The finger could reach just above. The growth was mainly on posterior wall.

Colotomy June 22nd.

Kraske's operation. Reunion of intestine June 20th.

The growth appeared to fill rectum from 3 in. above anus to 5 in. Bowel removed at level about 2 in. above. Vagina opened, reclosed. After dividing peritoneal reflexion bowel came well down and was united without tension. Gauze was packed into wound below reunited peritoneum. Removed gradually up to July 3rd. Temperature on July 1st 103° F., fell to 100° F. on 3rd. Then after removal went up at night to 103° F. with a rigor, and fell again on 4th to 97.6° F.

On July 9th a second mass was felt apparently at the hepatic flexure. This did not perceptibly move with respiration, and a clear area on percussion was found above it. It was about the size of a Tangerine orange, and lay at a level with the umbilicus, about 2 in. to the right of it. It was believed to be a secondary growth in the colon, and any attempt at removal appeared to be negatived both by the state of the patient and our own belief that other secondary and more generalized deposits were probably in existence. Seven days later sudden collapse occurred, and death followed July 16th.

At the autopsy the colotomy wound was perfect, there being absolute adhesion of the bowel to the anterior wall, and no adhesions of omentum or of other intestinal coils. The pelvic peritoneum had united perfectly, producing a complete pelvic floor. The mass felt was one of several masses of new growth in the liver. It was firmly adherent to the hepatic flexure of the colon, and had elongated and thinned the right lobe of the liver greatly. Below this lobe was a greatly-dilated duodenum, continuous with a still more dilated stomach. Probably this accounted for the clear sound found on percussion. The duodenum was distended up to its junction with the ileum. The root of the mesentery had apparently acted as a constricting band. At the point of union of the two ends of the intestine below, leakage of faecal material had occurred through two gaps in the line of suture. At the time of operation the patient had been so severely collapsed that the later steps had been hurried, and only one line of through and through suturing had been used. The space around was sloughy.

CASE XXII.

Mr. W., aged 48. A healthy, vigorous-looking man, with much-distended abdomen. Admitted July 9th, 1905. Had been in perfect health until eight or nine weeks before admission, when he began to vomit. This vomiting came on immediately after taking food. The bowels were costive, but responded to purgatives and enemata until the last three weeks, during which time they have only been slightly moved. There were numerous attacks of colicky pain, with tenesmus, but never any passage of mucus or blood. Borborygmi were frequent. There had been some loss of flesh. On admission there was well-marked peristalsis, culminating in a marked local swelling just below, and to the left of, the umbilicus. Per rectum, no ballooning. High up there appeared to be some increased resistance, but no alteration was felt in the mucosa, and no defined mass could be detected even with bimanual examination.

Operation, July 11th. Trendelenburg position. Median incision. The greatly-distended sigmoid lay immediately below. Traced downwards, the distension ended at a narrow annular stricture, which completely encircled the bowel. The loop, with the growth at its centre, was brought to the surface and a glass rod passed through its mesentery below. At first an iliac incision had been made, and the loop was drawn towards it, but, owing to the tension on it, this was found to be impracticable, so this opening was closed and the loop fixed in the

median incision. A catgut suture on both sides held the surfaces of the wound together against the bowel.

July 12th. Fairly comfortable. It was intended that the bowel should be opened on the following day.

July 13th. Vomiting came on at midday, and at 3.30 the wound gave way, and loops of small intestine protruded on either side. These were washed and put back and the wound resutured, the original coil being fixed as before. A Paul's tube was tied into an opening made on the proximal side of the gut. It was noticed that a fair amount of sanguinolent fluid was present in the abdominal cavity. After this there was a considerable amount of collapse (pulse 150).

July 14th. Slightly improved. Faeces escaped freely from the tube. Abdomen became retracted, but perfectly supple.

July 18th. Paul's tube became loose and came away.

July 21st. There had been no signs of peritonitis. Improvement steady.

July 31st. The exposed loop, including the growth, was freed from the abdominal wall and excised with 2 in. of healthy bowel on each side. The two bowel ends were then united by a double layer of silk sutures, the outer being Lembert sutures, the inner layer passing through all the coats, and so arranged as to cut through the bowel walls during the process of loosening, so removing the turned-in area. The abdomen was closed.

August 1st. Flatus passed 8 p.m. Urine sine catheter from the first.

August 7th. First stool passed with a small amount of blood.

August 17th. First suture came away per anum.

September 2nd. Discharged, apparently perfectly well.

V.—T. GELSTON ATKINS, B.A., M.D., M.Ch.,

Surgeon, Cork South Infirmary.

IN considering the surgical treatment of rectal cancer I think we must consider the question from the standpoints of whether the given case we happen to be dealing with at the time is one suitable for (1) palliative or (2) radical treatment, and as our aim, whenever at all possible, should be towards the radical removal of the disease, let us apply ourselves first to that question. It is universally admitted that the earlier we can recognize the disease, like all other cancers, the easier and more successfully can it be radically dealt with. Hence our first aim should be early diagnosis, and in reference to this point I think we should try and impress on the general practitioner the importance of this early diagnosis, which in a large number of cases can be made. When a patient complains of chronic constipation, alternating with diarrhoea and of mucous diarrhoea in the early morning, especially when the stools are blood-stained, then a digital examination of the rectum should at once be made and any alternation from the normal noted, such as any hardness or unevenness on the wall of the bowel, any patch that bleeds easily.

The diagnosis of growth high up in the rectum or in the pelvic colon is difficult, and up to quite lately had to be made entirely from the symptoms. I have always adopted the bimanual method in the Trendelenburg position under deep anaesthesia, and I have found that even a small growth can be often in this way detected in a thin subject. But now that the electric pneumatic sigmoidscope or proctoscope of H. Strauss has come to be more largely used, I think we may hope that by this instrument the entire rectal tube, and the greater part, if not the whole, of the pelvic colon can be clearly inspected and any neoplasmic deviation from the normal condition of the mucous membrane be detected. It is also possible to detect the size and degree of mobility of the growth. Failing diagnosis by this means, I think, considering the importance of early diagnosis, we should proceed at once to exploratory operation, and, if removable growth is found, proceed to the radical operation at once. This, of course, entails that all necessary preparations for the proper performance of the radical operation should be made before the examination is begun.

I think the chief indication that the growth is capable of being removed is that it is movable, that it has not attached itself to any of the adjoining viscera or to the tissues in the concavity of the sacrum. Another important point is that there should not be any extensive infections of the sacral or lumbar glands, and, generally speaking, that the patient should be in a fair condition of health, not suffering from chronic heart or kidney disease, and that there should not be any metastatic deposit in any of the other organs. Given these conditions, I think we may fairly say the case is one that should have the benefit of a radical operation.

With regard to the question of radical operations, they should be done with as strict an antiseptic preparation as possible. Of the various routes, I think, when the growth is low down, we can adopt the perineal route; but that when at all high up we must adopt the sacral or abdominal route or the perineo-abdominal route.

The more I see of cancer of the rectum the more convinced I am that, with our improved technique, we will feel more inclined to attack these cases by the abdominal route, as described by Sir Charles Ball in his Erasmus Wilson lectures. If we adopt the sacral method, the important points are to keep as low down as possible, to avoid injuring the sphincteric nerve supply, and then to ligature the bowel well above the growth with two ligatures, and not to divide the bowel if at all possible until the greater part of the wound is closed. I generally then insert a Paul tube, giving the gut a half twist in its axis before fixing the retaining sutures, and from this method I have got very good results. I lost a case dealt with by this method on the fourth day, of an elderly man, from pure weakness.

I have at present under my care the case of a girl aged 21 years, with very extensive growth, extending from about 2½ in. within the anal orifice up to the top of the pelvic colon, and which could be seen and felt as a distinct pelvic tumour, which on bimanual examination was found to be freely movable, and which caused nearly complete obstruction. I explored her through the abdomen in the Trendelenburg position, and I found the growth freely movable, and a case where there would have been no great difficulty in removing the growth, but unfortunately the sacral and lumbar glands were extensively involved, and the mesocolon was short. I had therefore to content myself with a colotomy to relieve the obstruction, not that I look on colotomy at all as an alternative to the radical operation.

I think, when at all possible after excision, the proximal end of the gut should be brought down and invaginated into the anal segment of the rectum, which has been denuded of its mucous coat. When this cannot be done we generally have to finish the operation as a colotomy. With regard to the position of colotomy, I do not think we can look upon it as an alternative to excision. I have never seen a case where I could say a colotomy stayed or arrested the growth, nor does it relieve any of the pressure pains of the later stages. I think, then, colotomy should be reserved to relieve obstructive symptoms, and in this respect it gives relief, and so is of advantage to the patient.

VI.—SINCLAIR WHITE, M.D., F.R.C.S.,

Senior Surgeon, Sheffield Royal Infirmary.

MR. SINCLAIR WHITE said that during the last ten years he had performed Kraske's operation for cancer of the middle rectum twenty-six times. He exhibited a specimen from one of his cases which showed a small tube, not unlike a vermiform appendix, attached to the centre of the cancerous mass on its posterior surface. It was lined with epithelium and opened into the rectum. The diverticulum was a relic of the neurenteric canal which in early embryonic life unites the primitive alimentary and spinal canals, and which occasionally leaves permanent reminders of its former existence in post-anal dermoids and dimples. It marked the spot where the proctodaenum joined the upper rectum, and explained the relative frequency with which cancer in this region occurred. Everywhere in the alimentary tract the incidence of the disease was intensified at the junction of parts which differ from each other either in their developmental origin or in their functions. Rectal cancer in young people was almost hopeless from an operative standpoint. The best cases for excision were the slowly-growing, hard, circumscribed cancers in elderly people.

Mobility was essential to successful removal, but this point could not always be settled by a rectal examination. In borderland cases it was best to open the abdomen and examine the growth from above. Rectal cancer sometimes disseminated early in its career, and an exploratory laparotomy was the only means by which we could avoid operating on such cases.

Whether a preliminary colostomy should as a rule be done was still an open question. His practice was to avoid colostomy in elderly patients if the disease was quite recent, and to resort to it in all other cases. He left the artificial anus for at least a year, because if local recurrence should take place it mitigated the patient's sufferings.

The operation was most conveniently performed with the patient in the prone position, with the thighs hanging over the end of the table. It was, however, a trying posture for the patient, and seriously interfered with respiration. He had given it up in favour of the semiprone on the right side with the thighs fully flexed.

The great object in operating was to get clear of the disease, and it was rarely wise to strain after brilliant plastic effects.

In a few of his early cases he had obtained primary union of the divided bowel and good sphincter control, but even in these cases stricture was apt to supervene. He had latterly been less ambitious, and endeavoured to operate as rapidly as possible, so as to minimize the shock, which was always considerable in this operation. The plan he followed was to slit the rectum posteriorly from the anus up to the growth and to remove the entire lower bowel, leaving the internal sphincter. When the disease had been freely removed, the upper end was drawn down and stitched to the skin at the anus, or if this was not possible, a sacral anus was formed. It was unnecessary to devote much time to the closure of the peritoneum. When the patient was turned over on his back, the coils of small intestine always retracted from the opening, and it was an advantage to have free dependent drainage. The only death he had had in resection of the rectum from peritoneal suppuration was in a female where the disease was removed vaginally.

In selecting cases for operation he had declined only those in which the local and general conditions were such as to render operative interference hopeless. Roughly these amounted to one-half of the total.

Of his 26 cases 5 died from the operation; 1 from acute mania on the fourteenth day; 1 from volvulus of the small intestine on the fourth day (this patient had her uterus, which was involved in the disease, removed with the rectum); 1 from cerebral apoplexy on the third day; 1 from exhaustion on the fourteenth day; 1 from shock twelve hours after operation. One patient who recovered had her right ureter cut across.

Of the 21 who survived the operation 9 were operated on more than three years ago. Of these recurrence took place at intervals of from seven months to two years in 5 cases.

Of the remaining 4, 2 had been lost sight of, but both were seen alive and free from recurrence upwards of three years after operation. The remaining 2 were seen quite recently and were in good health and showed no evidence of recurrence. Of the 12 recoveries operated on during the last three years 4 had already recurred.

In all his cases except one the clinical evidences of cancer were corroborated by microscopical examination. The exceptional specimen was pronounced to be inflammatory, but as the patient died fourteen months afterwards of cancer of the liver it is probable the microscopist was in error. On the whole he was not satisfied with his experience of Kraske's operation. Apart from the numerous recurrences he had had most of his successful cases were not more comfortable than they would have been with an iliac anus, and he had decided to give up the sacral route for the abdominal one, cutting through the sigmoid, and after isolating the rectum as low down as possible removing it perineally.

VII.—E. Deanesly, F.R.C.S., B.Sc.,

Surgeon, General Hospital, Wolverhampton.

Dr. Deanesly said: Experience has shown that the whole or any part of the rectum, from the sigmoid flexure to the anus, can be successfully removed. Epithelioma of the rectum is usually so slow of growth and so late in metastasis, that long duration and extensive size of the growth are no contraindications to radical operation provided the bladder or ureters are not actually involved in the growth. Some of the most successful results have been obtained in advanced cases. The difficulty and danger of the operation are of course greatly increased by delay. In early and limited cases only can ideal operation be performed with restoration of normal function.

Palliative colotomy should be performed only where much obstruction exists. The rectum should then be divided opposite the sacral promontory, the lower end closed and dropped back, and the upper end brought out through the separated rectus fibres. If the artificial anus is established in this manner, a daily evacuation can be brought about by a simple enema in the early morning, and little faeces escape for the rest of the day. Managed in this way, a colotomy may cause little offence, and is by no means the intolerable nuisance which it is sometimes represented to be. Nevertheless, in cases beyond the possibility of successful removal, a curetting of the growth gives great relief, may be repeated when necessary, and is much to be preferred to colotomy.

I have discarded the perineal route in all cases, and prefer the sacral or coccygeal route. The position of the patient is important. I employ the prone kneeling position similar to that used in the dissecting rooms—that is, an inverted lithotomy position. It is important that the pelvis should be higher than the shoulders. This is effected by placing a firm block beneath the pelvis. The advantage is two-fold—it facilitates abdominal respiration, and it allows the small intestine to drop away from the pelvis and prevents prolapse during the operation.

With regard to the amount of bowel to be removed, the whole of the rectum (pelvic colon) should be removed in all cases, whether the growth be high or low. If this be done the sigmoid flexure in almost all cases can be brought down to the anus and is well supplied with blood. If the upper part of the rectum is preserved and united to the bowel below the growth, union fails in all but the most limited resections owing to necessary tension and interference with circulation in the upper end.

Preservation of sphincter ani should be aimed at wherever possible, but free removal of the disease should not be endangered by attempting this where the growth is too near the anus. When the anal portion is free its mucous membrane should be dissected away and the end of the sigmoid brought through it. The sphincter should, in my opinion, be always divided posteriorly in order to allow free passage of faeces during convalescence, and contamination of the wound is prevented by securing a large Paul's tube in the sigmoid. This procedure greatly lessens the danger of wound infection and facilitates healing.

Preliminary Colotomy.—Where the anus is involved in the growth and must be sacrificed there is much to be said in favour of establishing a permanent preliminary colotomy and subsequently removing the growth and closing the whole pelvic wound. The only alternative is a sacral artificial anus, which on the whole is less easy to manage. Preliminary colotomy as a temporary measure is unnecessary, and hampers the radical operation.

The abdomino-perineal route has lately been recommended, and has certain advantages. I have practised it in one case only, with an unsuccessful result. The growth was found to involve the vagina, and tore at this spot during the abdominal operation. It was not therefore a suitable case. I do not, however, see any advantage in the combined route except in a very high growth. The sacral route is more direct in most cases, and the lower end of the sigmoid can be reached by it at least as easily as in the Trendelenburg position.

VIII.—A. B. Mitchell, M.B., F.R.C.S.I.,

Surgeon, Royal Victoria Hospital, Belfast.

Mr. Mitchell said: The age of the patient materially influences the prospect of successful operation. It occurred to me early in 1904 to operate on a young married woman not 23 years old. Six inches of the rectum were removed, but recurrence took place six months later, and she died nine months after the operation. Professor Lorrain Smith reported the case to be one of columnar carcinoma. With a view to securing as complete asepsis as possible I have a very high opinion of the advisability of commencing the operation at the anus by separation of the mucous membrane from the sphincter ani, followed by ligation of the tubular process thus formed to prevent escape of the rectal contents. After this the rectum above is attacked by the sacral route and brought down without opening the lumen and fixed to the skin edge. Where a sacral anus requires to be made, I should like to ask Sir Charles Ball and the members of this Section whether any material advantage is to be obtained by making a half turn on the bowel so as to obtain more efficient control over the escape of faecal matter.

IX.—Charles Ryall, F.R.C.S.,

Surgeon, Cancer Hospital, Brompton.

Mr. Ryall said that in all cases of doubt as to the possibility of excising the growth examination should be made under an anaesthetic, as then the muscular connexions were relaxed, and, moreover, one could in a large measure ascertain the extent to which the presacral glands were enlarged. Fixation to surrounding structures was not entirely due to malignant, but sometimes to inflammatory, infiltration, and therefore in those cases with partial fixation an attempt at radical extirpation should be tried: and occasionally some of these apparently bad cases gave surprisingly good results, in his experience, after excision; in fact, one case that at the time of operation might have been regarded as hopeless was now well, and able to work eight years after excision without any sign of recurrence of the disease. With regard to the question of a preliminary colotomy, he had never had recourse to this, nor had he yet found cause to regret not doing so.

Transacral excision of the rectum was a very severe operation, for which it was necessary to take every precaution to husband the patient's strength. With preliminary colotomy, the patient underwent two operations, and after the first the patient's strength was considerably reduced, and he was therefore rendered less fit to resist the effects of the second and more serious operation. Colotomy might claim to prevent faecal contamination of the wound during the second operation, but equally satisfactory results could be obtained by carrying out the details as recommended by the President, and thus avoiding the performance of a preliminary colotomy. Early opening of the peritoneum facilitated the stripping of the rectum from its attachments, and also the freeing of the upper portion of the bowel, and this procedure was therefore essential to a rapid completion of the operation. Moreover, it did not add any extra or special risk to the operation. In dealing with the diseased portion of bowel it was necessary to take every possible precaution not to cut or tear into the growth, as, in his opinion, such an accident was likely to liberate active cancer cells, which would reinfect the wound and be the cause of early recurrence of the disease. On the importance of this point he could not lay too much stress, and was convinced that such a mishap was likely to be followed by the gravest consequence in dealing with any malignant growth. In closing the wound after excision too much care could not be taken, especially in bringing the deeper parts in apposition, to promote rapid healing, and to prevent cavities or pockets being left in which fluid could be retained and be the source of sepsis. By attention to details such as these, the risk of operation was very much minimized, and an early convalescence was assured, so much so that one expected to have the wound healed by the end of a fortnight.

X.—J. Jackson Clarke, M.B., F.R.C.S.,
Surgeon, North-West London and City Orthopaedic Hospitals.

Mr. Jackson Clarke said: The first observation that I wish to make concerns diagnosis. I have seen an unusual case of ulcerative colitis in which the symptoms were but slight, though of over a year's duration, and there was an ulcer with raised and indurated edges in the middle part of the rectum. Many experienced observers had examined the patient, but it was only after the removal of the rectum, by a modified Kraske's operation, and a complete histological examination, that the pathological condition was determined. A second point—the difficulty of emptying the bowel above a narrow cancerous stricture, even by a long period of preparation, has been alluded to by Mr. Swinford Edwards, and I have had experience of it. Another consideration that should be well weighed is the general one—namely, that accumulated experience tends to show that in cases of high rectal cancer complete excision of the rectum, except the anal canal, combined with bringing the distal end of the sigmoid flexure to the anus, is giving better results than Kraske's operation and its modifications, valuable though the latter were. Now, whether for complete diagnosis, for ascertaining whether a preliminary colotomy is required, or for inspecting the sigmoid, mesocolon, and the peritoneum generally, I have come to the conclusion that, in addition to the usual clinical examination, the abdomen should be opened in the middle line; then the surgeon has the fullest available information before him, and thus only can he do the best in the individual case before him, either concluding the operation at the same time that the laparotomy is done or deferring it to another time, according to the operation decided on, to the condition of the patient, and as to whether drainage of the bowel by temporary colotomy is required.

AN UNUSUAL CONDITION OF THE LARGE INTESTINE ASSOCIATED WITH CARCINOMA IN TWO SISTERS, TOGETHER WITH CARCINOMA IN A THIRD SISTER.

By Charles P. Childe, B.A., F.R.C.S.,
Assistant Surgeon, Royal Portsmouth Hospital.

The selection of the treatment of malignant disease of the rectum as one of the subjects for discussion in this Section has induced me to bring to your notice the two following cases, and to add to them a third which has come to my knowledge while preparing this paper.

The first patient, 7 in. of whose rectum I have in this bottle, was a domestic [illegible], aged [illegible], who came under my care at the Royal Portsmouth Hospital about a year ago. She gave the following history: For the past nine years she had felt a desire to go to stool several times a day, describing what she passed as "creamy in consistence and very offensive." She sometimes had difficulty with her bowels, sometimes noticed blood in the motions, and sometimes had pain after her stools, but none of these symptoms was of a very severe character. She had latterly lost flesh, was very thin, and looked in wretched health and in suffering.

On examining the rectum, about 1 in. from the anus a hard, cancerous ulcer was felt, occupying chiefly the posterior and lateral aspects of the gut. Above its upper limit there were several soft growths, some freely movable in the bowel, and attached to it by distinct pedicles, others sessile but not infiltrating its wall. As except for this polypoid condition the case was one suitable for excision, the bowel was removed by Kraske's operation, it not being found necessary to take away any bone except the coccyx. Although I could feel through the wall of the gut that I had freed the rectum well above the hard, cancerous infiltration, yet numbers of softer masses could be detected in the intestine above this, and these in no wise diminished as more intestine was pulled down. The bowel was therefore divided 7 in. above the anus, and about 4 in. above the cancerous ulcer. On splitting the removed portion longitudinally this specimen was obtained, which with your permission I shall pass round. About 1 in. above the anus, it will be seen, commences a typical deep, cancerous ulcer, with hard, infiltrating edges and base.



This is a columnar-celled carcinoma extensively involving the muscular coat of the rectum. Above the cancerous ulcer, the upper limit of which is clearly defined, the whole of the interior of the rectum is filled with growths of different sizes and shapes—some pedunculated, others sessile; some with single heads, others lobulated and mulberry-like. These are seen crowding the gut as far as the upper limit of the specimen, and they could be plainly felt through the bowel wall above the line of section. Two of these growths were reported on by the Clinical Research Association as follows:

The polypoid tumour has a villous surface, with much overgrowth of the mucous membrane, but we find no definite evidence of malignancy.

Of the second the report says:

The papilloma is apparently becoming malignant, as parts of it have exactly the same characters as the malignant growth. Its actual base, however, cannot be seen in the section, so we cannot say whether there is invasion of muscle or not.

The result of the microscopical examination, therefore, seems to show a transition from the simple to the malignant tumour, the report on one of the growths stating that there is no definite evidence of malignancy, that on the other stating that the papilloma exhibits exactly the same cha-

racters as the malignant growth, and is apparently becoming malignant. This is well shown in the section under the microscope.

I regret to say that the patient, who was in a poor state to stand so severe an operation, sank from exhaustion on the fifth day, having never really rallied from the operation or given an expectation of her recovery from it. I regret, too, that I was not permitted a *post-mortem* examination, so that I am unable to give the meeting any further information as to the extent of the disease.

I now come to the second case:

The patient was a younger sister of the above, aged 32, also in domestic service. She was admitted to the hospital on the same day as the previous case. For four years she had suffered from a bearing down in the rectum, and a desire to go to stool frequently, passing at times mucus and blood. She came under notice for these symptoms at the same time as her elder sister. On examination, her rectum presented exactly the same features. Shortly above the anus was a typical, hard, infiltrating, cancerous ulcer. Above its upper limit the bowel was occupied as high as the finger could reach with masses of pedunculated and sessile growths. I intended to give her the chance of excision the following week, but, hearing of the death of her sister in the meantime, she, perhaps not unnaturally, declined operation and left the hospital. I am not, therefore, in a position to exhibit her rectum, but it was an exact facsimile of the one in the bottle which has been handed round.

These two cases—namely, two sisters suffering simultaneously from multiple polypoid adenomata, in both of whom carcinoma had supervened—appeared to me of sufficient interest to bring before this Section. On visiting, however, a little time back, the last-named patient, whom I had not seen since she left the hospital a year ago, she said, in the course of conversation, "My sister"—that is, a third sister—"is just in the same way as I am." I have visited her, and obtained the following history, which is hardly less remarkable than the incidence of her disease.

She is 34 years of age. For fifteen years previous to 1904 she had been in domestic service in London, had always had good health, and had never suffered in any way from her bowels; no irregularity, no constipation, no blood or mucus. Hearing that her two sisters were in the Portsmouth Hospital she came down from London to visit them, and was very much shocked at seeing them and learning of their condition. Immediately after seeing them—she is positive on this point that it was on the very day she visited her sisters in the hospital—she felt for the first time a severe pain in the lower part of the back like toothache. Although she had left London feeling and believing herself to be in her usual health, she returned the next week feeling very unnerved and very unwell, and the pain in the back continued. She therefore consulted Dr. Morriston Davies, of 55, Gordon Square; that is, two or three weeks after her visit to Portsmouth. After examining her he asked Sir Victor Horsley to see the case in consultation with him. Sir Victor Horsley concurred with him in the fact that the patient was suffering from "a large mass of carcinoma in the anterior wall of the rectum, and that no operation was advisable." Since then she has suffered from severe pain in the rectum, passes blood and mucus, and latterly the growth has ulcerated into the vagina, giving an outlet to the faeces by that passage. She has positively declined to allow me to examine her, but I have a letter from Dr. Davies to say that when he and Sir Victor Horsley examined her last year there were no adenomatous growths as far as the finger could feel, and that the case was one of uncomplicated carcinoma.

We have here what, so far as I know, is a unique series of cases. Three sisters, all between the ages of 30 and 35, suffering simultaneously from carcinoma of the rectum, in two of whom the disease had supervened on multiple polypoid adenomata. Hardly less extraordinary is the fact that the third sister—although she must have been suffering from carcinoma for a long time previously—was totally unconscious of its presence until the shock of seeing her sisters in such a grave condition seems to have stirred up the disease, as it were, to assert its presence. Although she is positive that, owing to the entire absence of any symptoms previous to her visit to Portsmouth, she was entirely unconscious of there being anything whatever wrong with her bowels, yet within a month of that visit she is pronounced by competent authorities to have such a large mass of carcinoma in the anterior wall of the rectum as to render operation inadvisable, and her subsequent history has fully confirmed this statement. On inquiry into the family history of this series of cases, it was discovered that the father died of some rectal trouble associated with fistula, and it is not unlikely, therefore, that he had carcinoma. One sister died of typhoid at 12 years, and one brother is alive and perfectly well and with no rectal symptoms, but declines to be examined.

In so far as I have been able to inquire into the literature of the subject and the experience of those who have had special opportunities in diseases of the rectum, the complaint of multiple polypoid adenomata is an exceedingly uncommon one. Thus Mr. Harrison Cripps says:

Some few years ago, in a search through the London museums, I could only find three cases. . . . In the living subject I have met with but three instances. . . . One of the most remarkable facts is that the patients were all members of one family.

Of these three cases in one family, two were women and one a man. The man, after undergoing at intervals several operations at St. Bartholomew's Hospital for his disease, was proved *post mortem* to have subsequently died of adenoid carcinoma of the sigmoid. The after-histories of the two women are not given, and presumably were not known. Mr. Allingham in his large experience knew of three families, in which three members in each of two families were affected, and in the other case two members. With one exception they were all young women. Their subsequent histories and termination are not given. In the British Medical Journal of July 23rd, 1904, Dr. Pope, Senior Physician to the Leicester Infirmary, reported the history and necropsy of a patient admitted there with this disease. She was also a young woman. Her condition apparently resulted from a septic state of the rectum associated with syphilis, and Dr. Pope suggests that the disease is a hypertrophic colitis, which he terms colitis polyposa, as opposed to the ulcerative and atrophic colitis of dysentery. Alluding to the three cases in one family, reported by Mr. Cripps, he is of opinion that this fact rather suggests a common and infective origin. In this connexion, referring to my cases, the two sisters who had the polypoid condition of the intestine had lived together in service, and had occupied for ten years the same bedroom, and for several years the same bed. They had not used any utensil, such as an enema syringe, in common. Papillomata occurring on the skin in large numbers are considered to be due to local infection from micro-organisms: and the fact that these two sisters had lived in such close companionship for years, occupying for a considerable period even the same bed, lends support to the supposition that both may have been subject to a common infective agent, or that one may have infected the other with papillomata, and even subsequently with carcinoma. The third sister, who has carcinoma only, without adenomata, had lived for fifteen years in London away from the other two; she had been with them for a week or two during her holidays in each year, and had slept in the same bed with one or other of them on some occasions during these holiday visits. The possibility of her having become infected with carcinoma by one of them is not, therefore, out of the question.

The cases which I have been able to collect of multiple polypoid adenomata seem to bring out the following points:

1. Its tendency to attack members of the same family, or as an alternative suggestion, its infectivity.

2. Its marked predilection for women. Of the 14 cases mentioned here, no less than 12, or 85.7 per cent., were women.

3. The tendency of the disease to terminate in or be associated with carcinoma. Of the 14 cases, the terminations of 4 are given, namely, Dr. Pope's case, one of Mr. Harrison Cripps's cases, and both of my own. Of these 4, 3 have terminated in carcinoma. The after-histories of the other 10 cases are not noted, and presumbly were not known by the authors. But even if none of the remaining cases terminated in this disease, 3 out of 14 at all events, or 21 per cent., are known to have ended in carcinoma, and of the cases the terminations of which are known, 3 out of 4, or 75 per cent., resulted in this disease. From a prognostic point of view alone, therefore, multiple papilloma of the large intestine is a grave disorder. You will observe, then, that this rare complaint presents several singular features for further investigation and elucidation. Is it a family disease, or is its undoubted prevalence in certain families apparent only, and due to their being exposed to a common infective source, or to their infecting one another? What is the reason of its proclivity to attack women in the very large proportion of cases which these figures seem to show? Is it so frequently followed by carcinoma as to be a precancerous condition? The few cases the after-histories of which I have been able to follow would seem to show that it is. Of 14 cases the terminations of 4 are known; 3 of these have been in carcinoma. In conclusion, the cases which I have brought before you might be cited as a striking illustration of the apparent infectiousness of cancer, which all who see much of this disease experience examples of from time to time—three sisters simultaneously affected with carcinoma of the rectum, two of whom had lived in very close companionship for years, occupying even the same bed for a considerable portion of that time, and the third of whom had occupied the same bed with one or other of them on several occasions.

NOTES ON A CASE OF GANGRENOUS APPENDICITIS.

By T. GELSTON ATKINS, B.A., M.D., M.Ch.,
Surgeon, South Infirmary, Cork.

THE following is the history of the case:

At 1 p.m. on May 25th I saw Master A. C., aged 12 years, when I obtained the following history: He had always been a boy subject to bilious attacks, but was otherwise hardy and strong. The previous evening about 8 o'clock he ate very heartily of some cold meat and chutney pickle sauce. At 6 a.m. the following morning his mother noticed him crying and he said he had some pain, but not a bad pain, in his stomach; his bowels moved freely, but notwithstanding this his mother gave him a dose of castor oil, some of which he did not retain. He then slept soundly until 10 o'clock, when, the pain continuing, I was him at 1 o'clock.

He then lay in bed and complained of no pain or sickness. His temperature was normal, his pulse 72. His abdomen was quite flat, no distension or rigidity, no general tenderness, but McBurney's point was distinctly tender on very deep pressure. As he lived 4 miles out in the country, I suggested to his father to bring him up to town, in case an operation might become necessary. He was brought to town in the afternoon.

At 10 p.m. that night his temperature was 100.4°, his pulse 76, and he had less tenderness over the appendix. At 8 a.m. the following morning, after a thoroughly good night's rest, his temperature was 98.8°, his pulse 90, and every trace of pain and tenderness on deep pressure had gone, but there was some rigidity of the right rectus muscle. His facial expression, however, looked as if he was in more trouble than his symptoms indicated. On carefully considering his case and feeling sure from the deep tenderness of the day before that appendicitis was present, and that now that his pulse had risen to 90 while his temperature fell, and that there was an entire absence of pain on deep pressure, I came to the conclusion it was most likely the appendix had become gangrenous and that therefore an immediate operation was indicated.

At 10 a.m. I opened the abdomen by an incision along the outer border of the right rectus muscle, when at once this large appendix was seen, and in drawing it and the intensely inflamed omentum out the appendix was found to be intensely inflamed and to have a large gangrenous patch about its centre; the peritoneal coat had not, however, ruptured. The appendix was then removed in the manner I always adopt—by incision of the peritoneal coat, crushing of muscular and mucous coats, and then tying of the appendix with either cumol gut or celluloid thread, and sinking the base of the appendix with a purse-string suture, and suturing the cut edges of the meso-appendix. On careful inspection of the pelvis and rest of the abdomen, there was not the least soiling of the peritoneal cavity nor was there the least sign of peritonitis. The abdominal incision was closed in four layers.

The little lad bore the operation well, there being no shock. His further history for four days was one of what seemed an uninterrupted convalescence, his pulse and temperature never having risen. His bowels moved freely and he was able to take light food.

On the evening of the fourth day after operation the nurse noticed him getting listless, and he did not seem to take such interest in his surroundings as he did. Quite suddenly he screamed out, as if in terror, and asked where he was. It was almost impossible to allay this feeling of terror. He then got very restless, his pupils became unequal and reacted badly to light, and his eyes had a sort of lateral oscillation, without however recognising any one, and after a few hours he seemed to be quite unconscious. His breath had a sweetened hazy odour, and his urine became scant and high-coloured. His temperature continued normal and his pulse varied from 86 to 114. There were no abdominal symptoms.

Fearing that there might be some septic focus in his abdomen, I reopened the wound at 8.30 a.m. on the morning of the fifth day after the operation, and found the wound in the cæcum and mesentery perfectly healed, and not the least evidence of peritonitis or any intra-abdominal septic focus; the abdomen was thoroughly flushed with hot normal saline solution and a drainage tube placed in Douglas's pouch, nor fear any septic focus may have been concealed, and the abdominal wound reclosed. He spent a very restless day, the temperature remaining normal, but the pulse went to 126. The urine now had a sweet smell and was found to contain a large quantity of acetone.

At 5 p.m. he got general convulsions, and these were frequently repeated until his death in coma at 11.30 p.m., when his temperature was 105° F. and his pulse 126.

His death was clearly due to acute acetonæmia. The treatment I adopted was free purgation, normal saline under breasts, and frequent washings out of the rectum with normal saline solutions.

REMARKS.

This case is, I think, a rare one. It is the only case of gangrenous appendicitis I have seen at such a short time after the onset of symptoms. This appendix was removed fifteen hours after the first rise of temperature and pulse and twenty-nine hours after the initial abdominal pain. The points in the diagnosis that I think are important are the rapid subsidence of pain and tenderness, a slight rise in the pulse rate, while the temperature fell a degree, and the lower right abdominal quadrant of the abdomen was hard and tense, the muscles being somewhat rigid.

The more I see of appendicitis, the more positive I am that it is impossible for us to state what are the pathological conditions present from the symptoms and physical signs. It is therefore, then, I believe the best practice we can adopt, when once a case of appendicitis is diagnosed, and when there is or has been fever, some rise of pulse, pain and tenderness in the region of the appendix, and abdominal rigidity, to operate at once, and explore the condition of the appendix, and remove it. I do not think we should allow any time limit as twelve or twenty-four hours, but that we should operate at once. We should know no day, no night, a few hours' delay makes all the difference as regards success or failure, the pathological processes proceed with such startling rapidity that in a large number of cases delay in operating is fatal. I am well aware that a small percentage of cases get well without operation, but in all probability at some future date, either for recurrence of acute pain, etc., these cases have ultimately to be operated upon, and they may just as well be operated upon at once, and so save the initial great risk of a fatal termination, or a long tedious illness, and convalescence, and then a subsequent interval operation. I believe were this practice generally adopted, of operation, if possible, within the first few hours of the attack, in which time there is practically no more danger from the operation than there is from the interval operation—I believe we would hear much less of those disastrous catastrophes that seem such an opprobrium to surgery. Statistical evidence proves this too, for if we look at the latest statistics, so clearly put forward by Mr. Charles Ballance in the BRITISH MEDICAL JOURNAL for July 15th of the present year, we shall see it abundantly proved that delay and procrastination in operating is the chief cause of death, and if not of death, of producing those severe complications which make the ordinary operation so dangerous when not undertaken for three or four days after the onset of the illness. I plead, therefore, for operation at the earliest possible moment after the onset of symptoms.

As regards the cause of death, acetonæmia in my case, I find on looking up the literature of the subject it is a rare cause. Brewer, as mentioned in Howard Kelly's recent work, has reported a fatal case, following, like my case, an operation for acute gangrenous and perforated appendicitis.[1]

Acetonæmia may be looked upon as a sort of auto-intoxication, characterized by a well-marked sweetish odour of the breath, delirium, and a rapidly-fatal coma. It may be, and most probably is, connected with some septic state of the pancreas. I was unfortunately not able to obtain a necropsy in my case. Acetonæmia was first noted to occur in fatal cases of diabetes, but it is now known to occur in infectious fevers, intestinal fermentations, and in putrefactions.

"It constitutes 'a form of acid intoxication' or 'acidosis,' which results in a marked diminution of the alkalinity of the blood, diminishing its power of absorbing carbon dioxide from the tissues, so that the clinical symptoms are due to a carbonic acid poisoning, as well as to the acetonæmia."[2]

REFERENCES.
[1] *Annals of Surgery*, October, 1902. [2] *The Vermiform Appendix*, Howard Kelly, p. 668.

CYSTIC TUMOUR OF OMENTUM.

By LEONARD A. BIDWELL, F.R.C.S.,
Surgeon, West London Hospital.

I MUST first state that the title of the paper should be a cystic tumour of unknown nature.

Mr. G. F., aged 62 years, had enjoyed good health until December, 1903, when he began to get easily tired, and to lose his appetite. He had always been rather a stout man, but latterly his abdomen had increased in size, and his face, arms, and legs had become quite thin. There had been incontinence of urine for some months, and considerable œdema of legs. When I saw him first (in consultation with Dr. Fletcher Little), on July 28th, 1904, his face was pinched and dusky, the breathing was embarrassed, but the pulse was good; he was sweating profusely. The abdomen was enormously distended, with dullness in both flanks and in the middle line to the umbilicus; there was a well-marked thrill. The bladder was not distended, and nothing was felt by rectal examination. As relief was urgently needed, the abdomen was tapped at once, and 4 gallons of blood-stained fluid were evacuated. When this was done, a hard mass was felt in the umbilical and right hypochondriac regions; this was quite distinct from the liver and was movable; it was about 6 in. in diameter, and appeared to be solid in consistence. The patient was much relieved by the tapping, and the œdema of legs diminished. He was kept in bed for three days, but when he was allowed to get up his pulse became feeble, the face dusky, the legs œdematous, and the fluid collected again quickly. Sir W. Bennett saw him with me on August 1st, and agreed with my diagnosis of malignant disease of the omentum, but he

considered that the general condition was too bad for exploration. The patient was then kept absolutely at rest; his pulse and appetite improved somewhat, but the abdomen filled up quickly, and it was necessary to tap again on August 14th, when 3 gallons were removed: the tapping was repeated on August 29th and on September 8th; on the latter occasion the mass felt after tapping was found to be much larger and gave the impression of being cystic. The abdomen filled up very quickly, and he was tapped again on September 16th, when the abdominal tumour appeared to have diminished in size. The general condition had improved considerably, and I urged him to have an exploratory operation. Mr. Butlin saw him and concurred in my opinion, and on September 23rd the abdomen was opened by an incision in the outer border of the rectus sheath, after a trocar had been inserted below the umbilicus and left in, so as to regulate the rate of emptying of the ascitic fluid. On opening the abdomen a cystic-looking mass was exposed, and this was punctured with a trocar, but only blood escaped, and when the trocar was removed blood spurted out of the puncture; the abdominal incision was enlarged and the tumour brought outside; it was then found that it was free from intestinal adhesions, and that it arose by a distinct broad pedicle from the great omentum. The pedicle was ligatured after transfixion, and the tumour removed.

The after-history of the case was quite satisfactory: there was no fresh collection of ascitic fluid, and the patient returned to his home within one month of the operation. I saw him in June last. He has not had a day's illness since; there is no oedema of legs, the face is no longer thin, and there is no incontinence of urine.

The tumour was found to be cystic, with a large, solid, intracystic growth; the capsule was very thick and composed of plain tissue; the rest of the growth consists of a plain stroma with a number of round cells, a few spindle cells, and spaces containing blood. I have not been able to obtain a definite opinion of the nature of the growth. The tumour and sections are to be seen in the Museum.

REMARKS.

The case is of considerable interest from the clinical point of view, as the general appearance of the patient was highly suggestive of malignant disease, and the mass felt in the abdomen gave support to the suspicion. I believe that tumours arising from the omentum are very rare, and that it is practically impossible to diagnose them without an exploratory laparotomy.

The case illustrates the advantage of an exploratory operation in a case of ascites which was supposed to be due to malignant disease. That ascites often diminishes after laparotomy for malignant disease is in itself an indication for operation, but, as the cause may turn out to be removable, as in this case, a prospect of cure as well as of alleviation may be held out.

ACUTE OSTEOMYELITIS AND PERIOSTITIS OF THE SPINE.

BY A. H. TUBBY, M.S., F.R.C.S.,
Surgeon, Westminster Hospital; and in charge of the Orthopaedic Department, etc.

THESE affections, generally believed to be rare, are of great importance, on account of the serious symptoms to which they give rise, and of much interest because of the difficulties in diagnosis and treatment.

References to the literature of the subject show that the earlier records speak of exceedingly acute cases; but extended experience and a more discriminating diagnosis have verified the existence of less acute and non-suppurative cases, which run a benign course as regards the life of the patient and the integrity and mobility of the spine. Records of cases dealing with this subject are to be gathered from French, German, and English literature. Some of the earliest cases were observed and accounts of them given by English observers, notably by Messrs. Ballance[1] and Clement Lucas,[2] and an excellent article was written by Messrs. Makins and Abbott,[3] carefully summarizing the cases published up to April, 1896, including eight which had come under their personal observation, all of which were acute.

Three degrees of the affection are recognizable:

1. A comparatively mild form, from which the patient usually recovers, in which there is inflammation and thickening of the periosteum, which subsides without apparently causing denudation of the bone, and ultimately leaves the spine in a practically healthy condition.

2. A severe form, involving the periosteum and superficial layers of bone, associated with considerable inflammatory softening, often with considerable deformity, which may or may not go on to suppuration.

3. The intense form, in which the bodies of the vertebrae are the sites of numerous purulent foci, or the neural arches and processes are bared and necrosed. This form usually goes on to suppuration; inflammation of the spinal membranes and medulla is a constant complication, and it is, therefore, exceedingly dangerous to life.

One of my objects in bringing this subject before your notice is to draw your attention to the existence of the less acute varieties. In order to emphasize this point, I append the notes of a case of this description which has come under my notice:

Acute Periostitis of the Cervical Spine: Resolution without Suppuration: Complete Recovery.

Gladys W., aged 4½ years, was brought to me by Dr. Garnham on account of pain in the neck, loss of mobility, and malposition of the head. The history was that four months previously the child had a very severe attack of stomatitis, which was accompanied by much prostration, high fever, and great depression. When the acute symptoms in the mouth were passing off, sudden onset of pain took place in the back of the neck and radiated towards its anterior aspect. The nape of the neck became very oedematous and thickened. This oedema lasted from three to four days, but no fluctuation was ever detected. When the swelling passed away the neck was found to be stiff. At no time were the glands enlarged.

When I saw the child, the first glance gave me the impression that she was suffering from torticollis of that variety which is commonly described as of the rheumatic type. The neck was stiff and rigid, the head was inclined to the right shoulder, with the chin rotated towards the left side. The loss of movement was absolute, and attempts to move the head in any direction gave rise to great pain. I inquired of Dr. Garnham if he had observed at the time of the illness any change in the pupils, or their action, and he told me that no difference had been perceptible. All the cervical vertebrae were fixed and immobile, the normal cervical curve forwards was flattened, and some thickening could be felt about the transverse processes. A diagnosis of an infective periostitis was made, and as there were no signs of suppuration a favourable prognosis was given. The treatment which was carried out was absolute rest in the recumbent position, with a pillow beneath the cervical vertebrae, for three months, and then she was allowed to get up for half the day, wearing a cervical collar.

A year afterwards I saw the child again with Dr. Garnham, and found her well. She had lost all pain and distortion of the neck; she could move the head without discomfort in every direction; the cervical vertebrae were mobile in all directions, and the only sign of the previous trouble was a slight prominence of the fifth cervical vertebral spine.

This case ran a benign course from beginning to end, and was never accompanied by any definite symptoms of involvement of the nerves beyond the pain which was present for a considerable time. I am inclined to suspect that a good many cases which are called rheumatic torticollis, occurring in children after acute illnesses, are of this nature.

As an example of the more severe form, which certainly involves the bone to a varying depth, I quote the following case:

Acute Periostitis and Rapid Softening of Bone Associated with Double Pneumonia and Necrosis of the Alveolar Margins of the Jaws: Recovery.

In 1901 I was asked by Dr. Henry Huxley to see with him a little girl aged 5. Six weeks previously she had been taken ill with an affection of a doubtful nature, and her brother, too, had suffered in the same way. The symptoms were so anomalous that no certain diagnosis could be arrived at. As influenza was rife at that time, the opinion was hazarded that this was the cause. However, double pneumonia occurred, and then acute osteitis and periostitis of the alveolar margins of the upper and lower jaws, particularly well marked in the incisor regions. I may add that sequestra formed, and these I subsequently removed. I regret that no bacteriological observation was made at the time.

Three days previously to my seeing the child with Dr. Huxley, she had complained of pain in the lower part of the back and down the legs, and on looking at the back there was discovered a large prominence, involving the second, third, and fourth lumbar vertebrae. The little child resented any attempts to move her. There were no signs of paralysis. On feeling the prominence the impression which was received was that the affected lumbar vertebrae had sunk bodily backwards, and the spinous and transverse processes were felt to be much thickened. The temperature was not raised, and no evidence of abscess was found at any time.

From the history, the rapid appearance of the prominence, the rigidity of the muscles, and loss of mobility, and the tenderness, it was not difficult to recognize that the case was one of infective periostitis, and the opinion was hazarded that if suppuration did not ensue, the child's recovery would be entirely satisfactory.

The treatment consisted simply in complete recumbency in the supine position, with a convex pillow beneath the lumbar spine, for part of the day, and for the remaining part the position was changed to the prone one, so as to assist in inducing the resumption of the normal lordosis. This treatment was carried out for two months, and then a spinal support fitted.

Eleven months afterwards a letter of inquiry to Dr. Huxley elicited from him the following remarks: "The back has gone on absolutely well, and beyond the fact that the lumbar curve is a little flattened it is

difficult to detect anything abnormal. She is in every respect as healthy a child as one could wish to see."

The points of interest in these cases are the appearance of the spinal mischief after an acute osteo-stomatitis, the sudden and unexpected onset of the spinal symptoms, the rapid appearance of deformity, particularly in the second case, its almost entire disappearance subsequently, and the practically complete restoration of the affected region to its normal functions. The connexion of oral inflammation with septic periostitis of the cervical spine has been dwelt upon by other observers, and Eichel[4] records a case which was preceded by a boil on the lower lip.

I cannot help thinking that some cases of spinal rigidity, occurring in weakly and ill-fed children, are wrongly ascribed to tuberculosis, especially if, as sometimes happens, meningitic symptoms complicate the affection. But if the history were carefully inquired into, and the case thoroughly observed from the first, some will be found to be of septic origin and not tuberculous. So far, I have not come across a *post-mortem* observation made on these milder cases, which do not go on to suppuration. They are distinct varieties, of which, now that attention is drawn to them, no doubt further examples will be forthcoming. And one of my objects in making these remarks is, if possible, to elicit further information and observations on the subject.

With regard to the third variety, or those exceedingly acute, and too often fatal cases, they are rare. In the middle decades of the last century, and in the later ones, a good many cases of acute osteitis of the long bones were either overlooked or were not accurately diagnosed, and it is quite possible that this has occurred in osteo-myelitis of the spine. I venture to suggest that in all cases of children and young adults suffering from septic disorders and exanthemata, a careful watch should always be kept on the spine and frequent examinations made. Further, if the patient die, no *post-mortem* examination can be called complete unless the spine be examined in its whole length in these cases.

Since Messrs. Makins and Abbott wrote their valuable paper a good deal of information has accumulated, and I venture to give you a brief digest of it.

The cause of acute osteo-myelitis is doubtless the deposit in the bone of pus-producing organisms of any kind. In twenty cases alluded to by J. R. Hunt,[5] the staphylococcus pyogenes aureus was found in 15, the staphylococcus pyogenes albus in 1, the streptococcus in 2, staphylococci and streptococci in 1, and the micrococcus tetragenus in 1. Also in Weber's case[6] the staphylococcus was found. Now that attention has been drawn to pneumococcic osteitis, cases will doubtless come to hand in which this organism will be found to be present, either in the articulations of the spine or in the bones.

The exciting causes are local septic disorders, such as boils, inflammation of the gums, osteo-stomatitis, acute nasal and naso-pharyngeal affections, stinking mastoiditis, whitlow, a foul puerperium, or osteo-myelitis elsewhere.

Chipault[7] alludes to pneumococcic and scarlatinal periostitis. In 1895 a case came under my notice of a girl, aged 10 years, the subject of marked deformity of the cervical vertebrae, the head being deviated to the right, and absolutely fixed there. The whole of the cervical vertebrae were immobile, and had been so since an attack of scarlet fever a year previously. A discharging sinus was situated in front of the right sterno-mastoid muscle, into which a probe could be passed in the direction of the upper cervical vertebrae, but no dead bone could be felt at the bottom. There was no severe pain except on attempting to move the head, and the child could walk about without requiring any support. At the time this was regarded as periostitis of septic origin, and, I believe, rightly so.

To speak of primary and secondary acute osteo-myelitis of the spine seems, in the light of the details given in the published cases, rather dubious, unless by secondary is meant vertebral disease secondary to osteo-myelitis of the long bones.

An account of local injury occurs in 6 of the 41 cases referred to by Eichel, but the exact relationship of injury to acute bone inflammation has not yet been traced, although a wide experience of osteo-myelitis occurring in the long bones shows it to be a constantly antecedent condition. In the *Guy's Hospital Reports* of 1889 I showed that if in rabbits a blow be given on the growing line at the lower end of the femur, and a culture of streptococcus be simultaneously injected into the jugular vein, pus is formed in the cancellous tissue there before it is found elsewhere. But how a blow on the skin influences the exact site of onset of the disease is not known, except it may be, as I surmised, that alterations in the secretory activity of the glands permit the development of micrococci in the sweat ducts, whence they are carried to the bone.

Age and Sex.—The disease is most common in children and adolescents, but adults have suffered, and in one case it even came on at the age of 46.[3] All writers are agreed that males are more liable to it than females, and, roughly, the proportion is two to one.

Parts of the Spine affected.—Every portion, with the exception of the coccyx, has suffered, but of the three regions, the lumbar, the dorsal, and the cervical regions, the disease is fairly common in the lumbar, less so in the cervical, and least in the dorsal areas. That is to say, the more mobile parts of the spine suffer more than the less mobile, thus corresponding with the distribution of Pott's disease. In the violently suppurative form one vertebra usually constitutes the focus of the disease, rarely two or more; whereas in the periostitic form, whether denudation of the periosteum with collection of fluid does or does not take place, several vertebrae are affected.

Statistics dealing with the points as to whether the vertebrae, the neural arches, or other parts are inflamed, are of interest because of the meningitic and myelitic complications. Briefly it may be said that these are more likely to ensue when the arches or their processes are involved, and pus is formed. Pus arising from diseased bodies makes its way forwards or laterally, and appears in the neck as retro-pharyngeal or cervical abscess, and it causes psoas, iliac or pelvic abscesses, when the dorsal, posterior mediastinal or lumbar regions are affected. The exposure of the neural arches to direct injury may serve to explain the more frequent occurrence of the disease in these situations in very acute cases.

Symptoms.—These vary, not only according to the degree of the affection, but according to the locality affected. The first two cases I have quoted give a tolerably fair reflex of the signs which are observed in the non-suppurative and periosteal types. There are general symptoms of malaise, with slight fever, local pain and tenderness, stiffness, loss of mobility of the area affected, and that osteophytic proliferation so often observed in subacute spinal inflammation, but rarely seen in the very acute form. No implication of the meninges nor of the cord follows, although reflected pains are present from an extension of pathological processes to the nerve roots, and these cases show a striking power of recovery, as I have already mentioned.

Very different is the clinical picture presented by the violent type of cases. The general symptoms are closely analogous to those of osteo-myelitis in the limbs. The sudden onset, the initial rigor, the early delirium, the signs of general septic intoxication, rapidly deepening in intensity, are all present, and persist until pus is found and evacuated or the patient dies, either from exhaustion, metastatic deposits, or meningitic and myelitic complications.

The local symptoms are excessive tenderness of the affected portion of the spine, agonizing pain on attempting to move the patient, marbling and distension of the superficial veins, and an intense disinclination to be moved from the supine position.

If the neural arches are the sites of inflammation, local swelling, with inflammatory oedema extending over a large area, and later on fluctuation, are in evidence. But when the bodies are affected, on account of their depth from the surface, such localizing signs are not in evidence, and the diagnosis rests on the history of the affection, the nature of the general symptoms, and the exceedingly acute pain and tenderness, which the patient refers to some portion of his back. Later in the course of the disease the discovery of an abscess or the onset of acute nerve symptoms may clear up the diagnosis; and of these it may be said that they are more common when the neural arches are affected, but in rare instances they may be the first symptoms. One case of Morian's,[8] on account of the paralysis of the legs and of the bladder and rectum coming on so rapidly, was diagnosed in the first place as Landry's paralysis, but the discovery of an abscess led to an accurate diagnosis.

In the earlier stages of nerve involvement there are pains in the limbs, hyperaesthesia, and paresis, with increase of reflexes. Later there follow paralysis of motion, sensation, micturition, defaecation, and finally convulsions. The local symptoms necessarily vary with the region. In the cervical portion of the spine, in 7 cases quoted by Hahn,[9] there were present stiffness of the neck, interference with the move-

ments of the cervical spine, and the development of a fluctuating tumour. Irregularity or sluggishness of the pupils is present when the disease is at or near the cervico-dorsal junction.[1]

The difficulty of distinguishing between disease originating in the atlas or odontoid process of the axis and the base of the skull is remarked upon by several authors.[3], [10] But the difference is of little value so long as timely evacuation of pus takes place.

Marked widening of the neck from an inflammatory oedema (Makins and Abbott), severe headache, vertigo, and convulsions are valuable signs in the cervical region.

The diagnosis of disease of the dorsal bodies is very obscure, whereas if the neural arches are inflamed, and more particularly if the spinous processes are the sites of disease, the signs of acute inflammation readily present themselves.

In the lumbar region flatulence and distension of the abdomen[3], [9] are prominent symptoms when the bodies of the vertebrae are inflamed, so that the difficulty may be to differentiate abdominal affections from spinal—a very common source of confusion, and one fruitful of error.

Suppuration occurred in 24 out of 62 cases, and 15 of these presented grave symptoms of purulent invasion of the spinal canal with myelitis.[7]

Diagnosis.—The vital importance of early diagnosis cannot be too fully insisted upon. By early recognition and treatment only is it possible to prevent the spread of inflammation to the meninges, the burrowing of pus, and the onset of secondary metastatic abscesses. While acute osteo-myelitis of the limbs has been a most fruitful source of mistakes in diagnosis and treatment, still more so is this the case with spinal osteo-myelitis, where the possibilities of complications are increased a hundredfold. Time does not permit me to record errors which have been made, but it is well to insist on certain cardinal points—namely: (1) History of sudden onset; (2) the rigidity of the spine coincidently with the onset; (3) the early appearance of nerve symptoms; (4) the rapid development of intense general illness, with signs of a full dose of septic poisoning; (5) complaints of agonizing pain in the back should lead to a frequent examination; (6) careful examination by the Roentgen rays may be of service in localizing an abscess in connexion with the bodies of the vertebrae; and Warren[11] records a case where, by means of the Roentgen rays, an abscess between the bodies of the second and third cervical vertebrae was discovered.

Prognosis.—The prognosis in the periosteal cases is favourable, but the more violent types are very fatal. The mortality of the latter is said by J. R. Hunt to be at least 50 per cent., but evidence shows that it should be placed considerably higher than this, and that about 75 per cent. would be more correct. It should be noted that although the mortality is greater in the earlier records, it diminishes in the later ones, doubtless owing to the wider recognition of the disease and a more perfected diagnosis. In formulating a prognosis, it may be said that the neural-arch cases compel recognition sooner than the body cases, and therefore invite treatment earlier. But, again, it should be remembered that neural-arch cases, if untreated, are more likely to be the cause of involvement of the spinal canal and its contents than are centrum cases.

It is somewhat striking that in the bad types of the disease deformity is seldom observed, certainly not in more than 10 to 20 per cent., probably owing to the fact that there is no time for deformity to appear, as the patient is either well or dead before it can do so. But in the milder forms deformity is a constant sign, often transient, and one from which the patient entirely recovers.

Treatment.—It is not necessary to allude at any length to the best method of treating the periosteal cases. Sufficient rest in the recumbent position, followed by support, will do all that is necessary. In the suppurative cases the pus must be found and let out, and in disease of the bodies of the dorsal vertebrae I venture to throw out the suggestion that Ménard's operation of costo-transversectomy affords undoubtedly the best means of getting at the pus.

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TWO CASES OF OPERATION INVOLVING THE THORACIC DUCT.

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In the first case now recorded the thoracic duct was accidentally torn open during an operation for the removal of some tuberculous glands from the root of the neck in a man aged 54. The wound of the duct was not recognized at the time of operation, but twenty-four hours later there was a copious flow of lymph and chyle from the wound, and the patient lost strength and weight in a remarkable manner. Plugging having proved ineffectual, the torn ends of the duct were exposed and ligatured on the sixth day. No more fluid escaped, and with the reabsorption of chyle the patient rapidly recovered his strength and gained in weight. Two months later, however, he suddenly developed signs of widespread general tuberculosis, and rapidly died of this malady.

In the second case the convexity of the thoracic duct in the root of the neck was caught up in some malignant glands in the posterior triangle, secondary to a cancer of the breast, which had previously been removed. The lumen of the part of the duct involved was entirely obliterated; it was therefore removed with the glands and its free ends were ligatured, without giving rise to any definite symptoms afterwards.

Case I.

A robust drayman of 54, weighing 16 stone, had a solitary tuberculous gland removed from the left side of the neck, because it was breaking down and threatening to point. His wound healed, but two months later it broke down again, and other glands could be felt lower down along the course of the carotid. As they were definitely softening, and the process of infection was rapidly spreading, they were freely removed, and the wound was closed.

After a further interval of two months, the patient again appeared, with a number of glands in the root of the neck rapidly growing and softening, like the ones previously removed. An extensive operation was performed for their removal, and during the course of it some glands were extracted from the lowest part of the posterior triangle, in the region of the thoracic duct. The wound was closed and the patient very rapidly recovered from the effects of the anaesthetic, as he had always done after the two previous operations. Instead of progressing, however, and rapidly recovering his strength, as he had formerly done, he complained of weakness at the end of twenty-four hours, and sank back in bed, apparently very exhausted. It was then noticed that the dressing was soaked with a large quantity of clear yellowish fluid, and on exploration similar fluid was seen to be oozing rapidly from the wound. The wound was opened up and plugged for five days, with a view to checking the discharge. The plugging proved of no avail, however, and from 2 to 3 pints of fluid leaked away every day at times slowly, and at times more rapidly, clear and thin on the whole, but definitely chylous after meals. The fluid coagulated in the wound, coating its surface so as to look like pneumonic lymph on the surface of the lung. The patient lost strength in a remarkable manner and grew visibly thinner, so much so that it was obviously imperative to check any further leakage without delay.

On the sixth day, after a feed of cream three hours previously, the wound was carefully cleaned and explored and the torn duct found. A large area of the convexity of the duct was missing, and the two ends could not be sufficiently approximated to permit of an end-to-end anastomosis. The free ends of the duct were severally ligatured therefore. The end connected with the innominate vein did not leak; the one emerging from the thorax, on the other hand, discharged chyle and lymph freely until the ligature was applied. The ligature on the latter was so placed that the jugular lymphatics still discharged into the ascending trunk of the thoracic duct. Chyle could therefore pass from the duct into the jugular lymphatic vessels, unless prevented by the valves. After ligature no more fluid leaked from the wound, and the reabsorption of the chyle was at once evinced in two ways:

1. The patient at once recovered his strength and spirits and put on weight.

2. The tissues of the head, face, and neck became oedematous on both sides, having a yellow tinge, as though the chyle were passing from the thoracic duct to the right lymphatic trunk, via the lymphatic anastomosis, between the left and right jugular lymphatics.

The patient soon left hospital with the wound healed, and the oedema of the head and neck rapidly vanishing. He improved for a short time, and then other glands formed in the neck, and two and a-half months later he died, having rapidly developed all the signs of general tuberculosis. *Post mortem*, the cervical, mediastinal, and other glands were crammed with miliary tubercles, which were also present in large numbers in the lungs, liver, kidneys, spleen, peritoneum, and pleura.

Case II.

The second case was that of a woman of 62 whose left breast and axillary contents had been removed for cancer two years previously.

She complained of an excessively painful lump in the left posterior triangle which was evidently fixed to deep structures, but which demanded removal owing to the great pain it caused.

The lump consisted of a mass of cancerous glands, involving the thoracic duct and obliterating its lumen. It was removed with adjacent structures, and the free ends of the thoracic duct were ligatured.

There were no immediate or remote symptoms of any kind referable to the duct, and the patient lived two and a half years afterwards, and died of internal recurrences in the lungs.

The second case is merely of interest as an instance of the fact that gradual occlusion of the thoracic duct, even when complete, does not as a rule give rise to any symptoms, the chyle reaching the blood stream by means of anastomoses, particularly with the right lymphatic trunk.

The first case is of interest in several ways.

1. As an example of the extraordinary loss of strength and energy which occurs when the chyle is allowed to leak away owing to a wound of the thoracic duct.

2. As an example of the equally rapid restitution which occurs as soon as the leakage is stopped and the chyle is again absorbed.

3. As an instance of the fact that the chyle may be efficiently absorbed, even when the main thoracic duct is suddenly and completely occluded.

4. As affording some evidence that the chyle under pressure may ascend the left jugular lymphatic trunk, in spite of the valves present, and so by anastomosis reach the right jugular trunk and enter the right innominate vein.

5. The case is a curious example of tubercle beginning and pursuing a rapid course in the glands of an apparently robust adult, in spite of very radical treatment.

6. It is also possible that the attack of general miliary tuberculosis, which proved fatal, may have been due to organisms entering the blood stream from the neck wound, via the torn thoracic duct. Its onset, within two months of the accident, its rapid course, and the fact that the tubercles present were of the miliary type, all bear out this suggestion.

It may be stated, in conclusion, moreover, that the glands removed at the second and third operations were examined microscopically and by means of inoculation to ascertain their true pathology, as a possible diagnosis of actinomycosis had been suggested, owing to certain peculiar features present. Both sets of glands afforded ample evidence of tubercle by both methods of examination, and the tubercles removed *post mortem* similarly afforded conclusive evidence.

From a practical aspect the case is of some importance in view of the difficulty of either performing an end-to-end anastomosis when the thoracic duct is torn, or of grafting the proximal end into a vein, as some have suggested, for it shows that the far simpler operation of ligature does not of necessity lead to any untoward results, as might otherwise be expected.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, ETC.

THE OPENING OF PERITONSILLAR ABSCESS.

MR. T. F. HUGH SMITH'S letter in the BRITISH MEDICAL JOURNAL of June 17th directed my attention to the article by Dr. StClair Thomson on the above subject, which I had overlooked. He mentions three methods as "equally safe," and to these I would suggest, with great diffidence, the addition of a fourth not often employed in emptying abscesses in this situation.

E. E., an epileptic girl, 21 years of age, developed a large peritonsillar abscess after scarlet fever. She opened her mouth wide enough to admit a finger with difficulty. The abscess fluctuated for the first time on May 31st, and Mr. Ritson having given somnoform I opened it by driving a Paget knife through the soft palate into the centre of the swelling. I made a half-inch incision, and the patient slept fairly well that night. That evening I was disappointed to find the wound no longer discharging, the abscess wall again tense, and the patient once more unable to speak or to swallow. Something had to be done at once, so I got together a large glass syringe, a piece of rubber tubing, and a trocar and cannula. I sprayed the soft palate with 10 per cent. of cocaine, and passed the trocar and cannula into the centre of the swelling. The patient held the cannula with her teeth while I withdrew the trocar and slipped on one end of the rubber tubing, the other end being already attached to the nozzle of the syringe. At one stroke I drew off 2 oz. of pus, and the patient experienced instant relief. This tapping was performed on June 1st. There was a very severe epileptic seizure on June 2nd, followed by many slighter attacks. She had not had a fit during her illness of thirty days, but she very quickly made up her average of two per week; otherwise her recovery was uneventful.

This method seems to me to have some advantages. The patient does not need to be moved if very weak, for the abscess can be effectually emptied even in the dorsal decubitus. Little room for working is required, and the mouth is not deluged with pus. The instruments are in every surgery, and are not likely to cause much alarm. If the distance between the soft palate where it is to be punctured and the lower incisors is measured off on the trocar and cannula this method should be quite free from danger.

Points of interest in the case were the return of the epilepsy with the return to a normal state of health, and the complete disappearance of the abscess with simple evacuation.

I made a few films from the contents of the syringe and stained in different ways, finding pus cells and numbers of diplococci. The abscess was so large as to make me think of Pott's disease and stain a streak by the Ziehl-Neelson method with a negative result.

Reading. R. MCCLELLAND.

A CASE OF MALADIE DES TIC CONVULSION.

A MAN, now aged 28, informed me that at the age of 14 he developed chorea, and was treated for it for fully two years. Not deriving any benefit he gave up treatment for some time, and again continued it on and off up to the time of his coming to see me six months ago. Previous to the commencement of the symptoms there were, I understand, no signs or symptoms of any specific disease or nervous trouble, and the family history was a particularly good one.

On watching the patient I noticed that the movements were quite different from an ordinary case of chorea, and came to the conclusion that it was a case of maladie des tic convulsion. The involuntary muscular movements are well marked, affecting chiefly the brachial muscles of the face and arms. The hand is often raised, when the face will be suddenly turned towards it, and the patient will blow at the back of the hand as if he wanted to blow a smut from it, and will at times spit on it in a most convulsive manner. The head will sometimes be suddenly jerked to one side without the hand being raised, when he will not only spit convulsively on the floor or on any one near him, but will often bark like a dog, and will at times repeat the words "blast" or "damn" in quick succession; more often the words are indistinct. The bark is so loud that it will attract people's attention some 15 yards away. The bark will occur sometimes in a room when everything is quiet, and any one who is strange to him is somewhat startled. The latter movements will often occur when he sees any one in the street he knows. When at the table he will beat a tattoo on his plate with his knife or fork or spoon, or whatever he may have in his hand. When rising from a chair he will shuffle his feet before commencing to walk as if he is going to give a step dance.

The lights in the street at night have a great attraction for him; not only do the movements—spitting, barking, etc.—occur, but he will fix his eyes on the light and will walk some distance beyond it, having to turn his head round to keep his eyes fixed on it, and will at times stagger as if he is drunk. Imperative ideas force the patient to execute certain movements—he must satisfy an impulse—feels miserable if he cannot do so.

When the symptoms are severe I have actually noticed people cross the road out of his way, presumably because afraid that he was *non compos mentis*. The movements are always worse when patient is busy, and vice versa. The patient otherwise is in perfect health, and can always attend to his duties, and carries on a very good business.

Treatment for this last six months, as cold sponging, glycerophosphates, phenazonum, nux vomica, bromides, and general hygienic treatment, has been of no avail.

JAMES JOHNSON, L.R.C.P., etc.,
Blackpool. Medical Officer of Health for Blepham and Norbrock.

M. BERTILLON has proposed that in future cheques should be signed, not with the pen, but with the thumb. He considers that the thumb mark would be an infallible mark of identity, and that bankers who adopted this method would be saved from all chance of forgery.

REVIEWS.

TEXTBOOKS OF MEDICINE.

OWING to the growing bulk of the subject, it is becoming year by year more difficult to produce a satisfactory textbook of medicine which shall be at once comprehensive enough to do justice to the claims of new matter, and shall not exceed the limit of size which not only the publisher, but the reader, insists upon. The first volume of Professor KLEMPERER'S textbook of medicine[1] deals only with diseases of the digestive system, including the liver and spleen, the urinary system, and the male sexual apparatus, yet it occupies more than 500 pages; it seems probable, therefore, that the completed work will form a series of volumes which, however valuable as a book of reference, will be more than the most industrious student can be expected to digest. So far as we have read the accounts given of the various diseases, they are clear, but not marked by any special originality. A good example of the author's rational method of exposition is his account of the etiology of gastric ulcer. After stating that it is known that the gastric juice will not digest the living mucous membrane, he postulates as the primary cause of the ulcer the death of a portion of the membrane from a contusion of the abdominal wall, embolism, or wounds or burns of the mucous membrane itself, such as might be caused by bones or other hard substances or by hot food too quickly swallowed; in healthy animals, however, such ulcers heal readily enough, while it is the distinguishing characteristic of gastric ulcer in man that it does not heal, but tends to grow ever wider and deeper. Such breaches of surface he believes in the ordinary course often heal, and when they do not, it is probably because there is some other factor present in the shape of anaemia or tuberculosis or other depreciation of the general health or hyperacidity of the gastric juice, which last must favour the process of auto-digestion. He seems to be of opinion that cases of ulcer are wrongly diagnosed as neurasthenia, but in this country, whatever may be the case in Germany, the exact converse is the common mistake. For the treatment of ulcer he recommends rectal feeding, but says that it should not be maintained for more than ten days, even in the case of strong men; he uses the colossal doses of bismuth favoured in France, 150 to 225 grains daily, given suspended in water the first thing in the morning on ten successive days; he also speaks favourably of olive oil, but considers silver nitrate irrational in pill form, although it may be useful in a weak 1 per cent. solution, of which a tablespoonful may be given for a dose. The sulphates of soda and magnesia he employs only as aperients. He speaks very highly of thiosinamine in perigastric adhesions, pyloric stricture, hour-glass stomach, and other conditions in which there is new formation of connective tissue. He gives it hypodermically in a 10 per cent. solution, with 20 parts of glycerine and 70 of water, and speaks of the results as "very striking!" He directs the stomach to be washed at night instead of in the morning, as so many authors mistakenly recommend, leaving the stale and over-acid contents in contact with the stomach wall throughout the night. He is also an advocate of early tapping in cirrhosis of the liver, rightly contending that if it is to be useful it must be done before the abdominal walls have got overstretched. We can speak very highly of this book as a sound source of information, and shall look for the succeeding volumes with interest.

The American edition of Dr. EICHHORST'S *Handbook of Medicine*[2] was reviewed in January, 1902; the sixth German edition has now appeared, and we welcome the opportunity of warmly recommending this advanced textbook as one of the most practical, and at the same time most scientific works of its kind. To know that a textbook of medicine has reached its sixth edition arouses misgivings lest we should encounter antiquated notions which, however representative of the state of knowledge twenty years ago, are no longer acceptable in the light of modern progress. In the present volume this tendency may be detected, but, on the whole, Professor Eichhorst has performed his task admirably. The purely historical treatment of the various subjects is not attempted; only those facts are retained which are in complete harmony with present-day developments; indeed, in this respect the volume is invaluable, while it contains also admirable clinical accounts and elaborate descriptions of modes of treatment. It deals with diseases of the circulatory and respiratory systems. Well established and common features of diseases are printed in large type, and all that is most modern in the pathogenesis and treatment of disease is well described; the general plan is much the same as that of most English textbooks. With regard to unusual forms of disease, we do not hesitate to say that even the specialist will find very adequate references in the compressed sentences printed in small type; in many cases, the author who has made special investigations is quoted, though the full reference is wisely avoided. The present edition will maintain the high place that former editions have already won; it shows once more that it is still possible for one writer to publish a complete survey of the whole of medicine and if the succeeding volumes are as accurate and as authoritative as the present we are sure that our appreciation of this edition will not be misplaced. Professor Eichhorst is to be congratulated on his whole-hearted zeal and unflagging patience which for so many years has enabled him to keep abreast of medical advances and to publish so useful a treatise.

The first volume of the textbook of clinical methods of examination[3] by Dr. EULENBURG and others was reviewed about a year ago. A perusal of the second volume confirms the impression derived from the first—that this publication will serve as an admirable survey of the whole field of clinical investigation. The three distinguished writers who have edited the work have sought the aid of many well-known workers, who have by their combined efforts succeeded in placing before the reader a kind of encyclopaedia of methods of clinical investigation. As the title implies, these volumes are concerned chiefly with the actual means of diagnosis and with the deductions to be drawn from them: etiology and treatment are not dealt with at all. It would be impossible to exact from such eminent contributors a perfectly uniform method of dealing with the special subjects allotted to each, and here, as in the first volume, we find a certain amount of repetition: Professor Moritz, in the section dealing generally with the methods of clinical examination, traverses ground which subsequent writers must again cover in order to give their special ideas prominence; facts mentioned by Professor Eulenburg in the exhaustive section on the examination of the nervous system are again referred to by Dr. Sommer in that dealing with examination of cases suffering from mental disease. Such defects are inevitable, but fortunately do not militate against the usefulness of the volume, for it would rarely be used as a textbook, but rather as a reference book. The busy practitioner will find in it an admirable summary of the advances in clinical investigation and an impartial estimate of the value of each special method. The bewilderment as to Babinski's observations on the response to plantar irritation is shown to have much foundation, for experts are unable to agree that extensor response is indicative of disease in adults because it is so often found in health. Professor Weintraud's sections dealing with cardiac and pulmonary disease will prove a vast store of information, but the former is weighted too heavily, from the general practitioner's point of view, with observations on sphygmometry, etc. Dr. A. Buschke is responsible for two well-written sections on diseases of the skin and of the lower urinary tract. He considers that Caspar's instrument for drawing off urine from the ureters separately is more useful than that designed by Luys. Dr. Grawitz gives a well-balanced account of blood diseases. He agrees with Monti and Berggrün that "anaemia infantum pseudoleukaemica" is really a condition of severe anaemia with leucocytosis, and not a special disease. The section on the examination of the eye is by Professor Axenfeldt; that on diseases of the digestive tract by Professor Gerhardt; that on the kidney and renal pelvis by Professor Strauss; on the female genitalia by Professor Freund; the ear, nose, mouth, larynx, joints, etc., by Professors Hinsberg, W. Kümmel, A. Henle, and Dr. Georg Avellis. The names of these workers are sufficient guarantee that the sections confided to them by the editors will be authoritative. It must suffice for us to say that we find such anticipations have been thoroughly realized. These two

[1] *Lehrbuch der Inneren Medizin* [A Textbook of Medicine]. Von Dr. med. Georg Klemperer, Universitaets-Professor in Berlin. Erster Band. Berlin: A. Hirschwald. 1905. (Demy 8vo, pp. 582. M. 15.)

[2] *Handbuch der speziellen Pathologie und Therapie innerer Krankheiten* [A Handbook of Medicine]. Von Dr. H. Eichhorst. Sixth edition. Vol. i. Berlin and Vienna: Urban and Schwarzenberg. 1904. (Demy 8vo, pp. 868; 193 illustrations. M. 15.)

[3] *Lehrbuch der klinischen [illegible] auf die specielle aerztliche Diagnose* [A Textbook of Clinical Methods of Examination and their Application to Special Diagnosis]. Herausgegeben von Professor Dr. A. Eulenburg, Professor Dr. Kollo, und Professor Dr. W. Weintraud. Vol. ii. Berlin and Vienna: Urban and Schwarzenberg. 1905. (Demy 8vo, pp. 1010, 309 illustrations. M. [illegible].)

volumes will serve as an admirable reference book for all clinical workers. The information is very complete, and the verdicts passed upon the newer methods sympathetic and fair.

DIAGNOSIS OF GASTRO-INTESTINAL DISEASES.

In his manual of diseases of the digestive tract[1] Dr. PAUL COHNHEIM has attempted with considerable success to give a practical and comprehensive account of the results of the recent study of his subject by the Berlin school, which has done so much for the advancement of this department of medicine. Nothing could be better than his description of the method of examination, including the interrogation of the patient, the latter being of the greatest value, when properly managed, in guiding the physician to a correct provisional diagnosis which his subsequent examination should confirm. The duration of the illness, the presence of pain, its constancy or intermittence, whether real pain or only a sense of weight, its relation to eating, the occurrence of vomiting, the state of the bowels, emaciation, loss of appetite, hunger, thirst, sleeplessness, and so on, should be inquired into before the examination is made. Dr. Cohnheim says that in Berlin two types of patients are recognized, one with a broad thorax and wide angle at the costal margin; the other with a narrow thorax, and an acute angle between the borders of the costal cartilages; the first is normal, but the second is called the *habitus enteroptoticus*, and is predisposed to functional diseases of the stomach, as well as to phthisis and nervous affections. Such patients are asthenic, and the great curvature of the stomach is never more than 1 or 2 fingerbreadths above the navel, and may be 4 fingerbreadths below without there being any dilatation. For recognizing the position of the lower border of the stomach he prefers Obrastzow's method of percutory palpation. The patient drinks from half a pint to a pint of water, and lies on his back with the surface of the abdomen exposed; the physician palpates with the tips of his fingers, beginning near the costal margin and proceeding downwards, feeling for the water, until he has reached the lowest limit. Of the three functions of the stomach—secretion, absorption, and motility—the last, he says, is the most important, and the true test of this is by the examination of the stomach a definite time after a meal. He fixes this at seven hours, but allows also that twelve hours may be required for graver degrees of the affection. We may say that, in our experience, if the stomach is quite empty in twelve hours the amount of obstruction is not serious, but a shorter period is needed to exclude minor degrees, which may not, however, have any real significance. We read with interest on page 33 that "for therapeutic purposes the stomach tube is nowadays seldom used; it is almost exclusively employed for washing out the stomach in cases of pyloric stenosis." As these cases ought to be treated by gastro-enterostomy the stomach tube is practically no longer needed as a means of treatment. This marks a great change of opinion in Germany, where a few years ago this instrument was the panacea for stomach ailments and grossly abused. We have nothing but praise for the diagnostic portion of this book, which abounds in evidence of sound clinical observation; but when we come to treatment we feel no longer able to accept Dr. Cohnheim as a satisfactory guide. For example, a patient suffering from acute catarrh of the stomach is treated with tincture of belladonna, spirits of peppermint, and tincture of valerian, while for diet during the first two days he gets peppermint tea—whatever that may be—black tea with cognac(!), and oatmeal gruel. This kind of thing may suit German patients but does not prove satisfactory here. Neither his drugs nor his diet seem so rational and appropriate as those recommended in English and French books. In the matter of diet the Germans seem incorrigible; a few years ago an English schoolgirl was taken ill with influenza in a Continental city, and was attended by a German doctor; in due time she asked if she might have a little meat of some kind, and was promptly ordered roast [illegible]

MUCO-MEMBRANOUS ENTERITIS.

Dr. A. [illegible] has written a work on muco-membranous enteritis[2] containing a great amount of information on the [illegible] Treatment of Muco-membranous Enteritis. Par le Dr. A. [illegible] J. B. Baillière et Fils.

pathology, etiology, and treatment of the condition. He distinguishes a pure intestinal neurosis which he calls "entéronévrose muco-membraneuse" from inflammatory disease, and advises treatment for the disordered nervous system in the former class of cases (Weir Mitchell's methods or those of Dubois of Berne). The real muco-membranous enteritis is, according to Combe, an intestinal infection occurring in arthritic subjects, and the nervous symptoms accompanying it are secondary to, not the cause of, the intestinal disease. "The nerves play a large part in regard to the complications of muco-membranous enteritis, but they have nothing to do with the causation of the disease." The neurasthenic symptoms may be diminished or even got rid of by proper treatment of the intestinal affection. In certain cases attacks of appendicitis may be regarded as exacerbations of chronic muco-membranous enteritis, and in such cases the author points out that ablation of the appendix, though it may be required, cannot be expected by itself to cure the patient of his colitis. In regard to the treatment of muco-membranous enteritis, one of the chief points to be aimed at is, by the arrangement of diet, etc., to diminish putrefactive processes in the large intestine. Great value in this respect is attached to milk and farinaceous food, the microbes of the colon being, of course, affected by the alterations of the nutritive media on which they live. In cases complicated by constipation Combe strongly recommends the use of oil enemata injected carefully, so as not to provoke increased spasm. Amongst the various points as to diagnosis and prognosis raised by the author is the great importance of distinguishing cases of muco-membranous enteritis secondary to a new growth in the bowel. The author has evidently thought well over his cases, and his book should be widely read, as it is full of valuable information and suggestive remarks as to the nature and treatment of the disease.

THE CLINICAL ANALYSIS OF FAECES.

THE account which Dr. RENÉ GAULTIER has published of recent studies of the chemistry of faeces[3] may be usefully compared with that of Baron Oefele, whose book was reviewed in January (p. 23). Contrary to the generally-received opinion, Oefele holds that the healthy faeces are derived not from the food, which has little influence on their composition, but from the secretions modified by the action of the bowel organisms. Healthy average faeces are said to be alkaline to litmus paper, to contain ammonia and urobilin, but no bilirubin or native bile pigment. As meconium does contain the latter, but no microbes, he suggests that the disappearance of the bile pigment in adult life is due to the presence of these organisms. He believes that the presence of bile in the stools after a dose of calomel is the effect of the inhibiting action of this drug on the intestinal microbes. Another paradox of his is not that constipation favours absorption, or that constipated faeces are poor in bacteria, which is true, but that there is in persons so affected a reduction of intestinal putrefactions and fermentations, and that "the great majority do not suffer from headaches, languor, irritability, or neurasthenic manifestations." Gaultier, on the other hand, finds that the faeces are generally neutral, often acid but rarely alkaline, and that they vary greatly with the composition of the food. He attaches importance to the use of test meals of known composition for the study of the bowel functions—an absolute meat diet giving alkaline stools, while an exclusive or the abundant regimen of hydrocarbons or fats determines an acid reaction. The reaction may also be modified by alterations in the mobility of the bowel, its glandular secretions and its absorption. Acid diarrhoea he attributes to gastric hyperchlorhydria associated with insufficient secretion of bile and pancreatic juice. Both authors attach a high value to the analysis of the faeces for fats. Oefele quotes a case of Ebstein's, a diabetic patient fed on fat as a substitute for carbohydrates, whose faeces contained from 25 to 45 per cent. of neutral fat, the result of the failure of the pancreatic secretion. This discovery led to the substitution of split fat in the form of cod-liver oil. Gaultier has chiefly studied the faeces in diseases of the liver with defective secretion of bile, and, to a less extent, in pancreatic disease. He finds that for this purpose a test meal containing a known quantity of fat is essential for accurate results. Where there is an undue amount of fat in the faeces we may infer defective absorption if the fat has been duly split up; where the bile is defective the split fat is hardly one-third of the whole, while

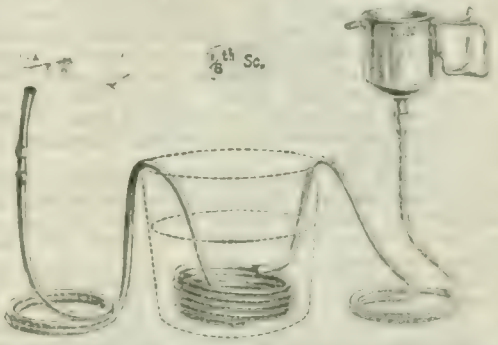
[1] *Essai de coprologie clinique: De l'exploration fonctionnelle de l'intestin par l'analyse des fèces.* Par René Gaultier. Paris: J. B. Baillière et Fils. [illegible] (Demy 8vo, [illegible] Fr.)

if the pancreatic juice fails, the quantity of split fat is very low indeed, so that when both biliary and pancreatic secretions are absent the utilization of fat falls almost to zero. He objects to the old words "diarrhœa" and "constipation," and even to our conception of these; the former being only applicable to those cases in which, after a test meal, it is found that the faeces appear in a time shorter than habitual, and contain a smaller proportion of dry substance; and, conversely, constipation should only express that the time is too long and the proportion of dry matter too great. Undoubtedly, great credit should be given to those who undertake these laborious researches in a neglected department of clinical study. The establishment of institutions for clinical research has greatly aided practitioners in obtaining help in the more tedious and complicated investigations called for by modern methods of diagnosis, and there seems no reason why the analysis of faeces should not become more general. In relation to fat digestion especially, the information to be derived from it is of practical value in the diagnosis and treatment of disease.

In one of the series of handbooks published by the firm of J. B. Baillière et Fils, under the collective title of *Les Actualités Médicales*,[1] Dr. René Gaultier describes briefly the methods employed in the wards of the Paris hospitals under such masters of clinical method as Professors Dieulafoy and Robin, Drs. Parmentier and Le Noir. All the methods are, as Professor Robin says, not always available in practice, but are useful because they serve to give precision to the value of old symptoms while extending our appreciation of their significance. The procedures followed are clearly described and are generally well known, but too much stress seems to be laid upon the importance of quantitative chemical analyses and too little on simpler means, such as the examination of the state of the fasting stomach. The presence of too much or too little hydrochloric acid in the product of a single test meal is not a fact upon which we can rely with certainty, and even if established by repeated examinations may afford little help in the diagnosis and treatment of a given case. Influenced by Professor Robin's teaching, M. Gaultier exaggerates the importance of the chemical functions of the stomach, and tends to lose sight of the more serious factor in the production of symptoms, its motor power and the free exit of its contents. It is well known that diminished secretion of gastric juice may exist without giving rise to any symptoms at all, while excessive secretion causing pain and pyrosis is rare in the absence of structural changes, such as chronic gastritis, pyloric stenosis, and ulcer. The marvellous results of the operation of gastro-enterostomy prove that once a free exit has been provided for the stomach contents, the whole of the symptoms disappear in spite of the persistence of disordered chemistry. The section devoted to M. Gaultier's special subject, the examination of the faeces, is of exceptional interest and value. It describes in detail the various procedures he recommends, and the text is illustrated by several useful figures of the apparatus he employs. Any one desiring to follow this line of research will find this an easy guide suitable for the use of a beginner.

MEDICAL AND SURGICAL APPLIANCES.

A Portable Cooler of Boiling Water.—Dr. Howard B. Gladstone, Public Vaccinator for Sydenham, etc., writes: It is a matter of common inconvenience that when plain sterilized water, without antiseptics, is wanted in a hurry much time is wasted while the boiling water cools down to a temperature at which it is fit for use. There is risk of contamination if the water is poured from vessel to vessel; whilst if the cooling is attempted by adding cold unboiled water, the resulting liquid is not wholly sterile. I have designed the little apparatus, made by Messrs. Down Brothers, as a means of reducing the temperature of boiling water by 100° F. in a few minutes. It should be of value in cases of *post-partum* haemorrhage to prepare, without delay, a hot douche which can be relied upon as sterile. To prepare a saline fluid for intravenous injection, the necessary number of tabloids of sodium chloride (supplied in the case) are to be added to a kettleful of boiling water before it is cooled down. Again, in operations where aseptic lotions are to be preferred, the apparatus will be useful. It is very portable and can easily be carried by a surgeon to an operation in a private house, and will enable him to work there with aseptic lotions. The apparatus consists of a coil of flexible metal tubing connected at one end with a rubber tube and metal funnel. Into this the boiling water is poured, suitable folding handles enabling it to be held comfortably. At the other end a rubber tube is attached to carry off the cool fluid to douches or other receptacles. A small thermometer is included in the case. When the coil is immersed in a vessel of cold water, with a stream running into it from the



tap, a quart of boiling water is reduced to 110° F. in three minutes. If the coil is immersed in a pail of unchanged water the cooling reduces the temperature to about 120° or 130° F. The contents of the pail must be changed after a quart has run through, as it is necessary that the surrounding fluid should exceed in volume twice that of the fluid passed through the coil. The whole apparatus can be sterilized by boiling. It is packed in a small metal case, which can easily be carried in an instrument bag.

[1] *Technique de l'Exploration au Tube Digestif.* Par le Dr. René Gaultier. Paris: J. B. Baillière et Fils. 1905. (Crown 8vo pp. 96. Fr. 1·50.)

THE DIET OF THE PRECIBICULTURISTS.

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VI.

The Bushmen.

We now come to the precibicultural peoples of Africa. They are to be met with only among the Pigmy tribes. The bushmen are a dwarf, moderately prognathic, negroid race, with coppery red skin and hair arranged in tufts on the scalp. Their cranial capacity is about 1,250 c.cm. as against the European 1,500 c.cm. Judged by the European standard they are therefore microcephalic, and according to my system of classification they should be referred to the 12 5 grade of evolution; though, if due allowance be made for their small stature, we ought probably to place them at a higher grade than this. Morally they are greatly superior to their cruel Bantu oppressors, and they are bright and intelligent, possessing a rich oral folk-lore, and in their well known rock paintings displaying an artistic talent of no mean order.

The Bushmen are a primitive nomad people, living by the hunt and on the uncultivated products of the soil. They live in caves, or rock shelters, or in holes dug out in the sand; or again, in veritable nests made in the Bush, whence their name of Bosjemans, or Bushmen, given them by the Boers. More rarely, when from the abundance of game they make a lengthy stay in one district, they build temporary huts consisting of poles covered with branches, rushes, or skins. The latter constitute their only form of garment. For carrying water they employ an ostrich egg covered with netting. Their chief weapons are the spear, which is tipped with bone or flint, and the bow and arrow, the latter being similarly armed. For digging they employ a pointed stick weighted at the top by being thrust through a perforated stone.

Of late years these people have been hunted down by neighbouring tribes and gradually driven into the Kalahari Desert, north of the Orange River, a region which largely consists of "bush"; and though scattered in isolated groups over a large portion of South Africa, it is only here that they can be seen in anything like their original state. They will probably ere long be extinct.

Animal Food.

Animal food enters largely into the dietary of the Bushmen; they appear, indeed, to depend more on it than on vegetable food, and are, therefore, "obliged to know all about the habits and instincts" of animals. The following are among the varieties of animal food they consume: The antelope, zebra, quagga, hyaena, lion, hippopotamus (the liquid fat of

which they drink with much relish), various kinds of small game (for example, hedgehogs), the ostrich and other birds, birds' eggs, fish (fresh-water presumably), lizards, frogs, snakes (after the removal of the venom-bag), locusts, insects, white ants, worms, and grubs. The domesticated dog is occasionally eaten.

Methods of Procuring Animal Food.—The spear and the bow and arrow are employed in the hunt, the arrow point being frequently poisoned (for example, with snake venom mixed with the juice of certain deadly Euphorbiae, which is said to kill even the larger game in a few hours). In stalking the ostrich the hunter dons ostrich feathers and paints his legs in imitation of that bird. They watch the sky for carrion birds, and in this way can find the spot where a lion or other carnivorous animal is devouring its prey, which they are then able to secure.

In their search for game the Bushmen are continually wandering about, and are compelled to live in small parties, so as not to scare away the game; they are, in fact, nomad hunters, and follow large herds of game just as other carnivorous animals do.

Methods of Preparing Animal Food.—Animal food is sometimes eaten raw, and is at best but slightly and hastily cooked. Farini (1886), who journeyed through the Kalahari Desert, saw some Bushmen devouring the raw offal of a sheep: on another occasion he witnessed one of them on his knees licking up the marrow which fell from some bones that were being broken by his companion. The food is cooked either by being put on the fire, or by means of underground ovens.

All kinds of putrid meat are eaten, apparently with impunity. The locust is highly esteemed; the bodies, divested of wings and legs, are mixed with grease, or with the warm blood of the quagga or hyaena, or, again, they are dried in the sun, ground between two stones, and after being mixed with hay baked over a fire.

When their supply of food runs short they will steep an old dried gnu-skin in water and afterwards roast it over a fire, and they allay the pangs of hunger by gnawing a piece of it till their very jaws ache; and we are told that in the last resort they have to be content with tightening the waist-band!

Vegetable Food.

According to Featherman, the Bushmen have a large variety of vegetable foods at their disposal, but I have been unable to obtain as detailed an account of them as in the case of the Australians and Californians.

Roots.—Farini found many different kinds of edible roots in the Kalahari Desert. One of them is "as long as a man's arm and much thicker, full of strong fibres which would make a good rope, and between the fibres a kind of starchy substance, which when cooked tasted very much like arrow-root. When roasted it was not a bad substitute for a potato." On the other hand, Barrow says: "The bulbs of the iris and a few gramiverous roots of a bitter and pungent taste are all the vegetable kingdom affords him. By the search of these the whole surface of the plain near the horde was scratched." The roots are grubbed up by means of a pointed, stone-weighted stick, and, as usual, all the gathering of the vegetable food is done by the women.

Luscious Fruits.—A wild water melon is a favourite food of the Bushmen, who in seasons of plenty grow fat on the oily seeds, scarcely taking the trouble to hunt then. This melon yields two crops annually. They also fatten on the fruit of the giant cream of tartar tree, which they gather in large quantities, and on the anona, which Chapman pronounced to be "the most luscious" fruit he had ever tasted.

Other vegetable foods are: The core of aloes stems, wild garlic, and a brownish-red berry the size of a marble, called "wait a bit"; it is bitter and astringent, and apparently too indigestible for the white man. Honey is largely consumed, a nest when found being regarded as the property of the finder. Also a gum is collected and chewed.

Method of Preparing Vegetable Food.—I have not found any detailed description of the way the Bushmen prepare their vegetable food, but the evidence goes to show that their methods are similar to those adopted by the Californians and Australians. The pulpy acid substance of the cream of tartar tree is converted by cooking into a sort of porridge. They remove the bitterness of the water melon by cooking it in the ashes of a camel oven; and inasmuch as many of the roots they eat are in the raw state bitter and acrid, we may assume that they understand how to remove objectionable ingredients. The only way they have of cooking their water melons is of interest as being of a more primitive kind than that employed for "stone steaming." It consists of a hole dug in the sand under a fire, into this hole the food is placed, and is thus covered with hot ashes.

Quantity of Food.—The Bushmen are capable of consuming enormous quantities of animal food. A. H. Keane mentions an instance of five Bushmen devouring a whole zebra in a couple of hours, and Farini relates how a couple of them consumed an entire hyaena, never ceasing until "they had placed themselves outside the entire carcass." It is not, therefore, surprising that they have, as Herbert Spencer observes, a remarkably large alimentary system, and that they can for days together endure fatigue without tasting food. They are said often to go four or five days without eating. Their ability to do this Hillier associates with the abundant deposit of fat which they often possess—a feature they share with the camel, dromedary and South African sheep, and evidently adapted to meet the exigencies of desert life.

Drink.—The only artificial drink among them of which I have any account is the following: "Having cut the throat of the sheep, they opened the belly to let the blood run among the entrails; then cutting these with a knife, and passing in a quantity of water, they stirred up all together, and drank the nauseous mixture with an appetite which sufficiently showed it to be suited to their taste." (Barrow.) They also drink the fat of the hippopotamus with much relish. The Bushmen appear to use a primitive filter. Featherman describes how the women come to the brink of a stagnant pool and suck up the water through a reed stuck into a perforated ostrich egg tightly packed with grass. The water thus filtered being transferred to gourds (*sic*), and preserved underground for future use. [A second account I have read of this process makes me doubt whether it is a genuine instance of filtering.]

Children are nursed for a long time, but are said from the very first days of life to be fed upon chewed roots, meat and other hard foods.

The Katten (Vaalpens).

An even more primitive race than the lowest Bushmen are the Vaalpens, who are by some supposed to be a cross between the former and other African Nigritoes. They are said to average 4 ft. in height, and their complexion is nearly pitch black. They still survive, in some regions north of the Transvaal, in small groups of thirty or forty, under a patriarch. They dwell in holes, into and out of which they crawl "like burrowing animals," and it is the dirty appearance they thus acquire which has led the Boers to call them Vaalpens. They are a feeble, harmless people—certainly one of the most degraded in the world, occupying a lower position even than the Fuegians. As to their diet, they are the "dogs," or "carrion birds," of the surrounding Bantu peoples, and we read that in return for menial services rendered to the Boers they are thankful for the offal of the game they have helped to skin. The only other fact I have been able to gather concerning their dietary is that "their meals are often of the old and infirm persons of the family circle."

The Pigmies of the Congo Forest.

I have not been able to obtain any detailed information concerning the diet of the remaining pigmy tribes of Africa. The following notes refer to the diet of the Congo pigmies.

Animal Food.—Beasts, birds, and reptiles, white ants, bee grubs, the larvae of certain burrowing beetles, other insects. They are not cannibals. Meat is cooked in ashes. This is said to be the only native method of cooking.

The only domesticated animal is a prick-eared dog.

Vegetable Food.—Many kinds of roots, wild beans, fruits, mushrooms. According to Sir Harry Johnston, they eat their vegetable food raw, and if such is the case, it is a very interesting fact. He, however, states that when in contact with friendly agricultural negroes they borrow earthenware pots from the latter, and boil leaves, roots and beans over a fire. Wild honey is obtained in the forest.

The Burgandae.

These people consist of highly prognathic dwarf pariah tribes found in the forest regions and borderland of the Uganda Protectorate. They subsist on such animals as they can shoot with arrows or trap in the forest, also upon bee grubs and wild honey. They are said to eat their animal food raw.

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THE CAUSE OF RETURN CASES OF INFECTIOUS DISEASE.

REPORT TO THE METROPOLITAN ASYLUMS BOARD.

THE Metropolitan Asylums Board has issued the report on "return cases" of scarlet fever and diphtheria, by Dr. A. G. R. Cameron, who was appointed to investigate this subject from July 1st, 1901, to July 31st, 1902. The main object of the work has been to ascertain the conditions under which return cases arise, and to discover, if possible, whether the incidence of those cases bears any relation to their period of detention in hospital. The total number of inquiries made during the thirteen months amounted to nearly 900, about 800 being in connexion with return cases of either scarlet fever or diphtheria. The report, which extends to some 100 folio pages, contains a large mass of statistics; it is divided into two parts, the former dealing with scarlet fever and the latter with diphtheria. Dr. Cameron inquired into 688 alleged "infecting cases" of scarlet fever, or 4.1 per cent. of the total number of patients discharged from the Board's hospitals during the period, and found that 46 5 per cent. were, in his view, the cause of return cases. These return cases occurred in all months of the year, but especially from November to April; no close correspondence was found between high infectivity-rates and a short average period of detention in hospital. When the largest number of return cases occurred the infecting cases suffered from mucous discharges after leaving hospital more frequently than during the remaining months. It appears that between the ages of 4 and 10 years patients carry home infection more frequently than at any other age-period, and that return cases contracted in this way have a higher mortality than ordinary cases. Dr. Cameron attributes the infection of return cases to complications, such as nasal discharge, in the patient rather than to failure of disinfection in the home or length or shortness of detention in hospital, and he believes that such complications lead to a recrudescence of infection, though nasal and other discharges may not necessarily be infectious *per se*. He reports that in the majority of instances return cases are due to a delay in the process of elimination of infection in the infecting case. He concludes, therefore, that return cases are due to premature discharge, even though the infecting case may have been detained longer than usual. Though the facts prove that the discharge was premature, yet, as a rule, this could not be foreseen. It is recommended that for patients, particularly those predisposed to mucous discharges, the usual warm baths should not be given immediately before discharge but on the previous evening. Finally he concludes that it is impossible under the present conditions of hospital treatment to avoid the occurrence of return cases, but with more extended means of isolation, combined with asepsis, a reduction in their number would result and the number of complications and superadded diseases might be considerably lessened.

Much the same general conclusions are held by Dr. Cameron to be true in respect of diphtheria. He investigated 87 infecting cases of diphtheria resulting in return cases of the same disease and 55 of scarlet fever resulting in return cases of diphtheria. In 19 at least of the latter, and possibly 37, he considers the alleged infection was the true cause, and of the total 142 infecting cases 30 per cent appeared to be the cause of the return cases, and these occurred mostly in the winter months. From these figures it is evident that return cases are less common after diphtheria than after scarlet fever, and that a larger proportion of alleged cases are doubtful or proved to be coincidences. A larger proportion of diphtheria return cases are, he considers, not preventable as no abnormal condition is detectable apart from frequent bacteriological examination of patients who may be acting as "carriers."

The value of the report is considerably enhanced by an appendix of observations on the report by the medical superintendents of the Board's Fever Hospitals. In their statement the superintendents make a number of minor criticisms of some of Dr. Cameron's statistics and conclusions, but with many others they find themselves in agreement. They conclude that patients with discharging or inflamed noses are more likely than any other class to cause infection, and that many such cases occur for the first time after leaving hospital, and therefore cannot be foreseen. They think that late desquamation is not itself evidence of infectivity, and that sometimes scarlet-fever infection is carried by persons free from the disease and its sequelae. They consider that some of the recommendations of the report should be tried experimentally, but with regard to many of the points raised they desire further investigation and more evidence. An interesting short appendix on mixed and cross infection is added, and the superintendents make various suggestions for the better management of convalescents, the establishment of discharge wards, more adequate preparation of patients for discharge, and for the treatment of cases in one hospital as a trial on the separate partition system, in order to obtain complete isolation during the whole period of detention. They also consider that inquiry into the subject of return cases should be continued on lines to be suggested by them. The whole report is a valuable contribution to the question of hospital isolation which is now attracting much attention, and we trust that the Board will act upon the recommendations made.

LIVERPOOL SMALL-POX AND SMALL-POX HOSPITALS.

A SYNOPSIS of part of a report by Dr. Reece, of the Local Government Board, on Liverpool small-pox and small-pox hospitals, particularly in relation to the question of the influence of such hospitals on spread of the disease in the surrounding neighbourhoods, was published in the BRITISH MEDICAL JOURNAL of April 29th. On July 22nd was published a synopsis of observations by Dr. Hope, the medical officer of Liverpool, on Dr. Reece's report. There has now been printed an interdepartmental memorandum by Dr. Reece on Dr. Hope's observations.

In it Dr. Reece points out that before his inquiries had begun Dr. Hope had stated in a report on small-pox in Liverpool, and in tendering evidence in a court of law, that the administration of the hospitals had been successful in preventing spread of the disease from them. An opinion had sometimes been expressed that the Local Government Board should investigate the circumstances of a case in which it was believed that a small-pox hospital in a populous district had done no harm, and the Liverpool epidemic appeared to offer such a case. The first requisite was to get at the facts, and to ascertain in particular whether there had or had not been any excess of incidence of small-pox upon houses around the hospitals when these were in use for small-pox. The result was as stated in Dr. Reece's report, the facts being almost wholly supplied by Liverpool officials. Dr. Reece holds that Dr. Hope has failed to reconcile the facts brought out, with the view that none of the hospitals had exerted an adverse influence.

Dr. Reece next quotes Dr. Hope's ten conclusions, and dismisses two of them to which no reference was made in our previous synopsis. Regarding No. 3, he writes that his report showed the topographical distribution of small-pox invasion in Liverpool as a whole, and in the mile areas round each hospital used for small-pox, and in particular that he showed the *time* incidence of the house invasion, the opening of one or another hospital for acute small-pox being followed by special incidence of the disease in houses in the neighbourhood. Regarding Dr. Hope's seventh conclusion (quoted in our synopsis), Dr. Reece points out that in the quarter-mile area round Priory Road Hospital there were only 85 dwellings, of which 80 were in a cluster near the circumference, and holds that, when the larger and more populous areas round the hospital are considered, excessive incidence of the disease becomes apparent. Dr. Hope's other conclusions are next discussed. Dr. Reece had found as follows:

"1. Inhabited areas within a mile of each of the three Liverpool small-pox hospitals have suffered more severely from small-pox than the city as a whole.

"2. Exceptional incidence of small-pox within these areas has corresponded in point of time with the use of these hospitals for the treatment of acute small-pox cases; and

"3. Broadly speaking, within these hospital areas the dwellings nearer to hospital have sustained a far heavier incidence of small-pox than those further away."

He says that these conclusions are "based solely upon data as to the accuracy of which Dr. Hope and I are completely in accord." Having regard to similar experiences in London and the provinces, he drew the inference that Liverpool supplies a notable example of small-pox hospital influence. Regarding Dr. Hope's views he writes, "Dr. Hope, however, appears to entertain seriously the suggestion that the whole matter

was fortuitous. This seems to be his sole argument on the main issue. I understand him to contend that the Liverpool experiences are not instances of true 'hospital influence'; that the excess of incidence of small-pox round Liverpool hospitals, the correspondence of such incidence in point of time with hospital operations; and the gradations observed have had none but accidental relation to the hospitals themselves." Regarding ordinary sources of infection near hospitals Dr. Reece writes: "Of course scores of such instances could be brought forward in which persons living near a small-pox hospital were in all probability infected independently of it. Living close by a small-pox hospital does not confer immunity from small-pox by direct infection—this point is indeed too elementary to need stating. The question at issue is not whether *all* cases living within a mile of a hospital contracted small-pox from the hospital, but whether the *exceptional* incidence round the hospital is attributed to the hospital." As regards the numbers unaccounted for, Dr. Reece says it is useful to recall that Dr. Hope stated recently at a meeting of the Epidemiological Society that he had succeeded, through the efforts of his staff and with the aid of special powers to which he has referred, in tracing a *probable* source of infection in "about 1,000 out of 2 082 cases," which occurred in Liverpool during 1902 3 Dr. Reece holds that the recorded evidence of contact with small-pox in some of the cases was slight, but that in any event there is a large balance left "unaccounted for."

In his observations, Dr. Hope pointed out that Netherfield Road Hospital, which had not been used for small-pox during the epidemic, yet showed in the zones surrounding it an exceptional and graduated incidence of small-pox. Concerning this, Dr. Reece writes as follows: "The analogy is hopelessly incomplete. If it is desired to show by analogy that the occurrences round the small-pox hospitals were accidents and nothing more, there is wanted something of this kind—namely, a series of facts as to the incidence of small pox round three establishments, which are the only three of their kind in or near the city—say three skin hospitals, three piano factories, or three gas works, provided they are in each case the only three—and are placed in different parts of Liverpool, and outside the small-pox hospital areas. If the analogy is to be of value, there should be found an excess of incidence of small-pox round each establishment, and a graduation of incidence round each establishment, and it would not be enough to find that this excess of incidence and this graduation occurred when the whole period was taken. In the case of establishment A. they must be found during the period in which Park Hill Hospital was receiving cases, and not at other times; in the case of establishment B, solely while Priory Road Hospital was receiving cases; and in the case of establishment C, solely when the Fazakerley Hospital was receiving cases. In the absence of some such demonstration, I do not see how to attach weight to the comparison to which Dr. Hope invites attention."

Dr. Reece next proceeds to comment on the question of cases and rates, and on other points not included in our previous synopses. As was said on July 22nd, for due consideration of the questions involved it is necessary to read all the documents together, and these now include Dr. Reece's memorandum.

THE CANADIAN MEDICAL ASSOCIATION.

[From our Correspondent.]

The thirty-seventh annual meeting of the Canadian Medical Association was held in Halifax, N.S., August 22nd to 25th. The attendance was large and the programme excellent.

The first business was the presentation of the report of the General Secretary, Dr. Elliott of Toronto. The report showed that 237 names had been inscribed in the treasurer's register at the previous annual meeting held in Vancouver, B.C.

A meeting of the Dominion Protective Association was held immediately after the reading of this report, at which the officers were re-elected.

In the afternoon an address of welcome was given by Lieutenant-Governor G. H. Murray, and Dr. H. A. March, President of the Nova Scotia Medical Society, also spoke welcoming the visitors.

Dr. John Stewart, President of the Association, delivered the opening address, and was followed by Dr. D. A. Campbell, who delivered the address on medicine, taking as his subject The Growth and Development of the Profession in Nova Scotia.

The Association then divided into two sections—Medical and Surgical—under Dr. F. P. Taylor and Dr. Murray McLaren respectively.

The address in surgery was given by Mr. Francis M. Caird, Surgeon, Royal Infirmary, Edinburgh; in ophthalmology by Dr J. W. Stirling, Montreal; and in gynaecology by Dr. H. A. Kelly, Baltimore.

The entertainments for the visitors were most successful. They consisted of a reception, a garden party and concerts at the Public Gardens Rowing Club and Armouries, as well as excursions on the Harbour.

It was decided that the annual meeting next year should be held in Toronto, at the same time as the British Medical Association's meeting.

The following officers were elected for the ensuing year:

President: Dr. Alex. McPhedran, Toronto.

General Secretary: Dr. George Elliott, Toronto.

Treasurer: Dr. H. B Small, Ottawa.

Vice-Presidents: Prince Edward Island—Dr. H. D. Johnston. Nova Scotia—Lieutenant-Colonel G. C. Jones, Halifax. New Brunswick—Dr. Emery, St. John. Quebec—Dr. H. S. Birkett. Ontario—Dr. J. D. Courtney, Ottawa. Manitoba—Dr. S. P. Probe, Winnipeg. North-West Territories—Dr. H. G. McKod, Calgary. British Columbia—Dr. R. E. McKechnie, Vancouver.

Provincial Secretaries: Dr. Simpson, New Glasgow, P.E.I.; Dr. J. R. Corston, Nova Scotia; Dr. J. E. Scammell, St. John, N.B.; Dr. R. McKenzie, Montreal, Quebec; Dr. Harold Parsons, Toronto; Dr. J. R. Davidson, Winnipeg, Manitoba; Dr. J. Hyslop, Edmonton, North-West Territories; Dr. Sutherland, Revelstoke, British Columbia.

THE INTERNATIONAL CONGRESS OF SURGERY, BRUSSELS.

[From our Correspondents.]

The discussions at each meeting of the Congress have been well attended, and the interest has been well sustained. A series of reports written by surgeons specially qualified to deal with the subjects chosen, which had been drawn up and issued to members in August last, formed the basis of discussion. The time limit was enforced for each speaker, and it was known beforehand who was going to speak. The discussions were held, for the most part, in the afternoon, the mornings being devoted to shorter communications by different surgeons, given as far as possible in the form of demonstrations. The hospitals and the scientific institutions were thrown open to all members of the Congress.

Treatment of Prostatic Hypertrophy.

The discussion upon the second day of the meeting dealt with the treatment of prostatic hypertrophy. The "reporters" were M. Rydygier of Lemberg, Mr. Reginald Harrison of London, and M. Rovsing of Copenhagen.

M. Rydygier, in his report, contented himself with advocating the method of operation which he had described in 1900; this consists in the partial removal of the prostate by the perineal route, without opening the urethra. A median incision is made in the perineum, and deepened until the prostate is exposed. Two lateral incisions are made in the capsule of the gland, and the lobes stripped by the finger or by closed scissors. The two lobes are enucleated, and the wound drained by gauze. Rydygier considers that operation should be practised early, so as to avoid the complications. When the cystoscope reveals a median enlargement only, the suprapubic operation should be performed.

Mr. Reginald Harrison considered that perineal prostatectomy was only of limited application, and in his own experience it had been almost entirely confined to some partial removal of the gland. Pendulous outgrowths of the so-called middle lobe of the gland could be dealt with satisfactorily by the perineal route (an opinion at complete variance with that of Rydygier already mentioned). Suprapubic operation was considered "the operation of choice in the majority of cases." With regard to the nature of the operations of suprapubic prostatectomy, he wrote: "I feel sure his (McGill's) cases, as well as those of others, might have been divided into two classes: First, those where the enlarged gland was to all intents and purposes removed; and, secondly, those where the extirpation was only partial." With regard to other operations, Mr. Harrison said: "It is impossible to go through the published records of orchidectomy and vasectomy without recognizing the influence that these processes frequently exercised, or are distinctly stated to have done, in arresting and aborting prostatic overgrowth. I do not say that either of these operations are

capable of removing by atrophy, or otherwise, large masses of prostatic tissue; but when I look at instances of vasectomy, for example, operated on as far back as eight or ten years ago, when the earlier forms of prostatic obstruction appeared to be imminent, and who are now alive, with their health and energy unimpaired, it seems to me that evidence of this kind, relative to the whole subject of prostatic hypertrophy and its prevention, should not be entirely disregarded."

M. Rovsing discussed catheterism and partial and complete prostatectomy. He performs partial suprapubic prostatectomy in all cases where retention is due to a nodule projecting into the bladder, when infection is not acute, and when the patient is weakly. Complete prostatectomy he performs only when he believes a sarcomatous or carcinomatous enlargement to be present, or where there is abscess of the prostate or serious bleeding from it.

M. Legueu of Paris considered total prostatectomy as the only curative operation. The suprapubic operation should be reserved for small prostates or obese patients.

M. Hartmann considered total prostatectomy the only effective operation and he performed it suprapubically. His mortality was 9 per cent.

M. Carlier of Lille only performed perineal prostatectomy when the suprapubic operation was contraindicated.

Herr Freudenberg of Berlin reported 152 cases of Bottini's operation, which he considered a most satisfactory procedure.

Dr. Klapp of Bonn urged the use of spinal anaesthesia in place of a general anaesthesia.

Herr Kummell of Hamburg considered suprapubic total prostatectomy the best operation. He closed the wound in the bladder entirely and drained by a urethral catheter.

M. Albarran also considered complete prostatectomy the most satisfactory procedure; the perineal route being preferable except in those cases in which the prostate projects into the bladder. Cancer of the prostate should not be operated upon.

Diagnosis of Kidney Diseases.

The second subject for discussion was the diagnosis of diseases of the kidney.

M. Bazy (Paris) remarked that in the pursuit of the newer method of investigation, ureteral catheterism, the intravesical separation of the urine, and so forth, there was danger of neglecting the older methods of careful clinical examination, to the perfection of which he has contributed so largely.

M. Legueu (Paris) on the contrary attached very little importance to clinical examination. The intravesical separation of the urine, though theoretically inferior to catheterism of the ureters, is in practice sufficiently accurate to give us information as to the condition of the kidneys.

Herr Kapsammer (Vienna) considered the ureteral catheterism the ideal procedure. The rapidity of the action of the kidneys could be gauged by the indigo method, and the urine from each kidney being obtained an accurate estimate of their conditions led to safe operative work.

M. Hannecart (Brussels) spoke highly of the value of skiagraphy in the detection of renal calculi.

M. Hartmann of Paris considered it necessary to pay close attention to the anamnesis. Palpation gave important information. Stress was laid upon the necessity of examining the patient in different positions, and upon the great help in differential diagnosis derived from an examination with the pelvis elevated. Percussion after inflation of the intestine was often helpful. Skiagraphy, if it gave positive results, was reliable; a negative result was worthless. The most important aid to diagnosis was afforded by the intravesical separation of the urines, introduced by M. Luys when assistant to Professor Hartmann. An experience of over 300 cases in his clinic showed that this method sufficed for all purposes. An hour and a half before making the separation a centigram of methylene blue is injected subcutaneously. The urine taken from the bladder is examined with reference to the intensity of colour, a chemical analysis is made, and microscopic and bacteriological investigations are always carried out.

Treatment of Non-Cancerous Diseases of the Stomach.

The third day's meeting was devoted to a discussion of the surgical treatment of the non-cancerous conditions of the stomach. The reporters were Monprofit of Angers, Mayo Robson of London, Rotgans of Amsterdam, Mattoli of Ascoli-Piceno, von Eiselsberg of Vienna, and Jonnesco of Bucharest. Monprofit's report was largely literary, and the personal element in it was too little in evidence. It is surely the purpose of these "reports" to elicit the personal views and practice of the surgeon in order that experiences may be correlated, and discussion be the prelude to further advances. This purpose, however, was not realized by all those who were reporters, to the manifest disadvantage of all those warmly interested in the matters under discussion. The best reports were those of Mayo Robson[1] and von Eiselsberg. Jonnesco's was characteristically emphatic, but his experience in this subject was so slight that his views did not carry conviction. The debate was lengthy and interesting. With regard to haemorrhage occurring in connexion with gastric ulcer, the opinion was universal that in acute haemorrhage, a large quantity of blood being lost in a few moments, no surgical treatment should be contemplated. These haemorrhages cease spontaneously in the majority of cases. It is the repetition of bleeding that makes operation necessary. The views, indeed, were those accepted in the discussion of this subject at the recent meeting of the Association at Leicester.

The relative merits of gastro-enterostomy and of gastro-duodenostomy by the procedure of Finney and of Kocher were discussed. It was held, with only one dissentient, that the operation of choice in almost all cases was gastro-enterostomy performed by suture on the posterior surface of the stomach. For certain cases, especially those in which no pyloric ulceration was present, Finney's or Kocher's operations are probably indicated. The incidence of cancer in the scars of old ulcers was referred to, and the question of peptic ulcer was discussed. Professor Garré, who succeeds his late friend Mikulicz at Breslau, believed that peptic ulcer did not occur in those cases where accurate mucous apposition was ensured by means of suture; it was due to the leaving of raw surfaces which the gastric juice could digest. This suggestion is not unlikely to be the first accurate one that has been made upon this moot question. Herczel of Buda Pesth and Czerny of Heidelberg both recorded cases of peptic ulcer which had perforated into the colon. The discussion was certainly keener on this topic than on any other previous one, though it was a matter of regret that one or two notable authorities did not speak, and that no representative of America was asked to "report."

Concluding Meeting.

The last general meeting was held on Friday, September 22nd, and it was then agreed that the Society should meet at Brussels in congress once in three years, and that the subscription to it should be 40 francs triennially. Each country is to be represented by a national Committee of three members, one of whom is to be chosen as a delegate to the International Committee. The members selected for England are (subject to their consent) Mr. Reginald Harrison, who has already acted as English Secretary; Mr. Edmund Owen, and Mr. D'Arcy Power. Professor Czerny, of Heidelberg, was chosen President for the next three years in place of Professor Kocher.

Social Entertainments.

Although much good work was done in the course of the week the members found time to amuse themselves and be amused. On the first evening there was a reception by the Belgian Society of Surgery, and on the second evening a reception by Professor Kocher. On the third evening there was a gala representation at the Theatre Royal, given by the Belgian Committee; whilst the fourth evening was devoted to a subscription banquet in the Bourse. The banquet was very largely attended by the members and their wives, who spent a most pleasant evening in a polyglot manner, making new friends and cementing old friendships. The banquet being ended all adjourned to the Hotel de Ville, where they were received by the Commercial Administration in the most hospitable manner. The members thus had an opportunity of seeing the magnificent building under the most favourable circumstances.

General Arrangements.

The future of the International Society of Surgery seems assured. Its subjects for discussion will be thought out carefully beforehand, and the issue of preliminary reports facilitates the discussions. The limitation of languages to French, English, and German is absolutely necessary, though many, had it been possible, would have been glad to see Italian included.

Lastly, the delegation of authority to small national committees working under a central council is distinctly practical, and is likely to conduce to the permanent vitality and well-being of the Society. The proceedings ended with a vote of respect to Lord Lister, which was ordered to be communicated to him by telegraph.

[1] Published in full this week, p. 761.

CONTRACT MEDICAL PRACTICE.

Notice as to Districts in which Disputes Exist.

A notice as to places in which disputes exist between members of the medical profession and various organizations for providing contract practice will be found among the advertisements, and medical men who may be thinking of applying for appointments in connexion with clubs or other forms of contract practice are requested to refer to the advertisement on page 75.

Bridgend.

We understand that applications are being invited for the post of medical officer to the Oddfellows Club, Bridgend. We would recommend all intending candidates before applying for the post to communicate first with Dr. E. J. Maclean, Honorary Secretary of the Cardiff Division of the South Wales and Monmouthshire Branch of the British Medical Association, 12, Park Place, Cardiff, or with the Medical Secretary of the British Medical Association, 429, Strand, London, W.C.

THE PLAGUE.

Prevalence of the Disease.

India.

During the weeks ending August 26th and September 2nd the deaths from plague in India amounted to 2,050 and 2,330 respectively. The principal figures were: Bombay Presidency, 1,497 and 1,694 deaths; Bengal, 54 and 61; North-West Provinces and Oudh (United Provinces), 66 and 110; Punjab, 14 and 19; Rajputana, 1 and 3; Central Provinces, 45 and 82; Central India, 22 and 29; Mysore, 107 and 55; Madras Districts, 87 and 178; Burmah, 97 and 69. In Hyderabad, during the week ending September 2nd, there were 30 deaths from plague.

South Africa.

No case of plague was discovered at any town in South Africa during the weeks ending August 26th and September 2nd. Plague-infected rats and mice continue to be found at Port Elizabeth, East London, and King Williamstown.

Australia.

Queensland.—The report for the three weeks ending August 12th shows that but 1 case of plague occurred anywhere in Queensland, namely, at Townsville on August 4th when a fatal case of plague was notified. Several plague-infected rats have been found on the Townsville wharf; the patient, a boy, lived on board a coal hulk moored at the jetty wharf.

Mauritius.

During the weeks ending September 14th and 21st, the fresh cases of plague numbered 9 and 12, and the deaths from the disease to 8 and 8 respectively.

Hong Kong.

During the week ending September 9th, fresh cases 0, death from the disease 1. On September 12th Hong Kong was declared free of plague and clean bills of health resumed.

Siam.

In Bangkok plague seems to have recurred. Between June 20th and July 29th, 17 deaths from plague were believed to have occurred, but as the majority of the deaths were reported only after the patients had been buried or burned, the diagnosis may be at fault. On July 29th there were 34 patients in the huts in the plague compound. A new plague hospital was opened for patients during the second week of August.

MEDICAL NEWS.

The medical exhibition at the Royal Horticultural Society, Vincent Square, Westminster, S.W., will be open from Monday till Friday next week from 2 to 10 p.m. daily.

Sir Thomas Barlow, Bart., will take the chair at the University College Hospital Old Students' dinner, as Dr. Markham Skerritt, owing to a family bereavement, will be unable to attend. The dinner takes place on Monday next at the Hotel Cecil.

The National Health Society has arranged for a course of thirteen lectures on public and private hygiene, to be delivered at the offices of the Society, 53, Berners Street, London, W., on Tuesdays and Fridays, at 2 p.m. The first lecture was delivered on September 26th by Dr. W. H. Willcox, Lecturer on Public Health, St. Mary's Hospital, the subject being the air.

At Cinderford, a mining district in Gloucestershire, thirty-two out of the thirty-four candidates of the Cinderford Ambulance Association satisfied the examiners of the St. John Ambulance Association in September. Three secured medals, eleven first class certificates, and eighteen second-class certificates. This association has been in existence for some three years, and grew out of a series of classes in first-aid work for miners which Dr. Macartney, of Cinderford, conducted for a great many years. When the formal association was started Dr. Macartney acted for a while as its lecturer, and then handed over the work to his assistant, Dr. Campbell. The latter has conducted the classes for the past two sessions, and the occasion of the distribution of the awards was taken to present to him a case of silver instruments in acknowledgement of the value of his services.

Professor Eberth, Director of the Pathological Institute in Halle and discoverer of the bacillus of typhoid fever, celebrated his 70th birthday on September 21st. He was born in Würzburg, and received his medical education there. In 1865 he was appointed Professor of Pathological Anatomy in Zurich, and was called to Halle in 1874.

A course of lectures and discussions has been arranged by the Childhood Society and the British Child Study Association, London Branch, acting conjointly. The lectures will be given at the Parkes Museum, Margaret Street, London, W., on Thursdays during October, November, and December. The first will be delivered by the Hon. Sir John Cockburn, K.C.M.G., M.D., on October 19th at 8 p.m.

The Middlesex Hospital, which has been closed for two months for cleaning and repairs, was opened on Monday, September 18th. During the first week (Monday to Saturday) 132 patients were admitted to the wards. The repairs which the age of the building necessitated were very costly. Extensive alterations have also been carried out in the cancer research laboratories.

The session of the Clinical Society of London for 1905-06 will commence on Friday, October 13th, at 8.30 p.m. The first ordinary meeting of the Society for the Study of Disease in Children will be held at 11, Chandos Street, W., on October 20th. The Wightman lecture will be delivered by M. A. Broca, President of the French Society of Pediatrics and Surgeon to the Hospital des Enfants-Malades on Friday, May 18th, 1906.

Messrs. Thos. Cook and Son have issued a programme for travellers in Egypt. Special arrangements have been made for combined bookings by Messrs. Cook's steamers and the Egyptian and Soudan railways. Tickets will be issued to Khartoum and Gondokoro. The steamers will commence running between Cairo and the First Cataract in November, and there will be connecting steamers between the First and Second Cataracts.

A public meeting of octogenarian vegetarians will be held at the Memorial Hall, Farringdon Street, E.C., on Friday, October 13th, at 7 p.m. Among those who will address the meeting is Dr. Mayor, Professor of Latin in the University of Cambridge; he has attained the age of 80, but is comparatively juvenile when compared with Mr. Samuel Saunders, described as an agriculturist, who has attained the age of 91, and can still face a public meeting.

Dr. J. Brindley James, Registrar of the Guild of St. Luke, 83, Bridge Road, Hammersmith, informs us that the customary annual service of the Guild will be held in St. Paul's Cathedral on Thursday, October 19th, at 7 30 p.m. The annual meeting and festival service of the Birmingham branch of the Guild will be held on the same day, when the sermon will be preached in the Pro-Cathedral by the Rev. Canon Horsley.

According to the *Medical Record*, a law has recently come into effect in the State of New York which deprives medical men of some part of the exemption which they have hitherto enjoyed from the necessity of disclosing knowledge which they have acquired during professional duty. In future a plea of professional privilege will not hold good in a criminal action when the patient is under the age of 16.

Dr. Heman Spalding, Chief Medical Inspector, Chicago, reports that the appointment of a staff of vaccinators for the public schools was completed before the beginning of the school term. "Over two hundred vaccinators are equipped and ready to furnish free vaccinations to all school children who apply at the school premises. Last year a few entered school upon false certificates of vaccination signed by doctors. Some of these contracted small-pox and a few died as the result of this criminal practice. One child permitted by the principal to enter school without any certificate of vaccination remained in school two weeks, contracted small-pox, and died of that disease a week later. No vaccinated school child contracted the disease, though exposures to small-pox were numerous. The vaccine to be used by the public vaccinators is tested in the department laboratory, and is rejected if any impurities are found."

British Medical Journal.

SATURDAY, SEPTEMBER 30TH, 1905.

HYGIENE AND ELEMENTARY SCHOOLS.

Now that the schools are about to reopen, it will be interesting to see how hygiene, so urgently recommended on all sides, will be taught. That it must be taught is certain. In the Code for 1905 issued by the Education Department we read: "Physical training should be accompanied by instruction in the elementary rules of personal health in respect of food, drink, cleanliness, and fresh air; and by careful cultivation of a correct posture at writing and other lessons." Again, in the companion volume—Suggestions for the Consideration of Teachers and Others concerned in the Work of Public Elementary Schools, 1905—there is an important chapter on the school and the health of the scholars. This chapter is excellent, and there would be a sensible improvement in the state of health and personal cleanliness of the scholars if the advice were carried out.

Every one admits that in these days it is criminal that teachers and children alike should be in ignorance of the simplest laws of health; one and all will acknowledge that it is essential they should understand such questions as ventilation, lighting, good and bad postures, signs of good health, and so on; and there are many other matters related to the health of the children in elementary schools which the teacher in her present position of great responsibility should understand. It is hardly sufficiently realized how responsible is the position held by elementary school teachers, the majority of whom are women. Its responsibilities will continue to increase as preventive medicine progresses. Yet the Board of Education seems to expect men and women, ignorant of the rudiments of medicine and hygiene, to deal with cases fit only for the medical practitioner. The position is this: the importance of hygiene is recognized in theory, the medical profession has spoken, and teachers are only waiting for an opening, and in many instances have already made the most praiseworthy attempts to start it; the Board of Education has assented, and only books are vile. No textbook which would give teachers a sound grounding in hygiene and physiology, for these two subjects cannot be divorced, exists. There are endless textbooks of the most unsuitable nature, and others equally unsuitable keep appearing periodically. It would seem as if everybody, including Sir Michael Foster, imagined that hygiene was inborn in the teachers. But it should be clearly realized that if hygiene is to be properly taught teachers must themselves be grounded in it. Lord Londonderry said some fifteen months ago that two years would be necessary for the grounding of teachers, and this prophecy, which seemed very pessimistic at the time, would appear to have been in reality too optimistic, for the systematic preparation necessary has not been generally begun in training colleges. The curse of the present system is want of co-ordination. A certain amount of hygiene is now taught in training colleges to those teachers going in for special examinations. But the chief instruction is done by itinerant lecturers, each with special fads and ideas, their lectures as a rule being delivered from notes. Not long ago we heard a lecturer who has a wide reputation speaking on the question of teeth, and he explained that it was very important that boys' teeth should be properly looked after, as so many soldiers were rejected on account of bad teeth; they were, he said, allowed by the War Office to have false sets, to be paid for, by the way, out of the soldier's own pay, but the War Office were going to stop allowing them to use false teeth, as they so often put them down on the bank when they were bathing and lost them.

Sir Michael Foster a few months ago wrote for the Board of Education a criticism of the syllabus of lessons on hygiene issued by the Committee of medical men who organized the memorial presented to the Board of Education last year. This criticism was of a somewhat remarkable character, as was pointed out in the BRITISH MEDICAL JOURNAL at that time.[1] We, indeed, hesitated to take it quite seriously, but the respect which a Blue Book inspires led us to believe that Sir Michael Foster had not been guilty of a practical joke at the expense of the Board of Education. This surmise proved to be correct, for in the preface to a primer which he has just published[2] he speaks of the somewhat "violent abuse" which his criticism provoked in certain quarters. Sir Michael Foster replies to his critics and explains himself to the Board of Education in a primer; it consists of four lessons addressed apparently to very young children. He calls carbon dioxide "invisible smoke," and generally talks down to the intelligence of his hypothetical hearers. His primer is intended to be a "rough sketch of how the reasons for some of the rules which ought to guide us in the physical conduct of life may, with almost unostentatious simplicity, be explained even to the very young." But by whom is the explanation to be given? We have no doubt that Sir Michael Foster could give very interesting lectures to young children, and make such subjects as fresh air, food and drink, light, and cleanliness intelligible to the childish intelligence; but we cannot multiply Sir Michael Foster by 20,000. He speaks out of the abundance of his knowledge, but the actual teaching in schools must be given by elementary school teachers, whose knowledge of the principles of hygiene and physiology under existing conditions is a minimum quantity. It is clear, therefore, that in issuing this primer Sir Michael Foster has fallen into what we fear must be considered a very British custom of putting the cart before the horse. Before hygiene and the elementary physiology upon which it rests can be taught efficiently in elementary schools, elementary school teachers must be trained in the subject themselves, and it is quite possible that were this done the necessity for a primer would disappear. We are inclined to think that an experienced school teacher would, for instance, refrain from a manner of treating the subject which might lead a child to suppose that the risks of tea drinking were really comparable to the risks of alcohol drinking. It is quite true, as Sir Michael Foster told the Board of Education, that it is possible to drink too much water, or breathe too much oxygen (at a certain pressure), or drink too much tea, but we cannot subscribe to the doctrine that alcoholic beverages belong in any sense to the

[1] BRITISH MEDICAL JOURNAL, 1905, vol. i, p. 705.

[2] *Simple Lessons on Health for the Use of the Young.* By Sir Michael Foster, K.C.B., M.P. London: Macmillan and Co. 1905.

same class as tea or coffee, a thesis which Sir Michael Foster still appears to be anxious to maintain.

It is very important at this moment, when the public mind is so much interested in education, and when the administration of the Education Acts has passed into the hands of new authorities, that a correct direction should be given to their efforts. The teaching of teachers should be sound and reliable from approved textbooks. There is such a thing as fancy dancing, but in a matter like hygiene and physiology accuracy is of the first importance. There is an outcry in many quarters that too much of the ratepayers' money is being spent on education. We do not accept this doctrine on the contrary, we believe that such expenditure is the best possible form of investment, provided that the money is wisely expended. We fear that it must be admitted that a good deal of the money is not wisely expended, and we are glad to see from a report issued on September 25th by the Board of Education that one source of unnecessary expenditure is likely to be checked. The Board eighteen months ago instructed some of its women inspectors to inquire as to the desirable age of admission of infants, and some thousands of children have been carefully examined; all the inspectors agree that the mechanical teaching in many infant schools seems to dull rather than awaken the little power of imagination and independent observation which the children possess. Children admitted at a later age can in six months or a year reach the same standard as those who have been in the school for two years previously; they are less glib, but have a better grasp of the sense. It is an inversion of the proper method of teaching to say to these small children, "Sit still while teacher talks." The object of the teacher should be not to impose her ideas and phraseology upon the children, but to draw out their ideas in their own phraseology. The chief inspector suggests that in future children under 5 years of age should be excluded from the ordinary elementary schools altogether, and that in the case of families where the mother is able to remain at home the children should stay with her until they have passed that age. The difficulty is with regard to children of the poorest class whose mothers go out to work; for them the chief inspector believes that a new form of school is necessary, and he points out that the trained and certificated teacher is not the best person to manage such schools. What is wanted is a class of infant teachers, girls of good motherly instincts, who would stay for a few years before marriage, and would not expect or need so high a salary as a teacher trained for a life profession. If this special class of teachers is called into existence, a large part of their training should consist in instruction in the elementary principles of physiology and hygiene, not in order that they may be competent to teach hygiene as such to their infant pupils, but that they may know how to conduct their classes upon hygienic principles.

THE DISCUSSION ON ECLAMPSIA.

THE discussion at the annual meeting at Leicester on the treatment of albuminuria and eclampsia in pregnancy, a full report of which was published last week, aroused much interest. Eclampsia is alarming and, we fear we must add, at present inexplicable and intractable. The position of the profession towards it is that of guessers at an apparently insoluble problem. Dr. Boxall, who opened the discussion, did so rather by reflecting, in a clarified and orderly way, current opinion than by putting forward convictions of his own, and by so doing provided an excellent basis for debate.

The title implied that there were two subjects for discussion—albuminuria and eclampsia. Dr. Boxall took the view that these two things were different phases or stages of the same disease. He spoke of it as "a complex and at present little-understood condition, of which albuminuria is the main expression, and eclampsia its chief ultimate development." No one will deny that eclampsia is often preceded by the symptoms which accompany albuminuria. But it is not always so: eclampsia may suddenly attack a woman apparently in perfect health. Handfield-Jones has published a case in which the urine was examined three hours before the first fit, and found to be then free from albumin. This is important, for Dr. Boxall urged that by attention to the general hygiene of pregnancy eclampsia might be averted. This may be so, and insistence on the observance of the laws of health can do nothing but good. But is it certain that by regulating diet, exercise, ventilation, dress, etc, eclampsia can be prevented? Dr. Boxall spoke of a case "induced solely by saturation with alcohol taken to the extent of two bottles of brandy a day and continued for months." No doubt this was bad for the patient, but the inference that the brandy alone caused the eclampsia may be an instance of the fallacy of *post hoc propter hoc* reasoning. John Stuart Mill, in his treatise on Logic, after remarking that Bacon failed through not recognizing that an effect may be produced by a plurality of causes, goes on to say, "and on this rock every one must split who represents to himself as the first and fundamental problem of science to ascertain what is the cause of a given effect rather than what are the effects of a given cause." Dr. W. C. Sullivan[1] investigated this question (of alcohol in pregnancy) in the proper way, going from the cause to the effect; and he did not find that inebriety in pregnancy caused eclampsia.

Dr. Boxall told his audience that "much may doubtless be done by testing the urine in all cases during the last two or three months of pregnancy." This is a good thing to do, but Handfield-Jones's case shows that eclampsia cannot always be thus anticipated. Albuminuria in pregnancy is not in itself a grave disease, for, as Dr. Boxall pointed out, it gets well when pregnancy is over. Its importance is that it makes the patient more liable to have eclampsia. Eclampsia is so sudden and so terrifying a thing that it is almost impossible for the obstetrician to refrain from doing something. To the patient's friends, not to do something would seem almost criminal. But what is to be done? Is there any treatment from which benefit can be predicted?

The proceeding which is suggested by the fact that the disease is peculiar to pregnant women, is the prompt termination of the pregnancy. For more than fifty years there have been those who have taught that to empty the uterus was the necessary treatment, and who have even said that when this was done not only was the patient on the road to recovery, but the fits at once stopped; but although there has been ample time for the correctness of this teaching to have been demonstrated, it has never been universally accepted. In 1902 Dr. Herman read a paper before the Medical Society of London, in which he compared some 2,000 cases, and showed that the cases in which, after the uterus had been emptied, the fits continued were as numerous as those in which they ceased, and that the

[1] *Journal of Medical Science*, July, 1905.

death-rate of cases treated by the rapid evacuation of the uterus was as high as that of cases in which labour was allowed to take its natural course. In the discussion which followed, it appeared that the experience of most of those who spoke led them to agree with Dr. Herman's conclusions. Nothing of moment has been published upon the question since. Dr. Boxall was ambiguous on this important point. In his paper he said that if the case was "of a serious nature" it was better not to waste time over other measures, but "to empty the uterus with as little delay as possible." In his reply to speakers in the discussion, he said he was "by no means an advocate of *accouchement forcé*." But what is emptying the uterus with as little delay as possible but *accouchement forcé*? And when Dr. Boxall speaks of not wasting time over other measures, one must ask, Are these measures beneficial? If they are, how can it be waste of time to employ them? Dr. Boxall said in his reply, "it did undoubtedly happen that, no matter what treatment be adopted, in some few cases the patient's condition would be found to be gradually going from bad to worse, and it was obvious that unless something further was done a fatal result must necessarily soon occur. In those cases evacuation, though it might not be successful in saving the patient's life, at least offered her a chance." This is hardly worthy of Dr. Boxall's reputation. Why must "something" be done? To bring the sentence into harmony with sound practice it should run: "something that will alter the course of the disease." Is there anything that will alter the disease? Dr. Boxall apparently thinks not, as he describes measures other than evacuating the uterus as "wasting time." Evacuating the uterus he thinks "gives the patient a chance." But is this the fact? If the result of Dr. Herman's analysis of some 2,000 cases is correct, it gives the patient no better chance than she had before. Dr. Hastings Tweedy stated that at the Rotunda Hospital, Dublin, labour is never induced, nor is its onset desired. This is one of the most important questions—we might say *the* most important question—in the treatment of eclampsia. In the hands of Dr. Boxall, or any practitioner skilful in midwifery and careful of asepsis, the evacuation of the uterus, even if it does no good, will probably do no harm. But if every village midwife should think it her duty, when she is called to a patient who is having fits, to empty the uterus with the least possible delay—well, the mortality of eclampsia in country districts will not be diminished. It is inconsistent to say, as Dr. Boxall said, that it is to be done "if the patient is going from bad to worse." If it is beneficial at all, it should be done before the patient gets into a moribund condition. In any case it is not in accord with the principles of scientific medicine to perform a serious obstetric operation merely on the ground that "something" must be done, whether there is a clear prospect of benefit from it or not. This therapeutic problem cannot be settled by the multiplication of expressions of opinion. Proof must be brought forward, and up to the present time this has not been done.

But this question, though important, is not the only one. We may note in passing that Dr. Boxall spoke of the disease as "a process of fatty degeneration in the renal cells." We believe that those who have examined kidneys from cases of eclampsia speak of it as a granular rather than a fatty degeneration. The important point is that, as Dr. Boxall recognized, it is a degeneration, not an inflammation.

We come next to the measures to which Dr. Boxall referred as "wasting time." Those which he mentioned are chloral, potassium bromide, the hot bath, the hot-air bath, the hot pack, the ice cap, the irrigating water cap, hot linseed and mustard poultices, dry cupping of the loins, chloroform and morphine, phlebotomy, and saline injections. Veit, in his lecture on the treatment of eclampsia by morphine, said that in most cases known to him in which that treatment appeared to have failed, it was because not enough was given. Had he been able to revisit this planet, and take part in the discussion at Leicester, we fancy he would have explained in this manner Dr. Boxall's want of therapeutic faith; for Dr. Boxall spoke of giving ¼ gr. or ½ gr. of morphine. The master of the Rotunda Hospital said that there they began with ¼ gr., and repeated it until two grains had been given in twenty-four hours. Perhaps Dr. Boxall would have given as much, but he did not definitely say so. The Assistant Master of the Rotunda looked at the matter in the same way as Veit, and other speakers expressed their confidence in morphine.

The induction of labour and morphine, either combined or separately, appeared to be the treatment most used. Speakers in the discussion introduced propositions for the cure of eclampsia upon which Dr. Boxall had either not touched or had not expressed any opinion. One speaker, a man of experience, said he "limited the administration of chloroform to a few whiffs at the height of severe fits." But a fit is over long before there has been time to get the patient under the influence of chloroform, and at the height of the fit the chest is fixed, so that the patient cannot inhale. The "few whiffs" of chloroform may please the patient's friends and satisfy them that "something" is being done, but it is to be suspected that as to influencing the disease, the whiffs might just as well be of lavender water. If chloroform is to affect the fits the patient must be kept continuously and deeply narcotized, and many think continuous deep narcotism is better effected by morphine.

There are those who hold, with a correspondent whose letter is published in another column, that the key to the disease is in the high arterial tension usual in the beginning of the disease. This may be so: but the attempts that have been made to prove it by the sphygmograph have failed to show a bearing of the tension of the pulse on prognosis.

Dr. Maclean, of Cardiff, gave his experience of the treatment of eclampsia with thyroid extract, a remedy which some have advocated on account of the influence of that preparation on metabolism. He had had nine cases, with one death, a number sufficient, perhaps, to prove that thyroid extract is not injurious, but not enough to show that it is beneficial. It is curious to note that while some people advocate thyroid extract because it increases metabolism, one speaker gave as a reason for morphine that it diminished metabolism.

The Master of the Rotunda Hospital drew attention to the liability to dangerous pulmonary complications in eclampsia, and the importance of putting the patient in such a position that fluid in the air passages should flow freely away through the mouth. Dr. Boxall, in his reply, supported this, and warned the Section of the danger of giving pilocarpin in eclampsia.

If the great primary necessity in treatment is to empty the uterus, it is obvious that this must be done quickly. If labour be induced by the slow and gentle imitation of

nature, which is recognized to be the best course when the object is, for instance, to prevent the difficulty which will occur in labour at term with a contracted pelvis, the stress of the disease will be over before the uterus is empty. There are at present three ways in which a patient may be very quickly delivered: (1) Caesarean section, (2) vaginal Caesarean section, (3) rapid dilatation of the cervix with Bossi's dilator, or one of the modifications of that instrument. Dr. Boxall candidly stated that he had had no experience of these methods of treating eclampsia. Caesarean section has been performed in London with a success as great as that attained anywhere else: but we know of no one who claims that it as safe as natural delivery, or premature delivery by a method which imitates natural labour. Professor Spencer regarded it as "quite unjustifiable" in eclampsia. He expressed alarm at the number of mechanical dilators on the market, which he believed were capable of inflicting severe injuries. Dr. Wilson, of Birmingham, preferred vaginal Caesarean section to Bossi's dilator. No statistics were adduced to show the actual mortality of delivery either by vaginal Caesarean section or by Bossi's dilator; nor do we know of any. The literature at present consists of small groups of cases, which only show that these things can be done without a very heavy death-rate. But it is pretty certain that the mortality of these methods of rapid delivery is higher than that of natural labour, and probably as high as Caesarean section. It seems unnecessary to labour this point, because it yet has to be shown that rapid delivery is beneficial. When the benefit of evacuation of the uterus has been placed beyond doubt, then will come the necessity of considering how this can best be done. If we take the mortality of Caesarean section at 8 per cent., which is that shown by the most recent statistics (although we believe that in favourable circumstances it is less) yet that of eclampsia is 20 per cent. If an operation with a risk amounting to 8 per cent. will cure a disease having a death-rate of 20 per cent., we think that Professor Spencer would admit that it is justifiable. The flaw in the argument is the doubt whether the operation will cure or even benefit the disease.

The sum and substance of the whole matter is this: that there is no treatment of eclampsia from which benefit can be certainly predicted. The test of therapeutic efficiency is the power of predicting the result. When we tell a patient with scabies to rub in sulphur; when we prescribe arsenic for a case of pemphigus, quinine for ague, or salicylates for acute rheumatism, we can predict that, if the remedy is used, the patient will be quickly benefited; and that, if it is not used, the patient will go on suffering considerably longer. If one of these diseases were made the subject of discussion, we should not have a dozen different remedies proposed, and diametrically opposite opinions expressed as to their effects. The late Dr. Matthews Duncan used to tell of his being summoned to see a case of eclampsia at the Edinburgh Maternity Hospital. It was not convenient for him to go; and the anxious house-surgeon asked what he was to do. "Do nothing," said Duncan; "let the patient alone." This was advice that could hardly be given by a smaller man than Duncan. We are inclined to think that of all the therapeutic measures mentioned in the discussion, the only one the benefit of which was beyond doubt was that simple method mentioned by the Master of the Rotunda—putting the patient in such a position that fluids can flow freely out of the mouth, instead of falling back to block the trachea and bronchial tubes.

If the officers of some lying-in hospital would have the courage to treat a series of cases of eclampsia upon a purely expectant plan we should get a knowledge of the natural history of the disease, and conditions upon which prognosis depends, better than we can do now, limited as we are to reports of cases all of them treated with powerful drugs, or modified by interference in one way or another with natural processes. At present we are, in relation to this disease, still in the position of Sydenham, who said that what we wanted was not more remedies, but better knowledge of the effects of those we have.

THE TREATMENT OF ARTERIO-SCLEROSIS.

Not long ago we reviewed in these columns an address by Professor Clifford Allbutt on the prevention of apoplexy, and gave some account of his views regarding the diagnosis and treatment of arterio-sclerosis. An important paper on this subject is contributed by Professor Romberg, of Tübingen, to the *Deutsche medizinische Wochenschrift* for August 31st, and it may be of interest to summarize his conclusions. We do not propose to institute any comparisons between the two essays; suffice it to say that Professor Romberg's may be fairly taken to represent the German school of thought in this matter and deserves the most careful consideration, both for intrinsic reasons and in relation to the writings of English and French authorities. As regards the latter, we shall take occasion to note the principal points of difference from the well-known views of Professor Huchard.

As to etiology, Professor Romberg has but little to say he holds, however, that nervous disorders, especially neurasthenia, with its marked oscillations in vascular tone, may be important causes of arterio-sclerosis. Taking up the local incidence of the sclerosis, its treatment when the the heart is mainly affected comes first under consideration. Coronary sclerosis may precede that of other arteries and give rise to definite symptoms of cardiac insufficiency. The old remedy for this was digitalis, which, of course, should not be given in cases where there is actual or threatened haemorrhage. Sawada, however, has shown that in cases of arterio-sclerosis, without involvement of the kidneys, the arterial tension is not high; digitalis in small doses may be given with good results. Groedel's method of giving a couple of grains of fresh powdered digitalis leaves once or twice a day for a prolonged period is particularly recommended. For long-continued use strophanthus may also be of value; in plethoric individuals it is better to follow Huchard's advice and to enjoin strict milk diet for five days, combined with the use of digitalis.

In angina pectoris Professor Romberg considers that digitalis is indicated in slight or moderately-severe cases in which cardiac weakness is obvious between the attacks. In very severe cases, and when the cardiac power is normal, it is useless. In cardiac asthma, especially when it recurs nightly, a narcotic together with camphor or caffein is recommended, but morphine is contraindicated in angina pectoris. Here dionin may be given, with nitroglycerine in alcoholic solution, or sodium nitrite in water subcutaneously; the author has found the inhalation of amyl nitrite of little use in severe cases. When cardiac weakness from coronary sclerosis is combined with abdominal plethora the arterial pressure is often raised. In

such cases purgation is valuable, and a course at Carlsbad, Marienbad, or Homburg often advisable. When the kidneys are affected early, severe and sudden breathlessness is often a conspicuous sign: the pulse tension is increased, and if the heart is feeble the amount of urine is normal or diminished. Here also the indications are general depletion and cardiac tonics; digitalis must be used with the utmost caution, but in severe cases may even reduce the arterial tension; it is best given together with diuretin. Any heart-weakening procedures, such as powerful diaphoresis or an exclusively milk diet, are to be avoided.

Carbonated baths of a temperature less than 33° C. are powerful cardiac tonics, and are valuable in slight attacks of heart weakness and in recovery from severe attacks; they are contraindicated after severe attacks of angina pectoris, in persistent orthopnoea, in severe oedema, in grave general weakness when emboli or haemorrhages are present or threaten, and in nervous or excitable subjects. The treatment should commence with indifferent baths of the body temperature and containing very little CO_2, and should proceed very gradually to cooler and stronger ones. Too much CO_2 tends to overstrain the heart and to do more harm than good; the dosage should be most carefully adjusted to the needs of the individual patient. Of gymnastic procedures passive movements are to be recommended, those which suddenly increase the blood-content of the heart being avoided: even passive movements are unsuited to the subjects of physical or nervous prostration or of an overstrained heart. The Oertel treatment is contraindicated.

With regard to cerebral manifestations, apart from haemorrhage and thrombosis there are certain functional disorders which betoken intracranial arterio-sclerosis. These are more especially a sense of weight in the head, a feeling of precordial oppression, and sleeplessness; there may also be slight vertigo, tinnitus, and gastro-intestinal disturbance. The patients are often irritable and excitable, while their mental accumen and memory for recent events diminishes. The onset of these neurasthenic symptoms after the age of 40, and especially of 50, should be regarded with suspicion. Special points in the treatment are removal from customary surroundings, attention to the digestion, frequent nourishment and the consumption of a considerable quantity of water. This last remedy is of great service in lessening discomfort and helping sleep. Gastro-intestinal symptoms may occur in severe paroxysms, which yield best to atropin or small doses of opium: diuretin is also well spoken of in this condition.

Vascular neuroses of very various types are common complications. The first indication is to reduce the vascular excitability, best by mild local baths at the body temperature: galvanic baths are particularly recommended by Erb. Excitant baths are inadvisable. The best drugs are quinine, potassium bromide, and valerian.

For the general treatment of arterio-sclerosis the best medicinal remedy is potassium iodide. This does not, according to Professor Romberg, reduce the blood pressure, as Huchard maintains, nor has it a direct action upon the pathological process, or a specific influence through its alkaline constituent. He believes, on the ground of Otfried Müller and Inada's experiments, that it reduces the viscosity of the blood and so lessens the work to be done by the vascular system. It is not to be given when there is oedema of the lungs or where the arterio-sclerosis is complicated by Graves's disease. It should be administered to the extent of not more than 15 grains a day, in five doses, and its use should extend, with intermissions, over two or three years. In order to minimize gastric disturbance it can be given with sodium bicarbonate, and acid foods are to be avoided. For cerebral arterio-sclerosis a mixture of sodium bicarbonate, sodium nitrite, and potassium nitrate is recommended; the author has found nitroglycerine, as prescribed by Huchard, in the intervals of iodide medication, of but little use, though most valuable in anginal attacks.

Of great importance is the regulation of the patient's habits. Arterio-sclerosis is regarded by Marchand as a nutritional affection of the vessel wall resulting from wear and tear: unless syphilis is present, a direct remedial action of drugs upon the process is not to be expected. It is therefore essential that any source of added strain upon the vascular system be avoided. Physiological rest is hence indicated; obesity, for instance, should be reduced by diet and not by exercise. Sleep is also an important necessity, and it may be advisable to give a hypnotic for three or four consecutive nights, after which natural repose is often established. Indifferent and brine baths are useful, but must not be too hot or too cold. The use of alcoholic liquors, tea, coffee, and tobacco is to be restricted, though small quantities may be allowed as stimulants to the appetite. Abstinence from tobacco is compulsory in angina pectoris. With regard to diet, Professor Romberg treats each case individually, according to the state of nutrition and the condition of the alimentary canal. He disapproves of the rigid regimen of Huchard and Rumpf; on the whole, he recommends a mixed diet with very little condiment and not too much meat. Plenty of fluid should be taken, and sudden changes of diet avoided.

The remedies for arterio-sclerosis are essentially mild ones: the two chief lines of treatment to avoid are, on the one hand, a procrustean rule, and on the other, too frequent and fussy interference. Such is the final conclusion of this sane and well-reasoned paper.

THE MEDICAL PROFESSION AND PARLIAMENTARY CANDIDATES.

In the Supplement for this week is published a report, founded upon information furnished by the Honorary Secretary of the Division, of interviews which the representatives of the Hampstead Division of the Metropolitan Counties Branch have had with the candidates at the by-election about to take place at Hampstead. The spokesmen of the deputation dealt *seriatim* with the legislation in which the Association is at the present time more particularly interested. They placed first the Medical Acts Amendment Bill, indicating its importance from the point of view of the public as well as the profession. Both candidates expressed themselves in sympathy with this Bill, but the Conservative candidate showed a more friendly disposition than the Radical towards the Public Health Bill, which would give security of tenure to medical officers of health; the Radical candidate based his objection on the ground that local authorities would be likely to resent the measure, thus showing that he has at present not adequately studied the subject. With the proposals of the Association for the amendment of the law with regard to death registration and the Coroners' Act, both candidates expressed themselves in complete sympathy. With regard to the Revaccination Bill the Conservative candidate expressed his approval, but the Radical candidate dissented on the ground that vaccination ought not to be compulsory. Both candidates approved of the proposed

legislation for the reorganization of the Local Government Board and the reform of the lunacy laws. The report will, we have no doubt, be valuable to secretaries of other Divisions who may either now or in the near future be called upon to organize similar deputations to candidates in other constituencies.

THE ARMY MEDICAL ADVISORY BOARD.

It is said, we do not know with how much truth, that certain members of the Army Medical Advisory Board are disposed to recommend the abolition of that body on the ground that the reorganization of the Army Medical Service has been effected. However perfect that reorganization may have been, and however excellent its constitution may be at the present moment, we cannot think that the need for the existence of the Board has disappeared. Medicine, surgery, and hygiene are always changing, and the general sum of that change is progress. It is only by close association with the civil profession that the military medical service can maintain itself in the forefront of medical science. But while believing that the abolition of the Advisory Board would be a retrograde step, we are strongly of opinion that it requires to be rejuvenated from time to time. It is a defect in its constitution that no machinery exists for the retirement of members after a certain period, so that their successors, untrammelled by routine, may bring new ideas to its deliberations. When men become permanent advisers they are apt to grow conservative and to become imbued with official ideas. We do not wish to suggest that this has happened as yet, but we must reckon with a common tendency of human nature. It would have been a wise precaution to have placed a limit to the period during which a civilian member retained his seat on the Board. Lord Esher's Committee placed a limit of four years on the tenure of military offices; after that, the office holder must spend at least one year at general duty before he can be readmitted to an administrative post. We commend the application of this principle to the Advisory Board. It is certain that the infusion of fresh blood would strengthen the Board in the discharge of its duty of advising the War Office on medical matters, and would at the same time foster a livelier interest among the civil profession in army medical matters by increasing the number of those who have a practical acquaintance with the War Office, as well as of those who might look forward to an opportunity of applying principles which as onlookers they had elaborated from their acquaintance with the general scheme of medical aid in civil life.

SIGHT-TESTING OPTICIANS.

We have received from the Secretary of the British Optical Association the draft of a Bill about to be presented by the Council of that Association to Parliament for the Regulation and Registration of Sight-testing Opticians. In a memorandum which accompanies this document we are informed that it follows the line of the Dentists Act, and that this attempt to obtain Parliamentary sanction for the claims of opticians has been "hastened by the publication of a Bill proposed by the British Medical Association, wherein one of the principal clauses lays down that testing the sight for spectacles must not be practised by any person but a qualified medical man." The memorandum goes on to say that not only would such a clause "press very badly upon that great majority of the spectacle-wearing public which invariably consults a sight-testing optician in preference to an oculist, but an enormous number of fully qualified and certified opticians would be absolutely deprived of a livelihood." The Bill, which is called "A Bill to regulate the Practice of Opticians as regards the testing of Sight," proposes to set up a register under the control of a body appointed partly by the Crown, partly by the British Optical Association, the Spectacle Makers' Company and the general body of registered members, each constituent body appointing four members of the Council which is to be styled "the General Optical Council"; to this register all sight-testing opticians over 21 years of age in practice for the space of three years prior to a certain date would be admitted on payment of 10s. 6d., subsequent registration to cost £5. The Bill penalizes the use by any person not upon the *Register* of the title of "sight-testing optician," or the use of any initials or letters implying that he is registered under the Act or qualified to practise sight-testing. The penalty is a fine not exceeding £20. Such a legislative project as this, which in effect proposes to establish another privileged corporation, will have to justify itself by showing that it is in the public interest that diplomates of the British Optical Association and Spectacle Makers' Company possess the qualifications they claim for eyesight testing, and if this Bill ever gets so far as to be referred to a Parliamentary Committee there will be no difficulty in proving that they are not qualified, and that, so far from giving them a monopoly of the right to sell spectacles, it would be better to prohibit them from publicly announcing their ability to correct all errors of refraction, which, as we have repeatedly pointed out, is impossible without the use of mydriatic drugs, which can only be entrusted with safety to qualified medical practitioners. As to the alleged reason to be found in the draft Medical Act Amendment Bill promoted by the British Medical Association we are somewhat at a loss. The only portion of that document which might bear the meaning discovered by the writer of the memorandum is Section xxxi (Definitions), which says: "In this Act the expression 'medical or dental treatment' includes the application of any real or pretended art, science, method, or system relating to the prevention, cure, or alleviation of any disease or *defect* (the italics are ours) of, or any injury to the human body, and the performance of any surgical or dental operation." This passage is undoubtedly somewhat comprehensive, but the medical profession has no desire to interfere with the legitimate business of opticians, or to deprive them of their prescriptive right to sell spectacles, but we protest against the pretensions so constantly made by a certain section of the trade of ability to deal efficiently with all refractive errors, and against the publication of announcements which we contend are grossly misleading to the public.

THE INDEPENDENCE OF MEDICAL OFFICERS OF HEALTH.

An excellent example of the capricious treatment to which many provincial medical officers of health are liable is to be found in the recent experience of Dr. William Mason, who for the past 25 years has been the medical officer of health for the urban and rural districts of St. Austell. The urban district council desired to extend the boundaries of their district, and to include within its area a portion of the adjoining rural district, and as their sanitary adviser Dr. Mason reported in favour of the extension, whereupon the rural council called upon him to resign his position as medical officer of health to the rural district. Fortunately for Dr. Mason he is one of the few provincial medical officers of health who are not subject to re-election at stated intervals, and as he refused to give up his position the district council stated the facts to the Local Government Board, and asked the Board to sanction his dismissal from office. After inquiring into the circumstances, and hearing from Dr. Mason that the course he had taken was entirely in the interests of the inhabitants of the two districts, the Board decided that there were not sufficient grounds to justify sanction being given to his removal from office. A pleasing feature in this dispute is the support which Dr. Mason has received from the local press. In a leading article, written before the Local Government Board had given its decision, the *St. Austell Star* said: "We very much doubt if the Local Government Board will take such an extraordinary course as that of removing a capable and industrious officer because after many years of conscientious work for the Board he has expressed an opinion on a sore subject which does not meet with the approval of certain members of the rural council. If they do the position of every medical and other officer to any Board will not be worth a month's purchase."

JAPANESE NAVAL SURGERY.

A brief summary of the paper which, as we announced some time ago, Surgeon-General Suzuki, the representative of the Imperial Japanese Navy, was to read at the annual meeting of the Association of Military Surgeons of the United States at Detroit has been telegraphed by Reuter's Agency. Surgeon-General Suzuki attributed much of the success with which wounds had been treated to a regulation requiring each member of the crew of a warship before an engagement to bathe and to dress in perfectly clean underclothing. In a great many shot wounds fragments of clothing were carried into the body, but the observance of this regulation was held to have prevented many cases of blood poisoning. Before every engagement surgeons carefully examined the eyes of all gunners: any gunner found to be suffering from an impairment of vision which would not yield to immediate treatment was transferred to another station and his place filled by one whose eyes were perfect. During engagements the crews were supplied with a lotion of boracic acid (1 per cent.) with which to wash their eyes when affected by powder, smoke, and dust. A cotton plug for the ears, to prevent rupture of the ear-drums was also issued to every man in the fleet before action. This is a precaution to which Fleet Surgeon Lloyd Thomas called attention in a paper read at the annual meeting of the British Medical Association at Oxford last year, and published in the columns of the British Medical Journal of August 13th, 1904. He believed that cotton-wool afforded a certain amount of protection, but added that gun-deafness was sometimes to be observed without rupture of the tympanum; in such cases it was probably due to injury of the nerve terminations in the internal ear. Surgeon-General Suzuki said that it was found impracticable to attempt anything beyond the first dressing of severe wounds during an action: after action absolutely necessary operations were performed, but wherever possible the wounded were hurried to the base hospitals before being operated upon. There had not been a single case of frost-bite among the men engaged during the winter operations before Port Arthur, and this was attributed to the extra heavy clothing supplied; no case of sunstroke occurred during the summer, owing, he believed, to the wide-brimmed straw hats.

VACCINATION CONFUSION.

There is a strong objection to codifying law in the minds of many English legislators, because they fear that codification annuls the value of common law right. Such objection may be valid when the complete codification of large Acts of Parliament affecting complex interests is proposed, but cannot be urged against the better arrangement of short and highly technical Acts. The correspondence which reaches us shows how widespread is the annoyance and trouble caused by the lack of arrangement and system in the Vaccination Acts. The Act of 1898 appears at first sight to be a very simple document, filling two pages of large type, grouped in ten short sections; but a great deal lies behind. There are twelve pages of "Amended Regulations" included in the "General Orders," which gives a variety of instructions to a variety of officials and bodies, followed by ten pages of schedules, which include various fresh instructions, and eleven pages of forms, lettered from A to P. If we confine our attention to public vaccinators, we find that the body of the Act contains one set of instructions, the main body of the amended regulations contains another, the schedule contains a third, and various other duties have to be traced through previous Acts, parts of which have not been repealed. One concrete example may suffice: Article 6 of the General Orders," Duties of Public Vaccinator," says that "every public vaccinator shall diligently perform the duties imposed upon him by his contract or by this Order." There is no word in the three articles defining those duties as to the important points of certificates of successful vaccination, duplicate certificates, or certificates of insusceptibility. From the presence of various forms of certificates in the last schedule we gather that such certificates have to be filled up. The first schedule gives further "duties" of public vaccinators; the third schedule gives further "instructions." If, baffled by all this, we search further, we may find a clue in "Duty No. 9, Schedule I." He will perform any "other duty in regard to vaccination which may be imposed on him by the Vaccination Acts 1867 to 1898, or by any Order of the Local Government Board under those Acts." These Acts must then be successively traced by the light of Section IX of the Act of 1898, which states that in a schedule to this Act "the enactments mentioned in that schedule are hereby repealed to the extent specified in the third column of that schedule," and at last we find in the Act of 1867 the clauses which govern the issue of certificates—important to the vaccinator, who will not be paid unless they are issued in strict accord with the Act, and important to the parents who are threatened with legal procedure. A missing-word competition is child's play to this kind of search. Thus it happens that many private practitioners and even public vaccinators often send in certificates of successful vaccination incompletely filled up; for they dislike the needlessly clumsy form of this certificate, which requires the statement of the child's place of birth, in spite of the fact that identification is established by the reference number on each certificate form entered by the registrar. How many practitioners are aware that by failing to fill up these certificates completely, or even by writing them illegibly, they render themselves liable to a fine, upon summary conviction, of twenty shillings? They are so liable by Sect. XXX, Vict. 30 and 31, cap. lxxiv (1867), and the fact is emphasized by many vaccination authorities in huge red letters all over the outsides of certificate forms which pass through the post. These admonitions, like the liturgical rubrics of the 15th century, imply a waning knowledge of ritual, excusable in vaccinators, whose sources of authority are more obscure than those of the early Church and nearly as ancient. At small cost the Department of State could issue to medical practitioners, Boards of Guardians, vaccination officers and the public, to each class separately, a concise clear list and summary of their duties properly compiled, with the schedules analysed and arranged, and the forms inserted in their right places, with reference to the sections to which they apply. The Vaccination Acts are never likely to be popular among the masses, and in their smooth working much must always depend upon the loyal co-operation with the Government of the profession most concerned. But we regret that the Local Government Board shows little disposition to assist smooth working by a careful arrangement of instructions.

BILE BEANS.

It is seldom that the ways of the quack-medicine vendor are so thoroughly exposed and so trenchantly condemned as were "Bile Beans for Biliousness" in an action at Edinburgh at the beginning of September. The plaintiffs in the action were the ordinary vendors of the compound with this alliterative name, and they sought an order to restrain an Edinburgh firm of chemists from selling any other preparation than that of the plaintiffs under the title of "bile beans." Lord Ardwall refused the order with costs against the plaintiffs on the ground, amongst others, that they were entitled to no protection from the law, because their whole business was founded on, and conducted by, fraud. So far from these beans being, as they were represented to be, the product of "a great discovery of an ancient Australian medicine by an eminent scientist using the most advanced scientific methods and apparatus," they were simply composed of ordinary drugs, which had no special connexion with Australia, and were to be found in every chemist's shop. The beans were not, and never had been, even made by the plaintiffs; they were simply turned out to their order by contracting chemists out of stock goods. Even the eminent scientist had no existence; he was simply one of the plaintiffs under another name; he was not a man of science at all, and had never made any investigations whatsoever, being nothing more than a man with five years' experience as a mere unqualified chemist's assistant. He and his partner—a young stationer and

printer—had put their heads together in Australia and decided to place some pill or other upon the market under a catchy title. Having hit upon the phrase "Bile Beans for Biliousness," they flooded the English-speaking world with advertisements and pamphlets, in all of which was prominent the false statement that Bile Beans were composed for the most part of a natural vegetable substance discovered in Australia, and hitherto unknown to civilization. This was the foundation of the success of a business entirely built up on fraud, impudence, and advertisement. In such terms did Lord Ardwall deliver himself on the bench, and they might undoubtedly be used with equal truth of many other of the quack remedies with which the public doses itself.

ROYAL COMMISSION ON MOTOR TRAFFIC.

MR. W. REES JEFFREYS, Secretary of the Joint Committee of the Automobile Club and Motor Union of Great Britain and Ireland, writes to ask for assistance in connexion with the collection of evidence for the Royal Commission on Motor Traffic. He points out that those who advocate increased taxation and further restrictions upon the use of motor cars argue *inter alia*: (1) That the motor car is used almost exclusively for pleasure purposes. (2) That the owners of motor cars are wealthy men who can well afford to pay increased taxation in respect of their cars, and heavier penalties for breaches of the law. ("What," it is asked, "is a fine of £10 to a man who can afford £1,000 for a car?") (3) That motor cars are more destructive of roads than horse-drawn vehicles, and therefore should be heavily taxed. (4) That the owners of cars on the average pay less in the way of rates towards the maintenance of roads than the non-motoring public. The Joint Committee desire to ascertain accurately, by a thorough statistical inquiry, how far these statements are correct. Individual returns will be regarded as strictly confidential; they will be used solely for statistical purposes, and general results only will be published. A form containing a list of questions can be obtained on application to Mr. Rees Jeffreys, Secretary of the Joint Committee A.C.G.B.I. and Motor Union, 16, Down Street, Piccadilly, W.

THE INTERNATIONAL CONGRESS ON TUBERCULOSIS.

VERY sanguine anticipations have been formed in Paris as to the number of persons likely to attend the International Congress on Tuberculosis which is to be opened by M. Loubet on Monday afternoon next. The hall which has been prepared in the Grand Palais will seat about 5,000 persons, but some apprehension is expressed that it may not be large enough, as the French public are taking a great deal of interest in the Congress. As already announced, the scientific business of the Congress will be conducted in four sections—medical, surgical, prevention of tuberculosis in childhood, and its prevention in adult life. An exhibition in connexion with the Congress will be opened in rooms in the Grand Palais; it also will be divided into four sections scientific, social, historic, and industrial. The latter will include exhibits of foods, pharmaceutical products, and antiseptics. Three rooms will be arranged to illustrate the fittings of a room in a sanatorium for the rich, for the poor, and for the intermediate class respectively. Two other rooms are being fitted up by the Touring Club of France; one will show the ordinary hotel bedroom of France, with its heavy hangings and immovable carpets, the other will display, in contrast, a bedroom furnished on hygienic principles. The Congress ends on October 7th, but the exhibition will remain open until October 29th.

SUDDEN ABDOMINAL PAIN.

THE significance of sudden severe abdominal pain is a well-worn text, but the lay sermon upon this theme by Dr. Babler, of St. Louis, published in the *New York Medical Journal*, shows how little the moral has been taken to heart. It is easy to say, "Thou shalt not give morphine," and the commandment lays but little less heavily when the clause "until the diagnosis is established" is added. For if there is one point clearly made in this paper it is the extreme difficulty of deciding by which of the many abdominal catastrophes a particular attack of sudden severe pain has been determined. The general practitioner who gives morphine does so often against his better judgement, certainly against the best interests of the patient, but "constrained," if at all, by the patient's friends and by circumstances. Every surgeon of experience has seen the fatal effects of masking severe abdominal pain by hypnotics, and nearly every one will agree with the conclusions of Dr. Babler, which are broad enough to include sound clinical knowledge as a "sacred duty," bold enough to ask for an early call to the consultant, and precise enough to indicate the importance of a clear history, and prompt but complete examination, including the original site of pain. He attempts to give indications for the differential diagnosis of appendicitis, extrauterine pregnancy with rupture, intestinal obstruction, perforating ulcer, acute pancreatitis, renal colic, perforative cholecystitis, pedicle torsion, and pyosalpinx; but the frequent repetition of the same signs and similar adjectives in the successive descriptions only serves to point the extreme difficulty—sometimes amounting to an impossibility—of determining at any given moment the actual cause; often, indeed, is the operation for such a grave abdominal crisis an "exploratory laparotomy." Dr. Babler does not sufficiently insist on the importance of examining the natural orifices and the dejecta. An omission to examine the rectum is a serious sin against the canons of diagnosis—far worse than inaccuracy in some such debatable observation as the absence of liver dullness. Indeed, "Never neglect an orifice" is almost as sound a dictum as "Never obscure the diagnosis with morphine."

LAMINECTOMY IN TUMOUR OF THE SPINAL CORD.

DR. J. COLLINS WARREN had published[1] a report of three cases of much interest in showing the satisfactory results of operative treatment of tumour of the spinal cord in regard both to the restoration of function and to the relief of severe pain. In two of these cases extramedullary and easily-enucleable tumours were removed, and the symptoms of pressure on the cord were relieved; and in the third case, which was one of diffused intramedullary growth, probably endotheliomatous in nature, laminectomy did good service as a palliative procedure by arresting for a period of seven and a half years progressive paralysis, and setting the patient free from what before the operation had been noted as pain of great severity. The effects of removal of pressure in this case, in which nothing more than a relief of symptoms was expected from laminectomy, is regarded by Dr. Warren as most gratifying. In this, and in the second case in which a soft and vascular fibroma was removed from the dorsal portion of the cord, operative treatment was followed at once by a rapidly-progressive improvement. The first case, on the other hand, presents some rather puzzling features, and shows that laminectomy, though followed by complete relief, may effect this good result very slowly, and probably in an indirect way. In this interesting record the removal of a small fibroma from the surface of the cord at the level of the ninth dorsal vertebrae is stated to have resulted in practically complete recovery, but not until after a prolonged persistence of the painful symptoms and a very tardy restoration of the muscular function of the lower limbs.

SIR THOMAS CHAVASSE.

ARRANGEMENTS have been made by members of the profession in Birmingham and the surrounding districts to entertain Sir Thomas Chavasse at a dinner to be held at the Grand Hotel, Birmingham, on Thursday, October 5th. We are asked to say that if any medical practitioner in the neighbourhood has been overlooked in sending out the circulars he can obtain a ticket by applying to Dr. Thomas Nelson, 70, Hagley Road, Edgbaston.

[1] *American Journal of Surgery*, August 26th, 1905.

Scotland.

Cerebro-Spinal Fever.

The Local Government Board has issued a circular to the local sanitary authorities calling their attention to the fact that cerebro-spinal fever has recently been somewhat extensively prevalent in Central Europe and in America. While the Board considers that there is no ground for the apprehension that the disease has newly extended to or developed in Scotland, it yet advises local authorities to be on the alert to detect the presence of the disease in their districts, or to satisfy themselves of its absence. The Board further transmits a copy of the memorandum on cerebro-spinal fever issued recently by the Local Government Board in England. This memorandum deals generally with the characteristic symptoms of the disease, and especially with its minor and anomalous manifestations. It is pointed out that, in the event of the discovery in any districts of groups of cases of illness that may be of the nature of cerebro-spinal fever, it would be important that the facts should be made the subject of a special report to the local authority by the Medical Officer of Health, and that a copy of such report should be forwarded to the Board. In the event of such an occurrence the Board would be prepared to render the local authority such advice or assistance as might appear to be necessary. In particular the Board would be prepared to approve of a resolution of the local authority extending the provisions of the Infectious Disease (Notification) Act, 1889, to cerebro-spinal fever for a limited period.

Edinburgh Royal Infirmary.

At a meeting of the Managers of the Edinburgh Royal Infirmary on Monday, September 25th, the following minutes with reference to the retirement of Professor A. R. Simpson and Mr. G. A. Berry, the senior ophthalmic surgeon, were adopted:—

"In taking leave of Professor A. R. Simpson, on his retiral from the staff of the Royal Infirmary, in consequence of his resignation of the Chair of Midwifery in the University, the Managers desire to record in their minutes, and convey to him the expression of their gratitude and their sincere thanks for the conscientious, untiring, and sympathetic way in which he has performed his duties during the long period of thirty-five years. They regret to lose the able services of one who has not only kept in the van of his science, but who has greatly aided its progress, and who, notwithstanding advancing years, yet maintains unabated his strength and zeal. They earnestly hope that, although now withdrawing from some of the more active duties of his calling, Professor Simpson may be spared for many years to continue the good work in other directions which it had ever been his aim and his pleasure to render on behalf of his fellow-men. In accepting Professor Simpson's resignation, the Managers, as a mark of their high appreciation of his services, and in order to preserve his connexion with the Royal Infirmary, have pleasure in appointing him one of the consulting physicians to the Gynaecological Department of the institution.

"The Managers regret that, in consequence of the expiry of his term of office, they must lose the services of Mr. George A. Berry as Senior Surgeon in the Eye Department. They desire to convey to him their sincere thanks for the able and untiring service which he has given the institution during the long period of twenty-three years. They are grateful that a man possessing a world-wide reputation, because of his ability in his special department of surgery, has devoted so much time to the gratuitous care of the afflicted poor. They hope that Mr. Berry's extensive knowledge, operative ability, and other talents may continue to receive that public confidence and recognition which they so richly deserve. In token of their esteem and of their appreciation of his work, the Managers appoint him one of the consulting surgeons to the Eye Department of the institution."

Dr. E. Scott Carmichael was elected Surgical Registrar for another year as from November 13th next. The following appointments were also made:

Clinical Tutors for the ensuing Winter and Summer Sessions: George Lyon, M.D. (winter session only), W. E. Carnegie Dickson, M.D., and Edwin Bramwell, M.D., to the University Medical wards; Alexander Goodall, M.D., to Dr. James's ward; W. T. Ritchie, M.D., to Dr. Gibson's ward; J. Harvey Pirie, B.Sc., M.B., Ch.B., to Dr. Alexander Bruce's wards; W. J. Stuart, M.B., F.R.C.S.Edin., to Professor Annandale's wards; H. J. Thomson, M.D., to Mr. Cotterill's wards; John Struthers, F.R.C.S.Edin., to Mr. Cathcart's wards. Instructor in Anaesthesia: T. D. Luke, F.R.C.S.Edin., to Professor Annandale's wards. The following were appointed for the ensuing six months as from October 1st: Resident Surgeons: Louis Fourie, M.B., Ch.B., to Professor Sir T. R. Fraser; Hugh R. Macintyre, M.B., Ch.B., to Professor Greenfield; A. D. M'Callum, M.B., Ch.B., to Professor Wyllie; H. J. Stewart, M.B., Ch.B., to Dr. Andrew Smart; Norman S. Carmichael, M.B., Ch.B., to Dr. Alex. James; William W. Greer, M.B., Ch.B., to Dr. Bramwell; John Cunningham, M.B., Ch.B., to Dr. George A. Gibson; F. D. Cresthwaite, M.B., Ch.B., to Dr. Alex. Bruce; George D. Mathewson, M.B., Ch.B., to Dr. Barbour; J. G. B. Shand, M.B., Ch.B., to Professor Annandale; Archibald Oliver, M.B., Ch.B., to Professor Chiene, C.B.; W. L. Robertson, M.B., Ch.B., to Dr. MacGillivray; Andrew M'Kendrick, L.R.C.P. and S.Edin., to Dr. Berry Hart; Geoffrey Cowan, M.B., Ch.B., to Mr. Cotterill; and Archibald C. M'Master, M.B., Ch.B., to Mr. Cathcart. Non-Resident House-Surgeons: A. O. P. Reynolds, M.B., Ch.B., to Dr. Mackay; Wm. J. Fraser, M.B., Ch.B., to Dr. Sym A. M. M'Intosh, M.B., Ch.B., etc., to Mr. Thomson. Clinical Assistants: Charles M'Neil, M.A., M.B., Ch.B., to Professor Sir T. R. Fraser; J. Z. H. Rousseau, M.B., Ch.B., to Professor Greenfield; E. A. Elder, M.A., B.Sc., M.B., Ch.B., to Professor Wyllie; J. A. Cruickshank, M.B., Ch.B., to Dr. Bramwell; J. C. Dalmahoy Allan, M.B., Ch.B., to Dr. Gibson; John S. Mitchell, M.B., Ch.B., to Dr. Bruce; E. Simmers, M.B., Ch.B., to Mr. Cotterill; W. M. Hewetson, M.B., Ch.B., to Mr. Cathcart; A. W. Beveridge, M.B., Ch.B., to Dr. Mackay; Wm. Darling, M.B., Ch.B., to Dr. Philip (Ward 6); James J. Galbraith, M.D., to Dr. Philip (medical waiting-rooom); John L. Green, M.B., Ch.B., to Dr. Russell (observation ward); Hugh Jamieson, M.D., etc., to Dr. Russell (medical waiting-room); Arthur J. Brock, M.D., to Dr. Murdoch Brown (medical waiting-room); John M. Bowie, M.D., to Dr. Lovell Gulland (medical waiting-room); John Sullivan, M.B., Ch.B., to Dr. Braham Brown (medical waiting-room.)

The Edinburgh District Lunacy Board.

The General Board of Lunacy for Scotland have had before them the plans for the proposed recreation hall at the new asylum at Bangour, estimated to cost £8,000 or more. It appeared to the Board that the proposed outlay was excessive, and that a building of more simple arrangements which would adequately fulfil its purpose could be erected at a cost considerably less. In reply the District Lunacy Board asked the General Board to explain how they proposed to reduce the cost of the recreation hall, and if a building of a less size would be sufficient, or if their objection was to any increase on the probable estimated cost of £8,000. The reply of the General Board is in these terms:

In reply to yours of the 5th instant I am directed to say, in reference to the plans of the recreation hall, that, in the opinion of the Board, the stage is far too large and elaborate in its equipment for any theatricals or concerts such as are usually given at asylums. The performers at such entertainments are few, and their requirements as to accommodation need not be on anything like the scale shown on the plans. A stage of half the depth—that is, from front to back—would suffice; the retiring rooms are too large, and private dressing rooms are far too numerous. The property room above, which must add largely to the cost of the hall, should be dispensed with, and a far more economical method of storing the small amount of scenery required for asylum theatricals can easily be found. If these views are given effect to the cost will be reduced and the adequacy of the hall for its purpose will be unimpaired.

Ireland.

The Better Equipment of Queen's College, Belfast.
Generous Offer by Sir Donald Currie.

Sir Donald Currie has addressed a letter to the Rev. Dr. Hamilton, President of the Queen's College, Belfast, in which he recognizes the necessity of further extensive improvements to bring the College into line with the best schools, and most generously makes three offers as follows:

1. I am ready to give a contribution somewhat proportionate to that which others of your friends have given, if you think the whole scheme cannot be successfully carried out.

2. Or I am willing to offer to you £10,000, provided others will contribute to an equal extent.

3. In the hope that the whole scheme as sketched out by me can be successfully carried out, and that you can obtain from others an equal amount, I will give £20,000.

A meeting of the Executive Committee of the Better Equipment Fund was held in the College on September 22nd to consider the letter, and a vote of warm thanks was passed to Sir Donald for his most generous offer. Arrangements were made to appeal on behalf of the fund to the graduates and the general public to raise £20,000 before Christmas. Sir Donald, although born in Greenock, was the son of the late Mr. Currie of Belfast, and lived and was educated in Belfast till he was 15 years old. President Hamilton must be congratulated on the energy and perseverance with which he keeps the work of college improvement moving.

Typhus in Donegal.

A sharp epidemic of typhus broke out in the parish of Clonmany, in Mishoren, some few weeks ago, and the district was so terror-stricken that it was with difficulty assistance could be obtained to carry out interments. Nurse McGinnis, niece of Dr. Sigerson (Dublin) died, and this was rendered the more tragic owing to the circumstance that her sister, who had preceded her as nurse in the hospital, had also died in the discharge of duty; two wardswomen and two patients also succumbed. Dr D. Doherty, medical officer of the district, reported that possibly the purchase of old clothes had started the affection. Thorough disinfection had been carried out, and no new cases had occurred since.

Inadequate Water Supply for Donegal Lunatic Asylum.

At the September meeting of the Committee of Management Dr. Moore, Resident Medical Superintendent of the Donegal Lunatic Asylum, drew attention to the total inadequacy of the water supply for the institution. A limited supply had been turned on to the sanitary annexes on August 21st and patients had been bathed for the first time for eight weeks on September 1st. If typhoid fever or other epidemic had broken out the results would have been terrible. Two springs from which a good supply had been obtained had begun to fail in May, and it had become necessary to depend upon the storage of water in the reservoirs since March. After some discussion, a committee was appointed to meet a deputation from the urban council, who were desirous of increasing their own supply, so as to obtain water for both town and institution from Lough Salt.

Dunlop Memorial Home.

On September 14th a large gathering assembled to join in the opening of a home in connexion with the Holywood District Nursing Society erected to perpetuate the memory of the late Dr. Archibald Dunlop, who practised for many years in Holywood. He was exceedingly popular, and held in much affection and esteem. The home is very comfortably and artistically fitted up for the accommodation of the nurses. Mr. Richard Patterson presided, and among those present was Major Dunlop, son of the late Dr. Dunlop; Dr. Shekleton, and many others. The Chairman said that the Society had been working for twenty years; three years ago, when Dr. Dunlop died, every one thought it would be a proper thing to provide a memorial of his name, and at the same time a centre and home for the Society. The debt incurred by the erection of the building had been fully defrayed, and a small sum remained to form the nucleus of an endowment fund.

THE ABUSE OF OUT-PATIENT DEPARTMENTS.

Hospital abuse in connexion with out-patient departments is by no means limited to London. It exists—and, in some degree, is even more felt—in many provincial towns. Cardiff is one of them, and there the question was recently brought under the consideration of the Board of Management of Cardiff Infirmary by Mr. T. Garrett Horder.

In claiming attention for the subject, Mr. Horder gave an account of its past history in Cardiff. It appears that as far back as 1891 a joint committee representing the infirmary, the Provident Dispensary, and the Charity Organization Society, was formed to consider the organization of the medical charities of the town and to see what improvements could be introduced into their administration. The Committee's deliberations resulted in their making sundry recommendations in respect of the work of the infirmary, of which the following are the more important:

1. That a wage limit for out-patients at the infirmary should be adopted of a kind suitable to the locality, that suggested being as follows: Single man or woman, 18s. per week; man and wife, 22s. per week; each child, 1s. 6d. per week. In the event of persons applying for outdoor medical relief being found on investigation to be drawing wages in excess of this scale, it was recommended that (unless for special reasons it seemed to the out-patient medical staff desirable to retain them as patients at the infirmary) they should be referred to the provident dispensary, or refused attendance, as the case might be.

2. No person in receipt of parish relief or belonging to a club providing medical attendance, or being a member of the Provident Dispensary, should be deemed eligible for relief at the infirmary, except for the purpose of a consultation on a recommendation in writing by the respective medical officers.

3. That minor accidents and urgent cases should receive attention in the first instance without inquiry, but subsequently be referred to their club doctor, the Provident Dispensary, or a private practitioner, according to circumstances, if they should prove ineligible for treatment according to the rules suggested.

The Infirmary Board approved and adopted these suggestions, but raised the wage limit for a man and his wife to 23s., and made an allowance of 2s. for each child in the family instead of 1s. 6d.

Other important recommendations which the Committee put forward, but which were not adopted by the Board of that date, advocated:

1. The appointment of a paid officer to inquire into the circumstances of out-patients presenting Governors' Letters and applying for relief.

2. That a letter should habitually be held to entitle to one attendance only unless the medical officer for the day thought it desirable that further attendance should be given, while domestic servants in actual employ should, in any case, be referred to the Provident Dispensary after one attendance.

In dealing with the future Mr. Horder drew special attention to one very important question—namely, How and to what extent should a wage limit be applied to patients suffering from diseases of a special nature, such as those of the eyes or ears, or those peculiar to women? The number of cases of this character dealt with at Cardiff Infirmary is not only great, but constantly growing, as is shown by the following table:

	1900.	1901.	1902.	1903.	1904.
Surgical	1,370	1,449	2,158	2,337	2,959
Medical	2,247	2,158	2,449	3,111	3,557
Ophthalmic	3,287	3,662	3,883	4,825	3,801
Women's diseases ..	610	649	702	903	1,056
Aural	853	993	1,143	1,260	1,494
Dental	523	646	578	813	905
Minor casualties ..	3,025	3,595	3,655	3,923	4,595
Total	10,915	13,157	14,559	17,170	18,307

There seems to have been an idea on the part of the original Board that the wage limit should not apply to cases of this character; but no formal resolution to this effect was ever passed, and, even if the present Board approved of such a regulation, Mr. Horder considered that it would be impossible for the Secretary or for any of his staff to examine the cases, and thus ascertain whether, so far as their diseases were concerned, they stood within or without the wage-limit regulation. On this account alone, therefore, he considered that a new committee of inquiry into the general question would prove very useful.

From a financial point of view, likewise, such a committee, he thought, was desirable. Relatively and actually the expenses of the out-patient department have most materially increased of late years. It is not possible, in his opinion, entirely to separate outgoings on in-patients from those on out-patients, but he thought that the following table showed that much of the general increase of expenditure could be correctly attributed to out patient work:

	1901.	1902.	1903.	1904.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Drugs, chemicals, disinfectants, etc	576 10 8	672 18 7	964 17 2	1,253 6 8
Dressings and bandages, etc. ...	493 16 1	588 4 6	789 9 9	967 12 1
Instruments and appliances ...	273 17 2	418 0 9	508 1 4	515 6 11
Ice, mineral waters	37 7 9	35 0 6	41 0 0	50 19 3
Wines and spirits ...	57 17 1	90 9 9	106 15 8	70 15 1
Sundries ...	50 7 8	98 10 6	95 8 10	134 12 6
Total	1,539 15 7	1,903 5 0	2,505 12 2	3,018 12 6

In concluding his remarks Mr. Horder said that the Cardiff Infirmary did not stand alone in having to deal with this problem. It existed in the metropolis, and, he believed, in every large provincial town. Quite recently the Distribution Committee of the Metropolitan Hospital Sunday Fund had issued a letter to the secretaries of the eighty hospitals in the Metropolis having out-patient departments. This body expressed the view that the serious increase of late years in the number of out-patients (many of whom had trivial com-

plaints) was detrimental to the welfare of hospitals and of the patients themselves, inasmuch as they were a burden to the funds of the hospitals and prevented the medical officers concerned from giving efficient attention to serious cases. The committees of the various hospitals addressed were invited to consider the matter, and if they could agree on any remedy to lay it before the Fund before the end of the present financial year.

As for Cardiff itself it must be gratifying not only to the Board of Management, but also to the medical staff of its infirmary, to find the services of the institution are in such great request, but Mr. Horder thought it should be borne in mind that the physical capabilities of the medical staff were not unlimited, that the financial resources were not capable of being indefinitely extended, and that it was not possible for the professional officers adequately to deal with the large number of serious cases that came into their hands, when their energies were to such a large extent exhausted by having to deal with cases of a trivial nature. They could not but admire the enormous interest taken by the working men of South Wales in their hospital, and he thought they could confidently appeal to them to support the movement.

Mr. Garrett Horder's remarks seem to have been well received, and, after some discussion of detail, a committee of inquiry was forthwith appointed.

THE MIDWIVES ACT, 1902.

London.

The London County Council, at its last meeting in July, resolved to promote legislation in the next session of Parliament to give it power to pay the fee of a medical practitioner called at the instance of a midwife to a case of emergency as defined under Rule E. 17 of the rules made by the Central Midwives Board, and also to enable the Council to recover from the patient, or from any person liable by law to maintain her, the amount of such fee should it be discovered after payment that the patient or her friends were in a position to pay the whole or a portion of the fee.

This proposal has been under the consideration of a special Committee of the Metropolitan Counties Branch, and a letter has been prepared and forwarded to the Clerk of the London County Council, expressing the hope that in the interest of the patient, and in order to prevent delay, the Council will make it clear that (*a*) the receipt by a medical practitioner of the midwife's requisition to attend, and (*b*) his consequent attendance, will together entitle him *ipso facto* to receive the fee from the London County Council direct. The hope is also expressed that the proposed legislation will authorize payment in all cases enumerated in Section E 17, and not in those only in which the patient pleads inability to pay, seeing that the midwife is by law required to send in all cases of emergency as enumerated.

As a basis for fixing the amount of the fee, the Committee suggests those paid by the Metropolitan Police for attendance without operation, and for cases where operative interference is required those paid by the Poor law authorities, namely, visit by day 3s. 6d., by night 7s. 6d., attendance on cases requiring operative interference £2, administration of an anesthetic £1 1s. The Branch further suggests that it is desirable that powers should be obtained to pay special fees in special cases with the consent of the Local Government Board.

The Committee also advises the County Council to form a list of medical practitioners within the area under the control of the London County Council who are willing to attend in answer to a request made by a midwife, and to supply such list, in so far as it concerns the locality in which they practise, to all midwives.

The matter will, we understand, be considered by the Parliamentary Committee of the London County Council early next month.

LITERARY NOTES.

Messrs. Baillière, Tindall and Cox announce that they have in the press a fourth edition of Sir William Broadbent's treatise on *Heart Disease*, which has been prepared with the co-operation of Dr. John F. H. Broadbent. The same firm announces the early appearance of a *Manual of Military Hygiene*, by Lieutenant Colonel R. Caldwell, R.A.M.C., F.R.C.S.Eng., late member of the War Office Committee on Field Sanitation; a work on *Sound and Rhythm*, by Mr. Walter Edmunds, M.B., F.R.C.S., with numerous original illustrations; and a volume on *Nodal Fevers*, by Dr. A. A. London of Melbourne, which will be illustrated by coloured plates.

Mrs. Watt Smyth has in the press a *Textbook of the Principles of Hygiene based on Physiology, for the Use of School Teachers*. The volume is intended to supply the information required by teachers to enable them to carry out the advice in the chapter on the School and the Health of the Scholars in the *Suggestions for the Consideration of Teachers* issued by the Board of Education this year. The Elementary Education Code for 1905 directs that "physical training should be accompanied by instruction in the elementary rules of personal health in respect of food, drink, cleanliness, and fresh air, and by careful cultivation of a correct posture at writing and other lessons." Mrs. Watt Smyth has therefore given special attention to a description of the action of the muscles in relation to the *Syllabus of Physical Exercises* issued by the Board in 1904. The book, which will be illustrated by sixteen special plates mostly reproduced from photographs of specimens taken for the purpose in the Museum of the Royal College of Surgeons, will be published by Messrs. Simpkin Marshall and Co.

The County Press has been established at 17, Ball Street, Kensington, to publish volumes at a moderate end, as far as possible, uniform price on matters relating to the country and country pursuits. Its first publication, which is to appear very shortly, is a re-issue of Mr. Francis George Heath's *The Fern Paradise*.

The popularity of the volume of addresses to medical students, nurses, and practitioners of medicine, collected by Professor Osler, under the title *Aequanimitas*, is shown by the fact that a third impression has recently been issued. The volume was reviewed at some length in the British Medical Journal of June 24th, 1905, p. 1391.

The *English Illustrated Magazine* for October publishes some extracts from the diary of Lieutenant L. B. Halloran, of the Royal Marines, who served at Trafalgar in the *Britannia*, the ship which followed third after the *Victory* through the enemy's line. He was both a playwriter and an actor, and mentions a long series of pieces, some new and some old, which were played on board during the weary days of waiting before the enemy's fleet put out to sea. One of the pieces was *The Mock Doctor*. The battle itself is described briefly and modestly, but fuller details are given about the distress experienced in the fleet afterwards. The weather became very bad, and the writer thus describes the situation on the day after the action:

> We had now an enormous number of prisoners, and our situation may be better imagined than described, crowded to a dreadful degree, a large proportion of prisoners wounded in addition to our own, numbers dying hourly, and the ship labouring in a heavy sea, in one of the most severe gales I ever witnessed—thunder, lightning, and torrents of rain—the ship leaking copiously through her sides from her great age and also from the concussion of her guns, which shook the timbers to such a degree that they became quite loose. The officers mostly sick and laid up from fatigue and great exertion, so that the Captain had to take charge of a watch, the wardrobe mess crowded with double and treble our number, our stock all out, nothing left but salt junk, no vegetables—such was our disagreeable situation.

THE CHOLERA.

A case of cholera in Berlin was officially announced on September 23rd, the victim being a canal bargeman, who died on his coal barge in one of the Berlin canal harbours.

The total number of cases officially reported in Prussia since the outbreak down to September 26th was 246, and the total number of deaths 85.

Eight more cases were reported at Lodz down to September 25th, making a total of 13 there since the outbreak. Single cases have also been reported at Pabianice, near Lodz, and at Wloclawek, in the Government of Warsaw, the latter terminating fatally.

Bequests to Medical Charities.—The late Mr. James Thomas East, of South Hackney, who died on August 20th, left £250 to the North-Eastern Hospital for Children, and £100 each to the London Hospital, the City of London Hospital for the Diseases of the Chest, Victoria Park; Guy's Hospital, the City of London Truss Society, and the Tottenham Hospital for the general maintenance of the ward for children known as the Howard Ward. The London Hospital is made residuary legatee of the estate, and, in addition to the sum already mentioned, seems likely to receive between £2,000 and £3,000.

SPECIAL CORRESPONDENCE.

LEEDS.

Opening of the Winter Session of the Medical School of the University.—Annual Meeting of the Leeds Public Dispensary.

THE session begins on Monday, October 2nd, and the Dean will attend in his office from 9 to 10 a.m. during the week for the enrolment of students. On Tuesday afternoon the Right Hon. G. W. Balfour will give a short address to the students, and Lady Betty Balfour will distribute the prizes to those who have been successful in the competitions during the past year. Mr. Balfour has accepted the invitation of the medical profession of Leeds and district to dine with them the same evening, and it is expected that there will be a large gathering.

The report which was laid before the annual meeting of the Leeds Public Dispensary was of especial interest, inasmuch as it dealt with the work done during the first complete year of the occupation of the new buildings. In all departments there was a marked increase in the number of cases treated. The accidents attended amounted to 4,449, an increase of 764 on the previous year. Eye and ear cases numbered 1 276 an increase of 120. Ordinary medical and surgical cases numbered 23,971. The dental department has now been working for some months, and the public is showing an increasing appreciation of the benefits of this section of the work. It is satisfactory to know that the members of the honorary staff —physicians, surgeons, and dental officers—are unanimous in praise of the excellent accommodation which has been placed at their disposal for carrying on the work of the dispensary. The clinical laboratory, which is under the direction of Dr. O. C. Gruner, has been satisfactorily equipped for the carrying on of the usual investigations required in clinical work, and has been much appreciated by the staff.

SOUTH WALES.

South Wales University College and School Hygiene.—Brynmawr Council.—Llanelly Water Dispute.—Glamorgan Asylum.—Llandrindod Wells Common.—Cardiff Poor-law Expenditure.

LAST session a very successful course of lectures in school hygiene was given at the University College of South Wales and Monmouthshire on Saturday mornings. Among the lecturers were men of eminence in their several departments. The course was attended by over 120 students. A course on similar lines will be established for next session, provided a sufficient number of students signify their desire to attend.

At the meeting of the Brynmawr District Council, held on September 20th, Dr. J. L. Thomas, Medical Officer of Health, reported that of the 11 deaths during the past month 6 were of children under the age of one year, "a truly lamentable proportion, considering that none are due to zymotic disease." No case of typhoid fever had occurred, and there had been no prevalence of summer diarrhœa.

At a meeting of the Roads Committee of the Llanelly Urban District Council held on September 22nd, the Clerk read correspondence with reference to the supply of water by the council to the rural area. The Clerk to the rural district council wrote, stating that his authority were now arranging for a supply of water from Llandilo, having failed to obtain the same from the Llanelly Urban Council. The letter continued:

The Local Government Board having condemned your water in 1893 and again in 1901, when they asked you to filter the same, and having repeated the same in 1904, when they also informed you that until you had provided for efficient filtration they could not consent to your supplying us, we had no alternative but to look for water elsewhere, as nothing was being done in the direction of filtration, and we are being very much pressed to provide a supply for several parts of our district.

The Clerk to the urban council submitted a draft reply, which was approved by the Committee. It stated that the rural council had not as yet made application to the urban authority for a supply of water to any additional area. When they did so the urban council was both able and willing to give such a supply within its statutory limits.

Touching the filtration of the water, you have perhaps not noticed in the local press that very considerable progress has been made, the local authority having visited various towns in which systems of filtration, recommended to the notice of this council were in vogue. The urban council are quite alive to the importance of the matter, and, having regard to the fact that the water supply has proved quite satisfactory so far as the town of Llanelly is concerned, and also as Llwynhendy and the surrounding neighbourhood is involved, and also in view of the fact that at a large expenditure an additional reservoir and bye-wash have been provided, it was hoped that filtration would not be insisted upon. I may say that any analysis of the water by the county analyst since the provision of the new works referred to shows most favourable results.

The fortieth annual report of the Glamorgan County Asylum, just issued, states that the admissions for the year were 58 per 1,000 of the population, as compared with 55 in the preceding year, an increase of 3. This, says the medical superintendent (Dr. R. S. Stewart, D.P.H.), is, from the sociological point of view, an unsatisfactory feature, and it is difficult to find an explanation for its occurrence. There is an entire absence during the year of any noteworthy disturbance affecting the industrial or social conditions of the community. The apparent increased prevalence of intemperance in the district, as judged by the proportion of persons tried for the offence of drunkenness, which rose from 1,276 in 1902 to 1,414 in 1903 per 100 000 of the population, and the enormously greater proportion of the offence in Glamorgan as compared with the country generally, the proportion of prosecutions in the county in 1903 was just double that of England and Wales, might be thought to be a sufficient explanation; but against this was to be placed the fact that intemperance was found in only 16 per cent. of the cases admitted in 1904, as compared with 26 in 1903. So far as figures can show, the increase cannot be attributed to any material extent to the religious revival which was such a prominent feature of the last quarter of the year, for in only 1 per cent. of the admissions was religious excitement deemed to be a contributory factor in causation. Dr. Stewart hopes that the apparent increase for the year under review may prove to be only a temporary feature.

A town's meeting was held at Llandrindod Wells on September 22nd to consider the proposed purchase of the beautiful Pump House Common—thirty acres in extent—including the lake, for £25 000, the council to have the right of selling the fringe for building sites, and the remainder to be kept as an open space. The Chairman of the council presided, and said that if they wanted to make Llandrindod Wells the finest health resort in Wales the ratepayers must rise to the occasion and purchase the common. The proposal to purchase was unanimously carried.

Mr. F. T. Bircham, Local Government Board Inspector, attended the weekly meeting of the Cardiff Union Board of Guardians on September 23rd and in addressing the members referred to the fact that his report on the cost of Poor-law administration in the district under his supervision, comprising fifty-three unions, during the past ten years report showed that the expenditure in the Cardiff Union had very largely increased. It behoved every guardian to take a deeper interest in the duties of the Board, and to attend regularly the meetings of the Committees, especially the Relief Committees, to see that every care was taken in the expenditure of public money, because, unfortunately, the guardians were not the only spending body in connexion with the poor-rate. What was known as the poor-rate amounted last year in the Union to something like £300,000, yet only about a third of this amount went to the relief of the poor and the expenses incidental thereto; in fact, only £80 000 or £90 000 out of £300 000, so that about £220,000 of this sum went to purposes other than Poor-law relief. There was no doubt that Poor law relief was largely on the increase, but while it was necessary that what was known as "adequate relief" should be given, yet when it was borne in mind that the amount of outdoor relief in the Union had gone up to the extent of 77 per cent. during the past ten years, it was incumbent upon the guardians to use every possible means to prevent unnecessary expenditure. While outdoor relief had gone up to such an extent, notwithstanding the systems of cottage homes for aged couples, children's houses, etc., which had been introduced, the cost of indoor relief had only gone up 36 per cent. He said that to inspire the Board with greater care, because there was a tendency to be lavish in the matter of expenditure for outdoor relief, and the guardians were apt to forget that the standard of independence of the poor was sometimes affected by such lavish expenditure. It was true that with such a high assessable value in that Union the amount raised for the purposes of Poor-law administration was only at the rate of 1s. 1d. in the £1. Mr. Bircham said he had always great pleasure in going round the various Union institutions in connexion with the Cardiff Union. They had so excellent a system of grouped and scattered homes hospital, and so forth that he hoped it would not be necessary to make any further expenditure in this direction for some time to come.

CORRESPONDENCE.

THE TREATMENT OF PUERPERAL ECLAMPSIA.

SIR,—Perhaps I may be permitted, by way of postscript to the discussion on puerperal eclampsia, to relate a case anonymously.

The patient, a delicate lady, a near relative, had been married ten years without conceiving. The first intimation of her pregnancy reached me at the end of the sixth month, when she was suffering from headache and had slight oedema of the ankles. The next thing was a telegram saying that she was in violent convulsions. As she was 200 miles away the opportunity for treatment would have passed before I could reach the bedside. Holding the view that puerperal convulsions, like uraemic convulsions, are toxaemic, and that the causation is not the direct action of the poison in the nervous system, but indirect through the intervention of high arterial tension, I telegraphed to the medical man in attendance to give 5 gr. of calomel—it is not a matter of indifference what purgative is used in such cases—and repeat it, if necessary, and to induce labour. This was done, and by the time I arrived the span-long fetus of six and a half months was in an incubator, and the patient was sleeping peacefully, waking to perfect consciousness and freedom from symptoms. The mother is now well and strong, the child a strong sturdy boy of 14 or 15.—I am, etc.,

London, W., Sept. 25th. M.D.

A SANATORIUM FOR CONSUMPTIVE CHILDREN.

SIR,—I am delighted to see from Dr. Allison's letter in the BRITISH MEDICAL JOURNAL of September 16th that a children's sanatorium will so shortly be established in the North of England. At the same time, will you permit me to say that the sanatorium of the Committee of which I am chairman, and to which you referred in the JOURNAL of September 9th, was projected before 1904, and my Committee first met to formulate their scheme on May 10th in that year. It is our misfortune that we have not so far found so munificent a benefactor as Mr. Roland Philipson, and therefore are not in such an enviable position as Northumberland in this respect. But there is room not for one but for many such institutions in the country, and if, through your mention of our scheme in the JOURNAL any persons of wealth can be moved to support the Children's Sanatorium in Norfolk, I should indeed be grateful.—I am, etc.,

EDWIN C. BEDFORD,
Sept. 26th. Chairman of the Committee of the Children's Sanatorium.

SELF-SUPPORTING SANATORIUMS FOR CONSUMPTION AMONG THE WORKING CLASSES.

SIR,—All must hope that a very generous response will be made to the appeal for funds for the establishment of sanatoriums for the treatment of consumption among the working classes which appears in the BRITISH MEDICAL JOURNAL over the signature of Her Royal Highness Princess Christian. The first sanatorium, for the foundation of which funds are asked, is to accommodate 200 patients and to cost £50,000. This works out at £250 a bed, a figure which is a very great improvement on those of other sanatoriums for the working classes recently founded.

A still further material diminution in the initial cost per bed could be effected were the separate chalet system adopted. Chalet sanatoriums can be established, as has been shown by actual experience, at a cost including the chalets with their equipment, an efficient central administrative block, and the freehold of the ground—of less than £100 per bed. It is objected that the chalet system is not applicable to large sanatoriums. The objection is a purely theoretical one, and does not come from those who have practical experience of the chalet system. Having had some experience in the management of a sanatorium in which all the patients occupy separate chalets, I have no hesitation in expressing the opinion that the chalet system is as applicable to a sanatorium of 200 as it is to one of 20 beds.

The main difficulty in dealing with the problem of consumption among the poorer classes is the question of the cost of the necessary treatment. The problem can never be solved by the erection of palatial masses of bricks and mortar: the cost is absolutely prohibitive, regard being had to the magnitude of the evil to be dealt with. If, however, £100 per bed is all that a sanatorium perfectly equipped for the open-air treatment of patients on modern lines need cost, the solution of the problem should not be beyond the combined efforts of wealthy philanthropists and public authorities.

Apart from the question of cost, there is an added reason for the wider adoption of the chalet system in the fact that open air treatment is far more perfectly carried out in a chalet with windows on every side—those on the weather side being shut if necessary—than it can be in the most perfectly ventilated room in a building, and, as a result of the very thorough hyperaeration, chalet patients suffer markedly less from haemorrhage, night sweats, and other complications than room patients.—I am, etc.,

F. S. ARNOLD, M.B.Oxon.

Hailey Sanatorium, Wallingford, Sept. 25th.

THE OPEN-AIR TREATMENT OF CONSUMPTION.

SIR,—Dr. Cooke's letter in the BRITISH MEDICAL JOURNAL of September 23rd, p. 755, expresses some views which seem to be very generally held by those who have not any long or intimate personal experience of the sanatorium treatment of consumptives. These views, however, seem to me—if I understand them correctly—to be erroneous, or at least to require considerable modification. The dictum, "once a consumptive, always a consumptive," is unnecessarily pessimistic, and is hardly warranted by clinical and pathological observation. Cure is undoubtedly possible, but it can very rarely be attained in a few weeks. To speak of cure in 90 per cent. of cases on leaving a sanatorium after an average stay of, say, three months seems to me to be giving undue elasticity to the meaning of the term "cured." But though it may be premature to call the patients cured when they leave the sanatorium, it is, I think, beyond question that many early cases are cured, though the fact cannot be definitely asserted until some twelve months' freedom from symptoms has shown the permanency of the cure.

Granted an equal knowledge of the symptoms of activity and equal skill in physical examination, the practitioner who watches the patient after he has left the sanatorium is therefore undoubtedly better able to judge whether he is cured or not than the physician who has not seen him since he left the institution. It must be borne in mind that if a lung has been damaged physical signs of this damage will remain, though the cause has been completely removed, and it may require great care and perhaps some special knowledge to distinguish such signs from those of active mischief.

I quite agree as to the harm and disappointment which may be caused by erroneous statistics and by leading patients to expect the impossible. Complete cure or even arrest of the disease in a few weeks is, in the majority of cases of consumption as they present themselves to us in practice, if not impossible, at the least improbable; I find six to twelve months much more likely. In the more advanced cases, where cure is not to be anticipated, complete arrest may not be attained for several years. I have had patients in whom the disease ultimately became arrested who were subject to periods of renewed activity at intervals during three or four years. These patients were, of course, following their ordinary employment during this time.—I am, etc.,

London, W., Sept. 23rd. J. EDWARD SQUIRE.

THE BRITISH MEDICAL BENEVOLENT FUND.

SIR,—Any one who has read the letter of "J.P." on the above fund in the BRITISH MEDICAL JOURNAL of September 9th must have been struck with the terrible state of distress and affliction that has befallen some of those dependent on the medical profession for their means of support. The instances "J.P." mentions are touching indeed. Surely we can do something for those who have become, from family loss or other cause, so poorly off. Our profession is the noblest and most self-sacrificing of vocations; it is truly hard that devotion to it should end so sadly. I feel certain that we can all afford, as "J.P." suggests, a yearly sum of 5s. at least to such an object. This, from each member of the profession in the United Kingdom, means over £7,000 annually, and would do something to help deserving cases. Such a small sum as 5s. could be spared by every one of us, however hard we may be driven in these days: and it seems to me that the public would help if they had it brought before them. Thousands are given to far less deserving causes.

I would suggest that each district or town (vide list of towns, etc., in *Directory*) should have its collector, a doctor, who would send the subscription of himself and colleagues in his list, and any other sums he received towards the fund up to the Secretary at the beginning of each year.

The local branch of the British Medical Association could easily draw up a scheme and allot areas.

In a cause like this we must sink any personal differences or professional jealousies and think of others. Every doctor ought to subscribe—at least 5s., but more if he can do so.

The aims and objects of the society might be given a paragraph in the columns of the JOURNAL, and the influence of this and other medical journals brought to bear on their readers.—I am, etc.,

September 16th. T. P. G.

*** The British Medical Benevolent Fund already has honorary local secretaries in various parts of the country, some of whom annually collect considerable sums of money. The system might probably be extended with advantage, possibly in the way suggested by our correspondent. The honorary local secretaries also investigate and report on any application made from their district.

CHEESE-MAKING.

SIR,—As an old cheese-maker I have read with much interest your note on "Cheese-making," and should be glad to be allowed to make a few remarks on it both from a technical and a medical point of view. I have not yet read M. Mazé's articles on which your note is founded, but if his views are correctly represented they seem to be open to some criticism.

That acidity plays an important part in the process of cheese-making has, as you observe, been known for many years to practical cheese-makers; but I believe I was the first, at any rate in this country, to explain to them what the precise rôle of lactic acid in cheese-making is, and to provide them with a convenient arrangement for estimating it.[1] The importance both of promoting and regulating the formation of lactic acid at the outset of the process of cheese-making lies in the fact that the ferments in unsound milk which are fatal to the manufacture of good cheese only exist in milk which is slightly alkaline and are destroyed by the lactic fermentation. But in addition to this fundamental function of acidity in the cheese-vat it exercises, as you point out, an indispensable influence also in the proper maturation of the curd. The organisms which accompany the lactic fermentation gradually convert the insoluble and indigestible casein of the curd, by a peptonizing process, into the semi-soluble and highly-digestible material of which a ripe cheese is composed, to which Duclaux gave the name of caséase.

The production of ammonia, or ammoniacal salts, in the curd is one of the consequences of insufficient acidity at the outset of the process or of want of care in the maturation of the curd. To most untutored palates it gives an offensive character to cheese, but when present in a moderate degree, as it is in the liquefactive stage of the ripening of Camembert and similar soft-curd cheeses, it is accompanied by the development of a flavour which the epicure much appreciates.

It is at the stage at which the fermentation of the lactose of the milk has come to an end, and almost the whole of the lactic acid has been either drained or pressed out of the curd in the whey with which it is at first permeated when it comes out of the vat, that the cheese, whether it be of the pressed or the unpressed type, is most digestible, and at the same time, I venture to think, most appetizing to all but those who have accustomed their palates to the highly sapid flavours by which all fully-ripe cheese is characterized. These flavours are the result primarily of the butyric fermentation of the butter fats, reinforced, secondarily, by moulds of the *Penicillium* group, which find their way into the curd either during its exposure whilst draining, or through the rind whilst ripening. You speak of *Penicillium album* as if it were an anaerobic organism; but it is really airborne, and requires air for its multiplication. Hence in Stilton, Roquefort, and other cheeses of the "blue-moulded" type, this mould is always found in crevices or fissures of the cheese which are in communication, however minutely, with the air, either directly or through the rind.

The importance of recognizing the difference between these two stages in the maturation of cheese, the lactic and the butyric, lies in the fact to which I have already alluded—that all who appreciate the merits of cheese as a highly nutritious, katabolically unobjectionable and appetizing form of proteid nutriment, but who are unable to gratify their *penchant* for it because when they eat the cheeses ordinarily found in the British market they find them interfere more or less seriously with their digestion, should eat cheese in its half-ripe stage, when it has a delicate flavour and a soft, digestible curd, before the butyric stage sets in. Unfortunately, for reasons which it is not necessary to explain here, this is the stage in which the bulkier kinds of cheese are not easily obtainable of ordinary cheese vendors. Cheddar, whether made in this country or imported, with all the other large forms of English cheese, including Stilton, are rarely put on the market or cut for sale until they are full ripe, when their flavour is very pronounced and when they are proportionately indigestible. But there is reason to think that in cheese, as in the case of butter and some other comestibles, the taste of the public is undergoing a change and that a demand for a milder-flavoured article is growing up. Some years ago I designed a small cheese of the Stilton type which could be obtained when half ripe, and it met with considerable appreciation, both from connoisseurs and from the public generally.

I have ventured to occupy your space at this length not only because the process of cheese-making is a fascinatingly interesting one from a scientific and technical point of view, but because cheese itself has for some years been experiencing a growing neglect as an article of diet in favour of meat which its real merits are far from justifying.—I am, etc.,

Gloucester, September 25th. FRANCIS T. BOND, M.D.

[1] *Journal of the Royal Agricultural Society*, March, 1891.

TREATMENT OF RINGWORM OF THE SCALP BY THE X RAYS.

SIR,—Dr. Oram, in his letter to the BRITISH MEDICAL JOURNAL of September 23rd, says that he does not consider that we have at present any "really reliable radiometer to measure the rays directly," and he therefore prefers "to give frequently-repeated exposures, and to watch the reaction as it develops rather than give a large dose at a single sitting." His experience in the treatment of over fifty cases without a permanent alopecia would seem to establish the safety of this method of procedure. My own experience, on the other hand, has convinced me that the radiometer of Sabouraud and Noiré, used with proper precautions, affords a reliable means of measurement. I believe, too, that it is safer, and it is certainly more convenient, to give the necessary dose in one exposure. The method of short, repeated exposures seems to me to involve a risk of over-dosage; for the hair does not begin to fall until two weeks after the sufficient amount has been given, and it follows that if one continues to give bi-weekly doses until the hair commences to fall, those given during the last two weeks are unnecessary, and it is conceivable that they might be harmful. Moreover, I think that it would be possible, with a high-vacuum tube and a strong current passing through it, to produce a dermatitis, even with a single ten-minute dose; certainly it might occur with two ten-minute doses in one week. Although, by taking care always to use a moderately low vacuum tube with a small current, so as to get rays of feeble penetration, there may be but little danger of accident by the method of small repeated doses, yet the time occupied in treating any case will be considerably longer, and the method is certainly less scientific than that of accurately-measured single doses.

I am quite in agreement with Dr. Oram that where the disease is at all extensive it is better to remove the whole of the hair from the head. I also prefer to divide the scalp into four areas for separate exposure—namely, the vertex, the occiput, and the two sides—and I use lead-foil shields, though applied in a somewhat different manner, which I have described in a paper published in the *Lancet* of June 24th.—I am, etc.,

Weymouth St., W., July 25th. H. G. ADAMSON.

TEETHING AND CORNEAL ULCERS.

SIR,—The assumed causal relation between dentition and simple local affections such as corneal ulcer, as well as a whole string of widely-differing serious systemic disorders, is characterized by Dr. F. G. Howorth as an "antiquated bogey."

The belief should be denounced as a gross and grotesque superstition. When accepted as true, and acted upon, it is the cause of unnecessary suffering and death. That it is still so accepted is evident from the fact that at inquests upon the bodies of infants one of the commonest verdicts, under the guidance of medical practitioners, is "teething." As Dr. Howorth points out, teething is a physiological process. The instances in which it becomes pathological and capable of exciting distant disease through the nervous system are in the last degree rare. If no other effectual cause were dis-

coverable this must be in the vast majority of cases rejected. How is it possible seriously to discuss such a cause when others—gross, palpable, and sufficient—thrust themselves into the view of the most superficial observer?—I am, etc.,

London, W., Sept. 23rd. HENRY SEWILL.

A PROBABLE EXPLANATION OF SOME DROWNING ACCIDENTS

SIR,—I read with great interest the article on the above subject by Dr. Hugh Lawrie in the BRITISH MEDICAL JOURNAL of September 16th, 1905. Dr. Lawrie explains very clearly the symptoms of what is by no means a rare condition, and he accounts for the cause of many deaths said to be due to cramp, but which are probably due to cerebral anaemia. I have experienced these symptoms myself when I have been out of training and when swimming in a very cold sea, and as I have been a member of two well-known swimming clubs, I have had ample opportunity of hearing the experience of others. The cases which have come under my notice have occurred in the open sea, when the water was exceptionally cold and when swimming on the back. I do not consider that cramp can possibly account for many deaths, because I have seen so many cases of cramp amongst athletes, who have generally managed to get out of the water somehow in spite of the cramp. I have heard of accidents said to be due to cramp of the heart muscle, but it is far more likely that these cases are due to anaemia of the medulla and cerebellum which would account for the dyspnoea and vertigo. The subject is certainly worthy of further investigation.—I am, etc.,

B. W. LONGHURST, Major R.A.M.C.

Hygeia, Ventnor, Isle of Wight, Sept. 23rd.

AN ASH SUPERSTITION.

SIR,—The note on the above subject by Lady Owen calls to my mind another interesting ash superstition, which, at any rate during the latter part of the last century, was carried on in Somerset and other parts of the West Country. It consisted in taking a young ash, splitting it down the centre, pulling the two halves apart sufficiently to pass a baby through—the victim was invariably a child suffering from congenital hernia. In the presence of all the relations and friends who could be collected together the child was passed three times through the tree by some one, who repeated, as in the case Lady Owen mentions, some doggerel rhyme. After the ceremony the two halves of the tree were brought together and bandaged in position. If they united, the idea was that the child would be cured.

Two such split ash trees can be seen in the Taunton Museum.—I am, etc.,

Leytonstone, Sept. 16th. ARTHUR TODD WHITE.

SELECTION BY PULMONARY TUBERCULOSIS.

SIR,—It is to be hoped that the forthcoming congress at Paris will not pass without somebody drawing attention to a much-neglected aspect of pulmonary tuberculosis. We have had any number of demonstrations of the individual suffering and the expense to the community that it causes, but very little mention, indeed, of its racial benefaction. Some remarks by Dr. Berry of Edinburgh and passing references by Dr. Maudsley and others are all that I have (perhaps for want of searching) come across on the subject, while lately there have been made some authoritative but surely mistaken statements apparently in direct contradiction to the view that pulmonary phthisis is, and has been even more in the past, a physical selective agency powerfully operative in combating racial physical degeneration.

This view seems to me to be incontrovertible. A glance at the early cases of any sanatorium is enough to show that most consumptives are, as they were in Hippocrates' time, of an originally weak physique. The others, as I hope to show shortly, nearly always fall ill at a later age, and much more often under the stress of one or more unfavourable antecedent conditions, such as mouth breathing or alcoholism; in fact, they are almost to be placed in a different etiological category to that of the first sort.

Let us now turn back for a minute to a subject with regard to which paeans constantly ascend from lay newspapers—to wit, the diminution in the death-rate from tubercle for the last fifty years. Taking this into consideration, we have, of course, the following state of things: Improved hygiene is checking the ravages of pulmonary phthisis amongst (chiefly) weakly-built people; of the decreasing numbers who fall ill, sanatoriums arrest the course of the disease in a proportion of cases which, although not very large, would, seven or eight years ago, have seemed incredible; a proportion, too, probably again to be expanded very soon by the advent of effective serum therapy. Could there be a more direct reversal of the natural process of carelessness of the individual and care of the race, a more conspicuous neglect of such advice as Sir Oliver Lodge gives, to the effect that if you interfere with nature it is best not to do things by halves? Is it only coincidence (not to underrate for a minute urban life as a cause, and puericulture and hygiene generally as preventives of stunted physique) that already there is a great deal of talk about physical degeneration? The time seems ripe for the profession to say something very definite on the subject of reproduction for the majority of recovered consumptives.—I am, etc,

North Wales, Sept. 23rd. W. C. RIVERS, Lieut., R.A.M.C.

THE IMPORTANCE OF VAGINAL EXAMINATION EARLY IN PREGNANCY.

SIR,—Referring to the letters on the above subject in the last two issues of the BRITISH MEDICAL JOURNAL, I venture to raise the question whether a routine examination might not with advantage be made late in pregnancy, that is, during the seventh month. An examination early in pregnancy (however desirable this may be) might not reveal anything wrong—no tumour obstruction—pelvic measurements might reach the average, and yet there might be the greatest difficulty in labour at term in consequence of the large size of the child. A prolonged use of the forceps or perforation might be necessary; to the mother the consequences may be very grave. All this would be avoided if a routine examination was made during the seventh month, applying the rules laid down by Dr. Herman (*Difficult Labour*, 1901, pp. 429 *et seq.*). If it were found that a difficult labour at term may be considered inevitable labour should be induced at a time arrived at by, if necessary, more than one examination,

In the case of patients who come in good time to engage our services the matter of examination is practically in our own hands. Unfortunately many of our difficult cases are those in which a midwife (trained or untrained) has been engaged, and we are not sent for until the patient has advanced in labour and is already in difficulties.

If the importance of early or late, or early and late examination in pregnancy is admitted, what instruction is given to midwives in this matter during their training?—I am, etc.,

Darwen, Sept. 25th. E. A. OPIE, M.B.

OBITUARY.

THOMAS JOHN BARNARDO, F.R.C.S.EDIN.

WE are indebted to a fellow-worker of the late Dr. Barnardo for the following note on another aspect of his life than the history which has been so ably given in the daily press of the spiritual and philanthropic work that grew under his genius.

His career at the London Hospital, where he is still remembered, was brilliant, though narrowed, doubtless, to some extent by his evening work among the poor children. As was remarked by one who laboured long with him he would easily have taken the first place had he not attended so many prayer meetings.

He had a military carriage, but was of small stature. His head was high, round, massive. The centre of the forehead was very prominent. The great characteristic lay, however, in the enormous development in the back of the head—parieto-occipital. The forehead baldness showed the massive head at its best. His neck was short and thick, while his chest was proportionately developed. The lower part of his body was that of a much smaller man than the upper part.

His powers seemed to be altogether developed for an unceasing flow of energy, endurance, and capacity. Whatever he read he gleaned quickly and made it his own, storing it for future service. He was remarkable for the ease and rapidity with which he could pass from one subject to another. However deeply engrossed and eager, in a twinkling he was at home in the new matter. Instead of having calmly and quietly to reason a matter out (or think it over), his judgement appeared to come as intuition, clear and decisive. Nothing seemed to disturb him for long; he was always ready and imperturbable. From the deepest problems that bore so heavily upon him, he could ever turn with boyish joy to welcome a little toddler in the Homes.

More than a quarter of a century has passed since the writer first joined him in reply to a telegram. As he looked at the

boyish, dapper gentleman, the writer could only say, "It is your father we want." One great hindrance existed all these years. Barnardo was very deaf. Only with difficulty could he hear a speaker at any meeting, yet a child's words he easily understood. As to his powers of management, from the organization of a large display in the Albert Hall to the minutest detail in child-life, he was equally at home.

All along he was a constant reader of the BRITISH MEDICAL JOURNAL. His knowledge of medicine and surgery was wide and good. He was always intensely anxious that the utmost should be done in every case. Several cases of incontinence were selected to be forwarded one by one to one of the largest London hospitals, to see if anything further could be done, but the reply was, "All has been done that could be done. I only advise the same. Don't send any more cases."

Deeply was he interested in Koch's discovery of the tubercle bacilli, and fondly did he hope for great results therefrom. He was a careful student of the sanatorium results, and longed eagerly for some first-class place where he could place his consumptives. Many large houses were visited and inquiries made. At last he had the pleasure of establishing one at the Village Home.

Greatly did he rejoice over the beneficial results to the children in the homes from the Convalescent Home he established at Felixstowe, where year by year the delicate ones are sent in companies of fifty for three weeks. The good resulting from this cannot be too highly spoken of.

Dr. Barnardo always did his utmost for the sick and crippled children under his care. Nearly twenty years ago he planned and built Her Majesty's Hospital in Stepney Causeway with over eighty beds. Every convenience was supplied, and a beautiful tiled operating room. In addition to this there is the Infirmary Cottage at Ilford with twenty-five beds and sanatoriums for an equal number. For many years he was most anxious, and had planned, for a hospital at the Village Homes, but could not spare the funds necessary for a sufficient building.

Never once did he grudge any expense for the medical or surgical treatment of his large family of invalid children, in whose welfare he ever had the kindliest and deepest interest. Only a few months ago one of the ablest surgeons in London inspected all the cripples in the London homes to see if anything further could be done for them. After examining about two hundred, he said: "Oh, give me a few minutes to think; I have never seen anything like this. Only I know nothing further can be done, for everything has been done that could be done."

Dr. Barnardo spared no effort that could benefit the cripples whose care he undertook. The tailors' and harness-makers' shops were full of crippled lads. Two, we remember well, who, by accident, lost both their legs. One could mount the rain-water pipes like a monkey and go over the four story building. When application was made for a situation he was rejected again and again because he had no legs. Yet he was a first-rate cricketer and wrestler. He said to the Governor, "Let me apply for the next situation." He was soon in a distant village. The master scratched his head as the boy turned round before him and said, "Well, will I do?" "I don't know how you can do without legs." "This" said the lad, "is the first time I have heard of a tailor working with his legs. Give me a chance." Years have passed since then, and he still holds his situation. The other legless boy is one of the best of swimmers and divers. The surgeon referred to above was amazed at his power in the water, and could only believe it when he saw him in our magnificent bath. Among the Cripples' Homes those at Bexhill and Tunbridge Wells deserve special mention. There all will be found that can give instruction and pleasure to the crippled.

For the mentally crippled I know of nothing to compare with the wonderful embroidery school at the Girls' Village Home. There may be seen fifty or sixty girls at work of all kinds in cotton, wool, and silk. The workers were unable to take upon ordinary school education, years only bringing them into Standards I, II, or III; but the fancy work has drawn them out and developed their powers in an indescribable manner. The artistic work they produce must be seen to be believed.

Before the children passed into the world from the sheltering care of the Homes Dr. Barnardo saw each of them individually in his private room and talked to them plainly, warning them of dangers ahead upon which so many have made shipwreck.

During the past six years Dr. Barnardo was in failing health. For some time he was troubled with insomnia. Repeatedly we urged upon him to cycle for the necessary exercise. The pressure of his work prevented. He began to have symptoms of cardiac failure and attacks of angina pectoris. Repeated rests had to be taken. Angina pectoris became both more frequent and more severe. Again he went to Nauheim, where he had been repeatedly and derived great benefit; but on this occasion failing strength warned him to return home by easy stages. On his return to his home at Surbiton he appeared to rally, but quietly departed this life on September 19th while sitting at tea.

MAJOR HAROLD ARTHUR STALKARTT, M.B., M.Ch., Royal Army Medical Corps, died at Kasauli, India, on September 11th, at the age of 37. His commissions were dated: Surgeon-Lieutenant, January 30th, 1892; Surgeon-Captain, January 30th, 1895; Captain, January 30th, 1904. He had no war record.

MEDICO-LEGAL AND MEDICO-ETHICAL.

SURGERY AND CONSENT.

THE following observations upon a recent case in America were published in the *Law Journal* of September 23rd: "When a dentist extracts our tooth or a surgeon takes off our leg, each is committing (though we never look on it to that light) what, if it were not justified by our consent, would be a very barbarous assault, and this consent is the measure of the condonation. In a recent American case a surgeon by telling his lady patient that a very slight operation was necessary induced her to take ether and removed an important organ—the uterus. For this the patient was held entitled to recover exemplary damages, and the Court expressed a strong opinion that a surgeon cannot be permitted to remove an organ from the body without the patient's actual concurrence. This is the general rule, but there may be circumstances where to save life an operation must be performed before consent can be obtained—the patient may, for instance, be unconscious. In such a case it should be left to the jury to decide whether the surgeon could fairly assume that the patient would have consented."

OPTICIANS AS OCULISTS.

A CORRESPONDENT sends us copies of a circular issued by a firm of so-called "Optologists" in Manchester, from which we cull the following: "We contend that no man should tamper with so delicate an organ as the human eye unless he thoroughly understands its structure and optical requirements. As optologists we claim to have this special knowledge. We are equipped, both by experience and qualifications (by exam.), to deal with every form of optical defect. If disease is present, our examination enables us to locate the same, in which case we frankly advise consultations with a physician or surgeon." Under the heading "Points to be Remembered" the advertisers say: "Small defects, if allowed to accumulate, become as productive of eyestrain as large defects. As the constant dropping of water wears away the stone, so a small degree of eyestrain, if uncorrected, gradually saps the vitality of nerve and brain." These circulars afford another illustration of the excessive claims put forward by opticians to deal successfully with all refractive errors of the eye, although, as we have pointed out repeatedly, it is impossible to do this without the aid of mydriatic drugs. The law, as it stands at present, does not appear to afford any means of checking these practices, and it remains for all medical practitioners to refuse their countenance and support to opticians who mislead the public by such advertisements.

RELATIONS WITH CHEMISTS.

PERPLEXED writes: A medical man whose practice I am buying sends all his patients requiring medicines with prescriptions to a neighbouring chemist. The chemist prescribes the medicine required free to the patient, but charges the doctor, on an average, about 6d. a prescription. The prescription is sent round again to the doctor so that all return to the prescriber. A patient cannot therefore get a repeat of his medicine without calling again at his house. In addition, prescriber uses certain symbols known only to himself and chemist, so that in any event no other chemist would dispense the prescription. The doctor charges on an average 1s. 6d. a prescription. Are these relations professional?

*** We see no objection to the arrangement described.

FEES FOR ISLAND VISIT.

R. C. MACD. We are of opinion that three guineas would not be an excessive fee for a night visit to the lighthouse under the circumstances related. Two guineas would be fair remuneration for a day visit, and half a guinea for a visit if our correspondent were on the island when called in.

CONSENT FOR *POST-MORTEM* EXAMINATIONS.

P.-M. encloses a cutting from a daily paper, as follows: In the course of an inquest yesterday at Battersea Mr. Troutbeck, the coroner, pointed out that the law did not permit a medical practitioner to make a *post-mortem* examination for the purpose of finding the cause of death without the formality of summoning a jury. In 50 per cent. of the inquests held in London a verdict of natural causes was returned, and a large proportion of these cases under an amended system would be unnecessary. He hoped that amendment would yet be made.

*** The law directs that in all cases of sudden death where the cause is unknown an inquest shall be held, and a verdict of "Death from natural causes" is no criterion as to the necessity or otherwise for holding a public inquiry. The question of a safe and suitable amendment of the law which would give discretion to a coroner to order and pay for a *post mortem* examination without the necessity of an inquest is often discussed, and some reform might be desirable, provided the

safety of the public was properly secured. With respect to the right of a medical man to make an autopsy, we scarcely think the coroner has been correctly reported. Apart from the many cases in which death occurs in a hospital and the authorities obtain permission from the relatives to make a *post mortem* examination, they are also made by medical men attending private patients, either to satisfy the relations or the medical man himself that the cause of death is correct. We think the coroner's remarks should read: "The law did not permit *the coroner to order and pay* a medical man to make a *post-mortem* examination for the purpose of finding the cause of death without the formality of summoning a jury."

RIDERS BY CORONERS' JURIES.

A MEDICAL PRACTITIONER sends us a cutting from the *Exeter Gazette* relative to an inquest held on a woman who died suddenly. Her husband stated that when his wife was taken ill he went at once for a doctor living in the neighbourhood, and that he saw a person whom he took to be the doctor's wife. She told him that the doctor could not come, and that he had better go for the family doctor. Upon this the jury passed a rider to the effect that they thought the doctor was to blame for not attending immediately on being summoned, as it was an urgent case. As the doctor was not present at the inquest the coroner hesitated to censure him in his absence, and the foreman said he should like an explanation. Nevertheless a censure was passed. The medical man concerned has since written to the *Exeter Gazette* as follows: "The witness Henry B came to my house about 2 A.M. on the 22nd inst., and asked for me to come and see his wife, who was seriously ill. I was out, and he was told to get his usual medical attendant. He left, but returned shortly, and said the doctor at the medical association was away. My wife then informed him she would ask me to come when I returned. He said that would not do, and went away."

*** These were the facts of the case, unknown to the jury: and we agree with our correspondent in thinking it manifestly unfair that a censure should be passed on the practitioner in his absence, and upon uncorroborated evidence. This is not the first time we have called attention to similar riders which are calculated to bring discredit upon medical men, and we think it well within the discretion of the coroner to refuse to accept such riders.

LIABILITY FOR FEES.

V. V. V. writes: While attending a confinement a short time ago I left the patient and promised to return within two hours. In my absence the nurse got excited, and sent the maid in haste to my house to fetch me. Unfortunately the messenger did not know my house, and left the message at a neighbouring practitioner's. This gentleman went without delay, but on arriving at the patient's house was informed that the maid had made an awkward mistake in going to the wrong house. I having been in attendance during the morning. His services therefore were not required, and he did not see the patient at all. I have expressed to this Dr. B the patient's extreme regret at the inconvenience he was put to. He, however, tells me that he expects a fee of 5s. or 7s. 6d. for his trouble. I should mention that his house is situated about seven-tenths of a mile from the patient's. I have told him that I cannot ask much, as the mistake was caused merely by the stupidity of the servant, and as he did not see the patient. What should I do in this matter?

*** Dr. B is within his right in asking to be paid, for it is not reasonable to ask a medical man to attend without paying him, and we think our correspondent ought to support Dr. B.'s claim. The mistress is responsible for the mistake of the servant, and 5s. is not a large sum to ask under the circumstances. The public should not be encouraged to believe that they can fetch a doctor in an emergency and yet refuse to pay him if his services are not required. There is no justification for refusing to pay except poverty, and the claim for remuneration under these circumstances ought to be supported and not opposed by the medical profession.

ASSESSMENT OF FEES.

A CORRESPONDENT writes that he was called to attend a patient for a dog bite four miles away from his residence. The patient is a member of a well-to-do family, who live in a large house and keep a motor car and several carriages. He wishes to know what fee he ought to charge.

*** It is impossible to give useful advice in such matters, as medical fees differ so much in different parts of the country. Their amount is mostly governed by the custom of the local profession, which is best known to our correspondent. In some places a fee of half a guinea a visit would be considered reasonable, but in other places twice this amount would be considered not unreasonable.

A. B. asks: (1) What would be a reasonable charge to make for a three months' attendance on an hotelkeeper in a good position, residing at the opposite end of the town from his own residence? During the attendance he had to pass a catheter three or four times daily, and that operation, owing to the presence of a stricture, was by no means easy. (2) What course it would be best to take in a case, where a lady had employed him to arrange with a dentist to extract some of her cook's teeth, under gas, and to settle with the same? The lady now repudiates liability, and tells him to send in the account to the cook, who has left her service. The original instruction was given verbally.

*** (1) It is impossible to advise as to such fees. The usual course would be to charge a certain fee for each visit, but the amount would depend on what was usually charged by medical practitioners in that locality to patients of the same social position. (2) Our correspondent appears to have acted as the agent of this lady, and if he can prove the agency would be entitled to recover in the county court. As the instruction was verbal, some difficulty might arise; and it would have been wiser to have had the instructions in writing. County court proceedings would seem to be the only remedy, but a letter from a solicitor might induce the lady to act honourably.

ROYAL NAVY AND ARMY MEDICAL SERVICES.

APPOINTMENTS TO COLONIAL CONTINGENTS.

IN reply to a correspondent with regard to temporary rank of captain being granted to certain officers who served in South Africa, we can only say that the phrase was quoted from the *London Gazette* with the exception that the word "respective" was introduced to avoid repetition in each case. Evidently the rank granted was only while serving in South Africa, and would be continued only by courtesy. Why these announcements were made so long after the service rendered is one of those War Office mysteries which pass understanding.

SERVICES OF VOLUNTEER MEDICAL OFFICERS.

CAPTAIN L. DEMETRIADI, 2nd. Volunteer Battalion, West Riding Regiment, M.D., writes: I am much surprised at the reply of "A.M.R.," in the BRITISH MEDICAL JOURNAL of September 16th, to Surgeon-Captain Orton's letter of the previous week. I do not know what position "A.M.R." occupies in the reserve forces (if any), but he certainly shows the very greatest ignorance with regard to volunteer medical officers, and I consider that his remarks are most unjust and unfair. I will state my own case, and leave those readers who probably, like himself, have no idea of the duties we have to perform, to judge whether we do anything to serve our country:

Each year I have something like from 200 to 250 recruits to examine. Lungs, heart, hernia, varicose veins, flat foot, straight legs, eyesight, hearing and teeth are the things specially laid down in the King's regulations for us to pay attention to, and no medical man can do this in each case under ten minutes; then after the examination we have to fill in a long form. Furthur, if we reject many our work increases, as we have to state fully on what grounds the rejection is—if heart, say where the disease is, etc.

The battalion to which I am attached is composed of five outlying companies and five head quarters ditto, and in the case of these former it is necessary for me to go down to their different drill halls and there examine their men, the farthest being six teen miles off and the nearest five. I naturally have to go in the evenings as the men all work during the day; I also pay my own expenses whenever I go. And now an order is issued that we have to examine every man who did not go to camp for his physical fitness for foreign service, and to my battalion it means that I must again overhaul 150 men, many of whom I only passed in the spring.

What "A.M.R." means by referring to camp as a holiday I cannot think. It is certainly evident that he has never been to this "pseudo-military picnic." I know when I go—and I have only missed once in nine years—I have to work extremely hard and have not one minute for myself. This year we took 850, and the number of cut heads, cases of diarrhœa, colds, small injuries, to say nothing of the more serious cases, came to over 50 per day, all of which I had myself to attend to; and certainly I do more dispensing that week by a long way than I do all the rest of the year—in fact, when I get back from camp I always feel thoroughly done up.

Then with regard to the drill: we have our ambulance section, and we must turn up one night a week at least; we must drill the men, and each year give them a course of first-aid instruction and get them through their proficiency examination.

In conclusion, I wish to say that I quite agree with every word that Dr. Orton says, as he is evidently a man who knows; but I must say that "A.M.R.'s" letter does not in any way give any credit to men who give a very large amount of work, time, and money for the love of their King and country.

PUBLIC HEALTH AND POOR-LAW MEDICAL SERVICES.

FAILURE TO NOTIFY AN ALLEGED CASE OF TYPHUS FEVER.

AT Helston on September 16th, Mrs. Mary J. Hall Williams of Penzance, described as M.D. Boston, U.S.A., was convicted of failure to notify an alleged case of typhus fever, and fined £1 and 32s. 6d. costs. The Town Clerk of Helston, who conducted the prosecution, said that the local authority only heard of the case by the death certificate. The patient was a sister-in-law of the defendant, and had been ill and died at a school during the vacation. The defendant was unregistered. For the defence it was alleged that there was no intention to defy or evade the law, but there had been merely an inadvertence. On August 11th the deceased had been to a picnic, and was taken ill the following day with what was alleged by the defendant to be typhus fever and died on August 22nd. The diagnosis was uncorroborated. We understand that in future death certificates signed by unregistered persons in this district will be referred to the coroner.

CERTIFICATION OF INSANE PATIENT FOR COUNTY ASYLUM.

DR. F. W. PILKINGTON (Lechlade, Gloucester) writes: May I point out to "Private Practitioner" (BRITISH MEDICAL JOURNAL, September 16th, 1905, p. 614) that he is under no obligation to hand over his patient to the union medical officer. If he will take the trouble to supply himself with the necessary forms, a magistrate will see the case with him, and the certificates properly filled in, can be then sent to the relieving officer for the district, who will see to the patient's removal. The Board of Guardians will pay the fee of one guinea.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 2, Agar Street, Strand, W.C., London; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone, unless the contrary be stated.*

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Manager, 429, Strand, W.C., on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not at his private house.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London.* The telegraphic address of the MANAGER of the BRITISH MEDICAL JOURNAL is *Articulate, London.*

TELEPHONE (National):—
EDITOR, 2631, Gerrard.
GENERAL SECRETARY AND MANAGER 2630, Gerrard.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

MORPHINOMANIA.

MORAR wishes to know whether there is any establishment in Great Britain where morphinomania is treated by the administration of hyoscine.

JUSTUS, who has a patient taking from 3 to 4 gr. of morphine a day, believes that he might be broken of the habit if the vomiting and retching that ensues when the morphine is not taken could be avoided. He asks for suggestions.

LEPROLIN.

FRANKFIELD desires to know whether subsequent observations by other bacteriologists have substantiated the statements regarding the cultivation of the bacillus of leprosy and the preparation and use of leprolin, which were contained in a paper by Major Rost (BRITISH MEDICAL JOURNAL, February 11th, 1905).

*** Subsequent observation has not up to the present substantiated the statements of Major Rost as to the successful cultivation of Hansen's bacillus (bacillus lepræ). Major Rost was not able at the Pasteur Institute of Kasauli (India) to cultivate the bacillus and confirm his Rangoon experiments. Whether difference in climate or some other factor led to failure remains to be shown. Major Rost has published favourable results with his leprolin; indeed, he has claimed cures by its means. All this, however, requires to be confirmed by further experiment especially as a variety of drugs, serums, etc., have given good results up to a certain point. Cases require to be kept under observation for some time to be able to judge of the ultimate effects of any new remedy. Major Rost's leprolin will have to be tested by others. At the moment, apparently, no fresh leprolin is being prepared, as a result of failure to cultivate at Kasauli. Rost's article and subsequent observations will be found in *Lepra*, vol. v, pp. 131 and 268.

ANSWERS.

THE Editor has received a number of replies to the query of "Dickens" published in the BRITISH MEDICAL JOURNAL of September 23rd, 1905, page 759. They have been forwarded to the inquirer.

TREATMENT OF MUCOUS PATCHES.

M.D.—If "Punjab" will apply liq. ferri perchlor. fort. to the white mucous patches I think he will find they will rapidly disappear. I do not think they are of importance; at all events, I have never seen anything serious result from them.

EXTENSION OF SICK LEAVE.

J. C. S.—An officer at home on ordinary leave from India, finding himself unable to return from illness, should apply—a month, if possible, before the leave expires—to the Secretary of State for India, requesting permission to appear before the Medical Board in London, attaching to the application a medical certificate, as to the nature of his illness, from his usual medical attendant, and he will then be ordered to appear before the Board, which sits weekly, at the India Office. His letter to the Secretary of State and the envelope should be marked "Medical Board" on the left hand corner.

POST MORTEM CHANGES.

MR. R. HENSLOWE WELLINGTON (Deputy-Coroner for London and Westminster) writes: That bodies swell and distend from the gases of decomposition is an everyday occurrence, and that different parts of the anatomy swell more than others is frequently seen, especially in the months of May and June. These gases are a mixture of sulphuretted hydrogen, carbureted hydrogen, sometimes carbonic oxide, phosphoreted hydrogen, nitrogen, and [illegible] called, in general, marsh gas, which is really light carburetted hydrogen (CH_4). They are formed during the earlier days of decomposition, averaging about six days, and if the parts be pricked and a lighted taper be held to the escaping gases a long bluish flame is produced, like from a blow-pipe, and will sometimes burn from two to [illegible] days. Putrefaction at first gives rise to the anaerobic colonies of the bacterium coli, which produces [illegible] and, and which is not detectable, then we have the anaerobic and amphibious colonies, which generate hydrogen, carbonic acid, and hydrocarbons, which are mostly inflammable; finally the reduction becomes more and more complete, and gives rise to nitrogen, hydrogen, and compounds of ammonias, the great part being incombustible. At the Morgue, in Paris, prior to 1882, when the refrigerating apparatus was introduced, phosphorescence was often noticed, especially in warm weather—the "Will o' the Wisp which runs over and around the bodies," or the *ignis fatuus*, or corpse candle, as it is sometimes called. These gases meet with greater resistance to their escape in the tissues of the face, the eye sometimes protruding, and the tongue forced out in consequence; this has a medico-legal aspect of importance, as many witnesses say that the protruding can only occur from strangulation; 33 cases out of 34 have been given as such in evidence.

LETTERS, NOTES, Etc.

STEREOSCOPIC VISION.

DR. A. W. HARRISON (Mossley) writes: May I be allowed to call attention to a curious error which occurs in the sheet of illustrations to Dr. Cameron's paper in the BRITISH MEDICAL JOURNAL of September 23rd? Fig. 1, a stereograph of carcinoma of the Fallopian tube, is reversed as regards right and left, with the consequence that, as it stands, it is quite unintelligible; whereas, if the two photographs are cut apart and transposed the specimen is seen to perfection. I am glad to note that stereographs are becoming more and more used in medical publications, as they are infinitely more instructive than the ordinary flat photograph, and when printed on a highly-finished paper, such as that used for the purpose in the JOURNAL, they are the next best thing to seeing the object itself. In this connexion I am rather curious to know whether any considerable number of medical men make use of "direct stereoscopic vision." I have come across very few among my own medical acquaintances, and yet the ability to do so is very easily acquired, and in my experience causes no strain to the eyes. Further, one has not always a stereoscope at hand when reading one's journal. Perhaps some of your readers could inform me whether the ability to unite the two images of a stereograph without the intervention of a stereoscope is at all common.

*** The error to which our correspondent calls attention occurred at the last moment in the final adjustment of the blocks for printing.

IMPORTANCE OF VAGINAL EXAMINATION EARLY IN PREGNANCY.

A CORRESPONDENT, who has read the letters on this subject published recently in our columns, sends us the following story: A woman, aged about 35 years, married about twelve years, had never been pregnant. At this time she noticed her abdomen gradually enlarging, and congratulated herself, and received the congratulations of her friends, on her condition. She engaged a medical man to attend her, but he did not make a vaginal examination. Time went on, and the end of the usual term of gestation arrived, and she found herself in pain (presumably labour). Her medical man was sent for. The pains continued, and he said she would be longer in labour than usual on account of her age, etc. However, twenty-four hours passed, and, I suppose, being puzzled and grasping at any straw, he said it was a face presentation. However, after several more hours had passed, they insisted on calling in another man. He diagnosed no labour, no pregnancy, but ovarian tumour, with peritonitis, or twisted pedicle. Our correspondent observes that the ludicrous side of the story, though apparent to the laity, would not appeal to one at least of the medical men concerned.

CORK THE BOTTLE.

M.D. writes: It is not a general custom, but I find that in several large institutions and hospitals it is the custom for messengers and patients when fetching their medicines to be compelled to cork their own bottles. Particularly in the case of the dispensaries, the messengers are children of 7 to 14 years of age. For these children to be handed bottles of medicine containing perhaps large doses of morphine or other poisons, liniments, lotions, and various staining, astringing, or more or less caustic applications, and be told to cork their bottles themselves seems to me to be a ridiculous and dangerous procedure. Every medical man and every dispenser that I have so far spoken with condemns the practice, and agrees that the proper corking of the bottle is an essential part of the dispenser's duty. To expect a mere child to properly cork up a bottle is an absurdity, and absolutely dangerous when they contain strong solutions of carbolic acid, nitrate of silver, or such a thing as liniment of iodine. That the corks may be removed from their bottles on handing them in is a different thing, and to save trouble may be done without objection. It is certain that all medical men dispensing for themselves, or having their medicine dispensed for them at home, try to cork their medicine bottles properly; all chemists do it; most institutions who have thought about the matter also do their duty to the patients in this respect, but others do not. Probably in those institutions where this laxity prevails it is done without the knowledge of the medical staff, and a little publicity through your columns may bring about its removal. When so small a final effort gives the dispenser trouble, little hope can be entertained that more troublesome details will be accurately carried out.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

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N.B.—It is against the rules of the Post Office to receive letters at *Poste Restante* addressed either in initials or numbers.

A Lecture

ON

COMBINED AORTIC AND MITRAL DISEASE IN RHEUMATIC CHILDREN.

Delivered at the Hospital for Sick Children, Great Ormond Street.

By F. J. POYNTON, M.D., F.R.C.P.Lond.,

Assistant Physician, University College Hospital; and to the Hospital for Sick Children, Great Ormond Street.

Ladies and Gentlemen.—I have already in three of my former lectures treated of some aspects of rheumatic cardiac disease in early life. In the first I dwelt upon the important part that micro-organisms take in producing endocarditis; in the second, upon damage to the heart wall in rheumatism; and, in the third, I endeavoured to show the parallelism in the course of the rheumatic lesions in various organs, and differentiated three types of rheumatic injury—namely:

1. The simple, as in simple endocarditis.
2. The malignant, as in rheumatic malignant endocarditis.
3. The fibroid, as in mitral stenosis.

In this lecture I shall direct your attention to an exceedingly serious group of rheumatic heart lesions, and illustrate them by a series of clinical cases, giving also the results of a study of twenty-one examples which have been under my care at one time or another during their illness. In all these cases there were evidences of mitral and aortic endocarditis, and it is to this combination of lesions in childhood that I would ask your attention.

Rheumatism, as is well known, damages all parts of the heart—the pericardium, myocardium, and endocardium—sometimes one, sometimes the other; and generally, if it is severe, all three. Recognizing this fact, you will not be surprised that these cases of combined mitral and aortic disease in some instances also present such other lesions as an adherent pericardium. It is, however, useful, in studying so complicated a subject as heart disease, to differentiate a group which shows distinct evidences of mitral and aortic incompetence.

The auscultatory evidence of mitral regurgitation is the presence of a systolic murmur, the maximum intensity of which is over the impulse, and the direction of conduction towards the axilla.

The auscultatory evidence of aortic regurgitation is a diastolic murmur, the maximum intensity of which varies in position. In childhood this murmur is most often at its loudest to the *left* of the sternum in the second or third intercostal space on the left side; and as the child grows up this point generally shifts from the left to the right. This murmur is also often very audible behind the sternum, and can be traced down to its lower end.

The combined lesions will then clearly present two very different murmurs:

One the mitral, systolic in time and conducted towards the axilla; the other the aortic, diastolic in time, and conducted from the base, usually on the left side, downwards.

The occurrence of these two bruits, together with changes in the heart and pulse to which I shall allude later, enable us to diagnose with confidence the combined lesion, for no one should mistake the aortic regurgitant murmur, with a maximum intensity to the left of the sternum, for the rare pulmonary diastolic bruit.

How are we to explain this combination of valvular lesions? Is it that in the first place the aortic valve has been damaged by rheumatism—that as a result the left ventricle has become dilated and hypertrophied, and then in turn mitral incompetence has followed as a result of relative incompetence of the auriculo ventricular valve? In most cases this is not the explanation, and what actually occurs is that both valves are damaged by rheumatism. In most instances the mitral valve suffers first and the aortic later, either in the same attack of rheumatism or in a subsequent one; and it is clear that if the aortic valve is damaged the later of the two the mitral incompetence cannot be entirely dependent upon that lesion, although no doubt the aortic incompetence tends to aggravate it.

Multiple valvular lesions are common in childhood—the tricuspid valve, for instance, is often slightly damaged; but this combination of lesions we are considering is of especial importance in actual practice.

From a study of experimental heart disease I believe the infection of the aortic valve is often by direct continuity from the mitral, and in these cases the infection is, as you will see, usually a severe one. In fact, this series of mine convincingly illustrates the severity of the rheumatism. Take first of all that important point—the early age of the first attack. In 7 out of 19 this began before 6 years, and two of the children were under 3 years of age.

Again, many of the first attacks were very severe, and no less than four were fatal; fatal, that is to say, after a long illness, in which there was no real cessation of the symptoms after their first appearance. Two examples will be sufficient:

1. In the first attack there were: multiple endocarditis, pericarditis, pleurisy, and multiple arthritis, and it proved fatal at the age of 3 years 2 months.

2. In the first attack, which extended over many months, there were: polyarthritis, pleurisy, endocarditis, pericarditis, nodules, chorea, and nephritis. In this case the tendency to rheumatism was inherited from both sides of the family.

Yet another proof of the severity of the rheumatism is the high percentage of deaths in this series: 10 out of the 21 children died before reaching the age of 12!

In 7 of these fatal cases necropsies were obtained, and some interesting points concerned with them are worth recording. In 6 of them the "diplococcus rheumaticus" was isolated by Dr. Paine.

I. In 1 case the actual cause of death was apparently a rheumatic septicaemia, and I am indebted to my colleague, Dr. A. E. Garrod, under whom the child was a patient while in the hospital, for leave to make use of the notes of the final illness.

This patient, a boy aged 6, came first under my care in 1902 for hemichorea, arthritis, and mitral disease, and when 3 years old had suffered from epistaxis, which, as Dr. Sidney Phillips has pointed out, is not unusual in rheumatic children. He was admitted to the hospital, and there developed aortic regurgitation. After a long illness he again became an out-patient, only to break down two months later with a severe attack of pericarditis. Three months after this he again returned to me and remained tolerably free from rheumatism for some while, then once more signs of the active disease commenced and persisted until his death in November, 1903.

At the necropsy an adherent pericardium and mitral and aortic disease were demonstrated, but the point of especial interest was that a film of the blood in the heart, taken by a pipette after death, showed great numbers of the diplococcus in pure growth. This drawing, which is an accurate representation of the film under the microscope (see Fig.), shows the condition. Now rheumatism is essentially a disease with local lesions, and it is in these local lesions that the infective agent is usually found, and not, as a rule, in the blood, which is but a channel of conduction. A general rheumatic blood infection is, so far as is at present known, a rare event. Yet in this case it would appear that this child died in such a condition, for the terminal symptoms pointed to a profound blood poisoning.

II. Another child died of the malignant type of endocarditis. In his case the illness commenced with rheumatism, and mitral and aortic disease as results; next pericarditis developed, from which the boy recovered only to be attacked by arthritis, from which he also recovered. This prolonged illness extended over three months, and during that time there was persistent irregular fever. At length infarction and other signs of malignant endocarditis became apparent, and ended in death. The necropsy proved the occurrence of the malignant type of endocarditis, and this specimen illustrates the disease reproduced by inoculation of a pure growth of the diplococcus which was isolated from those cardiac valves.

III. Three of the other children died from rheumatic pericarditis, and in all these cases the diplococcus was isolated.

IV. One died with chorea, and the diplococcus was isolated from the cerebro-spinal fluid.

V. One died from chronic heart disease, and the cultures were negative.

Here I would emphasize a very important practical point. The cause of a fatal termination in these cases of severe valvular disease is an attack of rheumatism; they rarely die solely from the mechanical difficulties of an injured heart; but almost invariably with the symptoms of another attack of rheumatism.

None of these cases, for example, died from a sudden

syncope such as occurs now and again in the adult suffering from aortic regurgitation.

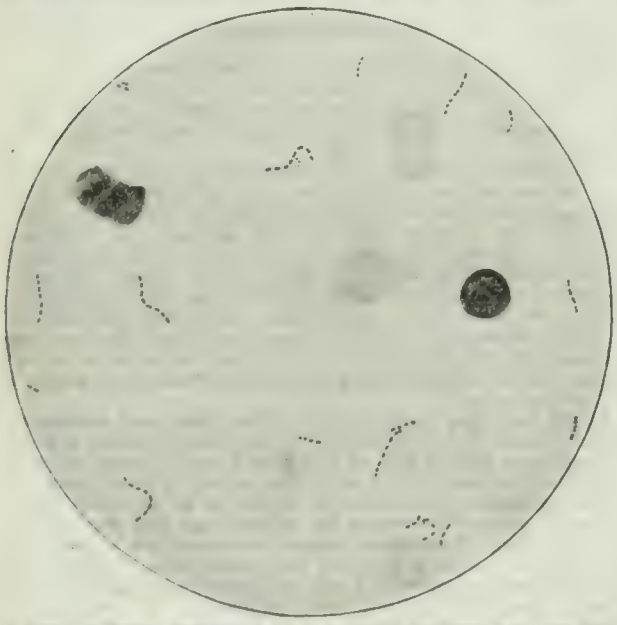
These combined lesions of the aortic and mitral valves can be grouped clinically into three classes:

In Class I there is no sure evidence of aortic disease, and it is only at the necropsy that some beading or thickening of the aortic segments is discovered. In this group the aortic lesion is of merely academic interest, but the finding of these slight lesions in the aortic valve throws a good deal of light upon a practical point, to which I shall allude again shortly, namely, the disappearance of an aortic regurgitant bruit.

In Class II, the physical signs show plainly enough that mitral and aortic disease exist, but the mitral disease preponderates, and the aortic lesion appears hardly to influence either the symptoms or the course of the disease.

In Class III, both lesions are apparent, but the dominating one is the aortic regurgitation. It is these cases in which one is tempted to explain the mitral incompetence as a secondary result, yet *post-mortem* evidence shows that the mitral valve is almost invariably damaged by endocarditis, and not only relatively incompetent.

It is a curious fact that it is difficult to produce primary aortic endocarditis by experiment, although mitral endocarditis and the combined lesions can be easily produced. In



A film of blood withdrawn in a sterilized pipette from the left ventricle of a child dead of persistent and virulent rheumatism. Neither the illness nor the fever suggested pyæmia, and there were no suppurative lesions. This condition in acute rheumatism is a very exceptional one. Drawn under Zeiss obj. $\frac{1}{12}$th oc. 3.

childhood also, I think, primary aortic endocarditis is rare, although this case I believe to be an example:

M. B., aged 13, had an attack of rheumatic fever last Christmas, in which the knees and ankles were swollen and painful, and later she developed chorea. In May she was brought to me at University College Hospital because there had again been some slight chorea. On examination of the heart I found an aortic diastolic murmur. There were capillary pulsation and a collapsing pulse, and the heart was hypertrophied. The mitral valve, if it is damaged at all, is damaged so little that it has given rise to no physical signs of mitral regurgitation. It is worth mention that the mother had no suspicion that there was any heart disease.

Even more rare than simple aortic regurgitation is, I think, aortic stenosis. The following case, however, I believe to be an example of this condition:

E. C., aged 5½, whose father and mother have both suffered from "rheumatism," had an attack of rheumatic fever following measles; in this there was multiple arthritis, and for it he was laid up eleven weeks. His mother was not, however, aware that the heart was damaged.

There is a loud, grating, aortic murmur, systolic in time, and reaching its maximum over the aortic cartilage. This murmur can be traced upward into the neck, and along the subclavian vessels, and over the base of the heart there is a systolic thrill. The area of the heart is increased, and the impulse is definite and forcible. There is also a systolic murmur audible over the impulse, which I believe to be conducted from the aortic region.

The pulse is in character deliberate. I do not think this is a congenital condition, for there is nothing to support that hypothesis; but I look upon the case as one of primary aortic stenosis in a child, the result of that prolonged attack of rheumatism.

The next case is a classical example of the combined lesions, and in his case the aortic symptoms are the prominent ones. He first came under my observation four years ago with a history of three attacks of rheumatic fever, in which attacks polyarthritis and profuse sweating occurred.

At that date he had very clear signs pointing to the double lesion—namely, an aortic diastolic murmur at its maximum intensity behind the sternum at the level of the second intercostal space, and a mitral systolic murmur which was conducted into the axilla. There were at that time pallor, a collapsing pulse, great nervousness and breathlessness, and the heart was much enlarged.

For over three years he remained free of any attack of rheumatism, and then last Christmas he had a fourth attack. He is now 13. A very interesting feature in his case has been his intense nervousness. If he goes to school he gets dreadfully flurried and upset. There have not been any clear evidences of the mitral disease in his symptoms, although the lesion is a very obvious one. There has not been dropsy, or cyanosis, or a puffy face, or bronchitis; it is the aortic regurgitation which is troubling him, and that remarkable nervousness and flurry is in accord with that particular valvular lesion.

In the heart disease of childhood the detection of the auscultatory signs of valvular defects in their early stages is clearly an important matter, and in my former lectures I gave the usual physical signs in some detail. It will be remembered that the first result of an attack of rheumatism is to cause an acute dilatation of the heart. The pulse then rises a little in frequency and the tension falls. The impulse becomes diffuse and extends beyond the vertical nipple line. The deep cardiac dullness is increased to the left, and sometimes to the right and also upward. On auscultation the first sound at the impulse is detected as short, and the second sound at the pulmonary base is accentuated. A systolic murmur also may be audible internal to the nipple line.

At first it may be exceedingly difficult to decide whether in addition to the dilatation there is organic mitral disease, but the occurrence of a systolic mitral murmur which is conducted towards the axilla, together with the supervention of hypertrophy and dilatation of the left ventricle, are convincing signs of mitral endocarditis, and this lesion is the more likely when there is persistence of the so-called reduplicated second sound below the left nipple.

Any case of rheumatism in which there is definite dilatation of the heart, and in which the first sound is short or not clear, may also be a case of commencing mitral endocarditis, for it is manifestly impossible to decide without looking inside the heart when the earliest changes of endocarditis commence.

The early signs of aortic regurgitation need even closer attention. The second sound at the base becomes suspiciously faint and blurred, then there appears a systolic murmur, soon followed by the appearance of a diastolic one, or it may be that the diastolic murmur only becomes audible. The second and third intercostal spaces on the left side as well as the classical second right intercostal space must be carefully searched for this bruit.

In some of these cases of combined valvular lesions a presystolic murmur also makes its appearance. Most of the children who show this have suffered from the mitral and aortic disease for some considerable period of time before this murmur becomes audible. It may be a result of the aortic regurgitation, an "Austin Flint" murmur, or it may be in some cases due to a slight narrowing of the mitral orifice. The practical importance of this murmur, however, is not great, and it need not detain us longer.

If the morbid changes in the valves are considered, and especially those in the aortic valve, it becomes apparent that they are frequently very slight. If death occurs and the disease is acute, only tiny vegetations may be found. If the disease is chronic, only a slight thickening and puckering of the segments. The changes in the mitral valve, however, are generally more severe. The actual causation of the bruits in heart disease is still rather mysterious, and I have been astonished, when studying experimental heart disease, to find

large vegetations in one case causing a loud murmur, and then in another no murmur at all. If this is the case with large vegetations, it is very reasonable to suppose that during the healing of slight aortic disease—that is, during the transition of the morbid changes from tiny vegetations to fibrous thickening of the valve—a murmur which was originally present may later disappear. There is, I admit, considerable doubt expressed as to the possibility of such a disappearance of an aortic regurgitant bruit, but in two cases under my observation, and here to-day, this gradual disappearance of the murmur has taken place.

Case I.—This little girl is the child of foreign parents, and the history of her illness very imperfect. When 4 years of age she developed chorea, and this persisted without any absolute cessation for two years. In 1904 this child had well-marked double mitral disease and aortic regurgitation with an aortic diastolic murmur, which was audible at its maximum intensity in the second left intercostal space. These valvular defects I observed repeatedly for two months, and then, after a long rest, she commenced to improve in her health, and in January, 1905, the aortic murmur disappeared. Now the case appears as a case of well-marked double mitral disease.

Case II.—This is a more recent case, and is remarkable for the wonderful improvement in the child's condition during the last two months. Last November this boy, who is 7½ years of age, had a terrible attack of rheumatic fever; chorea, pleurisy, pericarditis, polyarthritis, and endocarditis all occurred in this illness. In April I detected a mitral systolic murmur and an aortic diastolic. At the beginning of May, although the aortic second sound was faint, I could only just detect the aortic diastolic murmur. To-day I cannot find it at all.

This disappearance of an aortic regurgitant murmur should be sharply distinguished from the same occurrence in a patient in whom acute failure of compensation has occurred. In those cases also an aortic diastolic murmur will disappear, but when the heart recovers itself and compensation is restored the aortic murmur again appears. It is never wise to commit yourself to an absolute diagnosis of the condition of a heart when you see it in a condition of acute failure, for both aortic regurgitant and mitral presystolic bruits have a way of disappearing until the heart begins to recover.

A mitral systolic murmur disappears much more often than a diastolic, and there are various reasons for this. It may be that the murmur is the result of a simple dilatation of the left ventricle, and when this dilatation is recovered from the murmur goes. Then, again, in some cases of mitral stenosis a systolic murmur due to regurgitation may disappear, and a presystolic bruit slowly appear. This murmur may also disappear, owing to the slight nature of the original lesion—a natural cure. Thus, in one of my fatal cases both the mitral and aortic bruits disappeared for a while, but the aortic one again became very definite, with a renewed attack of rheumatism.

The necropsy showed considerable aortic disease, but only sight damage to the mitral, and this had been well repaired.

The clinical results of these combined lesions differ considerably. If the mitral regurgitation predominates, the pulse does not show the features of the aortic lesion; it is not sudden or collapsing, and on this account the aortic lesion may be entirely overlooked, for the face need not show any marked pallor. On the other hand, when the aortic lesion is the predominant one, there are the collapsing pulse, the facial pallor, and capillary pulsation which are always associated with descriptions of aortic regurgitation.

The size of the heart is greatly altered, for both aortic and mitral regurgitation cause hypertrophy and dilatation of the left ventricle, and, further, the mitral lesion tells back upon the right side of the heart. In addition, it is not unusual for an adherent pericardium and possibly mediastinal adhesions to complicate the combined valvular lesions. There may be then enormous enlargement of the heart, as in the case of this little boy.

J. N., aged 11 years, suffered from chorea at 8 years. Last August, after a sore throat, he developed very severe rheumatic fever, and was a patient in the London Hospital for five months. His heart is enormous, and I have no doubt that the pericardium is generally adherent in addition to the severe combined valvular lesions. A casual glance at his face would never lead you to suspect his condition, for he has a good colour, and is neither pale nor blue; yet his heart occupies almost all the left axilla, and the left lung must be in great part collapsed.

Several of the other cases also show great enlargement of the heart.

The remarkably natural appearance of this little boy's face leads me to make a few remarks upon the relation of the physical signs to the symptoms in heart disease. That relationship is a very deceptive one. An adult, for instance, may have an attack of angina pectoris, and the heart on examination shows so little that is decisive that the physician is tempted to underrate the gravity of the symptoms. The cardiac sounds may be short or clearer than natural, but there need be no bruit or even enlargement of the heart, and yet the patient may die in another attack of angina within a few months. In childhood also this relationship is deceptive, but the converse is more usual. The symptoms may be very indefinite, and yet the gravest valvular lesions may be present. This peculiarity is well worth special notice, for it is not at all an uncommon occurrence for organic heart disease to be overlooked in early life because of this absence of grave symptoms.

I need not detain you longer with the diagnosis of these combined lesions, for that has occupied most of this lecture. Just one word of warning is needed against mistaking the aortic lesion for pericardial friction, or vice versa.

The prognosis in these cases is very grave. I mean by this the prognosis as to the future of the child and not only the immediate outlook. No doubt with care and every attention much may be done to keep them in fair health, and some, no doubt, grow up, but they are invalids.

When these 21 cases of mine are reviewed (it must be remembered they are children of the poor), it is found that already 10 are dead. I have lost sight of 4, but of these I feel sure 1 is dead. This leaves 7. One is now 14, and can go to school, and keeps in fair health, though he is very pale and easily gets short of breath. Another has reached the age of 13, but has lately had a fourth attack of rheumatism, and the aortic lesion in his case has made him so nervous that he has not been able to attend school.

One, a girl aged 6, has lost the aortic murmur, but the mitral lesion is so severe that her development is much interfered with. One, a boy of 10, probably cannot live another six months. Two are only recovering now from the severe attack of rheumatism that damaged their hearts, and we can have no feeling of confidence that another attack may not follow in the course of a year or two.

It is a very melancholy list, and brings home to us clearly that the great hope in treatment lies in the prevention of rheumatism. This prevention of acute rheumatism is a big problem, full of difficulties, but with great possibilities. It is a disease apparently much more common among the poor than the rich, which in itself suggests that prevention is feasible to some degree. On the other hand, it is difficult to determine whether it is possible to prevent rheumatic fever attacking a rheumatic child, who has already suffered from it severely.

It seems to me that careful mothers—and some of these children have had most careful mothers—do manage to keep their children free for some long periods of time, when these children have made a good recovery from an acute attack, but many cases only partially recover, and the disease seems to lurk about them. These seem to be liable to develop more rheumatism in spite of every care, and I would compare their position to that of a child with partially-healed tuberculous disease. A damp house or a damp neighbourhood are, in my experience, detrimental. I cannot say that the rheumatic infection is actually a result of this damp, for there is no proof forthcoming, but I have observed that several of my most terrible cases have lived in damp surroundings, and I always try to rescue rheumatic children from them if the parents are in a position to change their home.

I cannot bring myself to believe that any remedies have a direct action in preventing severe cardiac rheumatism, or in arresting its progress; salicylates, blisters, iodides, quinine, etc., seem to me powerless to cope with it, and I have seen them all tried in different ways, and by different physicians. A great deal can be done by rest and drugs which tend to improve the child's strength, but such recovery as occurs seems to me to depend rather upon the antidotal juices of the child than upon any particular drugs.

You will not mistake my meaning. I readily admit that a mild attack of cardiac rheumatism with acute dilatation will get well with skilful treatment, but the cure appears to be quite a natural process, for if the same methods are used for a severe case, there seems to be no specific result which is to be accredited to the drugs. I am of opinion that the many

drugs in use for the treatment of virulent rheumatism in childhood are no more specific than the drugs that are used in the treatment of acute tuberculosis, and no more effectual. There is much to be done for a child with valvular disease, much that will help him. Yet it is at the best but a treatment of the third order of merit, for if the first is prevention, and the second cure, this is but palliative.

STRAIN AS A FACTOR IN CARDIO-AORTIC LESIONS.

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THE clearest conception of the influence of mechanical stress *per se* in the causation of cardio-aortic lesions is obviously to be obtained by the investigation of cases wherein all other factors can be eliminated. For this reason the effects of strain have been studied, especially in soldiers, athletes, and others, who, by reason of occupation or practice, are subjected to severe sudden exertion or to prolonged over-exertion at a time when the general health is good and the heart normal. Thus Larrabee defines heart-strain as "the untoward effects of over-exertion in the previously normal heart," and Allbutt says, "when we enter upon a discussion of strain of the heart, we are understood to refer to the effects of muscular exertion upon hearts which, before the strain, were either strictly or virtually sound." In other words, the influence of strain has been considered chiefly with reference to persons whose physical condition renders them least liable to show its ill-effects. From a systematic standpoint, the advantages of approaching the subject in this way are readily apparent. In fact, it seems the only way of appreciating its importance as a single, determining, etiological factor. It would also seem a very obvious conclusion that if over-exertion is capable of doing injury to normal structures, much more readily will its untoward effects be produced when these structures are unsound; yet, paradoxical as the statement may appear, the consideration of strain from the view point of the healthy and vigorous has undoubtedly led to an under-estimation of its power to do harm in cases where the myocardium or aorta is already weakened by age or disease. The morbid opportunity offered under these circumstances not only allows of the more ready production of injury by over-exertion, but, what is even more important to the clinician, degrees of strain borne with impunity by the healthy structures may here become factors of the most serious significance. It is the influence of these lesser degrees of strain acting on structures already weakened that is often not fully appreciated. For this reason, it would be better from the clinical standpoint to consider strain in a relative rather than in an absolute sense, to indicate an increase in intracardial or intra-aortic pressure, due to unusual or controllable conditions, out of proportion to the capacity of the tissues concerned, to withstand it. The qualifying phrase "unusual or controllable" is used in order to limit the term "strain" so as to exclude the pressure which is normally incident to the function of the heart and aorta under the most favourable circumstances. I wish to emphasize, however, that to grasp the practical significance of strain it is even more important to appreciate the condition of the tissues exposed than the absolute amount of violence to which they are subjected.

Perhaps another reason for the failure to fully apprehend the ill-effects of strain on the cardio-aortic tissue is due to the general tendency in the past to rely too much on the stethoscope for the detection of cardiac disease. Useful as the stethoscope may be in the recognition of valvular lesions, it is, unfortunately, of very limited service in detecting the much more important myocardial changes. Myocardial changes are rather to be suspected from a knowledge of their association with certain general diseases or of their being the result of certain causes. Therefore a broad view of the pathology of any particular case is a more reliable guide to the recognition of myocardial changes than stethoscopic or other form of physical examination, especially at an early stage, before hypertrophy or dilatation have occurred. This applies particularly to the appreciation of the myocardial trouble associated with the acute infective diseases.

The capacity of the cardio-vascular system, when sound, to withstand severe mechanical stress is very great. Thus Lowy has shown that the heart when exerted to its uttermost is capable of doing thirteen times as much work as when the body is at rest; and Sherrington states that rupturing strains of the healthy arteries require nearly twenty times as much strain as the body can possibly exert upon them. I can find no experimental data giving any definite statement of the increase of pressure in the chambers of the heart or aorta during severe exertion. An investigation to ascertain this point, desirable as it is, would be beset with great difficulties. Clinical observation has abundantly shown, however, that severe or even irreparable damage may result; and bearing in mind the great reserve strength of these structures in health, the increase of pressure necessary to produce such damage must indeed be enormous. The effect of such degrees of stress on weakened structures may *a priori* be readily imagined.

But apart from this we need only recall how frequently we observe the insufficiency of the cardiac muscle to withstand the requirements of ordinary quiet life, that in consequence dilatation is a common, and rupture not a very rare event, to understand how powerful a cause of mischief severe exertion may be.

Having in mind these well-established facts, it seems remarkable that in special treatises on diseases of the heart, and in systems or textbooks of medicine, the influence of strain is frequently disposed of in a few words, merely mentioned incidentally or in some cases ignored. The relatively unimportant place thus often assigned to this factor in dealing systematically with etiology of cardio-vascular diseases, does not indicate an adequate appreciation of the potency of strain to cause cardiac mischief in the previously healthy, as shown by many contributions by competent observers, to be mentioned later; nor is it in keeping with the frequency with which its influence is seen in the routine of practice. The unrestrained athletics often permitted in schools and colleges, contests or undertakings requiring strength and endurance, entered into by the young, weakly, or untrained, or what is even worse, misguided exercise, laborious holidays, or over-taxation incident to occupation (occasional or continuous) in the sedentary and out-of-trained at a later period of life, or after convalescence from acute infections, all go to show that the possibilities of harm from muscular stress are not generally appreciated. I wish, therefore, within the compass of this paper to deal—of necessity briefly—with the physiological and pathological phenomena of severe exertion with reference to the heart and aorta, to review in a fragmentary way the literature of the subject, to relate a number of illustrative cases which have come within my personal experience or that of some of my colleagues, and to attempt to outline some special circumstances wherein it appears to me the importance of mechanical stress is not kept definitely enough in view in the guidance of the healthy, nor in the management of the sick and convalescent.

The work of the heart is represented by the amount of blood expelled from its chambers during contraction and the resistance to be overcome in forcing it through the peripheral circulation. The energy exerted by the heart during contraction is in part changed into kinetic energy, represented by the momentum imparted to the blood stream, and in part into potential energy stored up as tension by the dilatation of the elastic walls of the arteries. The amount of the latter will depend on the elasticity of the vessel walls. At the beginning of exertion there is a rise of arterial pressure due to compression of the intramuscular vessels by the contracting muscles and to an increased output by the left ventricle. The left ventricle, therefore, has to expel a larger amount of blood against increased pressure. Under the stress of severe exertion the ventricles are unable to empty themselves as completely as under ordinary conditions, so there is a resulting increase of residual blood within them which tends to over distension, and from this cause also there is increased stress thrown on the muscular walls. The initial effect of exertion is, therefore, to throw increased work on the left ventricle for three reasons, namely, (1) from increased amount of blood to be expelled, (2) from distension of the cavity, and (3) from increased peripheral resistance. It will, therefore, be readily understood that the brunt of sudden exertion and the primary effect of prolonged exertion is borne by the left side of the heart and arterial system. The initial rise of pressure is of short duration. Owing to reflex influences from the muscles, and possibly to the action of fatigue products on the vaso-dilators, dilatation of the intramuscular vessels soon takes place; the cutaneous vessels also dilate, as shown by reddening of the surface and sweating; and the more active respiratory movements increase

the suction action of the right side of the heart. These factors all tend to a fall of arterial pressure and a flooding of the veins and right side of the heart. In all cases, therefore, of prolonged exertion increased strain is secondarily thrown on the right side of the heart, which, especially if emphysema or other cause of obstruction to the pulmonary circulation exist, may be seriously or hopelessly strained in its efforts to maintain the onward flow of the blood. On account of its thinner walls the right ventricle is less able to accommodate itself to the increased stress.

The effect of repeated or habitual exertion, within the limits of the heart's resistance, as in proper athletic training and occupations attended by muscular exertion, is to produce a compensatory hypertrophy of both sides of the organ, with some enlargement of its cavities. This must be regarded as a perfectly physiological and conservative process, analogous to the hypertrophy of the skeletal muscles under systematic exercise, and it affords a ready explanation of the value of proper training in increasing the staying power of the heart in severe or prolonged exertion.

It is also important to note that the observations of Allbutt and others go to show that while the initial effect of exertion is to raise the arterial blood pressure, habitual exercise lowers the mean arterial pressure. Consequently, when at rest, the blood pressure of athletes and others habituated to proper exertion is found to be lower than that of persons leading sedentary lives. Athletic and other exercises, therefore, when properly regulated, are beneficial to the heart by producing physiological hypertrophy of the organ and lowering the average of peripheral resistance.

Having dealt briefly with the physiological mechanisms by which the cardio-vascular system reacts to strain, we are now in a position to deal with cases where, owing to excess of effort or defect in the tissues, the reserve strength or regulative mechanisms are unable to adapt themselves to demands out of proportion to the capacity of the myocardium to bear them without suffering injury.

From the experimental side, Roy and Adami have shown that overstrain, produced artificially by narrowing the ascending aorta by ligature, is capable of causing not only valvular incompetence but organic changes in the flaps. The latter consisted of oedematous swelling, subendothelial haemorrhages, opacities, etc., occurring at the margins of the valves. These experimental findings, especially their situation, are suggestive of the results on the valves of the high blood-pressure incident to many cases of arterio-sclerosis, and of the influence of repeated mechanical stress in initiating slowly-developing organic mischief, as in sclerotic changes in the valves.

From the clinical side, we are indebted to the military surgeons for first directing attention to and carefully investigating the effects of over-exertion on the heart. As late as 1871 the lack of literature on the subject was referred to by Allbutt in the statement "that the mechanical causation of heart disease is either omitted or treated in a way so meagre, by both English and foreign writers, as to be worthless." During the early part of the American Civil War so many cases presenting symptoms of cardiac trouble developed in the otherwise healthy soldiers, that an investigation of the subject was undertaken by Morse K. Taylor and Da Costa, and their observations were published from 1864 to 1871. Myers, of the Coldstream Guards, published in 1870 an article on Diseases of the Heart among Soldiers from observations made in the British service; while Frantzel, in 1873, reported the results of some of his observations during the Franco-Prussian War. Morgan, and especially Allbutt, were the earliest investigators of this factor as seen in civil life, the latter publishing his observations in *St. George's Hospital Reports* in 1871. Since that time the subject has been studied in the military service and civil life by Herz, Wilson, McCarthy, Treadwell, Stengel, Larrabee, Darling, Williams and Arnold, Balfour, Powell, Weber, Schott, and others.

Among soldiers, certain contributory factors appear to increase the liability to injury from overstrain. In this connexion the wearing of closely-fitting uniforms and bearing heavy accoutrements, by interfering with respiratory movements and enforcing strained positions; the mental stress incident to battles; the proneness of soldiers to excesses in alcohol and tobacco; and the frequency of syphilitic infection, have all been mentioned. Both Da Costa and Taylor emphasized the influence of diarrhoea, dysentery, and typhoid fever as predisposing causes. Apart from such possible modifying conditions in the soldiers' surroundings, the influence of over-exertion in civil and military life is to produce similar effects on the cardio-vascular system. Different observers have noted that exercises in which the legs were employed were especially likely to be associated with cardiac trouble. The explanation of this is stated to be the greater formation of fatigue products where the legs are used owing to the greater bulk of musular tissue involved.

The symptoms of overstrain described by different observers, as well as their conclusions, are remarkably in accord. Cases in which definite symptoms arise may be divided into acute and chronic. The acute form is most often seen as the result of severe or prolonged exertion in the young, weakly, or untrained. The subject shows symptoms of dyspnoea, precordial or epigastric distress, is pale or cyanosed, dizzy and faint, and may fall to the ground. Vomiting may occur. The pulse is rapid, weak, and may be irregular or intermittent. The transverse cardiac dullness is increased, the impulse faint, and the apex beat somewhat out. The termination of these cases varies. Usually the symptoms soon pass off, without evidence of any permanent injury. As already explained, the brunt of the injury is borne by the right side of the heart: and Taylor states that the damage done in the first instance will depend on the degree of dilatation and the length of time the organ is subjected to the distending force. "In some instances, sudden death takes place, and autopsy reveals marked dilatation of the right side of the heart and engorgement of the venous system." In other cases a condition termed "irritable heart" remains, sometimes permanently. Allbutt classifies the "irritable heart" among the functional cardiac disorders, though as seen in soldiers and in the later years of life the difference between it and the more definite organic disability of heart-strain is only one of degree. It is more commonly the result of repeated over-exertion, coming on gradually, than the sequence of the acute dilatation just described. The form appearing in the young, due to the restless activity of youth, Allbutt says is a very recoverable condition.

In the irritable heart there is an incapacity for exertion, necessitating the avoidance of all but the mildest forms of exercise. In the more pronounced cases the patient's "staying power" is permanently gone. Under favourable conditions, in the cases just mentioned, compensatory hypertrophy develops after some time, which may enable the patient to attend to the ordinary affairs of life without discomfort.

Chronic heart strain presents in an aggravated degree the symptoms already described in the unrecoverable cases of irritable heart, with more definite evidence of myocardial changes, with failing compensation, and perhaps valvular lesions eventually supervening. Myers says that recovery never takes place in these cases, and Taylor takes practically the same view. The latter states that if compensatory hypertrophy develops in from four to six months, it is a good recovery—that is, a recovery so far as to enable the patient to attend to the ordinary affairs of life without discomfort. Da Costa, in 300 cases of all degrees of severity from the irritable heart to the more pronounced condition, had 38 per cent. of permanent recoveries. The subsequent history of the recovered cases, however, is not given, or perhaps they would show a considerable percentage of cases of cardiac breakdown at a later period.

In addition to injury to the myocardium, mechanical stress is a well recognized cause of aortic valvular lesions. While more likely to cause injury where the valves are already diseased, still it may damage these structures when sound. The influence of muscular stress in this connexion was noted by Morgagni, and more recently by Peacock, Barr, Seitz, Allbutt, and many others. Peacock in his Croonian Lectures related 17 cases in which rupture of an aortic segment resulted from muscular strain. The following cases are instructive examples of such results.

CASE I.

For the notes of the first case I am indebted to Dr. H. A. McCullough of Toronto.

C. R., aged 10, a healthy, robust farmer's son, at the end of a day's threshing, as a feat of strength, undertook to lift the wheel of the threshing engine. Suddenly he felt something snap in his chest. He had to be carried home, and for six weeks was confined to bed, being quite unable to walk, from breathlessness and weakness. A double aortic murmur developed after the injury, with collapsing arteries and other evidences of aortic incompetency. He never regained strength. After some time, dropsy and other signs of cardiac failure developed, from which he died in three years. No autopsy was made, but the history of the case points definitely to rupture of an aortic segment with subsequent regurgitation and failure of compensation.

CASE II.

The second case occurred in the practice of Dr. J. I. Davison

Toronto. The patient was a vigorous man, of about 55 years of age, a captain on a lake steamer. During the fall of 1900, while his vessel was being loaded with lumber at Manitowaning, he became enraged at the slowness of the men engaged at the work. In order to encourage them by example, he picked up a scantling himself, placed it on his shoulder and began to walk through the sand towards the vessel. He had only gone a short distance when he experienced a severe pain in the chest, with the sensation of something having given way. He fell to the ground in a faint, and had to be carried to his room. In a few days he was brought to Toronto, where he placed himself under Dr. Davison's care. He was quite unable to endure any exertion, which would immediately produce extreme rapidity of the heart and dyspnoea. During the winter, notwithstanding the greatest care, he had recurring attacks of syncope, with dyspnoea, tachycardia, and precordial distress. In the following spring, eight months after the injury, he died during one of these attacks. At the autopsy, I found a rupture of one of the segments of the aortic valve, with the formation of a small aneurysmal dilatation in the sinus of Valsalva behind it (Fig. 1). There was no marked



Fig. 1.—Ruptured aortic segment with protrusion of sinus of Valsalva.

evidence of arterial sclerosis or other valvular disease. The patient had never suffered from syphilis, nor was he given to alcoholic excess, and up to the time of the accident was in good health.

This is a striking example of an acute rupture in one previously healthy. Allbutt mentions two other classes of cases in which forcing of the aortic segments results from over-strain—namely, first, "chronic forcing of a valve previously weakened by some constitutional poison such as syphilis," and second, "chronic forcing of the valves by the importunity of repeated strains, none of which was sufficient to break down a healthy valve, but all of which, by molecular rather than massive strain, contributed gradually to increase valvulitis and to break down the resistance of the part." An example of the former recently came under my observation in the Toronto General Hospital. A longshoreman, of excellent physique, and previously healthy, had been infected with syphilis a few months before. After a night's debauch, on attempting to work the next day, he was taken ill and brought to the hospital, with the most pronounced signs of aortic incompetency, which has since quite incapacitated him from work. He had never had rheumatism or other acute disease.

Two other cases which I shall relate show that parts of the aorta other than the valves may suffer.

CASE III.

This case I am permitted to report through the courtesy of Dr. N. A [illegible]. A young man aged 24 years, of rather delicate habit, a pl[illegible] from syphilis a few years before. He had shown no pr[illegible]. One evening he walked briskly about half a [illegible] woman. Arriving at the house he felt faint, and [illegible] a glass of water. As it was being [illegible] the floor and died instantly. Autopsy [illegible] rupture of the ascending aorta, a short [illegible] (Fig. 2). The vessel appears of about [illegible] slight irregularity of the intima, probably [illegible] due to the syphilis. The early age of the patient and the slight strain [illegible], it may be called, due to the walking, are interesting features of this case.

CASE IV.

This case occurred in a fisherman, of about 48 years of age. One of his brothers had died [illegible] and [illegible] death [illegible]. At his brother's residence, he had ascended the steps, entered the house and was just in the act of taking off his overcoat, when he was suddenly seized with pain in the chest and faintness. He was put to bed and Drs. Peters and Davison were sent for. When they arrived, they found him in a collapsed condition, pale and with a weak and rapid pulse. They diagnosed rupture of an aneurysm. Restoratives were used without

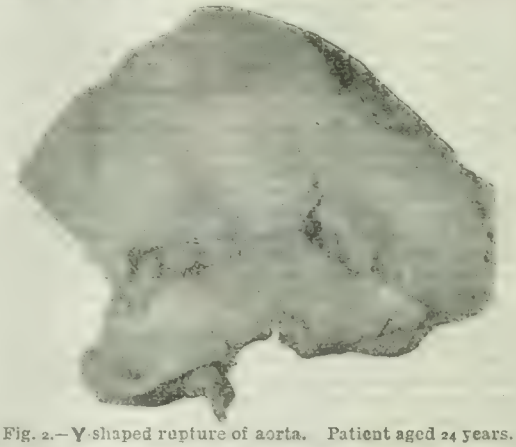


Fig. 2.—Y-shaped rupture of aorta. Patient aged 24 years.

effect beyond slightly rallying. About four hours after the onset of symptoms, the patient's condition having remained about the same, the nurse had gone out of the room for a moment. Hearing a noise, she immediately returned to find him dead. I made an autopsy next day. The body was that of a large, well-developed man. There was a great deal of subcutaneous, omental and mesenteric fat. The arteries showed well-marked diffuse sclerosis, the kidneys showed interstitial nephritis. Death was due to an irregular rupture of the aorta, 1½ in. in length, 3 in. above the valve (Fig. 3). The rent, which was irregularly trans-

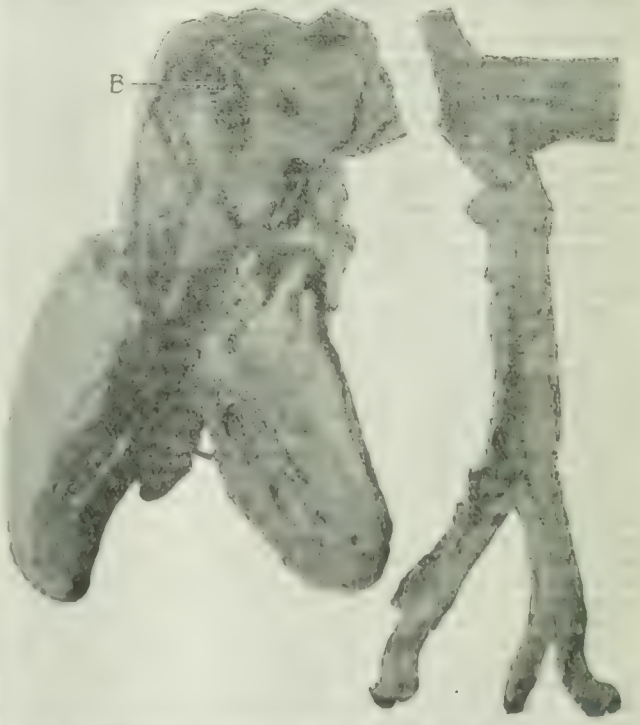


Fig. 3.—Rupture of aorta, with formation of dissecting aneurysm.

verse in direction, had gone through the intima and media and this was followed by the formation of a dissecting aneurysm, which had separated the media from the adventitia as far as the iliac vessels below, and backwards towards the heart, beneath the reflection of the pericardium over the first part of the aorta. The aneurysm had then ruptured through the adventitia into the pericardial cavity, which was found distended with blood. The secondary rupture had evidently been the immediate cause of death. The blood between the adventitia and media had pressed the latter inwards so as to indent it into the lumen of the vessel and so greatly reduced its calibre. The aorta was abnormally thin, and the intima showed extensive degenerative changes. The vessel was not pouched at the seat of rupture, nor was the site of the rent apparently more diseased than other parts of the vessel. The patient had been a moderate drinker; he had never had syphilis.

In this case the important factor was obviously the advanced degenerative change in the walls of the vessel. The over-exertion was so slight as to scarcely warrant the term strain. The general arterio sclerosis and marked obesity, however, were undoubtedly causes of chronic strain.

CASE V.

Another case, for the notes of which I am indebted to Dr. A. H. Garratt of Toronto, occurred in a stockbroker, 54 years of age. No history of rheumatism, syphilis, or other serious disease; no previous cardiac trouble. Patient was in his usual health, and was coming down in an elevator. As he was getting out the boy suddenly started the elevator, and the man was forced to make a sudden violent effort to escape being caught between the cage and the walls of the shaft. He felt faint and ill, and the doctor was immediately sent for. The pulse was rapid and weak, and continued so throughout his illness. No cardiac murmurs were present at any time. Obscure cardiac symptoms continued, and he died in four weeks. Autopsy showed a moderate degree of atheroma and a sacculated protrusion of the wall at the base of an atheromatous ulcer 1¼ in. above the valve.

I shall not here enter upon a discussion of the generally-recognized influence of strain in the etiology of atheroma of the aorta, nor of the part which it plays in the causation of aneurysms, by producing rents in the media, with consequent weakening of the wall, tending to protrusion. In these cases strain acts in association with other causes, and it is difficult to apportion proper relative weight to each.

In lower animals severe exertion at times is a cause of cardio-aortic lesions, in some cases leading to broken wind, in others to rupture. Two cases of rupture of the heart have come under my notice—one in a valuable young stallion, while mounting a mare where the right heart ruptured, and one in a cavalry horse at the Niagara military camp during the past summer, when the right heart ruptured during the exercises.

In youth and old age the influence of strain presents such important differences from those which occur during the vigorous period of early manhood and middle life as to call for special consideration.

In youth the processes of waste and repair are more rapid, the vessels more elastic, and the nervous mechanism governing them more sensitive. Youths consequently bear severe stress of short duration better than prolonged exertion. The latter, by reason of the rapid waste and the influence of fatigue products, soon leads to exhaustion. The nervous apparatus readily influences the elastic vessels, so that the initial rise of pressure is very brief, consequently the heart is soon relieved of strain, and therefore seldom suffers. Where the exertion is more prolonged, however, the stress falls on the abnormally thin walls of the right heart, as already explained, and this may be severely damaged. The hearts of youths are, therefore, ill adapted to withstand trials of endurance or prolonged stress. Sir Douglas Powell has called special attention to the unsuitability of paper chases and similar strenuous sports calling for staying power beyond the strength of early life, and warns of the irreparable cardiac damage which may result from unwise indulgence in them.

In old age we have to bear in mind not only the gradual lessening of general nutrition and the degenerations in the heart and vessels normally incident to that period but also the frequent occurrence of premature advanced arterio sclerosis with secondary myocardial involvement. The heart is weaker, the arteries more rigid, and the nervous mechanism perhaps less sensitive than normal. As before stated, the work of the heart is expended partly as kinetic energy in imparting momentum to the blood stream and partly as potential energy, stored up in the elastic walls of the vessels. As the elasticity of the vessels is lessened there is a corresponding loss of potential energy to assist in maintaining the arterial flow. Strain under these circumstances, therefore, means that a weakened heart, with part of its energy (potential) lost, has to work against increased peripheral resistance, and that, owing to the rigidity of the vessel walls and reduced sensitiveness of the vaso-motor nerves, the initial rise of pressure due to exertion is longer maintained. It will therefore be readily understood why the left heart and aorta, under such unfavourable conditions, are especially exposed to injury from sudden strain or at the beginning of prolonged strain. Clinical observations substantiate these statements. Dilated left heart and ruptured valves of aorta are not uncommon results of misguided exertion in the old. Some striking examples of this have come under my observation during the past few years.

CASE VI.

In one case, a patient of Dr. Bowles of Woodhill, a vigorous farmer, 50 years of age, who had never been seriously ill, in January, 1904, spent some hours turning a sausage machine. He stated that he had worked very hard, sweat freely, and when through was very tired. He was referred to me some three months and a half later. He complained of feeling weak, with numbness in various parts, dizziness, and was unable to withstand exertion. He suffered from indigestion, with occasional nausea, had lost considerable weight, and felt miserable and depressed. He also complained of pain in the chest. These symptoms he definitely fixed as following the work before mentioned. Physical examination showed considerable sclerosis of the peripheral vessels; the apex beat was in the fifth space, three-quarters of an inch outside the nipple, and was weak and diffuse. There were no murmurs. The pulse was regular, and only slightly rapid. Examination of the urine showed increased quantity, specific gravity 1009, urea 6 gr. to the oz., phosphates reduced one-half, a trace of albumen, and excess of indican. A few hyaline casts and cylindroids were found. I considered the case to be one of heart strain, due to severe exertion in a man suffering from arterio-sclerosis with interstitial nephritis. With careful regulation of diet and exercises, baths, and cardiac tonics, all his urgent symptoms have disappeared, and he feels very well, but he has to avoid all severe exertion.

CASE VII.

Another case occurred in a farmer, aged 70, who had never shown any evidence of cardiac trouble, and was unusually vigorous for his time of life. One day in April, 1903, he chopped down a tree, and, with the assistance of a neighbour, sawed it into blocks. He then felt sufficiently well to undertake splitting the blocks, but before he had finished he was obliged to give up from exhaustion. He was weak, faint, and complained of pain in the chest. He went to bed, oedema of the extremities soon developed, and he died in less than a month with all the evidences of dilated heart.

This was an example of severe muscular exertion overtaxing and producing dilatation in a senile heart, which until the time of the overstrain had been able to meet the requirements of ordinary life.

CASE VIII.

Another instance was in a gentleman, aged 63 years, who had always taken good care of himself, was never used to severe exertion, and had never suffered from any severe illness. For the year and a half previous to the occurrence now to be related he had been subjected to unusual worry. In April, 1899, he left Toronto in good health to undertake some business in the country. In order to reach home on a certain Saturday, he hurriedly walked 10 miles on Friday afternoon and drove 30 miles to the railway station (Peterborough) the next morning. When he reached the town he felt so weak and breathless that he consulted a physician, Dr. Scott, who prescribed for him and put him on the train for Toronto. He was unable to walk up the steps to the doctor's office. When he reached Toronto, some 80 miles, he was weak, breathless and only semi-conscious. A fellow traveller helped him to a carriage, and he was driven to his home. I saw him shortly afterwards and found him panting for breath, deeply cyanosed, voice weak and tremulous, and he was unable to express himself intelligibly. The pulse was running about 200, and was weak, irregular and intermittent. The cardiac impulse was weak and fluttering, and the whole precordium appeared throbbing weakly and irregularly. The transverse diameter of cardiac dullness was increased both to the right and left. No murmurs were present, but the first sound at the apex was valvular and the second pulmonic greatly accentuated. He became profoundly unconscious. Cheyne-Stokes breathing and occasional attacks of "goose-respiration" with a peculiar hissing expiration, developed, and continued for weeks. No oedema ever developed. Urinalysis excluded any definite renal trouble. In this condition he hovered between life and death for weeks. Thrombosis occurred in the right brachial artery, the pulse disappearing, and the extremity becoming cold. After some days, however, collateral circulation was re-established and the arm became warmer, though the pulse never returned. In a couple of months he began to show marked loss of flesh, and this continued, the weight dropping from 180 to 120 lb. After about two months he began to show slight signs of improvement, and in six months he was able to be about a little. He was, however, weak, nervous, very emotional and depressed, and was unable to withstand the slightest exertion or excitement. The pulse continued irregular and intermittent, was rarely below 120, and on the slightest provocation would become uncountable. After a year he had improved sufficiently to enable him to enjoy the quietest sort of life. He lived on the narrowest margin for four and a half years, and finally died from cardiac failure following a slight attack of bronchitis.

There seemed no human reason why this man might not have lived for years had a senile heart not been overtaxed by unwarranted exertion. These cases, to my mind, show the extreme danger in advancing years from exertion much beyond the ordinary, especially if prolonged, even though, considered in an absolute sense, the exertion may not have been very severe, but such as would have been borne in early manhood without the slightest harm.

The specimen of ruptured left ventricle shown in Fig. 4 illustrates, so far as I can learn, a unique though quite intelligible result of the strain thrown on the heart during the passage of a stomach tube. The patient was an extremely anaemic woman of 60 years of age, who had consulted a physician in reference to some stomach trouble. During the passage of a tube, while investigating the case, the patient was noticed to become slightly cyanosed, then pale, and before the tube was withdrawn she was dead. I was asked to make

an autopsy by the coroner, Dr. W. J. Greig. Examination showed a rupture of the left ventricle, near the ventricular septum, about midway between the base and the apex. The myocardium was very pale, soft, friable, and fatty. There was no valvular disease, but slight atheroma of the aorta and the orifices of the coronary arteries were not involved, though there is a fair amount of sclerosis along their course and some thrombosis near the beginning of the right coronary.

I have already mentioned incidentally, in connexion with the case of dissecting aneurysm, the tendency to chronic heart strain in cases of obesity, but wish now to deal with the subject a little more in detail. The occurrence of breathlessness in the corpulent, on slight exertion, is an everyday experience. In the absence of any valvular lesion this is commonly attributed to degenerative changes in the myocardium or to the mechanical interference with the action of the cardiac muscle, owing to the excess of fat deposited about the heart and between the fibres. Recent investigations go to show that the influence of fatty infiltration and fatty degeneration, so-called, in producing cardiac symptoms have been greatly exaggerated. Pratt states that the size of the

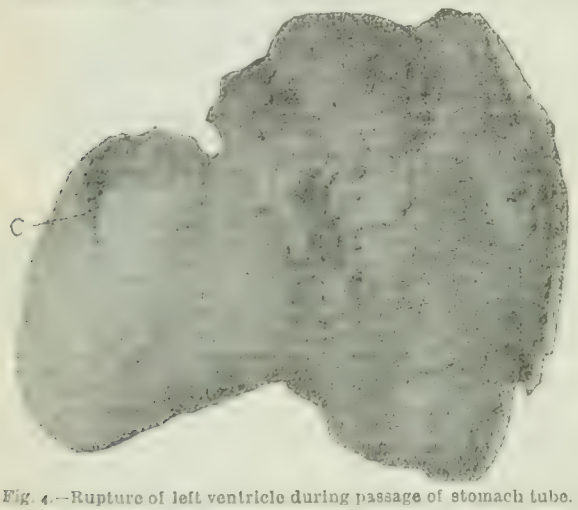


Fig. 4.—Rupture of left ventricle during passage of stomach tube.

heart is proportionate to the size of the skeletal muscles, but the work of the heart is proportionate to the bulk of the body. In the corpulent, owing to the sedentary life and other causes, the muscles are usually small and flabby, although the bulk of the body is greatly increased. Hence there is a relative disproportion between the size of the heart and the work it has to perform—in other words, there is a condition of chronic overstrain. The hearts of the corpulent are therefore poorly adapted to withstand the additional increase of work attendant on over-exertion.

Goitre is another disease in which the heart is usually small in proportion to the body weight though I do not know of any observations on the capacity of goitrous subjects to bear exertion.

Other conditions, wherein unwarranted exertion may be followed by the most serious consequences, are the myocardial changes following acute diseases. The toxaemia of the acute infective diseases—typhoid fever, diphtheria, rheumatism, pneumonia, influenza etc.—as is well known, produces serious damage to the myocardium, the effects of which are shown both in the parenchymatous and interstitial tissues. Of the parenchymatous changes, cloudy swelling, fatty and hyaline degeneration, vacuolation and segmentation of the cells, and fragmentation of their nuclei have been described. The interstitial changes include swelling of the intima of the vessels, hyaline degeneration of the media, and leucocytic infiltration of the adventitia. Numerous capillary haemorrhages occur at times, and especially important is the formation of hyaline thrombi in the small vessels in some instances. Degenerative changes have also been described in the cardiac ganglia and vagus nerve. Curschmann believes that the overwhelmingly preponderating rôle in the morbid process is played by the interstitial changes, which account for most of the clinical manifestations.

The anatomical relations of certain diseases may account for variations in the gravity of the prognosis in cases exhibiting similar myocardial changes. Thus in pneumonia or in acute infections in persons suffering from emphysema or other causes of obstruction to the pulmonary circulation, the resulting increase of work thereby thrown on the right side of the heart is a danger superadded to the myocardial degeneration. In diphtheria especially, in addition to the direct influence of the toxins on the muscle, there are reasons for believing that the cardiac ganglia and vagus nerve may also be involved, in a manner similar to that which occurs in peripheral neuritis. The cardiac manifestations of this disease would therefore be in part analogous to the paralysis occurring in the skeletal muscles from peripheral neuritis, with this important difference—that the latter may obtain physiological rest until the comparatively slow process of nerve and muscle regeneration takes place. There is little wonder, therefore, that the damaged heart, forced to bear the pressure of the circulation, sometimes fails in its task, even when this has been reduced to the fullest possible extent. Much less wonder is there that failure occurs in a case where over-exertion has been allowed. A consideration of these facts will explain the greater severity, more prolonged duration of symptoms, and the greater frequency of sudden death in the myocardial trouble following diphtheria.

In rheumatism, the frequent coincidence of endocarditis and pericarditis, with possibly valvular defects, are factors to be borne in mind in forming an estimate of the gravity of the myocardial changes. In addition to all these diseases, we must not lose sight of the effect of the toxines on the central nervous mechanism controlling the circulatory apparatus and blood pressure which, though ill understood, are no doubt of importance. In rheumatism the use of the salicylates also possesses elements of danger. The pain attending this disease to some extent is conservative in its action by enforcing bodily rest. The salicylates, themselves depressing to the cardio-vascular system, relieve the pain without preventing or ameliorating the myocardial mischief. This enables the patient to get about at an earlier period than would otherwise be possible, with consequent danger to the weakened heart before sufficient time has elapsed for myocardial repair.

In typhoid fever, acute cardiac manifestations may occur at the height of the fever or during convalescence. The former usually disappear with the decline of the fever, while the latter, according to Curschmann, may persist for two months or more. He adds, however, that "it is comforting to know that the condition is almost invariably attended by a favourable prognosis." He states, moreover, that he has never seen a case of myocarditis, with or without dilatation, following typhoid, though he notes the mention of isolated cases in the experience of other observers. My own limited experience does not accord with Curschmann's favourable view, as illustrated by the following two cases, in which death from cardiac failure occurred at a late period following the disease:

CASE IX.

In the first, a previously robust man of 23 years of age, a physician, had a rather severe attack of typhoid fever in January, 1901. He was confined to bed for two months, and apparently made a good recovery. Two months more were spent in recuperation, when he felt sufficiently well to resume practice. His practice was in the country, and the following autumn, seven months after getting out of bed, there was a gathering of the farmers of the neighbourhood at a barn raising, which the doctor also attended. Not to be outdone in feats of strength by his rural friends, he undertook his share of the heavy lifting required on the occasion. He complained of no immediate ill effects, but the next morning, while sitting in his chair talking to his housekeeper, he suddenly died. No autopsy was made, but death was attributed to cardiac dilatation following on the severe exertion of the previous day.

CASE X.

For the notes of the following case I have to thank my colleague, Dr. J. T. Fotheringham, of Toronto. The patient was a physician and professor in the Ontario College of Pharmacy. He was 45 years of age, of excellent physique and athletic tendencies. He had never suffered from any serious illness until the midsummer of 1901, when he contracted a mild and irregular form of typhoid fever while at his summer home on the Muskoka Lakes. Although feeling very miserable he continued to go about for about a month, when he came to Toronto, and entered the General Hospital under Dr. Fotheringham's care. His temperature at this time did not exceed 101°. Defervescence soon occurred, and within two weeks he insisted on leaving the hospital, about the end of August. At the middle of September he undertook his academic duties, and continued them throughout the winter. Early the following summer he attended the military camp at Niagara in charge of the field hospital, and afterwards went to Muskoka for his holidays. Ever after his attack of typhoid he was subject to syncopal attacks, especially on suddenly arising from bed at night. He also found himself unable to undergo exertion, such as hurrying for a car. His pulse was slow and irregular. No valvular lesion was present. While at the college one Saturday during the Christmas holidays of 1902, after ascending a flight of stairs, he was suddenly seized with a

feeling of weakness, and fell to the floor in a fainting condition. When seen by Dr. Fotheringham a short time after, he was extremely cyanosed, the heart's impulse diffused and fluttering, and the pulse imperceptible. After a few hours he was removed to his home. Evidence of dilatation of both ventricles was present, most markedly of the left. Every effort to overcome the condition was of no avail, death occurring in a week from the onset of the attack. Autopsy revealed marked hypertrophy of both sides of the heart with extreme dilatation of both ventricles. The cardiac muscle was pale, soft and flabby, and showed "tabby-cat" streaking beneath the endocardium. There was no valvular trouble. The fatal issue of this case was nearly a year and a half after his attack of typhoid fever. The splendid muscular development of the patient, with the impatience to restraint so often seen in those who have always enjoyed vigorous health, unfortunately became causes for overtaxing the myocardium, weakened out of proportion to the general strength.

These two cases, occurring in members of our profession, certainly suggest a lack of apprehension of the dangers, even at a remote period, from over-exertion following typhoid fever.

In convalescence from diphtheria, the occurrence of sudden death from cardiac failure, even in the most carefully-managed cases, is a common, unpleasant experience of every physician. In other cases, however, death or severe disability could in all probability have been averted by the exercise of care. The following case will illustrate the point:

CASE XI.

Miss P., aged 23, a nurse in a Brooklyn Hospital, had an attack of diphtheria in December, 1903. Until this time she had been quite strong and showed no signs of heart weakness. Antitoxin was administered, rapid improvement followed, and she was better within a week. Being anxious to return to Toronto for the Christmas holidays, though warned of the danger by her physician, she left the hospital in two weeks, went to New York, spent the afternoon shopping, and took the night train for Toronto. On her arrival the next morning she was cyanosed, suffered from extreme dyspnœa and precordial distress, and the pulse was rapid, irregular, and almost imperceptible. The feet, legs, and face were much swollen. The apex beat was weak and diffused, and the point of maximum impulse was out as far as the anterior axillary line in the fourth interspace. The urinalysis showed no evidence of renal trouble. No cardiac murmurs were present, though the first sound at the apex was weak and valvular in character, and the second pulmonic sound was greatly accentuated. The transverse cardiac dullness was much increased both to the right and left of the sternum. Under absolute rest and treatment, the œdema soon disappeared, the cyanosis and dyspnœa passed off, and the pulse became slower and more regular. After six weeks, however, the point of maximum impulse was in the fourth interspace, 1½ in. outside the nipple, and was very weak. The pulse rate had fallen to between 80 and 90, but was increased on the least exertion or excitement. Owing to her urgent importunity, she was allowed to be gradually propped up higher in bed, and after some days to be lifted into a chair at the side of the bed, for a carefully-lengthened period each day. She was instructed of the danger of attempting any exertion beyond that specified. I had not visited her for some days, and as she felt well and apparently concluded that the dangers had been exaggerated, she finally dressed and went downstairs. As there was no apparent ill-effects from her venture, she undertook to call on some friends, and finally surprised me one day by calling at my office to inform me of her intention to return to her duties at the hospital. I impressed her with the extreme danger attendant on such a course, but she was insistent. The next day, however, I received an urgent message to visit her. She was very nervous, breathing rapidly, complained of distress over the lower part of the precordium, and the pulse was weak and rapid. The point of maximum impulse was again found out to the anterior axillary line. Three months of absolute rest followed, during which time the urgent symptoms had disappeared, and the apex beat had returned to about 1½ in. outside the nipple. She was then allowed to gradually sit a little higher in bed, then to be placed in a wheeled chair, and after three months more to carefully begin walking about the room. The slightest over exertion, however, would produce an anginal attack. At the present time, fifteen months from the beginning of her illness, she looks well, and if extremely careful no symptoms arise. The apex beat is still an inch outside the nipple, most evident in the fourth interspace, and the impulse is weak. No murmurs have developed.

In attempting to form an opinion as to the ultimate prognosis in this case, one is struck with the dearth of literature bearing on the subject. A cure must involve nerve and muscle regeneration, with efficient compensatory hypertrophy—a process, of necessity, prolonged if at all possible in an organ continually subjected to a degree of functional stress. Recovery much beyond that which she has attained at present is unlikely.*

During the acute stages of these infective diseases, while the patient is under the physician's supervision, the danger of cardiac trouble is generally apprehended, its manifestations watched for and appropriate treatment carried out. But unfortunately this supervision is not extended over a sufficient length of time. The question, therefore, naturally arises, how long should this time be? The answer involves the question, how long does it require for the disappearance of the inflammatory exudation into the myocardium and for the regeneration of muscle, nerve, and other tissues? Until this has occurred the possibility of danger must be constantly kept in view and carefully guarded against. The data for a satisfactory answer to the question are difficult to obtain. Regeneration in such highly-organized tissues as muscle and nerve are known to be slow. In the muscular paralysis following peripheral neuritis a year or more may be necessary, and there is no reason for believing that in the heart, an organ functionally more unfavourably circumstanced, the processes of repair will be more rapid. In cases, of course, where the changes affect the muscle only, the nerves not being seriously involved, the outlook is better. After a severe illness, however, the opinion may be ventured that probably a year will be required in favourable cases before the organ has regained its former strength.

In all these cases of acute infection, it cannot be too strongly argued that a broad view of the pathology of the disease is the only safe guide to an appreciation of the myocardial condition, even in the absence of all symptoms and physical signs of its involvement.

There are other important phases of this subject, such as the influence of muscular stress in valvular disease, with which one might deal, but their importance will have been suggested by the consideration of the points already discussed.

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* June 1st, 1905. This patient returned to her hospital duties some two months ago. She has been very careful to avoid excessive exertion, and so far has developed no bad symptoms.

AN INQUIRY INTO THE CAUSE OF ANGINA PECTORIS.

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For many years I have been noting carefully the individual symptoms that are present in cases of angina pectoris, in order to find the immediate cause of the symptoms included in this term and the mechanism by which they are produced. In this paper I deal only with the train of reasoning that leads towards the discovery of the immediate cause of angina pectoris, and at the same time I illustrate the field of inquiry that is opened up by the study of heart failure from the point of view of impairment of the individual function of the heart muscle fibre.

Definition of the Term "Angina Pectoris."

The term "angina pectoris" includes a number of distinct symptoms that are evoked by certain conditions of the heart. The symptoms included in this term may vary in number, in intensity, and (as in the case of pain) in situation. For the purpose of this study I limit my remarks to those cases that exhibit three of the most characteristic symptoms, namely, (1) pain situated over the region of the heart, (2) a sensation of tightness or constriction of the front of the chest, (3) a sensation of exhaustion referred to the chest, amounting at times to a feeling of impending dissolution.

The reason for the limitation of the term "angina pectoris" in this paper is to enable the argument to be presented clearly and definitely, by showing that those well-defined symptoms

may be associated with widely-divergent gross pathological changes. To enter into the consideration of other phases of angina pectoris would lead me beyond the point I want to elucidate here. Suffice it to say that the underlying principles on which this argument is based is applicable to all forms of angina pectoris.

Conditions in which Angina Pectoris is Produced.

In looking over my notes of a very large number of cases I find that the three symptoms mentioned may arise in patients with most diverse forms of lesion, and even in patients without any evidence of cardiac disease. From among a number of conditions I select the following six: Cases of (1) aortic aneurysm, (2) aortic valvular disease, (3) atheroma of the coronary arteries, (4) myocardial degeneration (fatty and fibrous), (5) increased arterial pressure of the elderly (usually associated with 3 and 4), and (6) arterial spasm of the young (vasomotor angina pectoris of Nothnagel).

It is manifest that identical symptoms produced from conditions so diverse cannot be directly due to the organic lesion, to the aortic aneurysm, to the disease of the aortic valves, to the atheroma of the coronary artery, or to the increased peripheral resistance. We must therefore look for a cause common to all six conditions.

Conditions Giving Rise to an Attack of Angina Pectoris.

In order to find what this common cause may be, consideration of the conditions giving rise to an attack of angina pectoris will help materially. In the first place, it is to be noted that angina pectoris in the six conditions cited appears as a late symptom, after the heart has been struggling a long time against obstacles opposed to its efficient action, or after the nutrition of the muscle has been impaired by gross pathological changes in the coronary artery or when the muscle fibres have become impaired through slowly advancing degeneration of the fibres. We find, further, that many patients when at rest do not suffer from pain, but that any cause inducing increased work on the heart provokes an attack. Bodily exertion in any form excitement, increased peripheral resistance (as in exposure to cold air a period of high arterial pressure in the elderly, spasm of the arterioles in the young) may bring on directly an attack of angina pectoris. That is to say, in predisposed individuals all circumstances that throw more work on the left ventricle induce an attack of angina pectoris.

Association of Angina Pectoris with Exhaustion of the Muscle of the Heart.

Such considerations lead to the conclusion that angina pectoris arises from certain conditions of the muscular substance of the heart, when the contraction meets with a resistance greater than it can easily and efficiently overcome, whether a fairly strong muscle struggles against an increased resistance (as when there is great peripheral resistance or a narrowed aortic orifice) or when a weak or degenerated muscle has opposed to its contraction a normal or even a lowered pressure, but a pressure greater than the weakened muscle can readily overcome.

Association of Angina Pectoris with Impairment of the Function of Contractility.

If we inquire into the question of what function of the muscle fibres is concerned in the production of angina pectoris we shall find additional confirmation for the foregoing conclusion.

I have already called attention in the BRITISH MEDICAL JOURNAL to the fact that affections of the various functions of the muscle fibres (Gaskell's functions) can be demonstrated by means of graphic records of the cardiac movements. I have taken a large number of tracings from patients who have suffered from angina pectoris, during the attacks and when free from pain, and an analysis of these tracings enables me to say with confidence that angina pectoris can occur when the excitability, the conductivity, and the power to produce rhythmical stimulus are unimpaired. There only remain now the functions of tonicity and contractility. The evidences of failure of the function of tonicity have not so far been analysed, and I am at present engaged on this subject. I have specially studied the matter in connexion with angina pectoris, and I can state with confidence that angina pectoris may occur without any evidence of the impairment of the function of tonicity. Seeing, then that angina pectoris can occur in patients when four out of five functions of the heart muscle are demonstrably intact, we are forced to the conclusion that angina pectoris is an evidence of the impairment of the remaining function, that is, contractility. When we come to look for facts in support of this view we find a threefold evidence: (*a*) An *a priori* evidence in the fact that this is the function directly concerned in supplying the motive force to the circulation of the blood, and that it is the function that will necessarily become exhausted when an excessive resistance is opposed to the contraction of the heart muscle; (*b*) the symptoms associated with and the conditions giving rise to the characteristic sign of depressed contractility (pulsus alternans) are of a similar nature to the symptoms in angina pectoris; (*c*) angina pectoris may be associated with the pulsus alternans.

The Pulsus Alternans a Sign of Depressed Contractility.

The form of irregularity to which the term "pulsus alternans" is applied is where a large beat regularly alternates with a small beat the beats, however, appearing at regular intervals—that is, the pulse may be perfectly regular in rhythm, but every second beat varies in strength, as in Figs 1 and 2.

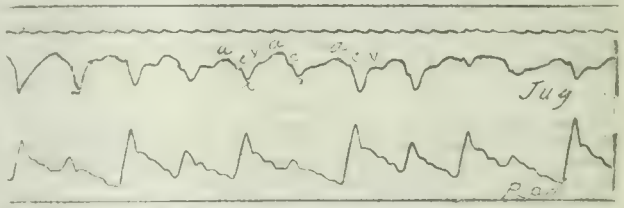


Fig. 1.—Simultaneous tracings of jugular and radial pulses during an attack of angina pectoris. The radial pulse shows a regular rhythm in regard to time, but there is an alternation in the sizes of the beats—a small beat regularly following a large—the pulsus alternans.

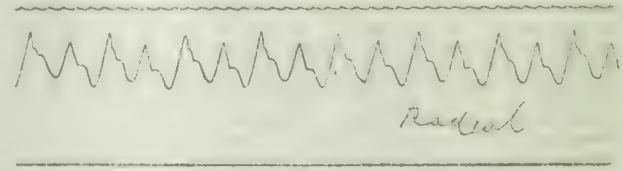


Fig. 2.—Tracing of the radial pulse showing the pulsus alternans. From a case of high arterial pressure during an attack of angina pectoris.

Sometimes there may be a slight delay in the appearance of the smaller beat. This regularity in the rhythm or with a slight delay in the appearance of the smaller beat distinguishes it sharply from a more common form of irregularity—the so-called pulsus bigeminus, where the smaller beat is due to an extra systole, and appears at a shorter interval after the large beat (Fig. 3).

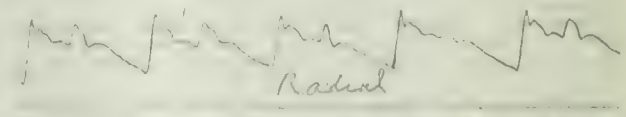


Fig. 3.—Bigeminal pulse. The spaces between the larger and smaller beats is less than the spaces between the smaller and greater beats, in contrast with the regular rhythm shown in Figs. 1 and 2.

The alternating action of the heart which produces the pulsus alternans has been explained by F. B. Hoffmann as being due to an impairment of the function of contractility, and is thus described by Wenckebach: "When the contractility is lowered, the contraction is made more quickly than the normal one—that is, it does not last so long, and this is quite independent of the manner in which the contractility of the heart was reduced (say, by high frequency or by stimulation of the vagus). In this condition both systole and diastole are shorter; the cardiac muscle sooner reaches the maximum of its contraction, and sooner returns into a position of rest. Hence the pauses between each pair of beats are longer. If now one period becomes a very little longer from some cause or other (by changing the frequency once, for example, as in Hoffmann's experiments), the next systole will be a little larger by reason of the longer rest

which the heart obtained. But, on account of the greater length of this big contraction, it will be followed by a somewhat shorter pause, even if the heart returns again to its normal rhythm at once. The next systole will therefore be smaller; but as it lasts a shorter time, it is followed again by a longer pause, and the succeeding systole will again be larger."

Although the pulsus alternans has been demonstrated to be a symptom of impaired contractility, it does not follow that this function is intact in the absence of the pulsus alternans. Patients may die of depression of contractility, and this alternating action of the heart never appear. Its appearance may be very transient, due to some temporary cause. Fig. 1 was obtained from a patient immediately after exertion, and with the symptoms present of angina pectoris. As soon as I had taken the tracing the pulse became perfectly regular, though the other symptoms of cardiac exhaustion persisted. In the quotation from Wenckebach's book just given, it is stated that in experiments by changing once the frequency of the heart's action the alternating rhythm may be started. This is well seen in Figs. 4 and 5, where, after a long pause—due probably to a ventricular extra-systole—the alternating rhythm is started and continued for a brief period.



Fig. 4.—Tracing of radial pulse showing the appearance of the pulsus alternans after a long pause. From a patient suffering from angina pectoris.

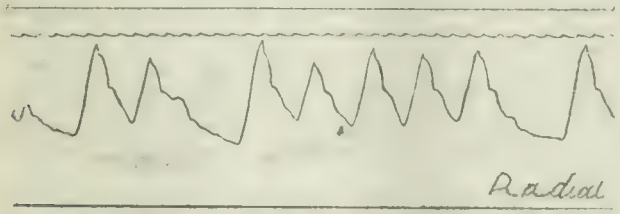


Fig. 5.—Showing the same thing as Fig. 4. From a patient aged 72 suffering from great exhaustion after an attack of bronchitis.

It may be asserted that while the absence of the pulsus alternans must not be taken as evidence of the integrity of the function of contractility, its presence is, on the other hand, a distinct sign of the impairment of this function.

Symptoms Associated with the Pulsus Alternans.

All patients who exhibit this form of heart action invariably show a great limitation of the field of cardiac response; that is to say, while at rest the heart may seem to be doing its work efficiently, very slight exertion will at once produce symptoms of cardiac distress.

Conditions giving rise to the Pulsus Alternans.

When we inquire into the conditions in which this symptom appears, we find a striking resemblance to the conditions that provoke an attack of angina pectoris. Thus, I have found it appear for a short time in a patient with an enfeebled heart after walking hurriedly (Fig. 1). I have found it in several cases when the heart was exhausted after struggling against a very high arterial pressure (Figs. 2 and 4). I have found it in a patient after a long attack of paroxysmal tachycardia associated with profound exhaustion; and Dr. John Hay has shown me tracings of the pulsus alternans from a similar case. Wenckebach mentions that Huber had also found the pulsus alternans in the course of an attack of paroxysmal tachycardia. I have also found it in a youth with acute dilatation of the heart a few days before death, and in a female aged 72 after an attack of bronchitis (Fig. 5). In the record of two cases by Wenckebach and of a case by Vulhardt the pulsus alternans was associated with other evidences of great exhaustion of the heart muscle.

Association of Angina Pectoris with the Pulsus Alternans.

I am confident that if tracings were systematically taken of the radial pulse in cases showing the symptoms of angina pectoris the pulsus alternans would be found fairly frequently. It is not easy to detect it with the finger or by the heart sounds, though when the attention is specially directed to the matter it may be recognized. In this way further evidence of the association of angina pectoris with exhausted contractility will be found. In five of my cases of pulsus alternans the symptoms mentioned as characteristic of angina pectoris were present. In six other cases the pain was absent, but the symptoms of exhaustion, shortness of breath on exertion, and general distress, showed that practically the symptoms were identical with those of angina pectoris, minus the pain.

The Arterial Pressure is not a Guide to the Condition of the Contractility

It might seem at first sight that the condition of the arterial pressure would be a guide to the state of the function of contractility. As a matter of fact it does not serve as a guide, as the pulsus alternans may be present in cases with an abnormally high pressure, as well as with a very low pressure. In the case of a man whose heart had been exhausted by lifting very heavy weights, and who suffered from attacks of angina pectoris with the alternating rhythm, the blood pressure was 120 mm. Hg, as measured by Martin's modification of the Riva-Rocci instrument. The pulse of the patient when Fig. 1 was taken was extremely soft and compressible. The pulse in the patient from whom Fig. 2 was taken was very hard and resistant, and the arterial pressure equalled 200 mm. Hg. When the pressure fell to 170 mm., the pulsus alternans and all anginal symptoms disappeared. In this case (and in that from whom Fig. 4 was taken) the association of the pulsus alternans and angina pectoris with the high arterial pressure, and the disappearance of both phenomena when the pressure was lowered, demonstrated the intimate connexion between the exhausted function of contractility and the symptom of angina pectoris.

Conclusion.

From the consideration of the fact that angina pectoris occurs in lesions of great diversity, some condition common to all must be the cause of the symptoms. The fact that angina pectoris appears only after the heart muscle has been long exposed to excessive strain points to the cause being situated in the muscle. All the functions of the muscle fibres save that of contractility can be shown to be intact in many cases that suffer from angina pectoris. The alternating action of the heart is a demonstrable sign of exhausted contractility, and its presence is always associated with symptoms that are included in the symptom complex of angina pectoris. The same exciting cause—extra strain on the heart—may provoke both the angina pectoris and the alternating action and both may disappear with removal of the cause. The inference to be drawn from the consideration of these facts is that the symptoms that are included in the term "angina pectoris" are so closely associated with an impairment of the function of contractility of the muscle fibres of the heart that in all probability angina pectoris will be found to be an evidence of the impairment of the function of contractility.

A CASE OF SYNCOPAL BRADYCARDIA SHOWING THE INDEPENDENT ACTION OF THE TWO SIDES OF THE HEART.

By J. SEYMOUR MAYNARD, M.B., C.M.,

London.

Cases of persistent bradycardia are still sufficiently rare to justify their being reported when an opportunity has occurred for their more or less continuous observation; in the following case, moreover, there were certain clinical signs which appear to invest it with additional interest:

History.

On November 24th, 1904, I was consulted by Mr. P., aged 57, whose occupation involved a good deal of standing but without any violent exertion. He stated that two years before he had felt giddy, and fainted for a few seconds; he was seen by a medical man, who remarked on the slowness of his pulse, but said his heart was otherwise normal for his age; from that date till six weeks before he came to me he had no return of the symptoms, and there is no evidence as to the state of his pulse in the interval. For a month or six weeks he had been suffering from palpitation, shortness of breath and giddiness, and on the morning of

November 24th he had actually lost consciousness for a few seconds.

The pulse-rate was 34 a minute, increasing on exertion to 37; there was a systolic bruit, heard best in the aortic area. Three days later he consulted me again, saying he had had repeated attacks of giddiness. I found that his heart intermitted at intervals, had a rate of 32 per minute, and that during the periods of intermission he manifested symptoms of syncopal giddiness.

On November 30th I saw him in consultation with Dr. Alexander Morison. We found the pulse-rate had dropped

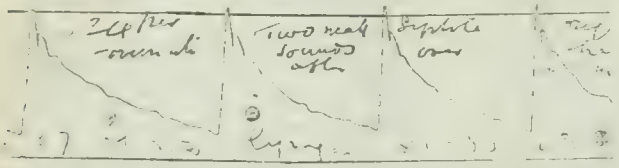


Fig. 1.—November 30th, 1903. Left radial recumbent; pulse 24; left ventricular systole, followed by two weak systolic sounds over right heart, the latter, of course, not registered by sphygmograph.

to 24 there was a well-marked systolic bruit in the aortic area and a full heaving systolic impulse, followed immediately by two impulses perceptible to the hand over the position of the right ventricle, and associated with two subsidiary cardiac sounds previous to the recurrence of the succeeding left ventricular systole; and, moreover, that these succeeding sounds were not registered by the sphygmograph, as the appended illustrations will show.

The patient, observed for some days later, evinced practically the same physical signs, although on the whole he felt more comfortable.

On December 6th Dr. Morison again saw the patient with me, and we found that the subsidiary heart sounds follow-

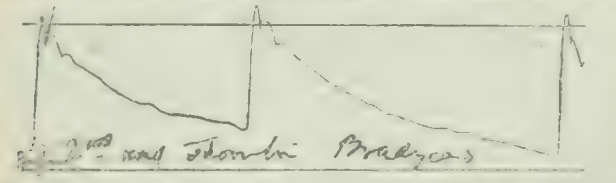


Fig. 2.—December 6th, 1903. The same, with slower pulse-rate, showing irregular length of diastolic interval.

ing the left ventricular systole at times numbered three or four, the more forcible of them being associated not only with sound but with impulse; the sounds could be heard both over the heart and over the large veins at the root of the neck; in detecting the sounds the straight stethoscope was found to be distinctly more useful than the binaural.

The prognosis was necessarily grave, and the patient was enjoined to avoid all stress calculated to affect him injuriously, as experience shows that the termination of such cases is frequently in fatal syncope.

The subsequent history of the case need not be given in detail, the physical signs remained practically the same;

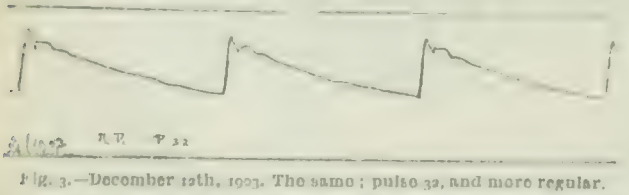


Fig. 3.—December 12th, 1903. The same; pulse 32, and more regular.

at times the patient felt better, and had more regular pulsation with fewer syncopal attacks; at other times the intermissions were well marked, and the longest duration of such an intermission, timed by myself, was eight seconds, while the pulse rate varied from 18 to 40.

It was noticed that, on the whole, when the heart was slowest, which was usually when the patient was in the recumbent position, the subsidiary sounds were most numerous, but they were never registered by the sphygmograph, which only recorded the systole and diastole of the left ventricle.

On April 17th the patient, who had improved so much in health that I had not seen him for some weeks, went to his bath-room, and at some period of his ablutions evidently fainted and died suddenly, as his head and shoulders were found under water, and the rest of his body out of the bath. No *post-mortem* examination was permitted.

Remarks.

The patient was treated with various drugs, including strychnine, with and without strophanthus, mercury perchloride, and trinitrin; strychnine, on the whole, appeared to be most beneficial, while trinitrin was abandoned, as it seemed to have somewhat an injurious effect. The accelerated influence on the heart's action of either stimulants, exertion, or trinitrin was very slight. This is in accordance with the usual experience in these cases.

The chief point of physiological and clinical interest appears to be the undoubted evidence the case affords of an independent action of the two sides of the heart; it will be noticed by reference to the sphygmographs that the descending or diastolic position of the curve shows no evidence of subsidiary pulsations communicated by the heart, and yet the ear and the hand detected secondary impulses which could not have failed to have been registered by the instrument had these originated in the left heart. The conclusion is that the sounds and impulses referred to were produced in the right side of the heart during the diastolic pause of the left ventricle.

THE ALBUMINURIA OF ADOLESCENTS.*

By CLEMENT DUKES, M.D.Lond., F.R.C.P Lond.,
Physician to Rugby School and Senior Physician to Rugby Hospital.

During the brief time at my disposal I propose to submit for discussion a subject at which I have worked for a lifetime with ever-widening interest and instruction—the albuminuria of adolescents.

I do not mean the albuminuria which occurs during adolescence, for that would include scarlet fever and diphtheria nephritis. I intend that specific form to which an infinite variety of names has been assigned, such as "early," "latent," "functional," "cyclic," "intermittent," and "postural." Each of these terms connotes some feature of the ailment; but the most appropriate name I leave to you to decide. For myself, I merely describe the disease as I have found it among boys and girls at school, where it is most commonly to be observed.

The subject is obviously one which intimately concerns every member of the medical profession, whether he be consultant or general practitioner. The interpretation of its significance is still open to debate, and I feel that it ought to be discussed in all its bearings. For without precise knowledge great hardship is apt to be inflicted upon the young who are affected by this form of albuminuria.

In confirmation of the latter observation I mention the following facts:

1. Boys exhibiting the signs of the malady are sometimes sent from school on the ground that they are thus unsuited for the "rough and tumble" of school life. Only a year ago a lad, a patient in whom I was interested, was discharged from school, "because the doctor would not be responsible for him if he were allowed to remain." During his stay at school proteids were removed from his diet; and yet he was expected to do his work, and also to provide suitable material for his growth. I admit that at one moment his urine would boil like boiled white of egg, though in half an hour not a trace of albumen might be perceptible. The lad was in good health, and the condition of his kidneys indicated no permanent detriment to him—nothing beyond the present loss of albumen. I have no doubt that he will develop into a vigorous man, free from organic kidney disease.

What a blight upon a young life to be removed from school associations and games and from the comradeship of schoolfellows so essential to growth in manliness, and doomed to the solitariness of a private education and to recreation suitable for an adult instead of a boy!

The only case of this description which I have ever had occasion to remove from school was an only child and fatherless. He was a feeble, delicate, overgrown boy, continuously ailing, and albuminuria was only one of his many weaknesses. I sent him, with a tutor, round the world, and he returned a strapping fellow, hearty and strong, and free from albuminuria. All his troubles apparently arose from excessive growth, entailing too severe a strain upon a somewhat feeble constitution.

* Read before the South Midland Branch of the British Medical Association at the Annual Meeting held at St. Albans on June 22nd.

2. Boys suffering from this form of albuminuria are also excluded from all public appointments in the navy, army, and Civil Service at home and abroad. About 10 per cent. of candidates are refused on this ground at the army examinations and a similar number at those of the Civil Service, although otherwise qualified for appointment. Is it not time that we altered this state of things? It is not to our credit, and it means ruin to the prospects of some of the most promising candidates, without the justification of any valid reason for rejection, as I shall endeavour to show.

3. Life assurance is deferred, or refused to these applicants, except at prohibitive rates; although the instances in which albuminuria is present, in those who seek assurance below 20 years of age, must be considerably under 1 per cent.

By virtue of my office it has fallen to my lot to make a life-long study of the subject of the albuminuria of adolescents. During this time many hundreds of sufferers from the ailment have passed through my hands, under close observation day after day, and many times a day, and in several cases their study has extended over years.

If you care to review the history of this malady during the last five and thirty years, you will discover numberless theories, and some of them of the wildest character, respecting its cause and its importance to the individual.

In papers I have myself written you will be struck by the fact that, while I retain my judgement as to the cause, I have completely changed my conviction with respect to its significance.

Very early in the Seventies I had under my charge many boys poorly from time to time, who, while improving under treatment, did not completely recover their usual health, and the reason quite eluded me. Constantly puzzling over the facts, I definitely diagnosed my first case of this form of albuminuria in 1876, as belonging to a series which subsequently proved homogeneous in its character and results. After a while I found that, by placing the sufferers from the complaint in bed and giving milk only as food, recovery immediately occurred, quite irrespective of the amount of albumen present, which sometimes was so copious as to alarm me in those early days.

I gradually learnt that, after the first few days, the worst cases even could be kept free of albumen in the vertical position, provided no other food but milk was partaken.

In the process of investigation it was further ascertained that a full meat diet could be borne when in the horizontal position without inducing a return of the albumen; while, on the assumption of the vertical position, albumen recurred as abundantly as before if the same form of diet was continued.

Then I began to examine the urine of every boy who came before me, and discovered the presence of albumen in a large number of unsuspected cases when apparently it entailed no discomfort whatever.

A great number of those who had albuminuria I kept under observation day after day; then week after week, and term after term, until the albuminuria had either disappeared, or, its presence persisting, until the boys had left school, and had passed out of my view as I thought for ever.

From its continuance, from its frequent recurrence, and from the pulse tension in a large proportion of instances, I came to the conclusion that I was witnessing the prologue of a performance whose final scene would be organic disease of the kidneys; so that in the year 1891 I wrote: "I am convinced that a considerable proportion of the cases never recover, but progressively increase."

Yet now, after another long period of investigation, new facts have so forced themselves upon me, that I have completely changed my front, and I hope have arrived nearer to the goal of accuracy.

This reversal of judgement was thus produced. Having held the same appointment for more than thirty-four years, some of the sufferers from this form of albuminuria when at school return as men to visit the scenes of their happy school-days. By various stratagems (imagine their amusement when I acquaint them with my ruse in the pursuit of science), I so inveigle those who presented at school marked and prolonged signs of the malady, that I secure a specimen of urine, and in no instance but one—and in that case this renewed examination occurred shortly after the boy had left school—have I ever found albumen present in the man.

You will naturally say, the experience of one investigator, however assiduous, is not worth much. This I admit. But I beg you to weigh it thoughtfully for what it is worth, as at least one stepping-stone towards the attainment of truth.

Bear this in mind, however. If you were to ask my friends what are my manias—as our experimental philosopher Locke says, "Where is the head that has no chimeras in it?"—they would probably reply, looking at the throat, inspecting the skin, and testing the urine. The value of the service which these propensities have rendered me in the position which I hold, I can never gauge; but they have rescued me from many pitfalls, my boy patients from much unnecessary suffering, and parents from excessive anxiety and needless expense.

For I have many times pointed out that a boy who was supposed to be suffering from overwork was merely the victim of albuminuria. Another, who had apparently a weak heart, and all its accompaniments, culminating in fainting, was in reality afflicted with albuminuria, the heart being actually sound, but incommoded, so that neither his work, nor his exercise required restriction. Indeed, so frequent an accompaniment of albuminuria is fainting amongst adolescents, thus clearly revealing the condition of the cardio-vascular system, that, when a boy faints, I examine the urine rather than the heart, and rarely fail to find what I seek.

Adolescents who suffer from attacks resembling those of *petit mal* are invariably albuminuries when the attacks do not arise from prolonged deficiency of sleep, from known fits of epilepsy, or from injuries to the head. Such a patient is under my care at the present moment, who had two attacks at breakfast time on two consecutive mornings during the vacation, and who was ordered bromides for two years by an eminent physician. He is, however, a well-marked albuminuric as well as astigmatic, and has now recovered.

I am so familiar with the most common form of this ailment that I can often make an accurate diagnosis even before examining the urine, from the dull, heavy aspect of countenance, from the unstable tension of the pulse, or from the cardiac impulse on the thorax.

There are three types of constitution in which this form of albuminuria chiefly manifests itself:

1. The first, and by far the largest class, exhibit increased arterial tension in consequence of irritability of the vaso-motor nerves; the tension, however, is so unstable that it varies from hour to hour and from day to day, which is pathognomonic of the disease. It is most frequently produced by excess of nitrogenous food, by imperfect action of the scavengers of the body, and by a hereditary tendency to gout. The albuminuria of adolescents, in all its varieties, is to a considerable extent prevented, and greatly diminished when present, by efficient mastication and by resting a reasonable time after meals—points too little regarded during adolescence. A dose of blue pill and alkalies work wonders, though the proteids may need to be temporarily diminished if the invalid is to continue his school duties.

2. The next most extensive class comprises those who have cold, clammy, swollen, congested extremities, accompanied by a large, feeble, compressible pulse, arising from deficient vasomotor control. The heart participates in the general deficiency of tone, and dilates. Chilblains are frequent, and continue well on into the month of June. The treatment resolves itself into abundance of food, especially proteids, and the administration of tonics, such as strychnine and arsenic.

3. The remainder are the spare, highly-strung, over-sensitive neurotics. Their relief includes the most equable and least anxious mode of life obtainable.

The strain of examinations and habitual insufficiency of sleep are answerable for many of these cases; while slowness of progress in school position, implying working under the perpetual dread of supernannuation, claims its victims. The pulse in this class is thin, thready, with unstable tension.

The bromides judiciously administered, with occasional doses of blue pill, afford alleviation to patients of this type; but the only efficient remedy is the removal of anxiety as far as possible in adaptation to the circumstances of each case, so that the intellectual work may be undisturbed by the intrusion of depressing feeling.

I enter a decided protest against these albuminuries having their education interfered with, their games prohibited, their food supply curtailed, with consequent insufficient nutriment for growth, and their life assurance deferred.

Especially would I urge that they should join in every description of exercise that does not involve competition for prizes, as an exceedingly important element in their cure, through ensuring a firmer stability of the cardio-vascular system.

In the year 1899 the governing body of Rugby School arranged that I should make a complete physical examination of boys on their entrance to the school, and, as a result

of that inspection, I specify the exercise most suitable for each with as little interference as possible with school rules. From the data furnished by these examinations I am engaged in preparing an interesting record, which will occupy me for another three years at least to complete. An analysis of my register up to the present date in relation to albuminuria shows that at the ages of 13 and 14—that is, the age for entering on public-school life—16·27 per cent. of boys are affected with albuminuria. I have further unravelled these figures, and find that in January 14.44 per cent., in May 14.26 per cent., and in September 17.84 per cent. of boys are implicated, the largest proportion occurring after the summer and after the long vacation—an experience contrary to what would be anticipated.

I may add, although I have not figures to produce, that this albuminuria increases rather than decreases between the ages mentioned and the close of school life.

One of the greatest difficulties in the knowledge of the history of this malady is the mode of ascertaining the length of time during which the albumen has been in evidence. Has it been unobserved for years, or is it merely a transient condition? At present I am not acquainted with any secure method of judging. The amount of albumen is no criterion, in consequence of its exceptional variation—the oldest and the newest cases showing each a mere trace, or the largest possible quantity.

At the commencement of this term, I examined a "new boy," in rotation, who looked the picture of health, but on boiling his urine it assumed the colour of milk, so loaded was it with albumen. I had never seen him before, and no mention was made of this ailment in the personal medical history which was furnished. Next morning there was the merest trace, and the following morning none. He may have had it, on and off, for years, or I may have seen its first onset. Although I have worked at these cases for more than a generation, I am no nearer the solution of this question of its duration.

The albuminuria of adolescents appears to arise from the want of adjustment of the cardio-vascular system to changes of blood pressure, depending upon a certain state of the vaso-motor system—which is too readily excited, and as readily inhibited—so that the nerves exert an ineffective control over the blood vessels, and allow serum-albumen to transude through the over-distended capillaries of the kidneys. In fact, we perceive a congestive neurosis, and so long as the hyperaemia is present, which perpetually fluctuates, the liability to the transudation of serum-albumen through the dilated capillaries must continue.

The albumen, therefore, mostly occurs when there is any special stress upon the circulation, as in assuming the vertical position, during active exertion, or after meals. On the other hand, when the strain is diminished, as in the horizontal position, the most copious albuminuria will immediately disappear, and abundant food may be administered; while in the vertical position the taking of milk alone may be able to prevent a recurrence of the albumen.

When the circulation is thus unstable from defective innervation of the blood vessels—a condition exceedingly common, as I have shown, during the years of growth—the albuminuria may repeatedly recur, even after apparent recovery. The most trivial causes throw the system out of gear in this respect—such as an indiscretion in diet, a constipation, a chill, a cold bath, standing on wet grass, the position of the body, emotion, nervous depression entailing imperfect assimilation of food and the circulation of impurities in the system—with resulting headache, fainting, momentary loss of consciousness, and albuminuria.

The main features, accordingly, of the albuminuria of adolescents are its intermission, the variability in the amount of albumen present from hour to hour and from day to day, its duration, and the infinite variety of causes and the slight nature of each. The result of these conditions depending upon the state of the cardio-vascular system.

The increased cardiac impulse against the chest wall apparently arises, as Sir William Broadbent suggests, from the right ventricle. He remarks "that the apex beat proper, or left ventricle impulse, is, in my experience, weak. This difference has enabled me to diagnose the albuminuria before examining the urine."

The conclusion which I desire to enforce is the fact that, when the albuminuria of adolescents is recognized and treated, there is little likelihood of its proving the precursor of organic disease of the kidneys, even when its duration has been many years.

The general treatment resolves itself into so reasonable a regulation of life as to ensure the highest state of vitality during adolescence:

1. *Work*, while it may be ample, must not be excessive; and work is always excessive during the years of growth when sleep is insufficient. The hours of both must be determined according to age, as I have so often urged.

2. *Exercise* should be recreation rather than physical drill, which, by the pleasurable sensations, increases the tone of the whole nervous and vascular system; and such exercise should be daily.

3. *Food* should be sufficient for the provision of growth, as well as the renewal of wear and tear, bearing in mind that the adolescent requires more food than the adult, and the girl more than the boy, on account of her greater rapidity of growth.

4. *The duties of the scavengers* of the body should be so disciplined as to be brought under the habitual control of the will. Natural action should not be replaced by the perpetual stimulus of aperients, for this vicarious duty obviously confirms the intestines in sluggishness of work, and tends to convert a temporary inactivity into a permanent abandonment of function.

The line of treatment of the individual I have indicated in speaking of the varieties of constitution in which this albuminuria is manifested.

I thank you for the close attention you have given to my paper; I hope that you will devote an earnest and thoughtful consideration to its suggestions in the interests of the coming and future generations.

CASE OF LIGATURE OF THE PROFUNDA FEMORIS ARTERY, COMMON FEMORAL ARTERY, AND COMMON ILIAC ARTERY ON THE SAME SIDE, WITH PERFECT RECOVERY.

By HENRY E. CLARK, C.M.G.,

Senior Surgeon, Glasgow Royal Infirmary.

H. B., porter, aged 26, was admitted into Ward 25, Glasgow Royal Infirmary, on April 25th, 1899, suffering from a small punctured wound at the inner side of the left thigh, at the junction of the upper and middle third.

His story was that he and another man were having a fight, when the latter whipped out a penknife, and came at him. In trying to escape from the assault, he fell, and his assailant fell on the top of him, and the blade of the knife ran into the thigh, right up to the hilt. The wound bled very freely, but a doctor was soon in attendance, who put on a pad and bandage. When he reached the hospital the bleeding had ceased, and on the following morning, when I saw him at the usual visit hour, the wound was so well plugged with clot that I thought it unwise to disturb it. All went well till May 12th, when the wound was found to be bleeding freely, suppuration having taken place, and the clot having consequently broken down. I thoroughly opened up the wound, and exposed the main trunk of the profunda femoris artery, which had been incompletely divided; this was double ligatured and cut across. The vein was also found to be injured, and was more difficult to secure effectively than the artery.

Three days afterwards (on May 15th), when the patient was using the bedpan he became suddenly blanched and pulseless, and the dressings became saturated with arterial blood. I was fortunately on the spot at the time, and at once took him to the operating theatre, where I ligatured the common femoral artery just at its emergence from beneath Poupart's ligament. This arrested the bleeding, and he very rapidly recovered from the loss of blood, until five days later (May 20th), when a still more serious haemorrhage took place. On this occasion also I happened to be in the infirmary, and at once applied an elastic bandage round the pelvis and hip, but as this did not control the bleeding it was decided to ligature the common iliac artery. This was done by Sir Philip Crampton's method, as described by him in the *Medico-Chirurgical Transactions*, vol. xvi, p. 161, as far back as 1828. The incision commenced at the anterior extremity of the last rib, proceeded downwards directly to the ilium, then followed the line of the crest, but keeping a little within its inner margin, until it terminated at the anterior superior spine. The abdominal muscles were divided in the full extent of this incision till the peritoneum was reached, when that structure with the contained intestines was lifted

up off the iliac and lumbar fasciae. The ureter was raised with the peritoneum. An excellent view of the external and common iliac arteries was obtained, and the bleeding was slight and easily controlled. By means of a helix-curve aneurysm needle the common iliac artery was freed from a small amount of fat, and a strong chromic gut ligature passed and securely tied. The large wound was for the most part stitched up in layers, but the part in the loin was packed with iodoform gauze. The patient stood the operation well, and made up rapidly for the loss of blood. Unfortunately, the wound suppurated, but this was not wonderful, considering that there had been all along an infection of the original wound, probably from septic material carried in by the knife. This, however, materially delayed the healing, and it was not till August 11th that he was dismissed to the Convalescent Home.

After leaving the wards he was only seen once by me, as he found it impossible to come to the infirmary on week days. He was seen by one of my dressers and also by my staff-nurse fully six months after leaving us, and was then in full employment as an outside porter at the Glasgow Central Railway Station. I understood his work to consist mainly in taking commercial travellers' large sample boxes on a hand-barrow about the town—a sufficiently trying and laborious occupation. It is not too much, I think, to claim this not only as a "recovery" but as a perfect cure.

Although ligature of the common iliac artery is not a common operation, there are a considerable number of cases recorded, most of them belonging to the early half of last century. J. D. Bryant (*Operative Surgery*) states that it has been ligatured sixty-nine times with only sixteen recoveries, but there are no doubt many unrecorded cases. A former case in my wards about two years earlier than the above has not yet been placed on record. The operation was done by my colleague, Dr. H. Rutherford, in my absence, for secondary haemorrhage following an amputation at the hip for osteomyelitis of the ilium. Crampton's incision was used, and the patient made a good recovery from the ligature operation, but succumbed about a month later to remote pyaemic consequences of the original disease.

My purpose in this present communication is to show that even with a triple ligature—in common iliac, common femoral, and profunda arteries—the nutritional condition of the limb may still remain excellent, and its functional effectiveness be perfectly restored. I do not suppose that the case is unique, but such experiences must be rare, and my search into the literature of the subject has not resulted in the unearthing of another.

It may be asked why I did not adopt the shorter, easier, and more direct method of ligaturing the common iliac by the intraperitoneal method. The sufficient answer is that the case was a septic one, and I was not prepared to run the risk of a septic peritonitis, which would probably have proved fatal.

INNOMINATE ANEURYSM: SIMULTANEOUS LIGATURE OF RIGHT CAROTID AND SUBCLAVIAN ARTERIES: RECOVERY.

By H. N. DUNN,
Major, R.A.M.C.

H. S., an ex-soldier, aged 40, single, contracted syphilis in 1886, when he was under treatment for some weeks.

Early in July, 1904, he suffered from severe neuralgic pains radiating from the right side of the chest to the back of the head, and extending into the right shoulder. He attended the out-patient department of the Royal Arsenal Hospital, but no physical signs were apparently present at the time.

On September 27th, 1904, the pains being more severe, he again presented himself at the hospital, and when seen by me a well-marked pulsatile swelling occupied the episternal notch, and extended from the sternal origin of the left sterno-mastoid muscle to the junction of the inner and middle thirds of the right clavicle; the tumour measured 3½ in. laterally, and projected upwards above the clavicle for 1¼ in., the lower margin being ill-defined, well-marked expansile pulsation with a systolic murmur being present. The trachea was displaced to the left, dysphagia on swallowing solids, and dyspnoea on exertion or assuming the prone position were also complained of. He also suffered from severe pain along the right side of the head and neck and right shoulder and arm, the radial pulse on the right being also smaller than that on the left side, and its rhythm somewhat delayed. His voice was reduced to a whisper, and his cough "brassy" in character, the right vocal cord being fixed and motionless, due to direct pressure on the recurrent laryngeal nerve, but no "tracheal tugging" was observed. As the man was exceedingly ill and the tumour enlarging rapidly, Mr. Bidwell, of the West London Hospital, kindly saw the patient, and confirmed the diagnosis of innominate aneurysm.

The case was admitted to the Royal Arsenal Hospital and put on a modified Tufnell's diet, and large doses of pot. iod., 30 to 50 gr., administered three times a day. An attempt to get an *x*-ray photograph of the tumour was unsuccessful. For the first few weeks after admission marked improvement—due to the rest and the dieting—took place, but as the tumour subsequently increased in size operation was decided upon.

With Mr. Bidwell's assistance the right common carotid was ligatured above the omohyoid muscle and the subclavian tied in its third stage; the patient being a man with a long spare neck there was no particular difficulty about the operation, the subclavian being easily reached below the clavicle, as suggested by Mr. Bidwell, by elevating the shoulder; both arteries were apparently healthy at the site of ligature, and double strands of silk were used. Both wounds, with the exception of one small stitch point, healed without suppuration. His temperature rose to 99.6° F. on the day following the operation, and fluctuated between that and normal until the fourteenth day, when it finally settled down. He complained of severe pain along the right arm, but no oedema occurred, nor did any head symptoms supervene.

Immediately after ligature of the arteries a decided diminution of the sac took place, and that portion in the episternal notch became firmer and less expansile, but subsequently the remainder of the tumour enlarged slightly upwards and outwards, and pulsated somewhat more freely than before ligature. His condition on March 29th—fifty-one days after operation—was as follows: That portion of the sac in the episternal notch has consolidated, and feels firm to the touch, although faint pulsation is still felt, and the sac itself is tender on pressure. His voice has much improved, but cough is still "brassy," and paralysis of the right cord persists; some difficulty in swallowing solids continues, but pain has disappeared.

The patient was discharged from hospital on April 7th, at his own request, and on May 1st—eighty-one days after the operation—was recommended for light employment. He now walks about a mile and a half to and from his work daily, without dyspnoea, and can follow his occupation of cleaning tools at the bench without inconvenience of any sort except slight fatigue of the right arm and shoulder. The tumour has shrunk considerably, and is firmer and less expansile, measuring 2¾ in. laterally, and extending for ⅜ in. above the clavicle. Paralysis of the right vocal cord is still present, and on inspection there is a slight fullness immediately above the right clavicle, and the external jugular vein is more prominent than that on the opposite side. No temporal pulse is to be felt, although a faint radial pulse is present, and coldness and slight weakness of the right arm remains.

The following statistics, taken from records available at the Medical Graduates' College, London, may be of interest:

Mr. Bennett May, F.R.C.S., in the *Lancet* of June 14th, 1884, reported the result of 35 cases of distal ligature of carotid and subclavian for innominate aneurysm; of these, in 29 both arteries were ligatured simultaneously and 6 consecutively; 23 died, death being hastened by the operation; in 6 the disease was not checked, and 6 were practically cured. He also reported 29 cases in which the common carotid alone was tied, and of these 19 died from operation or soon after; in 6 the disease was not arrested, and 4 were practically cured or showed marked improvement.

I have also been able to find accounts of 10 other cases of simultaneous distal ligature of both arteries, reported in the medical journals; in 5 the sac became firmer and smaller, and the patients were able to do light work; in 4 death occurred in periods varying from ten days to one year (2 from lung trouble, and 1 as the result of hemiplegia); in 1 the condition was relieved but not cured; in no case, however, was there complete consolidation of the sac, although in one case it was reported to have shrunk to the size of a "walnut."

Bequests.—The late Miss Eleanor Tamlin Reid, of 26, St. Petersburgh Place, Hyde Park, whose will has now been proved, bequeathed £1,000 to the British Home and Hospital for Incurables.

THE STAGES OF PULMONARY TUBERCULOSIS.

By THOMPSON CAMPBELL, M.D.,
Ellerslie Sanatorium, Crieff, N.B.

In order that a common basis may be established for tabulating results obtained under sanatorium treatment it is essential that the physicians in charge of these institutions should agree upon the terms used to denote the stage of the disease in patients coming under treatment; and, again, that they should give a clear explanation of the headings under which the results are tabulated.

The commonly-accepted terms for the clinical stages of the disease—early, intermediate, and advanced—cannot be improved upon, as they harmonize with the pathological conditions of condensation or commencing consolidation, marked consolidation with softening, and distinct excavation. The difficulty arises in coming to such an agreement regarding the interpretation of the physical signs as will lead to cases being similarly classified in the different sanatoriums; and the following descriptions are submitted as the result of the writer's experience in drawing up institutional reports.

The early stage of condensation presents such physical signs as defective expansion over the apex of one lung, slight increase of vocal fremitus and vocal resonance, diminution of percussion resonance in the supraclavicular and supraspinous regions, with an alteration of the respiratory murmur which may display itself as prolongation of expiration, cogged-wheel respiration, or feebleness of the breath sounds; and as regards adventitious sounds, a series of râles may be audible during quiet respiration or after coughing, having the character of crepitations, medium-sized muco-crepitant sounds, or even an occasional small click. Along with the physical signs the quantity of expectoration must be taken into account in putting a case into its proper category; and it may be stated that in the early stage the sputum does not average more than a few drachms in the twenty-four hours, unless there is concomitant bronchitis. The importance of considering the amount of expectoration is apparent in those cases in which the focus of disease is covered by normal lung tissue and the abnormal physical signs are masked, when a fairly abundant expectoration would indicate a degree of softening of the lung not otherwise apparent.

The intermediate stage of marked consolidation with softening is indicated by the following physical signs: Defective expansion over one lobe of a lung; marked increase of vocal fremitus and vocal resonance; dullness to percussion above the level of the second or third rib on one side, or over the lower half of the posterior aspect of the lung; bronchial or tubular breathing, with a series of medium-sized clicking râles accompanying the breath sounds. The expectoration in this stage averages 1 oz. to 2 oz. in the twenty-four hours.

Cases in the advanced stage of distinct excavation are easily demarcated, presenting the following classical features: Visible hollowing in the supraclavicular and subclavicular regions, or retraction of the chest wall over the site of the cavity elsewhere; a tympanitic or absolutely dull note on percussion; cavernous respiration and pectoriloquy, with an abundant series of large râles possessing a metallic tinkling quality. The quantity of sputum averages several ounces in the twenty-four hours, though frequently cases of excavation are seen with a very small amount of expectoration.

The following classification adopted by the writer may be useful as a guide, taken in conjunction with the foregoing clinical pictures. One lung affected: Early, intermediate, and advanced stages. Both lungs affected: Early stage in both; early in one, intermediate in other; intermediate in both; advanced in one, early or intermediate in other; advanced in both.

At times it may not be easy to classify cases in a transition stage between the early and intermediate, or between the intermediate and the advanced, but as stated above the quantity of expectoration will serve as an index.

In explanation of the terms used to denote the state of the patient at the end of the period of treatment, it should be stated that the term "well" implies that cough and expectoration have practically disappeared, or if a slight expectoration of mucus persists, that it should be entirely free from tubercle bacilli; while at the same time the patient's vigour is perfectly restored, so that he is able to undergo considerable exertion without fatigue or any marked rise of the evening temperature being induced.

It would be too much to demand that, in every case where it is claimed that an individual has been restored to health, there should be absolutely no abnormal physical signs remaining, as in some cases diminution of percussion resonance over an apex, slight prolongation of expiration, and possibly a series of fine crepitant râles may persist for a time.

Again, in cases in which a cavity has formed before the disease has been arrested, abnormal physical signs may remain for a period of some length, but a patient might be classed as "well" if the cavity were dry, and tubercle bacilli could not be found in the last specimens of sputum he had expectorated, provided also that his bodily vigour had been restored to enable him to follow some occupation.

Under the heading "almost well" are included cases in which there remain slight cough, and a small quantity of expectoration in which a few tubercle bacilli are found, though the other symptoms of the disease have disappeared, and while percussion resonance has become clear over the affected area, a few râles of muco-crepitant character remain. In these cases, also, the patient's bodily vigour has been perfectly restored, and his weight is above standard, so that all the individuals in this class should be able to undertake employment with every prospect of remaining well.

The third heading, "much improved," comprises the cases in which there has been a considerable improvement in vigour, and increase of body weight varying from 1 to 1½ st., with a marked improvement in the physical signs, while cough, and the amount of expectoration, are moderate, but tubercle bacilli remain in fairly large numbers.

The term "slightly improved" includes cases in which the improvement in vigour is not so marked as in the previous class, the increase in body weight does not extend beyond a few pounds, and the improvement in the physical signs is not very marked.

The last heading requires no elucidation, and should include a very small proportion of the cases in a properly-conducted sanatorium.

In stating the results obtained in sanatoriums it would be well to present them first in detail, giving the percentage of results in each class, and the aggregate results in a further table. Taking a group of 60 cases treated in an institution for the working classes, the results are appended in the form suggested.

One Lung Affected.

Stage of Disease.	No. of Cases.	Results. Well.	Almost Well.	Much Improved	Slightly Improved.	Not Improved
Early	8	7 87.5 %	1 12.5 %	—	—	—
Intermediate	10	4 40 %	5 50 %	1 10 %	—	—
Advanced	6	—	1 16.6 %	4 66.6 %	1 16.6 %	—

Both Lungs Affected.

Early in both ...	4	1 25 %	2 50 %	1 25 %	—	—
Early in one, intermediate in other	20	—	7 35 %	13 65 %	—	—
Intermediate in both ...	5	—	1 20 %	3 60 %	1 20 %	—
Advanced in one, early or intermediate in other..	7	—	—	2 28.5 %	4 57.1 %	1 14.2 %
Advanced in both	0	—				

The aggregate results take the following form:

Number of Cases.	Well.	Almost Well.	Much Improved.	Slightly Improved.	Not Improved.
60	12	17	25	5	1
	20 %	28.3 %	41.6 %	8.3 %	1.6 %

With regard to the after-history of the cases, these ultimate results might be tabulated as under:

Continue Well and at Work.	Improvement Maintained.	Relapsing.	Lost Trace of	Died.

SEVENTY-THIRD ANNUAL MEETING

OF THE

British Medical Association.

Held at Leicester, July 24th, 25th, 26th, 27th, and 28th, 1905.

PROCEEDINGS OF SECTIONS.

SECTION OF SURGERY.

Sir Charles Ball, M.D., F.R.C.S., President.

ON SIXTY-SEVEN CASES OF CONGENITAL CLEFT PALATE TREATED BY OPERATION:

WITH SPECIAL REFERENCE TO THE AFTER RESULTS.

By James Berry, B.S., F.R.C.S.,

Senior Surgeon to the Royal Free Hospital.

The object of this communication is to give a faithful and detailed account of all the cases of cleft palate that I have treated by operation both in hospital and private practice. I propose to dwell upon those points in the operative treatment which seem to me to be of importance; and in the accompanying tables I have endeavoured to indicate the ultimate results which have ensued as regards the condition both of the palate and of the speech of the patients. I hope that I may thereby induce other surgeons who operate on different principles and by different methods also to give us similar details of their cases. By these means we may hope eventually to be in the possession of much-needed information as to the comparative merits of the different operations now in vogue. The advantages of some of the methods which have lately been somewhat loudly advocated seem to me to rest at present more upon theory than upon actual evidence. I refer more especially to the so-called flap operation of the late Mr. Davies-Colley and others, to the operations performed in early infancy, and to the operations involving wiring and forcible displacements of the superior maxillary bones. The advantages of these operations do not seem to me to have been at present proved by any one.

All my cases have been treated upon a uniform plan. I have never operated during the first twenty-two months of life, believing as I do, that some time during the third year of life is, in the vast majority of cases, the time at which the operation is undertaken with most advantage to the patient. In some few cases of delicate children and especially ill-nourished children in whom the soft tissues covering the palate bones are thin, it may be advisable to postpone the operation to a somewhat later date. But the cases in which it should be performed after 4 years of age are, in my opinion, extremely rare.

It will be seen from the table that in no less than 43 cases the patients had already passed the age of 4, so that the operation had to be performed at a period later than I should have desired. These were mostly patients on whom operation had been unsuccessfully performed by other surgeons, or had been declined by the surgeon or by the parents, or had been advised by surgeons or dentists to wait for obturator treatment in adult age or had been utterly neglected by careless parents. Most of these were sent to me after they had begun to attend school and when the grave inconveniences of faulty articulation had become more fully evident. I may say that in no case under the age of 20 have I ever declined to attempt an operation, however wide and unpromising the cleft; and that some of my cases were sufficiently unpromising, reference to the accompanying photographs will show. Nor have I ever advised treatment by mechanical apparatus rather than by operation in any patient under the age of 20.

With regard to the operation itself, I desire to claim no originality, except perhaps with regard to some minor details. New operations are not necessarily better than old ones, and are sometimes worse.

The operation performed in all my cases has been on the lines of that originally introduced by Langenbeck and Fergusson, and perfected in this country by my old master, Sir Thomas Smith, to whom, for all that he has taught me on this subject, I owe a debt of gratitude that I can never adequately repay.

Briefly, the operation consists in dissecting up a broad band of soft tissues from the hard palate on either side of the cleft, in detaching the soft palate completely from the posterior margins of the horizontal plates of the palate bones, and then, after these soft tissues have thus been brought down, in sliding them towards the middle line. Their inner edges are then united by sutures, either before or after lateral incisions have been made through the anterior part of the soft palate and posterior part of the muco-periosteum of the hard palate. By these means even the widest clefts in the hard palate can be closed, although more than one operation may be necessary.

Two points are essential for success. One is that the soft palate shall be completely detached from the posterior edges of the palate bones. If this is not done (even in most cases of cleft limited to the soft palate) the soft tissues in bad cases cannot be brought down enough to enable the edges to meet in the middle line. This separation must be effected by scissors much curved on the flat, introduced as shown in this diagram (Fig. 4). Experience has taught me that the more freely this division is effected the better will be the result obtained. Incomplete division is apt to prevent proper approximation of the flaps, and to cause failure of union. After the division has been effected by scissors in the usual manner, the corresponding side of the soft palate should be gently grasped with forceps and drawn towards and across the middle line. If it does not come readily the scissors must be reintroduced, and free division must be effected of a band of mucous membrane that will be found running from the upper surface of the soft palate to the outer side of the nasopharynx.

It is well to remember that in cleft palate there is no actual absence of tissues in the soft palate; the whole of the palate is there, only it is divided and drawn asunder like a pair of curtains. By grasping the soft palate on either side with a long pair of forceps and drawing it towards the middle line, the restraining folds of mucous membrane are put upon the stretch and may readily be divided without the least fear of wounding any extra-pharyngeal structure, among which, I fancy, the internal carotid artery looms unnecessarily large in the mind of the inexperienced operator.

The other point which demands consideration is the position and extent of the lateral incisions that must be made to relieve tension and to temporarily paralyse part of the soft palate (see Figs. 6, 7, 8). In ordinary cases in which the cleft is not very wide these incisions should be made after the palate has been sewn up. In cases of very wide cleft they must be made before the edges can be approximated. In my earlier operations I used to make these incisions too near the middle line from fear of wounding the posterior palatine artery, and too far forwards from fear of encroaching too much upon the soft palate, and thus endangering the vitality of the flap.

Of late years I have come to pay little or no attention to the palatine artery. I cut close to the teeth, and often right across the artery near its exit from the palatine foramen. One rule with regard to haemorrhage I consider important, and that is, that if a smart haemorrhage occurs, the knife should not at once be withdrawn, but should be made to cut a little further, so as to ensure that the vessel, whether artery or vein, is completely divided. A sponge is then quickly clapped on to the bleeding part, and pressure thus exerted quickly stops the haemorrhage. I may add that I have never had any serious trouble with haemorrhage, either primary or secondary, in any of my operations. The lateral incision should extend as far backwards as the middle of the soft palate at its junction with the lateral wall of the pharynx.

It should not extend nearly as far forwards as is represented in many textbooks. It is seldom necessary to carry it further forwards than the first or second premolar tooth in young children, or the first or second molar in older children who have cut these teeth.

In a recent textbook of surgery there is a beautiful diagram of a lateral incision extending from close to the incisor

teeth backwards nearly to the posterior border of the soft palate. If such an incision were actually made in a living patient, sloughing of the flap would inevitably occur.



Fig. 1.—Cleft of soft and most of hard palate before operation. (Case No. 7, see Table.)

The exact distance to which the incision may be carried forwards must depend upon the width and length of the cleft in the hard palate and upon the amount of difficulty which the operator has experienced in getting the edges of the soft palate together. If there has been much difficulty, it is better to leave the anterior part of the hard palate to be



Fig. 3.—A similar case (Case 21.)

Figs. 1, 2 and 3 are from photographs taken in direct sunlight. The edges of the clefts have subsequently been whitened to make them more distinct.



Fig. 2.—Complete cleft of hard and soft palate before operation (Case 31.



Fig. 4.—Complete double cleft palate seen from below (semi-diagrammatic). The blades of a pair of scissors (which should have been drawn much shorter and curved on the flat) are introduced to illustrate the separation of the soft palate from the posterior edge of the hard palate.

closed by a subsequent operation—which can always be done if the posterior part has been closed—rather than to run the risk of spoiling the whole operation by endangering the vitality of the flap.

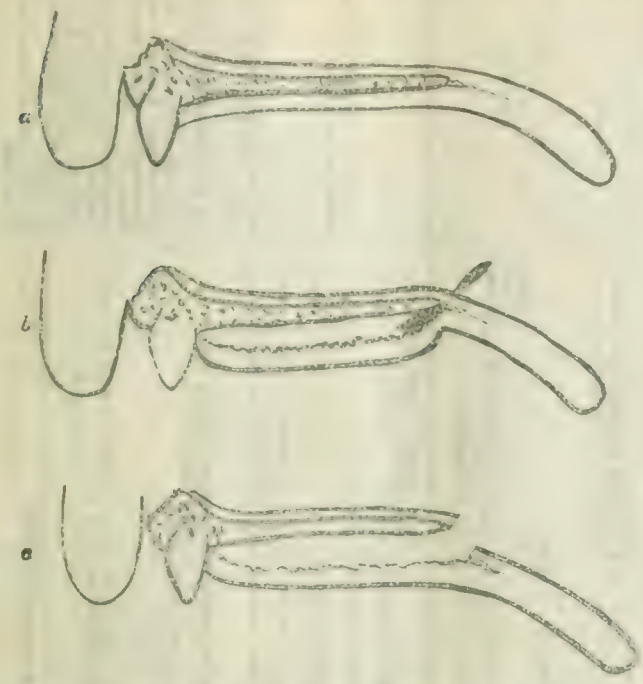


Fig. 5.—Longitudinal vertical section through the hard and soft palates. (*a*) Before operation. (*b*) Palatine mucoperiosteum detached and brought down. Blades of scissors introduced to cut attachment of soft palate to the bony palate and to the nasal mucous membrane. (*c*) The same after the cut has been made and the soft palate thus brought down.

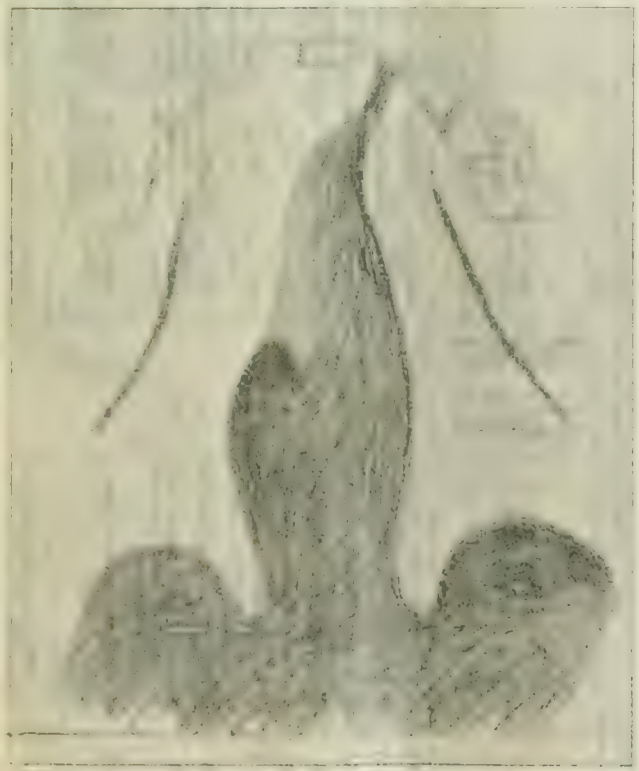


Fig. 6.—Semi-diagrammatic view of complete left cleft palate. The septum nasi is attached to the palate on the (patient's) right side. The mucous membrane on the left side of the septum may be detached and brought down if necessary to help in the closure of the anterior half of the cleft.

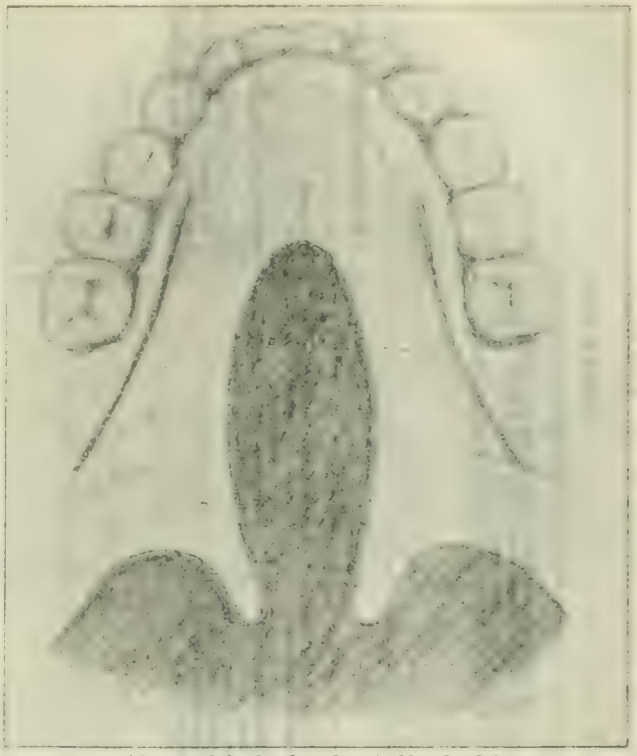


Fig. 7.—Cleft of soft and part of hard palate.



Fig. 8.—Cleft of soft palate only (the anterior part of the cleft has been drawn a little too wide). The dotted region shows the area over which the mucoperiosteum should be detached from the bony palate in such a case.

Figs. 6, 7 and 8 are intended mainly to show the exact situation in which the lateral incisions should be made.

Sixty-seven Consecutive Cases of Cleft Palate treated by Operation: with Special Reference to the After-Results.

Age at Time of Operation.

			Cases
Male patients	 37	Under 1	 1
Female patients	 30	Between 1 and 2	 23
		,, 2 ,, 3	 12
		,, 3 ,, 5	 11
		,, 5 ,, 10	 7
		Over 10	 9
Total	 67		67

Extent of Cleft.

I. Complete cleft of hard and soft palates	 21
II. Cleft of soft palate and part of hard	 36
III. Cleft of soft palate only	 6
IV. Hole left after operation done elsewhere	 2
Total	... 67

Results as Regards Closure of the Palate.

Complete cleft of hard and soft palates:

Complete union—
- (a) After first operation ... 5
- (b) After supplementary operation for small holes, usually at the junction of hard and soft palates ... 4
- (c) After supplementary operation for large hole in hard palate ... 2

11

Left with small holes in hard palate, not yet completely closed* ... 7

Only hard palate partially closed after one operation ... 1

Only soft palate closed after one operation ... 1

Complete suture after first operation; subsequent complete closure with exception of a small hole (not admitting a probe to be closed later) ... 1

21

In 19 of these 21 cases the cleft in the soft palate was closed at the first operation.

36 cases of cleft of soft and part of hard palate:

Complete union—
- (a) After first operation ... 21
- (b) After one or more supplementary operations, mostly for holes at the junction of hard and soft palates ... 4

25

Left with a small hole, which probably has already healed, or will soon heal 6

Left with a small hole, not yet closed 5

Failure as regards both hard and soft palates, and not yet repaired 1

36

8 cases of cleft of the soft palate only:

Complete union after first operation ... 5

Complete union after one supplementary operation 1

Complete union, except uvula and small portion of soft palate 1

Left after one operation with a small hole, not yet closed ... 1

8

2 cases of large holes left after previous operations done elsewhere:

Complete closure 1

Partial closure 1

2

Results as Regards Speech.

Very good	 5
Good	 18
Fair	 14
Indifferent, but improving	... 3
Bad	 4
Already much improved	 8
Not yet improved (recent cases)	4
Not yet learnt to speak	 3
No report of speech received	... 8
	67

* Some of these are still under treatment; others cannot be traced, and in them the holes may already have closed.

No.	Name	Age	Extent of Cleft.	Greatest Width of Cleft in mm. (25 mm. = 1 in.)	Width between last Molar Teeth in mm.	Date of Operation	Supplementary Operation.	Ultimate Result. Palate.	Ultimate Result. Speech.	Date of last Report.	Remarks.
1	Florence B.	12	Complete cleft, hard and soft palate	About 18	?	March 29, 1894	Not done	Soft palate only united	Case cannot now be traced (1905)	1894	
2	Laura McV.	13	Soft and half hard	17	40	Feb. 29, 1896	One for small hole	Hard palate perfect, good movable soft palate; uvula short	Good	1905	
3	Leslie C.	2½	Complete cleft, hard and soft	?	?	June 27, 1896	One for small hole	Hard palate perfect, good movable soft palate	Very good	1905	Has been carefully trained at home and at school.
4	Cyril F.	4½	Complete cleft, hard and soft	?	?	April 17, 1898	One for small hole	Hard palate perfect, good movable soft palate	Good	1904	
5	Evan G.	10	Complete cleft, hard and soft	?	?	June, 1898	None	Hard palate perfect, good movable soft palate; uvula ununited	Still somewhat nasal; otherwise good	1903	
6	Sidney R.	10	Cleft of soft palate; notch in posterior edge of hard palate	?	?	Sept. 14, 1898	None	Hard palate perfect, good movable soft palate	Fair. K Sh.Ch. not good	1905	Has had no training in articulation.
7	Janet W.	10	Soft and three-quarters of hard	15	?	Sept. 17, 1898	Two for small holes	Hard palate perfect, good movable soft palate	Very good; a little difficulty with Sh.	1905	Has had no special training.
8	Joan B.	3	Cleft of soft palate, post. part of hard, thin and membranous	?	?	Jan. 27, 1899	One for suturing uvula	Hard palate perfect, good movable soft palate	Good	1905	First operation wound healed by granulation. Can pronounce all consonants well, but speaks carelessly.
9	William T.	2½	Soft, and notch in hard	15	?	Feb. 11, 1899	Three for uvula and small holes	Hard palate, minute hole just admitting probe; good movable soft palate, but rather short	Fair. Difficulty with K. S G Z.	1905	Had undergone unsuccessful operation in infancy by another surgeon. Operation difficult on account of previous destruction of tissue.
10	Roy A.	6	Soft, and one-quarter of hard	?	?	March 5, 1899	One for small hole	Hard palate perfect, good movable soft palate	Good	1905	Can pronounce all consonants, but is careless.

11	Mary T.	10	Soft, and one-third of hard	12	40	March 27, 1899	None	Hard palate perfect, good movable soft palate	Fair. K. not good, reading poor	1905	
12	Maud J.	14	Soft and notch in hard	18	50	May 27, 1899	None	Immediately after operation a small hole. Patient not seen again	Patient cannot be traced	1899	
13	Rosina J.	9	Soft, and one-third of hard	18	35	May 27, 1899	None	Immediately after operation two minute holes and uvula ununited. Patient not seen again	Patient cannot be traced	1897	
14	Minnie N.	8	Cleft of soft palate, uvula destroyed by previous operation	15	32	June 1, 1899	None	Cleft entirely closed; soft palate short and drawn up (result of previous operation), so that nasal cavity cannot be shut off	Bad	1905	Three previous operations at three different London hospitals; all had failed.
15	Alice M.	9	Soft and part of hard	?	?	June 17, 1899	None	Hard palate perfect, good movable, but rather short soft palate; uvula short	Indifferent, but improving when last seen	1903	Previous operation elsewhere at age of 2; complete failure. Has had rheumatic fever twice. Died in 1904 of valvular disease of heart.
16	Gladys M.	8	Soft palate	10	35	July 13, 1899	None	Palate perfect in all respects	Fair. Can pronounce all consonants	1905	A very backward child; defective eyesight; cannot read. Has had no training.
17	Arthur P.	14	Soft and part of hard	8	45	July 22, 1899	None	Immediately after operation small hole in front of uvula. Patient not seen since	Said to be much improved	1905	Mentally defective
18	Minnie M.	3	Soft and one-quarter of hard	8	?	Oct. 7, 1899	None	Palate perfect in all respects	Very good. Slight difficulty with S.	1905	
19	Elizabeth D.	3	Soft and one-quarter of hard	7	30	Oct. 21, 1899	One for small hole and suturing uvula	Hard palate perfect, except for minute hole; good movable soft palate	Fair. Can pronounce nearly all consonants	1905	Has had no training.
20	Patrick D.	8	Soft and part of hard	20	36	Nov. 2, 1899	None	Hard palate perfect, good movable soft palate	Fair. Some difficulty with L.	1905	Mentally defective. Beginning to learn to read.
21	Mary A.	13	Complete cleft, hard and soft	15	39	March 24, 1900	None	Hole barely admitting a probe	Good; greatly improved since operation	1905	
22	May F.	11	Soft and one-half hard	15	46	June 14, 1900	None	Palate perfect except uvula, still ununited	Good, but slight nasal twang remains	1905	
23	May P.	6	Soft and three-quarters hard	16	32	Sept. 22, 1900	One for small hole	Palate quite closed but uvula destroyed, movable soft palate	Fair; much difficulty with G.	1905	Has improved greatly in last two years. Mentally defective.
24	Gladys H.	4	Soft only	About 12	?	Oct., 1900	None	Palate perfect as regards shape and mobility; soft palate rather tense	Fair	1903	Speech could be much improved by training.
25	Aimee I.	4	Complete cleft, hard and soft	About 13	Abt. 28	Nov. 1, 1900	One for small hole	Completely healed (letter)	"Speaks very well when she takes pains" (Letter	1905	
26	Elizabeth R.	9	Soft and one-quarter hard	18	?	Nov. 24, 1900	Not done	Wound broke down completely	Cannot be traced		Advised to come again for second operation, but did not do so.
27	Edgar P.	6	Complete cleft, hard and soft	?	?	Feb. 9, 1901	Not yet done	Post. half of cleft still ununited, forming narrow slit 4 mm. wide	Does not talk at all		Imbecile, deaf-mute, very intractable. Operation done in hope that he might learn to speak. Mental condition improved lately. Operation to be done again later.
28	William M.	5	Soft and one half hard	10	30	July 1, 1901	None	Hard palate perfect, good movable soft palate. Tip of uvula unclosed	Good, except K. G. and S	1905	
29	Violet R.	2½	Complete cleft, hard and soft	12	30	July 8, 1901, and Feb. 10, 1902	Three	One hole, 1 mm. in diam.; good movable soft palate	On the whole good, some difficulty with Gl.	1905	First operation failed completely; second operation left only small hole. Has been carefully trained by mother.
30	Maud B.	10	Complete cleft, hard and soft	1	32	July 22, 1901	One for suturing uvula	Hard palate perfect, soft very good and movable, but a little drawn up	Good, except K. and S.	1903	
31	Ethel W.	1	Complete cleft, hard and soft	2½	33	Sept. 23, 1901	Two for two small holes	Hard palate perfect, soft palate good and movable, but a little short	Good, except K. and G.	1905	
32	William M.	2	Complete cleft, hard and soft	?	?	Sept. 30, 1901	One for small hole	Whole palate perfect	Very good	1905	
33	George C.	8	Hole 15 × 10 mm., middle of palate left after operation elsewhere. Uvula destroyed by previous operation	10	—	Oct. 14, 1901	None	Hole completely closed; good movable soft palate	Fair. Can pronounce all consonants	1905	Operation a year previously at another hospital.
34	Robert N.	11½	Soft and one-quarter hard	15	38	Oct. 14, 1901	None	Complete union	Said to be much improved	1905	
35	Ethel C.	2½	Soft only	10	24	Dec. 16, 1901	None	Good movable soft palate; uvula rather short. Teeth defective	Good		
36	Caroline A.	14	Hole 9 × 4 mm., uvula and post. part of soft palate destroyed by previous operation elsewhere	4	?	April 21, 1902	Not done	A hole remained after operation. Not seen again	Cannot be traced	. .	Two previous operations elsewhere; first a complete, second a partial, failure.
37	Benjamin B.	2½	Soft and three-quarters hard	23	?	June 2, 1902	None	Palate perfect, except that uvula rather short	Good	1903	
38	Albert S.	2½	Complete cleft, hard and soft	?	?	July 1, 1902	None	Complete union. "Palate looks very well." (Letter)	Good. (Letter from father)	1905	
39	Amy T.	11	Soft and one-half hard	11	?	July 21, 1902	None	Perfectly normal palate	Very good; slight trouble with K. and S.	1905	
40	Frank G.	8	Soft and one quarter hard	16	28	Jan. 30, 1903	None	Hard palate perfect, good movable soft palate; teeth very defective	Indifferent, but improving; cannot say T N. K. G. S. at all well	1905	Previous operation elsewhere had failed completely. Would improve greatly if properly trained and fitted with teeth.

No.	Name	Age	Extent of Cleft.	Greatest width of Cleft in mm. (5 mm. = 1 in.).	Width between last Molar Teeth in mm.	Date of Operation	Supplementary Operation.	Ultimate Result. Palate.	Ultimate Result. Speech.	Date of last Report.	Remarks.
4	George F.	6	Complete cleft, hard and soft	11	?	March [illegible], 1903	Two for holes	Hard palate completely closed except hole 5 mm. in diameter just behind incisors; good movable soft palate	Speaks very little; said to be much better than before operation	1905	Hole to be closed later.
4	Leonard S.	4½	Complete cleft, hard and soft	14	30	[illegible] 1904	None	Hard palate perfect, good movable soft palate, but uvula very short	Fair, but still somewhat nasal; can pronounce all consonants except K. Improving. Teeth very defective	1905	
4	Olive P.	8	Soft and one-quarter hard	15	42	June 8, 1901	None	Hard palate perfect, good movable soft palate; uvula rather short	Good even with gutturals	1905	
4	Emily B.	7	Soft and one-quarter hard	15	?	June 22, 1903	None	Still unclosed	Bad	1905	Child mentally defective and very intractable. It was not thought desirable to attempt operation a second time.
4	Ellis C.	[illegible]	Soft and one-quarter hard	[illegible]	?	Oct. 12, 1903	None	Immediately after operation, hole at junction of hard and soft palates	Cannot be traced	1905	
4	Edith B.	5	Complete cleft, hard and soft	About 12	?	Dec. 7, 1903	None	Hard palate perfect, soft palate rather short	Bad as regards nearly all consonants, but much better than before operation. Teeth very defective	1905	Could be much improved by training and by some artificial teeth.
4	Herbert B.	1	Soft only	?	?	Feb. 1, 1904	None	Hard palate perfect, good movable soft palate	Fair; K and G. bad	1905	
4	Beatrice B.	1	Soft only	10	31	March 17, 1904	None	Perfectly good movable palate. June 1905	Good (according to mother)	1905	
4	Harold W.	1	Complete cleft, hard and soft	?	?	April 7, 1904	Two for holes	Hole 5 mm. just behind incisors to be closed later; otherwise perfect palate	Improving	1905	Had been a very delicate infant, the subject of hydrocephalus.
5	Frances P.	11	Soft and half hard	14	?	June 20, 1904	None	Hard palate perfect, good movable soft palate, uvula short	Fair; much better than before operation; K. and S. bad	1905	Mentally defective; cannot read.
[illegible]	Gwendoline H.	4½	Soft and notch in hard	6	22	July 22, 1904	None	Perfectly good movable palate	Cannot yet pronounce D K. S. Mother says speech has greatly improved	1905	
5	John H.	8	Complete cleft, hard and soft	10	?	August 2, 1904	Not done yet	All closed except hole 6 × 2 mm. at junction of hard and soft palate; good movable soft palate	Bad. Has had no training at all	1905	Advised to have hole closed, but father thinks it "unnecessary."
5	Edith S.	3 2/12	Complete cleft, hard and soft	8	?	August 4, 1904	None	Hard palate perfect, good movable soft palate; uvula unclosed	Fair; improving	1905	
54	Margaret S.	3 7/12	Soft and notch in hard	8	?	August 5, 1904	None	Hard palate perfect, good movable palate	Fair; improving	1905	
53	Joan S.-W.	8	Soft and half hard	12	?	October 20, 1904	None	Hard palate perfect, good movable soft palate	Already much improved	1905	
56	Ellen P.	14	Soft and three-eighths hard	15	43	Dec. 12, 1904	None	Uvula short; otherwise perfectly good movable palate	Already much improved (mother)	July, 1905	
57	Edwin B.	2 1/12	Soft and notch in hard	10	30	Feb. 6, 1905	None	Perfectly good movable palate	Already much improved (mother)	June, 1905	
51	Alec E.	2 7/12	Complete cleft, hard and soft	10	28	March 6, 1905	Not done yet	Hole in anterior part of hard palate good movable soft palate	Beginning to learn to speak	June, 1905	
55	Amelia D.	12	Soft and quarter hard	11	32	March 13, 1905	Not done yet	Hole at junction of hard and soft palate Good movable soft palate	No report		
60	Mervyn H.	13	Complete cleft, hard and soft	13	35	March 20, 1905	One for large hole in hard palate	Large hole anterior part of hard palate; good movable soft palate	Beginning to learn to speak	July, 1905	Hole to be closed later.
61	Cornelia B.	10	Soft and quarter hard	10	27	April 17, 1905	None	Hard palate perfect, good movable soft palate	Good (mother)	July, 1905	
62	Annie H.	11	Soft and three-quarters hard	12	31	May 3, 1905	—	Immediately after operation hole 9 × 5 mm. at junction of hard and soft palate	Not seen since	May, 1905	
63	George F.	10	Soft with post. part of hard very thin, but not actually cleft	12	32	May 19, 1905	—	Uvula only ununited	No improvement as yet	June, 1905	
64	William R.	2	Soft and half hard	6	33	May 29, 1905	None	Immediately after operation minute hole in anterior part of soft palate	Already much improved	June, 1905	The small hole will almost certainly close spontaneously.
65	Sheila I.	3	Soft and notch in hard	10	30	June 29, 1905	None	Uvula not closed	Recent case	Recent	
67	Charles F.	3 1/12	Soft and quarter hard	11	32	July 3, 1905	—	Immediately after operation hole 10 × 6 mm. at junction of hard and soft palate	Recent	Recent	
66	Doris C.	2 1/12	Soft and notch in hard	9	25	July 3, 1905	—	Immediately after operation small hole at junction of hard and soft palate	Recent	Recent	

It cannot, in my opinion, be too strongly insisted upon that for purposes of good articulation it is essential that the soft palate should be well formed. It is far better to make at the first operation a good soft palate than a good hard palate. A hole in the hard palate can always be closed unless extensive sloughing has occurred. It may, on the other hand, be extremely difficult to make a good and efficient soft palate, if the first operation has been followed by a faulty union of this part.

Mr. Davies-Colley claimed for his flap operation that it would enable a cleft in the hard palate to be closed which could not be closed by the ordinary method. I find it very difficult to understand how that can be, and I would point to the photographs (Figs. 1 and 2) and ask whether anybody will claim that such wide clefts as those can be satisfactorily closed by Mr. Davies-Colley's operation, or by any modification of it, after eruption of the teeth;* and yet those particular clefts were closed by the ordinary operation.

It has been urged by some that these lateral incisions damage the palate and prevent it from performing its functions properly. To a certain but very small extent this is true, but I would point out that these incisions really do little more than is done in every tenotomy. The muscular and nerveus mechanism of the tensor palati is not interfered with at all.

Almost the whole of the levator palati and palato-pharyngeus muscles lie on the proximal side of the incisions, and are not interfered with or deprived of their nerve supply to an appreciable extent. It is only the azygos muscle and parts of the muscular insertion of the levator palati and palato-pharyngeus that are damaged by the incisions.

I would particularly ask those who are interested in this subject to examine the soft palates of the ten patients whom I show here to-day. They will see that in most cases the soft palate is good and movable. Indeed, as a rule, after a successful operation the soft palate can scarcely be distinguished as regards shape or movements from one that has never been cleft.

I come now to what seems to me to be one of the two main advantages of operating upon the hard palate in young infants before the eruption of the teeth, namely, that at this age if the hard palate be closed by the flap operation it is possible to make use of a much larger flap by including in it the tissues of the gum, or even of the tissues outside this, according to the method recommended by Mr. Arbuthnot Lane.

But this advantage, applicable to the hard palate, is, as it seems to me, more than outweighed by the disadvantage of the method as regards the soft palate. For by this operation, as I understand it, the cleft in the soft palate is closed by placing over it a necessarily thin flap derived from the soft palate or from the posterior part of the hard palate. No attempt seems to be made to detach and bring down the soft palate from the bony palate in the way that is, in my opinion, absolutely necessary for the formation of a really good soft palate.

This leads me to the consideration of the mechanism of speech in connexion with cleft palate, and the reason why patients with cleft palate articulate with a nasal twang. I should have thought it scarcely worth while to allude to this subject were it not for the fact that much ignorance appears to prevail upon the subject even among some surgeons accustomed to operate upon cleft palates.

A surgeon whose experience of cleft palate cases ought to have given him a better knowledge of the subject has recently published a statement so extraordinary and so utterly opposed to the facts that I cannot well pass it by in silence. He says: "The reason that the patient's intonation is peculiar, or, as it is usually called, nasal, is that the outgoing air does not pass through the nose, and when the cleft is closed at the usual time, there is in the extremely undeveloped nose very little space through which air can be transmitted; and so far as I am aware, no effort is made by surgeons to develop this space after operation."†

In my opinion, and I should have thought in the opinion of everybody who has paid any real attention to the matter, there can be no doubt whatever that the faulty articulation is due almost entirely to the fact that in speaking some of the air which should be forced through the mouth escapes through the cleft and out by the nose. Normally, in the articulation of certain consonants, the soft palate rises and shuts off the nose from the pharynx.

A patient with a cleft palate or with a faultily united soft palate cannot thus shut out the stream of air from his nose. The improvement in speech which takes place, to a certain extent, as the child grows up, is due to the fact that he learns, by contracting his facial muscles, to partially close the anterior nares, and thus produce the desired effect. A similar effect is produced by anything which tends to block up the passage of air through the nose—the obturator of the dentist, for example, or even adenoid vegetations. A lady who brought her child to me with a cleft palate (No. 55 in my list) volunteered the statement that, some little time before, an operation for adenoids had been performed, and that afterwards the speech had become much worse.

Let us take now some of the ordinary consonants which the cleft-palate patient cannot pronounce. The dentals (D, T), and labials (P, F, B, V) require for their proper pronunciation not only that the lips and teeth should be well formed (conditions often absent in complete cleft palate), but that a sufficient blast of air shall be driven forcibly through the mouth. If air escapes by the nose B at once becomes M, D becomes N, and so on. If a patient with a faulty soft palate tries to pronounce the syllable "bood," he says "moon." This is the exact converse of what happens when a normal person has a cold in the head causing obstruction to the passage of air through the nose. If such a person tries to say "moon," the word appears as "bood."

Similarly the gutturals K (hard C) and G require that the current of air shall be completely cut off from the nose. These letters become H—"king" becomes "hing," "cat" becomes "hath," and so on. The patient with a faulty soft palate usually has little or no difficulty in the pronunciation of M and N. It is especially with combinations of guttural and other consonants that a cleft-palate patient, even after closure of his cleft by operation, has much difficulty, especially if the soft palate be too short, as it so often is after faulty operations. Words like "kid gloves" and "Ladbroke Grove" are particularly difficult to pronounce. An adult with a faulty palate learns to a certain extent to avoid the use of words that he cannot pronounce.

It is well known that a young child beginning to speak prefers to make use of consonants that he can easily pronounce, such as P and M—for example, in "papa," "mamma"—and avoids the more difficult ones, such as gutturals. Only later still does he learn to pronounce complex combinations of consonants.

A cleft palate patient in time learns to a certain extent to form his consonants in a manner different from normal people. Thus an S, so far as he can pronounce it at all, is formed by him at the back of his mouth rather than with his teeth. It follows from this that an operation for cleft palate should be performed either before the child has learnt to speak or before his faulty method of articulation has become thoroughly established. There is much to be said for performing the operation before the age of 3 whenever possible, and I should like to perform it before the age of 2. But, so far as I can learn, the results of the operation when performed at a very early age are not so good as when it is performed somewhat later, and it seems to be admitted by most people that the very early operation is not unattended with considerable danger to life. Exact information on these points is much to be desired. None of my patients have ever been even seriously ill after the operation.

Time does not allow me to say much about the recent, and, to my mind, brutal operation of forcibly fracturing the superior maxillae and endeavouring to draw them together by wires. It seems to me a terribly severe proceeding. I know that it has led to death in at least 4 cases out of 10, which are all that I have at present heard of as having been performed in this country.* In another case necrosis of the bones occurred, but the child recovered.

Moreover, it is in my opinion not necessary, since a cleft palate normally undergoes very great closure in the first few years of life, especially if the hare-lip has been operated on in early infancy, as it ought to be. The two casts shown illustrate this point taken from the same patient at different periods of life.

The after-results of operations upon cleft palate have to be discussed from two points of view: that of the condition of the palate, and that of the speech. The results as regards the palate in my cases is sufficiently indicated in the accompany-

* Because the amount of tissue on one side available for the flap is less in width than the width of the cleft.

† Arbuthnot Lane, *Clinical Lectures*, 1900, p. 13.

* Since this paper was read I have heard of another case, also fatal.

ing list of cases, and in the summary on the second sheet. I would merely draw your attention to the fact that out of the whole number of cases there have been three in which the operation failed. Two of these (Nos. 27 and 44) were mentally-defective children, with comparatively narrow clefts of hard and soft palates. I have not yet thought it advisable to do a second operation, although I shall probably do so later. The third (No. 26) was to have returned for a second operation, but has not yet done so, and I have lost sight of her. In two cases (Nos. 8 and 29) the first operation failed, but a second succeeded.

The number of cases in which supplementary operations were performed for holes left after the first operation in the hard palate is shown in the tables. It will be seen that, as regards the soft palate, closure was effected after the first operation in 60 out of 65 cases;* and in the last 23 cases there has not been a single failure as regards the soft palate. Of these 65, in 57 the hard palate, as well as the soft, was more or less affected, to a degree varying from a mere notch in its posterior border to a complete cleft of the whole palate, complicated with single or double harelip. Of these, in 26 the hard palate was completely closed after the first operation; in 10 complete closure was effected after the performance of supplementary operations, mostly for small holes; in 16, small holes were still present when the patients were last seen or heard of—a few of these are patients who cannot now be traced, and whose holes have probably already healed; others are recent cases, in which small supplementary operations may or may not be required hereafter, and some are patients with very small holes, which I propose to close as soon as may be convenient.

As regards speech, it is difficult to make a satisfactory and trustworthy report, because it is so difficult to estimate what constitutes good, bad, or indifferent speech. It is easy enough to say whether there is or is not a hole in the palate, whether the soft palate is of normal shape or whether it is short and contracted, whether it moves or does not; but with speech there is no definite criterion. What one operator considers to be a good result another will say is very bad. I have endeavoured to be fair in my estimate of the degree of excellence of the speech in my cases, and the results are recorded in the accompanying table.

I may say at once that in no cases has speech after operation become absolutely normal, and that there are comparatively few in which I should call it very good. On the other hand, I have been very much struck by the marked improvement which has occurred even in cases done quite late—as No. 31 (Fig. 2), done at the age of 16. It is possible that I am overcritical, and that many of the patients whose speech I consider to be good would be classed as very good by others. Possibly the reverse is the case.

I have been at some pains to trace as far as possible all my patients and actually to hear them speak. In testing the speech I make them repeat a long list of words, embracing first of all the different single consonants and their various groups of consonants, which are of course more difficult to pronounce. Then if possible I get the patient to recall a passage from a book or to repeat a piece of poetry. I hope that some of you will yourselves apply these tests to the patients I have brought here to-day, and who will be on view in the neighbouring room until 1 o'clock.

May I be permitted to observe that I have not shown you exclusively my best cases? May I also remind you that in two-thirds of my cases the operation was performed later than I could have wished?

The best results as regards speech are obtained if the operation is performed before the age of 4, and much depends after the operation upon the amount of training the patients receive, and upon the care and attention which the patient himself bestows upon his articulation. The surgeon can do no more than restore the palate as nearly as possible to its normal condition; the patient himself must do the rest. For years after a cleft-palate operation the speech steadily improves. I have every reason, therefore, to believe that eventually I shall be able to promote a very much larger number of my patients from the classes of those in whom it is indifferent or fair, into those in which it is good or very good.

To the surgeon, if there be such a one, who thinks more of the immediate effect to himself of an apparently brilliant operation than of the ultimate benefit to his patient, there is a very obvious temptation to operate on cleft palates by the flap method in early infancy. He pleases the ignorant mother by closing the most obvious part of the cleft—that in the hard palate. He is able to demonstrate, perhaps, that some improvement in drinking takes place. His praises are loudly sung by all the friends and relations, and he gains credit and renown. At least two years or more must elapse before the powers of speech can be put to the test, and if the result of the operation as regards speech is then found to be a failure it does not much matter to him; or, in the meantime, the child may have died, possibly of some gastro-intestinal or pulmonary trouble, to which the presence of a large open wound in the mouth may or may not have contributed.*

It may be that I have drawn too gloomy a picture of the results of operations in early infancy. I do not know. Perhaps the results that are obtained are better than I suspect them to be or than I have seen them to be in my limited experience of the operations of this kind practised by others. But I do think that the advocates of an operation which appears to be condemned by nearly all those surgeons who have had most experience of cleft-palate operations ought to bring forward more proofs than they have hitherto done that their methods are better. Let them follow up their cases, and tell us definitely and boldly what their results have really been, and not content themselves with the publication of isolated cases or with the enunciation of more or less vague theories.

Then, but not until then, if they can show that their results equal or surpass those that can be obtained by a well-established and tried operation, can they expect reasonable surgeons to follow them in their practice.

Many years ago a determined opponent of all cleft-palate operations as then performed wrote: "Certain it is that it (the operation for cleft palate) has been performed many times, when the only apparent object was to gain *éclat* by the skilful use of the knife in a difficult case before an admiring audience, and with no possible hope of even a union or a surgical success."†

It may be that these cynical words still have some truth in them, even if applied at the present day.

In conclusion, I am inclined to think that the extensive flap operation performed in infancy may safely be left to those who do not care to learn the details of a somewhat delicate if not difficult operation, or have not sufficient manipulative dexterity to perform it; to those who do not consider the shape and condition of the soft palate and uvula to be of any great importance in the correction of the defective articulation; and especially to those who hold that this defective articulation is due to the outgoing air *not* passing through the nose, rather than, as I have attempted to show, to the precisely opposite condition.

Finally, the violent operations upon the maxillary bones themselves, I think, may reasonably be left to those who prefer to overcome difficulties by force rather than by craft, at least until it can be shown that these proceedings are less free from risk to life than appears to be the case, and that the advantages of operating upon a wide cleft in early infancy are greater than those of waiting a couple of years until the cleft has spontaneously become much smaller.

* I exclude the two cases in Column IV, in which the operation was done merely for holes in the hard palate left by previous operators.

* It should be remembered that after the more common operation for cleft palate, the raw surface left is almost wholly on the nasal surface of the palate, where it is far less exposed to sepsis.

† Norman Kingsley, quoted by F. Newland Pedley in an excellent article on the treatment of cleft palate from the dental point of view, in *Guy's Hospital Reports*, 1904, p. 204.

GASTRO-DUODENOSTOMY AS A SUBSTITUTE FOR GASTRO-JEJUNOSTOMY.

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FEW surgical procedures have given more satisfactory results than the operation of gastro-jejunostomy for non-malignant pyloric obstruction. It is remarkably safe, easy of performance, and in the majority of instances effects a marvellous improvement in the patient's condition. It has nevertheless certain defects which occasionally not only mar its usefulness but may lead to the death of the patient.

The commonest of these is the occurrence of regurgitant vomiting. Improved technique has no doubt greatly reduced the frequency with which this regrettable incident is met with, but unless recourse be had to a subsidiary operation on the jejunum—involving as it necessarily does an increased

risk to life—it is, I think, not possible to prevent in all cases the occurrence of the *circulus vitiosus*. Another objection to gastro-jejunostomy is that it may cause a peptic ulcer at the point where the acid gastric juice enters the jejunum. I do not believe that this untoward occurrence is at all a common one, but several undoubted cases have been recorded, and it is a defect that cannot be wholly eliminated by improved methods.

A third objection is that it rudely upsets one of Nature's arrangements. It is well known that the acid contents of the stomach on entering the duodenum stimulate the flow of the bile and the pancreatic juice, and to do away with this physiological factor cannot be altogether a matter of no consequence.

These objections have especial weight in the very large class of stomach affections where the indications for surgical interference fall under the heading of expediency rather than of necessity, and it is our duty to ascertain whether they can

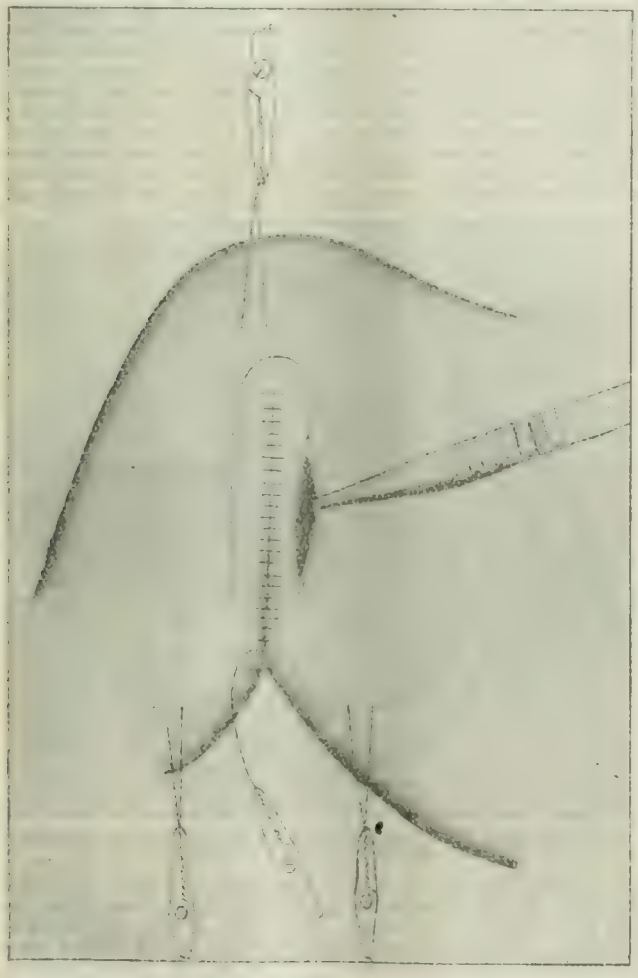


Fig. 1.

be avoided by dealing with the pyloric obstruction locally. Many procedures of this kind have been devised, but up till the present time none of them has established a widespread and enduring place in this country.

Of the older methods, pylorectomy is rightly held to be too severe an operation for the relief of non-malignant obstruction, while Loreta's pylorodiosis and its various modifications have been rejected because, apart from their dangers, they fail to secure permanent relief.

Pyloroplasty as designed by Heineke in 1887, and by Mikulicz in 1887, was at first received with enthusiasm as the ideal operation for non-malignant pyloric stenosis. By dealing with the obstruction at its site it was supposed to eliminate all the objections to "short-circuiting," while the incision in the stomach and duodenum being confined to the anterior walls of these viscera demanded a less complicated technique and a shorter time for suturing than is required for

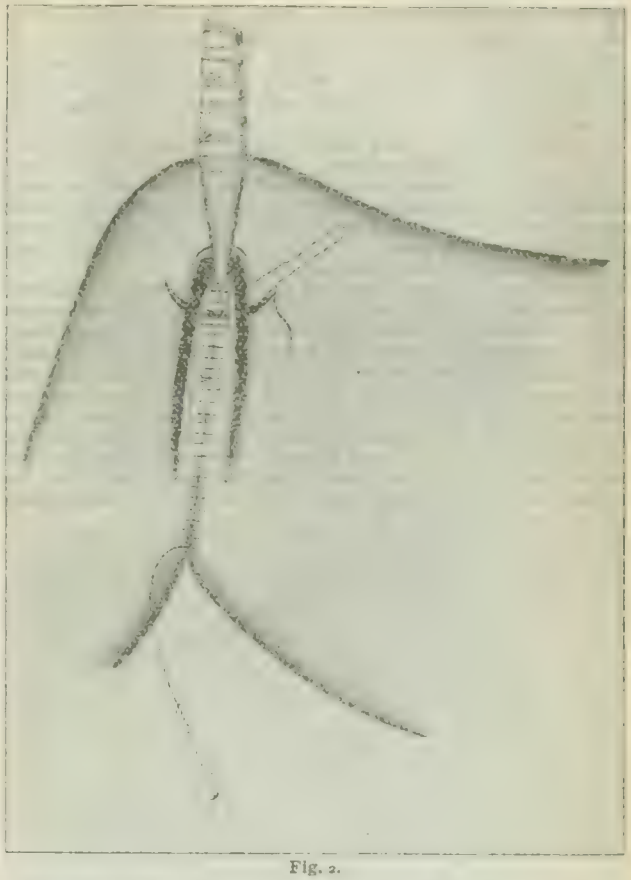


Fig. 2.

gastro-jejunostomy; but notwithstanding its apparent advantages it has failed to maintain its early prestige, and is now seldom practised. The reasons for its decadence are to be found in its failure to establish a dependent opening for the drainage of a dilated and often atonied stomach, and in the

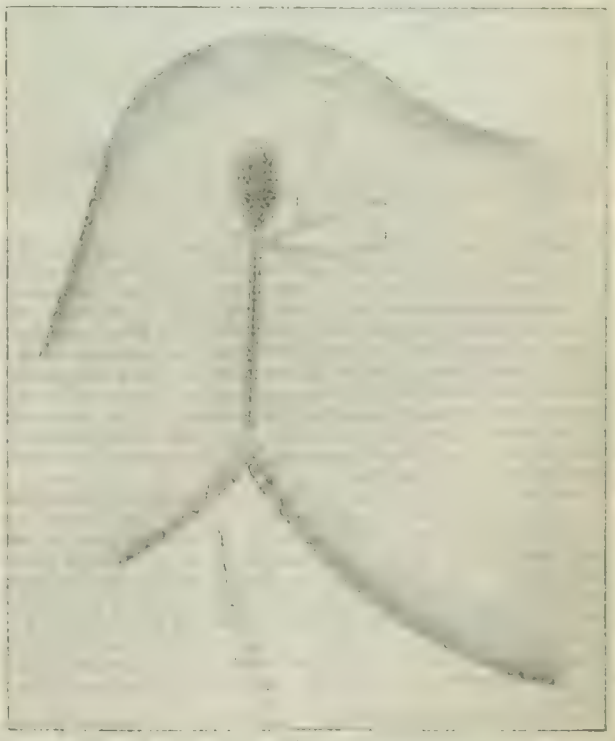


Fig. 3.

fact that the new opening, surrounded as it often is by cicatricial tissue, has a decided tendency to contract.

Koeppleni's operation of dividing the peritoneal muscular and submucous coats, but leaving untouched the mucous membrane, reduces the risk of septic infection, but has little else to commend it.

Jaboulay, in 1892, broke fresh ground by introducing subpyloric gastro-duodenostomy. Later Villard (1897) and Henle (1898) improved on Jaboulay's method, and reported several successful cases. None of these writers, however, suggest that the operation is likely to supplant gastro-jejunostomy as the routine procedure, but merely claim that it may be usefully employed in some cases.

Kocher, early in 1903, reported 5 successful cases of gastro-duodenostomy, and his lucid paper on the operation has done much to establish it as an alternative to gastro-jejunostomy. He points out that the superior flexure of the duodenum, owing to its attachment to the right margin of the gastro-hepatic omentum containing the portal vein, the hepatic artery, and the common bile duct, is incapable of being freed to any great extent, but that the whole of the descending portion together with the inferior flexure can be made freely movable. To effect the freeing of these portions of the duodenum he divides the peritoneum over the front of the right kidney 1 in. away from,



Fig. 4.

and parallel to, the right margin of the duodenum. The fingers are inserted behind the duodenum, and it together with the head of the pancreas are drawn forward and to the left. An anastomosis is then established between the descending duodenum and the right side of the great curvature of the stomach. It will be observed that Kocher's opening in the duodenum is made lower down than in subpyloric gastro-duodenostomy, and in order to emphasize this point he calls his operation lateral gastro-duodenostomy. He is so favourably impressed by his procedure that he announces his intention of using it in all cases of pyloric obstruction except where dense adhesions exist.

I have satisfied myself as to the value of Kocher's method for freeing the descending portion of the duodenum, and when this is thoroughly carried out it should be quite as easy to perform lateral gastro-duodenostomy as it is to do gastro-jejunostomy. The only criticism that occurs to one as being adverse to his operation is that in a much dilated stomach it would not provide so dependent an opening for drainage as is given by gastro-jejunostomy. This point is conceded by Kocher himself, and rather accentuated by his instructions to make the anastomotic opening not too large, and as high as possible.

The last procedure to which I shall allude is that of Finney, who in 1902 published a paper entitled A New Method of Pyloroplasty, illustrated by five successful cases. A more appropriate name for his operation would be gastro-pyloro-duodenostomy. Briefly, it may be described as a gastro-duodenostomy, the upper end of which extends into the pylorus.

The operation is commenced by dividing adhesions around the pylorus, and freeing as much as possible the pyloric end of the stomach and the upper portion of the duodenum. "Upon the thoroughness with which this freeing is done depends in large measure the success of the operation, and the ease and rapidity of its performance."

A suture, to be used as a retractor, is passed through the musculo-peritoneal walls of the pylorus on its upper surface. A second similar suture is inserted into the anterior wall of the stomach, and a third into the anterior wall of the descending duodenum at equidistant points—12 cm. from the pyloric suture. Traction on the pyloric suture upwards and on the other two downwards keeps the stomach and duodenal walls taut, and facilitates the subsequent steps of the operation. The contiguous surfaces of the stomach and duodenum are then sutured together by a silk suture (Fig. 1). The suture should be of the continuous type, and concerns only the musculo-peritoneal coats. It begins at the lower border of the pylorus, and is continued downwards for 2, 3 or more inches, according to the necessities of the case. After being tied, its end is left long and secured by forceps. A horse-shoe-shaped incision is now made around the upper end of the silk suture, and downwards ¼ in. away from it on either side through all

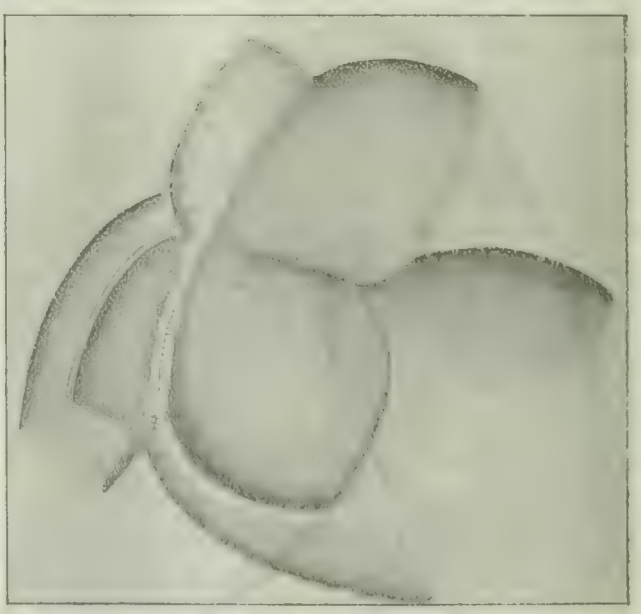


Fig. 5.—Anterior walls of stomach and duodenum reflected upwards to show the appearance from within.

the coats of the stomach and duodenum. The ends of the incision should terminate ½ in. above the lower limit of the silk suture. In cases where the lower half of the pylorus is thickened and indurated some of the tissues may be excised with advantage. A continuous catgut suture, engaging all the coats of the stomach and intestine, is commenced at the lower margin of the pylorus and carried downwards, uniting their contiguous (posterior) edges. It is then carried forwards and upwards, uniting their outer (anterior) edges (Figs. 2 and 3). The operation is completed by continuing the silk suture round the lower margin of the anastomosis and upwards to a point ½ in. above the incision in the pylorus (Fig. 4). Finney, in his description of the operation, limits the catgut suture to the posterior part of the opening, and makes use of long mattress sutures for closing the anterior surface of the opening. The operation abolishes the pyloric ring and enlarges the pyloric end of the stomach at the expense of the upper part of the duodenum, which is thrown into it, just as the breaking through of an internal wall will throw two adjacent rooms into one. The outlet of the stomach is lowered 2 in. or more, and is into the descending duodenum, which, being usually free from scar tissue, is not likely to contract subsequently.

During the past six months I have performed Finney's

operation on five occasions. In each case there had been haematemesis and other typical symptoms of gastric ulcer which had resisted prolonged medical treatment. In three of my cases there was narrowing of the pyloric outlet, with dilatation of the stomach. In all the pylorus could be easily drawn outside the abdomen—that is to say, there were no dense adhesions present. All my patients made good recoveries and are relieved of their symptoms.

Both Kocher's and Finney's operations are worthy of an extensive trial, and should one or both fulfil the high expectations of their authors it is probable that gastro-jejunostomy will cease to be the operation of choice for pyloric obstruction. Of the two, Kocher's operation is the more generally applicable, but for cases where the pylorus is not buried in dense adhesions, nor greatly indurated, nor yet the seat of active ulceration, Finney's procedure is, I think, an excellent one. In conclusion, I wish to express my indebtedness to Dr. Donald Armour, who first called my attention to Finney's operation,[1] also to my colleague, Dr. A. Cuff, for the illustrations.

REFERENCE.

[1] BRITISH MEDICAL JOURNAL, January 21st, 1905.

APPENDICOSTOMY.

By C. B. KEETLEY, F.R.C.S.,

Senior Surgeon, West London Hospital.

By "appendicostomy" is meant the establishment of a passage from without the body to the interior of the caecum by way of the appendix vermiformis fixed in and opened outside the abdominal wall. Actual experience has demonstrated the following indications for performing this operation:

1. Mucous colitis.
2. Dysentery (that is, amoebic colitis).
3. Obstinate chronic constipation.
4. Ileo-caecal intussusception; to prevent recurrence, to prevent collapse, and to treat haemorrhage and inflammation.
5. Syphilitic ulceration of colon, with haemorrhages.

It is possible to suggest other indications, and I shall mention some in the course of this paper.

The mode of performing the operation will differ somewhat according to whether the abdomen is unopened or already opened in the region of the appendix or elsewhere. Generally, if the abdomen be opened in the middle line or anywhere near the appendix, the abdominal wall can be button-holed near McBurney's point, a long forceps passed through, the appendix placed in its jaws and drawn out. Care should be taken not to twist the appendix, and also to see that it is free from adhesions.

Ordinarily the operation can proceed as follows: Make a very short oblique incision at the outer edge of the rectus near McBurney's point and in a line with the fibres of the external oblique, split or divide underlying aponeurosis with its adherent muscular fibres (it really does not matter which), and seize and open the peritoneum. The incision should be just large enough to admit two fingers. In a very fat patient it is convenient to make the skin and fat incision disproportionately long, and even the muscle incision may have to be enlarged if there is much subperitoneal fat. Now make two fingers glide in between the parietal peritoneum and the caecum and feel for the appendix. If it is found and free from adhesions pull it out. If it cannot easily be found or is adherent to intestine or omentum, bring out the caecum with the structures adherent and deal with them outside the body; in fact, operate as if for appendicectomy, enlarging the parietal wound if necessary. But all the cases of appendicostomy as yet described have been found simple and easy. I have given the above directions partly because I should not consider the mere presence even of considerable adhesions or even of the remains of an evacuated or old abscess a positive bar to appendicostomy. The base of the appendix should be pulled home to the parietal peritoneum. The mesoappendix, unless very wide and short, should not be cut. The catgut sutures used to narrow the hole in the parietal peritoneum should be used also to anchor the mesoappendix, after being knotted, and the second knot should be easy, so as not to strangulate any vessel in the mesoappendix. One or two buried sutures may be required to narrow the aponeurotic openings round the appendix and a silkworm gut suture or two to narrow the skin wound. Of course all depends on the original size of the wound. A mere button-hole may for itself require no suture. A free incision must be carefully closed according to rule, but two silkworm gut sutures should fix the seromuscular coats of the appendix to the skin, and not be drawn needlessly tight.

There can be no doubt but that in case of urgent necessity the appendix could now be opened immediately, as in my second case, but no such urgency generally occurs; therefore it is as well to defer the opening till the next day. No discomfort is caused to the patient by the delay.

In fact, a more painless, easy, and speedy operation than this it is difficult to imagine. No anaesthetic is required at the opening, and the original operation can easily be done under gas and oxygen, or under local anaesthesia. The patient whose photograph is shown was quite happy a few minutes after her return to the ward, although I had examined—gently, of course, but carefully—the whole course of her large intestine through a median incision, and had had the caecum, the sigmoid, and the transverse colon successively outside the incision. The careful but gentle examination of a single organ, even if it be large like the colon, is much less trying to a patient than putting the hand into the abdomen on a roaming commission to disturb everything on the chance of hitting by good luck on a diagnosis.

The first recorded case of appendicostomy is that of Dr. Robert F. Weir of New York. He was about to perform Kader's caecotomy on a young man with persistent chronic diarrhoea, "when the appendix came so suggestively into view that" he "determined to employ it to make the desired fistula." Two months after the operation, when the case was published, the patient was steadily and rapidly improving. The case is fully reported in the *New York Medical Record* for August 9th, 1902, p. 201.

Dr. Robert H. W. Dawbarn, of New York, operated on a young ex-soldier with severe dysentery, and irrigated the large intestine with a 1 to 200 solution of permanganate of potash (10 pints), alternating every six hours with the same quantity of normal saline solution at a temperature of 120° F. "The result was highly satisfactory," *Annals of Surgery*, vol. xxxvii, p. 613. This case was reported at the New York Surgical Society, and in the debate Dr. Willy Meyer said he had recently done the operation in a case of syphilitic ulceration of the large intestine with haemorrhages. He reported that the patient was always clean and dry. It was Dr. Meyer who suggested the name "appendicostomy." Dr. Murrell, in the *Birmingham Medical Review* for June, 1905, p. 339, reports that in one of his cases of ulcerative colitis, "Mr. Walter Spencer attempted catheterization of the appendix, washing out the bowel freely from above with douches of normal saline. The result was unsatisfactory, but it is possible that if it had been performed earlier it might have been successful." The word "attempt" seems a little out of place here, as the washing out was actually done.

Mr. Jonathan Hutchinson, jun., in the BRITISH MEDICAL JOURNAL for May 13th, 1905, reports a case of membranous and ulcerative colitis cured in seven weeks by douching with silver nitrate solution through the appendix. The same author refers to a case mentioned by Mr. Stanmore Bishop (Manchester Medical Society, March 1st, 1905, mentioned in the JOURNAL for March 8th, but not reported).

Mr. Moynihan reported a case of appendicostomy "done for the purpose of flushing the large intestine, affected with muco-membranous inflammation. The patient recovered." (*Lancet*, November 21st, 1903, p. 1450.)

I hear that my colleague, Mr. Armour, has recently (July, 1905) operated on a similar case. With the two I am about to report there are now, therefore, nine cases reported, none of which have been any the worse for the operation, while in seven it has been entirely successful, the issue of one remains to be seen, and in the other the disease was too far advanced for the appendicostomy to have a fair chance.

My own cases, which have already been mentioned in a letter to the BRITISH MEDICAL JOURNAL, June 17th, 1905, briefly are as follows:

CASE I.

E. B., a tall, well built, well-nourished, and fat girl of 15, with heavy-looking eyes and imperfect teeth was transferred to me for operation by Dr. Seymour Taylor. She had suffered from constipation ever since she could remember, and had been treated for it both as an in-patient and as an out-patient without benefit. She went for long periods without a motion, on one occasion as long as three weeks and three days, and suffered continually from recurring headaches. Last year she had been worse than ever. Sometimes she had slight and sometimes severe pain near the umbilicus and on the left side. She occasionally had periods of continual vomiting and giddiness. Dr. Seymour Taylor handed her over for surgical treatment. Instead of anastomosing her ileum to her sigmoid flexure I proceeded as follows: Through a median incision below the umbilicus the whole course of the large intestine was carefully examined. The only thing positively

abnormal found was the position of the transverse colon, which hung nearly down to the pubes. The sigmoid flexure, and also the caecum and appendix, were brought into the wound and looked and felt healthy. A button-hole was made near McBurney's point, a long pair of forceps passed through it, and by this means the appendix pulled through the "button-hole." The median incision was then closed. By an unfortunate oversight I now allowed the appendix to slip back again. I preferred to slightly enlarge the "button-hole" rather than undo the carefully-sutured median opening again. On getting the appendix into position a second time, it was secured with buried catgut, and the superficial silkworm gut sutures (about four altogether) used to narrow the enlarged parietal opening through which it came. As the girl was from the first comfortable



Fig. 1.—Girl of 15 with appendicostomy. A rubber catheter is in the opening and nearly half of it in the caecum. It is passed in by the patient once a day for the injection and removed afterwards. No truss or belt is required.

and not in pain, the opening of the appendix was deferred until my next visit to the hospital four days afterwards. The meso-appendix was ligatured close to the surface of the skin, and a short piece of rubber tube tied to this ligature as a further protection against the appendix slipping back or being pushed back when giving injections through it. No sensation was felt when the distal part of the appendix was cut off. A pint of warm water was now injected. It has been found ever since that the injection through the appendix stump of 2 oz. of "mist. alba" and a pint of warm water, and latterly of the warm water alone, ensures daily action of the bowels and keeps the girl well, painless, and comfortable. She now administers this herself through a No. 10 rubber catheter, which she takes out afterwards and replaces before each injection. There is absolutely no leakage. The appearance with the catheter inserted for half its length is shown in the photograph. I see no reason for removing the appendix or even for permitting it to close spontaneously, which I think it might do if allowed (owing to contraction of the skin cicatrix); I prefer to let well alone. In the meantime, I hope the transverse colon, now relieved from all weighting down by faeces and distension, is gradually recovering itself and rising to a proper level.

CASE II.

J. T. H., aged 1 year and 10 months, suffering from vomiting and abdominal pain since 10.30 A.M., passed blood at noon, and, being admitted at 2 P.M., passed 5 oz. of blood between 2 and 4. Swelling tender and palpable in umbilical region.

Operation.—An incision 1 in. to right of umbilicus 4 in. long (three-fourths of it below level of umbilicus). An intussusception of the lower end of the ileum, caecum, and vermiform appendix with part of the ascending colon into the ascending and transverse colon was found and reduced. A portion was much inflamed, oedematous, and darkened by haemorrhages.

Through an incision ½ in. long, between Poupart's ligament and the umbilicus, but twice as near to the former as to the latter, a very long appendix was pulled (it measured 6½ in.), anchored by sutures, and the distal 5 in. or 6 in cut off. The child was not collapsed after the operation, and was soon comfortably asleep. But later in the afternoon, the child, which was being carefully watched, changed for the worse and did somewhat collapse; the pulse could not be counted. Ten minims of brandy were given by the house-surgeon at 6 P.M., 3 oz. of neutral saline were passed through the appendix stump into the intestine. Bowels opened at 7 and at 8.45 P.M. The stools were dark brown and offensive at first. The bowels were washed through with, at first, neutral saline, latterly warm water, daily for ten days. With a tube in the rectum, the water began to flow through the anus when about 15 oz. had been passed into the appendicostomy opening. A fortnight after the operation, the child being quite well, the appendix was completely amputated, but its site sutured to the parietes immediately beneath the appendicostomy wound, now closed (by the same sutures, two in number). The temperature—102·2° the day after the first operation—fluctuated for a few days and then came down. From the fifth to the twelfth day after the appendix stump was removed it was steadily down to about 97°. Stay in hospital thirty-three days. (The notes of both these cases are by Dr. Burstal, house-surgeon.)

I think it is proved that appendicostomy is a useful operation with, possibly, a great future before it. How often we must all have felt how convenient would be a simple and safe side entrance to some portion of the alimentary canal, one with a sphincter and which would not leak! Can it truly be said that even the most improved forms of gastrostomy, enterostomy, caecal colotomy, or even of inguinal colotomy, fulfil this desire? Now the situation of the appendix is so happy for the purpose in question, that it could scarcely be improved, unless it opened like a two-way tap on both sides of the ileo-caecal valve and both ways were separately controllable. That would be a glorious arrangement which would make easy the effective local treatment of typhoid and of many other serious conditions. Even as it is, appendicostomy has a conceivable value in the treatment of typhoid, nearly all the serious local lesions of which are in the near neighbourhood of the ileo-caecal valve, which will often admit fluid injections to pass upward through it.

With regard to the indications for appendicostomy enumerated at the beginning of this paper, I hope it will not be supposed that I suggest them as absolute.

On the contrary, take the first—mucous colitis. It is well known that it can often be cured by copious enemata of silver nitrate solution, or, still better, of argyrol. Dr. Murrell, in reporting six cases treated by the latter salt (*vide supra*) described incidentally a case which shows to what a height in the alimentary canal injections given per anum can reach. This patient, a young man, in the knee and elbow position, was being injected slowly per anum with 5 pints of a 1 per cent. solution of argyrol, temperature 80°, when some of the fluid began to flow from his mouth within four minutes of the commencement of the injection. Murrell has collected a number of analogous cases; and there are others—for example, Sir Thomas Myles, of Dublin, has related one in which the fluid of a water enema flowed out of the mouth as fast as it was pumped into the rectum. These cases are very exceptional; but I have in many patients with caecal fistula observed how easily, in nearly all of them, the caecum can be injected from the rectum. In spite of these facts, however, it is certain that a long tube can be much more easily washed out or medicated when it is open at both ends than when it is practically closed at one end.

The usefulness of appendicostomy in the case of intussusception was very obvious. It served to anchor the caecum, to sooth and reduce the inflammation (the injections were practically internal fomentations), to check haemorrhage, and to rescue the patient from collapse.

I must say a few words on appendicostomy as a treatment for constipation, though I have far more to say on that subject than can be said here.

The alternative operation for constipation, of ileo-sigmoidostomy, is certainly not devoid of danger, whatever sanguine enthusiasts may proclaim about it. In the hands of a majority of operators, and especially in very fat subjects, it can become decidedly dangerous, incomparably more so than appendicostomy.

Secondly, it is clear from the communications of the surgeon, who writes most on the subject, that after a time the patients again have to resort to enemata. This is exactly what might have been expected from the result of Druebert's experiments on animals. Even after end to side implantation of the lower end of the ileum into the sigmoid, the colon became once more a reservoir of faeces which passed backwards to the caecum and the motions became once more as it were a solid extract of the overflow.[1]

At the same time there will doubtless be certain cases in which appendicostomy cannot be effectively substituted for ileo-sigmoidostomy. The appendix may be too imperfect, or the colon may be the seat of serious mechanical obstruction such as stricture.

Caecal colotomy is an infliction trying to both patient and attendant. Even a small and oblique caecal fistula is a nuisance, managed only with a good deal of trouble.

Enterostomy of the lower end of the ileum has the disad-

vantages of caecal colotomy, but has, on the other hand, the advantage over it and over appendicostomy of completely excluding and putting at rest the large intestine.

The first published suggestion of appendicostomy as a mode of treating chronic constipation came from Mr. R. W. Murray of Liverpool.[1] It happened, however, that my case of appendicostomy for chronic constipation had been performed three months before, and I published a brief note of it in the British Medical Journal of June 17th, 1905, p. 1358.

Should the appendicostomy be left open as in my first case, or closed after a time as in my second?

So long as the appendicostomy is causing no more inconvenience than it does in my first case, why should it be interfered with? If Macewen's views about the appendix are correct, even its stump may be useful. And there are future possibilities in which it may be wanted. As the old lady said to the minister who inquired why she always bowed at the name of Satan, "One never knows, you know."

Lastly, perhaps, I may be excused for adding that I called attention to the advisability of what is now known as "appendicostomy" as a substitute for caecal colotomy in a debate at the Medical Society more than ten years ago (briefly noticed in the British Medical Journal for November 17th, 1894, p. 1112). I then recommended it as a substitute for caecal colotomy in the treatment of intestinal obstruction—as a spout to let the faeces out rather than as a pipe to let fluids in. Appendicostomy, when the appendix was found well developed, would have over caecal colotomy for this purpose the advantage of quickness and simplicity of performance, and of permitting the prevention of those distressing excoriations which are the bane of all caecal colotomies, and are due to inability of either truss or pad to thoroughly control a caecal colotomy with its flow of fluid faeces. The normal appendix, though with a lumen not apparently so large as a lead pencil, is capable of great enlargement, as may be seen when it is distended with fluid or by a large concretion, and still more when the subject of intussusception. I have excised an appendix intussuscepted into the caecum the size of a walnut, and with an intussuscipiens which would admit a finger. Nevertheless, the operation of Dr. Weir inaugurated appendicostomy as an operation for flushing out the large intestine.

Since this paper was read, Dr. Crombie of Sidcup and I have performed appendicostomy as a substitute for caecal colotomy, and found the appendix easily dilatable.

References.

[1] Moynihan, *Lancet*, 1904, vol. ii., p. 1012. [2] British Medical Journal, June 10th, 1905, p. 1293.

A NOTE ON A SPECIMEN OF BLADDER AND URETHRA REMOVED TWO YEARS AFTER SUPRAPUBIC PROSTATECTOMY.

By J. W. Thomson Walker, M.B., F.R.C.S.,

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The technique of the operation of suprapubic prostatectomy has of late been brought to so high a point of excellence that in future, I believe, attention will more profitably be directed towards examining the later results of the operation. These later results will, I think, prove eminently satisfactory when the complete operation introduced by Mr. Freyer has been performed. Such, at least, is my personal experience. The importance of an anatomical basis for clinical observations is as great here as in the operation itself. I have, therefore, ventured to place before you a note upon a specimen removed two years after the operation.

I am indebted to Mr. Henry Morris and to the Cancer Committee of the Middlesex Hospital for their kind permission to publish this case.

The operation of prostatectomy was performed by the late Mr. Herbert Allingham at St. George's Hospital. At a later date the patient entered the Cancer Wards of the Middlesex Hospital, where he died. I examined him, with Mr. Morris's permission, in April, 1905, and made the following notes: C. D., aged 64; three years ago he noticed the gradual onset of difficulty in micturition. At that time he passed urine in small quantities seven or eight times a day, and had to rise twice or three times at night. His symptoms increased until he only passed a few drops of turbid urine from time to time with considerable difficulty. His average frequency of micturition was every two hours during the day and six times at night. There was slight pain along the urethra on micturition.

He attended St. George's Hospital on account of complete retention of urine. His urine at that time was turbid, and sometimes contained a little blood.

Suprapubic prostatectomy was performed by the late Mr. Herbert Allingham two years ago, and on leaving the hospital he was free from urinary symptoms.

Fifteen months ago he noticed blood in his urine. The blood appeared at the commencement of micturition, and was sometimes in the form of dark clots. Since he noticed the blood he had steadily lost weight. The family history was unimportant. He had suffered from gonorrhoea, which had been followed by gleet for a time.

When I saw him he was a spare, rather feeble looking man, but showed no very striking degree of emaciation.

There was a broad suprapubic scar, which bulged on exertion or on coughing. In the right groin there was the scar of a bubo, and in both groins were discrete shotty lymph glands.

Rectal examination in the genu-pectoral position showed that the prostate was wanting and its place taken by a smooth, firm surface, which passed out to the side walls of the pelvis. Above this the bladder base could be felt hard and fixed. The upper limit of this thickened part of the bladder base was concave upwards. The rectal mucous membrane was freely movable over this indurated surface. No mass could be felt by the suprapubic hand on bimanual examination.

Post-mortem Examination.—Body emaciated. No enlargement of the superficial lymph glands. At the suprapubic scar the peritoneum had formed a pouch in front of the bladder above the pubic bones. The pelvic contents were removed entire. The rectum was normal and was



Fig. 1.—A, cavity from which prostate was removed. B, portion of prostatic urethra; C C, termination of urethral mucous membrane: D, ledge formed by bladder base; E E, anterior wall of cavity: F F, growth in bladder.

readily dissected from the bladder. The bladder was opened along the middle line anteriorly, and the incision was extended through the wall of the prostatic cavity and urethra. The cavity from which the prostate had been removed (Fig. 1, A) was the size of a hazel-nut and was roughly quadrilateral in shape. Above, it was continuous with the bladder and below with the urethra. The aperture leading into the bladder was reduced by a ledge which partly roofed in the posterior part of the cavity (Fig. 1, D). The tip of the little finger could be inserted into the aperture. The ledge was white and tough, with a smooth, thin border. The upper surface of this ledge formed the trigone of the bladder. The remaining part of the circumference of the opening into the bladder was smooth, and even at the cut surface along the middle line anteriorly there was no indication of thickening or contraction at the junction of the bladder with the prostatic cavity.

The opening from the prostatic cavity into the membranous urethra was narrower than the opening into the bladder. The calibre was about that of an ordinary lead pencil. The junction of the urethra with the prostatic cavity was not defined anteriorly or laterally. On the posterior aspect a tongue of urethral mucous membrane was continued along the posterior wall of the prostatic cavity to about its middle (Fig. 1, B). This process was fixed to the posterior wall of the cavity and evidently represented the posterior wall of the prostatic urethra from the level of

the veru montanum downwards. At the point where this process joined the membranous urethra, a well-marked fold passed out on each side (Fig. 1 C C). These folds were white and smooth. They disappeared at the sides of the opening, and the remaining part of the circumference was smooth and unbroken.

The lining of the prostatic cavity was for the most part smooth. The process of urethral mucous membrane already referred to adhered to the lower part of the posterior wall. At the upper part, just under the ledge, was a small rounded nodule about the size of a split pea, which on microscopical examination was found to consist of tough fibrous tissue, with some distorted prostatic gland tubules embedded in its substance. In the fibrous stroma were numerous isolated striped muscle fibres. On examining the cut surface of the specimen the bladder wall was found somewhat thickened, and passed gradually into the wall of the prostatic cavity. The latter (Fig. 1, E) was composed of tough granular-looking tissue, and was of considerable thickness. Embedded in it were several large veins of the ascending limb of the prostatic plexus.

Microscopical examination of this part of the wall showed dense fibrous tissue, with a large amount of striped muscle tissue in the form of isolated fibres. No prostatic gland tissue was visible. The lateral and posterior walls were much thinner, and, after dissecting away the rectum and levatores ani, were about the thickness of brown paper.

Microscopical examination showed that the walls of the prostatic cavity were lined by a layer of cells varying in depth. In some parts there appeared to be only a single or double layer, but elsewhere the cells were heaped up into several rows. The cells showed a tendency to flattening in the superficial rows, while the deeper cells were rounded and loosely set. At some parts these cells were wanting, and no nuclei could be detected at the smooth edge of the section. The bladder wall was rather thicker than normal, but no fibrous change could be detected. A malignant growth (Fig. 1, F F) occupied the whole of the bladder base and extended for a short distance to the right side of the trigone. On the left side it passed backwards and outwards as high as the upper third of the viscus. At the lower part of the growth a mass, of about 1 in. of smooth non-infiltrated tissue, separated F from the prostatic cavity. The openings of the ureters were obscured by the growth. The growth consisted of irregular nodules with a granular surface. At the posterior and left lateral part of the growth this appearance was replaced by a leathery infiltration of the mucous membrane, the surface of which was smooth and had lost much of its plication.

Microscopical examination of the bladder growth showed a papillomatous surface, beneath which the bladder wall was infiltrated by spheroidal cells. On the outer surface of the bladder was a thick indurated mass which extended upwards and outwards on each side in the form of two thick horns. On dissection it was found that this consisted of the greatly enlarged and thickened seminal vesicles surrounded by inflammatory material. There were no enlarged lymphatic glands in the pelvis or abdomen. The right ureter was distended with fluid. The right kidney was much smaller than normal, and the pelvis and calyces dilated. The left ureter was thickened and slightly dilated. The left kidney was enlarged and showed acute suppurative pyelonephritis without dilatation of the pelvis and kidney. There were no secondary deposits in any of the organs of the body. The bodies of the vertebrae were examined but contained no growth, nor could any of the change be discovered on examination of the other parts of the skeleton.

One of the most important questions which arises after removal of the prostate is whether it is possible for contraction to take place to such a degree as to form a stricture and cause obstruction to the outflow of urine. A certain diminution of the cavity left after removal of the prostate must take place by the heaping up of inflammatory material, and when this becomes organized and contraction takes place a still further reduction of the space must occur.

On examining this specimen, removed two years after the operation, there is no sign that complete obliteration of this cavity is likely to take place. And here the contraction must have reached its limit. Two points of real danger do, however, exist where the cavity left after the removal of the prostate joins the normal structures. There if anywhere contraction would mean obstruction.

I have shown elsewhere[1] that in specimens removed immediately after the operation of prostatectomy a ledge formed by the trigone of the bladder partially roofs over the posterior part of the prostatic cavity (Fig. 2). In the specimen under consideration this ledge is still present after two years. The edge is rounded and the ledge itself firmer in consistence, but it remains confined to the posterior part of the aperture, and the remainder of the circumference is smooth without any ridge or fold to separate the bladder from the prostatic cavity; one may conclude, therefore, that no contraction of the structures surrounding the aperture has taken place.

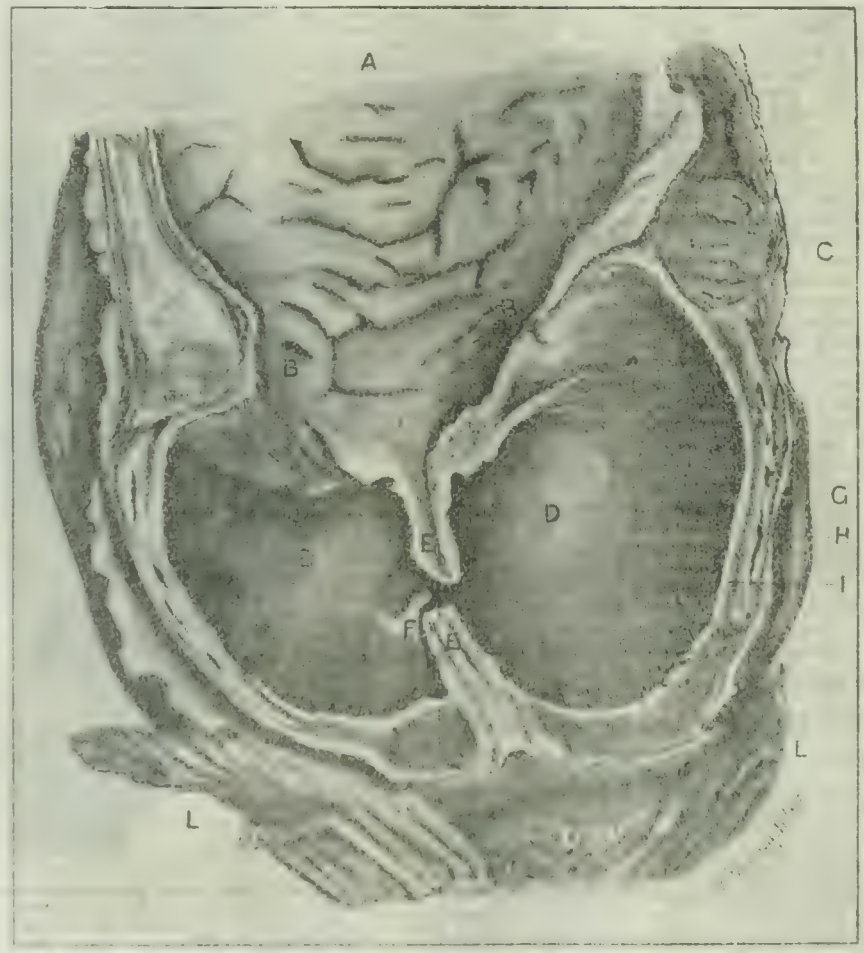


FIG. 2.—*Post-mortem* specimen. Death eight hours after prostatectomy. A, bladder; B, B, ureters; C, sphincter vesicae; D, D, cavity left by removal of prostate; E, E, prostatic urethra; F, ejaculatory ducts; G, I, layers of sheath; H, prostatic plexus; K, constrictor urethrae; L, L, levatores ani.

The second point of danger is the junction of the prostatic cavity with the membranous urethra. At this situation a portion of the posterior wall of the prostatic urethra is found adhering to the posterior wall of the prostatic cavity. This I have already shown to be the most common condition in the recent specimens of enucleated prostate (Fig. 2, E). From this two folds pass out, one to either lateral wall, and represent the limit of the mucous membrane of the membranous urethra. These folds are confined to the posterior wall and do not pass round the lateral or anterior walls. There is therefore no sign of contraction at this point.

On passing an instrument on a patient after prostatectomy, the point of the instrument frequently hitches just at the entrance into the bladder, and it is only after repeated attempts that the instrument is passed into the bladder. On looking at this specimen it is easy to see that the instrument catches under the ledge at the posterior part of the opening, and it is readily appreciated how such obstruction to the

passage of an instrument might be mistaken for a stricture. The presence of a large proportion of striped muscle tissue in the walls of the prostatic cavity has been noted. The amount of this tissue appears to be much in excess of that found in this situation in the normal or enlarged prostate.

What part this striped muscle plays in preventing the escape of the urine from the bladder I am unable to say, but it does not appear to me that the fibres, however numerous, can be of great value in this relation. It may be that this increase signifies an attempt to re-establish some continuity between the bladder and urethral contraction, which usually passes as a wave along the whole length of this part of the urinary apparatus, and which might conceivably be impaired were the bladder and urethra merely connected by a fibrous sac.

In looking at the specimen from the point of the retention of the urine, one is struck by the continuity between the bladder and the prostatic cavity. The bladder sphincter seems hardly likely to perform satisfactorily its retentive function, and the constrictor urethrae probably acquires an even greater importance than under normal conditions. At the same time some rearrangement of the impulse to micturition probably takes place, for the greater portion of the prostatic urethra has been removed.

In conclusion, a word must be said in regard to the condition of the seminal vesicles. The condition of chronic inflammation and obstruction in these viscera found in the specimen may be unusual. I think, however, that the condition here present is likely to occur frequently after the operation; for even if the ejaculatory ducts are left intact, as they sometimes are, the inflammation in the walls of the cavity following the operation will probably compress and block these tubes.

REFERENCES.
[1] BRITISH MEDICAL JOURNAL, July 9th, 1904; *Trans. Med.-Chir. Soc.*, vol. lxxxvii; *Archives of the Middlesex Hospital*, vol. iv.

Mr. H. L. BARNARD (London) mentioned a case of suprapubic prostatectomy, in which he thought he had detected some tendency to stricture after operation. He had heard of other cases from other surgeons. He thought it important to wash out the bladder through the urethra steadily after operation, and to remove the suprapubic drainage tubes as soon as possible.

Mr. JORDAN LLOYD (Birmingham) said the time had passed when it was necessary to discuss the practical facts of Freyer's operation. The operation was now an established surgical procedure of great value and of wide limitations, but professional opinion was not yet satisfied as to the permanency of the good results. Subsequent strictures had been met with by several surgeons, and had called for special secondary surgical treatment at their hands. Mr. Lloyd referred to a form of prostatic obstruction, in which the opening from the bladder into the prostate was stenosed and constituted a real prostatic stricture. This condition was associated with the small, hard prostate, and was satisfactorily dealt with by prostatic nucleation.

Mr. WILLIAM SHEEN (Cardiff) said: In Mr. Freyer's absence, which I also regret, I shall endeavour to confine myself to the pathological aspect of the discussion. I have here a specimen which is of some interest in view of what has been said. It is a hard fibrous prostate, weighing 5 dr. 40 gr., which I removed by the suprapubic route on April 25th of this year from a man aged 60, who had had prostatic symptoms for six months. The man's after-progress was all that could be desired. He passed water naturally on the eighteenth day, the suprapubic wound closed in a month, and he is well now. The points of interest in the specimen are, first, its small size, although causing prostatic symptoms; and, secondly, its showing not only the prostatic urethra, but also a portion of the membranous urethra, which appears as a butterfly-like excrescence. Yet the man recovered completely, and is so far free from stricture. I should like to hear the experience of others with regard to injury to the membranous urethra.

Mr. WALKER, in reply, said that he hardly expected, in bringing forward this case, to discuss the broad question of prostatectomy. Mr. Barnard had raised the question of stricture following the operation, and the most important point shown by this specimen was that here, at least, no stricture had formed. Mr. Walker was not inclined to place much reliance upon cases of stricture unless these were actually published. He had already published much upon the condition of the urethra after prostatectomy, and he would merely point out that if the prostatic urethra were left intact it would form an isolated tube in a cavity filled with urine, which was probably septic. The diaphragm which Mr. Jordan Lloyd had referred to was the base of the bladder which Mr. Walker had pointed out formed a guard for the prostatic cavity in all cases. This caused difficulty in passing instruments, but did not obstruct the flow of urine. The small, hard prostates were those which caused the greatest difficulty both in suprapubic and in perineal prostatectomy. Mr. Walker had had personal experience of these cases, and agreed that the operation for their removal was a very arduous one. The cases which Mr. Jordan Lloyd had referred to where a stricture was present at the outlet of the bladder in cases where the prostate is not enlarged had already been noted by American observers and had been named "contracture of the neck of the bladder." It was difficult indeed to know what the best treatment for such cases was which might give them permanent relief. The question had been asked why a prostate weighing less than the normal gland should cause obstruction. Mr. Freyer had previously replied to this that the normal weight of the prostate as stated by Sir Henry Thompson was estimated by weighing the prostate, sheath, bladder base and prostatic urethra. This could not be compared with specimens of enucleated prostate where the sheath and bladder base were left behind.

THE TALMA-MORISON OPERATION, WITH A REPORT OF A SUCCESSFUL CASE.

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IT is now some sixteen years since the operation for the cure of ascites was suggested by Talma of Utrecht. During this time many hundreds of cases have been recorded which, when analysed, prove beyond all question that the procedure has been more successful than was ever anticipated by its originators. It is the object of this communication to furnish additional evidence, however meagre, in favour of the more general adoption of the procedure in certain cases of hepatic cirrhosis. The case which is about to be described is one of the now many records of how a patient suffering from a symptom generally considered an immediate precursor of death can, after the operation, resume his usual avocations and be restored to health.



Fig. 1.—Patient thirteen months after hepato-epiplopexy. The umbilicus is prominent, a fine scar above shows the incision through which the Talma-Morison operation was performed; the prominence is a small ventral hernia. There is a small amount of ascites, since the operation, not necessitating paracentesis.

W. K. was admitted into Mercer's Hospital in August, 1904, suffering from an enormous ascites. The patient was 47 years of age, and was employed in well-known Dublin ironworks as a "fitter." His duties entailed heavy manual labour, but this he was well able to perform until fourteen days previous to his admission into hospital. From that date he had noticed his abdomen becoming rapidly larger, until it reached the huge dimensions seen on the day of his first appearance in hospital.

The patient was not addicted to the use of alcohol, in fact it was afterwards evident he disliked intoxicating liquors. No history of

syphilis could be elicited; he was not jaundiced, and there were no symptoms, such as vomiting, referable to the digestive tract. He had noticed that he was becoming thinner and only weighed 8 st., though nearly 6 ft. in height. An analysis of the urine was negative: it was acid in reaction, the specific gravity was 1022, and there was no albumen.

No examination of the abdominal viscera could be made owing to the distended condition of the abdomen, so on the day following his admission into hospital he was tapped in the middle line below the umbilicus, the fluid withdrawn measuring upwards of 2½ gallons. The liver was now felt to be enlarged, reaching about two fingerbreadths below the costal margin; the spleen could not be palpated. Examination of the chest revealed nothing abnormal except slight crepitation over the base of the lungs behind. The temperature was normal. Purgatives of calomel and pulv. jalapae co., together with suitable diuretics and diaphoretics, were ordered, and the patient confined to bed. Fourteen days after the first paracentesis of the abdomen, the latter was as distended as ever, and two gallons of fluid were removed through a trocar puncture in the left loin. In a few days the ascites was again developing with its former rapidity, and the patient showed signs of further emaciation. As the diagnosis was not clear, there being no definite signs of cirrhosis, I decided to perform an exploratory laparotomy before the condition of the patient became such as to render such an operation inadvisable. I feared that this might be a case of malignant disease in the neighbourhood of the portal vessels, or perhaps tuberculous disease might be the cause of the ascites and explain the slight crepitation heard over the pulmonary area behind. In any event I felt convinced that the proper procedure was to open the abdomen and see if any operation would improve the condition of the patient, which was steadily becoming more critical. The ascites could be by this means, at all events, thoroughly relieved in a manner impossible by tapping with a trocar and cannula. For these reasons the abdomen was opened below the umbilicus, and the ascitic fluid allowed slowly to drain away. Injections of suprarenal extract were had recourse to in order to maintain the blood pressure, which fell considerably as the fluid escaped.

The hand was introduced into the abdominal cavity, and the region of the liver carefully examined for the presence of any tumour; the spleen was next found, and appeared normal in size and consistency. The intestines showed no signs of tubercle or other disease. The result of the operation was not, however, negative, for in addition to the emptying of the cavity of fluid, the enlargement of the liver was confirmed, and this organ was felt to be tough and fibrous, but not nodular or "hob nailed." Adhesions were found to exist between the omentum, abdominal wall, and the liver, a point of special significance, showing that Nature had to a certain extent anticipated the Talma operation. It was also possible to ascertain that the vessels of the great omentum were much enlarged. All these conditions fortified me in the belief that should the ascites recur after this exploratory laparotomy, no time should be lost in performing the radical cure as recommended by Talma, Drummond, and Rutherford Morison.

The fluid had been entirely drained away, and the abdomen was quite flat, yet only a very few days had elapsed before it began for the fourth time to fill the abdomen. The man, who had been sent to a convalescent home twelve days after the operation, returned a fortnight subsequently with an ascites equal in size to that seen in August when he first presented himself for examination. In addition to this, a yellowish tinge was apparent in his conjunctiva, and the scar below the umbilicus had stretched as the fluid accumulated. He had otherwise, however, not lost much ground, the change of air, he thought, had made him feel stronger. His weight was 7 st. 10 lb.

With the following reasons in my mind I had no hesitation in advising the Talma-Morison operation:

1. The patient had been tapped three times, and the fluid had in addition been drained thoroughly by means of an exploratory laparotomy, without curing the ascites.

2. The progressive emaciation and the slight appearance of jaundice showed that he would not bear the repeated tappings for any length of time.

3. The previous laparotomy demonstrated that the Talma operation had been anticipated by Nature, inasmuch as adhesions were present between the omentum, liver, and abdominal wall.

4. The liver was enlarged, not atrophied, consequently there could be no question that there were sufficient cells in that organ to carry on the necessary functions of life.

5. There was an absence of cardiac or renal complications, and on the whole the general condition of the patient was good.

6. I had reason to suppose that this case, like the majority of the kind, would rapidly progress to a fatal issue unless something could be done to relieve the portal congestion and thereby have a beneficial influence on the condition of the liver cells.

Operation.—On November 11th, 1904, the Talma-Morison operation was performed as follows: The patient having been anæsthetised, an incision was made through the abdominal parietes, extending from 1 in. below the ensiform cartilage to the same distance above the umbilicus. The peritoneum having been incised, the great omentum, which, as before noted, was adherent to the abdominal wall and also to the liver, was now found to be contracted up in a mass which presented in the abdominal wound. This mass of omentum was drawn out of the abdomen, two fine adhesions breaking down as this was done. The great distension of the vessels was very noticeable, the whole structure looking like a large network of veins with delicate walls held together by the remnants of a normal omentum. Some bleeding which occurred from these veins was controlled by silk ligatures. Attention was now turned to the liver. Having drawn the omentum out of the way a clear view of this organ was obtained. It was enlarged, had lost its glossy appearance, and was tough and fibrous to the touch, though by no means nodular. The next step in the operation was to thoroughly scrape the upper surface of this organ with a blunt Volkmann's spoon, which did admirably for the purpose. The curetting was persisted in until gentle oozing of blood was noticed over the entire surface, care being taken not to use sufficient violence to produce troublesome haemorrhage. A cloth was used to irritate the surface of the diaphragm adjacent to the liver by gentle rubbing. The omentum was next dealt with, and this part of the operation is of great importance, inasmuch as an epiplopexy alone is often considered sufficient to cure an ascites. On either side of the main incision the peritoneum was stripped from the abdominal wall. Some difficulty in doing this was, however, experienced behind the recti muscles where it was adherent. The peeling of the peritoneum from the anterior abdominal wall was carried out over as extensive an area as the incision would allow.

The omentum (which had been spread out like an apron) was now insinuated as far in between the peritoneum and abdominal muscles as possible on each side of the original incision, and it was there maintained by several irregular points of silk suture passing through muscles, omentum, and peritoneum.

It was by no means possible to get the omentum to lie flat in this position, a large amount of it remaining in a mass in the middle of the abdominal wound. The mass was sutured with silk to the divided muscles, a procedure which made it difficult afterwards to firmly close the abdomen.

This was accomplished, however, bearing in mind the possibility of a ventral hernia afterwards forming, a complication which occurred in many of the reported cases.

The operation occupied about three-quarters of an hour, and the patient was at the end of it suffering greatly from the effects of shock. No time was lost in getting him back to bed. Intracellular injections of saline solution supplemented by rectal injections, together with the usual remedies employed, were soon successful in improving the pulse and general condition of the patient. The following day the temperature was 100° F., afterwards falling to normal. The wound was dressed on the fifth day, and was well healed. In connexion with the skin suture, I may here mention in this case, as in all aseptic operations, I have used Michel's metallic skin clips for the past twelve months. These seem to me to have the following advantages over other methods of skin suture: (1) They are metallic, and are therefore easily and surely sterilized; (2) they are extremely rapidly applied, if two introducing forceps are at hand, the sister loading one while the surgeon is using the other; (3) they permit free drainage to take place between the points of suture; (4) they are more easily removed, and with less pain than other sutures; (5) they leave a scar which is almost equal in fineness to that left after the subcuticular suture. They must not, however, be introduced tightly; they should be removed on the fifth day, and where there is tension on the skin edges they are better not employed. The clips must be good and not, as often sold in this country, too flexible.

The most distressing symptom after operation was the intense thirst the patient suffered from; for a few days it could not be satisfied, although saline injections were administered continually, and draughts of water were given frequently. This latter is particularly mentioned, because the routine of giving sips of water and ice to suck was departed from, and the patient allowed a tumblerful of water at a time, warmed if preferred. True, slight vomiting followed when he drank water the day of the operation, but the washing out of the stomach, which was a necessary consequence, had a most beneficial effect.

After three days, when the shock following the operation and the intense thirst had passed off, the patient made rapid advances towards recovery. His temperature remained normal, he had no pain whatever, and in ten days the wound was soundly healed. He was allowed up on the seventeenth day, and was sent to the convalescent home the following week. Six weeks after the operation the patient again presented himself for examination. There was no ascites, except an inappreciable amount which had been noticed collecting during the first two weeks following operation. This was accounted for by the fact that no drainage tube was used, and the fluid collected while adhesions were forming.

To make the operation complete, this remaining fluid was withdrawn on March 23rd, and measured 37 oz., or a little under 2 pints. After six months' observation, in which the patient increased 2 st. 3 lb. in weight, he was allowed to resume his ordinary occupation as a fitter in iron works in co. Longford, where he has since been employed.

A short account of the history for the last sixteen years of this rather novel procedure, known as Morison's operation, may not be out of place. In 1888 Talma began to investigate why certain cases of cirrhosis of the liver ended fatally without showing any signs of ascites, while others exhibited this symptom generally a few months before death. In all the former cases it was found that the natural channels of communication, between the portal and general circulation (such as the communicating veins between the stomach and œsophagus, the paraumbilical vein, and connexions between the superior middle and inferior haemorrhoidal veins), were always enlarged; whereas in the latter, where the ascites was a marked symptom, there were not sufficient collateral vessels to carry the portal blood into the general circulation. Again, it was found where cases of ascites were operated upon that

adhesions were almost invariably present between the omentum and the abdominal wall; further evidence that Nature was making an attempt to open a way for the portal blood into the systemic vessels. Talma's idea was: Could not an operation do what Nature attempted to do in these cases of ascites? It required no great thought to see that, if adhesions were formed by artificial means between structures carrying portal blood and others carrying systemic blood, a communication might easily be effected between the two circulations. With this object in view, Von der Meule performed the operation at Talma's suggestion in 1889. The first case died of shock, and the second one operated on by Schelky in 1891 from peritonitis.

At this time Morison and Drummond were working independently in England with the same objects in view, and the first successful case was recorded by the former in 1895. This case of Morison's brought the operation into prominence. The report was very complete and the data so definite that there could be no doubt that the operation had produced the desired effect, both clinically and pathologically. The case—which has now many times been quoted by various authors—notwithstanding numerous tappings, showed no improvement until the operation of hepato-epiplopexy was performed; the patient was in excellent health for two years afterwards, but succumbed after an operation for the cure of a ventral hernia. The autopsy revealed adhesions between the liver, spleen, and intestines on the one hand and the abdominal wall on the other, with veins in these adhesions as large as the radial artery.

Before passing on to the results of others another case of Rutherford Morison's is worthy of note. In 1903 he recorded a case which had been tapped on fourteen different occasions before operation was resorted to, the interval between each paracentesis being on an average about fourteen days and the total amount of fluid withdrawn 2 930 fluid ounces. At the operation the liver was found to be about of normal size and finely granular on the surface. The spleen was hard and at least double its normal dimensions. The technique of the operation is but briefly described, but an interesting feature of it was that a drainage tube was allowed to remain in for forty-three days through which fluid discharged for that time.

Nearly four months afterwards the patient appears to have had a recurrence, and 230 oz. were removed by tapping. From this date he never looked back; there was great enlargement of the superficial veins on the wall of the abdomen, and the liver could be felt adherent to the latter. Rutherford Morison, in discussing this case, says that the efficacy of the operation is no longer in doubt.

Branan of Baltimore also confirms the presence of adhesions in cases of ascites secondary to cirrhosis of the liver, more especially between the omentum and parietal peritoneum. This observer records a case of a woman operated upon with success. There were 6½ gallons of slightly blood-stained fluid withdrawn from the abdomen. In this patient the liver was atrophied to about half its normal size; there was oedema of her ankles, and the skin was a muddy-yellowish colour. The omentum, which was already adherent to the parietal peritoneum, was very vascular. It was sutured to the muscles of the abdominal wall on both sides of the main incision. A gauze drain was left in for two days, at the end of which period the oedema of the feet had disappeared. The temperature ran an irregular course for over three weeks, although there was no sign of infection. (The temperature in my case, though normal until the wound had healed, at intervals during the next few months ran an irregular course, though no cause could be discovered, and the patient felt nothing which would account for it.) The patient some months afterwards developed a pleural effusion without ascites, which Branan thinks a point in favour of the efficacy of the operation. He considers it a mistake to irritate or curette the surface of the liver, but holds, with other authorities, that it is useless to operate on patients suffering from advanced atrophy of the liver. Yet in his own patient the liver was only half its normal size, with oedema of the extremities and jaundice. According to most authorities, the operation would not succeed in many such cases.

Sinclair White records two cases successfully treated by the Talma operation. The first, a lady, aged 38, who had given way to drinking habits, developed oedema of her legs and feet, followed a few weeks later by ascites. Three months afterwards paracentesis was performed, and 16½ pints of fluid were withdrawn from the abdomen. In three weeks she again required tapping, and 19½ pints were removed. One month later the Talma operation was perform Fo a few weeks a small collection of fluid was noticeable in the abdomen, but at the end of six weeks it had disappeared, and there was no recurrence. A drainage tube was employed in this case and removed on the sixth day. The weight of the patient increased from 7 st. to 11 st.

In the second case the patient, after a more prolonged illness, recovered completely. The drainage tube was allowed to remain in for four weeks. Shortly after its removal it was deemed advisable to reopen the tube track, and about a quart of thin inodorous pus allowed to escape.

Koslowski discussed epiplopexy and its results. From an investigation of 168 cases he finds the percentage of good results to be about 46. He says that though the operation removes the ascites its effect on the liver is not known. M. L. Harris speaks unfavourably of the operation except in the early cases, saying that the ascites should even be anticipated by the operation if possible. All the cases reported by him were in the advanced stage of alcoholic cirrhosis. As most authorities are agreed that to get good results the operation should be done early, if possible in the hypertrophic stage, the large mortality which Harris seems to have experienced does not condemn the operation when adopted in favourable cases. Keen and Fisher report a case on whom epiplopexy was performed two years previously. The abdomen required tapping at intervals for six months after the operation, but from that time the ascites had entirely disappeared. The patient gained in weight, but suffered from pain over the splenic region of a persistent character. Greenough has collected and summarized 105 cases in which Talma's operation was performed; 42 per cent. were improved by the operation. Arcoleo and Neilson also contribute to the literature on this subject. They report 9 cases, their results corresponding closely to those of other surgeons which have been mentioned previously.

Kocher confirms the observations of Morison and Drummond when he says that vessels as large as the radial artery have been found in the adhesions formed after epiplopexy. He refers to a monograph of Friedmann's, who also has investigated the pathology of three cases.

Sinclair White considers the operation a severe one, and necessarily involving considerable danger to the patient's life; but this is assuming that the condition of the patient is so bad that any operation would be attended with grave anxiety. There is no doubt that the actual operation is easily performed.

Sheen gives the history of a case of alcoholic cirrhosis from which 24, 16, 22, and 15 pints of fluid were withdrawn at intervals of about three weeks before the abdomen was opened and the Talma-Morison operation performed. The liver was enlarged, and could be felt about three finger-breadths below the costal margin. Adhesions between the omentum and abdominal parietes were present, the liver and spleen were vigorously rubbed, and three points of suture employed to fix the omentum to the parietal peritoneum. A glass drain was left in through a small wound made below the umbilicus and removed on the ninth day. Sheen attaches importance to the use of the drainage tube, and suggests that it is beneficial on account of the new vascular channels formed round its track. He strapped the abdomen firmly on the completion of the operation in order to bring the peritoneal surfaces into close contact. Four months after the operation the patient wrote saying he was in capital health. In recording this case, Sheen draws attention to the natural processes, anticipating to a considerable extent the usual operative procedure. He says: "The numerous strong vascular bands of adhesions formed between the omentum and the parietal peritoneum were obvious to all who watched the operation."

I was in a position to demonstrate some time ago the large vessels formed in the adhesions after an epiplopexy in a case which succumbed to pneumonia a few months after the patient had been discharged from hospital. The case was that of a child on whom a laparotomy had been performed below the umbilicus for ascites supposed to be of tuberculous origin in another hospital. This child was brought to Mercer's Hospital with a large amount of fluid in the abdomen but otherwise apparently in good health. There was no history of syphilis and no apparent signs of tuberculosis. As the fluid was increasing in amount I opened the abdomen above the umbilicus. I could find nothing except a greatly enlarged liver of otherwise normal appearance. Although I did not consider this a case likely to benefit much by Talma's operation, it was a matter of no difficulty to unite the

omentum to the abdominal wall by a few points of suture, and I thought this advisable as hepatic congestion was present. The child made a rapid recovery, and was discharged from hospital with a small amount of fluid in the abdomen three weeks after the operation. In about three months he was again admitted to hospital suffering from acute bronchopneumonia, to which he succumbed. Firm adhesions were found at the autopsy to have formed between the liver, omentum, and abdominal wall at the site of the sutures, and in these large blood vessels could be demonstrated. There was evidence in the liver of marked chronic congestion. Death was due to bronchopneumonia and old-standing pericarditis.

After a careful analysis of the recorded cases, it seems to me that a very definite distinction can be drawn between those cases of ascites in which the operation is indicated and those in which no good can be expected. Amongst those which will be decidedly benefited in most cases by the Talma-Morison operation are the following:

1. Ascites in which the liver is not so atrophied that sufficient cells are wanting to carry on the necessary functions.
2. In cases where the ascites has been present for a short time or has only just become manifest.
3. The best cases for operation are those in which the liver is hypertrophic.

Amongst the cases unsuited for this operation are:

1. Advanced atrophy of the liver.
2. Jaundice and other complications, especially renal and cardiac.
3. Where the ascites has existed a long time and the patient is greatly wasted.
4. The operation is contraindicated in cases of ascites not secondary to cirrhosis of the liver.

Many of the bad results following the Talma operation can be traced to the fact that it was performed in cases where in reality it was contraindicated, whereas the large majority of the successful cases were those in which the liver was hypertrophied or normal in size and the patient sought advice immediately on the onset of the ascites.

Before concluding it must be stated that though difference of opinion exists among pathologists as to the causes of the ascites, that it can be cured by operation is no longer in doubt. Morison in a few words sums up the situation when he says: "Other factors besides mechanical obstruction of the portal vein doubtless aid the development or retard the arrest of ascites due to cirrhosis, but my cases prove at least that the establishment of an artificial accessory circulation can cure it." Perhaps these other factors are also counteracted by the operation. Reported cases seem to indicate that they must be if they exist. There are many evidences to prove that the operation does even more than relieve the portal congestion; for instance, the gain in weight and the improvement in the general health of the patient after an epiplopexy suggests that the liver cells themselves are regenerated. Admitting that the ascites can be cured by operation, then if this symptom is caused by degeneration of the liver cells, as some hold, it follows that the operation must produce a beneficial effect on the liver, either indirectly through the relief of the portal congestion, or directly by means of the increased vascular supply to the organ itself. In this connexion Sinclair White, referring to the operation, says: "The additional blood supply to the surface of the liver which it brings about can hardly fail to benefit the nutrition of the hepatic cells, which are known to possess regenerative power of a high order. Indeed, so strongly has this view taken root that the principle has already been extended to the kidney, decortication of which is now practised with apparently remarkable success in chronic Bright's disease."

Finally, I would urge, reasoning from the results of hundreds of cases besides my own, that an operation should be performed after the manner described in all uncomplicated cases of ascites secondary to hepatic cirrhosis. I can find no authority who does not speak in the highest terms of [illegible] the [illegible] operation in these cases. The finding of the [illegible] vessels from the adherent [illegible] abdominal wall illustrates the claim that the operation is not only indicated, but positively called for, and there should be no hesitation in recommending it if the opportunity should arise.

With regard to the [illegible] of a [illegible] tube entered below the umbilicus, all I can say in that it is recommended by [illegible] and others, but I do not employ it in my cases on account of the [illegible] to tap the abdomen once again after operation if the circumstances called for it. Probably when the drainage tube is used the adhesions are produced more rapidly, no collecting fluid being allowed to disturb their formation. Yet great care must be taken not to allow the abdominal cavity to become infected through this additional opening.

Since writing this paper the patient has returned to me, having developed from his hard work a small ventral hernia in the lower part of the wound above the umbilicus. On my advice (on account of the hernia) he has abandoned the heavy manual labour. He is in excellent health, has gained nearly 3 st. since the operation was performed thirteen months ago. The condition of the abdomen is shown in the accompanying photograph.

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A CASE OF LIGATURE OF THE INNOMINATE ARTERY.

By WILLIAM SHEEN, M.S., F.R.C.S.,

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I SHALL only occupy the time of the Section for a few moments with this case, it being my wish simply to place it on record, and briefly indicate the methods which brought about a successful result, hoping thereby to afford material for discussion. Those who take a special interest in cases of ligature of the innominate will find a table and abstracts of previous cases which I have compiled in the *Annals of Surgery* for the current month. As far as I have been able to ascertain, mine is the thirty-seventh case of ligature and the eighth successful case. In seven further cases the artery has been cut down upon but not ligatured. Death resulted in four, if not five, of these seven cases.

The patient, W. T., a man aged 46, a labourer, formerly a soldier, was admitted to the Cardiff Infirmary on February 2nd, 1904. He gave a history of six months' tingling, numbness, and impaired movement of the right limb. He noticed the lump above the right clavicle only six days before admission, and attributes it to a "jar of the hammer" whilst at work. He is receiving compensation for his "accident." On examination, there is a swelling above the right clavicle giving the ordinary signs of aneurysm of the second and third parts of the subclavian. The right radial pulse is only just perceptible. The veins over the right shoulder are dilated. There are "dead" fingers and tingling in the right arm. The general visceral condition is good. There is no evidence of venereal disease.

Scabies and numerous boils necessitated delay of the operation for some weeks, during which time the patient had an ordinary diet and was allowed to get about.

Operation, March 31st, 1904.—Ligature of the innominate. The preparation of the patient's skin was commenced forty-eight hours previously. The anæsthetist was screened off by a sterilized linen cloth stretched over a copper-wire framework. Cotton gloves were worn. The slit in the linen sheet was stitched to the skin immediately adjacent to the site of the incision. The artery was reached through a median incision with separation of the sterno-laryngeal muscles. I stood on the left side near the patient's head. The carotid was reached and followed to the bifurcation. On attempting to clear the commencement of the subclavian with a view to ligaturing it, a slight hissing sound occurred in its situation, which ceased on packing in a piece of gauze.

About half an inch of the innominate was exposed lying obliquely against the right side of the trachea, and by means of a right-angled Macewen's hernia needle a ligature of stout floss silk was carried round the vessel from without inwards. The two ligatures thus provided were tied in Ballance's "slip knot," the first turn of a reef being taken in each in the same direction, and the knot completed by treating the two ends on each side as one in making the second turn. The intention in tightening was to occlude the artery without injuring its coats. Pulsation ceased in the aneurysm and in the temporal artery. The empty flaccid carotid was tied with a surgical knot. The wound was closed without drainage with deep and superficial sutures, and sealed with collodion and gauze. Chattering, restlessness, and mental disturbance occurred for the next two days after the operation. Pulsation returned in the aneurysm on the day following operation, but was never so [illegible] as before, while the aneurysm had a more solid feel. On the eighth day the stitches were removed, on the twelfth day all dressings were left off, and on the fourteenth day the patient got up. Temperature, pulse, and [illegible] were normal throughout. During May certain dyspeptic symptoms were accounted for by the man being found drunk in the hospital grounds.

[illegible] The old wound was reopened, a portion of the [illegible] exposed to the innominate identified, and about half an inch of the vessel exposed on its cardiac side. On passing the point of the

Macewen needle outside and then behind the vessel an alarming gush of blood occurred, filling up the wound; on withdrawing the needle the bleeding ceased. Each further attempt at passing the needle produced a similar result. I thought that the innominate vein or one of its tributaries was wounded, these parts having become adherent to the artery as a result of the former operation. The wound was closed without drainage as before, and healed uneventfully.

Third Operation, June 2nd.—A transverse incision was made above the clavicle directly over the aneurysm. When the aneurysm was reached, the dissection was carried on its inner side to the scalenus anticus, the outer half of which was divided transversely. The muscle and phrenic nerve being retracted inwards and the aneurysm outwards, about three-quarters of an inch of the artery was exposed and tied with two separate ligatures, the first half an inch from, the second close against, the aneurysm. Chinese twist was used, tied in a surgical knot. The wound was closed without drainage and sealed. Pulsation ceased in the aneurysm and in the arteries of the limb. The circulation in the limb, with the ordinary precautions, kept fairly good. The wound was dressed on the ninth day and found healed.

The man was kept under my personal observation until the middle of December, 1904, when he left Cardiff to live in Portsmouth. Pulsation never returned in the aneurysm, the sac gradually subsiding into a flat, slightly tender area of the diameter of half a crown. The pressure symptoms down the arm became much less. The pulse returned feebly in the right radial and temporal arteries. The man has done no work since the operation, and his doctor at Portsmouth, on attempting to find him for me the other day, was informed that he was away on a drinking bout. This accounts for my not being able, as I intended, to show the man here to-day. Time will only permit me to make exceedingly brief comments on the case.

As sepsis, with its appalling complication of secondary haemorrhage, is what is most to be feared, the precautions to procure asepsis should be most minute and thorough; the one or two special ones that I took I have indicated.

Asepsis being secured, cerebral trouble is most to be feared as a cause of death. To lessen this danger I suggest the ligature of the carotid about a fortnight before the innominate. Favourable cases are those in which the general condition of the patient is good, the vessels fairly healthy, and the aneurysm, although it may be large, circumscribed. Unfavourable cases are those in which there is marked debility with visceral disease, the aneurysm being only one feature of a generally-dilated and diseased condition of the arteries.

Ligature of the innominate should only be done when lesser operative measures have failed or are impossible. If the vessel adjacent is healthy it can be ligatured close up against the aneurysm, and this might have sufficed for cure in my case. The central incision undoubtedly affords the best means of approach, and it can be prolonged if necessary so as to permit access to the anterior mediastinum by longitudinal and transverse division of the manubrium.

The ligature material must be certainly sterile, and sufficiently strong to stand the necessary strain. Fatal results have been attributed by operators to the ligature material when they have really been due to septic infection at the site of ligature. Silk appears to be the best material.

The question whether or not the inner coats should be ruptured in tying has been much debated. I think that injury to the inner coats only becomes a dangerous factor when sepsis supervenes. A study of the cases shows that since it has become the fashion to aim at occlusion only return of pulsation has become much more frequent. There is experimental evidence that the inner coats of the healthy innominate may safely be ruptured, and one of the successful cases shows that this may be done even when the vessel is extensively diseased.

With regard to the kind of knot, even the stay-knot is liable to slip, particularly when only two strands are used; I believe that it slipped in my case. The "breakwater" method is the best. Two separate ligatures are used, the first turn in the proximal one being held tight to keep back the blood while the distal one is tied completely; the proximal ligature is then completed. This necessitates a certain length of artery and entrusting part of the work to an assistant. Both these difficulties can, I think, be overcome in the majority of cases. Where separate ligatures are not possible, I think it more than ever advisable to divide the inner coats.

In conclusion, I must ask you to forgive me if the necessity for brevity has made me somewhat dogmatic, and to note that the conclusions which I have arrived at are formed not from my case only, but from as careful a study as I have been able to make of all the recorded cases and of all the experimental work which bears on the subject.

TOTAL ENUCLEATION OF THE PROSTATE FOR RADICAL CURE OF ENLARGEMENT OF THAT ORGAN:

WITH A REVIEW OF 200 CASES OF THE OPERATION.*

By P. J. FREYER, M.A., M.D., M.Ch.,

Surgeon to King Edward VII's Hospital for Officers; and to St. Peter's Hospital.

FOUR years ago, in a lecture delivered at the Medical Graduates' College and Polyclinic, and published in the BRITISH MEDICAL JOURNAL of July 20th, 1901, I first placed before the profession at large my operation of total enucleation of the prostate for radical cure of enlargement of that organ, and described the anatomical and pathological conditions that rendered the operation practicable. Four successful cases of the operation were then detailed. Since then I have periodically published lectures and papers on the subject, dealing with series of cases of the operation, gradually increasing in number as time has gone on; and a record of my work in this direction has been presented at each of the last three annual meetings of this Association. In the paper read by me at the Oxford meeting last year the record was brought down to my 110th case. I have now the honour to present for your consideration a further series of 90 cases operated on by me, of which 19 were in hospital and 77 in private practice. Details of the first 60 cases of this series have already been given in the JOURNAL of May 20th, 1905, so that to-day I shall refer to them merely for statistical purposes. There remain 36 cases, of which I give a tabular statement containing the more important features of each of them; but I wish to bring to your notice in detail a few of the more important cases, illustrating some important features of this operation; and I shall conclude with a brief review of the results obtained in 206 cases of the operation performed by me to date.

CASE CLXXI.

A well-known London surgeon, aged 68, consulted me in 1903, on the advice of the late Dr. T. Gilbart Smith, for prostatic symptoms which had existed three years. No operation was then considered advisable, but he was directed to empty the bladder by catheter once or twice daily if necessary. The symptoms having slowly but gradually increased, I was again consulted on March 1st, 1905. There was much irritability of the bladder, urine being passed every two hours by day and five or six times in the night. Latterly there was some blood at the commencement of micturition. Residual urine, 4 oz., contained some albumen. Prostate decidedly, though not greatly, enlarged per rectum; bilobed, smooth, rather hard, but movable; felt bimanually. Patient extremely averse to entering on so-called "catheter life," preferring operation to the annoyance and danger connected with the habitual use of the catheter.

On March 9th, Dr. Dudley Buxton being anaesthetist and Mr. Percy Jakins assisting, I enucleated the prostate, which weighed 1½ oz. entire in its capsule. On opening the bladder I found that the prostatic outgrowth therein was 1 in. long, deeply grooved along its upper surface, resembling an epispadian penis. The urethra behind the veru montanum was removed with the prostate. The time occupied from commencing the suprapubic incision till the prostate was delivered from the bladder was five minutes. There was scarcely any bleeding or shock.

Recovery was rapid and uneventful. Some urine passed per urethram on March 16th, and entirely in this way after March 28th. On April 6th he left the surgical home perfectly well, passing and retaining his urine, which was normal, as well as he ever did. He is now in perfect health, in active pursuit of his profession, and recently at a medical society spoke in most eulogistic terms of the result of the operation in his own case.

CASE CLXXIII.

Gentleman, aged 62, who had come from Rio de Janeiro for the purpose of having his prostate removed; seen March 14th, 1905. Prostatic symptoms had existed five years. Had retention of urine six months previously in Rio; metal catheter tied in for three days; cystitis followed; laid up in hospital several weeks. Catheter employed since then. Residual urine, 10 oz., contains pus and mucus, fishy in odour. General health good. Prostate much enlarged per rectum; bilobed, smooth, soft, movable, felt bimanually.

On March 17th—Dr. Gould May (London) and Mr. R. McCausland (Dublin) being present—I enucleated the prostate easily and rapidly, entire in its capsule, with a thin band of the sphincter of bladder adherent. The time occupied from commencing the suprapubic incision till the prostate was delivered from the bladder was four minutes. The prostate, which was pear-shaped, presented in the bladder like a hypertrophied cervix uteri; weight 2½ oz. There was considerable bleeding—much more than usual—but no shock. On March 28th he passed some urine per urethram; wound dry April 3rd.

* This paper Mr. Freyer was unavoidably prevented from reading at the Leicester meeting of the Association. It is now published in its original form.

On April 13th he left the surgical home in excellent health, able to pass and retain his urine, which was quite normal—"better than he ever did before," as the patient put it. On June 18th he wrote from Rio de Janeiro: "I can pass water so easily that I often forget that until recently it was very much the reverse, and my dreadful sufferings are now but a faint recollection."

CASE CLXXIV.

Eminent scientist, aged 82, seen in consultation with Mr. G. H. Makins and Dr. E. A. Roberts (London), March 25th, 1905. He had suffered for fifteen years from prostatic symptoms, the most pronounced of which was gradually-increasing frequency of micturition. A catheter had been passed on March 23rd and 1½ pints of urine drawn off. Next day the temperature rose to 101° F., and there was much difficulty in passing the catheter. I introduced a coudée No. 8 with some difficulty, and drew off 15 oz. of thick urine containing pus and mucus; specific gravity low. The prostate per rectum was much enlarged, broadly bilobed, smooth, soft, movable; felt bimanually. Patient thin but wiry; high-tension pulse. Bowels moved when he strained to pass urine. Obtained scarcely any sleep from constant desire to pass water. The case was regarded as one very suitable for removal of the prostate; but, as the patient was suffering from acute septic absorption from the bladder, we considered that it would be advisable to postpone operation if possible till this condition should have passed off. But the difficulty and pain attending the introduction of the catheter decided us on fixing the operation for March 28th. On March 26th, however, the temperature rose to 102° F., and this was accompanied by nausea, vomiting, loss of appetite, drowsiness, and scanty secretion of urine; there was, in short, partial suppression of urine. Under these circumstances we decided to postpone operation for the time, lest the shock attending it might cause complete suppression of urine. The patient was extremely disappointed at the postponement, became much depressed, and his strength began rapidly to fail. We consequently decided that the proper course was to risk operation, the extreme gravity of the situation being fully placed before his relatives.

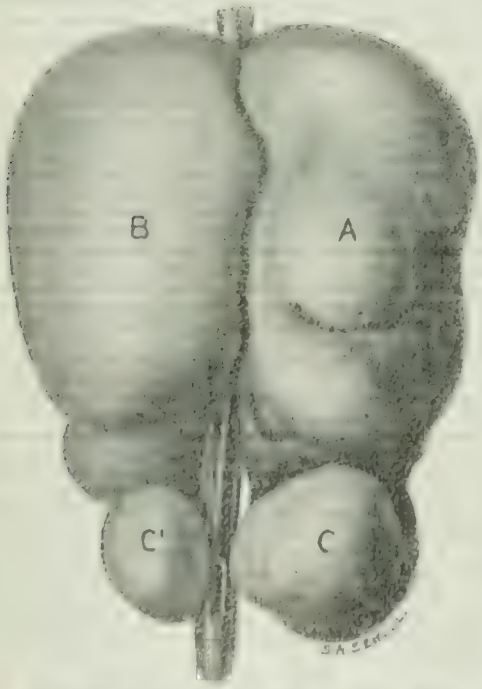


Fig. 1.—Prostate weighing 2¾ oz., removed from a patient aged 82; A, right lobe; B, left lobe; C, C', pedunculated outgrowths in bladder.

On March 29th, in consultation with Mr. Makins and Dr. Roberts Dr. Hewitt being the anaesthetist, I removed the prostate, both lobes of which were very prominent in the bladder. The enucleation was easily accomplished, the time occupied from commencing the suprapubic incision till the prostate was delivered from the bladder being six minutes. There was scarcely any bleeding and no apparent shock. But there was much nausea and vomiting for some days, and on March 31st the patient brought up some altered blood from the stomach; next day there was blood and mucus in the stool after a dose of castor oil. At this period we had the advice of Sir Thomas Barlow in consultation. These symptoms were regarded as uraemic in origin. After the bowels were opened there was a profuse discharge of urine in the dressings, so that the functions of the kidneys were re-established. From this period onwards the patient made sure though slow progress towards recovery. Though the wound kept perfectly clean throughout, the temperature did not sink to normal for a fortnight, till, in fact, the septic poison that was absorbed before operation had been eliminated from the system.

On April 22nd, on inserting the nozzle of the irrigator in the suprapubic wound and filling the bladder, the lotion was passed per urethram in a continuous stream. On April 26th 8 oz. of urine were passed naturally. The wound was dry on May 1st and 2nd, and all urine was passed naturally; but it reopened on May 3rd. On May 7th a rubber catheter was tied in, and kept there till May 14th, all urine being passed by this means.

The catheter was removed on May 14th, when the suprapubic wound was thoroughly healed, and all the urine subsequently was passed naturally. The patient is now in excellent health, able to pass and retain his urine as well as ever he did.

The prostate (Fig. 1), which weighs 2¾ oz., is symmetrically enlarged, each of the lateral lobes presenting a pedunculated outgrowth in the bladder the size of a cherry.

CASE CLXXX.

Gentleman, aged 66, seen in consultation with Dr. J. J. Macgregor, of London, April 11th, 1905. Has had difficulty in micturition twelve years. Ten years ago catheter passed, followed by rigors. Since then has employed catheter regularly; entirely dependent thereon for eight years. Has had orchitis twice, cystitis repeatedly, and haematuria occasionally. Patient's condition very distressing; great loss of flesh and appetite during last two months; extreme dryness of mouth and throat; urine turbid, specific gravity 1010, contains pus and albumen; prostate enormously enlarged, bilobed, smooth, soft, rather dense, but movable; easily felt bimanually.

On April 21st, Dr. Silk being the anaesthetist and Dr. Macgregor assisting, I removed the prostate entire. On opening the bladder the prostate was found projecting into it like an enormously hypertrophied

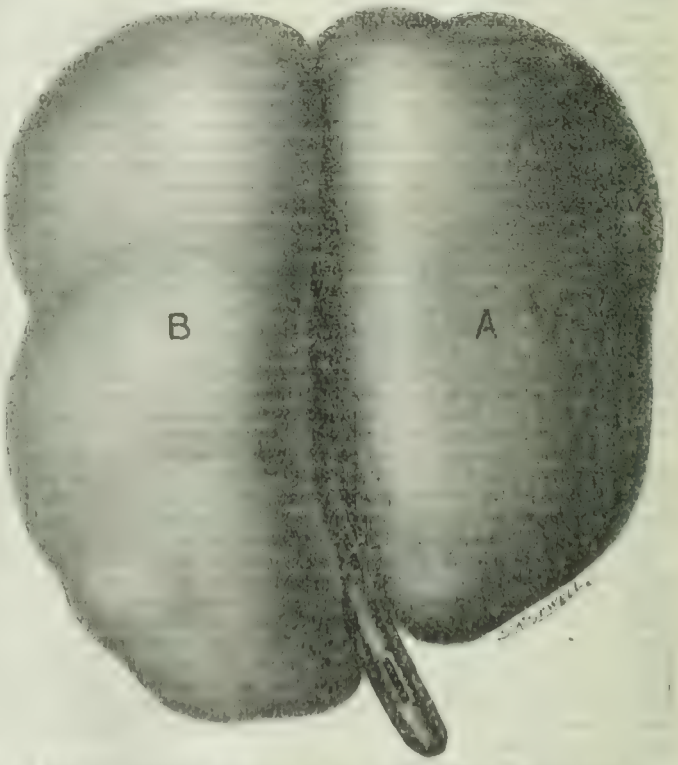


Fig. 2.—Prostate, weighing 8⅝ oz., removed from patient aged 60. A, B, right and left lobes respectively. The transverse constriction is the boundary between the intravesical and extravesical portions.

cervix uteri, the left lobe being more prominent than the right. The inner orifice of the urethra was distorted into an irregular deep slit between the lobes. The enucleation was easily accomplished, but much difficulty was experienced in delivering the prostate from the bladder. Eventually it was grasped by one lobe and withdrawn like an open oyster. There was considerable bleeding, and the time occupied was eight minutes, five of which were spent in delivering the prostate from the bladder. Some urine was passed per urethram April 22nd, but the suprapubic wound was slow in closing. It was thoroughly healed by June 7th, after which all urine was passed naturally.

The patient left for home on June 21st in excellent health, passing and retaining his urine, which was quite clear, as well as he ever did. The prostate (Fig. 2), which weighs 8⅝ oz., is a fine specimen of almost symmetrical enlargement of both lobes. The enormous size of the gland, considering the age

of the patient, is very remarkable. It is obvious that the enlargement had considerably advanced before the age of 50.

CASE CLXXXV.

Gentleman, aged 57, seen with Mr. E. D. Madge, London, May 5th, 1905. Prostatic symptoms for seven years: complete retention of urine in August, 1904, relieved by catheter, which had to be employed for some weeks, during which patient was laid up in bed with cystitis. Since this several attacks of pyrexia from urinary sepsis. Much blood in urine a fortnight ago. I introduced a catheter and drew off 8 oz. residual urine, acid, specific gravity 1012, containing pus. Prostate much enlarged, bilobed, smooth, soft, movable, easily felt bimanually. General health fair.

On May 15th, Mr. Thomson Walker assisting, and Mr. Madge being present in consultation, I enucleated the prostate, weighing 2 oz., entire in its capsule, the time occupied being 3½ minutes; scarcely any bleeding or shock. During the first fortnight there was not an unfavourable symptom; in fact, healing was more rapid than usual, urine being passed freely per urethram May 26th, and the suprapubic wound being dry next day. On May 29th, whilst straining at stool, some blood was passed in the urine, and this continued off and on for some days. The tying in of a soft catheter temporarily relieved the bleeding; but on June 3rd large clots blocked the catheter, and there was much painful spasm and straining in spite of repeated washing out of the clots. I therefore reopened the suprapubic wound, which was firmly healed, under an anaesthetic, and inserted a large-sized drainage tube. After this bleeding entirely ceased. The tube was removed after a week. On June 14th the suprapubic wound was quite healed, and all the urine passed naturally.

On June 24th patient left the surgical home, passing and retaining his urine as well as he ever did, and he is now in excellent health.

The secondary haemorrhage was due to the too rapid closing of the suprapubic wound, and straining to get rid of a hard faecal mass, which caused rupture of a vessel in the prostatic cavity. Haemorrhage at this stage has occurred in three or four cases, and has been dealt with in the same manner—namely, first, by tying in a soft catheter in the urethra, which, by allowing a free flow of urine, relieves the spasm that is liable to occur when the suprapubic wound closes before the prostatic wound has sufficiently healed to permit of the bladder functioning normally; and, secondly, should this fail, the suprapubic wound should be reopened, and a large drainage tube inserted for a few days.

CASE CLXXXVI.

Gentleman, aged 81, consulted me May 15th, 1905, on the advice of Dr. D. Leighton Davies (Wisbech). Four years previously had retention of urine, which was relieved by the catheter. Cystitis supervened, necessitating the bladder being washed out twice daily for a month. Catheter employed since then. In December, 1904, had a severe rigor, followed by fever and great pain. An abscess formed in the corpus spongiosum, which was opened, a penile fistula remaining. All urine passed by catheter since then. The prostate was felt only slightly enlarged per rectum; it was very dense, but smooth and movable.

On May 18th—Dr. Davies assisting—I removed the prostate easily and rapidly, the time occupied being only 2½ minutes. Both lobes were slightly prominent in the bladder. The prostate, which only weighs ½ oz.—the smallest I have removed—is a pretty specimen, entire in its capsule, the portion of urethra behind the veru montanum being adherent thereto. There was very little bleeding or shock. Some urine passed naturally June 2nd, and the suprapubic wound was permanently closed by June 16th.

On June 26th the patient left for the seaside in good health, able to pass and retain his urine normally.

CASE CLXXXVII.

On August 3rd, 1904, I was summoned to Colchester to see, in consultation with Dr. E. G. Renny, a gentleman, aged 86, who had been suffering from prostatic symptoms for five years. The catheter had been used off and on for six months. I drew off 10 oz. residual urine, turbid but acid. The prostate was much enlarged per rectum, bilobed, smooth, movable, and bimanually was felt the size and shape of a medium-sized pear, with the apex in the bladder. Patient's general health was good, and the case was regarded as a very suitable one for operation; but as he was not inclined for this, I advised the catheter being employed three or four times daily. I was again consulted on May 15th, 1905. All the urine had been passed by catheter since August, 1904. Patient was now in great distress, having to pass the catheter every half to one hour night and day, with resulting loss of sleep. He had lost ground decidedly during the last six months; his general health was broken; heart irregular and intermittent; both the lower limbs oedematous. Had recently suffered from phlebitis of left thigh. Urine acid, specific gravity 1,012, contained pus and albumen. The case was therefore a very grave one; but, as the patient had come to the end of his tether as far as the catheter went, I determined to operate.

Consequently, on May 22nd, Mr. C. Braine being the anaesthetist, Dr. Renny assisting, and Colonel J. Moorhead, I.M.S., being present, I enucleated the prostate entire, easily and rapidly, the time being five minutes. On commencing the suprapubic incision, the pulse and breathing ceased, and artificial respiration had to be adopted: but I proceeded with the operation, and the enucleation of the prostate seemed to stimulate breathing. There was scarcely any bleeding, and after the operation the pulse was stronger and more regular than before. The prostate was pear-shaped, symmetrically enlarged, one-half of it lying in the bladder, and weighed 3½ oz. No unfavourable symptom supervened till May 30th, when the temperature rose to 102° F., due to an attack of bronchitis, which, however, gradually subsided in a fortnight. The wound was perfectly clean and healthy throughout, but the fistula was very slow in closing, owing to the feeble health of the patient. Began to pass urine per urethram June 30th; wound closed July 9th, and the whole of the urine passed naturally.

Though this patient is still feeble, so far as his general health is concerned, he is making steady progress towards complete recovery.

CASE CXCIII.

This gentleman, aged 67, who had come from California on the advice of Dr. Tom Davis, Los Angeles, for the purpose of having his prostate removed, consulted me on May 31st, 1905. Prostatic symptoms had existed fifteen years. Retention of urine 6 years ago, since when he has employed the catheter; entirely dependent thereon four years. Has had repeated attacks of cystitis, and latterly difficulty in introducing the catheter. The prostate was much enlarged per rectum, bilobed, smooth, soft, movable; easily felt bimanually, being very prominent in the bladder. General health fair; thin but wiry.

On June 5th, in the presence of Professor J. Kaarsberg and Drs. A. Helsted and A. F. Just, of Copenhagen, I removed the prostate entire in its capsule, rapidly and easily, the time from commencing the suprapubic incision till the prostate was delivered from the bladder being three minutes. There was practically no bleeding and no shock.

The recovery was uneventful, some urine being passed naturally on June 16th, and entirely in this way after June 22nd. By June 29th he was walking about, passing and retaining urine, which was quite clear, as well as he ever did. He is now in excellent health.

The prostate (Fig. 3), which weighs 3¼ oz., is an interesting

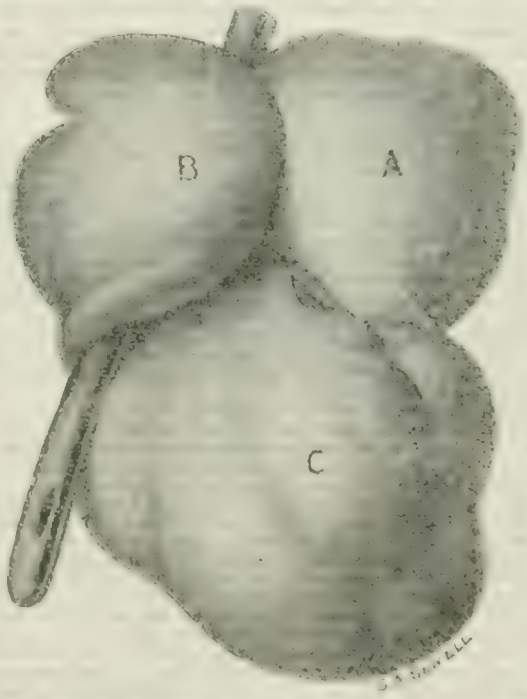


Fig. 3.—Prostate weighing 3¼ oz., removed from patient aged 67. B, left lobe; A, right lobe, terminating in bladder in the outgrowth C, so-called "middle" lobe.

specimen, displaying a large so-called "middle" lobe (C) the size of a Tangerine orange, growing mainly from the right lobe. This portion, which lay entirely in the bladder, was merely covered by mucous membrane.

CASE CXCIV.

Gentleman, aged 87, seen in consultation with Dr. H. Roger Smith, Hampstead, May 31st, 1905. Bladder symptoms for seven years. Stone crushed by another surgeon five years ago. Since then has had to use the catheter, at first once daily, gradually increasing in frequency till he now passes it six times daily. Passes a little urine naturally, accompanied by much pain and spasm. Urine alkaline, fetid, contains much pus and mucus. Has passed blood frequently. Patient's condition most distressing; feels, as he says, that he can no longer go on with the catheter. Prostate much enlarged per rectum, bilobed, soft, smooth, movable, felt bimanually. General health fair, but troubled

with bronchial catarrh. Suffering from double inguinal hernia and double hydrocele.

On June 6th, Mr. C. Braine being anæsthetist, Mr. Thomson Walker and Dr. Roger Smith assisting, I enucleated the prostate entire in its capsule easily and rapidly. There was a small phosphatic stone, weighing 23 gr., found in the bladder. Time occupied, including removal of calculus, five minutes. The prostate was the size of a large Tangerine orange, almost symmetrical, and weighed 2 oz. There was scarcely any bleeding, and no shock. The recovery was unaccompanied by any unfavourable symptoms, the temperature remaining practically normal throughout. In fact, the patient scarcely felt the operation in any way. He passed urine naturally June 20th, and the wound was dry July 1st.

After July 3rd he was sitting up and walking about his room. He is now quite well, able to pass and retain urine as well as he ever did. The urine is normal. The ease with which the operation was borne and the rapidity of convalescence are extremely remarkable at this great age.

CASE CXCV.

This gentleman, aged 74, who is a resident of New Jersey, was sent for operation by Dr. Thos. P. Fitch (East Orange, U.S.A.), and seen with Dr. James Moorhead (London), June 3rd, 1905. Prostatic symptoms for seven years; entirely dependent on the catheter six years. Catheter used every three hours, with much pain and occasionally bleeding. Urine alkaline, fetid, containing much pus and mucus; suffering from double inguinal hernia and hydrocele; prostate not felt per rectum, but easily felt bimanually, very prominent in the bladder and very movable; general health fair.

On June 13th—Dr. Moorhead assisting, Dr. George Luys (Paris) and Colonel P. A. Weir, I.M.S., being present—I opened the bladder suprapubically, and found four uric calculi, weighing 316 gr., which were removed. The prostate was entirely intravesical, gutter-shaped, and terminating in the form of four rounded polypi. It was easily and rapidly enucleated entire in its capsule, the whole being merely covered by mucous membrane. Time occupied, including removal of the calculi, five minutes. The prostate weighs 2½ oz.

The recovery was uninterrupted by any unfavourable symptom. Some urine passed per urethram June 20th; wound dry June 30th. Left the surgical home July 10th, in excellent health, passing and retaining his urine, which was quite clear, as well as he ever did.

CASE CXCIX.

Gentleman, aged 63, seen in consultation with Dr. D. W. Patterson (Newcastle-on-Tyne), March 1st, 1904. Prostatic symptoms for ten years. Residual urine, 4½ oz.: prostate much enlarged per rectum, particularly the right lobe, soft, smooth, movable, and felt bimanually. The case was considered a most favourable one for removal of the prostate, which was advised. Other counsels, however, prevailed. Acute retention set in in July, followed by severe cystitis. Perineal prostatectomy was performed by another surgeon in September, 1904. Patient apparently did well till the perineal wound healed, when there was great difficulty in micturition from stricture, which, however, yielded to dilatation. Since that time, however, he had not been able to empty his bladder, the residual urine varying from 4 to 14 oz. Bladder emptied by catheter and washed out daily for months, as the urine contained much muco-pus.

I saw the patient again with Dr. Patterson, June 26th, 1905. I drew off 10 oz. residual urine, containing much pus and mucus. I could find no trace of the prostate per rectum, but on bimanual examination I felt a lump the size of a walnut in the median line at the neck of the bladder, which was regarded as a portion of the prostate left behind.

On June 29th, Mr. C. Braine being anæsthetist, I opened the bladder suprapubically. The inner orifice of the urethra was found stenosed and surrounded by a beaded prostatic collar, from the base of which a teat-like process projected into the bladder. This collar was forcibly burst open by the finger, and the remaining prostatic substance scraped off the sheath by the finger-nail. This was a slow procedure, as, though the collar presenting in the bladder was easily detached from the mucous membrane, the anterior portions of the prostatic tissue were stoutly adherent to the sheath from cicatricial union, the result of the perineal prostatectomy. The remaining portion of the prostate came away piecemeal, and weighed ¾ oz. After its removal the sheath felt quite smooth, and the neck of the bladder gaped widely open. There was much more bleeding than in an ordinary case of enucleation of the prostate entire.

Recovery, though rather slow, has been uninterrupted. Some urine was passed per urethram on July 15th, and wholly in this way on July 24th. He can now pass his urine naturally as well as he ever did, and can retain it three or four hours. There is no residual urine.

GENERAL OBSERVATIONS.

Amongst this series of 36 operations there was one death, which occurred in a hospital patient (Case CLXXXVIII) aged 57, who had been for nine years entirely dependent on the catheter, and had frequent attacks of cystitis. On May 24th, 1905, I enucleated the prostate, which weighed 3½ oz., entire, easily and rapidly, the time occupied being three and a half minutes. There was more bleeding than usual, and the operation was followed by severe shock. Two hours after operation the patient passed into a state of profound collapse, from which all efforts failed to revive him, death supervening in seven hours. No autopsy was obtained, but no doubt the kidneys were extensively diseased. The patient was of an extremely nervous temperament, and dreaded operation, which he had postponed on several occasions during the previous year, till driven to it by his sufferings.

I have now performed this operation on 206 patients, varying in age from 53 to 87 years, the average being 68 years. The prostates removed varied in weight from ½ oz. to 14½ oz., with an average weight of a little less than 3 oz. The great majority of the patients were entirely dependent on the catheter for periods varying up to 24 years, and very few were free from serious complications. I have in previous papers emphasized the fact, as the detailed records of the cases show, that most of them were in broken health and many moribund, the operation being submitted to as a last resort. The vast majority of them were, indeed, in such a wretched condition that life was simply unendurable. These facts have to be borne in mind when considering the mortality attendant on this operation.

Tabular Statement giving Particulars of a Recent Series of 36 Cases of Total Enucleation of the Prostate.

Serial No.	Date of Operation.	Age of Patient.	Medical Man with whom Seen, or by whom Sent.	Weight of Prostate.	Result of Operation.
	1905	Yr		Oz.	
171	March 9	68	The late Dr. T. Gilbert Smith, London	1	Successful.
172	,, 13	66	Dr. J. Dudley Price, Dudley	1½	,,
173	,, 17	62	—	2	,,
174	,, 29	82	Sir Thomas Barlow, Mr. G. H. Makins, Dr. E. A. Roberts, London	2½	,,
175	,, 30	71	Dr. E. L. Adeney, Tunbridge Wells	½	,,
176	April 5	56	Hospital case	1	,,
177	,, 11	64	Dr. C. Dudley Burney, New Cross	2	,,
178	,, 19	70	Hospital case; Dr. R. Julyan George, Port Isaac	4½	,,
179	,, 20	66	Dr. H. E. Friend, London	1	,,
180	,, 21	60	Dr. Macgregor, Colchester	8½	,,
181	,, 24	64	Mr. W. P. Cowper, London	2	,,
182	,, 27	60	Dr. J. F. Wolfe, Heavitree	1	,,
183	May 5	50	Sir Henry Blanc, Cannes; Dr. Powlett Wells, London	1½	,,
184	,, 4	74	Dr. H. Fraser, Slough	4½	,,
185	,, 15	57	Mr. E. D. Madge, London	2	,,
186	,, 18	81	Dr. D. Leighton Davies, Wisbech	1	,,
187	,, 22	86	Dr. E. G. Kenny, Colchester	2	,,
188	,, 24	57	Hospital case	1	Death.
189	,, 25	64	Mr. H. Huxley, London	2	Successful.
190	,, 30	71	Mr. E. F. White, Putney	1½	,,
191	,, 31		Hospital case	1½	,,
192	June 1	65	Dr. F. Falconer, Lytham	2½	,,
193	,, 5	67	Dr. Tom Davis, Los Angeles, California	3½	,,
194	,, 6	87	Dr. H. Roger Smith, Hampstead	2	,,
195	,, 13	74	Dr. Thomas P. Fitch, East Orange, New Jersey, U.S.A.; Colonel J. Moorhead, I.M.S., London	2½	,,
196	,, 14	67	Dr. H. H. Phillips, Penge	3½	,,
197	,, 19	72	Dr. E. A. Bell, New Brighton	3½	,,
198	,, 28	63	Dr. P. W. Cockle, Ealing	1	,,
199	,, 30	63	Dr. D. Wells Patterson, Newcastle-on-Tyne	8	,,
200	July 1	66	Dr. E. G. Hower, Stratford-on-Avon	1½	,,
201	,, 3	62	Dr. D. Gentle, Edinburgh	1½	*Under treatment.
202	,, 12	68	Dr. A. J. Campbell, Ross, Hereford	1½	,,
203	,, 12	75	Hospital case	1½	,,
204	,, 15	54		1½	,,
205	,, 16	70	Hospital case	2	,,
206	,, 21	69	Drs. J. D. Davis and F. J. Wadham, Ryde, I.W.	3½	,,

*The 6 cases marked "under treatment" have all been successful.

Excluding 3 undoubted cases of cancer of the prostate (of which 1 died and 2 made good recoveries), there remain 203 operations, in connexion with which there were 16 deaths, about one-half of which were due to contingencies of old age apart from the operation. But, accepting them all in connexion therewith, there is a mortality of less than 8 per cent. Amongst my first 100 cases there were 10 deaths, or a mortality of 10 per cent.; amongst the last 103 cases there were 6 deaths, or less than 6 per cent.; and amongst the present series of 36 cases, details of which I have just given, there was only 1 death, or a mortality of less than 3 per cent., so that the results have markedly improved as time has gone on. In a previous paper I ventured to forecast that: "As the operation became more widely known and more popular patients will no doubt seek relief therefrom at an earlier period of the disease, whilst their constitutions are sound and, above all,

the kidneys unimpaired, with a much greater prospect of success. Increased experience and dexterity in operating, improvement in the details of the after-treatment, and a greater perfection in the nursing are all factors that will undoubtedly tend to reduce still further the death-rate." It will be observed that my hopes in this respect have been fully realized.

Amongst these 206 cases there were 14 octogenarians, varying in age up to 87 years, in all of which the operation was completely successful. One of the most remarkable features, indeed, of the operation is the manner in which it is borne by persons of this advanced age.

REVIEWS.

HYGIENE IN ELEMENTARY SCHOOLS.

One of the results of the public interest aroused during the last few years in the question of physical degeneration has been the awakening of the central educational authority to a sense that it has responsibilities with regard to the teaching of hygiene in elementary schools. Whether the Board of Education as yet appreciates the extent of its responsibilities may be doubted, but it is a distinct step in advance to have the subject specifically mentioned in the *Code of Regulations for Public Elementary Schools for 1905*, though it is assigned a subsidiary place. Article 2, laying down the curriculum for scholars other than infants, contains the following paragraph (9):

> "*Physical Exercises*, including exercises in proper breathing. As a rule, the official syllabus of physical training should be followed. Physical training should be accompanied by instruction in the elementary rules of personal health in respect of food, drink, cleanliness, and fresh air; and by careful cultivation of a correct posture at writing and other lessons."

It may seem to some an inversion of the natural order to make instruction in the elementary rules of personal health in respect of food, drink, cleanliness, and fresh air, a kind of appendage to physical training, but we are too glad to have the subject recognized officially to quarrel with the manner of its recognition. The code is of universal application, though it may be modified "when the Board is satisfied that the needs of the scholars or the circumstances of the school require it." It is difficult to imagine needs or circumstances which would render physical training unnecessary, and from this point of view it may even be a matter for satisfaction that hygiene is to be linked with physical training, since it ought to ensure that wherever the latter is given it will be accompanied by the former.

It follows, then, that in future all elementary school teachers will be expected to make themselves competent to give instruction in "the elementary rules of personal health in respect of food, drink, cleanliness, and fresh air." This will render necessary some modification of the ordinary curriculum of the training colleges, a point rather laboured by the President of the Board of Education in his reply to the medical deputation last year. But the Board has really gone beyond this, for in the *Suggestions for the Consideration of Teachers*,[1] issued a few months ago, we find a very excellent chapter on the school and the health of the scholars. It shows very clearly that the Board expects teachers to do something more than give theoretical lessons in elementary hygiene; it expects that they will be guided in the conduct of their classes and the management of their class rooms by a practical knowledge of the principles of healthy living. Teachers are told that it is their duty to have constant regard to the ventilation, lighting, and heating of the schoolroom, to the shape and position of the desks, and to the posture of the children as they sit at them; that they must learn the nature of the symptoms which should at least arouse a suspicion of infectious disease; and that they should insist on the personal cleanliness of the scholars.

If the policy embodied in the *Suggestions* is to be carried out, teachers must be thoroughly grounded in elementary hygiene. The information imparted to them need not be extensive, but it should be correct. There is reason to fear that in too many instances this is not the case. The lecturers employed to give special courses are often persons who have themselves had no thorough grounding, and their teaching is therefore amateurish, wanting in method and even in accuracy. One of them was heard not long ago to inform the class that in the evening, after a day's labour, the cerebro-spinal fluid became milky! Suitable textbooks have hitherto been wanting. There has been nothing between [illegible] books of physiology or textbooks of hygiene intended for the use of candidates for the examinations in those subjects of the Science and Art Department and little primers or pamphlets written down to the intelligence of young children, or *Readers* not usually very judiciously compiled. This want is met by the *Textbook of Hygiene for School Teachers*,[2] which Mrs. Watt Smyth has published this week.

We have often been led to think that the faults to be observed in the methods and the matter of lectures on elementary hygiene were due to the speakers not possessing any accurate knowledge of elementary physiology. Mrs. Watt Smyth is undoubtedly right when she says in the introduction to her volume that: "Physiology is the science of the action of the body in health, hygiene the practical application of this science; it is obviously impossible to understand the laws of hygiene without a knowledge of the fundamental principles of physiology." She has written from this standpoint, and throughout the book her aim has been to give first a brief account of the physiology of the subject discussed, to point out special characters of the physiological processes in the child, and then to inculcate the hygienic principles and practices which rest upon these foundations. Presented in this logical order the teaching of hygiene becomes simple and easily grasped, since the reason for every rule and recommendation has been fully explained.

As an example of the method the section on respiration and air may be taken. The nose, larynx, trachea and lungs are first briefly described; then the mechanism of respiration is explained and the nature and amount of the respiratory exchanges are stated; next the constitution of the air, its humidity, and the common impurities are enumerated, and this leads on naturally to the discussion of ventilation and heating, and of the ill-health, the wandering of the attention, and the debility traceable to prolonged hours spent in ill-ventilated class-rooms. The circulation, the digestive system, and the nervous system are dealt with on the same principle; their physiology is briefly but adequately described, and the causes which may derange their action explained, so that when the means which should be taken to maintain health are finally stated they must appear obvious to any person of average intelligence. In the section on the special senses a good deal of space is given to vision, and the exceptional importance of the subject fully justifies the somewhat fuller treatment. The anatomy of the eye, and the action of its parts in accommodation are well described, and refraction, its errors, and the school conditions which tend to produce or aggravate them, are fully explained.

The subject which has been treated in the most original way is the muscular system. Mrs. Watt Smyth has based her description on the *Syllabus of Physical Exercises* issued last year.

The muscles are described not by enumerating their anatomical relations to each other in the kind of meaningless Chinese puzzle which used to be presented to medical students in their first year—a method not yet, we fear, altogether obsolete. How many enthusiastic young men will not have their ardour damped during this session by the cart-before-the-horse way in which the anatomy of the muscles is taught? This muscle arises by a flat tendon from the rough surface on such and such a part of such and such a bone, the tendinous bundles extend rather further downwards on the posterior than on the anterior surface; the belly of the muscle has a somewhat flattened form, but tapers towards the end, and terminates in a rounded tendon inserted into the *x* tuberosity of the *y* bone. On its outer side it is in relation with muscle *a*, on the inner with muscle *b*, posteriorly it rests upon muscle *c*, and anteriorly it is crossed by the lower part of the belly of muscle *d*. Quite incidentally, perhaps in some other part of the book its action is given, often incorrectly. This is, we submit, not only a dry, uninteresting way of teaching anatomy; it is the converse of the right way. It might not be scientific to say, This muscle exists to produce, or to assist other muscles to produce,

[1] *Suggestions for the Consideration of Teachers and Others Concerned in the Work of Public Elementary Schools.* London: Wyman; Edinburgh: Oliver and Boyd; Dublin: Ponsonby. 1905. Price 8d. (Cd. 2,738.)

[2] *Textbook of the Principles of Hygiene, Intended for the use of School Teachers*, by Mrs. Watt Smyth. Illustrated by Sixteen Special Plates and Numerous Diagrams in the text. London: Simpkin Marshall and Co. Demy 8vo, pp. 272. 6s.

such and such a movement, and consequently it occupies a certain position, is attached to certain parts of certain bones, and is placed in relation with certain other muscles, but it would be much nearer the truth, would be a much closer approach to a scientific method. At any rate, this is the plan which Mrs. Watt Smyth has followed, and her success in dealing with an admittedly difficult subject may be worthy of the consideration even of the pundits of anatomical science. This description of the muscular system has necessitated a fairly full account of the skeleton, and it might have been more consistent to have placed this in immediate relation with the section on the muscles, which is properly made to follow the sections on the nervous system. The description of the bones is illustrated by very excellent plates made from photographs of specimens in the Museum of the Royal College of Surgeons. The section on the circulation contains two striking plates from photographs of a normal heart in the same collection. The concluding sections of the book deal with the child and the diseases of school life, and with personal and domestic hygiene; they are illustrated by a plate showing good and bad attitudes, after photographs taken by the late Professor Marey in the International Institute in Paris, which now forms his most fitting memorial. In the section on the skeleton, the growth of bone and the significance of the epiphysial cartilage are explained in simple language, and the large extent to which the skeleton in early life is made up of cartilage is indicated not only in words, but by plates of preparations at the College of Surgeons.

The book meets a distinct want, and meets it well, in the right spirit, and with sufficient but not excessive fullness. It has evidently been very carefully prepared and revised; we have noticed only one misprint—"cuniform" for "cuneiform"—but this is corrected in the index.

DISEASES OF CHILDREN.

THE subject of congenital pyloric stenosis is one which has called forth an immense amount of writing during the last few years. Dr. JUSSUF IBRAHIM'S account of it[3] is the most interesting we have seen, and deals with all sides of the subject. He begins with an account of the growth of knowledge regarding the condition, and then describes its well-known symptoms. These, except just at first, he regards as quite unequivocal. As to the nature of the stenosis, three views have been propounded: (1) Pfaundler's (no real stenosis or hypertrophy—only physiological spasm of normally-developed muscle). (2) Thomson's (no real stenosis, but real hypertrophy—with spasm—secondary to overwork, probably due to nervous inco-ordination). (3) Hirschsprung's (real stenosis and real hypertrophy of a primary nature, and not secondary to overwork). Dr. Ibrahim is inclined to agree with Hirschsprung. His personal experience of treatment includes undoubted cases which recovered under medical treatment, as well as two which were operated on by gastro-enterostomy (unsuccessfully). While he does not go so far as Professor Heubner, who regards all operation as unjustifiable, he agrees with most recent authorities that a great deal more can be done for these cases by medical measures than used to be thought. The first aim of the medical treatment is to soothe the vomiting by means of very small meals, lavage, and poultices, and so to induce the infant to allow through its pylorus sufficient food to keep it barely alive. If this can be managed for any length of time, there is a strong probability of compensation taking place—that is to say, the stomach wall strengthens and the pylorus increasingly dilates, so that ultimately enough gets through to thoroughly nourish the child. No medicines are to be used except antacids, such as lime-water and Carlsbad salts. If the medical treatment does not soon lead to improvement, it is well to proceed without delay to operation before the child is too far exhausted. He recommends pyloroplasty or Loreta's operation in cases of very weakly children and gastro-enterostomy in those who are stronger. We can strongly recommend Dr. Ibrahim's work as giving an excellent account of our present knowledge of the subject derived from considerable personal experience, as well as from an unusually thorough study of recent medical literature.

The seventh edition of Dr. GOODHART'S *Diseases of Children*[4] was published in 1902, and it is satisfactory to find that its merits continue to be so well appreciated that an eighth edition has been called for. We have expressed our favourable opinion of the book on several previous occasions, and no long notice of it is now necessary. Dr. Goodhart, in the preface, states that he was fortunate in the selection of a foster parent for his child, and in this we agree, for Dr. STILL'S contributions to the work are both numerous and valuable. No great alterations would seem to have been made in the text in the present edition, nor were many called for or desirable. The work is at first somewhat disconcerting reading, for the personal "I" in many places is unmistakably Dr. Goodhart and in others Dr. Still. This unusual arrangement doubtless arose from the reluctance of Dr. Still to interfere with or alter in any way the happy phraseology of Dr. Goodhart. In our review of the last edition we dissented from the advice to give hereditarily syphilitic infants when suffering from diarrhoea from 1 to 3 minims of liquor hydrarg. perchlor.; such doses seem too small to have any appreciable effect upon a diarrhoea, and we expressed the opinion that the advice was even dangerous, as it might lead the unwary to believe they were treating the syphilis with doses of mercury adequate for that complaint. The danger of this last belief arising is increased by the authors adding that these doses may be gradually increased "if necessary." Nevertheless, for reasons doubtless good and sufficient to themselves, but far from obvious to us, the authors have thought it right to retain the passage. Apart from this one instance, however, we have found nothing that would give the slightest occasion for cavil, and we reiterate our high appreciation of the work.

We cannot do more than mention the appearance of the eighth edition of Dr. ADOLF BAGINSKY'S well-known textbook of diseases of children.[5] The first edition appeared in 1882, and the book still maintains its position as one of the most complete and authoritative treatises on the subject; its value, especially as a guide in treatment, has been increased with the growing experience of the author, who is director of the Emperor and Empress Frederick's Children's Hospital in Berlin, as well as extraordinary professor of diseases of children in the University.

SURGERY.

THE many additions to the scientific and practical branches of surgical study made within so brief a period as six years have rendered it advisable to effect extensive modifications and alterations in the latest issue of the excellent *Manual of Surgery*[6] by Messrs. ROSE and CARLESS. Professor Carless, who has been deprived, to a considerable extent, of the co-operation of his senior colleague, and now assumes the sole responsibility for the preparation of the new edition, has naturally, in his onerous task, sought for the aid of other workers. In his efforts to maintain the practical and educational utility of this work by eliminating useless and obsolete matter, and incorporating fresh views and methods, he has, in the essential element of surgical pathology, been aided very effectually by Dr. W. D'Este Emery, who has rewritten the section on Bacteriology, and added a new chapter on The Blood in Health and Disease. The discussion of these important subjects could not, we think, have been entrusted to better hands, but the latter chapter, though instructive and clearly written, suffers from compression and the unavoidable condition of its being a mere outline of the chief facts. The increasing importance of radiography in diagnosis, and also, though with less definite results, in surgical therapeutics, has been fully recognized; and in the necessary revision of the sections on lupus, rodent ulcer, and cancer, much information relating to treatment by the *x* rays has been given by Mr. Reid. The report of his results in diagnosing the presence of renal and ureteral calculi is very interesting, as it proves that, by proper and careful methods of radiographic research, it is possible, if not with invariable success yet certainly, in a fair proportion of cases, to obtain reliable

[3] *Die angeborene Pylorusstenose*. By Dr. Jussuf Ibrahim. Berlin: S. Karger. 1905. (Demy 8vo, pp. 84. M. 3.)

[4] *The Diseases of Children*. By Edwin Ferdinand Goodhart, M.D., LL.D. Aberd., F.R.C.P. Lond. Eighth edition. Edited by George Frederic Still, M.A., M.D. Cantab. London: J. and A. Churchill. 1905. (Demy 8vo, pp. 845, illustrated.)

[5] Sammlung medizinischer Lehrbücher VI. *Lehrbuch der Kinderkrankheiten für Aerzte und Studirende*. Von Dr. Adolf Baginsky. Achte Auflage. Leipzig: S. Hirzel. 1905. (Demy 8vo, pp. 1234. M. 22.)

[6] *A Manual of Surgery for Students and Practitioners*. By William Rose, M.B., B.S. Lond., F.R.C.S., Emeritus Professor of Surgery in King's College, London, and formerly Senior Surgeon to King's College Hospital, London, etc., and Albert Carless, M.S. Lond., F.R.C.S., Professor of Surgery in King's College and Surgeon to King's College Hospital, London; Examiner in Surgery to the Victoria University of Manchester and to the Universities of Liverpool and Leeds, etc. Sixth edition. London: Baillière, Tindall, and Cox. 1905. (Demy 8vo, pp. 1150, 530 illustrations. In cloth 21s., in flexible leather gilt 25s. net.)

results. The work undertaken by Professor Carless in the issue of this new edition, which has been enlarged by nearly two hundred pages, must have been very laborious. In addition to the difficult task of keeping within due limit the bulk of his volume whilst adding to its contents, he has prepared fresh chapters on modern surgical technique and on the surgical aspects of gynaecology, and improved the sections on cranial and abdominal surgery. Attention has also been given to the illustrations, many old blocks having been removed and others substituted, and the number increased by forty. To this favourable estimate of the *Manual of Surgery* in its sixth and improved edition a recognition might be made of the useful service rendered by Mr. Legg in revising the index and making it a really useful one.

MEDICAL AND SURGICAL APPLIANCES.

An Aseptic Wallet for Nurses.—A wallet for nurses to hold surgical instruments has been invented and patented by Nurse Barry, late of Vincent Hospital, Dublin, and all those who have at heart aseptic methods will be thankful that the unsanitary leather wallet has been supplanted. The new wallet has everything to recommend it: made of washing material, it can be kept sterilized by ordinary washing, or boiled if necessary without injury to the fabric. It is within every one's means, the cost being only 2s., and it looks extremely businesslike and smart with its red cross on the outside of the bag. The wallet is fastened into the belt by means of a clasp of the same material, fastening with a patent detachable button, to which the bag is attached by straps also of washing material. With this bag before us it seems astonishing that surgeons and matrons of hospitals should have so long allowed the leather cases and chatelaines to be worn by their nurses, for there must always be a risk that through them the microbes of disease may be spread, and so long as they are tolerated there is a possibility of the care and skill expended by surgeons on operations being thrown away. It is a shock in these days of scientific progress to be told that one well-known firm, who supply nursing requisites, and to whom this wallet was mentioned, said that they would not touch it because leather wallets which sold at double and treble the price were far more profitable. When it was pointed out that these were dirty and unsanitary, they said that was not their business. Matrons in hospitals should take up Nurse Barry's invention, and insist that their nurses and probationers should use them, and so should surgeons. We wish her much success, and wish that other nurses would follow her example, and come forward with sound practical ideas. The washing wallet may be obtained from Messrs. Maw, Son and Sons, 7, Aldersgate Street, E.C.



The Need of Cleaning or Disinfecting the Stethoscope, and how to Conveniently do it.—Dr. W. A. Bonney, Chelsea, writes: In the British Medical Journal of September 16th, p. 657, I see that Mr. Herbert Robson has drawn attention to the desirability of keeping our stethoscopes clean, and given a picture of the apparatus by which he keeps his own instrument in a condition of asepsis. To me, also, the need for attention to this matter had occurred, and two years ago I had made, and have used ever since a chest-piece of aluminium which can be at once made sterile by dipping it in boiling water, or by pouring boiling water over it. Such chest-pieces cost 2s., and while they are certainly quite as effective, they are also a simpler means of meeting the need indicated—at all events so far as the users of the binaural form of stethoscope are concerned. Now that attention has been publicly drawn to the matter, I anticipate that the existence of the need for caution will be generally recognized.

A Vaccination Dressing.—Dr. T. Garrett Horder (Cardiff) sends us a specimen of a dressing for use after vaccination. It consists simply of a 2-inch square of boric lint with a tape sewn to each corner. It is simple and inexpensive, and could be easily made by a nurse or mother. The dressing seems to us hardly large enough, and it would be improved by lengthening the upper tapes, so as to tie round the child's neck, to prevent slipping. The manufacturers are Messrs. Ferris, Bristol.

Introductory Addresses

AT THE

OPENING OF THE MEDICAL SCHOOLS.

CHARING CROSS HOSPITAL.

By Sir James Crichton-Browne, M.D., LL.D., F.R.S., Lord Chancellor's Visitor in Lunacy.

EFFICIENCY.

[Abstract]

After some introductory remarks, Sir James Crichton-Browne proceeded to say that they had heard a good deal about efficiency of late, and were likely to hear more. Words of warning as to the physical deterioration that was going on in our big towns, uttered by Mr. James Cantlie twenty years ago, and treated then with neglect and ridicule, were now being taken seriously to heart. While it was still a moot question whether as a race we were degenerating or regenerating or merely standing still, it was indubitable that there was a deplorable amount of deterioration amongst us, and that inefficiency abounded. There were on our hands hordes of undergrown, underfed, blemished, diseased, debilitated men, women, and children, who were industrially and socially inefficient, and many of our public institutions were as incompetent as the stenosed valves of a damaged heart. Our educational machinery was inefficient, or we should not have so much ignorance, stupidity, and hooliganism amongst us. Our economic system was inefficient, or we should not have crowds of unemployed and of starving school children and desertion of the land by the people. Our municipal administration was inefficient, or we should not have the shocking housing conditions that disgraced our towns. Our army was inefficient, or we should not have the Commander-in-Chief telling us so. Inefficiency was widespread and disastrous in its effects, but the encouraging fact was that it was at length recognized, that the dangers attending it were perceived, and that in many directions measures to ensure efficiency were being adopted. This more healthy and hopeful state of affairs that was dawning on us must, he thought, be attributed in some measure to a great object-lesson in efficiency they had had lately. The rise of Japan had been almost catastrophic, setting at nought received notions of tardy uniformitarianism in ethnic evolution. Some internal force had been at work in producing this startling eruption, a force necessarily emanating from the brain, and as biologists they would now await with lively curiosity information as to the cerebral configuration and structure of their new allies in the East. He remembered receiving with some incredulity, a number of years ago, reports from his old pupil, Dr. Crotchley Clapham, as to the large size and convolutional complexity of the brains of some Chinese pirates captured in the Pelew Islands. But he was now inclined to think that Dr. Crotchley Clapham's observations were not exceptional, and that the Yellow races might be endowed with high-grade brains of great latent capabilities that only required an appropriate stimulus to be up and doing. He felt confident that the Japanese brain would be found, when careful measurements and observations were made, to be not inferior to their own in weight, in proportion to body weight, in fineness of folding, and in depth of grey matter, though doubtless with structural characters of its own, the demonstration of which would be of the utmost anthropological significance. Should this prove to be so, and should the Chinese brain be found to participate in the characteristics of that of Japan, then the "Yellow Peril" was not a mere fancy-bogey, but, in some form or other, a possible contingency. While still without precise information as to the constitution and *differentia* of the Japanese brain which might explain the rapid emergence of that race from obscurity into conspicuous greatness, and its remarkable efficiency, it was plain that they were gifted with

a power of rapid and discriminative mental assimilation, which enabled them to select, appropriate, and make part of themselves the useful ideas brought to them by the life-stream of the world. Like the accomplished chess-player, they could perspicuously anticipate events, presage the after-thought of their opponent, and provide for remote combinations. They associated with genuine artistic perceptions and feelings inhibitory control over emotional disturbance to a singular degree. Above all, they were inspired by a lofty patriotism and devotion to duty that involved the subordination of the individual interest to the common good. He referred particularly to this altruistic trait of the Japanese character because it was one which medical men were bound to cultivate if they were to prevail in their campaign. They, too, must sink the individual, be ever ready to undergo toil, to face hardship, to spend and be spent, and sacrifice their lives, if need be, in their endeavours to save the lives of others, either in the heat and blaze of battle, or in the chill obscurity of the pestilence that walketh in darkness. In reviewing the history of the profession he thought its members had succeeded more, perhaps, than those of other vocations, in laying aside that individualism into which it was said our western civilization threatened to degenerate, and to the subjugation of which the successes of the Japanese had been ascribed. But individualism was of two kinds, good and bad. There was the individualism that consisted in self-sufficiency, sensual indulgence, and personal aggrandisement; and there was the individualism that found its subsistence and finest expression in the service of others, and that jealously fostered every personal faculty that might be of use in that service. This was the kind of individualism that he would enjoin upon them. If they were to be efficient medical men they must improve their personal efficiency, and see to it that they were physically efficient, intellectually efficient, and morally efficient too. The first bit of advice he would offer to those who were entering upon or continuing their studies there, was to buckle to their work without an hour's delay—advice founded not on any fear that they would by postponing their work fall into indolent habits, but on the scientific ground that this was the season of the year in which they could most profitably employ their brains. Extensive dynamometric experiments had shown that the energy of attention steadily increased from October onwards, was abundant until March, and then diminished; and it was a curious fact that they who, at some remote period, fixed the medical curriculum, somehow arranged it in the best possible way; for the curve of psychic activity rose from October till December, when it attained its maximum, remained high until March, and then fell, reaching its low-water mark in July. But while the curve of psychic activity pursued one course, that of physical activity followed an entirely different one. The power of attention notably diminished during the late spring and summer months, but muscular power increased in a remarkable way up to June or July. The higher atmospheric temperature then seemed to depress the nervous function engaged in attention and to stimulate muscular energy. All the year round, of course, a certain amount of muscular exercise was necessary for the medical student. They would very soon learn for themselves the physiological requirements of the body as regards muscular exercise, the essential part that it played in the furtherance of many functions, and in the maintenance of health, and he doubted not they would judiciously apply the knowledge thus acquired in the gymnasium, on the river, on the road, or in the playfield. Athletics and sports not only recuperated the overworked brain and refreshed it when it was jaded, but they militated against mental vacuity, for they supplied to those who followed them a wealth of interesting topics of conversation. Moreover, they afforded a vent for energies that might find less creditable outlets, while they kept alive a high standard of honour and a wholesome sentiment of *camaraderie* opposed to the narrow individualism he had denounced. He had referred to the importance of being seasonable in work and play, and that led him to exhort them in work, at any rate, if not in play, to be systematic and avoid hurry-scurry. The world seemed to whirl much faster than it did, and in the excitement of its gyrations they were apt to forget the warning of the preacher that the race was not always to the swift, and were incessantly tempted to quicken their paces to keep up with the panting crowd around. The very insects seemed to have caught the contagion and to be in a feverish hurry. "I could quote many facts," says Darwin, "showing how anxious bees are to save time—for instance, the habit of cutting holes and sucking the nectar at the base of certain flowers which they can with very little more trouble enter by the mouth." Like bees, medical students were often in the habit of taking short cuts to get at the nectar of knowledge; and not only so, but in many instances they unduly prolonged their working hours, which the bee never did, and abbreviated the intervals due to healthful observances in order to have more time to devote to their studies. The student who desired to remain free from the evils of indigestion and to enjoy comfort, keenness, elasticity, and mental alertness would take time over his meals, and would bear in mind that whatever the comparative anatomists might say, man was a ruminating animal, who, if he would chew the cud of reflection effectually, must use his molars with diligence and deliberation. If food should be taken by the medical student with deliberation, so should sleep. Want of sleep was one of the causes of the degeneration that was going on in large towns, and he was surprised that it was not noted by the Committee on Physical Deterioration. The medical student should have regularly nine hours' sleep in the twenty-four. The allowance for the adult man was eight hours, but during the growth period more than that was required, and an amount of sleep that in maturity might prove sufficient would during adolescence be wholly inadequate. They should insist on their nine hours of sleep, and keep clear as long as possible of insomnia, which was the bane of the medical profession. In his own experience he had known more medical men break down from insomnia than from almost any other cause. When severe and protracted, it induced cerebral exhaustion or irritation, or a resort to remedies which were ultimately more pernicious in their effects than the disorder they were taken to relieve. The intense distress it caused, and the stimulants or hypnotics—of which they had now so many of subtle and insidious quality at command—indiscreetly taken to counteract it, not rarely ended in complete overthrow of the mind. The mention of stimulants suggested to him that he might venture to say a word about alcohol in connexion with efficiency. It was not against the vulgar abuse of alcohol that the medical student of the period had to be warned. It was to the alleged use of alcohol that his attention should be drawn, to the question which still agitated the profession whether alcohol was a wholesome article of diet, and in moderation harmless to the brain-worker. He was not going to enter on that large and very thorny question further than to say that he was not of those who denounced alcohol up hill and down dale, an admission which would add weight to his opinion that the medical student had best avoid alcohol altogether. He thought all were agreed that in the growth period, where that was normal, it was not wanted, and that at epochs of rapid cerebral evolution it was apt to prove deleterious. It was a noteworthy fact that in nearly 90 per cent. of cases of confirmed inebriety the addiction to drink began between 15 and 25 years of age. That was the danger period and little apprehension need be felt as to the future career, as regarded sobriety, of any man who had voluntarily abstained from alcohol till 25 or even 21 years of age. It was much to be wished that there should grow up one of those conventional understandings which were almost more binding than legal enactments, that it was "bad form" for a youth to indulge in alcohol till he had attained his majority. In conclusion Sir James Crichton-Browne said that whatever physical and intellectual efficiency they might attain to, they would be of small avail if not united with the moral efficiency which gave them stability and completeness. High principle and divine pity were not less necessary than skill and learning to success in medicine, which was not merely a bread-earning profession, but a ministry of science. It was the all-embracing compassion, sympathy, and generosity of the profession that had gained for it, if not the material recompense to which it was entitled, yet the high place it held in public estimation.

ST. GEORGE'S HOSPITAL.

By Robert Brudenell Carter, F.R.C.S.,
Consulting Ophthalmic Surgeon to the Hospital.

MEDICAL EDUCATION.

[Abstract.]

Mr. Carter said the great problems of life and of Society, using the words in their widest sense, were mainly problems of health and habits, and of physical environment: and concerning

these the medical profession and the medical profession alone, either possessed, or was able fully to acquire, the knowledge necessary for the guidance of the public. Their object at the school was not only to impart this knowledge to the students, but also to impart it in such a manner that in their hands it might become a powerful agent for the promotion of the general welfare.

The necessary elements of medical education, regarded from this point of view, were a knowledge of the structure and functions of the several parts of the human body, and of their relations to each other, together with a knowledge of the manner in which they were calculated to respond to the various agencies, which from time to time constituted their environment.

Knowledge of the forces which surrounded man was rapidly advancing, and old conceptions of chemistry were fast giving way to a belief that both the inanimate universe and all living creatures were alike built up of units of electricity of almost inconceivable minuteness, arranged in varying combinations with an all-pervading ether. In order that medical men might perceive the applications of this new and growing knowledge to the varying conditions of the human body in health and disease it was necessary for them to be, if not independent investigators in physical science, at least competent and appreciative observers of the investigations of others; and this object could not be attained either by the chiefly didactic instruction in the so-called "chemistry" and "physics" of four or five years ago, as given in many boys' schools, or even by the perfunctory teaching and the imperfectly equipped laboratories of some of the existing medical schools in London and elsewhere. He was convinced that the future of physics was the future of medicine, and that a real and thorough training in physics should form, and eventually must form, the essential groundwork of medical education.

For this reason he gladly welcomed the changes which enabled the University of London to undertake the education in physics of the medical students of the future, thus leaving the schools of the metropolitan hospitals at liberty to devote themselves entirely to what he conceived to be their proper task—the instruction in the phenomena of sickness and in the methods of dealing with them of students whose minds had been rendered at once cautious and receptive by preliminary scientific culture.

The groundwork of all error in medicine and in everything else must be sought in the willingness of mankind to accept dogmatic assertions which were not supported by trustworthy evidence, and this habit of mind which didactic education tended to foster, it should be the aim and tendency of real education to banish and drive away. At no time in the course of the world's history had truth been less regarded than at present, or reckless assertion and even direct mendacity in trade, in politics, and in many other forms of human activity, been as prevalent as now.

In medicine, however, nothing that was not true was useful, and hence medical education should from the first be so directed as to afford a mental touchstone by which the truth of mere assertions might be tried. Such assertions with regard to diseases and remedies were put forward in great numbers, and sometimes with such circumstantiality that they might deceive the very elect. When they heard them medical men should be promptly on guard, and be able to fall back upon experience for tests of their accuracy. The only experience which was available for this purpose was experience not only of the nature and meaning of proof, but also of the actual methods of investigation by which error could be excluded or eliminated; and experience of this kind, if not precisely confined to the domain of physical science, was at least more abundant and more accessible within that domain than elsewhere.

Therefore, for these reasons he regarded not mere information about the conclusions of physical science, but instruction in the methods by which those conclusions had been reached and by which they might be verified, as the indispensable foundation of a sound and comprehensive medical training; and he was disposed to think that most of the errors which in times past had exposed the medical profession to harsh but not always wholly unjustifiable criticism had been due, in the main, to a very imperfect appreciation on the part of those who controlled schools and examinations of the real bearing of physical science upon the daily work of the practitioner. On these grounds he respectfully but very strongly disapproved of the course recently pursued by the Royal Colleges of Physicians and of Surgeons in resisting the endeavours of the General Medical Council to raise the character and standard of the so-called "preliminary" science teaching. He would also deprecate the action of those medical schools the authorities of which aimed at retaining the science teaching in their own hands, subject to all the disadvantages which must arise from what, as compared with the probable future development of the University, would be paucity of equipment in the laboratories, and something less than due eminence of position for the professor. He looked forward to a time when the training in science of medical students would no longer be regarded as a matter of comparatively unimportant drudgery, to be undertaken chiefly as a possible stepping stone to a more inviting career, but would become, in the hands of the University, at once an important part of the life-work of those who were engaged in conducting it, and a fertile source of intellectual activity and of growing knowledge among those by whom it was received.

The argument that science teaching should be continued in the hospitals' schools, because elsewhere it would be more expensive, he could not accept. It was not in the interest either of the public or of medical practitioners that young men should be encouraged to enter the profession if too poor to be able to afford any but a very inexpensive education.

The medical profession was not a refuge for the destitute, and it required from its members, alike for their own dignity and for the safety of the public, the observance of standards of conduct from which poor men might have many temptations to deviate. As a rule, the persons charged before the General Medical Council with conduct infamous in a professional respect during the time that he was one of its members had been weak men, imperfectly educated, and compelled to struggle against adverse circumstances, among which their own unfitness for their calling had usually been one of the most conspicuous. It would be legitimate, of course, for wealthier men and for the University to help into the profession poor men of proved diligence and ability, but the requirements of the licensing bodies should certainly not be adjusted with a view to the supposed financial position of the students of the future. It would be a sounder and a wiser policy to point to the necessary cost of medical education and to the wide scope of medical attainments as grounds for demanding increased remuneration, primarily in the public service of the country, and afterwards in many cases as between the patient and his doctor.

Next in importance to a thorough training in physical science he would place a thorough study of the use of language—such a study as would confer upon those who pursued it a capacity for forming clear ideas themselves, and for expressing those ideas, at any rate in English, in a manner clearly intelligible to others. By what percentage of nominally educated persons were either of these powers possessed? He had an absolute conviction that no one who did not thoroughly understand at least one language could ever thoroughly understand anything else; and he begged all medical students to remember that such an understanding was essential, not only to a complete mastery over the facts and doctrines with which they were called upon to acquaint themselves, but also to the attainment of that power of lucid exposition which was one of the secrets of establishing influence over the sick. A man who showed that he had a perfectly clear comprehension of what he was talking about and that he could render it intelligible to others had made a long step towards securing that confidence on the part of the patient which was a tower of strength to the practitioner. One of the results of the pervading neglect or ignorance of English was the invention of an inordinate quantity of quasi-classical jargon for the expression of simple scientific facts or doctrines. The term "eugenics" was a case in point; such phrases no one could be expected to understand without a preliminary explanation in a modern language.

In due time would come to each student the period of ward study, and then he should be gradually initiated into the ethical relations which should subsist on the one hand between the physician and the patient, and on the other between any one member of a great profession and his brethren. It was somewhat to be regretted that neither of these two sets of relations had yet been made a subject of definite instruction in their school, and that by reason of this deficiency there was some danger lest the best traditions of the great men of the past should be but imperfectly handed down to their successors. From some points of view he was

disposed to regret the days when the ordinary door of entrance to the profession was by domestic pupilage to an established practitioner, and when the experience of the methods of conducting a practice smoothly and honourably preceded the teachings of the schools. There was much to be said in favour at least of an attempt to retain some of the best features of that system.

The best foundation of medical ethics, of their duties towards their patients and towards each other was furnished by the simple principle of saying or writing only what was true, a course of conduct which could only be consistently followed as a result of knowing what was true; that is to say, by the assiduous cultivation of the power of distinguishing truth from error. This power in its complete development, was the last attainment of an intellect originally vigorous and carefully trained in scientific methods, but it was probably attainable in some degree by all who would really strive for it and who would seek to bring their minds under proper discipline. The gravest sins against truth committed by medical men arose from the hasty adoption or hasty putting forth of unverified conjectures about the nature of disease or its treatment; and the more prevalent or the more fatal a disease or the more it might occupy public attention at the moment the more certain it was to be made the subject of such conjectures. In their origin they were often eminently laudable and their legitimate use was to serve as starting points for complete investigation. A man to whom it occurred, for example, that appendicitis or gout or acute rheumatism was produced by some particular habit or mode of life, had before him an interesting subject of inquiry, and if he pursued the inquiry in silence, and carefully, by the accurate observation of a sufficient number of facts or instances, he might possibly be able to establish the truth of his conjecture, although it was many times more probable that he would find himself compelled to abandon it. But if, instead of investigating, he published his conjectures as the latest contribution of science to the welfare of humanity, and if, for example, he urged abstinence from tea or from pickles as a proceeding certain to afford exemption from the malady in question, he was not only deceiving those to whom he offered himself as a guide, but he was also destroying his own capacity to distinguish truth from falsehood. He was descending by a voluntary act from the pedestal of accuracy upon which men of science should stand, and was seeking temporary profit or temporary notoriety at a price which was paid not by himself alone but also by those who did not share his blunder.

As for the future of medicine, it would rest largely upon research, and upon research conducted in clinical laboratories with all the precision which previous training in physics was calculated to impart. It was, therefore, a matter for much congratulation that for the future the energies of their hospital staff would no longer be expended upon preliminary instruction. This change would leave its members free to devote themselves to the investigation of disease, and thus to apply the opportunities of the hospitals to use the greatest and noblest of all, and the most far-reaching influence for good upon mankind. This work was of public importance, and in order that it might be carried out it was necessary that the support of the public should be extended to it. So far, therefore, as his voice could reach he would urge upon all contributors to hospitals that a portion at least of their contributions should be so earmarked as to be available not merely for the support of clinical laboratories, but also for the support of those who were working in them, and thus aid in the revelation of new truths, and in their application to the control and prevention of disease.

UNIVERSITY COLLEGE HOSPITAL.

By H. R. KENWOOD, M.B., D.P.H.,
Professor of Hygiene and Public Health, University College, London.

PREVENTIVE MEDICINE: PAST AND PROSPECTIVE.

PROFESSOR H. R. KENWOOD, after some preliminary remarks, went on to say that the medicine of the future would be increasingly exercised in the direction of keeping patients in health rather than of prescribing for them in sickness. Thanks to the press, public health problems were now discussed with intelligence even by the man in the street, and the last person who could afford to neglect any opportunity of keeping himself *au courant* was one belonging to the profession of medicine. The latter owed it to the community to advance the general health, and he could best fulfil this duty by helping to disseminate among the masses the knowledge which they must acquire before progress in many diseases could be possible. Increasing use, therefore, should be made by medical students and practitioners of the opportunities afforded by the schools for acquiring a knowledge of hygiene and public health. Many fields of research in this connexion remained untouched, for owing to the regrettable paucity of endowments the workers were few. The science of public health embraced everything which bore upon the nature and cause of disease, and the real task of hygiene was to teach men how to live healthily under the conditions imposed upon them by social and economic interests, and to point out really practicable ways in which adverse conditions could if necessary be modified.

If any modern sanitarian, imitating the late Sir Benjamin Ward Richardson, set himself to describe a city of Hygeia, he would throw the personal factor more and the sanitary environment factor less into relief than did his predecessor. The public health policy likely to yield the best results was one directed towards increasing the fitness of the individual to withstand the strain of environment. Sanitary improvements could do much to better the outward circumstances of the people, but they could not amend faulty habits of life; and if ever the Utopian death-rate of 5 per 1 000 was to be obtained a satisfactory standard of healthy and decent living must be adopted by each individual. By the development of a public conscience in matters of sanitation surrounding conditions would be made unfavourable to disease-causing organisms, protective measures would be intelligently applied, and the communicable diseases of the day would gradually disappear.

In a somewhat obscure way this conception had already partially been realized. Typhus had practically been exterminated, the mortality from scarlet fever had fallen to 80 per cent. in the past thirty years, and that of typhoid fever by 50 per cent. in the same period. Cyclical diminution in the virulence of certain diseases of course existed, but there was ground for believing that some of the diminution would be permanent. Measles and whooping-cough, on the other hand, remained nearly as prevalent as ever, but it was to be remembered that there were economic conditions in modern life—such as the aggregation in schools of children of a susceptible age—specially favourable to their spread. Their control was difficult, but much of the mortality was preventable, and it certainly would be prevented so soon as the masses were adequately instructed on certain points of vital importance.

The science of bacteriology, although still in its infancy and necessarily imperfect, had already done excellent service by assisting in the diagnosis of certain specific diseases, by furnishing the means of immunization to them, by providing cures for others, by making the rational selection and employment of disinfecting agents possible, by indicating the modes of conveyance of infection, and by aiding in the detection of dangerous forms of pollution in food and drink. It was destined to become a tremendous force in preventive medicine, and the time was coming when every sanitary authority would regard its own well-equipped bacteriological laboratory, directed by a medical man well skilled in the science, as the mainspring of its administration; when all but the "conscientious objectors" would avail themselves of the protection afforded by preventive inoculations, and when curative serums would be acknowledged by every practitioner to be the most potent and satisfactory drugs for the cure of infectious disease in his pharmacopoeia.

It was commonly stated that the practice of hygiene and preventive medicine tended to preserve the physically unfit, and that this was a disadvantage. But if hygienic measures while raising above the line of viability a few degenerates, raised the whole community to a corresponding degree in the scale of good health, who should measure the enormous gain, and who could question the value of the labours of the sanitary reformer?

The public health policy of the country had enormously improved the circumstances of the poorer classes, and had so conspicuously outweighed the evil effect of progressive urbanization that the general death-rate was now 26 per cent. less than fifty years ago. In this decrease, however, the infant mortality had not shared to the extent even of 1 per cent. This was in any case a serious matter, but when it was considered in connexion with the fact that the birth-rate in Great Britain had fallen more rapidly than in any other European country it became a matter of grave national concern. If the vitality of the nation was to be preserved, the expenditure of infant life must be curtailed. The excessive infant mortality

was confined to the poorer classes, and was the result of many and complex forces. Among these were the employment away from home of those about to become mothers, and of those recently confined who should be nourishing their infants, and the great ignorance among women as to the feeding, clothing, and management of infants. Such ignorance and neglect was responsible for the fact that approximately one out of every six children born failed to complete its first year of life.

The domestic life of the working classes was not now what it was, and compulsory school attendance and early female employment away from home had done away with much of the home education of the child nurse. Much of the precious influences and associations of the family and the home seemed to have been lost. This was deplorable, for a child who had never known home life and motherly solicitude in their fullness had been deprived of that for which nothing in after-life could make amends. Although it was probably true that fewer present-day mothers were able to perform their maternal vocation of suckling their offspring than formerly, it was equally true that a large number deprived the infants of their natural food through selfishness, laziness, and indifference; and for pleasure and self-enjoyment many of the rich and poor alike were ready to sacrifice maternal aspirations and to subordinate maternal instincts.

The proportion of hand-fed children to those suckled increased yearly, though everywhere the same testimony was forthcoming that children fed naturally from the breast had a prospect of life far in excess of those fed artificially. Even under the most favourable conditions the substitution for the infant's natural food of an artificial diet was disadvantageous, and under commonly-existing conditions the results were disastrous, not only as regarded immediate mortality but in respect of those who survived, but with constitutions permanently damaged. It was the task of preventive medicine to deal with the matter, and among the possible remedies was to get in touch with the mothers of to-day after the baby had made its appearance, and to guide and help them, and the mothers of the future must be educated while under control at school and while their minds were plastic and receptive; and breast-feeding must be advocated, especially among the poor. Among subsidiary measures, to be discarded when better methods became practicable, were municipal milk dépôts and crèches. These had an educative value, and the provision of the latter in most urban districts was increasingly necessary now that education authorities were beginning to recognize that evils of a public health nature, and the cost entailed, outweighed the educational benefits to be derived from admitting babies to school under the age of 5.

While municipal milk dépôts for the supply of infants' milk were good, the radical cure was to be found in clean cow's milk; a pure milk supply was at the present day one of the greatest sanitary needs of the country, and if the educated section of the public only knew the conditions under which milk was drawn in most rural districts it would not be long before it strengthened the hands of those who did already know and demanded an improvement. In connexion with the care of infants the value of lady health missioners was becoming recognized, but medical men also had their duties. A medical man attending a confinement had not completed his duty, either to the patient or to the State, when he had safely delivered the patient and handed over the child to the nurse. Detailed instruction was required as to its feeding and management.

Other work for preventive medicine lay in attempting to abolish the prevailing ignorance regarding the cookery and selection of food. It was directly responsible for much ill-health, and in great measure for the half-starved condition in which some children were sent to school. It was both useless and cruel to attempt to educate a child whose body was ill nourished. Even if all the children arrived in school in good condition preventive medicine still had its task. The cultivation of child life in school at school ages was a highly artificial process for which Nature had made no provision. Even under the best conditions it must be carried on to some extent in defiance of her laws, and to reduce the resulting evils to a minimum continuous medical inspection of the children was essential. It was a national shame that England seemed likely to be the last nation to make provision for the latter. To all objections raised he could only reply that what was found easily practicable in Germany, Japan, and elsewhere must be practicable in our own country.

The hygienic reform of the future depended almost entirely on the proper education of the people. Given this, many existing hygienic evils would cease; and proper education should include likewise the training and education of girls for the functions which awaited them. At present the sarcastic comment of Herbert Spencer on the absence of any instruction likely to be useful to future parents still had full application.

Dealing with phthisis, Professor Kenwood remarked that it was easy to understand why the disease should be one of the leading causes of pauperism, for each of the 17,000 deaths amongst males at the 20 to 50 age-period of life was preceded by three years of illness on an average. To control it in any way, compulsory notification was necessary, and to obtain the best broad results reliance must be placed less upon sanatoriums than upon continuing to improve the general conditions of life. Consumption must be met by different measures for its different stages: sanatorium treatment with a view to cure, or education in how to manage his disease of the man in a very early stage, and isolation for the one whose every cough disseminated tubercle around him. The selection of suitable employment for those predisposed to the disease was also of much importance.

The rest of his address Professor Kenwood devoted to a consideration of the prevalence of cancer, the great value of workshop legislation, the enormous importance and supreme difficulties surrounding the question of the housing of the working classes, the evil effects of over-indulgence not only in alcohol, but in animal food, and the advances in tropical medicine. The solution of many public-health problems, he pointed out, depended upon the solution of the problems which were social and political. The former, moreover, changed with altered circumstances, and new ones were constantly evolving; many of the old ones were becoming more complex year by year, and some were so dependent upon a high ethical level among the general public for their complete solution that only the millennium could be expected to see them solved. The public health worker, therefore, could never hope for a complete realization of his ambitions, and to his labours there could be no end. But his reward was the satisfaction of witnessing almost daily beneficent results from his work, and it was from this that he drew his stimulus. In conclusion he quoted:

> Does the road wind uphill all the way?
> Yes, to the very end.
> Will the day's journey take the whole long day?
> From morn to night, my friend.

MIDDLESEX HOSPITAL.

By R. A. Young, M.D., B.Sc.Lond., F.R.C.P.,
Assistant Physician and Pathologist, Middlesex Hospital: Assistant Physician, Brompton Hospital for Consumption and Diseases of the Chest.

METHOD IN MEDICINE.

The introductory address at the Middlesex Hospital Medical School was delivered by Dr. R. A. Young. In the course of it he made a number of observations on the application of method to the study and practice of medicine, of which the following is a summary:

Perhaps the two most valuable attributes of mind a student of medicine could possess were those of method and enthusiasm, for method would afford him both range and perspective, while enthusiasm would sustain him and spur him on to advance. Zeal or enthusiasm came soon or late to most men, for medicine with its attendant sciences offered so wide a field that there were but few who did not develop at least an interest in some phase or other of their work. On the other hand, both student and practitioner had in most cases much to learn of the value of method.

There was a difference to be drawn between method and system. System implied limitation, something confined or stereotyped. Too often in the past, systems had delayed and even prevented progress, whereas method (used in its literal sense of "a means of transit or advance") was elastic, and permitted of readjustment, rearrangement, and modification.

Method, in the sense in which he used the term, meant the orderly acquisition of facts, the adoption of the critical attitude of mind in examining and marshalling those facts, and in deducing conclusions from them. In this sense, as Sir William Hamilton had said, all method was a rational progress, a progress towards an end. Science had been tersely defined as measurement, but it would be more correct to regard it as the application of method to observation and record. It was this very application which had raised

medicine to the level of a science and which would eventually make it an exact science.

Method as applied to medicine might be considered, first, as it affected teaching and study; secondly, in regard to research in medical subjects; and, thirdly, as it concerned the actual practice of medicine. It was the application of method to teaching which was responsible for the great changes within recent years in all grades of education, leading to the substitution of the science of education for an empiric system of pedagogy. From the very nature of the science of medicine the educational course preparatory to its practice was bound to be practical if it was to be of value, and from the time of the establishment of medical schools it had followed a more or less definite sequence or order. So far, he thought, it had proceeded on correct lines, but it was essential that both students and teacher should acquire a grasp of the whole scheme of medical education. The student was too apt to have his horizon limited by his next examination, and it was not until he returned for post-graduate instruction that he realized the utilitarian aspect of his studies; while the teacher had perhaps a tendency to exaggerate the importance of his own particular subject, especially if he be a good teacher.

If conscientiously pursued a medical training was one of the finest forms of education, for from the very commencement it required the education and refinement of the senses, particularly those of sight, hearing, and touch, and the formation of sound and logical judgements from the information obtained by them. The chief aim and object of the earlier subjects in the medical curriculum, such as physics, chemistry, biology, anatomy, and physiology, were to inculcate the importance of exactness in observation, of care and method in recording observations, and thus at once to educate the senses and to afford a logical and scientific basis on which to construct the superstructure of actual medical knowledge.

He who observed the most was bound to be the best physician, provided his experience was ample and his judgements sound; moreover, most human mistakes were due less to ignorance or wrong observation than to lack of observation. Method in observation was perhaps the greatest safeguard against such omissions.

In these days of mechanical means of diagnosis they were apt to lose some of the refinement of observation of the physician of a bygone day; and he would like to see held, at least weekly throughout the whole course of a student's career, observation classes where the student might be taught to observe minutely and rapidly, and to observe for himself; while in the later years of study these might give place to or develop into diagnosis classes, where the whole facts observed in regard to cases should be elicited and placed in their true order of importance, so that a true perspective of the value of each fact and of each means of diagnosis employed might be taught. This was particularly desirable now, when there seemed a danger lest the student should lose sight of the importance of the actual study of the patient, and expect his diagnosis to be worked out for him by the bacteriologist, haematologist, chemist, or radiographer, for whom he became, as it were, the collecting agent. While the information supplied by these was invaluable, and indeed almost indispensable, yet it should be used at the bedside in conjunction with the information obtained by direct observation, for they were apt to forget that disease was a condition and not an entity. He did not wish to minimize the importance of bacteriological, chemical, and other means of diagnosis, but he wished to insist on the importance of studying the patient and his condition as well. By such means they could obtain the most valuable information upon which to build prognosis and those details of treatment which made for comfort of the patient as well as cure, since temperament, habit, diathesis, or whatever name they applied to the subtle differences in personality, must of necessity count for much in practical medicine. It was a useful occupation occasionally to dip for an odd half-hour or so into the pages of some of the medical classics of a former generation—such as the textbooks of Sir Thomas Watson and of Graves or the interesting clinical lectures of Trousseau. Apart from the charm of their style they afforded evidence of minuteness and of method in observation, and there was much to be learnt from them, even from their mistakes. Both in reading and in note-taking method was also of very great value. Much time was apt to be wasted in indiscriminate reading. It was not the actual amount read which was of value, but that part which they understood and assimilated.

To speak of method as applied to research was almost tautological, since method was the very basis and essential of all research. It might safely be said that practically no great principle had been evolved without persistent, patient, and methodical investigation, with stages often of apparently fruitless effort. Indeed, the study of almost any piece of great research was one of the best means of education in scientific method, and one which was extensively adopted in some American universities—where students were encouraged to read some of the most important work in the original papers. Few could read the history of the discovery of the anaesthetic effects of chloroform by Sir James Simpson without great admiration for his persistence in spite of failures. The brilliantly-methodical researches of Claude Bernard and the ingenuity with which he prosecuted them let light into many of the dark places of physiology. The years of patient research into the processes of fermentation by Pasteur paved the way for the beneficent discoveries of Lister, themselves again the result of patient and persistent labour in face of failures and opposition.

There was a tendency nowadays to limit the use of the word "research" to experimental investigations, but it should not be forgotten that there was such a thing as clinical research in the literal sense, and that this was a field open to all. The orderly and careful observation of groups of cases, especially those showing variations from recognized types, would result in advance in our knowledge, and if each medical man were to keep records of anomalous cases it might help eventually in the elucidation of some difficult problems—just as Sir William Gull and Dr. Ord separated myxoedema from the disease with which it was previously wrongly grouped, and as Pierre Marie discovered acromegaly and Sir James Paget osteitis deformans, by a study of their variations from type.

Paget's description of his discovery of trichina spiralis in human muscle was worth quoting, in illustration of the value of observing instead of merely seeing: "I may justly ascribe it to the habit of 'looking out' and wishing to find new things which I acquired in my previous studies of botany. All the men in the dissecting-room, teachers included, saw the little specks in the muscles, but I believe that I alone 'looked at' them and observed them. No one trained in natural history could have failed to do so." Most of them were too ready to acquiesce in or take for granted what was out of the common, whereas the spirit of the true investigator was to inquire into and explain even the apparently obvious. "Prove all things" was an excellent motto in research, wherefore in investigation of the greatest importance there was often a great deal of work which might have apparently but little that was startling or novel about it.

It was too often assumed that that intangible, indefinable attribute of certain minds which was called genius was superior to method, being rather a matter of inspiration or intuition, but in science, at any rate, it certainly was not so. The genius lay in the man who brought order where chaos reigned, who, perhaps taking the tangled threads which others had spun with tedious labour, wove them warp and woof into the great web of established truth with unerring skill.

The scope of method in the practice of medicine was no less extensive. Treatment should be methodical, not a matter of routine or hazard. The first essential for treatment was undoubtedly diagnosis, and it should not be forgotten that diagnosis was a purely intellectual exercise, and there was no room for emotion or feeling, even for sympathy, since emotions above all things tended to warp judgements. In diagnosis the condition of the patient must be regarded as a problem which had to be solved. That being done, treatment became a matter of the selection and adjustment of such remedies and curative means as existed to the special condition of the particular patient, due attention being paid to his history, his temperament, and his idiosyncrasies, if known. In giving directions to the patient, or to those responsible for his care, it was wise to be explicit, methodical, and decisive. Moreover, the public was beginning to look for more than mere symptomatic relief in time of actual serious bodily affection; it expected, and had a right to expect, advice as to its mode of life, so as to retain health when it had been restored. It was their duty to so educate themselves as to be able to afford that information in a practical and practicable form, adapted to each man's own particular needs. For this purpose a knowledge of human nature with its limitations and its weaknesses was of the greatest value, and if there was no room for the finer feelings or emotions in diagnosis it was far otherwise in treatment. There the ready sympathy, the gentleness, the sensibility and the sensitiveness which a medical training should and did

tend to foster, were among the most valuable qualities a medical man could possess. It was this aspect of treatment which justified the expression of the "healing art" as applied to their work. Let them, however, discount the statements often made as to the nobility and altruism of the profession of medicine, remembering that it was the manner in which any work was done which ennobled it, rather than its intrinsic character. Let them therefore do their duty in no spirit of maudlin sentimentality, puffed with no sense of elation from the consciousness of the beneficence of their art, but with senses acute, mind alert, and sympathies awake, let them all do the best of which they were capable.

LONDON SCHOOL OF MEDICINE FOR WOMEN.

By Mrs. Bryant, D.Sc., Litt.D.

IDEALS OF STUDY.

[Abstract.]

Mrs. Bryant said that an ideal of study, to be helpful to the student, must primarily be conceived, not teleologically as a course of reading or even of research, but in its psychologic essence as a living growth rooted in the primitive intellectual interests of human beings. (An examination syllabus prescribed by the University described an ideal of study in the teleological sense, but she was there concerned with that subtle development of powers and interests and aspirations in the student's mind which was to him at once the reality and the motive of the achievement proposed.) In the healthy capable little child were seen: (1) The interest in knowing what things were and why they were so—fact and cause; and (2) the interest in making things other than they were and in some way better. It was out of these interests and in accordance with the development of them that ideals of study in all their variety and complexity grew, and it was by the cultivation of the interests that the life of the ideals was made healthy and strong. They might be called the theoretic interest which made direct for knowing, and the practical interest of which doing was the aim.

The ideal of knowledge was like an inaccessible mountain peak visible from many different points of view. All knew that the ideal in itself was one, though they said it differently according to their circumstances. Their various interests in knowledge were the expression of those circumstances. They differed according to intellectual types of brain and habit. Built in one way, they were, as it were, full of eyes without, rejoicing in their exercise, prompt to see and to think about things seen. Built otherwise, they were full of eyes within, finding their happiness in the exercise of their formative ability, strong in their regions of abstract thought. Some there were, indeed, like the four beasts in the Book of Revelation, full of eyes before and behind, and full of eyes within. These were the leaders of knowledge in every age.

Habit was the ally of brain type. It was the agent by which in education they sought either to counterbalance exaggerations of congenital type by developing a supplementary brain habit—as by setting the dreamy, absorbed child to do something for which close observation was required—or to increase the utility of the type by habits auxiliary to it, or even by emphasis of its natural ability. They were all apt to have dominant tastes corresponding to their powers, and universally their highest efficiency corresponded to that conjunction of power and taste.

The taste for a pursuit, however, might, and often did, exist without any special facility for it. No person could be interested in a pursuit which was entirely beyond his powers, though, from motives of duty, of affection, or of interest in some ulterior end, he would make the attempt. The practical question was as to the development of interests which would give a lead to dormant powers and nurse them into active life. Herein lay one chief work of education, to be accomplished by playing on the personal, social, and moral motives under the influence of which they made themselves do, and finally preferred to do, that which taxed their powers and was hard.

Education, however, proceeded with the minimum of strain and the maximum of permanent efficiency when it worked on the individual mind, in the main, as a development of interests in order of their natural strength, the weaker being practised as a means to the satisfaction of the stronger until it was strong enough to be self-sustained. That procedure would result in a life-habit for each individual highly conducive to his moral as well as his intellectual efficiency.

The central object of general intellectual education was (1) the development of the pure knowledge interest, and (2) the aim was to develop it in general as a well-balanced interest in all that human beings cared to know. It would generally be conceded that such an education was on the intellectual side the best foundation that could be laid for special studies, professional, commercial, or industrial, to follow.

As for the moral side, it was, above all, necessary that conscience, industry, responsibility, the habit of helpfulness, the desire to serve, should be developed to form the backbone of character. This was the highest educational end in itself; it was also the best guarantee of intellectual efficiency.

In regard to the practical interest in general, Mrs. Bryant said that to the man whose mind was centred on some result to be achieved—the cure of a disease, the sanitation of a town, etc.—the interest of any knowledge that would help him to his practical end was immense. Knowledge, to him, was power to achieve human ends.

In our day the variety and complexity of human ends were very great, every great advance in science having brought with it new power to achieve with the desire of achievement and enjoyment corresponding. Human needs, and desires and hopes of immunity from suffering multiplied and became more exacting as the knowledge and skill to supply them increased. In the region with which their own practical science was concerned, there was, of course, no limit to the human demand for health, but it was by the progress of their knowledge and skill that this vast demand had become developed into the multitude of special needs of which they knew to-day.

In all this necessary specialization one found the starting point to a train of reflection that suggested the desirability of keeping alive the round of theoretic interests the more, in view of the large demands that must be made for concentration in the professional and industrial life of all who served the world by their brains.

This was less likely to be forgotten in relation to the pursuit of medical studies than in almost any other special department of intellectual work. The need of a high standard in preparatory general education had always been steadily kept in view by the leaders of medical education. A highly educated person whose intellectual interest was closely limited by his special work was after all a somewhat inhuman kind of person, apt to be in general out of sympathetic touch with other minds. In dealing with the sick and suffering the highest knowledge and the finest skill lost something even of knowledge and skill when administered by a human nature thus dulled and chilled to human touch. It was greatly to be hoped, therefore, that the traditions of medical schools and the reading habits of medical men and women would be maintained, so that, in spite of the growing demands of their practical interest in highly specialized knowledge, the theoretic interest in general might not wither in their breasts.

On the other hand, it should be considered whether there is not ahead of them in general education a problem hitherto much neglected. True as it was that the essential contribution of general intellectual education to the outfit of the individual was the cultivation of the theoretic interest, it might be no less true that partly as a means to this very end, and partly as an end in itself, the development of the practical interest in some form should be clearly conceived as an object in education from the beginning. She did not, of course, mean by the practical interest in this context all that was understood by duty and morality. For the moment they were dealing with practical interests and the practical interest in knowledge as power in the sense of the artisan, the practical chemist, the engineer, and the doctor. The doubt in her mind was whether in all their zeal for education—technical education included—they were at all as clear as they ought to be about the psychology of its natural beginnings in the human mind. Certainly she was not clear, except that there was a problem to be solved. The solution might, perhaps, be conceived as the finding of the true mid-channel course between the Scylla of forcing skilled work on children before their powers were ripe, and the Charybdis of neglecting their practical nature altogether.

Every child should be interested in doing something. Most children were immensely interested, and for those who were not motives should be found to stimulate such interest. To do is on an average at least as natural as to know, and for both impulses there is the danger that they will be too easily satisfied, that is, that they would be satisfied without the real achievement of their end. It was the educator's business to

see that the step is taken from interest in doing the thing to interest—with determination—in doing it well. This was half the battle, and a good general would make the most of his forces by leading on the child's interest in doing to fasten on things that obviously failed of their purpose when done ill.

The other half of the battle remained. From the interest in doing the thing well sprang the interest in knowing how it was done. To know how might be entirely by rule and imitation, or it might be also or entirely by rule and imitation, or it might be also or entirely by misunderstanding the causes at work. There was the parting of the ways between the mere mechanic and the scientific workman.

It was obvious that the neglect of the practical interest in the education of the practically-minded was the loss of great opportunity for the cultivation of the scientific habit. The very essence of the old-fashioned grammar-school tradition was that boys should be trained morally and mentally by discipline as such—the discipline of literary or any other kind of studies—without the least regard to their ideas—of what they would like to do in life. The result in discipline might or might not have been successful: the result in scientific outlook on things and practical intelligence in affairs was inevitably what they knew it to have been—dislike of knowledge all too common, and well-nigh universal contempt. The remedy was in raising up a generation carefully trained throughout to associate practical excellence with understanding in all the common everyday pursuits as well as in the special business of life. That for the practically-minded an increase in theoretic interests would grow out of such education of the practical interest no one could doubt. She supposed it was a fact that practically-minded persons were in a majority—that those in whom the pure theoretic interest led were, in comparison, few. Nevertheless, there were such persons, and in some of them the interest in doing things was congenitally subnormal. That was a defect of serious import, not only as regards common serviceableness in life, but even as a bar on the full development of the theoretic interest itself. For not only was Doing dependent on Knowing, Knowing was also dependent on Doing, as the progress of science by collection of facts and by experiment made more apparent year by year. The persons who loved to know but hated to do could be—relative to the advance of knowledge in their day—but very imperfect knowers at the best. Nor was it enough—though it was good—to attempt their cure by putting them through a course of general elementary science at school. The knowledge-loving child would fall into an interest in doing for the sake of knowing, and thus do well enough probably in his experimental science. The problem in his education was to interest him first in the application of knowledge to practical things as a development of knowledge, and hence to provide a natural means for the growth of the practical interest itself.

The conclusion was (1) that there should be in every person's education provision for some practical work of an obviously useful kind, such as carpentry, cooking, housewifery, agriculture; (2) that it should be of such a kind as to require intelligence of an all-round scientific type not purely mathematical, for instance—but involving problems in the concrete sciences; (3) that to this end it should be of a somewhat miscellaneous character, such as would fit a boy or girl for managing a house or a farm without servants in a remote district far from shops; (4) that it should be associated with the regular instruction in general elementary science, but more by way of sympathy and general sense of mutual dependence than by any parallelism of courses. And thus the two ideals of study might from the beginning help to develop each other. The complete student tended to conceive them as one, the ends of practice ever formulating inquiries which were the points of departure for new developments in science, and the applications of science ever leading to visions of development in art.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.

By Sir Boverton Redwood, D.Sc.

GENERAL STUDY AND SPECIALISM.

[Abstract.]

At the opening of the School of Pharmacy Sir Boverton Redwood delivered an address, in which he said that it was generally admitted that education should be progressive throughout life, but it was not equally well recognized that even examinations had their equivalent in the frequently-recurring opportunities which our fellow-men were afforded of forming a judgement of our behaviour in circumstances of difficulty. It had been said by the author of a previous address that there were but three classes of men—the retrograde, the stationary, and the progressive. But he thought that the man who was stationary was in imminent danger of retrogression, and he urged every one to strive to acquire each day a little, if only a very little, more wisdom, quoting Sydney Smith's remark that it was no more possible for an idle man to keep together a certain stock of knowledge than it was possible to keep together a stock of ice exposed to the meridian sun. After dealing with the conditions of general study, he proceeded to speak of specialism, the dominant note of advanced knowledge in these days. The two dangers to be guarded against were the premature commencement of specializing and superficiality in acquiring special knowledge. A man making his living by the exercise of a special calling, such as that of a pharmacist, was the better qualified for his avocation in proportion to the extent of his general knowledge, and he shared the view that the prevailing tendency of our schools and universities was far too much in the direction of specialization. At the same time, he thought that if they were to keep before them the laudable aim, not merely of earning their daily bread and being useful members of the community, but also of adding something to the sum of human knowledge, it was needful to specialize, and to specialize not only in the sense in which the pharmaceutical chemist fitted himself for his calling, but subsequently to select some particular subject of study with a view to learning something more about it than other people knew. It was, however, impossible to specialize advantageously until they had first of all laid a sufficiently substantial foundation of wide general knowledge, and it was, no doubt, increasingly difficult to resist the temptation to abbreviate the preparatory course of training and study. Nothing but a firm resolve to lead the strenuous life, of which President Roosevelt afforded so conspicuous an example, would enable them to carry out what he advocated, but such a life would assuredly bring a more or less rich reward to all who led it. No student should be discouraged by the thought that he had few opportunities for doing anything more than his daily duties. Let him remember the career of Scheele, the illustrious Swedish chemist, who spent a laborious life in working up an ultimately prosperous business as a pharmacist, but who, nevertheless, found time to prosecute researches resulting in discoveries which still ranked amongst the most important that chemists had made. It should further be borne in mind that this research work was not carried out in a well-equipped laboratory, such as students had at their disposal on the Pharmaceutical Society's premises if they qualified themselves to make proper use of it, but was conducted in a back shop during such hours as could be spared from an exacting business. In conclusion, he strongly insisted on the absolute necessity for thoroughness in specialism, pointing out that there were times when even the conscientious student needed strength of will to resist the temptation to "scamp" his work. It was the more necessary for the specialist vigilantly to guard against superficiality, for as soon as a man rose above the average level in respect of knowledge of a particular subject, he became to a considerable extent removed from the healthy atmosphere of argumentative and corrective criticism, and it was then that his inherent qualities were put to the test.

ROYAL VETERINARY COLLEGE.

By William Hunting, F.R.C.V.S.

THE VETERINARY PROFESSION AND COMPARATIVE PATHOLOGY.

[Abstract.]

After reviewing the history of the veterinary profession since the foundation of the College in 1791, Mr. Hunting said that comparative pathology had already elucidated problems which a few years ago were not considered within practical solution. It offered such probabilities of controlling, preventing, and curing disease in men and animals as were once only dreamed of. It was safe to say that they were on the eve of pathological discoveries which would eclipse in value anything which had been done before, and that these discoveries would be as applicable and useful to veterinarians as to medical men. Comparative pathology covered the whole animal kingdom, and required workers in all its divisions. Veterinarians had already contributed a fair share to the

general fund of knowledge, but they were hampered by material and financial considerations. What was required was some endowment, and their claim should be pressed upon the Board of Agriculture. If the Board endowed veterinary research, its action would not be a one-sided gift; what it sowed it would reap tenfold. They wanted laboratories for veterinary pathological research. Theirs was not a subsidiary division of pathology; it was a part of the whole science, and a special and well-marked branch more easily and profitably followed by those who had had previous training in the peculiarities and diseases of animals. He ventured to say that the founder of the Brown Animals Institute would agree with him that an institution dedicated to the study of pathology and the relief of animal sufferings, such as existed at Vauxhall, would be more reasonably and successfully conducted by a veterinary surgeon than by a professor of human medicine. They had in that school a pathological laboratory capable of fully supplying the wants of the students and providing for the post-graduate workers who had been invited to share its benefits. They had, too, in Professor M'Fadyean a scientist whose research work was known and appreciated all over the world; but they wanted further opportunities and more workers to enable them to reap the rich harvest standing in the field of veterinary patnology. Looking into the future, Mr. Hunting said he did not think that the sphere of activity of the veterinary profession must decline owing to the ever increasing importation of dead meat, the advent of motors, and the progress of legislation for the extirpation and prevention of disease. On the contrary, he looked forward very confidently to a large increase in other directions—to growth in hygienic work and expansion in classes of patients. The smaller domestic animals kept as pets and companions now formed part of most households, and afforded ever-increasing opportunities for veterinary practice. Their diseases were more varied than those seen in the horse and ox, and were of the greatest pathological interest. He looked forward also to a great increase in the number of appointments which must necessarily accompany the growth of hygiene and preventive medicine. Every large town would soon have a veterinary officer as they now had a medical officer. The inspection of abattoirs, dairies, and cowsheds must inevitably be entrusted to veterinary surgeons as the authorities became aware of their special fitness for such posts. There were few diseases about which they knew enough to render their preventive action certain, and therefore he anticipated that research in comparative pathology would be insisted upon by the State and by local authorities.

OPENING OF THE WINTER SESSION IN THE MEDICAL SCHOOLS.

ST. BARTHOLOMEW'S HOSPITAL.

The annual old students' dinner took place in the Great Hall on Monday, October 2nd, Mr. Anthony A. Bowlby, C.M.G., in the chair. No less than 202 guests, the largest number on record, were present, and among them were Lord Ludlow, Treasurer to the hospital; the Provost of King's College, Cambridge, and the President and Secretary of the Royal College of Surgeons of England. After the usual loyal toasts the Chairman proposed "The Hospital and the Medical School." He observed that it seemed quite unnecessary that the hospital should shift its quarters to a suburb such as Wimbledon, merely retaining a receiving-house in Smithfield. The hospital had for 800 years served the medical wants of the City of London, which still needed medical aid close at hand, just as other quarters of the metropolis had hospitals in strategic positions suited for local medical needs. As for a suggestion which had been raised that the present site of the hospital ought to be sold, money had little to do with the question, and the hospital was the very best building which could exist on that site. What was wanted most urgently was a pathological department, and that, the Chairman believed, would soon be erected. Great credit was due to the past Treasurer, who started the appeal for subscriptions to the necessary enlargement of the hospital, and the present Treasurer was the right man to continue the task. In reply, Lord Ludlow said that as guest and as Treasurer at the same time, he considered that he was a "Bart's man." St. Bartholomew's was their—the staff's—hospital, since the staff made its reputation. The pathological laboratory would, he believed, be commenced within eighteen months. Dr. Norman Moore proposed "The Guests," coupling with the toast the name of Mr. Tweedy, the President of the Royal College of Surgeons, who replied that he never entered the quadrangle of the hospital without a feeling of reverence; and as to its eight centuries of prosperity, he wished it eight hundred years more. Professor Howard Marsh proposed "The Chairman," who, he said, was equally distinguished from his student days for proficiency in his profession and for excelling in manly sports. The Chairman replied, and also proposed the toast of "The Secretary," Dr. Herringham, who, in responding, noted the phenomenal success of the annual dinner, which was better attended than any which had preceded it.

CHARING CROSS HOSPITAL.

The annual dinner of the past and present students of the Medical School of Charing Cross Hospital was held at the Hôtel Cecil on Tuesday. Dr. Cecil Bosanquet presided, and the attendance numbered some 135 past and present students, in addition to sundry guests. After the toasts of "The King" and "The Royal Family" had been duly honoured, the Chairman proposed the toast of the "Charing Cross Hospital and its School." He coupled it with the name of Mr. Stanley Boyd, who presently made due reply. The toast of "The Guests" was proposed by Mr. James Cantlie and acknowledged by Sir James Crichton-Browne in a speech in which he expressed the opinion that, though the medical schools had never lacked men of first-class ability, the average medical student of to-day was in every way the superior of his predecessor. The only other toast upon the list was that of "The Chairman," which was proposed by Dr. H. Montague Murray, and suitably received and acknowledged. The centre point and principal event of the evening, however, was a presentation from past and present students to Mr. John H. Morgan, C.V.O., who has this year retired from the position of Senior Surgeon to the hospital. Mr. F. C. Wallis, who made the presentation, explained that his pleasant duty had been placed upon him because, as he had so long been Mr. Morgan's Assistant Surgeon, he had been more closely in touch with him than any of them. He drew attention to the fact that Mr. Morgan was resigning his position before his term of office came to a natural close and while still at his best. In doing this he was exhibiting the same spirit which had so endeared him to the whole school, and which had led to "Johnnie Morgan" being recognized by all who had ever been connected with the school as a thorough sportsman both figuratively and literally. They were all thankful that, although he had given up his position on the staff, he still intended to serve the school in other capacities. The testimonial, which was then presented, took the form of a silver salver and a handsome loving cup bearing the following inscription: Presented to John H. Morgan, Esq., by the Past and Present Members of Charing Cross Hospital Students' Club on the occasion of his retirement from the post of Senior Surgeon to the hospital in gratitude for his unfailing kindness and invaluable assistance to the Club as Treasurer and President. Mr. Morgan, in acknowledging the gift, said he had only two words to say, short in themselves but difficult in utterance. Farewell, and thank you. Farewell he had already said to the wards, but he hoped long to continue to do good work for the hospital as Treasurer of the School Committee. He had always held it a principle that young men should be given their chance: it was acting on that principle that he had resigned his position. He sketched the history of the Students' Club since its foundation, and said he was greatly pleased with the progress it had made. He considered that a students club properly managed and supported was the most important factor in the promotion of that *esprit de corps* which was so valuable a factor in the building up of a hospital's reputation. Thank you, he said, for the charming present I have just received at the hands of Mr. Wallis. He felt he did not merit it, and he knew not what he had done to deserve such a tribute of kindness and affection. He then thanked those members of the staff who had been associated with him in the management of the Students' Club and the various secretaries without whose kind help all his endeavours and aspirations would have been in vain. Gentlemen, he concluded, from the bottom of my heart, I thank you and wish you all farewell.

ST. GEORGE'S HOSPITAL.

THE annual dinner of St. George's Hospital Medical School was held at the Whitehall Rooms on October 2nd, Mr. A. William West, Treasurer of the hospital, being in the chair. The dinner, which was attended by over 130 St. George's men, was most successful. The Chairman, after the loyal toasts, in which reference was made to the recent visit of the Prince of Wales to the school, proposed "The Health of the Hospital and its Medical School." Mr. Warrington Haward, in replying for the Governors, emphasized the close relations which had always existed between the hospital authorities and the staff of the Medical School. Dr. Arthur Latham, in replying for the school, gave an interesting review of the changes in the school, which had culminated in the transference of the preliminary and intermediate portions of the medical student's curriculum to the University of London. He drew attention to the alterations which had been made in the laboratories of the school, at a cost of £600, to meet these changes, and laid much stress upon the value of the magnificent pathological and research laboratories which were available in what would in future be known as St. George's Clinical School. Dr. Latham then dealt with the financial condition of the school, and said that in order that the fullest advantages might be taken of the recent changes it was necessary to appeal to the public for funds. He said that there were many reasons why the public should remember the school with gratitude. During 170 years, four St. George's men had had monuments raised to their memory in Westminster Abbey, and 31 had held royal appointments, no fewer than 11 having been serjeant-surgeons. In those 170 years the school had given to the world John Hunter, the founder of modern surgery; Edward Jenner, the discoverer of vaccination; Thomas Young, who was the first to propound the undulatory theory of light; Sir Benjamin Brodie, the first to treat scientifically diseases of the joints, the first surgeon in England to practise lithotrity, and the founder of the Fellowship of the Royal College of Surgeons; Mathew Baillie, the first to define cirrhosis of the liver, and James Hope, who first discovered the causation of the heart sounds. Dr. Latham drew attention to the connexion of Snow, the father of modern anaesthetics, with the school, and to the fact that here the first lectureship in the world on tropical medicine had been established. He thought that a school which had done so much deserved well of public generosity. In concluding, Dr. Latham announced that Dr. Osler, Regius Professor in the University of Oxford, would in future lend a hand in the teaching in the school. Mr. Clinton Dent, in a few happy phrases, proposed the health of the orator of the day, and Mr. Brudenell Carter replied. The Dean of the school, Mr. F. Jaffrey, in proposing the health of "Past and Present Students," referred to the many changes among the hospital staff, with regrets at the loss of so many tried friends and colleagues, but with good wishes for those who had replaced them. Colonel Hartley, V.C., replied for the past students, and Mr. Hetherington for the present students. The health of "The Chairman" was proposed by Sir William Bennett, who emphasized the sympathetic solicitude which Mr. West had always shown towards the medical school in its relations with the hospital, and the attention which he had paid to any little detail necessary to the welfare of the hospital.

GUY'S HOSPITAL MEDICAL SCHOOL.

THE winter session began without formality on Monday, October 2nd. In the evening a house dinner was held in the College Dining Hall, at which Dr. Pye-Smith, F.R.S., President of the Students' Club, was Chairman. The Treasurer of the Hospital, Mr. Cosmo Bonsor, Dr. Frederick Taylor, Dr. Newton Pitt, Sir Cooper Perry, Sir Thomas Stevenson, Mr. Golding-Bird, Mr. C. J. Symonds, Dr. G. H. Savage, Dr. Eason, and other members of the staff, and a large number of past and present students, among whom were several freshmen, were present. In proposing the toast of "The Students' Club," the Chairman said that the dinner served the useful rôle of bringing together men of various years, who had become scattered over the world, but who had met in that room for the renewal of friendships, and to show their interest in Guy's Hospital. He thanked the Treasurer and other members of the governing body for their presence; and, referring to the men of the past (whose portraits adorn the walls of the Dining Hall), he mentioned with kindly touch Birkett, Owen Rees, Sir Astley Cooper, Moxon, and Cooper Forster. Congratulating the freshmen, he remarked that he had found Guy's Hospital to be a ready passport in other countries, especially the United States and France. The Treasurer also welcomed the freshmen, and said that if they had come to do their duty they would find themselves from the first surrounded by a spirit of good fellowship. Dr. Morton Palmer proposed the health of the Chairman, who still came to the meetings of the Committee of the Club, although no longer a member of the teaching staff. Dr. Pye-Smith, in reply, said that one of the saddest days of his life was that on which he had, from flux of time, given up his post as a teacher at Guy's, and he accounted it a great privilege to be able to return to those revered walls. In the course of the evening, Mr. Chapple and Mr. Wyatt each sang a song, and Mr. Edridge gave an amusing recitation.

KING'S COLLEGE HOSPITAL.

THE annual old students' dinner was held at the Hotel Cecil on Tuesday, October 3rd, under the chairmanship of Dr. Arthur Napper, of Cranleigh, an old King's man. The number of guests who sat down was 112, and several messages of regret were received from those who had promised to attend, but were unavoidably detained. Amongst the visitors present were Dr. Clifford Allbutt, who had delivered the introductory address in the afternoon, the Rev. Dr. Bourne, Head Master of King's College School, and Mr. W. A. Pite, the architect of the new hospital buildings. The toast list was short and the speeches bright and not too long, thereby gaining a degree of attention which is not always forthcoming in these convivial gatherings of old friends, many of whom have not seen one another since their student days. Dr. Napper, in proposing the toast of "Success to King's College Hospital and its Medical School," stated that it was forty-two years since he had joined as a medical student, and recalled many reminiscences of those who in the past had held distinguished positions in the medical and surgical world. He had been house-surgeon to that great master of surgery, Sir William Fergusson, and recalled how the operating theatre was always crowded with visitors to see and admire his skill and dexterity. The work of a house-surgeon in those days was no sinecure, since the wounds subsequently required two or three dressings a day, and much pain resulted from the efforts to squeeze out all the laudable pus that was secreted. Appreciative references to Lord Lister's work, and to the modern facilities for scientific study which he had seen that day in the laboratories at King's College, were made by Dr. Napper, whose speech was heartily applauded and much appreciated for its humour and genial *bonhomie*. It was replied to by Dr. Buzzard, on behalf of the Council of King's College, and by Dr. Ferrier for the Hospital Staff. The former took the opportunity of referring to the recent changes which had been made in the status of the medical school. Two factors had led to these changes, namely—the desire of the University of London to dissociate the early and later medical studies, and the necessity for removing King's College Hospital to some less central site than that at present occupied. The objection raised by other hospitals to sending their students to University and King's Colleges for their earlier studies was quite reasonable when the association between the college and hospital was close and intimate. At King's College a complete separation had now been arranged between the two parts, the earlier studies being conducted under the control of the Faculty of Science, and the Faculty of Medicine consisting only of the School of Advanced Medical Studies. No member of the staff in the former had any connexion with the hospital, and the financial arrangements were entirely distinct. One of the first results of this rearrangement was that Westminster Hospital had agreed to send its students to King's College for their early medical studies, and that another hospital had opened negotiations with the same end in view. As regards the new hospital, Dr. Buzzard was able to announce that the roads and sewers on the site had been completed, and that plans had been prepared for the casualty and out patient departments, which were under consideration by the medical staff, so that it could be hoped that early in next year the work would be put out to contract. The only remaining toasts were "The Visitors," responded to by Dr. Allbutt, and "The Chairman," proposed by Mr. Boyce Barrow. The evening was thoroughly enjoyed by the company present. The staff was represented by Drs. Ferrier, Tirard, Dalton, Pritchard, Ernest White, Phillips, R. Crawfurd, and Silk, and Messrs. Watson Cheyne, McHardy, Underwood, Burghard,

Cheatle, Beale, and Carless. The army was represented by Lieutenant-Colonels Bond, Moberly, Simpson Powell, and Andrew Duncan, and by Major Holt, D.S.O. Old King's men gathered from near and far, and amongst those who came from some distance were Drs. Bateman (Richmond), Walters (Reigate), Cheatle (Burford, Oxon), Lewis (Folkestone), East (Malvern), Dimmock (Harrogate), Wedgwood (King's Lynn), Lace (Farningham), Sprawson (Blackpool), Mariette (Plymouth), H. P. Ward (Southampton), Milles (Hong Kong), and many others.

The plans of the new hospital were hung in the reception room, and Mr. Pite, the architect, was good enough to explain them. Naturally they formed a subject of great interest to the men present.

THE LONDON HOSPITAL.

The London Hospital Medical School made a new departure this year by holding its annual dinner at the Princes Restaurant instead of in its own habitation in the hospital precincts. Owing perhaps to this cause, but more probably because a presentation was to be made to the popular Warden of the school, Mr. Munro Scott, the room was exceedingly well filled. The number of old "London" men was alone upwards of 260, while the total assemblage must have been close on 300 persons. The Chairman of the evening was Sir Frederick Treves, and behind his chair a screen covered with challenge cups and shields bore silent testimony to the modern success of the school in inter-hospital athletic competitions. After the toast of "The King" had been duly honoured, the Chairman, on rising to propose the remaining loyal toasts, evoked a natural outburst of applause by the announcement of his receipt of a telegram from Her Majesty Queen Alexandra, which read as follows: "On this auspicious occasion my best wishes will be with you, and I hope that every success will attend this splendid hospital which has been such a Godsend to the poor of the East End of London." He was sure that they would all desire that he should send an answer to Her Majesty, their President, saying how very greatly they appreciated her very gracious recollection of them. He next dealt with the toast of the evening, "The London Hospital"; in doing so Sir Frederick Treves gave an amusing account of things as they were at the school twenty-five years ago, a time when little provision of any kind was made either for the minds or the bodies of the students, when discipline was not, and when the Dean of the day combined innumerable functions in his own person including those of lecturer, dissecting-room porter, and general adviser, and was ready to "sign up" anybody for anything all for the modest fee of half-a-crown. The school at that time might be regarded as a senile individual undergoing a rest cure; it had been growing younger ever since, and passing its ten competitors, now held the premier position in point of the number of fresh students who were attracted to it. As for their hospital they could justly claim that it was now the greatest hospital in the world. It had come to be regarded as a standard of reference for what the equipment of a hospital should be, and for this progress they mainly had to thank the skilled management and unceasing energy of their Chairman, Mr. Sydney Holland, while to their matron, Miss Lückes, they and all London were also indebted as one of the pioneers of modern nursing. Before sitting down Sir Frederick Treves alluded to the presence among them of Dr. Brushfield, a medical man who had become a "London" man as far back as 1844, but who, as they could see for themselves, was still in the very best of mental and physical health. Lord Stanley, in acknowledging the toast, invited those present to believe that his office as Treasurer of the hospital was an easy one, inasmuch as its Chairman not only told him what money he must pay, but also found the wherewithal to do so. They were sometimes, he said, accused of extravagance, but the indictment was untrue; every penny expended was a matter of anxious thought and consideration. They, of course, spent a good deal of money, but that was because they all recognized that there was one thing in which they could not indulge—the extravagance of being second-rate and not up to the needs of the time. There was some talk of State aid for hospitals, but he hoped it would never come to pass. State aid for medical education might well be forthcoming, but State aid for hospitals themselves meant more or less interference from the House of Commons, and that, although a member of that House himself, was a thing he advised them at all costs to avoid. Mr. Sydney Holland, the Chairman of the hospital, on rising in his turn to acknowledge the toast, was greeted with a prolonged burst of applause. In a speech full of touches of quiet humour he sketched the outlines of his nine years' work at the hospital and of his relations with the staff. Giving a list of the various improvements which had been effected, he showed that the hospital had practically been rebuilt and the number of its beds raised to 927. Their policy was one of constant progress and their aim that of making the dissemination of the knowledge and the education of the medical men of the future march hand in hand with the relief of actual and existing suffering. That this policy was the right one was shown by the fact that, although it had been necessary to spend some £500,000 on improvements, they were just as well off now financially as when they started improving. Their success was mainly due to the exceedingly happy relations which existed between all the officers of the hospital, lay and professional, and he specially desired to thank the honorary medical staff for the assistance which its members were ever willing to afford him. Dr. Percy Kidd, Chairman of the Medical Council of the hospital, who also replied to the toast, warmly confirmed all that had been said by the previous speakers on the subject of the great services rendered alike to the patients and the students and to the school by Sir Stephen Mackenzie, and dilated on the great loss the retirement forced upon him by ill health would cause to those whom he was leaving. The presentation to Mr. Munro Scott was then made; it took the form of a silver centre-piece and four candlesticks of eighteenth-century work, enclosed in an oak cabinet bearing the following inscription: "To Munro Scott, Esq., from the Staff, House Committee, and Past and Present Students of the London Hospital Medical College, in recognition of his valued services for 25 years as Warden. Jan. 12th, 1905." In a speech of warm testimony to Mr. Scott's services, Sir Frederick Treves said that it was a mystery to all of them how he had managed to master the intricacies of medical education so thoroughly as to be a perfect guide to the students, and had also found a way at once to manage the medical student himself and to gain his respect and affection; that he had done all three all present knew. Mr. Munro Scott's health was then drunk with great enthusiasm, and he made acknowledgement of the gift in a speech of much feeling. The toast-list then concluded with "The Health of the Chairman," which was proposed by Dr. Rice Oxley.

ST. MARY'S HOSPITAL.

The old students' dinner in connexion with St. Mary's Hospital Medical School took place at the Whitehall Rooms on Tuesday evening. It brought together some 170 old students and guests, and Mr. Herbert Page, Senior Surgeon, took the chair. After the usual loyal toasts had been proposed and duly acknowledged, Mr. Page rose again to propose the toast of "Prosperity to St. Mary's Hospital and its Medical School." He referred to the absence of Dr. Carey Coombes, whose place he was taking as Chairman, and read a telegram from him wishing success to the evening, and explaining that his absence was due to his illness. He sketched briefly the rise and progress of the school, and commented with satisfaction on the fact that the attitude of the public towards medical schools was altering. Their importance to the public was now being recognized, and many men of position and influence outside the medical profession now took a practical interest in their welfare. A development of intellectual activity was now in progress, and universities were springing up in all directions. In London in particular the resuscitation and rejuvenation of the London University was destined to change the whole character of medical education, and he hoped that before long all medical students in London would be numbered among the undergraduates of this University. As for their own school, they were greatly indebted to the Dean, Dr. Caley, for its efficiency and for the position among its fellows which it had gained. The toast was acknowledged by the Chairman of the Hospital Board, Mr. Henry Harben, J.P., L.C.C., who made allusion to the recent decision of King Edward's Hospital Fund to discountenance the allotment of any portion of the funds of a hospital to the support of its medical school. This, he thought, was a mistake, because it was of importance to the public that due provision should be made for the education of medical students. It should be a recognized function of the hospitals not only to apply knowledge but also to provide for its dissemination for the benefit of the public at large. In the long run, however, he thought that medical education would gain by the change, since the necessity of providing for it by endow-

ments would be forced upon the public notice. Dr. H. A. Caley, the Dean of the School, also replied to the toast. He gave a brief account of the changes in the school staff which had recently taken place or which were anticipated, and of the success with which the school was meeting both in examination rooms and elsewhere. The new athletic ground was doing much for their games, and the teams this year had won two shooting cups. Much of the school's future would depend upon the Clarence Wing, and he appealed to those present to assist in getting funds to open it. The final toast was that of "The Chairman," which was proposed by Dr. Lees and duly honoured. During the evening a number of songs were sung; the intentional brevity of the speeches enabled a very pleasant evening to be passed, and afforded plenty of time in which old acquaintances could exchange reminiscences and bring old friendships up to date.

MIDDLESEX HOSPITAL.

The annual gathering of past and present students of the Middlesex Hospital Medical School was held in the Empire Hall of the Trocadero Restaurant on October 2nd, W. Essex Wynter, M.D., F.R.C.P., Physician to the Hospital, being in the chair. Dinner was served soon after 7 p.m., 144 sitting down. The Chairman proposed the usual loyal toasts, while "Prosperity to the Middlesex Hospital and Medical School, and its Students Past and Present," was proposed by the President of the Royal College of Physicians, Sir R. Douglas Powell. The replies to it were delivered by Mr. E. A. Fardon (Resident Medical Officer) on behalf of the Hospital, Mr. John Murray (the Dean) on behalf of the School, and by Mr. H. S. Acton (Senior Broderip Scholar) on behalf of the present students. The toast of "The Visitors" was proposed by Andrew Clark, D.Sc., F.R.C.S., and replied to by Chevalier Wilhelm Ganz, who, with the assistance of Messrs. R. E. Miles, Richard Green, and J. A. Bovett, kindly carried out a charming musical programme. The Chairman's health was proposed by his colleague and contemporary Mr. J. Bland-Sutton, and after due acknowledgement the guests adjourned to the adjoining Alexandra Saloon for coffee and conversation. This plan and all the arrangements for the evening met with high approval, and the gathering did not break up until 11.30 p.m.

ST. THOMAS'S HOSPITAL.

St. Thomas's Hospital Medical School this year led off the annual series of Old Students' Dinners, its festival taking place on Saturday last, or two days earlier than that of any other medical school. The place of reunion was the Hotel Cecil, and that the selection of a Saturday night was a happy choice seemed amply proved by the large number who were able to attend. Upwards of 160 old St. Thomas's men put in an appearance, while a considerable number of guests were also present. The toast list was commendably short and thus enabled a very pleasant sociable evening to be passed under the chairmanship of Mr. Bernard Pitts. The Chairman himself took charge of the usual toasts, and in proposing that of the Queen and the Royal Family, of course paid special honour to H.R.H. the Duke of Connaught, the President of the Governing Body of the Hospital. It fell to his lot likewise to propose that of "Success to the Hospital and the Medical School," for the Archbishop of Canterbury, who had undertaken to do so, was unfortunately prevented from attending the dinner. The change of proposer, however, made no difference to the enthusiasm with which the toast was received. Mr. Pitts coupled it with the names of the Treasurer of the Hospital (Mr. J. J. Wainwright), and of the Dean of the Medical School (Mr. J. H. Fisher), and each of them in his turn made suitable response. The final formal toast of the evening was that to the health of the Chairman himself. It was proposed by Mr. W. F. Haslam and excellently received by those present. Mr. Bernard Pitts made a brief reply, and the evening so far as official proceedings were concerned then terminated. The band of the Royal Artillery was in attendance and played at intervals throughout the evening.

UNIVERSITY COLLEGE.

The annual dinner of the old and present students of the Faculty of Medicine of University College was held at the Hotel Cecil on October 2nd, under the presidency of Sir Thomas Barlow, Bart., M.D., K.C.V.O. Among the invited guests were Dr. T. Gregory Foster, Principal of University College, and Mr. Henry Lucas, Chairman of the Hospital Committee. The toast of the evening, "Success to the Medical School and University College Hospital," was proposed by the Chairman. After welcoming the guests, Sir Thomas Barlow indicated the lines upon which the incorporation of University College in the University of London would take place and the relations which would in the future exist between the Medical School and the Hospital. The new buildings for the school in which the advanced medical studies would be conducted had already been commenced. The Chairman referred in very sympathetic terms to the loss which their many friends had sustained in the death of Mr. Christopher Heath and Dr. Vivian Poore. Dr. T. Risien Russell, the Dean of the Faculty, replied. "The Chairman's Health" was proposed by Mr. Henry Lucas, and Sir Thomas Barlow replied. Dr. F. T. Roberts, Dr. W. H. B. Stoddart, and Dr. W. F. Addey contributed to the musical programme. Dr. Roberts—who seemed, if possible, in better voice than ever—had a most enthusiastic reception.

WESTMINSTER HOSPITAL.

The past and present students of the Westminster Hospital celebrated their annual dinner on Monday, October 2nd, at the Trocadero Restaurant. The chair was occupied by Mr. Gustavus Hartridge, F.R.C.S., Ophthalmic Surgeon to the Hospital, who presided over a large and representative gathering of Westminster men. In proposing the toast of "The Hospital and Medical School," Mr. Hartridge lamented the loss which staff and students alike had sustained by the resignation of the senior physician, Dr. Allchin. Mr. Charles Stonham, Senior Surgeon to the Hospital, in replying, pointed out that the term "small" applied to a hospital was a purely relative one. The future of Westminster was, he said, as a clinical school, and as such there were ample opportunities for every student to obtain as complete and practical a knowledge of his profession as would be possible at any hospital however large and however much flooded with clinical material. Mr. Percy Paton, F.R.C.S., Dean of the School, followed up these remarks by a reference to the excellence of the examinational results obtained, even in those subjects for the teaching of which arrangements had now been made with the science department of King's College. It was to be understood that there was no amalgamation with King's College Hospital or Medical School; Westminster was the pioneer of that inevitable movement to bring the teaching of the preliminary studies of the ancillary subjects in the London University to a standard that would brook no comparison——that movement which even the largest of the London schools were now beginning to recognize. The toast of "The Past and Present Students" was proposed by Dr. de Havilland Hall, and associated with the names of Dr. Frederick Palmer and Mr. Scott. Dr. Palmer, in his acknowledgement, referred to the death of Mr. Christopher Heath, at one time surgeon to the hospital. "The Chairman" was given by Mr. Walter Spencer, and drunk with enthusiasm. The secretary of the dinner, Mr. Arthur Evans, is to be congratulated on the extremely successful evening that rewarded his efforts.

INTERNATIONAL CONGRESS ON THE EDUCATION AND PROTECTION OF CHILDHOOD IN THE FAMILY.

This Congress has lately been held at Liége, being one of the many Congresses which have assembled there during the time that the Exhibition has been open.

The Congress was divided into four sections: The first dealing with the study of childhood; the second with general questions on the subject, education in the family before school age, education in the family during the time the child is attending school, and education in the family after the child has ceased attending school; the third with abnormal children; and the fourth with various leagues which have been formed for the protection of children.

The papers read were in the form of reports, and are contained in seven volumes, printed in French, and issued to the members and delegates before the date of the opening of the Congress. Other volumes containing a full report of the proceedings will be sent in due course.

Inaugural Ceremonies.

The delegates were received by the local authorities in the Hôtel de Ville on Sunday evening, September 17th. Monsieur Dupont, Vice-President of the Senate, presented the dele-

gates to Monsieur Micha, who received them in the absence of the Burgomaster, and welcomed them to Liége. The opening meeting was held on September 18th in the University, under the presidency of Monsieur Van den Heuvel, Minister of Justice, who gave the inaugural address, after which the members and delegates interested in different sections made their way to the rooms set apart for the reading and discussion of the reports.

The Study of Childhood.

In the first section one of the most important reports was that by M. Alfred Binet, Director of the Laboratory of Physiological Psychology at the Sorbonne, Paris, on the utility of creating an international and permanent commission on pedagogy. The object of this commission is to avoid the loss of useful ideas, to put in practice happy innovations which have been proved to be of service, and to draw nearer the scientific and executive authorities. In order to put these views into practice he proposed an international commission which should meet every year in a different country and be composed of permanent subcommissions, which should work in each country. The Congress would have to nominate one member in each country, whose duty would be to put himself in communication with the Board of Education, so that an executive subcommission on pedagogy might be formed. The section agreed to this, and nominated M. Binet as president and M. Ufer as secretary. Names of ladies and gentlemen were then put forward to represent different countries, Miss Ella Pycroft representing England. Other important reports were those by MM. Malapert and Laberthonnière, and which were entitled Experimental Researches into the Amount of Intellectual Fatigue and the Conclusions to be drawn therefrom, and the Use of Experimental Psychology in connexion with Education, and by Mr. Will S. Monroe, Miss Anna Buckbee, and Miss Harriet A. Marsh on child study in the United States. Another report which created considerable discussion was that by M. Bareilles of Toulouse on moral inquiry, in which he said it was necessary to make many observations on the good and bad tendencies of children, and to seek for the causes which had determined these moral acts, for by means of this knowledge greater moral power would be given to the child in the family and in the school by the instructor.

Education.

The second section was the busiest, the reports filling up no less than four volumes, and necessitating an afternoon as well a morning sitting. To describe fully the work of this section would take up too much space. The chief papers in the first volume dealt with the necessity of diffusing knowledge about education in the family, the education of children at home, prejudices and superstitions, the aesthetic education of the child, art and the method of teaching it by pictures, and how to educate children to fulfil their social duties. In the second volume were reports on education of the senses, the relation of games to education, culture by the parents of the faculty of observation and will power, and the organization of the personality. The papers in the third volume dealt almost entirely with the question of the way in which the family and school should work together for the good of the children, how to organize meetings between the parents and the teachers, and the subjects that should be discussed at these meetings, while the reports in the fourth volume were concerned with the education of the young girl, so as to fit her to take her place in the family.

Abnormal Children.

In the third section there were lively discussions between the doctors and the pedagogues, or schoolmasters as we should call them, after the reading of a report by Dr. Demoor, the President of the Section, on the Education to be given to Undisciplined Children. Dr. Demoor, in his paper, had advocated that their treatment should be medico-pedagogic, and that the greatest latitude should be given to the instructors under the direction of the doctor, who should be the director of the school, a man skilled in education and a psychologist. The pedagogues objected to be placed under the direction of doctors, but preferred to be at liberty to do as they pleased. In the end a compromise was effected, and the doctors and the pedagogues undertook to draw up tables to give the histories of cases which came under their care. In another report the coeducation of the sexes came up and the usual arguments for and against were discussed. The principal reports read were: Classification of Abnormal Children, by Dr. Decroly, Director of the Institution for Special Teaching at Brussels; Methods of Recognizing Mentally-defective Children, by Monsieur A. Binet and Dr. Simon; The Present Provision for Abnormal Children, by Dr. Boulanger, Assistant Physician at the Institution for Special Teaching at Brussels: the Education of Abnormal Children and their Obligatory Instruction, by Dr. Ley, Physician to the Special School at Antwerp; the Education which should be given to Undisciplined Children, by Dr. J. Demoor; Undisciplined Children (Boys), by Monsieur Menard; Formation of the Staff who have to Educate Mentally Defective Children, by Monsieur Tobie Jonckiere, Assistant Physician at the Normal School at Brussels and one of the Secretaries of the Third Section; How to Teach Deaf Children who have attained Normal Age to Speak and to Articulate, and How to Teach Them later on with Those who Hear, by Miss Garrett of Philadelphia; and Measures Taken in Favour of Mentally Defective, Physically Defective, and Epileptic Children in England and Wales, by Dr. Fletcher Beach. Reports were sent by Dr. Bourneville (Paris) and Dr. Shuttleworth (England), but were not read, as their authors were not present. Indeed, in this section, as in others, there were too many papers for the time at disposal (three days), and the consequence was that reports were not allowed to be read in full, but only the gist of them given.

Protection of Childhood.

The Fourth Section dealt with the societies for the protection of children, and more especially of the young girl; the Ministering Children's League, founded by the Countess of Meath, the object of which is to complete the work of the school, to influence for good the character of young people of both sexes, and habituate them to work for the good of others; the protection of children from tuberculosis, alcoholism, and abuse of tobacco; holiday colonies; and the protection of illegitimate children and poor orphans.

Concluding Meeting.

The resolutions attached to many of the reports were discussed and finally put to the meeting for confirmation. These were read by the respective secretaries at the closing meeting of the Congress on Wednesday afternoon, September 20th, and were approved by the members present. Visits to the exhibition were made on three afternoons after the meetings were over to see the work of a Kindergarten school, the hygiene of milk, and the crèches.

CONTRACT MEDICAL PRACTICE.

Notice as to Districts in which Disputes Exist.

A notice as to places in which disputes exist between members of the medical profession and various organizations for providing contract practice will be found among the advertisements, and medical men who may be thinking of applying for appointments in connexion with clubs or other forms of contract practice are requested to refer to the advertisement on page 83.

Colliery Appointments.

Glyndwr complains that although he and his partner have been surgeons to a colliery for about six years, a card has been circulated signed by a workman asking his fellows to reserve their contributions for another medical practitioner, and he wishes to know whether anything can be done to put a stop to this "unprofessional conduct."

*** Our correspondent has not made clear to us the position occupied by the signatory to the card or how far the doctor named on it is a party to the proceeding. We know no means of preventing the workmen of a colliery, with the consent of the management, changing their medical adviser, but we agree that no medical practitioner should attempt to disturb without due cause relations of the kind that have existed between our correspondent and the colliery for six years. We should advise him to bring the matter before the local Division of the British Medical Association, as although the practitioner in whose interest this canvass is presumably made is not a member of the Association, he will probably be amenable to local professional opinion, and the merits of the case can at any rate be threshed out there.

The Local Government Board having asked the Aston Board of Guardians to give further consideration to the appointment of Miss Fraser as resident medical assistant to the medical officer at the Aston Workhouse, on the ground that it would be her duty to act as medical officer-in-chief during the absence of that officer, the Guardians have adhered to their previous decision. The chairman of the Infirmary Committee stated that the appointment had met with the complete approval of the Committee.

THE PREVENTION OF CONSUMPTION.

BRADFORD

THE sixth annual report of the Bradford Union Hospital, which covers the period from July 1st, 1904, to June 30th, 1905, includes a report of the Poor law Sanatorium for Consumptives at Eastby, covering the period from the opening of the institution in November, 1903, to June 30th, 1905. During this period 83 patients were admitted. Less than one-third of these (24 in all) were early cases, whilst over a half (43) were moderately advanced, and 15 were advanced cases. Of the early cases, only 7 were admitted during the first year, but, since medical men have been informed by circular that patients could be admitted to the sanatorium without first going through the Union Hospital, a much larger proportion of early cases has been recommended. The average duration of treatment was fourteen weeks for the early cases, and twenty-two weeks for the more advanced cases. The average weekly cost per head for the year ending March 31st, 1905, was £2 3s. 5¾d. As to results, the report justly observes that the time is too short to say anything definite; so far, however, as it is possible to judge, the results have been very satisfactory. The visiting physician, Dr. Ralph H. Crowley, who signs the report, shortly sums up the problem of how to deal with the consumptive poor, which, as he says, still remains far from solved. He emphasizes the need for a colony for those who, after treatment, are able to work, but who so quickly relapse on returning to the unfavourable conditions of work and life in the town.

MEDICAL NEWS.

ACCORDING to the *Monthly Homœopathic Review* of September 1st, there are less than three hundred homœopathic practitioners in the United Kingdom. America, we learn from the same authority, rejoices in the possession of some twelve thousand disciples of Hahnemann.

THE Odontological Society is prepared to receive applications for grants in aid of scientific research in connexion with dentistry. Particulars and forms of application can be obtained from the Honorary Secretary, Scientific Research Committee, Odontological Society, 20, Hanover Square, W.

THE first meeting of the Pathological Society of London for the session 1905-6 will be held on Tuesday, October 17th. Four laboratory meetings have been arranged. The first will be held at University College on November 21st, the second at the Lister Institute on February 6th, 1906, the third at the laboratory of the Royal Army Medical College on March 20th, and the fourth at St. Bartholomew's Medical School on May 1st.

THE Royal Commission on the Care and Control of the Feeble-minded has deputed five of its members to visit America in order to inquire into the arrangements in force in that country in respect of such persons as come within the terms of the reference to the Commission. The Commissioners selected for this duty are:—Mr. W. P. Byrne, C.B., of the Home Office; Mr. W. H. Dickinson, L.C.C., Chairman of the National Association for Promoting the Welfare of the Feeble-minded; Dr. H. B. Donkin, one of the Commissioners of Prisons; Dr. J. C. Dunlop, Inspector under the Inebriates Act in Scotland; and Mrs. Pinsent, of Birmingham. The deputies left for New York last Saturday.

THE annual meeting of the Association of the Public Vaccinators of England and Wales will be held at the Midland Hotel, Manchester, on Friday, October 27th, at 3 30 p.m. The annual report and balance sheet will be submitted and the president and officers for 1905 6 will be elected; subsequently Dr. J. M. Ferguson (Burnley) will read a paper entitled, The Necessity of Revaccination; Dr. Bussey Brierley (Manchester) another on the Relationship between Public Vaccinators and other Practitioners, and Dr. Arthur Drury (Halifax) one on the Parliamentary Aspect of Vaccination. After the papers have been read a general discussion will take place. The annual dinner will be held at the Midland Hotel on the same day at 6 30 p.m. Members intending to be present are requested to communicate with Mr. Charles Greenwood, 1, Mitre Court Buildings, E.C., on or before October 13th.

AN exhibition of drugs and appliances has been open during the week in the new Royal Horticultural Hall, Westminster. The exhibition has been organized by the staff of *The British and Colonial Druggist*, which has for some years arranged chemists' exhibitions. This is called a medical exhibition, and the object of the promoters has been to induce medical men to visit it; in this they have, we are informed, been successful. The public have been practically excluded by an admission fee of 5s. The exhibition is not large, but among the firms having stalls are some leading houses. Messrs. Duncan, Flockhart and Co., in addition to specimens of chloroform, ether, and ethyl chloride, exhibited a number of pharmaceutical preparations, among others a liquor stimulans viridis containing capsicum and mustard, and intended to supply the want of a simple rubefacient liniment. This firm also showed an ointment basis soluble in water, and, therefore, easily washed off. In addition to various pharmaceutical preparations, Messrs. Burgoyne, Burbidges and Company showed some ice or hot water bags made of Japanese paper; when treated with warm water they become soft and pliable, adapting themselves well to any surface. As they are cheap they can be destroyed after use, and seem, for this reason alone, well worthy of attention. Messrs. Maw, Son and Sons, in addition to the nurse's aseptic wallet mentioned elsewhere, exhibit a good portable instrument case and sterilizer combined of plated copper; the price is moderate, and the appliance is calculated to be useful to general practitioners, since it would, in the ordinary way serve as a convenient sterilizer for the surgery. It could be heated over a small gas ring at very small cost. Mr. William Martindale exhibits a number of drugs and preparations as well as the well designed bacteriological test case already described in these columns. Messrs. Parke, Davis and Company exhibit antitoxic serum and organic preparations, and Messrs. Armour a number of products of the latter class as well as digestive ferments.

AMERICAN NAVAL HOSPITALS.—It is proposed to remodel all the old hospitals of the United States Navy. The hospital at Norfolk will be enlarged so as to make it capable of accommodating 250 patients, and the building arranged so that the facilities for the care of the sick and wounded may in time of war be increased to 500 beds. The naval hospital at Pensacola is also to be remodelled.

THE MEDICAL SOCIETY OF LONDON.—A general meeting of the Medical Society of London will be held on Monday next at 8 p.m. Immediately afterwards, an ordinary meeting will be held, when the incoming President, Sir Lauder Brunton, F.R.S., will deliver an opening address, and Dr. StClair Thomson will read a paper on Cerebral and Ophthalmic Complication in three cases of Sphenoidal Sinusitis. At the second meeting of the Society, on October 23rd, a series of surgical papers will be read, and on November 13th a clinical meeting will be held. The Lettsomian Lectures will be delivered on February 5th and 19th and March 5th, 1906, by Mr. C. A. Ballance, who has chosen for his subject Some Points in the Surgery of the Brain and its Membranes. The anniversary dinner of the Society will take place at the Whitehall Rooms, Hôtel Métropole, on March 14th, 1906, at 7 p.m.

MEDICAL SICKNESS AND ACCIDENT SOCIETY.—The usual monthly meeting of the Executive Committee of the Medical Sickness, Annuity, and Life Assurance Society was held at 429, Strand, London, W.C., on September 29th. In the absence of Dr. de Havilland Hall the chair was taken by Dr. Brindley James. The sickness experience of the Society for the current year is so far about normal. A large sum was disbursed for claims during the early months of the year, but both in number and severity the illnesses which bring the members on the funds always lessen in the summer season, and 1905 has been no exception to the rule. Of late years there has been a distinct tendency to an increase in the number of claims arising from accidents. In addition to what may be called professional accidents, such as septic poisoning from operations, etc., there are a large number arising from the growing use of the cycle and motor car. The latter in particular has produced a considerable number of claims on the Society this year, and more accidents seem to happen to those using the motor cars than to those run down, etc., by them. Railways have also sent their quota of claims to the Society. In the deplorable accident at Witham two members of the Society were injured, one rather seriously. The half-yearly audit just furnished shows a considerable addition to the funds, which now amount to nearly £200,000, and are ample to secure the important benefits granted by the Society to its members. Prospectus and all particulars on application to Mr. F. Addiscott, Secretary, Medical Sickness and Accident Society, 33, Chancery Lane, London, W.C.

British Medical Journal.

SATURDAY, OCTOBER 7TH, 1905.

HOUSING REFORM IN GERMANY.

FROM recent reports it is evident that the housing question in Germany is not less acute than in this country. It appears also to derive its importance in both countries mainly from similar conditions—namely, from congestion of population in industrial localities inadequately supplied with habitable dwellings. This condition of things leads to overcrowding of houses on the land and overcrowding of persons in the houses, with two chief results: First, an ever-increasing rise in rent, which absorbs such a large proportion of a man's earnings that he is unable to afford the necessary outlay on food and clothing; and, secondly, in consequent disease and physical degeneration. This is the problem—and it is by no means a new one—which appears to have led in Germany, as here, to all sorts of abuses due to house-owners' greed on the one hand and to various ill-considered attempts at solution on the other. Rents have become extortionate when one "heatable" room in Berlin costs £11 12s. a year, or in Schönberg £12 4s. We have, of course, the same experience in London, where whole streets of tenement houses have small one-roomed occupancies let out at £11 14s. a year, or 4s. 6d. a week. Further, though the rents are high, the sanitary standard is low, and the rooms are frequently dark, dirty, and dilapidated.

Much has been done—particularly in central London and in many of the large provincial municipalities—to remedy this condition of things, yet it is not difficult in the metropolis or elsewhere to discover numerous instances which still show how backward we are in respect of sanitary and habitable accommodation for the poorest. The recently-issued Report of the Medical Officer of the Local Government Board for 1903-4 records a typical case of overcrowding of houses at Whitehaven. This borough came under the notice of the Board in 1901 for this very offence of insanitary houses overcrowded on the area. Blocks of ill-contrived back to-back houses were built on the gardens originally attached to the earlier houses, and thus were constructed the squalid alleys and courts now existing, and in which the occupants live "in gloom the whole year round." The Medical Inspector reports that "hardly a single house in the courts has any through ventilation. Those that are not back-to-back are built against dead walls of larger houses or against the cliff face. A very large proportion of these tenements face a blank wall less than 3 ft. from their front or look into neighbours' windows from a similar distance." Of 166 such courts and alleys in Whitehaven the Inspector visited 150, and in more than 120 of these he found obstructive houses or blocks; and though some action has been taken by the local authority, "the squalor, moral, physical, and social, which at present exists in the slums of Whitehaven has not been effectively diminished." What is wanted is additional house accommodation, and that raises the whole financial question. Another report, just issued by the Local Government Board of Scotland with respect to the sanitary condition of Lewis in the county of Ross, reveals "the disgraceful housing conditions" there existing. Many of the annual reports of medical officers of health in London and in the provinces tell the same tale. There can be no doubt that in both towns and in country villages much remains to be done in the direction of sanitary housing.

These things being so, it is not without interest to observe what is being done in Germany for the mitigation of such evils, and the *Times* published recently an instructive article on the subject. In the first place, the Imperial Government is fully alive to the importance of the problem, and has endeavoured to supply the smaller officials and workpeople in the service of the State with suitable dwellings at low rentals. There is also in operation a system of financial loans, at 4 per cent, to societies which do not work for profit, in cases where there is an obvious lack of houses provided by private enterprise. It is required that the houses shall be satisfactory in size, arrangements, and sanitary condition, and that the rents shall be lower than those offered in the open market. The Imperial Government also grants building sites on lease for sixty-five or eighty years for the erection of small houses for the working classes, the rents of which may not exceed what is necessary to cover interest and repayment of capital and costs of administration. Still referring to financial assistance, it should be stated that much excellent work has been done by the State insurance societies by the use of accumulated funds under the Workmen's Insurance Laws. It is only recently that profitable employment of these enormous funds has been found in the establishment of agencies concerned with the welfare of the working classes, such as sanatoriums, convalescent homes, and working-class dwellings. Up to the end of 1903 upwards of 5½ millions had been lent for the last-named purpose at between 2 and 4 per cent. interest.

In the second place, great advance has been made in housing legislation. Particularly is this the case in Prussia, where the urgency of the matter was emphasized in the Speech from the Throne in 1901. A Bill is now before the Prussian Government for further safeguarding the citizen's right to fresh air and light, for the requirement of broad streets and open spaces, and for a more liberal interpretation of internal sanitation. In this latter respect various minimum requirements are mentioned as a basis for regulations—as, for example, no dilapidated or damp rooms may be used for habitation, houses must be supplied with kitchens, persons above 14 years of age (apart from married couples) must sleep in separate rooms according to sex, and special provision for domestic servants to have at least the minimum air space required for their employers. Every town with more than 10,000 inhabitants is required to establish a housing bureau (*Wohnungsamt*) for the carrying out of these provisions, and for thorough and systematic inspection of the district, and each bureau is to be "provided with the requisite staff trained beforehand in suitable manner." Smaller towns may also establish bureaux at the direction of the Minister of the Interior, to whom authority as to regulations is given. It is permissible for private citizens to be members of these housing bureaux in an honorary capacity. All this is excellent, and reveals a determination to grapple not only with the legal and

financial matters involved, but with the larger humanitarian issues. England might well follow the example of Prussia in some of these particulars.

Thirdly, mention should be made of a practice which is now in vogue in several of the larger German towns for the establishment by the municipal authorities of house registries where working-class people in search of accommodation may obtain full information as to what is available and vacant without the aid of house agents and their various subordinates. Cologne, we understand, was the first town to set this example, and it has proved a great success. Of course the authority leaves landlords and tenants to do their own bargaining. Here, then, we have three channels through which assistance is being rendered in Germany—financial, legislative, and municipal—and, whilst one nation cannot exactly imitate the methods of another, there is at least useful suggestion for reform in this country.

THE DRUMMOND-MORISON OPERATION.

IN the BRITISH MEDICAL JOURNAL of September 19th, 1896, a paper was published, by Dr. David Drummond and Mr. Rutherford Morison, giving an account of two cases of ascites which had been treated by a new method. The method was founded upon observations made in the course of *post-mortem* examinations on hepatic cirrhosis, which showed that in many, where ascites was absent, there were vascular adhesions connecting the parietes to the viscera. These observations suggested that operation might be useful in selected cases, with the object of developing vascular anastomoses between the portal and systemic venous systems. Two cases were operated on by Mr. Morison: in one the clinical diagnosis of hepatic cirrhosis was not verified at the operation or by *post-mortem* examination, while the operation in the second case showed the condition to be typically hepatic cirrhosis of the large bobnail variety. The abdomen in this second case was dried out with sponges, and the parietal peritoneum and that covering the liver and spleen were scrubbed with a sponge, while the omentum was sutured across the anterior wall, and a glass tube was left in the pouch of Douglas. The operation was entirely successful in curing the ascites. Two years later Talma[1] published a paper on the opening of new anastomotic channels for the blood of the portal vein by surgical means, in which he recommended and recorded an operation similar to that performed by Morison. His work was founded on independent observations in ignorance of those of Drummond. The Drummond-Morison operation was not immediately taken up by surgeons, but during the last six years it has been performed, sometimes with slight modifications, in a comparatively large number of cases. Among the most important modifications introduced is that suggested by Schiassi, who recommended extraperitoneal rather than intraperitoneal fixation of the omentum. Turner fixed the omentum between the liver and the diaphragm, while others paid more attention to the attempt to develop adhesions between the viscera, the liver, spleen, and gall-bladder, and the parietal peritoneum. The importance of the latter was magnified by Ito and Omi who by extensive tamponning of the peritoneal cavity, sought to form adhesions between the coils of intestine and between these and the abdominal wall.

In addition to the clinical work, experiments have been performed on animals, demonstrating that when fixation of the omentum is carried out the animal will tolerate ligature of the portal vein if a sufficient time is allowed to elapse between the two operations, and that this tolerance depends upon the development of new vascular channels in the omental adhesions.

Bunge[2] has recently contributed to the literature of the subject a monograph in which he gives an account of fourteen cases operated on in the Königsberg Clinic during the last five years, and also tabulates 274 cases which he has collected from the literature. Among the 14 new cases there were 4 recoveries, in 3 improvement followed, and in 7 the condition was unaltered. Dr. Bunge discusses the indications and contra-indications for the operation. The general indication is the presence of symptoms pointing to portal obstruction from whatever cause, and it is therefore applicable when the portal vein itself is obstructed by thrombosis or by compression from without; but in the great majority of suitable cases the portal obstruction is due to cirrhosis of the liver. The contraindications to the operation have been discussed by several writers, and the majority view as such the presence of signs pointing to defective liver function, jaundice, lowered nitrogenous excretion, alimentary glycosuria, and lævulosuria. On clinical grounds and from actual observations Dr. Bunge argues that it is only when these signs are present to a pronounced degree that they should be held to contra-indicate the operation, and that the greatest importance in this respect is to be attached to icterus and other signs of interference with biliary secretion.

The condition which it has been sought to improve by operation is ascites, but the haemorrhage from the mucous membranes, which is often associated with atrophic cirrhosis and is sometimes its most dangerous complication, may also be regarded as a distinct indication for the operation, and merits, in this respect, more consideration than has hitherto been given to it. Occasionally it occurs early compared with other symptoms and may prove a valuable aid in the early diagnosis of portal obstruction. When the operation is undertaken for the relief of such haemorrhage it should be done early; when ascites is the chief symptom which calls for relief, in all cases it should first be ascertained what effect puncture has upon the condition, because it is undoubted that occasionally the drawing off of the fluid has been followed by its complete and permanent disappearance, no doubt through the spontaneous development of collateral channels for the portal blood. On the other hand, it is necessary for success that the operation should not be long postponed, and should be undertaken while the general condition of the patient is still good; if adopted as a last resource it cannot be expected that it will show other than an indifferent record. It is more than probable that many of the recorded cases have been operated on at too advanced a stage of the disease for success, yet in about 30 per cent. the patient has been entirely relieved of his ascites, and a great improvement in statistics may be expected when the advisability of earlier operation is recognized by physicians. With strict aseptic technique the operation itself is comparatively free from risk.

No important modification in the technique of the operation has been introduced since it was first practised by Morison, and some suggested additions are

[1] *Berl. Klin. Woch.*, No. 38, 1898.

[2] *Die Talma-Drummondsche Operation.* Von Dr. Bunge. Jena: G. Fischer. 1905.

certainly inadvisable—for example, the attempt to form extensive intestinal adhesions. The proper designation of the procedure is the Drummond-Morison operation: although the observations of Talma were independent, this fact confers no right to the association of his name with the operation. It is on priority of publication that a claim to such a right is to be decided, and on these grounds there is no justification whatever for associating any other name with those of Drummond and Morison. Dr. Bunge calls the operation the Talma-Drummond operation in the title of his paper, but in the text usually calls it Talma's operation. On one page we find it stated that Morison performed Talma's operation on one of his cases; this way of putting the matter would be humorous if it were not a glaring breach of the rules of proper scientific nomenclature.

THE THERAPEUTIC VALUE OF HYDROCHLORIC ACID IN DISEASES OF THE STOMACH.

The value of acids in the treatment of digestive disorders has long been recognized in this country—their use dates back certainly as far as the time of Cullen; but the indications for their use, the rational grounds for their employment, and even the methods of administration have never been determined with precision, so that we see one man giving nitric, another hydrochloric, and a third nitro-hydrochloric acid, while this man prescribes it to be taken before meals, and the other after meals, all agreeing only in their belief in the excellent results of the particular practice followed. After the discovery that hydrochloric acid was an important constituent of the gastric juice, its presence being essential to the action of the peptic ferment, it was naturally assumed that a satisfactory explanation of its beneficial action had been found. Further investigation, however, showed not only that the quantity given in medicinal doses is far below that which would be required to make up the deficiency, but that its absence is not necessarily attended by those symptoms which its administration is held to remedy—in fact that individuals may enjoy all the comfort of a perfectly unconscious digestion without secreting a single drop of hydrochloric acid.

These discoveries led on the one hand to attempts to administer far larger quantities by giving repeated doses at short intervals after a meal (Ewald), and on the other to a shifting of the theoretical standpoint to the position that the acid acts only as a stomachic stimulant (Reigel) or a disinfectant (Linossier). In a recent article, Dr. Richard F. Chase[1] has reopened these questions, and has endeavoured by certain carefully-conducted clinical experiments to test the truth of the old answers or to supply new ones. The dilute hydrochloric acid of the *United States Pharmacopoeia*, which contains 10 per cent. of absolute acid, was that used in these experiments. In the first case, a woman aged 34, who suffered from pain with a fasting stomach, relieved by eating, and from nausea, eructation, regurgitation, and vomiting, the result of an Ewald test breakfast showed no free HCl, and only 0.4 per mille combined HCl, while the stomach reached 2½ in. below the navel, and when fasting contained 30 c.cm. of food and mucus. In this case 15 minims of hydrochloric acid, repeated twice at intervals of fifteen minutes after meals, diminished the secretion of hydrochloric acid by the stomach, but under its use the symptoms improved, and the case recovered. In a second case, a woman aged 26, with similar but less marked symptoms, 20 drops of acid after each meal effected a cure after lavage and diet had failed. In a third case, that of a woman also aged 26, with pain after meals, eructation, regurgitation, and nausea, but no vomiting, the stomach was normal in size and position, was empty when fasting, and an Ewald test breakfast showed no hydrochloric acid, either free or combined. Here administration of the acid did no good, but the patient underwent a surgical operation apparently for some pelvic disease, after which she reported herself as free from stomach trouble, although free hydrochloric acid was still absent. After the administration of repeated doses of hydrochloric acid at short intervals after a meal the total acidity of the gastric contents was always increased and free HCl generally present, but was once absent. Slightly larger doses given after a meal containing meat gave the same result as to increased acidity, but free HCl was never present. Dr. Chase thinks these results are not surprising when we consider the quantity of acid required to make up the deficiency, which he estimates at 1 oz., whereas he at most gave 75 minims. He therefore concludes that "the object attempted by large doses of acid is either not at all or only partially attained."

He lays stress on the decrease of the secretion of hydrochloric acid after the prolonged use of the acid in the first case, and although the result was less decided in the second case, he believes that the same effect was produced. He remarks that this depressing action of the acid is not generally recognized, and is opposed to the conclusions of Reichmann and Mintz, although he considers the observations too limited to justify the deductions to be drawn from them. Du Mesnil's observations to the same effect are also discredited, Riegel's statement that "the results do not exceed the normal fluctuations of gastric acidity" being quoted with approval. Reed's work comes in for even sharper criticism, his recommendation of "HCl, five to thirty drops combined usually with pepsin," provoking the comment that "the use of pepsin combined with HCl has for some time been abandoned by most men familiar with gastric therapeutics. Its inutility is so well recognized by practically all who are acquainted with the subject that its discussion seems entirely uncalled for," a criticism with which, in its general sense, we agree. At the same time we are not quite sure that Dr. Chase's cases afford conclusive evidence of the diminution of the secretion of hydrochloric acid where it is administered by the mouth. He quotes Jaworsky as also having observed depression of the secretion after prolonged use of the acid, but neither he nor Dr. Chase can claim to have originated the idea, which was many years ago formulated in the dogma, "Acids check acid secretions," though with what truth we know not. The admitted fluctuations observed normally in the quantity of acid present in gastric contents obtained for examination by means of test meals, and the recognized untrustworthiness of these estimations, render a suspension of judgement advisable.

Dr. Chase found that peptic digestion was accelerated by the use of HCl, in which he is in harmony with general opinion, but we are unable to follow his statements very clearly, as he gives no details of his experiments and the times mentioned—twenty-four hours, for example, without acid, and eighteen hours when it was used—seem abnormally long. Even this conclusion is not left quite free from

[1] *Boston Medical and Surgical Journal*, vol. cliii, No. 2, p. 297.

doubt, as in four tests the acid appeared to retard digestion—a result of which he is unable to offer any explanation. His experiments throw no light on the alleged antiseptic action of the acid or its effect on gastric peristalsis. He thinks they show that it is questionable if the use of acid ever improves any function of the stomach, and afford some evidence that it may be harmful. He believes the good results obtained depend upon the fact that most of the cases in which it is employed are of nervous origin; but he adds somewhat inconsistently: "It is generally conceded that the use of the acid is not indicated in such cases." Yet we may be permitted to say that in our experience a combination of hydrochloric acid with strychnine or nux vomica is the most generally useful remedy in the common cases of nervous dyspepsia among women with which out-patient departments in this country are overcrowded.

We are grateful to Dr. Chase for trying to solve in a rational manner clinical questions of considerable interest, but we should like him to extend his researches and to carry them out in a greater number of cases before asking us to accept all his conclusions.

THE MEETING OF THE BRITISH MEDICAL ASSOCIATION IN TORONTO.

OUR Toronto correspondent writes: The announcement that the British Medical Association will hold its next annual meeting in Toronto has been received with the greatest satisfaction and delight by the Branch here and by the profession in general in Canada, who look forward to the meeting as an opportunity for learning to know many of those whose work and writings have made their names familiar and admired, and an opportunity of comparing our work here in its beginnings with what to us at least constitutes the world's standard. To many it means a meeting with old teachers, for the majority of Canadians take their post-graduate work in London or Edinburgh; and to many the reunion with class-mates in the British and European hospitals and laboratories. Dr R. A. Reeve, B.A., M.D., LL.D., Dean of the Medical Faculty of the University of Toronto, has been chosen President, a man whom all who know delight to honour, and already meetings have been held to undertake the preparations for the meeting, which should be a most successful one.

THE CORONER FOR SOUTH-WEST LONDON.

WE are informed that Mr. Cockerton, the Local Government Auditor of the accounts of the London County Council, has fixed Tuesday, October 31st, at 11 a.m., for the hearing of the case in which the British Medical Association, as ratepayers of the County of London, are disputing repayments made by the County Council to the Coroner for the City of Westminster and South-West London for fees paid to a certain pathologist. As the officers of the County Council wish to have some idea of the amount of accommodation which should be provided, members of the profession desiring to be present are asked to communicate with the Medical Secretary of the British Medical Association, 429, Strand, W.C.

AMERICAN RESEARCH ON THE PNEUMOCOCCUS.

AT the request of the Department of Health of the City of New York a medical commission was formed for the investigation of acute respiratory diseases. This commission, which contains, amongst other eminent members, Drs. Osler, Welch, and Theobald Smith, began its work in October, 1904, and decided to open the inquiry by a comparative study of pneumococci isolated from cases of true lobar pneumonia and organisms generally assumed to be identical with the pneumococcus, which were obtained from normal mouths and throats. For the execution of this scheme the excellent plan has been adopted of first securing the co-operation of bacteriologists in various places, who were instructed to make independent studies along the lines suggested, and then establishing a central laboratory, or "clearing house," to which cultures from the various independent workers were to be sent for a comparative study under a single observer. The preliminary reports from the various laboratories have now been published in the issue of the *Journal of Experimental Medicine* for August, 1905. Professor Philip Hanson His, who has been entrusted with the work of organizing and directing the central laboratory, reports that the organisms which have come under his investigation were chiefly obtained from two sources: (*a*) from the mouth and naso-pharynx of apparently normal persons and persons suffering from minor inflammations of the naso-pharynx; (*b*) from definitely pathological sources, such as pneumonic sputum, pneumonic lungs, empyema, the circulating blood of pneumonic patients, septicaemias, meningitis, and various minor lesions, most of which were due to infection with pneumococci. He finds that organisms which are indistinguishable by morphological characters or by any physiological peculiarities from true pneumococci occur with frequency in the mouths of healthy persons and those suffering from slight inflammations of the naso-pharynx, and therefore regards it as fully established that these organisms are true pneumococci. Other organisms, obtained both from normal mouths and from pathological sources, were also found which were indistinguishable morphologically and in staining reactions from pneumococci, but could be differentiated by a careful study of their fermentative activities and agglutination reactions. A characteristic of these organisms was that they did not ferment inulin. The organism known as the streptococcus mucosus was at times found in cultivations from the mouths of apparently healthy individuals, and, although not identical with the typical pneumococcus, is regarded by Professor His as a variety of this species, and as being very closely related to the typical form. Other organisms, again, were found which in their fermentation tests were indistinguishable from pneumococci, but showed some aberration from the latter either in their morphology or in their agglutination reactions. Some of these forms were isolated from pneumonic lungs at autopsy or from some internal source, such as the circulating blood; and the suggestion is made that their modifications in morphology or physiology were brought about by long residence under relatively adverse conditions. The occurrence of true pneumococci in the mouths of healthy persons appears to be remarkably frequent, and Professor His infers, as the result of his own investigations, that during the winter season practically every individual in New York City harbours these organisms at some time or another, and probably at repeated intervals. Amongst the contributions sent in by the independent investigators we notice an interesting article by Dr. F. C. Wood on the vitality of the pneumococcus outside the body. In moist sputum it generally remains alive more than one but less than two weeks, unless the material is exposed to direct sunlight. But as such sputum does not give off bacteria, even when exposed to strong currents of air, it may be considered innocuous except to persons handling bedclothes or other material which have been recently contaminated with it. Under ordinary circumstances, however, the sputum dries in the course of a few hours or days. In dried masses of sputum the virulence is retained for a long time, often for a month; and when this material is reduced to powder infective organisms may become disseminated in the air by sweeping or dusting. Fortunately, however, the bacteria in such powder die within an hour when exposed to sunlight or diffuse daylight, and in about four hours if kept in the dark. When a person suffering from a pneumococcus infection coughs, sneezes, expectorates, or talks, the particles of sputum or saliva which are expelled from the mouth may contain virulent pneumococci. These particles remain suspended in the air for a number of hours, if the ventilation of the room is good,

and consequently may be inhaled by persons in the vicinity of the patient, or be deposited upon various articles in the room. But, whether suspended in the air or dried on surrounding objects, Dr. Wood finds that they become harmless in a very short time—about an hour and a half being the extreme limit—while many of the pneumococci in the spray perish in a few minutes, especially if exposed to a strong light. Dr. Wood's general conclusion, therefore, is that the risk of infection is largely confined to those in direct contact with persons whose excreta contain the organism.

CEREBRO-SPINAL FEVER.

Early in May last a number of cases of cerebro-spinal meningitis occurred at Irthlingborough, a town of 4,664 inhabitants in Northamptonshire. The outbreak, as mentioned in the British Medical Journal of May 27th, p. 1168, has been the subject of inquiry by Dr. Reginald Farrar, one of the medical inspectors of the Local Government Board. From his report now received, it appears that during the first five months of 1905 four deaths in one house were referred to this disease, and in the nasal mucus or cerebro-spinal fluid taken from two of these cases, Dr. Mervyn Gordon found the intracellular micrococcus which is believed to be the cause of the disease. About this time there occurred in the same town groups of cases clinically resembling acute influenza, but nearly all characterized by spinal pains and tenderness. Most of the patients had been in personal communication with each other or with one or more of the original group of fatal cases. In the report before us these cases are divided into four groups: (*a*) the first, including six cases in one family; (*b*) the second and third, a series of cases in two other families, and (*c*) the fourth, among teachers in the mixed department of the elementary school. A clinical outline is given of each of these cases, amounting in all to twenty-nine records, showing the usual symptoms which as far as known characterize the disease, namely, an acute disturbance of the central nervous system, accompanied by shivering, headache, vertigo, vomiting, spasms of certain muscles, especially the posterior muscles of the neck, increased sensitiveness of the body surface, and including some signs, as the *tache cérébrale* and Kernig's sign. Dr. Farrar shows that these groups of cases occurred in certain households, and that the disease appeared in families subsequent to personal relations between them and the sick or other members of already invaded households, and in several instances striking examples of such occurrences were met with. On the other hand, the periods of infection, incubation, or invasion were extremely irregular: there were a number of cases where no evidence of such transmission was forthcoming, and in the case of four school teachers who were attacked there were no apparent cases among the children in their classes. On the whole, therefore, this outbreak still leaves it uncertain that the disease is transmitted from person to person, although there is strong probability of infectiousness, possibly through the channel of nasal mucus. In any case, isolation and disinfection are desirable. The Local Government Board has indeed recommended compulsory notification in affected localities for a limited period, in a circular just issued to local authorities. In the same circular, an abstract of which was published in the British Medical Journal of September 9th, p. 613, the Board states that there is no ground for fearing any great extension of the disease, although sanitary authorities should be alive to the possibility of its occurrence from time to time, and should at once inform the Board of any outbreak. For the convenience of sanitary authorities the Board has issued with the circular a memorandum setting forth clearly the usual symptoms and diagnostic signs.

ABSCESS OF KIDNEY SECONDARY TO BOILS.

At the Berlin meeting of the German Surgical Association in April,[1] Jordan of Heidelberg reported a dozen cases of renal and circumrenal abscess consecutive to furunculus or to other relatively small foci of peripheral suppuration. Israel of Berlin related one instance of abscess of the kidney in which infection was traced to the nasal mucous membrane; whilst Riedel and Schnitzler brought forward other cases of peripheral septic foci and subsequent renal abscess. Jordan found that, according to the cases which he had collected, the abscess was, as a rule, solitary, one kidney alone being involved, but he admitted that multiple abscesses were not unknown, indeed some were so very minute as to escape exploration. This explained the prolonged high temperature which in some instances persisted after nephrotomy, the treatment usually successful in these cases. In two of Jordan's own patients these lesions were so grave that he removed the kidney. Diagnosis was exceedingly difficult as a rule. No doubt many renal abscesses might be the result of forgotten or overlooked boils and ulcers, and as the patient was very ill when persuaded to seek medical relief no stress would be laid on a peripheral suppuration even when detected, or it might be considered as secondary to the renal disorder. Appendicitis was diagnosed in some cases, on account of abdominal tenderness, whilst in others the fever following the renal suppuration was mistaken for typhoid and the delirium which was associated in one patient with the rise of temperature led to the diagnosis of meningitis. Early correct definition of the seat of disease was desirable as the prognosis of nephrotomy depended upon it. Jordan held that there were two signs of diagnostic value—increase in the size of the kidney and tenderness on pressure below the twelfth rib.

[1] Report in the *Revue de Gynéc. et de Chir. Abd.*, July-August, 1905, p. 739.

MEDICAL TERMS IN THE "NEW ENGLISH DICTIONARY."[1]

Although carrying the alphabet only from Pennage to Pfennig, the present part of Dr. Murray's great dictionary contains a host of words which have an interest for the medical man. There is, for instance, the group of the *Peri's*, from *peri-adventitial* to *peri-vitelline*, and from *peri-cementum* to *peri-visceritis*. Among these we meet with the names for all the inflammations surrounding organs, such as *periadenitis*, *perimetritis*, *perinephritis*, *periphlebitis*, and the less familiar *pericowperitis*, as well as a large number of anatomical terms, such as *pericardium*, *pericranium*, *perichondrium*, *periosteum*, *periotic*, and *peritoneum*. Some of the *peri's* would puzzle most medical men to define: there is *periapt*, which means a charm or amulet against a disease (one of the illustrative quotations speaks of "a spider sewn up in a rag and worn as a periapt about the neck to charm away the ague"); there is *perisystole*, the short interval of time between the systole and the following diastole of the heart; and there is *pericystomatitis*, the inflammation of the surrounding membrane of an ovarian cystoma. *Period* has now its special meanings in connexion with intermittent fever and the menstrual function, but formerly it referred to the time during which a disease ran its course; thus, an eighteenth-century Lexicon defines it as "the Space in which a Distemper continues from its Beginning to its Declension, and such as return after a certain Space with like Symptoms are called Periodical Distempers." *Perkinism* was a method of treatment introduced by the American physician, Elisha Perkins, for the cure of rheumatic diseases, and it consisted in drawing two small pointed rods—one of steel and one of brass—called metallic tractors, over the affected region. Perkins died in 1799, but *Perkinism*, or *tractoration* (as it was called), evidently lived a little longer (perhaps still lives under other names!), for in 1803 a book was published with the title *Terrible Tractoration: a Poetical Petition Against Galvanizing Trumpery and the Perkinistic Institution*. Other interesting words are *Pest* and its associates (*Pest-house*, *Pestiduct*, *Pestiferous*, *Pestifugous*), and *Pestilence* and its derivatives. *Pest*, at first, meant any deadly epidemic disease, but came to mean the bubonic plague, especially in Scotland in the sixteenth and seventeenth centuries. A quotation from the history of

[1] *A New English Dictionary on Historical Principles.* October 1st, 1905. Pennage-Pfennig (vol. vii). Oxford: Clarendon Press; London, Edinburgh, Glasgow, New York, and Toronto: Henry Frowde.

John Knox says: "Within the Castell was the pest, and diverse thairin dyed." The curious obsolete word, *Pestiduct*, meant a channel of the plague or of any infectious disease. *Pestilence* has similar meanings. *Pestilence wort*, which once had a reputation as a cure for the plague, is the Butterbur, Petasites vulgaris; *Pestilential Fever* is an old name for typhus. The *Pestle* is a word specially interesting to the compounder of drugs, and is derived from *pinsére*, to pound or bruise. "His medical science," wrote Washington Irving in his book on Goldsmith, "could not gain him the management of a pestle and mortar." *Petit-mal*, meaning a mild form of epilepsy with abortive or incomplete fits, is a recent introduction into the English language (1878), and is, according to Dr. Murray, not yet naturalized. *Pennyroyal* has long been esteemed for its medicinal virtues, but few people probably have any notion that it has nothing to do with the coin of that name, but is derived from pulegium, thyme, and "real," royal. *Pepsin, peptone, pepto-toxin, percussion, pertussis, pessary, petechia*, and many other medical words, or words used in a medical sense, are defined, and appropriately and copiously illustrated by Dr. Murray; and all students and admirers of his work can only thank him and his co-workers for another part of the invaluable *Oxford English Dictionary*.

SUICIDE AND SEX.

NOT long ago attention was drawn in these columns to an analysis of the official suicide returns of fifty cities in the United States, by a well-known American statistician, Mr. F. L. Hoffmann. The figures with which he dealt were those relating to the year 1904; they showed that out of every 100,000 of the population 19·5 persons had committed suicide during the year and that the rate had been persistently rising for fourteen years. Another statistician, Professor W. B. Bailey, of Yale,[1] appears to have been investigating the same question from another point of view. Dealing with the 29,344 cases of suicide officially recorded between 1897 and 1901 he finds that the male suicides outnumber those of the "weaker sex" by seven to two, while as regards the age-incidence of a morbid inclination towards *felo de se* the age-period of 20 to 50 covers nearly two-thirds of all the cases. In the absence of any information as to the relative numbers of persons in the United States at the different age-periods this statement is not very informing, but so far as it goes it would seem to indicate that under the lower age-limit there are few to whom life seems unattractive, while after 50 a natural end looms so near that it is scarcely worth while to precipitate its arrival. Other results are more illuminating. It would appear that, other things being equal, a married man is more likely to commit suicide than either a single man or a married woman, while women who are single, either because widowed or divorced or because they have never been anything else, seem to find life less attractive than similarly circumstanced men. Neither ill-health nor alcohol are such potent causes of suicide as business losses, and to the latter even absorbing sentiment such as is represented by a love affair has to yield the palm. Since business plays so prominent a part in the production of suicide, it is comprehensible that Saturday should not be a popular day on which to ring down the curtain. Those who meditate this step have worried through the week, have received their pay, and have anyhow a day of rest before them. Monday—Black Monday—is the day when those faced by business disaster or crushed by personal ill-health seem least disposed to continue the struggle. On the other hand, Sunday is the day when, for women at any rate, domestic troubles prove most unbearable. As for the hour of greatest weakness, this is apparently from 9 to 12 in the evening.

[1] *Medical News*, September 2nd.

CORPORATE INSANITY.

IT is generally believed that the position of a Board or a Committee is one of special privilege, inasmuch as it has neither a body to be kicked nor a soul to be saved. This belief, which it is to the interest of such bodies to encourage, doubtless explains how corporations and departments, whose members, taken singly, are honourable men, so often behave as no self-respecting individual could. The feeling of personal responsibility, when distributed among a number of men, is in danger of becoming attenuated to a degree that can be expressed only in terms of homœopathic dilution. With the question of the moral responsibility of public bodies is intimately connected another of still greater practical importance—to wit, whether they are liable to what may be called corporate insanity. Many, looking simply at the acts of Boards and corporations, may be disposed to answer this question offhand in the affirmative. In a matter of such gravity, however, it is necessary to guard against hasty conclusions. If it be determined that such bodies can be the subjects of corporate insanity, it follows that measures must be devised to restrain their potentialities of mischief. Perhaps the Lord Chancellor may see his way to introduce into his long-expected Bill *(si qua fata aspera rumpat!)* a clause providing the necessary legislative machinery. Doubtless the terms of the writ *De lunatico inquirendo* could easily be made applicable to Boards, departments, councils, and committees; it might also with advantage include Cabinets, were it not that such inner rings of Government are unknown to the British Constitution. If such bodies could when necessary be certified to be of unsound mind, and thus deprived of their power for mischief, a long suffering public would be spared much trouble and vexation of spirit. It is only fair to state that the credit of the suggestion here made belongs to Mr. Homer Folks, Secretary of the State Charities Aid Association of New York. In a speech on philanthropic work delivered not long ago before the New York Summer School, he proposed that bodies which mismanage hospitals and asylums might be dealt with under the Lunacy Law. He pointed out that the present tendency is to hold the officers of a corporation individually responsible for such acts of the corporation as are under their respective supervision. He argued, however, that when responsible persons are, by judicial action, relieved of responsibility, the legitimate procedure is to treat the corporation as a person, declare it insane, and suspend its functions and compel reformation. But why should the treatment be confined to bodies having the management of charities? The plan might profitably be extended to all public bodies. It would supply a check on the blundering of the War Office, and the august Mother of Parliaments herself would have to follow the advice given to "Goody" in the song, and moderate the rancour of her tongue and restrain her foolish impulses in view of the ever-present possibility of the appearance of a new Cromwell in the shape of a Visitor in Lunacy.

THE BACTERIOLOGY OF APPENDICITIS.

IN a recent article[1] Dr. Perrone adds an interesting contribution to the literature on the bacteriology of appendicitis. Reviewing previously published work, Dr. Perrone calls attention to the researches of Kelly, who reported on the bacteriological examination of 201 cases, 94 of which were acute and 107 chronic. With regard to the acute cases, in 73.4 per cent. the bacillus coli was the only organism found; in 13.85 per cent. this organism was found in conjunction with the staphylococcus aureus; and in the few remaining cases either streptococci, staphylococci, or the bacillus pyocyaneus were noted. In the 107 chronic cases, again, very much the same types of organisms appear to have been present, and there is again a marked preponderance of bacillus coli, the percentage of cases in which this organism was found alone amounting to 89.7 t. More recently Lanz and Tavel published the results of another extensive series of investigations. These authorities examined 8 normal appendices and 138 which were in a pathological condition. As the result of their observations they declared that the normal appendix is never sterile; it generally contains several organisms similar to those ordinarily met with in the large intestine; the

[1] *Ann. de l'Inst. Pasteur*, June 25th, 1905.

bacillus coli is always present, and in one instance this was the only organism found. The pathological appendix they found to be sterile in 10 per cent. of their cases. In the rest, the organisms present were of the same types as those noted in the normal appendix, but it was observed that where the disease was more advanced the variety of micro-organisms was less. In explanation of these facts they point out that in the pathological appendix there is an active leucocytosis, and the vigorous phagocytosis which ensues may result in producing complete sterility. Dr. Perrone's own observations cover the examination of 14 cases. He lays much stress in these investigations on the importance of testing for anaërobic as well as for aërobic organisms. In 1 case the appendix was sterile and in 10 cases the colon bacillus was present, but the main point on which he insists is the large proportion of various varieties of anaërobes which was found. Consequently he does not think that scientific deductions can safely be drawn from records of work in which anaërobic cultures were not made. His own opinion is that the colon bacillus cannot be regarded as the pathogenic organism of appendicitis, but he has formed the conviction that it is amongst the anaërobes that the bacterial cause of the disease must be found.

THE SEYCHELLES ISLANDS.

The unusually lengthy report which the Colonial Office has just issued upon the Seychelles Islands furnishes some details on matters medical in that colony. Few of our possessions are more scattered, and the difficulties of communication must be very great, for the only Government vessels are a 30-ton steam launch and a small 8-ton cutter, so that many of the islands must be only rarely visited, and medical aid by no means easy to obtain. Fortunately the islands are very healthy—indeed, in this respect they compare favourably with almost any other of the tropical possessions of Great Britain. At Victoria, the capital, is the only general hospital in the group, but there are six local dispensaries, three being on Mahé, the main island, two on the island of Praslin, and one on La Digue. The medical wants of the other islands are looked after by the Assistant Medical Officer at Victoria, who makes a round of visits periodically, though how often they are undertaken we are not informed. The hospital, which is satisfactory both as regards construction and equipment, admits about 300 in-patients every year, and has a death-rate of 6·5 per cent. only. The dispensaries treated 3,301 cases in 1904, and the numbers are everywhere increasing, though the natives are in common maladies much given to the use of local medicinal plants, of which a list, amplified and extended from that published by Dr. Daruty in Mauritius, is in course of preparation. Witch doctors, who are credited with a practical knowledge of poisons and philtres, still exist, but for serious cases the people generally come to the dispensaries. Malaria, so common and so serious in Mauritius, is unknown in the Seychelles, and enteric fever is rare, as also is beri-beri, a few cases of the latter only occurring in 1904. While 1903 was an extraordinarily wet year, characterized by the prevalence of diarrhœa and dysentery, 1904 seems to have been tolerably free from these diseases, thanks to an unusual drought, which had the effect of destroying 30 per cent. of the vanilla plants—the most important culture of the archipelago. There being no lunatic asylum in the Seychelles, all lunatics have to be sent for treatment to the Government Asylum at Mauritius, a costly system, for the rates for the long sea passage are often excessive, the regular mail steamers refusing insane passengers. It has accordingly been decided to establish a small asylum at Mahé, where a site has been secured. There is, however, a leper asylum, which at the beginning of the present year contained nine inmates, but this gives no indication of the actual number of cases in the islands, for segregation is not compulsory. The Medical Officer is nevertheless of opinion that the disease is not increasing. The estimated population of the Seychelles is slightly over 20,000, the density per square mile being 137, which is considerably in excess of the capacity of the Colony to feed; the bulk of the food supply, mainly rice, is imported from Burma and Indo-China. The birth-rate is 34·94 per mille, and the death-rate only 16·12. A marked feature in the mortality returns is the large number of aged persons who have died during the year, among them being two centenarians of 114 and 106 respectively. It is stated that the longevity of the Creoles and the liberated Africans landed in the Colony from men-of-war engaged in the suppression of the slave trade is marked.

TREATMENT OF CONGENITAL DISEASE OF THE HIP.

At the last annual session of the American Medical Association, Dr. Park Weed Willis advocated repeated gentle manipulation in the treatment of congenital disease of the hip. This method has, he points out, the advantage of much diminished danger, and, in case of failure to maintain and accomplish reduction, the patient is better prepared for the open incision, which, it is held, must be resorted to in a certain proportion of cases in order to accomplish the best results. The comments of the author of this paper and of those who took part in its discussion show that in the States as elsewhere knowledge amongst surgeons of the prognosis of modern methods of treatment of the deformity is at the present time in an uncertain condition. There is still much disputing as to the relative advantages of the bloodless and the open plans, and whilst some assert that good and really useful results have been obtained from both, others hold that, whatever the kind of surgical treatment, the effects, even though they may be promising at first, are usually transient, and of a more or less unsatisfactory character. An allusion by one of Dr. Willis's critics to an instance of a woman, aged 60, to whom a congenital luxation of the hip had never given trouble, suggests that this deformity need not generally be regarded as a pressing indication for surgical intervention. The drift of the discussion was decidedly against the manipulative method of treatment, and especially against that associated with the name of Lorenz, which, in the opinion of Dr. Moore of Minneapolis, so far from being "a bloodless operation," is "the most sanguinary and the most unsurgical procedure that he had ever had anything to do with." The disappointing results of both the open and the bloodless method will doubtless remind surgeons that they have been inclined to expect and promise more than could be reasonably expected in face of the degree of developmental arrest at the root of this deformity. There seems, however, to be a good prospect of a much improved and less uncertain prognosis in a fair proportion of such cases, consequent on careful selection by means of recent diagnostic methods, especially the use of the *x* rays, and on the exercise of much care and patience during the after-treatment. In this country a hopeful view has been taken by Mr. J. Jackson Clarke, whose paper was published last week. He holds that, thanks to Lorenz, congenital luxation of the hip must now be classed, like club-foot, among curable affections. He is an advocate of the manipulative method of treatment, and contends that, as modified and practised by himself, it is capable of affording, with regard to the restoration of function, good and durable results.

As may have been observed by students of the calendar of the Association published in the Supplement, the central committees of the Association and their subcommittees have during the last fortnight resumed work. The matter of the application for a charter has also been taken up and a conference with counsel was held on October 4th.

The American Ambassador in Paris has received a message from Mr. Root, the Secretary of State, conveying, in the name of President Roosevelt, an invitation to the Bureau of the International Tuberculosis Congress to hold its next meeting in the United States.

Ireland.

Direct Representation in Ireland.

The elections of direct representatives to the General Medical Council, although always interesting to the profession, have not hitherto attracted much of the attention of the general newspaper press. But we notice that in Ireland the approaching contest has formed the topic of discussion in the *Freeman's Journal*, and that our contemporary has managed to drag in for the consideration of the electors matters which ought to be rigorously excluded from all professional contests. The objection is raised that Sir William Thomson, the present member, and Dr. Kidd, the new candidate, are both Protestants and Unionists, while there is "a substantial Nationalist and Catholic majority on the electorate." The Editor goes on to urge that a candidate acceptable to the Catholics and Nationalists should be put forward. "It would be deplorable that apathy or lack of agreement on the part of the Catholic and Nationalist doctors should hand over an appointment of such power and importance to a very able and dangerous opponent." Speaking as members of the profession, we are bound to say that all this is very deplorable. Candidates for the office of direct representative on the General Medical Council ought to be chosen not for their private convictions upon religious or political subjects, but for their ability to help on the work which the Council has to do in relation to medical education and the purity of the *Register*. A mischievous suggestion of the kind we have referred to would not be tolerated for a moment in England or Scotland. Our Irish brethren have a right to put forward as many candidates as they choose, but we hope that they will never lend themselves to methods which will allow it to be said of their chosen representative that he was successful because of his religion or his politics, and not because he was the man best capable of discharging the duties of his office.

Queen's College, Belfast.

President's Annual Report.

The report of the President for 1904-5 has just been issued. Many satisfactory particulars are mentioned; a noteworthy increase of students in all the faculties is recorded, the largest being in the medical school. The total entry for first-year men was the record for 13 years, and the gross total of all students was 501. Special interest also is attached to the encouragement given to modern languages, for proficiency in which several scholarships are now given; in this department also an assistant lecturer has been appointed.

The death of Dr. McKeown, Lecturer on Ophthalmology, is mentioned with deep regret; Dr. Cecil Shaw has been elected to the post; and it is pointed out that this is the fourteenth case of an alumnus of the College being appointed to a position on the staff during the past 16 years, as against 5 during the previous 40 years.

Dr. St. Clair Symmers was appointed Musgrave Professor of Pathology in room of Dr. Lorrain Smith.

Several honours and appointments were received during the year by Queen's men. Amongst others, Sir William Whitla received the honorary degree of LL.D. of the University of Glasgow; Dr. Henry O'Neill, B.L., was appointed High Sheriff of the City of Belfast; and Professor Symington, Examiner in Anatomy by the India Office.

An additional laboratory, 80 ft. long, for junior classes in biology has been erected, and smaller laboratories for geology, and for advanced classes in biology. The Museum of Sanitary Science continues to receive the anxious and kindly attention of Dr. Henry O'Neill.

In conclusion, President Hamilton once more reiterates the serious disadvantages the College suffers owing to defects in the University arrangements of the country; and to the hindrances to full and efficient work caused by the still-pressing want of means. This want has been partially removed of late by the Better Equipment Fund; and there is every hope it will be soon still further relieved; but it is claimed that the State should do something, and there is much that the State only can do.

It is to be hoped that medical students will take full advantage of the new opportunities in the study of modern languages, and that in particular provision will be made to facilitate their acquisition of French and German, which would be useful to them in their profession. In the past only those students who with desperate perseverance taught themselves, or attended outside tuition, were able to go to Vienna, Berlin, or Paris with any knowledge of the language required. Considering how large a factor the medical school is in the whole College, it is sincerely to be hoped that this glaring defect may be remedied, and that the teaching in the future may not be of the purely literary, grammatical, and scholastic type, which is excellent as a mental training and as an instrument of culture, but which after two years' labour too often leaves the student unable to read a medical book in French or German with facility, to make himself intelligible to a foreigner, or to profit by clinics in those languages for the first few weeks or months of a too short stay abroad.

Poor-Law Reform.

The Poor-Law Reform Commissioners—Mr. Micks, M.A. (Chairman), Mr. George Murnaghan, M.P., and Dr. E. Coey Biggar, Medical Inspector of the Local Government Board—opened their public inquiry for the county of Cork on September 25th.

The question of the proposed establishment of a consumptive sanatorium for the county of Cork was inquired into and Dr. P. J. Cremen, the Chairman of the Cork Branch of the National Association for the Prevention of Consumption, was examined. A rate of 1d. in the £1 had been levied, which brought in about £5,300, for the purpose of erecting a sanatorium. A site had been chosen, but it had not yet been approved of by the Local Government Board. Referring to the desirability of erecting such institutions, Dr. Cremen urged that it was not the sole panacea for the cure of consumption, but it must occupy a minor, although important, position in any scheme for eradication of this disease. The mortality in England and Wales in the years 1851-5 was 28.05 per 10,000; in the period 1896 to 1900 it diminished to 13.23 per 10,000, and the best authorities on the subject thought it was brought about by: (1) Better feeding, owing to rise in wages and fall in price of food; (2) better housing, owing to increased prosperity; (3) better conditions of factory life after Factory Acts imposed shorter time, more space, better ventilation, and removal of injurious products; (4) better drainage, lessening dampness of dwellings and workplaces. As regards the mortality in City of Cork, the increase from 1881-1904 was 16 per 10,000. In the Cork County the deaths from tuberculosis increased from 1,194 in 1902 to 1,388 in 1904. The number of deaths in Cork Union alone increased in the same period from 550 to 703.

Dr. W. A. Cummins, Professor of Medicine, Queen's College, Cork, and Visiting Physician to Cork District Hospital, stated that 150 to 200 cases of consumption were admitted during the year. They were able to put the female cases into separate wards, but owing to the size of the male wards other cases had to be put with the consumptive cases. He found it absolutely impossible to get rid of the horrible habit of expectoration all about the place, and when it was remembered that a single advanced case would expectorate 20,000,000 tubercle bacilli in the twenty-four hours they would understand how the disease was spread. He had again and again seen wardsmen attending these cases develop consumption.

In the course of further evidence Dr. Cummins said he strongly approved of the boarding out system for children, as children reared in the workhouse imbibed workhouse ideas and were apt to return. He had seen three generations of the one family return to the house. The equipment of district hospitals should be the best possible, and then if the guardians were able to send cases from country hospitals to district hospitals at a fixed rate a great deal of expense would be saved. He thought the Cork District Hospital was understaffed; they had only two visiting doctors and two resident doctors. There should be two assistant medical officers appointed at small salaries, who would eventually succeed to the higher posts.

Censure of a Dispensary Medical Officer.

Dr. Gavin of Edenderry Union has been, as the result of an inquiry, severely censured by his Board of Guardians. The charge was that Dr. Gavin had left his district without having made proper provision for the attendance of a medical man upon urgent cases of illness occurring during his absence. Unfortunately a man became ill, was not attended, and died. Dr. Gavin did make private arrangements for the discharge of his duty, but they proved inadequate. The Local Government Board admitted that there were some extenuating circumstances in that Dr. Gavin made an attempt to see the relieving officer before he went away and made a verbal arrangement with a neighbouring medical practitioner, and

but for these the Board would have removed him from office under sealed order. The relieving officer was cautioned for not having at once procured a doctor for the patient.

CERTIFICATES FOR SCHOOL AUTHORITIES AND CORONERS.

The Fermanagh Branch of the Irish Medical Association has advised dispensary medical officers not to give certificates for school children under the Elementary Education Act unless the certificates are paid for as arranged between the educational authorities and the medical officers. The Branch has also addressed a letter to the coroners of the county contending that there is no obligation on medical men to give information as to the cause of death to the coroner or his agent, short of becoming *particeps criminis*.

Scotland.

IN connexion with the review by His Majesty of the Scottish Volunteer Forces at Edinburgh, the King has nominated Major John Scott Riddell, M.B., Royal Army Medical Corps (Volunteers), Aberdeen Companies, to be a member of the Royal Victorian Order.

THE CHAIR OF MIDWIFERY IN THE UNIVERSITY OF EDINBURGH.

The Curators of Patronage of Edinburgh University met on the afternoon of Monday, October 2nd, to consider the vacancy in the Chair of Midwifery caused by the resignation of Professor Simpson. The names of the seven candidates have already been given in the BRITISH MEDICAL JOURNAL. The curators present were Lord Stormonth-Darling, Lord Dundas, and Sir Patrick Heron Watson, as representing the University Court; and Sir Andrew McDonald, Bailie Richard Clark, and Treasurer Brown, as representing the Town Council of Edinburgh. Lord Provost Sir Robert Cranston, the fourth representative of the city on the Board of Curators, was absent, he having been summoned to Balmoral. After a sitting of an hour and a quarter, the Curators adjourned without making an appointment. It was intimated that they would meet again on Monday, the 16th, to make an appointment. The reason for the delay has not been made known, but it is satisfactory to feel that the Curators are giving serious consideration to a question of very great importance to the future welfare of the University. It is generally understood that the duties of the new professor will be restricted to obstetrics, and that the University Court will subsequently appoint a Lecturer in Gynaecology. The session of the Medical School opens on October 17th.

EDINBURGH ROYAL INFIRMARY.

At the weekly meeting of the managers of the Royal Infirmary of Edinburgh on October 2nd it was intimated that payment had been made of the sum of £4,000 to account of the residue of the estate of the late Patrick Shaw, advocate, of Charlotte Square. Other sums to the amount of nearly £500 were also intimated. The following appointments for the ensuing six months, as from October 1st, were intimated: *Resident Surgeon*: D. P. D. Wilkie, M.B., Ch.B., to Mr. Caird. *Non-resident House-Surgeon*: J. S. Fraser, M.B., Ch.B., to Dr. R. McKenzie Johnston. *Clinical Assistants*: John M. Darling, M.B., Ch.B., to Dr. R. McKenzie Johnston; J. Gilbert Hope, L.R.C.P. and S.E., to Dr. W. Allan Jamieson; and Robert W. Buchanan, M.B., Ch.B., to Dr. Francis D. Boyd in the medical waiting-room.

LOW MORTALITY IN EDINBURGH.

In the week ending Saturday, September 30th, the mortality of Edinburgh was 67, or equal to an annual death-rate of 10.35 per 1,000. This is the lowest death-rate recorded in the city since September, 1904, when it was 9.86 in two consecutive weeks.

THE LATE MISS FLORA STEVENSON.

Although she was not immediately connected with the medical profession, we note with deep regret the death of Miss Flora C. Stevenson, by which the philanthropic and educational world is much the poorer. She was known not only in Edinburgh, but throughout Scotland and even England as a pioneer worker on education, and at the time of her death was Chairman of the Edinburgh School Board. In the university education of women, including medical education, she was a strenuous worker till this had become an accomplished fact in the University of Edinburgh. Two years ago the University conferred on her the honorary degree of LL.D., and this year she received the freedom of the city in which she did her life's work.

As the *Spectator* aptly puts it, "Miss Flora Stevenson, while capable and practical in a high degree, was possessed of great charm of manner, and her loss will be deeply felt throughout Scotland."

INOCULATION AGAINST PLAGUE IN BOMBAY.

THE Government of Bombay has lately issued some papers in which are summarized the results of the inoculations against plague in the recent outbreak at Aden. Extracts from these papers are published in the *Times of India*.

The Surgeon-General of Bombay, in forwarding a report from Aden by Dr. E. S. Winter, with comments by Colonel Bannerman, Director of the Plague Research Laboratory, Parel, says: It will be seen that the figures refer to 1,052 persons uninoculated and 898 inoculated among communities or persons living under similar conditions. Among the uninoculated there were 368 cases and 294 deaths, and among the inoculated there were only 37 cases and 14 deaths. Had the latter suffered in the same proportion to the former, there would have been 314 cases and 250 deaths, and a case-mortality of 78.6 per cent. instead of 37.8 per cent. Thus these figures indicate that inoculation afforded a somewhat more than eight-fold degree of immunity, and a degree of protection among the attacked equivalent to rather more than double.

Colonel Bannerman says: It is disappointing to find that it was impossible to verify the figures of inoculation for the whole community, as so large a part were houseless wanderers and famine refugees. However, the results among special communities, where reasonable accuracy was obtainable, are very good. Specially striking is the case of the Aden troop and their families, where it may be said that 120 lives were saved out of this small isolated community.

Dr. J. Turner, Health Officer of the Bombay Municipality, has (says our contemporary) organized measures with a view to popularize inoculation among the men under his control and to set an example to other large employers of labour. In previous years everything was done by way of persuasion to induce the halalkhores, the bigaries, and the scavengers to get themselves inoculated, but it was felt that as these men played an important part in the measures adopted for the suppression of plague and for the sanitation of the city, further systematic efforts should now be made to give them and their families protection against plague. With this object in view, meetings of these men have been held in the different wards of the city, and the advantages of inoculation were explained to them. After some persuasion a number of them consented. Dr. Turner and Colonel Bannerman, I.M.S., personally superintended the operations. In carrying out the inoculation the greatest possible care was taken to sterilize the syringe in white vaseline, which was boiled at the temperature of 160 degrees Centigrade, that is to say, 60 degrees above the boiling point of water. The quantity injected was 5 c.cm., or 15 minims, in the case of an adult, and half the quantity in the case of a child. After the operation each man, woman, or child was given half a rupee and sent home. It has been arranged to continue the work of inoculating municipal employés in different places. With a view to create interest among the general public, Dr. Turner has written a small pamphlet in English, in which the advantages of inoculation are lucidly set forth. He intends to have it translated in the different vernaculars and distribute them broadcast. In order also to make it attractive, he intends to distribute photographs, which may take the shape of picture postcards, illustrating the advantages of inoculation, and the disadvantages arising from the neglect of taking that precaution. As showing the interest taken in inoculation by the Government, it may be mentioned that it has sent to the Mill-Owners' Association 6,000 copies of a leaflet printed in Gujarati, Marathi, Urdu and other vernaculars, for distribution among mill-hands. The scheme for affording greater facilities for inoculation than at present exist in up-country districts of the Bombay Presidency, has since been extended to Satara. Mr. S. R. Arthur, the Collector, having summoned, by proclamation, a meeting of the municipal councillors and leading citizens, appealed to them to use their utmost endeavours to popularize the measure, and then introduced the Superintendent of Plague Operations, who explained the advantages of inoculation. Later, the main points of the Collector's appeal were translated to a large assembly, and the Subedar Major of 103rd Mahrattas testified to the remarkable

immunity which inoculation had produced in his regiment in the preceding year, and to the total absence of any untoward effects. Dr. Walsh, Supervising Medical Officer of the Division, then inoculated the Collector, the District Superintendent of Police, the Executive Engineer, Rao Bahadur Pathak, Vice-President of the Municipality, Mr. R. R. Kale, Public Prosecutor, the Huzur Deputy Collector, the Chief Constable of Police, and seventy-one others, including sixteen private individuals, forty-two policemen, and fourteen other Government servants. Travelling inoculators are at the same time being sent into different parts of the district so as to bring the measure within reach of villagers, and those unable to visit larger centres.

LITERARY NOTES.

Dr. William W. Ireland, the well-known author of *The Blot on the Brain* and *The Mental Affections of Children*, has written a life of Sir Henry Vane the Younger, with a sketch of the history of his time. The book will be published by Mr. Eveleigh Nash of London in the course of the present month.

Messrs. J. and A. Churchill have lately published a *Text-book of Materia Medica* by Professor C. R. Marshall; an *Introduction to Chemical Analysis*, by Hugh C. H. Candy; a seventh edition of Professor Starling's *Elements of Human Physiology*, and a ninth of Dr. Hale White's *Materia Medica, Pharmacy, Pharmacology, and Therapeutics*. They also have in the press a *Manual of Pathology*, by Professor Richard T. Hewlett, and a work entitled *The Management of a Nerve Patient*, by Dr. A. T. Schofield.

In the October number of the *St. Bartholomew's Hospital Journal* Dr. Norman Moore gives an account of Roman remains at St. Bartholomew's. Twice on the land of the hospital he has witnessed the discovery of such remains. The first time was in 1877 when the sarcophagus, now on the staircase of the medical school, was found; the second was in the summer of the present year, on a site cleared for the new out patients' rooms. On the former of these occasions, when excavations were being made for the foundations of the school building, the workmen came, at a depth of 11 ft., upon two great stone coffins lying side by side. In one was a leaden case containing a woman's skeleton. The other sarcophagus contained two skeletons—a man's facing east and a woman's facing west. The next day they were further exposed, and near their east end two fragments of Roman brick and a short broken stone pillar were found. It was clear that the sarcophagi had lain undisturbed from their first entombment to the day of their discovery. The less massive of the two sarcophagi had been so much injured during the excavation that it fell into several pieces. The bones were those of adults. The enormous muscular ridges on those of the man showed that he must have been of extraordinary strength. He was probably somewhat above 50 years of age. The woman was younger. The sarcophagi had all the Roman characteristics of form. The situation of the tomb was in accordance with Roman usage of burying outside the city walls. The excavations on the part of the site of Christ's Hospital, acquired by St. Bartholomew's, have also yielded traces of the Roman occupation of Britain. Near Windmill Court Dr. Moore saw a small fragment of Samian ware in the earth, and two bronze Roman coins were also discovered. They are examples of the coin known as a *dupondius*, and are both of the reign of Nero.

The *Chronique Médicale*, which is ably conducted by Dr. Cabanès, supplies its readers with matter which, if not always edifying, is often interesting to persons who find pleasure in turning over the dust heaps of medical history. It is seldom, however, that they find a gem so precious as a discourse on medical poets which appeared in the issue of September 15th. The author, a Dr. Michaut, comes forward, with that air of setting everybody right with which even a slight experience of journalism makes one familiar, to correct a previous writer on the subject who, it would seem, had referred to Keats as a poet whom the medical profession might be proud to claim. "Pooh!" cries this learned Theban: "Keats has remained obscure, and the imperfection of his uncompleted works leaves him outside English literature. Dr. Henri Fauvel might easily have found more illustrious examples of poets, full of talent and very well known, who deserted medicine!" And where does our intelligent critic find his more "illustrious examples?" In Mark Akenside (the name is so printed throughout the article), who is presumably the forgotten author of *The Pleasures of the Imagination*; and John Armstrong, author of a poem, if such it can be called, which figures in the catalogues of second-hand booksellers with the significant description, "Curious"! After this one is prepared to find Goldsmith dismissed as the author of the "famous and so wearisome *Vicar of Wakefield*," the sole merit of which, we are assured, is that "it served our illustrious *confrère* Gustave Le Bon in learning English." May we hint that if Dr. Michaut would use it for the same purpose the knowledge so gained might help him to a saner judgement as to what is "outside English literature?" Charles Lamb expressed a wish to "feel the bumps" of a man who asked if John Milton was a poet. We confess to a similar desire in regard to the sapient person who denies the title to John Keats.

In the September number of *Janus*, Dr. Meunier, of Pontoise, gives an account of a treatise on medical ethics which was published at Hamburg in 1614 under the title of *Medicus Politicus*. The author was Roderigo de Castro, a Portuguese physician. Born at Lisbon about 1555, he studied at Salamanca, and practised for some years in his native city. About 1595 he migrated to Hamburg, where he died in 1637. Castro claims to be the first to write on the duties of the medical practitioner since the Father of Medicine himself, who, he adds, had said very little on the subject. The work was written when the author was nearing the age of 60. It consists of three principal parts, the first dealing with the position of medicine among liberal professions; the second with the knowledge that should be possessed by the physician and the books he should read; the third with the faults which he should avoid; the qualities which he should have, and his relations with his patients. A fourth part of lesser importance is devoted to philters, incantations, the therapeutic uses of music, etc. In the first part the author descants on the high and holy mission of medicine in the style of an introductory address. He adopts the old definition of a physician as *Vir bonus medicinae peritus*, which recalls Nothnagel's favourite maxim that only a good man can be a good physician. A practitioner should spare no pains to discover truth and to give relief to sufferers. If he practises from love of money, fame, or honours, he is unworthy to be accounted a professor of the art of healing. It is noteworthy that Castro insists that a physician should have a practical knowledge of surgery; he should not, however, he says, sell drugs. On the other hand the druggist should not sell wine or candles or anything not within the sphere of pharmacy.

In an essay on the origin of forensic medicine Dr. André Cousin states that the first attempt to regulate the admission of medical evidence in French courts of law was made about the beginning of the fourteenth century, in the reign of Philip the Fair. That monarch, who is known in French history as the *roi légiste*, forbade the practice of surgery by any who had not been examined and pronounced competent by a Board of sworn surgeons. It was further enacted that duly-sworn physicians, surgeons, and matrons should present reports on the cases of wounded and dead persons found in the streets or public ways. Later, sworn surgeons were appointed as experts in the courts of the chief cities of the kingdom. As a specimen of such reports, Dr. Cousin quotes one delivered on July 31st, 1332, by Henri Tristan on the case of Ponce de Canderon, who had been wounded on the head. The same surgeon declares that he has "seen, examined, and handled the body of Tristan Jegannin, of Troyes, dead without fracture, bruise, or wound, and without any blow, but carried off by the disease of the brain known to the art of surgery and medicine as '*apopelaicie*,' which purged itself through the nostrils, ears, and mouth, and ended in death on August 25th, 1332, after the feast of St. Bartholomew the Apostle." Examinations of women in cases of rape or attempted outrage were till the Revolution left to matrons. The surgeons held the knowledge of these ladies in light esteem. Paré says their ignorance made them unworthy of belief. Later Blégny says that the surgeons would have nothing to do with them; they preferred to send in separate reports than to compromise themselves by association with persons who often fell into error by reason of ignorance, spite, or obstinacy. The following is a specimen of the reports of the matrons: On July 13th Jacqueline la Cyriere was arrested on the complaint of her daughter Johannette, aged 15 years, whom she had abandoned to a Lombard. After being sworn the jury of matrons declared that they "have seen, examined, felt, looked at, and handled, well and thoroughly, in the manner suitable in such cases: the which Johannette was found deflowered and pierced through and through and so villanously abused as is and was horrible to see, and was utterly corrupt and vilely wounded and torn in all the parts."

The International Congress on Tuberculosis.

[From our Paris Correspondent.]

It is much to the credit of the Committee that the opening and early stages of the Congress, which is being held in Paris this week, went off so smoothly, for the task which they set themselves was unusually heavy.

Opening Ceremony.

The opening ceremony took place on Monday in the Rotunda of the Grand Palais, which was built in 1900 for the last exhibition. The hall itself is most beautiful. It is vast in extent but its proportions are excellent, and it is adorned by exquisite relief work which reaches high into the dome. Gaily decked out with flags and drapery, lit up by a series of electric lights which did not cast a blue hue on the faces of those present, the hall could not have been improved on.

At one o'clock the members and their wives flocked in by the hundred, and by half-past even the magic word "Press" printed on my pass was not sufficient to allow me to find my place easily. The platform was retained for the President of the Republic, the Ministers, the President and Committee of the Congress, and the international delegates. Other elected delegates found places in the body of the arena, while the press benches were placed to the right. Various galleries held the overflow from the hall, and one was allotted to the ladies of those officiating on the platform. In all between 3,000 and 4 000 ladies and gentlemen were present.

The band of the Republican Guard Regiment played the "Marseillaise," shortly after two o'clock, from the gallery facing the platform. Then the President entered, all present rising to their feet, and the Body Guard, arranged about the hall on the numerous stairs, drawing swords. The sight was picturesque and impressive.

Of the speeches that followed little need be said. For the most part only a few were able to hear, and as nothing new was said, as all the old compliments were passed, as one anticipated they would be passed, and as the sum total of all the speeches was that every country had done great good in the fight against tuberculosis, and wished to do more, and La Belle France had the opportunity this time of bringing men from all parts together to discuss the question, one's expectations were realized.

The first speech was delivered by the President of the Congress, Dr. Héraud, whose 86 years had not robbed him of his stock of spirits, although they had weakened his voice. He alluded, in the course of his remarks, to the place which France had taken in the combat against tuberculosis. Before even Germany had mustered herself together in this fight, Brouardel organized a means of attack against the dire disease. The consequences of this early movement could be plainly seen. He gave a cordial welcome to all congressists.

Following him, General Stabsarzt Schjerning spoke for the German Empire. After paying a graceful compliment to the authorities for the convocation and organization of the Congress, he made it quite clear that the subject was not a national one, but essentially an international fight against a common foe. He touched on the work which each country had done, and then dealt briefly with that done in Germany since the London Congress. Behring was first mentioned, and Kossel and Weber also received a few words of recognition. The increase in the number of sanatoriums had, he said, gone on apace, and other institutions which assist in the attempt to limit the ravages of and cure the disease were springing up on all sides; 127 such establishments, representing the sum of 54 million marks, existed in Germany to-day. The results of treatment were touched on, and the speech was brought to an end by the expression of the speaker's assurance that the present congress will assist materially in gaining the upper hand of the disease.

Dr. Theodore Williams, speaking in French, followed in the name of England. He referred to the part France has played in the investigation of tuberculosis, and mentioned the names of Bayle, Andral and Laënnec, Louis, Trousseau, Villemin, and many others. Turning to the work in England, he said that His Majesty King Edward VII had set an excellent example. It was sixty years since Great Britain began to erect special hospitals for consumption. The action of certain local authorities too had done much in the right direction, and the Governmental departments also had taken up a part of the work. He illustrated this by quoting the Royal Commission, which investigated the relation of human and bovine tuberculosis, and the gratuitous bacteriological examination of the sputum by local authorities. In conclusion, he spoke briefly of hygienic measures to combat the disease.

Professor von Schröiter spoke for Austria. He stated that a great advance in the direction of social hygiene had followed upon the last Tuberculosis Congress. He made especial reference to M. Nocard in well-chosen words.

Dr. Effco spoke for Belgium, M. de Gouveau for Brazil, M. Zolitowitz for Bulgaria, M. Gramm for Denmark, Signor Espina y Capo for Spain, Dr. Beyer for the United States, M. Hutyre for Hungary, Professor Baccelli for Italy, M. Reptchenski for Russia, M. Henschen for Sweden, M. Babès for Roumania, M. Spronck for the Netherlands, M. Schmid for Switzerland, M. Syah-Chum-Tsih for the Chinese Government. Professor Baccelli spoke in Latin, while Schjerning employed his mother tongue. All the other delegates paid their host the compliment of speaking in French.

Following the delegates' speeches, Professor M. Letulle, General Secretary, gave a description of the organization and work of the Congress. He stated that over 5 000 had joined, including 3,500 members and 1 500 exhibitors. The Committee had chosen twenty important questions to be dealt with, and forty papers had already been printed for the discussion of these questions. The programme contained 800 other papers.

M. Loubet, the President of the Republic, then addressed the meeting. He said that he was happy to have been in part personally instrumental in the calling together of the Congress. He had taken an active interest in the public health for the past fifteen years. Brouardel and Proust had been especially to the fore in working for the prevention of infectious diseases. He touched on the social and practical side of the question. He welcomed the members of the Congress heartily, and expressed his belief that their work would be fruitful, and justify the co-ordinate action of all countries in coming together for the purpose of discussion. The speech was much applauded.

The President and other officials then visited the exhibition.

The official opening having terminated, many of the members congregated at the invitation of *Le Figaro* to an "At Home," or "Five O'clock" as it was termed, where various artistes gave excellent performances. Among them may be mentioned M. Coquelin, Mlle. Margyl, Mlle. Raineri, Mlle. M. Deval, and M. Sarmiento.

General Arrangements.

The first sittings of the Congress itself took place on Tuesday in the Grand Palais, its vastness and numerous rooms rendering it exceptionally fitted for the holding of a congress. On either side of the Great Hall large vestibules leading to handsome staircases and many partially-enclosed rooms are to be found. In these spaces and rooms and in the galleries the Exhibition is placed, while in four departments the Sections held their meetings.

The Exhibition.

The exhibition is worthy of some description, but to-day I propose merely to mention the chief characteristics, and to leave the more detailed account of some of the exhibits to a further report. On the ground floor, to the right, the greater part of the space is occupied by the Museum. Here one finds a very careful arrangement of excellent specimens, prepared by some of the most accomplished pathologists and bacteriologists of the day. Among the names of the exhibitors in this section may be mentioned: the Gesundheitsamt of Berlin, Dr. Lydia Rabinowitsch (pathological specimens), Dupuytren (tuberculosis of the skeleton from the museum), Boucicault, Letulle, Lannelongue, Courmont, Arloing, and l'Ecole Nationale Véterinaire d'Alfort.

Unfortunately the catalogue will not be completed until a week has passed. Some very fine models of pathological changes produced by tuberculosis and by other affections simulating tuberculous lesions are worthy of close study. A few cases of lantern photomicrographs exhibit histological

and bacteriological material. Dr. Bushnell and others placed some tubercle bacilli specimens under the microscope.

The majority of the specimens in this section are excellently prepared and mounted, but do not show any lesion with which one is unfamiliar. An exception to this is found under the specimen shown by the Veterinary School and by Dr. Rabinovitsch.

The part of the museum devoted to the description of sanatoriums is also excellently carried out. Here one finds fascinating models of the grounds of various sanatoriums, with their woods and walks, hills and meadows, and the sanatoriums themselves; models of sputum, disinfecting rooms, and models of the internal arrangements. There are, besides tables illustrating the results obtained in the German sanatoriums, maps showing the distribution of sanatoriums for the poor and for the rich, hospitals fitted up to receive phthisical patients, sanatoriums for the relaxation of the overworked and predisposed (*Erholungsstaette*) and other places of a like nature. Photographs of patients in sanatoriums, illustrating the life and method of treatment, and photographs and skiagraphs relating to the morbid changes in pulmonary diseases are also presented.

A novel and most striking feature consists of two rooms; one is furnished in the old fashioned hotel way, with bad curtains, doubtful-looking eiderdown quilts, heavy wooden bedstead, dirty carpet, cloth curtains, and a very plentiful deposit of dust on everything. This is the dangerous room. Opposite is a model of a hygienic bedroom fitted up in the most modern way, showing not a speck of dust on the brightly-varnished, lacquered, or polished surfaces. As a pendant to this is a model ward for two patients, showing wax figure patients and nurses, and all the necessary concomitants of an up-to-date ward.

The next Section is that of the trades. Cases of instruments for recording the changes in the pulse, etc.; improvements in the direction of spittoons, disinfectors, bacteriological instruments, microscopes and their appurtenances, vaporizers, pulverizers, mechanical exercise apparatus, monophone in the place of telephone, dustless carpet sweepers, ventilators, and many other objects are set forth, and an abundance of leafly literature is displayed on each stall. Nor are the druggists absent; Bryer's preparations, Plasmon biscuits, and the usual variety, including menthol cigarettes and a new tooth soap, meet one almost offensively. In parenthesis, I may say that I strongly object to a scientific exhibition being turned into a market. In some stalls such articles as fountain pens and the like are found, and one naturally fails to follow the connexion between the articles exhibited and tuberculosis. Mention should be made, however, of a specimen of inosite crystals, which is particularly excellent. A few sanatorium model rooms exhibit a new wall paper, which appears to be well adapted to its purpose. Ingenious but expensive is the "thermophile"—an apparatus for warming carpets, hearthrugs and bed quilts by electricity. The principle appears to be similar to that of the well-known electric thermophores, which are mostly used in Berlin.

One is in a little doubt as to the meaning of a model servant's bedroom copied from the Champs Elysées. The room is not comfortable-looking, but it certainly shows no excess of furniture, nor any odd corners for dust to collect. The modern prison cell too is hygienically arranged. Distinctly bad are some exhibits of so-called aseptic night tables, which have crevices, one would almost say, to collect dust. The rest of the exhibits in this Section do not even require mention.

MEETINGS OF THE SECTIONS.

The meetings of the Sections began on October 3rd at 9 a.m. or shortly after. Unfortunately the room chosen for the First Section, that of Medical Pathology was totally inadequate to contain the number of members who wished to attend. The subject for discussion chosen was the relations of the bacillus tuberculosis and the other acid-fast bacilli. Nothing strikingly new was spoken of, but the generally accepted view may be stated to be that morphologically the various tubercle bacilli and pseudo-tubercle bacilli are identical, culturally there are slight differences, which, however, are not reliable but, so far as their virulence is concerned, there are marked differences. Professor VON BEHRING spoke of what he termed the "philogenetic" differences and referred in general terms to the importance of this in following up the subject of immunization. Dr. LYDIA RABINOWITSCH gave a very able paper on her recent work on acid-fast bacilli. Professor MARAGLIANO again described his work with dead bacilli.

In the Second Section, the subjects chosen (connected with Surgical Pathology) were the study of the various forms of tuberculosis, introduced by Professor KOSSEL of Giessen, Dr. ROWEND (U.S.A.), and Professor ARLOING of Lyons. Serum-therapeutics was introduced by LANNELONGUE ACHARD, GAILLARD, BERANECK, AIGUILLÈRE and GUERDER. VILLEMIN also made a communication on the virulence of ganglionic tuberculosis.

The Third Section, which deals with the Preservation and Assistance of Children, had for its chief discussion "The home means of protection of children against tuberculosis," and was introduced by MARFAN and HEUBNER. The subject received able treatment, and but few new means were suggested. Several other communications were also read.

In the Fourth Section, that of the Protection and Treatment of the Adult and Social Hygiene, the discussions related to questions of insurance. The Sections continued their work in the afternoon, but, as far as I have been able to gather, no startling announcement was made at any of them.

SOCIAL ENTERTAINMENTS.

Of the social functions, a very well arranged soirée given at the Hôtel Continental by the President, Dr. Hérard and Madame Hérard, was a brilliant success. The Municipality of Paris gave a reception on Tuesday afternoon.

The members and delegates present are naturally representative chiefly of France. The British representatives number about 100. Among them are Dr. Theodore Williams and Dr. Bulstrode, representing the Government; Sir W. Broadbent and Dr. Perkins, representing the National Association for the Prevention of Consumption; with them are Mr. Malcolm Morris, Drs. L. Robinson, and Philip and Sir J. Moore. Mr. J. Chiene is the delegate for the Royal College of Surgeons of Edinburgh.

The number of German members present is considerable. Among them are von Leyden, v. Behring, Schjerning, Möller, Lydia Rabinowitsch, and Klempner. Professors Bang of Copenhagen and Schrötter of Vienna also are present.

SPECIAL CORRESPONDENCE.

MANCHESTER.

What is Soda Water?—New Workhouse Infirmary at Bury.—Municipal Action at Preston in regard to Alcohol and Alcoholism.—Free Bathing for School Children and Others.—Gift to Skin Hospital.—Guardians and Underfed Children.—A Baby Show.—Poverty and Longevity.—Royal Infirmary Donations to and Alterations in its Rules.

WHEN is soda water not soda water? may well be asked in view of a case heard at Rochdale against a mineral water manufacturer, who was summoned for having sold soda water not of the nature, substance, and quality demanded by the purchaser. The bottle sold cost one penny, and its contents on analysis were found to contain only ½ gr. of bicarbonate of soda to a pint of water. According to the experience of the public analyst of the town a pint of soda water should contain 8 gr. to 10 gr. of the salt. It was contended that this small amount of the salt caused the fluid to have no more effect than aërated water, and that as soda water was prescribed by medical men as a cure for acidity of the stomach, therefore from that point of view, this soda water was of no value. The defence contended that there was no standard for soda water, and that if the bottle contained any soda at all, it was, therefore, soda water. A fine was imposed.

A new infirmary, which has been built at the Bury Union Workhouse at Bury, was opened on September 20th by the Chairman of the Hospital Committee. The Inspector of the Local Government Board has urged for some years the necessity of providing a new workhouse infirmary, but it was not until about four years ago that the guardians took definite steps for providing one. The infirmary consists of an administrative block, with accommodation for a superintendent nurse and sixteen nurses, two large pavilions and a maternity ward. The pavilions and ward provide accommodation for 126 patients. The cost amounted to about £21,000. A new laundry boiler-house and other works are being erected at a cost of nearly £10 000.

Preston, the birthplace of Joseph Livesey, the founder of

the teetotal pledge, has made a new departure by introducing the teaching of temperance as an item in municipal undertakings. The Medical Officer of Health, Dr. Pukington, and Dr. Brown, Chairman of the Health Committee, have drawn up a public notice on physical deterioration and alcoholism, which it is proposed to affix in the public stations and on the doors of the places of worship, and in mills and workshops. The notice embodies the most important of the conclusions reached by the Committee appointed by Parliament to consider the subject.

The Corporation Baths Committee have once again tried the experiment of making arrangements for the free bathing of school children during the summer months. The experiment has been eminently successful. From a report just issued we learn that at the second class baths which were open free from August 1st to 25th inclusive, for males and females, the total number of bathers was 194,538, and that not a single accident occured. This number exceeds that of 1904 by 16,501 —5 325 males and 11,176 females. The scholars bathing free under the school regulations numbered 1 347, and those paying ½d. and 1d. on days other than those when the baths were free numbered 33 724

The trustees of the Manchester and Salford Skin Hospital, in view of a gift of £5,000 from the surviving trustee of the late Mr. Manasseh Gledhill, resolved that a ward of not less than six beds shall be maintained as the Manasseh Gledhill Ward, and that two of its beds shall be appropriated to patients to be nominated by the surviving trustee during his lifetime.

The proposals adopted by the Education Committee[1] for the feeding of underfed children have not commended themselves to the representatives of the three Boards of Guardians who will have to carry out the recommendations. At a conference held on September 25th it was resolved to seek a further conference with the Education Committee as to the means of carrying out the Relief (School Children) Order, 1905 A suggestion was made, and well received, to the effect that, instead of setting up new machinery, the cost of meals might be met by the Board subscribing, under conditions sanctioned by the Local Government Board, to the funds of charitable institutions, who would supply meals to the children of parents out of work, leaving the Guardians to deal with the children of parents who neglect their responsibilities

A novel "show," with the object of reducing the heavy infantile mortality by spreading knowledge amongst mothers of the best means of feeding their babies, was held in Salford on September 25th. The offer of prizes to the value of £25 was sufficient to secure an entry of nearly two hundred baby competitors. The judges had to decide not only which were the heaviest and fattest babies—that was done by the scales in side rooms—but also which were the healthiest as well One of the purposes in bringing the babies together was to direct the attention of the mothers of Salford to the value and importance of proper feeding One of the lessons taught was that the finest babies are still reared on the breast. Of the total of 180 babies shown less than a score had been "brought up on the bottle." The champion baby turned the scales at 23 lb; its age was 4 months. A pair of twins, aged 8 months, each weighed 17¾ lb., and there were many babies under 6 months who weighed more than 20 lb.

Poverty under appropriate hygienic conditions seems to be no bar to longevity. Out of 127 persons in receipt of out-door relief in Hayfield Union at the present time one has reached her 95th year, 9 are between 80 and 90, 55 are between 70 and 80, and 30 are between 60 and 70.

A special meeting of the trustees of the Royal Infirmary was held on September 26th, at which it was resolved to alter the rules so as to provide for the appointment of an additional honorary surgeon, and the appointment on the honorary staff of the Professor of Pathology at the University of Manchester In this way complete co-ordination will be obtained between the teaching of pathology at the University and that at the Infirmary. Moreover in Professor Lorrain Smith the infirmary staff will have amongst its members a thoroughly competent pathologist. The infirmary will contribute £25 per annum to the University for services rendered to its pathological department. Dr. Thomas Harris remarked that for years the infirmary had received very considerable services from Owens College, for which, in his opinion, no adequate payment had ever been made. The arrangement as between the infirmary and the University authorities is terminable by six months' notice on either side. At a meeting of the Board of Management held on the same day, it was announced (1) that the Misses Esther and Mary Barnes, of Fulshaw House, Wilmslow, had given £2 500 to the institution in memory of the late Rev. W. S. Barnes-Slacke, formerly incumbent of Lindow, near Wilmslow. Of that sum £1 000 has been allocated to the general fund, and £1,500 devoted to the endowment of a bed in one of the male wards; and (2) that under the will of the late Mr. John Harding, the infirmary will benefit to the extent of £5,000.

[1] BRITISH MEDICAL JOURNAL, September 23rd, p. 752.

BIRMINGHAM.

Opening of the New Women's Hospital at Sparkhill.—The Stage and the Hospitals.—West Bromwich Hospital.—Consumption in Birmingham.—Asylums and Private Patients.—Contributions to Wolverhampton Hospitals.—Infantile Mortality at Walsall.—Dudley Education Committee.—Blind and Deaf School a Stoke-on-Trent.

THE new Women's Hospital, which has been built at a cost of £42 000, was opened on September 20th by Mrs. Nettlefold. The scheme for rebuilding the hospital first took form in 1902. Mr. Arthur Chamberlain gave £2 000, and Mr. Burrow Cadbury also £2,000, and a sum of £13 000 was raised by private gifts. Mrs Unite bequeathed £20 000 and so the new hospital, through the aid of other generous contributions, has started free from debt. The building is of red brick and white stone. On the ground floor, in the administrative block, are the nurses' dining room, patients' waiting room, surgeons' rooms kitchens, and offices. On the first floor are the matron's and sisters' rooms, and on the second floor the servants' bedrooms. In the nurses' block there is a recreation room and twenty five bedrooms. The hospital block consists of four wards, each containing ten beds; there are four ward-kitchens, a dispensary, surgery, sewing-room, patients' clothes room, anaesthetic room, and sterilizing room. Two operating theatres are provided. There are, in addition, a laundry block, isolation hospital, and mortuary. At the opening ceremony, the Bishop of Birmingham offered prayers for the hospital and its work. The old hospital, in its inadequate buildings and with its scanty accommodation, did a great and lasting work. In the new buildings the work will be carried on under proper and up-to-date conditions, and subject to the necessary additional income of £1 000 a year being forthcoming, there is a great and useful future before the hospital.

The Committee of the Birmingham Theatrical and Variety Theatres' Annual Charity Sports has just issued its statement of accounts. A satisfactory sum of £245 was realized in February by the sports then held, and has been allotted among the different hospitals in the city and to certain benevolent institutions in the neighbourhood. Since 1892, when the sports were first held, more than £5,000 have been handed by this Committee to the hospitals and charities of Birmingham. The Committee has also announced a further generous intention of setting aside a sum of money in the future in order to endow a permanent bed in the Birmingham Children's Hospital.

As a result of the Charity Sports held this summer, the sum of £40 has been apportioned to the West Bromwich Hospital Saturday Fund, and £26 to the West Bromwich Nurses' Home.

At a meeting of the Birmingham Health Committee on September 26th, Alderman Cook being in the chair, Dr. Roberts, the Medical Officer of Health, was empowered to make an inquiry into the "open-air" treatment of consumptive patients as adopted in other large cities. He will visit a number of institutions and make a report to the Committee, in order that it may see how far Birmingham would be justified in providing a building especially for such treatment.

The Lunatic Asylums Committee of the Birmingham City Council has arranged for private patients to be received at several of the institutions under its control. The scheme was sanctioned some months ago by the Council, and it is one which is in accordance with the powers granted to committees by the Lunacy Act There are many patients who do not belong to the poorest classes, but who are not sufficiently well off to pay the charges of maintenance in private asylums. Two wards in the Winston Green Asylum, one for females and the other for males, have been entirely set apart for paying patients. When convalescent these patients will be removed to Leverets and to Glenthorne, at each of which there is accommodation for forty patients. The minimum charge will be 15s. per week, and it is thought that these convalescent homes will be self-supporting.

The annual collections in aid of the hospitals in Wolverhampton were made at the chief industrial establishments on September 16th. A sum of £1,400 was handed into the District and Counties Bank, as against £1 538 last year. For the Eye Infirmary a sum of £190 was handed in to Lloyd's Bank, while last year £302 were received for this institution.

Dr. Wilson, the Medical Officer of Health for Walsall, states that the infantile mortality for that town during the last seven weeks is alarming. Out of 211 deaths, 96 were of children under 1 year of age, and of these 75 died from epidemic enteritis. Nearly all these children were bottle-fed; Dr. Wilson urges the necessity of proper nursing, feeding, and treatment, pointing out that if the infantile mortality is to be reduced, these matters must be better attended to.

The proposed exclusion of children under 5 years of age from the schools was discussed on September 18th by the Dudley Education Committee. Financially it would result in a loss in grants of £1,775, as it would affect 947 infants; but, owing to the increased grants of 7s. a head in respect of 2,035 children between 5 and 7 years of age and of 2s. a head for 6 711 children between 7 and 14 years of age, the total loss would be £392. The estimated gross saving on the scheme would be £657, and the extension of school buildings would be unnecessary for many years. There was opposition to the sudden exclusion of those children under 5 years of age, and it was suggested that in future none under that age should be admitted, as thereby less hardship would be inflicted upon parents and teachers. It was pointed out that in Germany children do not go to school, at any rate compulsorily, until they are 6 years old. The question was referred to a special committee.

In his report for the year, Dr. Eichholz, H.M. Inspector of Schools for the Blind, Deaf, and Defective, comments in most gratifying terms upon the work done by the Blind and Deaf School at Stoke-on-Trent. A marked improvement is shown in the physique of the children in their progress through the school. All the children who have left the school are in satisfactory employments. In reference to the speech of Sir John Gorst at Hanley with regard to the physique of school children, every record and every examination that he recommended as being desirable, and which he quoted as being made in Germany, was made at this school. Physical examination of each child is made at entrance and also at the beginning of every term, so that any physical change is noted. There are now 25 blind and 105 deaf children in the school, and one blind and deaf. The headmaster and staff are to be congratulated upon the excellent results they have obtained.

LEEDS.

Underfed Children and Infant Classes.—Changes at the Infirmary.—The Public Health.

At a meeting of the Leeds Education Committee the Chairman was empowered to invite representatives of the Poor-law Guardians to meet representatives of the Education Committee for the purpose of formulating a scheme for the relief of underfed school children. It was mentioned that the fund which was established last winter by the Lord Mayor had been administered from about sixty centres. Meals were given five days a week, and in this way between 5 000 and 6 000 children had been fed, the total number of meals supplied being 325,477. The amount raised by private subscriptions to meet the cost was £1,720, and the cost per head of the dinners was 1¼d. This work does not include that of Mr. William Hall, to which reference has been made in this column (April 8th, 1905). Mr. Hall, with the assistance of his friends, continues to carry on his work among the poor children of St. Peter's Square Council School. In a letter to the local press, Mr. Hall, in commenting on the recently-issued report of the Board of Education, which contains an expression of the view that children under 5 years of age do not benefit from attendance at school as at present arranged, says he believes that the medical profession as a whole is of opinion that up to the age of 7 the child's bodily nutrition and technical development are of far greater importance than its mental culture. He points out that were there even a partial withdrawal of the grant for all children under the age of 7, about £1,000,000 could be saved and applied to the better nourishment of children in necessitous schools, and also that by an extension of the "wastrel" clause of the Education Act, fraudulent wage-earning parents could be compelled to contribute directly to the maintenance of their offspring by taxing the wage before it left the employer's hands.

At the weekly meeting of the Board of the Leeds General Infirmary a letter was received from Dr. C. M. Chadwick, announcing his resignation of the position of honorary physician. The announcement was received with regret, and a resolution was unanimously passed placing on record "the hearty appreciation of the Board of the great services which Dr. Chadwick had rendered to the patients and the institution during the last thirteen years." In consequence of this resignation, Dr. T. Wardrop Griffith, at present physician with charge of out patients, will succeed to the position of honorary physician held by Dr. Chadwick, and a vacancy is created on the staff which will be filled by the election of an assistant physician.

The birth-rate for last week was 24.7 and the death-rate 15. Sixty cases of infectious disease were reported, of which 31 were removed to hospital. There remained in hospital at the end of the week 86 cases of scarlet fever, 25 of diphtheria, 27 of enteric, 2 of erysipelas, and of other diseases 19, or a total of 159, as compared with 141 in the previous week.

SOUTH WALES.

Cardiff Workhouse Nursing Staff.—School Nurseries.—Sanitary Inspectors' Association.—Porth Cottage Hospital.—University of Wales.

The question of the nursing staff of the Cardiff Workhouse came before the Visiting Committee at their meeting on September 27th, upon a report presented by Dr. A. Sheen, the medical officer. Dr. Sheen pointed out that he had previously called attention to the necessity for increasing the number of probationer nurses and otherwise improving the staff. There were fourteen wards in four blocks, with about 184 occupants, and for these they had five charge nurses and eight probationers, and of these one charge nurse and two probationers were employed on night duty. He suggested that there should be twelve probationers instead of eight, and instead of five charge nurses, four charge nurses, and a night sister of superior qualifications. The Chairman said that it must be obvious that one charge nurse and two probationers could not possibly effectively supervise fourteen wards at night. He therefore moved that they recommend Dr. Sheen's suggestion with regard to probationers to the Board for approval. This was agreed to, but on the question of appointing a night sister it was decided that the clerk should obtain information from other institutions before agreeing to the proposal.

Miss E. P. Hughes, a member of the Education Committee of the Glamorgan County Council, has devoted much time and attention to the subject of school nurseries, and in a recent issue of the *Western Mail* is published in detail the results of her observations. The Glamorgan County Council, some time ago, for educational and financial reasons decided that it would be wise to exclude from the council's schools all children under 5. It was discovered, however, that under English law children between 3 and 5 must be admitted if they applied and there was room. The Board of Education regulations are now altered, and such children can be excluded. Miss Hughes maintains that much money is being wasted at present in education, and, at the same time, many educational areas are cramped for lack of money. She believes that much of the money expended on infants' schools at present is wasted, and that a similar amount, or probably less, more wisely expended, would produce far greater results. In Japan the desire for education among parents and children and persons of every class is very much keener than in Wales, but the law does not allow children to enter a public school until the beginning of the school year after they are 6 years of age. The Japanese believe that science has conclusively proved that school education before that age is not only waste of money, but physiologically and educationally detrimental. The question remains, What do children from 3 to 6 really want? (1) Very healthy physical condition. A child at that age is delicate. After the first year, it is probable that about 5 to 7 and from 13 to 15 are the most serious physiological crises in a child's life. They should be very much in the open air, have plenty of air, light, and warmth; great freedom of movement, and plenty of exercise. From 3 to 7 is probably the most infectious time in a child's life, hence the maximum of a child's time in school or nursery should be small. Sleep is of the greatest importance, and a class-room for children from 3 to 5 without arrangements for sleep would be amusing if it were not so pathetic. (2) Good mental conditions. A child

loves to work, and loves to be useful, but he cannot work long, and it is good for him to spend much time in doing what he likes in play and in work: indeed, for him the dividing line between the two scarcely exists. Miss Hughes promises at a later date to give what seems to her to be a reasonable scheme for educational nurseries.

A sessional meeting of the North Wales District Centre of the Sanitary Inspectors' Association was held at Criccieth on September 28th. An inspection was made of the sea defences on both side of the Castle Rock a visit to the castle being made *en route*, the ex-Chairman of the Criccieth Urban Council and the Chairman of the Sanitary Committee acting as guides. After the routine business of the Association had been concluded Dr. H. Gladstone Jones, Chairman of the Sanitary Committee of the Criccieth Council, opened a discussion on Essentials of a Health Resort. At the outset, Dr. Jones made fitting reference to the great difficulties sanitary officers and sanitary authorities have to contend against, owing not only to the apathy, but very often to the antipathy of a large section of the public. The first essential of so-called health resorts undoubtedly was a pure and abundant water supply under the control of the public authority. He strongly advised greater vigilance in the matter of drainage and a reliable map of the whole of its drainage system, added to from time to time whenever new drains were laid. On the subject of the removal of house refuse, street scavenging, and nuisances, he referred in strong terms to the dangers of road and street sweeping in the dry state. Regulations with respect to dairies, cowsheds, milkshops, the Food and Drugs Acts, etc., were all touched upon in turn, and several practical suggestions made by the speaker were received with much applause. Dr. Fraser, the medical officer of health for the Carnarvonshire Combined Districts, thanked Dr. Jones for so ably opening the discussion and referred in detail to the climatic conditions which obtained in Criccieth, the discussion being further continued by the Chairman of the Association and others.

The annual meeting of the trustees and governors of the Porth Cottage Hospital was held on September 27th, Dr. Evan N. Davies, J.P., presiding. The Secretary's report for the year ended June 30th showed a credit balance of £1 383 11s. Sir W. T. Lewis was re-elected President; Alderman M. Williams, treasurer, Messrs. J. Preece and D. M. Jones, auditors, and T. H. Davies, hon. secretary. The management committee was elected for the year. Subscriptions were received from Mr. G. F. Insole, £10 10s.; Ystrad Rhondda Conservative Club, £5 5s.; Dr. W. E. Thomas, £1 1s, and Dr. Ivor H. Davies, £1 1s.

Principal Bebb, Lampeter College, has been appointed a member of the Welsh University Court, as one of the representatives of the Lord President of the Council. Principal Bebb takes the place vacated by Mr. A. G. Legard, Chief Inspector of Schools for Wales, who, in common with the other inspectors of schools, has been instructed by the Board of Education that he ought not to be a member of the University Court.

CORRESPONDENCE.

THE BRITISH MEDICAL BENEVOLENT FUND.

Sir,—As President of this Fund, I ought not to leave unnoticed the letter of "J. P.," who has been moved by a perusal of last year's report to plead with the profession on behalf of the unhappy clients of the Fund. The wretched cases he has taken from the list of applicants could be matched at every monthly meeting of the Committee; and I am asking Mr. Sargant, the Honorary Secretary, to send a brief abstract of the cases seeking assistance this month.

Even more pathetic than the display of poverty and distress month by month is the fact that there are 120 annuitants, to whom the £20 a year (increased to £26—10s. a week—in the case of nine, who must be medical men, not widows or daughters) given by the fund constitutes a refuge from destitution and the workhouse.

To a considerable proportion of the medical profession provision against old age and failing strength or for children is impossible. Year by year the income can scarcely be made to meet the expenditure by the greatest care and self-denial. Broken health or early death at once plunges the individual or the family into poverty and distress, all the worse to bear from the respectable appearance and position a medical man has had to keep up. It is not to be denied, of course, that intemperance, improvidence, and vice are responsible for aggravated forms of suffering and distress to the families.

The fund has grown during the forty odd years of my association with it, but the demands upon it have grown much faster. The £7 000 a year which, as "J. P." points out, would be available if every member of the profession subscribed 5s., would, no doubt, relieve far more effectually than is possible at present all existing distress; but, absurd as it may seem, 5s. a year would press hardly on many of the humbler medical men. A minute self-imposed income-tax would be a more equitable way of raising money, or a guinea from every Fellow of the different Colleges of Physicians and Surgeons would go a long way towards the relief of the applicants to the Fund.

It is quite true that—as your correspondent, "Sweated," says—the medical profession has a strong claim on the public. On this we have constantly insisted. We cannot hope, however, that hospitals, cottage hospitals, dispensaries, and convalescent homes will contribute, as is suggested by "Sweated." They do not even pay their medical officers, and hospitals are now not to be allowed to contribute to the support of their own medical schools.

It is sometimes said that the medical profession is overstocked, and that medical men underbid each other. In this last allegation there is some truth, but as regards the first, there is more work to do, both among the scattered population in country districts and among the working classes and poor of industrial centres than there are medical men to do it. The position of a conscientious medical man, who is so unfortunate as to have what is called a "poor" practice, is most painful. He wears himself out under a sense of duty for what can scarcely be called a living wage, and this often paid grudgingly. The medical profession ought to combine in defence of its weaker members, and public authorities and the public generally ought to be aroused to a sense of their obligation to the medical men who are working among the poor, and through them towards the poor whom they help and serve. In the meantime we have to try and bring aid and succour to the victims of circumstance and of imperfect professional and social organisation.—I am, etc.,

London, W., Sept. 29th. W. H. Broadbent, M.D.

Sir,—At the request of Sir William Broadbent I am sending you an abstract of the applications at the last meeting of the Committee of this Fund.—I am, etc.,

W. E. Sargant,
Honorary Secretary for Cases.

St. Bartholomew's Hospital, E.C., Sept. 30th

Abstract of Applications at Monthly Meeting of Committee, September, 1905.

1. Widow (aged 31) of M.B., C.M.Glas. Two children, one in St. Anne's. Is a district nurse, and wants a little help towards expense of canvassing to get second child into an institution. Voted £5.

2. Widow (aged 45) of L.F.P.S.Glas. Quite unprovided for. Six children, of whom three are, or should be, self supporting, and three at school. Is in receipt of parish relief, and consequently no grant was made.

3. Daughter (aged 59) of M.R.C.S., L.S.A., who has until now supported herself since father's death more than twenty years ago. No income and unable to obtain employment. Voted £10 in ten monthly instalments.

4. Widow (aged 70) of M.R.C.S. recently deceased, who was an annuitant of this Fund. Voted £12 in twelve monthly instalments, and case to be considered for an annuity as soon as vacancies arise.

5. Daughter (aged 37) of M.D.Durh. For several years has maintained herself as a shorthand typist, but health has broken down and applicant is obliged to seek lighter work out of London. Voted £5.

6. Wife (aged 30) of M.B., C.M.Edin. Has had a six weeks' illness, by which she will be incapacitated for some months, and husband is in an asylum. Practice could not be sold and furniture was seized by the landlord for rent. Voted £10.

7. Postponed for further inquiries.

8. Daughter (aged 35) of L.R.C.P., L.R.C.S.Edin. At father's death, four years ago, started a nursing home, but failed for want of capital. Now attempting to support herself by taking boarders. Voted £5 and recommended to obtain a situation.

9. Daughters (aged 41 and 33) of L.S.A. Permanent occupation prevented by physical defects and ill health, and therefore dependent on mother whose only income is a pension of £50. Voted £12 in twelve monthly instalments.

10. Daughter (aged 50) of M.R.C.S., L.S.A. Has kept herself for thirty years by nursing, etc., but is now incapacitated by ill health. Voted £10 in two instalments.

11. Daughter (aged 60) of L.R.C.P.Edin., M.R.C.S.Eng. No income: has been supported by a relation, but help withdrawn owing to financial losses. Father and grandfather both practised for many years in town where applicant lives. Voted £12 in twelve monthly instalments.

12. Widow (aged 60) of M.R.C.S.Eng., L.F.P.S.Glas. Dependent on a

son who is obliged to temporarily withhold assistance owing to an illness. Voted £5.

13. Widow (aged 54) of M.R.C.S. Eng., L.R.C.P. Edin. Applies for help owing to the death of a son in South Africa by whom she was supported. Voted £10 in two instalments.

14. Widow (aged 54). No income; slight help from friends. Disabled by a broken leg and is in a hospital. Consideration of case postponed until discharge.

THE PERPLEXITIES OF SECRETARIES.

SIR,—I should be glad to find out the opinion of my fellow-secretaries on the following points:

1. Do they find that members as a whole take any interest in medico-legal matters?

2. Do they find that the attendance at the meetings diminishes in proportion to the amount of medico-legal matter on the agenda paper?

The long distances and the difficulties of transit make it hard enough at any time to whip up a fair meeting in my Division. If the agenda paper is mainly a mass of medico-legal matter I can depend on a poor attendance. Let me cut out that matter and offer a clinical programme and there is at once an effort made by members to come, even at great inconvenience. That there are certain matters on which it is well to obtain the obtain the opinions of members I grant; but I feel very strongly—and in this am backed up by the bulk of the members of my Division—that the best interests of the Association are not served by the constant discussion of material of itself of comparatively small importance.

If the Association is to grow, it can only grow by being made popular, and it can only be made popular by making the meetings interesting. As things are now I can always depend on enough matter being sent down from the "Office" to fill the agenda paper, and only by practically shunting that can I depend on a fair attendance. Busy men will not try to get to meetings when they know that the discussions will be dry and the results probably futile. The great difficulty I find in getting new members to join is that they think our meetings too dull to attend. That they are so is due to the excess of business matter. These things may be different in big towns. I speak of a widespread country district.

I trust that other secretaries will write and let the authorities know through the BRITISH MEDICAL JOURNAL the general feeling in the matter.—I am, etc.

MARK R. TAYLOR.
October 3rd. Honorary Secretary, Truro Division.

THE TREATMENT OF PUERPERAL ECLAMPSIA.

SIR,—I have been in practice since 1865, and have seen in a large midwifery practice many cases of puerperal eclampsia in my own practice and in consultation. I have followed one system of treatment, namely:

(*a*) Chloroformization.

(*b*) Speedy delivery.

(*a*) I have not given a whiff; I have kept the patient for hours under chloroform. In some of the consultation cases the medical attendant had previous to my arrival kept the patient for some time under chloroform.

(*b*) Under chloroform the os usually dilates or is dilatable, and I have been able to introduce a dilator. I have only used one kind—namely, Barnes's. Bossi's instrument I have never used, as it appears to me very dangerous for this purpose.

I always assume that the object is to save the mother and not simply deliver her. Delivery might be made a very simple measure by simply slipping in a bistoury and dividing the cervix, but what of the patient afterwards? The "doing of something," I quite agree with your leading article, may satisfy the relatives or friends, but the doing of something without some definite object in view seems to be very poor midwifery practice.

When one has followed a uniform practice for so many years as I have, it may be possible to draw some deductions therefrom. In spite of the numerous suggestions made through all these years I have seen no reason to change my practice. I hold it to be a good, sound principle of medical practice that when you have a line of treatment which secures you a fair amount of recoveries it is wise to adhere to that line.

All cases of eclampsia I have seen have been associated with albuminuria. Speedy delivery has not put an end at once to the eclamptic condition; convulsions have continued for a time, and a slow convalescence has followed.

Fortunately for us eclampsia is not a common complication; if it were midwifery would be even more exhausting than it is. When it occurs it is most alarming to patient's friends; in country practice certainly the relatives would not be content with Dr. Matthew Duncan's advice "to do nothing." A midwifery practice could not be built on such lines. The administration of enemas to clear out the bowels does always impress the relatives, and after thorough aseptic treatment of the vagina, when chloroform is taken in hand and administered, the alarm of the patient's friends is appeased, a feeling of confidence is established and this rational doing of something is a good prelude to the next step, namely, a consultation.

I cannot at present, until I have looked up my notes, give the number of cases of eclampsia that I have attended, but I shall do so. I content myself for the present with brief notes of a few consecutive consultations:

1. A., 2 para, aged 36 years. Violent convulsions. Previous to my arriving the medical attendant had given chloroform, attended to bowels. Os dilated to size of halfpenny. Small bag introduced. Gradual dilatation. Delivery of live boy. Good recovery. Mother since has had no more children, adopting one of the modern systems of prevention.

2. B., primipara, aged 23. Bad case, urine recognized albuminous, legs oedematous. Convulsions incessant. Two medical men in attendance. Chloroform given for two hours before my arrival. Bowels were cleared, uterus dilated; delivery of fine girl alive. Mother made slow convalescence; is now in good health. Child living. Has had no more children, and, as she says, "she does not intend to ever again run such a risk."

3. L., aged 30, 2-para. Violent convulsions. Os dilated. Chloroform and forceps. Child dead. Mother made good recovery. The medical attendant informs me she has since been confined without any trouble.

4. R., aged 33, 5-para. Urine albuminous; legs oedematous; violent convulsions. Medical attendant with her for six hours; labour, twenty-three hours; os size of half-crown, easily dilated; forceps after chloroform; child asphyxiated; brought round with great trouble. Patient made good recovery.

5. C., aged 26, 1-para. Violent convulsions; medical attendant gave chloroform for two hours; os dilatable; boy delivered with forceps, dead. Mother made very slow recovery.

In these cases the os was dilatable, but there are cases in which there is great rigidity, and the accoucheur is perplexed as to the best measures to adopt. The following is a case in point:

L. C., aged 40; 3-para. Patient had been in labour, with convulsions for thirty-six hours when I saw her. Medical attendant had been with her for ten hours; had tried chloroform, enemas, chloral injection, morphine to relieve eclampsia and help to dilate. A well-experienced practitioner was called in consultation, who had suggested several methods. Dilatation was tried, but desisted from for fear of tearing or rupture. Head presentation, uterus thin, head pressing on os hard, rigid, and about size of a shilling. The patient was in almost continuous convulsions, and seemed in a moribund state. We discussed the case, and this is the conclusion we came to:

We were agreed that the woman was in a critical state and that delivery was essential. There was a child still living. The woman should not die undelivered. The child deserved consideration.

Dilatation by forcible means was discussed. To use one of the instruments on Bossi's principle would inevitably cause tearing or rupture. Barnes's bags made no impression. I said: "There is only one course, namely, to do something which the mechanical dilator would do, but in what way or direction you cannot tell—briefly, to incise the os." This we agreed to; I incised the os. The effect was immediate without tearing. The child was born alive. The convulsions continued for six hours, but the woman died on the third day.

In the midwifery practice of the old school the time of Rimsbotham, Tyler Smith, and Robert Barnes—eclampsia, I think, was not as common as it is, and the mortality was not as excessive. This, however, opens up a fresh subject, and I have already trespassed on your space.—I am, etc.

VERTUS.
October 2nd.

THE IMPORTANCE OF VAGINAL EXAMINATION EARLY IN PREGNANCY.

SIR,—The unhappy result would not have occurred in the following case if a vaginal examination had been allowed early in pregnancy:

A patient of mine (unmarried at the time) came to see me some time ago with the object of engaging me for her confinement. Her mother, who accompanied her, stated she did not know how far the pregnancy had advanced for she had menstruated regularly all the time, but her abdomen had increased in size. I made an abdominal examination, and found a round tense swelling reaching two fingers' breadths below the umbilicus; the breasts were larger, and sickness was occurring. I told the mother I was not satisfied that the girl was pregnant, and to bring her again in three or four days, when I would make a vaginal examination (she was "unwell" at the time). I saw nothing of them for three

months, when I was sent for to see the girl. The tumour had increased in size, now reaching above the umbilicus, causing gastric and intestinal symptoms. On vaginal examination the uterus was normal. In the meantime the girl had got married to the good-for-nothing fellow who was supposed to be the cause of all the trouble. On operating a large unilocular cyst was removed.

Now, if this girl had submitted to a vaginal examination it would have saved her from a marriage of convenience and a life of misery which she is now undergoing.—I am, etc.,

REGINALD W. T. CLAMPETT, M.B (Univ. Dub.).

Huddersfield, Oct. 1st.

A PLEA FOR INSTRUCTION OF THE LAITY IN THE EARLY SIGNS OF CANCER.

SIR,—Professor Wertheim, in his address on the diagnosis and treatment of uterine cancer,[1] draws attention to the generally-admitted necessity of seeing the patients in the early stages of the disease, if they are to have the best chance which operation can give. He quotes, with approval, the efforts which are being made in some parts of the Continent to instruct the laity in the early signs of cancer, and says: "Winter of Königsberg has done much in this direction by his well-directed aims in addressing himself to the public as well as to the midwives in popular writings. His suggestions seem to have fallen on fertile soil in Austria and Germany, and everywhere others are following his example." Howard Kelly, speaking at the same meeting, after describing the steps of his operation of abdominal hysterectomy, says: More hope, I think, lies in the direction of Winter's efforts in the dissemination of knowledge touching the early symptoms of cancer, so that women shall apply at once when they note an atypical bleeding or discharge."

To be efficacious, this instruction of the laity in regard to the early signs of uterine cancer must be extended so as to include the early signs of cancer in other regions of the body. It is illogical to appeal for early treatment based on early diagnosis, and at the same time to neglect, or object to, the only means of bringing the patient to the medical man while the disease is still localized and curable by operation.

Who is to instruct the laity? Obviously the instruction must, in the first instance, emanate from those who are familiar with the early signs of cancer; in other words, the members of the medical profession. The laity has been freely instructed in the elementary facts relating to consumption. Instruction on similar lines must be given in regard to cancer. The objection that such instruction would create among the public a morbid dread of cancer is invalid. The fear of cancer is already universal. At the present time almost the first remark addressed to a medical man by a patient is the query "Is it cancer?" Unfortunately the layman regards cancer as a disease which is painful in all its stages, and consequently wastes no time in consulting his medical man about a painful inflammatory swelling, but troubles little about a nodule of cancer so long as it is painless. The public must be taught that:

1. Cure of cancer is only possible by an operation performed while the growth is in an early stage.
2. The early stages of cancer are free from pain; and
3. Among the first signs of cancer are: (*a*) The appearance of a small painless swelling; (*b*) the occurrence of discharges, not of necessity blood-stained, from the genito-urinary or rectal orifices, unaccompanied by pain.

Until this teaching is carried out it is useless to hope for a reduction in the number of cancer cases which reach the surgeon in such an advanced stage that cure by operation is impossible.—I am, etc.,

Plymouth, Oct. 1st. C. HAMILTON WHITEFORD.

[1] BRITISH MEDICAL JOURNAL, September 23rd, 1905.

HAY FEVER, CHRONIC RHINITIS, AND ASTHMA.

SIR,—There are two great questions involved in this discussion, one theoretical, the other practical. Theoretically, all systematic medical writers in all ages, either formally or by implication, have taken one philosophical view or another. Galen as an ancient and Broussais as a modern writer—not to mention the prolegomena to Allbutt's *System of Medicine*—occur to one's mind at once. When writers have attempted to ignore this necessity or give it the go-by, they have still followed one line or another. Even the medical agnostic, who may think he cares for none of these things, and says, as we so often hear, that "each case must be dealt with on its merits," accepts a philosophy. There is no escape from Aristotle's position: Εἴτε φιλοσοφητέον, φιλοσοφητέον· εἴτε μὴ φιλοσοφητέον, φιλοσοφητέον· καὶ πάντως φιλοσοφητέον. As our philosophy affects and must affect our practice, I could not help saying that fundamentally I take the view that energy is the cause of substance and not substance of energy, well though I know that they are never empirically separated. Now, when Dr. Wynne says that electric energy does not come from the *Ewigkeit*, since we know how and where it is generated to be used in our motor-trams, that is perfectly true for our uses and adaptations of it, but it may or may not be true of electric energy in general. Look at gravitation, which is invariably associated with matter, yet however long it acts and however actively, never suffers either increase or diminution, so far, I mean, as a given mass of matter is concerned. Dr. Wynne says that "the best modern steam engine . . . wastes from 80 to 90 per cent. in the development of heat. The proportion is probably similar in the case of the living body." I doubt this very much. I think the living body does not waste anything like this proportion, and I strongly think that when this question is further investigated it will be found that there has been a fundamental fallacy. But of course so important a question as this cannot be dealt with in a letter; and I am very anxious to make mine short. But when I am twitted with using rough calculations, I must observe that "80 or 90 per cent." is not very accurate either. I do not say Dr. Wynne is to blame for this, but I should like to ask for a like indulgence if I am unable to be exact either. So much for this theoretical question.

I have delayed this letter for a few days in order that I might relate the following case: On October 14th, 1904, a medical man wrote asking me to prescribe for his wife, aged 47, who had suffered from asthma for fifteen years, and had been the unfortunate cause of his "having been compelled to give up one or two good practices, and try to get a more suitable climate, but the trouble seems to come on again after a short time." I saw the lady, and told her that her asthma was a catarrhal affection, that it would end, if not treated, in chronic recurrent bronchitis and broncho-pneumonia with emphysema, that it was not due to climate but to food, that she could live anywhere in England that she liked if she lived properly, and that change of climate, therefore, was unnecessary. In these opinions I was in acute collision with the other medical authorities who had seen the lady; but I have become very dogmatic in this matter, and I spoke with the confidence of conviction. What was the result? She called on me, but unfortunately I was out; so I wrote asking her how she was, and this is her reply:

"I wanted to tell you how very grateful I am to you for curing me of asthma. I have not had the least touch of it since December, and am, if anything, stouter than when you saw me. I have had anxiety for months, and have nursed a favourite old nurse for twelve months, only once resting for a few hours. This I could not have done before."

The chief thing I did for her was to advise her to reduce her food. In point of fact, she lives now on two meals a day. In her letter she repeats her husband's statement and says that for years "her life had been a burden, her husband having had to remove several times, giving up good practices, etc., all through doctors recommending change of air from which she never derived any benefit." This letter is dated September 25th, 1905. The cure of an annoying ailment lasting for fifteen years seems to have been effected in about three months, and I do not think it wonderful that my conviction of the truth of my views on this question has not been weakened but strengthened by this experience. Dr. Wynne must excuse me if I detail no more cases; but I may say I have had many with like issues, the important thing, of course, being that any one who likes can have equally gratifying experiences. The whole thing is as simple as noonday to any one who wants to see, and, seeing, to act.

One word more and I have done. Dr. Wynne says it is a "tremendous conclusion" of mine, that nine-tenths or three-quarters of our diseases are due to wrong dieting. Well, I do not think so. It is a reasonable conclusion which I have verified again and again, since some fifteen years ago I began to get my eyes opened on this subject. So much for practical proof. I can well believe that I may be supposed to be romancing, but I am told truth is stranger than fiction. But theoretically, no less a man than the Father of Greek Medicine himself said that disease was one. I agree with this; in fact have rediscovered it; and I say that malassimilation is the one, and that in nine cases out of ten, or at least in

three out of four, the form which the malassimilation assumes is due to too much food and not to too little.—I am, etc.,

Sept. 29th. M. D.

SIR,—In the enforced tranquillity of sleep recuperation of energy would not take place unless it had been first sought in the food; the absence of exhaustion would perhaps conduce to conserve it. With that restricted rest the energy expended by the muscles produces half the heat; and, though as much as three-quarters of that energy be expressed as heat, a great deal of it and the waste of the substance of the muscles must be made good by the food. Surely, then, a good deal of the other part of the heat and energy of the body also comes from food. We have been pleasantly retold of the old accepted precept of lightening and emptying the abused or over-loaded stomach in asthma, but we generally now further recognize the dietetic practice, if found to be necessary, of correcting an over-burdened state of any other abdominal viscus that will act as a reflex cause or as participating in the cause of asthma. I have noticed the harmful effect of milk in one or two cases of asthma in thin people, where their predilection for this with their hominy, porridge, café-au-lait, milk puddings, or as a beverage, has been marked. There the proscription of the milk diet was credited with improving, and, for practical purposes, temporarily curing their condition. I account for it acting, like so many other passing abstentions, as a rest of some over-taxed function in the system. If such a call be curtailed, and general or sedative measures taken, the rest of functions may be expected to prove beneficial to an exhausted nervous system so signally present in asthma. On the other hand, in another class of cases, such as biliary and catarrhal jaundice, I have found the anticatarrhal, or perhaps cholagogue, activity of milk most advantageous. In my case small quantities of very hot milk were given fairly frequently with hardly any other food, and, though intended to also allay colic and spasm, it quite successfully cleared up the catarrh and obstruction and diminished the jaundice. It does not always apply, except secondarily, to biliousness, because the usual coexisting plethora has to be attended to first. A further dietetic aid that has served me in a confirmed case of asthma has been alcohol, ordered to be taken medicinally, as a diffusible stimulant in small repeated doses. One expects oxygen hunger to lie at the base of a good deal of the patient's anxieties and fears, but the giving of oxygen might not always be practicable in the country, nor be considered worth while. Alcohol thus presents a convenient way of supplying a certain amount of this missing oxygenating material in the way of a substitute, and it also saves tissue waste for the time being.

The want of sufficient oxygen has at times something to do with the condition of the upper air passages. One form of asthma with narrowing of the nasal orifices I look upon as nasal-asthma. Associated with this nasal interference, too, one can recognize a form of frequently recurring insomnia, which I do not think is at all sufficiently recognized. The altered flow of air, the altered whorl through the bronchi, with particularly its accompanying asthmatical distress in the case of a nose-breather, may not be altogether corrected by a substituted air-flow through the opened mouth. This is why dilatation of the nostrils forcibly with the thumb nails will help as an adopted measure in this class of case to give immediate and very marked relief. For asthma or nasal-asthma, and for nose-breathers, including old mountaineers, experiencing difficulty by the narrowing of the inferior meatus narium during debilitated health, catarrhs, crooked septum, etc., I have devised two nasal dilating blades, in the form of a speculum. Anyone, however, can try the value of this direct remedy for cases of nasal-asthma, recurring asthma, nasal obstruction and for any analogous state, with the help of either the pull of the thumbs and the first fingers of the two hands on opposite sides, or the tips of two thin penholders, so as to make the alae nasi well stretch apart.—I am, etc.,

Bognor, Sept. 26th. H. ELLIOT-BLAKE.

PROBABLE EXPLANATION OF SOME DROWNING ACCIDENTS.

SIR,—Several communications have lately appeared in the BRITISH MEDICAL JOURNAL on the cause of death in drowning accidents, and the "etiology of what is commonly known as "cramp," this, it is stated, most frequently happening when the water is exceptionally cold, by inducing cerebral anaemia." It seems to me that when the water is cold an opposite effect would be induced. My opinion is, the sudden shock of entering cold water and the prolonged exposure afterwards, contracts the capillaries throwing a larger quantity of blood on the internal organs, principally the heart, which expands to receive the increased supply until the power of contraction is lost and that organ stops in diastole; this is accompanied by a spasm of pain, the swimmer throws up his hands in agony and sinks like a stone. I think the person dies straight away, and even then would be beyond all help. We all know from experience the pain of a distended bladder or stomach, and can therefore realize somewhat the results of a distended heart. There is no remedy; but it might be prevented by gradually cooling the surface of the body before plunging in, thus giving the heart time to deal with the extra flow of blood.—I am, etc,

Darwen, Oct. 2nd. F. G. HAWORTH.

OPEN-AIR TREATMENT OF CONSUMPTION.

SIR,—The statements made by Dr. W. H. Cooke in his letter to the BRITISH MEDICAL JOURNAL of September 23rd will be confirmed by the experiences of all general practitioners who see the sequel of sanatorium "cures."

Sanatorium treatment is very valuable, consumptive patients get into good habits, and most of them improve a great deal, but does any one believe that a case of phthisis can be cured in six months? The disease in its inception is not sufficiently obtrusive to make the patient consult a doctor until it has made considerable advance. A case cannot be considered cured unless for at least twelve months there are no physical signs or symptoms.

Four patients now under my care here have been in various sanatoriums. They all improved whilst there, and two were declared to be cured. Of these, one went back to work in a solicitor's office in London, and relapsed in three months: the other was also a solicitor's clerk, who some two years ago was for some months at one of the best known German sanatoriums. He also soon relapsed when he went back to office work. Probably every general practitioner practising in a town could give similar instances. To tell a patient when leaving a sanatorium that he is practically well is sufficient in many cases to send a man back to work for which he is no longer fit. One must not forget the hopeful mental state of most consumptives, nor the great anxiety a man must naturally feel to get back to his means of livelihood.—I am, etc.,

Sidmouth, Sept. 30th. G. A. LEON.

THE FIRST BRITISH SANATORIUM FOR CONSUMPTIVE CHILDREN.

SIR,—In reply to the Rev. E. C. Bedford's interesting statement that the Children's Sanatorium in Norfolk "was projected before 1904, and my Committee first met to formulate their scheme on May 10th in that year," may I be permitted to very courteously say that the Children's Sanatorium in Northumberland was projected before 1903, and that my Committee met in October, 1903, to formulate my suggestion?

In the report of the Newcastle Poor Children's Holiday Association for the year ending October 31st, 1903, there is a public appeal for a Children's Sanatorium, and the following statements appear:

> "For some time past our Hon. Physician, Dr. T. M. Allison has been pressing upon us the urgent necessity for a Children's Consumption Sanatorium, and your Committee recently met specially to consider the matter."

And again:

> "Till provision is made for tuberculous children (and at present there is no Children's Sanatorium, so far as is known, in existence), the duty of our Association is plain, and that is to provide, as soon and so far as they can, for the children who at present appeal to them in vain for what they so vitally require, viz., food and fresh air, shelter, and sunshine."

On December 9th, 1903, a public meeting was held advocating the sanatorium, and in May, 1904 (when Mr. Bedford's Committee first met), we had already obtained funds from the late Mr. John Spencer for a Children's Sanatorium. The money was, however, more urgently needed for a girl's convalescent home, and, with wide-minded generosity, Mr. Spencer allowed the money to be diverted for that purpose.

In the BRITISH MEDICAL JOURNAL of September 9th, you, Sir, very properly referred to maintenance, and I may add that Mr. J. W. Spencer (the son of Mr. John Spencer) has this

week (in addition to £1,000 towards his father's home) offered £1,000 towards a General Endowment Fund, provided other ten gentlemen do the same.

There can, therefore, be no question that Northumberland has led the way in dealing with consumptive children, and that I was right in claiming—through the generosity of Mr. Roland Philipson, who gave £5,000 to complete the scheme—the credit for the North of England. There are three points on which I should very much like the opinion of your readers:

1. Are there any cases on record where patients have infected each other in sanatoriums? And are there any sources in early cases of infection except the sputum and the spray from coughing? We intend to have large wards; isolation of children seems impossible, hence the question. If the sputum and spray be destroyed one child cannot infect the other, and in any case there is infinitely less fear than in a cellar dwelling where children sleep in the same bed.

2. Rest in motion, in fresh air (in summer especially when patients do worst), is, I believe, the best method of open-air treatment. Wind is bad, air in motion is good for consumptives. The vitiated air of a ballroom is refreshing if set in motion by a fan. We have a slope and two pits (disused) full of water, and a self-acting incline (water driven) like those at Scarborough and Saltburn appeals to me. It would not cost much, and on creosoted sleepers over grass there would be no dust, no expenditure of energy, but refreshing rest, increased appetite and sleep, and diminished fever and waste. Is the idea scientifically sound?

3. I believe direct local treatment should be combined with open-air methods. Is there any objection to doing so through a tracheotomy tube?

I may say our building is of stone and brick and is expected to cost under £50 a bed. At this cost it is "worth while," if only as an isolation hospital. And personally my experience and belief is strongly against the dictum, "Once a consumptive, alway a consumptive."—I am, etc.,

Newcastle-on-Tyne, Sept. 30th. T. M. Allison.

ROYAL NAVY AND ARMY MEDICAL SERVICES.

EFFICIENCY OF THE ARMY MEDICAL SERVICE.

"Progress" writes: Referring to my remarks in the British Medical Journal of September 9th, p. 610, on the efficiency of the Army Medical Service, I fear, from information that has reached me, that those remarks have been somewhat misunderstood. Earl Roberts, in a public speech, pointed out, among other army defects, those of the medical service, and implied that the state of the army generally was little, if anything, better than it had been before and during the South African War. Apparently to controvert his remarks, so far at least as the medical department was concerned, certain information was given by the War Office. I ventured to point out that this information was somewhat misleading, as no reference was made to matters of importance, to wit: (*a*) The progress that had been made to fix responsibility on combatant officers for not carrying out the reasonable suggestions of sanitary officers, and the result of the steps so taken; (*b*) the result of the steps taken to instruct combatant officers in hygiene. The public is not enlightened as to who are instructed—the officers already in the service, without reference to rank (which would be the rational proceeding), or only those joining the army for the first time.

I further inquired if the training of army quartermasters had been continued. I did not refer to other important medical questions, upon which no information has been given by the War Office: one such—the question of dentistry—occurs to me. This question had a peculiar history, characteristic of the War Office method of doing business. For years army medical officers urged its importance without effect. At last a principal medical officer at Aldershot, supported by a popular general commanding there, induced the War Office to place a sum of money at his disposal to make a trial of the system of dentists for the army. A local dentist was engaged to attend the garrison, and at the end of six months a report had to be furnished on the scheme. This was so satisfactory that the experiment was continued for another six months, and at the end of that period the advantages to the soldier were so great that a few properly-qualified dentists—I think four—were appointed for the principal military stations at home. Outside such stations in the United Kingdom there must be thousands of soldiers serving, and what qualified dental aid do they receive? Will the War Office inform the public? We see from time to time that army medical officers receive, after examination, certificates as to their knowledge of dentistry. What is the force of that certificate, and what knowledge does it imply? We know the dental course prior to qualification extends over three years and includes a long period passed in the mechanical work of the profession. How can this be managed by any medical officer in addition to their usual duties?

The question of soldiers' teeth is of vital importance, as any doctor who served in South Africa can corroborate. The number of men invalided from that country during and after the war, whose illness or inefficiency was caused directly or indirectly by bad teeth, was truly astounding.

All that has been stated points in one direction—the advantage that would result if, when the War Minister next presents his memorandum to the House of Commons with the army estimates, he would include a report on the progress made in the different branches of the army in promoting its efficiency.

THE ARMY BOOT.

A school of instruction is to be formed at the Royal Army Clothing Department, Pimlico, for the training of candidates for the appointment of sergeant-master shoemaker. It is proposed to make one such appointment to each battalion of infantry and foot guards—the battalions on the Indian Establishment excepted—under the same conditions as sergeant-master tailors. When a sergeant has been appointed to a battalion at least four men per company are to be instructed in elementary shoemaking, so that both in quarters and in the field minor repairs can be effected without delay. As not more than forty can be received at one time at the school of instruction, it will be some time before all battalions can possess certificated master shoemakers.

MEDICO-LEGAL AND MEDICO-ETHICAL.

THE PRETENSIONS OF TEACHERS OF PHYSICAL EXERCISES.

Physical Exercises writes to say that he gave permission to a lady whom he has known as a teacher of physical exercises, to use his name as a reference, but is somewhat disconcerted to find that in a circular, upon which his name appears, she speaks of breathing and remedial exercises as "specially beneficial to children and adults suffering from curvature of the spine, flat chest, round shoulders, indigestion, headache, adenoids, or constipation," and he asks for our advice.

**** We are of opinion that medical practitioners should not lend their countenance to the teachers of physical exercises who put forward these unwarranted claims. It may be true that some of these conditions are benefited by the methods they teach, but it should be sufficient for the teachers to state that they are qualified to carry out breathing and remedial exercises under medical direction in suitable cases. We should advise our correspondent to ask the lady to issue no more of her circulars, which can only cost a very few shillings to print, and either to remove the paragraph to which he rightly takes exception, or his name from future announcements.

PRIVATE HOSPITALS AND NURSING HOMES.

Newcastle writes: Is it straightforward for surgeons and physicians to run nursing homes or private hospitals to which to send surgical or medical cases of their own? Many of them do it, and are getting rich thereon. Is it not just as derogatory to do this as for me to take £1,000 worth of shares in a noted mineral water, and prescribe it wholesale?

**** There is nothing wrong in a surgeon or a physician starting a nursing home for the treatment of his own cases provided that he has in view the cure of the patients, and not merely his own profit. We barely think our correspondent can intend to imply that those who have these private homes send patients to them unnecessarily and merely for gain. Such an imputation would be a libel upon the profession as a whole, and a serious accusation if well founded in any individual case. He probably means that there is a certain temptation to a man who has such an establishment to do his best to find patients for it, and we agree that it is on the whole better that neither physicians nor surgeons should be pecuniarily interested in running such homes.

A CARELESS PURCHASER.

W. R. R. writes: A practitioner buys a practice for £700, payable in yearly instalments of £100. The vendor gives a month's introduction, and at the time of sale informs the purchaser that he has never kept any books, but that he considers his practice brings in an annual income of some £300 or £400. After buying on those terms, the purchaser discovers that the practice is worth at the utmost no more than £200 per annum. He then endeavours to make the vendor reduce the terms of the sale, but the latter declines. He wishes to know what remedy he has.

**** Our correspondent can only make the best of his bargain. To buy a practice on a month's introduction, and where no books have been kept, is not very judicious. On the other hand, there is nothing in the agreement forwarded, or in the statements of the case, suggestive of fraud on the part of the vendor.

OBITUARY.

DEPUTY SURGEON GENERAL HENRY CROCKER, M.D., late of the Madras Medical Department, died at Kew on September 19th, in the 75th year of his age. He was appointed Assistant Surgeon, August 2nd, 1855, and became Deputy Surgeon-General on retirement from the service, March 1st, 1883. He had no war record.

The death of Major HAROLD ARTHUR STALKARTT, M.B., C.M.Ed., noticed in last week's BRITISH MEDICAL JOURNAL, adds another victim to the already long list of those who may be said to have sacrificed their lives for ones' fellow-creatures. This mail brings the news that his death was due to septicaemia following infection received whilst operating on a case of septic peritonitis. The death of so young and promising an officer under these sad circumstances is all the more deplorable, and that so brilliant a career should have been cut short in its prime is a source of additional grief to his relatives, as well as a loss to the corps to which he belonged. Major H. A. Stalkartt joined the Army as Surgeon-Lieutenant in January, 1892, being promoted Surgeon-Captain in January, 1895 and Major in January, 1904. We can but express deep sympathy with his young widow, thus sadly bereft, and with his sorrowing relatives, who have the consolation that he died at his post in the discharge of his duty.

DEATHS IN THE PROFESSION ABROAD.—Among the members of the medical profession in foreign countries who have recently died are Dr. Edward Sas Korczynski, Professor of Medicine in the University of Cracow; Dr. Ludwig Winternitz, Physician to the Rudolfstiftung Hospital, Vienna, aged 52; Surgeon-General H. Schafer, Director of the Charite Hospital, Berlin, aged 65; Dr. Thomas Menees, sometime Professor of Materia Medica and Therapeutics in the University of Nashville, and afterwards of Obstetrics in Vanderbilt University, aged 82; Professor Alfred Schaefer, of the Anatomical Institute of the University of Breslau; and Dr. Kohlschutter, Professor of Internal Medicine in the University of Halle.

PUBLIC HEALTH
AND
POOR-LAW MEDICAL SERVICES.

GLOUCESTERSHIRE.

DR. MIDDLETON MARTIN, the County Medical Officer of Health for Gloucestershire, has summarized in his annual report for 1904 the reports of the medical officers of the fourteen urban and twenty-three rural districts, and introduces the summary by a general statement as to the health of the county. The estimated population is 333,900, the birth-rate 22.9, and the death-rate 13.2 per 1,000. Infant mortality is 96 per 1,000 births. Of the thirty-five districts wholly within the county it appears that ten have no accommodation for isolating cases of infectious disease. Bacteriological examination in doubtful cases has been established, as well as county notification of infectious disease. Summaries of the local water supplies and methods of sewage treatment are incorporated, in addition to information as to school closure. A list of 600 women who have acted as midwives in the county has been obtained from various sources. That is, about 1 in 550 of the total population; the number who had registered with the Central Midwives Board and had given notice of their intention to practise in the county up to June was 173. An abstract of the report of each local medical officer is appended, and the usual statistical tables.

CERTIFICATION OF INSANE PATIENT FOR COUNTY ASYLUM.

"ANOTHER PRIVATE PRACTITIONER" writes: Dr. Pilkington's letter in the BRITISH MEDICAL JOURNAL of September 30th, p. 835, is my reason for writing, for if the facts are as he states they should be made widely known, for I, with many other private practitioners, would be glad to receive the fee which is morally ours. My past experience has always been that the patient was handed over to the parish doctor, and that there was never any suggestion from the relieving officer or the magistrate that we could fill in his papers. Why should not a private practitioner be able to do so? He is always a large ratepayer, and therefore should receive some of the benefits of the huge rates he has to pay towards paupers and other Poor-law luxuries.

VACCINATION.

ANXIOUS writes: Can a parent be prosecuted under the Vaccination Act for not having his child vaccinated, the circumstances being as follows: The child is now nearly 3 years old. No notice was sent to the parent from the vaccination officer or the public vaccinator on 1 August this year, when the public vaccinator, after sending the ordinary notice of his visit on the prescribed form, sent his assistant, who offered to vaccinate. The parent refused, and then received a notice of default from the vaccination officer. Surely the vaccination officer will be non-suited if he attempts to prosecute the parent under an Act the statutory requirements of which have not been complied with.

*** The parents can certainly be prosecuted; there may be valid reason for previous notice not having reached them. If the assistant is a deputy authorized by the Local Government Board the requirements of the Act will have been fulfilled, as far as that point goes; if not the Bench should not convict, and it is doubtful if they would do so under the whole circumstances, if correctly reported to our correspondent.

INDIA AND THE COLONIES.

INDIA IN 1903.

THE REPORT OF THE IMPERIAL SANITARY COMMISSIONER.

(*Continued from p. 685.*)

Native Troops.

OUT of a strength of 124,660, 19,625 were marching, 61 at the Delhi durbar, 1,745 in China, 909 on service in Thibet, 930 in the Aden Hinterland, and 3,174 in Somaliland, the rest in cantonments. The health of the whole army was "exceptionally good," the sickness-rates the lowest on record, and the death-rate 11.19, against 11.51 in 1902, and 12.66 in 1897-1901. Ague, dysentery, venereal diseases, and chest diseases were the chief causes of sickness, and pneumonia, remittent fever and phthisis of mortality. There was an increase in admission rates for influenza, cholera, enteric fever and phthisis, and in death rates from cholera and enteric fever. The death-rate of the China garrison was 12.03, chiefly caused by phthisis. Considerable sickness due to scurvy, ague, and pneumonia prevailed in Somaliland, and the death-rate was 25.83. The death-rate of the Aden column field force was 11.19, and of the Thibet force 11.84, both very moderate. The North-West and Western frontier hill stations and the Indus Valley stations were, as usual, very unhealthy. Cholera caused 135 admissions and 80 deaths. There was a severe outbreak at Mian Mir, caused apparently by polluted canal water. From small-pox there were 78 admissions and 2 deaths, fewer in proportion to strength than in the European army. The admission-rate of ague was low. There was also a marked fall in the incidence and mortality of remittent fever; also in simple continued fever. Both terms are vague, and statistical variations are very apt to be influenced by diagnostic changes. The admissions from enteric fever were 80 with 27 deaths. Goorkha regiments, as usual, gave higher figures. Eight cases were diagnosed as Malta fever. Plague accounted for 184 cases and 115 deaths. Attacks were fewer than in 1902, notwithstanding the increase in the civil population. There was a decrease in the number of cases of cerebro-spinal fever, which amounted to 6 with 4 deaths, against 18 and 17 in 1902. The admission-rate for scurvy was about the same as usual, but in Somaliland 839 cases occurred with 16 deaths. A report by Lieutenant Barnardo, I.M.S., is referred to, in which Professor Wright's views are supported, and the use of fresh milk and meat juice and the administration of alkalies to correct hyperacidity of the blood lauded. Lime-juice is said to lose its antiscorbutic values by keeping owing to chemical changes. The admissions and death-rates from phthisis were high, and considerably above those of the European army. Goorkhas again gave excessive rates. There was a slight fall in the mortality caused by pneumonia, but it is about six times as high as in the European army. There was a decided fall in the prevalence and fatality of dysentery and diarrhoea; venereal diseases caused 24.5 per 1,000 admissions, about one-tenth of the rate in the European army. There were 122 cases of beri-beri with 8 deaths in the Madras command, and 710 cases of guinea-worm, most of them in Central India. The corresponding figures of the European army were 26 and 1. The most urgent sanitary problem connected with the native army is the prevention of chest diseases.

Vaccination.

There was a slight advance in vaccination during the year ending March 31st, 1904, the total number of operations performed by public agencies being 8,457,298, against 8,431,564 in the preceding year. There was a falling off in work in the provinces of Bengal, Assam, Madras, and Coorg, and an increase in the rest. Primary vaccinations were considerably more numerous and revaccinations less so. This was due to the diminished prevalence of small-pox, and in some places to the prevalence of plague and measles. The percentage of success in primary operations was 95.05, and in revaccination 68.19. Successful operations held a ratio of 33.2 to the population, and taking the birth-rate at 40 per

mille the percentage of infants protected was 39.53. Experiments made by Captain W. F. Harvey, I.M.S., indicate that chloroform is a valuable agent in purifying lymph the sterility of which is afterwards retained by glycerine. He further shows that glycerinated lymph is superior to vaselinated lymph. The total cost of vaccination amounted to Rs.1 161,233 and the cost of each successful case to 2 annas and 5 pie. These facts indicate some progress in protecting the population of India against small-pox, but this is still far short of being adequate or exhaustive.

Sanitary Administration and Work.

The section devoted to "Sanitary Works" consists of a digest of provincial sanitary reports and a summary of the proceedings of sanitary Boards. The information is largely statistical. There is a regrettable absence in this chapter of broad statements regarding sanitary administration in Indian districts, towns, and villages: what arrangements are being made, and what agencies employed for sanitary purposes, and what steps are being taken to investigate disease causes and devise preventive and remedial measures. There are, however, indications of interest, effort, and progress. A large amount of money is being spent on sanitary projects and purposes, and endeavours are being made to train and employ a skilled sanitary executive. The septic tank system is being introduced in many places. Utilization of sewage and sewage farming are being tried in some provinces. Rewards for sanitary improvements are being given, and money is being contributed or lent for sanitary service. Village sanitation is obtaining attention, but the village notebooks appear to have turned out a failure. There is too much note-writing and too little practical work in India. Sanitary Boards in some provinces have been diligent and useful, and others perfunctory and idle. In future reports some details ought to be given as regards the provincial research laboratories which constitute a prominent feature of the new sanitary organization.

Miscellaneous.

Under the head of "General Remarks" several subjects of importance are dealt with. The Red Sea pilgrim traffic was not attended with any notable sickness or mortality, notwithstanding the great prevalence of plague and cholera. Allusion it made to the poverty and improvidence of many of the pilgrims. The subject of malaria and its prevention is discussed in some detail, and investigations made by Captain James, I.M.S., at Mian Mir, Meerut, Allahabad, and Fategarh are recorded. An elaborate account of the so-called Leishman-Donovan parasite is given, and researches regarding Delhi-boil and cancer presented in summary. The report of the Pasteur Institute at Kasauli had not come to hand, but Major Semple's admirable proceedings have since the issue of this report been made public. Finally, a sketch is furnished of the resolution of the Government of India, published in September, 1904, remodelling the sanitary department and providing for more extensive and searching sanitary effort.

Dr. James Jamieson, the Health Officer for Melbourne, furnishes an annual report for 1904 in which he estimates the population at 67,760. The death-rate was 12.8, the lowest return for twenty years. There has also been marked decline in infectious diseases, and the year seems to have been a particularly healthy one. The infant mortality was 84.4. The death and sickness rates compare favourably with London and other English cities. Adulteration of food appears to be diminishing, but the use of preservatives of various kinds is steadily increasing and is now reaching a serious degree, necessitating fresh legislation. Special examinations have been made of the water supply and the milk supply. Out of thirty samples of the latter not one was found which contained the tubercle bacillus. The dairy cattle of the city have also been inspected quarterly with good results. In an appendix an account is given of a large amount of sanitary work carried out.

HOSPITAL AND DISPENSARY MANAGEMENT.

THE EARLSWOOD ASYLUM.

From the recently-issued report for the year 1904 of this useful charity we learn that satisfactory progress has been made in the structural restoration of the asylum, which, it will be remembered, was after fifty years' occupation found to have been unsoundly built, and was manifesting signs of dangerous decadence. About £22,000 has already been spent on necessary works investments having had to be realized to supplement the special contributions for this purpose, which are still urgently needed. The Board refers to the boon conferred upon the asylum by the establishment of the Earlswood Seaside Home at Walton-on-the-Naze, through the generous arrangements made by Mr. Benjamin Denshem as regards its tenancy.

The medical superintendent, Dr. Charles Caldecott, reports that during the year 1904, 45 cases (33 males and 12 females) were admitted (5 of these being readmissions), 49 cases (26 males, 23 females) were discharged, 2 only being considered "not relieved," and there were 29 deaths (20 males, 9 females). The total number of cases under care during the twelve months had been 546 (369 males, 177 females), and on December 31st, 1904, there remained in the asylum 468 (323 males, 145 females). The average number resident during the year was 485 (330 males, 155 females). The death-rate had been abnormally high, giving a percentage of 5.97 on the average number resident, and 5.31 on the total number under treatment for the year. The explanation of the exceptionally high mortality given by Dr. Caldecott is the natural termination of the span of life of several of the 109 "life patients," the virulence of epilepsy in 3 fatal cases, and, finally, the unfavourable environment and unavoidable exposure during the building operations. It is interesting to note that the number of deaths from tuberculosis has been comparatively low, not more than 27.5 per cent. of the total deaths, the usual percentage having been about 50. No cases of infectious disease had occurred beyond a few of chicken-pox, but pulmonary complaints had been prevalent.

Post-mortem examinations were made in 86 per cent. of the deaths and amongst the causes noted were 3 of cancerous growths 4 of "status epilepticus," and "premature senility" in a male and female patient respectively, each of whom seems to have attained the advanced age of 69 years.

In an institution primarily intended for improvable cases, it is satisfactory to note that last year's admissions were mainly of this class, though the question of provision for idiotic children of the lower grade is an urgent one. That and the still larger question of the permanent care of the majority of the congenitally "feeble-minded" class are amongst the problems to be dealt with by the Royal Commission now sitting, and Dr. Caldecott comments upon the fact that in the composition of that Commission there is no representation of the authorities of the imbecile institutions of the country.

INCIPIENT PHTHISIS IN A COTTAGE HOSPITAL.

Medical Officer asks for opinion as to danger to other patients arising from treating cases of incipient phthisis in a cottage hospital where there are grounds and outdoor shelter. Also to what extent have the present views concerning tuberculous disease affected the custom of treating such cases in general hospitals.

*** There should be no danger to other patients from treating cases of incipient phthisis (pulmonary tuberculosis) in a cottage hospital. In the early stages of the disease there is often no cough, more frequently there is cough without expectoration, and when expectoration is present it may be free from bacilli. In such cases there is in all probability no danger whatever to others. The patient may, however, whilst under treatment develop a cough with expectoration containing bacilli, or this condition may be present on admission. If the necessary precautions are taken—and one essential part of treatment should be the education of the patient in the measures required to prevent the spread of his disease—there is still practically no danger to other patients. The patient's bedclothes, blankets especially, should be stoved when he leaves, on the chance of his having spluttered droplets of phlegm containing bacilli on to these when coughing. The early or incipient case of phthisis would presumably be i the grounds most of the day, and would thus be away from any other patients. Granting that the case is really one of incipient or very early pulmonary tuberculosis, there seems no reason to fear any risk to other patients if ordinary precautions are observed. The present views as to tuberculosis have not greatly affected the custom as regards treating cases of pulmonary tuberculosis in general hospitals. These are, as a rule, most unsuitable places for the treatment of early cases, though special provision is made in several general hospitals both in London and in the provinces. Such patients are not, as a rule, accommodated in the general wards. Patients suffering from advanced consumption are always undesirable cases for a general hospital on account of the chronic nature of their disease; they are now considered still less desirable because of the risk to other patients, which, in these advanced cases, is undoubtedly real.

A Congress of Medical Women.—It is said that the medical women of Russia propose to hold a congress. A principal feature of the programme is the preparation of a petition to the Government asking that women shall be declared eligible for professorial chairs. The question of the unrestricted admission of women to hospital appointments will also be discussed.

UNIVERSITIES AND COLLEGES.

UNIVERSITY OF CAMBRIDGE.

DR. D. MACALISTER has been appointed Assessor to the Regius Professor of Physic for the ensuing year.

The following candidates have satisfied the Examiners for the Diploma in Tropical Medicine and Hygiene:

P. W. Bassett-Smith, H. A. Foy, W. M. G. Guinness, J. T. C. Johnson, R. M. Kalapesi, D. Mackinnon, A. R. Wellington.

UNIVERSITY OF LONDON.

University College, London (Transfer) Act, 1905.

THE University College Transfer Commissioners give notice that they have made an order appointing September 1st, 1906, as the appointed day under the said Act generally, but without prejudice to the power of the said Commissioners hereafter to appoint a later day or days. Any body or person affected as in the said Act desirous of making any representation to the said Commissioners may do so by writing to Mr Arthur Paget, Secretary of the Commissioners, 9, King's Bench Walk, Temple, E.C., by October 24th, 1905.

Lectures in the Physiological Laboratory.

A course of eight lectures on renal activity will be given by Professor T. G. Brodie, M.D., F.R.S., on Tuesdays, commencing on October 24th at 5 p.m.

Meeting of Convocation.

At the general meeting to be held at the University on Tuesday next, October 10th, at 5.30 p.m., a communication from the University College Transfer Commission is to be considered. It is addressed to the Clerk of Convocation, and notifies that the Commissioners have appointed the first day of September, 1906, to be the appointed day under the University College, London (Transfer) Act, 1905. The Commissioners further inform Convocation that if the latter body desires to make any representations to the Commissioners in reference to the business devolved upon them under that Act such representations should be ready for submission on or before October 24th next. It will be moved by the Chairman that the communication be referred to the Standing Committee, who shall have power to make such representations to the Commissioners.

Mr. E. C. Williams, B.A., will move that Convocation would welcome the formation of a University Union on the lines of those existing at Oxford and Cambridge, and desires that a subcommittee be appointed to consider what steps can be taken for the purpose.

The Rev. W. J. Foxell, M.A., B.Mus., will move that Convocation welcomes the formation of a University of London Musical Society.

WESTMINSTER HOSPITAL MEDICAL SCHOOL.

Applied Physiology.—A course of lectures on applied physiology will be delivered by Dr. Bertram Abrahams on Thursdays at 5 p.m., commencing on October 12th. They will be open without fee to all graduates and students of the University. The lectures will be devoted to the consideration of the application of physiology to the study of disease. The first three lectures will deal with general questions, including that of immunity, and the remaining five lectures will be devoted mainly to dietetics and metabolism.

UNIVERSITY OF DURHAM.

THE following candidates have been approved at the examinations indicated:

FIRST M.B.

Elementary Anatomy and Biology, Chemistry, and Physics.—O. F. D. Airth, E. Hudson, M.R.C.S., L.R.C.P., J. A. C. Scott.

Chemistry and Physics.—Harriet A. R. Apps, W. Barkes, G. C. Beatty, J. G. Campbell, B.A., H. A. Cooper, I. S. Gabe, P. A. Galpin, C. Gray, J. P. Jackson, E. P. Martin, Ruth Nicholson, T. A. Peel, R. Raffle, H. W. Sykes, G. H. Wood.

Elementary Anatomy and Biology.—F. F. T. Hare, H. M. Macgregor, Theresa de Gournay Miller, L. M. Stewart, Dorothea Mary Tudor.

SECOND M.B.

Anatomy, Physiology, and Materia Medica.—*C. F. M. Saint, *H. G. Davison, *F. A. Robinson, K. B. Allin, C. M. Brown, I. Hodgkinson, E. P. L. Hughes, H. C. Kellgren, F. W. Melvin, C. J. Neilan, F. Rahtkens, B. Taylor, E. F. Waddington.

THIRD M.B.

Pathology, Medical Jurisprudence, and Public Health.—*H. M. Levison.

Pass List.—H. H. Blake, G. E. P. Davis, G. R. Ellis, Elizabeth Nael Havelock, H. F. Joynt, E. P. H. Joynt, C. G. Kemp, Jessie Margaret Murray, E. L. Markham, W. Rollin, J. W. Smith, L. H. Walker, G. Walker. * Second class honours.

UNIVERSITY OF SHEFFIELD.

THE NEW MEDICAL BUILDINGS.

On September 27th, at the invitation of the Professor of Pathology (Dr. Arthur Hall), the members of the Midland Medical Union visited the new medical buildings of the Sheffield University.

The various class rooms, laboratories, museums, etc., were shown by the members of the staff in charge of them, and after they had been [illegible] inspected, the members partook of tea and refreshments in the Pathology Department.

The general arrangement of the buildings, and the very complete equipment of the various laboratories produced a most favourable impression, and there was a strong feeling that this, the youngest of the English Universities, need not, as regards its medical side, fear comparison with [illegible] visitors were: Drs. J. A. Goodfellow, [illegible], W. C. [illegible], W. B. Ransom, W. Duncan, S. Worthington, G. Smith, H. Peck, R. A. Barber, and Messrs. J. Mackie, A. M. Pilcher, H. B. Fletcher, V. E. Butcliffe, and A. W. Shea.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates were approved at the September examinations indicated:

[illegible] A. G. C. Findlay,*† J. H. K. Sykes,*† R. H. Terry,†
[illegible] M. L. A. Bolleau,*† J. M. Lynch, R. J. S. Verity.
Medicine.—M. L. A. Bolleau, C. O. Grey, T. R. St. Johnston, S. H. Sugden.

The diploma of the Society was granted to Messrs. A. G. C. Findlay, T. R. St. Johnston, J. H. K. Sykes, and R. H. Terry.

* Section I. † Section II.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

WE would request correspondents who desire to ask questions in this column not to make use of such signatures as "A Member," "A Member B.M.A.," "Enquirer," and so on. By attention to this request much confusion would be avoided. Correspondents are asked to write upon one side of the paper only.

ONYX desires to have a list of education authorities which have appointed ophthalmic surgeons, the salaries paid, and the number of children in each case. He also wishes to know from what source the money to purchase glasses prescribed is obtained.

E. A. G. asks whether any reader of the BRITISH MEDICAL JOURNAL can recommend a place in Hampshire or Surrey, on South-Western main line, standing high, at least 400 ft., and on a sandy or gravel soil, suitable for incipient consumption?

ARTIFICIAL LEGS.

A MEDICAL MAN writes to us as follows: I have had the misfortune to lose my leg at the hip-joint, and have practically no stump at all. Is there any apparatus known in the profession that would be of any assistance to me in the way of an artificial support? I have never heard of any, but would be grateful to anybody who could make any suggestion of value.

DISPOSAL OF IMBECILE ADULT.

I.M.J. asks whether any institution exists into which a man, aged 60, of feeble mind (not insane) could be admitted. The friends could pay from 7s. 6d. to 10s. a week.

*** If the patient can be certified as "of unsound mind," the county or borough asylum (as the case may be) for the place of his settlement, or chargeability, would probably receive him, accepting the part-payment mentioned.

LETTERS, NOTES, ETC.

THE DUNCAN FUND.

DR. HUGH RITCHIE (257, Shankill Road, Belfast) writes: I beg to acknowledge with many thanks the following subscriptions towards this fund. At the end of August the Committee decided to give MRS. DUNCAN £50. Drs. Kirkhope, Kirkwood, and Ritchie were deputed to convey this sum to the widow, which they accordingly did. It has now been agreed to close this fund in a week or two.

	£	s.	d.
Total already acknowledged	59	2	0
Lieutenant-Colonel C. F. Willis, M.B., Bombay ...	1	1	0
	£60	3	0

REMOVAL OF A TUMOUR FROM A HERMAPHRODITE.

DR. MARION B. ANDREWS (Belfast) writes: From Professor Corby's description of his hermaphrodite patient, "Willie Mary," as reported in the BRITISH MEDICAL JOURNAL of September 30th, p. 710, I quite fail to understand why the case is classed as one of *true* hermaphroditism, and should be glad to know if anything has been omitted. How does Professor Corby reconcile his statement that "as my patient can claim to be the possessor of a uterus and now one ovary [the other presumably being the one removed at the operation], and of a penis and two halves of a scrotum he is clearly a true hermaphrodite," with the dictum he quotes from McMurrick that "true hermaphroditism is a term which should be reserved for possible cases in which the genital ridges give rise in the same individual to both ova and spermatozoa"? Was anything in the nature of a testicle or even of vesiculae seminales discovered or suspected? McMurrick's definition includes Simpson's lateral and vertical classes of true hermaphroditism, but excludes his transverse type, to which possibly "Willie Mary" might have some claim, though as far as the description goes the case seems to be one of the much commoner type of simple spurious hermaphroditism in the female, the nurse's "intuitive perceptivity" notwithstanding.

ERRATA.—In the BRITISH MEDICAL JOURNAL of September 30th the following corrections should be made: Page 779, col. 1, line 14, for "gastro-jejunostomy" read "jejunostomy." Page 820, col. 2, footnote, for "*Medical*" read "*Mental*." Page 825, col. 2, line 11, for "repeated" read "repealed."

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Eight lines and under	0	4	0
Each additional line	0	0	6
A whole column	2	0	0
A page	5	5	0

An average line contains six words.

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Post-Office Orders should be made payable to the British Medical Association at the General Post Office, London. Small amounts may be paid in postage-stamps.

N.B.—It is against the rules of the Post Office to receive letters at *Poste Restante* addressed either in initials or numbers.

An Address
ON
MEDICAL EDUCATION IN LONDON.

Delivered at King's College Hospital on October 3rd, 1905, at the Opening of the Medical Session,

By T. CLIFFORD ALLBUTT, M.D. Cantab., F.R.C.P. Lond.,
Regius Professor of Physic, University of Cambridge, etc.

Gentlemen,—When your Dean conveyed to me the distinguished invitation to open this session he lightened my responsibility by giving me the subject of my address—namely, Medical Education in London. London, like every other great centre of education, has its own problems and its own difficulties, but these problems and these difficulties cannot be solved without the illumination of the principles which are true for education everywhere and always. If in England these principles are little heeded by the public, and if accordingly secondary education in England is in grievous defect, it is not for want of preaching. From Matthew Arnold and Michael Sadler to the humble empiric who ventures into the pulpit to-day, of preachers there has been no lack. If I am qualified to deal with the subject yet again, it is that all my life I have been engaged in teaching in centres so different as Leeds and Cambridge, and ought from such conflict of conditions to have won some wisdom. If without the added dignity of my office I should scarcely dare to address you, on the other hand I must beware lest I give an official colour to my opinions, lest I seem to engage my University in doctrines which it might have no mind to. *Cucullus non facit monachum*: whatsoever then may be inconveniently said by the professor, pray write down quickly to the account of the individual.

Education v. Instruction.

Education, as contrasted with instruction, is a drawing forth of faculties, a quickening, enlarging, and refining of them when brought out, and an establishment of them in habits, so that virtue and reason become easy and pleasant to us. The word is used of mind rather than of morals or of the powers of the body, but by mind we signify both intellect and imagination, and their issue in right action. The more complex the organism can become the more stable it will be, the more it will be in touch with outward contingencies, the more it can use and modify these conditions the more will be the play at the periphery of the organism, the more, in a word, the life. Education, then, is not the formation of a rigid framework, but of the capacity for ideas and for various and supple adaptations. But, speaking generally, and within civil societies, individuals vary more than circumstances; in other words, out of similar circumstances individuals draw widely different advantages, so that, although up to a certain period of life education may be laid out on broad indiscriminate lines proper for all young persons, yet for adolescents by rapid degrees it must become more and more diverse and several, dividing itself into the education of classes, of groups, and of individuals. Now, such specific or technical educations are difficult only in the sense of the difficulty of persuading the British parent of the value of any education whatever; the ends and the methods are pretty clearly seen; the means it is which are wanting—the means of money, of equipment, and of time, which is money, and the provision and endowment of those engines for making knowledge, called universities, without which sources the technical colleges would soon dry up. The problem of education in modern England is that of general schooling, of ascertaining the modes which shall prove most valuable, in the first instance, to put each man during his youth in touch with the sum of conditions under which he is to lead the best life possible to him; this done he may the more efficiently be adapted to specific or personal functions. Although these personal and specific conditions are never so narrow and so specific as to prevent some occupation with those wider conditions which were held in view during his general education, yet, without a somewhat fuller sense of the sum of the conditions of life, he cannot measure the relative values of things; he will, as we say, lack common sense. The importance of a universal training of the instrument of mind before the adaptation of it to special engagements will be better understood when we realize that truth is neither wholly without us nor wholly within us, but is a function of fact and temperament. Now temperament is partly native, but largely also the creature of habit, and habits—such as the habit of virtue and of comprehensive and precise thinking—are the creatures of education, and especially of education and the plastic years of life. Thus the man whose mind has been built up on universal lines, whatsoever his calling, is enabled to free himself from the conventions and temporary notions of the "practical man," to distinguish the important from the unimportant truths, and to drop swiftly upon cardinal features, upon the facts which matter.

Public Schools.

Now—to consider preliminary education first—to teach every boy everything is obviously impossible; the difficulty is so to select certain things from the whole of things as best to educe universal conceptions or ideas. That we have been successful in creating such a general education no one will be hardy enough to assert. From our public schools our young men derive many fine qualities. As Herodotus says of the Persian youths, they are taught to ride and to speak the truth; and indeed, when our country loses its manliness and its veracity it will lose all things. But these fine qualities do not meet the sum of conditions under which the Englishman has to live; he has to do more than to speak and to act with spirit and uprightness, and to read the sporting papers with intelligence. If he is to be equal to the conflict of modern life he must be able to reason upon man and Nature, to measure his capacities, and to see the trend of events. For these ends, besides energy and will, he must have some intellectual seriousness, some endurance of attention, some self knowledge, and some ideas: qualities eminently in defect in the average products of our public schools. Mistrusting their own capacities these youths become entangled in an awkward and artificial self-consciousness; devoid of ideas they become encrusted with a cake of convention and imitativeness. Thus in later life they remain but too often incapable and even intolerant of ideas—that is, of large and systematic conceptions of present and coming events; and consequently they are incurable empirics and have no higher philosophy than that of muddling through. Now, even if such may have been your start in life from school, you have before you in the education of a physician a training no less manly, but one which, as a moral and intellectual training, I had almost said is incomparable. Even for those of you who are unable to undertake the more arduous and more costly course of a university education, the education of the hospital and technical school is one to develop the highest qualities of the mind, and to kindle them in the warmth of hope and charity. With all men you will learn the evil in the world, but you will go from strength to strength in the faith of making it better.

Universities.

Now the word university means originally a corporation, but it happens also to connote an education dealing chiefly with these universals—with habits of common sense and breadth of faculties, without which even multifarious learning will be disfigured by pedantry or crankiness. Erasmus tells us that in Rome he discussed the immortality of the soul with a great scholar, who rested his denial of a future life on the authority of the elder Pliny. Every man has to be educated for more than one set of duties. As no two men are alike, so each of us can expand and vary only within a certain preordained quality or scheme about his own possibility of development. In most people, perhaps in all of us, some of the innate capacities must be sacrificed—an uneasy reflexion; but, if so, then which, or how much of them? The all of each of us is not wanted; which part of us shall be renounced? About this, at some stage, teachers and pupil may begin to disagree, but out of it the pupil should learn at least the chief of lessons—the lesson of humility. Sacrifice is one of the laws of life, yet it must be sacrifice for some higher end. Admirable, for instance, as is an education of all the faculties—"culture," as we are wont to call it—yet culture turns into a selfish pride if no part of it is subordinated to education in good citizenship. An aggregation of cultured and fulfilled personalities without some higher unifying influence would not make for the highest national life. The sacrifice of culture for the more specific, and often indeed drier and narrower, purposes of a trade or profession—the *Erwerbsfrage*—is more common and painful. And unhappily only too frequently it is a wasteful sacrifice; for want of private means

or of public aid, the pupil at a critical age is compelled to renounce extent of learning, and the training of some of his higher faculties, for a technical instruction which may narrow his outlook on life and starve those potential qualities for the rest of his days. Yet even such renunciations, if inevitable, are sanctified by a submission to duty and by the faith that after all each man is his own best educator.

We can scarcely hope that the time is at hand when most people will be able to devote time to general training in all three stages of education; many of us must turn to special duties even after the primary school and many after the secondary school; so that the students who for the larger development of their faculties can proceed to a university must always be comparatively few; still fewer are they who can spare the time to complete a university course before turning aside on the narrower lines of professional or commercial instruction. The man who can do this will go much farther in later life than he would have done had he turned aside into technical lines at an earlier stage; still, as things are, most men have to sacrifice more or less of their future to the needs of present livelihood. And happily the alternatives are not so deeply separated as at first they may seem to be; it is found, as we might expect—such is the teeming wealth, the infinite interweaving, and the essential analogies in men and things—that there is no difficulty, at any rate in the later stages of education, in using for general training broad principle in any one of many faculties; so that for him whose technical instruction must begin prematurely a general training may still be continued on principles of that kind which in their more and more special application will form the substance of his calling in life. For university training differs from technical, not so much in the kind or field of the subjects taught as in the more comprehensive, more deliberate, and more disinterested methods of teaching them, the wider outlook upon them, and the awakening of curiosity and research. Nevertheless, it remains true, and even obvious, that for the best education a completer general training in fields other than those of the future calling must be richer in results. How lamentably the prevalent literary education fails in that *exigua cognitio naturae* which even the humanists prescribed scarcely falls within our subject to-day. But with a pardonable pride I may recall an early advocate of scientific education in the person of my great-grandfather, John Allbutt, a successful schoolmaster in his day, who wrote a primer for this purpose which had some vogue. I quote from the twelfth edition (1817): "I am convinced by experience that children might be taught much earlier than they are the elementary principles of many sciences if these were sufficiently simplified and divested of technical phrases, and these," he adds, "would give correct ideas of things with which men are daily conversant."

It is freely said of the abler men in our laboratories that those of them who enter them with minds already expanded on other kinds of study, such as language and literature, bring to the sphere of scientific studies a riper understanding and draw from them larger immediate powers and a richer endowment for later life. Professor Ostwald told me that it is the good custom of students in the German universities to attend other lectures than their "Fach," so that in every university there are always one or two professors whose lectures on some such subjects perhaps as history, literature, or philosophy attract large bodies of students from all faculties. By these undergraduates to stick wholly to one's own is regarded as a poor and narrow thing. Once more, if the enrichments of a university education consist in its own breadth and variety and in the maturing of the student's understanding, it confers another endowment no less precious: it establishes the habit of study—a habit which rarely gains any strength or fixity at school or technical college, but when once established belongs to a man for the rest of his life. In the university he sees maturer men devoting themselves to a disinterested love of knowledge, to a steady and faithful pursuit and furtherance of it for its own sake; he sees, also, the infinite variety of intellectual operations, and perceives that knowledge and wisdom are not summaries, schemes, or mysteries, but quick and glowing with a manifold and many-coloured life. And not only does he admire the leaders of research but he is also shoulder to shoulder with eager undergraduates themselves pressing forwards not on one only but on an infinite variety of pursuits and interests, with the general bearings of which he also gains some familiarity.

THE FUNCTION OF A UNIVERSITY.

It appears, then, that the function of university education is not instruction in the special lines of a profession or trade, however these ends may incidentally be promoted, but in expanding and enlarging the mind and making it a more and more perfect instrument of knowledge and progress, whatsoever its destination. The mind so educated will regard whatever is laid before it more truly and will think upon it more truly; it becomes analogous and assimilated to a wide horizon of the world in which it is to live and work. Christopher Wordsworth[1] writes that a university, "while aiming at educating professional men, never pretended to give the final practical training which is required for every profession. Even in the education of the clergy, to which they gave special attention, the universities attempted to educate them in scientific theology rather than to impart even the elements of the pastoral profession"; and so, he adds, "it was with medicine (and, as we may now add, with engineering); the student received the grounds of a valuable education and some theoretical instruction, but was sent to look elsewhere" for the technical work of qualification. If this be so—and no one will seriously contend to the contrary—a university which lays itself out chiefly to instruct in the technical attainments of a trade or profession departs from its proper function of training the mind and increasing knowledge, and enters into competition with schools of technical instruction, such as the hospitals, the Inns of Court, workshops, and the many other various special institutions. In testing, then, from stage to stage the progress of its students the university will look not so much for technical and empirical knowledge and adroitness, or to the massing of detail for particular uses, as to the training of their minds and their grasp of principles. And for these results, for the breadth, ease, and naturalness with which they have learned to think and to conceive, will its degrees and distinctions be bestowed. It is too commonly supposed, and very erroneously supposed by some who ought to know better, that if a professional or technical instruction be screwed up a little higher and examination made somewhat stiffer the successful candidate should have a claim for a university degree—for the degree of M.D., let us say. Or men will submit that twelve or fifteen years in the practice of a profession should give them claims to such university stamp. But we have seen that the function of the university is not qualification for the practice of any art or trade, but is a training of the mind, a formation of habits of study, of insight, of easy handling of ideas, and of methodical research—an opportunity which is available before, and unless in exceptional cases, only before, the technical stage of study is entered upon. Under the pressure and cares of after-life such a training is rarely achieved.

The universities of the United Kingdom then step out of their functions when they undertake, as they do, to issue with their degrees in medicine a licence to practise. In my own university the M.D. degree is often bestowed, and is properly bestowed, on persons who never intend to practise medicine and who would be much embarrassed if in any emergency they were called upon for this office. Nor should it be any specific concern of the university how well or how ill its graduates may practise medicine; all that the university should be responsible for is that its graduates have had a certain development of mind and imagination. And, as a matter of practice, its tests for these results are much hampered by its incongruous responsibility for the lives of His Majesty's subjects; its examinations have consequently to deal with many matters of memory and mechanical device which throw little or no light upon the breadth or depth of training or upon the formation of habits of study or research; indeed, they crowd out more or less the proper tests for such edification. Now the safety of the public being a State concern, the testing of medical efficiency is the duty of the State itself, and this responsibility the State assumes in practically all other European countries. In the United Kingdom the medical corporations, under the supervision of the General Medical Council, ought to be entrusted by the State with this function.

THE NEEDS OF MEDICINE.

Now, gentlemen, I know you cannot all have university educations—or, at any rate, not in any near future. Many of you on leaving school have no choice but to complete your professional education in the five years' minimum, a period shorter by a year than in other European countries. In this case you have to be satisfied with what your school may have done for your general education—too often, I fear, a paltry result enough, not so much by your fault or even by

the fault of your masters, but of our defective methods of secondary education. To learn your profession in five years means that you will get some education and suffer inevitably much cram. You cannot then make yourselves into philosophers or investigators unless by a happy turn of Nature you contain in yourselves some rare capacities and aspirations which by chance were not choked by the public school: such an one must be content, then, with the honourable ambition to become at any rate a competent practical physician, shrewd, resourceful, and unselfish, a guide to health, and a stay in adversity. Even in the narrower field of professional instruction—I am speaking of the ordinary man—a large scientific education is not to be had in five years. Let us think for a moment what it must contain: The elements of physics, something more than the elements of chemistry, a large and minute knowledge of anatomy and physiology—in itself no mean education; then on this foundation to build the superstructure of pathology, medicine, and midwifery; to spend a few weeks in a fever hospital, in a children's hospital, in a dispensary, in several institutions for diseases of the eyes, ears, throat, and skin: to practise anaesthesia: and to obtain some knowledge of diseases of the mind; and to add to these the elements at any rate of medical jurisprudence, hygiene, and public health is formidable indeed. And still upon this burden of subjects many enthusiasts are yearning to pile more, such as fuller courses on biology, chemical physiology, bacteriology, and pharmacology, not to mention such subjects as the history of medicine, in the absence of which it is said, truly enough, that a medical education cannot be complete.

Now, gentlemen, in the all-round or university sense this is true; without these subjects and without a considerable familiarity with the principles of them a university ought not to grant its degree of M.B. or M.D. But, happily, there are among us men loved and respected as members of our beneficent profession who have never been grounded in these principles, furnished with these ideas, or stored with all this knowledge. None of us are more ready to lament this deficiency than such men themselves; yet when we fall sick we thankfully avail ourselves of their aid and consolation. Nay, may we not go still farther and admit—we university men and consultants—that when it comes to the cure of disease it is by the closer converse with the patient, the little daily dexterities, the cautious but shrewd empiricism, the tact and attention which, by easing and modifying abstract lines of the treatment, adapts them to the peculiarities of the individual, day by day meeting quickly every new symptom and contingency by this incidental drug or that little change in diet, that a family physician who may have enjoyed little beyond the ordinary advantages of a technical training, nevertheless compasses the cure of the individual case on which the consultant can but advise in general terms? Each has need of the other: the practitioner who had not the advantage of a university education desires the easy grasp of co-ordinating principles, the wider range of experience and of outlook on facts, the richer knowledge and the keener perception of the mists of ignorance of the university graduate; the graduate, on the other hand, admires the more homely but not less indispensable and even more varied abilities and adroitnesses of the country doctor. The most accomplished physician is, of course, he who has combined both real and practical education, who is armed with technical dexterity, versatility, and resource, as well as illumined by the ideas and guided by the mental and imaginative discernment which are born of a large, deliberate, and inventive education. How the unhappy division of our profession into medicine and surgery has defeated this integration of faculties I need not repeat here, as I have set this aspect of our education forth at length in my *Historical Relations of Medicine and Surgery*.

Compromises.

If, then, it is a heavy task to get into five years even a technical education, let alone a more liberal and extended training of the mind, to get into five years an instruction to which in Germany, France, Italy, Holland, Belgium, or Switzerland six years at least are devoted, and which in a university course, modelled from the beginning on larger lines, must occupy from six years to seven, how are we to occupy to the best purpose this five years' course for the man who has not the means, or perhaps not the kind of ability, to enable him to enter upon a full university career? One way of doing it is to drag the university training down to the level of the technical, to give the M.B. and M.D. degrees for a course which scarcely pretends to rise above the ordinary five years' professional instruction, however crowded and crammy this may be. Or if we resign the university to more fortunate men, what are we to think in our serious moments of a technical instruction in which, as now arranged, medicine, surgery, and midwifery, by all the many branches which we have enumerated, are to be taught in part of the fourth year and the fifth—in sixteen or eighteen months? No wonder at the development of coaching—that is, not of making men, but of stuffing them; no wonder at the stream of cram books pouring from the printing offices; no wonder at the "window dressings" for examination: our wonder we will keep for the young men who, under such a drill, come out of it with any freshness of mind left and with any better mental furniture than trite professional formulas. Now, although universities must be designed from beginning to end on other and more deliberate lines, yet for those students who cannot afford a university education what they have time for ought to partake of a university character, and, generally speaking, this means for the Institutes of Medicine teaching in universities and by university professors. A few exceptional teachers, men of remarkable natural endowments, may teach admirably a subject which is not to be the business of their lives, but this can rarely be the case. A teacher who devotes an inconsiderable part, or none, of his best hours to research cannot long hold his place as a fertile and effective teacher. Moreover, if I may contribute my dole to a current controversy, I would opine that no teacher reaches his best till middle life. Not till then does he gather the fruits of a rich experience or attain to a rich and vital sense of our ignorance; not till then does he wholly escape from formula and routine; not till then does he learn what to leave unsaid; then it is that erudition mellows into wisdom.* It is fatal to good work for the teacher to see ahead of him and beside him other purposes, other ambitions in life, than those with which he is immediately and provisionally concerned. Education, then, speaking generally, if it is to be of a university character—if, that is, it is to be more than stuffing—must be in the hands of men whose lives are devoted to it. If it is to be a development of mental faculties and to penetrate to the principles of its subjects it must give time for reflection, for earnest investigation, and for surrender to the personality of the teacher. Yet it is this very time element which is wanting, time in which we are to learn medicine, surgery, midwifery, fevers and mental diseases, the elements of ophthalmology, otology, laryngology, dermatology, and all the rest of them, not forgetting the many elaborate methods of modern diagnosis of which the family physician—often far from expert help—cannot afford to be ignorant of, but which after he has left the special fields in which such instruction is provided he cannot easily learn. I repeat that to devote, as at present, but some year and a half to these manifold final professional classes is, on the face of it, absurd. Surely one moiety of his whole period—two years and a half—is barely enough to devote to the subjects which are to be the main business of his life. For the summary education for a diploma I repeat we have been moving on the wrong tack, and moving away from the stouter and truer methods of two generations ago.

Overloading.

For two generations we have been loading and loading this brief curriculum as if we desired to teach many things ill rather than a few things well. Now we have seen that one may spend a lifetime on many acquirements and yet be uneducated. Our forefathers thought—and I agree with them—that the backbone of medical education is anatomy, that the right way to educate is to teach a few subjects broadly and deeply, and that the right way to build is to begin with the backbone. Young men love to do something with their fingers, and their instinct is a true one. Finger-work does more than add itself to thought and memory—it multiplies them. The fingers are the busy builders of the brain. How admirable a discipline anatomy is for the young student; how it confirms him in quickness of eye, in accuracy of fact, and in co-ordination of facts; how it displays to him the marvellous contrivances and adjustments of organized bodies; and, with the sidelights of modern biology and embryology, the stupendous achievements of mutation and selection are

* It is some thirty years since I read a paper to the Leeds Philosophical Society to illustrate what I believe to be the truth—namely, that the greatest achievements of the human mind have nearly always found their consummation not in the earlier but in the riper decades of life. Thus Regius Professors may supplement each other's researches.

advantages which need not be laboured over again by me. As an initial training anatomy is better suited to youth than the more abstract principles of chemistry and physics. And as modern research is integrating physiology more and more with anatomy, so the study of structure and function—two aspects of the subject-matter—are becoming more and more associated to the advantage and enlightenment of the student. The movement towards university teaching of these cardinal subjects—a movement which I am here to-day to celebrate—has, then, my cordial goodwill and advocacy.

In his first two years the student who only seeks a diploma should make his own a knowledge of anatomy and physiology, as broad and thorough as university teaching can make it, a discipline to be broken into as little as possible by intercurrent diversions. The elements of physics the student should bring with him from school, where mechanics should form a vitalizing part of his mathematics, and to construct the apparatus of heat and electricity might well occupy some part of the school hours of every boy. With chemistry the case is different. I agree with Sir William Ramsay that this is not a good subject for boys; nor, indeed, in the course for a diploma has it proved possible to teach chemistry on the scale of a pure science, to teach it comprehensively for its own sake and as mental training. In a five years' course it is, and perhaps can be, taught only as a technical department—introduced, that is to say, partially and incidentally as immediate utility requires; but after this manner, as pharmaceutical chemistry, as physiological chemistry, as an instrument of clinical diagnosis, and so forth, it should accompany the paramount and thorough training in anatomy and physiology, and be carried forward with the whole course of medical instruction.* Under present methods the student in his first year fags up some rule-of-thumb chemistry, with no great scientific advantage and on no comprehensive scale; and when his first examination is over dismisses this subject from his mind; his receptiveness has its limits and the ship must be lightened. Anatomy and physiology, on the other hand, should be taught scientifically and for their own sakes—taught, that is, on university methods, taught as education for universal as well as for technical ends: and, as at least as much chemistry would be learned in a utilitarian way as is learned at present, in two full years a really solid scientific foundation would be laid; the three following years would give a more adequate time for the medical studies of men whose minds had received this sound training, and the anxious candidate need not spend his last and most precious year with his nose in his book.

APPRENTICESHIP.

There are not a few physicians who, unable to avail themselves of a fuller education at the commencement of professional study, would gladly enlarge their education at some later time of life; what facilities do we offer for advanced study? Is any student, indeed, when just released from the wards of a hospital at the end of his fifth year, quite fit for private practice? We are assured that he is not, not even if after qualification he has held the usual house appointments; that for private practice there is still much in which even a highly-educated student is ignorant or unskilled. My old friend and colleague, Mr. Wheelhouse, used to impress this upon us time after time, and on the ground of such deficiencies to lament the abolition of apprenticeship. Recently, Mr. M. A. Wardle, of Bishop Auckland, has temperately and persuasively expressed the same opinion.* For my own part, while I admit how much the young diplomé or graduate has to learn in the way of little adroitnesses and tact in the management of private patients and in the conduct of trivial but vexatious disorders which do not find their way into hospitals, yet surely to revive the bond of apprenticeship for these comparatively minor accomplishments is to burn a house for roast pig. Manual dexterity, it is true, can only be gained in early life, but this would come with the earlier application to anatomy which I advocate. The apprentice did not always get the best or most conscientious of masters; in any case he was liable to be infected, and too often was infected, at a critical time of his life, with an incurable empiricism, and became habituated to a narrow routine. A convenient and elastic routine and a wise and discriminating empiricism are good, but these resources should not be the beginning of wisdom; after the scientific habit of mind is established, these can be added to it, and I am of opinion that, especially with our exceptionally short period of pupilage, six months' occupation with an able and intelligent family physician would prove an invaluable finish to hospital instruction. But I think that such residence should be with masters recognized for their special fitness by the General Medical Council.

Graduate or advanced work, both in the fields of instruction and research, has received of late much of the attention which its great importance demands, and I think the profession does not quite realize the debt we owe to Mr. Jonathan Hutchinson for his enthusiastic and indefatigable exertions in the development of such advantages for qualified practitioners who have still much to learn, a class co-extensive with the whole of us. We ought not to be satisfied until such advanced studies are so organized as to lead up to a university degree, though it follows from what I have said before that in this case they must include some subjects—such as history, philosophy, or literature—to enlarge and enrich the mind beyond the scope of medicine, and even beyond the wider but far from catholic dominion of science itself.

ONE PORTAL.

The undergraduates who are listening to me will expect me to touch at least upon the distressing subject of examinations. It has been inferred, no doubt, from what I have already said that, like every disinterested observer of medical education, I am in favour of that "one portal" which is established in virtually all the other nations of Western Europe, and the advent of which is certain in our own, though, after the way of Englishmen, we shall waste the usual time in trying to apprehend any idea not materialized in custom. To all persons thus qualified the appellation of "doctor" has so long been granted by English custom that it must now have official recognition; and the Conjoint qualification should carry with it the membership, not of one only, but of both the Colleges. The multiplication of modern universities in England—one of the most inspiriting features of our day—must compel the institution of one portal; the steam roller of the General Medical Council cannot even pretend to equalize so multiform a system. In my university I find that the one portal is virtually in force, for from 70 to 80 per cent. of our men take the diploma of the Colleges before presenting themselves for our more advanced graduation. Sometimes I say to them, "Get qualified and then we can proceed with your education." But as this proceeding of theirs is not universal or compulsory we do not derive the benefit of it; still are we obliged to load our examinations with tests of the memory, and of the sharpness and fluency of our candidates, which indeed tend rather to stifle real study, and at any rate testify in no direct way to the broader training and enlarged capacities which are particularly our concern. For qualification I regard the Conjoint examination as excellent; the examination of a university, however, ought to have a somewhat different aim and method from a test of conventional equipment and efficiency; it ought to be much less inquisitive and exacting, much more of a leisurely, continuous, and individual appreciation. We want to move away from tests of results without methods, of practical habits which stand still while knowledge is progressing of bookish acquirements without experience, of seedlings on stony ground which have no root in themselves and so endure but for a time; to move away from the reproduction of other men's notions, and towards the recognition of a critical and flexible judgement, and a habit of looking problems fully and intelligently in the face. For these qualities it is that a university degree is to be conferred; and to this end it is that in Cambridge—I believe with the loyal consent of all our medical graduates—that we retain and attach a cardinal importance to our thesis for M.B. In the thesis for M.B. the student—too often for the first time—realizes that he, too, can grapple with the interpretation of things, that he has got beyond the stage of beseeching his coach "to tell him how to answer but not for heaven's sake to explain the reasons of the answer."

CORRUPTIO OPTIMI.

Yet in addressing a university, as virtually I do to-day, I cannot forbear to warn my brother professors that even the blessed word "research" does not deliver us from the bondage of formula and routine. Much that goes to-day by this name is mechanical routine of a more deadening effect in that it is a *corruptio optimi*. The mere plotting of curves, the mere watching of levers or thermometers, the mere piling up of undigested or over-elaborated statistics is clerk's work which may provide material for a professor, but

* In place of formal examination in chemistry for a diploma, I am disposed to prefer, at any rate in part, the submission of laboratory books, initialled weekly or monthly by a university demonstrator

—as we may read in the bulk of published theses—do not develop, perhaps scarcely stimulate, that germ of originality in which every normal man varies from his kind. The clinical teaching of the hospitals is so much improved of late years that on this subject I have little advice to give either to teacher or to student. But there is still too much trooping after eminent teachers, too little quiet study of the patient. Reading of textbooks at home is eating sawdust; I counsel you to carry your treatise into the wards, moving from bed to bed as you read. Thus you will get living knowledge which will make you into another man. The close neighbourhood of the clinical laboratory whereby disease is studied in its dynamic aspects from rudimentary beginnings to perilous storm or even to wreck will teach you a lesson which the lay managers of a hospital conceive with difficulty, and never learn, that Medicine is not a Summa or Corpus of fixed axioms or principles, better or worse applied by this physician or that, nor, again, consists in "surgery and placebos," but is a living and progressive organ, only to be kept vigorous by incessant growth and renewal. And is not this living medicine educating not us only but also the butcher and the milkman, the family and the town council, nay, the State itself and its rulers, shaming the complacencies of the unidea'd and dissolving the formulas of the "practical man"? For clinical medicine has always been not only itself a sphere of scientific discovery but also the cause of discovery in other spheres. Over and over again clinical medicine has led the way for the physiologist as well as for the pathologist, and day by day has demonstrated an interlocking of processes and sequences of events which no experimental work could compass, even if such combinations could be foreseen. Every hospital, therefore, large or small, if its work is to thrive and its patients are to reap the benefit, should be open to students. In teaching his pupils the teacher stimulates himself—reveals to himself his own latent capacities. Thus not only should the London hospitals enter into a union of free interchange of students but all country hospitals also should be gathered into the system. I often urge our own men to escape for a few weeks from the hustle of a great metropolitan hospital into the quiet wards of a county institution where a few cases can be thoughtfully considered, and not rarely shrewdly interpreted, by an efficient and unassuming physician or surgeon of the staff who is glad of an intelligent hearer.

The Outlook.

Never was there a time when the study of medicine offered such visions of reward—social, scientific, and beneficent—as at present. From these manifold visions it is bewildering even to choose a few illustrative glimpses. A recent address by Sir John Burdon Sanderson revealed to us the wider significance of oxidation in the animal body. Each in his own direction, physiologists, such as Langley and Sherrington, have traced the intricacies and yet the integration of parts and functions; while others, such as Starling and Bayliss, have detected the wonderful functions and reciprocities of internal secretions. Allied to these are the specific products of cells, every cell of the body a microbe with its own juice—its toxin, if you will—all playing against each in mutual attractions and repulsions, and not with each other only, but in marvellous fore-ordination with extrinsic agents capable of entering into relation with this or that specific tissue or cell, for good or evil, and if we can but tame them to our uses, potent for therapeutical ends. We are shown how digestion is but one phase of these equivocal processes—food or poison as circumstances may determine; and, by how a ferment in one phase undoing molecules, in another is no less efficient in constructing them. The busy, curious spirit of modern physiology is not arrested even before the riddle of the complexity of the albuminous molecules, probably a finite series, and is reading them, as Ehrlich, Fischer, and Hopkins are, indeed, doing now, by analysis or synthesis; and not their own constitution only but also, as Pavy is discovering, their relation to the molecules of carbohydrate and fat. How, again, with the disappearance of foolish mediaeval divisions of the practice of our profession, the influence of workers in all branches will reinforce each other is remarkably illustrated by the light thrown upon some of the gravest problems of general disease in the sessions of the new Dental Section of the British Medical Association. Dietetics, again, which had made some indefinite advance by the empirical observations of the physician, has been raised nearer to the rank of a scientific study by the investigation of food values by Chittenden and Atwater, and of the purin bodies by Fischer, Walker Hall, and others. And if these brilliant prospects are opened out to the private physician, how far more dazzling are the promises of preventive and public medicine! By the hands of Koch, Manson, Ross, Bruce, Leishman, and their peers plague-swept areas of the world are being restored to culture and civilization; by the work of Nuttall and Haldane and many others, as chronicled in the *Journal of Hygiene*, the standard of health is raised, dangerous occupations are made wholesome; and the conditions of child-life and education are being moulded for infinite good by the physician, who thus, from the private duties and modest social ambitions of a healer of the ailing individual, is rising to the functions and dignity of the statesman. Could I but touch, as hitherto I have failed to do, the imagination of a rich man that he might see how much this progress would be accelerated if we could rise above our present anthropocentric medicine and establish a laboratory and professor of comparative medicine! For in disease, as in generation, all life is kin, and by a universal pathology our conception of these problems of the perversions of health would be infinitely enlarged and our knowledge of them increased, not for man only but for our herds, our fish, and the fruits of the earth. But no; the unimaginative Englishman is content to blunder along knowing little of the natural world about him and content to spend his money in charity to mitigate calamity and suffering which by more timely aid he might have prevented. But "for knowledge," said Sir William Wharton shortly before he was taken from us, "money is hard to get until the necessity for its expenditure is patent to the smallest intelligence."

The Moral.

In all this cry about learning you may ask me, Where is the wool? Where does action come in? Now, if I am earnest with you for learning, I would be even more robust with you for action. Revolve, agitate, test continually the stuff of your knowledge till you have to act; then ponder no more. If you have made a good machine of yourself you will act better by your acquired nature, by the instincts you have truly constructed, than by looking back for your learning. Whether as teacher or practitioner come to a decision, and then stick to your course dogmatically and imperiously. To pretend to know more than we do is one thing; to be vague and indecisive in counsel or action is another. Vacillation spells failure. Doubt breeds diffidence. When tried by an anxious case do not keep turning it over and over again in your mind. To carry through a second best course is better than to falter in the best. To let a case hang about your mind while neither observing it nor reading it up, and especially to do this by night, throws the facts out of perspective, and harasses you when your mind with a little rest would create a truer conception by itself. If you want more information, if events be not as expected, seek more light by book or bedside. If after all you are in doubt, go back formally to the beginning; examine the patient as if you had never seen him before, if possible with an intelligent medical friend. Some forgotten fact of the early history or a sign of local change may thus come to light to bear significantly upon the subsequent events.

We have dwelt upon education as progress from ignorance to knowledge, from feebleness to strength; but as we cannot regard intellect apart from imagination so we cannot separate the moral from the mental part of man. Either without its supplement is incomplete. None knows better than the physician that emotion, religious or other, must have a strong skeleton of intellectual principles; conscientiousness without enlightenment has to account for some of the darkest chapters of human history. At my time of life I feel that I may never again address so important a body of students as those of this great College, and if I must not thrust upon you thoughts of a kind which to-day we may scarcely be in the mood for, I cannot conclude without touching upon some graver matters of that higher life without which we can never prosper either as a nation or as individuals. It was by what Sir Philip Sidney called "the ancient piety and integrity of the English people" rather than by far-seeing wisdom that this nation weathered the storms of the last two centuries. There are now many rich men among us, and there has never been a time when in their monotonous amusements they have seemed—to us poor men—farther from the kingdom of heaven. But England will never dance to the pipe of Omar Khayyam or take for its motto "*Sapias, vina liques, et spem longam reseces.*" If there be some ominous signs of corruption of moral habits, on the other hand we may

see still more vividly the signs of a new ethical earnestness and insight as pure and intense as the awakening of Wesley and Newman, and far more permanent in its elements. It is your great privilege to be born in a time of breaking up of dogma, or the deliverance of the spirit from the bondage of the letter, of the scrapping of the machinery of religion for the recovery of its essence and for a new embodiment of it. Such was the breaking up of ancient ritual by Christ himself, and, in their measure, by Wycliffe and Luther. Now in this our time we are set free to return not to the sixth century but to the first, to the original source of the Christian life. As to dogma, hear what all men say but follow no man; follow the lights which you will find within you. In the growing purity of your hearts you will not fail of your revelation, and by this touchstone you will distinguish even in your contemplation of Nature the true from the false, you will interpret that higher secret which by her eyes you see that she knows but cannot express, and will read into her message ideas which no analysis, scientific or even philosophical, can reveal. Remember, if you are ever bored with your own self there is something wrong with you. Physiology tells you that you must always be building or you must degenerate; no impure, petty, or rancorous thought but makes a mark not to be undone and weakens the habit of virtue. It has been said, and with some truth perhaps, that men of science are apt to forget we cannot play curiously with base and shameful things and then wipe them away as if we had never been occupied with them. Upon those physicians whose painful duty it may be to examine psychological filth rests the heavier responsibility of a jealous concern for their own the purity of hearts. Our decisive moments, as George Eliot says, are not those of our better hours—protected by wholesome happier dispositions, but when we have in us less devotion—for so we vary; when we give way to little insincerities, little uncharitablenesses, shiftinesses, low standards, tampering with worldly folk, little tempers, and jealousies. In the *Phaedrus* we find the profound truth that if the soul be not destroyed by its own proper evil it cannot be destroyed by any other; a lesson there enforced by the figure that the soul is the charioteer of two winged horses, the one of noble the other of ignoble breed, and sooner or later it may be dragged to earth by the baseness of the ignoble steed and there lose its own wings also.

Ethics.

The opinion is current since the time of William Henry Green that spiritual goods are essentially non-competitive, that the survival of the fittest does not apply to the field of the highest ethics, which is a field rather of inward than of outward occupation. This has always seemed to me a shallow distinction; surely a race is set before us and we run all. Competition is, indeed, now rather between large social than between individual units, but the strongest bond of the parts of the social unit, that by which it survives, is surely the higher ethics. We can no more get out of Nature's methods than out of our own skins. That progress comes by adversity has been told us by Christ and St. Paul, by Tauler and Herbert, as well as by Darwin and Haeckel. Tauler says: "If we were wise and industrious the devil's opposition and his discipline would be more useful to us than those of the good angels; for were there no conflict there could be no victory." A knowledge of the highest endowments, deeds, and creations of man must therefore form not only a part of the universal education but also of our personal meditation, whether it be found in Greek, Latin, or Hebrew.

The physician is wont to learn how noble is his profession, how profound the debt of the public to him, and how devoted society is to his lofty calling, in after-dinner speeches. But it is true that our calling is gentle, unselfish, wise in its intimate converse with Nature and mankind. "*Humanumque genus communi nomine fovit.*" We know, with George Herbert, "it is some relief to a poor body to be heard with patience." Furthermore, it teaches us the secret of the "simple life," which for society too often means a clean slate on which to daub new excitements, for there is no *ennui* like the *ennui* of the man of pleasure. By the realism of its daily practice it hardens us against carnal temptations. It saves us from the withering sin of cynicism, as it inspires us with the building of a world ever better and better—a work in which we are the artificers, for if the world may not be very good we think it possible for us to make it so. No good physician was ever a misanthrope. Yet, if all professions have their safeguards they have also their temptations, and our own is no exception. Laymen—even those most friendly to us—tell us of our testiness, of our jealousies, of an angularity in our relations with our brethren, especially with those who live near us and ought to be our colleagues, but whom we are too apt to call our "opponents" and so to regard as such. This, to say the least of it, is bad policy; it gives our enemies a handle against us and grieves even our friends who discern our fault but not our temptations. That members of other professions are free from this personal distrust comes of the different conditions of their engagements.

Unfortunately the game of medicine is played with the cards under the table. Whether the clergyman be a good preacher or pastor, whether a barrister conducts a case well or ill, whether a tradesman sells good soap or bad, is not only a matter of which the public can form some fair judgement, but also these transactions are, so to speak, in market overt. In the intimacies of medical counsels, on the other hand, who is there to note the significant glance, the shrug, the hardly-expressed innuendo of one or other of our brethren of whom it might be said, as it was said of Roderick Lopez—Queen Elizabeth's physician—that "he is none of the learnedest or expertest physicians, but one that maketh a great account of himself?" Thus we work not in the light of public opinion, but in the secrecy of the chamber, and perhaps the best of us are apt at times to forget the delicacies and sincerities which, under these conditions, are essential to harmony. But the more careful we make ourselves of these loyalties the less we shall suspect others, and the more candid and sincere we become with our brethren the less they will suspect us. Most of such offences are due not to malevolence, but to want of imagination or good breeding. In any case, let us always remember that, as we have many benefits, so we must be vigilant and forbearing in the perils to which the temper of the physician is exposed. For such trial and unrest as we have let us dwell on the words of Montaigne, that "we have the most sweet and gentle medicine in philosophy; for of others no man feels the pleasure of them but after his recovery, whereas she pleaseth, easeth, and cureth all at once."

The Higher Life.

It was said before Chaucer that the physician is no ritualist; in this audience I am addressing men of many creeds, and some, perhaps, who fondly think they have none. At any rate, the physician learns to follow a true instinct in seeking the ideal not in dreams, emotions, or transcendencies but in the actual, in the high choice and promise of the real. No delicacy, or remoteness, or fantasy can make a false idea into a true one. Yet Professor Lloyd Morgan has well said, "the prime condition of progress is to believe more than can be demonstrated." In the rough and tumble of all callings, however, the higher life gets obscured, and we have to seek quiet moments when we can enter into that inner chamber of the mind wherein dwells that self by which we differ from all other individuals, for which we are responsible, and yet wherein, by this difference, are—even those whose hearts are warmest—alone. To this end, whether I could or would go to church or not, I have always "differentiated" my Sundays. If I stay away from a place of worship the greater my responsibility, the more my duty to the higher life. Whether your "studies be on the Bible" or with Shakespeare is for each of you to choose—or perhaps both; but for that one day of the week be thankful to eschew idle books and newspapers, petty cares and business, and even professional usages which can be postponed, so that we may live one day in the presence of men greater and purer than ourselves. And what I say of one day in the week I say also of some minutes in every day; in that inner chamber store for the day some sweet verse, some line of gentle wisdom or lofty thought which—to repeat a phrase with which I began—shall still make the habit of virtue and reason easy and pleasant to us. Then when the new song is sung we may find ourselves among those who could learn that song, for they were redeemed from the earth.

References

1 *Scholae Academicae*, p. 171. 2 British Medical Journal, September 23rd, 1905.

Dr. Caetanis Dominic Francis de Mello, of Poona, who has recently had the honour of knighthood conferred upon him by the Portuguese Government, was entertained by his friends in August at a grand reception. It was attended by many military officers and by several consuls of foreign Powers who came from Bombay for the purpose. The health of the guest of the evening was proposed by his Excellency Visconde de Wrem, Consul-General for Portugal.

An Address
ON
RAND MINERS' PHTHISIS.

Delivered to the North of England Branch of the British Medical Association at Blyth.

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When the invitation to deliver an address to the members of this Branch was conveyed to me by your Honorary Secretary, my first impulse was to refuse, for I felt I had nothing new to communicate to you; but when Dr. Anderson was good enough to suggest that a paper on miners' phthisis, as met with in men returned from the Transvaal, would be acceptable to the Branch, I acceded to the request of the Council, not that I could throw any fresh light upon the important problems connected with the malady, but that, living as we do in a large mining centre, it seemed to me to be a subject that had interest for all of us, and one to which in discussion you could contribute more than I could give.

Etiology.

The circumstance that brought gold-miners' phthisis into prominence in this country were more or less accidental. Three to four years ago I happened to be consulted by men who had returned from the Transvaal, and who were suffering from a type of phthisis something different to that which is ordinarily met with in tuberculous subjects, and which struck me as being probably connected with the dusty occupation which they had followed when mining in South Africa. Till then I had no idea of the high death-rate of miners on the Rand, nor had the medical profession and the public in this country. The publication of my paper in the *Lancet* of June 14th, 1902, drew the attention both of the Home Government and that of the Colonies to the high rate of mortality in both the white and native populations at the South African mines. A commission of local mining engineers and medical men was appointed by the South African Government to inquire into the subject and report upon the same.

The report of the Miners' Phthisis Commission was published in Pretoria, May, 1903, and it is for all persons who are interested in the subject a store of useful information. It forced the hand of the Government to introduce certain reforms in methods of mining, and to apply some of the remedies that had been previously recommended.

The rock of the Transvaal mines is extremely hard; it is of a quartz like nature compared with the coal of this neighbourhood, which although hard, yet comparatively speaking, gives off little dust. As a measure of the activity and the importance of the coal mining of this district, and for a few miles around Blyth, mention need only be made of the fact that 25,000 men are employed underground, and that the output of coal, according to Professor Merivale, is something like 9,000,000 tons a year. Rotary hand drills are used both in rock and stone, and coal cutters driven by compressed air and electricity are coming into use. When we compare the methods in use in this district with those on the Rand for getting the ore we find in South Africa a harder stone, greater depth of mines, higher temperatures, longer hours, and in addition the use of machine drills to an extent unparalleled by anything in this country.

From the North of England, especially Northumberland, there had been a steady migration for years past of young healthy miners to the Transvaal, attracted thither by the high wages which mining in South Africa offered, and the rapidity with which fortunes could be made. But there was another side to this race for wealth. Many of the men after working a few years died in South Africa, while others returned home shattered in health, although enriched in pocket. These circumstances pointed to mining in the Transvaal as an unhealthy occupation, and as calling for some change in the method of conducting underground operations. It was known that the ventilation of the mines was bad, that rock drills were almost in universal use, that they were worked on the dry system, and that the higher explosives were used with a lavishness which far outstripped anything of the kind at home.

We shall never know the number of white miners who found a grave in South Africa, nor shall we ever know the number of Kaffir boys whose life was brought to an early close by working underground on the Rand. Many of the boys when ill crept away to their kraals where they died without the fact ever coming under the knowledge of the inspector. How far the work there is responsible for creating a taste for alcohol and its attendant evils it is impossible to say. In the returns presented to the House of Commons in August, 1903, it is stated that lung diseases formed 42·8 per cent. of the deaths of the natives on the Rand and that pneumonia formed the greater part of the cause of this high mortality. Taking the mortality returns of natives employed at the mines for the six months ending December 31st, 1903, the number of deaths from pneumonia was 45 per 1,000 living and 3·8 from phthisis; for the same period in proclaimed labour districts the deaths of natives from pneumonia were 27 per 1,000, and from phthisis 3. This is a high mortality from pneumonia towards which the dust given off by the rockdrills when in the mine, exposure to rapid changes of temperature on leaving the mine, overcrowding in the compounds and the absence of sunlight from the dwellings all contribute.

The South African Government Commission had considerable difficulty in obtaining information, statistical and other, regarding miners' phthisis in the Transvaal, notwithstanding the fact that the medical men who were members of the Commission had made the malady the subject of previous study. Still, the labours of the Commission brought many interesting facts to light, which, but for the ravages of the war, would have been more numerous. Out of 4,403 miners, who were working underground in the Witwatersrand district, 1,210 were medically examined on behalf of the Commission, and of this number 187, or 15.4 per cent., were certified by the doctors to be suffering from phthisis, while a further 88 were suspected cases. These numbers may not be absolutely reliable, but the facts confirmed the general impression regarding the prevalence of the disease and of the urgent need there was of reform in methods of mining. While pulmonary phthisis affects all classes of miners, it is the rock-drillers who suffer most. Rock-drillers formed 91·9 per cent. of the cases; the average age of the men at death was 35.5. Some of the miners had only worked at the drills for five years, others from seven to nine. It is estimated that in the Witwatersrand district, out of 1,377 rock-drillers, 225, or 16.34 per cent., had died during the two and a-half years immediately preceding the Boer war.

Inhalation of fine dust is the cause of Rand miners' phthisis; and while most of this dust is created during machine drilling by the dry methods, we must also incriminate the dust that rises during the dislodgement and breaking up of stone by the use of explosives, and the shovelling aside of the débris of fallen stone. There is danger in all mining operations where there is much dust; but since the white miner and Kaffir boys are longer in contact with drills, working often in confined spaces, or at the head of a level where ventilation is imperfect, the danger from such is correspondingly greater. What has happened to the white miners and the Kaffirs will undoubtedly happen to the imported Chinese if pains are not taken to keep down the dust. Perhaps, after all, dust is not the sole cause of the malady. The men—after a hard and fatiguing day's work in a hot mine, when perspiring, are suddenly transported in a cage to the surface, where the temperature is much lower. At many of the mines there are now "change houses," where the men can have a warm bath, put on warm, dry clothing, leaving their wet working clothes behind, and which they find there next day dry and warm. In addition to dust and rapid changes of temperature, the miners are far too hasty in returning to a working after explosives have been used, and when the atmosphere of the working is thick with dust, and ladened with the gases given off by explosives. Some idea of the vitiation of the atmosphere of the Rand mines may be formed from the fact that in the Witwatersrand mines alone there were used in the six months January to June, 1902:

	lb.
Blasting gelatine	1,412,600
Gelignite	383,200
Dynamite No. 1	3,250
A total of	1,799,050

All miners are agreed that in underground work the operations known as "developing," raising," and "driving" are much more dangerous than working in "stopes." In the Phthisis Report mention is made of two brothers who worked rock-drills for four years, always "raising." At the end of the four years both died from lung disease at the ages of 28 and 30. In "raising" and "driving" it is extremely difficult to secure adequate ventilation. During the boring of the holes a

very fine dust is given off, which quickly renders the atmosphere thick and irrespirable. It is in such an atmosphere when rock-drilling is carried on by dry methods that the miners have to work; the work, too, is fatigueing, and obliges the men to take deep inhalations. At the Geldenhuis Deep Mine 21 men who had worked rock-drills for 5.5 years died from lung disease at the average age of 35.5 years: on the Geldenhuis Estate 33 men died at the average age of 34.4 after 6.9 years spent in rock-drilling; on the Jumper Deep Mine 39 men died at the age of 37 after 6.8 years of rock-drilling. On the Crown Reef Mine 32 men died at the average age of 32, after having spent 8.8 years in rock-drilling. The dangers of rock-drilling are not the same in all mines, a circumstance to be explained either by the character of the dust—some dust being harder than others—the manner in which the drills are used, wet and dry methods, and the ventilation of the mines. The shortest time of rock-drilling followed by death from phthisis in a Rand miner was 3 years.

Many of the mining engineers in Johannesburg are of the opinion that miners' phthisis is not caused by dust but by the deleterious gases given off during the use of explosives. The explosives used in the Transvaal mines belong to the nitro-glycerine group, and are mostly blasting gelatine, which is composed of nitro-glycerine with 7 to 8 per cent. of collodion cotton. When nitro-glycerine explodes under proper conditions the gases produced are carbonic acid, nitrogen, water, and a small surplus of oxygen, the oxygen being sufficient to burn up all the combustible elements in the nitro-glycerine. It is only when a "missfire" takes place that gases are produced which are dangerous—namely, oxides of nitrogen with carbon dioxide and carbon monoxide. The nitric-acid fumes are extremely irritating to the lungs and have caused death in twenty-four hours by inducing a peculiar form of inflammation of the lungs. As medical men we are not disposed to under-rate the harmful effects of nitrogen-oxide fumes; but they are only capable of setting up as already mentioned, an acute congestion of the lungs like what occurs in the first stage of pneumonia or in the less acute cases, and after frequent exposure they bring about a diminution of the vital resistance of the individual. It is impossible to see how the gases given off by imperfectly-exploded cartridges, apart from dust, can produce in the lungs the hard unyielding fibrosis which is characteristic of gold miners' phthisis.

In corroboration of the statement that dust, especially that given off by machine rock-drills, is the cause of miners' phthisis, let us consider briefly the fate of the tin miner in Cornwall. The tin miners of Cornwall have had for many years an unenviable notoriety for a high mortality from lung diseases. Until 1892 this was specially true of men above 40 years of age, but since that date, and especially within more recent years, there has been an enormous increase in the death-rate from phthisis of the younger men between the ages of 25 and 40. The cause of the high death-rate of Cornwall miners is to be found in the occupation. Tin miners in drilling a hole upwards have often to breathe an atmosphere containing as much as 14 mg. of dust per cubic foot of air. Machine drills always give off more dust than those worked by hand. The average age at death of Cornwall miners who did not work the machine drills was 53 years, while that of the men who had worked drills was 37.2. Comparing the death-rate of these men with that of men engaged in other mining operations, it was found by Haldane that the death-rate among machine men from disease of the respiratory apparatus was about thirty times, and the total death-rate about ten times, as great as that among colliers and ironstone miners of the same age. Of 142 rock-drill men who died in Cornwall, 120 were certified as having died from miners' phthisis and 13 from other forms of respiratory diseases, whereas among the other miners not engaged in rock-drilling, of 178 deaths 68 were ascribed to phthisis and 48 to bronchitis.

To Cornwall just as to Northumberland several miners have returned from the Transvaal, many of them only to die. The average number of years worked by rock-drillers in Cornwall was 8.4. Those who had returned from the Transvaal and worked in the Rand mines alone had only spent 4.7 years in rock-drilling, while the length of time spent in the same occupation by men who had worked both in Cornwall and the Transvaal was 11.6 years. The fact that in the Transvaal the average length of time a rock-driller followed his occupation was 4.7 years as compared with the 8.4 of the Cornwall miner is proof of the [illegible] that until lately prevailed in the Rand mines. Compare these death-rates with those of coal miners of this country. It is the boast of Northern coal-mining districts that they can show many old men whose health above 60 and 70 years of age remains good. The British coal mines are extremely well ventilated, the shifts are short, and the coal dust, although it often contains particles of stone, is yet soft when compared with the quartzite of the South African mines. I quite agree with Dr. Trotter, of Bedlington, when he says in his very interesting paper that it is not coal as coal that causes miners' phthisis, but the stone particles to which the carbon is adherent, and that probably the main causes of phthisis as affecting mining populations are to be found not in the occupation followed by the men but in the homes. Between the ages of 25 and 35 3.9 per cent. of the deaths of tin miners are due to lung disease, while in coal miners it is 2.1 per cent.; between the ages of 35 and 45 the percentages are for the Cornwall miner 9.5, and for the coal miner 3.5. In certain districts the percentages are still even more favourable for the coal miner.

No doubt on the part of the Transvaal gold miner there has been a recklessness and a disregard for laws of health that have been quite inexcusable. In his haste to make larger wages he has worked hard—10 to 11 hours a day—and he has returned to the working far too soon after explosives have been used—before, in fact, the atmosphere has had time to clear. The miners in South Africa who are paid by piecework can make from £50 to £60 a month: hence the temptation to work hard. Several Northumberland miners have come home after three to four years' residence in the Transvaal with £700 to £900 saved, but the conditions under which this money has been made have been unusually hard and exacting. There is no home life for the men out there, and no social comforts. If the wages are high food is expensive. Away from such a town as Johannesburg the men at the mines sleep in corrugated iron huts, and get their food at boarding houses.

Symptomatology.

In nearly all the Transvaal miners who have consulted me there has been a marked bronzing of the skin, which gives the patient a deceptive appearance of health. As the disease progresses this bronzing of the skin is often followed by desquamation in the form of light branny scales. One of the peculiarities of Rand miners' phthisis is the silence with which it invades the lung without producing symptoms, also when it has gained a footing, the rapidity with which in some cases it advances. One of the distinctions between gold miners' phthisis, or silicosis, and ordinary tuberculous phthisis is that in miners' phthisis a man does not feel he is really ill until he is practically speaking past all work, whereas in the tuberculous form the patient is often ill long before there is extensive disease in the lung, owing to the fact that toxins are secreted by the tubercle bacilli, while there is no soluble poison in miners' phthisis.

An early indication that a miner is becoming "lunged" is shortness of breath. When this symptom has become fully developed it is a permanent and distressing feature all through the remainder of his illness, for it tends to get worse rather than better. It is aggravated by the slightest exertion, and is often far in excess of the physical signs of disease in the chest. In the early stages of the malady there may be little cough and no expectoration. Some miners, on the other hand, are the subjects of recurrent cold on the chest, of the nature of bronchial attacks, which they never throw off thoroughly, but as the men feel fit for work they continue to follow their employment, although there is a loss of flesh, which is slowly progressive.

Once the disease is fully developed the miners themselves are of the opinion that if they remain in South Africa their chances of life are better than if they come to Britain. Sea air and a sea voyage, which are usually helpful in other diseases, seem to aggravate the symptoms of Rand miners' phthisis.

If the shortness of breath is not severe a miner may continue to follow his employment, when all at once he feels obliged to give up work on account of debility and increasing dyspnœa. The dyspnœa is a pronounced symptom. It is accompanied by rigidity of the walls of the chest. In some instances the breathing is suggestive of advanced asthma, but there is an absence of the loud wheezing and musical râles which are heard in bronchitis and asthma. Physical examination of the chest in the early stages of the disease often reveals but very little; there may be inequality or jerkiness with coarseness of the respiratory murmur without any râles. In other patients there may be weakness of the respiratory murmur, particularly so of the expiratory murmur, which at some parts of the chest may be quite inaudible and yet accom-

panied by exaggeration of the vocal resonance. The chest may on the whole be wonderfully resonant on percussion, but at times there is flattening of the percussion note amounting to distinct dullness over one of the apices or bases. In some patients the breathing is coarse and tubular, and instead of having the expiratory murmur inaudible it is prolonged over the site of the dullness. Notwithstanding this alteration of the respiratory murmur in the direction of coarseness and tubularity, no râle or moist sound may be heard. Occasionally pain in the chest is complained of, and over the painful area friction can be heard. The dullness on percussion may be located at the apex or base. Before the disease has advanced to any great extent there is observed a marked diminution in the ratio observed in the measurement of the chest in inspiration and expiration to the extent of 1 in. or 1½ in. There is no rise of temperature in uncomplicated cases and no sweating. As the disease advances and dyspnoea increases, cough, if more frequent, is accompanied by very little, often by no expectoration at all, but moist râles may be heard, crepitant and subcrepitant, with tubular or cavernous breathing. It is difficult to obtain sputa for examination owing to the comparative absence of expectoration, but in most of my cases when examined no tubercle bacilli have been found. When tubercle bacilli are present the patients have exhibited to a greater degree catarrhal signs in the chest, and have usually had a rise of temperature. Haemoptysis is an unusual event. In nearly all cases the pulse is rapid and the breathing is quickened. When, therefore, a miner who has had signs of slowly-developing disease of the lungs, accompanied by marked dyspnoea but unattended by rise of temperature and sweating, rapidly changes for the worse and becomes hectic, these symptoms are extremely suggestive of some tuberculous infection having become grafted on to the original malady.

In the report presented by the Transvaal Medical Society to the South African Commission on Miners' Phthisis it is stated that, out of a series of over 30 sputa from cases of disease of the lungs of miners examined by a member of the Committee, only 2 or 3 were found to contain tubercle bacilli, which led the Committee to conclude that while in some cases a true tuberculous phthisis may co-exist or may be superadded, the conjunction is only seen in a minority of cases. The disease, as already stated, develops insidiously. In the case of some of the miners who had returned to Northumberland, the men had been at home for several months—a year or two—before the symptoms attracted attention.

Pathology.

The essential pathological feature of gold miners' phthisis is the formation and retraction of fibrous tissue of a low type. The disease once developed is seldom interrupted; it tends to become progressive. If the malady becomes arrested it is only by its being detected early, and by the miner renouncing underground work and taking to some out-of-door employment. On attempting to remove the lungs from the chest of a person who has died from Rand miners' phthisis, these organs are found to be extremely adherent at places. The lungs are brownish-black in colour, and on section there can be squeezed out of them a dirty, ink-like fluid. The lungs are smaller but weigh more than normal organs, owing to the large amount of foreign matter they contain. A distinct gritty sensation is felt on cutting them with a knife. The substance of the lung is observed to have been replaced by hard, unyielding tissue, hence its inability to functionate during life and the explanation of the extreme dyspnoea that was such a prominent symptom. The walls of the bronchi and blood vessels are thickened; dense strands of white fibrous tissue are observed radiating through the lung and ending on the surface in thickened pleura. Here and there can be felt small nodules which are harder than the surrounding tissue. Cavities are often absent; if present they are necrotic in origin. The bronchial glands are enlarged and on section are as black as ink.

On incineration of the diseased lungs of two Transvaal miners, the total ash found by J. R. Williams was 4·9 and 2·28 grams respectively. The bulk of the ash was made up of silica and iron; but aluminous, calcareous, and manganese particles were also present. When the insoluble ash is submitted to microscopical examination, it is observed to be composed of fine angular gritty particles exactly resembling the fine rock dust itself.

Microscopical examination of sections of the lung confirms naked-eye appearances. The alveolar structure of the lung is found to have disappeared here and there, and to have been replaced by fibro-connective tissue. Small fibrotic nodules are observed in which the fibrillae are arranged in a concentric or ring-like manner. Myriads of black pigment particles lie freely distributed between the fibrillae, or they are heaped together in places to form small black masses. Occasionally in the centre of a small nodule there is seen a clear circular mass somewhat defined from its surroundings. It looks at first like a giant cell of tubercle, but more careful examination shows it to be a thrombosed artery. In advancep forms of the disease, nearly all the lung is taken up by the deeply-pigmented connective tissue, but here and there groups of still fairly healthy alveoli are detected or the alveolar walls are thickened, and the epithelium which lines them is proliferating. Lying free within the alveoli or imbedded in their walls can be seen several large cells filled with black granules, often so crowded together and diffused through the substance of the cells as to obscure their structure and to conceal their nucleus. When the pigment particles are fewer, the cells are observed to be well developed, and to contain a large nucleus.

Running through the section can be seen lines of dark pigment, which are the trail of lymphatic vessels blocked by pigment particles. In addition to these large cells lying inside the alveoli, there are evidences of catarrhal inflammation. Similar conditions are observed within the small bronchi. In some instances tubercle bacilli are detected, in others not at all. Since during life no tubercle bacilli are found in the expectoration, and after death none are found in the lungs, it is apparent that in Rand miners' phthisis we have an illustration of a true pneumokoniosis that is, of a lung that has been irritated by dust, and in which, while the changes become progressive and ultimately lead to death, the malady from first to last can be non-tuberculous. During the course of his illness, if it is of lengthened duration, the miner may become the subject of recurrent colds on the chest, and may become accidentally infected by the tubercle bacillus. When this occurs the illness, which up till that time was unaccompanied by fever and was of slow progress, now advances rapidly, cough becomes more frequent, expectoration more profuse, the temperature rises, sweating occurs, and emaciation is quickly progressive. The advent of hectic fever marks the grafting of a tuberculous lesion on to structural conditions of lung that until then had not been tuberculous, so that when tubercle does invade the lung it finds these organs already fibrotic. To the production of the fibrosis, which is the essential feature of gold miners' phthisis, tubercle, therefore, in no way contributes. What I have said of gold miners' phthisis and its non-tuberculous origin applies with greater force to anthracosis or coal miners' phthisis. Some physicians maintain that coal dust exercises a protective influence upon the lung so far as tubercle is concerned.

The large dust cells in the alveoli are phagocytes, and they play an important part in the development of the disease. They are endowed with powers of locomotion, and can engulf the particles of pigment and transport them by way of the lymphatics to the bronchial glands, where the cells rid themselves of their burden, or they disintegrate and deposit the particles of dust in the gland substance. These phagocytic cells or scavengers remove not only particles of dust but micro-organisms as well from the lungs, for in cases where there is no tuberculous disease of the lung tuberculous bacilli have been found in the bronchial glands, and most of these bacilli could only have reached these glands by means of the lymphatic vessels through the phagocytes of the respiratory passages.

Treatment: Preventive and Curative.

Since gold miners' phthisis is so clearly the result of the inhalation of dust, the best efforts of mining engineers should be put forward to render dust as innocuous as possible by means of water-spraying at the time the rock is being drilled. The contemporaneous use of the water-spray and the drill not only cools the rock, and keeps down the temperature, but allays the dust, so that the men can work in a clearer atmosphere, and thus run fewer risks to health than when no water is employed. Good ventilation and water-spraying are therefore the first essentials. Miners ought not to return too soon to a working after detonation of explosives. Respirators have been recommended, but it is difficult for men to do the laborious work of rock drilling wearing a respirator. Two years ago the Rand Chamber of Mines offered a prize for the best practical suggestion and devices for obviating the occurrence of miners' phthisis. The competition was open to the world; 229 competitive suggestions were received. In July of this year the prize was awarded to

Mr. T. J. Britten, one of the oldest mining engineers in South Africa, for his water drill and atomizer to allay the dust and gases during blasting and shovelling. Britten's atomizer was found to allay 75 per cent. of the dust and was also successful in allaying the nitrous fumes after blasting. There is not the least doubt that by using water-spray drills and the atomizer and by better ventilation a considerable reduction in the death-rate from miners' phthisis will occur in South Africa.

There is no medicine or combination of medicines that I know of that will check the onward course of the disease once it is fully established. Cod-liver oil, nux vomica and pot. iodi, liq strychniae, calcium glycerophosphates or the hypophosphites will help to maintain the general health, but the best treatment of all is for men not to work too long at rock drilling, to work fewer hours per day than they have been doing, and on the first indications of failing health and strength to give up the work and seek for a life in the open.

PULMONARY ATELECTASIS IN ADULTS.

BY WILLIAM R. HUGGARD, M.A., M.D.(R.U.I.), F.R.C.P.LOND.

ATELECTASIS, or imperfect expansion of the air cells, in so far as it affects a small portion of lung in adolescent or adult life, receives very scanty notice in most textbooks of medicine. It seems to be considered a rare condition except at the base, and as a result of hypostasis. As a matter of fact, however, it is an extremely common condition at the apex, but is overlooked owing to the ordinary method of examining the chest. Only within the last few years have I become myself acquainted with the frequency of its occurrence.

Nearly every practitioner has, as a student, been well drilled into method in the examination of the chest; and to see a man deviate from the orthodox order of inspection, palpation, percussion, and auscultation causes a feeling akin to what we should have if we saw a man trying to fix the crupper on the head of a horse and the bridle on the tail. We inevitably think that he does not know much about what he is doing.

A change from the orthodox order, however, is not merely justified but is indispensable for the ascertainment of the facts. The hitherto usual method requires a little modification. The deep breathing that we call for during inspection frequently clears away or diminishes the evidence of atelectasis. If percussion is employed both before and after the patient breathes deeply, dullness—slight, medium, or pronounced—will often be observed over the apex of the lung at the first percussion, while a clear note will be elicited after deep breathing. In very early apical tuberculosis this is common. I had at first written "almost invariable." In slight bronchial catarrh of growing young people, also, it is extremely frequent.

The usual physical signs in the form of atelectasis now described are dullness on percussion with feeble breath sounds, the dullness diminishing or passing off after a few deep breaths, the breath sounds at the same time becoming more distinct. A few sticky or viscid râles can often be heard towards the end of the first two or three deep breaths, but they get gradually fainter, and then disappear.

The signs of atelectasis may reappear with extraordinary rapidity. In a case where the patient was systematically doing deep breathing exercises every hour, and where the physical signs usually disappeared completely with the deep breathing, I have on more than one occasion observed dullness within an hour after a deep breathing exercise was said to have been performed.

In some cases the dullness does not disappear so quickly. Sometimes it may remain for months, or may even become permanent; and I have seen retraction of an apex—distinct falling-in—occur from this cause in the course of a few days. Such cases are apt to be ascribed to infiltration with tubercle or with the products of inflammation, all the more so as a patch of tubercle or a patch of inflammation may be present as a nucleus. Indeed the presence of apical atelectasis justifies a suspicion of tuberculosis, and may be an aid to diagnosing the disease in an early stage.

The most frequent seats of pulmonary atelectasis in the adult, according to my observation, are, first, from the apex to the second interspace in front; next, the suprascapular, and then the interscapular region.

It is obvious that, in order to find out whether atelectasis is present or not, we must percuss in front and behind before the patient begins to breathe deeply, and again at the end of the examination, when he has ventilated his lungs to the utmost.

The limited form of atelectasis here described does not give rise to any symptoms apart from those due to the primary disease.

As to treatment. The primary ailment must be attended to. For the condition itself systematic deep breathing must be employed; for example, deep respirations for a couple of minutes every hour. If there are no contraindications, exercises to develop the chest muscles are advisable. The patient must be careful to avoid anything, whether clothing or a cramped position, that might interfere with the free expansion of the chest.

TRACHEOTOMY UNDER LOCAL ANAESTHESIA.

BY STCLAIR THOMSON, M.D., F.R.C.P.LOND., F.R.C.S.ENG.,

Physician for Diseases of the Throat, King's College Hospital; formerly Physician to the Throat Hospital and Surgeon to the Royal Ear Hospital.

THE last nine cases of tracheotomy I have had to perform have been carried out quite easily under the local anaesthetic action of cocaine (Schleich method).

It is always well to avoid the usual drawbacks and risks of a general anaesthetic when an operation can be done as satisfactorily without one. But this avoidance is still more desirable in the condition for which tracheotomy is generally required—namely, considerable obstruction to the air-way. This may be so marked that the patient cannot assume the horizontal position without choking. Breathing in such cases is sometimes only maintained by the use of the accessory muscles of respiration. If their action is arrested by the administration of a general anaesthetic, the patient's narrow margin of breathing capacity may be lost. Many a death has occurred "on the table," not always because the operation has been deferred too long, but often because the anaesthetic has induced complete asphyxia before the trachea was opened. In any case the increased stridor and congestion add greatly to the anxiety and difficulty of the operation. As pointed out by Sir Frederick Treves, "the hurry and excitement of the operation, and the fear that the child is ceasing to breathe, are in the main answerable for the accidents which so often occur during tracheotomy."[1]

The patient may be only semi-conscious, and his restlessness, the rapid movements of the trachea with every struggling breath, the increased vascularity, and the imminent fear of some false move or of complete cessation of breathing, only too often lead to a scene which the elder dramatists would have described as one of "wild excursions and alarums."

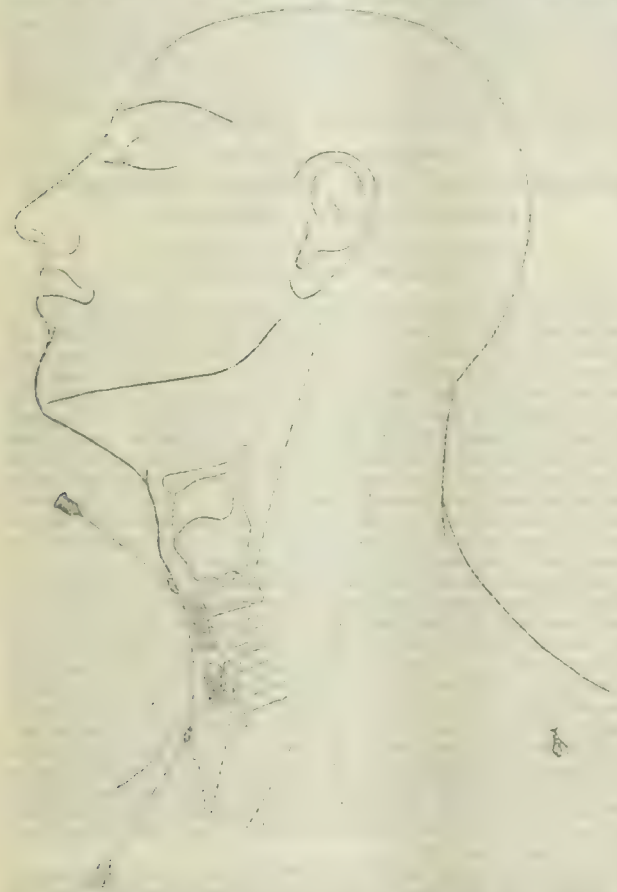
Besides, tracheotomy is an operation which any practitioner may be called upon to carry out, not infrequently at short notice, and without the help of a skilled assistant to administer a general anaesthetic.

With local anaesthesia these drawbacks are avoided. Respiratory difficulty is not increased, congestion is lessened, the patient is always able to assume a comfortable position and remain quite passive; his retention of consciousness may be of use for the purpose of coughing, or so that he may hold his breath in order to leave the trachea quiet for a few seconds at any stage of the operation. The surgeon is relieved from the special anxieties attending a general anaesthesia in respiratory stenosis, the operation is practically bloodless, and it can, therefore, be carried through more deliberately, rapidly, and satisfactorily.

The following is the method I have adopted. The first and most important point is to limit the amount of cocaine employed. I have never exceeded 1 cg. (⅔ gr.), and have never seen the slightest toxaemia from this dose. In many cases half the quantity has sufficed. A tabloid containing cocaine hydrochloride ½ gr., morphine hydrochloride $\frac{1}{30}$ gr., and chloride of sodium ½ gr., is dissolved in 56 minims of sterilized water. To this adrenalin chloride of full strength (that is, 1 in 1,000) is added in the proportion of 1 drop to every 15 of the solution, so that 4 minims of adrenalin would be contained in 60 of the prepared liquid.

The skin over the trachea having been purified, a drop of pure carbolic acid is deposited on it at the two extremities of the proposed incision—that is, for high tracheotomy, over the centre of the thyroid cartilage and over the situation of the

thyroid isthmus (see figure); and for low tracheotomy, at the level of the cricoid cartilage and over the manubrium sterni. The slight eschars produced are useful guides in indicating the situation and extent of incision through the skin, and they render it so insensitive that the first prick of the needle is hardly felt. Or chloride of ethyl may be sprayed on the skin at the points indicated. I have used the usual needle of an ordinary hypodermic syringe, about 1¼ in. in length. It is always at hand in emergency, and a good length of skin can be threaded on to it; or the antitoxin syringe, with its 2-in. needle, can be employed. The needle having been thrust a very short way into the cutis, through the spot stained with the pure carbolic, a drop of the lotion is extruded and a pause made to allow of its local action. This permits of the needle



Tracheotomy under local anaesthesia. Semidiagrammatic drawing, showing the spots on the skin where the drop of pure carbolic acid is deposited. The needle is inserted through these points, and the cocaine-adrenalin solution is slowly injected.

being painlessly pushed a little further and of another drop being expelled. The process is repeated at short intervals until the whole length of the needle has been introduced. The proceeding is then repeated from the other carbolic spot (see figure). This injection should be carried out slowly, to allow of absorption and so avoid the painful feeling of distension.

It is important to give sufficient time for the cocaine-adrenalin solution to act, and disappointing results are frequently encountered by those who are impatient. At least twenty minutes are required to obtain satisfactory analgesic and haemostatic effects. The track of the injection is then generally blanched, as if frozen, and it will be found that all the incisions are perfectly painless, particularly if a very sharp knife is used. The only discomfort experienced is in any dragging or tearing movements during blunt dissection of the layers of fascia. These are sometimes inevitable in pulling down the deep fascia detached from the cricoid cartilage so as to expose the trachea bloodlessly; but the incisions through skin, fascia, and muscles, the insertion of the hook, and the opening of the tracheal rings, are all quite painless. No patient has ever complained afterwards of anything except "the dragging," or "the pushing" when the opening in the trachea was somewhat small for the cannula employed. The haemostatic effect of the injection is remarkable. Unless the thyroid veins or the thyroid isthmus itself are cut across, no vessel requires clamping, and sponging is hardly needed. The adrenalin also appears to remove any remote chance there may be of such a small dose of cocaine producing any depressing action, and as never more than 4 drops of it are used, there is no possibility of excessive vaso-constrictor action.

Although I prepare 60 minims of solution, the whole amount of it is not always required. On one occasion only 30 minims were necessary, and hence ⅛ gr. of cocaine and 2 drops of adrenalin was the total amount injected. The patient immediately afterwards walked upstairs.

These tracheotomies have been performed for the following conditions: Cancer of the larynx, cancer of the oesophagus, tuberculous laryngitis, lupus of the larynx, tertiary syphilis of the larynx, and malignant disease of the thyroid gland. In the latter case—in which I was assisted by Dr. Style, of Moreton-in-Marsh—the disease had descended so deeply on each side of the trachea, and had pushed it so far back, that the lowest possible tracheotomy was required, and Messrs. Mayer and Meltzer had specially to make the longest tube they had ever manufactured. The operation was a very deep one—the horizontal branch of the cannula measuring 3½ in.—yet it was practically bloodless and painless.

Although in some cases the dyspnoea was intense, it was never increased by the local anaesthesia, and in every case the patients were quite willing to dispense with chloroform. They were told they might feel a very little. If they winced at any dragging during blunt dissection they were told that it would soon be over, but that if it became intolerable they might ask for chloroform. They never did this, although in one or two instances a few drops were scattered on the towel which had been placed below the patient's chin so as to conceal the sight of the instruments. Doubtless it acted chiefly by suggestion. A confident and encouraging manner does much to remove any apprehension and minimize anxiety. In every instance the patient said afterwards that the pain was nothing, and that he would never want chloroform if he had to undergo the operation again. Indeed, all my cases appeared only too glad to escape a general anaesthetic, possibly an instinctive feeling consequent on the dyspnoea for which they sought relief.

My youngest patient was a boy of 14. He appeared an intractable subject of the "coster" class, yet in his case the method was most successful. I have not had an opportunity of trying it in small children, and I hardly imagine that with them it would be entirely satisfactory. I would suggest, however, that it might diminish the risk of complete general anaesthesia in laryngeal stenosis in young subjects, if a "mixed" method were adopted—that is, if chloroform were given only to a sufficient degree to quiet the child, so as to allow of the cocaine-adrenalin injection being made.

My attention was first drawn to the possibility of performing tracheotomy under cocaine by an article by Professor B. Fraenkel,[2] and the method is becoming generally employed by laryngologists. But I have not noticed that tracheotomy is mentioned as particularly suitable for local anaesthesia by those who have devoted articles to the subject, and I trust that this description may help to make it better known.

P.S.—The above notes were written, and most of the cases observed, before the publication of Mr. Arthur Barker's Notes on Local Analgesia in the BRITISH MEDICAL JOURNAL for December 24th, 1904. I am pleased to see that his much wider experience of the method confirms my favourable conclusions. His article reminds me that I omitted to mention that it is advisable for the patient to have a light meal, with a little stimulant (brandy, tea, or coffee) shortly before operation, and that a preliminary hypodermic of morphine would help to soothe a nervous patient.

In view of Mr. Barker's warm commendation of beta-eucaine as equally effective, I feel inclined in future to substitute it for cocaine.

REFERENCES.

1 *Manual of Operative Surgery*, vol. ii., 1892, p. 141. 2 *Berl. klin. Woch.*, 1898, No. 23, 6 June, S. 505.

BEQUEST OF A BRAIN.—General Isaac J. Wistar, of Philadelphia, who died recently, bequeathed his brain and right arm, which is said to be a good specimen of gunshot ankylosis, to the Wistar Institute of Anatomy and Biology, which he founded. He leaves to the institution the bulk of his fortune, which is estimated at £400,000.

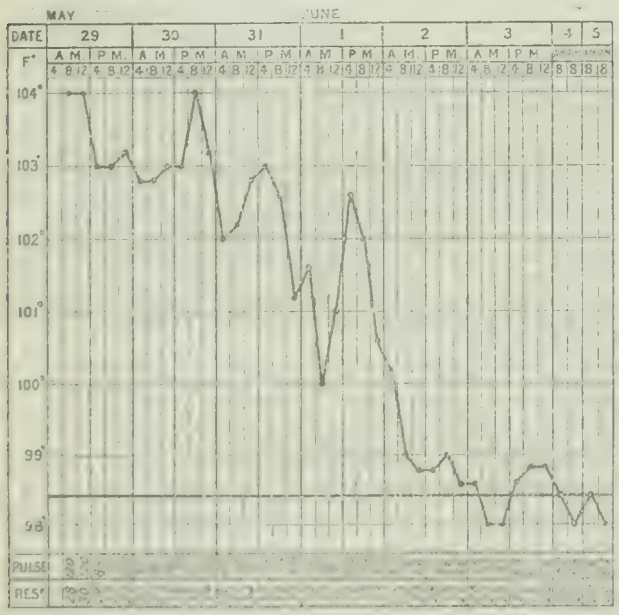
TRAUMATIC PNEUMONIA.

By CHARLES MARSH BEADNELL,
Fleet Surgeon, Royal Navy.

ACUTE inflammation of the lungs bearing a definite relation to the application of physical violence is, I think, of sufficient rarity to warrant publication. The following are the notes of such a case recently under my care.

History.—Arthur M., an A.B. in H.M. navy, age 20, while on duty in a steamboat at 7 p.m., May 28th, tripped and fell, striking his left arm and left side of chest violently against the gunwale. When he returned on board the dépôt ship he made no complaint, and "turned in" without assistance.

Admission to Sick Bay.—At 7 a.m. the following day, feeling very faint and stiff, he lay down in the galley until 7.30 a.m., when he was brought to the sick bay. He then complained of headache, inability to move his left arm, vague pains over the left side of the chest, and a desire to pass water. His skin was hot and dry, his cheeks flushed, and his bladder distended. Temperature was 104° F., pulse 120, respirations 28. He was put to bed, 30 oz. of clear non-albuminous urine were drawn off by catheter, an enema was administered, and a diaphoretic prescribed thrice daily. No physical signs were observed in the heart or lungs.



At noon, dry, crepitating râles could be heard over the left base; there was also impaired resonance and considerable tenderness to percussion over this region. By 9 p.m. the skin was acting moderately.

Progress.—May 30th. Percussion of the left base showed marked dullness with increased V.F. and T.V.F. Short, painful cough with rusty sputum was also present. At 8 p.m. he had an attack of shivering fits and vomited.

May 31st. He passed a restless night. At 4 a.m. he again vomited.

June 1st. Slept well. Cough is not so painful and expectoration is less tenacious, but still contains altered blood. Tubular breathing is marked over the left base, the right lung remains normal. He can now move his left arm freely. There has been no more vomiting.

June 2nd. Temperature fell by crisis.

Result.—June 15th. He was allowed up, and from this date onwards made an uninterrupted recovery. Treatment throughout was diaphoretic and stimulant, and diet consisted of broths, milk, and eggs.

REMARKS.

The interest of this case centres in the fact that a severe blow over the left lung of a robust and temperate young man was followed, some few hours later, by the onset of a definite left-sided pneumonia. It is possible, of course, that at the time of the accident the victim was already in the incubation stage of the disease, but against this possibility it may be urged that there was no history of chill from exposure to wet or cold, or of any previous attack of the malady; the weather had for long been perfect, and pneumonia was not prevalent in the port (Portland), in a word, no predisposing influence other than traumatism was known to be present. The fact that the left lung was the seat of disease is also in favour of the view of a traumatic origin, for in ordinary acute pneumonia the right lung is the more often attacked in the proportion of five to three (Fagge).

In cases of this nature I incline to the assumption that an involution form of the specific pneumococcus finding itself, if I may be allowed the expression, in a favourable environment, to wit, damaged lung tissue, undergoes a rapid evolution into the higher and more virulent variety associated with acute pneumonia. This latter variety subsequently either refers to the lower and more primitive saprophytic type, as, for instance, when the host dies owing to the disease, or succumbs to phagocytosis during the recovery of the patient.

I am indebted to Surgeons Elystan O'Leary and Norman Jacob for some of these notes and for much of the care and attention bestowed upon this case. The pneumococcus has been discovered in the saliva of some 5 or 10 per cent. of normal individuals. See Mr. J. Eyre on the bacteriology of pneumonia in *Quain's Dictionary of Medicine*, 1902.

HYSTERECTOMY FOR FIBROID DISEASE IN THREE SISTERS: RECOVERY.

By ALBAN DORAN, F.R.C.S.,
Surgeon, Samaritan Free Hospital.

IN the course of the Harveian Lectures on Fibroids of the Uterus and its Ligaments I dwelt on the family history of fibroids. I referred to the case of three sisters under my care, all single, all between the ages of 30 and 40 years, and all troubled with fibroid disease of the uterus. In two the tumour suddenly increased in size, and I operated with good results. I further stated (speaking in November, 1902) that in the third the tumour was the largest of the three six years ago; it remained stationary for five years, and recently seemed to have grown smaller and harder. Hence, I observed, family history is not a sound guide to prognosis and treatment. The further history of the third case will now be related and compared with the first and second.

I must note that since I delivered the Harveian Lectures the subject of family predisposition to uterine fibroid disease has been discussed by Macpherson Lawrie[1] who operated upon four sisters, whilst a fifth underwent the same operation in a London hospital. Three of these five sisters who submitted to subtotal hysterectomy for uterine fibroid[2] also suffered from cataract; two other sisters had cataract without fibroid disease, and two others were free from either of these maladies. In the Harveian Lectures I spoke of a family under my own observation; I removed a fibroid uterus from a patient, and a fibroid polypus from her sister. Two other sisters had uterine fibroids, and one had died of uterine cancer. Their mother had undergone hysterectomy for fibroid, and her sister had died of uterine cancer.

The three patients under my own care were Dutch women, all single and between the age of 40 and 45 at the date of operation. They were free from any history of acute or chronic disease.

CASE I.

B. H., age when operation was performed 42. An attack of dysuria occurred in October, 1897; soon afterwards the patient noticed a lump in the abdomen. It began to grow much larger early in 1898. On February 28th in that year Dr. Clibborn, of Bridport, detected a large fibroid. The catamenia were regular every twenty-four days, the show rather free for five days, but not freer since the appearance of the tumour. I could define a deeply lobulated solid growth filling the lower part of the abdomen. It extended upwards to about 2 in. above the umbilicus, and downwards deeply into Douglas's pouch. The cervix was high up under the pubes. I operated on March 15th, 1898. Part of the tumour was enucleated out of the left broad ligament, the bladder was drawn up on the anterior surface of the tumour, which posteriorly was united to the pelvic peritoneum by very vascular adhesions. Both ovaries were removed, and no period was ever seen after the operation. The patient, never troubled with any severe menopause symptoms, was in good health in July, 1905, seven years after the operation.

CASE II.

H. H., age when operation was performed 40. Early in 1898, her attention being turned to the subject by her sister's

illness, she discovered that she had an abdominal tumour, and consulted me. I noted "small uterine fibroid, no troublesome symptoms, no bleeding." The period was regular, appearing every twenty-eight days. In the course of the year, after I examined the tumour, the show became more frequent, and small clots passed. In January, 1899, I found that the tumour was much enlarged, a lobule bulged into Douglas's pouch, and another into the right fornix. The upper limits of the tumour lay 3 in. above the umbilicus, the lower part occupied Douglas's pouch; the posterior lip of the cervix was involved in the growth, the anterior being drawn upwards nearly to the level of the pubic arch. I operated on February 21st, 1899. I enucleated part of the tumour out of the left broad ligament and sigmoid mesocolon and another lobe out of the right broad ligament. The bladder was drawn up on the anterior surface of the main tumour, but there were no adhesions. Both ovaries were removed. Nevertheless, the period persisted, though it became irregular for two years; at the same time the patient was troubled with flushings. Abel[4] would attribute the continuance of the period to the presence of some endometrium, the uterus being amputated about half an inch above the os internum. After the cessation of the period there were no more flushings, and when I saw the patient last July—six years after the operation—she was in perfect health.

Case III.

J. H., age when the operation was performed 43. The abdomen began to enlarge a year or more before I operated on Case I. In August, 1898, she came over from Holland and consulted me, declaring that the swelling had been stationary for some time. I detected a typical fibroid deeply lobulated, reaching about 3 in. above the umbilicus, but it did not extend downwards below the level of the pelvic brim. I advised her to see me from time to time, and for five years I found from my notes that it tended rather to diminish in bulk than to increase, and it certainly became harder. But in 1904 it began to grow again, and a lobe extended down into Douglas's pouch. I advised operation, which the patient postponed for a year, by which time the abdominal enlargement had become very unsightly. The catamenia, quite unaffected by the tumour, were regular, appearing every twenty-six days, and the show was always moderate.

In June, 1905, I noted "solid, elastic tumour, consisting of several distinct lobes, one reaching epigastrium, another passing deeply into Douglas's pouch." The cervix was drawn up very high under the pubes. I operated on July 6th, 1905, removing a lobulated tumour weighing 8 lb. 2 oz. There was no difficulty as in the other cases, for the broad ligaments were not opened up; on pulling the mass out of Douglas's pouch, the cervix was rotated backwards, it was rather elongated, and contained two very hard interstitial fibroids of the size of cob-nuts, which I dissected out, but I amputated the uterus above the os internum, removing the left ovary only. The patient made a good recovery.

Observations.

The fibromyoma of the uterus was of the same type in all three cases. The growths were interstitial, subserous and submucous in all, the first type prevailing, least marked in Case I. and most in Case III, where there was a large pedunculated lobe. In all, the cervix was involved and displaced. None of the cases was of the typical "bleeding fibroid" type; the catamenia were quite unaffected by the tumour in Cases I and III, although there was a submucous growth of some size in Case III. There was, it is true, distinct menorrhagia in Case II, but it was quite trifling compared with the growth of the tumour, and caused no anaemia. The fibroids in all cases grew slowly at first and quickly afterwards. Case III remained stationary for some time. Their history shows the importance of closely watching all cases of fibroid when for any reason operation is postponed. All the patients, being single women, desired operation mainly on account of the unsightly abdominal enlargement, and all were in an ideal general condition for a surgical operation when hysterectomy was performed, being free from obesity, alcoholism, and visceral disease.

References

[1] Remarks on Five Successful Hysterectomies for Fibroid Disease in One Family, British Medical Journal vol. I, p. 357. [2] In one of these cases an ovarian cyst was removed as well. [3] In all three cases I amputated the uterus about half an inch above the level of the os internum. [4] Referate über die Behandlung der Myome, *Zentralbl. f. Gynäk.*, 1899, p. 616.

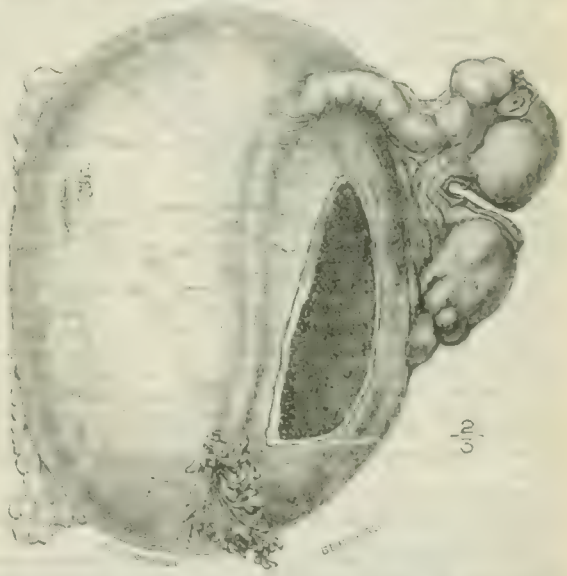
PAROVARIAN CYST WITH TWISTED PEDICLE.

By COMYNS BERKELEY, M.B., B.C.Cantab.,
Assistant Obstetric Physician, Middlesex Hospital; Senior Physician to Out-patients, Chelsea Hospital for Women.

This case is interesting, since so far as I can ascertain, it is unique. I removed the cyst from a married woman, aged 23, who had never conceived. She first menstruated when 15 years old, and this function though regular was accompanied by dysmenorrhoea and latterly menorrhagia. The patient was admitted into the Chelsea Hospital for Women complaining of a dull aching pain in the left lower abdomen, dyspareunia, and painful micturition with difficulty of control.

On examination the uterus was found retroflexed and a round cystic swelling was detected lying on its anterior surface.

On opening the abdominal cavity the appearance first suggested a supernumerary ovary, but a closer examination proved that the Fallopian tube as the result of the cyst's axial rotation had invested the ovary and cut it nearly in half. Its removal was quite simple and the recovery was normal.



I showed the cyst at a meeting of the Obstetrical Society, and the following is the report of its Pathological Committee:

This cyst was removed from the right side of the body. The pedicle, consisting of Fallopian tube, mesosalpinx, and including the ovary and its ligament, has been twisted upon itself by rotation in the antero-posterior direction. In the twist the Fallopian tube has invested the ovary and by pressure atrophy has divided the gland nearly completely into two portions. There is, however, a part of the ovary which has escaped division and which still unites the two segments by a narrow band of ovarian tissue in the neighbourhood of the hilum. The portion of the tube engaged in the strangulation has been completely divided.

The pedicle was untwisted for illustrative purposes so that a plainer representation could be made of the divided ovary.

COLLOID CARCINOMA AT TWELVE YEARS OF AGE.

By JAMES A. MILNE, M.B.,
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The following case appears to me to be unusual, not only in the occurrence of colloid carcinoma at so early an age, but also in the unusual type of symptoms manifested:

The patient, A. C., aged 12 years, first complained of abdominal pain about 7 a.m. on August 10th. The temperature was 97° F., and soon afterwards the bowels acted and he vomited once. He was given castor-oil.

No particulars about his previous health could be obtained, beyond the fact that he appeared to be in his usual health on the previous day, though never very bright.

By noon he had passed four or five motions, which were, it was said, not offensive nor blood-stained, but simply loose.

When seen at 2 30 p.m. there was less pain and the diarrhoea seemed to have ceased. The tongue had a whitish fur. After this the diarrhoea returned, and the eyes were noticed to become of a darker shade; later he became restless, with slight low delirium.

At 8 30 p.m., when I saw him again, the patient was collapsed, the aspect being that of abdominal disease. The respiration was jerky and somewhat laboured, the pulse small and rapid, and the abdomen was somewhat distended, hard, and tympanitic; the temperature was 100.5° F. Nothing abnormal could be detected in the chest.

The patient was brought to Her Majesty's Hospital (in connexion with Dr. Barnardo's Homes) and warmth, stimulants, and turpentine enemata applied. Later, the patient became somewhat anaemic, the dyspnoea and restlessness becoming more marked. Dr. Richardson, of Commercial Road, saw the patient with me and agreed that he was not fit to stand any operation; ergotin and morphine were administered. Marked tenesmus was present while in the hospital. Gradually the patient sank and died at 11.40 p.m., after one day's illness.

At the necropsy on August 11th, made with the co-operation of Dr. Richardson, nothing abnormal could be seen in heart, lungs (except adhesions of both pleurae), kidneys, spleen, or liver.

On opening the abdomen, the large intestine was found to be much distended (to a diameter of 2½ in. to 3 in.); the small intestine was not so distended. There was a little free sanguineous fluid in the peritoneal cavity, but no sign of peritonitis. The stomach and small intestine contained a yellowish fluid; the mucous membrane of the stomach being somewhat congested. The contents of the large intestine consisted of much gas and a dirty-brown fluid; the mucous membrane was somewhat congested.

In the upper part of the rectum a hard mass was found, which, on removal, was seen to consist of a concentric growth in the rectal wall, extending for 2 in. along the rectum and constricting its cavity. Behind this mass there were several enlarged glands, one of them being as large as a cherry. On opening the gut, the wall was seen to be thickened to ½ in., while the mucous membrane was eroded and ecchymotic; the stricture admitted the tip of the little finger; the growth and enlarged glands were all remarkably hard.

A report from the London Hospital Pathological Institute on the microscopical appearance of the growth states as follows:

"The section at one spot shows mucous membrane with thickened basement membrane and much round-celled infiltration; elsewhere it has been completely destroyed. For the most part the section consists of irregular fibrous septa enclosing spaces; these spaces are subdivided by delicate strands, which stain blue with Gram. Arranged irregularly in the spaces, and more densely along the fibrous septa, are polyhedral cells of an epithelial type whose nuclei stain well with haematoxylin. In one spot there are ducts lined with an epithelium, which is proliferating in irregular fashion, but in places has a columnar arrangement. In a few places colloid material is recognizable, but the method of preparation has destroyed it in most of the spaces. The peritoneal coat is thick and fibrous. The section is that of a colloid carcinoma of the large intestine."

A CASE OF HAEMATOMA OF THE LABIUM MAJUS FORMED DURING LABOUR.

BY JOSEPH JONES, M.B., CH.B.VICT.,
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IN the EPITOME for September 16th, paragraph 168, an account is given of the spontaneous development of a haematoma during the seventh month of pregnancy. A record of the formation of one during labour may be of interest.

The patient was a primipara of 35 years, and rather unintelligent. At the beginning of the second stage the head was still at the brim of the pelvis and not properly engaged. As it remained there an undue length of time it was drawn into the cavity with the forceps which were then at once removed, and the case left to Nature. The child was born forty minutes later in the first cranial position, and weighed about 6 lb.

About two hours before birth a painful swelling the size of a hazel-nut was observed in the mother's right labium majus, at the junction of its lowest and next fourth. There was no change of colour. It continued to increase in size until, when the head had begun to distend the soft parts, it had attained the dimensions of a hen's egg. As it appeared probable that its bulk, in a part already on the stretch, would cause a bad tear, an incision ⅝ in. long was made into it, parallel with the vulva; some liquid venous blood was liberated, and more continued to flow in a thin but continuous stream for a few minutes, amounting to about 2 oz. altogether. The tumour, however, did not disappear until the vertex had become plainly visible through the vulva, when the pressure caused the vaginal wall to rupture over the tumour, which was ejected from the vagina as a clot measuring 2½ in. by 2 in. by ¾ in. Delivery soon followed. There was no further bleeding of importance.

The tear thus started continued for an inch on the skin surface of the perineum, and to the extent of 2½ in. up the posterior wall of the vagina. It was duly sutured.

The subsequent history of the patient was satisfactory, except for a rise of temperature beginning about the end of the second week, and lasting four or five days, which was traced to an attempt to douche the vagina with an enema syringe, using only the bone rectum nozzle. The temperature fell from 102° F. to normal within twenty-four hours of this error being corrected.

The only etiological factors noted, apart from such increased blood pressure as always occurs in parturition, were: (1) The advanced age of the primipara, the effect of which in causing degeneration of the blood vessels was probably negligible; (2) the prolonged lodgement of the head at the brim, which apparently obstructed the venous return by pressure on the common iliac, since it was in this stage that the tumour began to form; and (3) the mental condition of the patient, which, perhaps, may have had some analogy with the state of mind of lunatics in whom haematoma of the ear is relatively very common.

The nature of the influence of insanity in producing blood tumours is unknown, and in the absence of more obvious cause it would appear reasonable to attribute to the patient's general stupidity a possible share in the bringing about of the haematoma in this instance.

RATS IN RELATION TO PLAGUE.

BY BRUCE SKINNER,
Lieutenant-Colonel, R.A.M.C.

III.

THOSE who have become sufficiently interested in this question will desire to have available some means of distinguishing the tick which may prove to be the vehicle of plague to men and rats.

Before proceeding, attention must be called to an address [1] on Plague in India, given by Dr. Creighton before the Society of Arts on May 18th last. There are two points in this address which have a bearing on the subject under consideration. Dr. Creighton points out that there are two great seats of plague, "one the plains of the North-West, the other the alluvial valleys of the Deccan and Gujerat." These areas, marked on a map of India on p. 811 of the report of his address, show "fairly enough where the interest really lies." The other point is that Dr. Creighton draws attention to the comparative freedom from plague of stone-built villages, as shown in Ratnagiri; while the mud-built villages of Satara have suffered heavily. It can be readily understood that in the latter there would be every facility for the operations of ticks. The bearing of the point first mentioned above will become obvious on reference to the accompanying chart.

Out of some 250 species of tick noted by Professor Neumann in the *Mémoires de la Société Zoologique de France*, vols. ix, x, xii, the distribution of *Hyalomma aegyptium* forces itself upon the observation as coincident with that of the endemic plague areas, Yunnan excepted. Its occurrence in Bombay points to the West as the source of its arrival in India; from Bombay its spread may be found to coincide with the extension of plague. But there is another focus. Kumaon and Garhwal have long figured in the Indian reports [2] as plague centres in which an advance of the area of the disease was noted at each fresh outbreak. "This disease, which first commenced in the snowy range, is undoubtedly coming lower and lower every year." [2] We probably shall find an extension southwards from Lob Nor, across Thibet, of the *Hyalomma aegyptium*. The early history of the latter invasion will never be detected step by step, but it may be safely inferred that it entered Garhwal,



Dr. Creighton's plague areas of India, shaded. Distribution to 1899 of *Hyalomma aegyptium* + Garhwal 1, Kumáon 2, Lob Nor 3.

then Kumáon, and thence the Punjab. With a view, therefore, to facilitating the recognition of this member of the Ixodidae in India, the following description and distribution is extracted, with his permission, from Professor Neumann's paper in vol. xii of the *Mémoires de la Société Zoologique de France*, p. 285 :

1. HYALOMMA ÆGYPTIUM (LINNÉ).

Description : Mâle. Corps ovale, plus large en arrière, plat, long de 6 à 7 mm. (rostre compris), large de 3.5 mm. à 5 mm. *Ecusson* brun marron foncé, parfois plus clair dans le milieu, couvrant toute la face dorsale en laissant (surtout sur les gros individus) une étroite bordure marginale blanc jaunâtre, prolongée en pointe, de chaque côté, au delà des premières hanches et jusque près du milieu de la longueur de la base du rostre ; sillons cervicaux et latéraux semblables à ceux de la femelle ; yeux semblables à ceux de la femelle. submarginaux : ponctuations nombreuses, inégales, sur toute la surface, plus grandes et plus abondantes à la périphérie : quelques poils très courts, épars ; souvent trois sillons postérieurs, le médian plus long : onze festons marginaux postérieurs, le médian triangulaire, parfois blanc jaunâtre. *Face ventrale* blanc jaunâtre ou brunâtre : poils nombreux et courts : orifice sexuel en regard du premier espace intercoxal : anus vers le tiers postérieur, en regard des l'orifice des stigmates : écussons adanaux brun plus ou moins foncé, allongés, étroits, arrivant presque jusqu'au niveau du bord antérieur des péritrèmes, leur bord interne plus long que leur bord postérieur, les côtes courbés en dedans chez les individus replets ; en dehors de chaque écusson adanal et séparé de lui par le sillon coxal, un autre écusson accessoire plus petit, chitineux seulement dans son tiers postérieur ; en regard et en arrière des écussons adanaux, deux saillies coniques, chitineuses, brunes, dépassant parfois le bord postérieur. Péritrèmes en forme de longue virgule, dont le prolongement postérieur atteint presque et parfois dépasse le niveau de l'extrémité des écussons accessoires. *Rostre* différant de celui de la femelle par les détails suivants ; doigt des chélicères long de 200μ : apophyse interne à base étroite, à deux dents successives, la postérieure plus forte : apophyse externe à deux dents, l'antérieure faible, la postérieure très forte *Pattes* semblables à celles de la femelle, plus épaisses, surtout celles de la quatrième paire, à éperons tarsiens plus forts.

Femelle — *A jeun*, corps plat, à contour ovale, plus large en arrière, brun rougeâtre foncé, long de 7 mm. (*rostre* compris), large de 3.5 mm. *Ecusson* ovale hexagone, glabre, aussi large ou un peu plus large (3 mm.) que long, l'angle postérieur, en courbe surbaissée et reliée aux angles latéraux par une ligne un peu concave, les bords latéraux antérieurs régulièrement convexes ; sillons cervicaux profonds et convergents dans leur partie antérieure, larges, superficiels et divergents en arrière ; sillons latéraux indiqués par une saillie rectiligne, rapprochée de l'œil correspondant : celui-ci noir, brillant, hémisphérique, éloigné et l'angle, au fond d'une orbite, vers le milieu de la longueur de l'écusson, au niveau des hanches de la deuxième paire : des ponctuations nombreuses, très inégales. *Face dorsale* parcourue par trois sillons longitudinaux, les latéraux divisés en deux branches inégales à leur origine : un sillon marginal assez rapproché du bord ; celui-ci divisé en onze festons dans le tiers médian postérieur ; de gros plis transversaux entre les sillons ; des poils blanchâtres et courts sur toute la surface. *Face ventrale* pourvue de poils semblables. Vulve étroite, en regard des hanches de la deuxième paire. Anus plus rapproché du bord postérieur que de la vulve. De courts sillons pairs, longitudinaux, de chaque côté du sillon ano-marginal. Stigmates grands, brun marron, triangu-



Hyalomma aegyptium (♂) face ventrale.



Hyalomma aegyptium (♂) doigt de la chélicère gauche, face dorsale (× 140) et palpe gauche, face ventrale (× 40).

laires, presque aussi larges que longs, à base postérieure, à angles antérieur et interne arrondis. *Rostre* long de 1.5 mm. (de son bord postérieur dorsal à l'extrémité de l'hypostome), à base bien plus large que longue, les angles postérieurs à peine saillants ; aires poreuses un peu allongées, peu profondes. *Chélicères* à doigt long de 230μ : apophyse interne près de l'extrémité antérieure, transversale, à trois pointes, la médiane plus forte ; apophyse externe à trois dents, les deux postérieures fortes et aiguës. *Hypostome* un peu spatule, arrondi en avant, à nombreux denticules terminaux ; sur chaque moitié, trois files de 10-12 dents égales, suivies, presque jusqu'à la base, de dents squamiformes en 3-4 files, les externes plus longues. *Palpes* longs, étroits ; premier article à face dorsale moitié moins longue que la face ventrale, qui se prolonge en dedans par une apophyse longitudinale, plus longue que l'article, convexe à son bord interne, sur lequel sont insérées de longues soies dirigées en dedans et en avant ; deuxième article un peu plus court que le troisième à sa face ventrale, prolongé



Hyalomma aegyptium (♀) doigt de la chélicère gauche (× 135).

à sa base dorsale en une pointe obtuse et plate par dessus le premier : de longs poils au bord ventral interne du deuxième et du troisième article ; le quatrième très petit, subterminal, en forme de papille velue, dans une fossette ventrale du troisième. *Pattes* longues, fortes, celles de la quatrième paire dépassant l'abdomen par leurs deux derniers articles au moins. Hanches grandes, presque contiguës, brunâtres ; celles de la première paire partagées en deux longues épines, dont l'interne plus large et plus courte ; une tubérosité près de l'angle postéro-externe de la deuxième et de la troisième, et une à chacun des angles postérieurs de la quatrième. Les troisième, quatrième et cinquième articles brun rougeâtre, avec l'extrémité dorsale blanchâtre, parfois concolore. Tarses de la première paire inermes, à pseudo-article terminal en tronc de cône court, élargi en arrière de cette fausse articulation : ceux des autres paires à côtés parallèles, atténués doucement à leur bord dorsal avec deux courts éperons consécutifs à leur extrémité ; ceux de la quatrième paire au moins quatre fois aussi longs que larges ; caroncule courte, atteignant à peine la moitié de la longueur des ongles.

La femelle *repue* peut atteindre 20mm. de long sur 18mm. de large. Corps à peu près aussi large en avant qu'en arrière ; côtés parallèles ; épaisseur parfois égale à la largeur ; glabre ou presque glabre. A la face dorsale, deux sillons antérieurs, divergents en arrière ; trois postérieurs, dont le médian s'avance plus en avant, entre les antérieurs. Avant la réplétion complète, le sillon marginal et les poils persistent. Hanches très écartées, réparties sur près de la moitié antérieure. Couleur de corps brun marron, plus claire que l'écusson, parfois blanchâtre avant la réplétion complète ; parfois aussi le sillon marginal, avant sa disparition, se montre comme un liseré blanchâtre sur fond marron.

Nymphe.—Corps en ovale court, plus ou moins renflé, de teinte variant du blanc jaunâtre au brun marron, long de 2 à 4mm. Ecusson rappelant celui de la femelle. Péritrèmes petits, presque circulaires.

Observations.—La description qui précède repose sur l'examen de 87 lots comprenant 430 individus, dont 217 mâles, 212 femelles, et 1 nymphe faisant partie de ma collection personnelle, de celles des Muséums de Paris, de Hambourg, de Berlin, de celles de Simon, de Mégnin, de R. Blanchard, etc.

Dans la collection de Berlin, se trouvent les formes indiquées par Koch sous les noms de *H. hispanum* (♀), *H. lusitanicum* (♂), *H. impressum* (♀), *H. dromedarii* (♂). Elles justifient leur assimilation avec *H. aegyptium*.

L'espèce se trouve répandue en abondance dans les divers points de l'Algérie, jusqu'au Sahara, en Tunisie, en Egypte, en Abyssinie. Elle se retrouve au Sénégal, dans le Loango, au Cap de Bonne-Espérance et il est possible que toute l'Afrique en ait été plus ou moins infestée par les caravanes. *H. rufipes* et *H. latum* de Koch lui venaient de l'Afrique du Sud ; *H. truncatum* et *H. impressum*, du Sénégal ; *H. excavatum*, de l'Egypte.

H. aegyptium rayonne de l'Afrique en Asie : Asie mineure, Perim, Djeddah, Jérusalem, Perse, Téhéran, Turkestan oriental, Lob-Nor, Boukkara, Maralbaschi ; Mongolie (Kouldja) ; Indes, Bombay. *H. grossum* et *H. anatolicum* sont attribués par Koch à l'Asie mineure (Smyrne, Sardes). *H. syriacum* à la Syrie. *H. dromedarii* serait répandu aussi bien en Syrie et en Boukkara qu'en Egypte. Kolenati indique *Ixodes hispanus* dans les steppes des Khirghis et son *Ixodes cornuger* dans celles de Kisil-Kum, au nord de Kiwa.

L'espèce se rencontre quelquefois en France sur le bétail algérien. On l'a vue ainsi à Vincennes (Mégnin), à Vesoul (Romary), à Troyes (Morot) et elle est peut-être acclimatée dans les départements méditerranéens. C'est certainement le cas pour l'Espagne (*H. hispanum*, Koch) et le Portugal (*H. lusitanicum*, Koch). L'Italie (*H. marginatum*, Koch). La collection Simon en renferme bon nombre de l'Espagne méridionale. Dumestre en a recueilli à Bastia sur des Bœufs de Sardaigne. Berlese le signale aux environs de Florence, et Canestrini en Toscane, en Vérétie et en Sicile.

J'en possède une femelle trouvée parmie des *Amblyomma variegatum* des Bœufs de la Guadeloupe.

H. aegyptium s'attaque aux animaux les plus variés. Le Bœuf, le Dromadaire, le Chameau sont ses hôtes de prédilection. Il est fréquent en Algérie sur le Cheval, le Mulet et l'Ane. On l'a trouvé sur le Sanglier, le Mouton, le Cerf, le Chien, le Chat. Il se fixe souvent aussi sur l'Homme. Frauenfeld dit l'avoir trouvé (*H. hispanum*) sur le cou d'un *Lanius ruficeps* à Messine.† Il recherche de préférence les régions à peau fine et surtout le scrotum et les mamelles. Les jeunes individus abondent dans les herbes et les buissons ; les femelles pleines vont se cacher sous les pierres pour y pondre leurs innombrables œufs. En raison des dimensions considérables que la femelle peut atteindre et aussi de sa pullulation, cette espèce est une des plus préjudiciables au bétail des pays chauds.

REFERENCES.

[1] *Journal of the Society of Arts*, June 16th, 1905, p. 810. [2] *Indian Plague Commission*, 1898-9, vol. ii, p. 335, contains a summary of these reports.

† Von Frauenfeld, G. R., Zoologische Miscellen. xi (Das Insecktenleben der See), *Verhandl. der Zool.-bot. Gesellsch. zu Wien*, xvii, p. 461, 1867.

CASE OF POISONING FROM TINNED SARDINES: COMA: DEATH: NECROPSY.

BY HERBERT CAIGER, M.B.LOND., F.R.C.S.ENG.,
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THE following case of poisoning from tinned sardines seems worthy of record, as vomiting and diarrhoea were absent, and coma was the prominent symptom.

M. W., a healthy white girl, aged 7 years, ate freely from a tin of sardines at her midday meal on Friday, July 21st, 1905. The sardines were noticed to have a "funny" taste. Nothing unusual was noticed when the tin was opened. Soon after she began to complain of headache, and felt queer for the rest of the day, saying that she did not feel right since she had eaten the sardines. During the night she woke up at intervals complaining of pain in the abdomen, which was quickly relieved by rubbing. There was no vomiting or diarrhoea.

Next morning she still complained of stomach ache, and her mother therefore gave her a little whisky, after which she went to sleep. Her mother was not specially alarmed until about midday she tried to rouse the child and found that she could not wake her, and the child's arms and legs were getting cold. I was called to see her about 1 p.m. The child was then in a state of profound coma. There was no corneal reflex, the eyes were divergent, and the pupils dilated when first seen but of medium size soon after, varying from time to time. The skin was pale and the extremities rather cold. Breathing was noisy from the accumulation of mucus in the air passages.

The stomach was well washed out, first with a weak solution of potassium permanganate and then with warm water. The washings from the stomach contained little besides a few curds of milk. No special odour was detected. A hypodermic injection of atropine sulphate ($\frac{1}{30}$ gr.) was given, which was repeated after about half an hour as the pupil did not remain dilated. After the second injection the pupil became dilated and remained so; the skin became flushed and hot. The patient still continued deeply comatose, and was quite unable to swallow. Attempts made to pass the stomach tube again in order to introduce a purgative had to be given up, as the breathing got bad when the tube was introduced. A simple enema was given to induce an evacuation of the bowels, but with little result. During the afternoon a third injection of atropine sulphate was given. About 9 p.m. the child's condition was about the same, but the coma seemed not so deep. The stomach tube was passed and some castor-oil introduced into the stomach; while this was being done some movements of the limbs—probably reflex movements—were made. About 11 p.m. the patient vomited for the first time, and again about 1 a.m. The bowels acted a little later, but at 3 a.m. the child died without having recovered consciousness.

A *post-mortem* examination was made nine hours after death. Nothing abnormal was found in the stomach or bowels. The brain was much congested, and showed numerous small petechial haemorrhages scattered over the surface as well as in its substance. There were some similar haemorrhages beneath the pericardium covering the surface of the heart. Beyond these lesions nothing else of interest was noted.

There seems to be no other explanation of the facts than to

suppose that the child died from some poison generated in the tinned sardines. As coma was not produced until some eighteen or twenty hours after the sardines were swallowed, it would appear that the quantity of poisonous material increased in the alimentary canal after ingestion, or, in other words, that the sardines contained micro-organisms still active, and able to multiply and produce toxic products in the stomach and bowels. The absence of vomiting and diarrhoea permitted the absorption of a sufficient dose of these toxins to cause coma and death. Other cases are on record where tinned foods have contained products which acted as a powerful nerve poison, and not as an irritant poison.

SEVENTY-THIRD ANNUAL MEETING
OF THE
British Medical Association.

Held at Leicester, July 24th, 25th, 26th, 27th, and 28th, 1905.

PROCEEDINGS OF SECTIONS.

SECTION OF INDUSTRIAL HYGIENE AND DISEASES OF OCCUPATION.

H. W. Langley Browne, M.D., President.

A DISCUSSION ON PHYSICAL DETERIORATION: ITS CAUSES AND EXTENT.

I.—Dawson Williams, M.D., F.R.C.P.,
London.

In accepting the flattering invitation of the President of the Section to open this discussion I was influenced mainly by the hope that the result might be to elicit facts and opinions from others far more competent than myself, as to the effect on physical development of conditions prevailing among the population of industrial centres.

Whether there is any real increase in the proportion of the unfit in the population of Great Britain is a matter upon which opinions differ widely, and as data for comparison between the present and the past hardly exist it is not possible to expect general agreement. It must be admitted, however, that there is sufficient evidence of a great deal of physical unfitness at various ages from infancy to manhood, and the national significance of the admission is increased by the fact that the birth-rate has been declining steadily for the last thirty years, from 34.3 in 1874-8 to 29.1 in 1894-8.

Dr. Butterworth has made for the Physical Instruction Sub-committee of the Salford Education Committee a series of observations on the height and weight of boys in six Salford elementary schools. The general result was in accordance with the expectations founded on his acquaintance with the respective schools and the surrounding districts, that is to say, the anthropometric records were better in the schools serving the better districts.

In Table I, Dr. Butterworth's figures for two schools in 1904 are taken out for comparison with the standard averages for the artisan class and for all classes given by the Anthropometric Committee of the British Association in its report presented in 1883. The Salford measurements were made at three age-periods—8, 10, and 13 years—only those boys being measured whose ages fell within the following periods: (1) from 7¾ to 8¼: (2) from 9¾ to 10¼; (3) from 12¾ to 13¼.

The number of boys examined by Dr. Butterworth is relatively small, but it is to be hoped that he will go on with his investigations, for each year will add to the value of the statistics he is collecting. The boys at school T. are chiefly drawn from the artisan class, but include children of dock labourers, and the district surrounding the school is thickly populated. The boys at school G. are largely drawn from the skilled artisan and clerk classes: they are well dressed and nourished and the school is near a large park. It must be said, again, that the numbers measured at the several ages in Salford were small, but it is worth noting that the weights of the Salford boys in 1904, even in a school such as G., where the general conditions would seem to be very good, are below those of the averages for boys of the artisan class in 1882, and the difference is greater at age 13 than at the earlier ages. Probably the boys measured for the Anthropometric Committee's report were on the average a few months older, but this can hardly be held to account for the whole of the very considerable differences.

Table I.—*Height and Weight of Boys, Artisan Class, Salford (1904).*

Age.		Artisans, Salford, 1904. T.	Artisans, Salford, 1904. G.	Anthropometric Committee, 1882-3. Artisans.	Anthropometric Committee, 1882-3. General.
8	Height	45.6 in.	47.1 in.	46.4 in.	47.05 in.
	Weight	44.8 lb.	48.6 lb.	54.3 lb.	54.90 lb.
10	Height	49.6 in.	50.5 in.	50.72 in.	51.85 in.
	Weight	53.2 lb.	57.1 lb.	64.00 lb.	67.50 lb.
13	Height	54.0 in.	54.7 in.	55.81 in.	56.91 in.
	Weight	66.9 lb.	68.8 lb.	79.00 lb.	82.60 lb.

A good many years ago Mr. Cantlie made the assertion that a Londoner of the fourth generation did not exist, and I am not aware that his challenge has been taken up. He meant, I take it, that after the third intermarriage among London-born people the union was sterile or the infants did not survive. Mr. Wilson, H.M. Inspector of Factories and Workshops, appears to maintain that in Dundee there is a race of degenerates. He told the Committee on Physical Deterioration:

> The present race of mill workers in Dundee are the descendants of generations of operatives, there being little intermarriage in this class with persons of rural origin.

As to the cause of deterioration, he said:

> Many of these children are born and brought up in single and double-roomed houses, or in large tenements, where the conditions of life are almost as unnatural and injurious as it is possible to imagine. Overcrowding often exists in conjunction with general squalor and intemperance on the part of one or both parents. Injudicious and unsuitable feeding during the susceptible period of infancy, exposure to inclement weather, and general neglect appear to be largely the cause of infantile deaths, and the children who survive seem to suffer more or less from weak constitutions throughout life. The latter class are often very short and far below the normal standard in weight. Undoubtedly, factory life, although not specially injurious to workers who have naturally strong constitutions, or who commence labour after having reached maturity, nevertheless neither fosters growth nor development, and has a distinctly harmful effect on undersized or badly-nourished young persons. Thus I have frequently conversed with full-grown men of 20 years and upwards who do not stand more than 5 ft. or 5 ft. 1 in. in height, and who scale less than 9 st. These men have not the physical strength for heavy manual labour, or indeed any task which demands prolonged efforts, but must accept unskilled labourer's wages in mills or factories all their lives.

Table II contrasts the height and weight of boys employed in Dundee jute mills in 1899, with the averages of the Anthropometric Committee:

Table II.—*Height and Weight of Boys in Dundee Jute Mills (1900).*

Ages.	—	Dundee, 1900.	Anthropometric Committee, 1882. Artisans.	Anthropometric Committee, 1882. General.
11	Height	50.0 in.	52.68 in.	53.50 in.
	Weight	62.8 lb.	69.00 lb.	72.00 lb.
12	Height	52.75 in.	53.72 in.	54.89 in.
	Weight	68.5 lb.	73.0 lb.	76.70 lb.
13	Height	53.50 in.	55.81 in.	56.91 in.
	Weight	68.90 lb.	79.00 lb.	82.60 lb.
14	Height	54.0 in.	58.61 in.	59.33 in.
	Weight	70.5 lb.	87.3 lb.	92.0 lb.

Unfitness in the individual may be due to morbid heredity, to the effect on the mother during pregnancy of influences inimical to health, or to unfavourable hygienic conditions in the environment of the child after birth hindering regular development during the period of growth.

Statistical data for determining the relative importance of these three factors can hardly be said to exist, but the general conclusion of the Committee on Physical Deterioration was that from 80 to 85 per cent. of children are born healthy. The defect in the remaining 15 to 20 per cent. must be due either to morbid heredity through father or mother or both, or to causes acting on the fetus through the mother.

The evidence, so far as it goes, leads to the conclusion that a morbid heredity acting without check tends towards the more or less rapid extinction of the tainted family, and that its effect in producing unfitness must therefore be limited. But as a rule there are checks; we constantly see the morbid tendency diluted by marriage between healthy and tainted stock. The effect of this crossing may be to extinguish the taint, more often, perhaps, to extend its sphere of influence. The laws of heredity are so complex that it is impossible to foretell whether a transmissible morbid tendency will be bred out, or whether some of the offspring may not throw back and develop it in full force. Civilization introduces many factors which affect the operation of the law of the survival of the fittest. Many children who under primitive conditions would have been eliminated are by good care and hygiene brought to a more or less robust maturity; on the other hand, many others apparently born robust are killed by the effects, direct or indirect, of overcrowding in towns.

Again, an inherited morbid tendency may not declare itself at birth, but become apparent only in later childhood, at puberty, during maturity, or at the climacteric.

If we leave aside the statistics as to the increase of the number of persons of unsound mind, statistics as to the true significance of which there is much room for difference of opinion, there appears to be little evidence of progressive deterioration of the race, although there is abundant evidence that a very large number of individuals in every generation fall far below the standard of health and physical development which they might have attained in a suitable environment. This is, of course, a far more hopeful view, since it teaches that a large part of the total unfitness in any future generation may be prevented. The object of this discussion is to examine the preventable causes of unfitness, and in particular those which are traceable to industrial conditions, using that term in its widest sense.

The class of preventable causes first to be considered are those which affect the child through the mother. It is not easy to form any general estimate of the effect on the offspring of such injurious influences as bad housing, insufficient food, and over-work acting on the mother during her pregnancy, although every one must have been struck by the fact that infants apparently well nourished and well developed are often born of mothers who during their pregnancy have suffered many privations. It seems to be proved, however, that the average weight of children whose mothers have worked throughout pregnancy is lower than that of mothers who are able to rest even only for a few weeks before the birth of the child. Apparently hard work during the later months of pregnancy has a more injurious effect on the child than a deficiency in the mother's diet during the same period. It would be interesting to hear from those who have experience in districts where it is usual or common for women to work in factories to as late a period as possible before confinement, whether enforced abstention from work for a period of two or three months before the birth of the child would really cause the mother to be deprived of the means of obtaining adequate food.

It may be suspected that the answer will depend very much upon the habits of the father with regard to alcohol. The influence of alcoholism on the question under consideration is complex. The child may be doomed from the moment of its begetting—that is to say, the fetus may be tainted by the alcoholism of the father. Sabrazès and Brengues have recorded an instance in which a robust and temperate woman married an inveterate drunkard; she had five children, of whom four died within a fortnight of birth, and the fifth before attaining the age of 5 years. Last of all the husband died, and the woman married again, a robust, temperate man, by whom she had two healthy children. Triboulet, whose view is supported by other French writers, goes so far as to assert that alcoholism in the father has a more important influence on the offspring than alcoholism in the mother, even though continued throughout the whole of pregnancy so that the developing tissues of the fetus are constantly poisoned by alcohol of which its blood continually contains a considerable percentage. This chronic poisoning may, however, cause abortion. If the pregnancy reaches term the infant may be weakly, surviving only a few days or weeks. Demone, who studied the history of ten alcoholic families chosen at random, found that of fifty-seven children born alive twenty-five died within the first week. If the child survive it may prove to be defective mentally or physically.

The influence of alcohol in producing unfitness does not end with these congenital defects. The poverty due to the inebriety of the father may deprive the child of food, and when the mother also is alcoholic it is deprived of much more. The child of alcoholic parents born debilitated is ill-fed, ill-clothed, and ill-housed, because the money which would feed it, clothe it, and house it well is either not earned, or is spent on alcohol.

The statistics collected by Dr. Reid in Staffordshire, in which the infantile mortality-rates are compared with the amount of industrial employment of women, are well known. They show a general correspondence between a high average of female employment and a high mortality among infants.

Miss Anderson, H.M. Principal Lady Inspector of Factories, gave a memorandum on the subject to the Committee on Physical Deterioration. The general conclusion is that the extensive employment of mothers in factories is attended by a high infant mortality, but this conclusion is founded rather on a general impression than on statistical evidence. She suggests two directions in which further statistical information is required:

1. As to the infant mortality-rates in different areas of the same town, so that the rate in those areas in which workers in certain industries chiefly live could be compared with other areas.

2. As to infant mortality-rates for selected industries throughout the country.

Of these two lines of inquiry, the first would seem the more practically important, and if combined with anthropometric observations on children attending school and at the age of employment, might be expected to yield very valuable results.

It is very difficult to estimate the relative importance of the various conditions in the environment of the child after birth hindering regular development. That the public health reforms of the last two generations have very greatly diminished some of the worst evils, such horrible conditions as existed in Manchester, for instance, early in the last century, must not be allowed to blind us to the fact that even now the net result of the conditions commonly existing in the poorer quarters of a large town is to interfere with the normal physical development of children born and living there. The point may be illustrated by quoting some further statistics collected by Dr. Butterworth in Salford in the course of the inquiry to which reference has already been made. Table III gives the average measurements of the boys in two schools,

TABLE III.—*Height and Weight of Boys in a Well-to-do and a Poor Neighbourhood, Salford (1904)*

Age.		Salford, 1904			Anthropometric Committee, 1883-3.	
		I.	II.	Difference.	Artisans.	General.
8	Height	46.9 in.	45.1 in.	1.8 in.	46.46 in.	47.05 in.
	Weight	46.6 lb.	46.4 lb.	0.2 lb.	54.30 lb.	54.90 lb.
10	Height	50.3 in.	48.2 in.	2.1 in.	50.72 in.	51.84 in.
	Weight	56.0 lb.	53.0 lb.	2.8 lb.	64.00 lb.	67.50 lb.
11	Height	55.5 in.	53.3 in.	2.2 in.	55.81 in.	56.91 in.
	Weight	72.0 lb.	[illegible] lb.	4.8 lb.	[illegible] lb.	82.60 lb.

the difference—which is in every case in favour of the school in the better neighbourhood—and the averages of the Anthropometric Committee. In School I the boys were drawn chiefly from the class of clerks, warehousemen, and shopkeepers. They were clean, well-nourished, and sufficiently

clothed; only 3 boys out of 87 showed signs of vermin. The school is surrounded by a large open space and has a very large playground. In School II the boys were mostly drawn from the class of unskilled labourers; clothing was deficient both in quality and quantity; not one boy was wearing an undervest; of the 62 boys examined, 20 showed marked signs of vermin. In the better-class school the height of the boys comes up fairly near to the average of boys of the artisan class twenty years ago, but the average weight is lower at all ages. The boys in the poorer-class school are deficient in both respects.

Not only is there a difference in favour of the boys in the better-class school, but it increases progressively at each age-period. An attempt to enumerate the causes which produce this depressing effect on the vitality of the growing boy must at the present stage of inquiry resolve itself into a series of questions: What part, it may in the first case be asked, does mere overcrowding play, using the term to include not only too many people in a house or tenement, but also too many houses on an area, so that open spaces are deficient in number and size? In nearly all large towns the proportion of single-room tenements is very considerable, and it seems certain that children spending many hours out of the twenty-four under such conditions must be handicapped in their chance of growing robust, owing not only to want of ventilation at night, but to the absence of opportunities for physical exercise under reasonable conditions. Moreover, when the whole family sleeps in one room, the number of hours of sleep which the children get is commonly far too few. Dr. Acland has shown that even in the large public schools boys may suffer mentally and physically from want of sleep, and the evil is more constant among the children of the poorer quarters, who may be seen running about the streets locked out of their homes until midnight or later. This subject is intimately bound up with the question of over-fatigue, as to which the Brussels Congress recommended that governments should direct special inquiries to be made.

Next it may be asked what is the real importance of child-labour as a factor in producing physical unfitness? The number of half-timers in factories is rapidly diminishing, and local authorities now have it in their power to control street trading by children, but there does not seem to be much reliable information as to the extent to which children are employed in small workshops and in home industries.

Finally, to pass over many other topics to which there is no time even to allude, it must be asked, What importance is to be assigned to the question of feeding? It is of course universally admitted that every effort should be made to induce mothers to suckle their infants. Is it necessary to seek fresh legislation to exclude women from factories for a longer period after confinement, or is it sufficient to trust to the work of health missioners?

In the discussions which have taken place during the last two years as to the conditions which interfere with the normal development of the child after the age of infancy, attention has been directed almost exclusively to the question of underfeeding. This is the primary factor in the complex problem to be solved, for it is obvious that normal development is impossible without an adequate supply of suitable food. I do not propose to discuss it here, because Dr. William Hall, of Leeds, to whose painstaking investigations and public-spirited action every one interested in this subject is so deeply indebted, will be able to deal with it from the vantage ground of a large practical experience.

The reforms called for are general and special. Among the general reforms needed the most urgent is a reorganization of the Public Health Service beginning with the central Government office. It is called a Local Government Board; it is in reality a ministry with departments, the heads of which have not the authority necessary to force their opinions on the titular president, nor, it may be added, the men or the means to make the scientific investigations to give those opinions the confidence which carries conviction to the public mind. With efficient central control we might see the housing question dealt with on a sound general principle, whereas at the present day we too often find those very evils growing on the outskirts of a large town which are being slowly remedied at great cost in the centre.

I do not, however, propose to discuss these large questions of general public health administration. When we turn to the special reforms called for to diminish the causes of unfitness which operate in childhood, we are at once struck by the need for organized scientific inquiry which is apparent in the wider field of general hygiene. For instance, every student of the causes of physical deterioration is embarrassed by the absence of adequate anthropometric data. The appeal of the Physical Deterioration Committee, backed up as it was by scientific opinion, has as yet met with no general or national response. Possibly the scheme proposed was too ambitious.

Again, the Brussels Conference asked that an inquiry should be instituted in every country into the influence of over-fatigue. Nothing more seems to have been heard of this proposal.

With regard to the remedies for underfeeding, reference will here, for the reason already stated, be made only to two schemes recently promulgated. The one is embodied in the Order of the Local Government Board in England as to Underfed Children at Public Elementary Schools. It authorizes guardians, on the application of a relieving officer, or of the managers or of a duly authorized teacher of a public elementary school, or of an officer empowered by the local education authority, to grant relief by way of meals to children attending public elementary schools who are without adequate nourishment. The relief is to be given "on loan"—that is to say, the guardians must attempt to recover the cost from the father if they are satisfied that there is parental neglect. The effect of the Order—which is to be cited as the Relief (School Children) Order, 1905—will no doubt depend very largely on the attitude of the guardians, but it gives education authorities and teachers employed by them a means of calling public attention to the existence and extent of underfeeding.

The other scheme is the interesting experiment the London Education Committee has decided to make. Children in certain selected schools are to be provided with one meal a day at a cost of 1½d. or 2d. each; if the parents declare their inability to pay, the case is to be referred to the Committee on Underfed Children for inquiry. The experiment will afford information as to the number of children underfed owing to parental poverty or neglect, and as to the proportion of well-to-do parents who would like to have meals provided, presumably at mid-day by the education authority but at the parents' expense. The special interest of the experiment, however, lies in the proposal that the meal should be cooked by children receiving instruction in cooking. This plan was, I believe, first suggested by Mrs. Watt Smyth in the articles on Physical Degeneration in the British Medical Journal, and afterwards in her book on *Physical Deterioration*. It has much to commend it. It would, as the Committee point out, give a practical direction to the training in cookery, and one cannot but feel that the candid criticisms which the young cooks are likely to hear from the consumers of the meals will be beneficial both to cooks and teachers. The Committee will, it is to be hoped, direct that the children who are to be the subjects of this experiment shall be weighed and measured at regular intervals, otherwise the information obtained as to the effects on their physique will be wanting in precision. Judging from the experience of Birmingham, the estimate of cost appears to be rather high, as Dr. Airy told the Committee on Physical Deterioration that the organization there of which he is chairman found it possible to produce a meal consisting of a basin of good lentil soup made with meat stock and a "slab of bread and jam" at a cost of less than a halfpenny.

II.—William Hall, M.R.C.S., L.S.A.,

Late Lecturer on Diseases of Women and Children, Leeds School of Medicine.

Dr. Hall said that without good bony nutrition—antenatal, infantile, and juvenile—there could be no escape from physical deterioration in after-life. Fifty-six years ago he commenced his medical career in the slums of Leeds, and for twelve years he spent much of his life amongst slum people, attended them in sickness, and was present at the birth of some thousands of their children; since then he had examined some 120,000 boys and girls as to their fitness for factory labour. He had, therefore, had much opportunity of knowing their physical condition and their mode of living. During the last two years he had spent much time in the same slum district, and again had had much opportunity of observing the physical condition and mode of living of slum children, for he had weighed, measured, and carefully examined some thousands of them, and for two years had fed, for five days a week, upwards of 100 of them.

The contrast was very marked. Fifty years ago the slum mother was much more sober, cleanly, domestic, and motherly than she is to-day. She was herself better nourished, and she

almost always suckled her children, and after weaning they received more nutritious bone-making food, as she was able to prepare more wholesome food at home. All this was done away with. An elaborate educational system, costing upwards of 27 millions yearly, had swept all the poor man's children into the schools, and where his family was at all numerous (and the good people told them he must not be limited in that regard) it was impossible for him single handed, to provide for them. Formerly his elder children were allowed to help him a little, and the mother stayed at home, but now the wife must leave the fireside. Suckling the infant was no longer thought imperative; indeed, more than 80 per cent. of English mothers did not do so. The preparation of nutritious meals had ceased, and the children were fed on garbage; stale food, well seasoned with condiments, and cheap, but producing in these little creatures a tendency to scurvy, rickets, and purpura, and certainly denying them the opportunity of good physical development. Even where the mother stayed at home, she had now learnt how easily children could be satisfied with bought food containing but little nutriment, but stimulating to the palate, and educating the child for the love of stimulants in after-life.

A little while ago he examined more than 100 adult skeletons in the crypt of Hythe church, where several hundred had lain for several centuries. The bones were small, but not rickety; the bony palates were not much vaulted, and the alveolar arches were regular, and no doubt the teeth had been good, as some still remaining were. He was told that the same description applied to the skulls in the Hunterian Museum. It had been truly said that there were hundreds of thousands of their fellow-countrymen now living whose skeletons, if preserved, would some day show highly-vaulted bony palates, contracted dental arcades, anterior protrusion of the upper jaws, the remains of unsound teeth, and abundant general signs of rickety bony framework.

It was known that children as a rule were born with highly-vaulted palates, and that during lactation the palate became relatively lower, forming what had been termed a wagon arch with a perfect dental arcade, thereby giving plenty of room for the teeth. This descent of the palate gave greater space in the nasal chamber. There was clinical evidence that in the majority of cases where artificial feeding was resorted to in infancy the palate remained highly vaulted, the dental arcade was imperfect, the teeth were crowded and badly formed, and the nasal chamber was contracted, its septum distorted, and the capacity for nose breathing materially diminished or absent altogether. Yet, with all this, they had been accustomed to place sadly too little stress upon improper feeding in infancy, not only as the causes of bad bone-making, but also as inducing albuminoid and fibroid degeneration of the vital organs. Happily, more attention was now being directed by acute observers, such as Ballantyne and Prochownick, to the importance of investigating the minute anatomy, physiology, and pathology of the fetus, and also to the nutritive influence of the parent upon its physical development.

It was said that city life and overcrowding were the chief causes of physical deterioration. He very much doubted that. He had carefully examined upwards of 1,800 Jewish children, most of them born and bred in the poor districts of the City of Leeds, and had compared them with an equal number of Gentile children of the same age—half the number born and bred in the same districts, one-quarter in the best suburbs, and one-quarter in the country. The Jewish children in the slums were superior in weight, in teeth, and in general bony development, and they seemed less susceptible to infectious disease, which might possibly be due to their more abundant nutrition. Yet these Jews overcrowded, they took little exercise, and their insanitary environment was obvious. The fact was, their children were much better nourished. The pregnant Jewess was more cared for, and no doubt supplied better nutriment to the fetus. After the children were born, 90 per cent. received breast milk, and during later childhood they were abundantly fed on bone-making material; eggs and oil, fish, fresh vegetables, and fruit entered largely into their diet.

He was struck with the large amount of oil used in preparing their children's food, knowing as he did its value in bone-making; with their passion for eggs for the same reason; with their predilection for soft food, such as fish, knowing that children's power of masticating was not great; with their love of fresh vegetables and fruit, knowing the power of these in preventing a tendency to purpura, so common amongst Gentile poor children, so rare amongst Jewish.

Fortunately, the present serious physical deterioration of the Gentile proletariat was generational rather than hereditary or racial, but it would continue to repeat itself until their young—antenatal, infantile, and juvenile—were instinctively fed on lines of better bony formation.

With the aid of friends, he had given during the last two years 46,000 meals to poor council school children from 3 years to 12 years of age, and had noticed the remarkable improvement in their physical development by the daily use of fresh antiscorbutic food. These had been fed five days a week, except during the summer holiday, and not merely twice a week on the average during the winter months, as seemed to be thought sufficient by, in his opinion, the "underfeeding" Committee of the London County Council.

III.—W. D. SPANTON, F.R.C.S.,
Hanley.

THAT physical degeneration exists there can be no doubt, and the strongest proof of this consists in the amount of discussion as to how it is to be overcome. The causes are numerous, among the most prominent being the efforts made to rear premature and diseased infants, who are to become the parents of a degenerate race. Others who might grow up strong and healthy are crammed and dwarfed in their early years by the absurd educational high-pressure system of the present day. Cigarette-smoking comes in the first rank after this. You have only to look at the shaky hands and nervous tremors in a large proportion of the rising generation to confirm this point.

Work now begins late and ends early, so that the young men and women may, presumably, lead healthier lives. But do they? To cease work early in order that the evenings may be available for the unwholesome atmosphere, moral and physical, of music and dancing saloons, leading to late hours at night, is not, to my mind, the right way to invigorate. This does not apply only to the working classes. The hunting man used to think it no hardship to be off to a distant meet of the hounds by 5.30 a.m. Now he will not leave before 8 or 8.30 a.m., or later, then, with a big hunting breakfast thrown in, he rides home in a motor car or other luxurious carriage, in time for a good dinner. Then "bridge," or Heaven knows what, until the small hours of the morning, when he is mentally and physically used up. What wonder if he degenerates! So it is all through society—from top to bottom.

The fact is the love of pleasure is now the root of all evil; and, in my short remarks, what I intend to show is that ergophobia is one of the principal causes of physical degeneration. Work is at present out of fashion; and one reason is that work which involves no trouble is never interesting. As soon as work interests any one it becomes a pleasure; and such labour is the greatest safeguard against mental and physical decay. Who are the healthiest and longest lived? Those whose daily work is so regulated as to lead to a healthy mental and physical equilibrium. If you allow the mind to lie fallow, to lose control of its accompanying body, it is very much like allowing a feeble and incompetent driver to run a motor car. We know what happens. A skilled driver with a modest car-body will reach his goal and accomplish his task, whilst the other goes to perdition.

We hear a good deal of the dignity of labour nowadays, but, so far as I am able to discover, those who advocate work so freely are the first to devise some method of life which will enable them to do without it. This is one of the difficult problems associated or likely in the future to be closely connected with physical degeneration. Philanthropists and others, with the best possible intentions, are sometimes led astray by their tender hearts to listen with too ready an ear to the tales of woe so freely told them, and set themselves to take steps which they consider will make life easier for others. There is too much cheap philanthropy about. It has already begun to penetrate into public bodies which are responsible for public moneys, but, having to contribute very little themselves, are ready to spend on any scheme which has apparently for its object the betterment of those for whose welfare they are responsible. I say apparently advisedly, because it often happens that money is recklessly spent, and more harm than good done by it. The manner in which the Poor Law is managed by some Boards is a direct incentive to idleness and love of ease.

Go a stage higher among boys and girls, and what do you see? They are taught, as far as Education Boards and teachers can do it, that to do anything besides lessons is

almost wicked. The girl must not nurse the young baby at home; she is not to be allowed to help her mother in any of the thousand and one things she might learn with the greatest advantage at home. These things, forsooth, must be taught technically as a part of school routine; and her leisure from these, according to the code, is to be spent in any manner except that involving a little self-denial, a little gentle sympathy, or as an outlet for her love for her parents. No wonder we see such ignorant and helpless mothers.

As for the boys, it is the same. The boy must do his lessons, and, still more, not neglect the football and other games on any account whatever; but, if his father wants him to do a little service, and teach him how to do it, that boy is now told this is all wrong; he can learn everything far better at school, and there he is made to do it. As for home teaching and home morality, everything possible is done by the educationalist to make it as difficult as possible. The chief and essential point is the principle that play is more important than work. Naturally in time the boy comes to think so too, and act upon it, growing in selfishness every day.

Parental discipline is made almost impossible in these days. If a father canes his boy, or a mother smacks her little girl, the S.P.C.C. is down upon them at once, and the child is taught to believe the parents are always in the wrong. In old days boys and girls were taught what we now pride ourselves in refusing to allow them to be taught—that is, to obey. Obedience is at the root of all discipline, and unless it is enforced, not only in school but outside in early life, the community must suffer.

What is the remedy? It is simple enough. Revert to more natural lives; cease the hurry and worry of the present, work more, rush after pleasure less, and there will then be little need for all the absurd artificial methods proposed to make men healthy and strong.

With regard to the young, what applies to the lower will apply equally to the upper classes. Ladies in Society (with a large S) don't want to be bothered with children. They take every precaution they can to be troubled as little as possible with them—leave them to be brought up artificially, often by irresponsible persons—and the maternal care so valuable, and indeed essential, at that stage of life is sadly wanting. What wonder if others follow suit!

The result in each case is the same—the rearing of children physically and mentally unfit. The whole thing is artificial, and the sooner we revert to more natural modes of life among both high and low the less shall we hear about deterioration of our race. The converse is equally true—that the more we as a nation trust to others to do what ought to be done by parents themselves the more will our race tend to degenerate.

IV.—Professor R. J. Anderson, M.D.,

Professor of Natural History, etc., Queen's College, Galway.

Professor Anderson emphasized the importance, in considering the subject under discussion, of noting the racial type in each individual case, owing to the fact that most European people are of a composite type. He considered that it would be a most important thing to obtain a complete anthropometrical survey of the British Isles, but owing to this racial difference anthropometrical figures should be received with caution. He pointed out the alteration that had taken place in many trades in recent years, and said that many agricultural operations, such as reaping corn with the hook, sickle, or scythe, had disappeared. Many trades that were great educating instruments for both hand and eye, and which implanted and fostered the taste for graceful and harmonious useful labour, were now curiosities. Some trades produced certain changes in the skeleton, muscle, or skin of those who exercised them, and the family that followed a particular trade through several generations seemed to have gained persistent impressions. Many would remember the depressed xipho gladiolar part of sternum and large sebaceous openings of the old shoemakers, and the hairless outer surface of the legs and malleolar flaps of the ancient tailors. The trade mark appeared to have run beyond the limits of the trades, and one found artistic traits in some modern men referable to the artistic skill of an ancestral craftsman. Thus J. W. M. Turner was probably artistic because of his father's calling, and not in spite of it. Permanent changes have taken place in civilized man. Short sight, shortening of the jaws, diminution of the teeth in number and falling off in their structure, arching of the palate are all now placed amongst permanent anatomical changes. Light-haired, blue-eyed people tend to develop rheumatic and cardiac affections; dark-haired people tend rather to become phthisical or cancerous. The speaker pointed out the difference between life in town and country, and considered that the migration of people from the country, where life was more simple and families more united, to towns, where the conditions of life were so much harder and more complex, had a great deal to do with physical deterioration. He laid particular stress upon the great amount of laudanum that is habitually administered to young children in large towns, with disastrous results. He said that the town child looks to idleness and the country child to work as a source of happiness. In the country, also, the children are much more under the surveillance of the clergy than they are in towns. He considered that a great deal of good could be done by teaching town children toy-making and other similar manual operations, and that the clergy might give a great deal more help in this direction than they do at present.

V.—Mrs. F. M. Dickinson Berry, M.D.,

Assistant Medical Officer, Education Committee.

Mrs. Dickinson Berry said it was not so much that children in London schools were underfed as that they were improperly fed. They fed on bread and pickles, dried fish, etc., and had to be forced to eat a wholesome dinner. She quite endorsed what had been said about the better feeding of Jewish children; but, in spite of this, there were more cases of mental defect among Jewish than among Christian children. She did not agree with Dr. Hall's prognostications as to the number of deformed skeletons that the present race would furnish for the survey of coming generations.

VI.—D. Chalmers Watson, M.D.,

Edinburgh.

Dr. Chalmers Watson emphasized the importance of fresh facts being looked for from the standpoint of experimental medicine. He briefly referred to some results obtained in the course of an experimental investigation on diet carried out in the Physiological Laboratory of Edinburgh University, which showed the necessity of an extended investigation along lines calculated to determine the influence of different diets on the structure and functions of different organs and tissues of the body.

VII.—V. H. Rutherford, M.B.,

Physician, St John's Hospital for Diseases of the Skin, London.

Dr. Rutherford said that he was struck by the attack which had been made on education, and could not agree with it. One speaker seemed to grudge the 20 millions annually spent on education, but surely that was a small sum compared with the 70 millions spent for defensive and offensive purposes, and education was more important than either of these. He considered that proper feeding was most important, and that alcoholism was a most potent factor in physical unfitness, as recorded by the Departmental Committee. 160 millions sterling were spent every year in intoxicating drink, which was a very serious thing for the industrial classes, who had not so much to spend on food. He thought that the extinction of slums and the provision of healthy houses at reasonable rents should be met by municipalization, and strongly advocated the appointment of a Minister of Public Health, with Cabinet rank.

VIII.—H. W. Langley Browne, M.D.,

President of the Section.

The President said that physical deterioration was very often only a matter of locality. In his district he believed that the development of children up to the age of 13 was better than it used to be thirty years ago, and that diseases of malnutrition were less numerous owing to better feeding of the children of the poor up to that age. After the age of 13 the improved development had not been kept up, owing chiefly to irregular feeding, smoking cigarettes, and to some extent drinking, among youths; and among girls to the fact that they spent too much money upon dress and not enough upon food. He considered that a great deal of harm would be done by increasing the cost of food. The housewife would not be given more money to meet the increase in the cost, and that would mean that the family would get less good wholesome food than they could at present obtain. For this reason he could not agree with the proposed change in our fiscal system.

IX.—JOHN STRACHAN, M.D.,

Dollar, Clackmannan.

DR. STRACHAN said: Of general and what may be considered permament causes of physical degeneracy, as hereditary and congenital conditions, unfavourable environment, insufficient food, etc., there is and always has been a great deal that may be preventable. But it is to be noted that sanitation, social habits, quality and price of food, and facilities for healthful change of air and scene, have greatly improved during the last thirty years, and longevity has, on the whole, increased. *Caeteris paribus*, such improved conditions of public health might have been expected to result in a higher standard of bodily physique and mental stability. Yet recruiting for the army, the report of the Royal Commission of 1903, under Lord Mansfield, and other evidence point clearly to an increase of physical degeneracy; while the statutory returns of the Commissioners in Lunacy show an average annual increase of insanity in England and Wales of 2,513 during the last ten years.

The explanation of this anomaly is to be sought for in the conditions of life specially affecting the young during the time specified, and this at once points us to the school as the most direct and potent influence bearing upon the child, which has been worked more or less at high pressure during the last thirty years.

By the Education Acts of 1870 hard and fast standards of school attainment were set up and the payment of teachers was made to depend on passing their pupils through these standards according to age, without regard to the mental capacity of the pupil, or to the coercive measures which might be applied with a view to earning the grant.

In the old parish school there was no push or hurry. When one class was at work, another would be out playing and there were frequent intervals to encourage natural activity in the open air. The teacher devoted his energies chiefly to the diligent and promising pupils, while the careless and idle had a comparatively easy time of it. Some of these developed their faculties in the line of greatest potentiality with remarkable results.

In the new Board School all kindly consideration and indulgence were thrust aside, and a fierce struggle for grants over the *corpus vile* of the child became the rule. The so-called dull and stupid pupils had a hard time of it. Extra hours, extra lessons, and extra punishments were freely dealt out to those who had a difficulty in keeping up with the class, the pressure increasing as inspection time drew near. Soon a cry of overpressure and angry protests by parents and others against the cruelty being inflicted arose, and became so urgent that the Government of the day was forced to appoint a Commission to examine into the facts. After a careful and searching inquiry, the Commission reported that overpressure in schools undoubtedly existed to a considerable extent, and that many cases of illness and some of actual death had been directly caused by it. It is certain that a course of treatment tending to such results must have been more or less damaging to growth and development in all to whom it was applied. It may be objected that this is all ancient history, and that the admitted evils of the earlier arrangements for working the Education Acts have since been obviated; but there are two considerations which I wish to put before you.

First, it has to be kept in mind that the children of those days who for years and years were subjected to overpressure are, so far as they have survived, the men and women of the present day, among whom are signs of imperfect or faulty development, especially of the brain, to which the pressure in question was directly applied. The effect of strain upon the young growing organism is not, except in extreme cases, breakdown or illness at the time, but a poor physique in the adult, with little staying power.

But the point to which I specially wish to direct your attention is that the lines upon which the educational machine is now being run are no more safe than they were in the early days of the Education Acts. No steps have been taken to adjust the lines to physiological principles, and the medical profession (the only experts on physiological law—have been all but silent on the subject. I shall now state very shortly where I think the lines of school life depart from sound principle, and suggest a remedy which might well, I think, be taken up and promoted by the medical profession: First, to a large extent the school places child life in the position of a sedentary and indoor occupation, more especially in winter, when it monopolizes practically the whole of daylight. This tends to lower the standard of health and lessens the appetite for and power of assimilating food. Secondly, during school hours the rule and prompting of Nature are replaced by the arbitrary rule and discipline of the schoolmaster, checking and restraining natural developmental activity. Thirdly, learning is presented in the form of the printed word, which is far less intelligible and more difficult of assimilation than the spoken word, familiar from infancy. The printed book is like a foreign language, and requires translation by the child into the spoken word before it can be understood. Fourthly, the compulsory methods by which this struggle against Nature is carried on are chiefly directed to the emotion of fear of personal injury. The nervous strain and excitement thus produced cannot fail to be injurious to the delicate growing organism of the nervous system. Fifthly, the chief labour of lesson learning is, as a rule, undertaken in the evening, after the brain is exhausted by six hours of school work. It is open to the schoolmaster to drive it to almost any extent, and as it is liable to be enforced by pains and penalties, or stimulated by competition for a prize, we may conceive the state of brain ferment in which the nervous, excitable child retires to rest.

The remedy which I suggest for the many evils now attending school life is to forbid absolutely the employment of either punishment or prizes as applied to brain work at school. The effect of such a law would be the elimination of all repugnant, because unnatural and injurious, brain work, and to throw the teacher back upon his own powers of teaching, as distinguished from forcing the child to learn from the book. I am far from denying that many teachers already act upon this principle. Such would, of course, be little, if at all, affected by the proposed law; but I assert most strongly, from my own knowledge and experience, that such protection of the pupils from wrong and injurious school methods is most urgently called for, and ought, I think, to be taken up by our profession as a most important field of preventive medicine.

A DISCUSSION ON ANTHRAX.

I.—J. H. BELL, M.D.,

Consulting Medical Officer, Bradford Royal Infirmary.

I APPRECIATE very much the invitation given me by the officers of this Section to open the discussion on anthrax. I wish also to acknowledge my obligations to Dr. Legge for his courtesy and modesty in recommending (as I believe he has done) that I should take precedence of himself.

I have nothing new to say to you. My work on woolsorters' disease was done many years ago, when medical men generally hesitated to accept the statement that woolsorters' disease, or anthracaemia as I called it, was something more than the ordinary well-known forms of disease. I am here now to listen, and to learn what has been done during recent years by many earnest and able investigators.

The extent of the subject is overwhelming; I will therefore confine my remarks to what has come within my own knowledge of anthrax as it affects the manipulation of wool, bearing in mind, however, its prevalence in some other industries. As indicating the connexion of the British Medical Association with our knowledge of anthrax, I may state that at the annual meeting held in London in 1862, Dr. William Budd, of Bristol, read a paper on the Occurrence (hitherto unnoticed) of Malignant Pustule in England. In the following year, Dr. Budd, at the request of the Association, drew up a memorandum on the Investigation of Epidemic and Epizootic Diseases. In that memorandum Dr. Budd anticipated the discoveries of Lister, Davaine, Pasteur, Koch, and others regarding the bacterial origin of diseases. At the annual meeting held at Bath in 1878 a paper was read on woolsorters' disease. It was not then known that the bacillus anthracis was the cause of the disease. Again at the Cambridge meeting in 1880 a paper was read on Anthrax and Anthracaemia (from Mohair) in Woolsorters, also in Heifers and Sheep. It appears, therefore, that several of the annual meetings of the Association have been centres from which the knowledge of anthrax has been spread abroad.

I need not mention the names of those who by their labours five and twenty years ago will always be associated with the history of anthrax in this country, but I must record my hearty appreciation of the work which has been done by recent investigators. Among others, I would especially notice the valuable and extensive researches of Dr. Legge on Industrial Anthrax in the Milroy Lectures of this year, a

memorandum on Anthrax by Professor Delépine, presented to the Chester County Council, and the reports of Dr. Wilson on the Cause of Anthrax and its Prevention, and Dr. Ledingham on the Bacteriological Examination of Specimens for Anthrax, submitted to the Lanark County Council. These investigations give an immense amount of minute detail with scientific exactness respecting the incidence of anthrax, and I must refer you to them if you wish to know the extent and importance of the work which has been done.

In the short time at my disposal I wish to notice—without going beyond Great Britain—the different types of the disease met with in different industries, and also in the same industries at different periods, giving some probable reasons why these vary so much; afterwards I will submit to you some recommendations bearing upon the prevention and treatment of the disease.

Allow me to remind you that a distinct and definite disease may repeatedly attack persons in a community and escape detection. Anthrax has come to us from the Far East, through all the ages. It is probable that it stalked abroad in this country for generations before it was recognized as a separate disease. During recent years, by the labour of many in all civilized countries, it has become more and more known to us as affecting an increasing number of persons, particularly those employed in certain industries where foreign infective materials are used.

It is generally agreed that dry and dusty hides from the East are more dangerous than other kinds. The maximum weight of these imported into this country in any one year was reached in 1872. Towards the end of that year, a keen observer, Bryant of Guy's, which is near to the centre of the London anthrax district, wrote: "Malignant pustule is a disease with which I have no personal experience." Surely many cases of both internal and external anthrax must have occurred among the workers where these dry hides were used, and were passed without recognition. After another ten years, in 1882, when the disease had become better known, the number of fatal cases had increased and the quantity of dry hides imported had diminished. This increase of cases indicates that many previously had been overlooked. If the external type of anthrax escaped detection for so many years, is it not probable that the internal form—of which very few had been noticed—had also escaped detection? I think it is, for we may be certain that wherever dust laden with anthrax germs is inhaled some persons will become infected.

In the Bradford worsted district, where what was called woolsorters' disease had been noticed for more than thirty years, external anthrax had not been found among wool-workers before 1880, that is, until after it had become known that woolsorters' disease was an internal form of anthrax. It is very probable that cutaneous cases occurred repeatedly among those exposed to infection before 1880, and were overlooked. Since then the number of external cases has increased and the number of internal cases has diminished.

We may now inquire how can these differences of type in different industries and change of type in the Bradford district be explained? (1) In the London anthrax district workpeople have been educated to know the appearances of the cutaneous form of the disease. By notices on the walls of their workrooms they have been warned of the danger which might follow slight injuries to the skin, and of the importance of applying at once for treatment. Of the internal form they know very little from experience, not because these cases do not occasionally occur, but because they have not been discovered. These pulmonary patients do not apply to the hospital for treatment, the severe cases die too rapidly to allow this; the milder cases appear so simple, so like an ordinary "cold," that a fatal result is not anticipated until it is too late to avoid it. (2) The diminished quantity of dry, dusty, infectious hides imported has lessened the frequency of attacks, and has also reduced the number of pulmonary cases. In the Bradford anthrax district the prevailing type of the disease has changed from the pulmonary to the cutaneous form. This change has been due (1) to the greater care taken in foreign countries, where the materials are packed to exclude "dead" fleeces. (2) To the precautionary regulations which have been enforced in factories where noxious materials are manipulated. These regulations, when acted upon, lessen very much the amount of dust arising from dangerous wools and hairs, and also ensure greater cleanliness of workrooms and workpeople. Thus by damping dangerous materials before being sorted, and withdrawing dust during sorting by exhaust fans, the type of the disease has been changed from the pulmonary to the cutaneous.

It is a question whether noxious wools and hairs can be disinfected by steam at 230° F. without injury to the materials for manufacturing purposes. I think they can, but this remains to be tested scientifically.

More than 25 years ago I predicted that pulmonary anthracaemia would be found at Kidderminster, Norwich, Leicester, Halifax, and other places. That prophecy has been fulfilled. I will again venture to predict that this form of anthrax will be found wherever persons inhale dust arising from anthrax infective materials, whether these be wools, hairs, hides, skins, rags, or anything else. I believe that cases of pulmonary anthracaemia are not infrequently overlooked. I have myself made this mistake. I have also found cases when not expected. I have been told by medical men, over and over again, when seeing a patient suffering from pulmonary anthrax, that some time before they had attended one or two very similar cases, and had certified the deaths as from pneumonia, which now they believe to have been anthrax. This mistake may very readily be made, even when the patient is examined with great care; the diagnosis in many cases is extremely difficult and nigh to impossible before the heart fails and collapse threatens. In an ordinary case when the patient lives from three to five days the symptoms for the first few days are so slight, and like to those from common forms of catarrh, that I do not know how a correct diagnosis can be determined. In other cases heart failure is manifest at the commencement of the illness, and diagnosis is easy. For instance, a previously healthy man felt somewhat "out-of-sorts" on a Sunday morning; he went out for a walk, and noticed that his hands were cold; he therefore called to see his doctor on his way home; within twenty-four hours he died from pulmonary anthracaemia. Again, a woolsorter at his work felt ill. He said to his mates on either side of him, "I have done; I will go home: if you think it will do you any good, when I am dead you can have me opened!" On the second day following he died from woolsorters' disease, that is, pulmonary anthracaemia.

Notification.—The Factory and Workshops Act requires the notification of all cases of industrial anthrax. This has brought to our knowledge many cases which otherwise would not have been discovered. It is very desirable that notification should be extended and made to include all cases—industrial, agricultural, and others. This should be as complete and general as it is with regard to animals under the Diseases of Animals Acts.

I would suggest that in addition to the Woolsorting Regulations, copies of which are placed in wool-sorting rooms, a notice should be fixed on the wall of each room where possibly infectious materials are manufactured, advising workpeople of the symptoms of external anthrax, and the importance of seeking medical advice at once if there is any suspicion of infection.

Treatment.—The remedy for all kinds of anthrax is at present Professor Sclavo's anti-anthrax serum, introduced into this country by Dr. Legge, and commented upon in the Milroy Lectures. I have great confidence in its efficiency, and we are very much indebted to Dr. Legge for the investigations he has made respecting it.

Many cases of cutaneous anthrax recover without medical or surgical treatment, a greater proportion recover if the lesion has been excised, but the greatest number if besides excision or destruction the serum also has been given. In some cases the serum may be sufficient, in severe cases excision and serum are both necessary. When the lesion is situated on the eyelids I would not depend upon the serum alone, but would also inject a non-toxic germicide in several places locally, or excise; the risk to life would be less, and the resulting deformity would not be greater than would result from sloughing if left alone.

For internal anthrax serum is the only remedy; unfortunately, the patients generally are dying before the diagnosis can be made, and it is too late for anything to do good; I therefore recommend that when persons who have been exposed to possible anthrax infection are taken ill whatever may be the illness—that it be reported to the manager of the department at once; that the patients be seen by a doctor on behalf of the firm, and that in all cases, excepting when anthrax can be positively excluded, 40 c.cm. of serum be given, and repeated if necessary, to determine the diagnosis. By this treatment in the earliest stages of the disease, and before a correct diagnosis can otherwise be made, some lives would be saved, and, so far, employers would be relieved of the incubus of the "Workmen's Compensation Act."

II.—J. L. STRETTON, M.R.C.S., L.R.C.P.,
Senior Surgeon, Kidderminster Infirmary.

THE points I wish to discuss are: (1) Diagnosis; (2) the methods of control adopted in this country; (3) treatment. Before proceeding, I should like to refer to the decision in the House of Lords in the case affecting the Employers' Liability Act. It is hardly a matter which we can now discuss, but, as I gave the medical evidence, I may be permitted to state that, much as I welcome the verdict from the patient's point, I did not expect it to be upheld. My own opinion was that there should have been proof of some accident at the work which rendered the entrance of the anthrax bacillus into the body possible. *Diagnosis:* I have known cases where the disease has not been recognized until after death. I have examined several which had been pronounced anthrax which were not. Clinical examination by an expert is seldom at fault. Bacteriological confirmation is desirable, but the negative evidence of such an investigation is not conclusive. It would be an advantage if permission could be obtained to perform inoculation experiments in centres where anthrax is likely to occur. *The methods of control adopted in this country:* So far as I am aware, cases occurring in factories must be reported to the Home Office, cases occurring in other workers are not reportable at all, and cases occurring in cattle must be reported to the Board of Agriculture. Here, then, we have three sets of cases; two of them governed by a dual authority, which is always unsatisfactory; and the third under no control whatever. To understand the effect of such an arrangement, I may mention some illustrative cases which have occurred in my own practice.

A youth who was working in a garden became infected with anthrax. It was ascertained that a brother who occupied the same bed was employed in a factory sorting Persian wool. This case was not notifiable, so the presence of anthrax in the factory would be unknown to the Home Office.

A woman was infected by her husband, who was employed in a factory sorting Persian wool. Although I informed Dr. Legge of the occurrence, it was not a reportable case.

A third case occurred in a brewer's traveller. It was ascertained that two of his sons worked in a spinning mill, and were in the habit of using the same towel as their father.

Another instructive case occurred in the person of a drayman, who was evidently infected by conveying bales of Persian wool from the railway station to a factory. The Home Office would be unaware of the reception of this consignment of wool. No precautions whatever were taken with the dray or railway wagons in which it was conveyed. It is quite possible that food was carried in them immediately afterwards.

Many cases in animals are due to the refuse from factories being used as manure, but, as these are not reportable to the Home Office, they may be unaware of the fact. Notification is not necessary to the local authority, so they are not able to deal with such questions as drays and railway wagons. The Home Office takes no action with respect to the infected individual. The Board of Agriculture slaughter and cremate infected animals. The latter method of disposal should apply to human subjects. All cases should be reported to the same authority, and action ought to be taken with regard to the infected body, the domicile, and the fomites. *Treatment:* The treatment of these cases should not be conducted in the wards of a general hospital. Bearing on this point, I may mention that I myself was infected last year. There was a case in the wards under the care of one of my colleagues, and although every precaution was taken, I have no doubt that it was the cause of my infection. Special wards should be provided. The manufacturers and insurance companies, who are the gainers by efficient treatment, ought to provide such accommodation. Sclavo's serum is a great advance, and for cases of anthracaemia and malignant anthrax oedema is the only treatment we can adopt. From the cases which I have inoculated, I feel sure that it is also of great value in malignant pustule. It is our only hope in cases where it is impossible to excise the pustule, but when excision is possible I feel strongly that it ought to be practised as well as inoculation. In case of death I should feel guilty of criminal neglect if I had not adopted this course.

III.—W. H. HORROCKS, M.B., F.R.C.S.,
Senior Honorary Surgeon, Bradford Royal Infirmary.

MR. HORROCKS said that many cases of both external and internal forms of anthrax were unnoticed, and such cases must vitiate any statistics on the subject. In Bradford lately a considerable amount of a certain quality of wool had been used which was answerable for an increase of anthrax. As regards anthracaemia, a peculiar state of well-being occurred which was very deceptive, and generally preceded a fatal issue. In all cases where it was possible to excise the pustule it was advisable to do so freely, in addition to giving full doses of the serum.

IV.—DAVID GOYDER, M.D.,
Consulting Medical Officer, Bradford Royal Infirmary.

DR. GOYDER, after alluding to the facts pointed out by Dr. Bell, referred to the results of the Commission on Woolsorters' Disease appointed by the Bradford Medico-Chirurgical Society, and emphasized the necessity in treatment of some such serum as that advocated by Dr. Legge. The course of internal anthrax was so rapid, and the insensibility of the patient to his dangerous condition was so complete, that he was rarely seen by a medical man until he was in the jaws of death. There was no time for treatment in that case. No kind of treatment had succeeded until this serum was introduced. It was, of course, on its trial, and the results would be watched. It was said that the serum caused cerebral and other effusions, but the Commission proved that effusions into serous cavities were exceedingly common. He advocated a more extended trial of the serum.

V.—H. W. LANGLEY BROWNE, M.D.,
President of the Section.

THE PRESIDENT said that as he did not live in an anthrax district he had not had much experience of the disease. He treated cases of external anthrax by an antiseptic application, as in cases of acute septic inflammation. He applied strong iodine liniment with a brush to the part affected, and over that gauze soaked in a 1 per 1,000 solution of corrosive sublimate. He then applied a layer of cotton wool, and a firm bandage over all.

REPLY.

DR. BELL, in reply, said he considered that notification of anthrax cases was most important, and that a bacteriological examination should always be made in a municipal laboratory. He could not agree with Dr. Stretton that anthrax cases should not be admitted into the wards of a general hospital. He saw no more objection to admitting such cases than to admitting cases of syphilis, provided proper precautions were observed. Cerebral haemorrhage often occurred in anthrax, but he was not sure that this could be attributed to the use of the serum.

A DISCUSSION ON ACCIDENT AND POISONING REPORTS.

I.—W. F. DEARDEN, M.R.C.S., D.P.H.Vict.,
Certifying Factory Surgeon, North Manchester.

IN the Factory Act of 1844 provision was made for the fencing of dangerous parts of machinery, and at the same time the cleaning of machines in motion was prohibited. It was also ordered that any accident occurring in a factory which prevented the injured person returning to work before 9 a.m. the following morning must be reported to the district certifying surgeon, who was directed to send on a copy by the next post to the local inspector and to proceed to the factory and make full investigation as to the nature and cause of such injury, and report within twenty-four hours to the district inspector. Of this report the latter official was directed to send a copy to the Factory Department. Power of entry was granted by this measure, and the present scale of fees was then fixed. At the same time a factory was defined as any building or premises "wherein or within the close or curtilage of which steam, water, or other mechanical power shall be used to move or work any machinery employed in preparing, manufacturing, or finishing, or in any process incidental to the manufacture of cotton, wool, hair, silk, flax, hemp, jute, or tow, either separately or mixed." Bleach and dye works and lace factories also came within the scope of the notification of accidents provision. This list of factories was considerably increased by the Acts of 1864 and 1867.

The Factory Act of 1871 made the obligation to report and investigate apply only to fatal accidents and those caused by machinery in motion, the period of absence from work qualifying for report being altered to forty-eight hours.

The Act of 1878 added to the list of notifiable accidents those caused by any vessel containing hot liquid, molten metal, or other substance, explosion, escape of steam, or metal. The time-disablement qualification was altered to five hours on any of the three days following the accident by the Act of 1891. The Act of 1895 brought back the requirement, which

had been repealed in 1871, to have all factory accidents reported, but this time to the inspector only, the qualification being, as in other cases, five hours' absence from work. It also materially extended the scope of the surgeon's work, the provisions respecting notification and investigation being made to apply to laundries, docks, wharves, quays, sidings, warehouses, and certain buildings.

That the different enactments which have thus been briefly summarized have had for their object the dealing with preventable accidents must be readily appreciated. It is true that many of the earlier reportable accidents were not of a preventable character, but as it would have been impossible to schedule such a class with the limited experience available at the time, the inclusion of all meant that none of those upon which a report was a necessity could escape an inquiry. The attempt made, in 1871, to define accidents requiring investigation must have proved the cause of many preventable ones escaping notice. The defects of 1871 were, to a certain extent, rectified in the 1878 Act but the regulations do not even yet cover the non-fatal accidents brought about by hand or treadle machines, electric shock, escape of corrosive fluid, falling bodies, or falls from unfenced scaffolding or platforms. On the other hand, the widening of the field of investigation, in 1895, increased very materially the usefulness of the existing provisions.

It is very noticeable that Parliament has been rather fickle in the fixing of a time limit of disablement to qualify for notification. As a time-disablement qualification is necessarily illogical, it is but to be expected that any fixed limit must give rise to some fault-finding, and the several alterations in the law on the matter have quite confirmed this view. Variations in schedule and time disablement qualification do not, however, affect the main principle which has guided the different enactments, and the methods of giving effect to this principle are the same to-day as they were sixty years ago. The notification by the employer to the surgeon, the investigation and report by the surgeon, the devising and ordering by the inspector, in suitable cases, of efficient means for protection against subsequent occurrences, still constitute the *modus operandi* for the prevention of factory accidents.

The employer utilizes the same form of notice to advise both the inspector and the certifying surgeon. The employer's notice is much inclined to inaccuracy, mistakes being often made in connexion with the most simple details. Describing the position, nature, and degree of an injury is scarcely the function of an employer, who is supposed to devote his talents mainly in the direction of furthering his business, so that it cannot with justice be supposed that he can supply these particulars with any pretensions to correctness. These deficiencies are, however, adequately compensated for in the certifying surgeon's report. The true estimation of the causation of an accident is naturally of the first importance, as on such depends the ability to arrange precautionary measures against future occurrences. After obtaining his elementary idea of the facts of the case from the employer's notice, the surgeon visits the works and makes an examination of the structure and surroundings of the machine, or other main factor concerned, and collects evidence from those who understand the process or who saw the actual occurrence. He then visits the injured person to take his evidence and to ascertain particulars of the injury. The surgeon has thus four factors on which to base his judgement of the actual causation of an accident—namely, the evidence of the employer or his agents; the evidence of the injured person; the understanding he has acquired of the machine, apparatus, and process, and his knowledge of the necessary particulars respecting the injury. When there is no direct evidence as to causation, or when that of the different parties concerned differs materially (as is not infrequently the case), the last two factors provide the necessary supplement to help him to his conclusion. Professional knowledge of the relationship between cause and effect in the creation of surgical injuries is often of incalculable service in settling what to a lay mind might prove an impossible problem. For example, in the case of a man found dead in a hoist, a verdict of death from natural causes would probably have been returned if the certifying surgeon's investigation had not shown it to have been due to electrocution. Again, a boy fell between two machines in a faint, and was supposed to have injured his head by coming into contact with the framework of one, whereas the surgeon was able to prove that the damage to the cranium had been caused through its being crushed between the floor and a moving part of the machine.

The duty of devising methods of protecting dangerous machines devolves upon the inspector, and the surgeon's report enables him to decide when a visit from him will be necessary. This preliminary sifting by an expert ensures the right kind of accident being brought to notice.

The question has been raised as to whether accidents causing slight injuries are of sufficient seriousness to demand the surgeon's investigation. The answer to this is that as accidents of an exactly similar nature and causation may be the means of producing either a slight, severe, or fatal injury, the degree of this can really have nothing whatever to do with the necessity or otherwise of rendering a dangerous machine or process safe for the future.

The whole of this country is mapped out into certifying districts, to the number of about 2 000, so that whenever a factory accident occurs it can be promptly investigated by a surgeon who is practically on the spot. The appointments are mostly held by medical men in general practice, so that, being well known to both employer and employed, the surgeon has seldom any difficulty in obtaining the information required. The system is very popular with the workpeople, as it enables the injured person to give his version of the occurrence. It is also very acceptable to employers, as a qualified surgeon visiting an injured person acts as a check to the magnifying of a slight injury into a severe one for compensation purposes.

During my recent attendance at an International Congress on Industrial Accidents, held in Liége, I was much impressed with the large amount of interest taken in the subject by our Continental brethren. This interest appears, however, to be mainly centred in the study of industrial accidents from a compensation point of view. With regard to the investigation of accidents for preventive purposes, we are still in the forefront, no other nation possessing a similar method of systematically sifting out the right kind of accident for preventive treatment. In France and Holland, however, the subject has certainly been dealt with from both points of view, so that it should prove interesting to briefly summarize their methods.

In France, every accident occurring to a workman whilst engaged in his occupation must be reported within forty-eight hours to the mayor of the municipality, who in turn notifies the inspector of factories or mines, and also the magistrate of the ward in which the accident has occurred. The latter makes an inquiry into the cause, nature, and circumstances attending the accident, and can call in medical or other expert evidence to assist him. The magistrate transmits the result of his inquiry to the President of the Civil Court of his division, and he, in accordance with agreement or judgement of the Civil Court, as the case might be, has power to make an order, in permanent disablement and fatal cases, fixing the amount of instalments and methods of payment. The magistrate appears to settle cases of temporary disablement. An Act of 1893 deals with the protection of dangerous machinery. By a recent Order, under the Act, dated November 29th, 1904, a series of stringent regulations were brought into being, and these are now rigorously enforced.

In Holland, since 1901 the whole system of administration of the law concerning industrial accidents has been under the control of a department of State insurance. Any medical practitioner can, on application, be appointed a medical officer of the department, so that, on the occurrence of an accident, the employer, in forwarding the particulars on the prescribed form, as he must do, to the doctor attending the injured person, is communicating with a responsible official. The medical man supplies a few more essential facts and transmits the document to the central office in Amsterdam. A local official of the department, of whom there are fifty appointed for different districts of the country, then makes a searching inquiry into all the circumstances of the accident. When his report is sent in the case is considered by a directorate of three, who, acting under the advice of a chief medical adviser, make the order for payment of compensation, which is granted to the extent of 70 per cent. of the average weekly earnings, and the order can be cashed at the local post-office. The medical attendant is paid by the Department. There are eight special medical officers, stationed in different centres, who devote their whole time to the service of the Department, and exercise a general supervision over the whole system in their own neighbourhoods. They check the different reports, see that the local doctor or his patient is not making too much of a case, and make any special investigation into the circumstances of an accident which either they or the Central Office might think desirable. They have

power to enter the factory for investigation purposes, and can order the fencing of machinery. For the purpose of devising particular guards, they are entitled to call upon the services of certain engineers attached to the Department.

The system of insurance is entirely a State one, and the different firms are required to pay to the Government a percentage on their average yearly amount of wages.

These two systems form a very good object lesson for our legislators, demonstrating as they do how investigation for preventive purposes can be usefully combined with investigation for compensation purposes. I would suggest that the factory surgeon's report would prove a useful adjunct to the present available means for arriving at a judgement as to the possible length and degree of disablement, and that with a few desirable additions it could be rendered more so. The surgeon's complete knowledge of the case from the first should render him a useful adviser to any tribunal which had to settle the amount of compensation. Owing, I believe, to the convincing evidence given by our President, a Departmental Committee on Workmen's Compensation has already recommended the utilization of the certifying surgeon in this direction. I am further of opinion that the present system of investigating accidents suffers from the want of a general supervision by a principal surgeon who should have a thorough practical understanding of the work.

The reporting upon cases of industrial poisoning by the certifying surgeon is quite a modern requirement, though it has already borne excellent fruit.

The Factory Act of 1895 directed every medical practitioner to notify every case of anthrax or poisoning by lead, arsenic, or phosphorus contracted in the factory or workshop. The Secretary of State was further empowered to add any other disease or poison to the list; mercury, though appearing in the Act of 1901, being first added by virtue of this authority. The certifying surgeon has right of entry as in the case of accidents, and his report must be "full, explicit, and accurate."

A very large number of occupations come under these regulations. Anthrax mainly attacks those handling foreign hides and skins, woolsorters and workers in foreign hair. The effects of lead are most prominent in connexion with the manufacture of white lead, electrical accumulators, paints and colours, metal smelting, printing, tinning and enamelling, file cutting, glass polishing, and the use of paints in such trades as coachbuilding and shipbuilding. Galvanizing works and the manufacture of emerald green are mainly responsible for arsenic cases.

Phosphorus poisoning is brought about by the employment of the yellow variety in lucifer-match making. The effects of mercury are noted among hatters, furriers, makers of thermometers, barometers, electrical meters, detonators and fuses, electro-gilders, and manufacturing chemists.

The following table of cases, taken from the recently-published annual report for 1904 of the Chief Medical Inspector of Factories, demonstrates very graphically the beneficial effect of these regulations:

—	1904.	1903.	1902.	1901.	1900.	1890.
Lead poisoning	597	614	629	863	1,053	1,958
Phosphorus poisoning ...	1	0	1	4	3	8
Arsenic poisoning	1		1	12	22	
Mercury poisoning ...	7	5	8	13	9	13
Anthrax	51	47	39	49	61	71

The remarkable reduction in the cases of lead poisoning has mainly taken place in the pottery industries and the manufacture of white lead, due to the careful supervision exercised over these trades by the special rules brought into force.

There are many other manufacturing processes injurious to health, and I should like to see a free hand given to certifying surgeons to report on any such coming to their knowledge.

I have to acknowledge my indebtedness to Dr. M. L. de Hartogh, of the Société d'Assurances contre les Accidents, Amsterdam; and M. N. Mamy, Directeur de l'Association des Industriels de France contre les Accidents du Travail, for providing me with information respecting the methods of dealing with industrial accidents in their respective countries.

II.—THOMAS WATTS, M.D., B.Sc.,
Certifying Factory Surgeon, Hyde.

DR. WATTS said he was very pleased that the Government had dropped the Accidents (Mines and Factories) Bill. He was of opinion that the passing of that measure in its original form—involving as it would have done doing away with direct notification to the certifying surgeon—would have been a retrograde step in factory legislation, and in practice would have meant that very few reportable accidents would be notified at all. He also mentioned cases showing what a great advantage it would be both to the employer and to the injured person if the surgeon's report could be made use of in connexion with the Workmen's Compensation Act. He considered that inspection by the certifying surgeon was most important in the case of carbon bisulphide poisoning occurring in the process of vulcanizing rubber.

III.—C. F. BRYAN, M.R.C.S.,
Chief Factory Surgeon, Leicester.

MR. BRYAN considered that, as regards the Workmen's Compensation Act, great benefit would accrue from the certifying surgeon's report. A case described as slight at the time of accident might produce serious results later. He instanced a case which came under his supervision of a simple cut across the thumb which severed the tendons and so caused a useless thumb. The certifying surgeon was as a rule well known by the employers, who would give evidence much more freely to him than to the inspector, of whom they seemed to have a dread. He would like to see the time limit abolished. Many injured persons who were probably able to be at work for five hours on the three days following an accident developed serious symptoms afterwards, such as septicaemia or nervous complications. He would also like to see cases of accident not due to machinery—for example, from faulty stairs—reported to the certifying surgeon.

IV.—SEYMOUR KNYVETT, M.A.,
H.M. Inspector of Factories in charge of the Birmingham and Warwickshire District.

MR. SEYMOUR KNYVETT regretted the absence of so able a representative of the Factory Department as Dr. Legge, particularly in connexion with the discussion on anthrax. He agreed with previous speakers as to the importance of reports from certifying surgeons on industrial accidents, and in the view that, owing to the intimate and personal relations between those gentlemen and the employers and workpeople locally, there might exist a greater opportunity for unfettered inquiry than possibly existed in the case of the inspectors. There was ample room in the Factory Department for energies of various sorts, not less special on the part of the surgeons than on that of the lady inspectors, whose work on certain sides of Factory Act administration had obtained such general approval. The speaker could not entirely agree with the suggestion that the investigations made by the surgeons should serve the double purpose of conveying information to the Government and of forming an item of expert evidence for general use in cases taken for compensation to the courts of law. The reports following these investigations at present possessed a confidential character, absolutely essential to their utility, which would be lost in their preparation for public evidence. The investigations themselves would inevitably assume a character quite different to that originally intended when they were first instituted. The defects of the present regulations centred chiefly in the time test at present enforced. A previous speaker had alluded to the system obtaining in France, where, in some respects, greater economic use was made of accident reporting than was the case with themselves. But in France the employer was left, even more than in England, in the dark as to what constituted a reportable accident, and the difficulty of the employer on this point must be well known to every practising certifying surgeon. The speaker earnestly advocated an extension of the time during which inability to work should arise; and, even further, he had often reported upon the desirability of making reports of certain classes of accident necessary, whether or no the occurrences had been accompanied by personal injury. Knowledge of dangerous and avoidable occurrences was the desideratum, the importance being, without doubt, intensified by the accompaniment of injury, but primarily existing for the sake of prevention. With regard to the compulsory reporting

of cases of industrial illness, the recent history of factory administration bore eloquent testimony to its utility. There was a marked decrease in the number of cases arising from the remedies secured through improved knowledge and application of scientific methods of prevention. On such a subject, for instance, as the alleged brass-casters' illness, the reports brought out the realization of the morbid conditions. In the absence of reports a general ignorance had prevailed, and was still prevailing; but it required no very great effort to discover, by detailed inspection, such as had been undertaken by Dr. Legge and the speaker, that a very general condition of illness, of a gravity upon which opinions varied largely, did so exist; and although there might be difficulties in the way of requiring reports to be sent of such cases, general knowledge would be greatly served by the information thus acquired.

V.—H. W. Langley Browne, M.D.,
President of the Section.

The President said that the notification of accidents to the Factory Department of the Home Office was of great importance, as it was the only existing method, though an imperfect one, and without it they would have no record whatever of accidents. He considered that much more might be made of the early report of the certifying surgeon. Records should be kept of the duration of disablement of injured persons. A valuation table should be made, taking the number 100 as representing fatal accidents, or permanent total disablement, and the number 1 as the slightest accident causing disablement from work. It would be easy to draw up a list and grade all injuries according to this method, as was done in France, Germany, and Austria. He thought that the position of certifying factory surgeon should be combined with that of medical referee, and in many places with that of medical officer of health. The post should be well paid, no private practice being allowed; but the certifying surgeon should be put in the same position as other Government inspectors both as to salary and pension. He did not agree with the suggestion that this post should be combined with that of public vaccinator, as he thought the two ought to be kept quite distinct.

Mr. Dearden briefly replied to the remarks of the various speakers, when the discussion closed.

A DISCUSSION ON POVERTY IN RELATION TO DISEASE AND DEGENERATION.

I.—Chowry Muthu, M.D.,
Physician, Mendip Hills Sanatorium, Wells.

Our subject should be approached as a national question, and should be dealt with both from the scientific and humanitarian point of view. If you think for a moment, you will find that all the social evils of the present day have been the outcome of trying to enjoy the sweets of civilization, without attempting to take up the responsibility which that civilization brings with it.

Those who are authorities in social and economic questions have emphasized the connexion of poverty with disease and social degeneration. When men like Mr. Charles Booth declare that 1,300 000 people, or 30 per cent. of the entire population of London, are found to be unable to obtain the necessaries for a sound livelihood; when Mr. J. S. Rowntree states that we are faced by the startling probability that from 25 to 30 per cent. of the town populations of the United Kingdom are living in poverty; when we are confronted with the fact that about 400 000 people in London alone are living a one-room life—a life where decency is not possible, and morality is a farce, then England is face to face with a terrible problem requiring all her strength and wisdom to solve.

If we try to go into the causes of poverty we come across large issues—such as the unemployed question, the question of distribution of wealth, fair wages, the land question, etc.—subjects which, though important, are beyond the scope of this paper. In all large centres poverty is to a very large extent the product of social and economic wrongs, and the outcome of modern civilization. It is one of the terrible ironies of the present day that while this country is constantly extending its borders in circumference, in the very centre of the Empire its sons and daughters find no room to live, and go about the streets in want of the barest sustenance that is not denied to the so-called savage or the Hottentot.

Effects of Poverty.—(*a*) One of the first effects of poverty is that the very person who would hide his want and would rather die than ask for outside help loses, after a while, all dread and shame, and suffers himself to live on charity which he once despised.

(*b*) There are others more vigorous who will not submit so quickly, but hunger goads them on to crime, and in course of time they become habitual criminals.

(*c*) Poverty tells on the intellect—the nervous system becomes dulled, the thinking powers lose their brightness and activity, the brain gives way under constant dread of hunger, and the man either becomes insane or ends his unfortunate life by committing suicide.

The curse of poverty follows a man from childhood to the end of his life. The child that is born of poverty inherits the weakness of its parents, and begins its little life very much handicapped. Add to this that a large majority of children cannot get the natural food of their mothers. The want of breast-feeding is part of the price paid to modern civilization, and is due to:

(*a*) *Want of Milk*.—The struggle for existence, the strain and stress of life, the keen competition, the bare and abstemious living, have dried up the mother's strength and physical energy, and therefore she cannot feed her offspring.

(*b*) *Want of Opportunity*.—Hundreds of mothers who leave home daily and go to work the whole day have no opportunity to nurse or attend their children.

(*c*) *Want of inclination* in those mothers who by feeding their children would be unable to fulfil their social duties.

The consequence is that the growing generation is to a very large extent fed on artificial food. The terrible mortality among infants is either due to insufficient nourishment in the food, which results in slow starvation, or to milk poisoned by bacterial organisms, bringing on gastro-enteritis, debility, and malnutrition. No wonder Dr E. W. Hope, of Liverpool, says that the deaths in that city among children under 3 months old, either wholly or partially fed on artificial foods, are fifteen times as great as among an equal number of breast-fed infants. Of the 150,000 infants that die annually in this country during the first year of life, 112 500—or three fourths—have been fed artificially. Certainly overcrowding increases the evils of poverty, and aggravates the number of infant deaths, though not to the same extent as improper feeding.

The slaughter of the innocents is not the only result of poverty and overcrowding. The condition of the children who survive is worse than that of those who die in infancy. Mr. Percy Alden states that, in his opinion, 60 per cent. of the children attending schools are underfed. Sir William Anson has declared that there are in London 60 000 children physically inferior, and therefore unable to get the benefit of teaching in the schools. How can the child who goes to school constantly hungry do justice to education? The lack of food impoverishes the body, interferes with the calcification of teeth and the formation of sound bone, so that many of the school children suffer from decayed teeth and bad digestion, stunted body and rickety constitution. And as the brain is also starved they suffer from languor and weariness, loss of memory and nervous energy.

My experience in the East End of London corroborates the views of Dr. William Hall, of Leeds. Jewish mothers stop at home and nurse their children, and as they grow older feed them with wholesome and nourishing food. The result is that the Jewish children are stronger and heavier, better developed, and suffer less from bad teeth and rickets than the unfortunate Gentile children, who are mostly fed on bread and dripping, tinned meats and pickles, sausage or polony, black pudding, and tea. Dr. Hall found that in a Gentile school in a poor district 50 per cent. of the children had rickets and 60 per cent. bad teeth, while only 7 per cent. of Jewish children in a similar district had rickets and 25 per cent. bad teeth.

That poverty is a greater cause of disease and death among the poor than slums and overcrowding is also affirmed by my experience of consumption, which I make bold to say is not so much a microbe or filth disease as a disease of poverty. If the body is well nourished and fortified it can withstand any amount of disease and microbes. With all these factors in view we can scarcely doubt the relation of poverty to disease and deterioration. Ushered into the world by a half-starved mother, cursed with pangs of hunger all their little lives, ill-fed and underfed by artificial and poisoned food, reared in a filthy and vitiated atmosphere, deprived of home

life and all its hallowed influence, and handicapped by impaired physique and ill-developed body, thousands of young Britons begin the race of life, and bring up in their turn a race as degenerate as themselves. No wonder it is said that the mass of slum dwellers in London, Glasgow, and other big towns never reach the fourth generation.

Remedies.

The remedies we already employ, instead of alleviating, only increase the distress of the poor. England spends millions every year in the cause of the poor, and yet the poor go cold and hungry, and the children are in want. The system of workhouse and Poor-law relief has not been a success, because it is worked on the principle that no man shall receive help till he is destitute and broken-down. We allow our people to become paupers, vagrants, criminals, drunkards, and lunatics, and then build workhouses, almshouses, prisons, and asylums for them, which is like letting a patient reach the last stage of consumption, and then erecting a sanatorium to save his life. We want such a system as the Elberfeld system, which is worked in Germany with splendid results, and is an example of German thoroughness. It is an organized attempt where the well-to-do city men give their services freely to look after the poor, and relieve their several necessities without pauperizing them. There is no demoralization, no overlapping of charities. All help to the needy, the unemployed, the sick, the aged and infirm, the orphanages, asylums, and hospitals, is controlled by one central agency without fuss or friction. So elastic is its work that even the provision of coals, blankets, garments, soup kitchens, etc., is administered by this system, and so economically is it managed that it has saved hundreds of pounds to the ratepayers since it has been instituted. Some such modified system could be easily adopted in all our principal towns with real benefit to the poor and the ratepayers. The system of insurance of working men against accident, sickness, convalescence, old age and death, as adopted in Germany, is also well worth the study of England.

One or two suggestions on behalf of the children:

1. Milk dépôts, and women inspectors to instruct the mothers in the feeding and hygiene of children.
2. Day nurseries where children can be nursed and looked after while the mothers are out working.
3. Open-air schools in the country for sickly children, where they can enjoy fresh air and sunlight.
4. Free meals for poor children.

Some of these suggestions have already been carried out with great success in some districts, but we want a systematic organization all over the country, undertaken by the nation on behalf of the children. The money spent on the rising generation is a good investment, and will yield a hundredfold in years to come.

In conclusion, poverty is a national question, and it is the duty of the State to look after the health and the well-being of its citizens. The evils of poverty are gathering force every year, the vicious circle is enlarging, and the army of the unemployed, the paupers, the vagrants, the submerged, and the castaways is a serious menace to the State. In the interests of the coming race, England should make an organized effort to grapple with this evil and its causes.

II.—CHARLES REINHARDT, M.D.,
Physician, Halley Open-Air Sanatorium, Wallingford.

DR. REINHARDT said the poverty of England could be traced to four conditions: (1) The condition of land tenure in which the man who did the least work reaped the greatest benefit. (2) Overpopulation—the most fertile people were those who live in the worst surroundings (3) Disease, especially consumption, due in great measure to want of fresh air. (4) Alcohol—though he was glad to say that the consumption of alcohol was diminishing, and that the value of brewing concerns, etc., had gone down 33 per cent. The remedies he suggested were: (1) A garden city scheme, in which the land would belong to the people, pure air and good houses would be guaranteed, and the benefits of prosperity would accrue to the residents. (2) A scheme advocated by Mr. Richards of Lincoln, in which children would be given free education and rendered self-supporting on leaving school, thus leading to trade efficiency. (3) Reduction of alcoholic consumption. (4) Hygienic education. The responsibility of the two last points devolved especially on the medical profession, but the speaker was afraid that medical men as a rule set a very bad example with regard to the importance of fresh air.

III.—JOHN BROWN, M.D., D.P.H.,
Medical Officer of Health, Bacup.

DR. BROWN considered that alcohol was the chief cause of poverty and disease. Milk dépôts were useful, but it was more important to assist mothers during the first three months of lactation, to nourish them sufficiently so that they might be able to provide their own milk for their babies. In Huddersfield efforts were made to have the births of all children known in the proper quarter within forty-eight hours of their occurrence.

IV.—J. DARLEY WYNNE, M.B., D.P.H.,
Clonmel.

DR. DARLEY WYNNE referred to the fact that the death-rate from consumption in Ireland had actually increased during the last forty years, whereas it had markedly decreased in England and Scotland in the same period. Though the people in Ireland were often very poor, yet there was not probably so much abject poverty as in many large English towns, and he thought they should not lose sight of the fact that dirt and bad sanitation were equally important factors with poverty in the causation of disease.

V.—C. J. BRYAN, M.R.C.S.,
Certifying Factory Surgeon, Leicester.

MR. BRYAN said that Leicester was about to start a milk dépôt. Although he was a member of the Sanitary Committee, he was not much in favour of the scheme. He thought milk ought to be given free to those in need of it. He was in favour of medical men giving free lectures on hygiene much more frequently than they did at present.

VI.—H. W. LANGLEY BROWNE, M.D.,
President of the Section.

THE PRESIDENT thought it was a very good thing to send children to school, as their surroundings were better there than at home, and they were made to be clean. Also it relieved the mothers for a considerable part of the day, and gave them an opportunity of keeping their houses clean. He thought milk dépôts ought to be supported. He considered that they were going the wrong way about the treatment of consumption, and that it would be better to begin by spending money on improving the houses of the poor, instead of spending it on sanatoriums, as patients who derived benefit from a residence in those institutions were liable to relapse again when they returned to their insanitary surroundings at home.

VOTE OF THANKS TO PRESIDENT.

The proceedings of the Section terminated with a hearty vote of thanks to the President for his dignified and courteous conduct in the chair.

IT is stated that a Tuberculosis Exhibition will be held in New York in November under the joint control of the National Association for the Study and Prevention of Tuberculosis and of the Committee on the Prevention of Tuberculosis of the Charity Organization Society.

VACCINATING A SHIPLOAD.—According to the *Medical Record*, a steamship arrived at New Bedford, Massachusetts, from Lisbon, at the end of August, having on board a great number of Portuguese fishermen, among whom was one case of smallpox. As the authorities at this port were unable to deal with so large a number of persons, they sent the vessel on to New York, where the ship was placed in quarantine until all of the 558 cabin and steerage passengers had been vaccinated.

BEQUESTS TO MEDICAL CHARITIES.—The late Miss Mary Eliza Gorst, of Chester, whose will has now been proved, left £500 to the Infirmary in that town. The late Mr. Aspinall Clayton of Great Harwood, Lancashire, whose will has now been proved, bequeathed £1,000 to the Blackburn and East Lancashire Infirmary, and £500 to the Accrington Cottage Hospital. The late Mr. Charles Edward Blundell of Norwood, whose will has now been proved, left £250 to the Hull General Infirmary and £1,000 to his executor to distribute among the London hospitals at his discretion. The late Mr. Clement Cheese, formerly of 9, Strand, left £100 each to the King Edward's Hospital Fund for London, the Soho Hospital for Women, the London Hospital, and the Buckinghamshire General Infirmary.

SECTION OF PSYCHOLOGICAL MEDICINE.

Alexander Reid Urquhart, M.D., President.

A DISCUSSION ON OCCUPATION AND ENVIRONMENT AS CAUSATIVE FACTORS OF INSANITY.

By Theo. B. Hyslop, M.D.,

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My task to day is one of great difficulty, and it has occasioned me not a little anxiety as to how best to present to you this complex subject for consideration. At first I was prompted to deal seriatim with various trades and occupations as causative factors of insanity; but, when I began to search the records available for statistics, I found that my observations would have to depend mainly upon the records of those who were under official cognizance as certified lunatics. A little thought, moreover, convinced me that such observations would not be of sufficient value unless supplemented by observations based upon records of those who are not under official cognizance, yet who are incapable by reason of mental perversion or defect from taking active part as citizens. It also appeared essential to take account of those who remain as citizens, yet who are incapable of aiding in their own survival, or of adding to the vigour of the race, and those who by reason of mental hebetude or other psychological factors are unable to support either themselves or their progeny, and who fall into the category of the "unemployed" or "unemployable."

An almost insuperable difficulty rests in the fact that it is wellnigh impossible to obtain a complete census of the physical and mental states of the people. Statistics are, as you are aware, so full of fallacies that, in the present instance, I have treated them with extreme diffidence and even distrust. For present purposes, therefore, I prefer to deal with broad issues, and in order to facilitate discussion I shall confine my remarks to the consideration of a few of those larger problems which seem to have direct bearings upon the mental health of the community.

Now, in dealing with the factors of causation of the insanities, we must always take into account, and allow for, those which are internal—that is, either due to inheritance, or to the existence of some fundamental capacity which cannot be explained as the result of immediate ancestry. It is also necessary that we should form clear conceptions as to what may be traceable to various sociological factors, or, in other words, to the social environment, and those which have their origin in physical causes either affecting the physical organism or having their seat in the physical mechanism itself.

At a quarterly meeting of the Medico-Psychological Association, held at York this year, I read a paper on the relationship of pauperism, overcrowding, and insanity. I then endeavoured to deal with such subjects as rural and urban life, the influence of trades, overcrowding, pauperism, crime, alien immigration, emigration, ergophobia (or work shyness), the unemployed, and the unemployable, the residuum of social wreckage, the vagrant, education and its influence for good or ill, and trades-unionism with its influence on the working unit. Each of these problems has a psychological aspect and significance in the life-history of our race as yet but imperfectly understood.

With these problems I have now little to do, except to repeat that, when we come to take an actual survey of the welfare of the British race, we see that a remarkable transformation has taken place. We have passed from our natural state to an artificial one of enforced brain activity with all its attendant evils. The effects of rural and urban life have never been accurately or comprehensively determined. On comparing various reports upon this question, it appears to be certain that education is responsible for improving the people off the face of the country districts, inasmuch as it sets alight an ambition to migrate to the cities where the struggle for life is continued under circumstances totally at variance with what has been destined for some both by habit and heredity. For such people, the stress and strain of city life is disastrous, and the step from country to town is but one of the commonest of all the steps towards mental and physical deterioration; the accidents of civilization, such as alcohol disease, and incidental stress and strain, finding in them merely the readiest victims. The necessity of this migration, as determined by the state of agriculture, makes it none the less an evil, and it is a symptom in the evolution of an essentially agricultural race which is fraught with extreme danger to the maintenance of its nervous and mental stability. This migration also leaves its stamp upon the rural districts, where the residuum may not only be weak or even degenerate, but there is apt to be intermarriage of near relations and the production of a relatively greater number of lunatics.

To the various aspects of education—to its objects and aims, to its false notions as to the economic management of brain power, to its often ridiculous waste of nervous energy, and to its results as evidenced by the mental condition of the people, both inside and outside our asylums—I have nothing to add to what I said in my opening address at the Winchester Diocesan Conference held last year. I then said: "The policy of endeavouring to raise the people and improve their capacity for resistance and survival by an enforced and often useless method of education is not always true economy in the management of the available nervous and mental force of the nation. The transplantation of pauper children from the gutter or the field to the Board school at an age when their little lives cry out for freedom and expansion, while suggested as being necessitous, is not in itself an unmixed good. The gutter of the pauper child is its parentage, and a heritage of disease brought about, in part, by the abuse of alcohol and other things. The mere transplantation in such instances only too often serves but to expose the corruptions of the soil, and the sins of the parents are but paid for in full by the ratepayers who contribute to the maintenance of our asylums." This question was dealt with at some length in a discussion on Brain Fag in Children held at the recent Sanitary Congress in London, "and the key to the whole situation would appear to be, not that education wisely directed is in itself an evil, but that ever since the Education Act of 1870 we have been with faulty methods striving after the unattainable. With the increase in the impositions of every grade of education from the Board school to the highest university curriculum the brain tax on the people has become more and more irksome, and, instead of ameliorating their distress, the amount of pauperism, overcrowding, and insanity has but increased by leaps and bounds far beyond anything ever before known in the history of our empire. Nowadays we are faced with the grave question as to whether the physical and mental health of the rising generation is not of more practical moment than that of mere accumulation of knowledge, and I speak with no uncertain voice when I claim for methods of faulty and over-education a grave responsibility in the bringing about an exposure of the barrenness of our brain-soil and an ever-increasing residuum of failures.

Everywhere throughout the land we hear the same cry, "Educate! educate!" and the results have been wide and far-reaching. Pupils and teachers have increased a thousandfold; standards have been raised; competition as determined by examination, has become more than ever a test of memory of acquired knowledge. Everywhere we meet the same struggle for mental culture, until we have become brainy and unstable to a degree that threatens the possibility of a reversion.

The public mind is at present much agitated by the alleged prevalence of physical deterioration, by the diminished birth-rate, and by the increase in infantile mortality. In the House of Lords, not long ago, the Bishop of Ripon gave it as his opinion that the facts revealed in the report of the Inter-departmental Commission on Physical Deterioration were pregnant with danger to the empire. He contended that, unless some steps were taken, the British race would no longer be able to maintain its position as a colonizing and as a ruling power. He specially referred to the decline in the birth-rate, and to the large increase in infantile mortality, and he pointed out that as many as 144,000 infants were lost every year through preventable causes. He also noticed the remarkable decline in the birth-rate in British Colonies.

On several occasions I have urged that whereas education and the requirements of this age necessitate a constantly-increasing output of mental energy so as to enable all to reach the highest possible standard, the output of physical energy is undergoing a constant diminution in a downward direction, owing to the standardization of labour at the very lowest possible standard of labour, be it skilled or otherwise. This appears to be a melancholy fact, and we are faced, on the one hand, by the problem of over-education and the possibility of

a false economy in the brain system of the nation, and, on the other hand, the problem of the trades-unions and other agencies as affecting the vital energies of the people.

I am fully aware that I lay down a challenge when I state that on considering the diminution of the hours of labour, and all the various impositions and shackles of trades-unionism, there is, or appears to be, no escape from the melancholy conclusion that the process whereby the standard of physical and mental energy is turned to the level of the least fit does much to vitiate and render inert the vitality of the British unit. According to the Registrar-General the agricultural industry is the most important in the United Kingdom. In 1881 there were of the agricultural class 2,362,331 males; in 1891 the number had fallen to 2,109,812, showing a decrease of 6.2 per cent. The proportion borne by male agriculturists to the total population of the United Kingdom aged 10 years and upwards had fallen from 188 per 1,000 in 1881 to 136 per 1,000 in 1901.

The decline in the numbers engaged in this industry, which amounted to over a quarter of a million of men in the twenty years, does not by any means represent the fluctuation from the fields to the streets, inasmuch as no cognizance is taken of the wives and families.

The numbers employed in building trades show an increase of 35.6 per cent in the last decennium. Metal trades and mining industries also show an increase by 26.1 per cent. and 24.4 per cent. respectively. Many other employments show an increase, but for present purposes I prefer to refer to them in connexion with the movements of the female population. From the census of 1901 we learn that the population of the United Kingdom was 41,458,721, of whom the mentally deranged numbered 177,995, and of whom 84,936 were men, but the larger number—93,059—were women. The total shows a proportion of 1 in every 233. These figures show a serious increase in every year since 1871. The statistics for England and Wales show that of the total insane under care on January 1st, 1904, 54.2 per cent. were of the female sex, a proportion in excess of that obtaining in the male population; for, according to the census return in 1901, the females were 51.6 per cent. of the total population.

The causes of this increase amongst females are interesting. Alcoholic intemperance more readily affects their nervous systems. The numbers of those who have had previous attacks are greater, and heredity forms a more important factor than formerly. Pregnancy, parturition, the puerperal state, and other conditions incidental to the female sex, are greater sources of danger in the new modes of life, and the females are less fitted to withstand the strains upon their systems. Similarly, worry, overwork, adverse circumstances, domestic troubles, and other mental and moral factors more readily upset constitutions fashioned in a more nervous mould.

In a word, the removal of woman from her natural sphere of domesticity to that of mental labour not only renders her less fit to maintain the virility of the race, but it renders her prone to degenerate and initiate a downward tendency which gathers impetus in her progeny.

Max O'Rell has stated that "so long as there is one woman left on the face of the earth and one man left to observe her, the world will be able to hear something new about women." Woman's mission in this world is, according to Napoleon, that of breeding as many children as possible. Moralists are more generous, however, and assign her a double rôle of wife and mother. We may go further still and recognize that her mission is not only familial but social also, with a duty to perform toward her fellow-creatures and to help the destiny for which she was created. We grant her the right of being a great civilizing agent as well as an ornament, but, intending woman to be mother, Nature fashioned her destiny for her. The departure of woman from her natural state to an artificial one involves a brain struggle which is deleterious to the virility of the race. Nowadays the average female child—at the period of greatest susceptibility to mental, moral, and physical influences—is subjected to the pressure of modern methods of education ill calculated to prepare her for anything but a mental or nervous rôle in life. The physiological processes of puberty make greater demands on girls than on boys, and girls are handicapped by considerations which ought to make them realize the futility of forcing education and undertaking work which only too frequently renders them neurotic and sexually incompetent. When we look the facts in the face and note the divergence of our women from the life-rôle entrusted to them by Nature, are we inspired with confidence as to the results for future generations? It is true that the more our women aspire to exercising their nervous and mental functions so they become not only less virile, but also less capable of generating healthy stock. Now not only is this a question concerning the virility of the race, but it has very direct bearings upon the increase of our nervous instability. In fact, the higher women strive to hold the torch of intellect the dimmer are the rays of light for the vision of their progeny.

In the ten years 1891-1901 there was a decrease by 6.2 per cent. of women engaged in domestic service, whereas the number of female workers and dealers in dress—comprising dressmakers, milliners, shirtmakers, seamstresses, machinists, etc., increased by 3.8 per cent. in England and Wales. In England and Wales there has been an increase in the number of females engaged in the textile industries, but Scotland and Ireland show a decrease.

When we consider the number of schoolmistresses, teachers, and lecturers, however, we see that they have increased from 146,014 in 1881 to 170,377 in 1891, or by 16.7 per cent.; and the number has further increased to 201,716 in 1901, or by 18.4 per cent. in the ten years 1891-1901. It is of interest to note that in England and Wales there was in 1901 one schoolmistress for every thirty-four females at ages from 3 to 20 years; in Scotland there was one for every forty-seven; and in Ireland one for every 61. In the ten years 1891-1901 male teachers increased by 15.9 per cent., as compared with 18.9 per cent. of females. At the census of 1871, which practically corresponds with the introduction of compulsory elementary education, there was one teacher enumerated, on the average, for every sixty-seven persons living at ages from 3 to 20 years. This proportion has changed to one in fifty in 1901. I would ask you to note also, that, according to the returns of the Board of Education, there were 36,207 male and 113,597 female teachers in elementary day-schools in 1901, the male teachers having increased since 1891 by 15.1 per cent., and the females by no less than 50.5 per cent.; and, whereas there were 240 female to 100 male teachers in the earlier year, the ratio in 1901 had increased to 314 to 100.

Literary and scientific pursuits (including authors, editors, journalists, reporters, and shorthand writers) are represented by an increase of 31.1 per cent. among males, and 58.7 per cent. among females. Under the headings, "merchants, agents, accountants, business and other clerks," a considerable increase is shown. Those concerned as merchants, salesmen and buyers show an increase by 36.6 per cent. on the males and 200.2 per cent. on the females. I might enumerate many more facts derived from statistics, but I have given sufficient to demonstrate that the female population is gradually drifting to modes of life incompatible with the proper maintenance of the functions designed for woman by Nature.

The outcome of this drifting process has been prejudicial to the coming race, and although much has been done by Miss A. M. Anderson, H.M. Principal Lady Inspector of Factories, and others to improve the physical fitness of factory girls to become housewives and mothers, yet right throughout the whole range of womankind and womanhood the obligation to Nature is becoming more and more perverted. It is not alone the freeing of mothers from factories which calls for help, but there is required a universal recognition by woman that she does more than half to fashion the destiny of our race, and that her obligations begin with childhood, reach their crises in childbirth, and only end when she has nourished her young and imparted to them a vigour and impetus which cannot be obtained by any artificial methods of feeding so much in vogue at the present day.

These are indeed important questions, and the human race would benefit more by the return of woman to her place in Nature than by the realization of any system of universal suffrage. Miss Marie Corelli has granted in her *Free Opinions* that "it seems to be a rule of Nature that if we gain in one direction we must lose in another." She then goes on to say, "One of the most remarkable changes, perhaps, that has taken place in the passing of the years is the different position assigned to Woman from that which she occupied when Dickens and Thackeray wrote their wonderful novels . . . . but as time has progressed, and women have arisen one after another in the various departments of Art and Literature, men have begun to fall back and look askance, and somewhat threateningly, on the fair trespassers in their hitherto guarded domains. And the falling back, and the looking askance continue in exact proportion to the swift and steady onward march of the white-robed Amazons into the Battle of Life. Braced with the golden shield of Courage, helmeted with Patience, and armed with the sword of Faith, the Women-warriors

are taking the field, and are to be seen now in massed ranks, daily marshalling themselves in more compact order, firm-footed and fearless, prepared to fight for intellectual freedom, and die rather than yield. They, too, will earn the right to live; they too, will be something greater than the mere vessels of man's desire whether maids, wives, or mothers, they will prove themselves worthy to be all these three, and more than these, to the very utmost extent of their moral and intellectual being. . . . . There is one thing that women generally, in the struggle for intellectual free life, should always remember one that they too often are apt to forget, namely, that the laws as they at present exist are made *by* men *for* men." Such are the "free opinions" of this champion of the female sex. If woman is to attain to the sublime heights claimed for her by Miss Marie Corelli, it is an unfortunate thing for the human race that man is prevented, by circumstances over which he has no control, from undertaking for himself unaided the exclusive privilege of gestation.

Natural laws must be obeyed, and with Nature the great biological laws of evolution must take precedence over the aspirations of even the most vain of her ornaments. Certain it is that Nature has designed motherhood to nourish the young, and departures from the claims of Nature are not due to faults in Nature but to perversions of womanhood.

In making these statements I am fully aware that there is trouble ahead, and, belonging as I do to the male sex, I also know that the last word has not been said. Doubtless my criticisms will raise a storm of angry protest, and the question will be asked why men do not make it unnecessary for women to work! The reply is obvious. Men will be better able to support their wives and families if not handicapped by female competition, and by giving up many of the so-called claims of society—personal adornment, and a restless demand for amusement; or, in other words, by being content with a simpler life, women will make the task of man much easier of accomplishment. In conclusion, I would say that it is a miserable travesty of the scheme of evolution that the brains of our babes should be State-fed by mental arithmetic whilst their little bodies are nurtured by artificial food-stuffs derived from every available source other than their own mothers.

Moral Environment.

I now pass to the consideration of certain moral factors which are well worthy of our consideration, and I propose to speak upon the influence of our religious life as affecting the welfare of the people.

Religious excitement is not infrequently assigned as a cause of insanity. I have stated elsewhere my belief that the philosophy of the infinite, far from being a source of aberrations of thought which may be deemed insane, is the ultimate point of our mental evolution, and I here repeat that a true and philosophical religion raises the mind above a mere incidental emotionalism, and gives stability. With no religion and no moral obligation the organism is apt to become a prey to the lusts of the flesh and their consequences. Gasquet observes that religion may either produce or tend to hinder unsoundness of mind; that it may cause certain symptoms of insanity or modify them; and, lastly, that it may be employed as a means of moral prevention and treatment. He believes that every form of religion, however widely it may differ from our standard of the truth, if it enforces the precepts of morality, is a source of strength to the sound mind that sincerely accepts it.

Clouston has justly observed that far more depends upon the brain that goes to Church than upon what it may obtain in the Church. That is to say, there must be the predisposition to break down, the religious influence being often merely an accident. It must also be remembered that religious over-enthusiasm may be merely a symptom and not a cause.

The relationship of religion to insanity suggests two questions which must always be of great interest, namely: (1) Religious functions in connexion with sane life; (2) religious excitement and enthusiasm as a cause or symptom of insanity. In regard to the former, I believe that, from a general point of view, if religion under determined conditions is found useful or essential for the sane, it is likely to be so under conditions otherwise determined and arranged for the insane. Many insane patients, of course, are totally incapable of attending any religious function. Some must be prohibited; others may be encouraged. I may state my opinion, as an asylum physician, that a generic case of religious excitement or enthusiasm may most advisedly be restrained from religious functions until at least the acute symptoms have subsided. I presume there can be little doubt that no religious officer will be likely to succeed in accomplishing much for patients without accurate knowledge of insanity and the mental experiences of those whom he seeks to influence. The fact that mental aberration forms a special study and phase of life of course increases his difficulties and limits his possibilities. Otherwise, where there is apparent failure both inside asylums and without, such failures may very possibly be attributed to the deficiencies of the doctrine, the discipline of the religion itself, the organizations peculiar to it, or the functionaries associated with it in our day. Nor will I seek to add more to what I have stated upon this point than a saying I have heard somewhere, that the Christian religion, rightly understood, is the truest piece of philosophy which is! If so, I doubt not we shall be told that it is the duty of all who profess Christianity to assist in the practical application of its precepts where such can be judiciously and safely applied, taking religious things perforce as they find them, and utilizing their own special knowledge to the best possible advantage according to the conditions they find.

In stating that "a true and philosophical religion raises the mind above a mere incidental emotionalism," I used the word "religion" in its literal sense, as derived from *re* and *lego*, to gather and consider, as opposed to *negligens*. I have in no way extended its connotation so as to include fanaticism. When witnessing the outbursts of fanaticism in Morocco and in the East, I regarded the demonstrations as examples of "incidental emotionalism," but I have expressed no opinion upon the question of the sanity of such emotional outbursts. So far as I am personally concerned, I disclaim any plea on behalf of religious superstition. Religion and moral obligation I take to be almost convertible terms, and to me both are equally compatible with intuitionalism, utilitarianism, or any other "ism" derived from the study of the laws of life and mind. Moral laws are generally principles of action which an intelligent being must apply for himself in the guidance of his conduct, and the translation of such general principles (expressed either in general abstract form or in the form of a command) into particular actions. Conformity with such precepts of morality I take to be the safeguard against the "lusts of the flesh."

In regard to the second point, a study of the phenomena of insanity has taught me one thing—that great care must be exercised not to form rash or prejudicial conclusions. I apprehend that religious enthusiasm in itself cannot justly be called an evil. Rather, I suppose, does it embody the most healthy and preservative development of our social forces. Like many other tendencies of the mind, it is subject to exaggeration, misapplication, and a predominance of the emotional over the intellectual. As a matter of fact, the typical cases of religious insanity directly developable from sectarian or even undenominational religious enthusiasm, from religious meditations, exercises, devotions or superstitions, are by no means so common as they are supposed to be by the uninitiated observer. The true point lies in this—that very many mental cases bear a strongly-marked religious, or at least moral, aspect. The psychology of the subject will show, for example, that acute depression—a predominant phase of abnormal emotional life—leads almost necessarily to a religious interpretation. And this is even more the case with many actual sense perversions. Such, I mean, as have ever been associated with the ideas of the supernatural. These are not necessarily caused by religious over-excitement or enthusiasm. They may assume the appearance of it, because, being the deepest and most real feelings, desires, and convictions of the perverted organic life or of the moral reaction which accompanies it, they cannot well be expressed or described except in strong moral terms. Over and over again does this appear, and often among those least likely to be suspected of any religious predisposition. That these feelings should be clothed according to the prevailing ideas and creed of the patient is an essential reproduction of the mind. But, after all, this only relates to the form of their appearance, and there are many things which lie deeper.

In a paper read before the Society for the Study of Childhood I urged that the mental hygiene of childhood was not to be determined by any special denominational method. Such limited methods may result in the fixity of an idea or belief quite compatible with usefulness in any sphere of activity, but they do not deal with the broader and deeper question of the preservation of the mental health of the individual. The exaggerated importance of the denominational question which has engendered passive resistance ought to give way to the question of mental health, and engender a strong and active

resistance to all that tends to narrow or circumscribe the mental life of the infant. I believe it to be our object as teachers and physicians to fight against all those influences which tend to produce either religious indifference or intemperance, and to subscribe as best we may to that form of religious belief, so far as we can find it practically embodied or effective, which believes in "the larger hope," though it condemns unreservedly the demonstrable superstition and sentimentality which impede its progress and power. As an alienist, and as one whose whole life has been concerned with the sufferings of the human mind, I would state that of all the hygienic measures to counteract disturbed sleep, depression of spirits, and all the miserable sequelae of a distrait mind, I would undoubtedly give the first place to the simple *habit* of prayer. Let the child be taught to believe in an anthropomorphic God the Father, or in an all-pervading medium of guidance and control, or in the integrity of a cosmic whole, with its transmutations, evolutions, and indestructibilities. It matters little, for they all lead in the same direction. Let there but be a habit of nightly communion, not as a mendicant, or repeater of words more adapted to the tongue of a sage, but as a humble individual who submerges or asserts his individuality as an integral part of a greater whole. Such a habit does more to clean the spirit and strengthen the soul to overcome mere incidental emotionalism than any other therapeutic agent known to me. Our schools are as gardens for the cultivating, judicious pruning and sustaining young life by gardeners who have, or who ought to have, full knowledge of the tender plants under their care. Our churches are to the moral welfare of the community as our schools are to the intellectual. The church has been aptly termed "God's Garden," where the art of living good lives and the making of character is helped by specially-appointed gardeners. It is needless to say, however, that the light of reason or sanity, as bestowed upon us by Nature, is the light to which all other considerations must give way lest we in our turn too soon pass the borderland of knowing things as they are.

In view of the fact that we have to face so many problems of vital interest to the welfare of our race, it seems strange that the medical faculty should be numerically so poorly represented in Parliament. Individual efforts can sometimes modify public opinion, but the protesting voice of even the whole medical faculty is only too frequently utterly ignored in a Chamber where the health and sanity of the people ought at all times to be regarded, not only as of paramount importance, but also as urgent and imperative. Until the medical faculty is more fully represented in Parliament and has a medical authority in the Cabinet at the head of a State Department of Public Health the country must suffer from the want of legislation in matters of urgent necessity, and it is needless to say that in no department of medicine is there more desperate necessity for immediate help than that to which we belong.

Dr. Robert Jones referred to the influence of mental overpressure in the production of insanity, and as supporting this the statistics of insanity in governesses were referred to, which showed a higher percentage of insanity in this class than in the class of licensed victuallers and barmaids. These statistics could be obtained in the Report of the Lunacy Commissioners to the Lord Chancellor of a few years ago, when the numerical lists of employment and employed were published after the last census. He agreed that there was a considerable migration of the inhabitants from rural into urban districts, and that marriage of the residue probably produced a deficient off-spring, but there was now a higher rural population than existed half a century ago; the proportion of increase was, however, much higher in urban districts than rural, but the environment in the latter tended to natural health and vigour, and the inhabitants of country districts were not subject to fluctuations of occupation such as occurred inevitably among town industries from various economic causes. Dr. Robert Jones did not agree with the general strictures passed upon women by Dr. Hyslop, but he did heartily agree with him in the necessity, where possible, to encourage mothers to bring up their own children. The birth-rate was a matter of the utmost importance, and certainly did bear a definite relation to occupation, as was shown by Dr. Shadwell in his interesting investigations into this aspect of health and vigour in cities and towns where textile industries were carried out. The emotional aspect relating to religion discussed by Dr. Hyslop had the hearty concurrence of Dr. Jones, as he thought everybody would admit the influence of high ideals in enabling persons to preserve mental and physical health.

Dr. W. Lloyd Andriezen said that the vast increase of lunatics, idiots and imbeciles, tramps, vagrants, and prostitutes required serious consideration. These were all examples of mental (cerebral) degeneration. The census of 1900 and his own observation bore this out. They were failures of evolution such as were inevitable in the progress of life and of races. A comforting factor in regard to the hereditary transmission of evil traits was the "regression tendency" expounded by Galton. On the other hand, the tendencies for evil might assume such prepotency as to constitute what would be called a "true pathogenic mutation." The Jukes family was cited by the author, and its development through five or six generations pointed out as a classical example. In four to five generations the descendants of such degenerate stocks ended in extinction, the stray survivals being but a very small number, while the victims exhibited all the most varied developments of vice, crime, insanity, and neurotic disease. Migration was also shown (added Dr. Andriezen) to be a cause of decay and degeneration in the land depleted thus of its best blood yearly and for decades, as witness Ireland. Woman by long aeons of evolution had been the mother—the bearer of off-spring. Neglecting, by choice in some cases and by force of necessity in others, the bearing and upbringing of children, and entering into fierce competition with men—underselling his labour, and promoting abuses like sweating by the small wages she accepted—woman had benefited herself but little, and had neglected her duty of motherhood by this unwise rivalry against man. She had crowded him out from the labour market, not content with the feminine occupations which had hitherto satisfied her sex—namely, nursing, cooking, domestic duties, the care of children, music and the drama. But entering into the strenuous life, she had grown exhausted and prematurely worn-out, neurasthenic, thin and spare, and with a tendency to sterility. Engelmann's observations, based on gynaecological experience at Boston, were then cited fully. Dr. Andriezen concluded with remarks on religion as the embodiment of cosmic law and the tendency of the Eternal to righteousness, a view developed by the writings of Matthew Arnold and Herbert Spencer.

Dr. A. T. Schofield rose to comment on two points in Dr. Hyslop's paper: the one was the position of women and the other that of religion. Referring to women, it had been laid down that employment was bad for them, and that they should better qualify themselves for motherhood. Was Dr. Hyslop aware that women had not the choice of marriage? Dr. Hyslop had pointed out how the physique of men was deteriorating, but he had not pointed out that women were not only rapidly evolving mentally but physically; and there could be no doubt that women as a race were improving faster than men. There were now thousands of matured, strong women fitted in every way to become mothers of a noble race who were condemned to an enforced sterility. No week passed but that he saw lamentable cases of nervous and sometimes mental disease due to this enforced sterility. Was Dr. Hyslop aware that the employment of women was a self-protective measure instinctively adopted on account of their enforced celibacy? He considered personally that it had saved thousands of women from nervous disease. So far from condemning professional life as a bar to matrimony, Dr. Hyslop should look on it as a wise measure for preserving to women a healthy and profitable existence till married life could begin. He considered that much that had been said against women as to professional life was not borne out by facts. They laboured under great disadvantages, and were often disgracefully underpaid owing to their want of trade-unions. Dr. Andriezen had given figures in American sterility. But nowadays a small family was no proof of partial sterility. In North Paddington, where the poor live, the average size of a family was six; in South Paddington it was three. If he took these figures as representing the relative sterility of the parish of Paddington he would be greatly misled. Turning now for one moment to religion, he thought all realized that the cause of much functional nerve disease was due to such a weakening of the higher mental centres that they were unable to exercise their usual inhibition over the emotions. Now, religion and love were two most powerful emotional excitants, and it need excite no surprise that these often appeared as factors in neurasthenia. As Dr. Hyslop said, religious enthusiasm was not primarily an evil, but it often was secondarily in nerve disease. At the same time, true religion was an important factor in health, as Professor James

had pointed out in his Gifford Lecture. The beneficial factor in religion, psychologically, was no doubt due to the harmony it produced in the organism. If there was, as he believed, a God—a personality, a law—above them, no man could be in perfect health who was not in harmony with it in every part of his personality. Health, wholeness, and holiness were all words from one root, and had a similar meaning. With regard to their own profession, this was pointed out by the late lamented Professor Nothnagel, when he said, "Only a good man can be a good physician."

Dr. JOHNSTONE (Leeds) said that the question of environment might be divided into three; (1) Physical surroundings, (2) social and educational; and (3) mental conceptions drawn from surroundings, and after being reflected upon committed to paper in their writings and which were still affecting mankind. He quoted examples from Homer, Virgil, Lord Byron, Lord Tennyson, and three examples from Horace. And quotations were given from Gray, Mark Twain, and Dryden. Then a comparison was instituted between the three professions—divinity, law, and medicine—showing the advantage in a lifetime of medicine on the general character of the physician, the result being induced by the sympathies of the doctor being continually and entirely utilized for the benefit and welfare of mankind.

Dr. MORRISON (Hereford) said that two years ago he very pointedly drew the attention of the local authority to the effect that continous emigration from the rural and urban districts of the county of Hereford had on the production of congenital insanity in the county. They had, he believed, a larger proportion to population of congenital insane than any county in England and Wales, and if there was one that was higher he did not at this moment remember. One-tenth of the total population had been emigrating annually for a number of past years, taking away the fit mentally and physically, and leaving behind the unfit to reproduce a family of a standard distinctly inferior in the aggregate to the parental standard. This deterioration was so marked, and revealed with such prominence, that the unusual proportion of insane in the county with a diminishing population was and had been the puzzle of the local authority. Whether subsidized industry established in such counties would help to check this deterioration was a subject for national investigation and pronouncement, and might well be incorporated within the purview of the larger question of social reform. As one would expect, with few industries beyond that of agriculture, crime took the form in a larger proportion of instances of offences against the person rather than against honest industrial speculations and dealings. Alcoholism also played a prominent part in the habits of the people, and cretinism was not unknown. Thyroid disease was on the increase, adolescent dementia was abundant, and he ventured to think that malignant disease was now more frequently seen in the asylum population than before—all the foregoing being evidence of hereditary degeneration. Tuberculosis, which was almost unknown among the asylum population, was now more prevalent. In short, all the evidences of hereditary degeneration shown in the character of the ailments was found to be more in evidence, and could only be regretted, both from the local economic standpoint and the larger national issues of race and empire, and on this association rested the duty of awakening the nation's consciousness to the evils and calamities likely to overtake the equivalents of racial prosperity.

Dr. FLETCHER BEACH said it seemed to have been forgotten by the author of this paper and by the various speakers that there was a great excess of women over men that came into the world. Now, many of these women never could marry, and as they were better educated than the parents, they forsook domestic service, and became teachers, typewriters, and so on. The great increase in the number of teachers was, of course, due to the great increase in the number of children that had to be taught. Of course a great deal depended upon the way in which the child was taught. Teachers were now joining societies, such as the British Child Study Association, and were studying the children they had to teach, and more interest was taken in them. A large number of women, it was quite true, did not nurse their children because they had to go out to work to earn their own living. Many men were unemployed, and the wives had to earn wages to feed their families. A speaker mentioned that there were a larger number of governesses who became insane than barmaids. That, no doubt, was due to the anxiety which many governesses had as to whether or no they would earn their living, but the remark did not apply to the large number of teachers of elementary schools throughout the country, who were, as a rule, well nourished, well educated, and well trained.

Mr. JAMES STEWART (Clifton) said that the number of men who entertained the idea of matrimony was decreasing, partly because the young women of the present day engaged in gymnastic exercises to such an extent that their mammary development was reducing their figure to the flatness of the male. A man is more naturally drawn to a womanly woman than to one who tries to reduce to a minimum the difference between the two sexes. He (Mr. Stewart) agreed fully with Dr Hyslop as to the value of religious influence in arresting degeneracy.

Dr. HYSLOP replied that he had derived his information from the Registrar-General, the Commissioners in Lunacy, and the Interdepartmental Committee on Physical Deterioration, and that it did not advance the matter to merely regard his statements as evidences of pessimism. He agreed that greater numbers of governesses broke down mentally, and he attributed this mainly to the increased stringency of examinations and competition. After thanking the various members who had contributed to the debate, he urged the necessity of compulsory service as a means to avert some of the distressing problems of the unemployed and unemployable.

A SHORT ACCOUNT OF LUNACY IN LEICESTERSHIRE,

WITH SPECIAL REFERENCE TO THE NEW COUNTY ASYLUM.

By R. C. STEWART,

County Asylum, Leicester; Vice-President of the Section.

THE early records are extremely meagre, and very little is known of the provisions made for the care of the insane before 1771.

A Dr. Arnold, one of the chief physicians practising in Leicester, kept a private asylum in West Bond Street; it was provided with an underground passage by which the patients could reach a walled garden opposite for exercise. The celebrated Robert Hall was a patient here. Another one existed in Belgrave Gate under the care of Dr. Hill, and I have been told there was another in Humberstone Road, the gates of which now adorn the grounds of a certain house on the London Road.

The infirmary was opened in 1771, and in 1781, on receipt of legacies of £1,000 from Mrs. Topps and £200 from Mrs. Ann Wigley, a south-west wing was added for the reception of patients who could not afford to pay the fees of a private asylum. This was, I believe, the origin of what is called "The Charity" now attached to the county asylum. For many years the poorer class of the insane population were provided for in this way, and it was not till 1837 that a public asylum was erected. On May 10th of that year the present building, designed to accommodate 104 patients, was opened at the cost of £17 948 19s. 1d., and named the Leicester County Asylum. The first staff consisted of Drs. Arnold, Freer, and Shaw as visiting physicians, Mr. Needham and Mr. Thomas Paget, jun., as surgeons, and Mr. Prosser as house-surgeon and superintendent. For several years the funds of the asylum were helped by the aid of bazaars and balls, for in early records there are such items as these: Net produce of a bazaar at Cold Overton, £266 7s. in 1839; net produce of a ball on November 20th, 1844, £154 9s. The ball seems to have been an annual function, for in the report of 1849 I find that "the decease of Her late Majesty, the lamented Queen Adelaide, prevented the holding of the annual ball." There were (1842) four classes of patients—the county, out-county, charity, and independents, which latter paid a much larger sum than any of the others. As the accommodation was already becoming very restricted, the Committee erected in 1844 two new wings for 25 patients in each. In 1847 the borough authorities asked leave to join the county, but this was declined; on the other hand, the county of Rutland was invited to do so. In the following year the borough again appealed for admission, and offered to give twelve acres of land towards an increase of the estate, and finally an agreement was arrived at by which their number of patients was limited to 25. Further additions were made in 1849 owing to the admission of Rutland; henceforth the institution was to bear the name of the Leicestershire and Rutland Asylum, and, it was hoped, would proceed upon a new and enlarged sphere of usefulness. The hopes of the visitors had not been disappointed, for they considered that Leicester was ten years in advance of any other, and they had reason on their side. They well knew their duty towards the

public in those days: "The visitors," they asserted, "have acted, and will continue to act, on the principle that the institution is rather a place of cure than of detention, a hospital in fact where the inmates are treated as invalids, and where no expense is spared in providing whatever the superintendent considers necessary for their health and comfort. They have, in various reports and public notices, urged upon the public that mental disease, like any other illness, required medical treatment at the outset, that to delay the transmission of a patient until the disease had taken such hold as to become chronic and incurable was a course of proceeding the most cruel and unjust to the patient, and in the end most costly and burdensome to his parish."

In May, 1853, Mr. Buck was appointed superintendent on the resignation of Mr. Prosser, and continued to carry on the work singled-handed till 1867, when Dr. Finch, who now so ably guides the fortunes of the Borough Asylum, became the first assistant medical officer. Owing to the continued increase in the number of patients the county and the borough parted company and the borough opened its own asylum at Humberstone in 1869, to which Dr. Finch was appointed as superintendent.

In 1879 the number of patients in the county asylum was 467, and the want of more room was severely felt. Dr. Buck had for some years previous urged the erection of another asylum, and an estate had been purchased at Newtown Unthank with a view to removal; but all these plans came to naught owing to the death of Dr. Buck in 1880, and perhaps fortunately, for the site at Newton was by no means an eligible one. Dr. Higgins succeeded Dr. Buck, and, during his period of office, made several important alterations in the structure of the asylum; but the overcrowding still went on.

During the last twenty-three years the question of accommodation has been one of the main topics of discussion, and it has been partially solved by the unsatisfactory (not to say expensive) method of boarding-out in other asylums. The matter has now, I am glad to say, been finally settled, and a new asylum designed to accommodate 912 patients is now in course of erection at Narborough.

Some plans of the new asylum are now placed before you and a few of the leading features will be touched upon.

Owing to the contour of the estate it was not deemed possible to carry out the villa system. At the top of the building site, though narrow, is fairly level, and the front is occupied by the infirmary which is of easy access to the medical officers' quarters.

The heating and ventilation will be a modified plan of the Plenum system, the flooring of most of the wards will be laid in teak, the kitchen, laundry, and engine house will be in Ruabon tiles. One of the chief features is a block for male and female patients of the private class, connected to the main asylum by a corridor, and will contain thirty patients of each sex.

The building will probably be opened in two and a half years, and we look forward to having a meeting then of the Medico-Psychological Association shortly afterwards.

Dr. David Bower, as a private asylum proprietor, welcomed the provision for private patients just above the pauper class, but suggested that one detached block would be a more perfect plan could it be managed.

CAUSATION OF MENTAL DEFECT IN CHILDREN.

By W. A. Potts, M.D.

Assistant Lecturer on Pharmacology, University of Birmingham.

In investigating this subject so many conflicting theories were found and so few facts, that it seemed necessary to obtain definite information. In conjunction with Mrs. Hume Pinsent, Chairman of the Birmingham Special Schools Committee, and a member of the Royal Commission concerned with the Feeble-Minded, I examined 200 defective children. The children were first inspected at school, and full particulars tabulated on the forms that have been handed round. They were subsequently visited at home in order to check the facts of heredity already obtained from the school teacher, and to elicit further information. It was not possible to gain the knowledge wanted in every instance. Some were union children, and nothing was known of their parents. Such cases were of no use for this inquiry and are excluded, but and I particularly want to emphasize this—those were not excluded whose parents were dead, and yet after cross-examination and personal examination if necessary, no [illegible] detected. These constitute a definite group which I have termed "Deviations from the Normal." The 200 children were in five schools drawn from different districts. In each locality the real causes were found to be the same, though differing in their comparative numbers; hence too much importance must not be attached to the precise figures. It is better to speak of groups as large and small, rather than to ticket them with a fixed percentage.

I wish now to put before you a classification, based on this investigation, and framed on pathological lines. In this there are two classes, one termed "Deviations from the Normal," the other "Degenerative." Only 5 per cent. belong to the first class, while all the rest may be included in the second. Degeneracy is therefore the chief root of the evil. It is possible that some obscure form of degeneration may underlie the whole, but this is not evident. A small number show no other abnormality; their brothers and sisters are healthy with no bad history, either in the direct line or among collaterals. Such cases are very rare. We all know healthy people who are colour blind; others whose only blemish is a hernia or strabismus. It is not unreasonable to place the group in question in a similar category. The defect here is not poor brain substance, but an absolute want of a certain part, just like those cases of congenital aphasia due to the absence of a speech centre. In this class will be found some of the so-called cases of moral insanity, who, bright and healthy in other respects, utterly lack appreciation of social responsibilities. True moral defectives, without other weakness and without stigmata of degeneration, form a very small group, which does not include the ordinary inmates of our prisons and other places of correction. When I examined 100 consecutive cases admitted to a Magdalen Home I found 30 per cent. to be feeble-minded, and that 7 per cent. were best classified as morally insane. Those 7 per cent. were intelligent and robust, without any of the physical irregularities usually found in the feeble-minded. Without sense of honour or shame, they did not benefit by the ordinary moral and religious training. Such results, and the failures in education recorded in the cases of certain good-looking and apparently-healthy backward children, support the view that the defect here is absence of some important part of the mental machine.

Classification of Defective Children.

A. *Deviations from the Normal.*

B. *Degenerative.*

1. Not congenital
   - *a.* Traumatic.
   - *b.* Post febrile.
2. Congenital
   - i. Latent at birth
     - *c.* Traumatic
     - *d.* Post-febrile
     - *e.* Eclamptic
   - ii. Dating from birth
     - *f.* Simple
     - *g.* Microcephalic
     - *h.* Hydrocephalic
     - *i.* Mongolian
     - *j.* Cretin
     - *k.* Syphilitic
     - *l.* Neurotic

   (*f*–*l*: X or Y)

X Insane or feeble-minded parent.

Y Physically degenerate parent.

The degenerative group is divided into non-congenital and congenital. Cases have been recorded of healthy adults who after a severe head injury or a prolonged fever have eventually deteriorated mentally or morally. The same might happen with children, and therefore such a group finds a place in the classification. As a matter of fact, however, I have not yet come across a case either among the 200 who formed the subject of the inquiry or a large number of others. When the defect was said to be traumatic in origin I have always found either physical marks of degeneration, or a family history too suggestive to be ignored.

The congenital cases may be divided into those where the mental inferiority is noticeable shortly after birth and into those where the hereditary weakness is at first latent, but is intensified and brought into prominence by some disaster in the early years of life; these latter represent the traumatic, post-febrile, and eclamptic groups usually described by writers on this subject. The cases recognizable from birth constitute the various types all of which may be included in the principal ones I have noted—simple, Mongolian, microcephalic, hydrocephalic, cretinoid, neurotic, and syphilitic; these groups may be extended or reduced at choice.

Except the small number classified as Deviations from the Normal, I ascribe practically all cases to physical degenera-

tion at an earlier stage. How is that produced? When we examined the congenitally degenerative cases it soon became evident that there were two great groups, to one or other of which all might be assigned. One comprises the off-spring of insane or feeble-minded parents, the other members of families in which there has been no actual mental trouble previously, though health is conspicuous by its absence. The first group includes from 30 to 50 per cent., according to locality, 40 per cent. being a fair average. Those who have worked among defectives have long recognized that the parents often require control as much as the children; here are the actual numbers. The size of this group disposes of the fallacious argument that in the ordinary course of events the feeble-minded will die out. If Nature were not interfered with they would soon starve to death, but indiscriminate charity steps in to prevent that, and to preserve the large families they often breed.

I know one feeble-minded woman who has given birth to nine children, and I once saw a feeble-minded girl whose defective mother had had eleven illegitimate children, three of whom were known to have inherited the mother's mental weakness. In another family of six, three were found to be wanting. It is common to find more than one in the same family, and also to find cousins of a similar type. It is not reasonable to suggest that because all the children of such parents are not degenerate, the influence of heredity may be ignored. Nature has an extraordinary capacity for reverting to the normal, and health may be restored when least expected. Yet it is not wise to sail too near the wind. The method of dealing with this large and important group is obvious; such children should never have been born. Just listen to this tale; No. 2, the child of an alcoholic father and a phthisical mother. The father's grandmother committed suicide, and his mother attempted suicide; among collaterals two uncles of the father and a brother also committed suicide. In another case, No. 3, the mother is feeble-minded; her grandfather died in an asylum, and one of her uncles and one of her aunts also died in an asylum. The class derived from insane or feeble-minded parents cannot be dismissed without a reference to those curious cases in which only one side of the family, usually the male, exhibits mental weakness; here we have a distinct heredity of a type comparable to what obtains in haemophilia.

The group just described is simple in origin; one cause is sufficient explanation. On examining the other it at once came home to us that the cause is multiple. The outstanding features in the family histories are phthisis, alcoholism, nervous disease, and a certain amount of cardiac disease, cancer and syphilis. The instances in which one only of these unfavourable elements is to be detected are so rare that one is tempted to think all are complex in their origin, and that more effective investigation would discover this. The difficulties of complete inquiry are great; the parents sometimes know more than they will tell, and are often ignorant of much that is important. To illustrate the complex origin, consider No. 65: father phthisical and alcoholic; the father's father died of cancer, one of his brothers of phthisis, and an uncle of alcoholism; the mother's mother died at 34 of phthisis, and her father of apoplexy at 48. Again, No. 35: the father, who belonged to a consumptive family, died at 28 of phthisis; the mother is alcoholic and immoral. No. 37: there is a history of insanity in the father's family; the mother is alcoholic and phthisical.

In regard to phthisis and alcoholism, this inquiry has demonstrated that it is not a sporadic case among collaterals that need alarm us, but the fact that the family tree is honeycombed with such disorder. This is not an uncommon history. No. 1: father, father's father, and a sister all died of phthisis. Often both father and mother are phthisical. In one case, No. 30, the mother is phthisical, her mother died of phthisis; the father died of phthisis, as did his only sister. It is not surprising to find both the children of such parents feeble-minded. It has been said that a history of phthisis counts for very little, because it is so readily obtained that you can prove anything is due to it. Granted, for there is an element of truth here; the crusade against consumption is, then, only the more necessary. As regards feeble-mindedness, phthisis has a contributing influence in 30 per cent. of cases.

In the case of alcoholism there are divergent views; one school blames it for nearly the whole mischief, another protests it has little or nothing to do with it. Both extremes are wrong. Alcohol cannot be disregarded, because the children of alcoholic parents are sometimes healthy, or apparently so; and because in countries like Norway, where legislation has done much to reduce intemperance, the number of defectives has not diminished. Those who take this line ignore the antecedents of the inmates of our prisons and lunatic asylums, and also modern researches into the far-reaching effects of alcohol. I think I am right in saying that alienists attach even more importance than formerly to its excessive, and even to its moderate, use. Error has arisen because, apart from direct inheritance, the cause of mental weakness is nearly always multiple; even alcoholism in both parents may be insufficient to produce it, unless there is also some other unfavourable element—traumatism, phthisis, or other constitutional disease. I found an alcoholic inheritance in 30 per cent.; often it was extended through more than one generation, and that is what is so unfavourable. Neglect of the laws of health tells comparatively little at first, but when the children and the children's children continue the bad habits a heavy penalty must be paid.

It is time to speak of the traumatic cases. Every one who has investigated this subject knows that the relations usually attribute the defect to an accident, sometimes quite trivial. Is there any truth in the popular idea? I have not found one instance in which injury developed mental weakness in a healthy child with no blot on its scutcheon, yet I believe that in members of degenerate families, where the strain has nearly reached the breaking-point, an accident, even a slight one, just makes all the difference in bringing the scale down on the wrong side. This explains why sometimes only one member of a family comes under the ban, and is illustrated by the case of a boy, No. 20, who has five brothers and sisters in the ordinary school; both parents are alcoholic; while the mother was pregnant with this child she fell and broke her arm badly in two places; this probably decided the boy's fate. In this connexion I may mention some curious cases occurring after severe illness of one parent; thus, in two instances the mother has attributed the defect of the child to the fact that the father had a severe attack of small-pox some twelve months before the child was born. I accept this explanation, but must mention that in each case there was a history of alcoholism, and in one also of phthisis. So when the mother's bad health during pregnancy is blamed, there is usually another contributing cause; when a mother had had typhoid at the fifth month it was found that the mother's father died of phthisis and alcoholism at 40, and three of her sisters of phthisis.

Under this heading come the illegitimate children; except with the most depraved this must have an influence on the child of the nature of a trauma. One woman whose eldest child was defective attributed it to the fact that she was not married till the fifth month; during the earlier part of pregnancy she was in a state of the greatest anxiety, took a large amount of medicine to produce an abortion, and with the same object repeatedly undertook severe physical exertion. The illegitimates are, however, only a small group.

At this juncture I may remind you that Langdon Down disproved the suggestion that the midwifery forceps are to blame; in many cases of defectives I found that forceps had not been used, nor was the labour long or difficult.

The age of the parents cannot fail to make a difference, yet is an insufficient explanation in itself. Mongolians often come at the tail of a long family, but their record is always bad. In a case where the mother thought her marriage at 40 and birth of a child at 42 was the reason, I found that the father was alcoholic and peculiar, and that one of his uncles had died of melancholia.

Consanguinity is occasionally noticed, but does not account for many; it merely emphasizes the modern view that if there is an unfavourable strain such a marriage accentuates it.

Certain occasional causes merely require mention—nervous disease other than the insanity group, syphilis, cardiac disease, cancer; these, except perhaps syphilis, are always associated with other factors.

Too early education, and especially education too entirely on intellectual lines without manual training, is certainly injurious. The same may be said of malnutrition; no doubt when the mental defect is latent at birth this does contribute, but underfeeding in early life will not develop the cranial and other anatomical characteristics of many defectives.

A rickety type of feeble-minded child is sometimes described. Many of these children are rickety, but are best placed in another category, as stigmata of degeneration other than those produced by rickets are in evidence.

Now, it may be objected that I have proved nothing; it may be said that histories such as I have related occur with

normal children, many of whom are the offspring of drunkards and consumptives. I think you must admit, however, that such are not the antecedents of really healthy children. When a number of school children in Glasgow were examined physical defects were so numerous as to elicit the cry, "Are there any healthy children left?" Glasgow is no exception to the other large towns. Physical and mental defects develop on parallel lines. In one family of three, impregnated with consumption, two intelligent children died of phthisis, the other grew up to be feeble-minded. I should have liked to have compared the histories of a number of healthy children, but so far I have not been able to find a sufficiently large group I could really call robust; my cases would be so invidiously selected that adverse criticism would be easy. As the only alternative we examined a consecutive number of children in the third standard of the ordinary school in the same district. Instead of finding 40 per cent. sprung from insane or feeble-minded parents, we found only 5 per cent.—a marked difference. As regards physically-degenerate parents, the difference was less marked, though quite definite. Many in normal schools had a bad family history, but not so many, and the histories were not nearly so bad; whereas at the special schools the striking fact was the conglomeration of phthisis, alcoholism, and nervous diseases, in the ordinary schools each of these factors was frequently found alone. There is yet another important point in favour of my view, and that is the interesting relation of the chief cause at work with the type of mental defect produced. Take the simple congenital group—a group well described by Dr. Fletcher Beach—and which I may briefly define as showing abnormality of feature, head, and hand without, however, those special attributes determining the microcephalic, hydrocephalic, cretin, or Mongolian. This type is nearly always descended from insane or feeble minded parents. Again, take the neurotic class, recognized by their weakness, restlessness, and characteristic hand balance; these are the offspring of alcoholics. Phthisical and syphilitic types are recognized by all. These relationships so frequently hold good that it is often possible in the case of a feeble-minded child to say after a short examination what its antecedents have been. Cause and effect are here intimately associated; that association justifies the view I have put forward, and which I may sum up by saying that nearly half the feeble-minded are the offspring of insane or feeble minded parents, and that the others are the outcome of physical degeneration, such degeneration, if we extend our horizon, being really the origin of the whole trouble.

Dr. Fletcher Beach congratulated Dr. Potts on his paper. The causation of idiocy and imbecility had been worked out by himself and Dr. Shuttleworth some years ago, but the causation of feeble-minded children was not so well known. This was a valuable contribution to this subject. Many of the causes which he had discovered were already well known as causes of idiocy and imbecility. Mongolian cases were often the last-born children of a long family, and were, in fact, unfinished children. Syphilis was not a frequent cause. Hypertrophic cases, apparently, had not been noticed, but they formed a fair proportion of the cases.

Dr. Potts, in reply, said that syphilitic cases probably formed 4 per cent., but the signs were often so slight that one could not be quite definite. He had found about 6 per cent. of hypertrophic cases which he had not separately classified, as he regarded them as a variety of the simple congenital, and due to the same cause; the types were made as few as possible, and arranged in relation to a common cause.

THE EXTENSION OF MEDICAL PSYCHOLOGY.

By A. T. Schofield, M.D. Brux.

We must move with the times, and the unwritten law that practically limits the labours of this Section to the discussion of pathological or unsound mind is of ancient date, and does not fit the times in which we live.

Advances have been made in every branch of medicine, and new departments of study are ever arising, and certainly medical psychology has not stood still.

Let me give, then, one or two reasons why I would here press this "wider view" of the mind in medicine.

Since this Section was established, physiological psychology has sprung up, and has taught us much we did not know before of the relations of body and mind. We find, amongst many other things, that although mind may not be measured by space, its action can be measured by time, and that there is a certain correlation between speed of thought and that of circulation.

Such physiological experiments, few as they are at present, are placing the science of psychology on a different footing from what it had when it was merely the result of introspection and inductive reasoning.

Psychology is ceasing now to be what Professor James has called it, "a mere string of raw facts, a little gossip about opinions; a little classification and generalization on the mere descriptive level; a strong prejudice that we have states of mind, but not a single law in the sense in which physics shows us laws." A psychology so futile lands us in endless difficulties, and I for one would never seek to extend this Section if a great advance had not been made since those words were written.

Dr. Charlton Bastian has well remarked that as long as we are, as so many philosophers tell us, to regard "the sphere of mind as coextensive with the sphere of consciousness, we shall find mind reduced to a mere imperfect, disjointed series of agglomerations of feelings and conscious states of various kinds."

Psychology has, however, advanced beyond this, and nowhere more remarkably than in the domain of medicine. The presence of mind in medicine is wellnigh ubiquitous, and enters into the cause and cure of disease in a way some of us are dimly beginning to understand, but that has never yet been scientifically studied.

Now that it is known that consciousness is *not* synonymous with mind, and is but as a mental eye which reveals some of the mental processes to its possessor, we can see that mind includes all actions of a psychic character.

Professor James defines psychic action "as the pursuit of definite ends with choice of means," and, adopting this as a workable definition of mind, we know now it embraces much that is beyond the ken of consciousness, and especially when we study it in relation to disease.

The powers of the unconscious mind, too, which is another and a better name for the *vis medicatrix Naturae*, or Nature with a capital N, or other female deities of our textbooks, are becoming widely recognized.

Sir F. Treves as a surgeon, and Dr. Mitchell Bruce as a physician, may be congratulated as being two amongst many who have learned to treat symptoms with great honour and respect as the purposive actions (with choice of means) of the great central controlling force—the unconscious mind. Names matter little, so that we begin to see that here in this subject lies a vast unexplored field of medical psychology well worthy the attention of this Section.

Again, now that all the ridicule attending Metchnikoff's discoveries of phagocytes and their amazing actions in the body has died away, and we are beginning to grasp that disease is less and less a mechanical or chemical process, and more and more the result of the purposive action of living beings, to be only successfully combated by the action of other living beings under the control of a central mind, we find how wide and all-embracing medical psychology is becoming.

But besides these reasons, which are found in the advance of medicine and the extension of psychology, I have one other to adduce, to which I alluded last year at Oxford, and which has not become less urgent during the past year. I refer to the flooding of this country with varieties of mystic quackery and pseudo scientific cults, that mostly come to us from across the Atlantic.

These would be impotent with intelligent men, and certainly would not merit any reference here, were it not the fact that clever and educated people of the highest standing are flocking to these importations; and the matter has become too serious for our profession merely to stand aloof from and close its eyes.

The force of the coming flood was beginning to be felt even in Sir James Paget's days. A letter of his I read last year runs thus: "What unsatisfactory cases these are! This clever, charming, and widely-known lady will some day disgrace us all by being juggled out of her maladies by some bold quack, who by mere force of assertion will give her the will to bear, or forget or suppress all the turbulencies of her nervous system." This letter was written to Sir H. Acland at Oxford.

The only reason why I allude to this subject now is because it presses more each year, and because there can be no doubt that the hold these systems have got amongst educated people is due to their containing some therapeutic power or agency that the medical profession ignores. This therapeutic agency

is the *force of mind in therapeutics*; and had applied medical psychology formed for the last twenty years an integral part of the education of every medical student, the British public would never have been exploited by quacks in the way it has been. Only truth and light can kill error and darkness; and truth and light on these questions have not yet been seriously sought in our profession, and that is why error and darkness so flourish. Why, it is only within the last year or two that psychology has become a necessary subject for the London M.D. degree.

I have adduced some reasons for the extension of the study of medical psychology to the sound mind in its relation to the cause and cure of disease; it now remains for me to indicate some methods whereby this could be carried out. I would suggest, therefore, that out of the three days annually allotted to psychology, two be devoted to the study of the insane mind and all in relation therewith, and one—say the last day—to the study of the relations of the sane mind to medicine.

This is a subject, so far, alluded to everywhere and taught nowhere, and yet no single day passes in a medical man's life but he and his patients must suffer in some way, consciously or unconsciously, from his ignorance of it.

Once the subject is seriously considered innumerable topics suggest themselves. Amongst others, I may note:

1. The general facts connected with the unity of the body and the interdependence of the psychic and the physical in all parts of the body and in all the different organs—first of all in health, thus taking up the great question as to how, as a whole, the body lives; then the special interactions in all varieties of disease, and the general enumeration and consideration of the various mental agencies that act, consciously or unconsciously, as causes of disease, predisposing or exciting; and another list of those that act therapeutically.

2. Another distinct subject of study might be that of temperaments, mental conditions compatible with sanity and yet with a pathological aspect; nervous states and phases, and mental backgrounds or habits of thought—fixed, mobile, and erratic. To some extent this is already done.

3. Again, different characters might be studied, and the way in which education, reasoning or emotional powers, or instinct, aided or retarded the action of psycho-therapeutics.

4. Many other subjects of a general nature will suggest themselves. For instance, we might proceed to consider a little-known subject, and that is the psychology of drugs, or a study of their psychic as distinguished from their mere physical action. These psychic effects can of course be studied throughout the whole range of natural therapeutics, such as baths, manipulations, electricity, health resorts, etc., the psychic action of many of which is still more marked than in the case of drugs, which is doubtless the great reason why they are so popular and efficacious.

5. Then we may consider the grand natural therapeutics of the *vis medicatrix Naturae* that in power transcends all our efforts; and we may study how this agency may be stimulated and retarded in various ways.

6. All forms of suggestion, direct and indirect, plain or wrapped up in various treatments, would form a large and fruitful field, and might include various forms of auto-suggestion and hypnotism, etc.

7. Lastly, I would mention a careful consideration of the psychology of the physician; taking as our text these words of Sir James Paget's: "Nothing appears more certain than that the personal character, the very nature, the will of each student, has a far greater force in determining the career than any other help or hindrance whatever." The way, too, in which this subject could be best taught in our medical schools, colleges, and hospitals would be a matter for discussion of the greatest value.

There can be no doubt that, once it became known in the profession at home and abroad that the third day of the annual meeting in this Section was set aside for the consideration in all its bearings of the sane mind in relation to disease, the session would be full of interest and the Section crowded, not only with our own men, but strangers from France and America would be attracted by the opportunity of discussing professionally what after all is one of the coming and most vital and interesting and important questions affecting medicine.

Dr. James Stewart (Clifton) said that the study of the psychic action of drugs was well worthy of their consideration. Were they to take up seriously such a question they would be able to give a lead to other members of the profession. The argument in favour of their taking up those questions was founded on the trite saying, "What's everybody's business is nobody's business." Every medical man was supposed to study psychic subjects, but they found as a matter of fact the majority of men did not.

SOME OBSERVATIONS ON CONFUSIONAL INSANITY.

By L. D. H. Baugh, M.B., Ch.B.Edin.

This paper is an attempt to set forward in a brief manner a few points bearing upon the confusional insanities accompanying or following toxic causes, such as sepsis, fevers, alcohol, the puerperium and lactation. As the data used are entirely clinical I have intentionally omitted from my group cases of dementia praecox and general paralysis of the insane, as there is clinically a more or less well-defined marginal line between their symptoms and those of the toxic group that are selected.

The symptoms—mental and physical—brought to your notice in the paper I hope to group in such a way as may help to make these insanities more of a clinical entity than they have hitherto been. The exciting cause is ascribed to a physical condition of toxic origin, and to meet the often-used quotation—"an insatiable desire to find a cause for everything"—I shall attempt to justify my selection, and will do so partly by observations made among the chronic insane. Further, I will endeavour to bring into prominence the relationship that exists between these toxic insanities and a hereditary psychosis. The material used has been collected from 47 of the cases of confusional insanity which have been under my care during the past three years.

The cases show a fairly definite group of symptoms, psychical and physical, and, as is to be expected from the wide area of causation, the bodily symptoms are more diverse. I shall draw your attention to the following of the numerous symptoms:

Mental Symptoms.—A purposeless resistiveness, confusion, absence of emotion, and a facial expression which is perhaps best termed embarrassment.

Physical Symptoms.—Cutaneous vasomotor changes, leucocytosis, the presence of indoxyl in the urine, and the symptoms proper to the physical ilment.

Purposeless resistiveness is the term selected to represent the insane contrariness shown by these cases—for example, they resist milk or tea offered, they resist being dressed and being undressed; the delirious case resists energetically, the merely confused resists, and the very lethargic is a determined passive resister, and yet all resist automatically and purposelessly—this symptom, which I have called purposeless resistiveness, is found in all 47 cases.

Confusion, with its train of intellectual impairment, was present in all of the 47, and could be subdivided as follows: Confusion alone, confusion of delirium, confused lethargy.

Emotion was absent in 32 of the 47, and in the remaining 15 was only occasionally present, and that merely for short periods; these figures show a great difference from those of ordinary mania and melancholia, in which an emotional state is always a constant factor.

Embarrassment as a fixed facial expression was present in my 47 cases.

The leucocytes were counted in 33 cases, and in 24 there was a leucocytosis of over 9,000 per c.mm.

The presence of indoxyl has been tested for only in the last 19 cases, and has been present in excess in all.

A persistence in a cutaneous vasomotor condition has been noticeable—23 cases showed persistent pallor unaccompanied by any changes in the red corpuscles or haemoglobin to account for the same, and in 20 of the 23 the skin was always dry and rough to the touch. Twenty-four cases showed what might be termed a persistent flush or blush; in 15 of these the skin was dry and rough, in 9 moist. I do not feel competent to go into the question of vasomotor control, but apparently there is a close relationship between these cases and what is probably loss of vasomotor control.

The wide area of causation previously mentioned introduces many special symptoms, alterations in temperature, etc., which have not been touched upon, but it is to be hoped that the figures stated, without being set forth as definite percentages of frequency, will show that the psychical and physical symptoms, namely, purposeless resistiveness, confusion, absence of emotion, embarrassment, persistent

the history and symptoms of physical derangement, form a definite group of confusional insanity.

The following are the statistics with regard to the causes assigned:

(*a*) Direct toxic insanities, 8—that number consisting of: Mixed septic infection, 4; pneumonic influenza, 2; influenza, 2.

(*b*) Indirect toxic insanities from toxines, acting probably through auto-intoxication. 34. In this larger number are included alcoholic, puerperal, lactational, and the visceral cases.

(*c*) Syphilitic infection: 5 were apportioned to this cause.

The physical conditions resulting from these poisons appear to act more or less rapidly on what are in the majority of cases unstable nervous systems, and to produce the group of mental phenomena considered as symptomatic of confusional insanity.

The relationship of such physical and mental conditions appears not a mere case of *post hoc ergo propter hoc*, but ought to be regarded as the phenomena of cause and effect. In the histories, accounts from the relatives of the mode of onset support the argument. The fact that in the milder cases of confusional insanity the mental symptoms disappear after the subsidence of the physical is another proof.

The brevity of the paper will not allow lengthy discussion of these points, but I should like to draw your attention to two phases of the condition: (1) The leucocytosis present in the majority of the cases in which the blood was examined is indicative of toxaemia; this fact is an argument against its being a result of insanity, as leucocytosis occurs in the mentally sound who suffer from toxaemia. (2) The marked presence of indoxyl in the urine is proof of putrefactive absorption from the intestinal tract, and is an evidence of auto-intoxication; in cases that recover, disappearance or diminution of this sign, along with the other physical phenomena, and the improvement in the general health of the patient, all precede mental recovery—another point in favour of the toxaemia being causal and not resultant.

Over one-sixth of the 47 cases are considered to be the result of a toxin acting directly on an unstable nervous system, and in these a preliminary confusion led to a febrile or post-febrile delirium; symptoms of auto-intoxication judged by indoxyl, etc., were not present until after delirium. On the other hand, proof of toxaemia (sepsis, bacteria, and leucocytosis) were present before and during the stage of delirium.

The conclusion that the mental symptoms were in these cases the result of direct toxic action was arrived at in an unusual manner. A pleasant, somewhat grandiose, chronic patient (D. D.), well known to me, in March, 1902, became listless; his temperature rose to 102.4° F., and he showed confusion and symptoms of tonsillitis. The following day his mental symptoms were those of acute delirium, his temperature reached 103.5° F., and the throat condition was now suppurative. He continued to shout and mutter incoherently until he became aphonic. Pyrexia continued for eight days; on the seventh day the resistive delirium passed gradually into a resistive stupor, which persisted for nine days. His condition then cleared up slowly but surely, and by the end of three weeks he again displayed an interest in horse-racing, the study of which was his ruling passion. Numerous swabs were taken from the throat and examined; all showed organisms of mixed infection, and cultures threw no further light on the subject. The four cases of my group ascribed to mixed septic infection were studied and classified after the object-lesson received from this transient confusional insanity in the chronic patient D. D. Pneumonic influenza is also mentioned as an instance of a toxic agency acting apparently directly in a causative manner in 2 cases. Here, also, deductions were drawn from an epidemic of pneumonic influenza among the chronic patients in a Scotch asylum. Stated briefly, a group of 10 quiet chronics stricken down by the epidemic all developed delirium after they were in a febrile state, and in all, except 3 who died, delirium was replaced by post-febrile torpor—the term torpor is used here instead of confusion as more applicable to such a group. The mental states of the 10 cases were—3 delusional insanities, 2 imbeciles, 4 secondary dementias, and a senile mania. It is of interest to state that one dement was deaf and had not spoken for months before his illness. During his delirium he shouted incoherently and was very resistive.

To the kindness of a friend I became indebted recently for the following facts regarding the frequent occurrence of delirium in pneumonia cases treated in a general hospital. During eight months (winter and spring) there were 25 cases, all of whom recovered; 16 of these became delirious during the stage of pyrexia, 6 being almost unmanageable. Unfortunately, inquiries as to hereditary predisposition to neurosis were solicited at too late a period, as the cases had become submerged in the outside world, because investigation along the lines desired might have furnished instructive information. Undoubtedly these deliria—more numerous than anticipated—were instances of transient confusional insanity, and their frequency in hospital patients showed that the ratio in the asylum epidemic of pneumonic influenza was not more than might have been expected.

Though I stated that over one-sixth of the 47 cases studied were ascribable to direct toxic action, this proportion is not mentioned as a definite percentage. It is probable that the number of these cases is even larger, and that in many instances cases admitted to an asylum in a lethargic phase of confusional insanity, and who show signs of auto-intoxication, have previously passed through a febrile delirious stage. It is also probable that auto-intoxication is continued after apparent recovery from the physical ailment till the lethargic mental condition of the patient attracts attention; the case is sent to an asylum and the history of delirium not supplied, for however carefully a history is obtained, a transient toxic delirium may be overlooked or wrongly assigned. An instance of the latter occurred in one of the four cases I considered due to mixed septic origin. A dock hand met with an accident and was removed to a hospital. There, despite all treatment, the case went septic; he became delirious, and was sent to the asylum. The hospital authorities ascribed the delirium to trauma and previous drinking, as an alcoholic odour from his breath was noticed on admission. I investigated the matter carefully, corresponded with his employers, etc., and found that certainly alcohol had nothing to do with it, and the incident of the breath was explained satisfactorily, as, after the accident, he was given alcohol before removal from the docks.

At this point it will be suitable to take into consideration the relation of heredity to confusional insanity. In 46 of the cases a history was obtained; investigation into family antecendents was made as thoroughly as possible, and as a control the cases were examined for stigmata of degeneration, as in addition to meeting histories that are honestly imperfect, it is soon appreciated that to concern ourselves in other people's affairs is a delicate matter, for the relatives of the mentally afflicted at times resent the pursuit after knowledge and forget that dissimilation is criminal and pretend to be ignorant. The stigmata systematically looked for were—malformations or asymmetry of head and face, strabismus, pigmentations of the iris, inequalities of the pupil, overlapping of the jaws crowding, excess, or malinsertion of the teeth, and variations of the palate—in the last mentioned, Berkley's classification (high, narrow, broad, flat) and his plates were selected as the standard.

The causal classification adopted in the paper is adhered to as far as possible in showing the presence of nervous instability in the cases selected.

(*a*) It is found that in the 8 cases ascribed to the action of direct toxines, a parent or grandparent had been insane in 6, the other 2 had an alcoholic parentage and showed stigmata. In all the mental symptoms appeared soon after the toxic infection and a short period of confusion preceded the delirium. These facts support the theory of direct action proposed.

(*b*) Of the 34 cases due to toxines acting indirectly, probably through auto-intoxication, 31 are reviewed under this heading, the remaining three await consideration along with those in Group C. In these 31 cases it is noticeable that there had been a longer period of ill health, or that signs of insanity appeared at the termination of a stress during which auto-intoxication was likely to occur, such as pregnancy; 29 of these cases had an hereditary predisposition, or showed stigmata to a greater or less degree. In the two remaining cases no hereditary predisposition could be established, and they showed no stigmata. In both there were leucocytosis and excess of indoxyl. One came from the maternity hospital within 24 hours of the induction of labour for eclampsia, and made a speedy recovery; the other gravitated to the asylum several weeks after puerperal sepsis, and is still insane.

(*c*) In this group are cases which as a rule show no hereditary predisposition and no stigmata of degeneration; the toxic action is a slow one, and apparently the change in nerve cells is secondary to the changes in the arterial circulation generally. Here are placed the 5 syphilitic and the 3 chronic renal cases. In 6 of the 8 cases (3 renal and 3 syphilitic) no hereditary predisposition was ascertained, no stigmata were detected, and years had elapsed between the date of toxic infection and the appearance of the first mental symptoms. The other 2 specific cases at first sight appear exceptions to this class in that phenomena of delirium became manifest during the phase of syphilitic eruption; but probably, instead of being exceptions to the theory stated above, they are not really so, and that, as there was in both an hereditary predisposition, their central nervous systems were unstable, and the specific virus

acted more or less as a direct toxin, instead of being resisted successfully for years, as it is in cases without nervous instability. The theory on which group (c) is formed has long been accepted by many with regard to syphilis, and probably the hypothesis is equally applicable to long-standing pathological conditions such as are present in the renal cases placed here.

In brief, the 47 cases considered point to the contention that the origin is toxic, that in the majority the toxines act on hereditarily predisposed nervous systems, and appear to do so in one of three ways: (*a*) directly through the blood or lymph channels; (*b*) more indirectly, probably through auto-intoxication; (*c*) still more indirectly, where nerve changes appear secondary to arterial changes.

In all there is a definite causal relationship between the physical and the mental, and, if dementia praecox and general paralysis of the insane are excluded, the constant symptoms—namely, a persistent vasomotor condition, presence of toxaemia, such as leucocytosis and indoxyl, together with confusion, absence of emotion, a fixed facial expression, and purposeless resistiveness—complete the entity of a definite clinical type of insanity. The conviction that it is the type of insanity from which so far we can obtain the most satisfactory results has led to the writing of this article, and its interest is the excuse for any theories or unorthodox views expressed in the paper.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, ETC.

CASE OF PRIMARY TENDON SUTURE.

In June last an inmate of the Andover Union, aged 55, accidentally cut his left hand with a billhook. On examination I found a somewhat lacerated wound 3 in. in length on the dorsum of the hand, and that tendon of the extensor communis digitorum which obtains insertion into the middle finger completely severed in two places. A piece of tendon about 1½ in in length was thus almost excised. As I saw the patient immediately after the infliction of the injury, and there was very little muscular retraction, I quickly sutured the divided ends into close apposition with chromicized catgut. I inserted these laterally (as recommended in Cheyne and Burghard's *Surgical Treatment*) and by tying the ends together obtained perfect approximation, and so restored the partially-excised piece of tendon to its normal position. I then cleansed the wound with an antiseptic lotion and closed it with five stitches, applied the usual gauze and wool dressing, and by means of a forearm splint put up the hand in a position of over-extension. The splint was kept applied for a fortnight, and the wound was dressed from time to time.

It healed by first intention, and then passive movement of the fingers was begun, and so satisfactory was the union of the tendon that the middle finger is now as useful as the others, and enjoys complete freedom of movement.

Andover. E. A. Farr, M.R.C.S., L.R.C.P.Lond.

THREE CASES SIMULATING PEMPHIGUS.

I have recently had brought under my notice three cases which, I think, are well worth recording.

The first case is one in a woman aged 35 years, who when first seen had her forearms, legs, and thighs covered with a large number of bullae varying in size from a bean to a walnut, also by a number of scabs of an equal size. The bullae were tense, hemispherical, and contained slightly turbid contents. The skin around was quite normal, to commence with, but subsequently acquired a very narrow, pink areola. After three or four days the bullae either ruptured or the fluid was gradually absorbed, and drying up, left flat, yellowish-brown scabs, which were subsequently shed, leaving a temporary stain but no permanent scar. A few of the bullae contained a slight quantity of blood. Successive crops continued to come out for about another week, all running the same course.

The health of the patient remained entirely good from the beginning to the end of the eruption. It is interesting to note that, as showing a distinct relation between pregnancy and the outbreak of the bullae, that the latter were first noticed three days before her confinement, she being first seen by me on the eleventh day following it.

The second case occurred in a healthy girl, 4 years of age, and was almost identical with the above. The blebs, as before, were almost entirely limited to the arms and legs, but their size was not so great, the large majority being the size of a shilling, and the others about that of a threepenny-piece. The skin around remained normal, and showed not the slightest trace of inflammation, not even developing a faint areola around the bullae. They ran a similar course throughout, and caused no disturbance to the general health.

The third case was perhaps the most interesting. This occurred in a robust lad, 4 years of age. When first brought under my notice he had a large bulla, situated over the lumbar region of the spine, about the size of the palm of the hand. It was so distinctly like a scald that I asked almost unconsciously how the accident had happened. Whilst asking the question, however, I noticed another one on the back of the neck about as large as a pigeon's egg.

On further examination a number of smaller vesicles were found on the abdomen, giving it the appearance as if it had been sprinkled with drops of boiling water. These rapidly enlarged until most of them attained the size of hazel nuts. A number of others were seen to be forming on the limbs. These were carefully watched, and were noticed to commence with slight hyperaemic patches. The epidermis over these areas was rapidly raised by an effusion of serum into bullae, which increased in size until they were as large as those on the abdomen. Their contents were, at first, clear and transparent, but later became purulent.

The bulla on the back of the neck continued to travel forward, being preceded by a slight hyperaemia until it reached within an inch of the middle-line of the neck in front. As it spread forward the fluid from behind was absorbed and shrunk down into its base. The one over the lumbar region shrunk from the time I first saw it. Successive crops continued to come out on various parts of the body for a period of sixteen days. The smaller ones were, for the most part, hemispherical in shape, but the larger ones were more irregular and never tense (as in the two previous cases). They never coalesced. The contents of the bullae, in this case, almost all disappeared by absorption, very few bursting, the epidermis later becoming detached and subsequently leaving only slight staining.

In none of the 3 cases was the mucous membrane of the mouth, nose, or pharynx affected, neither did the laryngoscope reveal anything in the larynx, though the last case suffered from a mild attack of bronchitis during the second week. There was never any tingling, itching, or other unpleasant sensation, and only in the first-named case were the hands and feet affected. The temperature remained normal throughout. No glands were enlarged. There was nothing suggesting syphilitic origin.

The treatment adopted was the same in all cases, the patient being put on a nourishing diet, whilst liq. arsenicalis was administered internally. Externally the parts were dressed with the boracic acid ointment.

A striking feature of these cases is that they have all occurred in the same borough within the last ten weeks and I have just heard that a colleague has dropped on a similar case during the week.

Quain, in his *Dictionary of Medicine*, says that epidemics of pemphigus occurred at Halle in 1869 and in Paris in 1874, but in both these instances it occurred in newly-born infants, and doubt seems to have been thrown as to whether these were really cases of pemphigus and not rather allied to varicella.

Since writing the above I have had my attention drawn to the cases reported by Dr. J. Leslie Foley, of Montreal, in the British Medical Journal, April 8th, 1905, under the heading "Pemphigus Neonatorum."

Eccles. Edgar Leach, M.R.C.S.(Eng.)

POLYNEURITIS FOLLOWING PUERPERAL SEPSIS.

The following case presents some points of interest, as, though a multiple neuritis may supervene upon some acute specific diseases, I have not observed in the course of many years practice an instance of such a sequela of puerperal infection.

Mrs. A. H., aged 36, multipara, was confined in May, 1905, an untrained midwife attending the labour. I had seen her for an acute weeping eczema of the thighs and vulva for some days preceding delivery, there being much foul discharge from the affected surface. This rapidly improved under compresses soaked in hydrarg. biniod. solution, but the treatment was interrupted by the onset of labour. This was followed by septic fever, probably caused by the renewal of the discharge before-mentioned, and requiring douching during the whole

puerperium. The temperature became normal at the end of a fortnight, leaving her very weak and anaemic. While lying-in she complained of a numb, useless feeling in the hands and arms, which became worse, and spread to the legs and feet. When she got up—about seventeen days after delivery—she presented a picture simulating tabes dorsalis, but evidently dependent on a peripheral neuritis of wide distribution. The knee-jerks were absent, the feet felt numb, and she could not tell whether they were raised on a box or resting on the floor. She could not touch the tip of the nose with her eyes shut, and presented ataxic movements of the hands on purposive movement. Everything felt like ice to the touch, except hot water; the fingers were numb, but were sensitive to a pin-prick. The muscles of the limbs, and especially of the legs, were hyperaesthetic on pressure, and she complained of a girdle sensation round the chest, which was worse at night. The grip was extremely weak, and she could not feed herself nor stand up owing to muscular weakness. The pupils were somewhat dilated, and reacted slowly to light but not to accommodation. The patient was put on strychnine with small doses of arsenic and iodide, and the battery applied daily to the principal muscles, and the neuritis gradually disappeared, the upper extremities recovering first and the lower limbs last. The knee-jerks were not re-established until the end, the whole illness lasting over three months.

There was no history of syphilis, alcoholism, plumbism, nor any usual cause of a widespread neuritis. The absorption of mercury by the large eczematous surface, or by the douches, could not have produced such a condition, and there was never any tremor, ptyalism, or other symptom of hydrargyrism. The only theory that seems possible is that the nervous system was invaded by toxines formed by the septic processes in the uterus: and I should be much obliged if any reader who has observed a similar sequence of events would communicate a few notes of the case

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East London, South Africa.

PRIMARY SYPHILIS OF CONJUNCTIVA.

During May and June, 1905, I attended Mr. A. H. for syphilis, commencing with chancre on the penis followed by fever, roseolous rash on the chest and limbs, and glandular enlargement.

On June 23rd Mrs. B. came to consult me about her eye. She stated that she was housekeeper to Mr. A. H., and that she had been attending on him during his illness. She said her eye had been bad about twenty-four hours. It was painful; the conjunctiva was chemosed, projecting over the edge of the cornea, and there was a slight discharge of watery fluid. Halfway between the limbus and fornix (under cover of the upper lid) was a small grey patch on the ocular conjunctiva, 2 mm. in size, with a shreddy surface. It was not an ulcer, but appeared like a slough. The whole of the ocular conjunctiva was engorged and swollen, but more particularly so towards the slough. The palpebral conjunctiva was not affected to any appreciable extent. The patch was the primary syphilitic sore.

The eye was gently washed and fomentation applied frequently. The condition continued for ten days without much change. The upper lid began to feel stiff and the swollen bulbar conjunctiva seemed firmer as though thickened with cellular elements, as the inflammation began to subside the patch or slough did not separate; at no time was there any ulcer or loss of tissue, but it gradually disappeared, leaving no mark on the conjunctiva, and about a month elapsed from the beginning of the attack until the total disappearance of the slough.

About the third week the pre-auricular cervical and submaxillary glands began to cause pain and they separately became enlarged and hard. The temperature rose every night to about 100° F., the patient had pains and aches throughout the body, and at the end of the sixth week a well-marked rash had appeared on face, trunk, and limbs.

Infection was probably acquired by means of the fingers and carried up by movements of the lid. There were no genital or other sores. This was without doubt a primary syphilitic sore on the ocular conjunctiva—apparently a rare condition.

Kalgoorlie, West Australia. W. J. Forshaw.

A NEW TREATMENT FOR "HOUSEMAID'S KNEE."

In submitting this case as "a new treatment," I mention it as such tentatively, as I have not read of a case of the kind or met with it in practice.

Miss C., aged 29, came to me on August 19th with the characteristic swelling of substantial dimensions. Provisionally I instructed her to paint with iodine and see me again. On August 23rd she came and reported as follows: The same morning (August 23rd) the swelling had increased very much. About two hours after, while descending the stairs she accidently knocked the knee against the bannisters, and the result was a complete disappearance of the swelling. Certainly there was no trace of it in the evening when she saw me. There was fullness above the patella and this was treated by the same iodine application. On August 31st she saw me again, and there was very little swelling to be seen anywhere. Locomotion was easy, painless, and apparently natural.

I consider the incident interesting and worthy of note. The bursting of a ganglion by violence has an historic interest, but the "collision" treatment of an enlarged bursa patellae was unknown to me until I met with this case.

Birmingham. Buckley Pogson.

OBSTRUCTION OF THE SUBCLAVIAN.

On January 27th, 1905, I was hastily summoned to see Miss H. R., a perfectly healthy woman, aged 37. I found her suffering from intense headache, with conjunctivae suffused, pupils contracted, marked photophobia; pulse 100; temperature 99°; heart and lungs normal. During the following night she was very restless, and had some nausea and sickness. The next day but one she complained of pain in the right arm, which became very severe towards nightfall. There was some incoherence of speech and pseudo-hysterical symptoms, and also a certain amount of rigidity and spasm of extensor muscles of left arm; pulse 120; temperature 99°. During the following days (January 31st and February 1st) the symptoms slightly ameliorated; urine specific gravity 1022; no sugar or albumen. On February 2nd the tips of the fingers of her right hand grew numb and shriveled, the pulse being scarcely perceptible, and severe pain existing. During the next two days spreading gangrene began; the hand and wrist were discoloured, the forearm cold; no pulsation in the brachial artery. A consultation with Dr. Sidney Turner, Surgeon to Norwood Cottage Hospital, being held, a diagnosis of clot of fusiform aneurysm of subclavian was made, and the patient sent to Guy's Hospital.

Three or four days after admission the patient again showed symptoms of brain trouble and developed facial paralysis. On February 15th convulsions set in and coma followed, death ensuing the same evening.

At the *post-mortem* examination an *ante mortem* clot, slightly adherent, was in right subclavian and carotid. The valves of the heart were normal, but the mitral a little shortened; the lungs were slightly congested, patch of collapse and wasting in the left side; the kidneys were normal, the spleen soft. In the brain an *ante mortem* clot was found in the basilar artery and in right middle cerebral; the arterial coats were quite healthy. There was softening of the right corpus striatum.

Remarks.—The absolute want of any evidence as to the origin of obstruction and the uncertainty as to whether the clots were emboli or thrombi makes, I think, this case one of great interest. For permission to publish the occurrences while in Guy's Hospital I am indebted to Mr. Clement Lucas.

R. Wilkinson, M.D.Brux., M.R.C.S., L.R.C.P.
Upper Norwood, S.E.

OEDEMA OF THE UVULA.

It is a curious coincidence that I had a case of acute oedema of the uvula on the same day that Dr. Clampett's case was published in the British Medical Journal.

An old lady was suddenly attacked in the street with a sudden swelling in her throat. Her companion took her home in a cab and immediately sent for me. I found her speechless and hardly able to breathe. On examination, I found the uvula very much swollen, and filling the whole of the fauces. I sprayed the throat with cocaine, and made several incisions into the uvula. The result was immediate relief, and the next day the uvula had resumed its normal size, and the patient appeared quite well. She told me she had had several similar attacks, coming on quite suddenly and without any other symptoms. The treatment had been the same. She was decidedly gouty, so probably the sudden oedema was a manifestation of that disease.

Tunbridge Wells. Frederic Vigars, M.D.Brux.

REPORTS
ON
MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

ROYAL INFIRMARY, NEWCASTLE-ON-TYNE.

A CASE OF CANCER OF THE CERVIX AFTER SUPRAVAGINAL HYSTERECTOMY FOR FIBROID.

(By G. Grey Turner, F.R.C.S., Surgical Registrar to the Infirmary.)

While in the Infirmary this patient was under the care of Mr. Rutherford Morison, and I am very much indebted to him for permission to publish the case. I was encouraged to write up the notes after reading one of the papers in Mr. Bland-Sutton's *Essays on Hysterectomy*, for he says in effect "that it is a duty incumbent on all surgeons practically interested in hysterectomy to record all cases in which carcinoma of the cervix develops after supravaginal hysterectomy."

History.—The patient was a woman aged 47, the mother of five children, the youngest 19 years of age. She came to the hospital complaining of a large abdominal swelling which she had noticed for fifteen months, during which time it had gradually increased in size, with exacerbations at each menstrual epoch. The periods were always regular, but during the previous two years the loss had been excessive. From time to time she had attacks of pain in the left side, accompanied by vomiting. She was a big, stout, well-nourished woman, but with a uterine tumour the size of a six months pregnancy. There was nothing noted about the cervix to suggest malignant disease.

Operation.—On March 10th, 1899, Mr. Morison opened the abdomen, and found a large soft myoma extending into the left broad ligament. The uterus and its tumour, with both sets of appendages, were removed by supravaginal hysterectomy after Kelly's method, the whole cervix (which appeared perfectly normal) being left behind. The tumour was a soft oedematous fibroid, with nothing about it suggestive of malignancy.

Result.—The woman made a good recovery, and returned to her home. Eight months later—November, 1899—she was impelled to seek advice on account of an aching pain in the left side above the iliac crest and shooting down the thigh. For a period of four months following the operation there was no haemorrhage: then there was a little, which ceased, but soon reappeared; beyond this there was no vaginal discharge. There were no bladder or rectal symptoms. Her general health was good, and she had gained weight during the two months preceding her readmission. There was nothing abnormal to be made out on abdominal examination. On the left side of the cervix there was an old laceration surrounded by some hard nodules; the os was sufficiently patulous to admit the forefinger; the walls of the canal felt as though covered by soft friable granulations.

Second Operation.—Mr. Morison removed the cervix by the vagina on November 14th. Its friability made the operation difficult, as well as the fact that it extended high up on the left side and forwards to the base of the bladder. There was a soft papillomatous growth in the interior of the cervix, and this was reported upon by the Clinical Research Association as "typical carcinoma."

Further Result.—Recovery was uneventful, and in May, 1900, she reported herself as very well, and was free from any sign of recurrence, but soon afterwards a suspicious hard area was detected on the vaginal vault. Soon afterwards the patient placed herself under the care of Mr. H. D. Levick, F.R.C.S., of Middlesbrough, on account of pain and haemorrhage. He found a growth about the size of a shilling on the anterior vaginal wall, which he successfully removed on April 2nd, 1901. The growth was submitted to microscopical examination, and Mr. Levick, with great kindness, sent me the slide, together with particulars of the case. The appearances of the section show undoubtedly that the growth was an epithelioma.

Remarks.—When examined on December 29th, 1904, there was no suspicion of recurrence. Thus the patient was apparently free from cancer more than five years after removal of the cervix for that disease, and three years and eight months after removal of a recurrence from the vagina. In the light of the after-events it is very much to be regretted that the parts removed at the first operation were not examined microscopically, and, worse still, that, as they have not been preserved, it is impossible to make good the omission. It is, however, quite certain that there was nothing discovered when the patient first came to the hospital either on examination or during the operation to make the surgeon suspicious of malignant disease. Nevertheless, the growth had advanced so far when the cervix was removed eight months after the laparotomy that it seems probable that it was in existence at that time. It was worthy of note that the growth was far advanced in the cervical canal, while there was little abnormal on the external surface of the os, and it is just such a growth that is likely to be overlooked in the early stages. Such a case as this seems to me to show the importance of a very careful examination of the cervix when subtotal hysterectomy is contemplated rather than that this excellent operation should be relegated to the lumber room with such methods as extraperitoneal treatment of the stump.

SUNDERLAND INFIRMARY.

A LARGE OVARIAN CYST: OPERATION: RECOVERY.

(By Thomas F. Hopgood, M.R.C.S., L.R.C.P., Surgeon to the Hospital.)

A. J. M., aged 48, spinster, was admitted into the Sunderland Infirmary on February 2nd, 1905, with a large abdominal swelling.

History.—The patient, who was a dressmaker, had had a very healthy life, and until July, 1904, had never been seriously indisposed. At this time she noticed that she was stouter than usual, but paid little attention to the condition, which gradually became aggravated until the end of December, 1904, when it commenced to grow rapidly until the end of January, 1905, at which time she first sought medical advice. When I saw her I diagnosed the condition as one of large multilocular cyst of the ovary, and advised early operation. There had been amenorrhoea since September, 1904.

Condition on Admission.—There was a very large abdominal swelling, which had the classical signs of an ovarian cyst. The waist measurement was 51½ in. Her general condition was good, and there was no contraindication to operation.

Operation.—The abdomen was opened by a median incision on February 7th, and it was then found that the tumour consisted of two large and several small collections of cystic fluid, together with a large, solid growth springing from the left ovary, there being a broad, flattened pedicle of some 5 in. in length. The two larger cysts were tapped and their contents evacuated by means of a Spencer Wells trocar and the remainder of the tumour was removed entire. The latter part of the operation was one of great difficulty and anxiety on account of the extensive and intimate adhesions that the cyst had formed with the great omentum and the parietal peritoneum. Practically the whole of the great omentum had to be removed, whilst considerable difficulty was experienced in detaching the growth from the parietal peritoneum in the left hypochondrial and lumbar regions and in the arrest of haemorrhage. These difficulties were, however, satisfactorily overcome, and the peritoneal cavity was freely irrigated with hot normal saline solution, and was then closed, a Keith drainage tube being placed deep in the pelvis and left protruding from the lower angle of the wound.

After-progress.—This was entirely uneventful. The tube was removed after forty-eight hours, and the wound was not again dressed until February 16th, when it was found firmly healed and the superficial stitches were removed.

Remarks.—The dimensions of the cyst were as follows: Weight of solid tumour, 7 lb. 10 oz. avoirdupois; measure of cystic fluid, 596 fluid ounces; giving a total weight of about 51 lb. avoirdupois. In Howard Kelly's *Operative Gynaecology*, vol. ii, page 264, there is a description of a cyst weighing 116 lb., which he removed, whilst Garrigue records one of 146 lb. (*Diseases of Women*, p. 608), and the records of the Rotunda Hospital describe a case in which the waist measurement was 62 in. This tumour, therefore, is nothing like a record, but there are several points of interest in connexion with it, and it is undoubtedly a very large tumour in these days of early operative interference. The following are the points which are most interesting in this case: The patient's almost entire indifference to her condition. Had she been a married woman one could have understood her not taking much notice of it in its early stages, but it is indeed remarkable that a spinster should allow such a large abdominal swelling to progress without seeking advice. The next point to be noticed is the remarkable freedom from pain during the whole course of her illness. She stated that she had never had any pain at all, and, accepting this statement, it was quite expected that no adhesions would be met with, but they were very extensive, which undoubtedly indicated several attacks of localized peritonitis. The last point of interest is the wonderfully uneventful recovery that the patient made. There was no shock and in fact no constitutional disturbance at all. I have to thank Dr. Raw, House-Surgeon of the Infirmary, for the notes of this case.

REPORTS OF SOCIETIES.

MEDICAL SOCIETY OF LONDON.

Sir LAUDER BRUNTON, M.D., F.R.C.P., F.R.S., President, in the Chair.

Monday, October 9th, 1905.

INTRODUCTORY ADDRESS.

SIR LAUDER BRUNTON, the incoming President, delivered the opening address of the session, in which he described the important advances in medical science that had occurred within his own experience since his presidency of the Royal Medical Society, Edinburgh, including the introduction of the clinical thermometer, the ophthalmoscope, laryngoscope, and the sphygmograph, the recognition of the relation of chemical constitution to physiological action, and the first use of synthetic remedies. Advances were prognosticated in relation to diseases due to animal microbes, the prevention of disease, disease due to alteration of metabolism, and methods of increasing bodily resistance. Reference was made, among other things, to knowledge recently acquired as to various parasitic tropical diseases, and the essential pathology of phthisis and cancer.

CEREBRAL AND OPHTHALMIC COMPLICATIONS OF SPHENOIDAL SINUSITIS.

Dr. STCLAIR THOMSON read a paper on this subject based on 2 cases with necropsies. An analysis of 9 000 cases of necropsies at Guy's Hospital showed only 1 case of cerebral abscess from nasal disease. The frequency of pus formation in the sinuses of the nose in patients dying from all causes was emphasized. Suppurative meningitis was the cause of death in 1 of the cases recorded, and septic thrombosis of the cavernous sinus and other cerebral sinuses of the other. Reference was made to other recorded fatal cases, 34 in number, chiefly with meningitis and thrombosis of the cavernous sinus, either alone or in combination. The symptoms of sphenoidal sinusitis were enumerated and the pathological findings described. Drainage of the sinus containing pus was probably always indicated. The methods of opening the affected cavernous sinus were described.

Dr. C. E. BEEVOR referred to the case published by himself and Dr. F. Buzzard of sinusitis with meningitis.

Dr. TILLEY remarked that the pus from the sphenoidal sinus was not fluid, as from other sinuses, but dried and dark-brown in colour; and alluded to the difficulty of keeping the opening made in the sphenoidal sinus free.

Dr. SCANES SPICER mentioned some points in the operation of opening the sinus, including the giving of a general anaesthetic, which allowed of all the sinuses being explored at one operation.

Dr. DUNDAS GRANT alluded to the inconclusiveness of the position of pain. The mere presence of pus in the sinus did not prove the sinus itself to be diseased, because fluid from other nasal cavities might gravitate into it. The best way of obtaining a permanent opening was to remove the floor of the sinus, using instruments of sufficient strength.

Mr. H. H. JESSOP mentioned 3 cases of caries of the body of the sphenoid he had recorded, and asked if the proptosis was not always directly forwards.

Dr. STCLAIR THOMSON replied.

OBSTETRICAL SOCIETY OF LONDON.

R. DAKIN, M.D., F.R.C.P., President, in the Chair.

Wednesday, October 4th, 1905.

CARCINO-SARCOMA UTERI.

DR. H. R. SPENCER, in the course of a paper under the above title, said the name "carcino-sarcoma" had been given to cases in which cancer and sarcoma coexisted side by side in the same uterus, and that of sarcoma carcinomatodes to cases in which a malignant growth was partly cancerous and partly sarcomatous in structure. The disease usually affected sterile patients after the menopause. The sarcoma usually arose in the endometrium, and was lobulated, often polypoid, and, by comparison with cancerous growths, smooth upon the surface. The writer believed that if all cases of sarcoma were carefully examined the association with them of cancer would be found to be less rare than would appear from the number of published cases.

Dr. W. S. HANDLEY suggested that the association of sarcoma with carcinoma might be due to the simultaneous invasion by a parasite of both the epithelial and the connective tissues. But it seemed more probable that any lump in the uterine wall, whether simple or sarcomatous in character, might occasionally so irritate the endometrium as to cause a cancer, in much the same way as a carious tooth might cause epithelioma of the tongue.

ECTOPIC GESTATION.

Dr. J. C. HOLDICH LEICESTER, I.M.S., recorded a case in which an ectopic gestation sac had apparently ruptured twice:

A Hindustani female, 35, was admitted to the Eden Hospital, Calcutta, on account of severe pain in the left side of the lower abdomen, following two missed periods. She was detained for nine days, and then discharged; but two days later she had an acute attack of pain in the lower abdomen on the left side, and said she fainted. When readmitted a cystic tumour the size of a large orange was found to the left and behind the uterus. The abdomen was opened, and a distended left Fallopian tube and clots were removed. The patient made an uninterrupted recovery.

Mr. H. J. PATERSON described the case of a woman, aged 32, who, after three months' amenorrhoea, was admitted to hospital suffering from pain in the lower abdomen. The case was diagnosed on admission as one of ruptured extra-uterine gestation with pelvic peritonitis. But after a few days the patient's condition rapidly improved, the internal bleeding apparently ceased, and all pain disappeared. The lower abdomen was occupied by a globular, tense, elastic swelling, which continued slowly to increase in size. On July 22nd—six months after the last normal period—the abdomen was opened in the middle line and a living fetus removed; it died in a few minutes. The free haemorrhage was controlled temporarily by packing. After a short interval the sac was irrigated with hot water and many bleeding points were clamped and ligatured. About 2 pints of fairly recent blood clot were removed from the bottom of the sac, but much laminated clot was left as it was densely adherent. The sac was secured to the lower end of the abdominal wound and its cavity packed with sterilized gauze. Severe vomiting followed. On the third evening the patient's condition seemed desperate. As a last resort 3 gr. of calomel were given, followed in a few hours by a turpentine enema. Relief followed. The patient made a tardy convalescence. The sinus into the sac persisted for over a year, ligatures being discharged from time to time.

Mr. ALBAN DORAN considered that packing the sac and ligaturing its vessels were often unavoidable. Unfortunately the ligatures were apt to become infected, especially when the gestation sac was of the posterior tubo-ligamentary type, in which case the deeper part of the sac was formed by walls of the large intestine.

Dr. GALABIN thought that a great advantage was gained if it was in any way possible to remove the whole placental site. In a recent case, operating at about the fifth month, and about a week after the death of the fetus, he had found it possible, by commencing the separation of the unaffected side, removing the whole uterus, and tying both uterine arteries before interfering with the sac, to remove entire the adherent fetal sac, including the whole broad ligament in which it originated. The result was that the haemorrhage was controlled after the ligature of the uterine and ovarian arteries, an aseptic field was obtained, the abdomen was closed without drainage, and the patient recovered rapidly without any disturbance.

Dr. AMAND ROUTH considered that packing the sac with gauze was almost invariably followed by infection of the ligatures and a resulting sinus. He thought that calomel was more likely to succeed than morphine in the treatment of the severe vomiting.

Dr. GALABIN also showed a specimen of tubal abortion which was produced by bimanual examination. It was associated with a trivial amount of haemorrhage only and was accompanied by no distinctive symptoms.

WEST LONDON MEDICO CHIRURGICAL SOCIETY.—The first meeting of the twenty-fourth session of this Society took place on October 6th, the President, Mr. L. A. BIDWELL, in the chair. Mr. BIDWELL delivered the presidential address on The Progress of Intestinal Surgery. After a brief review of the history of the surgery of this region in which he gave an account of the almost accidental but successful resection and suture of a piece of intestine by Randohius in 1727, he pointed out that the advances made during the past thirty years were so extraordinary that they seemed almost beyond belief. He traced these advances to the advent of anaesthetics, the work of Lord Lister in the field of antiseptics; the introduction of aseptic

treatment of wounds; improved knowledge of the anatomy and physiology of the organs contained in the abdomen, which showed to what a great extent they might be interfered with without damaging the health of the patient; lastly, to the discovery that with cleanliness it was by no means dangerous to open the peritoneal cavity, but that the rapid manner in which peritoneal surfaces adhered to one another, and the way in which they were able to deal with a considerable amount of even semipurulent fluid, entitled the peritoneum to be called rather the surgeon's friend than his enemy. Another thing which had contributed to progress had been the recognition of the proper methods of suturing gut, and the lecturer paid a fitting tribute to the work in this direction of Lembert and Halsted. Reference was also made to the ease with which haemostasis is now obtained by Spencer Wells forceps, and the methods of combating shock by means of saline injection and heated operating tables, both of which are of no small assistance to the abdominal surgeon in attaining his present good results. In the course of a rapid review of the present attainments of the surgeon in the abdomen it was noted that two former Cavendish lecturers of the Society had been the means of making epoch-making advances, the late Professor Mikulicz having been the first in 1880 to operate successfully for perforating gastric ulcer; while Sir Frederick Treves in 1887 first recommended the removal of the appendix during the interval between two recurring attacks.

REVIEWS.

THE EOSINOPHILE REACTION.

Of all the various forms of clinical examination of the blood, that which deals with the enumeration of the various cell contents has so far been the most fertile; we have advanced very far along the road which commenced with the recognition of a general leucocytosis affecting all forms of white cells, and Dr. Meyer's essay on the clinical significance of eosinophilia[1] is one of the last efforts to wrench from numerical estimation some facts which may be of diagnostic and prognostic use. The idea of making use of the eosinophile reaction has occurred to other investigators in the past; these have shown that there are certain conditions in which the eosinophilous cells of the blood undergo marked variations. These cells are easy of recognition, for there is no difficulty in establishing the acidophile reaction of the large granules which constitute such a well-marked feature of their appearance. Further, they are much less numerous than their associates, and this has especially tempted some observers to make the eosinophile cells the indicators of a defensive response to morbid agents. Unfortunately it is the very sparsity of their numbers which to other observers has proved a stumbling block: so small is their number, 0.5 to 4.0 per cent. according to Dr. Meyer, that they cannot be taken except in cases of extreme increase as useful indicators.

Apparently Dr. Meyer does not find this objection serious, but we are bound to submit that some of the nebulous conclusions to which he comes are due as much to this fact as to the variations in the three factors which, in common with accepted authorities, he holds to be responsible for different degrees of eosinophile reaction in different individuals suffering from the same malady, for the different degrees of reaction at different stages of the malady in the same person, and for the contradictions met with in the observations of different observers.

Eosinophile reaction depends upon the chemical nature of the toxic material (positive or negative chemiotaxis), upon the degree of concentration of such substances, and the power of reaction of the body. Variations in these factors account for the discrepancy of the observations already referred to, as well as for the fact that, besides the changes met with in the number of eosinophile cells in such disorders as infectious disease, skin disease, and parasiticism, there are slighter changes met with in circulatory, intestinal and other disorders. Following Ehrlich, Dr. Meyer accepts the view that the granules of eosinophile cells are products of the activity of cell protoplasm; hyper-eosinophilia is an attempt on the part of the body to combat harmful agencies by the production of defensive substances or by the dilution of the toxic substances (Edelstein).

Turning to the practical results of Dr. Meyer's investigation, we find that he corroborates many observations previously made, but also contributes some solid facts which may prove to be of great prognostic value. The infectious diseases generally are associated with a reduction of the number of eosinophile cells in the blood—for example in typhoid fever and pneumonia, though this hypo-eosinophilia is in favourable cases succeeded by hyper-eosinophilia during convalescence—a fact which has important bearings in prognosis: in scarlet fever there is, however, hyper-eosinophilia during the active stages of the disease. Parasiticism (hydatid disease, intestinal worms, etc.) and skin diseases, on the other hand, are frequently associated with hyper-eosinophilia, and this fact may be of importance in the diagnosis of hydatid as opposed to malignant diseases of the liver and in the exclusion of syphilitic skin lesions.

The attempts made to define diseases by a formula derived from an analysis of the white corpuscles of the blood are very numerous, but, like all efforts in this direction which aim at a definition by results rather than causes, an enormous number of observations must first be made before we can hope for success; in the meantime we must be grateful for such contributions as this of Dr. Meyer, which so notably advances the study of blood reaction in disease.

[1] *Die Klinische Bedeutung der Eosinophilie* [The Clinical Significance of Eosinophilia]. Von Dr. med. Karl Meyer. A prize essay of the Medical Faculty of the University of Rostock. Berlin: S. Karger; and London: Williams and Norgate. 1905. (Demy 8vo, pp. 133.)

PATHOLOGY.

Success in all pathological work depends on a cultivation of the powers of observation, and therefore Dr. Oestreich approaches his subject from the right standpoint when he declares that the main object of his work is to teach the medical student how to utilize and develop his senses of sight and touch. But whether his general guide to diagnosis in pathological anatomy will fulfil this purpose depends to a large extent upon the temperament of the student in whose hands it is placed. The average youth, at least in this country, is apt to become restive if he is overburdened with too much preliminary advice, however excellent it may be, and we doubt if he will have the patience to settle down to the study of a whole volume devoted to those preliminary considerations in morbid anatomy which are here elaborated into what may be described as a practical philosophy of method. If Dr. Oestreich had concentrated his advice into forty or fifty pages it would probably have proved most helpful to the student who wishes to apply his general knowledge of morbid anatomy and histology to the practical diagnosis of material met with in the *post-mortem* room. But when expanded into a volume of over six times this bulk, one is apt to weary of advice which is redundant in its prolixity and is padded with common-sense observations which would be self-evident to the dullest of students. It is impossible, even for the temperately-minded, to withhold a certain amount of sympathy for those who think they could assimilate their intellectual stimulants better if they were diluted with rather less water.

In their book, *Methods of Morbid Histology and Clinical Pathology*,[3] Drs. Walker Hall and Herxheimer acknowledge their indebtedness to Schmorl's *Die pathologisch-Histologischen Untersuchungs-methoden*, and indeed they have taken that work for their model, besides drawing largely upon its pages. Without being comprehensive enough for a work of reference, the sections—on staining methods at least—have that lack of individuality which, inseparable as it must be from the columns of a pure work of reference, deprives the student for whom these pathologists are writing of the benefit of their experience; in the multitude of prescriptions there is but little discrimination. The chapters on general principles are, perhaps, the best part of the book, and will really repay the student. "Clinical pathology" cannot be said to occupy more than fifty pages of the book at the outside. The best feature is the accuracy of the text; it is evident that great care has been expended both in compilation and in reading the proofs. There is a useful bibliography and a good index, two points which help to atone for defects already indicated. In a future edition the authors will perhaps embody the mature fruits of their own experience with the many technical methods they have collected and set forth.

[2] *Allgemeine pathologisch-anatomische Diagnostik.* Von Dr. R. Oestreich. Berlin: S. Karger; and London: Williams and Norgate. 1905. (Demy 8vo, pp. 323. 6s.)

[3] *Methods of Morbid Histology and Clinical Pathology.* By J. Walker Hall and G. Herxheimer, M.D. Edinburgh and London: William Green and

The tenth edition of Dr. T. HENRY GREEN'S *Introduction to Pathology and Morbid Anatomy*[4] has been revised, enlarged, and otherwise brought up to date by Dr. W. C. BOSANQUET. The previous edition was recast and practically rewritten by Dr. Montague Murray, and the section on diseases of the nervous system by Dr. F. W. Mott. The present edition combines the good qualities of its predecessors with additions necessitated by advances in pathological science, particularly in relation to animal parasitology, immunity to infectious diseases, auto-intoxication, and nutritional diseases. The book is too well known to need any lengthy notice, and too favourably known to need any special praise. The high opinion of its merits expressed in the review of the ninth edition published in the BRITISH MEDICAL JOURNAL on October 6th, 1900, p. 1025, may be reiterated. As an introduction should be, the book is plain, simple, sound, well illustrated, and, in a word, essentially helpful.

MEDICAL JURISPRUDENCE IN INDIA.

THE third edition of LYON'S admirable treatise on *Medical Jurisprudence for India*[5] has been revised and brought up to date by Lieutenant-Colonel L. A. WADDELL, M.B., C.I.E., LL.D., F.L.S., of the Indian Medical Service, who by mental gifts, varied and active work, and special experience possesses almost unique qualifications for such a task. While the general plan and to a large extent the construction and material of the work have been retained, alterations and additions of an important character, many of them the outcome of Dr. Waddell's own researches, have been made. The length of the book has been somewhat increased, but by the judicious use of small type its bulk does not greatly exceed the original. The psychology of crime in India constitutes a more conspicuous feature of this edition than of its predecessors, and the dependence of criminal acts and practices upon the personal and hereditary character of Indian races, their environments, political, social, domestic conditions, customs, and religions is well brought out throughout the volume. The peculiarities of the science and practice of medical jurisprudence in India are in fact more clearly and fully displayed in this work than in any other, and the author has made excellent use of all that has been written by Chevers, Macleod, Harvey, Mackenzie and others, and all that has been published in books, periodicals, and reports. The illustrative cases which were in the earlier editions relegated to an appendix have very properly been incorporated in the text. One of the most striking things in Indian social life is the light estimate in which life is held, and associated with this is a remarkable callousness to suffering whether of self or others. When with these traits are combined the wiliness and deception to which Macaulay assigns a defensive function, but which are also employed for purposes of offence, very curious manifestations of crime result. Homicide and suicide for purposes of imputing crime to enemies are the most notable examples of these peculiarities, and they are fully illustrated by strange cases. Self-wounding and the fabrication of injuries for revenge or aggression are also described; but the characters of wounds and injuries sustained in defence are not specially alluded to. The chapters relating to poisons are excellent, and include not only poisoning, homicidal and suicidal, but the effects on health, mind, and morals of habitual indulgence in drugs, such as opium, cannabis, and cocaine, and such physical disabilities as ergotism, lathyrism, and plumbism. The subject of snake poisoning is also dealt with in a very instructive manner, and recent researches by the editor himself, and by Lamb Rogers, and others, are embodied. The important matter of cattle poisoning by arsenic and abrus is referred to in sufficient detail. Altogether this work in its present form constitutes a most able and exhaustive exposition of forensic medicine in India, and includes every circumstance and occasion on which medical observation and testimony may be called into requisition for the purpose of maintaining personal, social, and legal rights. Waddell's edition will materially enhance the reputation which Lyon's work has so deservedly won; and the book may be profitably read and consulted, not only in India, but wherever an interest exists in crime and its causes and manifestations.

The second edition of Major COLLIS BARRY'S *Legal Medicine and Toxicology*[6] is virtually a reproduction of the first, published only two years ago. This fact indicates that the work has been found useful. The new edition gives evidence of careful revision, and contains the most recent information on the subjects with which it deals. For example, the discrimination of human from other mammalian blood by the method of "serum precipitation" founded on the researches of Bordat, Uhlenhuth, Friedenthal, and Nuttall is fully described and its limitations indicated. Recent work by Lamb and others on the subject of snake poisoning and its curative treatment by antivenene is also described. Illustrative cases are still, for the most part, contained in a separate volume; but a few of them are included in this volume, and references are supplied to the remainder, which have been numbered serially. The excellent plates of poisonous plants contributed by Lieutenant-Colonel Kirtikar, I.M.S., constitutes a pleasing feature of the book. The general index has been carefully drawn up, and there is a separate index of vernacular terms. This work has established itself as a good textbook, and, with its copious record of cases, will be found very serviceable for reference by magisterial and medical officers in India.

In his *Manual of Medical Jurisprudence for India*[7] Lieut.-Col. GIBBONS, I.M.S., has embodied the results of eight years' experience as police and coroner's surgeon in Calcutta and Professor of Medical Jurisprudence in the Calcutta Medical College. He has compiled a systematic treatise embracing all the subjects usually dealt with in a work on legal medicine and made copious use of his own observations and those of his predecessor, the late Brigade-Surgeon S. Coull-Mackenzie, of the Indian Medical Service, who for years held the offices above mentioned, and published a valuable work on *Medico-Legal Experiences in Calcutta*. Colonel Gibbons's book has a two-fold aspect and value as a systematic exposition and as a repository of medico-legal facts accumulated in Calcutta and gathered from responsible official work. As a manual of forensic medicine and toxicology it is somewhat sketchy. It is written in a pleasant style, and is carefully arranged and indexed, and is well adapted for conveying a sound general knowledge of the subject. It would serve well as a textbook in Indian medical schools. The treatment of Indian medico-legal specialities is somewhat meagre, and references to previous Indian publications, excepting Mackenzie's, rare and casual. The most valuable element in the work is the Calcutta experience, which is likely to be of great local utility and which also furnishes matter of general interest.

THE THYROID AND PARATHYROID GLANDS.

IN *The Thyroid and Parathyroid Glands*[8] Dr. HUBERT RICHARDSON, of the University of Maryland, has endeavoured to present a comprehensive account of our knowledge of these organs and their disorders. So immense has become the mass of literature upon the subject that some work of the kind was inevitable; and this, it is stated in the preface by Professor Hill of Baltimore, the author is eminently qualified to undertake. The preface was apparently written before the book was commenced, but, nevertheless, we think the foreword is justified by the text, which is careful, and in the main thorough. The author has either inserted but little of his own researches or has been careful to conceal his personal connexion therewith. His treatment of Basedow's disease is worthy of note; it was suggested by two observations—the physiological antagonism of the thyroid and adrenal secretions, and the inertness of the iodine-saturated thyroidin molecule. The exhibition of desiccated adrenal and Lugol's solution (iodine dissolved in potassium iodide), thus rationalized, has been successful in some marked cases, particularly those associated with the establishment of the sexual functions—that is, puberty and their crises, menstruation and pregnancy. Serum treatment, the use of cytotoxins, and of the milk of thyroidectomized goats, as suggested by Lanz, receive the slight meed of space their present success demands. The chapters on the anatomy, physiology, and in particular the

[4] *An Introduction to Pathology and Morbid Anatomy.* By T. Henry Green, M.D., F.R.C.P. Tenth edition, revised and enlarged by Dr. W. C. Bosanquet. London: Henry Renshaw. 1905. (Demy 8vo, pp. 744, 188.)

[5] *Medical Jurisprudence for India.* By J. B. Lyon, C.I.E., F.C.S., F.I.C., Deputy Surgeon-General, I.M.S. (retired). Third edition, by L. A. Waddell, M.B., C.I.E., LL.D., F.L.S., I.M.S. Calcutta: Thacker, Spink, and Co.; and London: W. Thacker and Co. 1904. (Demy 8vo, pp. 720, 6 plates, 50 illustrations. 18s.)

[6] *Legal Medicine (in India) and Toxicology.* By Major Collis Barry, F.R.S.E., I.M.S., F.I.C. Vol. I. Second edition. London and Bombay: Thacker and Co., Limited. (Demy 8vo, pp. 632.)

[7] *A Manual of Medical Jurisprudence for India.* By J. B. Gibbons, Lieut.-Col., I.M.S. Calcutta: G. W. Allen and Co. (Demy 8vo, pp. 483. Rs. 12.)

[8] *The Thyroid and Parathyroid Glands.* By Hubert Richardson, M.D. Philadelphia: P. Blakiston's Son and Co. 1905. (Demy 8vo, pp. 275.)

chemistry of the glands, are well and clearly written. The clinical picture of goitre and the general account of myxoedema and Basedow's disease contain all that is necessary, whilst there are two excellent chapters, one upon the thyroid in infectious diseases, and one upon thyroid feeding in general therapeutics. The chapter dealing with myxoedematous infantilism is disproportionately lengthy: and in view of the author's extreme indebtedness to Dr. Hastings Gilford, whose papers on the subject were published in the BRITISH MEDICAL JOURNAL in 1904, it is a blemish to misspell the name; Hutchison, too, is spelt Hutchinson throughout. The defect of the book, however, is in the histological descriptions. On page 139 the statement occurs that "the lesion (syphilis) is differentiated from tubercle by the absence of giant cells and degeneration;" surely a highly fallacious criterion. It would be difficult, indeed, to recognize the varieties of enlargement of the thyroid, and discriminate specimens by the light of Dr. Richardson's verbal account, and the illustrative figures of sections are quite inadequate. The part of the book dealing with cancer of the thyroid is meagre in the extreme. The value of the radiographs of epiphyses in infantilism of the "type Loraine" is considerably diminished by a comparison with Poland's *Atlas*, which demonstrated the great variation normally existing between the first and last child of healthy parents as regards ossification and junction. The surgery of the thyroid gland is fairly well sketched, but the extreme urgency of operation when once an attack of nocturnal dyspnoea has occurred in a goitrous patient is not sufficiently insisted upon.

MEDICINE AND WITCHCRAFT IN THE DAYS OF SIR THOMAS BROWNE.

By JOHN KNOTT, M.A., M.D.Univ.Dub., M.R.I.A.

"It is a riddle to me, how this story of oracles hath not wormed out of the world that doubtful conceit of spirits and witches; how so many learned heads should so far forget their metaphysicks, and destroy the ladder and scale of creatures, as to question the existence of spirits; for my part, I have ever believed, and do now know, that there are witches. They that doubt of these do not only deny them, but spirits: and are obliquely, and upon consequence, a sort, not of infidels, but atheists. Those that, to confute their incredulity, desire to see apparitions, shall, questionless, never behold any, nor have the power to be so much as witches. The devil hath made them already in a heresy as capital as witchcraft; and to appear to them were but to convert them." . . "Again, I believe that all that use sorceries, incantations, and spells, are not witches, or, as we term them, magicians. I conceive there is a traditional magick, not learned immediately from the devil, but at second hand from his scholars, who, having once the secret betrayed, are able and do empirically practise without his advice; they both proceeding upon the principles of nature; where actives, aptly conjoined to disposed passives, will, under any master, produce their effects. Thus, I think, at first, a great part of philosophy was witchcraft; which, being afterwards derived to one another, proved but philosophy, and was indeed no more than the honest effects of nature: what indented by us is philosophy; learned from him, is magick."

Thus wrote the author of *Religio Medici*, in the year of grace 1635, regarding the special item of his creed which was concerned with witches and witchcraft. The writer, who was then aged 30, retained this article of faith through life with unyielding conservatism, for we find him after another period of thirty years giving "expert" evidence at a trial of two women accused of witchcraft, which aided most materially in procuring their conviction and execution. As associated landmarks in the history of human opinion, I will just call the attention of the reader at this preliminary stage to the fact that the date of Sir Thomas Browne's birth (1605) corresponds to that of the publication of the first issue of Bacon's *Advancement of Learning*; that his *Religio Medici* was published ten years after the appearance of Galileo's *Dialogo*; and that the now noted witch trial in which he figured was coeval with the Great Plague of London—whose horrors inspired the genius of Defoe, and also led to many strange demonstrations of spiritual belief among numbers of the more emotional of his contemporaries. As this same trial underwent some considerable discussion a few months ago in the pages of the BRITISH MEDICAL JOURNAL, in connexion with the question of the completion of a monument to the memory of one of the most celebrated of England's physicians, it has occurred to me that a bird's-eye view of some of the more prominent opinions of Browne's generation regarding the supernatural and the unknowable might be of interest to the readers of this JOURNAL in connexion with the celebration of his tercentenary birthday. The voice of an eminent Irish physician has been raised in opposition, with the gruesome protest that "His record is stained with innocent blood," and the very necessary corollary that he, on this account remains unworthy of having a national or municipal, and still more so of having a medical, monument erected to the honour of his memory.

In connexion with this criticism, I hope to lay before my readers sufficient material for the formation of an unbiassed opinion regarding the claims of the author of the *Religio Medici* on the homage of professional posterity, and for a fair estimate of the value of the "blood accusation" with which an attempt has been made to neutralize the same.

In order to the formation of anything approaching fairness of judgement regarding the opinions of Thomas Browne on matters supernatural, it will be necessary to divest ourselves, as far as possible, of all latter-day prejudices and preconceived notions, and to fancy ourselves, for the time being, transferred, in deed as well as in thought, to the very different surroundings and conditions in which he and his contemporary compatriots lived their strenuous lives. We must, in imagination, divest England's harbours of their steamships, torpedo-boats, and destroyers; strip the country bare of all its steam-engines of every denomination: its railroads, locomotives, and railway whistles; of its electromagnetic machinery, its telegraphs, telephones, arc-lights, swan-lights (and even gas-lights); of its anaesthetics, antiseptics, microbic pathology, scientific sanitation and drainage; its microscopes, its spectacles, and its artificial dentures; of its universal education, unlimited journalistic reading, its broadcast free libraries, its manhood suffrage, and its stereotyped democratic denial of the "right divine of kings to govern wrong." The author of the *Religio Medici* may be said to have been ushered into the world on the agitated—we may even denominate it earthquake-shaken—borderland which connected, and separated, the old world of thought from the new. In his generation England was the theatre of violent social and religious convulsions—a fact which will be vividly brought home to every reader on being reminded that he was junior to Charles I by five years, and that he was knighted eleven years before his death by Charles II on the occasion of the latter's visit to Norwich. Born in 1605 he had reached the age of 44 at the time of the execution of Charles I; 53 at the death of Oliver Cromwell; and 55 at the "Happy Restoration" of the monarchy. It thus, very evidently, appears that he lived through one of the most unsettled, and even gruesome, periods of England's history. It was a generation in which strange sounds were heard in the air, strange portents were witnessed in the firmament, and for a large proportion of England's population all hope was directed towards the future world, for none seemed to be vouchsafed for their reliance in the present

At the opening of the seventeenth century, indeed, many of the fossilized, time-honoured beliefs had been exploded or very badly shaken so far as the inner circle of the leaders of thought was concerned; but it still required generations for the rays of enlightenment to penetrate to the multitude; and even the "learned vulgar," to whose ranks Browne so suggestively alludes, managed to long screen their mental vision from the irritating scintillations of novel and entirely undesired items of philosophic and scientific doctrine. The old blend, produced by the original adaptation of Christian doctrine to the preceding Pagan nature worship still constituted the true foundation—firm, even if apparently submerged—of the stock-in-faith of the rural districts. England's Caledonian King, James I, died when Browne had arrived at the age of 20. This monarch was all through life an explosively demonstrative believer in the witch-and-witchcraft articles of faith. He even took the trouble of publishing under his own name a treatise on Daemonologie, which expresses the orthodox views of the period on this subject in the most uncompromising and uncharitable—form. Some dozen years before he ascended the English throne he had taken the most active personal interest in the trial of a Scotch lady of rank, who, in the trying period of her parturition, had summoned to her aid a wise woman who bore the somewhat prophetic name of Agnes Simpson. This latter enjoyed in her locality a high reputation for her powers in shortening

the period of childbirth and diminishing the intensity of its agonies. Such practice constituted an act of rebellion against the primal curse pronounced against Eve as a punishment of her disobedience—according to the interpretation of the then young King of Scotland and his spiritual advisers. His Majesty watched the trial, and his interest promoted the conviction of both wise woman and her lady patient of witchcraft and blasphemy. Both were burned at the stake! Such were royal opinion and religious doctrine in Scotland towards the close of the sixteenth century. They were assiduously impressed upon England by the same monarch and his advisers when the opportunity came. (Let inquiring readers remember that it was under the auspices of James I that the Authorized Version of the Bible was prepared, and ponder well the association.) Another century saw comparatively little change of opinion on these heads among the average members of the population. But, let us now skip over another intervening century and a half of human existence, and we are doomed to hear, in the very middle of the "scientific" and "progressive" nineteenth century, quite as noisy an explosion of clerical opinion—on closely similar grounds—against Sir James Simpson, for his free use in obstetric practice of the newly-discovered anaesthetic, chloroform! The arguments of the prosecutors were as of old; clerical methods do not lend themselves to changes of fashion. Fortunately for suffering humanity in general, and for its great benefactor, Sir James Simpson, in particular, the secular arm had in the latter part of the long interval pared down the clerical claws; otherwise the "blasphemous" practice of Sir James Simpson in the middle of the nineteenth century would have been as *warmly* rewarded as had been that of Agnes Simpson of the same city some two and a half centuries before.

The germs of witchcraft faith would almost appear to have invaded the organisms of our original parents with the forbidden fruit itself, for distinct traces of it have been found to exist among all primitive nations and races whose habits and beliefs have been studied with sufficient care. I have also no hesitation in stating that the connexion between witchcraft and medicine is probably almost as old as the earliest developments of the former, and accordingly incalculably older than the oldest regular or scientific practice of the latter. The mysteries of disease, the unknown mechanisms of the bodily organs, and their utterly incomprehensible functions—all were entirely outside the jurisdiction of primitive intellectual conception or scientific attainment; and accordingly no rational ways or means could under such conditions possibly be devised for the treatment of the physical ills of the human frame—other than, perhaps, those of the simplest forms of mechanical lesion. Precisely on that account, the victims of suffering—of mysterious internal, or of loathsome external, disease—promptly turned to any, and every, supernatural agency which promised any hope of relief. The Egyptians of old, and their Hebrew guests after their exodus, had recourse to priestly advice and treatment. The medicine-man, as wizard and miracle worker, has had a correspondingly conspicuous position among the native tribes of Africa, the aborigines of remotest Australia, and the Indians of the Western continent. Indeed, Cotton Mather attributed the frequency of witchcraft contamination in New England, at the time of its great epidemic visitation, to the influence of evil spirits sent among the colonists by the Indian "Paw-waws." In both Old and New Testaments, the healing of the sick is nearly always attributed to supernatural influence. The leaning of Oriental belief in the same direction has been maintained even to the present generation. The miraculous cures effected by Christ were aped by Apollonius of Tyana. It has been suggested that the Emperor Vespasian may have been a pupil of the latter; for, when residing at Alexandria, he appears to have become transitorily endowed with corresponding powers: *multa miracula evenere, quibus caelestis favor, et quaedam in Imperatorem numina ostensa est.* The special medical operation would appear to have been familiar to the populace of the (then) most learned of civic communities: for a blind man threw himself at his feet imploring him to touch his dim orbs with the imperial saliva; while another person lame of one hand (*manu aegra*) begged to be cured by a kick *ut pede ea contingeret.* [illegible] by the authority of [illegible] the proper treatment for the cure of [illegible]. The Emperor, evidently entertaining popularity, promptly [illegible] his own medical advisers, who [illegible] *diis, et divino Ministerio Principis lectum.* Acting promptly on the suggestion, Vespasian spat upon one petitioner and kicked the other. Both were, of course, cured on the spot! The popular faith in the curative efficacy of touch was transmitted down through all the ages, and inspired the recourse of the physically afflicted to contact with holy relics, to the touch of the royal hand, and ablution or aspersion with the waters of holy wells and streams. And in the times and localities where such supernatural powers of healing existed, there were also found the antagonistic agents of evil—the latter, as a rule, very highly predominating. Amulets, incantations, charms, and philters were all various outward and visible signs of the inward and spiritual belief in the powers of supernatural agents to effect certain modifications in the human economy which were not attainable by any known physical methods. In Germany the belief extensively prevailed that muskets might be charmed from firing, that an amulet prevented the escape of blood from a wound, and that even a cannon-ball recoiled when it collided with a specially efficacious specimen. During the whole period of the Thirty Years' War most of the officers wore amulets when on duty.

The more familiar forms of disease and other modifications of the ordinary course of natural phenomena were not, it need hardly be said, so likely to be attributed to witchcraft (or correlated demoniacal influence) as the more rare and startling. Among those likely to arouse suspicion were a sudden attack of acute illness—especially if of comparatively unfamiliar type—prostrating a person in previously good health; convulsive affections, such as epilepsy and its congeners; atrophic affections: infantile atrophy was a special result of a glance of the "evil eye;" diseases accompanied by delirium and spectral illusions. The ligature was a specially characteristic manifestation of witchcraft influence; it meant the sudden suspension of any natural function. Impotence was one of its notable results. It was not, however, confined to the human body, or even to animated nature: a fleet might be fast bound in port notwithstanding the presence of favourable winds and the most strenuous exertions on the part of the mariners; the most prolonged churning of milk might fail to collect its butter, etc. The appearance of very unusual substances in vomited (and other ejected or excreted) matters pretty surely led to suspicion of witchcraft. On this account the melancholic and the hysterical were often believed to be subjects.

That the existence of witchcraft was always recognized by the Church is, of course, well known to every tiro in ecclesiastical history. That it received a new lease of existence at the time of the Reformation—and one recognized in even more emphatic terms—is a fact which is perhaps less familiar. The devil and his angels—all manner of demons and witches included—were probably never more permanently present to the mind of any (even semi) sane individual than to that of Martin Luther. Calvin's estimate of the facts of such association was correspondingly genuine, if somewhat less explosive. Why it was that those opinions were so widely—almost universally—entertained is the question which probably seems strangely unanswerable to the average reader and thinker of the twentieth century. In order to diminish the difficulty of recalling those now strange conceptions, I will endeavour to throw upon the mental screen of the reader who has adopted my former suggestion of divesting his mind of modern scientific facts and inventions, and the theories and physical comforts and responsibilities therewith associated, some of the views of the general and special phenomena of this mysterious universe of ours which passed for profound, and even (in part) inspired knowledge during the long centuries which preceded the modern developments of science and criticism. Preparatory to this attempt, I will just call his attention to two short quotations from the text of the *Religio Medici* the first and second of a series of three which were brought under the notice of readers of this JOURNAL for the purpose of proving the author's ignorance of science and incapacity for reasoning. They are as follows: (1) "Conceive the distinct number of three, not divided or separated by the intellect, but actually comprehended in its unity, and that is a perfect trinity"; and "In brief, conceive light invisible, and that is a spirit." The selection is a peculiarly happy one for my purpose on the present occasion; the critic was wise in a manner diametrically opposite to what he thought in making it; for there are no better or more appropriate texts in the whole of the [illegible] to serve as starting-points in a cursory examination of the special opinions and attainments of the author, and those which prevailed among the learned

oligarchy of his age. Accordingly, I propose to harp on each of these strings at some length. Before proceeding to details, I will just mention with regard to the second quotation that Browne was saturated with the theology of St. Augustine, as every careful reader of his works must have observed. Among the most important of the controversial writings of the greatest and the most logical of the Latin Fathers were those directed against the Manichaean heresy. In that special theological atmosphere, the second person of the Trinity was frequently referred to as the *Lux visibilis*—an epithet devised to indicate the contrast between his illuminating powers and those of the *Lux invisibilis*, or third person of the Divine Triad. A critic who undertakes to reverse the judgement of the learned of all nations and tongues of more than two and a half centuries regarding the merits of the *Religio Medici* should surely have made himself acquainted with such alphabetical items of theological information before launching some clumsy sarcasm at the diction and reasoning of one of the most deservedly famous of English classics.

When the descendants of the Exiles of Eden became sufficiently numerous to suffer from the competition of their contemporaries in the appropriation of the roots and the acorns, the bananas and the grapes which had been spontaneously supplied by the beneficent hand of Nature, they were obliged to emerge from their cave and forest homes, and concentrate the greater part of their economic attentions on the practice of the original professions of Cain and Abel. Hunting and fishing formed intermediary and occasional pursuits and amusements; partly dictated by the excitements of the chase and the angle, and partly by the desire for the acquisition of nutritive tit-bits. With the gradual growth of dawning intelligence, a goodly proportion of the time which was not occupied in the provision for animal existence, and in the gratification of the passions, must have been devoted by prehistoric man to contemplation of the phenomena around, above, beneath, and within him. One of the characteristic lucubrations of the author of the *Religio Medici* is "Of the erectnesse of man." He there refers to the opinion of Galen: "Who in his third, *De Usu Partium*, determines that man is erect because he was made with hands, and was therewith to exercise all Arts which in any other figure he could not have performed, as he excellently declareth in that place where he also proves that man could have beene made neither Quadruped, nor Centaur." The Galenic hypothesis was formulated in opposition to the well-known venerable one—perhaps even more flattering to man's innate vanity—which had been made familiar to all readers by the oft-quoted lines of the Latin poet:

> Pronaque cum spectent animalia cætera terram
> Os homini sublime dedit, cœlumque tueri
> Jussit, et erectos ad sidera tollere vultus.

And the continuation of Browne's comment has a further special interest as indicating the blundering origin of opinion which is so prone to occur among superficial commentators who are unable to penetrate the veil of metaphoric expression in which the members of the intellectual oligarchy of every age and nation have been so prone to infold their sublimest thoughts:

> The ground and expression of this conceit was a literall apprehension of a figurative expression in Plato, as Galen plainely delivers, the effect of whose words is this: To opinion that man is to looke up and behold the heavens, is a conceit onely fit for those that never saw the fish Uranoscopus, that is, the Beholder of heaven; which hath its eyes so placed, that it lookes up directly to heaven, which man doth not, except he recline, or bend his head backward; and thus to looke up to heaven agreeth not onely unto men, but Asses; to omit birds with long necks, which looke not onely upwards, but round about at pleasure; and therefore men of this opinion understood not Plato when he said that man doth *sursum aspicere*, for thereby was not meant to gape or looke upward with the eye, but to have his thoughts sublime, and not onely to behold, but speculate their nature with the eye of the understanding.

When primitive man commenced to "speculate" the nature of his environments, the intellectual data furnished by his innate ideas must indeed have been limited in quantity and crude in quality. But Plato's observation was sublimely true; he was distinguished from all other created beings by the fact that he concerned himself with things above. And with this hankering for indulgence in intellectual aeronautics developed that restless spirit of inquiry into the mysteries of the unknown which some profess to think remains still as far from its goal as was the point from which it originally started. The contemplation of the continuous—and inherited, if not satisfactorily progressive—effort, and its results, cannot fail to interest every inquiring and enlightened mind. He probably felt fairly satisfied from an early date regarding the definiteness of the qualities of the sure and firm-set earth on which he trod, and which experience had taught him to utilize in the pursuits of agriculture. Water, although so very transparent and passive, in appearance and physical qualities, was in other respects a good deal more mysterious. Although so very yielding to all manipulation, it was able to overcome fire, the most destructive of all agents; and to destroy life in all kinds of animals not specially made to exist within it. Its presence, too, in appreciable quantity was absolutely necessary to life, both vegetable and animal. And it existed not only on the face of the earth, but in the firmament or heaven above, and beneath the foundations of the earth everywhere. Accordingly, the fact could not be questioned that the earth, which was undeniably flat—with the qualifying irregularities of mountains, valleys, and their adjuncts—was completely surrounded by and rested upon the aqueous fluid, which could always be demonstrated by digging to a sufficient depth. As *homo sapiens* waxed in wisdom—or in curiosity—he found himself far more puzzled by the intangible things than he had ever been by the solid and fluid elements of the earth's surface. Three things were too wonderful for him; there was even a fourth which he knew not, as every inquiring mind has been made to feel in its turn. Overarching the whole field of Nature was the inscrutable and impenetrable "sky," "heaven," or "firmament," which in time became incarnate among presiding powers as Jupiter *Diespiter*. Crossing, day after day, the bosom of this almighty "Father" of Day and Light, the "Son" (sun) passed from east to west, to rest each night after the labours of the day. His presence was productive of, and essential to, light and heat, vegetable growth, and animal comfort. With the increasing intensity of his rays came the "resurrection" of vegetable life, to be succeeded by an annual decay during their recess. He, accordingly, was recognized as the friend and "Saviour" of not only the human race, but of animal and vegetable life all over the world. Then in closer proximity, but mysteriously defiant to the powers of vision, and, in a more restricted sense, to those of the other senses, was the something which must pass into his nostrils in order that the phenomena of life may be maintained. Was this essential factor in the regulating support of vitality identical with the invisible air whose motions produced storms of every variety, or did it merely reside within the subtle element? The definite answer to this question was slow indeed in coming, but some strangely prophetic guesses were made in the long interval. The life-giving "Spirit" was certainly in the air, if not wholly of it; and of these three—over-ruling, saving, and life-giving—powers a *Trinity* was formed by every one of the early religious systems. Accordingly, the parabolic symbolism and metaphoric nomenclature were, in part at least, adopted by the founders of Christianity itself, and have in that way been transmitted down to our own matter-of-fact twentieth century. The nature of the subtle and dangerously powerful "element" of fire necessarily presented special mysteries. But, in a general way, the four elements indicated—earth, water, air, and fire—formed the essential constituents of the known world, probably of the whole universe. They formed concentric shells round the terrestrial globe (*aqua, alv, ignis*—in order) during the prevalence of the Pythagorean system when the rotundity of our planet was recognized. In addition to the four elements enumerated, Pythagoras also postulated the existence of a fifth something, more inexpressibly subtle by far, ἡ πεμπτη οὐσία; whose presence penetrated and permeated all, and was essential to every functional activity. This quintessence played a necessary rôle in the development of every physical and vital phenomenon. Various philosophic leaders—as might be expected—criticized and modified the number of primary elements: Hermes Trismegistus considered two—fire and earth—sufficient for all known productions; Thales taught that every form of matter originated from the single element of water.

All students of the history of human opinion—philosophical and theological—know something of the mystical symbolism attributed to numbers in the teaching of Pythagoras; which was, of course, but a Hellenized version of a mixture of Brahminic, Zoroastrian, Chaldean and Egyptian doctrines. Nothing conceivable by human intellect seemed more purely simple and more unquestionably immortal than the nature of number. Nothing more abstract or more immaterial. The Pythagorean philosophy—with its Platonic, Neo-Platonic Philonic (and very many other less important) modifications and adaptations—percolated the successive strata of all the generations of Western intellect down to that of Thomas

Browne. Its nomenclature has left very visible traces in the literature of Christian theology. The learned and accomplished Synesius—soldier, diplomatist, orator, philosopher, and poet—was consecrated a bishop in the year 410. In his hymns are to be found references to the Deity as the "Unit of Immortal Numbers and of Immaterial Kings," and to the Son of God as the "Unit of Units and Number of Numbers." The latter epithet is one attributed by Hierocles to Pythagoras, in an effusion in praise of the Deity. As ultimate representatives of the abstract and the immaterial, Plato dropped number and substituted idea. He refers to the Divinity as the "Idea of Ideas." The pride of place of the "idea" would appear in turn to have been usurped by the λογος, which figures so prominently in the philosophy of "Philo the learned Jew" (who was evidently a favourite author with Browne), and whose presence has always afforded so much turbid inspiration to the commentators on the opening verses of the fourth Gospel. Then came *angels*. Next *æons*. The conception of a super-subtle spiritual *emanation* from the eternal and unchangeable underlies every one of these terms.

The number *one*, the unit or monad, was with Pythagoras and his followers a symbol of Divinity, and of a good and pure intellect; while it was figured in the celestial world by the sun, in the intellectual world by the *anima mundi*, and in the human microcosm by the heart. *Two*—duality—on the other hand, represented the principle of Evil, and a corresponding type of human intellect; it was the number of disunion and strife, but it must be added that it also came to be recognized as the number of mutual love and marriage, of memory, of science, and of man himself.

The symbolism of the number *three* presented vastly greater and wider complications. It was early recognized as a specially sacred number: it was the number of perfection; it represented the composition of the primitive trinity to which I have already alluded. All known things may be said to exist in threes: beginning, middle, and end; past, present, and future. Not only is all time thus contained in three, but so, too, is all space: in length, breadth, and thickness—circumscribed within line, surface, and body. God, as the prophet pointed out, orders the world by three: number, weight, and measure. The human microcosm consisted of a trinity: body, soul, and spirit. The soul itself was triple: vegetative, added at the moment of conception; sensitive, at the time of quickening; and intellectual, at the instant of first breathing. Accordingly, we are not surprised to learn, at a later period, of three grades in the angelic hierarchies; of three degrees of beatitude: innocents, martyrs, and confessors; of three theological gifts: faith, hope, and charity; of three intellectual powers: memory, mind, and will; etc. The squaring of three gave the solid *nine*, which numbers the angelic choirs around the throne of the eternal: seraphim, cherubim, thrones, dominations, powers, virtues, principalities, archangels, and angels; the corresponding series of orders of condemned spirits: false spirits, lying spirits, vessels of iniquity, avengers of wickedness, jugglers, powers of the air, furies sowing mischief, sifters or triers, and tempters or ensnarers; the numbers of the senses, four internal: memory, cogitation, imagination, common sense; and five external: sight, hearing, smell, taste and touch. Besides many other less important series of nine, this was also the number of the movable spheres, an item to which I will afterwards return.

More strangely mystical still in its demonstrable associations is the number seven—formed by unity acting as a bond of connexion between two threes. Its influence on the human body was so conspicuous in their eyes that the Pythagoreans denominated it the *vehiculum vitæ*. It included both body and soul: the body consisting of four elements and endowed with four qualities, while the soul, as above noted, was of triple nature, and was endowed with the threefold series of qualities—rational, irascible, and concupiscible. It was thus the bond of junction between the soul and the body, and, in virtue of this function, it regulated the generation of mankind—the conception, development, birth, nutriment, and, indeed, whole existence of each individual. If the semen of the male was retained within the uterus for seven hours it surely proceeded to fructification; at the end of the first seven days it had become coagulated and was capable of assuming definite shape; at the end of the seventh month the (still immature) fetus was viable; the capability for survival is determined by the end of the seventh hour after birth; at the end of seven days the relics of the umbilical cord dropped off; after twice seven days the infant begins to turn its eyes towards the light; after the third seven it turns the eyes and head freely; in seven months after birth it grows teeth; in twice seven months it sits firmly; in thrice seven months it speaks; in four times seven months it walks strongly and begins to run; after seven years new teeth are developed and speech is perfected; at the close of twice seven years comes puberty; at the end of the third seventh year manhood is reached, with full generative powers and characteristic hirsute appendages; by the fourth seventh year increase of stature has finally ceased; by the fifth seventh year the perfection of strength has been attained; during the sixth period of seven years the standard of strength remains the same; at the close of the seventh seventh year the maximum discretion is reached—the perfect age of man; the ninth seventh year closes with the grand climacteric—a period at which death has almost reached his full powers of conquest; the end of the tenth seventh year is the ordinary period of human life, according to the authority of the inspired prophet. Then the limit of human stature was 7 ft., and the human body was composed of seven distinct constituent structures—skin, flesh, arteries, veins, nerves, bone, and marrow. There were seven principal divisions of the human body—head, breast, hands, feet, and generative organs. There were seven black members of the body—tongue, heart, lungs, liver, spleen, and (two) kidneys. In cases of apparent death, life might be regarded as absolutely extinct if there appeared no sign of breathing for seven hours. In cases of absolute starvation, death occurred at the end of seven days. The seventh day was critical in all acute diseases; it was then that a reliable judgement could be framed by the physician. The four cardinal points of the horizon, with the zenith, nadir, and the position of the individual observer, formed a number seven. There were seven planets, whose concentric crystalline spheres rotated around our globe as their centre: in order from without towards the earth these were—Saturn, Jupiter, Mars, Sun, Venus, Mercury, Moon. Their revolutions were respectively guided, each, by one of the seven angels which stood in the Divine presence—Zaphiel, Zadkiel, Camael, Raphael, Haniel, Michael, and Gabriel. Each planet presided over a day of the week, respectively in the same order—Saturday, Thursday, Tuesday, Sunday, Friday, Wednesday, and Monday. Each had confided to its special charge one of the integral members of the human frame, according to the disposition adopted: right foot, head, right hand, heart, organs of generation, left hand, left foot; also one of the seven openings of the head: right ear, left ear, right nostril, right eye, left nostril, mouth, left eye. To each was also sacred one of the birds of the air: lapwing, eagle, vulture, swan, dove, stork, and owl; one of the beasts of the field: mole, hart, wolf, lion, goat, ape, cat; and one of the fishes of the sea: cuttle-fish, dolphin, pike, sea-calf, thymallus, mullet, and sea-cat. The mineral kingdom was also recognized in its more specially estimable representatives. The seven metals were under special planetary protection, in the same order: lead, tin, iron, gold, copper, quicksilver, and silver; so were the seven gems: onyx, sapphire, diamond, carbuncle, emerald, agate, and crystal. The incalculable influence of the number seven was demonstrated by the fact that it governed the movements of the nearest of the planets, and its evolutionary phases—new to first quarter, first quarter to full, full to second quarter, second quarter to evanescence, and return in form of next renewal. By the same ineffable power it regulated the ebb and flow of the ocean tides; and, more mysterious still, its regulating power extended to, and superintended the, periodic phenomena of that most incomprehensible of terrestrial entities—the human female. The strange coincidence of periodicity of ocean, moon, and woman was emphasized—in the judgement of those who believed in the mystical influence of numbers—by the fact that the sum of the added digits, up to seven, happens to be twenty-eight ($1+2+3+4+5+6+7=28$). In presence of so many associations and influences, it is not a matter of surprise that the seventh day should be regarded as a natural period of rest and recrudescence—even before the general revelation of the Divine will on the subject. The influence of this number (and its associations) with the chosen people is amply testified by the vast number of its repetitions in the Old Testament and the special functions with which it is connected.

Perhaps even more mysteriously significant in the range and complexity of its cosmic influences was the number twelve. It included the number of the constellations of the Zodiac, those specially-grouped battalions of the "heavenly host," at the head of which the Sun—the source and preserver

of light and life on the earth—appeared to preside during the corresponding monthly sections of his annual course. The "Signs" were usually reckoned from the vernal equinox: Aries, Taurus, Gemini, Cancer, Leo, Virgo, Libra, Scorpio, Sagittarius, Capricornus, Aquarius, and Pisces. Each was, of course, ruled by a presiding angel: Malchidial, Asmodel, Ambriel, Muriel, Verchiel, Hamaliel, Zuviel, Barbiel, Adnachiel, Haniel, Gabriel, and Barchiel respectively. They corresponded naturally to the twelve months of the year, in order: March, April, May, June, July, August, September, October, November, December, January, and February. Each was the special guardian of one of the tribes of Israel: Dan, Reuben, Judah, Manasseh, Asher, Simeon, Issachar, Benjamin, Naphtali, Gad, Zebulun, and Ephraim. Each was associated with one of the twelve orders of blessed spirits: Seraphim, Cherubim, Thrones, Dominations, Powers, Virtues, Principalities, Archangels, Angels, Innocents, Martyrs, and Confessors respectively; with one of the twelve minor prophets: Malachi, Haggai, Zachariah, Amos, Hosea, Micah, Jonah, Obadiah, Zephaniah, Nahum, Habakkuk, and Joel; with one of the twelve Apostles: Matthias, Thaddaeus, Simon, John, Peter, Andrew, Bartholomew, Philip, James the Elder, Thomas, Matthew, and James the Younger. The superintending care of the signs of the Zodiac extended, as might be anticipated, to the sections of the human organism: head, neck, arms, breast, heart, belly, genital organs, hams, knees, legs, and feet, in the same respective order. Each had also its special plant to which it functioned as patronizing guardian: Sang. upright vervain, bending vervain, comfrey, ladies' seal, calamint, scorpion grass, mugwort, pimpernel, dock, dragon wort, and aristolochia respectively; and its own consecrated gem: sardonyx, cornelian, topaz, chalcedony, jasper, emerald, beryl, amethyst, hyacinth, chrysoprase, crystal, and sapphire, in corresponding order. Classic Greece and Rome did not neglect to appoint an aristocracy of *Dii majores*, which were distributed in order to the governing supervision of the Zodiac, one to each sign. The arrangement is referred to by Manilius in these verses:

> Lanigerum Pallas, Taurum Cytherea tuetur
> Formosus Phoebus Geminos: Cyllenie Cancrum,
> Jupiter et cum matre Deûm regis ipse Leonem;
> Spicifera est Virgo Cereris, fabricataque Libra
> Vulcano; pugnax Mavorti Scorpius haeret.
> Venantem Diana virum, sed partis equinae:
> Atquo angusta fovet Capricorni sidera Vesta;
> E Jovis adversum Junonis Aquarius astrum est;
> Agnoscitque suos Neptunus in aequore Pisces.

Even the genesis of a special wind was attributed to each of the twelve signs of the Zodiac: of Africus to Aries; Circius to Taurus; Aquilo to Gemini; Septentrio to Cancer; Thrascias to Leo; Argestes to Virgo; Zephyr to Libra; Africus to Scorpio; Auster to Sagittarius—sometimes to Capricornus; Notus to Aquarius; and Eurus to Pisces.

(*To be continued.*)

The official calendar of the University of Vienna for the winter session, 1905-6, announces that 386 separate courses will be given by 29 professors, 62 extraordinary professors, and 133 privatdozenten in the faculty of medicine.

Etiology of Plague.—In the *Indian Medical Gazette* of September, 1905, Major Browning-Smith, Chief Plague Medical Officer of the Punjab, criticizes Dr. Creighton's views that infective air rising from the ground and inhaled by man is the cause of plague epidemics. He brings forward five questions for answer which do not require to be dealt with here. As a matter of fact, the cause of the spread of plague—that is, the transference of the bacillus from man to man or from rat to man—is not yet accurately determined. It is quite conceivable that Creighton's opinion or idea would explain some of the cases of pneumonic plague—for example, the cases that occurred in the small outbreak in Vienna—but, of course, as Browning-Smith points out in his queries, it could not explain all cases, such as the bubonic types, nor the fact of one or two individuals living in a room getting the disease while others escaped. That the presence of the infection in rats precedes human epidemics is undoubted, but as to whether the flea is the transmitting agent is not proved. Though a rat flea may have bacilli alive and virulent for seven to eight days, as Zirolia of Rome affirms, it is not very clear how these are to pass into its proboscis and so into the wound inflicted on man. More investigations of a thorough and scientific nature are required to determine many of these points, and Major Browning-Smith, with his exceptional opportunities, may be able in the future to solve them.

The International Congress on Tuberculosis.

[From our Special Correspondents.]

After a week's work and feasting, the Congress held in Paris has come to an end, but not without some element of that sensationalism which appears to be the delight of the people of Paris. On October 5th the *Matin* published an article calculated to arouse the wildest hopes of all interested in the struggle against tuberculosis, in the shape of an announcement that Professor von Behring had discovered a "cure" for consumption, that the details would not be published for about a year, and that the greatest confidence could apparently be placed on the statement that the research would revolutionize the treatment of the disease. Together with this article was printed an extremely bad likeness of the Marburg bacteriologist. On the following day the report that von Behring had been prevailed upon to make his statement on the next day was freely circulated and published. Those who stood on intimate terms with a certain section of the Parisian bacteriological world may have gleaned some further information, but if that is so, they kept their secret well, for, in spite of theories and conjectures, no one seemed to have any idea of what Behring was going to say, save that his book was already in the press, and was decidedly voluminous. It was not difficult, however, to pick up several pieces of information, and, patching these together, to make out that the reason given for the announcement of his so-called discovery was not the question of priority, nor yet the pressure of others who had been following the development of the work, but lay rather in a desire of certain individuals to "squash" another work which seemed to be securing for itself a firm hold of the members of the Congress. If this conjecture is well founded, von Behring was approached and pressed to make the sensational statement, and, not being averse from a somewhat dramatic effect, consented without actually being a party to any jealousy. But one must be very careful, especially after the way in which the French and English lay press has taken up the subject, to issue a solemn and loud warning not to accept indefinite statements, without even any experimental details. Von Behring failed to convince the majority of the scientists of Europe that he had done a great work when he delivered his address in Cassel, and it is not too much to say that if it were not for his name having become great in connexion with diphtheria antitoxin this work would not have aroused much notice. It has not been accepted, and therefore one fails to see how this new research, which is to a certain extent built up on the immunizing experiments, can be even provisionally accepted. Going a little further into the inquiry we are given to understand that the active immunization, which he believed that he had previously produced, could be substituted by a passive immunization, and by means of these antibodies the curative process can be achieved. This of course applies to laboratory animals, such as guinea-pigs and rabbits; so that even if von Behring can show later, and others can confirm his work, that a true passive immunity can be produced on these animals, it does not by any means follow that the same applies to man. From this it may be inferred that it was premature of the Paris papers to speak of a cure of tuberculosis. It may therefore be pointed out that, as far as the material which von Behring has laid before us is concerned, there is no reasonable justification to anticipate any important progress in the treatment of tuberculosis.

The Organization of the Congress.

Turning to the general impressions gained at the Congress, it may be said that, in spite of much careful preparation and organization, and in spite of the most propitious surroundings from a scientific point of view, there was much with which one could find fault, and which one would have liked different. In the first place, up to the end the Sections were often overcrowded, and little or no attempt was made to preserve sufficient silence to ensure that every one could follow easily. Next, an overwhelming number of the communications were merely repetitions of papers which had been read over and over again in other places, and which we suppose could only be given by the authors for the purpose of

bringing themselves forward. Most of these were of little scientific value, and time was thus occupied which would have been more beneficially spent in the discussion of more important subjects. It is to be hoped that the Committee of the next Tuberculosis Congress, to be held in Washington in 1908, will exercise a stricter censorship over the communications in arranging the programme. The next point which was forcibly felt as an error in management was the method of carrying out the work of chairman. On several occasions heated discussions took place between the members and the officiating Chairman, who failed signally to preserve a decorous order and to dispatch the business in a dignified way. The little hitches which took place with the organizing of the social functions could be easily forgiven, since they were always remedied in a short time. It appeared that the control of the doors was not strict enough, and that many of those attending the Congress were not members at all. It cannot be good for the public to be allowed to listen to medical discussions, and there is nothing to recommend the plan of the Committee of throwing the museum, with all its "pickle" specimens, open to the whole of Paris for the rest of the month, as a means of educating the public mind. It was only on the opening day that one was asked to show one's membership card, and at the closing *séance* that barricades were put up, so that the unauthorized person would have difficulty in obtaining a seat in the body of the hall.

The Museum.

The official catalogue of the museum appeared earlier than was anticipated, but was merely a list of the names of the exhibitors and the class of exhibits. A supplementary catalogue of the specimens shown by the German Central Commiteee appeared on Friday and contained a descriptive account of the pathological exhibits, and of the plans, maps, and models. This catalogue shows the divisions of the German Museum. First, there are the plans and tables referring to the diffusion of the disease. This division also includes such publications as the "Statistics of the Imperial Health Office" (*Kaiserlichen Gesundheitsamt*), and "Instruction against Tuberculosis." The second division deals with the causes of tuberculosis, and includes anatomical and pathological specimens and curves. There are preparations showing the changes after the inoculation of various animals with the different forms of tubercle bacilli. The Imperial Office of Health of Berlin has a fine collection of such specimens, and also of cultures and temperature curves, all of which may be regarded as teaching material for students who wish to learn the pathology of tuberculous infection. The next subsection under this division is that of Dr. Lydia Rabinowitsch and Dr. M. Koch, a mention of which was made in the first account of the museum. The first eighteen specimens represent a very fine demonstration of the pathological changes in the spontaneous tuberculosis of birds. Many of these are rare and exceptional in character, and form an instructive series. Next are the changes produced in experimental tuberculous infection in birds, and these serve as an excellent comparative study to the preceding series. The Institute of Pathology of the University of Munich shows a long series of good specimens of the morbid changes in human tuberculosis. The third Section deals with help for the tuberculous. There were plans, photographs, and models of sanatoriums and other material referring to this branch of the subject.

Visits to Sanatoriums.

Many other plans, models, tables, etc., in connexion with the sanatoriums of the various countries are exhibited, and one is able to obtain a fairly good impression of a large number of these establishments by the exhibits. Much interest was centred around the plans and models of the children's sanatoriums, both inland and at the seaside. This was well amplified by an excursion, which formed part of Thursday's programme to the three children sanatoriums in Ormesson, Villiers-sur-Marne and Noisy-le-Grand. The first of these was founded in 1895 for boys between the ages of 3 and 9 years. It was extremely difficult to learn how far these little boys were actually suffering from tuberculosis. One was told that the majority were in the "pretuberculous" stage, and that but few of them showed any physical signs of disease in the lungs or elsewhere. There seems to be some doubt whether all these little ones should be included among the tuberculous, and therefore the statistics prepared from the three sanatoriums may be open to some criticism. The arrangements at Villiers, where the patients were boys of from 9 to 14 years, are very elaborate, and the place is most comfortable. With some surprise, however, I noticed that the windows were of the ordinary English type (the French call it guillotine or English), which we are accustomed to regard as a faulty one. The last named contains little girls. Here the building is most picturesque, as part of it appears to have once been a country residence of the Empress Josephine. The excursion was carried out by special trains and by carriages, which drove the members from the station to the three places and back. At Noisy-le-Grand, refreshments were prepared and speeches were made by Dr. Blache, the President of the Committee of the Society, under the auspices of which the sanatoriums were erected, M. Radovici, a member of the Sanitary Board, and Dr. Vaquier, the Medical Superintendent of the sanatorium.

The speeches were of the nature of brief explanations of the mode of charitable support which the sanatoriums received, and also welcomed the Congress members on the occasion. It was interesting to note that ladies took part in this as well as in the other excursions arranged for the members of the Congress.

On October 5th the chief function of the day was the official inauguration by the President of the Republic of the Sanatorium of Montigny-en-Ostrevent, in the department of the Nord, at a distance of 140 miles from Paris. Two hundred and fifty members of the Congress started in special trains at 8.50 a.m. The special train conveying the President left Paris at 11 a.m., and to it was attached a dining car in which the President and his 40 guests lunched *en route*. Among those who had the honour of travelling with the President were M. Ruau, Minister of Agriculture, M. Casimir-Périer, M. Léon Bourgeois, Professor Brouardel, Professor Grancher, Professor Bouchard, Professor Landouzy, Professor Chauveau, von Behring (Germany), Sir William Broadbent (England) de Raptchewski and Bertkeuson (Russia), de Lancastre (Portugal) Espiña y Capo (Spain), Senator Paul Straus, M. Lozé, Deputy for the Nord Department, Dr. Letulle, Dr. Léon Petit, M. Liard, Rector of the University of Paris, Dr. Charrin, and others. The train arrived at Montigny at 2 p.m., when the President was greeted by the officials of the department and town, and Dr. Calmette with the staff of the sanatorium. After the Mayor had said a few words of welcome, to the sounds of the "Marseillaise," everybody started on foot for the sanatorium, which is situated at an altitude of 1,200 metres. The Château Lambrecht, which forms the administrative block, contains rooms for consultations, lectures, etc., and is situated in the centre of a large park, in which are placed the pavilions forming a miniature village, so to speak, for consumptive patients belonging to the poorer classes of society. The sanatorium was founded by the Ligue du Nord contre la Tuberculose, and contains 76 beds either for patients coming alone or for families. There are 12 small villas each containing rooms for two families each with a separate entrance, which are the characteristic of the "family sanatorium." Each semi-detached portion is arranged as follows: On the ground floor, separated from the ground by a 2-ft. air space, are a kitchen, a watercloset, and a dining-room for the air cure, with a large window facing south and opening on a small garden in which the patient does his rest cure on a long chair. On the first floor there are two rooms, one facing south for the patient with a large window and a large balcony, the other facing east for the adult accompanying the patient. On the second floor there is one room looking west for the children, and not over the patient's bed room. Everything is provided by the sanatorium, but the actual preparation of the food is done by the patient's companion.

There are, in addition to the villas, two pavilions, each containing twenty-six beds for men and women respectively. The ground floor consists of a large entrance hall, with a cloak-room; facing south are a large dining-room, with small tables of enamelled lava for six persons, and a reading and writing room; facing north the assistants' dining-room, some with food lift, etc., and a spare room; at the western end is a large room for recreation, reading, games, and for any work authorized by the doctor; to the north of this are the watercloset, bath-rooms, and a room for douches.

Each upper floor is divided by a corridor running east and west; in the centre is the assistants' room with windows looking on to each lateral dormitory, which contain six beds, and lit by three large windows with a balcony outside; facing north corresponding with each ward are a watercloset and a lavatory with six distinct basins; at the eastern end is a room with a balcony for new patients to accustom them to sleep with the window open.

For each of these pavilions there is a gallery in the park containing twenty-six long chairs for the rest cure. The vegetable garden is divided into twenty-four portions, to be kept up by patients who are able to do so. The cost to the patients is as follows: For patients coming alone and housed in the large pavilions the price is 3f. 50c. per day; for families in the villas the price is 5f. daily for the patient, each adult companion 2f. daily, each child from 5 to 15 years 1f. daily each, each child under 5 years 50c. daily, everything included.

The President and the guests visited the sanatorium under the guidance of Dr. Calmette and returned to Paris at 6.40 p.m.

Excursions.

Another excursion party went to Berck-sur-Mer, where a view of the maritime establishment, the Hôpital Rothschild, and some private sanatoriums was afforded. The first named consists of three parts, and is devoted to the care of consumptive children. The paying patients, numbering 100, pay Fr. 2.10 per day; the gratuitous portion consists of 19 wards, containing 500 beds, 4 isolation wards for 40 children, and a "hospital" for 60 sick children. In all, 750 beds comprise the whole number. Another sanatorium for children contains 250 beds. The Rothschild Institution was founded in 1870, and used for the treatment of the wounded in the war, and was materially enlarged in 1882 by the widow of the founder, James de Rothschild, and now contains 200 beds. The latest hospital for tuberculous children here is that of Cazin-Perrochaud, which has 400 beds.

The Sanatorium of Bligny (Seine et Oise) was visited by 100 members of the Congress, who spent the day there. The sanatorium, a little over 20 miles from Paris, contains 120 beds for males, but the administrative part has been made to allow of managing an equal number of beds for females, and the building to house them will soon be begun. The existing establishment for males was opened in August, 1903, and is a charity due to private initiative and is managed by the Oeuvre des Sanatoriums Populaires de Paris. Fifty-six beds are kept up by railway companies, assurance societies, the Conseil-Général of the Seine-et-Oise Department, private donators, etc., and the work itself keeps up free beds as the funds permit; other patients paying cost price. The sanatorium is reserved for curable patients and those whose condition can be so ameliorated as to give them a certain capacity for work. A lunch was given at the sanatorium, and when coffee was served speeches were made by Prince d'Arenberg, Chairman of the Committee, and Dr. L. Guinard, the Medical Director.

An automobile excursion was organized for the afternoon of October 5th by the syndicate of the sporting press in the political papers, with the aid of the Antidust League. Most of the principal motor-car manufacturers placed machines at the disposal of members, who, starting from the Automobile Club, made an interesting excursion in the country near Paris, and saw the different methods of treating roads with tar, oil, and other preparations. Due to the recent wet weather, it was difficult to appreciate the comparative value of the various methods of dust prevention.

On Saturday, October 7th, a number of ladies and gentlemen received invitations to visit the Abbey of Vaulx de Cernay. Many who would otherwise have been glad to go were forced to absent themselves on account of the closing *séance* of the Congress taking place at the same time. The arrangements were as follows: A special train conveyed the members to Le Perray station, where carriages and motors were in readiness to drive the party to the Abbey. The afternoon was cold and many of the ladies found the drive somewhat trying. At the Abbey, Dr. Henri de Rothschild and the Baronne Rothschild received their guests in the grounds, but no one was allowed to enter the building, while men-servants were stationed about the place to keep the guests off the grass. The ruins were looked at from a respectful distance and refreshments were served in the grounds before the party returned. Dr. Rothschild did not remain long with his guests. At the station, which has no accommodation for passengers waiting, a full hour had to be passed before the train arrived to convey the cold and somewhat depressed members back to the warmer atmosphere of the Gay City. For Sunday, arrangements were made for a visit to the Sanatorium de Pins, while for Sunday, Monday, and Tuesday, a visit to the Riviera, where many entertainments were offered, was likewise planned.

Social Functions.

In Paris the social functions were also organized and well attended. The reception by the Municipality of Paris at the Hôtel de Ville was a brilliant affa and the members had every reason to be satisfied with the manner in which official Paris behaved to her guests. On Wednesday evening at the Théâtre du Châtelet, one of the largest of the Parisian theatres, the daily paper, *Le Matin*, issued invitations to the congressists to a gala performance. The house was packed from the top of the gallery to the stalls, and presented an extremely festive appearance. In one of the boxes, facing the stage, the President of the Congress and his ladies sat, while the ladies' committee, comprising some very handsome and well-dressed women, adorned the boxes to the right. The effect of *décolleté* bodices and hats worn by many ladies, sitting side by side with others in elegant walking dresses, is one which one does not easily get accustomed to, and yet which is far from unpicturesque. The house was beautifully decorated with flowers, and brilliantly lit. With regard to the programme, one may divide it into purely musical, which part was carried out by such excellent performers as M. Note, M. Rousselière, and others from the Opera, while the orchestra was directed by Saint-Saëns, Fontbonne, and Baggers; light music performed by fine artists of both sexes; dancing and comedy. The latter was carried out with almost an excess of talent, and, fitting the play to the occasion, "*Le Médecin malgré lui*" and "*Le Secret Professionel*" were chosen. It is impossible to speak too highly of Coquelin cadet's acting. The long programme was not terminated until an early hour in the morning.

The Banquet.

On Friday the Congress dinner took place at 7.30 p.m., or rather was timed for that hour; only one of those little hitches took place, and was not remedied for half an hour or more. But one soon forgot the pangs of hunger when sitting down among a gathering of some 300 learned men and fair ladies, and the rest of the evening passed as pleasantly as possible. The menu was short, but of a dainty quality, and the wines light and sound. Before dessert was served the speeches were delivered. A telegram was read from the King of Spain and another from the Prince of Wales, wishing success to the Congress. The latter was entrusted to Sir William Broadbent. The President, Dr. Hérard, followed, and Von Leyden, Schrötter, and Baccelli spoke in turn for Germany, Austria and Italy. The last-named spoke eloquently in Italian and received much applause.

Dr. George Ogilvie spoke in French. After some introductory remarks he proceeded:

Messieurs, nous sommes réunis pour étudier les maladies tuberculeuses, et trouver quelque moyen de soulager nos frères. Sans nul doute il sortira de cette réunion de savants des résultats sérieux. Ne dit, on pas d'ailleurs que du choc des idées jaillit la lumière? Patience donc! Maintenant, Messieurs, permettez-moi de vous conter une petite histoire curieuse d'un tuberculeux. Un jour, un homme se présente à l'hôpital; il avait, ma foi, l'air bien portant. Qu'avez vous mon ami? Il répond d'une voix éraillée: Docteur, le poumon gauche est complètement pure. J'étais un peu étonné, et je lui dis—Eh bien, mon ami, le poumon droit? Le poumon droit, docteur, résonne comme les clôshes de Corneville. Messieurs, le diagnostic était très simple—il souffrait sans doute du délire des grandeurs pulmonaires, d'origine, grandpère para-tuberculeux. Continuez à rire, Messieurs, ça aidera à votre digestion, et une bonne digestion est toujours la preuve d'une conscience pure.

Maintenant il faut que je termine, car vous savez, Messieurs, après ma visite de mai dernier, lorsqu'un ecossais se lance, vos salles, même vos boulevards, ne sont pas assez larges pour arrêter son essor. Je ne dirai donc qu'un mot, non seulement de ma part, mais aussi de la part de mes collègues d'outre Manche et de toutes les nationalités ici réunies—la science. Messieurs, n'ayant pas de frontière.

Je citerai ce mot de l'Amiral Caillard quand il a quitté les rives fleuries de l'Angleterre, avant qu'il traversât le pont ni d argent qui separe nos deux pays. Il signala du haut de son grand mat cette phrase mémorable, qui peut justement s'appliquer aux circonstances presentes—Remerciements les plus forts, les mêmes espoirs.

Portugal, Spain, and Denmark were next represented. The last two speeches were made by M. Léon Bourgeois and M. Casimir-Périer.

M. Bourgeois, the President of the Permanent Commission in France for Defence against Tuberculosis, remarked that now for the first time were science and action in accord, and that the representatives of Governments and science had met. The first result of this had been to show that tuberculosis was a social disease and demanded social remedies. It was not only scientific laboratories but Governments that must carry out the prescriptions of science. Now, 100 years after the "declaration of the rights of man," they had to-day the declaration of the rights of science. In the fourth Section

a resolution had been carried that in all nations of the earth laws should be voted granting compulsory powers for the expropriation of unhealthy dwellings, which, said M. Bourgéois, would be the most useful and the most "social" gift that one could give to humanity. The Congress was social in its causes; the obligation and the risk were mutual for the patient to protect himself and for society to do likewise. It was not difficult to do away with a house which was unsafe and was dangerous to circulation in the street, but it was much more difficult when the public health was in question, and yet how much more important was human life than human property.

The speech was greeted with much applause.

M. CASIMIR-PÉRIER then made a short speech, in which he referred to the spectacle of the recent gatherings in Paris as proof of the seasoned alliance which exists between the scientists of all nations against the most terrible scourge of tuberculosis.

M. RUAU, the Chairman, brought the speeches to a close, and expressed the regret of M. Etienne, the Minister of the Interior, at not being able to preside, and declared he found it a perilous honour as Minister of Agriculture to preside over such an illustrious meeting of savants. In the name of the Government of the Republic he praised this modern sentiment of solidarity, which has replaced the struggle for existence by union in life. He then raised his glass in honour of the Sovereigns of all the nations who had sent representatives to the Congress, and to the President of the Republic, who is possessed of the truly French qualities of straightforwardness and goodness of heart.

An interesting item was presented by the menu. The frontispiece was a sepia drawing of an Angel of Hope taking a consumptive child under her care, while on the ground lay a skeleton, near to which was a microscope and a museum specimen bottle. The sketch is artistic, even though the subject is morbid.

PRESIDENT'S RECEPTION.

The last entertainment to be mentioned is the reception by the President, M. Loubet, of the members of the Congress at the Palais de l'Elysée. This followed a grand dinner given to the International delegates and other specially honoured members, and was an extremely successful gathering. The menu was of the choicest, and consisted of a very long series of courses. Mme Loubet was the only lady present, and she gave M. Casimir-Périer the place of honour to her right and General Stabsarzt Schjerning that to her left. Professor Hérard and Professor von Schrötter sat next to the President. The only speech made was by M. Loubet, who offered a toast to the Sovereigns of the representatives who were present. The reception took place at 10 o'clock. The guests, who must have numbered over 3,000, were ushered through the magnificent apartments, which still remind one of the times of the Louis's, with the wonderful tapestries, gorgeous decorations, and extravagant luxuriousness, passed into a gallery, where they each shook hands with the President and bowed to Mme. Loubet, and then were requested to pass round into a spacious set of rooms which accommodated everybody. The Guard stationed in the reception room added to the pictorial effect of the sight. A very large number of those present were decorated with various Orders, and several wore military and diplomatic uniforms. Nor were the ladies less interesting than the men, while the babble of many tongues, softened by the dulcet strains of the band of the 28th Infantry Regiment, completed an extraordinary effect. The refreshment room was well patronized, and one noticed that the fair guests were every bit as successful in winding a way through the crowd as were the sterner sex. As far as I could make out, every one of distinction in Paris was present.

LADIES' COMMITTEE.

One last word must be given to those elegant and beautiful members of the Ladies' Committee. Their efforts to welcome and assist their sisters from the provinces and from foreign lands were met with marked success. On the occasion of the first reception, five distinguished daughters of Great Britain found themselves practically alone to receive the cordial welcome of these ladies. With winning tact, Mrs. Theodore Williams, claiming the post of leader of her small party on account of the honoured position which her husband held, led the way and sealed a firm bond of union between the ladies of France and of our country.

PROFESSOR VON BEHRING'S ANNOUNCEMENT.

I will next deal with the Séance Solennelle de Cloture, which was the occasion utilized by Geh. medizinalrath Professor E. von Behring to make his announcement.

The great Hall of the Grand Palais was chosen, and the place was well filled. On the platform were seated the international delegates and the members of Committee. The first speaker was the President, M. le Dr. Hérard, who called on von Behring to speak. The latter, speaking in German, said that during the last two years he had come to the recognition of an entirely new (curative) principle, which differed completely from the antitoxic principles which he had described fifteen years before. This curative principle plays a part in the immunizing action of his bovo-vaccine, which has proved of practical value against bovine tuberculosis during four years. The principle depends on the impregnation of living cells by a substance derived from the virus of tuberculosis which he calls TC. When TC forms an integral part of the cells it becomes metamorphosed, and he calls the product TX. TC possesses extraordinary qualities, having a "formative" and a "fermentative" function, while it assumes a selective absorption, and also has, under certain conditions, assimilative qualities. TC is the cause of the hypersensibility towards Koch's tuberculin and of the protective reaction against tuberculosis. He would never have had the idea of this cellular immunity, as opposed to the "humoral" immunity of the antitoxins, if he had not closely studied the work of Metchnikoff on phagocytosis. He stated that if his hearers wished to hear the details of the proofs for the correctness of his work he would have to keep them for many hours, but referred them to an article, which he had published in *Tuberculosis* of September, on some historical facts, and to a book which he is bringing out. He did not wish to describe the nature and mode of action of his new treatment there. He believed that it was capable of protecting men threatened by phthisis against the noxious consequences of tuberculous infection.

He presumed that the audience was familiar with his method of immunizing cows. He has considered the possibilities of applying this procedure to human beings, but has come definitely to the conclusion that one must avoid using living tubercle bacilli in the case of man. He arrived at the results by means of experiments *in vitro* after long and painstaking research. He succeeded in transforming the "active" immunization into a passive one. Putting the matter briefly, in order to liberate TC it is necessary to distinguish three substances produced by the bacilli. The first of these is only soluble in water, and possesses a fermentative and a catalytic action. It contains the toxic portion of Koch's tuberculin, and has all the chromophilic, physical, and chemical qualities of volutine—a substance described by Arthur Meyer. He therefore calls the substance TV. One gram of TV is more powerful than 1 litre of tuberculin. The second substance is a globulin, and is soluble only in neutral saline solution. He calls it TGL. It is likewise toxic, in the sense of tuberculin. The third substance, or group of substances, is soluble in alcohol, ether, chloroform, etc., and is non-toxic. Having removed the three groups, there remains the body of the bacillus, which he calls the restbacillus (bacillus remains). The restbacillus retains the shape and tinctorial qualities of the tubercle bacillus. By means of suitable preparation one is able so to modify the condition that an amorphous substance can be delivered, which is directly resorbable by the lymphatic cells of the guinea-pig, sheep, rabbit, goat, ox, and horse. The amorphous substance can render the cells oxyphilic or eosinophilic. The state of immunity of the organism evolves parallel with the metamorphosis of the cells under the influence of TC. The fundamental fact is that TC possesses the power of giving rise to tubercles. The tubercles thus produced do not caseate, nor do they break down. He is convinced that TC can be prepared *in vitro* in such a form that it can be employed safely in human therapeutics. The therapeutic portion of his work will appear next year, when the harmlessness and therapeutic value has been demonstrated by clinicians of repute. He further wishes that other observers working in other laboratories shall control the effect of the remedy on animals. "You know," he continued, "that up to the present the tuberculin of Koch and his new tuberculin (TR), the serum of Maragliano, and that of Marmorek, as well as many other preparations designated as specific, are supposed to have a preventive or curative action, according to their inventors, but you also know that in their turn many other observers have not been able to obtain the same good results, even in

guinea-pigs." He hopes to have more success, and that others will in their own laboratories be able to confirm his results. He concluded by referring to the assistance he had received in the furthering of his work from Emile Roux, his great friend, and by hoping that the next Congress will take notice of this considerable progress accomplished in the struggle against human phthisis.

The speech was received with much applause, and the author bowed his acknowledgements with somewhat theatrical gravity. A translation in French was then read by one of the Committee, whose fine voice, delivery, and excellent intonation called for admiration. At the conclusion of this translation, again, von Behring was freely applauded, and again bowed his acknowledgements. We noted that in spite of the fact that according to the official programme, the languages of the Congress were German, English, and French, only the two were used on this occasion. This was not the first time during the Congress, when this leaving out the English tongue was felt, and we were pleased to hear that the representative of an esteemed medical contemporary protested against such an occurrence in the Fourth Section.

Following this, the reports of the Sections were read. Before this was proceeded with, however, the President made some general remarks on the success of the Congress. The "wishes" of each Section were read and voted on, according to the programme. Practically nothing new transpired, and will be briefly dealt with in the reports of the work of the Sections.

Next Meeting.

Dr. L. Flick, the international delegate of the United States, then made a proposition that the next congress should be held in Washington. This invitation was seconded by Dr. H. B. Jacobs, and supported by Drs. Beyer and Knopf. On a vote being taken, the invitation was unanimously accepted, and it was announced that the date had been fixed for 1908.

Farewell Speeches.

The farewell speeches preceded the final closing of the Congress. Suffice it to mention that von Leube spoke first for Germany, expressing his thanks for the excellent scientific and hospitable arrangements, and saying *Au revoir*. Then Theodore Williams spoke for England, making reference to the instructive visits to the hospitals, dispensaries, and museums of France, and also pointing out that epoch-making discoveries, such as those of Pasteur and Lister, were few and far between; and then the representative of Brazil, Denmark, Italy—Baccelli, whose eloquence was once more much appreciated—Roumania, Russia, and Switzerland brought matters to a close.

MEDICAL NEWS.

The anatomical collection of the University of Pennsylvania, said to have been one of the most valuable in the world, was recently destroyed by fire. The loss is estimated at £30,000.

The Ninth Congress of the Italian Society of Laryngology, Otology, and Rhinology will be held in Rome under the presidency of Professor Vittorio Grazzi, of Florence, on October 24th, 25th, and 26th.

Baron K. Takaki, of Tokyo, President of the Sei-I-Kwai Medical Association, has accepted an invitation to deliver the Cartwright Lectures on Surgery in the Columbia University. Surgeon-General Takaki will sail for America towards the end of December.

American Public Health Association.—The American Public Health Association recently held its thirty-third annual meeting in Boston. It was attended by medical practitioners and bacteriologists from all parts of the United States and from Canada and Mexico.

The South-Eastern Division of the Medico-Psychological Association will meet at Normansfield, Hampton Wick, on Wednesday next, by the invitation of Dr. Langdon-Down, who will read a paper on the Mongolian type of imbecility, and Dr. W. H. B. Stoddart will make a communication on instincts.

At a meeting of the Penybont Rural District Council held on October 7th, a letter was read from the Local Government Board intimating their intention to hold an inquiry into the question of the drainage of Parc Gwyllt Asylum. It was resolved to recommend the parish council to be legally represented at the inquiry.

The London companies, Royal Army Medical Corps (Volunteer), will attend a service at St. Bartholomew-the-Great, West Smithfield, on Sunday, October 22nd, at 11 a.m. The sermon will be preached by the Rev. Sir Borradaile Savory, Bart., M.A., Rector of the Church and Acting Chaplain, R.A.M.C. (Vol.).

The presidential address of the Glasgow Medico-Chirurgical Society was delivered on October 7th by Dr. J. Lindsay Stevens. It was of an historical character, and gave an account of the makers of medicine from the earliest times. The epoch beginning with Morgagni and ending with Virchow was treated in detail, and those which preceded it sketched briefly in outline.

Professor Ralph Stockman, President of the Glasgow Southern Medical Society, opened its winter session on October 5th, with an address on Heredity in Disease. At the same meeting Dr. C. E. Robertson was for the seventh time selected to represent the Society on the Board of the Victoria Infirmary.

The opening lecture of the winter session of the North-East London Post Graduate College will be given at 4.30 p.m. on Friday, October 20th, at the Tottenham Hospital, N., by Dr. Percy Kidd, consulting physician to the hospital. The subject of the lecture, which is open to all qualified medical practitioners, will be Pericarditis and its Effects.

A Tax on Alcoholic Medicines.—By a recent ordinance of the United States Internal Revenue Department all druggists who sell proprietary medicines containing whisky or other distilled spirit as their chief ingredient will have to pay the special liquor dealer's tax. The manufacturers of such medicines will have to pay the special tax imposed on rectifiers and liquor dealers. The ordinance will come into force on December 1st.

Russian Officers and Japanese Surgeons.—The *Sei-I-Kwai Medical Journal* publishes the following letter addressed by several wounded Russian naval officers in the Sasebo Naval Hospital to Fleet Surgeon S. Iwasaki, who was lately transferred from the hospital to a battleship: "Dear Doctor.—During our stay in Sasebo Naval Hospital we were so kindly and skilfully treated by you that the news of your departure from us makes us very unhappy. We bid you the most hearty farewell and wish you good health and prosperity for yourself and for the development of your precious medical science which we had so much enjoyed."

The United States Army and Civil Practitioners.—The United States War Department, we learn from *American Medicine*, has issued an order discontinuing the practice of employing civil physicians at recruiting stations. The fees to civilian physicians for this work have averaged £12,000 annually. Complaints from army officers of the bad physical condition of recruits have been increasing, and the Government has been put to great expense in issuing equipment and paying transportation for men who had to be discharged before they had rendered any service. Under the new plan recruits will be examined by recruiting officers, who will follow strictly the manual of the army. On acceptance, the recruit will be sent to the nearest post, where he will undergo a medical examination by the regular post surgeon. No equipment will be issued to him until he has passed this final examination. It is hoped that in this way the Government will avoid many pension claims.

The Vitality of Mosquitos.—In *American Medicine* for September 9th, 1905, is an interesting paper by J. D. Berry, M.D., on the ability of the larvas and pupas of *Stegomyia fasciata* to withstand desiccation. Some of the experiments narrated are very remarkable and interesting from the point of view of prophylaxis. Several pupas were placed in a glass jar whose bottom had been covered by a 2 in. layer of fine, almost dry, river sand, and were left there to see what would happen. Instead of dying, as one would have expected, it was found that they hatched out and became adult mosquitos, the last emerging exactly twenty-four hours after being placed in the jar. This experiment indicates at once the danger of simply emptying out pupas out of water barrels for the purpose of destroying them. Many, it is evident, especially if turned out on cloudy days or late in the afternoon, would become adult insects and so infest the neighbourhood. The point is important and should not be lost sight of by those engaged in the destruction of mosquitos. Perhaps the best method to avoid this mishap would be to pass the water through a fine gauze or muslin and then to dip this, with the adhering pupas and larvae, into boiling water.

British Medical Journal.

SATURDAY, OCTOBER 14TH, 1905.

TUBERCULINS AND ALLIED BODIES.

Owing to the interest aroused by Professor Behring's communication to the International Congress on Tuberculosis (p. 964) it may be useful to notice briefly various statements and theories which have been promulgated during recent years concerning the characters and alleged specific action of some of the more important tuberculins, or substitutes for tuberculin, which their discoverers have regarded as useful in the prevention or cure of tuberculosis. The number of these so-called remedies is so large, and the controversial criticisms which they have excited are so complicated, that it is impossible here to attempt anything approaching an exhaustive survey of the subject. Much enlightenment, however, will be found in a recent article by Dr. Jolles on the chemistry of tuberculin.[1] To this article, on which most of the following statements are based, we refer those of our readers who wish to consider more fully the details of preparation, and the chemical and physiological properties of the various substances referred to.

The original tuberculin, by means of which Koch at first thought he was going to cure human tuberculosis, was brought before the notice of the scientific world in 1890. Without entering into certain variations in the mode of preparing this substance, it is sufficient here to say that the material is a clear, brownish fluid, obtained by filtering through a porcelain filter a glycerine broth culture of tubercle bacilli which has been evaporated on the water-bath to one-tenth of its volume. This is "crude" tuberculin. Its physiological properties are so remarkable and so selective in their action that we cannot be surprised that their discoverer regarded them as specific. When injected in small doses into persons or animals suffering from tuberculosis a marked elevation of temperature results, and an inflammatory reaction is set up around the tuberculous foci present in the body. Concomitantly with this reaction a necrotic change in the peripheral part of the tubercle rapidly occurs, with the consequence that, when possible, the tuberculous focus is thrown off *en masse* as dead material. Unfortunately, this material, though dead so far as tissue cells are concerned, may contain living bacilli; and therefore, in cases where the necrotic material cannot be immediately extruded from the body, the rapid disintegration of the diseased tissue may facilitate rather than restrain the dissemination of the infective organisms. As soon as this danger was brought to light, it became obvious that "crude" tuberculin could not be used with safety for remedial or prophylactic purposes.

As the result of further investigations, Koch adopted a new method of preparing tuberculin, which he published in 1897. Young, highly virulent cultures were taken, and, after being thoroughly dried, were finely triturated in an agate mortar, small portions of bacilli only being taken at a time, in order to render the trituration complete. In this way the bacilli were reduced to fragments and the specific substances which they contained, being liberated from the fatty envelope which surrounds the bacillus, were capable of passing into solution. To this material distilled water was added and the mixture was centrifugalized, the result of this process being a separation into an upper, transparent but opalescent layer containing no bacilli, and a lower layer of deposit. This deposit was dried, again pounded, mixed with water, and centrifugalized; then the same process was repeated until the transparent layer obtained after centrifugalizing became perfectly clear. The upper layer obtained after the first centrifugalizing is designated by Koch as TO, while the upper layers obtained by subsequent treatment are designated TR. An important difference between the two is that glycerine gives a precipitate with TR but not with TO. TO, therefore, is regarded as containing those elements of the bacilli which are soluble in glycerine, and is considered comparable to the old, "crude," and dangerous tuberculin obtained from glycerinated cultures; whilst TR, on the other hand, is supposed to be free from these dangerous properties, and to contain valuable bacillary substances insoluble in glycerine. All the immunizing substances of the tubercle bacillus, according to Koch, are contained in TR, and a man immunized with TR will not react against large doses of TO. Many experiments have shown that TR certainly possesses a distinct immunizing power. One objection, however, which some critics have brought against its use is that it is not always possible to feel certain that in every sample of this preparation the possible presence of living bacilli can be completely excluded.

Klebs, after an investigation of Koch's "crude" tuberculin, came to the conclusion, in 1891, that the deleterious element which this substance contained was of an alkaloidal nature. He therefore endeavoured to obtain a tuberculin which, whilst retaining its activity, was free from alkaloids. His preparation—termed "tuberculocidin"—is said by its inventor to have a powerfully destructive action on tubercle bacilli, to be free from injurious properties, and to be of therapeutic use.

Maksutow, in 1897, raised an objection against tuberculin on the ground that it was prepared from bacilli grown on artificial culture media, and that the chemical constituents of these media and their disintegration products introduced a complicating factor; a toxin so obtained, he argued, was not necessarily identical with the specific toxin of the bacillus. According to this view, tuberculin is an artificial product not identical with the specific poison produced by the bacillus in the living body. In order to obviate this difficulty he made extracts from the tuberculous tissues of diseased guinea-pigs, and from this material obtained a "tuberculosetoxin," which was free from bacilli, and was found capable of producing immunity in experimental animals in the course of from three to three and a half months.

Hirschfelder, in the same year, advocated the use of a preparation which he termed "oxy-tuberculin." Useful therapeutical results were attributed to this substance. All that need be said about it is that its preparation was

[1] *Die chemische Pathologie der Tuberculose.* Herausgegeben von Dr. A. [illegible] II. [illegible] *des Tuberculins.* Von A. Jolles. Berlin: August [illegible]

based on a chemical application of the theory that "antitoxin is only oxidized toxin."

In 1898 Landmann announced that he had discovered a substance, termed "tuberculo," which was free from the objections attaching to other tuberculins. The distinctive feature about his preparation was that the bacilli were extracted with normal saline, distilled water, and glycerine at progressively increasing temperatures, the first extractions being made at 40° C. and the last at 100°. The different extracts were then added together. The advantage claimed for this method of fractional extraction is that all the important properties of the bacilli are recovered without the loss of those which would be destroyed at temperatures lower than 100°. The substance thus obtained, to which the name "tuberculol" was given, is said to produce immunity, and it is also alleged that patients will recover if they can be kept under its influence until the living bacilli contained in their bodies are dead.

Many pathologists have endeavoured, by applying the principles of serum-therapeutics to tuberculosis, to provide us with an antitubercle serum. One of the best known amongst these scientists is Maragliano. This authority uses the horse as the serum provider. The horse is immunized by inoculation with a mixture of "tuberculous toxalbumins" and "watery tuberculin," in gradually-ascending doses. The "watery tuberculin," as its name implies, is obtained by making an extract of tubercle bacilli by means of water; the "toxalbumins" are, in Maragliano's opinion, important substances which he has succeeded in isolating from other substances termed "toxoproteids." By means of the first two mentioned substances, then, immunity is produced in the horse, and the serum of the animal so immunized is antitoxic. When put to practical test, this serum, in the hands of many observers, appears to have proved remarkably less useful than it has when used by Maragliano.

Perhaps the statements here made are sufficient to illustrate the discordance of opinions which exists concerning the value, as remedial agents, of various tuberculins and allied bodies. Each discoverer has claimed for his own particular substance a much higher value than many competent critics are willing to accord to it. Theoretical considerations, therefore, as to the mode in which these substances may exhibit a specific action must necessarily remain involved in obscurity until it is more clearly established that immunity is actually produced by one or other of these methods.

UNDERFEEDING AND BRAIN-FAG.

The discussion on physical deterioration in the Section of Industrial Hygiene at the Annual Meeting, and that on occupation and environment as causative factors of insanity in the Section of Psychology, have perhaps not contributed much that is new to a subject which has attracted a great deal of public attention during the last three or four years. Nevertheless, they may have helped to clear the air, and to give some increased precision to current views. The most solid contribution to either discussion was that of Dr. Wm. Hall, who, on the strength of observations and experiments made recently in Leeds, felt justified in advancing a definite proposition that the physical unfitness which seems to be undermining the foundations of the empire is due to underfeeding, and, unless we have misunderstood him, to that cause alone. He drew a striking contrast between the physical development of Jewish and Gentile children, and could find for the superiority of the former no other explanation than the greater solicitude of the Jewish mother, who is more careful than her Gentile sister to suckle her baby, and to feed her child at school. The Jews not only feed their children more abundantly and more wisely, but they take better care of the pregnant woman. Assuming that Jew and Gentile families suffer to an equal extent from overcrowding and other injurious conditions associated with life in the slums of a large town, it is not to be wondered at that the Jewish child is better developed than the Christian. Dr. Hall's investigations would then have almost the force of a scientific experiment. We should still want to know whether the standard attained by the Jewish child would not fall below that which it might have attained had its sanitary surroundings been satisfactory. Dr. Hall has made some observations which would bring us to the rather surprising conclusion that sanitary defects—overcrowding and so on—have little or no effect in retarding development, but the answer to the question is so important that it calls for investigation by other observers on as large a scale and in as thorough a manner as the inquiries instituted by him. The investigations ought to include the examination of children at all ages throughout the period of growth.

Of all the circumstances suggested with more or less plausibility as the cause of physical or mental unfitness, that which would attribute either condition to overwork of the brain possesses, we venture to think, least inherent probability. If we regard the brain as the organ of mind, we may fairly ask the exponents of the doctrines of overpressure and brain-fag to quote some other instance of an organ deteriorating by use. The dancer's leg may not be beautiful, may be out of harmony with the development of the rest of the body, but it would be a curious perversion of language to call it degenerate, or to claim it as an example of deterioration.

We would venture the assertion that the more the brain is used the better it develops in childhood and the more nimble and efficient it is in adult life as the organ of mind. Is there any evidence that the mind, which manifests itself through the action of the brain, ever becomes fatigued? We may go further, and ask, Is there any evidence that the brain, even if we have regard only to its higher functions as the organ of mind and exclude from consideration the part it plays in the regulation of the functions of organic life, ever rests except when we go to sleep? Dr. Watts told us long ago that Satan finds some mischief still for idle hands to do, and the assertion is perhaps of greater significance than he understood. We may claim the moralist as a witness to the contention that during waking hours the brain does not rest, especially the brain of the child. Let us admit that there is in the healthy child a transition period when it is on the threshold of sleep, not fully awake and not quite asleep; this stage lasts perhaps five minutes, perhaps half an hour; all the rest of its wakeful twelve hours the mind, and therefore the brain, is active. Whether it is building castles of bricks, or castles in the air like the well-nurtured child, or scurrying about the streets and hanging round public-house doors, as is the fate of too many town children, its mind is at work all the time; and one reason why the town child's brain ceases to develop at the normal rate is that it has had nothing informing and elevating to work on, not because it has been worked too much.

It would be most unfortunate if the medical profession were to associate itself with the diminishing minority who decry compulsory education. Let us condemn the errors into which imperfectly-informed educationalists have fallen, but do not let us condemn the system because after thirty years' experience we are beginning to see some of the faults of method into which its pioneers fell.

Does not over-pressure mean want of ventilation in school-rooms, and a deficient number of hours of sleep? Does not brain-fag mean underfeeding, and unintelligent mechanical methods of teaching, producing physical fatigue or an irrepressible desire to think about something else? The mind of a healthy child, properly fed and living in a pure atmosphere, is always at work; it is the part of wise teachers and parents to give it wholesome stuff to work on. Part of the child's energy should be expended in physical exercises, but its mind is working all the time. This is one reason why free games are better than formal exercises, why football is better than drill. Drill is learnt in half-a-dozen lessons, the movements become automatic and the mind is somewhere else. In football the commutations and variations are infinite, and the mind is occupied in the game and kept out of grooves. It is for a similar reason that golf has been such a godsend to so many middle-aged men. If a man plays his best at golf he keeps his eye on the ball; if he is thinking about his business worries he foozles, and becomes annoyed, even to strong language, and his business worries pass from his mind, being overshadowed and blotted out by the insistence of the present shame in losing his match. Therefore, for the reasons perhaps rather frivolously illustrated in these instances, we would respectfully ask those who would set down insanity or mental or physical unfitness to brain-fag to tell us what they understand by the term, and what evidence they have that any such condition exists. We must rule out in anticipation all conditions due to overfeeding or underfeeding, or to poisoning by the products of respiration or of imperfect digestion.

OBESITY AND THIRST-CURES.

THE treatment of obesity is not a matter which requires to be discussed at great length, but those who desire to learn all about its history and practice in ancient as well as modern times will find it in a new and enlarged edition of Professor Wilhelm Ebstein's book on corpulence and its treatment on physiological principles.[1] It is written in a lively style, the corpulent being described as passing through three stages—first, the enviable, in which the moderate degree of fat gives dignity to the port and grace to the figure; second, the comic, well known from many famous characters in literature, of whom Falstaff is the most popular; and lastly, the pitiable, when the muscles weaken, the various organs suffer, and many diseases may supervene. He agrees with the popular belief that the fat are good-natured, quoting the well known words which Shakespeare puts into the mouth of Caesar, those of E. Augier —"Virtue only is fat; the wicked do not benefit by their meat and drink"—and those of Cervantes, who said, even more emphatically, "He was a fat man, therefore a good man." Professor Ebstein says that the use of alcohol, if taken in quantities which do not impair the appetite or digestion, tends to produce obesity; that want of exercise may lead to obesity, by causing anaemia; but that the most violent exercise will not prevent it in persons who are predisposed. Nor do all fat people eat too much, for of 100 cases collected by Bouchard 50 ate a normal quantity, 40 too much, and 10 less than normal. Of this same group of cases, 35 lived moderately-active lives, 28 took more than the average amount of exercise, and 37, from laziness or sedentary occupation, took too little.

The principles of treatment which Ebstein lays down are, first, that a reduction must not be looked for as the result of a few weeks' treatment followed by a return to the patient's former habits; on the contrary, the diet must be maintained for years, or even for the remainder of the patient's life; secondly, that fatty food, though undoubtedly a source of body fat, may be eaten in quantities proportional to the amount of hard bodily work performed by the patient; thirdly, that the total quantity of food must be reduced, a result which is materially helped by the addition of a certain amount of fat which stays hunger and thirst; and, lastly, that carbohydrates must be limited, and sugar, sweets, and potatoes altogether eschewed. The diet he allows in his private hospital is as follows: Breakfast: Two small cups of black coffee and two small starchless rolls, with 30 to 40 grams (1¼ oz.) of butter. Midday meal: Soup, with marrow, fish with butter or cream sauce, green vegetables, meat with green salad or mushrooms, pease pudding or haricot purée, wine jelly or stewed apples, butter and cheese, with fruit in season. Evening meal: Cold meat, or fried ham, or eggs and bacon, butter and cheese. Apparently no bread is allowed except at breakfast, and the diet in other respects would require a good deal of modification before being acceptable to English palates.

"Thirst-cures" have not yet become popular in this country, probably they never will, but in Germany they have attracted a good deal of attention as a means of diminishing an excessive rotundity of form. Professor von Noorden and Dr. Hugo Salomon, in an essay recently translated into English,[2] confess, if not in words, yet by implication, that they might never have written on the subject had not Germany produced Oertel and Schweninger and their systems. "Both these authors," we read, "collected their material in Bavaria, a country in which from time immemorial very much more fluid (beer) is taken during meals than in any other country in the world." The experiments detailed by von Noorden and Salomon tend to prove that restriction of fluid has no influence in reducing obesity and certainly does not cause increased consumption of oxygen. Moderate restriction of fluids to 1 or 1½ litres (1¾ to 2¼ pints) daily is advocated in certain cases of heart disease, in contracting kidney, in cirrhosis of the liver with ascites, if the patient refuses paracentesis, or to prevent the reaccumulation of the fluid, in dilated stomach, and in haemorrhages. The authors remark in connexion with the last condition that it is easier to withhold all fluid if solid food is at the same time withheld—in other words, that patients stand total abstinence from food and drink better than abstinence from drink alone, but such a fast would only be possible for twenty-four or forty-eight hours.

We are glad to find that no encouragement is given to

[1] *Die Fettleibigkeit (Korpulenz) und ihre Behandlung nach physiologischen Grundsätzen.* By von Dr. Wilhelm Ebstein. Achte auflage. Wiesbaden: J. F. Bergmann; and Glasgow: F. Bauermeister. 1904. (Demy 8vo, pp. [illegible])

[2] *Drink Restriction (The 'et Cures). Particularly in Obesity.* Being Part VI of Several Clinical Treatises on the Pathology and Therapy of Disorders of Metabolism and Nutrition. By Professor Dr Carl von Noorden and Dr. Hugo Salomon. Authorized translation under the direction of Boardman Reed, M.D. Bristol: John Wright and Co., and London: Simpkin, Marshall, Hamilton, Kent and Co., Ltd. 1905. (Crown 8vo, pp. 80. 3s.)

the barbarously cruel system of withholding fluids in diabetes insipidus, a disease in which the thirst is sufficiently distressing without torturing the patient by refusing to allow the only means of allaying it, even although the relief may only be temporary. A horrible story went the round of the newspapers not long ago of such an instance of medical torture in Vienna. We hope it was not true, but a German with a theory is a dangerous adviser.

THE MEETING OF THE BRITISH MEDICAL ASSOCIATION IN TORONTO.

At a meeting of the medical profession of Toronto a Nominating Committee was elected to name a Representative Arrangements Committee for the coming meeting of the British Medical Association. Great enthusiasm was shown and an effort will be made to make the Toronto meeting one of the best in the history of the Association. It was thought well that the meeting should begin on August 21st in order that members might have no difficulty in arranging for accommodation, for the National Exposition begins the week after, and not only are hotels and boarding houses crowded at that time, but private houses as well. After the meeting of the profession the Toronto Branch met, and Dr. R. A. Reeve was recommended for President. This was a popular choice, for throughout Canada he is most highly respected. Dr. Reeve is Dean of the Faculty of Medicine in the University of Toronto, President of the Alumni Association, and Professor of Ophthalmology and Otology.

SIR THOMAS BROWNE.

On October 19th the three hundredth anniversary of the birth of Sir Thomas Browne will be celebrated with appropriate pomp and circumstance at Norwich, the ancient city of which he is the chief literary glory. A statue of the author of the *Religio Medici* will be unveiled by Lord Avebury, and a memorial service will be held in the Church of St. Peter Mancroft, where he was a worshipper and where he was buried. His bones still lie there, except his skull, which, to apply his own prophetic words, was "knav'd out of the grave," the coffin having been accidentally broken open by the stroke of a workman's pick, and is now preserved in the museum of the Norwich Hospital. An address will be given by Bishop Mitchinson, the Master of Pembroke College, Oxford, which now represents Broadgate Hall where Browne received his academic training. October 19th is also the anniversary of Browne's death, which occurred in 1682, when he had just completed his 77th year. On October 12th Professor Osler, who, as is well known, holds the author of the *Religio Medici* in special veneration, delivered an address on the man and his works before the Pupils' Physical Society of Guy's Hospital. The text of the address will appear in our next issue. The portrait which we publish in the present number is from one in the vestry of St. Peter's at Norwich. It was exhibited as a lantern slide by Dr. Osler. Elsewhere will be found an essay in which Dr. John Knott, of Dublin, discusses with much curious learning the notions of Sir Thomas Browne concerning witches, and the relations between medicine and witchcraft in his day.

THE SCANDAL OF THE ARMY NURSING HOME.

A Home for the Military Nursing Service is to be erected in connexion with the new military hospital at Millbank. The plans were, we believe, drawn some time ago for the War Office by an engineer officer, and have, we understand, been finally adopted in the teeth of criticisms which on investigation we find to be well founded. The Home is intended to provide accommodation for a matron, 7 sisters, and 15 staff nurses actually employed in the hospital, and for 10 sisters and 30 staff nurses to be sent out to other hospitals, or for special nursing service as required. The home will be the house to which army nurses and sisters who may have become ill in the discharge of their duties will be sent. For their use the plans have provided a large ward with ten beds, and a small ward with one bed for special cases. This is on the top floor, and near by there will be a so-called quiet room for sick nurses and sisters who may be able to leave their beds. The matron will be given a bed-sitting-room, an office, and a waiting room for persons calling upon her. So far so good, though it would have been better to have provided two sitting-rooms for sick sisters and nurses. Serious fault must, however, be found with the arrangement made for nurses and sisters on duty, or waiting to be sent out in an emergency. The bedrooms for nurses are not well planned: they are too small, they are not properly ventilated, and they have no fireplace. There is a common dining-room which with a little management may be made sufficient, but there is only one sitting-room for the whole staff of sisters and nurses. Even this single room is, when the number of the staff is remembered, very small, measuring, as it will, only about 18 ft. by 16 ft. Two sitting-rooms ought to have been provided, one for nurses and the other for sisters; there ought also to be a library, where silence could be enforced, and a visitors' waiting-room, where nurses or sisters might receive callers. In the newer nursing homes recently erected, such as those at the London Hospital, and that which is partly completed at Charing Cross Hospital, the arrangements are far superior. In the Charing Cross home there are to be three sitting-rooms, one for sisters, another for staff nurses, and a third for nurses and probationers, as well as a library. At the nurses' home of the St. George's Union Infirmary there are separate dining and sitting-rooms for ward sisters, and private sitting-rooms for the assistant matron and the home and other sisters who are not ward sisters. The nurses have their own dining, sitting, and waiting rooms. The Army Nursing Home at Millbank is the first to be erected by the War Office, and will no doubt be taken as a model towards which other quarters for army nurses, and other homes erected in connexion with other military hospitals, may be expected to approach. It ought, therefore, to represent the last word on nursing homes, and, at any rate, not be inferior to homes erected in connexion with voluntary civilian hospitals or Poor-law union infirmaries. That it will be inferior there is clearly no doubt, unless public opinion can still restrain the War Office from carrying out the amateur plan which it has evolved. We understand that this imperfect plan has been passed in spite of the criticisms and objections of the Army Nursing Board. We understand also that Her Majesty has interested herself in the question, and has tried to obtain for the nurses of her Imperial Military Nursing Service the accommodation which Poor-law guardians provide in connexion with their infirmaries. Her Majesty has been so distressed by the inadequacy of the War Office plans that she has herself offered to make a substantial money contribution towards the extra expense which might be incurred in improving the plans of the home, but, incredible as it may seem, this generous offer has been declined by the War Office. Even Her Majesty, generous as is her nature, and warm as is her sympathy with the nurses of her Service, would not offer to give £2,000 to the State unless she were convinced that a fatal mistake was being made. That a very stupid mistake is being made there can be no doubt. The War Office is unmoved by the protests of its expert advisers, it is unmoved by the generous appeal of the Queen, and it only remains to ask public opinion to assert itself and insist that Mr. Arnold-Forster shall listen to reason.

THE FUTURE OF THE UNIVERSITY OF WALES.

The inaugural meeting of the Cardiff Cymrodorion and the Cardiff Educational Society was held on October 3rd, when Professor Henry Jones, Professor of Moral Philosophy in the University of Glasgow, delivered a weighty address on the University of Wales: the line of its growth. Wales, he was convinced, would not let its Colleges fail for want of means; everything pointed the other way. The present circumstances of the University of Wales called

for their best reflection, for any action taken might carry consequences which would extend far into the future. The University was democratic down to its very roots, and on that account it was capable of the highest service to the community. These considerations seemed to him to apply to the question of appointing a "working head," principal, dean, or rector of the University, to perform amongst other duties the function now entrusted to the principals of the colleges acting in rotation as Vice-Chancellors. He thought the proposal ill-considered, unnecessary, wasteful, and mischievous, and hoped it would meet with the fate it deserved. It was too soon to pull to pieces the administrative methods of the University. They were the product of prolonged conference and of the most loving care of some of the best minds of the Principality. No doubt the difficulties of administration were real, but the greater part could be removed by the simple methods of readjustment. The time for three universities in Wales had not come. But neither had the time for changing the constitution of the existing university with the view of greater centralization, either academical or political. The ideal of three universities, he continued, was not at war with the ideal of "Cymru'n Un." It could not be shown that any country in the world had had its unity endangered by having more than one university. Wales to-day would be religiously and educationally more united were it more free. There was a unity sometimes which was the result of constraint, and which was of little value, and eventually unstable; and there were bonds which did not unite, but irritated—a truth sometimes forgotten by the advocates of artificial centralization. Napoleon converted the provincial universities into faculties of the University of France; but in 1896 the French Government completed the process of converting them back into independent universities. The result under the law of 1896 was that fifteen of the former faculty groups had been organized into independent universities. They registered 29,377 students in 1900, an increase of 11,772, or 68 per cent., above the number enrolled in the faculties in 1888. The increase in the number of students had taken place in every one of the universities, and before they were thus made independent more than one half of the universities of France contained fewer students than the College of Cardiff did that day. He did not, however, cite these facts as a reason for immediate change. He advocated no immediate change. He pleaded against a change which militated against the natural evolution of their institutions for higher learning and involved the sacrifice of an ideal of which he believed Wales would yet prove itself worthy.

VENEREAL DISEASE IN THE ARMY.

A third report dealing with the important subject of the treatment of venereal disease and scabies in the army has been issued by the Advisory Board for the Army Medical Services.[1] This recent issue, like the others, is mainly the work of Major C. E. Pollock, R.A.M.C., and constitutes a valuable summary of the methods of treatment employed in foreign military and civil hospitals. The various centres of France, Germany, Austria-Hungary, Italy, Russia, Sweden, Denmark, and Belgium have been visited by Major Pollock, and he gives descriptions of the curative methods adopted by the ablest clinicians who deal with these diseases on the Continent. It is practically impossible to summarize the mass of detail contained in this report, but in reading it one is impressed with the following facts and views: Thus, in all the countries mentioned, with the exception of Sweden, Russia, France, and Belgium, syphilis is not diagnosed till the appearance of constitutional symptoms, and mercury is withheld until these are noted. The weight of German opinion appears to be against the preventive treatment of syphilis, mainly for the following reasons: (1) The difficulty of diagnosing syphilis with certainty from the appearance of the chancre only; (2) the early exhibition of mercury does not prevent the ultimate development of the disease or even shorten the period of treatment necessary to secure a cure; (3) the secondary symptoms yield more readily to mercury when the administration of this drug is delayed. Major Pollock's accounts of his visits to the various clinics emphasize the fact that in all the military hospitals on the Continent each venereal division has a room fitted up as an operating theatre, with sterilizers, sterilized instruments, and a specially-trained orderly in charge. The dominant feature of the whole treatment, which is conducted by the medical officer himself or under his immediate supervision, is strict asepsis, the whole procedure being carried out in this special room and never in ordinary wards or lavatories. It further appears that mercurial inunctions and injections are almost universally used. In the out-patient departments of the civil hospitals in Paris only are mercury pills given; in Berlin the administration of mercury in pill form is considered very unsatisfactory. A feature in all these clinics is the excellence of the arrangements for the plan of treatment and the thoroughness with which it is carried out during the four or five years deemed to be necessary. In all cases elaborate printed advice is given to each patient as to his mode of life and the precautions to be observed. As regards the treatment of gonorrhoea, the employment of Thompson's two-glass test as to the condition of the posterior urethra is very general, especially in Berlin. Janet's siphon irrigation does not seem to be much employed in Germany, where Neisser's views as to gonorrhoea and its treatment have been generally adopted. Of remedies, silver nitrate, protargol, argonin, ichthargan, and argentamin are usually employed as long as gonococci are present. Various salts of zinc, copper, and bismuth are preferred when gonococci are no longer present, but a mucoid secretion persists. Resorcin, sublimate, and potassium permanganate are used in cases of mixed infection and for irrigating the urethra preparatory to the introduction of instruments. For the treatment of scabies, styrax or pure balsam of Peru appear to be largely used. The latter medicament is, however, expensive. It is a matter of regret that this able report does not touch upon the question of results or enable us to estimate the relative value of the different lines of treatment described. Both Major Pollock and the Advisory Board are to be congratulated on the appearance of this issue, which deserves to be studied carefully by every practitioner.

[1] London: Wyman and Sons, Ltd. Edinburgh: Oliver and Boyd. Dublin: E. Ponsonby. 1s.

WORKMEN'S INSURANCE IN GERMANY.

One of the weightiest questions in German medical politics is that of reform of workmen's insurance, which was one of the subjects for debate at the Seventh International Workmen's Insurance Congress, held in Vienna from September 18th to 22nd. The whole question is fully discussed by Dr. Mugdan in an article in the *Berliner klinische Wochenschrift* of September 25th. One remedy recommended for the acknowledged evils of the present system is an amalgamation of the various kinds of workmen's insurance—sickness, accident, and invalid. Dr. Mugdan, however, considers that the time is not yet ripe for amalgamation, but that an immediate reform of the sickness insurance law is urgently necessary. He enumerates the following, amongst other disadvantages, of the present system. In the first place, there are too many sickness insurance societies in Germany; the number is at present 23,214, with an average membership of 433. Yet Berlin with 600,000 insured persons has only two more sick clubs than Schwarzburg-Rudolstadt, with 20,000 insured. The nominal self-government of these clubs only exists on paper, the real management being in the hands of paid officials, the honorary committees, elected from the insured members, having very little power. Domestic servants and agricultural labourers are not at present entitled to the benefits of sickness insurance. In certain clubs the members only work for a part of the year. For instance, stonemasons hardly do any work during the winter, the season when they are most liable to rheumatism and allied complaints. It thus happens that, as the club funds

are largely supported by members' contributions, expenses are greatest at the time when income is lowest. The unfortunate club doctor suffers from this bad management, because if the income of a club is diminished from any cause, his salary is the first to be docked. In Dr. Mugdan's opinion the only remedy for this state of affairs is a territorial organization of all sick clubs, and the formation of large societies in every town or country district, which every workman, no matter what the nature of his occupation, might join. Owing to the saving thus effected in the expenses of management, a more liberal and more equal distribution of sick relief would be possible and free medical treatment might be granted to the families of all workmen insured. The medical profession in Germany is much interested in this question, and is making great efforts to bring about reforms. A committee selected from medical men in all parts of the Empire has been appointed by the German Medical Union. This Committee has drawn up a report, which has been sent to members of the International Congress, to members of the Reichstag, to the authorities of a number of sick clubs, and to every medical man in Germany. The whole subject is discussed in this report, and the following recommendations are made: First, free choice of their medical attendant by all members of sick clubs. Secondly, the clubs to be managed by a trust committee (*Vertrauenskommission*), which is to control the medical service and the supply of drugs, and exercise disciplinary authority over the medical officers of the club. A superior court to be appointed, consisting of certain officials (*Einigungsämter*) selected equally from doctors and club members, presided over by an official, either of judicial rank or belonging to the higher civil service. This court will finally decide all disputes between doctors and club members. As both the Imperial Chancellor and the Secretary of the Interior have publicly expressed themselves in favour of reform, it is probable that contract medical practice will before long be in a more satisfactory state in Germany than it is in this country.

THE MEDICAL STUDENT OF TO-DAY.

A WRITER in the *St. James's Gazette* bewails the "passing" of the medical student. He explains that, although there are still young men who devote themselves to the study of medicine, "all that made the medical student distinctive—the gay, irresponsible, irrepressible youth of our imaginations and of our literature—has faded into the light of common day, and the difference between the medical student of these years of grace and the theological student, for example, is that one is studying the Thirty-nine Articles and the other the metacarpal articulations." The modern student, we gather, is bored by the lectures he has to attend, and a genuine interest in his work, or a real scientific curiosity, is rare. Nevertheless, having the fear of the examiner before his eyes, he reads hard, but the whole system of examinations is "soul-killing, destroying originality, destroying continuity, and bestowing the prize on the man who patiently 'swots' up his subjects and mechanically gives forth the answers he has been told to give." That lectures often cause boredom is true enough, but that is not altogether the fault of the student. That the passing of examinations is to a considerable extent a mechanical art cannot be denied, but that is mainly the fault not of the system, but of the way in which it is too often applied. As long as mere book knowledge is accepted as a passport by those who guard the portals of medicine, so long will cramming continue. But for keen interest in his work the medical student compares favourably with any other class. This is a frequent subject of remark at the older universities, where he is marked out among his fellows by the eagerness with which he strives after knowledge. He has to work much harder than other students, and that necessarily leaves him less time for frolicking. No one, however, better knows how to put in practice the maxim *Dulce est desipere in loco*. Fortunately, drinking and other undesirable manifestations of the "flamboyancy and sparkle" which are said to be wanting in the medical student of to-day are now generally looked upon as "bad form." The "chronic," who was the prototype of the medical student as painted by Dickens, Albert Smith, and Thackeray, has disappeared under the stress of the modern curriculum. He is as much out of place in a modern school as Sawyer, late Nockemorff, would be in modern practice. If the medical student has lost in "flamboyancy," he has gained vastly in true manliness of character, as well as in scientific spirit and range of mental outlook—a result of a change in thought and feeling with which the profession and still more the public have every reason to be satisfied.

THE ELIMINATION OF THE MOSQUITO.

IN the *Journal of the American Medical Association* of August 26th, Dr. Doty, of New York, publishes some practical facts which have a direct bearing on the possibility of exterminating the mosquito, and discusses at some length the methods by which such work may be effectually done. The importance of this subject, and the necessity of bringing it under public notice in regions infested by the mosquito, are rendered evident by our recently-acquired knowledge that this insect is the cause not only of personal annoyance, but also of widespread and deadly disease. As Dr. Doty points out, yellow fever is transmitted by the variety of mosquito known as the *Stegomyia*, and malarial fever by the *Anopheles*, and that so far as is known at present this is the only means by which these diseases are propagated. The proper means of effecting with any success the removal of this troublesome and dangerous creature are indicated by certain well-attested facts in regard to its propagation and habits. We know that mosquitos cannot propagate without water, and thus we acquire definite information regarding the situation of breeding places. The first crop of mosquitos, which appears in the early summer, particularly in inland towns, is held to be principally due to eggs which have remained dormant during the winter months. In discussing the disputed question as to whether or not the mosquito goes far from its breeding place, Dr. Doty gives it as his opinion that the insect is not a voluntary traveller, and so it may be assumed that if a district be infested, breeding places are to be found close at hand. The practical import of the results obtained from the researches of Dr. Doty and others is that the chief aim of efforts to eliminate the mosquito should be to prevent the propagation of this insect by abolishing, by both direct and indirect means, swamps and ground depressions holding water, and removing receptacles about buildings. If ground depressions near the premises cannot be drained or filled in, petroleum oil may be poured over the surface of the water as a temporary measure. The addition to the standing water of solutions of toxic agents such as carbolic acid and mercury perchloride is regarded by Dr. Doty as dangerous and much less efficient than the use of petroleum. As is said by our contemporary in an editorial comment on Dr. Doty's paper, the dwellers in mosquito-infested regions know enough to relieve themselves to a large extent of the danger and discomfort caused by these insects. As the mosquito is by no means an ephemeral creature, and as the *Stegomyia*, the bearer of the infection of yellow fever, is apparently generally to be found within certain degrees of latitude, it is feared by many that the opening of the Panama Canal may be the cause of the introduction of this disease into the Orient. This disquieting suggestion, however, is put aside by Dr. Doty, who has been led by his researches to believe that the treatment of luggage coming from yellow-fever ports is unnecessary, provided the period of transit has exceeded two days.

A NEW USE FOR DEAD BODIES.

THE disposal of the dead is a matter which still exercises the minds of sanitarians. The method in common use is generally condemned by all but undertakers, but neither the crematory nor the wicker coffin is yet generally accepted as a completely satisfactory solution of the problem. Some years ago an ingenious American suggested that corpses might be petrified by a process of his inven-

tion and utilized for house decoration; in this way an ordinary citizen might have about him memorials of his defunct relations more permanent than the ancestral statues which adorned the stately homes of ancient Rome. A German engineer, Herr Karl Schott, of Cologne, has improved on this suggestion. He proposes to "reduce the cemetery to its simplest expression" by surrounding dead bodies with masses of cement. Nothing, he assures us, could be simpler. The coffin itself would be of concrete, reinforced, if deemed necessary, with steel. It may be said, in passing, that however admirable the plan may be in itself, its costliness would stand in the way of its general adoption. Herr Schott himself is alive to this difficulty, for he says the coffin could be made more simply, the original one being used as a mould. The coffin is provided with an opening through which, at the time of burial, is poured a liquid cement which sets quickly. Hardening takes place immediately, and the body is thus impregnated with silicic acid and lime from the cement. Petrification is thus brought about. Herr Schott holds that this is a process of preservation superior to embalming even as practised by the ancient Egyptians. Another point in favour of his method, in his opinion, is that no objection to it can be raised from the standpoint of theology. The German engineer further suggests that the blocks of cement into which the bodies of the dead would be transformed should be used to build vast monuments to form the future cities of the dead. He modestly leaves to the architects the task of designing artistic forms for these sepulchral monuments. But why does the inventor stop here? If his scheme is adopted, why should not the cities of the living also be built of the materials thus created? This would solve two problems at once—the hygienic disposal of the dead, and the provision of solid dwellings for the living.

THE DRAINAGE OF ANCIENT BABYLONIA.

We all remember the dictum of the John B. Robinson of the *Biglow Papers* that "They didn't know everything down in Judee." Yet even Judæa could teach the modern world something about hygiene. Indeed, the further archæological research is pushed, the more evident it becomes that in some parts at least of the ancient world sanitary problems were grappled with by men possessed of knowledge and practical skill that would do credit to modern science. Two years ago we published an account of drainage works in the palace at Knossos, laid bare in the excavations of Mr. Arthur Evans, which showed that many centuries before the siege of Troy and 2,000 years before the foundation of Rome, difficulties of drainage were overcome in a manner that could not be surpassed at the present day. Now it appears that 6,000 years ago the sewerage question was dealt with in a highly-successful manner in Asia. Professor Edgar J. Banks, Field Director of the Babylonian Expedition of the University of Chicago, has recently described in *Scientific America* the drainage system of Bismya, the Sumerian city which flourished on the site of Babylon many centuries before that famous capital was built. In the excavation of the ancient city a system of drainage excellently adapted to local conditions has been discovered. Professor Banks says that Babylonia is perfectly level, and in most places there is a crust of hard clay on the surface which, baked by the sun, has become as hard as stone. This crust at Bismya is seldom more than 4 ft. in thickness, and underneath it is loose sand reaching to an unknown depth. Drainage in such a country, he says, without sloping hills or streams of running water, might tax the ingenuity of the modern builder. In constructing a house, the ancient Sumerian of more than 6 000 years ago first dug a hole of considerable depth in the sand; at Bismya several places were found where the shaft had reached the depth of 14 metres below the foundation of the house. From the bottom he built up a vertical drain of large, cylindrical, terra cotta sections, each provided with grooved flanges to receive the one above. The sections of one drain were 48 cm. in diameter and 60 in height; others were larger and much shorter; the thickness of the wall was 2·7 cm. The tiles were punctured at intervals with small holes about 2 cm. in diameter. The section at the top of the drain was hemispherical, fitting over it like a cap, and provided with an opening to receive the water from above. Sand and potsherds were then filled in about the drain, and it was ready for use. The water, pouring into it, was rapidly absorbed by the sand at the bottom, and if it became clogged there the water escaped through the holes in the sides of the tiles. The temple at Bismya was provided with several drains of this kind; one palace had four. Some were still half full of the filth of bygone ages. In the Bismya temple platform, constructed about 2750 B.C., the excavators uncovered a horizontal drain of tiles, each of which was about 1 metre long and 15 cm in depth, and not unlike those in use at the present day. This drain conducted the rain water from the platform to one of the vertical drains. One of the tiles was so well made that it served for a long time as a chimney for Professor Banks's house. The Babylonians of a later period, who buried instead of cremating their dead, carefully provided their cemeteries with drains. The graves were small house shaped structures, entirely or partly above ground, and, whenever they were found upon the sloping side of a mound, they were protected above by a breakwater, while along the sides were square, open brick drains. The result was that some of the graves, although thousands of years old, and constructed of unbaked clay, are still in a perfect state of preservation.

PATHOLOGY AT LEEDS.

Some time ago the Council of the University of Leeds sanctioned the appointment of an additional demonstrator to devote the whole of his time to work in the medical school, more especially in connexion with the increasing amount of municipal and county council work. To this post Mr. R. Smedley, M.B Cantab., D.P.H., has been appointed. Mr. Smedley has come with strong recommendations from his former chief, Professor Sims Woodhead, and has already been on duty some weeks. Professor Grünbaum has now under him two demonstrators devoting all their time to the work of the department, for Dr. Scott has held the post of Demonstrator of Pathology for some years. Mr. Lawford Knaggs acts as Honorary Demonstrator in Surgical Pathology. The authorities of the General Infirmary are advertising for an Honorary Curator of the Laboratory at a salary of £200. As already mentioned, an increase in the laboratory accommodation will, in all probability, soon be effected, and the position is one which should provide abundant opportunities of doing good work. Though the appointment is not a university one in the strict sense of the term, the holder of it is encouraged to do a certain amount of teaching, and this will doubtless enhance the value of the post.

THE PREVENTION OF CONSUMPTION IN GREAT BRITAIN.

At the final meeting of the International Congress on Tuberculosis, held last week in Paris, Dr. Nathan Raw, of Liverpool, presented a report on the work done in regard to the prevention of consumption in Great Britain. The report stated that the movement against tuberculosis in Great Britain has been one of steady progress. In addition to devising and formulating methods of prevention, the National Association for the Prevention of Consumption circulates a large amount of information regarding the disease and the means by which it can be prevented. Numerous new branches of the Association have been established in the larger cities and towns of the United Kingdom. All these branches are doing excellent work in their own districts. The problem of improving the social conditions of the poor is receiving attention, and the different municipalities of which Liverpool is a pioneer are providing healthy houses for the working classes and otherwise improving their surroundings. A great deal of attention is

directed towards isolating advanced cases of consumption so as to prevent infection, and in the Poor-law infirmaries some thousands of poor consumptives are isolated and treated. Voluntary notification of the disease to the health authorities is in force in almost every town, and notification is compulsory in Sheffield. During the last few years numerous sanatoriums for the poorer classes have been founded. In Liverpool, a sanatorium for the poor has been established at Heswall for the treatment of suitable cases without payment. Other sanatoriums—such as Brompton, Northwood, Winsley, and Kingswood in Delamere Forest, with Mr. Crossley's new one, also in Delamere Forest—have been established with satisfactory results. It is felt to be of the highest importance that similar institutions should be provided for the treatment of early cases amongst the poor, and that other sanatoriums for the isolation of advanced cases are absolutely necessary to prevent the spread of the disease amongst the poor. Opportunities for scientific research are being provided, and Sir John Brunner has established a special tuberculosis research department in the University of Liverpool. The Association hoped soon to establish dispensaries in each large city, with a view to assisting and advising consumptives in their own homes. The education of the people is spreading, and it is felt that this is of great importance in inducing people to take an interest in the work. By-laws are in force throughout England against spitting in tramcars, carriages, and covered places with excellent effect. The problem of dealing with consumption in London is a colossal one, and it is hoped that some central authority may be induced to undertake the work under the direction of the Local Government Board. It is estimated that there are 27,000 persons in London suffering from consumption, a great proportion of the cases occurring amongst the poor, who are helpless to assist themselves, and who are daily spreading the disease to healthy persons with whom they come in contact.

THE ADA LEWIS NURSES.

THROUGH the generosity of Mrs. Lewis-Hill an institute for providing daily visiting nurses for the poor and middle classes is about to be opened at 62, Oxford Terrace, Hyde Park. It will be managed by a Committee, and arrangements have been made for a staff of trained nurses who will make daily visits as required, or attend operations, on payment of certain small fees. The duty of the nurses, who will be known as the Ada Lewis nurses, are quite distinct from those of the district nurses whose gratuitous services are intended only for the sick who cannot afford any payment. The institution is intended solely for the benefit of those poorer members of the middle class who cannot afford the expense of ordinary nurses resident in the house, and the Committee hope that medical men will safeguard the interests of the institution by preventing the abuses which attend so many medical charities. The minimum fee will be 5s. a week, the maximum 10s., the exact amount being regulated by the medical man in attendance on each individual patient. The duties of the nurse are confined to washing and dressing the patient, making the bed, and, under the direction of the medical attendant, dressing wounds or applying medical or surgical treatment or any nursing for the immediate comfort of the patient. The nurse will leave a written report for the medical attendant of any matter to which she thinks his attention ought to be drawn. Attendance at operations will include the preparation of the patient and room, assisting the surgeon, and clearing away afterwards. Within a radius of two miles from the home no charge will be made for travelling expenses; beyond that distance omnibus fares, or if off the omnibus routes, cab fares will be charged. Infectious cases will not be attended, and if by mischance a nurse enters an infected house a charge will be made for disinfection. We believe that an institution of this kind is much wanted in all the residential districts of London, and that if properly conducted on the lines indicated here it will be exceedingly useful, and ought not to be attended by any abuses. The institution will, we are informed, be in working order on the 28th inst., and after that date applications may be addressed to the Lady Superintendent, 62, Oxford Terrace, Hyde Park, W. (telephone number, 2822 Mayfair).

THE NORMAN KERR LECTURESHIP.

THE first of the Norman Kerr lectures, founded by the Society for the Study of Inebriety, was delivered on Tuesday, October 10th, at the rooms of the Royal Medical and Chirurgical Society, Hanover Square. Professor T. D. Crothers, M.D., Secretary of the American Medical Society for the Study of Alcohol and Narcotics, responded to the invitation of the Society, and came over from America to deliver the address. The event was celebrated by a reception by the President and Council of the Society before the lecture and by a *conversazione* afterwards. The Society now includes 800 members, and there was a large gathering of members and guests. Dr. Crothers received a warm welcome, and his lecture, which was highly appreciated, was made the more interesting by the fact that he and Norman Kerr had been for many years before the death of the latter friends and colleagues, and helped each other to develop a rational and scientific treatment of inebriety in both continents. At the conclusion of the lecture a vote of thanks to Dr. Crothers was proposed by Sir Victor Horsley and seconded by Mrs. Scharlieb. Dr. Crothers made a suitable but all too modest reply. A good selection of music was subsequently performed and a very pleasant evening spent.

THE MEDICAL REGISTER.

THE Registrar of the General Medical Council informs us that the English Branch Council has this year sent circulars to all practitioners whose names begin with any letter from P. to the end of the alphabet who originally registered at its office, inquiring whether the address in the *Medical Register* for this year is still correct. Any medical man whose name begins with a letter from P. to Z. inclusive who has not received the circular, or who has not yet sent in his answer is asked to communicate with Mr. H. E. Allen, Registrar of the English Branch Council, 299, Oxford Street, London W., without delay. It is hardly necessary to insist upon the importance of all members of the medical profession assisting the General Medical Council to keep the *Medical Register* correct. Any change of address should be notified at the office of the Branch Council at which the practitioner originally registered. From the letter of the Registrar, it would appear that there may be still confusion in the minds of some between the very useful but unofficial *Medical Directory* published by Messrs. Churchill, and the official *Medical Register* published by the General Medical Council.

ON assembling after the holidays the Ethical Committee of the British Medical Association elected Mr. R. H. Kinsey, of Bedford, chairman, in succession to Professor Saundby; the Science Committee chose Dr. Norman Walker, of Edinburgh; and the Medico-Political Committee re-elected Dr. Buist, and the Organization Committee Mr. T. Jenner Verrall, as chairmen.

PROFESSOR WILLIAM OSLER, the Regius Professor of Medicine, Oxford University, will distribute the prizes at the Medical School of University College, Bristol, and address the students on Thursday, October 26th, at 4.30 p.m.; the annual medical dinner will be held on that date, when Mr. R. W. Doyne, F.R.C.S., will be in the chair, with Professor Osler as "guest of the evening." We are asked to say that if any old Bristol student has been overlooked in sending out the circulars he can obtain a ticket by applying to the Honorary Secretary, Dinner Committee, Royal Infirmary, Bristol.

Canada.

The Canadian Medical Association.

The annual meeting of the Canadian Medical Association was held at Halifax on August 22nd to 25th, at a distance of almost 4,000 miles from Vancouver, where the last was held. It was a well attended and successful meeting. A report, regretting that their efforts had been unavailing, was presented from the special committee appointed last year to press the important step upon the Dominion Government of the creation of a Department of Public Health under one of the existing Ministers. Toronto was chosen as the next place of meeting, on invitation from the profession of that city, to meet at the same time as the British Medical Association. The following officers were elected: President, Dr. Alexander McPhedran; General Secretary, Dr. George Elliot; Treasurer, Dr. H. B. Small; Executive Committee, Dr. W. P. Caven, Dr. A. A. MacDonald, Dr. F. Le M. Grasett. The address in medicine was by Dr. D. A. Campbell, of Halifax, on the growth and organization of the medical profession in Nova Scotia, and was an extremely interesting story of the days since the first settlement was made at Port Royal three centuries ago.

Canadian Medical Protective Association.

The annual meeting of the Canadian Medical Protective Association was held at Halifax on August 22nd, during the meeting of the Canadian Medical Association. It was reported that as far as the litigation of the year was concerned the Association had been fortunate in the small number of claims presented against its members; no claim was successfully urged against any member. At present there are two or three cases pending against members, none of which appeared to be of importance. At the meeting the officers of the year were re-elected; a recommendation was adopted that members joining later than July 1st should be admitted for half the fee, all subscriptions becoming due on January 1st. In accordance with the advice of the solicitor, it was determined that no member shall have a claim upon the Association for assistance in the defence of any action based upon facts that occurred in the practice of the said member prior to his joining the Association.

Toronto Hospitals.

Mention has already been made in these columns of the condition of the hospital problem in Toronto and the plans suggested for its solution. It is generally conceded that at least one and a half or two millions of dollars would be required to build and equip an institution which would supply the needs of the city and of medical education in a satisfactory manner, and friends of the project have bent their energies in the direction of realizing such a sum. A single benefaction of a large sum a year ago was the beginning, and since that time upwards of 200,000 dols. has been made available; the trust of the present General Hospital will possess resources and the money arising from the sale of the present property; the Province of Ontario has promised half a million in recognition of the value of such an institution to education, and the University will advance 50,000 dols. To complete the amount required private generosity must be depended on, and promises of such assistance have been received. In addition a grant of 200 000 dols. was asked from the city of Toronto, and this brought the question into the domain of civic politics, where it but narrowly escaped being wrecked. Objections appeared in the press on various grounds, among others that such action would be followed by demands from other institutions and these could not very well be refused, that the present General Hospital serves a want in its situation in the eastern part of the city, that the city should not make such a large grant to an institution not directly under its control, and finally that a grant of money of this character should have the authorization of a by-law.

Opposition was shown also by members of the profession outside the faculty of the University, and representing hospitals that do not grant clinical facilities, it was feared that this hospital would attract patients on account of the superior facilities it would offer, and that they would be attended only by the regular staff of this hospital. At a meeting of the profession the whole subject was discussed and the city health officer, Dr. Charles Sheard, on behalf of the city authorities, gave assurances that the city would require before making this grant that all patients who contributed to their own support should have the privilege of selecting their physician, and that he need not necessarily be a member of the staff. On this ground the opposition was withdrawn and a resolution of support was passed. The city made the grant presumably on these conditions, but it remains to be seen whether they are feasible; in the opinion of the members of the teaching staff of the Faculty of Medicine they would too seriously interfere with clinical teaching. At present the public patient in Toronto hospitals pays 50 cents a day, a sum which does not represent more than half the cost of the service he receives, and such patients have not the right of being attended by a physician who is not a member of the staff of the hospital they enter. As the city will only have a comparatively small financial interest in the new hospital, many think that it is asking too much for the money and it is improbable that the Province and the University will submit to such conditions; the outcome will be awaited with interest by those connected with hospitals in other places.

A Nurses' Home.

Mr. J. Ross Robertson is giving a residence for nurses to the Hospital for Sick Children, Toronto; it is to cost 75,000 dols. Mr. Robertson has in the past been a generous benefactor to the institution. The building, which is now in course of erection, is a gift to the hospital as a memorial of Mary Louisa Gilbee, the first wife, and Helen Goldwin, the only daughter of Mr. Robertson. The site for the building is on the grounds to the south of the hospital, and it will extend 150 ft. It will be constructed of red brick, colonial style, and will have about 80 rooms for nurses and employés.

On the ground floor will be situated a large lecture hall reception room, library, and waiting rooms: there will be accommodation for 60 nurses, with a general kitchen and a diet kitchen for the instruction of the nurses. It will also contain a large demonstration room, so that nurses may receive in the residence the necessary instruction before entering the wards. The diet kitchen will be under the supervision of an expert in domestic science, so that every nurse will have a full knowledge of cooking before her course is finished.

The second, third, and fourth floors will be for the lodging of the nurses, with sitting rooms on every floor, and special study rooms. The fifth floor will be for domestics, and the centre part will have a gymnasium, in which the nurses will have manual and athletic exercises; while in the centre of the building will be a roof-garden. The building has been designed after study of many of the best and most up-to-date homes in the United States.

The Hospitals of Ontario.

The thirty-fifth annual report on hospitals, refuges, and orphanages in the Province of Ontario has just been published. There are 61 hospitals, 35 refuges, 32 orphanages, and 2 Magdalene hospitals. The total number of patients in all the hospitals was 39,223, there were 2,241 deaths, or a percentage of 5.7. The Government grant was 110,000 dols., the amount received from other sources was 738 681.69 dols., and the subscriptions, donations, etc., were 123,858 80 dols., being over 28,000 dols. less than the previous year. The total expenditures were 852 240.51 dols., or 89 cents per day. The Government grant to those entitled to it is 17 cents per day. The report condemns the practice of placing tuberculous cases in wards of hospitals devoted to general cases, and suggests the use of tents. The hospital accommodation of the city of Toronto is criticized severely, and the construction of a new central general institution is recommended.

A Trial for Murder.

The medical evidence at the recently-concluded trial for murder of one King at Edmonton, in the territory of Alberta, was of very special interest. The history of the crime was that two men were seen by some Indians to enter a small wood remote from any white man's habitation, and after some time one emerged and went away; the fact that the other did not appear aroused their curiosity and they made a search, finding the remnants of a fire but no trace of the man. The police were notified, and a thorough search revealed in the ashes and at a stream some remnants of cloth and charred bone and flesh: these were sent to Professor Primrose, of Toronto University, for examination, and he was so fortunate as to find that four of the pieces of bone together formed the posterior part of the right parietal, a bone whose special characteristics served to determine that it was from the human skull. Another fragment formed part of the jugular process of the occipital and was obviously human, parts of the head and glenoid cavity of the scapula, while evidently human, did not permit of absolute differentiation from the

bones of some animals, while other fragments of bone were not in any way distinctive. There were some soft parts submitted, preserved in formalin, and among these were determined the following tissues—namely, lung, stomach, aorta, œsophagus, pancreas, heart muscle, and striated muscle fibre, all resembling the human tissue but not distinctive. There were also blood stains on cloth which showed the following tests for red blood corpuscles, haemin spectroscope, and reduced haemetin spectroscope, but the precipitin test was not successful. There was hair which resembled human, and a metallic substance which proved to be zinc, and was apparently the filling of a tooth, but of all these various remnants on the first two only could positive evidence of human origin be rested. The man King was captured and identified as the man who had gone into the wood and come out unaccompanied, and at the trial was condemned to be hanged. On a technicality in the evidence a new trial was granted, at which he was finally found guilty and was hanged.

A Canadian Army Medical Corps.

The Militia Council has approved of the establishment drawn up by Lieutenant-Colonel Fiset, Director-General of the Medical Corps, for a permanent army medical corps. The force will number 150 of all ranks, of whom 9 will be stationed at London, 10 at Toronto, 11 at Kingston, 9 at Montreal, 9 at St. John, 11 at Quebec, 9 at Fredericton, 20 at Halifax, and 10 at Winnipeg. The remainder will be located in the West at places not yet stated.

The Lunacy Problem in Ontario.

A meeting was held recently in the Ontario Parliament Buildings to consider the question of the treatment of lunatics and cases of inciplent lunacy; The Hon. W. J. Hanna, the Provincial Secretary, called the meeting, and it was attended by many of those occupied in the treatment of such cases in the large asylums of the Province, and by specialists on nervous disease. The number of patients under the care of the Government in public institutions for lunatics in the Province is constantly increasing and at a rate which makes the question one of the most serious problems the Province has to face. The standard of comfort and general intelligence and of prosperity is probably higher in Ontario than in any similar area in the world, which leads to the suspicion that we owe some of these cases at least to undesirable immigration, and rigorous inspection of those coming into the Province was advocated. The importance of the study of the large amount of material at hand in Government institutions was emphasized by Dr. McCallum of the London Asylum, and he suggested the appointment of an official pathologist for this purpose. He was supported by the heads of other asylums, who held that the present staff was inadequate to the work, and that it was impossible for them to undertake the research that they knew should be done.

Dr. Myers read a paper on the treatment of the pre-insane stage. By proper treatment, he claimed, many cases could be prevented, and suggested as a practical method the setting apart of certain wards in the general hospitals for the treatment of cases of neurasthenia, nervous prostration, and the minor forms of derangement; this method would afford a means for the student to acquire some experience in the diagnosis and treatment of such cases, and would remove the stigma attaching to asylum treatment.

Mr. Flavelle, representing the trustees of the Toronto General Hospital, offered to devote a part of that building which is now vacant, the residence of the ex-Superintendent, to this purpose if the Government would undertake the capital expenditure entailed in fitting it up, and that in this way a limited number of the poor could get the treatment that the rich received in private institutions.

Cerebro-Spinal Meningitis.

An outbreak of cerebro-spinal meningitis has occurred during the last few weeks in the counties of Ontario situated to the south of the River Ottawa. The statistics have not been made up yet, but there were 20 cases in one district, with a considerable mortality. Bacteriological examination made at the Provincial Laboratory failed to determine the infective agent, probably on account of the time that elapsed before cultures could be made.

Public Health in Ontario.

The third quarterly meeting of the Provincial Board of Health was held at Port Carling, Muskoka, on August 2nd and 3rd. Reports were received and considered with regard to water supply and sewage in a number of towns and villages throughout the Province, indicating a healthy state of interest with regard to such matters, which has been confined in the past chiefly to the larger cities. Where advised, the Board inspects and reports on systems of water supply or sewage disposal for municipalities, and now such are rarely undertaken without the advice and sanction of the Board or its officers.

The meeting in the summer is generally held at some point outside Toronto where local conditions can be studied, and this year Muskoka was chosen on account of the importance of the water and sewage question in this district, which is made up largely of lake and island, and is the summer home and playground not only of thousands of Canadians but also of equally as many from the United States. As the water supply for cottages and hotels is in most cases taken from the lakes, the importance of preventing their pollution is apparent, and the Board has regulated the disposal of sewage and refuse by the inhabitants and by the vessels which ply daily on the lakes.

After the meeting had closed Dr. Hodgetts, the Secretary, and Dr. Amyot, the Bacteriologist of the Board, made a tour of the whole district, examining the hygienic arrangements at cottages and hotels and giving necessary advice. The dry-earth system is unsuited to this country, because there is not much soil on the rock, and soakage is bound to result in contamination of the water supply. The difficulty arising in the regulation of matters of this kind is due to the fact that the responsibilities rest with the municipality, and they are slow to move, especially as it will mean increased burdens; then, too, attempts to coerce wealthy corporations, such as railways and navigation companies, often meet with powerful opposition. The hotels are more easily managed, as their success depends on their reputation.

Vital Statistics.

The report of the Registrar-General for 1903 shows that the marriages registered for that year numbered 19,830, corresponding to a rate of 9.0 per 1,000 of the total estimated population, 2 198,692. "The increase of 1,842 over the preceding year," the report says, "is most marked, for in 1902 the increase was only 37 over 1901." The marriage-rate is regarded as satisfactory. There were registered during the same year 48.742 births, including stillbirths, 25,071 being male, and 23 671 female, the rate being 22.1 per 1,000 of living persons. The rate is lower than that of any European country, with the exception of France, in which in 1900 it was 21 9. In comparison with adjoining States and provinces it is found from the latest returns that the birth-rate in the year 1902 was as follows: Quebec, 34.05; Rhode Island, 25.09; Connecticut, 22.5; Vermont, 21 9; New Hampshire, 20 04. The deaths for 1903 numbered 29.664, including stillbirths, a rate of 13.4 per 1000. This was a little larger than in 1902, but is satisfactory as compared with adjoining States and provinces for 1902. In that year Quebec had a death-rate of 18 2 per 1,000, and the nearest approach to that of Ontario was Connecticut, with a rate of 15.2 per 1,000. These reports thus show for Ontario in 1903 a marriage-rate of 9.0 per 1,000, a birth-rate of 22.1, and a death-rate of 13.4 per 1,000, the former and the latter being officially regarded as satisfactory, and the birth-rate as unsatisfactory.

Ireland.

Queen's College, Belfast.

Meeting of Medical Graduates in Support of the Better Equipment Fund.

A meeting of medical graduates who had been students of the Queen's College, Belfast, was held in the Medical Institute on the afternoon of October 5th, in support of the Better Equipment Fund. On the motion of Professor Lindsay, Dr. Calwell, President of the Ulster Medical Society, was called to the chair; and amongst others present were Professor Sinclair, Professor Byers, Professor Lindsay, Drs. J. R. Davison, Mackenzie, Mitchell, E. Bell, St. Clair Boyd, M. Andrews, Mair, J. Milroy, R. Graham, Hanna, King Kerr, Killen, Shaw, J. Walton Browne, Burnside, Storar, White, Greenfield, Kirk, N. O. M'Connell, Fullerton, M'Kisack, and T. Houston.

The Chairman said he was sure they would all recognize the uniqueness of the occasion on which they met, and that all felt pleasure in joining in the effort which was being made to meet Sir Donald Currie's most generous and liberal offer.

The history of the necessities of the College and of the Better Equipment Fund was known to them all. The College had sufficient funds from the Imperial Exchequer to keep it alive, but not to keep pace with the advances of modern times, and public interest, till lately, had not been aroused in the College, as it had been thought that a Government had founded the institution and a Government might support it. Now, however, pride in their local College was growing, and the public felt that they were, and should be, more or less responsible for its efficiency, and for the means to enable it to take its place with the well-endowed and well-equipped seats of learning of America, the Continent, and England. They should all give to this fund, not only on account of education generally, and of university education in particular, but also as an evidence of their interest in their college, and to spread abroad its claims. It was perfectly evident that the best way of showing their gratitude to Sir Donald Currie was to meet his offer in the same ready, liberal, and generous spirit in which it had been made.

Dr. J. R. Davison said he had great pleasure in moving the following resolution:

> That this meeting of the medical alumni of Queen's College, Belfast, express its appreciation of Sir Donald Currie's munificent offer, and that it declares its intention to assist the Committee of the Better Equipment Fund in its efforts to secure the full benefits of the proposed gift.

Dr. Davison reminded his audience of the splendid donations already given, of the effect of higher education on civic life, of the present-day appreciation of university learning amongst industrial communities as a valuable commercial asset, and of the services rendered to the State and to science by former students of the College. He then referred to what had been done by the Fund, and to the proposal that with the further sum which it was hoped would be obtained a large number of new lecturers and assistants in all departments would be provided. He appealed to all to give the Fund their most favourable consideration, and to bring its advantages under consideration of their friends, that Sir Donald Currie's generous offer of £20,000 might be accepted in full.

The resolution was seconded by Dr. W. M. Killen and passed unanimously.

Dr. J. King Kerr proposed, Dr. Mackenzie seconded, and it was unanimously agreed that those present should form a general committee, with power to add to their number.

On the motion of Surgeon Kirk, seconded by Dr. M. Andrews, the following were elected an Executive Committee, with power to add to their number:

> Drs. Elizabeth Bell, Allen, Blakeley, St. Clair Boyd, J. W. Browne, Byers, Calwell, Colville, Donnan, Fullerton, W. Graham, Hall, Jas. Huston, King Kerr, Kirk, Lindsay, Mitchell, H. O'Neill, P. Redfern, G. Robb, T. Sinclair, Mackenzie, M'Caw, Kevin, M'Quitty, and Williamson.

Dr. Boyd proposed, Dr. Hanna seconded, and it was resolved that Sir Wm. Whitla, and Drs. J. R. Davison, M'Kisack, and P. Houston be appointed honorary secretaries.

On the motion of Dr. Fullerton, seconded by Dr. White, a vote of thanks was accorded to the Chairman for presiding.

Dr. Calwell replied in suitable terms, and drew attention to the fact that the subscriptions from medical graduates already amounted to almost £1,100.

It is very satisfactory to record that the total subscriptions promised in answer to Sir Donald Currie's offer amounted on October 7th to £12,554 15s. As this has been raised in three weeks there is little doubt that the full £20,000 will be obtained before Christmas, but no relaxation of effort should be permitted till the full sum is exceeded. Old collegians are asked to send in their names as soon as possible.

The O'Neill Memorial School, Crossnacreevy, co. Down.

Many old Belfast medical students will read with much pleasure of the opening of this memorial school. The late Mr. James O'Neill, M.A., was a familiar teacher and grinder in Belfast for many years, and helped many medical men, now prosperous, in their early days to pass their examinations, doing so sometimes for a nominal fee, sometimes for none at all. Mr. O'Neill was Manager of this national school for many years up to his death, when his brother, Dr. Henry O'Neill, High Sheriff of Belfast, took over the office. The old buildings were in many ways unsuited, and it was considered by many that it would be an act most pleasing to the late Mr. O'Neill to build a model school-house, with all the latest improvements, both educationally and hygienically, to replace the old one. This has been done, and the new buildings were declared open on October 1st, and named the O'Neill Memorial National School, by Mrs. Andrews, who acted for Dr. Starkie, Resident Commissioner for Education in Ireland. The Right Honourable Mr. Justice Andrews presided. The spacious rooms, tasteful architecture, ample ventilation, and other improvements were much admired by the large number of friends of the late Mr. O'Neill who were present. Most of the cost has already been raised by subscriptions, but a sum of £200 is still required to clear the building of debt. Many old pupils of the late Mr. O'Neill will doubtless be glad to subscribe.

Royal Academy of Medicine in Ireland.

The twenty-third annual general meeting of the Royal Academy of Medicine in Ireland was held on October 9th in the Royal College of Surgeons, Dublin. The Council's report shows a satisfactory financial position, due to the efforts of a special Committee appointed to deal with the subject. The income amounted to £548 18s. 9d., leaving a balance in the bank of £61 5s. 9d. The expenditure for the year includes the payment for two volumes of *Transactions* (xxii and xxiii), which was an unusual occurrence, so that the account is really better than it looks. The report states, further, that the President (Sir Thornley Stoker) has been nominated by the General Council to represent the Academy on the Executive Committee in connexion with the proposed meeting of the British Association in 1907.

Royal Veterinary College of Ireland.

The sixth session of this College was opened on Saturday, October 7th, when Sir Christopher Nixon, M.D., the President, occupied the chair. His Excellency Earl Dudley distributed the prizes.

Professor Mettam announced that the Council of the Royal College of Veterinary Surgeons had elected Sir Christopher Nixon to be an Honorary Associate a distinction conferred upon few English-speaking men. It was particularly gratifying that the distinction had been given in recognition of what their President had done for veterinary science in Ireland.

Professor Wooldridge gave an introductory address. Referring to epizootic lymphangitis, he agreed with the law that all infected animals should be compulsorily slaughtered. But he would go further. All horses that had been in contact with the infected animals should be inspected at frequent intervals for six months, and the sale of such animals or the stabling of them in other than their own stables during that period should be prohibited. If that were done we should soon hear the last of the disease. Only 57 horses had been the subject of glanders in the first 37 weeks of the year, as compared with 1,545 in Great Britain. He thought that one-half of the estimated value of the horses slaughtered should be given in cases clinically affected, and the full market value in cases reacting to the mallein test but not clinically affected, with a maximum limit of £40 or £50, and a minimum of 40s. This was a national question, and the loss should be paid out of the Exchequer.

The President, in the course of his speech, intimated that the subject of granting a degree in veterinary medicine was before the Senate of the Royal University.

His Excellency the Lord Lieutenant, in replying to a vote of thanks, moved by Sir C. Cameron, seconded by Mr. Hedley, said it would be the greatest pity if the useful work of the College should be in any way cramped for lack of funds. It might be worth their while to turn their attention to the question whether funds might not be available out of the developmental grant.

CONTRACT MEDICAL PRACTICE.

Notice as to Districts in which Disputes Exist.

A notice as to places in which disputes exist between members of the medical profession and various organizations for providing contract practice will be found among the advertisements, and medical men who may be thinking of applying for appointments in connexion with clubs or other forms of contract practice are requested to refer to the advertisement on page 83.

Scotland.

The College of Hygiene at Dunfermline.

The College of Hygiene, erected and endowed through the munificence of Mr. Carnegie, was opened at Dunfermline last week by the Secretary for Scotland, the Marquis of Linlithgow.

History of the College.

Dr. Ross, who was in the chair, speaking in the name of the Carnegie Dunfermline Trustees, gave a short history of the College. It had, he said, grown out of the Carnegie Gymnastic Club, established to promote the health and bodily development of young men who belonged to it. Five years ago Mr. Carnegie announced his intention to present new baths to the town, and it was suggested that a gymnasium might be added; under the advice of Dr. Tuke, a member of the Trust, and other medical men the scheme grew, and through the increasing generosity of Mr. Carnegie the trustees came into possession of buildings, apparatus, and endowments. Competent teachers were fortunately obtained, and it was found possible to offer instruction in every day-school in the town, and to hold numerous classes for older persons. Then the fact that while some of the children were robust, some suffered from physical defects, led to further inquiry, which was assisted by the reports of the Departmental Committee on Physical Deterioration and of the Royal Commission on Physical Training; the consideration thus given to the subject led on to the creation of the College of Hygiene. The trustees had appointed Dr. Ash, whose duty it would be not to cure but to prevent disease by improving the physical condition of the children; he would, it was hoped, make observations on the physical condition of each child as it entered the school and communicate his observations to the teacher and to the ordinary medical attendant of the family, so that proper steps might be taken for their remedy. With regard to the second part of the work undertaken in Dunfermline, Dr. Ross said that while there was a strong feeling throughout the country in favour of physical culture and instruction in hygiene, the number of competent teachers was small. The trustees had therefore resolved to provide for the training of teachers to serve not only Dunfermline, but the country at large; a hostel had been provided which was already overflowing.

The Marquis of Linlithgow, Secretary for Scotland, said that it was well the public should understand what physical training meant; it did not merely mean the teaching of gymnastics for their own sake, or the undue cultivation of a particular set of muscles, but careful development of the general health to the advantage of the whole body, and indirectly to the advantage of the mind. The Carnegie trustees, in taking up this subject, were doing a very valuable service to Scotland. At present he doubted whether public opinion had ripened sufficiently to justify the Education Department in applying any considerable portion of the national funds to such a purpose, but he believed the time would come when that might be done, as the public was taking an increasing interest in all that concerns the feeding, management, cleanliness, and physical welfare of the younger generation. It would be necessary to have a special class of teachers who could deal with questions of the health and physical fitness of children. In conclusion he again thanked the Carnegie trustees, and expressed the opinion that the College deserved public recognition and support.

Address by Sir John Batty Tuke.

Sir John Batty Tuke said: The trustees of the fund presented by Mr. Carnegie to Dunfermline has to conduct a most interesting sociological experiment for the good of a comparatively small community. Not the least interesting part of their work will be the administration of the College of Hygiene and Physical Training. I hope that the College will be the place to which will flock those desirous of studying practical hygiene in its manifold bearings, and that it will become for this purpose the centre for Scotland. The Royal Commission on Physical Training had, I believe, been appointed in consequence of the forcible manner in which the subject was brought before the Government by the Scottish Department. Shortly after, the public mind was disturbed by a statement emanating from the Royal Army Medical Department to the effect that only two out of every five men offering themselves as recruits were fit for service, founding on which many people hastily came to the conclusion that a general and progressive deterioration of the national physique was in progress. The feeling was so strong that the Inter-Departmental Committee was appointed. These two bodies, after taking exhaustive evidence, issued reports, and I commend the study of these documents to all interested in sociology and anthropology, containing as they do a mass of valuable information, the study of a large part of which should give us pause. I do not propose to analyse these reports. After the speech you have listened to it is unnecessary even to quote the recommendations of the Committee and Commsssion. For our present purpose it is sufficient to say that as regards the necessity for physical training in association with mental training, they were fully agreed. The recommendations of these reports have not been without effect. In the Scotch Education Bill of this year it was proposed to give power to the Department, to school boards, and to local government authorities, with a view to enabling these bodies to carry into effect some of the more important recommendations, and had not the Bill failed to pass, active steps toward this end would probably not long been delayed. Independently, however, of contemplated legislative action, and in that wise and benevolent exercise of autocracy which is one of its characteristics, the Scottish Department has to a great extent taken the matter into its own hand, and has appointed an Inspector of Physical Training, whose duty it is to exercise supervision on the methods adopted in the various schools; it has also prepared and issued a model syllabus of physical training, the employment of which is strongly urged in a special memorandum.

Impending Legislative Changes.

So much has been gained, and that gain is of no slight importance, for it is indicative of the deep interest taken in the matter by the central authorities at Dover House, and it may be regarded as a growing feeling on the part of the community of the necessity of prosecuting this branch of education. Had the Scotch Education Bill been persevered in, I believe this feeling would have received further impetus, but as the subject did not come up for discussion in the House one had to gauge its intensity by the expression of members in conversation. I am glad to say that the impression thus formed was that a large number of members took a deep interest in the subject, and I feel certain that when the next Education Bill is presented it will receive the fullest consideration. The main objection advanced to making physical training in schools compulsory was that we do not possess a sufficient number of competent instructors, and that if drill and exercises are applied unscientifically or to wrong subjects they might do more harm than good. This College sweeps away that objection, for it will turn out highly-educated teachers, and it can only mean a very few years before sufficient are provided for the whole country. For my own part, I would prefer that such training should not be compulsory, but that a sense of its value should permeate the public mind through the medium of the schoolmaster, without whose collaboration efficient progress cannot be made. Judging from reports of meetings of scholastic associations and from the memoranda of inspectors of schools and training colleges, it is evident that the whole subject of physical training is receiving year by year increased attention from the schoolmaster. It is interesting to note that the inspectors of training colleges report that the staffs and students take a keen interest in the work, for it indicates that the schoolmaster recognizes the principle, and admits it to be an important factor in brain education.

The Teaching Profession and Physical Training.

When I was asked to join in this day's proceedings, it was hinted to me that it would be well if I could apply myself to the demonstration of this axiom—for it is a scientific axiom. I tried to comply, but I soon found that I would be led into a maze of technicalities from which I could not escape in the short time at my disposal. I tried to select one phenomenon illustrative of the physiological dictum on which to enlarge in support of it; but when I say that I should have had in so doing to consider the apparently simplest proposition from its developmental, anatomical, physiological, and psychological aspects and relate it with others, I am sure you will be glad that I did not pursue the attempt. It would take more than one lecture specially devoted to the purpose to marshal the reasons founded on these sciences in support of the conclusion. Were it desired by the Trust I should be glad to give a demonstration, but I believe this duty would be as well or better performed by Dr. Ash, the Medical Superintendent of the College.

In the meantime I ask you to accept it as an axiom. As I have said, it is generally accepted by the teaching profession. It is of the utmost importance to the nation that the teacher of the present day should relate his special function with the institutes of medicine. He must take his own way of impressing on the minds of parents and guardians that (I quote the words of a deep thinker, Richard Haldane) education is a bigger thing than learning: that it means attention to the physical conditions of life as well as conditions that surround the mind, that unless the one is dealt with the other will fail. I do not wish to lecture the schoolmaster. I often think he is too much lectured by the outsider—but it may be submitted to him without offence that if he avails himself of the opportunities afforded by this College he will materially advance the interests of his profession, and consequently the interests of those committed to his charge.

Medical Inspection of Children.

It is interesting to learn that the community of Dunfermline is fully alive to this, for its School Board has not only accepted the instruction in physical exercises proffered by the trustees, but it has taken another and very important step in accepting the services of the medical officer of the College for the medical inspection of children. Does not this introduction of these two agents into school life suggest that the College has perhaps insensibly exercised an influence on its immediate neighbourhood? And here it suggests itself to me that, in dealing with physical training in the first instance, I have put the cart before the horse, for after all this is a college of hygiene, of which physical exercise is only one of the instruments. In promoting and carrying into effect the medical inspection of children, the Trust and your School Board are exercising one of the highest hygienic measures, and are setting an example which it is to be hoped will soon be widely followed.

Physical Deterioration.

It is obvious that underlying any scheme for the improvement of the general health of the community some system of medical inspection in schools is an absolute necessity. In the adult, the bodily conformation is fixed and determined; it is only the growing animal that we can hope to mould. It is only through him and her that the national organic structure can be strengthened. In this connexion I should like to refer to an interesting and suggestive part of the evidence given before the Inter-Departmental Committee already alluded to. It was advanced that the changed conditions under which the people of our country now exist, such as the flocking of the labouring class to the cities and large towns, and the consequent diminution of the number of workmen employed in healthy out-of-door work in the country, overcrowded houses, badly situated and ill-provided, insufficient and inferior diet, would tend or was tending to deterioration of the race. The question arose, Would this deterioration be permanent? The answer came from my friend Professor Cunningham: "In spite of the marked variations which are seen in the physique of the different classes of the people of Great Britain, anthropologists believe, with good reason, that there is a mean physical standard, which is the inheritance of the people as a whole, and that no matter how far certain sections of the people deviate from this by deterioration produced by the causes referred to, the tendency of the race as a whole will always be to maintain the inherited mean. In other words, those inferior bodily characters which are the result of poverty, and not vice, such as specific disease and alcoholism, and which are therefore acquired during the lifetime of the individual, are not transmissible from one generation to another. To restore, therefore, the classes in which this inferiority exists to the mean standard of national physique, what is required is to improve the conditions of living, and in one or two generations all the ground that has been lost will be recovered."

A Lesson from the Animal Kingdom.

Confirmation of this important dictum is afforded by observation of the animal kingdom. I shall only allude to one instance. You may have seen in Zoological Gardens specimens of the pigmy cattle of Afghanistan, the Zebu cow, which having for many centuries existed under the most disadvantageous circumstances of climate and food, have become stunted to a size scarcely that of a big dog. When they are brought to this country and well fed and housed, their progeny increase in size far beyond the dimensions of their parents, and the tendency is to further increase in later generations. Thus, as the Professor says, all that had been lost during many generations is under improved conditions of living restored in one or two generations. I adduce this opinion in order to show that the position, although difficult, is not impossible. In fact, we have all had opportunities of observing how healthy surroundings have raised the physical and mental characteristics in individual cases. Still continuity of evil conditions means continuity of low physique, and how to break it is one of the chief problems of the day. It is not one that can be solved by any general enactment, the mere mechanical difficulty appears almost insuperable, but that is no reason why we should not apply remedial measures to the case that lies to our hand.

Remedial Measures.

The State takes the child into its care for the fourth part of nine years of its life for the purpose of education; it is therefore the duty of the State to see that he or she is in a fit condition to be educated. Although I freely admit I accept the report on the physical examination of 1,200 children in Edinburgh and Aberdeen with some reserve, there cannot be a doubt that it revealed the existence of a distressing amount of disease, a large proportion of which was preventable and remediable. The Royal Commission held that the absence of any system of medical inspection was a very serious defect in our school organization, and the Inter-Departmental Committee reported that a systematized medical inspection of school children should be imposed as a public duty on every school authority, and that a contribution towards the cost should be made out of the Parliamentary vote. I wish I could say that the same amount of interest was taken in this subject as in that of physical training in the House of Commons when the Education Bill was before it. Attempts were made to introduce new clauses into the Bill by which medical inspection would have been rendered something more than permissive. This did not seem to be acceptable in high quarters, at any rate the new clauses were watered down to such an extent as would have rendered them almost futile in practice. The objection taken to these clauses was that it would cost money, the objectors not even attempting to strike a balance between expenditure and value received. I will only say that in any debates sentiment should not enter, but that the whole should be regarded from a business point of view. It may be well to state that the establishment of a general system of medical inspection is favoured by the Scottish Department. The Inter-Departmental Committee was of opinion that with teachers properly trained in the various branches of hygiene a system could be so far based on their information and record as would be sufficient. With this I agree. With a medical inspector in each area or district the intelligence of the schoolmaster trained in the principles of hygiene would suffice to fulfil (with exceptions here and there) the necessary conditions. And here comes in again the Carnegie College, which through its system of teaching within its own walls and the missionaries it will send forth, will render an inestimable service to the country.

Individual Measurements.

There is another point I desire to make in connexion with the medical examination of children. To arrive at a knowledge of the well-being of a school as a whole, it is necessary to acquire information as to particulars in regard to individuals, and this can only be got by careful systematic series of individual measurements. Were such a system adopted it would conduce not merely to the good of the particular school but would lead to the establishment of data of high scientific value. As to the school itself, although certain of the children might be passed as healthy at any particular moment, if it were shown by systematic measurements that the rate of growth was unsatisfactory, it would point to something wrong in the general conditions of the school; as to the individual, it would indicate special consideration and treatment. What is true of a section of the community, such as a school, is true of a nation. The mass of information from the measurement of school children acquired would be of great national value. Our knowledge at the present moment of the laws of growth is very defective. We mainly depend on tables framed in the United States by Bowditch and Baxter, supplemented by observations conducted by the British Association upwards of twenty-five years ago. Useful as the data afforded by these tables is, the observations are not so extensive as to warrant the drawing of definite deductions. If, to take one example, we consider the extraordinary scientific value and utilitarian importance of having trustworthy data

established in connexion with the highly complex question of head-growth, how it is affected by the intellectual training to which the brain is subjected during school life, and whether the rate of growth differs or is the same in the stupid and the clever, no one can doubt the desirability of prosecuting inquiries through which a definite pronouncement could be made. We have some information on this point gathered by Venn from observations made on the heads of Cambridge students, which, although they do not establish any definite law, are strongly suggestive of the results which might be obtained by a systematic survey of the manner in which intellectual effort is related to brain growth. So strong was the evidence on these and other points, and on their bearing on anthropology, that the Inter-Departmental Committee urged strongly in its report that a consultative committee should be appointed to determine the measurements and observations to be made, and the establishment of a central bureau in London to collate observations, to prepare statistics, and to disseminate information on anthropological work, in order to interest the public in regard to the importance of maintaining the national physique.

A Central Bureau for Scotland.

Now I am going to take the liberty of asking the trustees to consider whether they cannot adopt a policy by which the recommendation of the Committee can be adopted in Scotland. By proceeding cautiously in co-operation with School Boards and other institutions, systematic measurements might be conducted in this city and its neighbourhood. The interest in the investigation would spread, the teachers sent out from the College would gradually diffuse the interest further and further, till, in a comparatively short period, it would make itself felt far and wide. As to the connoting of facts, I can assure them they will find no dearth of willing workers. Thus the College would become the central bureau for Scotland, and another instance of the genius of our country for administration would be afforded to the kingdom at large. I have only alluded to three lines of action which have been taken, or may be taken, by the College. The field of work opened up by a school of practical hygiene is almost boundless. It is perhaps unnecessary—certainly it is impossible—to enlarge on that subject to-day. But I would venture to make one further statement, and to say that, although this College has great inherent power, it is not altogether independent of extraneous support. If it be admitted that it will exercise influence on education at large, it should receive co-operative support from all educational institutions. It should especially, in one form or another, be recognized as a teaching body by our Universities.

At the conclusion of Sir John Batty Tuke's address the CHAIRMAN read a telegram from Sir Henry Campbell-Bannerman expressing regret at his unavoidable absence, and afterwards thanked Sir John Batty Tuke for his address and the Marquis of Linlithgow for his presence. The proceedings were brought to a close by a vote of thanks to the Chairman, adopted on the motion of Sir ROBERT CRANSTON.

EDINBURGH ROYAL INFIRMARY.

At a meeting of the managers on Monday, October 9th, Dr. D. H. McCallum was appointed anaesthetist to Ward 36, under the charge of Dr. Berry Hart, and Dr. Malcolm Campbell was appointed clinical tutor for gynaecology in the extramural class of clinical medicine, both appointments being for the ensuing winter and summer sessions. L. C. Peel Ritchie, M.B., Ch.M., L.R.C.S.E., was appointed clinical assistant to the Surgical Out-Patients' Department for six months, as from October 1st.

MOTOR AMBULANCE FOR EDINBURGH.

At a meeting of the Edinburgh Town Council on Tuesday, October 10th, it was agreed, on a recommendation of the Public Health Committee, to get a motor ambulance for the City Hospital at Colinton Mains, at a probable cost of £500.

DR. W. A. TAYLOR, of Perth, was the recipient at the beginning of this month of a massive silver tea service from the members and late Commanding Officer of the 13th Company 1st Forfarshire R. G. Artillery (Vols.). Dr. Taylor has been connected with this company for five years as Surgeon-Captain, and the interest which he has shown in its ambulance and other work has apparently been greatly appreciated. The gift was made on the eve of Dr. Taylor's wedding, an event which presumably influenced the form which the testimonial took.

THE DIET OF THE PRECIBICULTURISTS.

By HARRY CAMPBELL, M.D., F.R.C.P.,

Physician, North-West London Hospital and to the Hospital for Diseases of the Nervous System, Welbeck Street.

VII.

THE ANDAMANESE.

WE now have to consider the diet of the Oceanic Negritoes. These people were formerly diffused throughout the Malay lands, but now only survive in the Andaman Islands, the Malay Peninsula, the Philippines and parts of New Guinea.

The Andamanese are a Negrito race (men 4 ft. 10½ in., women 4 ft. 6 in.) inhabiting the Andaman Islands in the Indian Ocean. They are supposed to have reached these islands in the stone age and to have since given up making stone implements in favour of shell and bone, with which they tip their darts and arrows. At the present time they also employ iron. To Colonel Man, who spent eleven years among these people, we are indebted for a detailed knowledge of their dietetic customs, such as we do not possess of any other Negrito race. Some of them live on the coast and are fishermen and have canoes; others dwell inland in the jungle. The men are naked, while the women wear aprons of palm leaves. They build temporary huts of branches of trees. Before the arrival of the white man they knew nothing of agriculture, and possessed no single domesticated animal, not even the dog. Attempts have been made to teach them agriculture, but though they prefer the products of cultivation to the produce of the jungle, they do not consider the harvest they reap by tilling the soil worth the labour it entails. They are said to make earthenware pots, though without using the potter's wheel. If such is the case, it is the sole instance of a precibicultural people being acquainted with the art of pottery.

Animal Food.

The wild pig is a favourite food, and is sometimes caught and fattened up. Other varieties of animal food are the iguana, turtle, fish—both fresh and salt water, including prawns—and molluscs, and, to a less extent, pigeons, jungle fowl, flying foxes, bats, rats, sea snakes, turtle eggs, insects, grubs and the larvae of the great Capricorn beetle. They have a great relish for bone marrow, brains, and turtle blood. To extract the marrow they crunch the smaller bones with their teeth, using a stone hammer to break the larger ones.

Domesticated Animals.—Before the arrival of the white man they possessed no domesticated animal, not even the dog, the only instance, so far as I know, of a precibicultural people being without this animal. Now they have dogs, which they prize highly on account of the help they afford in the hunt.

Methods of Securing Animal Food.—The bow and arrow—the latter being long and unfeathered—and the spear are employed in the hunt. Fish are speared and caught in nets made of bark fibre.

Methods of Preparing Animal Food.—At one time they appear to have eaten their animal food half raw; now they cook it thoroughly. A pig is cooked as follows: The viscera being removed, the carcass is stuffed with leaves, which are then set on fire and the carcass placed on burning logs till the skin is scorched, when the meat is ready for consumption. Another plan is to boil portions of the animal in small pots (kind not specified); or again, the flesh is placed in underground ovens between layers of heated stones, the chief concern of the cook being to prevent the juices from being dried up. Turtle blood is boiled in the turtle shell till it becomes thick. Insects and grubs are collected in quantity, wrapped in leaves and placed on burning embers, the bundle being turned from time to time so that the contents may be thoroughly cooked.

Storage of Animal Food.—Meat is smoked on a grating made of twigs or bamboos placed two or three feet above the hut fire.* Another method of preserving is to pack the interior of dried canes with cooked meat, such as pork or turtle, and then gently heat them over the fire till steam issues, when they are sealed up with leaves and set aside. Thus prepared, the meat will keep for several days. When required for consumption the canes are again placed on the fire, the Andamanse being very partial to hot food, which is somewhat remarkable considering their beautiful teeth.

Vegetable Food.

Colonel Man estimates that one-third of their food consists of roots, fruits, and honey, the remainder being derived from

* Certain Brazilian tribes preserve their fish and game in this same way.

the animal kingdom—a fact of great interest, as showing the strong tendency of early man to carnivorism.

Roots.—Man mentions six esculent roots, including yams, as furnishing food for the Andamanese.

Seeds.—Several varieties of seeds are eaten, including those of three varieties of mangrove and of an artocarpus, or bread fruit. Seeds of a species of seaweed are carefully cooked and eaten as a relish.

Fruits.—Colonel Man gives a list of several of these. Some are simply sucked for their flavour; of these he mentions seventeen. The stones of others are cracked for the kernel. Some of the more acid varieties are eaten with the ash left by the pinewood hut fire in lieu of sugar; others are cooked.

Green Foods.—Among these may be mentioned the heart of a species of palm.

Honey.—This, especially the black variety, is procured in considerable quantity. When Colonel Man had charge of the settlements, "a large sum was annually realized by the aborigines towards their support from the sale of honey to free residents." Nothing could better show the important part occupied by honey in the food of primitive man.

Methods of Preparing Vegetable Food.—Some of the vegetable foods are eaten raw; others are simply cooked, while others, again, are put through special processes for the purpose of removing bitter and other objectionable ingredients. As showing what skilful cooks the Andamanese are, I may refer to the fact that one particular root is cooked in three different ways—either being heated over a fire till it becomes soft, when it is freed from the burnt earth and eaten; or washed, cut into small pieces and boiled; or, again, wrapped in large leaves, and baked on burning logs after being first washed and cut into pieces. Another method of cooking roots is to surround them with hot stones, and then to cover both with leaves and weights so as to confine the heat as much as possible, a method of stone cooking without employing the underground oven.

Instances may now be given of methods of preparation involving the removal of noxious ingredients.

One variety of root is cooked as found, and, after the skin has been peeled off, cut into slices, which are immersed in water for two days, after which they are baked by means of hot stones, or boiled. Mangrove seeds are prepared as follows: After being freed of their outer covering, they are boiled till quite soft, when they are cut into slices and left to soak in fresh or salt water for a couple of days or more, and are finally baked in leaves or boiled again. The seeds of a species of bread fruit are prepared in a still more elaborate way: First, the skin is removed; a quantity of the fruit is then placed in a wooden platter, and each person present renders assistance by sucking it; it is then half boiled, wrapped in leaves and buried in moist soil: here it remains several weeks, until the monsoon breaks, when the decaying and malodorous deposits are dug up and the seeds freed from the decaying matter, dried in the sun or by the fire, and subsequently stored in leaves or nets. When required for use they are again cooked. This is the only instance among the Andamanese of food being sun-dried.

Storage.—The above may be regarded as an example of storage. Other seeds are also stored.

Quantity of Food Available.—According to Man, the Andamanese "find ample provisions for their simple wants in their immediate surroundings without exerting themselves to any great extent."

Drink.—The only drink available is water; they employ nautilus shells as cups, and large flat shells as plates, and joints of bamboo for holding water and food. Admirable examples of both are to be seen in the British Museum.

THE NEGRITOES OF THE MALAY PENINSULA: THE SEMANGS.

Like the Andamanese these Negritoes are sooty black, and have short woolly hair. They peopled the Malay Peninsula in the stone age, stone implements having been found in the Peninsula, but, like the Andamanese, they have abandoned their use. Although the two people are undoubtedly of common descent their languages are entirely different. "Hence the two groups have been separated for many thousands of years, and their speech has diverged too widely to be now traced back to a common source." (Keane.)

For ages past the Malay Negritoes have been oppressed by the surrounding [illegible] and are the most timid of men. They go about [illegible] naked, the women wearing a small kilt of upas bark or a girdle of leaves, and they live in temporary shelters made of props and matted palm leaves, choosing for these temporary abodes spots wherever game happens to be plentiful.

Animal Food.

Monkey, deer and other game. Fish from the streams which are innumerable in their country.

Methods of Obtaining Animal Food.—They use the bow and arrow, the bow being made of palm wood and the string of bast tissue. Their chief weapon, however, is the blow-pipe, 6 to 7 ft. long, from which they shoot poisoned darts. Quivers (made of bamboo) full of these darts are to be seen in the British Museum, as is also a spatula for mixing the poison obtained from the upas tree. They also make sharp-pointed spears from bamboo. Fish are caught in basket traps.

Preparation of Animal Food.—Fish are cooked by being held over a fire with a cleft stick. Monkey and other flesh is sun-dried.

Vegetable Food.

I am unable to give in detail the vegetable foods consumed, Clifford merely referring to "yams and other jungle roots."

Preparation of Vegetable Food.—Doubtless elaborate methods are adopted, but I have not found any description of them. In the British Museum is a wooden pestle and mortar (mug shaped) used for pounding the food of the semang men when suffering from toothache. This suggests that they have special methods of preparing their food.

Salt is greatly appreciated. Clifford and two companions came on a camp of these people—a dozen squalid aborigines sitting round a fire—and were entertained to a meal which consisted of smoking yams and other mealy jungle roots, a few fish fresh caught and cooked over a fire, and "the meat of some nameless animal—monkey, I feared—which had been dried in the sun until it was as hard as a board." After the meal Clifford produced a bag containing a few pounds of coarse Chinese rock salt; and he tells how with eager fingers they clutched at it, and how in an incredibly short time the whole four pounds had disappeared. Clifford says that lacking salt they look upon it as a luxury, "much as a child looks upon the contents of a bon-bon box."

Drink.—This is confined to water.

THE PHILIPPINE NEGRITOES: AETAS.

These are a dwarf, sooty-black people, with woolly hair "like Astrakan." They were formerly masters of the Malays, but after a time the Malays got the upper hand and forced them to retire to the high lands, and since the arrival of the Spanish, terror of the white man has kept them more than ever within these limits.

They are now found scattered among mountainous regions over the entire group of islands. Some have formed with the Malays a mixed Negrito race, but others are more or less entirely cut off from their Malay neighbours, and wander about almost naked in the forests in groups of twenty to sixty under a chief or elder, living in temporary dwellings made of saplings and canes covered with leaves. They are fond of lying in warm ashes and close to fires. They are remarkably agile, and are said to climb trees like monkeys, using their toes like fingers. Intellectually they appear to be very low in the human scale, Sawyer remarking of them that the only use they "can be to the United States will be as a subject of study in the elucidation of problems in ethnology, and to furnish skeletons for museums."

The more isolated and primitive tribes do not cultivate the soil but subsist on jungle fruits, edible roots, mountain rice, and wild honey (which they regard as a great luxury), as well as upon everything that "crawls, runs, swims, or flies." The chief animals they hunt are the deer and the wild pig.

Those living in touch with the Malays have developed a barter trade, exchanging edible roots and medicinal plants, said to be of extraordinary virtue, for tobacco, textiles and scraps of iron with which they tip their arrows and darts. They also barter bees' wax for rice and potatoes.

The only animal they have domesticated is the dog which assists them in the chase. The weapons employed are the bow and arrow, the bamboo lance and the wood lance. The bow is 5½ ft. long, and is made of palm wood; the arrow is iron-pointed and poisoned.

It is much to be regretted that we have no information as to the manner in which they prepare either their animal or vegetable food. I can find no mention of their employing underground ovens or stone cooking, nor of their removing acrid or poisonous principles from vegetable substances.

The Quantity of Food.—According to Sawyer the stomachs of the Philippine Negretoes are generally greatly distended,

owing to the large quantities of innutritious vegetable food they consume.

Drinks.—Alcohol they do not make. They chew a substance called "buyo," which they obtain from the Malays.

The Veddahs of Ceylon.

Among existing Precibiculturists are two Caucasian peoples, namely, the Veddahs and the Ainus. The Veddahs (= hunters) are a primitive Caucasian dwarf race dwelling in Ceylon, the men averaging 5 ft. 2 in., with a cranial capacity of 1,320 c.cm., and the women 4 ft. 10 in., with a cranial capacity of 1,230 c.cm. They were the sole inhabitants of the island before its conquest by the Hindus (Cingalese) 2 000 years ago. At the present time they are found in the south-eastern part of the island. Some live on the coast, freely intermingling with their Cingalese neighbours; others are semi-nomad agriculturists; others, again—the "wild," or "rock" Veddahs—live among the rocks and cliffs of the inaccessible forests, and apparently have done for the last 2 000 years, entirely cut off from their civilized neighbours. They may be regarded as pure pre-agriculturists. They roam almost naked in small groups about the forests, live in caves or rock shelters, or huts made of boughs and bark, and subsist almost entirely by the chase.

Animal Food.—This includes the scaly ant-eater and pengolin (both prime favourites), the deer, monkey and pig; birds and fish; eels are greatly sought after. Certain animal foods are tabooed—for example, the elephant, bear, jackal, lizard, bat and snail.

Modes of Securing Animal Food.—They use a large bow and arrow and two kinds of axes. The bow is 6 ft. long, the arrow 3 ft. 6 in., and the weapon demands great strength of arm. The arrow heads are often made of iron obtained in barter. Birds are caught with bird-lime obtained from the juice of the bo-tree, or are followed to their nests and taken at night; fish are stupefied by impregnating the water with certain vegetable substances. They employ dogs and the buffalo in the hunt.

Preparation of Animal Food.—Meat is often eaten very high, sometimes raw, and is rarely more than slightly cooked. Honey is used to preserve meat: a hole is cut in a tree, packed with honey and meat, and finally sealed with clay.

Vegetable Food.—Particulars as to the kind of vegetable food consumed by the Veddahs are wanting, but they are known to dig for wild yams with a pointed stick, this being apparently the work of the women, for it is expressly stated that a girl can dig for them when very young. Nor is anything known as to their methods of preparing vegetable foods.

Honey and the grub in the comb constitute a staple food.

Drink.—Water only is drunk. They chew betal if they can get it; if not, they make a substitute, the astringent bark of the demette tree, or leaves of an aromatic plant, taking the place of the betal leaf, the bark of other trees that of the areca nut, and calcined snail shell that of lime.

Quantity of Food.—Food is evidently at times scarce; for we are told that when short of it they mix honey with decayed wood in order to satisfy their cravings.

The Hairy Ainus.

The Ainus are a hairy race of Caucasian stock. Originally inhabiting Japan and portions of the neighbouring mainland, they are now for the most part confined to the islands north of Japan collectively known as the Hokkaids. Many of them are half-breeds. The pure race is still in the pre-agricultural stage, living by hunting, fishing, and on wild vegetable produce, but is now fast dying out. The Ainus are said to make pottery without the wheel, but whether this art is indigenous or has been acquired from without does not appear. According to Landor, they subsist chiefly on fish, meat and seaweed, but other travellers assert that they secure a considerable quantity of vegetable food. Thus B. O. Howard refers to "the season for collecting various roots and bulbs which are used for food all the year round; the women, in groups, start out very early in the morning, taking with them nothing whatever to eat. Not until they returned with their loads on their backs at night would they break their fast;" and he says that the women are busily occupied throughout the summer in laying in wood and edible roots for the winter, their habit of carrying heavy loads slung from the forehead producing great hypertrophy of the cervical muscles. Batchelor, who has carefully studied the "Ainu economic plants," gives forty-four varieties of medicinal plants and nineth-three which are used for food, the latter including leaves and stems, roots, root-stocks, bulbs, fruits and acorns.

Some of the vegetable foods are eaten raw and some are dried for winter use. Such as are cooked are either boiled or roasted. Presumably the boiling is done in earthenware; I have found no mention of stone boiling nor of the employment of underground ovens. Whether, like some other pre-agriculturists, they adopt elaborate methods for getting rid of noxious ingredients from their vegetable foods I cannot say. They do, however, remove bitter principles by boiling. Thus we are told that the bitterness of the *Corydalis ambigua* bulb is removed by "repeated boilings in water," a certain kind of earth being sometimes added; and, again, that acorns "are usually boiled in two or three waters," sometimes so completely as to convert them into a kind of paste. Acorns of the *Quercus datata* are especially chosen as being the least bitter and astringent.

Fish are dried and preserved for winter use. There appear to be no regular times for meals.

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OPENING OF THE WINTER SESSION IN THE MEDICAL SCHOOLS.

MEATH HOSPITAL AND COUNTY INFIRMARY, DUBLIN.

The educational work at the Meath Hospital for the winter session began last Monday, its commencement being graced by a ceremony at which the Earl of Meath presided. The principal event of this was an address by Sir John Moore, M.D.Dubl., D.Sc.Oxon., F.R.C.P.I., Physician to the Hospital. On its conclusion sundry votes of thanks were moved and the formal proceedings brought to a close by a short speech from Lord Meath, who complimented Sir John Moore on his paper and alluded to his own connexion and that of his family in past times with the Meath Hospital. It appeared to him that great improvements had of late years taken place in the majority of hospitals not only in Dublin but throughout the United Kingdom. He wished that some millionaire would come forward and enable the cleverer young medical men to pay visits to hospitals throughout the world. He thought they had much to gain by knowledge of what their neighbours were doing and that further intercommunication between hospital and hospital would be to the advantage of all concerned.

Sir John Moore in his lecture covered, as will be seen, a good deal of ground, but addressed himself mainly to older students, and especially to those who have reached the period at which they are eligible for admission to the clinical classes held at the Meath Hospital.

After speaking of the difficulties which surround the practice of medicine and urging the importance to the practitioner of a liberal education in Arts, Sir John Moore said that his special object was to impress upon those present the paramount importance of a regular daily attendance at the hospital, or rather at the bedside of the sick. He was far from wishing to decry work in the dissecting rooms, the laboratories, and the lecture theatres of the medical schools. A ripe and practical knowledge of anatomy and a sound acquaintance with physiology and histology, chemistry, and physics was essential, and medical authorities did well to insist upon a curriculum which would teach, and on examinations which would ensure, a knowledge of these all-important ancillary subjects. But, when all was said and done, the preparation for their life-work would have to be carried on in the out-patient department, the clinical wards, the operating theatre, and the *post-mortem* room of a well equipped general hospital. The student's powers of observation must be trained day by day till they became part of his being—even his second nature. He should learn to reason about observed facts, to arrive at a diagnosis from symptoms and physical signs, and to form an opinion as to the proper treatment of

his patients, as to the prospect of recovery, and as to the future management of th- case.

In support of these views, Sir John Moore then quoted passages from the published works of Osler, Oliver Wendell Holmes, and Abernethy, and referred to Graves and Stokes, both of whose illustrious names are on the bead-roll of Meath Hospital, as having been equally firm in the belief that all teaching should have an actual patient for a text. Continuing, he said that he insisted on the value of hospital practice to the student of medicine, because of late years he had observed a growing tendency to neglect the golden opportunities of acquiring professional knowledge and experience which the clinical ward afforded. Case-taking, in particular, had not kept pace with other departments of medical study. The attendance at hospitals had become spasmodic and intermittent. Over and over again he had missed familiar faces from the clinical class, and, asking for an explanation, got the unvarying reply, "Oh! they are reading for such and such examination." This was the deadly peril of sessional examinations at the end of each *Annus Medicus* in Ireland under the modern five years' scheme of medical education.

Sir John Moore then briefly outlined the alterations in its regulations which the School of Physic in Dublin has introduced by way of remedy for the conditions noted, and recommended a similar course to the other licensing bodies in Ireland, finally completing this part of his address by reiterating his opinion that the present system is prejudicial to the student because it tends to slacken his attendance in the wards.

Case taking.

Speaking of bedside work, Sir John Moore said that too many of those in the clinical class were content with perfunctory attendance. They arrive, he observed, punctually perhaps at nine o'clock in the morning, mechanically follow the physician or surgeon as he passes through the wards, but are all attention when a rare or "interesting" case is reached. They may even come armed with a notebook, in which "tips" of all kinds are duly entered. Or they may appear half an hour late, and spend some precious moments in seeking the whereabouts of their clinical teacher. Or they may come one day and stay away the next, thereby losing all continuity of work in the wards. Those who thus attend hospital will never gain experience—that priceless possession which at one time was within their reach had they but realized the fact, but which perhaps they have for ever lost. The point I desire to emphasize, continued Sir John, with all my power is the absolute necessity of case-taking if a student really wishes to turn his hospital attendance to the best account.

The term "clinical clerk" in the regulations of the various licensing bodies meant simply a case-taker—but the cases should be taken fully, one daily visit at least being paid to the patient who at the time being was the "case." He and his colleagues were at all times ready to entrust one or more of their patients to members of the class who expressed their desire to become "case-takers." Let the students see that they were equally ready to fulfil their part. It is true that "they which run in a race run all, but one receiveth the prize, yet so run that ye may obtain." If they did they would never regret the effort, for, even should they fail to win the prize for clinical case-taking, the insight into disease which they would have obtained, the practice in expressing themselves clearly which they would have acquired, would in themselves be a prize worth far more than "gold that perisheth."

Literary Composition.

In connexion with case-taking, Sir John Moore dwelt on the necessity for constant practice in literary composition and recommended to the notice of the students Dr. Clifford Allbutt's *Notes on the Composition of Scientific Papers*. From this work he quoted a number of amusing instances of literary errors, among them being phrases such as "Twenty-eight patients were treated with hypodermic injections, of which 8 died." "Of the 276 deaths, 16 had gall stones." "I could, when killed, discover nothing abnormal." "He was struck down by an attack of brain fever, producing acute delirium which lasted two months, but from which he completely recovered before the autumn." It was failure, Sir John Moore added, to study the right order of words which resulted in such absurd sentences as, "Erected to the memory of John Phillips, accidentally shot as a mark of affection by his brother." Another mistake to be avoided was the manufacture of Latin plurals for words which either were not Latin or which had meanings in Latin which differed from their English meaning. Such words as *sera* and *sanatoria*, for example, he considered simply showed an ignorance of the Latin language, and should be shunned. All could not be expected to write with the noble diction and surpassing grace of Lord Macaulay, but they could at least strive to express their thoughts clearly and with due observance of the rules of grammar. After quoting the description by Lord Macaulay of the death of Queen Mary from small-pox in the year 1694, he said that, though it was seldom a disease secured such literary treatment as had small-pox on that occasion, there were nevertheless now, and always had been, masters of English in the ranks of the medical profession. To say nothing of living writers, no more graphic descriptions of disease existed than those to be found in the works of Thomas Watson, Robert James Graves, James Paget, Charles Murchison, or Charles Hilton Fagge. Such men should be taken as examples, and every effort be made to uphold the glorious traditions of medicine as a learned as well as a beneficent profession. Finally, he added a few words on prescription writing, which, he said, was nowadays sadly neglected. One was sometimes inclined to be angry on reading the attempts at writing a prescription in Latin made even by qualified practitioners. Let students practise prescription writing in unabbreviated Latin if they liked, but it might be better for the compounder and for the patient if the directions and what was technically called the "signatures" were written legibly in English; there would then be no such monstrosities as "Cap. coch. mag., p. cit., t. i. d.," and the like.

In his concluding words, Sir John held up as an example to all alike I-em-Hotep, the learned physician, who was deified in Egypt about the year 3500 B.C., and became for later generations the special god of medicine. His name meant "He who cometh in peace," and he was, as described by Caton, "the good physician of gods and men, a kind and merciful god, assuaging the sufferings of those in pain, healing the diseases of men, giving peaceful sleep to the restless and suffering." They could desire no more splendid character for a physician. It must have been such a man that the writer of *Ecclesiasticus* had in mind when he wrote: "Honour a physician according to thy need of him with the honours due unto him: for verily the Lord hath created him. For from the Most High cometh healing: and from the king he shall receive a gift. The skill of the physician shall lift up his head; and in the sight of great men shall he be admired." . . . "There is a time when in their very hands is the issue for good. For they also shall beseech the Lord, that He may prosper them in giving relief and in healing for the maintenance of life."

THE VICTORIA UNIVERSITY OF MANCHESTER.

Medical Faculty.

There was no formal ceremony this year to mark the opening of the winter session in the Medical Faculty of the Victoria University of Manchester. Work began on October 2nd, and in the great majority of the departments of the Faculty the ordinary routine of the session was commenced forthwith. In the physiological department, however, Professor Stirling gave something in the way of an introductory address. He chose for the subject of his first lecture Adaptation and Co-operation in Digestion; and instead of treating it on purely scientific lines, as presumably on any other occasion would have been the case, he dealt with it in popular fashion, and largely from the historical point of view. After giving an account of the various researchers who in early and recent times have contributed to our knowledge of the methods by which vegetable and animal substances are converted into fuel for the human engine, he showed that the act of digestion, though a chemical rather than a vital process, depended for its completeness on the co-operation of the nervous mechanism of the body. There was no absolute standard, he remarked, for the composition of a digestive juice, while that secreted by the human body Pawlow had shown even to vary in constitution with the nature of the food with which it was called upon to deal.

UNIVERSITY OF LEEDS.

Faculty of Medicine.

The medical session was opened on Tuesday, October 3rd, when the Right Hon. G. W. Balfour delivered an address and Lady Betty Balfour distributed the prizes to the successful students. The Vice-Chancellor presided and there was a large attendance of the students and of the general public. Among the prizes which were distributed was the gold medal which

is awarded annually by the Faculty of the Leeds Infirmary to the most distinguished graduate of his year. The recipient of this award on this occasion was Mr. A. Gough, who thus crowns a highly distinguished academic career. In the course of his highly interesting and scholarly address Mr. Balfour stated that in his judgement the medical profession was one not only to be honoured but also to be envied, and that one reason for this was that the greatest authorities in medicine and surgery were those who were actually engaged in the teaching of the students. In other professions this was certainly not so to the same extent. In his eloquent peroration Mr. Balfour exhorted the student to see to it that they derived a wide culture from their association with a university and to beware of narrowness. "While I speak with all humility," he said, "I venture to think that a predominantly scientific education has one besetting sin, the sin of narrowness. In particular it is liable to mistake the part for the whole, and to think that the conceptions of science, and even the conceptions of physical science are in themselves sufficient to explain the mysteries of this most wonderful universe. If there is one thing more certain than another, it is that no materialistic hypothesis can ever explain those mysteries. 'Great are the works of the Lord, and worthy to be sought out by those that have pleasure therein.' But they are great because they are God's works, and if we, the humble searchers after knowledge, are able to distinguish truth from error and good from evil, it is because in Him we also, every one of us, live and move and have our being." Mr. Balfour was in the evening the guest at dinner of the medical profession of Leeds and district, who, to the number of 112, assembled to receive him. The dinner was one of the most successful that has been held. Dr. Eddison, who occupied the chair, was in his happiest vein when he proposed the health of "The Guest of the Evening."

UNIVERSITY OF BIRMINGHAM.

Faculty of Medicine.

A very successful *conversazione* was held at the University on Monday, October 2nd, to open the new session of the Faculty of Medicine. The guests were received by the Dean of the Faculty, Professor Barling, F.R.C.S. The new University Club, which adjoins the University Buildings, was open for inspection by the kind permission of the Club Committee. The accommodation provided by the Club is most excellent, and consists of a dining room, writing-room, kitchen, and servants' premises on the first floor, a common-room, reading-room, and committee-room on the ground floor, and a billiard-room, lavatory, dressing and bath-rooms, etc., in the basement. Such a club has long been felt to be needed, and its acquisition will add greatly to the comfort of the students, and will increase the opportunities for the social life which is so necessary a part in the education of young men. At the *conversazione* a most excellent concert was given, and the pathological, anatomical, dental and materia medica museums were open for inspection. There were also many scientific exhibits in different parts of the building.

UNIVERSITY OF DURHAM.

Faculty of Medicine, Newcastle-upon-Tyne.

The classes of the College of Medicine commenced on October 2nd without any public opening ceremony. The students have already returned in large numbers and there is the prospect of a good entry. The new wing which is now being built to provide additional laboratory accommodation for physiology and bacteriology is being rapidly pushed forward. A great part of the roof has been closed in and it is expected that the laboratories will be ready for occupation next summer. Considerable changes have taken place within the last few weeks in the teaching staff of the College of Medicine. The duties of the Professor of Medicine are to be shared by Dr. D. Drummond, who will this winter deliver a portion of the lectures. The change has created a vacancy in the Chair of Pathology which has been filled by the promotion of Dr. R. A. Bolam, Pathologist to the Royal Infirmary and Children's Hospital, who has hitherto been associated in the College of Medicine with the teaching of normal and morbid histology. Dr. Bolam's elevation will, therefore, create a vacancy in the Practical Physiology Department which at a not far distant date it is the intention of the Council to fill by the appointment of a Demonstrator of Physiology. The work of the Chair of Surgery is to be facilitated, Mr. H. Brunton Angus having been appointed to deliver part of the lectures in systematic surgery, with the title of Demonstrator of Surgery. Owing to the death a few months ago of Dr. James Murphy there was a vacancy in the Chair of Forensic Medicine, and Dr. James Limont has been nominated lecturer. These are important changes. The gentlemen who have been nominated to the Senate of the University of Durham are known to possess the confidence of the Council and the respect of the students, so that their appointment, when confirmed, will enhance the reputation of the College for efficiency and will help to increase the teaching advantages that arise from a closer union of College and Infirmary.

LITERARY NOTES.

Mr. Gosse's volume on Sir Thomas Browne in Messrs. Macmillan's series of English Men of Letters appears by a happy coincidence at the time when the tercentenary of the famous physician's birth is being celebrated at Norwich. Commemorative articles on the author of the *Religio Medici* also appear in *Macmillan's Magazine* and the *Fortnightly Review*.

Some little time ago it was announced that *Climate* was to be discontinued owing to Dr. Charles F. Harford having taken up new duties which made it impossible for him to go on with the work of editing the journal. We are glad to learn that *Climate* will, after January 1st, 1906, be incorporated with the *Journal of Tropical Medicine*.

Dr. B. Kirkman Gray has written a work entitled *A History of English Philanthropy* (from the dissolution of the monasteries to the taking of the first census). In it an attempt is made to trace measures of relief in connexion with the problems of distress, and to describe the aims and the achievements of successive generations of philanthropists. Fresh light is thrown on the way in which benevolent persons in the seventeenth century co-operated with public officials in carrying out the policy of finding work for the unemployed, and the origin and growth of the voluntary philanthropic associations of the eighteenth century are described. The work will be published almost immediately by Messrs. P. S. King and Son, Orchard House, Westminster.

The publication of a quarterly periodical, to be called the *Journal of Tropical Veterinary Science*, has been undertaken by Messrs. H. T. Pease, M.R.C.V.S., Major, C.V.D., and Principal of Lahore Veterinary College; F. S. H. Baldry, F.R.C.V.S., Captain, C.V.D., Professor of Sanitary Science, Punjab Veterinary College; and R. E. Montgomery, M.R.C.V.S., I.C.V.D., Assistant Imperial Bacteriologist, Imperial Bacteriological Laboratory, Muktesar, U.P. Each number will, as far as possible, consist of original articles of scientific interest, with reviews and extracts from current literature. Nothing of a personal or political nature will appear in the journal. Amongst the subjects to be dealt with in the forthcoming numbers, for which arrangements have already been made, will be a series of articles on the anatomy, physiology, and pathological conditions of the camel and the elephant; the intestinal and other parasites of animals; the biting flies and the ticks of India, together with their importance in the transmission of disease. The first number will appear on January 1st, 1906. The publishers are Messrs. Thacker, Spink, and Co., Calcutta.

We know that the *Iliad* and the *Odyssey* were not written by Homer, but by another man of the same name, and that Bacon wrote not only Shakespeare, but most of the plays which make the spacious times of great Elizabeth the golden age of dramatic literature. In fact, it would almost seem that in the case of the works which have made the names of their reputed authors immortal, the *onus probandi* that they were not written by some one else rests on those who uphold the traditional belief. The latest claim for the rectification of such erroneous attribution of fame is made on behalf of a Jewish physician named Chasdni-Kas, who is said to be the real author of the poems and other writings which for six centuries have been foisted on a credulous world as the work of Dante. This, according to the *Revue Universelle*, is the discovery of a gentleman named Linowitz, who is said to have spent forty-five years in grubbing among the dusty shelves of old libraries. We should be proud to claim so great a poet as a member of our profession; but, as Huckleberry Finn said of the *Pilgrim's Progress*, Mr. Linowitz's statement, though interesting, strikes us as decidedly tough.

That poetry and anatomy are not incompatible is sufficiently proved by the instance of Oliver Wendell Holmes. As another example we may point to Professor Eternod, who

presided over the International Anatomical Congress held at Geneva last summer. At the banquet with which the Congress, as is the custom of such learned assemblies, wound up its labours, the Professor read the following verses in praise of biology:

Venir de tous les points de la machine ronde,
Ici, pour cultiver une science chère;
Venir, pour étonner savants et gens du monde,
Est, à coup sûr, un fait propre à nous satisfaire.

Le microbe à l'oeil, le scalpel à la main,
Avec habileté nous scrutons la nature.

Bientôt, sous nos assauts, à ce qu'un nous assure,
Il ne sera plus d'ombre en notre corps humain.
Or, moi j'ose affirmer que sur l'Anatomie,
L'Histologie normale et l'Embryologie,
Ou la Zoologie, on voit, plus haut encore,
Grandir quelque chose, et—c'est la Gastronomie:
Il faut donc l'avouer, bien manger, c'est la vie:
Et la dissection, mes frères, c'est la mort.

A. E. F. E.

(Poète mort prématurément dans l'oeuf et ressuscité embryologiste.)

In the *Guy's Hospital Gazette* of October 7th a very interesting account is given of John Keats's career as a student and dresser at the great hospital in the Borough. The medical history of the man of whom it has been said that "had he lived and realized the promise of his younger years [he] would have been the greatest of English poets" begins with his apprenticeship to a surgeon named Matthews at Edmonton, with whom he remained two years. His articles, for which he paid £210, were cancelled by mutual consent. From an expression which occurs in one of the poet's letters it may be gathered that his hand had "clenched itself" against his master; it is probable therefore that they parted in anger. Afterwards he entered as a surgical pupil at Guy's. In his second term he was introduced, apparently by Sir Astley Cooper, to two senior students, with one of whom, George Cooper, afterwards demonstrator of anatomy at St. Thomas's, he shared rooms. When his companions left the hospital a few months later, Keats shared rooms with two students of his own year, George Wilson Mackereth and Henry Stephens, the latter of whom has left some reminiscences of him. Stephens himself was a wooer of the muse, and at the time of his association with Keats was engaged in writing the inevitable tragedy of the youthful poet. We learn from him that "little Keats" was fairly popular, but was often teased about his poetry and his personal peculiarities. The three friends used to spend evenings in literary readings, in which improving exercises they were joined by two "Bart's" men. In their literary discussions they paid great attention to the opinions of Keats, which generally, it is stated, were entirely opposed to theirs. Between 1814 and 1817 Keats attended Mr. Green's lectures on anatomy and made notes which are now in the possession of Sir Charles Dilke. Mr. Sydney Colvin says in his life of the poet:

"I have before me the MS. book in which he took down his own notes of a course, or, at least, the beginning of a course, of lectures on anatomy, and they are not those of a lax and inaccurate student. The only signs of a wandering mind occur on the margins of one or two pages, in the shape of flowers (rather prettily touched), but the notes themselves are both full and close so far as they go. Poetry had, indeed, become Keats's chief interest, but it is clear, at the same time, that he attended the hospital and did his work regularly, acquiring a fairly solid knowledge, both theoretical and practical, of the rudiments of surgical and medical sciences, and he was always able to speak of such subjects with a certain amount of mastery." Keats himself, writing to his friend Clarke, tells us how little he relished these lectures at times. "The other day, during the lecture, there came a sunbeam into the room, and with it a whole troop of creatures floating in the ray, and I was off with them to Oberon and fairyland."

It is probable that Keats did a fair amount of dissecting, for the Minute Book of the Society of Apothecaries shows that he was admitted after passing his examination on July 26th, 1816. From other sources it may be gathered that he passed with credit. That Keats retained some interest in medicine after he had found his true vocation appears from the following passage in a letter written in 1818:

Were I to study physic, or rather medicine, again, I feel it would not make the least difference in my poetry; when the mind is in its infancy a bias is in reality a bias, but when we have acquired more strength a bias becomes no bias. Every department of knowledge we see [illegible] I am now convinced of this [illegible] which I shall look over again to keep alive the little I know thitherwards.

On March 3rd, 1816, Keats was appointed dresser to Mr. Lucas, whom an unflattering contemporary describes as "a tall, ungainly, awkward man, with stooping shoulders and a shuffling walk, as deaf as a post, not overburdened with brains of any kind, but very good-natured and easy and liked by every one." Among the poet's contemporaries was Richard Bright. Of Keats's surgical experiences we get a glimpse in one of his letters. He says:

My last operation was the opening of a man's temporal artery. I did it with the utmost nicety; but reflecting on what passed through my mind at the time, my dexterity seemed a miracle, and I never took up the lancet again.

While he was at Guy's he wrote several of his shorter pieces, among them the ballad beginning:

Oh! what can ail thee, Knight at arms,
Alone and palely loitering?

At the end of 1817 he bade farewell to the hospital. Soon afterwards he started on a walking tour, in the course of which he went out of his way to pay a visit to his old chum Stephens, who had by that time awakened from his dream of fame as a playwright and subsided into medical practice. To him Keats confided his determination to forsake medicine and give himself up to poetry.

THE PREVENTION OF CONSUMPTION.

ABERDEEN.

DR. MATTHEW HAY, Medical Officer of Health, Aberdeen, has received from Lady Lumsden, widow of the late Sir Harry Lumsden, the offer of £1,000 for the purpose of starting a sanatorium for consumptives. The offer is made subject to the condition that, if nothing should be done within the next six months towards building such a sanatorium, it will be withdrawn. Dr. Hay points out that such an offer is very gratifying and encouraging to those who are moving for the establishment of a sanatorium for poorer people in this part of Scotland. It serves to show that if a proposal to erect a sanatorium were definitely accepted by an authoritative committee the necessary funds might soon be obtained. He adds, as showing how real is the interest in the question, that when the proposal for a sanatorium was being seriously discussed in Aberdeen a few years ago, the late Mr. Yeats of Auquharney offered £1,000. We learn from the *Aberdeen Free Press* that the question of providing a sanatorium in Aberdeen has been frequently discussed, and some ago was thoroughly investigated by the directors of the Royal Infirmary. Matters had indeed reached such an advanced stage that the directors had practically an offer of about £16,000 of trust funds to build a sanatorium. A legal difficulty, however, arose which had the effect of putting an end to all further action. The infirmary directors visited several similar institutions in the South of Scotland, and had practically decided upon, and had almost purchased a site, for a sanatorium at Pitfodels. It was stated that £15,000 or £16,000 would build an establishment suitable for the needs of Aberdeen. The difficulty is said to be not in the main one of securing funds, or the question of a site, but the problem of how an establishment of the kind is to be maintained in a state of efficiency.

CHESTER.

We learn that a Chester Association for the Prevention and Cure of Consumption is being formed, under the presidency of the Duke of Westminster. The objects of the association is the gratuitous treatment of the poor; patients will be received and examined and special attention will be directed to children. The danger of disseminating the disease by sputum will be explained, as well as the value of fresh air in promoting recovery. When the circumstances of the patient warrant it, the necessary medicines, disinfectants, sputum bottles, and food will be distributed; the patients will be visited in their own homes by a band of lady workers acquainted with the elementary principles of the laws of health. Under the guidance of the medical staff cases will be selected for treatment in institutions—early cases in sanatoriums and advanced cases in incurable institutions. The objects of the association include also the education of the public by literature and lectures. The honorary medical staff includes Dr. Herbert Doble, Dr. J. Duff, Dr. J. T. M. Giffen, Dr. T. S. Parry, and Dr. T. Carlyle Sutton: the Honorary Secretary is Mr. George W. Haswell, 43, Queen Street, Chester.

A MAN was recently operated upon in St. Luke's Hospital, New York, for recurrent appendicitis, when there was found in the appendix a 22-calibre bullet. The patient had shot himself accidentally thirteen years before, but the bullet had caused him no inconvenience until recently.

SPECIAL CORRESPONDENCE.

PARIS.

Annual Meeting and Dinner of the Continental Anglo-American Medical Society.

The annual meeting of the Continental Anglo-American Medical Society was held on October 5th, at 5 p.m., at the house of the Honorary Secretary, Dr. Leonard Robinson. Dr. StClair Thomson occupied the chair. After the minutes of the previous meeting had been read and approved, the Secretary read his report on the work of the Society during the past twelve months, and referred to the loss sustained by the death of one of its original members, Dr. Freeman of San Remo and Varese. The Treasurer reported that only 27 members had paid their subscriptions during the year, and a discussion followed as to the best remedy for this state of affairs. The Secretary then read a summary of replies he had received from members as to the best way of making the Society known to the travelling public. He stated that the list of members was supplied annually to the British and American Consuls on the Continent, to Bradshaw, to Baedeker, and to the Health Resorts Bureau in London, and that Professor Osler had distributed some 300 copies among the profession in the United States. A discussion followed in which many members took part, and it was eventually decided that the Secretary should send a copy of the list of members and the report of the annual meeting to the physicians and surgeons of all teaching hospitals in Great Britain and to representative medical men in the United States. The following five new members were elected: Dr. C. E. Dashwood of Taormina, Sicily, Dr. E. A. Gates of Florence, Dr. A. Hugh Gibbon of Naples, Dr. H. C. Mamlock of Paris, and Dr. Hugh Munro of Viareggio, Italy. The proceedings terminated with a hearty vote of thanks to the Chair.

The annual dinner of the Society was held in the evening at the Hôtel du Palais d'Orsay, and was one of the most successful in the annals of the Society. Dr. StClair Thomson occupied the chair in the place of Professor Wm. Osler, who was prevented at the last moment from being present. Nearly 60 members and their guests were present, among them being Sir Wm. Broadbent, Dr. Lawrence Flick (of Philadelphia), Dr. Theodore Williams, Dr. Brannan, Mr. Malcolm Morris, Dr. J. J. Perkins, Dr. Barton Jacobs, Professor John Chiene, Dr. Philip (Edinburgh), Dr E. J. McWeeney, Dr. Argyll Robertson, Dr. Steegman, Dr. Bulstrode, Dr. Habershon, Dr. Hartley, Dr. Weathered, Dr. Galliard, Dr. Castex, Dr. Bottentuit. Dr. Rist, Dr. Landolt, Dr. Landolt, jun., Sir William Hingston (Toronto), Dr. Klebs, Dr. Walsh, Dr. McCarthy, Dr. Norton, Dr. Leonard Pearson (Philadelphia), Dr. Evans (San Francisco), Dr. Pottinger (Los Angeles), Dr. Lowman (Cleveland, Ohio), Dr. Maher (Newhaven, Conn.), Dr. Fagan (British Columbia), Mr. H. W. Armit, Dr. Glendinning, Mr. M. P. Main, Dr. Triboulet, Dr. Hon, Alan Herbert, Dr. Stanley Rendall, Dr. Biden, Dr. Stuart Tidey, Dr. Mills, Dr. Johnston-Lavis, Dr. Hugh Gibbon, Dr. Danvers, Dr. Maguire, Dr. Bull, Dr. Jarvis, Dr. Mamlock, Dr. R. H. Turner, Dr. Mercier, Dr. Koenig, Dr. Suzor, Dr. C. C. Whitman, and Dr. Leonard Robinson. At dessert the Chairman proposed the toast of the Past, the Present, and the Future Patrons of the Tuberculosis Congress, King Edward VII, President Loubet, and President Roosevelt.

In proposing the next toast "Success to the Society," Dr. StClair Thomson, one of its original members, gave a short account of the history of the Society, which now has 110 members; it published no transactions, but was a mutual fraternity of good fellowship, its object being to serve as a bond of union between the English and American practitioners settled on the Continent of Europe and in North Africa. Dr. Bull, a former secretary of the Society, replied. Dr. Alan Herbert proposed "the Guests," thanking them for honouring the Society, and some of them for coming from such a distance, and for taking so kindly an interest in the Society. Dr. Galliard replied for France, asserting that all English and Americans would always have a hearty welcome in this country. Sir William Broadbent replied for England, and expressed the extreme pleasure his visits to Paris gave him. The Congress on Tuberculosis had created immense public interest, and would aid greatly in the solution of social questions in the prevention of tuberculosis. Professor John Chiene replied for Scotland in a delightful speech. To show the character of the country for which he spoke he told the story of a man who on his death bed had bequeathed a considerable portion of his fortune to the man who would place £5 in his coffin. At his death an English friend placed a £5 Bank of England note by his side, an Irish friend placed a Bank of Ireland note. A Scottish friend took out the two £5 notes and left a cheque for £15. He was proud to represent Scotland on French soil, for France and Scotland had always had many ties, and Scotland had much for which to thank France. The Scots College was founded in Paris in the fourteenth century, and many Scottish students came to Paris to study and take their degrees. Peter Low became Surgeon to the King of France, and returned to Scotland with great distinction; John Major studied in France, and returned to found the College of Surgeons in Glasgow; and there was John Knox, who had rowed in the galleys for France. Mr. Chiene was wearing the mess-jacket of the Scottish Archers, who in days gone by had sent cadets to act as a bodyguard to the Kings of France, and Joan of Arc had a bodyguard of Scottish Archers. He had on his chain a seal which had belonged to his grandfather, who, as a lieutenant in the British Navy, had landed in the South of France to take a fort and got taken himself; but his watch and the seal he was allowed to keep as he marched as a prisoner across the country to the north coast, where he was exchanged, probably, for half a French general, a prisoner in British hands. Professor Chiene said how glad he was to meet Americans and to thank them for all they had done in founding the Royal Infirmary in Edinburgh, for it was the Edinburgh graduates settled in America before the separation of the two countries who sent home the money with which the building was started. He was sorry that Professor Osler was unable to attend the banquet, but was glad that he had come back to the old country as professor in Oxford, where he still had four years of useful work before him before he joined the ranks of old men, who he believed still had the privilege of making after-dinner speeches. The speech was frequently interrupted by applause. Dr. McWeeney spoke for Ireland and referred to the ravages of tuberculosis in Ireland, which caused one-seventh of the total death-rate. Dr. Lawrence Flick (Philadelphia) responded for the United States, and said how glad they were to come and learn from their uncles in Europe, but looked forward to the opportunity of the next International Congress on Tuberculosis, which would probably be held in Washington, when he thought they would acknowledge that their nephews in America could show them a thing or two of interest, and when every effort would be made to make it an event to be remembered. Sir William Hingston spoke for the British dominions beyond the seas, and made an interesting speech calling attention to the healthfulness and curative properties of the open-air life in the cold north.

The Chairman brought the proceedings to a close by proposing the healths of Dr. Herbert and the Honorary Secretary.

MANCHESTER.

Pathology at the University and Infirmary.—Education of Dairy Farmers by Means of Leaflets.—Analysis of Samples of Milk: Addition of Preservatives.—The Extent of Cigarette Smoking amongst Schoolboys.—Professor Dreschfeld and the Royal Infirmary.

Manchester students may now look forward to a more complete co-ordination of their work in pathology at the university and infirmary than was possible hitherto. The new scheme whereby the professor of pathology becomes a member of the honorary medical staff has made this possible. The infirmary authorities have drawn up the following rules in regard to the duties of the professor at the infirmary:

He is to superintend and take part in the *post-mortem* demonstrations, and, when practicable, he must himself make or attend to the making of *post-mortem* examinations, especially in such cases as may be indicated by other members of the honorary staff as requiring special study and experience. In cases in which *post-mortem* observations involve important medico-legal issues, he shall advise any officer of the paid staff of the infirmary who may have to give evidence in the law courts. He shall not himself give evidence in the law courts with respect to any work conducted at the infirmary, unless by agreement with others who may be concerned.

Education by means of leaflets is part of the policy of the Board of Agriculture, and it will not be for want of the supply of knowledge if prosecutions of milk dealers in Lancashire should still continue. The Board has issued two carefully prepared leaflets which are to be scattered broadcast amongst dairy farmers and others connected with the milk trade. One

of the leaflets is on "Cleanliness in the Dairy" and the other on "Tests for Farmers' Milk." In order that the practical shall have relation to the theoretical the Department has arranged for tests to be made of samples of milk at the very low cost of 6d. per sample. Lancashire farmers may have the milk analysed on sending it to the Director of the County Farm, Hutton, near Preston; Cheshire farmers will send theirs to the Agricultural College, Holmes Chapel. Similar arrangements obtain for Derbyshire.

The analyst for the Borough of Salford in his quarterly report states that he has analysed 183 samples of goods, comprising 73 milks, 56 butters, etc. With regard to milk, not a single sample had suffered adulteration by either the addition of water or abstraction of fat. This is more that neutralized, however, by another and perhaps more dangerous form of sophistication, namely, the use of preservatives. Certain samples contained formalin in proportion varying from 1 part in 200,000 to 10, 12, 24, and 26 gr. of boracic acid to the gallon. Formalin seems to rank first in favour with those who add preservatives to milk, as a very small amount will keep milk sweet for several days, for example, 0.0125 per cent. (8.73 gr. per gallon).

The Cheshire Education Authority recently issued a circular asking school teachers to endeavour to suppress the cigarette evil. In one school at Winsford the teachers of the upper standards asked the boys who did not smoke cigarettes to put up their hands. Only four of fifty-six responded. Ultimately all the boys voluntarily signed a pledge of abstinence from the habit.

The authorities of the Royal Infirmary have allotted five beds to Professor Dreschfeld. The usual rule with regard to the honorary staff is that they shall retire at 60 years of age. Having regard to the great services of Professor Dreschfeld and his work in connexion with medical education, this special mark of distinction has been conferred on him. Thus the students will still have the advantage of Dr. Dreschfeld's tuition and experience both at the University and at the Infirmary.

LIVERPOOL.

The Alterations in the Medical Institution Buildings.—Annual Service for the Medical Profession.

THE progress of the alterations in the Medical Institution Buildings which were commenced early in the summer has been considerably retarded by unforeseen difficulties, and the Council has been compelled to extend the time allowed the contractors by several weeks. The meetings will not, therefore, commence this year in October, as is the usual custom, and the precise dates cannot yet be fixed.

The annual service for medical practitioners in Liverpool and the neighbourhood will take place in St. Luke's Church, Liverpool, on Sunday next, October 15th, at 3 p.m. The sermon will be preached by the Right Rev. the Lord Bishop of Ripon, and a collection will be made on behalf of the Medical Benevolent Fund. Owing to the fact that structural alterations are in progress at the Medical Institution it will not be possible to provide afternoon tea in the building, as has been done on the last two occasions, but it is understood that as regards those coming from a distance the deficiency will be supplied by private hospitality on the part of members of the profession residing near the church.

BIRMINGHAM.

Complimentary Dinner to Sir Thomas Chavasse.—South Staffordshire Small-pox Hospital.—Care of the Blind in South Staffordshire. Typhoid Fever at Stoke-on-Trent.—The Nuneaton Small-pox Epidemic.

SIR THOMAS CHAVASSE was entertained, on October 5th, to dinner by a representative gathering of members of the profession in Birmingham and the Midlands. The dinner was held at the Grand Hotel, and Dr. Edwin Rickards, Consulting Physician to the General Hospital, presided over a gathering which numbered over 160 medical practitioners. After dinner, in a few appropriately-expressed remarks, Dr. Rickards proposed the toast of "Our Guest." He was followed by Mr. Jordan Lloyd, who, on behalf of his local surgical brethren, eulogized the life work of Sir Thomas, and expressed the good feeling which had always existed between Sir Thomas and his surgical *confrères*. As representing the general practitioners of the city and district, Dr. T. Edgar Underhill, of Barnet Green, spoke to the toast, and dwelt upon the pleasure which practitioners derived from consultations with him in addition to the professional help and support which they always received on such occasions. The toast was received with enthusiasm and drunk with musical honours. Sir Thomas Chavasse, in his reply, after expressing his sincere thanks for the great honour the profession had done him in assembling in such large numbers that evening, dwelt upon the great amount of practical surgery carried to a successful issue in Birmingham and the populous districts of the Midlands, and thought that his inclusion in the last Birthday Honours list was not merely a personal matter but the recognition of the unselfish devotion to duty of many Midland surgeons over a long term of years. Allusion was made to the long professional connexion of his family with the Midland Counties, and the surgery of thirty years ago contrasted with that of to-day, the present position being mainly the result of the work of his old teacher, Lord Lister, whose name would rank amongst the immortals in the history of surgery. It was pointed out that the interest society took in modern surgery was somewhat morbid, and that the everyday general conversations on symptoms and treatment were often indecent, though somewhat amusing to the professional listener. That the present status of the profession was never higher in the estimation of mankind was due to the age of mysticism being passed, and to their tangible results being plain to every one; that never before had the training of the members of the profession been so elaborate, or the general standard of excellence amongst its practitioners so high, and although conservatism in its best form was indelibly stamped upon the profession, no other was so liberal in its efforts to advance knowledge or more unselfish in its practice. Therefore it was a satisfaction to find these facts recognized from time to time in high quarters, and it was in acknowledgement of this general principle that the success of the present gathering was attributable. The health of The Dinner Committee was proposed by Mr. Barling. In the absence of Dr. Saundby, who was unable to be present, it was replied to by the Secretaries, Dr. Nelson and Mr. Heaton, who stated that in addition to the members present, apologies had been received from more than sixty other members of the profession who were unable from various unavoidable causes to be present. Dr. Malins then proposed the Health of the Chairman, to which Dr. Rickards suitably replied. This brought to a conclusion a most pleasant professional gathering.

The new small-pox hospital at Moorcroft, Bilston, will be completed very shortly. It was about two years ago that the Sanitary Committee of the Staffordshire County Council suggested the building of such a hospital under the Isolation Hospitals Act. The South Staffordshire Joint Hospital Board represents many small towns and villages, with a total population of 337,387. The new hospital has accommodation for 40 beds, and has been erected at a cost of £8 493. There are three blocks, with two wards in each block, and sites have been prepared for further extensions in case of such an emergency as an epidemic. Dr. Reid, Medical Officer of Health for the county, has been appointed Consulting Medical Officer to the hospital.

At the annual meeting of the supporters of the North Staffordshire Workshops for the Blind it was reported that at present the workshops are not self-supporting, and would probably always need help. They have, however, been fortunate in obtaining plenty of orders for work during the past year. On the average thirteen male and five female workers have been employed and fully occupied, and £480 have been paid in wages. Although the sales have been satisfactory, there was a deficit in the revenue account of £229. By the male department 11,001 baskets have been turned out, an increase of 1,760 over the previous year. The health of all the workers has been excellent. A small library fund has been started to keep up a regular supply of books in the Braill type.

The medical officer of health for Stoke-on-Trent reports an outbreak of typhoid fever at Trent Vale; he attributes it to the water supply. Bacteriological examination has shown that the water of a certain well is polluted with sewage to a dangerous extent. This well is to be permanently closed at once by order of the Borough Council at the recommendation of the Health Committee.

No more cases of small-pox have been notified at Nuneaton, and the authorities are of opinion that the outbreak has exhausted itself. In all, seventy-six cases have been notified, and only one death has occurred.

NEWCASTLE-UPON-TYNE.

Royal Infirmary: Appointment of Surgeon.—Armstrong College of Science: Annual Report.—Expected Visit of the King.—The Tyne and the Cholera Scare.

At the Royal Infirmary two important changes have taken place in the *personnel* of the staff. Dr. Hume, after thirty-six years' service in the infirmary as assistant surgeon and full surgeon, has retired on the age-limit; and, after a keen and exciting contest between two of the assistant surgeons, Mr. H. B. Angus, the Senior Assistant Surgeon, has been elected to fill the post of Surgeon. Mr. Angus is fortunate in having secured this appointment at an age when he still possesses the elasticity of youth with the experience he has gained as Assistant Surgeon to the Royal Infirmary during the last nine years.

At the annual meeting of the Governors of the Armstrong College, the Principal, Sir Isambard Owen, presented a very satisfactory report, in which it was stated that the number of students attending classes had risen from 1,619 in the preceding session to 1,651 for 1904-5, the increase of students being most marked in the mining and engineering departments. An effort is about to be made to establish a chair of Naval Architecture, a scheme which is likely to receive the hearty support of the shipbuilding community on Tyneside. Externally the Armstrong College is now completed, and a very handsome building it is. The hope has been expressed that next year the King may be induced to open the building, and already steps have been taken to convey the Governors' desire to His Majesty.

It is an interesting fact that during 1906 two or three large enterprises will be nearing completion in Newcastle-upon-Tyne. One is the new high-level railway bridge, an excellent piece of engineering which reflects the greatest credit upon the ability and management of the Cleveland Bridge and Engineering Company. Another is the Royal Victoria Infirmary, which it is hoped will be ready for the reception of patients in 1906. As the foundation stone of the building was laid by the King five years ago, when he was Prince of Wales, the wish is fervently expressed that His Majesty may be pleased to open the new infirmary when he is in the North next year. His Majesty is known to be capable of undergoing greater physical fatigue than most men. It is probably unusual for a member of the Royal Family to open a railway bridge, a college of science, and an infirmary all in one day, but the distances between the college and infirmary, and between these and the bridge are not great. The old Royal Infirmary, wherein students and medical practitioners have passed many pleasant days, is being rapidly encroached upon through the alterations consequent upon railway requirements in the neighbourhood. These have not, so far, in any way interfered with the work inside the Infirmary, but they have considerably diminished the garden space outside for patients.

Of the cholera outbreak on the Continent there has been no tangible evidence, so far as the arrivals of ships in the Tyne are concerned. It has not, however, been found advisable to relax any of the preventive measures that were adopted a few weeks ago. The Medical Officer to the Tyne Port Sanitary Authority still enjoys the assistance of three qualified medical men. There have been two or three suspicious cases, but in none was the suspicion confirmed by bacteriological diagnosis.

CORRESPONDENCE.

THE PERPLEXITIES OF SECRETARIES.

Sir,—The letter of Dr. Mark R. Taylor, Secretary of the Truro Division, which your have inserted in the British Medical Journal of October 7th, under the heading of "The Perplexities of Secretaries," is one which I think ought to be provocative of a correspondence in your paper, and I am hopeful that, after the manner of the lay press, it may result in a series of communications to you from various officers and members of Divisions in the country. He is clearly of opinion that Divisional meetings are scantily attended when the agenda papers for the same are filled with medico-legal matter, and he thinks that the members attend in the largest numbers when the subjects for discussion are to be of a scientific nature.

I am afraid that there is a good deal of truth in this view which he takes of the matter. And yet what are to do? Too long, in my opinion, has the British Medical Association busied itself with questions of a scientific nature, to the exclusion of ethical and medico-political ones. And if, under the awakening to such matters which is now taking place, owing to our new constitution, the general body of members of our Association will still be content to lie supine; if they can only be aroused to action when their individual interests are assailed: and if they will persist in relegating this important work to the small body of men who take the subject up, devoting to it much time and thought, I do not very well see what can be done to spur them to action. That these questions must be debated and their issues pursued to definite ends, is the opinion held, I think, by a large and increasing number of the members of our Association. For it is hardly to be borne with that we should stand by idly and allow our poorer brethren to be exploited by Friendly Societies, Medical Aid Associations, and other kindred bodies, bringing them to that condition of poverty which is well described by Sir William Broadbent in the last issue, where he is pleading for a greater support than has hitherto been given to the British Medical Benevolent Fund. I maintain that it is only by unremitting work on the part of our great Association, now numbering 19,200 members, and by a determination of individual men to stand in with others to enforce our just claims to proper remuneration for our work, that we shall ever obtain proper payment for our services to the public. And I believe that the best means for attaining this end is by the adoption of the Divisional system, by which each such body becomes an expressive unit voiced by its Representative at the General Representative Meeting of the Association.

I would not have Dr. Taylor, or any other secretary of a Division, be discouraged by the small attendances he gets at his meetings. A somewhat lengthy experience of the meetings of public and charitable bodies has shown me that it is only a comparatively small body of people who can be depended upon for attendance or work at the same. If you look over the list of such attendances, and take the names of workers in these causes in any provincial town, you will find this statement to be absolutely correct. Even in Parliamentary and municipal matters, although there are multitudes of people who criticize and who grumble, very few attend meetings of candidates, and a great number will not take the trouble to walk into the polling booths to record their votes. But the work goes on in spite of their apathy, and still a supply of public-spirited men is found to fill public offices.

I take it that those of us who, like myself, feel strongly that the economic questions of our profession must be regulated and advanced, must continue to work in season and out of season for the same, and I am hopeful that in time the general body of members of the Association will rouse themselves from their apathy and do all they can to push forward this work of our body. Meanwhile, I will say, in closing, that if it be found that a clinical agenda will attract men better than a business one, I would advise that the paper should contain a mixture of both these subjects at each Divisional meetings; and arrangements by which the meetings shall be preceded by a lunch or followed by afternoon tea will help to encourage men to attend them.—I am, etc.,

H. A. Latimer, M.D.,

Oct. 7th. Chairman and Representative of the Swansea Division.

Sir,—The difficulties of the conscientious secretary between the mass of material sent out for the consideration of the Divisions, and the indifference of members who do not wish to look at it, call for and receive hearty sympathy. The solution of the difficulty lies in the autonomy of the Division which can choose what it wishes and refuse to form opinions or even to consider matters in which it feels no interest. The Division would, therefore, be within its right in authorizing its secretary—or, perhaps better, its chairman and secretary—to put on the billet of a meeting only such of the matters sent down from from the head office as they consider of interest to the Division. As all the matters sent down are published in the Supplement, so that the individual member can see them if he wish, and may at the Division meeting raise any question omitted from the billet, his rights and privileges would be preserved, and the short political programme combined with a scientific programme would interest more the members in general. Local health and vigour, as shown in active Divisions and popular meetings, are essential for the Association,

and a physiological arrangement by which the flow of material not wanted for the Division could be diverted would be only wholesome.—I am, etc.,

Dundee, Oct. 10th. R. C. BUIST.

THE BRITISH MEDICAL BENEVOLENT FUND.

SIR,—The minute details of the disbursement of the moneys of the British Medical Benevolent Fund are painful reading! How much longer are we to stand by and see the widows and orphans of our unfortunate brethren going about seeking charity? How much longer are we to offer alms to these poor creatures in microscopic doles? Again and again it has been proposed that our Association should create a scheme of benevolence, but permissible help is useless. As I proposed at the last annual meeting, let a yearly subscription be levied, and a substantial sum be added from the funds of the Association each year, and ensure that every member of the Association should establish a claim for help, and not suffer his wife and children to go about begging should he be taken away before making adequate provision for them.

I say unhesitatingly that the leaders of our profession—the men who are enjoying the immense privileges attaching to the appointments they hold at our medical charities, have failed to do their duty—they should have moved years ago! It will be said this thing has been done. How? I would ask. There are numbers of men of wealth who, single-handed and without but little disturbance of their well-filled coffers could give yearly as much as any one of our benevolent institutions does. I shall be glad to hear from any one who cares to help to push forward this urgent question.—I am, etc.,

Manchester, Oct. 11th. J. BRASSEY BRIERLEY.

SIR,—It may be true, as Sir William Broadbent writes, that a contribution of 5s. a year to the above fund would press hardly upon many of the humbler medical men, but it is equally true that 10s. would not be felt at all by certainly a greater number; hence there should be no difficulty in raising at least £7,000 a year from the medical profession alone. I have for the first time sent 5s., and mean to do so annually.

The abstract of cases relieved proves, however, that in many instances a little forethought would have enabled the medical men in question to leave those dependent upon them with something to start their struggle. Surely in these days of insurance there should be no need to urge every man without a private income to insure against both death and sickness before daring to marry. Of life societies it is not necessary to speak, there are so many good ones; but of sickness and accident societies there is but one which should commend itself to every medical man, and which each should join—the Medical Sickness and Accident Friendly Society, which insures against all illnesses and gives far more for its premiums than any other society. It also treats the members with a kindness and consideration which I cannot extol too highly, having quite recently experienced such treatment myself. Let each insure his life for £500, his health for 4 guineas a week—which for a man of 30 would cost about £25 a year—and we shall soon cease to hear of savings exhausted by a long illness, widow and children left penniless. No practitioner who is unable to so expend £25 per annum has any moral right to marry. I am, etc.,

October 9th. M.R.C.S.

NEXT YEAR'S ELECTION OF DIRECT REPRESENTATIVES TO THE GENERAL MEDICAL COUNCIL.

SIR,—In reference to the letter which has been sent by our Medical Secretary to the Honorary Secretaries of Divisions in England and Wales, and published on page 218 of last Saturday's SUPPLEMENT to the BRITISH MEDICAL JOURNAL, I wish to state at once that under no circumstances could I sign the "declaration" candidates for nomination by the Association will be called upon to make, and therefore my name will not be submitted to the Divisions as an Association candidate. It is, however, my intention when the proper time arrives to again solicit the support of my brother practitioners, members as well as non-members of our Association, as an independent candidate.—I am, etc.,

GEORGE BROWN,
A Direct Representative for England and Wales on the General Medical Council.

Cornwall, Oct. 11th.

SYNCOPAL BRADYCARDIA.

SIR,—You publish in the BRITISH MEDICAL JOURNAL of October 7th a well-marked case of the so-called Stokes-Adams disease, reported by Dr. Maynard under the title of A Case of Syncopal Bradycardia Showing the Independent Action of the Two Sides of the Heart. As the patient's age was 57, this case probably belonged to the more common class associated with arterio-sclerosis. Dr. Maynard noticed that with a pulse-rate of 24 and a full heaving systolic impulse at the same rate, there were two intermediate impulses, presumably weaker, but still perceptible to the hand, and each accompanied by a distinct cardiac sound. These intermediate impulses were felt over the right ventricle, but were imperceptible as a pulse at the wrist and were not registered on a sphygmograph tracing. I have not myself had an opportunity of seeing this type of cardiac rhythm in the three cases of Stokes-Adams disease which I have had under my care, but it has been comparatively frequently observed by others, including Stokes in his first case. These feebler cardiac sounds and impulses have been generally ascribed to feeble abortive contractions of the ventricles. Dr. Maynard, however, gives a novel interpretation of the phenomena he has observed and concludes from the position of the impulse and the non-registration of the contraction by the sphygmograph that the right side of the heart was contracting alone. Feeble contractions of the ventricles followed by stronger ones are commonly observed in various types of cardiac disease, but I do not know of any case where one ventricle has been found to contract without the other. The occurrence of such an abnormal rhythm is, moreover, physiologically very improbable and we should require strong evidence to convince us of its possibility. Sphygmographic records have been obtained in several of the cases of Stokes-Adams disease where the forcible cardiac contractions have been accompanied by intermediate feebler ones imperceptible at the wrist. In some of these the feebler contraction is shown on the tracing, but in others it is not recorded.[1] Indeed, Huchard[2] implies that all gradations are found between a bigeminal pulse and the condition described by Dr. Maynard. It has been suggested that in all cases of Stokes-Adams disease these feeble intermediate beats occur, too feeble, as a rule, to be appreciated by our senses.

In many of the cases with this curious false bradycardia a marked pulsation of the jugular veins has been observed, the venous pulsations being invariably much more frequent than the radial pulse. Considerable controversy has taken place over the causation of this jugular pulse since Chauveau first suggested that it was due to an isolated contraction of the auricles not communicated to the ventricles—that is, a phenomenon like Gaskell's experimental "heart block." Recent careful investigation of one of Dr. Osler's patients at Baltimore supports this theory, but the question is hardly yet definitely settled. Some observers have even considered that some of the audible intermediate beats heard in these cases are caused by isolated auricular contractions—an obviously untenable view.

Dr. Maynard's observations are interesting and valuable, but I do not think the evidence is strong enough to support his conclusion as to the isolated action of the right ventricle.—I am, etc.,

London, W., Oct. 10th. ALFRED M. GOSSAGE.

SIR,—In the most interesting "case of syncopal bradycardia" recorded by Dr. Maynard in the BRITISH MEDICAL JOURNAL, October 7th, p. 847, there are several points which deserve further consideration.

The most important are, first, the statement that "the case affords undoubted evidence" of "an independent action of the two sides of the heart"; secondly, that the sphygmograph "shows no evidence of subsidiary pulsations communicated by the heart."

On very carefully reading the record of the case I do not think that the first assumption is entirely justified. That there is evidence of an unusual method of contraction of the heart is certain, but there is no evidence that the right ventricle was ever in systole while the left was in diastole, which I take it is what Dr. Maynard suggests by "independent action of the two sides of the heart."

The points adduced in favour of this supposition are that impulses were felt over the area of the right ventricle during the diastole of the left ventricle; that two or more sounds

[1] Vide Osler, *loc. cit.* August 22nd, 1903.
[2] *Maladies du Cœur et des Vaisseaux*, p. 313.

were audible previous to the recurrence of the systole of the left ventricle, and lastly that in the sphygmograph there is no evidence of subsidiary pulsations.

In the absence of a tracing of the venous pulse in the neck, it is perhaps impossible to state that the right ventricle did not cause these sounds and pulsations, but in my opinion they were almost certainly produced by the contractions of the auricles, for there is evidence in the sphygmograph that the auricles contracted regularly, and that only every third or fourth contraction was able to initiate a systole of the ventricles.

I feel confident that the case is one of "heart block," or at any rate of marked depression of conductivity. If one carefully examines the tracings published, more especially the first at the top of page 848, one notices certain small waves occurring during the diastole of the left ventricle: these are beautifully shown in the record of the first pulse wave.

Mackenzie has proved by means of simultaneous records of the venous and radial pulse in similar cases that these small waves in the downstroke are synchronous with contractions of the auricles, and therefore almost certainly due to those contractions. The absence of a tracing of the venous pulse in this case precludes an absolute demonstration of the fact that the right venticle only contracted with the left, but in very similar cases recorded by Mackenzie, Gibson, and in three such cases observed by myself, two of which are in process of publication, the venous-pulse tracing proved that the auricles were beating rhythmically, more frequently than the ventricles, and that the right and left ventricles beat in unison.

Small waves in the radial sphygmograph, such as are seen in Dr. Maynard's tracings, have also been observed by Wenckebach and Webster, and recognized as due to contractions of the auricles. Therefore I think that one must conclude that the "subsidiary cardiac sounds" were caused by contractions of the auricles, and also that the impulses felt synchronous with these sounds were due to the same cause. Judging from analogous cases, I do not see how the right ventricle can be held responsible for them.—I am, etc.,

Liverpool, Oct. 9th. JOHN HAY.

TEETHING AND CORNEAL ULCERS.

SIR,—As one of those who still believe in a more or less direct association between teething and a number of the symptoms incidental to infants and children during the periods of the first and second dentition, I venture to question the correctness of the views expressed by Dr. F. G. Haworth and by Mr. Henry Sewill in their recent letters. These correspondents respectively describe the belief in a causal relation between dentition and such local affections as corneal ulcers as an "antiquated bogey" and as a "gross and grotesque superstition."

If I may, I would remind your correspondents that contemporary medical opinion is too evenly balanced on this question to justify such statements as these. It was chiefly, I believe, owing to the publication in 1892 of Kassowitz's *Vorlesungen über Kinderkrankheiten in Altem der Zahnung* that medical opinion in certain cases veered round from solid faith in the "symptoms of teething" to the sceptical attitude which is reflected in Dr. Haworth's and Mr. Sewill's letters in the BRITISH MEDICAL JOURNAL. Kassowitz was, I believe, also responsible for the parrot cry that "teething is a physiological process," a cry which has since then served as the basis of all argument by those who deny a causal association between the physiological act of teething and pathological symptoms

This truism has about as much force in the argument in which it is employed as would the contention that the act of parturition cannot be accompanied with manifestations of pain because it also is essentially a natural and physiological function. In fairness to your correspondents I must admit that no less distinguished physicians than Drs. Jacobi, Adolph Baginsky, Lewis Starr, and Koplik are of the same way of thinking. Nevertheless, there is a no less distinguished array of physicians, who also have made the study of the diseases of children a speciality, who take a diametrically opposed view. Among these may be mentioned Drs. Cheadle, Henoch, Holt, Rotch, Heubner, Bernard Bendix and a host of others. Dr. Rotch's excellent account on page 635 of his *Pediatrics*, of the symptoms of teething is well worth reading in this connexion. I would further refer your correspondents to what Dr. Cheadle says on page 152 in his lectures on the *Practice of Medicine* and to a paragraph in Dr. Holt's *Diseases of Infancy and Childhood* (page 277), which is to the following effect:

Although I strongly believe that the importance of dentition as an etiological factor in disease has been in the past greatly exaggerated, and although I once held the opinion that simple dentition never produced symptoms, I have been compelled by clinical observation to change my opinion upon this subject, and I am now willing to admit that, particularly in delicate, highly nervous children, dentition may produce many reflex symptoms, some even of quite an alarming character.

In the light of such conflicting views held by diverse authorities of such high standing on a question which is apparently so simple it appears to me that a solution of the difficulty may be found in the supposition that these differences have arisen owing to the loose and ambiguous usage of the terms "cause" or "causal factor." When we speak of any condition, physiological or otherwise, being the "cause" of any concomitant symptoms, owing to the ambiguity of the terminology to which I have referred, the term "cause" may signify, to quote Professor Hueppe's simile, either the spark or electric current which precedes or evokes the explosion, or the true scientific "cause" (*Ursache*) which lies in the potential energy or in the explosive character of the material which explodes. In place of the unscientific use of the term "cause" as an equivalent for the spark which leads to the explosion, Professor Hueppe has proposed the alternative expression "liberating impulse." If, then, we apply the term in its true scientific interpretation to the symptoms of teething, it is clear that the physiological act of the rupture of a tooth cannot be regarded as a real "cause," of, for instance, the manifestation of pathological energy which is involved in eclamptic convulsions, or in the determination of a corneal ulcer. The true cause must lie in the explosive character of the nervous elements—a characteristic which is doubtless determined by the independent etiological factors (feeding, hygiene, etc.), which Kassowitz so ably summarizes in his *Vorlesungen*. To deny, however, that the rupture of a tooth during the period of the first or of the second dentition can be the "cause"—in the sense that it is the liberating impulse—of many of the nervous explosions which occur during the periods of dentition, appears to me to be as unscientific and untenable as to believe that by lancing the gums of a teething infant we can counteract the effects of bad feeding, want of hygiene, and hereditary instability of the nervous system.

I take it, therefore, that when Dr. Haworth and Mr. Sewill describe the belief in the so-called symptoms of teething as a relic of antiquity they range themselves in line with Professor Hueppe's conception of the term "cause" in its application to the determination of disease processes rather than that they mean to imply that the reflex irritation of a rupturing tooth is different to other forms of sensory impression which reach the central nervous system and produce distant pathological effects which are altogether disproportionate in magnitude to the stimulus applied.—I am, etc.,

London, S.W., Oct. 6th. ERIC PRITCHARD.

THE TREATMENT OF CIRRHOSIS OF THE LIVER BY THE ESTABLISHMENT OF A COLLATERAL CIRCULATION.

SIR,—I am in entire agreement with the opinion expressed in your interesting article on this subject that the proper designation of the procedure is the Drummond-Morison operation, although I differ from you on the grounds assigned for arriving at the conclusion. You say: "It is on priority of publication that a claim to such a right is to be decided, and on these grounds there is no justification whatever for associating any other name with that of Drummond and Morison." If this is to be taken as the criterion, it should be known as the Lens operation. Lens first performed the operation on June 6th, 1891, at the Military Hospital, Paramaribo, Dutch Guiana, on a negro aged 61, named James Charles Anon. There was an alcoholic history, and the diagnosis was "cirrhosis hepatis atrophica." He had well-marked ascites, and suffered much in consequence from dyspnoea. His pulse was weak and frequent, and his general condition was unsatisfactory. An incision was made to the right of the umbilicus, and a fold of the omentum was attached to the edge of the wound with thin silk. It healed by first intention, there was no elevation of temperature, and the patient felt quite well a few days after the operation. The ascites returned, and the patient had to be tapped several times, although the intervals between the tappings increased as the collateral circulation improved. The patient died on November 24th of the same year, apparently of general weakness. At the autopsy it was found that the blood vessels were greatly increased in size, and that the omentum was "thick and rich in blood." The paper is

entitled: Hechting Van Het Omentum Majus aan den Buikwand bij Cirrhosis Hepatis Atrophica" and is dated December 31st, 1901. It is illustrated by two blocks from photographs showing the *post mortem* appearances. It was published in the *Ween. Neder. Tyd v Genes*, May, 1892. The Drummond-Morison paper was published in the BRITISH MEDICAL JOURNAL of September 19th, 1896 so that there can be no question as to priority. I may say that I have seen a copy of the Lens article.

In an article on this subject published in 1902, I said: "The operation is generally known as the 'Drummond-Morison' operation, and there can be no doubt that this description should be retained. Dr. Drummond and Mr. Rutherford Morison were the first to bring the mode of treatment into general use. It is true that Lens had previously performed the operation, and much credit is due to him for his originality, but his paper was published in an obscure medical journal, in a language with which most physicians are not familiar, and he seems to have taken no steps to bring his discovery to the notice of his fellow-workers. The credit of a discovery rests not so much with its originator as with those who take the requisite steps to ensure its adoption." This opinion I still maintain, and whilst agreeing with your conclusion, venture to differ from you on the grounds on which that conclusion is arrived.—I am, etc.,

London, W., Oct. 9th. WILLIAM MURRELL.

THE ALBUMINURIA OF ADOLESCENTS.

SIR,—It is many years since Dr. Clement Dukes first published some of his observations upon albuminuria in public school boys, and it is interesting to learn that he has continued to investigate the subject in a comprehensive manner.

Perhaps, however, the words "albuminuria of adolescents" may imply that intermittent albuminuria is especially characteristic of this period of youthful life. That may be so, but intermittent albuminuria is certainly not very uncommon during early childhood, as may be seen by testing specimens of urine, passed at different times of the day, of children attending the out-patient department of a hospital.

Although swelling of the eyelids occurring in children on rising from bed in the morning does not by any means always indicate the presence of intermittent albuminuria, such swelling will not uncommonly be found associated with albumen in the mid-day urine, and perhaps also in the evening urine, while that passed in the early morning is free from any trace.

The swelling of the eyelids, like the albuminuria, is apparently vasomotor in origin. A vasomotor origin is suggested by such a case as that of a little girl whose eyelids used to swell to the size of halved walnuts about half an hour after she had been given a warm bath. In this case, however, no albuminuria was associated with the swelling.

Both swelling of the eyelids in children and intermittent albuminuria appear to be symptoms of low vasomotor tone, but they may occur independently of one another.

It may be interesting to mention that swelling of the eyelids when associated with intermittent albuminuria need not affect both sides of the face. One side only may be affected. The swelling may not, however, be limited to the face. Swelling lasting a few hours may affect the hands, or one hand and one foot. Such cases of swelling of the extremities seem in some degree to approach in nature cases described as angio-neurotic oedema.—I am, etc.

Clifton, Oct. 7th. THEODORE FISHER.

THE IMPORTANCE OF VAGINAL EXAMINATION EARLY IN PREGNANCY.

SIR,—It would appear from a recent experience of mine that one must never forget the importance of subordinating correct practice to expediency. I was unwise enough to overlook this fundamental rule in following a custom I have adopted during fourteen years, that of making a preliminary examination on being engaged to confine a primipara.

My examination was speedily followed by a call from the husband, who expressed his astonishment at such a proceeding, and cited the opinion of a medical man with an immense experience of obstetrics, who stated that he had never heard of such a custom.

Being desirous of further knowledge on the point, the circumstances were laid before an experienced general practitioner, who stated that any one could have foretold what had happened, and who clearly had no sympathy with young men adopting such hospital methods.

I now learn from your columns that opinion is not quite so unanimous against the custom as these two instances would suggest, and I have the further comfort of knowing that at least one distinguished London specialist disagrees *in toto* with the above expressed opinions.

One of the latest works on obstetrics, in advocating the preliminary examination, says it is "indispensable" and makes the assertion that "to neglect in this respect can be attributed the deaths of untold numbers of women and children" (Whitridge Williams).

It is an undoubted fact that the practitioner who forgets the precept as to expediency will come to grief, as long as the bulk of medical men are content to perform their duties in this respect in the present haphazard manner, but surely there ought to be no such difference of opinion in such a everyday affair as the conduct of midwifery.—I am, etc.,

October 4th. REFORMER.

UNIVERSITIES AND COLLEGES.

UNIVERSITY OF OXFORD.

Regius Professor's Lectures.—Professor Osler will commence his course of instruction introductory to the study of practical medicine on Monday, October 16th.

Hospital Scholarships.—Mr. C. G. Douglas, B.A., Magdalen College, has been elected to a senior scholarship for University students at Guy's Hospital: Mr. M. W. Flack, B.A., Keble College, to a Price (Universities) Scholarship at the London Hospital; and Mr. J. F. Hornsey, B.A., Wadham College, to a Universities Exhibition at Charing Cross Hospital.

UNIVERSITY OF LONDON.

CONVOCATION.

A GENERAL meeting of Convocation was held at the University on October 10th. Ten minutes elapsed before the requisite quorum (50 members) was present.

The Chairman, Sir E. H. BUSK, who presided, stated that the minutes of Convocation would for the future be published in the *University Gazette*.

Incorporation of University College.

In reference to the incorporation of University College in the University, he remarked that the University would henceforth conduct the College by means of a Committee of the Senate; but that the University could not take over the University College Hospital or the boys' school. After some discussion as to the part to be taken by Convocation in representations to the University College Transfer Commissioners, it was moved by Dr. T. L. MEARS, Deputy Chairman, seconded by Dr. S. RUSSELL WELLS, and carried unanimously:

That the communication from the University College Transfer Commissioners be referred to the Standing Committee for consideration and report, and that the Standing Committee have power to confer with the Senate or any Committee thereof.

University Union.

Mr. E. C. WILLIAMS, B.A., moved the following resolution:

That Convocation would welcome the formation of a University Union on the lines of those existing at Oxford and Cambridge, and desires the Standing Committee to consider what steps can be taken towards the inauguration of such a society.

Mr. J. L. S. HATTON, M.A., seconded the resolution, which was carried *nem. con.*

Musical Society.

The Rev. W. J. FOXELL, M.A., B.Mus., moved, Mr. L. F. WINTLE, LL.B., seconded, and it was resolved:

That Convocation welcomes the formation of the Society which it is proposed to call the University of London Musical Society, as tending to increase that corporate spirit amongst members of the University which it has been the aim of Convocation to foster and develop.

The discussion showed that it is the intention of the originators of the Musical Society to arrange the members in two sections, choral and instrumental, which will meet respectively on alternate Tuesdays at 6 p.m. at University College, and also give occasional concerts.

Library.

The CHAIRMAN reported that all the books of the University Library have now been placed upon the shelves, and that the new catalogue is far advanced.

UNIVERSITY OF DURHAM.

At the Convocation holden on Saturday, September 30th, the following degrees were conferred, namely:

M.D.—G. Burton Brown, J. J. French, A. H. Hobbs, J. G. O. H. Lane, A. A. Miller, G. J. Williams.

M.D. for Practitioners of Fifteen Years' Standing.—W. B. Cocklll, J. A. Coleclough, F. Fowler, G. M. Fox, C. R. Handfield-Jones, R. T. Herron, P. W. Kelly, J. Paterson, C. E. Solomon, D. W. Wright.

D. Hy.—T. M. Clayton.

M.S.—J. G. O. H. Lane, J. C. Stewart.

M.B.—F. D. Atkins, G. N. Bigge, H. B. Cunningham, S. J. Fielding, J. G. Gibb, M. Haver, F. R. H. Laverick, C. C. Lavington, W. E. C. Lunn, S. L. McBean, J. C. Norman, R. Rutherford, H. J. Slade, F. R. Snell, T. Visser, J. L. Wilson.

B.S.—F. D. Atkins, G. N. Bigge, H. B. Cunningham, S. J. Fielding, J. G. Gibb, M. Haver, F. R. H. Laverick, C. C. Lavington, W. E. C. Lunn, S. L. McBean, J. C. Norman, R. Rutherford, H. J. Slade, F. R. Snell, T. Visser, J. L. Wilson.

The following received the Diploma in Public Health: T. H. Bishop, H. Curwen.

SOCIETY OF APOTHECARIES OF LONDON.
PRIMARY EXAMINATION, PART I.

THE following candidates have been approved in the subjects indicated:
Biology—G. F. Malden, J. B. Moore.
Chemistry—J. B. Moore, S. W. Turtle.
Materia Medica and Pharmacy—U. J. Bourke, A. C. J. Elwin, E. C. R. Fisher, J. B. Moore, E. A. Mordaunt, N. C. Wallis.
Anatomy—E. H. Crawley, M. Graves, J. G. Morgan, V. P. Norman, H. B. Waller.
Physiology.—W. J. Gibson, J. G. Morgan, G. Packham, H. B. Waller.

MEDICO-LEGAL AND MEDICO-ETHICAL.

FEES FOR EXAMINATION OF BOYS COMMITTED TO REFORMATORY.

A QUESTION of professional fees for examination was before His Honour Judge Lush-Wilson at Exeter County Court on October 9th in an action brought against the Devonshire Standing Joint Committee by Drs. Harris and Soper, medical practitioners of Dartmouth, to recover £2 2s. Dr. Harris, at the request of the Dartmouth magistrates, examined two boys prior to their admission to a reformatory. The fee of one guinea for each boy was objected to by the Committee, who asserted that they had never paid more than 7s. 6d. for an examination, and had paid as little as 3s. 6d. After hearing a good deal of evidence *pro* and *con*, His Honour said he was quite satisfied, speaking as a man of the world, that the value of the services which men of the reputation of the plaintiffs performed for these two boys was certainly not over-rated at one guinea for each case; but His Honour had to apply a different principle to work done under criminal and Poor-law administration to that which was applicable to private patients. He gave a verdict for one guinea.

RIGHT OF A SUBSTITUTE TO RECOVER FEES.

B. H.—There can be no doubt that when a practitioner is summoned to attend a patient who is under the general care of a colleague, he is entitled to be paid for his services, although he may recognize that he is acting as a substitute—that is to say, he may make no claim to continue in attendance or to regard the case as his own; in law he could recover fair charges from the patient. In the present case it will probably be sufficient for our correspondent to make a claim for payment of what he thinks fair, which so far he does not appear to have done; he will, of course, ask for his out-of-pocket expenses in supplying the instrument mentioned.

OBITUARY.

LIEUTENANT-COLONEL EUGENE VALENTINE MACSWINEY, M.D., died at Stechford, near Birmingham, through a fall from a railway train on October 3rd. His commissions were thus dated: Assistant Surgeon, March 31st, 1868; Surgeon, March 18t, 1873; Surgeon-Major, March 18t, 1880. He retired from the service, April 25th, 1888. He was the Medical Officer for the Liverpool Recruiting District.

MAJOR ALEXANDER GIBB GRANT, Indian Medical Service (retired), died at Hove, Sussex, on October 5th. He entered the Bengal Medical Department as Assistant Surgeon, April 1st, 1868, becoming Surgeon-Major, April 1st, 1880. He retired from the service in 1886. He was with the Kandahar Field Force during the Afghan war in 1879-80, receiving the medal granted for that campaign.

HOSPITAL AND DISPENSARY MANAGEMENT.

WEST RIDING ASYLUM, WAKEFIELD.

Senile Dementia.

AT this asylum, as at many others, the increasing tendency to foist on to asylums the care of large numbers of senile dements, on whom the costly appurtenances of these institutions and expert skill are worse than thrown away, has been sorely felt. This tendency, to which we have frequently invited attention, has been the subject of unfavourable comment by the Lunacy Commissioners on more than one occasion, and they have recently attempted to elicit from the medical superintendents of asylums expressions of opinion as to how far these cases could be suitably accommodated in workhouses. The answers of the medical superintendents, however, have in many cases been expressed very guardedly and with considerable reservation. We therefore welcome the outspoken opinion of so well known an authority as Dr. Bevan Lewis, the Medical Superintendent of this asylum, who says in his annual report for 1904:

"A large accumulation of senile, feeble, and harmless cases crowd up our available space, many of whom should, in my opinion, be treated in the ordinary union infirmary, or even placed under the care of friends; the only other alternative would be the construction of a cheap intermediate asylum by the county authority for this class, where without the costly expenditure involved in the buildings, fittings, stafling, and special requirements of a first-class asylum, such simple nursing as these subjects demand could be carried out."

We have said that asylum treatment is worse than thrown away on these cases, for whilst the waste of public money the whole country over must be indeed considerable, the main evil engendered by the overcrowding consequent on this abuse is that it makes impossible that individual attention to acute and curable cases which is essential in the successful practice of psychiatry.

Statistics of the Asylum.

On January 1st, 1904, there were 1,811 patients resident in this asylum, and on December 31st last there remained 1,824. The total cases under treatment during the year numbered 2,316, the average number resident being 1,811. Both the average number resident and those remaining at the end of the year are record numbers for this institution, but are only slight increases on those of the previous year, the increments being 5 and 13 respectively. During the year 505 patients were admitted, of whom 385 were first admissions. In 187 the attack was a first attack within three months of admission, and in 74 above three months, but within twelve months of admission; in 141 the attack was not a first attack, but was within twelve months of admission, and the remainder were either of more than twelve months or of unknown duration, or of congenital origin. In 160 the bodily health and condition were good, in 162 fair, and 183 were in either feeble, very feeble, or exhausted condition. Altogether the admissions do not seem to have been of a favourable character, 41·50 per cent. being the subjects of incurable conditions. They were classified as to the forms of mental disorders into: Mania of all kinds, 181; melancholia of all kinds, 157; dementia of all kinds, 59; general paralysis of the insane, 42; acquired epilepsy, 27; and cases of congenital or infantile defect, 39.

As to the probable causes of insanity amongst the admissions, alcoholic intemperance was assigned in no less than 103, or over 20 per cent., venereal diseases in 18, giving a total from vicious courses of over 24 per cent.; hereditary influences, direct or collateral, were ascertained in 159, and congenital defect in a further 22, giving a total percentage of inherited instability of 37·8; previous attacks were alleged in 145; periodic causes, puberty, old age, and the menopause in 90; parturition, the puerperal state and lactation in 18, other bodily disorders in 111, and "moral" causes in 166. During the year 225 were discharged as recovered, of whom 128 were admitted in 1904. This gives a recovery-rate on admissions, exclusive of transfers, of 44·55 per cent., which is slightly lower than that of last year (48.35), but above the average for this institution (41.60). There were also 70 discharged as relieved, or not improved, and there were 197 deaths. This gives a death-rate on the average numbers resident of 10.88 per cent., which, though lower than that of last year (12.62), is higher than the average for this asylum (9.14), or that of all asylums in England and Wales, namely, 9·95.

The deaths were due to 81 cases to cerebro-spinal diseases, including general paralysis 41; to thoracic diseases in 50, to abdominal diseases in 15, and to general diseases, including tuberculosis of lung (30), tuberculous peritonitis (1), other forms of tuberculous disease (4), and colitis (2) in 51 cases. The total tuberculous deaths were thus 35, or 17·7 per cent. of the total deaths. The causes of death were verified by *post-mortem* examinations in over 90 per cent. of the cases, and a good deal of pathological work was carried on, as is usual, at this asylum. During the year 11 cases were the subjects of a coroner's inquiry, but all were of a character not requiring further note.

The general health appears to have been good, and the institution was, Dr. Lewis states, remarkably free from all epidemic disease. In this connexion, Dr. Lewis discusses the origin of colitis or asylum dysentery, strongly opposing the opinion that this disease is due to defective sanitation, overcrowding, or dietetic errors, and affirming that, apart from the infectiveness of the disease, when once it has originated, its real origin is to be found in atony of the bowel and habitual constipation. Impressed with this view, he has put the matter to test from and including the last two quarters of 1903, with the result that whereas during the last three quarters of 1902 and the first two quarters of 1903 there were 94 cases of colitis with 27 deaths, there have been in the succeeding eight quarters but 21 cases with 3 deaths, and of these, 11 cases and 2 deaths belonged to the first two quarters in which the treatment was employed.

Idiots and Imbeciles.

Dr. Bevan Lewis's report contains also an interesting

account of the work done at the Stanley Hall Idiot and Imbecile Department, in which he utters a forcible protest against the glaring injustice of incarcerating feeble-minded children in asylum wards, and urges the establishment of custodial homes for their separate and special treatment and education. The question is, of course, a very large one, and we must refer inquirers to Dr. Lewis's report for further details.

THE CARDIFF INFIRMARY.

The winding-up meeting of the committee of the Cardiff Charitaria was held at the Infirmary on October 3rd, under the presidency of Mrs. Henry Lewis, Greenmeadow. Mr. J. L. Perry, one of the honorary secretaries, stated that the receipts amounted to £1,283 12s. 7d., and the expenses to £285 16s. 8d., leaving a balance in hand of £1,003 15s. 11d. This he said, with the interest added, would make the total balance available for the Infirmary about £1,010. Mrs Lewis said she was sure every one must be pleased with this most satisfactory result. The statement of accounts was adopted. It was decided to delegate General Lee, the Honorary Treasurer, to deal with the money in the way the Board of Management desired. It was further agreed at the suggestion of General Lee to hand over to the Infirmary £1,000, and keep the small balance for a Charitaria Fund, it being thought possible to make it an annual affair.

INDIA AND THE COLONIES.

VICTORIA.

Thirty Years' Sanitary Progress in Melbourne.

Dr. Jamieson, the Health Officer of the City of Melbourne, has drawn up a brief and interesting survey of the progress made in that city in public health during the last thirty years. He selects as indications of advance or otherwise: (*a*) the general death-rate, (*b*) the mortality from typhoid fever, (*c*) the phthisis death-rate, (*d*) the infant mortality, and (*e*) the cancer death-rate. With the exception of the last named he finds a marked improvement. The death-rate from all causes has declined from 18.4 in 1870-2 to 14.7 in 1900-2, though there was an increased rate of 19.6 in the triennial period—which is frequently taken as a standard—1880-2.

The mortality from typhoid fever was 65 per 100,000 persons in 1870-2, and has now fallen to 16 per 100,000 in 1900-2. This decline Dr. Jamieson considers to have been largely brought about by the extension of the system of deep drainage.

The phthisis deaths per 100,000 were 210 in 1870-2 and 146 in 1900-2, and other tuberculous diseases have declined, though not at the same ratio. The triennial period of chief decline was in 1890-2 and subsequently. The lessened mortality from consumption is attributed to "general measures of improved sanitation, as better drainage and house construction, but, above all, to more general recognition of the benefits to be got from good lighting and ventilation, both in private dwellings and in factories, workshops, and offices."

The infant mortality has fallen from 177.9 per 1,000 births in 1873-5 to 121.5 in 1900-2. In 1904, owing to exceptional conditions, it fell to 92.7 per 1,000 births.

As to cancer, Dr. Jamieson has a different report to make, for in 1870-2 deaths from cancer numbered 301 per 100,000 of the population of 45 years of age and upwards. In 1880-2 the rate was 324, in 1890-2 420, and in 1900-2 509. Allowing for fallacy owing to age-incidence and the proportion of persons of cancerous age living, Dr. Jamieson is of opinion that the increase is so great and so uniform that it is hardly conceivable that it is to be explained by any changes in medical nomenclature or improvement in methods of diagnosis. On the whole, the record shows that in Melbourne preventable diseases have been in fair measure prevented.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

Communications concerning Editorial matters should be addressed to the Editor, 2, Agar [illegible], London; those concerning business matters, advertisements, non-[illegible] should be addressed to the Manager, at the office, 12[illegible]

[illegible] BRITISH MEDICAL JOURNAL [illegible] proof.

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[illegible] look at the Notices to Correspondents [illegible]

[illegible] CIRCUMSTANCES BE RETURNED.

In order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not at his private house.

Telegraphic Address.—The telegraphic address of the EDITOR of the British Medical Journal is *Aitiology, London.* The telegraphic address of the MANAGER of the British Medical Journal is *Articulate, London.*

Telephone (National):— EDITOR, 2631, Gerrard. GENERAL SECRETARY AND MANAGER 2630, Gerrard.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* British Medical Journal *are devoted will be found under their respective headings.*

QUERIES.

A communication on congenital dislocation of the hip joint has been received, but it is unsigned, owing probably to an oversight.

A. G. W. asks whether a chlorodyne habit is usually considered of better or worse prognosis than other forms of narcomania.

A W. asks whether, in the case of injury to a joint followed by arthritis of rheumatic nature, it is possible (in the case of claim for insurance) to draw the line definitely between injury and disease.

J. S. has been consulted by a young lady whose hands are disfigured by white spots under all the nails; he finds that books attribute the appearance to air between the nail cells. He would be grateful for further information on this point, and as to any treatment which could be adopted.

ANSWERS.

Artificial Legs.

T. McC. recommends "A Medical Man" to communicate with Mr. Gillingham, instrument maker, Chard, Somerset. He can fit a most useful limb after amputation at the hip joint.

Mr. Horatio P. Symonds (35, Beaumont Street, Oxford), writes to say that Messrs. Lindsay, 8, Broad Street, Oxford, fifteen years ago made an artificial leg for a case in which he had performed amputation at the hip-joint. The patient walks about without a crutch, and Mr. Symonds is ready to give further information.

Messrs. Allen and Hanburys (48, Wigmore Street, W.) also write to state that they have made artificial legs for amputation at the hip-joint, and will be prepared to supply others.

Mumps.

D P.C.L.H.—(*c*) It is not common for mumps to affect the submaxillary glands alone. Osler in *The Principles and Practice of Medicine*, sixth edition, 1905, says after describing the swelling of the parotid gland "The submaxillary and sublingual glands become swollen, though not always; in a few cases they may be alone attacked." (2 and 3) Neither the nature of the infecting agent, nor the route by which it enters the body is known. (*c*) The *Code of Rules for the Prevention of Infectious and Contagious Diseases in Schools*, issued by the medical officers of Schools Association (London: J. and A. Churchill, 1899, 1s. 6d.) states that a child may be considered free from infection and fit to return to school "in not less than three weeks from the commencement, provided that one clear week has elapsed since the subsidence of al swelling."

LETTERS, NOTES, Etc.

Found.

The Secretary of the medical exhibition held last week in London asks us to state that a note-book containing addresses, etc., belonging to a medical practitioner, was found in a hansom cab, and has been forwarded to Scotland Yard.

Deaths under Ethyl Chloride.

Dr. A. G. Wilkins (Ullswater) writes: It may interest anaesthetists to know that I have collected 17 cases of death occurring during ethyl chloride anaesthesia.

Degenerate Children and Infant Feeding.

Dr. J. Hope Potter (Porlock) writes: The interest taken in infant feeding at the present time must be my excuse for addressing you. New milk, whether boiled, pasteurized, or modified, is quite beyond the means of those parents to whom the great majority of degenerate children belong. Might I urge the claims of skimmed milk and cod-liver oil? The former can be bought for 1d. per quart, and the latter for 6s. per gallon, and therefore come within the means of the poorest. As far as my experience goes, children do quite as well, if not better, than when fed on new milk, owing to the fact that the fat or oil can be more easily regulated than is the case with diluted milk in which fat is nearly always deficient, as parents among the poor will not take the trouble to add cream.

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A page	5 5 0

An average line contains six words.

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Post-Office Orders should be made payable to the British Medical Association at the General Post Office, London. Small amounts may be paid in postage-stamps.

N.B.—It is against the rules of the Post Office to receive letters as *Poste Restante* addressed either in initials or numbers.

An Address
ON
SIR THOMAS BROWNE.

Delivered at the Physical Society, Guy's Hospital, October 12th.

By WILLIAM OSLER, M.D., F.R.S.,
Regius Professor of Medicine, Oxford.

As a boy it was my good fortune to come under the influence of a parish priest of the Gilbert White type, who followed the seasons of Nature no less ardently than those of the Church, and whose excursions into science had brought him into contact with physic and physicians. Father Johnson, as his friends loved to call him, founder and Warden of the Trinity College School near Toronto, illustrated that angelical conjunction (to use Cotton Mather's words) of medicine and divinity more common in the sixteenth and seventeenth centuries than in the nineteenth. An earnest student of Sir Thomas Browne, particularly of the *Religio Medici*, he often read to us extracts in illustration of the beauty of the English language, or he would entertain us with some of the author's quaint conceits, such as the man without a navel (Adam), or that woman was the rib and crooked piece of man. The copy which I hold in my hand (J. T. Fields's edition of 1862), my companion ever since my schooldays, is the most precious book in my library. I mention these circumstances in extenuation of an enthusiasm which has enabled me to make this almost complete collection of the editions of his works I show you this evening, knowing full well the compassionate feeling with which the bibliomaniac is regarded by his saner colleagues.

I.—The Man.

The Little Thomas was happy in his entrance upon the stage, October 19th, 1605. Among multiplied acknowledgements, he could lift up one hand to Heaven (as he says) that he was born of honest parents, "that modesty, humility, patience, and veracity lay in the same egg, and came into the world" with him. Of his father, a London merchant, but little is known. There is at Devonshire House a family picture which shows him to have been a man of fine presence, looking not unworthy of the future philosopher, a child of 3 or 4 years, seated on his mother's knee. She married a second time, Sir Thomas Dutton, a man of wealth and position, who gave his stepson every advantage of education and travel. We lack accurate information of the early years—of the school days at Winchester, of his life at Broadgate Hall, now Pembroke College, Oxford, and of the influences which induced him to study medicine. Possibly he got his inspiration from the Regius Professor of Medicine, the elder Clayton, the Master of Broadgate Hall and afterwards of Pembroke College. That he was a distinguished undergraduate is shown in his selection at the end of the first year in residence to deliver an oration at the opening of Pembroke College. Possibly between the years 1626, when he took the B.A., and 1629, when he commenced M.A., he may have been engaged in the study of medicine; but Mr. Charles Williams, of Norwich, who is perhaps more familiar than any one living with the history of our author, does not think it likely that he began until he went abroad. In these years he could at least have "entered upon the physic line" and could have proceeded to the M.B. He was too early to participate in the revival of science in Oxford, but even after that had occurred Sydenham flung the cruel reproach at his Alma Mater that he would as soon send a man to her to learn shoemaking as practical physic. It was possible, of course, to pick up a little knowledge of medicine from the local practitioners and from the Physic Garden, together with the lectures of the Regius Professor, who, as far as we know, had not at any rate the awkward failing of his more distinguished son, who could not look upon blood without fainting, and in consequence had to hand over his anatomy lectures to a deputy.

Clayton's studies and work would naturally be of a somewhat mixed character, and at that period even many of those whose chief business was theology were interested in natural philosophy, of which medicine formed an important part. Burton refers to an address delivered about this time by Clayton dealing with the mutual relations of mind and body. The *Anatomy of Melancholy*, which appeared in 1621, must have proved a stimulating *bonne bouche* for the Oxford men of the day, and I like to think of the eagerness with which so ardent a student as Browne of Pembroke would have pounced on the second and enlarged edition which appeared in 1624. He may, indeed, have been a friend of Burton, or he may have formed one of a group of undergraduates to watch Democritus Junior leaning over the bridge and laughing at the bargees as they swore at each other. It is stated, I know not with what authority, that Browne practised in Oxford for a time.

After a visit to Ireland with his stepfather he took the grand tour—France, Italy, and Holland—spending two years in study. Of his Continental trip our knowledge is very meagre. He went to Montpellier, still famous, but failing, where he probably listened to the teaching of Riviere whose "Praxis" was for years the leading textbook in Europe—thence to Padua, where he must have heard the celebrated Sanctorius of the Medicina Statica—then on to Leyden, just rising into prominence, where it is said he took his doctor's degree in 1633. Of this, however, there is no certainty. A few years ago I looked through the register of that famous University, but failed to find his name. At the end of two years' travel he may have had cobwebs in his pocket, and the Leyden degree was expensive, as that quaint old contemporary of Browne, the Rev. John Ward of Stratford-on-Avon, tells us (Diary) "Mr. Burnet had a letter out of the Low Counties of the charge of a doctor's degree, which is at Leyden about £16, besides feasting the professors; at Angers in France, not above £9 and feasting not necessary neither." No doubt he got of the best that there was in the teaching of the day, but from the *Religio* one learns that the young Englishman got an extraordinary breadth of culture, and a charity not always granted to travellers in his day. Beneath the shell of nationalism he got into the heart of the people among whom he lived, feeling at home everywhere and in any clime. For a Protestant he got a rare charity expressed so beautifully in the lines: "I can dispense with my hat at the sight of a cross, but scarce with the thought of my Saviour."

He must have made good use of his exceptional opportunities as he was able to boast, in a humble way it is true, that he understood six languages.

In 1634 he settled at Shibden Hall, near Halifax, and here before his thirtieth year, he wrote the *Religio Medici*, the book by which to-day his memory is kept green among us. In his travels he had doubtless made many observations on men and in his reading had culled many useful memoranda. He makes it quite clear—and is anxious to do so—that the book was written while he was very young. He says: "My life is a miracle of thirty years." "I have not seen one revolution of Saturn." "My pulse hath not beat thirty years." Indeed, he seems to have been of Plato's opinion that the pace of life slackens after this date, and there is a note of sadness in his comment, that while the radical humour may contain sufficient oil for seventy, "in some it gives no light past thirty," and he adds that those dying at this age should not complain of immaturity. In the quiet Yorkshire valley, with leisurable hours for his private exercise and satisfaction, the manuscript was completed and "communicated to one it became common to many," and at last in 1642, seven years after its completion, reached the press in a depraved form. In 1637, at the solicitation of friends he moved to Norwich, with which city, so far as we know, he had not had previous affiliation. At that date the East Anglian capital had not become famous in the annals of medicine. True, she had given Caius to the profession, but he had only practised there for a short time and does not seem to have had any special influence on her destinies. Sir Thomas Browne may be said to be the first of the long list of worthies who have in the past two and a-half centuries made Norwich famous among the provincial towns of the kingdom. Here for forty five years he lived the quiet, uneventful life of a student practitioner, absorbed, like a sensible man, in his family, his friends, his studies and his patients. It is a life of singular happiness to contemplate. In 1641 he married Dorothy Mileham, "a lady of such a symmetrical proportion to her worthy husband—that they seemed to come together by a kind of natural magnetism." In the *Religio* he had said some hard things of the gentle goddess and had expressed himself very strongly against Nature's method for the

propagation of the race. He believed, with Milton, that the world should have been populated "without feminine," and in almost identical words they wish that some way less trivial and vulgar had been found to generate mankind. Dame Dorothy proved a good wife, a fruitful branch, bearing ten children. We have a pleasant picture of her in her letters to her boys and to her daughter-in-law in an orthography suggestive of Pitman's phonetics. She seems to have had in full measure the simple piety and the tender affection mentioned on her monument in St. Peter's Church. The domestic correspondence (Wilkin's edition of the *Works*) gives interesting glimpses of the family life, the lights and shadows of a cultured English home. The two boys were all that their father could have wished. Edward, the elder, had a distinguished career, following his father's footsteps in the profession and reaching the dignity of the Presidency of the Royal College of Physicians. Inheriting his father's tastes, as the letters between them show, his wide interests in natural history and archaeology are shown in his well-known book *Travels*, a copy of which I here show you, and it may interest some of you to see this copy of the *Hydriotaphia* with his autograph. His son, the "Tommy" of the letters, the delight of his grandfather, also became a physician, and practised with his father. He died in 1710 under rather unfortunate circumstances, and with him the male line of Sir Thomas ended. Of the younger son we have, in the letters, a charming picture—a brave sailor-lad with many of his father's tastes, who served with great distinction in the Dutch wars, in which he met (it is supposed) a sailor's death. The eldest daughter married Henry Fairfax, and through their daughter, who married the Earl of Buchan, there are to-day among the Buchans and Erskines the only existing representatives of Sir Thomas.

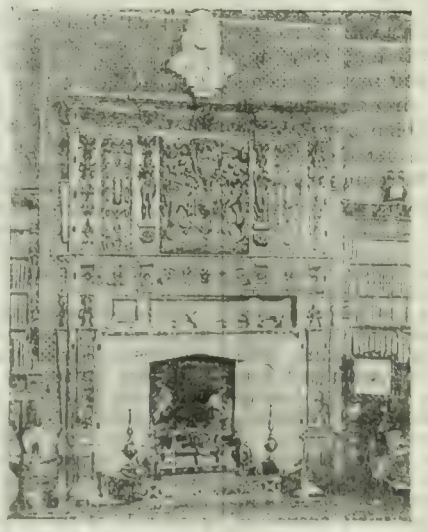


Fig. 1.—Mantelpiece of Sir Thomas Browne's house.

The waves and storms of the Civil War scarcely reached the quiet Norwich home. He was a staunch Royalist, and his name occurs among the citizens who in 1643 refused to contribute to a fund for the recapture of the town of Newcastle. It is astonishing how few references occur in his writings to the national troubles, which must have tried his heart sorely. Only in the preface to the *Religio* does he give vent to his feelings, lamenting not only the universal tyranny of the Press, but the defamation of the name of His Majesty, the depravation of Parliament, and the writings of both "depravedly, anticipatively, counterfeitedly imprinted." In one of the letters he speaks of the execution of Charles I as "horrid murther," and in another he calls Cromwell a usurper. In civil wars physicians of all men suffer least, as the services of able men are needed by both parties, and time and again it has happened that an even-balanced soul, such as our author, has passed quietly through terrible trials, doing the day's work with closed lips. Corresponding with the most active decades of his life, in which his three important works were issued, one might have expected to find in them reference to the Civil War, or, at least, echoes of the great change wrought by the Commonwealth, but, like Fox, in whose writings the same silence has been noticed, whatever may have been his feelings he preserved a discreet silence. His own rule of life, no doubt, is expressed in the advice to his son: "Times look troublesome, but you have an honest and peaceable profession which may employ you, and discretion to guide your words and actions."

Busy with his professional work, interested in natural history, in archaeology, and in literature, with a wide circle of scientific friends and correspondents, the glimpses of his life, which we have from the letters, are singularly attractive. He adopted an admirable plan in the education of his children, sending them abroad, and urging them to form early habits of independence. His younger boy, Thomas, he sent at the age of 14 to France, alone, and he remarks in one of his letters to him: "He that hath learnt not in France travelleth in vain." Everywhere in the correspondence with his children there is evidence of good, practical sense. He tells one of the boys to "cast off *pudor rusticus*, and to have a handsome garb of his body." Even the daughters were taken to France. Through the kindness of Mr. Williams I am able to show you a picture of his house, which, unfortunately, was torn down some years ago, but the handsome mantelpiece has been preserved (Fig. 1).

An interesting contemporary account has been left by Evelyn, who paid a visit to Sir Thomas in 1673. He says: ". . . . the whole house being a paradise and a cabinet of rarities, and that of the best collections, especially medails, books, plants, and natural things. Amongst other curiosities Sir Thomas had a collection of the eggs of all the foule and birds he could procure, that country, especially the promintory of Norfolck, being frequented, as he said, by several kinds which seldom or never go further into the land, as cranes, storkes, eagles, and a variety of other foule."

After Dr. Edward Browne was established in London the letters show the keen interest Sir Thomas took in the scientific work of the day. Writing of his son's lecture on anatomy at the Chirurgical Hall, he warns him that he would have more spectators than auditors, and after that first day, as the lecture was in Latin, "very many will not be earnest to come here-after." He evidently takes the greatest interest in his son's progress, and constantly gives him suggestions with reference to new points that are coming up in the literature. Here and there are references to important medical cases, and comments upon modes of treatment. It is interesting to note the prevalence of agues, even of the severe haemorrhagic types, and his use of Peruvian bark. In one of the letters a remarkable case of pneumothorax is described: "A young woman who had a julking and fluctuation in her chest so that it might be heard by standers-by." Evidently he had a large and extensive practice in the Eastern Counties, and there are numerous references to the local physicians. There is a poem extolling his skill in the despaired-of case of Mrs E. S., three or four of the lines of which are worth quoting:

> He came, saw, cur'd: Could Caesar's self do more;
> Galen, Hyppocrates, London's four-score
> Of famous College . . . had these heard him read
> His lecture on this Skeliton, half dead;
> And seen his modest eye search every part,
> Judging, not seeing.

The correspondence with his son is kept up to the time of his death. Only part of the letters appears in Wilkin's *Life*, and there are many extant worthy of publication.

In 1671 he was knighted by Charles II. In 1674 he was made an honorary Fellow of the Royal College of Physicians, with which, through his son, he had close affiliations. His name does not appear in the roll of the Royal Society, with the spirits and objects of which he must have had the warmest sympathy. He was in correspondence with many of the leading men of the day—Evelyn, Grew, Elias Ashmole, Dugdale, Paston, Aubrey, and others. The letters deal with a remarkable variety of subjects—natural history, botany, chemistry, magic and archaeology, etc. The *Pseudodoxia Epidemica* (1646) extended his reputation among all classes and helped to bring him into close relationship with the virtuosi of the period. There is in the Bodleian a delightful letter from Mr. Henry Bates, a wit of the court, a few extracts from which will give you an idea of the extravagant admiration excited by his writings: "Sir,—Amongst those great and due acknowledgements this horizon owes you for imparting your sublime solid phansie to them in that incomparable piece of invention and judgment, R. M. gives mee leave, sir, here at last to tender my share, which I wish I could make proportionable to the value I deservedly sett upon it, for truly, sir, ever since I had the happiness to know your religion I have religiously honoured you; hug'd your Minerva in my bosome, and voted it my *vade mecum*." . . . "I am of that opinion still, that next the *Legenda Dei* it is the master piece of Christendome; and though I have met sometimes with some *omnes sic ego vero non sic* men prejudicating pates, who boggled at shadowes in't, and carpt at atoms, and have so strappadoed me into impatience with their senseless censures, yet this still satisfied my zeal toward it, when I found *non intellygunt* was the nurse of

theire *vituperant*, and they onely stumbled for want of a lanthorne.

While interested actively in medicine, he does not seem to have been on intimate terms with his great contemporaries—Harvey, Sydenham, or Glisson—though he mentions them, and always with respect. He was a prudent, prosperous man, generous to his children and to his friends. He subscribed liberally to the rebuilding of the Library of Trinity College, Cambridge, and to the repairs at Christ Church, Oxford. A life placid, uneventful, and easy, without stress or strain, happy in his friends, his family, and his work, he expressed in it that harmony of the inner and of the outer man which it is the aim of all true philosophy to attain, and which he inculcated so nobly and in such noble words in the *Religio Medici* and in the *Christian Morals*.

A description of him given by his friend, the Rev. John Whitefoot, is worth quoting: "He was never seen to be transported with mirth or dejected with sadness; always cheerful but rarely merry, at any sensible rate; seldom heard to break a jest, and when he did he would be apt to blush at the levity of it. His gravity was natural, without affectation."

The end came unexpectedly in his 77th year, after a sharp attack of colic, on his birthday, October 5th, 1682—a curious coincidence of which he speaks in the *Letter to a Friend*: "But in persons who outlive many years, and when there are no less than 365 days to determine their lives every year—that the first day should make the last, that the tail of the snake should return into its mouth precisely at that time, and they should wind up upon the day of their nativity—is, indeed, a remarkable coincidence, which, though astrology hath taken witty pains to solve, yet hath it been very wary in making predictions of it."



Fig. 2.—Frontispiece of surreptitious edition.

There are three good portraits of Sir Thomas—one in the College of Physicians, London, which is the best known and has been often reproduced, and is the frontispiece of Greenhill's edition; a second is in the Bodleian, and has frequently been reproduced; the third is in the vestry of St. Peter's Mancroft, Norwich.* Through the kindness of Mr. Charles Williams, I am able to show you this beautiful photograph of it. In many ways it is the most pleasing of the three, and he looks in it a younger man, closer to the days of the *Religio*. There is a fourth picture, the frontispiece to the fifth edition the *Pseudodoxia*, but it is so unlike the others that I doubt very much if it could have been Sir Thomas. If it was, he must have suffered from the artist, as did Milton, whose picture in the frontispiece to the *Poems*, 1645, is a base caricature, but Browne has not had the satisfaction of Milton's joke and happy revenge.

II.—The Book.

As a book the *Religio Medici* has had an interesting history. Written at "leisurable hours and for his private exercise and satisfaction," it circulated in manuscript among friends, "and was by transcription successively corrupted, until it arrived in a most depraved copy at the press." Two surreptitious editions were issued by Andrew Crooke in 1642 (Fig. 2), both in small octavo, with an engraved frontispiece by Marshall representing a man falling from a rock (the earth) into the sea of eternity, but caught by a hand issuing from the clouds, under which is the legend "A Coelo Salus." Johnson suggests that the author may not have been ignorant of Crooke's design, but was very willing to let a tentative edition be issued—"a stratagem by which an author panting for fame, and yet afraid of seeming to challenge it, may at once gratify his vanity and preserve the appearance of modesty."

There are at least five manuscripts of the *Religio* in existence, all presenting minor differences, which bear out the author's contention that by transcription they had become depraved. Had he been party to an innocent fraud he would scarcely have allowed Crooke to issue within a year a second imperfect edition—not simply a second impression, as the two differ in the size and number of the pages, and present also minor differences in the text. The authorized edition appeared in the following year by the same publisher and with the same frontispiece, with the following words at the foot of the plate: "A true and full copy of that which was most imperfectly and surreptitiously printed before under the name of *Religio Medici*" (Fig. 3). It was issued anonymously, with a preface, signed "A. B.": "To such as have or shall peruse the observations upon a former corrupt copy of this Booke." A curious incident here links together two men, types of the intellectual movement of their generation—both students, both mystics—the one a quiet observer of nature, an antiquary and a physician: the other a restless spirit, a bold buccaneer, a politician, a philosopher, and an amateur physician. Sir Kenelm Digby, committed to Winchester House by the Parliamentarians had heard favourably from the Earl of Dorset of the *Religio Medici*. Though late in the day, "the magnetic motion, as he says, was impatience to have the booke in his hands," so he sent at once to St. Paul's churchyard for it. He was in bed when it came. "This good natur'd creature I could easily perswade to be my bedfellow and to wake me as long as I had any edge to entertain myselfe with the delights I sucked in from so noble a conversation. And truly I closed not my eyes till I had enricht myselfe with (or at least exactly surveyed) all the treasures that are lapt up in the folds of those new sheets." Sir Kenelm holds the record for reading in bed; not only did he read the *Religio* through, but he wrote "Observations" upon it the same night in the form of a letter to his friend, which extends to three-fourths of the size of the *Religio* itself. As Johnson remarks, he "returned his judgement of it not in the form of a letter but of a book." He dates it at the end "the 22nd. (I think I may say the 23rd, for I am sure it is morning and I think it is day) of December, 1642." Johnson says that its principal claim to admiration is that it was written within twenty-four hours, of which part was spent in procuring Browne's book and part in reading it. Sir Kenelm was a remarkable man, but in connexion with his statements it may be well to remember the reputation he had among his contemporaries, Stubbes calling him "the Pliny of our age for lying." However this may be, his criticisms of the work are exceedingly interesting and often just. This little booklet of Sir Kenelm has floated down the stream of literature, reappearing at intervals attached to editions of the *Religio*, while his weightier tomes are deep in the ooze at the bottom.



Fig. 3.—Frontispiece of authorized edition.

The *Religio Medici* became popular with remarkable rapidity. As Johnson remarks, "It excited attention by the novelty of paradoxes, the dignity of sentiment, the quick succession of images, the multitude of abstrusive allusions, subtility of disquisition, and the strength of language." A Cambridge student—Merryweather—travelling in Europe, translated it into Latin, and it was published in 1644 by Hackius at Leyden in a very neat volume. A second impression appeared in the same year, and also a Paris edition—a reprint of the Leyden. The Continental scholars were a good deal puzzled and not altogether certain of the orthodoxy of the work. Merryweather, in a very interesting letter (1649) says that he had some difficulty in getting a printer at Leyden. Salmasius, to whom Haye, a book merchant, took it for approbation, said "that there was in it many things well said, but that it contained also many

* A copy of this portrait was published as a special plate in the British Medical Journal of October 14th, 1905.

exorbitant conceptions in religion and would probably find much frowning entertainment, especially amongst the ministers." Two other printers also refused it. The most interesting Continental criticism is by that distinguished member of our profession, Guy Patin, professor in the Paris Faculty of Medicine. In a letter to Charles Spon of Lyons, dated Paris, October 21st, 1644, he mentions having received a little book called the *Religio Medici*, written by an Englishman, "a very mystical book containing strange and ravishing thoughts" In a letter, dated 1645, he says the book is in high credit here; the author has wit, and there are abundance of fine things in the book. He is a humorist whose thoughts are very agreeable, but who, in my opinion, is to seek for a master in religion may in the end perhaps find none. Patin thought the author in a parlous state, and as he was still alive he might grow worse as well as better. Evidently the work became a favourite one with Patin, as in letters of 1650-1653-1657 he refers to it again in different editions. It is remarkable that he nowhere mentions the author by name, but subsequently when Edward Browne was a student in Paris Patin sends kindly greetings to his father.

Much discussion occurred on the Continent as to the orthodoxy of the *Religio*. It is no slight compliment to the author that he should have been by one claimed as a Catholic, by another denounced as an Atheist, while a member of the Society of Friends saw in him a likely convert. The book was placed on the *Index*. In England, with the exception of Digby's *Observations*, there were no adverse criticisms of any note. Alexander Ross, that interesting old Southampton schoolmaster, who seems always to have been ready for an intellectual tilt, wrote a criticism entitled *Medicus Medicatus, or the Physician's Religion cured by a Lenitive or Gentle Potion.*

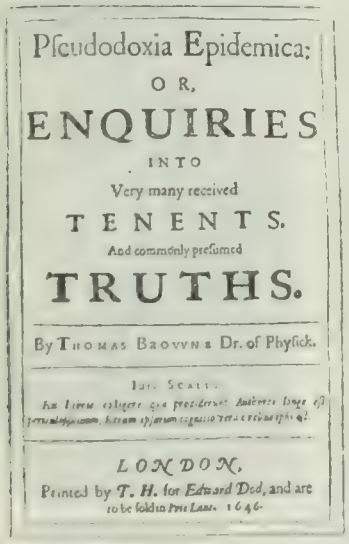

Pſeudodoxia Epidemica:
OR,
ENQUIRIES
INTO
Very many received
TENENTS.
And commonly preſumed
TRUTHS.
By THOMAS BROWNE Dr. of Phyſick.
LONDON,
Printed by T. H. for Edward Dod, and are to be ſold at the Lamb. 1646.

Fig. 4.—Title-page of the *Pseudodoxia.*

In England there were two reprints in 1645, and it appeared again in the years 1656, 1659, 1669, 1672, and in 1682, the year of Browne's death. As you may see in these examples, all have the same frontispiece and are, with slight variations, reprints of the 1643 edition. The work also began to be reprinted with the *Pseudodoxia Epidemica* (third edition, 1659). The Latin editions followed each other rapidly. As I mentioned, it first appeared at Leyden in 1644, and was reprinted the same year there and in Paris; then in 1650 in Leyden again, in 1652 in Strassburg, and in the same place in 1665 and 1667. The most important of these editions was that of Strassburg, 1652, with elaborate notes by Moltkius, of which Guy Patin speaks as "miserable examples of pedantry," and indeed stigmatizes the commentator as a fool. The Dutch translation appeared in 1655 and a French in 1668, so that altogether during the author's lifetime there were at least twenty editions of the work.

In the seventeenth century there were in all twenty-two editions. In the eighteenth century there were four English editions, one Latin, and one German. Then a long interval of seventy-seven years elapsed, until in 1831 Thomas Chapman, a young Exeter College man, edited this neat little volume a very precious book, as it is full of marginal notes by S. T. Coleridge, who was one of the earliest and most critical among the students of Sir Thomas. In the same year the first American edition was published, edited by the Rev. Alexander Young, of Boston. In 1838 appeared an excellent edition by J. A. St. John, "traveller, linguist, author, and editor," and in 1844 Longman's edition by John Peace, the librarian of the City Library, Bristol. This edition was republished in America by the house of Lea and Blanchard,[2] Philadelphia, the only occasion, I believe, on which the *Religio* has been issued by a firm of medical publishers. In 1845 appeared Pickering's beautiful edition, edited, with many original notes, by the Rev. Henry Gardiner, in many ways the most choice of nineteenth-century issues. In 1862 James Ticknor Fields, the well-known Boston scholar and publisher, brought out a very handsome edition, of which, for the first time in the history of the book, an *edition de luxe* appeared in this large paper copy. In 1869 appeared Sampson Low and Co.'s edition by Willis Bund; and in 1878 Rivington's edition edited by W. P. Smith. Then in 1881 appeared what must always remain the standard edition edited by Dr. Greenhill for the Golden Treasury Series, and reprinted successively by Macmillan and Co. To his task Dr. Greenhill brought not only a genuine love of Sir Thomas Browne, but the accuracy of an earnest, painstaking scholar. Since that date a dozen or more editions have appeared, of which I may mention the excellent one by Dr. Lloyd Roberts, of Manchester. I may finish this dry summary by asking you to contrast this little parchment-covered surreptitious edition of 1642 with the sumptuous folio of the Vale Press. In all, including those which have appeared with the collected works, there have been about fifty-five editions. Browne states that the work had also been translated into High Dutch and into Italian, but I can find no record of these editions, nor of a German translation, 1680, mentioned by Watt.

Time will allow only a brief reference to his other writings. *Pseudodoxia Epidemica; or, Inquiries into very many received Tenets and commonly-presumed Truths,* appeared in 1646 in this small folio (Fig. 4). In extent this is by far the most pretentious of Browne's works. It forms an extraordinary collection of old wives' fables and popular beliefs in every department of human knowledge, dealt with from the standpoint of the science of that day. In a way it is a strong protest against general credulity and inexactness of statement, and a plea for greater accuracy in the observation of facts and in the recording of them. Walter Pater has drawn attention to the striking resemblance between Browne's chapter on the Sources of Error and Bacon's doctrine of the Idola—shams which men fall down and worship. He discusses cleverly the use of doubts; but, as Pater remarks, "Browne was himself a rather lively example of entertainments of the Idols of the Cave—Idola Specus—and, like Boyle, Digby, and others, he could not quite free himself from the shackles of alchemy and a hankering for the philosopher's stones." The work was very popular, and extended the reputation of the author very widely. Indeed in 1646 Browne was not known at large as the author of the *Religio*, as his name had not appeared on the title-page of any edition issued at that date. It was reprinted in these editions which I show you, and it appeared in French both in France and in Holland.

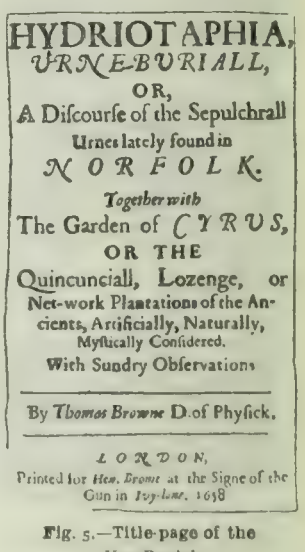

HYDRIOTAPHIA,
URNE-BURIALL,
OR,
A Diſcourſe of the Sepulchrall
Urnes lately found in
NORFOLK.
Together with
The Garden of CYRUS,
OR THE
Quincunciall, Lozenge, or
Net-work Plantations of the Ancients, Artificially, Naturally, Myſtically Conſidered.
With Sundry Obſervations
By Thomas Browne D. of Phyſick.
LONDON,
Printed for Hen. Brome at the Signe of the Gun in Ivy-Lane. 1658

Fig. 5.—Title-page of the *Urn-Burial.*

Equalling in popularity among certain people the *Religio*, certainly next to it in importance, is the remarkable essay known as *Hydriotaphia—Urne-Buriall: or, A Discourse of the Sepulchrale Urnes lately found in Norfolk* (1658). Printed with it is *The Garden of Cyrus*, a learned discourse on gardens of all forms in all ages. Naturally when an unusual number of funeral urns were found at Walsingham they were brought to the notice of Browne, the leading antiquary of the county. Instead of writing a learned disquisition upon their date—he thought them Roman, they were in reality Saxon—with accurate measurements and a catalogue of the bones, he touches upon the whole incident very lightly, but, using it as a text, breaks out into a noble and inspiring prose poem, a meditation upon mortality and the last sad rites of all nations in all times, with learned comments on modes of sepulchre, illustrated with much antiquarian and historical lore. Running through the work is an appropriate note of melancholy at the sad fate which awaits the great majority of us, upon whom the iniquity of oblivion must blindly scatter

her poppy. "The greater part must be content to be as though they had not been, to be found in the register of God, not in the record of man."

Nowhere in his writings does the prose flow with a more majestic roll. Take, for example, this one thought: "If the nearness of our last necessity brought a nearer conformity unto it, there were a happiness in hoary hairs and no calamity in half senses. But the long habit of living indisposeth us for dying, when avarice makes us the sport of death, when even David grew politically cruel, and Solomon could hardly be said to be the wisest of men. But many are too early old and before the days of age. Adversity stretcheth our days, misery makes Alcemena's nights, and time hath no wings unto it."

Closely connected in sentiment with the *Urn-Burial* is this thin folio pamphlet—the rarest of all Browne's works, printed posthumously in 1698—*A Letter to a Friend on the Occasion of the Death of his Intimate Friend* (Fig. 6). It is a splendid dissertation on death and modes of dying, and is a unique study of the slow progress to the grave of a consumptive. It is written in his most picturesque and characteristic vein, with such a charm of diction that some critics have given it the place of honour among his works. Pater, in most enthusiastic terms, speaks of it with the *Urn-Burial* as "the best justification of Browne's literary reputation."

The tender sympathy with the poor relics of humanity which Browne expresses so beautifully in these two meditations has not been meted to his own. "Who knows the fate of his bones or how often he is to be buried?" he asks. In 1840, while workmen were repairing the chancel of St. Peter Mancroft, the coffin of Sir Thomas was accidentally opened, and one of the workmen took the skull, which afterwards came into the possession of Dr. Edward Lubbock, who deposited it in the Museum of the Norfolk and Norwich Infirmary. When I first saw it there in 1872 there was on it a printed slip with these lines from the *Hydriotaphia*: "To be knaved out of our graves, to have our skulls made drinking bowls, and our bones turned into pipes, to delight and sport our enemies, are tragical abominations escaped in burning burials." The skull has been carefully described by Mr. Charles Williams, to whom I am indebted for these photographs which I here show you.

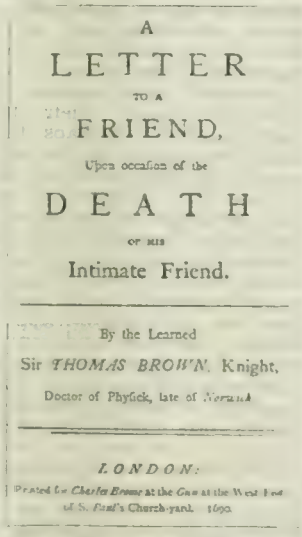

A
LETTER
TO A
FRIEND,
Upon occasion of the
DEATH
OF HIS
Intimate Friend.
By the Learned
Sir THOMAS BROWN, Knight,
Doctor of Physick, late of Norwich
LONDON:
Printed for Charles Brome at the Gun at the West End of S. Paul's Church-yard. 1690.

Fig. 6.—Title-page of A Letter to a Friend.

In addition to the "Letter to a Friend," there are three posthumous works, *Certain Miscellany Tracts* (1684), edited by Archbishop Tenison, and *Posthumous Works*, 1712, containing chiefly papers of antiquarian interest. In the same year, 1712, appeared the *Christian Morals* edited by Archdeacon Jeffrey of Norwich, from a manuscript found among Browne's papers. Probably a work of his later life, it forms a series of ethical fragments in a rich and stately prose which, in places, presents a striking parallelism to passages in the Hebrew poetry. The work is usually printed with the *Religio*, to which in reality it forms a supplement.

Of the collected editions of Browne's works, this, a fine folio, appeared in 1686. In 1836, Simon Wilkin, himself a Norwich man, edited the works with the devotion of an ardent lover of his old townsman, and with the critical accuracy of a scholar. All students of Sir Thomas remain under a lasting debt to Mr. Wilkin, and it is pleasant to know, through the kindness of his daughter-in-law, Mrs. Wilkin, of Sidmouth, a Sir Thomas Browne Library has been founded in connexion with the Norwich Museum, in which Mr. Simon Wilkin's collections have been placed. A three-volume edition of the works is in course of publication by Grant Richards, 1904-5.

III.—Comments.

In this country from Johnson to Walter Pater critics have put on record their estmate of Browne and of his place in literature, and among whom for keenness of appreciation Pater takes the first rank. Lamb and Coleridge dearly loved the old Norwich physician, in whom they found a kindred spirit. In America the New England writers, Ticknor Fields, Holmes, and Lowell were ardent students of his works. Lowell in particular is fond of apt quotations from him, and in one place speaks of him as "our most imaginative mind since Shakespeare." But no one has put so briefly and so clearly the strong characters of our author as the French critic, Taine: "Let us conceive a kindred spirit to Shakespeare's, a scholar and an observer instead of an actor and a poet, who in place of creating is occupied in comprehending, but who, like Shakespeare, applies himself to living things, penetrates their internal structure, puts himself in communication with their actual laws, imprints in himself fervently and scrupulously the smallest details of their figure; who at the same time extends his penetrating surmises beyond the region of observation, discerns behind visible phenomena a world obscure yet sublime, and trembles with a kind of veneration before the vast, indistinct, but populous abyss on whose surface our little universe hangs quivering. Such a one is Sir Thomas Browne, a naturalist, a philosopher, a scholar, a physician, and a moralist, almost the last of the generation which produced Jeremy Taylor and Shakespeare. No thinker bears stronger witness to the wandering and inventive curiousity of the age. No writer has better displayed the brilliant and sombre imagination of the North. No one has spoken with a more eloquent emotion of death, the vast night of forgetfulness, of the all devouring pit of human vanity which tries to create an immortality out of ephemeral glory or sculptured stones. No one has revealed in more glowing and original expressions the poetic sap which flows through all the minds of the age."

The growing popularity of Browne's writings testifies to the assured position he holds, if not in the hearts of the many, at least in the hearts of that saving remnant which in each generation hands on the best traditions of our literature. We, as members of his profession, may take a special pride in him. Among physicians, or teachers of physic, there is, perhaps, but one name in the very first rank. Rabelais stands apart with the kings and queens of literature. Among the princes of the blood there are differences of opinion as to their rank, but Sir Thomas Browne, Holmes, and John Brown of Edinburgh, form a group together high in the circle. Of the three, two were general practitioners; Oliver Wendell Holmes only in the early part of his life, and for forty years a teacher of anatomy; but all three have far closer ties with us than Goldsmith, Smollett, or Keats, whose medical affiliations were titular rather than practical.

Burton, Browne, and Fuller have much in common—a rare quaintness, a love of odd conceits, and the faculty of apt illustrations drawn from out-of-the-way sources. Like Montaigne—Burton even more—Browne's bookishness is of a delightful kind, and yet, as he maintains, his best matter is not picked from the leaves of any author, but bred among the "weeds and tares" of his own brain. In his style there is a lack of what the moderns call technique, but how pleasant it is to follow his thoughts, rippling like a burn, not the stilled formality of the technical artist in words, the cadencies of whose precise and mechanical expressions pall on the ear.

As has been remarked, the *Religio Medici* is a *tour de force*, an attempt to combine daring scepticism with humble faith in the Christian religion. Sir Thomas confesses himself to be "naturally inclined to that which misguided zeal terms superstition." He "cannot hear the Ave Maria bell without an elevation." He has no prejudices in religion, but subscribes himself a loyal son of the Church of England. In clear language he says, "In brief, where the Scripture is silent the Church is my text; where that speaks it is but my comment. When there is a joint silence of both, I borrow not the rules of my religion from Rome or Geneva, but from the dictates of my own reason." He is hard on the controversialist in religion, "every man is not a proper champion for truth, nor fit to take up the gauntlet in the cause of verity," etc. While he disclaims any "taint or tincture" of heresy, he confesses to a number of heretical hopes, such as the ultimate salvation of the race, and prayers for the dead. He freely criticizes certain seeming absurdities in the Bible narrative. His travels have made him cosmopolitan and free from all national prejudices. "I feel not in myself those common antipathies that I can discover in others, those national repugnancies do not touch me, nor do I behold with prejudice the French, Italian, Spaniard, or Dutch; but where I find their actions in balance with my countrymen's, I honour, love, and embrace them in the same degree. I was born in the eighth climate, but seem for to be framed and constellated unto all. I am no plant that will not prosper out of a garden; all places, all airs, make unto me one

country; I am in England, everywhere, and under any meridian." Only the "fool multitude" that chooses by show he holds up to derision as "that numerous piece of monstrosity, which, taken asunder, seem men, and the reasonable creatures of God; but confused together, make but one great beast, and a monstrosity more prodigious than Hydra." He has a quick sympathy with the sorrows of others, and, though a physician, his prayer is with the husbandman and for healthful seasons. No one has put more beautifully the feeling which each one of us has had at times about patients: "Let me be sick myself, if sometimes the malady of my patient be not a disease unto me; I desire rather to cure his infirmities than my own necessities; where I do him no good, methinks it is scarce honest gain; though I confess 'tis but the worthy salary of our well-intended endeavours."

He has seen many countries, and has studied their customs and politics. He is well versed in astronomy and botany. He has run through all systems of philosophy but has found no rest in any. As death gives every fool gratis the knowledge which is won in this life with sweat and vexation, he counts it absurd to take pride in his achievements, though he understands six languages besides the patois of several provinces.

As a scientific man Browne does not take rank with many of his contemporaries. He had a keen power of observation, and in the *Pseudodoxia* and in his letters there is abundant evidence that he was an able naturalist. He was the first to observe and describe the peculiar substance known as adipocere, and there are in places shrewd flashes, such as the suggestion that the virus of rabies may be mitigated by transmission from one animal to another. We miss in him the clear, dry light of science as revealed in the marvellous works of his contemporary, Harvey. Busy as a practical physician, he was an observer, not an experimenter to any extent, though he urges: "Join sense unto reason and experiment unto speculation, and so give life unto embryon truths and verities yet in their chaos." He had the highest veneration for Harvey, whose work he recognized as epoch making—"his piece, *De Circul Sang.*, which discovery I prefer to that of Columbus." He recognized that in the faculty of observation the old Greeks were our masters, and that we must return to their methods if progress were to be made. He had a much clearer idea than had Sydenham of the value of anatomy, and tells his young friend, Power of Halifax, to make *Autopsia* his *fidus Achates*

That he should have believed in witches, and that he should have given evidence in 1664 which helped to condemn two poor women, is always spoken of as a blot on his character; but a man must be judged by his times and his surroundings. While regretting his credulity, we must remember how hard it was in the sixteenth and seventeenth centuries not to believe in witches—how hard, indeed, it should be to-day for any one who believes implicitly the Old Testament!—and men of the stamp of Reginald Scot and Johannes Wierus, who looked at the question from our point of view, were really anomalies, and their strong presentation of the rational side of the problem had really very little influence on their contemporaries.

For you, young men, the writings of Sir Thomas Browne have a very positive value. The charm of high thoughts clad in beautiful language may win some of you to a love of good literature; but beyond this is a still greater advantage. Like the *Thoughts of Marcus Aurelius* and the *Enchiridion* of Epictetus, the *Religio* is full of counsels of perfection which appeal to the mind of youth, still plastic and unhardened by contact with the world. Carefully studied, from such books come subtle influences which give stability to character and help to give a man a sane outlook on the complex problems of life. Sealed early of this tribe of authors, a student takes with him *ses compagnons de voyage*, life-long friends whose thoughts become his thoughts and whose ways become his ways. Mastery of self, conscientious devotion to duty, deep human interest in human beings—these best of all lessons you must learn now or never; and these are some of the lessons you may glean from the life and from the lips of Sir Thomas Browne.

REFERENCES AND NOTE.

[1] Wilkin, vol. I., p. 251. [2] They did not issue an edition in 1848, as mentioned by Greenhill on the authority of J. T. Fields.

A MEMORIAL TO OLLIER.—A statue of Ollier the famous surgeon of Lyons, has recently been erected in his native place, Vaus, in the Ardèche. It was formally unveiled a few days ago in the presence of a number of notabilities.

An Address
ON
SCIENTIFIC RESEARCH IN MEDICINE

Delivered at the Opening of the London School of Tropical Medicine.

BY GEORGE H. F. NUTTALL, M.A., M.D., PH.D., F.R.S.

THAT great benefits to mankind have followed the discoveries of recent years is obvious to all of us, especially with regard to the causes and prevention of yellow fever and malaria, and the results already obtained give abundant promise of the good that may result from like researches in the future. Research is a word we hear on all sides to-day. It is the enemy of mere *authority*—that tyrannous spirit which has hampered progress and retarded the advance of scientific medicine for centuries. The spirit of research is restless of restraint; it chafes at limits; it leads us ever onward to new questionings and new discoveries, and these in turn lead on to further inquiries. The spirit of research has come to stay with us as long as the hope and the desire of progress in any domain of human knowledge continue to stir the minds of men.

Experimental medicine is responsible for the greatest advances which have been made in our knowledge of the cause, prevention, and cure of disease. These advances have been based on the labours of many workers, exploring often along different lines. Most important discoveries have exerted but a slight direct effect at their inception; their full significance has remained hidden, except perhaps to the few and far seeing. Of such discoveries the majority have been made by those engaged in research in the realms of pure science, and rarely by those guided by principles of direct and immediate utility. Pure science is in this respect unselfish; its aim is not profit, but truth; it makes for light rather than gain. Yet it is the forerunner of that applied science which is more obtrusively the servant of man. Its guiding principle is that knowledge must be sought for its own sake, and not primarily for its possible or probable applications. And experience has shown that new and fruit-bearing knowledge is seldom revealed to those whose sole purpose is merely utilitarian. Problems of the greatest importance to humanity are awaiting their solution at the hands of those who are willing to labour thus unselfishly, to devote themselves to science for the sake of science, and not for that of the material service which science can be made to yield. If we study disease, we must study disease for the sake of knowledge; the scientific spirit must enter into our work. Devotion to the study, actuated by such motives, is certain to bring its reward, although the reward may not be material. It seems scarcely necessary to dwell on this before an audience composed chiefly of men belonging to the medical profession, which of all professions is the most unselfish. All that can be asked is that those who devote themselves to advancing the science of medicine shall bring to their work the same noble motives which guide the ideal physician in his efforts to alleviate the sufferings of his fellow men. The spirit of commercialism should be as foreign to the man of science as it is to the physician, for both should be idealists in the best sense of the word. The fruits of their labours may be gathered by others, but none can rob them of the joy of having brought them forth. The "practical man" may not appreciate such ideals, he may deride those who cherish them; but he is ever ready to use the discoveries of science for his own ends. The reward of the true pioneer does not lie in what is said by "the fool multitude who choose by show"; he seeks only "the wages of going on"; he finds his recompense in delving into the wonderland of Nature with all its hidden beauties, and thereby forgetting the smallness that enters into all men's lives. And there is no meanness in the exultation of the explorer when a new peak rises on his view, of the searcher of the skies "when a new planet swims into his ken." The joy of the hunter at the kill is felt by the scientific worker when a fact which has hitherto escaped observation rewards his patient search for truth.

Research has also its joys in the ever-changing picture that it brings before us; the phenomena we study fascinate through their very elusiveness. We must be prepared for many disappointments and much labour lost; we must be ready to give up much of the old, if we wish to grasp the new.

We must grow with our growing knowledge, *per ampliora ad altiora*. We must emulate the chambered nautilus:

> Year after year beheld the silent toil
> That spread his lustrous coil;
> Still, as the spiral grew,
> He left the past year's dwelling for the new.
> Stole with soft step its shining archway through,
> Built up its idle door,
> Stretched in his last found home, and knew the old
> no more. O. W. Holmes.

We are not all born with instincts fitted for research, but there are many in whom the talent for investigation lies dormant and unused. It should be one of the functions of educational institutions to detect such men, and to lead them on to do the work for which they are adapted, to place the torch within the grasp of hands that are fit to bear it onwards.

Endowment of Research Needed.

All who are engaged in teaching and research have met with such men, and often with regret have been forced to see them drift away into other fields of activity, too often from mere lack of means to offer them encouragement. In this country we constantly see men abandon research for practice, though it is all too obvious that, in the interest of science, we cannot afford to lose them. In such cases the distinction attained by research is used but as a stepping stone to positions which shall secure a means of livelihood. To carry on research successfully a man needs an assured income so that his mind may be at peace with regard to his material wants. How little encouragement is needed to bring forth such men is seen to-day in many parts of the world. I need scarcely remind you of the devotion to work for its own sake exhibited by such men as Lazear, Myers, Dutton, Plehn, and others, who have sacrificed their lives in the study of tropical medicine. These men consciously risked their lives in their devotion to science, they sacrificed themselves for humanity, and there are many who are prepared to follow in their footsteps.

Is it possible that those who are able and willing to help on human progress can continue to ignore the devotion and self-sacrifice which such men are all too ready to render to their fellow men? We should do all in our power to bring the need in this respect before the educated public, in whose mind there still exists no proper understanding of the material conditions that render scientific research and discovery possible. The average man is scarcely interested in *how* discoveries are made, provided that they *are* made; but an appeal to him based on grounds of public benefit may meet with success; and such an appeal is justified by what has been accomplished.

The needs of experimental medicine are so great and urgent that every means short of the undignified should be taken to bring the matter forcibly before the public which in this country does so much for charity, so pitiably little for the advancement of learning. Medical research needs endowment. For those who are willing to devote their lives to research, means of subsistence should be found in the interest of the public good. In the regrettable absence of State aid we are forced to appeal to the intelligent public, proving again and again that we need help and still more help, and that we are worthy to receive it at their hands. In this appeal all medical men should join.

The wealthy classes of this country would do well to imitate their brethren in America, where, though the State does much more for learning, private beneficence has nevertheless come to the fore in splendid fashion, endowing universities, institutes, and laboratories in a truly regal manner. It is high time that medical science should become a more favoured object of benevolence in this country.

Our Laboratories and Teachers.

In an address delivered by my friend, Professor W. H. Welch of Johns Hopkins University, some nine years ago he said: "At the present day no country, no university, no medical school can hold even a respectable place in the march of education and progress unless it is provided with suitable laboratories for scientific work." Laboratories are the workshops of those who engage in research, although there are some in which much routine work is done and original research neglected. Laboratory work alone does not constitute research. Laboratories should be thoroughly equipped and guided by men of capacity by well trained teachers and investigators who can give their whole time to the work, not by men "deep versed in books and shallow in themselves." The teachers should be men capable of fostering the scientific spirit in medicine and of training the students under them in objective methods. For this purpose the best teachers are unquestionably those who are also investigators, but to fulfil both the functions of teacher and investigator requires so much time that it is almost impossible to perform any other duties. A non investigator may cram his students excellently for such purposes as examinations, but he will not stimulate his men to progress in independent thought and work. To teach science as it should be taught, in properly equipped and organized institutions, is far more expensive in the case of medicine than in that of any other professional school; and this is the reason why support is so much required: pure science does not pay for the material needs of those who cultivate it.

In former times our needs were fewer, but it no longer holds true that "what was good enough of old is good enough yet." The result of clinging to the old traditions has brought about an untenable position amongst science teachers in this country. In many of our institutions one man is often expected to perform duties which in more enlightened Germany are allotted to two, three, or even more teachers, each provided at least with a living wage, apart from the necessary support given for their laboratories. Most teachers of science in this country receive pittances of which few are sufficient, many totally inadequate. The same holds for many of our laboratories, which remain ill provided with the means of making use of the costly bricks and mortar of which, in some cases, they are constructed. I know of cases where even university teachers have to sacrifice a large share of their insufficient salary in carrying on the work of research in their laboratories. It does not suffice to *build* laboratories; they must also be provided with sufficient funds and equipment to enable them to become working entities. In brief, we need living laboratories; we must see that the teacher is supported in a manner commensurate with his functions, and that aid, however modest, is found for such students as show a marked talent for research.

I have cited conditions in Germany as an instance of what is done in a neighbouring country by a "paternal Government." A closer study of these conditions should certainly tend to ruffle the national pride of an Englishman. Take a single instance with which I am especially familiar—the hygienic laboratories. In May of this year the new Hygienic Institute of the University of Berlin was opened. The building, which contains all modern appliances, was constructed at a cost of £35 000. Ten years ago the Institute received £925 per annum for current expenses, this year the "Etat" has been brought up to £1,750 per annum; this apart from the salaries to the teaching body, and apart from grants for special investigations. Every German University and most towns of importance are provided with hygienic institutes, all, as far as practicable, supplied with means adequate to enable them to perform their useful functions. Even in poverty stricken Italy practically every university is provided with a hygienic institute which serves, as in Germany, as an active centre for research and teaching. Compare this with what is found in this country. There are hygienic laboratories in Edinburgh and Manchester, which may modestly compare with some of the institutions abroad. Take Oxford and Cambridge, our oldest Universities, and we see that no provision exists for research or even proper teaching in hygiene. It seems inconceivable to outsiders that these Universities are poor, and cannot found new institutions, and that there are other and perhaps more pressing needs. All I can say, in the words of a talkative Irish patient I knew, "Poverty is no disgrace, but it is mighty unhandy" and we must continue to hope for better days. We in Cambridge are earnestly hoping that a helping hand may soon be extended to the relief of a condition which cannot persist.

The London School of Tropical Medicine and its Students

Those of us who have watched the progress of this school from its inception have witnessed a struggle upward which is worthy of all praise and felicitation. This and the sister institution in Liverpool are known throughout the world for the excellent work accomplished by the members of the teaching staffs and some of the students they have sent forth. Your school has a great mission to fulfil. It has to train men in the methods they will be called on to employ in many parts of the world, and to give them the latest and the best to take with them on their distant journeys. The amount crowded into your courses already shows the rapidly increasing importance of the subjects treated, and the need, some day in the

future, of making certain modifications in the plan of study so as to relieve the increasing burden on the teacher and student.

It is to be hoped that the public will second the noble efforts you have made to establish a centre for the study of the diseases which affect the inhabitants of the tropical countries of this vast empire. You have already made your influence felt throughout the world, for the men trained within these walls are constantly being distributed over the empire, and occupy places where they will continue to transmit the stimulus which radiates from this institution. We are at length beginning to see the dawn of better days, when we ourselves can supply men to solve the great problems which it is our duty to investigate without calling in, as heretofore, the men whom Germany and France have trained and lent us in our helplessness.

> How many things by season season'd are
> To their right praise and true perfection!
> (*Merchant of Venice*, v. 1.)

There is much for us to do before we reach "perfection," and we must continue to strive onward and upward. I should like to see some means devised, for instance in this school, to maintain a form of union between those who have enjoyed the opportunity of studying in its laboratories, to see arise a feeling of corporate attachment between the institution and those who have passed through its portals. This might be accomplished by the publication of a bulletin or the like, which would serve to keep the men in touch with each other and with their teachers after they have left the school. The school, for its part, would surely benefit by fostering the ties which unite it with its former students. The grown-up sons who are out in the world would be encouraged to remember, and on occasion to support and assist, their *Alma Mater*.

The examination which we have instituted at Cambridge cannot fail to react upon the schools where tropical medicine is taught in the direction of broadening and deepening the knowledge imparted to those destined to present themselves as candidates. For instance, it has already become obvious to us that the subjects of tropical hygiene and bacteriology require more attention than they have received at the hands of those desiring to attain to our diploma. It is fully recognized that there are difficulties in the way of lengthening the curriculum or of increasing the amount of study in the period which is at present allowed for the courses in tropical medicine. But it is obvious that some gain might result from a stricter choice of subject-matter. The study of tropical medicine has often been referred to as a special study, but it embraces a very wide range of knowledge, and in practice is constantly spreading into the realm of general medicine. To have a sound knowledge of tropical medicine presupposes as good a knowledge of general medicine. It follows that those who turn to the study of tropical medicine should do so on a basis of sound general knowledge.

The necessity of giving as much practical instruction as possible is obvious to us all in an institution such as this. Men can take books with them to the tropics, but they rely on their practical training for methods. To put a cookery-book in the hands of a woman who cannot ditinguish between pepper and salt would be to court disaster. Instruction in general principles will make it clear that methods are not stereotyped. They are but aids to obtaining a result: they must be varied according to conditions, and new methods must be evolved to meet unexpected difficulties. That is where the untrained man breaks down; in face of a new situation he cannot go beyond his book. If he has not learned in the laboratory how methods are evolved and adapted to particular problems as they arise, he is helpless and barren; he has "no root in himself."

It would be well to sound a warning to young workers as to the value of good methods and thoroughness in work—to counsel patience in research, to emphasize the wisdom of avoiding the tendency to undue haste in publication, and to ridicule the love of publicity and advertisement that has seized upon some of our brethren at home and abroad. These failings discredit not only scientific men but science itself, for they lead to over-hasty and unwarranted generalizations, and to the premature application of discoveries that are but half-born. A carelessly worked-out contribution to science, even though it be but a maiden effort, often throws discredit on the good work which a man may do in after-years. This damaging result is often risked in the struggle for recognition, but the penalty is sure, for it is at least as difficult to recover a reputation in science as it is in morals. If some seem inclined to deprive others of their due by loud trumpeting and "pushfulness," let us not be of them: reputations so achieved have no enduring quality. At the same time, it would be well if those holding established positions did all in their power to assure just recognition of the work done by younger men. To win the praise of the masters should be the ambition and the attainable reward of the aspirant. Finally, well-trained men, when entrusted with investigations or sent out on expeditions, should not be burdened with too many instructions from committees and the like—composed frequently of well-intentioned gentlemen at home who scarcely understand the conditions at the front. We speak of fair play in sport; let us see that there is more fair play in science.

THE TREND OF RECENT INVESTIGATION.

A survey of recent work in tropical medicine shows us that investigation is chiefly being directed to the study of protozoal diseases. No advances of fundamental importance have been made with regard to malaria since the classical investigations were published with which the names of Ross and Manson, Grassi, Bignami, and Bastianelli will ever remain associated. The earlier work has been confirmed and extended by many investigators. The prevention of malaria by means of mosquito destruction and other measures directed against mosquitos has been tried in various localities, in some instances with success, in others with doubtful results. This is, however, only what might be expected in view of the diversified difficulties which must necessarily arise. Such difficulties must be met and overcome by ripening experience. There has been a veritable flood of malaria literature of recent years, including an annual volume of *Atti della Società per gli studi della Malaria*, the series commencing in 1900, which has come to us from Italy. Mosquitos have received an immense amount of attention after being much neglected in the past. The number of genera and species and their classification have become subjects to bewilder all but specialists.

The important discoveries on sleeping sickness ushered in by the researches of Castellani, a pupil of this school, have been confirmed and extended by Bruce and his collaborators of the Sleeping Sickness Commission. The relation of the flies belonging to the genus *Glossina* to the transmission of the trypanosomes is being actively studied, and many important questions, we must hope, are nearing their solution in connexion with this most fatal malady. A contribution has just come to hand from Gray and Tulloch with regard to the multiplication of the parasites in *Glossina*, indicating that the belief recently expressed is warranted, namely, that the parasites undergo a cycle of development within the insects. Of importance in their bearing on the question of the development of trypanosomes in other than their vertebrate hosts are the investigations of Schaudinn on *Trypanosoma noctuae* in *Culex*, those of Brumpt on certain trypanosomes of fishes which undergo their cycle of development in leeches, and those of Prowazeck on the rat trypanosome which he has demonstrated undergoes development in the rat louse (*Haematopinus spinulosus*).

Of recent discoveries, the one which to me appears to carry the greatest weight is that of Novy and McNeal. They have been the first to obtain pure cultures of protozoa, maintaining trypanosomes of different species alive *in vitro* for many generations. There is no telling whither the methods they have given us may lead; they directly stimulated Leonard Rogers to experiments wherein he succeeded, by an ingenious method of his own, in cultivating another protozoon—the *Leishmania*—obtained from cases of kala-azar.

The work on the tick-transmitted diseases known as the piroplasmoses (redwater, etc.), occurring in cattle, sheep, horses, and dogs, has been pursued in various parts of the world with great activity. The results appear to me to indicate, what I believe also holds for human malaria parasites, that we shall in time learn to distinguish different parasites which we at present consider to represent single species.

Toward the end of last year, the presence of spirochaetes in the blood of persons suffering from tick fever was demonstrated by Philip Ross and Milne in Uganda.

The investigations of Dutton and Todd on tick fever in the Congo Free State, announced in February, have given scientific proof that this disease is transmitted by a tick (*Ornithodoros moubata*) after it has infected itself with blood containing the spirochaeta. This has been confirmed by Koch, if we may rely on what has appeared recently in German newspapers. It is, however, quite premature to assume that African tick fever and European relapsing fever are due to one and the same species of spirochaeta—in fact, it is highly probable that this is not the case, although the report in question refers to the spirochaetae as one species.

In relapsing fever in Europe the bedbug (*Cimex*) has long been suspected to be a carrier of the infective agent, a probability which was considerably heightened by Karlinski's observation of motile spirochaetae in the bodies of the insects up to thirty days after they had fed on relapsing fever blood. Schaudinn, moreover, informs me that he has observed the multiplication of the *Spirochaeta obermeieri* in *Cimex*. These observations, following closely upon those published by Marchoux and Salimbeni, are of greatest interest and practical import. The last named authors demonstrated that a fatal disease of the fowl in Brazil is due to a spirochaeta which is transmitted through the agency of a tick (*Argas miniatus*), and this is capable of conveying the disease even six months after feeding on infected blood. These spirochaetae multiply in the tick, and are present in large quantities in its body cavity throughout this period. These observations are very suggestive since they demonstrate the long persistence of the parasites in their carriers, and render it probable that they will be found to be harboured much longer.

Finally, the finding this year of *Spirochaeta pallida* in syphilis by Schaudinn and others in man, and by Metchnikoff and Roux in experimentally-infected apes, cannot escape a passing notice even though the disease is, unfortunately, not confined to the tropics. It is of some interest to note that the close blood relationship existing between the apes and man, demonstrated independently by means of the precipitins by Grünbaum and myself, served as a direct incentive for the experiments of Metchnikoff and Roux, Lassar, and Neisser, which proved that human syphilis is communicable to the chimpanzee and ourang-outang.

Of interest have also been the further discovery this year of a number of new protozoal parasites in the blood of different animals, in addition to numerous new species of trypanosoma. I refer to new forms called "leucocytozoa" because they inhabit the white blood corpuscles of their vertebrate hosts. Leucocytozoa were first discovered by Bentley in dogs in India, and were described, without sufficient mention of this fact, by James. Another species has been found by A. Balfour in the rat (*M. decumanus*) in Khartoum; and, lastly, W. S. Patton informs me that he has found a species in the squirrel (*Sciurus palmarum*) in India, and apparently observed developmental forms thereof in a louse. Balfour has, moreover, described a new haemogregarine occurring in the jerboa (*Jaculus jaculus*), and Graham-Smith, in our laboratory, has found another new endoglobular parasite in the mole. This by no means exhausts the "finds" of this year, but it will suffice to show that British workers are doing their share in furthering our knowledge in this regard.

Of the diseases due to vermes I can say but little. The discovery of Catto's *Schistosomum* in this laboratory is familiar to you all. It is interesting to note, following on the experiments with *Ankylostoma duodenale* by Looss, proving that the embryo worm can infect by penetrating through the skin, that Boycott in London and Tenholt in Germany have confirmed the fact this year in two experiments conducted on medical men who volunteered for the purpose.

Again, it is apparent that the subject of immunity in relation to protozoal diseases is proving to be one of great difficulty, and the results hitherto obtained indicate that new methods will have to be devised if the problem is to be solved from a practical, and still more so from a scientific, standpoint. It is also obvious in this connexion that the problems before us can only be solved by animal experiment, and this accentuates the need of our giving an increasing amount of attention to comparative pathology as we push on toward the alleviation of the ills to which our own flesh is heir.

Gentlemen, I must apologize for the very sketchy nature of the summary which I have just given you. There are many matters left untouched, including even such important diseases as yellow fever and Malta fever, on which active work has been done. My object has been to seize upon a few salient facts with a view to showing how much has been accomplished within a short period, and how great are the opportunities of the workers in this school who are destined to labour in new fields in different parts of the world. Perhaps what I have said—in no spirit of presumption—will serve as an incentive to some of my hearers. Let me conclude with some wise words from the Talmud:

> The day is short and the work is great:
> It is not incumbent upon thee to complete
> the work, but thou must not therefore
> cease from it.

A NEW OPERATION FOR MODERATE SHORT SIGHT.

By ERNEST E. MADDOX, M.D., F.R.C.S Edin.,
Ophthalmic Surgeon, Royal Victoria and Royal Boscombe Hospitals, Bournemouth.

Having already described in the British Medical Journal of October 15th, 1904, p. 1042, an example of the amelioration of short sight by pressure-massage of the eyeball, it may be of interest to communicate the sequel. It is, indeed, more for its interest, as the first of its kind, than as a precedent, that I narrate the operation which follows, since it is of too hazardous a nature to be justifiable except under the exceptional circumstances of this special case. Though very high degrees of myopia have for some years, by nearly all ophthalmic surgeons, been satisfactorily treated by removal of the crystalline lens, no operation for moderate degrees of short sight has, to the best of my knowledge, been ever attempted hitherto, much less carried to a successful conclusion. The history briefly is as follows: X., aged 16, while training for Woolwich, was discovered by Dr. Heygate Vernon of Boscombe to be disqualified for the medical examination by a slight excess of short sight in both eyes, but rather more in one than in the other. Owing to family circumstances, the loss and disappointment were so great that Dr. Vernon sent him to me on April 25th, 1904, to see if I could possibly do anything for him. This led me first to try the pressure-massage treatment recommended by Dr. Domec of Dijon, which improved his vision to the extent described in my former communication, and which would have passed him through the army medical examination with ease, had it been held sooner.

By December, 1904, however, the improvement had disappeared and repetition of the pressure massage was now insufficient to bring his vision to the required standard. This I attributed to the eight months of hard study causing aggravation of the defect by further lengthening of the eyeball.

On presenting himself for the army visual examination in January, 1905, one eye was passed, with just $\frac{6}{9}$, and the other rejected as $\frac{6}{12}$; and, though appeal was allowed, he failed again. Upon his pleading that I had proposed to do an operation to make the eye pass, he was told that since there was none that could be done, it was quite impossible. Unable, therefore, to get a respite for the purpose, the candidate had to work for two more terms of study, and go over the whole knowledge examination again before he could get a chance to reapply, with all the risk of thereby increasing his myopia.*

I therefore took measures to prevent increase of myopia in his better eye, and after fully laying before him the risk, and not withholding the fact that it had never been done before, I yielded to his repeated requests to attempt the operations which I had planned. They consisted in flattening the cornea, first in one meridian and then at right angles, the idea being borrowed from an informal and then untried suggestion which I had made, during a brief communication to the Ophthalmological Society, for the correction of myopic astigmatism by conjunctival sutures. Taking the patient into my nursing home on January 20th, 1905, and without chloroform, I thought it best to commence with the most difficult meridian, namely the horizontal, first, so that should the experiment fail, he might be spared two operations. It is impossible, with most eyes, to make a large *lateral* corneal incision with a straight cataract knife. I, therefore, first of all dissected up a conjunctival flap, and threw it over the cornea, then introduced a triangular iridectomy knife between the reflected conjunctiva and the sclera, and entered the anterior chamber.

This route I had never traversed before, and it made the operation an exceedingly delicate one, for the peripheral nature of the incision, in his unusually nervous and mobile eye, made the iris prolapse again and again, and especially after enlarging the incision above and below with a probe-pointed knife, which formed the next stage of the operation, for only a very large incision is capable of producing a regular flattening of the cornea. At last the iris was comfortably reposed, and the conjunctival sutures inserted so as to exert considerable traction on the flap. Healing was painless and uninterrupted. The second operation was done on April 7th, after another term of study, and was a much simpler matter than the first. The incision was made with an ordinary cataract knife, this time downwards, and the healing was equally speedy. On August 23rd, after another term of study, he wrote: "I passed the medical successfully yesterday."

* Since discovering that the visual improvement by Domec's pressure massage has an evanescent factor, I have (as in the case of another effective, but temporary, measure) not felt justified in practising it just before army and navy examinations, as it would manifestly defeat the intention of the authorities. Operative or radical treatment is of course different.

SEVENTY-THIRD ANNUAL MEETING
OF THE

British Medical Association.

Held at Leicester, July 24th, 25th, 26th, 27th, and 28th, 1905.

PROCEEDINGS OF SECTIONS.

SECTION OF MEDICINE.

FRANK M. POPE, M.D., F.R.C.P., President.

A DISCUSSION ON THE TREATMENT OF SLEEPLESSNESS AND PAIN.

I.—Sir LAUDER BRUNTON, M.D., F.R.S.,
Consulting Physician to St. Bartholomew's Hospital.

SIR LAUDER BRUNTON said: Two of the most important symptoms connected with the nervous system are sleeplessness and pain. It is proverbial that the longest way round is sometimes the shortest way home, and in discussing the treatment of sleeplessness it may really be best to begin with the vital properties of a simple cell, such as an amoeba or a leucocyte, consisting only of protoplasm surrounding a nucleus. This protoplasm sends out prolongations freely in all directions, and sometimes several cells meeting together may become fused in the form of a plasmodium. The activity of the protoplasmic movements varies with different conditions. They are accelerated by heat, they are retarded by cold, they are quickened by some foreign substances, and lessened or abolished by others. The same drugs which in minute quantities quicken their movements usually retard or abolish them in large doses, and, while moderate heat quickens movement, excessive heat abolishes it either temporarily or for ever. The waste products of tissue change in the cell itself, as they accumulate lessen its movements, and diminish its vitality. A mobile cell like a leucocyte or amoeba, can move away from the spot where its waste products have accumulated, just as a nomad moves his tent, but where cells are fixed the waste products must be removed from the cell, just as the refuse of cities must be carried away by a system of sewerage while the inhabitants remain in their places.

Now, nerve cells, although in some respects the most highly developed of all those forming the tissues, are in other respects the most primitive, and this dual condition of a nerve cell is necessitated by the functions it has to fulfil, for its duties towards the organism are definite and permanent, and at the same time the external conditions under which the organism lives are constantly varying, and an extraordinary amount of mobility in the nerve cell is required to meet them. We find then, that a nerve cell has two kinds of connexions—(1) a definite prolongation, or nerve, which undergoes no very evident change during its functional activity, and (2) numerous protoplasmic processes by which connexions with other nerve cells may be established in ways which are so varied that when we consider the number of cells in the nerve centres, the variations may be looked upon as infinite. It is now generally assumed that the connexion between the nerve cells in the centres is affected by their protoplasmic prolongations. When these are in touch the nervous force may pass from one cell to another, but when these are withdrawn from one another the nervous current is at once cut off, just as an electric current is broken by turning a switch and disconnecting the ends of the wire through which the current ought to pass. Such an explanation appears to fit in well with many commonly-observed facts, such as that of sudden loss of memory for a name, and its sudden return when one is not thinking of it. The loss is explained by the retraction of the amoeboid prolongations, so that the current of memory is broken and its reestablishment is affected by the extension of the prolongations so that they again touch. In old age the prolongations become fewer and less mobile, so that the mental faculties become more limited and more sluggish. Like the leucocyte or amoeba, the functions of the nerve cells can be greatly influenced, either by the products of their own waste, or by the products of tissue metabolism in other parts of the body. There is a natural process of self-regulation in the body, by which periods of activity alternate with rest. During the activity of the nerve cells, their waste products accumulate and tend gradually to diminish the functional activity of the cell, until at last it becomes inactive. During the period of rest, these waste products are either removed or undergo a process of change, whereby their physiological action is altered from a stimulating to an exciting one just as the narcotic principle of the poppy, morphine, may be converted into a strychnine-like substance by a simple chemical alteration.

The products of nervous waste are removed by the blood and lymph which circulate through the brain, and these also supply new material to repair the waste of the nerve cells and oxygen to maintain their functional activity. During sleep, the protoplasmic processes of those cells which keep up connexion with the outer world are so much withdrawn from each other that this connexion is broken, while the cells connected with the vital processes of respiration and circulation continue their work uninterruptedly, and sometimes the cells connected with thoughts and ideas may also be functionally active, as evidenced by dreams. We cannot, as yet, localize these cells anatomically. We may suspect that they are the links between the cerebrum and the basal ganglia, but this is no more than a suspicion, and at present we can only class them more or less vaguely according to their function. The functional activity of the cells which maintain communication between thoughts or ideas and the external world may be excited, and this communication which has been broken by sleep may be at once restored by powerful stimulation from without, by a loud noise sounding in the ears, a bright flash of light thrown upon the eyes, or an unwonted or painful stimulus to the surface of the body. All such stimuli tend to maintain the connexion between the outer world and the sensory nervous centres, and thus either to awaken from sleep or to prevent sleep from occurring; but stimuli coming from other parts of the nerve centres may have a similar effect to those coming from without, and painful ideas, anxiety, or even pleasurable excitement may keep up the communication with the outer world and prevent sleep.

Functional activity of the nerve cells is usually associated with a more rapid flow of arterial blood through the brain, and it has been observed by Durham and others that the cerebral arteries dilate at the moment of awakening, while during sleep they become contracted and the circulation through them diminished. In coma the condition of the circulation which obtains in sleep is still further accentuated, so that while the arteries become very contracted the veins become much dilated and engorged, just as we see in the hands that the first effect of cold is to cause paleness, but later on it produces venous engorgement with blueness. Usually, the circulation of arterial blood through the brain is regulated by the contractile power of the arteries, but when arterial blood flows to the brain in large quantity, and under high pressure, sleep is more difficult of attainment. For example, when the carotid arteries become atheromatous, and thus lose their contractility, insomnia is apt to become a very distressing symptom, and the same thing occurs in cases of gouty kidney, where the high arterial tension drives the blood forcibly through the brain. External stimuli not only act reflexly upon the tissue change in the nerve cells but they tend to cause contraction of arterioles in the body generally, and thus raise the arterial tension. Thus, if the feet are too cold, if the feet are too hot, or if there be any peripheral irritation, painful or even uncomfortable, the tension will rise and sleep be interfered with. But the tension may be increased from the heart as well as from the vessels, and anything that stimulates the heart to excessive action will raise the tension, and consequently interfere with sleep. Irritation of the stomach by undigested food, by food that is too hot, by excessive acidity, by tobacco, tea, coffee, or other drugs, will raise the arterial pressure and interfere with sleep. The effect of blood pressure on the brain upon the states of sleeping and waking was well shown by Friedländer. After giving an animal a large dose of isopropylic alcohol, he found that he could determine the condition of sleeping or waking by altering its position. If it were held up by the legs, so as to increase the supply of blood to the head, it at once awoke, but when held up by the ears it fell asleep.

In treating insomnia, we have, then, first of all to consider the remedies which bear upon the circulation. Where the arteries are atheromatous we must restore their contractility, if possible, by means of iodide of potassium and of massage, and this method is sometimes very efficacious. Under it I

have seen the carotids of an elderly lady, which previously appeared to be as hard and rigid as tobacco-pipe stems, become comparatively soft and elastic, whilst the patient regained, to a corresponding extent the power to sleep which she had lost. Where the arterial tension is very high, as in cases of arterio-sclerosis or contracting kidney, the high-frequency current is sometimes useful by lowering the blood pressure.

We must remove sources of local irritation, relieve pain if it be present, warm the feet or other parts of the body by hot bags or bottles, if necessary, or else by friction. In cases where indigestion produces insomnia, we should give no food during four hours or more before sleeping time, or, if this is found to be disadvantageous, the food should be of the lightest description. Where flatulence and acidity prevent sleep, some bicarbonate of soda and peppermint is sometimes more efficacious than a sleeping-draught. Occasionally, when the whole body gets too hot and the circulation excited, merely getting out of bed and walking a few times round the room to get cool will allow the patient to obtain sleep. When the skin is uncomfortable from dryness, want of elasticity or the presence of waste products, a hot bath or hot sponging, followed by very gentle drying, will sometimes bring on sleep. Where the feet are persistently cold and not relieved even by a hot bag, putting them in cold water, rubbing them hard until they are red, then drying with a warm soft towel, may relieve. The splanchnic area is able to contain a large quantity of blood, and one may sometimes, as it were, bleed into this area, and lessen the circulation in the brain by dilating the vessels of the intestine and stomach. This may be done by the external application of a hot bag to the abdomen, or, still better, by a wet compress, or by the introduction into the stomach of a little bland, warm food, such as gruel or soup. When patients awake in the middle of the night and cannot get to sleep again, this food may be kept warm at their bedside during the night, so as to be ready at the proper moment, by placing it in a baby's food-warmer. If the food is too hot it tends to excite the heart, which is only divided from the stomach by the diaphragm, and the local heat passing through and stimulating the heart directly will raise the arterial pressure, and undo the good that might be otherwise obtained by dilating the vessels of the stomach.

Where the action of the heart is kept up by a high temperature, as in fevers, sponging the skin with hot water, dabbing it afterwards with a soft napkin and leaving the patient's body exposed under a cradle, with only one blanket over it, will lower the temperature and bring on sleep. In place of this, antipyretics, such as phenacetin, antipyrin, etc., will sometimes act as narcotics when more purely narcotic substances entirely fail. Chloral hydrate, by its depressing action upon the heart, combined with its sedative action on the nerve cells themselves, is a powerful hypnotic, either alone or combined with others, and where the tension is high may be more successful than others which act only upon the nerve cells.

We must now pass on from the circulation to consider the effect of drugs upon the nerve cells. Some of them appear to increase the power of the cells to put forth protoplasmic prolongations, while others lessen or abolish it.

Amongst those which increase the power of the cells to put forth protoplasmic prolongations, or perhaps to prevent their retraction, the most powerful appear to be certain substances nearly allied to uric acid, and belonging to the so-called xanthin group. These are the active principles of tea, coffee, cocoa, and Paraguay tea, etc. In many people tea or coffee tends to produce great wakefulness, so that they may either lie quiet in comparative comfort or toss about without any apparent reason, and in all such cases it is well for the patient to avoid taking tea or coffee for a good many hours before going to bed. Some people, indeed, are so sensitive that it is unsafe for them to take it later than breakfast time.

Perhaps in place of drugs I ought to say chemical substances, for lactic acid, which is a product of muscular waste, appears, according to Preyer, to have a considerable power to lessen cerebral activity and produce sleep without exerting any marked influence upon the circulation. The most abundant nitrogenous product of muscular waste is urea. This, when pure, does not seem to act as a soporific, but some bodies allied to it in chemical composition are powerful and useful hypnotics. The first of those to be introduced was urethane, or perhaps I ought rather to say urethanes, which are compounds of various alcohols with urea. The one to which the name of urethane is given is a compound of ordinary ethyl-alcohol with urea. Another—hedonal—contains methyl and propyl-alcohols, while one lately introduced—veronal, which is diethyl-malonyl-urea—appears to be the most efficacious of this group hitherto introduced into practice, and in doses of 7 to 15 gr. it appears to produce refreshing sleep. It is quite possible that bodies belonging to this group are formed in the muscles or glands during their functional activity, and that they may play an important part in inducing natural sleep after muscular fatigue. As long ago as 1839, Dr. Percy showed that in all probability alcohol has a peculiar affinity for the cerebral substances, as a much larger proportion could be recovered from the brains of animals poisoned by it than from their other organs. In the compounds of which I have spoken it is not improbable that the alcohol may form a link which binds the urea to the nerve substance.

Alcohol itself is sometimes a powerful hypnotic, partly by drawing blood to the stomach, and partly by its sedative effect upon the nervous structures themselves. One of the first fruits of the recognition of the relationship between chemical constitution and physiological action was the introduction of chloral by Liebreich. This body contains more oxygen than ordinary alcohol, and also contains chlorine. By its double action in enfeebling the heart and thus lowering the blood pressure, while at the same time lessening the functional activity of the nerve cells, it is a powerful hypnotic. It has fallen of late years into comparative disuse, on account of the dread of its weakening the heart, but in cases of high tension, as in chronic Bright's disease, its power of lowering the blood pressure makes it very useful. Three other bodies in which sulphur is combined with alcoholic radicles, are sulphonal, trional, and tetronal. The tetronal seems to be the least useful, and trional now the most useful. They usually produce sleep without any bad effects, but I have seen the administration of a dose of sulphonal followed for a few hours by marked symptoms of disseminated sclerosis. The bromides appear not only to lessen the excitability of those nerve cells which bring the inner consciousness into relationship with the external world, but to depress nervous excitability generally. They are therefore exceedingly useful in many cases, not only in aiding sleep but in diminishing general irritability of various kinds, and in combination with other drugs, such as chloral, trional, and veronal, or with a more powerful narcotic, such as opium, they are most useful. Valerian is another substance which lessens excitability, and although its mode of action is practically unknown to us, its utility in the excitable conditions known as hysterical is unquestioned. It has no power to compel sleep, but sometimes, when given at night, by lessening nervous irritability, it may induce sleep. The more powerful narcotics, such as opium and its alkaloids, cannabis indica, hyoscyamus, and hyoscine, have a double action, namely, they tend to relieve pain as well as to induce sleep.

One of the great advantages of morphine and hyoscine is that they can be so readily administered subcutaneously, and thus they are rapidly absorbed, and their action is obtained quickly and certainly. We do not exactly know where the sensory centre for pain is situated in the brain, but we know that painful impressions are probably conveyed, to a great extent at least, by the grey matter, or perhaps by Gowers's tracts in the spinal cord, and usually originate in some severe stimulus being applied to peripheral nerves. Though it is the application of such a stimulus that generally gives rise to pain, yet pain may be produced by irritation of nerve trunks, of the spinal cord itself, or of the cerebral centre, although there may be no peripheral cause. Thus, in so-called hysteria, pain has been felt in the joints so severe and so persistent as to lead to the limb being amputated, although the joint was perfectly healthy, and no cause for the pain could be assigned except a mental impression on the part of the patient to which the name of "hysterical" is applied. There can be no doubt that not only is there a very great difference indeed between sensibility to pain in different individuals, but even in the same individual under different circumstances. A local injury which a man in health would scarcely heed or would indeed hardly feel may cause the same man, when broken down by illness, to feel the pain most acutely, and express his feelings in terms which those around him think exaggerated. In trying to relieve pain, we must, if possible, remove the cause; for if we simply try to deaden the sensation we may do serious harm to the individual. Pain is Nature's warning that something is going on which we ought to avoid. Therefore it is to a certain extent beneficial, but when the warning cannot be taken, when the pain continues, it is one of the greatest possible evils that man can experience, and death itself will be gladly welcomed in order to avoid it. Strong acids and strong alkalies will both

destroy the tissues and act as caustics, but the pain produced by the two is very different; that of the alkalies being heavy and dull, while that of the acids is sharp and stinging. In testing the reflex action of the frog, no one thinks of using dilute caustic potash as an irritant to the foot, but uses dilute acid. When the acid is washed off and neutralized the irritation ceases. This observation may be very useful to us in practice. One of the commonest causes of severe pain is toothache, and this is very frequently indeed due to the irritation of an exposed nerve by acid substances or acid secretions in the mouth. If these be neutralized, the pain ceases in a marvellous manner, and I have found the prescription of my friend, Sir Dyce Duckworth, exceedingly useful. It consists of a little bicarbonate of soda with laudanum, put on a pledget of cotton wool and introduced into the decayed tooth. Sometimes a general aching of all the teeth is caused by the action of acid saliva upon the teeth just where they emerge from the gums, and this may be relieved or cured by frequently washing the mouth out with a solution of bicarbonate of soda, or sucking tabloids of the same substance.

In a paper which I read before the British Medical Association three years ago, I mentioned that increased sensibility to pain may sometimes be due to lessened alkalinity of the blood, and that the administration of alkalies may thus tend to relieve it. The severe pain of gastric or duodenal ulcer may be relieved almost certainly by large doses of an alkali, but as these may tend to soften the tissues of the ulcer and increase the liability to haemorrhage, I usually give along with bicarbonate of soda a little chalk to act as an astringent to the tissues, and some carbonate of magnesia to counteract the constipating effect of the chalk. In renal pain, especially where a calculus is present in the pelvis of the kidney, and where the urine at the same time is excessively acid, I think we get relief of the same kind by lessening the acidity of the urine by alkaline bicarbonates, citrates, or tartrates. Pressure upon peripheral nerves, especially when their excitability is increased by inflammation, produces intense pain, and this may frequently be relieved by fomentations, poultices, or compresses, which soften the tissues and thus lessen pressure. These same applications to the abdomen relieve pain, though here their action is probably due, in part at least, to their effect in producing more even and gentle peristaltic movement, with relaxation of spasm to the muscular fibres. In the pain of joints a similar relief may sometimes be experienced from their use, but when inflammation has taken place under some unyielding structure like a tense fascia or in bone, the application of heat, instead of relieving pain, tends to increase it, because the heat dilates the vessels of the part, which thus press more powerfully upon the nerve fibres and intensify the pain. In such cases, icebags do more good than hot poultices, and in the case of a tooth where the pain is due to inflammation in the alveolus, cold to the cheek may relieve a good deal more than warmth, although warmth to other parts may ease the patient by drawing blood away from the tooth. A large number of drugs, belonging to the aromatic group, have a powerful action, as analgesics, salicylate of soda, antipyrin, phenacetin, exalgin, phenalgin, etc.

We do not quite know the *modus operandi* of these drugs, but it would almost seem as if they diffused the painful impression in the spinal cord, so that it no longer reaches the sensorium. Where, however, the impression is so very extreme that it reaches the sensorium in spite of the action of these drugs, they may appear to intensify rather than relieve it. This is not very common, but I have seen cases in which it seemed to occur. Where the pain is due to irritation in the cord itself, these drugs appear to be more powerful than morphine or opium, but the most general of all analgesics are certainly opium and its alkaloids. They are frequently applied locally to painful parts before the fomentations, but it is questionable how far such fomentations are any better than those made of plain hot water. It is after absorption, and after it has reached the nerve centres, that opium or its alkaloid, morphine, acts. In most cases all the benefits which opium can confer may be obtained by the use of morphine, and this has the great advantage, as already mentioned, that it may be given subcutaneously and its rapid action thus ensured, but apparently this is not always the case, and sometimes opium suits better than morphine.

I have found that a most useful way of giving opium consists in mixing ½ drachm to 1 drachm of tincture of opium or liquid extract of opium with enough water to bring it up to 2 fluid drachms, and inject it into the empty rectum by a glycerine syringe. In half an hour to three-quarters the opium is usually absorbed, and I think relieves pain almost more efficiently and for a longer time than a subcutaneous injection of morphine will do. This method of administration has the advantage over that of the stomach, that the opium comes in contact at once with mucous membranes, and is not diluted by other substances, whereas in the stomach there may be a large quantity of food which interferes with absorption. Some of the most severe pains in the body are due to combined spasm and distension of hollow muscular organs—for example, of the stomach and intestines by flatulence, of the bladder by urine, of the biliary ducts or ureters by calculi, of the heart and aorta by high arterial pressure in angina pectoris, and in simple headache to spasm of the vessels. In all these cases, if the pain be very intense, opium or morphine may be required for its relief, and sometimes—as, for example, in biliary colic—I have seen pain so intense as to resist the action of morphine injected subcutaneously in large doses. In such cases, a plan suggested by the late Mr. Morrant Baker is sometimes most useful. A few whiffs of chloroform are given, just enough to put the patient under. The chloroform anaesthesia passes into the opium narcosis, and the patient will sleep for hours unconscious of pain. In the case of angina pectoris, the lowering of the tension by vascular dilators, such as nitrate of amyl, nitro-glycerine, or nitro-erythrol, generally relieve the pain at the time, and its recurrence may be to a great extent lessened by reducing the tension generally through a diet containing but little nitrogen, and by the continuous use of nitro-erythrol or other vascular dilators. One of the newest of those which seems to promise much is the hippurates of soda or of ammonia introduced by Dr. George Oliver. The pain of headache is, I feel sure, from very many observations in my own person, due to what one might term a colic of the arteries in the head, there being peripheral contraction and central dilatation. The quickest way of relieving this is usually by the use of such substances as antipyrin or phenacetin, and their action is rendered more efficacious by the combination of those drugs with small quantities of citrate of caffein. I have found that headaches can usually be not only arrested, but prevented, by a more or less continuous use of bromide of potassium and salicylate of soda, combined with some aromatic spirit of ammonia to avoid depression. There are some headaches where these remedies are of little use, that is, the nocturnal headaches associated with specific disease, and in them large doses of iodide of potassium are most useful. Occasionally, this drug renders most signal service, even when no history of specific disease can be obtained, and in cases where there is much tenderness of the scalp, benzoate of soda, which is nearly allied in its chemical constitution to salicylate, may relieve the pain while the salicylate is powerless.

I had intended to say more about the use of electricity and massage in the treatment of sleeplessness and pain, but I have already somewhat exceeded the limits allowed me, and would only remark in conclusion that, comparing our present means of ensuring sleep and relieving pain with what they were thirty or forty years ago, we have great cause for congratulation and great hope for the future.

II.—ARTHUR R. CUSHNY, M.A., M.D.,

Professor of Pharmacology, University College, London.

PROFESSOR CUSHNY said: The treatment of sleeplessness and pain consists primarily in the removal of their causes, where that is possible. But in many cases the cause is imperfectly understood, or it may be beyond the reach of our therapeutic agents at present. In such cases it is necessary to take measures to benumb the central nervous system, so that although the cause of the pain or sleeplessness may still be active, the impulses from the seat of the disease to the brain may find the latter unable to react to them. I propose to devote the time at my disposal to this aspect of the subject, to the study of the hypnotics, their several advantages and drawbacks. But I must first discuss the objections to the use of hypnotics in general, especially as these objections have been emphasized in recent years and from different points of view. The first that the hypnotic treatment is purely symptomatic and does not touch the *fons mali*, appears scarcely pertinent. For pain and sleeplessness in themselves lead to exhaustion, and in relieving these symptoms we may break a vicious circle in which the disease causes sleeplessness, and this leads to exhaustion and thus promotes the further development of the disease. The tendency has recently appeared among bacteriological observers to re-

gard many drugs, including the hypnotics, as dangerous, because animal experiments have shown that the resistance to pathogenic micro-organisms is lowered by their administration in many cases. But it may be argued, on the other hand, that the exhaustion following sleeplessness and pain has a very similar result, and if this can be relieved by drugs the benefit accruing may more than outweigh the slight decrease in the resistance noted from the use of drugs. This point can scarcely be determined by bacteriological experiments, because the mental factor in disease in man is infinitely more important than in animals, in which it is often a negligible quantity. A third argument which has been urged against the use of hypnotics is the danger of their leading to drug habits; and there is no question that this has occurred in a certain number of instances. Fortunately, the proportion of cases in which abuse has arisen from the therapeutic use of the hypnotics is almost insignificant; and in the United States, where, perhaps, more than anywhere else, the "drug fiend" abounds, the vast majority of sufferers cannot blame the medical profession for their weakness.

The ideal hypnotic should depress the central nervous system, especially the cerebrum, and should be devoid of important effects on other organs. It should act in small doses, and a large interval should be interposed between the quantity ordinarily sufficient to cause sleep and that capable of inducing serious symptoms of poisoning. It should be unnecessary to increase the dose even after prolonged use, but it may be questioned whether this will not remain an ideal incapable of fulfilment. There ought to be no excitement before sleep, which must follow the drug with certainty, and no feeling of fatigue or drowsiness should be present on awakening. It should be easily administered, and should not have a disagreeable taste or odour.

In these days, in which almost every year brings forth its quota of new hypnotics, it is difficult to realize that until 1869, less than forty years ago, the only reliable remedy for sleeplessness and pain was opium, though a few other drugs were advocated as occasional substitutes, such as hyoscyamus, bromides, cannabis indica, or alcohol. The first of the modern hypnotics, introduced some twenty years after the anaesthetics, was chloral hydrate, which we owe to Liebreich. It was the forerunner of a series which continues to lengthen, but of which it is necessary to mention only the chief members. They may for convenience be divided into two classes, first, those whose molecule contains chlorine or bromine—chloral and its compounds, chloralamide, hypnal and chloralose; chloretone and isopral; bromoform, bromal and neuronal—and, secondly, those which contain no halogen, of which I may mention alcohol, amylene hydrate and paraldehyde; the sulphon compounds, sulphonal, trional and tetronal, and the urea compounds, urethane, hedonal and veronal.

It was found soon after chloral had been introduced that large doses injected intravenously into animals exercised a distinctly depressing action on the heart and also induced changes in the nutrition of the tissues. In fact the same complaints were made in regard to chloral as have pursued chloroform with ever-increasing effect on its popularity. And there can be no question that large doses given in this way depress the heart, although I think the dangers of chloral for the human heart were much exaggerated. This disability is inherent in all the chlorine compounds of methane hitherto examined, and it seems a general law that when a hypnotic contains chlorine in its molecule its effects are not limited to the brain and central nervous system, but extend to the heart and the tissues in general. This rule has not prevented the invention of new chlorine hypnotics, each of which is reported superior to its predecessors, the latest arrival being isopral; and some bromine compounds have similarly been advised, although they share the disadvantages of their chlorine homologues. But none of these has any advantages over chloral, which is the most readily administered and the most certain of them all, and which has hitherto survived all its would-be successors in popular favour.

The agitation against the use of chloroform led to the increased administration of ether, and as the drawbacks to the use of chloral were recognized, efforts were made to obtain hypnotics which, like ether, were free from chlorine and thus devoid of the dreaded action on the heart and metabolism. Among these alcohol must be mentioned, for much of the benefit accruing from the use of alcohol in therapeutics is to be ascribed to its dulling the central nervous system. Unfortunately it often fails to induce sleep and tends to disturb digestion, and there are many other objections to its use. Other hypnotics which, like alcohol and ether, are devoid of important action, except on the central nervous system, are paraldehyde and amylene hydrate, but here again the dose is large, the taste and odour repulsive, and in some cases sleep is preceded by a condition resembling alcoholic intoxication. These difficulties were believed to be overcome a few years ago in sulphonal, trional, and tetronal, three nearly related compounds, free from chlorine, easily administered, and acting in small doses. But while free from the drawbacks of the chlorinated hypnotics, this trio was soon found to induce even more serious symptoms, and occasionally deaths, from a mysterious change in the metabolism attended by the elimination of haematoporphyrin in the urine; this was seen most frequently in cases of prolonged administration, but a single moderate dose has been known to induce it. In addition, the sulphon compounds proved somewhat capricious in action, the effects often following late and being very prolonged. This group has undoubtedly caused more fatalities than chloral, and contains the most dangerous hypnotics in extensive use at present.

The last group of chlorine-free hypnotics comprises the urea compounds, the first of which—urethane—was introduced by Schmiedeberg, and was followed recently by hedonal, and two years ago by veronal. These three act only on the central nervous system, as far as is known, and are easily administered. Unfortunately, urethane is uncertain and weak in action; and while hedonal is an improvement in this respect, it is not so reliable as chloral. Veronal appears to combine certainty of action with the advantage of inducing sleep in such small doses (5 to 10 gr.) as have hitherto proved efficacious only in the chlorine compounds. Some idiosyncrasies have been recorded under its use, it is true: a small proportion of cases show the symptoms of alcoholic intoxication rather than sleep, and there is some tendency to skin rashes. But nothing of serious import has been brought against it as yet, and if, remembering sulphonal, we may demand further experience in its use before granting all that is claimed in its favour, it may fairly be stated that it appears the best of the chlorine-free hypnotics, as chloral is the best of those that contain chlorine. And as surgeons find room for both chloroform and ether in their armamentarium, the physician may well use chloral and veronal, the former perhaps in the more robust and less easily reacting cases, the latter when there is reason to fear circulatory complications. When hypnotics have to be used for long periods, the changes may be rung on the less desirable members of this series, and many will doubtless continue to induce the hypnotic effects of alcohol.

The older vegetable hypnotics have also undergone examination and improvement in these years. Instead of opium, the morphine salts have been widely adopted, the facility with which they may be injected hypodermically enabling them to displace the cruder preparations formerly in use; this facility of administration in itself has proved a danger in many instances, for there is no doubt that in some neurotic conditions the fatal attraction of the hypodermic syringe has promoted the use of the drug.

Hyoscyamus as a hypnotic has largely given way to its alkaloid hyoscine, and in this connexion it may be stated that hyoscyamine is practically devoid of sleep-bringing properties. Hyoscine is unfortunately capricious in action, and in any except the smallest doses may induce delirium, or such minor unpleasant symptoms as dilatation of the pupil and dryness of the throat. Some of these drawbacks may be avoided by using the pure alkaloid and by accuracy in dosage. Hyoscine exists in two forms, one of which is optically active (laevorotary), while the other is indifferent to the ray of polarized light or racemic. These two have the same effect as hypnotics, but the racemic form has only half the action of the laevorotary base on the pupil, glands, and heart. Some of the disabilities of hyoscine might thus be avoided by the substitution of the racemic for the ordinary hyoscine.

Cannabis indica has never obtained much recognition as a hypnotic, because, while in some persons the sleep induced leaves little to be desired, in other cases it is preceded by prolonged excitement. In its favour may be urged the fact that it never proves fatal in even the largest doses. It is possible that the active principle, which has only recently been isolated, or some modification may prove more reliable; there is no question that much of the Indian hemp on the market is quite inactive and valueless. And while hyoscine and cannabis are not very reliable alone, better results are obtained from their combination with small doses of chloral or bromide.

When acute pain is present all of the artificial hypnotics fail to cause sleep or relieve the pain, though chloral is rather more efficient than the others. Here recourse must be had to opium or morphine, which, in addition to the general brain-depressant action which it shares with the hypnotics proper, exercises a specific effect on pain sensation. This is not due to any action in the periphery, as was formerly believed, but to some change in the central nervous system. In recent years a new series of remedies for pain has been introduced in the antipyrin-acetanilide group. Morphine relieves pain, but only with drowsiness and sleep, while the antipyretics relieve pain with very much less effect on the general cerebral activity. This permits of their use in circumstances in which opium and its alkaloid are excluded, and they have the further advantage that habit appears to be formed only very rarely. Unfortunately they are efficient only in certain forms of pain, and it is very difficult to define under what conditions they are likely to prove of benefit. Headache, neuralgias, and similar conditions, in which the disease is located in the nerve centres or peripheral nervous tissues, seem to react much better to these analgesics than others in which the nervous tissue is not the seat of the disease, but becomes involved through pressure and inflammation in the neighbourhood.

III.—Sir WILLIAM BROADBENT, Bart., K.C.V.O., M.D., F.R.S.,

Consulting Physician, St. Mary's Hospital; Physician-in-Ordinary to His Majesty the King.

SIR WILLIAM BROADBENT emphasized the importance of identifying the cause of the sleeplessness before giving drugs. It was very important to be on the look-out for indigestion as a cause of sleeplessness; its influence was often largely mechanical, and a drink of water, by displacing a few cubic inches of gas, might be effective. For high arterial tension as a cause a calomel pill was the best remedy; it often induced sleep long before acting on the bowels. He uttered a warning as to the establishment of drug habits, and considered that the depressing effect of chloral on the heart was especially evident in such lung conditions as emphysema and bronchitis.

IV.—W. HALE WHITE, M.D., F.R.C.P.,

Physician, Guy's Hospital.

DR. HALE WHITE said: The distinguished speakers who have preceded me have dealt so fully with the general principles underlying the treatment of sleeplessness and pain that nothing is left to me but to mention a few points coming within my experience. In ordinary practice the treatment of sleeplessness and pain are quite distinct, for when we speak of treating sleeplessness we do not usually mean that due to pain.

The first thing to make out is whether sleeplessness is real; some persons imagine they have not slept when really they have; some certainly dream that they have had a sleepless night; a good way to settle the point is to ask the sufferer how many times he heard the clock strike.

Worry.—The simplest form of sleeplessness is that which arises from the fact that the patient is worrying. Sometimes the worry is a real trouble, such as the loss of a dear friend; sometimes it is hardly worthy of the name of a trouble—for example, he wonders whether he offended some one, or whether he voted the right way at some unimportant meeting; and he lies tossing in bed, constantly turning the trivial question over in his mind, and greatly exaggerating its importance; this may go on till 5 in the morning, when at last sleep comes. People liable to this form of sleeplessness should not be called, for they may perhaps sleep on; but, unfortunately, they generally wake at their usual hour. Some successfully court sleep by counting; one patient used to count up his golf score, and usually fell asleep in so doing; others alter the train of their thoughts by reading for half an hour.

Indigestion.—The next commonest cause for sleeplessness is indigestion; it may be very slight and hence is often overlooked. For example, the patient wakes up about 3 a.m., sometimes with a feeling of discomfort in the stomach; this is probably only a variety of hunger—the secretion of gastric juice has not been dormant through the night, as it should be. If the patient takes a little milk or a biscuit, or a little whisky or gin and a biscuit, after a while he drops asleep; one patient could get to sleep again by taking some bismuth and bicarbonate of soda. This form of sleeplessness may be very distressing; the patient may lie awake from about 2 a.m. till 6 a.m. and then drop to sleep, and when called is thoroughly tired and quite unrefreshed. Many cases of sleeplessness may be cured by taking a little food on waking in the night, even if the connexion with indigestion is not obvious, but no case is ever thoroughly investigated unless every care has been taken to discover indigestion. Speaking generally, forms of indigestion associated with constipation do not lead to wakefulness; those associated with looseness of the bowels often do, and flatulent dyspepsia is particularly prone to be associated with insomnia. The treatment of these cases is obvious.

Micturition.—It might be thought that those who have to get out of bed frequently to pass water would sleep badly, but this is not so; many a sufferer from frequent micturition hardly really wakes when he gets out of bed, and is sound asleep directly he gets back.

Exhaustion.—Another cause of sleeplessness is excessive exhaustion. It is literally true, as some patients say, that they cannot sleep because they are too tired. A man after a hard day's work goes for a long walk, in the vain hope of thereby ensuring sleep, or, again, he works in the evening till thoroughly exhausted. Sometimes the long walk is before dinner; a man tired out walks four miles home from the office, to try and make himself so tired as to compel sleep. The result is he arrives home so fagged that he cannot digest his dinner, suffers from indigestion, and therefore cannot sleep. The treatment of these cases is likewise patent.

Priapism.—I remember a case in which priapism was the cause of insomnia; it was quite unassociated with any desire, and the poor sufferer used to get up and walk about the room in great agony, and with two patients I have known a lesser degree of the same trouble lead to sleepless nights. In none of these cases was there any emission. Successful treatment is very difficult.

Fever.—Sometimes insomnia is due to a fever. I have known prolonged sleeplessness follow convalescence from phthisis and from typhoid fever, but no special treatment is necessary. As the patient's strength increases the power to sleep returns.

Many other Diseases.—Sleeplessness commonly accompanies many diseases. It is a mere truism to say that as far as possible the sleeplessness must be cured by dealing with the cause, but usually the disease which is the cause is incurable, or it will get well when its course is run. In such cases drugs will often be required, and opium is not given as frequently as it might be.

Morphine for Heart Disease and Pneumonia.—Many a patient with heart disease is much benefited by an injection of morphine; he sleeps, and during sleep the heart is rested. Morphine is often withheld quite unnecessarily in pneumonia from a fear that as the drug depresses the respiratory centre it must be bad for the patient. But usually a small quantity (10 gr. of Dover's powder) is ample; these patients are generally not livid, so no dangerous depression of the respiratory centre will result from so small a dose. This is perhaps the best place to state what ought to be our attitude with regard to giving morphine generally.

General Indications for Morphine.—If the patient is incurable, and will die in the course of a few weeks, or even months, it is very cruel to withhold from him the great ease that will follow morphine should he be sleepless or in pain; on the other hand, it is even more cruel to give it if the disease is long-lasting or incurable, because of the great risk thereby run that the patient may attain the degradation of becoming a habitual devotee to morphine. Morphine for such recurrent and long-lasting diseases as rheumatoid arthritis, sciatica, neuralgia, or habitual sleeplessness from, say, indigestion is a pernicious prescription.

Various Helps.—(*a*) *Warm Bath.*—There are a few helps which may aid sleeplessness, whatever may be its cause. A warm bath immediately before getting into bed is often a great help.

(*b*) *Bedclothes.*—A proper arrangement of bedclothes may lead to a good night. Cold feet keep some awake; this may be avoided by wearing night socks. As a rule it is better to start the night with few bedclothes, for it is more easy to get to sleep by pulling up an extra blanket if the sleeper is awakened by feeling cold than it is to regain sleep by throwing off a blanket if awakened by being hot. It is notoriously difficult to sleep on very hot nights.

(*c*) *Fresh Air.*—Fresh air often aids refreshing sleep; the open-air treatment of phthisis has shown that dreamless, restful sleep follows sleeping out-of-doors.

(*d*) *Noises.*—Unfortunately, what with the noises of civiliza-

tion in towns, and natural noises, such as those made by birds and dogs, in the country, the advantages of fresh air are frequently much diminished. The ideal is the association of fresh air with quiet. Happily, most of us become accustomed to noises that recur every night; for example, the Londoner, although terribly distressed by the noises of birds when he goes in the country, is often not awakened by milk carts. Of all noises, that made by the sea is the least obnoxious to the light sleeper; on the other hand, recurrent noises are among the worst, for the unfortunate would-be sleeper lies awake expecting them to recur; hence, a clock that strikes the quarters has spoiled many a night. Some light sleepers fit their rooms with double windows; others put cotton wool in their ears.

(e) *Position.*—It is usual to sleep better in one position than another; perhaps the favourite is to lie on the right side, but most persons can quickly learn to sleep in a new position, as is seen in the fact that although few sleep naturally on their back, this is soon acquired after abdominal operations.

(f) *Darkness.*—Every one knows that darkness conduces to sleep. The harmfulness of light at night is seen in the popular belief that if the moon shines on a sleeper he or she will become a lunatic. It is surprising what a small thing may make the difference between a good and a bad night. Some people will not sleep away from home because they cannot sleep in a strange bed.

(g) *Alcohol.*—Many people believe that their chance of a good night is enhanced if they take a little spirit and water before going to bed. This may be so with some, but it is certain that with others it has a contrary effect, for it stimulates their faculties and keeps them awake. Such persons would have to take so much alcohol that the harm would outweigh the good.

(h) *Milk, Tea, Coffee.*—On the other hand, a glass of warm milk or a basin of Benger's food the last thing at night certainly helps some to sleep, and so may a pipe. Poor sleepers should never take tea or coffee after dinner, and many a good night is spoiled by falling asleep after dinner. Different persons require different amounts of sleep, and it is, as a rule, harmful to curtail the amount natural to each person. Less sleep is required after middle life than before it, but the very old often sleep a large part of the twenty-four hours.

Indications for Drugs.—Unless, as already mentioned, sleeplessness is caused by a disease which will soon in its natural course get well, or is due to a malady which will be fatal in a few weeks, soporific drugs should not, generally speaking, be allowed, for there is a great fear that the patient will be unable to do without them, and, finally, even harmfully large doses will fail to bring sleep. An exception may occasionally be made when sleeplessness is due to some trouble which time will heal, or to some anxiety or excitement which will pass away; then an occasional dose of some soporific will be useful.

Tablets.—Soporific drugs should not be given in the form of compressed tablets, for they may be useless, because they are passed through the bowel unchanged, or they may dissolve so slowly that they are not absorbed until the end of a sleepless night, with the result that the patient is drowsy the next day. Often, if a peaceful night has been won by one of these drugs, a second good night will follow without another dose, probably because the whole of the first dose has not been eliminated.

Chloral.—Chloral is probably used more than any other soporific; it has the great advantage of being easily soluble, and rarely produces any disagreeable after-effects if given in moderate doses, and children take it well. Its disadvantages are that chloral-taking is a vice to which many people are addicted; occasionally it upsets the stomach; that, as it depresses the blood pressure and the cardiac muscle, it is undesirable, if the heart is diseased or the blood pressure low.

Chloralamide.—Chloralamide has not any of these disadvantages, and is an excellent hypnotic for cases of heart disease, but it must be given in solution; this is best done by putting the desired dose—usually 25 gr.—in an ounce of brandy, stirring till the drug is dissolved, adding water to taste, and drinking about an hour before bedtime; if the drug is given as a powder, it is dissolved and absorbed so slowly that often after a sleepless night the patient sleeps heavily all the next day.

Chloretone.—Chloretone is not much used, but it appears to act exactly like chloralamide.

Sulphonal, Trional, Tetronal.—Sulphonal, trional and tetronal are all powerful and certain hypnotics having the great advantage of not depressing the heart nor upsetting the digestion; they usually produce refreshing sleep. They have the disadvantage of being insoluble, and are therefore best given in a cachet and not in a compressed tablet as is often done; owing to their insolubility they sometimes do not take effect until many hours after they are swallowed. None of them should be given if the kidney is diseased as all may cause haematoporphyrinuria. Trional is probably the best; some persons have got into the habit of taking sulphonal constantly; any one of the three should be taken an hour before bedtime and the cachet washed down with a draught of hot water.

Veronal.—Veronal, as far as our experience goes, is an excellent drug with all the advantages of trional; it is, however, insoluble and should therefore be taken in a cachet.

Paraldehyde.—Paraldehyde is a very good hypnotic, it does not depress the heart and quickly produces refreshing sleep. It has the great advantage of being soluble in 1 in 10 of water, therefore 1½ drachms may be given in 2 oz. of water; the disgusting taste may be best covered by adding both tincture and syrup of orange. The disadvantage of it is that the most disagreeable odour of it is exhaled from the lungs for days after a single dose. This prevents its use unless the patient is too ill to be up and about; it is particularly valuable when insomnia is associated with delirium or any mental aberration, it may then succeed when other hypnotics have failed. It may be given per rectum. Its very nasty taste nearly always prevents habitual abuse of it, but I once knew a doctor who became a slave to it.

Hyoscine.—Hyoscine should be rarely given, for it is such a powerful poison that it would never do for patients to be under the impression that it is an ordinary hypnotic, but it may be used for cases of insomnia accompanying severe illness, especially if mental disorder is present; but it should not be ordered if the pulse is weak, the blood pressure low, or respiration very laboured.

Bromides.—Bromides have not lately been used so much as other soporific drugs, for it has been found that if doses sufficient to produce sleep are given there is often next day much general depression and malaise.

Heroin.—If want of sleep is due to a troublesome cough a tenth of a grain of heroin hydrochloride at night will often ensure a good night, as it stops the cough. Want of time prevents my discussing hypnotic suggestion, but it may certainly in a few cases lead to a restful night.

Pain.—The first point to observe about the treatment of pain is that in some cases it should not be treated, for it is a valuable aid to diagnosis; it is better medicine to let a patient with abdominal pain suffer for twenty-four hours, and then for the doctor to come to a correct diagnosis than to stop the pain and by so doing come to a wrong diagnosis. Much judgement is required to give opium properly in cases of abdominal disease. It has already been pointed out that in many cases it is very wrong to give morphine for insomnia, and in similar cases it is very wrong to give it for pain; for example, if morphine is given for the pain of osteo-arthritis or neuralgia, the patient may easily become a confirmed taker of morphine. It is impossible to discuss the treatment of pain in general terms, and to discuss it in detail would take the whole morning, for the pain of almost every disease has its especial treatment: for example, pain in the head due to errors of refraction is relieved by glasses, the pain of angina pectoris is relieved by nitrites, neuralgia is relieved by gelsemium, rheumatic pains by aspirin, the pain of labour by chloroform, and so forth.

V.—Arthur Foxwell, M.A., M.D., F.R.C.P.,

Physician, Queen's Hospital, Birmingham; Professor of Therapeutics, University of Birmingham.

Dr. Foxwell said: Too little attention is usually paid to the cerebral circulation in the treatment of insomnia. It is generally admitted now that, though anatomically a vasomotor system exists in the cerebral arteries, yet physiologically it has little, if any, action. It follows from this that any raising of pressure in the aorta must increase the flow of blood through the brain, and thus increase the activity of the cerebral cells. Hence high aortic pressure must tend to sleeplessness, and sleep may often be procured by lowering it. It is not a steady chronic high pressure which is likely to cause wakefulness (though probably high-tension individuals are more likely to suffer from this than others) but it is a variation in the blood pressure to which the individual has been accustomed which induces insomnia. The commonest

cause of bouts of high pressure is imperfect metabolism, due either to improper food or to incapacity of the metabolic viscera. The best drugs to set this right are calomel and rhubarb, given three to six times daily in doses of $\frac{1}{30}$ to $\frac{1}{10}$ gr. of the calomel, of 1 to 2 gr. of rhubarb. These will often succeed after the whole army of soporifics (including opium) have been tried in vain.

VI.—BERTRAND DAWSON, M.D., B.Sc., F.R.C.P.,
Physician, London Hospital.

DR. BERTRAND DAWSON said: One of the most crying needs of treatment is a peripheral anodyne which will be effective—safe and enduring in its action—a drug which will be moderately soluble, and permeate unbroken skin and mucous membrane. What a boon if we could apply a drug to a painful part and assuage its pain for, say, ten to twelve hours. Let me instance a burn or an ulcer of the mouth, larynx, stomach, or rectum. To lessen pain due to such causes we are at present driven to use central remedies such as morphine on the one hand or antipyrin, phenacetin, aspirin, pyramidon, chloretone, etc., on the other. Though morphine must always remain our sheet anchor in the relief of pain, there are obvious objections to its constant use. The other central drugs are too transitory in their effects and sometimes depress the patient. Cocaine, eucaine, and adrenalin are good peripheral anodynes, but their action is too brief for general service. The drugs which come nearest to the description I have given are orthoform (meta-amido-para-oxy-benzoic acid) and anaesthesin (ethyl-para-amido benzoate). They resemble one another closely. Both are crystalline powders and practically insoluble in cold water. They are insufflated or dusted or may be used as ointments. For burns, ulcerative stomatitis, tuberculous and malignant ulceration, whether of larynx or other regions, they are most efficient in allaying pain for many hours. I have seen patients in so much pain from stomatitis or ulcerated larynx as to be afraid to eat, swallow a meal with ease after the application of orthoform. Both drugs may be given internally—orthoform up to 3 gr. and anaesthesin up to 8 gr.—for gastric ulcer, carcinoma, or nervous dyspepsia. Both orthoform and anaesthesin have the same disadvantages—that is, they are both so insoluble as to prevent their use on unbroken skin or hypodermically. Thus their usefulness is considerably limited. The ideal peripheral anodyne has yet to be discovered. I should like to urge the importance of combining anodynes with hypnotics for administration at night-time where there is pain. A small dose of aspirin, for example, added to trional or veronal will produce sleep under many circumstances where the hypnotic alone will fail.

DIAGNOSIS OF THE VARIETIES OF PLEURAL EFFUSION.

By WILFRED HADLEY, M.D., F.R.C.P.,
Physician, London Hospital.

THE importance of making a correct diagnosis lies in the fact that a very large number of cases of pleurisy with effusion is in reality tuberculous, and as the treatment may differ considerably according to its true nature, it behoves us to inquire into the means at our disposal for arriving at a diagnosis.

The varieties of pleural effusion may roughly be classed as:
1. Inflammatory or septic (in its widest sense).
2. Tuberculous.
3. Mechanical (that is, due to renal or cardiac disease).
4. Cancerous.

Renal and cardiac disease, as also cancer, will usually definitely disclose themselves, the chief difficulty being in the diagnosis between the inflammatory or septic and the tuberculous cases, the importance being, chiefly, that of not overlooking a tuberculous effusion.

The means we have for arriving at a conclusion as to the nature of any particular effusion may be summarized as follows:
1. Clinical.
2. Cultural.
3. By inoculation.
4. By tuberculin.
5. Jousset's microscopical.
6. Cytological.
7. Sero-diagnosis.

Now to review these means.

1. *Clinical.*—Rapidity of onset and acuteness of symptoms, nearly always some definite history of antecedent, acute lung mischief—pneumonia, bronchitis, and the like—or associated with acute or chronic rheumatism, with or without pericarditis or endocarditis, often with a high temperature—these are clinical characteristics of an inflammatory or septic effusion; whilst insidiousness of onset and chronicity of symptoms, with no previous lung trouble to account for it, often showing a much lower range of fever and with no suspicion of rheumatism, are more the clinical features of tuberculous pleural effusions. In the case of effusion of cardiac or renal origin you will have many other signs and symptoms of these diseases to guide you; whilst in cancerous effusion you will have an apyrexial, frequently-recurring, often sanious collection of fluid, sooner or later associated with the signs and symptoms of malignant growth of the lung.

2. *Cultural.*—This consists in taking cultures from some of the fluid withdrawn. The method is fairly reliable when a positive result is obtained; but so frequently the cultures remain sterile because the organisms are usually very sparsely scattered in the fluid. For tubercle the best culture medium is found to be glycerinated-gelose-blood. In positive results colonies of tubercle will appear about the twenty-sixth day. This is a long time to wait, and a negative result cannot always be taken to prove the absence of tubercle, for the reason given above.

3. *By Inoculation*, that is to say, the introduction of some of the effused fluid into an animal, such as a guinea-pig. This is a fairly reliable means. It gives on an average about 40 per cent. of positive results, but leaves many cases doubtful, and, of course, necessitates many days' delay in arriving at a diagnosis. The percentage of positive results is higher than above stated in the hands of some observers.

4. *By Tuberculin.*—This test is of undoubted value, and gives over 70 per cent. of positive results. Unfortunately, it is not quite free of danger to the patient; and, further, there is often difficulty in using it, because, for the proper application of this test, it is necessary for the patient to be more or less apyretic, which in acute cases of pleurisy he rarely is, and, in any case, a positive result only proves the presence of tubercle somewhere in the body, not necessarily in the diseased pleura.

5. *Jousset's Microscopical Method.*—This is at once reliable and easy of application, whilst the necessary technique is not complicated. It has already been said that organisms in a pleural effusion are generally but sparsely scattered in the fluid, and consequently it has been found practically useless to attempt a diagnosis by simply making cover-glass preparations from the fluid. Even when a good amount of fluid is withdrawn and thoroughly centrifugalized, cover glass preparations made from the deposit thus obtained give very unreliable results. Jousset's method gets over these difficulties in the following way:

(1) A few ounces of the fluid are withdrawn.

(2) This is allowed to clot.

(3) The clot, which has entangled in its meshes all the organisms present, is next digested with artificial gastric juice. This dissolves the fibrinous clot, but has no action on tubercle bacilli, which, as you know, are "acid fast."

(4) The digested material, now fluid, is thoroughly centrifugalized, when the tubercle bacilli, if present, being practically the only solid bodies left after digestion, will form the precipitate, and may be demonstrated in appropriately-stained cover-glass preparations. In reporting on this method, Jousset says that in 20 cases of primary, sero-fibrinous pleurisy he was able to demonstrate tubercle bacilli in all of them; and certainly in ordinary work one finds it a most useful and reliable help in arriving at a diagnosis.

6. *Cyto-diagnosis.*—This turns on the different numbers of the various cells present in pleuritic effusions, according to their causes. A good large syringeful of fluid is withdrawn, rapidly centrifugalized, and cover-glass preparations made from the deposit. Now, taking the three large groups of effusions which I have given—namely, (1) inflammatory or septic, (2) tuberculous, (3) mechanical—the cell elements will be found, approximately, as follows:

(1) *Septic.*—The cells are almost exclusively polymorphonuclear, with a few red cells and an occasional large mononuclear.

(2) *Tuberculous.*—Cells almost exclusively small mononuclear (lymphocytes), only rarely a polymorphonuclear cell.

(3) *Mechanical.*—Cells much fewer in number than in either of the other two varieties, the characteristic ones being the flat endothelial cells from the pleural lining itself, and in

typical cases they are seen in plates of several together. This method has been extensively used, and authorities agree that it is most reliable. It may be accepted that an exudate showing a half or more of the cells as small mononuclears (lymphocytes) is tuberculous in origin. The cautions one would give in this connexion are these:

(1) The longer the effusion has been present the more polymorphonuclears there will be, so that even in tuberculous cases of long standing the polymorph may be the most numerous cell. Indeed, a majority of lymphocytes goes to prove tubercle, but a majority of polymorphs does not definitely prove the absence of tubercle (if of long standing).

(2) Those effusions which are becoming inflamed or purulent naturally show more polymorphs, whatever the primary cause may have been.

(3) Pneumonia may occur in a case of tuberculous pleurisy and the cell content will show a majority or polymorphs. Thus, I have seen a case of pneumonia followed by pleural effusion, in which the cell count was almost entirely polymorphs, but on searching for tubercle bacilli by Jousset's method, they were found to be present.

7. *Serum diagnosis.*—For completeness this method must be mentioned. It is an agglutination test, analogous to Vidal's test, now so widely used in the diagnosis of typhoid. It is, however, a method which is not applicable to general practice, as it needs an expert, constantly at it, to obtain anything like reliable results, and even then Arloing, in speaking of it, says that it is not by any means always to be trusted.

It will therefore be gathered that, guided by one or other of these methods, we shall generally be able to arrive at a diagnosis. Whatever the means employed, the results all point to the same conclusion—namely, that the vast majority of primary, idiopathic, sero-fibrinous pleural effusions is tuberculous. In conclusion, I would submit the following suggestions:

(1) That it is most important to appreciate the frequently tuberculous nature of pleural effusions.

(2) That clinically, if an effusion takes place without any apparent cause, either in the shape of trauma of inflammation from without, or some definite trouble in the lung, mediastinum, or pericardium, from within, if there is not heart or kidney disease to account for it, and if there is no strong rheumatic taint, then it is almost surely tuberculous.

(3) That pathologically we have several very reliable ways of definitely determining its true nature the two most reliable, as well as convenient, being (*a*) the estimation of the cell content of the fluid, (*b*) Jousset's method of demonstrating the presence of tubercle bacilli.

Professor Osler said that the onset in tuberculous pleurisy was not always insidious, but might be most acute, with very rapid effusion. Two cases were cited—one in which death occurred within a week in a convalescent from acute rheumatism and chorea; the other, a man who had acute pleurisy after exertion. Tubercle bacilli were present in the exudate within the first week of the illness. He emphasized the value of inoscopy; in a large proportion of recent cases bacilli had been detected by the clotting and digestive method. A third diagnostic guide was the discovery of tubercle elsewhere in the body—a nodule in the testis, a tuberculous gland, or in the slight amount of sputum present. In 19 instances out of a series of 200 cases of pleurisy with effusion bacilli were found in the sputum, and in only 6 of these cases were there marked signs of pulmonary disease. The bacilli might only be found after repeated examinations—in one case on the thirty-first! Another feature pointing to the frequency of tuberculous infection in this disease was the percentage of cases which ultimately became tuberculous. The figures varied from about 30 per cent. in one series to 50 or 60 in those of some other observers.

INFLUENCE OF POSTURE ON ADVENTITIOUS BREATH SOUNDS, WITH ESPECIAL RELATION TO THE EARLY DIAGNOSIS OF PHTHISIS.

By W. B. Ransom, M.D., F.R.C.P.,
Physician to the General Hospital, Nottingham.

That a cardiac murmur is often heard when the patient lies down though absent when he is upright, and that many people wheeze on lying down who breathe comfortably when sitting or standing, are familiar facts. The facts to be mentioned in the present note are not, I think, so generally appreciated.

For many years I have noticed that in patients liable to attacks of bronchitis, and who usually have more or less emphysema, as well as in those who suffer from asthma, though, when examined standing, the chest is free from adventitious sounds, on lying down one immediately may hear widespread rhonchi and sibili, both inspiratory and expiratory.

For some time I thought this phenomenon was limited to this class of cases, but eight years ago I had in hospital a middle-aged woman, with the physical signs of capillary bronchitis, in whom the difference was strikingly marked, the breathsounds being usually clear when she sat up, but full of râles when she lay down. The sputum of this patient contained large numbers of tubercle bacilli and the autopsy revealed disseminated tuberculosis of the lungs. At intervals somewhat similar cases have presented themselves, and within the last year some definite cases of localized pulmonary tuberculosis have impressed me with the importance of this observation.

Case I.—A young man, with a strong family history of phthisis, who had in the preceding four months had six severe attacks of haemoptysis, was sent to me by his doctor with the statement that he could detect no morbid signs in the lungs. I examined the patient standing up, and likewise failed to find by inspection, percussion, or auscultation any departure from the normal. I then made him lie down, and immediately heard distinct crepitations in the first and second spaces on the right side. This patient remained free from fever or other physical signs for another month. (Indeed, I hear that even on lying the adventitious sounds were not always present.) However, he has since developed fever, moist crepitations with rhonchi and sibili in the three upper intercostal spaces on the right side, and a copious expectoration.

Case II.—A nervous young man, who had lost strength and flesh for a year, and who, in spite of a slight haemoptysis six months ago, had been treated only for "general debility," having little or no expectoration, came as an out-patient last autumn to the General Hospital, Nottingham. The wasted and pale face suggested advanced phthisis, but a careful examination of the lungs while he stood up revealed no signs of disease. On lying down, however, one at once heard inspiratory rhonchi and sibili, with a few crepitations, in the first two spaces on the right side and extending for a short distance into the upper part of the axilla. After a number of deep breaths the rhonchi and sibili almost cleared up, but the crepitations remained. The signs at the right apex have since developed, and tubercle bacilli have been found in his sputum.

Case III.—A third case is that of a young woman who, a year ago, had been treated in a sanatorium for tuberculosis of the right apex, and in whom there had been no adventitious sound at the right apex. She remained in good health for a year, when, after severe strain in nursing her father, she had a slight haemoptysis. When examined (March 3rd, 1905) in the upright position there was slight dullness under the right clavicle, and only weak, harsh breath sounds. When she lay down, however, distinct crepitations, mainly inspiratory, were heard in the first two intercostal spaces on the right side.

Cases in which this phenomenon is to be found are not very common, and for some time I have hesitated to make these few observations public, but it seems worth while to draw the attention of others to it for the purpose of confirmation or the reverse.

The cause thereof is to me at present obscure.

When the patient lies down the breath sounds are often louder than when he is upright, probably because the supporting couch acts as a resonator.

(For the same reason slight loss of resonance to percussion is less obvious in the supine than in the upright position.)

This may explain the becoming audible of very faint crepitations, but it will not explain the loud wheezes and rhonchi which the supine position evolves in the lungs of the asthmatic and of some persons with a tendency to bronchitis. A reflex nervous spasm seems the important factor here.

On listening to the chest one has often thought that expiration is unduly prolonged in the horizontal position, and the idea suggests itself that this might be connected with a less ready descent of the diaphragm.

But tracings which I have taken of the thoracic movements in healthy persons show no changes in the relations of the inspiratory and expiratory curves. I have not yet had an opportunity of taking such tracings in the subjects of pulmonary disease.

Possibly some persons, when horizontal and the diaphragm does not descend so easily during inspiration, bring the upper respiratory muscles more into action than they do when upright, and thus tend to stretch the adherent apices of the lungs.

Whatever the explanation may be, the point brought out in this note is that, not only in cases of bronchitis and emphysema, but in a few cases of limited pulmonary tuber-

culosis, adventitious sounds may be heard in the supine while absent in the erect position.

A DISCUSSION ON THE PATHOLOGY, DIAGNOSIS, AND TREATMENT OF VARIOUS FORMS OF MENINGITIS.

I.—HOWARD TOOTH, M.D., C.M.G., F.R.C.P.,

Assistant Physician, St. Bartholomew's Hospital; Physician, National Hospital for the Paralysed and Epileptic.

DR. TOOTH said: In the short time allowed to me it would be futile for me to attempt a systematic account of the symptomatology of this disease; I propose, therefore, to treat my subject from the point of view of comparative symptomatology only, leaving the bacteriological and pathological aspect of the subject to Dr. Horder. We both take as the basis of our observations the cases of meningitis of the last year admitted to St. Bartholomew's Hospital, together with a number of those of this year, making in all a consecutive series of 65 cases for the last eighteen months. They are classsfied in the following table—and I must here take the opportunity of thanking my colleagues for their permission to make use of their notes:

Variety.	Recovered.		Died.		Total.		
	M.	F.	M.	F.	M.	F.	—
Tuberculous ...	—	—	21	10	21	10	31
Meningococcus ...	5	2	9	1	14	3	17
Pneumococcus ...	—	—	3	4	3	4	7
Streptococcus ...	—	—	3	—	3	—	3
Undetermined ...	—	—	4	3	4	3	7

It will be seen that they are classified on bacteriological lines. The only objection to this method of classification at the present time lies in the diverse clinical manifestations of the meningococcus group, which appears to include the form described under the names "posterior basic," "simple meningitis of children," "sporadic cerebro-spinal" and "epidemic cerebro-spinal meningitis." Whether the diplococcus found in all these forms is the same organism, but of varying degrees of virulence, or whether there are pathogenically distinct though morphologically similar organisms in these apparently different clinical types, has yet to be determined.

Age at Onset.

Speaking generally, all forms of meningitis are commoner in children than in adults. In our 65 cases of all forms, 4 only were over 20 years of age.

In the list of tuberculous cases we find 1 over 20 and all the others under 17, and the larger number between the first and third year.

In the meningococcus group this tendency is so marked that we find 12 of our 17 cases fall under 1 year—that is, 70.5 per cent. (Barlow and Lees 76 per cent., but their figures being derived largely from a children's hospital would naturally not include older persons). There can be no doubt that no age can be said to be exempt from meningococcus infection, and that when the disease becomes epidemic the age-incidence becomes more general.

Source of Infection.

Tubercle of the meninges is so uncommon without some evidence of tuberculous infection elsewhere (only 1 in our 31 cases), that one may look upon the meningeal affection as almost always a secondary incident in a more or less generalized tuberculosis.

But in the other forms of infective meningitis the question of the gate of entrance of the infective organism is one of considerable interest, though after the disease is fully established it is a doubtful question to what extent or in the supposed source of infection can influence the course of the disease in any way.

In the meningococcus group we find 4 had otitis media. One a severe discharge from the nose on admission, and another "cold in the head" from birth. The pneumococcus cases show one purely secondary to pneumonia; one of the others had had a profuse nasal catarrh the day before onset. In our 3 cases of streptococcus meningitis, one had a rather severe pharyngitis, one otitis media, and another general infection with septic endocarditis. Seven cases were of undetermined infective origin, and among these 3 presented otitis media, and 2 a general septic infection.

Attention may be drawn to the comparatively common occurrence of otitis media; in fact, the naso-pharyngeal mucous membrane, together with the Eustachian tube and middle ear, have long been suspected as channels of infection. These facts may be tabulated as follows:

Variety.	No Source of Infection Found.	Otitis Media.	Pharynx.	General Infection.	Nose.	Pneumonia.
Meningococcus (17)	11	4	—	—	2	—
Pneumococcus (7)	4	1	—	—	1	1
Streptococcus (3)	—	1	1	1	—	—
Undetermined (7)	2	3	—	2	—	—
Total ...	17	9	1	3	3	1

Eyes.—The condition of the eyes offers some interesting points. In tuberculous cases optic neuritis is common, in nearly half our cases, 13 out of 31. In two of these the disc became blurred on the third day, both of these cases being rapid (seven and twelve days) and of well-defined onset, with headache and vomiting. The date of the first appearance of optic neuritis is of some interest. It is probably most commonly about the fourteenth day.

In the meningococcus group it is a striking fact that disc lesions are much less common than in the last-mentioned variety. Amongst our 17 cases only 2 showed active optic neuritis, and both of them recovered; the disc changes were first seen on the thirteenth and fourteenth day respectively. One of them I have seen a year after, and his sight is apparently quite good, but the edges of the discs are less defined than normal. One other child developed optic atrophy and became quite blind. He ultimately recovered, but is blind now a year after. The infrequency of optic changes in this disease is most remarkable considering the long course of the disease. Barlow and Lees record that in 42 cases in which the discs were examined 7 only showed more or less inflammation and 8 some pallor.

Amaurosis without obvious changes in the fundus, and generally temporary, is a comparatively common symptom in meningococcus meningitis, but it was noted in only one of our cases, on the seventeenth day, and lasting for about ten days. The patient ultimately recovered.

The pupils are very variable, even in the course of any one case. They are frequently dilated or unequal. Their condition possesses no differential diagnostic value. A common symptom is retraction of the upper eyelid, giving a peculiar staring appearance resembling that so often seen in Graves's disease and named after Stellwag.

Paralytic Symptoms.—It is surprising how comparatively uncommon paralyses are in all forms of meningitis when one considers the extent and intensity of the inflammatory process. Not only would one expect paralyses of many cranial nerves from consecutive inflammation of their trunks, but also it is strange that nuclei seem to escape, even though a tracking of the infective exudation along the lymphatics around the vessels that nourish these nuclei can be shown by microscopic examination. Whatever the explanation, the fact remains that paralyses of cranial nerves are uncommon with the notable exception of the nerves of the eye muscles. Squints, in fact, are extremely common, squints which may be variable in the same patient from time to time both in degree and kind. The most usual form is an internal strabismus due to lesion of the sixth nerve. The long and exposed course of this nerve right across the area most liable to inflammation renders it peculiarly liable to lesion. Other squints are external of one eye, due probably to irritation of the sixth nerve or double divergent squints. Conjugate deviation is not uncommon; it may be due to lesion of the sixth nucleus, or more often, perhaps, to inflammation of the cortex.

As might be expected from the common basic seat of the inflammation, squints are most common in meningococcus meningitis, 14 out of 17. In 8 cases that recovered all except 2 had some form of squint in the course of the illness, so the symptom has no sinister significance in respect of prognosis

In tuberculous cases the symptom appears to be less frequently observed—14 out of 31.

Of the remaining forms taken together we find that squints are less common than in the two last mentioned—7 out of 17 cases.

Paralyses other than those referable to the eyes, as above said, are rare. In tuberculous cases 2 only—a left hemiplegia and a paraplegia; there was also 1 case of aphasia. Among the meningococcus cases only one temporary paresis, left arm; the patient recovered. Among the other forms we find one only, a paraplegia.

Tonic Muscular Spasm.

The group of symptoms included under this term is of considerable diagnostic interest. Muscular rigidity may be general of all the muscles of the body, or it may affect predominantly certain groups, so producing definite clinical pictures. The spasm may be in existence for long periods of time—many weeks even—and then finally disappear and the patient recover.

Among the earliest evidences of hypertonia is a stiffness of the neck muscles and a slight resistance to passive flexion, often with some evidence of pain. Later this becomes more marked, and the familiar appearance of cervical opisthotonos is produced. A further extension of the same condition produces extreme general opisthotonos, in which the head may be bent back so as to touch the buttocks almost. This hypertonia is not confined to the spinal extensor group, but affects also the abdominal and thoracic muscles more or less, producing retraction of the abdomen, or, as a variety, the so-called scaphoid abdomen. The limbs also share in the general rigidity, the position assumed being flexor if the spasm is only of temporary duration, but in prolonged opisthotonos the limbs are usually in extreme extensor spasm.

The resistance of the hamstrings to passive extension of the knee when the thigh is flexed on the abdomen to about a right angle—the value of which was pointed out by Kernig—is a useful method of demonstrating local hypertonicity of the lower limbs. Probably the retraction of the eyelids, giving the peculiar staring appearance named after Stellwag, is only another local manifestation of muscular rigidity.

Tonic spasm, local or general, occurred in 50 of our 65 cases of meningitis, or 76.9 per cent. It was absent in 12, and no record existed in 3.

Analysing these cases, we find that of 31 tuberculous cases head retraction occurred in 15, rigidity of the limbs alone in 4, Kernig's phenomenon alone in 4—that is, some evidence of tonic spasm in 23 of 31 cases, or 74 per cent. In 6 there was no spasm, and in 2 no record made.

In the pneumococcus group tonic spasm is a less frequent event—only 3 in 7 cases; but figures in so few cases are of little value.

On the other hand, in the group of meningococcus infection tonic spasm, more or less, was noted in every case—in fact, it may be regarded as an almost invariable symptom of this disease, and an extreme persistent opisthotonos rarely occurs in other form of meningeal infection.

There can be no doubt that the rigidity of meningitis must be due to some disturbance of balance between controlling mechanisms in the cerebellum, optic thalamus, and cortico-pyramidal systems, which in health maintain the muscular tone. How complex this matter is, even from the comparatively simple standpoint of experimental lesion, may be found by reference to the work of Sherrington and others and the literature summarized in Dr. Thiele's interesting paper on the thalamus and Deiter's nucleus.[1]

Reflexes.—The condition of the tendon-jerks and plantar reflexes was noted in 36 cases. No note is made in 30.

State of Knee-jerk.	With Tonic Spasm.	Without Tonic Spasm.	Total.
Natural	7	1	8
Increased both sides ...	10	1	11
Increased one side ...	4	—	4
Absent	11	1	12

In 28 of these cases there was some abnormality in the tendon-jerks, most often in the way of increase—16 in all. But one is struck by the considerable number in which the knee-jerks were absent—12 in all—11 of them being associated with tonic spasm. The extensor plantar response as an added symptom was noted in 10 cases—1 rather doubtful—and it is interesting to find that 4 of these were among those with absent knee-jerks, an apparent contradiction.

In meningitis, then, the reflexes are very variable. They may be absent even when there is intense hypertonia, the reverse of what we find in cerebral hypertonia—for instance, in the diplegias. They may be natural or increased, or they may vary in the course of the disease from time to time. For instance, in one case the knee-jerk was natural on admission, absent on the twenty-seventh day for some days, and finally rather increased. This child ultimately recovered, but an unsteady cerebellar (?) gait has persisted to the present time. In another case the left knee-jerk was in excess of the right, and finally both disappeared, but there was an extensor plantar response nevertheless. It is conceivable, in explanation of this apparent anomaly, that in the same case there may exist two causes of hypertonia—one cerebellar, the other cerebral—or due to some affection of the pyramidal system, which is detected by that most delicate of all tests, the extensor response of Babinski.

Fever and Pulse.—The course of the fever in meningitis seems to me to be worthy of study, for though in many cases the chart presents no distinctive features, yet in the larger number there are certain broad characteristics which afford help not only in the general diagnosis of meningitis, but even in the distinction between its varieties.

The relations between temperature, pulse, and respiration present many vagaries, and the dictum that they tend to be at variance with one another is in the main true. One point, however, seems to come out on consideration of the cases at my command, namely, that whether the temperature rises or falls in the course of a fatal case the pulse-rate rises, and the respiration tends to go with it, and this applies to all forms of meningitis with few exceptions.

In tuberculous meningitis an irregular oscillatory temperature generally above normal, but often not much, and with frequent sudden falls to normal or below, is perhaps the most common type. High continued fever is less common than in the other infections.

Towards the end there is commonly a terminal rise, rapid as a rule, that is, in twelve to twenty-four hours, or the rise may be spread over three or four days. The pulse and respiration accelerate apparently *pari passu*.

A less common event is a terminal fall, also rapid, but with no corresponding diminution in pulse-rate. (Charts to illustrate these two points were exhibited.)

The more one thinks about the relations between fever and pulse in meningitis, the more one seems forced to the assumption that there are separate mechanisms governing the two, the result being independent action.

If this tendency were not common to all forms of meningitis we might be tempted to explain it in tuberculous meningitis by the frequent existence of general tuberculosis, which existed more or less in all our cases except one. This was the case of a child, aged 7 months, under the care of Dr. West: he died on the thirty-third day of illness, during twenty-seven of which he was under observation. The temperature rarely rose above, and was generally about or below, normal, falling rapidly before death. The pulse-rate was between 120 and 150, and the respiration 48, most of the time, but both fell rapidly in the last twelve hours. *Post mortem* there were found a few tubercles in the Sylvian fissure, some purulent exudation in the interpeduncular space, and distension of the ventricles, but all the other organs were natural. These simple cases are rare in tubercle.

The fever of the meningococcus infection possesses distinctive features. In the sporadic forms, including the posterior basic group, a prolonged course is the rule, whatever the ultimate result. The most common and characteristic type of fever is that marked by periodical great oscillations of temperature. There may at first be a continued fever, such as occurs in the epidemic form more often (Osler), but this soon gives way to the oscillatory type. The oscillations may be daily, pseudo-hectic, or, at longer intervals, pseudo-intermittent. These three characters may be seen in the course of the same case, as, for instance, in the temperature chart I now pass round. This belonged to a patient of Dr. West, referred to later under "recovery cases." There is a short continued fever of about nine days, then wide daily oscillations for a month, and then a postponing intermittent for nearly three weeks.

A word about this pseudo-hectic type of temperature. By this

[1] Thiele. On the Efferent Relationship of the Optic Thalamus and Deiter's Nucleus, etc. *Journ. of Physiol.*, vol. xxxii, p. 358. 1905.

is meant a rise to a considerable height, in this case generally over 102°, and a fall to the normal or below, each extreme occurring once in the twenty-four hours, so that the chart presents a superficial resemblance to the hectic of phthisis. But it differs from this latter in that there is no sort of certainty when the rise or fall may occur, though perhaps on the whole the rise occurs more often in the evening.

This characteristic comes out equally well in a four-hourly reading, as may be seen by the chart of another patient of Dr. West's, in which the extremes occur night and morning, though there are occasionally minor secondary oscillations. This pseudo-hectic character is very common in meningococcus infection, a disease of violent daily fluctuations of temperature independently of pulse and respiration.

In the pseudo-intermittent type of temperature the rises are separated by normal or subnormal intervals. In the chart exhibited there is a certain degree of regularity in the intervals, but more common are sudden unexpected rises with equally sudden falls. There may be no corresponding constitutional disturbance, but sometimes the rise is marked by a chill and a general feeling of illness. The pulse may show no corresponding alteration.

In the epidemic form of meningococcus meningitis the course of the disease appears to be much shorter, in the fatal cases at any rate, and the temperature in such cases of more pronounced continued fever type (Councilman, Mallory, and Wright,[2] Netter,[3] Osler[4]), but among the more chronic cases recorded we notice the oscillatory chart so characteristic of the sporadic form.

Pneumococcus meningitis has the shortest course, and is perhaps the most invariably fatal of all forms of meningitis. The temperature rapidly mounts to 103° or 104°, or higher, as in one of our cases in which it rose on the third and last day to 106 8°. In another case it fell to 95° before death. In two cases the pulse-rate remained very moderate, 70 to 80 in spite of high temperature, rising, however, in last ten hours according to the general rule.

I have some diffidence in discussing the febrile characters of the streptococcus infection, because I have only three cases to deal with, and in one of these there was infective endocarditis, so that the meningeal affection may have been a terminal incident. The other two, however, were probably more definitely primary infections.

One, a boy aged 15, with a history of otorrhoea, was ill five days only with high continued fever (maximum 104.4°) and severe headache; admitted on the fourth day and died on the fifth.

The other, a boy aged 14, was ill 27 days with high continued fever of pronounced enteric character, the resemblance being all the more striking from the fact that the pulse was rarely above 90. There was a rapid fall to 95.2° on the last day. This child had albuminuria and haematuria, and the kidneys were found *post mortem* to be pale and swollen. The meningitis was, therefore, probably a terminal event.

Duration and Prognosis.

In the tuberculous form the average duration in 29 cases in which the date of onset is fairly certain is fourteen days, the shortest five, and the longest thirty-three. As to prognosis, all authors agree that tuberculous meningitis when fully established is invariably fatal.

In meningococcus meningitis the average duration in our 17 cases, taking fatal with recovery cases, is fifty-one days. In the 7 cases that recovered the average duration was sixty-four days (the shortest 20 the longest 120 days). In the 10 fatal cases the average duration was considerably shorter—that is, forty days (the shortest ten and the longest ninety days). From this we may infer the apparent truism that the longer the patient can be kept alive the better the prognosis.

Barlow and Lees find the average duration in 30 fatal cases to be 7 8 weeks (54 days) in the posterior basic group; where the inflammation is more on the convexity of the brain the duration is much shorter, only 8 7 days, and it is this circumstance that probably influences the prognosis vitally.

In the epidemic form the average duration is very much shorter than in the sporadic, 11 3 days (Mallory and Wright) so that if the organism is the same in either type of disease, as it appears to be morphologically, the toxic virulence must be much greater in the former.

The prognosis in meningococcus meningitis is the one ray of light piercing the gloom which overshadows the whole subject of meningeal inflammation. The recovery cases, according to Barlow and Lees, amount to 15 in 94, Wall[5] 10 in 22, our own cases 8 in 17, but it is to be feared that the proportion of recoveries in the last two groups of figures is too high. Compare these figures with those in the epidemic form—35 in 111, or 31.5 per cent. (Councilman, Mallory, and Wright).

The long course of this disease and the comparatively favourable prognosis encourage us to hope that an antitoxin treatment may eventually be discovered which may further improve the chances of recovery in this still terrible disease.

Of all the varieties of meningitis the swiftest to a fatal termination is that caused by the pneumococcus. I have notes of 7 cases in which this organism was found, and in 6 of them (I exclude an exceptional one of fifty-one days irregular fever in which it was impossible to date the meningeal infection) the average duration was six days (the shortest three and the longest nine days). One of these was clinically acute lobar pneumonia, no suspicion of meningitis having existed until it was found *post mortem*.

It would appear, however, that occasionally the pneumococcus may give rise to a lingering clinical type, and I have come across one case of recovery recorded by Achard and Grenet[6] The pneumococcus was found in the fluid withdrawn by lumbar puncture, and the writers record that the cultures possessed so little virulence that they were not lethal to mice, and that the patient recovered, the temperature falling about the nineteenth day. Among the symptoms were neck rigidity, Kernig's sign, absent knee-jerks, and left-sided paresis.

Recovery Cases and their Subsequent History.

Of our 65 cases, 7 ended in recovery; 3 of them were undoubtedly meningococcus infections verified by lumbar puncture, 4 were not so verified, but clinically they were more than probably of this class.

I have endeavoured to trace these patients since their leaving hospital, but have failed to get hold of three. As regards the other 4 the main facts are as follows:

1. G. M., boy, aged 17, admitted August 17th, 1904, under care of Dr. West. Sudden onset with headache and vomiting. Leucocytosis of 60,000. Optic neuritis slight on fourteenth day, more marked later. Retraction of head and Kernig's sign; knee-jerks increased; duration seventy-three days. Temperature chart already referred to as showing distinctive features Pulse generally between 60 and 80 all through. Meningococcus found by lumbar puncture. I have seen this boy (June 26th, 1905), and find him apparently in perfect general health, at work as a tea packer, able to enjoy sports, cycling, cricket, etc. There is a slight nystagmus on conjugate deviation to the right, and the edges of the disc are slightly blurred, but vision is good; knee jerks natural.

2. H. W. R., boy, aged 10 months, admitted February 20th, 1904, under Dr West. Onset marked by vomiting and head retraction. Kernig's sign and absent knee-jerks. Double internal squint. Meningococcus found by lumbar puncture. Continued fever with wide oscillations for a week after admission, then very irregular, generally below normal; pulse always rapid, 140 to 170. Four months after admission optic atrophy was found and the child was also found to be blind. Duration of meningitis thirty-three days, perhaps longer. I saw the child on June 26th, 1905. He is now quite blind with double optic atrophy. His mental development is much retarded. He can say only a few words; he had screaming attacks when annoyed. He has had one fit since leaving hospital, probably epileptic in character. He is dirty in his habits, is constantly kicking about restlessly. Knee-jerks are present, and the plantar response is flexor. Can stand and walk a little with assistance, and he can crawl vigorously.

3. J. W., boy, aged 7, admitted May 28th, 1904, under care of Dr. Moore. Onset sudden with pain in right ear, vomiting, delirium and convulsions, also incontinence of urine and faeces. Later rigidity of limbs with Kernig's sign. Knee jerks natural. Plantar left extensor. The temperature was never above normal, but pulse was frequently irregular. Duration twenty days There was some indefinite ear trouble and adenoids. No clinico-pathological record. I saw him on June 26th, 1905, and found him to be a bright, intelligent boy, in excellent general health. Knee jerks natural. Plantar doubtful extensor left, no response right.

4. E. C., girl, aged 2½ years. Admitted December 12th, 1903, under Dr. Housley. Onset sudden with convulsions, vomiting and squint. Later, retraction of head and Kernig's sign. Discs natural. Eyelids retracted. Knee jerks natural at first, absent on the twenty-seventh day and for a short time after, finally increased. Duration, four months. No clinico-pathological record. Temperature 100° only on admission, normal or below after. Pulse generally about 80, but up to 120 at first, frequently irregular and intermittent. Seen again June 20th, 1905. Found her mentally very backward, generally good tempered, but has occasional outbreaks of temper Not destructive, and takes interest in

[2] Councilman, Mallory, and Wright. Epidemic Cerebro-Spinal Meningitis, Report of State Board of Health of Massachusetts, 1898.

[3] Netter. Cerebro-Spinal Meningitis. *Twentieth Century Practice of Medicine*, vol. xvi, 1900, p. 141.

[4] Osler. Etiology and Diagnosis of Cerebro-Spinal Fever. *West London Medical Journal*, 4, 1899, p. 145.

[5] Wall. Cerebro-spinal Meningitis, *Med.-Chir. Trans.*, 1903.

[6] Achard and Grenet, Méningite Pneumococcique Terminé par la Guérison, etc., *Gazette Hebdom. de Méd.*, 1903, p. 1059.

things generally. Can only say a few words and short sentences (is now aged 4). Has an alternating internal squint (? refractive). Discs rather high coloured. Slightly unsteady in movement of right hand. Gait very ataxic, tends to fall backwards with eyes shut. Knee-jerks absent. Plantar response flexor. The marked ataxy suggests some permanent cerebellar lesion.

The other cases I do not quote because I have been unable to trace them since leaving hospital.

In one the meningococcus was found by lumbar puncture, in another this operation gave negative results, and in the last no clinico-pathological examination was made. Two of these recovered apparently completely, and the other was taken out whilst recovering.

In 2 cases out of 4, then, that I have been able to find a year after, we see evidence of serious permanent damage to the brain, and there is no warranty that the two patients now apparently sound may not eventually develop epilepsy.

Treatment.

I fear there is little that I can say of any value upon treatment. There are, of course, no drugs that have any specific effect upon any of these organisms. Barlow and Lees mention the apparently beneficial action of mercury and iodide of potassium. One frequently meets with cases of rickety, ill-nourished children with mild, irregular fever, who develop symptoms strongly suggestive of meningitis—that is, headache and vomiting, retraction of head (often marked), and even convulsions and coma. After a few days of this the patient recovers. It is in such cases that mercury seems to have so good an influence. These cases are called pseudo-meningitis or meningismus, both to my mind rather meaningless terms.

When a meningocephalitis is fully established it is not in reason to expect any relief by any conceivable operation. I have seen the brain exposed by trephining often enough to convince myself upon this point. It is not a question of removing fluid from ventricles and subarachnoid space; the substance of the brain is universally hyperaemic and generally swollen. An operation to relieve pressure would amount to removal of half the skull almost, and would still leave an irretrievably-damaged and softened brain.

It is thought by some that the removal of some fluid by lumbar puncture may influence for good the course of some of the meningococcus cases. In the milder cases of this disease the infective process shows a marked tendency to limit itself to the arachnoid membrane of the base of the brain and spinal cord, with the effusion of fluid, comparable, perhaps, with the local effect of, say, tubercle of peritoneum or pleura. The removal of fluid in these circumstances may aid an already strong tendency to recovery, but that is all. My impression is that the more lumbar punctures are practised the less will be found their influence upon the course of the disease.

It is in the direction of some antitoxin treatment that our best hope must lie. And it is in the meningococcus group, with their long course and natural tendency to limitation of infective processes, that such a treatment offers great possibilities.

It is, I fear, futile to expect to be able to do much in this direction with such fulminating types of meningitis as are produced by the invasion of the pneumococcus.

II.—Thomas Horder, M.D., M.R.C.P.,
Medical Registrar, St. Bartholomew's Hospital; Physician, Great Northern Hospital.

Dr. Horder said: It falls to my lot to deal with certain pathological aspects of the subject under discussion. I shall base my remarks largely upon the same set of 65 consecutive cases of acute meningitis which Dr. Tooth has already utilized for purposes of clinical analysis. The pathological considerations connected with the disease can be brought under three heads:

1. Clinical pathology.
2. The causal organisms.
3. *Post-mortem* findings.

1. *Clinical Pathology.*—Here the investigation which is of paramount importance in a suspected case of meningitis is lumbar puncture. In studying meningitis lumbar puncture occupies an analogous position to blood culture in the study of septicaemia. However carefully the clinical features of a case may be observed, there is often an unavoidable element of doubt as to the existence of meningitis, and always an uncertainty as to the nature of the infection unless the examination of the patient includes a lumbar puncture. Toxaemic states sometimes simulate meningitis so closely that the very elect are deceived; lumbar puncture enables us to decide the moot point within a fairly small margin of error. Again, the signs of meningitis may be clear but the nature of the infection may be uncertain; lumbar puncture gives us a means of isolating the causal organism. Not only is diagnosis made accurate, prognosis and treatment are also assisted. The operation is easy, and is well within the scope of the practitioner. Even if the associated bacteriological investigation requires at times special knowledge, the technique of the puncture is simple, and a diagnosis bearing a high degree of probability may often be arrived at by means of a brief chemical and histological examination of the fluid obtained. The risks to the patient are none, and the discomfort, if the puncture be performed promptly, is much less than might be supposed. We owe so much of our present knowledge of meningitis to the introduction of lumbar puncture, that it may not be out of place briefly to review the steps in the process and the interpretation of its results.

In performing the puncture, the patient lies upon his side, with knees drawn well up, head bent down, and spine arched with its convexity backwards. Some opisthotonos incidental to the disease may render this position impossible, and the puncture accordingly more difficult. The skin over the lower lumbar spine is thoroughly scrubbed with soap and water, and is then treated with ether. Meanwhile, a glass syringe and a long stout needle are being boiled close by. The needle used for an adult should be 3½ in. long, for an infant it should be 2½ in. long. The spinous process lying nearest to the line joining the highest points of the iliac crests is that of the fourth lumbar vertebra. The puncture is made midway between this spine and the one next above or below it. In an adult a point is chosen ½ in., in an infant somewhat less than ½ in., from the middle line. The direction of the needle in an adult is important; it should be forwards, inwards, and upwards. In infants the direction may be almost straight forwards. The needle is pushed firmly onwards until the gap between the laminae is entered, and fluid flows from the needle. If the course of the needle seems obstructed it must be withdrawn a short distance, any faulty direction corrected, and a fresh attempt be made. Suction by the piston is not required; if the needle is in the spinal canal and its orifice is patent fluid will flow, whether there be meningitis or not. A dry puncture may mean that the needle has not entered the canal, or that it has struck a nerve root, or that the pus present is too inspissated to flow.

The fluid obtained may be clear and free from albumin and cells; the existence of meningitis is then very improbable indeed. The presence of albumin and cells indicates meningitis; the more abundant these are the more likely is the meningitis to be acute and due to pyogenic organisms. A differential count of the cells present is of great value, constituting what is termed "cytodiagnosis." In cases of meningitis due to the tubercle bacillus and in the chronic stages of meningitis due to the meningococcus the cells present are chiefly lymphocytes, sometimes to the extent of over 90 per cent. In the cases of meningitis due to the pyogenic organisms (meningococcus, pneumococcus, and streptococcus) the cells are chiefly polymorphous, again often as high as 80 or 90 per cent. The films have been stained for the purpose of this count by Canon's or Leishman's fluid. They are now carefully searched for the presence of bacteria. The meningococcus is the organism most often found in this way, usually in quite scanty numbers, so that it may require several minutes' search before a single pair is found. But the appearance of the organism is typical, and the diagnosis rendered thereby so nearly certain, that a prolonged search should always be made. The tubercle bacillus must be looked for in the deposit after use of the centrifuge, by the usual staining method. Finally, some of the fluid obtained by the puncture is transferred to tubes of nutrient media and the cultures are placed in the warm incubator. The media chosen should always include agar slopes smeared with a little blood. Wassermann's nutrose ascitic agar makes an excellent medium for the meningococcus. Failing these media, ordinary ascitic or glycerine agar may be used. Sterile cultures, the fluid having contained albumin and a high proportion of lymphocytes, point to the probability of the meningitis being tuberculous.

In our series of 65 cases, lumbar puncture was performed twenty-eight times. In 10 of these cases the meningococcus was isolated, in 1 case a streptococcus; in 15 cases the fluid was sterile, and in 2 cases it was contaminated. Of the 15 cases yielding sterile fluid, 11 were proved *post mortem* to be tuberculous, 2 were convalescing from a probable meningococcus infection, and in 2 cases the nature of the infection was not determined. Lumbar puncture has now become a routine investigation by the house-physicians at St. Bartholomew's Hospital in cases of suspected meningitis.

The question of a possible curative effect following lumbar puncture in meningitis is an important one. In at least two

of our cases undoubted improvement appeared to follow the removal of the fluid. I am of opinion that in those of the meningococcus cases in which the temperature and general condition undergo long periods with little or no change, some systematic drainage might with advantage be employed. Experience sometimes shows that good effects follow the removal of inflammatory exudates, even in small amount, from the pleura; and, although the subarachnoid space is not a serous membrane, it is like it in many respects. I hope this aspect of the question will be discussed.

As in other acute inflammations, some assistance is given to diagnosis by a leucocyte count. The figures obtained are usually high, but it must be remembered that most of the patients are children or infants, in whom the number of leucocytes is normally higher than in adults. The meningococcus cases show a very high leucocytosis: in one of our cases, a boy aged 17, the figure was 60 000 upon the twelfth day of the illness. In this patient the sputum was at the time of the blood count rusty and crowded with pneumococci, suggesting a mixed pneumococcus and meningococcus infection of the patient. The fact that in most sporadic cases of meningococcus meningitis the patient's resistance is good seems to account for much of the high leucocytosis found. Pneumococcus cases yield a lower leucocyte count than this, and streptococcus cases a count that is lower still; this is probably due to the intensely virulent nature of the infection and the rapid decline of resistance in both these instances. In the tuberculous cases there is usually a leucocytosis of some magnitude during the first week of the disease, varying from 15,000 to 25 000. Meningitis, therefore, arising in the course of general tuberculosis, changes the leucopenia seen in that disease to a decided leucocytosis.

Blood cultures sometimes yield collateral evidence as to the nature of a meningitis. I have not myself succeeded in cultivating the meningococcus from the blood stream, and I think it cannot be regarded as causing a general blood infection. As in the case of the influenza bacillus, a true septicæmia is only likely to occur if opportunity be given for extensive growth of the organism within the heart or blood vessels. In pneumococcus and streptococcus meningitis, however, the matter is quite different. Both these organisms have been frequently grown from the blood stream in cases of meningitis. In one of our cases a blood culture and a lumbar puncture done at the same time both yielded a streptococcus in considerable quantity, and it was possible to demonstrate the identity of the organism obtained from the two sources.

Sixty-five Consecutive Cases of Acute Meningitis.

Causal Organism.	Recovered.	Died.	Total.
B. tuberculosis	8	31	31
Meningococcus	4	6	10
[illegible]	0	7	7
[illegible]	0	3	3
Mixed infection (B. influenzae and pneumococcus)	0	1	1
Undetermined—			
Meningitis proved	0	7	7
Meningitis unproved	3	3	6

Passing from the spinal fluid and the blood we come to certain secretions which may call for investigation. They are those which, in a fair number of the cases, indicate by their morbid state the probable avenue of infection by the causal organism. Several observers have recently called attention to the occurrence of the meningococcus in the nasal and aural discharges of the patients; I shall return to this point later on. Weichselbaum's observation that a meningococcus infection may supervene upon bronchopneumonia in children is interesting in this connexion. The importance of examining all ear discharges in cases of meningitis of course needs no emphasis.

2. *The Causal Organisms.*—The commonest by far is

(1) B. tuberculosis, which appears to cause nearly 50 per cent. of all cases of acute meningitis. I will only say here that tuberculous meningitis is usually part of a generalized tuberculosis. It may be the whole of a generalized tuberculosis, as in one of our 31 cases. The focus of dissemination in children is most often a softened caseous bronchial gland, less often a mesenteric gland, and rarely a cervical gland, similarly diseased. In adults the focus is usually old tuberculous disease in the lungs or other viscera, joints, bones, etc. Occasionally no focus can be discovered, as was the case after careful search in one of our series.

(2) The meningococcus was proved to be the causal organism in 15 of our cases. On clinical grounds Dr. Tooth considers it to have caused 25 per cent. of the cases. Much interest at present centres around this organism, which appears, in all its essential characters, to be a staphylococcus. The individual members are chiefly diplococci; they have a markedly intracellular disposition in the inflammatory exudate, and they lose Gram's stain very readily. Like the gonococcus, but to a less degree, the organism is haemophilic. Blood-agar will generally ensure a successful cultivation in the first instance, and subcultures will grow well upon ascitic or glycerine agar, or even upon ordinary agar. I have kept subcultures of a particular strain alive for many weeks. I am unable to confirm the views expressed by some observers that the organism differs in its cultural properties according as it is obtained from a case of cerebro-spinal meningitis, or from a so-called "post-basic" case. In the absence of experience of epidemic cases I cannot say what variations, if any, the organism in these cases shows from that obtained in sporadic cases. I should not expect to find any differences which are greater than those often found between pneumococci, or between gonococci, obtained from different sources. Mere variations in the ease, or otherwise, of cultivation of an organism obtained from different sources must not be taken as evidence of a difference of kind. The meningococcus is distinguished from the gonococcus—another intracellular Gram-negative diplococcus, which itself occasionally produces meningitis—by the fact that the latter is a much stricter parasite, requiring blood for its first culture, and by yielding colonies which are highly crenated in outline. From M. catarrhalis, which is a third non-Gram-staining diplococcus, it is distinguished by the large size of the M. catarrhalis cocci and the opacity of the M. catarrhalis colonies. M. catarrhalis must be carefully differentiated from the meningococcus, because the former is not uncommonly found in nasal secretions, and it has probably been mistaken in this situation for the organism of meningitis itself. The mere demonstration of the existence of a non-Gram-staining diplococcus in large numbers in a nasal or other discharge, without resorting to cultural characters, is no proof that the organism is the meningococcus. Drs. M. H. Gordon and R. A. Dunn have recently investigated an epidemic of an influenza-like disease in Hertfordshire, where the casual organism appeared to be M. catarrhalis; in some of the cases the clinical picture approximated very closely to cerebro-spinal meningitis. The results of this investigation will shortly be published.

The characteristic lesion of meningococcus meningitis has not been reproduced in animals; but the organism is usually pathogenic to guinea-pigs when inoculated intraperitoneally. An intense peritonitis is set up, and the viscid exudate contains many leucocytes which are crowded with intracellular organisms, to a degree never seen in the cellular elements occurring in the subarachnoid fluid in man. I shall hope to demonstrate this upon the screen. The question of a bactericidal serum naturally arises. Two months ago I sent to Dr. Dowson, of the Wellcome Research Laboratories, a vigorous culture derived from the lumbar puncture in one of our cases. With this organism Dr. Dowson has inoculated a horse, using 50 c.cm. of serum broth cultures at each injection. The swellings produced, and the reaction on the part of the animal, have only been slight; the probability of an active serum being obtained is therefore not great. Immunization is now, however, sufficiently advanced to test the serum, which it is proposed to do at the next opportunity.

(3) The prevalence and the features of pneumococcus meningitis have been already alluded to by Dr. Tooth. Ten per cent. of our cases were of this nature. Pneumococcus infection of the meninges is undoubtedly the most vicious and quickly fatal of all forms of meningitis. Most of the cases are too rapid even to allow of bacteriological investigation. The meningeal infection sometimes exists with other pneumococcus lesions in the lungs, pleura, pericardium, ear, etc.; but quite as often it occurs as an isolated disease. The use of the terms "primary" and "secondary" in regard to pneumococcus infections is by no means satisfactory.

(4) Streptococcus meningitis is seen to be less common—only 5 per cent. were of this nature. But it must be remembered that this series of cases does not include the instances of meningitis complicating chronic ear disease admitted to the surgical wards, where streptococci play by far the most important part. The streptococcus causing acute meningitis is sometimes S. pyogenes, sometimes another variety.

We have met with no case of staphylococcus meningitis in

this series; the condition is known to be rare, apart from cranial bone disease or pyæmia due to S. pyogenes aureus.

(5) Mixed infections of the meninges I believe to be less common than is usually stated. Strict account must be taken of the fact that a subarachnoid exudation rapidly becomes the seat of *post-mortem* contaminations of considerable number and variety. Hence the great value of bacteriological investigations conducted *intra vitam*. If the contaminations be carefully excluded, I think that the occurrence of a mixed infection in meningitis points strongly to the lesion being secondary to old ear disease; the aural filter has become totally inadequate, and a variety of organisms is allowed to reach the meninges. This was the case in our single instance of mixed infection of the meninges, where a condition of extensive ear disease was discovered *post mortem*, and the pus which covered the whole of the cord and base of the brain contained the influenza bacillus in large numbers and the pneumococcus also. This specimen is in the Museum. Mixed infections of the patient are, I believe, quite common. I have already referred to a case of pneumococcus and meningococcus infection. In another of our meningococcus cases, influenzal pneumonia was demonstrated *post mortem*.

3. *Post-mortem Findings.*—Acute meningitis is a disease of the pia arachnoid the inflammatory exudate collecting in the potential subarachnoid space and distending the perivascular lymph spaces and loose areolar tissues of the membrane. Occasionally the effusion, if purulent, overflows to the subdural space, where it is exposed immediately the skull and dura mater are removed. In one of our streptococcus cases, shown in the Museum, this has occurred, and a very unusual degree of irregular compression of the cerebral hemispheres has been produced by the pent-up pus. In meningitis following ear suppuration, on the other hand, the exudation lies chiefly in the subdural space, and can often be peeled or washed off the surface of the arachnoid. Many of these latter cases are in reality subdural abscesses.

Of the nature of the exudate there is little I need say; in the tuberculous cases it is gelatinous turbid lymph, rarely pus. The pneumococcus cases suppurate with great rapidity—a continuous sheet of thick pus may be found over the whole convexity of the brain within thirty-six hours from the commencement of the illness. The streptococcus cases also suppurate with a fair degree of constancy, but vary much with the duration of the disease. In meningococcus meningitis the exudate is usually definitely purulent at the autopsy, but it must not be inferred that it is necessarily so in the cases which recover; indeed, this is unlikely.

With regard to the seat of the effusion, it is probable that the customary notion which ascribes particular situations to particular organisms must be modified in the light of recent and more extensive bacteriological studies. It is true that the great majority of tuberculous effusions are found to invade the base of the brain and the region of the Sylvian fissures, but even in the case of the tubercle bacillus very marked variations are common, as illustrated in the Museum. In the case of the other organisms, however, it is quite impossible to do more than hazard a probable diagnosis of the one present in any particular instance by naked-eye examination of the central nervous system. It seems clear that *all* cases tend to become cerebro-spinal. Certainly the most extensive cerebro-spinal involvement may be due to the pneumococcus, or to the streptococcus, as well as to the meningococcus. Again, effusions localized around the post-basic region in infants may be due to the pneumococcus, as well as to the meningococcus. Even when the meningitis follows suppurating otitis media, the situation of the exudation is by no means always adjacent to the petrous bone, though this is usually the case. The pus may be strictly post-basic in its disposition, or the whole of the cord, as well as the post-basic region, may be involved, simulating very closely the state of things found *post mortem* in many meningococcus cases. Our case of mixed pneumococcus and influenza bacillus infection shown in the Museum was of this kind. The meningeal pus may be still more remote from the suppurating ear; it may be confined to the lumbar region of the cord, as in a case of meningitis due to B. pyocyaneus which I recently described. Too frequently the spinal cord is not examined in cases of meningitis; if it is, some degree of involvement of it is exceedingly common, whatever the organism may be. Sometimes a part only of the cord is affected, and this part . . not seldom the lumbar enlargement. Hence it must not be concluded that because the upper cervical cord, as seen through the foramen magnum, is free from exudation, therefore the cord has escaped the disease. In one of our meningococcus cases the post-basic region and the lumbar portion of the cord were the parts affected. In this connexion it may be said to be highly improbable that the spinal arachnoid fluid should contain virulent organisms and products of inflammatory action, as we know it does from the results of lumbar puncture, without there being actual involvement of the cord itself.

Such considerations as these lead to the conclusion that our present ideas of the extent of the lesion in acute meningitis as projected along the membranes are too narrow, and are determined by the grosser accumulations of the inflammatory exudate at certain points. But it is also doubtful if our conception of the disease as a meningitis pure and simple is not also inadequate. The extreme softness of the brain and cord in some of our cases was particularly noted. In one instance the brain could not be removed intact from the cranium. In two cases, also, there was very definite ependymitis. It has been suggested on clinical grounds that the totally disproportionate relation between the symptoms seen during the third week of a case of tuberculous meningitis and the appearance of the meninges *post mortem* is only to be explained by assuming the presence of encephalitis. Now, not only in tuberculous but also in other cases histological examinations are proving this to be the truth. I think that the term "acute meningo-encephalitis," recently suggested by Councilman, very fitly expresses the morbid entity which at present goes by the term "acute menigitis."

[Dr. Horder illustrated his remarks by a series of morbid anatomical specimens and by lantern slices.]

III.—William Osler, M.D., F.R.C.P., F.R.S.,

Regius Professor of Medicine, University of Oxford.

Professor Osler said: In the present outbreaks cerebro-spinal fever is repeating features well known to all epidemiologists—features which have varied but little in the century since Vieusseux first described it in 1805, and which make it one of the most peculiar of the acute infections. Among these may be mentioned: The curious limitation of the epidemics to one or two districts, or to one or two cities. The disease never becomes pandemic. New York has had for a year perhaps the worst visitation in its history. To a slighter extent the disease has prevailed in Philadelphia, but Boston and Baltimore have shown no marked increase in the number of cases. So far as I have heard, there have been no very extensive outbreaks in the country districts of America, though there has been probably a slight increase in the sporadic cases all over the country. In Silesia there has been a very severe epidemic, and there are reports of its prevalence in several other places. Densely-populated insanitary parts of the large cities, very poor agricultural regions, mining districts, and camps and barracks afford the most suitable conditions for the spread of the disease. The epidemics recur at intervals of from twenty to thirty years, and an outbreak rarely lasts more than six or eight months. Some countries have escaped altogether. These islands enjoy almost complete immunity. There have been a few epidemics in Ireland, but in England and Scotland the occasional increase of cases of the disease, as recently, for example, in Nottinghamshire, has never been to an extent worthy to be termed an epidemic.

It was pointed out years ago by Stillé and others that after the subsidence of an epidemic, sporadic cases continued to occur, and the observations of Still, Carr, Wall, Hunter, and Nuthall and Koplik have demonstrated that the posterior basic meningitis of Gee and Barlow is really the sporadic form of cerebro-spinal fever. Probably a large percentage of the 6,341 deaths in England and Wales from simple meningitis in 1903 come in this class, as 66 per cent. of them were under 5 years of age. If so, it ranks among one of the most fatal infections of early life, killing more than diphtheria, and running a close second to the tuberculous form. It is to be remembered that these figures do not represent, as in pneumococcus and tuberculous meningitis, the actual incidence of the disease. In the sporadic form of cerebro-spinal fever from 30 to 50 per cent. of the cases recover.

In epidemic peculiarities, cerebro-spinal meningitis most closely resembles pneumonia. Sporadic cases occur constantly. There are also house epidemics and widespread outbreaks in barracks. Sometimes it is the latent [illegible] prevails in epidemic form. The pneumococcus and the meningococcus are very much alike, so much so, indeed, that good observers have claimed a very close relationship. The diseases are alike in our absence of precise knowledge of the modes of

infection. Both organisms possess but slight vitality outside of the body. In pneumonia the organism is present normally in a large number of healthy persons, chiefly in the buccal-pharyngeal secretions. The same holds good for the meningococcus, which, in the recent Silesian epidemic, has been found in the mucus of the nose in 9 per cent. of healthy persons in contact with patients.

It seems probable that infection of the meninges takes place through the nasal and naso-pharyngeal regions, as suggested by Councilman. Westenhoeffer, in a recent study of 29 cases, found, almost constantly in the acute forms, swelling and redness of the pharynx and of the lymphatic tissues, and swelling of the mucous membranes of the antrum and of the sphenoidal cells. He thinks it is through the latter and not through the cribriform plate of the ethmoid that the infection reaches the meninges. These are suggestive points in the etiology of the disease but it cannot be said that they shed much light on the remarkable peculiarities in its epidemiology to which I have referred.

A question much debated in the recent epidemic in the United States is the contagiousness of the disease. The death of Dr. Craig in Philadelphia following devoted attendance upon a patient, the infection of several nurses in New York, have called special attention to this feature of the disease. It probably has an infectivity of the same grade as pneumonia. Special virulence of the organism, concentration of many cases together, debilitating circumstances in individuals, may favour contagion. The discovery of the meningococcus in the nasal secretion of healthy persons in the neighbourhood of patients indicates how the virus may be spread, as in tuberculosis, by minute droplets of fluid from the nasal and pharyngeal secretions. We had one remarkable instance of house epidemic of the sporadic form, in which five persons were attacked. The mother died in two days, one daughter in four days, a son in five days, and one sister was desperately ill for two weeks and then recovered. The patient admitted to hospital had recovered after an illness of eight weeks. This illustrates the house epidemic exactly parallel to the remarkable outbreaks of pneumonia. The risk, as a rule, is very slight, and there is no reason why cases should not be admitted to general hospitals.

Exclusive of cases due to middle-ear disease, to abscess, and secondary to typhoid fever, among 93 cases of lepto-meningitis at my clinic at the Johns Hopkins Hospital, 35 were tuberculous, 32 due to cerebro-spinal fever, 21 due to the pneumococcus, 3 to the staphylococcus, and 2 to the streptococcus. The majority of the cerebro-spinal cases occurred in 1898-9, when there was a slight epidemic in Baltimore, twenty of the cases having occurred at this period. Three cases occurred in 1893, four in 1900, one in 1901, and three in 1905.

The diagnosis is rarely in doubt. In ordinary hospital practice, unless a severe epidemic is prevalent, one rarely sees the fulminant cases. The general features are those of meningitis plus certain special symptoms, more frequently met with in this than in any other forms. Foremost among these are the purpura, herpes, and other skin lesions which have occurred so widely in some epidemics that the name of spotted fever has been given to the disease. Then, on the whole, the spinal overshadow the cerebral symptoms. The cervical opisthotonos is much more common. Arthritis is a not infrequent feature in some epidemics.

By far the most important single diagnostic point is the presence of the meningococcus in the fluid of lumbar puncture. Nowadays, in the hands of an expert bacteriologist, there is no difficulty in determining the specific character of the meningococcus.

And lastly, recovery is an important diagnostic feature, apparently limited to this special form of lepto-meningitis. Given a case with all the well-marked clinical features of meningitis, a recovery is strong warrant that we have had to deal with the form due to the diplococcus intracellularis. All of my pneumococcus cases, 21 in number, died. The same event of course happens with the tuberculosis, the streptococcus, and the staphylococcus forms. Of the 32 cases of cerebro spinal fever, 17 recovered.

Dr. Osler, in conclusion, said he thought the prognosis more hopeful than Dr. Tooth stated. The cases in his series which recovered seemed to do so completely, though it was often slow. Blindness followed in only one case. He believed in the value of lumbar puncture, particularly when the pressure in the spinal fluid was very high. The centrifugalization of the exudate in tuberculous meningitis helped greatly in the detection of the bacilli. Out of the last 17 cases, the bacilli had been found in the spinal fluid of 12.

IV.—H. Montague Murray, M.D., F.R.C.P.,

Physician, Charing Cross Hospital and Victoria Hospital for Sick Children.

Dr. Montague Murray said: Statements concerning the duration of tuberculous meningitis are generally limited to cases commencing subacutely. On this evidence it is believed that the duration of the disease rarely exceeds a month. If those are included in which the onset cannot be so definitely fixed, it will be found that the disease may take nearly three months before it reaches a fatal issue. In young infants suffering from meningococcus meningitis the muscular rigidity may vary both in intensity and distribution even from day to day, so that squint, head retraction, Kernig's sign, or retraction of upper eyelid may be present on one day and not on the next. This leads to difficulty in the diagnosis of mild cases. Thus an infant may be taken ill suddenly with convulsions or rigors and vomiting followed by a remittent temperature and slight varying muscular rigidity without any definite disorder of gums or alimentary tract. If careful regulation of diet and other ordinary routine treatment do not in any given case lead rapidly to a fall of temperature and disappearance of rigidity, lumbar puncture should be performed and search made for the diplococcus intracellularis. Such cases may apparently recover completely in three or four weeks. The immediate prognosis in cases of meningococcus meningitis is thus probably much better than usually stated. Concerning the ultimate recovery, Dr. Murray quoted the case of a girl who suffered from meningitis probably of this nature, in which unconsciousness persisted for ten months. The disease occurred when the child was 3 years old. She was now 9, and although backward had good mental power and had not suffered from fits.

V.—F. M. Pope, M.D., F.R.C.P.,

Physician, Leicester Infirmary; President of the Section.

The President showed specimens from two cases of meningitis due to the pneumococcus. In one there was a definite history of pneumonia followed by pneumococcal pyaemia. In the other no such history existed, and until the true nature of the disease was determined by the examination of the spinal fluid the diagnosis was uncertain. Photomicrographs and lantern slides of the fluid in this case were shown. He also showed photographs illustrating some typical attitudes of patients suffering from the nasal form of cerebro-spinal meningitis. He then described a case of pachymengitis haemorrhagica producing external hydrocephalus. The skull was opened with a view of draining the ventricles, as it was supposed to be a case of internal hydrocephalus, but the fluid was found to be subdural in location and the hemispheres shrunken. A very large amount of fluid escaped in the next three days, and the patient died. Large haemorrhagic patches were found *post mortem* beneath the dura mater.

VI.—C. N. B. Camac, M.D.,

Cornell University, New York, City.

Dr. Camac said: I have listened with much interest to this instructive paper. Removed from notes and statistics, Mr. President, I will not trust myself to quote from memory on this important disease about which we are so much in need of accurate information. There is one point, however, which our experience in the out-patient department at the Cornell University Medical College has demonstrated. I refer to the importance of more careful study of all nasal and bronchial secretions and excretions irrespective of other signs and symptoms. These out-patient departments, such fertile fields for the study of those obscure initial stages of disease, are usually in charge of too few men to properly examine the cases or the physicians are young men eager for larger physical signs than those afforded by bacteriological examination. It is not until some marked symptom has developed necessitating the care of the physician at the home or the hospital that these more searching examinations are made. At the Cornell out patient department the sputa, and, in many instances, the nasal and faucial excretions and secretions are submitted as a routine practice to accurate bacteriological examination. A most interesting series of findings has resulted. Dr. Hastings, in charge of our clinical laboratory, has not as yet reported in full his results, but they are thus far of such interest to warrant urging the adoption of a similar plan in out-patient departments elsewhere, that our knowledge may antedate that at which it usually begins. The observation of cases after meningitis, as well as after other acute diseases, can be carried out in the out-patient department with much value.

I need but mention epilepsy in connexion with the subject under discussion to have this suggestion appreciated. I thank you, Mr. President, for the opportunity which you have so graciously afforded me of making these few observations.

VII.—StClair Thomson, M.D., F.R.C.S.,
Physician for Diseases of the Throat, King's College Hospital.

Dr. StClair Thomson wished to make a suggestion which had been anticipated by their distinguished visitor from New York. It was the proposal that the nose and its accessory cavities were more frequently the source of meningeal infection than was commonly appreciated. Their American *confrère* had referred to the investigations now being undertaken in New York. Dr. Thomson, in association with Professor Hewlett, had ten years ago read a paper on the subject before the Medico-Chirurgical Society, which showed that, while the vibrissae and vestibules of the nose were swarming with a variety of micro-organisms, they rapidly decreased as the nasal chambers were entered, and the depths of the nose and the naso-pharynx in health were quite sterile. Therefore, micro-organisms in the depths of the nose were always pathological. Suppuration in the accessory cavities of the nose was much more common than generally supposed. He had no figures at hand, but he would not be surprised if *post-mortem* examinations showed pus as common in the accessory cavities of the nose in adults, as otorrhoea was in childhood. Unfortunately, the nasal sinuses were not examined systematically in all intracranial lesions, as they should be. One reason was the fear of disfiguring the cadaver, but this could easily be avoided. The figures of Newton Pitt showed only 1 cerebral lesion from nasal infection in 9,000 autopsies, which was in contrast to 57 from the ear. Unfortunately it was not stated if the nasal chambers had been opened in all cases. Dr. StClair Thomson's own experience was limited to 5 cases. Two were of cerebro-spinal rhinorrhoea; one case died in the country with what evidently was meningitis. The other, still under his care, had been under two colleagues, one of whom treated her for pachymeningitis, and the other for cerebral tumour. Yet, except for cerebro-spinal rhinorrhoea and optic atrophy, that patient was now in good health. The other 3 cases were of sphenoidal sinusitis, which he had diagnosed in life. All three died with cerebral symptoms, and in two the origin of infection in the nose was demonstrated by *post-mortem* examination. As these cases finished in the hands of the physician, he threw out the suggestion that a further investigation of the nose and its accessory cavities might be as fruitful as had been the investigations of the ear.

VIII.—Samuel West, M.D., F.R.C.P.,
Physician, St. Bartholomew's Hospital.

Dr. West drew attention to the peculiar type of respiration which occurs in meningitis. He said: Periodic respiration is the name given to that peculiar form of breathing in which the respirations are separated by long intervals or pauses, during which no breaths are taken. Of periodic respiration there are two forms: the first is well known—namely, Cheyne-Stokes breathing. In this the pauses are often very long, even as much as forty or forty-five seconds. Then the respirations begin at first small and shallow, then rapidly increasing in range, until a maximum is reached. They then rapidly decrease, until they finally stop and the pause begins again. The respirations, while they last, are extremely rapid. Thus, in a case where the pause is forty seconds, in the twenty seconds that breathing continues, twenty breaths may be taken, so that the rate of breathing is 120 per minute. These three features are characteristic of Cheyne-Stokes breathing—namely, the long pauses, the crescendo and diminuendo of respiration, and the extraordinary rapidity of breathing. In all these respects the second form of periodic respiration stands in strong contrast. In this the pauses are not so long—ten to fifteen seconds; the respirations occur in groups of two or three. They are equal in range and extremely slow, so that their number is not more than eight to ten in the minute. Both these forms occur in meningitis, but they stand in contrast also, I think, in respect of prognosis. Cheyne-Stokes breathing appears to be always fatal. Grouped respiration has, on the other hand, occurred in many cases which recovered. The causes of periodic respiration are unknown, and there may be transitional forms, though it is not usual to see one form pass into the other. The distinction between these two forms in meningitis seems to have some importance.

IX.—W. B. Warrington, M.D., F.R.C.P.,
Physician, David Lewis Northern Hospital, Liverpool.

Dr. Warrington said: I wish to briefly give my experience on the value of lumbar puncture in meningitis.

Is lumbar puncture a procedure to be adopted in general practice as well as in hospital wards?

It is probably true that it rarely furnishes information requiring the revision of a judgement based on careful clinical observation and that its therapeutic effect is not large. Yet it has been of great service in aiding in the recognition of the various forms of meningitis, and in doubtful clinical cases may furnish positive and reliable information, whilst in the posterior basic meningitis it is probably of some therapeutic value.

To tap the lumbar theca requires some skill and great cleanliness; when so done I believe that in cases of meningitis it is devoid of danger.

No value can be placed on the apparently normal appearance of the fluid to the naked eye. A clear fluid may on microscopic examination yield unequivocal evidence of the presence of meningitis. Some difficulty is not infrequently experienced in preparing good films for examination.

It is always necessary to centrifugalize the fluid; the supernatant liquid is poured off, the drop or two remaining falls to the bottom of the tube and furnishes sufficient liquid for the deposit to be withdrawn by a capillary tube and blown out on to a slide. If heat is used to fix the deposit it must be cautiously applied. I think it best to allow the deposit to dry in the air and to fix afterwards by means of alcohol and ether.

Difficulties are also met with in the staining of the cells present, for these readily undergo degeneration, and even in perfectly fresh specimens the granules are often found dissolved from the cells, making the recognition of the different types uncertain. I find a weak solution of carbol-fuchsin or methyl-green very serviceable. Jenner's and Ehrlich's stain may be used. Loeffler's methylene-blue has a tendency to stain too deeply.

All observations have in the main confirmed the original statement of Widal, Rivaut, and Sicard, and it is from France that most of our knowledge has come. The best account in English that I know is given, with full references, by Mackie Campbell in Dr Bruce's journal for January, 1904. In all my cases in infants, diagnosed as posterior basic meningitis, and in one adult with similar symptoms, the polynuclear variety of leucocytes greatly preponderated in the early stage, to be replaced at a later period, whether the termination was in recovery or not, by lymphocytes; but the early appearance of a large number of lymphocytes has generally been coincident with a favourable prognosis.

A study of the cytology in this variety and in the epidemic forms furnishes, I think, another reason for considering these two types to be essentially similar in etiology. Koplik has recently published an interesting paper on an epidemic in America, but opportunities for a similar study have not yet occurred with us. In my single adult case the symptoms were those of the posterior basic type. The cytology followed the general rule, and the termination was in recovery.

In the meningitis of the vertex the polynuclear forms remained until the usual fatal termination.

The preponderance of lymphocytes is the rule in tuberculous meningitis. The appearance of a large number of the polynuclear form usually indicates the existence of a secondary septic meningitis, the source of which may often be found by examination of the other organs; this was in one of my cases an otorrhoea, in another a purulent epiphysitis. It is in tuberculous cases that the diagnostic value of lumbar puncture is greatest: either those in which the symptoms commence abruptly and hemiplegia perhaps soon appears, or in those which, by their absence of definite cerebral symptoms, simulate typhoid fever. Sometimes the nature of an illness may unexpectedly be cleared up by lumbar puncture. May I briefly cite a case?

A man, aged 30, was admitted to hospital on account of repeated attacks of numbness on the right side of the body. He had suffered in this way for a few weeks, and after the last of the attacks said that he had lost power on the same side of the body. The patient was perfectly rational and able to walk about; temperature was 101°, pulse 94. There was a Kernig's sign on the right side, but at the time of admission no other general or special symptoms were found. He continued in this condition for ten days, and then became quite suddenly mildly

delirious and rapidly passed into a state of coma. There appeared to be some paresis of the right upper and left lower limbs. The cerebro-spinal fluid withdrawn by puncture of the lumbar theca contained a large number of cells of both the polynuclear and lymphocytic variety in nearly equal proportions. A *post-mortem* examination showed the case to be one of tuberculous meningitis.

Had the cerebro-spinal fluid been earlier examined the diagnosis need not have been so long doubtful. Its utility in distinguishing between the pseudo-meningitis and true meningitis of typhoid fever is constantly alluded to, yet pure lymphocytosis has been noted in this disease when the after-history showed that presumably there was no gross meningeal lesion. I have also found a great preponderance of lymphocytes over the multinuclear forms in a case of hemiplegia in a child aged 4. This was probably syphilitic in origin, but the acutely ill condition of the patient might have suggested a tuberculous meningitis.

In ear cases the examination may be of service. What is its condition in abscess? A child has tuberculous otorrhoea and cerebral symptoms—has it an abscess or meningitis?

I cannot find many references to such examinations. I examined the fluid in a patient with cerebellar abscess; a very few cells only were present. This freedom from cells would not have been found had there been meningitis either alone or with the abscess. The only occasion on which I withdrew pure pus from the lumbar theca was a case in which the complete post-aural operation had been done; this was followed by a continuous rise of temperature, with only a few direct meningeal symptoms. I was asked to see the case because the surgeon contemplated further operation, shown, however by the exploration to be useless.

The significance of blood has been fully discussed by Froin in his Paris thesis. In rare cases there is a true meningitis with haemorrhage into the arachnoid space; one such case was shown to be tuberculous. Here the cerebro-spinal fluid is uniformly red; on standing a fibrinous clot forms with a yellowish liquid above. In the coagulum are found many leucocytes and red cells in the process of dissolution by haemophagocytes.

These cases are to be distinguished from those of simple arachnoid haemorrhage; here the cerebro-spinal fluid is tinged by blood with leucocytes in their normal proportions, does not form coagula, and on centrifugalization leaves a clear supernatant liquid. This condition also is rare.

A labourer, aged 33, apparently in good health, was suddenly seized with violent pain in the back of the head and rapidly became semi-comatose. On admission the head was markedly retracted; temperature slightly raised, pulse 48; no other objective signs. The cerebro-spinal fluid withdrawn on several occasions always had the characters mentioned above. The patient apparently completely recovered in fourteen days.

Blood-stained fluid removed due to an accidental prick of a vein can be easily recognized.

Examination of the fluid for micro-organisms has not in my experience been of much immediate clinical value. I was able to find the tubercle bacillus in only two out of seven cases recently examined, and in basal meningitis have been even less fortunate. The pneumococcus and septic organisms can, on the other hand, be readily recognized.

X.—T. F. S. Caverhill, M.B., F.R.C.P.,

Medical Officer of Health, County of Haddington.

Dr. Caverhill stated the difficulty in diagnosing cases of so-called epidemic cerebro-spinal meningitis. He related the main symptoms in a succession of outbreaks in an institution in the South of Scotland. He believed that there were foci of infection scattered up and down in various communities only awaiting favourable conditions for further extension. The outbreak was usually in winter, and attacked adolescents of both sexes. In one outbreak the digestive system seemed to be most affected; in another the lung symptoms were most in evidence; while the brain seemed alone attacked in others, making the diagnosis easy. What they always found, however, in an outbreak was that patients went to bed quite well and were found dead in the morning. Uncontrollable outbreaks had occurred in Silesia, in Germany, and in America. The Local Government Board should be ready to cope with an epidemic and whenever it threatened he would recommend that the disease be temporarily added to the list of notifiable diseases.

HUMAN AND BOVINE TUBERCULOSIS,

WITH SPECIAL REFERENCE TO THE OCCURRENCE OF BOVINE TUBERCULOSIS IN CHILDREN.

By Nathan Raw, M.D., M.R.C.P.Lond., F.R.S.Edin.,

Physician, Mill Road Infirmary and Sanatorium for Consumption, Liverpool; British Member of the International Committee for the Prevention of Consumption.

At the last meeting of the British Medical Association, held in Oxford, I had the honour to read a paper on this subject, and although the views then expressed were not capable of scientific proof, a good deal has occurred in various parts of the world since that time to support the dictum of Koch that human and bovine tuberculosis were different varieties of disease and were not identical. The most important addition to our strictly scientific knowledge on this difficult and absorbing problem is the report of the German Imperial Board of Health, which was established at the instance of the German Government to investigate this question.

I will refer in detail to their findings later; at the present time it is sufficient to say that their exhaustive experiments have entirely confirmed the views held by Koch, and showed various distinct points of difference between the two species of tuberculous bacilli, on the ground of which distinctions these could be separated into two types which are called by them the typus humanus and the typus bovinus.

The two types are distinguished one from the other in their morphologic, cultural, and animo-pathogenic properties. This is a great step in our scientific knowledge of tuberculosis, but it is not capable of proof or confirmation, since experimentation of humans cannot and never will be permitted. The elucidation of this scourge which kills 50,000 persons in England alone every year, and permanently cripples thousands more, can only be arrived at by accurate and careful clinical examination combined with pathological research, when we may hope to arrive at some fairly accurate data on which to work for its extermination.

I am thankful to say that I have a unique opportunity to investigate this disease in a large Poor-law infirmary containing 900 beds, and, through the generosity of Sir John Brunner, facilities for research in the University of Liverpool.

The views which I set forth to-day are based on an observation of 3,500 cases of tuberculosis, with, in addition, a study of 650 autopsies on such cases.

Koch holds that human and bovine tuberculosis are separate and distinct diseases, and that bovine tuberculosis, if conveyed to man, cannot set up human tuberculosis. Koch, in addition, believes that phthisis is conveyed from one person to another by direct infection, especially from contact with an advanced case of the disease, and that this is by far the commonest cause of the spread of phthisis pulmonalis. Von Behring, on the other hand, holds diametrically opposite views. He says that human and bovine tuberculosis are the same disease, and that nearly all tuberculosis is the result of infection during infancy by means of infected milk, and that direct infection from person to person is not proved.

How confusing! and yet I believe that in this country the great majority of doctors favour the view that the diseases are identical, and that milk plays an important part in the dissemination of tubercle amongst children. In general one takes for granted that the infection with tuberculosis must progress through the body, so that the nearest organ must become affected first, and more severely so than all the other organs. According to the "law of localization," for example, we must take the phthisis of lungs to be the result of an infection by inhalation, whereas the primary tuberculosis of the intestines must be the result of infection by nutrition (Hueppe). The phthisis of lungs of the adult depends on the predisposition of the lungs, and the tuberculosis of the intestines of children depends on the predisposition of the intestines. The tubercle material for the infection of children, in my opinion, is in a great many instances infected by milk from cattle suffering from *Perlsucht*. In short, my view is this: the lungs are generally infected by inhalation of bacilli from a previous case of phthisis, or accidental inhalation of dried tubercle bacilli. This is by far the commonest way, and accounts for the great majority of cases of phthisis pulmonalis.

In a few cases, however, the apex of the lungs is attacked by the extension down the neck of tuberculous lymphatic glands, and I have myself seen three instances of this. The lungs are frequently attacked, especially in children, by direct

lymphatic extension from the mesenteric glands through the diaphragm to the pleurae and lung.

This often follows an intestinal infection from milk.

It is probable also that in the case of tuberculosis of the mesenteric glands the infection is conveyed to the lungs by means of the thoracic duct, and would account for many cases which we see of acute disseminated miliary tuberculosis, especially virulent in the lungs and pleurae.

I hold that human and bovine tuberculosis are distinct and different varieties of the same species, and are capable of setting up a different train of symptoms at different periods of life, and according to localization of infection, and that primary intestinal tuberculosis and tabes mesenterica are generally bovine in origin from infected milk. The intestinal infection may remain localized and limited by the mesenteric glands in children, as it often does, or it may extend to the peritoneum and through the diaphragm, thus causing acute miliary tuberculosis, which I hold is bovine tuberculosis, and not human.

I am also firmly of opinion that man is attacked by two distinct varieties of tubercle: one conveyed by infection from one person to another, the other by receiving into the body the bovine bacilli in meat or milk. From an observation of over 3,500 cases of phthisis pulmonalis I have been particularly impressed with the fact that the tuberculous process is nearly always confined strictly to the lungs. The usual history of phthisis is obtained, and the disease progresses to death, the necropsy revealing destructive lesions of the lungs and nothing more. Out of these cases of phthisis I have only seen neck glands and joints affected in 15 cases, and in the later stages one often sees the intestines and mesenteric glands involved as a secondary infection. Phthisis pulmonalis is essentially a disease of young adult life. It is rare to see it as a primary infection under the age of 12, the great majority of deaths taking place between the ages of 30 and 40; on the other hand, strumous or tuberculous joints, enlarged glands, spinal disease, and abdominal tuberculosis, with tabes mesenterica, are essentially diseases of infancy and childhood, and are only rarely seen in adult life. For many years I have given particular attention to the clinical manifestations of these various tuberculous affections, and it is rare to see a patient with enlarged glands, strumous joints, or spinal disease develop true phthisis pulmonalis.

They as a rule die from some non-tuberculous disease, but if their tuberculous lesion persists they usually die from waxy disease or exhaustion, or, as in some cases, from a general miliary tuberculosis. Human and bovine tuberculosis appear clinically to be antagonistic to each other, attacking the body at quite different periods of life, and exhibiting generally opposite symptoms. I have at the present time under my care 131 cases of phthisis pulmonalis in all stages of the disease, and in no single case is there any other gross tuberculous lesion evident, such as tuberculous joints, spine, enlarged glands, or lupus, which would certainly be the case if these lesions were all caused by the same bacillus, which would be free to be conveyed all over the body.

Again, I have had the opportunity of seeing over 650 necropsies on cases of phthisis, and I have noticed that even the lungs are attacked by two distinct varieties of tuberculosis—one of a slow and insidious nature, the other rapid and acute and generally associated with tubercle in other parts of the body. If one compares the appearances seen in cattle dying with tuberculosis with those of children dying of tabes mesenterica and abdominal tubercle the almost exact counterpart is seen.

From these general clinical and pathological observations, I am inclined to think that primary intestinal tuberculosis, tabes mesenterica, and other tuberculous affections of the serous membranes in children are probably bovine tuberculosis conveyed by milk, and are not true human tuberculosis, although the bacillus of Koch is found in them all.

Tabes Mesenterica.

By this disease we mean what is properly called consumption of the bowels, and it is one of the most common forms of tuberculosis in children. I retain the name simply for purposes of convenience, as it is known on the Continent by that description.

Infants and children suffer from tuberculosis of the intestines and abdominal glands, but it is, perhaps, more common before the age of 3 than afterwards.

My own experience of this affection is limited to 382 cases, of whom 103 have come to *post-mortem* examination.

I grant it is extremely difficult to exactly diagnose the onset of tabes mesenterica, and it is not to be assumed that a great many of the cases of diarrhœa, wasting, and general inanition in children are tuberculous, as they certainly are not, but I believe that tabes mesenterica is a great deal more common than is generally believed, and, what is more, a great number of children who receive a mild infection which is confined to the mesenteric glands recover absolutely. I have frequently seen this in the hospital, where enlarged, palpable mesenteric glands have slowly subsided, and under proper treatment the child has quite recovered.

In several cases in which I have opened the abdomen during life for hernia and other abdominal disorders, to my surprise I have found the mesenteric glands enlarged and apparently cheesy, with sometimes nodules on the peritoneum, yet these children were not suspected of being tuberculous and left the hospital well. Many other physicians and surgeons will be able to confirm this point. Assuming these mesenteric glands to be tuberculous, the question arises, How do the tubercle bacilli find their entrance?

This difficult problem cannot be proved like an ordinary scientific experiment, since it is impossible to inoculate the human; but by careful consideration of all known facts bearing on the question we ought to be able to find an answer which in all human probability will be approximately accurate. I will claim your indulgence when I attempt to lay before you all the evidence which I can in support of my view that tabes mesenterica is caused by bovine tuberculous bacilli in milk.

If we consider for a moment the remarkable diminution in human phthisis during the last fifty years, amounting to over 45 per cent., we would naturally expect that other forms of tuberculosis would have fallen in the same ratio, were they caused by the same bacillus.

But this is not so; on the contrary, the death-rate from abdominal tuberculosis in children has increased, and, what is more significant, tuberculosis amongst English dairy cattle is also increasing.

Veterinary authorities such as Nocard, Bang, Dollar and MacFadyean agree that about 20 per cent. of dairy cattle suffer from tuberculosis, and recent official figures from different parts of Great Britain show that in London dairies 25 per cent., in Edinburgh 30 per cent., Midlothian 23 per cent., Durham 19 per cent., and Yorkshire 25 per cent. of the dairy cows are tuberculous.

If, however, every tuberculous cow produced milk containing living tubercle bacilli the whole community would be in danger, but it is now generally admitted by experts that only cows with a tuberculous affection of the udder are really dangerous, and the percentage of such cases is really small, only amounting to 2 or 3 per cent.

The average number of cattle in a dairy supplying a large town is about 20, so that probably only one cow is dangerous, and possibly none at all. The milk is generally all mixed together before delivery, thus apparently increasing the danger, but experiments by Sidney Martin and others have proved that the fewer the bacilli contained in the milk the milder the infection, in fact it seemed to be confined to the intestines, and in some cases the mesenteric glands were affected without any lesion of intestine, the healthy mucosa having apparently allowed the bacilli to pass without causing ulceration. I have myself seen this on a score of occasions, where at the autopsy the mesenteric glands were extensively caseating without any lesion in the intestines.

Böllinger in Germany found that 16 per cent. of samples of commercial milk contained tubercle bacilli; Martin in Paris, 30 per cent.; Bang in Copenhagen, 15·5 per cent.; Delépine in Manchester, 25 per cent. There is thus no doubt that the milk as sold to the public is seriously contaminated all over the world, and if drank in the raw state is a most serious danger.

It is my custom at the infirmary to carefully inquire into the milk history of all tuberculous children on admission, and the usual history is as follows:

Child fed on the breast for a few months, then on cow's milk, which is bought at milkshops in halfpennyworths or pennyworths.

Two children, aged 8 months and 10 months respectively, had consumptive mothers, and had been nursed by them. The mothers both died of phthisis, and the children shortly afterwards.

Although the children had been nursed by their mothers up to three or four months before death, yet the *post-mortem* appearances of the children—namely, extensive ulceration of intestine and general infection of abdomen extending to the

pleurae, led me to believe that they must have been infected from the mother, so that I am inclined to believe that human tubercle bacilli may possibly be able to set up primary abdominal tuberculosis, although one cannot prove or disprove it. With a view, however, to excluding infection from parents I have made a careful inquiry, and of the 46 deaths from tabes mesenterica only 4 had a phthisical parent, so that the probability of infection in this direction is extremely small.

The clinical history of a case of tabes mesenterica is highly important, and in a Poor-law infirmary one often sees the child from the commencement of its illness. I have examined very many such cases with symptoms of intestinal catarrh, diarrhoea, and general wasting, with distension of the abdomen, and have invariably found the chest apparently healthy in the early stages of the illness. As the disease slowly progresses and the atrophy and the wasting consequent on the diseased mesenteric glands continue, the general tuberculous symptoms are more pronounced, the temperature becomes more hectic, the child begins to cough, and on examination the lungs are found to be tuberculous and the child invariably dies. The point I wish to make is this: The infection commences in the mesenteric glands, with or without ulceration of the intestine, slowly spreads to the retro-peritoneal glands, then through the diaphragm to the glands in the posterior mediastinum, and finally to the pleura and lungs.

If the child lives long enough the brain may be affected too. At the necropsy this has been corroborated again and again.

In 13 fatal cases the lungs have not been attacked at all, the disease being confined to the abdomen and peritoneum.

If we compare the course of this infection with that seen in the calf which is fed on tuberculous milk, we see an exact mimicry of the disease in every detail. The direction of the lymph stream and thoracic duct would certainly be strongly in favour of infection from the intestine to the thoracic organs.

The experiments recently reported by Mr. McConkey and Mr. MacFadyean and others are most valuable, and show that active tubercle bacilli are present in a large number of cases not suspected of being tuberculous. The experiments have shown that in the non-tuberculous autopsies on children virulent tubercle bacilli were present to the extent of 25 per cent. The bacilli, it appears, are present much more frequently in the mesenteric glands than ordinary *post-mortem* examination would lead one to suppose.

This evidence strongly supports the view that I have for a long time had—that a great many children receive a mild infection of mesenteric tuberculosis through cow's milk and recover absolutely, the infection getting no further than the glands. We have all seen cases of tuberculous peritonitis completely recover after opening and draining the abdomen, and, so far, no satisfactory explanation of this result has been given.

My own opinion is that it is a localized bovine infection which has died out, and that relief of the fluid is sufficient to cure the patient. Taking also these facts into consideration, I am of opinion that bovine bacilli are very virulent for children, and are accountable for tabes mesenterica and other forms of abdominal tubercle; in fact, I believe bovine to be more virulent for children than human tuberculosis. In arriving at this conclusion I lay great stress on the fact that out of nearly 400 cases of tabes mesenterica observed during the last twelve years, with the exception of two children with consumptive mothers, I have never known one to occur in a child which has been fed strictly on the breast, the whole of them, without exception, having been reared for some considerable time on cow's milk.

The finding of the German Commission, issued in April of this year, is of the highest importance.

The bacillus bovinus was found to be the sole cause of tubercle in six children, all under 7 years of age, and ranging from 1¾ to 6½ years.

The nature of the cases was as follows:

1. Tubercle of mesenteric glands.
2. Tubercle of mesenteric glands.
3. Intestinal tuberculosis, with caseating mesenteric glands.
4. Calcareous tubercle of mesenteric glands, with tubercles in spleen and pleurae.
5. Miliary tuberculosis (general), including lungs and meninges.
6. Acute miliary tuberculosis, involving practically all organs.

These findings are of the highest importance. As shown in 6 cases out of 56 examined, the bacillus bovinus was found to be the cause of the lesions.

Scrofula.

We all know that scrofula, so-called, is nothing more or less than tuberculosis of the lymphatic glands, but is it human tuberculosis?

I must confess to a difficulty in understanding how it is that these tuberculous lesions, such as enlarged glands in the neck, pulpy joints, and caries of the spine, should generally develop in childhood, and in the majority of cases recover and never occur again. For it must be admitted that these cases rarely develop tuberculosis of the lung, excepting in the process of a general miliary infection.

Out of 3,500 cases of phthisis, I have only seen enlarged glands in the neck in 9 cases and tuberculous joints in 3, and I have never seen a carious spine associated with phthisis; and although one occasionally, but very rarely, sees phthisis pulmonalis follow operation on these glands, it might be explained by direct extension of the deep cervical glands to the apex of the lung.

Tuberculous glands in the neck are usually primary from the tonsils, mouth, and pharynx, and spread downwards towards the chest, or upwards to the base of the brain, setting up tuberculous meningitis. It must, however, be borne in mind that the cervical glands may be infected from the apex of the lungs upwards, and may actually be a late symptom in a general upward infection from the abdomen.

I am, however, inclined to the opinion that the bacillus humanus does not attack the lymphatic glands of the neck.

How many scores of strong, healthy, vigorous children and adults do we see who have suffered from tuberculous glands in the neck, with never a symptom in after-life? Surely these people cannot be classed as tuberculous. They have suffered from a mild infection of tubercle bacilli, which was in all probability bovine in origin and absorbed from milk. The most reasonable theory is that scrofulous glands in the neck are produced by the absorption of tubercle bacilli in milk through the tonsil and pharynx, and is, as a rule, a purely local infection.

This view is supported by feeding experiments on animals. If pigs are fed on tuberculous milk they invariably develop enlarged tuberculous glands of the neck and throat—hence the name "scrofula"—which on inoculation produce bovine tuberculosis in cattle, and tuberculous glands from the human when inoculated into calves produce a general infection.

This is strong presumptive evidence of their bovine origin. During the course of my investigations I have repeatedly seen children, and in some instances adults, suffering from enlarged neck glands who had been drinking the milk of a cow which was affected with tuberculosis of the udder. In view of the danger of extension, tuberculous glands of the neck should always be thoroughly removed by the surgeon as soon as possible before caseation commences. I have removed during life a large number of tuberculous neck glands, and on inoculating guinea-pigs, a virulent tuberculous infection invariably results. I find, however, that the infection rarely extends upwards to the brain after 10 years of age.

If this view is correct, it would help to explain the occurrence of acute general tuberculosis occurring in those suffering from an unhealed focus, such as a gland, strumous joint, or a psoas abscess, for we are all aware of the danger of operating on caries of the spine, a tuberculous bone lesion, or removal of glands, lest a general blood infection should follow.

If we observe closely this acute general tuberculosis, we find it closely resembles that seen in cattle, affecting chiefly the serous membranes and the lungs—a condition which rarely accompanies phthisis pulmonalis.

Tuberculous Meningitis.

It is often a matter of perplexity to explain the onset in a previously healthy child of an attack of tuberculous meningitis. It generally occurs in the milk-drinking period, and is often the only tuberculous symptom. Out of 123 cases of meningitis occurring under the age of 4 years, I have never seen a case which had been fed only on the breast; they had invariably been fed on cow's milk. Again, I have only observed three patients die of tuberculous meningitis associated with phthisis. It is a remarkable fact that cases of phthisis do not often develop brain symptoms. All cases of meningitis, however, even in children, are not tuberculous; and I have seen quite recently a child who died from pneumococcal meningitis associated with bronchopneumonia.

Lupus Vulgaris.

I have been particularly struck with the fact that one rarely sees lupus associated with phthisis. In my series of 3,500 cases I have only seen 1 case of lupus, and I have never seen an autopsy where lupus and phthisis pulmonalis were found together. I have seen lupus with general tuberculosis, but only once with ordinary phthisis. I do not include, of course, tuberculosis of the skin occurring on scars or joints, but true lupus.

It is much more common in Denmark and other countries, where cattle suffer more from tubercle than in this country, and last year, when visiting the Finsen Institute, I ventured to suggest to the distinguished head of that institution that lupus might be a bovine infection, and not due to human tuberculosis.

Time will not permit me to further consider this complicated problem, but I am at present engaged at the University in collecting information from all parts of the world on this question, which I hope to put before you later.

In Liverpool I have noticed a diminution in abdominal tuberculosis and enlarged glands during the last two or three years, due in a great measure to the rigorous inspection of all dairies, and the supply by the City of sterilized milk for the poor. In fact, I believe that when tubercle is stamped out from cattle surgical tuberculosis in children will to a great extent disappear with it. Briefly, I hold that the human body is affected by two varieties of tubercle: one producing phthisis pulmonalis, and generally attacking adults; the other, bovine tuberculosis, attacking children during the milk-drinking period. I suggest that these two diseases are antagonistic to each other in the human body, and that children who have suffered from bovine tuberculosis in the form of strumous glands, spinal disease or joints, will not develop phthisis pulmonalis in later life; in fact, I argue that this mild bovine infection confers a certain immunity against phthisis, in the same way as vaccination against small-pox.

Endeavours have been made to immunize cattle against tubercle, and so far only the human bacilli have been successful. Dr. Romer, of Marburg, has succeeded in producing complete immunity in over one thousand cattle by using human bacilli.

If human bacilli will protect cattle, it is natural to suppose the converse—that bovine tubercle in children will protect them against phthisis, and I propose to utilize the serum of tuberculous cattle for the purpose of protecting young adults against phthisis pulmonalis.

I conclude by expressing the opinion, based almost exclusively on clinical and pathological evidence, that human and bovine tuberculosis are separate and distinct varieties of disease, as shown by Professor Koch, but that the human body is susceptible to both, and especially to bovine tuberculosis in the early periods of life. The two diseases are so rarely seen together in the human that there seems to be some ground for presuming that they are antagonistic to each other, and that bovine tuberculosis may possibly confer an immunity against human tuberculosis. If this opinion should prove correct—and I hope later to submit more evidence to you—I venture to think that it would reconcile the conflicting opinions which have been so frequently expressed on this most terrible of all diseases.

The problem can only be solved by the steady co-operation of the clinician with the pathologist, and is not capable of a scientific settlement, since inoculation of the human can never be permitted. Some organized attempt must be made to stamp out tuberculosis in dairy cattle, which I admit is a colossal problem to attack, and until that is done children should not be permitted to drink unboiled milk.

Dr. Reginald Pratt (Vice-President of the Section) said: On the question whether bovine and human tuberculosis are the same or different diseases I am unable to offer an opinion, but that human abdominal tuberculosis is due to the ingestion of contaminated milk and not to infection from cases of lung disease seems probable from the fact that in my experience, whilst the source of infection in cases of phthisis pulmonalis was usually discoverable, in cases of abdominal tuberculosis I have failed to find that there are probable sources of infection present. He drew attention to the fact that the tubercle bacilli were not scattered broadcast, but to be found only in certain definite places, namely, where consumptive persons had been, and in the absence of probable sources of infection from sputum in cases of tabes mesenterica it seemed probable that the infection was derived from tuberculous milk. Another indication pointing to the same conclusion was that whilst the source of infection by means of sputum from persons suffering from phthisis had diminished so regularly and so greatly during the last half-century (the death-rate had fallen by one-half), cases of tabes mesenterica were not less common. It seemed probable, therefore, that some other mode of infection was present, and from the known contamination of milk by the tubercle bacillus, it was extremely likely that that was the source of the infection in these cases.

Dr. Samuel West said: In discussing the source of infection in phthisis, a fact seems to be often neglected to which Buhl drew attention nearly 100 years ago, and which is as true now as then. Buhl stated that there was no phthisis without an antecedent caseous focus—that is to say, in a phthisical patient evidence of long antecedent tuberculosis was present. In other words, an adult does not as a rule become phthisical unless he is already tuberculous. These antecedent tuberculous foci are most frequently found, as Laennec stated, in the mesenteric or mediastinal glands and in the glands of the neck. It seems as if the seeds of tuberculosis could be traced back to so early a period in life that their only source could well be the food—that is, milk; and whatever the truth as to the relation of bovine and human tuberculosis may be, if the only result of the difference of opinion be in an agreement to render the sources of the milk supply safe, a great step will have been taken towards the prevention of tuberculosis. The prevalence of different forms of tuberculosis at different periods of life does not involve a different mode or kind of infection. It may be explained in another way by the different resistance offered by the different tissues at these periods of life. Tuberculous meningitis is especially the disease of childhood. At a later period of childhood comes the time of prevalence of bone tuberculosis, then of the cervical glands, and it is only as a rule as adult life is reached that tuberculosis of the lung or phthisis becomes common. Another of Laennec's statements may well be borne in mind, namely, that if any organ is secondarily involved in tuberculosis it is especially likely to be the lungs, for the tuberculous infection may be conveyed from the original focus by direct extension through the lymphatics or through the blood vessels, as well as through the air tubes. Infection by the air tubes no doubt occurs sometimes, but in many of these cases in man the form in which it develops in the lungs is that of tuberculous bronchopneumonia, which is certainly by no means the common form of phthisis. Yet this ought to be very frequent, if the primary infection of tubercle be, as seems to be so often assumed, by the direct inhalation of infected dust. Lastly, it is important to bear in mind the fact that the evidence of direct infection of the healthy by the sick is very scanty. To take the common instances of infection of husband and wife, the rarity of conclusive cases is well established. Phthisis is so common a disease that it is possible for a given man who was to die of phthisis anyhow to meet a woman who was to die of phthisis anyhow and marry her. Longstaff made a statistical calculation as to the chances of this occurring, and found it to be as great as the actual number of supposed instances of infection between husband and wife. This result deprives the instances of such infection of nearly all their value. What little value might remain would vanish if the fact be, as Buhl asserted, that adults rarely become phthisical unless already tuberculous.

THE EMPLOYMENT OF CITRATE OF SODA IN THE FEEDING OF THE INFANT.

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In August, 1904, I published in the *Lancet* a paper upon a method of feeding infants with milk to which citrate of soda had been added. Another year's experience has encouraged me to bring this method forward again, for it is exceedingly valuable in a large out-patient department, and often very useful in better-class practice. When a child gains ground by this treatment nothing can be more easy to manage, cheaper, or more satisfactory; and if the few details of procedure are adhered to, there is no danger of losing touch with the progress of the case and so of finding oneself in the awkward predicament of having prescribed a treatment which was excellent for the occasion, but which by inadvertence has ceased to be applicable and has even become harmful.

I need not dilate here on the difficulties in the feeding of infants, but, at the present time, there are two dangers to which children are particularly exposed; one is a lack of fresh food on account of the wide use of proprietary preparations, the other a lack of sufficient nourishment from the use of over-diluted milk.

I have repeatedly met with cases in which parents have been giving children three parts of barley water to one of milk, even at the age of 2 or 3 months. It is only necessary to recall the average percentages of the important constituents in human and cow's milk respectively to realize how little nourishment the child gets on such a diet.

The percentages of proteid, fat, and carbohydrate in human milk are 1.5, 3 5, 6.5, and in cow's milk by 3, 4, and 5 respectively. A dilution such as the above reduces the proteid in cow's milk below 1 per cent., and the fat to 1 per cent. instead of 3.5 per cent. There is little wonder that the child screams; is pale, puny, and prepared for rachitis. On the other hand, if the cow's milk is not diluted the child's digestion is sometimes upset at the very commencement of life, and this original failure may take months to counteract.

Among the poor there are but few possibilities as to the diet, while among the rich there are so many that they are in themselves a source of confusion and danger. For the poor there is condensed milk, the best brands of which are invaluable during the heat of summer, but it is not a fresh food, and the excess of sugar may do harm. Substituted milks are expensive, and peptonization and humanization are generally beyond the skill, and take up too much of the time, of a poor and not clever mother. For the rich, asses' milk is a valuable assistance, and, of course, the wet nurse, although, unfortunately, it is not easy to get a wet nurse in this country; and one is sometimes compelled to pack off an embarrassed and shy husband to Paris to bring back the requisite need, and she soon after her arrival may cease to be able to provide the nourishment.

There is room, then, for another device, and the action of citrate of soda, for a knowledge of which I am indebted to a paper by Dr. A. E. Wright published in the *Lancet* in 1893, helps to supply this need.

The principle of the process I will give in, I hope, comprehensible language, and as it has been explained to me by eminent chemists: The caseinogen of milk is acid, and in the process of clotting combines with the calcium salts in the milk to produce the thick casein clot which is seen in this tube (No. 1), containing 1 oz. of milk rennin and 5 minims of 0.3 per cent. hydrochloric acid. It is this curd which is so often the cause of milk dyspepsia, and which this method modifies. Sodium citrate, when added to the milk, combines with the caseinogen and produces with it a soluble compound. This is of lower molecular weight than the calcium compound and hence of less density. The calcium salts of the milk combine with the citric acid to produce calcium citrate, which, much diluted by the stomach contents, is absorbed into the system and the calcium is not lost to the economy. The milk curd is altered in a very remarkable way, and this method cannot be compared, in my opinion, with the familiar device of adding bicarbonate of soda to milk.

I have used this method in a great number of cases during the last two years, and have found it most useful.

I use it for weaning healthy children:

1. When the mother is compelled to abandon nursing, or where the mother's milk does not suit the child. By means of it I give cow's milk in a more concentrated form, and always aim at reaching at least two parts of milk to one of water.

2. Among the poor, too, I often add with success a proprietary preparation of bone marrow which contains about 20 per cent. of fat, and thus supply a great need, for cream is not only often beyond their means, but is often in the present day [illegible].

[illegible] the poor mother to do this; and I am content to judge from the character of the case and my experience in the use of the method as to the appropriate dose of citrate of soda.

A very useful proportion is 1 gr. of citrate of soda to the ounce of milk, but I often use 2 gr. or even 3 gr. in a severe case. The citrate can be dispensed in a fluid form, although since my paper in the *Lancet* Messrs. Burroughs and Wellcome have prepared a convenient tabloid. I have used chiefly the fluid preparation, and advise that the tabloids should be well broken up before use, otherwise, in my experience, their action is a good deal slower than the fluid preparation, and even then not quite so good. Their handiness is a great advantage for travellers.

If the fluid is used it is clearly not advisable to prescribe it in any considerable bulk of fluid which will act as a diluent of the milk. The great solubility of the salt avoids this difficulty, for as much as 20 gr. can be dissolved in a drachm of water, and no such dose as that is ever required.

If, in illustration, a child is taking 6 tablespoons (3 oz.) of milk and 3 of water at each feed, and citrate of soda is given in the proportion of 1 gr. to the ounce of milk, clearly 3 gr. will be required for each feed. This is prescribed in a teaspoonful of water and added by the mother to the bottle before every meal. It is as well to add a drop or two of chloroform to a 12-oz. bottle of the citrate solution, because dilute salts sometimes get a mould growing in them, and this a drop of chloroform will prevent.

In spite of the great simplicity of this method mistakes are made; the milk in each feed is increased, but the citrate of soda is sometimes not increased in proportion, but the same amount as at first is ordered. This is not giving the remedy a fair chance. For example, if the milk in the case quoted above is raised from 3 oz. to 6 oz., the citrate would increase from 3 to 6 gr.

Each week the child is weighed, and the amount of food and the amount of citrate are revised. I press the milk cautiously on until it reaches at least the proportion of 2 parts of milk to 1 of water, and when the child is thriving I slowly diminish the proportion of citrate until it is entirely abandoned.

To summarize the chief uses of citrate of soda in the feeding of infants, they are:

1. For weaning the healthy infant.
2. For increasing the amount of milk taken in the twenty-four hours.
3. For correcting milk dyspepsia; and
4. For the avoidance of scurvy.

Another useful feature is its cheapness.

On the other hand, it is not a powerful remedy, and the action is not antibacterial or antitoxic. For severe gastro-enteritis from food poisoning this treatment is inadequate, and many of these cases are better without milk at all. When convalescence is established and milk is resumed, the citrate may then be very useful.

In severe milk indigestion suitable remedies must be used to limit the flatulence and vomiting, and the improvement may take some little time. Provided there is a gain in weight, even though the motions are still white and the vomiting has not altogether ceased, it is often wise to persist. I believe it to be a valuable practical point to insist, as far as possible, upon a routine of weekly weighing, for in many cases it is only time that the medical man wants. If he is only left in peace for some days the child will improve, but daily weighing and incessant changes of food are demoralizing to the doctor, the child, and the household.

Like every other device, it sometimes fails, for some children will not take milk. I have never had an opportunity of treating one of these cases quite early, but I have failed signally with some which have come to me later.

There is another occasion on which it fails completely. One sometimes meets with a method of feeding which I would term the prize-pig method. A baby, healthy enough but neither very big nor very strong, is either raced against a rival baby, or treated on the principle that the more it gains the more it ought to gain. Such children are sometimes given a ridiculous amount of fat in the form of cream. They hold on bravely for a week or more, then there is a terrible breakdown: vomiting, [illegible], and acid eructations result, and [illegible] to a latent form of starvation in the form of [illegible] albumen or whey. Citrate of soda alters the curd, but cannot cope with the fat.

In conclusion, I should be interested to hear if any other members have tried this method. I have read that Dr. Variot, in Paris, has recently reported success with this method.

A DISCUSSION ON THE DIAGNOSIS AND TREATMENT OF DEGENERATION OF THE HEART APART FROM VALVULAR DISEASE.

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Dr. Dreschfeld said: When I was asked to open a discussion on the degenerations of the heart, their diagnosis and treatment, I perhaps too readily consented to this honourable request, for the field is a very extensive one, and I felt that others much more competent than myself would have dealt better with this subject. As, however, I am only to introduce the subject, and as several very distinguished clinicians have promised to take part in it, I trust that the discussion will not suffer by the shortcomings on my part, and that many of the points which I cannot deal with will be considered by some of the subsequent speakers.

The clinical study of heart affections has within the last few years shown some new and important developments.

The careful application of the *x* rays has enabled us to make out very definitely the size of the heart under varying conditions. We have more accurate instruments to determine the blood pressure, and the important researches of James Mackenzie in this country and of Wenckebach, Kraus, His, Hering, and others, based on the researches of Gaskell and Engelmann, have given us new views and a clearer understanding of some of the irregularities of the heart's action in disease. I hope that some of the members present will speak on the latter subject, for the time at my disposal is too short, nor do I feel confident enough to speak with any authority on this subject.

I propose to consider the degenerations of the heart under the following heads:

1. *Acute Myocarditis* in connexion with acute infectious diseases, especially diphtheria, typhoid, influenza, pneumonia, rheumatic fever, and septic infections. In most acute fevers the heart may become affected; and the affection often implicates both the endocardium, myocardium, and pericardium, or limits itself principally to one of these. I will only consider the affection of the myocardium. The high fever temperature itself may, directly or indirectly, as proved by experiments, cause a degeneration of heart muscle, but the principal agent is the toxin of the specific organism of the disease from which the patient suffers. With the beginning of the myocarditis no anatomical changes are found; though the function of the heart muscle may be seriously interfered with, the first anatomical changes noticed are generally those of a degenerative nature (parenchymatous myocarditis), which is soon followed by inter-muscular exudation (interstitial myocarditis), and by segmentary myocarditis and myolysis. The toxins acting on the heart also affects in some fevers—as, for example, typhoid—the arteries, producing endarteritis and changes in the middle coat (Wiesel, *Congress f. i. Med.*, 1904) and also the nerve centres in the brain and medulla, the heart nerves themselves, and the vaso-motor nerves. We can thus easily understand that all these intracardial and extracardial changes will give rise to various disturbances of the heart's action.

The heart complication in the infectious diseases varies considerably with each affection, both as regards the frequency of the occurrence, the time of its appearance, and as to the presence of other complications.

I will briefly refer to the myocarditis seen in diphtheria, as the affection has been studied experimentally in animals (Romberg, Sidney Martin, and others), and most recently by Bown, a research student of this Association, and we have, therefore, more reliable data to go upon. It occurs not infrequently (in 10 to 20 per cent., Schmalz and Romberg), and it is essential that we should try to recognize it by a careful and repeated examination of the heart, and thus by proper treatment prevent, if possible, a fatal issue, which may often occur suddenly. The myocarditis in diphtheria sometimes comes on early in the disease. The patient has a pale, rarely a cyanotic appearance, complains of pain or discomfort in the chest or abdomen; sometimes there is vomiting, the pulse shows a low tension, is small, and may be slow, or more frequent and irregular. Examination of the heart shows, as pointed out by Lees, dilatation, the heart's sounds vary, there may be a systolic bruit, or they may assume the embryonic character, or the first sound becomes weak, the second sound at the base (pulmonary) becomes accentuated. The albumen which is generally present in the urine increases, whilst the secretion of urine diminishes; the patient becomes somnolent, then comatose, and death may occur in a few hours, or the patient may linger on a few days, or, after a tedious convalescence, the patient recovers.

The symptoms are due in this stage partly to myocarditic changes, partly, as shown most recently by Bown and by other experimenters, to fatty degeneration, but they are also due, as pointed out by Romberg, to vaso-dilatation of the vessels supplied by the splanchnic nerve, and perhaps by a neuritis of the heart nerves, though these were found normal by Bown.

The affection may also come on during, or even weeks after, convalescence; it may, without giving rise to any subjective symptoms, cause sudden death, hence the importance of carefully examining the pulse and heart in all cases during convalescence; or the subjective symptoms are only slight, the patient complaining only of slight pain in the chest, giddiness, or palpitation; he becomes apathetic, sleepy, the pulse shows low tension, is quick or irregular, or, what is still more ominous, slow; the heart shows on percussion and auscultation signs of dilatation or weakened action; the affection may terminate fatally after some time from right-sided dilatation; many recover completely, and in some the acute myocarditis may go on to chronic myocarditis. In typhoid fever we often have, also, as a complication myocarditis, both during the height of the fever and during and after convalescence. Besides the myocarditis which has frequently been observed in these cases of typhoid, we have as a further factor in the production of the heart symptoms changes in the arteries, as pointed out by some Continental observers, changes which probably account for the peculiarity of the pulse in persons long after they have recovered from typhoid.

When occurring during the height of the fever we get the usual signs of heart failure: quick, small, or irregular pulse; dilatation of the heart with displacement of the apex beat; the presence of a systolic bruit, or weakening or almost complete disappearance of the first sound; accentuation of the second pulmonary sound, or we get the embryonic heart rhythm. The patient becomes restless, the face pale, or, if there be much dilatation, cyanotic; the patient shows wandering delirium, and often soon passes into a state of coma, followed by death; in rare cases gradual recovery may take place.

The affection, as in diphtheria, may come on during convalescence or some weeks after convalescence, as pointed out by Romberg, and probably some of the subsequent speakers may refer to this form.

There is no time to do more than allude to the myocarditis complicating the other infectious diseases. Myocarditis occurring in acute rheumatic arthritis will, I believe, be dealt with more fully by Dr. Herringham. In septic diseases, due to pyogenic micro-organisms, we have, besides myocarditis, abscess formation, which may lead to further changes, but this we cannot consider.

In epidemic influenza, both during the attack and more often during convalescence, or some time after convalescence, we meet with marked disturbances of the heart due to the action of the toxin on the heart muscle or on the nervous system. The affections may give rise to various symptoms, the true nature of which is sometimes made out by a more accurate analysis of the pulse, as in a case recorded by J. Mackenzie.[1] In many cases we have to deal with functional derangement and not an organic degeneration of the heart muscle. This is beyond the scope of this discussion.

So-called "failure of the heart" in croupous pneumonia is a common and very serious complication. Besides the toxic effect of the pneumococcus, we have here the additional strain, thrown especially on the right side of the heart, by the solid and impervious lung, which explains to us the marked dilatation of the right side of the heart and its train of symptoms: cyanosis, swelling of the veins of the neck, oedema of the lungs, and the physical sign of right-sided dilatation. Pulmonary oedema may often be an early sign, and, as Sir Isambard Owen has shown, may come on before all the other signs, and its early recognition is of great importance. Heart failure is most frequently observed in influenza pneumonia, though this is in most cases due to the pneumococcus and not to the influenza bacillus. It is, I believe, very likely that the latter organism prepares the soil for the further action of the pneumococcus toxin. The anatomical changes typical of myocarditis are not often seen in pneumonia; this is probably due to the fact that the affection runs its course so quickly

[1] British Medical Journal, 1902.

that the changes due to exudation and the degeneration of the muscular fibres have as yet not had time to form.

Some authors (Krehl and others) also describe a primary acute myocarditis where persons perfectly healthy, without apparently suffering from any of the known infectious diseases, may sicken with myocarditis which may terminate fatally. I myself have not seen such a case, but perhaps we may hear more about such cases in the discussion.

The treatment of myocarditis during the course of the infectious disease will vary somewhat with the primary disease, with the age of the patient, his previous habits, and whether there is marked dilatation of the right side of the heart and increased pressure in the veins; the patient should be kept quiet and at rest; local applications of ice to the heart may well be tried first, but if not well borne warm applications may be substituted; digitalis is not often indicated, as we deal here not only with a weakened heart action but also with vasomotor paralysis; we give, therefore, camphor, ether, citrate of caffein, and strychnine; alcohol in large doses produces vasomotor paralysis, and it acts directly also on the muscular fibres, and should therefore be only cautiously given and in small doses, as in such small doses, according to some observers, it raises the pulse tension and may therefore help the heart by vasomotor constriction of splanchnic vessels. Depletion by leeches or by venesection is indicated when there is marked right-sided dilatation and still a fair pulse, and in those cases in which we notice as an early sign oedema of the lungs. Tympanites, with or without constipation, as it increases the discomfort of the patient and still further increases the difficulties which the heart has to contend with, requires also to be treated. In post-febrile myocarditis practically the same measures, especially bodily and psychical rest, are indicated.

2. *Chronic Myocarditis.*—This is an affection which may develop from an acute myocarditis or commence in an insidious way. Anatomically we have here as in the acute form partly inflammatory, partly degenerative changes of the myocardium in various forms and degrees. We have here interstitial changes in the form of tracts of fibrous tissue, parenchymatous in the form of atrophy and fatty degeneration of the muscle cells and vascular changes, often very extensive in the form of periarteritis and endarteritis. The left side of the heart is more often affected than the right side, and more particularly in its upper posterior and its lower anterior parts (Köster), besides the myocardium, pericardium, and endocardium are often implicated in this process.

The affection is, according to some observers (Köster, Romberg, Krehl) very common, according to others it is rare; and the discrepancy is easily explained; for, as will be seen, the anatomical changes are the same as those found in the heart, in which we have primary affection of the coronary arteries, in some syphilitic affections of the heart, and in the other toxic and chronic affections to be presently described, and the symptoms are also practically the same: The patient complains of feeling soon tired, of dyspnoea on exertion; often, also, has a feeling of oppression in the chest. These subjective symptoms may last a shorter or longer time; the patient for a time may still be able to get about and do his work, till at a later stage we get all the signs of laboured and insufficient heart action and chronic heart failure. The physical signs at first may show only an irregular, unequal, and quick pulse, the apex beat may be weak or forcible, the first sound at the apex impure; at the base we may have accentuation of the second sound. At a later stage we have all the signs of a dilated right heart. To distinguish this form of chronic myocarditis from nervous heart affections, from heart strain in the earlier stage, from syphilitic affections, from an alcoholic heart, from the heart in arterio-sclerosis, or affection of the coronary arteries, is often quite impossible, unless the history of the case helps us.

We come now to the myocardial affections in connexion with chronic infectious disease, and of these the only ones I can deal with are the syphilitic heart affections. We may have affections of the heart in congenital and in acquired syphilis. The former is rare; it was found only 4 times in 153 autopsies on children who died from congenital syphilis (Mracek). I remember one case in which a girl, aged 20, whose father had had syphilis, and who herself had shown some signs of congenital syphilis (Hutchinson's teeth, keratitis), had sudden attacks of breathlessness and precordial pain—symptoms which were looked upon as due to hysteria. She died suddenly in one of these attacks. The autopsy showed marked fibrosis of the left ventricle, with induration of the coronary artery; the peripheral arteries showed no atheroma.

Acquired syphilis affects the myocardium usually some years after the primary infection, and may either appear in the form of gummata or of diffused myocarditis. The diffuse syphilitic myocarditis cannot even anatomically be distinguished from the non-syphilitic form, and as we know that persons suffering from syphilis are often affected with arterio-sclerosis, we may have as a further complication a sclerosis of the coronary arteries with syphilitic myocarditis. We can thus readily understand that clinically it is only in a few cases that we can diagnose the affection; yet as, from the few cases recorded, antisyphilitic treatment often gives considerable relief in these cases, it would be well to bear in mind that in persons who have had syphilis, or who present some indication pointing to syphilis, such an affection may occur, and to treat the case accordingly.

Breitman[2] gives a full and detailed account of the syphilitic heart affections; gummata of the left ventricle may cause sudden death and give rise either to no symptoms during life or may give rise to symptoms of a weakened heart; if the gumma acts only as a foreign body on the muscular fibres surrounding it, it may give rise to an irregular and excited action of the heart, with a forcible, impure and loud first sound; gummata of the right ventricle give rise to dyspnoea and an increased frequency without irregularity of the heart's action, but accompanied by cyanosis. Dealing with syphilitic myocarditis, Breitman speaks of four different forms as regards the symptoms: (1) a form in which there is weakened heart's action with dilatation; (2) a form in which, owing to the rigidity of the fibrosis, we get weakened kinetic force without dilatation; (3) a form in which in addition to dilatation we get hypertrophy, this the most common form and presents all the symptoms seen in arterio-sclerosis; (4) a form in which the wall yields to the intracardiac pressure, in which case a partial aneurysm of the heart results. Breitman also gives certain peculiarities of the pulse, but I think most observers will agree that all these signs and symptoms may occur in non-syphilitic heart affections. In malaria myocarditis has been noticed as a complication which I need not further consider; and as regards tuberculosis we find occasionally a small atrophied heart, or a dilated right heart. Tubercle either appears as miliary tubercle or as a solitary tubercle, and neither of these affections can be diagnosed.

Heart affections due to chronic intoxication. Of these we have:

1. *Exogenous toxins*, chiefly alcohol and tobacco. The effect of alcohol on the heart has been studied by many observers, and I can only allude to a few of the more salient points, and hope that subsequent speakers will deal more fully with this subject.

The physiological action of alcohol on the circulation has been made the study of numerous observations, but the results obtained vary considerably. The best observers, with whom the most recent writer, Kochman,[3] agrees, state that alcohol in smaller doses causes a temporary rise of the blood pressure by bringing about a vaso-constriction of the vessels supplied by the splanchnic nerves and vaso-dilation of the peripheral arteries; in larger doses it causes, according to some observers Schule, Sevientochowski—a fall of the blood pressure; according to Weissenfeld, who worked under Professor Binz, a rise of blood pressure. On the heart muscle also alcohol acts very much like some of the toxins of infectious diseases,[4] and its effects on the nervous system, the kidneys, and on the peripheral arteries, producing arterio-sclerosis, will explain to us that in considering the heart affections due to alcohol we have several factors which underlie the faulty action of the heart. It is thus easily understood that the so-called "alcoholic heart" may show both pathologically and clinically various types; thus Böllinger, Bauer and Rieber, and others describe a form of alcoholic heart in which there is marked hypertrophy and slight dilatation, but without marked change in the myocardium; in other cases we meet chiefly with dilatation of the right side of the heart and venous engorgement of the liver and the other abdominal organs; sometimes we meet with chronic myocarditis, whilst occasionally we find fatty degeneration.

Of the clinical types, I may mention a more acute affection of which Dr. Drummond spoke in a paper read before this Association.[5] In this general oedema is an early symptom, and along with this the patient complains of breathlessness and palpitation, the pulse is small, compressible and rapid

[2] *Gaz. des Hôpitaux*, 1902.
[3] *Deut. med. Woch.*, June 15th, 1905.
[4] Woodhead, Lees and Roper Memorial Lecture.
[5] British Medical Journal, 1902, vol. ii, 1417.

and at times cannot be counted, at times a distinct pulsus bigeminus or trigeminus is noticed; the cardiac impulse is diffuse and the apex beat is displaced; on auscultation a systolic apex bruit may be heard or a reduplicated first sound, or both these conditions may obtain.

In the chronic affection we have:

1. Böllinger's beer heart, occurring chiefly in those who consume very large quantities of beer; the patient for a long time only complains of a sense of weight in the chest, then of a sense of oppression coming on during the night, later on of weakness, inability to do much physical work and dyspnoea; physical examination of the heart shows the signs of hypertrophy, and if the patient does not recover we get as a further stage signs of dilatation of the right heart with increased stagnation of the venous blood.

2. A type which my colleague, Dr. Steell, has drawn attention to. In these cases, which also occur in beer drinkers, the patient looks pale, complains of weakness, and marked dyspnoea; the oedema may only affect certain parts, such as the scrotum or the upper extremities, and is not only due to central but also to peripheral causes; the urine is scanty and often contains albumen, the liver is often considerably enlarged. Physical examination shows a dilated heart with all the other signs—systolic apex bruit, reduplication of first sound, *bruit de galop*, sometimes an aortic, sometimes a pulmonary accentuated second sound, the pulse often shows low tension and is quick, irregular, or intermittent.

A third form, resembling Bright's disease, has been noticed. The patient looks pale, has slight oedema of the ankles, complains of dyspnoea, and physical examination shows signs of hypertrophied and dilated heart. The urine may even contain a small quantity of albumen. These cases simulate Bright's disease, but under treatment all the symptoms disappear.

The alcoholic heart, like alcoholic neuritis, has been frequently observed in Manchester and the neighbourhood, and has often been noted in beer drinkers, and it is a curious fact worthy of notice that with the disappearance of the epidemic of arsenical neuritis cases of alcoholic peripheral neuritis and of alcoholic heart have become very rare.

The distinction of the alcoholic heart from the heart in arterio-sclerosis, from valvular heart disease, from Bright's disease, from fatty heart, is often very difficult, and may become sometimes quite impossible, as these affections often attack persons addicted to alcohol. The treatment of the alcoholic heart consists in rest, and attention to diet, and digitalis, which Dr. Steell strongly recommends. Whilst the prominent symptoms of heart failure exist, Dr. Steell strongly recommends to give alcohol in fairly large doses; with the subsidence of these symptoms the patient should abstain altogether from alcohol, and if he does so the heart may completely recover itself. Some, no doubt, will object to the large doses of alcohol given in these cases, yet we can only say that most of Dr. Steell's patients recovered.

The tobacco heart: The toxic effect of tobacco on the heart is well known, and is chiefly due to the toxic action of nicotine. Tobacco, though it gives rise to marked symptoms, such as a very quick, and very irregular and intermittent pulse, angina-like attacks, and attacks of syncope, only rarely causes dilatation of the heart, as pointed out by Clifford Allbutt, Krehl, and others, and cannot be said to cause by itself a degeneration of the heart muscle, and hence scarcely comes under the subject for discussion; this also explains the fact that, with the cessation of the exciting cause, the symptoms more or less rapidly subside. When they persist, and when we get marked signs of heart failure, then most probably other causes, such as alcohol or arterio-sclerosis, complicate the case.

The action of lead on the heart need only be mentioned; it causes hypertrophy of the heart mainly by virtue of its causing gout or a gouty or granular kidney.

2. *Endogenous Toxins.*—Many chronic diseases have a direct or indirect effect on the heart, but come scarcely within the range of the discussion. Bright's disease causes hypertrophy and dilatation of the heart; in amyloid disease of the kidney, if we group this degeneration under Bright's disease, we find, as a rule, an amyloid degeneration of the myocardium, which, however, cannot be clinically diagnosed, and is said not to give rise to either hypertrophy of the heart or to increased arterial tension.

In diabetes we occasionally meet with hypertrophy and dilatation, according to Meyer, Israel, and others; and in the majority of these cases the kidneys were also hypertrophied; occasionally the fatal termination of diabetes may be ushered in by rapid cardiac failure and collapse. A form of diabetic coma and *post-mortem* atrophy of the heart, with fatty degeneration and sometimes glycogenic degeneration of the cardiac muscle, is found.

Gout, besides giving rise to affections of the endocardium and pericardium, often causes arterio-sclerosis, and when affecting the coronary arteries may give rise to changes in the myocardium.

In Graves's disease we have an instance of the effect of an internal secretion on the heart muscle, and on the nerve apparatus regulating the heart. The pulse, always quick, is often regular, but in chronic cases, and sometimes in acute cases, may become very irregular showing various forms of arrhythmia, and the heart may show signs of dilatation. In one case which I recently had under my charge, the arrhythmia was due to a heart block—a dropping out of the auricular contraction, as shown by the tracing of the radial pulse and jugular vein. Under treatment with antithyroid serum the patient improved, and the pulse became regular.

In cancer, like tuberculosis and other exhaustive diseases, we meet with atrophy of the heart, either simple atrophy or atrophy with fatty degeneration. This occurs at a late period of cancer, and is not easily diagnosed. Breathlessness is a common symptom, but need not be due to atrophy of the heart; oedema of the dependent parts is also not an invariable sign of atrophy of the heart; physical examination may reveal a diminution of the area of dullness; the heart's sounds are weak; the pulse is quick, and of low tension.

Arterio-Sclerosis and Heart Degeneration.

Arterio-sclerosis whether primary, due to local changes in the arterial wall, or secondary due to increased tension in the small peripheral vessels, and subsequent compensatory end-arteritis, interests us as far as this discussion is concerned, inasmuch as it is the cause of changes in the heart, more especially those coming under the head of degeneration. Arterio-sclerosis of the peripheral arteries may exist for a long time and not give rise to any disturbance of the heart's action. When combined with arterio-sclerosis of the renal arteries, or in rarer instances with sclerosis of the intestinal arteries,[6] we get marked hypertrophy of the left ventricle. Arterio-sclerosis of the coronary arteries will naturally lead, by interfering with the proper blood supply of the myocardium, to a number of changes: the muscular fibres may show atrophy and be replaced by tissue at first rich in cellular elements and afterwards forming firm fibrous tracts which according to their extent and situation may become the seat of further changes, namely, calcification, partial dilatation of the wall, so-called aneurysm of the heart and thinning of the wall, or if the lumen of the artery is very much narrowed and the blood supply to the heart very much diminished, we get fatty degeneration of the muscular fibres with thinning of the wall and occasionally rupture of the ventricle; occlusion of the smaller branches of the coronary arteries gives rise to the so-called "white infarct" with a necrotic centre and fibrous periphery. The symptoms, as I need scarcely say, will vary considerably, according to the extent of the sclerotic changes—the presence of other abnormal conditions, as, for example, sclerosis of the heart valves, affections of the kidney, etc. Sclerosis of the peripheral arteries may give rise to very few heart symptoms, or we get the symptoms and signs of cardiac hypertrophy, with more or less dilatation, dyspnoea, cardiac asthma, etc. With the affection of the coronary arteries we get symptoms of angina pectoris.

On physical examination we may have the signs of cardiac hypertrophy, or we get galop rhythm, embryocardia, or an occasional missed heart beat, and in some cases nothing abnormal may be found on examining the heart.

The pulse also shows various conditions: There may be bradycardia, with all the signs of Stokes-Adams disease (syncopic attacks, epileptiform, pseudo-apoplectic, and anginal attacks). As recently shown by H. Gibson, the bradycardia is mostly due to a missed ventricular systole. We may have paroxysmal tachycardia or a markedly irregular or intermittent pulse—such as pulsus alternans, pulsus bigeminus—the true interpretation of which we are, by the help of Mackenzie's methods and his observations and those of others, beginning to understand. The pulse tension is generally increased. Besides these symptoms, we get sensory symptoms in the form of a tight feeling in the chest, slight discomfort about the heart, up to all the signs of typical angina pectoris. (In those cases in which there is marked and extensive

[6] Romberg and Stansfeld, *d. f. klin. Med.*, vol. lix.

fibrosis of the myocardium we have sometimes the symptoms of chronic myocarditis.)

The diagnosis of this affection is often easy, at times, however, difficult, for other affections both of the heart and other organs—as, for example, the kidneys—may give rise to a similar train of symptoms.

The diagnosis is easy when the peripheral arteries show distinct arterio-sclerosis; and when with this there is either hypertrophy of the heart with or without dilatation, and some of the above-mentioned symptoms, especially cardiac asthma and attacks of angina: in a good many cases it is difficult to distinguish this affection from an alcoholic heart, a fatty heart, chronic myocarditis, or valvular disease of the heart. When anginal symptoms predominate then one has to distinguish between the true angina and the false or pseudo-angina due either to reflex causes, distension of the stomach (Broadbent), or purely nervous causes. It is impossible in the short time allowed to me to go further into the differential diagnosis.

As to treatment, we have in the first place to regulate the diet. Some recommend milk diet, others a mixed diet, and others, again, a diet which may be rich in proteids and green vegetables, but in which the carbohydrates are only very sparingly given. I certainly have seen very good results from this diet. Alcoholic stimulants, tea, coffee, and tobacco should be avoided, or only very sparingly allowed. The bowels should be well looked after, and all dyspeptic symptoms treated at once.

The patient should remain quiet, and exercise should only be allowed if it does not give rise to dyspnoea or pain in the region of the heart. As regards drugs, we give in those cases in which there is marked hypertrophy and increased tension iodide of potassium and the nitrites, and may have recourse to slight depletion; if there be signs of failure of the heart's action, strychnine often acts better than strophanthus or digitalis; and in some cases belladonna may be given, as it acts well in certain pulse irregularities due to heart block, for it has been found that the auricular beat is under the influence of atropine whilst the ventricular beat is not. For the dyspnoea, pain, and insomnia opium often acts beneficially. Of the treatment of the anginal attacks I need not speak. It is impossible to diagnose the thinning of the myocardium or the partial aneurysm of the wall of the heart, which may sometimes lead to sudden death from rupture of the heart.

Heart-Muscle Failure in Chronic Lung Affections.

We have already spoken of the heart in relation to tuberculosis. Of the other diseases of the respiratory tract it is chiefly chronic bronchitis and emphysema, which in their course give rise to disturbance of the heart and which so often eventually cause the death in these affections. Chronic bronchitis and still more emphysema, by increasing the resistance in the pulmonary vessels, make an increased demand on the right ventricle, which hypertrophies, and as long as the hypertrophy is maintained the heart is able to cope with the difficulty and the patient feels no discomfort, except on extra exertion—physical examination shows in these cases, as I need scarcely say, the signs of increase of the right side of the heart and accentuation of the second pulmonary sound—but as the difficulties increase and as the right heart can only hypertrophy to a very limited extent, it will then dilate and then we get all the subjective and objective signs of right-sided dilatation. In emphysema we notice the most marked degree of cardiac dilatation, as in this affection the left as well as the right ventricle becomes hypertrophied and then dilated, probably, as Krehl believes, on account of the accompanying arterio-sclerosis or on account of myocarditis.

The advent of the cardiac dilatation in emphysema and chronic bronchitis should always be borne in mind in the treatment of these pulmonary affections both before and during the compensating effect of the hypertrophy of the right ventricle, for with the onset of the dilatation of the right heart the affection runs a slow but progressive downward course.

The treatment of heart-muscle failure I need scarcely allude to. Digitalis, in the form of either digitalin or digitalis leaves, I found to answer best when there is as yet no great oedema or ascites; if these are very pronounced it is well to give aperients—calomel or sulphate of magnesia, or compound jalap powder: to increase diuresis I have lately, with good effect, given the acetate of sodium theocin, especially if there is only a small quantity of urine passed, and if there is albuminuria either due to venous congestion or Bright's disease; for the sleeplessness and cardiac dyspnoea small doses of morphine, with atropine or oxophor, may be given; if there is much arterio-sclerosis the nitrites are of use. If there be much enlargement of the liver repeated doses of calomel and application of leeches to the hypochondrium may do good; in advanced cases rest is of necessity; in less advanced cases very gentle and graduated exercises are indicated. Carbonic acid baths, such as the bath of Nauheim, may be recommended; venesection is indicated if there be marked dilatation of the right side with distension of the veins; paracentesis may be necessary, and with proper precautions, if there be much oedema of the feet and legs, the withdrawal of the fluid from these parts with Southey's trocars is often beneficial.

The patient with heart failure should take small quantities of food and often, and not overload the stomach; a mixed diet may be recommended; whilst some advocate a diet in which the carbohydrates are left out. Alcoholic stimulants should be given as medicine only, and not as an article of diet, and the patient should not take very large quantities of fluid.

Heart Strain.

It is stated by some that excessive muscular work may give rise not only to insufficiency of the heart's action but to distinct degeneration and myocarditis, but it seems very doubtful if simple overstrain of the heart, even if continued for a long time, may give rise to such a degeneration, and in these cases probably some of the other causes already mentioned, such as alcoholism, a former infective disease, etc., are responsible for degenerative changes; but that a functional disturbance, a hypertrophy, and in some cases a dilatation of the heart, may arise is a well-established fact, as pointed out more than thirty years ago by Dr. Clifford Allbutt. It is well known that in animals which do a good deal of work—for example, the racehorse—the heart is larger in proportion to the body weight than in animals that live a quiet life, and the observations of Müller and Hirsch have shown that men who do heavy work have heavier hearts than those who do light work. That heavy work and excessive muscular exercise may be carried on for years without giving rise to any disturbances of the heart was shown by the late Dr. Morgan, but, on the other hand, Peacock states that miners who, after a heavy day's work, had also to climb on ladders from the bottom to the top of the pit suffered from cardiac insufficiency.

The observations of Moritz[1] and others have shown that excessive physical exercise carried on for several days—as, for example, repeated long cycle rides—does not produce any changes in the size of the heart when examined immediately after with the Roentgen rays, but these observations have no bearing on heart strain.

The symptoms of heart strain may come on sometimes acutely after a violent muscular exertion of short duration: the patient complains of pain in the chest, dyspnoea on exertion, and great prostration. On physical examination we may find nothing abnormal, or only a small, irregular pulse, or, in some of the more severe cases, all the signs of dilatation of the heart. Most of these cases recover after a longer or shorter period, but not infrequently the heart does not quite regain its former strength, and when the heart's action gets excited the signs of deficient action may show themselves, and in a few cases a sudden fatal issue has been noticed.

When the heart strain is due to excessive muscular work which has gone on for a long time the first symptoms are that the patient finds that the work which he has been able to perform easily becomes now a heavy task for him; he complains of dyspnoea and occasional pain on exertion, the physical examination often shows nothing beyond an irregular pulse, and later on we get all the signs of dilatation of the heart. As Krehl justly remarks, in many of these cases more than one cause must be looked for; some of these patients have been excessive smokers, in others excessive indulgence in alcoholic drinks may play an important part, and in others again we notice marked arterio-sclerosis. I need say little about the treatment of heart strain. In the acute cases absolute rest, application of ice to the heart, sinapisms to the feet and legs, the administration of alcoholic stimulants, subcutaneous injections of citrate of caffeine often give immediate relief; if the pulse is quick digitalis may be given, but its effect should be watched. In the chronic cases we should carefully examine into the history and previous habits, and if the symptoms are likely to be due to heart strain the case may be treated as one of cardiac insufficiency.

Fatty Heart.—A good deal has been written on this subject

[1] *Münch. med. Woch.*, 1904.

and many diverse opinions have been expressed, and it is refreshing to find that the views now held are practically those expressed in the classical work of Stokes.

In speaking of the fatty heart we have to distinguish between fatty infiltration and fatty degeneration: by the former we mean a deposit of fat on the serous surface of the heart, which in very stout persons may assume very large proportions, may dip in between the muscles, and cause in some cases wasting of the muscular fibres, and in others, but only very rarely, fatty degeneration of the muscular fibres. By fatty degeneration we have, up to recently, understood a degeneration of the albuminous protoplasm of the muscular fibre into fat granules. We now know that this in most cases is not so, and that in fatty degeneration the fat granules are imported from outside and the muscle cell is unable to use them up; and as regards fatty degeneration of the heart the observations of Leick and Winckler[8] have shown that when dogs were fed with mutton fat and afterwards poisoned with phosphorus, the fat in the fatty degenerated heart muscle showed that it was derived from the mutton.

Clinically *fatty degeneration* gives rise to no definite symptoms, and we know now that it may exist without giving rise to any symptom of heart failure, and I could if time permitted relate several cases in which death occurred from an accident and extensive fatty degeneration was found; or it gives rise to symptoms different to those seen in the fat people, as for example in pernicious anaemia.

When we speak of fatty heart, then, we have therefore chiefly to deal with symptoms relating to the heart from which stout people suffer, and this is *fatty infiltration*. We know that there are many stout persons who are very active, and do not suffer from the heart at all, and in these persons we find that the muscular system is well developed; and in them, though there may be a great accumulation of fat on the heart, the heart is able, as the muscular fibres are still normal, to do the work which even such a large body demands. If we get signs of heart failure, these are due to the heart being too small in proportion to the body weight but need not necessarily be diseased, as shown by the old observations of Robinson,[9] and by the recent ones of Reichman and Parrott,[10] who found that in stall-fed animals the heart was small.

The symptoms of fatty heart vary, for often some of the symptoms are due to other pathological conditions—to myocarditis, to cardiac hypertrophy from over-indulgence in beer, from incipient granular kidney, or to sclerosis of the coronary arteries.

In many cases, when the heart muscle is still in a good condition, the symptoms only consist of vertigo, dyspnoea on exertion, and palpitation, and these symptoms disappear when the body weight is reduced; in others these symptoms are succeeded by a more serious disturbance of the heart's action—we get constant dyspnoea, angina-like attacks, Cheyne-Stokes breathing, the pulse may be quick or show irregular rhythm, or there may be bradycardia with the other signs of Stokes-Adams disease. The size of the heart is not easily made out, auscultation may show the signs of cardiac dilatation; in a few, according to v. Noorden, we may have signs of hypertrophy. Death occurs eventually from dilatation, often suddenly.

Treatment.—In milder cases we should, observing proper caution, reduce the body weight; the patient should not take much fluid and avoid stimulants, gentle exercise may also be of use, and the baths of Marienbad, Carlsbad, etc., may do good, and also gentle exercise; if there be arterio-sclerosis, potassium iodide or iodipin may be given, and especially if there are attacks of angina or symptoms of Stokes-Adams disease, rest and the nitrites and strychnine are indicated, and if there be signs of dilatation of the heart we should give at first digitalis, and then try to reduce the weight.

Senile Heart.

The subject under discussion would not be complete without few words about the senile heart.

It is a well-established and long-known fact that the heart in old people is a little larger and heavier than that of middle-aged persons, is in fact hypertrophied, and the pulse is quicker (Balfour); and we can readily understand if more than ordinary demands are made on the heart of an old man, or if the arterio-sclerosis which is incidental to old age increases and thereby increases the peripheral resistance, the heart muscle may fail; moreover, according to French observers, the myocardium of old people shows an increase of fibrous tissue,[11] which may be another cause for insufficiency of the heart's action.

An irregularity of the pulse or occasional intermissions may be noticed without any other subjective or objective signs; we may also notice in old people during sleep Cheyne-Stokes breathing. Most of the heart symptoms from which old people suffer are primarily due to arterio-sclerosis; we thus notice the Stokes-Adams symptom-complex, delirium cordis, or heart tremor, often also a mild form of angina, often associated with vertigo, the latter probably due to sclerosis of the cerebral arteries. The arterio-sclerosis of the renal arteries will often help to bring about insufficiency of the heart's action. Balfour believed that the tendency to venous congestion, the altered metabolism, gives rise to a gouty diathesis in the old, and that many of the heart troubles are due to a gouty heart. It is also well known that old people are liable to bronchial affections, and these may easily cause failure of the heart's action in the normal senile heart. The senile heart is therefore a mere general term, and includes many of the disorders already considered.

II.—W. P. Herringham, M.D., F.R.C.P.,

Physician, St. Bartholomew's Hospital.

Dr. Herringham said: The term "cardiac degeneration" implies anatomical change, but Dr. Dreschfeld's opening speech proved clearly how impossible it is to form a satisfactory classification from our present anatomical knowledge. The case of physiology is still weaker. Whether we turn to the older knowledge of the paths of nervous conduction by the vagus and sympathetic, or to the later experiments on the intrinsic condition of the myocardium, it must be allowed that they afford no secure ground for classification. No one would decry the value of experiment. But it can never reproduce the conditions of disease, and is useful chiefly as a hint in what direction to turn clinical observation.

Clinical experience is still the best guide for treatment, and to a classification and a pathology which must still be in a high degree imaginary.

The largest class of patients with cardiac failure is formed of elderly people, with arterial degeneration, generally with cardiac hypertrophy, and often with chronic renal disease. Of these patients those whose hearts hypertrophy live five or six years longer than those whose hearts do not. That implies that hypertrophy is a salutary process, or, to put it more logically, it is a response to stimulus which can only be made by those who are of the stronger sort. Those who cannot hypertrophy die more quickly.

What, then, is the stimulus to which this is the response? It is generally allowed to be increased resistance. The resistance must be situated in the periphery, for the evidence shows that the aorta, and probably the larger arteries too, are passive in the process, and merely yield to the pressure to which they are subjected. In my belief, it is due chiefly to endarteritis, and this to impurities in the blood. Of such impurities there may be many. We know syphilis and diabetes mellitus are causes of endarteritis. We must also recognize nephritis, for in young persons, in whom endarteritis is so rare as to be a natural experiment, endarteritis is almost always the concomitant and evidently the result of chronic nephritis. The commonest impurity in the elderly is due to overeating and drinking, either in the form of much dining or in the mere continuance, at a time when the muscular machinery is being run at half-speed and for half-time, of habits of eating and drinking which were tolerated and perhaps necessary at a time of greater activity. There is failure to complete combustion, and thus an impurity of the blood.

The next largest class is that in young persons. Typhoid is one of the best examples. Many people come back with this condition after typhoid in South Africa, and many who have typhoid in India appear to suffer from it too. Degeneration of the cardiac muscle is well known in typhoid, and we should readily refer the cardiac failure sometimes met in typhoid to intrinsic weakness of the myocardium. Theyer, however, has lately shown the great tendency in typhoid to raise the blood pressure, and we are therefore inclined to believe that increased resistance may be a factor. In rheumatism cardiac dilatation is frequent, before or without endocarditis, and is probably referred to some intrinsic poisoning of the muscle. There are, too, acute and often fatal cases of cardiac failure in rheumatic

[8] *Dissertation on Food and the Digestive Organs in Birds*, London, 1748.
[9] Quoted by Hirsch, *Histor.-geograph. Pathol.*
[10] May-Teissier, *Arch. de Méd. Exp.*, 1903, p. 79.

fever, which were long ago referred by West and others to myocarditis. This hypothesis was confirmed by actual observation in a recent case of my own. To the same class must be referred cases of syphilis of the heart. Gumma, and the fibrous scar that results from gumma, is a form we sometimes see. But I am inclined to think that there is another form of cardiac affection due to syphilis. The idea was suggested by three patients whose cases I could never satisfactorily explain. All were big, muscular men, none had had rheumatism, and none gave satisfactory evidence of valvular disease, but all had had syphilis. One, who died, showed no lesion but hypertrophy and dilatation. It may be that acquired syphilis causes an interstitial myocarditis such as occurs rarely in congenital disease. Or it may be that it produces a condition of weakness unaccompanied by any even microscopic change.*

Tobacco and alcohol are other examples of poisons acting intrinsically upon the muscle fibres.

All of us know the irritable heart of adolescents originally described by Myers in young recruits drilling under conditions which unduly raised blood pressure. We cannot usually discover a definite cause to raise pressure in ordinary adolescents. But youth is a period of great growth which gives the heart much work to do, and it may perhaps be that the heart does not grow proportionately to the rest of the body or to the work it has to do. Lastly comes the case of acute dilatation from overstrain due to climbing or bicycling.

But looking back upon these cases from clinical experience how impossible it would have been, standing before a patient, to say what was the anatomical condition of his heart. Any of the known degenerations may produce the same train of symptoms, or the symptoms may occur with no visible degeneration at all. Nor could I give a physiological explanation with any greater confidence. I should not dare, for instance, to say that irregularity of the pulse or of the heart before middle life is due to irregular impulses travelling down the accessory fibres of the vagus.

All I feel justified in concluding is that cardiac failure is due either to increased resistance or to intrinsic weakening of the heart, and that in any given case we can usually say with fair confidence which of these factors is the chief, though we may have to allow that both are at work. This appears to me the only reliable classification we yet possess, and it has the advantage of giving a very clear and, I think, sound indication for treatment.

III.—ARTHUR FOXWELL, M.D., F.R.C.P.,

Physician, Queen's Hospital, Birmingham; Professor of Therapeutics, University of Birmingham.

DR. FOXWELL said; Syphilis rarely affects the myocardium alone or even principally. The large arteries—the aorta and its immediate branches with the main divisions of the pulmonary and coronary arteries—are the chief victims. The smaller arteries usually escape. Hence if, with a large heart, there is a healthy radial and no renal cirrhosis, but evidence of disease in the large arteries, then a diagnosis of the myocardial degeneration being due to syphilis may reasonably be made.

Hypertrophy and dilatation of the right ventricle from chronic lung disease is well known. Cases were quoted and specimens exhibited showing that it was probably always accompanied by atheroma of the pulmonary artery. This atheroma was always widespread throughout both lungs, whether the pulmonary disease affected both or was confined to a portion of one only. The hypertrophy and atheroma were joint results of a persistent increase in blood pressure, and their amount was a measure of the amount of this. In other words, the hypertrophy and atheroma did not measure the amount of lung disease present, but the increase of blood pressure necessary to maintain a pulmonary circulation adequate for the needs of the patient. Hence a patient of considerable physiological activity might require a greater hypertrophy of his right ventricle than another who led an invalid life although the lung disease of the former was but a fraction of that from which the latter suffered.

Fatty degeneration of the myocardium is a diagnosis too often made. It must be very seldom that it can be stated with any degree of certainty. It is difficult to see how a dilated heart can possibly be fatty to any marked degree unless the patient be bedridden. A myocardium so weakened cannot be capable of the very powerful effort necessary to contract a dilated cavity against a normal blood pressure. Obesity and fatty degeneration are usually mutually exclusive; obesity is an instance of plus nutrition, whilst fatty degeneration indicates lack of this.

The symptoms of acute strain of the heart muscle are usually much in excess of the pathological change wrought by this; for the strain is often but the last straw to the burden of an already degenerated heart. The difficulty of the diagnosis lies in the due estimation of the amount of pre-existent disease. After 30 years of age it is rare for a heart to recover completely from a strain of any great severity. Apparently perfect recovery may exist for ten years or so; but, as the time approaches when the healthy heart has normally to work nearer and nearer the limit of its strength, symptoms of distress occur and the latent weakness becomes manifest.

In most cases of chronic disease of the myocardium the arteries are also affected; indeed, often it is their affection which brings about the myocardial degeneration. Both the affection of the myocardium and of the arteries is at first a true hypertrophy endeavouring to produce high blood pressure necessitated by errors of metabolism. In the radial artery it is rare for it to go beyond this hypertrophy [sections were shown exhibiting considerable hypertrophy of the media with a quite healthy intima], but in the myocardium patches of fibrosis appear in the increased muscle tissue.

There is nothing more fascinating in therapeutics than the treatment of patients with myocardial degeneration. One has to remember that the myocardial degeneration and the atheroma of the largest arteries is a *fait accompli*, and can be but little, if at all, remedied. But the heart's output of strength can be lessened or increased by dilating and contracting the hypertrophied but healthy muscles of the brachial, radial, and smaller arteries. Usually the patient comes to us because his heart is beginning to fail to cope with its difficulties; then the thing to do is to dilate the thickened arteries with trinitrin and iodide, to rectify the metabolism by stimulating the metabolic glands with minute (gr. $\frac{1}{30}$ to gr. $\frac{1}{10}$) doses of calomel given three to six times a day, and improve the nerve tone generally with full doses of strychnine. The digitalis group is of doubtful service, and should be given in small doses only, and not unless there be rapidity or irregularity of cardiac action.

On the other hand, if we lower the blood pressure too much we shall have a too feeble circulation with resulting oedema; to hit the happy mean is very difficult; moreover, the blood pressure which suits the patient best at one time is not that which is most suitable at another.

IV.—JOHN HAY, M.D., M.R.C.P.,

Physician, Stanley Hospital, Liverpool.

DR. HAY said: I wish to confine my attention to certain changes noted in the venous pulse indicating a fundamental variation from the normal manner of the heart's contraction.

As a rule tracings taken from the jugular vein in cases of myocardial degeneration demonstrate that the inception of the cardiac rhythm is abnormal.

In the normally-contracting heart the stimulus exciting the contraction originates at the mouth of the great veins, from which point the contraction passes over the musculature spreading on to the auricular wall, then across the auricular canal, and so to the ventricle. This sequence can be observed in the tracing of a normal venous pulse (see Figs. 1, 2, 3).

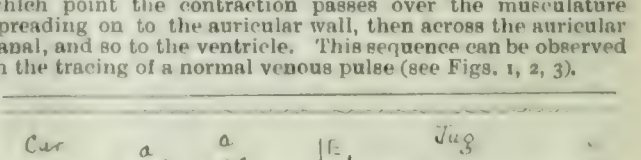


Fig. 1.—Tracing to show the auricular type of venous pulse. The space E indicates in all the tracings the period of ventricular systole during which the semilunar valves are open. The wave *a*, preceding the period E, can only be due to the systole of the right auricle. The fall *x* is due to the diastole of the auricle causing a rush of blood out of the jugular vein into the auricle, and the wave *c* is due to the impact of the carotid pulse. The time marker records one-fifths of a second. This applies to all the tracings.

* The third has since died. The wall of his left ventricle is in one place a thin sheet, almost all fibrous tissue. I am sure it is a scar from a gumma.

These three records, although somewhat dissimilar in appearance, show when analysed a similar sequence of events.

The wave *a*, due to the contraction of the auricle, occurs before the period representing the sphygmic portion of ventricular systole, namely, that portion of the tracing included between the two vertical lines, and labelled E.

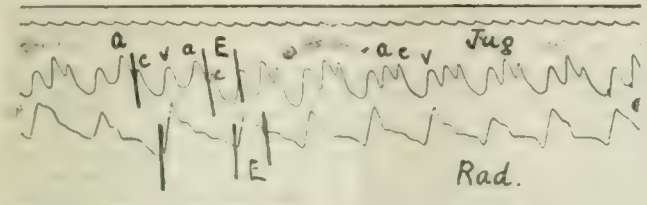


Fig. 2.—Tracing to show the auricular type of venous pulse. The form of the jugular tracing is slightly different from Fig. 1, but its interpretation is the same.

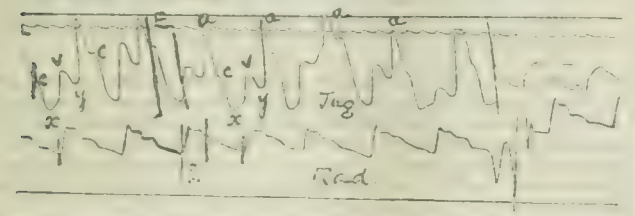


Fig. 3.—Tracing to show the auricular type of venous pulse, taken from a man of 65, with definite arterio-sclerosis of the radial artery. No palpitation and no dyspnœa. No cardiac murmurs; occasional fainting attacks.

The lever, after recording the wave *a*, is arrested in its fall by the impact of the carotid wave, and thus is produced the wave *c* in the tracing.

The dip *x* is due to auricular diastole, which allows the blood to pour from the jugular vein into the flaccid auricle.

The wave *v*, which ends before the auricle has begun to contract, and begins before the ventricle has ceased to contract, is caused in some way by the ventricular systole.

In a large proportion of the cases of myocardial degeneration, in which the diagnosis is based upon cardiac insufficiency without evidence of valvular disease, one notes an absence of the wave *a* in the tracing obtained from the jugular vein.

This implies that the auricles are not contracting before the ventricles. The auricles are therefore either paralysed or, if not paralysed, contracting simultaneously with the ventricles. Such a venous pulse is recorded in Fig. 4.

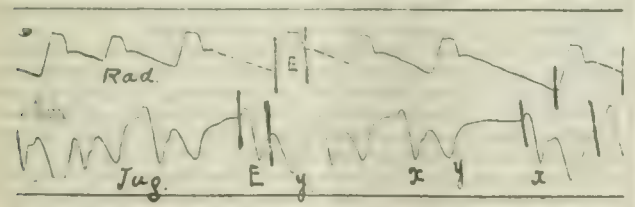


Fig. 4.—The tracing taken from the jugular vein shows the ventricular type of venous pulse. Here there is no rise in the tracing corresponding with *a* in the first three tracings; the auricle has not contracted before the systole of the ventricles. The patient, a man aged 65, suffers from slight mitral incompetence, and there is marked diminution in his "area of cardiac response." Two months ago he was at work.

If we examine this tracing, we notice that there is no sign of the wave *a* before the period E. Now, if the auricle had contracted before the ventricle, as is normally the case, the wave *a* would have been present, as in Figs. 1, 2, 3.

The inference that there was no auricular systole preceding that of the ventricle is inevitable.

In all probability the auricle and ventricle contracted simultaneously. This conclusion is based on the presence of the marked depression at *x*, which represents a sudden emptying of the veins in the neck, and can only be due to one of two causes—first, diastole of the auricle; secondly, diastole of the ventricle; as "*x*" occurs during the period E the ventricle is in systole, and so one is forced to look upon *x* in this tracing as an evidence of auricular diastole. Diastole of the auricle necessitates a preceding systole, therefore the wave in the tracing preceding *x* is due to auricular systole, and as it occurs during the period E the auricle and ventricle must be contracting together.

This condition of affairs is beautifully explained by Dr. Mackenzie in the British Medical Journal for March 5th, 1904.

Fig. 5 shows a similar condition of affairs in a patient with marked valvular disease.

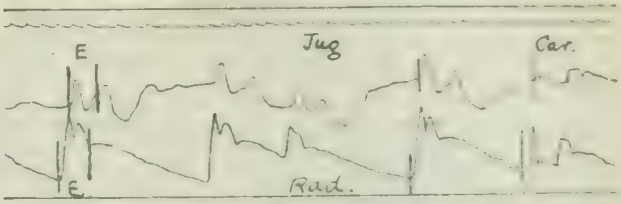


Fig. 5.—The tracing taken from the jugular vein shows the ventricular type of venous pulse. There is no sign of any contraction of the auricle preceding the period of ventricular systole, E. The heart was beating infrequently, 40 to 45 beats per minute. The patient, a man of 41, suffers from mitral stenosis and regurgitation, and there is very marked diminution in his "area of cardiac response."

This patient has attacks of transient tachycardia, in which his heart beats at the rate of 160 per minute. Fig. 6 is a tracing

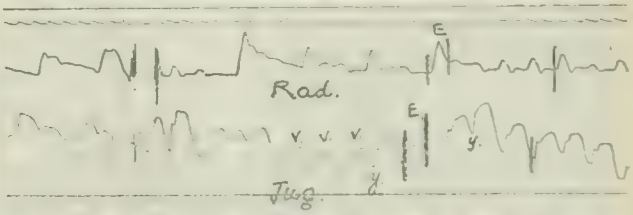


Fig. 6.—Tracing taken from the same patient as gave Fig. 5. The heart is here beating very frequently, 120 to 160 beats per minute. The jugular pulse is of the ventricular type. The radial pulse was weak and rapid, only the more forcible beats being palpable. Here either the muscular fibres of the auricular canal or those of the ventricle are responsible for the inception of the cardiac rhythm.

taken during such an attack and is a beautiful example of the ventricular rhythm. I reproduce it because of its marked resemblance to Fig. 7. And yet in the one case the patient

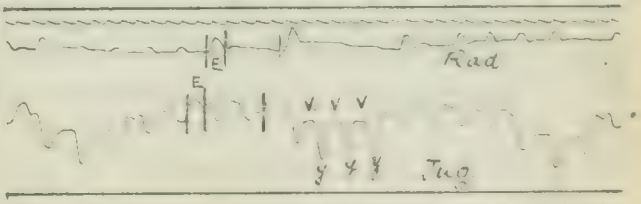


Fig. 7.—Tracing similar in every respect to that in Fig. 6. The jugular pulse is ventricular in type. Here, however, there is no organic disease of the valves. The frequent and irregular action of the heart dated from a year previous to this tracing, and was caused by a forced march. The autopsy revealed normal valves, some incompetence of the mitral and tricuspid orifices, due to dilatation of the ventricles, and a soft fatty myocardium.

suffered from serious mitral mischief, while in the other the valves were healthy. At the *post-mortem* examination of this latter case the pathologist described the heart muscle as soft and fatty.

The history given by this patient bears very pertinently on the present discussion. He was not conscious of any trouble till last July, when he undertook a heavy march which induced cardiac distress. From that time his pulse was frequent and irregular, and he was incapacitated for any hard work.

When I saw him with Dr. Glynn Whittle, and took this tracing, the venous pulse was ventricular in type, and I am of opinion that the sudden onset of cardiac insufficiency was due to the inception of this ventricular rhythm.

The patient referred to by Dr. Foxwell was an example of sudden onset, though, as he pointed out, there must have been myocardial changes for a long period. An examination of the venous pulse would, I believe, have demonstrated the ventricular form.

Myocardial degeneration is not produced in a few hours. It had probably existed here for months and years without giving rise to any appreciable discomfort.

That the auricles and ventricles can, under certain circumstances, beat simultaneously has been proved experimentally

by Lohmann.[1] He initiated the condition by the application of electrical stimuli to the auricular canal at the site of Gaskell's bridge. On the cessation of the electrical stimulation the abnormal rhythm continued; the stimuli originating in the auricular canal and passing simultaneously upwards to the auricle and downwards to the ventricle.

As Gaskell[2] has pointed out, the more embryonic portions of the heart, such as the fibres at the junction of the sinus and the auricle, and the fibres in the auricular canal, possess certain characteristics different from those of the more developed portions, one characteristic being that of a much greater rhythmicity or power to develop a rhythmical beat. If, therefore, from any cause the circular fibres at the junction of the large veins with the auricle fail to initiate the contraction, and so fail to dominate the rhythm, there are still the embryonic fibres of the "auricular canal" possessing this power in a marked degree.

Last year Dr. Mackenzie, in the valuable paper already referred to, gave several instances in which the inception of the rhythm proceeded from the ventricle, and he also gave a detailed account of a most instructive case where the auricles and ventricles undoubtedly contracted simultaneously. In such cases one finds that the heart's action is practically always irregular, and that the abnormal rhythm tends to persist.

When the pulse is very frequent, the action is more regular, the irregularity reappearing as the heart slows down (see Figs. 5, 6, and 7). In my opinion many patients in whom the diagnosis of myocardial degeneration is made are in reality cases in which the muscular fibres in or near the auricular canal have usurped the domination of the rhythm at first intermittently, then sooner or later permanently.

As a rule, one does not see the patient until the abnormal inception of the rhythm is established, and then the dyspnoea, the irregular pulse, the dilatation of the heart, the altered venous pulse, and the diminished area of cardiac response are all ascribed to the supposed changes in the myocardium.

One must not forget that all these signs and symptoms of cardiac insufficiency do sometimes occur in hearts where there is no reason to suspect any lesion of the myocardium or of the valves. Such happens undoubtedly in cases of paroxysmal tachycardia, where a heart normal in its past history, in its size, in activity, and in area of cardiac response, suddenly bursts into a frequency of 160 to 200 beats per minute. In a few hours we find that heart dilated, its area of response diminished, possibly signs of visceral congestion, and, most important of all, that the auricle has ceased to contract before the ventricle.

This is well shown in Fig. 8, a tracing taken from a small

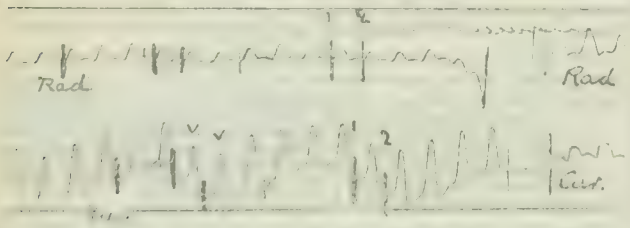


Fig. 8.—Tracing taken on February 23rd, 1905, from a child of 6½ years suffering from "paroxysmal tachycardia." Heart frequency of 190. The venous pulse is of the ventricular type; there is no sign of any contraction of the auricle. There is nothing in the history of the child to suggest the presence of any cardiac degeneration. Owing to the tachycardia the cardiac dullness is increased to the right and to the left; the heart is dilated.

boy of 6½ years suffering from an attack of paroxysmal tachycardia. The tracing from the jugular vein shows no sign of auricular contraction. There is only one wave, and that is ventricular. The heart was beating at 190 per minute; it was dilated, and the boy suffered from dyspnoea on exertion.

In this case the attack did not cease suddenly, and one is able to note in the tracings of the venous pulse the gradual reappearance of the normal auricular contraction (see Figs. 9 and 10).

In Fig. 9 the normal inception of the rhythm by the auricle occurs after every two or more beats.

In Fig. 10 one finds every second, third, or fourth contraction is dominated by the auricle.

[1] Zur Automatie der Brückenfasern und der Ventrikel des Herzens. *Archiv für Anat. u. Phys.* 1904.

[2] The Contraction of Cardiac Muscle. *Text-book of Physiology.* Edited by E. A. Schäfer, vol. ii.

Fig. 11 shows a tracing taken immediately after the attack; the radial pulse is regular, the venous pulse has returned wholly to the auricular type, every systole of the ventricle being dominated by the auricle. The heart rapidly recovered its normal size and tone, and the child is now healthy and strong.

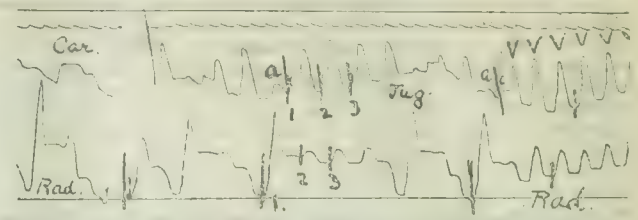


Fig. 9.—Tracing from the same patient as gave Fig. 8. Taken March 6th, 1905. Note that the ventricular rhythm is not continuous, the pulse is irregular. There is a large beat followed by several small ones. On analysing the venous pulse tracing one finds that whenever there is a full beat in the radial artery there is a wave in the jugular vein due to the contraction of the auricle preceding that of the ventricle.

I have referred to this case in order to emphasize two points, first, that the ventricular rhythm can occur in a normal heart; secondly, that the inception of the ventricular rhythm, even in a normal heart, can, and does, give rise to all those signs of cardiac insufficiency which in the absence of valvular disease are said to justify a diagnosis of myocardial degeneration.

Through the kindness of Dr. Mackenzie I had an opportunity of seeing and examining a woman, aged 57, in whom this ventricular rhythm was present, and persistent. There was marked cardiac insufficiency, but no valvular disease.

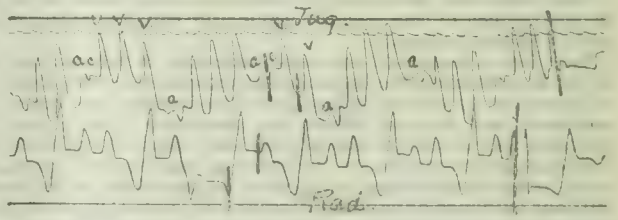


Fig. 10.—Another tracing taken from the same patient, March 6th, 1905, showing the transition stage from the ventricular to the auricular type of venous pulse. When the auricle dominates the rhythm there is a full and strong response on the part of the ventricle, otherwise the contraction is weak and ineffective.

She has since died, and this latter statement corroborated—myocardial changes were found *post mortem*.

He had observed the onset of this condition of ventricular rhythm in an apparently normal heart, the first variation from the normal being attacks of a frequent, irregular pulse; during these attacks of irregularity the rhythm was ventricular, between the attacks the cardiac action was normal. *Here the cardiac distress and disability were not the cause of the ventricular rhythm, but were secondary to its inception. The cardiac action cannot be other than inefficient when the stimulus originates in any site other than the normal.*

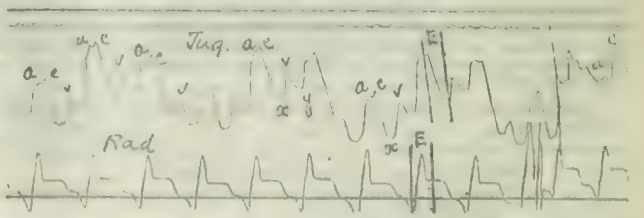


Fig. 11.—Tracing from the same patient, March 15th, 1905. The pulse is regular with a frequency of about 80 per minute. The venous pulse is of the auricular type and the cardiac dullness normal.

This is well illustrated in Figs. 9 and 10, for one sees in these tracings that whenever the auricular systole precedes the ventricular, that the action of the heart is strong and effective, and a good full wave is sent to the periphery; on the contrary, when one sees from the tracing that the auricle has not contracted before the ventricle, the contraction of the heart is feeble and unable to send a powerful pulse to the radial artery. When the auricle dominates the rhythm of the heart, the action is markedly more efficient than when the

ventricle or auricular canal take on the inception of the rhythm, and this quite irrespective of myocardial degeneration.

It may and probably will be suggested that this form of rhythm, in which there is no contraction of the auricle preceding that of the ventricle, is due to changes in the cardiac musculature, and that the degeneration of the cardiac fibres is always the primary factor.

If it had not been for these peculiar and interesting cases of paroxysmal tachycardia and such cases as that of Dr. Mackenzie's, with others of similar nature, one would have felt inclined to accept the above view as probably correct; but, as Lohmann has demonstrated experimentally, and as we have seen in the patient suffering from tachycardia briefly described above, this ventricular rhythm does occur in hearts where there is no reason to suspect any degeneration of the musculature. We must therefore admit the possibility of the inception of this form of rhythm apart from any myocardial degeneration, and also that the onset of this abnormal rhythm is sufficient in itself to produce cardiac distress and disability.

Why the heart should take on this abnormal rhythm I cannot say. It must be due to a depression of the musculature at the mouth of the large veins as they open into the auricle—a "negative chronotropic condition," in the language of Engelmann and Wenckebach—or to an exalted condition of the auricular canal and surrounding cardiac muscle.

What the factors are which produce changes in the excitability of these parts is not known, though it is quite conceivable that changes in the nutrition of the myocardium may act in this manner. What I would specially like to emphasize is that the onset of marked symptoms is largely independent of the presence of the myocardial degeneration, and is synchronous with the onset of the abnormal inception of the rhythm.

The cardiac insufficiency is due to this factor rather than to any associated myocardial disease, and even though the *post-mortem* examination reveals some signs of myocardial degeneration, still the heart owed its inefficiency not to the degeneration, but to the abnormal inception of the rhythm.

To summarize, in conclusion:

1. The venous pulse is of the ventricular type in the majority of those cases of so-called "chronic myocarditis" in which there are signs of cardiac disability—namely, palpitation, dyspnoea, irregular pulse, and diminution of the area of cardiac response.

2. This abnormal inception of the cardiac rhythm, as demonstrated by the ventricular type of the venous pulse, can and does frequently occur irrespective of myocardial degeneration. The paroxysmal tachycardia met with in the boy aged 6½ years is a case in point, where there are no grounds for assuming the existence of any myocardial degeneration. The dilatation of the heart, the cardiac distress, the irregular action, and the diminished area of cardiac response were all secondary to the onset of the tachycardia, and disappeared almost as suddenly as they had appeared on the heart resuming its normal mode of action.

3. The conditions are not known which alter the excitability of the musculature of the auricular canal and adjoining portions of the ventricle. It is probable that changes in the nutrition of the myocardium act in this manner.

4. The onset of marked symptoms is largely independent of the myocardial degeneration, but is synchronous with the onset of the abnormal inception of the rhythm.

5. This rhythm, with its consequences, sometimes occurs in the absence of any evidence of myocardial degeneration.

6. The heart's action is always inefficient in the presence of the ventricular rhythm, whether myocardial changes be present or not.

V.—Samuel West, M.D., F.R.C.P.,

Physician, St. Bartholomew's Hospital.

Dr. West said: Complex as the heart structure appears its essential constituents are simple: a meshwork of fibrous tissue, carrying the blood cells and nerves, and forming lymphatic spaces within which the muscle bundles lie. The morbid changes in these tissues do not admit of any great variety, but the causes of such lesions may be numerous. Many defects of function are associated with no recognizable lesion, and there may be disordered action with tissues apparently healthy. A clinical classification might therefore prove more satisfactory than an anatomical. But whether there be recognizable lesions or not, the signs of cardiac failure reveal themselves plainly.

A degenerate heart is a weak heart, a weak heart acts imperfectly or irregularly, and easily dilates. Dilatation brings with it increase in the cardiac dullness; altered heart sounds and murmurs, with secondary symptoms, namely, palpitation, shortness of breath on exertion, and cardiac pain, which in its most extreme form becomes angina.

The clinical diagnosis presents no difficulties except in the early stages.

The remarks I have to make refer to one or two clinical groups. Cardiac dilatation is common in fevers and with high temperature.

High temperature alone causes cardiac dilatation and degeneration. This has been demonstrated experimentally, and is the prime cause of the most serious symptoms in sunstroke. In rheumatic hyperpyrexia, though no doubt this affection is primarily a germ disease, still the chief symptoms and risks are due to the high temperature and are removed by its reduction.

In specific fevers there is the toxic factor to consider, which is independent of the temperature, so that serious signs of cardiac failure may develop when the temperature is far from high, as is often seen in diphtheria or influenza. The risk of cardiac failure would, of course, be greatly increased where both factors concur.

The earliest effect produced upon the heart is the alteration in the character of the first sound, which becomes muffled or it may be absent. Stokes long ago drew attention to this, and taught that more could be learnt from listening to the first sound of the heart in fevers than from feeling the pulse. It is not uncommon to find the first sound greatly weakened or even absent when there is nothing in the patient's condition to draw attention to the heart, and the dilatation as the patient lies quiet in bed may be but slight. This absence or impairment of the first sound of the heart does not necessarily occur in the most severe cases of fever. It is in any case a warning of trouble to come, though not necessarily from the heart only. Thus, in a very mild case of typhoid the only bad symptom observed was great enfeeblement of the heart's first sound, yet a relapse occurred in which the patient nearly died.

Rheumatic fever produces a poison which profoundly affects the heart even when the valves are not attacked. Dilatation is extremely common during the fever, and the weakness of the heart persists long into convalescence. This may be frequently demonstrated. A young house-physician is always in a hurry so soon as the pains in the joints have gone, if there be no sign of valvular disease, to get the rheumatic fever patient up. The unwisdom of this is shown by the dilatation of the heart which follows the slight strain of being in the erect position, before the heart is strong enough to bear it. A few days longer rest will give the necessary strength, and the getting up is followed no more by dilatation. I have no doubt that hurrying a patient up too soon greatly delays recovery, and may make a cardiac lesion permanent which might with longer rest have disappeared.

In acute fevers and in severe illness cardiac failure may set in with great rapidity and cause death rapidly with signs of extreme dilatation. The so-called cardiac form of influenza is an illustration of this. I can recall a case of this kind in which devoted nursing and constant watching alone saved life in many such attacks, and the patient remained a cardiac cripple more or less for twelve months, though in the end recovery was complete.

If heart strain in a healthy athlete takes so long to recover, how much more serious must the effects of heart strain be if the heart be already diseased or degenerate, and how much greater care should be taken to avoid it. The heart is very feeble in chlorosis, and in extreme anaemia is found to be fatty after death. There is no better disease than chlorosis to show the effect upon the heart of even moderate strain. Standing a little while or walking often readily produces dilatation, which rest allows speedily to subside. The extraordinary way in which dilatation can be made to come and go can be also demonstrated in valvular disease. Thus I recall a case of mitral incompetence in which the fatigue of medical examination and a little excitement was sufficient to send the apex 2 in. to 3 in. outside the place it was in at rest. It is especially in connexion with pericarditis that dilatation is prone to occur, and the diagnosis between dilatation of the heart and pericardial effusion is very difficult; many of the fatal cases of paracentesis pericardii have been due to the confusion between them.

There is a special reason in pericarditis why the heart should be so weak and so readily dilate. The porous meshwork of the myocardium is directly continuous with the

pericardium, and the inflammation spreads along it into the substance of the heart, and thus involves the muscle fibres directly. In fatal cases the lymphatic spaces are found filled with small cells.

In those remarkable cases in which an interstitial fibrosis is found the condition is similar to that of cirrhosis of the liver, and the tender muscle cells of the heart are affected in the same way as the cells are in the liver. The last point to which I wish to refer is the effect of failure of the heart upon the heart itself. When the heart begins to fail and backwards pressure or congestion sets in the veins near the heart are the first to feel it, and then those veins farther and farther away. It is often forgotten that the last set of veins are those of the heart itself—namely, the coronary veins which open into the right auricle. These will consequently be the first to feel the back pressure. They bring the blood back from both sides of the heart. The effect of their congestion is to interfere with the circulation through the heart, and therefore with its nutrition. If the nutrition is thus affected, the muscle will be weak and the heart will dilate. This weakness still further increases the venous congestion, which in turn increases the weakness again. So a vicious circle is established and an explanation given of the extraordinary rapidity with which the heart failure often develops when once it has set in. This is what Jenner years ago described as congestion of the heart, but the condition, important as it is, does not seem to be often referred to.

The only point in treatment to which I have here to refer is the extraordinary susceptibility of degenerate hearts to the action of digitalis. In small doses it is of the greatest service, but it has a curious cumulative effect upon the degenerate muscular tissue. Thus, in a case where the heart has been beating at the rate of 140 or so, the administration of digitalis will reduce them to 100 or less with great advantage. Then suddenly the beats may drop to 50 or 40, and that without anything in the general condition of the patient to suggest what has occurred. The further administration of the drug would be dangerous, and its use must be immediately suspended. I do not think that this effect of digitalis is as generally known as it deserves to be.

VI.—William Ewart, M.D., F.R.C.P.,

Physician, St. George's Hospital and Belgrave Hospital for Children.

Dr. Ewart dwelt upon the value of the "peripheral" methods of cardiac therapeutics; and upon the risks attaching to medication by digitalis in some varieties of cardiac failure. He had had good results from small doses (mij) of the 1 in 1,000 solution of adrenalin hydrochloride administered continuously every few hours in cases where contraindications did not forbid its use. He considered it to be a safe method as compared with the administration of massive doses.

THE DIAGNOSIS OF GASTRIC ULCER.

By Bertrand Dawson, M.D., F.R.C.P.,

Assistant Physician, London Hospital.

Dr. Dawson said: Now that certain gastric disorders are being, and I think rightly, surgically treated, their differential diagnosis becomes of even greater importance, in order that operation may be employed to the advantage and not to the detriment of the patient.

To ensure clearness, I must begin by stating that, in this paper, gastric ulcer does not include superficial erosions and abrasions of the gastric mucous membrane, but comprises two well-defined types of ulcer—namely, the round, punched-out ulcer without any thickening of its edges (the so-called acute, perforating ulcer), and the chronic ulcer with its thickened, shelving edges and adjacent induration. It will be convenient to consider the diagnosis of gastric ulcer, first, from other non-malignant conditions, and, secondly, from cancer. It is by many authorities laid down that epigastric pain related to food, vomiting, and localized tenderness, especially if they occur in an anaemic young woman, constitutes a combination which points to the presence of ulcer, and that if haematemesis is superadded the existence of ulcer is certain. My theme is that that view is incorrect, and that there are conditions other than gastric ulcer which present the same symptoms. Such are the dyspepsia of anaemic young women (anaemic dyspepsia), gastritis caused by oral and pharyngeal sepsis (septic gastritis), hyperchlorhydria, and neurasthenic dyspepsia with or without gastroptosis.

Anaemic Dyspepsia.

In studying the statistics of gastric ulcer, there is a marked discrepancy between the pathological and clinical records. Thus in all clinical records women outstrip men, though this preponderance varies much in different statistics—for example, 5 to 1 (Martin), 3 to 2 (Fenwick), and of the female cases 75 per cent. are said to occur under 30 years of age. Yet, with pathological records, subjects under 30 years of age only account for 28 to 40 per cent. of the deaths, and there is no such preponderance among the females. This discrepancy between the pathological and the clinical records with regard to the age-incidence of gastric ulcer requires explanation. Some seek it by pointing out that a large majority of the mild cases occur in the young. But we have no ground for thinking that proved cases of gastric ulcer have a tendency to run a mild course in the young. To commence with, the chronic variety is fairly common in the young. Thus, out of 24 patients under 30 in which ulcer was found at the operation at the London Hospital, in 6 it was of the chronic variety. And the acute perforating ulcer, which is specially prone to occur in youth, by its very character suggests so acute and destructive a process that it is difficult to conceive of a mild form of it. It either must heal quickly, or go rapidly towards perforation, or erode a vessel before doing so. It is a morbid condition from which one would expect a high mortality. Yet in a large number of female cases the clinical manifestations have endured weeks, months, and even longer. Such cases cannot be due to acute ulcer, and one is forced to the conclusion that they erroneously classed as such. Again, note the rapid way in which this group of cases responds to treatment. Put them in bed, open their bowels, and after two or three days give them solid digestible food and iron, and they rapidly get better. The symptoms of gastric ulcer disappear far more slowly, and solid food and iron are only tolerated after a lapse of time when the patient is convalescent.

If haematemesis is added to the foregoing symptoms the evidence for ulcer is stronger, though not even then conclusive. Blood from the stomach does not necessarily have a focal source, but often has multiple points of origin even when it is profuse. This is the case in certain blood diseases—anaemia amongst them—and such conditions as post-operative haematemesis, septic gastritis, and haemorrhagic gastralgia. The stomach will bleed, too, and profusely, at the time of the menstrual cycle, and from many points of its surface, in the same way as the uterus. That so-called "vicarious menstruation" occurs a complete study of the evidence makes certain. The term "vicarious" is misleading, for the bleeding is not substitutive, but an extension of the range of the disturbance in the uterus.

Again, cases with the symptom-complex pain—tenderness, vomiting, haematemesis—have been operated upon, and yet a most careful search of the inside of the stomach has failed to disclose an ulcer. In 5 out of 24 cases under 25 years of age operated on for gastric ulcer, a careful search failed to disclose the ulcer. In all the 5 cases there had been repeated attacks of haematemesis. Since only the cases with severe symptoms indicating haematemesis are operated on, and 5 out of 24 showed no ulcer, one may justifiably draw the conclusion that an even larger proportion of the cases with mild symptoms are not due to ulcer. Similar cases have died, and no focal lesion has been found at the autopsy.*

Hale White[1] and the present writer[2] and others have described these cases, which are conveniently styled haemorrhagic gastralgia. The following are further illustrations:

M. S., female, aged 25, under Mr. Mansell Moullin. Illness began when 23 years old. Symptoms: Pain, vomiting, haematemesis, anaemic, no wasting, tender epigastric spot. First attack, August, 1900; in bed two months. Second attack, February, 1901, in bed six weeks. Third attack, January, 1902, on nutrient enemata. Fourth attack, July, 1904, on enemata.

Operation by Mr. Moullin during fourth attack. Nothing seen on the outer surface of stomach. Gastrostomy performed, and a small erosion found on the posterior wall which oozed blood. Base ligatured. Many fresh haemorrhages after operation. Patient's condition not improved. A second operation was performed for another attack of haematemesis. Nevertheless the attacks have continued to the present date. In this case the blood had no doubt multiple points of origin.

E. L., female, aged 28, under myself. Symptoms: Pain, vomiting, skin tenderness in epigastrium and behind, deep tenderness, haematemesis. The patient had had recurrent symptoms during the past eleven years. At the operation performed by Mr. Frederic Eve nothing was found but a congested patch of mucous membrane.

C. A., female, aged 30. This patient had been suffering from pain

* For the collection and critical arrangement of the cases which serve this paper I am much indebted to Dr. Thompson, Medical Registrar, London Hospital.

and vomiting after food on and off for the last twelve years. On admission she was anaemic. Three years ago she had profuse haematemesis, and an operation was performed. At the operation a small abrasion was seen from which blood was oozing. Up to the present time there has been no recurrence of the haematemesis but the pain and vomiting have continued. The origin of the blood here was probably not focal, and the case either falls into the same category as the two foregoing, or is an example of anaemic dyspepsia.

But though these milder anaemic cases are not ulcer they have a greater proneness to invasion by acute ulcer, which is a complication of their dyspepsia as duodenal ulcer is of a burn. By removing these anaemic cases from the category of gastric ulcer, the seriousness of the latter is brought out in fuller light, the proportion of deaths and perforations and other serious complications to the total number of cases becomes higher, and the importance of radical treatment emphasized, for it is the inclusion of the milder anaemic cases which accounts for the uniformly favourable results obtained by some physicians from the simple "rest and milk" treatment.

Septic Gastritis.

Another and important cause of which I may call the above cardinal symptoms is a gastritis following oral or pharyngeal sepsis, as was first pointed out by Hunter,[3] and again at the Oxford meeting.[4] On examining the mouth and throat the gums will be retracted, the edges red, swollen, and shiny; the teeth are often loose, and round their exposed necks are foul débris and tartar; or there is pus discharging from dead stumps; or, again, muco-pus is continuously running down from the naso-pharynx.

When one recalls how virulently septic the pus from teeth may be, that severe gastric symptoms result is not surprising, especially if the hydrochloric acid in the stomach happens to be diminished. The wonder is that consequences are not more frequent and serious.

Extract the stumps, clean and treat the mouth, nose, or pharynx, as the case may be, and the symptoms rapidly abate—too rapidly for gastric ulcer to be the cause. At the same time, the view that oro-pharyngeal sepsis may predispose to the promotion of gastric ulcer seems a very probable one. The following is an illustrative case:

C. C., admitted under me complaining of epigastric pain and deep tenderness. The patient had had vomiting for the previous three weeks, and on the day of admission had brought up one cupful of blood. The teeth were few, decayed, and loose; pus was seen to be discharging from the dead roots. The gums were in a similar condition as described above. The teeth were extracted, and the patient given mouth-washes, which led to a rapid subsidence of the symptoms.

Having described some of the conditions which may show clinical resemblance to gastric ulcer, it will be well to consider what slender means we have of distinguishing between them.

Gastric Ulcer and Anaemic Dyspepsia.

The more acute the symptoms, and the shorter the time since their onset, the more likely is the case to be ulcer. The fact that a young girl has been continuously ill for some months is, as far as the presence of ulcer is concerned, somewhat reassuring, and complete cessation of symptoms between acute attacks, which have not been systematically treated, is rather suggestive of ulcer.

If the symptoms are not subsiding after a few days in bed, or if there is any recurrence, especially of haematemesis during or at the end of such treatment in bed, ulcer is probably present.

If a case that has presented the features of pain—tenderness, vomiting, bleeding—suddenly relapses with haematemesis only (pain and tenderness being absent), the probability of an ulcer is increased. A large amount of blood is more likely to be caused by ulcer, especially if it recurs in large quantities, though there is no certainty about this, as the cases of haemorrhagic gastralgia quoted above show.

Pain.

In most ulcers this, if present, is made worse by food, though with those of the pylorus it will be occasionally relieved by it.

I do not think the length of time pain occurs after food throws much light on the locality of the ulcer. In examining 202 cases operated on for gastric ulcer at the London Hospital, the time of onset of the pain was not influenced by the position of the lesion; nor, I think, does the relation of posture to the severity of the pain afford aid. Pyloric ulcers, for instance, do not get relief by lying on the left side.

In anaemic dyspepsia and septic gastritis the sequence between food and pain is rather less close than in ulcer, whereas in hyperchlorhydria and neurasthenic dyspepsia food more often relieves pain than promotes it.

Deep Localized Tenderness.

This, if constant in position, and not larger than a shilling, is suggestive of ulcer. But most often it covers a wider area, and is then equally characteristic of other non-malignant gastric affections. Frequently rigidity of the rectus makes accurate localization difficult. The long continuation of a strictly localized tenderness after the other symptoms have disappeared is in favour of ulcer.

The explanation of localized tenderness is uncertain. It cannot be caused by pressure on the ulcer, for it is often associated with ulcer on the posterior wall and with cases where ulceration is absent. In two cases under the writer the points of tenderness at the subsequent operation were over the liver. The tenderness is perhaps due to the parietal peritoneum, though adhesions are generally absent from the parts immediately beneath the spot.

Superficial (Skin) Tenderness.

This is found in the epigastrium, and less frequently on the back outside the lower thoracic vertebrae, or it may form a complete band from front to back. Skin tenderness is not always present in ulcer, nor when present is it distinctive of ulcer. Thus, of 20 cases operated on at the London Hospital for gastric ulcer in which skin tenderness was present, in 4 there was no ulcer present.

That skin tenderness occurs in gastric conditions other than ulcer—for example, anaemic and neurasthenic dyspepsias—is undoubted, but I think in the latter it disappears more quickly after a short rest in bed, whereas in ulcer it will become more contracted in area and then persist a while. The degree of pressure within the stomach is sometimes a factor in the production of superficial tenderness. The latter will be more marked with a distended viscus, especially if the motor power of the wall is good and the emptying of the stomach is impeded at the pylorus.

The situation of superficial tenderness is not a guide to the exact position of a stomach lesson.

Examination of Stomach Contents.

The contents frequently show an increased quantity of hydrochloric acid, and this, considered with other signs, is of the greatest value. In anaemic dyspepsia it is not increased, and in septic gastritis frequently diminished. In nervous gastralgia, on the other hand, it may be increased, as it is in ulcer.

In discussing the diagnosis between gastric ulcer and carcinoma I shall confine my remarks to early cases of cancer before marked wasting, pallor, and cachexia have put in an appearance.

If a tumour is present the probabilities are strongly in favour of cancer, and if in the wall of the stomach more strongly than at the pylorus. In the search for the beginnings of failing function lies the hope of early diagnosis, which is so important.

By the examination of stomach contents after test meals, we determine the presence of free hydrochloric, lactic, and butyric acids and pepsin.

By a microscopic examination of the fasting contents, which should amount to about 10 to 15 c.cm., the following may be observed:

Food Particles.

Epithelial cells or their free nuclei (Jaworski's kernels), pus, blood, yeast cells, sarcinae, Oppler-Boas bacilli (large non-motile organisms, often with an end-to-end arrangement).

As the result of the observations of several workers, (Oppler, Boas, Ackerman, Gompertz, Jaworski, Cohnheim, and others), the following conclusions may be drawn:

Free nuclei of epithelial cells and of leucocytes (Jaworski's kernels), mean presence of free hydrochloric acid. Epithelial cells and leucocytes entire, mean absence of hydrochloric acid.

Large clumps of leucocytes with blood cells point to an ulcerating surface. Sarcinae go hand in hand with the presence of hydrochloric acid and stagnation of stomach contents.

Oppler-Boas bacilli in large numbers go with the presence of lactic acid and stagnation of stomach contents.

Thus stagnating contents with presence of hydrochloric acid, sarcinae, yeast and free nuclei, would point to pyloric stenosis of a non-malignant character.

Stagnating contents with absence of hydrochloric acid, and presence of lactic acid, Oppler-Boas bacilli, would point to malignant pyloric stenosis. The presence of masses of pus cells with blood cells points to ulceration. If hydrochloric

acid is present, especially in excess, that ulceration is simple. If hydrochloric acid be absent, it is malignant.

I think, from trial of numerous cases, these microscopic and chemical investigations do help in the diagnosis between ulcer and early cancer, though I am far from suggesting they do not err.

In the majority of cancer cases the free hydrochloric acid is absent, at any rate after a proteid meal, and in the few where it is present it may be that malignant disease is grafted on the seat of an old ulcer.

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[1] *Lancet*, June 29th, 1901. [2] *Med. Soc. Trans.*, 1903. [3] *Practitioner*, 1900. [4] British Medical Association, Oxford, 1904.

Remarks
ON
THE PATHOLOGY OF BRADYCARDIA.

BY JOHN HAY, M.D., M.R.C.P.,
Honorary Physician, Liverpool Stanley Hospital; Assistant Physician, Hospital for Consumption and Diseases of the Chest.

THERE is a form of bradycardia termed "paroxysmal" or "intermittent." Two varieties are described: (1) In which the pulse is permanently infrequent, and in which there are sudden accesses of greatly-diminished frequency; (2) where the pulse is of normal frequency between the attacks.

SUMMARY OF CASE.

The case which I shall now relate belongs to the first variety. The following are the important points to be noted in reference to it:

(*a*) Marked bradycardia, the pulse frequency ranging from 17 to 30 per minute, "a pouls lent permanent."

(*b*) Transient loss of consciousness, associated with cessation of the pulse at the wrist.

(*c*) Auricular contractions occurring twice or thrice as frequently as the ventricular, the cause of the bradycardia being "heart block."

(*d*) An enormous heart, the autopsy revealing no cause for the hypertrophy and dilatation.

I give a brief summary of the case:

R. M., aged 26, was healthy till May, 1898, when he suddenly lost consciousness. Some time later he was admitted to the Royal Infirmary under the care of Dr. Barr, to whom with Dr. Raw I am much indebted for permission to publish this case. On admission he complained of "breathlessness on exertion and attacks of unconsciousness." On January 8th, 1900, he entered Mill Road Infirmary suffering from extreme cardiac failure. He died on January 15th, 1900.

When he was in the Royal Infirmary I noted the following points:

1. The apex beat was situated well outside the nipple line, slow, heaving, and forcible in character, 20 beats per minute.
2. Pulsations or small beats, numbering 50 or 60 per minute, occurred regularly over the third left interspace, just to the left of the sternum.
3. Synchronous pulsations were observed in the veins of the neck
4. Definite systolic retraction in the third, fourth, and fifth left spaces.
5. Cardiac dullness (deep) extended 7 in. to the left, 2 in. to the right of the middle line.
6. A systolic murmur at all areas, loudest and harshest over the conus of the right ventricle. It was conducted to the left and well heard along the vertebral border of the scapula.
7. No sounds were audible accompanying the small pulsations mentioned above.
8. Pulse varied from 17 to 30 per minute.

Fig. 1 is a pulse tracing. A cardiogram was taken simultaneously with a record of the venous pulse in the neck. The diagram (Fig. 2) is an accurate representation of the tracings. The cardiogram demonstrates the slow rhythm of the ventricle and the more frequent rhythm of the auricles. When the contraction of the auricles coincides with that of the ventricles it is masked by the record of the ventricular

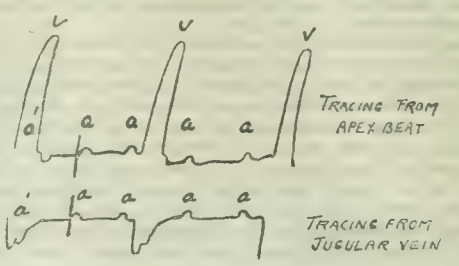


Fig. 2.—*v* = wave caused by ventricular systole: *a* = wave caused by auricular systole. At *a'* the auricle contracted, but its record is masked by the larger record of the ventricular systole, which occurred at the same moment.

contraction. The waves in the venous pulse tracing are synchronous with those of the cardiogram. The tracings show, therefore, the two independent rhythms, auricular and ventricular.

The pulsations visible over the conus of the right ventricle were due, in my opinion, to the strong right auricle forcing blood through into the right ventricle, the ventricle being in diastole and permitting the impact of blood to make itself evident by a slight movement of the chest wall over the conus.

Later, when admitted to Mill Road, it was noticed that the cardiac dullness (deep) had increased to the right by 1 in., that the only murmurs persisting were a marked tricuspid regurgitant and a faint mitral regurgitant, and that the frequency of the pulse had reached 40 to 80 per minute.

NECROPSY.

The necropsy, to my astonishment, gave little assistance. There was some cyanosis of the lips and ears, slight general jaundice, and a little puffiness about the ankles. The chart of the deep cardiac dullness, dated January 14th, was mapped out on the chest, and long needles were inserted at right angles to the surface. To the right the needle was found to have entered the pericardial sac without touching the heart; at the apex the needle just entered the edge of the left ven-



Fig. 1.—Pulse tracing taken by Dr. Barr. Rate, 20 per minute.

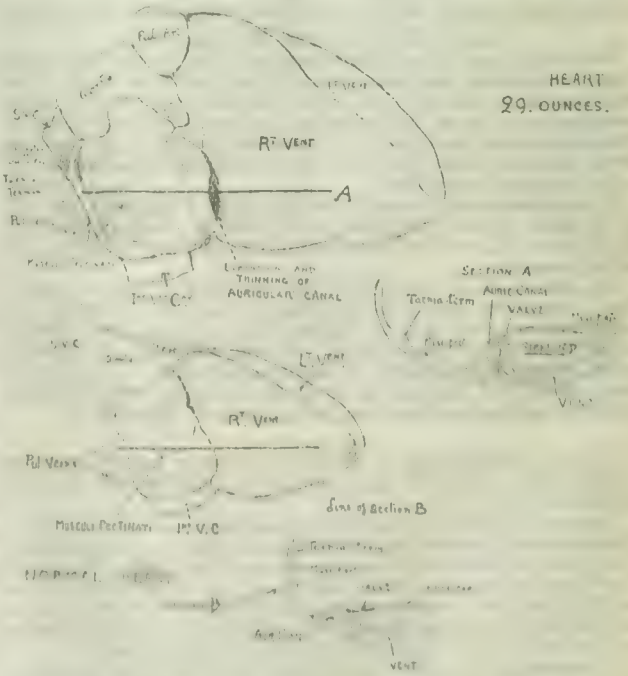


Fig. 3.—Diagram drawn by Professor Keith. It compares the heart of the patient with a normal heart, and demonstrates the condition present at the auricular canal. (Drawn to scale.)

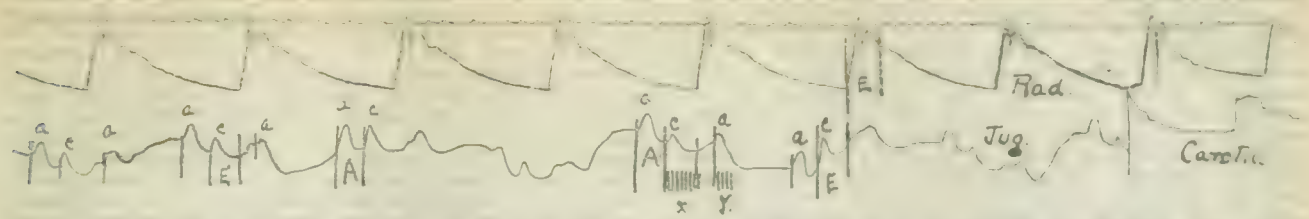


Fig. 4.—Simultaneous tracings of the radial and jugular pulses, showing that the *a-c* interval (space A) is twice the normal period (two-fifths of a second in place of one-fifth), indicating a delay in the passage of the stimulus from auricle to ventricle. It shows also that only every other systole of the auricle is followed by a systole of the ventricles. *x* = murmur due to ventricular systole, mitral regurgitation; *y* = murmur produced by auricular systole discharging blood into an almost empty ventricle. The time marking here represents one-fifth second. The space E indicates the period of ventricular systole during which the semilunar valves are open—the sphygmic period.

tricle, thus demonstrating that the deep cardiac dullness as elicited *ante mortem* was correct.

The pericardium was normal, and contained 1 oz. of clear fluid. The heart weighed 29 oz., and showed marked hypertrophy and dilatation. The valves were all translucent, and of a normal appearance. The tricuspid and mitral valves were incompetent. The lungs were tough and doughy, and comparatively pale and dry. There were old pleural adhesions, and there were two pulmonary apoplexies in the right lower lobe. The liver was engorged and nutmeg. The kidneys weighed 15 oz., and on microscopical examination were found to be normal, except for signs of back pressure. There was no evidence of arterio-sclerosis.

Some weeks ago I sent the heart to Professor Arthur Keith, of the London Hospital, for his opinion. With exceptional kindness he has drawn a diagram showing its condition, and more particularly that of the auriculo-ventricular junction. His method of examining hearts may be as new to others as it was to me. I therefore reproduce the diagram (Fig. 3). From his report I quote the following:

"The two marked changes in your specimen (besides the hypertrophy and dilatation of the chambers) are: (1) Stretching of the auricular canal (the part normally within the auriculo-ventricular groove); (2) separation, or rather attenuation, of the bond between the bases of the valves (tricuspid) and base of the ventricle." These points are well shown in the diagram.

Remarks.

Here is an undoubted case of "heart block." Normally the stimulus to contraction is initiated in the remains of the sinus venosus, consisting of the musculature at the mouth of the great veins and adjoining portion of the right auricle. The wave of contraction spreads over the auricle and through the auricular canal on to the ventricle "with varying speed, quickest over the tissue which has become modified so as to approach more nearly in its properties to ordinary striated muscle—namely, the reticulated bulged portion of the auricle and ventricle; more slowly over those parts which retain a more embryonic character—namely, the auriculo-ventricular muscular ring and the bulbus arteriosus."[1]

Normally the ventricle responds to a stimulus spreading down to it from the auricle; if by any means the ventricle is cut off from this normal periodic stimulus it tends to initiate its own stimulus and to take on a rhythm different from and independent of the auricle. Gaskell demonstrated this in the frog's heart by ligaturing the auriculo-ventricular groove so that no stimulus could cross from auricle to ventricle. The term "heart block" is applied to this condition.

A heart in which the auricle dominates the rhythm as a rule beats with normal frequency. When the stimulus for ventricular action arises in the ventricle itself there is a slow rhythm. The result of "heart block" is therefore a bradycardia. Such a condition was present in this case; the block in all probability occurred at the attenuated portion of the ventricular wall situated at the base of the ventricle at its junction with the auricular canal.

An interesting question arises as to the cause of the great hypertrophy and dilatation of the heart. It is too great to be accounted for satisfactorily by the strain of work. It was not due to chronic nephritis; there was no sclerosis of the valves. The incompetency of the mitral and tricuspid must be in some degree responsible, but this pertains rather to the later stages than to the period of comparative compensation, when, as I have already noted, there was a transverse cardiac dullness of 9 in. I venture the following suggestion:

Since during each ventricular diastole the auricles contract twice or thrice, the resulting condition of the ventricles would be one of over-distension, and they would during their systole have an excessive amount of blood to deal with. The strain on the ventricular walls due to the forcible pumping in of blood by the auricles would produce dilatation, and the large volume of blood dealt with would necessitate hypertrophy.

The discussion of this case would be incomplete if it did not include a brief reference to the "attacks of unconsciousness" of which the patient complained. Twice on March 23rd, 1899, it was noted that during an attack of dizziness his pulse became imperceptible, returning gradually to its normal rate of 20 a minute. I believe that this explains the loss of unconsciousness, and brings this case into line with the more pronounced forms of the "Adams-Stokes syndrome."

In this case such attacks were infrequent and not at all pronounced; convulsions in relation to them were not noted at any time, but, with the notes before us, I think I am justified in assuming that the dizziness and fainting were due to a temporary cessation of ventricular contraction.

A case, somewhat similar but much more marked, is recorded by A. Webster.[2] His patient complained of taking what he called "weak turns associated with palpitation, sensations of giddiness, and occasional loss of consciousness." The record is illustrated by a series of most beautiful tracings demonstrating the disappearance of the radial pulse coincident with the dizziness and loss of consciousness.

We may take it, then, that in the case I have described the bradycardia was due to a condition of heart block so complete that the auricles and ventricles beat independently of each other.

There are other cases, however, in which the block in the auricular canal is not complete, and where the ventricles respond to every second contraction of the auricles, or even to every third or fourth contraction. Quite recently I met with such a case in which the bradycardia was caused by a severe depression of conductivity, the ventricle failing to respond to every second contraction of the auricle. Two similar cases are described and figured by Mackenzie[3] in his recent excellent paper in the British Medical Journal of March 11th, 1905.

The patient I refer to is 62 years of age. His occupation up to the present illness was that of a baker. This entailed the carrying of heavy loads up and down stairs. He denies syphilis or alcoholic excess.

The present illness began three years ago with a sudden loss of consciousness. Since then he has occasionally suffered from "mazey bouts." The doctor in attendance tells me that when he first saw him eighteen months ago he noticed that the pulse was 20 a minute; there was then some bronchitis, with considerable dyspnoea; the extremities were cold, but there was no cyanosis or oedema.

Since that time his pulse has remained persistently infrequent, and the bradycardia probably dates from then.

I was surprised by the healthy appearance presented by the man. He had a good colour, and was well nourished, but I noticed signs of deficient aëration of the blood in the hands, which were very cold, and, according to the patient, became livid and numb on the slightest exposure. He felt perfectly well with the exception of great dyspnoea on exertion. The "area of cardiac response" was very limited. There was marked emphysema of the chest. The radial and temporal arteries were uniformly thickened and tortuous. The pulse was 32 to the minute, regular in force and frequency, of large volume and good tension. I noticed two beats in the neck to each radial pulse, and took tracings to demonstrate this (Fig. 4).

On analysing these records it will be seen that the waves due to auricular systole occur at regular intervals, and that every other such wave is followed by the carotid pulse. It is almost impossible to record the venous pulse in the neck without at the same time recording the carotid. This is rather an advantage than otherwise, as it gives a fixed point in the analysis of the tracing. In the record of the jugular pulse the distance from the beginning of the contraction of

the auricle to the first appearance of the carotid beat corresponds roughly to the time between the auricular and ventricular contraction. This interval is called the *a–c* interval, and is normally about one-fifth of a second in duration. Where, however, there is depression of conductivity, and the stimulus finds greater difficulty in passing from auricle to ventricle, this *a–c* interval is lengthened. It is so here; instead of being one-fifth of a second it is two-fifths of a second. An examination of the tracing shows, first, an auricular contraction *a*, followed by the carotid pulse *c*, and that the *a–c* interval is double the normal duration; then we meet with another wave *a*, due to a second contraction of the auricle, but this time there is no sign of a ventricular response. The stimulus has not been able to reach the ventricle. This sequence is repeated without variation in all the tracings.

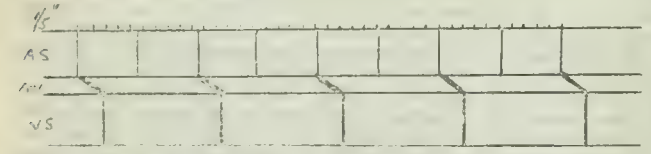


Fig. 5.—Diagram constructed to show the action of the heart when Fig. 4 was taken.

To demonstrate the action of the heart when Fig. 4 was taken I have constructed the diagram Fig. 5. It is built on the plan adopted by Wenckebach and Mackenzie. The down strokes in the upper division, A S, represent the auricular systoles and correspond with the waves "*a*" in Fig. 4, while the down strokes in the lower division, V S, represent the ventricular systoles, and correspond to the radial and carotid pulses in Fig. 4. The short, thick lines connecting these down strokes represent the passage of the stimulus through the fibres joining auricle and ventricle. In this case they are two-fifths of a second in duration—that is, double the normal length. The absence of this line indicates that the stimulus has failed to pass these fibres, and hence a ventricular systole drops out.

I also obtained a tracing combining a cardiogram and a sphygmogram, which demonstrates that in this case every ventricular contraction is represented by a pulse wave in the peripheral arteries. The heart is little, if at all, enlarged, the deep cardiac dullness measuring 1½ in. to the right and 4 in. to the left of the middle line. On auscultation I found that it was difficult to hear the heart sounds at the base owing to the emphysema. At the apex I made out a wheezy systolic bruit, followed by a clear second sound, and then during the diastole of the ventricle, and synchronous with the extra pulsation in the neck I heard a short, whiffing murmur, due, I take it, to the auricular systole forcing blood into the partially-filled ventricles.

References

[1] W. H. Gaskell, The Contraction of Cardiac Muscle, *Schäfer's Textbook of Physiology*. [2] A. Webster, Cardiac Arrhythmia in Relation to Cerebral Anæmia and Epileptiform Crises, *Glasgow Hospital Report*, 1901. [3] J. Mackenzie, New Methods of Studying Affections of the Heart, British Medical Journal, March 11th, 1905.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

BIRMINGHAM BRANCH.

Thursday, October 12th, 1905.

Sir Thomas Chavasse in the Chair.

Slough from the Stomach. Dr. Short showed a large slough, measuring 7 in. by 5 in., which had been vomited from the stomach of a woman aged 30 eight days after she had swallowed about an ounce of sulphuric acid. The slough was so long that part of it might have come from the lower part of the œsophagus, but the width made it evident that the greater part must have come from the interior of the stomach, and appeared to have stripped the mucous membrane and part of the muscular coat. Fortunately perforation had not occurred, and the woman seven weeks after the accident was up and about. The stomach was now dilated, and there was evidence of some obstruction to the free emptying of the viscus, with great diminution if not complete destruction of its digestive powers.

Resection of Carcinoma of the Cæcum.—Mr. Morrison showed a man, aged 44, from whom he had removed, on September 15th last, in the Queen's Hospital, a cancerous cæcum, together with adjacent portions of ileum and ascending colon—8 in. of bowel in all. The patient had been previously under the care of Dr. Power of Atherstone, who had attended him for several attacks closely simulating appendicitis. The presence of a painful lump in the right iliac fossa confirmed this view, and removal of the appendix was advised. On opening the abdomen, however, a malignant growth was found in the cæcum close to the appendix, and there were enlarged infected glands in the mesentery. Local peritonitis had glued together two points in the ascending colon several inches apart, the intervening portion of gut forming a loop resembling the sigmoid flexure. The diseased area having been resected, the colon was opened laterally above this adhesion, and junction with the cut end of ileum effected by means of a Murphy button. Infected glands were removed. The free end of the large bowel was closed by a double row of fine silk sutures. Provision having been made for drainage of the extensive raw space left by the operation, the rest of the wound was closed. The button was passed on the twentieth day—October 4th. The growth, which was a columnar-celled carcinoma, was also shown.

Endemic Dysentery.—Professor Saundby read a paper on endemic dysentery, or so-called ulcerative colitis, in which he drew attention to the occurrence from time to time of sporadic cases of dysentery. These cases were frequently overlooked, as was pointed out by Dr. Hilton Fagge, on account of the absence of marked symptoms; but in other cases they were called ulcerative colitis, a term which had received acceptance by the profession without due ground. Dysentery had always been recognized as a disease of this country; and although improved sanitary conditions had tended to make it rare at the present day, it undoubtedly occurred at times. The opinion that there were two forms of dysentery, one belonging to temperate climates and the other confined to the tropics, would not stand examination, while the doctrine of amœbic dysentery, upon which the supposed specific difference of tropical dysentery rested, had not been strengthened by the observations of the last few years. Modern researches had tended to show that the bacillus discovered by Shiga in the dysentery of Japan, was the cause of dysentery all over the world, as it was found by Flexner in the Philippine Islands, by Kruse in Germany, and by Vedder and Duval in the United States. The bacteriology of faeces presented great difficulty, and therefore it was not altogether surprising that the researches made into the bacteriology of asylum dysentery by Goodliffe and by Durham did not arrive at any definite result. Professor Saundby had been equally unsuccessful in several of his cases, but at length Mr. Hewetson had found the bacillus Shiga in the stools of a case of dysentery recently under the care of Professor Saundby at the General Hospital. The paper was illustrated by preparations and photographs showing the state of the intestine, and by microscopical specimens, photographs, and culture tubes showing side by side the bacillus isolated by Mr. Hewetson and the bacillus Shiga. This case was believed to be the first in which the bacillus Shiga had been identified in this country. Professor Saundby pointed out that as the bacillus Shiga gave the serum reaction (Widal reaction) when brought in contact with a drop of blood from a patient suffering from dysentery, it afforded a means of identifying the disease which ought to aid in the early diagnosis of these cases. In the discussion that followed, Drs. Newton, Malet, Kauffmann, Vokes, and Heath took part; and Dr. Saundby replied.

The Roentgen Rays in Diagnosis.—Mr. Hall-Edwards then read a paper on Recent Advances in the Application of the Roentgen Rays to Diagnosis and Therapeutics, under the following heads: The use of the diaphragm and compressor in the diagnosis of calculi and of diseases of the hip-joint; the measurement of dosage in the treatment of various diseases; the treatment of ringworm; the action of the rays upon the blood; the early diagnosis of phthisis; the treatment of eczema, acne, and malignant disease. The paper was discussed by Drs. Short and Heath, and Messrs. Morrison and Heaton, and Mr. Hall-Edwards replied.

Bequests to Medical Charities.—The late Miss Mary Elizabeth Wilson, of Calverley Park, Tunbridge Wells, whose will has now been proved, bequeathed £100 each to the Eye and Ear Hospital, the Homœopathic Hospital, and to the General Hospital, all in Tunbridge Wells.

REPORTS OF SOCIETIES.

INCORPORATED SOCIETY OF MEDICAL OFFICERS OF HEALTH.

Sir Shirley F. Murphy, President, in the Chair.

Friday, October 13th, 1905.

The Relation of the Medical Officer of Health to the Medical Practitioner with Respect to the Administration of the Infectious Disease (Notification) Act.

Dr. Charles Sanders (West Ham) opened the discussion on this subject. He said he had been asked to open the discussion more particularly from the point of view of the medical officer of health, who devoted the whole of his official time to the duties of his office, and who had no direct control of a hospital. He understood the proposal for such a discussion emanated from a suggestion that some representation ought to be made to some of the local authorities in London with the view of seeing whether some steps could not be taken to reduce the enormous number of cases improperly sent to the hospitals of the Metropolitan Asylums Board. The reports of that Board showed that during last year about 10 per cent. of the cases admitted were not suffering from the disease certified. It was not clear what the local authorities had to do with it, but the subject merited the attention of the profession. In the British Medical Journal of August 19th the following words appeared: "In both scarlet fever and diphtheria the possibilities of mistake on the part of the medical practitioner, and of mistake and of delayed diagnosis and expensive quarantine on the part of the medical superintendent of the hospital, would be minimized if these two and the medical officer of health were in closer touch with each other. The attitude usually taken by the metropolitan medical officer of health is that he cannot in any form be responsible for the accuracy of the diagnosis of notified cases. We incline to the view that if medical officers of health have not the time to help medical practitioners in the diagnosis of doubtful cases, it is desirable that assistant medical officers of health should be appointed in every large borough in order that this help may be given. At present medical officers of health cannot undertake this duty, and they urge that it does not come within their schedule of duties. A wider and more statesmanlike view of the position would lead to another conclusion. What, after all, is the main function of both medical officer of health and of medical superintendent of fever hospital? It is, surely, to prevent and diminish the incidence of infectious diseases. And what will more certainly conduce to this result than the searching out of doubtful cases and their efficient isolation either at home or in hospital? . . . If the Metropolitan Asylums Board rises to the importance of its position as hospital authority, it is not beyond the range of possibility that in the future such 'improperly' removed cases will proportionally increase to a very great extent, the isolation of doubtful cases becoming recognized as the most efficient means of preventing strain on the accommodation from undoubted cases of the chief infectious diseases." Thus, in that article there were set forth the complaint and a remedy. He would pass lightly by the complaint, because Dr. Goodall would supply correct figures, and he trusted general practitioners would be heard on the subject that evening; still, he could not refrain from questioning the magnitude of the complaint, for however much perfection might be desired, a correct diagnosis could not be attained in all cases. He asked the gentlemen present who had never made a mistake in diagnosis to stand up boldly and say so. Was the percentage of inaccuracies increasing? and, secondly, how far could it be hoped to diminish that percentage? But in discussing that it must not be allowed to go forth to the public that the profession was or had been at fault. The fact was that the members of the profession were so often right that the public had been led to imagine that they ought never to be wrong—a standard scarcely expected in other professions. And when one compared the diagnosis made amid the squalor and dirt of the houses of the poor with those made in the aristocratic comfort of the modern, fully-equipped hospital, it would not be surprising to find considerable variance, nor should there be hurriedly-cast aspersions on the good faith and ability of those who occasionally erred. There should be something of the spirit of the schoolboy, the lowest depths of whose Gehenna were reserved for his colleagues who "did not play the game." But assuming the existence of the complaint, what about the remedy? He was not quite sure what the writer in the Journal really considered his remedy. He confessed that at first sight he said, "Here is another case of hygienic chorea, public health St. Vitus's dance, in which misdirected energy fails to achieve the object aimed at." The argument appeared to run as follows: There were several hundred of faultily-diagnosed cases sent into hospital, which at 38s. per week cost the Board £12,000 a year. If the medical officer of health were in touch with the medical practitioner it was presumed the diagnosis would be accurate and the cases would not be sent into the hospital. But the medical officer of health had not time for that, therefore the large boroughs should appoint assistant medical officers of health to undertake the work of verification. But the obvious reply was that an assistant medical officer of health of sufficient qualifications should command at least a salary of £400, and thirty London boroughs at £400 amounted to £12,000. Therefore, as the French said, "Where does the public arrive?" There was a transfer of the £12,000 to the Health Department, who spent it instead of the hospital, leaving the doubtful cases, a large proportion of which were infectious, at home. He feared that in the present matter, as in many others, the medical officer of health served as the handiest peg on which to hang the newest prophylactic hat. When the Notification Act was first passed an injudicious medical officer of health felt constrained to personally verify notification diagnoses, a course which aroused a wholesome fear that the relationships of the medical officer of health and medical practitioner would indeed be semi-hostile, and which produced two important pronouncements of the Local Government Board: (*a*) That the Board did not consider it part of the duty of the medical officer of health as such to make a personal examination of persons notified, with the view to certifying that the case was a proper one for removal to an isolation hospital: (*b*) where, under exceptional circumstances, the medical officer of health deemed it desirable that he should make a personal examination of the patient, that could only be done with the consent of the patient, and in any case the medical practitioner in attendance on the case should always be communicated with, and his co-operation secured, if possible. Those decisions of the Local Government Board were founded on the ordinary ethical principles ruling the profession, and from them, he thought, none would dissent. Speaking for himself, as medical officer of health of a large borough in Greater London, he had endeavoured to carry out the principles in practice, and had on several occasions, when requested, seen cases of infectious disease with or for the notifying practitioner; but, except in the case of small-pox, such cases had been comparatively few in number, while the experience of the last small-pox epidemic, in which he saw about 30 per cent. of notified cases, and the havoc which such visitation occasioned in his other work, enabled him to sympathize with those medical officers of health who were said to absolutely decline to see cases at all. Though he (Dr. Sanders) could not bring himself to adopt such a rigid rule, he was at one with them in supporting a *non-possumus* argument against the suggestion that the medical officer of health should be recognized as available to all and sundry for the purpose of acting as a filter between the medical practitioner and the medical superintendent. He submitted it was in the ultimate interest neither of the public nor of the profession that such a course should be adopted. The man who was paid to notify ought to accept the responsibility. If easy facilities were offered for shirking responsibilities, the ability to undertake them would proportionately lessen. He could see no more grounds at present for assuming that each locality should have a special certifier of infectious disease because a percentage of irregular cases entered the hospital, than for assuming that each district should have a special pathologist for autopsies because a percentage of poison and murder cases required expert investigation. The last sentence in the article in the Journal offered a different and far more important remedy. It opened out to the medical officer of health the pleasing prospect of a hospital which should not be restricted to a few diseases, but one which should isolate the cases which he desired to remove from home, while it was a challenge to the hospital authorities to reconsider the whole question of hospital construction with reference to infectious disease, with the view of affording accommodation for many more diseases than were at present sent in. That involved the consideration of the practical utility

of attempting to isolate in hospital all the cases of such a disease as scarlet fever. He personally felt that there was much abuse of isolation hospitals, an abuse forced on the medical officer of health partly by an unnecessary fear on the part of the public, and partly by an exaggerated and unreasonable practice which had grown up in dealing with the occupants of infected houses, namely, excluding adults from attending their places of business until the patient had been removed to hospital, a removal which, but for that practice, would not be desired. Probably other speakers would show how it was possible to carry out the suggestion of the Journal. His own position was that if the medical officer of health carried out the duties which were specified in the schedule and laid down by the Local Government Board as his duties in the Memorandum of March 23rd, 1891, he would be properly carrying out his functions, and that it was no part of his duty to annex piecemeal the duties of the general practitioner. The difficulty at the present time, owing to the different circumstances of different localities, was to find out exactly the real position of the medical officer of health, because all of them in different localities took up different phases of their work. One man was a medical officer of health pure and simple. Another was half medical officer of health and half medical superintendent of a hospital. Another medical officer of health was half that and half surgeon of police; and latterly one found the medical officer of health leaving the duties prescribed by the Local Government Board, sometimes in order to become a school physician, or something very near it. He (Dr. Sanders) desired to take up the position that the executive duties of the medical officer of health in large urban districts ought to, and did, occupy the whole of his time. He could well believe that on that subject unanimity of opinion would not be arrived at, for that very reason. He thought that the cases which had been apparently irregularly diagnosed, and of which complaint was made, arose largely from a want of due humility on the part of the profession from the desire to make a speedy diagnosis rather than to, as many were taught in days gone by, suspend judgement and wait until sufficient evidence was forthcoming to diagnose the disease properly. But, failing that, he thought the suggestion of the Journal offered the best remedy, and was the right one, namely, to make the hospitals available for suspicious cases. He regarded his duty in opening the discussion to be to raise a discussion. Accordingly he would place the apple of discord in the centre of the chamber by laying down the following propositions: (1) That the irregular diagnoses under the Notification Act will diminish in number by efflux of time owing to the improved professional training of the members of the profession in infectious diseases; (2) that the statutory duties at present devolving upon the medical officer of health preclude his undertaking consultative work in relation to infectious disease; (3) that the relationship of the medical officer of health to the medical practitioner is that already laid down in the decisions of the Local Government Board, and that it is contrary to public and professional interest that such relationship should be altered; (4) that it is expedient for hospital authorities to endeavour to arrange for a larger isolation of suspicious infectious cases than pertains at present.

Dr. Howard-Jones (Newport) said he had been requested to deal with the question under discussion from the point of view of the provincial whole-time medical officer of health whose duties included the superintendentship of the fever hospital, and who acted as bacteriologist. He would not ask those present to "listen to his tale of woe," because he had only one unpleasant incident to relate. The medical officer of health in the moderate-sized provincial towns, where most of the public-health work was in his hands, occupied a most advantageous position in respect to his relations with the general practitioner under the Notification Act. But one constantly saw cases of unpleasantness between the medical officer of health and the general practitioner ventilated in the inquiry or correspondence columns of the medical journals. His own view was that such difficulties should be conspicuous by their absence when the medical officer of health devoted his whole time to his official duties, provided tact were exercised and the ordinary rules of courtesy followed. That could be done without in any way sacrificing efficiency. In his relations with the general practitioner on that subject he had always endeavoured to establish the principle that the general practitioner was responsible for the welfare of the patient and the medical officer of health for all matters dealing with the prevention of the spread of infection. If the two parties recognized clearly those principles, the friction between the medical officer of health and his colleague, the general practitioner, should be reduced to a minimum. The relations of the medical officer of health and the general practitioner were most satisfactory, and the administration of the Notification Act most efficient, other things being equal, where it was possible for the medical officer of health to get to know the general practitioner of his town intimately in his official capacity, so that he might be looked upon by the latter in the capacity of a friend ready to assist him in all difficulties under the Act. That could best occur in towns of moderate size, where most of the public-health work was in the hands of the medical officer of health. The larger the town the greater was the official distance between the medical officer of health and the general practitioners, who acted as his scouts in reference to the discovery of infectious diseases. When the medical officer of health and the general practitioner were comparatively strangers to each other, the latter was naturally loth to seek his assistance in difficulties without very grave reasons, with the result that patients were sent to hospital who, in the opinion of the medical officer of health, were not suffering from an infectious disease. He differed from Dr. Sanders in respect to consultative work in regard to the general practitioner in moderate-sized towns. He could not speak with regard to very large urban districts, where it was impossible. There were decided advantages in being medical superintendent to the fever hospital. The medical officer of health, who had daily clinical experience of infectious disease in all stages, stood in the position of a specialist in those diseases, in the eyes not only of the public but of the general practitioner. It was well known that in districts where isolation of infectious disease was not carried out there was a greater likelihood of doubtful cases being notified than obtained in places where it was the routine for such cases to be sent to hospital. Yet even in the latter class of towns errors in diagnosis were common. Those errors were a source of great anxiety and trouble to the medical officer of health, and unnecessary expense to the authorities, besides being a source of danger to the victims concerned. He maintained that those troubles were less likely to occur in towns where the medical officer of health was in charge of the fever hospital, as he was sought after by both general practitioner and parent in doubtful cases. Where the medical officer of health was divorced from the fever hospital the specialist in such cases was the medical superintendent, who was naturally debarred from assisting in such difficulties. When errors in diagnosis were discovered after admission to hospital, in towns where there was a separate medical superintendent, the general practitioner had to deal with two officers. That state of affairs increased the difficulties of the situation for all parties. In the provinces it was decidedly advisable that the medical officer of health should retain the position of medical superintendent of the fever hospital for many reasons, as he ought to be the official head in all public health matters. The London borough medical officer of health was apparently at a great disadvantage in such matters. But he was prepared to stand corrected if it could be proved otherwise. He lost control of all cases once they were removed to hospital, and had no voice whatever in deciding as to the date of giving "pratique," as one might say in port-sanitary parlance. It was in reference to that matter that he sometimes collided with the medical superintendent of the fever hospital. On the other hand, he avoided all responsibility in reference to the troubles arising from return cases or so-called return cases, whereas the medical officer of health of a provincial town who was responsible for the discharge of patients from hospital was, to a certain extent, liable to have stones thrown at him by any general practitioner who imagined he had a grievance against him. The Notification Act was passed not only to provide the medical officer of health with information in respect to the amount and locality of dangerous infectious disease in his district, but also to supply him with special information as early as possible. In order to encourage early diagnosis a bacteriologist had been called in to assist in the matter. In towns where medical schools existed the bacteriological work was done generally in the pathological department of such institution by special arrangement. But in ordinary provincial towns the work had either to be done at a distance or by the medical officer of health himself. The advantage of the latter plan was great, for two especial reasons. First, the work could be done more expeditiously, and,

secondly, the medical officer of health was brought into closer touch with the general practitioner, and his relations with the latter were thereby improved. With regard to the supply of antitoxins, the Corporation which he (Dr. Howard-Jones) had the honour to serve had for the last eight years, on his advice, acted as the local stores for antitoxins. By that means the general practitioner was saved the trouble of keeping a stock of perishable serum, besides having the satisfaction of being able to obtain fresh antitoxin at all times. In cases where the patient could not pay for the cost of the remedy, and where it was used as a preventive, it was provided at the expense of the public authority. It might be asked, What had that to do with the relations of the medical officer of health and the general practitioner under the Notification Act? As a matter of fact, it was a powerful instrument in the hands of the medical officer of health, for several reasons: First, every means which helped to render the medical officer of health serviceable to the general practitioner reacted in favour of a satisfactory working of the Notification Act; secondly, it brought the medical officer of health and the general practitioner together as early as possible in dealing with cases of infectious disease, such as diphtheria and puerperal fever; thirdly, it afforded the medical officer of health an opportunity of impressing upon the general practitioner the importance of using diphtheria antitoxin as a preventive in the case of contacts, and thus obtaining his assistance in preventing the further spread of the disease. He (Dr. Howard-Jones) had restricted his remarks, as far as possible, to the particular case of the many-handed medical officer of health, who was to a certain extent Lord High Everything Else in public health matters, but he desired to refer briefly to one difficulty which might occur to any medical officer of health, namely, his relation to the general practitioner who would not diagnose cases of infectious disease. He feared there was one such in his own district. However, he had occasion to fall foul of him recently in reference to the death of a child aged 12 years, which was reported as due to tonsillitis. On making inquiries into the case he found that another practitioner had been called in at the last minute, and his statement was that the death was due to post-diphtheritic paralysis. The history of the case, as given by the mother, was that of a typical well-marked case of diphtheria, followed by post-diphtheritic paralysis, and from this the child apparently died. The matter was reported to the Sanitary Committee and he (Dr. Howard-Jones) was asked to write to the general practitioner for an explanation. The reply of the general practitioner in question was that he was still of opinion that the child had been suffering from and died from tonsillitis. Under the circumstances it was useless to take the case into the law courts with any prospect of obtaining a conviction. If any of those present knew of a remedy for such a case he would be glad to receive the benefit of their experience for future guidance if necessary. There was one other matter in reference to the relations of the medical officer of health and general practitioner under the Notification Act which might be of serious importance to the former, namely, the handicapped position of the medical officer of health who was appointed for a term of years only.

Dr. J. G. Glover said he felt greatly honoured by the invitation of his old friend Sir Shirley Murphy to take part in the present discussion. The subject was one which very deeply affected the general practitioners of the country. He took pleasure in recognizing the extreme courtesy and consideration with which the position of the general practitioner had been recognized by previous speakers, and he was one of those who believed that with the smallest tact on both sides there should not be the slightest difficulty in reducing the number of errors of diagnosis. He never saw a statement about those errors without feeling regret that they should occur. Of course they were public property, and they represented the profession in an unfortunate aspect. The errors were very numerous, and he feared that even with the suggestions which had been made that day they would not be altogether obliterated. All had had failures. He himself had made many mistakes, and he felt sure that those who had had most failures would be the most lenient in judging. But it was most desirable that the errors should be arrested, and as an old practitioner he would have nothing but pleasure in having the opinion of the medical officer of health in his district in confirmation of a doubtful case. He did not think the rules should be too drastic for either of them. He thought it should be possible to hold the medical practitioner responsible for the diagnosis in a case which he was not sure about, and it should be possible and legal for him to ask for the assistance of the medical officer of health; and he thought that was very desirable, not only from the practitioner's point of view, but also from that of the public—the public expenditure point of view, and with the very desirable object of reducing the cost to the Metropolitan Asylums Board: and it was reasonable that the authorities representing those Boards and hospitals should have the right of reducing those errors to a minimum. The suggestion of Dr. Sanders to increase the accommodation of the Metropolitan Asylums Board hospitals so as to admit suspicious cases was, it seemed to him, open to very great objections. The obstruction of medical work and medical practice was already very great; the tendency of the public to abuse and to over-use the Metropolitan Asylums Board was already so great that he strongly objected to that proposal. He did not agree with the idea of introducing both infectious cases and suspicious cases into the institutions, and he hoped that influential Society would think before it agreed to use those hospitals for that purpose. Personally he would have the greatest possible pleasure in meeting the medical officer of health in his district to clear up the diagnosis of any doubtful case, and it would be much better if that were set about in a conciliatory spirit on both sides. A great deal of error, Dr. Sanders said, arose from the haste in diagnosis. That, he believed, was quite true, and it should have a great deal of weight. Instead of hurrying off a patient in the first twenty-four hours, it was necessary that the patient should be kept at home for a time. He suggested it would be desirable to make the removal from home within a certain time only optional and not compulsory. It was not desirable to unduly diminish the responsibility of the medical man. He believed there was a tendency in the public service now to elevate the official man at the cost of the private practitioner. With regard to vaccination, it was often impressed upon the public that the best vaccinations came from the public officer, and that he should be invited to perform it at the patient's house. That seemed to be an undue concession altogether from the point of view of the general practitioner and very objectionable. Let all preserve the responsibility of the medical practitioner as far as possible, and when that was done he felt sure there would be no serious difficulty in meeting the views of the medical officers of health of that Society for perfecting diagnosis. Only let no one be unreasonable, and do not let any one think that all that element of error would be obliterated. He had notes of a case of a friend of his who was resident officer in one of the large hospitals. He had a case of sore throat, which he regarded as a very suspicious throat. Accordingly he took a swab from it, and received a report from the bacteriological officer of his own hospital that it showed nearly pure culture of the Klebs-Loeffler bacillus. He received the report and signed up the case. In four days a polite note was received from the superintendent of the hospital saying that as no bacilli could be found and no clinical evidence of diphtheria the case had been discharged. In that case there was a difference between experts, and when experts differ who should decide? He believed he had sufficiently stated his view as a practitioner, as one who felt that the profession was very much divided, but he was sure that with a fair consideration of the difficulties in question, the inevitable difficulties in diagnosis, a satisfactory conclusion would be arrived at with regard to the public.

Dr. E. W. Goodall reminded the meeting that Dr. Sanders had described how the matter under discussion had arisen. He (Dr. Goodall) did not know, only he heard from Dr. Howard-Jones recently, that the question was coming forward at the Society's meeting. But the way in which it had come forward elsewhere was one which the Society should take notice of, as it made out that in very many cases the general practitioner in London was a fool, a condition of affairs which was quite untrue. He believed that in the majority of instances those errors which were made in diagnosis were made bona fide. In a large number of cases the general practitioner had given that attention to the case which he ought to, and it was only because the case was in itself a doubtful one that any error arose. On the face of it, it did seem somewhat absurd that there should be an error of 10 per cent., but personally he did not regard 10 per cent. as a very great deal. He would like to say something as to the kind of case about which mistakes were made in diagnosis. He desired to say a few words about diphtheria. The largest number of cases comprising those which had been erroneously diagnosed as being diphtheria and turned out to

be something else were measles, laryngitis, stomatitis, and, of course, tonsillitis, and also other acute inflammatory affections of the tonsils and neighbouring parts. In the present state of bacteriological knowledge he was sure that, in respect of a large number of cases of tonsillitis, the general practitioner was right in certifying them as diphtheria. It was well known that in the first instance diphtheria might very closely simulate tonsillitis. It was impossible to tell for two or three days. That was a most important fact from the point of view of the patient and also that of the public, because if such cases were to be removed it should be done early. The cases were sent in for laryngitis, not for tonsillitis, and it was extremely difficult to say whether such patients really had diphtheria. Moreover, it was very important from the patient's point of view that he should have treatment. The patients whom he saw in his part of the world could not be looked after at home; they were mostly the poorest of the poor, and hospital treatment was essential for them. They could not be sent to a general children's hospital. If that were done, they would be sent on to the fever hospital, and therefore they might as well go straight to the fever hospital. Therefore, taking tonsillitis, measles, laryngitis, and other minor affections, such as running at the nose, he found that they made up 86 per cent. of the erroneous diagnoses, and those were the cases in which mistakes could hardly be helped. A very large proportion of the cases which were sent in in error consisted of those in which it was difficult for the general practitioner to know whether the disease was present or not unless he waited a long time, and in so waiting a great deal of mischief was done from the point of view of both isolation and treatment. The same applied, to some extent, to cases of scarlet fever. Measles cases were often sent in in error, largely because of the prodromal eruption in that disease, but he himself had mistaken the prodromal eruption of measles for scarlet fever. He had made other mistakes in that way, just as the general practitioner and anybody else had. So if one went through those cases he would find that, though the large number of the errors appeared absurd, it could be easily understood by anybody who knew the clinical history of such cases. It had been insinuated in the public press that those cases were sent up to the hospital and lumped together with the general run of cases, that they were all sent into the general wards, and that if a patient were certified to have scarlet fever and he was not found to have signs of it, he went into the scarlet fever ward and thus ran the risk of getting the disease. That was an absolute lie as far as the Asylums Board was concerned. The Board had a very large accommodation for the doubtful cases, and steps were being taken to make it even larger. Many of those present had seen the Asylums Board reports, and he invited them to turn up those for 1904 and read a little paper by Dr. Turner, Medical Officer of the South-Eastern Hospital, on that question. Dr. Turner had studied the matter from the point of view of accommodation for the doubtful cases. Dr. Turner was asked what number of isolation beds he would require. He had 735 cases which were sent to the hospital certified as scarlet fever, and he had notes made in the receiving room by the medical officer as to whether those cases on admission showed undoubted scarlet fever or whether they were doubtful. If they were doubtful they were separated until the doubt concerning them was removed. Of those 735, in 538 the diagnosis was confirmed in the receiving room of the hospital on admission. But a very large number—namely, 197—were doubtful in the receiving room, although there was evidence of scarlet fever. Of those 197, 158 afterwards turned out to be cases of scarlet fever. Every one present would see how important that was. And, of course, those cases, if left at home, would have done mischief in that time. The case was even more pronounced with regard to diphtheria. Of 551 cases of that disease sent in, 317 were diagnosed as diphtheria in the receiving room, 234 being recognized as doubtful cases; but of those 234, 154 turned out to be diphtheria, either because they had paralysis, or because of the bacteriological examination yielding positive results, or something of the kind; so that many of the cases, though doubtful at the time they were received, ultimately showed that the practitioner's diagnosis was correct. All that was in print. A great deal had been made about those errors in diagnosis, but, as far as he could see, they were unavoidable. With regard to the remedy, he believed that possibly things would improve somewhat but perhaps not very much. He had read through the reports of the Board for many years, and the errors in diagnosis remained very much the same—namely, 10 per cent. It had been suggested that the medical officer of health or the medical superintendent should go and see those cases. But, as far as he could see, in London they had enough to do already without going to see doubtful cases. It might be required of him to go to Stamford Hill, and then be called to Stepney, and then on arriving back have to go somewhere else. He could not do it, and it would be necessary to appoint some special man for that work. And, as had been already pointed out, the work which would be required for that would be the same as that for sending them to hospital and keeping them there. He did not think anything should be done to encourage the general practitioner to send in still more cases which were doubtful; it would be a wrong step to encourage the medical man to send to hospital cases which he was not sure about. The fever hospitals were legally bound to refuse cases which were sent up as query diphtheria. If they were certified as diphtheria he would take them in, and if a case were not diphtheria he would refuse it, and the course was clear. To receive cases regarded as doubtful would also send up the expense, and it would be necessary to build more isolation accommodation. His relations with the practitioner were very pleasant. In thirteen years he could only remember one discourteous letter from a general practitioner, and that was in answer to a letter which he wrote to that practitioner informing him that he disagreed with his diagnosis. In all the cases except that one the practitioner had very courteously told him what he wanted to know. Dr. Glover mentioned a case where a general practitioner had had a case of diphtheria returned, but the point to know about that case was whether the medical superintendent was informed of all the facts. (Dr. Glover replied that he did not know.)

Dr. Sykes (St. Pancras) said his remarks would be confined to the question of the errors of diagnosis, and he would like to state how the question had been most recently raised. The Statistical Committee of the Metropolitan Asylums Board had reported that 1,993 patients, equal to 10.7 per cent. of the total number admitted to the hospitals of the Board, were after admission found not to be suffering from the diseases stated on the medical certificates upon which they were removed to hospital, the percentage of scarlet fever cases being 6.7, and of diphtheria 16.1, while that of enteric fever was 25.9. It was well known that enteric fever usually required prolonged and close observation before even a possible diagnosis could be made, and the medical superintendent of one of the Board's hospitals had stated that 27 per cent. of cases admitted as possibly suffering from scarlet fever, and 42 per cent. as possibly suffering from diphtheria, required to be isolated and kept under observation until a definite diagnosis could be formed. In other words, patients suspected of, or possibly suffering from, those diseases must be kept under observation until a probable diagnosis could be formed. The true criterion of the difference between the diagnosis of general practitioners and of medical superintendents of hospitals was the percentage of cases returned home immediately by ambulance, and not detained for observation. In 1902, of 24,410 patients conveyed to hospitals suspected of suffering from fevers, only 33 were returned home as not suffering from the diseases certified.

Dr. Goodall said he would like to interpose at that point to say that a great number of those cases were much too ill to think of sending home again; for instance, such cases as pneumonias it would be criminal to send such back at once.

Dr. Sykes asked whether the same thing applied to scarlet fever.

Dr. Goodall replied that it did not apply so much to scarlet fever, but one could not think of sending bad cases back at once.

Dr. Sykes repeated that the remarkable fact occurred that the number of cases removed to hospital, and in which the diagnosis had been found to be wrong, were only 33 out of over 24,000.

Dr. Goodall said Dr. Sykes had no right to take that as a criterion of errors of diagnosis.

Dr. Sykes said the difference, viewed in that way, was so great that it required explanation. He thought that 33 would probably represent the number that were immediately diagnosed as not suffering from the disease. There must be a certain number retained because they were too ill, but the percentage of them would not be large.

Dr. Goodall repeated that it was not fair to make that criterion which Dr. Sykes had made. Many of the cases could not be sent away until they had been observed. It was very seldom that he sent a patient straight back from the door, for

several reasons. One of those reasons was that the patient was too ill, another was that he had respect for any man's opinion outside, which prevented him being too positive before investigating the case.

Dr. Sykes, continuing, said the practitioner in many cases had only five minutes in which to make the diagnosis, whereas the resident in the hospital might have five days or as many weeks.

Dr. Goodall said he also was on the side of the medical practitioner.

Dr. Sykes said the difficulties in question were very great, and it was not fair to compare the diagnosis of the general practitioner with that of the medical superintendent. In many cases it was impossible to confirm the diagnosis in the early stages of the disease. Every one knew how dangerous it was to leave the patients at home when they were poor, and therefore the question arose as to whether it was better that suspected cases of dangerous infectious disease should be kept under observation in the homes of the poor or under observation at hospital. Only one answer could be made to that by those who had true regard for the protection of the public health. In reference to Dr. Howard-Jones's remark, he would point out that it was necessary to differentiate between the aims of a medical superintendent of a hospital and those of the medical officer of health. Dr. Howard-Jones said the aims were the same. They might be ultimately, but the immediate object of the medical superintendent was, naturally, to prevent any person who was not suffering from infectious disease being sent to hospital and catching that disease in the hospital. The object of the medical officer of health was to get all the infectious cases away that he could. The only way in which the difficulty could be met was by observation wards in the hospital itself. In the homes of the well-to-do the cases should be isolated in the house, and the isolation carried out on the premises, but that was not so in regard to the homes of the poor. The point raised was whether the medical officer of health should come in to judge the case for the medical practitioner. He wished to ask a question of the medical officers of health present: Would any medical officer of health take upon himself the responsibility of going to a house, to which he was called at a moment's notice, and examine the case for a few minutes and say whether it was or was not a case of the supposed disease? The medical officer of health would say: "If you want me to make a correct diagnosis, give me the observation ward which you give to your superintendents, then I will watch the patient and be able to tell you whether he has the disease or not." But why put him into a worse position than the medical superintendent? That brought him back to the point that no medical officer would be prepared to say at a moment's notice that his statement was the right one. In some towns, where the medical officer of health was also the medical superintendent, it must be remembered that the medical superintendent of a hospital visited the cases, not in his capacity of medical officer of health at all, but as medical superintendent of the hospital, and it saved him the journey to the hospital. The most important point to him (Dr. Sykes) was that one would not only have the expense of having to appoint assistants to the medical officers of health in London, but would have to call, sooner or later, upon the pockets of the ratepayers to establish in certain districts observation wards in order that those very assistants might be put into a position to observe the cases sufficiently long to form a correct diagnosis. Would they not rather bear those ills they have than fly to others that they know not of?

Dr. Reginald Dudfield said there was no legal obligation for the medical officer of health to visit any cases of doubtful diagnosis to help the medical practitioner, but ever since he was appointed medical officer of health he had made it a rule to render such assistance as he had been able to any practitioner asking for his advice. He disagreed with Dr. Sykes as to the risks which the medical officer of health ran in so doing. He (Dr. Dudfield) had found no difficulty in giving the time required, and, on the belief that two heads were better than one, he rendered such assistance as was in his power. He did not think one was expected to give such an absolute opinion as was the man who had charge of an observation ward. In one sense the aims of the general practitioner and the medical officer of health were the same. The general practitioner was anxious to cure and prevent disease as far as possible. It was inevitable for some mistakes to be made, and if the patient was sent to a hospital and it was found to be a mistaken diagnosis, what mischief was done to the patient? He had inquired of one medical superintendent as to the number of patients who were admitted as errors in diagnosis, those who had not the disease which they were certified to have and who ultimately acquired the disease. He was informed that the proportion was a quite insignificant one—a mere nothing.

Dr. Brown (Ayr) pointed out that in Scotland medical officers of health were differently situated to those in England, because in Scotland the principal duty of such officer seemed to be to act as medical detectives, so as to keep down the notification fees, etc. It had been well said that a good understanding between the medical officer and the private practitioner was not only desirable from the point of view of the public but also from the point of view of himself. It was not the duty of the medical officer of health to review the diagnosis of the private practitioner. With regard to the point raised by Dr. Sykes as to returning cases immediately if they were wrongly diagnosed, he (Dr. Brown) was also superintendent of the hospital, but he agreed with what Dr. Howard-Jones and Dr. Goodall said, that it would be impossible to return them at once from the hospital. It was impossible to make up one's mind at the moment that it was doubtful, and, moreover, there must be the feeling that the other man's diagnosis was as likely to be correct as one's own. Care also should be taken than no injury was done to the practitioner by hurried diagnosis. He did not think the matter was one of such great moment as had been made out. Quarantine was not a very expensive matter. The patient was kept isolated for a few days and he was then sent home, and by keeping on the safe side in such cases one prevented harm arising. He deprecated letting the public know about all these things. At a meeting he recently attended, of a public character, a medical officer of health began complaining of the general practitioner not taking advantage of one thing and another, explaining also the number of cases which had been sent in wrongly diagnosed. That was not desirable from any point of view. His (Dr. Brown's) relationship with all practitioners was of the most cordial nature, and whenever he was asked he went to a doubtful case, and had never encountered any difficulty in that way.

Dr. Butler (Willesden) said the difficulties which medical officers had in connexion with the administration of the Act did not arise from the genuine errors of diagnosis which were made; they always settled themselves easily by communication between the general practitioner and the medical officer of health. But there were cases which did raise very serious difficulties where the notification could not be looked upon as bona fide. Those cases were very rare, but they created very great difficulty when they did arise because of a flaw in the state of the law with regard to the interpretation of the Act. The medical officer of health must act upon it without question, and he took it that acting upon it carried with it the need to act in accordance with his knowledge of the disease. It frequently occurred that a case had been notified to him as being nursed at home, and within a day or two he had received a request to disinfect the premises. But without reviewing the diagnosis it was impossible to sanction the expenditure of public money upon disinfection within so short a period of the date of onset of the illness. And there an official difficulty arose: one must either go behind the diagnosis, or must refuse to disinfect. His own practice had been to refuse to disinfect until the diagnosis had been reviewed by the practitioner and a note had been sent certifying the original opinion. It had been said that scarlet fever ceased to be infectious at the end of three weeks. One was bound to take up a position with regard to a disease of that kind, and he had had a notification to disinfect for erysipelas on the day following the illness. Those were genuine difficulties, which were not readily overcome. The difficulty in regard to the law was that there was no provision in the Act with regard to disinfection afterwards. It was true that the medical officer of health had charge of the case so far as the spread of infection was concerned; but if the case were isolated at home he could not see the case from day to day, and he was therefore at the mercy of the practitioner in charge of the case, and upon that practitioner he was dependent for his future action as to when he might send a certificate to say that the case was free of infection. There was no obligation upon the attending practitioner to notify freedom from infection. Where the practitioner refused to notify freedom from infection a genuine difficulty arose, and it required, he thought, a supplementary Act to provide for that. With regard to small-pox,

one saw the supreme importance of not leaving the cases until the diagnosis was clear. Repeatedly in his district he had had cases which it was impossible for the practitioner to notify as small-pox, but he had been called in and there was no reasonable doubt as to their nature, still until the rash appeared they could not be pronounced to be small-pox. But he had not hesitated to have the patients removed and isolated. The effect of such measures often was to check an epidemic at its outset.

Dr. Bond (Holborn) said he thought the well-known difficulties in the diagnosis of fever cases, and also the dangers attributed to segregation, made it desirable that there should be an increase of strictly isolation accommodation in all fever hospitals. One had read of the Pasteur Hospital in Paris, in which the wards were divided into separate cubicles by means of glass partitions, and various kinds of infectious diseases had been there treated in the same ward. Yet, according to all the reports, no disease had been conferred there on the patients. He had gone over the reports of the Metropolitan Asylums Board for an average of four years, and he thought that they showed the great need existing for strict isolation, and it would also help to diminish the number of returned cases.

Dr. Brown (Bermondsey) said he had been very pleased to hear some one taking up the cudgels for the general practitioner, because every one knew that those infectious diseases were very difficult to diagnose, especially the type of scarlet fever and diphtheria prevalent at the present time. Somebody asked the late Dr. Washbourn the way to diagnose scarlet fever, and he replied: "Isolate it for six weeks and observe it closely." In Bermondsey he (Dr. Brown) had acted as consultant or expert in infectious diseases, and he had never found any trouble, either on the score of it taking up too much of his time or in any other way. With one exception he had never had any trouble with practitioners, and he had always gone to see doubtful cases if asked to do so. He went in a friendly spirit and gave the practitioner to understand that he was under no legal obligation to go, but that in the interests of public health he was pleased to give them any assistance in his power. As to visiting all the cases of doubtful diagnosis, as suggested in a recent circular, he regarded that as quite impracticable. And it would do much harm, because while admitting that the medical officer of health should be available for practitioners for the purpose of diagnosis, he certainly did not think that any responsibility should be taken from the general practitioner. If that responsibility were taken from him, it would invite carelessness in diagnosis. He found the same thing happen when chicken-pox was notifiable. If he (Dr. Brown) were expected to visit a case, and the practitioner did not know what it was, he would notify it to the medical officer of health, and leave him to decide. That was an extremely wrong position, because the law had placed the onus on the practitioner, who had the necessary knowledge, especially if he were provided with a bacteriological laboratory in which he could test diphtheria and typhoid and such-like diseases.

The President, in closing the discussion, said the publication of the speeches would indicate to the public and to medical officers of health the feeling of the Society on the matter under discussion.

CLINICAL SOCIETY OF LONDON.

H. H. Clutton, M.A., M.C., F.R.C.S., President, in the Chair.

Friday, October 13th, 1905.

Cystoscopic Appearances in Renal Disease.

Dr. David Newman (Glasgow) demonstrated by means of an opaque projector the cystoscopic appearances of the urinary bladder as presented by the mucous membrane of the trigone and the orifices of the ureters in certain diseases of the kidney. He described his first electric cystoscope (January, 1883) still armed with the first electric lamp introduced into a human bladder, and his present cystoscope, which fulfilled the following requirements: (1) Comparatively small lumen of stem to avoid injury of urethra or neck of bladder; (2) large field of vision and a clear view; (3) easy means of clearing the field, should it become obscured, without removing stem of instrument from bladder; (4) good illumination without danger of scalding the mucous membrane of the bladder; (5) ease in manipulating the instrument; (6) facility in emptying the bladder, should it be necessary, without removal of cystoscope; (7) facility to demonstrate to several persons the object seen; and (8) means of steadying the instrument during examination, of fixing prism of cystoscope at any point, and of defining clearly the position of a lesion. He demonstrated by means of the special projector the appearances seen through the cystoscope, so arranged that only a portion of the diagram was illustrated at one time upon the screen. By moving the diagram, the appearance of the mucous membrane was seen bit by bit, as in an inspection with the cystoscope. He first illustrated some easily-recognized lesions of the vesical mucous membrane, such as hyperaemia of the bladder in a case of injury to the medulla oblongata, and then an extensive series of morbid conditions, such as ulcers, encysted and other calculi, new growths, ascending and descending ureteritis, etc. Finally he drew the following conclusions: (1) When one ureter orifice is altered, the other normal, the renal lesion is on the side of the morbid ureter. (2) When the urinary shoots are more frequent on one side than on the other: (*a*) greater functional activity is indicated by the shoots being uniform in size and regular in rhythm; (*b*) undue irritation of kidney is inferred when the shoots, while frequent, are irregular in rhythm, unequal, and small in size; (*c*) stricture, stone, or chronic ureteritis is suspected when the shoots are distorted in form or irregular in amount. (3) When the urine does not escape in distinct jets: (*a*) Dilatation of ureter without paralysis of sphincter is indicated when urine dribbles into the bladder at intervals; (*b*) paralysis of sphincter is shown by urine flowing into bladder almost continually. (4) The character of the morbid fluids escaping from the ureter, or of clots, etc., occupying its opening, denotes the morbid changes taking place in the corresponding kidney. (5) The deformity of the orifice also indicates the character of the renal disease: (*a*) Pin-head contraction (chronic inflammation, or impacted calculus); (*b*) elongated and distorted (distension of renal pelvis or infected nephritis); (*c*) swollen or pouting (prolonged but not acute inflammation of renal parenchyma); (*d*) dilated (advanced tuberculous or calculous pyonephrosis); (*e*) U-shaped (significance doubtful; usually denotes prolonged irritation of renal pelvis).

A Diverticulum of the Bladder in an Inguinal Hernia.

Mr. Edred M. Corner and Mr. Cecil W. Rowntree reported the case of a boy, aged 18 months, admitted to the Hospital for Sick Children, Great Ormond Street, who had had a swelling in the right side of the scrotum since birth. It varied in size, and in the recumbent posture almost disappeared. On the whole it had increased in size. There were no urinary symptoms. On admission the swelling extended from the external abdominal ring to just above the testicle, and was regarded as an ordinary irreducible hernia in a sac, which was separate from the tunica vaginalis of the testis. At the operation the inguinal canal was opened up throughout its length, but no peritoneal sac was present, the canal being filled with dense fibro-fatty tissue. Inside this tissue was found a diverticulum of the bladder, containing a few drachms of urine. The diverticulum was excised and the bladder and inguinal canal sutured, the wound healing by first intention. Two months later the boy was readmitted for tuberculous peritonitis. Laparotomy was performed, much fluid evacuated, and the viscera were found to be covered with miliary tubercles. From this date the boy improved, and was now well, a year after the first operation. The diverticulum was 2 in. long and lined in part with a smooth membrane like that of the bladder. At the lower pole it was enormously thickened and resembled an os uteri. Microscopical examination revealed the presence of tubercles.

The President had seen the bladder entering a hernia, but never so far protruded as in this unique case. Possibly the diverticulum was produced by the tuberculous disease.

Dr. W. H. B. Brook (Lincoln) had seen haematuria follow an operation for radical cure, whilst a subsequent operation showed that a portion of the bladder had been excised.

Mr. Corner, in reply, said that the swelling had been present since the child's birth, so that probably it was not secondary to tubercle.

PATHOLOGICAL SOCIETY OF LONDON.

P. H. Pye-Smith, M.D., F.R.S., Vice-President, in the Chair.

Tuesday, October 17th, 1905.

Primary Tuberculosis of Thyroid.

Dr. H. A. Lediard exhibited a specimen of this rare condition. The gland was the seat of a chronic abscess. No infection site was discovered. The same author also exhibited a specimen of diverticulum of the bladder.

Necrosis of Cortex of Both Kidneys.

Drs. W. P. Herringham and W. S. A. Griffith recorded a case of the above kind associated with thrombosis of the cortical arteries, and occurring in the puerperal state. The patient, a woman aged 35, was delivered of a dead child in Queen Charlotte's Hospital. She afterwards suffered from chronic nephritis, as evidenced by scantiness of urine and the presence of casts; there was slight oedema. For six days before death no urine was passed. The symptoms were those of obstructive suppression. No marks of uraemia were present—a further corroboration of the fact that those symptoms do not result from urinary suppression *per se*. After death no effusion was found in the cavities; no oedema; heart valves normal; kidneys 8½ oz. and 7½ oz. respectively. On section the cortex of each was found in a state of general necrosis. The interstitial tissue was increased. The cortical arteries were thrombosed: the presence of endarteritis was doubtful. An almost exactly similar case had been recorded by Dr. Rose Bradford and Mr. Lawrence. There was no evidence that endarteritis was the cause of the thrombosis. The authors thought the necrosis due probably to thrombosis set up by an intoxication.

Phagocytosis.

Mr. L. S. Dudgeon and Dr. Athole Ross read an abstract of some experimental work which they had recently carried out on phagocytosis.[1] They had investigated the blood, bone marrow, peritoneal exudate, and the great omentum subsequent to intraperitoneal injections of the following micro-organisms, toxins, and certain other substances, namely: Staphylococcus pyogenes aureus, staphylococcus albus, streptococcus pyogenes, pneumococcus, bacillus pyocyaneus, bacillus typhosus, bacillus coli, bacillus coli killed by heat, bacillus aërogenes capsulatus, bacillus coli after previous injection of morphine, filtered cultures of the bacillus pyocyaneus, a 2 per cent. sterile solution of nucleic acid, sterile normal saline solution, and a sterile suspension of finely-divided chalk in normal saline. The inoculations were made into rabbits and guinea-pigs, which were killed at the end of the following intervals of time: 15 minutes, 1 hour, 2 hours, 4 hours, 6 hours, and at 24 hours. The blood was examined, in every instance, before and immediately after each injection of the above substances. The total count of leucocytes per c.mm. of blood, differential counts of 500 leucocytes, a differential count of 1,000 marrow cells, and a similar examination of the cells in the peritoneal exudate was made in every instance. In addition, the peritoneal fluid was examined in the fresh state, and stained film preparations from the great omentum were made.

The Great Omentum.—This was found to play a very important part in every instance. The authors agreed with the researches previously made by Durham that cells may be found on the great omentum in large numbers, though extremely scarce in the peritoneal exudate, and the tendency is for bacteria and phagocytes to be deposited in large numbers on the great omentum in all peritoneal infections. For instance, subsequent to intraperitoneal injection of the bacillus aërogenes capsulatus they found 90·2 per cent. of finely-granular polynuclear cells in the peritoneal exudate, but none contained micro-organisms, while on the great omentum 99.6 per cent. of these cells were found, and every one was phagocytic. In such cases the omentum is rolled up and retracted towards the diaphragm, and very much injected. Three guinea-pigs received intraperitoneal injections, with strict bacteriological precautions, of sterile normal saline solution and were killed at the end of two, four, and eight hours respectively. In every instance the peritoneal fluid was sterile, but the staphylococcus albus was grown from the omentum. Seven guinea-pigs received intraperitoneal injection of a sterile suspension of chalk in normal saline, and were killed at the end of two, four, and eight hours and twenty-four hours respectively. In every instance the peritoneal exudate was sterile, but in six out of seven cases the white staphylococcus was cultivated from the great omentum.

The Blood.—They found that within a period of fifteen minutes from the time of inoculation the total number of finely-granular polynuclear cells was increased in every instance, while the percentage total was raised in most cases. In the later experiments similar results were obtained. The coarsely-granular eosinophiles were sometimes increased in the first three instances, and diminished in the last three in every experiment.

The Peritoneal Exudate.—Fluid was present in large amount in all the earliest experiments and diminished in the twenty-four-hour cases, with the exception of those examples in which the peritonitis was due to the colon bacillus and bacillus pyocyaneus. In most instances the chief cell in the peritoneal fluid in the fifteen-minute experiments was either the small lymphocyte or the coarsely-granular eosinophile, while in all other experiments the finely-granular polynuclear cell predominated. Macrophages in the earliest and latest experiments were frequently found in fair numbers. One of the most important phagocytes in the fifteen-minute, one-hour, and two-hour cases was the coarsely-granular eosinophile, which very often contained many micro-organisms, and, in some instances, a large number of these cells were found to be phagocytic. In one case, 82.2 per cent. of the cells in the peritoneal exudate were of this variety, and 208 out of 500 contained micro-organisms. Bacilli which were ingested were found to be swollen and in many instances beaded. The finely-granular polynuclear cells were, however, the most important phagocytes from one hour onwards in nearly every case. These leucocytes were found to be ingested by the macrophages in some examples. Agglutination of every variety of cell—with the exception of the small lymphocyte and the coarsely-granular eosinophile—was a regular phenomenon. In the guinea-pigs which had been inoculated intraperitoneally with the bacillus coli subsequent to hypodermic injection of morphine, intraperitoneal phagocytosis was unaffected, but the number of leucocytes in the blood were diminished in most of the experiments.

The Bone Marrow.—The authors of this paper always examined the bone marrow in every experiment, from a period of fifteen minutes up to, and including, twenty-four hours after the onset of infection, and they have almost invariably found the granular lymphoid type of cell to be the most important leucocyte in these cases. They also pointed out that their results could not be in any way compared with those of the vast majority of other observers who have examined marrow in these cases after a lapse of several days. They agreed with Dr. Price Jones as to the scarcity of the finely-granular polynuclear cells in the bone marrow. Although they found that the nucleated red cells were increased in many instances after inoculation in both guinea-pigs and rabbits, this was especially so in the case of the pneumococcus and of the streptococcus pyogenes when inoculated into rabbits. They found that the type of marrow in these cases was of the lympho-erythroblastic class. No phagocytosis was ever seen. The "neutrophile reaction" type of marrow described by Muir in septic conditions of many days' standing was not observed by them in their experiments, within a period of twenty-four hours. Mitotic figures were never seen and giant cells did not appear to play any important part in marrow reaction. The coarsely-granular eosinophiles were only present in small numbers in the bone marrow in nearly every instance.

British Gynaecological Society.—At a meeting on October 12th, Dr. William Alexander, President, in the chair, Dr. Bedford Fenwick read notes of a case of pulmonary embolism occurring directly after removal of a small cervical polypus which had caused haemorrhage for two years, in a patient aged 53. She was anaemic, and had a history of rheumatism; a rough systolic murmur was noted at the apex. The operation occupied less than one minute, and there was no bleeding. Eight hours later the pulse increased in frequency, and there was insomnia and dyspnoea; four hours later the pulse rose to 130, the temperature to 102° F., and respiration became rapid and shallow. Death occurred eighteen hours after operation. On *post-mortem* examination the tricuspid valves were found diseased: on the edge of one cusp was a calcareous nodule about the size of a split pea, from which a decolorized clot extended through the ventricle into the pulmonary artery: here it bifurcated, one branch extending for 2 in. into the left pulmonary artery, while the other passed 1½ in. into the right, almost blocking both; both lungs were oedematous.—Dr. Macnaughton-Jones showed a specimen of primary tubercle of the Fallopian tube which was removed from a patient, aged 32, for periodic metrorrhagia and pelvic pain. The patient had been married one year. There was no history of tubercle elsewhere. Oophorectomy was performed with some difficulty, owing to the numerous adhesions. On examination tubercles were found in the mucosa

[1] Towards the expenses of the research a grant was made by the Scientific Grants Committee of the British Medical Association.

of both tubes; the right ovary was oedematous and the left healthy.—Dr. BEDFORD FENWICK read a paper entitled, Four Years of Hospital Abdominal Surgery. His records extended from March, 1901, to the end of February, 1905, and comprised 185 sections altogether, with 6 deaths. He drew the conclusions: (1) That when a fibroid tumour of the uterus in a patient aged 40 or over fills the pelvis, it should be removed, because in the majority of cases it exercises a dangerous pressure on rectum, bladder, or ureter; (2) when in such a patient the tumour extends only half way to the umbilicus, but is hard and nodular, it should likewise be removed, because sooner or later it will undergo degenerative changes; (3) when the patient suffers from frequent and prolonged losses, unchecked by rest or medicine, and the uterus is nodular and enlarged to the pelvic brim, hysterectomy ought to be performed as the safest and most certain cure for the condition. As for cases of tubal disease, he thought the risks involved by removal of the affected parts were less than those to which the patient was exposed if left alone or treated in less radical fashion.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.—At the first meeting of the session on October 9th, Professor MUIR, the President, in the chair, the following were among the cases and specimens shown:—Dr. A. N. MCGREGOR: A uterus (removed by Dr. Adams) containing two myomas, one in the cervix, the other in the posterior wall.—Dr. J. H. TEACHER: An enlarged heart with atheromatous aorta, thickening of the aortic valves, and complete obliteration of the pericardium; a healed localized empyema had also been found. —Dr. A. N. MCGREGOR: A baby from whom he had successfully removed a large teratoma of the neck when the child was 3 weeks old. The tumour, present at birth, was situated on the left side of the neck, extending from the middle line in front to the sterno-mastoid muscle posteriorly, and reaching from about the level of the clavicle upwards to the middle of the cheek. It interfered to some extent with respiration. It had no connexion with the thyroid gland. The tumour was formed partly of cysts lined by columnar epithelium. The rest was solid, highly-vascular, and contained cartilage; its general structure resembled that of a round-celled sarcoma. The tumour was regarded as a branchial anomaly, although the possibility of its relationship to an accessory thyroid was also entertained.—Dr. WALKER DOWNIE: Two patients on whom he had successfully operated for persistence of a branchial cleft. They had been shown at the Society previous to their operation.—Mr. HENRY E. CLARK: A plaster cast and skiagraphs of a case of multiple digits. At the position of the thumb there were two extra digits; the longer central digit had three phalanges, and was regarded as the index finger of another hand, and on either side of it two short digits with two phalanges regarded as the thumb of the hand, and an additional thumb. The two smaller digits were removed, and a very serviceable hand obtained.

ASSOCIATION OF REGISTERED MEDICAL WOMEN.—At a meeting held on October 3rd, Mrs. SCHARLIEB, M.D., M.S., in the chair, Miss ALDRICH-BLAKE, M.S., read a paper on the after-results of stomach operations based on 13 cases divided into classes, malignant and simple. The malignant class was subdivided into (1) those treated by pylorectomy, (2) those treated by gastro-enterostomy, the growth being too extensive for removal. Three patients, aged respectively 54, 38, and 60 years, were treated by pylorectomy (Kocher's method). All recovered. The first was well (three years and two months after operation), the second remained well for a year, during which she gained 3 st. in weight. When seen a year and a half after operation there were signs of recurrence locally and in the glands of the left posterior triangle. The third was well and free from any sign of recurrence (one and a half years after the operation). The growth was adeno-carcinoma in the first case and spheroidal-celled in the second and third (a point of some interest was that in the first and third cases there was hourglass contraction necessitating gastroplasty in addition to the pylorectomy, giving evidence of old ulceration near the cardiac end quite apart from the new growth at the pylorus). Two patients, aged 54 and 44, with malignant disease obstructing the pylorus and extending all along the small curvature, were treated by gastro-enterostomy. The first, an extremely feeble woman, died on the twelfth day. *Post-mortem* examination showed the junction secure, and no sign of peritonitis or lung complication. The second made an excellent recovery, picked up flesh and strength rapidly for the first four months, but now, eight months after operation, though still able to take and retain solid food, was losing ground again. Of the simple cases, two had been treated by excision of the ulcer, one by choice who did well; in the other gastro-enterostomy was intended, but the attempt to draw the stomach towards the wound tore open an immense ulcer occupying a large portion of the anterior and posterior surfaces and small curvature of the stomach. The floor of this was formed in front by the left lobe of liver, behind by pancreas. There was a second hourglass contraction close to the pylorus. The stomach was freed in order to close the gap by suture, but the patient, who was extremely anaemic from frequent haematemesis, died about four hours after the operation. Six cases were treated by posterior gastro-enterostomy; 2 for pyloric obstruction, with much dilatation, and 4 to give rest. The oldest patient was 64, and had suffered from pain and vomiting off and on for thirty-seven years; symptoms of pyloric obstruction had been present seven or eight years. The shortest history in any of the cases of ulcer treated extended over four years. The 6 cases treated by gastro-enterostomy all made uneventful recoveries. One has been lost sight of, one was very little better than before the operation, while the other four were well or greatly improved after intervals varying from seven months to two and a half years from the date of operation.

HUNTERIAN SOCIETY.—The opening meeting of the session was held on Wednesday, October 11th, the President, Dr. FREDK. J. SMITH, in the chair.—Dr. H. LEWIS JONES delivered the first Hunterian Lecture, on Some New Lines of Work in Electro-therapeutics. After alluding to the increased facilities for the use of electricity, he gave a brief sketch of the growth of electro-therapeutics, beginning with the work of Duchenne, Remak, and Erb. He pointed out the great advances made possible by the introduction of public supplies of current for electric lighting, and showed that the invention of the Edison-Swan lamp had rendered possible the surgical exploring lamp, which had been particularly advantageous for cystoscopy and for the illumination of the antrum. The importance of the therapeutic uses of the Roentgen rays was emphasized. He pointed out that as more serious conditions of disease came under the care of the medical electrician, and as the methods became more precise, so the work would tend to fall less into the hands of unqualified electricians. He thought that high-frequency currents and the light-bath were destined to lose the prominence that they had enjoyed recently. Electrolysis had done good service for many years in the treatment of naevi, etc., but recent work opened up a far wider field for electrolytic applications, namely, the introduction of chemical substances into the body for local medication. The writings of Professor Leduc of Nantes, on The Ions in Medicine has led Dr. Lewis Jones to treat some cases of rodent ulcer and of lupus by the electrolytic introduction of zinc ions, using for the purpose a 1 per cent. solution of zinc chloride. The result of this treatment to rodent ulcers was extraordinarily encouraging, two cases at least being perfectly healed by a single application, and remaining so up to the present time after the lapse of from six to nine months. His results with lupus had not been so successful, but they were sufficiently good to encourage him to persevere in the attempt to treat that disease by electrolytic applications. The electrolytic introduction of substance differed from subcutaneous injection because the latter conveyed the injected substances into the lymphatic spaces, while the former forced the ions into intimate union with the protoplasm of the actual cells.

REVIEWS.

SMALL-POX AND LIFE ASSURANCE.

DR. PFEIFFER'S book on vaccination clauses in life assurance world policies[1] forms Heft 5 of the Veröffentlichungen des Deutschen Vereins für Versicherungs-Wissenschaft—that is, of the publications of the German Society of Actuaries—and is dedicated to the Fourth International Congress for Medicine in relation to Life Assurance, which will be held in Berlin in September, 1906. The preface informs us that the work is written on account of the great interest which has been evoked in the actuarial world by Mr. A. F. Burridge's

[1] *Die Impfklauseln in den Weltpolicen der Lebensversicherungs-Gesellschaften* [Vaccination Clauses in Life Assurance World Policies] By Dr. Med. Ludwig Pfeiffer, Geheimer Hof und Medizinalrat in Weimar. Berlin: Müller und Sohn. 1905. (Demy 8vo, pp. 92. M. 4)

paper on Vaccination and the Act of 1898, read before the Society of Actuaries, London, and published in the journal of the Institute of Actuaries, October, 1902. From it we learn that out of seventy-one English insurance offices sixty-nine frame questions as to vaccination, while only seven were indifferent on the question; but Germany is so free from small-pox—it has become, in fact, such a rarity in the large towns that out of thirty insurance offices ten now ask no question at all about vaccination, and six more are indifferent upon the subject as regards payment of the sum assured. But one recent office had a case of ineradicable small-pox susceptibility to report. The person insured had survived natural small-pox in childhood, was afterwards vaccinated, and yet died of small-pox at the age of 32. From recent statistics of "second attacks" of small-pox the author concludes that: (1) The disposition to such varies in different epidemics (for example, 0 per cent. in Leicester, 0.13 per cent. in Sheffield, 4.8 per cent. in Dewsbury, 4 per cent. in Chemnitz, 7.2 per cent. in Breslau, and as high as 12 per cent. in Warrington); (2) the second attack occurs many years after the first—at least 10 to 20 years; (3) the fatality in second attacks varies from 3 to 28 per cent. of the cases. A severe first attack protects better than a lighter one. Some have stated that second attacks are always light, but in the Leipzig Hospital out of 22 second attacks 6 were fatal (27 per cent.). On the whole, the author finds second attacks so rare that general statistics on small-pox are not affected. The author has given in this work an interesting summary of small-pox and vaccination statistics throughout the last century, and most of the well-known tables are given in an appendix (for example, Möhls's, Marson's, Gregory's, Simons's, with others more recent). We are referred evidently to the wrong footnote on p. 85, for Austria ought to rank with Belgium as being still without compulsory vaccination, though in both countries vaccination at school age is sharply looked after. The Leicester "method" receives a good deal of attention; also the recent Glasgow epidemics, which cost £50,000, and which caused the building of a special hospital for small-pox. Dr. Pfeiffer characterizes as an "egg-dance" the attempts of Dr. Killick Millard in Leicester to argue in favour of compulsory vaccinations wholesale in epidemic times, while at the same time arguing that compulsory vaccination in non-epidemic times is not necessary, and adds that the cost of vaccination in Germany, though absolutely high, is small compared to the cost of a small epidemic in England. "The report of Dr. Killick Millard gives no cause for altering the German method. There are no small-pox epidemics of ten or fifteen months' duration in Germany; also costly permanent small-pox hospitals are not needed." But the supervision of "contacts" is admitted to be better carried out in England. One of the author's graphic methods consists of squares containing smaller squares, but a still better one consists of horizontal columns each side of a middle line.

RECENT GERMAN RESEARCHES ON TYPHOID AND PARATYPHOID FEVER.

It is a matter of regret that the word "typhus" has become stereotyped in both the English and the German languages to mean two entirely different diseases—typhus or spotted fever in English, enteric or typhoid fever in German. The confusion in nomenclature has become accentuated of late by the omission in German literature of the adjective "abdominal." What used to be called "abdominal typhus" is now simply "typhus," as in the title of the work before us, *Beiträge zur Typhusforschung*[2] (Contributions to Typhus Research). These contributions are seven in number, and all of them refer to enteric or typhoid fever, and its *alter ego*—paratyphoid fever.

In the first paper, Dr. J. Borntraeger of Düsseldorf traces an outbreak of enteric fever which occurred during the autumn of 1904 in the urban district of Gräfrath, county of Solingen, with about 8,000 inhabitants, to contamination of the water supply of a portion of that district. Briefly, the soiled linen from a case of enteric fever was washed in a washing tank situated in close proximity to a well which supplied the drinking-water of certain houses. The result was an explosive outbreak of fever affecting 118 persons, of whom 11 died, or a mortality of 9.3 per cent. The epidemic was limited to the part of Gräfrath called Oben-Flacksberg, and 80 of the 112 patients, or 67.8 per cent., owed their illness to water infection, while 37, or 31.35 per cent., of the cases, were the result of contact infection. In 1 case, or 0.8 per cent., the source of the illness could not be traced. The epidemic quickly died out when the washing tank was emptied and it and the well were disinfected.

The second, third, and fourth papers are by Dr. Lentz of Idar-on-the-Nahe. One is a clinical record of a case of enteric fever in a maidservant, whose blood did not react to Widal till the twenty-eighth day of her fever, although the illness began with haematemesis and bloody stools, and she had severe intestinal haemorrhage on the twenty-fourth day. In the second of his three communications Dr. Lentz discusses an outbreak of enteric fever in August, 1904, which the acting district physician regarded as a well-epidemic and caused the well to be closed. "And yet," adds Dr. Lentz, "the question in this case is not one of a well-epidemic but of a contact-epidemic, as could scarcely be more clearly demonstrated." He gives a table which certainly lends countenance to his views. Dr. Lentz's third paper is a very suggestive one; the subject of it is "chronic bacillus-typhosus bearers," and its object is to show that convalescents from enteric fever carry about with them the germs of the malady, perhaps for many months after they have themselves quite recovered from their illness. These facts have been established by bacteriological investigation. Since 1904 certain suggestions made by him for dealing with these chronic infection-bearers have been put in practice in the principality of Birkenfeld. These suggestions are as follows: (1) An abundant supply of disinfectants, for the disinfection of all excreta from the infection-bearers, provided at the public expense. (2) Disinfection of the latrines in the houses inhabited by such persons by means of chlorinated lime—if possible every three months, at all events immediately before the latrines are emptied—the cost of this likewise to be borne by the public funds. (3) Police notification. (4) Continued control through the Institute for bacteriological investigations. (5) Strict exclusion of chronic infection-bearers from the milk industry generally, the milk from farms where such persons are employed to be debarred from the dairies.

Of the last three papers of the whole series, two—the fifth and seventh—relate to paratyphoid fever. In the fifth article Dr. Lentz and Dr. Julius Tletz, who have been investigating the method of proliferating the bacilli of enteric and of paratyphoid by means of a preliminary culture on malachite-green agar, make a further communication on this subject. It is rather technical.

In the course of a paper—the sixth in this book—on contact infection as an etiological factor in enteric fever, Surgeon-Major Dr. Seige concludes that an epidemic described in his paper teaches us that an effective conflict cannot be waged against this disease where it is impossible to isolate the patients, since in the presence of ever so slightly unhealthy sanitary conditions, in consequence of the indolence of the population, the danger of infection by contact is constantly forthcoming.

In the seventh article, Surgeon-Major Dr. Vagedes narrates the history of a terrible case of poisoning by a pudding made of groats, biscuits, apples, milk, sugar, vanilla powder, as well as three duck eggs. Bacteriological investigations carried out in the Bacteriological Institute of the second Garrison Hospital, Berlin, revealed the presence of paratyphoid bacilli.

[2] *Beiträge zur Typhusforschung.* Von Dr. J. Borntraeger (Düsseldorf), Dr. Lentz (Idar a. d. Nahe), Dr. Julius Tletz (Idar a. d. Nahe), Stabarzt Dr. Seige (Saarlouis), and Stabarzt Dr. Vagedes (Berlin). Abdruck aus dem klinischen Jahrbuch. Vierzehnter Band. Jena: Gustav Fischer. 1905. (Demy 8vo, pp. 92. M.3.)

NOTES ON BOOKS.

Cooking in the Tropics.

In many parts of the tropics the diet the white man has to depend upon is of a poor quality, owing either to the inferior nature of the food or to bad cooking. Sister Cockburn, late Colonial Nursing Service, Sierra Leone, having appreciated this, has tried to mitigate some of the evils by putting her experiences in book form, entitling them *A Practical Guide to Cookery in West Africa and the Tropics.*[1] The scope of the book is wide, covering the making of soups, the preparation of sweets, fish, *entrées*, breakfast dishes, etc., while a special part is devoted to sick-room cookery. The contents might, with advantage, have been divided into special chapters, and the usual summary have been given at the beginning of the book. It should, however, prove very useful to sisters in

[1] *A Practical Guide to Cookery in West Africa and the Tropics.* By Sister Cockburn, late Colonial Nursing Service, Sierra Leone, West Africa. London: Scientific Press. (Crown 8vo, pp. 103–38.)

hospitals abroad, and also to the wives of Government officials and other settlers. Its sphere will be limited to houses in which the European mistress herself does the cooking, or at least personally supervises it, because the native likes to do things in his own way, and objects very forcibly to be interfered with in such matters.

MEDICINE AND WITCHCRAFT IN THE DAYS OF SIR THOMAS BROWNE.

By JOHN KNOTT, M.A., M.D.Univ.Dub., M.R.I.A.

(Concluded from p. 961.)

According to the ancient cosmic system, then, the universe was formed by twelve concentric spheres, beyond the circumference of the outermost of which was the immobile empyrean, the abode of the ineffable Deity. The terrestrial division of this series, which was destined for the abode of man, was formed by the superimposed elemental strata of earth, water, air, and fire—in order of gravity. Each of the seven planets—in the order already referred to—was set in the transparent wall of a crystalline sphere, by the diurnal revolution of which it was carried round the central earth. A single crystalline shell was made to function as supporting frame to the whole "heavenly host" of the fixed stars. The rotatory movements of each and all of the series were regulated by the investing *primum mobile*. Being thus placed at the centre of a mysterious universe of unthinkable vastness, and very obviously influenced by the powers residing in its remote regions, it is easy to understand how man, as soon as he began to exercise his uniquely characteristic function of *sursum aspicere*, was led to believe in the individual and collective influence of the heavenly host on matters mundane. Also, how—aided by the dictates of the universal prevalence of human vanity—he came to regard himself as an actual microcosm, a "picture in little," of the immeasurable vastness of which he formed the centre. Radii from every point of the circumference of the *cosmos* met at a focus in his person. Hence the genesis and subsequent development of the idea of the human *microcosm*, and the presiding influence of the various planets and constellations on special regions and organs of the human body, on the passions and moral qualities of the mind, and on the whole life-pilgrimage and fortunes of the individual. The ancient Egyptian by the banks of the Nile, to whose annual supply of mud he looked for the means of existence, the Chaldaean shepherd on his scorched or storm-swept plain, and the speculative Persian on his inspiring mountain summit, studied the mysterious movements of the starry host, and tried to spell out the influences which governed man's chequered course in life. They all saw the continuous struggle between good and evil upon earth, and the corresponding contention between light and darkness in heaven. Heat and cold, storm and calm, pain and pleasure, agitation and rest, were obviously destined to perpetual opposition and contrast. There is, indeed, little reason to be surprised on finding the primitive amateur theologian formulating a fixed belief in the co-existence of the dual principles of good and evil, as the only conceivable explanation of the course of events which formed the daily, and universal, experience of life. The longer he observed the prevalence of cruelty and injustice on earth, the more he felt constrained to centre his only hopes of bliss on things above, and to nourish the consoling idea of the immortality of the soul. With the course of ages, the notion came to be definitely formulated that everything sublunar was essentially and hopelessly bad, that there was no attainable beatitude below the sphere of the moon. There were not wanting in the the early ages of Christianity some anarchical leaders of thoughts heretical, who announced that the omnipotent Deity, after he had ejected Lucifer from heaven for his rebellious pride, permitted that fallen angel to construct a world of his own, where he was allowed to exercise his unbounded discretion in the management of matters moral and personal. Our globe was the product of this licence; and the framers of the hypothesis triumphantly pointed to it as the only one which could satisfactorily account for the facts of the daily experience of human life!

Spiritual *emanations* were specially suggested by observation of the rays of the sun, and the effects of the movements of the invisible wind. There undoubtedly permeated each of the principal pagan systems to which I have referred a notion of the origin of all such spiritual agents from a great overseeing first cause. In the grandly mystical systems of the Hindus, the Chaldaeans, and the Egyptians, of Zoroaster and of Plato, the *anima mundi* was an emanation of the ineffable and unknowable Supreme Power, and the *anima microcosmi* was an offshoot of the *anima mundi*. The messengers (angels) of the Supreme Power descended to the earth along the rays of the sun (or the steps of Jacob's ladder). The messengers of the Evil Principle tried to make up for lesser power by greater activity. Collisions often took place in the air. The enlistment of human agents was, of course, always most actively pursued. There was no denying the fact of the existence of large numbers of men of distinctly evil disposition, who were spiritually and physically enemies of their kind. And, ever since the fatal episode connected with the forbidden fruit, an idea has largely prevailed throughout the ages and nations, and—I incline to think—a majority of individuals, that the evil spirit more easily obtains an entrance into the human female than the male. On this very account, the number of witches has always been greater than that of the masculine practitioners of sorcery and necromancy. The periodic (menstrual) uncleanness of the human female functioned as a most productive germ in the culture and expansion of the witchcraft doctrine. The following extract from an anonymous authority on such mysteries in the palmy days of the "black art" tells a plain story, if not a convincing one:

> Of these, the first is menstruous blood, which, how much power it has in sorcery, we will now consider:—First, if it comes over new wine, it will turn it sour; and if it does but touch a vine, it will spoil it for ever; and, by its very touch, it renders all plants and trees barren, and those newly set die; it burns up all the herbs in the garden, and makes fruit fall from trees; it makes dim the brightness of a looking glass, dulls the edges of knives and razors, dims the beauty of polished ivory, and makes iron rusty; it likewise makes brass rusty, and to smell very strong; by the taste, it makes dogs run mad, and, being thus mad, if they once bite any one, that wound is incurable; it destroys whole hives of bees, and drives them away, if it does but touch them; it makes linen black that is boiled with it; it makes mares cast their foals by touching them with it, and women miscarry; it makes asses barren if they eat of the corn touched by it. The ashes of menstruous clothes cast upon purple garments, that are to be washed, change their colour, and likewise take away the colour of flowers. It also drives away tertian and quartan agues, if it be put into the wool of a black ram, and tied up in a silver bracelet; as also if the soles of the patient's feet be anointed therewith, and especially if it be done by the woman herself, the patient not knowing what she uses. It likewise cures the falling sickness; but most especially it cures them that are afraid of water or drink after they are bitten by a mad dog, if only a menstruous cloth be put under the cup. Likewise, if a menstruous woman shall walk naked, before sun-rise, in a field of standing corn, all hurtful things perish; but if after sunrise, the corn withers; also, they are able to expel hail, rain, thunder, and lightnings, more of which Pliny mentions. Know this, that if they happen at the decrease of the moon, they are a much greater poison than in the increase, and yet much greater if they happen between the decrease and change; but if they happen in the eclipse of the sun or moon, they are a most incurable and violent poison. But they are of the greatest force when they happen in the first years of the virginity, for then if they but touch the doorposts of a house no mischief can take effect in it. And some say that the threads of any garment touched therewith cannot be burnt, and if they are cast into a fire it will spread no farther. Also it is noted that the root of piony being given with castor, and smeared over with a menstruous cloth, it certainly cureth the falling sickness. Again, let the stomach of a hart be roasted, and to it be put a perfume made with a menstruous cloth; it will make crossbows useless for the killing of any game. The hairs of a menstruous woman, put under dung, breeds serpents, and if they are burnt will drive away serpents with the fume. So great and powerful a poison is in them that they are a poison to poisonous creatures.

The perusal of this extract demonstrates to every reader the presence, in the opinion of certain professors of wisdom of the past centuries, of a vast magazine of power—potential and actual, curative and destructive—in the menstrual blood. It was, at least when under proper supervision, controllable during the period of its natural (physiological) formation and discharge from the body. But when the "change of life" arrived, and the elimination of this strangely powerful agent—for good or for evil—ceased to be carried out, the human female became, if evil influence came to obtain the ascendancy, an agent (or rather mainspring) of the most malevolent capabilities and tendencies. Hence the suspected witches were usually found among females who had passed the menopause.

To the details of mischief which were effected by witches—not only upon human beings, but on various animals and plants—there was, as might be expected, practically no limit. I have already mentioned the principal types of disease which were attributed to their influence, and details would but weary the reader. But the perusal of the description of some of the special remedies used by a noted expert has an illuminating

interest in this connexion. The famous astrologer, William Lilly, was born three years before Thomas Browne, and died one year before him. His reputation was such as to induce the Dean of Westminster (in 1634) to employ him to use his occult powers for the purpose of discovering hidden treasure in the cloister of Westminster Abbey. This was in the year before Browne wrote his *Religio Medici*. Lilly obtained a position of influence and credit in the England of his day which was reached by very few of his medical contemporaries, if by any. He published his *Christian Astrology* in 1647, the year after the appearance of Browne's *magnum opus*, the *Pseudodoxia Epidemica*. This volume contains, among its innumerable gems of seventeenth-century wisdom, the following: "Naturall *Remedies* for WITCHCRAFT. Having by the Figure discovered and described the Party, either by that Planet who is Lord of the 12th, or posited in the 12th, and doth behold the Lord of the ascendant with a malicious aspect, you must let one watch the party suspected, when they goe home to their owne house, and presently after before any body goe into the house after him or her, let one pull a handfull of the Thatch, or a Tile that is over the Doore: and if it be a Tile, make a good fire and heat it red hot therein, setting a Trevet over it, then take the parties water, if it be a man, woman or child, and poure it upon the red hot Tile, upon one side first, and then on the other, and againe put the Tile in the fire, and make it extreamly hot, turning it ever and anon, and let no body come into the house in the meane time."

If they be Cattle that are bewitched, take some of the Haire of every one of them, and mix the Haire in faire water, or wet it well, and then lay it under the Tile, the Trevet standing over the Tile: make a lusty fire, turne your Tile off upon the Haire, and stir up the Haire ever and anon: after you have done this by the space of a quarter of an hour, let the fire alone, and when the ashes are cold, bury them in the ground towards that quarter of heaven where the suspected Witch lives.

If the Witch live where there is no Tile but Thatch, then take a great handfull thereof, and wet it in the parties water, or else in common water mixed with some salt, then lay it in the fire, so that it may molter and smother by degrees and in a long time, setting a Trevet over it.

Or else take two new Horse-shooes, heat them red hot, and naile one of them on the Threshold of the Door, but quench the other in Urine of the party so Bewitched; then set the Urine over the fire, and put the Horse-shooe in it, setting a Trevet over the Pipkin or Pan wherein the Urine is; make the Urine boyle, with a little salt put into it, and three Horse-nails untill it's almost consumed, *viz.* the Urine; what is not boyled fully away poure into the fire: keep your Horse-shooe and nailes in a cleane cloth or paper, and use the same manner three severall times; the operation would be farre more effectuall, if you doe these things at the very change or full Moon, or at the very houre of the first or second quarter thereof. If they be Cattle bewitched, you must mix the Haire of their Tailes with the Thatch, and moysten them, being well bound together, and so let them be a long time in the fire consuming. *These are naturall experiments, and work by sympathy, as I have found by severall experiments: I could have prescribed many more, Multa credenduntur rationc experientiae, non quod videntur verae vi rationis.*

The various theological ways and means of dealing with witchcraft were far too complex for more than a passing allusion. One remarkable fact in this department of science deserves to be noted: "It is somewhat more difficult to conjure the devil out of one bewitched than out of one possessed, because in the bewitched he is double, in the other single." When all attempts at conjuration and exorcism failed, reasons were promptly provided in either case. It is no matter for surprise, too, that such efficient reasons formed a series of seven:

First, for that the faith of the standers by is naught; secondly, for that theirs that present the party is no better: thirdly, because of the sins of the bewitched: fourthly, for the neglecting of meet remedies: fiftly, for the reverence of virtues going out into others: sixtly, for the purgation; seventhly, for the merit of the party bewitched;"

and it need hardly be added that, with so formidable a barrier of excuses every failure could be effectively defended from vulgar attack.

Before closing our series of descriptive quotations, there is one taken by Scot from the very curious volume, *De Fascinatione*, by Leonhardus Vairus, which is, I think, worthy of the perusal of all who are interested:

But this gift and naturall influence of fascination may be increased in man, according to his affections and perturbations: as through anger, feare, love, hate etc. For by hate (saith Vairus) enboreth a fiery inflammation into the eye of man, which, being violently sent out by beames and streames, etc.: infect and bewitch those bodies against whom they are opposed. And therefore he saith (in the favour of women) that is the cause that women are oftener found to be witches than men. For (saith he) they have such an unbridled force of fury and concupiscence naturally, that by no means it is possible for them to temper or moderate the same. So as upon every trifling occasion, they (like brute beasts) fix their furious eyes upon the party whom they bewitch. Hereby it cometh to passe, that whereas women have a marvellous fickle nature, what griefe soever happeneth unto them, immediately all peaceablenesse of minde departeth; and they are so troubled with evil humours, that out go their venemous exhalations, ingendred thorough their ill-favoured diet; and increased by means of their pernicious excrements, which they expel. Women are also (saith he) monethly filled full of superfluous humours, and with them the melancholike blood boileth; whereof spring vapours, and are carried up, and conveyed through the nostrels and mouth, etc., to the bewitching of whatsoever it meeteth. For they belch up a certaine breath, wherewith they bewitch whomsoever they list. And of all other women, leane, hollow-eyed, old, beetlebrowed women (saith he) are the most infectious. Marry he saith, that hot, subtil, and thinne bodies are most subject to be bewitched, if they be moist, and all they generally, whose veines, pipes, and passages of their bodies are open. And finally he saith, that all beautiful things whatsoever, are soon subject to be bewitched, as namely goodly young men, faire women, such as are naturally borne to be rich, goodly beasts, faire horses, ranke corn, beautiful trees, etc.

The general belief in such phenomena as those of witchcraft, fascination, demoniacal possession, etc., was, in fact, shared by all in those ages except the very small minority, who, in a corresponding attitude in the twentieth century, would probably be designated as "cranks," but, in the more torrid mental atmosphere of Thomas Browne's day, were, whenever they ventilated their opinions, promptly branded as "atheists." In peculiarly troubled times, such as those of his generation, bewildered humanity has always tried to offer an explanation of the deplorable conditions which surround them, by attributing them to the activity of the supernatural agents of the Evil Principle. And let it not disturb the materialistic equanimity of the cocksure scientist of the twentieth century to have the fact indicated that strange coincidences do occur, which tend to keep alive the faith in the occasional interference of the supernatural powers in the course of matters mundane. Let the most accomplished astronomer and the most up-to-date geologist proceed, armed with charts and diagrams and lantern slides, to prove to the ruined Calabrian peasantry, whose earthly all has been submerged or wrecked by the recent earthquake, that there was no essential connexion between that catastrophe and the occurrence of the warning eclipse of the sun which had taken place nine days before, and I will confidently promise them that their scientific crusade will prove a complete failure. One of the specially vivid impressions of the boyish days of the present writer is that of the thrilling descriptions given by the devout Catholic peasantry of the West of Ireland of Donati's great comet, which formed so portentous a phenomenon night after night on the concavity of the heavenly vault during the winter of 1858-9. The prophetic reality of its significance was (to them) absolutely proved by the troubles which involved the head of the Church in a few months afterwards. The combined impression on the glowing Celtic imagination was sufficient, it was remarked, to give unrestful Ireland, in 1859, the only year of the nineteenth century in which it enjoyed freedom from "agitation"! In the winter nights of 1870, when the Prussian siege of Paris was in progress, there were seen on repeated occasions in the West of Ireland vast streaming *aurorae*, which actually covered the whole of the visible vault of the sky. No auroral phenomena of corresponding dimensions have been observed since that date, and aged spectators at the time declared with fervour that they had seen none such before.

The failure of Sir Thomas Browne to recognize the fallacies of witchcraft faith have been referred to as if that were a peculiarity of opinion. It should be remembered that twenty years before the occurrence of the trial at which he figured, the witch-finder, Matthew Hopkins, discovered (or invented) no less than sixty witches in one year, within the precincts of a single English county, every one of whom was executed. The efforts of the Inquisition gave slender results compared with these; the agents of that body were accused of having caused the burning of 30,000 witches in the course of 150 years, but their harvest included all Christendom. The Puritanical movement in Great Britain is said to have numbered among its triumphs the execution of nearly 4 000 witches in the period of twenty years which intervened between 1640 and 1660 (the date of the Restoration)! At Leith in 1664—the year before the Brow[illegible] were burnt [illegible] tive number of [illegible] Obares [illegible] quish the [illegible] Matthew Hop[illegible] amateur theologian, and declared that he based his judg-

ment regarding the truth of witchcraft on the direct testimony of Holy Writ. The eminent theologian of that day, Dr. Joseph Glanvil (1636-1680), is the most cogent of all writers on the subject of witchcraft, whose reality he strenuously defended against all comers; although he wrote very philosophically on the *Vanity of Dogmatizing*, and is believed by some to have anticipated Hume's famous *Theory of Causation* and—the electric telegraph! Henry More (1614-1678), the most eminent scholar, according to the testimony of many, in the English Church of his generation; and Ralph Cudworth (1617-1688), who was unquestionably its most eminent philosopher by far, were both staunch supporters of the orthodox superstition. So was the accomplished divine and classical scholar, Meric Casaubon (1599-1671); and the Calvinistic Richard Baxter (1615-1691), the author of the famous volume on *The Saints' Everlasting Rest*.

Pretty exactly a century after the earthly pilgrimage of Thomas Browne followed that of the Apostle of Methodism, John Wesley (1703-1791). This relatively mild exponent of Christianity steadfastly maintained to the end of his life that to give up witchcraft was to give up the Bible. His belief in its appropriate treatment was, it need hardly be added, correspondingly orthodox.

But not only were the orthodox theologians and philosophers thorough believers in witchcraft and witches, but even the most responsible, grave, and prominently-placed physicians. In fact the treatment of the effects of witchcraft was so frequently called for in medical practice that almost every therapeutist had his own favourite *demonagogue*. The herbalist authorities all notice some plants which were believed to be of special efficacy. And many practitioners employed powerful cathartic and antispasmodic remedies, on the supposition of their possessing specific powers in this department. Dr. Thoner, a high authority in the seventeenth century, extols the powers of the *mercurius vitae* in expelling praeternatural substances from the body. At the same time, he considers some special local application necessary to complete the extraction of the matter in which the *principium seminale* of the sorcery was lodged—for example, the bewitched bread or fruit given originally to the patient. In a case successfully treated by himself, which he reports with some display of honest pride, the local application employed by him was a cataplasm "*ex stercore maleficiati*." Dr. Mynsicht, whose famous *elixir* enjoyed a cosmopolitan reputation which extended over more than one century, cured various victims of witchcraft by means of asafoetida plaster. Two theories were advanced to account for the success of this application: that the devil thought himself insulted by the adoption of so loathsome an application, and abandoned the patient in scorn for the bad taste of the latter; or, that the dark-complexioned spirit, having quick eyes and ears, had also a sensitive nasal apparatus, and was induced to void the premises simply on account of the smell.

In the light of twentieth-century science, and in association with the recent discussion of Sir Thomas Browne's faith and practice, it is almost weirdly interesting to peruse the dissertation, *De Diaboli Potentia in Corpora*, of Friedrich Hoffmann, who may be regarded as the father of the modern theory and practice of medicine. This production was included in the collected edition of his works published by the author himself in 1747, 82 years after the date of the Browne witchcraft trial. The great Teutonic physician accepts in full the usual views of the demonologists: that the facts by which it was established were as reliably attested as any in history; that the devil notably rules in the atmosphere, where he can raise storms at his pleasure; that he possesses the power of creating insects; and that, in the case of the human organism, he is able to influence the animal spirits, and even the imagination, although he is unable to decipher our thoughts. In this connexion, Hoffmann takes the opportunity of displaying his high estimate of his sable majesty's intimacy with the facts of natural and physical science, based as it was on his prolonged experience: *summus opticus et physicus, propter diuturnam experientiam*. This epoch-marking physician paid special attention to the study of spasmodic diseases, and explained the genesis of a vast proportion, at least, of them by witchcraft influence. He regarded the witches pretty much as passive instruments, or transmitters, of demon power. Some of his illustrative cases are quaint indeed, as read in a generation of microscopic anatomy and microbic pathology. He tells us, for instance, of a woman who suffered from severe continuous headache from the date of her refusal to sell a calf's head to a reputed witch; and entertains no doubt that the suffering was an effect of the witch's malignant power of revenge. And an incident still more memorable in the history of the progress of human opinion was the publication, in 1775, by Antonius de Haen, one of the most prominent physicians of Vienna, of a volume *De Magia*, specially written in defence of the reality of the old and orthodox views of magic and witchcraft. This was 110 years after the witchcraft trial, at which Thomas Browne gave his expert testimony in favour of the same view; and an additional item of interest is added to the expression of opinion by the fact that de Haen is said to have been the first physician who systematically employed the *clinical thermometer* in the study of fever. This item of evidence alone proves that he was a man of progressive views and practice in some directions, especially in the domain of physical science, and not a mere fossilized conservative.

In presence of such a cloud of witnesses, who can accuse the great Norwich physician of either cruelty or ignorance?

I have now brought under the reader's notice some of the strange groupings of mental fancy-work and creations of luxuriant imagination by which contemplative man, in the ages which preceded the birth of modern science, endeavoured to puzzle out for himself the ever-present and ever-bewildering riddle of the universe. It had been well recognized that the principle of evil which infected the whole sublunar space included within the realm of its influence the mental and moral qualities of all dwellers on the face of our world. Plato's first man, in common with the privileged spirits which emanated directly from the Supreme Divinity, was admitted to the enjoyment of all knowledge. Man's present ignorance is an encrusting shell representing the deposits due to impure contact. Wherever it is broken off, the original enlightenment is allowed to appear; "all knowledge is but remembrance." The ill-mated union of matter and spirit produced all the evils of man's physical and mental existence. The spiritual emanations from the Divine Being of the Pythagorean and Platonic systems had the power of passing through all forms of matter without any appreciable opposition whatever. There would almost seem to be some unconscious—although self-inflicted—sarcasm in the adoption of the ἡ πέμπτη οὐσία by modern physicists as their ether, and their endeavour to explain previously-inexplicable phenomena by its agency as a medium. A closely-correlated item of satire upon the claims for the march of intellect, based upon the evidence of materialistic progress, is the adoption of the view of the atomic structure of matter, which is said to have been evolved from the inner consciousness of one Moschus before the date of the siege of Troy, and was certainly preached by Democritus and Epicurus, and sung by the philosopher-poet, Lucretius. The previously ultimate atoms having been badly shattered by the fusillade of twentieth-century "radiations," we are landed (in a backward direction) on a borderland between the physical and metaphysical domains, in which the spiritual *emanations* of the latter almost seem to dovetail with the *radiations* of the former.

The subtle spiritual emanations recognized in the grand old philosophic systems were, of course, luminous before they became obscured by contact with matter. The *anima microcosmi*, derived from the *anima mundi*, was the active agent in the conveying and maintenance of life and heat in all forms of the animal kingdom. It was the "vital spark of heavenly flame" which is so familiar to readers of Pope—and so seldom understood in his meaning. The *flame of life*, according to Plato, was continually burning in the left ventricle of the heart. Philip Melanchthon was thoroughly saturated with Greek philosophy; and he, accordingly, recognized that the *spiritus vitalis*, which presided over all the functions of life, with its special activity and characteristic heat-production, was continuously generated within the heart, and from the purest blood: therefore in the left side of the organ. The bond of spirit and matter was always destined to be a more or less galling one. And when Death set free the soul, it hastened to fly beyond the sublunar precincts when the recording angel saw no special reason to forbid. Some of the apostles of the Manichaean heresy displayed remarkable ingenuity, indeed, in their speculations in this connexion. The escaped soul was allowed to pass through the sun's rays, which washed away any adherent traces of earthly stain. On escaping beyond the range of the sublunar sphere, it regained its luminosity, and took up a temporary abode in the moon. From this transitory residence there was a monthly discharge towards the sun; hence the succession of the moon's phases! The sun was the seat of the second person of the Trinity; of the throne of the Redeemer, and his accompanying host of angels. After having passed the scrutiny of the latter, and

received the all-saving favour of the former, ratification was complete; and the saved soul was allowed to take up its eternal abode in the *Lux Zodiaca*. Such was the history of the "invisible light," with the doctrine of which Thomas Browne was so familiar in his day.

I will now express the concluding hope that I have not entirely exhausted the patience—or the interest—of my readers by the length of the story of the spirit, and the trinity, and the witchcraft, with the lore of which the learned atmosphere of Browne's generation was so thoroughly saturated as almost to exclude the light of the (physical) understanding. Yet a closer investigation may, perhaps, give the materialistic scientist more scope for modesty than he seems usually disposed to assume. If no hypothetical medium is now spoken of as the "invisible" light, it is none the less glaring a fact that the "potential" light of the twentieth-century physicist is the same mysterious fluid, whose vibrations are made the agency of its transmission. The assumption is as completely artificial in the one case as in the other. The physicist of the present day can no more *prove* his ethereal hypothesis of the transmission of light by transverse vibrations, than could Plato have proved the emanation of the human soul from the Divine essence and its perpetual drag in the direction of return. The only thing that has been established in either case is the adaptation of a theory to the explanation of the great bulk of the known facts, *not* to *all*. And now that the atoms, which were adopted from pre-Trojan hypothesis, and made to fit in so well with the mathematical and chemical physics of the nineteenth century, have been so badly shattered by the radio-active emanations of the twentieth, we find hypothetical entities of another dreamy idealist called out in order to be made the tenants of the newly-formed scientific pigeon-holes. There is, perhaps, after all, about as much circular as rectilinear movement in the progress of science; some would say even more in that of the human understanding.

If I have made this communication an exceptionally prolonged one, my sole motive—and, of course, my only possible justification—is the desire to contribute my mite towards the cosmopolitan tribute of admiration of one of England's most justly celebrated medical men. Much of the literature with which Browne's mind was saturated has been almost entirely lost sight of. Accordingly, his modes of thought and points of view can be appreciated only by those who have taken the trouble, or the interest, to make themselves familiar with such sources of forgotten lore as those from which I have culled the above rather chaotic collection. If I find reason to believe that I have aided the average reader who is desirous to form a just opinion of a true Christian, an earnest physician, and a high-minded philosopher, I will consider that the (already pleasant) labour expended in this task has been more than amply rewarded.

ENTRANCE SCHOLARSHIPS.

The competitions for entrance scholarships at the various medical schools in London have resulted in the following awards:

St. Bartholomew's Hospital.—At this school six exhibitions and scholarships to entrants have been allotted. Of these, Messrs. J. L. Joyce and R. Crawford gained the two Senior Entrance Scholarships in Science (each being of the value of £75). The Junior Entrance Scholarship, also in Science (of the value of £150), was divided between Messrs. K. Brewer and W. O. Dale; the Preliminary Scientific Exhibition (of £50) went to Mr. R. Pearse; the Jeaffreson Exhibition in General Education (value £20) to Mr. C. H. Prada; and the Shuter Scholarship (of £50) to Mr. R. B. S. Sewell.

Charing Cross Hospital.—The successful candidates at this medical school are Mr. E. G. H. Cowen, the Epsom Scholarship (of the value of 100 guineas), Mr. R. H. Harrison, the Livingstone Scholarship (also of the value of 60 guineas), and Mr. M. A. Parr, the Huxley Scholarship (of the value of 55 guineas). In addition two University Scholarships (each of 72 guineas) were awarded to Messrs. F. S. Poole and W. A. Powell, as well as two University Exhibitions (each of the value of 36 guineas) to Messrs. A. V. Poyser and J. P. Hornsey; finally, an open Entrance Scholarship of 40 guineas was won by Mr. M. B. Bayley.

St. George's Hospital.—Two Entrance Scholarships in Anatomy and Physiology have been awarded at this school, one of the value of 70 guineas going to Mr. A. G. Atkinson and another of the value of £50 being won by Mr. G. D. H. Carpenter.

Guy's Hospital.—The Senior Science Scholarship for candidates from the universities has been allotted to Mr. C. G. Douglas, B.A., late of Magdalen College, Oxford; it is of the value of £50. A certificate in connexion with the same competition was also awarded to Mr. H. G. Chapple, B.A., late of St. John's, Cambridge. Of the two Junior Science Scholarships, the first, value £150, was won by Mr. A. E. Duvivier, while the other, of the value of £60, was divided between Messrs. T. D. M Strut and A. Neville. The winner of the First Entrance Scholarship in Arts, of the value of £100, was won by Mr. H. L. Hopkins, of Owens School, Islington, and that of £50 by Mr. A. H. Todd from Sherborne School. In the competition for the Entrance Scholarship in Dental Mechanics, of £20, Messrs. E. J. Archer and W. E. Guilding were declared equal.

King's College.—At the medical school of King's College Hospital, the Epsom Scholarship, conferring free tuition, was won by Mr. H. L. Burton; while the Medical Entrance Scholarship, confined to the competition of candidates from the universities, and of the value of £50, went to Mr. J. S. Owen. The successful candidates for the two Warneford Scholarships (each of £100) were Messrs. A. L. Burke and R. H. Hodges. Finally, the Sambrooke Exhibition in Science, likewise of the value of £100, was won by Mr. H. M. Burke.

The London Hospital.—At the medical school of this hospital the three Price Science Scholarships have gone respectively to Messrs. George Taylor, E. C. Lindsay, and T. W. George; the first is of the value of £120, the second of £60, and the third of £25. The Price Scholarship in Anatomy and Physiology, which is only open to candidates from the universities, went to Mr. M. W. Flack, of Oxford; its value is £60. Of the two Buxton Entrance Scholarships in Arts, the first, of the value of £30, went to Mr. E. Clouston, and the second, of £30, to Mr. C. W. Wilson. For the Epsom Scholarship the successful candidate was Mr. G. V. Bakewell.

St. Mary's Hospital.—At the medical school of the hospital there are four Open Scholarships in Natural Science, of the value of £145, £78 15s., £52 10s., and £52 10s. respectively. On this occasion the competition resulted in Messrs. T. Hare and D. Scurlock being declared equal, so the two first scholarships were equally divided between them; while the two 50 guinea scholarships went to Mr. J. Menzies and Mr. A. G. H. Lovell. Two University Scholarships, competitors for which must be graduates from universities, were also awarded, one to Mr. A. Hamilton, of Christ's College, Cambridge, and the other to Mr. R. Knowles, of Downing; each is of the value of £60.

Middlesex Hospital.—Four scholarships open to new entrants have been awarded at the medical school of this hospital. Of the two entrance scholarships, the first, having the value of £100, was won by Mr. F. W. Hamilton, and the second, value £60, by Mr. H. Rountree. The successful candidate for the Freer Lucas Scholarship, which confers free tuition, and is open to those who have been educated at Epsom College, was Mr. W. H. Eggar, while the University Scholarship went to Mr. W. H. F. Eales.

The Royal Free Hospital.—At the London School of Medicine for Women which is attached to this hospital, the St. Dunstan's Medical Exhibition was gained this year by Miss H. M. Hood Barrs. Its value is £60 a year for either three or five years. The successful competitor for the School Scholarship (value £30) was Miss G. M. Dobrashian.

St. Thomas's Hospital.—At this medical school the scholarship open to candidates from the universities was won by Mr. G. R. Girdlestone, of New College, Oxford. The other entrance scholarships at the school were not awarded at all, the work of none of the candidates being deemed to be up to the requisite standard of merit.

University College Hospital.—The winner of the Bucknill Scholarship of £30 for four years in the medical school connected with this hospital was Mr. E. E. A. Rigg, of Victoria College, Wellington, N.Z. Of the two Exhibitions of £80, the one went to Mr. F. J. F. Barrington, of the Grammar School, Lynn; the other was equally divided between Messrs. J. R. C. Canney, of Christ's College, Cambridge, and J. Lewis, of University College, Cardiff. Two Exhibitions of £60 each were also allotted, one going to Mr. G. E. Shattock, of University College, London, and the other to Mr. C. J. Rogerson, of Brighton Grammar School.

Westminster Hospital.—The successful candidates for scholarships open to entrants to the medical school attached to this hospital were Messrs. R. Spence, S. Hoyte, A. J.

Hicky, and L. Harwood. The first won the Epsom Scholarship of 110 guineas, the second the Natural Science Scholarship of £60, the third a Scholarship in Arts of the value of £40, and the fourth a Dental Scholarship of £20.

The International Congress on Tuberculosis.

[From our Special Correspondents.]

The Work of the Sections.

The Congress, following the lines of the British Congress held in London in 1901, was divided into four sections, and each was placed under the presidency of a special well-known member of the Faculty of Paris, and had its secretaries. The first section dealt with medical pathology, and further included therapeutics. At the opening of the proceedings on Tuesday, October 3rd, before the President (Professor Bouchard) called for the first paper, Dr. A. Marmorek proposed that as the section was overcrowded, and had such a long and varied programme before it, it would be advisable to make a subsection to deal with therapeutics. After some opposition and hesitation the matter was pushed by the majority present, and finally carried. The subsection, however, did not commence its independent deliberations until the following day.

Koch's Bacillus and Para-Tubercle Bacilli.

The morning of the first day was devoted to the discussion of the relations of the bacillus of Koch and the para-tubercle bacilli. The early speakers did not adhere strictly to the subject, but went into discussions of the general characteristics of acid-fast bacilli. They failed to elucidate any new biological points. Courmont spoke of the variations of Koch's bacillus. He found marked differences between the ordinary chromogenic bacilli and his homogeneous type. The majority of German and French bacteriologists, however, seem to be of opinion that the homogeneous bacillus of Arloing and Courmont are in reality para-tubercle bacilli. Cantacuzène gave an interesting paper, which was well received. He dealt with the peculiarities of the Timothy grass bacillus. The young forms are not acid-fast but are easily recognizable. This recognition of young form appears to be a generally-accepted fact at present, and here we notice a change in views during the past year or two. Another point of interest in his paper was the demonstration that the guinea-pigs infected with Timothy grass bacilli are as susceptible to tuberculin as are guinea-pigs which have received Koch's bacilli. The last paper which should be mentioned in this discussion is that of Dr. Lydia Rabinowitsch. She pointed out that there are no constant differences between the mammalian, avian, and cold-blooded tubercle bacilli as far as their tinctorial and morphological properties are concerned. The only cultural differences between the human and bovine tubercle bacilli rest in the experience that the latter are in general more difficult to grow, and develop more slowly. At times, however, the reverse condition is met with. Although some cultures of mammalian tubercle bacilli behave precisely as avian tubercle bacilli do as a rule, there are marked differences between these two groups. Cold-blooded animal tubercle bacilli grow best at much lower temperatures than do the other forms. She distinguished a human and a bovine type of the mammalian tubercle bacillus. Guinea-pigs are equally susceptible to both, but rabbits are more susceptible to the human than to the bovine form. Avian tubercle bacilli are pathogenic for all birds. She mentioned the degree of virulence which this form of bacillus possesses for various animals. The causal organism of cold-blooded animal tuberculosis is, as a rule, non-pathogenic for warm-blooded animals, and the converse also holds good. As a rule, the humanus type is found in man, but occasionally in children the bovine is met with. It is possible that after prolonged sojourn in the human organism it may become transformed into the typus humanus. In oxen one mostly meets with the bovine type. Occasionally one sees avian bacilli in pigs and horses. Monkeys are mostly infected with the human type, but bovine infection and rarely avian have been met with. Birds may be infected with all three kinds. The parrot and canary are the only kinds in which she has been able to determine an infection of mammalian origin. Mice and rats are susceptible for avian tuberculosis, and may be regarded as the carriers of this infection. The three types have common agglutinating properties, and also common tuberculin sensibility. Also, as far as the immunity processes are concerned, the three act as members of one group. She therefore regards all these forms as varieties of one kind, and explains their differences as being due to the adoption of a peculiar host. This paper met with general approval. In the afternoon a number of papers were got through. For the most part, it required a very patient man to sit quietly listening to all that was said, and it was first during this afternoon session that one noticed a restlessness and wandering spirit on the part of many congressists and an inclination only to look in at the sections and to hold conversations at the back of the rooms. And it must be said that not only were a large number of the papers merely redished from former occasions by their authors, but also many were on the same subject, and expressed in other words the same views as those preceding and as those following. Maurel said that the safest means of gauging the virulence of tubercle bacilli is by directly observing the protective attempts made by the leucocytes. Jousset attempted to strike out a new line by calling attention to the condition of tuberculous bacillaemia. The subjects principally dealt with at this sitting were the hereditary influences and the nutritive and metabolic changes.

The Early Diagnosis of Tuberculosis.

The third session was started with the discussion on the early diagnosis of tuberculosis. The three papers introducing this subject were by Drs. Achard, Mariani, and Theodore Williams. They were printed in the volume of *Rapports*, and were taken as read. Achard thinks that auscultation and the study of the inspiratory anomalies remain the basis of diagnosis. One can, however, call on other means of assisting to a diagnosis. Among the methods which he mentions are radioscopy, cytodiagnosis, inoscopy, tuberculin reaction, and agglutination. Urinary changes, chemical respiratory changes, etc., are not to be relied on at present. Mariani dealt with inherited and acquired predisposition, and describes each point separately. Among the physical signs, he mentions spirometry, radioscopy, and auscultatory changes after injections of iodate of potassium and of tuberculin. Dr. Theodore Williams paid a warm tribute to Laënnec, and believed that auscultation still remained the most reliable means of diagnosis. He spoke further of the value or uselessness of *x* rays, bacteriological examination, tuberculin injections, the diazo and dimethylamidobenzaldehyde urine tests, and agglutination reaction. The first-named three methods are of use, but he fails to recognize the last three as means of diagnosis. In the discussion Turban, of Davos, supported all that Theodore Williams had said. He, however, did not consider radiography of value. Arthaud followed and Rualt spoke of a method of palpation of the apices, which he regarded as an advance. Replying, Mariani dwelt on a method of dealing with the urine. This has to be concentrated in the cold, dialyzed, and then tested for tuberculin, antitoxin, and agglutinin. This may be of prognostic as well as diagnostic value. Dr. Williams demonstrated Laënnec's original stethoscope. Achard also spoke. After these deliverances, a number of authors spoke on the serum diagnosis of tuberculosis. This was to be expected, and only those who had not read the literature of the last eight years and who had not attended Congresses were in the least interested. A new study was introduced by A. Robin, who demonstrated an apparatus for determining the chemical changes of the respired air. He contends that in phthisis the respiratory changes are increased from 25 per cent. to 80 per cent., and that while this increase may be observed in other conditions, such as typhoid fever, influenza, etc., it may be distinguished when affecting tuberculous subjects. It appears to be a form of manifestation of the attack of the bacillus or a reaction of defence. Without paying minute attention to this subject, and studying it for some time, it is naturally impossible to deliver oneself as to the probabilities of the value of the procedure; but all those independent observers who were in a position to form an idea, and with whom I was able to speak on the subject, doubted if this work would assist the diagnosis of phthisis. It therefore appears that as far as the early diagnosis is concerned we are in precisely the same position as we were in 1901, when the London Congress was

held. The occasional difficulty of diagnosis was well exemplified in a case described by Professor von Schrötter of Vienna. The case was diagnosed during life as one of pericarditis due to a sarcoma of the mediastinum. *Post mortem* it proved to be one of tuberculosis of the glands, dipping down below the left clavicle, and inducing a simple but enormously extensive pericarditis with effusion. Ostrovsky, on behalf of Moeller, Loewenstein, and himself, spoke of a new method of applying Koch's tuberculin, which had given very good results in a long series of cases. This method depends on the employment of very small doses, and has the advantage of not producing the noxious effects which the ordinary injection of tuberculin brings with it at times. During a discussion as to the importance of *x* rays in the diagnosis of emphysema Beclère spoke in favour, and much surprise was manifested when Barré rose and excitedly denied the usefulness of radioscopy. He made a fierce personal attack on the previous speaker, and, when a third person intervened, included him in the argument. The President attempted to pacify the interposer, and, as he signally failed, ruled that conversational discussion could not be admitted.

Mixed Infections in Tuberculosis.

On Wednesday afternoon the subject chosen was the mixed infections. Ravenel spoke of multiple injections accompanying tuberculosis, and others speakers dealt with the combina- of alcoholism, syphilis, typhoid fever and other diseases, and tuberculosis. Bouchard and Balthazard read an interesting paper on the study of the heart in tuberculous subjects, as determined by Roentgen rays. They found that in the first and second stages the heart is smaller than normal, and therefore this smallness may be taken to be one of the characteristics of the tuberculous diathesis. In the third stage the heart increases above the dimensions of normal; this is due to a hypertrophy, and dilatation does not play any part. The enlargement takes place in response to a hypertension of the pulmonary circulation. On Friday, the subjects for discussion included tuberculosis in exotic countries, pregnancy in connexion with tuberculosis, and other special conditions complicating tuberculous infection.

New Methods in the Treatment of Lupus.

The therapeutic discussion on new methods of treating lupus was undertaken by Jeanselme and Chatin and by Lesser. The former dealt with phototherapy (Finsen), which can be successfully applied in small localized untreated patches of lupus vulgaris; radiotherapy, which has many advantages over the Finsen treatment, and should be applied first; high-frequency currents, which are also at times useful, while the older methods must not be neglected, especially the scarification with the actual cautery. Lesser finds that Finsen treatment leads to better cosmetic results than any other treatment. Roentgen rays are also of great value.

Serumtherapy of Tuberculosis.

On Friday afternoon a large number of members gathered in the therapeutic section, to hear the discussion on the serum-therapeutic remedies. At the outset, it was clear that those in authority were disinclined to allow certain papers to have a prominent place, and much disorder followed the announcement by Bouchard that the discussion on the treatment of lupus, which had not been completed in the morning, would first be continued. It was pointed out by Marmorek that the programme had been made out for serumtherapy, and that as a number of members had come specially there to read papers on the subject or to listen to them, it was reasonable to require that the programme should be adhered to. After a somewhat heated discussion the announcement was made that the discussion of the lupus treatment would be continued in another room, and Dr. Bouchard vacated the chair and was followed by about six gentlemen specially interested in the subject of lupus. Thus some time was wasted. Then one or two unimportant papers were interposed, the first paper of real interest being that of Beraneck, who described a new tuberculin. This is composed of two parts; the first he calls TB (toxin bouillon), and is gained from a bouillon culture, the medium having a special composition, and consists only of the metabolic products of the bacilli; the second consists of extracts of the protoplasm of the bacilli and represents an albuminous material. He calls this AT (acid toxin). The mixture of these parts is little toxic, and acts bactericidally *in vitro*. It possesses a curative and a preventive action both to the guinea-pig and to man. The latter action is the better marked in the guinea-pig. Guguillère also recited the manufacture and application of another new serum, which he believed to be curative. Marmorek next spoke of the results gained up to date with his serum. This has now been introduced two years, and in response to his invitation numerous clinicians have given it a trial in cases which are chiefly advanced. All forms of tuberculosis have been treated by its means, and in all eighteen observers have published their results. Nearly all these have been favourable. The action in pulmonary tuberculosis, which forms the majority of the cases, is manifest and specific. The fever recedes rapidly, either by crisis or by lysis; dyspnoea also lessens rapidly. The expectoration at first increases, but soon diminishes and the number of bacilli becomes proportionally less. The disappearance of all physical signs had led some authors to speak of cure in a number of cases, but Marmorek does not press this, being contented to consider that the disease is arrested or markedly ameliorated in 75 per cent. He claims that the proper administration of the serum is free from all danger, and discusses certain technical details of its employment. Levin of Stockholm gave his experience of this serum. He spoke of the manifest capabilities of the serum in curing tuberculous ulceration; 14 out of 18 cases were thus successfully treated. His material consists of 156 cases, and the results obtained were extremely good, considering that 75 per cent. of the cases were advanced. In pulmonary disease he obtained a result of considerable improvement in 46 per cent. In conclusion, he finds that Marmorek's serum has opened out a new field in the treatment of tuberculosis. Stephanie also gave a favourable account. Schwartz detailed the results of the treatment of a case of traumatic tuberculosis of the eye, in which one could watch the rapid curative effect of the serum in a most convincing manner. He also spoke of the results of ulcerative tuberculosis of the larynx. These, too, were strikingly good. Veillard and Dubard also spoke in favour, and Habershon said that although they had scarcely given Marmorek's serum a fair trial at the Brompton Hospital, he was certainly favourably impressed with its action. The discussion lasted till about one hour after the usual time for rising, and thus the attempt on the part of some of the members of the Committee to interfere was in vain. Among other papers dealing with the so-called specific treatment of tuberculosis may be mentioned Dewar's intravenous injections of iodoform. He claims a specific action for this method of treatment in early cases and gives an account of the possible methods of action of the iodoform. These include a direct germicidal action, an excitation to microphages and macrophages to aid phagocytosis, and, lastly, the substance may undergo decomposition, and nascent iodine may be split off, and this "I" may form new iodo organic compounds, capable of exerting direct action on the bacteria. Tuberculin treatment of tuberculosis was also the subject of some papers, but nothing new transpired.

Metabolism in Tuberculosis.

At the last session of the first section, the papers dealt chiefly with metabolism in tuberculosis. Among numbers of other papers read before this section, mention may urther be made of the following:—Lorand, on the insufficiency of the thyroid regarded as an etiological factor in the pathology of tuberculosis; Favreau, on the powder therapy of tuberculosis of the respiratory passages: Canu, on phagocytic action in the tuberculous: Denys, on the bouillon filtrate in the treatment of human tuberculosis; and Landuzy and Labbé on the chlorotic form of tuberculosis.

Forms of Tuberculosis.

In the second section, the *Rapports* dealt with the comparative study of the various forms of tuberculosis, ileo-caecal tuberculosis, surgical intervention in tuberculosis of the meninges and traumatism and tuberculosis. Taken as essays by capable exponents, these *Rapports* were of great interest, but practically all that was said had been heard before, and had been put by other authors just as forcibly.

An Antituberculous Serum.

The President of this section was Professor Lannelongue, and he was, further, the author, together with Achard and Gaillard, of a paper on some attempts to produce an antituberculous serum. They explain the mode of investigation, and conclude by saying that while the serum of animals which they have accustomed to injections of a toxin extract

appears to have some curative power, they are not justified in regarding the action as a specific one. Beranek did not miss the chance of communicating to this as well as to the first section on his serum, and received the support of Dr. Roux of Lausanne. Cuguillère also spoke on his serum. The next series of papers dealt with tuberculous lesions of bone and their treatment, and here we note that merely an expression of opinion, rather than conclusive proofs of clinical or pathological facts, was in evidence. The same may be said of the discussion on the tuberculous lesions of the intestines and genital organs, but the general tone of the communications was instructive, and the interposed remarks assumed the nature of true discussion. Perhaps this was to a great extent due to the presidency of Lannelongue, who not only frequently took active part and lent interest to the debates by his excellent remarks, but also stimulated others to put their views briefly before the meeting. Nevertheless, the habitual Congress-man was just as irrepressible here as elsewhere, and nearly succeeded in spoiling many of the discussions. Surgical treatment and local therapy for laryngeal and other forms of tuberculosis were the subjects of many papers, and yet, in spite of the wealth of new remedies, one has not gained the impression that even surgical tuberculosis can be more effectually dealt with now than a few years ago. Among the names of some of those speaking may be mentioned: Villemin, Castex, Ombredanne, Rollier, and Lardennois.

The results of the deliberations of the two sections combined was expressed by resolutions which were proposed at the closing *séance* and accepted. The first was to the effect that public authorities should take the necessary precautions to avoid contamination of man by bovine bacilli; it is dangerous to rely on Koch's statement as to the differences of bovine and human bacilli, since it is accepted that the two are of the same origin. The milk should be either sterilized, pasteurized, or boiled, or obtained from a tuberculin-tested cow. The wish of the second section alone was that there should be special hospitals and other institutions in the outskirts of large cities, especially for the treatment of surgical tuberculosis.

The Rôle of Sanatoriums and Dispensaries.

In Section IV (Social Hygiene. Preservation and Assistance to the Adult) one of the most interesting subjects under discussion was The Rôle of Sanatoriums and Dispensaries in the Struggle against Tuberculosis. MM. Courtois-Suffit and Laubry (of Paris) called attention to the fact that in France, without denying the importance of the sanatorium in the antituberculosis campaign, opinion is not nearly so affirmative and favourable as in Germany, and many leading physicians consider that the results obtainable by this means are not in ratio with the sacrifices demanded. The reporters say that in constructing a sanatorium society must only think of the humanitarian side, without seeking to draw any benefit from its generosity. As to dispensaries, which are created rather to make up for the insufficiency of the sanatorium than to assure recruits for it, they also are a form of assistance in which the humanitarian side outweighs the social, and have the same fault of requiring a large amount of funds. The dispensary should not be an establishment for cure, but rather for preservation, rest, and regeneration. The popular sanatorium should not be looked upon as the principal weapon in the fight against tuberculosis. This idea must be abandoned for (*a*) theoretical reasons: it does not take into consideration the true nature of tubercle, which is less an infectious disease than a social fact; on the other hand, it misrepresents its curability, which only exists in a very exceptional manner, under certain conditions and subject to much reservation. (*b*) Reasons of fact: the attempts which have been carried out, in an isolated manner in France, on a vast scale in Germany, have not been followed by immediate or remote results which can compensate from the social point of view for the enormous sacrifices they demand. Their prophylactic rôle is illusory, and their therapeutic and utilitarian rôle, if not by cure, at least by the restoration of power to work, is very doubtful, depending on the natural evolution of the disease and the progression of the patient. Their existence is justified by their humanitarian side. Sanatoriums can only persist and work fruitfully when social measures shall have changed the life of the masses, and sanitary legislation shall have assured them more air and light. These sanatoriums should be built with the least luxuriousness possible, and be reserved for candidates for tuberculosis—in fact, be sanatoriums for preservation and not for cure. The great mass of confirmed tuberculous patients should only be housed in isolation hospitals. The same idea should predominate in the installation and working of the dispensaries for tuberculosis.

In his report Dr. Bang of Silkeborg considers sanatoriums necessary if rightly understood. He defines them as establishments where poor tuberculous patients get good food, rest from fatigue and worry, personal discipline, and a hygienic education. The poor man, unlike the rich, cannot get those advantages in his home. As to the results obtained in Danish sanatoriums, without being as brilliant as those in corresponding German statistics, and although the stay in the sanatoriums is not three months, but, on an average, nearly six, they are worthy of interest, especially as they concern patients admitted in a more advanced condition than elsewhere, and to merit the diagnosis of "relative cure" there must be complete disappearance of every râle, of bacilli, and of all other morbid symptoms. With this severity in appreciating the cure of patients, the statistics of Boserup relating to indigent patients shows that three years after treatment 58 8 per cent. are fit for work. In Denmark it is not considered that sanatoriums are sufficient to alone fight tuberculosis. With State aid, hospitals for tuberculous patients are to be started, destined partly for grave cases and partly to serve as eliminating establishments for patients in whom the prognosis is for the time uncertain. A certain number of those cases improving will later be admitted to sanatoriums, while hopeless cases will as long as possible have the hope of in their turn being able to follow the former. In this way is avoided the inhuman character of establishments destined exclusively for despaired-of cases. For chronic cases, incapable for a long time for work, tuberculous asylums should be established, and, finally, to complete the sanatorium, convalescent establishments are to be created, where patients, on leaving the sanatorium, will be able to still stay some months, and in which they will be gradually accustomed to their usual life and made to work, their labour being carefully regulated, as has been done for the last two years in the sanatorium of Silkeborg during the last few months of the patient's cure.

M. Beco, in his report, considers that the dispensary, from its prophylactic point of view, should, without doing away with its mission of assistance, constitute more especially an educative organ. Under a single medical head, its objective should not be to institute treatment but to hunt out the patient—the pretuberculous subject especially—to give him the best indications for preserving his own health and to assure the preservation of his family.

In the lengthy discussion which followed about thirty members took part. Dr. Espina y Capo said that the tuberculosis question was a question of money, and for this reason dispensaries would be of the greatest service to the poor patients. Hygienic education against tubercle should begin in primary schools. Dr. Kaiserling says that in Berlin patients are divided into two classes—infected and infectious. He gave statistics of the results obtained in Berlin dispensaries and the means of assistance they utilize. M. Otto spoke of the working of the Marseilles dispensaries which give food especially, and although the amount distributed is restricted, excellent results have been obtained. Dr. Knopff (of New York) says that in that city besides distributing food to poor patients, dispensaries can admit the dangerous patients into hospitals. Dr. Philip (of Edinburgh) considers that too much importance is given to sanatoriums. He asks for the creation of a public health department.

M. Romone says that sanatoriums are expensive, but their importance remains. The popular sanatorium is only possible with compulsory assurance.

Dr. Bielefeldt contests the conclusions of the report of MM. Courtois-Suffit and Laubry, and insists that the statistics of sanatoriums are most encouraging. After the discussion the following resolutions were passed:

1. The degree of utility or of necessity of dispensaries and sanatoriums according to the institutions, customs, and resources of each country may be open to discussion, but they must be recognized in principle. It is agreed that they constitute a means of fighting tubercle which is by no means exclusive or predominant.

2. Dispensaries open to all, have as their essential aim, prophylaxis, hygienic education, and at the same time assistance. They can, moreover, be a valuable source of information.

3. Sanatoriums are hospital establishments reserved for

pulmonary tuberculous cases susceptible of definite cure or of durable amelioration. They are likewise instruments of prophylaxis and education. The problem of the healthy dwelling will always dominate the prophylaxis of tuberculosis.

It is important that a similar plan should as much as possible control the working of these establishments. While keeping their autonomy and their liberty, they can but gain from being in relation to one another and with concomitant institutions of hygiene or aid societies (laboratories, bacteriological institutions, hospital or relief administrations, anti-alcoholic leagues, mutual aid and assurance societies, committees of salubrity, various antituberculous societies, and with the medical profession, etc.).

4. As desiderata to be realized concurrently with the development of dispensaries and sanatoriums, the Congress points out the necessity of certain reforms:

(1) To the Assistance Publique, which should take on a more preventive character and be more occupied with hygiene than it is.

(2) To the Friendly Societies, whose rules should be directed towards the more rational application of providence and of hygiene.

Sickness Assurance and Tuberculosis.

An interesting discussion took place on insurance among the working classes against illness and invalidity resulting therefrom. Privy Councillor Bielefeldt in his report described the system in Germany, where he considers that among all the factors in the fight against tuberculosis the compulsory insurance among the working classes holds the first place. From 1885 to 1903 these insurance societies have distributed a sum of nearly 1,118 million marks in aid to the sick, to their families, to women in labour, etc. From 1891 to 1903 815 million marks have been given out in pensions, in relief for sickness or invalidity, etc. The pecuniary aid to the workman who is incapable of work or who has lessened wage-earning capacity and to his family provides them with necessary material conditions of existence which prevent them from dying and from becoming a prey to tubercle from insufficient nourishment. Alongside these general results from this insurance in Germany it is necessary to bring forward the special reasons taken for the cure of tuberculosis. The insurance societies against invalidity and disease and the placing of tuberculous patients in sanatoriums must now be considered. From 1897 to 1904 101,806 patients with pulmonary tubercle have been sent for treatment during 7 687 803 days, which represents a total cost of more than 35 million marks. Of this number 83,000 were sent into special establishments for tuberculous patients, and 9,000 to the most renowned seaside resorts in Germany and abroad. The results of the treatment have answered all expectations. From the annual calculations, and in spite of the strictest care in calculation, it is found that for 100 cases treated during the years 1897-8-9, and 1900, there remained respectively 27, 31, 32, and 31 who were still capable of working after five years without having required aid for invalidity. The insurances against disease and invalidity render marked services in preservation against tuberculosis. By lectures and leaflets the necessary etiological and prophylactic notions are disseminated. The insurance societies have expended more than 211 million marks in sanatoriums and other institutions, and more than 133 million marks for the construction of workmen's dwellings, etc. The tuberculous death-rate in Prussia in 1886 was 88 283; in 1892 it was only 65,726. In German towns of more than 100 000 inhabitants the mortality in 1886 was 37 36 per 10 000, while in 1902 it was only 22 per 10 000. From observations in Germany it appears that this happy result is due especially to compulsory workmen's insurances, which allows of the simultaneous action of all the factors in the fight against tuberculosis.

M. Edouard Fuster, as the French reporter, considered that measures of general prophylaxis taken by the public authorities, as well as medical attendance and assistance to incurables, should be completed by workpeople insuring against disease and invalidity resulting therefrom. This insurance should not only guarantee indemnities but should before everything aim at being preventive. Moreover, it should become promptly generalized, and, if need be, have recourse to compulsory powers. The partisans of social insurance go, without success moreover, so far as to ask, like M. Mirman, for the organization of Government pensions without the workmen concerned giving any contribution, or, at least, like M. Vaillant, for a régime under which the employers and the State would bear all the cost; and as a transitory measure for the assimilation of tuberculosis to accidents of work, and at the charge of the employer. Germany supplies a real example of workpeople's insurance applied to invalidity, and notably to tuberculosis. This has greatly contributed to prevention, but among its other faults the method of estimating the degree of physical incapacity for work introduced abuses which French customs would only aggravate. The proposed French law on pensions has chiefly as its object old-age pensions. The situation of widows and orphans, and especially that of early invalidity is, however, more worthy of interest. Without avoiding the drawbacks referred to with regard to Germany, the proposed law does not, however, assure to the invalid a sufficient protection. Moreover, it neglects prevention, and it excludes the employment of capital. It imposes on the State, on the working man, and on the employers such sacrifices that the organization of other methods of insurance or prophylaxis would be hindered for a long period. The legislation might organize old-age pensions, completing this reform by an insurance payable at death, but it would be better to separate the insurance of invalids from the proposed law, the latter forming part of a more general scheme for insurance against illness. Immediate needs would be covered by the two suggested laws. This separation presents two dangers, inasmuch as insurance against disease and invalidity have already been started by the Friendly Societies. Mutual aid societies, by their elasticity and educational character, offer real advantages in the eyes of the hygienist. They themselves have an imperative interest to fight against tuberculosis. For this end they should change the method and exercise a preventive action by means of education, inspection of dwellings, and early treatment. State-aided compulsory scholastic mutuality, united by young men's associations to the societies for adults, should become the principal weapon in the fight against tubercle, while at the same time it offers the easiest solution of the problem of pensions. As for assistance to adult consumptives, it could be organized by united societies. Reinsurance funds against prolonged diseases, especially tuberculosis, should be encouraged and receive help from other special antituberculosis undertakings such as dispensaries. It is, moreover, the organization of these unions which will render possible a fuller solution of the problem of invalidity. Societies which insure against sickness should for this purpose receive material encouragement. The benefits of the institution might later on be generalized by compulsory membership. Mr. Charles H. Garland, Chairman of the National Association for the Establishment and Maintenance of Sanatoriums for Workers Suffering from Tuberculosis, also presented a report, in which he said that very little consideration had yet been given by British insurance companies or Friendly Societies to the question whether they would derive financial benefit by the reduction of their liabilities should they allocate some of their funds to the curative treatment of their policy-holders and members suffering from tuberculosis, or to general preventive work by educational means. Such material as it was possible to collect did not prove that insurance companies would be justified in expending money in curative treatment of their policy-holders, as there would be no chance of reimbursing themselves from the additional premiums paid during the period of the prolongation of the policy-life which would result. But there would probably be ample justification for the utilization of their agents as educational propagandists, and the cost of printing leaflets and cards, etc., to assist the agents in this work. For Friendly Societies and Trade Unions paying sick benefits the case was different. Returns, and calculations based thereon, showed that in the Ancient Order of Foresters a consumptive member cost the Society £14 more in sick pay than other invalids, whilst returns from the Hearts of Oak Benefit Society showed that consumptive invalids cost £17 17s. more than other invalids. If the curative treatment of these consumptives were undertaken by the societies at an estimated cost of £16 per invalid, it was probable that the amount of sick pay drawn by them would be reduced to the level of that of other invalids, or even below. There seemed, at any rate, ample justification for the societies engaging in the experiment of curative treatment of their consumptive members without serious risk of financial loss and with some hope of financial benefit. Legal power for this experiment was already in their possession on the condition that they claimed it in their rules. Prompted rather by the general desire to benefit their members than by any demonstrated money gain, a movement was already afoot among

Trade Unions and Friendly Societies for the purpose of erecting and maintaining sanatoriums for the use of their members suffering from tuberculosis, and excellent progress was being made. Much had also been done already in the matter of educational work in the methods of prevention. It was hoped that the experience of this movement, when practical results began to emerge, would afford convincing evidence of benefits, both financial and social, and would lead to such a large development of the work that it would be possible to erect and maintain many sanatoriums for the use of members of Friendly Societies and other benefit organizations.

The discussion which followed was largely of a social nature.

M. Milleraud remarked that in the actual condition of affairs it would not be possible to centralize all the forms of insurance in France as had been done in Germany. France should take inspiration from Germany and make an effort to employ her capital in works of preservation. It was important to facilitate the use of capital furnished by workpeople and employers in social works. That this capital should be utilized to the best interests of those concerned, a necessary precaution would be to interpose a responsible person and take guarantees for their repayment. For this reason the mutual aid societies would benefit by combining to play this rôle between the State, which takes the responsibility of the insurance and the individual to be guaranteed.

M. Mabilland stated that it had been proposed to demand of the working man for his old-age pension a sum which represents 2 per cent. of his salary, which is a considerable amount, and enough to drive people away. To avoid this all insurance societies should be centralized. This insurance for old-age pensions will not interfere with the other forms of insurances, as it will be possible then to judge of the proportion of each form. Why should not the existing insurance against disease be associated to one against invalidity? Local groups of mutualities should be formed in view of the insurance against invalidity. The existing mutual-aid societies should be grouped and controlled by the State to mature this problem. The question of invalidity should be separated from the old-age problems. Mutualities must not be asked for capital to found sanatoriums, etc.; this belongs to the Government.

It was finally voted that: "It is desirable that invalidity, which in the majority of cases is only a prolonged disease, should be protected by the same insurance organization as disease itself." "It is desirable that the insurance shall be promptly generalized so as to reach the poorest classes."

Dr. Newsholme (Medical Officer of Health for Brighton) made a very suggestive report on the connexion between the treatment of consumption as in-patients in general institutions and the reduction in the tuberculosis death-rate. He said: Improvements in food and hygiene have certainly lowered the general death-rate, but cannot sufficiently explain the decrease in the mortality from consumption. Isolation of consumptives in sanatoriums and other special institutions, which was brought in as a therapeutic measure, has recently been considered as a probable cause of the reduction in the tuberculosis morbidity. Up to the present these measures have not been applied long enough now on a sufficiently large scale to exert an appreciable influence on national statistics. The help afforded to consumptive paupers has been partly outdoor or domiciliary and partly indoor or institutional. In some countries assistance of this kind has been rendered on a big scale for philanthropic or social motives without its being considered as a capital preventive measure. The statistics we dispose of at the present time to study the connexion between the help afforded to paupers and the prevalence of tuberculosis are far from being complete. They seem, however, to indicate that the decrease in mortality from consumption is not marked in those countries where the proportion is greater between indoor or institutional and outdoor or domiciliary assistance. It would seem that indoor assistance should act in segregating the most important infectious foci which domiciliary assistance allows to multiply in social circles, and consequently that the substitution of indoor assistance has been one of the most important factors in the decrease of mortality from tuberculosis. In practice it insures (*a*) that segregation of consumptives, even in general institutions, should be encouraged by rendering the institutional treatment as pleasant as possible, and (*b*) that substitution of outdoor for indoor assistance would be a reactionist measure which would tend to increase not only pauperism but also tuberculosis.

Section III was devoted to assistance to children. Reports were presented by Dr. Marfan (Paris), Dr. O. Heubner (Berlin) on protection of children from tuberculosis in families; by Dr. H. Méry and Professor F. Ganghofner (Prague) on prevention of tuberculosis in school; by Dr. Armaingaud and Professor A. d'Espine on seaside sanatoriums and social defence against tuberculosis.

Prevention of Tuberculosis in Schools.

Dr. Méry, in his report, divided cases of tuberculosis in school into two classes—(1) open, or contagious cases, and (2) latent, or closed ones, which are far more numerous. Contagion in school may arise indirectly or directly—*indirectly*, by the contamination of the premises through the use of the buildings for public meetings, adult classes, etc.; *directly*, through teachers, servants, and other children with open lesions, contagion through teachers being the most frequent.

Closed and latent lesions are extremely frequent in children; they do not originate in school, but in the family. They are not to be met with by measures of collective prophylaxis but by measures of individual protection. This, according to Professor Grancher, is probably the most important part of the work of preservation from tuberculosis in school.

All those measures of collective prophylaxis or of individual protection have a common foundation—the necessity of a clear, accurate, and early diagnosis, which cannot be reached without an individual examination of teachers and pupils. This examination should be conducted according to the rules laid down by Professor Grancher, and based on the methodical auscultation of breath sounds, especially the auscultation of the inspiratory murmur, which alone is modified in the early stages of the disease. Auscultation alone can give positive information; data supplied by anthropometrical measurements can only lead to presumption. The examinations performed up to this date in the Paris schools by Professor Grancher and his pupils show that the proportion of children suffering from closed tuberculous lesions of the glands and lungs is from 11 to 14 per 100 in boys and 17 to 20 per cent. in girls.

The collective measures of prevention of tuberculous contagion in school are the following:

1. Measures relating to hygiene of the class-rooms and furniture; ventilation, disinfection, prohibition of dry sweeping and of sweeping by the children, suppression of public meetings, prohibition from spitting on the school premises, etc.

2. Measures for the exclusion of such as are contagious, whether teachers or pupils; these should receive proper care.

As an indirect measure of prevention we should develop the antituberculosis teaching in school and the scholastic mutual aid associations.

The measures of individual protection, which should be applied to children suffering from tuberculous lesions, closed or latent, are as follows:

1. For children presenting mild lesions, and who remain at school; over-alimentation; distribution of powdered meat extract, of cod-liver oil, of iodo-tannic syrup; a course of respiratory exercises.

2. For children presenting more advanced lesions a stay in the country is necessary.

A passing stay of a few weeks in the country, such as that afforded by the holiday colonies or the school colonies, is absolutely insufficient. What is wanted is a permanent stay away from cities, either in the country, or in the mountains, or by the sea; or, again, open-air schools such as the one, an incomplete one, it is true—which has been founded at Charlottenburg.

This rural exodus, which has been so well realized for the predisposed by Professor Grancher in his work of family protection, should be insisted upon with as much if not with more energy for those who are already slightly attacked.

Deaths in the Profession Abroad.—Among the members of the medical profession in foreign countries who have recently died are: Dr. James Read Chadwick, a well-known gynæcologist of Boston, one of the founders and for many years Secretary of the American Gynæcological Association; Dr. Chevallier, Surgeon to the Paris hospitals; Professor Karl Grunert, Lecturer on Ear Diseases in the University of Halle, aged 38; and Dr. Herman Munster, Extraordinary Professor of Midwifery and Diseases of Women in the University of Königsberg, aged 58.

MEDICAL NEWS.

The entrance scholarship of £20 at the School of the Royal Dental Hospital, Leicester Square, has been awarded this year to Mr. Wilton Thew.

The Professorial College of the University of Cracow has expressed itself in favour of the eligibility of women for appointment as assistants in the University clinics.

Sir Frederick Treves will give an address on the Army Medical Service before the Brighton and Sussex Medico-Chirurgical Society on Friday, October 27th, at 3.30 p.m. The meeting will be held in the Royal Pavilion, Brighton.

Dr. Herbert Jones of Hereford, Dr. Ernest Hugh Snell of Coventry, and Dr. J. Ashburton Thompson of Sydney, New South Wales, have been elected Fellows of the Royal Sanitary Institute.

The Huxley Memorial Lecture of the Anthropological Institute of Great Britain and Ireland will be delivered on Tuesday, October 31st, by Dr. John Beddoe, F.R.S., on Colour and Race. The lecture will be given in the hall of the Society of Arts at 8.30 p.m.

The Traill-Taylor Memorial Lecture of the Royal Photographic Society of Great Britain will be delivered at the New Gallery, Regent Street, London, on Tuesday next at 8 p.m. by Mr. Chapman Jones, F.I.C., F.C.S. The subject will be Photography, the Servant of Science.

The winter course of lectures at the Hospital for Consumption and Diseases of the Chest, Brompton, will commence on Wednesday next, October 25th, when Dr. Greg will lecture at 4 p.m. on *x*-ray examination of the chest, and will demonstrate methods.

The Royal Sanitary Institute and the Coal Smoke Abatement Society have jointly arranged for a conference and exhibition on smoke abatement to be held in London on December 12th, 13th, 14th, and 15th. The exhibition will be held in the new hall of the Royal Horticultural Society, Westminster.

At the annual general meeting of the Wigan Medical Society which took place last week, Dr. John Blair was elected President for the ensuing session, and Messrs. E. H. Monks and W. Berry Treasurer and Secretary respectively. A new Committee of seven members, including the outgoing President, Dr. James Chronnell, was also appointed. At the annual dinner, which followed the meeting, several distinguished visitors from Liverpool, Manchester, and other towns were present.

Princess Christian, the Hon. Mrs. J. G. Talbot, Miss Louisa Twining, and Miss J. Wilson, acting in the name of the Workhouse Nursing Association, have forwarded to the Prime Minister and the President of the Local Government Board the following resolution: "In view of the increasing number of sick cases in Poor-law institutions, this Association begs respectfully to draw attention to the extreme importance of the appointment on the Royal Commission of at least one woman who possesses a wide practical acquaintance with the working of the Poor Law in relation to sick and infirm inmates in both large and small workhouses."

Dr. Niven, M.O.H. Manchester, will deliver the first of six lectures forming part of the course of advanced public-health lectures of the Public Health Laboratory of the Victoria University of Manchester on Thursday next at 4 p.m. The lectures will deal chiefly with four notifiable diseases—small-pox, diphtheria, scarlet fever, and typhoid fever—taken as examples for the purpose of illustrating the methods and the difficulties of administration. Among the matters specially dealt with will be the place of notification in public-health law, the powers of sanitary authorities, the relations of medical officers of health to medical practitioners, sanitary committees, and the Local Government Board; the sanitary service; public health laboratories; and hospitals for infectious diseases. The course is open to medical men interested in public-health work, and to candidates for the diploma in public health the fee is one guinea. Further information can be obtained on application to the Director of the Laboratory, York Place, Manchester.

Medico-Legal Society.—The Medico-Legal Society has for its President for the ensuing year the Hon. Sir John Walton, K.C. The Vice-Presidents are Sir William Collins, Dr. Henry O'Niell, Dr. Wynn Westcott, and Dr. F. J. Smith. The new members of Council are Mr. D. Cotes-Preedy, Dr. Toogood, and Mr. H. Wells Thatcher, Barrister-at-Law. Mr. R. Henslowe Wellington, Barrister-at-Law, and Dr. Stanley B. Atkinson, have been re-elected as Honorary Secretaries.

Congress of Midwives.—The Italian Midwives held their sixth Congress at Naples on October 1st and following days. About one hundred midwives from all parts of Italy attended the meeting. Addresses of welcome were delivered by Professor Novi, the octogenarian obstetrician of Naples; Professor Morandu, who spoke in the name of the University; and Professor Vairo, representing the Prefect. Professor Covi expressed the sympathy of the medical profession of Lombardy.

West Somerset Medical Dinner.—We are asked to state that the sixth annual dinner for medical men residing in West Somerset will be held at the London Hotel, Taunton, on Friday, November 3rd, at 6 for 6.30 p.m. The chair will be occupied by Mr. Gordon Henry, of Minehead. After dinner, Mr. Paul Bush, C.M.G., late Senior Surgeon Princess Christian Hospital, Natal Field Force, will give a lantern demonstration of photographic slides, taken by himself during the recent war in South Africa. Gentlemen who intend to be present are requested to communicate with the Honorary Secretary, Dr. W. B. Winckworth.

Bequests to Medical Charities.—The late Mr. Thomas Worthington Cookson, of Seaforth, Lancashire, whose will has now been proved, bequeathed £200 each to the Liverpool Royal Infirmary and the Liverpool Northern Hospital, and sums of £100 each to the following medical institutions in Liverpool: The Stanley Hospital, the Convalescent Home in New Brighton, the Blind Asylum, the Deaf and Dumb Institution, the Infirmary for Children, the Nurses' Home, Dover Street, and the Liverpool Cancer and Skin Diseases Hospital.

Association of Women Pharmacists.—The Association of Women Pharmacists which was founded a few months ago has been fortunate enough to secure as its President Mrs. Clarke-Kerr, who is the first woman who qualified as a pharmacist. The Honorary Secretaries, Miss E. S. Hooper and Miss Barltrop, have been very energetic and already over fifty women pharmacists have inscribed their names as members of the Association at Gordon Hall, Gordon Square, London. Some of the objects of the Association are to bring forward and discuss questions relating to the employment of women in pharmacy, both from an ethical and practical standpoint; to keep a register of those members requiring assistants, and to put them into communication with such members as may be desiring employment, of whom a list will also be kept, and to compile, as far as possible, a register of all qualified women pharmacists. We learn that several of the members have already derived considerable benefit from their connexion with this Association.

Society for Relief of Widows and Orphans of Medical Men.—A quarterly court of the directors of the above society was held at the offices, 11, Chandos Street, Cavendish Square, on October 11th, Mr. Willett, sen., Vice-President, in the chair. The death of Mr. Christopher Heath, late President of the Society, was reported. Mr. Heath was elected a member in 1874, Director in 1879, Vice-President in 1892, and President in 1900. During his term of office as President he was only absent on two occasions from the meetings of the Society. The following resolution was moved from the chair, and a copy sent to Mrs. Heath, together with the assurance of the sincere sympathy of the Court of Directors with the family of Mr. Heath in their bereavement: "The Court of Directors of the Society for Relief of Widows and Orphans of Medical Men hereby records its great regret at the death of Mr. Christopher Heath, who held the office of President since the year 1900, and who had for many years taken great interest in the Society's welfare." Three other deaths among members were reported. The death of a widow was announced who had received a total sum of £1,295 in grants, the amount of subscriptions paid by her husband having been £21. Two new members were elected. The sum of £603 was voted as a Christmas present to be distributed among the annuitants of the charity.

British Medical Journal.

SATURDAY, OCTOBER 21ST, 1905.

PHAGOCYTOSIS AND IMMUNITY.

In order to comprehend recent developments in the science of immunity a knowledge of Metchnikoff's work and theories is indispensable; and the best way to understand and appreciate Metchnikoff is to read his volume on immunity, published in 1901, which "sums up the labours of twenty-five years," and contains the latest and most matured expression of his views. In undertaking the arduous task of translating this important work,[1] and for the careful and painstaking way in which he has performed it, Mr. Binnie will earn the gratitude of many English readers to whom the original treatise has not been accessible.

The literature on immunity has of late years become so appallingly complicated, partly owing to the intrinsic complexity of the subject and partly from the confusion of an ever-increasing jargon of newly-coined technical terms, that it is a genuine relief to resort to a writer such as Metchnikoff who has the gift of expressing himself in terms intelligible to a wider audience than the inner circle of those actually immersed in some particular detail of research and controversy. Metchnikoff is essentially a man who knows his own mind; his leading ideas are clear and simple; and when he plunges into details of technical discussion and criticism he always emerges again, before the reader has had time to lose himself in their depths, with a confident reaffirmation of his original standpoint. Perhaps his confidence sometimes betrays him into dogmatism; but his dogmatism never degenerates into bias; his appreciation of his opponents is sincere and often generous, though, in his eagerness to dispel the clouds of philosophic doubt from the horizon of scientific impartiality, he may sometimes decide against their views a little too categorically.

"There is only one constant element in immunity, whether innate or acquired, and that is phagocytosis." That is the keynote of Metchnikoff's doctrine. The cells which perform this function of phagocytosis occur partly in the circulation and partly in the fixed tissues. Those in the circulation are of two kinds—macrophages and microphages. The macrophages are the "large lymphocytes" of many writers, and possess a large amount of protoplasm which is not granular; the microphages correspond to the leucocytes which are often described as "polymorphonuclear," and exhibit a protoplasm filled with granules which are either "eosinophile" "amphophile," or "neutrophile." The "fixed" phagocytes occur in the spleen, endothelial and connective tissues, muscle fibres, and neuroglia; they are all macrophages, and resemble the "free" or circulating macrophages so greatly that "it is very often extremely difficult, if not impossible, to differentiate them." In protecting the animal organism against alien bodies introduced either experimentally or by spontaneous infection the macrophages and the microphages display differences in their phagocytic activity. The former seize and devour material of animal origin, such as blood corpuscles, spermatozoa, and other elements derived from animals; they also have a predilection for the infective micro-organisms which set up chronic diseases, such as leprosy, tuberculosis, and actinomycosis, and for those which are of animal nature, like the amoeboid parasites of malaria and Texas fever and the trypanosomata. The microphages, on the other hand, are especially concerned in the destruction of the bacteria which produce acute infections, and play very little part in attacking animal cells, parasites of animal origin, or bacteria which set up chronic diseases. These differences correspond to differences in the soluble ferments or cytases (the "alexins" or "complements" of other writers), which the phagocytes secrete in the process of intracellular digestion. Thus "macrocytase," the ferment of the macrophages, is a substance which possesses a solvent action upon red blood corpuscles and other animal cells, but has little or no action upon bacteria; whereas "microcytase," the corresponding ferment of the microphages, destroys and digests easily many micro-organisms, but has little or no action upon the red blood corpuscles and other cells belonging to the animal kingdom.

The cystases are soluble ferments which are essentially intracellular; like the zymase and the proteolytic diastase of the yeasts, they adhere with tenacity to the phagocytes which produce and contain them. Immediately these cells are injured, however, they allow a part of their cytases to escape. This phenomenon is closely comparable to the formation of fibrin ferment. So long as the white corpuscles are intact, no fibrin ferment is secreted by them; but when they are damaged, as in the blood withdrawn from the animal body, fibrin ferment is at once formed and coagulation sets in. Similarly, when blood is withdrawn from the body, the contained phagocytes give up some of their cytases and consequently communicate to the serum haemolytic and bactericidal properties which, according to Metchnikoff, were not originally present in the normal plasma. On this general principle Metchnikoff explains many experiments which have been adduced to show that extracellular destruction of bacteria may take place in the fluids of the body; he maintains that this destruction is due to the presence of cytases, and that these cytases have been thrown out by the leucocytes which have been damaged by the shock associated with the introduction of the experimental material. This, then, is Metchnikoff's leading idea by which he explains the phenomena of natural immunity. "The cytases," he says, "rid the animal of the micro-organisms without the slightest observable co-operation on the part of other soluble ferments."

In the case of acquired immunity the factors at work are more complicated. Here, as a general rule, there exist, in addition to the microcytases, other substances which play an important part in the defensive action of the animal organism against bacteria. These substances are termed "fixatives"; they are not in themselves bactericidal, but by fixing themselves upon the micro-organisms they render the latter much more susceptible to the bactericidal action of the microcytases. The fixatives, too, belong to the group of soluble ferments, but present certain important

[1] *Immunity in Infectious Diseases.* By Elie Metchnikoff. Translated from the French by Francis G. Binnie. Cambridge: University Press. 1905. (Roy. 8vo. pp. 501: 45 Illustrations. 18s.)

differences from the cytases. They resist much higher temperatures; whilst the latter are completely destroyed at 55° C., the fixatives, to be completely altered, must be heated to beyond 60° or even 65°. They are also distinguished by a high specificity, which is never observed in the cytases. The majority of the fixatives are incapable of fixing themselves upon more than a single species of bacteria or a single class of animal cells, and only certain of them can fix themselves upon allied species or cells, such as the red corpuscles of several species of animals. On the other hand, the same microcytases are able to attack all kinds of micro-organisms, and the same macrocytases attack all kinds of animal cells.

Another important point of difference is that the fixatives are not anchored to the cells which produce them, but readily pass into the surrounding fluids, and may therefore be described as "humoral." Nevertheless, Metchnikoff strongly insists on their cellular origin, and quotes the work of Pfeiffer and Marx, who found the specific fixative of cholera vibrios in the spleen, lymphatic glands, and bone marrow at a period before any was present in the blood. The particular cells which produce them Metchnikoff confidently asserts to be phagocytes. Under the influence of the introduction of alien organisms into the body a phagocytic reaction is produced which has as a consequence not only the absorption of the micro-organisms or animal cells ingested by the phagocytes, but also a production by these same cells of large quantities of fixatives. These fixatives, being produced in superabundance as a consequence of the phagocytic stimulus, pass into the blood plasma and thence into the fluids of exudations.

Metchnikoff is anxious to dispel the misconception, not infrequently met with, that his theory of acquired immunity is fundamentally opposed to the theory of side-chains or receptors formulated by Ehrlich. There is no essential opposition, he points out, between the doctrine of the German authority and his own view that intracellular phagocytic digestion is followed by the over-production of the specific fixative, of which a part is excreted and passes into the plasma. Ehrlich simply attempts to penetrate more deeply into the mechanism of the phenomena observed as taking place between the micro-organism and the cell. "The act which we simply term 'intracellular digestion' is divided by Ehrlich into its constituent parts. According to him there is a combination of the fixative, on the one hand with the molecule of the micro-organism, on the other with that of the soluble ferment or cytase. According to Ehrlich, it is the amboceptors of the cells which become detached in order to furnish the fixative that circulates in the plasma. For us there is simply an over-production of one of the two ferments of intracellular digestion, without defining more exactly what constituent part of this ferment passes into the circulation. The two theories may supplement each other, but are in no way contradictory in principle." The one important point in which they do not accord is, as Metchnikoff makes clear, that whereas Ehrlich thinks the "cytases" are always free in the body fluids, Metchnikoff holds that they are only free in the animal during phagolysis, and that under normal conditions they remain closely bound up with the phagocytes.

We regret to have to record the death of Dr. Frank Buller, Professor of Ophthalmology in McGill University, Montreal. We hope to publish a biographical notice in a subsequent issue.

THE SANATORIUM AND AFTER.

The prolonged correspondence which has taken place during the last few months in our columns with regard to sanatoriums for consumption has disclosed very great differences of opinion as to the ultimate value of sanatorial treatment. But, though we have had root-and-branch condemnation of sanatoriums, it will, we think, be noticed that the advocates of the treatment have been far less positive in their assertions: they contented themselves with claiming a small percentage of cures in suitable cases, the exact percentage varying with different observers, and a large percentage of cases in which there was notable amelioration. The tendency appears to be more and more to insist on the educational value of sanatorial treatment, an aspect of the problem which was already fully grasped in the early stages of the movement by those responsible for the administration of the Victoria Consumptive Hospital at Edinburgh. Some of our correspondents engaged in general practice appear disposed to maintain that the word "cure" as applied to pulmonary tuberculosis is still inappropriate, and that even those cases in which physical signs, including the presence of the tubercle bacillus, and symptoms entirely disappear after prolonged residence in a sanatorium, must still be reckoned merely as instances of improvement. It is impossible absolutely to decide this question from material at present available, although it must never be forgotten that the *post mortem* room of every hospital from time to time affords evidence of the cure of tuberculous lesions of the lung. Whether these lesions have in any case been so extensive that it can be assumed that they would have afforded clinical evidence of their existence is a matter open to doubt, and a point upon which pathologists might afford more conclusive information.

The mere fact that a patient who has apparently recovered again shows signs of the disease after returning to his home and his work is, of course, no conclusive evidence that the primary lesion was not cured; it may be that the return to the conditions under which his disease was in the first place contracted has led to a second infection. Obviously it will be very difficult to settle this point, but happily for practical purposes it is not necessary to arrive at a positive conclusion. Those who believe that some cases are cured, and those who hold that, even in the most favourable cases, the disease is only in abeyance, will agree that allowing such a patient to live, after his discharge from a sanatorium under unfavourable hygienic conditions is a sure way of neutralizing what good has been done, and therefore, from an economic view, of throwing away the money which has been spent on his treatment.

Here, then, as in so many other social and public-health questions, we come as the final term of our analysis to what is called the housing question. It may, we believe, be taken as proved that among the well-to-do classes a patient who has recovered his health in a sanatorium and has taken full advantage of the education in personal hygiene which he there receives may return to his home and his work, and continue to pursue his business or profession as vigorously as before. We are not now discussing the question as to the proportion of cases in which this happy result ensues; we are merely assuming that it may occur. If this be true—and it seems to be impossible to deny the evidence in its

favour—then it is difficult to see how any reasonable person can deny the benefit which the individual in such a case derives from sanatorial treatment. The conditions, however, are altogether different when we come to deal with the working and poorer classes; even the skilled artisan is quickly reduced to the verge of poverty or to dependence if he suffers from pulmonary tuberculosis.

Sir John Burdon-Sanderson, in the remarkable address on Our Duty to the Consumptive Bread-earner, which he delivered to the conjoint meeting of the Oxford, Reading, and Upper Thames Branches of the British Medical Association rather more than four years ago, said: "No one, so far as I know, doubts that the overcrowded, sordid dwellings that the poorer class of working people are compelled to occupy contain in themselves sources of danger, nor does any one question the disease-producing influence of poverty." Again he said: "We know that the prevalence of phthisis is now recognized as one of the most serious indications of sanitary defects."

If we ask, What then is to be done? the answer will be, Attack the housing problem with renewed vigour. A great deal has been done during the last decade—something in London, and more in many of the great towns—but it is to be feared that little or nothing has been done in villages. We still see throughout the length and breadth of the country cottages which too often do not even compensate by their picturesqueness for their insanitary squalor. We still see in the outskirts of rising health-resorts rows of wretched two-story, jerry-built little houses springing up. Under the strong hand of a progressive municipality with an energetic medical officer of health insanitary hovels disappear, and the houses in the new district conform at least to the elementary rules of sound construction. But in the country and in small growing places things are very different, and must so remain until we have a thorough reconstitution of rural public-health administration. No one who has studied the matter can, we think, deny that the first step in that direction must be to define the position of the medical officer of health and to give him greater independence, that is to say, security of tenure subject to an appeal to the Local Government Board.

FEVER.

Our knowledge of the meaning of fever has advanced very considerably since the earlier theories as to its nature were enunciated. Elevation of temperature has long been considered to be one of the principal signs of this condition; the facility with which it may be detected by means of the thermometer has led in the past to considerable misapprehension as to the meaning of fever, etc., and it was an easy transition from the idea that elevation of temperature was the cause of various clinical manifestations spoken of as fever to the practice of reducing the temperature by means of various synthetic drugs—a practice which still survives in contemporary medicine, so slowly do therapeutic methods, even when based upon obviously false ideas, die out.

It was soon recognized, however, that elevation of temperature was not a constant accompaniment of febrile states, and that many of the cardinal features of the latter must occur without any rise of temperature. The occurrence of asthenic types has long been recognized and they still continue to supply surprises in the *post-mortem* room, one of the most common being the discovery of pneumonia in the case of persons who, though they had been very ill, showed no rise of temperature.

These discoveries, however, did not militate against another more plausible theory, the teleological view which saw in hyperpyrexia an effort on Nature's part to cause the death of infective organisms by developing a temperature greater than the organism concerned could tolerate. If a febrile disease was unaccompanied by elevation of temperature, then it was thought that the vitality of the individual was so low that the heat-regulating mechanism was not in good working order. It was argued that if the centres for the conservation or dissipation of heat were not in a condition to act normally, the destruction of the infective agent by the elevation of the body temperature became impossible, and that this would account for the fatal termination of so many such cases.

Dr. Bergel has published recently a rather laboured and lengthy essay[1] reviewing the position, and has shown by reference to the work of Liebermeister, Unverricht, Ringer, Naunyn, and the more modern workers in the field of bacterial infection and production of immunity that the observations of the past can best be harmonized with our more modern conception of the nature of fever by accepting the view that, just as in health, normal temperature is maintained by the oxidation of tissues and of various foodstuffs taken in as food, so in disease the elevation of the temperature is due to the increase of oxidation dependent upon the changes which take place when toxin and antibody combine. Dr. Bergel develops the argument with judgement; he contends that this reaction depends upon two factors—the virulence of the invading organism and the reaction on the part of the hosts. Low virulence of the organism may produce only slight symptoms or none at all; in another case the infective process terminates early, aborts, as is said; in another the host does not react to the irritant, so that vigorous chemical changes do not occur, and such a cardinal sign of fever as temperature is absent, or there is no obvious affection of the pulse and respiration. In different patients the cells of homologous organs are supplied with receptors which are not of the same pattern in each individual, with the result that the same infective agent may manifest itself by quite different symptoms in different individuals. Applying this generalization, it is possible to understand how the bacillus entericus may produce renal symptoms in one patient, cardiac weakness in a second, and signs of cerebral irritation in a third. Dr. Bergel's essay is, in fact, an application of the theories elaborated by Ehrlich, Metchnikoff, and others.

The natural result of these hypotheses has been the endeavour to institute "causal" treatment for the infectious diseases. We know how meagre is the harvest: diphtheria, plague, small-pox and hydrophobia are successfully treated by these means but those great scourges—tuberculosis, typhoid fever, and dysentery—still manage to remain beyond the pale of successful scientific treatment. Until such causal treatment is developed for each and every infectious disease, we must have recourse to hydrotherapeutic measures, to dieting, rest, etc., the ordinary methods, in fact; but we shall do well to remember the points so carefully insisted upon by Bergel: hydrotherapy is useful and legitimate because it lessens the intensity of the chemical activity by which febrile temperatures are produced, not so much

[1] *Fieber und Fieberbehandlung.* Von Dr. Bergel. Berlin: S. Karger; and London: Williams and Norgate. 1904. (Demy 8vo, pp. 68, 2s.)

by depressing the virulence of the poison, organism or toxin, as by aiding the vitalism of the host by increasing leucocytic activity; treatment by antipyretic drugs, on the other hand, may produce a fall of temperature of the same temporary character, but this effect, unlike that produced by hydrotherapy, is purchased at the expense of the nervous and muscular mechanisms which control respiration and circulation. Dr. Bergel's disquisition may be tedious, but will well repay perusal; it is an admirable antidote to the common tendency towards treating symptoms instead of making a direct assault upon the causative agent.

THE MEETING OF THE BRITISH MEDICAL ASSOCIATION IN TORONTO.

As was announced last week, a meeting of the medical profession in Toronto was held, under the chairmanship of Dr. A. J. Johnson, on September 19th, to make preliminary arrangements for the annual meeting of the British Medical Association there next year. An Executive Committee representing all parts of the Dominion was elected as follows: The President of the Canadian Medical Association, Dr. Alexander McPhedran, of Toronto; the President of the Ontario Medical Association, Dr. George A. Bingham, of Toronto; the President of the Ontario Medical Council, Dr. Albert A. McDonald, of Toronto; the Hon. Dr. R. A. Pyne, Minister of Education and Registrar of the Medical Council; the Presidents of the Toronto Clinical, Medical, and Pathological Societies; the Secretaries of each of the medical colleges of Ontario; the former Dean of Trinity Medical College, Dr. J. Algernon Temple; one representative from the staff of each of the Toronto hospitals, and five to be chosen by Dr. R. A. Reeve, President-elect of the Association. At a subsequent meeting of the Branch under the chairmanship of Dr. I. H. Cameron, the arrangements indicated above were confirmed. A local Arrangements Committee has been appointed, consisting of Drs. A. McPhedran, H. A. Bingham, J. A. Temple, A. A. Macdonald, C. J. O. Hastings, F. N. G. Starr, D. J. Gibb Wishart, J. J. Mackenzie, and the President-elect. Eleven local subcommittees have been organized in various parts of Canada. We learn also that suitable buildings have been selected in Toronto for the pathological museum and exhibition. The Honorary Local Secretaries are Drs. F. N. G. Starr, J. J. Mackenzie, and Gibb Wishart.

THE ARMY NURSING HOME.

The criticism published in this column last week of the proposed arrangements for the new army nursing home at Millbank has aroused a great deal of public attention, and the War Office now probably understands that the country is in thorough sympathy with Her Majesty's desire to see the new home for Her Imperial Military Nursing Service made a model of what such homes should be, and will not be satisfied with any makeshift. The War Office ought to call to its assistance the services of an architect of eminence experienced in the designing of hospitals and their appurtenances, and he should be given a free hand to bring the plans into harmony with modern requirements. The matter is of the more importance as the plans of army nursing homes the War Office may erect in future in connexion with other military hospitals will doubtless be largely influenced by the precedent now established.

DEATH OF MR. JONES MORRIS.

It is with very deep regret—a regret which will be shared by every one who knew him—that we have to record the death, at the age of 57, of Mr. Jones Morris of Portmadoc, on Sunday, October 15th. He had undergone a serious operation about a week earlier, and appeared to be making satisfactory progress, when unfavourable symptoms suddenly set in. We hope to publish in our next issue a full account of a strenuous life spent in work for the profession and for the Principality. Suffice it to say now that Mr. Jones Morris was for many years Secretary of the North Wales Branch of the British Medical Association, was President in 1899 when it celebrated its Jubilee, and was for long an active member of the Central Council. He was a member of the Carnarvonshire Education Committee, Chairman of the Portmadoc District Council, and deeply interested in political affairs. All the work he undertook he did with all his might, and the transparent honesty of his character combined with his racy style of speech to make him a power in North Wales and one of the most valued members of the Council of the British Medical Association, upon which he had for many years represented the North Wales Branch.

POOR-LAW ADMINISTRATION AND THE TREATMENT OF CONSUMPTIVES.

The apparent apathy of so many unions in the matter of provision for the isolation and treatment of poor consumptives, in view of the enormous mortality from this preventable disease, can only be accounted for by supposing a lack of knowledge or of appreciation on the part of the Poor-law guardians concerning the extent and nature of tuberculosis. It is therefore eminently desirable that the subject should be brought prominently forward at the Poor-law conferences which take place from time to time in various parts of the country. Though this has been done on more than one occasion—and most ably done—the results have as yet been small. Dr. Weatherly found by inquiries addressed to 695 unions last year that only some 32 had then made any special provision for the treatment of their tuberculous poor, and although this number has been increased in the past twelve months, there is still room for much more general and systematic attempts on the part of Poor-law guardians to cope with this great national requirement. Dr. David Goyder of Bradford, himself a Poor-law guardian, was therefore doing good service when he undertook the task of presenting to the delegates of the Yorkshire Poor-law Conference on September 19th last a sketch of the relation of the Poor Law to the treatment of consumption. The Bradford Union shares with Liverpool the distinction of being amongst the earliest of the Boards of Guardians to erect sanatoriums for the treatment of their own consumptives. That Dr. Goyder's address was delivered at the Eastby Sanatorium gave additional point to much of what he said, and allowed the delegates who attended the conference to see for themselves what a sanatorium is like and to examine into some of the details of administration. Dr. Goyder explained to his audience what consumption is and how it is spread. He classified the cases as, first, incipient cases in which the process in the lungs has just commenced; secondly, cases in which the disease has extended over a sixth or a fourth of either or both lungs; and thirdly, cases in which one or both lungs are largely involved with tuberculous masses. This classification, according to the extent of lung involved rather than by the stage which has been reached by the pathological process in any one part of the lung, is fully in accord with the experience of those who have watched the effect of sanatorium treatment. The probability of cure depends largely upon the extent of the disease and to a far less degree upon the stage reached by the local pathological process. The main interest, however, of this classification in Dr. Goyder's paper is in his suggestion that the three classes of consumptives should be kept separate and that three distinct institutions are required for the accommodation of the three classes. There is no doubt that to send any but the early cases tends to crowd the sanatorium, to reduce the number of recoveries, and to damage the value of the open-air treatment in the eyes of those to whom such institutions look for financial support. The presence of advanced cases by their depressing influence also affects injuriously the earlier cases. We agree with Dr. Goyder that it is a grievous state of things to mix up the possibly curable with the confirmed and hopelessly incurable. It is, however, insufficient when advocating the institution of rate-supported sanatoriums to

insist merely upon the success of treatment. The question of expense must of necessity be considered. The initial cost of erecting a sanatorium is great, and the cost of maintenance is not inconsiderable. The Bradford Guardians have already expended over £9,000 at Eastby, and have accommodation for thirty patients. The average weekly cost per head amounts to £2 3s. 5¾d., which compares favourably with that at other similar institutions. To determine whether such an outlay is economically justified, we must attempt to compare it with the cost of the maintenance of the consumptives thrown on the rates by incapacity, which might be avoided were the cases treated in their initial stage. This comparison has been frequently drawn, but we cannot here discuss the conclusions. Dr. Goyder sums up the matter in a sentence. He points out that it is the difference between twelve months in a sanatorium and from three to four years in the wards of the workhouse infirmary. In order that the consumptive may be treated whilst recovery is still possible, power must be given to insist on treatment before the individual becomes incapacitated. This implies compulsory notification as an essential preliminary. If we are to have a national crusade against consumption, the whole subject must be approached in a statesmanlike manner. The requirements must be carefully considered, and the necessary measures must be applied to the whole country with the authority of the Government. The isolated action of a few local authorities, though reflecting the greatest credit upon those who have the courage to set an example, will hardly affect in any appreciable degree the terrible mortality from tuberculosis. In the meantime much good work is done by those who attempt to educate Boards of Guardians as to the enormous influence of consumption in causing pauperism, and in showing how this may be diminished We commend this work to the further attention of the National Association for the Prevention of Consumption, which has already done much in this direction.

SPECIAL PLAGUE OFFICERS IN ITALY IN THE SIXTEENTH CENTURY.

The recent appointment of special referees to assist in the early and accurate diagnosis of small-pox may be paralleled by the appointment in several Italian cities in the fifteenth and sixteenth centuries of special plague officers for a similar purpose. The custom is picturesquely illustrated by an incident in the life of Erasmus, related in the preface to the 1540 edition of his works. The following translation is taken from Mr. F. M. Nichols's *Epistles of Erasmus*, 1901: "At last by the persuasion of his friends, having always had a strong desire to see Italy, he accompanied John and Bernard, the sons of Baptist Boerio of Genoa, the King of England's physician, to Bologna. . . . He had hitherto worn the regular costume of his Order, but was constrained to change it by the following occasion. There is a laudable practice in the city where he was that if there is any suspicion of plague, a surgeon appointed for the purpose is to be sent for at once; and in order that he may more easily be avoided by all that meet or pass him, he carries a white napkin hanging across one of his shoulders, and a rod in his hand. It so happened that one day Erasmus was walking along an unfrequented lane in his usual canon's dress, and was met by two or three inexperienced youths, who, seeing his white tippet, took him for the plague inspector; and as he was proceeding on his way without suspecting anything of the kind, they picked up stones and pursued him with threats and abuse, but without proceeding to blows. He inquired with surprise what was amiss, and some people looking on from one of the houses, who heard the disturbance, explained that it was the scapular tied in a knot to his side which had caused their anger, as they were misled by the similarity of the dress, and thought he was returning from some infected patient, and yet took no pains to go out of their way. To prevent a recurrence of this danger Erasmus sent a petition to Pope Julius II to grant him a grace either to use or not to use the dress of his religion, which in consideration of his singular merits was granted without difficulty, with the proviso that he should wear the dress of a priest. This privilege was for various considerations confirmed in the fullest form, as the term is, by Pope Leo X." The writer in the *Encyclopaedia Britannica* regards the story as improbable, but Mr. Nichols believes it genuine. The adoption of such excellent precautionary measures at Bologna was probably chiefly due to the renowned Beroaldo, who had died a short time previously.

PROFESSOR OSLER AT GUY'S HOSPITAL.

At the opening meeting of the Pupil's Physical Society of Guy's Hospital on Thursday, October 12th, the Regius Professor of Medicine of Oxford University delivered an address upon "Sir Thomas Browne," which is published at p. 993. The meeting was held in the Physiological Theatre, and several members of the staff were present, besides a large number of the students. Professor Osler was entertained beforehand at dinner in the Dining Hall of the College, Dr. Frederick Taylor being in the chair. The large company then adjourned to the theatre, and the lecturer met with much applause on entering the room. Sir Samuel Wilks, Honorary President of the Physical Society, first rose and said that, as he had known Dr. Osler for many years, he had made an effort to come to the meeting to welcome him. But as it was doubtful until that day whether he would be able to attend, his name had not been published, so he would be one of the audience, and would ask Dr. Frederick Taylor to preside. Dr. Taylor thereupon took the chair, and briefly introduced Professor Osler to the meeting. Professor Osler dwelt on Sir T. Browne's parentage and family, his education, public career, and writings. He remarked that three members only of the medical profession were in the front rank of literary giants—Rabelais, Browne, and Oliver Wendell Holmes; of these three, Browne was the only one who was a medical practitioner all his life. He exhibited the books which he had collected during many years, and presented a complete copy of Browne's works to the students' library. He exhibited many photographs upon the screen; these included views of Norwich and its cathedral, portraits of Browne, and representations of the title-pages of his books, especially of the *Religio Medici*. Some of these are reproduced this week, and a special plate after the Norwich portrait was issued with the British Medical Journal of October 14th. At the conclusion of the address Dr. Frederick Taylor proposed a vote of thanks to Professor Osler. Alluding to him as practically an Englishman, he welcomed his arrival and his assumption of his present important office at Oxford. He said that a well-known biographical work gave his recreation as "bibliography"; it seemed to him (the speaker) that the result of Professor Osler's professional work and of his recreation was their regalement that evening. In student days the history of medicine was not perhaps interesting, but as life wore on history became more and more attractive. The University of London had lately added the history of medicine to the subjects of examination for the M.D. degree, so that students taking up that subject would be doubly thankful for what they had heard. Lastly, as Guy's men, they were grateful for Professor Osler's valuable presentation of Sir T. Browne's works to their magnificent library. Dr. Hale White, in seconding, said that it was a great achievement of the Physical Society to entice Professor Osler there. In one of the volumes which had been handed round he found a friend writing to Sir Thomas Browne, "And I kindly thank you for the courteous present of your book." That sentence might equally well apply to Professor Osler's gift to them that evening. They were all members of a learned profession, and each of them should have an acquaintance with the thoughts and sayings of previous thinkers. Indeed, other things being equal, the physician with the widest general culture was the better man. The vote was passed with acclamation. Professor Osler, in reply, said it did not need much pressure to induce him to come to Guy's, for which place ever since his student days he had had an absorbing love. He had been the student of a physician who was himself the friend of

Addison, Bright, and Hodgkin, and who constantly insisted that the best knowledge of English medicine in those days was to be obtained from their works. Later he himself had listened to Wilks, Moxon, and Fagge, so that he considered he owed to no one a greater clinical debt than to the men of that school, and he was delighted to be able to come among them. Mr. H. C Cameron, M.A., and Mr. F. W. M. Palmer proposed a vote of thanks to Dr. Taylor for presiding, which that gentleman briefly acknowledged. Sir Samuel Wilks thought the occasion marked three important events: One was the recent increase of the good feeling linking the Mother Country to the Colonies; the second was the fact that such a conservative body as the University of Oxford had gone to the other side of the Atlantic to find its Regius Professor of Medicine; and the third was that Professor Osler had come to Guy's to deliver his first address outside Oxford.

SHALL WE TAKE OUR THERAPEUTICS FROM THE DRUGGIST?

We published an annotation some time ago under the above title in reference to the kind of circulars which were being sent out by certain firms of manufacturing chemists who venture to deliver lectures which would be more suitable to a professor in a chair of therapeutics than to those whose business it is to supply such remedies as the profession may demand. We are forcibly reminded of our complaint on that occasion by a circular which has just reached us from a firm of American druggists. This circular lectures us not only upon the treatment of atonic dyspepsia, but upon its pathology, in a way which would make us blush for the profession if we thought it would not resent such impertinence. We read: "One of the commonest causes of atonic dyspepsia is the absorption of toxins from the intestinal tract. Constipation, therefore, is one of the factors against which remedies should be used on all occasions; but such remedies must of course be used with intelligence and foresight. Violent purgation is to be avoided, but at the same time sufficient stimulation is to be produced to overcome the hepatic torpor and lessened peristalsis which characterize the condition; atony of the involuntary muscular fibres of the small intestines being one of the prime causes not only of the constipation but also of the dyspepsia. It follows, therefore, that the liver and lower bowel have to be gently stimulated. Aloin is generally regarded as an unloader merely of the large intestine. This is in reality a very narrow view of its activity, for it is, when properly employed, one of the best of the hepatic stimulants. One of the most effective as well as the most gentle of the increasers of peristalsis is belladonna. Strychnine is known and highly regarded as a general gastro-intestinal tonic which has a direct action upon the great sympathetic nervous system. The exact mode of activity of ipecacuanha is not thoroughly understood, but clinically it is prized as one of the most efficacious of liver stimulants. On physiological grounds the combination of these drugs might be regarded as fulfilling all the indications of cases of atonic dyspepsia, and so indeed clinical experience has proved it to be, but it is necessary that the drugs employed should not only be of the purest but should also be most carefully standardized, acting uniformly without undue activity and without griping." The last paragraph of this letter explains the reason why these commonplaces are inflicted on us. It is to introduce to us so-called "lapactic" pills, which are said to commend themselves by "their minuteness, their tastelessness, their solubility, and their purity; they always act pleasantly and painlessly." We know it is said that there are practitioners who are content to take their therapeutics from the advertisements which reach them through the post, and that in spite of the numerous protests we receive against the plague of druggists' circulars, especially from across the Atlantic, our waste-paper baskets overflow with them, so that it seems possible that they fulfil their immediate object, which is the sale of the articles recommended. Probably the greatest hindrance to the healthy development of rational therapeutics, not only in the profession as a whole but in each individual member, is the influence of advertising by which particular remedies are puffed into notoriety altogether out of proportion to their merits, and the quiet voice of criticism is drowned by the brazen trumpet of the nostrum vendor.

MEDICINE IN THE FAR EAST.

The Legislative Council of the Straits Settlements has passed an Ordinance this summer which is intended to provide for the establishment of a school of medicine at Singapore. A favourable report upon it has been made to the Secretary of State by the Attorney-General for the Colony, and there seems every reason to believe that the Ordinance will become effective by receiving the Royal assent. The new school is to be managed by a medical man, who is to be selected for the post of Principal by the Governor of the Colony, and who is to do his work under the supervision and control of a School Council. The President of the latter body must be the person for the time being filling the office of Principal Civil Medical Officer in the Colony, and one of its six "official" members must be a medical practitioner not in Government employ, holding British qualifications, and nominated to the Council by the Straits Settlements Branch of the British Medical Association. In addition to the foregoing the Governor may permit subscribers to the school to elect persons to represent them on the Council. This Council is to have complete control of the funds and property of the school, such funds being derived partly from voluntary donations and partly from subventions by the Governments of the Straits Settlements and the Federated Malay States. The appointment of the professors, lecturers, and other officials of the school rests with the Council, as does also the duty of drawing up rules for the admission of students, for the courses of instruction, and the granting of scholarships, and other matters. Finally, the Council is to be empowered to grant diplomas in medicine, surgery, and midwifery to those who shall have passed the qualifying examinations to be established, and the persons thus licensed will be entitled to admission to the Medical Register of the colony. Provision is also made for the cancelling by the Council of any diploma granted by it should the holder be convicted of a heinous offence, or be found guilty of infamous conduct in a professional respect. In addition, it may be noted that the Ordinance confers powers upon the Council to grant certificates of efficiency to hospital assistants and nurses. As for the kind of knowledge which the successful future students of this school may be expected to possess, the Ordinance lays down that the majority of examiners who take part in any examination must be persons not engaged in teaching in the school, and that the standard of knowledge required must be such as sufficiently to guarantee the possession of the knowledge and skill requisite for the practice of medicine, surgery, and midwifery. The Attorney-General in his report interprets this as equivalent to establishing the same standard of knowledge as that entailed by the British Medical Act of 1886. This may be true verbatim but is certainly not accurate literatim, for the degree of knowledge which candidates at examinations within the British Isles must acquire, if they can reasonably hope to be successful, depends not upon the law in itself but upon what the visitors of the General Medical Council from time to time choose to think about the matter. For the rest it is a point of particular interest to note that although this scheme has been fathered by the local Government, the idea of establishing a medical school is not of official origin. It has been urged upon the Government chiefly by the Chinese residents in the Colony itself and in the adjoining native States, and large sums have already been offered by them for its support.

FINGER-PRINT EVIDENCE.

At the opening meeting of the autumn session of the Medico-Legal Society Dr. J. G. Garson delivered a lecture

on finger-print evidence. He dealt with finger prints both from the medical and from the legal point of view. He explained the nature of the creases and ridges of the palms and fingers, and demonstrated the precise method of taking finger prints. By means of admirable lantern slides, he showed clearly the varied kinds of prints obtained, which are classified as the arch, the loop, the whorl, and the composite; the latter is usually a combination of the loop and the whorl. The relative frequency of occurrence of the different patterns is, in round numbers, arches 5 per cent., loops 60 per cent., whorls 35 per cent. It is comparatively uncommon to find the same pattern on the ten digits of one individual, but between the two hands of the same person there is a certain amount of correlation, which is most marked on the middle fingers. On the question of the value of finger-print evidence, Dr. Garson insisted on the need for examination with great exactitude and with a knowledge of anatomy and physiology. He also maintained that the evidence of discrepancies in prints under examination is of the utmost importance. To be led away by resemblances, without weighing the evidence of differences, is only too likely to result in erroneous conclusions. This is especially the case in comparing casual and unintentional finger prints with those carefully taken. The staff of the Prison Service receive special training in the taking, reading, and classification of prints. From evidence obtained up to the present time by means of the examination of thousands of prints, it was shown that no two sets of prints of even a single digit have been found identical unless they belonged to one and the same person, and comparisons of prints of the same digits after a series of years show that there has been no material change.

THE VALUE OF POST-GRADUATE COURSES.

At the opening of the winter session of the West London Hospital Post Graduate College on October 11th, Mr. Tweedy, President of the Royal College of Surgeons of England, delivered an introductory address, in which he said that the post-graduate course was a great experiment in medical education, and one which, he believed, was likely to become one of the greatest forces for good for the advancement of medicine and for the improvement of the knowledge and skill of the medical practitioner. Notwithstanding the higher requirements from the student, the additional subjects that were being made from time to time to the medical curriculum, and even the increasing paternal solicitude of the General Medical Council to make medical education more and more complicated and examinations more and more difficult, or, at any rate, at least more irritating in their application, it was his conviction that the curriculum of the present day did not afford necessarily the same guarantees for thorough and efficient training and for the competency of the medical practitioner that the smaller and less exacting curriculum of twenty-five or thirty years ago did. He believed that, nowadays, the curriculum was so full that it was impossible for the medical student to receive that adequate and sufficient training, either of his physical powers or of his mental and moral faculties which would equip him for the full and efficiennt discharge of his duties as a medical man. That, it seemed to him, was the justification of the post-graduate course. The reforms in medical education he would suggest were chiefly two. First of all, one of the innovations in the medical curriculum of late years, with which he was thoroughly in accord, was the requirement from all medical students of a training in the preliminary sciences—physics, chemistry, and biology. That part of the student's training had, however, encroached too much upon the purely technical training; and he, for one, would like to see the preliminary sciences removed entirely from the medical curriculum and become an essential preliminary course of study through which a medical man ought to have passed. He hoped that before long the University of London would have an Institution fully equipped for the teaching of the preliminary sciences. Already they saw arrangements being made between the various medical schools for teaching those earlier sciences at science centres, and he hoped that before many sessions were over the whole of the preliminary sciences would be taken away from the ordinary curriculum of the medical schools, and delegated to proper science institutions. Another reform the West London Post-Graduate College had already begun. He would suggest that one of the great reforms from the educational standpoint which was needed in the ordinary curriculum was that many of the subjects which were now crowded into the primary course should be transferred to the post-graduate course. Time, in medicine, worked great changes, and perhaps even greater changes in surgery. No matter how well equipped a man was five or six years ago, if he had ceased his connexion with a large medical school or a large hospital, he would find, if he returned there, what great steps in advance had been made, not merely in the rectification, perhaps, of opinion, but in improvements in therapeutics, and, above all, in surgery and medical technique. The post-graduate course should, it seemed to him, be almost compulsory after a certain period in a man's career.

AFTER-CARE OF THE FEEBLE-MINDED.

Under the auspices of the After-Care Committees of Birmingham, Leicester, and Nottingham, a conference was held in the Board-room of the Poor-law Offices, Nottingham, on October 12th. Amongst those present were: The Sheriff of Nottingham (Dr. Dabell), who presided over the morning meeting; Mr. Councillor Black, Chairman of the Nottingham Education Committee; the Hon. Frederick Strutt, Mr. J. Kent Wright; the following members of the medical profession: Drs. Evan Powell, J. Gill, Marriott (of Nottingham), Potts and Foxcroft (Birmingham), Crowley (Bradford), Damer Harrisson (Liverpool), Ida McNiel (Wolverhampton), and Shuttleworth (London); Miss Dendy (Manchester), and many ladies and gentlemen connected with educational committees and Boards of Guardians. Dr. Potts, Chairman of the Birmingham After-Care Committee, read a paper on the causes of mental deficiency in children, dividing the cases into two groups—the deviations from the normal and the degenerative—in each of which he traced a subgroup depending respectively upon heredity and upon adverse physical and mental conditions in the parents. He did not consider alcoholism held the predominant position as a cause assigned by some or the negative position assigned by others, though there could be no doubt that habits of intemperance had greatly increased the number of defectives. Too early education could not be overlooked as a contributory cause in the next generation. Children under 5 were not fit to go to school. Legislation, too, which would prevent the employment of married women in factories would do more to solve this problem (the prevention of feeble-mindedness) than any method of dealing with the feeble-minded that could be devised. Dr. Evan Powell, of Nottingham City Asylum, said that 26 per cent. of the children admitted into the special schools of that city were the result of hereditary predisposition to insanity in the parents; alcoholism accounted for 28 per cent.; but the largest proportion—namely, 32 per cent.—was due to consumption in the family. Other direct causes were: epilepsy 10 per cent., injury to the head 9 per cent., and physical weakness 11 per cent. Mr. Green, of the Nottingham Deaf-mute School, stated that 70 of his 112 children came from 10 families (an argument for hereditary predisposition), these 70 being congenital cases; 20 became deaf from accident, and 22 from fevers. Dr. Shuttleworth quoted etiological statistics gathered by himself and Dr. Fletcher Beach from the histories of 2,400 cases of idiocy and imbecility which tallied closely with those that had been brought forward, and alluded to the figures given by Dr. Tredgold as the result of a scrutiny of 150 families producing mental defectives. He stated his own opinion that mental defect was usually due not to a single factor (for example, neuropathic inheritance, alcoholism, or tuberculosis), but to a combination of such factors. Dr. Damer Harrisson (Liverpool) read a paper entitled A Plea for the Special School, in which he con-

tended that English special schools had shown very good results as far as they had gone, in spite of injudicious regulations with which they had been hampered. Dr. Shuttleworth deprecated premature criticism of results before special methods had had time to mature, and pupils had had the benefit of the nine years' training now provided by law. Statistics of results after merely two or two and a half years' training were valueless. At the afternoon session Miss Weinrich, delegate from Frankfort, read a paper on after-care work in Germany, where there were now 250 special schools with 15,000 pupils. Their work in Frankfort, started sixteen years ago, was comparatively young, but they had found the necessity for an After-Care Committee, each "graduate" from a special school being provided with a "patron." In Frankfort they had recently started a Kindergarten for quite young feeble-minded infants, and they hoped to establish a residential colony to which all who had passed through special instruction might be sent for at least a year in a probationary way to see what they would be fit for in after-life. Miss Dendy (Manchester) followed with a paper on the value of continuous care in the treatment of the feeble-minded, in which she urged strongly the view that as most mental degeneracy is inherited, the true social remedy is life-long segregation. She did not believe that parental intemperance was an efficient cause of mental defect in offspring; it was more often a sign of feebleness of intellect of an inherited and heritable character. In conclusion, a resolution was passed urging on Government to obtain powers for the detention of feeble-minded persons over school age, and another pointing out the urgent importance of the establishment of after-care committees wherever special schools existed.

NOISE.

THE result of an appeal case which was tried a little time ago before the Supreme Court of Massachusetts will make a great many people in London and other towns in England feel envious. In the case in question the plaintiff was given a verdict and damages upon the ground that the production of noise is good legal cause of complaint and proper reason for exacting compensation from those responsible for it. That noise is good moral ground for complaint no one can have any doubt who has ever been unfortunate enough to live in a house near which building operations were going on, or close to which some railway had elected to place a line. In these days, when iron is so much used in the construction of houses, large and small, building operations are noisier than ever, while to many people the intermittent whizz of a train is quite insufferable. The disastrous effect of noise upon the progress of many illnesses is well recognized both by the public and by the profession; and if the sight of straw-laid streets is somewhat less common than it used to be, it is merely due to the fact that the introduction of wood pavements has reduced the noise of ordinary traffic in many streets to a not very penetrating rumble. The noise of building operations and of railway traffic is quite another thing, and in many cases of illness may be absolutely fatal. It is not, however, the sick alone who are liable to suffer. The modern mason, slack as he may be in comparison with his forefathers, nevertheless gives an occasional, if lazy, bang with his trowel at an earlier hour than that at which most brain workers and others leave their beds or even care to be awakened, while it takes a very long while for any one to learn to sleep undisturbed by the roll of passing trains. To some such people the noise may merely be a temporary cause of annoyance, but there are many others to whom it is something much more serious. There are, indeed, not a few people nowadays whose nerves are habitually "taut," and to such unaccustomed noise may easily prove that last straw which, to mix our metaphors, breaks the camel's back. Camels are replaceable, but nerves very commonly are not, and once a nervous person has acquired insomnia he is very likely to retain it, and eventually break down altogether. Rich people, of course, can go away until the period of noise has ceased, if it is ever likely to cease; but to those who are less happily situated it would be some satisfaction, and often a positive advantage, if they were easily able to mulct their enemy in damages by way of compensation and deterrent.

LONDON SCHOOL OF TROPICAL MEDICINE.

THE inaugural address of the winter session of the London School of Tropical Medicine was delivered by Professor G. H. Nuttall, F.R.S., and is published at page 998. Mr. Antrobus, in moving a vote of thanks to Professor Nuttall, observed that at the Colonial Office they felt that the development of the tropical colonies was dependent upon the development of our knowledge of tropical medicine. They were beginning to see the advantage which the tropical colonies were deriving from the work which was being done by the schools of tropical medicine. In the evening there was a dinner, Sir Ralph Moor being in the chair, and having on his right Professor Nuttall as the guest of the evening. There were also present Sir Alfred Jones (President of the Liverpool School of Tropical Medicine); Sir Patrick Manson, Mr. Perceval A. Nairne (Chairman of the Seamen's Hospital Society), Sir Alfred Moloney, and nearly every member of the teaching staff of the school. In addition there were 30 or 40 students. The total number of students who have attended the School since it was opened in October, 1899, is 554. Of these 231 were from the Colonial Service, 22 from the Indian Medical Service, 4 from the Royal Army Medical Corps, 3 from the Navy, 62 from missionary societies, 32 from other Governments, and 200 were private students. Nineteen students have gained the Cambridge diploma in tropical medicine. Forty-two students have entered for the present session, the largest entry on record at the opening of a session. Among them are twelve medical officers of the Colonial Service, five medical missionaries, two officers of the Royal Army Medical Corps, one medical officer of the Natal Medical Corps, one medical officer of the East India Railway, one medical officer of the United States Army, and six private students. In the list are three ladies.

DR. BEVERLEY, of Norwich, has been re-elected Chairman of the Hospitals Committee, and Mr. C. H. Watts Parkinson Chairman of the Public Health Committee of the British Medical Association.

MR. HENRY MORRIS, F.R.C.S., Senior Surgeon to the Middlesex Hospital, has made the munificent gift of £1,000, to form the nucleus of a Permanent Endowment Fund for the maintenance of the Medical School of the Middlesex Hospital.

PROFESSOR ROBERT KOCH, who spent a considerable time at Amaris in West Usambara, and afterwards proceeded to Uganda to complete his researches on trypanosomes and sleeping sickness, is said to be on his way home, and is expected to reach Berlin on October 23rd.

THE Central Council of the British Medical Association met on Wednesday afternoon for the dispatch of ordinary business. It was reported that the work of drafting the memorial to the Crown praying the grant of a charter had been begun, and that it was hoped to present the draft, settled after consultation with counsel, to the next meeting of the Council which will be held on December 13th.

THE Fitz-Patrick lectures before the Royal College of Physicians, London, will be delivered by Dr. Norman Moore on November 14th and 16th. The first lecture will be on John Mirfield (1393) and Medical Study in London during the Middle Ages; the second lecture will be on Dr. Edward Browne (1644-1708) and the Education of Physicians in London in the Seventeenth Century. The Bradshaw lecture will be delivered by Dr. George R. Murray, Physician to the Newcastle Royal Infirmary, the subject being Exophthalmic Goître and its Treatment. The lectures will be delivered at the College at 5 p.m. on each day.

Ireland.

The Central Midwives Board and the Belfast Maternity Hospital.

The dispute between the Central Midwives Board and the authorities of the Belfast Maternity Hospital has been settled by a compromise, and it may interest our readers to know what led up to this arrangement.

The Central Midwives Board having declined at its meetings in March and again in May to place on the *Roll* of certified midwives, nurses trained and certificated previously to March 31st in the Belfast Maternity Hospital, though it had done so in the case of the maternity hospitals in Dublin, Cork, and Limerick, it was decided to approach the Lord President of the Privy Council, who is the final referee or court of appeal in such matters. Accordingly it was pointed out to him that there was strong dissatisfaction in Ireland at this decision of the Central Midwives Board; that the medical papers—the British Medical Journal and the *Lancet*—had severely criticized the Midwives Board for its line of action, that the Central Council of the British Medical Association, at its meeting on July 5th, had asked the Central Midwives Board to reconsider the question "so that nurses trained in all the Belfast maternity institutions prior to March 31st, 1905, and who present certificates of having passed the examination at the end of their practical training, shall be placed in the same position as nurses trained under similar circumstances in the Dublin maternity hospitals, and in the lying-in hospitals in Cork and Limerick, and who up to March 31st, 1905, have been placed on the *Roll* of certified midwives." Finally, it was shown that the reason assigned by the Central Midwives Board for not acceding to the request of the Belfast Maternity Hospital, which was that it had not been made in time, was inaccurate. This answer had been given by the Chief Secretary for Ireland in reply to a question put on the subject by an Irish member. As a result, a long correspondence took place between the Privy Council and the Central Midwives Board on the one hand, and the Belfast Maternity Hospital on the other. The officials of the Midwives Board said that it was only on March 22nd that the Belfast Maternity Hospital applied to the Board for the recognition of its certificate for the purposes of Section 2 of the Act, a date so late that the Board was of opinion that nothing could be done to render the application effective before April 1st, when the provision in question expired. To this it was replied on the part of the Belfast Maternity Hospital that this application on March 22nd was really a second one (the previous one being on February 14th). But even granting for the sake of argument it was the legal first application, it was made on March 22nd, the day before the meeting of the Central Midwives Board, which left eight clear days before April 1st—that is, ample time for the nurses to apply. The attention of the Lord President was also drawn to the fact that the Central Midwives Board had made no attempt to face the real issue between the Central Midwives Board and the Belfast Maternity, which was simply why the nurses of the Maternity Hospital in the largest city in Ireland were treated so unfairly as compared with the nurses of the maternities in Dublin, Cork, and Limerick; in other words, why was there one law for these latter institutions and another for the Belfast Maternity Hospital? Finally, the Lord President suggested the following compromise: that those nurses trained in the Belfast Maternity Hospital who had applied to the Central Midwives Board before April 1st, 1905, should be placed upon the *Roll* of certified nurses. The authorities of the Belfast Maternity Hospital agreed to this settlement, because having by public notice drawn attention to the matter in the Belfast press, and having advised their nurses to make application, they thought it would, under all the circumstances, be wiser to accept this compromise, rather than by refusing it run the risk of shutting out all their nurses from the advantages of being placed on the *Roll* of certified nurses, and also because their previous two experiences of the Central Midwives Board led them to fear that that body—so much out of touch with medical opinion—would again refuse to do justice, as, most unfortunately, a weak majority could do under their powers. The authorities of the Belfast Maternity Hospital, taking all the circumstances into consideration accepted the compromise as the minimum of justice, although they feel that all their nurses, irrespective of having made application, should have been placed on the same level as those in similar institutions in Dublin, Cork, and Limerick. They are most grateful to Sir W. J. Sinclair and Mr. Ward Cousins for their cordial aid and assistance in a fight against a reactionary majority; to the British Medical Journal and the *Lancet* for their support, and to the Lord President of the Council (the Marquis of Londonderry) whose good sense and fair ideas of justice brought about a settlement of the dispute. It is hoped that the present ruling will also apply to the Ulster Hospital for Women in Belfast, and to the maternity of the Belfast Union Infirmary, institutions covered by the resolution passed by the Council of the British Medical Association on July 5th, 1905.

Royal Academy of Medicine.

The annual general meeting of the Royal Academy of Medicine in Ireland was held in the Royal College of Surgeons on Friday, October 13th, when the following officers were elected for the ensuing year:

President: Sir Thornley Stoker.
General Secretary: James Craig.
Secretary for Foreign Correspondence: Sir J. W. Moore.

Medical Section.—*President:* Sir William Smyly. *Council:* H. T. Bewley, M. J. Dempsey, H. C. Drury, T. P. Kirkpatrick, G. Peacocke, F. C. Purser, R. Travers Smith, W. Langford Symes, W. J. Thompson, W. A. Winter.

Pathological Section.—*President:* J. F. O'Carroll. *Council:* J. B. Coleman, H. C. Earl, E. J. M'Weeney, H. C. Mooney, T. G. Moorhead, A. C. O'Sullivan, J. A. Scott, John B. Story, A. H. White, J. T. Wigham.

Surgical Section.—*President:* Arthur Chance. *Council:* R. C. B. Maunsell, Sir Lambert Ormsby, E. H. Taylor, W. Taylor, W. I. de C. Wheeler.

Section of Anatomy and Physiology.—*President:* E. H. Taylor. *Council:* A. F. Dixon, P. J. Fagan, A. Fraser, H. M. Johnston, J. Alfred Scott.

Obstetrical Section.—*President:* R. D. Purefoy. *Council:* Paul Carton, J. H. Glenn, R. P. Farnan, A. J. Horne, H. Jellett, F. W. Kidd, A. J. Smith, T. H. Wilson.

Section of State Medicine.—*President:* F. C. Martley. *Council:* T. P. C. Kirkpatrick, Sir John Moore, A. Roche, W. A. Winter.

St. Vincent's Hospital.

At the opening of the session at St. Vincent's Hospital on Tuesday, October 10th, the chair was occupied by Sir William Smyly, President of the Royal College of Physicians. Dr. M. F. Cox, one of the physicians, delivered an address in which he eulogized the founders of the hospital and described the excellent work which had been done there. He combated the general idea that seemed to exist that hospitals were wealthy. This was entirely false. He appealed for more generous support for the sick. Mr. M. Bodkin, K.C., Sir J. W. Moore, Mr. A. Chance, F.R.C.S., Mr. McArdle, and Mr. Tobin also spoke.

The annual dinner of the staff and students of the hospital took place in the Shelbourne Hotel, Dublin, under the presidency of Mr. McArdle.

The Signing of School Certificates.

The question which has been raised as to the signing of school certificates by dispensary medical officers, in the case of children suffering from illness and unable to attend, is one of some importance, both as to the principle and substantially. There can be no doubt that there is no obligation upon the medical officers to do this. It is not in their bond, and if the practice were not at once protested against it might become established by simple acquiescence. The Local Government Board has, however, set the matter at rest by declaring that the Act imposes no duty on a dispensary medical officer to give a certificate in regard to a child's inability to attend school.

Presentation.

A cheque for £233 10s. has been handed by his friends to Dr. Shanley, of Athlone, who has just recovered from a severe illness.

Jervis Street Hospital.

Sir Francis Cruise presided at the opening of the session at Jervis Street Hospital on Tuesday, October 17th, when the introductory address was delivered by Dr. W. J. Thompson. In the course of some interesting remarks he said the average death-rate for 76 great towns of England and Wales was 17.2 per 1,000, while the mortality of infants (under 1 year old) was 160 per 1,000 births, an average of almost 1 in 6; in other words, out of every 6 children born one child died before it reaches the age of 12 months. In certain large towns the death-rate was even higher—in Bir-

mingham 197 per 1 000 births, in Preston 218 per 1.000 births; in London the highest borough rate was Bermondsey, which was 172 per 1 000, and the lowest was Marylebone with only 94 per 1 000. The average infant death-rate for Dublin for the past two years was slightly above the average for 76 large English towns—162.5 per 1,000 births. It was higher than Belfast with 144 per 1,000 births, and much higher than Cork with 116 per 1,000 births. The average death-rate for Dublin for the same period was about 24 per 1,000, and about 20 for Belfast and Cork. This high mortality amongst infants was a question of extreme importance, both from a public-health point of view and from the physical deterioration aspect, of the latter of which they were at present hearing a great deal—and deservedly so. They must not forget that while thousands of infants perished annually, there were thousands of others who barely survived, and these later on, when they faced the hard struggle for existence, grew up both mentally and physically weak; institutions and asylums were being filled, and, indeed, in many cases overcrowded. Although very much had been done in England and Scotland, and in every country in Europe and in the United States, not as much had been done as might directly be done in their city to try and remedy this evil of high infant death-rate. Among the subsequent speakers were the Lord Mayor, Sir W. Smyly, Sir F. Cruise, Sir John Nutting, Mr. W. Stoker, and Dr. Cox.

Scotland.

Opening of the Winter Session at Aberdeen.

The winter session at the University opened on Monday, October 16th, both at King's and Marischal Colleges. There was no formal opening ceremony, and no introductory addresses were delivered by any of the professors in the medical faculty on this occasion.

Professor T. Arthur Thomson, of the Natural History Chair, devoted his opening lecture to a consideration of the recent experiments of Mr. J. Butler Burke, of Cambridge, which raise the perennial problem of the "Origin of Life." Professor Thomson treated the subject in his usual fascinating and lucid style, and while advising caution in the acceptance of Mr. Burke's results so far pointed out that even if the wonder of making a little living thing from what was regarded as non-living were achieved, we should not understand how it happened; we should be, moreover, "explaining" life; we should still be unable to interpret the vital phenomena in terms of mechanism. Not that there was any stigma in a thing having a mechanical origin, but we had to avoid giving a false simplicity to things. Even if living creatures arose now or arose once from what was called "non-living," the dignity and value of life would be unaffected. Moreover, the ultimate reality—the inscrutable power which lay behind the manifestations which formed the routine of our sense-experience—would be as much as ever beyond science. In concluding, Professor Thomson pointed out that experimentation and discussion of this apparently very theoretical subject had led to most valuable practical results, such as antiseptics and the germ theory of disease.

In the Medical School the classes were all well attended, though it is as yet impossible to say how the numbers compare with previous years until the class lists are completed.

The Chair of Obstetrics in Edinburgh.

An adjourned meeting of the curators of the University of Edinburgh was held on Monday, October 16th, for the purpose of electing a professor to the vacant Chair of Midwifery and Diseases of Women in succession to Professor A. R. Simpson. All the curators were present, and the Lord Provost presided. After private deliberation for about three-quarters of an hour, it was intimated that Sir J. Halliday Croom had been unanimously elected to the vacant Chair.

The new Professor took the degree of M.B., C.M., in 1868; M.D., in 1882; F.R.C.P.E., in 1880; F.R.C.S.E., in 1873. When Professor Simpson was appointed to the Chair in 1870, Halliday Croom became his assistant and University tutor, and he organized and for seven years conducted large tutorial classes in connexion with the Chair both in midwifery and gynaecology. When he resigned his University appointment he began to teach midwifery and gynaecology in the Extramural School, and continued to do so up to last summer. He had large classes. For twenty years he was a Physician to the Royal Maternity Hospital; for fifteen years he was one of the Gynaecologists to the Royal Infirmary. He has been Examiner in Midwifery and Gynaecology to the Universities of Edinburgh, St. Andrews, and Oxford, as well as to the two Royal Colleges of Edinburgh. He has been President of the Edinburgh Obstetrical Society, of the British Gynaecological Society, of the Section of Obstetrics in the British Medical Association, and of the Royal College of Surgeons of Edinburgh. He has made many contributions to the literature of his subject.

Edinburgh Royal Infirmary.

At a meeting of the managers on October 16th, Mr. Henry Wade, F.R.C.S.E., was reappointed Clinical Tutor for the ensuing winter and summer sessions to the wards under the charge of Mr. Caird. Mr. D. Morley Mathieson, M.A., M.B., Ch.B., was appointed Clinical Assistant, for six months as from October 1st, to Dr. James.

The Trafalgar Centenary.

NAVAL SURGERY IN NELSON'S TIME.

The average naval surgeon at the beginning of the nineteenth century was probably not very far above the level of those described by Smollett, who had himself served as surgeon's mate on a line-of-battle ship about the middle of the eighteenth century. He was, perhaps, less coarse in his habits, and he was a good deal better educated, but his standing in the service was not high, and his social status was decidedly low. How he was regarded by snobs is shown by the insolent manner in which a *Quarterly* reviewer of Barry O'Meara's *Voice of St. Helena* speaks of the author's low class in life. As late as 1831 an order was issued that naval surgeons must not present themselves at Court levées; and although the offensive edict was afterwards withdrawn, the fact that it should have been issued is a proof of the lowly rank assigned to medical officers in the Royal Navy only a few years before the accession of Queen Victoria. It is true that things were still worse in some foreign navies in which it was part of the duties of the surgeon to shave the ship's company. In his *Curiosities of Medical Experience* Millingen states that for refusing to act as barbers to the crew, some English surgeons who had joined the Swedish navy were summarily dismissed the service. This was in 1801. Tonsorial operations appear to have been included among the duties of Portuguese army doctors in the Peninsular war, for Millingen tells us that in 1809 one of his assistants in the Portuguese service wished to shave him and was much hurt at his refusal of the offer. From Marryat it may be gathered that the surgeons held a fairly good position among their brother officers, but it is clear that such recognition as they received was given not to their rank but to their personal qualities. On the whole the conditions of the service would appear to have justified Abernethy's emphatic declaration to young Richard Owen, when told by him that he thought of going to sea, that he might as well go to the devil!

The Personnel of the Medical Service.

From some interesting notes and extracts from medical officers' journals, preserved at the Public Record Office, which were published in the Statistical Report of the Health of the Navy in the Year 1902, by Deputy Inspector-General Preston, it appears that at the beginning of the last century the medical service of the navy was recruited principally from Wales, Ireland furnishing but a few surgeons' mates. Scottish names appear in any number only after the reduction of the navy in 1820. There were many foreigners in the service; this, indeed, was the case throughout the navy. It is a shock to British prejudice to learn that on the average one-eighth of the crew of one of Nelson's battleships were foreigners, while in some ships the proportion was much higher.[1]

French, Dutch, and Russian surgeons seem to have been given warrants, probably after the ships in which they were serving had been captured—a curious illustration of the maxim that medicine has no limitations of nationality. In the "Journals" there are not a few examples of the difficulty which the foreign surgeons found in expressing themselves in English; some of the records are written in Latin.

[1] John Masefield, *Sea Life in Nelson's Time*. London: 1905.

EXAMINATIONS FOR ADMISSION.

The same language was also used as a medium for the examination of candidates. Dr. Bozzi, a doctor of the University of Pavia, who afterwards took the name of Granville and settled as a physician in London, applied for the post of Assistant-Surgeon on board a British warship in 1807. He gives an amusing account of his adventures in his *Autobiography*:

"Admiral Robert Montagu directed the medical officers of Haslar Hospital to examine me as to my being qualified to serve as assistant-surgeon, which operation accomplished, and a certificate of my fitness obtained, the admiral confirmed Captain McKinlay's nomination to the same vessel, dated May 25th, 1807, the day after the examination. The medical officers at Haslar were Dr. Hope, Dr. Magennis, and Mr. Vance. The latter gentleman became in after-years well known in the metropolis, where he settled as a physician, acquiring great reputation as a successful practitioner in complaints of the stomach, for which he used to prescribe certain famous pills, known under the name of Vance's pills. It was my lot, when it came to my turn to practise in London, to meet him in consultation, and later to commiserate, in common with the rest of the profession, the sad and singular fate he met at the hands of an insane patient he had just visited in the upper floor of a house in Sackville Street, who threw the doctor over the bannisters to the bottom, killing him on the spot. At my examination at Haslar none of the gentlemen spoke any other European language than their own. Of that language I was then, if not completely ignorant, at all events little able to understand more than a few words or an expression or two picked up during the very short time I had been on board the *Raven*, the surgeon of which ship, a Mr. Francis Johnstone, a Scotchman, spoke Latin with a certain facility and a pronunciation analogous to that of the Italians. Indeed, our own official intercourse on board had been carried on in that language as the only possible means of communication. And so it was the case at the Haslar examination, to which Mr. Johnstone had accompanied me, suggesting that it should be conducted in that language, a task which Drs. Hope and Magennis undertook, Mr. Vance interpolating now and then a few practical surgical questions, which were translated to me into Latin by the other two examiners, Mr. Vance possibly not feeling himself competent to employ the more learned language. Whilst noticing here the first difficulty I encountered on English ground, and which was thus overcome, I must not omit to add that it was followed by more than one of the same sort during the first twelve months of my professional experience in this country. I allude to the number of times I was subjected officially to medical examinations, for having not long after been transferred from the *Raven* to the *Millbrook*, a war schooner with a sliding keel invented by Sir Samuel Bentham, carrying sixteen sixty-four pound carronades on a flush deck, commanded by a Lieutenant Leach and a sublieutenant, with an assistant surgeon only, I felt naturally anxious to make my appointment a permanent instead of a temporary one. To attain this object it was imperatively necessary that I should appear before the London naval authorities to prove my fitness for the office. Presuming myself sufficiently acquainted with the English tongue, to which I had applied myself in the meantime, I obtained leave to go up to London to present myself before the Transport Board, by whom I was directed to the Royal College of Surgeons to be examined for the rank of permanent assistant surgeon in the navy. This examination was followed by another before Dr. Weir, Medical Commissioner of the Transport Board, on which occasion I obtained my first parchment warrant (now called, I believe, a commission) as a regular assistant surgeon in the Royal Navy, dated November 21st, 1807. Then again in less than ten months I was examined before the same two bodies for the attainment of my full rank of surgeon, which was conferred on me not long after on my appointment to His Majesty's sloop of war *Cordelia*, Captain Kennedy.

Granville's account of his examination before the President and Censors of the London College of Physicians in 1817 will serve to give an idea of the way in which those old medical examinations in Latin were conducted. He had as companions in the adventure two remarkable fellow-candidates. These were

"The surgeon who had received the last words and sigh of Nelson on board the *Victory* and a Doctor Armstrong, author of a treatise on fever which had created quite a *furore* among the profession, and had secured an enormous practice to its author, for which latter reason he was pulled up by the Censors, and made to come before them for his licence. Armstrong was, however, rejected not from malice nor because he was almost entirely ignorant of the Latin language, but for gross ignorance of anatomy and physiology. Dr. Paris told Granville some time after that Dr. Armstrong had failed to answer almost every question as regards the internal organization and functions of the body, although the examiners patiently waited a considerable time after every question. 'At last,' said Dr. Paris, 'I thought of one of the simplest possible questions that should give him a chance to come off well, and so I asked, *'Dic, mihi, domine, ubi locatum est hepar?'* *'In corpore, domine,'* was the immediate reply! ('Where is the liver placed?' 'In the body, sir.') *'Satis est,'* exclaimed the President, 'you may retire, sir,' and he was accordingly not admitted."

It is gratifying to read that "Nelson's surgeon" doubtless William Beatty—passed the ordeal successfully.

SURGEONS' ASSISTANTS.

If a knowledge of Latin was common among the surgeons their assistants were not as a class well educated. Whyte, of the *Atlas*, in 1800, complains of the want of medical education and the conduct of the surgeons' assistants. He writes:

"The third mate possessed activity, and so long as he entertained a hope of becoming first mate he was willing and zealous; but his medical as well as common education had been entirely neglected; he neither understood Latin nor could he spell properly the most common English words . . . The present first mate . . . incompetent for the performance of his duties . . . his exterior plausible . . . but more ignorant than the third mate. Concerning the Irish B.A. now second mate . . . he could neither perform the simple operation of venaesection nor make up the most common medicinal preparations."

UNPOPULARITY OF THE SERVICE.

The service was very unpopular, except in vessels cruising in home waters. One surgeon asked for his discharge "or death will soon put an end to my troubles." Another writes bitterly of "the noise, the intemperance, the dissension of a ship of war." In 1708 when a surgeon went on board the *Serapis*, then in India, and produced the warrant of his appointment to the commanding officer, he was informed by that gentleman that "he was surgeon himself, and had been so near four years; that no surgeon was allowed, and that he wanted none."

THE SURGEON'S POSITION AND DUTIES.

Of the naval surgeon's position and duties a good idea may be obtained from the account given by Mr. John Masefield in his abundantly "documented" book to which reference has already been made. The surgeon messed with the ward-room officers, and slept in a cabin near the ward-room. He was "generally the most independent officer in the ship," as his duties were essentially different from those of the executive. On coming aboard a ship commissioning he had to examine the medical stores, and to see them duly stowed away in the medicine-chests or sea-dispensary below decks. When the newly raised or pressed men were brought aboard he had to examine them in regard to their fitness for the service, and also for infectious or contagious disease. Under his direction the "quota-men" or "my Lord Mayor's men," who were criminals chosen from among those in prison, had their heads shaved and their bodies scrubbed "from clue to earring;" their clothes were thoroughly boiled before they mixed with the crew. At sea the surgeon had charge of the sick-bay, "a small sea-hospital shut away from the rest of the ship by wooden screens covered with canvas." There a certain number of the "waisters," or least necessary of the crew, acted as nurses. These attendants kept the place scrupulously clean, well fumigated, and sprinkled with vinegar. The surgeon was expected to have dressings always ready in case of action. He was also expected to instruct the crew in the use of the tourniquet. He had to visit his patients twice a day. Mr. Masefield gives an interesting account of the measures taken to prevent infection. It was the surgeon's duty to ask the captain to fix a general washing day once in each week, whenever there was plenty of rain water, so that the men's clothes might be washed and then dried in the sun. At intervals he was to ask that all the hammocks should be aired on the forecastle, the lashings taken off the blankets shaken, and the mattresses hung in the sun. Now and then he had to fumigate the ship. The most common means of doing this was by burning a preparation of gunpowder, soaked in vinegar, in iron pans about the decks. Burning flowers of sulphur gave good results, and many found fires of firewood satisfactory. In dock, when a ship was very badly infected, they seem to have used tobacco, burning it in great pans about the gun-decks, with the ports and hatches closed, and the men standing at their quarters "as long as they can bear it." Sometimes the seamen's kit bags were hung up over "pots of burning brimstone." Sometimes pots of burning brimstone were placed between the guns and sprinkled with vinegar. A method of disinfecting the sick-berth when there were many sick was the immersion of red hot irons, called loggerheads, into buckets of tar. A surgeon was expected to ask the captain from time to time to cause iron fire buckets, containing burning charcoal to be lowered into the hold. The red embers were sprinkled with vinegar and brimstone as soon as the buckets were in position. The well, the bilges, and the recesses of the hold, were thus both dried and disinfected at the same time. Another way of

fumigation was by pouring sulphuric acid and the powder of nitre upon heated sand. After Nelson's death this was the plan generally adopted. Notwithstanding these precautions, there was always more or less stench aboard the best-regulated ship; the stench was, however, less penetrating, and the danger of infection always slighter, in those ships which were frequently dried by portable fires.

One of the surgeon's duties was to superintend the floggings, which were of daily occurrence, and often ended fatally. Even a dozen lashes not infrequently stripped the muscles from the back, and laid bare the spinal column.

Treatment of the Sick and Wounded.

The sick and wounded men were, says Mr. Masefield, treated with comparative humanity. They were given nightcaps, hair mattresses, free vaccination, and sheets of real linen. The cook was sometimes bidden to boil up some "sowens," or "flummery," from the ship's oatmeal for them. The very sick were given soft bread and "portable soup." When fish were "caught for the ship's company" they got the first helping. When the officers had any fowls or similar delicacies in the ward-room, they often sent portions forward for the sick-bay, with any wine they had. Lint, however, was reckoned too expensive to be used for the dressing of wounds. Sponges were used instead, but the supply was limited, and in action one sponge was often used to dress the wounds of a dozen men. The supply of mercury was restricted, as "being requisite only for complaints that might be avoided."

When a ship went into action at the beating of the drums to quarters the surgeon and his assistants repaired to the after-cockpit, to prepare it for the reception of the wounded. The purser, the stewards, the chaplain, and the captain's clerk accompanied them, to give such help as lay in their power. The midshipmen's chests were drawn together to make an operating table. Over this was spread a sail. Light was supplied by large candles in tin sconces placed on the table, while others in heavy ship's lanterns were arranged about the bulkheads. A portable stove was lighted, for the heating of oils, etc., during the operations. A kid of water was generally heated there, in which the surgeons could warm their saws and knives before commencing amputations. The object of this was not to sterilize the instruments but spare the sufferers the pain caused by a cold knife. Mr. Masefield does not mention the interesting fact that this practice was adopted in consequence of an order issued by Nelson after the amputation of his own arm; during that operation he had felt the contact of the cold steel with the sundered tissues. Near the table were ranged several kids, or half-tubs, some of them empty to receive amputated limbs, some of them full of water for the washing of the surgeon's hands and the cleansing of wounds. Ready at hand were open bottles of spirits for the restoration of fainting patients. It was an inviolable rule that a wounded man should take his turn. The first brought down was the first dressed. "No favour was shown to any man, were he officer or swabber." An unfortunate result of this otherwise just rule was that many men bled to death before the surgeon could work his way round to them.

The operations were necessarily hurried, and records of them in the *Journals* is of the scantiest. As Deputy Inspector-General Preston points out very few remarkable surgical operations are recorded during a period when amputations after gunshot injuries were of almost daily occurrence. Considering this as a part of routine duty, the surgeon simply noted the injury, the bare fact of the amputation and the subsequent dressings, the entry usually ending with the remark: "There were no surgical cases worthy of record during the period." Even when an admiral loses an arm, the record is of the baldest. The following is the note of the amputation of Nelson's arm:

Theseus, 1797, July 24th and 25th.

Admiral Nelson. Compound fracture of the right arm by a musket ball passing thro' a little above the elbow, an artery divided; the arm was immediately amputated and the following given him: ℞ Opii. gr. ij, ft. Pil. statim. s., etc., 26 July. Rested pretty well and quite easy. Tea, soup, and sago. Limonade and Tamarind drink. 31 July. One of the ligatures came away; looks well. 1 Aug. Continued getting well very fast, stump looked well, no bad symptom, sore reduced to the size of a shilling.

No further remarks upon this interesting case are found until August 20th and in the journal of the *Seahorse*, wherein the surgeon, Mr. Thomas Eshelby, writes:

I was appointed from the *Theseus* to attend the Admiral to England . . . one of the ligatures not come away. Twitching Pains at times, particularly by night. I gave the following: ℞ Haust. Salin. c. Tr. Opii. gtt xl h. s. sumendus et rep pro re nata. Dress'd with Cerat Lap Calamin and dry Lint; he landed at Portsmo. 1st Sept. would not suffer the ligature to be touched.

Uniform and Pay.

Neither the surgeon nor his assistants wore uniform until the beginning of 1805. The pay varied with the length of service. A surgeon who had served twenty years received 18s. a day; one who had served six years received 11s. a day. The assistants had to serve three years before they ranked as full surgeons. There were three grades of assistant-surgeons, and the regulations enforced a year of service in each grade. The pay of the lowest grade was 4s. a day; the other two grades received 5s. a day. Both surgeon and assistants were expected to supply their own instruments. Medicines were supplied by the Government.

Nelson's Personal Experiences of Surgery.

Nelson was a man of weak frame and of a constitution which in these days would be called neurotic. This makes his physical courage and the vigorous vitality which enabled him to bear the rough life of the navy as it was in his day all the more remarkable. While he was still a midshipman the Indian climate broke down his health for a time. Southey says: "The disease baffled all power of medicine; he was reduced almost to a skeleton; the use of his limbs was for some time almost entirely lost." He was brought home, and had it not been for the care of a kindly captain he would never have lived to reach his native shores. So depressed was he at this time that he almost despaired of ever rising in his profession. He says himself: "After a long and gloomy reverie, in which I almost wished myself overboard, a sudden glow of patriotism was kindled within me, and presented my king and country as my patron. 'Well, then,' I exclaimed, 'I will be a hero! and, confiding in Providence, I will brave every danger.'" Later in the West Indies he suffered from poisoning from drinking at a spring into which some boughs of the machineel had been thrown. The effects were so severe as, in the opinion of some of his friends, to inflict a lasting injury on his constitution. Not long afterwards he suffered from dysentery, which reduced him so much that when the expedition reached Port Royal he was carried ashore in his cot. He was again invalided home. He went to Bath in a miserable state—so helpless that he had to be carried to and from his bed, and the act of moving him caused the most violent pain. Before his health was thoroughly re-established he was sent to the North Seas and kept there a whole winter, as if, he said, to try his constitution. Throughout his life he had often to contend with ill health, and he never went to sea without suffering from sickness for the first few days—a fact which of itself testifies to his indomitable spirit as much as his heroic exploits.

Loss of an Eye.

At the siege of Calvi in Corsica in 1794 he received an injury which destroyed the sight of his right eye. He was ashore in command of a battery; Captain Mahan's account is that on July 12th Nelson was in a battery ashore when a shot, which on the ricochet cleared his head by a hair's breadth, drove sand into his face and right eye with such violence as to incapacitate him. He made light of the injury, and writing to Admiral Lord Hood the same night he said:

Reports, we know, get about, and as neither time, or many other circumstances, may be mentioned, it is best to say it myself—that I got a little hurt this morning; not much, as you may judge by my writing.

Curiously enough, the account he gave to his wife a month or more later differs materially; even the date mentioned is not the same. The letter is dated Off Leghorn, August 18th, 1794. In it he wrote:

As it is all past, I may now tell you that on the 10th July, a shot having hit our battery, the splinters and stones from it struck me with great violence in the face and breast. Although the blow was so severe as to occasion a great flow of blood from my head, yet I most fortunately escaped, having only my right eye nearly deprived of its sight; it was cut down, but is so far recovered as for me to be able to distinguish light from darkness. As to all the purposes of use, it is gone; however, the blemish is nothing, not to be perceived unless told. The pupil is nearly the size of the blue part; I don't know the name.

At Bastia I got a sharp cut in the back. You must not think that my hurts confined me; no, nothing but the loss of a limb would have kept me from my duty, and I believe my exertions conduced to preserve me in this general mortality . . . one hundred and fifty of my people are in their beds; of two thousand men I am the most healthy.

Contusion of Abdomen.

At the battle of Cape St. Vincent on February 14th, 1797,

where his pendant as commodore was hoisted on the *Captain* he received a comparatively slight injury, which he thus describes to Sir Gilbert Elliott in a letter written the day after the battle from the *Irresistible*, to which he had transferred his flag:

The *Captain* is a wreck in hull and masts. We know not, exactly, but suppose near sixty killed; amongst the slightly wounded is myself, but is only a contusion and of no consequence, unless an inflammation takes place in my bowels, which is the part injured. But they who play at balls must expect rubbers.

Again on February 17th he wrote to his brother:

As reports may get abroad concerning me, I know it will be satisfactory to hear immediately from myself. I am, in reality, not near so much hurt as the doctors fancied, and two days will restore me to perfect health.

The injury was not quite so trivial as he supposed, for in a letter to his uncle, William Suckling, on February 23rd, he wrote:

My hurt at the moment was nothing, but since it has been attended with a suppression of urine, but the inflammation is gone off, and I am nearly recovered.

LOSS OF RIGHT ARM.

In the expedition at Teneriffe in 1797, in a boat action by night he was badly wounded in the arm. The official account of this wound as given in the medical officer's "Journal" has already been quoted. The following is Southey's account:

In the act of stepping out of the boat, Nelson received a shot through the right elbow, and fell; but, as he fell, he caught the sword, which he had just drawn, in his left hand, determined never to part with it while he lived, for it had belonged to his uncle, Captain Suckling, and he valued it like a relic. Nisbet, who was close to him, placed him at the bottom of the boat, and laid his hat over the shattered arm, lest the sight of the blood, which gushed out in great abundance, should increase his faintness. He then examined the wound, and, taking some silk handerchiefs from his neck, bound them round tight above the lacerated vessels. Had it not been for this presence of mind in his son-in-law, Nelson must have perished. One of his bargemen, by name Lovel, tore his shirt into shreds, and made a sling with them for the broken limb. They then collected five other seamen, by whose assistance they succeeded at length in getting the boat afloat; for it had grounded with the falling tide. Nisbet took one of the oars, and ordered the steersman to go close under the guns of the battery, that they might be safe from its tremendous fire. Hearing his voice Nelson roused himself, and desired to be lifted up in the boat, that he might look about him. Nisbet raised him up; but nothing could be seen except the firing of the guns on shore and what could be discerned by their flashes upon the stormy sea. In a few minutes a general shriek was heard from the crew of the *Fox*, which had received a shot under water, and went down. Ninety-seven men were lost in her; eighty-three were saved, many by Nelson himself, whose exertions on this occasion greatly increased the pain and danger of his wound. The first ship which the boat could reach happened to be the *Seahorse*; but nothing could induce him to go on board, though he was assured that if they attempted to row to another ship it might be at the risk of his life. "I had rather suffer death," he replied, "than alarm Mrs. Freemantle by letting her see me in this state, when I can give her no tidings whatever of her husband." They pushed on for the *Theseus*. When they came alongside he peremptorily refused all assistance in getting on board, so impatient was he that the boat should return, in hopes that it might save a few more from the *Fox*. He desired to have only a single rope thrown over the side, which he twisted round his left hand, saying, "Let me alone; I have yet my legs left, and one arm. Tell the surgeon to make haste and get his instruments. I know I must lose my right arm; so the sooner it is off the better." The spirit which he displayed in jumping up the ship's side astonished everybody.

Nelson made no mention of his wound in his official dispatches, but in a private letter to Lord St. Vincent—the first which he wrote with his left hand—he says: "I am become a burthen to my friends and useless to my country." In a subsequent letter he says: "A left handed admiral will never be considered as useful, therefore, the sooner I get to a very humble cottage the better, and make room for a sounder man to serve the State." Writing to Lady Nelson, he says: "I beg neither you nor my father will think much of this mishap; my mind has long been made up to such an event." Soon afterwards, however, we find him assuring the Duke of Clarence that not a scrap of that ardour with which he had hitherto served his King had been shot away. His record of service at this time showed that he had been in action upwards of one hundred and twenty times, and had lost his right eye and right arm, and been severely wounded and bruised in the body.

Nelson suffered severely from the consequences of the operation. A nerve had been included in the ligature of one of the arteries, and caused intense irritation and prevented healing. For three months after his return to England he had scarcely any intermission of pain, day or night. Lady Nelson, at his earnest request, was present at the dressing of his wound till she had acquired sufficient skill and resolution to dress it herself. Writing in September, 1797, from Bath to the Rev. Dixon Hoste, father of the midshipman who has left an account of Nelson's return to his ship after the wound was received, he says:

As to myself, I suppose I was getting well too fast, for I am beset with a physician, surgeon, and apothecary, and, to say the truth, am suffering much pain with some fever, but time, I hope, will restore me to tolerable health.

On September 18th he wrote from London to Lord St. Vincent:

I had a very miserable passage home, and this day am not the less better than when I left good Dr. Weir (physician to the Earl of St. Vincent's fleet), and Cruickshanks has me now in hand. I found my domestic happiness perfect, and I hope time will bring me about again, but I have suffered great misery.

Writing again to Lord St. Vincent on October 6th, he says:

My poor arm continues quite as it was, the ligature still fast in the nerve, and very painful at times. The moment I am cured I shall offer myself for service, and if you continue to hold your opinion of me, shall press to return with all the zeal, though not with all the personal ability I had formerly.

The ligature came away on December 4th, and four days later Nelson, who was lodging at 141, Bond Street, sent the following notice to the Rev. Mr. Greville, then Minister of St. George's, Hanover Square:

An officer desires to return thanks to Almighty God for his perfect recovery from a severe wound, and also for the many mercies bestowed upon him, December 8th, 1797 (for next Sunday).

Writing to Captain Albemarle Bertie on December 11th, he said:

I am now perfectly recovered, and on the eve of being employed.

On December 8th he wrote to Captain Berry:

If you mean to marry, I would recommend your doing so speedily, or the to be Mrs. Berry will have very little of your company; for I am well, and you may expect to be called for any hour.

The ways of officialdom are amusingly displayed in the manner in which even such a man as Nelson was dealt with when he claimed the compensation due to him for his wounds. Not having been in England since he had lost his eye he was entitled to receive a year's pay as smart money. Payment was, however, refused because he had neglected to bring a certificate from a surgeon that the sight was actually destroyed. A little irritated that this formality should be insisted upon, though the fact was not apparent, he thought it was sufficiently notorious, he procured a certificate at the same time for the loss of his arm, saying they might just as well doubt the one as the other. This, says Southey, put him in good humour with himself and with the punctilious official. On his return to the office, the clerk finding that the amount claimed was only the pay of a captain, observed that he thought it had been more. "Oh," replied Nelson, "this is only for an eye. In a few days I shall come for an arm; and in a little time longer, God knows, most probably for a leg."

WOUND ON THE HEAD.

At the battle of the Nile, in 1798, Nelson was again severely wounded. In his dispatch reporting the battle of the Nile to the Commander-in-Chief (Lord St. Vincent) he wrote:

I was wounded in the head, and obliged to be carried off the deck; but the service suffered no loss by that event. Captain Berry was fully equal to the important service then going on. . . .

According to Captain Mahan it was about half-past eight in the evening that he was struck in the forehead by a langridge shot or a piece of iron, and the skin, being cut by it at right angles, hung down over his face, and, as it covered his sound eye, rendered him quite blind. He was persuaded himself that the wound was mortal, but when Mr. Jefferson, the surgeon, went to him he refused to be taken out of his turn. Jefferson tried to reassure him, but at first without avail. After the wound had been dressed, however, Nelson recovered his energy, and insisted on beginning to dictate his dispatch. Writing to Lord Minto, from the *Vanguard* off Rhodes, August 29th 1798, Nelson says:

I doubt if I ought to stay here; my brain is in such a state that rest of mind, if that be possible for me, is, the doctors say, absolutely necessary.

On September 1st he wrote to Lord St. Vincent:

As to myself, I know I ought to give up for a little while; my head is splitting at this moment, but of this hereafter; you will give me credit for serving as long as I can.

THE DEATH WOUND.

Last of all comes the closing scene of Trafalgar, October 21st, 1805. Nelson received his last and fatal wound from a ball fired from a distance of not more than fifteen yards from the part of the deck where he was standing. It struck the

epaulette on his left shoulder carrying part of it into his body. When raised up, he said to Captain Hardy, "They have done for me at last, Hardy." On Hardy's saying that he hoped not, Nelson replied, "Yes, my backbone is shot through." He insisted that the surgeon should leave him and attend to those to whom he might be useful, saying that nothing could be done for him. Soon all sensation below the breast was gone, but he still suffered such acute pain in the track of the wound that he told Mr. Beatty, the surgeon, he wished he were dead. He died a little more than three hours after he had received his wound.

More than six years before the battle of Trafalgar Captain Hallowell had sent Nelson a suggestive reminder of his mortality in the shape of a coffin made of part of the mainmast of *L'Orient*, the famous French ship in which Casabianca and his little son went down at the battle of the Nile. The following is the text of the letter:

The Right Hon. Lord Nelson, K.B.

My Lord,

Herewith I send you a Coffin made of part of *L'Orient's* Main mast, that when you are tired of this Life you may be buried in one of your own Trophies—but may that period be far distant, is the sincere wish of your obedient and much obliged servant,

Swiftsure, May 23rd, 1799. BEN. HALLOWELL.

Nelson was actually buried in this coffin.

The medical history of Nelson's last hours was told by Beatty in a book entitled *An Authentic Narrative of the Death of Lord Nelson with the Circumstances preceding, attending, and subsequent to that Event; the Professional Report of His Lordship's Wound; and Several Interesting Anecdotes*, which was published in 1807. In that book Beatty gives a representation of the ball which killed Nelson, with the pieces of the coat, gold lace, and silk pad which remained fixed in it. The surgeon kept the ball in a crystal case mounted in gold. It may be added that Beatty was in 1806 appointed physician to Greenwich Hospital, and continued to fill that post till 1840. He was knighted by William the Fourth in 1831, and died in 1842.

NEW CANCER RESEARCH LABORATORIES AT THE MIDDLESEX HOSPITAL.

CANCER research in connexion with the Middlesex Hospital may be said to have been in progress for more than 150 years. Records of cases of malignant disease have been accumulated since 1747, and are now being more fully investigated. The new cancer research laboratories, situated in its cancer wing in Nassau Street, enjoy a quite unusual opportunity for assisting in the attack on the cancerous diseases, because they receive material for investigation from at least two different classes of cases: from such as are seen in general hospitals that are susceptible of amelioration by operation, and from such as are seen as a rule in the Poor-law infirmaries alone, cases that are hopeless, and must prove fatal while under hospital care. The laboratories date from 1900, coinciding in time with the opening of the present cancer wing, which holds 49 beds for incurable cases. Under the first director of research, Dr. A. G. R Foulerton, much valuable work was done, and under the present holder of that post, Dr. Lazarus Barlow, the work and facilities for work have been greatly extended. In 1900 the director had three assistants, now he has eight, including four trained men as paid assistants, two holders of research scholarships, themselves advanced men experienced in laboratory methods and in scientific work, and two voluntary workers who are in a certain sense in training for advanced research, but who unquestionably add to the working power of the place. Each researcher has a separate laboratory, and there is yet room for other workers.

In addition to the laboratories, which are conveniently-sized rooms fitted up with all the more recent apparatus for histological, bacteriological, and bio-chemical work, there is a workroom where apparatus are constructed, altered, or repaired; a preparation room where the tissues, organs, etc., are hardened, imbedded, and cut for the researchers; a library containing not only the most recent and valuable monographs on malignant disease, but current periodical literature on the subject; cold storage rooms in the basement, which are used for specimens, and the director's offices.

The specimens and material in all its forms are so carefully classified and catalogued, that any case from 1747 onwards may be reinvestigated at short notice for purposes of comparative study. Every member of the department undertakes at least two pieces of work at one time—one statistical, based on this accumulation of years, and the other a piece of research. The value of the statistical work, being chiefly concerned with verified cases of malignant disease, is very great. The value of the research work depends equally on the positive and negative results, and both are published in the reports issued from the department. These annual reports comprise not only the description of such researches but also the detailed pathological findings in some 300 fresh cases of malignant disease, and the features of the disease as it affects various parts of the body are studied in relation to all the statistics. Each of the lofty, light, well-ventilated laboratories could accommodate two workers, and thus places could be found for four or five more investigators. While there is room the tradition of the laboratories has been that no one wishing to do work and showing aptitude has been discouraged, and the work of each, under the inspiration of the director, is brought within the knowledge, scrutiny, criticism, and confirmation—or the reverse—of all.

It is doubtful whether anywhere else the conditions of research into the nature of cancer are better, and that the worth of the laboratory is being widely recognized is evidenced by the cosmopolitan character of its scientific visitors; on two consecutive days within the last week visitors came from India and Iceland.

LITERARY NOTES.

WE have received from the publishers, Messrs. Jarrold and Sons, of Norwich, an advance copy of a *Souvenir of Sir Thomas Browne* with twelve illustrations and notes by Mr. Charles Williams, F.R.C.S.Edin., one of the highest authorities on everything relating to the author of the *Religio Medici*. The illustrations, which are most artistically executed, comprise reproductions of the Norwich portrait; the Browne family; Shibden-Dale, where the *Religio Medici* was written; a facsimile of the first page of the manuscript copy of that work; Sir Thomas Browne's house at Norwich; the drawing-room of the house, with an exquisite piece of oak carving over the mantelpiece (now in the library of the Hall at Stoke, Holy Cross, near Norwich); the Church of St. Peter Mancroft where Sir Thomas "attended the public service very constantly when he was not withheld by his practice," and where he was buried; an impression of the plate on his coffin; the memorial statue unveiled this week by Lord Avebury; and the palace of the Duke of Norfolk at Norwich. Mr. Williams's descriptive notes give within a short compass a most interesting and appreciative account of the man, his works and his environment. It is a graceful and loving tribute to the memory of the great writer whom Norwich delights to honour and whose life Mr. Williams has done so much to elucidate.

Mrs. Martin Hood Wilkin has put out (Elliot Stock, 3s. 6d.) a small book of *Quaint Sayings from the Works of Sir Thomas Browne*. It is dedicated to the memory of her husband, who died last year. He was the son of Mr. Simon Wilkin of Norwich, who edited Sir Thomas Browne's works, and formed a notable collection of Browniana. This collection was presented to the Norwich Museum on Thursday, the tercentenary of Browne's birth, and the day on which his statue was unveiled in Norwich. We do not very much like Mrs. Wilkin's title, for, though Browne's writings may be counted quaint, it is not for their quaintness that they are esteemed to-day. Her selection may, however, serve very well to introduce to Browne many who as yet know him only by name. Remembering the celebration in Norwich, it is rather ironical to find among her earliest quotations this:

> "At my death I mean to take a total adieu of the world, not caring for a monument, history, or Epitaph, not so much as the bare memory of my name to be found anywhere, but in the universal Register of God."

At a meeting of the Académie de Médecine on October 3rd, M. Antonin Poncet presented in his own name and that of a collaborator, M. René Leriche, *interne* of the Lyons Hospitals, a medical study of Scarron, the first husband of Madame de Maintenon, and Couthon, one of the leaders in the Reign of Terror. Both men were hideously deformed. Scarron, in his twenty-fifth year, had suffered from acute rheumatism, which resulted in general stiffening of his joints. His condition became steadily worse, and when at the age of 36 he married

Françoise d'Aubigné, he had lost the power of movement except in his hands, tongue, and eyes. M. Poncet's diagnosis of his disease is generalized tuberculous ankylosing rheumatism. Couthon, he says, before he became the subject of Pott's disease with consecutive paraplegia, had suffered from polyarticular tuberculous rheumatism.

CONTRACT MEDICAL PRACTICE.

NOTICE AS TO DISTRICTS IN WHICH DISPUTES EXIST.

A notice as to places in which disputes exist between members of the medical profession and various organizations for providing contract practice will be found among the advertisements, and medical men who may be thinking of applying for appointments in connexion with clubs or other forms of contract practice are requested to refer to the advertisement on page 79

SPECIAL CORRESPONDENCE.

MANCHESTER.

Arrangements for Feeding Underfed Children in Manchester.—Lead in Water Supply at Mossley.—Misleading Symptoms in a Supposed Case of Typhoid Fever.—President of the Pharmaceutical Society and the Sale of Drugs by Limited Liability Companies.—Diseased Meat.

THE Manchester Guardians have approved of arrangements being made with proprietors of eating-houses situate within a convenient distance of the several public elementary schools, to supply dinners on five days of the week at a charge of 3d. per meal for children who are in course of attendance at public elementary schools, and to whom the guardians have resolved to give relief under the provisions of the Relief (School Children) Order, 1905. Tickets will be issued to the children, entitling them on presentation of the same at the appropriate eating-house, to have dinner served to them. The eating-houses will be frequently visited by an officer of the guardians during the dinner hour.

In Mossley some nine months ago there were several cases of lead poisoning, due to the water supply. Assurances were given subsequently that the water supply was good and potable. At an inquest, however, held on the 11th instant, on the body of a woman who died suddenly, the medical man who attended her stated that she had the typical blue line on the gums which indicated lead poisoning. Death was not due to lead poisoning, but to syncope. It was mentioned incidentally that there have been many other cases of lead poisoning, and indeed that it was a very common complaint in Mossley. The medical men did not report these cases to the medical officer. No remuneration is given for any cases reported. The coroner was asked to communicate with the local authority, calling attention to the extent to which lead poisoning existed in the town.

The City Coroner on October 11th had occasion to investigate the cause of death in a case where the symptoms during life seemed to have been misleading. It was that of a young man who was taken to Monsall Infectious Diseases Hospital on September 14th, against, it was stated, the will of his father. The case at the time was diagnosed as one of enteric fever, and its removal to hospital ordered accordingly. Subsequently, and while in hospital, it was discovered that the patient was not suffering from enteric. The Medical Superintendent stated that the symptoms were compatible with enteric. The cause of death was inflammation of the brain. The jury returned a verdict, "Death from natural causes."

The President of the Pharmaceutical Society of Great Britain, at a meeting of the Manchester Branch held in this city on October 11th, did an important public service by directing the attention of the community to the great danger there is of the safeguards provided by the Pharmaceutical Act of 1868 being over-ridden or disregarded by persons usurping the business of chemist, and using the title without passing an examination. The title "chemist and druggist" is, so far, a protected title, and is obtained after a technical training and statutory examination. The House of Lords some years ago decided that a limited liability company of unqualified persons, whether as shareholders or directors, did not come within the restrictions of the Pharmacy Act, on the ground that a company was not a person. Thus what it is illegal for one person to do, seven persons formed into a company could do without infringing the Act. It was not a sufficient answer that the company employed qualified assistants; the real intention of the Act was that the keeper of the business—the owner—should be a properly qualified chemist. A private Bill will be reintroduced into Parliament to better protect the title of chemist. While a registered chemist and druggist is subject to the regulations of the law, a limited company can evade these regulations; therefore it is plain that there exists a danger to the public. As Professor Wild remarked, "It is as much to the danger of the public to have poisonous drugs and substances distributed amongst the community by irresponsible hands as it is to have an untrapped sewer. The regulation of the sale of poisons is as much a part of public-health legislation as are the regulations relating to sewers or to infectious diseases. The directors of a company that carried on a pharmacy department should have the necessary qualification."

The Stockport magistrates had before them at the beginning of the month two butchers who were found in possession of diseased meat—stated to be tuberculous, and intended for human consumption. The decision of the magistrates will, we think, meet with general approval. The case was a very bad one. The culprits were not given the option of a fine, but were sent to prison with hard labour. Imprisonment is the only punishment that fits so serious an offence against the public wellbeing. This conviction has brought home the fact that Manchester has no power to deal with parties sending beef unfit for food to Manchester. The commission salesmen will not sell before the consignments have been examined and passed by the inspectors. It has been found impossible to prosecute successfully the senders of these disease-laden supplies for sale, as the consigning party did not offer them for sale. The evil is a serious one when one takes into account the fact that of about 100 tons of unwholesome meat condemned at the abattoirs last year, over 25 tons which had been carefully "dressed" in the country was confiscated. Even four cases of anthrax were detected. During the last two years there have been sent to the Manchester market from the country ten carcasses affected by anthrax. Of six persons who assisted in dressing these carcasses and were attacked with anthrax, two died. In a proposed new omnibus bill the Corporation will seek powers to prosecute the consignee of diseased carcasses. Power should also be obtained to prohibit dressed meat being sent in from the country unless accompanied by a detailed statement why the animals were slaughtered. During the last few days four cases of anthrax have been reported in the Marton district of of Cheshire.

LIVERPOOL.

Annual Service for the Medical Profession.

THE annual service for the members of the medical profession, held at St Luke's Church on October 15th, was in many respects the most successful that has taken place since the service was instituted a few years ago. The attendance was unusually large, in spite of the fact that many had to come from a distance, and the weather showed a pronounced foretaste of winter. The Lord Mayor and the Lady Mayoress were present and were received by Councillor Dr. Caton and Mrs Glynn. The service was conducted by the Venerable Archdeacon Madden, assisted by the Rev. F. Chantler. The lesson was read by the Bishop of the diocese.

The preacher, the Bishop of Ripon, took as his text Revelations x. 8. He said they were sometimes under the impression that the age in which they lived was an age in which the presence of the problems of life was felt with peculiar acuteness; but, as a matter of fact, the solution of these problems must have seemed far more hopeless in the Apostolic age, when the world lay at the feet of such men as Nero. He thought it would be a mistake if they were to imagine that their lot was cast in an especially painful age, seeing that in all times the problems of life had pressed very heavily upon the hearts of men, but he acknowledged that life was very often a closed book, a riddle of the universe. Though he acknowledged that the book was closed, yet through it all there ran a kind of glorious optimism which refused to surrender itself, and was determined to believe in the domination and pre-eminence of good. It seemed to him that there were two things which were set out as essential to

the solution of life's problem. One was that man must be ready to face facts of all kinds just as they are, symbolized by the angel standing with one foot upon the earth; the other that he must be a participator in the spirit from which the whole universe took its being, symbolized in accordance with the imagery of the ancient Hebrews, by the other foot being placed upon the sea. It was by careful observations of the inexorable facts of life that the world had progressed as it had, and it was the way with the honourable profession of which they were members to carry out such observations. They who lived in the enjoyment of the great advances which had been made in medical and surgical science of late years knew very well that it was the diligence, patience, and observation of those who had made it their business to try to understand the great and strange phenomena around them which had resulted in so many blessings to the sick and suffering. The progress of the world had not, however, arisen solely from the observation of external physical facts. They must bring into line the soul of man, his imagination, and that wonderful poetic deity which they carried in their bosoms. In his further remarks the Bishop of Ripon said that it was in the participation in the right spirit in the two features he had mentioned that lay the real power of reading the book which was to solve the riddle of life. The possession of knowledge was not the capacity to heal. The man counted for something beside his knowledge. It was the spirit that was in the man more than the knowledge he possessed that was requisite to make a true success in life.

The offertory, which will be given to the Medical Benevolent Fund, amounted to £32 16s, the largest collection which has ever been made at any of these services.

LEEDS.

The Supply of Pure Unsterilized Milk to the Poor.—Annual Dinner of the Members of the Dental Profession of Leeds and District.

SOME weeks ago the Lord Mayor, after taking legal advice on the subject, ruled, at a meeting of the City Council, that the Corporation had no power to enter into any arrangement with dairymen to purchase milk from them with the object of selling this to the public. This, it appears, is a form of municipal trading which the powers of the Corporation do not sanction. The Lord Mayor, however, felt so strongly that the scheme, which the Council desired to see carried out, and which was referred to in the BRITISH MEDICAL JOURNAL on July 1st, should not be allowed to fall through, that he suggested it should be carried out by voluntary effort, and set an excellent example by generously giving £100 to assist in starting the work. A further step was taken when, at a meeting called last week by the Lord Mayor, a committee was appointed to carry on and extend the undertaking. The work, which has up to now been carried out by the temporary Committee, has consisted in the purchase, at slightly above the ordinary wholesale market price, of the milk from the farm of a dairyman in the Potternewton district. The dairy is under strict conditions as to cleanliness; the sterilization, as far as possible, of the hands of the milkers; and the cleansing of the udders of the cows. The milk is at once cooled and bottled. It is then conveyed to the dépôt in Kirkgate and to several subsidiary centres, where it is sold at the ordinary retail price to those who are provided with tickets given by the Association. Should any others desire to purchase the milk a somewhat higher price is charged. The favourable terms on which those supplied with tickets may obtain the milk enables a system of supervision by the female sanitary inspectors of the Corporation to be imposed as a condition, and it is gratifying to learn that the advice and assistance given to the poor by these inspectors as to the manner of dealing with the milk has been willingly accepted.

The annual dinner of the Leeds and District Section of the North Midland Branch of the British Dental Association was held at the Hotel Métropole, Leeds, and was attended by about 50 members and guests. The chair was occupied by the President of the Section, Mr. Percival Leigh, and among the guests were the Dean of the Faculty of Medicine of the University, Professors Wardrop Griffith and Littlewood, other members of the medical profession, and Dr. Forsyth, head master of the Higher Grade School. The speech of the Dean in proposing the toast of "The Society" was of especial interest, as he was able to allude to what has been commented on in this column on more than one occasion—namely, the establishment and satisfactory equipment at the Leeds Public Dispensary of a dental department meeting all the requirements for the clinical side of a dental school. He stated that the University authorities had viewed this development with the greatest interest, and that the whole subject of the establishment of a complete scheme of dental education was already engaging their attention. While deprecating prophecy as being a dangerous indulgence, the Dean ventured to predict as probable that by next October, if not at an earlier date, the dental school would be in full operation. Replying for the guests, Dr. Forsyth, the head master of the largest educational institution in the city, speaking, of course, as a layman, but as one who came much in contact with the young, made a most eloquent appeal to the medical and dental professions to influence public opinion towards securing by legislation that in all schools systematic, periodical, and skilled examinations should be made as to the condition of the teeth in the case of all the scholars. It is well known to the medical men of Leeds that Dr. Forsyth has always had a keen eye for anything in the way of physicial handicap among his scholars, and has in numerous instances pointed out to parents and guardians the necessity of consulting their medical men as to their children's health. Dr. Forsyth seemed to consider the infant schools of the country as doomed to extinction, and felt that in consequence the schoolmaster would in future be prevented during the most important years of a child's life from taking his part in assisting in the great work of educating the public as to the importance of looking to the development of the children's teeth.

SHEFFIELD.

Opening of Session.—Medico-Chirurgical Society.—Lectures to Teachers.

THE Medical Department is in full swing at the new University buildings, and the students are having the advantages of the well equipped laboratories. This year there was no formal opening of the session, but the annual dinner of the Medical School, now the Medical Faculty of the University, was held on October 2nd, at the Victoria Hotel, and was well attended. Dr. Cocking, Dean of the Faculty, was in the chair. Besides honouring the King and Queen, there was only one toast, that of the University, proposed by Mr. Simeon Snell, and responded to by the Vice-Chancellor, Sir Charles Eliot.

The Medico-Chirurgical Society, which has been provided with a room for its library and its meetings in the University, holds its opening meeting on October 19th. A large attendance is anticipated, as the anatomical, physiological, pathological, and bacteriological laboratories are to be open for inspection under the guidance of Professors Patten, MacDonald, Hall, and Dr. Charles Porter.

Evidence of the life which has been imparted into educational matters by the University movement is afforded by the interest shown by the elementary teachers in school hygiene. Dr. Charles Porter, who has in the past delivered two lectures on School Hygiene to the Sheffield Branch, and to the Chesterfield Branch of the Teachers' Guild, has been appointed by the Educational Committee of the City to give a series of lectures to the teachers on the same subject. To a request that those desirous of attending the lectures should give in their names, an affirmative response has been received from no fewer than 685, a result which, whilst surprising in such large numbers, must be very gratifying to the authorities and pleasing to the lecturer, as showing that his previous efforts have met with so much appreciation.

SOUTH WALES.

Welsh University.—Cardiff Infirmary.—The Tramp Plague.—Rhondda Miners and Doctors' Poundage.—University Settlements.—Tenby Cottage Hospital.—Sanitary Inspectors' Association.

AT the meeting of the Standing Executive Committee of the Welsh University to select the short list for the registrarship, some little difficulty was experienced with regard to the terms of the advertisement. The advertisement stipulated that candidates must have academical qualifications, and the Committee were not in a position to decide whether that meant an academical degree, or experience in academical routine. This point has been referred to the University Court to decide when the final selection will be made. Three of the candidates in the short list are Welshmen, and another, Professor Angus, is an acclimatized Welshman, having been

for thirty-three years at Aberystwith. Of the two remaining, one is a Scotchman, and the other an Englishman.

Arrangements for the concert at which Madame Patti has so generously promised to sing in aid of the Cardiff Infirmary are now practically complete. The concert will be held at the Park Hall, Cardiff, at which the Baroness Cederström will be assisted by a highly-talented company. Lord and Lady Bute and party have notified their intention of being present.

At the meeting of the Cardiff Board of Guardians held on October 14th the Chairman said they had no fewer than 217 tramps, a great number of whom came from the neighbouring unions of Merthyr, Bridgend, and Newport. This was becoming a very serious question; he did not know what should be done to remedy the evil, but he suggested that the Guardians might turn the matter over in their minds. They had not had such a serious state of things for many years. At a meeting of the Newport Board of Guardians it was reported that for the week ended October 13th 367 males, 11 females, and 10 children were returned as vagrants. They had been obliged to send 185 of these to the lodging-houses.

The ballot on the doctors' poundage question at the collieries in the No. 1 Rhondda District of the Miners' Federation has resulted as follows: For the establishment of a Medical Committee, comprising officials and workmen, 18 615; against, 5,391—majority for, 13 224. Six collieries, representing 5 550 workmen, were unable to take a ballot, but of the 33,000 ballot papers sent out 25,868 were distributed. There were 1 179 unrecorded and 683 spoilt votes. The proposed committee, which will have control of the poundage, will be substituted for the present system, whereby the doctors are being paid by the colliery proprietors direct. It is, however, understood that further action will be held in abeyance until after the negotiation of the new agreement has been completed.

Under the auspices of the Cardiff University Settlement a public meeting was held at Cardiff on October 14th, at which Sir John Gorst, M.P., delivered an address, the chair being occupied by Sir Alfred Thomas, M.P.

At a half yearly meeting of the Committee of Management of the Tenby Cottage Hospital, held on October 14th, the secretary stated that the subscribers to the institution were decreasing, the number now being 112, a decrease of 23 since January, 1904. The question of building a new operation ward was brought forward and a resolution passed to the effect that the House Committee be empowered to obtain plans and estimates, to be submitted at the annual meeting.

At the meeting of the South Wales and Monmouthshire Branch of the Sanitary Inspectors' Association of Great Britain, Dr. W. Williams, County Medical Officer for Glamorgan, was re-elected President of the Branch. Dr. Williams has been President of the Association since its inception.

CORRESPONDENCE.

THE PERPLEXITIES OF SECRETARIES.

SIR,—I think the Honorary Secretary of the Truro Division has touched on an important point in referring to the amount of medico-legal business which is offered for the consideration of Divisional meetings.

Speaking for my own Division, I may reply to his first question as to whether members as a whole take any interest in medico-legal matters by a qualified negative. In matters of paramount importance to the profession they certainly do take interest, and are in no way behind their brethren in wishing to maintain a high ethical standard in the profession; but they would, I think, suffer from some amazement, and perhaps weariness of spirit, if they sat through the endless deliberations over the hundred odd items on the agenda paper of the Annual Representative Meeting.

Many of these items have been, or should have been, laid before every Division before this meeting; many more are the individual efforts of certain Divisions which seem to take their pleasure in "standing orders" and "amendments." I do not know how often these Divisions meet, or what their average attendance may be, but I do know that if in our Division discussion was invited over all the material that I receive from head quarters our meetings would need to be far more frequent, and would certainly be very thinly attended.

In answer to Dr. Taylor's second question as to the attendance being in the inverse ratio to the amount of medico-legal matter on the agenda paper, I would state that the "Oxford Division" carries on the tradition of the old "Oxford Branch," which was instituted mainly for the purpose of clinical and scientific discussion. We hold four meetings in the year, including the annual meeting, and a conjoint meeting with the Reading Branch, held alternately at Reading and Oxford. All of these are clinical and scientific meetings, except the annual, when I take the occasion of placing on the agenda paper the more important matters of ethical or medico-legal business. Should the opinion of the Division be required on any such matter before the date of the annual meeting in June it would be asked for on the agenda paper of one of the ordinary meetings; but, so far as possible, the discussion arising therefrom would be kept within bounds and not be allowed at the expense of the time allotted for the reading of papers and showing of cases.

By these means we secure a very fair average attendance, and members from the surrounding counties never fail to offer material and to take a keen part in the discussions.—I am, etc.,

W. DUIGAN,
Honorary Secretary, Oxford Division.

Oxford, Oct. 12th.

THE BRITISH MEDICAL BENEVOLENT FUND.

SIR,—In the BRITISH MEDICAL JOURNAL of October 14th letters appeared advocating an annual levy on all the members of the British Medical Association for the above. I would also suggest that all on the *Medical Register* be appealed to. We have the necessary organization to work it thoroughly and successfully in our wide network of Divisions, and can in this way get into personal touch with all medical men in and outside of the Association. From personal conversation with medical men I feel sure that the Central Council, if they will promote a scheme which will provide for the pressing needs of the widows and orphans of medical men, that they will respond to the appeal. The question is an urgent and pressing one. It is high time that the British Medical Association dealt in a practical manner with this charitable aspect of our moral obligations to those who need our help.—I am, etc.,

JNO. BROWN, M.D.Vict.

Bacup, Oct. 17th.

TRACHEOTOMY UNDER LOCAL ANAESTHESIA.

SIR,—If I read Dr. StClair Thomson's communication correctly, he claims a certain amount of novelty for this form of procedure.

Surely it must have been performed any number of times, as tracheotomy, I should imagine, would be one of the first operations to commend itself to the surgeon as eminently adapted to the use of local anaesthesia. I tried it first in 1898 on a patient in the Brighton, Hove, and Sussex Throat and Ear Hospital; and again on March 25th, 1899, for a case of malignant disease of the tonsils. In both cases (adult males) it was perfectly successful.

With regard to the use of adrenalin and eucaine, I am more than satisfied, never having had more than two minutes to wait, provided care be taken to inject it strictly subcutaneously.—I am, etc.,

EDWARD TREVES,
Honorary Consulting Surgeon to the Brighton, Hove, and Sussex Throat and Ear Hospital.

Hove, Oct. 16th.

SIR,—The most interesting portion of Dr. StClair Thomson's article in the BRITISH MEDICAL JOURNAL of October 14th in my opinion lies in the PS. Since reading Mr. Barker's notes in the JOURNAL of December 24th, 1904, I have done a large number of operations both large and small under the influence of beta-eucaine and adrenalin, and the results have been uniformly satisfactory.

I had already almost discarded the use of cocaine owing to several untoward circumstances which had occurred after its administration even in very small quantities, but since using Mr. Barker's formula, I have injected the full 3½ oz. on more than one occasion, and have never experienced an anxious moment.

The time required for its full effect is rather longer than that of cocaine; but allowing for the application of the pure carbolic and the injection of the cocaine solution drop by drop, the time required to produce insensibility by beta-eucaine is probably less.—I am, etc.,

ROBT. W. LEEMING.

Kendal, Oct. 17th.

SYNCOPAL BRADYCARDIA.

SIR,—Dr. Gossage, in his letter published in the BRITISH MEDICAL JOURNAL of October 14th, criticising the conclusions arrived at by Dr. Maynard, agrees with me that the evidence

is insufficient to support the conclusion that there was independent action of the right ventricle. He is, however, of opinion that the feebler impulses and sounds heard between the full, heaving systolic impulses were caused by abortive or weak ventricular systoles, and regards the view that the audible intermediate beats heard in these cases are caused by isolated auricular contractions as "obviously untenable." These statements, and particularly the latter, are much stronger than the facts warrant, and as in my letter discussing Dr. Maynard's case of syncopal bradycardia I upheld this view as to the causation of these audible intermediate beats, I take this opportunity of giving reasons for the faith that is in me. Dr. Gossage underestimates the power of the auricles, and, in addition, has apparently not fully appreciated the import of the small waves on the down strokes of the sphygmograph.

Dr. Gibson has referred to this question in his paper on bradycardia as follows: "It must be recalled that many years ago the fact that the auricle in health can produce a distinct sound on contraction was demonstrated by Malet and myself. The force exhibited by the presystolic thrill and murmur in cases of mitral and tricuspid obstruction, and the behaviour of the right auricle in obstruction of the right auriculo-ventricular opening giving a distinct hepatic impulse, as Mackenzie has shown, are proof of the possibilities of this part of the heart. On a careful review of the subject in all its bearings, the conclusion has been forced upon me that the sounds heard during the interval, as well as the small waves in the cardiographic and sphygmographic tracings, are produced by auricular pulsations alone."

The above view, considered by Dr. Gossage as "obviously untenable," is also supported by such authorities on cardiac activity as Mackenzie and Wenckebach. If we take for granted that the more recent views concerning the pathology of permanent and paroxysmal bradycardia are sound, and that the infrequent pulse is due either to depression of conductivity or to complete heart block, then it is obvious that in such cases there is everything in favour of hearing any sound that may be produced by the auricles in their systole, for they contract alone during the long period of ventricular diastole.

My experience of this condition includes three cases of persistent and one of paroxysmal bradycardia. In one of the three no subsidiary sounds were audible, but small beats were palpable and visible in the third left space. In the second and third no subsidiary impulses were seen or felt, but occasionally during the diastole of the ventricle very faint sounds were audible.

In each of these three cases records of the venous pulse, and in one case a cardiograph, prove that the auricles were beating rhythmically and more frequently than the ventricles; and, further, there was no evidence of any ventricular systole of even the most feeble character.

In one of these cases—that of complete "heart-block"—the smaller pulsations sometimes occurred shortly before the full strong ventricular systole, and it is opposed to all our knowledge of cardiac activity to imagine that a weak and ineffectual ventricular systole could be followed at once by a strong forcible contraction. As Wenckebach[2] says when discussing the "various causes of bradycardia," "Extra-systoles can be easily recognized," and there are certainly no signs of them in Dr. Maynard's tracings; there is evidence on the other hand of numerous auricular systoles, and judging from analogous cases published by Mackenzie,[3] Wenckebach,[4] Webster,[5] and Gibson, and from those observed by myself, the subsidiary sounds and pulsations were due to those same auricular contractions and to them alone.—I am, etc.,

Liverpool, Oct. 16th. JOHN HAY.

OPEN-AIR TREATMENT OF CONSUMPTION.

SIR,—Dr. Leon's letter which appears in the BRITISH MEDICAL JOURNAL of October 7th is well to the point and deserving of careful consideration. His recognition of the value of sanatorium treatment is in keeping with his remarks showing disappointment with results. Of course the profession generally is aware that phthisis cannot, except in rare instances, be stamped out and the seat of disease rendered inert in the short space of six months

[1] G. A. Gibson, Bradycardia, *Edinburgh Med Journal*, July, 1905.
[2] Wenckebach, *Arhythmia of the Heart*, p. 178.
[3] "New Methods of Studying Affections of the Heart," Mackenzie, BRITISH MEDICAL JOURNAL, March-April, 1905. "The Cause of Heart Irregularity in Influenza," BRITISH MEDICAL JOURNAL, p. 1411, 1902.
[4] Wenckebach, *Arhythmia of the Heart*, p. 87.
[5] A. Webster, "Cardiac Arrhythmia in Relation to Cerebral Anæmia and Epileptiform Crises," *Glasgow Hospital Reports*, 1901.

I quite agree with Dr. Leon that to tell a patient on leaving a sanatorium that he is practically well is to court disaster. Patients do not and, I think, cannot understand the insidious nature of a chronic form of infective disease, and if the full value of sanatorium treatment is to make itself apparent, the public, and the consumptive section of it, require to be educated up to a point which will enable them to appreciate the subtle working of the disease, and the necessity for giving Nature sufficient time to effect the needful changes in lung tissue and in the system generally. When this has been effected—a tedious but humanitarian process—then we shall cease to hear of a patient applying for admission to a sanatorium for a month or six weeks because he has learned that his disease is in the "early stage." It certainly will not assist in the direction of public education if patients are discharged from a sanatorium as "cured" and then left to go their own way or to "carry out the treatment at home." Nor will it assist in establishing the undoubted value of sanatorium methods when properly applied.

In conclusion, may I make brief reference to my own personal experience—the outcome of six years devoted exclusively to the application of sanatorium methods? Although a patient may remain with me long enough to lose his cough and expectoration and all signs of active disease, and is apparently "cured," I invariably have about twenty minutes' conversation with him, in which I endeavour to impress him with the fact that he will require to be on his guard for a period of two years at least, and I strongly advise him to report himself from time to time to his regular medical attendant, so that any tendency to recurrence may not remain unnoted. In fact, I am confident that a few well chosen words spoken to an out-going patient may be of incalculable value to him if delivered in a manner that will properly impress the individual concerned. I do not hesitate to attribute the highly satisfactory and permanent results which it has been my good fortune to witness to this individual influence and education of the patient.

If education of the public were conducted upon a systematic and thorough plan the value of sanatorium treatment as a means of permanent cure would need no advocate but would be startlingly self-apparent.—I am, etc.,

Shotley Bridge, October 10th. E. W. DIVER, M.D.

THE FIRST BRITISH SANATORIUM FOR CONSUMPTIVE CHILDREN.

SIR,—Under the above heading appears a letter in the BRITISH MEDICAL JOURNAL of October 7th, p. 908, claiming that Northumberland led the way in the open-air treatment amongst the poor children, and that their work was begun about 1903 or 1904.

Allow me to state that the committee of the "Fresh Air Fortnight," who look after the poor children of the Tent Hall, Glasgow, has had this work in hand for many years before 1903, and have all along been doing good work amongst the poor children.

I acted as dispensary surgeon for upwards of thirteen or fourteen years in the Tent Hall, Glasgow. And in this way such a large number of tuberculous cases came under my observation, that to do any lasting good for them, I became convinced that something more than we were then doing must be done. Consequently, I made the following appeal in the *Glasgow Herald* on behalf of the poor children of the Tent Hall, as far back as 1893:

[COPY.]

CHILDREN IN NEED OF A FRESH-AIR FORTNIGHT.

Glasgow, 17th July, 1893.

SIR,—Permit me to bring under the notice of your numerous readers the fact that none of our seaside homes or even the Fresh-Air Fortnight managers do anything for the class of children affected with sores, strumous and otherwise, etc. Indeed, it is one of the conditions of the seaside homes and the Fresh-Air Fortnight that the children have no open sores. I can to some extent sympathize with this, but there are many children quite able to go to the seaside or country who are thus afflicted. To them fresh air is of the utmost importance. Indeed, we can never hope to help some of them, unless their surrounding conditions are for a time changed. I hope some kind friend or friends may be led to give a home for this neglected class of children, and for them alone. The propriety of keeping these children by themselves will be obvious to every one. I am convinced that the expenses of such a home would not be great, while it would confer a blessing upon this class of children, who stand so much in need of a change of air. Such a home might be under control of the Fresh-Air Fortnight Committee.

I am, etc.,

FRESH AIR.

The result was the presentation of a fine mansion, situated in South Ayrshire, which was handed over to the Fresh-Air

Committee specially for open-air treatment of tuberculous cases. And since 1893 the Committee have done good work. It was called merely a "home," not sanatorium; but the object of each is the same.

From this Dr. Allison will see that Northumberland did not lead the way in this work. I have no need to enter into the details of the work itself, and I am glad to see that other places are doing a good and noble work as well.—I am, etc.,

Glasgow, Oct. 9th. JOHN C. EDMISTON.

SIR THOMAS BROWNE AND WITCHCRAFT.

SIR,—I have been much interested in the article on the above subject from the scholarly pen of Dr. John Knott. I should like, however, to point out that even in Sir Thomas Browne's own days there were not wanting men of enlightened intellect who entirely dissented from his expressed views on the subject of witchcraft.

In the *Annotations on Religio Medici*, printed by Robert Scott in 1686, the author particularly mentions the existence of cultivated opinion adverse to the belief in witchcraft in its true sense, namely, the wielding of a preternatural power obtained by some secret compact with the devil himself. He says: "But for the opinion that there are witches which co operate with the Devil, there are Divines of great note, and far from the suspicion of being irreligious, that do oppose it."—I am, etc.,

London, E.C., Oct. 16th. ALFRED H. COPEMAN, M.A., M.D.

OBITUARY.

JOSEPH COLLIER, M.B., B.S., F.R.C.S.,

Lecturer on Practical Surgery in the University of Manchester, and Honorary Surgeon to the Royal Infirmary.

THE list of members of the medical profession in Manchester who within the last two decades have been cut down in their prime is already long. One more has been added, to the universal regret of friends, colleagues, and, indeed, to the community which he served so well, by the death at the age of 50 of Mr. Joseph Collier, on October 13th.

Mr. Collier was born at Hyde, in Cheshire, in 1855, and was educated at the Manchester Grammar School and at Owens College. Entering the profession at an age somewhat older than is usual—for he began the study of medicine when he was 21—he graduated M.B. of the University of London in 1883. He was the University Scholar, and won the Gold Medal in Forensic Medicine, besides taking honours in physiology and histology and in medicine. This was in the days when the most brilliant medical students at Owens College had to resort to London to obtain a degree in medicine. In the following year (1884) he took the B.S. degree, with a University Fellowship, and the Gold Medal in Surgery. He became a Fellow of the Royal College of Surgeons in 1885, having taken the Membership and also the L.S.A. in 1882.

Mr. Collier's brilliant career at the College, and his equally successful achievements at the University of London, secured for him the position of House-Surgeon in the Royal Infirmary under the late Professor Tom Jones. For a time he acted as Assistant and Demonstrator in Anatomy in the College under Professor Morison Watson, and when Professor Watson was suddenly struck down by an apoplectic seizure in the full plenitude of his powers and activity, Mr. Collier carried on the work of the department for some time. This training gave him a perfect command of anatomical details, and proved most valuable to him and to his pupils when he became Lecturer and Teacher of Practical Surgery.

He held the offices of Resident Surgical Officer and Surgical Registrar at the Infirmary, and when he completed this admirable course of clinical training he began private practice as a surgeon. His practice grew steadily, and in the last few years with extraordinary rapidity, so that he came to be one of the most sought after and busiest of surgeons. The amount of work he did was not only large, but extended over a wide area. For fifteen years he was an active Surgeon to the Children's Hospital at Pendlebury. For some years he was also Visiting Surgeon to the Workhouse Hospital at Crumpsall, and at his death one of the Consulting Surgeons. When the annual meeting was held in Manchester he was Vice-President of the Section of Diseases of Children.

In 1899 he was appointed honorary Assistant Surgeon to the Royal Infirmary, and shortly afterwards obtained full rank as one of the Honorary Surgeons, a position he held at the time of his death. At the Owens College when it was merged in the University he for several years was lecturer on practical surgery. Mr. Collier had also been President of the Pathological Society and of the Medical Society.

Success in practice came to Mr. Collier so rapidly and in such large measure that little time was left him for literary work. Nevertheless, in such scant leisure as he had, amongst the numerous official and private calls on his time, he contributed papers on various surgical subjects to the *Medical Chronicle* and other medical papers.

Keen, alert, active, endowed with exuberant energy, though not possessing to outward appearances a muscular frame, Mr. Collier was a fine football player in his youth; in his more mature years he took to golf and became captain of the club.

It was as an expert and daring mountaineer, however, that he found an outlet for his energies in his holidays. He is said to have been one of the best rock climbers who have ever lived. He was familiar as a climber with the heights in the Alps, with the pinnacles of the Dolomites and with the still more distant and less known altitudes and snow-capped pinnacles of the "frosty Caucasus." He was a member of the party of climbers on the last day of December, 1884, a day on which the Manchester School of Medicine lost one of its brilliant teachers by the death of Professor Milnes Marshall, the Professor of Zoology in the College. Mr. Collier was the first to climb the whole length of Moss Ghyll and to ascend the Oblique Chimney on the Great Gable, and, it is said, the only man who has ever climbed Piers Ghyll.

His activities manifested themselves in other directions. He was a captain in the Royal Army Medical Corps (Volunteers), in which he took an active interest, regularly attending camp.

Mr. Collier as usual went to the Continent after the close of the summer session. Before he left he had not been feeling well, and complained of pains in the neck muscles. These pains were attributed to various causes, but shortly after arriving on the Continent he felt so ill that he was obliged to return home early in August, when he was said to be suffering from neuritis. Complication after complication set in, and after a long, exhausting, and trying illness, he passed away in spite of the assiduous and devoted attention of his colleagues. After some weeks the fatal drift of the lingering illness was only all too apparent, but the *fons et origo* thereof seemed to be shrouded in obscurity.

On every hand there was manifestation of grief, obviously sincere and profound, when it became known that Mr. Collier was dead. Speaking at the University, Professor Wright said that as a surgeon and as a teacher he was one of the most brilliant members of the staff, whilst his energy and enthusiasm were inspiring in the highest degree. The same qualities were prominent in the social aspect of his personality. He was always ready to devote himself to increasing the enjoyment of others. His intense earnestness carried men with him, yet with all his vigour and activity, or perhaps by reason thereof, he had the tenderest heart and the keenest sensibility.

He was immensely successful as a teacher because he loved to help and instruct. Indeed, many students who had gone through his course at the University were attracted to look in on occasions to renew their acquaintance with the teacher and to profit by the masterly exposition which he gave on apparently commonplace, yet all-important, subjects. The attraction of a vivacious personality, the complete mastery of his subject, and the painstaking and successful efforts of Joseph Collier will long be remembered in the Manchester Medical School, using that term in its widest and now happily co-ordinate significance.

The funeral took place on Monday last, and was attended both by private friends, by students and by deputations from the University, the Infirmary, and kindred institutions; and also by members in uniform of No. 2 Company of the Royal Army Medical Corps, of which Mr. Collier was Captain. Mr. Collier had endeared himself to all members of the corps, and his loss will be mourned by all ranks.

As a mark of the appreciation and respect in which Mr. Collier was held by the University no lectures were given in the Medical Department on the day of the funeral.

THE death is reported of Captain GEORGE CROFTS BEAMISH, Indian Medical Service, on September 24th, at Jhansi, from enteric fever, aged 29. He joined the department as Lieutenant, January 27th, 1900, and was made Captain, January 27th, 1903. He was in medical charge of the 87th Punjabis, to which he was appointed in April, 1904.

ROYAL NAVY AND ARMY MEDICAL SERVICES.

EFFICIENCY OF THE ARMY MEDICAL SERVICE.

"THOROUGH" writes: Your correspondent, "Progress" may, be interested to know that at the present time there are eighty duly qualified dental surgeons doing duty with the regular army in the United Kingdom (one for each command), and three with the Royal Navy (at Portsmouth, Devonport, and Chatham). I am unable to say how many R.A.M.C. officers have received "certificates as to their knowledge of dentistry," but it is to be hoped that the number is small. The hospital course for the L.D.S. diploma extends over three years (besides at least two years' previous tuition in mechanical work) and it is absurd to suppose that this subject can be mastered by R.A.M.C. officers in a few weeks' course at a dental hospital. My medical friends in the Services have nothing but praise for the results which have attended the appointment of duly-qualified dental surgeons for the army and navy at home, but the numbers are hopelessly inadequate. For our soldiers and sailors serving abroad nothing whatever is done, for there is not even a dental surgeon for the troops in the Channel Islands; but the fault lies with the Treasury, and not with the War Office or Admiralty, who are fully alive to the importance of the subject.

MEDICO-LEGAL AND MEDICO-ETHICAL.

VALUE OF A PRACTICE.

"TUSHINBACK" asks what would be a fair price for a third share in an unopposed country practice with gross receipts of £1,700 and expenses £550.

*** If the income is chiefly derived from good-class patients, such a share might be worth two years' purchase; if not, one-and-a-half years' purchase would be enough. Such an estimate as this is necessarily but a rough-and-ready one. Much more would have to be known about the practice in question before any accurate estimation could be made.

THE MIDWIVES ACT.

J. A. M.—The Midwives Act of 1902 does not contain any clause providing for the compulsory attendance of medical practitioners when called by midwives certified under the Act to render them assistance in cases of difficulty, or serious illness of the mother or the child. The local supervising authorities in some districts have obtained the names of medical men who are willing to be summoned by the midwives practising within their areas. In other districts no special arrangements exist at the present time, and the midwives are directed to send for the nearest practitioner whenever they require professional help.

APPORTIONMENT OF FEES.

X. Y. X. was engaged to attend Mrs. B in her confinement, which took place sooner than expected during X.'s holiday. Mrs. B. would not have X.'s *locum*, and sent for Y.—a local practitioner—who finished the attendance with X.'s consent. What portion of the fee should X. send Y.?

*** Under such circumstances it is usual to divide the fee, and X. should send Y. half the fee he receives from the patient.

VERBAL CONTRACTS.

F. writes that he was engaged verbally by a lady to attend her in her confinement, and asked to supply a nurse, which he did. When the confinement took place the patient sent for another doctor, who attended her. F. was put to great inconvenience, and had to postpone his holiday. He wishes to know: (1) Can he recover the fee due under the contract? (2) Could he be informed of any cases of this kind that have been before the Courts? (3) Is there any book on medical ethics stating the law on this point?

*** (1) If he can prove the contract, he is entitled at law to recover. As the contract was verbal it might be difficult to prove, but the fact that he supplied a nurse would be corroborative evidence on his side: (2) many cases have occurred in county courts of this nature, and have been decided sometimes for, but mostly—it is to be feared—against, the practitioner, on account of the difficulty of proving the contract. We do not know of any High Court cases; (3) we do not know of any book that specially deals with this subject.

SUPERSESSION.

D. E. B. writes: A certain patient calls upon a medical man B. and asks him to treat him professionally. During the consultation it transpires that he has been treated during the same illness (we shall even suppose up to date) by another medical man A. The patient now wishes to transfer his patronage from A. to B., but does not wish to explain the matter himself to A. (1) Is it *de rigueur* that the patient should himself explain to A. his intention of leaving him for B.? (2) If he refuses to do this should B. refuse to have anything to do with the case? (3) Is it sufficient for B. to either write to A. or see him personally and explain the circumstances under which he comes to treat this patient?

*** (1) and (2). When the patient calls on the practitioner, as is usual in the case of a specialist, it often happens that he changes his adviser without any notice, the understanding apparently being that there is no obligation for the patient to come a second time, each visit being paid for at the time may be regarded as a completed transaction. There is an obvious difference where the practitioner attends at the patient's house and will certainly come again unless informed that his services are no longer required. In the latter case, if unpleasantness is to be avoided, the superseding practitioner must insist upon his predecessor being courteously informed that his services are no longer required before he takes charge of the case, although he may when summoned do anything that may be urgently needed. (3) In the former case, that is, where the patient goes to the practitioner's house only, it is not necessary and is not always advisable to communicate with the superseded practitioner as he may be disposed to take offence and to regard the explanation as a justification for doing so. In the case of two personal friends it may be worth while to run the risk.

RELATIONS OF MEDICAL OFFICERS OF HEALTH TO THEIR PROFESSIONAL COLLEAGUES.

ISOLATIONS asks whether a medical officer of health is entitled to visit a private patient suffering from diphtheria and suggest to the parent her removal to the fever hospital without inquiring from the medical practitioner in attendance as to the desirability of such a removal in the patient's interests. The M.O.H. admits that the isolation was as effective as can be procured in a private house.

*** This question was the subject of a good deal of correspondence last year (July 2nd, p. 49, and October 29th, p. 1200). In a letter written to the Borough Council of Hammersmith by the Local Government Board, dated October 22nd, 1904, the Board says: "It must be remembered that personal examination can only be made with the consent of the patient or of those having charge of the patient, and it is desirable that co-operation of the medical practitioner in charge of the case should be secured where it is possible to do so without involving undue delay." There is no doubt that this medical officer of health did not act with the "tact and discretion" which the Board has enjoined, and we would recommend our correspondent to communicate the circumstance to the Secretary of the Incorporated Society of Medical Officers of Health, 9, Adelphi Terrace, London, W.C., this body having expressed its desire to promote harmonious relations between medical officers of health and their professional colleagues.

UNIVERSITIES AND COLLEGES.

UNIVERSITY OF CAMBRIDGE.

Gift by the Royal College of Surgeons.—The Royal College of Surgeons has generously presented to the Medical Department of the University a number of portrait engravings of eminent physicians and surgeons of the seventeenth and eighteenth centuries.

Appointments.—The following appointments have been made:—Demonstrator of Comparative Anatomy: J. J. Lister, M.A., St. John's College. Demonstrator of Physiology: I. L. Tuckett, M.A., Trinity College, and S. W. Cole, M.A., Trinity College; Demonstrator of Surgery: H. B. Roderick, M.D., Emmanuel College.

Degrees.—The following degrees were conferred on October 12th:—*M.D.*: F. Sanger, Joh.; B. L. Thurlow, Gonv. and Cai. *M.C.*: A. J. Fairlie Clarke, Emm. *M.S.*: G. F. Bird, Trin.; F. W. Goyden, Joh.; H. J. D. Birkett, Trin.; H. Boulton, Cla.; H. N. Burroughes, Trin.; G. R. Footness, Pemb.; S. A. Owen, Trin. *B.C.*: H. J. D. Birkett, Trin.; G. R. Footner, Pemb.; H. N. Burroughes, Trin.; S. H. Dankes, Gonv. and Cai.; H. Boulton, Cla.

Sanitary Science Examination.—The following have satisfied the Examiners in both parts of the examination: W. Archibald, M. B. Arnold, J. Booth-Clarkson, A. J. Chalmers, R. N. Coorlawala, L. D. Cruickshank, R. Denman, J. J. Dickinson (Peterhouse), G. A. Essell, A. O. M. Fehrsen (Gonv. and Cai.), W. L. T. Goodridge, R. Hatfield, S. H. Hawley, H. L. Heath, J. Hutson, H. Kerr, H. R. Kidner, N. MacFadyen, E. W. S. Martin, C. W. P. Moffatt, (Clare), G. H. Pearce, R. Pollard, W. Sisam, E. Watt, E. A. Wright (Selwyn).

UNIVERSITY OF GLASGOW.

FACULTY OF MEDICINE.

THE following candidates have been approved in the subjects indicated:—

First Professional Examination.—D. R. Adams (B., C.), W. S. Alexander (B., Z., P., C.), A. C. Anderson (B., P.), W. Anderson (B.), A. J. Archibald (B.), D. Barbour (B., P.), A. M. Bayne (B., C.), C. S. Black (B., P.), A. M'A. Blackwood (B.), D. M. Borland (B., P., C.), J. Broadfoot (B.), A. H. Brown (P., C.), J. Buchanan (B., P.), J. A. M. Cameron (B., C.), J. A. S. Campbell (B., Z.), A. H. Clark (B., P.), W. G. Clark (B., P.), J. L. Cochrane (P., C.), J. Cook (Coalburn), (P.), R. Craig (B., Cramb (Z., C.), W. Dawson (B., Z.), J. T. Dick (B., Dobbie (Z., P.), A. Dunlop (B.), J. K. Dunlop (B., Z.), P. J. Findlay (B.), D. Fisher (B., P.), T. S. Fleming (B., Fraser (B., P.), D. T. C. Frew (B., P.), R. Gale (B., C.), W. (B., P.), J. Gibson (B., P.), R. Gilchrist (B., P.), P. Gimlette, G. Glover (P., C.), R. D. Goldie (B., P.), G. S. Gordon (C.), K. C. G. Gray (B., P.), A. W. Gregorson (Z.), G. A. B. Hamilton (B., P.), W. Hamilton (B., Z.), W. Ho Z.), W. H. Howat (B., P.), W. Howie (B., Z.), S. M. H. C. Johnston (P.), J. W. Jones (B., P.), J. P. Kinloch (C., B., P.), W. T. Lindsay (B., P.), W. M'Adam (M.A. (B., C.), W. C. Macartney (C.), I. Macdonald (B., P.), A. (B., P.), D. M'Dougall (P.), W. Macewen (B., P.), A. Mac. R. B. J. M'Kail (B., P.), J. G. Mackenzie (B., Z.), W. T. Mackinlay (Z.), A. M'Kinnon (C.), D. Mackinnon (B., P.), logically these Maclennan (B., Z.), G. Macleod (B., Z., P., C.), M. Macleod (B., C. Macmillan (B.), J. R. M'Nicol (B., P.), W. A. L. Mac left in tact, Mathie (Z.), O. H. Mayor (B.), D. Meek (C.), A. Mill, preceded by J. M'I. Morgan (Z.), H. B. W. Morgan (B., P.), F. F. L. Napier (B.), W. Niccol (B., P.), C. M. Nicol (Z., we see in some

R. C. Robertson (C.), H. G. Robinson (B., P.), J. H. N. F. Savy (B., P.), J. M'A. Scott (B., P.), J. L. Scott (Z.), J. M'N. Scott, M.A. (B., P.) A. Semple (Z., C.), J. A. Smith (Z.), G. K. Spence (B., P.), R. S eel (B., P., C.), A. Stewart (C.), A. F. stewart (B., P.), C. L. Sutherland (B., P.), J. N. Sutherland (B.), D. C. Suttie (B., P.), R. Sweet (B., P., C.), A. Taylor (B., P.), D. M. Taylor (C.), A. G. W. Thomson (B., P., C.), E. N. Thomson (B.), J. L. Ure (B., C.), J. C. Walker (Z., C.), W. S. Waterhouse (Z.), H. E. Whittingham (B., P.), H. J. Windsor (Z., C.), J. Y. Wood (B.), D. Yellowlees (B., P.), D. Young (B., P.) Women: C. Barrowman (B., Z.), M. B. S. Darroch (P.), L. E. Dodge (B., Z.), F. A. Gallagher (B., Z.), E. A. Hay (P., C.), R. S. Keer (P., C.), A. H. Macalpine (P., C.), A. M. M'Michael (B., Z.), M. C. Mitchell (P.), M. Muir (P.), M. A. Pillet (B., Z.), J. Wallace (P.), E. M. Walters (P., C.)

* B., Botany. C., Chemistry. Z., Zoology. P., Physics.

Second Professional Examination.—W. W. Adamson (M.), A. Anderson (M.), D. Arthur, B.Sc. (A.), R. I. Binning (M.), J. N. Brown. M.A. (A., P., M.), W. Brown, M.A. (M.), M. Buchanan (P., M.), J. Cairncross (M.), J. P. Carmichael (P.), M. I. T. Cassidy (A., P.), A. J. Cooper (A.), J. C. Dick (A.), J. A. Doctor (M.), A. D. Downes, M.A. (A., P.), W. H. Duncan (A.), A. Dunsmuir (M.), A. W. Eadie (A., P., M.), A. Fairley (M.), W. M. Fairlie (A.), T. Forsyth (A.), J. Fotheringham (A., P.), G. M. Fraser (A.), S. N Galbraith (M.), D. Gibson (P., M.), R. Govan (A., P., M.), T. P Grant (M.), D. Hamilton (A.), J. M. Henderson (A.), A. M. Kennedy (P.), C. L. Kerr (A., P.), G. Ligertwood (A.), D. C. M'Ardie (P., M.), P. C. M'Arthur, M.A. (P., M.), A. M. Macdonald (M.), A. T. I. Macdonald (A., P., M.), J. M'Donald (M.), J. R. M'Gilvray (A.), N. Mactaines. M.A., (P.), J. B. Mackay (A., P.), A. D. M'Lachlan (M.), D. C. MacLachlan (A.), D. I. M'Naughtan (A., M.), D. Manson (A., P., M.), I. C. Marshall (M.), J. H., Martin (M.), W. Matheson (M.), H. Matthews (A., P., M.), W. S. Melville (M.), J. C. Middleton, M.A. (A., P., M.), J. W. Miller (M.), T. Miller (A., P., M.), H. Morton (M.), J. Muir (P., M.), R. C. Muir (A.), J. Oswald (A.), R. M. F. Picken (A., P.), D. M'K Reid (A.), M. M Rodger (A.), T. D. C. Ross (A., P.), J. Smith, M.A. (P.), J. A. Stenhouse (P.), C. K. Stevenson (M.), L. Storey (M.), I. M. Taylor (A., M.), R. S. Taylor (M.), D. A. Thomson, M.A. (A. P. M.), H. J. Thomson (M.), J. A. Thomson (M.), J. M. Walker (A.), T. C. D Watt (A., P.), J. Wier (A. P.), H. White (M.), F. R. Wilson (P.), M. Young (M.). Women: M. M Buchan (A., M.), M. G. Forrest (A., P.), E. S. Hill, M.A. (M.), A. M'Crorie (A., P., M.), J. A. Macvea (A.) J. I. Robertson. M.A. (M.), J. H. Stewart (M.).

* A., Anatomy. P., Physiology. M., Materia Medica and Therapeutics.

Third Professional Examination.—G. V. Anderson (P., M.), J. Anderson, M.A., B.Sc. (P., M.), A. H. Arnott (P.), G. T. Bogle (P.), G. Campbell (P., M.), H. H. Christie (M.), J. S. Clark, M.A. (M.), A. M. Crawford (M.), W. B. Cunningham (M.), H. W. Dempster (M.), R. Donald (P., M.), R. R. Driscoll (M.). E. M. Eaton (M.), E. J. Fitzgerald (M.), T. H. Forrest (M.), J. W. Georgeson (P., M.), W. Gilbert (M.), W. T. Hardie (P.), S. H. Harris (P.), L. Hislop (P.), P. J. Kelly (M.), J. D Kidd (P., M.) R. W. Leckie (P., M.), T. M'Crirrick, M.A., B.Sc. (P., M.). D. MacDonald (P., M.), W. F. Mackenzie (M.), N. S. MacNaughton (P.), C. J. C. Macquarie (M.), W. Miller (P.M.), P Mitchell, M.A. (M.), J. Sharp (P., M.), J. C. D. Simpson (M.), J. M. Smith (P.), T. B. Smith (M.), C. S. Thomson (M.). M. Turnbull (P., M.), M. Youdelevitz (M.), J. Young (Mount Vernon) (P., M.) Women: J. M Andrew (P., M.), A. R. Hird (P., M.), R. I Hudson (P.), F. Mann (P., M.), J. D. Rankin, M.A., B.Sc. (P.), V. D. Reis (P., M.).

* P., Pathology. M., Medical Jurisprudence and Public Health.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

MEETING OF COUNCIL.

A QUARTERLY COUNCIL was held on October 12th, 1905. Mr. JOHN TWEEDY, President, in the chair

The late Mr Christopher Heath.

The Council passed a motion expressing their deep regret at the death of Mr Christopher Heath, and their appreciation of the many services rendered by him to the College in the conscientious discharge of the several duties which devolved upon him as President, member of the Council, and examiner. To Mrs. Heath and the members of her family the Council tendered their sincere sympathy.

Presentation to the Museum.

Mr. MORRIS, on behalf of the Museum Committee, reported that Lieutenant-Colonel K. Havelock Charles, I.M.S., M.D., had presented to the College his collection of 248 skulls, 16 skeletons, and other specimens, representative of many of the castes and tribes of India and other parts of Asia, and explained that the collection was especially valuable, as the collector had been able to identify the majority of the skulls as belonging to certain individuals known before death.

The best thanks of the Council were given to the donor.

Annual Report of Council.

The report drawn up by the Committee appointed for this particular purpose was adopted by the Council. This report will be presented to the Fellows and Members at the annual meeting on Thursday, November 16th, 1905, at 3 o'clock p.m.

He held

Registrar *Board of Examiners in Dental Surgery.*

admirable r S. Underwood was re elected a member of the Board.

tice as a sur *Examinations in Tropical Medicine*

few years we adopted upon the above subject. It was decided to ask

one of the m ge of Physicians to hold a conference for further discus-

amount of wo *Memorial to Sir Thomas Browne.*

a wide area. Owen, Vice President, and Mr. Howard Marsh were ap-

the Children's ent the College at the unveiling of the memorial to Sir

was also visit t Norwich.

Crumpsall, and CONJOINT BOARD IN SCOTLAND.

When the ann lowing have been approved at the Examination for the

Vice-President Health

In 1899 he was L. F. Bianchi, J. Jardine, P. A. Harry, R. C. Mon-

Royal Infirmary W. Kelsler, K. A. Moody Stuart, A. L. van Someren.

one of the Honora W. Sutton, D. L. Williams, R. A. Cunningham, A. J.

of his death. A G. Wight.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

QUERIES.

OXON asks for information as to the value of infusion of burdock root in the treatment of boils. He believes that it is regarded as a remedy amongst some of the village people.

TURBIDITY OF THE VITREOUS.

VARDEN asks as to treatment for turbidity of the vitreous causing defects of vision and distortion.

MOLES ON THE FACE.

ENQUIRER asks for information concerning the treatment of moles. If small, but disfiguring, is it best to excise them, or can they be satisfactorily treated by any caustic?

ANSWERS.

THE TEACHING OF HYGIENE IN ELEMENTARY SCHOOLS.

H. D.—The *Textbook of the Principles of Hygiene based on Physiology for the Use of School Teachers* by Mrs. Watt Smyth (London: Simpkin, Marshall and Co., 6s.), will probably meet our correspondent's requirements; a review of the book was published in the BRITISH MEDICAL JOURNAL of October 7th, 1905, p. 875.

INCOME TAX.

G. R. H.—Money received for the sale of a practice is not profit chargeable with income tax, but is regarded in the hands of the recipient as capital. On the other hand, the amount paid out of income to liquidate a loan by means of which the practice was bought is chargeable with tax. The repayment is looked upon as an expenditure of capital, and therefore may not be deducted as a working expense in calculating the assessable income.

SALINE INFUSION.

"BRISTOL" asks for references in regard to saline infusion.

*** For the voluminous contributions on the subject in British periodical medical literature reference might well be made to Dr. Neale's *Medical Digest*. The following textbooks might be consulted: *Modern Surgery*, by Da Costa (London: W. B. Saunders and Co., 1903, 21s.), p. 332; *Manual of Surgery*, by Rose and Carless, sixth edition (London: Baillière, Tindall and Cox, 1905, 21s.), p. 225; *Surgical Handbook*, by Cairds and Cathcart, eleventh edition (London: Charles Griffin and Co., Limited, 1902, 8s 6d.), p. 64; and Schäfer's *Textbook of Physiology*, (Edinburgh and London: Young J. Pentland, 1900, 42s.), vol. ii, p. 75. Dr. Crile's book on *Shock* (London: J. B. Lippincott Company, 1899, 12s. 6d.) should also be consulted.

LETTERS, NOTES, Etc.

INSURANCE WITHOUT EXAMINATION.

A CORRESPONDENT sends us a prospectus of the Scottish Union and National Insurance Company containing particulars of a scheme of life assurance for which no medical examination is required; it is added, however, that a report may be asked for from the medical attendant of the proposer. What exactly is intended by this qualification we do not know. The correspondent who forwards us the prospectus suggests that medical men should charge the same fee for this report as for an ordinary medical examination and report, if not more.

"A NEW TREATMENT FOR HOUSEMAID'S KNEE."

DR. A. M. PILCHER, M.B., Ch.B. (Mosborough) writes: Dr. Buckley Pogson's report on "New Treatment for Housemaid's Knee" in the BRITISH MEDICAL JOURNAL of October 14th, p. 952, reminds me of a case which had been under treatment for over two months, with the usual warning against injury and exercise. One night she knelt down to "say her prayers" when she felt it give way suddenly with a "rush," followed by a painful sensation of subcutaneous distension, which passed off in a day or two. This happened five years ago, and during that time there has not been the slightest symptom of weakness or recurrence.

TRACHEOTOMY UNDER LOCAL ANAESTHESIA.

DR. THOS. NORTH (New Southgate, N.) writes: Referring to Dr. StClair Thomson's paper on local anaesthesia, I have used for some time, and found extremely useful, a preparation of beta-eucaine with adrenalin made by Parke, Davis, and Co., under the name of eudrenine. For those who are only occasionally using this method, to make the preparation each time would be very inconvenient and take some time. In addition, this preparation can be used for producing anaesthesia in nose, throat, and ear operations by spraying or by instilling

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Eight lines and under	0	4	0
Each additional line	0	0	6
A whole column	2	0	0
A page	5	5	0

An average line contains six words.

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A Lecture
ON
GRAVES'S DISEASE.

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GENTLEMEN,—Graves's disease, the main features of which I propose to discuss to-day, is one of the most interesting of maladies. While it is easy, as a rule, to diagnose it, it is often most difficult to treat it successfully, or to make a correct prognosis. Although we know something about the pathology, there are many points, such as the origin or exciting cause of the disease, which remain obscure. At one time it was generally considered to be a disease of the nervous system, with changes in the brain or the sympathetic, and you will find it still included in textbooks of neurology. It is only of recent years that it has been recognized how the various symptoms of the disease hang together and are dependent on and have their origin in changes of the thyroid gland.

PATHOLOGY.

Let me first remind you of the facts which are known relating to the morbid anatomy of the disease. If we have the opportunity of examining a case after death we observe that the body is emaciated sometimes to an extreme

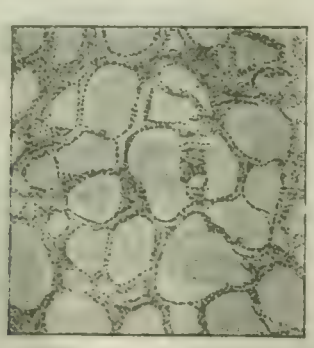


Fig. 1.—Section of normal thyroid of dog.

degree. We notice that the thyroid gland is enlarged, that this enlargement is general, that the veins on its surface are dilated, and that its nutrient arteries are dilated and tortuous. Its substance, we probably find, is rather softer in consistence than normal, but in an old-standing case it may be firmer than

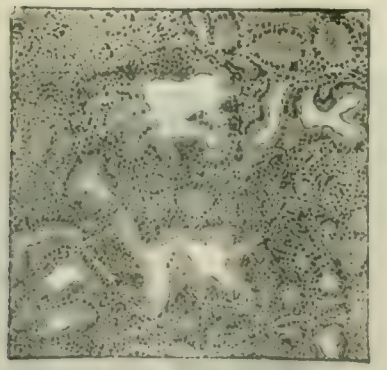


Fig. 2.—Section of thyroid from a case of Graves's disease.

normal from growth of fibrous tissue. If we cut a section of the gland we probably are able to see that there is a marked hypertrophy of the blood vessels. Under the microscope we observe that the vesicles, instead of being, as they are normally, round or square, have become branched or stellate, and their lining membrane has become involuted. The secreting cells, instead of being cubical, are columnar, and the colloid matter, which normally fills the interior of the vesicles, has partly or entirely disappeared, its place being taken by a mucous substance which stains badly.

Mr. Walter Edmunds, to whose kindness I am indebted for the accompanying illustrations, has shown the striking similarity there is between the microscopical appearances of the gland tissue in Graves's disease and in the case of an animal from which the greater part of the gland has been experi-

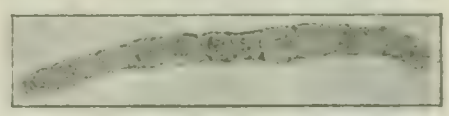


Fig. 3.—Normal secreting cells lining vesicles of dog's thyroid.

mentally removed. After the operation the small portion left behind undergoes changes of the nature of compensatory hypertrophy; and if you compare the two you will find that a section of gland from a case of Graves's disease is practically indistinguishable from one from the gland of an animal with this experimental compensatory hypertrophy. It would,

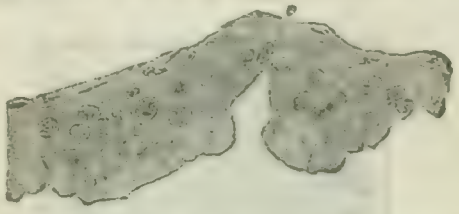


Fig. 4.—Altered secreting cells lining vesicles in a case of Graves's disease.

therefore, seem that in Graves's disease the thyroid, for some reason at present obscure, takes on increased functional activity and undergoes hypertrophy.

Attention has lately been directed to certain small bodies which anatomically are in intimate relation with the thyroid, and have been called parathyroids. Although in man

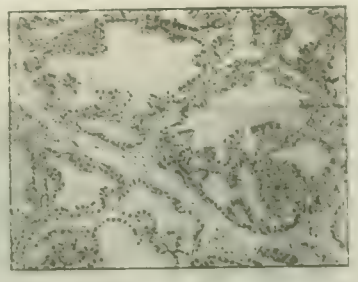


Fig. 5.—Changes in remaining portion of thyroid of dog after partial thyroidectomy.

actually embedded in the thyroid, these bodies differ from it entirely in their microscopic structure. Instead of being made up of colloid-containing vesicles they are formed entirely of cells which are arranged in columns separated by capillaries. It has been suggested that they are embryonic thyroid tissue, but as they develop in advance of the thyroids

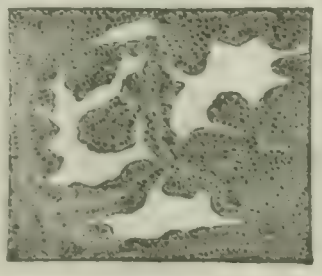


Fig. 6.—Thyroid from a case of Graves' disease.

themselves, this cannot be the case. Physiologically these bodies are of great importance. It is found that their removal, although the thyroids themselves are left intact, almost invariably causes the death of an animal, preceded by symptoms which very closely resemble those we see in some

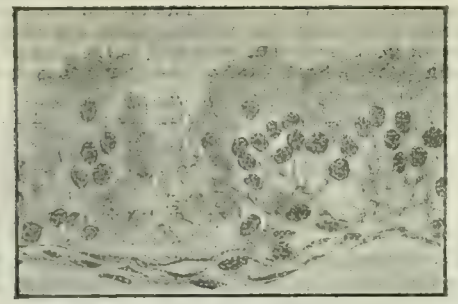


Fig. 7.—Altered secreting cells lining vesicles after partial thyroidectomy.

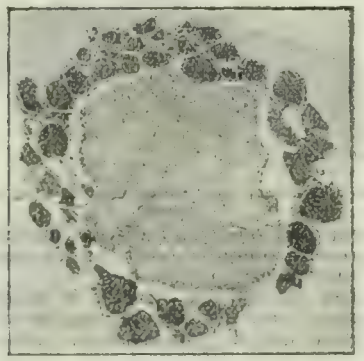


Fig. 8.—Normal parathyroid of monkey.



Fig. 9.—Normal parathyroid of dog.

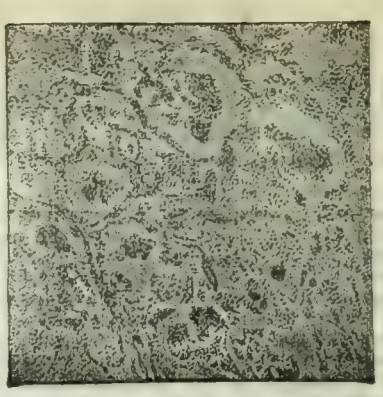


Fig. 10.—Section of thyroid of dog from which parathyroids had been removed.

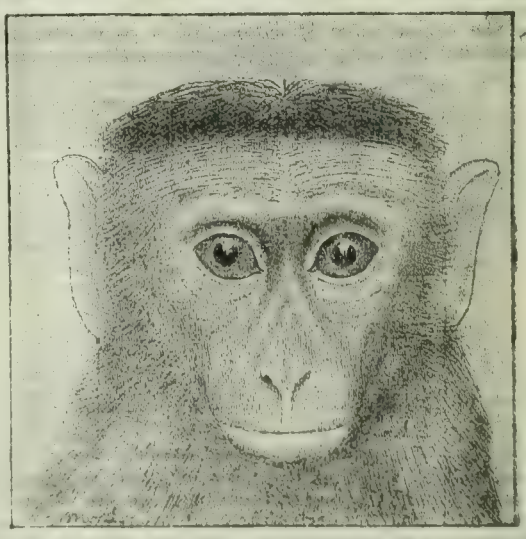


Fig. 11.—Monkey previous to thyroid feeding.



Fig. 12.—Monkey after nine weeks' thyroid feeding.

fatal cases of Graves's disease. Changes are found to have taken place in the thyroid glands like those of compensatory hypertrophy, save that the glands do not enlarge. It seems probable that the parathyroids play an important part in the pathology of Graves's disease, and that their atrophy may be the cause of some of the more serious symptoms. Atrophy of the parathyroids has been observed in some cases of Graves's disease, but we cannot say as yet whether it is an essential feature or not.

As regards the morbid anatomy, there is another important matter to which I must refer: that is the persistence of the thymus gland. In all the fatal cases of Graves's disease in which I have had the opportunity of seeing or making a *post mortem* examination, the thymus gland has been found to be persistent, and I think that all pathologists who have looked for the thymus in fatal cases of Graves's disease have noticed the same persistence. Sometimes the thymus is more than persistent—it is hypertrophied. Here is a drawing which Mr. Lapidge made for me in one of those fatal cases, showing the persistent thymus spread out in a thin layer over the surface of the pericardium. The microscopical appearances of the thymus in Graves's disease differ in no way from those of the ordinary gland. The persistence of the thymus in adult life is a curious matter. The persistent thymus has been there before obvious symptoms of the disease manifested themselves. Perhaps every case of persistent thymus is one of potential or latent Graves's disease.

Other changes which are found in Graves's disease are few. Sometimes the spleen is found enlarged; sometimes there is increased connective tissue in the neck; sometimes there is swelling of the lymphatic glands in the neck, in the thorax, and in the abdomen. The heart may appear normal, but usually there is dilatation of the left ventricle, or there may be evidences of old endocarditis, the latter, however, a lesion which has originated independently of the disease.

There are no obvious naked-eye changes in the nervous system, but in some cases certain microscopic lesions have been found after death, such as minute haemorrhages in the neighbourhood of the medulla. My belief is that these are secondary changes, the result and not the cause of the disease. The great probability is that the hypertrophy and over-activity of the thyroid is the cause of the symptoms of the disease, and of most of the changes in the organs of the body, just as the atrophy and loss of activity of the gland is the cause of myxoedema, or its non-development the cause of cretinism.

What it is that starts the hypertrophy of the thyroid and what part the persistent thymus plays we do not know. In some cases the disease seems to be set up by shock or by emotion, which we know may be followed very rapidly by swelling of the thyroid gland. It is possible that the disease in some cases may be due to microbic infection. That the most conspicuous symptoms of Graves's disease are the result of over-activity of the thyroid is shown by the effects which have been obtained by the administration of large doses of thyroid gland in human beings and in the lower animals. Mr. Walter Edmunds has shown that, if dogs or monkeys are fed with large doses of thyroid, there results accelerated action of the heart, increased metabolism, loss of weight, increased action of the skin, and sometimes marked exophthalmos. Indeed, you find that practically all the symptoms of Graves's disease, including exophthalmos can be produced in animals by the administration of large doses of thyroid gland. I do not know of any case in man in which exophthalmos has been caused by the administration of thyroid gland, but I have observed the production of practically all the other symptoms. Of course, we could not give the extremely large doses of thyroid gland to human beings which have produced exophthalmos in lower animals.

Symptoms.

I propose now to consider the symptoms of the disease. The disease is met with much more commonly in the female than in the male; but it is not so rare among men as is generally supposed. For 5 cases in women I see about 1 case in a man. It may occur at any age, but it is rare in children or over the age of 50.

The chief symptoms of the disease are no doubt familiar to you all. Exophthalmic goitre is one of the first diseases which the medical student learns to recognize by simple inspection, for the diagnosis can generally be made as soon as you set eyes on the patient. There are, as you know, four cardinal symptoms, goitre, palpitation, exophthalmos, and tremor, which are all present in varying degree in most cases.

The goitre as a rule is only of moderate size, although it may be very large. It is important to remember that in some cases while the other symptoms are well marked the goitre may be small or hardly perceptible. The enlargement is usually more apparent on the right side than on the left, just as the right lobe of the normal thyroid is larger than the left. You often find that the goitre pulsates, and if you put your hand over it you feel a thrill. If you listen with the stethoscope you will likely hear a long whiffing systolic murmur. Often the goitre has not been noticed by the patient until the doctor has looked for it and pointed it out, but it will probably have been observed that the collar or the dress was too tight round the neck. The goitre itself seldom causes serious inconvenience, and very rarely produces pressure symptoms.

Rapid action of the heart is an almost invariable symptom, but the patient is not always conscious of palpitation. One finds on examining the pulse that it is abnormally rapid—from 90 to 140; 110 to 120 being about the average rate. As a rule, however, you do not get such an extreme degree of rapidity of the heart as you get in those cases of purely nervous functional disturbance, known as tachycardia. The rate of the heart is increased, and palpitation induced, by emotion or any form of excitement. You can usually see pulsation in the carotids.

The exophthalmos is generally obvious, but you may get all degrees of it and in some cases it is only the trained observer who will detect it. It is quite common to find it more marked in one eye than the other. In some cases you will notice that the eyes have merely a staring and glistening look, due to some oedema of the conjunctiva, and to a slight retraction of the upper lid. It is hardly necessary to refer to what is well known to you as von Graefe's sign. When the patient follows with the eyes the finger or a pencil held in front of them and gradually lowered, the upper lids lag behind, so that the sclerotic becomes exposed between the lid and the iris. Another interesting eye symptom is known as Stellwag's sign, the retraction of the upper lid, producing widening of the palpebral fissure, and accompanied by fixity of the eyelids under reflex excitement. If you wave your hand or a paper before the patient's eyes you will notice she does not blink. The prominent eyes are apt to water, and to become inflamed. Sometimes more serious troubles ensue, such as ulceration of the cornea, which has led to the loss of the eye in some of my patients. In a few cases there has been oculo motor paralysis. Difficulty of convergence first noticed by Möbius is not uncommon. You will notice in some cases that there is swelling of the eyelids. This is most marked in chronic cases, and is due to a kind of solid oedema. You will also observe raising and arching of the eyebrows. The pigmentation to which I shall presently refer is often specially marked in the neighbourhood of the eyelids.

Tremor is present in practically all cases of Graves's disease. If you get a patient to put out the hands you will see a fine tremor affecting them. In addition to this form of tremor of the extremities the patient suffers from greater degrees of trembling affecting the whole body, liable to come on with any excitement or emotion. Restlessness is another common symptom closely associated with trembling.

Besides these four cardinal symptoms there are other symptoms which are somewhat less known but are hardly less important. In all acute cases of Graves's disease, and in chronic cases which are doing badly, there is general emaciation, and this may be extreme. You will always be anxious about a case of Graves's disease if the patient is emaciating, for as long as weight is being lost the patient is going downhill. An emaciated patient is one who is doing badly. If, on the other hand, you find the weight of the patient is increasing, you can feel more satisfied. The emaciation of Graves's disease is directly related to an increase in the metabolism of the body. It is not simply the result of less food being taken, for it may occur even when patients are eating well. Excessive metabolism is one of the observed effects of taking large doses of thyroid gland. There is increase in the intake of oxygen, with a corresponding increase in the output of carbonic acid. Along with the emaciation goes progressive loss of strength.

Slight degrees of pyrexia are not uncommon, the elevation of temperature generally not exceeding 1° or 1.5° F.; higher temperatures, however, are uncommon. But even when the temperature is not above normal, the patient often complains of feeling abnormally hot, in contrast with the patient with atrophied thyroid gland, who generally feels abnormally cold. The patient with Graves's disease, moreover, is intolerant of

heat, but is tolerant of cold, while the reverse is the case in myxoedema.

You know what marked changes in the skin occur in myxoedema, and those occurring in Graves's disease are no less interesting. In myxoedema, as you know, there is arrested action of the sweat glands, and the skin becomes coarse, dry, and scaly. In Graves's disease there is increased action of the sweat glands and the skin is generally supple and moist, as a result of which we find there is diminution in the electrical resistance of the body. Perspiration is unusually freely induced by exertion. The patient readily flushes on excitement or when conscious of being under observation, and a bright blush sometimes appears on the body as well as on the face. Pigmentary changes are common, and the skin sometimes becomes as bronzed as it does in Addison's disease. The complexion usually becomes sallow, and there may be a uniform or irregular darkening of the skin over nearly the whole of the body. The pigment may be irregularly distributed, giving rise to what is called leucoderma or vitiligo. Another symptom affecting the skin which I have sometimes observed is itching. It may be very troublesome and annoying, like that which occurs in jaundice or after the administration of opium. That it is a toxic symptom due to the thyroid secretion is shown by the fact that similar itching of the skin is sometimes experienced by patients who are taking medicinal doses of thyroid gland. Itching is sometimes accompanied by an urticarial eruption. Too much thyroid seems nearly as bad for the hair as too little, for the hair very commonly becomes thin and dry; but I have never seen actual baldness as in the case of myxoedema.

No important blood changes have been observed as the result of the disease. I have had the blood examined in a good many cases, and, as a rule, it has been found to be normal, which gives no support to the theory put forward at one time that Graves's disease was the result of anaemia. It is true that in some cases of Graves's disease the patient is obviously anaemic; that, however, is probably a coincidence owing to the fact that Graves's disease is commonly met with among girls just at the age at which anaemia prevails among them. Although we find no characteristic blood changes, patients with Graves's disease occasionally suffer from haemorrhages, such as epistaxis and menorrhagia.

Respiratory troubles are uncommon, with the exception of dyspnoea, especially felt on exertion, due to the cardiac weakness, and nervous cough, which may be due to the pressure of the thyroid on the trachea and the nerves adjoining, although, as I said, serious pressure symptoms are unusual.

I should like to call your attention next to the occasional occurrence of oedema. Oedema may be very marked in the extremities, and sometimes you find a considerable degree of ascites. It is usually met with, as far as I have observed, near the commencement of the disease and appears to be due to cardiac weakness. At a later stage you will notice some patients get a somewhat solid form of oedema. I have observed a number of cases in which the lower extremities have become very much thickened from solid oedema infiltrating the subcutaneous tissues, like the thickening which you see in myxoedema. It occurs in patients who, instead of getting thin, appear as the result of the disease to increase in bulk. There is no pitting, but the circumferences of the thighs and calves are much increased, and the patients will tell you they find it difficult to get stockings large enough to fit them.

The digestive functions are nearly always altered in some way or another. The appetite generally remains good, but sometimes it is voracious, which is partly accounted for by the increase of the metabolic changes in the body to which I referred just now. Unfortunately in some cases the appetite fails or becomes perverted and the patient may exhibit, like a pregnant woman, a taste for unwholesome or almost unprocurable forms of food. Sometimes there is almost complete loss of appetite, and when that is the case it is a bad sign. There is often excessive thirst, and patients will gulp down almost greedily large quantities of liquids. This, no doubt, is partly due to the increased action of the skin. A symptom which sometimes makes one anxious is vomiting. Vomiting is common in severe and acute cases, and very often precedes a fatal termination. I am always much concerned when vomiting occurs in an emaciated subject. In chronic cases also you may find that the patient has bouts of vomiting without apparent cause. Another trouble which tends to occur all through the course of the disease is looseness of the bowels, alternating sometimes with constipation. In cases which are doing badly there is often troublesome diarrhoea.

Occasionally you may observe some abnormality in the urine in the disease. Sometimes there is albuminuria, which may be intermittent and variable in degree, or there is polyuria, and sometimes you find glycosuria. In connexion with the latter, it is an interesting fact that glycosuria can be more readily produced by administering glucose in a case of Graves's disease than in a normal person. In a person with Graves's disease a smaller dose of glucose will cause sugar to appear in the urine than in the case of a healthy person. In severe cases you may find diacetic acid in the urine, as shown by Gerhardt's reaction with ferric chloride. None of these urinary symptoms are of much clinical importance.

The catamenial functions frequently become irregular, and menstruation is too profuse or too scanty, or is in abeyance altogether.

The toxin of the disease has evidently a marked affinity for the nervous system, which, as a rule, is profoundly affected, and the mental condition of the patient is seldom quite normal. The tremor and trembling have already been described. Painful cramps are sometimes a source of trouble, and when walking the patients complain of a feeling of giving way of the legs. Paresis of the lower extremities may be observed in severe cases. Patients with Graves's disease are nearly always restless, excitable, irritable, and emotional. One of the first duties of the physician, to which I shall again refer, is that of prescribing rest for them, and preventing them from overtaxing the small reserve of strength they possess. Their sleep is often disturbed and unrefreshing. More serious mental changes, unfortunately, may occur. Cases of Graves's disease sometimes develop symptoms of insanity, and require treatment in asylums, the type of insanity being either melancholia or mania. I may say, however, that out of the many cases I have seen in hospital and in private practice, I can recollect only one case which required removal to an asylum.

We may speak of two varieties of the disease, the acute and the chronic, and we may divide the cases of each variety into the severe and the mild. The acute type is comparatively rare. The symptoms of the disease become well marked in the course of a few weeks or even a few days. As a rule, in the chronic cases it is months or in some cases years before the symptoms become well marked. Acute cases not infrequently terminate fatally after a few weeks' duration, exceptionally they end in recovery, but usually they become chronic. Chronic cases may have exacerbations or relapses of an acute type. We have an important variety of the disease—the incomplete type, or *forme fruste*—in which some of the characteristic symptoms of the disease are wanting, in which exophthalmos is absent, or there is little or no enlargement of the thyroid. This type is not an uncommon one and you will see many cases if you look for them. At least two of the cardinal symptoms, and some of the other secondary symptoms which I have mentioned, should be present before you can justifiably make the diagnosis of this incomplete type. Another division which you can make of the disease is into primary and secondary cases, the secondary cases being those in which the symptoms of the disease come on after an ordinary goitre has lasted for a considerable length of time. Here in London we see far more primary cases than secondary. A very important clinical division, I think, is into the lean type and the fat type, the *forme maigre* and the *forme grasse*. In diabetes we are familiar with these two types, and we are generally satisfied as to the outlook if we have to deal with a well-nourished person, and the reverse when we have to treat an emaciated person. The same holds in Graves's disease—if we have a thin patient to treat we feel much more anxious than when we have a well-nourished patient to look after.

Prognosis.

As regards the prognosis, you should give a guarded one in all cases but especially in acute cases. You can never tell how an acute case is going to do. Sometimes, even although the symptoms are not very severe, an acute case will all at once rapidly go to the bad, and sudden death may occur without obvious cause. The proportion of deaths among the acute cases is very considerable—I should say, roughly, about 30 per cent. In chronic cases, the prognosis as a rule is good as regards life, but not favourable as regards the complete disappearance of the disease. It is very seldom, after the disease has lasted several years, that you get anything like a complete cure or a complete removal of the symptoms, but the proportion of deaths among the chronic cases is much less than that among the acute cases. Another point is that the prognosis is considerably better in patients who are well-to-do than among the poorer classes. Of all cases of Graves's

disease, one may say about 25 per cent. die from the disease sooner or later, 25 per cent. drift on in a condition of chronic illness, and about 50 per cent. make a fairly good recovery.

Treatment.

We must now consider the treatment of the disease. Whenever you find that for a particular disease there are innumerable remedies, you may know that there is something doubtful about the action of the remedies, and that probably none are particularly efficacious. Graves's disease is a malady for which many remedies have been employed and suggested from time to time, and I think we may admit that drugs hold an altogether secondary place in the treatment.

The first essential when there are signs of serious illness is to give the patient rest of mind as well as of body. As long as the patient is losing flesh let the rest be absolute, for you have to husband the strength as much as possible. Remember how impressionable the patients are. You must therefore keep away from them all disquieting influences. You must help them with encouragement and cheer them with the hope of recovery by and by. But you must let the friends clearly understand that it will take long to recover and that time is an all-important element in battling with the disease. Of hardly less importance are good food and an abundant supply of fresh air. At St. Thomas's Hospital I find that cases of Graves's disease do best when kept out on the balconies in the open air.

The open-air treatment is perhaps more easily carried out in the case of Graves's disease than in almost any other disease, because, as I have already pointed out, the patients are very tolerant of cold, always feeling better when the weather is cool, and they thoroughly enjoy being out in the fresh air. If you carry out open-air treatment in cases of Graves's disease I am sure you will be doing what is good for the patients.

You must feed them carefully and give them an abundant, wholesome and nourishing diet. If weight is being lost, you may supplement the ordinary food with milk, so that they get an addition to their diet of 2 to 4 pints of milk a day. An adequate amount of fat in the food is very important. In cases where there is vomiting you may try citrate of potash or bismuth to check it, but if it be frequent it is advisable to suspend feeding by the mouth and to feed for a time by the rectum. Diarrhoea, which is sometimes a difficulty in acute cases, must be treated by the careful selection of food and the administration of bismuth or preparations of tannin, such as tannalbin or tannigen.

Massage may prove beneficial in the case of patients who are confined to bed, as well as in the case of those who are able to go about, but massage must be judiciously employed. You must pay great attention to the skin, remembering the excessive sweating, and if the patient is confined to bed she should be washed over twice daily. In other cases you may with advantage allow a warm bath (temperature 98° to 100° F.) to be taken every night. Warm sea water or brine baths are sometimes useful, or you may try the effervescing saline baths which can be prepared with Sandow's tablets. The latter seem sometimes to have a quieting influence on the heart.

Later on we have to consider whether good may not be done by a change of air and climate. When a patient is able to be up and about I think change of climate often proves beneficial. But there is no rule as regards what climate will suit a patient with Graves's disease. One case will do well at the seaside, another inland, one at a high elevation, another at a low. You cannot predict what will suit any given case. But the patient's own knowledge of the kind of place that suits is a guide. I think I have seen more cases benefit by residence at the seaside than elsewhere. Sometimes, however, the seaside is too exciting and too stimulating. In summer the glare of the sun may be very trying, and shelter from the sun and wind and protection from dust should be provided. A few cases I have sent to the higher altitudes in Switzerland have done well, but I can conceive nothing worse for a patient than one of the popular Swiss resorts in the month of August. Care, on the whole, is of far more importance than climate. The great thing is to get our patients to a place where they can get peaceful quiet and rest, with freedom from noise and nuisances, where they can have real comfort and wholesome food, and where they can enjoy pure and bracing air among pleasant and cheerful surroundings. Sea voyages, as a rule, are prejudicial, and, of course, can only be sanctioned where the patient is well on the road towards recovery, is known to be a good sailor and can travel in comfort.

I must now say a few words about drugs. One of the drugs which I have found useful is potassium bromide. In a case where the nervous symptoms predominate, and you have to deal with a restless, excitable, emotional subject, bromide of potassium may be given with benefit in doses of 20 to 40 gr. at bedtime.

Preparations of iodine are useful in cases where the goitre is large, or where it is increasing in size. Lately I have been giving the syrup of hydriodic acid, which is better borne than iodide of potassium, and seems as effective. The syrup can be given in doses of a drachm three times a day. The tincture or liniment of iodine may be applied externally over the goitre, but has the disadvantage of sometimes making the skin sore. I now use for the same purpose iodipin, which is a solution of iodine in sesame oil; 20 minims of the 20 per cent. strength is gently rubbed into the skin over the gland every night. If you find that during treatment with preparations of iodine the patient is not doing well, is losing flesh, or is having an aggravation of the cardiac or nervous symptoms, then you should at once discontinue their use.

Another drug which I have found useful is belladonna, of which one generally gives the tincture in doses of mx three times a day. Patients say they feel better when taking it, and it seems to act best in cases where the cardiac symptoms predominate. I have thought that perhaps its action might be due to its lessening the activity of the thyroid gland. I do not think that under any circumstances it is wise to continue the administration of belladonna for any very long time, and I recommend that if you do use it you should suspend it from time to time. Professor Möbius, I notice, says he has found belladonna useless, and considers it strange that we in England should think at all highly of it as a remedy. I may mention that digitalis is well spoken of by a good many authorities. You give the tincture or infusion, or, as some prefer, Nativelle's digitaline. I have never seen the administration of digitalis make any difference in the rate of the heart, and one may say the same of strophanthus.

Phosphate of soda has come into favour of recent years, and is given in doses of 15 to 20 gr. three times a day. One can say that it will do no harm, and in some cases I fancy that it has done good, although it is difficult to say why. Chloride of calcium is another drug which is said to have been found to be useful. If anaemia be present you may prescribe iron and arsenic. Strychnine is useful when the heart needs stimulation. Cod-liver oil and pancreatic emulsion may be given in the case of poorly-nourished subjects.

Treatment with thyroid gland, I think, usually makes the patient worse, but there are certain cases where I have seen it beneficial. These are cases of old standing where the symptoms seem to be due rather to deficient than to excessive secretion. The cases with solid oedema, for instance, are nearly always benefited, and I have seen the swelling to which I have referred almost entirely disappear under its use. Thymus gland I have used fairly largely, but I cannot say that I have had any very marked results from it. I treated 20 cases with thymus, and compared them with 20 similar cases treated without thymus, but could see no decided difference in the results obtained. Suprarenal gland has been thought to be useful by some physicians.

Extract of spleen has also been tried. I believe I was the first to make use of the animal glands in the treatment of Graves's disease; for in 1892, as soon as I had satisfied myself of the activity of thyroid gland when given by the mouth in myxoedema, I tried it in the fullest doses in cases of the malady we are now considering. I then gave pituitary body, cerebral tissue, orchitic extract, as well as thymus, but found them all without effect.

I must not omit to mention a preparation called thyreoid serum, which was introduced a year or two ago on the suggestion of Professor Möbius. It is a serum derived from sheep which have had the thyroid gland removed by operation six weeks previously. It is supplied in sealed phials containing 10 c.cm., the dose by the mouth being from 1 to 5 c.cm. three times a day. I have made a very complete trial of this in a series of cases, but I am sorry to say that I obtained no good effects from it whatever. The remedy is expensive, and, as far as I can judge, is quite useless, but I see it is still advertised, and I suppose it is still being employed.

In addition to or in place of general remedies, treatment may be directed locally to the thyroid, the eyes, or to the heart. The application of cold compresses or of Leiter's

tubes over the thyroid seems sometimes to be followed by diminution of the swelling. I have already referred to the local use of iodine. We may also employ for the same purpose glycerine of belladonna, or, what is a cleaner preparation, glycerine of atropine (St. Thomas's Hospital Pharmacopoeia). The latter may be applied over the precordium for the relief of palpitation.

Local electrical treatment and light treatment have also been tried. Electrical treatment has proved disappointing, and my belief is that any beneficial effect it has depends on the impression made on the patient's mind. Electrical treatment has been diligently applied to the neck to influence the cervical sympathetic as well as over the thyroid, the eyes, and the heart. Recently the *x* rays have been used, being applied locally over the thyroid gland; and reports of benefit obtained have been published, especially where the *x* rays have been used after thyroidectomy.

Medical treatment, general or local, it must be admitted is sometimes most disappointing. In spite of all our efforts the patient occasionally does not improve. Our best results are obtained in cases which have required least help from drugs. Where we most want them, drugs seem to fail us. It is not surprising that surgical methods of treatment have long been advocated and employed, with the object of bringing about a more certain and speedier cure.

If we could assure ourselves that the disease was nothing more or less than a hypertrophy of the thyroid gland it would seem that the most rational method of treatment was to reduce the enlarged gland to something like normal proportions by surgical means. But we cannot altogether ignore the part obviously played by the thymus in the disease. It is many years since partial thyroidectomy was first performed for exophthalmic goitre, and a good many successful results have been published. Unfortunately, the operation is, even in the hands of the most skilful surgeons, a dangerous one, and the risks are greatest in the class of case which responds least to medical treatment. Some surgeons, such as Kocher of Berne and Friedheim of Hamburg, appear to have been particularly successful with their operations, but even Kocher speaks of the operation as *sehr gefahrlich*.

In cases where there has been little or no exophthalmos I have had good results from thyroidectomy, but I have also had lately two patients who have died as the direct result of the operation. The risk from operation is an immediate one, the patient dying usually within twenty-four hours. Kocher and others maintain that the operation should be performed under local anaesthesia, and that a general anaesthetic adds greatly to the danger. I have, however, no personal experience of operations on exophthalmic goitre performed in this country under local anaesthesia which enables me to form a judgement as to the comparative merits of operations done under local and general anaesthesia. My friend Dr. Nicholson of Marlow has informed me that one of his patients was greatly benefited by thyroidectomy performed by Professor Kocher.

The statistics of Allen Starr, published some years ago, showed that there was a mortality of 16 per cent. directly from operation. I am indebted to Dr. P. Frank, and to my house-physician, Dr. Inman, for the following references to more recent surgical literature.

Of Kocher's cases, 59 in number, there were:

Cured	76	per cent.
Improved	14	,,
Slightly improved	3 8	,,
Died	6 7	,,

A general anaesthetic was only employed three times, and in every case marked thyroidism followed, 2 being fatal.

Friedheim of Hamburg has recently reported observations on 20 cases treated by thyroidectomy, and says a lasting cure has been effected in 14 and in 5 others improvement has occurred. He thinks that the cases in which only a betterment has occurred have still too much gland left behind. In the report which I have seen no details, either of the cases or of the technique of the operation, are given.

Thomas Huntingdon, in reviewing the detailed histories of a considerable number of cases resulting fatally within a short time after operation, says: "We cannot escape the conviction that general anaesthesia is in a very large proportion of them seriously at fault. There is no difference of opinion among operators as to the impropriety of general anaesthesia in this relation, and especially in advanced cases."

Thyroidectomy, however, often fails to cure the disease. A patient was recently shown at one of the provincial medical societies in whom the exophthalmos became much worse after the operation. It may be, as Friedheim argues, that in those patients who are not cured too little of the thyroid has been removed.

Various other operations, such as resection of the sympathetics, have been performed. Sympathectomy appears to be quite as dangerous as thyroidectomy, and although the immediate results, if the patient survives, are said to be far superior to those of the latter operation, it is difficult to understand how it can exercise a curative effect.

Ligature of the thyroid arteries is another operation which has been frequently performed, but, if less dangerous than thyroidectomy, it is also less likely to cure.

On the whole, I consider the risk attending thyroidectomy is too great to justify the adoption of the operation save in exceptional circumstances. For the present, one must trust to medical treatment on the lines I have indicated, and, with good care and perseverance, there is a fair chance of our efforts being rewarded by the recovery of the patient.

A CASE OF ADDISON'S DISEASE

IN WHICH GREAT IMPROVEMENT TOOK PLACE UNDER OPEN-AIR TREATMENT AND THE ADMINISTRATION OF SUPRARENAL EXTRACT.

BY BYROM BRAMWELL, M.D., F.R.C.P.E.,

Physician, Edinburgh Royal Infirmary, etc.

THE beneficial effects of the open-air treatment in many tuberculous affections, and especially in phthisis, is now well established. So far as I know, this plan of treatment has not been as yet employed in Addison's disease. In the following case remarkable improvement took place under the open-air treatment and the simultaneous administration of suprarenal extract. The notes of the case are as follows:

R. W., aged 36, married, a ship's steward, was admitted to the Edinburgh Royal Infirmary on November 2nd, 1903, complaining of great weakness, loss of weight, and occasional pain in the stomach.

HISTORY.

The patient stated that he had been ill for eighteen months; during this time he had lost 4 st. in weight, but recently had gained 8 lb. of this loss. The fact that the patient had gained weight seemed to negative the view that the symptoms might be due to malignant disease of the stomach. The examination of the abdomen and the subsequent progress of the case confirmed this view, and showed that there was no malignant disease.

CONDITION ON ADMISSION.

On examination the patient was found to be well covered with fat. The loss of weight was evidently due to loss of muscle, not to loss of fat. The asthenia was extreme. The pulse was small and soft, the heart's impulse could not be felt, and the heart sounds were very faint and difficult to hear.

The appetite was good. There had been no vomiting. The pain in the stomach was not aggravated by food, and was only occasionally felt. The tongue was clean. There was slight tenderness on pressure in the upper part of the epigastric region, but no hardness nor tumour could be felt. Chemical analysis showed that the stomach contents contained no free hydrochloric acid—a fact which has been previously observed in cases of Addison's disease, and which is presumably due to impaired digestive function.

The mucous membranes were somewhat anaemic. The red blood corpuscles numbered 3 800 000 per c.mm., the white blood corpuscles numbered 8,000 per c.mm., and the haemoglobin equalled 70 per cent. Stained films showed that there was a considerable excess of lymphocytes (40 per cent.); this was suggestive of a tuberculous lesion.

The skin of the face, hands, and wrists which had been exposed to air was deeply pigmented; the nipples and scrotum were deeply pigmented, and there were two or three pigmented spots on the lips, both the upper and lower lips, at the junction of the skin and mucous membranes, but no pigmented patches on the interior of the mouth. There were several brown patches on the abdomen, which were, the patient said, the result of poulticing.

The patient complained of some pain in the back over the region of the suprarenal capsules, but there was no tenderness on pressure in the lumbar region.

Diagnosis.

The diagnosis was Addison's disease.

Treatment.

After the patient had been in hospital for three weeks it was decided, after some hesitation (owing to the fact that most patients affected with Addison's disease are very susceptible to cold, and that the weather at that time in Edinburgh was very cold and inclement), to try the effect of open-air treatment. The patient was placed on the balcony outside the ward. The weather at the time, as has been already stated, was cold and inclement, wet, windy, stormy, and sometimes a sharp frost at night. The patient stood the exposure well; he felt quite comfortable, and did not complain of cold. At the same time, suprarenal extract (5 gr., three times daily) was administered.

Result of Treatment and Subsequent Progress of the Case.

Remarkable improvement resulted from the open-air treatment. The patient gained 1 st. 6 lb. in weight; the pigmentation of the skin and the asthenia became markedly less. He was discharged from hospital on 21st March, 1904.

After his discharge he presented himself from time to time as an out-patient, and on each occasion expressed himself as feeling well. Soon after I last saw him (November 23rd, 1904) he returned to work (he was a steward on board a ship) without asking my permission to do so.

On Friday, February 24th, 1905, while on board ship returning from the Baltic, he complained of great weakness and inability to do his work. On Saturday, the 25th, he was able to move about and attend to his duties. About 5 p.m. on that day he asked for whisky, saying "I am done for now"; he went to his bunk and lay down. On Sunday, the 26th, he appeared to the captain to be unconscious—he did not respond to questions and was unable to take nourishment. The ship arrived at Montrose on Sunday, the 26th, at 5 p.m. Dr. Middleton Connon, to whom I am indebted for these particulars, was at once called to see him, but found, at 5.45 p.m., that he was dead. The final attack and death seem to have been due to rapidly developed asthenia and failure of the heart's action, perhaps the result of auto-intoxication—a not uncommon cause of death in Addison's disease. There was, unfortunately, no *post-mortem* examination.

Remarks.

This history is very interesting and very important. It shows that in Addison's disease, even when marked improvement takes place, the patient's life, owing to the abolished function of the suprarenal glands, is an extremely precarious one. There can be no doubt, I think, that patients who have greatly improved, or apparently recovered from Addison's disease should lead inactive lives; the fact should be impressed upon them that they are not cured, that although greatly improved the disease is still in existence, and that any strain or over-exertion, anything likely to depress the heart's action, such as diarrhœa, exposure to cold, etc., may be attended with great danger.

The improvement which resulted from the open-air treatment (together with the administration of suprarenal extract) in this case was remarkable, and suggests that a further trial should be given to the treatment in cases of Addison's disease. It is probable, however, that it is only in a certain proportion of cases of Addison's disease that the treatment can be satisfactorily borne. In the only other case in which I have had the opportunity of employing the treatment—that of a ploughman, aged 25, who was admitted to the Edinburgh Royal Infirmary on March 13th, 1905—the treatment was not successful. In that case all the symptoms of Addison's disease were extremely well marked—I have never seen more marked pigmentation of the skin and buccal mucous membrane than there was in this (second) case. This patient was unable to bear the exposure in the inclement, variable weather which we were at that time experiencing in Edinburgh; the open-air treatment consequently had in his case to be given up.

I may say that in this second case there was no anæmia; the red blood corpuscles numbered 5,300,000, the white blood corpuscles 8,800 per c.cm., and the haemoglobin equalled 80 per cent. The condition of the blood in this case was interesting, since Addison himself laid stress upon anæmia as a symptom of the disease; Sir Samuel Wilks has, however, pointed out that in this respect Addison's description was erroneous. My own experience confirms Sir Samuel Wilks's observations, for in most of the cases of Addison's disease which have come under my notice, the lips, gums, and conjunctivæ were well—indeed, in several cases deeply—coloured.

I may also add that in this second case, as in the first case, analysis of the stomach contents showed the complete absence of free hydrochloric acid.

A CASE OF TUMOUR OF THE SPINAL CORD REMOVED BY OPERATION.

A REVIEW OF THE CHIEF DIAGNOSTIC POINTS, VARIETY, AND OPERABILITY OF TUMOURS MET WITH IN THIS REGION.

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The following case is interesting, both from its comparative rarity and from the difficulty in diagnosis which it presented.

R. W., aged 24 years, a spring maker, was admitted into the St. Marylebone Infirmary on August 14th, 1903, complaining of pain in his back.

Family History.—His mother died of cancer; there was no history of consumption.

History of Present Illness.

Eight years before he had fallen downstairs, striking his back as he fell; the pain soon passed off, and the following day he was about as usual, and free from pain. Four months later he began to suffer with dull aching pain in the lower part of his back; this pain was constant, worse at night, increased by stooping, and especially severe on raising the body from the stooping to the upright position, and in every way resembled lumbago; for which, as a matter of fact, he was treated in the institution for three months, at the end of which time he was discharged as cured. He then remained quite free from pain for two years, when a series of exactly similar attacks began: these attacks would last for about two weeks at a time, incapacitating him from work for the time being, recurring about every three months, and spread over a period of five years. In January, 1903, seven months before admission, the pain became worse, but still remained localized to the lumbar region of the spine; he had to give up his work altogether, and had the greatest difficulty in getting up and down stairs, which he could only do a step at a time. He described the pain "as feeling as if the spine was being compressed in a vice"; he could not lie down, for that made the pain worse, and he always slept propped up in bed. Six months before admission he had what he called a hard sore on his glans penis, but did not consult a doctor about it; there was no discharge from it, and no buboes, rash, or sore throat followed. He had a breaking-out on his legs soon after, and there are some coppery stains there now. There is a well-marked depressed scar on the glans penis, which is more like that left by a soft sore. On August 14th, 1903, he was again admitted into the St. Marylebone Infirmary, and at that time had slight weakness of the legs, but said that sensation in them was perfect. He was kept in bed for two weeks, and then allowed up for a few hours daily, when he noticed that his legs were rather weaker than on admission, especially the right; some days later, while walking along the passage, his knees suddenly gave way under him and he fell forward; he was unable to get up by himself, but after being picked up he managed with assistance to walk back to his bedside; afterwards he got up in the wheel-chair only, and noticed, whenever he rested the ball of his right foot on the foot-board with his heel clear, that clonic spasms of the calf muscles would take place, shaking his whole body; a week or so later the left leg began in the same way, and about this time, too, his legs first began to get stiff, and he noticed numbness in the groins, with shooting pains round his body and girdle sensations: the numbness gradually spread *down* his legs, and for some time he could feel better below the knees than above; he was at this time having the faradic current, and so had frequent opportunities for testing his sensation. From this time until the following notes were taken the pains in the back persisted, with shooting pains and girdle sensations round the body from the upper lumbar region behind to a point midway between the pubes and the umbilicus in front.

The following notes were taken on October 20th, 1903:

The patient has marked spastic paraplegia, with no voluntary control of any muscle in either lower limb; the spasticity

is so marked that on attempting to abduct one leg the other leg and pelvis follow. The knees bend like a piece of lead piping. He is quite unable to sit up in bed or raise himself without help, or even to turn on his side. On throwing the rectus abdominis into action the umbilicus is markedly drawn up, showing that the lower part of the muscle is much weakened. His legs are often spasmodically drawn up, causing pain in the back, and he is quite unable to lower them again without assistance.

Reflexes.—Tendon reflexes are clonic. Superficial reflexes—Babinski's sign present both sides; cremasteric, absent; lower abdominal, absent; epigastric, present. The arms are in every respect normal.

Sensation is not entirely lost, but very numb and delayed all over both legs; upper limit reaches midway between the pubes and the umbilicus, and passes thence more or less horizontally round the body, crossing the crest of the ilium, and joining the mid-line behind about the third lumbar spine. Heat and cold can be distinguished, but are also delayed.

Spine.—There is pain on movement in the upper lumbar and lower dorsal regions, there is also pain in the same region on tapping the spines of the vertebrae, most intense over the ninth and tenth dorsal spines; there is also pain in this region on jarring the head in a downward direction. There is rigidity in the lower two-thirds of the dorsal region and in the lumbar spine. There is a slight kyphotic curve involving the spines of the seventh, eighth, ninth and tenth dorsal vertebrae, the ninth and tenth being especially prominent. For the last two days there has been a patch of oedema over the sacrum and lower dorsal vertebrae.

Sphincter.—He has difficulty in starting micturition. He has no incontinence of urine and can hold his urine well. There is incontinence of faeces when liquid.

Eyes.—The pupils react well to light and accommodation, the fundus is normal, there is no nystagmus and no paralysis of any ocular muscle.

Progress.—The patient has been treated with gradually increasing doses of potassium iodide up to 90 gr. daily combined with mercury during the last three weeks, but has become worse, sensation being now completely lost in both legs up to a point midway between the pubes and the umbilicus. The pain and cramp-like spasms of the muscles are undiminished.

Operation.

On November 12th, 1903, having decided to remove the ninth and tenth dorsal spines and laminae, a free incision with these spines for a centre was made. Preliminary intramuscular injections of adrenalin chloride were made into the erector spinae in several situations on either side of the intended incision, and this I found to be a very valuable help in the subsequent steps of the operation, the bleeding, which is usually very profuse in these operations, being easily controlled. The spines and laminae of the ninth and tenth dorsal vertebrae were separated with saw and bone forceps, and as soon as they were removed the dura mater bulged through the opening. It was then seen to look like a cyst filled with transparent fluid, through which the posterior surface of the cord could be dimly seen. On palpating the cord a tumour could be felt almost entirely filling the canal. The dura mater was now incised, when immediately fluid under great pressure gushed out, and the posterior roots protruded through the opening thus made; when the first gush of fluid had lessened fluid was also seen to be spurting out in a tiny stream from between the strands of the posterior roots; no tumour was to be seen, but it could be felt as a distinctly localized growth about the size of a walnut, quite hard, covered in by the posterior roots which were stretched over it, and situated somewhat more on the right side than the left, the cord itself was not to be seen, being completely covered in by the roots. The strands of these roots were carefully separated with a director and the tumour exposed, it was then shelled out quite easily by suitably curving the director and passing it round the tumour in all directions, care being taken to keep it pressed against the tumour so that no damage should be done to the cord. Free oozing followed and immediately filled the cavity from which the growth had been removed, so that the cord itself could not be seen, and as the patient was now rather collapsed no time was wasted in examining the cavity, but owing to the size of the tumour the cord could not have been much thicker than a piece of ribbon. The dura mater was closed by a continuous fine catgut suture, and the wound closed except for a drainage tube. The wound healed by first intention, but there was a discharge of cerebrospinal fluid from the drainage-tube hole for three weeks afterwards. At first this was very profuse, soaking the dressings through in a few hours, but gradually lessened.

After-Progress.

The following morning the patient was still completely paralysed in his legs, but the previous spastic paraplegia had given place to an absolutely flaccid one with loss of knee-jerks. For two weeks following the operation he had retention of urine, which gradually gave way to complete incontinence. Anaesthesia was absolute and to the same level as before operation, plantar reflex extensor. He had complete relief from the distressing pain in his back and round his body.

His condition remained practically the same until his death twenty months later from extensive bedsores, except that contractures developed. He had not had any recurrence of his pain, and was very cheerful and thankful for what had been done. He used to get about in the wheel-chair.

The Tumour.

The tumour had evidently grown from the posterior root sheaths, which is a very frequent site for these growths. It weighed 75 gr. Microscopically it was a fibro-sarcoma evidently of slow growth, from the large amount of fibrous tissue in it, and from the fact that it was entirely encapsuled.

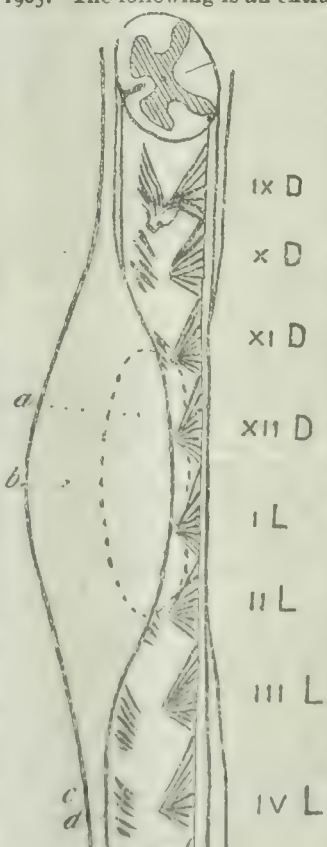
Post-mortem Examination.

A necropsy was made by Dr. Gordon Holmes on June 18th, 1905. The following is an extract from his notes:

Scar extended from the ninth dorsal vertebra to first lumbar spine. The laminae of the tenth and eleventh dorsal vertebrae had been removed, and the space was filled up by firm fibrous tissue, on dissecting off which a large cyst was felt in the position of the laminae, and the vertebral canal was here enlarged by absorption of the bone of the vertebral pedicles by pressure.

The cord was normal except for ascending degeneration in the posterior columns down to the level of the tenth dorsal segment; here the dura mater became adherent to the pia arachnoid, and was tightly bound down to the cord. From the lower part of the eleventh dorsal segment to the third lumbar segment the dura mater was distended to form a large cyst containing clear fluid. The operation opening in the dura mater was closed by fibrous scar tissue, and it seemed to be owing to the stretching of this that the cyst formed.

The cord was normal in shape down to the eleventh dorsal segment: here it became contracted and flattened out, and at the level of the twelfth dorsal segment and first and second lumbar segments it was not recognizable until the whole was cut transversely, and then it was seen that these segments were completely disorganized, and bound down by the thickened pia arachnoid to the surface of the dural cyst. Below the third lumbar segment the cord was normal in shape, although softened in places. There was no evidence of any recurrence of the growth, either macroscopically or microscopically; all that remained of the cord at the site of pressure was a strip of fibrous tissue.



Diagrammatic *post-mortem* view of spinal cord, showing adhesion of cord to dorsal and left wall of cyst, which consisted of expanded dura. The tumour was reached at the operation by separating fasciculi of the posterior nerve roots. Approximate position of tumour dotted in. *a*, tumour; *b*, cyst, to the dorsal wall of which cord is adherent; *c*, dura; *d*, pia arachnoid; *e*, anterior nerve root; *f*, posterior nerve root.

It will be seen that the *post-mortem* report does not agree with the operative as regards the spine and laminae removed. I counted most carefully both before and after operation on several occasions, and was quite certain that those removed were the

ninth and tenth, and this would fit in more accurately with our knowledge of the relation of spine to segments of the cord. The cyst, of course, was not due to giving way of the fibrous tissue of the scar in the dura mater, as it was present at the time of the operation.

REMARKS.

The following table from Schlesinger gives the variety, site of origin, and position of 400 tumours of the spinal cord:

Variety.	Intradural.			Extradural.				
	Medullary.	Meningeal.	Both.	Meningeal.	Non-Meningeal.	Single.	Multiple.	Total.
Sarcoma	14	53	9	17	11	80	27	107
Tubercle	62	—	—	2	—	55	9	64
Echinococcus	—	5	—	39	—	8	36	44
Fibroma	—	20	2	5	—	15	18	33
Gumma	7	4	15	2	—	19	9	28
Glioma	20	—	—	—	—	20	—	20
Psammoma	—	18	—	—	—	18	—	18
Myxoma	—	7	—	4	—	11	—	11
Lipoma	1	8	—	—	1	8	3	11
Cysticercus	2	5	—	—	1	4	4	8
Glio sarcoma	—	3	4	—	—	—	7	7
Endothelioma	—	5	—	1	—	4	2	6
Melano-sarcoma	1	—	3	—	—	1	3	4
Neuroma	4	—	—	—	—	3	1	4
Lymphangioma	—	1	—	1	—	1	1	2
Cysts...	—	1	—	1	—	1	1	2
Cholesteatoma	1	—	—	—	—	1	—	1
Uncertain	13	12	2	3	—	24	6	30
	125	142	35	75	13	273	127	400

This table shows that intradural tumours are more than three times as common as extradural ones, and of these intradural ones that medullary tumours are very nearly as common as extramedullary ones, and that nearly all these medullary ones are composed of inoperable tumours, as tubercle, sarcoma, and glioma.

The commonest variety of tumour is sarcoma, usually meningeal in origin and in 25 per cent. of cases multiple. Tubercle in all but two cases is medullary, and single in most cases; it most often occurs in children. An unusual number of gummata appear to be medullary, and the tumour is not nearly so frequent as it is in the brain; it occurs most frequently in middle age. Sarcoma is met with at any age. Echinococcus is much less common in this country than this table would lead us to suppose. Looking at these facts from an operative point of view, we may take it that a large number of the meningeal sarcomata, if taken early enough, would have been capable of removal; tubercle would not be benefited by operation, and fibroma could in all cases have been completely removed.

Operability of Tumours.—This depends on their nature and situation; intramedullary tumours are very rarely to be benefited by operation; meningeal ones, whether intradural or extradural, if taken early enough are capable of removal; as to whether the relief will be permanent or not can only be proved by following up the cases for some years after operation, but from the nature of the growths in many cases and from experience of operations on similar growths in other and more accessible regions of the body, one cannot but believe that recurrence is bound to take place in a large percentage of cases.

Collins has collected 70 cases from literature up to 1902; 30 of these cases were operated on; 12 of these operations were successful, 8 partially successful, and 10 were unsuccessful and the patient died. By success he means cessation of pain with recovery of motor power; by partial success, cessation of pain with slight recovery of motor power; and by unsuccess, death in a few weeks.

Of these 30 tumours operated on, 6 were fibromata (all except one of which recovered and that died of sepsis), 12 were sarcomata, 3 endotheliomata, and 1 myolipoma (also died of sepsis). The causes of death in the unsuccessful cases were sepsis 4, shock and haemorrhage 4 pneumonia 1. The successful cases do not seem to have been followed up, so that recurrence probably took place in some. The death-rate from sepsis and shock is very high. This gives an average of 40 per cent. of cures.

Starr (1904) collected 58 cases submitted to operation, in which the tumours were removed in all but 3; 16 were successful, 10 partially so, and 32 unsuccessful, which gives 28 per cent. of cures. The majority of the deaths were due to either shock and haemorrhage or sepsis.

It seems clear from the above statistics that the percentage of immediate recoveries should be considerably increased by cleanliness and quickness in operating and by earlier diagnosis. For it is obvious that the majority of partial recoveries would have been converted into complete ones by earlier operative interference before the delicate tissue of the cord had been irretrievably ruined by the prolonged compression; and if we take the successful and partially successful cases together as possible cures we get in Collins's cases 66 per cent., and in Starr's cases about 45 per cent. of cures. And, again, if we may reckon that those cases which died from sepsis and shock, and which will be saved in the future, as counterbalancing those in which recurrence is likely to occur, I think that 50 per cent. of complete cures will be as good as we can possibly expect.

The most important symptoms from a diagnostic point of view are the following:

Pain.—This is intense neuralgic, sharp-shooting, burning, and agonizing, persistent in one locality; the pain is not associated with tenderness over the nerve trunks, or tender spots on the skin. No other disease causes such definitely localized, recurring, and persistent pain. The pain is related to the segment first affected, and is *at first unilateral, later becoming bilateral* (a very important diagnostic sign). The painful areas are often hyperaesthetic, there is rarely any rigidity of the spine, and bending the back does not increase the pain. Pain is usually the first symptom to appear, and has often caused mistakes in diagnosis, patients having been operated on for appendicitis, gall stones, renal stones, and treated for angina pectoris, lumbago, and indigestion.

Motor Symptoms.—These are usually the next to appear, and take the form of spastic paraplegia, with increased tendon reflexes, imperfect control of bladder and rectum (*the paralysis often being at first limited to one side, or more marked on that side*).

Sensory Symptoms.—Anaesthesia soon follows to the level of the lesion. A typical Brown-Séquard paralysis may occur in the early stages, or dissociated anaesthesia.

In intramedullary tumours the paraplegia is usually not so complete, and pain is much less severe and rarely an initial symptom.

Diagnosis.—Starr says that this presents no difficulty, and should be made very early—in fact, as soon as spinal symptoms are associated with intense, persistent pain in one locality, at first often one-sided and later becoming bilateral; and the same applies to the motor symptoms, which are occasionally one-sided at first. When multiple tumours are present multiple pains will be present, and there will be a mixed paralysis with atrophy of the muscles supplied from each segment involved. It may be difficult to diagnose from caries in the early stage, but the appearance of marked deformity decides the question (Starr).

Treatment.—According to Schlesinger's table, gumma only occurs in 28 out of 400 cases. Valuable time may be lost in persevering with potassium iodide treatment, and if improvement does not soon appear with large doses of this drug operation should be resorted to. If the tumour is not removable the posterior nerve roots at, above, and below the involved segments should be divided to relieve the intense pain.

Localization.—Experience has proved that there is a great liability to locate the lesion too low in the cord. The level of the pain and the anaesthesia are the most reliable localizing signs, and in the dorsal region the lesion is usually situated about 4 in. above the upper level of the anaesthesia. A practical point to be borne in mind when operating is to remove the laminae opposite the highest point of the supposed lesion, and if not found to enlarge the wound upwards.

Although the operation in this case cannot be written down as an unqualified success, yet I think I may fairly call it a partial success, in that it undoubtedly prolonged his life and entirely freed him from his distressing pain; he was enabled to enjoy the remainder of his existence, and was, in fact, quite bright and cheerful, and managed to get himself about in the wheel-chair, and never, up to the last moment, gave up hope of again being able to walk.

From a diagnostic point of view the case was extremely interesting and rather difficult. The three conditions to be considered were: Syphilis (gumma), spinal caries with pressure paraplegia, and tumour of the cord.

The history of syphilis was indefinite, and the scar left on the glans much in favour of his trouble having been a chancroid rather than a Hunterian chancre; nevertheless, there was sufficient doubt to render a thorough course of potassium iodide and mercury necessary. The differentiation between caries and tumour was much more difficult, the pain, tenderness, and rigidity, coming on after an accident and accompanied by a decided kyphotic curve of an angular nature, built up a clinical picture of Pott's disease, and made this diagnosis extremely probable. As a matter of fact, that was the conclusion I came to in this case. The one great symptom in favour of tumour was the intense and persistent localized pain, and I am quite ready to admit that this should have put me on the track, the pain being much more marked than that occurring during the course of Pott's disease. Against tumour was the rigidity and tenderness of the spine, which we can now explain by the erosion of the vertebrae seen at the *post-mortem* examination.

Another extremely interesting point to me is the occurrence of a flaccid paralysis after the operation. One would expect a certain amount at least of spastic paraplegia to remain after the removal of the tumour, owing to the descending degeneration of the pyramidal tracts already set up by the pressure of the growth. I can only account for this fact by suggesting that either the sudden relief of tension in vessels which had for some time been compressed, and consequently damaged, led to thrombosis, and caused a previously incomplete lesion to become a complete transverse one, or that thrombosis occurred on the day in which he suddenly lost the use of his legs in the ward and fell down, the spastic condition being subsequently kept up by the irritation of the tumour.

I must here express my indebtedness to Mr. J. R. Lunn, Medical Superintendent of St. Marylebone Infirmary, for leaving the entire treatment of this case in my hands, and for much kindly advice in the subsequent preparation of my notes for publication. I have also to thank Dr. Gordon Holmes for his careful *post-mortem* examination and report of the condition of the spinal cord.

SEVENTY-THIRD ANNUAL MEETING
OF THE
British Medical Association.

Held at Leicester, July 24th, 25th, 26th, 27th, and 28th, 1905.

PROCEEDINGS OF SECTIONS.

SECTION OF PATHOLOGY.

F. W. MOTT, M.D., F.R.S., President.

A DISCUSSION ON THE RELATIONSHIP OF HEREDITY TO DISEASE.

I.—F. W. MOTT, M.D., F.R.C.P., F.R.S.,
Pathologist to the London County Asylums; Physician to Charing Cross Hospital.

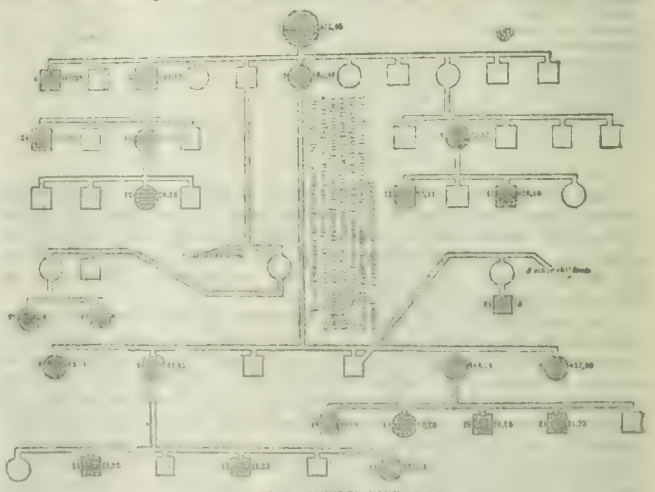
THE resemblance of offspring to parents is a commonplace observation which may be stated in the formula "Like begets like," but as variations which make the offspring differ from the parents constantly occur, rendering the likeness incomplete, the formula is more correctly expressed as "Like tends to beget like."

The resemblance of the offspring to the parents or one parent in particular may be general or minute in physical and mental characteristics, and this applies not only to normal but to abnormal characters as well.

The ancients were quite familiar with the fact that the heritage of an individual is that of *the stock* from which the individual springs. Thus the theory of the continuity of the germ plasm is foreshadowed by Lucretius, who says: "Sometimes, too, the children may spring up like their grandfathers, and often resemble the forms of their grandfathers' fathers, because the parents often keep concealed in their bodies many first beginnings mixed in many ways, which, first proceeding from the original stock, one father hands down to the next father; and then from these Venus produces forms *after a manifold chance*, and repeats not only the features but the voices and hair of forefathers. And the female sex equally spring from the father's seed, and males go forth equally formed from the mother's body; since these distinctives no more proceed from the fixed seed of one or other parent than our face and bodies and limbs, the birth is always formed out of the two seeds."

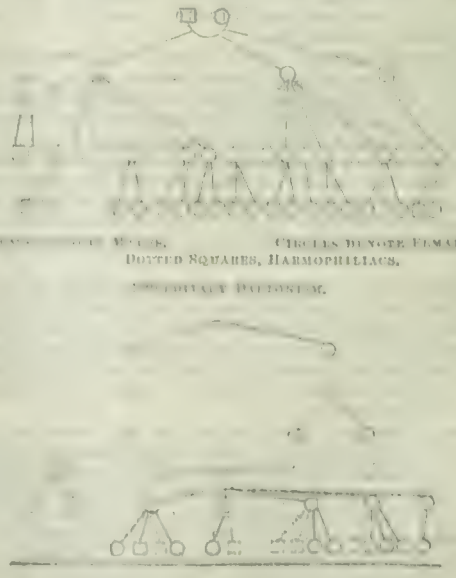
The inheritance of an individual may be compared to a mosaic built up from many ancestors; and Mr. Galton (who, independently of Weismann, disproved the Lamarckian doctrine of the transmission of acquired characters and the continuity of the germ plasm) showed that each parent contributes to the offspring one-fourth, and each grandparent one-sixteenth, and so on. So that any statistics of the relationship of heredity to disease, to be of value, should be based upon a family history including the grandparents, uncles, aunts, and first cousins, with the history of disease and cause of death of each. This is evident from a glance at the family tree in which there is a hereditary transmission of defective durability of some special tissues—for example, idiopathic muscular atrophy or hereditary ataxy; or in which there are inherited morphological defects of blastogenic origin—for example, Daltonism, haemophilia, polydactylism, deaf-mutism, albinism, etc.; conditions in which there can be no possible doubt as to their existence or not, therefore conditions which would be known to all the members of the family. Moreover, such instances of family disease offer the very best examples for the study of hereditary transmission, because the personal bias of the inquirer is reduced to a minimum, though not necessarily an irreducible minimum.

I will now throw on the screen some examples of Sanger-Brown's family of Friedreich's disease: Daltonism after



FAMILY TREE OF HEREDITARY ATAXY

HEREDITARY HAEMOPHILIA.



SQUARES DENOTE MALES. CIRCLES DENOTE FEMALES.
DOTTED FIGURES, HAEMOPHILIACS.

DALTONISM.

SQUARES DENOTE MALES. CIRCLES DENOTE FEMALES.
DOTTED FIGURES, DALTONISM.

Horner; polydactylism and haemophilia. In one of my cases of Friedreich's disease, in which three members of the family were affected, there was no history traceable back as far as grandparents; father and mother were first cousins, and this convergent heredity may have been the cause of focussing a diseased strain of remoter ancestral origin. These particular instances are in some way suggestive of the Mendelian doctrine; but as we have Mr. Hurst present, a great authority on this subject, I will leave him to explain it. Mr. Bond is also here to bring forward his valuable researches on deaf-mutism.

Now, if this is true of physical defects, why may it not be true of mental defects? since such an able observer as Professor Karl Pearson, by his long and remarkable investigations upon inheritance, has come to the following conclusions:

"We inherited our parents' tempers, conscientiousness, shyness, ability, even as we inherited their stature, forearm, and span. Again, within broad lines, physical characters were inherited at the same rate in man and the lower forms of life. The irresistible conclusion was that if man's physical characters were inherited, even as those of the horse, the greyhound, and the water-flea, what reason was there for demanding a special evolution for man's mental and moral side? If the relation of the psychical characters to the physical characters was established, what was its lesson? Simply that geniality, probity, and ability might be fostered by home environment and by provision of good schools and well-equipped institutions for research, but that their origin, like health and muscle, was deeper down than those things. 'They were bred and not created.' There can be no doubt that we tend to inherit our parents' ability—their powers of making mental acquirements plus their powers of learning to utilize these acquirements to advantage. But would any man be 'able,' if reared amongst fools, or genial if trained by ill-tempered people or dour fanatics, or upright if taught by thieves?"

Longevity and Presenility.

A man is as old as his arteries is a pathological belief founded on experience, and the hereditary factor is admitted by most authorities to be of importance in the determination of arteriosclerosis, whether that morbid condition is transmitted by an inherent deficiency of durability of the vessel walls, or by an inherent tendency to defective metabolic processes—for example, the gouty diathesis leading to prolonged and continuous stress from high pressure in the arteries and capillaries, which, associated with imperfect or deranged nutrition, causes a degenerative process that in manifold ways leads to bodily decay and dissolution. That specific vitality and durability of the tissues is inherited is a popular belief founded on observation and experience. I will throw on the screen a lantern-slide illustrating some remarkable special instances—

Examples of Family Longevity.

Pierre Czortam (Hungary) died aged 188 years when his youngest son was 97 and the eldest son 165 years of age.

Jean Surrington (Beighen, Norway) died aged 160 years when his eldest son was 108 and the youngest son 9 years of age. He conceived the latter at the age of 151.

Thomas Parr (England) died aged, according to some authorities, 153 years and according to others 168. His son died at the age of 122.

Jeanne Foster (Cumberland) died aged 188. She left a daughter aged 103.

Ganini (Rome) died aged 138 years. His son died at the age of 113.

Henri le Boucher (Caen) died aged 115 years. His father lived to 108 years.

Jean Filleul (France) died aged 108 years. His father lived to 104 years, his grandfather 118 years, and he left a daughter aged 80.

Anne Pesuel at 110 years of age, preserved all her teeth, her hair was still black and intellect unimpaired. Her father, a labourer, lived to 105 years of age.

Anne Canetine (Dieppe), an intelligent centenarian whose father lived to 124 years and uncle to 168 years of age.

not that I believe special instances are a sufficient proof, but the statistical investigations of Professor Karl Pearson have shown that fecundity, fertility, and longevity are inherited.

Transmission of Acquired Properties.

As regards the transmission of acquired properties, all are agreed that the Lamarckian doctrine of the transmission of modifications of the formed body in consequence of mutilations, of use, and disuse must be abandoned; but are we to believe that the germ cells live a charmed life in the body uninfluenced by changes in their nutritive environment? We should not expect that use or disuse of structures under the control of the will could modify profoundly and specially the chemical environment of the germ cells in such a way that it could impress any effect on the chemical reactions of the cells to their environment, much less mutilations; for how could it be supposed that circumcision, piercing the ears or nose, compressing the feet or flattening the head could exert a bio-chemical influence upon the germ cells? It is impossible, however, to deny that there is a harmonious co-operation of all the organs of the body which have differentiation of structure and specialization of function; and all the trend of modern investigation tends to show that this harmony is due to a bio-chemical and bio-physical association, so that if one organ having an important function in metabolism suffers, all may suffer—although to an unequal degree. The internal secretions of organs and tissues continuously pour into the circulating fluids of the body chemical stimuli which excite or inhibit the activities of functionally correlated organs or tissues independently of the nervous system.

There is evidence to prove that the reproductive cells themselves produce an internal secretion which has a profound influence on the metabolism of the body cells. The absence of the chemical stimulus afforded by that secretion produces profound physical and mental changes in the developing animal and human being. It also exercises a profound influence upon the adult. The secondary function of the germ cells, by virtue of their internal secretion, is to modify the activities of the body cells; are we to believe that there is no chemical reaction of the body cells upon the germ cells? Rather we should believe that it is insufficient to modify an organized bio-chemical activity which, laid down in the long procession of ancestors, tends always to react in a particular way; unless the chemical changes have been profound, prolonged, and maintained through successive generations by predisposing environment, in which this ancestral tendency has not been eliminated by interbreeding with stocks that are entirely free from it.

It is necessary, however, to distinguish between conditions which are inherited and those which are congenital—namely, those which are directly derived from the two reproductive cells before conjugation; after conjugation the developing organism is influenced by the maternal blood, and therefore conditions can be acquired which are not truly inherited.

Diseases may therefore be divided into (1) inherited, (2) congenital (those of intrauterine acquirement), (3) post-natal. If we make this distinction it limits our subject at once to the effect on the germ cells before conjugation and while in the bodies of the respective parents.[1] However, we have seen that the reproductive cells, although latent as regards their special function, yet by the production of internal secretion must be undergoing certain active chemical changes, consequently they are subject to the environmental influence of the lymph which surrounds them. The question arises, therefore, whether profound bio-chemical changes of the lymph and blood, due to poisons produced in the body by specific micro-organisms, for example, tuberculosis and syphilis, or introduced into the body as in chronic alcoholism and plumbism, can so modify the specific vital energy of the germ cell in the male that the fertilizing spermatozoa carry specific morbid characters in conjugating with a healthy ovum and lead to the transmission of the disease to the resulting offspring?[2] A more debatable point is whether mutations can be thus produced.

Few will deny that these conditions can cause a devitalizing influence upon the spermatozoa, and the result may be such a debility of the offspring that premature death *in utero* or afterwards may occur. Yet experience shows that if the spermatozoa at conception have enough vitality to fertilize the ovum, as a general rule the embryo will develop and live—provided the maternal blood is able to maintain its nutrition

[1] See Heape's, Galton's, and Ewart's experiments.
[2] See experiments.

(see Table II). We cannot believe that the micro-organism of syphilis and the bacillus of tuberculosis pass into the head of the spermatozoa, and could exist there without destroying them and rendering conjugation impossible.

TABLE II.—*Statistics Relating to Birth and Death Rate of Tabic and Tabo-paralytic Patients.*

22 married females suffering with tabes or tabo paralysis:
- 10 children still alive.
- 10 ,, born alive and died in infancy or later.
- 18 born dead.
- 31 miscarriages.

54 married males suffering with tabes or tabo-paralysis:
- 151 children still alive.
- 75 ,, born alive and died in infancy or later.
- 52 born dead or miscarriages.

There is no lack of fertility or fecundity on the part of the male parasyphilitics, but the death-rate of offspring is higher than the normal average. The female parasyphilitics, however, show a very high death-rate, lack of fertility and sterility.

Over 30 per cent. are absolutely sterile and never conceive.

Fortunately in the great majority of cases, however, the syphilitic poison does not appreciably affect the male sperm cells, and syphilis transmitted to the next generation is almost always associated with maternal infection; although the mother herself, as I have found in numbers of cases of congenital syphilis, has not been ill or in any way aware that she had suffered from blood poisoning, yet she has had miscarriages, abortions, stillborn children, or children too feeble to live any time, followed by children that had signs of congenital syphilis. This may be explained by the fact that the syphilitic poison has caused disease of the placenta and infection has taken place by the maternal blood, but this explanation does not suffice for all the cases of parasyphilitic affections of which I have had the opportunity of studying a large number in the form of juvenile general paralysis. It is pretty generally admitted that syphilis is a most important if not the essential factor in the causation of general paralysis in the adult. The juvenile form of the disease, of which I have had the opportunity of studying 40 cases, in 80 per cent. of whom there were signs or a history pointing to congenital syphilis, and in none of whom could it be excluded, is the best example of a parasyphilitic affection. There are two types of the disease, one in which there is an arrest of development with offspring infantile in body and mind, the other of fair physical and mental capacity until the stress of puberty or adolescence arises, when the highest, most differentiated, and latest developed structure of the body—the central nervous system—undergoes a progressive decay and death. A juvenile general paralytic may show no obvious signs of congenital syphilis upon the body, nor even may the viscera, yet a brother or sister who is not affected by any parasyphilitic condition may exhibit the characteristic facies or stigmata of congenital syphilis. Many of these patients have an infantile development of the testes or ovaries. No spermatozoa are formed by the males, and in the females Graafian follicles are absent from the ovaries, and menstruation never occurs. Microscopic examination of the reproductive organs shows a failure of maturity of the reproductive elements and a substitution fibrosis. The poison has produced an arrest of development or decay of these perpetual specialized elements. There is also deficient durability of the highest and latest developed body cells, the cells of the central nervous system, in a number of cases associated with arrest of development. The nerve cells have become so specialized in structure and function that they are incapable of regeneration, but nevertheless in the healthy individual they are capable, under normal conditions of environment, of living as long as, or even outliving, many of the other less specialized tissues of the body. Parasyphilitic affections are characterized by a deficiency of the specific vitality of systems of neurons having special functions. This is shown by the fact that these juvenile paralytics are frequently intelligent, capable children at school, indicating that there has not been an arrest of development of the brain; but their brains are in a state of nutritional instability, the specific vitality of the neurons is low, so that the stress of the increased functional activity incidental to puberty and adolescence is more than they can contend against, and premature and progressive decay is the result.

It is a remarkable fact that in 20 per cent. of these cases the father was a general paralytic. I have met with a number of instances where there was no obtainable hereditary history of insanity, the father having acquired syphilis; the offspring became either imbeciles, idiots, juvenile general paralytics, or sufferers from early epilepsy, chorea, optic atrophy and tabes—several members of the same family suffering with, or dying from, different affections.

I agree with Koenig that general paralysis is an acquired disease due to syphilis, and that one effect of syphilis upon the germinal plasm is to produce, in highly-civilized races, a neuropathic tendency, if not *ab initio*, then by arousing a latent tendency which would otherwise have died out. There would undoubtedly be a considerably larger proportion of defective children from this cause were it not for the very high rate of sterility, miscarriages, stillborn and short-lived offspring that it produces.

Still there can be no question that the baneful effects of syphilis are much more pronounced when the mother is affected, and still more so when both mother and father are suffering with the disease. My experience shows that the father not infrequently acquired syphilis during the period of parturition of the mother, for after several healthy children follow miscarriages, abortions, stillbirths, weakly and diseased children—the earlier ones born alive, too debilitated to live; the later ones afflicted in various ways—yet the mother will say that she was never ill. (See Table II.)

There can be no doubt that the majority of children who are born of syphilitic parents have some immunity conferred upon them when infected in later life; either they have the disease in a mild form, or there is a complete immunity. I have only once seen a typical secondary rash in a man with well-marked stigmata of congenital syphilis. There is a tendency, therefore, for the disease to be self-eliminating in its effects, but it is quite possible that many of the mild forms of syphilis, which may indeed be so modified by immunity that they escape notice, nevertheless produce in the individuals parasyphilitic affections such as tabes and general paralysis. However, the fact that uncivilized races which are saturated with syphilis do not develop these affections shows that other factors must be present, which may be summed up in all the conditions, whether hereditary or acquired, that would produce neurasthenia in a non-syphilitic person—a neuropathic temperament with stress of environment.

Syphilis may be an eliminator of the unfit, but if the premises which I have advanced are true it can produce degeneracy of a healthy stock; for, unlike other infectious diseases, such as measles, scarlet fever, typhoid, diphtheria, small-pox, etc., owing to its long duration and persistency, it tends to devitalize the reproductive elements as well as the body cells. The poison of syphilis is due to a micro-organism (possibly the spirochaete of Schaudinn) which multiplies in the body, and by the toxins produced may therefore affect every living cell; but can poisons like alcohol and lead continuously introduced modify the germinal plasm so that it is devitalized, and the highest, most complex, and latest developed structures of the central nervous system suffer; or do these poisons merely increase the inherent potential instability, or arouse a latent ancestral instability which under normal circumstances would have died out in the stock? With regard to the devitalizing influence of lead poisoning, there is some evidence which Adami quotes, and, therefore, I presume is reliable. I will put it on the screen (Table III).

TABLE III.—*History of 32 Pregnancies in which the Father suffered from Lead Poisoning: the Mother was free from that Condition.* (Constantin Paul.)

12 resulted in the death of the infants before term.
20 children born alive, and of these
- 8 died during the first year,
- 4 during the second year,
- 5 during the third year,
- 1 died later in childhood
- 2 alone found to be alive—one aged 20 years, the other only 21 months.

It shows that not only can lead produce abortions and miscarriages in females, but that male workers in lead, suffering with lead poisoning—the wives being free—have devitalized offspring, which either die *in utero* or survive only a short time after birth. A striking instance occurred at Charing Cross Hospital, where a perfectly normal woman (as regards her reproductive organs) attended my colleague, Dr. Routh, for sterility. He inquired about the husband, and found that he had been attending Dr. Murray for lead poisoning, from which he had suffered for years.

At my suggestion, with the aid of a scholarship given by the British Medical Association, Dr. G. Watson conducted a number of experiments on guinea-pigs and rabbits, with the object of determining whether an immunity against abrin and ricin poisoning can be transmitted to the offspring. The investigation was attended with many difficulties, owing to the

fact that either the animals died, or did not breed, or the offspring died. The results, however, as far as they go, are of considerable interest, and tend to show the same results as lead and syphilis upon the germ cells. A preliminary report of this work is given in an appendix (page 1091).

A more important question, however, because more common than lead, is that of alcohol. It is a popular belief that the body of the father may be so saturated with alcohol at conception that the drunken sperm cell fertilizes the ovum in such a way as to transmit to the offspring the tendency to drunkenness. Numbers of special instances could doubtless be cited, but no effort has been made to find instances numerous enough where under the same circumstances offspring with a tendency to drunkenness have not been the result.

EXAMPLE OF DRUNKEN FATHER AND INSANE OFFSPRING.

FATHER. Born 1830. No family history of insanity, fits, or nervous disease. Chronic drunkard from boyhood. In asylum, 12.6.76 to 11.7.76; and 19.1.92 to 8.2.92.

MOTHER. No history of insanity in family.

Daughter. Born 1859. Admitted to asylum 24.10.74. Discharged and re-admitted on subsequent occasions. Still in asylum.	Daughter. Born 1860. Admitted to asylum 6.10.71. Discharged and re-admitted on subsequent occasions. Still in asylum.	Son. Born 1862. Admitted to asylum 29.6.77. Discharged and re-admitted and discharged on two subsequent occasions.	Daughter. Born 1869. Admitted to asylum [illegible]. Discharged and re-admitted. Still in asylum.	Son. Born 1872. Admitted to asylum 24.11.88. Died of tuberculosis 4.9.02.	Son. Daughter. Daughter. Not been in asylums.

It is assumed that alcoholism is a potent factor in the production of mental and physical degeneracy of the offspring, but there are no certain data to show whether the transmission to the offspring is the inherent defect of control, vicious temperament, or the unbalanced mind which led to the drunkenness of the parent or parents, or a defect induced by the poison. Probably there is a transmitted mental defect increased by the poison, fixed and made permanent by the force of imitation. Drunkenness in several generations of the same family may be the result of several factors, and it goes on until regression to the normal by conjugation with a healthy stock occurs, or terminates by degeneration and elimination of the stock. I am strongly of opinion that alcohol is a poison to all neuropathic stocks. The *locus minoris resistentiae* in the feebleminded, the epileptic, the potentially insane, and the degenerate is the nervous system; and a quantity of alcohol which is insufficient to affect a stock with a stable nervous system will, in a short time, poison the nervous system of the mentally unstable, rendering him antisocial, and bringing him into a hospital, workhouse, lunatic asylum, or prison. Thus, in all my extensive experience at the London County Asylums, where 20 per cent. of the inmates are said to be there on account of drink, I have only once seen a case of cirrhosis of the liver with ascites, and that was a notorious police-court character, Jane Cakebread, who was convicted nearly 400 times before she could be certified as incapable of taking care of herself. Yet I have during the past six months in my hospital practice had several cases of alcoholic cirrhosis with ascites from long persistent spirit drinking, without mental symptoms; and Haycraft states that drink may be looked upon as a selective agency constantly thinning the ranks of those who are weak enough by nature to give way to it, and leaving unharmed those with healthy tastes and sound moral constitution. I will leave it to Dr. Archdall Reid to develop further this view of alcohol as an eliminator of the unfit.

TUBERCULOSIS AND DEGENERACY.

We cannot believe that tuberculosis is inherited, but the evidence is decidedly in favour of the transmission of a predisposition to attack by the tubercle bacillus, and actuaries are so convinced of this inherited transmission that they therefore place a higher rate of premium for life insurance of tuberculosis stocks. The frequency with which imbeciles, idiots, and the insane suffer with tuberculosis, especially certain forms of insanity, as melancholia and primary dementia of adolescence, has led to the belief that tuberculosis is largely acquired in the asylums, and could be prevented.

My observations show that between 40 to 50 per cent. of those who die in the London County Asylums have obsolescent or active tubercle, and that 25 per cent. of these die from active tuberculosis; but that the great majority did not acquire the tubercle in the asylum, although there may have been reinfection, or relighting up of disease while in the asylum. Tuberculosis is especially common as a cause of death in melancholia and primary dementia of adolescence. A history of tuberculosis is very common in the parents or collateral ascendants of the insane or feeble-minded, and it is often assumed that tuberculosis is a cause of insanity; and even a "tuberculous insanity" (Clouston) has been described. Certainly my experience shows that the onset of tuberculosis and insanity (especially certain forms) is often coincident, but the tubercle occurring in such cases appears to me to be rather an expression of an enfeebled and degenerate stock—the circulation of the toxins in the blood developing the latent inherent insanity.

Instead, therefore, of looking upon tubercle as a cause of insanity, it might be regarded as an eliminator by cutting off the mentally unfit in the early period of adolescence. Haycraft[1] suggests that man has been selected by the action of the microbes of fever, and that if we stamp out infectious diseases we perpetuate poor types. "The germs of phthisis and scrofula, although destructive to the individual, are conservative to the race; for the bacillus of tubercle cannot gain access to, or multiply in, the tissues of a healthy and vigorous man or woman." In support of his statement I would refer to the statistics of tubercle in the London County Asylums. There were 1,350 deaths last year, and *post-mortem* examinations were held in 1,204 cases, and in these active pulmonary tuberculosis was found in 15·2 per cent. From my own observations at Claybury and Colney Hatch, this is much under the real estimate, the percentage at these asylums being nearly 25 per cent. There were singularly few cases of tuberculosis reported among the staffs. Again, the interesting observations of Haldane upon the phthisis of miners using the percussion quartz drills show that although 70 per cent. of the miners with fibroid phthisis have tubercle bacilli in the sputum, yet the wives and children are singularly free from the disease. It is probable that the chronic irritation of the fine quartz particles has produced a congenial soil for the tubercle bacilli to grow in; but the nutrition of the wives and children has been maintained by the constant employment of the miners, and their tissues are in a healthy enough state to resist the invasion of the bacilli, although they must be constantly exposed to infection.

The probable explanation, then, of the frequency of association of phthisis and insanity is the ubiquity of the tubercle bacillus, which finds a congenial soil in a degenerate stock with a neuropathic taint, especially when aggravated by alcohol, syphilis, and sexual excesses.

A striking example of microbes eliminating the unfit is afforded by the gonococcus, which, by producing an adhesive inflammation of the oviducts, sterilizes a vast number of loose and immoral women of our cities and large towns. As these women are largely recruited from the morally defective and feeble-minded, it is a benefit to the race that conception is thus early and permanently prevented.

THE RELATION OF HEREDITY TO NERVOUS AND MENTAL DISEASES.

The comparatively small value of statistics in relation to the hereditary transmission of nervous and mental diseases is shown by the published statistics of the London County Asylums for the last ten years. It will be observed *prima facie* they are unreliable, and the reasons are as follows:

Great variations occur in the percentages of heredity as an assigned cause of insanity in these asylums, the inmates of which are derived from the same class of population; even great discrepancies occur in successive years. Heredity as an assigned cause of insanity at one of the London County Asylums is 11.7 per cent. one year, and 27.8 per cent. the next year. This can only be explained by personal factors, which should, however, be controllable.

One cause, a variable personal factor, has been eliminated in the subjoined statistics, for the histories were taken by one individual (Tables V and VI).

There are, however, factors which are uncontrollable. They are: (1) Many patients have no friends and are not visited; (2) many patients, especially feeble-minded and defective children, are illegitimate or orphans; (3) a number of patients are admitted to asylums suffering with organic brain disease or senile decay.

No allowance for the above is made in the published statistics referring to the influence of heredity upon the production of insanity, consequently the average in which heredity is an assigned cause is much below the real percentage. On the other hand, recurrent cases may be dis-

[1] *Darwinism and Race Progress.*

charged as recovered, and it will be seen from the appended statistics that the great majority of these cases have an hereditary history of insanity.

TABLE IV.—*Statistics showing the Percentage of Total Admissions of Cases with Heredity as an assigned Cause of Insanity.*

Annual Report.	Hanwell.	Colney Hatch.	Banstead.	Cane Hill.	Claybury.	Bexley.	The Manor.
1893 ..	26.1	20.4	8.0	12.2	—	—	—
1894 ...	28.8	19.4	17.4	24.0	14.3	—	—
1895 ...	35.7	18.6	21.6	22.3	11.1	—	—
1896 ..	29.3	22.6	14.6	23.0	25.1	—	—
1897 ...	22.4	17.5	16.2	22.3	26.4	—	—
1898 ...	21.1	21.5	17.0	20.1	28.9	—	—
1899 ..	14.9	24.1	16.6	23.0	19.8	—	—
1900 ..	15.4	27.4	14.0	11.7	13.8	16.80	8.5
1901 ...	23.5	28.2	8.2	14.3	10.8	11.09	—
1902 ...	23.0	24.9	10.9	14.7	11.7	21.7 insanity 1 7.6 phthisis 2 4.4 alcohol 3	14.6
1903 ..	18.4	23.2	10.4	17.6	27.8	42.2 (1), 11.2 (2), 6.6 (3)	20.5
1904 ..	21.3	27.0	7.2	15.4	27.0	34.2 (1), 12.6 (2), 6.6 (3)	27.8

In the Asylum's Report published 1902, Bexley added "Neurotic Heredity," "Phthisical Heredity," and "Alcoholic Heredity." The former is added to the Insane Heredity in the above percentages.

TABLE V.—*Statistics relating to Hereditary History of Insanity or Epilepsy in 260 Young Women of 30 Years or Under Admitted to Colney Hatch for Various Forms of Insanity.*

MATERNAL.		PATERNAL.	
Mother	10	Father	9
Grandmother	4	Grandparent	3
Grandfather	2	Uncles, aunts, and cousins	8
Collaterals (uncles, aunts and cousins)	9		20
	25		

Collateral convergent, 5.

Brothers and sisters, 10.

Recurrent Insanity in Women of 30 or Under.

31 cases. In 17 there was a family history of insanity (55 per cent.). This does not allow for the elimination of a number of cases in which no reliable history was obtainable. In a great many of these cases parents, brothers, sisters, and other relatives were either at present in the asylum or had died there.

TABLE VI.—*Statistics relating to Hereditary History of Insanity or Epilepsy in 208 Boys admitted to Colney Hatch for Imbecility, Epilepsy, and Insanity.*

Mother	13
Father	7
Convergent (maternal and paternal)	1
[illegible]	[illegible]
[illegible] cles, aunts, etc.)	[illegible]
[illegible]	[illegible]
Sister	1
Total	[illegible]

Maternal heredity, 33; paternal heredity, 22.

My house-physician carefully inquired into the family history of 300 consecutive admitted to Charing Cross Hospital, and found that in [illegible] per cent. there was a family history, direct or collateral, of criminality or insanity. Personally, however, this is considerably lower than the average generation, for a number of epileptics, feeble-minded children, and people who have been in asylums are sent to me. However, this is much higher than the percentage given on the admission papers at some of the asylums. Everything, therefore, points to the urgent necessity of a very careful research being required to determine whether the hereditary factor is of primary importance in the causation of the true insanities.

There is reason to believe that an insane or epileptic stock must either die out or regress to the normal average. I will give a typical instance. We may naturally ask, If this be the case why, when we are building asylums all over the country at great cost to cure or segregate the insane, we hear every year [illegible] insanity is on the increase? First of all, we must ascertain whether insanity is really on the increase, or whether it is not due to the following reasons that more and more people are certified and sent to asylums:

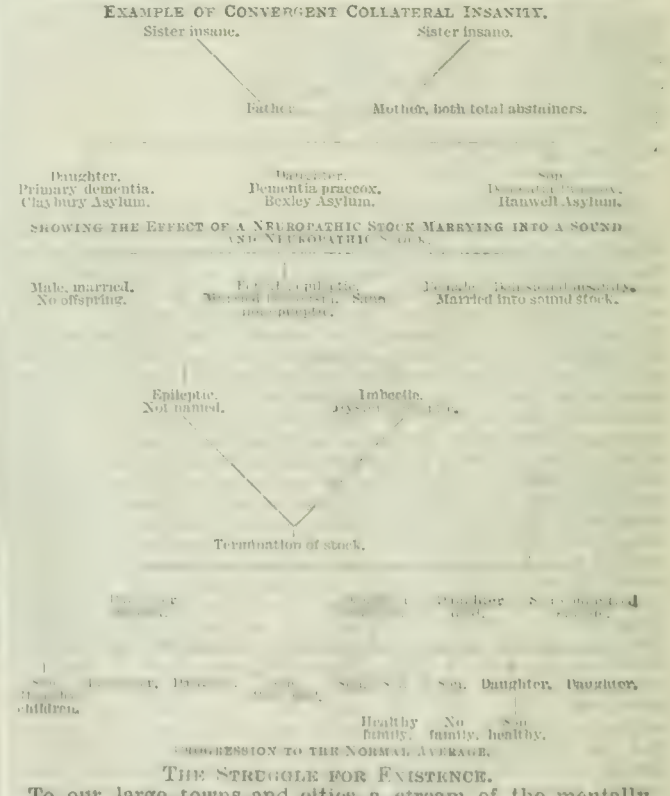
1. The objections which were formerly raised against asylums and the treatment of patients have been removed from the public mind. Institutions, sometimes palatial, enclosed in parks, where all the paupers are probably better fed than they have been accustomed to in their own homes, managed by the people's representatives, have done much to remove prejudice in the public mind against asylum treatment.

2. It is probable that the standard of sanity with the spread of education has been raised.

3. A number of old people whose first attack of insanity has occurred after three-score years, and quite a large sprinkling after three-score years and ten, are sent to asylums.

Yet, allowing for all these causes of apparent increase, there can be no doubt that, in spite of all the present efforts which are being made to grapple with this important question, insanity is certainly not decreasing but probably increasing.

EXAMPLE OF CONVERGENT COLLATERAL INSANITY.



SHOWING THE EFFECT OF A NEUROPATHIC STOCK MARRYING INTO A SOUND AND NEUROPATHIC STOCK.

RETROGRESSION TO THE NORMAL AVERAGE.

THE STRUGGLE FOR EXISTENCE.

To our large towns and cities a stream of the mentally and physically capable is constantly pouring; their success in the struggle for existence depends largely upon quickness of mental reaction rather than bodily physique. But quickness of mental reaction depends upon the increase of chemical katabolic processes in the nervous system, and provided that the anabolic processes are correspondingly capable of increase, the nervous system remains stable. The factors which may render a previously stable nervous system unstable in a stock apparently free from hereditary neurosis or psychosis are (1) latent and undiscovered ancestral neuropathy, made potent and evident by the stress of environment; (2) the development of neurasthenia in a stock by stress of worry, anxiety, mental overwork, and excessive sexual indulgence, especially when combined with intemperance.

If neurasthenia, which may be looked upon as the first step in degeneration, can arise *ab initio*, then we can easily understand how our large cities and towns can continually develop a neuropathic stock. If a neurasthenic gets syphilis he stands a good chance of developing later general paralysis; in fact, we know that primitive races that are saturated with syphilis do not develop this disease unless the conditions leading to neurasthenia are added.

The larger the city the greater is the proportion of general

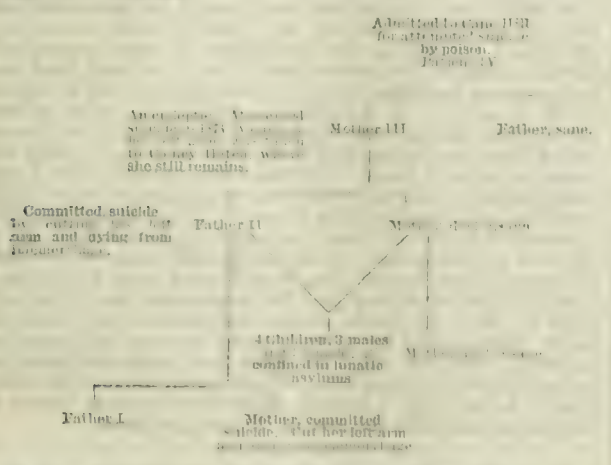
paralysis to the population, and the two factors I have indicated are also proportionally greater.

There is a tendency for a general paralytic parent to have neurasthenic children, clever, and inheriting the ambitions, ability, and passions of their progenitor, but liable to breakdown; it is not uncommon, also, to find a degenerate stock has arisen in a previously healthy family stock, as evidenced by the children being epileptic, imbecile, paralytic, or developing various forms of insanity at the critical periods. I therefore believe there is much to support Dejerine in his views quoted by Ribot: "La tendance actuelle est de voir la plus commune, la plus banale des neuroses, dans la neurasthénie (faiblesse irritable) le point de toutes les affections du système nerveux, la source de la grande famille neuropathologique. Elle l'entretient, car pouvant se développer de toutes pièces chez un sujet sans tare héréditaire, elle est par conséquent la seule des affections du système nerveux qui ne reconnaisse pas toujours l'hérédité pour cause, qui puisse *s'acquérir* sous l'influence de certaines circonstances, sans aucune prédisposition antérieure. C'est la neurasthénie qui, fournissant sans cesse de nouveaux aliments à la grande famille neuropathologique, s'oppose à l'extinction de cette dernière par les lois fatales de l'hérédité convergente, combinée avec les états de dégénérescence."

We see thus a vicious circle established. The mentally and physically capable migrate to the industrial centres and the successful even tend to develop neurasthenia, which, under the influence of alcohol and syphilis, may lead to actual acquired degeneration of the stock. The less physically and mentally capable are left in the country to breed, and a degeneration of the agricultural population ensues.

Heredity and Suicide.

The actuaries from long experience have found it necessary either to refuse a life in which there is a strong family history of suicide, or to increase the premium considerably. Not only have numerous instances been recorded of members of a family for several generations committing suicide at the same period of life, but in an identical manner. Of course, such episodic phenomena may be the result of imitative suggestion on the members of a neuropathic stock. I will throw on the screen an example of such which occurred at Cane Hill Asylum.



As a rule, however, no particular form of insanity is hereditarily transmitted, but only a tendency to mental instability, which manifests itself in various and manifold ways. It is therefore necessary in any careful statistics to learn whether any members of the family have suffered with neurasthenia, hysteria, epilepsy, petit mal, migraine, chorea, insanity of any kind, or suicide. Residence in an asylum in the great majority of instances would mean a neuropathic tendency; but not necessarily, any more than the fact of a patient not having been in an asylum does not necessarily mean that a patient has not been insane. The more care that is taken in going thoroughly into the history of the stock, direct and collateral, the more convincing will be the evidence of the importance of heredity in the production of all diseases, but especially of tuberculosis, rheumatism, gout, and nervous and mental diseases.

Is the slow increase of constitutional immunity, and the securing of a better social environment for the masses, the only means which should be available for the prevention of social degeneracy? Or should some other means be adopted, such as (1) encouraging the reproduction of the fit, by setting forth the national importance of Eugenics and obtaining its general intellectual acceptance; (2) limiting more effectually the reproduction of the unfit: (3) preventive measures against the spread of alcoholism, syphilis, and tuberculosis?

Time does not permit me to discuss the last paragraph of the abstract of my address, but we have amongst us Mr. Schuster, the new Eugenics Fellow, who will be able much better than I to deal with the subject. Mr. Galton, our greatest authority on heredity, has developed the science of eugenics, with a view of educating the public conscience to the national importance of breeding our race from healthy stocks.

APPENDIX.

NOTE ON RICIN AND ABRIN EXPERIMENTS.

By George A. Watson, M.B.,
Assistant to Pathologist, London County Council Asylums.

The experiments were undertaken with the following objects amongst others:

1. To estimate the amount of transmitted immunity through one and both parents.
2. To estimate the amount of immunity obtained through the maternal blood alone and the maternal milk alone (in guinea-pigs only, this not being possible in rabbits).

Altogether 27 inoculated animals were used and several which had not been inoculated. For various reasons in only 4 males (2 rabbits and 2 guinea-pigs) and 5 females (2 rabbits and 3 guinea-pigs) was the immunity in the possible parent raised to a sufficient degree to enable any definite results to be obtained in the possible offspring.

Owing, however, to the low birth-rate in the highly immunized animals, and owing to the fact that when progeny did occur a very large proportion of the young were either born dead or did not long survive birth, only 4 positive results regarding transmitted immunity through the parents were obtained. So that the experiments in this direction were a failure, and success would seem to necessitate their performance on a much more extended scale.

1. Results of breeding experiments.
2. Transmitted immunity through the male alone—3 experiments.
3. Transmitted immunity through both parents—1 experiment.
4. Transmitted immunity through maternal milk alone—3 experiments.

1. *Results of Breeding Experiments: 7 to 19 Months.*

These suggest the following conclusions, although they are much too few in number to admit of errors being eliminated:

1. That, on the whole, the effect of prolonged and increasing doses of the toxin, to which the animal quickly becomes immunized, so that ultimately it will survive a very large fatal dose given at one administration, is to diminish the power of producing off-pring in both sexes, although apparently not interfering with the sexual appetite.
2. That when offspring are produced these, especially in the inoculated females, are often puny, and are either born dead or do not long survive birth.
3. That so far as ascertained the generative organs do not show changes to account for the above. The testicles and ovaries present no evident alteration; the spermatozoa were abundant and active.

The non-inoculated males and females used for breeding purposes with inoculated members of the opposite sex were all good breeders, and had a very numerous progeny when both the male and female were not inoculated.

2. *Transmitted Immunity through the Male alone: 3 Experiments.*

A male guinea-pig highly immunized against abrin was placed to breed with non-immunized females on three occasions (twice with the same female). Offspring only resulted once: of four young, one was found dead, the other three survived. The latter when 7 weeks old were given doses from half to three-quarters of the minimum lethal dose for an adult guinea-pig, but all quickly succumbed with signs of abrin poisoning, thus tending to show that no immunity was transmitted through the male parent alone.

3. *Transmitted Immunity through both Parents (? only Maternal Blood and Milk): 1 Experiment only.*

A male and a female guinea-pig, both highly immunized

Summary of Results of Breeding in Animals Highly Immunized against Abrin and Ricin.

MALES.

	With Immunized Females.		With Non-immunized Females.	
	Number of Trials.	Number of Progeny.	Number of Trials.	Number of Progeny.
Rabbits, 2 ...	7	[illegible] 5	5	8
Guinea-pigs, 2	8	6	6	4
	Total trials, 14	Total progeny, 11	Total trials, 11	Total progeny, 12

Grand total trials 25
Grand total progeny 23

Fate of progeny—
Of 13 rabbits none survived birth.
Of 10 guinea-pigs 4 survived birth.

FEMALES.

	With Immunized Males.		With Non-Immunized Males.	
	Number of Trials.	Number of Progeny.	Number of Trials.	Number of Progeny.
Rabbits, 2 ...	7	5	2	0
Guinea-pigs, 3	[illegible]	6	6	0
	Total trials, 1[illegible]	Total progeny, 11	Total trials, 8	Total progeny, 0

Grand total trials 23
Grand total progeny 11

Fate of progeny—
Of 5 rabbits none survived birth.
Of 6 guinea-pigs 1 survived birth.

against ricin, were put together to breed on five occasions. Offspring only resulted once. Of three young ones, two were born dead (very small, probably premature) and one, also a puny animal, survived. When 6 to 7 weeks old the latter (which had suckled its mother) was given an amount equal to four minimum lethal doses to an adult guinea-pig of ricin. Little effect was produced, and the animal survived. It kept well, but grew slowly, and was not further inoculated. It died when about 4½ months old, apparently from overfeeding; there were no signs of ricin poisoning.

This single experiment tends to show that the offspring gained a considerable immunity, probably through the maternal blood and milk.

4. *Transmitted Immunity through the Maternal Milk alone: 3 Experiments.*

In the case of a female guinea-pig not previously inoculated, injections of ricin were begun shortly after the birth of three young ones. The latter continued to suckle, and when 7 weeks old were found to have gained an immunity to ricin at least equal to the minimum lethal dose for an adult guinea-pig. An insufficient number of young ones was obtained to test immunity through the maternal blood alone.

2, 3, and 4 agree with previous results—that is, of other workers.

II.—G. ARCHDALL REID, M.B., C.M.Ed., F.R.S.E.

DR. ARCHDALL REID said: In discussing questions of heredity, we must distinguish between variations and acquirements. When a toxin circulating in placental blood injures the germ cell and so produces degenerate offspring, it does not follow that the injury is a variation—an inborn character transmissible to offspring. It may be a mere acquirement, and therefore not transmissible; in fact, we may be sure it is an acquirement, otherwise it is impossible to explain how it is that races which have long been afflicted by such a virulent poison as malaria have not become extinct by accumulation of injury. We are driven, by the fact of the survival of races when long exposed to disease, to the conclusion that the toxins of disease, even when they act directly on the germ plasm, cause, not transmissible variations, but non-transmissible acquirements.

III. E. SCHUSTER, M.A.,
Galton Eugenics Scholar.

THE DATA REQUIRED BY A STATISTICIAN FOR THE STUDY OF INHERITANCE OF DISEASE.

SUCH a subject as the inheritance of disease requires ultimately to be dealt with by a statistician. Statistical methods have been much abused as having led and being likely to lead to fallacious conclusions; indeed, some people believe that they always do so. They are, however, the only methods of displaying large bodies of facts in such a manner that they may be understood, and of arriving at any generalization professing to exactitude concerning them. Such fallacies as they give rise to are due not to the methods themselves but to their application in a manner which is either intentionally or unintentionally faulty. Their worst danger is that they give facilities for comparing together facts which cannot be fairly compared, and they offer various other pitfalls for the unwary. The problem, or one of the problems, with regard to the inheritance of disease which the statistician sets himself to solve is, when stated in its simplest form, as follows: Given a certain disease in some or all of a man's parents, grandparents, uncles, aunts, and so on, what is in each case the probability of the disease occurring in the man himself? The statistician relies on the medical man for his data; if the requisite data are supplied to him, he can solve the problem with mathematical accuracy and certainty. Now the requisite data for the complete solution of the problem are these: (1) A more or less homogeneous class must be defined—that is to say, a class of people belonging to more or less the same race and living under more or less the same conditions with regard to climate, housing, nutrition, etc. The exact degree of sameness required with regard to each of these particulars would have to be determined by the amount to which each of them affects the incidence of the disease. (2) One must know what percentage of the class defined above suffer from the disease in question. With regard to this point, the mortality statistics which are published at present do not help one much; for although the mortality from any disease must bear a certain relation to its incidence, this relation would vary in each case, and would be exceedingly difficult to estimate. As far as I know, there is no record published concerning the incidence of any non-infectious disease—that is, the percentage of people of each kind and in each place who suffer from it without necessarily dying of it. Such a record, if published, would be most valuable. (3) Having defined one class, and divided it into those who suffer from the disease and those who do not, one must determine for both of these divisions what number have parents, grandparents, uncles, aunts, etc., or any two or more of these relations suffering from the disease. If one wishes to estimate the exact amount of force exercised by heredity in the production of a disease, it is not sufficient to know the family histories of people suffering from it; one must also know the family histories of people of the same class who do not suffer from it. It is, of course, impracticable that every member of one's class should be investigated; one can only deal with a sample, and care must be taken that one's sample is truly representative of the class. If it is a genuine random sample, it will be so with a certain determinable error, which will vary inversely with the size of the sample taken.

IV.—A. W. GILCHRIST, B.Sc., M.D.Paris, M.R.C.S., L.R.C.P.

DR. GILCHRIST said: What is heredity and what is disease? This was the question put to himself two or three days ago by one of the ablest members of the local committee, unconsciously, I presumed. It was answered by his giving expression to the opinion that he hardly anticipated any great practical good could result from the discussion on morbid heredity which is engaging our attention this morning. My rejoinder to his remark was that the discussion, however academical it might prove—and it is not desirable, perhaps, in the present state of our knowledge that it should be otherwise would have at least the utility of demonstrating that the British Medical Association was not indifferent to the aspect and claims of philosophic medicine. I added that at the same time I fully appreciated the sentiment that had prompted the remark, since it represented the prevailing tone of English thought, and reminded him that the British House of Commons, which claims with a certain amount of justice, I

suppose, to be the foremost deliberative assembly of the world, had never, as we were aware, been known to record a vote on a purely abstract question.

What is heredity and what is disease? I repeated this same question to myself when, some three weeks ago, I took up the number of the British Medical Journal containing the abstract of the extremely interesting address we have just heard from Dr. Mott, and when I learnt that Dr. Archdall Reid, whom I had known for some years to be an ardent and uncompromising exponent of what are really slightly-modified Weismannistic views, was also to take a prominent part in the debate. Could I find an answer to my question, I thought, by invoking contemporary evolutionary theory or turning to the conventional definition of the textbook, or shall I say with the abler and, it seems to me, the more philosophical school of Basile Conta—that brilliant young Roumanian, cut off so soon, unhappily, from his country and from science: Heredity is assimilation to reproduce the whole organism, just as nutrition is assimilation to reproduce a part; or, again, heredity is merely thus a virtually passive link in the succession of individual existences; and shall I answer the second part of my question by propounding other questions such as these? Why do the anthropoids in captivity die, as we die, from pulmonary consumption, while the wild bird under similar condition succumbs almost invariably to the hepatic form of the disease? and why can Professor Koch proclaim the dual nature of human and bovine tuberculosis and find his position unassailed—perhaps unassailable?

What is heredity and what is disease? Doubtlessly Dr. Mott pondered at anxious length over these problems before he finally decided to declare that medical biology was so poor that the only knowledge it could lay claim to was exclusively empirical and statistical in its nature. He felt, we may be certain, the responsibility of utterances that would be regarded as partaking, to a very great extent, of an official character; but was it imperative, many would say, for him to exclude from his consideration all the consequences of theories such as that, for instance, which guided Professor Bouchard and his able school in the field of bio-chemical pathology? Could not the more recent development of these same theories of diseases due to retardation[1]—or, better still, to aberration of nutrition—of the bio-dynamical conception of life, enable him to introduce a synthetic principle, a system of generalization into the rich store of material he has shown us to-day? Could he not, I would still further insist, admit that there is a common underlying tendency to accelerated nutrition, to excessive vital expenditure in the condition that precedes and heralds the approach of both phthisis and insanity; that, lastly, in the history of every modern urban community of rapid growth, of every rising industrial centre, there is distinct evidence of a wave of mental or nervous disease following the similar incidence in a previous generation of pulmonary tuberculosis?[2]

What is heredity, and what is disease? The answer to our familiar questions can have offered no difficulty to Dr. Archdall Reid, for he has discovered, we know, a method of simplifying the conditions of the problem. He has enthroned Natural Selection as a deity, omnipotent and omniscient, the creator of good and of evil, and endowed with the additional and unusual attribute of sitting in judgement on his own imperfections. With this simplification Dr. Reid should have had no further trouble, and yet his views, expressed in a recently-published book, have met with exceptionally severe censure from what we may take to be the pen of the biological critic of the *Times*. "No," writes the reviewer in question, "it is not by exercises of this kind that the riddle of evolution will be read; and the demand that our lives shall be compulsorily regulated by laws based on such sandy foundations is nothing short of impudent." And, might have been added by the reviewer, though perhaps less rudely, "natural selection is not an active agent, an effective cause of transformation and of organic progress. Natural selection is nothing but a law of extinction of organized beings, a principle of a coming science of Thanatology. Its action on future modification is almost null; and its domain does not extend beyond the limits assigned to it by Malthus." Dr. Reid must, I am afraid, repeat our questions until he finds that heredity is a function of differentiation (I mean the word "function" to include the sense of co-ordination); until he learns that Pasteur's otherwise memorable discoveries in the world of bacteriology have led to the revival so inimical to progress of what Le Dantec calls the individualistic error; until he perceives that Weismann's too arbitrary distinction between germinal and somatic plasm, and which he himself has unnecessarily accentuated, is little more than idealistic and superstitious dualism clothed in a thin scientific disguise. How would it have been possible, let Dr. Reid further reflect—and this is only one of many such considerations—for Farmer, Moore, and Walker to discover in the gametoid tissue of malignant growths a resemblance to the early stages of normal reproductive morphogenesis if such fallacious views had been generally prevalent?

Dr. Mott, in the concluding lines of his admirable address, follows Mr. Francis Galton and Professor Karl Pearson in asking for an expression of opinion on the desirability of setting forth the national importance of eugenics, and obtaining its general intellectual acceptance. Every student of sociology knows that in its essence this is no new or strange proposal. At all times what was virtually artificial selection has been practised in human communities in the interests of political, social, or religious attitudes. But here we would find for the first time the principle in conscious and intellectual activity. For the moment I cannot help thinking that it would be wisest for us to limit our endeavour to retaining eugenics as a branch of general hygiene. And let us first learn that there is such a thing as intellectual hygiene. Why should the aristocratic youth of the country—to retain, as an instance, a passing thought—educated in public schools and at universities, the youth destined to be the future governors of the empire, ignore the economic fact that nine-tenths of the causes of locomotor ataxy and of general paralysis are due to syphilis? Why should those entrusted with the instruction of the young—clergymen, school masters, and school mistresses—be innocent of the same kind of fact? and why should even hospital nurses after three years' training be left with the prominent mental characteristic of modesty unoffended by similar and therefore useful biological truth?

As the views embodied in the preceding remarks are largely representative of French thought, I may be allowed to offer one further, though necessarily brief, contribution from the same source to the subject of Mendelism. Mr. Hurst, an authority on this question, has furnished us with many interesting results connected with his botanical and zoological experiments, and Mr. Bond, in addition to his able address, has drawn up for the purpose of our inspection and comparison a number of equally striking pathological facts. The latter have also been explained on Mendelian principles. Are, then, these new conceptions, we may ask ourselves, new at least in the sense of being recently revived, destined to exercise a marked and permanent influence on medical theories of heredity? M. Le Dantec, to whom I have already referred, would not evidently concur in this opinion. In a comparatively recent article in the *Revue Scientifique*[3] entitled L'hérédité des diathèses ou hérédité Mendélienne, a title chosen, it should be added, because the facts in discussion are more clearly represented by the language of Pasteur than by that of Weismann,[4] he states that Mendel's law is only applicable to a restricted number of characters of discontinuous heredity. It is not, therefore, he says, a question of heredity properly so called in these cases, but rather of a sort of contagion of which the gametes would be the object. In any case, it is evident, he continues, that these phenomena of discontinuous heredity cannot afford us the slightest information relating to facts of a general order. The examples of Mendelism are, so to say, accidents superadded to normal heredity as a disease is added to the normal physiology of an individual.

M. Le Dantec has always opposed what he has called particulate theories of heredity, which include those that repose upon the conception of representative units. They are all

[1] *Les Maladies par Ralentissement de la Nutrition.*

[2] On another day, in this same Section, I hope to have an ampler opportunity of discussing these questions of general pathology. I intend, in fact, on Friday to refer to Dr. Gautrelet's graphical method of urinary analysis, which was the outcome of his researches while acting as Chemical Assistant to Professor Bouchard and to Dr. Lecorché, and to demonstrate Robin and Binet's apparatus for investigating the chemistry of pulmonary respiration. By these means I think it is possible to show that before—in some cases long before—the appearance of any physical sign of disease there are perceptible chemical indications of serious functional disturbances of nutrition. Nor are these indications merely indeterminate in character; they are sufficiently definite to designate conditions that can be looked upon, for example, as pretuberculous and precerebral in their nature. It is this that has been implied above.

[3] April 23rd, 1904.

[4] Cette simple comparaison nous amène à baptiser diathèses les caractères que M. Cuenot appelle Mendeliens et alors, nous emploierons pour raconter les phenomènes de croisement entre individus pourvus de diathèses différentes, non pas le langage de Weismann mais simplement celui de Pasteur. Et les lois de probabilité nous feront trouver exactement la règle de Mendel. (Loc. cit.)

based, he thinks, upon an error of method. It was chiefly because certain recent experiments depending for their value upon these interpretations "had given rise in some minds to a revival of Weismannistic faith" that he undertook to write the paper I have been quoting.

V.—C. C. Hurst, F.L.S.

Mr. Hurst appealed to the medical profession to help in the good work of obtaining facts on the heredity of disease; these facts should be collected by the careful study of individual cases, their histories and pedigrees. Mendel's law of heredity had only recently become known, and though very simple was certainly of the utmost importance. The law had been demonstrated to hold for nearly all simple characters in plants and animals, and it seemed possible that the more complicated characters, such as diseases, if inborn, would also be found to follow the same law.

VI.—C. J. Bond, F.R.C.S.Eng.,

Surgeon, Leicester Infirmary.

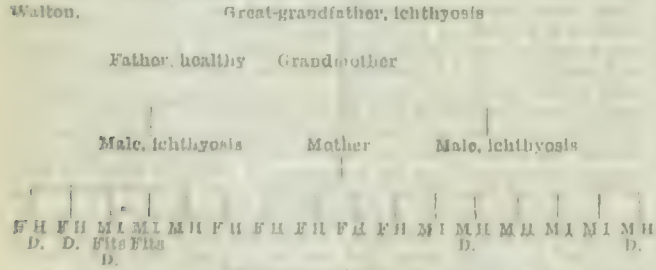
THE CORRELATION OF SEX AND DISEASE.

All facts which bear on the subject of the correlation of certain diseases with one or other sex have an important bearing on the larger subject of heredity. At present, though a little work has been done, the field is almost untrodden ground. Haemophilia is, perhaps, the best-known example of a disease associated in its manifestations with one sex—namely, the male—while, at the same time, the abnormality is transmitted to offspring almost exclusively by the other, or female, sex. When on the other hand, as very rarely happens, the disease appears in a female, then it is transmitted by the apparently healthy male members of the family and not the female. Thus, Dr. J. S. Blaker records the case of a female haemophilic child at the Shadwell Children's Hospital whose grandmother and two aunts on the father's side were bleeders, while the father himself, and the mother and her relations, were all free from disease.

This is one form of disease and sex correlation. There is, however, another form of this association in which both sexes seem to be equally liable to a given disease; but if we take separate families in which there are children of both sexes, then, if in any one family the disease attacks the boys, the girls escape, whereas if in another family the girls are affected then the boys are healthy.

Now, it is to this form of disease and sex correlation that I wish to draw attention to-day, and there are reasons for thinking that the phenomenon is more important and more widely spread than medical men are apt to realize.

Ichthyosis is an example of this form of correlation. Thus, Byrom Bramwell has recorded in his *Clinical Lectures* some interesting examples of families in which this disease had affected the females only in one family, and the males only in another. And I can record the following family tree in which the males only were affected:



In this case the disease affected males only in three generations, the fathers' side being free from disease.

Other examples of abnormalities illustrating this form of disease and sex correlation are congenital deformities, such as supernumerary digits and webbing of fingers. Congenital lymph angioma also has been recorded.

It is, however, to deaf mutism in its relation to sex correlation that I wish to draw attention to-day.

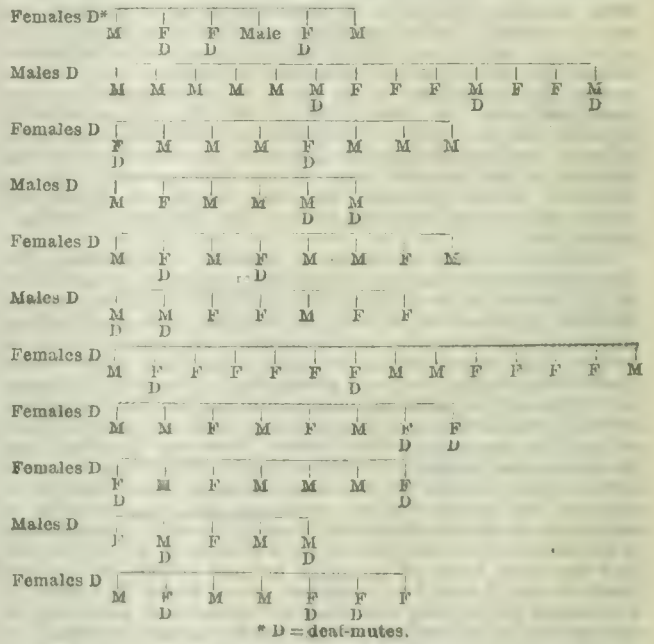
Now this congenital abnormality affects both boys and girls, in nearly equal proportions. Thus, out of 108 congenital deaf-mutes in the Royal Institution for the Deaf in Derby in 1902, I learn from Dr. Rae that "60 were boys, and 48 were girls. There was no evidence of congenital deafness in either parent in any case, though there was evidence of deafness in collateral relations (chiefly cousins) in 8 cases, while in 5 cases the parents or grandparents were cousins."

By the kind help of Dr. Bennett and the officers of the now deceased Leicester School Board, I have also examined the family relationships of 40 families, each having one or more cases of deaf-mutism, in Leicester and the neighbourhood.

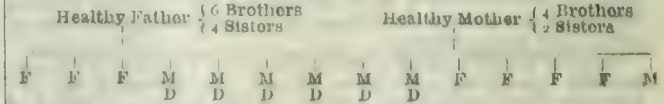
Out of these and the Derby families, there are twelve families in which more than one child is a deaf-mute in each family. Now the important point is that in these twelve families the abnormality, though affecting both boys and girls, is mainly limited to one sex in each family.

Thus, if a case of deaf-mutism occurs in a family in a male child, his brothers may be deaf, or they may be healthy, but his sisters will all be healthy. While if in another family, a case of deaf-mutism occurs in a female child, her sister may be deaf or healthy, but her brothers will all be healthy.

The following are the particulars of the twelve families:

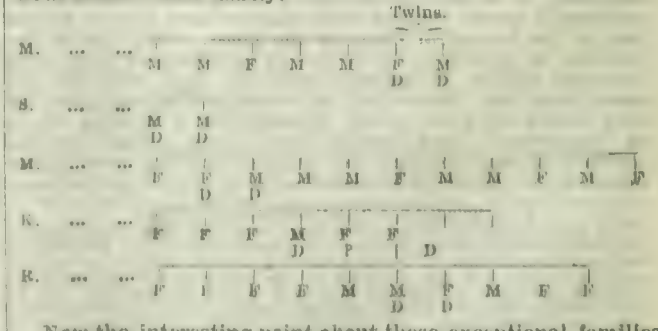


I wish, however, to draw special attention to one family living at Kegworth which presents this correlation of sex and deafness in a striking manner.



Here is a family of 14 children, the father and mother being healthy. The first 3 children were girls and healthy; the next 6 were boys, and all congenital deaf-mutes; the next 4 were girls and healthy; and the last, a boy, also healthy.

There were, in addition to these 12 families, 5, which we may call exceptional families, in which the disease affected both sexes in each family.



Now the interesting point about these exceptional families is that in the first family the deaf boy and girl were twins; in the second family, the deaf boy and girl were the only children in the family; in the third case, the deaf boy and girl were the second and third births in a family of 12 chil-

dren, boys and girls; in the fourth case, the deaf-mutes were the fourth and sixth births in a family of 6 children. The intervening child is dead, and we have no accurate information as to the healthiness of this child. In the fifth case, the deaf boy and girl were the sixth and seventh births in a family of 10 children.

Thus, with the single exception of one doubtful case, the deaf-mutes in each family were either twins or contiguous births.

To summarize the facts about deaf-mutism:

We have, first, the absence of direct transmission of the disease from parents to children.

Secondly, the marked fertility or large number of children in the families in which deaf-mutes occur. The Leicester and Derby statistics give an average of nearly 7 children per family, whereas the average in normal families is 5.

Thirdly, that when deaf-mutism crops up in a family, it tends to affect one sex only in any one family, and not all the members of that sex.

Fourthly, in exceptional cases, in families in which children of both sexes are affected, the deaf-mute children are either twins or contiguous births.

Now surely these facts are important and suggestive. Put in other language, it seems likely that when the abnormality of deaf-mutism crops up as a character in the gametes produced by the ovaries of any individual, or in the zygote resulting from the union of such gametes with others derived from the male, the deaf-mute character crops up in association with, or linked to a certain sex, whereas in the case of the gametes derived from another ovary and fertilized by other spermatozoa, the association may be with another sex.

Can any explanation be offered of this form of disease and sex correlation?

We must remember for a moment how little we know of the factors which control the determination of sex.

Castle, in America, has brought forward some interesting suggestions,[2] in which he points out that sex is an attribute of every gamete, and is transmitted—that is, inherited—in accordance with Mendel's laws.

Thus everything points to the fact that sex is a character, which is controlled by the same laws which control the transmission of other characters—colour of skin, etc. And while the female sex, or character, is always dominant in parthenogenetic eggs, in dioecious animals and plants—for example, human beings—the female and male elements alternately become dominant in pretty even numbers, the recessive sex being always latent in the other, hence the nearly equal numbers of male and female births. In fact, I think there are many phenomena which support the idea, that the struggle for the mastery on the part of the sex character, along with other characters, in any given gamete, occurs at the time of the early reduction division, or at the time of the sequestration of the reserve germ plasm (Weismann), the struggle being an attempt on the part of reserve or latent material to become active or patent; and the question of the sex, with other characters, is determined by the victory or otherwise of the male or female sex-bearing character, or allelomorph; in other words, the dominance or recessivity of the germ plasm units representing a given sex at the time.

Thus, in haemophilia, the abnormality is habitually linked with one sex—the female—in the latent or transmitting form, and the other—the male—in its patent or somatic manifestation. Whereas, in exceptional cases, if linked with the female in the patent or somatic form, then it is correlated with the male in its latent phase.

Now, in the case of deaf-mutes—the female or male sex-character, as the case may be, in each family has become associated with, or linked to, another character—in this particular instance an abnormality or disease, namely, deaf-mutism. Any facts which bear on the manner of this association or correlation, are of value as throwing light on the larger question of character and sex transmission, and it is for this reason that I have endeavoured to bring forward the above facts.

Now, in the twelve families in which the disease affected more than one child of the same sex, the affected children were spread (with the exception of one family) equally throughout the births in the family.

Whereas in the five exceptional families in which children of both sexes were affected, the deaf-mute children were either twins or contiguous births.

Thus it would appear as though the gametes produced at one period of the life of the parent, more nearly resemble each other than those produced at another period, either earlier or later, and this is in strict accordance with what we find in experimental breeding in animals, and is corroborated by some results in crossing pigeons, which I hope to publish later.

With regard to deaf-mutism the conditions are too complicated, and the absence of direct transmission from parent to child prevents us, at present, from bringing this disease into line with Mendelian formulas, but there can be little doubt that investigation on Mendelian lines will enormously aid the study of the heredity of disease.

Thus far we have spoken only of congenital diseases, but the question arises whether the correlation of disease and sex has not a wider application. Of this I feel sure—that a sufficiently wide investigation into the sex-correlation of even the infective diseases, such as tuberculosis, will show that in some families the same kind of correlation of tuberculosis and sex-character exists. Thus, in some families where infection is equally open to all, the males are affected while the females escape, and vice versa. Of course, in this case, the correlation is between sex and resisting power—between sex and soil—and not between sex and the infecting agent, or sex and seed.

[2] *Bulletins of Comparative Zoology*, Harvard, January, 1903.

A DISCUSSION ON THE ETIOLOGY AND PATHOLOGY OF BERI-BERI.

I.—Hamilton Wright, M.D.

Dr. Hamilton Wright said: It is generally known that the disease has existed from time immemorial, and that no adequate explanation of its nature was given until a few years ago. The specific cause of the disease is still in doubt, but I hope to bring some facts before the meeting which throw, I am convinced, a flood of light on this debatable question.

The general nature of beri-beri, and the chief anatomical change, was made clear about 30 years ago by Baelz, Scheube, Pekelharing, and Winkler. These observers brought the disease out of the region of mystery by showing that its chief phenomenon—sensori-motor paralysis—is due to a lesion of the peripheral terminations of sensory and motor nerves, and that death is due in a great majority of cases to cardiac failure, the vagal terminations in the heart showing a special affinity for the beri-beri poison.

Since these cardinal facts were made known, it has been the chief objects of all workers at beri-beri to determine the etiological factors, and the specific cause of the disease. The main result obtained, however, was confusion. One has only to read the latest textbook articles on the subject to find that for every observer there is a theory, and an average of at least one specific micro-organism. There are many theories which do not consider bacterial infection at all—Takaki's nitrogen deficiency theory for instance.

On such a fundamental point as the incubation period of the disease there has been but little close observation, and there is no unanimity of opinion. As to whether or not there are symptoms precedent to the actual nerve degeneration there is no definite record; Malcommsen and others going so far as to say that beri-beri always begins with nervous symptoms. The pathological anatomy of beri-beri is a patchwork made up of observations by separate workers, on different parts of different cases, few of which had been under clinical observation. Opinion as to the course of the disease from its inception to its termination is equally chaotic.

Five years ago, when I accepted a commission from the Colonial office to investigate beri-beri, there was only one fact surely known about the disease, namely, that it was in its developed form a sensory and motor paralysis, due to peripheral nerve atrophy. Changes in the central nervous system were denied, and all else was confusion.

I set out with an intention to co-ordinate the facts already known, to study both clinically and pathologically each individual case that became available, rather than a patchwork of cases, and to determine the circumstances under which the disease arose and continued to exist. I felt diffident, but nevertheless hoped that I might determine the specific cause of the disease.

The main results of my five years' observations have been given to the profession, but I have not before had an opportunity to offer for inspection and open discussion the facts which I collected and the conclusions at which I arrived.

The main facts which I determined and now offer for dis-

cussion, are, that the incubation period of the disease is silent but short—from seven to eighteen or twenty days. That the invasion is more or less abrupt and obvious in severe rapidly-fatal cases, while it is more or less insidious in the less severe cases. That this invasion becomes manifest by symptoms which suggest and are often diagnosed as acute indigestion. There are, for example, *malaise*, loss of appetite, a dislike of solid food, occasionally vomiting, catarrhal diarrhoea, and chilly or feverish feelings. Complaint is made of dull or heavy or burning sensations in the epigastric region, all intensified by deep pressure. The epigastrium soon begins to bulge. The throat is usually hyperaemic. There is no pyrexia now, or during the course of uncomplicated cases of the disease.

Within a varying time—from 5 to 72 hours—nervous symptoms appear. The knee-jerks either become exaggerated, or more usually are found to be absent. The peroneal and anterior tibial muscles rapidly weaken and become flaccid. Foot-drop follows, and in pronounced cases the flaccid paresis marches rapidly to the leg, thigh, hip, finger, wrist, arm and shoulder girdle muscles. The laryngeal and pharyngeal muscles may become involved. The tongue has been affected in some of my cases. The internal ocular muscles may not escape. All forms of sensation may be disturbed or fail entirely. The calf and arm muscles become tender, and pressure of them is resented by the patient. The sensory disturbance may be coextensive with the motor paresis, or may be confined to the legs and hands.

There are varying degrees of oedema. In my experience a slight pretibial oedema is always present. Beginning as such it may rapidly develop into a general anasarca—the wet beri-beri of the older writers.

The nervous mechanism of the circulatory system is early involved, perhaps as early as the sensori-motor system. There is first cardiac irritability, then palpitation on the slightest exertion, with a low tension, rapid, irregular pulse. The veins of the neck and the epigastrium pulsate largely. Signs of venous engorgement become apparent. Rapid dilatation of the right heart occurs. The precordia heaves alarmingly, contrasting markedly with the low tension weak pulse. Haemic murmurs are heard. There are reduplications of various sounds. Cardiac exhaustion becomes apparent. Delirium cordis soon dominates the situation. Dyspnoea frets the patient, he gasps for air, clutches his chest, rolls from side to side, while his face betrays a terrible anxiety. He at last passes to death in an agony distressful to behold. The mind is clear to the last. I have had patients give me a clear answer as to their feelings, then wildly stare for a moment and suddenly pass.

This is a bold outline of the more severe, rapidly fatal cases of beri-beri. Many cases exhibit but little sensori-motor disturbance, the cardiac and vasomotor systems bearing the brunt of the poison.

Post-mortem examination of such severe rapidly fatal cases shows the following conditions: The veins of the neck are grossly swollen. Rigor mortis sets in early. The eyes are partially closed, the fingers contracted, and there may be a blood-stained froth on the lips. The throat is generally found reddened. On opening the abdominal, pleural, and pericardial cavities a varying amount of clear, straw-coloured fluid is found. The stomach and upper part of the small gut are dilated and generally empty. The mucosa of these parts may, however, be covered with a slimy material resembling treacle. Both where the treacle-like substance is present or absent, the mucosa of the pyloric end of the stomach and duodenum is seen to be congested and spotted with fine punctiform haemorrhagic injections. These injections may form rings or patches, and occur at short intervals. I have seen them as low as the caecum, and then they are accompanied by a more or less marked general congestion of the intestinal mucosa. In one of my cases this condition had gone on to haemorrhagic erosion of the pyloric and duodenal mucosa. In all cases the crests of the valvulae conniventes exhibit small discrete punctiform haemorrhages. I have never observed any sort of membrane on the affected parts of the mucosa. The primary chain of mesenteric glands is often swollen, but never haemorrhagic.

Microscopically the affected parts of the gastro-duodenal walls exhibit the main features of an acute inflammatory process. There is active congestion of all parts, small-celled infiltrations of the mucosa and submucosa, cloudy degeneration, and marked necrosis of the epithelium and support tissues of the mucosa. A considerable superficial sloughing of the mucosa always occurs. Lymphocytes are numerous in the affected tissues; also polymorphonuclear leucocytes. The plasma cells are enormously increased in number. The necrotic mucosa is infiltrated by a bacillus of constant morphological character. It varies from 4 to 9 μ in length, and from 1 to 1.05 μ in breadth. The ends are slightly round. I have not seen this bacillus deeper in the tissues than the bodies of the mucous glands. The necrosis of the epithelium always precedes it by the width of a mucous cell or two. In several of my cases where the necrosis of the mucosa is marked the bacillus is scanty, and is confined to semi-detached sloughs, or to the surface layers. In other cases where there has been considerable sloughing of the necrosed mucosa the bacillus is almost absent from the tissue still *in situ*. In one of my cases this bacillus is distributed throughout the body, and is accompanied by numerous other organisms. This case died after a prolonged agony. The gastro-duodenal mucosa was eroded in several places, and it seems likely that there was an escape of these organisms into the circulation during the last stage of the disease. I am convinced on both clinical and *post-mortem* evidence that in this gastro-duodenitis we have the primary lesion of the disease, and that the presence of the bacillus in the affected mucosa is significant.

Next to the stomach and small gut the heart is of most interest in fatal acute beri-beri. The right chambers are found greatly dilated, and bulging with dark, semi-fluid clot. Occasionally, *ante-mortem* clotting is observed. The left chambers may be moderately dilated, and the whole organ, when freed of clot, collapses. The walls of the right heart often present a curious loose texture, as though there had been a slow but steady dissociation of the individual fibres. The tricuspids are generally incompetent as the result of enlargement of the auriculo-ventricular ring. The surface of the organ is spotted with a few petechiae. Microscopically, varying degrees of fatty degeneration are seen. This is always most marked in the right walls and papillary muscles. There may also be some cloudy swelling. Fragmentation is sometimes observed, especially in those cases which have passed through a prolonged agony. There is always some dissociation of the individual fibres of the right ventricular wall. The intermuscular tissue is sometimes swollen, and where there has been marked anasarca it is oedematous. A few foci of small cells may be found beneath the pericardium and endocardium.

The kidneys are but slightly affected; passive congestion is always present. The epithelium may be quite normal, but one or two of my cases exhibit slight cloudy swelling in the cortex. The lungs are hypostatically congested, and if there has been a great agony with dyspnoea, there is found an acute emphysema most marked in the apex and anterior border. In one of my cases there was thrombosis. The spleen may be moderately or greatly swollen from passive congestion. There is nothing else of note. The liver is also passively congested. There are no microscopic changes in uncomplicated cases of fatal acute beri-beri. Those muscles whose nerves have been poisoned are flabby. A slight fatty degeneration is present. It should be remembered in this connexion that in acute beri-beri the nerve fibres are not truly degenerated, but poisoned simply.

There are cases of acute beri-beri where the cardiac nerves almost alone are affected by the beri-beric virus. But these cases are exceptional. There is generally a motor paresis of the legs and arms at least. The change found in the cardiac and sensori-motor nerves is the same in character but varies in degree. The earliest change that I was able to find by Marchi's method consisted of a moderate flecking of the medullary sheath, both at the internodes and nodes. The nuclei and their surrounding protoplasm seem to be the first parts to be affected. If the case is one that has suddenly succumbed from the effect of the toxin on the whole mass of cardiac neurones, and in which there was a moderate general atonic paresis, rounded drops of altered myalin are not to be seen except in a few of the vagal cardiac fibres. In cases of two or three weeks' standing the change in the fibres becomes more advanced. But a true degeneration is only found in those cases which fail to clear up on the elimination of the poison, cases which I have termed beri-beri residual paralysis. In fatal acute beri-beri the fibre changes are wholly peripheral, and involve the majority of the fibres in a given nerve twig. The incidence of the beri-beric toxin seems to be in the following order: The vagal cardiac and gastric, the cardiac accelerator, the twigs that subserve the knee-jerk, the branches to the peronei, and anterior tibials, the posterior leg muscles to the recti of the legs, then the branches to the extensors of the wrists and fingers. The fibres first affected

show the greatest change. In those cases where oedema is a marked feature, the nervi vasorum to the arterioles in the affected areas are also poisoned.

By Nissl's method I have always found a mild degree of chromatolysis in the trophic cells of all affected fibres.

The chief anatomical changes in fatal acute beri-beri are then:

The primary gastro-duodenitis, with an associated bacillus.

A bilateral, symmetrical, toxic change in the peripheral terminations of many or few sensori-motor and autonomic neurones, with axonal reaction in their parent cells. In all rapidly-fatal cases the nervous system of the heart is most deeply and widely implicated.

Right cardiac dilatation, dissociation of the muscle fibres, and fatty degeneration.

Oedema of various grades of severity.

Now, as to the course of beri-beri. Cases which do not succumb from cardiac failure in the acute stage of the disease proceed along one of two lines.

First, there are those cases which fully recover. Two or three weeks from the onset the gastro-duodenal irritation passes away, the appetite returns, the sensori-motor paresis reaches the limit of its extension, and, together with any oedema present, begins to subside. At the end of the eighth or tenth week the patient is apparently fully recovered. A close examination of such cases reveals that the knee-jerks are still absent. At the end of two years or so even these return, and the patient is fully recovered. I think that were all cases of acute beri-beri accorded the treatment of an occidental hospital, this would be their general course.

But a great many cases proceed on a second and serious course. As in the first class of cases, the gastro-duodenal irritation clears up about the third or fourth week, the toxin, whatever be its nature, is eliminated, the various pareses and oedema cease to extend. If there has been cardiac disturbance with signs of acute dilatation of the right chambers, they, together with the sensory, vasomotor, and flaccid motor pareses begin to subside. There is every prospect that a rapid and full recovery is about to occur as in those cases which take the first course.

But there is a halt. The toxic change imparted to the various systems of neurones in the active, acute stage of the disease begins, in some fibres of the various systems, to develop into a true degeneration which migrates centralwards. The true atrophy which thus develops in the nerve fibres gives rise to various residual sensori-motor and autonomic paralyses, which progress, become confirmed in time, and, according to their extent, distribution and duration, give us a picture of beri-beri as studied by the older workers, and as still seen crowding the hospitals of the East.

The different nerve systems are never separately and singly involved. But cardiac, or motor, or sensory, or vaso-motor symptoms may dominate in different residual paralytics, and thus give us a variety of symptom groups that cannot be satisfactorily classified.

I have placed them in a general category, beri-beric residual paralysis, a classification which can be modified so as to indicate whether the residual paralysis in a given case is cardiac, sensory, motor, sensori-motor, or vaso-motor.

In the residual cardiac cases the right heart gradually hypertrophies, becomes fatty, dilates; but compensation may be almost perfect until a new attack of the disease or some intercurrent affection throws an extra strain that cannot be borne, and cardiac failure and death results.

In the residual sensori-motor cases the paralysis may be confined to the legs, but often remains in the hands and arms. If there is a rapid degeneration of the motor nerves, atrophy soon follows, and the affected muscles may almost disappear—the atrophic beri-beri of some writers. The paralysis is always of the flaccid type. In these cases it frequently happens that the joints, especially the ankle-joints and knee-joints, loosen, retroflexion of the legs occurs, and the feet wag helplessly when the patient walks. Besides the muscles of the limbs, the intercostals and even the diaphragm may show signs of residual paralysis and wasting.

Where oedema dominates the case, we have the wet beri-beri of the old writers. The oedema may fluctuate from a massive pretibial oedema to general anasarca. In these cases there is generally a residual cardiac paralysis to be made out, as well as some sensori-paralysis of the legs and thighs.

Cases of beri beric residual paralysis of whatever variety reach a stage where the various nerve degenerations appear to halt, and they live more or less helpless until carried off by some intercurrent disease. In other cases the residual paralyses oscillate between almost complete recovery and a paralysis that frequently reaches its original extent. Intercurrent diseases, periods of treatment and rest in hospital, climatic and seasonal changes, are the chief factors in paretic oscillations. Cases with marked residual cardiac paralysis nearly all end within a year or so by cardiac failure. And just here I would expressly declare that there is no such thing as a group of symptoms typical of beri-beric residual cardiac paralysis. It will be readily understood that the cardiac symptoms must vary with the number of vagal cardiac fibres degenerated, with the extent to which each individual fibre is atrophied, and with the amount of fatty degeneration and hypertrophy which takes place in the myocardium. There is always some degree of palpitation. It comes on spontaneously, often at night in many cases. All violent movements induce it. Exposure to the sun, and heavy meals also. Dull pains are often complained of and referred to the heart. The pulse is soft, easily compressible, accelerated, and frequently irregular. At rest it is generally in the 80's, but on slight exertion runs to the 120's or 130's. Delirium cordis sometimes precedes death in a few cases. I have seen a large number of cases in which the pulse is decidedly slowed, with irregularity, etc. There is often a large precardial impulse with a small thready pulse. The sounds heard at the apex may be alike in quality, the spacing equal, or the pause prolonged. I have heard this in combination with a markedly reduplicated first sound and pulmonary second sound, or without reduplication. Haemic murmurs may be present. I have records of hearts that showed all of these signs, in combination or separately, in the course of a week's observation. There is always an enlargement of the cardiac dullness to the right from actual hypertrophy or dilatation, or from both in combination. There is no anaemia in uncomplicated cases.

Shortness of breath is common to all cases of residual cardiac paralysis. It is due to both impaired circulation and atrophy of respiratory nerve fibres.

Cases of beri-beric residual paralysis may live from a few months to ten or twenty years, depending largely upon the extent to which the cardiac, pulmonary, and vasomotor terminations have degenerated. Death is generally due to some cause inherent in the disease itself, the chief of these being cardiac exhaustion. Pulmonary thrombosis is an infrequent cause.

On the other hand, a large number of cases of residual paralysis die of some intercurrent disease, such as phthisis, malaria, or dysentery. One might dilate upon the question as to whether or not these intercurrent maladies are induced by the profound atrophy present in the different systems of neurons. There is some positive evidence that they are. But I will neglect this phase of the question for the sake of clearness, and to illustrate the *post-mortem* changes take a case that has died of cardiac failure.

The anatomical changes to be found in such a case of beri-beric residual paralysis depend upon the duration of the case after the acute stage has subsided. If fatal six months after the acute symptoms have cleared up, the picture will be less striking than if fatal after five or ten years. But I will strike an average, and take a case of, say, two years' standing.

The cadaver of such a case will show muscular wasting in proportion to the extent of degeneration in the motor neurons. It may be slight and confined to the leg muscles or be marked and involve the arms and trunk muscles as well as those of the lower limbs.

On opening the body varying amounts of clear fluid are found in the serous sacs. What immediately strikes one is the complete absence of the gastro-duodenitis, which is so marked a feature in the acute stage of the disease. I accept, of course, those cases where there is positive evidence of a second acute attack which has proved fatal. I will have a word to say on such cases later on. Be it observed now that in uncomplicated cases of beri-beric residual paralysis there is no gastric duodenitis. The chief visceral lesion is cardiac.

The right walls are moderately, or in some cases greatly hypertrophied, the chambers are enlarged, even greatly dilated, and full of dark, semi-fluid clot. The left chambers are not as a rule hypertrophied, but there is nearly always some dilatation. The right auriculo-ventricular orifice is generally enlarged. The empty heart is exceedingly flabby. In some cases there may be no hypertrophy at all, but on the contrary the right walls thinned and wasted with fatty invasion at the apex and about the auriculo-ventricular ring. Brown atrophy and fatty degeneration may be extreme. A moderate

increase in the intermuscular tissue is common. There may be also many deep and superficial foci of small cells. From a third to a half of the medullated fibres in the cervical and thoracic vagal cardiac fibres are found in an extreme state of degeneration, Wallerian in appearance. I have found these degenerated fibres as high as the middle of the neck. We have in them a plain indication that the originally slightly-poisoned fibres have failed to reintegrate, but have on the contrary actually degenerated, not only peripherally but centrally towards the bulb. The nucleus ambiguus and central nucleus of both sides in such cases contain numerous partially or wholly degenerated cells.

The lungs as a rule, show chronic emphysema, some fibroid thickening, hypostatic congestion of the bases, and occasionally thrombosis, where there has been a thinning rather than a hypertrophy of the right walls of the heart. Many of the medullated nerve fibres of the lungs are seen to be degenerated. The liver has all the signs of chronic congestion. Fatty and pigmentary degeneration is common. There is a moderate increase in the connective tissue of the portal canals. The capsule and trabeculae are generally thickened. The capillaries are crowded with red cells.

The spleen shows a moderate connective tissue hyperplasia. It is usually engorged.

In the kidneys a mild change is to be observed in the cortices. The capsule is slightly thickened. There are a few subcapsular foci of small cells. The epithelium of the glomerulae and convoluted tubules stains badly in scattered places. There are occasional foci of small cells to be seen. The capillaries are always engorged. I have found in several cases a degeneration of the medullated fine fibres as they enter the kidney along the renal arteries.

The muscles whose nerves are degenerated show all the signs of a simple chronic atrophy. There is not, however, the same amount of interstitial change seen in other forms of long-standing neuro-muscular atrophy.

The affected nerves exhibit a chronic degeneration, Wallerian in appearance. The degeneration is no longer strictly peripheral. It has, as in the vagi, migrated towards the bulb. In the posterior spinal ganglia, and in the anterior cornuae of the cord, there are numerous cells in extreme degeneration. If the cranial nerves are involved—and I have seen, besides the tenth pair, the fifth, seventh, ninth, eleventh, and twelfth affected—their nuclei of origin contain an equal number of grossly atrophied cells

The cortical cerebellar and cerebral cells are always found normal. The only central nerve tract that I have found degenerated is that composed of the centripetal continuations of the posterior spinal ganglia. I will show a case of five years' standing in which there was a distinct Romberg symptom, with marked degeneration in the sacral and lumbar fibres of Goll's column.

Where there has been long and persistent oedema the nervi vasorum are degenerated. In such cases cells of the solar, hypogastric, and the thoracic sympathetic cells show varying degrees of atrophy.

After having observed all these facts I proposed a classification of beri beri as follows:

Acute pernicious beri-beri, in which the onset is sudden, with more or less severe symptoms of gastro-duodenal irritation and cardiac paralysis. Varying degrees of sensori-motor and vasomotor paresis are present, and the knee jerks are early lost. On first examining such cases it can almost surely be predicted that they will die in the acute stages of the disease.

Acute beri-beri, in which the onset is more quiet than in acute pernicious beri-beri, but where, nevertheless, distinct symptoms of gastro-duodenal irritation are demonstrable, soon followed by symptoms that indicated the action of the toxin on the cardic nervous system and loss of knee jerks, foot drop and other sensori-motor, and other vasomotor paralyses.

Subacute beri-beri, in which the onset of the disease may be insidious, in which the symptoms of gastro-duodenitis may not be complained of or be readily demonstrable, in which the cardiac, sensori-motor and vasomotor paralysis may be slight. Except for an occasional attack of palpitation it would scarcely be known that the cardiac nervous system was involved.

Beri beric residual paralysis, or the disease as it persists after the gastro duodenitis has cleared up, and the causal organism and its toxin has been eliminated.

It will be evident that the clinical picture and the anatomical lesion in a given case in this category depends entirely upon the fibres originally implicated and upon the rapidity and extent of the ensuing degeneration in them.

It will have occurred to most of you that we have in beri-beri a disease somewhat analogous to diphtheria. There is an acute attack of a mucous membrane by a specific organism, followed by various paralyses. In beri-beri there, however, is no fever, no constitutional disturbance of moment, and the various paralyses are inevitable and the most objective features of the disease. As in diphtheria, so in beri-beri the toxin, whatever be its nature, shows a special predilection for the cardiac nervous system.

As in all acute infections, there are in beri-beri true relapses, and, as in diphtheria, one attack does not protect, but, on the contrary, opens the way to further attacks. I have many histories of second and even third attacks before the paralyses engendered by the first attack had cleared up. These true relapses and reattacks are not by most writers distinguished from the oscillation in the paralyses in the residual cases.

There is, of course, another possibility which may not be denied—namely, that after the acute onset has subsided, there remains what Adami and others term a subinfection. It is possible that a recrudescence of the paralyses in a residual case, which always increases the cardiac disturbance, may be due to the flaming up of the original primary lesion. I think that there is always a real second attack in these cases. They are seldom seen in patients long removed from foci of infection. They are frequent in gaols, mining camp hospitals, and all areas where the disease is active.

I have studied and collected many cases of all classes of beri-beri under conditions where one's enthusiasm for one's view of the nature of the disease may be blinding. But if I have time I propose to read a couple of cases seen with Sir Patrick Manson and others at the London School of Tropical Medicine since my return from the East. In their course and onset they very well prove all that my Eastern cases declared.

What working theory best fits the facts which I have observed and place before you? I have propounded the following: That beri-beri is an acute or subacute infectious disease of short incubation period. That it is due to a specific micro-organism not yet isolated. That this specific organism is not one whose special habitat is a particular food, such as rice or fish, but one that may nevertheless be ingested with any food or drink accidentally contaminated. That this organism, having gained entrance to the alimentary canal, multiplies in the contents and mucosa of the stomach and small gut, but chiefly in the contents and mucosa of the pylorus and duodenum. That it there elaborates an extracellular toxin, which, being immediately absorbed, poisons the peripheral terminations of, first, the vagi to the stomach and heart, and then other efferent, afferent, and autonomic neurones to different extents and degrees, thus giving rise to groups of symptoms which may be broadly classified as acute pernicious beri-beri, acute, and subacute beri-beri. That these cases run a definite course of about five or six weeks, and on the elimination of the causal organism and its toxin the poisoned neurones recover and the patient becomes whole again, or that the poisoned neurones only partially recover, and there develops in those of them which do not a true degeneration which migrates centralwards. For this persistent atrophy, and the various paralyses, atrophic disturbances, and oedema which result, I have proposed the term "beri-beric residual paralysis."

This theory not only applies to beri-beri beginning as a gastro-duodenitis, but also to those anomalous cases which follow surgical interference, parturition, and suckling. For there is nothing unusual in the supposition that a toxin-producing organism can act as effectively in a wound as in an exposed mucous surface.

II.—C. HOSE, D.Sc.Cantab.,
Divisional Resident, Sarawak, Borneo.

As a contribution to the discussion on the etiology of beri-beri, I wish to urge that a long experience in a country infested by beri-beri shows me that the factor of diet cannot be ignored, as has been maintained by certain observers, and particularly by Dr. Hamilton Wright (in various publications, especially that in the *Journal of Hygiene*, April 7th, 1905).

My reasons for holding the opposite view to that adopted by Dr. Wright may be briefly stated as follows:

1. In the first place, I would point out that in a paper submitted as long ago as 1901 to Mr. Strangeways, Demonstrator of Pathology at Cambridge, I gave the results of experiments

carried out by myself in the course of three or four years before that date, upon human beings as well as monkeys and domestic fowls. From the abstract of my paper published in the *Medical Review* for June, 1901, I have taken the following extract:

By a process of elimination I arrived at the conclusion that the principal cause of beri-beri in Borneo is the consumption of mouldy rice. The disease is much more prevalent among men than women; it is frequently contracted, as in my own case, on a journey in the jungles of the interior; it is more prevalent at certain periods of the year than at others, and outbreaks have been frequent in gaols and among the Chinese coolies employed on tobacco and other plantations. The women in Borneo, who very rarely leave the villages for any length of time, live mainly on freshly-husked rice, while the men are frequently absent in the interior on rubber-collecting expeditions for several months at a time. They carry with them their rice in bags, and after a time it becomes mouldy in the damp climate. Imported bazaar rice, chiefly from Java and Rangoon, is given to the inmates of gaols, and to the coolies on the plantations.

I further ascertained that the outbreaks of the disease in the Baram district of Sarawak are more noticeable in the months of April, May, and June, immediately after the period when the north-east monsoon has made it impracticable for ships or native craft to enter the Baram river. To meet the local requirements, large quantities of rice are imported before the monsoon period. Probably this rice has been in bags for some weeks or months before it reaches Baram, and after being kept in bags for a further period it naturally becomes musty and mouldy.

Microscopic examination satisfied me of the existence of a minute fungoid growth on rice of this description. Having, as I believed, found a possible cause for the disease, I proceeded to make further investigations. Thirty-nine male Dyaks who had contracted beri-beri during their expeditions in the jungle, where they had been living on bazaar rice, were placed in villages where none but freshly-husked rice was used. Of the 39 men, 33 recovered and 6 died. On the other hand, of 120 Dyaks who had contracted the disease under similar conditions and continued to live after their return to the coast on imported rice, 47 died.

Having made out what I believed to be a primâ facie case against mouldy rice, I tried the experiment of feeding three monkeys (*Macacus nemestrinus*) on bazaar rice. One of the monkeys exhibited no special symptoms, but the other two developed some of the characteristic nervous symptoms of beri-beri, and in particular showed a decided lack of energy, which is one of the principal symptoms of the disease. But in none of the animals did the usual oedema in the lower parts of the legs occur.

My investigations were then extended to fowls, and in these weakness and paralytic symptoms were produced, indistinguishable, so far as I could see, from the symptoms of beri-beri. Specimens of the subjects of these experiments and of the rice have been sent to Cambridge, where I am pursuing my investigations.

My conclusion has been confirmed by Captain E. R. Rost, I.M.S., Civil Surgeon of Meiktila, Burmah, who has been investigating, it seems independently, the connexion between beri-beri and a germ which he has found in rice and Jowari grain, and in the rice liquor which coolies and sepoys drink.

2. Passing from cases under my personal notice, I would refer in the second place to the Half-Yearly Report of the Superintendent of Police and Prisons of Sarawak dated January, 1905. In that report, the results which attended the efforts of the principal medical officer (Dr. A. J. Barker) to secure a supply of fresh rice to all prisoners in that gaol, are recorded. I wish to point out that in that particular prison beri-beri had been practically epidemic. For 1904 the report shows a reduction in percentage of patients amounting to 42.95 per cent. in favour of the latter year. The report continues:

In face of these figures, it is scarcely necessary to say that the health of the prisoners has been very greatly improved, while no alteration has been made in the sanitary condition of the gaol; it is, therefore, quite clear that this radical change has been effected by the substitution of freshly-husked padi instead of the Rangoon rice used in 1903, and up to the end of April, 1904 . . . There have been 4 deaths among the prisoners as against 17 for the same period last year . . . There has been no fresh case of beri-beri in the gaol during the half year, the other cases—now reduced to 4 in the gaol and 1 in the hospital—being all chronic.

I would add that I have recently learned that in consequence of this report, and the representations made by Drs. Braddon and Daniels, the practice of supplying fresh rice has now been adopted in the Federated Malay States.

3. In support of the experimental evidence already adduced, I must next state that my experiments upon apes and fowls have been repeated by the university authorities at Tokyo, with entirely confirmatory results; and that the Japanese evidently share my view as to the relation of diet and mouldy rice to beri beri, is shown by the following note from the *Times* (weekly edition) of November 11th, 1904:

The wet weather fermented the rice and produced much beri-beri among the troops. The number of cases from June to September was nearly 16,000. During the colder weather of October there has been practically none.

4. I wish to make it quite clear that the foregoing remarks have not been made with a view to denying the existence of a bacillus, such as that to which, in Dr. Wright's opinion, beri-beri may owe its origin. I do not at this moment feel competent to express an opinion upon this part of the subject. But once more, I am concerned to insist upon the importance of the diet-factor. Otherwise I see no reason why my results should not be compatible with the existence of a bacillus, and so in accord with some of Dr. Wright's conclusions. When the abundant material now collected by me has been further worked over at Cambridge, I hope to be in a position to make a more definite statement. Meanwhile and in conclusion, I desire to make two or three remarks.

(*a*) I attach grave suspicion to the practically constant presence in mouldy rice of a certain small weevil (*Calandra oryzae*) although I am not at present prepared to explain the exact part played by this insect.

(*b*) The marked difference as regards resistance to damp and the attacks of moulds and of the weevil, exhibited by rice from various countries seems to me very suggestive. Thus Rangoon rice is notorious for being quickly attacked by both foes, and Rangoon rice is now discarded both in the Kuching (Sarawak) prisons as also by the Chinese, who employ coolies to the number of several thousands on the pepper-growing estates.

(*c*) I have a strong impression that the incidence of beri-beri is distinctly heavier in those tropical or subtropical countries which import rice than in those which supply sufficient on the spot to meet all local demands. Naturally the opportunity for deterioration in transport is greater when rice is imported from a distance.

(*d*) The preceding remarks refer principally to rice and the mould which attacks it; but I have observed apparently identical fungoid or mould-like growths upon maize, sago-flour, and even on dried fish, so that any of these articles of diet might convey the disease. In my opinion, danger from rice or other food-stuff is to be apprehended only when the fermentation has commenced and the mould has made its appearance. These conditions are favoured by the dampness of the atmosphere in Sarawak. Lastly, I have noticed that the weevil referred to above will attack imported English wheat-flour in Borneo.

III.—F. W. Mott, M.D., F.R.C.P., F.R.S.,

Pathologist, London County Council Asylums; Physician, Charing Cross Hospital.

Dr. Mott said: The subject of beri-beri is one of supreme importance in the East at the present time; although Dr. Wright's organism is not yet established as specific, yet his work has done a great deal towards the elucidation of the causation of the disease. In a necropsy I made at the London School of Tropical Medicine there certainly was a duodenitis, and also haemorrhages in the liver; microscopically, a noticeable point was the exfoliation of endothelial cells. In that case, however, the right ventricle was much dilated, and the congestion of the intestine seemed to me to be due to that; the pain, tenderness, and hepatic congestion might surely be the clinical evidence of the cardiac changes. Is, then, the duodenitis cause or effect? The evidence afforded by the results of improved sanitation is of the greatest importance. With regard to the absence of demonstrable degeneration in the nerves in the early stage, that may be only a matter of lack of time, since the Marchi method, for instance, only exhibits a typical reaction in lesions of at least eight days' standing. In another chronic case which I had the opportunity of examining the findings were similar to those described by Dr. Wright. The nerves were degenerated, but the histological appearances were not absolutely identical with those obtained by experimental section. The technique is a little troublesome. I have found, as did Sidney Martin in diphtherial palsy, that the nerves are best examined in teased preparations. In other lesions of peripheral nerves, such as those of diphtheria

and alcohol, changes can also be demonstrated in the white matter and anterior horn cells of the cord.

IV.—Major G. H. Fink, I.M.S. (ret.).

Major Fink said: On this question about beri-beri, I would desire to add a few remarks, since I reported some cases about a month or two ago in the *Journal of Tropical Medicine*. The cases I have seen were in the Assam hill tracts (Garo Hills). Rice and rice-beer is consumed as the staple article of food, and the people consume it and bring up their children, even infants, on it, because milk is not given to children, on the supposition that milk has urine mixed with it. The people of these hills make up a rice beer out of a particular rice, and it is consumed in large quantities as a drink, and their infants also are brought up on it. There is malaria in those tracts, and kala-azar with ankylostomiasis and beri-beri is often mixed up with these cases. Kala azar and beri-beri, as you will remember, was at one time very much mixed up with malaria, as those who read Giles's pamphlet would notice. I only come forward to mention these points as the reader of the paper on beri-beri might find it of some interest.

V.—J. T. Clarke, M.R.C.S., L.R.C.P.,
Perak, Malay.

Dr. Clarke said he could hardly agree that the heart could be the cause of the petechial haemorrhages of the intestine, as the heart in the late stages when it gave way might do so suddenly, or over some time, and congestion might be expected at this stage as much as in the acute pernicious cases. Dr. Hamilton Wright apparently argued that the gastro-duodenitis of the early stage pointed to the stomach and duodenum as the site of the initial lesion; this was on the analogy of the diphtherial organism, but in syphilis the initial sore might be the least severe of all the lesions.

DEMONSTRATION OF A CASE OF MICROGYRIA.

By W. Page May, M.D., D.Sc., F.R.C.P.,
Lecturer on the Physiology of the Nervous System, University College, London.

In the course of his demonstration Dr. Page May said: In this case of microgyria the right side of the brain was less than two-thirds the size of the left, and its convolutions, though not simpler in form, were less than half as rich in grey and white matter. On the affected side the large motor and pyramidal cells were absent or markedly degenerated, whilst the pyramidal layer and inner line of Baillarger were notably diminished in size. There were similar degenerative and atrophic changes in the parietal and frontal regions, and



Fig. 1. Brain seen from above and showing the striking relative smallness of the right cerebral hemisphere

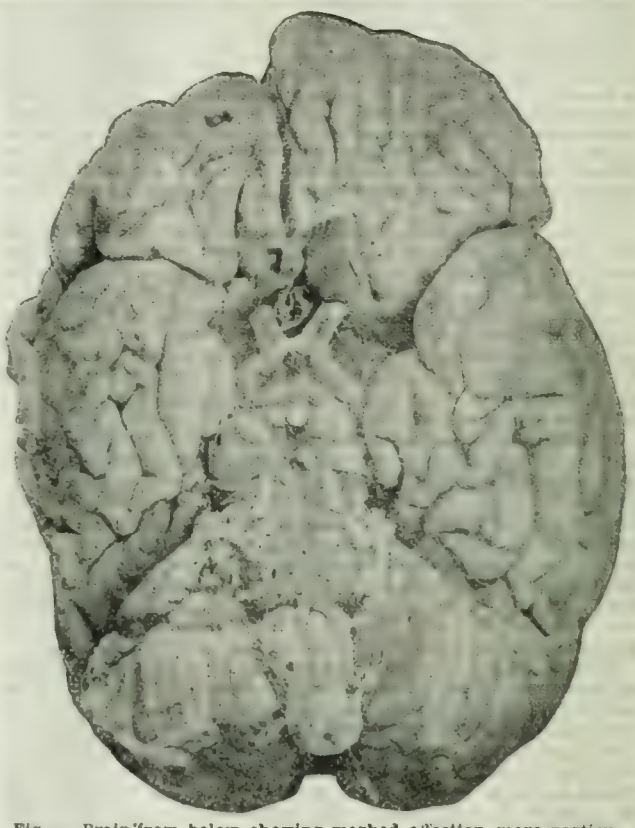


Fig. 2.—Brain from below, showing marked affection, more particularly of the right frontal and temporo-parietal lobes.

less so in the occipital. The basal ganglia on the affected side were much wasted, and also the pyramidal tracts and fillet. The opposite (right) lobe of the cerebellum was wasted, and notably the cells of Purkinje were absent or degenerated.

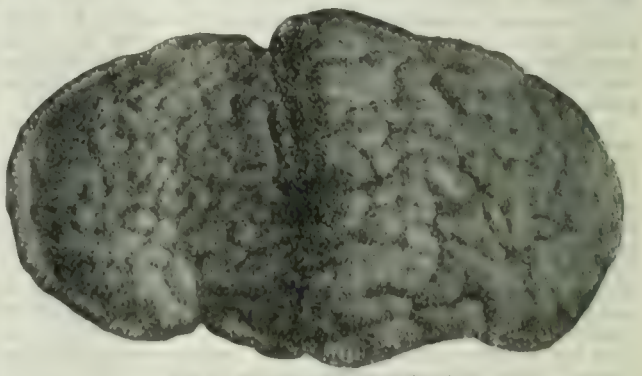


Fig. 3.—Brain seen from in front.

With that there was marked atrophy in the nucleus dentatus and the superior cerebellar peduncle. Whilst the tangential fibres in the cerebrum and cerebellum were slightly affected, the large associational tracts were normal. In the spinal cord, besides degeneration in the affected pyramidal tract and antero-lateral column, there was marked degeneration in the anterior horn cells.

Dr. Mott said it had been a great pleasure to him to listen to Dr. Page May's very excellent demonstration, and he congratulated him on the extreme care and pains he had dis-

played in cutting such an enormous number of sections. These cases of microgyria were of great interest, and repaid the expenditure of trouble, for the theories advanced in explanation of them hitherto had not always been characterized by reasonableness or lucidity. Amongst other points Dr. Page May had demonstrated the course of certain projection fibres and the systemic relations of neurones of the basal ganglia, upon which it was pleasant to hear Dr. May confirming his (the speaker's) own observations. The feature which had particularly struck him in looking at the sections was the very small amount of glial substitution to be observed.

OBSERVATIONS ON CERTAIN FEATURES EXHIBITED BY CELLS IN THEIR RELATION TO CANCER.

By F. W. Forbes-Ross, M.D.Edin., F.R.C.S.Eng., D.P.H.Lond.

During an investigation into the pathological histology of cancer, accompanied by parallel observations on normal tissues, certain points strongly impressed themselves, and appear to be worthy of consideration, and briefly are as follows:

The genesis of cancer, and indeed of malignant new growths generally, appears to be probably a question of alteration of cell polarity, and, therefore, work on cancer research should consider cell polarity in all its bearings.

Cell polarity has been defined as morphological, or organic, and physiological. The morphological or organic polarity is based on an axis drawn through the cell, having the nucleus and centrosome on the axis line, with the nucleus nearest the basal or attached end of the cell, and the centrosome on the distal side of the nucleus towards the free end of the cell. The physiological polarity is based on an axis line drawn through the epithelial cell from its basal end, or source of nervous and food supply, to its free end, or end for discharge of its functions—for example, cuticular structures, cilia pigment, and zymogen granules. The two foregoing expressions of polarity correspond, as both are at right angles to the surface on which the cell grows. Heidenhain developed the above conceptions, and endeavoured to explain the position and the movements of the nucleus, the succession of divisional planes, and other properties and functions manifested by cells.

The polarity of cells is various, however. In some cells it is fixed permanently when the adult cell is specially differentiated—for example, ciliated and goblet epithelial cells, cells of the taste-buds, and of the Schneiderian membrane in the nose, and nerve cells. Cancer arising from taste-bud cells and Schultz's cells in the olfactory membrane has not been recorded, nor has any malignant tumour formed of neuron cells been described, as far as I know.

The consideration of the rôle of ciliated cells and goblet cells in cancer appears to throw valuable light on some of the life-phenomena of cancer cells.

Gaylord and Aschoff describe the total disappearance of goblet cells in an intestinal follicle about to become cancerous, and described also the mutation of columnar cells to the cubical type. Mr. Pearce Gould has called my attention to the fact that the cells from a duct cancer in the mamma, which are cubical, become ovoid when found in secondarily-infected glands. Bland-Sutton mentions the mutability of the ciliated cells in parovarian cysts, the lining cells varying from the ciliated and cubical types to the total absence of epithelial cells. He also draws attention to the mutability of columnar epithelium to the squamous type, as in the trachea of the cat.

Normal histology of the above cells teaches us that these cells (ciliated, goblet, taste-bud cells, Schultz's cells, and neuron cells) possess a peculiar nervous connexion indissolubly bound up with their function, and that for the most part the nervous control passes through the centre of the cell to its functional organs, for example, cilia. Henneguy and Lenhossek give reason to believe that the cilia are closely connected with the centrosomes of the cells.

The only cells of this class occurring in cancer, ciliated cells, are comparatively rare, as indeed is the occurrence of primary cancer in tracts lined by ciliated cells, when we take into consideration the fact that there are present in ciliated cell tracts, other cells, which are not ciliated, and which probably in the first place gave rise to the cancer, and which enclosed some ciliated cells in process of extension. In cancer containing ciliated cells, a peculiar, benign modification appears to recur invariably, in the form of cyst-like cavities described by Stroebe and Zeigler. These cyst-like cavities are lined by adult ciliated cells; which strongly tends to show that as the adult cell must have its cilia on a free surface, that when the polarity of the cell becomes fixed the cell must cease to grow as a cell having non-fixity of polarity, that it ceases to grow as a cancer cell and invade surrounding tissues. In other words, if a cell becomes cancergenetic, it must become so during its early divisional stages, or must mutate to a form of cell not having fixed polarity as an obligation, and that as in the case of the ciliated cell, *cancer cells generally can cease to grow continuously as cancer cells*, and that the process of cell growth which we know as cancer appears to be here shown to be *terminable*, resulting in the reversion to a cell *whose growth is non-cancergenetic*.

If this change could be brought about in all the cells of a cancer simultaneously, then the arrest of the cancer would be inevitable and certain, and its malignancy would be lost. From the foregoing it can be gathered that cubical, columnar, and other epithelial cells whose nerve supply is in the form of end bulbs at the side of the cells in the intercellular spaces (Ranvier and Beale) are those cells peculiarly liable to cancerous growth, and such is the case, as a review of the known pathology will support, and shows that the method of nervous supply in the first place determines partially the *liability* of a cell to take on cancerous growth if suitably influenced. The polar axis of non-epithelial mesoblastic cells appear to be either permanently fixed—for example, striped and non-striped muscle cells—and in some, lost or various—for example, as in leucocytes, plasma cells, or connective tissue corpuscles, the centrosomes occupying situations in the cell on any side of the nucleus.

The mesoblastic tissue shows an example of high developmental differentiation and fixity of cell polarity—for example, striped muscles, whose nervous supply and control is intimate with the cell in the form of a fibre entering the capsule, and ending in a special structure or "end plate" within the cell.

If striped muscle be injured and reparative attempts take place, striped muscle is not the result, but fibroid tissue, through all the embryonic phases up from the simple round cell to the spindle cell, and finally the fibroid tissue, which is the finality in repaired mesoblastic tissue, always stopping short of the original highest specialization striped-muscle.

The hypoblastic and epiblastic tissues, on the other hand, are for the most part capable of complete reproduction of the original cell, which would tend to show that any hypoblastic or epiblastic epithelial cell, however highly specialized, as the ciliated and goblet cell, is only on the same developmental plane as the mesoblastic spindle cell, and never attains normally the quiesence and permanence of fibroid tissue.

In the epiblastic nerve cell we have an exception analogous to striped muscle in all respects.

There is therefore a feature in *mesoblastic* tissue, which the *hypoblastic* and *epiblastic* epithelial tissues *seldom* attain to; hence the benign and orderly mesoblastic tumour.

The less differentiated mesoblastic tissues with variable cell polarity, on the other hand, show the same features as the hypoblastic and epiblastic tissues under certain conditions, and hence we get the sarcomata, from the rapidly growing and more deadly small round cell sarcoma up to the less rapidly growing and less deadly long spindle-cell sarcoma and the myeloma. The next stage above these is the benign slow growing myoma which occasionally retrogrades to the spindle-cell sarcoma in the same tumour; which tends to place non-striped muscle on the same polar plane as the ciliated and goblet cell.

The foregoing tends to support the contention of Mr. Jonathan Hutchinson (senior) that *sarcomata* and *carcinomata* are *identical manifestations in different tissues*.

It will be noticed that through the foregoing series we have variability of polar axis and nervous control till the myoma is reached, where fixity for the time being of axis and nerve control can be deduced from study of striped and non-striped muscle normally.

If a cell with a temporarily fixed nervous polar axis is going to invade, it must first structurally alter; if not, then it is highly likely that it cannot give rise to invasion. It appears that it is necessary for the cell to acquire non-fixity of its polar axis in order to allow its centrosome to swing or veer round and so changing its plane of nuclear division variously, after the manner of a leucocyte or connective tissue corpuscle, or an ovoid cell, to be then able to invade surrounding and subjacent tissue. The applicability of this factor to the origin of the sarcomata is as feasible as it is to carcinomata.

The variation of polarity shown by some mesoblastic cells is apparently the case with cancer cells which have left their normal position or are about to leave their normal position to become invaders of tissues whose cell polarity is variable, as in the case of mesoblastic tissue cells, leucocytes, etc., and less highly organized cells generally; and these epithelial cells do not invade until non-fixity of polar axis has been conferred upon them by an agency whose influence is common to epiblastic, mesoblastic, and hypoblastic cells throughout the biological kingdom wherever malignant growth occurs—for example, one or other of the forms of leucocyte—possibly a polymorphonuclear leucocyte. I briefly outlined the idea that cancer was due to leucocytes at Oxford last year, in the Gynaecological Section, when discussing Messrs. Smallwood Savage's and Wilson's papers on chorion-epithelioma.

It will now be profitable to consider histological evidence of disturbance of polar axis in cells about to become cancer-genetic. In epitheliomata specimens I have observed that in the palisade cells, at a spot where invasion was about to commence, the polar axes of the cells were altered, and, as a result, the palisade line was irregular, and the centrosomes were seen to be at the side of the nuclei and not towards their free surface as normally. In other words, the polar axis was at right angles to the normal axis. Cell nests were present in the apparently normal layers of the prickle cells in the immediate vicinity of the original cancer focus, clearly showing a preliminary alteration of polar axes, and, therefore, of the centrosomal relations and their functions.

Examination of many specimens of mastitic and cancerous mammae showed that the polar axes of the cells were at various angles, and the relations of the centrosomes and the nuclei were heterogeneous. There was a more than significant invasion of leucocytes preceding these changes, which was well shown in the neighbourhood of the original cancerous focus and growing margin.

It is probably the case in epithelia and other cells whose nervous control is not closely and intimately bound up with the cell, that a stimulus could thus more easily give rise to cancer, preceded or followed by influences conferring the property of heterogeneous polarity such as is possessed, for instance, by leucocytes who may have the power to transmit this peculiarity. The ciliated cell and others of fixed polarity when fully developed, may have their polarity upset, probably during the *early* stages of cell division and multiplication before their nervous control has been definitely established.

It would appear that where function was constant and kinetic, as in the case of ciliated cells, muscle cells, and nerve cells, etc, there was less tendency for the conversion of stimuli of function to stimuli of proliferation; on the other hand, where function was merely metabolic or passive, there is reason to suspect that such nervous control and energy could be more easily perverted to proliferative exuberance.

It would appear that the nature of the stimulus leading to alteration of polar axis and breaking of alignment of cells in precancerous stages, was certainly not a negative one, nor was it a loss of nerve control alone; otherwise the planting of a skin graft, or the subcutaneous injection of epithelial cells, would give rise to cancer, which is certainly not the case, as attempts to produce true cancer in this way have failed.

In this connexion Bland-Sutton mentions the spontaneous disappearance of epithelial bodies grafted on to the peritoneum in cases of non-cancerous papillomatous cysts of the ovary.

The stimulus must, then, be a positive or exciting one, determining the wild ungoverned growth with invasion, which follows on the precancerous change of polar axis and irregular division with break in alignment. The answer is that more than likely the cause is a leucocyte or leucocytes. If normal tissues be injured, repair does not take place till the débris are removed; this débris is removed by the biological action of leucocytes, and it is quite probable that cell proliferation is stimulated by the action of one or other kind of leucocyte, possibly a polymorphonuclear, and is controlled by another kind, a mononuclear or a lymphocyte. The clinical evidence of this is only presumptive, but chronologically appears likely, as it is certain that no repair is attempted till the advent of leucocytes to the area requiring reparation.

Finally, reparation goes on while the leucocytes remain in that area, and it is only on its completion that they are entirely removed. In practice do we have any example of this? In some recurrent fibroids (sarcomata) we do know that Coley's fluid, which leads to intense chemiotaxis, often produces fibrosis and arrest of growth. In so-called atrophic cancers of the mamma, I believe that the fibroid reaction and comparative quiescence is due to one kind of leucocyte; and I have seen in a cancer specimen a line of leucocytes passing across the cancer and leaving dense fibrosis in their wake, with what appeared to be for the most part stable quiescent mononuclear epithelial cells.

For these reasons it would appear that cancers and sarcomata have a close causative connexion with leucocytes, chemical or symbiotic, just as leucocytes have with young reparative tissue cells.

I am aware that many attribute to leucocytes the rôle of attempting cure; some leucocytes may and probably do this, whilst at the same time other forms of leucocytes are busy in setting up the exact opposite condition. Research in this direction in the future may prove interesting and profitable.

NOTE.—Since depositing my paper with the Selection Committee of the Pathological Section of the Annual Meeting at Leicester early in July this year, and of which the foregoing is a short summary of the paper read, a paper by Messrs. Farmer, Walker and Moore has appeared, from which it is evident that we have been working upon similar but independent lines. I would like to remark, however, that the scheme of my paper was originally outlined in the discussion of the Gynaecological Section of the British Medical Association meeting at Oxford in 1904 and subsequently shortly referred to again this year at Leicester in the same Section, up to which time I was totally unaware of the results obtained by Messrs. Farmer, Walker, and Moore, which had not yet been published. It is, therefore, worthy of notice that these very similar conclusions have been arrived at by workers whose efforts were entirely unknown to each other.

OBSERVATIONS ON THE FAECES IN BILIARY OBSTRUCTION AND PANCREATIC DISEASE.

By P. J. CAMMIDGE, M.B.Lond., D.P.H.Camb., etc.

IT is unnecessary here to enter into an account of the important part the pancreatic secretion and the bile take in the normal digestion of food, and particularly of fat, in the intestine; nor do I purpose occupying your time with a theoretical discussion of the effects likely to be produced by preventing or obstructing the flow of one or both into the bowel. In this paper I propose summarizing the results obtained in the examination of the stools from 53 cases of biliary obstruction and pancreatic disease which have been sent to me for investigation during the past two years.

In making an examination of the faeces my procedure has been, after noting the naked-eye characters, to make a careful microscopical investigation of specimens taken from various parts of the sample for fat globules, fat crystals, muscle fibre, inorganic crystals, etc. Then to take the reaction to litmus of a portion selected from the centre of the mass, subsequently estimating the percentage of fat and nitrogen, and finally examining for stercobilin.

The nitrogen has been determined by Kjeldhal's method. For the fat I have adopted a procedure which, while much more rapid than Soxhlet's process, gives results which are quite satisfactory for clinical purposes. The method is an adaptation of the Schmidt-Stokes process of estimating fat in milk. It may be briefly described as follows: Two clean dry Schmidt-Werner tubes, labelled A and B, and provided with a 10 c.cm. mark are taken. Into the lower bulb of each is introduced an accurately weighed quantity of the thoroughly-dried and finely-powdered faeces, I usually employ about half a gramme. The residue on the watch-glass used for weighing and on the sides of the short-necked funnel with which the powder is introduced into the tube is washed down with a fine jet from a wash bottle, which for the A tube contains hydrochloric acid (1 in 3), and for the B tube distilled water. The sides of the tube are also washed down until the whole of the sample is collected into the lower bulb and the 10 c.cm. mark is reached. The A tube is then heated in boiling water for a quarter of an hour, occasionally rotating it so as to well mix the contents. After it has cooled both tubes are filled to the 50 c.cm. mark with ether, securely corked, and inverted thirty or forty times, allowing the whole of the solid material to run through the ether each time. Each tube is then rotated between the hands, fixed in an upright position, and left undisturbed for half an hour or more, so that the whole of the solid residue may be brought into the lower bulb. Considerable care is required in this part of the operation or a perfectly-clear supernatant layer of ether free from solid may not be

Group.	Diagnosis.	Number of Cases.	Reaction to Litmus.	Stercobilin	Total Fat per cent. of Dry Weight.	"Neutral Fat" per cent. of Dry Weight.	"Fatty Acid" per cent. of Dry Weight.	Muscle Fibre, Microscopically.	Nitrogen per cent. of Dry Weight.
I.	Stone in third or fourth part of common duct ..	9	Acid ... 5 F. alk.... 3 Alk. ... 0	Pres. ... 7 Tr. ... 2 *Nil* ... 0	45-68 *68*	27-45 *36*	11-27 *17*	5	3.5-4.5
II.	Chronic pancreatitis	21	Acid ... 14 F. alk.... 4 Alk. ... 3	Pres. ... 20 Tr. ... 1 *Nil* ... 0	21-62 *46*	10-31 *18*	6-25 *13*	7	2.5-6.0
III.	Cancer of pancreas	13	Acid ... 12 F. alk.... 1 Alk. ... 0	Pres. ... 0 Tr. ... 3 *Nil* ... 10	40-00 *63*	40-60 *45*	9-33 *18*	10	3.0-5.0
IV.	Stone in first or second part of common duct ...	8	Acid ... 1 F. alk ... 0 Alk. ... 7	Pres. ... 8 Tr. ... 0 *Nil* ... 0	32-55 *41*	16-24 *18*	15-41 *23*	2	2.0-3.5
V.	Pancreatic diabetes	2	Acid ... 1 F. alk.... 1 Alk. ... 0	Pres. ... 2 Tr. ... 0 *Nil* ... 0	21 31	13 20	8 11	0 0	5.0 7.0

secured. With a pipette exactly 20 c.cm. of the ethereal extract is drawn off from each tube and delivered into two CO_2 flasks of known weight, the amount of ether remaining in each tube being noted. The ether in the flasks is evaporated off, the residue dried by heating on a water bath, and the flasks again weighed. From the amount of extract yielded by the 20 c.cm. of ether and the quantity of ether left in the tubes, the total amount obtained from the weight of dry faeces used may be calculated, and from this the percentage in the stool determined. For convenience of reference I am in the habit of describing the yield from the A tube as "total fat"; that from the B tube as "neutral fat," and the difference between the two as "fatty acid," and this is the meaning I shall attach to these terms when employing them subsequently.

The solid residue in the B tube can be used for detecting stercobilin. For this purpose it is filtered off, extracted with acid alcohol, the acid neutralized with ammonia, and an equal volume of 10 per cent. zinc acetate in alcohol added. The precipitate which forms is removed by filtration, and the clear filtrate examined against a black background for the green fluorescence which indicates the presence of stercobilin. The intensity of the colour varies with the amount of pigment present, so that by always using approximately the same quantities of faeces and of the reagents any marked variation from the normal is readily detected.

In the above table the cases are classified according to the condition found at operation or *post mortem* in all but ten, and in these the clinical signs and subsequent histories of the cases confirmed the diagnosis of cancer of the pancreas. Many of the patients were operated on by Mr. Mayo Robson, who has kindly placed his notes at my disposal, and given me valuable advice and assistance in carrying out these investigations. For information concerning the remainder I have to thank those practitioners who have kindly replied to my letter of inquiry regarding the cases I have examined for them in my laboratory. In each group the extreme figures met with for that class of case are shown, and also an average figure (in italics) for the whole of the group, in order that they may be more readily compared. I should, however, like to emphasize the fact that the latter are simply the mean results of a number of observations and do not represent the conditions met with in any particular case.

It will be seen that in those cases where the entry of the bile and pancreatic secretion into the intestine was obstructed by a calculus or malignant disease of the pancreas (Groups 1 and 3) the faeces were in all but 2 cases acid in reaction, and that in two-thirds of those diagnosed as chronic pancreatitis, but in which no stone was found at the time of operation (Group 2), blue litmus was turned red. On the other hand, in Group 4, where there was an obstruction high up in the common bile duct damming back the bile alone, the faeces were in nearly all instances alkaline.

The percentage of total fat in the faeces shows wide variations even in cases of the same group. This is no doubt in part due to differences of diet, but the intensity of the lesion and the possibility of anatomical variations have also to be taken into account. As a rule however, the amount was in excess of that found in health with a normal diet. In cancer of the head of the pancreas the amount of fat was usually at least double the normal and in one instance as much as 90 per cent. of the dry weight of the faeces was of a fatty nature. Cases of pancreatitis with a gall stone in the pancreatic portion of the common duct have also given readings in excess of the normal, the highest being in a case where there was a stone impacted in the ampulla of Vater, which showed 68 per cent. of total fat. An excess of fat in the faeces was met with in all the cases of simple biliary obstruction with little or no affection of the pancreas, that have been investigated, but the amount was not as great as when the flow of the pancreatic secretion was simultaneously interfered with. In some of the 21 cases of chronic pancreatitis forming the second group a considerable excess of fat was found, but in others there was no very marked variation from the normal, at least so far as the total fat was concerned. The same may be said of the two cases of pancreatic diabetes, in both of which glycosuria occurred some years after an operation for pancreatic disease.

Comparison of the percentages of neutral fat and fatty acids in the various groups reveals the interesting fact that in those cases in which the entry of the pancreatic secretion into the intestine was more or less completely prevented (Groups 1 and 3) the neutral fats were generally in excess, while those in which the obstruction was high up in the common duct tended in the opposite direction, and, as a rule, showed an excess of fatty acids over neutral fats. Most of the cases diagnosed as chronic pancreatitis (Group 2) gave a higher proportion of neutral fat than fatty acids, corresponding in this respect with those in which the action of the pancreatic secretion was interfered with mechanically. Both the diabetic patients showed some excess of neutral fats over fatty acids.

Azotorrhoea has long been recognized as a symptom of pancreatic disease, and although, as the table shows, muscle fibre was found in the faeces of a considerable proportion, and most frequently in cancer cases, the microscopical method of examination is not an ideal one. On considering the matter it appeared possible that an estimation of the percentage of nitrogen in the faeces might afford most accurate information as to the amount of undigested meat, but experience has shown that this method has no practical advantages which will compensate for the extra labour involved.

The colour of the stools examined has varied from the characteristic white or lead colour of typical pancreatic disease to a practically normal tint. In all the cases of simple pancreatitis and obstruction, even those with absolutely white stools, stercobilin has been found. Occasionally only traces have been met with, but usually a well-marked reaction has been obtained. Of thirteen cases diagnosed as malignant disease of the pancreas ten showed no stercobilin, even when a considerable quantity of the faeces were submitted to examination, and three gave only a slight reaction.

These results suggest, I think, that a chemical examination of the faeces may often be of assistance in arriving at a correct diagnosis in cases of jaundice or suspected pancreatic disease. But I do not wish it to be thought that I am contending that an investigation of the faeces, or even of the faeces and urine together, will invariably enable a correct conclusion to be arrived at. I do believe, however—and I speak from a somewhat extensive experience—that when the analysis of the excreta is carefully performed by a competent

and experienced observer the results, when considered in conjunction with the clinical symptoms, may very materially aid in the diagnosis of an exceedingly difficult class of cases.

A RAPID AND SIMPLE PROCESS FOR THE ESTIMATION OF URIC ACID.

By A. F. Dimmock, M.D. (Harrogate) and F. W. Branson, F.I.C., F.C.S.

The method devised by the authors consists in taking 100 c.cm. of urine and adding to it 1 gram of lithium carbonate (L_2CO_3) after boiling in a conical flask (Erlenmeyer) of about 300 c.cm. capacity for three minutes, the liquid is filtered whilst hot to remove the precipitated earthy phosphate, etc., which are washed with a little distilled water until the filtrate measures exactly 100 c.cm. To 50 c.cm. of the filtrate, which contains uric acid as lithium urate, 5 grams of ammonium chloride are added, shaking the liquid until dissolved. After three minutes the contents of the flask are warmed to 120° F., so as to secure a uniform aggregation of the precipitated ammonium urate. The whole is now poured into a tube graduated in parts per thousand of uric acid and deposition allowed to take place, the reading being taken after four hours have elapsed.

DIPHTHEROID ORGANISMS IN THE THROATS OF THE INSANE.

BY

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(From the Laboratory, Colney Hatch Asylum, and the Bacteriological Laboratories of Guy's Hospital.)

The pathological investigation of insanity in the past has chiefly had for its aim the determination of the histological changes caused by attacks of mental disorder. The results of such investigations have been many and important, but it cannot, we think, be claimed that these results have placed the clinician of to-day in a very much more favourable position than his *confrère* of twenty years ago.

But had the workers in the domain of general pathology been content to rest satisfied with the results obtained by histological methods alone, it is plain that most of the modern methods at the disposal of the progressive physician would have remained undiscovered. It is, therefore, not only reasonable but absolutely imperative, that every new means for pathological research should be adopted by those whose particular work it is to investigate the etiology of mental diseases.

In the past we have been accustomed to think of insanity as a spontaneous breakdown of the nervous system due, for the most part, to a bad nervous heredity; and so it may be, but until we can assert without fear of contradiction that all the causes of the great bulk of insanity have been sought out and classed as unavoidable it is the bounden duty of investigators to seek in every reasonable direction for causes which may be avoidable or removable.

Those, therefore, who are seeking by bacteriological or chemico pathological means to discover a bacterial or toxic exciting cause for these diseases, occupy an unassailable position, and the work of Dr. Ford Robertson (with which we are at the moment concerned) entitles him to a place amongst the foremost of investigators pursuing this line of research. Dr. Robertson's many recent papers have pointed to the idea that a member of the diphtheria group of organisms—possibly the Klebs-Loeffler bacillus itself—may play an important part in the production of a great class of insanity—namely, general paralysis of the insane. His hypothesis is, we gather, that by syphilis, and perhaps other diseases, the defensive powers of the organism are so reduced in certain directions that the individual falls a prey to the destructive action of the diphtheroid organism, which, he contends, is almost constantly associated with this class of insanity; and, further, that it is this organism or its toxin which gives the paralytic aspect to the disease.

On the other hand, he recognizes that this bacillus is also present in the throats and other tissues of cases of insanity not having a paralytic character. That these cases do not show paralytic symptoms is probably due, he explains, to the fact that the defensive powers have not been reduced by preceding attacks of syphilis, etc. This, we believe, fairly states Dr. Ford Robertson's position.

Object of the Present Investigation.

This hypothesis by its novelty, combined with the weight of the carefully-thought-out arguments Dr. Robertson brings to bear upon it, is an extremely attractive one, and the issues involved are far reaching and important. We therefore determined to investigate the conditions that obtain in some of the large asylums south of the Tweed, with special reference to the relative frequency of the presence of a diphtheroid organism in the throats of the insane, and particularly of general paralytics; and, further, to examine such fluids and tissues as were easily obtained from the cadaver of the general paralytic at the *post-mortem* inspection, with a view to the detection of diphtheroid organisms.

The investigation appeared to us to be eminently desirable in view of the possibility that the facts hitherto observed might not warrant the inferences drawn from them. We hoped that our inquiry might throw some light on the question of whether Dr. Ford Robertson had to do with a "local infection" in the asylum from which he drew his material, or whether his results in this particular held good in the case of other asylums.

In the course of our investigations we have examined 138 living cases and material from 33 *post mortem* inspections, with a great amount of care, and have subjected those organisms which we were able to isolate to fairly critical tests. Our material has been drawn from two asylums—the one, the London County Asylum at Colney Hatch, an old-established institution; the other, the London County Asylum at Claybury, a comparatively new one. The *post-mortem* material was obtained exclusively from Colney Hatch Asylum during a period of three months ending December 31st, 1903.

And in this connexion we wish to express our thanks to Dr. Mott, F.R.S., at whose instigation the investigation was undertaken, and to whom the writers are indebted for much valuable advice and criticism. Also to Drs. Seward and Jones, the medical superintendents of the Colney Hatch and Claybury Asylums respectively, as well as to the medical staffs of those institutions for so freely placing clinical material at our disposal.

Historical.

As a preliminary, we deemed it advisable to ascertain the opinion of others as to the degree of frequency with which "diphtheroid" organisms could be detected in the throats of normal individuals under varying conditions. With this aim in view we have referred to a number of papers by different workers which appear to bear upon the question, and which have been published during the last decade—for we considered that by restricting ourselves to comparatively recent literature we should be able to include results in which attempts had been made to differentiate between the B. diphtheriae of Klebs and Loeffler on the one hand, and other members of that large class of organisms (including the bacillus of Hoffmann) loosely grouped under the term "pseudo-diphtheria bacillus" on the other.

Table I.—*The Incidence of B. Diphtheriae in the Normal Throat.*

	Name	Total Number Investigated	Number of Contacts.	Number of Non-contacts	Percentage K.L.B. in Contacts.	Percentage K.L.B. in Non-contacts	Percentage Hoffmann's Contacts	Percentage Hoffmann's Non-contacts.
1	Cobbett, Louis	650	650	—	10.0	—	23.0	
2	Berry and Washbourn	118	118	—	14.4	—	19.4	
3	Goadby	6·6	585	100	12.4	18.00	16.0	16.0
4	Kober	723	133	590	84.0	15.00	—	
5	Massac. Board of Health ..	4,950	—	—	—	3.00	—	
6	Meade, Bolton	914	914	—	45.0	—	—	—
7	Million	100	—	100	—	6.00	—	
8	Parke and Beebe	378	48	330	50.0	9.77	—	7.2
	Total	7,119	1,749	1,190	47.4	10.10	19.4	11.6

The results of our search when averaged showed that the true diphtheria bacillus may be isolated, by suitable means, from the throats of nearly 7 per cent. of the presumably healthy population. On the other hand it is found, when

examining the throats of "contacts" that this percentage rises to 33 or more. The authors consulted and the various figures obtained in this connexion may be conveniently analysed in the accompanying tabular synopsis (Table I).

With this we must contrast some figures compiled from Dr. Ford Robertson's papers, from which it will be seen that diphtheroid organisms were obtained from 85 per cent. of a total of 20 general paralytics examined. Of these diphtheroid organisms we gather that he considered all were true diphtheria bacilli. A percentage incidence such as this, if it can be shown to hold good generally, certainly affords grounds for the assumption that the association of general paralysis and the Klebs-Loeffler bacillus is not a mere coincidence.

Technique Adopted.

(*a*) *Material obtained during Life.*—The methods we employed for obtaining and examining our specimens may be referred to in some detail, for so much of the value of observations of this character depends upon matters of technique.

The apparatus employed for the collection of material from the throat consisted of a simple "swab" similar to that used by one of the writers for cases of suspected diphtheria for many years past. This is prepared by twisting a small piece of cotton-wool around one end of a short metal rod and placing this, wool downwards, in a clean test tube. The tube is plugged with cotton-wool, and the whole placed in a hot-air sterilizer at 150° C. for an hour to ensure complete sterilization.

In collecting the material a swab was removed from its tube and the cotton-wool-covered end pressed firmly against several different points of the fauces (special attention being directed to the surface of the tonsils, and particularly to any purulent collections in tonsillar crypts) and of the back of the pharynx, rotating the metal rod at the same time between the thumb and forefinger. The swab was then replaced in the tube and the latter replugged and labelled.

Attention was also directed to carious teeth and swabbings made therefrom, but care was taken to prevent contact between the swab and either the tongue, palate, or the inner side of the cheeks.

The next step was to inoculate culture tubes (containing blood serum inspissated in the slanting position) "in series," by rubbing the swab firmly all over the sloped surface of the medium in a first tube; passing a sterile platinum loop over the inseminated surface of the serum in this tube, and with the material collected in the loop inoculating the surface of the medium in a second, and, finally, a third tube. By following this procedure, a large number of the organisms in the throat are rubbed on to the surface of the serum in the first tube; by means of the loop a few of all these organisms are conveyed to the second tube, and still fewer to the third tube. The tubes were then incubated at a temperature of 37° C. overnight, and examined early next morning—a period of about twelve to sixteen hours, never more than eighteen hours.

After incubation, the resulting growth on the first tube was usually a fairly even, moist layer over the surface of the medium, in which no discrete colonies could be distinguished. In the second tube the growth was decidedly less luxuriant, and some separate colonies were frequently apparent. In the third tube, however, the growth was always sparse, and consisted of discrete, scattered colonies from which subcultures could easily be made.

Coverslip films were then made from the abundant growth in No. 1 tube, a loopful of organisms being obtained by drawing the loop along the whole length of the sloped surface of the serum. These film preparations were then stained by carbolic methylene blue (thoroughly matured) and by Neisser's method, and examined microscopically, using the 1/12 in. oil immersion objective. At the commencement of the work we also examined film preparations made direct from the swab and stained by similar methods. We soon, however, discontinued this form of examination, for, like preparations direct from swabbings of suspected diphtherial throats, the results obtained were by no means commensurate with the trouble and labour involved. In the Neisser-stained preparations the films were exposed to the action respectively of the acid methylene-blue solution and the bismark-brown solution for considerably longer periods than the few seconds originally suggested. This prolongation of the staining process was early recognized as necessary by Neisser himself, and has been generally adopted in this country. Beaton, Caiger, and Pakes, in a paper dealing with the examination of throat material, have suggested a two-minutes' immersion in each staining fluid, and this was the modification of the original method we employed in our work.

The detection, when present, of bacilli belonging to the diphtheria group, in which we include B. diphtheriae (Klebs-Loeffler bacillus), B. xerosis, B. Hoffmanni, B. segmentosus coryzae, and other unnamed but allied species, by microscopical examination presented but little difficulty in that the writers have had considerable experience in the microscopical examination of cultivations from swabbings taken from cases of suspected diphtheria—an experience, in the case of one of us, extending to over 20 000 such examinations during a period of more than ten years.

The organisms detected microscopically were further differentiated into Klebs-Loeffler bacilli, Hoffmann's bacilli, and diphtheroids (that is, some one or other of the remaining members of the group), and the complete diagnosis recorded. In only one instance has it been found necessary, after fully working out the life-history of the bacillus in question, to alter the diagnosis first made. The one exception relates to the bacillus isolated from the throat of Stewart, and which, after a complete study, was found to be identical with the non-pathogenic bacillus isolated from a specimen of cow's milk, some years ago, by one of the present writers.

And we may here remark that the differential diagnosis of these diphtheroid bacilli was invariably made on the result of the examination of the methylene-blue stained specimen derived from the blood-serum cultivation, as we are of opinion that the Neisser-stained specimens afford no information beyond that given more obviously and conclusively by the methylene-blue preparation. The value of Neisser's stain, moreover, is detracted from by the fact that quite 50 per cent. of the strains of diphtheroid bacilli other than the true diphtheria bacillus will, when examined under the conditions laid down as to age, medium, etc., show polar granules identical in appearance and situation with those originally considered as pathognomonic of the Klebs-Loeffler bacillus (see also Table VII).

Then, too, the streptococcus longus—a common inhabitant of the throat—and especially that rapidly-dividing form often met with, and dignified by some observers by the title "bacillary" form, will occasionally give appearances indistinguishable from those presented by the Klebs-Loeffler bacillus, and these examples might easily be multiplied. On the other hand, species of B. diphtheriae are often met with, which, although typical as to morphology, cultural characters, bio-chemical reactions, and pathogenesis, fail to show the "Neisser's stain," even in the culture first obtained from the human body. The application of Neisser's method as an aid to diagnosis has had a somewhat fictitious value attached to it as the result of the observations of Beaton, Caiger, and Pakes, already referred to, in that they used this method only and their results were not controlled by a competent observer working only with methylene-blue stained specimens, except in 40 of their cases, and further that all the cases examined were cases admitted to the hospital and under treatment there for diphtheria. Again, we are inclined to think that many of the 25 cases recorded as diphtheria clinically, but in which they were unable to detect B. diphtheriae by the aid of Neisser's method, would probably have given positive results if "methylene-blue" specimens had been prepared as well. This opinion is based on the results obtained in the Bacteriological Department of Guy's Hospital, which show that fully 20 per cent. of the strains of true B. diphtheriae do not give a positive result with Neisser's method, although typical culturally and in point of virulence.

Mervyn Gordon, too, lays great stress on the differential value of the Neisser staining of bacilli isolated from the throat: but the observations on which he bases his conclusions are too few to need any comment.

Next, in those cases where a diphtheroid organism was recognized an attempt was made to isolate it. Occasionally our efforts in this direction failed owing to the small number of this organism, and the enormous number of other organisms present in the specimens. In those cases where no diphtheroid organisms could be detected after examining numerous methylene-blue films in this way from the first tube of the series, the second tube was subjected to the same process.

Whenever a diphtheroid organism was detected microscopically in the films, a careful search was made in the second and third tubes—where the growth was naturally less profuse—for isolated colonies, or for spots where the diphtheroid organism was relatively abundant. Occasionally a pure colony was found; when this happened it was transferred to a fresh

serum tube and a pure culture thus obtained. In other cases the organism sought was so mixed up with others that it was necessary to use plate cultivations in order to obtain a pure culture, and for this purpose the following method was adopted: A loopful from the most likely spot on the serum tube cultivation (as tested microscopically) was emulsified in 5 c.cm. of sterile broth, and two or three loopfuls of this emulsion were then rubbed over the surface of a "serum" plate (that is, about 15 c.cm. bullock's serum, inspissated at 80° C. in an ordinary petrie dish) by means of the short arm of a previously sterilized L-shaped glass rod. Without recharging or further sterilizing, this rod was immediately rubbed over the surface of a second and then a third plate. The few organisms adhering to the rod after rubbing the loopful of broth over the surface of the first plate were thus deposited on these latter plates, and after incubation in the ordinary way usually yielded a scanty growth of discrete colonies among which pure colonies of the diphtheroid organisms were sought.

Pure cultures having been obtained by one or other of the methods described above, the bacilli thus isolated were fully studied in parallel series with authenticated controls of the three chief members of the diphtheria group—namely, B. diphtheriae (two varieties), B. Hoffmanni, and B. xerosis—as to their (1) morphological characters, (2) staining reactions, (3) cultural appearances and chemical activities, and (4) pathogenesis, and their identity finally established after a careful consideration of all these points.

With regard to the first of these—the morphological appearances—we have already expressed the opinion that these are sufficiently characteristic to warrant a correct diagnosis in the majority of cases if specimens are prepared from eighteen-hour old blood serum cultivations and stained with thoroughly matured carbolic methylene blue. At the same time we sought further confirmation from the examination of microscopical preparations made from cultivations upon other media. Of such preparations, those made from cultures on alkaline potato incubated for thirty hours at 37° C were undoubtedly the most helpful; for on this medium the presence of enormous clubbed forms, either evenly or faintly stained or showing bars of deeply-stained protoplasm, readily differentiates the true diphtheria bacillus from the bacillus of Hoffmann and other members of the diphtheria group whose growth on this medium is characterized by oval and spherical involution forms and coccoid bodies—clubbed and segmented forms, except small and ill-defined ones, being conspicuous only by their absence. The xerosis bacillus, be it noted, shows but a very scanty growth on alkaline potato, and even this scanty growth soon dies out.

The recent observations of Abbott and Gildersleeve on the occasional branching of the B diphtheriae as distinguished from the non-pathogenic members of the group led us to hope that some assistance might be gained by studying the morphology of the bacilli we had isolated when cultivated for eight hours at 37° C. upon acid (+30) egg medium. In this hope, however, we were disappointed, as we were unable to obtain branched forms in any of the cultivations—not even in our control cultures prepared with virulent strains of B. diphtheriae.

Finally, in some cases in which we failed to detect a diphtheroid bacillus, one and often more fresh swabbings were made and examined as thoroughly as in the first instance.

(*b*) *Material obtained Post Mortem*.—At the *post-mortem* inspection of the bodies of general paralytics some of, and often all, the material detailed below was collected for examination, and generally in the order there given. The methods of examining the cultures prepared from this material corresponded exactly with those already described. In the event of some of the cultures failing to develop a growth, the period of observation was extended from eighteen hours to seven days before being recorded as sterile.

1. *Cerebro-spinal Fluid*. The skin of the dorsum over the lumbar vertebrae was seared with a red-hot cautery iron, and as much cerebro-spinal fluid as possible (up to 5 cubic centimetres) was drawn off by means of "lumbar puncture" into a sterile syringe. The syringe was then detached from the needle and the cerebro-spinal fluid transferred to a sterile test tube. The fluid was first reinforced by incubating at 37° C. for twelve to eighteen hours, then thoroughly centrifugalized, and cultivations prepared upon inspissated blood serum, nutrient agar, and in broth from the centrifugalized deposit, after a preliminary microscopical examination.

2. *Swabbings from the Pharynx*.—These were obtained and examined in a manner precisely identical with the swabbings collected from the fauces during life.

3. *Heart Blood*.—As soon as the thorax was opened an incision was made in the pericardium and the surface of the right ventricle, or occasionally the right auricle laid bare. This surface was then seared with the cautery iron, and the point of a sterile Pasteur pipette thrust through the seared area into the heart cavity, and a small quantity of blood (2 to 3 cubic centimetres) aspirated into the pipette. From the blood so collected cultivations were established in broth, and on agar, and inspissated blood serum.

4. *Swabbings from Bronchi*.—The lungs were removed from the body and separated from the heart. A section across one or other lung, often both, was then made at a convenient spot, and a swab, such as was employed in the collection of material from the throat, was passed into an open bronchus (avoiding contact with the cut surface of the lung) and pushed onwards, gently rotating it meanwhile, as far as it would go. It was then carefully withdrawn, returned to its sterile tube, and the latter labelled. The further steps of the examination were precisely as described for material from the throat and pharynx.

5. *Bile*.—When the abdominal cavity was opened the gall bladder was sought for and drawn forward from under the edge of the liver. The exposed surface of the bladder was seared with the cautery iron, the point of a sterile Pasteur pipette thrust into the bladder through the seared area, and a few cubic centimetres of bile aspirated into the pipette. After collection, the examination of the material was proceeded with as described under heart blood.

6 *Scrapings from the Mucous Membrane of the Intestine*.—The apparatus used for collecting the material consisted of a small tin scoop mounted in an ordinary cork. This cork was used to close the mouth of a test tube in such a manner that the scoop was enclosed in the tube. The whole piece of apparatus was then prepared for use by sterilizing in the hot-air oven for half an hour at 150° C.

The caecum was found and drawn forward, the peritoneal surface of the intestine just above the caecum seared with the cautery iron, and an incision made through the walls of the intestine within the seared area by means of a sterile knife. The cork, with its attached scoop, was removed from a test tube, the scoop passed into the cavity of the bowel through the incision in the intestinal wall, and the mucous membrane thoroughly scraped. The scoop was then removed, and, with the material scraped from the bowel in its bowl, replaced in the tube.

Cultivations were established directly from the scrapings, upon inspissated blood serum and agar, by means of a platinum loop.

Results Obtained from Examinations of the Throat during Life.

The number of cases examined totalled up to 138, and comprised 60 cases of general paralysis of the insane and 78 cases of other forms of insanity. Of these cases, Colney Hatch Asylum provided 88, 49 general paralysis and 39 other forms of insanity; and Claybury Asylum 50 cases, made up of 11 cases of general paralysis and 39 other forms of insanity, as shown in Table II.:

TABLE II.—*Source and Condition of the Patients Examined.*

Asylum.	General Paralysis of the Insane.	Other Forms of Insanity.	Total all Forms of Insanity.
Colney Hatch ..	49	39	88
Claybury... ..	11	39	50
Total... ..	60	78	138

Of these 138 cases, 24 gave positive results—that is, we were able to detect the presence of a diphtheroid organism in 24 of this total, or 17·3 per cent. Unfortunately, owing to a variety of causes, we were able to isolate the organism from 15 only of these positive cases; in the remaining 9 cases the differential diagnosis between B. diphtheriae and other members of the diphtheria group had to be based upon microscopical appearances alone. Even in these cases, however, we believe—for the reasons previously given—the margin of error to be extremely small. Assuming our results to be correct, we noted the presence of the B. diphtheriae in 7 of these 24 posi-

tive cases (or 5.07 per cent.), the "diphtheroids" present in the remaining 17 cases being B. Hoffmanni 14 times, B. xerosis twice, and an unnamed pigmented species once.

Tables III. IV, V, and VI give the results we obtained dissected and tabulated to show:

1. The incidence of diphtheroid organisms in the throats of the insane.
2. The incidence of B. diphtheriae in the throats of the insane.
3. The incidence of B. Hoffmanni in the throats of the insane.
4. The incidence of diphtheroid organisms (excluding B. diphtheriae and B. Hoffmanni) in the throats of the insane.

TABLE III.—*Showing the Occurrence of Diphtheroid Organisms in the Throats of the Insane.*

Source.	Cases of G.P.I. Examined.	Diphtheroid Organisms Found.	Percentage Incidence.	Cases of Insanity, other than General Paralysis, Examined.	Diphtheroid Organisms Found.	Percentage Incidence.
Colney Hatch ..	49	9	18.3	39	9	23.0
Claybury	11	1	9.9	39	5	12.8
Total	60	10	16.6	78	14	17.9

TABLE IV.—*Showing the Occurrence of B. Diphtheriae in the Throats of the Insane.*

Source.	Cases of G.P.I. Examined.	B. Diphtheriae Found.	Percentage Incidence.	Cases of Insanity, other than General Paralysis, Examined.	B. Diphtheriae Found.	Percentage Incidence.
Colney Hatch ..	49	2	4.08	39	2	5.1
Claybury	11	1	9.00	39	2	5.1

TABLE V.—*Showing the Occurrence of B. Hoffmanni in the Throats of the Insane.*

Source.	Cases of G.P.I. Examined.	B. Hoffmanni Found.	Percentage Incidence.	Cases of Insanity, other than General Paralysis, Examined.	B. Hoffmanni Found.	Percentage Incidence.
Colney Hatch ..	49	5	10.2	39	6	15.3
Claybury	11	0	0	39	3	5.1

TABLE VI.—*Showing the Incidence of Diphtheroids (Excluding B. Diphtheriae and B. Hoffmanni) in the Throats of the Insane.*

Source.	Cases of G.P.I. Examined.	Diphtheroids Found.	Percentage Incidence.	Cases of Insanity, other than General Paralysis, Examined.	Diphtheroids Found.	Percentage Incidence.
Colney Hatch ..	49	2	4.08	39	1	2.5
Claybury	11	0	—	39	0	—

In Table VII we have shown the particular patients, together with the mental condition of each, from whose throats we have isolated "diphtheroid" organisms, divided into two sections according to the asylum from which they were derived. The further particulars given refer to the differential diagnosis of the organisms, based on the result of the microscopical examination of methylene-blue stained specimens, and show also the result of the examination of Neisser stained preparations, the sign + indicating that polar granules, indistinguishable from those characteristic of the B. diphtheriae, are present (see Neisser); the sign − indicating that polar granules are absent; whilst the sign ± indicates the presence of atypical granules.

TABLE VII.

Asylum.	Name.	Mental Condition	Methylene-Blue Preparation Diagnosis.	Neisser Preparation, Positive or Negative.
Colney Hatch	Abbott	—	B. Hoffmanni	+
,,	Abrams	—	B. diphtheriae	+
,,	Baker	G. P. I.	B Hoffmanni	−
,,	Denny	G. P. I.	B Hoffmanni	+
,,	Galgaard	G. P. I.	B xerosis	+
,,	Haszell	—	B. Hoffmanni	±
,,	Hollinghurst	—	B. Hoffmanni	−
,,	Kirkby	—	B. Hoffmanni	−
,,	Leahay	—	B xerosis	±
,,	Moore	—	B. Hoffmanni	−
,,	Rummery	—	B. diphtheriae	−
,,	Smith	—	B. Hoffmanni	−
,,	Solomons	G. P. I.	B. Hoffmanni	+
,,	Stewart	G. P. I.	B diphtheriae	+
,,	Taylor	—	B. diphtheriae	+
,,	Vail	G. P. I.	B. Hoffmanni	−
,,	Wright, R.	G. P. I.	B. diphtheriae	+
,,	Wright, W.	G. P. I.	B. Hoffmanni	−
Claybury	8	G. P. I.	B. diphtheriae	+
,,	23	—	B. diphtheriae	+
,,	45	—	B. diphtheriae	+
,,	46	—	B. Hoffmanni	−
,,	49	—	B. Hoffmanni	−
,,	50	—	B. Hoffmanni	−

Results Obtained from the Examination of Post-mortem Material.

The total number of cases examined *post mortem* in this connexion amounted to 36. These were all derived from the London County Asylum at Colney Hatch, and comprised 10 cases of general paralysis of the insane and 26 cases of other forms of insanity. Of these, 4 of the cases of general paralysis yielded evidence of the presence of diphtheroid organisms in the respiratory tract, but only 1 showed evidence of any general, and that probably terminal, infection. Of the remaining 5 cases, 1 (W. W.) whose throat had been examined about a month before death with positive results failed to give any evidence *post mortem* of the presence of diphtheroid organisms within the body. Of the 26 cases of forms of insanity other than general paralysis, 4 gave evidence of the presence of diphtheroid organisms in the respiratory tract, none of general infection.

TABLE VIII.

	No. of Cases Examined	Diphtheroid Bacilli found in the Respiratory Tract.	Percentage.	Diphtheroid Bacilli found in other Situation as well	B. Diphtheriae found in any Situation.
General paralysis of the insane	10	4	40.0	1	0
Cases of insanity other than general paralysis of the insane	26	4	15.3	0	0

The full details of the *post-mortem* material examined from the cases of general paralysis and the results obtained are shown in tabular form in Table IX.

In Tables X and XI are given the chief characters of the strains of diphtheroid bacilli which were isolated during the course of this investigation, contrasted with authentic stock cultivations of B. diphtheriae, B Hoffmanni, and B. xerosis. Finally, the pathogenicity of most of these strains of diphtheroid bacilli, isolated from the cases we examined, was tested in the following manner:

Experiment 1.—One loopful (about 2 mg.) of a forty-eight-hour-old blood serum culture was emulsified in 1 c.cm. sterile broth and injected into the subcutaneous tissue of the abdomen of a small (250 gram) guinea-pig.

Experiment 2.—A similar dose was injected into a second guinea-pig

TABLE IX.—*Results of Examination of Post-Mortem Material from General Paralytics.*

Source.	Name.	Diphtheroid Organisms Noted.			Organisms Isolated from—			
		Swabbing of Tonsils during Life.	Swabbing of Pharynx.	Swabbing of Bronchus.	Cerebro-Spinal Fluid.	Heart Blood.	Bile.	Scraping from Intestinal Mucosa.
1	C. B., October 3, 1903	o	+	+	Sterile	B. coli	Sterile	—
2	M. G., December 8, 1903	o	+	—	Sterile	Sterile	B. coli	—
3	R. B., December 7, 1903	+	o	—	Staphylococcus aureus	o	B. coli	—
4	G. C., September 23, 1903	o	o	—	Staphylococcus albus and aureus	o	Sterile	1 colon, 2 caecum, 3 ileum —
5	J. F., November 9, 1903	o	—	—	Sterile	B. coli	Sterile	—
6	E. H., January 25, 1904	o	—	—	Staphylococcus aureus	Staphylococcus aureus	Sterile	—
7	R. L., January 18, 1904	o	—	—	Staphylococcus albus	Sterile	Sterile	—
8	J. S., November 22, 1903	+	+	+	o	B. coli	B. coli	—
9	G. H. V., October 6, 1903	+	+	+	B C.C.	+	Sterile	+
10	W. W., December 12, 1903	+	o	—	Staphylococcus aureus	Sterile	o	—

+ Indicates a positive result. — Indicates a negative result. o Signifies that this material was not examined.

TABLE X.—*Morphology and Staining Reactions of Diphtheroid Organisms Isolated.*

Number.	Name or Designation of Bacillus.	Source.	Morphology on Blood Serum after 12-18 Hours' Incubation at 35° C. and Stained Carbolic Methylene Blue.	"Gram" Staining.	"Neisser" Staining.	Branching on Acid Egg Media at 8 Hours.	Morphology on Alkaline Potato after 24 Hours' at 37° C. C.M.B.	Diagnosis.	Mental Condition of Patient.
Controls.	B. diphtheriae (Powys)	Discharge from case of diphtheritic rhinitis	Straight or slightly-curved rods 2μ or 3μ—6μ long by 0·5μ—1μ broad, ends rounded, frequently one or both slightly swollen; cell protoplasm aggregated into two, three, or more darkly-staining masses, sometimes showing meta-chromatism	+	—	Nil.	Large involution forms, showing marked clubbing and segmentation of protoplasm, and exhibiting meta-chromatism	B. diphtheriae	Sane.
	B. diphtheriae (Wood)	Discharge from ear in case of faucial diphtheria	Straight or very slightly-curved rod, tapering to a fine point at either end; size as above; cell protoplasm aggregated into a lozenge-shaped mass in the centre and separated from the tapering sheath by a narrow unstained interval	+	+	,,	Ditto	B. diphtheriae, var. sheath	,,
	B. Hoffmanni	Laboratory stock. Originally isolated from discharge of post diphtheritic rhinorrhoea	Short wedge-shaped cylindrical or oval bacillus 0·8μ—1·5μ in length by 0·3μ—0·5μ broad. Ends both rounded or one rounded and the other tapering to a point. Parallel arrangement of individuals. Usually stains evenly	+	—	,,	Short bacilli and coccoid bodies, some slightly pear-shaped. No clubbed or large barred forms	B. Hoffmanni	
	B. xerosis	Laboratory stock. Originally isolated from normal conjunctival sac	As B. diphtheriae (Powys) above	+	+	,,	As B. Hoffmanni, above	B. xerosis	
1	Abbott	Swabbing from pharynx	As B. Hoffmanni	+	+	,,	As B. Hoffmanni	B. Hoffmanni	—
2	Abrams ..	,,	As B. diphtheriae	+	+	,,	As B. diphtheriae	B. diphtheriae	—
3	Denny	,,	As B. Hoffmanni	+	+	,,	As B. Hoffmanni	B. Hoffmanni	G.P.I.
4	Galgaard .	,,	As B. xerosis	+	+	,,	As B. Hoffmanni	B. xerosis	G.P.I.
5	Haszell	,,	As B. Hoffmanni	+	±	,,	As B Hoffmanni	B. Hoffmanni	—
6	Hollinghurst	,,	As B. diphtheriae	+	-	,,	As B. Hoffmanni	B. xerosis	—
7	Loshay	,,	As B. Hoffmanni	+	±	,,	As B. Hoffmanni	B. Hoffmanni	—
8	Rummery ..	,,	As B. diphtheriae	+	-	,,	As B diphtheriae	B. diphtheriae	—
9	Steward ..	,,	As B. diphtheriae	+	+	,,	As B. Hoffmanni	"Diphtheroid 1"	G.P.I.
10	Taylor	,,	As B. diphtheriae	+	-	,,	As B. diphtheriae	B diphtheriae	—
11	Vail	,,	As B. Hoffmanni	+	-	,,	As B. Hoffmanni	B. Hoffmanni	G.P.I.
12	Wright, R. ..	,,	As B. diphtheriae	+	+	,,	As B. diphtheriae	B. diphtheriae	G.P.I.
13	Wright, W. ..	,,	As B. Hoffmanni	+	-	,,	As B. Hoffmanni	B. Hoffmanni	G.P.I.
14	6	,,	As B. diphtheriae	+	+	,,	As B. diphtheriae	B. diphtheriae, var. "sheath"	G.P.I.
15	30	,,	As B. Hoffmanni	+	—	,,	As B. Hoffmanni	B. Hoffmanni	—

+ = positive result. - = negative result. ± = positive but atypical result.

and immediately followed by the introduction of 500 units of anti-diphtheritic serum.

None of the guinea-pigs showed any ill effects, either local or general, as the result of the inoculations.

Note.—Three of the animals used in these experiments died during the third week after inoculation, at which time peat moss litter was substituted for hay in their cages. *Post mortem* no evidence of infection by B. diphtheriae could be detected. The intestines were enormously distended with macerated peat moss, and were ruptured in many places, the peat moss being found in the peritoneal cavity.

Experiment 3.—Possible toxin production was tested by filtering a three-day-old broth culture through a porcelain candle, and injecting 5 c.cm. of the filtrate so obtained into a guinea-pig of about 200 grams weight.

The animals so treated showed no symptoms whatever. Control animals inoculated under identical conditions with cultivations of true B. diphtheriae (strains "Powys" and "Wood") and toxins obtained therefrom gave positive results.

Bearing in mind the possibility that the organisms isolated from the throats of the insane might be B. diphtheriae of extremely low viru-

TABLE XI.—*Biological Characters of Diphtheroid Organisms Isolated.*

Number.	Name or Designation.	Blood serum Culture at 24 hours.	Agar Streak Culture at 24 Hours.	Gelatine Streak Culture at 3 Days.	Gelatine Stab Culture at 3 Days.	Alkaline Potato.	Glucose Formate Broth Culture. Anaërobic at 24 Hours.	Litmus Milk Culture at 3 days. Reaction.	Litmus Milk Culture at 3 days. Clot.	1·5 per cent. Dextrose Broth Culture at 48 hours. Reaction.	Lead Broth Culture for Presence of H_2S.	Peptone Water Culture for Presence of Indol.	Pigment Formation.	Nitrate Broth for Presence of Nitrites.
Controls	B. diphtheriae (Wood, Powys)	Small round pulvinate colonies, whitish or dirty-grey in colour, opaque, darker at centre, coarsely granular surface, entire margin	Generally as on blood serum, but translucent or continuous dull whitish layer showing discrete colonies at the margins	As on agar but distinctly scantier growth	Line of small spherical colonies to bottom of needle track	Delicate, moist, glistening layer, so-called "invisible" growth	Flocculent or powdery growth deposited on sloping side of tube, or slipping to the bottom	−	−	+	+	−	Nil	+
	B. Hoffmanni	,,	,,	,,	,,	,,	,,	−	−	o	+	±	--	+
	B. xerosis (subcultures)	As B. diphtheriae but drier and scaly	,,	Scanty growth as opalescent streak	Scanty growth	Very scanty "invisible" growth; bacillus soon dies on this medium	,,	−	−	−	+	+	−	+
1	Abbott	As B. diphtheriae	,,	,,	,,	,,	,,	−	−	o	+	+	−	+
2	Abrams	,,	,,	,,	,,	,,	,,	+	−	+	+	+	−	+
3	Denny	,,	,,	,,	,,	,,	,,	−	−	o	±	−	−	−
4	Galgaard	,,	,,	,,	,,	Dirty greyish layer, very limited in extent	,,	−	−	o	+	±	−	−
5	Haszell	,,	,,	,,	,,	"Invisible" growth	,,	o	−	±	+	−	−	+
6	Hollinghurst ..	,,	,,	,,	,,	Very scanty "invisible" growth	,,	−	−	o	±	−	−	+
7	Leahay	,,	,,	,,	,,	"Invisible" growth	,,	o	−	+	+	−	-	−
8	Rummery	,,	,,	,,	,,	,,		+	−	+	+	+	−	+
9	Steward	As B. diphtheriae, but yellowish colonies	,,	,,	,,	Moist, dull, yellow layer, soon becoming dry and powdery	As B. diphtheriae, but very scanty growth	o	−	o	±	−	Yellow	+
10	Taylor	,,	,,	,,	,,	,,		+	−	o	+	+	--	+
11	Vall	As B. diphtheriae	,,	,,	,,	"Invisible" growth	,,	−	−	−	±	−	−	−
12	Wright, R.... ..	,,	,,	,,	,,	,,	,,	+	−	+	±	+	--	+
13	Wright, W. ..	,,	,,	,,	,,	,,	,,	o	−	o	+	−	−	+
14	8	,,	,,	,,	,,	,,	,,	+	−	+	+	+	−	+
15	50	,,	,,	,,	,,	,,	,,	−	−	o	±	±		+

+ = acid reaction, or presence of substance tested for. − = alkaline reaction, or absence of substance tested for.
± = faintly acid reaction, or traces of substance tested for. o = no change.

TABLE XII.

Guinea-pig No.	Weight in Grams	Inoculated with "Diphtheroid" bacillus from	Dose of Diphtheria Antitoxin (S.I.F.M.)	Date of Inoculation	Result.
1	140	Abbott	*Nil*	Dec. 10, 1903	Unaffected.
2	130	,,	500 units	,,	,,
3	200	Abrams	*Nil*	,,	Died Dec. 27, 1903.
4	200	,,	500 units	,,	Unaffected.
5	200	Haszell	*Nil*	,,	,,
6	220	,,	500 units	,,	,,
7	170	Hollinghurst	*Nil*	,,	Died Dec. 29, 1903.
8	220	,,	500 units	,,	Unaffected.
9	190	Leahay	*Nil*	,,	,,
10	260	,,	500 units	,,	,,
11	190	Rummery	*Nil*	,,	,,
12	170	,,	500 units	,,	,,
13	180	Taylor	*Nil*	,,	,,
14	220	,,	500 units	,,	,,
15	230	Steward	*Nil*	,,	Died Dec. 27, 1903.
16	210	,,	500 units	,,	,, ,,
17	200	Wright, R.	*Nil*	,,	,, ,,
18	250	,,	500 units	,,	,, ,,
19	190	Wright, W.	*Nil*	,,	,, ,,
20	230	,,	500 units	,,	Died Dec. 26, 1903.
21	150	Denny	*Nil*	Dec. 11, 1903	Unaffected.
22	170	,,	500 units	,,	,,
23	160	"8"	*Nil*	Dec. 15, 1903	,,
24	150	,,	500 units	,,	,,
Controls.					
25	180	Powys	*Nil*	Dec. 10, 1903	Died Dec. 11, 1903.
26	220	,,	500 units	,,	Unaffected.

TABLE XIII.

Guinea-pig No.	Weight in Grams.	Inoculated with Filtered Cultures (? Toxins) of Diphtheroid bacilli from	Date of Inoculation	Result.
27	260	Abbott	Dec. 19, 1903	Unaffected.
28	210	Abrams	,,	,,
29	190	Denny	,,	,,
30	200	Hollinghurst	,,	,,
31	160	Leahay	,,	,,
32	270	Steward	,,	,,
33	210	Wright, W.	,,	,,
34	200	Wright, R.	Jan. 10, 1904	,,
35	190	Haszell	,,	,,
36	220	Taylor	,,	,,
Controls.				
37	220	Powys	,,	Died Jan. 12, 1904.
38	200	Wood	,,	,,

lence, a further set of inoculations was carried out—employing for the purpose five strains of bacilli, diagnosed microscopically as true Klebs-Loeffler bacilli, two of B. Hoffmanni, and one of B. xerosis, as follows:

Experiment 4.—3 cubic centimetres of a forty-eight-hour-old broth cultivation was injected subcutaneously into the abdominal parietes of a guinea-pig of about 250 grams weight.

Control animals were inoculated with 1 cubic centimetre of similar cultivations derived from strains "Powys" and "Wood" respectively (Table XIV).

The result of this experiment was that the animals inoculated with cultures from "Abrams" and "8" died at seventy-two and forty-eight hours respectively, the necropsies affording typical pictures of the

death from infection by B. diphtheriae. None of the other animals were affected.

The two control animals died within twenty-four hours.

From these experiments it is clear that two of the strains of B. diphtheriae isolated during our investigations were virulent, although the virulence, as indicated by the large dose required and the length of time that elapsed before death, was distinctly lowered, whilst the remaining three strains were, so far as we were able to judge, avirulent.

TABLE XIV.

Guinea pig No.	Weight in Grams.	Inoculated with Diphtheroid Bacilli from	Organism Diagnosed as	Dose of Cultivation.	Date of Inoculation.	Result.
39	300	Abbott	B. Hoffmanni	3 c.cm.	Jan. 12, 1904	Unaffected.
40	290	Abrams	B. diphtheriae	,,	,,	Died Jan. 15, '04.
41	270	Haszell	B. Hoffmanni	,,	,,	Unaffected.
42	270	Leahay	B. xerosis	,,	,,	,,
43	240	Wright, R	B. diphtheriae	,,	,,	,,
44	270	Rummery	,,	,,	,,	,,
45	290	Taylor	,,	,,	,,	,,
46	300	"S"	,,	,,	,,	Died Jan. 14, '04.
Controls.						
47	260	Powys	B. diphtheriae	1 c.cm.	,,	Died Jan. 13, '04.
48	250	Wood	,,	,,	,,	Died Jan. 13, '04.

CONCLUSIONS.

As the results of our observations we would formulate the following conclusions:

1. That the percentage incidence of all "diphtheroid" organisms in the throats of the insane (17.3 per cent.) is not in excess of that noted in the sane population (18 5 per cent.) outside the walls of an asylum.

2. That the percentage incidence of genuine B. diphtheriae (5 07 per cent.) in the throats of the insane is smaller still (a large proportion of the diphtheroid organisms noted were common saprophytic members of the diphtheria group of bacilli), and compares well with 6 9 per cent. in the healthy sane.

3. That there is no evidence to show that B. diphtheriae is more common in the throats of general paralytics (5 per cent) than in the throats of cases of other forms of insanity (5.1 per cent.).

4. That the number of general paralytics examined *post mortem* is too small to enable any definite conclusions to be drawn therefrom. At the same time it is a significant fact the B. diphtheriae was not isolated from any of these cases.

5. That the majority of the strains of B. diphtheriae isolated from the throats of the insane are of low virulence and slight toxicity, and so compare in these respects with the types found occasionally in the throats of the healthy sane.

6. That having due regard to the above conclusions, we are unable to trace any causal connexion between B. diphtheriae and general paralysis of the insane.

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Dr. MOTT said that although Dr. Eyre's results had been negative in the main, he had done a valuable piece of work; it was time that some competent bacteriologist should turn his attention to the diphtheroid organisms in relation to general paralysis. It might be that at Morningside more organisms of this type abounded. But his own experience concurred with that of Dr. Eyre; even if such an organism were found in the tissues of a general paralytic, it could not be causal. He would like to ask Dr. Eyre whether he found the diplococcus pneumoniae with any frequency in his cases; the point was of interest in view of the organism which he (the speaker) had found in the lesions of the meninges and encephalons of sleeping sickness.

CAFFEINE ENRICHMENT METHOD.

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BACTERIOLOGISTS had long searched for a medium inimical to the B. coli communis while favouring the growth of the B. typhi abdominalis when E. Roth[1] announced his discovery of the selective action of caffeine (trimethyl xanthin). He found that the enteric bacillus thrived on agar which contained 0 6 per cent caffeine, but the colon bacillus was suppressed. Twice that proportion of caffeine was necessary to arrest the development of the B. typhi abdominalis. In a later communication[2] he admitted that caffeinated agar did not fulfil all requirements for the detection of Eberth's bacillus in faeces and water, since colonies of non-pathogenic bacteria might arise which might be confused with enteric at first sight. He recommended a broth, faintly alkaline to phenolphthalein, containing 0.8 to 1 0 per cent. caffeine. He claimed to have obtained constant results with diverse races of colon and typhoid bacilli. He stated that five times as many enteric colonies grew on his agar as in Drigalski and Conradi's when inoculated with a like amount of typhoid spleen.

Hoffmann and Ficker[3] were successful in isolating the typhoid bacillus from enteric dejecta in the second and third weeks of the disease in 11 cases by employing a 0 6 per cent. caffeine broth to which had been added 0 007 per cent. crystal-violet. After thirteen hours' incubation at 37° C. it was plated on Drigalski and Conradi's agar.

The experience of subsequent observers has not been so favourable. Rietsch has shown that the greatest proportion of caffeine which could be tolerated by twenty-two strains of typhoid and four of the colon bacillus was variable, and that growths of the former were not infrequently arrested by small percentages of caffeine.

K'oumann does not place reliance on the caffeine enrichment method alone, but deems it of service when combined with the use of coloured media, such as Drigalski and Conradi's, or lactose-litmus agar. His researches indicate that it is not possible to add such a quantity of caffeine to a medium, that the colon bacillus shall be entirely suppressed, when inoculated with a mixture of B. coli communis and B typhi abdominalis.

Courmont and Lacomme[4] inoculated 1 per cent. caffeine broth with 11 strains of the enteric and 9 of the colon bacillus. No development occurred in the colon tubes nor in 4 of the typhoid. The 7 remaining enteric cultures thrived. On varying the quantity of caffeine added, they ascertained that its action on the B. coli communis is very constant, but is irregular on the B. typhi abdominalis. Some of the latter are even more sensitive than the B. coli communis.

The cultures of Eberth's bacillus which failed to grow in caffeine media were typical in every way, and did not approach the colon group in any particular. Their agglutinability was not correlated with their vitality in the presence of caffeine.

One interesting fact has been noted by them. From the blood of three patients typhoid cultures were obtained which would not live in caffeine broth. The cultures, however, derived from their urine thrived. Subcultures of the blood B typhi abdominalis up to 50 generations did not alter this character.

W. D. Horrocks[5] has observed the same peculiarity with regard to the micrococcus melitensis. He states that this microbe isolated from the urine is able to grow in broth containing 0 75—1 per cent. of caffeine, while micrococcus melitensis from the spleen does not develop in media containing more than 0.5 per cent.

This would, therefore, appear to be an ideal method of diagnosing typhoid bacilluria. Unfortunately, it is

not always successful; for, on inoculating 0.5 per cent. caffeine broth with the urine of 4 severe cases of enteric fever late in the disease, I have obtained negative results only. To explain this want of success I have experimented with 31 varieties of Eberth's bacillus. One was an old stock culture brought from England; 28 were from the spleens of cases of enteric fever which succumbed in the Military Hospital, Pretoria, during 1903-5. One was from the blood abstracted during life; one was obtained by splenic puncture intra vitam.

All these races were typical, and conformed with the text-book description. None of them fermented glucose, and therefore were not paratyphoid. Milk remained permanently uncurdled by them. Their reactions in Proskauer and Capaldi's media were normal. They were clumped by anti-typhoid serum in high dilutions. These 31 typhoid cultures were planted in 1 per cent. peptone water to which 0.5 per cent caffeine had been added. The tubes were incubated for five days at 37°, and then transplanted on agar.

No growth was obtained in 26 out of 31 typhoid strains. The caffeine tubes were sterile at the end of five days. The experiment was repeated, incubating for three days only, with a like result. Five races, including the stock laboratory, grew freely in the 0.5 per cent. caffeine peptone water.

The dejecta of 5 patients suffering from enteric fever were inoculated into 0.5 per cent. caffeine peptone water, incubated for twenty-four hours at 37°, and plated on Drigalski and Conradi's agar and ordinary agar.

The typhoid bacillus was not discovered on any of the plates. These results are analogous to Courmont and Lacomme's. They examined the stools of eight enteric patients on the tenth to the sixty-second day of the fever. No growth of Eberth's bacillus was obtained in any of the numerous plates of the caffeinated cultures.

Following Hoffmann and Ficker, I tested three water supplies during the typhoid epidemic of 1904-5. Sterile solutions of nutrose, of caffeine, and of crystal-violet were added to 900 c.cm. of the suspected water, such that the mixture contained 1 per cent. nutrose, 0.5 per cent. caffeine, 0.01 per cent. crystal violet. Plates were made after this had been incubated for twelve hours at 37° C. The typhoid bacillus was not recovered in any of the three waters.

In a control experiment, in which I inoculated the water with a minute quantity of a culture of a recently-isolated B. typhi abdominalis, no better success was met with.

Hoffmann and Ficker state that they thus succeeded in recovering Eberth's bacillus in 1½ litres of water containing 63,000 bacteria per c.cm., to which 1,600,000 colon and only 1,872 typhoid bacilli had been added.

The effect of caffeine on dysentery bacilli was tested. The dysentery cultures used were:

Shiga's bacillus; two sources,
Flexner's Newhaven dysentery bacillus,
Flexner's Manila dysentery bacillus,
Vaillard's Vincennes dysentery bacillus,
Bruce's South African dysentery bacillus,
Firth's South African dysentery bacillus,
Firth's Indian dysentery bacillus,

and eleven cultures isolated in the Army Medical Service Laboratory, Pretoria, from eleven cases of acute dysentery treated in the Military Hospital, Pretoria, 1904-5.

These strains were identical with Shiga's; mannite was not fermented by them. They were clumped in as high dilutions as Shiga's bacillus by antidysenteric serum, from a horse immunized with the latter.

All these were inoculated into 0.5 per cent. caffeine-peptone water, incubated at 37°, and examined from day to day. In none of the eighteen varieties of dysentery bacilli was growth observed.

The dejecta of five dysentery patients from which the specific bacillus was recovered were inoculated into 0.5 per cent. caffeine-peptone water. Subcultures of these, after incubation at 37° from 12 to 48 hours, never gave Shiga's bacillus, though in some the B. coli communis had survived, and appeared on the plates. It is therefore obvious that 0.5 per cent. caffeine will not always arrest the development of the B. coli communis, though this concentration uniformly restrains all the dysentery bacilli.

I have observed that the following thrive in 0.5 per cent caffeine-peptone water: Streptococci, both from the intestine and from pus; staphylococci, every variety examined; proteus, from the human intestine; B. pyocyaneus; paratyphoid b. type B. from a post-enteric abscess.

Courmont and Lacomme remark that staphylococcus pyogenes aureus and B. pyocyaneus will live in bouillon saturated with caffeine. They also state that—

Streptococci Diphtheria bacilli Sarcinae B. subtilis B. mesentericus Micrococci cremoides	Will survive in 2 per cent. caffeine media but growth is restained if caffeine is increased.
B. anthrax B. anthracoides	Will live in 0.7 per cent. caffeine broth but not in higher concentrations.
B. prodigiosus	Growth is restrained by 0.6 per cent. caffeine.

In my experiments the micrococcus melitensis derived from the spleen would not develop in 0.5 per cent. caffeine broth, though this is not in accordance with Horrocks's positive result (see above).

Conclusions.

1. 0.5 per cent. caffeine in 1 per cent. peptone water does not always restrain the development of the bacillus coli communis.

2. 0.5 per cent. caffeine in 1 per cent. peptone water inhibited the growth of twenty-six out of thirty-one races of bacillus typhi abdominalis examined.

3. 0.5 per cent. caffeine in 1 per cent. peptone water completely arrested the development of eighteen varieties of dysentery bacillus.

4. Caffeinated media are of service in isolating streptococci and staphylococci.

5. Negative results with caffeinated media cannot be relied upon to exclude the presence of bacillus typhi abdominalis in water or dejecta.

References.

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Dr. John Eyre said that he was glad Lieutenant-Colonel Birt had recorded the results of his observations, because in view of the highly eulogistic accounts of the value of "Roth's medium," which at first reached this country from the Continent, many workers even now were content to exclude B. typhosus on absence of growth in caffeine broth, and when dealing with water supplies declare B. coli to be absent because growth had taken place in that medium. When the method was first published, towards the end of 1903, he (the speaker) had carried out an extensive series of tests on lines similar to those adopted by Lieutenant-Colonel Birt, and with very similar results; and at the present moment he retained caffeine broth amongst his routine media with a view to noting the percentage of strains of at any rate a large variety of bacteria most commonly met with, which would grow in it.

ON THE MITOSES IN THE CELLS OF THE GRAAFIAN FOLLICLE.

BY

Robert Cattley, M.B., C.M.Edin. and Albert S. Grünbaum, M.A., M.D.Cantab., F.R.C.P.

(From the Pathological Laboratory, University of Leeds.)

In the rabbit's ovary some of the mitoses found in the Graafian follicle bear a strong semblance to heterotype division—so much so that de Boinville described it as the prevailing form, and one of us (A. S. G.) for a time thought some, at any rate, of the divisions to be of that type.

Further investigation has not confirmed this opinion. The ovaries examined include those of the human female, of the chimpanzee, of the rhesus monkey, as well as of other mammals. So far as we are aware there are no previous records concerning the mitoses in the Graafian follicles of the three first named. The best preservation was obtained with "weak" Hermann's fluid—namely, the ordinary formula with half the quantity of osmic acid. Iron haematoxylin was the stain most frequently used. Many other methods of preservation and staining were tried.

The appearances in the rabbit are peculiar and more difficult to interpret than in other mammals, although in these also shortness and thickness of the chromosomes occasionally makes it difficult to say that a particular mitosis is not heterotype. But although these particular mitoses, all in metaphase, bear some resemblance to such forms, yet the absence of any heterotype prophase in all the numerous sections examined makes it extremely probable that these appearances are misleading and that there are only somatic mitoses present. Moreover, we feel confident, in spite of the impossibility of accurately counting the number of chromosomes, that there is no reduction to one-half the ordinary number.

The absence of heterotype divisions in other animals makes it unlikely that the apparently heterotype forms seen in the rabbit are really of that nature. Even in the rabbit's ovary there are numerous mitoses obviously of the somatic type and it would be contrary to all experience for the majority to be heterotype.

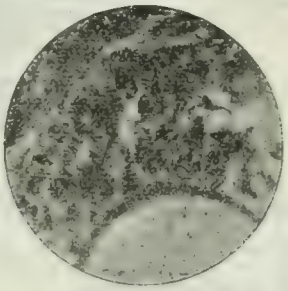


Fig. 1.—Mitosis in Ovary of Mouse × 650.

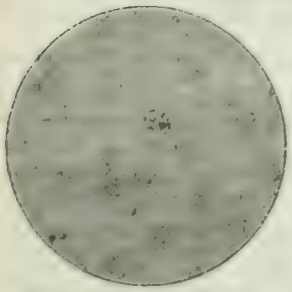


Fig. 2.—Mitosis in Human Ovary × 650.

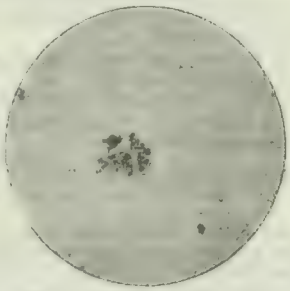


Fig. 3.—Mitosis in Human Ovary × 1,300.

Since weighty deductions concerning the nature of cancer have been drawn from the supposed occurrence of heterotype divisions in the ovary and their existence would have supported certain views as to the embryological origin of the cells of the Graafian follicle, it has seemed to us of some importance to establish, so far as possible, the negative proposition that heterotype divisions do not there occur. It is of further interest that this should be so in the human and anthropoid ovary.

THE INFLUENCE OF CERTAIN MICRO-ORGANISMS ON THE CELLULAR CONSTITUENTS OF THE RED BONE MARROW.

By Cecil Price-Jones, M.B.

[From the Bacteriological Laboratory, Guy's Hospital.]

The following observations of the manner in which certain micro-organisms are able to influence the cellular constituents of the bone marrow were made during a more prolonged and as yet incomplete investigation into the comparative cytogenesis and pathocytology of the blood. The striking and very suggestive nature of these results, and their possible close relationship to clinical and prognostic medicine, seems sufficiently to justify their separate and early publication.

The procedure adopted in this research comprised:

1. The examination of red bone marrow obtained from a number of presumably healthy animals, these being restricted in this present account to rabbits and guinea-pigs.

2. The examination of red bone marrow obtained from a number of animals that have died from the effects of inoculations of virulent cultures of different micro-organisms, the rabbits being inoculated with diplococcus pneumoniae, and the guinea-pigs with micrococcus melitensis.

3. The estimation of the watery content of the red bone marrow obtained from these healthy and inoculated animals.

4. The comparison of the above results with the examinations of a number of specimens of red bone marrow obtained from children that had died from various causes, especially from pneumococcic septicaemia, bronchopneumonia, epidemic diarrhoea, etc.

The method employed in the microscopic examination of red bone marrow has already been described in a previous notice,[1] and need not be detailed in this place; briefly it consists in preparing film specimens from emulsions of marrow in 10 per cent. neutral glycerine, drying partially in air without the application of heat, and staining with eosin and methylene blue (Jenner). For the sake of brevity, no less than for the clearer and more ready appreciation of the results, particularly in the present instances, it seems advisable to abandon the extended and specialized classification adopted in the former paper, and to consider only three inclusive groups, namely:

1. *Non-granular*, lymphoid (or passive) cells, which include the true "primitive" lymphoid cells and their various transitional modifications, also the "mother" or giant cells.

2. *Granular*, leucocytic (active) cells, which include all the varieties of granular myelocytes and their derivatives, the granular leucocytes of the blood.

3. The nucleated red cells, which include besides the typical normoblasts both the early atypical form that is only with difficulty to be differentiated from the "lymphoid" cell, and free nuclei and megaloblasts.

Samples of red bone marrow were obtained from 11 apparently healthy rabbits; a number of films were examined in each case and differential percentage enumerations made; these gave an average count that varied within only narrow limits, as under:

Lymphoid cells, 31.3 per cent; granular cells, 48.4 per cent.; and the nucleated red cells, expressed in percentages of the total number of the white cells that were counted, gave an average of 11.7 per cent.

Samples of red bone marrow were obtained from 5 apparently healthy guinea-pigs; from these the differential percentage counts, also varying within narrow limits, gave average percentages of:

Lymphoid cells, 43.4 per cent.; granular cells, 56.2 per cent.; and nucleated red cells, 8.04 per cent. of the number of white cells counted.

To obtain comparable differential percentages for healthy human marrow is of course extremely difficult, since it is only on rare occasions that an opportunity is afforded of examining the red bone marrow of a healthy human being. In the case of the man referred to in the previous note, who died from internal haemorrhage, the result of a carriage accident, the marrow count gave 50.4 per cent. of lymphoids, 49.5 per cent. of granular cells, and the nucleated red cells were 8.2 per cent. of the number of white cells that were counted. If these last figures, obtained from the bone marrow of a presumably healthy man, are compared with the figures obtained from the marrows of healthy rabbits and guinea-pigs, it is at once seen how closely they agree, conforming to a scheme whereby the average percentage count is represented by 50 per cent. of non-granular and 50 per cent. of granular cells, the nucleated red cells numbering about 9 per cent. of the total number of white cells counted. The count of the marrow cells in this case will therefore be taken as a standard for healthy human marrow.

Thirteen small rabbits, averaging in weight about 700 grams, each received into the peritoneal cavity an emulsion made from a twenty-four-hour-old blood agar culture of a virulent strain of pneumococcus. With the exception of three that died after three to four days, and two that died on the second day, all these animals were dead in eighteen to twenty hours. The film preparations from the bone marrow of these cases showed very marked variation from those that were obtained from the marrow of the healthy animals, and yielded an average differential count of lymphoid cells 61.4 per cent., granular cells 38.1 per cent., and nucleated red cells 35.0 per cent.; this type of marrow may be described as lympho erythroblastic. The rabbit referred to above, that survived until the fourth day, showed at the autopsy no unnatural signs, and no pneumococci could be detected in the blood; the marrow of this animal gave a differential count of lymphoid cells 59.2 per cent., granular cells 40.7 per cent., and nucleated red cells 10.5 per cent., that is a lymphoblastic marrow without any erythroblastic change.

Five small rabbits received similar emulsions of pneumococcus culture subcutaneously; four of these animals survived three days, one of them not dying until the sixth day, and the fifth was killed after forty-eight hours. Marrow films prepared from these animals gave a differential count entirely different from that of the first series—namely, lymphoid cells 34.3 per cent., granular cells 65.4 per cent., and nucleated red cells 15.4 per cent., or a leucoblastic type of bone marrow. These results are in agreement with those obtained by Muir,[2] although in his case the production of granular cells was greater; he says that the erythroblasts appeared fewer, and this is undoubtedly true in some cases, and in one of the rabbits of the above series this diminution was very marked,

showing a percentage of only 1.16 per cent. of the total count of the white cells.

TABLE I.

Number of rabbits observed	Condition.	Lymphoid cells.	Granular cells.	Nucleated red cells.
10	Healthy	51.3	48.4	11.7
13	Intraperitoneal injection of pneumococcus	61.4	38.1	35.0
5	Subcutaneous injection of pneumococcus	34.3	65.4	15.4
1	Subcutaneous injection of bacillus anthracis	60.9	38.7	123.3

Five guinea-pigs received subdural inoculation of emulsions prepared from forty-eight-hour-old agar cultures of micrococcus melitensis. Death occurred within periods varying from two to eighty-five days, depending on the strength of the emulsion and on the virulence of the culture employed; those dying on the second day showed only slight change from the normal health percentage cellular composition of the bone marrow; the average percentage for the series gave: lymphoid cells 61.1 per cent., granular cells 38.4 per cent., and nucleated red cells 18.3 per cent.; the animal that survived for eighty-five days showed a percentage count of lymphoid cells 65.8 per cent., granular cells 34.0 per cent., and nucleated red cells 21.5 per cent. This series shows a lympho-erythroblastic type of bone marrow—such as also occurs after inoculation with B. anthracis, vibrio cholerae, and B. tuberculosis.

TABLE II.

Number of Guineapigs observed.	Condition.	Lymphoid Cells.	Granular Cells.	Nucleated Red Cells.
5	Healthy	43.3	56.2	8.0
5	Subdural injection of micrococcus melitensis	61.1	38.4	18.0
1	Subcutaneous injection of B. anthracis	61.5	38.2	34.4
1	Subcutaneous injection of vibrio cholerae	67.1	32.6	34.8
1	Subcutaneous injection of B. tuberculosis	61.8	38.1	13.3

The watery content of the samples of bone marrow was estimated by submitting known weights of the marrow to desiccation for four days; the loss in weight at the end of that period was regarded as due to the loss of water, and was expressed in percentages of the original weight of the marrow.

The watery content of the marrow of ten healthy rabbits gave an average of 59.2 per cent.; similar estimations made with the marrow of eleven rabbits inoculated with pneumococcus yielded an average of 73.3 per cent.; of these, seven had received intraperitoneal injections, and gave an average watery content of 70 per cent., and four had been injected subcutaneously, and gave an average of 78.9 per cent.

In the case of guinea-pigs, the watery content of the marrow was not estimated in a sufficient number of cases to afford reliable data.

The watery content was estimated in a number of human marrows, but the results are not very consonant owing probably to the varying periods after death at which the marrows were obtained for examination.

Films were prepared from the bone marrow of a number of children that had died from various causes, for example, pneumococcic infections, epidemic or dysenteric diarrhoea, etc. Eight cases of pneumococcic infection were examined; these include three cases of bronchopneumonia, four of pneumococcic septicaemia, and one of empyema, the marrow of this last case being obtained from a resected rib. From the subjoined table, showing the percentage differential counts of the bone marrow from these cases, there can be seen a remarkable uniformity, giving an average of 32.17 per cent. lymphoid cells, 67.75 per cent. granular cells, and 6.1 per cent. nucleated red cells, representing a pronounced leucoblastic type; excepting a greater diminution of the number of the erythroblasts, this average shows a strong relationship to that obtained from the series of rabbits inoculated subcutaneously with pneumococcus (see Table I):

TABLE III.

Cause of Death.	Lymphoid Cells.	Granular Cells.	Nucleated Red Cells.
Bronchopneumonia	34.4	65.6	7.4
.. ..	37.5	62.5	12.0
.. ..	32.2	67.8	28.6
Pneumococcic septicaemia..	32.1	67.8	2.4
.. ..	37.4	62.5	7.1
Pneumococcic septicaemia (associated with double empyema)	21.8	78.1	4.4
Pneumococcic septicaemia..	34.7	65.2	15.7
Resection of rib (empyema)	27.3	72.5	14.2

A number of cases of dysenteric diarrhoea were examined, but with these marrows the *post-mortem* changes take place so rapidly that the greater number of the films prepared stained badly and the cells were degenerated and not to be classified with any degree of accuracy. Only 5 cases can therefore be considered; they show great uniformity in the percentage counts of the marrow cells, and vary only slightly from the healthy type, yielding an average of 45.4 per cent. lymphoid cells, 54.5 per cent. granular cells, and 10 per cent. of nucleated red cells.

In the subjoined table two cases of so-called marasmus are contrasted with these dysenteric cases. These two children showed no unnatural signs at the autopsy, and presented no obvious cause of death: the films prepared from the marrow gave very similar percentage counts, which were of a leucoblastic type.

TABLE IV.

Cause of Death.	Lymphoid Cells.	Granular Cells.	Nucleated Red Cells.
Dysenteric diarrhoea ...	48.5	51.4	3.7
.. ..	44.3	55.5	15.7
.. ..	43.3	56.6	6.0
.. ..	41.2	58.8	15.8
.. ..	49.7	50.2	10.2
Marasmus	37.6	62.0	7.5
.. ..	30.6	69.3	10.3

A number of marrows from cases of tuberculosis and from cases of several varieties of the so-called blood diseases have been examined, but the results obtained will be reserved for a further contribution to this subject.

It is too soon as yet to form conclusions from these results, but it is sufficiently evident from the observations recorded above

(*a*) that different micro-organisms bring about different types of bone marrow;

(*b*) that this depends not only on the virulence but on the specificity of the organism:

(*c*) that apparently a lymphoblastic marrow is usually associated with an increased production of erythroblasts;

(*d*) that a leucoblastic marrow is, on the contrary, not connected with an increased erythroblast production.

In conclusion, the writer desires to express his indebtedness to Dr. John Eyre for material from guinea-pigs and rabbits which had been inoculated either with the pneumococcus or micrococcus melitensis.

REFERENCES.

[1] C. Price-Jones, "Notes on the Microscopic Examination of Bone Marrow," BRITISH MEDICAL JOURNAL, February 25th, 1905, p. 409. [2] R. Muir, "On the Relations of the Bone Marrow to Leucocyte Production and Leucocytosis," *Journ. Path. and Bact.*, vol. vii, 1901, p. 101.

A METHOD OF DEMONSTRATING INDIVIDUAL METABOLISM BY THE INVESTIGATION OF PULMONARY EXPIRATION.

By A. W. GILCHRIST, M.D. Paris, M.R.C.S., L.R.C.P.,

Nice.

THE theory upon which this method is founded is that which inspired Bouchard's well-known work on *Les Maladies par Ralentissement de la Nutrition*. Bouchard attributed the retardation of nutrition to organic acidity, and incidentally I would suggest that the effect of physical conditions of the blood upon the estimation of arterial tension is not sufficiently appreciated. At the same time that this book

appeared, Gautrelet (Bouchard's chemical assistant) published a very remarkable series of graphs, or diagrams (shown). Gautrelet found that these graphs fell naturally into two categories, one category that corresponded to Bouchard's retarded nutrition, and which he regarded as representing the hyperacid diathesis, and the second that he referred to the hypoacid diathesis.

You perceive at once the principle on which these diagrams are constructed. The urine of twenty-four hours is subjected to analysis. Its chief organoleptic and chemical characters are represented in numbers which are proportional percentages, and hence admit of comparison with a normal taken as 100. The portion of the diagram above the line shows in what respect the renal excretion is excessive, and in what respect it is deficient. Of the coefficients indicated at the side of the graph, the most interesting is Robin's coefficient of oxidation (may I mention here *en passant* of what advantage to French pathology Robin's early training as a mathematician at the Polytechnique has proved?). It is lowest in gouty conditions and in chronic alcoholism (Ralentis)—as low as 65 to 75 per cent.—and highest in consumptive states such as tuberculosis—85 to 95 per cent. In rheumatic and diabetic conditions, if the ammonia is excluded, the coefficient represents roughly a mean between these figures. The introduction of this notion, let me add, suggests a connexion between a biochemical and a biodynamic conception of nutrition. The idea of accelerated nutritive activity contrasts with that of retarded or inhibited activity, as relative alkalinity contrasts with acidity.

You will notice that I have collected a large number of graphs constructed on these principles. I have also had the advantage of consulting in a general way several thousand others in the collection of my skilful and able chemical collaborator, M. Richard of Nice. Their study has led me to conclude that a more useful distinction than that of Gautrelet's is the division of these graphs into three classes. In the first class you will notice a large excess of chlorides correlated with a small and therefore very suggestive excretion of uric acid—I say suggestive because this fact points to a logical explanation of the much disputed significance of uric acid in the metabolism of gout. In the second a large excess of both the total acidity and the uric acid, and in the third class a marked diminution of acidity with an equally striking increase of urea or of phosphates.

I say "useful," because it has suggested to me the links by which general pathology may be attached to evolution[1] or the theory of descent, and because by using this apparatus I have been led to dwell on the possible utility of substituting the conception of organic cellular aërobiosis and anaërobiosis correlated to excessive or deficient oxidative energy for that of organic hypoacidity or hyperacidity.

[Dr. Gilchrist then demonstrated his method of estimating the respective percentage amount of oxygen and carbon dioxide in expired air by utilizing Robin's apparatus for the measurement of lung capacity, removing a sample from the measuring reservoir in a gas bag and transferring it to a gas burette, in which the percentages are read off from direct graduations after absorption with caustic soda and pyrogallol.]

The rough notes contained in the second collection are the elements of a certain number of analyses of respiratory chemism. These analyses also fall naturally into three classes. And, as you will easily understand, it is highly interesting to note that they correspond generally to the three classes established by graphical representation of the urinary examinations. So much so that it is often possible to predict from the character of the urinary graph what features the pulmonary respiration is likely to present. Thus you see that a slight excess of carbon dioxide with a very small absorption of oxygen, as low as three (1) (the normal established by Robin and Binet being 9) is present in the first class; that an excess of both carbon dioxide and of oxygen is characteristic of the second; and that the third shows a significantly low excretion of CO_2, coupled with an exaggerated absorption of oxygen. The first class illustrates marked anaërobiosis, where the cells may be supposed to function in an atmosphere of CO_2, and the third excessive aërobiosis unchecked by the inhibiting influence of this environment.

The two methods I have thus summarily described point to excessive metabolism, local or general, in both pulmonary tuberculosis and in psychopathic conditions. It was this interesting relation, indeed, that induced me to take part in yesterday's discussion in this Section on the relationship between heredity and disease.

Some twenty analyses of the respiratory chemism of the subjects of acne vulgaris show a very constant and a very persistent diminution of absorbed oxygen.

REFERENCE.

1 Paper read at the Congress of Climatology at Nice, 1904.

SOME ASPECTS OF CARCINOMA VENTRICULI: ITS VARIATIONS IN MALIGNANCY.

BY

F. G. BUSHNELL, M.D., Pathologist, Stephen Ralli Memorial, Sussex County Hospital.

and

F. HINDS, M.D., M.R.C.S., Surgeon, Worthing Hospital.

THE subject of carcinoma ventriculi is treated in this paper rather from a pathological point of view; but, as one of us (F. H.) points out, the knowledge of the nature of these indurations of the stomach is of much importance to treatment. It may be added that a knowledge of the structure of a gastric carcinoma is of like import. The naked-eye appearance of these two specimens shown is not destinctive. The character of the thickening might be the gastric cirrhosis, or linitis plastica of Brinton, or hypertrophic sclerosis, as Hanot names it; or it might be a carcinoma, of scirrhus or colloid type; or, again, it might even be sarcoma.

After a careful examination of numerous sections, the woman's stomach (S. H.) is considered by one of us (F. G. B.), also the intestines and gall bladder, and probably the uterus and urinary bladder, to be the seat of a carcinoma of scirrhus type, and that of the man (I) to be in a state of chronic inflammation, which, in the opinion of one of us (F. G. B.) is probably not dependent on carcinoma. If opportunity allows, it is hoped that a fuller examination of the viscus may be made than possible up to the present. In the opinion of Drs. Hillier, Lawrence, and Eastes, the sections of the second specimen show no evidence of malignancy, and are considered by two observers to be benign. Dr. Lawrence thinks that evidence of carcinoma might be yielded by prolonged search. In this country Dr. Sidney Martin, Dr. Hunt, and others consider such cases to be carcinomatous in ultimate origin. Admittedly the evidence is slender.

CASE I.

Microscopically the case (S. H.) shows marked atrophy of glandular layer of mucosa and catarrh and desquamation of its epithelium. The interglandular tissue contains in scanty numbers round mononuclear cells or lymphocytes, and a certain number of cells identical in characters with others present in the submucosa and serosa and muscularis. These cells are of epithelial type with rounded and dark staining nuclei as a rule surrounded by a clear well-defined cytoplasm which takes a yellow colour with v. Giesen's mixture. Sometimes the nuclei are pale and granular and irregular in shape, and the surrounding cytoplasm varies in amount and outline, though cubical as a rule and of a size approximating to chief cells of peptic glands. In some cases these cells have such a perfectly round deep stained nucleus as to differ from a lymphocyte merely in the larger amount of cytoplasm. In other cases there is a resemblance to fibroblasts, with pale swollen vesicular nuclei and scanty cytoplasm. The muscularis mucosa is seen to be split up by the cells of the neoplasm, which are usually arranged in columns of single file on a delicate fibrillary connective-tissue stroma. Mitoses can be seen, with thick-bunched chromosomes; occasional leucocytes are present with distorted nuclei. Owing partly to degeneration and necrosis of mucosa and to imperfect fixing of details in alcohol, an actual penetration of basement membrane of glands by carcinomatous cells arising from chief cells of peptic glands cannot be established. In one slide there was a suggestion in the section of an attempt at atypical glandular and alveolar formation in the submucosa of the stomach. No colloid change was present.

Similar infiltration is seen in small and large intestine, in the capsule of a mesenteric lymph gland, and in the gall bladder. The mucosa of the latter is degenerate. It is probable that the infiltration had extended also to the uterus and urinary bladder. The name "carcinomatosis" has been applied to this diffuse form of growth, but as this term may imply multiple discrete foci of carcinoma, I have not made use of it. Such a combination of malignant epithelial outbreaks cannot be accepted without further proof. The museum of this meeting certainly shows in the beautiful specimens of Drs. Lazarus-Barlow and Herbert Spencer examples of this condition, but limited to two separate malig-

nant growths. I have myself seen, in a case of Mr. Verrall, a spindle-celled sarcoma of the ovary associated with early columnar-celled cancer of the stomach. We know from H. Stiles's observations that carcinoma of the breast infects the adjacent lymph glands by a continuous chain of infected lymphatics. Mr. W. S. Handley shows photographs and drawings in the Surgical Section of a similar method of invasion of the abdomen in an early stage of the same disease, and calls the process the permeation theory of the dissemination of cancer. In a similar way may well be explained the cases that have been cited as examples of multiple discrete lympho-sarcomata of the intestinal walls.

On the other hand, it is thought by some that certain sarcomata have multiple discrete foci of origin—for example, the sarcomata that arise in the lymph nodules of the intestine are usually "secondary gastric sarcomata." Though serial sections have not been made of the case (S. H.) in point, I think there is little doubt that these growths are continuous by lymphatic paths. I may add that the arrangement of the cells in relation to the lymphatic vessels induces Dr. Hillier to classify the growth (S. H.) as a malignant endo-(or peri-)thelioma. From the general characters of the growth and from the similarity of the cells to the chief cells of the peptic glands I place it under carcinomata. In this respect I may say that Nuthall and Emmanuel showed in 1902 as endotheliomata 3 cases of fatal diffuse growth of stomach and intestines, which they afterwards described as carcinomatous. They state that they formed the opinion in 1903 that these were carcinomata arising in deeper layer of gastric mucosa, undergoing colloid change, and they quote the *Centralblatt für Gynäkologie* of October, 1902, as saying "many so-called endotheliomata of the intestines are only metastases of, for example, scirrhus of stomach."

Case II shows microscopically a diffuse inflammatory hyperplasia of all the coats of the stomach, containing numerous fibroblasts and leucocytes. The mucosa is thickened, shows atrophy and catarrh of the peptic glands, and the interglandular spaces are packed with lymphocytes. The submucosa is much thickened, and shows leucocytes and fibroblasts in abundance, and collections of lymphocytes, which appear to follow lymphatic clefts.

Delicate fibrillary connective tissue is present generally. Here and there cells can be seen which cannot be strictly excluded from having an epithelial origin. There is hypertrophy of muscularis. Undoubtedly many observers would place this condition under the gastric cirrhosis or linitis plastica of Brinton and Cornil, which has been termed by Hanot hypertrophic sclerosis of stomach. This is described by Hemmeter as an inflammatory hyperplasia of layers of stomach with excessive connective-tissue proliferation, with hypertrophic pyloric stenosis, and atrophy of the glandular layer, and sometimes of the muscularis (chronic hypertrophic gastritis). The muscular hypertrophy that accompanies these conditions may be explained by the rigidity of the stomach wall interfering with peristalsis, hypertrophy resulting. The question has been asked, Can complete healing be produced by fibrous scarring in older parts of a scirrhus, while younger parts progress slowly? If the answer is Yes, Case II might thus be explained. It is clear that no marked necrosis of new growth with secondary invasion of leucocytes was occurring.

As to the other forms of malignant disease of the stomach the cylindrical celled, the medullary, the colloid, and the squamous, nothing need be said, but perhaps you will allow us to refer briefly to the classification of the sarcomata of the stomach. Such cases are certainly not so rare as thought to be. Dr. Salaman describes three kinds: (*a*) the lympho-sarcoma starting from a lymph follicle, (*b*) the round-celled sarcoma arising from the submucosa, and (*c*) the terribly malignant sarcoma secondary to one in an adjacent lymph gland (so-called secondary lymphadenoma sarcoma).

Kundrat defines lymphosarcoma as a growth composed of lymphoid cells in a fibrillary meshwork. It may start on a follicle of the mucosa and spread in all coats, never causing constriction, but always dilatation of lumen. It may spread continuously. It infiltrates without restraint, thus differing from leukaemia and pseudo-leukaemia. The peritoneum, omentum, and appendices epiploicae are distended with growth. The Peyer's patches and lymph follicles are not picked out and converted into isolated tumours. Its secondary deposits are not true metastases, because there is always a chain of growth continuous from one deposit to another, and they occur in places apart from serous membranes, where true metastases are rare. Dr. Salaman has collected and verified 12 such cases.

One word may be said on sarcoma of the stomach. Dr. Thursfield describes one as follows: "The walls were irregularly hypertrophied and thrown into deep folds, so that on the posterior and parts near the lesser curvature they were as much as 1 in. thick. There were no haemorrhages, nor did there appear to be any ulceration. The pylorus and cardia were free from growth. There was no enlargement of retro-peritoneal and mesenteric glands. There was a secondary nodule in the kidney and one in the transverse colon. Histologically the tumour was composed of mononuclear round cells about the size of polynuclear leucocytes. There were no large cells. The stroma was extremely scanty, and had not any resemblance to lymphoid reticulum. In the kidney the secondary growth spread between and destroyed the tubules; no large cells were here and almost no recognizable stroma." Salaman has collected 4 such cases, and 8 of "secondary sarcoma" of stomach, which we do not propose to describe.

The salient features of our cases are:

1. The extraordinary diffuse, as contrasted with the more usual localized, character of the infiltration.
2. The rarity of metastases.
3. The proclivities and limitations of the disease.
4. The absence of ulceration or erosion of neighbouring structure.

They suggest a gradation both pathologically and clinically between chronic inflammation and carcinoma. This may seem a wild statement, but one of us (F. G. B.) has remarked elsewhere in the British Medical Journal on such gradations in cytology and histology. We are familiar with metaplasia and heterology by which cells of one type become cells of another type, and also become atypical. Still more extraordinary is the transition of sarcomatous cells to those of columnar epithelium (H. D. Rolleston and O. Grünbaum). One of us (F. G. B.) has observed an adenosarcoma of the breast in which the cells of the acini were packed with cells which could not be distinguished from the neighbouring sarcoma cells. Then, again, histologically a normal placenta, a hydatidiform mole (be it simple or malignant) and a chorion-epithelioma have very close relationships; as has a fibroma, a myoma and sarcoma of ovary and uterus; as has a glioma and gliosarcoma; a dermoid and teratoma; an adenoma and glandular cancer, and the simple and malignant forms of adrenal tumours. Such gradations are not infrequent. The second case may well be claimed by clinicians and pathologists as innocent or malignant.

In Case I, the cells of the growth may have been deficient in "colonizing" capabilities and in other intrinsic characters may not have been widely separated from their prototypes. On the other hand, the invaded tissues and secretions may have had an exalted power of resistance. We seek your experience on these variations in malignancy and would ask what might be the stimulus that leads to these abnormal tissue activities which ignore the laws of orderly growth?

"RED" DEGENERATION,

SO-CALLED "NECROBIOSIS," OF A FIBROMYOMA OF UTERUS.

Demonstration by F. G. Bushnell, M.D.,
Pathologist, Sussex County Hospital, Brighton.

Dr. Bushnell exhibited a specimen which had been removed and lent by T. H. Ionides, F.R.C.S., Surgeon to the Hospital. Dr. Bushnell said: The condition is due to a subacute form of necrosis. About 5 to 7 per cent. of fibromyomata removed are said to have undergone this degenerative change. The "soft fibroid" of the textbook is an ordinary fibroid which has undergone this degeneration or fatty oedematous cystic or myxomatous. Adenomyomata are, however, not included in this clinical class, which has no pathological basis truly. In appearance they are red or fleshy—softer, looser, more like muscle. On section the colour may be pink, light red, purple red, or livid, and diffused throughout the growth, as in the specimen shown. Bland-Sutton says a fibromyoma undergoing necrosis is usually dirty yellow, but it may become deeper, and even dark mahogany, in pregnancy, and in streaks, or evenly distributed. The change usually affects single or interstitial tumours, but W. W. H. Tate has recorded nine multiple ones. The necrotic change usually begins in the middle as a red area, which loses its fibrous appearance, and is softer and more diffluent. There is a sharp distinction between the blood-stained growth and the white capsule of the uterine muscle.

The smell is sometimes stale, fishlike. This may be due to the presence of amines, a product of the destructive distillation of proteid. There is no excess of fluid or blood found present. Gebhard considers the condition one of necrobiosis or maceration, and as the nutrition runs centripetally the first change takes place in central portion. Tissues are softer and the colour is owing to the breaking up of red cells and diffusion of pigment. In later stages may be brown or greenish. The tumour cells lose their capacity for taking up nuclear stains. The differentiation from tissues around may not be clear. In cases with a pedicle, there is no twisting and there is no external change in growth. No bacteria have been isolated up to the present.

Pregnancy *per se* appears to have an influence on the change, but the ultimate cause is unknown. It is not associated with extreme age. Vautrin suggests that it is an ischaemia produced by uterine contractions, and by the development of an inextensible fibrous capsule. The condition gives rise to definite clinical signs, such as severe pain, rapid pulse, etc. Microscopically the changes are those of necrosis. There is an absence or deficiency of nuclear staining, leaving bundles of fibres, which have taken up the diffuse stain. Sometimes the muscle bundles have granular or hyaline appearance, and nuclei may lie in clear spaces, and be faintly stained. In an interesting contribution to the *Journal of Obstetrics and Gynaecology*, August 1903, Dr. Fairbairn states that he did not find the vascular changes conspicuous, but admits, as my sections confirm, that there is congestion and haemorrhage into tissues.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

NORTH OF ENGLAND BRANCH: TYNESIDE DIVISION.

North Shields, October 17th, 1905.

A. A. MARTIN, F.R.C.S., in the Chair.

Ruptured Duodenal Ulcer.—Dr. A. A. MARTIN showed a case of ruptured duodenal ulcer. The patient had complained of pain for several weeks before he was seen by Dr. Martin. On July 6th, at 7 p.m., he suddenly felt intense pain in the epigastrium. At 8 p.m. he was seen by Dr. Martin, who diagnosed ruptured gastric ulcer. Immediate operation was advised but consent was not given till midnight. Dr. Martin was assisted by Dr. Adams. He opened the abdomen in the middle line. The stomach was intact on the anterior aspect, and fairly free of contents. On tracing it past the pylorus a thickened mass was felt, and in the midst of this was seen a ragged ulcer about the size of a sixpence. Adhesions had to be broken down before this could be isolated, and with much difficulty a layer of sutures was put through all the coats of the duodenum and tied. Another layer of Lembert sutures over this completely shut off the ulcer. The abdomen was flushed and a large amount of lymph-flakes was washed out, about 2 pints of sterilized saline solution being retained in the abdomen. The after-history was uneventful. The patient had little sickness, no fluid being allowed by the mouth for forty-eight hours. At the end of the week he was practically convalescent, and he has put on much weight since.

Dislocated Elbow Treated by Excision.—Dr. LACHLAN FRASER showed a case of dislocated elbow treated by excision of the joint. The patient, a lad of 15, consulted a bonesetter, who put up the arm in the extended position between splints. He came to the Tynemouth Infirmary three weeks later, when Dr. Fraser found a dislocation of both bones backwards, the joint being swollen and firmly fixed. Under chloroform reduction was attempted, but was unsuccessful, so a complete excision of the joint was performed. The wound healed by first intention, and within two months all movements of the joint could be carried out. At the present time the lad states that one arm is quite as good and useful as the other.

Amputation for Sarcoma of Femur.—Dr. LACHLAN FRASER also showed a case of amputation at hip-joint for sarcoma of femur. The patient, a lad of 17, came to the Tynemouth Infirmary three months ago for tumour of the thigh of ten months' growth. A diagnosis of periosteal sarcoma was made by Dr. Fraser, and, having confirmed it by exploration, an amputation at the hip-joint was performed by Wyeth's method. The patient suffered severely from shock during the first twenty hours, but this was successfully combated by Dr. Ritson, the house-surgeon, who gave several saline infusions. After this the lad soon rallied, and he left the hospital cured six weeks after admission.

Specimens.—The following were shown:—Dr. J. E. BAKER: A gangrenous appendix wrapped in omentum, and removed from a convalescent patient at present in the Tynemouth Infirmary.—Dr. LACHLAN FRASER: (1) Two specimens of perforated appendix removed from patients in the Tynemouth Infirmary, the result in each case being satisfactory; (2) double ruptured pyosalpinx with cystic ovaries.

REPORTS OF SOCIETIES.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Tuesday, October 24th, 1905.

Sir DOUGLAS POWELL, Bart., K.C.V.O., M.D., F.R.C.P., President, in the Chair.

PERITONITIS.

MR. J. D. MALCOLM, in contributing a paper on this subject, first discussed the nature of inflammation, combating the view that it was always caused by micro-organisms and maintaining that simple inflammation was physiological merging into normal action, but when severe associated with increase of tissue change constituting fever. As examples of simple peritonitis were adduced the changes resulting from the acute twisting of an ovarian pedicle or the rupture of an extra-uterine gestation sac. The adhesions that form were compared with the products of irritation leading to healing of a wound by first intention. Pus formation, it was argued, was caused by the exaggeration of these simple physiological changes. Acute septic peritonitis was compared with the adhesive peritonitis around a strangulated tumour. Febrile reaction was proportionate to the extent of the mischief when there was no evidence of extension of septic influences along the lymphatics. The cause of increased temperature was alleged to be the messages sent by the damaged tissue to the heat centres and not due to absorption of poisonous substances. When a zone of demarcation formed round devitalized tissues the fever fell. These physiological changes round injured tissues increased in activity for not more than three days after the injury ceased to act, its object being removal by absorption or the formation of a zone of demarcation. Septic inflammation was such a process plus the influence of irritating micro-organisms. Any destructive or impaired action was excluded from the idea of inflammation.

MR. ALBAN DORAN referred to the question of twisted ovarian pedicle and tubo-gestation. The trifling inflammatory changes in a tubal sac were produced by the products of conception, which were certainly not septic. But rupture of a tubal sac was followed by pain and pyrexia, although there was no sepsis. These phenomena, he thought, supported the doctrine enunciated in the paper.

MR. L. DUDGEON considered that few people would describe inflammation as a physiological process. If a simple incision were made there was an increase of leucocytes and the finely granular polynuclear cells were increased in number. The same resulted if a sterile saline solution were injected into the peritoneum. Many aseptic wounds contained staphylococci Cocci in the tissues did not mean suppuration. The finding of the so-called sterile exudate of peritonitis was the result of faulty technique. Pieces of the omentum cultured showed micro-organisms, chiefly staphylococcus albus. The pyrexia after ruptured ectopic gestation had been attributed to the absorption of ferment, but the blood-clot contained the white staphylococcus. But this organism never gave rise to suppuration. The same organism was found in twisted ovarian pedicle. He asked what evidence there was that the processes described in the paper were really of aseptic origin.

SIR LAUDER BRUNTON referred to the part played by ferments in inflammation, corresponding with that of the ferments of the digestive process. Phagocytosis was essentially concerned with digestion by ferments. When white blood corpuscles were injured they produced plasmase, which led to coagulation, but they also excreted a digestive ferment.

DR. G. HERMAN agreed that simple peritonitis was not an uncommon condition, for whenever an abdomen was opened shortly after the healing of a laparotomy wound adhesions were found.

MR. MALCOLM replied.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

Priestley Smith, F.R.C.S., President, in the Chair.

Thursday, October 19th, 1905.

Colour Systems.

A short presidential address having been delivered, Dr. Edridge-Green read a paper on colour systems, and explained how his non-elemental theory was evolved, and how it differed from the elemental colour systems of other observers. He assumed that light falling on the eye liberated the visual purple from the rods, and thus a photograph was formed. The decomposition of the visual purple stimulated the cones and set up a visual impulse, which was conducted to the brain, and by it objects were seen monochromatically. The colour-perceiving centre was concerned with the quality of the impulse, and the colour system was developed in the following way:—When few cells were present in the centre, it would only be able to differentiate between the longest and smallest wave lengths, the red and violet; and, except for these coloured ends, the spectrum appeared grey. As more and more cells were added to the centre, the neutral band would gradually diminish until the two colours met in the centre of the spectrum. Then a third colour, green, was developed; then a fourth, yellow, its position being midway between the red and green. The next colour to be perceived was blue and then orange, and a very few individuals were able to perceive the seventh colour in the spectrum. Dr. Edridge-Green then showed how inconsistent the elemental theories were with the definite facts of colour blindness, which were a necessary consequence of the above theory.

Partial Iridoplegia.

Mr. C. Marcus read some notes on a peculiar pupil phenomenon in two cases of partial iridoplegia. In two patients—a boy, aged 12, and a woman, aged 32—there was loss of direct and consensual light reflex, together with mydriasis in one eye only; the fellow pupils were normal. In both cases, with accommodation, the affected pupil became quite small, and, in the case of the woman, even smaller than in the sound eye. Subsequent dilatation proceeded very slowly, and it took four or five minutes before they gained their original size. A slight contraction occurred when the lids were forcibly closed, but a touch on the cornea caused maximal constriction. Accommodation alone caused contraction of the pupil, though convergence had no effect upon it. There was nothing to account for it in either the eye or the general condition of the woman, and in both the sight was normal. The boy, however, had absence of knee jerks. A similar observation was made in the case of a medical man who was in perfect health, but one pupil was larger than the other and inactive to light. In another instance—that of a patient suffering from ophthalmoplegia interna—the left eye, though inactive as a rule, contracted when the patient closed his eyelids. He explained that a break in the efferent segment of the light reflex arc would account for the mydriasis and inactivity to light in the first three cases, and the peculiarly slow dilatation was due to a prolonged after-effect of a stimulus. The pathological condition was discussed, but left as an open question, but it was suggested that it might be an instance of abiotrophy (Gowers).

Tscherning's Lenses.

Mr. S. Lindsay Johnson showed some lenses for spectacles invented by Dr. Tscherning of Paris. Their peculiarity consisted in having one surface forming part of a sphere which had a common centre with the cornea, while the other surface was curved to suit the various dioptres, identical in power with those of the ordinary trial cases. Owing to their peculiar form, all rays entering from the anterior principal point through the entrance pupil passed through the lens in a direction nearly normal to a tangent to the surface. This resulted in a reduction of the distortion and astigmatism to an almost imperceptible quantity, except in the case of very oblique rays. Mr. Johnson also showed two photographs of squares, ruled on a large plain surface; one was taken with an ordinary lens, having a diaphragm corresponding proportionately in size and position to the entrance pupil of the eye, and the other taken with Dr. Tscherning's lens. The improvement in the image, the flatness of the field, and the absence of distortion and astigmatism was most marked, and he believed that such lenses would be of great value in all cases where high definition and rectilinearity were essential.

MEDICAL SOCIETY OF LONDON.

Sir Lauder Brunton, M.D., F.R.C.P., F.R.S., President, in the Chair.

Monday, October 23rd, 1905.

Gastro-enterostomy for Chronic Gastric and Duodenal Ulcer.

Mr. C. Mansell Moullin read a paper on this subject based on a series of 60 consecutive cases with 4 deaths; among the fatal cases 3 were from preventable causes. In 5 cases the operation was combined with excision of the ulcer, the advantages of which were pointed out. The posterior transmesocolon method was preferred. Finney's operation, which was considered a great advance on pyloroplasty, was done in 3 cases. The patients were always fed as soon as they had recovered from the anaesthetic. There was no instance of relapse from contraction of the opening. Of the 56 recovered cases, 4 were not cases of gastric ulcer, of the rest 42 were cured; nearly all put on at least a stone in weight and the power of digestion was as good as it had ever been. Of the 10 not cured, 3 were cases of duodenal ulcer; the remaining 7 were incurable. The cases, as a whole, were grouped into those in which the ulcer had healed and had left some mechanical difficulty and could only be treated surgically with effect, and those with an extending ulcer, these should have one thorough course of treatment by rest, and if that failed gastro-enterostomy should be performed, particularly in view of an increasing liability to cancer in such cases.

Perforated Ulcer of the Duodenum.

Mr. Maynard Smith communicated this paper based on a series of 13 cases in St. Mary's Hospital, 10 of which were operated on, with 4 recoveries and 6 deaths. Fluid introduced into the abdominal cavity through the mouth and a hole in the duodenum, produced experimentally in the dead subject, passed directly into the right kidney pouch and then descended to the brim of the pelvis towards the appendix. The same thing was shown by the results of operation and the situation of abscesses. The symptoms of perforation were given, those of most service in diagnosis being an increase in the pulse rate, the general appearance, the localization of pain to the right hypochondrium and of the rigidity and the reference of symptoms to the appendix region with a sudden onset of pain in the right hypochondrium. In treatment immediate operation, irrigation—preferably suprapubic—and right lumbar incision were mentioned.

Mr. Cuthbert Wallace asked if in any of Mr. Moullin's cases of hour-glass stomach there had been any difficulty in getting near enough to the cardiac end. The position of the patient at the time of perforation largely determined the direction the fluid took. He approved of a low incision and of the method of irrigation, and referred to the absence of liver dullness as a sign of perforation.

The President inquired as to the relative value of simple suture and Murphy's button in weakened patients, and alluded to the confusion of cholelithiasis with gastric ulcer.

Mr. Mansell Moullin, in reply, said he had a great dislike for Murphy's button in any circumstances, and acknowledged the difficulty in cases of hour-glass stomach, but did not think it unsurmountable.

Mr. Maynard Smith, in reply, said the liver dullness varied greatly in his series of cases.

Leeds and West Riding Medico-Chirurgical Society.—At the first meeting of the Session held on October 20th, after the exhibition of specimens, the President for the year, Mr. Edward Ward, read his presidential address, which dealt with some of the aspects of modern surgery. Among the papers which followed was one by Mr. Herbert Rouson on a sign connected with the lower eyelid which he had observed in certain acute and chronic cases of disease. This consisted, he said, in a slight eversion of the lower eyelid made evident upon protrusion of the tongue, the lid resuming its normal state when the tongue was retracted—in other words, the lower eyelid became displaced from the eyeball, or protruded from the eyeball for the space of 1, 2 or 3 mm. upon protrusion of the tongue. He had met with this sign eight times during the last two and three quarter years, although his search for it had been by no means a careful one. This lower eyelid sign was apparently never present in health, therefore he thought it must be a sign of disease; and, since he could find no record of it in any published work or writing he regarded it as a new sign with some distinct significance and

one worthy of further consideration. He did not, however, think it was a reflex act, but was produced by the contraction of the malaris fibres of the orbicularis palpebrarum muscle—the malaris muscle as described by Henle. From the fact that the facial nerve supplying the malaris muscle and the hypoglossal nerve supplying the geniohyoglossus muscle communicated in the tongue; and, furthermore, from the fact that the nuclei of origin of the hypoglossal nerve and of the facial nerve were in close proximity in the medulla and the pons Varolii respectively, it was easy to see how the co-ordinate muscular act of the simultaneous protrusion of the tongue with the eversion of the lower eyelid was produced. In acute cases, he thought, it might be caused by the circulation in the blood of some toxin acting directly upon the common nuclei of origin of the hypoglossal nerve and of those fibres of the facial nerve supplying the orbicularis palpebrarum and its offshoot, the malaris muscle. In chronic cases it was probably caused by some peripheral irritation. Probably if the sign were regularly looked for, it would be often found present in acute cases as quite a transitory sign, and as indicating a severely ill condition—in a case of acute laryngitis complicated with influenza, in which the patient was extremely ill, he found the lower eyelid sign present one night, but it had disappeared the next day when the urgent symptoms had been relieved, and it had not since been observed in that case. When detected he thought that it should always put the medical man on his guard, whether, for instance, he were treating an acute case for some urgent symptoms, or, on the other hand, examining a case for life insurance.

NORTH OF ENGLAND OBSTETRICAL AND GYNAECOLOGICAL SOCIETY.—At a meeting at Liverpool, on October 20th, the President, Dr. LLOYD ROBERTS, in the chair, Dr. LLOYD ROBERTS (Manchester) showed a specimen of cancer of the clitoris from a patient only 31 years of age, who had noticed the growth for seven years. Attention was called to the early occurrence of the condition, and to the absence of itching as a symptom. In these respects the case presented a marked contrast to one shown by him last year. The case was illustrated by drawings and microscopic sections.—Dr. G. WHITTLE (Liverpool) considered that in cases of this kind itching was an accidental accompaniment without any direct correlation to the cancerous nature of the growth.—Dr. H. BRIGGS (Liverpool) showed two fibromyomata which were characterized by the presence of ascites. In one case the pedicle was very narrow, and the other tumour was enveloped in omentum, which was extensively adherent to its surface. These circumstances both pointed to feeble nutrition of the growth, and Dr. Briggs inclined to associate ascites with low vitality rather than with malignancy in abdominal growths. He mentioned a case of fibroids in which the Salisbury treatment was followed by ascites. The latter disappeared when the patient returned to her usual habits.—Dr. A. W. W. LEA mentioned a case in which a remarkable amount of ascites accompanied a growth which was regarded as a uterine sarcoma. After the removal of both ovaries the ascites disappeared and the tumour shrank so that the uterus became again freely movable. As no recurrence occurred within five years the case was clearly one of myoma accompanied by ascites. Dr. J. W. MARTIN (Sheffield) had recently seen an innocent ovarian tumour accompanied by ascites, the pedicle being much stretched. This case favoured the view that feeble nutrition rather than malignancy of the growth determines the occurrence of ascites. Dr. BRIGGS, in reply, compared ascites of this kind to that caused by cirrhosis of the liver. While the one was cured by removing the tumour, the other was surgically treated by improving the circulation of the liver.—Dr. GORDON W. FITZGERALD (Manchester) read a paper in which he distinguished between ruptures and lacerations of the vagina, and described several illustrative cases.

HARVEIAN SOCIETY.—At a meeting on October 12th, the following were among the cases shown. Dr. ALEXANDER MORISON: A man, aged 46 years, who apparently had had syphilis six years before, and became ill twelve months ago with left pleurisy. Dyspnoea appeared, the other symptoms being a heart displaced to the left, dullness with diminished breath-sounds over the left chest, except for some resonance at the base. Over the upper part in front there was pulsation—a palpable diastolic shock. The cough was brassy, but there was no affection of voice or paralysis of vocal cords. A skiagraph showed a dense shadow, but nothing characteristic. The diagnosis suggested aneurysm of the aortic arch, but Dr. Morison regarded the case as one of retracted lung, with exposure of the heart and displacement. Dr. MAGUIRE considered the case was one of aneurysm on account of the dullness and pulsation in the upper part of the chest, the presence of resonance at the base, the displacement of the heart, the characteristic diastolic shock and rebound; he thought the left radial pulse was smaller than the right.—Mr. JACKSON CLARKE showed a girl, now aged 8 years, on whom he had operated over two years ago for congenital dislocation of the right hip. Before the operation the child had never walked properly, and she had attended a hospital for three years, wearing a high boot. When the patient was lying down there was a 1¼ in. shortening, and the great trochanter was elevated to the same extent above Nélaton's line. A skiagraph confirmed the diagnosis. When shown there was no shortening; the great trochanter toe in Nélaton's line, the right limb in every respect as good as the left, and the skiagraphic appearances those of a normal hip. Mr. LAMING EVANS remarked on the thickening of the soft tissues around the joint, which still persisted, to this he attributed the remaining limp. He doubted whether so good a result was possible in every case.—Mr. LAMING EVANS showed a case of tuberculous disease of the right knee-joint in a girl aged 7 years, which had been treated continuously for two years by a Thomas's splint with extension. There was only ¼ in. shortening, and flexion of 45° was possible. There was apparently complete arrest of the disease. Mr. DANIEL drew attention to the good results obtained by Beer's method (injection of iodoform and glycerine) in these cases.—Mr. LAMING EVANS also showed a lad, aged 17 years, suffering from spastic paraplegia. As a result of division of the tendo Achillis in early childhood a secondary calcaneus had developed, due to the flexion of the knee-joints, which had increased with growth. He advocated correction of this flexion in such cases before dealing with the equinus by a suitable appliance producing extension and overcoming spasm of the hamstring muscle.

CHELSEA CLINICAL SOCIETY.—At the opening meeting of the Session on Tuesday, October 17th, the President, Dr. J. BARRY BALL, delivered an address on the Nasal Treatment of Bronchial Asthma. After giving an account of the pathology of the disease, and of the various physiological and pathological relations of the nasal and bronchial mucous membranes to one another, Dr. BALL proceeded to review the treatment of bronchial asthma by the removal of polypi and other affections of the nasal mucous membrane with the knife or cautery; and, where no disease existed, by the application of the electric cautery to the healthy nasal mucous membrane. His own experience had not led him to take so hopeful a view of the treatment as some of the writers on the subject, but at the same time he had found the treatment permanently successful in a certain proportion of cases, and, in a far larger proportion, completely successful for a limited period, requiring repetition at the end of twelve months or more. The results appeared to be due to reflex nerve action. By far the greater percentage of cures was, according to all observers, in cases in which there was no disease whatever in the nasal mucous membrane. Upon the whole, he considers the treatment highly satisfactory, as the relief of asthma, even for a limited period, was a great boon to those suffering from this trying affection, and the percentage of cases was sufficiently large to make it generally applicable.

A PROVINCIAL sessional meeting of the Royal Sanitary Institute will be held at the Guildhall, Northampton, on Saturday, November 4th, at 11 a.m., when a discussion will take place on the boot and shoe trade as it affects the health of the workers.

A LARGE APPENDIX IN AN ELDERLY SUBJECT. M. L. Morel recently exhibited before the Anatomical Society of Paris a large appendix measuring 18 cm. or a little over 7 in.; its calibre was double the average. The most important feature about the specimen was the fact that it belonged to a man 65 years of age. Giant appendices, Morel observed, are chiefly met with in children. He himself has exhibited one, 21 cm. (under 8¼ in.) long, removed from a boy aged 10. Gegenbauer described an appendix 20 cm., or over 7¾ in. long, and Cruveilhier another 22 cm. or over 8¾ in. long. But the record appendix, according to Morel, was reported by Lannelongue. It measured 23 cm., or nearly 9 in. in length.

REVIEWS.

A STORY OF EVOLUTION.

The name of Alfred Russel Wallace will always be remembered in the history of science, owing to his association with the chief incident in the world's history during the second half of the nineteenth century. It is no new thing to find that a glimpse of the same great generalization has been won by two minds almost at the same moment, but that it should have occurred in the case of a generalization which has so profoundly affected the course of thought as the Darwinian hypothesis, cannot fail to strike the imagination of any who realize that man doth not live by bread alone. After all, it is the things of the mind that count, and it is easier to imagine the twentieth century without electricity than without the theory of evolution.

Mr. Wallace, already a voluminous writer, has recently added to the long range of his volumes two, *My Life: A Record of Events and Opinions*,[1] which exceed in bulk any of his previous productions. It would be ungracious to grumble too much at their size, for their chapters are so well arranged, the reader is supplied with so many sign-posts and warning boards, that it is easy to skip—and the judicious will be inclined to skip—a good many of the earlier chapters of the first volume and not a few of the later chapters in the second. For on many subjects Mr. Wallace is an antibody. He is anti-vaccination, anti-State endowment of education, anti-land laws, and so on. To compensate he is pro-spiritualism and pro-phrenology, so that he carries as cargo about as large a dead weight of fancies and fallacies as it is possible to float withal. But none can help admiring and respecting him, not merely because it is obvious that he quite honestly believes in the validity of the evidence by which he has been deluded, but because as soon as he begins to think and write about his own subject he becomes forcible, convincing, and lucid. Early in life he grasped a great principle, and it has been a sure guide to his footsteps through the labyrinth in which so many systematists have lost their way. It is a real intellectual treat to follow him here, and we can easily forgive while we regret the rest.

The book, as we have hinted, is most terribly spun out, and a keener sense of humour might have saved us many weary pages. It is difficult, too, to feel much interest in Mr. Wallace's conjectures as to his ancestry, in the fortunes of his father, or in his own school days.

After leaving school, Mr. Wallace worked with an elder brother as a land surveyor, and the many opportunities of leisure that this calling afforded him in various parts of England and South Wales seem to have confirmed a disposition to a practical study of natural history which had shown itself still earlier in life. Eventually, after a short experience as a schoolmaster, he resolved to make a venture as a collector, and, having arranged with Mr. S. Stevens, an enthusiastic student of British coleoptera and lepidoptera, to act as his agent, he set sail for the Amazon in April, 1848, in company with Mr. H. W. Bates, who spent many years there, and has recorded his experiences in a fascinating volume, *Naturalist on the Amazons*.

Mr. Wallace spent four years on the Amazon, the Rio Negro, and their tributaries, and sent home many collections which made his name well known to entomologists and ornithologists. He had the misfortune, however, to lose the whole of the private collection he had formed owing to the destruction by fire when at sea of the ship on which he was returning home. He spent nearly two years at home reviewing his collections, and the papers he wrote upon them gave him a considerable reputation among naturalists. Early in 1854, encouraged and assisted by Sir Roderick Murchison, he went to the East, and spent the next eight years in the Malay Archipelago, visiting Borneo, the Celebes, the Moluccas, and other islands; it was this experience which enabled him to write his work on *Island Life*, perhaps the most important of his contributions to science.

Before this he had read *The Vestiges of Creation*, a work which produced a great effect on his mind, as on that of many thoughtful students of Nature at that time. It is, of course, well known that the theory of natural selection occurred to Wallace independently, but it may be interesting to quote the account he here gives of how the hypothesis first presented itself to him as the true explanation of a problem which had been long present to his mind:

"At the time in question I was suffering from a sharp attack of intermittent fever, and every day during the cold and succeeding hot fits had to lie down for several hours, during which time I had nothing to do but to think over any subjects then particularly interesting me. One day something brought to my recollection Malthus's *Principles of Population*, which I had read about twelve years before. I thought of his clear exposition of 'the positive checks to increase'—disease, accidents, war, and famine—which keep down the population of savage races to so much lower an average than that of more civilized peoples. It then occurred to me that these causes, or their equivalents, are continually acting in the case of animals also; and as animals usually breed much more rapidly than does mankind the destruction every year from these causes must be enormous in order to keep down the numbers of each species, since they evidently do not increase regularly from year to year, as otherwise the world would long ago have been densely crowded with those that breed most quickly. Vaguely thinking over the enormous and constant destruction which this implied, it occurred to me to ask the question, Why do some die and some live? And the answer was clearly, that on the whole the best fitted live. From the effects of disease the most healthy escaped: from enemies, the strongest, the swiftest, or the most cunning; from famine, the best hunters or those with the best digestion; and so on. Then it suddenly flashed upon me that this self-acting process would necessarily improve the race, because in every generation the inferior would inevitably be killed off and the superior would remain—that is, the fittest would survive. Then at once I seemed to see the whole effect of this, that when changes of land and sea, or of climate, or of food supply, or of enemies occurred—and we know that such changes have always been taking place—and, considering the amount of individual variation that my experience as a collector had shown me to exist, then it followed that all the changes necessary for the adaptation of the species to the changing conditions would be brought about; and as great changes in the environment are always slow, there would be ample time for the change to be effected by the survival of the fittest in every generation. In this way every part of an animal's organization could be modified exactly as required, and in the very process of this modification the unmodified would die out, and thus the definite characters and the clear isolation of each new species would be explained. The more I thought over it the more I became convinced that I had at length found the long-sought-for law of Nature that solved the problem of the origin of species. For the next hour I thought over the deficiencies in the theories of Lamarck and of the author of the *Vestiges*, and I saw that my new theory supplemented these views, and obviated every important difficulty. I waited anxiously for the termination of my fit so that I might at once make notes for a paper on the subject. The same evening I did this pretty fully, and on the two succeeding evenings wrote it out carefully in order to send it to Darwin by the next post, which would leave in a day or two.

"I wrote a letter to him in which I said that I hoped the idea would be as new to him as it was to me, and that it would supply the missing factor to explain the origin of species. I asked him if he thought it sufficiently important to show it to Sir Charles Lyell, who had thought so highly of my former paper.

"The subsequent history of this article is fully given in the *Life and Letters*, vol. ii, and I was, of course, very much surprised to find that the same idea had occurred to Darwin, and that he had already nearly completed a large work fully developing it. The paper is reprinted in my *Natural Selection and Tropical Nature*, and in reading it now it must be remembered that it was but a hasty first sketch that I had no opportunity of revising before it was printed in the journal of the Linnean Society, and especially that at that time nobody had any idea of the constant variability of every common species in every part and organ, which has since been proved to exist. Almost all the popular objections to natural selections are due to ignorance of this fact, and to the erroneous assumption that what are called "favourable variations" occur only rarely, instead of being abundant, as they certainly are, in every generation, and quite large enough for the efficient action of "survival of the fittest" in the improvement of the race."

Fortunately in this instance we were spared one of those unfortunate wrangles as to priority which have defaced the history of science. Darwin generously recognized the

[1] *My Life: A Record of Events and Opinions.* By Alfred Russel Wallace. With Facsimile Letters, Illustrations, and Portraits. Two volumes. London: Chapman and Hall. 1905. (Demy 8vo, pp. 448 and 468. 25s. net.)

originality of Wallace, and Wallace never ceased to praise the fulness and completeness of Darwin's demonstration. Writing to a friend in 1860, after receiving a copy of the *Origin of Species*, he says: "I have read it through five or six times, each time with increasing admiration. It will live as long as the *Principia* of Newton. It shows that Nature is, as I before remarked to you, a study that yields to none in grandeur and immensity. . . . The most intricate effects of the law of gravitation, the mutual disturbances of all the bodies of the solar system, are simplicity itself compared with the intricate relations and complicated struggle which have determined what forms of life shall exist and in what proportions. Mr. Darwin has given the world a *new science*, and his name should, in my opinion, stand above that of every philosopher of ancient or modern times. The force of admiration can no further go!" Again, writing to Mr. Bates in the same year, he said: "I know not how, or to whom, to express fully my admiration of Darwin's book. To *him* it would seem flattery, to others self-praise; but I do honestly believe that, with however much patience I had worked and experimented on the subject, I could *never have approached* the completeness of his book, its vast accumulation of evidence, its overwhelming argument, and its admirable tone and spirit. I really feel thankful that it has not been left to me to give the theory to the world. Mr. Darwin has created a new science and a new philosophy, and I believe that never has such a complete illustration of a new branch of human knowledge been due to the labours and researches of a single man. Never have such vast masses of widely-scattered and hitherto quite unconnected facts been combined into a system and brought to bear upon the establishment of such a grand, and new, and simple philosophy."

On returning to England in 1862, Wallace was sought out by Darwin, and friendly relations were maintained ever afterwards, although Wallace subsequently differed from Darwin on certain points. These were, as summarized by Mr. Wallace himself: First, with regard to the origin of man as an intellectual and moral being, Wallace holding that there is a difference in kind, intellectually and morally, between man and other animals, and that while his body was undoubtedly developed by the continuous modification of some ancestral animal form, some different agency analogous to that which first produced organic life and then originated consciousness came into play in order to develop the higher intellectual and spiritual nature of man. The second point was that Wallace did not accept that part of Darwin's argument for sexual selection which rested on the choice by the female of more musical or more ornamental male birds. The third point had reference to the distribution of arctic plants in the southern hemisphere and on isolated mountain tops within the tropics. Darwin's suggested explanation of the distribution was that it was due to a cooling of the tropical lowlands, during the glacial period, to such an extent as to allow north temperate and arctic plants to spread across the continents to the southern hemisphere, and, as the cold passed away, to ascend to the summits of isolated tropical mountains. Wallace held, from his study of the floras of oceanic islands, that the greater part of their flora was derived by aërial transmission of seeds either by birds or by gales, and extended this view to the transmission along mountain ranges. The fourth point was that Wallace was led to reject Darwin's theory of pangenesis and the transmission of acquired characters; in this he followed the general trend of modern opinion, which has been influenced by the views advanced by Dr. Weismann to reject the hypothesis that acquired characteristics can be transmitted.

NOTES ON BOOKS.

WHETHER Algiers is gaining in repute as a winter resort we are not in a position to say, but any one who will read the pamphlet[1] issued recently by Dr. ALFRED S. GUBB will come to the conclusion that it deserves to be visited by those fortunate persons who can winter abroad and are not afraid of the sea. The voyage from Marseilles occupies from twenty-five to thirty-six hours. There is an alternative route via Barcelona from whence a steamer takes the traveller to Palma in the Balearic Islands, proceeding next day to Algiers. Dr. Gubb gives full particulars not only of these two chief routes but also of others, and the journey once accomplished he is able to hold out many consolations to the pilgrim. When all is said that may be said of the beauties of Mustapha Supérieur, the residential suburb of Algiers, and of the waters of Hammam R'irrha, the fact remains that the great attraction of Algiers is the sun. The rainfall is not inconsiderable, but it comes down for the most part in heavy showers; the number of wet days is small, and the ground soon dries. Most visitors will go to one of the hotels, of which there are are a goodly number; but to those who prefer to venture on a villa, Dr. Gubb gives some judicious advice. The climate favours an out-of-door life to a singular degree, and a residence in Algiers has often proved very beneficial to consumptives in the earlier stage. It suits also bronchitis and emphysema, and appears particularly well adapted to the old, whether suffering in this way or merely seeking an equitable sunny climate at a season of the year when the fluctuations in temperature and humidity in these islands are extreme. The modern part of the city is well kept, and the streets are scrupulously clean; while the old town presents to the untravelled Briton many unfamiliar types of humanity living in accord under the strong hand of the French Governor-General.

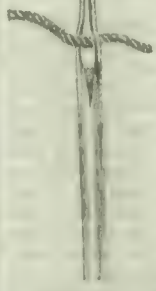
[1] *From Cloud to Sunshine: Notes on Algiers as a Winter Resort.* By Alfred S. Gubb, M.D. London: Baillière, Tindall and Cox. 1905. Price, 1s. net.

ALBERTO SALMON,[2] in a pamphlet on the cause of sleep, brings forward a great number of arguments, quotations, and illustrative cases to support the view that sleep, physiological or otherwise, is directly due to the internal secretion of the pituitary gland, or the anterior lobe of the hypophysis cerebri. Thus he endeavours to prove that hypertrophy, or functional hyperactivity of this part of the hypophysis, is constantly observed in diseases characterized by somnolence, such as hypertrophic tumours of the pituitary body with or without acromegaly, myxoedema, sleeping sickness, chronic meningitis, or other conditions associated with congestion or inflammation of the hypophysis, and acute intoxications that cause excessive glandular secretion—poisoning with pilocarpine, for instance, or with morphine. In diseases characterized by insomnia, on the other hand, destruction or diminished functional activity of the hypophysis may be suspected, and some cases are quoted from the literature where such destruction has been found *post mortem*. Such insomnia occurs in destructive or degenerative tumours of the pituitary body—and here, it appears, the thymus or thyroid glands may take on a compensatory hypertrophy—in Basedow's disease—which the author thinks may in all probability be referred to a functional perversion of the hypophysis—and in a great variety of morbid conditions where some functional defect of the gland may be supposed to occur, such as inanition, old age, diabetes, arterio-sclerosis, and, indeed, almost any acute or chronic infectious process. The great majority of the author's conclusions are highly speculative in character; a few are based upon the objective evidence of *post-mortem* examinations. Over four hundred references to the literature are given.

[2] *Sull' Origine del Sonno*, Firenze, 1905.

MEDICAL AND SURGICAL APPLIANCES.

A Grip-eyed Needle.—Mr. HERBERT J. PATERSON, F.R.C.S. (London) writes: The accompanying woodcut shows a needle-eye designed to obviate the inconvenience and delay caused by the accidental unthreading of a needle during suturing. It may be conveniently termed a "grip-eyed" needle, and is especially adapted for continuous sutures. By pulling the suture into the narrow end of the eye the silk is firmly gripped so that it cannot slip out. This form of eye can be adapted to any pattern of needle, and I have found it of especial value in all forms of intestinal anastomosis. The needles are made by Messrs. S. Maw, Son and Sons.



THE Glasgow Eastern Medical Society held its first meeting for the session of 1905-6 on October 18th, when the President, Dr. Miller Semple, gave an interesting account of practice in the northern territories of New South Wales. It was illustrated by limelight views, and by a collection of native curios and mounted specimens of the flora and fauna of the region. The other office-bearers for the year are Dr. T. O. Barras, Vice-President; Dr. T. Russell, Treasurer; and Dr. H. H. Borland, Secretary.

THE TERCENTENARY OF SIR THOMAS BROWNE.

Statue unveiled at Norwich.

The citizens of Norwich celebrated on October 19th, 1905, the tercentenary of Sir Thomas Browne and signalized the occasion by unveiling a statue erected to his memory and by holding a special service in the Church of St. Peter Mancroft where Sir Thomas used to worship and lies buried.

The observances in connexion with this festival began on the morning of October 19th with a meeting at the Pathological Museum of the Norfolk and Norwich Hospital. The object of the gathering was to thank Dr. Robert Barnes for his generosity in giving £500 for the restoration of the Pathological Museum of the hospital, and to express to Professor W. Osler the thanks of the hospital authorities for the handsome casket and pedestal for the reception of the skull of Sir Thomas Browne. Sir Charles Gilman, speaking on behalf of the Museum Committee, thanked Dr. Robert Barnes, and Dr. M. Beverley on behalf of the medical staff also conveyed to Dr. Barnes their thanks for his gift. Sir Charles Gilman and Dr. Beverley were also the spokesmen in acknowledging the gratitude of all connected with the hospital to Professor Osler for his contribution. Dr. Robert Barnes, in the course of his reply, said that the excellent arrangement of the new museum was a matter of congratulation to all concerned, and he was followed by Professor Osler who suitably acknowledged the thanks accorded to him.

Unveiling of the Statue.

The ceremony of unveiling the statue took place in an open part of the city of Norwich known as the Haymarket, and the office of unveiling the statue was performed by Lord Avebury, better known as Sir John Lubbock.

The idea of erecting a special memorial to Sir Thomas Browne had been considered for many years in Norwich, and in 1897 the citizens appointed a Committee to decide upon the most suitable and acceptable form of memorial. The result of the deliberations of this Committee was the bronze statue which was unveiled by Lord Avebury. The artist is Mr. H. P. Pegram, and the site is in the Haymarket, close to the place where the house occupied by Sir Thomas Browne used to stand, and the statue is close to the Church of St. Peter Mancroft. The statue is placed upon a slight rise of the ground, and the architect is to be congratulated on the splendid position which the citizens of Norwich have found for his work.

The bronze statue shows Sir Thomas Browne seated in a chair contemplating a fragment of an urn in his right hand. The statue measures 7 ft. in height and represents Sir Thomas Browne in the dress of the seventeenth century. The pose of the figure is quite natural, and the whole effect of the work upon the observer is to suggest a man in deep thought. A word of praise may be added in regard to the shape of the granite pedestal upon which the statue is placed, for it roughly resembles a huge urn and this is accomplished without in any way attracting too much attention to this detail.



Statue of Sir Thomas Browne.

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The Committee for the Memorial had invited to the ceremony of unveiling the statue representatives of many learned and distinguished bodies, and these gentlemen were received by the President of the Committee, Sir Peter Eade. The Royal College of Physicians of London was represented by the President, Sir R. Douglas Powell, by the Treasurer, Sir Dyce Duckworth, and by the Senior Censor, Dr. Payne. The Royal College of Surgeons of England sent as their representatives the Vice-President, Mr. Edmund Owen, and Professor Howard Marsh one of the Council of the College. The University of Oxford was represented by Professor W. Osler, Regius Professor of Medicine, and Professor Clifford Allbutt, Regius Professor of Medicine in Cambridge University, attended on behalf of that University. Dr. Michael Beverley represented the British Medical Association of the Council of which he is a member. Dr. Burton Fanning was present in his official capacity as President of the Norwich Medico-Chirurgical Society. Amongst the medical men present were Dr. C. J. Cullingworth, Mr. Reginald Harrison, and Dr. W. S. A. Griffith.

The numerous representatives and the members of the Memorial Committee having repaired to the covered stands at the foot of the statue, an intimation was sent to the officials of the Corporation, who thereupon appeared headed by the Mayor. The Rev. F. J. Meyrick, Vicar of St. Peter Mancroft, then offered up a prayer, and this was followed by Mr. F. R. Eaton, the Secretary of the Memorial Committee, reading the following letter from F. Bacon, of Yale University:

> With great regret I am obliged to decline the invitation with which your committee has honoured me. In doing so, however, I am not wholly deprived in participation in the memorial observances, for on the day which finds you assembled in Norwich it is proposed in this city, under the auspices of the Yale University, to celebrate the tercentenary of the birth of your renowned citizen, and I have been honoured by the appointment to deliver an address on that occasion. With congratulations upon the completion of your meritorious labours,
>
> I remain, etc.,
>
> (Signed) F. Bacon.

To this letter the following reply was sent:

> Browne's old city rejoices with an illustrious university in perpetuating the life and work of a great and good man.

Dr. Bensley then described the history of the movement. He said: The opinion has long been held, and the feeling often publicly expressed, both locally and elsewhere, that some permanent memorial of our great philosopher and eminent writer, Sir Thomas Browne, M.B., should be erected in the city of Norwich, where he resided for forty-six years, and in which he died in the year 1682. During his lifetime and shortly after his decease his chief literary works, especially the *Religio Medici*, *Christian Morals*, *Vulgar Errors*, and *Urn Burial*, passed through many editions. The first of these works at that time went through no less than thirteen editions in England and eleven in foreign countries; and now after the lapse of more than two centuries since his death his books are being re-edited and widely read and studied. It is not too much to say that they are regarded with ever-increasing appreciation, and with a recognition of the immense

power and profound learning displayed in them. It is true that Sir Thomas Browne himself modestly deprecated any posthumous monument in his honour, desiring that the remembrance of his name should be found only "in the universal register of God"; but, notwithstanding this, it has been thought that he, like other great men of eminence in literature, art, or science, should have his memory perpetuated in a substantial form, in the locality associated with his name. Accordingly a responsible Committee was formed, under the presidency of Sir Peter Eade, M.D., and by it a sufficient fund has been raised to erect this statue of Sir Thomas Browne now placed in this most suitable position in the Haymarket, near the site of the house in which he resided for so many years, and near the Church of St. Peter Mancroft in which he was buried. It has been designed and executed by Mr. Henry Pegram, A.R.A., and Lord Avebury has most kindly consented to unveil it on this 19th day of October, the tercentenary of the birth of Sir Thomas Browne and also the anniversary of his death. The desire of the Committee has been that the memorial should not be a merely local one. Sir Thomas Browne made this city his home, but he was not a native of it, and his reputation is world-wide, and we are glad to be able to state that admirers of his writings, not only in Norwich and Norfolk but in other parts of the empire and in America, have taken an interest in this work and contributed to the fund in order that this statue may be for all time a worthy memorial of the great man whose memory it is intended to honour. After many delays and anxieties the Committee has to-day arrived at the last stage of its labours.

Sir Peter Eade then invited Lord Avebury to unveil the statue, and in the course of his remarks referred to the prolonged efforts of the Memorial Committee which had at length resulted in placing the statue of Sir Thomas Browne upon its pedestal.

Lord Avebury said that Sir Thomas Browne richly deserved the statue that had been so wisely erected, for he had long been a great honour to Norwich, and it was fitting that Norwich should do honour to him. Sir Thomas Browne held a unique place not only in English literature, but in the literature of the world. Lowell regarded him as "our most imaginative mind since Shakespeare." It was to be hoped that the sight of his statue might induce many to read his books, and they would not be disappointed. The monument in Norwich Cathedral described him as "*vir prudentissimus, integerrimus, doctissimus.*" They could well believe the first two commendations, and could judge for themselves how well the third was deserved, and could the more readily believe that the others were true. Sir Thomas Browne was one of the most distinguished citizens of Norwich; his prudence was shown by the fact that he lived so prosperously through the disturbed times of Charles I, of Cromwell, and of Charles II; his excellence was shown by the universal respect which was felt for him in Norwich, and by the love and affection of his own family. Sir Thomas Browne was an honour to Norwich, and conferred lustre on that city; and in erecting that monument to one of its most distinguished citizens Norwich did honour to itself.

Amid the loud cheers of the large assembly present Lord Avebury then pulled the cord of the covering sheet and unveiled the statue.

Sir Samuel Hoare, M.P., in moving a vote of thanks to Lord Avebury, referred to the unveiling of the statue as the removal of a blot from the history of Norwich, for they had now a monument to their great citizen, Sir Thomas Browne.

Professor Clifford Allbutt, in seconding the vote of thanks, said they celebrated on that day the memory of a man great in Norwich and great also beyond the realms of the United Kingdom, for he was great as a man of science, great as a naturalist, and greater still as a man of letters. It was therefore with singular fitness that the statue of Sir Thomas Browne had been unveiled by Lord Avebury, who was a great man of science, a great naturalist, and distinguished as a man of letters.

Mr. G. White, M.P., also supported the motion for the vote of thanks to Lord Avebury, and this, on being put to the meeting, was carried with acclamation.

Lord Avebury having made a suitable reply, Sir Peter Eade stepped forward, and, having referred to the ideal site on which the statue was placed, declared that it was his duty to ask the Mayor of Norwich to accept the statue from the very large and eminent body of subscribers to it on behalf of the city of Norwich. It was hoped that the statue would be what it was intended to be—namely, a monument to departed learning, genius, and moral greatness; a monument to a man of whom even his contemporaries were wont to speak in the superlative, and to whom, immediately after his death, a mural monument in the adjoining church of St. Peter Mancroft was erected, bearing an inscription probably never given to any other man in the world: "The most known, the most celebrated throughout the world." It had been said that Sir Thomas Browne was not a citizen of Norwich—that he was not born there; but he lived in the city for nearly half a century, his life-work was done within its walls, he died there, and was buried in the adjoining church, and they were proud to be assured that he would be known for all time as Sir Thomas Browne of Norwich.

Sir C. Gilman, in supporting the request made by Sir Peter Eade, stated that the statue was midway between the site of the house which had been occupied by Sir Thomas Browne and the church of St. Peter Mancroft, in which his remains were placed.

The Mayor, in accepting the gift of the statue on behalf of the city, said that until this year of the tercentenary of the birth of Sir Thomas Browne no public monument had been erected to this citizen of Norwich, whose great literary and medical talent had become a national asset. The whole medical profession acknowledged how much they were indebted to this eminent physician, who died near that spot 222 years ago, and whose remains were interred in the parish church close by the spot where the statue was placed. The Mayor concluded by asserting that Norwich would faithfully preserve the statue as a tangible memorial to succeeding generations.

This concluded the ceremony of unveiling the statue, and most of the company then proceeded to the church of St. Peter Mancroft, where the Vicar was kept very busy for some time showing to Lord Avebury and the representatives from the Universities and Colleges of Physicians and Surgeons the articles of interest connected with Sir Thomas Browne preserved in a small chamber behind the communion table.

Luncheon at the Blackfriars Hall.

The Memorial Committee entertained to lunch in the old chancel of the Blackfriars Hall the distinguished company of guests who had attended the tercentenary festival in memory of Sir Thomas Browne. The chair was taken by Sir Peter Eade, who had on his right hand the Mayor of Norwich, the High Sheriff of Norfolk, Professor Osler, Mr. E. Owen, Mr. G. F. Buxton, Sir Dyce Duckworth, Dr. Payne, Dr. Cullingworth, Dr. Griffith, Professor Howard Marsh, Mr. H. S. Robinson, and Dr. Beverley. To the left of the Chairman were seated Lord Avebury, Sir R. Douglas Powell, Bart., the Sheriff of Norwich, the Dean of Norwich, Professor Stuart, Professor Clifford Allbutt, Dr. Robert Barnes, and Dr. Burton-Fanning.

After Sir Peter Eade had proposed the toasts of "The King," "The Queen and the Rest of the Royal Family," and these had been duly honoured, the High Sheriff of Norfolk proposed the toast of "Lord Avebury."

Lord Avebury, in reply, said that they were met that day to recognize what they owed to a great citizen of Norwich whose statue they had that morning unveiled. Mr. Gosse, in the *English Men of Letters* series, protested against the long and pedantic words which Sir Thomas Browne was so fond of coining, but it must be remembered that some of his works were left in more or less disjointed notes. They had not the benefit of his revision and perhaps he would have omitted some of the longest words. Mr. Gosse compared the style of Sir Thomas Browne to light "shot with all the colours of the spectrum, flashed out against a firmament of romantic gloom." Some might, perhaps, consider that his writings had not, according to our present taste, the literary perfection which was so delightful in the prose of Ruskin or Matthew Arnold, or, to quote living authors, of Mr. Morley or Mr. Frederic Harrison, or Sir G. Trevelyan, or of Professor Bryce. But all must admit that the writings of Sir Thomas Browne had a peculiar charm of their own, a stateliness, quaintness, and raciness of expression which was quite unique; they offered a succession of pleasant surprises, and sparkled with exquisite wild flowers of speech, not without a rich supply of facts and picturesque stores of wise sayings. They charmed Dr. Johnson, who wrote his life, and also Pater, who was certainly a first-rate authority, and compared him to Jean Paul Richter among Germans, and Montaigne among Frenchmen. It had been well said that Browne was intensely rather than extensively admired. Perhaps his most celebrated work was the *Religio Medici*. It was copied in various forms over and over again—*Religio Philosophi*,

Religio Laici, *Religio Juris Consulti*, *Religio Clerici*, *Religio Militis*, and so on. It was written in a reverent, but broad and inquiring spirit, for, as he said in his quaint language, "every man's own reason is his best Oedipus." He had by some been, most incorrectly, accused of incredulity and Atheism. On the contrary, he assured them that "he is of the Reformed Religion; of the same belief as our Saviour taught, the Apostles disseminated, the Father authorized, and the Martyrs confirmed," though he (Lord Avebury) was not sure that if he had lived in Italy or Spain, instead of East Anglia, he might not himself have confirmed his faith by martyrdom. No doubt, however, he was a sincere member of the Church of England, which, in accordance with his habit of quoting authority, he assured us with evident satisfaction, was "approved by Grotius." Still, he felt that "those who do confine the Church of God either to particular nations, churches, or families have made it far narrower than our Saviour ever meant it to be." And elsewhere he observed that "persecution is a bad way to plant religion." His religion was one of cheerfulness, and he always saw the happy rather than the gloomy side of life. It was a Christian mood, a state of mind, an atmosphere of reverence and gratitude rather than a creed. He felt deeply the mystery of existence. He dwelt more on the hope of heaven than on the horrors of hell, and said that he had so fixed his contemplation on heaven that he had almost forgotten the idea of hell; he could, he continued, hardly think that there was ever any one scared into heaven. In another passage he said that were the happiness of the next world as clearly apprehended as the felicities of this, it were a martyrdom to live. Not that Sir Thomas Browne undervalued life, for he wrote that his life was a miracle of thirty years, which to relate were not history but a piece of poetry, and would sound like a fable. By that passage he meant to point out the value of life, not specially of his own life; his advice was neither to fear death nor desire it, for a miserable life might make them wish for death, but a virtuous one to rest in it. Sir Thomas Browne considered that whoever enjoyed not life was but an apparition, though he wore about him the visible affections of flesh. So far from being an unbeliever, he was perhaps too credulous; from the point of view of the present day, indeed, he accepted certain dicta which would hardly be subscribed to nowadays, as, for instance, where he defined faith as being not only above but contrary to reason; probably had he lived now he would himself cancel that sentence. It did not seem clear whether he believed in touching for the King's evil, it was, of course, a very general idea, and Charles II was said to have touched over 92,000 people. Browne once recommended it in the case of a boy whose mother appeared to have been set on it, and he did so, perhaps, to humour her. She took the boy to Bruges, where the King was then, and brought the boy back cured, which so impressed the father, who was a Nonconformist and who had not till then believed in the remedy, that he adjured Dissent and joined the Church of England. Lord Avebury commended the argument to Dissenters, but scarcely thought it would convince them. Whether Browne did or did not believe in touching for King's evil, there was no doubt that he did believe in witches. That had been described as a blot on his life, and led to the one act of his life for which he had been severely blamed. In 1664 two wretched women were charged with witchcraft, and though Sir Thomas Browne took no part in the prosecution, he was unfortunately present in Court, and was called upon by the judge to express his opinion. He could hardly have refused to do so, and the unfortunate women were convicted. According to Mr. Gosse, their blood was on his head; but was that fair? for belief in witchcraft was general at the time, and though Sir Thomas Browne was in many respects in advance of his time, unfortunately in that respect he shared the belief which had for ages been the general belief of mankind. They might regret it, they might feel surprised that sensible men should have believed such nonsense, but they could hardly blame Sir Thomas Browne for sharing a superstition that was general at the time, and held by Luther and Calvin, and even by the great and good Wesley. It was an unfortunate error of judgment, but ought not to be taken as a stain on his character. One of his most celebrated books was on vulgar and common errors. Many of them seemed childish to men of the present day, but they were widely prevalent at the time of Sir Thomas Browne, and some were perhaps even now not quite extinct. In his book on Christian morals he gave excellent advice: Let not the sun, he said, go down upon thy wrath, but write thy wrongs in ashes; draw the curtain of night upon injuries, shut them up in the tower of oblivion, and let them be as though they had not been measure not thyself by thy morning shadow, but by the extent of thy grave. Continuing, Lord Avebury said that if time had permitted he would have referred to Browne's other writings, and especially to his wonderful treatise on *Urn Burial*, which Pater regarded as perhaps his greatest work, and one which, in its own glowing and majestic style, had not been equalled, and which Mr. Gosse called most curious and unaccountable. Being a naturalist himself, Lord Avebury, of course, referred to Sir Thomas Browne's *Notes and Letters on the Natural History of Norfolk*, and, as an entomologist, Lord Avebury heartily subscribed to Browne's dictum about ants and bees, that "in these narrow engines there is more curiouse mathematics, and the civility of these little citizens more neatly sets forth the wisdom of their Maker." In conclusion, Lord Avebury declared that although geniuses were not always good to live with Browne was no solemn and melancholy autocrat. On the contrary, all that was known of his domestic life was charming. Devoted to his wife and children, he fully appreciated the inestimable blessing of a happy home. There was, he said, a music in the beauty and the silent note of love far sweeter than the sound of any instrument. It was not therefore by any means merely for his style, however striking, or for his language, however quaint and rich, but for the moral excellence and noble principles contained in them that Browne's writings would always hold a high place not only in English literature, but in the libraries of the world.

The next toast was "The Memory of Sir Thomas Browne," which was proposed by Professor James Stuart, who said that he would confine himself to one aspect of the subject, namely, Sir Thomas Browne as a citizen of Norwich. Browne, by influencing others, eventually influenced the men of the present day. In Sir Thomas Browne's time very few among the citizens of Norwich were able to appreciate the treasures of literature, but at the present day the vast mass of the population possessed that golden key which enabled them to unlock the treasures of literature for themselves. Professor Stuart concluded his speech with the words of Dr. Johnson—that Sir Thomas Browne will not be easily deprived of the esteem of posterity while learning shall have any reverence among men.

Sir R Douglas Powell (President of the Royal College of Physicians of London) said: I am deeply honoured in having to respond to this toast, and as one of the representatives of the Royal College of Physicians I must express the gratitude of the College to the Memorial Committee for giving this opportunity of doing honour to the memory of our Fellow in the city where he lived his life of scholar, physician, and Christian gentleman. Sir Thomas Browne was a distinguished Englishman, a man of noble thoughts, which he expressed in the rich and stately language of his day. Although not born in this city of Norwich, yet he found his sphere of work and greatest influence here, and it was in connexion with some ancient Roman relics found here that he wrote what is perhaps the most subtle and charming of his essays. It has not escaped notice how averse Sir Thomas himself was to tombstone and other memorials. "At my death," he said, "I mean to take a total adieu of the world, not caring for a monument, history, or epitaph—not so much as the bare memory of my name to be found anywhere but in the universal register of God." And this shrinking from posthumous fame, which is manifested in passages not only in his earlier but also in his later writings, has been respected for eight generations since his death. It may well be said that now it is somewhat late to be unveiling a memorial to him! But I think such belated monuments find their justification rather in the survival than in the perpetuation of their subject's memory. There are many reputations perhaps brilliant at the moment, yet so urgent in their need of perpetuation and so quickly evanescent that they are fittingly memorialized in waxen effigies which, quickly moulded, may endure for a few weeks, months, or years, and will then boil down to be reconstructed in the likeness of the next recipient of Fame. Other statues urgently constructed but of more enduring material may long and inconveniently outlast the oblivion of the subject whose fame they would fain preserve. It is not so with Sir Thomas Browne. We to-day celebrate that Sir Thomas Browne has lived three centuries in our memory, and our continued appreciation of his works, and his statue is here erected for the honour of the town and to remind its citizens of his great example. The Psalmist, in a striking but sombre passage, says: "When the breath goeth out of a man he returns to his dust, and all his thoughts perish." I know not

how Sir Thomas Browne would have interpreted this text. But surely such thoughts as come to us through the great men of all ages are disembodied immortal spirits, divine inspirations which rule the world, and finding lodgment and expression in the winged words of men quicken the conceptions of literature, science, and art for successive generations. They are surely not within the meaning of the Psalmist as of the earth and as perishing with earthly things. It cannot be said that Sir Thomas Browne—excellent physician as he was—contributed anything to the science of medicine. Steeped in the learning of the centuries, his writings must be classics for all time. But his period was behind the seventeenth century as that of his great contemporary, Harvey, was in front of it. His works and those of Harvey furnish us with instructive illustrations of the overlapping of the old mystical medicine and the new learning by way of experiment. The two great personalities seem to stand upon the watershed of Time, looking different ways. Let us treasure the memory and example of the one; the other lives with us in our daily work.

Mr. EDMUND OWEN (Vice-President of the Royal College of Surgeons of England) said: I dare not attempt to make a speech after Lord Avebury's and after Professor James Stuart's charming addresses. Those speakers are, indeed, splendid examples of men whose poetic feelings and flowery diction have not been spoiled by long association with the House of Commons. Instead, therefore, of a speech, I will venture to offer you only one thought: Sir Thomas Browne, though a deeply-religious man, walking humbly with his God, modest and charitable, was absolutely unspoiled by his religion; his devotion did not cramp his thought or cripple his style; nor did it in the least place a check upon his desire for a fearless investigation into the meaning of things. He says:

> Search while thou wilt; and let thy reason go,
> To ransom truth, e'en to th' abyss below;
> Rally the scattered causes; and that line
> Which Nature twists be able to untwine.
> It is thy Maker's will.

More people like Sir Thomas Browne were wanted at the present day. What view would Sir Thomas Browne have taken of the miserable, unholy, uncharitable line of attack which was so often made by otherwise kind and well-meaning persons upon men of science? Had Sir Thomas Browne entered into the lists and taken part in the discussion, he would have begged them at least to be honest and charitable, and to extend towards those who thought differently from them that courteous liberality and the right to freedom of speech and action which they would at all times desire for themselves.

The DEAN of NORWICH, who also replied to the toast, said that Sir Thomas Browne had made all intelligent persons his debtors, for in his works he had taught them much that he never dreamt of teaching. "At my death," he said, "I mean to take a total adieu of the world, not caring for a monument, history, or epitaph, not so much as the bare memory of my name to be found anywhere but in the universal register of God." And yet what a loss he would then have inflicted upon humanity. How many hours have been in turn solemnized, solaced, and stimulated by reflecting upon his contemplation, so daring, so deep, and so far-reaching in the pages of the *Religio Medici*. There was not a student who would hesitate to allow that the works of Sir Thomas Browne proved that he made the utmost use of his time, for Browne's estimate of time enabled him to move from subject to subject, and from scene to scene, and from age to age, with all the interest that belongs to original inquiry, and with all the joy that is generated by primary discovery. Time was used by him in the study of the sacred writings, the works of the Fathers, the geography of religion, the devotions of their disciples, and the manner and customs prevailing amongst creeds, cults, and even races. The whole field of nature was subject to his keen observation, and to his unfailing reverence, while it ministered to his insatiable thirst for knowledge. The ocean, sweeping in all its majesty; the over-reaching heavens, in their impressive splendour, the animals in their might, and animalculæ in their millions, the earth and all that it inherits—yea, the spirit world, with its crowds of intelligent beings and man so ministered to the sovereignty of well-nigh all, each was to him a museum founded by Omnipotence, furnished by Omniscience, universalized by Omnipresence. Its portals went flying open wide to the scores of men in all zones, and at all hours, and to all eyes. The man who could reflect, and reason carefully about his reflections, must have been a conscientious economist as to the best use of time. The length of life was to be measured by what was put into it. Sir Thomas Browne saw three score and seventeen years and lived centuries in that time. His memory gave to them another message in sedate and solemn phrase on the recognition and realization of the essential place of mystery in religion; a religion from which mystery was excluded forfeited every claim to supernatural origin. It never could rise above humanity and it never could elevate the humanity that invented it. "I love," said Sir Thomas Browne, "to lose myself in a mystery, to pursue my reason to an altitude." But whatever might be thought about Sir Thomas Browne they remembered his recognition of the essence of revealed religion and the sense of mystery as the mother of reverence.

Professor W. OSLER (Regius Professor of Medicine of the University of Oxford) said: I claim to be a pilgrim who came to this City of Norwich thirty-three years ago to visit the place hallowed by the memory of Sir Thomas Browne. There are three lessons to be gathered from the life of Sir Thomas Browne, all of them of value to us to-day. First, we see in him a man who had an ideal education. He was thoroughly versed in the classics; he lived abroad for two years, and thereby learned the hardest lesson in life, for he became denationalized so far as his intellect was concerned, and also so far as his human sympathies were concerned. He became not a citizen of England, but a citizen of the whole world. All places made for him but one country, and he was in England everywhere. The second important lesson we may gain from the life of Sir Thomas Browne is that he presents a remarkable example in the medical profession of a man who mingled the waters of science with the oil of faith. I know of no one in history who believed so implicitly and so simply in the Christian religion, and yet it is evident from his writings that he had moments of ardent scepticism. One might have wished he had been a little less credulous, and I was glad to hear Lord Avebury defend him so warmly from the charge brought against him in regard to the trial of the witches; but it must be remembered that a man must be judged by his day, by his generation, and by his contemporaries. There were very few men in the medical profession at that time who followed the teachings of Reginald Scott, who was the first Englishman to come forward and speak out honestly and say, "Stop burning those poor women." The third lesson to be drawn from the life of Sir Thomas Browne is that the perfect life may be led in a very simple, quiet way. Norwich, in the days of Sir Thomas Browne, was provincial and small, and yet here is a man who lived perfectly, and who lived his life successfully, not only doing good, but also being able, through his industry, to carry out those extensive literary works which are now our pride and our joy. May I bear witness also to the work of two other men, as I feel Sir Thomas Browne would not have liked their names to be passed over? I refer to Mr. S. Wilkins, a Norwich man, who reintroduced Sir Thomas Browne to this generation. It is a good thing to know that the books which Mr. Wilkins collected will be in the Norwich Museum, and will bear witness to the life and work of Sir Thomas Browne. The second name is that of Dr. Greenhill, who has studied the life and works of Sir Thomas Browne more closely than any other man, and who will keep his memory alive by means of the superb edition of the *Religio Medici* published by Messrs. Macmillan.

The toast of "The Sculptor" was proposed by Mr. E. WILD, and responded to by Mr. H. PEGRAM, A.R.A. The list concluded with that of "The Memorial Committee," which was suitably acknowledged by the CHAIRMAN, Sir Peter Eade.

After the luncheon the visitors inspected an interesting collection of the works of Sir Thomas Browne which were displayed at the Blackfriars Hall, and arranged by Mr. C. Williams of Norwich. Each guest was presented with a bound copy of a souvenir of Sir Thomas Browne adorned with twelve illustrations and enriched with notes by Mr. C. Williams.

THE MEMORIAL SERVICE AT ST. PETER MANCROFT.

The Vicar of St. Peter Mancroft celebrated a memorial service in the evening at St. Peter Mancroft Church, and the occasion was signalized by the attendance in full official robes of the various representatives from the many scientific and learned bodies interested in the life and works of Sir Thomas Browne. The Mayor, the Sheriff, and the members of the Corporation of Norwich were also present, and the members of the Memorial Committee attended. The service, which was choral, was conducted by the Vicar, the Rev. F. J. Meyrick,

and Bishop Mitchinson, Master of Pembroke College, Oxford, where Sir Thomas Browne was educated, delivered the sermon. He took as his text the first and portions of the following verses of Ecclesiasticus xliv. The Bishop said that in church in the presence of God they might with advantage study the lessons of a dead man's works. He proceeded to give a brief sketch of the life of Sir Thomas Browne, and referring to the fact that his skull was preserved at the Norfolk and Norwich Hospital, declared that he could hardly conceive it possible that the citizens should have inflicted such an indignity upon one of their most distinguished fellow-citizens as to ever have removed his skull from its resting place in the church where his body lay buried. The impressive service concluded with the evening hymn, "The night is come like to the day," the words of which were taken from the *Religio Medici*.

NOTES ON EXPERIENCES DURING THE RUSSO-JAPANESE NAVAL WAR, 1904-5.

Read before the Annual Meeting of the Association of Military Surgeons, U.S.A.

By S. Suzuki, M.R.C.S.Eng., L.R.C.P.Lond.,

Surgeon-General, Imperial Japanese Navy.

I feel it a great honour to be allowed to address this nonourable meeting on the subject of my recent experiences during the present war. The limited space of time at my disposal does not allow me to go into details even on points of importance: and I think therefore that my best plan will be to touch briefly on the several points which have been most prominent in my experience, so as to give you at least an outline of the whole subject.

I divide my experiences as Surgeon-in-Chief of the Combined Fleets serving on board the Flagship *Mikasa* under Admiral Togo, into two parts.

(I). The treatment and management of the wounded.

(II) The sanitary arrangements of the combined fleets.

And first as to the

Treatment and Management of the Wounded.

In February of last year, before our fleets left Sasebo, I issued orders to the surgeons of the fleet that aseptic treatment should be adopted in the treatment of the wounded in all the battles of the war then imminent, and that all necessary preparations for the adoption of this treatment should be made. I also ordered that the observation of conservative methods of surgery, amputations, etc., on board the warships should be avoided as far as possible, and every preparation made for transferring the wounded as soon as possible after the conclusion of an engagement to the hospital ships, for conveyance to the home hospitals, where complete asepsis could be enforced and better results obtained than on the warships, where our arrangements were of necessity more or less incomplete.

All the gentlemen here present are aware that even in peace time complete asepsis is a matter difficult of attainment on board a warship. During an engagement it is ten times more difficult. The firing of guns, the hastening to and fro of men engaged in combat, and a thousand other things fill the air around the temporary surgery with dust and particles of matter, a number of wounded cases are brought in, all demanding immediate treatment, and the constant need for dispatch in doing our work—all combine to make complete asepsis a thing almost impossible to enforce. We are, however, convinced believers in the immense value of the aseptic treatment of recent wounds, so that we have constantly endeavoured to combat all the difficulties that stood in our way, and, as I hope to show in this paper, our perseverance has been abundantly rewarded.

The total number of casualties from February, 1904, to August, 1905, was 3,682: of these, 1,891 were killed and 1,791 wounded, of which 117 died afterwards.

Of the 1,891 deaths, 1,445 were due to shipwrecks caused by submarine mines, and only 563 to wounds received in actual fighting.

Of the 1,791 wounded, 647 received wounds requiring hospital treatment, and of these only 32 died. The rest were partly light cases, and partly cases requiring greater care.

Our aseptic methods have been the same as those in general use in every part of the world. All dressing materials were sterilized by steam, and kept in close tin cases; surgical instruments were purified by boiling in soda water; the surgeon's hands, and the skin around the wounded parts, were washed in sterilized water, with soap applied by a brush. A solution of sublimate was next used, and this washing was followed by another washing with sterilized water. When the condition did not allow the use of soap and water unhydrated alcohol was used to sterilize the skin around the wounds.

Many opinions have been broached by the surgeons of various navies as to the proper treatment of the wounded during action. My own experience during the actions of the present war leads me to the conclusion that it must be divided into two stages.

In the first stage, that is, whilst the action is still going on, we can hope to accomplish nothing except the most urgent aid. We can merely ligature or compress arterial bleeding, or apply ready-made splints in cases of fracture, or cleanse the wounds of the soft parts of the body, and apply sterilized gauzes and bandages; but that is all. It is not till we come to the second stage, when the action is over and the firing has ceased, that we can really begin to apply our healing art. We can then get the ship's surgery ready for the work, and give orders for the wounded to be brought thither from the places where they have been temporarily stowed. We take the severer cases first, examine the wounds minutely and make notes on each case, try to extract any fragments of shell or pieces of cloth which seem as if they could be got without much difficulty, and where possible suture the skin. It will perhaps be thought that in these latter cases, primary union is hopeless, and that not much good can be obtained by suture. Our experience has, however, showed us that to cover a wound surface with skin is a great protection to it. In cases of compound fracture, free segments of bone in the wound cavity were extracted; but fissured fragments or such as were not completely detached were left *in situ*, and it was found that these would unite afterwards at the home hospitals. The dressings in the second stage were the same as those used in the first.

The treatment given during the second stage was merely of the nature of urgent aid. I believe that it is better to give temporary relief to the wounded rather than to meddle with complicated operations, and to transfer the patients as soon as possible to the hospital ship. The action which has ceased for the time may at any moment be resumed. It is not right, therefore, nor desirable to spend precious time in attending to the wants of a few, and thus to leave unattended the larger portion of the wounded. I believe that in crises like these it is a surgeon's duty to give relief to all the wounded and not to a few only.

The Location of the Temporary Surgery.

Many ideas have been broached in the various navies as to the proper place for a ship's surgery. Ideally speaking, the right thing would be that at the time of designing a ship a proper space below the water-line should be allotted for the purpose, with proper arrangements for the conveyance of wounded men; but this ideal arrangement often interferes with combatant dispositions, not only on small vessels but even on battleships, and hence it has come to pass that not one of our men-of-war possesses a surgery ideally placed, though we found one or two on some of the captured Russian ships. My recent experience, however, confirms me in the thought that, in spite of certain drawbacks, the proper place for the surgery is below the water-line. Care must be taken to provide good light and good ventilation, and an elevator for the conveyance of the wounded is most desirable. It is not necessary that the sick-berths should be near the surgery; for the sick may be removed during the action to some place of greater safety; the berths may be placed in any suitable situation on a proper deck above the water-line.

The selection of a surgery for use during action is a point requiring the careful attention of the chief surgeon on each ship. The surgery ordinarily used is as a rule to be found on the main deck, but the position is too much exposed to be a safe one during an action. In battleships and armoured cruisers a suitable place may often be found on the lower deck, but this is still above the water-line; when we pursue our researches lower down in the ship, the difficulty is not so much to find a proper place as to provide convenient means for taking down the wounded. The ladders in the lower parts of a ship are generally too narrow and too steep to admit of a wounded man being taken below, except by an elevator, where there is one. In the engagements during the present war our surgeries have as a rule been placed on the lower deck in battleships and armoured cruisers, whilst in the smaller

cruisers either the wardroom, the cockpit, or one of the larger cabins has been used for the purpose.

As to the number of ship's surgeries, every vessel, from battleship to destroyer, should have at least two. The disastrous experience on board the *Hiyei* in the war with China in 1894-5 pointed to this conclusion, and our experiences during the present war have confirmed us in this opinion. It will be urged in opposition to this that, in smaller ships which carry only one surgeon, it is impossible for him to use two places at once; but the second surgery is intended for use in case the first should be destroyed (as actually happened on board the *Hiyei*), and where such is the case the work of tending the wounded can be carried on without loss of time or expenditure of unnecessary labour. The use of the ordinary surgery at such times is fraught with danger, as the main deck is generally much exposed to the accidents of war. On the *Mikasa* the sick berths were damaged during the battle of the Yellow Sea last year, whilst the surgery was smashed by a shot during the battle of the Japan Sea last May. Had our surgical work during those battles been carried on in the ordinary surgery, both surgeons and patients would have been exposed to much danger.

In unprotected cruisers the sides of the surgery should be covered with canvas screens or mantlets. While the gunboat *Chokai* was engaged in assisting the operations of our land forces to the west of Port Arthur, a shell burst quite near to the cabin which was being used as a surgery, but the canvas screens prevented the entrance of any shell fragments into the surgery itself.

The following are the implements and instruments that should be provided in the temporary surgery:

Steam sterilizers, buckets for the reception of soiled materials and ice boxes. An operating table may be improvised by the use of chests which are always to be found on board a ship. Wounded persons suffer much from thirst, and for this purpose jugs with long narrow spouts should be furnished. Tumblers or tubes for sucking are too inconvenient for use during action.

Receiving Place for the Wounded After First Aid.

It is important, but extremely difficult, to find a safe place for the bestowal of the wounded after their wounds have been dressed. On battleships and armoured cruisers we used the passages on either side of the lower deck, placing the sick on each side of the passage, with a narrow space left open down the middle; and in this way we found that we could provide for sixty or seventy men. When the wounded were in excess of this number, other places had to be found, and here we were confronted with a difficulty to which I have already alluded. The only places really suitable were far down below the water-line, accessible only by narrow and steep ladders, which made the carrying of wounded men almost impossible, and devoid of light and proper ventilation. Fortunately, in none of our engagements did the number of wounded men requiring treatment exceed the limits of the space provided on the lower deck. The difficulty was, therefore, not an acute one, but we have learned a lesson which may be of use to us in the future.

In unprotected cruisers every part of the ship is practically alike exposed to danger, so that the placing of the wounded is not so difficult a problem. They were, as a rule, placed on the lower deck.

As soon as the battle is over, the wounded should at once be removed to the sick-berths, or chest-flat, etc., and preparations be made for transferring them to the hospital ship.

During an action nearly every hatch is closed, and the temperature on the lower deck rises very considerably not only in summer but even in winter. This causes much distress to the patients, for whose use electric and other fans should be provided beforehand. On ships carrying ice-making machinery care should be taken to provide the lower deck with abundance of that article.

Dead bodies should be removed as speedily and as privately as possible, and placed in the temporary deadhouse. For the bodies of officers we used the engineer's bath-room; the others were placed in the bathroom for seamen.

Carrying the Wounded.

It is the practice of the Japanese navy during time of peace to divide the ship's complement into two portions for instruction in first aid and ambulance work.

The first division comprises clerks, riggers, servants, and fire brigade men (also the bandsmen on board the flagship), and receives instructions from the ship's surgeons in bandaging wounds, prevention and stoppage of bleeding, and carrying of wounded men, for several hours per week. These men, therefore, are well qualified assistants in the work of tending the wounded with first aid. The second division consists of the rest of the crew, and receives instruction as time and opportunity allow.

We found, however, that in the bustle and excitement of an action it was impossible to put into practice all the rules and devices which our men had learned. In about one third of the cases, first-aid dressing was applied to the wounds, and the men carried down on stretchers to the surgery: in the remaining cases the men were just picked up as they fell and carried straight to the surgery in the arms of their comrades. In cases of slight injuries, however, the dressing was at once applied, and the men went back to their stations without coming to the surgery at all.

It might perhaps be inferred from what I have just said that our ambulance work was not very satisfactory. But this was not the case. It is not to be expected that work of this nature should be carried out always "according to the book" in the thick of a close fight, where unforeseen accidents are continually happening to upset one's preconceived calculations. Let me instance a case. On the flagship *Mikasa* we had ambulance parties with first-aid dressings stationed in several places on the upper and main decks, the intention being that whenever a man fell he should at once have his wounds dressed and be taken on a stretcher to the surgery. The *Mikasa*, however, as being Admiral Togo's flagship, was constantly in the very thick of the fight. In the battle of the Yellow Sea she was a target for many Russian guns, and seven ambulance men were killed and seven more wounded whilst engaged in the work of giving first-aid dressing on the upper deck. After that experience it was considered unwise to risk any long exposure on the upper deck, and from that time the wounded were carried down to the surgery at once, without waiting to have their wounds dressed on the spot.

It was but natural that we should have some anxiety as to the after course of wounds brought exposed to the surgery, but I am glad to say that all such cases did well after admission to hospital. The wounded were often carried by two men, one at the head and one at the feet; but oftener still a single man would take his wounded comrade on his back. We Japanese are accustomed to this mode of conveyance, our babies are always carried about on the backs of their mothers, nurses, and elder brothers and sisters.

Our experience has been that no one kind of stretcher is adapted for the requirements of naval service, but this is a point on which I should like to invite your discussion later on. We had stretchers distributed in various places on the upper and main decks of our warships during action; but in many cases the stretchers were injured by fragments of shell, or buried beneath broken spars, etc., so as not to be readily accessible, or else the passages got so blocked with *débris* as to be impassable. We were thus frequently obliged to have recourse to carriage by hand.

Dressing Materials and Instruments.

A large consumption of dressing material is unavoidable during action. We foresaw this and provided each ship with a stock of material considerably larger than our usual annual ratio. Thanks to this precaution, none of our ships suffered from a deficiency of dressings, not even after the battle of the Japan Sea, when we had to treat many Russian wounded in addition to our own. For instance, 120 Russian prisoners were treated on board the *Kasuga* after the battle, and even with this large additional demand there was no shortage of supply.

Packets of first-aid dressing for the use of the navy necessarily differ very much from those served to the army. Gunshot or splinter wounds are usually much larger than those made by a small-bore rifle bullet. To cover a gunshot wound completely we require two or three ordinary-sized packets of dressing, and it generally happens that when a man is struck by a bursting shell he has more than one wound. My experience after the fighting on the 9th of February last year showed me that much valuable time was lost in the mere opening of the small packages hitherto in use, and I consequently wrote at once to head quarters to have the size altered. The packages hitherto served out to our navy contained each three pieces of sublimate gauze folded to the size of 3 in. in length, and from 1½ to 2½ in. in width. This was enclosed within a folded piece of triangular bandage and the whole tightly packed in a small linen bag. There was no time on emergencies for the ambulance men to open and properly unfold these little pack-

ages, so as to cover the whole surface of the wound, and the consequence was that very often only a part of the wound was covered.

The new package contains four pieces of sublimate gauze, 24 in. long, and folded in a package 4 in. square. This package is wrapped in Japanese paper and is placed in a loose bag of "shibukami," a stout Japanese paper fabric steeped in the juice of the bitter persimmon, which also contains a regularly folded triangular bandage, and is tightly closed with sterilized paste. Our reports tell us that the new package is much easier to open, and that the larger size of the pieces of gauze materially facilitates the work of dressing. Packages of first-aid dressing should be carried by all ambulance men, besides being distributed in suitable places in the batteries, on the bridges, and elsewhere.

Each surgery should have a pair of large tailor's shears, these being very useful for cutting off the clothes of wounded men. Also a large number of dressed splints of different kinds and ready for use should be provided.

Fenestrated zinc plate splints are sometimes very useful. With them should be provided a pair of stout nippers for cutting them to the shape required. The aid of the blacksmith cannot be invoked for this purpose during the heat of an engagement.

Cotton rollers, 6 or 7 in. wide, are sometimes useful, and ought to be provided in every surgery. Also for every surgeon and attendant there should be provided two or three changes of operating clothes, as the clothes worn during the action cannot be worn again for the operations during the second stage of treatment. India-rubber tubes, 4 or 5 ft. long, carried by an ambulance party will sometimes save life by stopping bleeding from the limbs. We have had a few instances of this during the present war. A transfusion apparatus of salt solution will sometimes save from imminent death. We had one case of this on board the *Izumo*.

Note should also be taken of the identification label. Every member of our force carries on his body a small wooden label, marked with his name and rank. This is of the greatest value to the surgeon in the identification of the dead. Bluejackets not infrequently borrow clothes from their comrades, so that the marking of the clothes is no infallible guide, and it sometimes happens that the faces of the dead have been so disfigured as to be unrecognizable.

Protection of Persons.

It stands to reason that in preparing a ship for action everything should be removed except what is absolutely indispensable or useful for protection. Hammocks are very useful for protective purposes, but all metallic objects should be taken away wherever practicable. For instance, during the battle of the Yellow Sea, a semaphore in the forepart of the *Mikasa* was struck by a shell, and 23 persons were either killed or wounded by splinters and fragments. If the semaphore had been removed—and it was not essentially necessary—this deplorable loss would not have been sustained. Bridges are always favourite targets for the enemy's gunners: they should be protected as much as possible by layers of hammocks hung over the sides. The compass-box on the topmost bridge is of vital importance and cannot be removed: it also should be incased in hammocks for protection, and the sides of light guns should likewise be covered with hammocks or mantlets. We have had many illustrations of the protective value of hammock screens, for we have frequently found embedded in them fragments of shell and splinters which would have wrought much havoc if it had not been for the screens. It might be thought that hammocks would be liable to be set on fire easily; but we have not had a single instance of this in the present war.

It should be noted that gun crews, etc., on the non-firing side of the ship ought to be placed for rest on the firing side. This will perhaps seem strange, but a moment's consideration will show that the action of the fragments of a bursting shell is radiative, and that the area of destruction is far larger at a little distance from the place of explosion.

We found that hammocks could be used not only as protective screens but also as life preservers. On more than one occasion, when our ships sank after contact with Russian mines, the lives of our men were saved by clinging to their hammocks. A hammock makes an excellent lifebuoy—it is not hard to touch, like wooden gear, and is easily handled.

When boats are sent out for rescue work in cold weather it is advisable to take a number of blankets for the use of the rescued persons. If this precaution is not taken there is the danger that some of the men may die from cold before reaching the ship. When there are many men to be picked up it sometimes takes a long time, especially in the dark, before the boat can get back to the ship.

In order to prevent burns or scalds from exploding powder or the steam from bursting pipes, every part of the body should be kept covered. We had many such accidents, but we found that in every case the men who observed this simple rule escaped with nothing more than injuries to face and hands. I gave orders that before the commencement of an action every one on board should put on clean underclothing. I attribute much of the rapid progress to recovery made by our wounded to this precaution.

When steam is ejected from a bursting pipe, the men standing by should lie flat down on the platform or deck. Men who have tried to escape by climbing ladders or ropes have invariably been severely scalded.

It was once supposed that the conning-tower was the safest place on board a ship, but we can no longer believe that it is so. The observation-slits, though low, have to be made very wide, in order to secure a sufficient range of vision, and there have been several instances of shell-fragments finding their way into the towers through these slits, and inflicting severe injury on the inmates. One of the bridges, or even the compass-bridge, would seem to be a safer place for observation. Admiral Togo constantly used the compass-bridge of the *Mikasa* during action, both for observation and for directing the operations, and never received even the slightest wound.

We know that there are many instances in which a life has been saved by some object which the wounded man carried about his person, and which stopped the further progress of the bullet or shell fragment, and we have had several such instances in the present war. But we have also had instances of the opposite, where objects carried on the person have been driven into the body by the splinter, and have thus aggravated the injury considerably. We had one instance of a captive Russian officer who carried in his breech pocket a number of gold coins, which had all afterwards to be extracted from his buttock.

We have received from our surgeons many reports as to rupture of tympanic membranes and concussion of the labyrinth during firing, and I am sorry to say that I do not yet know what is the best way to prevent these injuries, though I gave the matter my most careful attention. A remedy or preventive appliance which is to be used by several thousand men must not be of a complicated nature, and I could not think of anything more effective than plugging the meatus with cotton-wool. During the period of preparation the surgeons and officers instructed the men of each division as to how to plug their ears, and sterilized cotton-wool was distributed for the purpose not only to the gunners but to the whole crews, and yet both after the battle of the Yellow Sea and after that of the Japan Sea we had several cases of deafness brought to our surgeons. These cases may sometimes have been due to careless plugging of the ears, but there were some cases where the ears had been very carefully plugged, and yet deafness ensued. This will require further investigation.

The eyesight of gunners has a great influence on the results of a battle, in which accurate shooting is of such paramount importance. We have always carefully examined the eyes of our gunners before action. If we have found any eye trouble we have treated it at once; if we have found that it was not easily curable we have had the man transferred to some other station, and his place has been taken by some man with unimpaired eyesight. We found that the gases and dust which always accompany the firing of big guns irritate the eyes of our gunners and impair their vision. Every battery has therefore been freely supplied with a 1 per cent. solution of boracic acid for the use of the men.

Character of the Gunshot Wounds.

Wounds inflicted by shell fragments or splinters due to shell explosions present the characteristics of laceration, whether in the soft tissues or in bony substances. The inlets of the fragments are generally smaller in size than the exits; sometimes, however, the exact opposite is the case, though it is hard for us to explain the causes of these and other phenomena. We have often found in the cavities of blind wounds with comparatively small inlets fragments of shell several times larger than the inlets themselves. In other cases we found wounds with only one orifice, in which we could find no fragments of shells or splinters lodging, though we searched for them carefully with Roentgen rays. And sometimes (as in *post-mortem* examination) we found frag-

ments, the presence of which in the body we could not account for at all.

In the mutilated wounds of the limbs the blood vessels had often been cut right across, and yet there were but few cases of profuse haemorrhage owing to the curling up and closing of the divided ends of the vessels.

In perforated and blind wounds fragments often pass quite close to the blood vessels without injuring them in any way. Arterial bleeding is therefore of comparatively rare occurrence in gunshot wounds, even though the wounds themselves may be large, and in several parts of the body. When the shell fragments strike bones, the bones are generally fractured to pieces, but it sometimes happens that only the superficial layer is sliced off, or the bone merely fissured. Shell-fragments may be considered as aseptic, hence a wound caused by a small shell-fragment generally heals by primary union. Of this we had several instances in the present war. We found however, that if a piece of cloth entered the wound along with the fragment of shell, there was always danger of the cloth being left behind when the shell-fragment was extracted, in which case suppuration was sure to follow. Whenever, therefore, the healing process is retarded by suppuration, a careful search should at once be made for the presence of foreign bodies, such as pieces of cloth, in the wound cavity. Once these are removed the wounds heal very quickly. The number of wounds inflicted on one person differs greatly; often they are more than one, sometimes they amount to several dozen, or even over one hundred. The sizes of the wounds also differ greatly, from mutilation of the whole body to wounds as small as a millet seed. It is obvious, therefore, that in naval battles the number of the wounds greatly exceeds that of the wounded persons.

There is no definite classification of gunshot wounds, but we find the following list shows the character of the wounds fairly well.

Table of number of wounds classified (from the beginning of the war to the battle of the Japan Sea):

Contusion	480
Abrasion	212
Incised and punctured wounds	26
Wounds with loss of soft tissues	53
Lacerated wounds	691
Blind wounds	224
Perforated wounds	113
Pulverized wounds	43
Mutilated wounds	129
Burns and scalds	129
Concussion of labyrinth; rupture and congestion of tympanic membranes	116
Compound fractures, simple fractures, and dislocations	237
Explosive wounds	570
Asphyxia	25
Drowned	716
Total	3,764

(This table exceeds the actual number of killed and wounded persons, as one person often received several wounds.)

Location of the wounds in the killed and wounded:

Wounds of the head, face, and neck	808
Wounds of the chest	157
Wounds of the abdomen	58
Wounds of the upper limbs	625
Wounds of the lower limbs	728
Wounds of the back, loin, and buttock	189
Pulverization of whole body; burns and scalds of whole body	527
Asphyxia	25
Drowned	716
Total	3,833

(The number of wounds exceeds the number of killed and wounded, as one person often received several wounds.)

Referring to the above table we see that contusions and lacerated wounds came highest; this may be a specific character of gunshot wounds. The great number of explosive wounds is due to wounds inflicted at the time of sinking of the *Hatsuse* and the *Takasago*.

Wounds of the Important Parts.

To illustrate some of the more interesting wounds of important parts the following short descriptions are appended:

1. T. K., boy of the *Tokiwa*.—In the battle of Urusan on August 14th, 1904, a semilunar lacerated wound of 3.5 cm. was inflicted on the antero-inferior angle of the left parietal bone. On admission to Sasebo Hospital on the 15th he was apathetic, but there was no motor or sensory disturbance; on the 18th sudden attack of nausea and fainting followed by general convulsions appeared.

The wound was at once cut open, and the bone being fissured 3 cm., and slightly depressed, the part was trephined and a blood clot of 3 or 4 cm. in width and ½ cm. in thickness was found. On removing it blood oozed from the diploic vein; this was stopped by plugging; after the operation two or three slight convulsive attacks occurred, but after that he made a good recovery and was discharged on October 17th.

2. J. W., signalman of the *Fuso*.—He was wounded on the signal station of Namakoyama on November 30th, 1904. A lacerated wound on the left parieto-occipital suture and a hole of the size of a pea in the bone was present, from which cerebral substance was escaping.

On December 2nd he was admitted to the hospital ship *Kobemaru*. At the time his mental power was confused but his speech clear, and he complained of headache and shooting pain; there was no disturbance of sensation or motion, the hearing was clear, but almost complete right hemiopia of both eyes was present. In the hospital ship depressed pieces of the bone were extracted, and beneath the dura mater pieces of bone and blood clots were found, which damaged the brain substance. On December 28th he was transferred to Sasebo Naval Hospital. At his admission the wound on the head was nearly healed, but the hemiopia was persistent, also headache and lightning pain toward the occipito-temporal region was complained of. In the hospital eyesight recovered more or less, but the course was tedious. He was transferred to Yokosuka Naval Hospital on May 15th, 1905.

3. T. S., seaman of the *Nakhimoff*.—He was wounded on May 27th, 1905, in the battle of the Japan Sea and captured. In front and above the left parietal protuberance and to 1 cm. left to the sagittal suture a wound of 1.5 cm. long was present, which passed through the bone and reached to the brain. Reaction of the pupils was sluggish, the right lower limb was slightly movable, but its action was greatly impeded, the action of the right upper limb was also lessened, urine was involuntarily discharged, knee jerks were lessened. The wound was cut open on the 29th, soon after admission to Sasebo Naval Hospital, where an inlet of about 1 cm. in the bone was found and an irregularly-rounded disc of bone was extracted. No shell fragment was found in the wound. After the operation the action of the right limbs returned gradually, and on July 17th he was discharged completely cured.

4. R. Y., stoker of the *Mikasa*.—Received the following wounds in the battle of the Yellow Sea on August 10th, 1904: Lacerated wound of the face with fracture of lower jaw; lacerated wound of the left eye; blind wound of the left thigh.

The lower lip was torn off, and the upper and lower incisors were lost, there were fractures in both rami of the lower jaw, besides destruction of the left eye and numerous small explosive wounds were present in the chest and upper and lower limbs. He was operated upon in the following way:

(1) The soft parts were separated from the body of the lower jaw and the fractured pieces were sutured with silver wire.

(2) A skin flap was cut up from the right cheek and right wing of the nose and brought down to form a lower lip.

(3) Adhesion of the upper lip to the left corner of the mouth was separated and a semilunar incision was made in the left cheek, the right corner being cut open wide so as to obviate disfigurement of the lips. By means of the above operations and the application of false teeth the patient's powers of mastication and articulation were much assisted.

5. H. S., senior sub-lieutenant.—He was wounded on March 27th, 1904, on the *Mikawamaru* when the second blockade of Port Arthur was being attempted. A large perforated wound on the left supraclavicular region, probably inflicted by the shell of a small-bore gun, was present, its inlet was nearly round, measuring 9.5 cm. vertically and 7 cm. transversely; the exit was oblong and smaller in size than the inlet, the two orifices being only separated by a flap of skin. A large wound cavity was formed, and both the superficial and deep muscles on the left side of neck were destroyed; also, the apex of the left lung and the brachial plexus were more or less injured. He suffered from spitting of blood and emphysema around the wound though the progress of the wound was very good; but during the whole course he suffered constantly from hyperaesthesia, neuralgic pain, loss of power, and eruptions like herpes of

the left upper limb. He left Sasebo Hospital relieved on June 26th, 1904.

6. N. F., bugler of the *Irtuish*.—He was wounded on May 27th, 1905, in the battle of the Japan Sea, having a penetrating wound of the size of a 20-sen piece on the right side of sixth dorsal vertebral spine and passing deep into the spinal column. He had also a blind wound of the size of a pigeon's egg on the right shoulder. He suffered from hemiplegia and retention of urine, and died on June 9th of gradual exhaustion. At the *post-mortem* examination a fragment was found in the spinal cord by perforating through the right side of the base of the spine of the seventh dorsal vertebra; the cord above the injury was normal, whilst the part below it had altered to a mud-like substance.

7. K. T., seaman of the *Iwate*.—He was wounded on February 9th, 1904, in the battle off Port Arthur. A penetrating wound of the right axillary region, and a perforating wound of the right arm were inflicted. At first fracture of rib and penetration of the thorax were suspected, but after the injuries spitting of blood, shortness of breath, and dullness below the third intercostal space on the right side, combined with moist râles on auscultation, confirmed us in our suspicions. On February 27th the wound below the armpit was opened wide and a fracture of the sixth rib found; after removing the fractured ends a foreign body was searched for, but nothing was felt. Subsequently several examinations with Roentgen rays revealed the presence of a fragment in the part corresponding to the inferior angle of the right scapula. After the resection of the eighth rib an iron fragment, 1.7 cm. dimension, was extracted. After the operation the wound soon closed, but his chest was affected by burns from the Roentgen rays.

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Sanitary Arrangements during the War.

There is nothing special about the sanitation of a warship, either in peace or in war time, but it is to be observed that men-of-war during peace time for the most part are stationed in naval and other ports, where provisioning is easy and abundant, and the crews can get their regular turns at shore leave. In war time the ships are mostly cruising away from land; fresh provisions and supplies are obtained with less regularity, and the shore leave of the men is entirely stopped. Coaling at sea or at the base stations gives a constant succession of hard work to officers and men alike, and engineer sections are never at rest, not even when the ship is at anchor. Steam must always be kept up in readiness for any sudden emergency, the watches are more than doubled, the labours of the crews are many times multiplied, and the hours of sleep and rest are reduced to the physiologically necessary minimum.

It is comparatively easy during war time to prevent the introduction of infectious or venereal diseases; on the other hand, infectious diseases, if once they break out, are serious obstacles to the fighting efficiency of the crew. Our surgeons have throughout the war exercised great vigilance, and, with the exception of an outbreak of dysentery, which put in a transient appearance before Port Arthur, we have been singularly free from all infectious maladies.

Rations.

Up to 1884, the men received a money allowance instead of food, each ship had its own rations, and the crews were allowed to choose their own food, very much according to individual taste. This system encouraged the men in their fatal fondness for an over-proportionate amount of rice with their meals, and the disturbance of the physiological equilibrium caused thereby led to a large and steadily increasing number annually of "kakke" cases, which seriously interfered with the efficiency of the force. A reform in the food supply became an absolute necessity, and in 1884 a new system was adopted by which rations of food took the place of a money allowance. The reform was not carried out without serious opposition. Several minor alterations have been made since that time, but the principle has constantly been maintained of observing a balance of nitrogen and carbon in the food supplied so as to preserve undisturbed the physiological standard requisite for health.

The following statistics will, I think, be found of interest.

Health average for the last three years in ships of the Standing and other Squadrons:

Total percentage of sick	3.87
Total percentage of men in bed ...	1.19
Total percentage admitted into hospital	0.66

Health average for 1904 in the Combined Fleets:

Total percentage of sick	3.32
Total percentage of men in bed ...	0.72
Total percentage admitted into hospital	0.26

Health average for January to June, 1905, in the Combined Fleets:

Total percentage of sick	3.01
Total percentage in bed	0.65

I should observe that during war times there are, of course, more cases of wounds and other injuries, but cases of venereal disease became less and less frequent. We paid much attention to this subject before the outbreak of the war, bringing the subject before our men by means of lectures, moral instructions, and private exhortations. In spite of all our efforts a good many of the men went beyond the limits of prudence during the last few weeks of waiting at "Sasebo" previous to the declaration of war, and we started for Port Arthur with a comparatively long list of venereal cases, which, however, speedily succumbed to the treatment they received on board. Since that time the men have been perforce kept out of the way of contamination.

The amounts of the rations given during this war were increased by 20 per cent. for all the men following the ordinary dietary scales, but the quantity of rice supplied was kept absolutely below 12 oz., and by the observance of this rule we managed to keep the health of the whole force in a good condition for the period of the long campaign.

Scale of Diet for the Crew.

Daily:—Biscuit 6 oz., or bread 8 oz.; rice 12 oz., crushed barley 4 oz., preserved meat 5 oz., or fresh meat 7 oz.; preserved or fresh fish 5 oz., dried vegetables 3 oz., or fresh vegetables 15 oz., tea leaves ½ drachm, roast barley 1 drachm, sugar 6 drachms.

Weekly (for cooking purposes):—Peas or beans 2½ oz., wheat flour 2 oz., sugar 3½ oz., soy 3 oz., vinegar ½ oz., sesame oil 1 drachm, salt 1½ oz., fat 1 oz.

Nightly (for supper):—Biscuit 3½ oz., or bread 5 oz.; tea ½ drachm, sugar 4 drachms.

Officers and warrant officers are allowed to receive money in lieu of rations. They are more careful in the choice of food, and have more regard for the laws of health. An exception is also made in the case of torpedo-boat crews, who are likewise permitted to draw money in lieu of rations. The number of these men is, however, comparatively small, and they have frequent access to ports and small harbours where they can buy themselves supplies of fresh provisions. Both the officers and the men on board these boats are well aware of the importance of a regular and wholesome diet. They never fall into excess of any kind, and when bread is not to be procured, take a mixture of rice and crushed barley boiled together. The health of the torpedo flotilla has been as excellent as that of the men on board the larger warships.

Supply of Provisions.

Our ships in peace time obtain their supplies when in the naval ports from the victualling office, and when in other harbours from the agents. During the present war two victualling ships were fitted out for the sole use of the Combined Fleets. These ships were provided with cold storage arrangements for keeping meat and vegetables. Bullocks also were carried on board, and slaughtered as necessity required. The beasts were examined by veterinary surgeons at the victualling office before being shipped, and again on board, after being killed, by the ship's surgeon.

Our warships carry no baking ovens, the bread being sent to them by transports from the base. During the foggy season last year, the transports were frequently detained by fogs so that the bread grew mouldy and many thousand pounds of it had to be thrown away. This experience taught us to overbake our bread, and in this way the danger of its going mouldy was obviated. At one time we thought that it would be necessary to organize baking ships for the supply of the fleets, but the scheme never materialized. The two victualling ships were sent home alternately to lay in fresh supplies, but whilst one is at home transports are continually bringing fresh provisions which they transfer to the victualling ship remaining with the fleet. In this way we have always managed to have a good supply of provisions for our ships, and there has never been any shortage. Some of the cruisers, however, when on scouting duty have had to do with biscuits and canned meats, as all fresh provisions were exhausted owing to their length of absence from the base.

Water Supply.

Ships which possessed evaporators used distilled water for all purposes, and the supply was in all cases sufficient. Destroyers, torpedo-boats, and special service vessels are, as a rule, supplied from water-supply ships. There are two water-supply ships fitted with distilling apparatus which can distil about 300 tons of water each per diem, and two water transports of 5,000 tons together, besides colliers and transports which served as auxiliary water carriers. The ships were thus kept well supplied with water, not merely for drinking and cooking, but also for washing and bathing, for both of which liberal provision was made, frequent fresh-water baths being very good as preventives of boils, etc. Salt-water baths were always provided for the crews after coaling, together with an allowance of fresh water for use after the bath.

Clothing.

For use in cold weather the following additional articles of clothing were provided:

Officers and warrant officers—1 woollen muffler, 1 pair of thick woollen gloves, 1 woollen undervest, 1 extra overcoat.

For the men—2 pairs each of thick woollen gloves, long woollen stockings, and thick-soled Japanese socks, 1 woollen undervest, 2 pairs of flannel underdrawers, 1 pair boots, 1 extra overcoat, 1 pair of straw boots. The crews of torpedo-boats and destroyers had further five extra blankets per man. For use in hot weather large-brimmed straw hats were specially provided.

As a result of our precautions we note that frostbites were almost unknown during the cold season throughout the fleet, and that, at any rate, no case of frostbite was admitted to hospital. None of the men that wore the straw hats when working on deck during the hot weather suffered from sunstroke, nor were any of the men in the engine room affected by heat-stroke, in spite of the high temperature of that part of the ship. Our stokers were instructed to drink as little as possible. Their usual beverage was cool distilled water, but sometimes, as a treat, they were allowed water mixed with arrowroot and sugar.

War-time Work.

During an engagement everybody on board a ship is working as hard as he can, but the hardest part of a seaman's work in war-time is coaling, an operation most laborious for officers as well as for men. During the blockade of Port Arthur our men had from three or four to five or six hours of coaling on the average twice every week while at sea, and sometimes also at the base station.

On board the smaller cruisers, destroyers, and torpedo-boats in close contact with Port Arthur during the blockade, or engaged in scouting work, the work was incessant. Ordinary routine work was almost entirely suspended, and when the men were not at work they were either eating or sleeping to make up for lost rest. In any case the life on a man-of-war is far more strenuous in war-time than in peace, yet the good health of our men under these trying conditions is shown by the following statistics of body weights based on the results of our half-yearly examinations:

	kan.		kan.
March, 1902 ...	15.811	September, 1902 ...	15 305
March, 1903 ...	15 783	September, 1903 ...	15 235
March, 1904 ...	16 009	September, 1904 ...	15 577
March, 1905 ...	15.997		

The daily average total of the crews in the combined fleets is 23 506.

Recreation.

Life on board a man-of-war during a long expedition is always monotonous, and the men have no opportunities of going ashore. Our men have indeed been full of patriotism and have borne without a murmur all the hardships of their service; nevertheless, we have felt that recreation in some form or other was necessary to their well-being.

Whenever opportunity has allowed the men have been encouraged to sing military songs and to practise "kenjutsu" (fencing), "jinjutsu," and wrestling. Presents of various articles from home and abroad have given them great pleasure and been a great incentive to renewed energy for their country's cause. Journals, papers, and books sent by friends from every part of the world have been received with great joy; but the greatest of all pleasures have been the letters received from relatives and friends at home. Japanese ladies, and foreign ladies living in Japan, have been very active in works of benevolence for the men at the front, and this has been much more the case in the present war than it was in the China war ten years ago.

Hospital Ships.

In the present war we have had two specially-fitted hospital ships—the sister vessels *Kobemaru* and *Saikiomaru*. They are ships of about 3 000 tons each, and each contains 186 beds, of which 18 are for infectious cases and 12 for officers.

My idea at the beginning of the preparations was that it would be better to have two hospital ships of from 3,000 to 4,000 tons each rather than one ship of larger dimensions. By having two ships we can make better provision for the speedy transference of our patients from the sick-berth of our warships to the wards of the base hospital, where they can be treated with greater chances of success.

We have not attempted during the present war to transfer our patients by bringing the hospital ship alongside of the man-of-war for that purpose. We have merely brought her near and sent our patients across by steam launches or boats. We found the sick men's hammocks the most convenient vehicles for transferring patients from the ships to the boats.

The proper employment of hospital ships entails much thought and consideration from the Surgeon-in-Chief of the fleets. Except at the battle of the Yellow Sea, we had no need to send our wounded directly from the warships to the hospital ships. Our hospital ships were always stationed at the base during action; the Russians allowed theirs to accompany their squadrons, but unfortunately had but little opportunity of availing themselves of their services.

Infectious Diseases and their Prevention.

The only infectious diseases which made their appearance on board our ships during the campaign have been enteric fever and dysentery. Cases of enteric fever will occur sporadically on war vessels even during peace time. Typhoid fever showed no special increase during this period; whenever a case occurred the possible sources of entrance for the morbid germs were carefully investigated, but never with success. We are quite sure that the virus has in every case come from outside, and not been in the ship itself. We infer this from the fact that we have never had more than three or four cases occurring on any ship at any one time. The total number of typhoid cases from the beginning of the war to the end of June, 1905, has been 241. Whenever typhoid cases appear they are at once sent on board the hospital ships and everything in the way of bedding, clothes, etc., likely to have come in contact with the patient is thoroughly disinfected.

A few cases of dysentery broke out in the fleets during August and September of last year, while our ships were engaged in the blockade of Port Arthur. This outbreak caused us much anxiety for the time, but, thanks to the strenuous labours of our surgeons, the danger soon passed over. I believe that flies were responsible for the outbreak. These insects invaded the ships in enormous numbers whenever colliers or transports were brought alongside, and whenever boats were sent to inspect Chinese junks they invariably brought back clouds of flies with them. Everything was done on board our ships to exterminate the flies, and orders were given to have all food thoroughly well cooked before eating. In due time the dysentery disappeared. The total number of cases of dysentery in the whole fleet amounted to 151 during the period ending June, 1905.

Wounded in Japanese Fleets during Russo-Japanese War from the beginning to August 15th, 1905.

Battles and Dates.	Numbers.			Termination of the Wounded.			
	Killed.	Wounded.	Total.	Deaths.	Recovery.	Invalided.	Under Treatment.
Attack upon Port Arthur (February 9th, 1904)	3	69	72	6	59	3	4
Battle of the Yellow Sea (August 10th, 1904)	65	161	226	6	111	17	5
Battle off Ulsan Bay (August 14th, 1904)	30	96	126	10	80	3	3
Naval Artillery Brigade at Port Arthur (From June 26th to last day of December)	70	213	341	97	238	20	8
Battle in the Japan Sea (May 27th and 28th, 1905)	58	611	669	90	470		112
Other petty battles and accidents (1904-5)	1,650	541	2,810	30	470	30	2
Total	1,801	1,701	3,663	217	1,470	73	134

TEACHING OF HYGIENE IN ELEMENTARY SCHOOLS.

A REPORT ON THE PRESENT CONDITIONS AND PROSPECTS OF EDUCATION IN HYGIENE IN SCHOOLS IN THE UNITED KINGDOM.*

By G. A. Heron, M.D.,
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[English Version.]

Members of this International Society who are interested in the question of the teaching of hygiene in schools, know that the Society has stamped with its approval the proposals I had the honour to submit to our Inner Council at its meeting in Paris in May, 1903.

The Inner Council unanimously accepted these proposals; and with a modification made at the suggestion of the representative of the Government of Russia, the proposals were unanimously accepted by the Conference held at Copenhagen in May, 1904.

Full details of these proposals were published in *Tuberculosis*, the journal of our International Society, in August, 1903 and in September, 1904.

In the end of 1904, the Central Bureau of our International Society did me the honour to ask me to carry out in the United Kingdom the resolutions adopted at the Copenhagen Conference, which authorized the appointment of "at least one person in each nation represented in our Central Bureau" to do what he could to further in his own country the teaching of hygiene in schools.

The Central Bureau, at my suggestion, gave me the great advantage of having as my colleague in this work Mr. G. L. Bruce, whose intimate knowledge of matters educational is very well known and is held in high consideration by the English Board of Education.

As a representative of our Society, I have had several interviews with some of those at the head of the English and of the Scottish Departments of Education. It is a pleasure to report to this Society that these two principal authorities are fully alive to the very great importance of having school children educated in hygiene. Any representations made to either of them will certainly receive their most serious attention; and these two bodies are heartily with us in desiring that children should leave school with a clear view of the importance of living healthy and temperate lives, and of the means by which this end can surely be reached.

It is my duty to give in this report a short statement concerning the present state of education in hygiene in schools in the United Kingdom.

Organization of British Education.

But before doing so it may interest some of my hearers if I state some details of the organization of our Education Department. There is one central education authority for England and Wales, another for Scotland, and a third for Ireland. These three authorities are independent of one another, and each is responsible only to Parliament.

The authority for England and Wales is called the Board of Education. At its head is a Minister who is a member of Parliament and of the political party which, for the time being, happens to be in power. The permanent officials of the Board of Education are able men who have had long and special training in the affairs of education, and who take no active part in public political controversies.

In the strict sense of the phrase, there are no State schools in the British Isles. Interposed between the State education authorities and the schools are certain local education authorities. Each of these local authorities, within its own locality, is responsible for the upkeep of the public elementary schools. Disagreement between the Government departments and these local authorities is not infrequent; and the powers of the Government are, in many ways, so circumscribed, that the local authorities are, in no small measure, able to act very much as seems to them good.

Again, there are in the United Kingdom our great public schools, and our very many private schools, over which neither the State nor the local authorities can exercise control.

I despair of making clear to you these affairs of school government in my country. It is a fact that, outside of the education authorities and the schoolmasters, it is rare to meet an Englishman, a Scot, a Welshman or an Irishman who has even a hazy notion of the details of our very complex system of education. From this it follows that the progress of reforms in education is of necessity slow, because the interests of so many different authorities have to be considered.

In the United Kingdom, those who wish to become teachers in schools aided or supported by the rates are required to undergo a certain course of special instruction. Their studies are carried out in training colleges. In addition to the obligatory subjects of study, the pupils in those colleges may take up certain subjects which are optional, but for which, when the pupil passes his examination, he gets credit. Among the optional subjects is included a slight knowledge of hygiene.

1. *England and Wales.*

In England and Wales the "Regulations for the Training of Teachers" are as follows: "A study in outline of the constitution and operation of the body and mind in health; application of the results of these studies to the work of the teacher; signs of distress and defect, and methods of dealing with them in school."

Among the optional subjects, but for female teachers only, is what is called "housecraft." Under this head are the following requirements:

(*a*) The chief needs of the body for the maintenance of health.

(*b*) The hygiene of clothing, with special reference to the proper clothing of working people and their children.

(*c*) The hygiene and practice of physical exercises.

(*d*) The outline of food preparation, the nutritive and other values of various foods in relation to diet, including the cooking, from simple and cheap materials, of such meals as are needed by working-class people and their children.

(*e*) The elements of house management and hygiene.

One cannot but regret that even this slender addition to the training in hygiene is not given to the men as well as to the women who propose to become teachers.

In a certain number of schools the instruction in hygiene is entrusted to the ordinary teachers attached to the school.

The Board of Education has indicated the lines on which that teaching should proceed, and these lines are followed, more or less closely, in schools subsidized by the State and in certain other schools which are not so subsidized. Where the youngest children are concerned the Board recommends that cleanliness, the uses of sunshine, eating and drinking, posture and movement, games and sleep should be brought under the notice of the scholars in the simplest words. The older scholars are also instructed in these subjects, but with considerable fullness of detail, and, in addition, they receive lessons on fresh air. Still older children, in addition to the subjects already mentioned, receive instruction concerning tobacco, accidents and illness, cuts, abscesses, burns, sprains and bruises, insect bites or stings, fits, haemorrhages, and "when to send for a doctor."

Although these subjects are taught to the eldest children with considerable fullness, it is to be regretted that much more attention is not given to the study of the commonest types of disease, and, above all, of infective diseases and their prevention, especially with reference to tuberculosis.

2. *Scotland.*

The Scottish Education Department is the central authority for Scotland. Its constitution is practically the same as that of the Board for England and Wales. The powers of the Scottish Department are, as is the case with the English Board, very greatly limited by the fact that there are intermediate authorities between the Department and the schools.

Instruction in the laws of health is given in all save one of the training colleges, and they are twelve in number. In one of them each lesson lasts three-quarters of an hour, and one lesson only is given in each week of the summer college term. In another college one lesson in each week from September till Christmas constitutes the course of teaching of hygiene. The lesson lasts one hour. In another college twenty lectures are given during the winter. Four colleges have one hour per week of the summer term devoted to the teaching of hygiene. Another gives one hour and a half per week, and another two hours per week. Of the remaining two colleges, I have no information on this point. In only seven of the colleges is the instruction given by medical men.

The instruction given in these Scottish training colleges is intended to develop the power of recognizing the presence of

* Read at a meeting of the Council of the International Society for the Prevention of Tuberculosis, during the Paris Congress of the Society.

those physical defects which, from their frequency among school children, are common causes of backwardness in learning and of inability to master even the simple school lessons.

The system of teaching hygiene is described in an official document to which I am allowed to refer. In substance this is the plan:

At convenient times, during the course of instruction, school children, having among them marked examples of common physical defects, were assembled and used by the teacher of hygiene to demonstrate to his pupils in the training college how these physical defects can be promptly recognized.

"For example" (here I quote from the official document already mentioned), "at the point where the lectures dealt with the organs of speech and the prevalence of adenoids, children were brought from a school, and a demonstration was given by the lecturer in which the effects of these growths were brought into prominence. Phonetic exercises, the examination of different sounds, reading aloud—all these and other means were taken to show that the child's power of producing sounds was seriously affected."

Defects of the eye, ear, skin, hair, etc., in short, the common diseases affecting children, are demonstrated in the same way. Not the lectures, but these demonstrations are made the chief feature of the instruction in the laws of health given to pupils who intend to become teachers.

After each lesson the teacher of hygiene examines his pupils in what he has taught them, and does what he can to correct errors and clear up misunderstandings. In this way it is sought to bring home to the pupil who is being educated to teach, that the schoolmaster should always be alive to the fact that it is a part of his business to see that physical defects in his scholars receive prompt attention, and that, where these defects are curable, they are not allowed to stand between the scholar and his studies.

These courses of instruction are frequently inspected by a medical officer in the service of the Scottish Education Department, and he reports favourably upon the thoroughness of the instruction given.

Three-fourths of the expenses incurred in connexion with these courses of instruction are paid by the Scottish Education Department. The remaining fourth is paid by the local authority, without whose consent this special instruction cannot be given. The payment of the Department is, however, withheld from any training college in which the system of teaching hygiene is not favourably reported on by the medical inspector.

Unfortunately, instruction in the laws of health is not an obligatory part of the school curriculum in England, Wales, or Scotland. It rests absolutely with the local education authority to exclude it or to include it in the curriculum. The same is true of the English and Scottish training colleges. Moreover, the instructors in the subject may or may not have themselves received instruction in hygiene as part of their training or subsequently. It is also, unfortunately, the case that it is only recently that the students in training took up, in any numbers, the subject as a branch of special study; in Scotland they did so for the first time only so lately as last year.

It is true that in both England and Scotland school teachers are urged by the central authorities to give to the scholars under their care a clear view of the way in which disease spreads, and of how it can be prevented. Girls are to have their attention specially drawn to the proper care and feeding of infants.

All this is well for a mere beginning; but surely the teaching of the laws of health is so important a matter to every country that among all peoples it ought to have a first place in any system of education, both in schools and in universities. Every scholar, every university student, should be required to show that he is possessed of a fair knowledge of the subject. This probably could best be done by including it in university and school examinations among the compulsory subjects.

3. *Ireland.*

In Ireland the principals of the training colleges are required to devote special attention to hygiene in connexion with the training of their pupils. No special programme has been drawn up, but the course in elementary science embraces the principles of the subject.

In all schools the leading principles of hygiene are impressed on the pupils by the teachers, who are also required to satisfy themselves that children living in infected houses do not attend school.

In December, 1904, the Commissioners of National Education in Ireland issued a notice to the managers and teachers of national schools in that country, which emphasizes the great importance of using "their best efforts to encourage the adoption of hygienic precautions calculated to reduce the excessive mortality from tuberculosis, a disease so widespread and fatal in Ireland. The supposition, which very generally prevails, that tuberculosis is mainly hereditary and not spread by infection, and which accounts for the indifference shown in regard to the adoption of preventive measures, is not borne out by medical investigation."

Here is a paragraph of this official notice which I quote in full because it shows that the work of this International Society at Copenhagen already attracts attention:

At the recent International Tuberculosis Conference held in Copenhagen, special attention was directed to the great advantage of employing the schools as a medium of spreading a knowledge of the best means of arresting the progress of the disease, and the co-operation of the various educational bodies of European countries was invited.

Future Work.

As regards the help which the action of this Society has already given in England to the promotion of the teaching of hygiene in our schools: Some months ago certain well-known medical men and others—among whom were representatives of the English branch of this Society—had an interview in London with the principal officials of the Board of Education. A syllabus was then submitted to the Board for the guidance of school teachers of hygiene, and the importance of the subject was pressed upon the notice of the Board.

At the invitation of the President of the Incorporated Societies of Medical Officers of Health, which is the representative Society of English medical officers of health, I addressed that body on the subject of the teaching of hygiene in schools and universities. At the close of my address a committee was appointed to do what it thought best calculated to promote the teaching of hygiene in schools. This Committee has frequently met during the past summer, and has decided on a course of action which, in general terms, amounts to this: The Committee is of opinion that the teaching of hygiene in universities should be made a part of the studies of every student, but is agreed that the various university authorities should settle this matter for themselves.

The Committee is strongly of opinion that the education authorities should be asked to entrust to medical men the teaching of hygiene in the training colleges, and believes that if this could be ensured efficient teaching of hygiene in schools would soon be a part of our national education.

The Committee does not think it would be desirable to invite medical men to attempt the teaching of elementary hygiene to school children. The introduction of a special teacher into the routine of school life would, the Committee believes, give rise to friction, and would not tend to the public advantage.

The Committee strongly feels that it would be much better, in the interests of all concerned, that the pupils in the training colleges should alone receive the special instruction given by a medical man.

The Committee has drawn up a syllabus which embodies its views concerning the method which medical men should adopt in teaching hygiene to the pupils of the training colleges. The syllabus will in a few weeks be presented to the Board of Education.

This Committee, of which Mr. G. L. Bruce and I are members, has already received assurances that what it submits to the Board of Education will receive the fullest consideration.

I have to thank the officials of the Board of Education, of the Scottish Education Department, and of the National Board of Education of Ireland for the help they have so kindly given me in preparing this report.

In conclusion, the attitude of the peoples of the United Kingdom towards this subject may thus be summed up: the French word "Rapprochement" expresses the present state of affairs. Let us hope that throughout the United Kingdom "Rapprochement" will speedily give place to "L'Entente Cordiale!"

Professor Brouardel, President of the Council, received the report, and thanked Dr. Heron for it in the name of the Council.

Dr. Heron then proposed, and the Council unanimously adopted, these resolutions:

The Council desires that every effort should be made in the countries represented in it to ensure the teaching of hygiene in schools and in universities.

The Council requests the Central Bureau of the International Society for the Prevention of Tuberculosis to appoint in every country represented in our Society at least one delegate, whose duty it shall be to do what he can in his own country to promote the cause of education in hygiene in schools and in universities, and to ensure that this education shall have special reference to the prevention of infective diseases, and particularly of tuberculosis.

The delegate shall report to every congress and conference of our International Society on the condition and prospects of education in hygiene in the schools and universities of his country.

NOVA ET VETERA.

GLEANINGS FROM THE EXPERIENCES OF A NAVAL SURGEON A CENTURY AGO.

[Extracted and Compiled by Edith S. Stokoe, Great-grandniece of the Writer.]

Dr. John Stokoe, whose entrance into the career of a naval surgeon was described in the British Medical Journal of May 20th, 1905, p. 1119, was more keenly interested in the naval than in the medical side of his service, if we are to judge from the greater space occupied by the former subject in his autobiography; there are, however, a few details of disease and treatment to be gleaned therefrom.

He has little to say of the first months of his life on board the hospital ship *Union*, which he entered October 12th, 1794, but an examination of the Muster Book gives some interesting details which may supplement his meagre record.

The 200 beds available were, on an average, occupied by 150 to 170 patients. There were female nurses, varying in number from 9 to 12, who appear to have remained at their posts for a considerable time, as their names are repeated month by month at the end of the lists of patients. As regards victualling, they were classed with their patients, and provided for by the same contractor. The charge per head in 1794 was 4s. a day, but it afterwards rose to 1s. 3d. The three assistants are not named, and the only record of their existence is the date of their joining the ship, yet they lived on board.

The surgeon was not only responsible for the health of the patients under his charge, but for paying all expenses not classed as daily food. At the end of each month is a list of such outlays for "contingencies." "Messenger for the parson" is an invariable entry, but the amount rises and falls, leading to the conclusion that the parson's services may have been required more or less frequently. "Thread 2s." occurs once, but "affidavit 1s." is a regular item. The surgeon affirmed on oath, on the last day of the month, that his patients had, one and all, been kept long enough and not too long on the hospital ship.

Considering the number usually under treatment, it does not appear that one, John Stiles, was very highly remunerated, since for "one quarter's shaving of the patients" the fee was only £2 5s. 6d." "Postage of letters" was a small amount—6d. to 1s. 6d. . . . never more.

Three parallel columns are found in all Muster Books, headed respectively "Cloaths," "Conduct Money," "Funerals." In the Muster Book under consideration the first is invariably blank. "Conduct Money," always 4s., was given only to men "invalided," whether as reward or as payment for their being conducted on shore is not explained. I incline to the latter view. Very few men died, and the expenditure for "Funerals" cannot be regarded as lavish—10s. a head.[1]

When these entries in the Muster Book cease and the captain received bills on the Government, settling all accounts, Stokoe's papers explain what was taking place on the *Union* between that date (August, 1795) and November of the following year, when they are resumed. He is, however, as is not infrequently the case, inaccurate in his dating. He says:

"Late in the following spring (1795) a Russian fleet arrived at the Nore, when an order came to transfer our sick to the *Spanker*, a large floating battery, built after the plan, I believe, of Sir Sidney Smith, but much better adapted for a hospital than for the defence of a harbour. Our vacant wooden cradles were soon filled by Russians in a dreadful state of disease and filth, scurvy in its worst form and typhus fever making up nearly the whole of the number. Every attention on the part of the Sick and Hurt Board was paid [on] the representation of this state of things, and lemons, oranges, and vegetables were by their order supplied to the sufferers in great abundance with the happiest effect, for in a few weeks scurvy had ceased to exist. . . . Fever continued to prevail in the Russian fleet for a long time, notwithstanding every endeavour to arrest its progress by ablution and fumigation with nitrous acid, under the direction of Dr. Menzies, who had been sent down by the Board for that purpose. When a fever patient arrived on board he was immediately placed in a warm bath, well washed, and put into a clean bed, his clothing removed to a distant part of the ship, and subsequently burnt on the isle of Grain. By this example the sheepskin coat with the wool on, then the principal article of clothing of the Russian sailor, forming his summer and winter dress by day and his bed at night, gradually gave place to the jacket and trowsers of the English sailor, much to the improvement of his appearance and safety in a gale of wind. Fumigation was continued for some time with little apparent benefit; it was also practised on the most sickly ships, and on these occasions I was the constant assistant of Dr. Menzies.

"The duty on board the hospital ship became at length very arduous; disease had spread itself to the attendants, many of the nurses and helpers had caught the fever. . . . The interpreter and his brother German flattered themselves in the protection of tobacco (being both inveterate smokers), but that hope was soon dispelled by the former being laid up with fever."

Mr. Stokoe had mastered the Russian language, and now found his knowledge of value. The other assistant also caught the fever, and a very heavy share of work fell upon him for a time. "At length," he says, "the fever subsided, and our numbers in hospital were considerably reduced."

A period of service on the *Glatton* yields nothing of medical interest.

The surgeon in charge of the *Africa*, another Russian hospital ship, "was a German, one of the oldest surgeons in the navy, and a very worthy man, but from his manner of speaking English it might be supposed that he had recently entered the service." The lieutenant in charge interfered with internal affairs. The German merely remonstrated so long as this had no serious results. The lieutenant, however, "proceeded so far as to go down into the hospital at a late hour, and order the fires in the wards to be put out. An explosion was the consequence, and a curious and amusing scene took place between them on the quarter-deck on the following morning, when the doctor requested an interview. On the lieutenant's appearance the former observed: 'Mr. B., I have often pointed out to you dat dough you command de ship, you have no business in de hospital; dat is my department, and I am sorry to find dat you are too fond of riding de high horse; but take care dat you do not tumble off. And py Gott, I will make you tumble off!'"

The number of patients was great, and typhus fever was again the prevalent disease. Mr. Stokoe was not to escape; "the disease assumed its most malignant form. I was covered with blotches and petechiae, and blisters that were applied to my legs produced a bloody discharge instead of serum. Delirium had subsided, leaving a degree of coma that rendered it difficult to get a reply of Yes or No, yet I was sensible to what was passing in conversation around me, and I heard the worthy doctor proposing to a brother surgeon . . . whom he had called in to see me, a change in the medicine, and the other's reply that it would be of no use. Sentence of death thus announced had no terrors, disease having rendered me indifferent about living or dying, yet it dwelt on my mind, and, shortly after they left me, I crawled out of bed, and, supporting myself by the chairs and table, made my way towards the stove in the ward room. All around it fled at my approach, and I seated myself in a chair, where I sat for a minute or two, when I fainted, and was carried to my bed. As soon as I came to myself I called for wine, which at this period was the favourite remedy, combined with bark, for typhus fever; and I was told afterwards that in little more than four hours I had drank full two bottles, by which my life was certainly saved. Profuse perspiration took place, and afterwards sound sleep for many hours."

The crisis past, convalescence soon followed, expedited by the kindness of the carpenter on the *Union*, who "generously proposed to take me to his house in Rochester." No one in the neighbourhood would receive a patient from the ship as lodger, "from the terror entertained of the disease."

In an engagement between the *Acosta* and "the *L'Aventure*, private vessel of war of Bourdeaux,"[2] two men were wounded.

"One fine fellow—the captain of the forecastle—had both legs shot off above the ankle. When brought below the feet

[1] On the *Africa* 11s. was paid.

[2] Captain's Log Book, Acosta.

were hanging by the integuments, so that amputation was immediately necessary. He bore the operation like a hero, but, either from hurry or the exhaustion of the patient, one small vessel was left unsecured, the bleeding from which obliged me to remove the dressings the following day. I thought I had got hold of the neglected artery with the tenaculum, though it had ceased to bleed, but on the third day blood again appeared on the outer dressings and obliged me to have recourse to the needle and styptics, but without success. I began now to despair of saving my patient, when the idea struck me that if I could obliterate the artery in the ham and remove the pressure of the ligature of the tourniquet from the sides of the limb the stump might be nourished by the anastomosing branches. This was effected by a very simple invention—a strong bit of wood, 6 in. in length, 1½ in. in width, and concave at both ends, to prevent the strap of the tourniquet from slipping off, was placed on the compress (a roller) in the ham, above the external dressings and within the ligature of the tourniquet, which confined the pressure to the two points desired, and was completely successful. I had the pleasure at the end of the cruise of sending my patient to Plymouth Hospital ready to mount his wooden legs."

Captain Wood of the *Acasta* was not looked upon with favour by the medical officers who served under him. Mr. Stokoe was the fifth to be appointed within twelve months, but he succeeded in living at peace with his superior, by the simple means of avoiding discussion on his own duties. He yielded also on an occasion when the captain certainly appears to have overstepped his prerogative. The prisoners taken from the *L'Aventure* were on board and confined in the hold. "During the night the warrant officers, boatswain, gunner and carpenter, were required to keep watch over them at the main hatchway." The captain, on one occasion, ordered the doctor to keep the watch of the carpenter, who was on the sick list. He says, "My detestation of tyranny strongly tempted me to resist this extraordinary demand, totally unnecessary, as there were a dozen officers and petty officers . . . who might have been called upon . . . to perform the duty. I obeyed, however, for the sake of peace, and mounted my cutlass and brace of loaded pistols for four watches before I was relieved by the convalescence of my patient."

Captain Wood further deprived the doctor of his servant, obliging him to cause his assistant, a young Swiss, to do double duty, but, at the end of fifteen months, he appears to have grown attached to his surgeon, to the extent of resolving to take him to the West Indies with him at all costs. Mr. Stokoe was ill, and wished to go to hospital, but the captain succeeded in impressing the Transport Board with his own belief (real or feigned) that the doctor was "shamming." His request for a survey was refused, and he was forced to have resort to a subterfuge to enable him to go on shore. "Here again misfortune seemed to pursue me, for Commissioner Coffin, a man notorious in the service for his severity, happened to be with the Admiral." Without making the slightest examination the Commissioner ordered Stokoe to return to his ship immediately, and refused to accede to his repeated request for a survey.

Stokoe "took lodgings in the town, and sent for a surgeon, a stranger to me." He was suffering "from a deep and sloughing ulcer, that threatened arterial haemorrhage at every dressing." This surgeon, with little hesitation, assured him that he had only the choice of two evils, "either to yield at the risk of your life, or to abandon the service, and were it my own case I should prefer the latter." Mr Stokoe remained in bed. The officer sent to take him back by force was unable to carry out his orders, and was degraded to the forecastle in consequence, and the *Acasta* sailed without a surgeon! Captain Wood had permission from the Board to enlist a volunteer, but the prospect was not sufficiently tempting. Curiously enough he himself was the only sufferer from this deficiency, and that where he felt it greatly, namely—in his pocket. . . . The Swiss assistant was equal to the few emergencies which arose on a short and healthy voyage, "but a single mortality took place that affected the Captain's interest alone." He had two cows and a bull calf of which he was obliged to dispose, and thought to do so in the West Indies to greater advantage than at Portsmouth: but, unfortunately, they fell ill one after another, and all three died on the way. Captain Wood owned that he had treated his surgeon in an unjustifiable manner, and Mr. Stokoe was, by his intervention, replaced on the list of surgeons from which his name had been erased, nor does it appear that this incident had any prejudicial effect on his subsequent career.

In the year 1806 Stokoe was surgeon on the *Thunderer*, part of the fleet sent to the Mediterranean in aid of Ferdinand IV. of Naples. Prince Hesse Philipstadt, Commander of the garrison at Gaeta, "was wounded by a piece of stone or shell, which fractured his skull. I was sent for, and I called alongside the *Juno*, frigate, and took the surgeon on shore with me. . . . When we arrived the Prince had been dressed, and his surgeons gave the following description of the wound: 'That a triangular piece of the left parietal bone, at its junction with the coronal and sagittal sutures, of about an inch in diameter, had been driven in, and rested on the membranes of the brain; that they had not attempted its removal, thinking by the pulsation of the brain it would regain its place and again unite.'" The English surgeons could not accept this diagnosis, for "the patient seemed to be sensible to what was passing around him, opening his eyes from time to time and directing them to different persons present, showing intelligence, and with scarcely any disturbance in the circulation" Next morning his surgeon was prevailed upon to remove the dressings. "There was a wound in the scalp about 4 in. in length, and a triangular fracture, as described, but no appearance of the bone resting on the membranes that had undoubtedly been driven out instead of in. The Prince ultimately recovered, but his poor friend—an artillery officer—badly wounded in the knee, whom amputation of the limb at first might have saved, died, according to the report of the surgeon to the Prince, of a bowel complaint!"

The Duke of Orleans took passage on the *Thunderer* at Gibraltar when the fleet was on its way home. Stokoe wrote: "His Highness was then suffering from catarrh, which came on at Gibraltar and continued during the greater part of the passage, giving me the honour of attending him professionally and receiving many assurances of his friendship." Twenty years later Mr. Stokoe, who was staying at Dieppe, was invited to visit the Duke at the Chateau d'Eu, when both he and the Duchess expressed their pleasure at being able to thank him for the skill and attention shown at that time.

The account of the later years of Dr. Stokoe's life furnishes little that can be regarded as of purely medical interest. He made several voyages across the Atlantic as medical attendant to the daughters of Joseph Bonaparte, but these events are beyond the scope of the present paper. Of a sojourn in New York in, I believe, the year 1823 he writes thus:

"On our arrival . . . in the month of August the weather was excessively hot, and on the first day, in passing the cemetery, my friend and I both noticed an unpleasant smell, which we mentioned to the inmates of the boarding-house, none of whom seemed to have observed it. The second and third day we felt the same, but in a less degree, the fourth not at all. In a few days, however, after this the yellow fever broke out in a street bordering on the cemetery, where the inhabitants had noticed for weeks before an unpleasant stench in their cellars. Notwithstanding these two striking facts, the majority of the profession being contagionists, they must account for its appearance by importation, and a ship from the Havana having landed a cargo of sugar a few hundred yards from its locality a short time before, was sufficient to make many of them retain their opinion, my friend Dr. Hossack, I believe, was an exception. Every house in the street was cleared of its inhabitants, and the sick removed to a distant and healthy atmosphere, when the disease ceased to spread. It had advanced slowly from house to house to the neighbouring streets, and, as we were not far distant, our good landlady gave us all notice to quit. . . ."

Edith S. Stokoe.

THE MIDWIVES ACT, 1902.

Duties of Inspectors of Midwives.

Inspectors of midwives have been appointed by many of the county and county borough councils of England and Wales, and in most centres certified midwives have been selected to fill these important posts. They discharge their duties under the direction of the medical adviser of the local supervising authority, and they are appointed to exercise a general superintendence over the midwives practising in the district, and also to report to the local authority any difficulties which may occur in carrying out the rules of the Central Midwives Board. The special duties of the office of inspector of midwives include:

1. A personal knowledge of all the midwives, and a regular inspection of their homes, so as to insure the practice of domestic cleanliness and attention to sanitary details in their clothing and appliances.

2. Strict investigation into the antiseptic precautions taken by the midwives to prevent the entrance of infectious diseases into the lying-in room; and also the facilities for the disinfection of the women and their clothing after exposure to any dangerous puerperal disorder.

3. To give assistance to the midwives in the discharge of their duties, and to explain to the untrained women on the local roll their obligations and responsibilities as certified midwives practising under the regulations and restrictions of the Midwives Act of 1902.

4. To inspect the books which have to be kept by the midwives, containing full particulars of their cases, for the purpose of helping them in making the necessary entries and completing the records with regularity, so that they may be always ready to be submitted to the medical adviser of the local authority.

5. To aid in maintaining a correct local roll, and also to report to the local supervising authority, without delay, any charge of inattention, misconduct, or malpractice on the part of any midwife.

The remuneration given to the inspectors of midwives for their services is very variable in different districts, but the annual payment averages between £75 and £100.

At the annual meeting of the Cumberland Nursing Association held at Carlisle on October 21st, the PRESIDENT (Lady Lonsdale) read the following special report of the Executive Committee:

Midwives Act: The Executive Committee have very carefully considered the positions of their nurses under the above Act. Nearly all the nurses are certified midwives under the Act, and the question as to how far they should act in maternity cases where a doctor has not been called in by the patient has been the subject of much consideration. After consulting with the presidents of the local associations, and ascertaining through them the views of the local medical men, the Committee have come to the conclusion that the best course for the Association to adopt for the present is to leave the question to be dealt with by each local Association and their medical men. This will involve no change in the printed rules of the Association, and as it is not improbable some further alteration in the law may be made shortly, it does not appear advisable at this time to endeavour by any rule to enforce uniformity in all districts. The Executive believe that by leaving the matter open the good sense of the local committees and the medical men will establish a *modus vivendi* in all the districts.

Signed on behalf of the Committee,

September 27th, 1905. GRACE C. LONSDALE.

Lady MABEL HOWARD, who moved the adoption of the report, said the Executive Committee thought that the report was one which is calculated to produce harmony and to leave each district a free hand to settle the matter in question after consultation with the local medical men. Last year there were 130 midwifery cases taken by their nurses either from emergency cases or by order of the medical men. If the report were passed, a very slight increase of these cases would be the result. No local association had any wish or intention that its nurse should undertake cases without the doctor except in the case of the very poor, and each case would be individually dealt with by the local association and their medical men; but it was all-important for the different associations to be able to do this. A typical case occurred in that county. Two years ago a very poor but most respectable woman was confined of a sixth child. She had previously engaged the local doctor and also the services of the district nurse. The doctor arrived too late and the nurse acted as midwife. The doctor, as was his due, claimed his fee of £1 1s. The family, although intending to pay, had hitherto been unable to do so, and the debt remained unpaid. Not long ago the same woman was expecting to be confined again. She requested the doctor to attend her, but he refused unless she could pay him part of the fee already due to him. This was not possible at the moment. The woman had sent for the district nurse, who, with this hard-and-fast rule facing her, refused, without consulting the committee, which, of course, under the circumstances she ought to have done. The woman was then left with her confinement imminent, face to face with the alternative of employing an unqualified woman from the neighbouring village or becoming a receiver of outdoor relief, which, as they knew well, was particularly obnoxious to a hard-working, respectable member of the community. Some members of the local committee became acquainted of the fact—there was no time to call the whole committee together—so they at once authorized the nurse to take the case, and in the event of a difficult or dangerous confinement to call in the doctor. The case was a difficult one, the nurse called in the doctor, and he came. The local association had made itself responsible for his fee. In a case such as she had quoted, it appeared to her that the association must be given power to deal individually with each case, and to use its discretion. She was directed by the committee to communicate with all secretaries of the other county associations affiliated to the Queen's Jubilee Institute, requesting them to send particulars as to how they were working the Midwives Bill. The following were the particulars:—Devonshire: Every local association is free to make its own rule as to what class of patient shall have the nurse as midwife. Somersetshire: Entirely rests with the local committee. Sussex: In some of the districts the doctors are glad to be relieved of all normal cases among the poor. In those districts no limit is made as to earnings. Where there is opposition the nurse does not act. Hants: Thirty-nine nurses act as midwives; ten act only in conjunction with the doctor. Nottinghamshire: Nurses allowed to act as midwives; a charge of 5s. is made. Lincolnshire: All new districts insist on nurses acting as midwives for the very poor who have never been able to pay the doctor's fees. Nurses only allowed in very poor cases. Derbyshire: Nurses all act as midwives for the very poor, and also to the better classes, except in five districts, and in these they act as monthly nurses. Although the committee endeavours for the really better-off people to have the doctor with the nurse, in a great many districts the doctors are only too glad for the midwifery to be done by the nurses. Cornwall: In twelve districts nurses allowed to act as midwives. In some districts where there have been difficulties nurse only does monthly nursing.

Dr. OGILVY-RAMSAY moved as an amendment:

That it be an instruction from the general committee to the various local committees that no alteration of the rule be made unless the medical men of the district are unanimously in favour of the proposed alteration.

Dr. GRAHAM seconded the amendment. Since the last meeting, as arranged, inquiry had taken place amongst the medical men through the medium of the Secretary of the Border Counties Branch of the British Medical Association to ascertain the views of the medical men with regard to the deletion of this rule. There were 160 medical men connected with this county, and out of 160 115 replied to the circular after sometimes a second and third application, and out of those 115 only seven advised that the rule should be deleted. The remaining 108 medical men strongly underlined the word "not" that the rule should not be deleted. Of the seven medical men one was the Medical Superintendent of the Cumberland Sanatorium, and therefore he might be taken out of account; two had left the county, and so it had resolved itself into five medical men who advised that this rule should be deleted, and of those five three were in one locality and two in another. In that locality where the three were there were three other medical men, and two advised that the rule should not be deleted. That showed a want of harmony in the working of those associations, and he felt strongly that if the report were adopted as written it was calculated to disturb the previous harmony, and the medical men would lose interest in the Nursing Association.

Lady MABEL HOWARD said that they made inquiries from over thirty medical men. Of these eleven were in favour, twenty against; four were willing on certain conditions, and one expressed no opinion.

For the amendment three voted and for the motion a large majority. The motion was therefore declared carried.

BRITISH MEDICAL BENEVOLENT FUND.

THE monthly meeting of the Committee was held at the house of Sir William Broadbent, M.D., Bart., Mr. Parker Young in the chair. The following is an abstract of the cases relieved:

1. Widow, aged 73, of F.R.C.S., L.S.A., who practised in London. Has a small income, but, being a permanent invalid, is unable to meet absolutely necessary expenses. Voted £10, in ten monthly instalments.

2. Daughter, aged 29, of late M.D.Edin., who practised in Hampshire. Has been supporting herself as a mother's help, but is broken down in health, and requires a little rest before undertaking another engagement. Voted £5 in one sum.

3. Daughter, aged 39, of late M.D.St. Andrews, M.R.C.S., who

practised in Devonshire. Has supported herself hitherto by teaching and taking lodgers, but health has given way, and a rest is unavoidable. Voted £5 in one sum.

4. Widow, aged 46, of L.S.A., who practised in London. Since husband's death has maintained herself by keeping a small school, but health is now such that continuous work is impossible. Two children, aged 11 and 12. Voted £10, in two instalments, at intervals of six months.

5. Widow, aged 45, of L.R.C.P., L.R.C.S.Edin., who practised in Japan. Is a nurse by occupation, but has been disabled for some months by rheumatic fever. Children barely self-supporting. Voted £12, in twelve monthly instalments.

6. Daughter, aged 56, of late M.D.Lond., who practised in Sussex. Has supported herself for some years by letting rooms and giving painting and drawing lessons, but failing sight makes it most difficult to continue doing so. Voted £6 in six instalments, at intervals of two months.

7. Widow, aged 55, of M.R.C.S.Eng. Quite unprovided for at husband's death. Two children, but neither able to help. Voted £12 in twelve monthly instalments.

8. Daughter, aged 52, of late M.R.C.S.Eng., who practised in Wales. Has endeavoured to maintain herself by letting lodgings and knitting, but is no longer able to do so owing to a recent attack of haematemesis. Voted £12 in twelve monthly instalments.

9. Daughter, aged 51, of late M.R.C.S., who practised in Hampshire. Incapacitated by lateral curvature and general debility, and entirely dependent on friends. Voted £6 in one sum.

10. Widow, aged 63, of M.D.Edin., who practised in Cornwall. Has been obliged to give up a situation owing to a breakdown in health, and is dependent on a daughter earning 35s. a week. Voted £12 in twelve monthly instalments.

11. Deserted wife, aged 37, of L.R.C.P.Edin., M.R.C.S.Eng., who practised in London. Lives with a widowed mother, whose only income is a small annuity, and asks help towards providing an outfit as nurse for only child, a daughter, aged 18. Voted £5 in one sum.

12. Daughter, aged 56, of late M.D.Lond., who practised in Harley Street. Quite unprovided for, and endeavours to maintain herself by a knitting machine, health being too delicate for more active employment. Voted £12 in twelve monthly instalments.

Funds are urgently needed. Subscriptions may be sent to the Treasurer, Dr. Samuel West, 15, Wimpole Street, London, W.; to the Secretary, W. E. Sargant, M.R.C.S., St. Bartholomew's Hospital; to the Collector, Mr. Bethel, 11, Chandos Street, Cavendish Square, W.; or to any local secretary.

THE PLAGUE.

PREVALENCE OF THE DISEASE.

INDIA.

DURING the weeks ending September 9th, 16th, and 23rd the deaths from plague numbered 2,482, 2,871, and 3,192 respectively. The chief mortality has been experienced in the Bombay Presidency, where, of the total deaths from plague, the numbers during the weeks mentioned were 1,745, 2,103, and 2,354 respectively.

In the Madras Presidency the deaths during the same periods amounted respectively to 251, 217 and 227; the Central Provinces, 124, 150 and 320 (including the Berars); in Burmah the numbers were 67, 63 and 68. Inoculation against plague in Bombay city and districts is proceeding most satisfactorily, large numbers of natives coming forward voluntarily to be inoculated.

SOUTH AFRICA.

No fresh cases of plague were discovered in any part of South Africa during the weeks ended September 9th and 16th. Rats and mice were found during the period in question to be infected at Port Elizabeth only.

HONG KONG.

During the week ending October 14th, 2 fresh cases of plague and 2 deaths from the disease were reported. For several weeks Hong Kong had been free of plague.

MAURITIUS.

During the weeks ending September 28th, October 5th and 12th, the fresh cases of plague numbered 21, 19, and 31, and the deaths from the disease 12, 11, and 16 respectively.

RUSSIAN ASIA.

In Transbaikalia, on September 26th, a Reuter telegram announces an outbreak of plague. At Chita, in that province, 20 cases of bubonic plague were reported up to September 26th, of which number 10 had proved fatal. At a Manchurian station 2 cases of plague were also reported.

BEQUESTS.—The late Mr. George Forrester of Norwich, whose will has now been proved, left £100 each to the Norfolk and Norwich Hospital, the Jenny Lind Infirmary for Sick Children, and the Norwich Asylum and School for the Blind; sums of £50 each were left to the Norfolk and Norwich Eye Hospital, the Yarmouth Convalescent Home, and the Lowestoft Convalescent Home.

MEDICAL NEWS.

DR. AUGAGNEUR, Mayor of Lyons, has accepted the post of Governor of Madagascar, vacant by the resignation of General Gallieni.

A NEW Medical Mission hospital was opened last week at Plaistow. It is to be worked in connexion with the Settlement of Women Workers in Canning Town.

DR. W. OWEN EVANS, of Pontardawe, R.S.O., South Wales, has been appointed by the Central Executive Committee of the St. John Ambulance Association one of its examiners.

AT a meeting of the Special Committee for the election of members of the honorary staff of the Leeds General Infirmary Dr. W. H. Maxwell Telling was appointed an Assistant Physician to the infirmary.

THE Liverpool School of Tropical Medicine announces that it proposes to appoint two qualified medical practitioners to work on trypanosomiasis and spirillosis at the School. The salary to be paid is at the rate of £100 per annum.

STAFF SURGEON GEORGE GIBSON, of H.M.S. *Assistance*, has been awarded the bronze medal of the Royal Humane Society for his gallantry in jumping overboard at sea and saving a seaman who had fallen from the ship.

AT a meeting of the Pharmaceutical Society of Great Britain on Tuesday, November 7th, at 8 p.m., Sir George Watt, C.I.E., M.B., will deliver a lecture on shellac, and Mr. J. C. Umney, F.C.S., will contribute a paper on the chemistry and analysis of shellac.

THE November Dinner of the Aberdeen University Club, London, will be held at the Trocadero Restaurant, Shaftesbury Avenue, W., on Wednesday, November 15th, at 7 p.m., Dr. James Galloway will be in the chair. Members desiring to be present should communicate with the Honorary Secretary, Dr. R. J. Collie, 25, Porchester Terrace, Hyde Park, W., before November 11th.

CONGRESS OF CRIMINAL ANTHROPOLOGY.—The sixth Italian Congress of Criminal Anthropology will be held at Turin in 1906, the opening meeting being fixed for April 26th. There will be an exhibition in connexion with the Congress. Advantage of the occasion will be taken by the friends and admirers of Professor Lombroso to organize a public manifestation in his honour. A Committee has been appointed for the purpose, of which Professor Pagliani, President of the Medical Faculty of the University of Turin, is chairman.

GUILD OF ST. LUKE.—The annual medical service at St. Paul's Cathedral took place on the evening of Thursday, October 19th. A goodly number of members of the medical profession, some of whom were women, attended in their academical robes and walked in procession to their seats under the dome. Among those present were Dr. S. Russell Wells (Provost of the Guild), Surgeon-Colonel F. H. Welch (Vice-Provost), and Dr. E. Symes-Thompson (Past Provost). Mr. J. Brindley James (Registrar of the Guild) read the first lesson and Mr. Andrew Clark the second lesson. Canon Childs Clark intoned the service, and the choral portion, which was of a high order throughout, was rendered by the special choir of the London Church Choir Association, under the direction of Dr. H. Walford Davies, organist of the Temple Church and honorary conductor to the Association. The anthem was "Thou wilt keep Them in Perfect Peace" (S. S. Wesley). An impressive sermon was preached by the Rev. A. C. Headlam, D.D., M.A., Principal of King's College, London, from the text "Thy kingdom come. Thy will be done" (St. Matt. vi. 10), in which he pointed out that the physician was the instrument of God. Referring to what is called Christian Science he emphatically denied that in sickness prayer could be successful without the added skill of the physician. While spiritual help was essential, nature demanded physical aid as well. The collection, after deduction for expenses, was devoted to the College Fund of that Guild, which has done much in the cause of medical mission work. The Guild, we may add, sends out voluntary missionaries, and assists medical missions with grants of money and supplies. One of its great difficulties has been to find men to undertake foreign work, and in order to supply the pressing need for foreign missionaries the Guild has fitted up a residential college for candidates. In carrying out this scheme, however, it has incurred considerable expenditure, and appeals for financial aid.

British Medical Journal.

SATURDAY, OCTOBER 28TH, 1905.

SIR THOMAS BROWNE.

It was a happy inspiration that made the erection of a monument in memory of Sir Thomas Browne coincide with the three hundredth anniversary of his birth. For few, indeed, are the men who, like him, have spent their lives in the obscurity of the sick room and the silence of the study, whose names escape oblivion even for a few years. The author of the *Religio Medici* himself cared not, he tells us, for a monument, history or epitaph, nor so much as the bare memory of his name to be found anywhere but in the universal register of God. And, indeed, he needed no better monument than his writings, which have placed him among the immortals of English literature. In erecting a statue to his memory Norwich has added nothing to the permanency of his fame, but it has redeemed itself from the reproach of having no adequate memorial of its most illustrious citizen. For the tardy act of reparation, of which a full account is published elsewhere, the capital of East Anglia is indebted to the persevering efforts of a Committee of which the leading spirits are members of Sir Thomas Browne's own profession.

It is remarkable that a man who, as pointed out by Sir Douglas Powell, contributed nothing to the science of medicine, should be held in such enduring reverence by his professional brethren. In the celebration of his tercentenary the other day representatives of the Royal Colleges and of our foremost universities took a prominent part. It was fitting that this should be so, for although Browne has no place among discoverers of new truths or original thinkers in the domain of science, no man in the history of medicine has shed more lustre on his profession. This he has done not so much by his knowledge, great though that was according to the standard of his day, as by the simple grandeur of his character and the splendour of his literary style. His ideas are to a large extent antiquated and his reasoning to a modern mind is often absurd, but it is style that keeps books alive, and Browne's style, though often enough pedantic and overloaded with fantastic decoration, has a subtle magic that must always make true lovers of literature blind to his faults. His style is the appropriate expression of one of the most fascinating personalities that have revealed themselves in literature.

No physician has ever had a nobler conception of his calling than Sir Thomas Browne. "I feel not in me," he says, "those sordid and unchristian desires of my profession: I "do not secretly implore and wish for plagues, rejoice at "famines, revolve ephemerides and almanacks in expectation of malignant aspects, fatal conjunctions, and "eclipses. I rejoice not at unwholesome springs nor unseasonable winters: my prayer goes with the husbandman's; I desire everything in its proper season, that neither men nor the times be out of temper. Let me be sick myself, if sometimes the malady of my patient be not a disease unto me. I desire rather to cure his infirmities than my own necessities. Where I do him no good, methinks it is scarce honest gain, though I confess 'tis but the worthy salary of our well-intended endeavours. I am not only ashamed, but heartily sorry, that besides death, there are diseases incurable; yet not for my own sake or that they be beyond my art, but for the general cause and sake of humanity, whose common cause I apprehend as mine own." He knew that sin is often disease, for he says, "I can cure vices by physick when they remain incurable by divinity, and they shall obey my pills when they contemn their precepts." He was a man not only of the largest tolerance at a time when differences of speculative opinion were too often settled by the irrefutable arguments of the prison and the stake, but he had the charity, rare in all ages, which forgives all because it understands all. In the true spirit of the physician he held nothing human foreign to himself. "For my conversation," he says, "it is, like the sun's, with all men, and with a friendly aspect to all, good and bad. Methinks there is no man bad; and the worst best, that is, while they are kept within the circle of those qualities wherein they are good. There is no man's temper of such discordant and jarring a temper, to which a tunable disposition may not strike a harmony." We can well believe that Browne, to use his own phrase, "supererogated in that common principle, 'Do unto others as thou wouldst be done unto thyself.'"

Enlightened as Browne was in many ways, he was by no means free from errors as vulgar as any of those which he exposed. He believed in magic, and thought that "we do surely owe the discovery of many secrets to the discovery of good and bad angels." He was a firm believer in witchcraft, and held that those who doubted the existence of witches were "obliquely and upon consequence, a sort not of infidels but atheists." This belief was the cause of the one incident in his life which, it were to be wished, could be blotted out of the record. In 1664 Browne appeared as a witness in a trial for witchcraft, the last which took place in England. Two poor widows of Lowestoft were charged with bewitching children. The evidence given by him may be gathered from the following official report:

"There was also Dr. Browne of Norwich, a person of great knowledge, who, after the evidence given, and upon view of the persons in court, was desired to give his opinion what he did conceive of them. He was clearly of opinion that the persons were bewitched, and said that in Denmark there had been lately a great discovery of witches, who used the very same ways of afflicting persons by conveying pins into them, and, crooked as these pins were, with needles and nails. And his opinion was that the devil in such cases did work upon the bodies of men and women upon a natural foundation—that is, to stir up and excite such humours superabounding in these bodies to a great excess, whereby he did in an extraordinary manner afflict them with such distemper as their bodies were most subject to, as particularly appeared in these children. For he conceived that these swounding fits were natural, and nothing else but that they call the mother, but only heightened to a great excess by the subtilty of the devil, co-operating with the malice of those which we term witches."

As seen by our modern eyes, the author of *Vulgar Errors* comes out of the witness-box *médiocrement couvert de*

lauriers, as Gramont returned from his Catalonian campaign. It is true that in regard to witchcraft Browne's mental attitude was that of his day; this Dr. Knott has shown with abundant erudition in an article lately contributed to our pages. But without anathematizing Browne's error so uncompromisingly as Dr. Conolly Norman did in a correspondence published in the BRITISH MEDICAL JOURNAL little more than a year ago, we cannot help feeling that he ought to have known better. If his philosophy was wrong, his humanity should have put him right. It was not as if the accepted doctrine about witches had never been challenged. Nearly a century before Browne's day a German physician, Johann Wier, wrote a treatise, entitled *De Praestigiis Daemonum et Incantationibus et Veneficiis*, in which he showed that witches were women suffering from nervous or mental disease, who required medical treatment, not punishment. If they were to be punished, he urged, at least let them not be tortured or put to death. Addressing authorities, legal and ecclesiastical, he said: "Do you then "believe that these poor women do not suffer enough that "you should use your ingenuity to devise further suffer-"ing for them? Do you suppose that there is in the whole "world wretchedness worse than theirs? Ah, if they seem "to you to deserve punishment, be comforted: their disease "is enough." Wier denounced the judges who put these poor *dementatae delusae* to death as *carnifices*.

That even in the darkness of the sixteenth century not a few minds were open to the light is proved by the fact that Wier's book went through five editions in fourteen years; it was also translated into German and in this way reached that people. Some of the most distinguished theologians and physicians of the time congratulated the author on his work. Naturally he was denounced by the champions of conservatism. Jean Bodin, Procurator of King Henry the Third of France, passed among his contemporaries as a broad minded man. Yet he wrote a book in which he bitterly assailed the "insignificant doctor" who had dared to question a belief affirmed "by the law of the Twelve "Tables, by Jurisconsults, by Emperors, and by all peoples "and lawgivers, Persian, Hebrew, Greek, Latin, German, "French, Italian, Spanish, English." He bids Wier stick to the study of the "hypostasis of urine," and crushes him with the following delectable logic: The book *De Praestigiis* is the work either of a very wicked or a very ignorant man; Wier, however, is not ignorant; *ergal*, he is wicked! Bodin makes a kind of apology for his virulence, but excuses it on the ground that it is impossible for a man who has the honour of God ever so slightly at heart not to be moved to just wrath by such blasphemies.

We should have liked to be able to claim for Browne the glory that belongs to Wier and to our own countryman, Reginald Scot. But when his fame is discounted to the fullest extent for his superstition in regard to witches, there remains glory enough to make the whole English-speaking people, and the members of his own profession particular, justly proud of him. Most fittingly has his memory been honoured in the city where he practised physic for half a century. As has been said, he cared nothing about a monument, and he would doubtless, could he have been present in the midst of his admirers on Thursday, have been more pleased with the eulogies, admirable alike in taste and in feeling, pronounced by Dr. Beverley, Sir Peter Eade, Lord Avebury, Professor Clifford Allbutt, Professor James Stuart, Sir R. Douglas Powell, Mr. Edmund Owen, and the Dean of Norwich. One form of posthumous reverence, however, we may be sure, would be especially agreeable to him if his "spagiric body" could revisit the pale glimpses of the moon. This is that no part of his remains should be allowed to figure in a pathological museum.

It is to be hoped that effect will be given to the suggestion made by Mr. Edmund Owen, in a letter published in the *Times*, that the skull of Sir Thomas Browne, which was "knav'd" out of his grave, in spite of his prophetic denunciation of such "tragical abominations," should be replaced in his coffin. Professor Osler, who throughout his life has been one of Browne's most fervent devotees, has lately had the skull enclosed in a crystal casket. It may seem a little ungracious, therefore, to suggest that the casket should be rifled of the precious relic which it contains. Mr. Owen's proposal that a perfect plaster cast should be substituted for the skull would, however, meet the difficulty in a satisfactory manner.

DR. SCHAUDINN ON SPIROCHAETE PALLIDA.

DURING the last few months, Dr. Schaudinn tells us,[1] his recent discovery of the presence in syphilitic lesions of a characteristic spirochaete has been confirmed by more than a hundred independent authorities. Considering the extreme delicacy of the organism and the difficulty of staining it, this is an eminently satisfactory result, and Dr. Schaudinn appears to be thoroughly justified in his conclusions that in primary and secondary lesions the spirochaete pallida is invariably present, and that failures to demonstrate it are merely due to inexperience and faulty technique. In the last seventy cases which Dr. Schaudinn has examined, including cases of congenital syphilis and also experimental syphilis produced on the ape, he has not met with a single negative result. With tertiary syphilis, however, he has not been successful, and he is inclined to the opinion that in these late syphilitic manifestations the spirochaete pallida has become modified into an atypical, resting form. But this is a question into which he is pursuing further investigations.

One practical result of this widespread stimulus to the search for the spirochaete pallida is that the presence of various spirochaetae in a large number of pathological products, particularly in human tissues which are commencing to break down, has been shown to be much more frequent than was hitherto supposed. Hence the difficulty is increased of distinguishing the true spirochaete pallida from other spirochaetae which are likely to be met with. Dr. Schaudinn's guidance upon this point is particularly valuable. When the material is examined in the fresh condition the delicacy and translucency of the spirochaeta pallida, together with the characteristic shape of its spirals, which consist of short, sharp, uniform turns generally from ten to twenty-six in number, ought to be sufficiently diagnostic to prevent confusion with other objects. It is important, however, to realize that the organism exhibits this typical spiral form not merely when in motion but also when at rest, whereas all other spirochaetae which are likely to be confused with it only exhibit spiral coils of this type when in particularly active movement; when at rest their coils are much more shallow and approximate to the straight line. This characteristic permanence of its spirals, apart from rotatory movement, gives to the spirochaeta pallida a peculiar rigid appearance, "as though it had been turned on a lathe."

In permanent preparations the difficulty arises that in the process of drying the smear other spirochaetae may be

[1] *Deutsch. med. Woch.*, October 19th, 1905.

arrested and killed in a moment of particularly active movement, when they are thrown into narrow spiral coils. In order to obviate confusion which might arise from this cause, it is necessary to pay attention to additional features which are of diagnostic moment. The thickness of the organism, the number of its coils, the intensity with which it takes up the stain, the colour with which it stains by Giemsa's method, and the shape of its extremities, are all points of importance. The spirochaete pallida is slender; its coils are more numerous than those of other spirochaetae; it never stains deeply; by Giemsa's stain it is coloured a delicate red, whereas other spirochaetae are bluish; it has sharp, tapering extremities, whereas the "pseudopallida," which is found in ulcerated carcinomata, for example, has blunt, rounded extremities. Fallacies may also arise owing to the films not being stained deeply enough. In this event, other spirochaetae, failing to take up the stain as intensely as they ought, may assume the pale appearance characteristic of pallida. A useful criterion, when Giemsa's stain is employed, is obtained by examining the nuclei of the leucocytes: they ought to be a deep, reddish-black colour; if they are blue, the staining has not been successful. It is also desirable, in order to avoid artefacts, to fix the smears in osmic acid vapour. This process preserves the coils and the extremities of the organism better than ordinary drying and does not interfere with the staining properties, provided that exposure to the vapour only lasts for a moment.

In order to demonstrate the locomotor apparatus of spirochaetae Dr. Schaudinn finds that the best stain to use is the old stain employed by Loeffler for demonstrating the flagella of bacteria. By this method he has, for the first time, brought out the undulating membrane of many spirochaetae so clearly that he has been able to photograph it, and by a careful study of his specimens he has gradually trained his eye to recognize this structure, both in specimens stained by Giemsa's method and in the living spirochaetae. In his first observations on spirochaete pallida, however, he was unable to find clear evidence of any locomotory apparatus; he found no flagella at the extremities, but he thought he could detect in the living organisms some possible suggestions of an undulatory membrane.

Further investigations, however, by the application of Loeffler's method, have now led Dr. Schaudinn to the discovery of a highly interesting difference between spirochaete pallida and other spirochaetae. Whereas the many other spirochaetae he has examined possess an undulatory membrane but no flagella, the spirochaete pallida shows no recognizable undulatory membrane, but possesses at either extremity a long, slender flagellum equal in length to from four to six coils of the spiral body of the organism. Another valuable observation he has made is that some specimens of spirochaete pallida possess two flagella at one end. These organisms are generally shorter and thicker than the average, and Dr. Schaudinn offers the suggestion—on the analogy of a similar process found in trypanosomata—that this duplication of the terminal flagellum is the preliminary stage of division by longitudinal fissure. But Dr. Schaudinn does not consider that he has, as yet, exhausted the possibilities of microscopical technique; he hopes to bring to light further details in the structure of this remarkable organism, and thinks that he may, perhaps, some day succeed in demonstrating the presence of an undulatory membrane.

Dr. Schaudinn's present communication, we must add, is only of a preliminary nature, and will presently be supplemented by fuller details and by photographic reproductions of his latest discoveries. Dr. Schaudinn does not belong to the school of scientists which finds it necessary to envelop its discoveries in a shroud of mystery. Acting in that genuine spirit of scientific comradeship which characterizes all his research, he makes these preliminary statements now, with the object of stimulating independent inquiry and criticism on the part of all pathologists who are working in the same field.

ETHICAL ASPECTS OF THE HOSPITAL QUESTION.

THE discussion initiated by Dr. Ford Anderson on this subject in the St. Pancras Division of the Metropolitan Counties Branch has come at a very opportune moment. As Dr. Glover pointed out, the Hospital Sunday Fund is now engaged in inquiring into the subject, and has addressed a letter asking for information to each participating hospital, the replies to which are to be sent in by the end of October. The South London Committee, which includes representatives from the Lambeth, Norwood, and Wandsworth Divisions of the British Medical Association, as well as of the Brixton Medical Society, the Camberwell Provident Dispensary, and the South-West London Medical Society, has also recently been engaged, at the request of the Medical Board of King's College Hospital, in formulating the views of the medical practitioners of South London as to the best methods of safeguarding their interests in connexion with the framing of rules for the out-patient department when the hospital is moved to Denmark Hill, as well as those concerning the admission of in-patients.

It is quite in accordance with the traditions of the Association that, as the great representative body of general practitioners, it should take an active share in the discussion of this most important subject. So far back as March, 1874, we find a leading article in the BRITISH MEDICAL JOURNAL advocating reform of the more glaring abuses of the out-patient system by the hospital authorities without waiting for the intervention of the public. It is, perhaps, useless now to reflect how many columns of letterpress, both in the medical and lay press, and how many heated discussions on the subject might have been saved if the advice then tendered had been followed. The Out-patient Reform Association of that day was, as some of its members even then recognized, in advance of the public opinion of the time. It was Lord John Russell, if we recollect rightly, who said, in introducing one of his Reform Bills, that it takes thirty years in England to get any great reform carried out. At the present moment the demand for reform comes backed by the powerful influence and the *force majeure* of those wielding the power of the purse, and the hospital authorities cannot if they would avoid responding to it.

A striking example of the financial straits to which some London hospitals are reduced is afforded by the formal statement upon the subject made at the quarterly meeting of the Board of Governors of St. Mary's Hospital last week. It was then shown that, in addition to an outstanding building debt of £26,500 on the Clarence Memorial Wing, there is a floating debt for ordinary maintenance of some £10,000. The yearly expenditure of this hospital on ordinary upkeep is about £30,000, but in 1903 its income, including that from invested property, subscriptions, and

donations and subventions from the King's and other Hospital Funds, fell to less than half that sum. The present financial position would have been very much worse, or the crisis have been reached much sooner, but for the fact that the hospital seems to have been unusually lucky in the way of legacies, a sum equal to its whole ordinary income having been received from this source during the year, and having served to make incomings and outgoings in some degree balance. Since then the hospital has not been equally fortunate in this respect, and for the last eighteen months or more has been living at the rate of practically twice its income. It is quite natural, therefore, that the Governors should now announce that, in default of very material assistance, they may not only have to realize their investments in order to pay off their accumulated debts, but to close a number of beds, in order to bring future expenditure down to a figure which shall bear a ratio to income very different from that of 2 to 1. It may, of course, be said that the Governors ought long ago to have realized that the hospital was drifting towards bankruptcy; and, remembering that only within the last few years they have incurred a very heavy capital expenditure by completing the large Clarence Memorial wing, it is not possible to acquit the Board of Management of want of foresight. It would not, however, be quite fair to judge this particular hospital too hardly, because the public has grown to regard the hospitals as institutions bound somehow to meet all the calls made upon them, forgetting that with few exceptions they are maintained by the charitable contributions of a relatively small number of persons.

A curious example of this attitude of mind is afforded by a correspondence, recently made public, between the Board of Guardians for Southwark and the Treasurer of Guy's Hospital. It appears that a woman suffering from heart disease who earlier in the year had been an in-patient at Guy's Hospital for nearly three months, was brought back to the hospital in a cab on July 11th. The house-surgeon recognized that the patient was in a serious condition, but as no bed was available, he gave the husband a certificate recommending the case to the relieving officer of the district as suitable for admission into the infirmary of Southwark. She was then driven to the relief station, where she was seen by one of the district medical officers, who found her to be suffering from angina pectoris. Subsequently she was seen at the same place by the medical officer of the district in which she resided; he remained with her until she was sufficiently recovered from the attack of angina to be placed in a bed ambulance and removed to St. George's Workhouse. She died on July 29th. The incident was discussed by the Board of Guardians, who eventually addressed a letter to the Superintendent of Guy's Hospital, pointing out that the St. George's Workhouse to which the patient was admitted in consequence of her enfeebled state has no infirmary accommodation, and asking why the case was sent away from the hospital and referred to the infirmary situated at East Dulwich Grove, some four miles distant from the hospital. The Treasurer, Mr. Cosmo Bonsor, in his reply, after stating the facts related above, pointed out that accommodation for in-patients was limited, and that whilst most anxious to render Guy's Hospital of the utmost service to those around them, the Governors are compelled to keep within the limits of their accommodation. He went on to make the sufficiently obvious retort that the law has imposed upon the guardians a responsibility limited only by the necessities of the poor within their union. He reproached the guardians with failing to equip a proper outpost hospital (reception station) within their boundaries. This, he said, was the real cause of the trouble which occurred from time to time. The guardians having threatened the Treasurer with the Committees of the Hospital Sunday and King Edward's Hospital Funds, the Treasurer retaliated by threatening the guardians with the Local Government Board. While the technical validity of Mr. Cosmo Bonsor's argument must be admitted, it does not really go to the root of the matter. The correspondence appears to disclose the existence of a long-standing war between Guy's Hospital and the guardians of Southwark, and the fact implied in the Treasurer's letter that similar cases have occurred in the past will not tend to reassure public opinion. The public will be more disposed to call for some drastic measure placing all agencies for the relief of the sick poor under one control.

The important point at the present moment, however, is to realize that the medical profession has a great duty to perform with regard to out-patient departments, the abuses in the conduct of which are more or less fully recognized by all who are concerned in their administration. It is of the utmost importance that the medical and surgical staffs of hospitals should show themselves in full sympathy with the general body of the profession on this matter, and that, if asked for their opinion by the hospital authorities, they should give it with no uncertain sound. The Hospitals Committee of the Association has done excellent service in formulating the twelve fundamental principles (or twelve commandments, as one of their authors facetiously calls them) of hospital management; and we cannot doubt that the good example set by the staff of King's College Hospital, and of the Belgrave Hospital for Children, to which Mr. Nelson Hardy referred in the course of the discussion, will be followed ere long by those attached to many of the other great London hospitals.

Dr. Walter Smith's suggestion that the subject should be discussed in every London Division of the Association is well worth considering by the respective secretaries, and, if they can easily find as competent an opener as Dr. Ford Anderson, they may be sure at least of an interesting and instructive discussion.

PRESENTATION TO DR. JEPSON

DR. JEPSON of Durham last week received what must have been to him a most gratifying expression of the gratitude of his medical brethren for whom he has worked with such energy and self-sacrificing devotion. He was entertained at dinner by the members of the County of Durham Medical Union, of which he was the President from 1898 to 1905. Dr. J. F. Armstrong of Newcastle was in the chair, and Mr. A. T. Shepherd of Sunderland in the vice-chair. Amongst those present were Dr. Farmer, Mr. H. Jepson, Dr. J. W. Smith, Dr. J. Taylor, Dr. J. Charlew, Dr. J. H. Robertson, Dr. A. Cox, Dr. W. Galloway, Dr. J. W. Mackay, Dr. W. Jaques, Dr. James Arthur, Dr. J. H. Hunter, Dr. M. Wardle, Dr. R. S. Hubbersty, Dr. D. F. Todd, Dr. J. G. Modlin, Dr. G. H. Fulton, Dr. Andrew Smith, Dr. Robert Stuart, Mr. Rutherford Morison, Dr. W. H. Davis, and Dr. F. J. McArdle. Dr. Jepson was presented with a valuable roller-top desk and bookcase with silver plates bearing the following inscription: "Presented to "Edward Jepson, Esq., M.D., J.P., by the members "of the County of Durham Medical Union, in "grateful recognition of his arduous and unselfish labour

"on behalf of the profession in the county, and as Presi-"dent of the Union from 1898 to 1905.—October 13th, 1905." Mrs. Jepson was at the same time presented with a handsome silver tea service. The presentations were made by Dr. Wardle, who said they were an expression of goodwill which had been most thoroughly and most honestly earned by the manner in which Dr. Jepson had performed the duties of his office. The debt of gratitude they owed was all the greater because in what Dr. Jepson had done he had no personal end to serve. Dr. Jepson had been absent from only one of the sixteen ordinary and extraordinary meetings, and out of something like forty-six meetings of the Council he had been at forty-three. A record like that was proof of the whole-hearted and devoted manner in which Dr. Jepson had sacrificed his own comfort and work in order to further the objects of the union. Dr. Galloway said that during the time Dr. Jepson occupied the chair he spared neither himself nor his purse to further in every way the objects of the County Medical Union. Dr. Jaques said the County of Durham Medical Union would not have been in anything like the position it was had it not been for Dr. Jepson. Although they had altered their name, they had not altered their constitution, and he was glad Dr. Jepson was still at their head. Dr. McArdle, as a Durham practitioner, also bore testimony to the purely unselfish motives which had actuated Dr. Jepson in this movement. Dr. Jepson expressed, in well-chosen words, his grateful sense of the kindness of the Medical Union towards Mrs. Jepson and himself. He reviewed the history of the foundation of the Union. There were two officers of their Union whom they must never forget—Messrs. Graham and Shepherd. They had been at the helm all through, and unless they had occupied that position he could not conceive how they could have got along. He trusted that the British Medical Association would get stronger and stronger. Under the leadership of Dr. Cox, Secretary in the North of England, it must achieve great things. If spared, he should continue to do whatever he could for the best interests of the Association. Dr. J. Charles proposed "The British Medical Association (North of England Branch)." He said that, in his opinion, the Association took a great step forward when, a few years ago, it reorganized itself on thoroughly representative and democratic lines. Although the North of England Branch was numerically, perhaps, not so strong as some of the London and Midland Branches, yet in some respects it was far more excellent, for it was certainly a most go-ahead, up-to-date, energetic, and enthusiastic Branch. Dr. Hunter responded. The British Medical Association was making great advance, and in the course of two or three years he hoped to see organization throughout the country perfected. Dr. A. Cox proposed "The Durham Committee." Personally, he felt a sense of great gratitude and great relief at the fulfilment of what had been a very fond ambition—the organization of medical affairs in the North under one body, which had behind it the whole medical opinion and force of the Empire. They looked forward to the Durham Committee achieving great prosperity, more particularly as they still had at their head as president Dr. Jepson, and as they still would have the advantages of the services of Messrs. Graham and Shepherd as secretaries. We understand that the amalgamation of the Union with the British Medical Association, a process which the ability of Dr. Jepson has greatly helped to bring to a satisfactory completion, has already been the means of adding twenty-five new members to the Association.

THE METROPOLITAN ASYLUMS BOARD.

In our issue of August 26th was published a letter in which three assistant medical officers then in the service of the Metropolitan Asylums Board stated in general terms the reasons which had led them to take simultaneously the serious step of resignation. A reply to this letter by Mr. Scovell, Chairman of the Asylums Committee, appeared in the BRITISH MEDICAL JOURNAL on September 2nd, and was followed by a further letter from the medical officers which was published on September 9th. Since then a formal inquiry has been held by a special sub-committee, and the report founded on its investigation and submitted at the general meeting of the Board of Managers on October 14th, will be found at page 246 of the SUPPLEMENT to this issue. From that document it will be gathered that all the complaints made by the medical officers were dismissed, and that the action taken by them was strongly condemned. It is doubtful, however, whether those who are acquainted with the history of the medical service of the Board will concur in this judgement, nor can we, while fully recognizing the good work which the Metropolitan Asylums Board has done and is still doing, refrain from expressing an opinion that the manner in which it has dealt with this particular incident is not calculated to satisfy either the medical profession or the public. The medical officers seem to have been careful not to depart from the impersonal line which they announced their intention of adopting, and to have contented themselves with an endeavour to show that the present arrangements of the Board in respect to its assistant medical officers are not conducive to efficiency in the discharge of their duties or to the welfare of the patients committed to their care. Under these circumstances it can scarcely be regarded as judicious that they should be treated as hostile witnesses, and that they were so treated must be sufficiently obvious to those in possession of shorthand notes of the inquiry held. Moreover, the resolve to condemn as trifling the instances which these officers brought forward in support of their contention seems to indicate that the Committee did not really appreciate the point at issue. No case in which the orders of a medical officer in respect of the patients under his care are either neglected by nurses or overridden by any person other than his own immediate professional superior, can be looked upon as trifling, and once the giving of such an order has been established the Board can scarcely be regarded as entitled to go behind it and try to decide, *ex post facto*, whether its neglect was in itself important or otherwise. However this may be, it is certain that the Board cannot reasonably expect its asylums to work smoothly and efficiently so long as it keeps assistant medical officers in the same official class as porters, nurses, and other subordinates, while matrons, schoolmistresses, and stewards rank as principal officers. That the position of the assistant medical officers, under such circumstances, should be one of difficulty and unpleasantness is not remarkable. In its contention that this position is a matter entirely beyond its own control, we are quite unable to follow the Board. It must be fully aware that in the original rules drawn up for its guidance by the Local Government Board, all medical men in its employment were classed as principal officers, and that assistant medical officers were reduced to their present inferior position at the urgent desire of the Metropolitan Asylums Board itself. The ignorance professed by the Board of the existence of any cause of discontent is also curious. Only a few years ago we published a series of letters containing the same complaints as those which have now been made; and, unless we are mistaken, matters at one time went so far that a committee was formed among the Board's own assistant medical officers with the intention of urging upon it the necessity of reform. In any case the present condition of affairs is greatly to be regretted, for knowledge of it will inevitably spread and the Board will fail to get medical officers of the kind which in the public interest it should strive to attract and which it certainly would attract if it instituted reforms and introduced a regular system of gradation and promotion into its medical department. Of such reform, however, there can be little present hope if the Board is to consider itself outside the range of public criticism.

ENTRIES AT THE MEDICAL SCHOOLS.

We have again this year endeavoured to procure materials upon which to found an estimate of the number of recruits for the medical profession as gauged by the new entries at

the various medical schools in England and Wales. Figures we have obtained in plenty, but it is sufficiently obvious that in many cases they do not represent identical units; if arranged, therefore, in tabular form, they could only lead to the drawing of inaccurate deductions, whether in respect of the relative popularity of one school or another, or of the gross entries at all the schools in England and Wales taken together. This result is identical with our experience last year, when we investigated the matter with much care, and came to the conclusion that the registers of the various medical schools and faculties were kept in such different ways, and some of them in such rough-and-ready form, that no returns of entries derived from them could be regarded as truly comparable. This still remains the case, the net result being that the only way in which an accurate tabular statement could at present be prepared would be by one individual analysing for himself the records of all the different institutions concerned. Last year we permitted ourselves to draw only one general deduction as to the question immediately in point, this being to the effect that there seemed an increasing tendency on the part of medical students to enter only for a section of the instruction offered by any one school, instead of for the whole of it. The same remark might be made this year with equal truth, while it may be added that the total number of new students at all schools seems to be dropping, the shrinkage not being confined to London schools alone. On this point, however, there is no certainty, nor can there be until registration of medical students by the General Medical Council becomes compulsory.

THE SANITATION OF THE PANAMA CANAL.

THE main difficulty in uniting the Atlantic and Pacific oceans by a canal through the isthmus of Panama has been not so much an engineering as medical. The mortality amongst the labourers employed in the first attempt is well known, and now again the same difficulty has arisen and has to be faced. Any scheme that might minimize this danger should have the most careful consideration, and one by Mr. Lindon W. Bates, published in a monograph on the Panama Canal, its system and projects, is worthy of attention. Whether it is feasible from an engineering point of view is for engineers to decide. This plan was, we understand, suggested by Dr. W. F. Arnold of New York, formerly surgeon in the United States Navy, and from the medical point of view it certainly presents some very good points. The isthmus of Panama is one of the most unhealthy spots on the face of the globe: and Mr. Bates shows that if a sea-level canal is made from ocean to ocean it will run through the disease-stricken swamps, maintaining all the pre-existing foci in its course: a frightful mortality amongst the people employed in its construction will be inevitable unless some method can be devised for obviating such difficulties. Mr. Bates and Dr. Arnold propose to make two terminal lakes, impounded at a level of about 30 ft. by low dykes and regulated by sluice barrages located where the Chagres and Rio Grande pierce the coastal ranges. This would make an open reach of 17½ miles available for navigation, and would submerge entirely every swamp in the vicinity of the canal termini. By adding to a central lake, the effective width of the unsubmerged land at the isthmus along the canal axis would be reduced to 9 miles. Further, a new Colon, built in accordance with modern sanitary requirements, would have to be erected, and Panama, on the other side, would have to be cleansed thoroughly and made inhabitable. If those large lakes were made it would be possible to employ floating plant everywhere, except at the lock and dam sites and on the summit section. Under this scheme, then, the men would live afloat, in the shade, sheltered from sun and rain, and in well ventilated mosquito-proof quarters; they would have their drinking water distilled and cooled on board; they would have proper and regular meals, and the vessels or quarter boats would have an ideal sewage system. The work would be conducted from these vessels or barges by hydraulic plant, and for such work the men would be of a much more intelligent grade. The Culebra cut, the locks and dams and terminal works would still have to be executed by land plant, and for those limited areas the best medical and sanitary service would have to be employed to preserve the health of the labourers. If, then, this scheme should prove satisfactory from an engineering point of view, there is not the slightest doubt that it is correct medically. The flooding of the swamps would kill off all mosquitos, would put a stop to dysentery, and it would completely cover and abolish the filthy soil and rank vegetation. A life afloat, as Mr. Bates shows, is much more healthy than living on land in the tropics, and the ease with which the sanitary measures as regards the men, mentioned above, could be carried out is apparent. Any new towns required could be built on modern lines on sloping sites, as indicated, and there would also be little risk to the crews of vessels passing through the canal after its completion. It is earnestly to be hoped that the United States Government will consider the views of Mr. Bates with care. A little extra expense and thought bestowed on such a plan now will bear its fruit later, both as regards the lives of the labourers making the canal and as regards the lives of those who will afterwards live in its vicinity or use it in their journeys from ocean to ocean.

CATSUPS AND SAUCES.

IT used to be said that the mechanism of an ordinary Chicago factory was so perfect that of a hog which once entered it nothing escaped but its squeal. Similarly in the fruit and vegetable industry of America it seems likely that nothing escapes "canning" but the original smell of the natural product. If this were all there might be little ground for complaint, but unfortunately the desire to convert into a saleable product every particle of raw material—good, bad, or indifferent—leads to the practice by manufacturers of all sorts of undesirable devices for concealing the inferior value of many of their goods. These facts, of course, are more or less commonly recognized, but if half what Mr. Paul Pierce,[1] Superintendent of the Food Exhibit at the late St. Louis Exhibition, has to say upon the subject is true, the real state of things as regards American tinned and bottled foods must be far worse than is commonly believed. Apart from the adulteration and substitution which he discloses, he draws a striking picture of the extent to which chemicals are introduced into every kind of food and drink placed upon the home and foreign market partly by way of obtaining the desired colour and partly as a preservative. Aniline and other coal-tar dyes appear to be those most commonly used for both purposes, and there is no American, Mr. Pierce says, who has not swallowed these dyes and experienced their injurious effects. Consuming them, as he does, from his earliest childhood, he becomes more or less inured to the immediate effect of "poisoned foods." But this is not the case with newcomers; those, according to Mr. Pierce, often suffer severely when first it becomes necessary for them to live habitually on American foods. Nor is it only in the preparation of foodstuffs properly so called that poisonous dyes are habitually employed. They enter very largely, it appears, into the sauces, catsups, and other food accessories which play so large a part in American cookery and at American meals. By way of illustrating this point, he gives some surprisingly large measurements relating to the number of square inches of white nuns-veiling which the New York Bureau of Chemistry has succeeded in solidly colouring with the aniline dyes obtained from single bottles of catsup, sauces, jellies, and the like. This is the point which makes Mr. Pierce's disclosures of particular interest on this side of the water, for during the last year or two there has been a strong and not unsuccessful effort to create a demand in England for American catsups and sauces, in addition to the other tinned American foods which have long obtained ready sale over here.

[1] *Public Opinion*, New York, April, 1905.

"DR. ASTBURY'S PILLS."

A short time ago we gave an account of an action brought to defend their title by the ordinary vendors of "Bile Beans"; in this the plaintiffs failed, the presiding judge, Lord Ardwall, refusing them any assistance from the Court upon the ground that their whole business was built up on fraud, impudence, and advertisement. Since then another quack medicine vendor has fared almost equally badly at the hands of one of His Majesty's judges. In this case it was sought to obtain an order of court restraining the defendant from infringing the copyright of a label affixed by the plaintiff to the boxes containing a compound called Dr. Astbury's Pure Herbal Pills, and described as worth their weight in gold, though sold at 2s. 9d. a box. The plaintiff was unable to say that any such person as Dr. Astbury had ever existed, and when induced to produce the recipe from which the pills were compounded it was found that among the ingredients were calomel and soft soap. Perhaps the most original part of the defence was the statement by the plaintiff's solicitor, who said, "It does not follow that in compounding the pill the ingredients are used as given in the recipe." In the event, Judge Mulholland, K.C., non-suited the plaintiff whom he described as simply seeking the monopoly of a lie. Apart from other untrue statements, the pills contained a large proportion of the very thing which those who had a fancy for herbal remedies were anxious to avoid, and he was not prepared to exercise the jurisdiction of the court in favour of a man who practically acknowledged that he had obtained money by false pretences in order to protect the label which covered the false pretences on which he had obtained the money. In the course of the case the judge related a story of a medical man who was approached by a speculator with a request that he would write out a recipe for an aperient pill. The medical man asked what it was for, and received the reply: "Never mind, I will give you £100." The doctor wrote out the recipe. It cost £100, and a company was formed which was making a great deal of money by it. The speculator went to the compilers of the *British Pharmacopoeia*, and gave them the recipe. It was called "Dr. So-and-So's Original Recipe," which was, of course, quite true. That, said the judge, was all the foundation of a company with a capital of £50,000. There is nothing improbable in the tale, though it is not likely that the majority of those who have turned medical men's receipts to commercial purposes have paid even 100 pence to those who originally wrote them. The vendors, for instance, of one very freely-advertised "Cure all" were formerly the dispensers of an old-fashioned medical man of our acquaintance who was fond of a particular mixture in dealing with cases of syphilis. This mixture has for years past been advertised as suitable to most disorders of the human frame. That, however, is another story, and what we hope now is that a good many infringements of copyright will be committed and become the subjects of action; in which case the public will become acquainted with many things which it is to its interest to know.

THE LONDON COUNTY COUNCIL.

The Chairman of the London County Council, in the annual address which he delivered at the meeting on October 24th, gave some striking figures with regard to the financial responsibilities of the Council. In 1889 it took over from the Metropolitan Board of Works a net debt of seventeen and a half millions; at the end of March, 1905, its indebtedness had increased to forty-four and a half millions; eleven and a half millions, however, were represented by the outstanding debt of the late School Board, and five and a half millions had been expended in respect to remunerative purposes not involving any charge on the rates. It appears, therefore, that the London County Council has during its sixteen years of existence increased the unremunerative indebtedness of London by, in round numbers, ten millions. The expenditure, however, has increased from three and a third millions in 1889 to a little over sixteen millions in 1905. The total expenditure on local government in London reaches a total of nineteen and a quarter millions, a sum exceeding the expenditure of the Argentine Republic, the Netherlands and Portugal, double that of Roumania and more than four times that of Denmark. With reference to the subject of public health he made the following observations: Attention to the claims of public health was not a duty which formerly pressed too heavily on local authorities. Happily that state of things was now past and there was no branch of local administration which received more zealous attention. The decline in the death-rate during the past sixty years had been very marked. In the period 1841-50 the average rate for London was 24.8 per 1,000; last year it was 16.6. The true importance of these figures was only grasped when one realized that a reduction in the rate of 1 per 1,000 at the present time meant the saving of over 4,600 lives a year. The designers of the drainage system of London much underestimated the future growth of the population, and the consequence had been that the Council had had to face the necessity for large extensions and had already decided to carry out the work, including a scheme of flood relief, estimated to cost over four and a half millions. Of this about £370,000 was expended during the year ended March 31st, 1905. During the past year the Council had been engaged in the execution of five rehousing schemes, involving the displacement of 4,218 persons and the provision of rehousing accommodation for 4,434 persons. Up to the end of the year the Council had, under Parts I and II of the Act, demolished insanitary property covering an area of 29 acres, displaced 12,290 persons, and provided accommodation for 13,932 persons. Up to March 31st, 1905, the Council had incurred a net capital expenditure of £964,748 in respect of the clearance of insanitary property, and of £765,821 for the erection of working-class dwellings upon the cleared sites. The latter figure, however, was of the nature of remunerative expenditure, the income derived from rents more than meeting the debt charges.

SANITARY WORK OF EDUCATION AUTHORITIES.

It may be convenient at the present time to point out that the duties of a medical officer of health are laid down in Article XVIII of the Order of the Local Government Board dated March 23rd, 1891. There is nothing in that Article which could be construed, either directly or by inference, into a direction to the medical officer of health to perform duties for any other body than the sanitary authority by whom he has been appointed. The Local Government Board has frequently pointed out that the administration of an isolation hospital is not one of the prescribed duties of a medical officer of health, and that when he does undertake the charge of such an institution he must be paid a distinct salary, no part of which must be paid from the Exchequer grants; and, although we are not aware of any specific case having arisen in connexion with the sanitary supervision of public elementary schools, it is hardly likely that the Board would depart from the lines laid down with regard to hospitals. Many sanitary authorities—for example, those of Croydon, Newport (Mon.), Southport, and Pontypridd—have already arranged with the medical officer of health to advise the Education Committee upon sanitary matters, but additional remuneration has been assigned for the extra work required.

CUMBERLAND NURSING ASSOCIATION.

The annual meeting of the Cumberland Nursing Association was held at Carlisle on October 21st. Lady Lonsdale was in the chair, and among those present were the Speaker, Lord and Lady Morpeth, Lady Lawson, and Drs. Lediard, Macdonald, Graham, Bird, and Ogilvy-Ramsay. The report stated that thirty-seven nurses are now at work in districts affiliated to the County Nursing Association, six of whom were Queen's nurses, and thirty-one village nurses. Two grades of nurses are employed: (a) Those who have been trained for not less than two years in a general hospital and nine months

in a district. The cost of such a fully-trained nurse is from £90 to £100 a year. (*b*) The village nurses who received as far as possible their nine months' training at the expense of the Cumberland Nursing Association at Plaistow Training Home. Each candidate must, before commencing her work in Cumberland, have gained a first-class certificate in midwifery as well as having acquired knowledge of general nursing. The cost of a village nurse to a local association is from £50 to £55 a year. The Speaker, in moving the adoption of the report, said he was sure they would all agree that the report revealed a very satisfactory state of things in Cumberland. He thought the doctors throughout the country recognized the immense value of the services which they had derived and could derive from having fully-trained nurses at their disposal to carry out their injunctions in attending cases for which they were called in. He thought, too, that ladies and gentlemen of the county had recognized the immense assistance and value which was rendered by the Association, and he thought those who chiefly benefited, the poorer classes of the county, though at first they were perhaps somewhat indisposed to receive some of the nurses into their homes, had now also themselves come to recognize the valuable aid which those women rendered to them in their homes in cases of sickness and distress. The chief requisite, so far as he could gather from hearing the report read, was the means of extending the admirable work which the Association was doing. He was very much struck by some most admirable remarks to which he had the pleasure of listening from Dr. Henry Barnes on the occasion of the Carlisle Diocesan Conference about a month ago, when he pointed out that the value of the nurses in the homes was not limited simply to the attention which they gave to the particular cases, but that their example enabled the dwellers in our villages to learn a great deal connected with matters of hygiene and cookery, and that a nurse was able to show the possibility of having perfectly simple methods for attaining most admirable results in the matter of ventilation of houses and of the simple cooking of food for invalids and others. There was another matter which Dr. Barnes mentioned on that occasion, and that was the desirability of considering whether it would not be possible to have what was called a Nursing Sunday, when contributions could be asked for in chapels and in churches throughout the county towards this fund. He strongly recommended that to the Executive. The Bishop of Barrow, in seconding the motion, said the Association had now been at work for eight years, and he thought that, if the figures showing the number of visits paid by the nurses were given, they would be surprised at the amount of good that was being done among suffering people in many parts of the county. Dr. Lediard supported the motion, and said he desired to speak in the highest terms of the work done by the district nurse, which compared favourably in many respects with the work done by the private nurse. Lord Morpeth proposed that Lady Lonsdale should be re-elected President. He hoped that in the future they might see some co-operation between the medical profession, the Nursing Association, and the Education Authority of the county with regard to the schools. A great deal of preventive work could be done by that means.

LAW AND THE LIQUOR TRAFFIC.

The sixth Lees and Raper Memorial lecture was delivered by Sir Wilfrid Lawson, Bart., M.P., at the Albert Hall, Leeds, on Monday last. It dealt with the relation of the law to the liquor traffic. Its arguments were summed up briefly by the lecturer in the following syllogism: "Law should not protect but prohibit great public evils; the liquor traffic is a public evil of enormous proportions; therefore law should not protect but prohibit it." The lecturer contended that modern civilization differed conspicuously from ancient civilization by its preventive appliances. For thousands of years causes of disease and social disorder were allowed to grow up and the philanthropist and legislator busied themselves in efforts for the abatement of the evils thus carelessly generated. Modern civilization had adopted a wiser method in seeking social and sanitary reforms which, to be effectual, must be carried out through the law. He contended that until the Act of 1904 the theory of the law was that the sale of intoxicating liquors should not be licensed, if licensed at all, except for the public good, whereas the theory of that Act was that the sale should be licensed for the good of the publican and his master the brewer. The duty of the new Parliament would be in its first session to vindicate by just legislation the spirit of the British constitution, and the freedom of the people from the intolerable tyranny of the liquor trade. He reiterated his opinion that temperance reformers should not formulate or commit themselves to any licensing scheme which involved the perpetuation of the sale of intoxicating liquors. He was for total prohibition, and would have no compromise with the evil thing. It cannot be said that the lecture was very helpful or informing; Sir Wilfred Lawson, in fact, fell far below the level of his predecessors.

THE BRITISH SCIENCE GUILD.

The inaugural meeting of the British Science Guild formed in April, 1904, will be held on Monday next at the Mansion House, when the Lord Mayor will take the chair at 4.15 p.m. The objects of the Guild are (1) to bring together as members of the Guild all those throughout the empire interested in science and scientific method, in order, by joint action, to convince the people, by means of publications and meetings, of the necessity of applying the methods of science to all branches of human endeavour, and thus to further the progress and increase the welfare of the empire; (2) to bring before the Government the scientific aspects of all matters affecting the national welfare; (3) to promote and extend the application of scientific principles to industrial and general purposes; (4) to promote scientific education by encouraging the support of universities and other institutions where the bounds of science are extended, or where new applications of science are devised. The Guild claims the sympathy of the public in spite of the many other scientific societies which exist, because, unlike the Royal Society and the British Association for instance, it is founded not for the promotion of natural knowledge, but in order to educate the people to appreciate its value, and the advantage of employing methods of scientific inquiry, the study of cause and effect in affairs of every kind. The method, it is argued, is not less applicable to problems which confront the statesman, the official, the merchant, the manufacturer, the soldier, and the schoolmaster, than to those which engage the attention of the chemist or the biologist. However this may be, we are in hearty sympathy with the view that the value of a scientific education lies in its cultivation of a power to grasp and apply the principles of investigation employed in the laboratory to the problems which modern life presents in peace and war. Further particulars of the constitution and immediate objects of the guild, the President of which is the Right Hon. R. B. Haldane, K.C., M.P., can be obtained on application to the Secretary of the British Science Guild, 16, Penywern Road, London, S.W.

NEW ZOOLOGICAL DEPARTMENT OF THE UNIVERSITY OF LIVERPOOL.

The new zoological department of the University of Liverpool, including the museum and laboratories of zoology and of the practical applications of zoology, will be opened on November 18th by the Right Hon. the Earl of Onslow, G.C.M.G., formerly President of the Board of Agriculture and Fisheries. The Chancellor of the University, the Right Hon. the Earl of Derby, K.G., G.C.B., LL.D., will preside, and addresses will be delivered by Lord Onslow and others.

The injury from which Mr. George Meredith is suffering is a simple fracture of both bones tibia and fibula of the right leg, with a large amount of extravasation. Though the treatment is complicated by an old spinal lesion, Mr. Meredith is, we are glad to learn, doing very well, suffers little or no pain, and is taking food well.

Scotland.

Edinburgh Corporation and Consumption.

At the request of the City Corporation, a report on the subject of consumption, specially with reference to treatment, has been prepared by Sir Henry Littlejohn, the Medical Officer of Health. This report was considered by the Public Health Committee on October 24th.

It showed that the annual mortality from consumption in the city has annually decreased from 548, which works out at 1.81 per 1,000, in the year 1900, to 408, or 1.22 per 1,000, in 1904, the average for the five years being 485. That decrease, Sir Henry considers, has been due to the efforts of the Corporation, in their various Improvement Acts, demolishing insanitary dwellings, and opening up to light and ventilation the poorer slums of the city. The City Parish Council had made an excellent beginning, as regarded the poorest class of citizens, in providing well-constructed wards at Craiglockhart, but in Sir Henry's opinion, the class for which the Corporation ought to provide was the class of respectable workman or small tradesman, who in hard times had often the hardest work to make ends meet, and could not procure medical comforts, medical attendance, or even adequate house room. Sir Henry advises the Public Health Committee to deal with such cases at once, because provision for fifty of the most necessitous cases could be made at the City Hospital without crippling its resources in any way. It was proposed to set apart one of the wards erected for scarlet fever patients for the purpose, this arrangement leaving 270 beds for ordinary scarlet fever patients. In Sir Henry's opinion the proposed accommodation would suffice for a year's trial in treating consumption. The selected ward had ample airing ground and a free exposure, and a special entrance would be available for the public. Sir Henry hopes that as the result of the experiment the Town Council will be convinced that it is necessary to have compulsory notification, without which the problem of consumption cannot be dealt with satisfactorily.

The Committee agreed to send the report to the Town Council with a recommendation that a pavilion be set apart for the purpose.

Opening of the Winter Session at Edinburgh.

In opening the winter session of the University Medical Faculty and of the Extra Academical School of Medicine of Edinburgh, there seemed a general agreement on the part of professors and lecturers to dispense with the once common formal opening lectures and a desire to get at once to the work of the session. In only one case was there a deviation from this procedure, namely, in the class of midwifery and diseases of women in connexion with which the new professor, Sir John Halliday Croom, gave his inaugural address before a large company in the McEwan Hall on Monday, October 23rd. Sir Halliday was accompanied to the platform by the Principal, Sir William Turner, who presided, and by Professors Crum Brown, Chiene, Wyllie, Cunningham, Schäfer, Macgregor, Hunter Stewart, A. R. Simpson (who sat on the Principal's right hand), and Sir Ludovic Grant.

The Principal said that he felt that it would be superfluous on his part to introduce their new professor, because Sir Halliday Croom was a well-known figure in the city of Edinburgh, and he came to the University with a well-assured reputation which he was sure would be sustained.

Sir Halliday Croom said that in assuming the duties of the chair to which he had been called, he could not but be deeply conscious of the responsibilities which its traditions had laid upon him, for the great names which had adorned that University there were none greater than those who had been former occupants of the position he now held. Into the history of the Chair it would be out of place for him to enter, familiar as it was to all who had interested themselves in university education, and in the marvellous advances of the special department, and that the more that its record had been left to them so recently in words that had been so aptly expressed by his immediate predecessor. It was a special gratification to him to know himself in some fashion—some very distant fashion—directly in the line of those who had given world-wide distinction to that Chair, for as a student he had the good fortune to sit at the feet of him whose name was one of the glories of their University and of their country, Sir James Simpson, who gave to them, in the words of John Brown, "one of God's best gifts to suffering humanity," for it was to him, along with another, Lord Lister, that all the advances which had been made in recent times, both in midwifery and gynaecology, were due. Sir James, as a teacher, was not likely to fade in vividness from the memory of those who were privileged to hear him. His power of effortless persuasion, his genius in illuminating with sudden and unexpected interest what seemed an insignificant detail, and of fixing the truth by some apt illustration, making it impossible ever to forget it even if one would, were not only for those who heard him, but for this university, and for all succeeding generations of students a possession for ever. And if it was his privilege to learn under Sir James Simpson, it was a still greater privilege to him to work as his first assistant under his successor, who for so long had adorned the chair which had fallen to him to endeavour to occupy—in however a humble fashion. It was fortunate for him at the outset of life to be introduced to Professor A. R. Simpson, and for so many years to learn acquaintance with his methods of work. He could not there express what his heart prompted him to say, or even inadequately to estimate and acknowledge how much Professor Simpson's friendship and his counsel and example had always been to him. Nor could he venture to sum up the debt that generations of students owed to the Professor. While of Professor Simpson as a teacher and operator it would not be in taste for him to speak there, he might say that it would ever be a comfort to him to know that, though the University in his retirement sustained an irreparable loss, Professor Simpson yet remained to him one whom he should ever hold in affection and reverence, and on whose unfailing interest and counsel he could in future, in facing the difficulties and responsibilities which surrounded the chair of midwifery, always with confidence rely. In their name, and in his own, he wished Professor Simpson a long and peaceful enjoyment of his well-earned repose, which would, as his long day of work had been, be spent in seeking the good of his fellowmen. Sir Halliday then went on to discuss the advances made in the art of obstetrics since the early days of last century, and especially in the period during which Sir James and Professor A. R. Simpson had occupied the chair.

Royal Society of Edinburgh.

At the annual general meeting of the Royal Society of Edinburgh, held on October 23rd, the following office-bearers were elected for the ensuing session:

President.—The Right Hon. Lord Kelvin, G.C.V.O., F.R.S.

Vice-Presidents.—The Hon. Lord McLaren, LL.D.; the Rev. Professor Flint, D.D.; Robert Munro, M.A., M.D., LL.D.; Sir John Murray, K.C.B., LL.D., F.R.S.; Ramsay H. Traquair, M.D., LL.D., F.R.S.; Professor Crum Brown, M.D., LL.D., F.R.S.

General Secretary.—Professor George Chrystal, LL.D.

Secretaries to Ordinary Meetings.—Professor D. J. Cunningham, M.D., LL.D., F.R.S.; Cargill G. Knott, D.Sc.

Treasurer.—Philip R. D. McLagan, F.F.A.

Curator of Library and Museum.—Alexander Buchan, M.A., LL.D., F.R.S.

Councillors.—Professor Andrew Gray, M.A., LL.D., F.R.S.; Robert Kidston, F.R.S., F.G.S.; D. Noël Paton, M.D., D.Sc., F.R.C.P.E.; Professor John Chiene, C.B., M.D., LL.D.; Professor J. Graham Kerr, M.A.; William Peddie, D.Sc.; Leonard Dobbin, Ph.D.; Professor J. Cossar Ewart, M.D., F.R.S.; B. N. Peach, LL.D., F.R.S., F.G.S.; James J. Dobbie, M.A., D.Sc., F.R.S.; George A. Gibson, M.A., M.D., LL.D., F.R.C.P.E.; Professor J. P. Kuenen, Ph.D.

Edinburgh Royal Infirmary.

At a meeting of the managers on October 23rd the following appointments were made:

Clinical Tutors for the ensuing winter and summer sessions: James Burnet, M.A., M.D., F.R.C.P.E., to Dr. Andrew Smart's ward; J. D. Comrie, M.A., M.B., Ch.B., to Dr. Byrom Bramwell's wards; Charles Heron Watson, M.B., C.M., F.R.C.S.E., to Dr. MacGillivray's wards; and J. P. Lithgow, M.B., C.M., to Dr. R. McKenzie Johnston's wards.

Assistant Ophthalmic Surgeon for five years from date: Arthur H. H. Sinclair, M.D., F.R.C.S.E.

The New Laboratories of the Glasgow University.

During the summer months considerable progress has been made with the building of the new laboratories for materia medica, physiology, and medical jurisprudence. The mason work is practically completed, and it is hoped that it will be possible to finish the internal furnishing in time for the winter session of 1906. It is already evident that the new combined building will not be beautiful in an architectural sense, but it seems excellently planned to suit the requirements of modern teaching. The lighting promises to be one of the most successful features. The accommodation generally is on a much more generous scale than that furnished at

the present time. In the materia medica department adequate arrangements have been made for housing students of pharmacy. It seems probable that this accommodation will be required in the near future, as there is some talk of the authorities instituting a degree in pharmacy. In the physiological department there is a large laboratory set aside for the teaching of physiological chemistry. It will be remembered that Dr. E. P. Cathcart was recently appointed Lecturer in Physiological Chemistry.

Ireland.

Royal College of Physicians, Ireland.

The annual dinner of the Royal College of Physicians took place on October 21st, when there was a large attendance. Before dinner, the President (Sir William Smyly) conferred the Honorary Fellowship on Sir Douglas Powell, Bart., President of the Royal College of Physicians, London; Dr. Anthony Traill, Provost of Trinity College, Dublin: and Dr. William Osler, Regius Professor of Medicine at Oxford. The last named had the diploma conferred *in absentia*. Amongst those present at the dinner were the Provost, T.C.D.; the Solicitor-General for Ireland; Sir James Murphy, Bart.; Sir R. Douglas Powell, Bart.; the President, Royal College of Surgeons; Sir James Dougherty, C.V.O.; Serjeant Dodd, K.C.; Sir Dyce Duckworth; the Recorder of Dublin; Sir Charles Cameron, C.B.; P. Bernard, D.L.; Robert Cochrane, President I.C.E.; Sir William Thomson, C.B.; Dr. Tarleton, S.F.T.C.D.; Sir Thomas Drew, President R.H.A.; Dr. Finny, Dr. Little, Dr. MacSweeny, President, I.M.A.; Sir Charles Ball; the President, Incorporated Law Society; Sir Thomas Myles, Dr. Woodhouse, Dr. Walter Smith, Sir J. Moore, Mr. J. Mulhall, Professor Kinkead, Surgeon-General Sibthorpe, C.B., and Dr. C. P. Ball. Several speeches were delivered, but the feature of the evening was the singing of the "Death of Nelson" by Mr. Rogers.

Irish Medical Association.

The extraordinary general meeting of the shareholders, postponed by the general meeting on June 7th to October, will be held in the Royal College of Surgeons, Dublin, on Tuesday, October 31st, 1905, at 2 p.m., when a resolution for the amendment of the articles of association will be submitted for approval. Should the resolution be passed by the necessary majority, it will afterwards be submitted to a general meeting, to be subsequently convened, for confirmation as a special resolution.

Post-graduate Classes.

A meeting of the staff appointed by the Board of Trinity College to conduct the post-graduate classes in medicine and surgery was held in the Medical School on October 23rd to consider the report of the work done last session. The report showed that the classes were well supported and that there was a considerable increase in the number of qualified men anxious to avail themselves of the opportunities offered by the course. The syllabus for the coming session was discussed, and it was resolved that, as during the last two years, the instruction given should deal with medicine, clinical medicine, surgery, clinical surgery, surgical operations, the eye, the throat, and nose, pathology, x-rays, anatomy, diseases of the skin, diseases of women, and cystoscopy.

In view of the fact that an increasing number of the members of the class have been anxious to reside in College chambers and dine on Commons, some suggestions were considered which it is hoped will give opportunities of residence to a larger number of gentlemen.

Dr. Alfred Parsons was asked to continue the secretaryship and to supply inquirers with particulars regarding the course.

Health of Belfast.

The annual report of the Medical Superintendent Officer of Health for Belfast contains 45 pages and 3 charts; there are 3 pages of lists of streets in which typhoid have occurred, and 10 small tables of statistics. The same deficiencies noted in previous reports—the want of maps, of an index, of a more scientific classification, of graphic arrangement, and of full mention or description of several most important sanitary problems that have been discussed during the year—are still to be observed.

From the short synopsis in the addendum on p. 40 much good work appears to have been done, but the description or account of this work is very slight. For instance, under the heading "Bakehouses," there are six lines to show the total amount of inspection, repairing, altering, etc., which the sanitary authorities brought about. No mention is made of dairies, cowsheds, and milkshops. The question of the inspection of meat and public abattoirs, for which so much was done by the High Sheriff (Dr. Henry O'Neill) is unnoticed. The same deficiencies are found from beginning to end of the report. The estimate of the population—358 680 (p. 26) is that given in last year's report; in Table No. 7, we find the population for 1901 taken as the basis of calculation. As before, the impossibility of ascertaining the cause and place of death, and the same want of control is complained of; and the same remarks as to dampness of climate and unhealthiness by occupation, are repeated but cannot be expected to satisfy the scientific interest and the anxiety of the inhabitants of a town whose mortality ranks 75th in the list of 82 of the large towns of the United Kingdom The report is not commensurable with the importance of the public health of a city of such a size.

The total number of deaths in Belfast was 7,474; the cause of 3,700 is unknown; 1,120 were due to phthisis, the highest number recorded, except in 1902; the mortality from phthisis has practically remained unchanged for the last ten years, having been 1,083 in 1895; considerable space is devoted to this subject, and a short account is given of the Forster Green Hospital and of the New Sanatorium opened at White Abbey by the Poor-law guardians for their consumptive poor. The medical superintendent urges still further accommodation. One hundred and ninety-six cases were notified voluntarily by the medical officers of health throughout the city, and the houses were visited by the female sanitary inspectors. As a beginning this is very satisfactory, but much headway at this rate cannot be expected against the 5,000 consumptives in our midst. The births for the city were 11,323. The number of cases of typhoid fever notified was 530. This, although a great improvement, on which all are to be congratulated, is still an unhappy figure when compared, for instance, with Liverpool—434, especially when we add 418 cases of simple continued fever to the Belfast list. The deaths from typhoid fever numbered 111 as against Liverpool, 82; that is to say, the present incidence of typhoid in Belfast, on which the inhabitants are congratulated, is more than double that of Liverpool—a by no means healthy town. From small-pox 159 cases occurred during the year; of these 8 died, of whom 5 were unvaccinated, and 3 had very indistinct marks of primary vaccination. None of the 159 cases had been successfully revaccinated. The infant mortality still remains low, when compared with many of the large English towns; it was 154, as against 196 for Liverpool, and 187 for Manchester; but it is considerably higher than 1903, when it was 134 per 1,000. This is one of the problems of the age, and it is surely of sufficient importance to call for more notice than half a page.

Although on the whole it is evident that considerable work has been done in the Public Health Department, it is perfectly clear that the whole condition of the department, when compared with that of the more advanced town, is much behindhand and most unsatisfactory. Over a quarter of a million has been spent on a new city hall; surely it is time that this Cinderella of departments should, at any rate, have decent garments.

THE FIFTEENTH INTERNATIONAL CONGRESS OF MEDICINE, LISBON, 1906.

The fifteenth meeting of the International Congress of Medicine will be held at Lisbon from April 19th to 26th, 1906. The Executive Committee, guided by its energetic Secretary, Professor Miguel Bombarda, is taking every precaution to overcome the difficulties which reduced the Madrid meeting to a state of chaos. There is every reason therefore to hope that the meeting will be at least as pleasant and well-managed as the congress at Paris, or as the recent meeting of the International Society of Surgery at Brussels.

One of the chief difficulties in the conduct of the Lisbon Congress is the accommodation for visitors because the really first-rate hotels in the city are very few. The National Committee for Great Britain and Ireland have, therefore, asked Messrs. Thomas Cook and Son to charter a vessel which should convey the British members to Lisbon, serve them as an hotel during the Congress, and bring them back again to London as soon as the meeting was over. Messrs. Cook and Son now announce that they have obtained

the ss. *Ophir* for this purpose. The boat is well known for its large size and first-rate passenger accommodation, and it was the vessel in which T.R.H. the Prince and Princess of Wales recently made a voyage to Australia. It is proposed that the *Ophir* shall leave London in the afternoon of Thursday, April 12th, the day before Good Friday, and return to London early in the morning of Monday, April 30th. The fares are fixed at 15 guineas to 35 guineas, according to the position of the cabin, including food and free communication at frequent intervals between the ship and the shore. Whilst the vessel lies in the Tagus the harbour authorities have allotted to it the berth lately given to the Royal yacht when Her Majesty the Queen, with Her Royal Highness Princess Victoria, paid a visit to Lisbon. This berth is about 500 yards from the shore, and is in deep water, with a rapid stream. It is hoped that the employment of the ss. *Ophir* will obviate the necessity of making arrangements for lodging in Lisbon, as passengers will be able to retain their cabins, and meals will be served at regular hours. The *Ophir* will proceed to Tangier and Gibraltar, and will touch at Vigo. The members of the British colony at Oporto are especially anxious to show some civility to the members of the Congress, and arrangements are in consequence being made to stay at least one day at Leixoes either in going or returning. It is hoped that early application will be made for berths on ss. *Ophir*, as the accommodation is of necessity limited, and it will be allotted in rotation.

The Honorary Secretaries are Mr. D'Arcy Power. 103, Chandos Street, Cavendish Square, W., and Dr. Clive Riviere, 19, Devonshire Street, W.

LITERARY NOTES.

THE new edition of Ellis's *Demonstrations of Anatomy*, upon which Dr. Christopher Addison has been engaged for some time past, will be published by Messrs. Smith, Elder and Co. on November 1st. The matter has been rearranged, and the order of exposition now follows the ordinary course of dissection as followed by students. New illustrations have been added, many of them, together with several of the old ones, being reproduced in colours, and a good deal of new matter has been introduced, especially in the parts dealing with the viscera.

The October issue of the *National Waifs' Magazine*, which is a special memorial number, contains a full account of the late Dr. Barnardo's life-work, with a portrait on plate paper from a photograph taken on his 60th birthday in July last.

The College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, being the income for one year of the bequest of the late Señor Alvarenga, and amounting to about £36 will be made on July 14th, 1906, provided that an essay deemed by the Committee of Award to be worthy of the prize shall have been offered. Essays intended for competition may be upon any subject in medicine, but must not have been published. They must be typewritten, and must be received by the Secretary of the College on or before May 1st, 1906. Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope having on its outside the motto of the paper and within the name and address of the author. It is a condition of competition that the successful essay or a copy of it shall remain in possession of the college; other essays will be returned upon application within three months after the award.

Mr. Arbuthnot Lane has recently published, through the Medical Publishing Company, Limited, a monograph on *Cleft Palate and Harelip*. Like his treatise on the *Operative Treatment of Chronic Constipation*, it is issued in quarto form. The type is verily, in Hibernian phrase, a "sight for sore eyes," so large and legible is it, and the illustrations are beautifully executed. Mr. Arbuthnot Lane seems to have taken Sir Astley Cooper's monograph on *Fractures and Dislocations* as his mould of typographical form, and we are inclined to think that he has bettered the instruction of his exemplar.

The extracts from newspapers of a century ago, which is still the fashion of some of our contemporaries to publish, show that in one respect at least our forefathers, who lived in the heroic days of the Napoleonic wars, had weaknesses similar to those from which their degenerate descendants now suffer. The number of the papers which announced the victory of Trafalgar swarmed with advertisements of quack medicines for coughs, asthma, consumption, red face, and a host of other ills. More wonderful than all is a pill warranted to cure temporary insanity, which would be useful at the present day for the cure of persons who believe the statements of advertisers of nostrums.

The *Journal of Anatomy and Physiology* with its October number reaches its fortieth volume and enters on a new series. Sir William Turner contributes a preface in which he relates the history of the journal. The first number appeared in November, 1866; before that time no journal specially devoted to anatomy and physiology had been published in this country. The late Sir George Humphry took an active part in its institution, and associated with him were Professor Newton of Cambridge, Professor Perceval Wright of Dublin, and Sir William Turner himself, then Demonstrator of Anatomy at Edinburgh, with Mr. J. W. Clarke of Cambridge as editor. The journal at first appeared half-yearly. With the completion of the first volume Professors Humphry and Turner became joint conductors, the former being for some years acting editor. With the appearance of vol. x in 1875 the periodical was transformed into a quarterly, and more space was given to physiological papers. Accordingly, Professors Michael Foster of Cambridge and Rutherford of Edinburgh were conjoined with Professors Humphry and Turner as editors. This association continued for two years, when, owing to a strong desire expressed by many physiologists to establish a journal specially devoted to their science, Professors Foster and Rutherford resigned their positions on the staff, and Professor McKendrick of Glasgow took their place as physiological editor. On the completion of vol. xx in 1887, a new series was commenced, with Professor Turner as acting editor. On the death of Sir George Humphry in 1896, Professors Turner and McKendrick invited Professor Macalister of Cambridge, Professor Cunningham, then of Dublin, now of Edinburgh, and Professor Thane, of University College, London, to co-operate with them in the conduct of the journal, and the two first named undertook the management. Soon afterwards Professor Hurlington, of the Columbia University, New York, was added to the editorial staff. The beginning of a new series is marked by a great improvement in the appearance of the journal, and an increase in the size of its page.

SPECIAL CORRESPONDENCE.

MANCHESTER.

Adaptation of Monkeys to an Open-Air Life.—Vegetarians in Conference.—Infant Mortality and Shortcomings of our Legislation Thereanent.—Ambulance Work in Rochdale.—Unqualified Pharmacist.—Scholarships for Intending Midwives.—Death under Nitrous Oxide.—Workhouses and Voluntary Hospitals.

MOST important experiments have been carried on for some time in the Zoological Gardens of Belle Vue to try to adapt the numerous little Drill baboons to an open-air life. Nineteen out of twenty of these creatures, with their brightly coloured faces, are now kept in fresh air in large open cages, and subject to all kinds of weather. At the back are compartments to which they can retire for warmth and shelter, but they do not often do so. These little monkeys flourish greatly and are quite healthy and can brave the vagaries of a Manchester climate, and this in spite of the fact that their home was in the very warm parts of Africa. Even the chimpanzee named "Caesar" has been so acclimatized to an outdoor life that he makes his bed at nights in his open cage. The monkeys are brought over from Africa when quite young, and tended with great care, and after a year or so they are transferred to cages which are little, if at all, artificially heated, and in this way they are gradually hardened to life in the open air. The greatest enemy is fog. The experiments with the anthropoid apes is equally satisfactory. They live now in the open air.

Some interesting statements were made at the conference of vegetarians held in Manchester on October 16th. The learned President, Dr. Mayor, in his address recommended the Society to adopt for its motto, "That which makes us in no need of physic, that is physic indeed." He summed up the vegetarian position as follows: "Every one has a body and every one has to eat food. Do people want to be like Socrates, who ate simply to live, rather than like Alcibiades and the luxurious men with whom he associated, who lived to eat." Dr. G. B. Waters made a fierce onslaught on the use of beef tea in cases of fever and insisted on "the absolutely poisonous qualities of this so-called essence of meat." He went one better and called the words of the late Dr. Milner Fothergill to his aid. What, indeed, could be more disconcerting to those

who indulge in these fragrant if poisonous beverages, if the dictum of the deceased doctor is sober truth and not merely inflated rhetoric: "All the bloodshed caused by the warlike ambition of Napoleon is as nothing to the myriads of persons who have sunk into their graves from a misplaced confidence in the food value of beef tea"? This terrible indictment is said to have visibly affected the assembly. It is, not, however, exactly an argument for vegetarianism. One learned supporter gave an account of the lives of nine vegetarians, beginning with the ancient Indian sage, Asoka, 264-223 B.C., and ending with Shelley. It was not argued that vegetarianism was the cause of the greatness of these men, but it was contended that their vegetarianism was no hindrance to their greatness.

Dr. Rhodes, on the 21st instant, addressing the Toynbee Society, described the high death-rate amongst infants in Manchester and Salford as a disgrace to the two towns—the infant mortality rises and falls with the degree of sanitation which exists in the several parts of the towns. The Infant Life Protection Act was defective, in so far as it failed to place under the special protection of the State all boarded-out children. Every woman who took a child for gain should be registered and subjected to inspection. The limitation of the Act to women who took more than two children made it to a large extent a dead letter. The worst "baby-farmers" were those who got rid of one baby before they took another. One great cause of infant mortality was the disgraceful way in which the working classes were housed. The slum-owner had no more right to make a profit out of unhealthy houses than the butcher had to sell bad meat.

Ambulance work in Rochdale has been taken up with enthusiasm by the working men and women of the town. On Saturday last new quarters for the Ambulance Brigade were opened by Colonel Royds, M.P., and Mrs. Royds. Some classes for "first aid" were formed twenty years ago in the town, and the Rochdale Corps is now one of the strongest in the country. Dr. Sellers spoke of the noble service which the ambulance man rendered on the industrial battlefield and stated that there was no factory or workshop in Rochdale in which there was not some one qualified to render "first aid" to a stricken worker.

The Pharmaceutical Society were the plaintiffs on October 16th at Salford County Court against a person employed by a certain popular cash drug company, for £5 as a penalty under the Pharmacy Act for selling poison, he not being a duly-qualified registered pharmaceutical chemist, or a chemist and druggist. The person was not on the *Register*. It came out in evidence that the shop was a chemist's shop, but there was no qualified chemist there; in fact there was a shop and business carried on in the name of Taylor, who was a qualified chemist, by some one who had purchased the business, and was carried on without a qualified man on the premises. The Judge testified to the public duty performed by the Society, and gave judgement for £5, and certified for the analyst's fees.

The Scholarships Subcommittee of Lancashire have presented the following report on their junior scholarships, of which there are in all 350, but even this large number only works out at one exhibition for every 1,000 children in attendance at the elementary schools. Special scholarships are offered to women for domestic economy and midwifery. The former will be specially valuable to the wives of the working men of the cities and towns, for in towns where the women as well as the men are largely interested in industrial work, there is a great waste in living, and the women need instruction as to how to lay out money to the best advantage. The change in the law with regard to midwives it seems has greatly disturbed the minds of old-fashioned country nurses, and there is a danger, it is stated, that sufficient suitable women may not come forward as midwives. It seemed necessary that some classes in midwifery should be opened in the rural districts, where women could be trained. At present five scholarships are to be offered as an experiment, and if it proves successful, more scholarships will be provided.

The Deputy Coroner on October 17th investigated one of those very rare cases where death took place while a man was under the influence of nitrous oxide gas for the extraction of teeth. The dentist had been in practice for 15 years, and seems to have exercised every care. The Deputy Coroner remarked that nitrous oxide was so safe an anæsthetic that no special precautions were expected. He believed it was 25 years since such a fatality happened in Manchester, and in that time gas must have been used innumerable times.

From the returns of pauperism prepared by the general Poor-law Inspector, we learn that in the Chorlton Union there are 22 paupers per 1,000 as against 51 in Liverpool. Dr. Rhodes stated at a recent meeting of the guardians that twenty-five years ago people came into the workhouse because they were destitute. Now large numbers entered it through sickness. Our workhouses were no longer merely workhouses; they were practically State hospitals. In the workhouse hospitals in London alone there were more beds for the sick than in all the voluntary hospitals in England and Wales put together. In the Chorlton Workhouse hospitals there are 1,100 beds, a number in excess of that in the voluntary hospitals of Liverpool and Manchester combined.

BRISTOL.

Annual Report of the Medical Officer of Health: Water Supply and Open Spaces: Inspection of Elementary Schools: Ambulance Services: Vital Statistics: Small-pox and Vaccination: Scarlet Fever: Enteric Fever: Tuberculosis.

The annual report of the Medical Officer of Health for the city comes out rather later this year than usual, possibly because owing to its increased size and special articles it has taken longer to compile and see through the press.

Since 1897 the city has been constantly enlarging its area, and the most recent Act (1904) added as many as 13,000 persons and 5,347 acres; thus the population is now about 354,000, living upon an area of 17,000 acres. The water supply of the city is in the hands of a private company, but no one can find fault either with the quantity or quality of the water. Bristol has no fear of a water famine, and when the new reservoir at Blagdon, containing over a thousand million gallons, is brought into use, it will have a supply equalled by no city in the country. Few towns, either, can boast of 678 acres of park and open space for recreation such as Bristol has.

Dr. Davies again emphasizes the importance of inspection of public elementary schools, both for the prevention of the spread of fevers and with regard to general health and welfare of the children. Over 64,000 children are attending the 92 schools in the city, and at present there is no medical supervision. He calls attention to the inadvisability of children under 5 years attending school, pointing out how fatal measles, whooping-cough, and diphtheria are among children of early years. In 1902 411 deaths from measles occurred, mostly in infants under 5 years. In May of this year (1905) the Education Committee issued regulations, but they have not appointed a medical officer to see them carried out.

The establishment of a municipal lodging house is noted, opened in April, 1905. The Council of the city deputed to the Watch Committee the working of the Midwives Act of 1903. Under the head of ambulance service are arranged the various bodies undertaking this duty. A significant note says "the police ambulance is very rarely used, as the Bristol City and Marine Ambulance Corps have their ambulances available night and day, and the St. John Ambulance Brigade have one ambulance which can always be had on application." Though not mentioned in the report, it may be of interest to record that from January 1st to September 30th the former corps had moved 1,700 cases. The returns of pauperism are the highest since 1898 both in number and cost.

During 1904 there were 9,135 births registered, and this continues the decreasing birth-rate seen since 1881, being further below that of the seventy-six great towns. The rate in Bristol is 26·6, but as the marriage-rate has gone up a little there is hope for an improvement. There were 5,347 deaths, a rate of 15.58 against that of 14.22 in 1903, and 17.2 of the large towns. The infant mortality-rate was 133.7, good as compared with the great towns' rate of 160, but not so good as the low one, 116.3, of 1903. No doubt the hotter weather accounts for this. The zymotic death-rate was 1.6, comparing favourably with 2.4 for the great towns.

Of small-pox 34 cases were notified, 1 case proving fatal, an unvaccinated baby. Dr. Davies gives full details of the various introductions of the disease, the most important being that in May, when it started from three centres, and resulted in 12 cases. The tracing of the cases "proved most interesting, and was entirely successful," in spite of the fact that the investigations had to be carried out beyond the city boundaries. The introduction appears to have been at Avonmouth, where a family settled down in connexion with the new dock works; and the tracing of the contacts is, as Dr. Davies says, most interesting, and is worthy of the highest praise. In another instance Dr. Davies tells how he daily inquired after a suspicious person, and,

after allowing the proper incubation period, he visited the case, found a discrete eruption, and removed the patient to the hospital, where in a week she gave birth to an infant who was promptly and successfully vaccinated. He says the case from which the infection came was "missed" by the doctor for six days, but he was able to trace contacts in spite of this. He further remarks that he believes there is little risk of spread, except from intimate contact, before the appearance of the papular rash.

Scarlet fever has been decreasingly prevalent, and has only been of a mild character. There were 1,258 cases with 36 deaths, and it is pointed out that had the disease been as fatal as in the epidemic of 1863-4 the number of deaths would have been over 2,000.

Of enteric fever there were 172 cases and 26 deaths, and of diphtheria and membranous croup 1,051, a case-mortality of 9.9 per cent, the lowest there has ever been in Bristol. The incidence of the disease appears to fall on the lately-included districts and not the slum areas in the city. Professor Kent examined 7,417 specimens, in 512 of which the Klebs-Loeffler bacillus was found in free growth, 662 in scanty growth, 1,916 showed suspicious forms, and in 4,002 no specific organism was found. For the bacillus of typhoid, 308 laboratory examinations were made, and of these, 110 gave positive results. The number of deaths from diarrhoea in children was 206, which gives a rate of 0.59, and from measles 94. Dr. Davies points out what a severely fatal disease this is, and discusses notification of it and measures for closing the schools.

From pulmonary consumption 413 persons died, a number exceeded only twice in the last fourteen years, but it must be remembered that the population is now much greater. An examination of milk was made for the city by Dr. Delépine by inoculation test, and of 74 samples, only 4 showed the presence of tubercle bacilli. In September, 1903, the Council approved of a voluntary system of notification of phthisis, and recently the forms have been distributed to the medical men practising in the city. The report contains the details of the working of the fever hospitals and the Inspector of Nuisances' report. The usual interesting report of the weather during the year is included, and shows that the rainfall was 2 in. below the average, being 30.9.

The special report on farms, cowsheds, milkshops, and dairies will appear later.

BIRMINGHAM.

Walsall Nursing Institution.—Tamworth Workhouse Infirmary.—Stratford-on-Avon Hospital.—Birmingham Orthopaedic Hospital.—Dudley Dispensary.—The Midland Counties' Home for Incurables, Leamington.—Hanley Nursing Society.

A BAZAAR was held recently in the new Town Hall at Walsall in aid of the Victoria Nursing Institution. The Mayor stated that a sum of £500 was needed to wipe off the debt on the institution and £1,000 to increase the endowment fund. It is hoped that the result of the bazaar will be an increased interest in the Nursing Institution.

The new Workhouse Infirmary at Tamworth, formally opened recently by Mr. J. H. Manton, ex-Chairman of the Birmingham Board of Guardians, has a western aspect, with fine views of the surrounding country. It has cost £10,655, and the money has been raised on a 3½ per cent. loan, payable in thirty years; this works out at a rate of 1d. in the pound on the whole assessment of the union.

The report presented to the annual meeting of the General Hospital at Stratford-on-Avon stated that the total receipts of the year amounted to £1,626, as against £1,586 in the previous year. The Rev. F. H. Hodgson has endowed a child's cot with £500 in memory of the late Sir Arthur Hodgson, K.C.M.G., High Steward of the borough, and of Lady Hodgson, his wife. Miss Carr Smith has given £1,000 to endow a bed on the women's side in memory of her late father and mother.

The Marquess of Hertford presided at the eighty-eighth annual meeting of the Royal Orthopaedic and Special Hospital, held at the Council House, Birmingham, on October 18th. In the report it was shown that there was a deficiency in the income of more than £400. The hospital is now in new buildings on a new site. Part of the old site is to be sold to the Colmore Trustees, and on the other part there will be erected an out-patient department. This will enable the nursing staff to be accommodated in the new hospital instead of as now in rooms hired for them. The initial outlay for these further improvements is estimated at £4,000. During the past year the following sums have been received: £300 from the Hospital Saturday Fund, £99 from the Hospital Sunday Fund, £2,500 from the late Mr. Richard Cadbury, £500 from the late Mr. Joseph Gillott, and £100 from the late Mr. W. Ansell.

The committee formed by the joint representatives of the Dudley Dispensary and of the Guest Hospital has completed the formation of an eye department. Dr. W. E. Newey has been appointed to fill the vacancy in the honorary visiting medical staff of the dispensary, and Mr. St. Clair Roberts has been elected ophthalmic surgeon to the new department.

On October 18th the Marchioness of Hertford laid the foundation stone of the east wing extension of the Midland Counties' Homes for Incurables at Leamington. This is the first part of the "General Radcliffe" memorial scheme. This addition to the institution will cost about £3,000, and will give accommodation for 15 more patients, bringing up the total number of beds to 106. There will be a large tea-room for the use of the patients and two new wards. An anonymous donor gave £1,000 towards the extension, and in addition more than £1,600 have been subscribed.

The annual sale of work in aid of the funds of the Hanley Nursing Society was held in the Hanley Town Hall on October 20th. The Mayor opened the bazaar in the presence of a large company. Mr. J. Moxon, the President, appealed for further pecuniary assistance. The Society retains the services of three nurses, and more than 2,000 visits have been paid during the past year to the sick poor of the town.

CORRESPONDENCE.

ANNUAL MEETING, LEICESTER, 1905.

SIR,—At an Executive Committee Meeting held to-day I was instructed to send you the following resolution:

> The Local Executive Committee of the Leicester 1905 Meeting desire to place on record the following resolution, which was proposed by the President, seconded by the Treasurer, and carried with acclamation:
>
> That the best thanks of the Executive Committee be tendered to Guy Elliston, Esq., for the able manner in which he conducted all the arrangements for the meeting, thereby assisting greatly in its success, and also for the unfailing courtesy that he extended to all those with whom he came in contact during the period of organization.
>
> That a copy of this resolution be also sent to the Chairman of Council and the Editor of the JOURNAL.

—I am, etc.,

ASTLEY V. CLARKE, Honorary Local Secretary.

Leicester, Oct. 20th.

THE GENERAL ELECTION: A SUGGESTION.

SIR,—May I suggest that it would be wise on the part of the Divisions to take the first opportunity possible to ascertain the views of the men who will stand, in all probability, for Parliament in their respective areas at the next election? The importance and complexity of the measures which the Representative Meeting requested us to put before candidates demand that the gentlemen in question should be given time in which to study them. It is obvious that the rush and strain of a General Election will not permit of that educating process which is one of the first objects to be aimed at.

I think that our success at Hampstead[1] may be attributed to the fact that our interviews with the candidates have taken place before the acute stages of the election came on.

I would venture to advise the Divisional Committees to get into touch with their local representatives and with the candidates appointed, or likely to be appointed, to contest the seats, so that at their next visit to the neighbourhood an opportunity may be given of ascertaining their views upon medical matters.—I am, etc.,

F. R. HUMPHREYS,
Chairman, Hampstead Division.

London, N.W., Oct. 23rd.

THE PERPLEXITIES OF SECRETARIES.

SIR,—May I suggest to "Divisional Secretary" a solution of his perplexity? I take it that we attend meetings on subjects in which we are interested. Now, the men who are practically interesting themselves in scientific work are those who have time to do so, and if they have this leisure it is because they are not troubled by the medico-legal-ethical

[1] See SUPPLEMENT to the BRITISH MEDICAL JOURNAL, September 30th, 1905, p. 211.

questions arising chiefly because of club, parish, and other poorly-paid work. On the other hand, those who are interested in these latter questions are *ipso facto* incapacitated from making their voices heard, and have to trust (the secretaries declare how vainly) to their more favoured brethren to remember their evil case. In nine years' membership of the Association I have had the opportunity of attending but one meeting of any kind, and that was because I happened to be taking my hard-earned annual holiday in my native town, at the time of an annual meeting of the Association.

Speaking to-day to the chairman of the Board of Guardians whom I serve, anent the inadequate salary I receive from them, I was told, "You medical men should combine to send us a formal memorial." There are six of us in this Union, and we are so tied by work that, with the probability of having to fight also a host of newcomers eager to pick up an "appointment," however poorly paid, as something "to go on," we hardly think it worth while to engage in the struggle to obtain a decent wage.

If, however, these medico-legal matters were so frequently discussed (by our leisured colleagues) at the Association meetings, that we all realized what we should be doing in applying for appointments, without inquiring why they are vacant, then I think the present poorly-paid incumbents would feel more free to agitate locally for some betterment of their positions.

I commend to secretaries the letters *re* the British Medical Benevolent Fund appearing concurrently in the British Medical Journal. They tell a very plain tale of the *results* of shelving medico-legal questions.—I am, etc.,

October 22nd. SWEATED.

THE PRONE PRESSURE METHOD OF ARTIFICIAL RESPIRATION.

Sir,—During August I had an opportunity of proving the efficiency of Professor Schäfer's prone pressure method of artificial respiration.

The case was that of a gentleman who fainted while bathing in the sea at Shanklin (Isle of Wight) about 200 yards from the shore. Rescue was attempted by fellow-bathers inshore, who swam out to him, but as they were unable to hold him up for any time he sank again. Two boats were hailed, and a gentleman dived from one of these and secured the drowning man until the other boat came up. He was too heavy to lift into the boat, and he had to be towed into the shore.

All this could not have occupied less than ten minutes, and when he was brought ashore he was unconscious, and respiration had totally ceased. I placed him face downwards on the beach and commenced a slow rhythmic pressure on the back of the lower ribs. Within a quarter of an hour he was able to speak, and was removed home shortly afterwards.

The great simplicity of the method, which requires no skill and can be carried out by one person unaided, ought to commend its universal use. A full description of the method will be found in the *Medico-Chirurgical Transactions*, vol. lxxxvii.—I am, etc.,

October 19th. W. P. F.

TRACHEOTOMY UNDER LOCAL ANAESTHESIA.

Sir,—Two letters appear in the British Medical Journal of October 21st, p. 1072, on Dr. StClair Thomson's article on tracheotomy under local anaesthesia. Though Dr. StClair Thomson needs no apologist, I do not see that he claims originality for the method. There is one new suggestion, however, and that is the use of a combined anaesthesia for tracheotomy in children. Now, in children, the operation of tracheotomy is more often one of extreme urgency than in the adult, and I think those who have had much experience of the operation in such will agree with me that the time of quiet gained by the general anaesthetic will be better employed in making a straight median incision than a hypodermic injection. The time for the local anaesthetic to act, according to one writer in the Journal, is two minutes: Dr. Thomson gives twenty minutes. The former is more than enough to define the trachea. One hesitates to contemplate the state of the average child at the end of the longer period with, as must be, the surgeon waiting in readiness to perform the operation.

In emergency in private practice sufficient anaesthetic to quieten the child can be given by the operator, while the most capable assistant is trusted to keep the neck straight.

In my experience, breathing has frequently stopped, not so much by the child assuming the horizontal position as by the neck being stretched over a sand pillow, or substitute, to make the trachea prominent. Hence no chloroform should be given till the surgeon is perfectly prepared to operate, and the disadvantages of the position should be borne in mind. For patients old enough to appreciate fully what is being done local anaesthesia seems the procedure of choice, and one is grateful to Dr. StClair Thomson for emphasizing the fact, but one feels that the suggestion of local anaesthesia—or, worse, a combined form—in children, coming from such an authority, is fraught with danger.—I am, etc.,

W. A. Mackay, M.D.Glasg.,
Late Assistant Medical Officer, City of Glasgow Fever Hospital.
Southport, Oct. 23rd.

A CASE OF ACQUIRED IMMUNITY.

Sir,—In view of the many conflicting theories lately advanced by our leading medical scientists as to the cause of immunity, it may be interesting to record the following case, which recently occurred in my practice:

W. R., aged 14, was taken suddenly so ill at school with pains in his right side that he had to be carried to his home. He had been suffering for years from a very offensive discharge from his right ear, with complete deafness on that side. On examination, all the physical signs of acute pleurisy were present. Effusion soon took place and became purulent.

The empyema was opened and drained, the discharge being copious and sweet. In the course of a few days it became infected and offensive. The cavity was then washed out with a saturated solution of boric acid twice a day. In about three weeks afterwards the patient was quite well. The tube was removed, and the condition of the right ear was completely cured. The patient's hearing at the present moment—twelve months after the attack—is perfect.

After reading the splendid article on phagocytosis and immunity in the British Medical Journal of October 21st it occurred to me that the happy result was due to the voracity of the "macrophages" of Metchnikoff, only it seems strange that a violent inflammatory process or a virulent infection was necessary to stimulate their phagocytic activity.—I am, etc.,

Croydon, Oct. 25th. P. F. O'Hagan.

THE SANATORIUM AND AFTER.

Sir,—I was much interested in the leading article appearing in the British Medical Journal of October 21st, entitled The Sanatorium and After. I take it that the writer of this article was prompted by the correspondence on the doubtful efficacy of open-air treatment which has from time to time appeared in your Journal.

I would like to suggest that the writer has not recognized fully the root of the evil. Sanatorium treatment in many quarters is given a bad name, and one can but look for the reason. There are unfortunately two classes of sanatoriums, which I will name Class 1 and Class 2. Class 1 is presided over by a doctor who has just claims in owning a sanatorium, having had experience: and in many instances has not only been cured at one, and therefore lived the life, but also has worked at one before starting his own. He makes the patients do what he tells them, and is rewarded by good results. Class 2 is presided over by a doctor who has had practically no experience but started his sanatorium either as a fad or with the hope of gain, and allows his patients to do what they like either from ignorance or from the fear that they will depart if they do not get their own way. I quite realize that these are strong words, but nevertheless they are unfortunately true ones, and no doubt can be corroborated by others.

Further, it can be assumed that most patients of the better class seek the advice of a lung consultant when they are told their lungs are bad, and he in turn advises a certain course to be pursued. It is the lung consultant, therefore, who must bear a large share of the responsibility as to where that patient goes, and it is very necessary that he should know and study the difference between Classes 1 and 2. I believe that most of the leading London lung consultants do recognize this point and act accordingly, and if they could only write their experiences I am sure it would do good. If Class 2 could be eliminated general practitioners would see better results and be satisfied.

With regard to the "after," this must necessarily depend on the patient. No sanatorium doctor has the right to tell any patient on leaving that he is cured. All he can say is:

"You are all right now; keep up your present state of health for two years, and then you can consider yourself a cure." Most experienced sanatorium doctors would never tell their patients more than this, whatever they might think.

The writer of the article also says that the word "cure" is looked upon by many as inappropriate, even when all physical signs and tubercle bacilli disappear, and that from material at present available it is impossible to absolutely decide this question. To this I would remark, with all due deference to the writer, that this question can be decided, and has been decided satisfactorily, and that there is plenty of material to hand to prove it. There is a well-known German sanatorium, of about sixteen years' standing, whose treatment was a continuation of that of Brehmer, who was established in Germany as a sanatorium doctor some forty years ago. This treatment has a small band of devotees in England, nearly all of whom have been cured at the parent German sanatorium. Here we have the material to form a definite opinion and to state that cures do arise, and the German experience leads to tabulating cases in the following way:

1. Patients with no physical signs, no tubercle bacilli—cures in the ordinary sense: If they look after themselves for two years they can consider themselves cures.

2. Relative cures—arrested disease, with a few physical signs remaining, and perhaps a few tubercle bacilli in the sputum, general health good, often as good as in 1: These are sent back to work, and are expected to cure in two years if they take care of themselves.

3. Improved, etc.: This class needs no comment, except that many go on to cures.

From the above table, experience has shown that in No. 1 patients are cures from the day they leave the sanatorium. In No. 2 they in nearly every instance go on to cures. This experience dates from the days of Brehmer—forty years ago—and is unquestionable.

In conclusion, I would like to say that if the general practitioner could once go to a sanatorium of Class 2 he would be much put out at this sanatorium's method and depart, and that the general slack tone and manner of the patients would greatly help to hasten his departure. If, again, he were to go to a well-conducted sanatorium where cures and discipline are aimed at, he would soon change his mind as to the efficacy of open-air treatment.—I am, etc.,

J. Penn Milton, M.R.C.S.Eng., L.R.C.P.Lond.

Yelverton, R.S.O., S. Devon, Oct. 24th.

SYNCOPAL BRADYCARDIA.

Sir,—I hope that we shall not be led by the great interest which the new methods of examination excite, to be too positive in our interpretation of tracings.

Our sphygmographs and cardiographs register the cardiac movements at much disadvantage. Thick tissues, and in the former a considerable length of blood vessel intervene between the heart and the tambour or cup.

If Gaskell, when he had a frog's heart on the table, failed to see the contraction until he used a strong lens, though the heart was beating all the while, are we likely ever to accept the absence of a curve as conclusive evidence of the absence of contraction? Gaskell states that no graphic method would have shown the movement, but physiologists fasten the lever directly to the muscle, while we cannot touch or nearly touch the heart, and are obliged to work on the other side of a cushion.—I am, etc.,

London, W., Oct. 22nd. W. P. Herringham.

Sir,—In the British Medical Journal of October 21st Dr. Hay, criticizing my letter of the previous week, gives the reasons for his faith in the existence of audible auricular heart beats. In the face of the support accorded to this view by such able experimentalists and clinicians as Wenckebach, Mackenzie, Gibson, and Dr. Hay himself, my phrase that it was "obviously untenable" is, of course, unjustifiable. Their confession of faith is, however, contained in Dr. Gibson's excellent paper on bradycardia in the *Edinburgh Medical Journal* of last July, and in Dr. Hay's own letter to your Journal. Unfortunately I had not come across Dr. Gibson's paper, so that these views were quite unknown to me when I wrote.

In expounding his reasons Dr. Hay naturally starts almost *ab initio*, and, after assuming the occurrence of isolated contractions of the auricles, he discusses the possibility of such contractions being communicated as an impulse to the chest wall over the region of the ventricles, and as recognizable waves to a sphygmographic tracing at the wrist. In the course of his argument he represents me as being in disagreement with these preliminary views, whereas my remarks were carefully confined to the discussion of audible beats. The brilliant researches of Mackenzie have amply confirmed the views of Wenckebach on the clinical possibility of isolated auricular contraction, delayed conduction from auricle to ventricle, and complete separation of the rhythm of auricle and ventricle by "heart block;" and I think that those who have carefully studied his beautiful tracings will agree in his interpretation of them, even including the possibility of an auricular contraction sending a wave through the ventricle and the aortic valves to the wrist. The number of cases of syncopal bradycardia in which careful tracings of the pulse in the radial artery and in jugular vein have been taken together is as yet but small; still they all tend to show that the infrequency of the heart rhythm is entirely due to the ventricles, while the rhythm of the auricles remains normal only every second, third, or fourth auricular beat being followed by that of the ventricles, or the two beating quite independent of one another. Every additional case, such as the one recorded by Dr. Hay himself last week, tends to confirm this view.

An additional question is introduced, however, when sounds are heard between the obvious ventricular contractions, which produce a pulse felt at the wrist. An attractive explanation of these sounds is of course afforded by the assumption that they are caused by the contractions of the auricles, which are almost certainly taking place. It must be remembered, however, that this is purely an assumption, and that, except for the one case reported by Gibson and Malet (*Journal of Anatomy and Pathology*, 1879), we have no other evidence that it is possible for a sound to be produced by an auricular contraction when the mitral valve is healthy. It is, moreover, only in a certain proportion of these cases of syncopal bradycardia that any of these extra sounds are produced at all, and in some of these the sounds are only heard at certain times. Now if the contraction of the auricle can cause a sound, it is difficult to understand why it does not do so with every beat, and why this sound should not be heard always, especially in those patients where it would not be obscured by a subsequent ventricular contraction. It seems to me that the extra sound requires something special for its production, and that special something can only be an abortive ventricular systole. We know that such extra-ventricular systoles do occur, that they are often very feeble, and that they produce sounds.

It is possible to imagine the production of an auricular sound in one of two ways: (1) as a muscle sound, and (2) by the auricular systole forcing blood into the partially-filled ventricles. Dr. Hay offers the latter explanation for the sound heard in the second of the two cases published by him last week. The arguments against the occurrence of an auricular sound apply less forcibly to this method of production than to a purely muscular sound. Gibson and Malet, in the case referred to above, undoubtedly heard a sound that was produced by the contraction of the auricles. In their patient a malformation of the sternum left a V-shaped fissure in the upper part of the sternal region, which was merely filled in by a membrane, so that a stethoscope could be applied almost directly to the heart itself. They heard a soft murmur leading up to the first sound, and a "low hushing murmur caused by the entrance of blood during diastole." The simplest explanation of this presystolic sound is that it was produced by the flow of blood from auricles to ventricles, and that it was not muscular. It is hardly necessary to point out how exceptional the circumstances were in this case, circumstances which do not at all apply to the other cases under consideration.

Assuming for the moment that it is possible for a sound to be produced by the auricular contraction forcing blood into the partially-filled ventricle, and that such a sound can be heard through the normal chest walls, it is evident that this explanation will not suffice for cases like Dr. Maynard's, where several sounds are heard between two of the undoubted ventricular beats. In Dr. Maynard's patient the first isolated systole of the auricles would fill the ventricles, but this was followed by two more isolated beats of the auricles, both associated with similar sounds to the first, although the auricles were trying to force blood into full ventricles instead of empty ones. These sounds, if due to the auricles, must have been muscular, and the explanation is open to all the objections that I have urged above.

I am fully sensible that the alternative explanation of extra-ventricular systoles is not perfectly satisfactory. It requires a special assumption that it is possible for the left ventricle

to contract so feebly that no wave can be found on a sphygmographic tracing taken by the most skilled observers unless we are to conclude that some of the supposed auricular waves are really ventricular in origin.

Further research conducted with a skill and care equal to that displayed by Dr. Hay may confirm the statement of older observers that in some of these cases with extra sounds the sphygmograph shows ventricular contraction. There is, at any rate, urgent need of more research.—I am, etc.,

London, W., Oct. 22nd. ALFRED M. GOSSAGE.

UP-TO-DATE SURGERY AND THE TREATMENT OF CANCER.

SIR,—In May of this year a practitioner wrote to me about a patient to whom he was anxious to exhibit coumarate of sodium. I wrote him all the details which I was able to give without seeing the patient. The other day he very kindly sent me the result which has been obtained:

Examination made a week ago. The tumour is certainly no larger—I think it is smaller—but the abdominal wall is so much thicker that I may be deceived. There is no pain, though this was present before the treatment began. The general health is very good—better than for some years previously. This is a case in which abdominal cancer was found by operation, seen and handled. Since then, under the treatment advocated by you, remarkable improvement has been made, so I thought you would be interested in hearing of it.

I wrote suggesting to the doctor that he should report the case in the BRITISH MEDICAL JOURNAL. On October 12th I received a letter to this effect:

Thank you for your letter of 10th inst. about the case of cancer treated by coumarate of sodium. I may unintentionally have misled you, so will briefly state the facts:

Mrs. S., aged about 40, married, no children. In April, 1903, had a sharp attack of perityphlitis, ending in resolution. In July and August she complained of pain in the hepatic region, which ended generally after passing a large quantity of urine. I could find no tumour, but told her that the inflammation from which she had suffered might result in some adhesions which would account for the symptoms. The trouble passed off.

In September, 1904, she was persuaded to go to another doctor in town, whom I know. He has since informed me that he handed her over to [illegible] (a surgeon attached to one of the large metropolitan hospitals and schools, and one of the class who are generally considered to be most qualified to judge) who first attacked the kidney, found that healthy, so turned her over and opened the abdominal cavity. He wrote me when she came home that he found advanced carcinoma of the liver implicating the colon. The other doctor was present at the operation and told me there was no doubt whatever as to the diagnosis. The patient's husband was told that it was only a question of a month or two. There was a distinct tumour in the hypochondrium. I think I was justified in considering it a case of carcinoma. For a month or two the patient did not progress favourably, then I saw your paper in the BRITISH MEDICAL JOURNAL. I put the whole thing before her husband, telling him that my doubts as to the case being one of cancer were beginning to revive, but that the treatment would probably be of use even if it were of inflammatory origin, and I should like to try it. I have told you the result.

Now comes the complication. At the same time I wrote to you I wrote also to [illegible], and he wrote back: "About the diagnosis. It was wrong. I have little doubt, in the light of present events, that what we took to be carcinomatous nodules must, I suppose, have been inflammatory. Yet I erred with my eyes open because in [illegible] I read a paper, afterwards published on this very condition." He goes on to say that in his opinion the whole thing may have been inflammation of the subperitoneal tissue passing into a chronic condition, causing puckering, and giving a similar appearance to carcinoma. "Under these circumstances I do not know that the case is of much value to you and worth publishing. As to the treatment, I am sure that it has been of benefit."

The above is very instructive as to the mental condition of the average hospital surgeon, and also points to the enormous stopping power of the old gang when any advance is attempted in treatment.—I am etc.,

Hatfield, Oct. 14th. LOVELL DRAGE.

SENSATIONAL JOURNALISM.

SIR,—The request in the first of the enclosed letters, to mark any reply "private" need not, I think, preclude me from asking you to publish them; and as they throw a light, which to me is new, on modern journalism, they may be interesting to your readers. When the "strong" article on the Appalling Increase of Insanity appears, we shall know precisely how far it is an honest conclusion derived from a patient investigation of the facts, and how far it is a catchpenny shocker designed to rake in the sixpences of a gullible public.—I am, etc.,

Flower House, Catford, Oct. 28th. CHAS MERCIER.

I.

Please mark reply "Private."

12, Henrietta Street,
London, W.C.,
October 13th, 1905.

Dear Sir,—

I hope shortly to publish in *Pearson's Magazine* a strong article on the Appalling Increase of Insanity. I am collecting evidence and opinions for publication, and should be greatly favoured if you would send me your opinion on the question in general, and in particular on the cause of the increase and on the most likely remedies.

It would also be a great kindness if you would send me for the purposes of review or quotation any reports, pamphlets, articles, or papers giving statistics and information on the subject, or if you could let me know where I could obtain any papers with which you may happen to be familiar.

With every apology for thus troubling you, and hoping to receive an early reply, since I am anxious to have the article prepared with the least possible delay,

I am,

Faithfully yours,
THE EDITOR.
Pearson's Magazine.

[COPY.] II.

Private. Flower House,
14 X, 1905.

Dear Sir,—The title you have chosen for the strong article in *Pearson's Magazine* begs a very debatable question.

I do not know whether I could allow you to publish any opinion of mine on the subject,—it would depend in part upon who your other contributors were, and in part on the opinion of authorities whom I must consult before authorizing you to use my name. Nor do I know whether you would care to publish my views in case they did not support your view that there is an appalling increase of insanity; and I should not care to take the trouble of preparing an opinion, which would, or might not, be utilized.

And I could not give any opinion before I knew what is meant by "the increase of insanity,"—appalling or otherwise. It may mean:

(1) Increase in the number of persons who become insane year by year, or

(2) Increase in the number of persons who are sent to institutions, or

(3) Increase in the number of persons who are inmates of such institutions, or

(4) Increase in the number of persons who are known by their friends to be insane, or

(5) Increase in the number of persons on the books of the Commissioners in England, or in Great Britain, or in Great Britain and Ireland, or in Europe, or in Europe and America, or the world over.

You must pardon me if I say that it looks very much as if some designing person had been trying to make your flesh creep by painting an 'orrible picture in very gory colour, but without any specific detail.

If you will give me some definite idea of the kind of information you want, I can probably tell you where it is to be had; but I cannot undertake to find facts to fit in with a foregone conclusion.

I am, dear Sir, yours faithfully,

The Editor, *Pearson's Magazine*. CHAS. MERCIER.

III.

C. Arthur Pearson, Ld. Henrietta Street,
London, W.C.
October the Seventeenth, 1905.

Dear Sir,—I am much obliged to you for your letter. I quite understand your point of view, and regret, for the sake of having a note from you on the question, that it does not coincide with mine.

Faithfully yours,

Dr. Charles Mercier. THE EDITOR.

MOTOR CARS IN PRACTICE.

SIR,—Now that there is a Commission sitting in reference to the future of motor power on the roads, should not medical men bestir themselves to prevent, if possible, any additional expense by way of taxation or otherwise, and any curtailment of the present facilities in the use by them of motor cars? The average country doctor who uses a car is, comparatively speaking, a poor man, and keeps a car as he finds it quite as economical as horseflesh, with the added advantage of covering more ground at a much quicker rate, and consequently with more time for rest or recreation, and the possibility of adding to his income by the extra work he can thus perform.

If the tax on motors is to be raised, it should be limited to high-powered, speedy pleasure cars costing a high price and kept by people with plenty of money at their command. It is these cars, if any, that damage the roads and stir up much dust, and not the comparatively slow car of the doctor going his fifteen to eighteen miles an hour, and using a car of six or eight horse power. As an instance, I may mention that a large car, driven rapidly, passed in front of me this morning, making so much dust that we lost sight of it in a few yards, whilst my 6½ horse power car was making no dust at all. The motor-power industry must be of great benefit to the trade of the country; many thousands of workmen will find in the

future their means of living by it. The number of the wealthy class is limited, and it is in the direction of the man of moderate means that the great increase in the trade must take place, and for it to do so in this direction he must be assured of a reliable article that he can use at a moderate cost; and no Government can justify its action in doing anything to stifle this by increasing already sufficiently heavy burdens.

The cost to me of running a 6½-horse power car since January last over a distance of 2,500 miles and more has been: Petrol, £3 10s. 8d.; grease and oil, 13s. 6d.; repairs, £2 5s.; new inner tube, £1 3s. 10d.; accumulator recharged, 7s. To this must, of course, be added taxes and insurance, but they have still some months to run, and, like every one else, I have bought several things not necessary; but the sum total is but a few pounds more than I have mentioned. I had much worry in having the grease thrown out of my change-gear case; the advice I got was to use thicker grease and put on screw caps to seal the bearings. I discovered for myself that I only required thick oil; this remains in, while grease is thrown out.

If possible the foot brake should never be used, as it will wear the bearings where it is worked on a drum attached to the shaft from the change-gear case. It was these bearings I had to have renewed. They had previously worn rapidly, but I have run over 1,000 miles since having them renewed, and at present no wear seems to have taken place. I keep the pedal brake for emergencies. My tyres look little the worse for wear. I throw out the clutch always downhill and thus save the tyres, and always start and stop as gently as possible. As soon as I find a cut I fill with tyre cement; a piece cut out is filled up with "grippa." On one occasion only a piece was cut out down to the canvas and I vulcanized a fresh piece in. My car always stands on a wooden platform with wheels so that it can be moved about if necessary.

I should advise driving on the throttle and with as little gas as the engine will run smoothly with; set the ignition in the most favourable position and move it as seldom as possible, and this will be for hills. Use as little oil for the engine as possible for it to run well and cool; too much oil makes a nasty smell and, worse, will probably form a coat on the inside of the combustion chamber, and this being always red-hot will overheat the engine. My car has a honeycomb radiator, and I can always bear my face to touch it.

I had a glass screen fitted at an inclined angle so that the top of the screen comes just over my head; this is a great protection from wind and rain, and does not obstruct the car as an upright screen would; I have also fitted some iron bars, so that if rain comes on I can put a canopy over it. I do not think my screen in a high wind causes as much obstruction as two people sitting in the car present. It has been patented by the carpenter who made it for me to my design, and I am surprised it has not been brought forward by motor-car makers in the past, for when one sees how much even high-powered cars with screens and tops are held by a strong wind, it seems only common sense to place a screen so as to allow the wind to play along it instead of directly into it. A screen of this kind would, I feel sure, be a great boon on all cars, but to a country doctor with a small car it is essential if he values the greatly added comfort. Mine is made with ordinary window glass and at a cost of but a few shillings.

Above everything else, never take your car out without first having greased and oiled it all round. This I do, no matter how short my previous journey may have been.—I am, etc.,

Fulbourn, Oct. 17th. F. L. NICHOLLS.

UNIVERSITIES AND COLLEGES.

UNIVERSITY OF OXFORD.

Degree of D.M.—In a congregation held on Saturday, October 21st, the following degree was conferred:—Doctor of Medicine: Richard Warren, New College.

Examinations for the Degree of B.M.—The examinations for the degrees of B.M., B.Ch., will commence in the Examination Schools on Thursday, December 7th. Names, accompanied in each case by the required certificates, must be sent in to the Secretary to the Boards of Faculties, Clarendon Buildings, not later than 10.30 a.m., on Tuesday, November 21st.

UNIVERSITY OF CAMBRIDGE.

MR. A. M. SHEILD of St. George's Hospital has been appointed an Examiner in Surgery for the Third M.B., Part II.

The number of students who have matriculated this October amounts to 1,008, a considerable increase as compared with October, 1904, when the number was 884.

UNIVERSITY OF EDINBURGH.

Rectorial Election.

A LORD RECTOR will be elected next month. As usual, the candidates have been selected on political lines. They are the President of the Court of Session (Lord Dunedin) and the Right Hon. R. B. Haldane, M.P., K.C.

Vans Dunlop Scholarship.

The Senatus Academicus have awarded the Vans Dunlop Scholarship in Botany and Zoology, of £100 a year, tenable for three years, to Mr. George Arthur Ewart.

ROYAL UNIVERSITY OF IRELAND.

THE following candidates have been approved at the examinations indicated:

First Examination.—F. J. Ball. *W. Boyd, J. T. Brady, J. Byrne, *J. Cullen, A. J. Dempsey, J. J. Dennehy, M. G. Devine, E. C. Fawcett, H. A. Gillespie, Blanche G. C. Griffin, W. Hamilton, J. J. Hanratty, Helen A. E. Hegarty, J. F. Hill, *J. L. Jackson, P. J. Lydon, B.A., †J. M. McCloy, A. L. McCreery, P. McGinnis, E. M. Macilwaine, S. K. McKee, W. Magner, *T. P. Maguier, H. D. Manderson, E. W. Mann, A. F. M. Mullane, *B. F. M. Neary, M. J. O'Connor, J. O'Flynn, *E. J. O'Kelly, †M. G. O'Malley, †W. R. M. Orr, *D. A. Rice, *T. G. Rothwell, T. W. Ruttledge, W. J. Smyth, †W. W. D. Thomson, H. W. White, D. V. S. Willis.

* Entitled to try for honours in one subject.

† Entitled to try for honours in all subjects (Botany, Zoology, Chemistry, and Physics).

*Second Examination (Upper Pass *).*—D. S. Clarke, B.A., M. P. Fitzgerald, A. Kidd, K. F. Mulligan, J. A. Sinton, T. Taylor.

* Entitled to present themselves for honours.

Pass.—C. Alexander, W. Browne, T. P. Carroll, J. K. P. Clarke, A. J. W. Compton, B.A., G. Deery, E. P. Dewar, E. Doherty, J. E. English, J. Ferguson, B.A., E. Forbes, P. Keelan, J. C. Macaulay, W. C. McCullough, T. C. McGowan, M. J. McGrath, R. A. McLaverty, F. I. MacMahon, H. H. MacWilliam, U. J. G. Mulligan, P. O'Callaghan, J. P. J. O'Connor, P. C. O'Donnell, S. P. Rea, R. A. Smith, A. L. Stevenson, G. J. W. Tierney, V. Wiley.

Third Examination (Upper Pass).—R. N. Berman, J. D. Cummins, R. G. Kevin, J. B. Lapsley, J. F. Neary, J. F. Neary, J. A. Shorten.

Pass.—S. Acheson, J. W. Beirne, J. H. P. Boyd-Barrett, E. B. Brooke, Mary Cowley, B.A.; R. Cox, B.A.; J. Dooley, P. Ferris, J. J Flood, Jane M. Fulton, P. J. Grogan, C. E. L. Harding, J. B. Horgan, A. H. Joy, F. Keane, J. J Kearney, R. R. Kerivan, T. P. Linehan, J. S. McCombe, A. P. MacMahon, G. H. Martin, C. Murphy, E. O'Reilly, C. J. X. O'Sullivan, J. J. Sheil, A. L. Stevenson.

Final M.B., B.Ch., B.A.O (Upper Pass).—F. Coates, B.A., A. G. Cummings, J. S. Dickey, J. Donnelly, R. W. Harper, W. Irwin, B.A., R. S. Kennedy, J. Macarthur, C. G. Robb, P. Steen, H. C. Watson.

Pass.—J. A. Beamish, H. W. Carson, J. Devane, J. Flack, D. H. C. Given, W. R. Hayden, R. L. Keown, A. Leitch, J. McCloskey, E. M. O'Neill, T. M. Phillips, S. B. Walsh, B.A.

M.D.—W. J. Bannister, S. H. Blakely, T. H. Delany, S. R. Hunter, F. E. McCune, A. Moss.

VICTORIA UNIVERSITY OF MANCHESTER.

FACULTY OF MEDICINE.

THE following candidates were approved at the September First Examination, Part I:

Estelle I. E. Atkinson, S. J. Clegg, J. F. Cocker, D. I. Connolly, C. Davies, T. A. Jordan, G. E. E. Nicholls, B. W. E. Trevor-Roper.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND.

AT the monthly business meeting, held on Friday, October 6th, the President admitted Edward Collett Hart, L.S.A. 1896, to the Licence in Medicine; and Patrick Daniel Sullivan, to the Licences in Medicine and Midwifery.

At the stated annual meeting of the President and Fellows of the Royal College of Physicians of Ireland held on St. Luke's Day, October 18th, the following were elected for the coming year:—

President.—Sir William J. Smyly, M.D.

Vice-President.—Dr. E. E. Lennon.

Censors.—Dr. E. E. Lennon, Dr. A. R. Parsons, Dr. J. H. R. Glenn, Dr. W. R. Dawson.

Additional Examiners to Take the Place of an Absent Censor or Examiner.—Medicine: Dr. W. J. Thompson. *Medical Jurisprudence and Hygiene:* Dr. A. N. Montgomery. *Midwifery:* Dr. T. Henry Wilson.

Examiners for the Licence to Practise Midwifery.—Dr. A. J. Horne and Dr. Henry Jellett.

Additional Examiners under the Conjoint Examination Scheme.—Biology: Dr. E. MacDowel Cosgrave. *Chemistry:* Professor E. Lapper and Dr. N. Falkiner. *Physics:* Dr. W. A. Winter and Dr. G. J. Peacocke. *Pharmacy, Materia Medica, and Therapeutics:* Dr. H. C. Drury and Dr. M. J. Dempsey. *Physiology:* Dr. H. C. Earl. *Pathology:* Dr. A. C. O'Sullivan. *Medicine:* Dr. J. Murphy and Dr. R. Travers Smith. *Hygiene and Forensic Medicine:* Dr. H. T. Bewley.

Examiners for the Conjoint Diploma in Public Health.—Hygiene: Dr. H. T. Bewley. *Chemistry:* Professor E. Lapper. *Meteorology:* Dr. W. A. Winter.

Extern Examiners in Preliminary Education.—Mr. E. H. Alton, F.T.C.D.; Mr. R. A. P. Rogers, F.T.C.D.; and the Rev. Professor Murphy, M.A.

Representative on the General Medical Council.—Sir John Moore.

Representatives on the Committee of Management.—Dr. Walter G. Smith, Sir John Moore, M.D.; and Dr. James Craig.

Treasurer: Dr. H. T. Bewley. *Registrar:* Dr. James Craig. *Librarian:* Mr. R. G. J. Phelps. *Architect:* Mr. A. E. Murray, C.E. *Law Agents:* Messrs. Stephen, Gordon, and Son. *Agent to the Trust Estate:* Mr. C. U. Townshend, J.P.

CONJOINT BOARD IN IRELAND.

THE following candidates have been approved at the Examination indicated:

First Professional Examination, Autumn, 1905.—E. A. Gregg (with honours), F. J. Colgan, C. P. Corbett, F. M. Costello, P. A. Doyle, T. Duncan, J. M. Gage, H. Gray, J. T. Heffernan, J. Marmion, Miss H. MacFaddin, J. T. O'Boyle, J. J. O'Connor, R. O'Connor, T. P. O'Leary, B. O'Reilly, W. P. H. Parker, W. Rahilly, C. W. K. Seaver, P. T. Warren.

Final Examination, July, 1905.—P. D. Sullivan.
D.P.H.—J. F. Stewart, M.B.
Second Professional Examination.—A. Curry, C. Daniell, E. Evans, P. Ferguson, J. Gaffney, P. Harrington, M. J. Hawkshaw, D. J. Hurley, H. Kay, T. J. Lyons, P. Maguire, K. A. P. R. Murray, P. V. O'Hagan, E. Ryan, B. Wallace, A. H. T. Warnock, J. P. Zeederberg.

The following candidates were approved at the autumn Third Professional Examination:

S. Blake, H. Burbidge, C. M. Burton, G. H. Caldwell, H. C. Carden, P. J. Cusack, J. D. Alton, P. G. M. Elvery, E. H. F. Gilligan, J. B. Hanafin, R. B. Herrick, E. M. Loughnan, F. J. Morris, J. Molyneux, P. J. Murray, C. F. Murphy, D. McCormack, J. M. O'Connell, W. R. O'Farrell, H. J. Raverty, T. Sheehy, and R. Stephens.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

THE following gentlemen, having passed the requisite examinations, were admitted Diplomates in Public Health:

H. S. Ballantyne, M.B., C.M.; L. F. Bianchi, M.R.C.P.E.; J. Jardine, M.B., Ch.B.; P. A. Harry, M.B., Ch.B.; K. C. Monnington, M.B., Ch.B.; F. L. Keisler, L.R.C.P. and S.E.; K. A. Moody-Stuart, M.B., Ch.B.; R. A. L. van Someren, M.B., Ch.B.; M. E. Sufi, L.R.C.P. and S.E.; J. W. Sutton, L.R.C.P. and S.E.; D. L. Williams, F.R.C.S.E.; R. A. Cunningham, M.B., Ch.B.; A. J. MacGregor, M.D.; and G. Wight, M.B., Ch.B.

At the same sederunt the following passed the First Examination in Public Health:

W. H. Simpson, M.B., Ch.B.; D. R. Dobie, M.D.; J. D. Munsiff, L.R.C.P. and S.E.; and F. E. Larkins, M.B., Ch.B.

The following gentlemen, having passed the requisite examinations, were admitted Fellows on October 18th:

E. N. Burnett, P. S. Clarke, H. Clifford, I. Dawson, E. Down, H. N. Fletcher, T. A. Green, R. J. E. Hanson, C. W. Harty, E. J. Hynes, W. Kelly, G. Lyon, P. F. McFarlan, T. Myles, L. T. Price, T. W. E. Ross, T. W. Scott, H. N. A. Taylor, B. P. Watson, E. C. Williams, and T. J. Wright.

ELECTION OF PRESIDENT.

Charles Watson MacGillivray, M.D., F.R.C.S.E., has been elected President of the Royal College of Surgeons of Edinburgh, in room of Sir Patrick Heron Watson, whose term of office has come to an end. Dr. MacGillivray is a nephew of Sir Patrick.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have been approved in the subjects indicated:

Surgery.—*†F. C. H. Powell, *†E. W. T. Watts, *†P. C. West.
Medicine.—*G. N. Biggs, *W. G. H. Cable, *†M. O. Dollie, *†P. L. Vawdrey.
Midwifery.—R. C. T. Evans, F. J. Macphail, J. L. Moynell, F. B. O'Dowd, C. S. Spencer, J. M. Wilson.

The diploma of the Society was granted to Messrs. G. N. Biggs, P. L. Vawdrey, E. W. T. Watts, P. C. West, and J. M. Wilson.

* Section I. † Section II.

ERRATUM. The name of Mr. F. W. Goyder, of St. John's College, upon whom the degree of M.B. was conferred at Cambridge on October 12th, is as now printed, and not as published in the BRITISH MEDICAL JOURNAL of October 21st.

MEDICO-LEGAL AND MEDICO-ETHICAL.

THE DUTIES OF A SUBSTITUTE.

CREDULITY writes that a patient who met with an accident to her finger, on finding that he was not at home, went to Dr. B., and told him that she was one of our correspondent's patients, but as he was not at home she had come to him. Our correspondent asks whether B. should take charge of the patient and treat the injury to the end, or should send her back with a letter explaining the circumstances and the treatment he must adopt.

*** Unquestionably the latter course is the right one, supposing all the circumstances to have been correctly stated, and that the patient did not wish B. to continue to treat the case to the end. A practitioner who sees a case as a substitute for a colleague during his illness or absence from home must scrupulously regard himself merely as taking his place, and should refuse to become the regular medical attendant of any patient so fortuitously introduced to him. If the patient insists upon the treatment being completed, he should explain that he considers himself as acting throughout as a substitute for his colleague, to whom he will hand over the case at his return. The regular medical attendant may, of course, if he likes, waive any claim to the fees thus earned, but it is better that he should collect them and pay his substitute.

[illegible] WITH CHEMISTS.

"WESTON" says he is asked to open a branch surgery in a poor neighbourhood and has been offered a commission to do his dispensing if he agrees to [illegible] proprietary articles in the chemist shop. He wishes to know whether [illegible] a plate on the surgery premises without infringing any rule of the General Medical Council or the Edinburgh Conjoint Board, of which he is a member.

*** The proposal is one against which we strongly protest, and one which can be considered only as a bid for practice on the part of other practitioners in the neighbourhood. We know of no prohibition of the General Medical Council, or of any of the corporations, forbidding such an arrangement.

CONTRACTS NOT TO PRACTISE.

"DUNELM" asks whether a condition in a bond required of an assistant not to practise in that neighbourhood for ten years is unfair, and whether four years would not be more in accordance with custom.

*** The term of four years in a bond is usually quite sufficient to protect a principal from unscrupulous action on the part of an assistant, but if a longer period is insisted on, it can hardly be considered unfair.

PROFESSIONAL CRUXES.

I. CAER BRITO writes that, as medical attendant (paid entirely by the firm) to the employés of a large firm, he discovered that an employé, aged 15, was pregnant. He declined to inform her forewoman of his opinion, but sent for the patient's mother, and told her what he believed to be her daughter's condition; then, with the mother's consent and in her presence, questioned the patient. She made a statement incriminating her brother, aged 17, and his subsequent conduct seemed to confirm the girl's statement. He asks: (1) Does the fact that the firm, and not the employés, pay the medical attendant give them any right to information in such cases?

*** Our answer is, Certainly not. It is the patient's secret, which her medical attendant has no right to reveal without her consent, unless compelled to do so in a court of justice.

(2) Was the course adopted the correct one?

*** Quite: the patient being a minor and having a mother, all responsibility for further action being taken was thus thrown upon her natural guardian.

(3) Is it incumbent upon the medical man in such cases to inform the police?

*** By no means; he is not bound to act as a private detective, and the fact that the parents in this case tried to shelter their son and daughter, and the police only obtained information from the Board of Guardians, who subsequently took charge of the patient, does not in the least alter our opinion.

II. Our correspondent was called in early one morning to see a young man, a complete stranger, who had a bullet in his brain. The surgeon who subsequently saw him with "Caer Brito" agreed that it was no part of their duty to inform the police, thereby exposing the patient to harassing legal inquiries. After the operation the patient informed them that the wound was self-inflicted, but the medical men suspected at the time that this might be untrue, and that he was endeavouring to shelter another person. They advised the father of the patient to consult a solicitor, and he thought no useful purpose could be served by informing the police; so the matter dropped.

*** We are of opinion that in this case also the correct course was taken.

III. An aged medical man, stranded in a large city, is approached by a medical electrician, claiming to be an M.D. of New York, who has recently opened an institute in that city, with a view to his becoming his assistant to diagnose his cases. Does the medical man lay himself open to the charge of "covering" or of "infamous conduct in a professional respect" if he accepts the medical electrician's offer?

*** Undoubtedly he does; and it makes no difference whether the electrician advertises himself by laudatory puffs in the local papers, or by the distribution of handbills or pamphlets, so far as the question of "covering" is concerned, which in itself constitutes "infamous conduct," and renders him liable to be struck off the *Register*.

MEDICAL ETIQUETTE AT POLICE STATIONS.

ETIQUETTE writes: (1) A man is arrested for drunkenness on licensed premises and taken to police station. A., a medical man, is asked to see him, and does so. After examination A. gives a certificate stating, "Suffering from effects of alcohol." The police are not satisfied with this, so send for B., another medical man, who gives a certificate "Drunk and incapable." Is it professional etiquette for B. to give this certificate or any certificate, having seen A.'s certificate, without consulting A.? (2) A [illegible] is arrested for drunkenness and taken to a police station. After he has sobered he demands a doctor, and pays him his fee for an opinion which is proved to be unfavourable—namely, "Drunk." The man not being satisfied, asks for another doctor, who comes an hour afterwards, and although he sees the first doctor's certificate, pronounces the same. Would the second doctor acting professionally without consultation with the first doctor?

*** (1) The police recognize only two conditions, "drunk" or "sober," and police work could not be carried on if consultations were to be insisted on. (2) This second case illustrates what we have said above as to the difficulty of holding consultations in police stations. The prisoner would certainly have refused to pay a fee to the doctor who had pronounced him drunk.

NOISE.

A [illegible] by the Supreme Court of Massachusetts [illegible] of the BRITISH MEDICAL JOURNAL. From time to time [illegible] made to the Queen's Bench High Court or to Justices to restrain noisy persons who, to the neighbourhood concerned, cause unnecessary disturbance they create, [illegible] unbearable and contemptible to their quiet neighbours [illegible] persons may have remedy obtained in vain. It [illegible] that a medical practitioner would be among those who need the assistance of the law in this particular. There are two pertinent decisions given by recent years, both in favour of the medical practitioner who [illegible] been unable after reasonable requests, to secure the silence necessary for the careful examination of his patients. In one Mr. Justice Farwell, in County of Kent, forbade a tradesman vendor to advertise his wares by excessive shouting; it has lately been held, however, that the smell arising from the exercise of this trade is not a common-law nuisance. The other case, Bridgman v. Jay, was one in which a medical man objected to the continual noise made by a neighbouring confectioner who used a pestle and mortar for trade purposes.

OBITUARY.

WILLIAM JONES MORRIS, M.R.C.S.Eng., L.R.C.P.Edin., J.P.,

Member of Council, British Medical Association; Honorary Secretary and ex-President, North Wales Branch.

It was with deep sorrow and profound regret that we had to record last week the death in London on Sunday, October 15th, of Mr. W. Jones Morris, in his fifty-eighth year.

Born at Portmadoc in 1848, he received his early education at the Carnarvon Grammar School and the Liverpool Institute. After a term of apprenticeship with Dr. Samuel Griffith, Portmadoc, he studied medicine at Anderson's College and the University of Glasgow, obtaining the diplomas of M.R.C.S.Eng. in 1870 and L.R.C.P.Edin. in 1872. He filled the offices of House Surgeon and House Physician at the Glasgow Royal Infirmary, House-Surgeon at the Glasgow Lock Hospital, Assistant Surgeon to the Glasgow Ophthalmic Institute, and subsequently Resident Medical Officer to the Liverpool Dispensaries.



Returning to his native town, he commenced practice, and, owing to his ability, geniality and kindness, rapidly succeeded. He was Medical Officer and Public Vaccinator to the Tremadoc District of the Festiniog Union, and his many acts of kindness in that capacity will be long remembered by the poor of his district.

Jones Morris was one of the most active and well-known members of the British Medical Association. For many years he had been the representative of the North Wales Branch on the Council of the Association, and was a regular attendant at its meetings. In the North Wales Branch he was a great personality; for upwards of twenty years he had been Honorary Secretary, and when, in 1899, the Branch celebrated its jubilee, he was unanimously elected President for that year. His Presidential Address, which dealt mainly with subjects of ethical and political importance to the profession, was marked by sound thought, mature judgement, and a thorough knowledge of the wants of his profession. (It was published in the British Medical Journal of September 2nd, 1899, p. 615.) At the close of that memorable meeting he entertained the members and their friends at a garden party with that unbounded hospitality which his generous nature was ever wont to show.

He was a man of wide general knowledge and sound common sense. Whether speaking at the meetings of the British Medical Association or upon the public platform, whether the subject was clinical, ethical, or one of public concern, he entered into it with ardour and intensity, and evinced a thorough grasp of the subject, and wide experience. He early threw himself heart and soul into public life, more especially into the cause of education. He was a member of the Council and a Governor of the University College of North Wales, a co-opted member of the Carnarvonshire Education Committee, a member of the Local Governing Body of the Portmadoc County School, and for many years a member of the School Board. He was always ready to speak for, to work, and to contribute liberally towards the education of the youth of the country he loved so well. He was a Justice of the Peace for Carnarvonshire, Chairman of the Portmadoc Urban Council, and a representative of that body on the Carnarvonshire Combined Sanitary Authority, in which capacity he did conspicuous service in the cause of sanitary reform.

For many years he was an ardent volunteer, holding the rank of surgeon-major in the 3rd V.B. Royal Welsh Fusiliers, and it was only last year, owing to ill-health, that he resigned his commission, being allowed to retain his rank and wear the uniform of his corps on retirement. He was one of the most prominent Freemasons in the Principality, a Past-Master of the Madoc Lodge, and this year Senior Grand Warden in the Provincial Grand Lodge of North Wales, also a Past Grand Warden in the Provincial Mark Lodge, and a Past Grand Second Principal in the Provincial Royal Arch Chapter.

In politics a staunch Conservative, he was at one time mentioned as a probable candidate for Parliamentary honours. A zealous and consistent Congregationalist, many a weak church is indebted to him for much valuable support, and the temperance cause found in him an ever-ready advocate.

It was about five years ago that the malady which ultimately proved fatal commenced, and, although laid up for months at that time, he was subsequently able to resume his professional work and to take an active part in public life; but his more intimate friends knew the suffering he endured with such fortitude and the amount of pain hidden under that cheerful exterior, and can therefore more fully appreciate the sacrifice he made in his devotion to duty even to the very end. A carriage accident a few months back aggravated his complaint, so that he ultimately decided upon undergoing a surgical operation. This was most successfully performed by his friend, Mr. Pardoe, and for a few days all seemed to be going on well; on Saturday, October 14th, a change suddenly took place, and he passed peacefully away the following day.

An excellent public speaker, a true friend, a humorous and genial companion, a man who filled so many spheres of usefulness, and filled them all so well, one who so unselfishly devoted his life for the good of his profession, and one whose kindness of heart and charity knew no bounds, the loss of such a man both to the profession and to the Principality is, indeed, a great one, and leaves a gap difficult to fill. His memory will always be fondly cherished by all those whose privilege it was to know him as "one of the best."

Jones Morris worked hard: whatever he undertook he did it thoroughly, and with a devotion that knew no reserve. Now

he rests in the quiet country churchyard of Llanfihangel-y-Traethau, amidst his native hills, where all that was mortal of him was laid by a large and sorrowful assembly on St. Luke's Day, October 18th. He was unmarried, but leaves seven brothers and innumerable friends to mourn his loss.

H. J. R.

Dr. EMYR OWEN PRICE, President of the North Wales Branch, writes:

I know that the sympathy of the whole British Medical Association goes out to our Branch and to our country in their grief for the good and faithful servant who has gone to his rest.

Mr. Jones Morris lived a full life. He worked for his generation in so many capacities that his sudden taking off will affect keenly most parts of North Wales. The place he filled in the public service was a large one. The District Council of his own town found in him an energetic, painstaking administrator and a zealous, determined promoter of sanitation.

He was an ardent educationist. Englishmen can scarcely realize what this means in Wales, where there has been so much to do in the building up of a new educational system. That band of workers who have done such noble work for Welsh education, and who in this respect made Wales the "envy of less happier lands," found in Jones Morris a valued and faithful comrade. Here, though a consistent Conservative, he belonged to no party or sect. Far above the tumult of their warring he played a gallant part in planting that educational ladder which now enables Welsh children of promise to ascend from the primary, through the secondary schools, to the university colleges. The children and the youth of his country will owe much to Jones Morris.

Upon the Court of Governors of the North Wales University College he represented the North Wales Branch from the start, and for many years upon its Council he did yeoman service. The college and the friends of education generally will mourn the loss of his unique personality. He was on the field early in the history of the Welsh Educational Renascence, and he died in harness.

It was, however, in the service of the Association that the zeal and enthusiasm of his nature had freest play, for it was ever nearest and dearest to his heart. He was for years our Secretary and our Representative on the Council. Never did he spare himself in either capacity. He believed thoroughly, as I think we should all believe, that to increase the power and influence of our Association is ultimately to benefit every individual practitioner, raising and upholding his dignity and legitimate influence in the country.

We might almost say he was all in all to us of this Branch, for he was its life and soul. For the moment we are like sheep without a shepherd. We had grown to love him very dearly. He was not a great man; but, oh, he had a heart of gold. Not a great leader of men, perhaps; but he was a welder of men. He could amalgamate together incongruous elements, as few men—even greater men—could. I think this was because there was so little gall within that bluff exterior of his. True, he had enough to "make oppression bitter," but no more. Mere opposition bred in him no bitterness. He overcame or yielded to it without one trace of pain remaining. When he joined in debate, your readers, many of them, may recall the times, his speech was freshening as a breeze from his native hills.

A man like Jones Morris, with his endless various activities, his vigour, his energy, and his tremendous staying power, all tempered by a never-failing humour, a kindly and peculiarly genial nature, was one in ten thousand, a rare gift to his generation. We are sad to think we shall clasp his hand no more. His life and example has stimulated many men to more strenuous living for the public good. May many also make what might well have been his motto theirs—fidelity, fidelity, fidelity.

Mr. EDMUND OWEN writes: In answer to your request that I should send you a few lines about our friend Jones Morris, I would say that from the time that I first came to know him, now many years ago, I was struck with the strong, practical interest which he took in the affairs of the British Medical Association, and also in the welfare of the medical profession in Wales. No trouble was too great for him in the furtherance of these matters, and no expense too serious. A very long while ago he told me that his journeys to and from the meetings of the Council and other matters in connexion with the affairs of the Association were costing him over a hundred pounds a year, and it is only since the Association has obtained its new Constitution that this very considerable expense has been modified. But he never made complaint, doing everything as a pleasure as well as a duty.

As a member of the Council Jones Morris was excellent. He was very regular in his attendance, and though he had—like a good Welshman—strong views on all the important questions which came forward, he was not in the habit of making long speeches nor asking to be heard in every discussion. Were all members of the Council like him there would probably be no need either of prolonged sittings or of the more frequent meetings of the Council to which we have to reconcile ourselves.

One word with regard to his last illness. It was no secret to his medical friends that Jones Morris was seriously troubled with prostatic enlargement, and he recently told some of us that he had made up his mind to take the risk of seeing what Surgery could do for him. Subsequently he asked me if I would, as an old friend, come and stand by him in the time of his trial. This I was allowed to do; and I feel that I shall be divulging no professional confidence when I say that the suprapubic operation to which he was submitted by Mr.

Pardoe was done in the most masterly and perfect manner. I speak as one accustomed to the appreciation of surgical operations, and I say that this one went well from beginning to end, and, so far as one could see, left nothing to be desired. The patient completely recovered from the shock, and from day to day when I called to pay him friendly visits he expressed himself as being free of all pain and as looking hopefully forwards to making a complete recovery. At one of these visits our mutual friend, Mr. Mills Roberts, was present; he had specially come up from Wales to see him, and with myself was entirely satisfied with the progress made. Then, towards the end of the week, symptoms of suppression of urine came on, and the patient quietly and without suffering passed away.

Jones Morris was a dear, good fellow, and his loss will be felt not only by the Profession in which he was an unceasing and enthusiastic worker, but by a very large number of friends, who looked upon him as a man whose upright conduct and large-hearted and kindly view of those around him was such as each one of us would do well to try to copy.

Dr. James Barr (Liverpool) writes: As an old friend of Dr. Jones Morris of at least a quarter of a century duration, I should like to add a few words in appreciation of his merits, and express my sincere regret at the demise of one of the kindest-hearted men I ever knew. He was a distinct personality, and one beloved and trusted by all who knew him. He never had an opportunity of attaining any great eminence in his profession, but he was a well read man of sound judgement, and had a wide knowledge of the ways of the world. He was a strong Conservative, but never an aggressive politician, and had great toleration for the views of opponents. In Welsh educational matters he took a lively interest, and he was an ardent volunteer. In all social gatherings he was the life and soul of the party, and the man who did not know Jones Morris proved himself unknown. In the Council of the British Medical Association his good humour and strong advocacy of the North Wales Branch will be much missed. It is very difficult to think of the North Wales Branch apart from Jones Morris, and my sympathies extend to all the members of that Branch in the irreparable loss which they have sustained. Only a short time ago he was talking with lively interest of the prospect of a visit to Toronto next year.

The Hon. OTHO GALGEY,

St. Lucia.

The medical profession in the West Indies lost this summer one of its best known members in the person of the Hon. Otho Galgey, who died with great suddenness at Castries in St. Lucia shortly after his return from a round of work. Although Dr. Galgey devoted the whole of his professional life to the West Indies, he was an Irishman by birth and remained an excellent specimen of his talented race to the end. Born at Cork in 1849 Otho Galgey was educated at the Jesuit College of Clongowes and studied medicine in Dublin. There he became L.R.C.S. in 1871 and in the same year L. and L.M. of the College of Physicians, proceeding to the Membership of the latter College in 1886. In 1872 he obtained an appointment on the medical staff of the Government of St. Vincent, and in 1879 he was promoted to the post of Assistant Colonial Surgeon of St. Lucia. This post he held until the reorganization of the medical department last year, when he was appointed Medical Officer of the 1st district of the island, and was selected by the Government to serve as one of the official members of the Legislative Council, a position which carried with it the title of Honourable. In addition, he was Chairman of the Quarantine Board, and a member of the Medical Board of the island. The official positions which he occupied were thus of importance, and the place which he filled in public esteem was not less prominent. During the twenty-six years that he practised in Castries the community learned to depend upon him not only as a reliable medical adviser, but as a kind friend, while his professional brethren found him a pleasant colleague and society at large a willing and excellent host. His residence, Loretto House, was ever a popular place for social reunions. His loss, therefore, has been severely felt by all classes, while it was made the subject of special reference in the Legislative Council Chamber. A resolution recording the loss which the Chamber and community had sustained was there moved, on the initiative of the Governor, and the member who proposed it referred to Dr. Galgey as a man whose name had become synonymous with ability, integrity, and kind-heartedness. Although much occupied by official duties and the cares of practice, Dr. Galgey found time to keep himself abreast of scientific progress. In particular, he wrote three excellent papers on some of the parasitic diseases to be found in the West Indies. Two of these were published in the Journal of the British Medical Association, of which he was long a member, and in one of them Dr. Galgey dealt at length with the anaemia of the West Indies, and showed that it was due to ankylostomiasis. Dr. Galgey was married, and left a widow and some children, with whom great sympathy has been felt and expressed in the island in various ways.

ROBERT SOMERVILLE, J.P., M.D.Edin., F.R.C.S.Ed.,

Galashiels.

We regret to announce the death of Dr. Somerville of Galashiels, which occurred at his residence, Abbotsford Road, on October 16th, after a long and painful illness. He was in his 70th year. Dr. Somerville was educated at the University of Edinburgh, taking the M.D degree in 1859. He was elected a Fellow of the Edinburgh College of Surgeons in 1889, and about the same time was appointed a J.P. of Selkirkshire. After taking his degree he acted as assistant in Innerleithen for some time, then took up the practice of the late Dr. McDougal of Galashiels, where he continued to practise for forty-four years. As a student in Edinburgh University he had the good fortune to have as teachers Christison, Syme, Goodsir, Hughes Bennett, James Simpson, Allison, and Douglas McLagan. Like all men of that time, he was imbued with a professional enthusiasm which lasted to the end of his professional life. That the affection he felt for his Alma Mater was appreciated is shown by the fact that he was elected President of the Edinburgh Harveian Society. Enthusiasm was seen in everything connected with his life-work. In the welfare of the British Medical Association he was deeply interested, and in the work of the local Branch he was at all times ready to do his full share. He was for a time President of the old Border Counties Branch, served on its Council almost constantly, was its representative on the Central Council for a number of years, and was at all times ready to assist in any extra work that might arise. He was a ready speaker, and being widely read in all medical literature, and having a large and practical experience, his presence at the Branch meetings was always welcome, and his remarks on the subjects under discussion listened to with appreciation.

He enjoyed one of the largest and most lucrative practices on the Scottish Borders, and his work was at all times done with great punctuality, without omission or confusion. Few men have left behind them a more unanimous opinion of their worth. He had an unchallenged reputation for honourable feeling and rectitude; and a deep contempt for everything unfair or disingenuous. It was entirely opposed to his nature to do a questionable act, or to follow a questionable course.

Notwithstanding his busy professional life, he found time to take his share of public work. He was one of the first Commissioners appointed to represent the burgh, and from 1885 to 1894 was a member of the School Board, and for the greater part of that time was Chairman. He was one of the originators of the Galashiels Cottage Hospital. He took a deep interest in the British Medical Benevolent Fund, and acted as Honorary Local Secretary for it.

His funeral on Wednesday, the 18th, was one of the largest ever seen in Galashiels, and included amongst the mourners were many of his professional brethren from the surrounding district.

He is survived by a widow, three sons, and three daughters. His eldest son, Dr. James Somerville, succeeds him in his practice.

THE LATE MR. JOSEPH COLLIER.

The Committee of the Royal Infirmary have passed the following motion regarding the late Mr. Joseph Collier: The Board recorded their "high appreciation of the professional skill and devotion to the interests of the Manchester Royal Infirmary constantly exhibited by the late Mr. Joseph Collier, F.R.C.S., honorary surgeon, and their sense of the very severe loss which the infirmary has sustained by his early death. They desire to assure Mrs. Joseph Collier of their heartfelt sympathy in her irreparable loss."

LIEUTENANT-COLONEL MAURICE HENRY SMITH, late Indian Medical Service, died on October 12th, aged 55. He was the only son of the late Henry Spencer Smith, F.R.C.S., and entered the Madras Medical Department as assistant Surgeon, March 31st, 1876, becoming Surgeon-Lieutenant-Colonel, March 31st, 1896, in which year he retired from the service. He was with the Burmese expedition in 1885-7 (medal with clasp), and with the Chin-Lushai expedition in 1889-90 (clasp).

DEATHS IN THE PROFESSION ABROAD.—Among the members of the medical profession in foreign countries who have recently died are Dr. Emil Burckhardt, Extraordinary Professor of Surgery in the University of Basel, one of the leading surgeons of Switzerland, aged 52; Dr. Akos Puky, Surgeon-in-Chief to the Red Cross Hospital at Buda-Pesth, and Lecturer on Surgery in the University; Dr. Hess, of Mainz well known as an ophthalmologist, and for many years Secretary of the German Ophthalmological Society, aged 74; Dr. Bayol, Representative of the Bouches-du-Rhône Department in the French Senate; Dr. Gregorio N. Chaves, Professor of Clinical Medicine in the Faculty of Buenos Aires; Dr. A. Cochez, Professor of Clinical Medicine in the Medical School of Algiers; Dr. S. Kostine, Lecturer on Physiology in the Medical Faculty of Odessa; and Dr. Henry Darwin Didama, for many years Dean of the School of Medicine of Syracuse University, and a founder of the New York State Medical Association, aged 82.

PUBLIC HEALTH AND POOR-LAW MEDICAL SERVICES.

CARE AND CONTROL OF IDIOTS AND EPILEPTICS.

THE Royal Commission on the Care and Control of the Feeble-minded has resumed its meetings, although five of its members are absent on a tour of inquiry in America. The first sitting after the summer interlude was held on October 13th, when evidence was received from Dr. Francis Warner, Physician to the London Hospital; Dr. Robert Hutchison, Assistant Physician to the same institution; Dr. W. Bevan Lewis, Medical Director of the West Riding Asylum; and Alderman J. Wycliffe Wilson, of Sheffield.

Dr. WARNER, in allusion to the treatment of feeble-minded children, said that play, games, general activity, and the prevention of loafing encouraged spontaneity and variety in movement, and tended also to remove the awkward habits or repetitive "automatic actions" which were frequent among children. Imitation of the teacher's movements was most useful in early training. He believed that it was far more educative than clay modelling, drawing, and other child occupations, but it could only be practised by the child for a few minutes at a time. Exercises in hand and finger movements cultivated the faculty for mental action, appreciation of numbers and also writing, as well as useful manipulation. All children needed training in speech. Inheritance of tendency to decadence, epilepsy, insanity might lead to defectiveness; on the other hand, a degenerate parent might have a normal child. It was not infrequently found that genius, social success, and mental degeneracy were present in members of the same family.

Dr. ROBERT HUTCHISON discussed the causation of mental deficiency. From the study of upwards of 100 cases seen in hospital out-patient practice, he had come to the conclusion that we know nothing as to the cause of mental defect. He had not found that any of the commonly-alleged causes such as insanity in the parents or relatives, parental alcoholism, tuberculosis, syphilis, or consanguinity, were found more frequently in the family history of mentally defective children than in that of others. In the majority of cases only one child in the family was affected, the others being quite up to and often above the average of mental ability. Nor did the conditions of town life appear to play any part, for he had seen many cases born of healthy country-bred parents, and living under very good surroundings. Mongolism was the only common variety of mental deficiency of which one could speak definitely as to the conditions which favoured its appearance. It tended to occur in children born at the end of large families, or whose mothers were towards the end of the child-bearing period. As regards the great majority of cases of mental deficiency, however, he had come to the conclusion that they occurred, so to speak, purely accidentally, and might be compared to such congenital defects as hare-lip or congenital club-foot. Mental deficiency must be clearly distinguished from insanity; the latter tended to run in families, the former did not. Nor did he believe that there was any real basis for the popular belief that mentally defective individuals, if they married would of necessity be more likely to have defective offspring than normal persons. He did not believe that there was any evidence in support of this view; he was indeed under the impression that some statistics collected at the Bicêtre Hospital in Paris tended directly to contradict it. He believed that any attempt to prevent the occurrence of mental defect in a certain percentage of children born was impracticable. Such deficiency must be looked upon as one of the unfavourable variations which were bound to occur from time to time, and which must be dealt with accordingly.

Dr. W. BEVAN LEWIS considered that special classes should be provided for all feeble-minded children as they were unfit to make headway in the ordinary elementary schools; and they should, at the same time, be constantly so graded and regraded, as to ensure the utmost benefit that could ensue from the system of schooling and training adopted. The intermixture of certain groups of the mentally afflicted was absolutely inimical to their best interests and prejudicial to an intelligent treatment of individual ailments. The value of segregation and differentiation was steadily kept in view at his asylum.

Alderman WILSON thought some power of detention was imperatively necessary in order to deal with the feeble-minded effectively.

ROYAL NAVY AND ARMY MEDICAL SERVICES.

DENTISTRY IN THE ARMY.

ONE WHO KNOWS writes: It may be of interest to your correspondent, "Thorough," to know that his statement, "For our soldiers and sailors serving abroad nothing whatever is done," is misleading and erroneous, for I know that the senior medical officer at Standerton, South Africa, equipped a dental surgery at his station with everything to make it complete, including chair, dental engine, fillings, etc. Further, he had a dental surgeon appointed as honorary dental surgeon to the troops, arranged to have a visit each month, which was previously notified in garrison orders. All non-commissioned officers and men, with the women and children on the strength, had extractions and fillings done free, and dentures at contract rates, officers and others on payment. This system has worked during the last two years with most satisfactory results. At Pretoria and other stations dental surgeons fit soldiers with dentures, etc., at contract rates; so it would be better before "Thorough" writes again that he makes himself certain of all the facts at issue.

SALARIES OF I.M.S. OFFICERS IN THE GAOL DEPARTMENT.

A RESOLUTION of the Government of India in the Home Department, dated Simla, October 6th, is published regarding the pay of appointments in the Gaol Department held by officers of the Indian Medical Service. It states that the Government of India have now received the final orders of the Secretary of State on this subject, and are pleased to notify that the following scale of consolidated pay has been sanctioned:

Inspectors General of Prisons.—Madras and Bombay, 1,800-50-2,000 rupees each; Bengal, 2,000 rupees; United Provinces, 1,800-50-2,000 rupees; Punjab, 1,800 rupees; Burma, 1,800 rupees; Central Provinces and Berar, 1,500 rupees.

Superintendents of Central Gaols (first and second class).—Lieutenant-Colonels (specially selected for increased pay), 1,550 and 1,450 rupees; Lieutenant-Colonels, after twenty-five years' service, 1,450 and 1,350 rupees; Lieutenant-Colonels, 1,400 and 1,300 rupees; Majors, after three years' service, 1,050 and 950 rupees; Majors, 950 and 850 rupees; Captains, after ten years' service, 800 and 750 rupees; Captains, after seven years' service, 800 and 700 rupees; Captains, after five years' service, 750 and 650 rupees; Captains, 700 and 600 rupees; Lieutenants, 650 and 550 rupees.

The Secretary of State has further decided: (1) That the scale will take effect from April 1st, 1904; (2) that officers already in the department may choose between the existing and the new scale, also with retrospective effect; and (3) that when the present pay of officers choosing the new scale is in excess of that therein laid down they may continue to draw their present salary until they become entitled to an increase under the new scale.

LONDON COMPANIES R.A.M.C.(VOL.).

ON Sunday morning last, in accordance with their annual custom, the London companies of the Royal Army Medical Corps Volunteers attended divine service at the Church of St. Bartholomew the Great, Smithfield. Having mustered at head quarters in Chilthorpe Street, the corps marched to the church, accompanied by the two spirited strains of their band. The service was conducted and the sermon preached by the Rev. Sir Borradaile Savory, Acting Chaplain V.M.S.C., and Honorary Chaplain to the corps. The musical part of the service was beautifully rendered by the choir, the men joining heartily in the singing. The Principal Medical Officer, London District, was present at the service, and afterwards inspected the corps at head quarters, expressing his satisfaction at the smartness of the corps, and distributing medals to those members who had earned them.

HOSPITAL AND DISPENSARY MANAGEMENT.

ROXBURGH, BERWICK AND SELKIRK DISTRICT ASYLUM.

Overcrowding.

AT this asylum there has been for many years a serious condition of overcrowding, which has, in the twelve months covered by the report of the Medical Superintendent, Dr. J. Carlyle Johnstone, been followed by the exceptionally high mortality and prevalence of pulmonary consumption generally ensuing from this condition. The many ill effects of overcrowding have been so often emphasized in these columns

that they do not require recapitulation, but we may quote, as showing the means adopted at this asylum to relieve this plethora of patients, the following passage from Commissioner Fraser's report:

Constant and praiseworthy efforts are made by Dr Johnstone to keep down, as far as possible, the growth of asylum population. Patients have been, and are being, sent out on probation or pass, with the object of testing their fitness for liberation. A large proportion of these patients do well and remain permanently at home, but in a percentage of cases mental changes occur which necessitates readmission to the asylum. A fact worthy of note is that 127, or 38 6 per cent., of the present inmates have been given a trial in the outside world and have had to be sent back. If those who are at present on probation or pass are added, the percentage of those who have been, and are being, tried at their own homes is 40 3 From these figures it can be concluded that there has been no undue detention. In spite, however, of these efforts, the number of pauper inmates is steadily increasing On January 1st, 1894 222 were in the asylum, and on January 1st, 1904, the number had risen to 305, an increase of 83 in ten years.

Unfortunately the social condition of the rural population of this district does not favour the extension of the system of the care of pauper lunatics in private dwellings beyond its present proportion of 15 8 per cent. so treated, which may be contrasted with the 18 7 per cent. for all Scotland.

To meet the need for fresh accommodation considerable extensions have been in progress for some time, some of which, indeed—the male hospital buildings—were to have been completed in July of last year, but are still unfinished. Dr. Johnstone hopes that the completion of these extensions will permit the accommodation of private patients, including those in somewhat straitened circumstances, in larger numbers than heretofore.

Statistics.

There were in the asylum on May 15th, 1904, 312 patients, and 10 more were absent on probation; 392 cases in all were under treatment during the year, and there remained in the asylum on May 15th, 1905 311, and 10 more absent on probation. During the year 70 cases were admitted (6.6 more than the average admissions of the previous ten years), of whom 54 were first admissions In a large proportion of cases those admitted suffered from more or less serious physical disease, their physical condition being in 20 per cent. good, in 63 per cent. bad, and very bad in 17 per cent. In 24 the attack was a first attack within three months of admission, and in 12 more within twelve months of admission; in 20 a "not-first" attack within twelve months of admission, and the remainder were either congenital cases or of more than twelve months' duration on admission They were classified as to the forms of mental disorders into: Mania of all kinds, 25; melancholia of all kinds, 32; dementia, 5; general paralysis, 4; acquired epilepsy, 2; and congenital or infantile defect, 2. Concerning the probable causes of insanity amongst the admissions, intemperance in drink was assigned in 18, or 25 7 per cent.; previous attacks were ascertained in 21; hereditary influences in 29 or 41 4 per cent.; old age and the menopause in 21, and "moral" causes in 16. During the year 30 were discharged as recovered, giving a recovery rate on admissions of 42 8 per cent., 6 as relieved (2 transferred to other asylums and 4 handed over to the care of relatives) and there were 35 deaths. This gives a death rate on the average daily numbers on the register of 10.7 per cent The deaths were due in 9 cases to cerebro-spinal disease, in 7 cases to diseases of the circulatory system, in 15 cases to diseases of the respiratory system, including 7 cases of cases of pulmonary consumption, in 1 case to perforation of the intestine, in 2 cases to general diseases, and 1 patient who escaped from the asylum was killed on the railway.

The only noticeable feature of this table is that, in addition to the 7 cases of death from pulmonary consumption, tuberculous disease is given as complicating other diseases in 6 other cases—that is, that 13 deaths, or over 37 per cent. of the total deaths, were wholly or in part due to tuberculous disease. The general health, as was to be expected from the overcrowding, was not good, and for the same reason, Dr. Johnstone says, the welfare and happiness of the patients and their care and treatment have been prejudiced.

INDIA AND THE COLONIES.

TASMANIA.

In July, 1904, a Royal Commission was appointed to inquire into the administration and other matters concerned with the General Hospitals, Hobart and Launceston, and the Hospital for the Insane, New Norfolk, Tasmania. Perusal of the report of the Commission makes it abundantly clear that the Commissioners have investigated the whole matter with the greatest minuteness and care, and also that the recommendations they have made, many of them sweeping reforms, were urgently required and, when put into effect cannot but greatly increase the good work which has been done in the past by these hospitals. The Commissioners were: Dr. J. S. C. Elkington, Chief Health Officer of Tasmania; Mr. F. R. Seager, Administrator of Charitable Grants; and Mr. J. W. Hughes, Audit Inspector; and they have made their report under two main headings, one dealing with the general hospitals and the other with the Hospital for the Insane.

General Hospitals, Hobart and Launceston.

These hospitals are State institutions heavily subsidized by Parliamentary vote, Hobart receiving £6 436 and Launceston £5 733 in 1903 out of public money; and whilst the Commissioners say that the most laudable economy and care have been exercised by the philanthropic and public-spirited men who have at considerable personal sacrifice undertaken the management of these institutions, they consider that the alteration in local conditions necessitate changes in their administration and greater attention to economy, in harmony with modern principles of hospital management. These hospitals were designed for the care and treatment of poor and destitute sufferers, but, they say, it is evident from the evidence given and the books examined that the Launceston Hospital, and to a less extent that at Hobart, have been treating patients well able to pay, thus competing with outside practitioners. From their report it appears that there has been an entire absence of any endeavour to enlist the sympathy and co-operation of the public served by the hospitals, and further that, so far as economy of working is concerned, much was to be desired. This is evident from a financial table in which the expenses of these hospitals and that of Ballarat are compared, all being fairly comparable in point of size and general surroundings. From this table we need only extract the one fact that the annual cost per occupied bed for 1903 was for Hobart £85 0s 10d, for Launceston £74 14s. 10d., and for Ballarat £49 2s. With regard to the internal executive, there was this difference between the two hospitals, that whilst at Hobart there appeared to be four responsible heads, namely, the Chairman of the Board of Management, the Secretary, the Senior Resident Surgeon, and the Matron, at Launceston the Surgeon-Superintendent was the sole responsible head. With regard to this latter post, the Commissioners pay high tribute to the medical and administrative capacity of its present incumbent, Dr Ramsay, but they say that the very fact of his professional skill and reputation, in conjunction with the terms of his appointment and the looseness of inquiry into the circumstances of patients, have rendered the Launceston Hospital a serious competitor with the medical, nursing, and pharmaceutical professions outside. The questions of buildings and equipment, fire prevention, provision for phthisical patients, etc., are considered, and many recommendations made, from which we extract the following:

1. The reconstruction of the Boards of Management.

2. The reduction from its present figure of £4,500 annually of the State grant for maintenance to a fixed subsidy of £2,500 annually, and an additional annual subsidy, not to exceed £1 500, depending on patients' fees, donations, etc.

3. The formation of hospital districts, one district to cover the natural supply area of each general hospital, and the empowerment and requirement of the local bodies within such districts to contribute a sum not exceeding 1 per cent. of their annual value for rating purposes.

4 The adoption of a uniform ticket of admission, the institution being required to thoroughly examine the declared particulars of each patient, to fix the amount (if any) each patient can pay, and in cases of imposition to prosecute offenders. They recommend, further, the appointment at Hobart of a medical superintendent as at Launceston, with, however, considerable modification in the latter post, delimiting more accurately the duties of this official. They do not, however recommend any modification of the terms of appointment of the present holder.

They also recommend the establishment of a sanatorium colony for consumptives of the poor and destitute classes, the inclusion of such cases in the wards as at present being unsafe, and the constitution of such sanatorium to be the result of co-operation of State, local, and private effort.

The late Dr. John Hall of Sheffield, who died on September 10th, at the age of 77, left estate of the value of £71 971.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 2, Agar Street, Strand, W.C., London; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

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CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

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☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

ANSWERS.

DISPENSING OF VERONAL.

DR. H. L. NOEL-COX (Eastbourne) writes: Respecting veronal, Dr. Hale White writes (on p. 1007 of the BRITISH MEDICAL JOURNAL of October 21st): "It is, however, insoluble, and should therefore be taken in a cachet." For those who object to cachets, the following method overcomes the difficulty: Each fluid drachm of sp. vini rectif. readily dissolves 5 grains (and more) of veronal, and a suitable dose of this solution is freely miscible with water. Thus used, it gives me complete satisfaction. If kept long in alcoholic solution, part of the veronal is apt to recrystallize.

LETTERS, NOTES, Etc.

SANITATION *v.* THE SANATORIUM TREATMENT AND SERUMTHERAPY.

DR. EDWARD DEAN MARRIOTT (Nottingham) writes: Be certain that whatever be the verdict of that "inner brotherhood" which cannot conceive sanitary progress, except in association with a lumbo or a squirt, the great body of practitioners will have read your article entitled "The Sanatorium and After" (BRITISH MEDICAL JOURNAL, October 21st, p. 1057) with unqualified approval.

Keeping in mind the enormous percentage of natural recoveries from various tuberculous lesions, as revealed in the *post mortem* room, we were getting a little impatient at hearing that every consumptive was doomed to death unless he elected to go through a course of sanatorium treatment, and more than impatient, in the light of this knowledge, at the published "recovery" statistics. But while your correspondents have been casting doubt on the value of this so-called "new treatment," and the specialist and the serumtherapist have been making the hearts of men sick with hope deferred, no doubt whatever exists in any mind as to the real way of preventing this disease, or that the way is that of sanitary betterment. In a leader in this week's *General Practitioner* (p. 654) this attitude is described as "tinkering." "We build sanatoria at enormous expense and make practically no attempt to grapple seriously with the disease by rendering its occurrence less possible. Practically preventive medicine remains in its infancy." This truth will be universally recognized.

We must direct our efforts to the eradication of the causes of consumption, the chief of which are the respiration of exhausted air and defective drainage. Local authorities must be encouraged to continue the good work already accomplished. A glance at the Registrar-General's returns from 1893 onwards—a period which covers a time of great activity in the matter of sanitary improvements—establishes the fact that the sanatorium movement, hampered as it was by financial difficulties and impossible situations, was without excuse. And it is open to question if much more can be said for the costly researches of the serumtherapist.

At the Paris Congress Professor Behring asked his hearers not to forget that the communication he was making that day bore a "singular resemblance" to that which he made in 1890 on A New Remedy against Diphtheria. His fellow savants would, no doubt, feel that it also singularly resembled another prematurely-made announcement—that of Dr. Koch. The latter set the scientific world ablaze and then died a natural death. But a word as to Behring's "singular resemblance." His antidiphtheritic serum, which has so enormously reduced the fatality of diphtheria, was announced in 1894, when the death-rate from that disease was 0.17. From 1891 onwards the figures run: 0.17, 0.21, 0.21, 0.24, 0.26, 0.29, 0.24, 0.24, 0.24, 0.29, 0.27, 0.23, 0.8, and 0.17. Of course there is no room here for dogmatism, but one may be permitted to wonder why so great a reduction in fatality should not have had some effect in lowering the mortality from this disease.

The conclusion you draw (p. 1058) is that the housing problem must be attacked with renewed vigour. All are agreed. But since the way to whole-sale clearance of so-called infected areas is blocked by the financial problem, our efforts must take the direction of preventing the creation of slums in the future. And here we shall encounter a difficulty in the habits of the slum population which makes slums of palaces and prefers life in the slums at a higher rental to decency in a municipal dwelling at a lower. In this city displaced slum dwellers never occupy the houses built for them, and working class dwellings built by the municipality after remaining totally unoccupied for 40 years, have been pulled down and carted away.

Consumption is a class disease, and the class affected—largely the author of its own sorrows—must be made to safeguard its own health. Much of the degeneracy which we deplore comes of teaching men to lean. When this class has learned thrift, cleanliness, sobriety, self-help, and duty to the family and the State, consumption will be a thing of the past. Teach this class to lean on the industry of others, build for it workhouses, sanatoriums, and isolation hospitals, compel ratepayers to feed its children at compulsory schools and generally convert its units into irresponsible, invertebrate creatures, and consumption will not be got rid of in a thousand years.

THE FIRST BRITISH SANATORIUM FOR CONSUMPTIVE CHILDREN.

DR. T. M. ALLISON (Newcastle on Tyne) writes: Dr. John C. Edmiston's interesting letter states that on July 17th, 1893, he appealed for a "home" for "children affected with sores, strumous and otherwise." May I courteously say that I fail to see the connexion between a home for sores and a children's sanatorium for consumption? From 1891 to 1893 the Newcastle Holiday Association were sending both lung and local cases of tuberculosis to country homes, till I stopped them going on the ground of infection. Whilst, therefore (when engaged in similar work), Dr. Edmiston was advocating a home for sores, I was advocating a sanatorium for consumptive children. The two tuberculous conditions are entirely distinct, and require separate buildings for treatment, a fact clear to Dr. Edmiston himself, whose appeal states that "The propriety of keeping these children (with sores) by themselves will be obvious to every one." His claim, therefore, to having founded the first British sanatorium for phthisical children obviously breaks down. Perhaps Dr. Edmiston would kindly give the name and date when his home for sores was opened, the date when the first phthisical case went, and who suggested the latter going there?

*** Dr. Edmiston's reply, if he thinks well to make one, may bring this correspondence to a close.

ASEPSIS AND ANTISEPSIS.

DR. T. LAFFAN (Cashel) writes: The British Medical Association would render an immense service to the profession if it would appoint a scientific Committee to investigate the above questions. It is now quite feasible to subject to the most exact physical tests the utility of asepsis and antisepsis. The whole profession, of course, is committed to these principles, and the most exact demonstrations may fail to turn the current of opinion from its present course. Still *magna est veritas et praevalebit.* At the Oxford meeting in 1904 several leading speakers threshed out the subject and you ably focussed their conclusions in able editorials. The following is simply a *précis* of the discussion at Oxford:

1. The advocates of antisepticism find an increasing difficulty in discovering a logical justification for their beliefs in the powers of antiseptics.

2. Sir William Macewen summed up as his experience that the best results were obtained by avoiding all chemicals for antiseptic purposes.

3. Further, heat at 27.9 has been pronounced to be the one efficient agent; but, then, what are we to think of the preparation of typhoid fever by fried fish? If the heat required for frying be incompatible with the lives of micro-organisms, how can such heat be applied to living tissues consistent with their continued vitality?

4. Dr. Burghard stated that the cocci of the skin penetrated deeper than it, and could not, therefore, be dealt with by antiseptics, and, to cap the climax, that these were non pathogenic.

5. Dr. Barling comforts us with the assurance that, however aseptic we may make the superficial tissues at the commencement of an operation, before its close they become thoroughly septicized by the working their way out of micro-organisms. A remarkable proof was given of this by the instance of a sterilized knife passed through the sterilized skin by a sterilized hand, and yet which, when withdrawn, on the instant was found covered with micro organisms.

6. Leading speakers admitted that the entire paraphernalia of sepsis and antisepsis can be carried on in private houses.

THE DUNCAN FUND.

DRS. KIRKPOP, RITCHIE AND KIRKWOOD (Belfast), writing on October 21st on behalf of the Committee of the Duncan Fund say: The balance of £10 4s. collected for the widow of Dr. Duncan of this city, making in all £60 4s., was handed to her this week. She desires us to thank the numerous medical men and other friends, who so kindly and liberally contributed towards the fund, which has helped in great measure to tide her over her immediate difficulties.

TREATMENT OF TETANUS.

DR. JASPER CREAGH (Pilar F.C. Pac fico, Buenos Aires) writes: After a long experience in the treatment of tetanus I have found that sulphur, given internally in 1 drachm doses every two hours, and the whole body rubbed with the strongest ointment of sulphur until well absorbed and until the patient's system is well saturated, will cure any case of tetanus, whether traumatic or otherwise. The last patient I had, though not seen for several days after the injury and spasms occurred, resulted as usual in recovery. I believe my remedy to be an antidote to the microbe of this awful disease, and would very much like to have it tried and reported on by others.

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OLIVER WENDELL HOLMES

AND THE

CONTAGIOUSNESS OF PUERPERAL FEVER

An Address delivered to the Trowbridge Division of the Bath and Bristol Branch of the British Medical Association.

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Some three or four months ago, your President, Dr. Haydon, my friend and former house-physician, expressed a wish that I would give an address to this Division some time during his occupancy of the chair. This request I felt it impossible to decline. The end of October was mentioned as a suitable time, and here I am.

Turning over in my mind how I could best utilize such an opportunity, it appeared to me that here at last had come my chance to fulfil an intention I had long cherished of reminding my professional brethren of the debt we owe to Oliver Wendell Holmes for his powerful, but I am afraid largely forgotten, essay on the contagiousness of puerperal fever.

No one who is acquainted with my teaching or writings or who remembers the active part I took some ten or twelve years ago as one of the Secretaries of the Semmelweis Memorial Fund in this country will suspect me of failing to recognize the great work, accomplished "with tears and travail," of that illustrious man.* It is possible, however, to do justice to Semmelweis and yet to be ready to acknowledge the work done by others in a similar direction.



Oliver Wendell Holmes (taken between 1845–50).

A Memorable Essay.

I purpose to-day to call attention afresh to Holmes's memorable essay, and to try to do something towards removing the reproach—not, I fear, entirely undeserved—that we English-speaking people on both sides the Atlantic,† whilst giving abundant honour to Semmelweis, have been in danger of forgetting the earlier and equally remarkable contribution to our knowledge of puerperal fever that we owe to one of our own kith and kin. This forgetfulness has been due, not so much, perhaps, to the overshadowing of Holmes's work by that of Semmelweis, as to the fact that the medical reputation of Holmes himself was put into the shade by the brilliant success he achieved in later years in general literature, and that his own profession came to be proud of him as the autocrat, professor, and poet at the breakfast-table, rather than as the fearless and outspoken defender of the life and health of the parturient woman. Holmes has himself left on record an account of the origin of the essay of which I am about to speak. At a meeting of the Boston (U.S.A.) Society for Medical Improvement, of which Wendell Holmes was a member, the stated business having been concluded somewhat early, one of the members, in order to fill up the time, reported an incident that had recently occurred in the neighbourhood. A physician had made a *post-mortem* examination of the body of a puerperal fever patient, and had himself died in less than a week apparently in consequence of a wound received at the examination. In the meantime, he had attended several women in confinement, all of whom were said to have been attacked with puerperal fever. The discussion that followed the relation of this case made it clear to Holmes that "a fuller knowledge of the facts relating to the subject" was much needed, and he therefore felt that it would be doing a good service "to learn what experience had to teach in the matter." . . . He embodied the results of his inquiry in an essay which he read before the Society and which, at the Society's request, he subsequently published in the *New England Quarterly Journal of Medicine and Surgery* for April, 1843. As this Journal had only a very restricted circulation and died a natural death when it was but a year old, the essay was practically buried, and until its reissue, with additions, in 1855, cannot, as Holmes himself acknowledged, be said to have been brought fully before the profession.

The Evidence it Contains.

Let me try to give an epitome of the evidence contained in this essay and of the arguments founded upon it, and I will do so as far as possible in the author's own words. The essay commences, then, with the statement that the present inquiry has not been undertaken because of any doubt in the minds of well-informed members of the medical profession "as to the fact that puerperal fever is sometimes communicated from one person to another, both directly and indirectly." Such doubts the author would consider "merely as a proof that the sceptic had either not examined the evidence, or, having examined it, had refused to accept its plain and unavoidable consequences." "It signifies nothing," he says, "that wise and experienced practitioners have sometimes doubted the reality of the danger in question; no man has the right to doubt it any longer. No negative facts, no opposing opinions, be they what they may or whose they may, can form any answer to the series of cases now within the reach of all who choose to explore the records of medical science." In regard to the relevancy of negative facts he reminds his readers that "children that walk in calico before open fires are not always burnt to death." The instances to the contrary may indeed, like other truths, be "worth recording"; but not "if they are to be used as arguments against woollen frocks and high fenders."

There is another criticism that he foresees and forestalls. "It may be said that the facts are too generally known and acknowledged to require any formal argument or exposition." This objection he sweeps aside by a reference to two of the

* The credit of having been the first to make known in Great Britain the work that Semmelweis was doing in Vienna belongs to Dr. C. H. F. Routh, who, on his return in 1848 from a visit to that city, read a paper on the subject before the Royal Medical and Chirurgical Society of London (see *Med. Chir. Trans.*, 1849). In 1886 Dr. Theodore Duka, a fellow countryman of Semmelweis, contributed to the *Lancet* a most interesting and sympathetic account of his life and labours, founded on the more elaborate work of Bruck, which had then recently been published. Dr. Duka's paper was afterwards reissued in the form of a pamphlet.

† Two of the latest and most important American textbooks of obstetric medicine do not even mention him.

leading American obstetric treatises of the time: In one of these, *Dewees on the Diseases of Females*, a book at that time of very wide repute throughout the United States, it was expressly stated, in the very latest edition, that so far as that country was concerned, puerperal fever had not hitherto appeared under any circumstances that afforded "the slightest ground for the belief that it is contagious." In the other, *The Philadelphia Practice of Midwifery*, a work of scarcely less authority than Dewees, not one word could be found "in the chapter devoted to this disease, which would lead the reader to suspect that the idea of contagion had ever been entertained."

Having thus shown the need for the inquiry, he proceeds to formulate the thesis which, at its close, he finds himself in a position to defend. This thesis he presents in the following words: "*The disease known as puerperal fever is so far contagious as to be frequently carried from patient to patient by physicians and nurses.*"

Before submitting direct evidence in support of this statement he rids himself of certain *impedimenta* in the shape of side issues. For example, he at once admits the possibility that what is called puerperal fever may not be equally contagious in all its forms. He refuses to "enter into any dispute about the particular *mode* of infection, whether it be by the atmosphere the physician carries about him into the sick-chamber, or by the direct application of the virus to the absorbing surfaces with which his hand comes in contact."

He points out that it is not necessary in order to prove his thesis that "the contagion of puerperal fever must always be followed by the disease," it being "true of all contagious diseases that they frequently spare those who appear to be fully submitted to their influence." He grants, more readily perhaps than we should do nowadays, "that the disease may be produced and variously modified by many causes besides contagion, and more especially by epidemic and endemic influences."

And having thus cleared the air, he marshals his witnesses and proceeds to build up a mass of evidence, which, though its cogency was doubted at the time, as we shall presently see, has now long been acknowledged to be far beyond the reach of refutation. Let us very briefly pass this evidence in review. Some of the witnesses are familiar to us. Of these, most, if not all, are our own countrymen. But there are also witnesses—mostly American—whose evidence, though equally striking, has not found its way into our treatises and textbooks, and has not, therefore, in the same sense become common property. We will take, first, as the writer himself does, certain British witnesses, beginning with that fine old eighteenth-century surgeon, Charles White of Manchester.

The Witnesses Cited.

"I am acquainted," says White (1773), "with two gentlemen in another town, where the whole business of midwifery is divided betwixt them, and it is very remarkable that one of them loses several patients every year of the puerperal fever, and the other never so much as meets with the disorder." That the full significance of this circumstance was not perceived at the time, even by White himself, does not diminish its value as a piece of evidence. Then comes the more personal testimony of Dr. Gordon of Aberdeen,* published in 1795, which, though it has been quoted over and over again, is still worth repeating, not only because of its early date, but also because, as Holmes points out, Gordon's "expressions are so clear," and "his experience is given with such manly distinctness and disinterested honesty." "This disease," he says, "seized such women only as were visited or delivered by a practitioner, or taken care of by a nurse, who had previously attended patients affected with the disease." "I had evident proofs of its infectious nature and that the infection was as readily communicated as that of the small-pox or measles and operated more speedily than any other infection with which I am acquainted." "I had evident proofs that every person who had been with a patient in the puerperal fever became charged with an atmosphere of infection which was communicated to every pregnant woman who happened to come within its sphere." "It is a disagreeable declaration," he adds, "for me to mention that I myself was the means of carrying the infection to a great number of women." He cites a number of instances in which the disease was conveyed by midwives and others, and says: "These facts fully prove that the cause of the puerperal fever . . . was a specific contagion, or infection, altogether unconnected with a noxious condition of the atmosphere." But the most startling of his statements is still to come. "I arrived," he says, "at that certainty in the matter, that I could venture to foretell what women would be affected with the disease upon hearing by what midwife they were to be delivered, or by what nurse they were to be attended, during their lying-in; and almost in every instance my prediction was verified," a piece of evidence so terrible that Holmes printed the quotation in capital letters.

Armstrong of Sunderland.

The next witness summoned is Dr. Armstrong, of Sunderland, the author of a well-known essay on puerperal fever, in which he describes 43 cases as having occurred in Sunderland between January 1st and October 1st, 1813, of which number 40 were the patients of a single practitioner, and were all attended by himself and his assistant, whilst the remaining 3 were distributed amongst the same number of accoucheurs. The practitioner in whose practice the fever made such ravages had no hesitation in asserting that the disease, as it appeared in his practice, was highly contagious, and was communicable from one puerperal

* The present Professor of Midwifery in the University of Aberdeen—Dr W. Stephenson—has caused the following inscription to be painted on the wall of his class room: "The infectious nature of puerperal fever was first demonstrated by Dr. Alexr. Gordon, Aberdeen, 1795." A short notice of Gordon, by his grandson, the late Professor of Materia Medica in Aberdeen, will be found in one of the volumes of the (old) Sydenham Society, entitled *Essays on the Puerperal Fever and other Diseases Peculiar to Women; Selected from the Writings of British Authors Previous to the Close of the Eighteenth Century*. Edited by Fleetwood Churchill. London, 1849. This volume also contains a reprint of Gordon's pamphlet.

woman to another. Like Dr. Gordon, he scorns to avail himself of any sheltering theory about epidemics or drains, and boldly and manfully makes his confession "However painful to my feelings," he writes, "I must in candour declare that it is very probable the contagion was conveyed in some instances by myself, though I took every possible care to prevent such a thing from happening the moment that I ascertained the distemper was infectious."

Other Evidence.

It would be tedious to give in detail the testimony of all the British witnesses much as I should like to do so. Let it suffice to say that statements of a precisely similar character to those already given are quoted from Davies, Gooch, Ramsbotham, Roberton, Blundell, Hutchinson, King, and Lee. The account by the second William Hey, of Leeds, of an outbreak which occurred in that town and its vicinity in the years 1809-12, Holmes does not appear to have seen.

"The recurrence," he says, "of long series of cases like those I have cited, reported by those most interested to disbelieve in contagion, scattered along through an interval of half a century might have been thought sufficient to satisfy the minds of all inquirers that here was something more than a singular coincidence. But if, on a more extended observation, it should be found that the same ominous groups of cases clustering about individual practitioners were observed in a remote country, at different times, and in widely separated regions, it would seem incredible that any should be found too prejudiced or indolent to accept the solemn truth knelled into their ears by the funeral bells from both sides of the ocean, the plain conclusion that the physician and the disease entered, hand in hand, into the chamber of the unsuspecting patient."

That such series of cases *had* been observed in the United States and even in his own immediate neighbourhood, he then proceeds to show. "Certainly nothing," he says, "can be more open and explicit than the account given by Dr. Peirson of Salem of the cases seen by him. In the first nineteen days of January, 1829, he had five consecutive cases of puerperal fever, every patient he attended being attacked and the first three cases proving fatal. In March of the same year he had two moderate cases, in June another case, and in July another, which [last] proved fatal. 'Up to this period,' he remarks, 'I am not informed that a single case occurred in the practice of any other physician.'" It appears that Dr. Peirson had altogether in his practice 20 cases of puerperal fever, of which 4 were fatal.

In the year 1842 the attention of the College of Physicians of Philadelphia was called to the prevalence of puerperal fever of a peculiarly insidious and malignant character in the practice of one of the Fellows of the College. Every woman that this physician had attended during several weeks past was said to have been attacked by the fever, while no instance of the disease had occurred amongst the patients of any other accoucheur practising within the same district.

Dr. Condie, who reported the circumstances, although disposed to be sceptical as to the contagious nature of many so-called contagious diseases, declared himself convinced by the facts that had come under his notice that the puerperal fever in the particular form it had on this occasion assumed was certainly communicable. The physician referred to (Dr. Rutter) stated that a succession of cases having occurred in his practice he went away for a week, but that he could not readily believe in the transmissibility of the disease from patient to patient or from physician to patient, inasmuch as one of the very first patients he attended after his return was attacked by the fever and died, notwithstanding that he had not used on that occasion any article of clothing he had used before.

These remarks were made on May 3rd, 1842, and in a letter dated December 20th in the same year, Dr. Rutter speaks of having had a personal experience of nearly seventy of these "horrible cases," all of them within the past twelve months.* The obstetric physician to whom this letter was addressed suggests that this experience of Dr. Rutter's was in all probability simply due to the fact that the midwifery practice of the district was largely in his hands.

At another meeting of the same college "Dr. Warrington stated that a few days after assisting at an autopsy in a case of puerperal peritonitis in which he ladled out the contents of the abdominal cavity with his hands, he was called upon to deliver three women in rapid succession." All were attacked with puerperal fever. Soon afterwards "he saw two other patients, both on the same day, with the same disease. Of these five patients two died."

At the same meeting Dr. West related that Dr. Samuel Jackson, whilst practising in Northumberland County (U.S.A.) attended, in rapid succession, seven women who were all attacked with puerperal fever and of whom five died. "Women," said Dr. Jackson, "who had expected me to attend upon them, now becoming alarmed, removed out of my reach, whilst others sent for a physician residing several miles off. These women, as well as those attended by midwives, all did well." Only two other cases of death in childbed were known to have occurred during the same period within a radius of 50 miles, and both these deaths were afterwards ascertained to have been caused by other diseases. Dr. Jackson "underwent, as he thought, a thorough purification, and still his next patient was attacked with the disease and died. He was led to suspect that the contagion might have been carried in the gloves which he had worn in attendance upon the previous cases. Two months or more after this he had two other cases. He could find nothing to account for these unless it was the instruments for giving enemata, which had been used in one or two former cases, and were employed by these patients. When the first case occurred he was attending and dressing a limb extensively mortified from erysipelas, and he went immediately to the accouchement with his clothes and gloves most thoroughly imbued with its effluvia."

Up to this point the evidence adduced has been gathered entirely from published records. The next three items of evidence were now made public for the first time. All the cases referred to occurred in the State of Massachusetts, and two of the three series "in Boston and its immediate vicinity."

The history of the first of these three series is as follows:

On March 10th, 1842, a physician, Dr. C., made a *post-mortem* examination in the case of a man who had died after an illness of only forty-eight hours "with oedema of the thigh and gangrene extending from a little above the ankle into the cavity of the abdomen." Whilst conducting the autopsy Dr. C. wounded himself slightly in the right hand. During the night immediately following he attended a patient in labour, the wounded hand being at the time very painful. The woman died of puerperal fever on the 24th. Dr. C. was unable to visit her after the confinement, being himself ill from the wound in his hand and unable to leave the house until April 3rd. On April 9th he delivered another patient, who died of childbed fever on the 14th. On April 10th and 11th he delivered two other patients, both of whom died, one on April 14th and the other on the 18th. On April 27th he attended a fifth patient, who died on May 3rd. On April 28th he delivered another woman who developed symptoms of puerperal fever, but recovered. He now left town for a few days, but on May 8th he again attended a confinement. This patient, the seventh of the series, became ill, but recovered. About July 1st this same doctor was called to deliver a patient in a neighbouring village. The woman died in two or three days. No other cases occurred at the time in the practice of any of the physicians in the town or vicinity. The nurse who laid out the body of the third patient was seized the same evening with sore throat and erysipelas from which she died in ten days. The nurse who had laid out the body of the fourth patient was taken ill the following day, and died in a week. Several cases of erysipelas occurred in the house where the autopsy mentioned above took place, soon after the examination. It may be mentioned as a remarkable circumstance that Dr. C.'s partner, who assisted at the autopsy and was in attendance upon all the cases of erysipelas that followed it, had 12 midwifery cases between March 26th and April 12th, the patients all making a normal recovery.

The second series of cases that Holmes now for the first time placed on record occurred in the year 1830.

A doctor attended a patient on February 4th, and she died on the 12th. During the following month the same physician delivered eight women, all of whom did well with one exception. This patient was confined on February 28th and died on March 8th. The doctor inspected the body on the 9th, and the night after he attended a lady, who became ill, and died on the 16th. On the 10th he attended another patient, who sickened but recovered. On the 16th he went direct from this patient's room to another confinement. The lady became ill and died on the 21st. On the 17th he made an autopsy in one of the fatal cases. On the 18th he delivered another lady, who sickened, and died on the 22nd. This made 6 cases with only one recovery. He now refused to attend any labour until April 21st, when, having thoroughly cleansed himself, he resumed his practice, and had no more puerperal fever.

He had had some previous experience of puerperal fever in his practice, but until now he had not entertained any suspicion that the disease could be communicated. When a few years afterwards he met with another series of cases, he tells his friend Dr. Storer, that he was so fully convinced of the communicability of the disease, that whilst in attendance on the cases he changed his clothes, and washed his hands in a solution of chlorinated lime* after each visit.

The third series of original cases mentioned in Holmes's

* *Medical Examiner*, Philadelphia, January 21st, 1843.

* It will be remembered that solution of chlorinated lime was the disinfectant used by Semmelweis.

essay occurred in his own city of Boston in the summer of 1842. A physician lost five cases in succession from puerperal fever between May 7th and June 17th. For two weeks previous to his first case he had been attending a severe case of erysipelas.

"This long catalogue of melancholy histories," says Holmes, "assumes a still darker aspect when we remember how kindly Nature deals with the parturient female when she is not immersed in the virulent atmosphere of an impure lying-in hospital, or poisoned in her chamber by the unsuspected breath of contagion."

He next goes on to "mention a few instances in which the disease appears to have been conveyed by the process of direct inoculation." He refers, for example, to the well-known story of Dr. Campbell of Edinburgh, who, in October, 1821, assisted at a *post-mortem* examination in a case of puerperal fever, carrying the pelvic viscera in his pocket to the class-room. The same evening he attended a woman in labour, and he was called to a second the following morning. Both these patients died, as well as three others whom he delivered within the next few weeks. Many others of his patients were seized with puerperal fever, and though they escaped with their lives, they did so only after a long illness.

This was not Dr. Campbell's only experience of the kind. "In June, 1823, he assisted some of his pupils at the autopsy of a case of puerperal fever. He was unable to wash his hands with proper care, for want of the necessary accommodation." On reaching home he found that two midwifery patients had sent for him. He went to their assistance without washing his hands or changing his clothes; "both these patients died with puerperal fever."

Further instances of a similar character are quoted from Roberton, Ingleby, Rigby, Merriman and others.

In an unsigned article in the *British and Foreign Medical Review* for January, 1842, said to have been from the pen of no less an authority than Dr. Rigby, there is narrated the following case:

> A young practitioner, contrary to advice, examined the body of a patient who had died from puerperal fever; there was no epidemic at the time; the case appeared to be purely sporadic. He delivered three other women shortly afterwards; they all died with puerperal fever, the symptoms of which broke out very soon after labour. He assisted to remove some coagula from the uterus of one of the patients of his colleague, and this woman was attacked in the same manner and died, whilst all the rest of his colleague's patients did well.

The case quoted from Dr. Merriman was related by him at a meeting of the Royal Medical and Chirurgical Society of London, and is worth briefly reproducing as it illustrates the risks an obstetrician runs of infecting his patients even if he is merely present at the *post-mortem* examination in a case of puerperal fever without taking any part in the manipulations. "Dr. Merriman was at the examination of a case of puerperal fever at two o'clock in the afternoon. *He took care not to touch the body.* At nine o'clock the same evening he attended a woman in labour; she was so nearly delivered that he had scarcely anything to do. The next morning she had severe rigors, and in forty-eight hours she was a corpse. Her infant had erysipelas and died in two days."

". . . add to all this," says Holmes, "the undisputed fact that within the walls of lying in hospitals there is often generated a miasm, palpable as the chlorine used to destroy it, tenacious so as in some cases almost to defy extirpation, deadly in some institutions as the plague, which has killed women in a private hospital in London so fast that they were buried two in one coffin to conceal its horrors . . . which has led Dr. Lee to express his deliberate conviction that the loss of life occasioned by these institutions completely defeats the objects of their founders: and out of this train of cumulative evidence, the multiplied groups of cases clustering about individuals, the deadly results of autopsies, the inoculation by hands from the living patient, the murderous poison of hospitals—does there not result a conclusion that laughs all sophistry to scorn, and renders all argument an insult?"

"It is true," he goes on to say, "that some of the historians of the disease . . . profess not to have found puerperal fever contagious. At the most, they give us mere negative facts, worthless against an extent of evidence which now overlaps the widest range of doubt, and doubles upon itself in the redundancy of superfluous demonstration."

The President of one of the principal American life insurance companies, on being asked his views as to insuring the life of the [illegible] of a doctor who had had a succession of ten, five, three, even two fatal cases in his practice, naturally replied that he would require a very large extra premium, if indeed he consented to take the risk at all. His examination of the recorded facts called forth just such expressions of indignation as might be expected, and just such as would soon have swelled into a general cry of horror had the hideous catalogue of cases, as Wendell Holmes says, ever been fully brought to the knowledge of the public.

The Effect of the Essay.

It is not to be wondered at that such an *exposé* should rouse the active opposition of those members of the medical profession who were still unconvinced as to the contagiousness of puerperal fever. We owe, indeed, to the fact that such opposition did arise, and from very influential quarters, the republication of the essay in 1855, twelve years after its first appearance. Two widely-known professors in two of the largest medical schools of the United States had recently expressed their disbelief of the doctrine that it was the object of Holmes's essay to enforce. One of these was Professor Hodge, who held the Chair of Obstetrics in the University of Pennsylvania. The other was Dr. Meigs, Professor of Midwifery and the Diseases of Women and Children in Jefferson Medical College, Philadelphia.*

The former of these in an introductory lecture "On the Non-contagious Character of Puerperal Fever," delivered at Philadelphia on October 11th, 1852, summed up as follows:

> The result of the whole discussion will, I trust, serve not only to exalt your views of the value and dignity of our profession, but to divest your minds of the overpowering dread that you can ever become—especially to woman, under the extremely interesting circumstances of gestation and parturition—the minister of evil; that you can ever convey, in any possible manner, a horrible virus so destructive in its effects and so mysterious in its operations as that attributed to puerperal fever.

Thus, with fair words he waved, as it were, into space what he did not wish to believe; but his lecture was, at any rate, couched in unobjectionable and inoffensive language. Not so was the chapter in Dr. Meigs's volume which treated of *Contagion in Childbed Fever.* There are in it expressions which, as Wendell Holmes said, "might well put a stop to all scientific discussions were they to form the current coin in our exchange of opinions." But Holmes declined to take offence or attempt any retort. "No man," he says, "makes a quarrel with me over the counterpane that covers a mother with her newborn infant at her breast. There is no epithet in the vocabulary of slight and sarcasm that can reach my personal sensibilities in such a controversy." And so he contented himself, in an introduction to the reprinted essay, with a detailed examination of the various points raised by Dr. Meigs and with some remarks on the comparative worthlessness of negative evidence,† to which Dr. Meigs attaches undue importance. Dr. Meigs's position may be illustrated by a single quotation. Speaking of such outbreaks of puerperal fever as those described by Wendell Holmes, he says: "I prefer to attribute them to accident, or Providence, of which I can form a conception, rather than to a contagion of which I cannot form any clear idea, at least as to this particular malady." A practitioner who meets with epidemic cases is for him simply "unlucky." "We do not deny," says Holmes, "that the God of battles decides the fate of nations: but we like to have the biggest squadrons on our side, and we are particular that our soldiers should not only say their prayers, but keep their powder dry."

Dealing with Opposition.

"The subject of my paper," he writes in 1855, "has the same profound interest for me at the present moment as it had when I was first collecting the terrible evidence out of which, as it seems to me, the commonest exercise of reason could not help shaping the truth it involved. It is not merely on account of the bearing of the question—if there is a question—on all that is most sacred in human life and happi-

* An excellent and impartial sketch of the life and work of both these professors will be found in Whitridge Williams's sketch of the *History of Obstetrics in the United States up to 1880*, pp. 38 to 46. (Published originally in Professor Döhrn's *Geschichte der Geburtshülfe der Neuzeit*, supplementary volume. Band des Versuchs einer Geschichte der Geburtshülfe, von Professor von Siebold, Tübingen, 1904. Ernst Abtheilung, pp. 103-264.)

† That is, evidence without subsequent disease. On this point Holmes quotes a remarkable passage from the chapter on continued fever in Watson's *Lectures on the Practice of Physic*. "A man might say, 'I was in the battle of Waterloo and saw many men around me fall down and die, and it was said that they were struck down by musket-balls; but I know better than that, for I was there all the time, and no more many of those men died, and we were never hit by any musket-balls. Musket balls therefore could not have been the cause of the deaths we witnessed.'" He also quotes a statement of John Hunter that he knew a case in which [illegible] bitten by a rabid dog, only one died of hydrophobia.

ness, that the subject cannot lose its interest. It is because it seems evident that a fair statement of the facts must produce its proper influence on a very large proportion of well-constituted and unprejudiced minds. Individuals may, here and there, resist the practical bearing of the evidence on their own feelings or interests; some may fail to see its meaning, as some persons may be found who cannot tell red from green; but I cannot doubt that most readers will be satisfied and convinced, to loathing, long before they have finished the dark obituary calendar laid before them. I do not know," he continues, "that I shall ever again have so good an opportunity of being useful as was granted me by the raising of the question which produced this essay. For I have abundant evidence that it has made many practitioners more cautious . . . and I have no doubt it will do so still, if it has a chance of being read, though it should call out a hundred counterblasts. . . ." "I do not expect," he says, in another place, "ever to return to this subject. . . . I trust that I have made the issue perfectly distinct and intelligible; . . . this is no subject to be smoothed over by nicely-adjusted phrases of half assent and half censure divided between the parties. The balance must be struck boldly and the result declared plainly. If I have been hasty, presumptuous, ill-informed, illogical; if my array of facts means nothing; if there is no reason for any caution in the view of these facts; let me be told so on such authority that I must believe it, and I will be silent henceforth, recognizing that my mind is in a state of disorganization. If the doctrine I have maintained is a mournful truth; if to disbelieve it, and to practise on this disbelief, and to teach others so to disbelieve and practise, is to carry a desolation, and to charter others to carry it, into confiding families, let it be proclaimed as plainly what is to be thought of the teachings of those who sneer at the alleged dangers and scout the very idea of precaution. Let it be remembered that *persons* are nothing in this matter; better that twenty pamphleteers should be silenced, or as many professors unseated, than that one mother's life should be taken. There is no quarrel here between men, but there is deadly incompatibility and exterminating warfare between doctrines. . . . Let the men who mould opinions look to it; if there is any voluntary blindness, any interested oversight, any culpable negligence even, in such a matter, and the facts reach the public ear, the pestilence carrier of the lying-in chamber must look to God for pardon for man will never forgive him."

And thus, with burning words, forged at that white heat which alone befitted the subject, or could give adequate expression to the writer's intense convictions, he brings his introduction to a close. When one reads these words now—I hope I may say it without irreverence—it is impossible to avoid comparing them with the eloquent but terrible warnings of the preacher-prophets of the Hebrew scriptures. It was not the fault of these old stalwarts that the message they had to deliver was unillumined by a Gospel that had not yet been revealed, any more than it was the fault of Wendell Holmes and of the distinguished Hungarian who, a few years later, and as the result of independent observation, arrived at the same truth, and encountered an opposition even more relentless, that they were unable to point to the more excellent way of prevention with which we, thanks to later revelations, have since become familiar. Pasteur and Lister had not as yet instituted those researches of which the result has been to place in our hands, if we would but use it, an effectual means not only of checking the spread of puerperal fever but of stamping it out. All honour to the men who, without these researches to guide them, and merely from a study of clinical facts, recognized the main factors in the propagation of puerperal fever, and advocated for its prevention measures which differ in degree rather than in kind from those enjoined by the most scientific and advanced teachers of the present day.

Holmes and His Work.

It is interesting to remember, in connexion with recent discussions as to the time of life at which a man turns out his best work, that this essay was published when Holmes was 33. It was not until four years later that he was appointed to the Parkman Professorship of Anatomy and Physiology in the medical school of Harvard University, which he described as being not so much a chair as a whole settee, and the anatomical portion of which he retained for thirty-six years. He had as yet no literary fame except such as was derived from his contributions to various college magazines, a prize essay on Intermittent Fever in New England (1837), and two lectures on "Homœopathy and its Kindred Delusions," delivered before the Boston Society for the Diffusion of Useful Knowledge in 1842. But if any one is inclined to quote this early essay of Wendell Holmes as a proof that a man produces his best work before he is 40, it must be remembered, on the other side, that the earliest chapters of the Breakfast Table series, which first made him famous and upon which his literary reputation really rests, were not published until the year 1857, when their author had reached the comparatively mature age of 48.* Nevertheless, the fact that a physician comparatively so young and so obscure, and with as yet no official position† to ensure him a hearing, should have dared to publish such an essay as that on puerperal fever, shows him to have been endowed with singular courage and remarkable independence of judgement.

The question was once put to him in a Canadian journal, by an enthusiastic admirer bearing the honoured name of William Osler, whether he had derived the greater satisfaction from having been the author of that exquisite little poem, *The Chambered Nautilus*, or from having published the *Essay on Puerperal Fever*. The journal reached Wendell Holmes, who thereupon wrote to Professor Osler a letter, the original of which he has, with characteristic kindness, placed in my hands to show to you on this occasion.

The letter bears date January 21st, 1889, and is as follows:

I have rarely been more pleased than by your allusion to an old paper of mine. There was a time, certainly, in which I would have said that the best page of my record was that in which I had fought my battle for the poor poisoned women. I am reminded of that essay from time to time, but it was published in a periodical which died after one year's life, and therefore escaped the wider notice it would have found if printed in the *American Journal of the Medical Sciences*. A lecturer at one of the great London hospitals referred to it the other day, and coupled it with some fine phrases about myself which made me blush either with modesty or vanity, I forget which.‡

I think I will not answer the question you put me. I think oftenest of *The Chambered Nautilus*, which is a favourite poem of mine, though I wrote it myself. The essay only comes up at long intervals. The poem repeats itself in my memory, and is very often spoken of by my correspondents in terms of more than ordinary praise. I had a savage pleasure, I confess, in handling those two professors—learned men both of them, skilful experts, but babies, as it seemed to me, in their capacity of reasoning and arguing. But in writing the poem I was filled with a better feeling—the highest state of mental exaltation and the most crystalline clairvoyance, as it seemed to me, that had ever been granted to me—I mean that lucid vision of one's thought and all forms of expression which will be at once precise and musical, which is the poet's special gift however large or small in amount or value. There is more selfish pleasure to be had out of the poem, perhaps a nobler satisfaction from the life-saving labour.§

In this letter he purposely walks round the question. What was his real feeling, however, towards the essay is shown quite unmistakably in a passage in *The Professor at the Breakfast Table* and from a later letter. The passage in the *Professor* is as follows: "By the permission of Providence, I held up to the professional public the damnable facts connected with the conveyance of poison from one young mother's chamber to another's—for doing which humble office I desire to be thankful that I have lived, though nothing else good should ever come of my life. . . ."

The later letter of which I have spoken has a special interest and pathos, for it was written in 1893, the year before he died, when he was an old man of 83, and could speak of the essay as having been written fifty years ago. Will you bear with me while I read it? It is addressed to his old friend and mine, the late Dr. J. R. Chadwick ‖ of Boston, the founder and for many years the indefatigable secretary of the American Gynaecological Society:

296, Beacon Street.
May 8th, 1893.

Dear Dr. Chadwick,

You tell me that the President of the Gynaecological Society, Dr. Parvin, proposes to make mention at the meeting of the Society next Tuesday of my early efforts to put a stop to the conveyance of the poison which produces puerperal fever from one lying in woman to another by the practitioner to whose care she is entrusted.

It is just fifty years since my essay on the contagiousness of puerperal fever was published in the *New England Journal of Medicine and Surgery*. It had been previously read at a meeting of the Boston Society for

* It is true he had written a few stray chapters in a similar vein twenty-five years previously, but these attracted no attention, and may practically be left out of account.

† He did not become Parkman Professor at Harvard until 1847.

‡ There appears to be good reason for supposing that this allusion has reference to a passage at the close of an address on the preventability of puerperal fever, which I delivered at St. Thomas's Hospital in October, 1883.

§ *Johns Hopkins Hospital Bulletin*, October, 1904.

‖ Dr. Chadwick's death took place whilst this address was being written. A sympathetic notice of his life and of the great work he accomplished for the Boston Medical Library was contributed by Professor Osler to the *Lancet* for October 14th, 1905.

Medical Improvement, at whose request it was given to the press. The periodical in which it appeared, though well conducted and promising well, died in its first year, having been seen by few readers and supported by few subscribers My warning and counsel had their effect, however, in our own community, as I have often been assured by competent authorities. The essay attracted respectful notice abroad, as the names of Copland and Ramsbotham and the fifth annual report of the Registrar-General of England sufficiently show. Still, it was not read by some who might have profited by it. If Dr. (afterwards Sir James) Simpson had read the first rule I laid down* he would not have left the record that after freely handling the diseased parts from an autopsy of a victim of puerperal fever his next four childbed patients were affected with that disease.

I thought I had proved my point and set the question of the private pestilence, as I called it, at rest "for good and all." I thought I had laid down rules which promised to ensure the safety of the lying-in woman from disease and death carried to her unconsciously by her professional attendant

Still, I was attacked in my stronghold by the two leading professors of obstetrics in this country.

I defended my position with new facts and arguments and not without rhetorical fervour at which after cooling down for half a century I might smile if I did not remember how intensely and with what good reason my feelings were kindled into the heated atmosphere of superlatives.

I have been long out of the way of discussing this class of subjects I do not know what others have done since my efforts; I do know that others had cried out with all their might against the terrible evil before I did and I gave them full credit for it.

But I think I shrieked my warning louder and longer than any of them and I am pleased to remember that I took my ground on the existing evidence before the little army of microbes was marched up to support my position.

Always yours cordially,

OLIVER WENDELL HOLMES.

THE STATE OF THINGS TO-DAY.

I have endeavoured in this address to remind my medical brethren of the great service rendered by Oliver Wendell Holmes to science and to humanity by the publication of his remarkable essay. In doing so it may seem to some that I have been needlessly disturbing the ashes of a painful and forgotten controversy, and labouring at a subject that has long ago ceased to have any living interest. But has the subject of the propagation of puerperal fever ceased to have a living interest? Let us look for a moment at the facts. During the fifty-seven years (1847-1903) for which the statistics for England and Wales are available, there were registered no fewer than 93 243 mothers as having died from puerperal septicaemia, and the enormous sacrifice that these figures represent has been going on steadily all the time, and shows no signs of undergoing diminution. If it has changed at all it is in the direction of increase.†

When, in my opening address as President of the Obstetrical Society of London in 1897 I called attention to this state of things, my lamented friend, the late Dr. Milne Murray of Edinburgh read my words, as he afterwards told me with much surprise, and with the feeling that however true they might be as regarded England and Wales, they certainly could not be true of Scotland. He made inquiries, however, and found, to use his own words, that he, like many others, had been living in a fool's paradise, and that matters were not one whit better in Scotland than they were in England. And let it be remembered that the returns of the Registrar-General take no account of the vast array of non-fatal cases with their train of suffering and often of permanent ill-health, or of the many fatal cases that, for various reasons, have been attributed on the death certificate to some other than the true cause; but even taking the certified cases only, we have to face the unpleasant fact that the lives of more than 2 000 women are annually lost in England and Wales from a cause which is almost, if not entirely, preventable, and that puerperal fever continues to prevail, as though Pasteur and Lister had never lived. And if, notwithstanding all this, any one be inclined to urge that at least tragedies such as those which Holmes recorded are things of the past, let him refer to the second of Dr Williams's Milroy Lectures for 1904, or to Mr. Foulerton's paper in the *Practitioner* for March, 1905, and he will be undeceived.

Some of these tragedies occur, no doubt, in the practice of ignorant and untrained midwives. Dr. Williams shows this to be strikingly the case in Glamorganshire, where most of the midwifery is in the hands of these women; but as I showed in the presidential address already alluded to, we cannot to use Dr. Milne Murray's striking figure, make the midwife the only scapegoat, and send her into the wilderness bearing the whole burden. There is, I am afraid, no doubt that much of the general mortality from puerperal fever and even a certain proportion of the tragedies* occur in ordinary private practice.

After speaking of the lying-in institutions of this country, and of their condition being so vastly improved that their mortality from puerperal fever has "decreased almost to a vanishing point," Dr. Williams goes on to say that, such being the case, we are "forced to the conclusion that this undiminished mortality takes place outside these institutions—that is, in general practice—and that the conditions under which women are confined outside" have, for some reason or other, "not shared to an equal degree the improved methods and care adopted" within their walls.

CONCLUSIONS.

This is not the occasion to discuss at any length the causes to which the persistence of puerperal fever in private practice is to be attributed I have said my own say on the subject elsewhere, and will content myself to-day with calling attention to the extremely suggestive words uttered by Dr. Milne Murray in his Presidential address to the Obstetrical Society of Edinburgh in 1900. "Why," he asks, "are the results of private practice becoming worse and worse in spite of all that has been done for our science and art during the closing century? . . . I feel sure," he says, "that an explanation of much of the increase of maternal mortality from 1847 onwards will be found in, first, *the misuse of anaesthesia*, and second, *in the ridiculous parody which in many practitioners' hands, stands for the use of antiseptics* . . . Before the days of anaesthesia interference was limited and obstetric operations were at a minimum, because interference of all kinds increased the conscious suffering of the patient. . . . When anaesthesia became possible and interference became more frequent because it involved no additional suffering, operations were undertaken when really unnecessary, on the demand of the patient or for the convenience of the practitioner. And so complications arose and the dangers of labour increased. . . . Then came the antiseptic era. Here now was the panacea for all the dangers of childbed. All that was necessary was to dip the instruments for a few minutes in a carbolic lotion, and the hands in one of half the strength for half the time, and all danger was at an end. . . . Normal labour," he continues, "is a natural process which is best left to itself, and the less the patient is disturbed with the paraphernalia of obstetrics, before or after, the better. . . . Until men realize this and recognize the fact that the simplest obstetric operation

† Writing in April of the present year (1905) Dr. Boxall, one of our leading medical statisticians, states that the death-rate from puerperal septic diseases has, if anything, shown a tendency to increase in each division of the kingdom (England, Scotland, and Ireland).

* In an introductory address, delivered at St Thomas's Hospital in 1888, I stated that I knew of a country town not very far from London, where, within the preceding twelve months, puerperal fever had singled out the patients of one of the local practitioners exactly as it did in the instances I had been narrating. For six months every patient that he attended (with the exception of two in whom labour was over before his arrival, and whom, therefore, it was unnecessary for him to touch) had died of puerperal fever (*Puerperal Fever a Preventable Disease*, London, 1888, p. 32). The circumstances were at that time of too recent occurrence to permit of my giving the details, but I know of no reason why they should any longer be withheld The facts, then, are as follows: The wife of a labourer in a Sussex village was delivered with instruments some time in 1886 and died of blood-poisoning. Shortly afterwards a young woman, the wife of a master miller, was attended in her second confinement by the same doctor, and died in ten days. In December, 1887, another labourer's wife in the village was confined, and died of blood-poisoning. The same doctor had attended her. On January 21st, 1888, at 9.30 a.m., he delivered a coachman's wife. Instruments were used, and the assistant was summoned to render additional help The patient died of blood-poisoning at 9 p.m. on January 29th. The nurse who had been in attendance along with the doctor on all these cases was now warned to attend no more cases for six weeks The doctor continued his practice as usual, and, so far as is known, adopted no means to rid himself of infection On or about February 6th he attended a young farmer's wife, aged 23, the daughter of a clergyman, in her third confinement; she died of blood poisoning on the tenth day. People now began to be afraid of employing the doctor, but, in the month of May he was called to attend a labourer's wife of middle age, who had last been confined nine years previously. Some difficulty occurred, and after endeavouring for some time, and with the help of two assistants, to deliver with the forceps he decided that the child's life must be sacrificed. Whilst the best means of procedure was being discussed a living child was born spontaneously. The mother, however, died of blood poisoning at the end of ten days. These last four were all the cases attended by the doctor in question between December, 1887, and June, 1888, with the exception of two, in each of which he arrived too late, the nurse doing all that was necessary. One of these cases occurred in December, 1887, the other at the end of January 1888 Both of them escaped—a circumstance which was quoted on the doctor's behalf as a proof that he could not have been the source of infection in the fatal cases. Ultimately, however, he was prevailed upon to go away for a time, and shortly afterwards he left the neighbourhood During the period covered by the above series of cases no case is known to have occurred in the practice of any other doctor (or of any midwife) in the district.

demands not one whit less of care as to antiseptic precautions than is required of one before opening the abdomen, we shall get no further forward. When the practical obstetrician realizes his responsibility, and that no small share of this terrible maternal mortality of a certainty lies at his door, he has made the first step towards true progress. When he realizes that labour is a natural process which in the great majority of cases it is criminal to disturb; when he realizes that every interference increases the inherent danger a hundredfold; and when under this consciousness he brings with him to the lying-in room all that is possible of those principles of antiseptic surgery which have been at the bottom of the triumphs of modern gynaecology, we shall not have long to wait for the lightening of the dark cloud which hangs over us now."

And with these weighty words of my deceased friend I must conclude. I trust that, the mortality from puerperal fever in Great Britain being what it is, you will not think it has been either ill-timed or out of place to recall that noteworthy chapter in the history of the subject of which it has to-day been my great privilege to speak. No sermon can be considered complete without at least a few words of application, and so I feel sure I shall be forgiven for attempting to apply the lesson of Holmes's essay to the circumstances of to day, and to show that there is needed now, as there was needed then, a strong voice to rouse us from our lethargy, and to plead with desperate earnestness for the lives that are still being quite unnecessarily sacrificed.

"If," says Dr James Jamieson, "anything in the field of practical medicine can be taken as proved, it is that puerperal fever is a preventable disease, and the means of prevention at our disposal are both more reliable and more easily accessible than in the case of almost any other of the infectious diseases."* If that be true, and I for one firmly believe it is, surely we ought not to be satisfied until puerperal fever has been banished from amongst us.

NOTE.—The references, necessarily numerous, are omitted here owing to exigencies of space. They will, however, duly accompany the address when it is printed in pamphlet form.

APPENDIX.

Conclusions, including rules for preventing the spread of puerperal fever by infection, published at the end of Holmes's Essay (1843):

1. A physician holding himself in readiness to attend cases of midwifery should never take any active part in the *post-mortem* examination of cases of puerperal fever.
2. If a physician is present at such autopsies, he should use thorough ablution, change every article of dress, and allow twenty-four hours or more to elapse before attending to any case of midwifery. It may be well to extend the same caution to cases of simple peritonitis.
3. Similar precautions should be taken after the autopsy or surgical treatment of cases of erysipelas, if the physician is obliged to unite such offices with his obstetrical duties, which is in the highest degree inexpedient.
4. On the occurrence of a single case of puerperal fever in his practice, the physician is bound to consider the next female he attends in labour, unless some weeks at least have elapsed, as in danger of being infected by him, and it is his duty to take every precaution to diminish her risk of disease and death.
5. If within a short period 2 cases of puerperal fever happen close to each other, in the practice of the same physician, the disease not existing or prevailing in the neighbourhood, he would do wisely to relinquish his obstetrical practice for at least one month, and endeavour to free himself by every available means from any noxious influence he may carry about with him.
6. The occurrence of three or more closely connected cases, in the practice of one individual, no others existing in the neighbourhood, and no other sufficient cause being alleged for the coincidence, is prima facie evidence that he is the vehicle of contagion.
7. It is the duty of the physician to take every precaution that the disease shall not be introduced by nurses or other assistants, by making proper inquiries concerning them and giving timely warning of every suspected source of danger.
8. Whatever indulgence may have been granted to those who have heretofore been the ignorant cause of so much misery, the time has come when the existence of a *private pestilence* in the sphere of a single physician should be looked upon not as a misfortune but as a crime, and in the knowledge of such occurrences the duties of the practitioner to his profession should give way to his paramount duties to society.

* Childbirth Mortality in the Australian Colonies, *Australian Medical Journal*, October 15th, 1887.

Clinical Remarks
ON
SOLITARY NON-PARASITIC CYSTS OF THE LIVER.

By J. BLAND-SUTTON, F.R.C.S.,
Surgeon to the Middlesex Hospital, and to the Chelsea Hospital for Women.

ALL cysts in the pathologic limitation of the term arise in pre-existing epithelium-lined spaces and ducts: even ducts and canals of microscopic proportions are often the source of cysts of such dimensions that they cause so much inconvenience and distress as to necessitate surgical treatment. This may be illustrated by the liver, an organ thoroughly permeated by minute passages—the bile canals.

Two forms of cysts are found in the liver arising from its canals and ducts, namely, multiple cysts and the solitary cyst. Each will be separately considered.



Fig. 1.—A liver shown in section. The spaces on the cut surface are dilated bile canals. From a woman 40 years of age. (Museum of the Royal College of Surgeons, London.)

1. MULTIPLE CYSTS.

This variety has long been recognized by pathologists under the term general cystic disease of the liver. In typical examples the liver is converted into a huge honeycomb-like mass (Fig. 1). The cavities vary greatly in size—some are as small as grape-seed, others may exceed a ripe cherry in size. The cysts may project on the surface of the liver, but though this organ may be enormously enlarged, and weigh 35 lb., yet its shape is preserved. The smaller cysts are lined with epithelium. This is best seen in specimens with the cystic change in an early stage when the dilated canals look like sharp definite punctures in the liver substance. As the cysts increase in size and number the hepatic tissue is encroached upon, and appears as narrow bridges between large tracts of

honeycomb, but by degrees these become broken up by absorption, and then the remnants of the normal hepatic tissue appear as islands on the cut surface of the liver.

The microscopic characters of the cysts when examined in the early stages prove that they arise in the bile canals, but no investigator has succeeded in ascertaining the cause of this disease, or in associating it with obstruction to the escape of bile. The most remarkable circumstance connected with general cystic disease of the liver is its occasional association with general cystic (congenital) disease of the kidneys, a condition due to ectasia of the uriniferous tubules. The cause of this cystic disease in the liver is even more uncertain than that in the kidneys.

This general cystic disease of the liver causes great enlargement of the organ, but is painless, causes no jaundice, presents no diagnostic features, and comes invariably as a *post-mortem* surprise. On the other hand, it will be seen that the solitary cyst, though obvious during life, has so far been a clinical puzzle.

2. Solitary Cyst of the Liver.

All writers are unanimous that a solitary non-parasitic cyst of the liver is rare; nevertheless it occurs, and causes, when large, great perplexity in diagnosis.

The best example which has come under my notice occurred in a lady, aged 75 years, who was placed under my care by Mr. Charles J. W. Pinching of Gravesend. It had been noticed five years, and appeared in the epigastrium as a swelling about the size of an apple. This lump grew slowly and painlessly until it attained the dimensions of a man's head and became troublesome. Clinically it resembled a tumour, or cyst, growing between the layers of the mesentery, and was regarded by one physician who saw the patient as an ovarian cyst. When exposed by a free incision in the middle line of the abdomen it appeared as an extremely thin-walled translucent cyst growing out from the lower border of the left lobe of the liver, and without any communication with the gall bladder, which was normal. The peritoneal investment and the capsule of the liver were continuous with the cyst wall. The cyst contained 2 pints of brownish neutral fluid, specific gravity 1007, containing a small quantity of blood, scanty solid matter with negative characters, and free from sugar. By incising the capsule at its junction with the liver, I succeeded in completely enucleating the cyst. The bleeding vessels in the raw surface of the liver were easily controlled by ligatures of thin silk. The flaps consisting of liver tissue were carefully brought together by means of silk sutures, and the apposition of the flaps was made more complete by a continuous suture along the free edge of the liver. A thin gauze drain was introduced, and the incision closed with a single layer of silk sutures. The patient quickly recovered. The microscopic examination of the cyst wall, which was made by Mr. Cuthbert Lockyer, furnished the following facts: Sections taken from the cyst wall where it joined the liver exhibited small loculi invested with epithelium. Many biliary ducts were also detected lined with cubical cells. The main cyst-wall consisted of fibrous tissue, and its inner surface presented spaces covered with flattened epithelium. In some parts of the cyst-wall liver substance could be distinguished.

This large cyst in all probability arose from the dilatation and fusion of bile ducts. In general characters, and especially in its relation to the free border of the liver, the cyst corresponded exactly with that represented in Fig. 2. In this excellent example the capsule of the liver passes over the cyst, the wall of which is composed of fibrous tissue lined with a regular layer of flat epithelial cells. The fluid in this cyst was clear, alkaline, straw-coloured, specific gravity 1008, and contained much albumen and chlorides, but not a trace of bile.

The literature of solitary non-parasitic cysts of the liver is very scanty, and the few records have been collected by Doran, who has also described an example under his own care which he treated by incision and drainage. He was not able to obtain any portion of the cyst wall for histological examination, and as far as my reading goes the specimen which forms the subject of this communication is the first which has been examined in this way by a competent pathologist. It is difficult to explain the origin of the solitary hepatic cyst, but attention may be drawn to the following points: The six examples of which we possess records occurred in adult women. It is noteworthy that the liver of many women presents along its free border a variable strip of thin atrophied tissue which looks almost white in contrast with the dark hue of the normal liver. Many observers, myself among them, attribute this atrophy of the free border of the liver to the pressure of stays; whether this be true or not, it is in this pale thin strip of liver that the solitary non-parasitic cyst arose in my patient, and it is due to the dilatation of the bile ducts in this tissue; the dilated ducts subsequently fused to form larger spaces, much in the same way that cystic spaces arise in a cavernous naevus from the fusion of adjacent blood vessels composing the primary naevus.

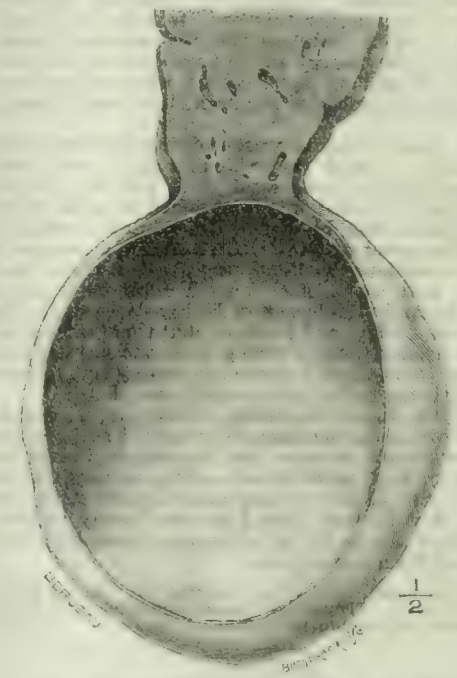


Fig. 2.—A cyst (non-parasitic) growing from the free border of the liver. Obtained *post mortem* from a woman 38 years of age. (Museum of the Royal College of Surgeons.)

In regard to treatment the method I adopted appears to be novel and radical, but it was justified by a speedy and satisfactory convalescence, and this is more encouraging when compared with the method of incision and drainage adopted by other surgeons. Thus in Doran's patient the sinus persisted even seven months after the operation, and Müller's patient, although much of the cyst wall was cut away at the time of the operation, required four months to heal.

Special treatises on hepatic diseases make no mention of the solitary (non-parasitic) cyst of the liver, but there is now sufficient evidence to show that it is a clinical entity and may require surgical treatment. It is noteworthy that in the few cases which have been recorded the patients were women. Some cysts contained a clear fluid, one bile (Doran), and others blood.

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SOME REMARKS ON A CASE OF ACTINOMYCOSIS OF THE LUNGS.*

By PEVERELL S. HICHENS, M.A., M.D.Oxon., M.R.C.P.Lond., Honorary Physician, Northampton General Hospital.

The case which I wish to bring before your notice to-day is, I venture to think, of considerable interest, though also of considerable rarity. It is one of actinomycosis of the lungs. I wish to draw attention to it because I believe that these cases, though rare, are probably by no means so rare as is supposed. It is probable that such cases are often mistaken for tuberculosis, and may die and be buried without the mistaken diagnosis ever being corrected. The following is the account of the present case:

The patient is a healthy-looking young farmer in good circum-

*Read before the South Midland Branch of the British Medical Association.

stances, aged 22. He came to see me in private a few weeks ago, and gave the following account of himself:

History.—There was no family history of consumption. He had enjoyed good health, but for the last two years had had a certain amount of cough, which seemed to be increasing latterly. About three months ago he coughed up what he described as a small piece of bone. On cross-questioning it seemed probable that this was really a lung stone, a concretion of lime-salt formed in some chronic cavity. He also noticed that the sputum, which he coughed up in small quantities, was of a peculiar colour and, as he thought, contained blood. Apart from these symptoms he had noticed no signs of ill health except an unaccountable feeling of lassitude at the end of his day's work.

State on Examination.—The patient looked healthy and well developed. His pulse was 66, quiet and regular; his respiration was not hurried, and there was no elevation of temperature. His weight was 11st. 8lb., about his normal weight. His chest was well formed, and moved well everywhere on respiration. I could detect no abnormal physical signs anywhere, with the exception of a very slight and questionable impairment of percussion resonance at the right apex both above and below the clavicle, and a few still more doubtful crepitations on inspiration after coughing in the same regions. The heart was normal; nothing abnormal was detected in the abdomen, and the urine was acid, of specific gravity 1024, and contained no albumen or sugar.

Diagnosis.—The case was thus rather indefinite and obscure, but the probable diagnosis seemed to be that the patient was suffering from pulmonary tuberculosis. It seemed likely that he had a small obsolete lesion, accompanied by the formation of a small cavity, in the substance of the right apex, and that it was too small and deeply situated to give characteristic physical signs. From this cavity probably the lung stone had been coughed up, and in connexion with this focus there was probably some slight recrudescence of the disease taking place.

Further Examination.—To clinch this diagnosis, I asked that a specimen of the sputum should be sent. When it arrived it struck the eye at once as being somewhat peculiar. It was thick, tenacious, not nummulated, and of a peculiar colour, like very pale anchovy sauce. On spreading it out on a glass plate to select a suitable piece to stain for tubercle bacilli, I noticed scattered here and there some minute whitish-yellow or almost white bodies about the size of half a pin's head. On removing one of them to a slide with a needle, it showed itself to be a compact and tenacious mass, unlike the little masses of caseous matter or fattily-degenerated cells which one sometimes finds in tuberculous sputum. On squashing it between a cover glass and slide it presented the appearance of a small mass of tallow or paraffin so characteristic of an actinomycotic body. I could not detect any clubs, but on staining the body by Weigert's modification of Gram's method there was found to be a copious feltwork of mycelium, accompanied by a number of spores or spore-like bodies. Furthermore, there were no tubercle bacilli to be found in the sputum.

The case was thus shown to be one not of pulmonary tuberculosis, which appeared to be the most likely diagnosis, but of pulmonary actinomycosis, or, at any rate, of infection with a streptothrix body closely allied to the streptothrix actinomycotica. So much for the present case.

It must be regarded as one of pulmonary actinomycosis, but in a comparatively early stage and with so few abnormal physical signs that there was nothing characteristic about the case, and even a suspicion of the true diagnosis would have been impossible without a careful examination of the sputum. The following remarks, therefore, which I wish to add on pulmonary actinomycosis in general must not be regarded as based on the present case, but on two others, much more advanced and characteristic, which I had the good fortune to see and study at the Brompton Hospital for Consumption and Diseases of the Chest, and on the general literature of the subject.

Pathological Changes.

To understand the various forms of pulmonary actinomycosis clinically one must first discuss briefly the pathological changes which take place in actinomycosis. These changes are much the same whatever part of the body the fungus affects, but they are undoubtedly best seen in the liver and lung.

When the actinomycotic fungus begins to grow in any part of the organism it sets up irritation. The result of this is that there is a proliferation of cells round the fungus, and a nodule or tubercle is formed. Then two further phenomena, as a rule, happen. The cells in the immediate neighbourhood of the organism undergo degeneration of a fatty and granular nature, and liquefy to form a fluid more or less of the nature of pus, while the cells at a greater distance organize themselves to form a more or less effective barrier of granulation tissue. Hence you get formed, in the liver and lung more especially, a kind of reticular network or spongy tissue composed of a multitude of little cavities communicating with one another, due to the liquefaction of the cells above described, and bounded by the fibrous walls, due to a less degree of irritation at a further distance from the organism. If the degree of irritation caused by the organism is more extreme, and more especially if its infection is complicated by a secondary infection by pus-forming organisms, then the results will be somewhat different, but only different in degree. There will be more liquefaction and formation of pus while less fibrous tissue will be organized, and hence the abscess cavities will be larger and the destruction of the tissue greater.

On the other hand, if the organism is feeble in virulence, if it is uncomplicated by secondary infection, or if the tissues of the animal are specially resistant to it, then there will be much less destruction and liquefaction and more new formation of fibrous and granulomatous tissue, so that tumours of considerable size may be formed, such as so frequently occur about the jaws of cattle, and which used to be considered to be of a sarcomatous nature. Hence two types of the disease have been described: (*a*) a new-formation type, and (*b*) an inflammatory type. The new formation type is most common in cattle, and is readily cured. In man it rarely occurs except in infection of the tongue. The inflammatory type is most common in man; it is the more virulent of the two, and much less amenable to treatment.

It will be seen from this description that the pathological changes in this disease in many respects closely resemble those of tuberculosis. If the lesion, however, be examined more closely, there are important minute differences. It would be tedious here to go into this matter thoroughly, and I will merely summarize the characteristic differences in the two following tables:

Actinomycosis.	Tuberculosis.
Usual mode of spread by direct continuity irrespective of anatomical boundaries.	Anatomical boundaries usually respected.
Lymphatics and lymphatic glands rarely affected.	Lymphatics and lymphatic glands almost always affected.
Lesions highly vascular; vessels patent.	Lesions avascular; vessels blocked by proliferative endarteritis.
Fatty and granular degeneration of cells, giant cells usually absent.	Coagulation, necrosis, and caseation of cells; giant cells usually present.

The only point which I wish here to emphasize is the spread of actinomycosis by direct continuity irrespective of anatomical boundaries, because it is very important clinically.

When the disease has lasted any length of time in the lung, liver, or anywhere else, it always spreads to and involves neighbouring organs and tissues, and finally generally ulcerates through to the surface of the body by fistulous tracts and sinuses.

This is not as a rule the case in tuberculosis. Tuberculous ulceration of the lung, for example, rarely ever passes by direct continuity from one lobe to another of the same lung, much less often does it pass through the pleurae, erode the ribs or spine, and ulcerate through the skin. Hence, in any case which we may meet which simulates tuberculosis, if there are sinuses present communicating with the diseased internal organs, we ought, I think, to have present in our minds the possibility that we are confronted by an actinomycotic lesion.

Classification.

This short consideration of the general pathological changes which take place in actinomycosis enables me to proceed to the various forms of pulmonary actinomycosis that may occur and their classification. An attempt has been made to classify actinomycotic diseases of the lungs simply according to the amount of tissue involved.

This is Israel's classification,[1] and he distinguishes three degrees:

1. Lung alone invaded.
2. Pleurae and neighbouring viscera invaded also.
3. Additional invasion of the thoracic wall.

According to this classification, which is convenient but has no special scientific basis, the present case would fall into the first category.

Another attempt has been made to classify the cases according to the anatomical mode of invasion. Thus Pic[2] and Naussac[3] have divided pulmonary actinomycosis into (1) broncho-pulmonary, and (2) pleuro pulmonary forms. According to this description the case would fall into the broncho-pulmonary category. Pic and Naussac's classification, though possibly more scientific than that of Israel's, does not, however, include all forms.

Canali[4] described a case of chronic bronchitis associated with the expectoration of actinomycotic bodies. The case recovered, and has remained unique, but if we are to accept it we must add a bronchitic form, and we must certainly add a miliary form due to blood infection.

Dr. Frederick Taylor[5] has described a case in which

actinomycosis of the liver was complicated with miliary foci of actinomycosis in the lungs, apparently entirely due to blood infection.

We should, then, have four categories: (1) Bronchitic; (2) broncho-pulmonary; (3) pleuro-pulmonary; (4) miliary or haemic. Or Karowski's[6] classification may be accepted: (1) Catarrhal form on surface of bronchial mucous membrane; (2) destructive form in three stages: (*a*) Deeper strata of bronchi producing peribronchitis; (*b*) involvement of pleura, with haemorrhagic exudation and signs very often like an empyema; (*c*) metastatic formations about the body, with symptoms of general septicaemia.

As regards the modes of infection of the lung, the fungus may be brought by the blood stream, be airborne, or spread directly from neighbouring viscera. In the miliary variety of the disease the mode of infection is, of course, haemic. In the pleuro-pulmonary variety the mode of infection is certainly sometimes by direct extension from neighbouring viscera, as in one of the cases I saw at Brompton, where the disease apparently started in the liver and spread through the diaphragm to the base of the right lung.

But in this form of the disease probably, and certainly in the broncho-pulmonary forms of the disease, the fungus finds its mode of entry generally by the air passages. Many cases have occurred at harvest time after threshing, as Illich[7] has shown. Israel,[8] however, disputes this view, and thinks that most cases become infected through the alimentary canal, as happened, for example, in a case of Soltmann's,[9] when an infected head of barley stuck in the oesophagus of a child and caused infection of the lung secondarily.

Diagnostic Points.

As regards the symptoms and diagnosis of the disease, it can be readily understood from the present case how impossible the diagnosis may be unless the characteristic fungus is looked for and found. The great source of confusion is, of course, pulmonary tuberculosis.

In both pulmonary actinomycosis and pulmonary tuberculosis the patient is the subject of a chronic pulmonary disease, characterized by periods of exacerbation and comparative quiescence, accompanied as the disease advances by general constitutional disturbances, with extreme wasting.

In both cases the pathological processes, though showing characteristic differences, are very closely analogous. Nevertheless, in the more advanced cases of pulmonary actinomycosis, at any rate, reasons may be found, from the symptoms and physical signs, for suspecting that the case is not a tuberculous one.

As regards the situation of the lesion, it is much more often basal than apical. Israel even went so far as to say that it always began basally, but this is not the case. The situation of the lesion in the present case is probably in the right upper lobe, and that was also the case in one of the two patients I saw at Brompton. Illich[10] found that in fifty-eight cases of pulmonary actinomycosis, nine had begun in the upper lobe. It must also be remembered that pulmonary tuberculosis may begin basally. Nevertheless, a basal situation is a distinct point in favour of actinomycosis.

A diagnostic point, however, of far more importance is the fact on which I laid stress in speaking of the pathological processes of actinomycosis, that the disease always tends to spread by direct continuity through everything in its way until it forms a subcutaneous abscess and discharges by fistulous openings through the skin. For example, in one of the cases I saw at the Brompton Hospital, the disease, while yet in a comparatively early stage, had eroded the ribs, burrowed through the thick layers of the muscles of the back, and presented as a subcutaneous abscess in the interscapular region. Such a process only occurs very rarely in pulmonary tuberculosis, though of course a subcutaneous abscess associated with pulmonary tuberculosis may arise from an independent focus of disease. In the case just mentioned, it was thought that the interscapular abscess was due to caries of the spine.

Owing to the progress by direct continuity, it need hardly be said that the pleura is generally involved. Some stress has been laid upon this from the point of view of diagnosis, but it can hardly, I think, give much help, as involvements of the pleura are extremely common in tuberculosis. What is apparently much more characteristic is involvement of the pericardium. It was not involved in any of the cases I have seen, but Poncet and Berard[11] say it is involved in a quarter of the cases.

Excavation.—This does not take place to so great an extent in pulmonary actinomycosis as in pulmonary tuberculosis.

Haemoptysis.—This, again, is also comparatively rare. This may appear surprising when we consider how much more vascular the lesions of actinomycosis are than those of tuberculosis. It is probably due to the less tendency to excavation and ulceration in the former disease.

Pain, even of a severe character, is common in actinomycosis when it has spread to the pleura and neighbouring tissues. Pleuritic pains are, of course, not uncommon in tuberculosis, but do not evince the same persistency and severity.

Temperature.—This in actinomycosis is more irregular and generally less elevated, and does not exhibit in so marked a degree the hectic type as that of tuberculosis.

The sputum, if it contains the actinomycotic bodies, is, of course, absolutely characteristic. Apart from these, early fetor has been considered characteristic, but it was not present in any of the cases I have seen.

The tuberculin reaction is given by actinomycosis as well as tuberculosis, as has been shown by Illich[12] and Friedrich.[13] As a minor point, I may mention that the glands are very rarely involved in actinomycosis. Furthermore it must be remembered, though this Illich denied, that pulmonary actinomycosis and pulmonary tuberculosis may coincide. Two such cases have been recorded by Littledale[14] and Eichhorst.[15]

I have not seen such a case myself, but in a case of Mr. Percival's at the Northampton Hospital, suffering from actinomycosis of the liver, there was found also a patch of caseous tubercle in the lungs.

Poncet and Berard[16] sum up the diagnostic points as follows:

> In favour of actinomycosis, the absence of constant evening rise of temperature, with the occasional inverse type almost constant in tuberculosis; the integrity of the apices and the predominance of the lesions at the bases (3 times in 10), the evolution of pleural effusion independently of the state of the lung; the severe pain and the slight dyspnoea; the exceptional rarity of haemoptysis and nummular expectorations; the early fetor of the expectoration before signs of excavation; the absence of enlarged axillary and cervical glands; and, lastly, the relative integrity of the other functions and the general state of health.

It is, I think, useless to labour too much diagnostic points. The main thing is to have present in one's mind the possibility of actinomycosis when an anomalous and insidious case of lung disease does not show tubercle bacilli in the sputum, and especially when the disease is basally situated or complicated with the formation of subcutaneous abscesses. The two other main thoracic diseases which may give rise to a suspicion of actinomycosis are chronic empyema and intrathoracic new growth. Of chronic empyema, one can only say that actinomycosis often evinces itself as a chronic empyema, and the diagnosis must rest on the discovery of the fungus. A diagnostic point in favour of actinomycosis is that when one opens what appears to be an empyema necessitatis, and expects to find a large cavity and quantities of pus, one finds no proper cavity at all, and the pus oozing out of spongy tissue. The symptoms of intrathoracic new growth may closely simulate actinomycosis, but in the latter one does not get the characteristic "gooseberry-jelly" expectoration that one so often gets in cancer of the lung, nor in the former do subcutaneous abscesses occur.

Of other rarer diseases, gangrene of the lung may give rise to confusion, and also a hydatid cyst of the lung or pleura, especially if it suppurates and discharges into a bronchus. Pulmonary aspergillosis, again, may occur,[17,18] and also infection by other streptothrices.[19]

Treatment.

The treatment of pulmonary actinomycosis is by iodide of potassium in large quantities, by eucalyptus oil, and, when possible, also by surgical interference.

The prognosis is, as may be supposed, very gloomy. Illich[20] says the result is always fatal. Naussac[21] gives 28 per cent. of cures in the broncho-pulmonary form of the disease and 25 per cent. in the pleuro-pulmonary form, but his statement has not been borne out by others. Canali's peculiar case, however, recovered,[22] and Rühräh reports a case of Glentworth R. Butler's, which was cured, at any rate for the time, by eucalyptus oil in spray and in capsules.

About the prospects of the present case I can as yet say little. It has been diagnosed while still presumably in a very early condition, and may therefore have a better chance of recovery. The patient has now been under treatment eight

weeks, and appears to have markedly improved. He feels stronger and better in every way, and has gained 7½ lb. in weight.*

I cannot now detect even the obscure signs that I thought I noticed at first. The sputum has greatly diminished in amount, but still contains the streptothrix bodies, and the patient has also coughed up two more of these concretions, one of which I show you. It is a hard, brittle irregularly-formed mass of lime salts apparently, almost the size, though not the shape, of a cherry-stone. It is blood-stained, and has a fetid, unpleasant smell.

As regards treatment, I should mention that the patient is having increasing doses of iodide of potassium, at the present moment 25 gr. three times a day, and also 6 minims of eucalyptus oil three times a day in capsule. He is also having much fresh air and nourishing food.

Lastly, I should like to say a word as regards the incidence of pulmonary actinomycosis, especially in the British Isles. Last summer I endeavoured to collect all the cases of actinomycosis reported in the British Isles. A few have been reported since, which I have not collated, and no doubt many cases have occurred which have never been reported, but the following figures probably represent pretty accurately the relative incidence of actinomycosis on different parts of the body in this country:

Total Number of Cases, 79.

Head and neck, 27, or 34.17 per cent.	Face and neck ...	24
	Tongue	2
	Brain and orbit ...	1
Thorax and lungs, 12, or 15.18 per cent.		
Abdomen, 39, or 49.3 per cent. ...	Liver	20
	Intestinal tract, peritoneum, and abdominal wall	16
	Bladder and prostate	2
	Generative organs ...	1
Lesion not stated, 1.		

Rühräh in 1899 summed together all the cases at that time reported throughout the world, and produced the following table:[24]

Total, probably counting several twice, 1,094.

Head and neck	604 (56 per cent.)
Digestive tract	223 (20 per cent.)
Pulmonary	164 (15 per cent.)
Skin	26 (20 per cent.)
Doubtful	63 (6 per cent.)

The incidence of lung cases in the British Isles, then, closely corresponds with that obtained throughout the world.

I feel, perhaps, that I ought to apologize for again bringing before this Society so rare a case instead of talking about something of more practical importance. However, I feel sure that both cases of actinomycosis and of the obscure disorder allied to it are much commoner than is generally supposed, and that they are frequently passed over unrecognized. It is, at any rate, very noticeable that when one case has occurred in a neighbourhood, more are generally reported from time to time, indicating that where observation is on the alert then such cases are not missed.

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*In the interval between writing this paper and its publication the patient has apparently made a complete recovery. For the last five months he has had no cough or expectoration and appears in robust health. He coughed up four lung stones in all.

BEQUESTS TO MEDICAL CHARITIES.—The late Mr. Thomas Sheldon of Clevedon, Somerset, whose will has now been proved, bequeathed £500 each to the Bristol Royal Infirmary, the Bristol General Hospital, and the Hospital for Incurables, Putney, and £200 each to the Bristol Royal Hospital for Children and Women, the Bristol Eye Hospital, the Clevedon, Tickenham, and Walton Hospital, the Clevedon Convalescent Home, and the Weston-super-Mare Sanatorium.

NOTES OF AN EPIDEMIC OF INFLUENZA OCCURRING IN THE MIDLOTHIAN AND PEEBLES ASYLUM.

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This asylum has been singularly free from influenza, and, in the course of its thirty years' history, there has been only one previous outbreak. During the great epidemic of 1890 there were 8 cases; 7 of these occurred amongst the staff, 6 of them females, and the eighth case, regarding the nature of which there was considerable doubt, was that of a male patient. The reason for this immunity hitherto is difficult to find. The situation of the asylum is one of the most exposed in Scotland. Standing near the east coast, 700 ft. above sea level, and with no shelter from the north or north-east, it has a very trying climate for seven months in the year. The ground is damp on account of its clayey nature, and the temperature variations are so sudden and so marked, that the female patients and staff are able to spend only a little while each day out-of-doors in winter. During the fifteen years that have elapsed since the previous epidemic there have been no sporadic cases even of typical influenza.

Cause of Present Outbreak.

The conditions that prevailed at the commencement of the present epidemic were:

1. The past three winters have been very open. There has been little or no frost this past winter except during the night, and after the first week in February the temperature was much above the normal, while there was plenty of sunshine. These weather conditions allowed of the patients going out more than usual, with the result that the able-bodied have all been in more than the average good health.

2. During the past four years the wards, which were previously heated by open fires, have been heated by hot-water pipes. The temperature in the wards, therefore, has been always high compared with the outside temperature; and often, on account of a difficulty in the system of regulating, much too high. This probably rendered the patients who go about from ward to ward in working garb, such as kitchen, laundry, and ward workers, more susceptible to cold. In other respects the conditions have been changed of late years, and in the matter of food, breathing space, etc., the patients are vastly better off than they were formerly.

3. The proportion of aged and infirm patients in the asylum was very high this winter, particularly so on the male side, where fifty per cent. of the patients were so designed. It, was, however, the working patients chiefly who took the disease, and the male side suffered comparatively little compared to the female side.

4. Influenza in epidemic form was very prevalent in Edinburgh, whither some one of the staff went on leave every day.

General Statistics.

Sixty female patients were affected out of a total of 170. Out of a female staff of 26, there were 18 affected. On the male side, of 168 patients, only 9 took the disease, and only 2 attendants out of 19. In the female hospital there were at the time of the outbreak 46 patients, of whom 22 were in bed, on account chiefly of old age or bodily weakness. Of the 46, only 6 were attacked, while of the 6 nurses 5 were affected. In the three other wards on the female side where the patients were able to go about, most of them working, about half took ill in each ward. Of the 60 cases amongst female patients, 25 were laundry or kitchen workers, 30 were strong women doing domestic work in wards and dormitories, or working in the sewing room. Only 5 of the total could be said to be in indifferent health, and of these only 1 was in bed. Of the female private patients who occupy the same wards as the others, but have a better dietary and do no work that takes them out of the wards, and who may in some instances be more warmly clad when out walking, only 4 were affected out of 25.

Source and Spread of the Infection.

Although the bacillus was undoubtedly carried from ward to ward, it seemed to attack those who were working outside the wards or were in "open-door" wards, and could go out and in to cold corridors as they pleased. In a paper on an epidemic in Morningside Asylum,[1] Dr. Robertson and Dr. Elkins state that the males were slightly more subject to the disease than the females.

We suggest that this preference for the males is greatly due to the fact that the men were more in the open air, where we believe the disease is contracted.

In this asylum all the male patients except those in bed have been out more than usual this winter, much oftener, too, than the women, and about one-third of them are working out-of-doors, yet the numbers that took influenza are trifling compared to the women. There is little doubt that the disease was contracted in almost all cases inside the asylum, but probably those who ran the risk of being chilled by having to go outside took the disease after coming into an infected ward. Of the 11 cases on the male side, 1 was an attendant in charge of the farm workers, 1 the storekeeper who did attendant's duty every day for an hour or two in the affected ward, 7 were patients working in the fields, and 2 were patients who, unable to walk round the grounds, were allowed to sit outside at the ward door.

In the case of the farm workers there is no doubt as to the predisposing chill, for all of them with the attendant were soaked on two occasions by showers of sleet. On the first occasion 3, and on the second 5, took ill within forty-eight hours of the wetting. These 7 out of the 40 farm workers all belonged to one ward. The others, equally predisposed by the wetting, and all working together outside, came back after work to another ward, where no influenza broke out.

The microbe was undoubtedly introduced by the first person affected, a nurse who came back from a week-end holiday on March 2nd feeling ill and going straight to bed without going on duty, was found a few hours later to have a typical influenza. Four days later she got up without orders and went on duty in the hospital ward, and as yet there were no other cases. Two days afterwards she had a relapse, and on the same day two nurses on duty in the same ward took ill. Two days later the night nurse in that ward followed.

The disease then broke out simultaneously in two wards, one at each end of the adjacent corridor, first affecting the staff, and a day later the patients. Finally it broke out in the ward furthest from the hospital, and next to the common dining hall. Then it affected the kitchen and laundry staff, and it was not till sixteen days after the infection was brought to the Asylum that it crossed the dining hall and appeared on the male side and in that ward which opens off the dining hall. The wards are spread out in a long building with connecting corridors, the two divisions being separated by the kitchen and dining hall, and this march of the disease through the building was very remarkable and one of many interesting features in the spread of the disease. The two wards in which the disease broke out simultaneously on the female side are quite open and face each other at the ends of a corridor into which the corridor from the hospital opens. The ward which was affected last is shut off from these by double doors which are usually kept locked and have a passage between them. These doors are only opened to let the patients go through at meal hours. On the male side the disease broke out next the dining hall in a ward which is separated from the others by similar doors and a passage which is the entrance to the other wards, so that there is no passage through the affected ward to the dining hall. Beyond this the disease did not appear, although the great majority of the farm workers and staff were in the wards beyond.

Other interesting points in the spread of the disease were noted. Only one patient in bed was affected. The disease did not seem to spread from a patient once put to bed. The number of cases on the female side was so great that those who took ill were left in their beds in whatever dormitory they were. In these the patients of the different wards were coming in contact with each other, but in no case did the influenza seem to be contracted in the dormitories but always in the wards.

The male patients were all put into one dormitory as they became ill, but no one of the patients who occupied the other beds at night took the disease or carried it to the other wards from which some of them came.

The march of the disease on the female side seemed to indicate that the infection was carried along in the currents of air caused by the overheated wards and colder corridors, and that the patients became infected only when it reached their ward. For they were coming in contact with each other three times a day on their way to meals in the dining hall, and the men who were not affected till late in the epidemic sat within a few feet in the dining hall of many of the women from the infected wards, many of whom, too, would be already ill.

The men from the infected ward, too, are in the habit of collecting together with the patients from the other wards in a corridor for at least half an hour before each meal. Yet there was no spread in that way. The temporary hospital on the male side was in the same corridor as two wards of working patients, and yet none of these took the disease.

The small number of patients affected in the female hospital when the first cases occurred amongst the staff may be accounted for by the facts:

1. That half the patients were in bed.
2. That the others were mostly recent mental cases requiring much supervision, and the moment the staff was reduced in numbers it was no longer possible to take them outside.
3. That the hospital is connected by an outside corridor with the main building, and the hospital nurses who took ill had their rooms in the main building, and were isolated at once from their patients.

The epidemic, once it started, made rapid progress. On March 10th half the female staff were in bed. By the 12th, 20 women patients were ill, and on the 19th the first case occurred on the male side. On the 20th the epidemic attained its maximum, and there were no cases after the 24th. This rapid rise and decline is characteristic of first epidemics. This may be looked upon as the first here as far as the patients are concerned, for on inquiry only one or two seem to have had the disease previously, while the great majority of those affected are old residents. This may also account for the nature of the symptoms, which were chiefly of the nervous type that so characterized the earlier epidemics in the country.

Symptoms.

In every case there was a slight initial coryza, which lasted for from thirty-six to fifty-six hours before the influenza symptoms developed. The sudden onset of these symptoms, together with the fact that there were no cases of "cold in the head" that did not develop influenza, and that suddenly, seemed to indicate that this coryza corresponded to the period of incubation. From other observations made during the spread of the first cases it is probable that the period of incubation was in these cases longer than is generally described, and certainly not less than thirty-six hours. Twenty-five per cent. of the cases developed a slight bronchitis during the incubation period, but this was never more than slight, and often had passed away before the temperature fell. The initial symptoms were almost identical in all cases. After a feeling of *malaise*, nearly always accompanied by sensations of cold waves passing over the back, and lasting from one to three hours, the person affected became giddy, with severe headache and great sense of weakness. Headache was almost a constant symptom, and as far as could be ascertained was present in 90 per cent. In half the cases it was confined to the frontal region immediately over the eyes. In 40 per cent. it was a diffuse headache. Nearly all the cases complained in addition of severe agonizing pain at the "root of the eyeball," usually in one eye, and in three cases this condition remained in a very severe form for ten days after the other symptoms had subsided.

Nervous prostration was marked in all cases, coming on suddenly and making the person take to bed at once. It was accompanied in many cases by shaking of the limbs and chattering of the teeth.

Pains in the back afterwards affecting the muscles of the legs and arms were marked in nearly all the cases. In 80 per cent. the muscles of the limbs were exceedingly tender on pressure.

The temperature was taken in a number of cases during the incubation period, but was never above normal. The nervous prostration and headache were always the first indications of a rise. It was rarely at its highest when first taken, but attained a maximum in three to six hours after the beginning of the headache. The most frequent temperature was 101° to 102.5°. In 6 cases the temperature was 103°, in 3 104°, and in 1 105°. It fell gradually with evening remissions, reaching the normal within three days except in cases mentioned later.

Loss of appetite was a constant symptom amongst a class of patients whose appetite is more than ordinarily good. There were no cases of diarrhœa, and, indeed, no alimentary symptoms other than those associated with any feverish condition.

Treatment.

As soon as the first symptoms developed the patients were put to bed. Milk, diluents, and later milk pudding was prescribed in every case and strictly adhered to. As there were

no abdominal symptoms a mild purge was given where necessary. Very few were able to take any nourishment during the first twenty-four hours. The headache was so severe in the cases amongst the female staff that treatment was directed to alleviate that. Nothing seemed to greatly influence the influenza headache for the first twelve hours at least. The best results were got from a mixture of pulv. ipecac. co. 15 gr., sodae salicylat. 10 gr., and phenacetin 10 gr. Ammoniated tincture of quinine was also given to some of the female staff, but it had not a fair trial as the taste was much objected to. It eased the symptoms slightly but the temperature followed the usual course. When, however, the epidemic was spreading on the female side, each of the four male wards was provided with a large bottle of the tincture which was largely partaken of by attendants and patients as a preventive. This no doubt had much to do with the non-spread of the disease on the male side, while the writer, who has had frequent attacks, ascribes his immunity from the present epidemic to the taking of a daily dose before the morning visit. Sixty-three cases, including all the males except one, were treated with carbolic acid. It was given in 1-minim doses of acid. carbolic. liq. in not less than 2 oz. of water, immediately on the onset of the symptoms, and repeated every two hours till the temperature fell to normal. In all the cases with the exception of five, the temperature fell below normal within twenty-four hours, and in a great many cases within twelve hours. This was in marked contrast to the cases not so treated. Of the 5 cases in which the temperature remained up for more than a day, four had a normal temperature by the end of the second day, and the fifth, who had a phthisical tendency, on the third day. In all the cases a complete four-hourly record of the temperature was kept, and the appearance of the charts of those treated with carbolic acid with their sudden fall below normal from 102° and 103° in twenty-four hours was striking compared to those of the cases not so treated.

A feature in all the cases treated with carbolic was the great perspiration after the first or second dose, quite remarkable in some cases, especially of the males. With the fall of temperature, and often before it, the headache and much of the exhaustion passed off, and the comparative comfort which these cases enjoyed within twenty-four hours of the first symptoms was noteworthy. Quite a number were sick after the first or second dose of carbolic, but in these cases it usually sufficed to give the dose four-hourly. Later on it was found that in those who had previously been given a purge there was no sickness from the carbolic; and on giving all the cases afterwards a purge, preferably castor oil, there were no further cases of sickness, even where the acid was continued for twenty-four hours. It was in no case given longer, and there were no signs in any case of bad effects from its use.

It may only be a coincidence that the number of cases began to decline from the day on which every one affected was put on carbolic acid, but it is highly probable that the infectivity of the cases was thereby lessened. The male cases were put on carbolic from the start and this had no doubt much to do with the non-spread of the disease to the healthy patients sleeping in the temporary male hospital. Dr. Clifford Allbutt[2] is of opinion that influenza is infectious only when the respiratory system is affected. Slight bronchitis, it has been already stated, accompanied 20 per cent. of the cases, but these were mostly amongst the early cases, and on the male side there was no affection of the respiratory tract. Still, the first cases of all, the three nurses in the hospital had also no respiratory symptoms, and yet they undoubtedly were infectious.

Relapses and Complications.

There were only three relapses, due in each case to the patient getting up too soon, and, as might be expected, all occurred among the female staff. Going on duty meant in these three cases going out through a cold corridor. In the case of the inmates rigid measures were taken to prevent their getting up, and there were no relapses. A thin, poorly-nourished girl, who was given to undressing herself at odd times during the day, developed a typical lobar pneumonia, but she had very little headache, and no muscular pains, and it is doubtful if she had any preliminary influenza.

There were 8 cases of ear disease, all developing on the third or fourth day of the influenza. Three of these were severe otitis media, the others being abscesses in the external auditory canal. A feature of the otitis media was the rapidity with which the pus accumulated; there was rupture of the membrane and copious discharge of pus not long after the intense throbbing pain indicated the condition. Great benefit was derived in all the ear cases from the use of listerine. In the first case that occurred, after the pus had begun to discharge, the temperature kept going up, the patient becoming delirious and ultimately almost moribund. The ear was well syringed with water and then filled up with pure listerine, the head being held in position for half an hour. The ear was then plugged with wool and the listerine repeated every two hours, the cavity being kept filled each time for half an hour. The temperature fell from 105 6° to 102° in eight hours and to normal in two days. Listerine was used in the other cases with similar results.

One female patient, who was convalescing from an attack of melancholia, after having all the symptoms of influenza for two days, passed into a condition of acute delirious mania, with a high and remittent temperature, dying of exhaustion in ten days.

The only patient who took the disease while confined to bed was a female melancholic of 68. She had no organic cardiac disease, but she died in about twelve hours after the onset of influenza from cardiac failure, her symptoms suggesting acute poisoning of the heart. Another female developed acute meningitis after her temperature from influenza had been normal for two days. This girl was the only case amongst the relapses or complications who had carbolic acid, but she was so sick with it that she only attempted two doses.

The deaths therefore were 3, or 5 per cent. of the total female patients affected, and less than 4 per cent. of the total cases. This is a small percentage for any epidemic, and markedly so when one considers that the average age of those affected was well over 50 years, even though most of them were in good health.

Amongst the males who were treated with carbolic acid—with one exception, an attendant—there were no relapses or complications. That attendant made a slow convalescence, and four weeks after getting up developed pyelitis. He complained of severe pain in the back greatly aggravated by pressure over the left kidney, and his temperature rose to 106°. In twenty-four hours his urine was loaded with pus. He had warm sitz baths, milk diet, and urotropine 10 gr. t. i. d. His temperature fell to 102° after the discharge of pus, to normal on the fifth day, and he was quite well in ten days.

The points of note in the epidemic seem to be:

1. The spread of the disease from ward to ward in series, in spite of the fact that all the patients were coming into daily contact, and that on the female side patients from different wards slept side by side in the same dormitory.

2. That, although the staff were affected before the patients, the disease spread along the building in the manner indicated.

3. The great proportion of women affected, and the fact that the disease attacked almost exclusively the strong and working patients.

4. The effects of carbolic acid in the treatment and its probable effects in diminishing the risk of spread of the infection.

5. The septic nature of the complications and the small percentage of deaths.

References

[1] Robertson and Elkins, British Medical Journal, February 1st, 1890.
[2] T. Clifford Allbutt, ibid., May 6th, 1905.

EPIDEMIC CEREBRO-SPINAL MENINGITIS IN NORTHERN NIGERIA.

By K. McGAHEY, L.R.C.P. and S.Edin., L.F.P.S.Glas.,
Colonial Medical Officer, Yola, N. Nigeria.

During the month of February, 1905, a very serious and widespread epidemic of cerebro-spinal fever broke out in Yola, a town of 22,400 inhabitants, situated on the Benue River, and about 1,000 miles from the coast. The epidemic in Yola province lasted from February 12th until the end of April, it spread over the greater portion of Northern Nigeria, travelling in a westerly direction, and was very largely confined to the trade routes.

The months in which it occurred are the hottest in the year, the temperature on several occasions reaching 108° in the shade. The natives state that they have no recollection of any such disease ever having visited them before, but I understand that in other parts of the protectorate spotted fever has been previously recognized.

The first case to occur here was that of an Arab who had just returned from a pilgrimage to Mecca. The villages on the road through which he passed were subsequently attacked by the disease. Whether his advent had any relation to the present outbreak I am unable to say, but it certainly looked very suspicious.

The present epidemic has been no respecter of persons, rich and poor, young and old, males and females, being alike attacked, nor has its distribution been confined to any particular area of those towns visited. In the towns attacked, the disease remained active for from three to four weeks, then suddenly disappeared.

Incubation Period.

One of my servants, a boy 12 years of age, ran away and slept in an infected compound, where there were 2 cases at the time. He developed the disease on the third day, and died on the fifth day. The Residency where the boy was living is two miles away from the nearest infected area, and at that time the strictest isolation was being enforced, so that as far as I know he came into contact with no infected cases. This case would show that the incubation period was as short as three days.

Food as a Source of Infection.

One case, a child 3 months old, developed the disease, and died; it had not received any other kind of food, its mother was healthy at the time, and did not subsequently contract the disease, so that I think in this particular case food did not act as a carrier of the disease.

The disease is, I think, not acutely infective; I myself went freely amongst them. I knew of one case where a man slept in a house in which a patient had died seven days before; this man afterwards contracted the disease, he not having visited an infected area after having slept in the infected house.

Prodromata.

None were observed in the rapidly fatal cases, but in the milder ones, epistaxis, accompanied by a violent headache and a feeling of lassitude, was noticed.

Symptoms.

These were typical, with the exception of the eruption, which was rarely noticed in adults, probably owing to the difficulty in detecting it in dark-skinned races; in the case of children it evidenced itself in the form of an herpetical eruption on the backs of the hands, wrists, and fingers, back of the neck, dorsum of feet, and over the clavicles. The tongue was dry and covered with a thick white fur; constipation was the rule.

There was nothing characteristic about the fever, no definite course being followed. In the malignant cases the temperature was sometimes subnormal.

Retraction of the head and neck was present in all cases.

Kernig's sign was present in 90 per cent. of the cases examined.

Complications.

Pneumonia, bronchitis, and arthritis were observed.

Sequelae.

Blindness, deafness, and partial paralysis.

Prognosis.

The prognosis was favourable in those who survived the first four or five days; the fatal cases as a rule died in from one to three days.

Treatment.

Purgatives and opiates were administered with doubtful result.

Mortality.

Three to 5 per cent. of the total population of infected towns were attacked, with a death-rate of 50 per cent. of the infected cases.

Rapidity of onset was a marked feature of the outbreak. To cite a case: Two men went to draw water from the river, about 300 yards off; both these men were rendered unconscious, and had to be carried back, both eventually dying.

Malignant cases occurred as a rule during the first week of outbreak in a town, and the milder ones towards its close.

Isolation.

Strict isolation proved effectual here at the Residency, where there is a population of about 250 inhabitants, no cases having occurred, although the epidemic was raging all around within a radius of two to three miles.

Pathology.

Lumbar puncture revealed a cloudy fluid somewhat flocculent, and occasionally blood-stained.

Nothing was observed on blood examination. The following are the notes of the *post-mortem* examination in the case of a man 30 years of age: Duration of disease five days; delirium set in on the first day, and persisted till the end. The membranes at the base of the brain were deeply congested, and fibrinous deposits and some purulent points were discovered beneath the dura mata in the region of the pons and cerebellum; in parts the membranes were adherent to the cortex of the brain. The spinal membranes were similarly hyperaemic, and pus was present in parts beneath the membranes. All the other organs were apparently healthy.

What struck me as a very strange coincident was the simultaneous appearance of spotted fever in New York, Europe, and Northern Nigeria. Was the sun spot which was visible at that time a predisposing factor in its production?

TREATMENT OF PUERPERAL ECLAMPSIA.

By ARTHUR C. J. WILSON, L.R.C.P.Edin., M.R.C.S.Eng.,
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I have read with great interest the report of the discussion on eclampsia occurring in pregnancy at the last meeting of the British Medical Association, and also the leading article on the subject in the British Medical Journal of September 23rd.

There is one method of treatment that I do not see definitely mentioned, though I have carried it out during the last twenty-nine years. It has much to recommend it in country practice, where, owing to the distance a patient may live away from the medical attendant, frequent visiting is impossible.

This treatment is, when called to a case of eclampsia, to commence at once the administration of chloroform, to give it slowly till the patient is fully under its influence; to keep her under till labour is terminated, so that she shall be partially under its influence for some time afterwards. This treatment I have found very successful, and have never seen any recurrence of the convulsions after labour, provided a short time only has elapsed after the first convulsion before the administration of chloroform is commenced.

The following cases illustrate this treatment:

Case I.

Called to a multipara at 2 a.m. Third pregnancy. Found her insensible, the convulsions being almost tetanic in character. At once gave chloroform till the patient was fully under its influence, with complete muscular relaxation. Made a vaginal examination, and found the os slightly dilated with breech presentation. Introduced Barnes's bags and terminated labour in about an hour, giving chloroform slowly all the time. The patient slept eight hours afterwards. When she regained consciousness she said she felt well, except feeling sore all over from the effect of the convulsions. The child was alive.

Case II.

Primipara, unmarried, 20 years of age. She had been treated by an unqualified man for "ovarian dropsy." Her parents did not know she was pregnant. I found her lying insensible, having had a severe convulsion. Another commenced soon after my arrival, so I at once administered chloroform till there was complete muscular relaxation. I then easily dilated the os with my hand and terminated labour with the forceps. Patient slept several hours and felt well on regaining consciousness. There was no return of the convulsions. The child was living.

Case III.

Primipara, under the care of another practitioner. He administered chloroform and continued it at intervals for some hours; but as he was taken ill he asked me to attend the case. I saw the case twelve hours after the first convulsion, and as the os was fairly dilated I gave more chloroform and terminated the labour with the forceps. She had no more convulsions and made a good recovery. The child was alive.

Case IV.

Multipara, about 26 years of age; very stout. Only five months advanced in pregnancy. Convulsions very severe on my arrival. Gave chloroform fully. Sent for my assistant and cleared out the uterus. Patient slept some hours and had no more convulsions.

Case V.

Primipara; short and very stout. Strongly convulsed on my arrival. Gave chloroform fully. Sent for my assistant. Dilated the os with my hand and terminated labour with the forceps. Patient slept some

hours. There was no return of the convulsions, and she made a good recovery.

In the following four cases chloroform was not administered at once, other treatment being tried first:

Case vi.

Multipara. Saw the case in the morning; convulsions had ceased, but the patient lay in a semi-conscious state. Full doses of chloral prescribed with instructions that I was to be sent for if the patient became worse. Through negligence I was not sent for till next morning, when I found the patient quite insensible with stertorous breathing, the lower jaw dropped, the pulse very rapid and scarcely perceptible at the wrist. I thought the case was hopeless, but not liking to let her die undelivered I carefully administered a little chloroform. The breathing became more natural and the pulse became slower and stronger, so I sent for my assistant and while he administered chloroform I dilated the os and delivered with the forceps. The child was dead. The patient slept quietly afterwards, but as the pulse became very weak I tried to give a little nourishment. This was immediately followed by another convulsion, so I at once administered chloroform again. She slept for some hours and there was no return of the convulsions. She made a good recovery.

Case vii.

Primipara. Attended her for albuminuria and dropsy two days before convulsions occurred. Ordered saline purge and to lie in bed. When the convulsions commenced full doses of chloral were given. After forty-eight hours her condition was getting worse. The os was partially dilated, so I administered chloroform and applied the forceps. She never thoroughly regained consciousness, and died twelve hours afterwards. The child was dead.

Case viii.

Primipara. Convulsions commenced and case attended by my assistant for two days, chloral and hyoscyamus being administered. He then asked me to see the case. I gave chloroform and terminated labour with the forceps. No convulsions afterwards, but not thoroughly conscious for some time. She died at the end of the week with apoplectic symptoms.

Case ix.

Multipara. My assistant was called to the case at 1 a.m. I was sent for at 9 a.m., and found that she had had convulsions all night. Gave chloroform and terminated labour with the forceps. Child alive. Convulsions commenced again directly the effect of the chloroform went off, so my son, who had assisted me, stayed with the patient about four hours, administering chloroform on the slightest return of the convulsions. She was partially insensible for two days and then made a good recovery. Hypodermic injections of morphine were given in this case.

These are not all the cases I have attended, but they are all I can call to mind at the present time, but in no single case in which I commenced the administration soon after the convulsions have commenced has there been any return of the convulsions after delivery.

It takes a good "pluck" sometimes to put an insensible woman fully under chloroform, but the effect is marvellous when done.

If the chloroform is administered slowly, and plenty of time allowed so as to get complete muscular relaxation, I have never had any difficulty in dilating the os with the hand, and it can be done without any laceration if due care is taken. I have also had no difficulty with *post-partum* haemorrhage, as the uterus can be well syringed out with hot antiseptic solution and the uterus controlled with the hand while the patient is well under chloroform.

Knowing the good results obtained by the administration of chloroform in uraemic convulsions, has made me rely upon it in puerperal convulsions. A few weeks since I had a case of uraemic convulsions in a child seven weeks old, following scarlet fever. No urine was passed for thirty-six hours. I administered chloroform five times till complete muscular relaxation occurred. The child slept some hours after each administration, and made a good recovery. The points I wish to emphasize are these:

First, that in cases of eclampsia occurring in pregnancy where chloroform was given fully soon after the first convulsion, and when its effect was kept up some time after the termination of labour, no more convulsions occurred.

Secondly, that terminating labour by dilatation of the os can be, as a rule, easily carried out, provided the patient is kept fully under chloroform, and seems to have no effect in causing a return of the convulsions.

Thirdly, in nearly all cases where some time had elapsed before the administration of chloroform convulsions recurred after labour, and the patient did not make so good a recovery.

Fourthly, the danger to the child is increased by delay.

The cases I have given are too few to form a definite opinion, but I think the immediate treatment with chloroform deserves a further trial. Forced delivery is quite a different thing when a patient is fully under chloroform to what it is when there is not complete muscular relaxation.

A PLEA FOR EVACUATION OF THE UTERUS IN UNRELIEVED CASES OF PUERPERAL ECLAMPSIA.

By ERNEST BRICE, L.R.C.P., L.R.C.S.Edin.,
Landore, Glamorgan.

A perusal of the discussion on the treatment of puerperal eclampsia at the recent meeting of the British Medical Association at Leicester impresses one point very strongly on the mind, and that is that the element of doubt and uncertainty has crept into the minds of our leading obstetricians as to what is the proper method of handling such cases, or even as to whether any treatment at all is called for. This is very unfortunate, for if there is any trying emergency in which a practitioner finds himself where prompt action seems called for, surely a case of this kind is one.

Now, is the impression one gathers from this discussion a true representation of the feeling of the profession at large? I am aware that at the present day it is fashionable to doubt everything; this is an age of doubt, and every one is tempted to question the wisdom of his fathers—and this is especially true in matters medical. It is true that we are bound to admit that, as science and art advance, new rays of light are shed upon what was once obscure, and we are bound often to sacrifice our household gods to new truths; yet I cannot help feeling that a grave danger exists of treating old loves too lightly; of forgetting that old views, although not ideal ones, meant something, for they represented years of effort on the part of those who went before. True conservatism in medicine is a valuable principle. We must advance in thought and teaching; but we must think, not twice, but twenty times before we sweep away the wisdom of the growth of generations.

Applying these thoughts to the matter of the treatment of puerperal convulsions, I find that Meadows, in 1876, wrote:

"There is, indeed, little or no chance of the convulsion ceasing so long as the child remains in the uterus, with probably the head pressing upon a tender and irritable cervix, but no sooner is delivery accomplished than, as a general rule at least, the fit subsides; it may, of course, recur, but the patient's chances of recovery are decidedly better after delivery than before."

We may take this statement as representing the consensus of the opinion of his time, and the highest wisdom up to date; the acme of truth on the matter since the time when physicians began to consider it at all.

In 1891, fifteen years later, Galabin wrote:

"No time should be lost in inducing labour, since nothing exercises so favourable an influence as the completion of delivery, both as regards the convulsions and the condition of the urine."

Here we have practically the same view expressed, namely, that hope only lay in the evacuation of the uterus; thus, after fifteen years' further research by obstetricians of no mean order, no better treatment can be suggested; the burden of treatment is still—evacuate the uterus.

Fifteen more years have passed, and now doubt seems to be thrown upon the efficacy of this method. Why, it is difficult to say.

One can understand a new view of the pathology of a disease, or the discovery of a more effectual remedy altogether affecting our course of action, but of the pathology of puerperal eclampsia we have no more definite knowledge than we had twenty years ago, nor can we offer any better method of conducting a case. Yet the methods with which our forbears were successful are now being brought into question, and by some we are advised practically to leave things alone, "as we are as likely as not to do more harm than good by interference." One has the highest respect for those who express such views, and one feels that, coming from the source they do, they are bound to receive our most earnest consideration. Yet after all, it is hard to believe that the non-interference policy embodies the result of the experience of the whole body of the profession. It would be very helpful if the general practitioner could be induced to give his experience.

In thinking over cases of my own, I have in my mind six, in each of which relief followed the birth of the child. Unfortunately I have not an exact record of the cases, as notes were not taken at the time, but the details are substantially correct, and one fact is very plainly stamped upon my mind, and that is that the convulsions were always relieved after the evacuation of the uterus.

Case I.

The patient came under my care during the absence from home of her own medical adviser. There was considerable oedema and albuminuria, and also valvular disease of the heart. Her doctor had given a very poor prognosis of the result of her confinement. She sent for me one evening suffering from severe headache; the next morning convulsions set in. I kept her well under morphine hypodermically administered. The convulsions were controlled, but she remained in a comatose condition all day. Next morning spontaneous labour came on, with complete relief of the symptoms, followed by an uninterrupted recovery.

Case II.

On my first seeing this patient there was albuminuria and convulsions. Spontaneous delivery was followed by cessation of the fits; the patient, however, remained comatose, and died in a few days.

Case III.

A primipara with severe convulsions. I kept her well under chloroform, and when I found a slight dilatation of the os—no help being at hand—I ruptured the membranes, turned, and delivered. The fits then practically ceased, and the patient made an uninterrupted recovery.

Case IV.

This case I saw with a friend. The patient had severe convulsions. I advised inducing labour, and while my friend administered chloroform I commenced manual dilatation, and after some perseverence managed to deliver. The convulsions then ceased, and I was told that the child lived and the mother made an uninterrupted recovery.

Case V.

I was asked by a friend to see a case of puerperal convulsions with him. The attacks were frequent, and I advised inducing labour. My friend, however, seemed to prefer temporizing. We therefore decided to try the effect of the hypodermic injection of the hydrobromide of hyoscine. The patient went from bad to worse, and later in the day my friend agreed to the advisability of inducing labour. The result was everything we could wish as regards the convulsions, but I understand that the patient afterwards died from other causes, remaining conscious to the end.

Case VI.

A primipara. When first seen the patient was in a comatose condition, with occasional convulsions. She also had albuminuric retinitis. She remained a day or so in this condition, when spontaneous labour set in. Her condition immediately improved, and she made a good recovery, as far as the eclampsia was concerned, although the eye trouble persisted for some time.

It will be noticed that in each of these cases evacuation of the uterus was followed by relief. To my mind, the course of treatment in every case of puerperal eclampsia is clear and definite. First, try to control the convulsions by the administration of morphine or chloroform (I have never found difficulty in getting the patient under the influence of chloroform; in the various convulsive movements of the mouth and chest enough is drawn into the lungs to produce the desired effect). If the convulsions pass off, well and good; if not—you cannot keep the patient indefinitely under the influence of these drugs—and labour does not soon ensue, then induce delivery. For the latter purpose I prefer Nature's instrument—the human finger—as much the safest, for it is endowed with sensation, and knows what it is doing, and is, moreover, effectual earlier than any other form of dilator. If it is impossible to commence the dilatation with the finger, the sound may be used to start the process, there being no time, of course, to wait for the action of tents.

I offer these suggestions and experiences for what they are worth. I am convinced that if other general practitioners would give us their experiences, it would be useful to all who have these appalling cases to deal with, and would be immensely to the advantage of those most concerned—namely, the poor mothers who are thus so grievously afflicted.

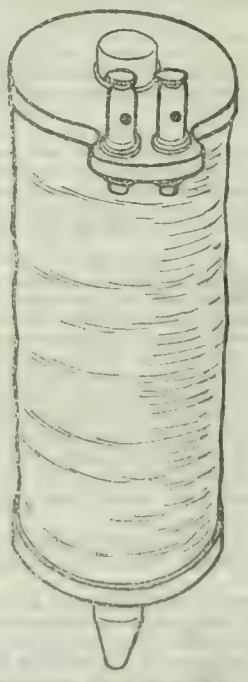
REMOVAL OF IRON FROM INTERIOR OF THE EYE BY ELECTRO-MAGNET.*

By A. S. PERCIVAL, M.B., B.C.Camb.,

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It was in 1881 that Mr. Snell of Sheffield devised the small electro-magnet that I have here. If the foreign body lie in front of the lens—that is, in the anterior chamber—it is an efficient little instrument. If it be behind the lens, in the vitreous, or embedded in the retina, I have found Snell's instrument to be very unsatisfactory. Suppose that there is a perforating wound in the sclera, Mr. Snell tells one to boil the probe pointed terminal to sterilize it, then to attach it to the magnet and insert it into the wound carefully, and to listen for a "click"; this will indicate that the iron fragment has touched the probe end of the magnet. If no sound be noticed, the probe is to be gently moved about until the "click" is heard. As soon as this is heard, the magnet is to be withdrawn with the steel chip attached to it.

In practice I have found that these directions are usually impossible to carry out. If one does succeed in hearing the "click," on withdrawing the instrument the foreign body is wiped off by the edges of the wound; if one enlarges the wound sufficiently to avoid this, there is such a prolapse of vitreous that the eye is subsequently lost; and even the mere act of moving the probe about in the vitreous leaves little hope of preserving a useful eye. The vitreous is a tissue consisting of cells and a fluid matrix, and bacteriologists tell us it is one of the best nutrient media for germs, so that it requires to be treated with even more reverence than most of the other parts of the body. Finally, there is a great physical objection to this little magnet: (1) A screw junction makes a most inefficient magnetic connexion; (2) the pull of an electro-magnet decreases very rapidly as the distance from the coil is increased.



The dimensions of the bobbin are 4½ in. by 1¾ in. The diameter of the core is ⅞ in.

Haab and Hirschberg have used giant magnets weighing 250 lb. to 600 lb.; these are certainly powerful enough, but they are unwieldy, and require the greatest care in their application, or irreparable damage may be done. Some six years ago I devised this magnet for eye work. It can be held in the hand, and when required the plunger can be removed and a pair of forceps inserted. I will endeavour to show, on this "phantom eye" how the magnet is to be worked.

[The "phantom eye" was represented by a wineglass filled with water, its mouth being covered with a piece of india-rubber sheeting. Part of a needle was passed through the rubber into the glass, from the bottom of which it was then removed through the minute hole of entrance by the electro-magnet.]

The greater number of iron particles enter the eye either through the cornea or the scleral border, and as we must at all costs prevent the foreign body from getting entangled in the ciliary body, in the majority of cases the best way out is through the pupil into the anterior chamber. The eye must be carefully watched the whole time, and if the foreign body lie behind the iris, it must be coaxed round the anterior surface of the lens, until it can enter the anterior chamber through the pupil. In some cases, where the wound is in the sclera, and is quite recent, one is tempted to extract the foreign body by its wound of entrance. There is then, however, the great risk of injuring the ciliary body. The specimen I send round was extracted in this way. I saw the case three

* A paper read before the all-day scientific meeting of the Newcastle-upon-Tyne Division of the British Medical Association, July 16th, 1905

hours after the injury. The wound was 1 mm. beyond the scleral border, the vitreous was full of blood, the lens was apparently not injured, but no indication of a foreign body was observed. The patient was pretty certain that there was nothing in the eye; he thought he had been struck by a large piece of metal. I may mention that a patient's account of the injury should always be accepted with the greatest caution. I have frequently found foreign bodies present when the patient has been quite certain there were none. With the electromagnet I drew out this fragment, which I have sent round for inspection.* In a few days the vitreous haemorrhage cleared up almost entirely, leaving him with vision about $\frac{6}{9}$. Subsequently, however, a detachment of the retina occurred, so that I am afraid his sight will eventually be but slight.

I have seen it stated that if no pain is felt on the approach of the magnet, there is certainly no particle of iron in the eye. This is a "study table conclusion"; it sounds reasonable, but it is absolutely untrue in practice. I have been so often deceived by it that I never now pay the least regard to it.

It is of very great advantage to be able to cut off the current with ease, as a foreign body imbedded in the retina is more easily loosened by attracting it in jerks.

In conclusion, I should like to say a word about the indications for removal of an injured eye. Many books may be read on the subject, and leave one undecided what one should do in the case that presents itself for immediate decision. I think the following considerations will aid one in forming a correct conclusion, provided that the other eye is sound. It may seem unnecessary to mention this proviso, but I well remember once being consulted by a patient about an injured eye, which his doctor had made all preparations to remove the next day for fear of sympathetic ophthalmia; I found the other eye to be absolutely blind

In almost every case of sympathetic ophthalmia the exciting eye has been previously perforated either by injury or by ulceration, hence every perforating wound which is not known to be aseptic is always a source of great anxiety. The risk is extreme:

1. If the wound be in the ciliary region—this dangerous area may be defined as the zone $\frac{1}{4}$ in. in width that surrounds the margin of the cornea.

2. If the wound be septic—this can often only be recognized by its consequences. It should, however, be noted that wounds giving rise to suppurative panophthalmitis are not liable to induce sympathetic ophthalmia.

3. If a foreign body be retained in the eye.

Immediate excision of the eye is indicated by the concurrence of two of these conditions, even though some sight be retained; by the occurrence of one of them, if sight be irreparably lost, provided that the vision of the other eye is good.

Under other circumstances excision of the eye may be delayed until symptoms arise without much risk, but operative interference is necessary when there is persistent, severe, or recurrent iritis, when the eye is tender or becomes soft, or when there is sympathetic irritation in the other eye. If irido-cyclitis have already occurred in the sympathizing eye when first seen, excision of the exciter should only be performed if vision is lost beyond hope of recovery, as not infrequently the injured eye will retain the better sight of the two.

If the other eye be blind or absent, intractable pain is practically the only condition of the injured eye that demands its excision, and neurectomy may sometimes be advantageously substituted for this.

* The fragment was $\frac{3}{4}$ in. long, by $\frac{1}{16}$ in.

Bequests to Medical Charities.—The late Miss Mary Elizabeth Gorst, of Chester, whose will has now been proved, left £500 to Chester Infirmary.

Insanity among Negroes.—Dr. W. F. Drewery, Superintendent of the Central State Hospital, at Petersburg, Virginia, gives some figures showing the increase of insanity among the negro population. The number of patients sent to the hospital during the year was 170 more than the previous year, showing an increase of about 50 per cent. The number in the hospital was 1,449 or 115 greater than the year before. The smallest number under care at any one time was 1,101 and the largest 1,305. The number present at the end of the year was 1,181, or 80 over the previous year. The growing prevalence of mental disease among negroes is ascribed by Dr. Drewery to physical conditions and degeneracy induced by indolent, unhygienic, and immoral modes of life, as well as to the influence of heredity, rather than to mental stress or overwork.

SEVENTY-THIRD ANNUAL MEETING
OF THE
British Medical Association.

Held at Leicester, July 24th, 25th, 26th, 27th, and 28th, 1905.

PROCEEDINGS OF SECTIONS.

SECTION OF LARYNGOLOGY, OTOLOGY, AND RHINOLOGY.

Frederick W. Bennett, M.D., President.

PRESIDENT'S INTRODUCTORY REMARKS.

[After some introductory remarks the President proceeded:]

It is interesting to look back upon the great change which has taken place during the last twenty years in the importance attached to the treatment of diseases of the throat, nose, and ear. Then only the larger centres of population were even moderately provided for. At the present time there are few important hospitals where there are not special posts, and, what is still more important, there are few practitioners who do not take some degree of interest in these studies. But the general public still remains far too indifferent to the importance of the early treatment of these diseases. What we shall look back upon with the most profound pleasure when our medical life is finished will be probably the effect our work has had in the prevention of disease and in advancing knowledge with a view to averting from the community dangers to which its members would otherwise have been exposed. To me at least this aspect of our work has always appealed.

For seventeen years I have taken an active interest in the educational work of this borough, and I have always been impressed by the great wastage due to the unrecognized beginnings of diseased processes. The results of Dr. Cheatle's examination of the hearing power of a large number of school children was in entire accord with the impression I had gained from very frequent visits to schools. Amongst the backward children and the very large number who fail to keep up with the average of school work we find a large percentage suffering from defects of the special senses, which prove a severe handicap not only in early years but throughout life. I am glad to say that at last this is recognized by our Educational Committee, so that we are now about to appoint a medical officer for the inspection of the children, a prominent part of whose duties will consist in the detection of such errors of sight and hearing as prove detrimental to the child's interests. With the increasing competition among the nations, it will be more and more necessary to ensure that each citizen shall start life with the fullest possible development of his faculties.

A DISCUSSION ON THE LINES OF TREATMENT IN PREVENTING ACUTE MIDDLE-EAR SUPPURATION FROM BECOMING CHRONIC.

I.—Wm. Milligan, M.D.,
Honorary Surgeon, Manchester Ear Hospital; Aural Surgeon, Manchester Royal Infirmary; Lecturer on Diseases of the Ear, the University of Manchester.

If justification is required for the selection of this particular subject for discussion, a glance at any of the principal otological clinics of the country will, I think, afford an ample answer. Why is it that we meet with so many chronic cases of septic middle-ear disease in the course of practice? Is it that the virulence of the initial infective process is such as to baffle all attempts to arrest the disease, or is it that the methods of treatment usually adopted in its early stages are inadequate? Undoubtedly cases occur—more especially during the course of one or other of the exanthemata—where the microbic invasion of the tissues is so severe and the general want of resistance on the part of the patient so feeble, that all our efforts to restrain the progress of the disease

prove insufficient. Increasing experience makes me believe, however, that the main reason why our clinics swarm with chronic cases is that the methods of treatment frequently adopted in the early stages of acute septic otitis media are often quite inadequate and equally often faulty. The bare fact that so many chronic cases exist emphasizes the necessity of some interchange of opinion upon this important subject. I have no hesitation in saying that much chronic disease of the middle ear is preventable; and were an acute infective process treated more energetically at the outset, and more generally upon the recognized principles of surgery, much deafness would be prevented, many lives would be saved, and the happiness and comfort of many victims of middle-ear suppuration would be ensured.

The middle ear is a somewhat composite cavity and is in reality formed by the cleft which intervenes between the periotic capsule on the one side and the squamo-zygomatic portions of the temporal bone upon the other. It is lined by an entodermal mucous membrane, a continuation of the lining membrane of the first visceral cleft, and consists of three segments, the bony portion of the Eustachian tube, the tympanic cavity, and the mastoid antrum. The continuity of these several segments is easily demonstrated in the infant and child. In adult life the continuity, although not so apparent, is still quite demonstrable. An inflammatory process arising at any one particular point may invade the whole cleft or may remain localized to one or other of its segments. The pathological changes which take place in acute septic infection of the middle-ear cleft are most readily observed when they attack the tympanic cavity. In this particular region objective changes come more directly under the observation of the observer and what changes take place in the tympanic portion of the cleft may, and frequently do, take place in its other segments. The aim of all treatment should be to arrest as quickly as possible the progress of the initial infective process and to prevent the development of deep-seated pathological changes—changes which too often end in permanently injuring the ear as an organ of special sense, and in providing paths along which pathogenic organisms pass to infect more deeply-seated tissues and organs.

In considering the question before us we are met at once with this difficulty. What constitutes chronicity? At what stage does an acute process become chronic? Is the transition from an acute to a chronic process to be measured in terms of time or in terms of pathological change, or by what index? I would venture to suggest that neither a time limit nor the evidences of pathological change quite meet the case, but that from the point of view of practical politics a case may be considered to have passed into a state of chronicity when the recognized treatment adopted for its relief as an acute condition has failed to modify the progress of the disease. If we adopt this idea, the inference is that to avoid chronicity everything depends upon the success of treatment in the earliest stages of disease. The fact that in a very limited number of cases of septic infection of the middle-ear cleft resolution of the disease takes place after the escape of its purulent contents per tubam, should not in any way influence the measures to be adopted. Such general precautions as rest in bed, or in a warm room, attention to the condition of the primæ viæ, physiological rest to the inflamed organ or organs, the exhibition of light, easily digested food and attention to the state of the general health, are so self-evident as to require merely a passing mention. Believing as I do that every acute septic infection of the middle-ear cleft is preceded by an acute catarrhal inflammation of its mucous membrane, and that the resulting exudate forms the soil upon which infective organisms grow and multiply, it is essential that any treatment adopted should have as its aim (1) the cutting short of the inflammatory process before exudation takes place, and (2) the endeavour to prevent septic contamination of the exuded fluid, should such exudation already have taken place. It is true that this preliminary catarrhal stage may be of very short duration, and that exudation and infection may take place almost simultaneously. So long as the mucosa remains relatively dry, so long does it appear to preserve its bactericidal properties. From the moment that exudation takes place, the bactericidal properties of the mucosa are markedly reduced, and its vulnerability to the attacks of invading organisms is much increased. From the outset, therefore, treatment should aim at arresting the inflammatory process prior to the stage of exudation, and if exudation should already have taken place, the greatest care is necessary that no mechanical irritation be brought to bear upon the part, such as is induced by the injudicious use of Politzer's bag, or the driving of columns of air along the Eustachian catheter. How often is the catarrhal exudation directly infected by the use of Politzer's air douche, or by the employment of the Eustachian catheter? Do we, as a rule, take any precautions to inflate sterile air? Is not the Politzer's "bag" picked up from the table and the contained air inflated without any thought as to its being sterile or otherwise? To illustrate the results of the inflation of air from an ordinary Politzer's "bag" into a sterile medium, I venture to show several tubes which have been prepared in the following way:—

A sterilized test tube A is half filled with peptone bouillon. Into this bouillon a sterilized curved tube B dips. This curved tube is kept *in situ* by pads of sterilized cotton-wool CC. The free end of the curved tube B is plugged by a pad of sterilized wool D. To the free end of the curved tube B, the pad D having been removed, a piece of sterilized rubber tubing is attached, its other end being connected with the nozzle of a Politzer's bag picked up from the table. The contained air is now slowly driven from the bag into the bouillon, after which the plug D is again inserted into the curved tube B. Within forty-eight hours a growth of micro-organisms is seen to appear.

It may be urged that the inflation of air from an ordinary Politzer's "bag" into sterile broth is not quite analogous to the inflation of air into the tympanic cavity. The length of the nasal passages, the moistness of their walls, and the diminished diameter of the Eustachian tube tend undoubtedly to arrest the inward progress of micro-organisms. Against this, however, we have to note the fact that air driven forcibly up a stenosed Eustachian tube scatters the exudation within the tympanic cavity in the form of a fine spray against its walls and against the walls of the mastoid antrum, thereby materially increasing the chances of the growth of any organisms which at the moment it may have contained.

I am strongly of opinion that many cases of extension of septic inflammation to the mucosa lining the mastoid antrum and its adjoining cells are due to the abuse of the air douche. Professor A. H. Young and the writer showed in a paper read at the Manchester meeting of the Otological Society of the United Kingdom that smoke or coloured fluid injected up the middle-ear cleft passed directly into the mastoid antrum, whether the membrana tympani was perforated or not. It is only after the middle-ear cleft is full of smoke or secretion that any escape takes place through the perforated membrane. This happens whether the perforation be large or small, whether it be single or double.

Purulent exudation lying in the cavity of the tympanum is, if inflation be practised, driven in the first instance upwards and backwards to the postero-external part of the cleft—in other words, to the far end of the mastoid antrum—before any escape through the perforated membrane takes place. Whether an actual infection of the mucosa lining the antral cavity takes place or not depends upon the virulency of the infective agent or agents, the resisting power of the individual's tissues, and the facilities already in existence for drainage.

That others take an absolutely different view of this question is seen from the following quotation taken from a paper upon The Conservative Treatment of Protracted Cases of Acute Otitis Media Purulenta with its Complications, by Dr. Alfred Wiener, published in the *Medical Record* of April 8th, 1905. After speaking of the value of free incision of the membrana tympani he goes on to say:

I at once follow this with the Politzer, and blow out all pent-up secretion in the tube and tympanic cavity. Remember that this ear is in a state of acute inflammation; that the mucous membrane of the Eustachian tube, middle ear, antrum, and undoubtedly that of the greater part of the mastoid cells, is more or less in a state of tumefaction, and that the point of least resistance is the opening in the drum, that a current of air directed through the nose, Eustachian tube, and middle ear would certainly take this direction of least resistance, and pass into the external auditory meatus. That this does so, together with varying quantities of fluid secretion, is without doubt. You have only to employ this measure once to convince yourselves. To blow secretion from the throat of such a patient into his middle ear through a tube which is already partially closed on account of the swollen mucous membrane, unless undue force is used, is a statement which I most severely question. To blow it into the mastoid cells when there is a large opening in the drum, and at the same time remembering that these cells are probably shut off from communication by a swollen mucous membrane, I am unwilling to believe.

I dwell upon these last two statements because you will be warned on all sides against using a Politzer in acute affections of this kind, as you are liable to infect the middle ear with secretion from the throat, or blow the secretion into the mastoid cells. If the Politzer is unsatisfactory in this respect, I make use either of a Siegle's speculum or the Delstanche instrument to aspirate the secretion. Remember, I am referring to protracted cases, where you would always expect to find secretion.

Professor Politzer, in his monumental work upon *Diseases*

of the Ear, 4th edition, pp. 354-55, in discussing the treatment of acute middle-ear suppuration, says:

In order to thoroughly remove the secretion from the middle ear, it must be forced into the external auditory canal by a current of air passing through the Eustachian tube into the tympanic cavity. . . . As a rule, the air douche is begun on the third to the fifth day after the discharge has made its appearance; at first weak pressure is made, but later this is increased. . . . In reference to the statement brought forth by the opponents of the air douche, that pain in the ear is often produced by this procedure, it must be remarked that painful exacerbations arise in the course of acute suppuration of the middle ear, whether the cases are treated with the air douche or not. The view that the pains are caused by the inflations is based on faulty clinical observation. One notices, on the contrary, however, that the pains caused by an insufficient discharge of the pus disappear immediately after an inflation of air.

These views, divergent as they unquestionably are, show that the value or otherwise of inflation in the early stages of acute otitis media is still open to discussion.

In a report to the French Society of Otology upon the Treatment of Acute Otitis Media, published in the *Annales des Maladies de l'Oreille*, etc., May, 1904, by Drs. Lermoyez, Lubet-Barbon, and Moure, the following passage occurs:

Why not use air douchings at each dressing? Is it because politzerization is to be blamed for provoking artificial mastoiditis by projecting into the mastoid cavity pus coming from the tympanum? But it is known that this blame does not hold, because it is demonstrated that there is not otitis without antritis. The air bulb cannot create what already exists. All this is very true, but there are other reasons for opposing the regular use of the air douche in the course of the dressings of otitis acuta. The air douche is evidently injurious—injurious because it gives severe shocks to a region which should be at rest: injurious because it forces brutally towards the diseased ear the septic secretions which are seldom absent from the epipharynx; harmful perhaps by risking contamination of the sound ear, although this point has been sharply contested. And besides it is of no utility, for one of two things occurs. Either the tympanum is well emptied and air inflation is not altogether necessary, or it is not well emptied because the tympanic perforation is not large enough. In this case paracentesis—not politzerization—is necessary. But the air douche should not absolutely be condemned. Sometimes it relieves the head in certain patients; it may be authorized in exceptional cases when the acute period subsides.

The transition from a non-purulent to a purulent exudate may be a very rapid one. Clinically this is shown by a rise of temperature, by an increse of pain, and by certain objective indications such as increased swelling and oedema of the membrana tympani, by the appearance of a yellowish coloration seen through the red and congested drumhead and occasionally also by its pulsation. Expectant treatment awaits the rupture of the membrane, allows of a necrosis and ulceration of its various layers, and the formation of a perforation often very minute and too often quite inadequate for the surgical drainage of the infected cavity. Spontaneous perforation of the drumhead, moreover, rarely, if ever, affords a free vent for the pent-up secretion within the tympanic cavity, and frequently leads to a false sense of security on the part of the patient, if not, also, on the part of the medical attendant. Rational treatment anticipates what is the inevitable result of the existing pathological process, and comprises free incision of the membrane and the maintenance of adequate facilities for drainage. The moment the normal plane of the membrane is altered by the pressure of pent-up secretion behind it, is the psychological moment for incision. Far better is it to perform one unnecessary paracentesis, than to regret afterwards the presence of extensive destruction of the membrane and of the contents of the tympanic cavity. The value of an early incision through the membrane, performed of course with all due antiseptic precautions, cannot be overestimated, and were it more frequently practised much chronic disease would be averted. It matters not whether the incision be vertical, horizontal, or whether a portion of the membrane be actually punched out; but what does matter is that it be done at a sufficiently early stage of the disease, that it be made of such size as to afford an unimpeded vent for the escape of pent-up secretion, and that it be kept open so long as secretion continues to be formed within the middle-ear cleft. An early and a free incision of the membrane is, I believe, the most valuable of all the minor methods calculated to prevent chronicity.

To illustrate the value of this I append the details of 14 consecutive cases of acute otitis media occurring in my out-patient department at the Manchester Ear Hospital, compiled and treated by Mr. Lindley Sewell, clinical assistant to the hospital, and of 14 consecutive cases occurring in my private practice. In the former series 1 case had completely recovered after three days, 2 after six days, 2 after seven days, 1 after nine days, 1 after twelve days, 3 after fourteen days, 1 after eighteen days, 2 after twenty-eight days, and 1 after thirty-five days' treatment; in the latter series, 2 cases had completely recovered after five days, 3 after six days, 1 after seven days, 1 after eight days, 4 after ten days, 1 after eleven days, 1 after fourteen days, and 1 after twenty days' treatment.

In both series of cases the membrana tympani was in every case swollen and congested and exudation was present, as was proved by its escape after free incision of the membrane. In no case was inflation practised, the treatment consisting in aspiration of the contents of the tympanic cavity and in packing of the meatus with strips of cyanide or iodoform gauze.

Initials.	Sex.	Age.	Duration of Disease.	Membrane Healed in	Hearing Power.
S. D.	M.	36	1 week	6 days	Good
E. G.	F.	2	2 weeks	5 weeks	—
A. F.	F.	54	14 days	7 days	Good
C. H.	M.	34	3 days	9 days	Good
A. C.	F.	34	5 days	4 weeks	Good
T. M.	F.	33	3 days	6 days	Good
H. M.	M.	[illegible]	5 days	18 days	Good
M. R.	F.	45	3 weeks	14 days	Good
H. H.	F.	51	—	10 days	Poor
C. C.	F.	53	6 weeks	14 days	Fair
F. F.	F.	70	8 days	3 days	Fair
R. I.	M.	42	2 weeks	7 days	Good
A. W.	F.	42	3 days	14 days	Good
A. C.	F.	30	4 days	4 weeks	Fair only
O. M.	M.	66	14 days	10 days	Good
F. D.	M.	19	14 days	7 days	Fair
H. K.	M.	33	8 days	6 days	Good
E. G.	M.	3	8 days	10 days	Good
K. B.	F.	10	7 days	5 days	Good
L. K.	M.	36	4 days	11 days	Good
G. F.	M.	52	6 days	10 days	Fair
J. S.	M.	10	21 days	8 days	Good
E. C.	F.	35	14 days	6 days	Good
J. M.	M.	10	6 days	5 days	Good
M. S.	F.	50	4 days	14 days	Good
J. R.	M.	16	40 days	20 days	Good
M. T.	F.	18	14 days	10 days	Fair
M. V.	F.	30	3 days	6 days	Good

The result of treatment in these 28 cases, so far as the preservation of hearing was concerned, was as follows:

Normal hearing in 20 cases. | Poor hearing in 1 case.
Fair hearing in 6 cases. | Doubtful result in 1 case.

A routine bacteriological examination of pus taken from the tympanic portion of the middle-ear cleft is undoubtedly of value in estimating the probabilities of chronicity or otherwise.

A large proportion of staphylococcic infections—probably from 60 to 70 per cent—prove themselves amenable to simple local treatment, tympanic drainage, and the use of antiseptics. On the other hand, streptococcal infections are much more prone to induce chronic disease and intracranial complications, whilst a knowledge of the prevailing organism is of great value should treatment by injections of serum be decided upon.

In any given case of acute otitis media purulenta, where pain and profuse discharge exist after a free paracentesis, and where bacteriological examination reveals the presence of streptococci or of Pfeiffer's bacilli, I believe that the interests of the patient are best served by immediate resort to posterior external drainage.

By means of free drainage we are enabled to most readily secure a dry condition of the mucosa lining the middle-ear cleft, and, as has already been pointed out, the drier the mucosa the greater its bactericidal properties.

The results of imperfect drainage and the tendency to chronicity thereby induced are well seen in cases of septic disease of the epitympanum with perforation of Shrapnell's membrane. Here we have in all probability to deal with a localized inflammatory process affecting the upper expansion of the tympanic portion of the middle-ear cleft, and possibly also the mucosa of the iter ad antrum and of the antrum itself. The perforation produced in this particular portion of the membrana tympani is frequently extremely minute—often merely a pin-point perforation—and from the very commencement of the disease pus is pent up within the folds of mucous membrane existing in this particular region, as is evidenced by the pouting condition of Shrapnell's membrane and by the severe pain complained of. As the result of this stagnation early disease of the head of the malleus, the body of the incus and the cells of the

outer attic wall is induced. That the tympanum proper frequently does not participate in the septic process is shown by the preservation of good hearing so usual in the early stages of disease in this region and from the fact that inflation demonstrates the early shutting off of the epitympanum from the tympanum proper.

The great majority of these cases, unless efficiently drained by removal of the outer attic wall, or preferably by drainage of the posterior end of the middle-ear cleft, assume at an early stage all the characteristics of chronicity with its tendency to the formation of carious foci, exuberant bone granulations and constant fetid discharge. On the other hand, should it happen by some good fortune that in the course of the disease a large perforation has formed, or that the outer attic wall has come away in the form of a sequestrum, thereby favouring an efficient escape of pent-up purulent secretion, spontaneous cure of the disease is by no means uncommon.

The presence of septic disease in this situation and its proximity to the base of the middle fossa render it imperative that at the earliest possible moment free drainage should be secured.

The existence of nasal, pharyngeal, or naso-pharyngeal disease—for example, nasal catarrh, naso-pharyngeal catarrh, naso-pharyngeal adenoids, enlarged tonsils, and so forth—tends to promote chronicity, partly on account of the Eustachian catarrh and stenosis thereby induced, and partly also on account of the interference with the normal physiological function of the tube. In addition, the mere presence of these pathological entities, forming as they do a nidus for micro-organismal life, favours infection and reinfection of the middle-ear cleft. The question therefore arises, "Should surgical interference be adopted for their removal during the acute stage of the middle-ear infection, or should it be delayed until the middle-ear infection has been successfully combated, or until it has become less acute?" Speaking generally, opinion favours the adoption of local and palliative treatment until acute symptoms have subsided. My personal experience has led me to advise the removal of all such contributory causes to chronicity so soon as the patient's temperature has fallen to normal, and has remained normal for a period of five days. This I have found to be a good working rule whether in cases of exanthematous or non-exanthematous origin. During this intermediate period the frequent use of antiseptic gargles, alkaline and antiseptic nasal spray solutions, and the inhalation of soothing and antiseptic medicaments are of considerable value.

The frequent extension of septic inflammation from the cavity of the tympanum to the cavity of the mastoid antrum is favoured by the anatomical structure of the middle-ear cleft, by the dependent position of the patient's head for many hours out of every twenty-four hours, and by the frequently inefficient vent for its purulent contents, as provided either by Nature or by art.

Such extension is indicated clinically by localized tenderness over the area of the mastoid antrum or premastoid lamina, by marked increase in the amount of discharge, and by the presence of a dipping or sagging of the postero-superior meatal wall close to the attachment of the membrana tympani. So long as the upper and posterior portion of the middle-ear cleft—in other words, the iter ad antrum—remains patent, signs indicative of tension are absent. On the other hand, however, the superficial area of pus secretion is considerably increased, with the result that the flow through the tympanum is augmented, and its tissues constantly bathed in a septic bath. As a consequence of this, deeper-seated pathological changes are induced. The flow of pus through the middle-ear is so persistent, that even after repeated drying of the surface of the membrana tympani fresh droplets of pus are seen to constantly ooze through the existing perforation. This objective appearance of a constantly-reappearing flow of pus is of itself highly suggestive. It denotes the existence of some reservoir containing purulent fluid, a cavity of greater capacity than the tympanic cavity itself. Moreover, it means that the floor of the antrum is situated below the level of the aditus, and that the constant reappearance of pus is merely an indication of overflow from the antral well. Under such circumstances conservative treatment is useless. The varying anatomical structure of the postero-external end of the middle-ear cleft has much to do with the prospects of resolution of the inflammatory process, or with the incidence of chronicity. Where the floor of the antrum is situated at or about the level of the aditus, resolution is quite probable; where, on the other hand, it dips much below this level, chronicity is unquestionably favoured.

Under favourable circumstances, and provided that a free opening through the membrana tympani exists, it is quite possible that healing may take place, and that the whole of the infected mucous membrane of the middle-ear cleft may dry up and return to its normal condition. On the other hand, it is very common for the infective process to travel into the cells around the mastoid antrum, where the mechanical arrangements are such as to favour retention and consequent chronicity.

What, then, is the position of the surgeon in such a case? Is he to counsel delay in opening up and draining the infected mastoid area merely because the cardinal symptoms of acute mastoid inflammation are absent, or is he to take the bolder course and advise operation, on the ground that a portion of the middle-ear cleft still more inaccessible and more difficult of treatment than the tympanum itself is infected and likely to remain so in spite of energetic local treatment?

Naturally the question of the most appropriate time for surgical intervention must depend to a large extent upon the practical experience of the surgeon in charge of the case. It is my firm conviction, however, that if drainage of the postero-external end of the middle-ear cleft were more frequently practised at this particular stage of the pathological process much chronic disease of the tympanic cavity would be avoided, and post-suppurative cicatricial changes would become almost a thing of the past.

The mere provision of a vent for pus through the infected mastoid area without any disturbance whatever of the contents of the middle ear affords one of the most rapid means of cure. Have we not all been struck time after time by the rapid cessation of discharge, and by the rapid restoration of hearing after the provision of such a counter opening?

I venture to say that opening the mastoid for the provision of drainage from the postero-external end of the infected middle-ear cleft for the cure of an acute suppurative otitis media which has resisted free incision of the membrana tympani and the maintenance of drainage for a period of three weeks is not only justifiable, but is practically essential, if we wish to avert the onset of chronic disease with all its miseries and dangers.

In 50 cases which I have analysed where profuse discharge has been present for a period of from two to three weeks without any external evidences of mastoid disease, where in fact the operation has been done to provide drainage and to prevent, if possible, deep-seated changes taking place in the bone and to conserve the hearing power, the results have been uniformally successful.

The fact that in many of these cases there is no elevation of temperature, no great discomfort or pain, and no vertigo is looked upon by many as contraindicating operation.

It must be borne in mind, however, that the provision of postero-external drainage is advocated for purely mechanical reasons. I am less and less disposed to place much value upon the temperature chart in such cases. Many cases of antral suppuration exist where the temperature is practically normal, and it has been my experience to have opened many mastoid processes where great disorganization of tissue had already taken place and where little if any temperature existed during the progress of the disease.

Personally I regard the condition of the pulse as of more value than the state of the temperature. In almost all such cases it is materially accelerated. When retention of secretion in any part of the middle-ear cleft takes place, then undoubtedly the temperature shows marked elevations, but it is my belief that operation and drainage of the mastoid antrum is just as much indicated in these cases of profuse purulent discharge, unaccompanied by high temperature and unrelieved by free incision of the membrane, as it is in those where all the cardinal symptoms of an acute inflammatory process with tension symptoms are present. It is also my belief, as the result of clinical, pathological, and bacteriological observation, that in septic middle-ear disease due to one or other of the exanthemata, influenza or pneumonia, the whole middle-ear cleft participates *ab initio* in the suppurative process; whereas in septic middle-ear disease due to other causes the lesion is, to begin with at any rate, local, most frequently affects the tympanic cavity, and subsequently invades the mastoid portion of the cleft, either because of its original severity or on account of the existence of insufficient means of drainage. If this theory be accepted, it at once differentiates the methods of treatment to be adopted in cases of exanthematous origin and in cases of non-exanthematous origin. In the former, in order to arrest the disease and to prevent the onset of chronic pathological changes, I hold that

if free and efficient drainage through the tympanic cavity by means of a liberal incision fails to arrest, or, at least, to very markedly modify the existing purulency within seven days, the mastoid antrum should be opened and all adjoining subcortical mastoid cells cleared out. In the latter, if similar treatment fails to arrest or to materially modify the disease after two to three weeks' treatment, antrectomy should be resorted to.

This practice has in my hands afforded most excellent results, and I believe that if it were more generally adopted our out-patient rooms would furnish far fewer chronic middle-ear cases than they do at present. If we procrastinate and wait until obvious swelling and oedema over the mastoid process are present—and, after all, these signs are merely the evidences of the disease having reached the surface—or if we continue the use of local applications in the form of lotions, powders, and the like, applications which from the very nature of the affected area rarely if ever reach the whole of the infected mucosa, we are simply courting chronicity.

The time is past—or at any rate should have passed—when anything more than a merely temporary use of lotions should be tolerated. The treatment of the infected middle-ear cleft to be successful must be surgical. By this I mean that so soon as exudation takes place into the tympanic cavity, so soon as the membrane shows signs of swelling and oedema, a free incision should be made to effect drainage. In the event of this drainage failing to arrest the inflammatory process within a reasonable time, as indicated above, drainage of the postero-external end of the infected cleft should be resorted to forthwith. It is perfectly true that various forms of local treatment, to say nothing of the kindly efforts of Nature herself, will in many cases arrest or modify the acuteness of the process, but what is so frequently left, the running ear, a menace to the patient and a *bête noire* to the practitioner.

It has been recently suggested by Dr. A. K. Gordon of the Monsall Fever Hospital, Manchester, that in cases of exanthematous origin an early radical mastoid operation should be performed, on the grounds that in so many of the cases he has come across early involvement of the surrounding bone was almost constant. His experience has been that the mere opening of the mastoid antrum has frequently proved insufficient, and that later on, after the onset of chronic changes, the radical mastoid operation has had to be carried out.

I have had no experience of performing the radical mastoid operation in acute suppurative inflammation of the middle-ear cleft, and am disposed to regard the suggestion as almost too heroic. I do not for a moment deny that septic osteitis is frequently a comparatively early complication in cases of exanthematous origin, but my experience has taught me that the pathological process is, in the vast majority of cases, capable of being arrested before the bone is seriously infected, if only the case is treated upon the recognized principles of surgery and early and efficient drainage provided, either through the tympanum, or the mastoid antrum, or through both.

The various points to which reference has been made have an important relation to the subject under discussion. There is one other matter to which, however, I would venture to refer, although it may at first sight appear somewhat foreign to our present discussion, yet I think it has much to do with the existence of so much chronic disease in our midst, and that is the general want of knowledge of clinical otology among the profession at large. I have recently been at some pains to discover the percentage of students who avail themselves of the opportunities now presented at our various universities and schools of medicine for the acquirement of some knowledge of diseases of the ear, and have addressed a circular letter to the officers in charge of every recognized aural clinic in the United Kingdom. From the replies I have received—and I take this opportunity of acknowledging the receipt of a large number of replies—I find that barely 20 per cent. of the students attending the various universities and medical schools take out any course of instruction upon clinical otology. Nearly 80 per cent., therefore, of our graduates and diplomates enter the profession without at any rate any accredited knowledge of otology.

It is into the hands of the family medical attendant that the great majority of acute septic infections of the middle-ear cleft fall, and it is very largely the outcome of initial treatment whether the disease be successfully combated in its early stages, or whether chronicity be induced.

In conclusion, Sir, I would direct attention to the following points for discussion:

1. The desirability or otherwise of removal of naso-pharyngeal adenoids, enlarged tonsils and various forms of nasal obstruction during the acute phases of septic middle-ear disease.

2. The exact value of a routine bacteriological examination of secretion removed from the tympanic cavity in acute septic inflammation of the middle-ear cleft.

3. The employment or otherwise of inflation of the middle-ear cleft during the early stages of acute otitis media.

4. The value and limitations of palliative treatment as opposed to the early drainage of the mastoid antrum in cases of septic otitis media.

To briefly summarize the various methods of treatment which, in my opinion, conduce to the rapid cure of acute septic otitis media—methods which consequently are of value in preventing the onset of chronic disease:

1. Early and free incision of the swollen and bulging membrana tympani.

2. Maintenance of free drainage through the incised membrane.

3. Avoidance of inflation during the acute phases of inflammation of the mucosa lining the middle-ear cleft, the more especially if exudation has already taken place, and in the presence of a small perforation of the membrane.

4. Early removal of nasal and naso-pharyngeal pathological entities tending either to impair the physiological function of the Eustachian tube or to favour reinfection of existing exudation within the middle-ear cleft.

5. Early provision of drainage from the postero-external end of the middle-ear cleft in those cases where drainage through the membrana tympani has proved insufficient.

II.—Ernest Blechynden Waggett,
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When I was invited to assist in opening this discussion, I decided to attempt no exhaustive review of the question, but rather to mention certain practical points which have impressed themselves upon my mind, without dealing with any purely theoretical considerations. The acuteness of an inflammation in the ear or elsewhere is itself an evidence of the vigorous character of the resistance which the tissues are making to some offensive influence, and the normal end of an acute otitis is success of the tissues, resolution, and healing. When this end is not arrived at, and chronic suppuration follows, an explanation must be sought in certain accidental circumstances. Although an acute otitis may be said to become chronic, and a chronic suppuration be stated to have commenced in an acute attack, it would be more correct to describe the chronic suppuration as an entirely new disorder connected only in an accidental manner with the original acute attack. It is the business of this discussion to deal with the nature of these accidents, their recognition and prevention.

During the past few weeks I have questioned a good many of my friends and am not surprised to find that their experience is much the same as my own. On looking through my note books I cannot find a single case in which a chronic otorrhoea has followed an acute attack which has been under my own observation from the very first, while in certain cases coming under notice during the later stages of an acute attack, and following a less favourable course, the elements of chronicity were already established; these were already, strictly speaking, early chronic cases.

It has been my misfortune to have no opportunity of treating scarlet fever cases in their acute stage, and I have no doubt that the experience of medical officers in fever hospitals will be totally different from my own.

The essential causative factor of any instance of chronic otorrhoea will fall under one of the following heads:

1. The invasion of the tissues of the ear either by new growth or by an inflammatory granuloma tissue of low vitality such as that of tuberculosis. Since tuberculosis of the ear does not really commence in an acute attack, we may leave this class of case out of the discussion.

2. Constant or repeated reinfection of the cavity of the ear, either from the meatus through a perforation or from the naso-pharynx through the Eustachian tube.

3. The existence of ulceration in recesses from which the pus is never completely removed by drainage, and in which the solid elements of pus settle and accumulate.

4. Caries or necrosis of the bone—that is to say, the invasion of the Haversian canals by micro-organisms.

5. Cholesteatoma or the presence of a lining membrane unsuited to an almost closed cavity, as the products of its own growth are not removed and their accumulation leads to certain unfavourable accidents.

In determining the mode of treatment of a case of acute otitis, three chief points have to be borne in mind:

1. We must concern ourselves, in the first place, in the aiding and abetting of the inflammation, in so far as it may be regarded as a wholesome reaction against an unnatural irritant.

2. Secondly, we have to adopt measures for the direct prevention of those accidental conditions which have just been mentioned as underlying chronic otorrhoea.

3. And thirdly we must see that we avoid any interference which may possibly engender or precipitate one of those accidents.

It will save time and complication to apply these points or guiding principles separately to acute otitis in its three chief clinical forms of serous, muco-purulent, and purulent.

In the ordinary case of acute otitis with secretion of clear straw-coloured serum with an admixture of a variable amount of mucus, the condition is evidently one of comparatively mild reaction on the part of the mucous membrane, and experience shows that these cases but rarely end in chronic otorrhoea. In the treatment of such cases we are chiefly concerned in assisting the mucous membrane in its reaction, and as a rule very little is required to turn the balance in its favour.

Those who have any personal experience of acute localized painful inflammation have no need of experiments to convince them of the unfavourable influence upon the disease which fatigue and exposure exert. Nothing has a more beneficial effect upon a painful acute serous otitis than the complete rest and equable temperature of bed, and I cannot help thinking that bed is the signal remedy, and cannot be dispensed with in any of the acute cases. In the great majority the administration of a purge, a few doses of quinine, a milk diet, and the avoidance of alcohol will, in a very few days, be followed by complete resolution.

Paracentesis is not necessary in these cases. If the meatus is properly cleansed beforehand there is no real risk in incising the membrane, but if all goes well the incision quickly heals, and within a period which may be counted in hours the condition of the operated case is exactly similar to that of the unoperated, and its ultimate recovery is not really hastened. Where pain is severe and perforation threatens paracentesis is, of course, indicated; but as a routine I do not believe it to be necessary. At one time I used to incise every bulging drum; now I hardly ever do so. This change of plan has not, in my experience, lengthened the duration of the attack, and the middle ear is relieved from the possibility of reinfection from the contents of the meatus, and this is a real danger where expert after-treatment is not available.

In the typical muco-purulent case, we have to deal with the extension of catarrh from the naso pharynx. Recurrence is the characteristic of this class, and the chief concern of the surgeon in dealing with these cases is the removal of the source of reinfection. This cannot always be done in a moment, and the patient must be put to bed, a purge and quinine administered, and the pain of the tense drum relieved by the repeated instillation of hot glycerine and carbolic drops. For many years I have made use of these drops in the strength of not more than 6 gr. to the ounce, and the instances of acute muco-purulent catarrh where they have not given immediate relief of pain are exceedingly rare. How many nights of misery would be saved if they were regarded as a household remedy, and were kept in every nursery!

With regard to paracentesis, what has already been said will apply. It is no doubt good practice, and the subsequent results are satisfactory, but I believe it is much better practice to attack the initial cause of the trouble at once. In the majority of cases, adenoids in a state of subacute catarrh are present, and these should, I believe, be removed within twenty-four hours of diagnosing the case. I have done this many times, and never seen it followed either by perforation of the drum or by unfavourable convalescence. I believe Dr. Gordon, in his fever hospital practice, finds that the cases operated upon during the early stages of scarlet fever do well. Where perforation has already occurred, the discharge will soon cease after the removal of the adenoids and healing of the naso-pharynx, and I am under the impression that any debate as to the relative values of wet and dry treatment in these cases is beside the mark.

To pass on to the cases of true purulent acute otitis, where the drum is seen bulging over an opaque yellow fluid or intensely inflamed and swollen, possibly with interstitial haemorrhage. In the treatment of these cases much the same rules will apply with regard to the assistance of the reaction as such. Rest of the whole body, and avoidance of pain and other debilitating influences, coupled with the exhibition of drugs, which seem to aid the reacting tissues in their conflict. The obvious assistance which those who accept the theories of immunity should adopt is the artificial supply of antitoxins, and I trust that to-day we shall hear the experience of those who have knowledge of the matter.

Guided by its remarkably rapid effect upon the local inflammation and general disturbance in acute follicular tonsillitis, I have for many years made use of the salicylate of quinine in all acute suppurations connected with the upper air passages, and I believe that cases treated with this drug turn the corner more rapidly than where it is omitted.

The reaction, then, as such is best assisted by rest in bed; the avoidance of debilitating influences upon the body, such as sleeplessness and pain; nourishment with food which can easily be digested and assimilated by a body already engaged in dealing with sapraemic poisoning; the avoidance of unnecessary and extraneous poisons, such as are supplied by alcohol and meat extracts. A purgative is given and salicylate of quinine administered in doses of 1 drachm of the liquor every three or four hours for a day or two.

In addition the nose and post-nasal space should be freely sprayed with an antiseptic such as the nebula alkalina or peroxide of hydrogen.

The special question which we discuss to-day is this: Will some such general treatment as that which I have just mentioned insure the patient against the acquisition of a chronic otorrhoea? In a very large number of cases of acute suppurative otitis even less than what I have mentioned has been done, and yet in the natural course all has gone perfectly well; a few days of pain, sloughing of a variable section of the drumhead, discharge for two or three weeks, and complete recovery, either with or without healing of the perforation. Do we not see a great number of these cases of the dry sequelae of suppurative otitis, in which the patients seek advice on account of deafness only and deny that they have ever had chronic suppuration?

But we certainly cannot accept such treatment as efficient, and this may be said emphatically for this reason: On the one hand, it is the rarest thing to find an acute case becoming chronic where more careful treatment is adopted; on the other hand, our out-patient rooms are filled with cases of chronic otorrhoea which have commenced in an acute attack. This is as much as to say that, exclusive of the tuberculous cases, there are a vast number of chronic otorrhoeas which would never have existed had they been thoughtfully treated during the acute onset.

The normal end of an acute suppurative otitis is resolution, just as it is of an attack of scarlet fever or influenza. What unusual accidents may be superadded, which will lead to what is practically a fresh disease—that, namely of chronic otorrhoea? How may these accidents be fostered and how avoided?

In order to discuss these questions we must review the conditions present in chronic otorrhoea, and consider how it is that the part damaged by the destructive effect of the initial dose of poisoning, fails to heal as it should do, and drags on in the guise of a phagedenic or an indolent ulcer.

1. In the first place, repair does not take place when the ulcerated tissue is one of low vitality, such as actual tuberculous tissue or new growth, but I have never yet convinced myself that mere general debility of the tissues, such as occurs in albuminuria and diabetes, is able, alone and unaided, to prevent healing of the ulcer.

2. Secondly, we have the condition where repeated or constant reinfection from without never allows the reparative phenomena which accompany—or, more strictly, which follow—inflammation to gain the upper hand permanently. How active is the effort at repair, and how ready is the ear to be cured we see very well exhibited by those innumerable cases where a foul or fairly copious discharge coming through a big perforation is almost immediately cured by merely syringing and drying the meatus. I am referring to those cases of simple neglect of which so many are seen in the out-patient room, and in which the external auditory meatus, with its mixed contents of pus and shed epithelium, provides a breeding ground for micro-organisms and an unfailing supply of irritant. To the same category belong the chronic otorrhoeas dependent solely upon nasal suppuration and

adenoids, and which dry up without further treatment when the remote source of irritant poison and reinfection is removed.

3. Thirdly, we have the class where the fault lies within; the essential trouble is that the organ cannot get quit of a source of infection within itself.

Where the cavum alone is affected the cause is, I believe, generally to be found in the unfortunate accident that a small perforation has occurred high up in the membrane, so that from hydrostatic causes a bath of nutrient fluid is retained. In this micro-organisms live and flourish, producing an irritant strong enough to cause swelling of the Eustachian mucosa and obstruction of the tube. Reinfection from without may play a part here, but mere antiseptic treatment of the meatus will not cure these cases. Sometimes it is the presence of cheesy masses of pus in the cavum which keeps up the discharge, even when the perforation is large and low.

As is the case in the "pinhole" perforation, with its obvious lesson, so all the varieties of chronic otorrhoea are really due to the accidental circumstance that micro-organisms are provided with a domicile which, for mechanical reasons, is not cleared away, in which they live and secrete their toxins; these in turn irritate the living tissues, causing them to pour out cells and a nutrient fluid, both a harbour and a food supply for the micro-organisms—examples, in fact, of the vicious circle. Practically the same condition is present, whether we have an undrained pocket, a mass of cheesy pus, or walls lined with sodden cholesteatoma.

These mechanical conditions are provided when suppuration has taken place in the mastoid antrum, from which fluid pus can only occasionally and inspissated pus can never be spontaneously removed. The same may be said of the mastoid cells, and of the pockets of the attic where swelling of the lining membrane converts cavities into mere fissures, from which relief by drainage is impossible. They will also be attained if the invasion of the Haversian canals has placed the micro-organisms in an almost impregnable stronghold.

What lines of treatment will prevent the occurrence of these accidental mechanical conditions arising out of an acute case? In suppuration of the tympanum we are dealing with the unusual circumstance of pus secreted in a rigid-walled cavity connected by a narrow passage with another similar cavity which is full of air. The pus contains, unfortunately, not only irritant, destructive chemical bodies, but also living pathogenic organisms and a nutrient medium in which, if not they, at all events other organisms, can find a livelihood. The pus itself may therefore act as a distributing vehicle of the worst type, and its passage to the hitherto unaffected parts is favoured by the fact that it is under pressure. This pressure, by causing mechanical ischaemia, assists in the destruction of the tissues by the toxins, and if its duration is sufficiently prolonged, the whole thickness of the muco-periosteum may be killed, and the Haversian canals thrown open to the invader. What line of treatment do these facts suggest?

In the first place, not politzerization. One cannot but know that inflation may be done with impunity in a number of cases, and that by rendering the Eustachian tube momentarily patent it may start drainage in that direction, and particularly may this be the case with the short tube of the small child.

But inasmuch as the air in the antrum is compressible, it is evident that if the air pressure in the tympanum is sufficiently raised, and the communication to the antrum is not too securely blocked, the contents of the drum must surely be forced into the mastoid. The results of Dr. Milligan's experiments upon the cadaver seem to me to be inevitable, the question of the presence or absence of perforation making only a difference in the rapidity with which a proportion of the contents of the tympanum would enter the antrum. Moreover, in the living subject I believe the result of politzerization can be aggravated by the valvular action of the inflamed and swollen tissues of the attic, and that a considerable degree of pressure can be raised in the antrum. I have in mind a case of mild muco-purulent otorrhoea with a pinhole perforation. This hole I enlarged freely, and, as was, I believe, the general practice at the time—six or seven years ago—I requested the patient's doctor to perform politzerization daily and repeatedly. This was done, but the patient returned to me after about a week complaining of mastoid pain. In a few days a Bezold's abscess developed. On opening the mastoid I found a little muco-pus and the mildest degree of catarrhal swelling of the lining of the antrum, and nothing for a moment suggesting caries or necrosis. A smooth round hole, evidently a developmental deficiency, led to the digastric groove, and communicated with an abscess in the neck. It was pretty evident that some muco-pus had been driven into the soft tissues by the politzerization, coupled with the valve action of the swollen tissues of the attic.

Since this experience I have always avoided politzerization whenever there has been the least reason to suppose that pathogenic organisms were present in the middle ear.

It is difficult to believe that it can be good practice to risk the injection, even of a mild muco-purulent secretion, into an inaccessible cavity like the mastoid antrum, the lining membrane of which may prove unequal to the task of absorbing the fluid, and where there is a good chance of the solid constituents forming an irremovable sediment not uncontaminated with micro-organisms. The gain from this proceeding is so very small, merely the hastening by a day or two of the return of hearing, whereas the really important element in the treatment is the discovery of the cause of the catarrh and its removal; for if some change is not made either in the habits or in the pathological anatomy of the patient, he will surely have recurrence. At all events, those who do not employ this proceeding can safely say that their cases do exceedingly well without it. But to politzerize in the case of true acute suppuration with intact membrane is now, I believe, admitted by all to be thoroughly wrong practice.

I trust that Dr. Milligan will have brought forward his evidence to show that it is inadmissible also after perforation or paracentesis. At all events, it is impossible to deny that a less effectual method of cleansing a cavity of irregular form could scarcely be devised than that of blowing air into it through a small hole. One might as well attempt to remove the crumbs from the table by forcing a draught down the dining room chimney.

But what measures should we adopt in order to prevent the superficial extension of the trouble to inaccessible parts, or its penetration to the bone?

We have to remember that mechanical pressure by hampering the blood supply is aiding the toxins in causing the death of the tissues; that the longer the condition remains unrelieved the deeper will this destruction penetrate through the tissues and the further will the trouble extend towards the mastoid. Remembering this, we should never delay an hour in performing a free paracentesis, and it is probably not too much to say that a good many cases which have become chronic would have quickly cleared up but for the mistake of putting off the small operation until "to-morrow morning."

Paracentesis not merely relieves the cavity of the tympanum from internal pressure, but it also removes that depending upon an inflammatory oedema of the tissues themselves, and no doubt it is the correct measure to have adopted, even in those instances where, on deeply incising a florid bulging membrane, we are disappointed at finding no accumulation of pus.

The second step is to dilute the toxins both in the cavity and in the tissues. This can be safely done in very early cases where the mastoid is certainly not involved, by means of hot external applications, which encourage the flow of blood to, and secretion of serum from, the affected parts. But in any case, in addition to this, resolution is much hastened by gentle, but very copious, irrigation of the meatus. If the incision has been very free, it is not necessary to worry the patient by intratympanic syringing, nor by syringing through the Eustachian tube. Irrigation with boric lotion should be performed for several minutes at a time every hour during the first few hours after paracentesis, and I believe that in the serious acute cases of scarlet fever continuous irrigation should be employed. I would like incidentally to call the attention of those who have not tried it to the effect of continuous irrigation in cases of phlegmon about the maxillary antrum after the radical operation. The effect is quite remarkable, and often one or two irrigations, lasting for two hours at a stretch, are sufficient to restore the balance. Between the irrigations the meatus should be filled with glycerine and carbolic drops, which are most valuable as an anodyne as well as an antiseptic.

So long as the signs of inflammation persist and pus is secreted this treatment should be maintained with less frequent irrigations, and with special care to keep the incision widely open until its need is passed. This method seems more reasonable than that of attempting to drain the tympanum by the capillary action of gauze. The latter can never completely remove the pus; and, if any pus at all is to remain, it is surely better to keep it in as dilute a state as possible. The patient must be kept in bed until three or four

days have elapsed after the cessation of the discharge and healing of the tympanum, and then very great care must be enjoined as to exposure and fatigue, and the avoidance of forcible blowing of the nose. Glycerine and carbolic drops should be kept at hand, and applied as a routine at night, and the patient must return to bed if any discomfort in the ear is experienced. I do not think that politzerization should ever be adopted until a fortnight after all redness has passed away. Nothing is to be gained by reintroducing an element of trouble through rebursting the drum; and I believe the idea of relaxing adhesions after true acute cases is purely theoretical.

Where there is no source of disease in the nose or naso-pharynx this treatment will succeed in the great majority of cases, and where it does not do so there is reason to suppose that the inflammation has already got a considerable foothold in the mastoid annexes, and the danger of chronicity already presents itself. If pain is not relieved within two or three hours of the paracentesis and the commencement of irrigation it is very likely due to an inflammatory pressure in the mastoid. It is, therefore, questionable if it is wise under these circumstances to apply hot fomentations; to use leeches or the cold coil is probably better. Both of these measures presumably arrive at the same result—namely, the shrinkage of the swollen muco-periosteal linings of the pneumatic cavities of the mastoid. If pus has already entered or been secreted in these cavities it is more likely to escape if that state of contraction is maintained. In practice speedy relief is frequently afforded by each of these measures.

The so-called acute cases, which come three or four weeks after the onset with pain, pus, and discharge, and which do not speedily get well with bed, free paracentesis, irrigation, and so forth, belong in the main to two classes. In one there is an attic perforation with a scanty watery discharge, and much fleshy thickening of Shrapnell's membrane, or else there is perforation of the membrana tensa in the posterior superior quarter with a swollen Shrapnell, and the discharge obviously coming from the attic. I have seen several of these develop under conservative treatment into chronic attic cases with evident caries of the walls or ossicles, or into cases in which, indeed, the discharge ceases under careful antiseptic treatment—such as, for example, syringing with Hartmann's cannula, with or without enlargement of the perforation—but in which recurrence is frequent and in which ingrowth of epidermis from the meatus is common, so that a condition of cholesteatoma of the attic is developed and gives rise to constantly-repeated trouble.

I am convinced that it is not wise to allow these patients to be demoralized by becoming chronic or recurrent invalids, and that it is better, without much delay, to afford efficient drainage and prevent cholesteatoma by removing the outer wall of the attic. This can be done without disturbing the ossicles, if the latter appear on inspection to be free from caries. Healing is very rapid, and, as far as my experience goes, the hearing results are good.

In the second class, which is bound for a chronic course, the amount of pus is very excessive in quantity, and although the cardinal signs of mastoid disease, including the dropping of the posterior superior meatal wall, may be absent, it is possible to satisfy oneself that the copious discharge must be coming from some part other than the tympanum. Here a chronic course can only be prevented by mastoid operation. One can scarcely talk of these cases as acute; they are in reality early chronic cases, and in speaking of them at all one is beginning to digress from the proper subject of to-day's discussion.

Briefly to recapitulate:

With serous effusion medical treatment as a rule suffices. With muco-purulent catarrh it is especially necessary to seek and remove some causative factor in the nose or naso-pharynx. In acute suppuration, besides the medical treatment and the removal of the remote cause, pressure must be relieved and the poison diluted without any delay. Experience shows that cases treated from the outset upon these lines do not develop chronic suppuration.

III.—T. G. Ouston, F.R.C.S Eng.,
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Although at times the general blood stream may be a source of middle-ear infection, the most common cause is direct extension by continuity from the naso-pharynx of the Eustachian tube, or perhaps by the lymphatics of this region.

Chronic suppuration of the middle ear in the great majority of cases commences in an acute attack in infancy or childhood The experiences of the out-patient departments of a children's and special hospital force the conclusion on one that a child brought up in the still insanitary surroundings of a large city, where septic and tuberculous organisms are continuously inhaled from birth onward into the nasal and pharyngeal orifices of its weakly and wrongly-fed system, is exceptionally fortunate if it escapes from an acute or chronic septic rhinitis with its ofttime accompaniment of a suppurative otitis media. The line of general treatment here is removal of the patient as soon as possible to good air and sanitary surroundings.

The pain of an otitis media in infancy is usually attributed by parents to teething, and a discharge from the meatus is often considered beneficial unless it annoys the mother by its odour; nor is this to be wondered at, as the profession generally is only just waking up from a don't care, "just syringe the ear with anything," attitude. Education of mothers is here a line of treatment.

The middle ear may empty itself (especially in young children) by the Eustachian tube without rupture of the drum, or in the less acute forms will intermittently discharge by this way. A chronic condition may here be prevented in many cases by a timely paracentesis coupled with attention to the post-nasal space.

The diagnosis of such a condition (although suspected) by an examination of the membrana tympani is not always easy, as the objective changes may be but little marked.

I have verified the presence of pus *post mortem* in the tympanum of a young child when an *ante-mortem* examination of the membrane had showed no bulging, and only a little loss of lustre, having operated for a mastoid abscess on the other side.

It is fairly common *post mortem* to find the middle ears of children dying from bronchopneumonia and other affections full of pus in which ear trouble has been quite unsuspected. A purulent rhinitis, however, has been usually present in these cases. If in a young infant, therefore, the tympanic membrane is sodden and lustreless, even without perforation or bulging, with a septic rhinitis and perhaps history of pain and the hand being constantly put up against the side of the head, the external meatus should be cleansed, ethyl chloride administered, and paracentesis performed either through a bulging portion or one of the sites of election. It will now be necessary to cleanse the post-nasal space. A spray of hydrogen peroxide, 10 volumes per cent., is an excellent method. Marked nasal obstruction must be suitably treated after the acute stage has passed.

The removal of large post-nasal adenoids, however, may be necessary at once, provided the membrane is perforated. The presence of any considerable quantity of adenoids around the pharyngeal orifices of the Eustachian tubes is sufficient indication for their removal immediately the acute attack has subsided, without there being of necessity obstruction to breathing, as the unhealthy masses act as a germ factory for reinfection of the middle ear, quite apart from the question of mechanical obstruction. Carious teeth, a septic tongue or gums, and unhealthy tonsils, of course, require attention.

Obstructed Ventilation through the Eustachian Tubes.

It is likely that the too great patency of the Eustachian tube sometimes following an acute attack, with the destruction of the cilia-bearing cells which normally carry products from tympanum to post-nasal space, is a cause of chronic trouble. This is an additional argument for early treatment to both its extremities.

In this connexion I should like to strongly emphasize the frequent occurrence of hypertrophy of the mucous membrane of the posterior ends of the inferior turbinals in patients of 12 years old and upwards, a common cause of nasal obstruction and a not infrequent cause of the continuance of an aural discharge. They not only obstruct the nares proper but prevent the natural drainage from the Eustachian tube into the post-nasal space. With the post-rhinoscope I have often seen them projecting across the mouth of the Eustachian tube occasionally as far as the fossa of Rosenmüller, and, large as they often appear after removal, they appear far larger when distended with blood *in situ*.

In cases of thick discharge with debris, and granted an adequate opening through the tympanic membrane below the level of the short process of the malleus, whether made by Nature or the surgeon, the daily use of Politzer's method of inflation may be necessary in children. The affected ear is placed uppermost, the meatus containing a small quantity of

hydrogen peroxide solution; on the absorption of the air in the tympanum the fluid is more effectively sucked into the cavity. The meatus is then cleansed with cotton-wool, and the parts partially dehydrated with spirit. vini rect containing 2 per cent. of resorcin in solution, or diluted if this strength of spirit is not tolerated. The spirit after evaporating leaves the resorcin as a fine film in the recesses of the cavity, but not in sufficient quantity to obstruct the exit of the discharge.

Suction with an instrument of the Delstanche pattern is sometimes useful, and there is reason to think that the evacuation of the attic and mastoid antrum by negative pressure may be preferable to the positive-pressure method by way of the Eustachian tube, the latter method incurring the risk of introducing fresh sepsis from the throat and infecting a healthy ear.

In cases presenting a thin muco purulent discharge, the rival dry treatment is preferable, but *not* in the manner often performed—namely, that of blowing boracic acid or other powder against the drum. The risk of this as a productive cause of mastoid abscess by damming up the discharge has been emphasized by certain aural surgeons for years, in cases of slit-shaped or small perforations which obtain in the class of cases under consideration, but nevertheless is still practised. Boracic powder may be placed in the floor of the meatus to absorb the discharge, after thorough drying with cotton-wool, and a pledget of cyanide gauze carefully placed as far as the membrane to drain by capillary attraction. This must be changed as soon as soaked through.

In adults one recommends the same line of procedure, but as it is often impossible to inflate the middle ear owing to Eustachian obstruction, the Eustachian catheter may be used and a temporary passage effected by shrinking the swollen lining membrane by injecting, at intervals, drops of a suprarenal extract. When a passage of air has been obtained, the peroxide solution may be used through this route.

The Use of Silver Salts.

An occasional swabbing with one of the nuclein combinations of silver over the mucous surfaces of the nares and post nasum is often very useful, and an instillation of a few drops into the tympanum, by means of or without an intratympanic syringe, is also sometimes useful. An instillation by the intratympanic syringe into the attic, through a solitary perforation in Shrapnell's membrane, of one or two drops of a 5 per cent. solution of protargol, however, once caused a painful and prolonged reaction.

The intratympanic syringe can in some cases (especially of marked attic mischief) undoubtedly cut short a discharge that has resisted all other forms of treatment. I have tried and found wanting the passage of ozone in gaseous form, both by the meatal and Eustachian routes.

Mastoiditis as a Cause of Chronicity.

The mastoid antrum is affected, and probably contains pus in all cases of middle-ear suppuration with an imperforate tympanic membrane. Tenderness is usually present to some extent over the mastoid, and relief of this after paracentesis or rupture of the membrane although a hopeful sign, does not of necessity imply that drainage is adequate through the iter, or that pent-up inflammatory products are not laying the foundation of a chronic discharge. Of the signs of pent-up secretions indicating operation I would only specially mention one, because apt to be overlooked, namely, bogginess or bulging of the posterior superior wall of the meatus just external to the membrane. In cases in which the surgeon knows inflammatory products are present under pressure in the mastoid recesses, it is his duty to operate at an early stage, even if local pain is not severe and redness, swelling or pitting are absent. It is just in some of these cases in which, owing to a deeply placed antrum, permanent damage is caused by delay, a chronic otitis results, and probably a radical mastoid operation is rendered necessary, with resulting deafness if not worse.

The adage "if in doubt operate" may in these cases be acted on.

The length of time from the first onset of symptoms is useless as a guide; one attack of a virulent nature will cause more harm by being left three days than another case will in three weeks.

The earlier the operation the less its severity, the more rapid the healing, and the less the loss of hearing. In the great majority of cases operated on shortly after an early diagnosis, all that is necessary is to open the antrum from the outside, with the mastoid cells if they are affected, through the usual post-pinnal curved skin incision, and drain through the wound with light gauze packing. The skin incision may be sutured at the upper and lower extremities. On the antrum being opened a fine nozzle is inserted and lotion syringed through the iter into the tympanum to insure its patency.

The outer wall of the iter, the attic, and any attachments of the ossicles must not be encroached on, nor must the cartilaginous meatus be separated from the bone. The primary object is the evacuation of pent-up inflammatory products, with the preservation of normal, or nearly normal, hearing. The gauze drains can usually soon be dispensed with, and healing will often be complete in two to three weeks, including the tympanum and attic. Exception must of course be made for tuberculous cases, which are the most chronic and intractable cases of all suppurative middle-ear disease in spite of any treatment. Another class of case in which a more radical operation may have to be undertaken at an early date is the rare one where a virulent inflammation rapidly causes an acute necrosis of the mastoid and other portions of the temporal bone, but in this case disintegration of the tympanic structures also robs a radical operation of its objection.

IV.—Albert A. Gray, M.D., F.F.P.S.Glasg.,
Aural Surgeon, Victoria Infirmary, Glasgow; Pathologist, Glasgow Cancer Hospital.

Dr. Gray said that the chief cause of acute trouble becoming chronic was the general health, and that with good health it was extremely rare. It was doubtful whether paracentesis affected the ultimate result, because cases almost always did well if not so treated. It frequently, however, relieved pain a little earlier, but not infrequently it failed because the antrum was affected at the onset.

V.—Atwood Thorne, M.B.Lond., M.R.C.S.Eng., L.R.C.P.Lond.,
Assistant Surgeon, London Throat Hospital.

Dr. Atwood Thorne expressed surprise that the openers of the discussion had not referred in greater detail to the preliminary treatment of these cases. If such were fully and carefully carried out, there would seldom be any necessity for any operation other than paracentesis. However, if at the end of a fortnight or three weeks there was not a considerable reduction in the amount of the discharge, a radical operation should be undertaken, although no pain was present, and although there was no elevation of temperature. He was surprised at the necessity for calling attention to the dangers of politzerization in these cases, as he had no idea that it was ever done.

VI.—T. Mark Hovell, F.R.C.S.Edin., M.R.C.S.Eng.,
Consulting Aural Surgeon, London Hospital; Consulting Surgeon, Hospital for Diseases of the Throat, Golden Square.

Mr. Hovell agreed that Politzer's inflation was undesirable in acute inflammation of the middle ear, and that a free excision should be made in the membrana tympani when it was inflamed and bulging. He did not believe that post-nasal growths should be removed as a routine treatment in acute middle-ear inflammation, but considered it better to wait until the acute symptoms had subsided. Neither did he consider that a fixed time should be stated for opening the mastoid antrum after incision of the membrana tympani when the discharge did not diminish, but thought it better to wait for definite symptoms of mastoid inflammation. With reference to Dr. Ouston's paper, he thought that the posterior extremity of each inferior turbinated body should be removed in every case of adenoid growth as a routine treatment, for they were enlarged in almost every case, and contributed largely to the production of nasal obstruction.

VII.—Richard Lake, F.R.C.S.Eng., L.R.C.P.Lond.,
Surgeon, Royal Ear Hospital; Surgeon, Diseases of Ear and Throat, Trinity College of Music.

Mr. Lake said that they must all have listened with great pleasure and admiration to Dr. Milligan's admirable introduction. Dr. Milligan might be said to represent the advanced surgical section, while Mr. Waggett, in his excellent paper, stood for the conservative group. He took it that we were not concerned with the treatment of cases which were seen from the earliest stages, nor with those remedies and modes of treatment which were of known and accepted value; but rather with those cases that were not seen from the

beginning, and in which there was a streptococcal infection. The site of the perforation must be carefully considered, for what was worse for drainage than an anterior perforation? Many were fully alive as to the necessity for an early post-aural operation, and performed it, but both medical and lay men must be educated before it could become an accepted rule in surgery, and before opposition to early operation subsided. Not of less importance was early incision, and bulging alone should not be waited for, if pain was present, as he considered that an incision was the best anodyne, and of great value. As a depletive, leeches were very valuable, and saved many cases from operation or chronicity. The influence of continued suppuration and inflammation on the hearing was of scarcely less importance than that of chronicity, and the earlier the operation the better for the hearing. Finally, he did not like the removal of adenoids during the existence of fever, as a large wound should not be made in a septic area.

VIII.—William Hill, M.D., B.Sc.Lond.,
Surgeon for Diseases of the Ear, St. Mary's Hospital, London.

Dr. Hill, while generally agreeing with the openers of the discussion, found himself more in accord with Mr. Waggett as regards active surgical interference in acute conditions. It was such a very rare thing for acute median otitis to become chronic if treated, even if only by antiseptic irrigation. Mastoid complications, he thought, were very infrequent, but any definite mastoid symptoms called for immediate operation. He could not agree to a post-aural operation on the seventh day in very acute cases in the absence of any definite symptoms of mastoid invasion. If, however, it could be shown that post-aural osteotomy tended to cut short a virulent median otitis, the operation surely ought not to be delayed a week. He could not understand the hesitation about paracentesis in acute serous conditions. He always did so when there was pain. Such conditions were by no means always mild: in his own case—a very virulent example of sero-sanguineous inflammation, evidenced by the acuteness of the pain and the profuseness of the discharge—not only was paracentesis performed, but gentle inflation was done with advantage. Members present might be shocked to hear that he performed politzerization as a routine measure immediately after incising the membrane in children. In cases of pneumonia, and in conditions simulating meningitis in the very young, otalgia was an indication for an exploratory myringotomy, and the absence of bulging was no contraindication, as in some cases there was no bulging with a tympanum full of pus. Mere incision did not always demonstrate the presence of pus, and peroxide of hydrogen was unreliable. The only sure means of eliminating error was either the intratympanic syringe or the performance of inflation, and he did not hesitate to advise the latter in acute conditions, as easier, less painful, and quite as efficient as the former. Failure to inflate after incision had once led him to believe that no pus was present, whereas *post-mortem* examination showed the tympanum to be full of very viscid pus which communicated through a hole in the tegmen with an extradural abscess. In cases in which tympanic incision was considered necessary, the middle ear and its adnexa were full of fluid, and pressure exerted by inflation by the way of the Eustachian tube would naturally cause a flow in the direction of least resistance—that is, through the perforation. He thought that the danger of driving a little discharge into the mastoid cells might be neglected; at all events, he had seen no reason to regret having performed politzerization in acute conditions, not only immediately after paracentesis, but at other times when the discharge was impeded either by blocking or by a partial closure of the tympanic incision. Of course if gentle inflation caused great pain, that would be a contraindication to its repetition. When an acute passed into a chronic condition a post-aural operation was the only resource left when milder measures failed, but he hoped that methods of therapy on the lines suggested by Dr. Wright's researches might in the future displace present-day methods. With reference to the removal of adenoids and enlarged tonsils in acute exanthematous conditions with otitis, he had unsuspectedly done so in two cases, and the amount of pain and sloughing which took place when the detached mass appeared was so great that he felt the procedure was a bad one. He could agree with Mr. Howell's remarks as to the removal of the enlarged posterior extremities of the turbinates in children with adenoids, but it was just as necessary to remove any more anterior causes of nasal obstruction.

IX.—Laurie Aster Lawrence, F.R.C.S.Eng., L.S.A.,
Surgeon, Throat and Ear Department, Westminster General Hospital.

Dr. Lawrence thought that the chief difference between acute and chronic simple suppurative discharge was more one of time than of pathology. The results of treating acute cases varied largely as to whether the patient were a private one, in hospital, or otherwise, or a hospital out-patient. He considered it very rare for the former class to develop a chronic discharge as the result of an acute one, whereas it was by no means so in the hospital out-patient. This was probably the result of want of cleanliness in the latter class. The form of treatment he advised was irrigation with biniodide of mercury lotion, 1 in 4,000, and careful plugging with iodoform ribbon gauze. Gauze was preferable to cotton-wool, because of the siphon-like action of its filaments. He seldom found it necessary to enlarge the perforation, though recognizing that such procedure might sometimes be necessary.

X.—Jobson Horne, M.D., B.C.Cantab.,
Surgeon to the Metropolitan Ear, Nose, and Throat Hospital; late Ernest Hart Memorial Scientific Research Scholar.

Dr. Jobson Horne, whilst fully agreeing that every care should be taken to prevent an acute case from becoming chronic, submitted that some cases of middle-ear suppuration were chronic *ab initio*, and that the chronicity was due to bacteriological circumstances of an intrinsic origin over which the post-aural operative treatment recommended by Dr. Milligan would have little influence. Dr. Jobson Horne based his opinion upon the results of a bacterioscopic investigation he had conducted, partly in the clinic and partly in the *post-mortem* room. In the *post-mortem* room the subjects selected were free from suppurative disease of the middle ear. The contents of the tympanum were withdrawn with all aseptic precautions by means of a fine pipette passed through the intact membrane, and cultures were made from the fluid so obtained. These showed organisms of a non-pathogenic nature; under certain conditions he believed that such organisms might assume a pathogenic rôle. He was in favour of early and free incision of the drum when indications were present, but he was not in favour of incision to ascertain whether they were present. An unnecessary incision of an exploratory nature might be spared the patient in a doubtful case by a puncture with a suitable exploratory needle. The fluid withdrawn in this way would be of greater value for bacterioscopic examination than that obtained by a free incision. The necessity for the latter would be decided by the puncture. The bacterioscopic examination of the fluid withdrawn would throw light not only on the exact etiology of the case, but also on the prognosis of the acute condition becoming chronic.

XI.—James Kerr Love, M.D.Glasg.,
Aural Surgeon, Royal Infirmary, Glasgow; Lecturer on Aural Surgery, St. Mungo's College, Glasgow.

Dr. Kerr Love objected to the wide field that the discussion had taken, as other than acute suppurative conditions had been discussed. Discussing Dr. Milligan's headings: (*a*) Nasal obstruction, (*b*) bacteriological examination, (*c*) paracentesis, with or without politzerization, he thought that post-nasal operation should be postponed until the temperature was normal and the pain in the affected ear had subsided. Paracentesis should certainly be done whenever suppuration was suspected, and the opening made should be wide. He seldom used politzerization, as he did not need it, but he could not see that the arguments brought forward against it had any physical basis whatever. In particular, he could not admit that Professor Young's smoke experiment as described at Manchester had anything to do with the matter. Fluid sent into the middle ear from the throat with a widely-opened tympanic membrane and a closed mastoid process would not conduct itself like smoke in the cadaver with an opened mastoid. With reference to a time limit in the performance of the mastoid operation it was well that Dr. Milligan threw away any time limit and settled every case on its merits. He, personally, would open the mastoid in two or three days if after paracentesis there was continued fever or mastoid tenderness. He would not do the radical mastoid operation in those exanthematous cases of Dr. Gordon's that had been referred to, though he would open the mastoid process very thoroughly; for in such cases early mastoid operation was good, but the radical operation was not necessary. He wished to thank both openers of the discussion for their papers.

XII.—J. Dundas Grant, M.A., M.D.Edin.,
F.R.C.S.Eng. and Edin.,
Surgeon, Central London Throat and Ear Hospital; Surgeon, Throat and Ear Department, West End Hospital for Nervous Diseases.

Dr. Dundas Grant considered that the openers of the discussion were in accord, and that their apparent differences were due to a confusion of different classes of cases. In the acute forms characterized by the effusion of a clear yellow fluid there was no tendency to suppuration, and in such inflation might be practised with the utmost freedom. Antiseptic paracentesis was beneficial, but dilatation of the Eustachian tube more important. It had been stated as a general rule that in acute purulent otitis in children attention should be directed mainly to the naso-pharynx, and in adults, and especially in old people, to the tympanum and mastoid cells. Astringents were now rarely used; they probably produced cicatrization of the margin of the perforation, making it permanent and thus leaving the tympanum open to repeated reinfection. As a method of suction he recommended Sondermann's suction apparatus, which fitted over the ear and produced the same effect as a Siegel's speculum, without causing the pain in the meatus accompanying the use of the latter instrument. It produced at the same time the passive congestion found beneficial in general surgical disease by Bier. He considered that as a rule warm applications were more beneficial than cold. If pain and acute symptoms persisted after paracentesis the mastoid should be opened for drainage even within a few days. If apart from such symptoms the discharge showed no sign of steady diminution after three or four weeks, the operation for drainage of the antrum and mastoid cells should be performed, but not the radical mastoid operation. This drainage operation brought about a complete restoration to the normal.

XIII.—John Middlemass Hunt, M.B., C.M.Glasg.,
Laryngologist and Aurist, Royal Infirmary, Liverpool.

Dr. Middlemass Hunt said that his experience had taught him that the first thing to do in preventing an acute from becoming a chronic case was free incision of the tympanic membrane, or the enlargement of an existing perforation; and, if this failed, he opened the mastoid antrum. Dr. Hill had referred to the question of symptoms calling for the opening of the mastoid; but, in the speaker's opinion, a continuous abundant discharge that would not yield to cleansing and disinfection was in itself a mastoid symptom calling for operation.

XIV.—Herbert Tilley, M.D., B.S.Lond., F.R.C.S.Eng.,
Surgeon, Throat Hospital, Golden Square; Lecturer on Laryngology and Rhinology, London Post-Graduate College.

Dr. Tilley said that with reference to treatment, he should like to point out that although leeches were useful in relieving the early stages of inflammation, they often caused a local oedema which it might be very difficult to dissociate from an inflammatory oedema caused by a progressive inflammation of the underlying parts.

XV.—Frederick Wm. Bennett, B.Sc.Vict., M.D.Lond.,
Surgeon, Ear and Throat Department, Leicester Infirmary; President of the Section.

The President said that he did not think sufficient had been learned from bacteriological researches as to treatment, and he hoped that in a few years more information would be obtained. With reference to the dangers of inflation, he thought them overstated, and that, during the years it has been in vogue, cases had not all gone wrong. If the Politzer's bag was clean, inflation carefully and gently performed was not harmful. Politzer's bags were not frequently enough disinfected. Also, ear syringes were not often enough disinfected. They should be boiled frequently, and he gave instructions to this effect to his patients. Because of the excellent results from operative interference one was perhaps tempted to operate rather early, and he could sympathize with Dr. Hill's position in this respect.

Dr. Milligan, in reply, said that he had expected to hear hostile criticism, and he thought that the discussion had digressed in a very extraordinary way, as the title of his subject was septic middle-ear disease. The position he had taken up was, first, to draw a sharp line between exanthematous and non-exanthematous cases. The former was a germ disease in the cleft generally, but in the latter it was localized to begin with. In the exanthematous disease the soft tissues and bone were more prone to destruction. The vast amount of chronic disease in the country showed something faulty in the treatment of the acute stage, and he would urge surgical intervention at an earlier stage than was usually adopted. Specialists may say that they did not have chronic disease if they got the cases from the first. This was all very well, but they had to deal with a vast number of patients who had had insufficient treatment before they got them, and therefore some rules should be laid down as a guide to the profession at large, so that these chronic cases might be prevented. The two points to emphasize were to arrest the suppurative process, and next to preserve the organs of hearing. There were cases continuing for months and years with no acute symptoms, but the result was deafness and consequently backward mental development. A great deal could be done by earlier interference and free drainage, and if this could not be got through the tympanum one must go further back. Dr. Hovell had somewhat confused his remarks *re* a time limit. The speaker had only mentioned a limit as a workable basis—for example, in the exanthematous cases operation should be performed within seven days if the earlier treatment was not sufficient, for his experience of scarlet fever cases was that if the antrum was opened the hearing was saved. In the non-exanthematous cases one could wait longer, there not being the same tendency to bone involvement; but a profuse purulent discharge which resisted treatment from the tympanum should be drained from behind, and the hearing would probably be saved and the discharge cured. With regard to adenoids, the best plan was to wait until the patient's temperature fell to normal and then to operate. He had only operated during the acute stage two or three times, and then it did harm. The question of politzerization had been specially referred to by Dr. Kerr Love, but the speaker would like to remind him that special precautions were taken to render the experiments conclusive. He had had no experience in the performance of the radical mastoid operation in the acute stages of the disease, and he referred to it only because it was referred to by Dr. Gordon of Manchester, who had had a large experience in these cases. However, he thought that merely opening the antrum was all that was required. He did not believe that a Politzer's bag was ever clean; but supposing it were, the germs that were in the naso-pharynx were forced into the middle ear and its adnexa by its use.

Mr. Waggett, in his reply, wished to emphasize four points:

1. In the routine treatment of earaches in general practice, paracentesis was not called for in every case. On the other hand, paracentesis must not be delayed—even until "to-morrow morning"—if certain conditions were present, and one of these conditions was the presence of true pus in the middle ear.

2. Many speakers had said that politzerization did no harm. He asked, could it do any good? He believed that it could and did do actual harm.

3. He would advise those who had not done so to make a trial of the plan of removing adenoids without any delay, when the middle ear was full of muco-pus, the common condition seen in the "adenoid" child with earache. Experience had given him such confidence on this point that he adopted it practically in all cases. If this was done paracentesis was not called for, and much suffering was saved.

4. Many tender mastoids accompanied with fever got perfectly well, but even if the cardinal signs of mastoid trouble—dropping of the posterior superior wall of the meatus and so forth—were absent, a mastoid operation should be done if the discharge were very copious, or else the patient must resign himself to a chronic otorrhoea.

NOTES ON THE PATHOLOGICAL CONDITION FOUND IN A SUBJECT WHO HAD BEEN DEAF DURING LIFE.

By Albert A. Gray, M.D.Glasg., F.F.P.S.G.,
Aural Surgeon, Victoria Infirmary, Glasgow.

Records of the pathological conditions found after death in individuals who had suffered from deafness during life should be put on record even when, as in the present instance, no examination of the hearing power had been made. Naturally, the case is much more instructive when such an examination has been carried out. Unfortunately, I had not been informed by the surgeon in attendance of the deafness of this patient, and the fact was only elicited at the *post-mortem* examination.

From the patient's relatives and the nurses, however, I obtained the following history:

Mrs A., aged 73, suffered from deafness and noises in both ears for the last seventeen years—that is, since the age of 56. The deafness was very marked for at least the greater part of that time. She could not understand what was said even when the speaker shouted in her ears, although she could hear the noise of the shouting. She complained of great noises in the ears or head. She ultimately died of malignant disease of the uterus.

At the *post-mortem* examination, which was performed by myself, I noticed that the bones of the skull were remarkably soft. The saw penetrated them as if they had been hard cheese, and this facilitated the removal of the calvarium.

The pyramid of the temporal bone was removed entire, and placed in formalin. On more careful examination it was found that the soft nature of the bone noticed in the calvarium was also in evidence in the temporal bone, and it was seen that this softness was owing to the highly cancellous nature of the bone. The mucous lining of the tympanum was healthy on both sides. There was no pus nor any evidence of previous inflammation in the tympanum, nor was any perforation present on either side. The round window was normal and there were no exostoses. The stapes was ankylosed in the fenestra ovalis on both sides, and on examination this ankylosis was found to be bony and complete. Adhesions were found in the malleo incudal joints of both sides, but those on the right were not so strong as those on the left. The left malleus and incus were removed together, and the joint was prepared for microscopic examination. The sections of the joint showed that the union was not a complete bony one, but the cartilages were clearly diseased, and adhesions existed between the two articular surfaces. The most obvious change, however, was in the abnormal size of the medullary spaces. They were far larger than in the normal bones, and it is of interest to note that Katz has already described this condition.

The preparation of the temporal bone for extraction of the labyrinth occupied a great deal of time on account of the cancellous nature referred to, but was fortunately successfully carried out, and photographs have been obtained. In the left ear the bony capsule was found to be present over the whole labyrinth except at two points, but it was not so thick as in the normal condition. The two places at which the cancellous tissue had invaded the dense bone were at the upper and lower limbs of the posterior canal. At these points not only had the cancellous tissue replaced the dense bone of the capsule, but had to a considerable extent obtruded itself upon the membranous structures and in part obliterated the lumen of the perilymphatic space. There was a minute calcareous deposit in the lowest whorl of the cochlea close to the opening of the aqueductus cochleae. The ligamentum spirale appeared to be atrophied, but this may have been the result of old age and not of disease. Both aqueducts were unaffected.

The right labyrinth showed no evidence of the new-formed cancellous tissue replacing the bony capsule in its whole thickness, and there was, therefore, no resulting deformity of the membranous structures as in the left, though the remaining portion of the capsule was much thinner than under normal circumstances. There were two large calcareous deposits present: one in the posterior limb of the horizontal canal and the other in the common limb of the superior and posterior canals. These deposits reached about one millimetre in length, and in colour were whitish tinged with brown. The ligamentum spirale was atrophied. The cochlear nerves of both sides appeared to be atrophied.

A DISCUSSION ON THE TREATMENT OF LARYNGEAL TUBERCULOSIS.

I.—W. Johnson Horne, M.D., B.C.Cantab., M.R.C.P.Lond.

Surgeon, Metropolitan Ear, Nose and Throat Hospital; late Ernest Hart Memorial Research Scholar, British Medical Association.

The principles of treatment which I shall submit for consideration may be summarized as a plea for the conservation of the larynx by rational therapeutic and surgical treatment based on scientific research.

The old nomenclature, "consumption of the throat," "laryngeal phthisis," reflects the narrow and restricted views which have been held, and are further reflected by the too frequent reference to primary tuberculosis of the larynx, a pathological phenomenon which I shall have occasion to speak of as a negligible quantity. The old nomenclature is now historical, and it is better to abandon unscientific terms, which have nothing in their favour excepting popularity.

In the time at my disposal it will be difficult to enter fully into technical detail of treatment. I propose, first, to lay before you certain scientific facts, and, secondly, to deduce from them the principles of treatment. A lantern demonstration will be given of macroscopic and microscopic preparations upon which the argument is based.

To illustrate the importance and wide general bearing of the subject we are invited to discuss I may, perhaps, be allowed to refer to a clinical and pathological research which I commenced in 1893.

The first results of that investigation were communicated to the annual meeting of the British Medical Association held at Edinburgh in 1898. The results showed that 97 per cent. of cases of phthisis experienced symptoms referable to the larynx at one time or another in the course of the disease, and the investigation further went on to show that the routine examination of the larynx in persons suffering from symptoms suggestive of early pulmonary disease would often enable a diagnosis of phthisis to be made at a time when the stethoscope yields no evidence, and that is at a time when the physician can be of the greatest service to his patient.

Side by side with this clinical investigation there was a pathological one on subjects dead from pulmonary tuberculosis, but in which the larynx presented *post mortem* no evidence of disease to the naked eye. The results of that laboratory research showed lesions in the deeper structures of the larynx which fully accounted for laryngeal symptoms during life.

Further investigations since conducted on similar lines have confirmed the conclusions that were then arrived at, namely, that an early diagnosis was essential for the arrest of the disease in the larynx and the lung, and that of the various aids employed in arriving at an early diagnosis the laryngoscope was deserving of more routine use. The laryngoscope, the clinical thermometer, the weighing machine, and the carbol fuchsin must be the physician's first aids at a time when he can be most useful. The stethoscope is helpful in forming an approximate opinion of the extent of destruction occasioned by the disease, but is of very little help in arriving at an early diagnosis.

The subject was discussed by the Section as recently as 1901, when the Association met at Cheltenham; the various therapeutic methods in vogue were then so fully considered that it is hardly necessary to recapitulate them. The multiplicity of these remedies is in itself a sufficient reason for again discussing the subject, and for determining the first principles upon which treatment should be based. It is to the surgical treatment, and to its limitations, that I desire more particularly to direct the discussion. A knowledge of the principles which should guide us in the surgical treatment, can be arrived at only by work in the dead-house and in the laboratory.

I therefore propose to open the discussion by formulating certain deductions from my own observations in the dead-house during the past twelve years, and then to demonstrate: (1) Certain points in the normal histology of the larynx, a knowledge of which is essential to the understanding of the etiology and treatment of the disease; (2) the precise manner of infection of the larynx; (3) Nature's method of arresting the disease; (4) the results of surgical interference with the larynx in which Nature has completed her work; (5) the part played by the lymphatic system in tuberculous disease of the larynx, together with observations on the so-called primary tuberculosis of the larynx. From the foregoing, some general principles of surgical treatment will be formulated, and the technique of this treatment will be considered in as much detail as time will permit.

The following are the general deductions I have arrived at from *post mortem* examinations:

1. That when the larynx is infected with tubercle the disease is already established in the lung. Primary tuberculosis of the larynx is a negligible quantity.

2. That the disease in the larynx progresses *pari passu* with that in the lungs, when the disease in the larynx presents ulceration that in the lungs has advanced to cavitation, and vice versa, when that in the lungs has become arrested, then that in the larynx heals.

3. That when the disease in the lung is confined to the pure miliary form, the larynx is not infected.

4. That infection of the larynx takes place by the sputum from the lungs.

The point in the histology which I consider to be essential to an understanding of the whole affair is the distribution of the glandular structure and of the two varieties of epithelium—namely, the columnar and the squamous celled. In the diagrams I show you of the interior of the larynx, the parts richest in glandular structures are coloured in, and it will be observed that those parts, in order, are: the arytaenoid region, the interarytaenoid space, the ventricular bands, the tip and the cushion of the epiglottis.

I have made no mention of the cord itself. This may be referred to on physiological, histological, and pathological grounds as consisting of three parts: the anterior and posterior portions, which are covered with columnar-celled epithelium

and contain glandular structure in the submucosa, and the intervening portion of the cord, which may be spoken of as the part essential for purposes of voice production. This part differs from the anterior and posterior; it is covered with squamous-celled epithelium and is void of glandular structure.

Now the parts of the larynx most prone to infection with tubercle are those containing glandular structure, and those are also the parts which are covered with columnar-celled epithelium, whereas the essential part of the cord possesses the greatest resisting power.

The interarytaenoid region and the posterior thirds of the vocal cords are the richest in glands. These regions are found to be the most vulnerable. Another factor, however, comes into play—or rather, two other factors. This particular region is the one against which the sputum is more liable to rest when expectorated. The other factor is that the junction of the middle and the posterior thirds of the vocal cords—that is, just in the neighbourhood of the cartilage forming the vocal process—is a point subject to stress and strain, as well as being rich in glands; and so it would seem that all three factors account for this spot being exceptionally vulnerable.

A further point about the sputum, and one which has been a matter of controversy, is the relative potency of the virus of tuberculosis in its dry and moist forms. One school holds that the sputum is most dangerous when it has become



Fig. 1.

dry and pulverized, the other maintains that the sputum is more infectious in the moist form, as in the spray produced in coughing and sneezing. Let us consider what light is thrown upon the matter by the disease in the larynx and trachea. The larynx is exposed to infection through the agency of an atmosphere charged with tuberculous dust, yet it is extremely rare to meet with tuberculosis primary in the larynx. On the other hand, evidence has been adduced to prove that infection by the sputum direct from its mother soil to the larynx is by no means rare. Tuberculous ulceration, when it occurs in the trachea, is usually more marked on the posterior wall, and is met with in subjects of advanced phthisis who have become bedridden. Doubtless the long contact of a tenacious agent, such as sputum, fully explains the etiology and situation of the lesions observed. The agency of the sputum is therefore of importance in considering details of the treatment.

And now to pass to details about the mode of infection. It has been suggested that the tubercle bacillus gains admission between the cells of the epithelium—for example, an intracellular infection. I do not know that this has been demonstrated and I do not think it is probable. In 1898 at Edinburgh I demonstrated the part played by the ducts of the glands opening on to the surface of the laryngeal mucosa in affording channels for infection.

Fig. 1 is a photograph of a microscopic section cut vertically through the ventricular band and vocal cord, which are separated by the orifice of the ventricle. To the naked eye this portion presented no evidence of the disease, which was obvious, and subsequently demonstrated microscopically, in other parts of the larynx. In the photographs it will be observed that the ducts in the ventricular band are choked with a small cell proliferation. Although I am not able to demonstrate tubercle bacilli themselves in this particular section, I am able to show you a more fortuitous section I made through the interarytaenoid region.

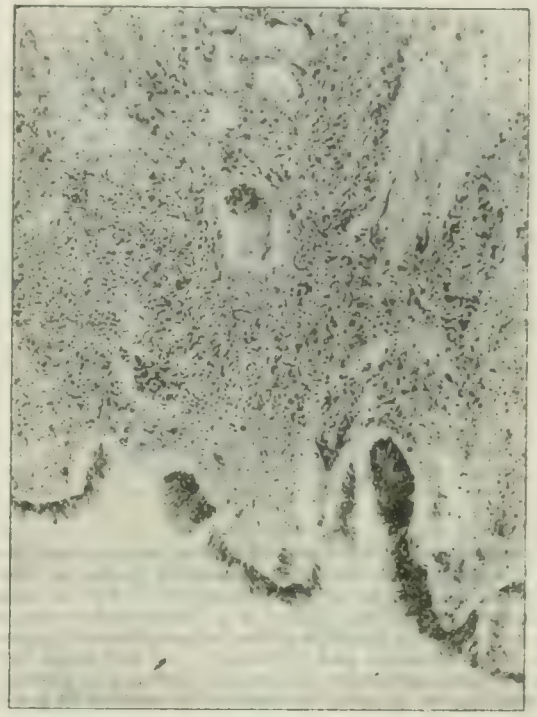


Fig. 2.

Fig. 2 is a section cut horizontally. The columnar-celled epithelium was intact, but became separated in the preparation of the section. In its central part will be observed a duct, lined by endothelium, and containing a giant cell. The latter demonstrates how a giant cell is developed from the proliferation of one cell and not from the fusion of many cells.

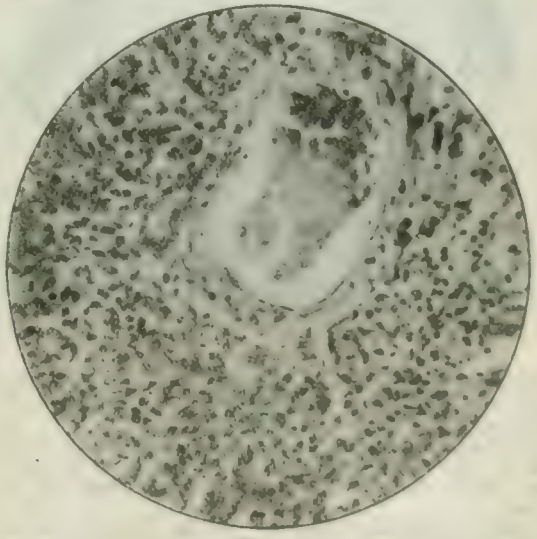


Fig. 3.

Fig. 3 is a photograph of the same part under a higher power, and shows the presence of numerous tubercle bacilli in the giant cell and the surrounding parts.

Fig. 4 is a section passing obliquely through the ducts, and

the glandular structure, and shows an earlier stage in the development of the disease. It may therefore be said that infection takes place from the surface, the ducts affording a channel for infection, and that the disease develops in the submucosa. The infiltration is commonly associated with some oedema—at first perhaps so very transient as to escape notice; later it may require incision. The deposition of tubercle in the submucosa leads to a distension of the super-

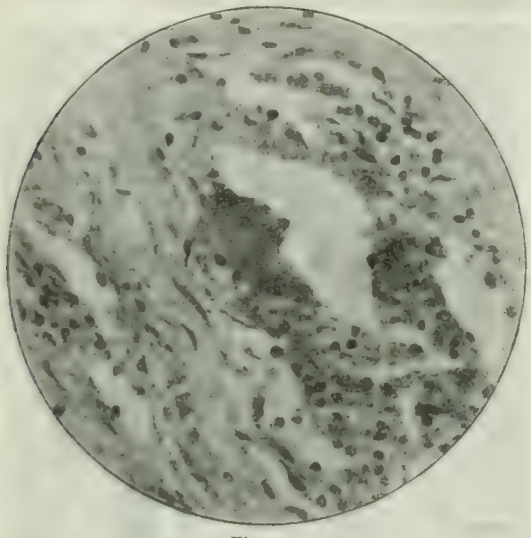


Fig. 4.

jacent epithelium. The resulting loss of contour, and particularly the changes in the interarytaenoid space, as affording most valuable aids to an early diagnosis, I dealt with in my communication in 1898. Fig. 5 is a horizontal section of an entire larynx, with tubercle in the interarytaenoid space. It shows the distension and projection into the space between the arytaenoid cartilages of the epithelium, and gives rise to the crenating or fringing so frequently present in the inter-

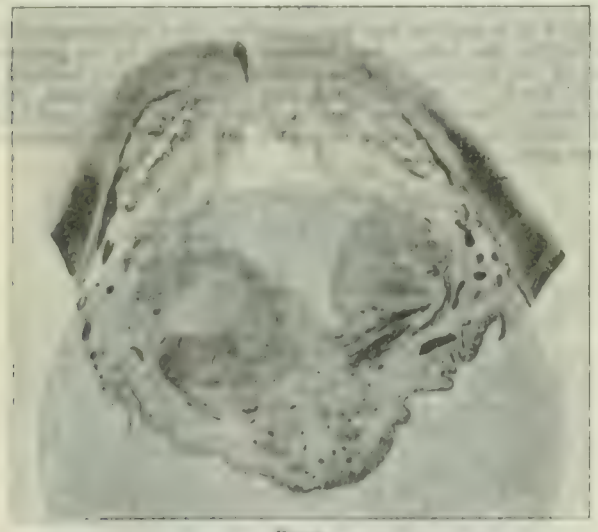


Fig. 5.

arytaenoid space in quite the earliest stages of laryngeal tuberculosis, and at a time when the examination of the thorax may yield no positive signs.

In treatment our main aim should be to assist Nature, as far as it may be possible, to bring about an arrest of the disease with the smallest amount of destruction of the larynx.

At the Portsmouth meeting of the Association in 1899 I demonstrated that pachydermia laryngis tuberculosa constituted the natural process of arrest. The hyperplasia and metaplasia of the epithelium, and the accompanying fibrosis in the submucosa, constitute a remedial process which is to be hoped for and encouraged, and one which surgery cannot assist. In 1899, and again at Cheltenham in 1901, I urged that in the more chronic forms of the disease, in which thickening of the mucous membrane occurred without ulceration, it was irrational to cause a breach of surface by curettes and cutting forceps. Linear incisions made with a sharp knife in an antero-posterior direction I have found useful in reducing oedema and chronic thickening, but an open breach of surface by curettes or forceps is liable, in a case of laryngeal and pulmonary disease, to cause infection of the cervical lymphatic glands, and a further spread of the disease.



Fig. 6.

I have already mentioned that the middle, or what I have called the essential, part of the cord is both covered with squamous-celled epithelium and is void of glandular structure. In fact, we meet there with a structure comparable to that found in the immediately adjacent parts when they have undergone pachydermatous changes—namely, a metaplasia of the epithelium from the columnar to the squamous-celled variety, and an obliteration by fibrosis of the subjacent glands. Now the "essential" part of the cord possesses the greatest resisting power against destruction by tubercle. This is well illustrated by two specimens in the Brompton Hos-



Fig. 7.

pital Museum, and of which I am able to show photographs obtained through the kindness of the Curator. It will be noted in Fig. 6 that the parts around this particular portion of the cord have been so completely eaten away by tubercle that the cord is isolated. In Fig. 7 a similar condition is shown.

One word further about primary tuberculosis of the larynx. The diagnosis can only be based upon a *post-mortem* examination. That the phenomenon has been met with I am fully aware, and I have recorded a case in my own experience, but I have no hesitation in saying that in the vast majority of cases in which it has been clinically diagnosed, either tuberculous disease in the lung had escaped detection by the

stethoscope, or else the lesion in the larynx was not tuberculous; when it comes to practical medicine and laryngology, primary tuberculous disease may be held to be a negligible quantity.

Now to pass to the general principles of treatment based upon the foregoing observations. First and foremost, they teach us that we must treat the patient and not only the larynx, and that the improvement in the larynx will be *pari passu* with the improvement in the lung, and that the infection and deterioration of the larynx will also be *pari passu* with the progress of the disease in the lung.

Remedies directed towards rendering the lungs themselves aseptic and the destruction of the tubercle bacilli *in situ*, such as inhalation and intratracheal injections, are I believe, when efficiently carried out, of considerable value in preventing the infection of the larynx; in a good many of the worst cases of laryngeal tuberculosis, staphylococci and streptococci play an important part, and any measures that are directed against the potency of the sputum deserve favourable consideration; of course, always provided that the patient's pulmonary condition will permit of them being carried out.

The sanatorium treatment, both directly and indirectly, is beneficial to laryngeal disease; it improves the pulmonary condition and reduces the frequency of laryngeal complications; it affords rest of voice and promotes healing of laryngeal lesions. Local applications, both palliative and remedial, should form part of the sanatorium treatment. In the more advanced cases surgical methods may be necessary; an enlarged epiglottis may have to be reduced or removed. Oedema of the larynx may be overcome by linear scarifying. Infiltrated and thickened parts may be treated with the galvano-cautery or by longitudinal incisions with a sharp knife. Indolent ulcers may be curetted and treated with lactic acid; but lactic acid applied to an unbroken surface is of no avail, and only causes distress.

The surgical treatment of the disease has its limitations, and within those limitations I have undoubtedly seen benefit afforded, but the extreme surgical measures which have been advocated by some for the extermination of the disease cannot be regarded as remedial; at their best they are only mechanical means of overcoming physical difficulties, and comparatively seldom are called for.

II.—S. H. Habershon, M.A., M.D.Camb.,
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Physician, Brompton Hospital for Consumption.

1. *Historical.*

A survey of the writings of early observers of laryngeal disease in association with pulmonary tuberculosis is of much interest.

Galen, Morgagni, and Petit (in 1790) recognized the coexistence of the two conditions, but until the time of Laënnec, in 1819, the tuberculous nature of the affection was not insisted on. Later authors, Louis, Andral, Trousseau, believed that the disease was inseparable from a simultaneous disease of the lungs. The great authorities of the latter part of last century, Heinze (who in 1879 wrote a most elaborate treatise on the disease), Mackenzie, Schrötter, and Schnitzler of Vienna, and others, have all asserted that primary tuberculosis of the larynx was practically unknown, or exceedingly rare.

In a few doubtful cases a history of syphilis has complicated the diagnosis, and in a few others which recovered it was not possible to be certain that there was not some latent focus of tuberculous disease in the lungs.

Personally I have never seen any case of primary disease of larynx in which there was not some obscurity or doubt as to diagnosis.

I acknowledge the possibility of a primary infection of larynx from an infection of the cervical lymphatics through the tonsils. Such a case does not often come under the cognizance of a physician to a chest hospital. I would not, moreover, accept the verdict of a pure laryngologist that the disease was primary without an expert examination of the lungs.

2. *The Mode of Onset and the Etiology of the Laryngeal Affection.*

Three views have been maintained:

(*a*) Louis's view as to the corrosive action of the sputum and its greater effects the nearer one goes to the lungs; also the affection of the posterior part of the larynx by preference because the sputum clings there. This has been well answered by Heinze, who shows that the bronchi in which the sputum remains longest are less frequently the seat of ulceration than the trachea and larynx.

(*b*) A second view was suggested by Rheiner, who believed that the ulceration was caused by friction of the vocal cords and other parts of the larynx, owing to the incessant cough. Heinze very aptly points out

> That the catarrhal inflammation which precedes laryngeal phthisis by swelling of the inter-arytenoid region prevents the vocal cords from coming together, and that the processus vocales, which are so often the seat of ulceration, cannot come into contact under these conditions; also the under-surface and base of the epiglottis, which are frequently ulcerated, are not subject to any friction whilst the exposed edges seldom suffer.

(*c*) Mackenzie, as well as Heinze, leaves the question still unanswered as far as the site of tuberculous ulceration is concerned, but mentions what is undoubtedly true, that the preference for the organ in question is due to some weakness or susceptibility, and that a chronic catarrh may be the cause of a predisposition to the development of tubercles in the larynx.

The corrosion theory of Louis and the view of Rheiner that the ulcerations of larynx were due to friction have never been maintained; and, apart from the refutation by Heinze and Mackenzie, the fact alone that so many patients suffering from pulmonary tuberculosis entirely escape any invasion of the larynx is almost unanswerable.

The susceptibility of the larynx to disease and the tendency to catarrh described by Heinze and Mackenzie is now well recognized.

I have examined the records of *post-mortem* examinations at Brompton for ten years, and I find that during this period 1,255 cases of pulmonary tuberculosis occurred—853 in men, 402 in women. Amongst these 595 cases of tuberculous laryngitis were recorded—nearly 48 per cent.—of which 116 only were in females—that is, ⅕. Tracheal ulceration occurred as a part of general tuberculous ulceration of larynx in 130 cases. In 2 cases only the trachea was alone affected. Bronchial ulceration occurred in 33 males and 20 females (53 in all), but no case is mentioned of bronchial ulceration occurring alone—that is, without laryngeal disease.

3. *The Predisposing Causes of Invasion of the Larynx.*

(*a*) The occupation of the patient has in many cases a powerful influence in predisposing to a catarrhal condition and to irritation of the larynx.

The statistics of Heinze show that amongst the subjects of pulmonary tuberculosis with accompanying disease of larynx, a large proportion existed in patients whose occupation involved an excessive use of the voice, such as butchers and singers. Also a dusty occupation was frequently observed in the subjects of tuberculous laryngitis. In men ulceration of larynx was found to be twice as common as in women.

In Vienna, which is notorious for the fine and irritating dust impregnating the atmosphere, it is well known that acute and chronic laryngitis is enormously prevalent, and that a very large percentage of cases of tuberculous laryngitis occurs in phthisical patients. It is so prevalent that it is even popularly known by the name of the "Vienna disease."

(*b*) The situation of the ulceration of larynx in early cases throws some light on the cause of invasion, because it is not at once apparent why a catarrhal state of the larynx should invite an invasion of tuberculous deposit.

I have heard it stated in Vienna that it was quite possible that the nature of the epithelium covering the laryngeal mucous membrane was a determining factor, and some years ago I took the trouble to investigate the matter, especially with regard to the site of selection.

The *post-mortem* statistics are not altogether reliable as to the point of invasion, because in a large number of cases advanced disease is present, and it is easy to conceive that, when once the larynx is affected, the disease may rapidly spread by ulceration, or by means of lymphatics and blood vessels, to neighbouring parts; but in those cases where early disease has been found, and by the results of laryngological investigation in early stages, it is well established that certain situations of the larynx are especially prone to early ulceration or infiltration.

In the time allotted to me I have not space to record the statistics of Heinze and Mackenzie; I can only give the general results.

My own statistics, derived from *post-mortem* records of St. Bartholomew's Hospital and from the Brompton Hospital, are as follows: In 72 per cent. of all cases the edges of the true vocal cords, the arytenoid region and folds, and the inter-arytenoid region are the situations selected. In only 3 or

4 per cent. of the cases is there isolated affection of the trachea or epiglottis; the under surface is affected in a few early cases, and generally when ulceration affects these parts the disease is extensive and far advanced.

(*c*) Two kinds of epithelium are found covering the mucous membrane of the air passages, the ciliated and the squamous.

I may briefly give the histological account of the position of these two forms of epithelium in the larynx. I quote Stricker freely, but I have made many sections of the laryngeal mucous membrane some years ago, and these have verified his description in every particular.

The epiglottis on both surfaces is covered with laminated epithelium with papillae containing vascular loops. At about the middle of the under or posterior surface of the epiglottis the epithelium presents a transition form, and gradually changes to ciliated epithelium. This extends along the anterior surface of the larynx down to the vocal cords. No papillae are present. The whole of the arytenoepiglottidean folds, the arytenoids and interarytenoid region, as well as the upper surface and edges of the vocal cords, are covered with tessellated epithelium. The mucous membrane of these portions presents papillary processes (Stricker). The true vocal cords are invested at their projecting border by a layer of tessellated epithelium cells, which is rather suddenly replaced towards the ventricle of the larynx and towards the trachea by ciliated epithelium. Posteriorly the squamous epithelium of the interarytenoid region is continuous with the flat epithelium of the pharynx. Below it gradually merges into the ciliated epithelium of the trachea (Stricker).

We have seen from the preceding considerations that the interarytenoid region and arytenoid cartilages and folds and the edges of the true cords, especially their posterior parts, are the parts early affected, and that more rarely the epiglottis on its posterior surface is ulcerated. With the exception of the trachea, which is seldom at first the seat of tuberculous ulceration, these are precisely the situations covered by the papillated mucous membrane with tessellated epithelium.

The view I hold is that in the early stages of the disease a catarrhal condition causes exaggeration of the papillae naturally present in these situations. This is in accordance with the papillary appearance of the catarrhal state which so often precedes the ulcerative stage—an appearance described by many authors, and which I have myself noticed in numerous cases.

On the mucous membrane of the trachea and other parts covered by ciliated epithelium the cilia naturally keep secretion in motion.

On the other hand, a normal, smooth, tessellated epithelium is equally unfavourable for the clinging of the sputum.

The exaggeration of the papillae by this preceding catarrh is all that is needed to afford the tuberculous sputum a hold upon the mucous membrane. In the pockets formed between the papillae the sputum will cling, and therefore remain for some time in contact with a highly vascular surface.

It is true that the sputa will naturally be directed to the posterior surface of the larynx, because the glottis is more widely open posteriorly than anteriorly. There is no proof, however, that the sputum remains even in this situation any length of time without being expectorated. With a catarrh of the mucous membrane, however, the situation is altered. The delicate vascular membrane is necessarily more sensitive to any abnormal or deleterious influence, and doubtless the tubercle bacillus will obtain under these conditions a more ready entrance.

4. *The Laryngological Appearances of Early Tuberculous Laryngitis.*

Two abnormal conditions are observed—(*a*) the anaemic larynx, (*b*) the catarrhal larynx.

(*a*) Anaemia and pallor of the laryngeal mucous membrane is probably caused by the general want of nutrition, and if it is found alone, without a coincident general anaemia or chlorosis, should lead to the suspicion of lung disease, especially of the apices. Sometimes without any preceding catarrh the anaemia is followed by a veiling of the posterior parts of the aryteno-epiglottidean fold, and of the mucous membrane covering the arytenoid cartilages, without ulceration.

This is due to a tuberculous infiltration, and causes the well-known pyriform swellings which are so characteristic of the disease.

In the state of our present knowledge, we know that a deep-seated invasion may take place by the spread of tubercles in the walls of lymphatics (see Professor Benda's[1] investigations) as well as in those of the blood vessels.

(*b*) My own experience leads me to say that even this condition is rare without a preceding laryngitis, and that many patients who suffer from hoarseness and aphonia will date their symptoms from a "cold in the throat."

The common onset of laryngeal tuberculosis is preceded by a general laryngitis, the acute stage of which yields to treatment, but often leaves a chronic catarrh of the interarytenoid region and ary-epiglottidean folds and vocal cords. The exaggerated papillae can be seen by the ordinary laryngoscopic examination, and a velvety and irregular appearance with some swelling is usually observed.

5. *The Ulcerative Stages of Tuberculous Laryngitis.*

Both of the preceding conditions are premonitory to the ulcerative process. The early superficial ulcer, in parts that can be seen, is amenable to treatment, but deep-seated infiltration leads to the more advanced stages of the disease. The interarytenoid ulceration extends along the vocal cord leading to longitudinal fission (a common appearance of early ulceration, and more common, I think, on the right side, though often bilateral).

A burrowing ulcer exposes and lays bare the arytenoid cartilage on one or both sides, and leads to fixation of a vocal cord or spreads to other parts and produces oedema, and in late stages perichondritis of the neighbouring cartilaginous structures.

In advanced disease a destructive ulceration of almost the whole laryngeal mucous membrane and tissues (involving in some cases the epiglottis and trachea) is found.

6. *The Treatment of Premonitory Stages—the Anaemic and the Catarrhal.*

The considerations I have presented seem to me to be essential to an appreciation of the rational lines of treatment to be adopted in early cases.

Prophylactic and local (sedative and astringent).

Improvement of general nutrition by open-air treatment, ample food, and by such tonics and drugs as increase metabolism. The treatment of all degrees of catarrh by sedatives and mild astringents to the laryngeal mucous membrane—especially the inhalation of the vapor pini sylvestris and of that of compound tincture of benzoin. Rest of the larynx is most essential, especially in people in whom the original irritation appears to have been brought about by unusual exertion of the voice. Freedom from dusty atmosphere and from those occupations in which irritating particles are produced, and when this cannot be obtained, as amongst the poor (who are obliged to follow their daily avocations), by the wearing of a respirator. The allaying of cough by sedatives or inhalations is of primary importance. Demulcent lozenges or pastilles of cubebs, of cocaine, or of borax, morphine, chlorate of potash, and ipecacuanha, are of value in pharyngeal irritation. The more chronic stages of catarrh may be treated by more decided astringent inhalations or applications.

7. *The Second or Early Ulcerative Stage.*

(*a*) *General Treatment.*—When once the catarrhal has passed into the ulcerative stage the case of the patient is still hopeful, but the complication adds some gravity to the coincident lung condition. The tendency to exacerbation of catarrh is greatly increased, and, though all the general measures of improving nutrition adapted to the tuberculous case should be continued, additional care is needed to guard the patient against cold winds and every incident that encourages catarrh.

Absolute rest of larynx should be insisted on. All speaking should be discouraged, and if speech is a necessity it should not be above a whisper. It should be impressed upon the patient that silence is an essential aid to recovery. All irritating cough should be treated as before stated.

(*b*) *Local Treatment.*—If the ulcer is in the interarytenoid region or on a vocal cord, is superficial and can be easily observed by laryngoscopical examination, I know of no better method than the painting with lactic acid in graduated strength, ending with a saturated solution. The part should first be painted with cocaine. Inhalations, especially those in which some preparation of iodine is present, either in solution or combination, seem to me to be valuable. Except in extremely early and superficial cases of ulceration, I am opposed to much local treatment.

[1] *Proceedings of International Congress on Tuberculosis*, Vol. III. Professor Benda (Berlin).

(c) The serum treatment of tuberculosis is a wide and important question, and is one that is engaging the special attention of all who are actively engaged in the treatment of tuberculous affections.

I am at present engaged in investigating the T.R. tuberculin serum and the antitoxic treatment of Dr. Marmorek of Paris. Some of my colleagues are also treating patients with the serum of Dr. Beranek. Our great difficulty is that we cannot obtain patients in a sufficiently early stage. This is the direction in which I believe the ultimate solution of the question will be found. At the present time I am not yet in a position to make any definite statement as to results.

8. The Pronounced and Advanced Ulcerative Stage.

It is rare to find extensive ulceration of larynx without widespread pulmonary tuberculosis. In the few cases which form an exception to this rule, where the ulcerative process in the larynx predominates, and where there is great infiltration leading to tuberculous tumours of larynx or to dangerous oedema, operative procedure may be adopted. Tracheotomy has sometimes to be performed, and even thyrotomy, with removal of the diseased parts or excision of the larynx. Such cases seldom recover, but recovery has resulted on rare occasions. This complication in cases where pulmonary tuberculosis is also serious renders the case practically hopeless.

The treatment is that of the relief of symptoms. Pain is usually caused by movements of the larynx by speaking and swallowing, and occurs when there is ulceration or swelling of epiglottis and when there is perichondritis of the cartilaginous structures. In the former condition, especially if the upper surface is affected, a gargle of borax and opium will relieve. Cocaine lozenges and sprays given shortly before food are most valuable. When these fail, and the pain is caused by laryngeal and deep-seated ulceration, there is no remedy so valuable as the insufflation of orthoform. The insufflation of a powder containing ¼ gr. of morphine with boracic acid or starch or sugar powder gives relief, but is not to be compared with the effect of orthoform. For the distressing salivation of advanced cases we have no certain remedy.

In conclusion, I wish to impress the importance of watching and alleviating any early catarrhal affection of larynx. This premonitory stage is remediable by treatment. The early ulcerative process is hopeful, provided the lung disease is not extensive. When the laryngeal symptoms preponderate, operative procedure may be advisable. The stages of extensive ulceration of larynx, when accompanied by serious disease of lungs, are hopeless, and are only to be treated by palliative measures.

III.—Harold Barwell, M.B.Lond., F.R.C.S.Eng.,
Laryngologist, Mount Vernon Hospital for Consumption; Assistant Surgeon, Metropolitan Ear and Throat Hospital.

In considering the general principles which should guide our choice of the method of treatment in individual cases, it is necessary to keep the object of our treatment clearly in view. Our aims are limited by the possibilities of the case, and are of three kinds: (1) to completely cure the patient; (2) to heal the laryngeal lesions; or (3) merely to treat the symptoms and relieve suffering. It will be found that two factors influence us above all others in deciding what our treatment should be in any individual case—the state of the lungs and the laryngeal symptoms; and we may divide our patients into groups corresponding to the results we may reasonably hope to obtain.

In the first group come those cases in which the lung disease is in an early stage and not progressing rapidly, and where the general health is good; and even somewhat more advanced cases if they show a tendency to improve; in fact, all cases in which, from the condition of the lungs, the physician would now give a fairly good prognosis; the rare cases of primary, and apparently primary, laryngeal tuberculosis are also included. Of these cases it may be said that, however extensive the laryngeal disease may be, a cure is possible, and is probable if in a fairly early stage; and that the less disease is present in the lungs the bolder and more energetic should our treatment be. In most of these cases the laryngeal affection is not far advanced, and the persistent use of pigments combined with general treatment will effect a cure; but if the case does not respond, or is more advanced, little time should be lost before resorting to punch-forceps or curette according to the lesion present.

Rarely, the larynx may be extensively affected, while there is little or no disease present in the lungs; in such cases thyrotomy may in the future prove of great value. Spontaneous cure may occur at times in early cases under favourable hygienic conditions, but such an event is really extremely rare, and I would strongly advise against so-called expectant treatment—that is, no effective local treatment at all—in the hope of spontaneous cure. On the other hand, early cases of tuberculous laryngitis can often be brought to heal by local treatment, even in the unfavourable surroundings of a hospital out-patient.

The second group includes, perhaps, the majority of cases met with in practice, namely, those where the lung disease is so far advanced that a definite cure cannot be expected, but without the adverse symptoms of the third group. They are mostly cases of more or less chronic phthisis without high fever or great debility. Here, even when severe symptoms are absent, we must do our utmost to obtain local cure; for, as a rule, if the disease be allowed to progress unchecked, severe symptoms will later supervene, and the patient die a painful death. Ulcers, granulations, etc., should be treated with pigments and, if necessary, by curettage; pigments, however, have little effect upon massive infiltration lying beneath unbroken epithelium; removal with punch-forceps is by far the best method of dealing with such lesions. Relapse from fresh infection is not uncommon: but if only these cases are examined at regular intervals, relapse can be met by early treatment on the same lines.

C. R., a man, aged 33, came under my care in November, 1904, suffering from hoarseness and dysphagia of seven months' duration. The general health was fairly good; both apices of the lungs showed signs of phthisis. The left arytenoid was very greatly infiltrated, and the right one to a less extent; interarytenoid granulations were present: the left band was swollen and the left cord thickened, red and granular. In all, eleven pieces of infiltrated tissue were removed with punch-forceps, and daily application of Lake's mixture of lactic acid, formalin, and carbolic acid made; by the end of January the larynx was completely healed, though some thickening, apparently cicatricial, remained on the front of the arytenoid region. The condition was unchanged when he was shown before the Laryngological Society in March, and there were no laryngeal symptoms.

The third group consists of the hopeless cases in which even local cure cannot be expected. These are cases in which there is advanced or rapidly-progressing disease of the lungs, rapid loss of weight, hectic fever, or severe cachexia; cases of miliary tubercle; and cases in which the lung disease is chronic, though pronounced, while the laryngeal disease is very extensive. If there are no severe symptoms, only such mild measures as do not distress the patient should be employed; painting with powerful caustics is almost as severe a measure as the use of curette or punch-forceps. It is useless as well as cruel to submit the patient to active local treatment, for in these cases no cure can result. When, however, dysphagia or dyspnoea is present, it will be found that active treatment is much more efficacious in relieving these symptoms than mere palliative applications, such as orthoform, morphine, or cocaine. Curettement of an ulcer, a punching-out operation on the arytenoid, or removal of the epiglottis will in suitable cases have a remarkable effect, improving and often abolishing both these distressing symptoms; in other cases the rubbing in of lactic acid has a good result. The use of anodynes, especially orthoform, as an auxiliary must by no means be neglected.

T. K., a man of 31, with somewhat advanced phthisis, came to my out-patient department in June, 1904. He had been hoarse for four years, and had suffered from dysphagia for a month: this had been so severe for the last nine days that he could "only force down fluid food," and he had lost 6 lb. in weight in a fortnight. There was distinct obstructive dyspnoea with inspiratory stridor. The arytenoids formed two enormous pear-shaped swellings almost touching the epiglottis. I clipped away a part of the right arytenoid and a small piece from the left; and he returned the next week very pleased with the result, for he had at once been able to swallow meat and had gained 1 lb. in weight. Three weeks later he was at work, and had no dysphagia. In a few weeks he became short of breath, and from this time he rapidly sank and died in September. His father told me that to the end his throat gave him little trouble, and there was no obstruction to breathing.

Such cases are quite common, and I think that the palliative effect of surgical treatment in advanced cases deserves more attention than it receives from the profession.

Finally, there are those cases in the very last stage of the disease—unable to swallow without severe pain but too weak to bear any local treatment. In such only palliatives can be employed, and they are often of but too little avail. One cannot but feel that if such cases had been submitted to local treatment at an earlier stage much suffering might have been prevented.

From these considerations, it will appear that if severe

symptoms—dysphagia and obstructive dyspnoea—are present, the only contraindication to active treatment is such extreme weakness as to render the patient unable to withstand the slight shock of operative measures.

On the other hand, when there are no severe symptoms, all energetic treatment is contraindicated if the lung disease is acute or far advanced. Among the signs of acute or advanced phthisis the temperature is important. A markedly up-and-down temperature or a high grade of fever generally contraindicates active measures. Rapid loss of weight is a still more important contraindication, always provided that dysphagia is not present; if, on the other hand, the weight is well maintained, I am inclined to operate even when there is a considerable amount of fever.

Again, if no disease can be detected in the lung, or if it is in a curable stage, active treatment must be advised in all cases, and that without delay. We must, however, take into consideration the extraordinary masking of physical signs in the chest in cases of extensive laryngeal disease. But it is in the large class of cases intermediate between these two groups that the greatest difference of opinion exists as to the adoption of treatment. I myself strongly urge that active measures be employed where none of the contraindications already mentioned exist—that is, in all cases of chronic phthisis without great cachexia, unless the laryngeal disease is very extensive indeed. In these patients the milder form of tuberculous laryngitis—infiltration and ulceration of the cords and interarytenoid space—can frequently be cured, as far as the laryngeal condition is concerned, and even of the more serious cases of massive arytenoid infiltration a considerable proportion can be soundly healed; whereas, if left alone, there is little doubt that they would progress and eventually cause dysphagia. I do not hesitate to attack infiltration beneath unbroken epithelium with punch-forceps, for such wounds are found to heal with marvellous rapidity, and they very rarely become infected by septic organisms.

Although tuberculous laryngitis is found principally in an advanced stage of pulmonary phthisis, yet it occurs much more often at an early stage of consumption than is believed by the profession in general. Then again, the disease not uncommonly leaves the cords at first unaffected, and may reach a somewhat massive degree of infiltration of the arytenoids before causing dysphagia, so that it may, and often does, give rise to no symptoms whatever until it is considerably advanced. Finally, in an early stage, tuberculous laryngitis is decidedly curable, infinitely more so than when far advanced. For these three reasons—because it is common in all stages of phthisis, because it may cause no symptoms to attract attention, and because the early stages are much more amenable to treatment—and also because it produces one of the most painful and distressing forms of death, I most strongly urge that all cases of consumption should have their larynges inspected at regular intervals and as a matter of routine.

I hope that the result of this debate will be to emphasize, for the profession at large and for the general public, the fact that tuberculous laryngitis is not an incurable disease, but one to be treated thoroughly and persistently from its earliest commencement; and I trust that routine laryngoscopic examination will soon become a recognized procedure as part of the general management of all consumptive patients, for I am sure that in this way much suffering would be prevented.

IV. StClair Thomson, M.D.Lond., F.R.C.P.Lond., F.R.C.S.Eng.,

Physician for Diseases of the Throat, King's College Hospital.

Dr. StClair Thomson said: The openers of the debate have admirably outlined the subject and overcome the difficulty of condensing a very wide subject into a limited space. For those who follow them it is impossible in ten or fifteen minutes to do anything like justice to an affection so kaleidoscopic and deceptive, and where the indications for treatment are so numerous and variable.

Progress in the treatment of tuberculous laryngitis has certainly been made since Morell Mackenzie wrote twenty-five years ago that "it is not certain that any cases ever recover," and from his own vast experience could only recall four in which he had reason to believe that the disease was entirely arrested. Since then we have had the brilliant promises of surgical enthusiasts, which have not been fulfilled, and I trust we are reaching a stage when we shall realize that the general condition must always and firstly be treated, the local treatment being secondary, and in many cases insignificant, though in a few it is of great importance.

There is a good deal of loose talk amongst certain enthusiasts of the number of cures they have wrought. Others—men of wide experience—still frankly own that they have never seen an authentic enduring cure.

The enthusiasts of local treatment sometimes assert that untreated cases go downhill more quickly than those treated. This is too wide a generalization. There are numbers of cases which go on with laryngeal lesions for five years and more, with little local discomfort, and die ultimately from their lungs. There are numbers of cases which will only cease to go downhill rapidly both in larynx and lungs when local surgical measures are abandoned. We must not let the cures which we can effect by local means, in some well-selected cases, blind us to a recognition of the fact that in many other cases these very same methods have made miserable the latter days of the poor sufferers and hastened their end.

In this connexion lactic acid has been one of the most abused and misused of local remedies; and although many who were ardent advocates of it now, like Freudenthal, frankly declare that "it ought to be dispensed with as antiquated and barbarous torture of patients," yet the fictitious reputation it acquired still lingers. Too often does one see tuberculous deposits which have been "painted," perhaps daily, with lactic acid. Now, if there is an unbroken surface over the deposit, such unreasoned treatment can do nothing but harm. The true indication for using a strong caustic is when we have to do with a chronic, limited ulceration over a shallow infiltration, or over one which has been made shallow by the removal of the main deposit. Such ulcers will sometimes heal spontaneously.

Sprouting granulations are not infrequently removed by curettes at some risk, when, if left alone, they would slowly necrose away spontaneously in some cases, and in many others where the pulmonary disease is progressive, their presence would cause little inconvenience and produce no effect on the course and conclusion of the case.

Progress is to be made by always recollecting that tuberculous laryngitis is but a local expression of a disease affecting the entire system; that no drug has any specific action on the bacillus; and that local attempts at killing the bacillus, or completely exterminating its effects, must be for the present abandoned.

We must therefore give up considering as directly curative the use of vapours, sprays, paints, or insufflations. They may be employed for relieving symptoms. Antiseptics in the larynx always help to prevent mixed infection. Our recent principal advance is the application of what we may learn from sanatorium experience, namely, that we must imitate the natural method of recovery by raising the patient's resistance to its highest capacity, while the products of disease are either cast off or surrounded by fibrosis. We may sometimes interfere locally with advantage in assisting these two methods, our curette hastening the extrusion of the disease products, a caustic or cautery stimulating fibrosis and cicatrization.

Some centuries have passed since Bacon told us that "Nature is only conquered by obeying her," but it is only recently we have applied the idea to the treatment of pulmonary tuberculosis. The sanatorium principles of constant pure air, abundant diet, medical supervision, regulated exercise and rest should be applied even more sedulously when the larynx is affected. I think I was one of the first in this country to urge the importance of voice rest in laryngeal cases. Before the British Congress of Tuberculosis in 1901 I wrote that "silence should be enjoined, the disuse of the voice being proportionate to the degree in which the focus of infiltration approaches or interferes with the arytenoid joint." Some time afterwards I had occasion to put this treatment into practice in a case which I am able to demonstrate before you to-day as now cured for two and a half years, after five months of silence. This silence treatment is much easier for a patient to carry out in a sanatorium than anywhere else. Besides, the hygienic rigour of a sanatorium far exceeds the advantages to be obtained from any climate without sanatorium principles. Some American colleagues have made the surprising statement that "any chance should be taken in a good climate, rather than the best treatment in a poor climate." No one who has worked some months in a sanatorium could agree with this view, but would far more readily endorse the pithy conclusion of Burney Yeo, that

"care without climate is better than climate without care." Of course, if possible, let the two be combined.

There are many things we may learn from sanatorium experience. One is the remarkable manner in which catarrhal, ulcerating larynges become clean and dry in unvitiated air, with rest and without any local treatment. Another point is the regular observation of rectal temperatures. We frequently hear it said that a daily rise of temperature to 100° F. is hectic, and that if a patient's "afternoon" temperature rises to that point he should be kept absolutely at rest. But here are the temperature charts of the patient I demonstrate, in whom tubercle involved all the upper lobe of one lung and part of one side of the larynx with abundant tubercle bacilli in the sputum. Disease in both lung and larynx have been arrested for two and a half years. It will be observed that the charts show a daily rise of temperature to 100° F., but this rise does not take place in the afternoon—when, in fact, the temperature is seen to be always normal—but is registered at mid-day. The fact is, the temperature was then taken immediately after exercise, and much of the temperature of phthisis is a fatigue and not a septic temperature. It will be noticed that at the end of six months, and when free from tubercle bacillus and physical signs, the temperature still goes to 100° F. after a good walk. This shows the importance of regular rest, and of carefully watching the effects of exercise—points which a patient can hardly learn except in a sanatorium. There are numerous other advantages which time prevents us from considering.

The indications for treatment will, in the first instance, depend on the virulence, extent, and progress of the pulmonary lesion, and the reaction of the individual. In the second place, it will depend on the situation, extent, depth, age, and progress of the laryngeal disease.

Extensive or old-standing pulmonary disease is of course of evil omen; but so is rapid pulse, persistent elevation of temperature even with rest, anorexia, loss of weight, want of moral vigour, pregnancy, syphilis, or a bad family history. These are factors which the sanatorium physician is much better able to observe and gauge than the consultant who sees his patient at rare intervals, or, perhaps, only once. The manner in which a patient reacts under sanatorium treatment also affords most valuable information in forming a prognosis. As to age, it is generally recognized that the more the patient is above 40 the better is the outlook.

If the prognosis as regards the lungs is hopeless, it is useless putting the patient to the distress of a painful local treatment to effect a local cure. Relief, of course, must be worked for, while not forgetting that the larynx may improve spontaneously, even while the patient is steadily dying from the lungs.

But if the pulmonary trouble is in process of arrest, we may, if the laryngeal condition is suitable and threatens to become chronic, plan more active local measures, and if the chest shows complete arrest, we may be still bolder in attacking the laryngeal lesion.

The most promising laryngeal lesions are infiltration or superficial ulcers of the cords, the interarytenoid region, and the area in front of the arytenoids. Papillary outgrowths in these regions are also curable. Localized and chronic infiltration in the epiglottis or aryepiglottic fold may also prove amenable.

Cure cannot be expected if both sides of the larynx are extensively invaded, if both arytenoids are much infiltrated, if there is persistent pseudo-oedema, if there is perichondritis, if the subglottic region is markedly diseased, and if the epiglottis shows an extensive and acute process associated with other laryngeal lesions. When the epiglottis alone is involved a cure may be effected.

Lastly, how should these lesions be attacked, presuming that the pulmonary and general conditions are favourable?

Let us begin by remembering that so careful, experienced, and intellectually honest an observer as Jonathan Wright has said that "the permanent radical cure of the local lesion of tuberculous laryngitis is not materially hastened by the various methods of treatment in any but an insignificant number of cases." Even the most enthusiastic supporters of surgical treatment admit that the majority of cases are unsuitable for even attempting operative measures.

Early diagnosis of tuberculosis will diminish the number of laryngeal cases. Lately, when writing for some statistics to a sanatorium, I was told that a few years ago, when only advanced cases were sent, throat lesions were common, whereas, now that chiefly early cases were admitted, cases of laryngeal tuberculosis were quite rare. But, even when the larynx is involved, our first advice should be general sanatorium principles; and then the limitation of the use of the voice, in some cases insisting on strict silence. With these two methods alone, particularly in early cases, lasting cures can be obtained. But in more marked cases we may have to remove papillary outgrowths, or punch part of the epiglottis. By these means the diseased tissue is seldom entirely removed, and the ulcerated surface left generally requires to be stimulated by some strong caustic, such as lactic acid or formalin. This should be used in such strength as to produce a local slough, and may be repeated when the slough separates. In some cases, when there is chiefly infiltration, I have been using the galvano-cautery with excellent results, and in no case, so far, with any deleterious effect, local or general.

Where cases cannot be submitted to sanatorium treatment, the local use of antiseptics certainly helps to maintain a satisfactory condition, and formalin sprays have assisted some cases.

Before concluding, I would like to protest against the suggestion that tubercle in the larynx can be treated like tubercle in the bones, joints, and glands, and be freely and completely excised. Analogy is always a risky method of ratiocination. It would, for instance, be rash to draw analogies between the surgical treatment of tuberculosis in the peritoneum and that in the pleural or arachnoid cavities.

Time makes it impossible to refer to the frequent failure of laryngo-fissure, to the indications for tracheotomy, or to the numerous symptoms we may be called on to alleviate. I have indicated what cases one should not interfere with, or as little as possible; and I have attempted, as a result of special opportunities for practical study, to indicate what cases can be cured, and the methods, general and local, to be adopted.

V.—Nathan C. Haring, M.B.Lond.,
M.R.C.S.Eng., B.Sc.Vict.,
Physician, Hospital for Consumption and Diseases of the Throat, Manchester.

Dr. Haring said that interarytenoid papilliform outgrowths should be removed to relieve dysphonia and cough, and could be easily clipped off, but as the total lesion was usually a large, deep-lying mass, the operation could hardly be made a complete one. Orthoform insufflations had proved very useful in relieving dysphagia due to ulceration. Large operations, in his experience, when such might be useful, were always contraindicated by the grave condition of the patient's lungs. The generally unfavourable prognosis of laryngeal tubercle was probably because the very fact of laryngeal invasion pointed to the existence of another focus of tuberculous disease in the lung, and the number of separate foci was a most important factor in the classification of the stage of tuberculous disease. Thus a slight disease at two or three foci was of graver import than a single localized lesion, even with ulceration. Roughly, the treatment was mainly general or sanatorium treatment, rest of the voice, and relief of symptoms. Treatment depended principally on a complete and exact diagnosis, which included the possibility of occurrence of tubercle in other parts of the body. Experience at the Manchester Hospital for Consumption and Diseases of the Throat showed that primary laryngeal tuberculosis rarely, if ever, occurred. One case in which a deep ulceration of the posterior portion of the larynx was present, and in which a tracheo-oesophageal fistula formed, showed *post mortem* an extremely early tuberculous lesion of the right apex, and the advanced condition of the laryngeal lesion, as compared with the early stage of the pulmonary, suggested that the laryngeal tuberculosis might have been primary. This case, and another similar one in which a necropsy could not be obtained, had been the only ones in which it appeared at all likely that the laryngeal lesion could be primary. The most important point of treatment was the general treatment of phthisis, open-air feeding, etc. Local treatment should be reserved for the relief of symptoms rather than with a view to the removal of the disease. In the ulcerative stage, menthol 20 per cent. in olive oil gave distinct relief, especially in tracheal ulceration.

VI.—Robert Scanes Spicer, M.D., B.Sc.Lond., M.R.C.S.,
Surgeon, Throat Department, and Lecturer on Diseases of the Throat, St. Mary's Hospital, London.

Mr. Spicer said that the early promise of the heroic surgical measures advocated by Krause and Heryng had not been fulfilled. These local surgical measures of a severe character should be confined usually to the relief of symptoms, in cases of fair resisting power. Among local measures on

which he had laid stress for some years and which he considered cardinal were: (1) Free nasal respiration at normal pressure and without sniffing and alar collapse, the air passing into the air tract within certain normal variations of pneumatic pressure; nasal obstruction leads to hyperaemia, irritability, and hypersecretion. (2) The cessation of mouth breathing, which, in addition to its better known results, produced increased sepsis in the mouth and throat, especially at night. (3) The respiratory tract should be regarded as a septic cavity, and every possible means should be taken to facilitate the removal of the septic and tuberculous secretions—by solvent sprays, antiseptic inhalations and insufflations, and volitional expulsion. He considered lactic acid, mentholized oil, and orthoform most useful when properly applied. He was in accord with those who considered the treatment as essentially that of the general vitality of the individual—the principles of the sanatorium and the return to a hygienic life. But among the most important of these general measures was one which had not been referred to in that discussion—nor, as far as he could learn, was it adopted in sanatoriums—and that was the systematic development of the patient's respiratory capacity by full and free chest expansion. The methods of Dutch doll antics, so often taught as breathing exercises, were quite inefficient. Proper full breathing made use of the patient's will to improve the oxygenation of the blood and the general nutrition and vitality. But to be efficient it required considerable attention to utilize all the respiratory mechanism and promote full air exchange.

VII.—Laurie Asher Lawrence, F.R.C.S., L.S.A.,
Surgeon, Throat and Ear Department, Westminster General Dispensary; Chief Aural Assistant, St. Bartholomew's Hospital.

Mr. Lawrence said he considered that the greatest stress should be laid on the suggestion thrown out by Mr. H. Barwell for the routine examination of throats of patients suffering from tubercle. Looking to the comparative ease of treatment in the early stages and the great difficulty in the later stages, there could be no doubt about the advisability of carrying out Mr. Barwell's suggestion.

VIII.—J. Dundas Grant, M.A., M.D.Edin.,
F.R.C.S.Edg. and Edin.,
Surgeon, Central London Throat and Ear Hospital.

Dr. Dundas Grant dwelt on the necessity for balancing local and general conditions. The remarkable surgical results, such as those of Heryng, were probably obtained in a very tolerant set of people. Dr. Grant found great temporary improvement usually, even in hospital patients in London, by periodical treatment, consisting of washing out the larynx, applying lactic acid discreetly, injecting the trachea with guaiacol and menthol, and then insufflating a local sedative and antiseptic, such as orthoform with resorcin. The patient was instructed to inhale powders into the larynx by means of the glass tube invented by Leduc. The intratracheal injection was coughed in part into the ventricles, the special site of tubercle indicated by Dr. Horne. He also desired to point out that oedema was not sufficiently distinguished from infiltration. Infiltration was tuberculous, but oedema was due to mixed infection with pyogenic cocci. It was sometimes set up by the indiscreet use of lactic acid. He always sent patients to the South Coast or other places where climate and care could be combined, and insisted on complete rest of the voice. As a valuable sedative, he advised a pill of morphine and atropine to check cough, sweating, and the troublesome salivation referred to by Dr. Habershon.

IX.—Patrick Watson Williams, M.D.,
Physician for Diseases of the Throat, Bristol Royal Infirmary.

Dr. Watson Williams said that the treatment of laryngeal tuberculosis fell under two main heads namely, (1) rest and masterly inactivity, and (2) active local interference. Now, his experience had led him to conclude that local rest of the implicated larynx was of the greatest value in the majority of cases, and of great value in all. The rapid improvement that was often observable when a patient remained absolutely silent and did not even whisper showed conclusively that much help was afforded by such simple measures. In his friend Dr. St.Clair Thomson's case there was no manner of doubt as to the tuberculous condition of the larynx, and the direct benefit derived from persistent silence was proved by the recrudescence of local symptoms when they tentatively relaxed the stringency of the silence; and the ultimate complete and lasting cure obtained was undoubtedly due to persistent silence combined with sanatorium life and régime. But they could not forget that absolute rest was out of the question, and that every time a patient coughed there was an abrupt and somewhat forcible closure of the glottis, which implied much more movement in the vocal cords and arytenoid and interarytenoid regions than occurred in whispering. He thought that while silence was of the first importance when the arytenoid and interarytenoid regions and the vocal processes were involved, it was less essential when the margins of the vocal cords or the epiglottis were alone the seat of lesions, and if the patient became depressed and disheartened by the absolute silence, as was sometimes the case, it was better to relax the rule as far as whispering was concerned. Moreover, he would lay stress on the equal importance in some cases of lessening the severity of the cough. It was, of course, necessary that the patient should get rid of his secretions in the trachea and bronchi, and that expectoration should not be unduly interfered with. But often enough the cough was due largely to irritation and might be usefully controlled by sedatives such as codeine or heroin. Active local treatment was sometimes of great value, and he had so often seen local ulcerations, which had not responded to rest and silence, clear up rapidly under lactic acid applications, that he could not agree with those who would dispense with local treatment. Nor was it necessary or desirable that these applications should be painful or even very disagreeable, the best results appeared to follow the use of diluted acid, such as 10, 20, or even 30 per cent. solutions, applied with a spray, after application of cocaine if necessary, and this not too frequently. It depended on the tolerance of the individual whether the application should be daily, or at longer intervals.

When there was no ulcerated surface and a somewhat fairly localized and defined tuberculous infiltration he had found relief from pain and local arrest follow submucous injections of guaiacol in minute amounts and in diluted solution. Also he had found that it was possible to hasten recovery and remove successfully localized deposits on the vocal cords, or on the epiglottis or interarytenoid folds, by curettement or excision.

But, speaking generally, the most valuable treatment of laryngeal tuberculosis was the sanatorium method, and the improved resistance engendered in the patient by such methods properly carried out, resulted in the arrest of the tuberculous processes in the larynx as well as in the lung, in a large proportion of the cases which were amenable to treatment at all. He had seen cases of diffuse infiltration and ulceration which appeared hopeless, clear up under such methods and remain absolutely cured. We might hope for a larger success by combining with the sanatorium and local treatment he had suggested, the use of tuberculin or serum, but at present his experience of these was too limited for him to express any opinion as to their value.

X.—William Smith Syme, M.D.Edin.,
Assistant Surgeon, Glasgow Ear Hospital.

Mr. Syme said he would like first to draw special attention to the preceding simple laryngitis, which, in his opinion, lasted longer than was generally recognized, and in many cases was the cause, quite apart from tubercle, of the thickening found in the arytenoid or interarytenoid regions. Holding this view he deprecated strongly any severe surgical treatment of cases at this stage, but he would impress upon the members the advisability of attempting to obtain for the larynx that rest which was Nature's opportunity for repair. To obtain this, silence for a prolonged period must be enjoined, and the cough must be controlled by all possible means, both local and general. At the same time antiseptic treatment by sprays and swabbing of the larynx should be employed, with a view to preventing both tuberculous and other infection. When ulceration had actually occurred, or when from other appearances there was no doubt that the condition had actually become tuberculous, he employed strong lactic acid solution, and rubbed it firmly into the part. When from the condition of the larynx one would be inclined to use severe surgical treatment, it had been his experience that the lungs were advanced to such a stage as to render this inadvisable.

XI.—Henry Smurthwaite, M.D.Durh.,
Newcastle-on-Tyne

Dr. H. Smurthwaite said that the first thing they must decide when they had a case of laryngeal tuberculosis for treatment was whether they were going to adopt a purely palliative treatment or whether they were justified in doing something more radical—an attempt to cure the mischief by surgical means. They all recognized that tuberculosis was purely a local manifestation of a systemic disease, and that the lungs were in most cases far advanced in tuberculous disintegration. Surely in such cases they could hardly hope to rid a patient of his laryngeal trouble by surgical interference. No general surgeon would attempt to do an excision of the knee or other joint on a patient suffering with well-marked lung trouble. He would rather trust to absolute rest, fresh air, generous diet, etc. He had had ample practical experience in Vienna of the value of radical operative treatment, and he must say that the cases so treated, instead of showing improvement got gradually worse. Later he stayed at Alland, near Vienna, where there was an open-air sanatorium for treatment of phthisis, and there found that laryngeal cases without any form of operative treatment improved with regard to their throat trouble in proportion to the improvement in the lung and general condition. The only cases they should submit to surgical interference were those in which there was marked stenosis from granulomata which interfered with breathing, or excrescences which tended to produce spasmodic cough. Their main endeavours in every case should be by local treatment to keep the larynx as clean as possible, and so prevent that secondary infection which was the advent of all the terrible sufferings of laryngeal phthisis. The best measure he had found for this was a laryngeal spray of menthol (gr. x to ℥j of paraffin liq.) every other day by means of a Heryng's spray.

XII.—Adolph Bronner, M.D.Heidelb., M.R.C.S.Eng.,
Senior Surgeon, Bradford Eye, Ear, and Throat Hospital; Laryngologist Bradford Royal Infirmary.

Mr. Bronner strongly advised the local application of formalin as spray (1 in 1000 up to 1 in 10), or as paint (1 in 100 up to 1 in 5). In cases of ulceration the ulcers should be first scraped, and formalin and glycerine (1 in 50 up to 1 in 5) applied. In most cases a weak cocaine solution should be used first. In all cases of dysphagia insufflations of orthoform or anaesthetin with aristol or iodoform should be applied with a suitable insufflator. A spray of menthol and paroleine was most useful in arresting cough and secretion. Surgical interference was often most harmful, and should only be resorted to when there was much obstruction.

XIII.—Atwood Thorne, M.B.Lond., M.R.C.S.,
L.R.C.P.Lond.,
Assistant Surgeon, London Throat Hospital.

Mr. Thorne wished to deprecate most strongly any attempt to treat cases of laryngeal phthisis as ordinary town hospital out-patients. He considered that in every case endeavours should be made to send these cases into sanatoriums, and he greatly regretted that even in the present day many cases dragged on a miserable existence, attending at a special hospital once or twice a week for active treatment, which might have done well had they been sent into the country early.

XIV.—George Jackson, F.R.C.S.Eng.,
Honorary Surgeon, Plymouth Public Dispensary and Devon and Cornwall Ear and Throat Hospital.

Mr. Jackson agreed that general hygienic treatment was of the greatest importance, and the relieving of local symptoms a secondary one. He should like an expression of opinion from that meeting as to whether cases of laryngeal tuberculosis should or should not be admitted to a sanatorium for tuberculosis. He referred to this most especially as it was a rule in a sanatorium with which he was connected that such cases should not be admitted. This was rather hard on many poor persons who had with great difficulty obtained the necessary papers to enter the sanatorium. Presumably this was done under the idea that such cases were incurable, or at any rate would prevent others more curable from being admitted. It was clear, however, from the foregoing discussion that such cases were curable, or could at any rate be relieved.

XV.—John Bark, M.R.C.P.I., M.R.C.S.Eng., F.R.C.S.Edin.,
Honorary Surgeon, Throat and Ear Department, Stanley Hospital, Liverpool.

Mr. Bark expressed his appreciation and thanks to the openers of the discussion, and especially to Dr. Jobson Horne, whose remarks and researches on the pathology of laryngeal tuberculosis were of the greatest value to all laryngologists. With regard to the value or otherwise of laryngo-fissure in tuberculous infiltration, he had performed that operation once only, and then by mistake, in a case in which there was unilateral infiltration of the ventricular band and cord, a scrap of which removed endolaryngeally was reported by the pathologist to be epithelioma. This patient had done extremely well, the lungs being fairly quiescent, and had remained in good condition, eighteen months having elapsed since the operation.

XVI.—John Middlemass Hunt, M.B.,C.M.Glasg.,
Laryngologist and Aurist, Royal Infirmary, Liverpool.

Dr. Middlemass Hunt said Dr. StClair Thomson objected to the proposition that he had laid down at Cheltenham four years ago—that is, that cases of laryngeal phthisis which were not treated locally would, as a whole, progress more rapidly than those which were. Unless we believed this, of course we would abandon all local treatment. As to sanatorium treatment, he had seen many cases in the past few years which had undergone months of this treatment, and often with great benefit, but it was not enough. He had even seen laryngeal disease commence and spread when the patient was said to have gained weight, and the lung disease to have much improved or even been arrested. He had also seen laryngeal ulceration heal under local treatment when sanatorium treatment alone had failed. He therefore could not agree with Dr. Jobson Horne that the two diseases always progress or heal *pari passu*. He believed that active surgical treatment was called for at two periods: first, in the early stages, to arrest, if possible, the spread of the disease; and, secondly, at a later stage, to relieve the sufferings of a dying patient. The laryngologist, in treating this terrible disease, should always be an optimist, and leave to the pathologist and the physician the rôle of pessimist.

XVII.—Frederick William Bennett, B.Sc.Vict.,
M.D.Lond., M.R.C.S.Eng.,
Surgeon, Ear and Throat Department, Leicester Infirmary; President of the Section.

The President considered local rest—that is, silence—all-important. He liked to get his cases early in the catarrhal stage, to keep them clean, and to apply remedies at once. He thought one should, if possible, avoid surgical interference with ordinary hospital patients, especially irritating treatment, and if any cutting was necessary, it should be clean and sharp.

Replies.

Dr. Jobson Horne considered that the discussion had elicited a remarkable consensus of opinion against the extreme local measures which had been advocated for the alleged complete cure of the disease. One speaker had commented on the change of opinion since the subject was discussed at Cheltenham in 1901, and on the absence of the large instruments which were then produced for the extermination of the disease. Dr. Horne concurred with Dr. StClair Thomson that there had been loose talk amongst enthusiasts of the cures effected by surgical means, and of how the untreated go downhill more rapidly than the treated. Such loose talk Dr. Horne regarded as the natural result of surgical zeal untempered by scientific research. A knowledge of the true principles of treatment of tuberculous disease of the larynx can only be arrived at through the humility born of pathology, and after years—not months—of patient work in the dead-house and the laboratory. In his paper Dr. Horne had abstained from commenting on the surgical measures advocated by the more ardent enthusiasts; he had considered it better to utilize the time in submitting for their discussion

the conclusions he had arrived at from clinical and *post-mortem* observations, and in demonstrating the preparations upon which his views and methods of treatment were based. The practical deductions to be drawn from the facts submitted he thought were obvious. His remarks, he trusted, would not be misconstrued into an attitude of therapeutic nihilism, or one of a surgical *non possumus*. On the contrary, the importance of local treatment as an ancillary proceeding could not be overstated. The speakers in the discussion had largely confined themselves, and he thought wisely, to the principles of treatment. Had time permitted, he would have entered more into technical detail of the surgical treatment. He had brought with him the instruments originally designed for the purpose by Professor Krause of Berlin, and Dr. Heryng of Warsaw, and from the time that he first worked with these, some twelve years ago in Professor Krause's clinic, he had found them, in conjunction with the galvano-cautery and the hot snare, sufficient for all cases requiring local treatment of a surgical nature. In reply to an inquiry for his views on cases of phthisis complicated with disease in the larynx being ineligible for admission by the rules of some sanatoriums, Dr. Horne considered that benefit resulted from the grading of cases in sanatoriums, and if the accommodation did not permit of the segregation of the more advanced cases of the type referred to, then the authorities had exercised a wise discretion in excluding them. At the same time Dr. Horne considered that the local treatment of the larynx should certainly not be neglected in a sanatorium. From the pathological facts he had submitted it was evident that the larynx afforded a reliable gauge of the pulmonary disease; to summarize the matter in a sentence it amounted to this: the larynx was a mirror to the progress of the disease in the lungs, but the disease in the larynx was far deeper and more extensive than it appeared to be in a mirror held in the throat.

Dr. Barwell in reply said he might remark that those who opposed active local treatment claimed but very few successes; whereas he found that the combination of routine inspection and active treatment in an early stage resulted in a considerable proportion of local cures. They pinned their faith on sanatorium treatment without local measures; but it was pretty generally acknowledged that the cases of laryngeal complication did badly at sanatoriums and were not well suited to thorough open-air treatment. Advanced laryngeal tuberculosis caused most acute and distressing pain, and it was not right that those who had not tried surgical measures in such cases should dismiss this treatment offhand, and condemn their patients to a painful death without employing a method which rapidly gave much relief. Dr. Smurthwaite's bad results were only what one would expect. He took it that he treated his patients in a large laryngological clinic, and mostly among out-patients where no great attention was paid to the temperature chart, to alterations in the weight of the patient, or to the condition of the lungs. The principal aim of the speaker's paper was to show the importance of taking such points into consideration.

THE SYMPTOMS, DIAGNOSIS AND TREATMENT OF CHRONIC SUPPURATION IN THE SPHENOIDAL SINUS.

By Herbert Tilley, B.S., F.R.C.S.,

Surgeon, Golden Square Throat Hospital, London.

When we remember the secluded position of the sphenoidal sinuses beneath the base of the skull, hidden away as they are in the upper posterior region of the nasal cavity, and also the fact that they are in close proximity to the optic nerves, the cavernous sinuses, the internal carotid arteries and the base of the brain, it is not to be wondered at that until quite recent years these sinuses have enjoyed an immunity from surgical interference which has been shared by few other regions of the body.

To-day the old order has changed, and it is strictly true to say that the surgeon who has made himself thoroughly acquainted with the anatomy of the nasal and its accessory cavities, and is moreover familiar with the technique of intranasal surgery, will find that the treatment of sphenoidal sinus suppuration is no more difficult than that of similar conditions within the other sinuses, and is certainly far less a tax on one's patience than the surgical after-treatment of chronic inflammatory affections of the frontal sinus.

I shall assume that you are fairly familiar with the anatomy of the sinus, and would only remind you of a few facts of practical importance. First, the sphenoidal sinus varies much in size, and is always divided from its fellow by a septum. The natural ostium is situated in the anterior wall of the sinus, and it opens into the spheno-ethmoidal recess, although in many cases it will be met with more towards the median line, and under such circumstances will be easily entered by a straight probe passed upwards and backwards through the olfactory fissure. Its distance from the junction of the upper lip with the nasal septum is about 8.2 cm. in men and 7.6 cm. in women. These measurements are fairly constant. The "ostium" is rarely visible to the naked eye, because the middle turbinal bone obstructs the view of the higher posterior region of the nasal cavity. Only when this bone is very poorly developed, or is atrophied by disease—for example, atrophic rhinitis—or is pressed outwards by a speculum, is it possible to see the ostium.

Since the accurate determination of the position of the opening into the sphenoidal sinus is of the first importance in the diagnosis and treatment of chronic suppuration in the sinus, we may at once point out the best guides for reaching it. If a straight probe be passed upwards and backwards from the junction of the upper lip with the nasal septum, through the olfactory fissure, crossing the middle of the lower border of the middle turbinal, it will often pass into the ostium and strike against the upper wall of the sinus. This was first pointed out by Zuckerkandl. If this method should fail at first it may yet succeed if the end of the probe be bent slightly outwards, and we know when the cavity of the sinus has been entered by the fact that it is impossible to depress the end of the probe. Had the latter not entered, its point would have glided smoothly down the spheno-ethmoidal recess.

In order to gauge the size of the sinus it is well to bend the point of the probe downwards, so that, having entered the ostium, it tends to pass through the sinus rather than to abut against the upper wall. It should be remembered that when the probe strikes the upper wall of the sinus it may suggest the feeling of bare or even necrosed bone. This is due to the fact that the membrane lining the cavity is very thin.

Finally, it will occasionally be found that some of the posterior ethmoidal cells extend backwards along the upper lateral wall of the sinus, and in diseased conditions this may add a complication to an already-existing sphenoidal sinus suppuration.

Symptoms.

In an uncomplicated case of chronic empyema, when the pus is not retained under tension, the symptoms are few and generally rather indefinite. They may consist of:

1. A so-called "*post-nasal catarrh*," which direct examination may prove to be a muco-purulent discharge, in which the secretion constantly passes down the posterior pharyngeal wall. As a rule the discharge is not copious. Often it may be fetid, and during the night has a tendency to dry into crusts, which by means of much hawking and "screeding" the patient manages to dislodge upon waking. Little discharge escapes by way of the anterior nares, even though the patient blows the nose violently.

2. *Headache.*—This is often referred to the vertex or felt over the occiput. Less commonly the supraorbital or temporal region may be the site of the pain.

In two very exceptional cases severe bouts of earache were complained of, and were only relieved when something was felt to "burst in the head" and a foul discharge simultaneously escaped down the throat. No relief to these symptoms could be obtained until I found that the sphenoidal sinus was affected, and provided it with a free opening.

Objective Symptoms.

An examination of the posterior pharyngeal wall will often reveal a unilateral muco-purulent discharge proceeding from the naso-pharynx, and not infrequently there is a tendency for this discharge to dry, so that a thin veneer of muco-pus is formed upon the parts. If the naso-pharynx be now examined with a small mirror and reflected light, pus may be seen in the higher regions of the naso-pharynx and the upper part of the posterior choanæ. It is rather a characteristic symptom to find the discharge covering the posterior end of the middle turbinated body. By means of anterior rhinoscopy pus will generally be seen between the middle turbinal and the septum,

and thus offers a contrast to the position it would occupy in the middle meatus were the antrum, frontal sinus, or anterior ethmoidal cells affected. One word of warning relative to this symptom. Contrary to what is often taught in textbooks upon the subject, pus is not always present in the olfactory fissure in sphenoidal sinus suppuration, because the middle turbinal may be so well developed that it may press so tightly against the septum as to prevent the discharge finding its way into this situation. Furthermore, other pathological conditions may result in the secretion finding its way into the fissure, so that its presence here in a case of sphenoidal sinus empyema, is of presumptive rather than pathognomonic value. Sometimes the discharge is only seen in the olfactory fissure when a dry crust of the secretion is removed from the anterior end of the middle turbinal.

The contact of pus with the mucosa in this position not uncommonly leads to a swelling and congestion of the mucous membrane of the septum opposite the anterior end of the middle turbinal. I have recently seen a case in which this has been so marked that only by incising the swelling could I convince myself that it was not a localized abscess of the septum.

Actual polypi in the higher regions of the nose are infrequent in uncomplicated cases of sphenoidal sinus suppuration.

Giddiness, inability to perform mental work, and general mental depression, are symptoms which are generally present in greater or less degree.

In two of my cases eye symptoms were present, although in one instance these were not due to the sphenoidal lesion, but to associated ethmoidal suppuration.

Should pus be present in the sinus under tension, then all the above symptoms are exaggerated, and the escape of infection, or the spreading of inflammation into the neighbouring parts, may give rise to more or less blindness which may be sudden in its onset, exophthalmos, thrombosis of the cavernous sinus, or even a fatal basal meningitis.

Diagnosis.

Since the subjective symptoms are somewhat indefinite, the diagnosis must be made from the objective appearances just mentioned, coupled with a more detailed and direct examination of the upper parts of the nose and naso-pharynx. The nasal cavity should be first thoroughly cleansed by a warm alkaline coarse spray, and the mucosa anaesthetized and rendered ischaemic by the application of equal parts of cocaine and adrenalin chloride (1 in 1,000).

The situation of the ostium of the sphenoidal sinus should now be ascertained, but it will nearly always happen that the middle turbinal body will obstruct the view of the anterior wall of the sinus, hence that structure should be removed. This can easily be accomplished by means of a suitable pair of intranasal scissors and a cold wire snare. There need be no hesitation in performing this operation, because it is an essential preliminary to any surgical after-treatment of the sinus or the posterior ethmoidal cells. The bleeding following the operation can be quickly checked by the application of strips of gauze, moistened with adrenalin chloride or peroxide of hydrogen (10 vol. solution). Having exposed the anterior wall of the sinus, the position of the ostium may often be determined by a small pulsating drop of pus, which fills the opening. This pulsation is very characteristic, and reminds one forcibly of a similar appearance frequently seen in the tympanic membrane in the course of chronic suppurative otorrhoea. Pus will often flow freely if the fine points of a pair of rectangular nasal forceps be passed within the ostium and gently opened. If by these means we find pus in the sinus the diagnosis is in part confirmed—that is, we know pus is in the sinus, but we have yet to determine if it has formed there, or has merely flowed into it from a neighbouring cavity, such as a suppurating posterior ethmoidal cell. To determine this we should wash out the sinus with a suitable cannula, and cleanse the spheno-ethmoidal region, so that no pus can anywhere be seen. Then pass into the sphenoidal sinus opening a small tightly-fitting plug of gauze, and wait for an interval of time, which may vary from a quarter of an hour to twelve hours, or even more.

If on examining the nose after this interval we find no pus in the spheno-ethmoidal region, but a free flow from the sphenoidal cavity on removing the gauze plug, then we may be sure that the source of pus is in this sinus. The reverse experience—namely, finding pus in the spheno-ethmoidal region before removal of the gauze plug, and no flow from the sinus upon removal of the gauze—would suggest that the pus came from another source, probably the posterior ethmoidal cells, and that the sphenoidal sinus had been only acting as a reservoir rather than as a generator of the discharge.

When the frontal, maxillary, and anterior ethmoidal cells are simultaneously affected, producing what has been termed a "pansinusitis," the differential diagnosis is a matter of considerable difficulty, but the general principles upon which it is made remain the same—namely, the washing away of pus from the neighbourhood of suspected sinuses, and then corking the opening of one cavity, while watching the return and the distribution of the pus from the others.

Treatment.

The treatment of chronic empyema of the sphenoidal sinus will resolve itself into one of two methods: (1) Irrigation, more or less frequently repeated; (2) surgical intervention, with a view to providing for free, unhindered, and spontaneous drainage until the lining mucous membrane has recovered itself or the discharge has ceased.

With regard to the first method, my experience is disappointing, for in 8 or 10 cases in which I employed irrigation with varying lotions at frequently repeated intervals, the sole effect was the amelioration of the symptoms, which lasted only so long as the treatment continued. In one case spontaneous cure of the sinus suppuration took place when similar lesions of the other sinuses (antrum and ethmoidal) were cured by surgical measures.

I am inclined to think that it is better practice in all cases to proceed at once to a radical operation, which aims at the complete removal of the anterior wall, while it is advisable as a general rule to break down the neighbouring posterior ethmoidal cells. This operation may sometimes be carried out under the influence of cocaine anaesthesia, but in most patients general narcosis will be advisable. The following are the details of the operation, which I have followed in the 8 cases which form the basis of this paper:

The nasal mucosa of the affected side are cleansed with a warm alkaline antiseptic spray and are then anaesthetized and made ischaemic by means of a 10 per cent. cocaine solution. To the middle turbinal region is now applied a mixture of equal parts of a solution of cocaine (20 per cent.) and an adrenalin chloride solution (1 in 1,000). A general anaesthetic is now administered, preferably a mixture of chloroform and ether (1 in 2), and the middle turbinal is removed by means of scissors and a wire snare. Any oozing of blood can be quickly checked by the application of strips of lint moistened by a solution of peroxide of oxygen. The opening of the sphenoidal sinus is next defined, and a small strong hook, mounted on a long shank, and fixed almost at right angles to a suitable handle, is inserted into it, and drawn forwards and downwards so as to break down the anterior wall. The opening can be quickly enlarged, so that the anterior wall is completely removed, and by a similar means the neighbouring posterior ethmoidal cells can be broken down.

In a female patient operated upon by me on July 15th, 1905, the anterior wall was so thick and hard that I was obliged to use a hammer and long chisel before I could make an opening of sufficient size into the sinus.

Bleeding, which is rarely severe, can be easily checked by the means already mentioned. As a rule, it is wiser not to curette the sinus, especially the superior and lateral walls, on account of the important structures in their proximity, which as a result of disease may be devoid of a bony covering. If free drainage be established and maintained, the lining membrane, although considerably altered by chronic inflammatory changes, will soon return to a more natural condition.

The opening in the anterior wall should be made as large as possible.

Having cleansed the sinus with an efficient antiseptic, it may be lightly packed with sterilized ribbon gauze.

I have little hesitation in saying that the operation upon the sphenoidal sinus is as easy, if not easier, than similar radical procedures upon any other of the nasal accessory cavities.

The great difficulty in the after-treatment will be to keep the opening patent, for, no matter how large it may be at the end of the operation, it will show an almost irresistible tendency to contract, so that an opening the size of a horse-bean will, in the course of a fortnight or three weeks, appear no larger than a pin's head, and a recrudescence of the symptoms may appear if contraction becomes complete. To counteract this I have recently packed the sinus daily for ten days with small strips of gauze moistened in a solution of

nitrate of silver (10 to 20 gr. to the ℥), and have touched the edges of the wound with the pure silver salt fused on a suitable probe.

When other sinuses are simultaneously diseased, it may be possible to open the sphenoidal by way of the maxillary antrum and ethmoidal cells, as recommended by Jansen; but in a simple, uncomplicated case of sphenoidal empyema it appears to me that this route and the traumatism it involves is quite unnecessary. I can confidently recommend the operation which I have brought to your notice again to-day, as Hajek demonstrated it to us some two years ago when he was in London. Its advantages are manifold, for the traumatism is slight, the field of operation is directly visible, the haemorrhage is of no moment and may easily be controlled, and the after-treatment and convalescence are short, while last, but not least, the patient is not doomed for the rest of his days to carry with him the sign-manual of a visible external scar.

[The paper was illustrated by means of diagrams, moist anatomical preparations, and special instruments for dealing with the sinus.]

Dr. JOBSON HORNE said that he was also indebted to Dr. Hajek of Vienna for his method of investigating and treating suppuration within the sphenoidal sinus. He felt sure they would all agree, after Dr. Tilley's demonstration, that it was the best and safest method which had been brought under their notice. The instruments designed by Dr. Hajek, cutting only when drawn towards the operator, afforded the greatest safety of any instruments made for the purpose. One point upon which Dr. Hajek laid stress, and one which Dr. Horne could emphasize from his own experience, was the absence of any necessity for doing much in the way of curetting within the sphenoidal sinus. At first the appearance within the sinus might be suggestive of polypoid degeneration calling for curettement. It was simulated by the bulging of the muco-periosteum lining the sinus; one or two slight incisions sufficed to cause it to fall back against the wall. In another case he had found syringing out the sinus without enlarging the orifice quite sufficient. In other cases it had been necessary to break down the anterior wall in the manner indicated by Dr. Hajek. Lastly, he asked whether the experience of those present coincided with his own in that suppurative disease of the sphenoidal sinus was diagnosed more frequently than it existed. In this respect the importance of differentiating disease of the posterior ethmoidal cell from that of the sinus became apparent.

Dr. BRONNER drew attention to the fact that disease of the sphenoidal sinus was often the cause of meningitis, atrophy of the optic nerve and paralysis of the ocular muscles, and that it was not diagnosed. He had during the last year seen two cases of fatal meningitis due to disease of the sphenoidal sinus and in which there had been no subjective or objective symptoms of sphenoidal trouble. The patient stated distinctly that he had never had any discharge from, or pain in, the nose or head; and on careful examination of the nares and naso-pharynx there was no pus to be seen. He thought that disease of the sphenoidal sinus was most dangerous, and much more common than was generally supposed, and he considered that in all cases of obscure meningitis, optic atrophy or papillitis, the sphenoidal sinus should be explored.

Dr. STCLAIR THOMSON was glad, for the sake of the peace of mind of rhinologists, that there were no more sinuses to be explored, and that the sphenoidal was really the last left to be investigated. Although in former years he had fought rather shy of this sinus, he now approached it with much less anxiety than he did the frontal. The best method of attacking it was by putting the patient under a general anaesthetic, plugging the post-nasal space with a sponge, and threading the tongue with a silkworm-gut ligature. The latter enabled the chloroformist to keep the tongue well forward and the airway free, so that the anaesthetic could be regularly and smoothly administered, leaving the operator as free to open the sphenoid as he was, for instance, in opening a mastoid antrum. It was very seldom that there was pus in the sphenoidal sinus without the ethmoid being at the same time diseased, and the above method enabled one to clear out the ethmoid and work backwards to the front wall of the sphenoid, which could then be broken into by a long pair of sinus forceps, and enlarged with some form of Grünwald's forceps. In this proceeding much help was obtained from a frontal electric photophore, proper preparation of the nose with adrenalin and cocaine, and the use of strips of ribbon gauze soaked in peroxide of hydrogen. Mention had not been made of Killian's long nasal specula, which were so useful in obtaining a view of the mouth of the sinus—which was generally closed like the meatus urinarius—and giving an exploratory lavage. Even with cocaine, however, it was a disagreeable proceeding, and, when possible, he preferred to do it under a general anaesthetic. In uncomplicated cases, and in those where the ethmoid had been well cleared, the results were satisfactory. But sometimes all suppuration was not cured, and this, he thought, was due to the anatomical irregularities which it was impossible to foresee in the posterior ethmoidal cells. The diagram on the screen showed how large some of these were—nearly as large as the sphenoidal sinus itself—and how they extended out sideways, "round the corner," so to speak, from the main nasal channel. Then there were the cases in which there was a sort of double sphenoidal sinus, one above the other, the second one being due to an exceptional prolongation backwards of a posterior ethmoidal cell. It was impossible to foresee this condition; it was only revealed in the progress of treatment, and there was some risk in such cases in pursuing treatment to the bitter end. It was in these anatomical irregularities that the posterior ethmoidal cells gave trouble similar to what aberrant anterior ethmoidal cells did when operating on the frontal sinus. Mention had not been made of how the sinus could be approached when doing a Killian operation on the frontal sinus. Through the wound, below the bony bridge, the sphenoidal sinus was found to be nearly an inch nearer than through the nasal orifice. As to symptoms he could confirm all those which had been referred to. A case had once been sent to him at the Royal Ear Hospital as acute mastoiditis, on account of pain in the side of the head. Yet the ear was quite healthy, and the symptoms were due to sphenoidal suppuration. This was confirmed by his colleague, Mr. A. Cheatle. He was glad to hear that Dr. Tilley had observed the pulsation in the bead of pus at the ostium sphenoidale, as in his earlier cases this pulsation had unnecessarily alarmed him. The serious complications which might arise from sphenoidal suppuration were illustrated by 3 cases which he, Dr. StClair Thomson, would shortly put on record, in which death ensued in the absence of any operative interference.

Dr. PEGLER had hoped Dr. Tilley would have found time to dwell a little more at length upon the difficulties of diagnosis in cases of suspected sphenoidal sinus disease. One would be tempted, he thought, from Dr. Tilley's lucid remarks, to infer that the diagnosis and treatment was a comparatively easy matter. He hoped Dr. Tilley would have alluded to a case which he (Dr. Pegler) had lately shown before the Laryngological Society of London, in which the diagnosis between posterior ethmoidal and sphenoidal disease and a form of mucous membrane suppuration and atrophy was very considerable. It was a form of suppuration in which the discharge was of that peculiar glutinous character adhering to the front wall of the sphenoidal sinus, naso-pharynx and neighbouring surfaces, common in sphenoidal disease, though exploration and washing out of the sinus excluded that disease conclusively. It was, however, a type of case which had been regarded as a cause of atrophic degeneration secondary to sinus disease, and over which considerable obscurity still hung from the etiological and pathological standpoint.

Dr. WATSON WILLIAMS congratulated Dr. Tilley. He had himself found considerable difficulty in entering the ostium in many cases, unless a considerable portion of the middle turbinate had been first removed. Yet if one had only a suspicion of sphenoidal sinus involvement, one would not wish to remove more of these structures than possible; and he thought that the cannula of an aspirating needle could be passed through the sphenoidal turbinal body, which is nearly always thin. He passed it along the floor of the nose to the naso-pharynx, and then drew it forwards along the floor of the sinus until it slipped up the anterior wall of the sinus. He passed it ½ in. up this wall, and, making the cannula as horizontal as possible, gently pushed it into the sinus through the thin anterior wall. The depth of the sinus can thus be measured, and aspiration can be performed. If this procedure be done without force, there was no danger.

Dr. HARING wanted to know of the relative frequency of sphenoidal disease.

Dr. HERBERT TILLEY, in reply, stated that he had never seen an association between genuine atrophic rhinitis and chronic sphenoidal sinus empyema. It was quite true that the discharge from the latter tended to dry upon the higher posterior regions of the nose and upon the wall of the naso-pharynx, but the crusts had not the characteristic smell of those met

with in atrophic rhinitis, and the clinical picture in the two cases was entirely different. He usually removed the middle turbinal at the same time that the sphenoidal sinus was opened if the patient was under a general anaesthetic, but if cocaine only was employed it facilitated matters if the turbinal bone was removed a few days previously. Haemorrhage was rarely free or embarrassing if the surgeon made free use of solutions of peroxide of hydrogen, cocaine, and adrenalin chloride. Dr. Herbert Tilley thought that the difficulty of dealing with the posterior ethmoidal cells would not be so great as Dr. StClair Thomson suggested if operators used a series of hooks and curettes made for the purpose and which were shown by the author of the paper.

THE ADVANTAGES OF THE SUBMUCOUS RESECTION OPERATION OVER ALL OTHER METHODS FOR STRENGTHENING SEPTAL DEFLECTIONS.

By Henry Smurthwaite, M.D.Durh.,
Newcastle-on-Tyne.

During the last three years we have heard of many operations for the cure of nasal stenosis due to deflections of the nasal septum, and are now in a position to say from which form of operation we can expect the best results in the majority of cases.

At the onset, I may say, I can only speak from experience of the submucous resection method, having performed it on some thirty odd cases.

Whereas, I have no doubt, there are some of the members of this meeting who could show good results from other forms of operation, it will, I think, be conceded that the resection method is the ideal one.

In November, 1903, I exhibited my first case at the Northumberland and Durham Medical Society, six months after operation according to the above method, having first seen Hájek in the summer of 1902 perform a similar one.

My cases have varied from simple anterior deflection—that is, involving the front portion of the triangular cartilage—to ones extending back to the perpendicular plate of the ethmoid, some being so marked that respiration through the nostril on the convex side was quite in abeyance owing to the septum pressing on the inferior turbinated body, the two together occluding the nares. In two cases, in addition to the deflection, the inferior turbinate and septum were united by fibrous adhesion owing to the use of the cautery some time previously by another medical man.

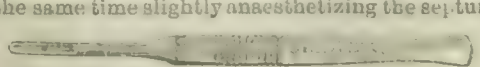
Each case has been operated on under local anaesthesia in my consulting room, and not in a hospital. Neither did I administer ethyl chloride and ether, nor ethyl chloride and chloroform. It is not an operation to which any danger is attached. Why make it so by the administration of a general anaesthetic? Of course, this is a matter of opinion; but I merely state the fact that so far I have not found it necessary to use other than local anaesthesia.

Certainly I must say that occasionally the time of the operation is prolonged by the patient at the beginning showing signs of fainting—not from pain or haemorrhage, for both are practically absent, but more from the thought or general idea of the ordeal. Nevertheless, after this period I have never had any further trouble, and each patient has been quite able to go home by himself or herself afterwards.

With regard to the time taken by the operation, in my first cases I required ample, but now, with practice and improved technique this is very much reduced, my last case—that is, for the actual operation—only taking twenty minutes.

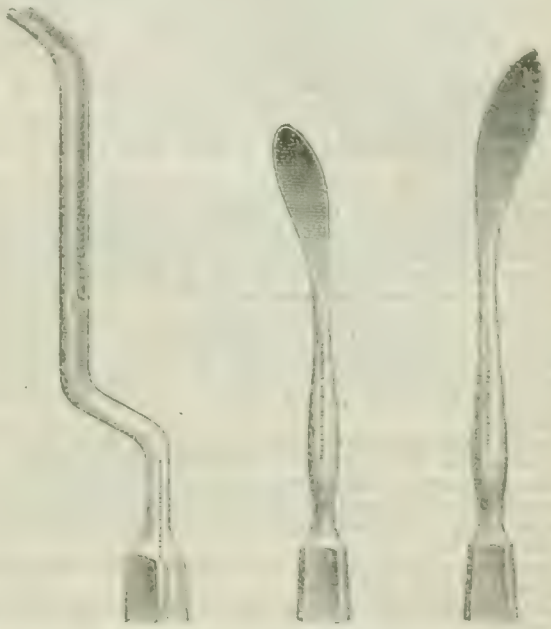
The Operation.

A pledget of wool soaked in a 5 per cent. solution of cocaine and adrenalin is placed in the nostril into which the septum is bulging, and allowed to remain a minute or so; this will produce a contraction of the tissues, allowing a better view, and at the same time slightly anaesthetizing the septum. One

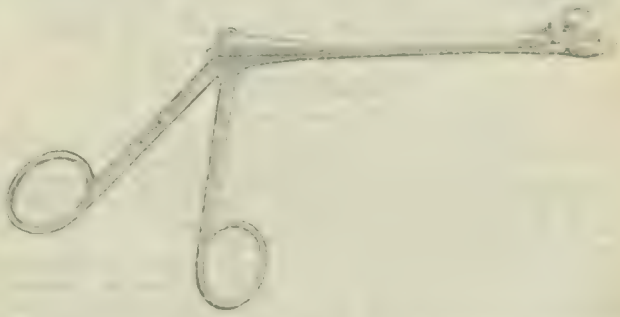


drachm of a 2 per cent. solution of β-eucaine is now injected underneath the membrane, the point of the needle entering about ½ in. from the anterior end of the cartilage. I now place a plug of wool soaked in adrenalin into the nostril, and after fifteen minutes the parts are quite anaesthetized and bloodless.

A vertical incision ½ to 1 in. in length is made through the muco perichondrium ⅛ in in front of the deflection, and the membrane thoroughly separated from the cartilage by means of a resecting elevator above, below, and as far back as is necessary. A horizontal incision is now made through the membrane, commencing at the lowest point of the vertical one, and carried well back beyond the deflection. The flap thus made is turned upwards and backwards, and can be maintained in such position by a pledget of wool tightly packed against it. By this means we can see the greater part of the bare deflected cartilage.



I have had made for me an instrument which very readily strips the muco-perichondrium when once it is loosened in front. An advantage of this instrument is its concavity on the flat, which corresponds to the convexity of the deflection, consequently the membrane beyond the deflection can be more easily separated. Its angular curvature on the straight allows one to pass it with ease down over the palatal plate into the lower fossa, and similarly high up towards the bridge. There are two sizes, and one for either side.



Now comes the part of the operation, after this separation of the membrane, which calls for the utmost care if we are to accomplish our object without perforation of the opposite muco-perichondrium, therefore it is necessary to proceed with great caution when we start to separate the cartilage from its covering on the convex side.

The instrument I have found of most service in this procedure is a sharp chisel, which I employ after a preliminary vertical incision, some ½ in. in front of the deflection, with a knife rounded at its extremity. With the chisel one can not only cut, but also at the same time raise the cartilage. When this is once done, one can get the elevator underneath and easily separate the remaining required part.

When as much cartilage as we consider necessary is thoroughly loosened from the opposite membrane, its upper

and lower portions can be incised with Killian's instrument, the shape of which I have had slightly altered into the form of a bow, by which means I find I can the more easily cut the posterior part of the cartilage, making the use of the punch-forceps unnecessary except for trimming purposes.

When one is satisfied that sufficient of the obstructing cartilage or bone, if any, has been removed, and the passage is now quite patent, the membrane is returned to its former position, being kept there by a couple of stitches passed at the site of the vertical incision.

The nostril is now carefully plugged with cyanide gauze, not so much for prevention of secondary haemorrhage as, by means of pressure, to prevent the formation of blood clots between the two muco-perichondria, with, later, marked fibrous thickening. The plug is removed in forty-eight hours and a small quantity of absorbent cotton-wool inserted at the entrance of the nostril to prevent dust fouling.

As a rule there is rapid healing. With few exceptions have any of my patients been unable to follow their avocations the following day.

With regard to the after-history of these cases the sail-like flapping movement of the membrane which obtains after removal of large portions of the septum disappears after a few weeks. On examining some of the earlier cases—those done two years since—one is struck by the hardness which this flabby membrane has assumed and one is almost led to assume that there must have been some regeneration of cartilage. These septa now look quite vertical and are tense. Personally, I think this condition is due to fibrosis, there being no cartilage reformed. I am about to carry out some experiments by which means I hope to verify or otherwise, this point.

In not a single case have I found any falling in of the bridge of the nose after fairly extensive removal of the cartilage, etc., and in cases in which there was twisting of the nose to one or other side there has been a marked straightening of the same with, naturally, improvement in the personal appearance of the patient.

In conclusion the following advantages of the operation, I think, will be conceded by all:

1. Its thoroughness, that is, the complete removal of all obstruction.
2. The saving of the whole of the mucous membrane—such an important point in the after-history—no scabbing or scale formation.
3. No necessity for splint of any kind.
4. The rapidity of healing and short period of indisposition.
5. Finally it can be performed under local anaesthesia.

A NOTE ON THE COMPARATIVE VALUE OF SEPTAL FISSURE ON MOURE'S PRINCIPLE, AND SUBMUCOUS RESECTION, IN THE TREATMENT OF SEPTAL DEFLECTIONS.

By L. Hemington Pegler, M.D.,

Surgeon to the Metropolitan Ear, Nose and Throat Hospital; Curator to the Laryngological Society of London, etc.

These methods for the surgical treatment of septal deflections having now been brought to a considerable degree of perfection, it is permissible therefore to compare their respective merits in the light of recent experience.

There is, of course, more than one method of correcting deflections of the septum depending upon fissuring the bony and cartilaginous laminae. But just as the Krieg-Bloomingbaus method of submucous resection has in due course given way before the more artistic submucous operation described by Killian and others, so, in this country at all events, have the more crude principles of septal fissure hitherto in vogue, been superseded by those published in 1900 by Moure of Bordeaux. Yet this excellent device as now practised has undergone considerable change in all but the lines of incision employed. The first I believe to adopt this principle in London, I at once recommended and practised the following modifications:

1. All additional surgical interference required in order to render the nasal fossae sufficiently free from septal obstruction to be done at the time of the septal fissure operation.
2. Partial resection of the inferior turbinal, one or both, to be performed, and this also on the same occasion as the septal fissure.
3. Moure's metallic splint and dilator to be substituted by a flat splint of soft indiarubber.
4. Moure's scissors to be superseded by smaller and handier instruments with increased potentialities for septal fissure.
5. A general anaesthetic to be given.

I shall now enumerate more particularly the technical details that I consider requisite in order to render septal fissure sufficiently effective to stand the test of comparison with the newer operation of submucous resection.

Suppose, in the first instance, we are having to deal with a simple, uniform deflection of the septum, to one side or the other (combined vertical and horizontal), involving the triangular cartilage and more or less of the anterior extremities of the vomer and perpendicular plate of the ethmoid. Here we may proceed with our rectification at once, taking care that the upper incision is made as close to the roof as possible and as far back as the posterior limit of the triangular cartilage; also that the lower incision extends from the nasal spine to within 1 in. of the posterior free border of the vomer. The fenestrum must by this means be sufficiently liberated to move freely within its frame to the roomy side, and having been fixed in its new position by the index finger, aided, if necessary, by Walsham's septum forceps, the operator must satisfy himself that this position will be maintained independently—that is, without the necessity for active pressure by the splint; if not, he must supplement his incisions until he has insured this. The lower fissure must be made to pass through as much as possible of the maxillary crest by purposely depressing the septotome or other cutting forceps, otherwise the inferior meatus on the narrow side will not be clear of obstruction owing to the overlapping edges.

Lastly, the outer wall will probably have to be reduced by partial or complete resection of the inferior turbinal, so as to allow the splint to occupy the inferior meatus without creating undue tension and local pain, headache, or febrile reaction on that score. This is the ideal case for septal fissure, and under such favourable conditions it is capable of standing its ground against any method, the patient being easily out of hand in a week; but many common septal abnormalities, if well marked, are not quite so efficiently disposed of by this simple shifting of the main septal wall. They may therefore demand independent treatment by knife, saw, or chisel, according to their several indications, and this, with the turbinotomy, should be practised under the same anaesthetic. The principal lesions under this head are dislocations of the anterior end of the triangular cartilage into the vestibule, hollow traumatic cartilaginous spines, deeply-grooved vertical and horizontal deflections with much angular thickenings, buttresses unilateral or bilateral, ascending crests, and sutural ethmo-vomerine exostoses. In certain of these the more modern method of dissecting up a flap of mucosa previous to removal may, of course, be adopted if desired.

For the treatment of the deflection after disposing of these extraneous sources of obstruction, septal fissure can be satisfactorily compared as an operative procedure with submucous resection, because the case has now been reduced in some degree to that of uniform curvature in which Moure's incisions give such an excellent result. I shall state now two common forms of deviation in which, a reduction to this simple condition being impossible, septal fissure stands at some disadvantage—namely, types of deflection in which the septum takes a strong sigmoid bend mainly in the horizontal, and those in which the bend is mainly in the vertical plane.

In horizontal or antero-posterior deflections the chief curvature is in front, owing possibly to the yielding character and more rapid growth of the triangular cartilage as compared with the vomer and ethmoid plate.

In vertical deflections it is usual for the chief convexity to be high up in the region of the tubercle on account of the less yielding nature of the bony maxillary crest in which the cartilage is fixed in its lowest part. When these respective upper and anterior deflections of the cartilage are strongly marked, septal fissure is a little less applicable for the correction of the deformity, but even in these apparently unpromising cases an unexpected degree of additional space for both breathing and drainage on the other side is usually to be obtained. I have proved this in regard to the first mentioned by experience in polypus cases complicated with a high deflection, in which it was impossible to clear the middle meatus of polypi until septal fissure had been performed, whilst in the case of extreme anterior deflections pushing out the external wall of the nose—which I describe as "limpet-shell deflections"—I have introduced the index finger and afterwards a one-sixth inch splint with ease into the narrow

fossa by means of the same operation. We are still at liberty, however, to carry out, if considered advisable, some supplementary treatment of the deflection by excising the most prominent part of the cartilage, or by some other device, either at the same time or later on.

Now, as regards submucous resection, all the staple abnormalities I have enumerated above must be dealt with as a concrete part of that operation, unless excepting sutural ethmo-vomerine exostoses, which have not so far been attempted, to my knowledge. Dislocation of the truncated extremity of the triangular cartilage into the nostril can be resected submucously by a slight modification of the usual incision—that is, by commencing over the free border, instead of on the face of the convexity. Displacements of the mesial crus in the septum mobile are, of course, outside the pale of both septal fissure and submucous resection operations, and reduction of the turbinal walls is usually as necessary an adjunct in the one as in the other.

It is not within the province of this paper to describe the steps of submucous resection of the septum; having, therefore, mentioned the potentialities of that method, and also the essentials of a good fissure operation, it only remains to briefly consider what advantages can be claimed for either. By the advocates of resection the facts stated above are no doubt regarded as sufficient to give the death-blow to every other operation for deflection yet devised; but important though they be, there are certain points to be taken into consideration before arriving at this conclusion.

With regard to septal fissure in a simple case, there is pre-eminently to be mentioned the great facility of performance, the first of a series of operations are likely to be as well done as the last; no special technical skill is required in dividing the bone and cartilage, and no unexpected difficulty confronts the operator. In a complicated case the preliminary measures require an acquaintance with the technique that we all know, but the quick and practised operator disposes of them without much delay. Then follow the reduction of the inferior turbinal or turbinals and the septal fissure, and the operation is concluded. Thus the time taken up in a simple case is only a few minutes, and in a complex case from ten to fifteen or twenty minutes according to the skill of the operator.

In such a case the best anaesthetic is chloroform, but in simple septal fissure after preliminary application of adrenalin and cocaine, gas or ethyl chloride will suffice, and the position may be a sitting-up one in front of the surgeon; it can also be done anywhere and by any light, daylight included. As a consequence septal fissure has this great advantage: that being easy it is likely to be applied for the benefit of a greater number of sufferers from nasal obstruction because employed by a larger number of practitioners, especially as the conditions for a favourable operation are so easily obtained. A certain amount of relief is practically assured in almost every case, and it is always possible to supplement this and, if still unsatisfactory, to perform submucous resection later if desired.

As a set-off, it must be submitted that the after-treatment requires some experience in the management and use of the soft india-rubber splint, which has to remain *in situ* for about a week, though the more perfect the operation has been the less watching the splint will require. The trimming of surface irregularities from the throwing-out of callus along the lines of incision is called for in some cases but not in others. Nevertheless, these facts, together with the necessity for the independent treatment of excrescences and of anterior dislocation of the septum, the rather more lengthy after-management, and the period of crusting that follows the sawing operation in certain constitutions may be said to represent the chief disadvantages of septal fissure.

In submucous resection we have an ideal operative procedure which grapples with all complications, with the exception of those enumerated; but *a great deal more technical skill and dexterity* are demanded, which many who treat the nose will probably never have the patience to acquire. During the period of attaining the necessary dexterity many septums are likely to be perforated, or, what is worse, left insufficiently resected, a condition which, so far as I know, cannot be remedied by a secondary operation of the same kind. The time taken up when a posterior bony deflection has to be removed is not likely to average less than an hour, and powerful reflected light is an absolute essential; success also largely depends upon a careful selection of the special instruments required. Chloroform anaesthesia is, I think, far preferable to local anaesthesia under cocaine, which latter, if employed, must either be subcutaneously injected with an adrenalin preparation, a process which takes time, is painful, and not always very satisfactory in the result, or applied in stronger solution on cotton-wool at least twenty minutes beforehand. Gas or chloride of ethyl anaesthesia is out of the question. If chloroform is used, the nasal cavities must still be plugged with cocaine and adrenalin a quarter of an hour previous to commencing the resection in order to obviate bleeding. Altogether, the time consumed in resecting a simple deflection is out of all proportion to that required for correcting it by septal fissure, and the space occupied by the insertion of one or two horsehair sutures to secure the flap, often a somewhat difficult or tedious process, must also be taken into account. The after-treatment of submucous resection consists in maintaining the two muco-perichondria in perfect coaptation. This can only be effected by the careful and uniform plugging of one or both fossae with gauze, a procedure equally necessary in order to minimize the bleeding and soak up the constant drainage of blood and serum that continues for some time after, and the gauze plug is scarcely less disagreeable for the patient than the wearing of a splint in one fossa after septal fissure. When once the plugs are removed, however, healing progresses rapidly, the advantage of the intact surface of mucous membrane after resection being undoubtedly great: the subsequent restoration of a fairly rigid septum fulfils all requirements as regards an internal wall for the nasal chambers.

It may be finally observed as regards submucous resection that for the surgeon the battle is with the strong. Experience in dealing with even a simple case is as essential as dexterity. Having mastered the art of resecting the apparently deflected part without perforating unintentionally, or mutilating the flap—if he elects to make one—a pitfall awaits the unwary in the too sparing elimination in all directions of the septal structures.

I trust these few observations may call forth some little discussion on the part of the advocates of the respective methods, and that a valuable operation such as we undoubtedly possess in septal fissure, which is still capable of further improvement, will not be too hastily forsaken in favour of its more pretentious rival, submucous resection.

Note by the Writer.—Since the above paper was read before the Association the writer has been laid under obligation by Dr. Otto Freer of Chicago for communicating to him his latest advances in the conduct of submucous resection; also in the instrumentarium and local anaesthetization of the same, offering many advantages over those with which he was previously acquainted.

Dr. Atwood Thorne said Dr. Smurthwaite had strongly advocated submucous resection and apparently Dr. Pegler was also greatly in favour of it, only advising septal fissure because it was easier to perform, took a little less time, and did not require a special light. Surely these arguments were not very strong. Dr. Thorne had not had much experience in performing the fissure operation and had not ventured so far to do it under local anaesthesia.

Dr. Scanes Spicer congratulated Dr. Smurthwaite upon the precision and thoroughness his paper displayed. Also upon his specimens and modified instruments, which latter were distinct advances on Killian's. The operation to be practical required very specialized forms of instrument. He had been in the habit of performing submucous resections for cartilaginous irregularities of the front part of the septum ever since the idea was revived by Greville Macdonald at the Glasgow Meeting of the British Medical Association, about fifteeen years ago; and with the cruder instruments in vogue, previous to Killian's, he had found it very tedious, though highly satisfactory in its results, especially for those cases in which the crista septi projected and formed an ugly tumour in the nostrils, as well as obstructing nasal respiration. It was this class of case which seemed the most appropriate for this procedure, that is, those forms of anterior stenosis due to deflections, deviations and crumplings of the triangular cartilage—often with superadded thickenings of cartilage and bone—which formed disfiguring masses about the columella or internal wall of the vestibule, and of the front part of the nasal channels proper. For this course he had been subjected to much adverse criticism, as advocating the removal of alleged "microscopic spurs," owing to the critics having failed for years to recognize the share played by these irregularities in producing nasal stenosis and the benefit resulting from their removal. He felt himself indebted to those recent workers who had developed the technique and

improved the instruments to their present condition of excellence, thus making the operation for suitable cases one of the best in the whole range of nasal surgery. The improvements had enabled the operation to be carried out with reasonable speed—a matter of the greatest importance when local anaesthesia only was used. In spite of this increased rapidity, it was very rarely that he could get patients in London to submit to a nasal operation of such a character under cocaine and adrenalin, eucaine or such-like local anaesthetics. On more than one occasion he had been obliged to desist, and to do a septal fissure with cutting forceps, or to postpone the procedure for general anaesthesia, not because of pain or haemorrhage, but on account of faintness and collapse on the part of the patient. Submucous resection could be done better with general anaesthesia in a sitting posture, which was perfectly safe with proper precautions and experience, a remark which applied to nearly all nasal operations, as he had frequently contended. He asked Dr. Smurthwaite whether he attempted to remove pathologically altered parts of the perpendicular plate of the ethmoid, or of the vomer by the submucous method (spurs, acute bends, etc), or if he treated them independently by excision, septal fissure, and reposition. The speaker considered that many of these septal irregularities, even if large, might be neglected if existing in a roomy part of the nose, and not causing pressure on its outer walls, since the real stenosis was not so far back, but more anterior where submucous resection could deal efficiently with the narrowing. This operation would probably avoid the necessity of severer and more complicated procedures. He had experienced some little difficulty in effectively exposing and reducing the thickening, bony and cartilaginous, at the junction of the triangular cartilage, the perpendicular plate of the ethmoid, and the nasal crest of the superior maxilla anteriorly; and thoroughness here was essential to success as far as the removal of the obstruction was concerned. For private patients who could command the services of an expert anaesthetist, submucous resection as recently improved was an ideal operation; but for the out-patient clinic in the London hospitals, where time, anaesthetists, and beds were limited, and with patients indisposed to operation without general anaesthesia, he considered that the most practicable means were septal fissure and straightening, with or without removal of parts, by nasal knives and saws.

Dr. Ouston stated that he found the cases in which a submucous resection advisable were limited, as in some cases, which he believed were due to falls on the nose in childhood, especially in noses that develop into the Roman type, button-holing, owing to adhesion of the mucous membrane, was unavoidable. He had used the principle of submucous resection in selected cases for five years, and thought that Dr. Smurthwaite had improved the pattern of the instruments which had been devised. He wished to know whether any present had had any anxiety in using chloroform conjointly with the injection of adrenalin. If a general anaesthetic was required by the patient, he preferred the horizontal position to the vertical one used by Dr. Spicer.

Dr. N. C. Harino said that submucous resection was a distinct advance on the older operations for rectification of deflections as regards certainty of cure and freedom from relapse, its disadvantage, however, being the length of time required in dissecting. He had had trouble in "button-holing" the mucous membrane covering angular depressions. The submucous injection of equal parts of adrenalin and cocaine, or eucaine β 4 per cent., had given him satisfaction both as to local anaesthesia and comparative bloodlessness. If he used large quantities of cocaine, he added a solution of sugar, which, by its high specific gravity, prevented too rapid a diffusion of the drug, and thus acted as a safeguard. He preferred local to general anaesthesia, as it allowed him to operate in the sitting-up posture. Mr. Whitehead of Manchester, however, tied the patient in a rocking-chair and then administered chloroform, and on the first sign of danger the chair could be rocked backwards.

The President congratulated the openers of the debate, and he was especially interested in Dr. Smurthwaite's paper. He was convinced there was a great future for the operation. He preferred local anaesthesia, but did not find it as simple as Dr. Smurthwaite, especially in those cases of previous injury to the nose which caused cicatricial bands. With regard to septal fissure, he knew that Dr. Pegler had had excellent results; but this operation, in the case of crumpled and irregular septa, still left them crumpled, although there was a fair air passage afterwards. He did not find plugging difficult in resection operation. He did not find stitching was necessary, but he did not make so large an incision as Dr. Smurthwaite had suggested.

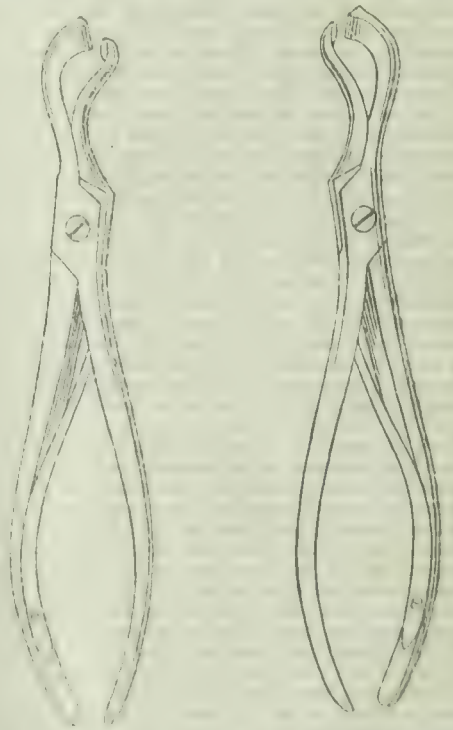
Dr. Smurthwaite, in reply, said that of course he had difficulties, but they had been removed by having better instruments. With regard to the necessity for stitches, he once did not use them, and found that the anterior part of the mucous membrane slipped back, and delayed healing. With reference to the removal of bone, he did not use Killian's or Grünwald's forceps, but a special pair, with which he nipped off the bone. He only used a plug in the side operated upon.

Dr. Pegler, in reply, argued against subcutaneous injections of either adrenalin or cocaine, as somewhat difficult, unsafe, and unsatisfactory. The anaesthetic effect produced by the cocaine was very local, and consequently in further steps the drug must be applied again; for these and other reasons he preferred a general anaesthetic for submucous operations in the lying-down position. He believed in the removal of the inferior turbinal, as this additional procedure, often very difficult in a narrow chamber, was imperative for a good result, but it added much to the time taken up by a resection.

A NEW FORM OF FORCEPS FOR REMOVAL OF THE ANTERIOR WALL OF THE MAXILLARY ANTRUM IN THE RADICAL OPERATION.

By William Smith Syme, M.D.Edin.,
Aural Surgeon, Glasgow Ear Hospital.

These forceps explain themselves and are used from the nostril after removal of the anterior half of the inferior turbinal and after reflection of the mucous membrane. They may be also used from the antrum through the



opening in its anterior wall. They were primarily devised to obtain a level floor in the resulting cavity, as the operation is to permit of free drainage. The use of the sharp spoon for this purpose is not without danger of perforating the palate, as it is not unusual to find that only the mucous membrane of the palate separates the mouth from the nasal cavity. The forceps have been made for me by Weisner, of Glasgow.

Bequests to Medical Charities. The late Mrs. Jane Amelia Jeggins, of St. John's Park, Upper Holloway, N., whose will has now been proved, left £200 each to the Great Northern Hospital, the Brompton Consumption Hospital, and the London Fever Hospital.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, ETC.

TREATMENT OF PAPILLARY EROSION OF THE CERVIX.

THE treatment of papillary erosions of the cervix by applications of carbolic acid, pyroligneous acid, sulphate of copper solutions, etc., has proved very disappointing in my hands, and no doubt I am not singular in this experience. For this reason I venture to direct attention to the good results I have obtained when treating this condition by swabbing the eroded cervix with saturated solution of picric acid in methylated spirit.

The application should be made two or three times a week, and the swab should not remain in contact with the cervix for more than two or three minutes. The well-known cornifying effect on epithelium of both picric acid and methylated spirit first suggested to me their use in erosions.

I may also point out that red buttocks seen in infants who are suffering from green diarrhoea are greatly benefited by applications of this solution. It should be applied to the raw surfaces three times daily for the space of one or two minutes, and then the parts should be covered with dry absorbent cotton.

E. HASTINGS TWEEDY,
Master, Rotunda Hospital, Dublin.

TREATMENT OF UTERINE HAEMORRHAGE.

RECENTLY I was called to a case of severe haemorrhage after complete abortion in a multipara, who said she always lost great quantities of blood after her labours. I plugged the vagina, and gave ergot, but bleeding recurred about seven hours after the plug had been removed. I then placed her on her back, with the pelvis raised on two pillows; it was a firm flat bed, not a sagging wire mattress. The bleeding, which had been free, ceased immediately, and she had no discomfort from this position, although I kept her in it for twenty-four hours. I continued the ergot in more frequent doses, but I attribute the cessation of the haemorrhage to the elevation of the uterus.

Acock's Green. H. L. DONOVAN, M.D.

VARICELLA GANGRENOSA.

SEVERE cases of chicken-pox are so rare that the following account of one in which local gangrene occurred may be of interest:

I was called to see the five-months-old daughter of a sergeant in this garrison on June 14th, and found the child in a somewhat critical condition. Her temperature was 104°, and she was covered with an eruption presenting all the characteristics of varicella except that about a dozen spots were of exceptionally large size. The child had been quite well from birth until about two days previously, when she became feverish and developed a rash.

A few cases of chicken-pox had previously occurred in the station, and four other children in the same family had been suffering from "little blisters on the skin," which, as they had caused very little inconvenience, the mother had attributed to the hot weather.

At my next visit I found several of the vesicles had increased considerably in size, while the constitutional symptoms continued to be severe. During the following three days the larger pocks became purulent, and a dusky red areola formed round them. Finally they developed into brownish scabs covering a circular ulcer, with sharply-cut edges and a sloughy, indolent base.

The pyrexia continued to be considerable, and on the seventh day of the illness the child developed an abscess in the anterior portion of the right axilla, which was apparently the result of streptococcal invasion of the lymphatics from a large pock in the anterior axillary line. The abscess was incised and healed slowly, but two or three of the ulcers which formed on the sites of the larger pocks were very intractable to treatment. There were, however, no further complications, and the child has now quite recovered, with some half-dozen very large pock-marks, which fortunately, owing to the predilection of varicella for covered parts and the hairy scalp, are in places where they will not disfigure her.

Since this case I have had two others in which the disease ran an unusually severe course, and in which, notwithstanding Osler's dictum that "the fever in varicella is slight," pyrexia was a marked symptom, but neither case was at all comparable with the foregoing in the amount of local gangrene or general constitutional disturbance. In one of these cases, however, the irritation produced by the rash was so intense that it kept the patient—a candidate for the Royal Military Academy—awake for two nights, so that a hypnotic had to be administered and various soothing lotions, of which the most successful was a combination of liquor picis carbonis and linimentum calcis, were required.

ROBERT J. BLACKHAM, D.P.H.Lond.,
Captain, R.A.M.C., Bulford Camp, Salisbury.

REMARKABLE CASE OF FRACTURE OF THE FEMUR AND ULNA.

P. K., a bootmaker, aged 76 years, had been very healthy all his life until three months ago, when he suffered from rheumatism in his hip; also sciatica. The acute pains improved under treatment, but a great deal of stiffness remained in the right hip-joint.

On February 5th he got out of bed to relieve his bladder, and in order to get into bed again he sat on the edge of the bed and his wife gently lifted his feet in order to help him. As she raised his feet and legs a crack was heard, and a lump formed in the leg above the knee. They sent for me, and on examination I found an oblique fracture of the right femur at the junction of the upper and middle thirds of bone. I fixed the femur with four splints and extension for a fortnight, allowing the patient an upright position, and much to my surprise redundant callus was formed and union took place. I then fixed him in plaster-of-paris and allowed him to turn on his side.

On August 1st he was dosing asleep and another crack was heard in his left arm, and when I saw him I found a fracture of the left ulna near the elbow-joint. Fourteen hours after the second fracture he became collapsed, and died the following day.

W. T. MILLS, L.R.C.P.and S.I.,
Medical Officer, Rhode Dispensary, King's County.

PROLAPSE OF THE FUNIS.

ON the afternoon of August 19th I was called to attend Mrs. P. in her second confinement. The membranes had ruptured about half an hour previously. On making an examination I found the presentation normal, but about 4 in. of the cord prolapsed, and although I endeavoured to push it up again I was not successful in doing so, and the labour at that time not being sufficiently advanced, I was also unable to use the forceps.

I therefore explained the state of affairs both to the patient and her husband, adding that it was very unlikely that the child would be born alive. In the meantime, not detecting any apparent pulsation in the cord after further examination, and the labour advancing rapidly, I left the case to Nature, and a male child (apparently dead) was born with about half a yard of pulseless cord first presenting, just one hour and twenty minutes after I had been in attendance.

I then employed artificial respiration in combination with a hot bath for thirty-five minutes when the child showed symptoms of life and finally recovered. It is now doing well.

The points of interest in this case are: (1) The length of time of prolapse (one hour and twenty minutes) before delivery took place. (2) The apparent absence of pulsation in the cord during that period. (3) The possibility of saving a child by artificial means when apparently moribund.

Bristol. W. HOWARD CORY, M.R.C.S.Eng.

POST-PARTUM HAEMORRHAGE AND ANTEFLEXION OF THE UTERUS.

I ATTENDED a confinement in which the labour was normal but the child was born dead. In a few minutes most violent haemorrhage set in, and the patient became pulseless and collapsed. Pressure on the fundus, ergot, etc., had no effect, and I found on placing my hand on the vagina that the uterus was acutely anteflexed and the os wide open. By external and internal manipulation I brought the uterus into its normal position. The os immediately closed and the haemorrhage ceased. To prevent a recurrence I carefully plugged the vagina, and especially Douglas's pouch, with lint dipped in antiseptic. I removed the plug next day, and the patient

made a good recovery. Since making these notes she has been confined again, and there was no haemorrhage.

CATHERINE SMITH, M.B., Ch.B.

Collingham, Newark.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

NORTH LANCASHIRE AND SOUTH WESTMORLAND BRANCH.

Lancaster, Wednesday, October 25th.

J. MASON, M.D., President, in the Chair.

Address.—Mr. STEPHEN PAGET delivered an address on Aural Cases in General Practice.

The Pineal Eye.—Mr. W. H. COUPLAND (Lancaster) made some remarks explanatory of a dissection of the human brain showing the pineal gland, and of slides and drawings illustrating points in the morphology of the pineal eye. It was shown that the pineal gland was a vestigial structure, and in lower groups of animals, such as the trout and dog-fish, was to be found on the surface of the brain, its presence being shown in certain lizards by a bright scale on the head in the parietal region. Clinically in man tumours of the gland might cause symptoms of internal hydrocephalus by pressure on the iter, or if affecting the quadrigeminal bodies anomalous symptoms of disturbances of sensation, vision, etc. Mr. Coupland next mentioned that the New Zealand lizard, Sphenodox punctatum, Hatteria or Tuatera (only prevented from complete extermination by the action of the Government) was one of the most interesting animals to zoologists on account of it being the sole representative of a great group of fossil reptiles, the Rhynchocephalia, who, as demonstrated by their skulls, possessed a parietal foramen through which came a pineal eye. The "beaked" lizard, their present-day survivor, possesses a parietal eye, of type like that of the higher invertebrates; it is not, however, functional. Mention was made of the way the lizard lives in a burrow with petrels, and profits by the fish that the birds bring in, the entry of other Tuatera leading to a fight. Slides of various great reptile fossils were exhibited, and it was explained that the Great Karoo region in South Africa had produced animal skeletons like Pariasaurus, which had a well-marked parietal foramen, and that this was to be found in the fossil groups known by the name of Ichthyopterygia, and Labyrinthodontia, but not in the skulls of the great monsters called Dinosaurs, a fine specimen of which Mr. Carnegie had had reproduced, and placed in the Natural History Museum in London just lately.

Cases.—Mr. A. S. BARLING showed a boy, aged 13, from whom he had excised the left scapula four months previously. A very useful limb resulted. He also showed a boy, aged 10, who, three months before, had had pus in the knee-joint and septicaemia following upon a wound by a needle. The joint was drained and treated for ten days by continuous irrigation. The movements were seen to be perfect.

Specimens and Exhibits.—The following were on the tables: Mr. C. W. DEAN: (*a*) Three mounted eyes removed for sarcoma of choroid, (*b*) subserous myoma of uterus—weight 8½ lb.—removed by abdominal section. Dr. R. W. LEEMING: Very large nasal polypus. Mr. A. S. BARLING: Two breasts affected by Paget's disease. The following microscopic preparations were exhibited:—Dr. W. H. COUPLAND: Section of pineal gland. Mr. C. W. DEAN: Three sections of sarcoma of choroid. Many new books and new editions were also shown.

ULSTER BRANCH.

Belfast, Thursday, October 26th.

LEONARD KIDD, M.D., President, in the Chair.

Cases.—Dr. J. S. DARLING (Lurgan) showed a patient suffering from a chronic affection of the tongue, and also one suffering from a tumour in the orbit.

Detachment of Iris.—Mr. J. A. CRAIG showed a patient with a complete detachment of the iris, caused by a blow on the eye. The dislocated lens and iris lay in the vitreous, and V. corrected = ⅔. Mr. Craig also read notes of a case of detachment of the retina successfully treated by operation.

Cerebral Gumma.—Dr. W. B. MCQUITTY showed a patient, aged 30, suffering from a cerebral gumma of four months' duration. The points of interest in the case were (1) the history of untreated syphilis nine years ago; (2) the presence of the typical signs and symptoms of intracranial tumour, namely, double optic neuritis, headache, vomiting, and convulsions; (3) the absence of local signs; (4) the satisfactory improvement under antisyphilitic treatment.

Strangulation of Uterine Appendages in Inguinal Herniae.—Mr. ROBERT CAMPBELL read notes of three cases of strangulation of the uterine appendages in the sacs of inguinal herniae. All three occurred in infants. He drew attention to the fact that strangulation was the result of twisting of the broad ligament, and not of constriction by the neck of the sac or abdominal wall. In all cases the ovary was enlarged and cystic, and in one the uterus and bladder occupied the upper part of the sac. These were the only cases of strangulation in female children he had met with, and they showed that hernia of the uterine appendages was particularly prone to strangulation.

Pneumococcal Meningitis.—Dr. H. B. FLEMING (Omagh) read a paper on a Recent Remarkable Cerebral Case. The patient was a young medical man, well known to many of those present, and the illness from which he suffered, and which eventually proved fatal, was apparently a meningitis. The remarkable point was that it appeared in recurrent attacks at intervals of several weeks, the intervals being passed in perfect health, as far as could be seen. A *post-mortem* examination was permitted, the brain examined, and the report was that it showed signs of a pneumococcal meningitis. Remarks were made on the case by Drs. CALWELL, CRAIG, and E. C. THOMPSON, and Professors LINDSAY, SINCLAIR and SYMINGTON, several of whom had seen the patient. In the course of his remarks Dr. THOMPSON spoke very strongly of the folly often shown by medical men when ill in not submitting to the same restrictions as they would impose on their patients as precautionary measures.

Oil of Cinnamon in Typhoid Fever.—Dr. CALWELL gave a short account of the treatment of typhoid fever by the essential oil of cinnamon, and gave a synopsis of six consecutive cases in which the treatment was carried out. The abdominal symptoms were perhaps less marked than usual, and the temperature of a lower level; but the most noticeable feature was the drowsiness and the diminished suffering that were apparent. He urged that the routine dilute acid treatment be abandoned as useless, and that all suspicious cases be at once put on this treatment, or some equally good antiseptic one, before a positive diagnosis was arrived at. In cases with much mental unrest, the cinnamon treatment was especially valuable. In none of the cases was alcohol used.—Sir WILLIAM WHITLA thought the treatment worthy of trial, but did not believe that any benefit that might be derived from it came from the feeble antiseptic powers of the cinnamon.—Dr. MCKISACK said that he had tried the treatment, and that though the number of his cases was too small for him to be dogmatic, he was certainly encouraged by the results he had obtained to persevere with it. The meeting was adjourned till Wednesday, November 29th, at 4 o'clock.

NORTHERN COUNTIES OF SCOTLAND BRANCH.—The autumn meeting of the Branch was held at Dingwall on Friday, October 13th. In the absence of Dr. Solanders, Nairn (the President), Dr. CRUICKSHANK was called to the chair.—Dr. BRUCE (Dingwall) read a paper on case-taking. He said that medicine was distinguished from other sciences by making too little progress, because physicians, as a rule, had to take to money-making; hence the need of endowment of research in medicine. Meantime, in order to help the advance of the art, they ought to take systematic notes of cases, and the best way of recording these was by cards, the one kind dealing with the patient and his medical history, and others with his disease as an entity, particulars, treatment, etc. Such a plan allowed of shuffling, so to speak, and rearrangement for any particular inquiry. It was readily available when the physician wanted to refer back to a particular patient's case, and might even be kept as a record of fees paid or due. Examples of the cards were shown by Dr. Bruce.—Dr. MANN (Nairn) read a paper on inebriety as a physical disease. After a brief allusion to the chief causes and pathology of inebriety, he referred to the treatment of this condition by the hypodermic injections of atropine combined with strychnine in doses varying from $\frac{1}{120}$ to $\frac{1}{60}$ of a grain of the former, with $\frac{1}{120}$ to $\frac{1}{60}$ of a grain of the latter, and, with the addition of a cinchona mixture (tinct. cinchonae co. ½ drachm, ol. cinnamon 2 min.,

and spt. chlorof. ½ drachm to each dose), Dr. Mann instanced cases under his care in which, by the regular and graded use of this method, the craze for alcohol was controlled and, at least for the time, abolished. He urged the attention of members to the observation of such cases, to regard them as cases of physical disease often capable of alleviation, and in this connexion he drew attention to the intimate connexion between alcoholism and tubercle and to the necessity of the general practitioner being drawn to the one equally with the other. The paper was commented on by the CHAIRMAN, and Drs. BRUCE, MOIR, J. F. SUTHERLAND, and ADAM (Dingwall).—Dr. MACKAY (Inverness) read a paper on operation for hernia, radical and strangulated. He reviewed the earlier methods of radical cure of inguinal hernia, referring to the methods of Banks, Barker, and Macewen. He mentioned the radical principles involved, and went into the anatomy of the operation. He described the "open method" as devised by Bassini, namely, free division of the external oblique; secondly, the supplying of a muscular diaphragm by the suture of the internal oblique to Poupart's ligament. Dr. Mackay referred to Coley's statistics of 1,000 cases, and he advised the applicability of the "open method" to strangulated inguinal hernia. Dr. Mackay urged the necessity for the early exploration of inguinal tumours, and put in a plea for the abolition of taxis in cases of strangulated hernia. The paper was commented on by the CHAIRMAN and Dr. BRUCE.—Dr. MUNRO MOIR exhibited a patient with Charcot's disease affecting the knee-joint; he gave a history of the case, and showed skiagraphs of the diseased joint. Dr. Moir also read notes on cases of intestinal obstruction due (1) to strangulation of bowel by Meckel's diverticulum, (2) strangulation of bowel by the vermiform appendix, and (3) strangulation of bowel caused by diaphragmatic hernia. Dr. Moir also read notes on a case of subserous myoma of the uterus with twisted pedicle, showing the tumour, which was removed by abdominal section.

REPORTS OF SOCIETIES.

CLINICAL SOCIETY OF LONDON.

CLINICAL EVENING.

H. H. CLUTTON, M.A., M.C., F.R.C.S., President, in the Chair.

Friday, October 27th, 1905.

MEDIASTINAL DERMOID.

MR. G. E. O. WILLIAMS showed a woman, aged 26, who had had cough, "pink" expectoration, and loss of weight. The cough had lasted eight or nine years, and hair had come up into the mouth several hundred times during those years. There was prominence of the front part of the chest to the right of the sternum, dullness on percussion as low down as the fifth rib, and from the sternum to the axilla, with reduction of the breath sounds over the same area. The fingers were slightly clubbed; the sputum was free from tubercle bacilli.

Mr. W. G. SPENCER described a case, and said that these tumours usually grew from the thymus.

Mr. RICKMAN GODLEE said the treatment was difficult. He had operated upon a case in 1889, which, however, did not subsequently dry up because the tumour (as was usual in these cases) communicated with a bronchus. The discharge had also the disagreeable odour of decomposing epithelial structures. He thought the tumour in this case too extensive for removal, but suggested a large incision with free drainage.

Dr. H. BATTY SHAW mentioned 7 cases that had been operated upon. Two had been cured, one by removal of the tumour and one by drainage.

SEVERE INJURY TO NECK WITHOUT SPINAL SYMPTOMS; RECOVERY.

Mr. E. M. CORNER exhibited 5 male cases and 1 specimen. The bones severally fractured had been the atlas, axis, and fifth cervical vertebra; and there were also dislocations of the atlas and subluxation of the atlanto-axial joint.

Mr. C. HILTON FAGGE thought the specimen shown was one of caries, not necessarily tuberculous. The clinical cases, too, were nearly all diagnosed after skiagraphy, but skiagraphs of the spinal column were notoriously unreliable.

Mr. CORNER, in reply, said some of the cases had been shown early last year to the Society, with skiagraphs, and the members agreed that the diagnoses were correct. In reference to the specimen he thought the local character of the lesion stamped it as due to injury, not to disease.

STOKES-ADAMS DISEASE.

Dr. R. O. MOON exhibited a carpenter, aged 60, with a pulse regular but slow (usually 28, varying from 24 to 36, and apparently unaffected by posture or exercise). Since June, 1904, a soft mitral systolic murmur of the apex had developed. He had no albuminuria; had been a heavy smoker for eighteen years until two years ago. During the last five years he had frequently fallen in sudden attacks of unconsciousness; and on coming to in half a minute felt quite well. He had never bitten his tongue nor passed urine in the attacks.

Dr. A. MORISON objected to the word epileptic in this case; the fits were epileptiform and due to sudden blanching of the brain.

Dr. MOON, in reply, agreed.

CONGENITAL PIGMENTATION OF MONGOLIANS.

Dr. G. A. SUTHERLAND showed a Japanese female infant, aged 10 months, whose skin over the lower part of the sacrum was of a dark blue colour, with some similar but lighter pigmentation over the buttocks, along the spine, and on the dorsum of the left hand.

Mr. G. PERNET said that infants in China, Japan, the Philippine Islands, and Western Greenland, were often similarly affected. The pigmentation was in the deeper layers of the corium, not in the papillary layer; it began at the fifth month of fetal life, and disappeared after the second year of life.

LUPUS BECOMING EPITHELIOMA, AFTER REPEATED SURGICAL AND PROLONGED X-RAY TREATMENT.

Mr. W. G. SPENCER exhibited two female patients, aged 15 and 35 years respectively. In the former case the disease began in the upper gum, and spread to the interior and exterior of the nose, the eyelid, and forehead. X-ray treatment was begun three years ago, and was immediately followed by healing, except for some persisting islands. Lately the ulceration recurred, and the *x*-rays now excited ulceration and sloughing. In the second case lupus began in the right parotid region twenty-two years ago, and was treated by scraping under anaesthesia. Nineteen months ago the *x*-rays were applied; on one occasion for ten minutes. A burn resulted, and then a swelling, which became an abscess, and was incised. The ulceration began to fungate about ten weeks ago, and on October 17th a piece removed was found to be epitheliomatous.

Mr. CECIL LEAF said that the cases showed the close connexion between tubercle and malignant growth. He referred to a case of lupus continuing for eleven years, which became cancerous after three exposures to *x*-rays. Dr. Norman Walker had exhibited three such cases at Edinburgh.

Mr. CAMPBELL WILLIAMS had also seen such cases. He remarked that lupus more frequently developed epithelioma when exposed to the sun's rays than when covered.

Mr. G. PERNET said that acne very occasionally ran on to epithelioma after the use of *x*-rays; but the occurrence was so rare that it should not put one off the use of the rays.

Mr. W. G. SPENCER said that Mr. Hutchinson had years ago described such cases following ephelides and lupus.

RODENT ULCER.

Mr. L. MCGAVIN showed a man, aged 44, with a rodent ulcer successfully treated by *x*-rays after it had been present for eight years. After nine applications the ulcer seemed to be quite cured. The patient had refused operation.

The PRESIDENT said that although such cases appeared at first to be healed, they usually were back in the wards two or three years afterwards. It was far better to remove the ulcer, if possible.

OTHER EXHIBITS.

Dr. STCLAIR THOMSON: Three cases of submucous excision of deviations and spurs in the nasal septum, with very satisfactory and permanent result: all were males and had been mouth-breathers before the operation.—Dr. A. E. GARROD: A female child, aged 2½ years, having some of the characters of "Mongol" idiocy, with peculiar pigmentation of the skin.; also a male infant having cyanosis, with dextrocardia, but no cardiac murmur; the other viscera were [illegible].—Mr. V. WARREN LOW: Supra-acromial dislocation of the outer end of the clavicle: the patient was a male, aged 64, who had been knocked down and fallen on his shoulder.—Mr. L. MCGAVIN: Epithelioma of lip in a man, aged 42, which had grown so rapidly that it was at first supposed to be a chancre.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.—At a meeting on October 20th, Dr. J. LINDSAY STEVEN, President, in the chair, Dr. G. H. EDINGTON read a paper on "double lip" (hypertrophy of the labial glands). Photographs and speci-

mens of 2 cases, on whom he had recently operated, were shown. The patients were both males, one 18 years, the other 25 years of age, and the condition had been present for fifteen years and ten years respectively. The treatment consisted in excision of the fold of mucous membrane and removal of all the glands. The cosmetic result was good. He referred to the rarity of reference to this condition in literature and could give no opinion as to the causation of the condition. He also showed an automatic wound retractor, consisting of a simple U-shaped spring, to the ends of the limbs of which retracting hooks were jointed. The instrument was useful in such operations as resection of a rib, radical cure of hernia, mastoid operation. The instrument was made to his design by Messrs. Baird Brothers, Glasgow.—Dr. J. Kerr Love gave a description of the steps of the radical mastoid operation, illustrated by stereoscopic photographs. He also gave a description of five cases, two of which were shown. In Case I the discharge ceased in four weeks; in the other cases before the ninth week; Case V was remarkable in that there was no mastoid tenderness, and at the age of 4 years there were large and widely-spread mastoid cells present. He also showed an excised malleus with polypus growing from it.—Dr. J. H. Nicoll showed instruments for osteoplastic resection of the skull. The saws and trephine are worked by the hand motor of Messrs. Down Bros., or by electric motor. The steps of the operation are as follows: (*a*) Cut a rectangular flap of scalp and pericranium, and slightly raise its margins from the skull; (*b*) at the free corners remove, with the guarded trephine, quarter-inch discs of skull; (3) ascertain thickness of skull by measuring one of the discs on the "pick" scale, which is marked "1, 2, 3, 4" (corresponding respectively to five-sixteenths, four-sixteenths, three-sixteenths, and two-sixteenths of an inch) (4) Select the circular saw, the number of which corresponds to the number on the "pick" scale, representing a free cutting depth one size less than the ascertained thickness of the skull. The numbers of the saws correspond with those on the "pick." Thus saw No. 1 will cut a gutter in the skull five-sixteenths of an inch in depth. In a skull with a thickness of four-sixteenths of an inch (as ascertained by the "pick" scale) a saw with a cutting depth of three-sixteenths of an inch, that is No. 3 (accurately provided by the flange guards on the sides), will cut almost through the skull, leaving the internal table intact. Fit the selected saw in the driving handle (held in the left hand), apply the controlling handle (held in the right), and cut a gutter in the skull round the three free sides of the flap. Pass the "under" guard of the "cranked" chisel with one of the trephine holes (where it runs between dura and internal table), and with the chisel cut the internal table round the flap. With the chisel "notch" the base of the bone flap (to obtain a "breaking line"), and raise the flap, fracturing the base along that line. If a motor is not available employ the chisels with the "over" guards. Having made the scalp incision, select a chisel and cut the bone for a short distance. With the "pick" ascertain that the skull is completely divided, and, if this is not so, select a deeper chisel, and proceed round the flap. The chisels are so guarded that "plunging" is impossible, while the rounded angle of the blade protects the dura from injury.

Society for the Study of Disease in Children.—At a meeting on October 20th, Dr. Lewis in the chair, Mr. P. Lockhart Mummery showed a case of unilateral and bilateral persistence of the fourth branchial cleft in a girl, aged 8. There was a minute opening on both sides of the neck just at the anterior border of the sterno-mastoid muscles and on the left side a cyst about the size of a hazel nut. An hereditary factor could be traced through two generations. In the second case there was a small opening in the skin on the right side of the neck at the anterior border of the right sterno-mastoid muscle. From this opening a thick cord could be traced upwards ending in a cyst.—Dr. Whipham showed a case of lymphadenitis. The glands in the cervical, axillary, and inguinal regions were stated to have suddenly enlarged two months before, accompanied by a rise of temperature, malaise and anorexia. He also showed a case of splenic anæmia. The patient, a girl aged 8, had been in hospital on and off during the past year with marked anæmia and enlargement of the spleen.—Dr. J. Porter Parkinson showed cases of splenomegaly in a boy aged 11 years, and his sister a year old. The boy had had a very enlarged spleen for ten years, and at the present time the liver was slightly enlarged, and there was slight jaundice and anæmia.—Dr. Edmund Cautley showed a case of splenic hyperplasia in a girl aged 8 years, with anemia, a large prominent abdomen, and much enlarged spleen and enlarged liver.—Mr. W. Milner Burgess showed a case of congenital tumour of the arm, probably lipoma.—Dr. G. A. Sutherland showed two Mongolian types: (1) A pure Japanese female infant, and (2) a Mongolian imbecile. While the Mongolian imbecile of English extraction was, he said, to be regarded as a pathological product, the Eastern Mongolian was the physiological product of a pure-bred race. The Japanese baby, however, possessed certain features of anthropological interest in the shape of blue pigment spots scattered over the back, and specially well-marked in the sacro-gluteal region.—Dr. Sawyer read the notes and exhibited the specimens of a case of a diffuse angiomatous condition of the liver. A lantern demonstration of the microscopical appearances of the liver and other organs was given.—Dr. Carpenter showed two specimens of congenital hypertrophic stenosis of the pylorus. The first case was seen at 3 weeks old the pylorus then being of stony hardness, and symptoms commenced immediately. The child was operated upon by Mr. Lockhart Mummery the following day by gastro-enterostomy.—Dr. Edmund Cautley showed three specimens of congenital hypertrophy of the pylorus which had been treated by pyloroplasty. The first recovered from the operation, but died subsequently on the fifty-fourth day from an attack of ileo-colitis. One died five hours after operation from collapse, the other died suddenly on the fourth day when apparently doing well; he also mentioned two private cases operated on when 28 and 35 days old, both of which had recovered perfectly. He showed the stomach and pylorus of a baby who died from marasmus due to constant vomiting, but with no evidence of pyloric hypertrophy or stenosis.—Dr. Carpenter showed a dermoid tumour of the mediastinum. The tumour, which was cystic, was the size of a large fist. The cysts contained a brown gelatinous material, and in one of them were hairs and sebaceous material.

Midland Medical Society.—At a meeting on October 25th, Dr. Quirke (President) in the chair, the following were among the exhibits: Dr. Douglas Stanley showed a man, 55 years of age who had suffered for six months from the following symptoms of myasthenia gravis: drooping of the right eyelid, difficulty of masticating, a feeling of weakness in the muscles of the neck, shoulders, and arms. All were more marked after the day's work; the tendon reflexes were present and active, though less so after repeated stimulation. Myasthenic reaction was obtained in some of the muscles.—Mr. F. V. Milward: A child, on whom he had successfully operated for an ileo-caecal intussusception at the age of 9 months. Twelve hours had elapsed since the onset of symptoms. Reduction, by manipulation, after laparotomy, was easily effected, and the child made a good recovery; also a specimen of the ileum and caecum from a boy, upon whom laparotomy had been performed three times for intussusception, between the ages of 6 and 18 months, the first and third time by Mr. Milward, the second by Mr. Gamgee. The specimen showed a large ulcer in the last inch of the ileum. This had no doubt produced the recurrence of the symptoms.—Dr. Norman Glegg: A woman, aged 61 years, suffering from osteitis deformans, the symptoms having begun at 45 years of age. The cranium was enlarged; both clavicles, the left humerus, the right ulna, both femora and both tibiae were bent. The face and hands were unaffected.—Dr. Foxwell: A groom, suffering from the early symptoms of insular sclerosis. Fourteen weeks before the symptoms had commenced with an itching sensation in the feet, which soon ascended to the hips, and became accompanied with pain. A week later the ulnar sides of the arms were similarly affected. All the limbs lost power. Ten weeks ago he had to strain to pass water, and this came in jerks. There was obstinate constipation. Six weeks ago the pain in his legs forced him to give up work. On admission his mentality was unimpaired; there were slight nystagmus and hypermetropia. Speech was slightly staccato. All sensations were quite good. There was some volitional tremor. The calves were atrophied, and there was some spasticity of arms and legs, the right arm and leg being weaker than the left. All the limb reflexes were increased, with extensive reflexes of both big toes and marked patellar and ankle clonus. Since admission all these signs had improved, nystagmus, tremor, and staccato speech being now barely detectable. The stammering micturition, and constipation were also better; but the weakness of the limbs and activity of the reflexes were still striking. This remission

of the symptoms was a good exemplification of the varying course of the disease, and demonstrated the great difficulty of making a correct diagnosis if the patient be first seen when one of these remissions is at its height.—Dr. Emanuel showed a man aged 56 years affected with acromegaly. The changes observable had come on insidiously, and had gradually progressed during the last twenty years. Radiographs showed that while general enlargement of the bones was the rule, the shafts exhibited in places a definite amount of thinning—a change which coincided with the patient's statement that during the last few months his hands and feet had been getting thinner.

Hunterian Society.—At a clinical meeting held at the London Hospital on Wednesday, October 25th, with Mr. F. R. Humphreys in the chair, Mr. H. M. Rigby showed: (1) A patient on whom he had performed the operation of splenopexy on account of excessive mobility of the spleen. The severe dragging pain complained of had been relieved by the operation. (2) A small metal bicycle measuring $1\frac{3}{4}$ in. by 1 in., which had been impacted in the oesophagus of a child of 5, successfully removed by oesophagotomy. An *x*-ray photograph was shown.—Mr. Bashford (for Dr. Sequeira) showed a case of tinea of unknown nature, of eight years' duration, and remarkable distribution, with an ulcer at the umbilicus of two years' duration. A mycelium of unknown nature had been isolated from the skin, and a diphtheroid bacillus from the ulcerated surface.—Mr T. H. Openshaw showed: (1) A case of unilateral congenital dislocation of the hip treated most successfully by Lorenz's operation. (2) A case of old hip disease with ankylosis in a position of flexion and adduction, on which he proposed to perform Gant's operation. (3) A case of bilateral coxa vara.—Dr. Robert Hutchison showed: (1) A child with a peculiar nervous condition, for which he suggested a diagnosis of acute cerebellar ataxy, resulting from polio-encephalitis affecting the cerebellum. (2) A child with tuberculous peritonitis.—Dr. Bertrand Dawson showed two patients with syphilitic disease of the liver, the syphilis being congenital in one case and acquired in the other. Each case exhibited a well-marked Riedel's lobe.—Dr. Lewis Smith showed a portion of the colon removed *post mortem* from a case of chronic lead poisoning. There was much pigmentation of the mucous membrane, due to deposit of lead. A microscope section was shown.—Mr. Hunter Tod showed two patients in whom a radical operation on the frontal sinus, followed by free drainage, brought about complete cure of old-standing antral suppuration, and a patient on whom he had operated successfully for a temporo-sphenoidal abscess.

Harveian Society of London.—At a meeting on October 26th, Mr. C. B. Lockwood, President, in the chair, Dr. Herbert Tilley read a paper on the symptoms, diagnosis, and treatment of some of the commoner forms of nasal obstruction. Unilateral obstruction in a child, with purulent discharge, was generally due to a foreign body. Recurrence of adenoid growths after operation was generally due to inefficient removal. Deviations of, and outgrowths from, the nasal septum were a frequent cause of nasal obstruction in the adult, and in a small proportion of cases induced reflex effects, such as asthma. In operating, the normal mucous membrane should be preserved as much as possible. Submucous resection of the nasal septum was advocated; it avoided the necessity for intranasal splints. He condemned intranasal operations in cases of slow progressive deafness when the Eustachian tubes were patent, and when inflation of the tympanum produced not even temporary improvement in the hearing. In cases where deafness was due to association of catarrhal and sclerotic changes in the tympanic apparatus some operation might produce benefit by removal of the nasal obstruction, but only if inflation of the tympanum improved the hearing.—Dr. Scanes Spicer pointed to the difficulty of defining nasal obstruction and the importance of collapse of the alae nasi during respiration as an index thereof. In mixed cases of deafness, with the presence of a definite catarrhal element, it might be advisable to remove the latter feature by a suitable nasal operation, although the cure of the deafness could not be obtained.—Dr. Pegler discussed varieties of nares and hypertrophy of the middle turbinate as a cause of obstruction.—Mr. Elmore Brewerton read a paper on extirpation of the lachrymal sac. In Germany, where the operation was frequently performed, Adolph had collected over 500 cases, nearly all giving excellent results. In this country the operation was performed far too seldom. At any ophthalmic hospital patients could be found suffering from dacryo-cystitis with all its dangers and discomforts, who had been attending for months or even years; all of these patients could be permanently relieved of their trouble by extirpating the lachrymal sac.

Oldham Medical Society.—At a meeting on October 17th, Dr. C. Broomhead, President, in the chair, the proceedings included a report by Dr. T. Clegg of a case of chronic atropine poisoning. The case was originally one of corneal ulcer in the right eye, occurring in a healthy youth of 19. He was treated with an ointment containing 2 per cent. atropine; 1 drachm of this ointment lasted him about two months. He was under this treatment for nearly five years (a second ulcer developing), and nothing of any moment was noticed till near the end of that time. He then began to complain of a tired feeling in the legs, with loss of power. At the end of two months he could not walk at all. The muscles always responded to the electrical current. At first he was troubled with frequent micturition, but this passed away. There was obstinate constipation; both pupils were dilated. The pulse was markedly slowed after each application of the ointment. He lost about 30 lb. in weight. Movements of the arm and body were scarcely affected. After two and a half months all other causes having been excluded, the use of the ointment was discontinued, and since that time the patient had gradually improved, gaining weight and strength.—Dr. F. Radcliffe reported a case (with specimen) of congenital malformation of the heart. At birth the child (a male) was unnaturally blue. He had hypospadias, double inguinal hernia, and both testicles undescended. A distinct systolic murmur was present over the whole of the precordial region. The child lived for thirteen months, and never weighed more than thirteen pounds. He was subject to frequent attacks of alarming dyspnoea, during which the cyanosis was greatly intensified, after which he was completely exhausted. The terminal phalanges of the fingers and toes became markedly clubbed. Death occurred after an exhausting attack of diarrhoea. *Post mortem*, in addition to other abnormalities, both ventricles were found to open into a common aorta, the pulmonary artery being absent. The ductus arteriosus was patent and the pulmonary arteries sprang from it.—Dr. A. H. Godson reported two cases of chronic intestinal obstruction. The first, a woman, presented marked abdominal distension with very active peristalsis and faecal vomiting. At operation the peritoneum was found studded with tubercles, and the small bowel narrowed at two points, a short distance apart. The narrowed portion was removed and the constriction found to be due to tuberculous ulceration. No other constriction could be found. The patient, however, died with her symptoms unrelieved. The second patient was a male who had been treated by large doses of water. The symptoms were the same as in the preceding case, the intestine being so greatly distended that nothing further than a colotomy could be done. On *post-mortem* examination the ascending colon and hepatic flexure were found occupied by huge masses of faeces, stercoral ulcers being present.

REVIEWS.

ANATOMY.

Amongst textbooks of human anatomy *Gray's Anatomy*[1] has long taken a prominent place. For a period of forty-seven years it has successfully appealed to medical students, and has been largely adopted by them as a guide to the knowledge of the structure and arrangement of the various parts of the human body. The reason of the popularity of the book is not far to seek; its text is clear, the illustrations are numerous and good, and the subject-matter is kept well up to date, consequently its sale is rapid and only four years have intervened between the appearance of the fifteenth and sixteenth editions. Although the interval between the publication of the two editions has been short, nevertheless the editors and publishers have thought it necessary to make many and considerable alterations, both in the text and in the figures, most, if not all, of which will meet with the approval both of students and teachers. Colours have been still more largely used than before, particularly where their presence was advis-

[1] *Anatomy, Descriptive and Surgical.* By Henry Gray, F.R.S. Sixteenth edition. Edited by T. Pickering Pick, F.R.C.S., and Robert Howden, M.A., M.B., C.M. London: Longmans, Green and Co. 1905. (Royal 8vo, pp. 1,248, 811 Illustrations. 32s.)

able for the purposes of making the figures more striking and distinct and emphasizing particular points referred to in the text. At the same time some figures which appeared in earlier editions have been removed, obviously because they have lost their value as the knowledge of the exact relations of certain parts has become more definite. We are particularly glad to note that the process figures which disfigured some of the later editions have been replaced by woodcuts and line blocks. The improvement which this change has made is most remarkable, and at the same time it has enabled the publishers to use a thinner and lighter paper and has given the editors the opportunity of introducing in the text and illustrations a large amount of new information without increasing the bulk of the book.

There is obviously a demand for abbreviated accounts of human anatomy, otherwise a second edition of Dr. JAMES K. YOUNG'S *Handbook of Anatomy*[2] would not have been called for. It may be described as an amplified "Pocket Gray," that it is a compilation more or less on the "Pocket Gray" system but including an account of the skeleton and a number of figures, diagrams, and tables. It follows, therefore, that the various descriptions are scanty, and it can scarcely be claimed that the author has accomplished his desire to furnish a "concise though complete synopsis" of human anatomy. The descriptions of many of the viscera are very incomplete, those of the liver and urinary bladder, amongst others, furnishing a very poor idea of the actual forms of the organs. The central nervous system is much more satisfactory, but in the accounts of the peripheral nervous system and the nerve plexuses insufficiency is again predominant. It would be impossible to discover from the descriptions where either the lumbar or the brachial plexuses are situated, and, in spite of the assertion on p. 324, the first intercostal nerve does not cross the axilla "under the name of the intercosto-humeral nerve." On the whole, however, the accounts of the different organs and parts are correct, so far as they go, but it would be impossible for a student to acquire any true knowledge of the human body from a perusal of a book of this type. It must be assumed, therefore, that the success that this book has undoubtedly attained is due to the fact that it enables those who already possess a knowledge of the subject to review their knowledge quickly, but it would be a great mistake for a junior student to adopt the handbook as a guide to the study of human anatomy.

THE second section of the *Edinburgh Stereoscopic Atlas of Anatomy*[3] merits praise equal to that with which we greeted the first section in the review published on April 8th last. Section II deals with the anatomy of the abdomen and pelvis, and with the abdominal and pelvic viscera. Of the 50 photographs in this section, 11 are devoted to the abdominal wall and inguinal region, 7 to the general arrangement of the viscera in the abdominal cavity, 21 to the abdominal viscera themselves, and the remaining 11 to the pelvis and pelvic viscera. The dissections have obviously been prepared with extreme care and great skill, and similar care and skill have been utilized in the production of the stereoscopic photographs. Any one looking at the photographs should remember that they are intended to be examined with a stereoscope, for seen with the naked eye alone many of them appear flat and indistinct, but this apparent fault entirely disappears in the stereoscope; it is due to the over-exposure of the negatives necessary to obviate the disagreeable chalky appearance so often met with in stereoscopic pictures. We have already said that, as a whole, this section of the atlas merits great praise, and for the student of anatomy all its parts will be interesting and useful, but we think that the dissections of the inguinal region will prove somewhat disappointing to surgeons, and in making this statement we are asserting nothing more than the fact that there is a great difference between the appearance of formol-hardened and living tissues. We are glad that illustrations of so-called "irregular positions," which viscera so often occupy, are included in the section, and it is most interesting to find that an arrangement of the abdominal viscera, which has been closely associated with enteroptosis, may be present without having given rise to symptoms which could have led during life to the idea of any morbid condition.

Dr. GRASHEY'S atlas of typical Roentgen-ray photographs of normal men[4] should be in the hands of all surgeons, for in its plates and figures are included reproductions of Roentgen photographs of the head, part of the vertebral column, the thorax, the shoulder, the wrist, the hand, the lumbar region, the pelvis, the hip, the knee, the ankle and the foot. Each part is photographed from several points of view, and numerous outline figures, emphasizing the main points of the photographs, are introduced. The difficulties and weaknesses of Roentgen photography are explained, and illustrated by diagrams, and the atlas will prove invaluable as a guide to the interpretation of diseased and abnormal conditions. The value of the skiagraphs is enhanced by the fact that in the accompanying text the exact position of the part, the position of the tube, the age of the patient, and the time of exposure, are given—all matters of value for purposes of comparison. Both young and old subjects have been utilized in the preparation of the atlas, and the photographs include useful indications of normal epiphysial lines and their relations to joints, and also of the amount of bone normally present in given epiphyses at certain definite ages. Some of the figures are beautiful examples of ray photography, and others are less successful, but the whole series constitutes a valuable addition to our knowledge of the relations of bones to each other, and of the shadows which they cast upon the screen when placed in definite positions and in known relationship to the source of the rays. One of the difficult features of skiagraphs is the blurring of the shadows cast by the parts nearer the plate, by the shadows of the parts further away, and it is particularly with regard to this difficulty that the plates in the atlas, with their accompanying descriptions, must prove of service to those who have to examine Roentgen photographs for purposes of diagnosis.

On October 3rd, 1903, we drew attention to and cordially praised the German edition of Professor O. SCHULTZE'S book, and now we just as cordially welcome the same atlas, but with the text translated into English and somewhat extended under the title, *Atlas and Textbook of Topographical and Applied Anatomy*,[5] under the editorship of Dr. G. D. STEWART. The author points out that it has been his aim to produce a book that would be useful to those intending to practise medicine and surgery, and he does not claim to have completely illustrated or completely described all anatomical points of clinical importance; nevertheless most points of importance are touched upon, and the author has succeeded in producing a most interesting and beautifully-illustrated book. He emphasizes the practical importance of the facts which he describes, and shows the student the necessity of securing a detailed knowledge of the body he is to treat, when in practice, if he wishes his treatment to be rational and satisfactory. At the end of each section of the book a number of questions are included, which, if properly utilized, will make the student think carefully over all that he has previously read, and if he works them out the result will be a considerable increase of his practical knowledge. We regret that the editor has not clearly distinguished in this edition the difference between the faucial and the pharyngeal tonsils, for, as in the original edition, there is want of clearness on this subject, and it would have been well to point out that in Fig. 61 the cystic duct is distorted and its point of union with the common hepatic duct displaced.

The researches of Drs. LEXER, KULIGA, and TÜRK[6] on the arteries of bones were made by means of metal injections and stereoscopic Roentgen photographs. The copies of the skiagraphs are printed on transparent paper, and they serve to illustrate the text of the monograph. The results of the researches have a clinical as well as an anatomical importance, for they indicate the areas of the bones where emboli, either infective or simple, are likely to lodge and become the foci of disease. The authors point out that, in young bones, three groups of vessels are readily recognizable—the diaphysial, the metaepiphysial, and the epiphysial, and that there is little anastomosis between the terminal branches of the three sets. During the period of growth the diaphysial arteries are rela-

[2] *Handbook of Anatomy.* By James K. Young, M.D. Second edition. Philadelphia: W. A. Davis Company. 1905. (Demy 8vo, pp. 402; 171 figures and 1 diagram.)

[3] *The Edinburgh Stereoscopic Atlas of Anatomy.* Edited by David Waterston, M.A., M.D., F.R.C.S.E., F.R.S.E. Section II. London and Edinburgh: T. C. and E. C. Jack. 1905. (50 Plates with Letterpress, 25s.)

[4] *Atlas typischer Roentgenbilder vom normalen Menschen.* Von Dr. Rudolf Grashey. München: J. F. Lehmann. 1905. (Demy 4to, pp. 92; 97 plates, 56 illustrations, 14 diagrams. M. 16.)

[5] *Atlas and Textbook of Topographical and Applied Anatomy.* By Oskar Schultze. Edited by G. D. Stewart, M.D. London: W. B. Saunders and Company. 1905. (Demy 4to, pp. 189, 29 figures and 22 plates. 20s.)

[6] *Untersuchungen über Knochenarterien.* Von Dr. E. Lexer, Dr. Kuliga, and Dr. Wolf Türk. Berlin: Agustus Hirschwald. 1904. (Demy 8vo, pp. 23, 2 plates and 22 Roentgen photographs. M. 2.)

tively large. At later periods the other two groups, which are derived from the vessels in the joint capsules, acquire a preponderant importance, and anastomoses are much more numerous and free. Obviously it is on the borderland between the territories of the different groups of arteries that emboli are apt to initiate disease, and these areas are clearly delineated.

NOTES ON BOOKS.

Ganser's Symptom.

Dr. Julius Hey has investigated with considerable thoroughness a portion of that wide and only partially-explored borderland between hysteria, criminal psychosis, and fully-developed insanity which is recognized to be of as much practical importance as scientific and clinical difficulty. The particular bit that he has mapped out deals with what is known as the symptom of Ganser, which, in a word, may be called the symptom of crooked answers. Moeli in his *Insane Criminals*, published in 1888, stated the situation as follows: Besides positive untruth there is in some cases an evident forgetfulnes of quite well-known facts, as of the subject's own age, the multiplication table, money values, and the like. Four such cases were later carefully observed and pigeonholed by Ganser, who showed that the crooked-answer habit was accompanied by a peculiar mental cloud, an indistinct state of consciousness with hallucinations, more or less complete amnesia, and other evidence of mental and somatic disturbance. Ganser it was, moreover, who first adequately estimated the forensic importance of the condition. Dr. Hey in his book on Ganser's symptom[1] records 9 cases with much detail. As an example of the kind of crooked answers given, the second case may be quoted. The patient, aged 12 years, was asked in the Halle Clinic, "Where are you?" and replied, "In Jerusalem." "No; where?" and answered, "In Bethlehem." "How old are you?"—"Fourteen years." "When were you born?"—"In 1014." "Is ice hot or cold?"—"Hot." And so forth. The main facts of 30 other such cases are clearly tabulated. Neither the symptom nor the symptom-complex, it is shown, can be considered pathognomonic of hysteria or any other condition. The symptom itself is found most frequently in hysteria, next in dementia praecox, after that in epilepsy, and it is perhaps not very uncommon in circular insanity also, but it is held that the symptom-complex probably only occurs on a hysterical basis. The importance of the recognition of the peculiarity in forensic work is obvious. In 18 out of the 20 criminal cases signs of mental disease were evident during imprisonment.

[1] *Das ganssersche Symptom seine klinische und forense Bedeutung.* [Ganser's Symptom, its Forensic and Clinical Importance.] Von Dr. Julius Hey. Berlin: A. Hirschwald. 1904. (Demy 8vo, pp. 108. M.3.)

MEDICAL AND SURGICAL APPLIANCES

Improved Nasal Ointment Spray.—Dr. Graham Grant, London, E., writes: The nasal ointment sprays hitherto at our command have had a receptacle in which an ointment could not be kept for any length of time without parting with a great deal of its strength. My patients and I have adopted many imperfect devices to obviate this objection, and now Messrs. Maw Son and Sons have made for me a spray which is airtight. The improvement merely consists of a cap which screws down over the nozzle, serving the double purpose of maintaining the strength of the contents and keeping the instrument clean. The ointment I use, and which has this regrettable tendency to deteriorate, contains 3 gr. of menthol, 1 gr. of camphor, and 5 drops of eucalyptal oil to the oz. of paroleine. Further particulars can be obtained on application to Messrs. Maw Son and Sons, 7-12, Aldersgate Street, London, E.C.

A Pan-American Sanitary System.—At the meeting of the International Sanitary Convention held in Washington on October 13th, the delegates, who represented nearly every South American Republic and the West Indies as well as the United States, accepted the forty-nine articles of the Paris Convention of December 3rd, 1903, with only a few modifications required by the conditions in tropical countries. When ratified by the different South and North American Governments there will be throughout the whole American Continent practically one system of preventive measures.

THE ARMY MEDICAL SERVICE AND THE ARMY COUNCIL.

Sir Frederick Treves, Bart., K.C.V.O., C.B., F.R.C.S., delivered an address on the Army Medical Service on October 27th at the Royal Pavilion, Brighton, before the members of the Brighton and Sussex Medico-Chirurgical Society. The meeting was well attended, and the chair was taken by the President of the Society, Dr. Newsholme.

Address by Sir Frederick Treves.

Sir Frederick Treves commenced by reminding his audience that in 1900, before the termination of the Boer War, there was an extremely violent attack on the Army Medical Service, and the newspapers of that time were filled with the most lamentable complaints. Time showed that that outcry was exaggerated. Possibly it was ill expressed, but it certainly was extremely hard upon a very deserving body of men who were doing their very best in an attempt to carry out the almost impossible task of making bricks without straw.

The Brodrick Commission.

It had to be acknowledged, however, that the outcry had done good, for public indignation was so very acute, that in July, 1900, a Commission was appointed to report upon the care and treatment of the sick and wounded during the South African war. That Commission found that there had been mistakes, oversights, defects, and a lack of foresight. The Commission, however, reported that "It cannot be properly said that the medical and hospital arrangements have broken down." And it also reported that "in no campaign had the sick and wounded been so well looked after."

The most important recommendation made by the Commission appointed in July, 1900, was that a Committee of experts should be formed to report and advise the Government upon what was needed to make the service efficient. The Commission also made several recommendations on other points. Here, however, public interest in the subject ended; five years had passed away, and no one had asked whether the Army Medical Service had been put in order, or whether, in case war broke out to-morrow, our soldiers would be better looked after or worse looked after than hitherto. What, then, had been the result of that burst of condemnation in 1900? The answer was that every one of the recommendations of that Commission of July 1900 had been acted upon or were in process of being realized with one small exception. One recommendation was that there should be a better type of ambulance, but no suitable ambulance had as yet been found, though a large amount of work had been done in attempting to find the better type that was required. It would be remembered that Mr. Brodrick was the Chairman of that Commission, and any one interested in the Army Medical Service must acknowledge that a deep debt of gratitude was due to him for his services on that Commission which were really above praise.

What was the condition of the Army Medical Service when the facts were investigated by that Commission of Mr. Brodrick? It was discovered that there was a great deal of discontent in the Service. First of all the Royal Army Medical Corps was found to be very much undermanned. Secondly, the pay was insufficient, still being on the old scale, and not in accord with the payment common in the medical profession at the time. Thirdly, there was an excessive amount of foreign service. Fourthly, there was practically no study leave, and lastly, there was that terrible incubus resting upon the service of advancement being by seniority. Professional merit went practically for nothing and was of so little advantage that no man was encouraged to work at his profession. Such an arrangement was fatal to the service for it had such an extremely depressing effect on the whole Royal Army Medical Corps that it became a hopeless obstacle to any advancement. There was, moreover, a worse result than that, for no men were entering the service, the commissions going a-begging.

The Advisory Board.

The Commission reported in 1901, and advised the formation of an Advisory Board, with the result that the Royal Army Medical Corps was placed under the supervision of the Advisory Board.

The Army Nursing Board.

At the same time the Army Nursing Board was formed to reorganize nursing in the army with the Queen as President. Not only did the Queen take the most profound interest in the question, but she took a prominent lead in the matter.

As President she attended the meetings of the Board, and followed the work very closely; the minutes of all the meetings were sent to her, and she usually sent for some one to discuss the various points that arose. There was not a single movement in the development of the Nursing Service with which the Queen was not familiar, and in the organization of which she had not taken an active part. The Nursing Service was very well equipped, and since the Queen insisted upon its being put in order 260 nursing sisters had been added to the service.

The Army Hospitals Committee.

The Advisory Board formed a committee known as the Army Hospitals Committee, to which was entrusted the very onerous business of superintending the erection, maintenance, and equipment of military hospitals. In the United Kingdom there were 150 military hospitals, containing 7,660 beds.

Prospects of Officers, R.A.M.C.

Turning to the question of what had been done in regard to the Army Medical Service, Sir Frederick Treves said that the Royal Army Medical Corps was now practically up to its full strength, which had been much increased. There were plenty of men anxious to enter the service, for whereas before the new system was established only 250 candidates were attracted by seven examinations, now under the new system seven examinations had produced 438 candidates. Further, an officer could now live on his pay from the time he entered the service, and if he tired of it he could leave at the end of nine years with the very reasonable sum of £1,000 in cash, or he could retire after twenty years' service on an income of £365. The chief change in the status of the army doctor was that his advancement was by professional merit. It was a professional corps. A man entered the Royal Army Medical Corps not as a soldier but as a doctor, and as a doctor he advanced. He did not think any words could describe the change that had taken place in the spirit of the corps since each man's advancement depended upon his own personal professional merit. He must confess that it involved some troublesome examinations, but he thought they were made as practicable as possible. Before any examination was held for an officer to receive a step in promotion, that officer was appointed to the Royal Army Medical College and attended hospital practice. In other words, he went back to his medical school again, and the value of that would be appreciated by every medical man. The Royal Army Medical College was being built on the Embankment at Millbank in London, at a cost of £100,000. Formerly, for reasons that could hardly be explained, the army doctor had stood aloof from the civil profession. Now he was brought from the beginning of his career into touch with his civilian brethren, for his teachers were civilians and his examiners for the most part were civilians. Further, he was given every possible encouragement to visit the civilian hospitals. It was a matter for sincere congratulation that the Royal Army Medical Corps and the civilian profession, of which it was really a branch, should be so closely amalgamated. Sir Frederick Treves was anxious to emphasize the fact that a man who did exceptionally well at examinations could obtain acceleration in his promotion of from three to eighteen months. It was now possible for any officer at the major's examination to qualify as a specialist with extra pay. The value of specialists was undoubted, and the result of all the improvements was that the army was attracting the best men in the profession, and the service was acquiring a specially well-qualified class of doctors. There was no doubt as to the men in the Royal Army Medical Corps being up-to-date, for he had only to mention the names of such eminent men as Bruce, Leishman, Horrocks, Statham, Firth, and Davies. All observers were agreed that it was a good thing that the Army Medical Service men might receive a brevet, not only for distinguished work in the field, but for original research.

Non-commissioned Officers and Men.

Sir Frederick Treves then discussed the subject of the non-commissioned officers and men, and showed that instead of being "Jacks-of-all-trades," as was formerly the case, they were now specially trained for certain duties, and their whole time was devoted to the work.

Field Equipment.

Describing the equipment for the field, Sir Frederick Treves declared that it was the best in the world, being light, compact, and elastic, and contained no bottles and no scales. There was also a suitable outfit for cavalry detachments. Field ambulances were supplied, and for home use motor ambulances were maintained. After endless trials, water-carts were now used with the filtration system, it having been found that it was better than the employment of heat.

Military Hospitals.

The question of bringing up the condition of the hospitals to date was important, and it was satisfactory that the military hospitals were being gradually put into an efficient state. By rearrangement of the hospitals and of the patients the accommodation required was greatly reduced, the method followed being that of centralization where possible.

In the opinion of Sir Frederick Treves the results of all the work described had been to form an Army Medical Service second to none in the world, possessing a corps of highly-qualified and most efficient medical officers. That service was further supplied with an up-to-date equipment and was well managed by means of a carefully-elaborated organization. Therefore, as soon as the necessary extensive alterations in the existing hospitals had been carried out the treatment of the sick soldier in times of peace would leave nothing to be desired.

The Service in War.

Sir Frederick Treves then explained how the Army Medical Service stands in time of war. The service was ready, and only waited the action of the Army Council. It was a curious arrangement that the answer to that question did not rest with the Army Medical Service. The answer rested with the Army Council, and he was sorry to criticize that body, as it had so much work on hand, and every one would recognize that Mr. Arnold-Forster had helped the Army Medical Service by all the means in his power. But he was bound to declare that the Army Council had as yet to make adequate arrangements which would enable the Medical Service to cope with the emergency of an important war. There were certain anomalies in the War Office which hampered the Army Medical Service. One was that the Army Medical Department was under the control of the Adjutant-General, who was the head of the Medical Service, and yet was not a doctor; in other words, the chief doctor in the army was not a medical man. Another anomaly was that the Director-General of the Army Medical Service had no direct access either to the Army Council or to the Secretary of State; his only access was through his chief, the Adjutant-General. There was also the further anomaly that the money voted by Parliament for the medical services was not under the control of the Director-General of the Army Medical Department, but was administered by other departments, such as that of the Adjutant-General and the Quartermaster-General. Would there not be difficulties, Sir Frederick asked, in any household where the money set apart for the kitchen was administered by the coachman and the gardener? The obvious contention was that the Army Medical Department required a very much freer hand than at present, and that fact was well illustrated by reference to the part played by preventable disease in war.

The important part played in war by preventable disease was at once recognized by bearing in mind that during the last war there were something like 450,000 admissions to hospital from sickness and some 22,000 admissions on account of wounds or injuries received in action. The total admissions to hospital for diseases per thousand was 746, and for wounds 34; therefore, in war losses from wounds were by comparison inconsiderable, the losses from disease, on the other hand, were enormous. No engagement in South Africa had any casualties which could compare for a moment with the deaths following the peaceful crossing of the Modder River on a beautiful calm summer's day, for the peaceful crossing of an infected river by a large column was fatal, not because of the bullets of the enemy, but because the men would drink the water. The fact that nearly one-half the total losses by death from all causes during the South African war were due to enteric fever and dysentery showed that the bulk of the casualties in such a war was due to preventable disease. The importance of the medical service of an army was therefore paramount, because if it had a free hand it could prevent disease. The present state of affairs was as follows: There was no co-ordination of sanitary effort. There was no organization and training of men during peace to cope with the two great problems on field service: (1) How effectively to supply soldiers with a safe or potable water, and (2) how successfully to remove and render relatively harmless the effete material from men and animals. There was no evidence as to who to

hold responsible for failures in sanitation. The principal medical officer had no free hand in the matter, and had no power nor organization at command to carry out what he knew to be needed. A scheme for sanitary administration in the army had been submitted to the Army Council by the Adjutant-General, making provision for 7 per cent. of sick in war instead of 10 per cent. The medical department could do no more than it had done, and the last word rested with the Army Council.

Need for an Army Medical Reserve.

Sir Frederick Treves then considered the necessity of providing a reserve for the army medical service. He gave details of the Royal Army Medical Corps officers available for mobilization in event of war. To equip one army corps and one cavalry brigade for service abroad 333 medical officers were needed, and that left only 78 medical officers for the remainder of the army. If 45 per cent. of civil surgeons were employed, and two army corps and two cavalry brigades were supplied with the necessary 368 officers, then there would be left for a third army corps 43 R A.M.C. officers. There was no doubt, therefore, that the need existed for an Army Medical Reserve. A scheme had been drawn up by the Advisory Board, after infinite trouble, for providing an efficient reserve. That scheme had been long before the Army Council; with that body rested the last word, and that had not yet been spoken. The military doctors had done their best, and their scheme was resting in some pigeon-hole at the War Office.

Reforms Urgently Necessary.

In conclusion, Sir Frederick Treves stated what he considered was needed for the future, and summarized the position as follows:

1. The Director-General of the Army Medical Department to be the head of his department, and to be responsible for its efficiency and economical administration in all its branches.

2. To have direct access to the Army Council and Secretary of State.

3 To have control of the money voted for the medical service.

4. The service remaining, as at present, "under the supervision of the Advisory Board."

5. An efficient Army Reserve to be formed.

6. The combatant officer should have some knowledge of hygiene as applied to campaigning and barrack life; and a like knowledge, of a still more elementary character, should be possessed by the private soldier.

7. The army medical officer should be vested with such authority and provided with such *personnel* as will enable him to carry out those sanitary arrangements in the field which experience has proved to be absolutely essential to secure the minimum loss of life from disease.

The great difficulty in the way of reform was that public interest in the Army Medical Service had vanished. During the time of war the public were deeply interested in the service, but after the war was over they forgot it. It was, of course, an old story, as appeared from the last sentence in the *History of the Peninsular War:* "Thus ended the great war, and the veterans were soon forgotten."

Discussion.

The Chairman moved a cordial vote of thanks to Sir Frederick Treves.

This was duly seconded, and was also supported by Sir William Broadbent, who described the address as a momentous one, and declared that the shot fired by Sir Frederick Treves would cause a great commotion among the public. The organization of the Army Medical Service might be nearly perfect as far as it went, but it was still possible that ignorance and reluctance might be displayed in developing it, and that would cause much harm in a campaign. If Sir Frederick Treves were a member of the Army Council, then perhaps they would see an end of the ignorance and mismanagement that was so deplorable.

The meeting ended with the passing of this vote of thanks with much acclamation.

Veterinary surgeons are considering the possibility of obtaining the return of one of their number to the House of Commons; their organizations in Lancashire and in Yorkshire have both adopted resolutions to the effect that if a workable scheme could be found, Parliamentary representation would be a very good thing. Beyond this, however, they have apparently not been able to go.

SCHOOL HYGIENE.

REPORTS OF MEDICAL OFFICERS.

Portsmouth.

We have before us a report on school hygiene, presented by Dr. A. Mearns Fraser, M.O.H. to the Health Committee of the Portsmouth Urban Sanitary Authority. In the introduction he observes that the question of school hygiene is one which affords great possibilities for improving the standard of health of the coming generation of the borough, and in some general remarks he says, addressing the Chairman and members of the Committee:

I venture to submit, in the first place, that, important as is the purely educational part of the duties that have devolved upon the sanitary authorities as administrators of the Education Act, they are secondary to the obligation to neglect nothing to protect or improve the health of children entrusted to their care. You, as members of the sanitary authority, are training a large proportion of the future inhabitants of this borough, and your first care must surely be that the coming generation shall be, not only healthy, but equipped with that knowledge of the elementary laws of health that shall enable them to preserve their bodies in a healthy condition after leaving school and entering upon the business of life. You will exhibit a poor appreciation of your duties if the children of your large elementary schools, however highly educated they may become, acquire that education at the expense of anaemia, rickets, defective eyesight, narrow chests, and impaired physical development, to say nothing of such diseases as diphtheria, consumption, and whooping-cough.

Construction and Ventilation of Schools.

Under the heading Hygienic Inspection, Dr. Fraser points out that the inspection of schools divides itself under two heads: the inspection of the school and the personal hygiene of the scholar.

No plan for a new school should be passed until it has first been carefully examined by the sanitary expert of the educational authority; the school should have a southern aspect, in order that the children should get plenty of sun. The construction of a school should be looked into, the plan usually adopted of a large central room being, in the writer's opinion, unsuitable, for the reason that, with such a system, it is difficult to obtain cross-ventilation in the class rooms.

With regard to air space, Dr. Fraser considers that the 8 square ft. of floor space and 80 cubic ft. of air per child for old schools, and 10 square ft. of floor space for new, as recommended by the Board of Education, is insufficient; 15 square ft. of floor space should be allowed. He says:

"I beg most emphatically to controvert the idea held by a large number of people that a child needs only half, or less than half, the air space of an adult. A child needs quite as much as, if not more than, an adult. A child is a fast-growing organism—that is to say, far more rapid developmental changes are taking place in a child than in an adult, and to supply the great building up of nerve tissue bone tissue, blood, etc., that is in process it is essential that at least as liberal a supply of oxygen should be supplied as to a full-grown man whose physical development is more or less complete. Moreover, a child is a delicate organism, and therefore much more readily injuriously affected by adverse conditions than an adult; children will die from exposure to insanitary conditions which will only temporarily affect an adult. I much regret that the view that a child needs half the air space of an adult should be found in some textbooks on hygiene. This idea of proportioning fresh air to bulk appears to me just about as sensible as to make a big fire to heat a roomful of adults and a small one for a roomful of children! Class rooms should be so constructed as to allow of cross-ventilation in each room, and all the windows should be made capable of being easily opened halfway down. The lighting is most important, and the area of the windows should be not less than one-fifth the area of the floor space."

Dr. Fraser believes that overcrowding is responsible for the enormous increase of certain diseases, such as diphtheria and tuberculosis. In discussing ventilation he lays it down that bad air causes weariness and want of attention to lessons, and recommends some form of natural ventilation, such as Boyle's system as best and most economical. Further, every room should have a properly-constructed open fireplace, and in large rooms a radiator as well.

With regard to school desks, he suggests a modification of the "Sheffield" system. This consists of making the back

lower, so that instead of impinging upon the child's shoulders, which tends to curve the spine, it gives support to the lower part of the back. The slight curve in the arm will give more room for the lower part of the body and more room for girls' dresses. This modification, he believes, would be an improvement, and should add little to the cost.

Sanitary conveniences should be well lit, easily kept clean, provided with a good flush, and with plenty of fresh air.

In cloak rooms 9 in. between the hooks for hanging cloaks and hats should be the minimum, otherwise the clothes do not dry when hung up wet.

Instruction in Personal Hygiene.

With regard to personal hygiene, Dr. Fraser insists upon the importance of teachers to be so trained as to impart to their scholars the principles of hygiene. All teachers should be able to impart a knowledge of the broad, elementary laws essential to the preservation of a healthy body. They should also be able to teach physical exercises, and to understand the benefit which each individual exercise is intended to produce.

Teachers should be conversant with the premonitory symptoms of infectious diseases in children, in order to notify the parents, so that the child should be kept at home until a doctor has certified it to be free from infection.

The training in physical exercises should be done by the class teacher, who should first have obtained a certificate. In support of this view the writer quotes from the Report of the Royal Commission on Training (Scotland, 1903).

Infant Classes.

In dealing with the age of school attendance, Dr. Mearns Fraser emphasizes the fact that young children spread diseases in school and gives, as an example, a table of deaths in the town of Portsmouth of children from measles, scarlet fever, whooping-cough, and diphtheria. Taking all the diseases, 80 per cent. of the deaths are of children under 5. In measles, 93 per cent. are under 5, and in whooping-cough practically all the deaths occur under that age. The younger the child who suffers from an infectious disease the less likely it is to recover; therefore if the disease can be prevented until the children are older the chance of recovery is increased.

The exclusion of children under 5 would mean a reduction of teachers, and better school accommodation for the others.

Defective Children.

Dr. Mearns Fraser says he has purposely not touched upon various physical defects in children that need the attention of the medical specialist—mental deficiency, eye diseases, skin diseases, ear diseases, etc., because he considers these to be secondary to the general supervision of schools. When this has been established it will be time for the Education Authority to see if some arrangement cannot be made by which children noticed by their teachers to be physically defective can be treated by a medical man so that such defects can be dealt with before they have become chronic. "When we have succeeded in obtaining healthy schools and a rational system of school supervision and physical training," he writes, "when the teachers are all acquainted with, and capable of imparting to their pupils, the broad principles upon which the maintenance of a healthy body depends, then I think the results will be so satisfactory that you will probably feel impelled to go a step further and give special medical attention to the physically defective units."

ASSOCIATION OF CERTIFYING FACTORY SURGEONS.

THE annual meeting of the Association of Certifying Factory Surgeons was held at Preston on October 27th. Though a good number of members put in an appearance, the fact of two other important medical associations meeting at Manchester on the same day had an appreciable effect on the attendance.

Election of President.

Owing to the unavoidable absence of Dr. H. Langley Browne, Dr. T. J. YOUNG took the chair, and, after a few introductory remarks, proposed that Dr. R. C. Brown, of Preston, be elected President of the Association for the ensuing year. This was seconded by Dr. T. Ford, and adopted with acclamation.

President's Address.

Dr. R. C. BROWN, on accepting the office, gave an interesting address on his early experiences as a factory surgeon. His appointment took place before the introduction of the requirement as to birth certificates, and he described the dissatisfaction on the part both of the parents of the children and of the certifying surgeon owing to the mistakes constantly arising in fulfilling the duty of assessing the age of the applicants for work. Youngsters of 11 and 12 often succeeded in "passing the doctor" for full time; and he had frequently found out that he had refused to certify youths and girls of even 16 years of age. The introduction of the registrar's certificate of date of birth led to many attempts at falsification and substitution of these documents at first, but the combined efforts of the surgeon and inspector soon succeeded in putting an end to this practice. He had noticed many changes during his forty-two years' occupation of the office, and could now congratulate certifying surgeons on the better recognition of their good work by those in authority—a recognition, he thought, mainly due to the exertions of their Association. He congratulated the Council of the Association on the success which had attended their efforts in opposing the recent Accidents (Mines and Factories) Bill.

Annual Report.

The HON. SECRETARY read his annual report, which dealt at some length with the action taken by the Association to defeat the proposal of the Home Office to alter the conditions regulating the reporting of factory accidents. The exertions of the Association commenced with the publication of a criticism on the Report of the Departmental Committee on Industrial Accidents, and culminated in the withdrawal of the Accidents Bill as a sequel to a joint deputation from the British Medical and Factory Surgeons' Associations to the Under-Secretary of State. A short account was given of a visit to Liége to attend an International Congress on Industrial Accidents, and some valuable information afforded as to the practice of Continental nations in dealing with reporting of accidents and workmen's compensation. Statistics respecting examinations and rejections were given showing that, whilst the number of the former was steadily diminishing, the number of the latter had exhibited a marked increase—from 1.1 per cent. to 1.4 per cent.

Election of Officers.

Dr. W. F. Dearden was re-elected Honorary Secretary, and Drs. H. C. Manley, A. Scott, and W. H. F. Oxley Honorary Corresponding Secretaries for Ireland, Scotland, and London respectively. Dr. T. Watts was re-elected Honorary Treasurer, and Dr. J. C. Eames and T. Fort were appointed Honorary Auditors.

Annual Dinner.

The annual dinner was subsequently held at the Park Hotel.

INTERNATIONAL ANTI-ALCOHOL CONGRESS.

THE International Anti-alcohol Congress held its tenth meeting at Buda-Pesth from September 11th to September 16th. Not only large attendances but generous hospitality, public and private, made the Congress a landmark in the history of the movement, which is spreading fast in all classes of society, and is beginning to exert an influence in public life. More than 750 members were present, amongst them being representatives of nearly all countries of Europe, and several from America and India. The chair was taken by the CHIEF MAGISTRATE OF BUDA-PESTH, who in his opening address congratulated the meeting on the universal interest which it aroused in all official circles, thus ensuring a close study of its proceedings by public authorities.

Herr LUKACS, the Minister of the Interior, then bade the Congress welcome on behalf of the Hungarian Government.

ALCOHOL AND RESISTANCE TO INFECTION.

The first address was delivered by Professor LEITTNEN (Helsingfors). He read a paper on the resistance of total abstainers as compared with drinkers against infectious diseases. Not only statistics of life insurance companies, but also hospital reports and the evidence of daily life proved, he said, that the tissues were more liable to infection of all kind when under the influence of even small quantities of alcohol; especially was infection of the respiratory and genital canals promoted by the action of beer or other alcoholic beverages.

Dr. WYGANDT (Würzburg) delivered an address on the relating power against mental strain in alcoholic and non-alcoholic individuals. His experiments with healthy persons of all ages, from 7 to 72, show that small doses of alcohol—such as, for instance, 7.5 grams (the quantity of alcohol con-

tained in half a pint of light beer)—have at first a markedly accelerating influence on the process of associative thought. After the lapse of a short time—varying from eight to thirty-five minutes, according to age—thought is impeded, the time of reaction to certain stimuli is lengthened, and combination of thought and action is more difficult. Artificial wine is in the same category as natural wine in regard to its neuro-muscular action if it contains alcohol in addition to the aromatic principles, and the artificial liquors—"stomach-drops," "pick-me-ups"—must be looked upon in the same sense.

Poison not a Substitute for Food.

Professor Kassowitz (Vienna) read a paper entitled Can a Poison be a Substitute for Food? Only material that can be utilized by the living protoplasm to make good the loss sustained by metabolism deserves the name of food. Alcohol, like chloroform and ether, is not assimilated by the cells, but partly stimulates, partly retards their specific functions; even the oxidation of alcohol has no strengthening effect on the body, as the final result of this process; CO_2 and H_2O pass through the body without any effect whatever, whilst the intermediate stages act simply as momentary conservators of heat.

An animated discussion followed the lecture, and it was mentioned, amongst other things, that an enterprising firm of wine merchants had taken the opportunity given by the "Congress of German Scientists and Physicians" which was held at the same time in Meran, to send a box with half a dozen bottles of wine to each member of that Congress. An indignant protest against such advertising was sent to the firm, and also to the President of the Congress. Professor Kassowitz urged all practitioners to set their faces against the use of alcoholic beverages during reconvalescence. He stated that, in his clinic for children's diseases, he had stopped the use of alcohol entirely without observing any ill effect.

Alcohol and Sexual Life.

Next came Professor Forel (Switzerland), who dealt with alcohol and sexual life. He said that the direct consequences of habitual drinking were a marked diminution in the number of births, a lessening of the resisting power of body and mind, and the increase of crime. In France the rise of the birth-rate could be proved to be due to the fall in the consumption of alcohol; and in countries where drinking was a general habit, weakly, nervous children were begotten by drinking parents. The *potentia cocundi* was often at first increased by alcohol, but children begotten under such circumstances were always defective in their bodily qualities. Sexual crimes were in 69 per cent. committed under the influence of drink. A degeneration of the race in most of the European nations was at present noticeable, and therein lies the danger for the Aryans. The abstinent Mongolians and Mohammedans showed an increasing birth-rate and ever-increasing activity. The last war was a striking example of the value of abstinence. The coming fight for the supremacy of the commercial world would soon eliminate degenerate races. The question of alcohol in relation to the penal law excited much interest.

Professors Bleuler (Zurich) and Vámbéry (Buda-Pesth) severely criticized the present regulations and the law as regards crimes committed when under drink. The responsibility of the offenders was not lessened because they were drunk. The proper mode of dealing with such individuals would be compulsory abstinence from alcohol, and rational treatment on medical principles in obstinate cases. Homes for inebriates should be erected by the Government. The cost of the building and upkeep of such institutions would be covered by the savings in prisons and police.

Effect of Alcohol on Negroes.

A very interesting paper on the action and influence of drink upon the negro population in Africa was read by Herr Möller, who had been a missionary in German East Africa. He observed the deleterious effect of brandy and spirits on the natives; it could be only compared with the facts in America, where the Redskins were disappearing before the onward march of civilization with its chief agents, rifles and brandy. Several speakers spoke on education and school in respect to abstinence. Some figures brought forward to illustrate the words are interesting. Herr Heubner (Aachen) examined 7,338 school children: of these only 166 (equal to 2.25 per cent.) had not yet drank alcohol, whilst 989, or 13 per cent., had been already drunk once or several times. The only means of restricting the abuse was the adequate instruction of teachers and the propagation of this view among the lower classes of the population by the aid of their offsprings. A custom utterly to be condemned is the fetching of alcoholic beverages by children for their parents, as is so often the case with labourers and craftsmen.

Railway Officials and Drink.

The important subject of railway service and its relation to drink was exhaustively treated by Dr. Stein, the Secretary of the International Union of Railways. He stated that drink was the commonest cause of breach of the regulations, both by passengers and railway servants. As the gravest danger was involved in carelessness or neglect of the intricate precautions for the safety of the traffic, it would be advisable to prohibit the men from drinking even when not on duty. An international combined action by all Governments in this direction was advocated by Dr. Stein. Only total abstainers, he went on to say, ought to be appointed to the responsible offices of station-master, blockhouseman, and junction-master. As even a very moderate quantity of alcohol was likely seriously to interfere with the sensitiveness of the retina to colour, on no account whatever should an engine driver take a glass of beer, or something similar, before starting on his way. The ideal condition would be a teetotal staff.

The Alcohol Question in the Army.

Even military authorities are turning their attention to the question of alcoholism. Staff-Surgeon Mernetsch set forth the facts and experiments made concerning the value or otherwise of alcohol if administered, for instance, before action in war. Sweden was the first country to put the question on a scientific basis. A number of picked soldiers and non-commissioned officers, all good shots, were told off for these experiments. They were ordered to shoot at a target at ordinary distance (200 yards), then they were given one-twentieth litre of brandy (equal to about 1½ oz.). The trials were made on different days, under varying conditions, several times a day, and the result was always the same. When under alcohol the result was 30 per cent. less hits in quickfire and the men always thought they were shooting faster, whilst actually they shot much more slowly. When slow aiming was allowed the difference even went to 50 per cent. in favour of shooting in a sober state. The conclusions are obvious. The effect of alcohol on the men when marching could be studied during the manœuvres. Some companies were given small quantities of alcohol. It was shown that drinking predisposed to sunstroke, and heatstroke was noticed only amongst the "drinking" companies. The explanation is easy. Since these facts have been ascertained the Austrian soldier is not allowed to carry brandy when on march, except in severe winter and in the baggage of the ambulance corps. Experiments with the view of ascertaining the value of alcohol as a food were a complete failure, owing to some errors in the arrangements. They will be taken up anew when all preliminary work has been done in a manner ensuring trustworthy results.

The Working Classes and Drink.

M. Vandervelde, the Belgian labour leader, spoke on the position of the proletariat and the labourers towards drink. He asserted that it was not right to say that the lowest class were the most addicted to drink. It always depended upon the surroundings and the opportunity. In Russia nearly all classes of the population were drinkers, and the average consumption of alcohol a head was more than four times that of an ordinary Belgian or French labourer. The present development of the industrial use of alcohol was very gratifying, as huge quantities of this material were wanted for the purposes of colour—vinegar and celluloid factories—thus giving the alcohol factories a large field; the loss to such factories, if total abstinence prevailed in the civilized world, would not be felt by them at all, as it would be compensated by the demand for industrial purposes. The complaint of such factories—that the temperance movement was likely to ruin their business—was, therefore, not to be taken seriously. Already now the industrial demand was far in excess of the demand for drinking.

A Plea for Moderate Drinking.

A very animated discussion was provoked by the paper of Mr. Salzleuney, a school teacher. He advocated temperance only, not absolute teetotalism, as it was not possible entirely to eradicate the habit. On the other hand, he questioned the detrimental action of small doses of alcoholic drinks, even if repeated daily for many years. He stated that

the French peasants, for instance, who were in the habit of drinking wine from early childhood, were known to be very quick-witted, active, and prolific. The fall—or, rather, the constancy—of the birth-rate and death-rate in France, which did not allow of an increase of the population was mainly due, he contended, to the low standard of moral life in the very numerous towns, and to the two-children system adopted by the wealthier classes in France. Even Russia, where nearly everybody drinks, showed no fall in the birth-rate, but an exorbitant infant mortality which had but little to do with drinking. These assertions aroused a storm of contradiction, and the President had some difficulty in closing the controversy.

Temperance Restaurants.

The last speaker touched a very important subject—temperance restaurants. Throughout the Continent especially in German-speaking countries, and also in Russia and Italy, the restaurants expect their guests to consume beverages, and in some places an extra charge, amounting to 5 or 10 per cent. of the bill, or more, is made for not drinking. A reform of these conditions is absolutely necessary if temperance principles are to prevail, as a large percentage of the unmarried men, mostly between 20 and 40 years, who have no family or are engaged in work far from their home have to depend on these public-houses for their midday meal at least, if not for all meals, and they are forced by the custom to drink. This must be made unnecessary by the erection of restaurants on the "no-drink" system. The Congress as a body could not dispose of any funds for such purpose, but every branch in the different countries should start a movement with that object, and no doubt it would be successful, besides being a very lucrative and prosperous business undertaking. A resolution to this effect was accepted.

Next Congress.

The final transaction was the choice of the place for the next Congress. Stockholm was selected, and an international abstinence bureau was founded for the purpose of preparatory questions.

THE ASSOCIATION OF PUBLIC VACCINATORS.

The Annual Meeting of the Association of Public Vaccinators of England and Wales was held in the Midland Hotel, Manchester, on October 26th. At the meeting in the afternoon the Sixth Annual Report of the Council was submitted. It states that nine new Representative Councils, making a total of thirty-six in three years, have been established. The outstanding event of the year, it is stated, has been the publication of the Report and Minutes of Evidence of the Departmental Committee, appointed to consider vaccination expenses. While in 1898 about 26 per cent. of the children born were unvaccinated, in 1902 there was only about 15 per cent. Dr. E. Climson Greenwood was re-elected President.

The annual dinner was held in the evening in the large banqueting hall of the Midland Hotel. A very large company of members and guests attended, and Dr. Greenwood presided. After the usual loyal toasts the President proposed the "Association of Public Vaccinators." At first he had misgivings, he said, when it was proposed to hold the annual meeting in Manchester. Even the thought of a journey in that direction gave him a feeling of incipient illness. He came, he saw, and was conquered, for he found his worst anticipations as to climate and other alleged inconveniences were wholly falsified. Dr. W. Holden and Dr. Drury having responded in racy and witty speeches, the toast of "The Visitors" was proposed by Dr. Brassey Brierley. The number of "co-respondents" was large, and included Sir James Hoy for the Corporation, Professor Stirling for the University, Colonel Coates, C.B., for the Auxiliary Forces, Mr. E. A. Gilson, and others.

Dr. McVail of Glasgow, the author of *Vaccination Vindicated*, advised the members of the Association to refute and point out the errors and falsehoods that were so frequently paraded in the daily press; to this end they should organize a correspondence committee after the manner of the anti-vaccinators. They must educate the public. He praised the work of Dr. Bond, and referred in eulogistic terms to the work of the British Medical Association by its publication of various pamphlets dealing with this subject, and especially the Jenner Number of the British Medical Journal.

Between the toasts were sandwiched songs and humorous sketches; and, what with good fare and its hospitable accompaniments, and with the songs and the speeches, the "long hour on this side the 'twal" was reached before the party broke up.

The local arrangements were admirably devised and carried out by the local Secretary, Dr. F. P. Sarjant.

THE MIDWIVES ACT, 1902.

Payment of Medical Men.

We desire to refer several correspondents who have made inquiries on this subject to the proceedings of the Annual Representative Meeting at Oxford[1] and at Leicester.[2] It will be found that the Medico-Political Committee presented to the Oxford meeting a memorandum on the payment of medical men called in to assist midwives. The Committee was then instructed to take steps for the amendment of the Act, so as to provide just remuneration for medical men called in to assist midwives in case of danger or difficulty.

In the report presented to the Annual Representative Meeting at Leicester this year the Committee stated[3] that it had made inquiries of county councils and county borough councils in England and Wales, and advised that a memorial should be presented to the Privy Council on the subject. The Committee suggested, however, that before the memorial was presented further inquiries should be made with regard to the scale of minimum fees to be submitted. The Medico-Political Committee has appointed a subcommittee to consider the matter, and at a meeting last week this subcommittee had before it a scale of fees proposed by the Stratford Division, another proposed by the Norwich Division, together with certain recommendations made by the Metropolitan Counties Branch.

Dr. Wolstenholme at the Representative Meeting at Leicester stated that in Liverpool the authorities were paying a uniform fee of one guinea in every case in which a medical man attended in response to the summons of a midwife, and he stated further that the Manchester authorities were also prepared to pay a fee. The following is a copy of a letter received in response to an inquiry by the Honorary Secretary of the Manchester Medical Guild:

Local Government Board,
Whitehall, S.W.,
28th February, 1905.

Sir,

I am directed by the Local Government Board to advert to your letter of the 14th instant as to the payment of remuneration to a medical practitioner called in to assist a midwife under Article 17 of the rules of the Central Midwives Board regulating, supervising, and restricting within due limits the practice of midwives.

In reply, I am directed to state that it seems to the Board that if a Town Council or other local authority for the execution of the Public Health Act, 1875, are willing to pay for the medical assistance required, the provision in Section 133 of that Act might possibly be available.

On the other hand, a case of the kind might conceivably come within Section 2 of the Poor Law Amendment Act, 1848 (11 and 12 Vict., cap. 110), and the guardians might then, if they wished, pay for the medical assistance required.

I am, Sir,
Your obedient Servant,
H. C. Monro,
Assistant Secretary.

J. H. Taylor, Esq., M.B.,
Salford.

It has been suggested that the scale of fees should be founded upon that sanctioned by the Local Government Board under the Poor Law. The following are the articles which apply:

Article 183.—In cases in which any medical officer, either for the workhouse or a district, shall be called on by order of a person legally qualified to make such order to attend any woman in or immediately after childbirth, or shall, under circumstances of difficulty or danger, without any order, visit any such woman actually receiving relief, or whom the Guardians may subsequently decide to have been in a destitute condition, such medical officer shall be paid for his attendance and medicine by a sum of not less than ten shillings, according as the Guardians may agree with such officer.

Article 183.—Provided that in any special case in which great difficulty may have occurred in the delivery, or long subsequent attendance in respect of some puerperal malady or affection may have been requisite, any district medical officer shall receive the sum of two pounds.

[1] Supplement to the British Medical Journal, August 6th, 1904, p. 117.
[2] Ibid, July 29th, 1905, p. 119; August 5th, 1905, p. 137.
[3] Ibid, May 27th, 1905, p. 255.

THE DIET OF THE PRECIBICULTURISTS.

By Harry Campbell, M.D., F.R.C.P.,

Physician, North-West London Hospital and to the Hospital for Diseases of the Nervous System, Welbeck Street.

VIII.

Extinct Paleolithic Man.

Having dealt with the diet of existing precibicultural peoples we may now inquire into that of extinct man belonging to the stone age. And first, as to the diet of extinct paleolithic man, as revealed more particularly by the relics he has left in Western Europe. By studying these relics we can form some estimate of this far-off ancestor of ours, both as to his physical characters, his mode of life, and the kind of food on which he subsisted.

There can be no doubt that it was during the tertiary epoch that man passed through the homosimian stage of his philogeny. Some hold that man proper did not appear until the quaternary, but there can, I think, be little doubt that long anterior to this a being worthy to be classed as *homo* had already evolved. Inasmuch, however, as our knowledge of man proper practically dates from the quaternary, it is of quaternary man, or rather ancient quaternary, or pleistocene, man, that I shall here refer.

In his upward march man has passed through a stone age, followed by an age of metal. The beginning of the former in the tertiary is sometimes spoken of as the *eolithic* age of rudely-chipped stone implements, while the more advanced age of chipped implements, coterminous with the ancient quaternary, is generally referred to as the *paleolithic* age. Then followed the *neolithic* age, in which polished, as well as chipped, stone implements were employed, and this again was followed by the *prehistoric* and historic periods.

The paleolithic age, which, as just observed, is coterminous with the ancient quaternary, is divided by Mortillet into four periods, each of which is named after some place where human relics characteristic of it have been found.

Ancient Quaternary or Pleistocene.	*The Chellian* (lower quaternary) (The Acheulian)	lasting	80,000 years.
	The Mousterian (mid quaternary)	,,	100,000 ,,
	The Solutrean (upper quaternary)	,,	8,000 ,,
	The Magdalenian (upper quaternary) (The Tourassian)	,,	30,000 ,,
			218,000

The figures indicating the supposed duration of each period are Mortillet's, who thus makes the entire paleolithic age to extend over some 218 000 years, less than one half of Keene's estimate. However this may be, its duration certainly ran into hundreds of thousands of years, and it will readily be understood that during so vast a period great changes must have taken place in the earth's surface, and that correlative changes in climate and in its flora and fauna must have occurred. During the Chellian and Mousterian periods, for example, Britain was on the east joined on to Europe, and in the north-west to America. The climate of western Europe during the Chellian was warm and moist, and the elephant, rhinoceros, hippopotamus, wolf, bear, hyena, lion and tiger flourished there. During the Mousterian, which practically corresponded to the last ice age, the temperature sank, snow fell heavily, and a large part of Europe, including the whole of Switzerland, became covered with ice. The Solutrean and Magdalenian periods were characterized by very hot summers and very cold winters, while during the Tourassian the climate was very like that of the present day.

The vastness of the quaternary period will be the better realized when it is remembered that during it new species of mammals not only rose into being, but actually became extinct. Thus the mammoth appeared at the junction of the Chellian and Mousterian and had become extinct at the end of the Magdalenian, and again the rhinoceros etruscus originated in the summit of the Tertiary and vanished with the Chellian.

Paleolithic Man as Evidenced by his Skeletal Remains.

During the long paleolithic age man had ample time to mount up the ladder of evolution and his skeletal remains, as well as his industrial relics, furnish unmistakable evidence of that evolution. Unfortunately the ancient quaternary strata have yielded only a few human fossil remains, but from such as have come to light we can form a fairly accurate notion of the kind of being man was in those days. No bones of Chellian man have yet been discovered: the earliest quaternary remains belong either to the Acheulian or the Mousterian period and were found in the lehm forming the floor of the famous Neanderthal cave near Düsseldorf. Hence Mortillet has termed the early quaternary race of Europe the Neanderthal race. The chief skeletal characters of this race were as follows: the skull, of which the cranial capacity has been estimated at 1 230 c.cm., as against the 1,500 c.cm. of the average European, was dolichocephalic, with markedly prominent superciliary ridges, receding brow, flattened vertex and projecting occiput, while the massive mandible sloped downwards and backwards anteriorly, and was, moreover, wholly destitute of a chin. It is an interesting fact that the Neanderthal type of skull is to this day occasionally observed among the inhabitants of Europe, a fact which seems to show that this ancient race still survives in some of ourselves; and if the contention be true that Neanderthaloid individuals show a marked leaning towards crime, they must be regarded as reversions to an earlier and more primitive type, incapable of adapting itself to the complex requirements of modern social life. But while it is certain that the Neanderthal race was much lower in the scale of evolution than are the present-day peoples of Europe, it is doubtful if we are justified in regarding it as having been so much inferior as some, for example, Mortillet, appear to do; seeing that the capacity of the Neanderthal skull was but little, if at all, below that of some primitive peoples still living.

Regarding other skeletal features of the Neanderthal race, the length of the bones of the extremities suggests a race of short stature, and the marked prominence for muscular attachments shows it to have been endowed with great muscularity. The femur was curved and the humerus twisted; there was a wide interspace between the radius and ulna while the hand bones were of large dimensions.

By the time the Magdalenian period was reached, considerable advance had been made, and the Neanderthal race had merged into a higher "Laugerian" race, so called from the station where the first bones belonging to it were discovered. Some speak of this as the Cromagnon race. Unfortunately only three Magdalenian skeletons have come to light, while the Solutrean has yielded no more than a single mandible.

The Laugerian cranium, though still dolichocephalic, no longer presents prominent supraorbital ridges, the receding forehead has become more prominent, and the flattened vertex higher, while the anterior surface of the still powerful mandible has become more or less vertical and presents a well-marked chin; the molars show a tendency to increase from before backwards, and the teeth as a whole are well worn. The remaining bones indicate smallness of stature and considerable muscularity, but otherwise an advance upon the Neanderthal type, the femur being less curved, the humerus less twisted, the radius and ulna nearer together, and the bones of the hands smaller, than in the case of the Neanderthal race. There can be little doubt, in fact, that the Laugerian race belonged to a higher type than most existing precibiculturists. The height of the cranial vault and the orthognathism alone testify to this, apart from the evidence of their superior culture. I have followed Mortillet in assuming that this race was the direct lineal descendant of the Neanderthal race, and that during the vast paleolithic age "Western Europe was occupied by one and the same human line without mixture from other groups."

Extinct Paleolithic Man as Evidenced by his Industrial Relics.

Much of the handiwork of paleolithic man—all such, for example, as was wrought in wood—has perished, but happily he employed in the making of his implements and weapons one of the most imperishable of materials—that is, stone, especially flint, also ivory, bone, and horn, all of which long resist the ravages of time. Thus it is that he has left a record of himself which enables us to gain no small insight into his industries and mode of life.

These relics are found in the ancient quaternary, and a comparison of those belonging to the lower, middle, and upper portions of it shows a progressive advance from the simple, rudely-fashioned stone implement known as the *coup de poing*, to a variety of highly-finished articles wrought out of stone, ivory, bone and horn. Here, indeed, we have an impressive record of man's intellectual and industrial advance through the vast paleolithic age. We can trace step by step the growth of the stone industry, slowly through the Chellian and Mousterian and more rapidly through the Solutrean, when it reached its acme; and we can in like manner follow through the Solutrean and Magdalenian the development of the art of working ivory, bone and horn; and, again, we can witness the growth during these latter periods of the artistic sense as shown by carvings and engravings on stone, ivory,

bone and horn, by paintings and carvings on the walls of caves, as well as by numerous finds of shells and teeth pierced for the purpose of being strung together and worn as ornaments.

Almost the sole stone implement in use during the Chellian period was the *coup de poing*, or punch,[1] which consists of a stone—generally a flint—chipped into the shape of an almond: adapted to be held in the hand, apparently the right one, it could be used at the point, side, or base, and serve as hatchet, knife, piercer, saw, or hammer, as occasion required. It was, in fact, an implement rather than a weapon. At first ponderous and rudely worked, this implement became, with the progress of the Chellian, smaller and more delicately worked, and so on during the Mousterian, towards the end of which it became triangular in shape, one side only being worked, and at the termination of this period it had disappeared altogether.

Though the *coup de poing* is the only industrial relic which Chellian man appears to have left behind, we may be sure that he fashioned wood in various ways, making therefrom clubs and spears and possibly other things. The spears were evidently not tipped with stone or bone, as was the case at a later period, though their points may have been hardened by fire in the manner adopted by some existing tribes. The cudgel and the club were probably the very first weapons employed by man, and they continued to be used in civilized warfare till within quite recent times. It is remarkable that the truncheon still survives as the official weapon of our police, while the mace is to this very day a recognized emblem of power and authority—"the attribute to awe and majesty."

The question whether the Chellian man was provided with throwing weapons is of interest. We may be sure that man had from a very early period learned to throw stones, and in this way to kill—as the Fuegians still do—birds and other small game; it is possible that he may have used sticks in the same way, and thus shadowed forth the invention of such weapons as the boomerang. As to whether he hurled his untipped spear, or used it simply as a javelin, we can only surmise. In any case it is certain that the Chellian man was but poorly equipped with weapons of the chase, and that as a hunter he was at a great disadvantage compared with his later paleolithic successors, who had at their disposal such deadly weapons as the stone-tipped spear and harpoon, as well as the spear-thrower and probably also the sling.

With the Acheullian, which marks the transition between the Chellian and Mousterian, and still more with the latter period there appeared other stone implements. Foremost among these were the piercer and the scraper, the former of which was used to pierce skins and the latter to scrape and probably to cut them, and also to remove the bark from wood and smooth the surface. There is no evidence that any of the stone implements of this period were hafted with wooden handles: they all appear to have been grasped by the hand direct.

With the Solutrean came the discovery of an improved method of working flints, that is, by compression, and this gave a stimulus to the stone industry. The Solutrean workmanship is most characteristically displayed in the *laurel leaf* and *point au cran* which were used either as poignards or spearheads. Here we have the first indication of the employment of stone-tipped spears, an important advance in man's development, for by means of these deadly weapons he was able to strike his quarry at a distance; his efficiency as a hunter was thus greatly enhanced, and his supply of animal food correspondingly augmented.

This period is further remarkable for the fact that during it man began to fashion ivory, bone and horn, and to give expression to his artistic instinct by carving and engraving on them.

Coming now to the Magdalenian we find a great industrial advance, more especially in the working of ivory, bone, and horn. Bone was employed more than ivory, and reindeer horn more than either, especially in the manufacture of arrow heads, poignards, harpoons and spear throwers—that is, implements for launching spears and possibly harpoons. Needles and buttons were made from bone and whistles from the phalanges of the reindeer. The teeth, especially the canines, of such animals as the lion, bear, leopard, wolf and ox, were pierced and worn as ornaments, and shells were pierced for the same purpose; the vertebræ of fish were also strung into ornamental chains.

[1] Mortillet speaks of this as the only stone implement in use at this time but though it was evidently the most characteristic one, there can be little doubt that already in Chellian age man employed a variety of stone implements, or "eolithe."

There is no evidence that man of this period employed either the bow and arrow or the blow-pipe. Presumably the harpoon was used with a cord, and possibly the bolas may have been employed.

Among the most refined stone implements of the Magdalenian were delicate awls for piercing the bone needles, and special engraving tools; stone mortars made of hard granite rock for pounding the red peroxide of iron (used as a pigment) and stone lamps have also been found.

Man had, as we have seen, begun already in the Solutrean period to give expression to his artistic feeling by carving and engraving. As might be expected he tried his skill at carving long before he thought of drawing; we can scarcely doubt that his first experiments in carving were made on wood, and those at a very early period of his history. Afterwards he learned to carve ivory, the canine teeth—for example, of bears—and the bones and horns of deer and other animals; on all of which he also engraved, often with consummate skill.

Paleolithic man was ignorant of pottery, the first making of which belongs to comparatively recent times.

Mode of Life of Paleolithic Man.

Paleolithic man neither cultivated plants nor domesticated animals—not even the dog—but lived on uncultivated roots, fruits and seeds, as well as by hunting and fishing.

Mortillet concludes, from the skeletal characters of early paleolithic man, that he was essentially an arboreal being, and adapted rather for climbing than for progression along the ground, finding in the trees a safe asylum for himself and his comparatively helpless young from the many fierce beasts which existed in those wild times; but while readily admitting that Chellian man was better adapted for tree-climbing than is modern man, I cannot doubt that he was much more a terrestrial than an arboreal being, and that he pursued his quarry and gathered most of his vegetable food on the firm and solid earth.

Seeing that the relics of Chellian and Mousterian man are chiefly found in river drift gravels and strewn upon the surface of plains, while they are never met with at high elevations, we must assume that early paleolithic man lived on the plains, and preferably on the banks of rivers. The absence during the Chellian period of any accumulations of man's relics in so-called "stations" suggests that Chellian man went about in small groups rather than in tribes. Such stations are not met with before the summit of the Acheullian. They increase in number and size during the Mousterian, and reach their chief development at the Solutrean and Magdalenian, clearly showing that with the progress of the paleolithic age man became increasingly gregarious.

Again, the fact that the stones from which early paleolithic man made his implements were always of local origin, coupled with the further fact that the implements themselves were large and heavy, shows that he did not wander long distances. The absence during the Chellian period of any implement suitable for flaying animals, and for preparing their skins, suggests that Chellian man did not clothe himself, but went about naked, and this might well have been the case, for not only was the climate of Europe at that time warm and dry, but the paleolithic European was much more hairy than his descendants of to-day, as shown by engravings belonging to a period as late as the Magdalenian.

The mild climate of the Chellian probably afforded the European of that time an abundant supply of vegetable food. From analogy with existing precibiculturists we may safely conclude that he gathered fruits, nuts and possibly also the smaller seeds, and that he dug up roots with a pointed stick; but whether he had already begun to subject his vegetable food to special modes of preparation we cannot say. Very probably he had, but if so he has left no evidence of the fact—no stone implements, for instance, such as might have been employed for pounding seeds or roots, nor any evidence of his having cooked his food.

The strata which furnish industrial relics of early paleolithic man yield no bones of animals which served him as food. Bones of the elephant, rhinoceros, hippopotamus, wolf, bear, hyena, machairdotus and of various kinds of oxen are found, but they evidently belonged to animals which succumbed naturally. It is not till the later quaternary that bones broken for the purpose of securing marrow are discovered. How far Chellian man was able to procure the larger game it is impossible to say. Mortillet thinks he may have hunted the elephant.

Owing to the absence of throwing weapons, we must con-

clude that during the Chellian period hunting was in a rudimentary stage, and that the hunter had to rely chiefly upon trapping, as, for example, by means of the concealed pit. Whatever game Chellian man may have procured with the help of his primitive club and spear must have required very skilful stalking, and this, it goes without saying, implied an intimate acquaintance with the habits of animals, long watching, stealthy movement and great resourcefulness, such as the imitation of the appearance and calls of bird and beast. Hunting as we understand it—that is, with horses and dogs—was, of course, unknown to paleolithic man. Indeed, right down to the beginning of the cibicultural period, man depended solely upon trapping and stalking for procuring the larger game, though towards the approach of this period he was assisted in his hunting expeditions by that most faithful of animals, the dog.

Chellian man was probably able to secure small quantities of fresh-water fish, and we may be sure that throughout the entire paleolithic period insects, grubs, caterpillars and vermin of all kinds were eagerly sought after, as they are to this day among the surviving precibiculturists.

With the arrival of the cold Mousterian period man began to clothe himself in skins, as shown by the appearance in Mousterian strata of piercers and scrapers; and Mortillet assumes that it was during this period that he gradually changed from an arboreal to a terrestrial being.

With the arrival of the cold Mousterian period and the southward extension of the glaciers the supply of vegetable food grew steadily less, so that the Western European of this time was compelled to depend for his food mainly upon the hunt. Judging by the remains found in Mousterian stations, oxen appear to have constituted the staple food. That elephants were hunted seems to be proved by the large collections of their teeth met both in Acheullian and Mousterian stations. Deposits belonging to the late Solutrean period show that even at that time these animals were still actively hunted.

Coming now to the latter part of the paleolithic age, we find a great advance in culture in regard to which the Laugerian man was equal, if not superior, to any existing precibicultural tribe.

He smeared his body with pigments and decorated it with strings of shells, teeth and vertebrae. Like the Mousterian man, he wore skin garments, but of a more finished kind. The skins were sewn together with bone needles, the threads consisting in the first instance of strips of skin and later of reindeer tendon softened with marrow.

The large accumulation of relics found in Solutrean and Magdalenian strata shows that late paleolithic man lived in tribes rather than in families. The remains of 3,000 deer have been found in a single cave (Gourdan), and at Solutre the bones of upwards of 10,000 horses. He also differed from his predecessors in that he ranged wider in his wanderings, as shown by the fact that certain shells and vertebrae of fish which he used for personal ornaments must have been brought many hundreds of miles.

During the warm summer months the Laugerians were probably well provided with vegetable food, but both summer and winter they subsisted mainly on the products of the chase. That they were skilled hunters is shown by the deadliness of their hunting weapons, which, as we have seen, included poignards, spears tipped with stone, bone and horn, spear-throwers and harpoons with movable heads, the latter as well as their spear points being laden with poison[1]; also by the enormous accumulations in their stations of the bones of such animals as the horse, reindeer and white hare; and, finally, by the engravings of hunting scenes, which they have left behind on stone, bone, ivory and horn. Among the animals thus represented are the reindeer, mammoth, bison, horse, chamois and goat; birds and fish are also represented. The harpoon was used both for procuring fish and game.

The horse and the reindeer were the chief objects of the hunt, but the carnivora were also slain, as shown by the large number of canine teeth of the lion, bear, hyena and wolf which have been discovered in late paleolithic stations. From the fact of their being pierced at the root, it is evident that they were worn as trophies or ornaments.

It has been suggested that the reindeer was domesticated by man of the paleolithic period; but the fact that only certain of the bones of this animal, and not the complete skeletons, are found in the stations containing them seems to show that the animal was killed in the chase, only certain portions being brought home for consumption. The case for the domestication of the horse is stronger because the skeletons of this animal are found entire: but against this Mortillet argues that, unlike the reindeer, the horse when captured submits to be led away, and that the captured animal was led to the home of its captor and there slaughtered. There is no evidence that paleolithic man was cannibalistic.

Whether paleolithic man built himself temporary dwellings after the manner of some existing savages we cannot say. The early paleolithic men of Western Europe visited caves from time to time, and the men of the Solutrean and Magdalenian periods occasionally lived in them, for which reason they are sometimes known as the European cave men, though on insufficient grounds, as there is no evidence that more than a small proportion of them inhabited caves: there can be little doubt that most of them lived either in rock shelters or out in the open plains. It is an interesting fact that, while many of the once inhabited caves contain vast accumulations of weapons, implements and animal remains, they have furnished but very few skeletons of their human inhabitants. At a later period, that is, towards the end of the Tourassian period, caves came to be used as sepulchres, and it was apparently not until then that European man deposited his dead in special burying places. This helps to explain why so few skeletons of paleolithic man have come to light, and suggests that the man of those times had not yet formed any conception of a future existence.

Whether early paleolithic man cooked his food it is impossible to say. That the late paleolithic man did is certain, for not only have large quantities of ashes and charred wood been found in the Vézère deposit, but in more than one Magdalenian station stone ovens, more elaborate in construction than the underground ovens employed by existing precibiculturists, have been observed. There can, as I have said, be little doubt that Magdalenian man had attained to a higher culture than most of the surviving precibicultural peoples. His culture was certainly not behind that of the existing Australian aborigines. Now these people are expert cooks, able to convert many inedible vegetable substances into wholesome and palatable foods; and we may, I think, safely conclude that Magdalenian man was as skilful in the art of cookery as are these Australians; from which I would argue that cooking had been in vogue long before the Magdalenian period. It is even possible that Chellian man may have cooked his food. Some indeed contend that our homosimian ancestors understood the use of fire.

Distribution of Paleolithic Man.—Whether the Chellian culture was shared by the entire population of the world living during Chellian times, or by a section of it only, and similarly in regard to the Chellian, Mousterian, Solutrean and Magdalenian cultures we cannot at present say, inasmuch as we are not yet able to determine the exact distributions of these cultures during the periods belonging to them. It is certain that Chellian man occupied south-west Europe, including the south-west portions of England, Southern Europe and Asia, as well as northern Africa; because in all these regions the *coup de poing* has been found in the lower quaternary. There can be no doubt that he also inhabited the lands which once occupied the site of the present English Channel, the Mediterranean and the submerged Indo-African continent. It is very probable that he ranged over a still wider area, because the Chellian *coup de poing* has been found in several other parts of the world—for example, North and South America, Southern Africa, Siberia and Borneo, but in these places it has not been possible definitely to assign it to the lower quaternary.

Man of the Mousterian period, owing to the southward extension of the ice-zone which then took place, had a more limited range than his predecessors. Nevertheless his relics are found scattered over an area extending from France to Siberia and from England (Suffolk, Derbyshire, Middlesex, Kent) to the confines of Sahara. Switzerland being during the whole of this period under ice was not inhabited by Mousterian man.

The Solutrean culture was at once the shortest in time and the most limited in area. Solutrean relics have been discovered in France principally, but they have been met with also in England, Poland, Italy and North Africa.

Magdalenian man seems to have flourished chiefly in France—where the largest number of Magdalenian stations have been found. Similar stations have also been met with in England (Derbyshire and Devonshire), Germany, Austria, Switzerland, Russia, Spain, Italy and Syria.

[1] Many of the spear-points and harpoons bear grooves and hollows for the reception of poison.

LITERARY NOTES.

A CHAIR of the History of Medicine is to be founded in the University of Rostock. It has been offered to Dr. Hugo Magnus, Extraordinary Professor of Ophthalmology in the University of Breslau, who is well known as an authority on medical history. Professor Magnus has, however, declined the invitation.

In the *Colliery Guardian* of October 20th there appeared the first of a series of articles on ankylostomiasis. It is stated that these articles are written specially for our contemporary by a London physician, and are intended to form, when completed, the standard work on miners' anaemia for its province.

Two new medical journals have recently come into existence in Portugal. Both are published in Lisbon. One, entitled *Polytechnia*, occupies itself with medical science in general; the other, as its name—*Archivos de Hygiene e Pathologia Exoticas*—imports, takes tropical medicine.

Sir Benjamin Stone, M.P., has for two score years devoted himself to the formation of a collection of pictorial records of our national life and history. To enable him to carry out his purpose, he became an expert in photography. He has lost no opportunity of portraying a quaint custom, a rare curio, or a historic building. He has gone up and down England to secure subjects for his camera. His sun pictures now number between twenty and thirty thousand, and his work is very highly valued by competent judges. He has determined to give the public the benefit of his collection by means of reproductions. These are to be published in parts by Messrs. Cassell and Co. The first part, which has just been issued, contains excellent representations of the Corby Pole Fair, the ceremony of Picking-up Sixpences in the Churchyard of St. Bartholomew, Smithfield, on Good Friday morning; the Knutsford May Day Festival, the Stratford-on-Avon Mop, Swan Upping on the Thames, and the Horn Dance, Abbot's Bromley. The idea of the collection is original, and the publication will appeal strongly to folklorists and antiquarians, to lovers of old customs, and, indeed, to all interested in the history of the English people.

It would seem that the newspaper of the future will be considered incomplete without the addition of some extraneous attraction. It is to be hoped that this will not take the form hinted at by Mr. Justice Darling of a supply of milk. The offer of books either on loan or for purchase appears to us a kind of enterprise which may legitimately be undertaken by those whose professed function is the instruction of the public. The proprietors of *Lloyd's Weekly News* acting in conformity with the *Zeitgeist* are offering for purchase by easy instalments a library of twenty volumes contained in a handsome bookcase. It is claimed for the library that it comprises "the thousand best things ever written." Every branch of literature is included—the ancient classics, fiction, poetry, history, essays, science, philosophy, religious writings, and children's literature. The greatest authors are represented by their most interesting works, writers of the present day being very liberally drawn upon, as well as the authors of the past, and 500 full-page pictures appear in the volumes. The Editor-in-chief is Dr. Richard Garnett, who was for many years at the head of the British Museum Library; his name is a guarantee of judgement in the selection of material and sound work in preparing it for the digestion of that somewhat vague, but real entity, the general reader.

In a paper reprinted from the *Medical Magazine*, Mr. Henry Rundle gives an interesting account of a short holiday in northern climes. In Copenhagen he visited the Light Institute a few weeks before the death of Finsen. It is a handsome building in the suburb of Rosenvaengets. When you get into the suburb, says Mr. Rundle, you will by following the stream of people with bandages and dressings on their faces, easily find your way to this medical Mecca, which is visited by doctors and patients from all parts of the world. The staff consists of four doctors and sixty nurses. At Stockholm he visited the gymnastic institute established by Gustav Zander in 1865. The system of active movement consists in overcoming a certain amount of muscular resistance by an adjustable weight attached to a graduated lever, whereby the strength of the resistance at every step of the movement can be measured in figures. In the Institute Mr. Rundle saw upwards of seventy different appliances for stretching the capsules of joints and the ligaments, and for the treatment of curvature of the spine. The Central Gymnastic Institute, founded by Linz ninety years ago, was also visited. Upsala, the seat of a famous university, struck Mr. Rundle as a pleasant little country town which does not give the impression of antiquity. The new university is a handsome building. The medical course is a long one, and on an average candidates for the profession do not take their degree till they are about 30. This may help to explain the survival of the barber-surgeon, who, after studying for a year and passing an examination, is allowed to treat wounds and to give first aid in cases of accident. The barber-surgeon is, however, doomed to extinction, for no fresh licences are now granted. Mr. Rundle evidently enjoyed his trip to Scandinavia, and he gives a lively account of what he saw.

In the *Echo Médical du Nord* of July 22nd, Dr. H. Folet discourses pleasantly on an old work on surgery which once had its place on the book shelves of Victoire Marie Ann, Duchess of Savoy, a princess famous for her love of letters at the end of the seventeenth and the beginning of the eighteenth centuries. The author is Augustin Belloste, who is described on the title-page as surgeon to Her Royal Highness Madame Dowager of Savoy, and formerly surgeon-major of the hospitals of the King's army in Italy. It is entitled *Le Chirurgien d'Hôpital* and professes to teach a "gentle and easy method of curing promptly all manner of wounds and a sure way to prevent the exfoliation of bones." Belloste was born in Paris in 1654, and died at Turin in 1730. The book with which we are concerned, and a treatise on the effects of mercury from his pen, ran through many editions not only in France, but in Holland and in Italy. He was one of those writers whom Verneuil called the minor prophets of surgery. That distinguished surgeon said that if one had the curiosity to look into forgotten old books, it would be found that the majority of important discoveries, the fruits of which we now enjoy, belong not to the celebrities of the profession, but to men of whom the world knew little while they lived, who worked far away from the great centres of intellectual activity, and who never wore the professorial purple. In Belloste's day the practice in dealing with wounds was to keep them widely open with tents so that discharges might escape and remedies might be applied to every nook and cranny in their depths. Where suppuration was profuse the dressing was changed every day, sometimes twice a day, to the grievous distress of the patient. Belloste strongly denounces these "cruel methods," and teaches that wounds should be dressed "gently, quickly, and seldom." He observed that the admission of air to wounds had a bad effect; this he explained by the fact that the atmosphere was full of very subtile particles or atoms which he suggested might produce "very dangerous corruptions, when they attach and agglutinate themselves to sensitive parts." "Evidently," he says, "the 'corpuscles' of the air in hospitals are more charged with subtile and caustic particles than that of other places; and owing to them, unless great care is taken, wounds become chancrous, putrid, and often fistulous and incurable." Hospitals long retained the foul smell engendered by patients. The cause of this, in Belloste's opinion, could be nothing else than the "impure atoms" which adhered to the walls, and which obliged those who wished to live in the same place to cover them with plaster or chalk for the purpose of preserving themselves from the infection that might arise from their "morbific ferments." If, he argues, these atoms have sufficient tenacity, consistence, and fermentative virtue to attach themselves to a hard, even body, such as a wall, and to remain there several months without losing their foul smell or their disposition to erode and putrefy, what will they not do in exposed wounds, where the fibres are always moist, glutinous, delicate, and without support? With the substitution of the word "germ" for "atom," these passages seem to show that Belloste's prophetic soul dreamed dimly indeed and vaguely of things to come.

CONTRACT MEDICAL PRACTICE.

NOTICE AS TO DISTRICTS IN WHICH DISPUTES EXIST.

A notice as to places in which disputes exist between members of the medical profession and various organizations for providing contract practice will be found among the advertisements, and medical men who may be thinking of applying for appointments in connexion with clubs or other forms of contract practice are requested to refer to the advertisement on page 83

DR. DAVID CRAWFORD LAURIE, formerly of Scott's Kinnaston, who died in August last at the age of 84, left personal estate of the value of £49,605.

MEDICAL NEWS.

The meeting of the Pathological Society of London fixed for November 7th has been postponed.

The annual dinner of the Harveian Society is to be held at the Great Central Hotel on November 23rd.

Dr. C. M. O'Brien, Honorary Physician to the City Hospital for Diseases of the Skin and Cancer, Dublin, has been elected a corresponding member of the Société Française de Dermatologie.

For the session of 1905-6, the Midland Medical Society has elected Dr. Joseph Quirke, President; Mr. J. Garner, Treasurer; and Messrs. Leonard P. Gamgee and J. Jameson Evans, Honorary Secretaries.

By way of assisting the Seamen's Hospital Society the Peninsular and Oriental Steamship Company placed its new vessel, the *Mooltan*, on exhibition in Tilbury Dock last week, making a small charge for admission to the many visitors.

The first scientific meeting of the Zoological Society of London this session will be held at 3, Hanover Square, on Tuesday, November 14th, at 8.30 p.m. Among the papers to be read on that occasion will be one by Dr. Walter Kidd on the papillary ridges in mammals, chiefly primates.

A curious instance of municipal trading is afforded by Bournemouth, which was the first borough to provide golf links; the experiment has been from the financial point of view so satisfactory that the corporation has now laid out a new and, it is said, a better course in the Queen's Park.

The Society of Anaesthetists held its annual dinner at the Imperial Restaurant on October 20th under the chairmanship of the President of the Society, Dr. Edgar Willett. The toast of "The Guests" was acknowledged on behalf of the numerous visitors present by Mr. Tweedy, President of the Royal College of Surgeons.

The winter session of the Association of Medical Diplomates of Scotland will be opened by a *conversazione* to be held at 11, Chandos Street, Cavendish Square, London, W., on Tuesday next, November 7th, from 9 to 12 p.m.; ladies are invited. Further particulars can be obtained from Dr. David Walsh, 18A, Hanover Street, W.

The Incorporated Society of Trained Masseuses (12, Buckingham Street, Strand), having been applied to by the War Office to organize an examination in massage of nursing orderlies of the Royal Army Medical Corps, an examination was held at Netley Hospital on September 29th, when seventeen candidates satisfied the examiners. Now that the powers of this Society have been extended by the Board of Trade to meet this application, it has been arranged that this examination will in future be held twice yearly at Millbank.

The St. John's House of Rest at Mentone is open from November 1st to May 1st, and is intended for clergy and professional laymen possessed of only small means, who under medical advice desire to winter abroad. The inclusive charge for board is 20s. a week, and the Committee are prepared to give consideration to the case of persons not able to pay this moderate sum or the railway fare to Mentone. The house is not intended for confirmed invalids, or incurables, or those who need professional nursing. Persons under the age of 23 and over 65 are ineligible. Further particulars can be obtained from the Rev. W. H. Oxley, Petersham, Surrey.

The Finsen Memorial.—The amount collected in Denmark for the erection of a memorial to the late Professor Niels Finsen is said to be 100 000 crowns. King Edward has subscribed £50 and Queen Alexandra £100 to the fund.

French Congress of Medicine.—The French Congress of Medicine will hold its ninth meeting in Paris in 1907 under the presidency of Professor Debove. The General Secretary is Dr. Bezançon. The following questions are proposed for discussion:—(1) The part played by the thyroid body in pathological anatomy; (2) haemophilia; (3) treatment of ulcer of the stomach.

The Care of Infants in New York.—A philanthropic society to be called the Infants' League is being organized in New York. The administration is to be entirely in the hands of women. The object of the League is to provide for the care of infants whose mothers are too poor to supply what is required. Women leaving the maternity and other hospitals will be furnished free with a sanitary crib, linen, bed-clothing, nursing bottles, and a supply of milk for the infants.

Yellow Fever at Panama.—The *Medical Record* of October 21st says that it is reported that yellow fever has virtually been stamped out on the isthmus. During the first two weeks in October there was but one case, in a non-employé who was taken ill on September 29th. The quarantine at Punta Arenas, Panama, Port Limon, and Colon has been raised, and the work of sanitation is said to be progressing in a very encouraging manner.

The Treasury and Men of Science.—The Earl of Crawford has been moved to write to the *Times* to make public the meanness of the Treasury in its dealings with Dr. Copeland, Astronomer Royal for Scotland, whose death occurred last week. Lord Crawford points out that formerly, as is well-known, when a man distinguished in science was brought into a high position in the Civil Service he was credited with a certain number of years ranking for pension. This equitable system was abolished nobody knows why, and now a man of science who accepts Government employment without driving a bargain must trust to the tender mercies of the Treasury. In the case of the late Astronomer Royal for Scotland this Treasury tenderness was represented by an offer of half a crown a week. Lord Crawford tells us that he was so indignant and ashamed of his Government that he induced Dr. Copeland not to resign, as he had intended, feeling he was no longer able to carry on the duties of his post. But this is no new story. The late Professor Huxley had, we believe, to encounter a similar piece of meanness. The warning does not perhaps apply to many men, but it ought to be noted.

The Health of the United States Army.—The annual report of the Surgeon General of the United States Army recently issued, states that the health of the army has shown a steady improvement during the fiscal year which ended on June 30th, 1905. During the year there were 406 deaths from all causes. This is at the rate of 6·75 in 1,000, which compares favourably with 8.64 for the previous year and 17.93 for the years 1898-1902. The percentage of men constantly non-effective also showed a material decrease. Pneumonia stands highest as a cause of death, the rate in a thousand being 0·65. Tuberculosis comes second with 0.37, and typhoid fever next with 0.33 per 1,000. During the year there were 206 cases of gunshot wounds, 44 of which proved fatal. Twenty-one men were killed in action, 45 were drowned, 27 committed suicide, and 10 lost their lives through homicide. Among the native troops in the Philippines, 56 soldiers were killed and 25 wounded. The unusual proportion of killed to wounded, there being fewer wounded than killed, is explained by the fact that 47 of the killed were victims of hand-to-hand fighting with edged weapons. The Surgeon-General says that the result of operations on wounded men shows that the army has a corps of capable surgeons, only two deaths attributable to operations having occurred.

Medical Sickness and Accident Society.—The usual monthly meeting of the Executive Committee of the Medical Sickness, Annuity, and Life Assurance Society was held at 429, Strand, London, W.C., on October 27th, under the Chairmanship of Dr. de Havilland Hall. The lists presented to the Committee showed a satisfactory falling-off in the sickness claims. During the last few weeks only a small number of new claims have come forward, and there have been several unexpected recoveries amongst those members who seemed about to join the chronic list. In one case a member has resumed professional work after more than three years' continuous incapacity, and on the whole the sick claim list shows a gratifying shrinkage. The Society has been in existence for over twenty-one years, and of necessity many of the members are now reaching the limiting age of 65. All who do so are entitled, under a recent resolution of the members, to a substantial cash bonus, and the letters sent in acknowledgement of these bonuses, usually amounting to 40 guineas, show that this is an excellent plan of allotting the surplus which the economical and careful working of the Society has produced. Every year a larger number of the members will be entitled to receive this bonus, but an ample reserve exists from which they can be paid. The Society has been able to obtain during the last two years several investments at remunerative rates for its constantly-growing surplus funds. This is a matter of no small importance with regard to the future, for it furnishes the management with a substantial sum to add each year to the investment fluctuation reserve. Prospectuses and all particulars can be obtained on application to Mr. F. Addiscott, Secretary, Medical Sickness and Accident Society, 33, Chancery Lane, London, W.C.

British Medical Journal.

SATURDAY, NOVEMBER 4TH, 1905.

THE MEDICAL SERVICE OF THE ARMY.

In the address delivered by him at Brighton, a report of which will be found at p. 1211, Sir Frederick Treves preached from a well-worn text, and enforced a moral which much repetition has made familiar to all who take an intelligent interest in the efficient working of that vital organ of our army—the medical service. The important truths which he set forth so lucidly cannot, however, be insisted upon too often or with too great emphasis. It is with peculiar satisfaction that we hail the assistance of so powerful an ally in the campaign which has been carried on by us in season and out of season for many years. Our warning voice has hitherto failed to awaken the War Office to a full sense of its responsibilities in regard to the medical service of the army; perhaps the message we have tried to utter may reach the official ear now that it has been delivered through the resonant mask of Sir Frederick Treves's celebrity. But we confess that we have no great confidence that this will be. Did not Lord Roberts himself in his great speech on Imperial Defence delivered at the Mansion House some three months ago, call public attention to the utter inadequacy of the Royal Army Medical Corps to the demands that would be made upon it in case of war? The late Commander-in-Chief then pointed out that in regard to medical requirements the army was not much better off than it was in 1899. What has been done since then to supply its deficiencies? From Sir Frederick Treves we learn that the proposals made by the Advisory Board towards that end still lie on the knees of the Army Council.

That much has been done in the last five years to remove the grievances complained of by medical offiers and to make the service more efficient cannot in fairness be denied. The establishment has been considerably increased, a more liberal scale of pay has been adopted, foreign service has been more equitably adjusted, facilities have been granted for study leave, and promotion has to some extent been made dependent on professional merit rather than on the mechanical routine of seniority. These improvements in the conditions of service are due to Mr. Brodrick, who had the good sense to appoint an Advisory Board to help him in regard to the medical affairs of the army and the loyalty to allow himself to be guided by its advice. The admixture of a civilian element in that Board was certainly a great step in advance, for it brought the Army Medical Corps into closer touch with the profession at large, and substituted a strictly medical for a military standard of proficiency. It is only right, however, to acknowledge that the Board itself has owed much of its success to the tact and initiative of the present Director-General.

It is gratifying to learn from so excellent an authority as Sir Frederick Treves that the medical service of our army is now second to none in the world, that the officers of the Royal Army Medical Corps are highly qualified and most efficient, and that the service is supplied with an up-to-date equipment. The public as well as the profession will be glad to hear that the military hospitals are gradually being put into an efficient state, and that as soon as the necessary extensive alterations in the existing hospitals have been carried out, the treatment of the sick soldier in time of peace will leave nothing to be desired.

When we turn to the state of things in regard to preparedness for war, the picture is far less pleasing. Lord Roberts stated that notwithstanding the increase in the Royal Army Medical Corps under Mr. Brodrick's régime, it could not out of its own establishment provide for the requirements of an expeditionary force of 55,000 men. It was proposed to increase the corps to an extent sufficient to make it adequate for a force of 140,000 men. Sir Frederick Treves states that for an expeditionary force consisting of one army corps and one cavalry brigade, 333 medical officers would be required, a number which would leave only 78 for the remainder of the army. Provision for a second army corps would, even with the addition of 45 per cent. of civil surgeons, almost exhaust the total number of regular medical officers available. There can, therefore, be no doubt that the formation of an army medical reserve is a matter of the greatest urgency. Sir Frederick Treves tells us that a scheme for such a reserve was long ago drawn up by the Advisory Board, and submitted to the Army Council. So far it has remained in the limbo of a War Office pigeonhole. Here again it should be reassuring to the public to know that the Director-General is doing his utmost to make the service in every way fit to meet whatever calls may be made upon its resources.

It was said of a famous divine of the last century that he would preach a sermon or write on essay, the whole gist and purpose of which lay in a single sentence or, it might be, a part of a sentence. We are inclined to hazard the conjecture that the object of Sir Frederick Treves's address is not so much to justify the ways of the Advisory Board to men, as to show that the responsibility for whatever shortcomings still exist in the medical service of the army lies at the door of the Army Council. In our opinion, however, if more direct responsibility were placed on the shoulders of the Director-General the grounds for such complaints as those to which Sir Frederick Treves has given utterance would disappear. This is a point in the organization we ourselves pointed out at the time when Mr. Arnold-Forster adopted the recommendations of Lord Esher's Committee. Military men would have reason to complain if a civilian were placed in command of the artillery or the engineers: it should be equally clear to their minds that unless the head of the medical service is an army doctor, things are sure to go wrong. Under existing conditions the Director-General is only the nominal head. It is essential for the efficiency of the service that he should be the real and responsible head; he should either be a member of the Army Council, or should have direct access to that body or to the Secretary of State. We feel justified in again pressing this reform on the Secretary of State, as we are convinced that without the departmental autonomy which this would secure, the medical service of the army can never be thoroughly efficient.

As regards the Advisory Board, we agree with Sir Frederick Treves that it has served a useful purpose in the past, and that the service should remain under its supervision. But Boards, like men, while they gain ripeness of experience by age, tend to fall into senility. We cannot help feeling that the present Board, though it has done

excellent service, has for some time past become less effective than it was. It appears to have lost to some extent the influence which it once had in the councils of the army, and there are signs that seem to portend that the fate we once ventured to predict for it may yet be its portion. It may become a Greek chorus uttering lamentations over evils which it cannot control, and offering advice to which no one gives heed. To prevent this an infusion of new blood is necessary. Members, as in many committees, should retire in rotation, or an entirely new Board should be appointed from time to time. The loss of experience would be more than made up by freshness of outlook, while all the continuity of policy and administration needed would be provided by the inamovability of the Director-General during his term of office.

In conclusion, we may be allowed once more to express the pleasure with which we welcome the support of Sir Frederick Treves in pleading for reforms necessary to ensure the fulfilment of Mr. Arnold-Forster's prophecy, that "the medical arrangements and the medical service will be "better than they have ever been." We venture to add that the Director-General in every effort he makes to achieve this aim may feel assured that he has the whole medical profession at his back.

SCHOOL HYGIENE.

In another column we have given an abstract of the report made to the Health Committee of the Portsmouth Urban Sanitary Authority by Dr. Mearns Fraser, Medical Officer of Health. While admitting that "in the papers and dis-"cussions, which occupied three days, there was a good "deal of irrelevant talk," he mentions that his ideas on the subject of hygiene received a stimulus through attending the Conference on School Hygiene held at the University of London, and to this is due his report on school hygiene. As this officer explains, it is not easy to deal with so vast a subject in some twenty pages of type, and taking this into consideration, the report is valuable as drawing attention broadly to many important points concerning school hygiene and the health of the scholars.

There are points, of course, upon which we cannot entirely agree, as, for instance, his comfortable doctrine of leaving aside children with defects needing medical attention until the general sanitary supervision of the schools has been established.

"I have," he writes, "purposely not touched upon various "physical defects in children that need the attention of "medical specialist—mental deficiency, eye diseases, skin "diseases, ear diseases, etc., because at the present moment "I think these to be secondary to the general sanitary "supervision of the schools. When this has been estab-"lished it will be time for the Education Authority to see "if some arrangement cannot be made by means of which "a child, noticed by the teachers to be physically defective, "can be treated by a medical man so that such defects can "be dealt with before they have become chronic."

Dr. Fraser evidently does not realize the enormous proportion of physically and mentally defective children in the schools, who not only do not benefit by their education, but very often become diseased for life if they are not attended to; and in addition to this keep back other children in their class and discourage their teachers.

Dr. Fraser would do well to read the reports for 1903-1904 of Dr. Kerr, Medical Officer of Health to the London Education Committee, and the section on the Child and the Diseases in School Life, in Mrs. Watt Smyth's lately published work, A Textbook of Hygiene based on Physiology for School Teachers,[1] where the subject is dealt with. Every one realizes that there is much to be done with regard to the sanitary supervision of schools, but this is no reason why scores of children suffering from defective sight, defective hearing, adenoid growths, and countless other infirmities should have to wait until a wise Government is convinced that all their schoolhouses are built upon a wrong principle and require reconstruction. We fear this would mean, at the rate things move, at least one more generation of good children gone wrong. For, to take the question of eyes alone, Dr. Kerr states, in his report for 1903, that, after the most careful investigation of the children under 6½ years of age, 3.5 per cent. showed defect, while in those aged 8 it reached 7.8 per cent., proving that neglected eyes grow worse. The same applies to other diseases.

Again, we question the statement that tuberculosis fortunately does not seem to attack children very much in the form of tuberculosis of the lungs or consumption. Nevertheless, we congratulate Dr. Mearns Fraser on having dealt with many useful points, and, in particular, we think his modification of the Sheffield system desk is to be highly commended. We hope that other medical officers of health will be encouraged to give the all-important subject of school hygiene the prominence it deserves in their reports.

THE RELATION OF THE MEDICAL OFFICER OF HEALTH TO THE MEDICAL PRACTITIONER.

The occasions have not been few when we have been asked to publish complaints of the conduct of medical officers of health in their relation to their professional colleagues, the chief ground of offence being undue interference with their patients, either by calling upon them without notice to verify a diagnosis of infectious disease or to urge their removal to an infectious hospital. It is only fair to add that the majority of these incidents have rested on *ex parte* statements, and, although where no names are given there may be no injustice to any individual in expressing an opinion upon the propriety of a course of conduct, it would be manifestly unfair to medical officers of health as a class if we regarded these complaints as proving the frequency of inconsiderate action on their part.

Nevertheless it is impossible to avoid the suspicion that they sometimes exhibit the common failing of officials and are disposed to stretch their authority beyond its legitimate bounds, nor can we doubt that it would be well if they were always careful to obey the instructions of the Local Government Board that where under exceptional circumstances the medical officer of health deems it desirable that he should make a personal examination of the patient the examination should be made only with the consent of the patient, and that in any case the medical practitioner in attendance on the case should be communicated with and his co-operation secured if possible.

The relation of these two classes formed the subject matter of an interesting debate at a recent meeting of the Incorporated Society of Medical Officers of Health, which was reported at some length in the British Medical Journal for October 21st (see p. 1037). This discussion turned mainly upon another aspect of this large question, which has been brought before the public in a more or less sensational way by the daily papers. That is the alleged high rate of faulty diagnoses among the cases sent by

[1] London: Simpkin, Marshall. 6s.

medical practitioners to the various hospitals for infectious diseases within the County of London, and the possibility of finding a remedy for this either by the revision of the diagnosis in doubtful cases before removal by the medical officer of health or by some expert appointed for the purpose, or by the provision of larger accommodation for the reception and observation of cases in which the diagnosis must remain temporarily in suspense. The course of the debate revealed, as might be expected, considerable differences among the speakers, owing to the variation in their standpoints, for, as is well known, medical officers of health may occupy very different positions and perform dissimilar functions under the same official title. When acting for a county or large city the medical officer of health may seldom be brought into contact with practitioners, for he may control neither the hospital for infectious diseases nor the laboratory in which the diagnosis of diphtheria and typhoid is assisted; while it would be impossible for him to undertake the duties of a consulting expert in infectious cases, for the excellent reason that he possesses neither the time nor the daily familiarity with these diseases to qualify him for the duty. In smaller centres, however, he may fill all these offices and be on terms of personal acquaintance with all the practitioners in his district. Men like Dr. Howard Jones of Newport see no difficulty in rendering the needful expert assistance, here as in so many other instances, administration being comparatively simple where the unit is not too large. Lastly, the medical officer of health may be himself a practitioner—a position not without difficulty, as he is the professional rival of those whose diagnoses he may have to revise, and he may be the object of jealous suspicion, closely watched for any indication which may suggest unfairness towards his colleagues. A medical officer of health in this position may control a district which is too small to have its own infectious hospital, or, if it has, the number of cases treated may be too few to afford him experience qualifying him to act as an expert adviser of his colleagues, yet in course of time he may acquire such a degree of knowledge as may render him useful to his neighbours, and he should at least be willing to aid them to the best of his ability in dealing with doubtful cases of infectious disease. Apparently, therefore, it is only in the largest centres that the present system affords no assistance to the practitioner.

It was urged with some force by several speakers that the responsibility for his diagnosis must rest with the practitioner, and that no arrangement would be satisfactory that would allow him to shift this burden on to the shoulders of the medical officer of health. This is a good principle as a general rule, for it is obvious that a practitioner who made a rule of never certifying without getting his opinion confirmed by the medical officer of health would be such a nuisance as to try the patience of the best-tempered official. It is possible that there might be some risk of this result if it were known that the medical officer of health, or a deputy appointed for this purpose, could be summoned to see any case in consultation with the practitioner. A less important objection from our point of view is the expense, if we accept the estimate of Dr. Charles Sanders that the cost of obtaining such expert assistance would be £400 a year for each of the metropolitan boroughs, but this consideration would weigh seriously with the public and with the guardians of the public purse.

The daily press has, *more suo*, made much of the large number of cases of mistaken diagnosis by the certifying practitioner, but as was very fairly pointed out by Dr. Goodall, this proportion is not greater than must occur under the circumstances.

We know that in their early stages many cases of scarlet fever, diphtheria, and enteric fever present insuperable difficulties of diagnosis, and we are confronted by the alternative that the case must be certified and sent in as what it appears to be, or must be allowed to remain under conditions unfavourable alike to the recovery of the patient and to the prevention of the spread of infection, such as are too often met with in the homes of the poor. No expert assistance can remove these difficulties, and the only adequate remedy is the provision of sufficient accommodation for the observation of doubtful cases. It is therefore satisfactory to have Dr. Goodall's assurance that in the hospitals under the direction of the Metropolitan Asylums Board doubtful cases are not admitted into the general wards, although the contrary has been asserted in the daily press. This statement necessarily implies that in these hospitals the amount of accommodation for doubtful cases is sufficiently large to allow them to remain under observation.

Another point of importance to practitioners—who as a class have to bear the burden of the imputation of ignorance or incompetence implied in the press outcry against the supposed excessive number of erroneous diagnoses—was made by Dr. Glover, who asked whether it was certain that the mistake was always to be attributed to the certifying practitioner? He quoted a case of sore throat which occurred in a hospital, and in which the Klebs-Loeffler bacillus was found by the bacteriologist to the hospital; this case was sent to an infectious hospital, and was discharged in a few days as free from clinical or bacteriological evidence of the disease. Dr. Glover could not say whether the medical superintendent had been informed of all the facts; if he had not, the case illustrates the grave difficulties in diagnosing diphtheria, but also suggests the remark that such information as a positive bacteriological examination affords ought to be communicated when a case is sent to an infectious hospital.

A MEDICAL SCHOOL FOR THE STRAITS SETTLEMENTS.

On September 28th a medical school for the Straits Settlements was opened at Singapore by the Governor, Sir John Anderson. Dr. Freer, the Principal of the School, read a report in which he stated that the school began its work on July 3rd, 1905. Doubts were expressed at one time as to whether a sufficient number of the students could be obtained to form a school, but he thought that on that head there need be no further misgivings. Twenty-two students had been enrolled for the present session, of whom nine were Chinese, and the remainder Eurasians, Tamils, Cingalese, and Europeans. Sixteen of them came from schools in the Colony or Native States. Already a number of applications to join next year had been received, including one from a lady student, the daughter of a local practitioner, and one from an Australian. As regards the progress of the students so far, a class examination had just been held in osteology, and in most cases a high percentage of marks had been obtained. Dr. Brooke, the Acting Government Analyst, had held several class examinations, both written and practical, in chemistry, and was generally well satisfied with the progress made in that subject. Through the ready help given by the local medical practitioners, as well as by Government medical officers, the school staff was now complete except for a lecturer on

physiology. This appointment was first offered to Dr. Guoh Lean Tuch, a Straits-born Chinaman, and a distinguished graduate of Cambridge University. He was unable to undertake it, and steps were now being taken to fill the appointment as soon as possible. The utility of the school had quite early been put to a practical test. The lecturers and examiners on the staff had just been engaged in preparing and examining in surgery, medicine, and midwifery, unqualified practitioners who, under the new Medical Registration Ordinance, would without examination have been inadmissible to the *Register*. Of eight candidates who so presented themselves seven were Chinese. The Hon. Tan Jiak Kim, in asking the Governor to declare the school open, said that last year on the advice of the Secretary for Chinese Affairs, a memorial was presented to the Governor praying for the establishment of a medical school. His Excellency in response offered to start the school provided the Chinese would show their genuine interest by subscribing 71,000 dols., and also take part in the management of the institution. A sum of more than 80,000 dols. was raised, and the Governor amply redeemed his promise by providing a large and efficient staff, besides giving a building for the temporary accommodation of the school. The Governor said that he felt it a great privilege to take part in the inauguration of the institution. When he looked into the previous history of the question he found that a similar scheme had been mooted on more than one occasion previously, but that no steps had been taken, as it had been regarded as impossible for various reasons—principally that no students would come forward, and that the institution would not receive the support necessary for its maintenance from the Chinese community and the other native Asiatic races. But those who had previously been the principal advisers of the Government in the matter had gone, and their places were taken by men with more hopefulness, and perhaps with more discrimination and more sympathetic knowledge. He referred to Mr. Barnes and Dr. McDowell. It was on their advice that he acted, and to them was due the credit for what had been done. The hopefulness and tenacity with which Dr. McDowell set about the work, and the successful way in which he had enlisted the sympathy and services of his brethren in the medical profession had been beyond praise. Mr. Barnes had proved himself an indefatigable beggar, and had succeeded, he thought, even beyond his own wildest hopes. He referred, also, in this connexion to Mr. Tan Jiak Kim, to whom it was almost entirely due that they saw that institution started in such very hopeful circumstances. They must not forget on behalf of the community to give thanks to the medical profession for the ready manner in which they had shown their sympathy with the institution in a practical way, by giving their services as honorary lecturers: but for this it would have been quite impossible for the Government and the community to have attempted the task. It was unnecessary to dwell upon the need for such an institution. The death-rate in Singapore every year was more than 50 out of every 1,000 inhabitants. More startling than the figures of the aggregate death-rate were those of the mortality amongst children born in Singapore. From the last return of the Registrar of Births and Deaths, it appeared that of 5,400 children born last year in Singapore, 1,715 died before they reached the age of 1 year. That meant that one child out of every three never reached the age of 12 months. His Excellency then declared the School open.

THE FOUNDATION OF THE BRITISH MUSEUM.

Does the British public, or even the medical profession, fully realize that the nation owes that magnificent institution, the British Museum, to the liberality of a doctor? Its true begetter was Sir Hans Sloane, a fashionable physician of the eighteenth century. The story of the creation of the Museum is told in the *Cornhill Magazine* for November by Sir E. Maunde Thompson. He does full justice to Sir Hans Sloane, but naturally considers him in his character of pious founder rather than in that of physician. We venture, therefore, to supplement his account of the famous collector from other sources. Hans Sloane, who was of Scottish descent, was born in County Down in 1660. Even in boyhood he collected specimens, and the taste grew upon him till it became the ruling passion of his life. Natural history led him to medicine, which in those spacious days comprehended all science within itself. After studying in London, he proceeded to Paris and then to Montpellier, finally taking his Doctor's degree at the University of Orange in the South of France in 1683. In the following year he returned to London, bringing with him a collection of plants which he gave to Ray, and a letter of introduction to Sydenham. The interview with that great man is amusingly described by Dr. Payne.[1] The letter described Sloane as "a ripe scholar, a good botanist, a skilful anatomist." After reading the letter, Sydenham delivered himself to the following effect: "This is all very fine, but it won't do. Anatomy! Botany! Nonsense! Sir, I know an old woman in Covent Garden who understands botany better. As for anatomy, my butcher can dissect a joint full and well. No, young man, all this is stuff. You must go to the bedside; it is there alone you can learn disease." The utterance is characteristic of the English Hippocrates, who knew as little of anatomy as the Father of Medicine himself. Nevertheless, Sydenham took the young botanist under his wing. With a rapidity that seems enviable to us whose professional lot lies in more arduous times, Sloane was elected a Fellow of the Royal Society in 1685, and was admitted to the Fellowship of the College of Physicians in 1687. In that year there came to him an offer to go to Jamaica as physician to the Duke of Albemarle, who had been appointed Governor of that island. Before accepting the offer Sloane consulted Sydenham, who told him he had better drown himself in Rosamund's Pond, a sheet of water in St. James's Park which was then a fashionable resort for intending suicides. Sloane, however, preferred Jamaica, doubtless as affording a promising field for botanical exploration. Within eighteen months the Duke died, and his physician's nominal occupation was gone. Sloane's real occupation, however, had been the gathering of materials for the museum which was his lifework. He returned to England in 1689, loaded with the spoils of his expeditions, among them being specimens of 800 new species of plants. The firstfruit of his labours was a *Catalogus Plantarum quae in insula Jamaica sponte proveniunt aut vulgo coluntur*, which was published in 1696. Later came a *Voyage to the Islands of Madeira, Barbadoes, etc.*, in which the natural history of Jamaica was described. In the meantime Sloane had been pushed into practice by Sydenham, and had become a highly prosperous physician. The Court and the aristocracy, we are told, had the "greatest confidence in his prescriptions." Queen Anne took counsel of him; George the Second made him the keeper of the royal constitution; George the First had previously made him a baronet and appointed him Physician-General to the Army. The University of Oxford gave him its doctor's degree in 1701, and he was President of the College of Physicians for sixteen years. He was appointed Secretary of the Royal Society in 1693, and succeeded Isaac Newton in the Presidency of that body in 1727. As Secretary of the Royal Society he revived the publication of the *Philosophical Transactions*, which had been suspended since 1687. It was said of him during his life that he was not above using secret remedies; and it is perhaps significant that his only medical work is entitled *An Account of a Medicine for Soreness, Weakness, and other Distempers of the Eyes*, which was not given to the world till he was 85 years of age and had retired from practice. Throughout his life Sloane went on adding to his museum, and he accumulated a vast collection, which included books, manuscripts, pictures, medals, and coins, as well as objects of natural history. He retired from practice in 1721, and died in 1753 at the age of 93, leaving in his will directions that his museum, which was valued at £50,000, should be offered to the nation for the sum

[1] *Thomas Sydenham*, Masters of Medicine Series.

of £20,000. The offer was accepted by Parliament, and the collection formed the nucleus of the British Museum, which was opened to the public in 1759. During the greater part of his professional life Sloane lived in Bloomsbury Square, close to the site of the future British Museum. Towards the end of his life he retired to Chelsea, where he had purchased a manor house and land, which is now covered by the stately mansions of the Cadogan estate. One of his daughters became the wife of the second Lord Cadogan, and the physician's own name is perpetuated in Sloane Street and Hans Place. If Sloane was wealthy, he was also liberal. He gave the Apothecaries' Society their famous Physic Garden at Chelsea; he took part in the establishment of the Foundling Hospital, and he was never deaf to any deserving appeal made in the name of charity.

THE BRISTOL UNION.

It may be doubted whether throughout the length and breadth of the land, and for some centuries past, any more striking example of busy idleness, exuberant industry, and meticulous ineptitude could be found than that which the Board of Guardians of the great city of Bristol continues to afford. It is now nearly eight years since the Bristol Union came into existence, and as soon as it was formed it lost no time in admitting that the institutions under its charge, especially those for the sick, were as grossly defective as we and others had stated them to be, and in resolving that things should be set right. Since that time a great deal has been done—and nothing! Nothing, because in most essential ways the conditions are as bad as ever they were; and a great deal because deputations have been sent in all directions to examine the provisions of other cities, elaborate reports published, plans drawn up almost by the half-dozen, architects' fees paid, sites acquired, sites abandoned. The mountain, in short, has been in labour on numerous occasions, but the resulting product, though sufficiently ridiculous, fails even to be equal to the size of a mouse, always excepting the cost to the ratepayers. The latter must be by no means inconsiderable, but it is not a matter in which we take any particular interest excepting in so far as the sum might have been usefully spent for the true purpose for which poor-rates are collected. In ruefully considering the amount of this waste now—should it be possible to estimate it—the ratepayers should not forget that it does not represent the true losses to which they have been put during the last eight years. Had proper arrangements for the care of the sick been in existence, it cannot be doubted that many who are still a burden or who have died would have been restored to the ranks of the wage-earning classes. As it was only last year that we gave a detailed history of the various plans which this Board had amused itself in evolving during the previous years, it will for present purposes be sufficient to say that we showed that it had in 1902 got as far as completing a very good plan for a new infirmary at Stapleton. This was so far developed that a builder's specification had been accepted, and nothing remained but to give the final orders to commence work. Had such been given the building would by this time have been in full work. A retrograde movement, however, took place, and a small majority of the Board got powers to set to work to consider the matter afresh. Time after time this party prepared plans, and time after time the Local Government Board refused to sanction them owing to their deficiencies. The same sort of thing appears to have been going on ever since, and the latest plan of all seems as likely to be condemned as any of its predecessors, with the exception of the original and well-thought-out Stapleton Infirmary plan. Its defects are so obvious, that in spite of the fact that most of the members of the Board who formerly took a healthy interest in matters are so wearied out as to be inclined to let the decision go by default, it was only passed by the narrow majority of two. There seems little hope, indeed, that a satisfactory end will be speedily reached, or that really effective provision for the sick will be furnished unless perchance a clean sweep should be made of all intermediate plans and recourse had to the old Stapleton scheme. In the meantime it may be suggested that it seems particularly foolish that there should be any large expenditure on the housing of the mentally deficient until the Royal Commission on their care and control now sitting has completed its labours and issued its report.

PREGNANCY, TUMOUR, OR BOTH?

Notwithstanding the familiarity of the doctor with pregnancy, and the hundreds of pages which have been written by British and foreign authorities on the diagnosis of pregnant uterus from abdomino-pelvic tumours, and on their frequent co-existence, errors of diagnosis are not rare even amongst experienced gynaecologists. Schröder, of Bonn, reports a case of vesicular mole pregnancy where this error was made.[1] The patient was 49, and had been normally delivered eight times. The periods occurred regularly up to a month before she came under Schröder. A little haemorrhage occurred a week after the last period, and for a fortnight subsequently the abdomen became steadily larger in bulk. The patient was very sickly; a movable, tense, elastic tumour reached to the level of the umbilicus; it could not be distinctly defined from the uterus above. The cervix lay high up behind the symphysis, and Douglas's pouch was occupied by a position of the tumour, which filled the lower part of the abdomen, a condition very deceptive, for evident reasons. The age of the patient also seemed to contra-indicate pregnancy. The diagnosis was malignant ovarian cyst, closely connected with the uterus. Abdominal section was performed, and then it was discovered that the tumour was the uterus—the seat of vesicular molar pregnancy; posteriorly there was a large sacculated process which bulged downwards into Douglas's pouch and had led to the error in diagnosis. The uterus was amputated above the cervix, and not till then was the sacculation clearly recognized. Everke, in a discussion on Schröder's case, reported how a doctor diagnosed ovarian cyst obstructing labour. He applied the forceps in vain, and then put the patient under chloroform and endeavoured to burst the cyst by firm pressure, a questionable proceeding which fortunately failed. Everke, to whom the patient was prudently confided, found Caesarean section necessary. As the tumour lay entirely below the uterus he closed the wound and reached the tumour by a vaginal incision into Douglas's pouch. It was a myoma, weighing 1½ lb., and was easily removed by enucleation. Laubenburg reported an obstructed labour case. The head did not descend into the pelvis, and a firm, elastic, smooth, round tumour of the size of a fist occupied the concavity of the sacrum. The patient was the wife of a medical man and 25 years of age. Laubenburg was called in and decided to turn. Just as he was delivering the head the tumour was felt to give way with an audible popping noise. The tumour steadily diminished in size, and at the end of a few months after labour nothing could be felt except a hard mass in the right broad ligament. The above cases are highly instructive, especially as lessons in humility about our own powers of diagnosis.

ARTIFICIAL LIMBS IN ANTIQUITY.

The modern inventor has often enough occasion, adapting the curse to his own need, to cry *Percant qui ante nos nostra fecere!* Even in surgery, which we had fondly believed to be nearly all our own, it is becoming clear that some at least of our improvements are old things with new names. What is known to modern dentists as bridge work was familiar to the Etruscans, as extant specimens attest; plaster ears, noses, and lips were common among the Indians, where the cutting off of these features was a punishment much in use; Nero anticipated the advice given to the converted aesthete, and "stuck an eye-glass in "his ocular," and Greek and Roman veterans who had lost a leg or an arm in war tried to make good the deficiency by artificial substitutes. What is said to be the oldest artificial leg in existence is now in the museum of the Royal College of Surgeons of England. It was found in a tomb at Capua, and is described in the catalogue as follows:

[1] Report of a meeting of the Niederrheinisch-westfälische Gesellschaft für Gynäkologie, *Monatsschr. f. Geb. u. Gyn.*, September, 1905, p. 430.

"Roman artificial leg; the artificial limb accurately "represents the form of the leg; it is made with "pieces of thin bronze, fastened by bronze nails to a wooden "core. Two iron bars, having holes at their free ends, are "attached to the upper extremity of the bronze; a quadri- "lateral piece of iron, found near the position of the foot, is "thought to have given strength to it. There is no trace of "the foot and the wooden core had nearly crumbled away. "That skeleton had its waist surrounded by a belt of sheet "bronze edged with small rivets, probably used to fasten a "leather lining. Three painted vases (red figures on a black "ground) lay at the feet of the skeleton. The vases belong "to a rather advanced period in the decline of art (about 300 "years B.C.)." According to Dr. George MacDonald, who recently contributed a paper on this subject to the *American Journal of Surgery*, that the earliest known representation of an artificial limb is on a Graeco-Roman vase in the Louvre, where a satyr is depicted with a wooden leg. In a Graeco-Roman mosaic a sportsman is represented with a wooden leg. Both these productions are believed to belong to the pre-Christian period. Pliny speaks of a Roman warrior who, a century and a half before the birth of Christ, wore an artificial hand with which he was able to handle a sword. In the Middle Ages artificial limbs sometimes repaired the disablements of war. The "iron hand" of Goetz von Berlichingen was an ingenious piece of mechanism made for that famous knight in 1504. A century later an artificial hand was worn by Christian, Duke of Brunswick. Ambroise Paré devised artificial limbs with movable joints which were made for him by artificers, of whom Lorraine, a locksmith, was the most famous. Paré devotes a special chapter to the means of repairing or supplying natural or accidental defects in the human body. He describes artificial eyes and noses, an artificial tongue, and an artificial palate. At a later period Father Sebastian, a Carmelite monk, made movable arms and hands. In the earlier part of the seventeenth century Peter Lowe, in his *Discourses of the Whole Art of Chirurgery*, gives representations of artificial legs. About the middle of the same century Falcinelli, a Florentine surgeon, mentions the use of artificial eyes of silver, gold, and crystal painted in various colours; he also describes artificial ears made of the same metals, and fixed by strings to the head or stitched into the skin with gold or silver wire. Silver noses are said to have been in use at an earlier date.

ANTENATAL DIAGNOSIS OF FETAL HEART MURMURS.

It is now well known that by careful auscultation of the fetal heart the obstetrician may diagnose antenatal cardiac anomalies before the birth of the infant: but of actual cases in which the diagnosis has been satisfactorily established and demonstrated the number is still small. Ballantyne,[1] in his *Manual of Antenatal Pathology and Hygiene*, has collected no more than eight such records. The case, therefore, which was reported recently by Dr. John McCrae of Montreal,[2] has a special value. The subject of the cardiac anomaly was the fifteenth child of a woman, aged 46 years, who was mentally dull and showed no affection for her infant. Her other children had not been deformed, but she herself had a harelip, and a systolic cardiac murmur could be heard widely over her chest. The infant, a male, was a "blue baby" from birth, and he died of bilateral bronchopneumonia when 49 days old. During the pregnancy a fetal systolic murmur was distinctly heard, and was demonstrated by Dr. D. J. Evans to the students in attendance. After birth the same murmur was recognized, systolic in time and basal in position. The infant was large and well nourished, but was always blue, although the blueness was at times more marked—for example, after feeding. The *post-mortem* examination revealed transposition of all the viscera of the thorax and abdomen, with the single exception of the gall bladder. The heart and great vessels shared in the inversion, but the small size of the pulmonic ventricle (that is, the transposed right ventricle) somewhat masked the anomalous position of the organ. In addition to its transposition, the heart exhibited malformations: the two auricles were widely in communication: the systemic ventricle was greatly hypertrophied, while the pulmonic was rudimentary, but it is noteworthy that the interventricular septum was intact; the pulmonary artery was represented by a fibrous cord with no lumen, and the ductus arteriosus was patent.

[1] *Manual of Antenatal Pathology*, vol. i, p. 372, 1902; vol. ii, p. 509, 1904.
[2] *Journal of Anatomy and Physiology*, vol. xl, p. 28, October, 1905.

POOR-LAW PATIENTS AND HOSPITALS.

In the course of a leading article in the British Medical Journal of October 28th reference was made to a kind of chronic war which has been carried on for a very long time past between the Poor-law Guardians of Southwark Union and the authorities of Guy's Hospital, the former being the aggressors. The guardians, upon whom of course the law imposes the duty of making due provision for the care of the sick within their area, have placed their infirmary at Dulwich, and this, so far as it goes, is a very commendable step. On the other hand, as was only to be expected, it occasionally happens that persons for whom the guardians are responsible are found to be too ill to bear immediate removal to such a distance as Dulwich, and this being the case, the guardians should of course have provided a receiving house in which cases of this character could be kept until such time as they are fit to be sent elsewhere. Instead of doing so, however, the Southwark Guardians look to the authorities of Guy's Hospital, which happens to be within the area of the Union, and expect them to be ready at all times to step into the breach, and by invariably admitting Poor-law patients, all and sundry, make up for the deficiency in their own system. Habitually the authorities at Guy's raise no objection, but on one or more occasions there has been no bed available, and admission has perforce had to be refused. When this has happened the guardians have threatened reprisals of all sorts. Becoming weary of this, the authorities of Guy's Hospital at length referred the matter to the Local Government Board, and asked it to use its influence to induce the guardians to complete their arrangements for the care of the Poor-law sick by making some provision such as has been indicated. It is, of course, a matter within the Local Government Board's jurisdiction, and by a coincidence a letter from the Board to the guardians was formally received by the latter after we had gone to press last week. As its contents were not disclosed but sent immediately to a committee, it may be surmised with considerable confidence that they were not favourable to the limited view which the guardians have hitherto taken of their duties. Indeed, any approval of it, tacit or expressed, on the part of an independent and responsible authority would be impossible so long as things remain as they are: so long, that is, as provision for the care of the sick poor remains the statutory duty of the Poor-law guardians and any assistance which they may receive from hospitals remains of a voluntary and unremunerated nature. However great a position an institution like Guy's may come to occupy in the public estimation it in no wise ceases to be a voluntary hospital. Such undertakings, though not local institutions, save the ratepayers immense sums of money, and it is sufficiently monstrous that they should be called upon to pay rates; that they should, in addition, be treated as though merely ratepayers' servants is going quite too far. The present system, of course, may and sometimes does lead to a certain degree of duplication of effort, and so may be regarded as defective: but this cannot be avoided without converting voluntary hospitals into Poor-law and rate-supported institutions, and this, it is to be hoped, will never be done.

MORTALITY AFTER LAPAROTOMY.

Tables of operation results, though of great interest to individuals, are often not very informing, either because there is a lack of identity in the units, or because the number of the latter is insufficient for the establishment of averages. Two thousand cases, however, is a fair number on which to base a certain number of qualified conclusions,

so a paper which Dr. Crile[1] of Cleveland, Ohio, read before the local Academy of Medicine is of unusual interest. All the operations in his list of 2,008 cases were performed by himself either in private dwellings or in the St. Alexis Hospital, and they include every operation undertaken by him which can be classed as one of abdominal section. In the list are to be found operations on the gastro-intestinal canal, the genito urinary tract, the female pelvic organs, the liver and gall bladder, hernias and sundry laparotomies for such conditions as tuberculous peritonitis. The total mortality after the 2,008 operations was 5.2 per cent. This was somewhat unequally distributed; thus the gastro-intestinal operations resulted in over 8 per cent. of deaths and those on the female pelvic organs in only 1.7 per cent., the gross numbers of the respective operations being approximately equal. A large proportion of the operations, or over one-third, were undertaken for the relief of infection, that is to say, for such conditions as acute appendicitis, perforated ulcers of the stomach, infections following miscarriages, and the like. Among these the mortality-rate was as high as 11 per cent., while in a group of 1,108 non-infective cases there were only 5 deaths, or less than 0.5 per cent. As for the immediate causes of death in the fatal cases, which totalled 105 in all, 74 were due to continuance of infection, 12 to exhaustion, 10 to shock and infection combined, 4 to embolism and thrombosis, 4 to pneumonia (in 2 cases of the ether variety), and 1 to suppression of urine. In respect of the cases in which death was due to exhaustion, most of these were among patients suffering from malignant disease, and after operations of an exploratory nature only. In his comments, Dr. Crile remarks that most of these occurred before he realized the great importance of not allowing an inoperable case to remain in a recumbent position during healing of the wound. His general conclusion is that the risk of an operation on a person suffering from an infective or malignant disorder may be put down as twenty times greater than that of a similar operation on a patient in a non-infective state. In treating the latter surgically, not more than 1 death in 200 cases need be expected, however large the tumour or extensive the dissection undertaken.

RUPTURE OF THE OESOPHAGUS.

A SOMEWHAT remarkable case of rupture of the oesophagus was the subject of an inquiry held by Mr. T. E. Sampson, Coroner for the City of Liverpool, last week. The deceased was a lady (Dr. Lucy Alexander) who was a qualified medical practitioner, and had for long worked in connexion with the Liverpool Medical Mission. On the evening preceding her death she took a plate of mutton broth and appears to have swallowed some pieces of bone. She immediately sought professional assistance, stating that she suffered intense pain in the chest. An examination of the throat and pharynx revealed nothing; a little vomiting was caused but no pieces were ejected. The vomiting, however, produced some relief and she was then sent to the Southern Hospital. There she was placed under an anaesthetic, and a coin-catcher was passed down the oesophagus without discovering any bone. Two hours later it was reported that the patient was in intense pain, and it was directed that she should be given a sedative and detained for the night. Next morning she was found very ill and the left side of the chest full of air. Some of the latter was withdrawn, and the opinion formed that the oesophagus had been ruptured. All steps that suggested themselves were taken, but a formal operation was deemed impossible and the patient died the same evening. At the *post-mortem* examination the body was found to be that of a healthy woman and the left side of the chest to contain air mixed with several ounces of food, the lung on that side being collapsed. On the external side of the oesophagus and at its lower part a rent 1 in. in length was found communicating with the mediastinum. On the inner side of the oesophagus the rent was 3 in. in length traversing the muscular wall nearly down to the stomach. The food found in the chest contained a few small bones with sharp points and about ¼ in. long. One of the witnesses stated that when recovering from the anaesthetic the deceased had vomited, and he was of opinion the rupture occurred at that moment. The circumstances connected with this case suggest the gravity which must be attached to every case of the swallowing of a foreign body; while in view of the usual behaviour of the oesophagus in the presence of foreign bodies, the facility with which extensive rupture seems to have occurred, and the rapidity with which a fatal issue supervened are remarkable. The jury in its verdict stated that all due skill had been exercised in the treatment of the case, and expressed its sympathy with the relatives. In this all will join, for it is specially lamentable that so useful a life should have been cut short by an accident of a kind which in the majority of cases might be expected not to give rise to more than passing discomfort.

[1] *Cleveland Medical Journal*, September, 1905.

MEALS FOR SCHOOL CHILDREN.

AT the meeting of the London County Council on Tuesday last, Sir William Collins, Chairman of the Education Committee, stated that the experiment sanctioned by the Council for utilizing some of their cookery centres for the provision of meals cooked by the children themselves and to be paid for by the parents of the children consuming them had been begun in four centres on the previous day, and that the start had been most satisfactory. The Education Committee has also presented a report to the Council on the general question of meeting the wants of underfed and ill-clothed children. The Joint Committee appointed last year had received reports from local subcommittees and had assisted in placing these local subcommittees in communication with charitable associations and with sources of supply; non-provided schools were within the sphere of the operations of the Joint Committee, which had recommended that subcommittees should provide meals, not on two or three days a week, but on four if not on five, and should also supply boots and clothes when necessary. The Education Committee proposes to send a circular to the managers of the Council's schools pointing out that local organization was required only in schools likely to contain necessitous children, and advising that information as to the home condition of children should be secured. It also recommends that meals should be provided on all school days, and that relief should be given in other forms of acute physical distress—for example, want of clothing and boots. Advice is given as to the preparation during October of lists of necessitous children to be corrected weekly, and that where no local organization exists for supplying assistance the managers of the schools should report to the Joint Committee on Underfed Children. It recommends that at present the systems hitherto adopted should be continued that is to say, that the food should be cooked and distributed by some voluntary agency at the centre, that is to say, the place at which the children of various schools are fed, or at the school itself.

MEDICAL EDUCATION IN THE UNITED STATES.

ACCORDING to the *Journal of the American Medical Association*, the total number of students in the various medical schools of the United States in the year ended June 30th, 1905, was 26,147, of whom 1,073 were women. These students were distributed among 157 schools in 36 States and territories. Of the whole number 5,606 graduated. The number of students was 1,995, and that of graduates 141, less than in 1904. The total attendance at regular schools was 24,119, an increase of 457 as compared with 1904, but a decrease of 801 as compared with 1903, and of 759 as compared with 1902. Attendance at homœopathic schools has been decreasing steadily since 1900, when it was 1,909, while this year it was 1,104. At "eclectic" schools the attendance increased yearly from 1900, when it was 552, to 1904, when it was 1,014, but this year it dropped to 578, a falling off of nearly one-half. Three of the 157 colleges are exclusively for women, 63 for men, the remaining 91 being co-educational." Our contemporary says that the standards of

preparation of study and of graduation have been considerably raised, showing that there is a disposition on the part of all concerned to elevate the standard of the profession by bringing into it men and women who are better prepared to practise medicine. There has been a distinct increase of stringency in the requirements for entrance during the past two or three years. This change for the better is partly due to a few individual colleges; largely, however, it is the result of concerted action on the part of several organizations which have it in their power to promulgate and to enforce rules and regulations for the government of colleges. The State Examining Boards, in particular, have exercised a most wholesome influence by raising the requirements and by taking an active part in the regulation of preliminary or preparatory education.

THE CURETTE AND ABORTION.

There was recently much discussion at a medical society in Düsseldorf about two bad cases of damage caused by the curette employed to remove placenta after abortion.[1] In neither instance was there any suspicion of criminal induction of abortion, but the second case serves as a warning against attempting any "minor" obstetric surgery on an unruly patient not under anaesthesia. Merttens brought the cases forward. The first patient aborted in the second month, and bled freely. A practitioner attempted to remove the placenta, and succeeded in getting it away manually, but not entire. He introduced the curette, and was surprised to find the uterine walls so relaxed, as far as he could make out. Suddenly haemorrhage set in, and as the doctor passed his finger beyond the cervix he fancied that he could feel something like a fibroid. At once he irrigated the uterus with lysol, which caused immediate collapse and cessation of the haemorrhage. Merttens saw the patient two hours later; she was pale, but the pulse was about 90 and fairly strong. Two fingers could be passed into the os externum, the cervix was much relaxed, but the body of the uterus was firmly contracted on the top of it like a cap. Digital exploration caused intense pain, especially when the finger was pressed against the posterior uterine wall, where a transverse laceration was detected. This laceration allowed of the passage of the finger as far as the promontory of the sacrum. As there was no more haemorrhage and no great danger of infection the patient was kept at rest, and she made a good recovery. The uterine wall, firmly contracted on the cervix, had been mistaken, first, for a piece of the placenta, and then for a myoma. The relaxed condition of the cervical tissues rendered perforation easy. The second case was far more serious. Much bleeding followed the expulsion of the ovum, the abortion occurring about the fourth month. The doctor, greatly alarmed, attempted to remove the placenta with the aid of the curette, but the patient would not lie still. He fixed the volsella to the cervix, and then succeeded in getting away a fibrinous mass with the curette, when the patient became very unruly, so that the volsella, which she caught hold of and pushed upwards, did great damage. The doctor could only make out that there was great haemorrhage, and that almost the entire anterior lip of the os externum was torn off. Acting wisely, he sent the patient into hospital, but there was a delay of several hours. Merttens found very severe injuries; there was a rent above the lacerated anterior lip forming a communication between the cervix and the bladder; fetid bloody urine escaped when the exploring finger was withdrawn. The internal os was apparently contracted, but the finger could be passed into the uterine cavity, and some fragments of placenta were discovered. In the anterior wall was a large rent through which the finger could be introduced into the peritoneal cavity. The uterus was removed entire, and the bladder, which could not be repaired by suture, was drained. The patient died on the second day. Merttens considered that the curette was a dangerous instrument when employed on the gravid uterus even by an expert; he himself always used the finger alone for extraction of placental relics. In exceptional cases, when the curette was needed, it should never be introduced except through the speculum. Dr. Ruhle of Eberfeld was of opinion that there was a great deal too much curetting after abortion; the finger was always sufficient when the placenta was fairly developed, as in these two cases. The mania, as Ruhle termed it, for curetting was traceable to Dührssen's teaching that routine curetting ensured immunity from haemorrhage, and speedy convalescence. Dr. Becker of Dü-seldorf observed, very reasonably, that when the curette is taken in hand by a medical man of any class it must be properly used with all precautions, just as in the wards of a medical school. The patient must be placed in the right position, and the operator must empty the bladder and most carefully ascertain the relations of the uterus by bimanual palpation. The patient must be kept well under the influence of the anaesthetic, the cervix, after the introduction of the speculum, should be fixed and steadily dilated, and then the largest possible curette employed to empty the uterine cavity, if the finger be not sufficient for the purpose. Even with these precautions perforation may occur. No doubt it is absolutely unjustifiable to use the curette in the dark, with a struggling patient lying on her side, even if she can be kept in that position, but the instrument must not be blamed for any evil results following such bad practice.

[1] Report of meeting of the Niederrheinisch Westfälische Gesellschaft für Gynäkologie, *Monats f. Geb. u. Gyn.*, September, 1905, p. 430.

CHYLOUS ASCITES.

An interesting report of two cases where this condition was present appeared in a French medical review last August.[1] Dr. Lambrior, of Jassy, Moldavia, had under his care two men, about 50 years of age, with marked ascites, the fluid proving when procured by paracentesis to be chylous. The first patient was in good health until, about five weeks before admission into hospital, he fell from a ladder, his abdomen and thorax striking the ground. The other was addicted to the free use of brandy and wine. Both men died of acute atrophic cirrhosis after transient relief from the tapping. Lambrior considers that the real cause of the chylous ascites was not clear in either case, and not to be explained by current theories. He also points out that a milky ascites is not necessarily chylous. A non-chylous form, where the effused fluid in the peritoneal cavity is milky, has been observed in cases of cancer of the ovary and of organs normally above the brim of the pelvis. But this appearance is not due to emulsified fat, as shown by aid of the microscope alone without chemical analysis; it is produced by the breaking down of innumerable cells escaping from the new growth. "Chylous ascites" is an expression only to be applied to dropsy where the milky peritoneal effusion really owes its opacity to emulsified fat, the presence of which can be ascertained without any difficulty. Lambrior has collected 34 reliable reports of cases where chylous ascites existed as a complication. The primary disease was simple inflammatory lesion of the peritoneum in 5 cases, tuberculous disease of the peritoneum and adjacent glands in 6, hepatic cirrhosis in 7, abdominal cancer in 6, hepatic syphilis in 1, liver disease following cardiac lesions in 7, primary tuberculosis of the spleen in 1, and, lastly, hepatic and intestinal leucocytosis in 1 case. The last case was reported in 1904 by Lambrior and a colleague in a Roumanian medical paper. Adding Lambrior's cases where acute cirrhosis was present, the total amounts to 36. Such is the collected evidence mainly from workers on the Continent of Europe, but chylous ascites has also been studied by Anglo-Saxon authorities. The distinction between the two types of milky ascites is of high importance, especially in regard to diagnosis by paracentesis.

FALSE TAILS IN HUMAN SUBJECTS.

A case of this interesting condition has been recently reported by Dr. Harm, of Greifswald.[2] He exhibited

[1] Deux cas de cirrhose atrophique à marche aigue avec ascite chyliforme, *Revue de Médecine* (Paris), August 10th, 1905.

[2] Ein neugeborenes Mädchen mit Pseudo-schwanzbildung, *Monats. f. Geb. u. Gyn.*, September, 1905, p. 412.

before a medical society a female infant three weeks of age, well-nourished, and weighing 7¾ lb. It showed no abnormality excepting a little caudal appendage standing up behind the apex of the coccyx. This tail was as big as a fair-sized bean, and bore a narrow median groove about an inch long and a quarter of an inch deep. The integument of this appendage was healthy, and had normal fine hair, but at its root was a conspicuous girdle of longer and fairer hairs, which mostly turned inwards towards the middle line. Handling the tail caused no pain, and it could be moved freely. There was no external evidence of any ligament or muscle connecting it with the coccyx. No trace of any fissure in the sacrum or coccyx existed. Harm concluded that the tail was not the result of spina bifida, a condition unknown in the coccygeal vertebrae, nor did it bear any of the characters of a teratoma, not rare in the sacral region. On the other hand, it was not the homologue of the short recurved tail of certain monkeys, which it simulated closely in shape, for it did not bear, as far as could be ascertained, caudal vertebrae, the skeleton of the true tail of the lower mammals. It was really akin to the simple coccygeal cyst, developed from the inferior extremity of the cord early in fetal life. Hence it occupied the site of a tail, as evidenced by the characteristic circle of hair at its root, but no vertebral elements had ever developed in its tissues. Harm directs the reader desirous of the most recent information about rudimentary tails to Unger and Brugsch's "Geschwänzte Menschen und ihre Entwicklungs-geschichte" in the February number of the *Zeitschrift für Ethnologie*, 1903. Brugsch has further written on malformations in the coccygeal region in the *Berliner klinische Wochenschrift* for 1904.

THE HUXLEY MEMORIAL LECTURE.

THE Huxley Memorial Lecture of the Anthropological Institute of Great Britain and Ireland was delivered on October 31st by Dr. John Beddoe, F.R.S., the subject selected being Colour and Race. After allusion to the great interest which Professor Huxley took in this department of anthropology, Dr. Beddoe discussed the relations of red and black hair to each other, adhering to Virchow's view on that subject, and the respective provinces of heredity and environment in the production of colour. He adduced some new, or at least unpublished observations, as to the occurrence of red or auburn hair among dark populations, which is more general than is usually supposed. He discussed at some length the relations of anthropological colour-type in Central Europe and the British Isles to the history and known or supposed ethnic migrations in those countries; but while ascribing the known phenomena mainly to the influence of heredity, he made some suggestions as to the modifying effects of environment. He thought that in the anthropometrical survey of Britain, towards which efforts were being made, it was of the greatest importance that the observers should be not only intelligent but specially instructed; also that in the observation and tabulation of colour it was desirable to adhere to old and approved methods, which would afford means of comparison with other countries, rather than to strike out new paths.

THE STUDY OF TYPHOID FEVER.

A MEETING of the Incorporated Society of Medical Officers of Health will be held on Friday next, November 10th, at 1, Upper Montague Street, Russell Square, W.C., when Dr. Christopher Childs will read a paper entitled A Comparative Study of the Lincoln, Maidstone, and Worthing Epidemics of Typhoid Fever. The chair will be taken by the President, Sir Shirley Murphy, at 8 p.m. A discussion will follow the reading of the paper, and Dr. Childs will bring forward the following resolution: "In case of a "typhoid epidemic it is necessary to have in reserve a staff "of experts who will be prepared, if called in by the local "medical officer of health, to go at once to the locality "invaded to co-operate with and under him; to assist in "tracing out the source and channels of infection and in "detecting incubating ambulant, and abortive cases; and "to investigate all circumstances of the epidemic which "may throw light upon the etiology of this disease." We understand that Dr. Childs's suggestion is that the staff of experts he contemplates should be nominated and employed by the Local Government Board, and that when not engaged in assisting in the investigation of epidemics their time should be occupied in the study of endemic or so-called sporadic cases of the disease.

THE BRITISH SCIENCE GUILD.

THE inaugural meeting of the British Science Guild was held at the Mansion House on October 30th, under the presidency of the Lord Mayor of London. Sir Norman Lockyer, in presenting a report on the action of the organizing committee, said that the object of the Guild was to encourage the application of scientific method to practical affairs, and especially to education, which should be based upon things and thinking as well as upon words and memory. On the motion of the Bishop of Ripon, seconded by Lord Strathcona and Mount Royal, and supported by Sir W. Mather, the Right Hon. R. B. Haldane, K.C., M.P., was unanimously elected first President of the British Science Guild. In acknowledging his election, Mr. Haldane said that the object of the Guild would be the bringing of method, the bringing of thinking, into the modes of government in public affairs and private industries alike. After referring to the deficiencies in scientific education of the officials of the Treasury, the Home Office, and the Board of Trade, Mr. Haldane said that he believed that things would not be put right until a scientific corps was formed under a permanent committee, just as the Defence Committee was under the Prime Minister. Such a corps should consist not merely of officials but of the most eminent scientific men, who would serve in it because they felt that they were honoured and put on a proper footing, and recognized as a body of men charged with the duty of advising the great department of State on organizing the scientific work of the country. Subsequently a number of vice-presidents and officers of the Guild were elected, and a vote of thanks to the Lord Mayor brought the proceedings to an end.

THE WAR AGAINST QUACKERY.

AN Austrian Society for the Repression of Quackery will be formally constituted at a meeting to be held in the rooms of the Medical Society of Vienna on November 11th. The French Congress for the Prevention of Unqualified Practice of Medicine, which was postponed last year, will be held in Paris from April 30th to May 3rd, 1906, under the presidency of Professor Brouardel. The Organizing Committee consists of Dr. Duchesne (Chairman), Dr. Dubuisson (Vice-Chairman), General Secretaries, M. Ch. Levassort and Maître Bruno Dubon, of Paris. All communications relative to the Congress should be addressed to M. Levassort, 2, Place des Vosges, Paris.

WE regret to learn that Dr. H. T. Bulstrode, Medical Inspector to the Local Government Board, is suffering from an attack of typhoid fever. The infection was undoubtedly contracted in Paris during Dr. Bulstrode's attendance at the International Congress on Tuberculosis as one of the representatives of this country. The illness has reached the third week, and we are glad to hear that the attack is of only moderate severity and that a hopeful prognosis is given.

AN appeal has been issued to raise an endowment of £60,000 for St. George's Medical School. The appeal is made in order to obtain funds for three purposes: (1) The endowment of the investigation and observation of disease; (2) the payment of those teachers who do not engage in medical practice; and (3) the endowment of post-graduate study. The Prince of Wales has sent a donation of £100 to the fund.

Scotland.

Parliamentary Representation of Edinburgh and St. Andrews Universities.

Mr. J. St. Loe Strachey, Editor of the *Spectator*, has issued an address in opposition to Sir John Batty Tuke, the sitting member for the Universities of Edinburgh and St. Andrews. He describes himself as a Unionist Free Trader, and the greater part of his address, which is unfortunately too long for reproduction, deals with this subject. He observes further that the Navy must be the supreme care of all Britons, and expresses the opinion that reform in army organization to introduce a coherent and rational policy is imperative. The remarks on the auxiliary forces contains a reference to medical inspection, and we therefore reproduce the paragraph in full:

While desirous of maintaining a regular army efficient in numbers and organization, I am anxious to see the auxiliary forces developed and increased. I am opposed to compulsory military service as unsuited to our needs, but I am strongly in favour of adopting in our schools a system of universal physical training of a military character. By such means we shall, in the first place, improve the health of the nation. The universal medical inspection which must necessarily accompany universal physical training is a matter to which I attach the very greatest importance. Universal physical training will also render the voluntary offers of assistance made to the nation in moments of national emergency far more effective than at present. I would compel no man to serve his country as a soldier against his will, but I would give him such a training as a boy that if he voluntarily offers such service it will be far more effective than at present. Before leaving this subject, I must protest against the treatment which the Volunteers, as a whole, have received at the hands of the present Government. Their blundering and lack of sympathy in this particular deserves the strongest possible condemnation, for it is to be feared that the injury already done to the force will not easily be repaired.

Sir John Batty Tuke, M.D., has not issued an address, but the following circular letter has, we understand, been issued to graduates of the two universities:

Edinburgh and St. Andrews Universities Parliamentary Representation.

4, Stafford Street, Edinburgh,
November 1st, 1905.

Sir,—The announcement of the proposed candidature of Mr. Strachey in opposition to Sir John Batty Tuke, M.D., M.P., renders it proper that the supporters of our present member should take steps to organize a General Committee on his behalf.

It is now five years since Sir John Batty Tuke, a graduate of the University of Edinburgh, who has throughout his long and distinguished professional career been intimately associated with the University and with the Edinburgh Medical School, was returned without opposition as the Member for the Universities. For a number of years he was Chairman of the Education Committee of the General Medical Council, the business of which he conducted to the general satisfaction of the profession. Since his election as Member for the constituency he has, at no inconsiderable personal sacrifice, devoted himself to his Parliamentary duties in London. He has specially interested himself in educational questions brought before Parliament, and, in particular, in such as have special relation to Scotland.

For many years he has taken an active interest in all matters affecting the medical profession, and he has either taken the initiative or used his influence in support of proposals in which the profession and the public are deeply interested—such as matters having relation to vaccination, unlicensed practice, public health, the treatment of habitual drunkards, and the improvement of the position of navy and army surgeons and of other medical practitioners engaged in the public service. He was returned to Parliament as a Unionist and as an independent supporter of the Unionist Government, and his action in Parliament has been entirely consistent with that position.

Some time ago, at a meeting representative of the Unionist Party in the constituency, Sir John Batty Tuke stated that his attitude upon the fiscal question was one of support of the policy of the Prime Minister, beyond which he was not prepared to go. Upon this footing he was unanimously invited again to place his services at the disposal of the constituency, and he agreed to do so.

The time has not yet arrived for the issue of any election address. When that time comes, Sir John Batty Tuke will, doubtless, lay before the constituency a statement of his opinions upon the leading questions of the day. Meantime, as his opponent has made Fiscal Policy the chief justification of his intervention in the affairs of the constituency, it is proper to state that Sir John Batty Tuke adheres to his declaration of support of the policy of the Prime Minister upon that matter. Upon the Imperial aspect of the question he is not prepared to advance beyond the declaration of the Prime Minister that the matter is appropriate for frank discussion at a Colonial Conference.

I have the honour to invite you to join the General Committee now being formed to secure Sir John Batty Tuke's re-election at next general election, and I shall be obliged by your signing and returning the enclosed card.

I am, yours faithfully,
Thomas Annandale,
Chairman of Sir John Batty Tuke's Committee.

With regard to the attitude of the candidates towards the proposed legislation in which the British Medical Association is especially interested, we may recall the facts that Sir John Batty Tuke was in charge of the Revaccination Bill, and that he backed the Public Health Bill to give fixity of tenure to medical officers of health. We understand that he is in favour of the legislation desired by the Association for the amendment of the law with regard to coroners and death registration. With regard to the Medical Acts Amendment Bill we learn that he is in favour of the one portal system and would be prepared to consider most favourably the proposal to increase the number of Direct Representatives on the ground that so many new universities have been admitted to the Council and the original balance disturbed.

We are not aware that Mr. Strachey's opinion on these matters has been formally asked or expressed.

Ireland.

Pauper Nurses.

Dr. Caleb Powell, one of the medical officers of the North Dublin Union, has laid before the guardians a scheme which involves the abolition of pauper nurses in the workhouse hospitals. He calculates that only one paid nurse will be required for each four of the present staff. He proposes to establish a training school, and to charge probationers an entrance fee of £21, the training to be for two years. The general conclusion at which he arrives is that "an efficient and good nursing scheme for your hospitals can be inaugurated at a cost of £500 a year, if we are able to get a sufficient number of candidates at 20 guineas fee, or at a cost of £800 if we get no fee at all, as against an inefficient and bad scheme costing £1,100 a year at the present time." The guardians have agreed to alter the present system, and Dr. Powell's scheme has been referred to a committee for report.

Salaries of Asylum Superintendents.

Dr. Rutherford, M.D., F.R.C.P.Edin., Visiting Physician to the Ballinasloe District Asylum, has received an increase of £25 a year from the Board of Governors in recognition of his valuable services. On the other hand, the Governors of the Sligo and Enniscorthy Asylums have refused any increase of salary to their resident medical superintendents.

SPECIAL CORRESPONDENCE.

VIENNA.

Medical Politics.—The Meningococcus in the Nasal Secretion.—Professor Politzer's 70th Birthday.

The Union of the Medical Chambers held its annual meeting in the beginning of October. The first matter discussed was the attitude of the practitioners towards the insurance and friendly societies. The unsatisfactory state of the profession as a whole called for a restriction of the "club and society contracts" by limiting the right to form such clubs. All men with an income of less than £100 a year should be admitted. The other classes of the population, who could afford to pay the moderate charges of the practitioner, should also be allowed to form clubs, but with a much better scale of payment for their medical officers. The price of medicines was next discussed, and it was resolved to demand a reduction of the officially-fixed prices for the benefit of the public. A good deal of time was devoted to discussion of the profession in relation to the law. The opinion was expressed that some regulations were so antiquated that they must be abolished. Special attention was paid to the withdrawal of the licence to practise. In certain cases—especially in gross negligence or when a practitioner was guilty of unprofessional conduct—his diploma was cancelled, and the unhappy man was thus deprived of his means of living. It was felt that this punishment was more severe than any other to which a citizen was liable, because its effects lasted longer than the punishment was meant to. More-

over, a protest was made against the punishment of the doctor who attended in his professional capacity at a duel; a law, dating from 1792, lays down the necessity of calling in medical aid in such cases; while by a law passed in 1902 the doctor is punished for rendering such aid. The opinion was expressed that these contradictions should cease. The prevalence of quackery and the lenient manner in which it is dealt with by the police was the subject of general complaint. Since a judge decided that medical teaching need not necessarily be obtained at a university, additional backdoors have been opened for quacks. Another conflict with the law occurs where the notification of infectious diseases or of deaths and injuries must be made. The doctor is bound to keep his patient's secret, and is at the same time bound to disclose it; in this way he finds himself in a hopeless dilemma. Several suggestions were made for the removal of these contradictions, and it was resolved to bring the matter to the notice of the Government. At the same meeting it was resolved to institute a propaganda for the creation of a special ministry for medical affairs, including medical teaching and public sanitation. Increased political action by medical men for the purpose of gaining more seats in Parliament was strongly recommended as the only means of remedying the grievances of the profession.

Two cases of cerebro-spinal meningitis which occurred in the naval station of Pola led Dr. Poledne to institute extensive investigations with the view of ascertaining if the micrococcus of Weichselbaum could be found in healthy noses. He recently communicated his results to the Vienna Clinical Society. The two cases, which showed the typical coccus in the liquor cerebro-spinalis, were cured by lumbar puncture, no other treatment being adopted. Afterwards he examined 207 healthy adults who had not been in contact with meningitis patients; of these, 25 (12 per cent.) gave positive results—cocci in the nasal discharge; 29 men who had been in contact with meningitis patients gave positive results in 38 per cent. Of the first group, the 25 who had cocci in the nose were examined day after day, and it was found that some of them were free from cocci after five, seven, nine, fourteen, and nineteen days. The conclusions drawn by the investigator are as follows: Healthy people may have meningococci in their nose without any harm to themselves; the possibility is increased if they come into contact with people suffering with an acute illness of this sort. The coccus does not remain long virulent on the mucosa. A third group of examinations comprised 119 children who were suffering from acute measles; 39 of these had in their nose the meningococcus. Convalescents who were quite healthy were also examined, and 12 had still their coccus. As these high figures showed no symptoms of meningitis, it is likely that it was a micrococcus catarrhalis. Nine cases of parotitis epidemica were negative. The examinations were made with films stained by Gram's or Ruge's (soda methylene blue) solution.

The name of Professor Adam Politzer, who recently celebrated his 70th birthday, is known all over the world by his researches on the function and morbid anatomy of the organ of hearing, and his clinic in the general hospital in Vienna is crowded with students of otology from all corners of the globe. The Austrian law requires university teachers who complete their 70th year of age to retire, no matter how long they have held their post and what their position in the scientific world may be. One year only, the "honorary summer and winter term" is allowed to them after their 70th birthday, in which they may continue their work at the clinics. Professor Politzer will therefore remain only one more year on the staff of the hospital.

ADELAIDE.

The Seventh Australasian Medical Congress: Annual Meeting of South Australian Branch.

The seventh Medical Congress for Australasia has met once more in the fair City of Adelaide, where its first session was held eighteen years ago. The actual attendance of members was probably about 225, as against half that number in 1887, and the nominal roll contained some 350 names as against 155 on the previous occasion. The President was the Professor of Physiology in the University of Adelaide, Dr. E. C. Stirling, C.M.G., F.R.S., a native of Adelaide, a Cambridge graduate, and formerly Assistant Surgeon at St. George's Hospital. His opening address, which was very well received by a mixed audience of the profession and of the laity, was worthy of the occasion and couched in scholarly and felicitous language; it covered a great deal of ground, but its main "motif" was obviously to explain to the laity the evolution of the modern methods in medicine and to illustrate the gradual manner in which triumphs have been won, both in the domains of medicine and of surgery, by the application—more especially in recent times—of the principles of physical and chemical and biological science to the study of disease: he further enlarged upon the importance of the prevention of disease, and his moral was that "none but the best" would do in the present day.

The presidents of the various Sections were judiciously chosen from the other States of the Commonwealth and from New Zealand. Dr. D. Colquhoun of Dunedin, Lecturer in Medicine in the University of Otago, was formerly Assistant Physician at Charing Cross Hospital, and a sub-editor of the *Medical Times and Gazette*. His Address in Medicine was excellent, and dealt with medical ethics and medical education. In some respects it was strikingly original, especially where dealing with an ideal physical and moral training for the medical student. The Section of Surgery was presided over by Mr. F. D. Bird, the lecturer on that subject in Melbourne; and his address, though not strictly of the usual presidential type, was an extremely able monograph on the syphilitic affections of the abdomen as they presented themselves to the notice of the operating surgeon. It was a model of writing which might win approval even from the Regius Professor of Medicine at Cambridge, and it suggested that the author had inherited the facile pen of his distinguished father, the late Dr. Dougan Bird, the writer of *Hydatid Disease of the Lungs*. Never was the section of obstetrics and gynaecology (though the former subject seems in danger of being swamped by the latter), presided over by a more able and genial all-round man than Dr. Byrne of Brisbane, surgeon, musician, athelete, and general favourite, who, like Father O'Flynn of immortal memory, had "such a way wid 'im." A new star of considerable magnitude appeared on the Congress horizon in the person of Professor Welsh, who superintended the pathological section, and gave an address on cancer, in which he unfolded the latest researches on the subject in a manner which showed that the University of Sydney had gained a great acquisition to its teaching strength by the recent creation of the chair of pathology. In the section devoted to the specialities of the eye, ear, and throat, as well as in that of public health, Sydney again contributed of its best in the persons of Dr. A. J. Brady and Dr. W. G. Armstrong; the latter besides delivering an address on infantile mortality, gave a semi-popular lecture on sanitation under the auspices of the Board of Health for the city. A new departure was a separate section to deal with ethics, which was under the able guidance of Mr. G. A. Syme of Melbourne, whose excellent address so completely embodied the views of those who listened to it that it seemed to sum up what we had always thought, but have found it difficult to give articulate expression to.

If the papers read in the various sections cannot be considered to be epoch-making, there was, nevertheless, excellent material for discussion, and the chief topics of the day were adequately threshed out.

But there is another aspect of these congresses which ranks only second in importance to the scientific work, and that is the opportunity which they afford for bringing the medical men (and ladies, too, for there were several ladies on the roll) of the different States into contact with one another and dispelling that natural antipathy which so characterizes the average Anglo-Saxon. The afternoons and evenings were occupied with social gatherings, as in the case of the meetings of the British Medical Association at home, and the proceedings were inaugurated with a special service in St. Peter's Cathedral, when an excellent sermon was preached by the Rev. Canon Hoperaft.

We know from the old Eton Latin Grammar how difficult it is to compare great events with those of lesser importance; hence the doings of the local Branch at the annual meeting must suffer somewhat in interest, though it also had its notable features. A whip sent round to the profession by the in-coming President resulted in an increase of membership of about 20 per cent., and for the first time in the twenty-seven years' history of the Branch a former President was again called to the chair in the person of Dr. Lendon. Dr. C. W. Hamilton's retiring address dealt with matters more particularly pertaining to his speciality, such as allusions to the centenary of Señor Garcia and to the eyesight of school children, etc.

MANCHESTER.

New Powers for Sanitary Purposes proposed to be obtained by the Corporation.—Case of Fractured Ribs in old Insane Person.—Retirement of Oldest Coroner in North of England.—Number of Street Accidents and Police "First Aid."—Report of Lancaster County Medical Officer.—Flies, Privies, and Pail Closets as Objective Causes of Infantile Mortality.—The Joule Memorial.

The Parliamentary Subcommittee recommend the City Council, in their Corporation Bill of 1906, to seek powers for the following sanitary purposes: For securing correct information from occupiers in respect of infectious diseases, and for tracing the source of food supply; requiring dealers in ice-creams or shellfish to have their names and addresses conspicuously shown on their vehicles, should these be used to expose their wares for sale: to prevent contamination of fruit and vegetables during transit; to make further provision as to the inspection and repair of drains, and to define the expressions "drain" and "sewer;" to impose penalties in respect of bad workmanship; to require the keeping of swine to be licensed; and to make further provision as to the conveyance of offensive matter.

The death of an aged inmate of 84 in the lunatic ward of the Withington Workhouse Hospital was the subject of an inquest by the City coroner on October 23rd. After death it was found that there were five ribs broken on the right side and three on the left. The ribs were no thicker than a shilling and broke with the slightest pressure; indeed, they were so brittle that one broke during the necropsy. Three ribs had been broken before death. It was stated that the deceased had fallen out of bed three weeks ago, but the ribs were not broken at that time. There was no evidence of any violence having been used. The coroner characterized it as a mysterious case. The jury returned a verdict of death from heart failure, and added that they thought more attention ought to be paid to old and feeble patients in the wards.

Mr. Laurence Holden, Coroner for Lancaster district, has resigned his office, one which he has held for upwards of fifty years. Mr. Holden is the oldest coroner in the North of England. The Finance Committee will be asked to recommend a successor at a salary of £110 per annum.

The Lord Mayor on October 26th presented a number of medallions and certificates to members of the police force who recently passed examinations in ambulance work. To obtain the medallion three examinations with an interval of at least twelve months between each had to be passed. At present 952 members of the force are qualified to render first aid, while 442 men hold the medallions. 181 others have passed the second examination, and 329 the first. During the year 2,355 persons sustained accidents or were seized with sudden illness in the public streets, and in each of these cases the police rendered valuable services. In addition the police rendered first aid in 1,500 serious cases. The number of cases of accidents and illness in the public streets has greatly increased in recent years. During the last three years there has been an average of almost 4,000 cases of street accidents and illness each year.

From the report of the Medical Officer of Health for the County of Lancaster for 1904 we learn that the death-rate was equal to 15·54 per 1,000, and 1·9 less than the mean of the last ten years. The birth-rate is declining, being now 25.56 per 1,000, or the lowest county rate hitherto recorded. The infant death-rate was equal to 157 per 1,000 births, or 17 higher than in 1903. The zymotic rate corresponded with the average of the past decade (1·95). The most gratifying feature of the zymotic statistics was the diminution of smallpox, which occasioned 422 cases and 22 deaths, as compared with 1,156 cases and 68 deaths in 1903. Of the total samples of food, 3,388, submitted for analysis, 246, or 7·23 per cent., were found to be adulterated. While during the past decade there has been a continuous reduction in the county birth and death rates, the rate of infantile mortality remains exactly the same. Apart from general causes and ignorance, one cause greatly contributes to the high infantile mortality—namely, the eagerness of mothers to return to work after childbirth. Thus "the mothers practically sacrifice their offspring for the sake of speedily resuming their work in the mills."

Dr. J. M. Rhodes has been endeavouring to waken the consciences of the electorate of Manchester and Salford and thus to get it to realize the insanitary state of affairs at present existing in their midst. The infantile mortality-rate in Manchester is 183 per 1,000, and is not dependent on the size of the town. Dirty bottles, sour milk, improper food, women working in mills, neglect, he says, are all powerful causes of a subjective character; but the objective causes are quite as powerful. The flies are distributors of the germs of the diseases that carry off thousands of little children. The great breeding-places of the flies are the privies and the pail closets. These prime factors in infantile mortality must be done away with in all crowded districts. "If the people want to preserve their little ones from sickness and death, let them (he says) take care to find out if the candidate for the Council is a slum-dwelling owner, or the nominee of the slum-dwelling owners, and to remember that every vote given for a slum-owner is a vote given for the slaughter of the innocents."

On October 28th there was unveiled at Sale a memorial to the late Dr. Joule, the famous Manchester and Salford physicist, who calculated the mechanical equivalent of heat. The memorial is a bust placed upon a high pedestal, and is placed in the Sale Public Park. The pedestal bears the name "Joule," and the dates "1818 1889." The cost was met by public subscription. The unveiling was done by Sir W. H. Bailey, the President of the Literary and Philosophical Society, an office once held by Joule himself. Absent scientists wrote in terms of eulogy of Joule's work and of himself as a great and world-renowned citizen of Manchester. Joule was without doubt one of the most remarkable men of his century, worthy to be ranked with Newton, Dalton, and Darwin as one of the great pioneers of science.

SOUTH WALES.

Cardiff a City.—Patti Concert for the Infirmary.—Eastern Valley Medical Association.—County Education Work.—Royal Sanitary Institute.

His Majesty the King has been pleased to constitute Cardiff a city and the chief magistrate will henceforth be styled Lord Mayor. The news of this signal honour has been received with great rejoicing, the Lord Mayor and Lady Mayoress being very popular in the locality. The proclamation took place on October 23rd at the Town Hall, and the day was declared a public holiday.

The Patti concert, which has so long been looked forward to, was held on October 21st, at the Park Hall. The Baroness was met on her arrival at the Great Western Station, Cardiff, by the Mayor and Mayoress, Major-General Lee and others, and the reception accorded her was of a most enthusiastic character. After Madame Patti's first song, General Lee, the Chairman of the Board of Managers of the Cardiff Infirmary, presented her with a lovely shower bouquet. Subsequently, after she had sung "Home, Sweet Home" Madame Patti took a chair on the platform, while the general proposed a vote of thanks to her. "It is not the only kind deed you have done for the sick and weary," said the gallant general, "and I trust their blessings and the blessings of God will go with you." Dr. Vachell, the Chairman of the executive committee, seconded the vote of thanks. When Madame Patti returned to her castle in Wales, he said, the hearts of thousands of patients would go with her. The takings at the concert amounted to £909, and it is estimated that after all the expenses are paid the Infirmary will benefit to the extent of £750.

The annual dinner of the Eastern Valley Medical Association was held on October 19th at the Crown Hotel, Pontypool. The chair was occupied by Mr. J. O'Keefe, Griffithstown, president of the association, and amongst others present were Captain Percy Probyn, D.S.O., R.A.M.C. The toast of the association was submitted by Lieutenant-Colonel D. S. Williams, J.P., and responded to by Dr. Mulligan, Talywain, and Dr. Mason, Pontypool.

The autumn general meeting of the Rhondda and Pontypridd District of the National Union of Teachers was held on October 28th at Pontypridd. References were made to the charitable work of the Association, and an urgent appeal was made on behalf of the Cardiff Infirmary. Mr. Pickles was nominated for the Vice-Presidency of the Union, and several members for the Executive. A member stated that, according to the Press, the education work in the county was done by subcommittees, and that the Education Committee was so overburdened with work that it was almost impossible to secure adequate discussion. He advocated more publicity, remarking that, while the present subcommittees of the

County Council sat *in camerâ*, the old School Boards always held their meetings in public.

An examination of the Royal Sanitary Institute for inspectors of meat and other foods was held at the Technical School, Cardiff, on October 27th and 28th, at which three candidates sat, two of whom were successful. The examiners were Mr. King, M.R.C.V.S., Chief Veterinary Inspector of the Islington Slaughterhouse; Colonel Lane Notter, M.A., M.D., Professor of Hygiene at the Military College, Netley: and Dr. Edward Walford, Medical Officer of Health to the City of Cardiff.

BRISTOL.

University College Faculty of Medicine: Distribution of Prizes: Address by Professor Osler: Annual Dinner.

THE annual distribution of prizes to the students of the Faculty of Medicine took place on October 26th in the large hall of University College, the Right Hon. Lewis Fry, Chairman of the Council, presiding. There was a fair attendance of visitors and of the medical men of the city, far fewer than was expected, as the Regius Professor of Medicine in Oxford was expected to deliver an address. It was reported that since the last meeting Dr. Markham Skerritt, after twenty-six years' service, had resigned the office of Dean, as well as Professor of Medicine, and his successor spoke in high terms of his service to the Bristol School and afterwards to the Faculty of Medicine. Several other changes had taken place, Dr. Michell Clarke being appointed to succeed Dr. Skerritt, and Dr. Edgeworth took the place of Dr. Shaw. Dr. Peown had resigned the post of Lecturer on Pharmacology and Therapeutics. After Professor Fawcett had read the list of prizewinners the Chairman introduced Dr. Osler, who presented the prizes.

Professor Osler, addressing the meeting, said he had come as a student to talk to students, and thanked the Faculty for the great honour they had conferred on him in asking him to distribute the prizes. He wished to speak of the dual aspect of student life, of his professional education first, and afterwards of his inner platonic education of which the student was alone the custodian. Three things were necessary for them to become successful practitioners. They had first to have an absorbing interest in their studies, for nothing could be done well without it. The profession of medicine was one of surpassing interest and of wonderful variety; indeed, some might think it of rather too many varieties. This was really one of its great charms, for in this it surpassed all other professions. They must, secondly, have a deep and abiding industry; he himself, if he had had some success, was certain it was due to inherited industry, and without it no student could do well. Thirdly, they must have good health, and he warned them as students to take care of their health, for even for the most robust the profession was a hard one. Let them form good habits, take plenty of exercise, and eat plain, fresh food. The second part of their education was more serious and much more important—the education of their inner selves. It was this that went to form character, and in no profession was character a more requisite acquirement. They might have science and all the endowments of head—brilliant and deep—but if they had no endowments of the heart, if they had no culture, they would be as sounding brass or tinkling cymbal. It might seem hard, when young men had so much to learn nowadays, to ask them to give time to the cultivation of their characters, but he could assure them it would be time well spent. Some might acquire it from their teachers or their homes, but any one could get it from good literature. Three authors he would recommend them, all three medical men who had worked hard in the profession—Sir Thomas Browne, John Brown of Edinburgh, and O. W. Holmes; but, in addition to that, Shakespeare, Plato, Voltaire, and many more could be studied only for a short time. Self education must start early, for it was rare for a man to attain a high degree of culture who began after the age of 25. They should not strive to get what they could out of life, but what they could give to it. If they could master this they had learnt the highest lesson, and then take a sane and sensible outlook on the world. He was surprised to find that Bristol alone of all the medical schools in the kingdom was not connected with a university. Had Bristol people considered the great advantage it would be to have a university? If not, let them see how greatly all those big towns that had them had been benefited. For a university three things were required—capital, men and buildings. Bristol had the men and the buildings, and he could not think that in a rich community the capital would be hard to find. There were four kinds of universities—there were buildings and no men or money; secondly, those with men and very little money, thirdly, those with money and no men, and lastly, those, like that which might be established in Bristol, those with buildings, money, and men, and then they would be worthy of the Empire.

The address was listened to with great attention, and many remarks elicited loud applause. It is impossible in a report to give the charm of Dr. Osler's address and manner, but it is universally admitted that the speech was the most delightful as well as instructive and stimulating ever heard in connexion with the school.

The annual dinner was held in the evening of the same day when, under the chairmanship of Dr. Doyne, of Oxford, about 120 sat down to dinner; Dr. Osler being guest of the evening.

CORRESPONDENCE.

THE PERPLEXITIES OF SECRETARIES.

SIR,—I have just been reading the letter of your correspondent "Sweated" in the BRITISH MEDICAL JOURNAL of October 28th, and I confess to feeling quite nonplussed by a consideration of what he writes therein. In effect, he states that he is so overworked that he cannot find the time to attend to a meeting of his Division, which does not occur oftener than once in a month or six weeks; that he has to leave the consideration of medico-political questions (in which he is peculiarly interested) to those "leisured colleagues" who can afford the time for looking after them; and that he is one of six medical men holding appointments under one Board of Guardians who are "so tied by work that, with the probability of having to fight also a host of newcomers eager to pick up an 'appointment,' however poorly paid, as something 'to go on,' we hardly think it *worth while to engage in the struggle* to obtain a decent wage" (the italics are mine).

Now I must confess that I utterly fail to understand the frame of mind of the gentleman who has sent you this letter for insertion in the JOURNAL. Why, for instance, should he expect other people to fight his battles when he will not even take the trouble to attend the meetings where the matters in which he is particularly interested are being discussed? Can he be so overwhelmingly engaged in practice that he cannot spare two hours every six or eight weeks for the purpose of attending a meeting where questions arising out of "club, parish, and other poorly-paid work" are being considered? And, finally, does he think it likely that the "leisured members" of his profession will continue to give up time and labour to help him and others who leave them to fight the battles in which they are especially concerned, whilst they will not even attend the district meetings for the purpose of encouraging them in their work? For that they can, occasionally at least, attend these meetings I have no doubt whatever. "Where there is a will there is a way." Were the "leisured members" selfish they might say: "This is no concern of ours; we are comfortably off, and it is nothing to us that our brethren are being sweated; let them look to their own business."

I am induced to write this letter because it is evident, from what "Sweated" writes, that he does believe in a power possessed by the Association to ameliorate the lot of himself and others. He evidently thinks, as I do, that by union and by combined efforts we can obtain better pay and conditions from the public than we now get. But, if he and others think this, they must join in the work which has to be done to that end. Better conditions will not come of themselves, and the law of supply and demand will operate here, as elsewhere. A powerful Association, such as ours is, can impose good terms for the services of its members, if its members are loyal to themselves. But these members must work out their own emancipation and must not leave everything to be done by a few earnest men who come forward to help in the battle.

I commend to your readers the excellent address of Mr. Humphreys, the Chairman of the Hampstead Division, which they will find published in last week's SUPPLEMENT. There they will find statistical statements as to the average attendance at Divisional meetings, and as to the response by postcard to appeals sent out for the members' opinions on important questions. In both cases a pitiful apathy is shown—an apathy which I hope will lessen as men realize how important it is for our profession that they should engage in its business as well as in its scientific side.—I am, etc.,

Swansea, Oct. 30th. H. A. LATIMER.

SIR,—I speak after 'twelve months' experience as secretary of a Division of the British Medical Association. "Sweated" is wrong when he remarks, "I take it that we attend meetings on subjects in which we are interested." We do not. When the Midwives Bill was under discussion the general attendance of general practitioners was very small. But what an outcry there was and now is about points which we might easily have settled, but which even now are unsettled. The cause of our poor attendances is not over-work, but apathy. It is often at great inconvenience that I myself attend our Divisional Meetings, but I always make a point of attending, even though I have to put in work at night to make up for arrears. The meetings are really very few in the year, and I think it our bounden duty to attend them. It is our only way of ascertaining what is going on in medico-political matters and our only way of guarding our own interests.

We must not trust to secretaries or colleagues; we must learn to depend upon ourselves. "Sweated" and his colleagues have only to present a united front and stand out for a decent wage, and I am sure that no right-minded medical man would attempt to undersell his colleagues; and a word of caution from the Association as to avoiding their district would settle the question of any unscrupulous medical man who might think of applying for the post at the original rate.

"Sweated" is the very man who should make his voice heard at medico-political meetings, as he will speak from experience in a far more persuasive manner than those members who know only by hearsay the trials of the parish and club doctors. It is only by meeting together and interchanging ideas that we can hope to obtain a united profession fighting merely for one aim—justice.—I am, etc.,

October 31st. EXPERIENTIA.

GRAVES'S DISEASE.

SIR,—I have read with unusual interest and with very great pleasure Dr. Hector Mackenzie's clinical lecture on Graves's disease in the BRITISH MEDICAL JOURNAL of October 28th.

As an old practitioner I can endorse most of his opinions as regards the diagnosis and treatment of this most serious affection.

I have seen and treated a large number of cases of exophthalmic goître, and with your permission will mention two of the more severe which came under my care within the past ten years during my residence in Brighton.

Before doing so, however, I am anxious to say that my main object in writing at all is to draw the attention of the profession to the very much neglected use of an old and valuable external remedy—namely, the unguentum hydrargyrum iodidum rubrum. It appears to have gone out of the memory of most men, unless, indeed, they have never been taught to make use of a drug so powerful and so certain in its action on the lymphatic system. The formula of the *British Pharmacopoeia* is at least four times stronger than should be applied to the skin of the neck in these cases. The diluted ointment (5 gr. to the ounce) should be gently rubbed in for a few minutes every night or morning until the skin, after many days, begins to peel, when, on this occurring, an emollient ointment of lanoline or glycerine spread on lint should be kept on till the skin is again smooth and sound; after which the iodine application must be repeated, going through the same process as before. In a short time its effect in reducing the swelling, and improvement in the patient's condition, will be evident. With this remedy I have never failed to get, sooner or later, a good result; it matters not whether the cases are of simple goître or the more complicated cases under consideration.

The two before-mentioned cases were well-marked cases of exophthalmic goître, and both treated with the same remedies during a period of four months, namely, the frequent application of the red mercuric iodide ointment, in the way stated above, and the internal administration of two minims of Fowler's solution of arsenic three times a day. One patient was a gardener, 23 years of age, whose recovery was complete; the other case, a lady, aged 37 (companion to a patient of mine), whose condition improved rapidly. In three months the goître was reduced in size by 3 in. (by measure over the swelling round the neck). This lady recovered after a prolonged suffering of 17 years.—I am, etc.,

Clifton, Oct. 30th. WILLIAM PROWSE, M.R.C.S.Eng.

SIR,—I have just read, with interest and profit, Dr. Hector Mackenzie's masterly summary of current knowledge relating to this disease. The summary is masterly, but the final conclusion as to the desirability of operating seems to me weak, and not the logical outcome of the facts stated. Nothing could be more frankly impartial than Dr. Mackenzie's review of the various methods of medical and hygienic treatment and their utter inutility, or slow and uncertain, or partial success. But when we come to the statistics of Kocher's operations, we at once find that 76 per cent. of his cases were cured and 14 per cent. improved, 90 per cent. in all either cured or benefited, and of the remaining, 6 per cent. died, probably soon after the operation, and 3.8 per cent. may be considered failures. Now probably 90 per cent. of the six who died of the operation would have been cured or improved, so that including a just proportion of the fatal cases, the percentage of cured and improved would probably be 95 per cent., which I hold to be a magnificent result for an operation which is, even yet, comparatively new, and the technique of which may reasonably be supposed to be capable of a considerable degree of improvement. Also we should remember that most of the cases benefited by operation would be benefited rapidly, whilst those cases recovering under medical measures would be years under treatment. I was disappointed to find in Dr. Mackenzie's address no allusion to the treatment of exophthalmic goître by the intraglandular injection of a solution of iodoform in ether. Abadie and Collon, who have tried this method on 24 cases, report 12 cases cured, 9 notably and permanently improved, and 3 only temporarily improved, a percentage of benefited cases almost equalling Kocher's thyroidectomy results; but in the injected cases there were no fatalities. Therefore, contrary to Dr. Mackenzie, I hold that the balance of evidence is altogether in favour of thyroidectomy and injection, and against medical measures pure and simple, and as between thyroidectomy and iodoform injection, I consider the balance rather in favour of injection. It will be observed that Dr. Mackenzie gives us no statistics of cases treated by medical measures alone, but only remarks, in a very general way, that about 50 per cent. "make a fairly good recovery," whatever this may mean.—I am, etc.,

WM. HARDMAN, M.D.Edin., J.P., etc.

Blackpool, Oct. 30th.

UP-TO-DATE SURGERY AND THE TREATMENT OF CANCER.

SIR,—Dr. Lovell Drage's letter in the BRITISH MEDICAL JOURNAL of October 28th raises a rather important point. He does not seem to be aware, or to realize, that there are curious inflammatory conditions of the abdominal cavity which, even on inspection, are so difficult of diagnosis, so like cancer as to deceive the most skilled surgeon or pathologist.

I once operated upon a hospital patient of the late Dr. Cavafy, and found the stomach infiltrated and bound down by a dense white growth, which obstructed the cardiac orifice, and rendered it impossible to draw the viscus forward. The patient died of gradual exhaustion some weeks after. At the autopsy, portions of the growth were examined, removed, and still thought to be carcinomatous. Under the microscope, to our surprise, the mass was purely inflammatory. There could be no doubt of this. Nothing resembling cancer was found. The pathologist engaged in this case is certainly one of the most skilled and accurate in this country; but he was in error.

I have twice opened the abdomen for what, apparently, was hopeless malignant disease, and the great tumours have spontaneously withered and disappeared afterwards. I never knew the true explanation of these cases. In malignant disease (stricture) of the large intestine the diagnosis is still more difficult. I am forced to the conclusion either that we confuse inflammatory swellings with malignant growths, or that the latter occasionally spontaneously atrophy.

I fear that in this difficulty of diagnosis lies the truth of the apparent improvement of cases of malignant growths under various vaunted remedies. The investigators at the Middlesex Hospital could doubtless relate to us a long list of these, and be able to prove their inutility. In a pamphlet appropriately coloured of a delicate violet, a case of my own is related where improvement or cure took place under the "violet-leaf treatment" after I had pronounced it hopeless. I found on investigation that this patient had died of his malady about the time of publication of the book! These and like considerations render the mental condition of those who Dr. Drage not very courteously alludes to as "the old gang" very excusable. For myself, I would never hesitate to employ any remedy in malignant disease which could be proved to be beneficial or curative. So many have been brought forward in the last twenty years and consigned to the limbo of obscurity,

that doubt must of necessity arise in the minds of those who approach the most difficult of all problems with the humbleness begotten of a knowledge of its mystery, and a desire for accuracy and truth.—I am, etc.,

London, W., Oct. 28th. A. MARMADUKE SHEILD.

SIR,—The letter which appears in the BRITISH MEDICAL JOURNAL of October 28th, over the signature of Dr. Lovell Drage, illustrates most aptly the need for what he somewhat impolitely calls "the stopping power of the old gang." A phrase by which he appears to mean the caution and logical attitude taken up by the hospital surgeons of this country in reference to the treatment of cancer by other than operative measures.

I have no wish to enter upon the merits or demerits of the particular case he quotes, because the greater one's experience of visceral surgery the more one recognizes how difficult it is to make an accurate diagnosis in every case of abdominal swelling. But I desire to protest as strongly and as publicly as possible against the increasing tendency to record such isolated cases as that published by Dr. Lovell Drage—a single case of doubtful nature whose course is not yet run, treated by an unproved remedy. Such cases should, if possible, be multiplied and the results should be collated, tabulated, and thought over before any record is published; otherwise harm is done to the author, to the public, and to medical science. To the author, because it compels us to doubt his sense of proportion; to the public, because it leads the patient to delay an operation when prompt action alone offers a cure in the present state of our knowledge; and to medical science, because it wastes the time of those who are striving to discover the secret of cancer.

Every surgeon of repute is anxious and willing to administer any remedy which holds out even a remote chance of arresting or delaying the progress of cancer. We are constantly trying new remedies as they are brought to our notice, because, like Gamaliel, we know that "if this work be of man it will be overthrown, but if it is of God ye will not be able to overthrow them." If the remedy does not immediately fulfil the promise of its promoter we abandon it unhesitatingly and resort at once to the knife before the patient is harmed by delay. Our sole stipulation with the inventor is that his method shall be tried on straightforward cases of cancer in which there is no doubt as to the diagnosis. We tell him that there are plenty of doubtful tumours which have become smaller by lapse of time and treatment by high-frequency currents, various kinds of serum, the injection of complex organic compounds, *et hoc genus omne*. In no single case have we yet seen a genuine scirrhus or an undoubted epithelioma whose course has been modified or whose growth has been hindered for a single day by any of their methods. Such a consummation may perhaps be attained in the future, but it is not yet. For the present it is better to try, wait, and think rather than have the *insanabile scribendi cacoëthes* which is at least as old as Juvenal.—I am, etc.,

London, W., Oct. 29th. D'ARCY POWER.

POST MORTEM MENINGEAL INFECTIONS.

SIR,—In the report in the BRITISH MEDICAL JOURNAL of October 28th, of the very interesting discussion, opened by Dr. Howard Tooth and Dr. Thomas Horder on the "Pathology, Diagnosis and Treatment of Various Forms of Meningitis," the latter writer, speaking of "mixed infections of the meninges," which he believes to be "less common than is usually stated," goes on to say (p. 1015), "strict account must be taken of the fact that a subarachnoid exudation rapidly becomes the seat of *post mortem* contaminations of considerable number and variety."

This statement I regard as one of extreme importance; and looking to the great obscurity of the subject and the uncertainty of our knowledge (apart from more or less probable conjectures) as to the precise modes by which infection is brought about in meningitis, as well as in other diseases, I trust Dr. Horder, as a careful worker, will be able to throw some further light upon this subject.

How can the subarachnoid exudation, as he says, "rapidly become the seat of *post-mortem* contaminations of considerable number and variety"? If the fact be as he says—and I believe it to be true—it is one which seems to me to be strongly opposed to some fundamental bacteriological doctrines. Perhaps Dr. Horder will kindly give us some hints as to how this *rapid multiple contamination* with bacteria can be brought about. The *post mortem* process of infection ought to be capable of throwing much valuable light upon what also occurs during life.—I am, etc.,

London, W., Oct. 28th. H. CHARLTON BASTIAN.

THE BRITISH MEDICAL BENEVOLENT FUND.

SIR,—It is well that many of us are at length beginning to take an interest in this fund. Every profession has its poor always with them; in our profession the majority are poor. We should help each other, and the poorest among us may surely spare a yearly half-crown for so deserving a fund. But, all things considered, any aid it can give must be insufficient.

Should any member of our profession be so poor as not to afford provision, in case of death, for those dependent on him? Should the pitiful and almost sordid appeals we are accustomed to be inevitable? We are fairly-well organized in a great Association, and yet our pecuniary status is miserable. The root of the matter, it seems to me, is that we have managed to give the public the idea that we are not professional men but philanthropists. Only philanthropists could serve men, earning from 30s. to £2 weekly, for the sum of one halfpenny per week. Only philanthropists could spend, perhaps, a whole night at a confinement for the sum of 7s. 6d. I know colleagues who do both—men who were in practice when I was a schoolboy. From the same class of patients I get regular fees and a minimum confinement fee of one guinea. Is it fair that the dependants of such members of the profession should at the end appeal to the charity of those whose interests have been betrayed and who thus are themselves poor?

There is not one among us, I am sure, who does not willingly give his services gratuitously to the deserving poor. But to those who are not poor we should not.

With all deference to the good Sir William Broadbent, I think there are too many of us, and the patient tends to go to the lowest bidder. If there were not too many of us would not our own self-respect and consistency with our own honour prevent us from the degradation of club and dispensary practice as these now are?

One wonders, sometimes, whether the obvious want of culture and even of education in many members of our profession be not a contributory cause of the self-degradation that must be both cause and effect of their too common subservient relation to the public.

Notwithstanding the many discussions on contract practice, are we any nearer the goal? There is a grim humour in the almost unanimous approval of the principles in regard to contract practice advocated at the Leicester meeting, and the equally unanimous refusal of those engaged in contract practice to apply the principles.

Our motto seems to be "Every man for himself and the devil take the hindmost—to the workhouse!"

In at least one non-established church in Scotland insurance is compulsory—the premium is deducted from the stipend. The system has been a great success. Is it impossible to formulate a scheme for the medical profession?—I am, etc.,

October 20th. M. B.

SIR,—I have before me Sir William Broadbent's letter in the BRITISH MEDICAL JOURNAL of October 7th, *re* the British Medical Benevolent Fund, and a pitiable tale he tells us. But are there not two sides to the question; and, although it appears cruel to say so, is not the existence of this fund some inducement to impecunious men to risk entry into the profession? Is it not partly our own fault that such conditions exist? I hold that the profession is overstocked, and that while this is the case no man should be induced to enter it unless he has a private income at his back at least sufficient to keep him from starving. If a club worth £60 or even £30 a year is in want of a doctor, you will find several men ready to compete for it, and a Poor law appointment of £100 will bring half a dozen. They must get something or starve. Meanwhile the profession is fast becoming a byword with the public. I look at *Punch* of October 4th, and on one page find three separate allusions to the profession, none of them very complimentary.

This frightful competition means loss of all self-respect and consequently degradation. I think you, Sir, are not altogether without blame in this matter. In your Educational Number, page 469, you say: "No practitioner who is able and willing to work need starve," and "all should be able to earn £400 to £500 a year." I have seen it stated in the JOURNAL more than once, and never contradicted, that more than half the medical practitioners in the United Kingdom are earning

less than £200 a year, and I believe this statement to be true. I read in the *Times* of October 12th the address of the President of the Royal College of Surgeons on a post-graduate course. How is this possible with such an income? In the same paper Professor G. H. Nuttall makes the complaint that the best men have to leave research work to struggle for a living. I say again that no man should be allowed to enter the profession unwarned unless he has a private income to fall back on, and can therefore afford to wait.—I am, etc.,

Caxton, Oct. 23rd. JOHN GILES.

SIR,—I am glad that some correspondence has been evoked by my letter published some weeks ago. The letters which have since appeared show, I think, that the need of further effort is realized, and that there is a willingness to co-operate. I have corresponded with many of my friends on the subject, and have had a ready response, but they have been surprised to find how many plead ignorance of the existence of the fund. This is hardly to be wondered at when one considers that there are but eighty local secretaries throughout the kingdom. Appeals are sent out from time to time, but such have little effect when impersonal. We owe gratitude to the Branch secretaries of the Association, who have done much in the past, and many of whom must have been disheartened with the result of their efforts; but it is impossible for them to come into personal touch with all the members in their area.

I learn that an appeal is now being issued to the Divisional secretaries asking for a representative of the fund in each Division. If this suggestion is carried out there should result a large increase in the subscription list. I trust that the result may be to place the fund on a much more substantial basis.—I am, etc.,

November 1st. J.P.

THE METROPOLITAN ASYLUMS BOARD AND ITS ASSISTANT MEDICAL OFFICERS.

SIR,—The controversy which has been taking place in the BRITISH MEDICAL JOURNAL between the Metropolitan Asylums Board and their former medical officers has been of the greatest interest to me, as it is but a short time since I myself held the post of Assistant Medical Officer at Darenth Asylum, and I would like to be allowed to make a few comments, founded on my own experience, regarding this matter.

Respecting the chief cause of dispute—that is, the fact that the assistant medical officers are subordinate officers, I can most heartily endorse the view that it is difficult to uphold one's authority in the institution, and the whole of my time there I felt keenly that there was always an adverse influence thwarting any efforts towards general improvement and smooth running. On more than one occasion, to my knowledge, the lay officer sending for the assistant medical officer for an emergency case or the examination of a new attendant entering the service has ventured to exercise the right of selection of the medical officer summoned, and totally to disregard the well-known regulations (or customs) respecting the proper person to be called.

Messrs. Barwell, Herklots, and Kennard were wise indeed to give no names in stating their case, as, first, this would simply lead to one or more lay officers being made scapegoats, and thereby enabling the Board to justify itself.

And secondly, this would have left the real source of the trouble untouched, that source being in my opinion the policy of the Board to centralize everything, even to minute details, in its own hands at its offices on the Embankment.

The Board confesses that the assistant medical officers, being subordinate officers, are treated as principal officers in such matters as "dietary, the privilege of receiving and entertaining friends, and in several other ways." This is the whole weakness of their case; if in some ways, why not in all? Even the Metropolitan Asylums Board have to acknowledge that the rules, regulations, and rations apportioned to, say, resident head attendants for instance, and the hours they must keep, not even the most docile of medical men would submit to. Furthermore, were the assistant medical officers made principal officers, there would cease to exist that "Gilbertian" condition which obtains in the absence of the Medical Superintendent (namely, the first assistant medical officer being Acting Superintendent) and puts a subordinate officer in control of the higher rank principal officers.

The committee room is the common room on sufferance only, and in my time we were often threatened with eviction for the most insufficient causes, and many childish restrictions were placed on our use thereof. The room where we messed on committee days was a small back one, which was inexpressibly dirty during the whole seven months of my stay in the institution. To the pavilion quarters, which were my rooms, the same remark applies as regards paper, whitewash, and paint, and within a short time of my arrival at Darenth I headed a written list of repairs, etc., necessary there, with a request that they should be whitewashed and either painted or papered (I cannot remember which of the two last now).

With regard to Section XXII, in which the Asylums Board express such tender solicitude that young medical men should be discouraged from staying in imbecile asylums for long periods, they are to be congratulated on the success with which they have accomplished their kindly purpose, for the number of medical officers and *locum tenentes* who have passed through Darenth in ten years is enormous. I have good reason to believe it is more than fifty—an eloquent testimony to the discomfort of their position.

The report published in the BRITISH MEDICAL JOURNAL of October 28th, I can say from personal experience of the service in question, simply represents an old acquaintance—the wolf in sheep's clothing—once more.—I am, etc.,

Cricklewood, Nov. 1st. SIDNEY J. ORMOND.

THE ANNUAL MEETING OF FELLOWS AND MEMBERS OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

SIR,—The annual farce of a so-called meeting of Fellows and Members of the Royal College of Surgeons will again shortly take place. The members are, however, as far as ever from obtaining any voice in the management of their own College.

Last year, out of a body of some 16,000 members, the Council was able to secure the attendance of 34, and from recent unsatisfactory answers of several of the Members, it appears in the highest degree probable that this number will be still further reduced this year. Such figures indicate dissatisfaction and mismanagement combined in the highest degree. For where is the use or object in calling together or attending a meeting where any and every expression of opinion on the part of the Members is not only studiously ignored, but is usually acted upon in a manner diametrically opposed to the unanimous vote of those who are Members of the College, and who have taken the trouble to attend the meeting?

So far as the receipts of the College are concerned, we note that out of a grand total of £18,623 paid by the candidates, £12,611—equal to two-thirds—are absorbed by expenses, of which £6,648—equal to one-half—go into the pockets of examiners.

It is reported that the Council of the College is carefully considering the question of granting a qualification in Tropical Medicine, as a means no doubt of enabling still more cash being taken out of the pockets of the unfortunate candidates, and again splitting up the consolidated triple qualification in Medicine, Surgery, and Midwifery; and in the very near future the doubly qualified man of the past will be told that he is not fit to attend an ordinary case of diarrhœa during an epidemic of cholera, because he does not possess a certificate in Tropical Medicine, or in other words the older man will be qualified to attend one of his own countrymen, but he will not be fit to attend a nigger.

So far as the title of "Doctor" is concerned, it is within the certain knowledge of the writer that the Royal College of Physicians of Edinburgh, in the past, has through its Secretary, addressed its Licentiates as "Dr.," and this notwithstanding the extract from their laws quoted on folio 5 of the report of the Royal College of Surgeons of England.—I am, etc.,

Putney, S.W., Oct. 25th. ALBERT S. MORTON,
A Member of the Royal College of Surgeons of thirty years' standing.

SYNCOPAL BRADYCARDIA.

SIR,—A word more is called for in support of the view that the extra sounds heard in Dr. Maynard's case of syncopal bradycardia[1] were caused by auricular contractions, and not, as Dr. Gossage suggests, by abortive ventricular systoles.

I realize that under the circumstances it is impossible to finally demonstrate my view, but I am confident that there is sufficient evidence to justify its acceptance. Dr. Gossage will agree with me that Dr. Maynard's patient must be classed

[1] BRITISH MEDICAL JOURNAL, October 7th.

as either a true or a false bradycardia: in other words, that the infrequent pulse noted was due either to infrequent ventricular systoles, or to the presence of abortive ventricular systoles which do not reach the wrist, the radial pulsations being less frequent than the heart beats.

The tracings published by Dr. Maynard give strong evidence that the case must be classed with the true bradycardias. In fact, if I understand Dr. Gossage aright, he is in accord with this view: stating, as he does, that all the cases of syncopal bradycardia so far recorded "tend to show that the infrequency of the heart rhythm is entirely due to the ventricles, while the rhythm of the auricles remains normal."

The presence of the sounds heard between the obvious ventricular contractions is, however, a stumbling block to Dr. Gossage; and it seems to him "that the extra sound requires something special for its production, and that special something can only be an abortive ventricular systole." There is the appearance of a contradiction here, if not more.

Dr. Maynard's case is somewhat similar to the second of my two cases published in the BRITISH MEDICAL JOURNAL of October 21st.

In this patient a subsidiary sound can sometimes be heard. The tracing on page 1035 shows at which period of the ventricular diastole it was heard. This sound can only be due to a systole of the auricle or to an abortive ventricular systole; if to an abortive ventricular systole then it must have invariably occurred at or about the period of auricular systole and have been of such a character as never to have given any other sign of its existence.

Some days ago I had the pleasure of examining with the *x* rays a similar case of true bradycardia. There were forty ventricular systoles per minute and eighty auricular systoles, only every second systole of the auricles exciting a ventricular response.

The ventricle was seen to remain motionless with the exception of the forty contractions per minute. I freely admit that I was unable to see the auricle contracting during the long pause, but there was other evidence of its systole.

The movement of the ventricle during systole is so easily seen on the screen that I cannot believe that the ventricle could beat even abortively and the contraction escape recognition.

In this patient the ventricle occasionally responds to every auricular systole and then beats for three or more consecutive contractions at the rate of eighty per minute, showing that when the ventricle does receive a stimulus it responds with a full, vigorous, and strong contraction. With such a condition of muscle one can hardly assume that there can be abortive ventricular systoles, and yet I have occasionally heard a short faint murmur in the long pause of the heart.

The points I would advance in favour of the assumption that in Dr. Maynard's case the auricles were responsible for the subsidiary sounds are:

1. There is undoubted evidence in the sphygmograph that there were several auricular systoles to every recognizable ventricular systole.

2. That the clinical history of the patient and the character of the sphygmograph point to the case being one of heart block, or at any rate of depression of conductivity.

3. That in other such cases sounds have been heard synchronous with waves in the jugular vein, which waves have been demonstrated to be due to isolated auricular systoles.

4. There is no evidence in the tracings of any extra systoles, and our knowledge of their characteristics and also of heart block is opposed to the assumption, that any such extra systoles occurred.

Dr. Gossage is not satisfied with the assumption that the sounds were produced by the auricles, although auricles have been proved capable of producing sounds, and have, in the case under discussion, been demonstrated to be contracting more frequently than the ventricles just at or about the time the sounds were heard.

He assumes something still more difficult of acceptance—namely, that a ventricle which responds in a strong and vigorous manner to a stimulus should frequently give small abortive contractions, of which there is not at any time the faintest trace.

He believes that this "extra sound requires something special for its production," and states that "that special something can only be an abortive ventricular systole." The reason he advances for this assertion is that "there are such things as extra-ventricular systoles," that these extra-ventricular systoles "are often very feeble, and that they produce sounds"—all of which is very true, but which appears to me to be no reason for believing that in this particular case extra-ventricular systoles were in any way responsible for the subsidiary sounds.—I am, etc.,

Liverpool, Oct. 30th. JOHN HAY.

SIR,—I am gratified that the case of syncopal bradycardia which I reported in your issue of October 7th, has provoked such an interesting correspondence as has appeared in the BRITISH MEDICAL JOURNAL. A perusal of the correspondence emphasizes the fact that the determination of the actual cause of the subsidiary sounds and impulses is by no means easy, and I have some diffidence in entering further into a discussion of this obscure point; but my personal contact with this particular case may, however, give my impressions a certain value.

I agree with Dr. Herringham that we should not be too positive in our interpretation of sphygmographic and cardiographic tracings, and I feel that great care must be necessary to correlate inequalities in the descending limb of the sphygmograph with recorded venous movements.

The force of the secondary impulses and the distinctness of the sounds produced, had they originated in the left ventricle, would to my mind have made a more definite impression on the descending limb of the sphygmograph than the slight sinuosities observed in those I published in the JOURNAL of October 7th; looking through other of the sphygmographs I took I find no trace of even these slight sinuosities.

The difficulty, to my mind, lies between the ascription of these sounds and movements in the heart to the right ventricle and to one or both of the auricles.

As regards their possible auricular origin the situation in which these secondary impulses were felt might certainly suggest their being due to contraction of the right auricle and I do not feel that I can disprove such a possible causation of the phenomena in question, but I confess that if such were the case I must revise altogether my preconceived notions of the power of auricular systole.

I do not think that the argument from the physical signs of mitral constriction as an index of the power of auricular systole can be accepted without reservation because the mechanism of the production of the signs of that lesion are still in dispute.

The force of the secondary impulses was out of proportion to the distinctness of the sounds (with the straight stethoscope one could feel them in such a distinct manner) and was to my mind much more suggestive of the more powerful action of a ventricle. I have already argued that such power could not have been exerted without leaving a definite mark on the descending limb of the sphygmograph had it been due to the action of the left ventricle. I am, therefore, of the opinion that the subsidiary cardiac movements were originated in the right ventricle, and that the case was one of hemisystole.—I am, etc.,

London, Oct. 31st. J. SEYMOUR MAYNARD.

THE EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS BY THE ROENTGEN RAYS.

SIR,—I was very pleased to read Dr. Theodore Williams's remarks in his communication to the Tuberculosis Congress about the value of the Roentgen rays in the early diagnosis of pulmonary tuberculosis, but I do not think that he laid sufficient stress upon the great importance of calling in their aid to every case of suspected phthisis, still I am very glad to see that he is convinced of their value, inasmuch as he seemed very sceptical when I read my paper before the Clinical Society in May, 1904. He divides the cases into three classes

1. Where early tuberculosis is indicated by the rays before its detection by auscultation and percussion.

2. Where the presence of tubercle is localized simultaneously by Roentgen rays and physical signs, and this is by far the most numerous class.

3. Where the physical signs detect lesions which are undetected by the Roentgen rays. "This class is quite as numerous as No. 1."

With this last statement I cannot agree, for I have been making a study of these early cases for the past five years and I can honestly state that I have never missed detecting the presence of lesions that were localized by auscultation and percussion, but on the contrary I have in many cases proved the presence of disease in one or both lungs when it was not detected by the ordinary methods of examination; it is quite clear that the number of cases in Class 1 will depend entirely

upon the number of early cases submitted to this method of examination and also upon the skill and experience of the radiographer to whom they are taken.

Dr. Theodore Williams might easily have added another class, and a very important one, too—namely, those cases where the Roentgen rays demonstrate the presence of disease in both lungs, when auscultation and percussion would lead the physician to say that one lung was healthy. I have repeatedly been able to prove this beyond the shadow of a doubt, and I am firmly convinced that if all cases of pulmonary tuberculosis were examined by an expert radiographer when, as the result of physical examination, the physician had pronounced them to be unilateral, the Roentgen rays would prove that in a majority the disease was present in both lungs.

Now that such an eminent authority as Dr. Theodore Williams has brought this matter before the profession, I hope that a larger number of patients will be submitted to this method of examination than has hitherto been the case, and that the fact that "unilateral limitation of movement of the diaphragm is the earliest known sign of pulmonary tuberculosis" will be accepted by the profession as a law.—I am, etc.,

Lincoln, Oct. 16th. STANLEY GREEN, M.B., B.S.

ROYAL NAVY AND ARMY MEDICAL SERVICES.

DENTISTRY IN THE SERVICES.

THOROUGH writes: In my letter which appeared in the BRITISH MEDICAL JOURNAL of October 21st, page 1075, I was referring only to the appointment of duly qualified dental surgeons whose time is exclusively occupied in attending to the British army and navy, and (*pace* "One who Knows") I repeat that there are none outside the United Kingdom. It is, however, quite true that at a few places abroad certain enterprising naval and military medical officers have made arrangements, of a sort, for those under their charge to be attended by local private dental practitioners, and although this is better than nothing, the instance your correspondent quotes is a very fair example of the inadequacy of such tinkering with the subject. Does "One who Knows" seriously believe that the operative dental needs of even a small garrison such as Standerton are met by the attendance of a dentist one day per month? If your correspondent knows anything about the matter he might be aware that when a soldier or sailor goes abroad it is highly probable that he will find himself in or on a station where nothing whatever is done.

ARMY SANITATION.

P. writes: I read with much interest your leading article of September 23rd in reference to Lieutenant-Colonel Firth's presidential address at the Royal Institute of Public Health. You very properly point out the need, if sanitation in the army is to be efficiently carried out, of giving a position of greater authority to the officers of the R.A.M.C., and you say further on: "We have not yet heard that lieutenants, on completion of their course of instruction, have been attached for duty to a battalion, regiment, or other unit."

I am sure I speak for the vast majority of my brother officers in the corps when I say that it is earnestly to be hoped that such a scheme is not contemplated or is ever likely to come into force, for it would be nothing short of a calamity. The authority in sanitary matters of a medical officer attached to a regiment would be practically *nil*. A medical officer, so attached, would not be likely to push necessary sanitary reforms on the commanding officer of the regiment, under whom he would be serving, if he felt he would thereby run any risk of quarrelling with him. No, Sir, our present organization, which gives to the "medical officer in charge of troops in barracks" full powers of independently and fearlessly giving his opinions on sanitary questions, is the outcome of the unification scheme which united us, after years of fighting for it, into what is now an organized corps. Any scheme which involves a return, even in the slightest degree, to the pernicious regimental system, would weaken our power and tend to disorganize the corps.

With regard to the last portion of your leader, you say: "If the India Office quickened to its responsibility in this matter by organizing a sanitary corps, we might look with equanimity on a frontier campaign." The obvious solution of this is that the rank and file of the Royal Army Medical Corps should serve in India. We should then have a sanitary corps at once. Moreover, we should in this way do away with that anomaly, the "trained regimental orderly" in our station hospitals in India. This would involve a large increase in the rank and file of the corps, but it would provide a larger number of reserve men than is at present possible, and in our next big war we should not have to fall back on partially trained or totally untrained men from all kinds of sources, as we had to during the South African campaign.

INDIAN MEDICAL SERVICE.

STUDY LEAVE.

REGULATIONS for the grant of study leave to officers of the Indian Medical Service have been published at Simla, October 13th. The following are the principal conditions:

Extra furlough for the purpose of study may be granted to officers of the Indian Medical Service on the recommendation of the Director-General Indian Medical Service. The period of such study leave will be calculated at the rate of one month for each year of service, up to a total of twelve months in all, during an officer's service. Study leave may be taken at any time, but will not be granted more than twice in the course of an officer's service. The minimum period of study which will render an officer eligible for study leave shall be two months. The minimum period of leave granted solely as study leave shall be six months. The time spent on a journey to and from India by an officer whose study leave is not combined with any other kind of leave will reckon as study leave, but the allowance specified below will be granted during the period or study only. Study leave can be combined with any other kind of leave, provided the period occupied in study is not less than two months, and in case of leave on medical certificate, provided that the Medical Board at the India Office certifies that the officer is fit for study.

In the case, however, of officers in military employment, study leave cannot be taken in continuation of combined privilege leave and furlough admissible under the terms of the India Army Order No. 64 of 1904, if the total period would thereby exceed eight months; but study leave may be so taken provided such leave is not for less than two months and the total period of combined privilege leave and furlough and study leave does not exceed eight months. This limitation to eight months does not, however, apply in case of study leave combined with privilege leave alone. The total period of absence from India will be strictly limited to two years during the course of study. Lodging allowance at the rate of 8s. a day for a field officer, 6s. for a captain, and 4s. for a lieutenant will be granted.

Study leave will count as service for promotion and pension, but not for furlough or any other leave. It will not affect any leave which may already be due to an officer.

OBITUARY.

JONATHAN NELSON CREGEEN, M.R.C.S., ETC., Liverpool.

WE regret to record the death of Dr. J. Nelson Cregeen, which took place at his residence, 21, Prince's Avenue, Liverpool, after a long and painful illness, on October 27th. He was born sixty-nine years ago, and was a Manxman by birth and descent, his father being a medical practitioner in Peel. He began his studies under the old apprenticeship system, and became a student at Guy's Hospital. In 1858 he qualified M.R.C.S. Eng., and L.F.P.S.G. and L.M., and in the following year obtained the L.R.C.P. Edin. by examination. For some years he followed in his father's footsteps and practised in Peel, but thirty-nine years ago he removed to Liverpool and started practice in partnership with the late Dr. Hutchinson, of Upper Parliament Street. Some seven years later the partnership was dissolved, and he continued his practice independently. He was always a busy man, and was a familiar figure at most professional gatherings in Liverpool and the neighbourhood. He had held the office of Vice-President of the Medical Institution, and also that of the Lancashire and Cheshire Branch of the British Medical Association, and was on the Council of the Branch for many years, taking an active part in its management, and being a most regular attendant at the meetings. He was also for a long time Treasurer of the North of England Obstetrical and Gynæcological Society. In his early days he was Resident Medical

Officer in the General Hospital, Douglas, and later Honorary Surgeon to the Liverpool Dispensaries, and Surgeon to the Liverpool Surgical Home for Diseases of Women.

He was a general practitioner of the best type, and many of the most prominent citizens of Liverpool were among his patients. He understood his art thoroughly, and never felt he had done his duty to a patient until he had made a thorough investigation of the case, and had made, as far as possible, a definite diagnosis. He was also a good friend to the poor, and the inmates of the Female Orphan Asylum, who looked on him almost as a father, were inconsolable when they heard of his death. He was a gentleman of the highest honour and integrity, and a warm friend to those who had the privilege of knowing him well. He leaves a widow and two daughters, one of whom is married.

The funeral took place at Peel, where he was a frequent visitor, on Monday, October 30th. On the same day a memorial service, largely attended by his professional colleagues and others, was held at St. Mary's Chapel for the Blind in Liverpool, the church which he had attended for many years.

Dr. James M. Bennett (Liverpool) writes: For over forty years I have had the privilege of being intimately associated with the late Dr. Cregeen, first in connexion with the old Liverpool Dispensaries, and later with that of the Liverpool Surgical Home for Diseases of Women. In all and every instance he exhibited the best traits of honourable manhood. With the possession of a thorough knowledge of his profession he combined the facility of being able to carry out its behests without disturbing the equanimity of his patients or their friends. I may truly say that after forty-eight years of practice in this city I have never met with such universal grief as that exhibited by the deceased doctor's patients, from those of the highest position to the little inmates of the female orphanage, with which institution he was for many years connected. As I attended his patients for many years during his absence from home, as also during his last fatal illness, consequently I could not be mistaken in the feelings of his patients towards him. His character, taken generally, might be summed up in the words, "whatever he took in hand he did it thoroughly." He was an able diagnostician, a good and careful prescriber, and a genuinely kind-hearted man.

ERNEST FIELD, M.D.Aberd.,

Bath.

Much regret is felt in Bath and its neighbourhood at the death, at the comparatively early age of 54, of Dr. Ernest Field, which took place at his residence, 8, Belmont, on October 11th.

Dr. Field lost his wife, to whom he was devoted, twelve months ago, and there is no doubt that the great strain and anxiety connected with her illness largely contributed to produce, if it did not actually cause, his final breakdown. His health began to fail in June last, when he exhibited symptoms which caused grave anxiety, but it was hoped that, with complete rest and change of air and surroundings, he might be restored to health, and able to continue his useful life. This hope was unfortunately never realized, as he soon became paralysed on the right side, with some motor aphasia, and after lingering in this condition for a few weeks death came and mercifully released him.

Dr. Field began the study of his profession at Guy's Hospital, where he was distinguished as a most industrious and conscientious student, who took a deep interest in clinical medicine and pathology. In 1873 he became M.R.C.S., and in 1874 L.R.C.P.Lond. He then obtained the post of Obstetric Assistant at Guy's, and afterwards Assistant at St. Luke's Hospital for Lunatics. In 1875 he was appointed Resident Medical Officer to the Royal United Hospital, Bath, a post which he held for three years, and earned through his devotion to his work and the efficient manner in which he performed his duties, the high opinion and respect of all the staff. His ambition was to practise as a pure physician, and it was necessary for him to obtain a university degree, so he proceeded to Aberdeen, where he graduated M.B. and C.M. in 1879, and in 1881 he took his M.D.

He settled in Bath in 1879, and in 1880 was appointed Medical Officer to the Statutory Hospital, and held the post until within a few days of his death, when his resignation was received with much regret by the Sanitary Committee, who fully appreciated his valuable services and the thoroughly conscientious manner in which, for at least twenty-five years, he had always done his duty. Dr. Field was an Honorary Assistant Medical Officer to the Royal United Hospital in charge of out-patients from 1882 until 1890, when, through the pressure of other work and an increasing private practice, he resigned the appointment, to the regret of his friends, as they felt that it entirely precluded him from becoming physician to the hospital, and giving to it the benefit of his ripe experience, besides the opportunity of enhancing in the most legitimate manner his professional reputation. Dr. Field likewise held for some years the post of Medical Officer to the Municipal Charities, including Bellott's Mineral Water Hospital; and he also was for twenty years or more Medical Officer to the Industrial Schools.

He was a man of much refinement, and of a cultivated taste in literature, art and music, and he had a keen appreciation of the beautiful both in nature and art. Of an extremely quiet and unassuming disposition, and with a somewhat reserved manner, he had a deeply-rooted dislike to display of any kind, more especially to anything which savoured of vulgar self-advertisement, such as is, unfortunately, only too common in these days. He had an essentially high ideal of the responsibilities of life generally, and especially those of a medical man. As a physician he may, perhaps, have appeared to some unduly cautious, but it was the inevitable result of his wide experience of disease and the mistakes that he had often seen committed by others. When, however, he had formed his opinion about a case, it was invariably accurate and it was held in great respect by all who knew him. To his patients he was one of the kindest and most attentive of men, and in the performance of his public duties most punctilious and painstaking. He became imbued during his student life with all the best traditions and spirit of Guy's, and this without doubt had much effect upon his subsequent career. He held in profound veneration the lives and work of Addison, Bright and Hodgkin, and also of his teachers, the late Drs. Moxon and Hilton Fagge, but above all, that of Sir Samuel Wilks, who is happily still with us. Dr. Field contributed some cases of cerebral tumour and a case of cerebral tumour producing mental symptoms to *Brain*, and clinical observations on pneumonia to the British Medical Journal, 1880. He married a daughter of the late General W. F. Farewell, and leaves four sons, the eldest of whom is studying medicine.

J. O. BROOKHOUSE, M.D.,

Physician, General Hospital, Nottingham.

We regret to have to record the death of Dr. J. O. Brookhouse, which took place at his residence in Nottingham on October 27th.

Joseph Orpe Brookhouse was born at Brighton in 1835, being descended from a Staffordshire family on his father's side and on his mother's from the Halfords of Leicestershire. He was educated at the Grammar School of Ashby-de-la-Zouche and afterwards at Guy's Hospital; he obtained the diplomas of M.R.C.S. and L.S.A. in 1857, took the degree of M.D., St. Andrews, in 1862, became F.R.C.S. in 1868, and M.R.C.P. Lond. in 1874. He settled in Nottingham in 1859 as partner to Mr. John Norton Thompson, subsequently he succeeded to the practice of Dr. afterwards Sir William Tindal Robertson, M.P., and was appointed Physician to the Nottingham General Hospital. At one time he gave particular attention to diseases of the eye, and was one of the founders of the Nottingham Eye Infirmary, to which he acted for some years as Honorary Surgeon. At the time of his death he was Senior Physician to the Nottingham General Hospital, Physician to the Sherwood Forest Sanatorium for Consumption. He was Consulting Medical Officer to the Midland and Great Northern Railways and his duties in connexion with these appointments often led to his appearance in courts of law where his clear, fearless and straightforward evidence was of the greatest value. His long experience of railway compensation cases made his opinion particularly valuable and supplied him with an almost inexhaustible fund of anecdotes at once amusing and instructive. At the annual meeting of the British Medical Association at Nottingham in 1892 he was President of the Section of Pharmacology and Therapeutics, and conducted its deliberations with marked success. He was a successful practitioner, and his simple and unconventional methods inspired confidence in his patients. He was an ardent lover of music and pictures, and fully alive to the intellectual and social movements of his time. He did not take much active part in public affairs, but was always ready to denounce an abuse or to defend a just cause.

News has been received from Japan of the death last September of Dr. George Daniel Smith at Kobe. Dr. Smith was born at Stockton-on-Tees in 1852, and studied medicine at Edinburgh University, where he graduated M.B., C.M., in 1875, and seven years later proceeded to the M.D. degree and to the Membership of the Royal College of Physicians of Edinburgh. He practised at Bonnington, near Edinburgh, until some four years ago, when a severe illness undermined his health so completely that he was compelled to give up any idea of continuing to practise in the British Isles. About this time he was asked to go to Japan to take charge of the work of an old friend who desired to go away for a long holiday, and acceding to this request, he went out there and had remained in that part of the world ever since. He regained there a considerable measure of his old activity, but this spring had a further illness. It left him in such a debilitated condition that even a long stay in the hills proved unavailing to restore him to health, and returning to Kobe, he died there on September 11th. Dr. Smith, while in practice in Scotland, made many friends and gained a reputation for ability and conscientiousness in the treatment of his patients, and in his work in the Far East he appears not to have been less successful. He was buried at Kasugano Cemetery, the ceremony being performed by Bishop Foss and attended by the majority of the foreign residents in Kobe. Dr. Smith was accompanied to Japan by his wife, and thus had the advantage and comfort of her devoted attention throughout.

By the lamented death of Dr. John M. Smith the medical profession of Cheltenham is distinctly poorer. A native of Perth, John Macdowal Smith graduated from Glasgow University, and became House-Physician to Sir William Gairdner. After a short period of residence at Cramond Dr. Smith entered into practice at West Calder, and soon became a favourite on account of his integrity and uprightness of character and professional skill. He found time amid his many duties to send in a thesis for the degree of M.D., and was awarded honours by his university. He also took the D.P.H.Edin. In 1893 Dr. Smith removed to the Ayrshire parish of Dundonald, but there was not sufficient scope for his energy there, and two years ago he decided to settle in Cheltenham. He had begun to make his mark there when he was struck down by the illness which has cut him off at the age of 50. Dr. Smith was a man of marked ability and originality, careful and painstaking to a degree, and of unflinching straightforwardness. He was possessed of great artistic skill, and many a clever sketch came from his ready pencil and brush. He leaves a widow and two children to mourn his loss.

Deaths in the Profession Abroad.—Among the members of the medical profession in foreign countries who have recently died are Dr. E. Ménière, Senior Surgeon to the National Institute for the Deaf and Dumb in Paris; Dr. Jules Guyot, formerly Surgeon to the Paris Hospitals: Dr. Akos Puky, Senior Surgeon to the Red Cross Hospital, Buda-Pesth, and Lecturer on Surgery in the University of that City; Dr. R. A. Ruge, a prominent practitioner of Berlin, and a member of the Town Council of that city, aged 71; Dr Florschutz, for a long time Physician in Ordinary to Dukes Ernest and Alfred of Saxe-Coburg, aged 92; and Dr. Carl Seiler, for twenty years Professor of the Nose and Throat in the University of Pennsylvania, aged 56.

INDIA AND THE COLONIES.

TASMANIA.

(Continued from page 1159.)

Hospital for the Insane, New Norfolk.

The Commissioners found at this hospital a very satisfactory state of affairs as to cleanliness, general appearance, and demeanour of the patients and their management, but found many conditions requiring remedy. They found that the official visitors appear to have had an undesirably large share in the internal executive of the hospital, and that the disciplinary powers of the medical superintendent were weakened thereby, to the detriment of the management of the hospital. They also found the male attendants to be in too low proportion to patients (1 to 15 by day, 1 to 60 by night), and that in consequence of this and serious defects of building, mechanical restraint had to be too frequently employed. "Owing to the absence of facilities," they say, "which are recognized by all authorities as an essential part of the humane and skilful treatment of the insane, it was necessary in the course of a single twelve months (1904) to subject 64 persons, of whom 43 were women, to a degrading and even harmful process, for a total period of 163,222 hours, or over eighteen years in all: the average number of days' restraint per individual for the year being 106." The table, supplied by the medical superintendent, Dr. Macfarlane, from which these figures are culled, forms, they say, a serious reproach upon the State system of dealing with the insane in Tasmania. Another point incurring the disapproval of the Commissioners is the performance of *post-mortem* examinations on patients by a medical officer of the hospital when ordered by the coroner. The medical superintendent should, in their opinion, have power to order on autopsy in any case dying in the hospital, but "*all examinations of this nature should, for obvious reasons, be made by a medical practitioner not connected in any way with the hospital, as is the practice in most other places.*" The italics are our own. From the summary of recommendations we extract the following:

1. Reorganization of the duties of official visitors.
2. Investment of the medical superintendent with further powers, and to be directly responsible to the Minister.
3. Removal of non professional clerical work from the medical superintendent.
11. Recommendation as to *post-mortem* examination as above.
12. Boarding out, or allowing out on trial with friends, suitable cases selected by the medical superintendent.
14. The erection of a suitable criminal division.

Many other recommendations are made which have only local interest, but enough has been said to show that administrative changes were urgently called for, and that the recommendations of the Commissioners have been made with the greatest attention to detail and breadth of view.

With regard to changes in lunacy administration, the Commissioners say that they are aware that certain of these dealing with executive arrangements are not in accordance with—or, indeed, possible under—the existing lunacy statutes, but that they are of opinion that these require amendment and amplification. In this connexion we note their desire to establish a boarding-out system in Tasmania. We trust that this plan will meet with the success it deserves, and that this example will be followed by other States.

UNIVERSITIES AND COLLEGES.

UNIVERSITY OF CAMBRIDGE.

Dr. Donald Macalister has been appointed Chairman, and Dr. Laurence Humphry Secretary, of the Special Board for Medicine.

The following degrees were conferred on October 26th: *M.D.*: A. C. Dutt, Corp. Chri.; D. G. P. Ellis, Cath. *M.B.*: A. M. Simpson, King's; T. Drysdale, Jes.; R. N. Hart, Sid. Suss. *B.C.*: T. Drysdale, Jes.; R. N. Hart, Sid. Suss.

UNIVERSITY OF EDINBURGH.

University Court.

The Edinburgh University Court met on Monday, October 23rd. There were present Principal Sir William Turner, who presided, the Hon. Lord Stormonth Darling, the Hon. Lord Dundas, Professor Sir Thomas R. Fraser, Professor Crum Brown, Professor Rankine, Professor Pringle Patterson, Dr. R. McKenzie Johnston, Dr Joseph Bell, Mr. J. Campbell Lorimer, Dr D. F. Lowe, and Bailie Menzies.

It was reported that the draft commission to the new Professor of Midwifery had been duly revised and adjusted on behalf of the Court. The Court resolved to make request to the managers of the Royal Infirmary for a continuance of the use of the ward hitherto placed at the disposal of the University for purposes of clinical teaching in connexion with the Chair of Midwifery.

Dr. William McLachlan was appointed assistant in the Usher Institute in connexion with the bacteriological work of the city.

The gift to the University by Professor Crum Brown of a collection of over 2,000 specimens of pure chemical substances was accepted with thanks to the donor.

Autumn Graduation Ceremonial.

The usual autumn ceremonial of the University of Edinburgh was held in the McEwan Hall on Saturday, October 21st. Principal Sir William Turner presided, and was supported by a considerable number of the professors, and there was a large attendance of the public. As usual, Mr. T. H. Collinson, organist to the University, gave a programme of music on the grand organ during the time of waiting for the beginning of the ceremony. The following degrees were conferred:

Doctor of Medicine.—L. W. Davies, Wales, M.B., Ch.B., 1897.

Bachelor of Medicine and Master in Surgery.—A. E. White, England.

Bachelor of Medicine and Master in Surgery.—D. C. Alexander, Scotland; W. F. Archibald, India; [illegible], Cape Colony; A. J. Beattie, Scotland; [illegible], Scotland; [illegible], India; R. B. Calwell, Ireland; D. C. [illegible], Scotland; [illegible], Scotland; J. Dundas, Scotland; G. [illegible], Australia; J. P. P. Inglis, Scotland; J. F. James, England; G. P. Joy, England; D. F. Mackenzie, England;

K. W. D. Macrae, England; F. C. Mills, M.A., England; O. M. Mirylees, Scotland; R. E. U. Newman, Ireland; H. J. Norman, England; H. V. Taylor, England; R. B. Thomson, Scotland; J. H. du Toit, South Africa; A. N. J. Vizarat, India.

Special University Certificates in Diseases of Tropical Climates—S. J. Bhathena, L.R.C.P. and S.Edin. (*in absentiâ*); E. J. Black, M.B., Ch.B.; J. R. Holgate, M.B., Ch.B. (*in absentiâ*); R. R. Murray, M.B., Ch.B.; A. N. J. Vizarat, M.B., Ch.B.; Frances M. Wakefield, M.B., Ch.B. (*in absentiâ*).

Principal Sir WILLIAM TURNER, addressing the graduates, said it was not the custom to have a formal address at the October graduation, but nevertheless they felt that they ought not to part without expressing to them their congratulations on having received the degree conferred by the University. They wished the graduates all prosperity in the pursuit of their respective professions. They wished them to keep in mind that as graduates of that University they inherited a noble tradition, and they trusted they would do their utmost to live up to that tradition, so that the honour of the University might be preserved and might never suffer at their hands.

General Council.

The statutory half yearly meeting of the General Council of the University of Edinburgh was held in the Examination Hall of the University on Friday, October 27th, at 3 p.m. The Chancellor of the University, the Right Hon. A. J. Balfour, presided. There was an unusually large meeting, some three or four hundred being present. This was doubtless due to the unusual event of the presence of the Chancellor in the chair. He was given a very cordial reception as he took his place, supported by the Vice-Chancellor, Sir William Turner, the Rev. Professor Patrick, Mr A. Trail, LL.D., W.S., Convener of the Business Committee; David Buchan, LL.B., S.S.C., Convener of the Finance Committee, etc.

The CHANCELLOR said the most important business which had to be transacted was the selection of assessors. On the present occasion there were two vacancies and three candidates, and the choice would therefore rest with this meeting; but it it did not indicate by a clear voice who were the successful candidates a poll would then have to be taken, in which, according to the statute, all members, present and absent, would be able to take a part.

The names of the three gentlemen proposed were James Campbell Lorimer, M.A., LL.B., K.C.; David Fowler Lowe, M.A., LL.D.; and John Arbuthnott Traill, M.A., LL.D., W.S.

On a show of hands there was a large majority of those present in favour of Dr. Lowe, but for Mr. Lorimer and Dr. Traill there was a fair number.

The CHANCELLOR said he was prepared to say that Dr. Lowe had been chosen to one of the vacant places. As between Mr. Lorimer and Dr. Traill he must ask for another show of hands.

This having been taken,

The CHANCELLOR said that, so far as he was able to judge, he thought Dr. Traill had a majority of votes.

Dr. BERRY, the seconder of Mr. Lorimer, asked for a poll of the entire constituency.

The poll, of course, will take place on the claims of all three candidates.

The report of the Business Committee was then given by Dr. Traill. The Finance Committee was reappointed.

Principal Sir WILLIAM TURNER said he did not think they should allow this meeting to end without expressing their great thanks to the Chancellor for being present.

The CHANCELLOR said: I am not sure that the proposal of my friend on my left is in accordance with strict academic tradition. I should rather doubt the fact. But be it in conformity with tradition or not, I most gratefully accept this mark of goodwill from him and from you which the resolution so clearly indicates. I do not admit for a moment that my presence here is a just cause for gratitude on anybody's part. I greatly regret that the fact that the House of Commons and the University of Edinburgh chose to conduct their respective business at the same time of the year makes it extremely difficult for me to take the part I should otherwise like to take in the business of the University with which I have been so closely and so long connected. Were it possible for me, I assure you, to be present more often on occasions such as the one on which we have met to-day, I should welcome that possibility. I am very sorry that the opportunities I have to meet members of the University are so few and far between; but as long as it is understood that it is merely pressure, not of more important, but of very different work, carried on hundreds of miles from here, which prevents me being present, so long I am sure I shall obtain the forgiveness of members of the University who might otherwise be inclined to think that their Chancellor took an inadequate share of the burden of university work upon his shoulders. Gentlemen, I beg most sincerely to thank you.

ROYAL UNIVERSITY OF IRELAND.

Travelling Medical Scholarship.

The Travelling Medical Scholarship of the Royal University of Ireland has been won by Miss Isabella G. A. Ovenden, B.A., M.B., B.Ch. It is of the value of £100.

Degrees for Veterinary Surgeons.

At the last meeting of the Senate of the Royal University it was resolved to create degrees in veterinary medicine. The degrees of Bachelor and of Doctor will be conferred, after examination, upon candidates who have pursued the recognized courses of study.

UNIVERSITY OF WALES.

MEETING OF UNIVERSITY COURT.

At a meeting of the Court of the University of Wales, held at Shrewsbury on October 20th, and presided over by Lord Kenyon, the Junior Deputy Chancellor, the sole business was the appointment of a registrar of the University in succession to Mr. Ivor James, who retires on a pension of £300 a year. The salary of the new registrar is fixed at £500 per annum.

Lord KENYON said that the Prince of Wales, as Chancellor of the University, had deputed to the senior Deputy Chancellor, Sir Isambard Owen, and himself the chairmanship of his duties during the period his Royal Highness would be absent in India.

Six candidates were selected to appear before the court. The court having interviewed the candidates, a vote was taken, the result of which was that Professor Angus received 40 votes, the Rev. Owen Thomas 25, Mr. James Evans and Mr. [illegible].

Professor Angus was declared duly elected. Professor J. Mortimer Angus, M.A., the new registrar, is "by birth" an Englishman, but by adoption a Welshman, for he has been professor of Latin and Comparative Philology on the staff of the University College of Wales, Aberystwith, since September, 1873.

UNIVERSITY COLLEGE, CARDIFF.

Annual Meeting of Governors.

There was an unusually large attendance at the annual meeting of the Court of Governors of the University College, Cardiff, held on October 19th. The chair was occupied by Sir ALFRED THOMAS, M.P.

A vote of condolence was passed with the family of the late Mr. Louis Tylor, for many years Treasurer of the College, references being made to his valued services as a member of the Court and the Council.

The Council submitted a scheme for the following additional representation on the Court of Governors: (1) Lords-Lieutenant of South Wales and Monmouthshire; (2) the Jesus Professor of Celtic, Oxford; (3) the Warden of the Guild of Graduates of the University of Wales; (4) the President of the South Wales Institute of Engineers; (5) a representative of the Association of Past Students of the University College of South Wales and Monmouthshire, provided that the effective subscribing membership be not less than 200, and an additional representative of the Association for every 100 subscribing members beyond the first 200 subscribing members. The scheme provided also that six representatives be elected to represent the head teachers of the public elementary, public schools, etc., in South Wales and Monmouthshire, three of the six to represent the head teachers of the public elementary schools in South Wales and Monmouthshire and three to represent the head teachers of recognized public secondary schools in South Wales and Monmouthshire. The scheme caused considerable discussion, and it was eventually decided to refer it back for reconsideration and report.

The PRESIDENT moved that an address be presented by the Court to the Marquis and Marchioness of Bute welcoming them to their Welsh home.

Mr. HERBERT THOMPSON, the treasurer, who was absent, sent a statement showing that last year the income account showed a credit balance of £55, which was more than discounted by an expenditure of about £222 on renewals, etc. This year the result was much more favourable, the income surplus being £385, against which they had only about £106 renewals on the capital account. Moreover a sum of £37 13s. 6d. interest on the sustentation fund should be added to the surplus. This good result was largely due to the increase in grants from the Board of Education, which were about £618 better than last year. There had been a decrease in fees from general students, but this had been more than made good by those from normal and other classes of students, so that there was a total increase under the head of fees of £318. The large development in college work had necessitated an increase of staff in various directions, so that the salaries had risen £668 and wages £144. On the whole, however, the statement for the year was an encouraging one.

On the submission of the Principal's report attention was called to the small number of mining students at the college. There were about a thousand students attending the various mining classes in Glamorganshire, and large numbers attending similar classes in Monmouthshire and Carmarthenshire, and yet only ten or a dozen students were attached to the mining department of the college. The Principal replied that close attention had been given to the mining department. He hoped the Governors would not think because there was no outward visible signs of progress that there was any real neglect. He hoped the time was near when the Governors would have evidence that there had been no neglect or remissness in this matter. The subscriptions towards the new college fund of the University College, Cardiff, amounts to £28,488 19s. 6d.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN ordinary quarterly comitia was held at the College on Thursday, October 26th, the President, Sir R. DOUGLAS POWELL, in the chair.

Harveian Oration.

The PRESIDENT announced that he had nominated Professor Osler as Harveian Orator for the year 1906.

Jenks Scholar.

Mr. Eric A. C. Fagan, formerly of Epsom College, and now of Middlesex Hospital was elected Jenks Scholar.

Membership.

The following gentlemen were admitted Members of the College: Alexander George Gibson, B.A., M.B.Oxon., Joseph George Harrant, M.D.Lond., Ernest Bosdin Leech, M.A., M.B.Cantab., L.R.C.P., John Cyril Holdich Leicester, M.D.Lond., L.R.C.P.

Licences.

In conjunction with the Royal College of Surgeons, licences to practise were granted to 111 gentlemen.

Communications.

The following communications were received:

1. From the Clerk to the Privy Council on August 2nd, announcing the appointment of Dr. H. Lewis Jones, on the nomination of the College, to represent His Majesty's Government at the International Congress on Physio Therapeutics at Liége in August last.

2. From the same, August 2nd, inviting the College to nominate a Fellow to represent His Majesty's Government at the International Congress on Tuberculosis at Paris, October 2nd to 7th, 1905. Dr. Theodore Williams was nominated by the President, and attended the Congress.

3. From the same, August 29th, announcing the postponement for a year of the International Congress on Gynæcology at St. Petersburg, fixed for September last.

4. From the Secretary of the College of Surgeons, reporting certain proceedings of their Council on July 27th last.

5. From the Dean of the Faculty of Medicine, University of Edinburgh, announcing the award of the Mutchison Scholarship to Mr. John Pool Mellowan, M.A., M.B.

6. From Mr. George P. Baker, of Cambridge, United States, asking leave to have the portrait of Dr. Cadogan in the College photographed for a work which he is editing. Leave was granted on condition that the photograph was merely used for the specified purpose.

Finance.

The audited accounts for the year ending September 25th last were laid before the College.

By-Laws.

The Registrar proposed that a Committee of College officers be appointed to prepare a revised edition of the College By-laws, the last being out of print. This was agreed to.

Appointments.

Dr. E. Liveing was re-elected a member of the Committee of Management: Sir William Church re-elected a Representative on the Council of University College, Bristol; and Dr. Pye-Smith re-elected a member of the Executive Committee of the Imperial Cancer Research Fund.

Reports.

The following Reports were received:

1. From the Visitors appointed by the two Colleges to report upon the course of study and upon examinations in tropical medicine. After discussion, it was resolved to appoint delegates to confer with those from the College of Surgeons, and to report further to the College.

2. From the Committee of Management, October 9th, 1905, recommending that the West Ham Hospital for Infectious Diseases be added to the list of fever hospitals recognized by the Examining Board in England. This was adopted.

3. The Quarterly Report of the Finance Committee, and the Quarterly Report of the Examiners for the Licence on the results of the July examinations, were received and adopted.

Library.

Books and other publications presented to the Library during the past quarter were received and thanks returned to the donors. Special mention was made of the gifts by Professor Osler, Mr. Harper, and Dr. Colman.

MEDICO-LEGAL AND MEDICO-ETHICAL.

BORACIC ACID IN MILK.

A CASE was heard in the South-Western Police-court on Friday, October 27th, in which the defendants, a firm of dairy farmers having their head quarters at Shillington in Dorsetshire, were charged, at the instance of the Battersea Borough Council, with selling milk containing boracic acid to the extent of 1½ gr. in each pint. In his opening statement the prosecuting counsel admitted the percentage to be small, but pointed out that the object of the Council was to exclude this acid from milk entirely.

For the prosecution, Professor KENWOOD deposed that in children the effect of boracic acid on the kidneys was injurious, and that it interfered with digestion. He could not accept the suggestion that the use of the acid was necessary to keep milk sweet and pure in hot weather. The fact that Professor Attwood had taken 100 gr. of the acid on one day and 45 gr. on several subsequent days without injurious effect did not show what effect would have been produced had he been a child of 6.

Dr. L. S. MCMANUS, a member of the Public Health Committee of the Battersea Council, who also appeared as a witness for the prosecution, stated his conviction that each year large numbers of babies were poisoned by being fed on milk containing boracic acid. Such milk, in his opinion, contributed heavily to the infant mortality-rate. Even the quantity contained in the samples of milk under consideration of the court if taken habitually, would be dangerous to health, particularly in individuals specially susceptible to the drug.

In his final speech the advocate for the defence drew attention to the evidence of a "specialist" which had been given before a Departmental Committee; it was to the effect that it was doubtful whether boracic acid, when used as a milk preservative, was injurious or otherwise.

In summing up, the MAGISTRATE said it was a matter for regret that the Legislature had not thought fit to deal with the question under consideration once and for all, and thus remove the difficulties which always cropped up when such cases came before the courts. In the present instance it appeared that if a child a year old were given a normal amount of this milk in a day it would swallow with it such a quantity of boracic acid as would constitute a maximal dose. Such a condition of things could not be tolerated, so he would inflict a penalty of forty shillings and ten guineas costs.

THE TRUSTWORTHINESS OF DISPENSING CHEMISTS.

UNDER the heading, "Who is the keeper of your reputation?" a firm of American chemists has suggested in an advertising pamphlet circulated to the medical profession that the prescriber has no guarantee of the purity of drugs dispensed to his order except by ordering the preparation of a well-known firm, such as the publishers of the said pamphlet. A correspondent, who sends us a marked copy, protests against this as an unwarranted and egoistical aspersion upon dispensing chemists. We entirely agree that there is no justification for the suggestion that the drugs dispensed by pharmaceutical chemists in this country are not of good quality and up to the standard of the *British Pharmacopœia*, but we suppose that this pamphlet was written originally for circulation in the United States, where the drug trade may be less under control than it is here. Moreover, it seems idle to complain of advertisers for vaunting their wares, for this is the essence of advertisement. We regret, however, that it should play such a large part in the drug trade, as we believe that by its means worthless preparations are sometimes foisted upon the public and the profession, while in other cases the public is induced to pay unnecessarily high prices for proprietary articles which are no better than those less costly articles ordinarily supplied by dispensing chemists.

OPTICIANS AS OCULISTS.

A CORRESPONDENT sends us a card which he says is circulated all over the north of Scotland by a sight-testing optician who puts F.C.S., F.S.M.C., after his name, the said card being illustrated by the photograph of a young woman to show the effect of glasses in preventing facial distortion caused by eye-strain. The card appeals to the public in the following words: "Are you quite sure that your eyes are right? Can you see both near and distant objects with equal ease? Have you to hold the paper nearer or further away than the normal 12 in.? Are your eyes weak and inflamed? Do your eyes feel tired after reading? Have you pains behind or above the eyes? Do they ache sometimes? If so consult" the advertiser. On the back of the card he says: "On the first experience of difficulty with your sight do not wait until it becomes worse, but call in and have the eyes examined; advice is given willingly by" the advertiser, "whose qualifications include the Fellowship of the Spectacle Makers' Company and the diploma of the British Optical Association."

*** This is the unqualified practice of ophthalmic surgery so far as the treatment of disease by the fitting of glasses is concerned, and the irregular practitioner does not hesitate to advertise his unwarranted pretensions. But the law permits this and until it is altered nothing can be done beyond refusing to co-operate in any way with opticians who push their trade by these means. We believe the medical profession has greater influence than is sometimes thought and that if no qualified practitioner were in any way to give his aid or support to these offenders considerable pressure would be put upon them. There seems no doubt that relations with such advertising opticians would come under the terms of the notice issued by the General Medical Council on November 24th, 1897, warning practitioners against "covering" which renders them liable to have their names erased from the *Medical Register* as guilty of infamous conduct in a professional respect.

REVIEWS OF MEDICAL BOOKS IN THE MEDICAL PRESS.

IN its issue of October 24th the *Birmingham Gazette and Express* published, under the heading "Great Medical Discovery: Remarkable New Work by a Birmingham Physician," and with all the apparatus of cross headings in thick type, a review of a book published recently through Mr. H. K. Lewis by Dr. C. W. Suckling, of Birmingham, entitled *Movable Kidney: A Cause of Insanity, Headache, Neurasthenia, Insomnia, Mental Failure, and Other Disorders of the Nervous System. A Cause also of Dilatation of the Stomach.* The book, according to our contemporary, contains the following paragraph:

From a large and varied experience of dropped kidney cases, and realizing the astounding effects upon the mental condition, I say that no man or woman should be sent to an asylum to-day without careful and repeated examination for "dropped kidneys."

This statement appears to have caught the eye of the Editor of the *Birmingham Gazette and Express*, and to have been responsible for the sensational review, and also for another notice of the book published on October 26th, under the heading "Movable Kidney: Particulars of Cures from Dr. Suckling's Case-book."

The incident has naturally caused a good deal of comment in Birmingham, and on October 28th the following appeared in the *Birmingham Gazette and Express*:

"MOVABLE KIDNEYS.

(To the Editor of the 'Gazette and Express.')

"Sir,—I am informed by one of the surgeons who operate on my cases that the statement is being widely circulated that I sent a copy of my book to your paper for review, and wrote the review myself.

Will you kindly contradict this statement officially in your next issue?

103, Newhall Street, Birmingham. C. W. SUCKLING.

[A contradiction of this kind ought really to be quite unnecessary, but in reply to the request we give an unqualified denial to both statements. —ED. 'B. G. and E.']"

In the review and subsequent article in the *Birmingham Gazette and Express* the names of a number of surgeons who had operated upon some of Dr. Suckling's cases were quoted, and we have received communications from Mr. Gilbert Barling, Mr. Leonard Gamgee, and Mr. Arthur Lucas asking us to state that their names have been inserted in the article in the *Birmingham Gazette and Express* without their previous knowledge, permission, or authorization. Mr. Gamgee and Mr. Lucas add that they strongly object to reviews of medical books appearing in lay papers.

MEDICAL TESTIMONIALS IN FAVOUR OF ARTICLES OF TRADE.

M. F. puts the following query: A medical man who has formed a favourable opinion about a certain article has stated that opinion in writing to the manufacturers of that article. Has the medical man committed a breach of medical etiquette or in any other way rendered himself liable to censure by the Medical Council?

*** We presume by the "Medical Council" our correspondent means the General Medical Council. That body has issued no pronouncement upon this question, but the Council of the British Medical Association is anxious to prevent the appearance of the names of medical men in trade advertisements, and deprecates the giving of such written expressions of opinion except on the distinct understanding that they are not to be used for advertising purposes.

EMPLOYMENT OF UNQUALIFIED ASSISTANTS.

RUSTICUS EXPECTANS writes: Is it legal for a medical man to employ his son, a medical student, to visit, attend, and prescribe for his patients? Should the answer to the above query be in the negative, his medical *confrères* hope this may meet his eye, and that he will take this as a friendly warning, and discontinue a practice which they feel is not in the best interests of the medical profession, and unworthy of a vice-president of a local medical society.

*** The following is the text of the notice issued by the General Medical Council as to the employment of unqualified persons as assistants or otherwise:

Resolution adopted by the General Council on November 23rd, 1897:

Whereas it has from time to time been made to appear to the General Medical Council that some registered medical practitioners have been in the habit of employing as assistants in connexion with their

professional practice persons who are not duly qualified or registered under the Medical Acts, and have knowingly allowed such unqualified persons to attend or treat patients in respect of matters requiring professional discretion or skill: and whereas in the opinion of the Council such a substitution of the services of an unqualified person for those of a registered medical practitioner is in its nature fraudulent and dangerous to the public health: The Council hereby gives notice that any registered medical practitioner, who is proved to have so employed an unqualified assistant, is liable to be judged as guilty of "infamous conduct in a professional respect," and to have his name erased from the *Medical Register* under Section 29 of the Medical Act, 1858.

Further, in regard to the practice commonly known as "covering," the Council gives notice that any registered medical practitioner, who by his presence, countenance, advice, assistance, or co-operation, knowingly enables an unqualified or unregistered person (whether described as an assistant or otherwise) to attend or treat any patient, to procure or issue any medical certificate or certificate of death, or otherwise to engage in medical practice as if the said person were duly qualified and registered, is liable to be judged as guilty of "infamous conduct in a professional respect" and to have his name erased from the *Medical Register* under the said enactment.

But the foregoing notices do not apply so as to restrict the proper training and instruction of bona fide medical students as pupils, or the legitimate employment of dressers, midwives, dispensers, and surgery attendants, under the immediate personal supervision of registered medical practitioners.

FEES PAYABLE BY CORONER TO MEDICAL MEN.

G. W. E. writes as follows: Have I any legal claim under the following circumstances: (1) I am summoned by the police to visit at once a dead body some miles from my residence. I claim a fee for so doing from the police; this they decline, on the grounds that they are acting at the time not as police but as the agents of the coroner; the coroner refuses the fee, on the grounds that my visit to the dead body as soon as possible after death is essential to enable me to give evidence at the inquest held later, and that the payment for such visit is therefore included in the £1 1s. fee paid when my evidence is taken. (2) I am similarly called by the police, acting as coroner's agent, to visit a dead body. An inquest is held later, but no medical evidence is called, and I receive no fee of any kind. (3) I am similarly called to inspect a partially-decomposed body. In order to form a correct opinion of the cause of death, it is necessary for me to disarticulate the bones, etc., death having been caused by fracture of the spine; a *post-mortem* fee is refused. I am in receipt of a courteous letter from the coroner, in which he says he will look further into the matter. I am writing to you in case these points have ever received a legal decision, and, if so, what that decision is.

*** (1) If a police-constable informs "G. W. E." of the sudden death of a certain person some miles away he may go or not as he likes; if he does go he inspects the body, finds out the particulars of the case, and possibly communicates again with the police-constable, who may be the coroner's officer. "G. W. E.'s" name is sent in to the coroner by the police as having been called to the case and inspected the body. The coroner holds an inquest and summons "G. W. E." to give evidence, for which he is paid 1 guinea immediately at the termination of the inquest. (2) If "G. W. E." receives no fee from the coroner he is entitled to receive one from the police for the first attendance, and must arrange that with them. (3) No *post mortem* examination should be made by a medical man when the body is in the possession of the coroner, without his order, which should be a printed or written form, legally worded, and signed by him. The coroner is correct in paying only 1 guinea in the first case.

THE ETHICAL OBLIGATIONS OF A DISMISSED ASSISTANT.

JUSTICE writes: (1) A practitioner X. has an assistant Y. with whom he is dissatisfied for various reasons. He gives Y. notice to leave; thereupon Y. takes a surgery close to X.'s. He (Y.) also starts to canvass X.'s patients; not only those who are on the sick list, but even visits the others, persuading them to leave X. and come to him. Is this in accordance with medical ethics? (2) Neighbouring practitioners, being aware of the facts of the case, support Y. Is this right?

*** (1) Employers should protect themselves against such contingencies by making all assistants sign an agreement undertaking not to practise within a certain radius until after a certain time has elapsed. Medical ethics are founded upon good feeling and the principle of doing to others as we would they should do unto us. But a dismissed assistant may feel that he has been harshly treated, and indisposed to surrender any legal right in favour of his former employer. It would be unjust to lay down a hard and fast rule that no dismissed assistant shall start in opposition to his previous employer, especially as employers can protect themselves by an agreement. (2) The fact that the neighbouring practitioners, who are aware of the facts of the case, support Y. suggests that there may be something to be said on his behalf.

NOTICES OF MEDICAL PRACTITIONERS IN THE LAY PRESS.

A CORRESPONDENT sends us a cutting from the *Glamorgan Gazette*, which announces that a local practitioner has obtained the diploma of Public Health from the University of Cambridge. The paragraph goes on to say: "The D P H Cantab. is universally acknowledged to be the highest in the United Kingdom. This diploma specially qualifies him to take up the appointment of Public Health Officer under any public authority." He protests against the statement given of the value of the D P H Cantab., which he regards as no better than the S P H Lond. in State Medicine, or the D P H Lond. issued by the English Conjoint Board.

*** We deprecate the publication of such paragraphs, and agree with our correspondent that there is no just ground for representing the Diploma in Health of the University of Cambridge as superior to several other diplomas of the same kind obtainable in England.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

WE would request correspondents who desire to ask questions in this column not to make use of such signatures as "A Member," "A Member B.M.A.," "Enquirer," and so on. By attention to this request much confusion would be avoided. Correspondents are asked to write upon one side of the paper only.

QUERIES.

FIBULA would be glad to hear of some good and effectual internal antiseptic for offensive stools. He has tried salol, carbolic acid, Bragg's vegetable carbon, etc., but without any good result.

INQUIRER would be obliged for information as to whether, during the application of a naked metal (such as silver) electrode to a raw moist surface, there is any deposit of such metal on the tissues and therapeutic effect therefrom during the passage of a constant current.

RUSTICUS, a member of the profession in practice, and suffering from neurasthenia with obsession, would be very grateful to any gentleman who, having read Professor Loewenfeld's *The Mental Phenomena of Obsession*, reviewed in the BRITISH MEDICAL JOURNAL of March 25th, 1905, and not as yet translated into English, would kindly indicate any practical points of the treatment of the obsession.

MEDICAL ASSURANCE.

ALPHA writes: Can you kindly suggest the best step to be taken by way of making provision in case of sickness or accident, etc., for a medical man in practice without a partner? Is there a medical benefit society of any kind you could recommend?

*** The Medical Sickness and Accident Society would meet our correspondent's requirements. Further information can be obtained from the Secretary, 33, Chancery Lane, London, W.C.

LEAD PARALYSIS.

STAFF SURGEON asks for references to the subject of lead paralysis.

*** In the first instance he could not probably do better than consult Dr. Thomas Oliver's *Lead Poisoning* (London: Young J. Pentland. 1891. 10s. 6d.); Sir William Gowers's *Diseases of the Nervous System*, vol. ii (London: J. and A. Churchill. 1893. 20s.), p. 943; and Dr. Allen Starr's *Organic Nervous Diseases* (London: Baillière, Tindall, and Cox. 1904. 25s.), p. 135.

LETTERS, NOTES, ETC.

FOREIGN BODIES IN THE RECTUM.

To the list of foreign bodies met with in the rectum must be added two fresh examples taken from recent French medical literature, which are sufficiently remarkable to bear repetition. The first is reported by Butmille of Roubaix (*L'Echo Méd. du Nord*, September 10th, 1905), who says, by way of author's apology, that he was anxious to tell the true version of a matter which had been somewhat highly coloured by the local press. The patient, a man of 65, had, according to his own account, introduced a baby's feeding bottle into his rectum in a moment of drunken folly. Butmille took him into the operating theatre and, without an anæsthetic, got his whole hand and wrist into the rectum. The "fundus" of the bottle could be grasped and the neck was pressed down by a hand upon the abdominal wall; but all efforts failed to dislodge it. The abdomen was therefore opened, the colon, already perforated in several places, incised, and the bottle withdrawn. It was of thick glass, its length 17 cm., and its greatest diameter 9 cm. Unfortunately, this "Cæsarean section" was five days later followed by death. The second case is, however, a comedy unspoilt by any untoward ending. Curiously enough, the hero was 65 years of age in this as in the previous story, "devoid of teeth but not of gluttony," as Dr. Genglaire the writer says (*Le Progrès Médical*, August 12th, 1905). The trouble began with thirty frogs, which he swallowed whole—flesh, bones, white sauce, and all. All went well for two days, then ensued a disagreeable train of symptoms. Rectal examination revealed a mass bristling with bony points, upon which an enema of olive oil had no effect. The rectum was cocainized, and after an hour and a half of hard pulling a cylindrical mass arrived, which was composed of frogs' bones inextricably tangled into one another. The patient recovered, and will no doubt profit by this uncomfortable lesson.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL

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The Bradshaw Lecture

ON

EXOPHTHALMIC GOÎTRE AND ITS TREATMENT.

Delivered before the Royal College of Physicians of London.

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Mr. President and Gentlemen,—In the first place I must thank you very sincerely for the great honour which you have conferred upon me by your invitation to deliver the Bradshaw lecture here to-day. When I read the list of distinguished physicians who have preceded me in this lectureship, I feel that my best efforts can only fall far behind the admirable contributions made by them to the science and art of medicine by means of this lecture. A few years ago, when I had the honour of delivering the Goulstonian lectures in this theatre, I selected the pathology of the thyroid gland as my subject, and devoted a considerable portion of one lecture to the pathology of exophthalmic goitre. On this occasion I propose to consider the clinical symptoms and treatment of that interesting disease. This selection has been made because a considerable number of cases of this malady has come under my observation, of which I have tabulated 180 for the purpose of this lecture; 170 of these cases occurred in women and 10 in men, the frequency of the disease in the two sexes thus being in the proportion of 17 to 1.

The Thyroid Gland.

Some enlargement of the thyroid gland is one of the most frequent symptoms of exophthalmic goître. The great frequency of this symptom is well shown by my series of 180 cases. In 172 of these the gland was enlarged at the time the patient was examined. In 5 others it was not enlarged at the time, but the history clearly showed that it had been so at an earlier stage of the disease. In only 3 cases there was no enlargement at the time of the examination, and no history of any previous enlargement could be obtained. So that in only 1⅔ per cent. of my cases was a goitre entirely absent. In a series of 261 cases collected by other observers 27, or rather more than 10 per cent., had no goitre. Mr. Arthur Maude, of Westerham, to whom I am greatly indebted for the generous loan of the MS. of an unpublished work on exophthalmic goître, has found some enlargement of the thyroid gland at one time or another in all his cases. I am therefore inclined to believe that if all cases were observed frequently throughout the duration of the malady, some enlargement of the thyroid would be found in almost every one.

It is often difficult to ascertain when the goître has first appeared, as a moderate degree of enlargement may be attained before it attracts the notice of the patient or her friends; indeed, it is frequently discovered for the first time by the medical man, who looks for it in association with other symptoms complained of. As a rule, no discomfort is occasioned by the goître as long as the enlargement is slight or moderate in degree, so that it is not infrequently first noticed by the patient while looking at herself in a mirror, or a gradual tightening of the collar or neck-band leads to a careful examination of the front of the neck, when the swelling is discovered for the first time. Sometimes, however, a sense of fullness or constriction is felt in the neck, but such sensations naturally are more distinct when the enlargement is considerable. An enlargement of the thyroid gland is often the first sign of Graves's disease which is noticed. In a certain number of cases a simple parenchymatous goître is present for a considerable length of time before any symptoms of exophthalmic goître develop, as in at least fourteen of my cases. In two cases the goitre had been present for more than thirty years, and in other cases for periods of from three to twenty-five years, before the symptoms of Graves's disease began to develop.

As a rule, the enlargement of the thyroid gland is not very great. For the sake of convenience, the enlargement may be described as "slight" when it can be distinctly felt on palpating the gland, but is not always sufficient to attract the attention of the patient; as "moderate" when it is easily both seen and felt; and as "considerable" when it is obvious and disfiguring. In 51 cases the enlargement was slight, in 58 moderate, and in 29 considerable. In one the goître was enormous. It had been present thirty-four years, and the circumference of the neck was 23 in. In 33 cases the size was not stated in the notes. In 8 cases there was no enlargement to be detected, though in 5 of these there had been a goître at an earlier stage of the disease. As a rule, the enlargement of the gland is uniform, so that the natural shape is maintained. As the right lobe is larger than the left in the normal subject, we find the difference accentuated by the increase in size. In only 6 of my cases was the left lobe observed to be larger than the right. In a few cases adenomata or cystic adenomata occur in the enlarged gland. In a few cases unilateral enlargement has been associated with homolateral exophthalmos. I have not, however, seen an example of this. The size of the goître may vary from week to week, or even from day to day. It may increase after unusual excitement or exertion, or during the menstrual period, to subside again in the course of a few days. The consistence of the gland varies somewhat in different cases, and in the same case at different times. As a rule, it is softer to the touch than the normal gland, but in cases of some duration it may become harder and smaller, owing to the development of fibrosis. The strong arterial pulsation in the carotid arteries, which is so frequently visible at the side of the neck, is not infrequently transmitted to the goître. The veins running over the surface are in some cases visibly dilated. A fine thrill can sometimes be felt when the finger is laid on the goître, especially near the outer edge of each lateral lobe; this was detected in 25 of my cases. A murmur may also be heard in many cases over the goître, which may be either systolic in time, and therefore arterial, or continuous, and therefore venous in origin. In 63 of my cases a bruit was audible. In 41 of these it was systolic in time. In 19 there was a continuous venous murmur, which in 10 cases became much louder with each cardiac systole, or was accompanied by a superadded systolic murmur. In 31 cases no murmur was heard, and in the remaining 84 it was not noted.

Circulatory System.

In all cases of exophthalmic goître there is an increased frequency of the pulse. At first palpitation may be only felt occasionally, disappearing entirely between the attacks. Such attacks may be induced by unusual exertion. A characteristic feature of them, however, is that they may come on without any apparent reason when the patient is lying still in bed. In some cases the tachycardia comes on gradually, and may hardly attract the attention of the patient at all. In rare cases the onset is sudden, as in one of my cases in which it came on during the night in a girl who had previously been in good health, the other symptoms of Graves's disease appearing within a few days. The pulse may be increased to any rate between 90 and 200 beats a minute, according to the severity of the case. There is often a great variation in the frequency of the pulse at different stages of the disease, and also within short intervals of time in the same case, as slight exertion or emotion often greatly accelerates the pulse for a short time. For this reason it is difficult to give any average pulse-rate for each case. In considering my own cases I have for the purpose of comparison taken the highest observed pulse-rate in each case. This was recorded in 178 cases; in the other 2 it was increased, but the actual frequency was not noted.

Pulse Frequency.	No. of Cases.
Between 90 and 100	4
,, 100 ,, 110	12
,, 110 ,, 120	18
,, 120 ,, 130	35
,, 130 ,, 140	19
,, 140 ,, 150	47
,, 150 ,, 160	17
,, 160 ,, 170	14
,, 170 ,, 180	5
,, 180 ,, 190	7
At 200	6
Total	178

Thus in 101, or more than half the cases, the pulse was at times between 120 and 150; in 47, or more than a quarter, it was between 140 and 150. The high frequence of 200 was observed during severe attacks of palpitation. In one such attack the pulse-rate fell from 180 to 140 in the course of a few minutes, and a quarter of an hour after the application of an icebag to the præcordium it had fallen to 112. The pulse, however, is usually regular, as irregularity was only observed in 12 of my cases. The action of the heart is similar to that which is produced in a healthy person by severe

exertion for a short period or by some violent emotion. On inspection diffuse pulsation all over the cardiac area is generally visible, extending as far to the left as the nipple-line or beyond it. On palpation the impulse is felt over a larger area than usual. Taking the lowest and outermost point at which the apex beat could be distinctly felt in 93 of my cases, it was normal or internal to the left nipple-line in 14, in 38 it was in the fifth left intercostal space in the nipple-line, in 34 it was in the same space but from ½ in. to 2 in. beyond the nipple-line. In 2 cases it was in the sixth space in the nipple-line, and in 2 one finger-breadth outside the nipple-line. In 3 cases it was in the anterior axillary line. In these cases with great dilatation of the left ventricle there is a danger of sudden fatal syncope, as one of these patients died suddenly during the night.

The heart sounds are very loud and distinct, the first sound at the apex especially being shorter, sharper, and louder than in the normal heart. The accentuation of the first sound may be so great that it is audible outside the chest. In one of my cases the first sound could be heard a yard away from the chest by the unaided ear and in another at a distance of several inches. In the majority of early cases the sounds are clear and no murmur is audible. In the later stages, however, murmurs are not uncommon. A loud rough systolic murmur is frequently heard over the inner end of the second left intercostal space. This murmur alone was present in 26 of my cases, in some of which it was almost purring in character. In 19 cases a systolic murmur was heard at the apex only, while in 18 cases a murmur was heard both at the apex and over the pulmonary area as well. In 45 no murmur was heard, and in the remainder it was not noted. The character of these murmurs indicates that they are usually functional in origin and they resemble haemic murmurs, although they occur in many cases in which there is no distinct anaemia. True valvular lesions may occur in cases of exophthalmic goitre, but should be regarded as complications, as they are usually the result of antecedent rheumatism or chorea.

Of vascular symptoms the most striking is the arterial throbbing which is most noticeable in the carotids. It is variable in intensity, and in some cases is felt more especially in the temporal or cranial arteries. Strong pulsation may also be felt at times in the abdominal aorta and in the femoral arteries. The radial pulse, as we have already seen, varies greatly in frequency, but is usually small and of low tension. Though the blood pressure was found to be normal by P. Marie in the two cases in which he measured it, haemorrhages from various parts of the body are occasional symptoms. Epistaxis is the most common, but haemoptysis, apart from pulmonary tuberculosis, haematemesis and bleeding from the skin have also been recorded.

Ocular Symptoms.

Exophthalmos effects such a striking change in the appearance of the patient that to many it is one of the most distressing features of the malady. Although so obvious when present, it is important to bear in mind that this sign is entirely absent in many cases. A note was made as to the condition of the eyes in 170 of my cases. In 120 exophthalmos was present; in 3 it had been present at an earlier stage but had disappeared before I saw them. In 47 cases, or more than 25 per cent., there was no exophthalmos at all. Exophthalmos generally develops slowly, but in some cases it comes on rapidly in the course of a few days. In cases in which it is present in a slight degree, it may rapidly increase if there is an acute exacerbation of the other symptoms. It is usually bilateral and equal in degree in both eyes, but in some cases it is unilateral, or more marked on one side than on the other. The exophthalmos may vary from a slight fullness of the eyeball, over which the eyelids can still meet easily, to such marked projection that the sclerotic above and below the margin of the cornea, and even the insertions of the recti muscles are visible, and the eyelids cannot be brought together at all. In marked cases the eyes remain open during sleep. In one of my cases, which I examined while asleep in the daytime, the eyes were directed forwards and the lower edge of the upper eyelids only descended as far as the upper margins of the pupils, which were of medium size though fully exposed to a strong direct light from windows facing south in the middle of the day in the month of August; in other cases the pupils were contracted. The amount of prominence of the eyeballs varies in the same case from time to time. Patients who have this symptom in a marked form are very liable to suffer from attacks of conjunctivitis, owing to the increased exposure of the surface of the eyeball to the action of dust and bacteria floating in the air, which is all the more apt to occur when the retraction of the upper eyelid with absence of blinking, known as Stellwag's sign, is present as well. This sign may be present when there is no exophthalmos, or it may precede its development. When it is present alone it imparts a somewhat staring or startled expression to the face. It was present in 70 of my cases, in 55 it was absent, and in an equal number it was not noted. This sign may vary in degree or even disappear at times in the same case. It may only appear under the influence of a strong emotion, or when the eyes are suddenly turned in a new direction and disappear again at once. The delay in the normal descent of the upper eyelid when the eyes are directed in a downward direction, which is so well known as von Graefe's sign, was present in 49 out of 141 of my cases in which it was specially looked for. It is to be remembered that this sign was observed by Dr. Sharkey in 14 out of 613 patients, none of whom suffered from Graves's disease. In one of my cases von Graefe's was the only ocular sign present. In 36 cases it was associated with exophthalmos and retraction of the upper eyelids, in 9 it occurred with exophthalmos but without Stellwag's sign. In 19 cases in which both exophthalmos and Stellwag's sign were present von Graefe's sign was absent. Weakness of convergence, as described by Mœbius, has been observed in some of my cases, but as a rule I have not found it to be so marked as to be regarded as anything more than an indication of some slight weakness of the recti muscles. Paralysis of one or more of the external muscles of the eye has been described, especially by Mr. Maude, in a good many cases, the details of which are probably familiar to you. The paralysis may be partial or complete, bilateral or unilateral, and may involve a single muscle or all, causing complete external ophthalmoplegia, as in one of my own cases. The elevator of the upper lid usually escapes, though ptosis may occur alone without ocular paralysis, as in cases recorded by Mannheim and by West. The pupils are usually normal in size and in reactions and vision is unaffected. Lesions of the cornea, such as have been described by von Basedow and von Graefe, were absent in my cases. The eyelids are swollen in some cases, the exact cause of this being uncertain. It has been described by some as a circumscribed oedema of one or both eyelids, but in the cases I have seen it has appeared to be more the result of looseness of the skin, possibly associated with relaxation of the orbicularis muscle. Pigmentation of the eyelids is a common symptom. A rapid tremor of the eyelids occurs in some cases when the eyes are shut, but disappears when they are opened.

Nervous Symptoms.

The mental condition in exophthalmic goitre is peculiar, and in some cases this may be noticed even before the other signs of the malady become apparent. The mental state in its typical form is one of subdued excitement or nervousness, such as is seen in a person undergoing some trying ordeal. It may vary in different cases according to the natural temperament of the patient. Thus in some there is marked irritability of temper, and trifling circumstances which would have passed unheeded in health become sources of acute annoyance. An intolerance of strangers, due partly to a reluctance to meet them on account of the facial appearance produced by the exophthalmos, occurs in some cases, and associated with it, or even independently of it, there may be a sense of great discomfort when in a crowded building, such as a church or theatre. I have not noticed the abnormal love of dress and craving for entertainments which have been described by Mœbius. Some patients are very restless in movement, while others suffer from the peculiar restlessness of mind described by the late Sir J. Russell Reynolds as a "chorea of ideas." Some are always bright and optimistic, while others are discontented and melancholy. In spite, however, of this peculiar mental state, intellectual work of a high class may be accomplished by those suffering from Graves's disease. Thus, one lady who was under my care during the greater part of a severe attack of exophthalmic goitre, which lasted some seven years before she recovered, occupied the time of her enforced leisure by acquiring a knowledge of the Turkish language. In some cases there are definite visual and auditory hallucinations. Careful inquiry is necessary to obtain a history of these hallucinations, as patients are often disinclined to mention their occurrence. In 10 of my cases, in which there was no insanity, definite hallucinations occurred. In one case a man had been killed by an accident in the

district in which the patient lived, and some days after his burial the patient thought she saw him enter by the door. Another patient thinks she sees objects drop on to the floor from the chair, or the door open; and on one occasion she heard a scrimmage in the yard and some one enter the house. In other cases figures or animals were more or less distinctly seen, especially on waking during the night. In one of these cases the faces of the figures were clearly recognized as being those of people who were dead, who appeared just as when they had last been seen. In acute fatal cases various mental symptoms occur near the end which resemble those of the delirium of fever. F. Müller has observed stupor, terror, hallucinations, and confusion in such cases. In the cases of this class which I have seen, the mental condition closely resembled that of a patient suffering from a severe attack of enteric fever or pneumonia with a mild form of delirium from which he could be roused to give rational answers to questions.

Actual insanity develops in a few cases of Graves's disease, and should perhaps be regarded more as a complication than as part of the disease. In the experience of most general physicians the combination is a rare one, though alienists, on the other hand, regard it as less uncommon. Thus Moebius has not observed a single case of undoubted "Basedow-insanity." As far as I am aware, only three of my 180 cases developed insanity. In one of these there were suicidal tendencies for three months following parturition, so that the condition was possibly puerperal in origin. In another case, that of a man who had melancholia with suicidal tendencies, the insanity appeared to be due to the Graves's disease. In the third case, which I saw with Dr. Swanwick of West Hartlepool a young lady of 22 had entered her brother's room just after his tonsil had been removed and saw the excised tonsil lying there, which gave her a shock. She then developed an attack of acute mania, during which she was very restless, striking at any one within reach: if left for a minute she jumped out of bed and rushed to the window, used bad language, declined to answer questions, and refused medicine, saying it was poison. She afterwards completely recovered from the mania. Dr. Clouston[1] at the Edinburgh meeting of the Neurological Society showed three cases of exophthalmic goitre who were affected with ideas of persecution and of grandeur, and expressed the opinion that insanity ultimately developed in a much larger number of cases than was generally supposed. Insomnia occurs in a few cases, and headache, especially of a migrainous type, is not uncommon.

A fine regular tremor of the hands is one of the most constant symptoms of exophthalmic goitre. The importance of this symptom has only been fully recognized since its great frequency was pointed out by P. Marie in France, and its characters were so well described by Mr. A. Maude in this country. This tremor is present in the great majority of cases. This symptom was observed in 163 of my cases, in 7 it was absent, and in the remaining 10 it was not noted. It sometimes appears quite early in the course of the disease, more frequently, however, it does not develop until a later stage, when other symptoms have been present for some little time. The tremor is most easily observed when the arms are bared and fully extended forward with the palms directed downwards. It varies considerably in its amplitude in different cases, and even in the same case at different periods. In the slighter forms it may not attract the attention of the patient at all, whereas in severe cases the patient may be unable to write or carry a plate without dropping it. The movement, which in slight cases is confined to the hands, is due to rapidly alternating contractions of the flexors and extensors of the wrists. In more severe cases the pectorales, serratus magnus, and the erector spinae at times also show a tremor. The tremor is often present in the legs as well as in the arms, and is generally symmetrical, though it is sometimes more marked on one side than the other. The rhythm is rapid and regular. Careful tracings taken by P. Marie in 11 cases showed that the movements occurred at the rate of from 8 to 9.5 a second, the average being 8.5. Wolfenden and Williams give the rate of vibration as 10.8 to 11.5. The amplitude of the tremor varies considerably. It is greater when the patient is excited or when the symptoms are at all acute. Painful cramps may occur in the feet and legs, especially at night, and have been observed by Dr. Hector Mackenzie in 13 cases. In two of these the muscular spasm was similar to that which occurs in tetany. Similar attacks have also been seen by Mr. Maude. As far as my own experience goes, the cramps are rare symptoms. Convulsions sometimes occur, and may simply be due to epilepsy developing as a complication. In some cases, however, convulsions occur which appear to be the direct result of the exophthalmic goitre. I shall have occasion later on to refer to a case in which convulsions occurred while the patient was taking rodagen. Paraparesis, or sudden giving way of the legs, is a symptom first described by Charcot. In some cases the legs simply feel weak as if they would give way in walking, in others the legs actually do give way and the patient falls to the ground; 21 of my patients complained of this symptom, 11 stated the legs only felt weak, while in 7 the legs gave way and 5 fell down or were unable to walk in consequence; one of them was unable to rise again afterwards without assistance. Other forms of functional paralysis may occur in Graves's disease, but time will not permit of their consideration on this occasion.

Skin.

The skin is usually rather pale, though it is sometimes flushed, and it is frequently moist or greasy in appearance as a result of the increased sebaceous secretion. To the touch it is warm and clammy. More or less profuse perspiration occurs at times in many cases. This moist condition of the skin was present in 113 of my cases, and actual sweating occurred in 92. The sweating may be quite local, being limited to the head, hands, or feet, or one side of the body. Profuse offensive night-sweats were described by von Basedow.

Pigmentation of the skin, in one form or another, was observed in 42 of my cases. In its most common form the pigmentation affects the exposed portions of the skin of the face, neck, and hands, the colour being just like that produced by prolonged exposure to the sun. As a rule the pigmentation is most marked in those parts of the body where the skin is naturally darkest. Thus, the skin round the eyes and covering the eyelids may be quite deeply pigmented while the rest of the face is unaltered. The skin of the face may, however, be uniformly pigmented, or the coloration may occur in dark brown patches on the cheeks. The neck, the axillae, the areolae of the nipples, the genital organs, the upper part of the inner surface of the thigh, and the flexures of the joints, are all common situations in which pigmentation occurs. Portions of skin which are subjected to pressure or friction by clothing are liable to become dark in colour, as for example, over the spines of the vertebrae, round the waist, or below the knee when garters are worn. Variations in the distribution of the pigmentation occur in different cases. In one of my cases the outer edge of the areola and the front of the leg showed the pigmentation most distinctly, while in another there was general diffuse pigmentation of the face, neck, forearms, and hands, with darker, freckle-like patches on the backs of the hands and forearms. The pigmentation may be so general as to resemble that of Addison's disease, or it may occur in small patches like freckles, or in large sharply-defined areas. The mucous membranes are usually unaffected. Leucoderma has been observed in several cases. Various skin rashes have been observed to occur, the most common of which are erythema and urticaria. Two distinct varieties of oedematous swelling may occur. First, ordinary oedema of the lower limbs or elsewhere may develop as a result of heart failure or when the case is complicated by the presence of anaemia, varicose veins, cardiac or renal disease. The oedema is then symmetrical, and pits easily on pressure. Secondly, irregular oedematous swellings of the skin may appear in different parts of the body, such as in the eyelid, on one hand or foot, or elsewhere. In one of my cases a considerable oedema developed in one leg below the knee, for which no local or general cause could be discovered. The diminution of the electrical resistance of the skin has been carefully investigated by several observers, and is simply the result of the increased activity of the sweat glands, in consequence of which a larger amount of moisture is present in the deeper layers of the skin, which is thereby rendered a better conductor. The hair is often profoundly affected. In many cases it becomes ill-nourished and loose, so that it comes out freely. Loss of hair was noted in 29 of my cases. Not only is the hair of the head affected, but that in other parts of the body may also be lost. In 2 of my cases there was complete baldness, and in one of these the eyebrows, eyelashes and some of the pubic hair had also been lost. The hair may turn rapidly grey, and Mr. Maude quotes a case in which it turned white in a few days.

The Alimentary System.

The alimentary system is apt to be affected in various ways. The appetite varies in different cases and at different stages of the disease. During the earlier stages of the malady the appetite is frequently increased. In some cases it is even voracious, and there is a constant craving for food, of which large quantities are consumed. Some alteration in the appetite was noticed in 20 of my cases. In 4 it was diminished, and in 16 it was increased or voracious. In 10 others it was stated to be good. Thirst was only complained of in 7 cases.

Vomiting may occur from time to time, commencing and ceasing again suddenly, independently of any kind of food. These "gastric crises" are generally painless, and watery mucus alone is brought up which may be streaked with blood. In one of von Graefe's cases vomiting occurred from ten to twenty times a day for a month. Dr. Dreschfeld in 7 cases in which these attacks occurred observed that the breath had a peculiar sweet odour, while the urine smelled of acetone and gave the diacetic acid reaction. Vomiting should always be regarded as a serious symptom, to be checked as soon as possible, as in some cases it comes on acutely and persists until the patient dies from exhaustion. Vomiting occurred in 11 of my cases. In 3 of these it was severe, and continued until death.

An increased frequency of defaecation was present in 20 cases. Thus patients who in health were wont to pass a single daily motion defaecated twice or thrice in the twenty-four hours. This symptom must be carefully distinguished from diarrhoea, as the motions, though more frequent, are otherwise normal in character. The most common disorder of the alimentary canal, however, is diarrhoea, which generally occurs in sudden, short, painless attacks of one, two, or three days' duration, coming on without apparent cause. Some three or four light-coloured watery motions are passed in the twenty-four hours, while the tongue remains clean, and there is little constitutional disturbance. The attacks may recur from time to time. They sometimes are very severe; thus in one of my cases from twelve to eighteen motions were passed in the twenty-four hours, and some cases have been recorded in which thirty or forty motions were passed in the day. Diarrhoea occurred in 53, or more than one-quarter of my cases. Constipation was present in 16.

Albumen is occasionally found in the urine in small quantities. It is usually intermittent, and the urine contains no casts. In 30 of my cases in which the urine was examined for albumen a trace was found in 6. In only 3 of these was sugar found to be present, in 1 of them the urine contained 15 grains of sugar and in another 40 grains to the ounce. As a rule this glycosuria may be distinguished from diabetes by the fact that it does not progress but tends to disappear as the patient improves. I have, however, seen a case recently, which is not included in this series, in which diabetes with thirst, wasting and other symptoms occurred as a complication. In the large majority of cases the urine is quite normal.

In a considerable number of women who suffer from exophthalmic goître menstruation is abnormal. In 170 cases in women menstruation was affected in 45. Amenorrhoea, which is not uncommonly present during the earlier stages of the malady, existed in twenty-four of my cases for periods varying from five months to eight years. In several of them menstruation returned as the other symptoms of the malady abated. In the other cases the variations in menstruation were either unimportant or were accounted for by some local cause. In a few cases the disease has first developed during pregnancy. Maude quotes two cases in which this occurred; in each of them the placenta became detached and the fetus died. In one case the symptoms rapidly subsided after delivery. Pregnancy may also occur in a woman who is already suffering from exophthalmic goître. When this does occur it is important to remember that marked improvement may take place during the pregnancy, as in three cases observed by Charcot, and that it should therefore be allowed to proceed to a natural termination.

Nutrition varies considerably in different cases, but some diminution in weight occurs in many cases. Loss of weight may take place during the early stages of the disease, even in spite of the appetite being increased and the amount of food consumed larger than usual. Some loss of weight was noted in 67, or rather more than one-third, of my cases. The actual loss varied considerably in different cases, but amounted in some to as much as 3 st. or 4 st. In one male case the patient when first seen had a simple parenchymatous goître. When examined again, two and half years later, he was found to be suffering from a severe form of exophthalmic goitre, and had lost from 2½ st. to 3 st. in weight. A regain of weight is a favourable sign of general improvement. Thus one of my patients weighed only 6 st. when the disease was fully developed. When she was seen again, eight years afterwards, she weighed 9 st. 11 lb., a gain of nearly 4 st., and the other symptoms had subsided.

Treatment.

The treatment of exophthalmic goître is a matter of considerable difficulty, as it is a much more formidable task to control the excessive secretory activity of the thyroid gland than to supplement its deficiency, as in the treatment of myxoedema and cretinism. In estimating the value of any particular line of treatment in Graves's disease we have to remember how variable the natural course of the disease may be in different cases, so that it is no easy matter to determine in any given case whether an improvement in the patient's condition is really due to the treatment adopted or is merely incidental to the natural course of the malady. In spite of this difficulty, however, we can, I think, in the majority of cases, with the means which are now at our disposal, not only relieve special symptoms as they arise, but also favourably modify the course of the disease as a whole.

In dealing with this part of my subject I propose to consider separately the general hygienic treatment, the influence and uses of various drugs, the electrical treatment, and, finally, the most recent results obtained by the use of antitoxic serums and rodagen.

The general management of the patient is of great importance, and has, of course, to be modified according to her character and social position, and the stage of the disease. In cases of great severity, and in less severe cases during the exacerbations which occur from time to time, complete rest in bed is essential. This may be continued for periods varying from a fortnight to six weeks, according to the progress made. In cases of moderate severity a rest in bed for two or three weeks at the commencement of a course of treatment is advisable. In slight cases treatment in bed is not required. In severe cases in which rapid loss of weight has occurred the rest in bed should be combined with over-feeding, as much as four or five pints of milk being given in the twenty-four hours in addition to the regular meals. Little difficulty is usually experienced in inducing such patients to take a large amount of food, as they not infrequently have a voracious appetite. Strict isolation, as in Dr. Weir Mitchell's method of treatment, is not, however, required. After this period of rest, or in less severe cases from the beginning, it is important as far as possible to regulate the patient's mode of life. As a considerable amount of rest is very important, it is a useful plan to insist on at least twelve hours' rest in bed, say from 10 p.m. to 10 a.m. In addition to this the patient should lie down for an hour or two during the day. As much time should be spent in the open air as possible. The combination of rest with open-air, as in the treatment of pulmonary tuberculosis, gives excellent results.

Without giving further details, it will suffice to say that the patient should be induced to lead as quiet and easy an out-door life as she can, freed as much as is possible from anxiety, from undue mental effort, from uncongenial social duties and from unsuitable physical exertion.

Electricity.

One of the most valuable means of treatment of Graves's disease is undoubtedly the systematic application of a faradic current. This treatment, which may be employed alone or along with medicinal treatment, should be carried out wherever possible, as in my cases the best results have been obtained with patients who have persevered with it. The most satisfactory method of applying the current is that suggested by Sir Victor Horsley. Two flexible electrodes about 4 in. long and 2 in. wide, covered with flannel or wash-leather, are moistened with a warm salt solution; one is applied in front over the goître and the other at the back of the neck. These electrodes are fitted with straps and buckles at the sides, by means of which they are fixed in position. They are then connected with the secondary circuit of a dry-cell faradic battery, a water rheostat being included in the circuit, so that the strength of the current can be regulated as desired. The current should be just strong enough to produce a prickling sensation in the skin, but not so strong as to be unpleasant. The current should be applied in this manner for an hour twice in the day, and in some cases it

may be applied for as much as three or four hours in the day. A patient very quickly learns how to apply the current herself. This treatment can be carried out easily in the case of private patients and in a hospital, but it is unfortunately not adapted for hospital out-patient practice, in which so many of these cases are seen. The drawbacks are the time and trouble it entails, so that steady perseverance on the part of the patient is essential. I have observed steady improvement and practical recovery take place in several cases in which this treatment has been systematically carried out.

X Rays.

The remarkable effect *x* rays have been found to possess in bringing about a reduction in the size of an enlarged spleen in cases of spleno-medullary leukaemia has suggested that they might be of service in the treatment of exophthalmic goître. In one of my cases in which this treatment was adopted no benefit was derived; indeed the symptoms were somewhat aggravated, and so it was discontinued. Beck,[2] after excision of one lobe of the enlarged thyroid, exposed the other lobe to *x* rays. In two cases in which this treatment was carried out—in one eighteen, and in the other three, months after the operation, which had only produced an improvement—a remarkable diminution in the nervousness and tachycardia was observed. In a third severe case, in which the *x*-ray treatment was started a week after the operation by a daily exposure of at first five and then ten minutes, the improvement was immediate and rapid. At the end of a week the treatment was suspended for a week, when it was found the pulse had fallen from 160 or 180 before the operation to 80, and the exophthalmos had nearly disappeared. After that the *x*-ray treatment was given for five minutes each week. When seen five months after the operation the remaining half of the goître had disappeared, as had also the exophthalmos and tachycardia. It is, however, difficult to determine whether this satisfactory result is to be attributed to the operation or to the *x* rays, or to both. Dr. Stegman[3] treated two cases of Graves's disease by *x* rays with marked success, each sitting occupying fifteen minutes. The nervous and cardiac symptoms disappeared, though the size of the goître remained much the same. These results suggest that a further trial of *x*-ray treatment should be made.

In a large number of cases, and especially those which are treated in out-patient departments, the treatment is practically confined to the administration of drugs, so that it is important to consider what influence they exert on the course of the disease. Fortunately even under adverse circumstances one sees some cases do well on medicinal treatment alone. The number of drugs which have been recommended in the treatment of this malady is large, but as far as my own experience goes I have only found a few to be of real service.

Arsenic is one of the most useful for routine treatment, small doses being given. A useful method is to order 4 or 5 minims of liquor arsenicalis to be taken three times a day, except during one week each month or during the menstrual period, for six, eight, or even twelve months. When the pulse-rate is over 110, 10 or 15 minims of tincture of convallaria is added to the dose, as this drug appears to give better results than either digitalis or strophanthus in controlling the excessive pulse-rate. If nervousness is a marked feature in the case, 10 gr. of potassium bromide may also be added to the mixture for a few weeks at a time. Belladonna is useful in some cases, and may have some influence in checking the hypersecretion of the thyroid gland: of this, however, we have no actual proof. It may be used in cases where excessive perspiration is a source of annoyance, but is not suited for prolonged administration. Iodide of potassium is, I consider, quite unsuitable, as it not infrequently aggravates the symptoms; and this is not surprising when we remember that thyroid secretion, which contains iodine in an organic combination, is being poured into the blood in excessive quantities; for the same reason thyroid extract, which is still unfortunately given in some cases, has not infrequently aggravated the symptoms, and should therefore never be given. In some cases in which thyroid extract had been prescribed, I have seen rapid improvement take place as soon as it was discontinued.

Suprarenal and thymus tablets have been of service in some cases. Sodium phosphate in doses of 15 gr. to 20 gr., which has given good results in the hands of some observers, has not appeared to me to produce any marked beneficial effect. The daily application of a red iodide of mercury ointment, of half the usual strength, over the goître has appeared to be useful in many of my cases.

Special measures are not infrequently required in the treatment of urgent symptoms. The sudden attacks of diarrhoea, to which some patients are so liable, can be controlled by rest, liquid diet, and a mixture containing laudanum and dilute sulphuric acid. Persistent vomiting may be at times a formidable symptom, and in several of my cases it has been uncontrollable, causing death from exhaustion. In these cases morphine, given either by hypodermic injection or in a suppository, has proved more efficient than any other drug. Severe attacks of palpitation, in which the pulse was 180 to 200, yielded to the application of an ice-bag to the praecordium.

Serum Treatment.

During the last few years the problem of the treatment of exophthalmic goître has been approached in a more rational manner, based on our increasing though still very imperfect knowledge of the part played by the thyroid gland in the production of the symptoms already referred to. Endeavours have been made on several different lines to neutralize the harmful effects of the excess of thyroid secretion present in the blood. In the earlier experiments it was assumed that in health the function of the thyroid secretion is to neutralize or destroy certain products of metabolism present in the blood or tissues. When the thyroid secretion is lacking, either as the result of disease or removal of the gland, these substances were supposed to accumulate in excess in the blood. It was considered that this blood containing these bodies might conversely possess the power of neutralizing the excess of thyroid secretion present in the blood in Graves's disease. Proceeding on these lines, Ballet and Enriquez,[4] in 1895, first employed the serum of dogs, from which the thyroid gland had previously been removed, and in which symptoms of athyroidism had appeared, in the treatment of exophthalmic goître. They injected from 4·5 to 15 c.cm. of the serum with beneficial effects. Following up this same idea, Burghart and Blumenthal[5] considered that the blood of a patient suffering from myxoedema would have a similar antitoxic action when employed in the treatment of exophthalmic goître. For this purpose they removed 200 c.cm. of blood from a fully-developed case of myxoedema. The blood was mixed with an equal quantity of normal saline solution and chloroform and placed in the refrigerator for twenty-four hours. It was then filtered, first through linen, then through a Berkefeld filter, and after the addition of more chloroform replaced in the refrigerator. This fluid was injected into a girl, aged 15, who was suffering from a severe form of Graves's disease, in doses varying from 20 to 55 c.cm., generally of 25 c.cm., the total amount injected amounting to 247 c.cm. in eight weeks. During this treatment the patient gained weight, the hair grew again, the exophthalmos diminished, the sweating and tremors were less, and the heart was quieter and more regular in action. The symptoms were, however, reported to have returned after the patient left the hospital.

Burghart and Blumenthal also made use of the blood of thyroidless dogs. For this purpose they removed the thyroid from eight dogs, two of which remained well, and six developed tetany. These six were bled from the femoral artery. At first the blood was prepared as already described, later the dried precipitate thrown down by alcohol was used instead. The liquid was injected in doses varying from 15 to 25 c.cm. The dried serum, one gram of which was found to be equivalent to 10 c.cm. of the liquid, was given by the mouth in doses of 1 to 1.5 grams. Considerable improvement was observed in each of the cases treated.

Moebius,[6] working in the same direction, employed serum prepared from the blood taken from sheep several weeks after thyroidectomy, and reported favourably upon its effect given in 5 minim doses three times a day. This serum, as prepared by Merck, is now to be obtained under the name of antithyroidin.

Schultes[7] treated a very severe case of exophthalmic goître, with acute mental symptoms, with this serum with remarkable results. After a month's treatment on doses varying from 0·5 to 4·5 c.cm. thrice daily, the mental symptoms had entirely disappeared, the pulse-rate decreased from 140 to between 80 and 90. The circumference of the neck decreased from 44 cm. to 42 cm. The tremor diminished so that the patient could again thread a needle. The exophthalmos was unaffected; except for this the patient appeared to have made a good recovery in a very short time. The after-history is not given. P. Sainton and B. Pisante[8] treated three cases, first with the glycerinated blood, and later with the serum of a thyroidless sheep. In one case the result was considered to be

a complete and permanent cure, and in the other two marked improvement took place. Attention was specially drawn by these observers to the favourable influence of the treatment upon the tachycardia as evidence of its efficiency; thus in the first case the pulse decreased from 140 to 80, in the second from 125 to 90, and in the third from 130 to 80. Preference was given by them to the oral administration of the serum, which proved to be more active than the glycerinated blood. All three cases had previously resisted other medicinal treatment, the first having been treated by thymus extract, the second by electricity, and the third had been in a stationary condition for three years.

Leyden,[9] who has employed Moebius's serum, rodagen, and Madsen's tablets of dried blood from a thyroidless goat, was unable to decide that any one of them was decidedly more efficient than the others, though he appears to have obtained good results with rodagen, which will be referred to again.

My own experience of Moebius's serum is very limited, but I have not been able to observe any special effect in those cases in which I have employed it, and Dr. Hector Mackenzie after an extended trial came to the same conclusion. Of "thyroidectin," a new preparation of the blood of animals after thyroidectomy, I have as yet no practical experience.

Lanz, working on similar lines to Moebius, considered that the milk of an animal from which the thyroid gland had previously been removed would contain the same substances as the serum, and might therefore be used instead. Lanz obtained good results in the treatment of six cases by this method. The best method of carrying out this treatment appears to be to employ the fresh milk from a thyroidless goat, the whole of the milk of one goat being consumed by the patient in the twenty-four hours. When the fresh milk cannot be obtained, the dried milk may be employed instead, and is sold under the name of rodagen. W. Kuhnemann[10] has recorded a case of well-marked exophthalmic goître, in which, after other treatment had failed, great improvement took place while taking ½ drachm of rodagen three times a day. In the course of five or six weeks' treatment the circumference of the neck diminished from 35½ to 34 cm. The pulse, which before treatment was between 135 and 145, diminished to 90. The weight increased from 97 to 109 lb. The patient was able to walk better uphill without dyspnoea. An apical systolic murmur and the tremors disappeared. When the rodagen was discontinued the pulse within a few days increased to between 106 and 120, and the weight decreased. On resuming the rodagen, improvement again took place and was maintained after it was discontinued.

I have not employed the fresh milk of a thyroidless goat, but shall now shortly refer to one of my cases which was treated by rodagen. The patient was a young woman, aged 22, who had first developed symptoms of exophthalmic goître some twelve months before her admission to the Newcastle Royal Infirmary on January 16th, 1905. She had well-marked exophthalmos, considerable enlargement of the thyroid gland; the pulse was 140, and she had fine tremors of the hands, and was in fact a typical example of Graves's disease. She remained in the hospital until the end of March. She was given 1 drachm of rodagen thrice daily from January 18th for one week only, as the supply failed; again from February 3rd to February 24th, and again in ½-drachm doses from March 8th to April 2nd, so that altogether she took 15 ounces of rodagen while she was under treatment. For about one week, during which the rodagen could not be obtained, she took 1 drachm of sodium phosphate each morning instead. After she began to take the rodagen a steady improvement took place. The pulse, which at first varied between 100 and 140, fell to between 96 and 116. The tremors diminished. On February 20th the temperature rose from normal to 103·8°, and she developed an acute tonsillitis. On February 24th, that is after she had taken the rodagen continuously for three weeks, she became pale, and collapsed at 7.30 a.m.; the temperature, which the night before had been 102°, fell to 99°. At noon the temperature was only 95.2°, and the heart-beat, which during the four previous days had been accelerated to between 120 and 160, fell to 32 per minute. The skin was cold and moist. She was somewhat cyanosed, and a systolic bruit could be heard at the apex. The rodagen was discontinued, and brandy and strychnine were given. The pulse at 2 p.m. was 36; at 4, 44; and at 11.30 p.m., 96. The following day the patient appeared to be in her usual condition, but the pulse was only 88. Two days later, on February 27th, the pulse again fell at 6 a.m. to 76, at 7.20 to 64, at 8 to 44, at 8.30 to 42. At 10.15 it was only 38. After this it gradually increased in frequency, and was 62 at 11.45, 52 at 1.45 p.m., 46 at 4, 88 at 8, and 96 at 11 p.m. During the morning of this day, between 7.20 and 11 a.m., she had numerous attacks, in each of which the heart, which was as already described beating slowly, would stop altogether for several seconds; a convulsion then took place, which lasted two or three seconds. The patient was conscious of the onset of the convulsion, but lost consciousness for a second or two at the end of it. One or two of these attacks occurred while I was auscultating the heart, and the long period of asystole was remarkable; the slow pulse was irregular at the time. After 11 a.m. she had no return of the attacks. During the month of March the pulse varied from 64 to 114, but was only as high as 100 on ten days. Rodagen was again given in ½ drachm doses thrice daily on March 8th, and continued until she left the hospital on April 2nd.

I have ventured to detail this case as I have never seen symptoms like these before in a case of exophthalmic goître, and am, therefore, inclined to attribute them to the action of the rodagen in too large doses. As no untoward symptoms occurred when ½-drachm doses only were given later on, and the patient left the hospital very considerably improved, I think this remedy is worthy of more extended trial, but it should be used with caution in doses not exceeding ½ drachm.

As the symptoms of exophthalmic goître are due to the over-activity of the thyroid gland, and improvement takes place when atrophic changes occur in the gland, it would be a rational means of treatment to endeavour to induce such degenerative changes in the secreting cells of the gland by means of specific cytolysins, and so to lessen its activity. Thus Mankovsky[11] introduced the thyroid glands of dogs into the peritoneal cavity of cats at intervals of a fortnight. After three injections he injected the cat's serum into healthy dogs. This was followed by symptoms like those which develop after thyroidectomy and by degeneration of the epithelium of the gland. Goutscharukov,[12] by injecting dog's thyroid into rams, prepared a sheep's serum which he considered to be thyrotoxic, as its use was followed by tetany associated with loss of colloid, vacuolarization, and chromatolysis of the cells of the thyroid. Portis[13] also prepared a serum by injecting increasing doses of an emulsion of dog's thyroid into the peritoneal cavity of the goat. When the goat's serum was subsequently injected into dogs it produced depression, convulsions, vomiting, rapid breathing, haemoglobinuria, and early death. In cases which survived longer there were some fever, lachrymation, and progressive loss of weight. Microscopical examination of the thyroid gland showed removal of colloid, desquamation and degeneration of the epithelial cells, followed later by the development of papillary proliferations. Marked degenerative changes were, however, found in the liver, spleen, and kidneys, so that the action of this serum is not solely thyrotoxic. It would, therefore, be unsuitable for the treatment of exophthalmic goître, as degenerative changes would be set up in other organs as well as in the thyroid gland. MacCallum, and later J. L. Yates,[14] saw no results follow injections of a thyroid serum prepared for the dog in geese.

It has appeared to me that by working on somewhat similar lines it might be possible to induce the formation of antibodies in the blood, the serum of which might be employed in the treatment of exophthalmic goître, so as to neutralize the ill effects of the excess of thyroidal secretion. It has been shown by several observers that not only serums which are antitoxic to certain bacterial poisons, like the anti-diphtheritic serum, but also serums antagonistic to animal products, can be produced. Thus, Lepine[15] endeavoured to prepare an antithyroid serum by first injecting thyroid extract into a goat, later feeding the animal on gradually-increasing doses of minced thyroid until it was able to take as much as twenty to twenty-five lobes of the sheep's thyroid a day. The serum prepared from the goat, when injected into a dog, caused diminution in the excretion of urea, and in large doses somnolence and slowing of the pulse, which was taken as an indication of interference with the activity of the thyroid gland. This serum, however, has apparently not been employed in the treatment of exophthalmic goître.

In my own experiments I endeavoured to prepare an antithyroid serum in as simple a manner as possible—first of all from rabbits,[16] and more recently from a goat. In the first experiments several rabbits were fed on sheep's thyroid extract for a month or more. Each rabbit was killed by bleeding, and the blood was collected with aseptic precautions

into sterilized flasks. After standing for forty-eight hours the serum was decanted, and 0.2 per cent. of carbolic acid added to it. Two cases of exophthalmic goître were treated with the serum in doses varying from 5 minims once a day to 7 minims three times a day. Both cases improved under treatment, but the amount of improvement was not greater than might be expected from rest in the hospital and ordinary medicinal treatment, and I was unable to attribute any specific effect to the use of this serum.

More recently I prepared a serum in a similar manner from a goat. In this case, however, the period of preparation was much longer. A young she-goat, nine months old, was selected. Sheep's thyroid extract, the liquor thyroidei (*B.P.*), was employed throughout. This was at first injected beneath the skin, and from March 9th to April 26th 13 injections were made, the doses ranging from 0.6 c.cm. to 5 c.cm., 27.5 c.cm. being injected altogether. As localized abscesses developed after several of the injections, the method of administration was changed, and for a period of two months, from May 17th to July 17th, the extract was given by the mouth in doses varying from 2 c.cm. to 8 c.cm. In all during the period 86 c.cm. were given in 22 doses, which thus averaged about 4 c.cm., or 1 dr. each. On July 24th 400 c.cm. of blood were withdrawn from the internal jugular vein by means of a curved hollow needle into a sterilized flask, while the goat was under the influence of an anaesthetic. After coagulation had taken place 170 c.cm. of clear serum were decanted into sterilized bottles, 0.5 per cent. of carbolic acid being added to it. Two cases have been treated with this serum.

The first case was that of a single woman, aged 22, who, after being much frightened by a dog, developed symptoms of exophthalmic goître, some six weeks before her admission to the Newcastle Royal Infirmary. At this time she had very marked exophthalmos associated with retraction of the upper eyelids and von Graefe's sign. The thyroid gland was moderately enlarged. The pulse was 120, regular, and of medium tension. Systolic murmurs were audible at the apex and over the pulmonary area, otherwise the heart was normal. The skin was moist and pigmented in places. There was a marked fine tremor of the extended hands, and she was nervous and restless, so that the case was a good typical example of the disease.

Treatment was commenced on July 26th, by first giving 5 minims of the serum three times a day. The dose was increased to 7 minims on the 28th, and to 10 minims on August 1st. The pulse then had gradually decreased to 100, the nervousness and restlessness had diminished, and the goître appeared to be getting smaller. On August 5th the dose was increased to 20 minims, that is 1 drachm in the day, and with the exception of two days continued up to August 19th. During this time the pulse varied between 106 and 120, and the exophthalmos became slightly less marked. The weight remained practically unaltered. In this case, although some improvement took place, it was not more than usually takes place in hospital on ordinary treatment, and no special effect could be traced to the use of the serum.

The second case was that of a young woman, aged 23, in whom the symptoms of exophthalmic goître had first developed about four months before she came to the Royal Infirmary on July 22nd. On admission she had slight uniform enlargement of the thyroid gland. The exophthalmos was slight, and the ocular symptoms were absent. The pulse was 126, small, regular and easily compressible. The heart's apex beat was in the fifth intercostal space, one fingerbreadth outside the nipple-line. A rough systolic murmur was audible over the pulmonary area, but not at the apex. The skin was moist and pigmented, and there were other minor symptoms which I need not detail. She was given 5 minims of the goat's serum three times a day on July 26th, the dose being gradually increased up to 20 minims by August 5th. This dose, with the exception of two days, was continued up till August 19th. The pulse varied between 104 and 120, and there was an increase of 8½ lb. in weight. The general condition also improved, but, as in the other case, no special effect could be attributed to the use of the serum.

The risks of surgical treatment are unfortunately so great that I do not consider partial thyroidectomy is advisable in exophthalmic goître. I have only seen this operation performed in two cases, but they both died within an hour or two. We must, however, remember that Kocher's results in 59 cases, quoted by Dr. Mackenzie,[17] show 76 per cent. of cures, and improvement in 14 per cent., with a mortality of only 6.7 per cent. If operative treatment is undertaken a local anaesthetic only should be employed, as much of the risk appears to be due to the use of general anaesthesia.

We must on the whole conclude that at the present time in the great majority of cases the best results are obtained by general hygienic treatment combined with the use of electricity and certain drugs, and that as yet no serum or other animal product can be considered to give better results than these older methods of treatment.

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A CONCEPTION OF DISEASE.

Being the Inaugural Address delivered before the Philosophical Institution of Edinburgh.

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Among the items which have in recent years been considered necessary to a liberal education is some knowledge of the human body, of its mechanism and incidentally of its infirmities. Physiology is taught in schools, demonstrations of "first aid to the injured" and classes in ambulance work are popular throughout the country, the elements of hygiene are matters of common knowledge, a very general interest is taken in public health, and especially in preventive medicine, while there are few who have not some conception of germs and of the part they play in the troubles of life.

The result is an intelligent concern in medicine which is of infinite advantage to the whole community. There has grown up a kind of popular medicine, founded, the cynic would say, upon that "little knowledge which is a dangerous thing," but based, I would rather insist, upon that little knowledge which suffices to teach the indications of danger. The foundation of any system of medicine is a right appreciation of disease. I venture to think that the conception of disease which is the basis of medicine *à la mode* is not in accord with facts, and, influenced by this impression, I would attempt to present a *religio medici* which, I trust, rests upon surer grounds.

The prevailing idea of disease is of a something that is woful and malignant, evil in origin, evil in intent, evil in effect. The method of its entering into the lives of men would seem to belong to the time

> Of man's first disobedience and the fruit
> Of that forbidden tree, whose mortal taste
> Brought death into the world, and all our woe.

The popular view claims that disease is a calamity, that its end is destruction, and that it is purposeless except in the direction of doing harm. Popular terms bear testimony to the prevailing of this belief. Man is said to be struck down by disease as by an avenging angel, it seizes upon him as does a roaring lion, it consumes him as does a fire. The attitude of the medical man towards disease is that of an opponent to deadly influences. He has to combat an enemy to mankind whose every movement is dark and malicious. There is no symptom of disease that is not believed to be noxious and as such must be stamped out with relentless determination. If the patient be sick, the sickness must be stayed; if he cough, the cough must cease; if he fail to take food, he must be made to eat. And why? Because these are manifestations of disease, and are therefore of ill-intent and need to be banished.

I shall hope to show—so far, at least, as the examples I shall select are concerned—that there is nothing preternatural in disease, that its phenomena or symptoms are marked by a purpose, and that that purpose is beneficent. I shall hope in these examples to demonstrate that the processes of disease are aimed not at the destruction of life but at the saving of it, and that its manifestations are the outcome of a natural effort towards cure.

Disease, as popularly realized, is not one of the ills that flesh is heir to, but one of the good gifts, for its motive is benevolent and protective. I cannot express this more

precisely than by saying that if it were not for "disease" in the popular sense the human race would soon be extinct.

This unfamiliar proposition may best be demonstrated by instances. An individual meets with a severe wound of the hand from—let us suppose—an unclean instrument. The wound is adjusted and dressed, and what then is the fear of the patient's friends? There is one dread possibility in their minds: "Will inflammation set in?"—"set in," be it noted, as a mariner would speak of a gale setting in. Now, if inflammation *does* attack the part, what will happen? The answer is that the man may lose his hand, possibly his life. This is, I believe, the teaching of medicine *à la mode*.

The facts, however, are as follows: Into the wound—at the time of the accident—certain germs, or micro-organisms, have been introduced. These, finding themselves in a favourable soil, proceed to flourish and multiply. They multiply in no uncertain manner. Those who are curious in the matter of birth-rates may be interested to know that the progeny of one single cell may at the end of twenty-four hours be 16 millions. They are not only prolific, but they produce a subtle poison called a toxin. The invasion, therefore, of the body by a poison-producing host, capable of multiplying by millions in a day, is a matter of some concern, and if the name "disease" be limited to this accident, I am willing to call it a calamity.

Now, how is this germ invasion met? There is a rush of blood to the wounded part, the vessels around the damaged area enlarge to their utmost capacity, in order that as much blood as possible may be brought to the invaded quarter. The limb in consequence becomes red and swollen and of necessity painful, so that it is said to be inflamed. The pain causes the member to be kept at rest, which is a state conducive to recovery. Blood is hurried to the part for precisely the same reason that an army is hurried to the frontier when a country is attacked. At the seat of the wound an invading force has landed; their weapon is poison; they need neither transport, auxiliaries, nor stores, for they live on the body itself, and can add to their numbers without extraneous aid.

The blood, on the other hand, contains certain cells or corpuscles—poor, pale, flabby-looking objects, called leucocytes—which are, however, born microbe killers, and have a passion for fighting which no racial hatred among men could even faintly imitate. These leucocytes do not wait for the invading germs to enter the blood vessels, but make their way out of those channels to meet the invaders in the open. They also have a power of multiplication, and in the field are joined by comrades of the same kin.

There now takes place a battle the like of which no pen has ever attempted to describe. Millions are opposed to millions, and the fighting is to the death. The hosts of Armageddon would be a mere handful to the uncountable hordes which fill the battlefield about the confines of a wound.

The leucocytes destroy the germs by eating them—and thus it is some call them "phagocytes"; they also, by sacrificing their living bodies to the poisons of the enemy, save the country they defend. The mortality of this combat is beyond the limits of reasonable commutation. The arena is piled up with the dead, until at last the living, the dead, the poisoning and the poisoned are thrown out in the form of what is known as "matter" or pus, and the trouble probably ends.

Should the invading force beat down the first line of defence and find a way into the channels of the body, then a stand as vigorous is made at the second circle of entrenchments, the lymphatic glands. In the case of a wound of the hand the [illegible] under the arm oppose the invading host. They [illegible] possibly they suppurate. The subject of this communication [illegible] the misfortune which, in addition to [illegible] wound (which was trouble enough), has given him an [illegible] hand and now a tender gland under the arm. The [illegible] blood. It is the story all over again of Gallio, [illegible] but misunderstood friend.

[illegible] then, is the Inflammation that is regarded as a dire [illegible] a portent of calamity. It is to be combated by every [illegible] symptoms must be combated by every means [illegible] on's power. In reality it is a wholly beneficent [illegible] one purpose. That purpose is healing, [illegible] the aim, test of cure. If it fail, it is only because the [illegible] incapable, never because the generous intention [illegible] For centuries there has been presented the [illegible] spectacle of men of science struggling to the utmost [illegible] to curb, to annihilate a process which [illegible] after purpose has been written upon its forehead in [illegible] and schools have been formed to uphold with much [illegible] this method or that. At last, amidst the Babel of suggestion, advice, and aimless discourse, a surgeon, Lord Lister, points out that if the invading force be prevented from landing, the country, or body politic, will remain at peace, and the aid of inflammation will be uncalled for. Such is the whole teaching of antisepticism.

In the meantime, how many must have prayed that this dire disease would vanish out of the lives of men; yet, without the protection of inflammation, the human race could hardly survive a month.

It is interesting to notice that, amidst the clamour of the schools and the pronouncements of scientists, one little element of common sense has persisted in the form of the humble poultice, the secret encourager of inflammation.

Since inflammation is a method of cure to be imitated rather than hindered, modern treatment concerns itself mainly with the prevention of conditions which make inflammation a necessity, and with the carrying out of such hints as the process provides. When inflammation, therefore, does supervene, it is the surgeon's part to make it as tolerable to the patient as possible, and as soon as it becomes evident that Nature is intending to throw certain matters from the system, he, acting on that hint, opens an abscess or incises a tense swelling.

In that phase of the inflammatory process, known by the dread name of peritonitis, the benign intentions of what are termed "manifestations of disease" are very remarkably illustrated. The peritoneum is most susceptible to the inroad of bacteria, whether they find an entrance through a wound or through a breach in such an organ as the appendix. The moment the invasion takes place, the symptoms of peritonitis appear. These symptoms are nothing more than Nature's efforts towards the saving of life from an undoubted disaster. They serve to at once secure those conditions which are most conducive to recovery, they provide prompt means for closing the breach and for staying the spread of the trouble. Peritonitis has always been spoken of as the operating surgeon's deadliest enemy; it is, in reality, his best friend.

The general mortality of the common disease known as appendicitis is low. This fortunate circumstance is due to peritonitis, for without that much abused ally every example of the disorder would be fatal. Even now it is usual to say that a death from appendix trouble is due to peritonitis; it should rather be said that it came about in spite of peritonitis. Peritonitis is, indeed, never a calamity, for it is never other than a process of cure. It is only the accident which calls it into being that is wholly disastrous.

To go further. There are certain disorders which are called infectious because they have been proved to be due to an infection from without. In such maladies there is the simple disposition of a seed on one hand, and of a soil, on which it can grow luxuriantly, on the other. The seed is a specific bacterium, the soil is the body of a living creature. When the soil is generous the individual is said to be susceptible, when it is inhospitable he is said to be immune. The common cold is no doubt a so-called bacterial disease. It can be "caught," it can be conveyed from person to person. The germ would seem to linger in the haunts of men, and to find pleasure in the "madding crowd."

When I was concerned in starting hospital ships in the North Sea I found that fishermen, returning to port after a two months' voyage, were very prone to catch cold. Many told me that they developed a cold whenever they went ashore. The chilly blasts of the North Sea in the winter were unpleasant enough, but they were not laden with the cold-in-the-head bacillus, while the air of the cosy seaport was. It is often claimed that the common cold is due to cold. In connexion with this fallacy I may quote the following from the report of Dr. Wilson, surgeon to the *Discovery* in the recent Antarctic expedition. Speaking of "colds" he writes: "We "were entirely free from this trouble from the time we entered "the ice to the time we reached New Zealand, two and a half "years later, except on two occasions which were somewhat "remarkable. On the occasion of our unpacking a large bale "of woollen clothing, long after we had been in the ice, a very "virulent form of nasal catarrh ran through the whole ship's "company. Undoubtedly in this case the infection was in "the clothing. On the second occasion the catarrh was "accounted for by the fact that our ward-room carpet was "taken up for beating, and the infection, which had lain "dormant for many months, was liberated and had the "usual effect."

The germ enters through the air passages and, finding a suitable medium for growth in the lining membrane of the nose and throat, develops there. The symptoms which result

are too well known to be dwelt upon. There are the sneezing, the catarrh, the sore-throat, the cough, the malaise. According to popular medicine, these phenomena constitute a disease, are purposeless, profitless, and wantonly distressful, so that the victim demands from the physician a means for stamping the trouble out. These symptoms, however, are in the main the manifestations of a process of cure and are so far benevolent that without them a common cold might be a fatal malady. The copious catarrh, the persistent sneezing are practical means of dislodging the bacteria from the nasal passages, while the cough removes them from the windpipe. The febrile state, I would venture to believe, is the outcome of an activity aroused in the blood for the purpose of neutralizing the poison engendered by the invading host.

He who grumbles about his cold is finding fault with a measure of relief to which he owes his life. What he may justly grumble at is the undoubted misfortune that he is the subject of a bacterial infection, and he may also, with reason, complain of the discomfort incident to being poisoned. It is hard to blame Nature, as he proceeds to do, for successfully defending him against the effects of this casualty.

Methods of treatment, whether carried out by Nature or by art, are seldom pleasant, but they are not blameworthy. A man who has accidentally swallowed poison should not complain that the poison makes him sick if the occurrence saves his life.

How preventive medicine plays its part in dealing with so-called disease is well illustrated by malaria and Malta fever. The fons et origo mali in malaria are so well understood as to need no further reference in this place. That distressing malady known as Malta fever is the scourge of the Eastern Mediterranean and the cause of much sickness both in our army and navy. The victim of this fever becomes very ill, and treatment, so called, seems to benefit him but little.

It is found that the best thing that can be done for the patient is to send him away from Malta. It has been discovered that this fever is due to the entrance into the body of a bacterium. Unpleasant symptoms follow, which are said to constitute the disease. These are considered to be purely calamitous, and to be as little profit to the victim as were the doings of the torture chamber in mediaeval times. A just estimate of these symptoms will show that, while some are no doubt due to the actual poison introduced, the major disturbance is the outcome of an effort on the part of the body to protect itself from that poison. The symptoms are, for the most part, the manifestation of a vigorous defence, of a method of cure, by which, under favourable circumstances, the body may be rid of its tormentor. In this association the term "medical treatment" seems out of place.

Those who have been patiently tracking down the poisoner to whom Malta fever is due took note of the fact that practically all the milk drunk in Malta is goat's milk. They then discovered that the goat is subject to Malta fever, and that the milk consumed daily by both the sick and the sound is often swarming with the germs of this dire disease. If they can show that the bacterium is conveyed to man in no other way than through goats, then the story of Malta fever closes —happily, like the comedy of old days.

There is something pathetic in the picture conjured up by this discovery. The wasted man, sick unto death, the kindly well-meaning physician feeding him with milk and so feeding him with germs, yet struggling all the while with tragic earnestness to cure his symptoms, such symptoms being the outcome of Nature's efforts to neutralize the poison and bring the man back to health. One need no longer be surprised that the one successful measure in the treatment of Malta fever has so far been to send the man away from the island.

The terrible disease known as bubonic plague is due to a well-recognized bacterium. It is clearly enough to be demonstrated that the so-called symptoms of the malady are in reality the expressions of a desperate attempt on the part of the body to fight the venomous, rapidly-spreading germ. The many lymphatic glands which become inflamed in the progress of the disease all bear testimony to the efforts made to resist invasion and to cast off the invaders. The frequent lack of success is due to the virulence of the attacking germ, not to the supineness of the invaded body. The conspicuous symptoms of plague are expressions of an attempt at cure and are beneficent in intent. If they are execrated it is because they are not understood. It is the story once more of Gellert, the hound.

There are many interesting features in connexion with the spread of plague. There is a familiar expression in common use to indicate utter futility of purpose—"rose water for the plague." The cynicism is intended to convey a sense of absurdity. There would, however, be no absurdity about the expression if it were changed to "flea powder for the plague."

Plague may possibly be conveyed in many ways. It is well known that rats are very liable to plague, and that a remarkable mortality among rats is a common feature in certain plague epidemics. There is a strong conviction among investigators that plague is often communicated through a wound or scratch, or by so small a lesion as an insect bite. Rats are infested by fleas, and the fact that rodents are not the only living creatures patronized by fleas need not be dwelt on. I may now make two quotations from the interesting monograph by Mr. Hankin on the *Epidemiology of Plague*. "In April, 1901, a rat was brought to me that had been found "dead in the grain dealers' quarter in Agra shortly after the "first human case of the disease had occurred. On the rat I "found a living flea. In the stomach of the flea were found the "bacilli of plague." Elsewhere he writes: "In the spring of "1901 I was studying fleas obtained from cats and dogs in Agra, "and found no difficulty in obtaining as many of these insects "as I required. But at the commencement of the hot weather "I found that the fleas on the cats living in my laboratory had "suddenly and completely vanished. Recognizing that the "matter was of interest and wishing to subject it to an ade-"quate test I at once offered a half-day's wages to my servants "for every flea they could catch. Though the servants lived in "different parts of the town and in surrounding villages not a "single flea could they produce. A restricted plague epidemic "that had been going on in Agra suddenly came to an end at "the time of the disappearance of the fleas."[2] Other evidence strongly suggests that the flea may be a means of communicating plague from the rat to the human being.

Upon the precise nature of those activities in the body which are misnamed the symptoms of disease some light is afforded by such a malady as diphtheria.

It is noticed in connexion with infective diseases that certain classes of animals are susceptible to one malady and immune from another; it is also observed that there is an immunity as well as a susceptibility which belong to the individual as distinguished from the class. For example, typhoid fever attacks man, but not animals: rinderpest attacks animals, but not man. The horse is liable to glanders, but the pig is immune. The white rat is immune against anthrax, but can be made susceptible by feeding on an exclusively vegetable diet. Fowls are likewise immune, but can be infected by anthrax if kept in a state of continued cold. The immune pigeon can, in a similar manner, be made susceptible by starvation. The favouring of infection in man by exposure to cold, fatigue, and famine is well known.

Most notable of all is the fact that in certain diseases one attack exempts the individual from further onslaughts of the same trouble. How, in such case, is immunity secured? This somewhat wide question may be illustrated by a particular instance. It is known that one attack of diphtheria appears to protect the individual against further outbreaks.

The history of this affection is as follows. The bacterium gains access to the throat of a susceptible child, and settling on the tonsils, finds a favourable soil for growth. In that growth it develops a poison or toxin, which finds its way into the blood. The moment the bacillus effects a lodgement the cells of the body rise up against it, and, for a time at least, make a successful defence. An active inflammation is induced, one evidence of the energy of which is shown by the fibrinous exudation which forms over the invaded surface. This much-dreaded membrane is the outcome, not of a vicious and purposeless action, but of a process which has for its sole intent the arrest of the destroying host.

At the same time there is developed in the blood a substance of indefinite nature, which is an antidote to the poison filtering in from the disturbed area. This substance is called an antitoxin. It is not existent at the time of the infection. It is produced on the spur of the moment, and with such good result that many patients recover from diphtheria. The child in any case becomes very ill, and it is said that its distressing symptoms are due to the disease, and are therefore ill-meaning.

The symptoms—notably the fever—are due to the excessive activity of the body in its attempt to ward off the bacterial invasion, to the inflammation, to the very elaborate blood changes concerned in the production of an antitoxin. That some degree of the ill condition is due to the poison which is entering the system is undoubted; but when the phenomena of poisoning are paramount the child is

dying. Without what are called the symptoms of diphtheria no case could recover. The child would succumb at once to the poison, as do patients from the plague who receive so large a dose of the virus that the body cannot cope with it. In such calamity the man dies in a few hours, simply poisoned, before any characteristic evidences of the infection have appeared.

In diphtheria the workings of the disease have been so far recognized as efforts towards cure that they have been imitated in the modern treatment of the malady. In this wise. The horse can be inoculated with diphtheria, but, being little susceptible to the bacterium, is hardly made ill by the incident. The toxin of diphtheria is injected into the horse, and, as a result, the blood of the animal at once develops for protective purposes an antitoxin. Repeated and increasing doses of the poison are introduced, each inoculation being followed by an augmented formation of antitoxin in the blood. At last the serum of the blood of this much-infected horse is so potent in antitoxins that, when drawn off and injected into the body of any child suffering from diphtheria, it is possible for the disease to be stayed. The child, on its part, is labouring with infinite effort to produce the antitoxin. The horse's blood provides it with the antidote it is inadequately manufacturing. The success of the serum treatment of diphtheria is now beyond all question.

To take one other example. The whole of the manifestations of tuberculosis are expressions of an unflagging effort on the part of the body to oppose the progress of an invading bacterium. The calamity, in this instance, is the settling of the germ in the body—an event of which the subject is unconscious. The phenomena which follow—the symptoms, as they are called—are efforts towards cure, and, under favourable conditions, they restore the patient to health unaided.

It is not necessary to pursue the matter further. I have limited the application of my proposition to diseases the nature of which is comparatively well understood. There are unfortunately a large series of disorders whose secrets have not yet been fathomed. If it be claimed that they afford exceptions to the theory advanced, I am content to wait until the exact nature of those affections is made manifest.

One cannot fail, however, to be met with the assertion that at least the machinations of cancer have nothing in them that is good. To this I have at present no answer. What constitutes malignant disease is known to no man, and there is little profit in being dogmatic about the unknown.

In this connexion an experience in the past may be recalled with advantage. There is a disease of blood vessels known as aneurysm in which the wall of the artery dilates so as to form a sac which tends to become thinner and thinner, until at last it bursts and the victim dies. Within the widening sac Nature forms a curious clot, layer by layer, with infinite patience. This clot may ultimately fill the cavity, close it, and cause the lesion to be cured. There was a time when this carefully-deposited clot was considered to be a malignant growth, and under the influence of that conviction it was cut out by the surgeon. It was claimed to be the product of disease—a cancer—and as all the manifestations of disease were convicted of ill intention, the clot must needs be got rid of. So with much labour and more risk the nearly completed product of a cure was sliced away. It was as if a drowning man had cut the rope he found about his waist for no other reason than that he could not understand how it came to be there.

In time the truth was made clear, and then the accepted method consisted in aiding in every possible way the formation of the much abused clot, to such extent that the surgeon but humbly imitated the phenomena of a so-called malignant disease.

It would seem that cancer reproduces under inopportune circumstances the type of exuberant growth which is normal and opportune when the structures of the body are being formed, that it is a strange resuscitation in the declining body of a process which is normal in the young. What is the purpose of this out-of-place activity no one can tell. In the absence of any knowledge, it is in conformity with custom to consider it to be malign in intention.

If I were compelled to add to the list of pure surmises, I would point out that during the period of development in childhood there are certain glands in active state which would appear in some way to control, limit, and modify a process of production which might without such control run riot. It is noteworthy that one such gland, the thymus, wastes and vanishes after the period of greatest bodily activity is over, and it is impossible not to wonder whether the introduction of the active principle of such a gland in a case of cancer would exert an influence late in life which it seems to be intended to exert when growth is alert in the young. Thymus extract has been largely tried in medicine, but it does not appear that any active principle has been isolated from the gland and used. I mention this merely as a speculation as to the line which it is conceivable that the treatment of cancer may take.

In conclusion, I may venture to hope that the suggestions set forth will at least foster an interest in the work of the physician, will lead to a sympathy with his endeavours, and an appreciation of his difficulties. At the same time, I trust I may have raised the doubt whether, so far as disease is concerned, the workings of Nature are quite so ill-intending as we are often disposed to consider them to be.

REFERENCES.
[1] BRITISH MEDICAL JOURNAL, July 8th, 1905. [2] *Journal of Hygiene*, vol. v, January, 1905.

REMARKS ON THE TREATMENT OF SYPHILIS BY INTRAMUSCULAR INJECTION OF MERCURY, WITH AN EPITOME OF 3,230 CASES.

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THE following statistical tables—one from the Sanitary Report of the Principal Medical Officer, His Majesty's Forces in India, 1904, the other taken from the Army Medical Report for 1903—show a state of affairs, as far as syphilis in the army is concerned, which is, to say the least, encouraging:

From Report of Principal Medical Officer, H.M. Forces in India, 1904.

Year.	Invaliding Rate Per 1,000.	Admission Rate Per 1,000.	Year.	Invaliding Rate Per 1,000.	Admission Rate Per 1,000.
1897	10.26	507.8	1901	6.26	276.0
1898	8.70	371.4	1902	5.12	281.4
1899	6.53	313.5	1903	3.06	249.6
1900	6.24	298.0	1904	2.83	200.3

The ratio per 1,000 under the various headings shows a decided reduction on previous years, the most important being those under the heads of "Invalids sent home" and those "Discharged as finally unfit." It may not be entirely correct to attribute these good results altogether to the more efficient way in which the treatment of syphilis has been carried out, but that it has played the greatest part in bringing about these reductions there is little doubt.

During the last ten years there has been a great revolution in the manner of dealing with syphilis in the army. In the first place, one maxim in connexion with it is generally accepted—namely, "that to treat syphilis successfully, continuous treatment of it for a considerable time is absolutely necessary." Better means for carrying this out than had hitherto prevailed have been sought for, found, and brought to bear, with the results as given in the statistics quoted. These methods which have been adopted, or, rather, tried are as follows: On a soldier contracting syphilis he is at once placed on the syphilitic register, which necessitates his presenting himself for medical inspection once a week for months at a time; this alone insures his obtaining some sort of treatment should he develop further active signs of the disease.

METHODS OF TREATMENT.

The actual methods of continuous treatment which have been tried are as follows:

1. On the syphilitic patient being discharged from hospital, he continues to take mercury in the form of pills given to him at his weekly attendance.

2. He is ordered to attend two or three times a week, when inunction of mercury is carried out by himself.

3. Intramuscular injections of mercury are given.

Of the first two modes of treatment, although better than none, all that can be said is that they are most unsatisfactory,

From Army Medical Report, 1903.

Average Strength, 242,182.	Ratio per 1,000 for 1903.				Average Ratio per 1,000 from 1893 to 1902.			
Diseases.	Admissions.	Deaths.	Invalids Sent Home.	Invalids Finally Discharged.	Constantly Sick.	Admissions.	Deaths.	Invalids Sent Home.	Invalids Finally Discharged.	Constantly Sick.
Syphilis (primary)	21 0	—	0 02	—	2.12	57 50	—	0.04	0.00	5 43
Syphilis (secondary)	31 3	0 07	1 91	0.82	3.62	43.60	0.12	4 52	1.30	4.70
Totals	52.3	0.07	1.03	0.82	5.74	100 11	0.12	4 56	1.30	10.13
	Continuous treatment more generally adopted.					Continuous treatment not generally adopted.				

for in nine cases out of ten the medicine given is never taken with anything like regularity, and as often as not never—generally through forgetfulness, but very often deliberately. The inunction method, unless carried out methodically—as will be hereafter explained—is of little use, and it is almost impossible for a person to perform it on himself.

The Intramuscular Method.

The intramuscular method must, I think, be given the greatest credit for the better way syphilis has been treated in the service, and to it, I think, in a great measure we owe the most part of the reduction in these tables. The method was first introduced in the army in 1888.[1] Like all new methods, it met for many years with much, I may say fierce, opposition; however, it has gradually worked its way into favour, until it has asserted itself as the best and by far the most convenient means of carrying out continuous treatment, and has become fairly general throughout the service; I have not the slightest doubt that it is only a matter of time for it to become absolutely the general mode of treatment throughout, and that when it does, the admission-rate, invaliding-rate, and death-rate will have decreased proportionately. That it has not become more general is to be accounted for, I think, on various reasons:

1. The difficulty of getting away from the older methods of treating the disease.
2. Want of knowledge in the necessary technique in carrying it out.
3. Hesitation on the part of medical officers to employ it, owing to the dangers alleged against it by its opponents.

As regards the first, there is no getting away from the fact that up to recent time most of the teaching in England went to show that the best way of administering mercury was through the mouth, and a principle firmly engrafted into the student is in many cases hard to overcome; he enters the service imbued with the ideas he has been taught at his school, and endeavours to carry them out in practice, until experience brings it before him that it is well-nigh impossible to treat syphilis continuously or efficiently by the oral method. Some medical officers find this out in a very short time, whilst others take much longer; hence it is that the above teaching has been one of the causes why the intramuscular method has not long before this become the general line of treatment of syphilis in the army.

The alleged dangers attaching to the intramuscular treatment have undoubtedly been grossly exaggerated; those principally associated with it being local abscesses, mercurial stasis, salivation, and emboli. I do not deny that many authentic cases of these have been reported; at the same time, I cannot help feeling that at least many of such cases have been the result of neglect as regards the technique of the treatment, and in saying this I am supported by a record of over 3,000 cases of syphilis treated by me by this method; these cases necessitated some 60,000 injections of mercury, mostly in the metallic form, and I can truthfully say that not one of these injections was followed by any of the above-named unfortunate results. At the same time I am only too cognizant of the fact that the exaggerated dangers which it is alleged attend the intramuscular method have done an immensity of damage in being one of the chief causes why the treatment has not been generally adopted both in the service and in civil life.

As to the technique necessary in carrying out intramuscular injections, I may say at once that, although apparently insignificant, every detail in connexion with it must be rigidly adhered to, and it is the want of this observance which has been one of the causes of bringing the method into disrepute.

Preparations of Mercury for Intramuscular Injection.

Both the soluble and insoluble have their advocates. The former are generally represented by the perchloride, biniodide, sozoidal, benzoate, and cyanide.

The *perchloride* was the salt originally suggested as an injection in syphilis; it was the first I used, and I continued it for some time. The preparations of it which are used are:

Hydrarg. perchl. gr. viij.
Aque 3 j.
Min. xx daily injected.

But the following is preferable:

Hydrarg. perchl. gr. xxxij.
Amm. chloridi gr. xij.
Aqua oz. j.
Min. x as an injection every third day.

The objection to the perchloride is that its action is slow and unreliable, and injections of it cause pain and local irritation.

Sozoidal of mercury is used as follows:

Sozoidal Hg. gr. v.
Sod. sodl. gr. x.
Aqua min. 200.
Min. x to min. xv to be given as a daily injection.

Reaction is very slow and uncertain, and its injection causes much pain.

Benzoate of mercury requires large doses, and needs the addition of cocaine to prevent the almost intense pain which it causes.

Biniodide of mercury has been used extensively in Paris as an oily solution. My experience is that it possesses no advantage over the soluble salts already named, and has all their disadvantages.

The chief objection to the soluble salts of mercury as injections is that, to be of any benefit, they require to be injected at least three or four times a week; these frequent injections become in a short time not only unbearable to the patients, but also irksome to the surgeon, besides which they are all painful, and their reaction is always slow and unreliable.

Their advantage lies in the fact that their action can be better controlled than when insoluble salts are used.

Calomel has been used in various doses and preparations as an injection in syphilis. The prescription which I have found best is as follows:

Calomelinos, gr. x.
Paraffin liq. carbol. 2 per cent. 3 ss.
Min. x to be injected once a week.

Calomel is absorbed very quickly; it is very active, and reaction follows sooner after an injection of it than after any other salts of mercury. On the other hand, it is intensely painful, and is apt to set up painful swellings and nodules at the site of injection. For these reasons it is objectionable as an injection in all ordinary cases of syphilis. I look on its use more or less as of a heroic measure to be reserved for cases when we wish to strike quickly and hard, such as those showing signs of cerebral or spinal disease.

Salicylate of mercury is one of the most extensively-used insoluble salts; it is especially in favour in the North of Germany and Vienna. It is used as a solution in oleo amygdal, the proportion being 2 of the former to 20 of the latter. To prevent pain, to this preparation is added cocaine. During the last four months I have given an extensive trial to this salt at the Venereal Hospital, Rochester Row, and the conclusion which I have come to is that its reaction on

syphilis is not nearly so well marked or as rapid as that of either calomel or metallic mercury; in fact, I look upon it as unreliable, and to be of marked benefit it needs to be injected at least two or three times a week.

Metallic mercury is used as an injection in syphilis in the form of a cream; the metal needs to be held in suspension, and the best vehicle to effect this is lanoline. The actual proportion of mercury and lanoline has varied, the object being to get a cream in which the metal will be best suspended under all circumstances, and the preparation itself retained at an equal consistence throughout. The composition of the cream (which the writer, from many experiments made for him and by him both in the tropics and elsewhere, has arrived at) is as follows:

Hydrarg. oz. ss.
Adipis lanae anhyd. oz. ij.
Paraffin. liq. (carbolized 2 per cent.) ad oz. v by volume.
Finished product equals gr. j in min. x.
Min. x as a maximum dose once a week now used.

Lang, of Vienna, has of late adopted cream of a concentrated kind, his object being to introduce about the same amount of mercury into the system as is contained in the maximum dose of the above prescription in the smallest possible bulk. The cream which he uses contains about $\frac{2}{3}$ gr. in 2 min. The advantage which he claims is that the reduced bulk of the injection lessens the amount of pain and the tendency to emboli. My experience is that any pain that is caused by an injection—provided it is given intramuscularly—bears very little relation to the quantity used (up to 10 min)., or, in other words, as to whether 2 min. or the maximum dose be given. On the contrary, I think it stands to reason that such a concentrated solution as Lang proposes is far more likely to act as a foreign body with the usual consequences, abscess and embolism, than a diluted form.

Of all salts of mercury, either soluble or insoluble, which have been used as injections in the treatment of syphilis, I think it is beginning to be recognized that metallic mercury itself is the best. Although not quite as active and rapid in its action as calomel, still for the majority of cases it is sufficiently so, and practically painless. But to my mind its greatest advantage is that although active it is very slowly absorbed. After being injected into muscle it remains *in situ* for a considerable time, and is very gradually, evenly, and slowly absorbed. It is to this that it owes its great and lasting influence on the disease.

It is to metallic mercury that the opponents of the intramuscular method have taken the greatest objection, against it principally they have alleged most of the dangers before mentioned. I can only point to the fact that of the above-named 60,000 mercurial injections given by me more than two-thirds consisted of injections of metallic mercury, not one of which, as stated before, was followed by any of the unfortunate results which are alleged to be likely to follow its use.

In comparing the soluble with insoluble salts of mercury for injection in the treatment of syphilis, it may at once be stated that the insoluble possess distinct advantages over the former in that they are much more active, reaction is more lasting, and, above all, they need be injected far less frequently than is the case with the soluble salts. The latter are so rapidly absorbed and excreted that to obtain any marked result it is necessary to give injections at least from four to five times a week, whereas in the case of the insoluble salts, and particularly of metallic mercury, this is only necessary once a week, and, in many cases, once a fortnight. These advantages are so important that I cannot see how anybody having any knowledge of the intramuscular method could hesitate for a second which of the preparations to use. The one advantage which the soluble possess over the insoluble is that they are better tolerated and their action is more easily controlled.

Technique of the Treatment.

Although simplicity itself, every detail of the technique must be carried out to insure against those unfortunate results which have been reported as having occurred in connexion with the intramuscular treatment of syphilis.

The preparation of mercury which is at present by far the most generally used in the British army, both in India and at home, is the metal itself suspended in a cream, as before described.

The dispensing of this cream is of great importance. In compounding it, the mercury and lanoline ought to be rubbed up together in small quantities in a glass mortar until every particle of the former can no longer be seen. This trituration is tiresome, as it will ordinarily take two hours, but it is absolutely necessary. When the whole amount has been thus treated, then, and not until then, is the paraffin. liq. carbol. added to it; having been well stirred up the cream is poured into a specially-made glass-stoppered bottle; the latter has a very wide mouth to allow of the syringe being filled without again removing the cream. All angles of the bottle are rounded off so as to prevent any chance of the mercury collecting there. The cream requires no further sterilization; being already sterile it is kept so by the carbolic acid it contains. Before being used it ought to be well stirred up with a glass rod, which latter has been previously dipped in boiling olive oil.

In connexion with the mercurial cream two difficulties must be mentioned and carefully noted: (1) that in cold weather (the winter in England) it becomes semi-solid, rendering it too thick to be passed through the lumen of the needles; this can easily be remedied by placing the bottle containing it in a warm water bath at a temperature of 90° (the latter being indicated by a thermometer placed in the bath); (2) in the tropics and subtropics, in fact, when the temperature of the air reaches 90° the reverse happens, and unless artificial means are taken to prevent it, the three constituents of the cream are apt to separate, the mercury naturally falling to the bottom. This defect can also be easily overcome by the following measures: When such a temperature exists, the bottle of cream is always to be kept in the ice chest; when required for use it is taken out and placed in a vessel containing crushed ice. Then by stirring it can be brought to the required consistence. Too much stress cannot be laid on these precautions, especially in India in the hot weather; neglect of them has led to some unfortunate results. Nothing is easier than to carry them out, and their adoption by the author in India, South Africa, China, and the West Indies suited the purpose exactly.

The gluteal region is by far the best for the introduction of mercury; here the muscles are thick, and the fact of these being more or less constantly brought into play facilitates the diffusion and absorption of the metal.

The injections ought to be given intramuscularly, although of late Lang of Vienna has recommended that they be given subcutaneously, as being less liable to cause emboli; but the majority of observers agree that, given thus, they are far more likely to be followed by abscesses and are certainly more painful. The needle ought to be driven straight into the muscle with one thrust.

All-glass syringes with platino-iridium needles ought to be used—the latter not exceeding 1½ in. in length. Every precaution to render the operation as aseptic as possible should be taken before injection; the skin over the part to be thus operated upon is swabbed with a 1 in 500 solution of mercury perchloride, and the syringe and needle well washed out with boiling oil before each injection.

With regard to the dosage, it is impossible to lay down any hard and fast rule. The amount of mercury which will react in one patient will not apparently have the slightest effect on another. Thus it ought to be a golden rule in treating syphilis "that each case must be treated on its own merits," and the dose of mercury suitable for each case must be left to one's own experience and discretion. At the same time it must never be forgotten that in giving mercury it is just as easy to overdo it as the reverse. However, when one has to deal with a great number of patients it is at least useful to come to some decision as to what may be considered a fair average dose. For this purpose I consider that for the vast majority of cases gr. j of metallic mercury a week given intramuscularly ought to be the maximum dose. I have found that this amount will nearly always bring about the necessary reaction; should it not, it can always be increased.

Duration of Treatment.

This is a matter of which it is impossible to speak with absolute certainty. Some authorities recommend what is called the "chronic intermittent treatment," which consists of giving a certain number of injections—generally not more than six—then stopping all treatment from four to six months, when another course of four weekly injections is given, and subsequent courses at intervals of from six to eight months, treatment being maintained for three to four years. My own experience of this line of action is that the first course is much too short, and that in the majority of cases treated thus active signs of the disease reappear within two months of it. My own practice, speaking generally, is to give injections of gr. j of metallic mercury once a week until all active signs of the disease have subsided. The time this will take averages

from six weeks to two months, then the number of injections is reduced to once a fortnight for three months. A rest from all mercurial treatment is then given for two months, and again a three months' course of fortnightly injections is given, followed by a two months' repose from treatment. Thus the patient is brought to the end of his first year's treatment. He is not then told that he is cured, but is kept under strict observation; should he show any signs of relapse, further courses of three months' treatment, followed by the same amount of rest, is given. The patient ought not to be lost sight of until he has been at least twelve months clear of all symptoms after the last course of injections. The average period of treatment and repose necessary is about two years.

Period to Commence Treatment.

The question as to when to begin mercury in a given case of suspected syphilis has been very much under discussion in recent years. Some of the best-known Continental writers on syphilis—Finger, Lesser, and Lang—delay all specific treatment until after the appearance of constitutional symptoms, but my own practical experience compels me to cling to the old adage: "The earlier mercury is given the more it modifies "the after-signs and symptoms of syphilis." I have more than once seen cases of chancre which, although not followed by any of the usually looked-for early signs of syphilis (sore throat, roseolar or other mild rashes, etc.), the constitutional disease was ushered in some few months later by symptoms of some cerebral or spinal lesion.

Next to the administration of mercury as a continuous treatment in dealing with syphilis, I look on tissue metabolism as the most important, for by this means any excess of mercury is got rid of. For this purpose I use hot dry air baths extensively, and at Rochester Row Hospital all patients undergoing treatment receive a hot-air bath every second or third day. In this way tissue change is insured and any excess of mercury thrown off. At Aachen and Wiesbaden the same purpose is effected by means of immersions in hot sulphur baths, with sulphur water to drink, but in them the tissue change is brought about more by way of the kidneys than by the skin. For out-patients hot-air baths may not be feasible, in which case a Turkish bath once or twice a week can be substituted; and, again, where this is not to be had, the necessary tissue change can at least be accelerated by daily hot baths, with plenty of exercise.

It must be needless to point out the great necessity of looking to the patient's general health. Irrespective of specific treatment every endeavour must be made to try and improve this, general hygienic surroundings must be looked to, and—more than anything else—life in the open air, when possible, advocated. The most liberal diet possible must, as a rule, be given, by ordering plenty of fresh vegetables and fruit. Light beer and white wine can be allowed, whilst spirits are forbidden *in toto*, and smoking at least discouraged.

Special attention must be paid to the condition of the gums, as mercurial stomatitis depends essentially on the state of the mucous membrane, and those whose gums and teeth are in good order stand large doses of mercury without showing signs of it. The teeth ought to be brushed at least two or three times a day, and the frequent use of an astringent mouth wash of a saturated solution of the lead acetate and alum is advisable. Should the gums be spongy and inclined to be sore the best local applications for them are a 40 per cent. solution of zinc chloride and peroxide of hydrogen; the latter can be used as a wash, or, better still, injected to the roots of the alveoli.

Body weight is one of the chief guides as to continuing or temporarily discontinuing a mercurial course; hence the patient must be weighed once a week, and the weight carefully noted.

The urine should also be periodically examined for albumen, etc.

Inunction.

The "inunction method" I look on more or less as an adjunct to the intramuscular method, rather than as a recognized form of continuous treatment. What I mean is, that for removing certain signs and symptoms of the disease there is nothing better than treatment by inunction; but here it stops, as it cannot be adopted as a routine method of continuous treatment owing to its many inconveniences.

At the Military Hospital for Venereal Diseases, Rochester Row, the mode of procedure with regard to inunction is to adapt it as nearly as possible to what is done at Aachen. In the first place it may be said at once that to have it done properly it requires a second man to act as a rubber owing to the physical impossibility of a patient rubbing himself, as is usually the custom when the inunction treatment is attempted in this country. For this purpose orderlies are trained as rubbers, and after a time one syphilitic patient acts as rubber to another, strict supervision being kept that it is properly done.

The mode of procedure is as follows. Each day during the course of inunction the patient has a hot bath, in which he remains immersed for twenty minutes; afterwards the rubber rubs into his skin 50 gr. of ung. hydrarg. made up with lanoline and benzoated lard; the rubbing lasts twenty minutes. The first day the arms are chosen, next the thighs, then the calves, back and chest in succession; by changing the site of inunction the effects of friction are avoided. During such a course all the general observances as regards the general health, gums, teeth, etc., carried out during a course of intramuscular treatment, are adhered to. A course of inunction generally consists of from thirty to forty rubbings, and the cases for which I think it specially indicated are those of large indurations at the site of a primary infection "which "it is so important to get rid of," and as a preliminary treatment in cerebral and spinal syphilitic lesions.

In all, 3,230 cases of syphilis have been treated by the writer by the intramuscular method. Of this number 3,000 occurred between the years 1888 and May, 1904, and came under the author's notice in many lands—namely, India, Burma, West Indies, South Africa, and China.

They represented syphilis in all its various forms—slight primary abrasion, with indurated inguinal and cervical glands, followed by a roseolar rash; true Hunterian chancre, with glandular enlargements, followed by various rashes, papular, psoriatic, pustular, etc.; phagedaenic chancre, rapidly destroying tissue, accompanied or followed by rupial and serpiginous ulceration, causing destruction to both soft and hard parts; the later sequelae of syphilis as represented by paralysis, both local and general, from cerebral and spinal lesions; and also many cases of tabes of undoubted syphilitic origin.

The treatment of these cases necessitated some 60,000 intramuscular injections. Of this number about 10,000 consisted of injections of the soluble salts—calomel and the salicylate of mercury. The remainder—that is, 50,000—was made up of injections of metallic mercury.

As to the result of the treatment in these cases, needless to say, the vast majority of the latter were lost sight of within, or a little over, two years; many of them were under my immediate observation for from two to three years, and I have the notes of thirty or forty of them, with whom I have kept in touch for from ten to fifteen years. Most of these have since married; none of them have had any return of the disease, nor have I any knowledge that their offspring have borne traces of hereditary taint.

With regard to these injections, none were followed by an abscess. Before sterilization was carried out as thoroughly as it is now odd cases used to be followed by painless nodules. Neither embolism nor severe stomatitis have ever followed any of the above injections.

The remainder of the cases—that is, 230—have been treated at the Military Hospital for Venereal Diseases, Rochester Row, within the last four months, during which time 850 injections of metallic mercury have been given, the remainder consisting of the salicylate (to which I gave further trial, with no better results than when previously tried). All the cases have done extremely well. No abscess, embolism, or any other accident has happened, and in only one case did a nodule remain at the site of injection, which was of no consequence.

On the whole, the success which I have met with from the intramuscular method of treating syphilis is out of all proportion to that which was obtained in days gone by when using the older methods.

Note.—For further particulars see *The Treatment of Syphilis*, by Lieutenant-Colonel F. J. Lambkin, published by Baillière, Tindall, Cox, and Co.

Reference

1 Army Medical Report for 1891.

Bequests to Medical Charities.—Mr. Edward Bayley of Weymouth, who died on October 5th, bequeathed £100 to the Weymouth Hospital and Dispensary, and £50 to the Dorset County Hospital.

SEVENTY-THIRD ANNUAL MEETING
OF THE
British Medical Association.

Held at Leicester, July 24th, 25th, 26th, 27th, and 28th, 1905.

PROCEEDINGS OF SECTIONS.

SECTION OF TROPICAL DISEASES.

Professor Rubert Boyce, F.R.S., President.

PRESIDENT'S INTRODUCTORY REMARKS.

THE YEAR'S PROGRESS IN TROPICAL MEDICINE.

The record of the progress in tropical medical science, if perhaps not so rich in discoveries as last year, shows both a great increase in the amount of scientific observation and the practical good of the application of scientific knowledge to the prevention of disease over an ever-widening area of the world.

At last year's meeting of this Section three remarkable discussions took place: (1) Upon the Prophylaxis of Malaria, (2) upon Trypanosomiasis, and (3), and for the first time, a discussion upon the newly-discovered Leishman-Donovan bodies. During the last twelve months further progress has been made in all these directions. Bruce then expressed the opinion that trypansoma fever was probably only an early stage of sleeping sickness. Extended experiments upon the lower animals with trypansoma gambiense (Dutton), notably by Thomas and Breinl, further confirm the view, and still more recently we learn that some of the natives in the Gambia, in whose blood Dutton originally detected the parasite, have since died of sleeping sickness.

I had indeed looked forward to seeing Dr. Dutton at this meeting, and to his laying before you with his colleague, Dr. Todd, the results of their two years' labour in the Congo. You are all, however, aware of his sad and sudden death, how, although much weakened by an attack of the disease—tick fever—which he was investigating, he pushed on with increased and impatient eagerness, and finally succumbed at his post, another example of those intensely earnest and brilliant workers who have lost their lives in the cause of that wider medicine which owes its inspiration to the establishment of the Schools of Tropical Medical Research.

At last year's discussion Bruce stated that there was nothing to record with regard to the treatment of sleeping sickness. This year Thomas has conducted an exhaustive experimental inquiry into the action of the arsenic compounds on the various trypanosoma diseases, and he demonstrates the remarkable curative action in the lower animals of an (atoxyl) aniline arsenic compound.

It now remains to prove the efficacy of this drug in cases of sleeping sickness in man.

During the year much valuable work has been done in connexion with the new parasite, with the discovery of which the names of Leishman, Marchand, Donovan, and Wright are so honourably connected, by Rogers, Leishman, Donovan, Christophers, Balfour, and others. Further light upon protozoology is furnished by Bentley, followed by James and Fallon, who describe leucocytozoa in certain mammals, and by Balfour and Christophers, who find haemogregarines in the red cells of certain mammals.

Already, in July, 1902, Christy—working in Uganda—described and figured a tick harmful to man, which he sent to England. It was identified as *Ornithodoros moubata*, and has since been proved identical with similar ticks sent from the Congo and India. Christy regarded the symptoms of the tick fever which he described to be due to the result of a primary inoculation with filaria by this tick, known in Uganda as the "bibo." Ross and Milne communicated to the medical world shortly after the last year's meeting the interesting discovery that spirochaetae were present in the blood of cases of tick fever. Previously Marchoux and Salembini had succeeded in infecting fowls with ticks infected with spirochaetae. Lastly, Dutton and Todd, working quite independently in another part of the world, confirmed Ross and Milne, and succeeded in infecting the monkey and rat by means of ticks infected by feeding upon the blood of cases of tick fever in man. They conclude that tick fever is clinically identical with relapsing fever, and that the transmission in the tick is not merely mechanical, but that some developmental process is carried on in the body of the tick. These are but a few examples of the present year's progress in the domain of tropical medicine. In addition, there is a large group of workers who have either recently returned or are still actively engaged in studying tropical disease problems upon the spot, and the result of whose labours we are looking forward to with eagerness. Messrs. Greig and Gray have been working on sleeping sickness in Uganda, Dutton and Todd have followed both it and tick fever along the water ways and trade routes in the interior of the Congo. Thomas and Breinl have left to again undertake on the Amazon the task of throwing light upon yellow fever. Renewed energy, under Bruce, has been directed to the elucidation of the manner of infection in Malta fever.

Dr. Annett has just sailed for Uruguay to investigate diseases in animals, and Professor Minchin in Central Africa is bringing his zoological knowledge to the support of the medical investigator. Surely no other department of medical science can show such activity as this, nor does there exist one that deserves to be more strongly supported. It is indeed most interesting to note that as the result of all these investigations there has sprung up amongst the medical workers themselves a demand for the co-operation of allied sciences. A very large amount of the work in tropical medicine consists in the study of the life-history of parasites and of insect hosts, and the medical investigator constantly finds his progress hindered through want of the necessary knowledge in these subjects. The help must come from the zoological side, and it is coming; and the dipterologist, helminthologist, or protozoologist is now usually to be found in any well-organized tropical medical laboratory. The study of the mosquito has engaged the attention of numerous dipterologists, and these insects are being worked out in all parts of the globe. The biting flies—injurious to man and to animals—are coming in for a very large share of attention; and, lastly, the study of ticks and fleas, so neglected in this country, is now, thanks to the medical investigator, being taken up in earnest by the zoological specialist. The disastrous effects of "red water" had driven the Americans to closely investigate the tick, and to their investigations we owe a great deal of our knowledge, and now the discovery of the relationship of the tick—*Ornithodoros moubata*—to tick or spirillum fever in man has forced the English schools to their study. Tropical medicine and economic zoology are intimately bound together, and they should prove the most powerful combine to attack those diseases which equally affect both man and animals, and which hinder progress in all tropical countries.

Another section of zoology to be vivified by tropical medicine is helminthology. Medicine owes a great debt to active zoologists like Looss of Cairo, and Shipley of this country, but we do not give them sufficient encouragement as yet. We require their co-operation, for there are vast fields which wait their investigations. To my mind Charlton Bastian was one of the very first in this country to emphasize the importance of helminthology to medicine, and let us now hope after all these years he will see his wishes realized. If the zoological specialist is necessary to the medical investigator in the fields of dipterology and helminthology, he is equally indispensable in protozoology.

The necessity for exact knowledge in this branch of science goes without saying—everything depends upon it. The zoologist trained to study life-history in minute forms of animal and vegetable life is better equipped than the medical investigator. The two sets of workers require to co-operate, and above all to work side by side in the laboratory. I do not think that either group yield their best when working isolated from one another; for the maximum amount of good to be obtained they should work in close co-operation in the laboratory. Far too much departmental isolation appears to me to have existed in the past in the higher branches of scientific training.

The advantage of co-operation with allied sciences is again seen in another direction, and in a field of supreme interest to medicine, namely, in cancer research, where the most significant observations of all are being made by men trained in botany and zoology.

We have recently acknowledged our indebtedness to these investigators, and we have gladly invited their co-operation to guide us, and we look forward with confidence to uniting cytology to medical science in the same way as we have united economic zoology and protozoology.

Few will have failed to observe a further most interesting outcome of the tropical medical movement. I refer to the

remarkable activity of the Indian Medical Service, the Royal Army Medical Service, and the Colonial Medical Service. At no time do these services appear to me to have been so mentally active as at the present time. Now that encouragement has been given to prosecute researches into tropical diseases, and now that the rôle of the mosquito and the biting insect in the transmission of disease is fully accepted—thanks to the initial discovery of Ross—the medical officers of these services have found abundant material and occasion both to make observations and to engage in practical antimalarial measures. A new interest has been given them in their work, and as has been abundantly proved by the sanitary reports which reach us, they certainly see the success of their prophylactic measures. This increased scientific activity is not, however, confined to these services; it is also seen both amongst the young doctors on the tropical coasting ships and amongst those in charge of mines and industrial concerns in the tropics.

At last year's annual meeting the discussion upon malarial prophylaxis was most enthusiastic and full of practical bearings. This year it has been decided not to hold one—not that there is not abundant material, but for the reason that the case has been so amply proved that the necessity for discussion is not urgent.

In all parts of the world practical effect is being given to the newer methods of prophylaxis.

From the Federated Malay States there has been published by Dr. Malcolm Watson a most encouraging report of the success of antimalarial measures at Klang and Port Swettenham. Dr. Watson shows that in these towns, whilst the number of deaths has been greatly reduced, increase has taken place in the districts around, where no anti-malarial operations were undertaken. He further points out that the reduction has not only taken place in malaria, but also in the other diseases due in many instances to the low state of health consequent on malaria. He finally claims, and with justice, "for the Government of Selangor the honour of being the first British Administration to follow Ross in an attempt to confer on those entrusted to its care the benefits of his great discovery."

From Hong Kong we have recently received the report of Dr. Atkinson for 1904. He shows, as the result of antimalarial measures, the following marked decrease in malaria cases, based upon the admissions into the three hospitals. The total admissions in 1901 were 1,393; in 1902, 816; in 1903, 644; and 1904, 490. In Ismailia and Havana the results are well known. From Italy, Algeria, Mexico, Brazil, and from many of our own Colonial possessions, most satisfactory reports are being constantly received.

A most striking feature of the reports of many of the South American towns is the remarkable decrease of yellow fever as the result of organized campaigns against the *Stegomyia*. In many places, in spite of greatly improved municipal hygiene, yellow fever still made headway, and there were, in consequence, numerous critics found to draw attention to the uselessness of spending money on sanitary reforms. With the discovery of the true cause of the spreading of yellow fever, criticism was soon disarmed by the remarkable reduction in the cases of this disease brought about by getting rid of the mosquito.

Although these results are most encouraging and are increasing in number, yet, after all, they form only a small beginning, and there yet remains an immense amount to be accomplished and a vast sea of prejudice and apathy to be got over. At the discussion last year, Dr. Stephens stated that he did not believe that one in a hundred laymen in the tropics knew that malaria was a contagious disease, or suspected the source of contagion to reside in the natives around him. That is true in a great measure to-day. My experience is, for the most part, amongst those living in and trading with the West Coast, and whilst, undoubtedly, great improvement has taken place in the Gambia, Sierra Leone, and Lagos, there still exists a high percentage mortality; the young and the old trader and the miner is still indifferent, antimalarial measures are talked about but not pushed on with, and still the sanitation of some of our oldest coast towns is a blot on our administration. But, after all, it gives little satisfaction to any one to complain. The problem is now being grappled with—an increasing number of the medical officers have been specially trained, increased regard is being paid to the quarters of the white man, the use of the mosquito net is being appreciated, controlled water supplies are coming into practice, and a greatly-increased number of investigators both at home and in the tropics are focussing attention on the tropics.

India has made great strides, and we have learnt from that country how it has done it and what to avoid. We can, therefore, make use on the West Coast of much of India's experience, and the one thing that appears clear is the necessity for a more organized system of sanitary control for the separate colonies, to supervise and organize the mortality and sickness returns, practical antimalarial measures and general sanitary reforms—a system which would enable the Colonial Office to remain in touch with the sanitary work which is being accomplished locally—to publish accurate statistics, and to afford local governments a skilled referee in sanitary matters.

THE NATURE OF TICK FEVER IN THE EASTERN PART OF THE CONGO FREE STATE,

WITH NOTES ON THE DISTRIBUTION AND BIONOMICS OF THE TICK.

BY

J. Everett Dutton, M.B. Vict., and John L. Todd, M.D McGill.

Late Walter Myers Fellow of the Liverpool School of Tropical Medicine.

[Abstract.]

The paper was read by Major Ronald Ross, F.R.S.

On November 26th, 1904, Dutton and Todd announced that they had discovered that a spirillum was the specific agent in the causation of human tick fever in the Congo Free State. They also stated that they had succeeded in infecting monkeys with the disease by allowing monkeys to be bitten by ticks. In the British Medical Journal of November 26th, 1904, a note by Drs. Ross and Milne on tick fever made the same announcement, and Drs. Dutton and Todd agreed to waive their claim of priority in the discovery in favour of Ross and Milne. During their travels up the Congo to Kasongo, Dutton and Todd found the horse tick—the *Ornithodoros moubata*—a veritable pest, and saw cases of tick fever caused by its bites. Amongst the natives of the district the tick had an evil reputation, and to its bite severe illness was ascribed. From their investigations on the spot they came to the conclusion that tick fever is a relapsing fever produced by a spirillum identical in all probability with the spirochaete obermeieri, and that this organism can be transmitted by the bite of the *Ornithodoros moubata*. An interesting experiment, although only one is recorded, showed that the spirillum can be transmitted by the bites of young ticks newly hatched in the laboratory from eggs laid by infected parents. The period of the incubation of the disease does not exceed one week.

Signs and Symptoms.

Tick fever declares itself suddenly; frontal headache, boneache, backache, vomiting, and distaste for food are the usual symptoms present at the commencement of the illness. Diarrhoea is the rule, but constipation may occur. The temperature during an attack may rise in the evening as high as 104.5° F., or even to 105.3° F. Each febrile attack lasts three or four days, and usually ends in profuse perspiration. As a rule there are three or four febrile attacks with intervals of as many as five to nineteen days between each. The spleen may be found enlarged; and other complications recorded are herpes, epistaxis, and hiccough. By far the most pronounced feature of the ailment is the prostration and the terrible feeling of depression of the patient during the febrile attacks; whilst equally marked is the sudden return to feeling well when the temperature falls.

The mortality, except under circumstances of great fatigue and exposure, is not great; that, however, under adverse conditions it can be serious is shown by the fact that in one caravan journeying from Kasongo to Kubambarre out of twenty carriers no less than ten died.

The Spirillum.

The spirillum is readily stained by the Romanowsky method or by one of its several modifications, but the staining process varies greatly in the length of time it takes to prove effective, and uneven staining is the rule. Of 20 spirilla measured the results were as follows: The longest spirillum measured 43 μ in length, the shortest 13 μ; the average length of the 10 longest was 35 μ, and of the 10 shortest 16 μ.

The spirilla group themselves at times into twos, threes, or fours, and what appear to be division forms, inasmuch as they presented a Y-shaped outline, were encountered.

Experiments on animals showed that for monkeys (Cercopithecus) alone was the spirillum uniformly pathogenic. Rats, rabbits, and guinea-pigs were tried, but in none of them was the inoculation by infected blood followed by any signs or symptoms of constitutional disturbance. A large guinea-pig after a large dose of infected blood showed spirilla in its blood for only two days. In the blood of three rats infected the spirilla were believed to have increased for a time, and division forms of the parasite were seen.

Distribution and Bionomics of the Tick.

In the Congo Free State, where Dutton and Todd made their observations, the tick which attacks human beings, the *Ornithodoros moubata*, is met with almost solely along the main routes of travel. In villages even one hour's walk from off the principal roads the tick is not met with. In the rest houses, which are placed at convenient distances along these roads for the use of native travellers, the tick especially seems to thrive; a fact which Dr. C. Christy noticed in Uganda, and the Rev. J. H. Bentley in the Lower Congo. The *Ornithodoros moubata* seems to have entered the Congo Free State from the east, being carried from the east coast by Arabs, and from the south by way of the Portuguese territory. Livingstone found these bugs a pest in his time, and states that before the Arabs came bugs were unknown in the regions; and, further, that one may know where these people have been by the absence or presence of these nasty vermin. Amongst the Manuema people the tick seems to be unknown. The prevalence of the tick in Arab dwellings, and its rarity in native dwellings, is possibly attributable to the fact that the Arabs build better and more permanent houses, whereas the natives have temporary huts for the most part, which, when they become foul or the occupants become ill, they readily leave, and erect their dwellings on a fresh site. In the houses the ticks are to be met with in the dust and the cracks on the mud floor, especially near the fireplaces. In and around the bed and bedding is a favourite site for the ticks to occupy; but in almost every part of the dwelling, around the woodwork of the door, in the cracks of the mud walls, or amongst the interstices of the grass walls, and in the thatch of the roof are the ticks to be found.

Human beings are for the most part attacked by ticks at night or during sleep. The ticks feed slowly—one female feeding on a monkey did not drop off until between two and three hours—so that it is unlikely a human being would tolerate the presence of a tick for more than a few seconds during waking hours, thus preventing the tick obtaining a meal. During feeding the tick attains large dimensions, increasing in bulk to many times its size when empty. A full-grown female filled with eggs and blood may measure as much as 12 by 10 by 7 mm. Whilst feeding there passes from the anus the whitish secretion of the Malpighian tubes. After full engorgement the female productivity seems increased, but the actual number of eggs laid at one time varies greatly. The largest number of eggs observed to have been laid at one time was 139. The eggs mature slowly with the body of the mother, and 70 eggs only were observed to be laid during three days. When deposited, the eggs adhere to one another in groups, and under a low power of the microscope resemble bunches of grapes, and are of a glistening golden-brown hue. In about twenty days the eggs hatch. The following observations were made: The larva of the *Ornithodoros moubata* is inactive, a new scientific fact; the larva is hexapod in shape; in about seven days the larva can be seen forming within the translucent egg-shell; by the thirteenth day the egg-shell splits along the posterior sagittal plane, as a rule; the larval skin splits at the junction of the dorsal and ventral surfaces. The eight-legged nymph, when it emerges, casts off both the egg-shell and larval envelope; as a rule, the nymphs do not feed for three or four days after leaving their shells.

Ticks would seem to retain their power of infecting for some considerable time; ticks caught before November 23rd at Nyangwé and kept without food were capable of infecting monkeys with spirilla from fifty to fifty-five days later.

Dr. John Kirk states that after tick fever the patient was rendered immune to the disease, so that the freedom of adults from the disease may be accounted for by the fact that they had tick fever in their youth. The natives when bitten capture as many ticks as they can, burn them, and rub the ashes into excoriations made on the skin around the seat of the bite with the idea of preventing tick fever. The rat would seem a natural enemy of this tick, and ants attack the eggs and the newly-hatched ticks with avidity.

Dr. LOUIS W. SAMBON said Dutton and Todd had established the presence of relapsing fever in the Congo Free State, and had shown that the disease was propagated in that part of Africa by *Ornithodoros moubata*, a widely-distributed tick belonging to the subfamily of the *Argasinae*, and presenting life-habits very similar to those of the common bed-bug. They had, moreover, suggested that the disease encountered by Dr. Livingstone and Sir John Kirk in the Zambesi valley, and attributed by the natives to the bite of a tick (*Ornithodoros moubata*), might be nothing more or less than relapsing fever. This identity, suggested also previously by Ross and Milne, was probably correct, but no one could have guessed it solely from the scanty description of the disease given first by Livingstone and Kirk, and more recently by Dowson and Daniels, especially as these authors mentioned violent purging and marked dysenteric symptoms, which were somewhat unusual in ordinary relapsing fever. If the "disease of Tete" on the Zambesi is a spirillum fever, then most probably the so-called "disease of Miana" in Northern Persia is likewise a spirillum fever. The disease of Miana is also transmitted by a tick of the subfamily *Argasinae* (*Argas persicus*). And if spirillum fever is propagated by certain ticks in the Zambesi valley, in the Congo Free State, in Uganda, and in Persia, it is very likely that in Egypt, in India, in China, and in Europe it is also transmitted by blood-sucking acarids or insects. Thus Dutton and Todd's investigations prove the correctness of the views expressed by Tictin in 1897 with regard to the transmission of relapsing fever in Odessa by the common bed-bug. In studying the various questions concerning spirillum fever, we should not forget that a parasite so widely distributed and fostered by different invertebrate hosts in the different countries might be represented by a number of more or less distinct varieties or even species. For his part he believed that we should find this to be the case exactly in the same way as occurred in the case of trypanosomiasis. In South and Central America, in the West Indies, in Australia, in the Malay Archipelago we knew of ticks injurious to man. Spirillosis might be the cause in some instances—as, for example, in the case of *Argas turicata* in Mexico; but other pathogenic micro-organisms might also be fostered and transmitted by ticks, such as piroplasmata, for instance. Certainly a new and very wide field of research was opened to investigators all the world over. Dr. Sambon regretted that Dutton and Todd had reported only one doubtful case of infection by means of ticks hatched in the laboratory from eggs laid by infected parents, and that had not been previously fed on men or animals suffering from the disease. Detailed and accurate information was greatly needed on this interesting mode of transmission, which he considered to be the ordinary mode of transmission with ticks. Dutton and Todd and Newstead had stated that the ticks, while still feeding, often passed from the anus the whitish secretion of the Malpighian tubes. He wished to point out that a portion of this white excretory matter was formed within the cells of the ventriculus. Some of these cells went through a very peculiar process at the time when the ticks became engorged with blood; they became gradually elongated, and took up the food that had been imbibed; then, swelling at their inner (distal) end, they became club-shaped. The elaborated food passed through the clavate portion into the general body cavity and mixed with the blood of the tick. Finally, the empty cells became globular and fell into the lumen of the ventriculus. A certain amount of excretory matter remained within the cell and crystallized, or formed small concretions.

BRUHL'S DISEASE, WITH SPECIAL REFERENCE TO THE BLOOD CHANGES FOUND, AND CONNEXION WITH THE LEISHMAN-DONOVAN BODIES.

By Fleet Surgeon P. W. BASSETT SMITH, R.N.,
Royal Naval Hospital, Haslar.

At the meeting of the British Medical Association last year, during the discussion which followed the very interesting papers relating to kala-azar, etc., and the Leishman-Donovan bodies, Dr. Low of the London School of Tropical Medicine stated that he thought it rather important that "splenic anæmia" or Bruhl's disease should be closely investigated to see if it was due to the same parasite.

Within the last year at the Royal Naval Hospital at Haslar we were fortunate in having under treatment two cases of

this kind, giving one the opportunity of investigating the characters of the blood as taken from the peripheral circulation and also by means of splenic puncture.

In both these cases there was a history of being abroad lately, with excessive and peculiar anaemia and great splenic enlargement. In both splenic puncture gave negative results for the particular bodies sought for, and in both cases cultures made from the splenic blood showed it to be quite sterile. In neither was there any history or evidence of malaria. Unfortunately, owing to the chronic character of the disease and the rules of the service it was impossible to keep them permanently under treatment and observation, both having been invalided and lost sight of.

CASE I.

J. W., aged 21, stoker.

History.—While out on the South African station he landed at Zanzibar, but never slept on shore, and never had fever. On July 16th he vomited some blood, and had several similar attacks during the last eight months, with loss of appetite and occasional epistaxis; on the passage home he once vomited up coffee-ground fluid. On admission to Haslar he was an extremely anaemic though not emaciated man, complaining of breathlessness on exertion, pain and weight in left loin and side, and slight evening fever. On examination his temperature was normal; pulse 88, regular; heart's impulse diffused with a soft systolic bruit at the apex; liver normal; spleen extending across middle line and down to the iliac crest, edge sharp and hard, notch easily felt, some tenderness on deep pressure; urine 1012, acid, no albumen.

He was under treatment for three months, during which time there were two slight attacks of epistaxis, regular slight evening pyrexia, occasionally up to 101° F. He maintained his weight, and the anaemia appeared to decrease in severity, but there was no decrease in the size of the spleen; there was also a marked tendency to the formation of boils.

Treatment.—Iron, arsenic, inunction of pot. iodi, high-frequency currents, and generous diet.

The following is an account of the blood changes observed:

Date.	Red Cells.	White Cells.	Remarks.
July 29th ..	2,050,000	1,650	
Aug. 5th ..	2,892,000	2,400	
Sept. 2nd ..	2,490,090	2,300	Invalided from Africa.
Sept 28th ..	2,780,000	3,300	
Nov. 28th ..		2,400	Red cells irregular and very pale.
Dec. 4th ..	4,000,000	2,000	Haemoglobin, 40 per cent.
Dec. 11th ..	3,800,000	2,700	
Dec. 21th ..	4,400,000	2,200	
Jan. 17th ..	4,040,000	2,400	Haemoglobin, 60 per cent.
Feb. 3rd ..	5,200,000	2,200	Do.
Feb. 25th ..	5,200,000	2,000	

Relative Counts.

Date.	Neutrophiles.	Small Lymphocytes.	Mononuclears.	Eosinophiles.
	Per Cent.	Per Cent.	Per Cent.	Per Cent.
Jan. 17th ..	64	[illegible]	5.5	1.5
Feb. 3rd ..	60	[illegible]	3.4	[illegible]
Feb. 25th ..	75	[illegible]	4.0	2.5

On two occasions the spleen was punctured and 3 c.cm. of blood drawn off, free from splenic pulp. After both he experienced for two days an increase of splenic pain, but there was no sign of haemorrhage. A specimen was sent to Lieut.-Col. Leishman, who kindly examined it, failing to find, as I did, any evidence of either Leishman bodies or other blood parasites. This blood did not markedly differ from that taken from the finger, except for the rather larger relative number of small lymphocytes.

Splenic Blood.

	Neutrophiles.	Small Lymphocytes	Mononuclears	Eosinophiles
	Per Cent.	Per Cent.	Per Cent.	Per Cent.
First puncture	[illegible]	40	[illegible]	[illegible]
Second puncture	47	46	5.4	1

The citrated blood was also incubated at blood heat, with negative results for these bodies, and was also cultured on agar, proving it to be quite sterile. An examination of the blood from the circumference of one of the boils which formed, did not show any increase in the number of leucocytes, though one expected that with a local suppurative action the phagocytes might have been considerably increased, which was not the case, showing an absence of reactive power to local stimulus.

CASE II.

J. M., 21, ordinary seaman, gave the following history. He was employed in the mercantile marine in the East Indies and had never had malaria, but five years ago was tapped for ascites, and states that a little fluid was drawn off. Has been in the navy six months and not abroad since. For the last few months has been gradually getting more pale and debilitated, with frequent attacks of epistaxis. He was admitted to Haslar for enlarged abdomen, severe anaemia, oedema of the legs, and dyspeptic symptoms. On examination he was found to be a flabby, big-built man, intensely anaemic, with big belly showing ascites and irregular distension and fluid in the flanks, spleen much enlarged, extending 4 in. below the costal margin, slightly tender, liver not appreciably enlarged, heart with soft haemic murmur, lungs normal, some oedema of the legs, temperature normal, pulse 80, urine 1012, acid, no albumen. The blood showed pronounced signs of secondary anaemia, with marked irregularity in the shape and size of the red cells, greatly-diminished white cells, and a relative increase of the lymphocytes; there were no parasites, and the haemoglobin was 55 per cent.

Blood Counts.

March 14th .. ... Red cells 2,800,000 ... White cells 1,000

The red cells were pale and irregular, but no nucleated forms were found. The white cells showed a great relative increase in large and small lymphocytes, but no myelocytes were seen.

March 23rd .. ... Red cells 2,800,000 ... White cells 800 only
April 1st ... ... ,, 2,800,000 ... ,, 940

Relative Counts.

	Neutrophiles.	Small Lymphocytes.	Mononuclears.	Eosinophiles.
	Per Cent.	Per Cent.	Per Cent.	Per Cent.
1	30	40	28	2
2	39	42	17	2
3	30	42	20	5
4	34	41	21	4

The white cells were so scanty that it was difficult in an ordinary stained film to count a sufficient number to make a fair average relationship of the different forms, though undoubtedly the lymphocytes were largely in excess. His spleen was punctured twice, but no Leishman bodies were seen.

Relative Count of Splenic Blood.

Neutrophiles.	Small Lymphocytes.	Mononuclears	Eosinophiles.	Basophiles.
Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.
18.5	[illegible]	18.1	2.4	1

Curiously, after each puncture he felt better, and the girth of the abdomen decreased. He was in the hospital six weeks, and under arsenic, iron, bone marrow, and good diet, he improved so much that he was discharged at his own request, though there was no decrease in the size of the spleen, or improvement in the blood count. In spite of the fact that there was no pyrexia during the time that this man was under observation, I think the case was undoubtedly one of Bruhl's disease, the ascites being probably due to some old hepatic cirrhosis.

These two cases indicate that the disease is not due to any parasite but belongs to that class of cases which come under the term of "primitive splenomegaly," in contradistinction to the true "tropical splenomegaly," in which the Leishman-Donovan bodies play so important a rôle. The fact that these quoted cases had not long returned from tropical and subtropical regions made it reasonable to think that they might have belonged to the latter disease.

NOTES ON TWO CASES OF FEBRILE TROPICAL SPLENOMEGALY (KALA-AZAR) AND A SUGGESTION.

By Sir PATRICK MANSON, K.C.M.G., M.D., F.R.S.

THE following are details of two cases of kala-azar:

CASE I.

The patient, Mr. M., had resided for nineteen years on the borders of Assam, and with the exception of a mild continued fever some three years ago enjoyed good health. He came home on furlough during 1904, returning to Eastern Bengal in July. About a week or ten days after his return his present illness began with anorexia, malaise, and fever. As he did not improve he went to Calcutta, and remained in hospital there till August 24th. Under large doses of quinine (60 gr. daily) he

apparently recovered and went to Ceylon for a month. On his return up-country there was a recurrence of the fever, accompanied by nausea, irregular rigors, and prostrating night sweats; an erythematous patch developed on the left forearm, and he became jaundiced. As he became progressively worse he returned to Calcutta. Liver abscess was suspected. He left Calcutta for England November 3rd, arriving December 5th.

One of his native servants died in May, 1903, with bleeding of the gums after a three months' illness, and another suffering from enlarged spleen and constant fever died after nine months' illness.

When he joined the ship at Calcutta, Dr. Webster, under whose care he was, reports that the liver was enlarged downwards 3½ in. below the costal margin in nipple line, uniformly resistant, but unaccompanied by pain or tenderness. The spleen extended forwards as far as the nipple line. On the voyage home the temperature was remittent in character, varying between 98.6° in the morning and 101° in the evening; the hepatic and splenic enlargements both diminished. Treatment consisted in regulated diet and the intramuscular injection of bihydrochloride of quinine.

He was admitted to the Seamen's Hospital, Albert Docks, on December 10th, his condition being briefly as follows: Well nourished but weak, skin muddy, spleen enlarged—extends 4 in. below costal margin—firm, but not tender. Liver enlarged, extends 1 in. below costal margin in nipple line, smooth, slightly tender. Temperature, 100°; pulse, 88; respirations, 24. Erythrocytes, 2,600,000; W., 1,900; haemoglobin, 67 per cent.; L., 39 per cent.; L.M., 11 per cent; P.N., 45.5 per cent.; T., 3.5 per cent.; E., 1 per cent.

The history of irregular fever with splenic and hepatic enlargement, progressive anaemia, and the locality in which the disease was acquired, were suggestive of tropical splenomegaly. This diagnosis was confirmed by finding Leishman bodies in spleen and liver juice obtained by puncture.

He was put on increasing doses of arsenic and on January 23rd his condition was as follows: Weight, 11 st. 7⅞ lb., a gain of 11 lb. Erythrocytes, 3,410,000; W., 2,300; haemoglobin, 62 per cent.; L., 27 per cent.; L.M., 13 per cent.; P.N., 57 per cent.; T., 1 per cent.; E., 1 per cent.; M.C., 1 per cent. General condition slightly improved; occasional epistaxis; temperature slightly above normal at night; liver and spleen unchanged.

From January 23rd to February 27th the arsenic was discontinued and treatment by *x*-rays tried, but without benefit; in fact, he lost weight.

On March 2nd the administration of arsenic and trypanroth hypodermically was commenced, and continued until May 3rd, but without apparent benefit; bone marrow was then substituted.

On May 8th examination of blood was: Erythrocytes 3,000,000, W. 3,000, Hb. 40 per cent.; there had been slight haemorrhage into right retina, and there was occasional oozing from the gums. He left hospital on May 9th; he was then weaker, and both liver and spleen had increased in size.

CASE II.

F. S., aged 22, born in India, educated in England, went out to Calcutta two years ago. Had good health, but suffered occasionally from fever.

His business took him frequently to Kanknarrah, near Barrackpur, where from the house in which he stayed two persons had recently been sent to their homes suffering from enlarged spleen, one of whom was positively ascertained to have tertian malaria, the other died from an intercurrent pneumonia.

The present illness began on December 10th, four months ago, three weeks after his return from a four days' shooting expedition to Jakragudah, Nagpur; it began with fever (temperature up to 106°), enlargement of liver and spleen.

He was accompanied on the expedition by his father and a younger brother; the party shot during the day and slept in a railway carriage in a siding at night. Both father and brother had attacks of fever four days after returning to Calcutta (November 21st); in their cases there was also enlargement of liver and spleen, and the temperature reached 105°, but in them the fever subsided in about sixteen days, and there was no recurrence. Though the patient improved and was able to be about on Christmas Day, the temperature in his case never really fell to normal.

He took to bed on January 4th, and has been ailing since, in spite of liberal dosing by quinine. Owing to the persistence of the fever (varying between 99° in morning to 104° and 102° in evening, and enlargement of the spleen, he was sent home in the end of February. He picked up a little on the way, but caught cold in the Mediterranean. Whether the illness was connected or not with the subject of this paper, it is interesting to have to record that another brother suddenly, while on board ship on the voyage to England, developed symptoms of what was diagnosed as cerebro-spinal meningitis, and died at Marseilles.

The patient was seen by Dr. T. S. Kerr, to whom I am indebted for the notes of this case and illustrations, on April 9th, and the following day by myself. His condition was then briefly as follows: Anaemia, clean tongue, good appetite, spleen enlarged, extending almost to umbilical line both forwards and downwards, liver dulness about 6 in.—no irregularities on palpation and no tenderness; a small amount of fluid in peritoneal cavity. A short hacking cough; coarse crepitations at both bases, as high as angles of scapulae—the percussion note could not be said to be impaired. Temperature, 101.4°; pulse, 116; respirations, 30. Differential leucocyte count was: L., 21 per cent.; L.M., 8.5 per cent.; P.N., 38 per cent.; E., 1 per cent.; M.C., 1.5 per cent. There was a distinct leucopenia, but no malarial or other parasites. Sputum examined for tubercle bacilli was negative.

Provisional diagnosis: Tropical splenomegaly with superimposed bronchopneumonia. Prognosis unfavourable. A blood count on the 18th showed the erythrocytes to be 3,204,000. Under hypodermic injections of arsenic and iron they had increased to 3,396,000 by the 26th and there was slight general improvement in his condition.

On May 3rd the spleen was punctured hypodermically and the diagnosis confirmed by finding Leishman bodies in the splenic juice.

On May 8th the bronchopneumonia began to spread, the pulse-rate and respirations increased in frequency, and emaciation and anaemia were progressive. A bedsore formed and the patient died on May 13th. No *post-mortem* examination was permitted, but about two hours after death films of blood obtained from the spleen, liver and lung, by hypodermic puncture, were prepared. The appearances found in the slides may be summarized shortly as follows:

Spleen films: characteristic Leishman bodies in the large splenic cells, also free in the plasma in small numbers (*a*); in some their appearance was not quite like those usually met with. The nucleus had become diffused (*b*), in others it was partially dislocated and the bodies themselves were larger, swollen in some instances and vacuolated.

Liver films: Leishman bodies, though not nearly in such numbers as in spleen films. Lung films, nil. Bedsore films, nil.

In addition to the Leishman bodies and in fair numbers—some beneath the corpuscles, but mostly lying free amongst them, for the most part singly (*c*), but also in chains of 2 (*d*), 3 (*e*), 4, 5 (*f*) elements—were to be



× Erythrocyte.

found oval, in some cases pyriform, bodies. Some were homogeneous and without a nucleus; others had a well-defined, round nucleus, appearing as a round or oval ring with a clear centre. In addition to the definite nucleus, many possessed a diffused though well-stained spot at the narrow end, whilst in a very few there was a distinct rod-shaped micronucleus (*g*). See Figs. These bodies were found in blood films from the spleen and liver, but none in those from the lung.

REMARKS.

These cases illustrate one or two points in connexion with the incubation, diagnosis, course, and treatment of this disease. In Case I the patient, after a four months' holiday in Europe, returned to India in robust health. Within ten days or a week after his arrival in Eastern Bengal he developed a fever, which was accompanied by enlargement of the spleen, from which, with but few intermissions, he continued to suffer. The fever was uninfluenced by quinine; emaciation and anaemia were slowly progressive.* The incubation period, therefore, in this case can be fairly accurately determined, and lies somewhere between the period of his return to the endemic area and the onset of fever—a period of almost ten days.

Case II, in its clinical features, is typical of the disease—namely, a chronic fever, never very high, uninfluenced by quinine; enlarged liver and spleen; progressive anaemia, and emaciation; yet, withal, a clean tongue and good appetite. The termination, too, by some intercurrent affection—in this case bronchopneumonia—is usual in such cases.

Both cases illustrate the value of splenic puncture as a diagnostic measure, though unfortunately it is a proceeding not devoid of danger, as shown by Donovan's statistics recently published in the Madras Hospital Reports—3 deaths

* Since the foregoing was written I have heard of this patient's death.

in 170. Possibly liver puncture would be less dangerous, and for diagnostic purposes equally reliable.

Both cases—more especially Case 1—illustrate the beneficial effects of intramuscular injections of arsenic in tending to overcome the anæmia, and in retarding, if not actually arresting, for a time the downward course of the disease.

The nature of the bodies found in the slides taken after death from Case II is a matter for conjecture; their concurrence relatively proportional to and with the Leishman bodies is suggestive of a hitherto unrecognized phase—if it be a phase—of the Leishman body. On the other hand, they may be merely some accidental contamination of the slides, though every precaution was taken to avoid this.

The life-history of the Leishman body has not yet been satisfactorily worked out, and in illustrating and describing these bodies I would only suggest—and by no means assert—the possibility that these bodies may in some way or another belong to it.

Just as in the Leishman body in culture, they vary in size considerably, the smallest single body measuring 2½ mm., whereas the largest measured was 5 mm. In one specimen (*g*) there was a definite nucleus, and an equally definite rod-like micronucleus, and from its periphery there sprung an oval non-nucleated body in appearance identical with many similar but isolated bodies found in the plasma.

The question of the identity of the Leishman body and that found in Oriental sore is an interesting one, possibly having an important practical bearing. In tropical splenomegaly the Leishman body is found in the spleen, liver, bone marrow, glands, intestinal ulcers, etc.; in Oriental sore it occurs only in the sore. In the former case there appears to be a general infection, and certainly profound constitutional disturbance; in the latter the infection is strictly localized and there is no constitutional disturbance. But although there is no clinical evidence of constitutional disturbance in the case of Oriental sore there certainly must be some constitutional recognition of its presence. It is well known that the inoculated disease is protective. This fact has been acted on for generations by the Jews of Bagdad, who anticipate the natural development of the disease—it might be on an inconvenient part of the face, where it would produce unsightliness or deformity—by the practice of inoculation on some less inconvenient region.

Assuming that the Leishman body of kala-azar and the corresponding germ of Oriental sore, which are morphologically identical, are also specifically identical, and that whereas the former is malignant in its course and the latter benign, it follows that the malignity of the kala-azar germ has been got rid of in some way or other. It has long been believed that Oriental sore is a disease of countries in which the camel is a prominent domestic animal, and it has been maintained by some that the disease may be caught from the camel.

These facts suggest to my mind that Oriental sore may bear the same relation to kala-azar that vaccinia does to small-pox, and that possibly the virulence of the kala-azar germ has been got rid of during its passage through the camel, just as the small-pox germ is deprived of its virulence by passage through the cow. This is conjecture, but seems to be a point worth working at, for should the conjecture prove to be correct, we may have ready to hand a means of preventing kala-azar.

GUINEA-WORM AND ITS HOSTS.

By W. M. Graham, M.B., B.Ch., B.A.O., B.A.,

Medical Officer, West African Medical Service.

In 1904, while studying the incidence of disease at Gambaga, in the Hinterland of the Gold Coast Colony, I was struck by the preponderating importance of guinea-worm as a cause of disease; and a collation of the year's statistics gave the following results:

In a force of native troops, averaging 350 monthly, which had been under observation during the year, 57 men, or 16·28 per cent., had suffered from the disease, and they had been incapacitated for duty for an aggregate of 1,304 days, or for an average of 22·8 days each. These figures do not, however, represent the whole loss of the men's time, for most of them when discharged from hospital were only fit for light duty, and attended hospital daily to have their ulcers dressed.

The figures proved, however, that guinea-worm was the most common disease, and caused the largest amount of incapacity for duty among the native force employed by Government.

My attention having been thus directed, I tabulated my results, intending to include them in my annual report on the Northern Territories; but while endeavouring to reduce the statistics to a few succinct generalizations, so many points of difficulty appeared, and so many questions demanding answers, that I abandoned my intention and began a fresh inquiry.

The tabulation of statistics of guinea-worm for 1904 had revealed the following facts demanding explanation:

1. That there had been one month in the year that had been the month of greatest incidence.
2. That from this month backwards and forwards incidence had declined to zero.

Table showing the Monthly Number of Guinea-worm Manifestations among the Native Troops at Gambaga, Northern Territories.

	1901. Strength Average. —	1902. Strength Average, 400.	1903. Strength Average. —	1904. Strength Average, 350.	1905. Strength Average, 350
	Sick.	Sick.	Sick.	Sick.	Sick.
January... ..	—	4	6	2	4
February ..	—	2	4	1	1
March	—	4	9	2	0
April	—	5	4	2	1
May	—	3	8	11	—
June	—	11	22	20	—
July	22	6	17	8	—
August	1	3	12	5	—
September ..	3	2	5	3	—
October	3	3	4	1	—
November ..	2	1	2	2	—
December ..	6	3	1	0	—

Remarks.—The figures in this column (sick) represent the number of men primarily manifesting guinea-worm during the month and not the number of guinea-worm cases under treatment. As the treatment of guinea-worm may extend over two or three months the cases under treatment in any month would be in excess of the number showing symptoms for the first time during the month. In the case of July, 1901, the numbers given are those of men under treatment, for as the names for June, 1901, were not available, I was unable to eliminate from July the cases beginning in the previous month.

A further tabulation of the existing statistics of previous years proved that this generalization was true, not for the year 1904 only, but also for the three previous years, beyond which unfortunately no statistics were available.

I have arranged the figures in a table to show the monthly incidence for 1901, 1902, 1903, 1904. They are, I regret to say, incomplete, but they conclusively support my generalization by showing that in all four years the month of June was the month of greatest incidence.

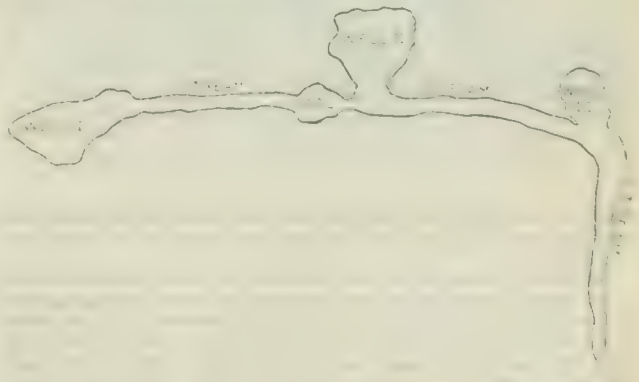


Fig. 1.—Diagrammatic representation of the three wells at Gambaga.

Now the guinea-worm, requiring for its propagation the alternate services of two hosts, man and cyclops, the induction appeared to me legitimate that the month of maximum manifestation in man is the month of maximum infection of cyclops. It will be evident from the table that this month at Gambaga is the month of June.

It has been shown by Fedschenko that in Turkestan guinea-worm embryos require five weeks for complete development in cyclops. Embryos, therefore, beginning this development in June would become capable of infecting man in July or

August of the same year. Further, as the parasite acquired by man in July or August would become manifest by discharging embryos in the following May or June, it would appear a legitimate inference that ten months represent roughly the period required by guinea-worm for its complete development in man.

To this hypothesis the following statements appear to me necessary corollaries:

1. That the infection of man by guinea-worm takes place during a few months of the year.

2. That it does not occur during the other months.

To prove the truth of this corollary, it would be necessary to show that at Gambaga cyclops contained the fully-developed parasite in the months of July and August, and not at other periods of the year. I am unable to furnish such evidence, for I left Gambaga, on leave, at the beginning of May, and I have only the negative evidence to offer that during the months of December, January, February, March, and April,



Fig. 2.—Negro women washing on edge of well at Gambaga.

1904-5, among the hundreds of cyclops I examined taken from the local wells I failed to find any one infected with guinea-worm.

Now it will be seen from the table that a certain number of guinea-worm manifestations in man do occur during almost all the months of the year, and the occurrence of these cases may seem difficult to reconcile with my hypothesis. I believe, however, that such cases do not introduce any inexplicable difficulty for the following reasons: In January, February, and March of this year I wished to carry out some experiments in the infection of cyclops with guinea-worm embryos. It will be seen from the table that I had five cases of men suffering from the disease, available during the three months. I examined the discharge from these patients but was unable to procure any living embryos for my experiment, for though undoubtedly cases of guinea-worm, only broken embryos and débris were present in the discharge.

Later still, in April, a case of perineal abscess was admitted to hospital for operation, and in it also no live embryos were found, but only débris. It is hard to believe that the perilous journey through the tissues of the host undertaken by the female guinea-worm is always successfully accomplished by arrival at the surface of a lower extremity and by the extrusion of her embryos.

What, then, becomes of the unsuccessful travellers?

I believe some die and others are delayed and arrive late at their destination, and that it is these latter which give rise to those belated manifestations that seem difficult to reconcile with my hypothesis. Thus by my failure to procure living embryos during the first three months of the year, was raised the important question: During what months of the year do female guinea-worms extrude living embryos, and this question awaits investigation. If, then, the infection of the cyclops with guinea-worm occurs during the months of May and June it becomes worth while to inquire whether during this period any natural facilities are afforded to the process of infection which are subsequently withdrawn.

To answer this question an intimate acquaintance with the habits of cyclops and a minute knowledge of the locality is necessary.



Fig. 3.—Negroes drawing water from Well II at Gambaga.

The following observations are therefore of only local significance. At Gambaga almost all the water used by the natives is drawn from three wells situated about half a mile from the town. These wells contain subsoil water only, and are very greatly influenced by drought or rainfall. They are connected by streams that flow during the greater part of the year. During the last few months of the dry season these streams dry up, and then the communication between the wells ceases, in some cases altogether and in others during the daytime only.

I began my search for cyclops in December, when the streams were full of water. During this month I readily found cyclops in all three streams, but I failed to find them in any of the wells. This is also true of the month of January until the last week when the stream connecting wells No. 1 and 2 became interrupted. In the last week of January no cyclops could be found in any of the wells, but they were readily found in the streams still flowing, and in the pool into which the interrupted stream from well No. 1 had emptied itself. In the case of this latter stream, therefore, cyclops had retreated downwards in the direction of the current and had entered the pool before the stream became dry.

In the first week of February cyclops could be readily found in the streams 2 and 3 and in the above-mentioned pool, but not in any of the wells. On February 14th I caught two cyclops in well No. 3 after long search.

On February 23rd the stream between wells 2 and 3, which had been several times temporarily interrupted, ceased to flow in the daytime. As the natives ceased to draw water from the well after sunset, communication was frequently re-established between the wells during the night.

On February 24th cyclops could be found in every cupful of water from well 3, and more sparingly in well 2, but were absent from well 1.

On February 25th cyclops could not be found in the streams from wells 2 and 3, and on the same day I caught three female cyclops carrying ovisacs in well No. 3.

In the third week in March the stream from well 3 became interrupted and the level of the water in all the wells was greatly reduced.

From these facts it appears likely that increased facilities for the infection of cyclops are afforded at a certain period of the year. For these observations seem to prove:

1. That cyclops inhabits the streams and the wells alternately.

2. That it breeds in the wells.

This photograph, which is a picture of well No. 2, shows how the natives stand in the water of the well from which they draw.

If, then, cyclops were always absent from the wells, the difficulty of its infection with guinea-worm embryos, discharged into the well from the legs of those drawing water, would be greatly increased. Secondly, if the young cyclops (*Nauplii*) be produced in large numbers in the wells and there undergo their development, very greatly-increased facilities for penetration would be afforded by them during ecdysis, and to this facility of penetration by the guinea-worm embryos during the months of May and June I am inclined to attribute the greatest importance, for it would limit the infection of cyclops to a few months of the year.

The following considerations make it probable that certain natural aids to the infection of man are withdrawn after September in each year.

1. August and September are the months of greatest rainfall at Gambaga. At the end of September or earlier—according to rainfall—the wells become full, and the increased current would carry some of the cyclops of the wells out into the streams and thus diminish the chance of catching them when drawing water.

2. In a pool of clear water cyclops keeps mostly close to the bottom. When the level of the water in the well is low the calabash used for drawing water is swept near to or against the bottom, and this facilitates the taking of cyclops; but at the end of September the volume of water in the well is large, and, water being therefore drawn from the top, the cyclops in the well are less easily caught by the calabash.

3. The ratio of cyclops to the gallon will be inversely as the volume of water in the well. Therefore the number of cyclops to the gallon of water, and consequently the risk of infection, will be less when the well is full.

4. Infection with guinea-worm hampers the movements of cyclops, and the infected are therefore more readily caught than the uninfected. The supply of infected cyclops in a well would therefore be exhausted before that of the uninfected, and this would help to limit the period available for the infection of man.

On my journey to the coast I endeavoured to give a more general validity to the observations made at Gambaga by making inquiries of the chiefs and educated natives at the towns I passed through. All those I inquired of agreed that there was a special period of the year when guinea-worm manifestations in man were common. At Salaga the month of greatest incidence was stated to be May; and Mr. Wongara, a retired native officer of the Gold Coast Regiment, an educated man and a resident of many years' standing, told me that he usually had an attack of guinea-worm each year in the month of May, and that his friends suffered from the disease about the same time.

The water supply of Salaga differs in several respects from that of Gambaga, but chiefly in this, that no streams issue from the Salaga wells. I was unable to study this matter, as I only passed through the town on my way home.

Preventive measures may be divided into two classes:

1. Measures intended to prevent the infection of man.

2. Measures intended to prevent the infection of cyclops.

I have never heard of or seen a case of guinea-worm occurring in a person who drank filtered water, and cyclops can be readily removed from water by straining it through a fine handkerchief.

When using such a filter means must be taken to prevent the upper surface of the cloth being accidentally turned downward and the filtrate previously deposited upon it being washed off into the strained water beneath by pouring water through the cloth the reverse way.

In the case of native troops it would be quite impracticable to compel the men to drink filtered water, and to protect them against infection it would be necessary to prevent the infection of cyclops.

To prevent the infection of cyclops it would be necessary to make structural alterations, converting the existing wells into concreted troughs, the floor of which might be laid upon the floor of the well and the sides (of the trough) carried up a couple of feet above it. The outflow water should be conducted away underground so as to prevent the formation below the trough of a pool in which natives drawing water could stand or wash. Such troughs should be periodically washed out, so as to make the harbouring of cyclops more difficult.

It would be impossible to deal with the pools along the roads and in the bush, but if man be a necessary host guinea-worm can be common only where man abounds.

Infection acquired by drinking water from pools in the bush far from human dwellings must therefore be uncommon, and it is in the wells supplying towns and villages that the chief sources of guinea-worm infection must be sought.

Dr. L. W. Sambon said that the greater incidence of guinea-worm manifestation had long been known to take place in connexion with the rainy season. This was the case not only in West Africa, but in other parts of Africa, in Arabia, in Persia, in Turkestan and in India. The larvae were eliminated at the commencement of the rainy season because water was necessary for their further development, just as it was necessary to the cercariae of the liver fluke (fasciola hepatica) which left the host of their parent under exactly similar circumstances. This connexion between water and the liberating of the young larvae was emphasized by the fact that filaria medinensis did not only perforate the skin of its host at the most favourable season, and in that part of the body which came most frequently in contact with water, but waited for the actual contact with water before extruding its young. This fact was well known to the natives of highly-infected regions and had been acted upon from time immemorial for the extraction of the worm. In the case of fasciola hepatica it was interesting to note that in very dry seasons the rediae harboured within the liver of limnea truncatula did not give birth to free-living cercariae, but to a second generation of rediae which continued to live in the host of their parent awaiting a more favourable moment to venture into the outer world. The theory that the larvae of filaria medinensis might penetrate the body of man through the skin was a very old one and certainly had much in its favour notwithstanding that it is derived from an erroneous conception as to the reason of the peculiar location of the parasite in man. It was, moreover, supported by analogy since it had been amply proved by Looss, Smith and others, that uncinaria duodenalis enters through the skin. Other parasites, such as strongyloides intestinalis and certain trematodes could likewise enter the body of their hosts through the hair follicles of the skin. As Dr. Sandwith had remarked, the point should be settled by actual experiment. However, we should not forget that in the case of uncinariosis infection might also be acquired by way of the alimentary canal as numerous experiments had proved. Not long ago, it was firmly believed that the young larvae of warble flies (hypoderma) penetrated through the skin of cattle. Recently, however, Curtice had shown that they are licked by the cattle, and that they penetrate the walls of the œsophagus, and from thence, moving slowly through the tissues, reach the skin in the region of the back. In the case of filaria medinensis, Dr. Sambon doubted very much that the infection of man could take place by the immediate entrance of the young larva either through the skin or the alimentary canal. Professor Leuckart, from analogy with the life-history of a similar parasite, the cucullanus elegans of the perch, had suggested the necessity of an intermediary host, and had incriminated cyclops as the probable alternative host. Fedschenko in Turkestan had actually proved the truth of Leuckart's wise suggestion, and Sir Patrick Manson had confirmed it. The larva of filaria medinensis, having reached some pool or well,

attacked the young cyclops, penetrated into their bodies, and there underwent a certain amount of growth and development. This discovery was a decided step in our knowledge of the life-history of F. medinensis, but it was only a step. So far, the experiments made by Fedschenko and others to bring about infection through the ingestion of infected cyclops had proved negative. Possibly cyclops was not the real host of filaria medinensis notwithstanding that the nematode might attain a certain stage of development in its body, or perhaps only certain species of cyclops could bring about the complete development; or, again, a second intermediary host might be necessary, or there might be another free-living stage with or without subsequent encystment, as in fasciola hepatica. That an intermediary host was necessary was evident from the peculiar limitations observed in the geographical distribution of F. medinensis, and by the fact that this nematode had not become established in many places within the tropics which seemed to offer the most favourable surrounding conditions, and in which it had been repeatedly and plentifully introduced during a long number of years, as, for example, in the Malay Peninsula, as already stated by Dr. Brown.

Dr. F. M. Sandwith, after corroborating Dr. Graham's remarks with regard to the periodicity of the disease in man, said: Observers in the Egyptian Sudan find that there are two or three months when human beings suffer from filaria medinensis, while during the rest of the year the worm is not met with. It is now so many years that some of us have thought that the embryo of this parasite can enter the human skin, that I urge those who dwell in guinea-worm countries to try and prove the point as to whether the embryo can or cannot gain direct entrance into man's body without passing through any species of cyclops.

Dr. W. Carnegie Brown (Penang) said that in the Straits Settlements a unique opportunity for studying some points in the life-history of the guinea-worm was presented to the physician by the circumstance that in the Malay Peninsula there was no endemic infection of dracunculus. No one, so far as he knew, had ever acquired guinea-worm in the Malay Peninsula; but many cases were to be seen there. Immigrants, natives of the Coromandel Coast, where the disorder was endemic, were frequent sufferers. Some idea of the length of time that it took for a female dracunculus to mature—or, more correctly, to arrive at the stage of discharging her ova and thereby setting up suppuration—was to be had from observation of the length of time after the immigrants' arrival before the assistance of the surgeon had to be sought to evacuate a dracuncular abscess. He had seen a case so late as eighteen months after arrival, and he had observed no periodicity—no greater seasonal frequency. Guinea-worm turned up all the year round with fair regularity. In such cases it was certain that infection took place in India before the patient left for the Malay Peninsula, and if eighteen months had elapsed since that time an indication was arrived at which, if not exact, was at least definite. Another point was the peculiarity of the fact that, though cyclops was found in the rivers and canals of the Malay Peninsula in considerable numbers, and though undoubtedly embryo guinea-worms were discharged into these waters from infected persons, the cyclops seemed unable to develop the embryo, or at least to render it hurtful to man. It did not appear to act as a host. The fact was peculiar and worth further study. Dr. Gray was apparently of opinion that the certain method of prevention was to be found in seeing that drinking water was pure. That excluded the popular, and he might also say the scientific, belief that entry was gained by the skin. From analogy with other worms this method was at least probable, and the prevalent idea was that it explained the circumstance that in nine-tenths of all cases of guinea-worms the site of maturity was in the legs, because infection took place while the patient was standing in water, which, needless to say, was an ordinary method of bathing. The question was not to be resolved by trying if dracunculus embryos could pass through the skin. They could not; but it was possible that after a specialization of function in the cyclops they might be able to do so.

Dr. Albert J. Chalmers (Colombo, Ceylon) regretted that he was unable to add anything of value to the subject of the life history of the guinea-worm, though he had lived in a guinea-worm country. He noticed years ago the periodicity of the guinea-worm infection in Accra, West Africa. He had looked for infected cyclops without finding them. He had noticed one case of what he considered to be infection by way of the skin. He did not think that the authorities of the London and Liverpool Tropical Schools were sufficiently alive to the importance of this disease. The Hausa troops were frequently prevented from marching and carrying out their duties owing to the prevalence of this complaint amongst them, and Dr. Graham had earned their gratitude by drawing attention to the serious detriment to health which this widely-spread disease entailed.

Dr. W. T. Prout (Principal Medical Officer, Sierra Leone) wished to emphasize what had been said as to the necessity of more particular study as to the methods and entrance of this disease; on the Gold Coast there was an enormous amount of inefficiency due to this cause, more especially among the Hausas. He had had experience of both the Gold Coast and Sierra Leone, and had been struck by the fact that while guinea-worms were very common on the Gold Coast they were very rare at Freetown; it was not a disease of Sierra Leone. Now there was one condition in which the Gold Coast differed from Freetown, and that was that in the latter there was a very pure and plentiful water supply derived from the hills behind, but on the Gold Coast the water was mainly derived from surface water collected in pools and shallow wells. This would appear rather to support the theory as to the entrance into the body by means of drinking water.

Dr. Claus Schilling (Berlin) remarked that one of his friends, a district commissioner in German West Africa, had many cases of guinea-worm amongst the native soldiers. After opening good wells and prohibiting the natives to take the drinking water from the same place where they used to bathe the cases of guinea-worm disappeared almost entirely. This experience is in support of the opinion that the infecting germ enters the body by the alimentary canal.

Dr. C. F. Harford said that the comparative infrequency of guinea-worm on the banks of the Niger as compared with the neighbouring territories of Lagos and the Gold Coast might be due to the fact that the natives obtained their water supply chiefly from the river itself, or from flowing streams rather than from wells.

TROPICAL DISEASES OF THE SKIN.

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The subject for consideration of this morning's session is the tropical diseases of the skin, and it is with feelings of great diffidence that I find myself in the highly-honoured position of opening the discussion upon it. We had hoped to have been favoured to-day by the presence of Professor Jeanselme, of the Institut de Médecine Colonial of Paris, who has made the subject of tropical dermatology a special study, and to have had this duty performed by him. Unfortunately he has been prevented from coming, and Dr. Radcliffe Crocker, who we invited to take his place, has been unable to do so.

I must ask you, therefore, gentlemen, to be more than usually tolerant, for I cannot but feel the grave responsibility your President has placed upon me in asking me to be a substitute for so well known an authority as Professor Jeanselme.

The only consolation I can find in my present position is the fact that the subject of tropical dermatology is in its infancy, and, with the exception of the work of several Continental observers who have had special opportunities of studying it, it is a field of medicine which is only partially explored and to which the apt simile may be applied of a map on which the large countries alone are marked out, while within these lines much still remains blank and unknown. Though various tropical skin affections have been more or less minutely described it is only comparatively recently that the subject as a whole has attracted the attention which it deserves, and the publication of Jeanselme's *Cours de Dermatologie Exotique* in 1904 was the first important attempt at a textbook upon it. At present it is in a state of disorder almost amounting to chaos, and this is due to several causes: in the first place because we are indebted for the description of a large number of the tropical diseases of the skin to observers abroad who were not experts in this branch of medicine, and have not had the facilities for working out the pathology of the disease on the spot; secondly, the nomenclature of tropical skin diseases is confusing, since many of the names applied to them are native generic names, and used indiscriminately for a variety of affections which differ in their clinical details, ætiology and pathology, and on the other hand various skin

affections have had an almost indefinite number of native names attached to them according to the district in which they occurred; and lastly, because until recently observers seem to have paid more attention to the skin diseases affecting the white man in the tropics than to those of the natives.

The subject is a wide one, so vast that in opening a discussion upon it, it will only be possible for me to touch on the fringe of it. Instead of attempting to present to you a brief historical account of the evolution of the subject or a summary of recent work upon it, I will endeavour rather to put before you a few suggestions with regard to the problems connected with it which require elucidation, which may form a basis for subsequent discussion. These problems, as would be expected, are more intimately connected with the etiology and pathology of the subject than with the clinical features of the diseases, for after all the exotic dermatoses do not differ essentially from those of temperate climates, except in the fact that their clinical characteristics are modified by climate, clothes or rather the want of clothes, habits, customs, food, and differences in the power of the skin in dark races of reacting to irritants.

In the present state of our knowledge anything but the crudest of classifications of exotic skin affections is impossible. When v. Hebra broke away from the traditions of Plenck and Willan and introduced a classification of skin diseases based not on their clinical appearances, but on their pathological anatomy, it was thought that this problem had been solved; but further experience with it showed that it had to be greatly modified to prevent overlapping. Since then various other bases of classification have been tried, but with such doubtful success that the simple expedient of arranging the diseases in alphabetical order has been resorted to by several well-known writers.

With regard to tropical skin affections, since so many of these are parasitic in origin, I have decided to refer to them this morning, not in their alphabetical order, but in four groups, according as

I. They are due to some known parasite;
II. Are obviously parasitic, but the parasite has not been established;
III. Are possibly parasitic; and
IV. Have a non-parasitic causation.

I.—Parasitic Diseases.

Parasites of various kinds are responsible for a large number of tropical skin affections. Hot climates, the more or less insanitary habits of the natives, and the want of protection of the skin render the inhabitants of warm countries exceptionally liable to the attacks of parasites, of which the chief varieties are bacteria, streptotricheae, yeasts, moulds, and a selection of animal parasites belonging to the groups of the acarida, insecta, and vermes.

1. *Due to Bacteria.*

Most of the skin affections which occur in the tropics, and are caused by bacteria, exist also in subtropical and temperate climates. Tuberculosis cutis, for example, is widely distributed both in tropical and temperate countries. In warm climates lupus vulgaris is, however, rare, though scrofulodermia is comparatively common. This subject requires further observation, for as our knowledge of tuberculosis of the skin becomes more exact, we have come to recognize the fact that the skin manifestations of tuberculosis are almost as multiform as those of syphilis, and what the exotic clinical types of it are has still to be shown.

Of the infective granulomata of bacillary origin one of the most prevalent in tropical and subtropical countries is still, unfortunately, leprosy. In 1871 Hansen discovered the bacillus leprae, and much careful work has been done on the subject since then, but there are still several problems which remain unsolved, and which form favourite subjects for controversy. Although the bacillus is generally admitted to be the cause of the disease, and is found in greater profusion in the nodular lesions than the organisms associated with any other member of the infective granulomata group, attempts to cultivate and inoculate it have so far been unsuccessful. From time to time the scientific world has been startled by announcements that pure cultures had been obtained, or inoculations had been followed by positive results, but these have invariably proved to be immature.

Only last year Captain Rost, I.M.S., asserted that he had been able to cultivate the bacilli on an achloretic medium, and had succeeded in making a "leprolin" on the same principles as Koch's tuberculin, but these assertions have been proved since to be premature.

There have been numerous theories with regard to a possible source of infection being through the alimentary tract. Various articles of dietary have been blamed and subsequently forgiven. The theory which has recently attracted most attention is that of a possible source of infection through decayed or improperly cured fish. Before, however, it can be considered in any other light than that of a hypothesis it will be necessary to demonstrate the bacillus in suspected fish, which I fear is a somewhat hopeless task in the present state of our knowledge, for even if a bacillus like the B. leprae were discovered in the fish, without successful inoculation experiments it would be impossible to establish its identity, and in the second place, if the bacillus leprae were capable of leading a saprophytic existence in the decomposing fish there should be no great difficulty in finding a suitable medium for it.

With regard to prognosis it must still be admitted that except in a few doubtful instances the disease has been progressive in spite of treatment. Still it is equally true that it has been greatly benefited by suitable management, treatment, and the removal to a non-leprous country; and it is well not to allow pessimism to dull our endeavour to find a specific, or to prevent us from studying those circumstances which have been found to cause amelioration, in the hope of proving that our present inability to cure is not synonymous with the incurability of the disease.

2. *Due to Streptotricheae.*

The best-known example of a streptothrix inoculation of the skin in the tropics is madura foot. Two chief varieties have been described accordingly as the granules are white or yellowish, or black. The white variety has been shown to be due to a streptothrix which differs from the actinomyces. The black variety still requires elucidation; Kanthack regarded it as the result of a degenerative type of the white fungus; recently Oppenheim has declared that it is due to an oïdium. The latter observation requires confirmation.

3. *Disease of the Skin Caused by Blastomycetes.*

Yeasts have been shown to grow readily on the skin in tropical countries in moist regions of the body, such as the axillae and about the genitalia, and to be a frequent contamination of ulcerated surfaces. Recently a skin affection has been described in America, which both clinically and histologically bears a certain resemblance to lupus vulgaris of the verrucosa type, and from which a yeast has been recovered. This yeast has been shown to be pathogenic in animals and is believed by a number of observers, though not by all, to be the cause of the affections, and not simply a secondary contamination of a lesion due to tuberculosis, syphilis, or other such cause. About forty of the cases have been described under the heading of "blastomycetic dermatitis," and in several of them a systemic invasion has occurred and a fatal issue. In California and Buenos Ayres a variety of this condition has been reported, in which a systemic invasion by a sporulating organism, believed also to be a yeast, has been demonstrated. To these cases the name of dermatitis coccidioides has been given. The study of these cases is of the greatest interest, and it is highly probable that, were they recognized, they have a wider distribution than we are yet aware of.

4. *Diseases Caused by Hyphomycetes or Moulds.*

The most important examples of exotic diseases due to hyphomycetes are the various types of tropical ringworm, of which the best-known variety is tinea imbricata. The true nature of the mould which causes it and which can be so easily demonstrated in the scales is at present under dispute. Tribondeau recently asserted, in connexion with this disease in Indo-China, that the fungus was an aspergillus. Sabouraud, on the other hand, considers it to be a trichophyton allied to that which causes animal ringworm. Most descriptions of the fungus seem to bear out the latter opinion, which is all the more strengthened when one recollects that aspergillus is a frequent contamination of ringworm cultures. In tropical countries the glabrous skin, especially about the crutch and axilla, is more liable to be affected with ringworm than the scalp, and there is doubtless a variety of different fungi which cause the disease, but they still have to be worked out. It is most probable that just as the fungi of ringworm vary in type and relative proportions in the different countries of

Europe so will they also be found to differ in tropical countries.

With regard to pinta—another hyphomycetic disease—various fungi have been isolated from the lesions such as pencillium, aspergillus, monilia, and recently a trichophyton by Bodin. But which of these is responsible, or whether there are several fungi, as there are several clinical types, of pinta, are questions which require solving.

II.—Diseases due to Animal Parasites.

These naturally divide themselves into those which are due to acarida, insecta, and vermes. Of these only a few have special interest.

Scabies is a common disease in the tropics, and has a variety of names attached to it according to the district in which it occurs. Under the heading of craw-craw, O'Neil describes an eruption on the West Coast of Africa which clinically resembled inveterate scabies, which he found to be associated with a filarial parasite which Sir Patrick Manson considered to be the F. perstans. It is doubtful whether the filaria is responsible for the affection. The name craw-craw is employed indiscriminately by natives to a variety of skin affections, chiefly of the pustular type.

The affection known as pani-ghao, ground itch, or sore feet of Assam, is also of special interest, owing to the discussion which has arisen with regard to its etiology. It is an itchy papulo-vesicular affection of the feet, which attacks coolies in the wet season. The virus evidently inhabits the mud and damp soil, and gains a ready entrance in consequence of the macerated condition of the feet. This can be prevented by wearing specially-shaped wooden shoes, known as kurrams. It was believed by Dr. A. B. Dalgetty, of Sylhet in India, to be caused by an acarus. Recently it has been shown to be more probably due to the penetration of the larvae of ankylostoma through the skin. In 1898 Looss demonstrated the fact that these larvae could penetrate the skin, and his observation has been corroborated since then by Dr. Sandwith, Dr. Bentley, and others; and they have produced a disease identical with ground itch by rubbing in a soil infected with these larvae.

Another disease which has found its way into the group of skin affections due to animal parasites, but in which the right to this position has been doubted in at least certain of the cases, is elephantiasis arabum. The prevailing view with regard to its pathogenesis, and one with which the name of Sir Patrick Manson has come to be associated, is that it is a manifestation of filarial disease, and is caused by the larval form of the filaria bancrofti, namely the F. nocturna. Clinical evidence based chiefly on the facts that the geographical distribution of this filaria and elephantiasis correspond, and that it frequently occurs in individuals suffering from undoubted filarial disease, favours this view. On the other hand, where it occurs without concomitant filarial manifestations, it is rare for filarial embryos to be detected in the blood. It is difficult also to understand how a lymph stasis, which is an essential precursor of elephantiasis, can be caused by a blocking of the lymph glands by filarial ova, as repeated experiment has shown that blockage of the large lymph trunks does not produce stasis.

It seems probable that in some of the cases, if not in all, there is some other factor at work, but what that factor is has yet to be determined. We have in this and other European countries a form of localized elephantiasis the study of which has revealed certain facts which are of interest in this connexion. This disease is believed to be the result of a streptococcic infection, and is generally associated with recurrent attacks of localized erysipelas. Each attack is followed by lymphangitis and oedema; this is finally replaced by fibromatous changes and hypertrophy of the skin. Following the erysipelas, inflammatory changes occur in the blood vessels, especially the veins which lead to thickening of their walls, thrombosis and endophlebitis, and it is to these changes that the lymphatic stasis is due. But the same toxins of the streptococci which cause the vascular changes also produce an inflammatory hyperplasia of the fibrous stroma around the veins. This is independent of the lymph stasis and, indeed, tends to limit and supersede the latter. As the sequence of events in elephantiasis arabum somewhat corresponds with that above described, the possibility of, at least in certain cases, an allied cause is suggested.

III.—Diseases in which there is strong Evidence of a Parasitic Origin, but in which a specific Micro-organism has not yet been established.

In this group there are various skin affections for which some kind of micrococcus, either of the staphylococcic or streptococcic type, seems to be responsible. The most prevalent of these are the localized tropical lesions known as Oriental sores, and the phagedenic ulcers of warm countries.

According to the district in which it occurs, the Oriental sore has received a variety of names, of which Biscra button, Aleppo button, Gafsa button, Bagdad sore, Nile button are a few examples, and seem to describe the same clinical entity. To recall the clinical characteristics—after a varying incubation period, the lesion begins as an itching papule like a mosquito bite, which in a few days becomes capped by a crust, and on its removal a shallow ulcer is revealed, from the floor of which oozes a thin exudation. As the ulcer increases peripherally, the border becomes red, raised, and oedematous, and small pustules may be noted on the surrounding inflammatory areola.

Left to themselves, the lesions may undergo spontaneous involution, and heal in the course of six months or a year; on the other hand, they may persist indefinitely, and are most resistant to treatment. The disease is contagious and auto-inoculable.

It affects both sexes and is independent of race and age, but an important factor in its etiology appears to be the state of the general health of the patient. It most readily attacks those whose health is below par from climate, insufficient or improper food, concomitant disease, or some other factor which lowers the vitality of the body, diminishes its power of resisting micro-organisms from without, and inhibits the natural healthy reaction of the skin to the virus, and so renders the lesions indolent and chronic.

Microscopical examination of the lesions show that it is a reaction of the skin against some virus of low virulence, which has produced granulomatous changes in the corium beneath and around the ulcer. So chronic are the changes which are sometimes present that an architecture like tuberculosis may be occasioned, as in the specimen which I have placed beneath one of the microscopes, of a Delhi boil, which was excised and inoculated in a guinea-pig with negative results. Reference is made to this fact because it has several times been suggested that certain of these lesions are tuberculous. Doubtless syphilitic and tuberculous ulcers have been from time to time placed in this group, but that there is an entity to which the term of "Oriental sore" is applicable, which is due to some virus different from that of syphilis, and independent of tubercle bacilli, seems certain.

Various micro-organisms have been found in the lesions, and put forward as the cause, such as micrococci by Duclaux and Chantemesse, and streptococci and staphylococci by Le Dantec and Aucké, and recently Leishman bodies by Dr. Homer Wright and others, but none has yet been established. It has to be decided, also, whether the different types of Oriental sore are due to different micro-organisms, to a specific microbe associated with various others, or to different states of virulence of the same mico-organism.

These problems are by no means easily settled when we recollect that Tomaselli has described at least ten different micrococci on the healthy skin, which under ordinary circumstances are harmless denizens of it, but under altered conditions may become pathogenic; so that in any purulent skin affections micrococci are certain to be detected.

We have in this country an allied condition which is familiar to certain observers, and is known as a septic ulcerative granuloma. These lesions were at one time considered to be due to a botryomyces, and were named botryomycosis pyogenicum, but they are now believed to result from the inoculation of a certain pus organism, but the precise microbe has not been isolated.

There is another local affection which bears a close relationship to Oriental sore—namely, the condition which was so prevalent among the troops in the recent South African war, and was known as veld sore, giftzeer in the Transvaal, and brandzeer in the Orange Free State. For an excellent description of these lesions and their pathology we are indebted to a recent report by Mr. Bishop Harman on this affection as it prevailed among the troops in South Africa. The sore begins as a small vesicle or group of vesicles from the breaking down of which a superficial intractable ulcer is produced. It resulted from scratches, injuries, and insect-bites, and was most common in the men who were run down in health. From these lesions Bishop Harman isolated a diplococcus, which he inoculated upon himself, and succeeded in producing a lesion like a veld sore. This diplococcus, for which the name of micrococcus vesicans is suggested, he considers to be possibly a specific microbe of the disease, and

not an attenuated form of the staphylococcus pyogenes aureus.

The vesicular nature of the lesion and its subsequent course suggest a type of impetigo due rather to a streptococcus of modified virulence than to a staphylococcus. It differs from the Oriental sore in being more superficial, and not having the same tendency to be associated with granulomatous changes.

The phagedenic ulcer of warm countries is another example of a parasitic affection due most probably to some form of bacterium, but in which the precise microbe has not yet been isolated. This lesion has a wide distribution, as its synonyms indicate, such as Aden ulcer, Mozambique sore, Cochin China ulcer, etc. It is, however, somewhat ill-defined, and has formed a dumping-ground for various affections which differ in their etiology and pathology. Jeanselme has suggested that the name be reserved for those exotic ulcers which have a tendency to slough, and are covered by a pultaceous diphtheroid membrane. A depressed state of the general health resulting from malaria, dysentery, or scurvy, is an important factor in its etiology; indeed, it has sometimes been designated malarial ulcer. It begins as a serosanguineous vesicle, which bursts, becomes an ulcer, and rapidly extends, the floor being covered by a false membrane. According to the virulence of the infection and the power of resistance of the patient, it forms an unhealthy ecthymatous ulcer, or may take on fulminating characters, destroying vessels and nerves, denuding tendons and muscles, exposing joints, and causing necrosis of bones, and occasionally being followed by a fatal issue from pyaemia, septicaemia, haemorrhage, and the like. The lesion in severe cases has a close relation to the now fortunately rare affection, hospital gangrene.

Le Dantec has obtained from the false membrane a non-motile straight bacillus, and Boinet has also recovered a straight aërobic bacillus from the lesions which he believed to be pathogenic. These observations are specially interesting since, in connexion with ecthyma, Hallé and Veillon have described a straight non-motile bacillus, and in hospital gangrene Matzenauer has found a somewhat similar bacillus.

The pemphigus contagiosus which Manson has described as an affection frequent in South China, Straits Settlements, etc., also belongs to this group. It seems to correspond with our P. acutus or with P. neonatorum, which have been shown to result from a virulent micrococcus, in the case of the latter of the streptococcus type.

Keloids are particularly common in black and yellow races, and possibly result from the inoculation through abrasions and wounds of some micro-organisms still to be isolated.

To pass on now to several of the infective granulomata in which the virus remains undiscovered, we have in the first place syphilis, which occurs nearly all over the tropics but varies greatly in its virulence in different countries. In some parts—tropical Africa, for example—it is unusually mild, and the natives seem to enjoy a relative immunity. In the other regions where it has been introduced it assumes at first fulminating characteristics, and runs a rapid and often fatal course, while in other warm countries it does not appear to differ to any marked degree from what obtains in this country except in so far as that, for obvious reasons, extragenital changes are much more common than they are here, where more clothes are worn and the skin is much better protected. The micro-organism of syphilis has still to be demonstrated. Various microbes have been described in connexion with it, such as bacilli by Lustgarten, Jullien, v. Niessen, and others; cocci by Disse and Taguchi; and, recently, spirochaetes by Schaudinn and Hoffmann, but none of these have yet been proved to be specific.

Much interest has lately been aroused in the pathology and prophylaxis of syphilis owing to the discovery that certain anthropoid apes can be inoculated with the disease, and that it may be possible to obtain a protective serum from this source. The researches of Metchnikoff, Roux, Lassar, and Neisser in this connexion are being watched with the greatest interest.

The consideration of syphilis naturally leads us on to refer to that affection with which, clinically, it has so many features in common—namely, framboesia, or yaws. The active virus of this disease is unknown, though the clinical features and course all point to a parasitic origin. Various micro-organisms have been found in the lesions, such as bacilli by Breda, micrococci by Plerez, Nicholls, Hirsch, and others, and a yeast by Powell.

There is still some variance of opinion with regard to the occurrence of a primary lesion, or "mother yaw," corresponding to the syphilitic chancre. Charlouis is strongly of opinion that such does exist, but this has been doubted, and certainly the appearance of anything like an indurated lesion. Numa Rat has described also certain symptoms of the type of the tertiary lesions of syphilis, consisting of subcutaneous nodules, ulcerations of the palate and fauces, and bone disease but these are uncommon, and several observers deny their existence altogether and maintain that such result from the concomitant infection of yaws and tuberculosis or syphilis.

It is also at present under consideration whether yaws is a local disease or a constitutional affection with skin lesions. The latter view seems to be the one which is most generally accepted since Charlouis showed that 28 out of 32 persons inoculated with the disease suffered from "mitral phenomena," including pains in the limbs, evening pyrexia, and other symptoms of general disturbance. The histo-pathology of the lesions shows that the disease belongs to the group of the "infective granulomata." Its relation to syphilis is still under discussion, since it has been maintained by several observers that the two diseases are identical, or that syphilis is yaws modified by life in a temperate climate, or vice versa, that yaws is syphilis of the tropics.

Till the micro-organisms of yaws and syphilis are discovered it is improbable that the last word in this controversy will have been said. Clinically and microscopically the two diseases present many points of similarity; but, after all, so do syphilis and tuberculosis.

The facts that in certain countries, such as Fiji, coko or yaws occurs while syphilis is unknown (and Koch has made a similar observation in New Guinea); the fact that it is never a congenital affection; that, although the skin lesions of yaws present various stages in their evolution, they are not polymorphous as are those of syphilis; and, lastly, the fact that the histo-pathology of the disease in a well-marked case is distinguishable from that of syphilis, all go to prove that we have to deal with two separate diseases. The details of the microscopical difference of the two affections I have described at a previous meeting of this Association, and the observations then made have been corroborated by several writers. These histological differences seem to me to be sufficient to establish yaws as an entirely distinct disease from syphilis.

Allied in some respects to yaws is the disease of the western slope of the Andes known as verruga Peruana. There are three distinct periods in this disease, namely, stages of invasion, eruption, and recovery. The eruption begins as red vacuoles or vesicles which evolve into warty excrescences varying in size from a millet seed to an apple. The microscopical structure of the skin lesions suggested, in tissue which were brought over for examination to the London School of Tropical Medicine, a peculiar type of infective granuloma modified by being unusually vascular. This was so marked in some of the lesions as to suggest an angiosarcoma, or a cavernous tissue made up of dilated blood vessels and lymphatics with a multiplication of the fixed cells around them. This peculiar vascularity of the lesions has been said to result from the diminished atmospheric pressure, for the disease occurs on an altitude of from 3,000 ft. to 10,000 ft. The heroic experiment of Carrion proved that the disease was inoculable, but the virus has not yet been detected, though several micro-organisms have been found in the excrescences.

The last of the infective granulomata of the tropics to which I wish to refer is the local intractable skin affection known as "ulcerating granuloma of the pudenda," or groin ulceration of British Guiana. Daniels first described the affection in British Guiana, but so many cases have been recorded since then from the Solomon Islands, West Africa, Fiji, etc., affecting such diverse races that the affection has now been established as a clinical entity with a wide distribution in tropical countries. It begins as an ulcerating nodule about the genitalia as a rule, and spreads indolently to form a mass of bright red granulomatous tissue with an ulcerating serpiginous border and discharging a fetid sanguineous fluid. Histologically it has been shown by Galloway and others to be a granuloma. Although it seems usually to be caused by coitus, it is unconnected with syphilis, and repeated search for tubercle bacilli and inoculations in susceptible animals, except in Le Dantec's case, have given negative results. It would seem, then, not to be any form of tuberculosis cutis to which it bears a superficial resemblance. It is definitely contagious and auto-inoculable; but though secondary micro-organisms of suppuration may be detected on the surface, no specific pathogenic virus has been isolated.

Diseases in which Micro-organisms are Generally Present, but are Probably Secondary Factors in the Evolution of the Disease.

I will only refer to two diseases in this category—namely, prickly heat and dysidrosis.

The etiology and pathology of prickly heat still remain unsettled. The old theory that the vesicles on an inflammatory basis were simply sweat cysts no longer holds good, since Török showed that many of the vesicles were independent of the sweat apparatus. That, however, the excessive sweating has a causal connexion with the miliaria there can be little doubt, and it seems probable that the sweat which, when excessive, is alkaline in reaction, forms a suitable medium for certain otherwise harmless microbes to flourish on, and to cause the inflammatory changes, and the production of vesicles in the epidermis apart from the sweat ducts.

Dysidrosis or cheiro-pompholyx is closely related to prickly heat, and affects the hands or feet or both. The double vesicular lesions of this disease were also regarded once as sweat cysts, but have been demonstrated at times to have an independent existence in the epidermis.

In warm countries this affection is frequently associated with an eczematous condition about the crutch and occasionally at the umbilicus. These lesions suggest a secondary infection on a moist skin by micro-organisms of low virulence.

IV.—NON-PARASITIC SKIN AFFECTIONS OF THE TROPICS.

To the various skin lesions probably due to toxins, such as those of pellagra and acrodynia, time will not permit even a passing reference, and I must also refrain from referring to that interesting and mysterious affection, ainhum, and to the almost equally unexplained anomaly of pigmentation, vitiligo.

These brief and imperfect remarks may serve, gentlemen, to show the difficulties and limitations of the subject at the present time, but if they should arouse a discussion and awaken an interest in this wide, inadequately-explored and all-important branch of medicine, they will have more than fulfilled their purpose.

PINTA.

By F. M. SANDWITH, M.D., F.R.C.P.,

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ALTHOUGH I was invited to prepare a paper upon this subject for this meeting, I must confess that my personal experience of the disease is chiefly based upon 4 cases, seen in Egypt, which have already been described by Mr. Madden and Dr. Goodman. But for the last six years I have been much interested in pinta, and, besides reading the French literature on the subject, I have been in profitable correspondence with many colleagues living within the pinta zone.

Synonyms.—Spotted sickness, mal del pinto, caraté.

Definition.—A tropical disease caused by a fungus, which produces various discolorations on the uncovered parts of the skin and sometimes on the mucous membranes. It belongs to the group of specific skin diseases caused by vegetable parasites.

History.—The disease has been known in Mexico since at least 1775, and has been described by various authors since Alibert, who wrote of it in 1829. According to R. P. Juan de Velasco, black African slaves imported "le caraté" into Colombia, where the people used to say it "whitens the blacks and blackens the whites." The fungus has been known since the writings of Montoya in 1896.

Distribution.—Jeanselme says there are no less than 200 000 cases of "caraté" in the Republic of Colombia, which includes the Isthmus of Panama. This means that 1 out of every 25 inhabitants, and in some parts 1 out of every 10, is affected. Dr. Cram says that 60 per cent. of the adult Caribs in British Honduras are affected, but that it is very rare among Europeans. Pinta is also endemic in Venezuela, Peru, Bolivia, Chili, Central America, and Mexico. Isolated cases have lately been reported from Tripoli (1897), Egypt (1899), and the Gold Coast (1901). The disease flourishes best in hot, damp, low-lying countries.

Causes.—The disease is rare among well-to-do people, for dirt and poverty seem to be predisposing causes. Among individuals careless of personal hygiene it is often met with in agricultural labourers, miners, muleteers, and boatmen. Both sexes and all ages are liable, but patients are most commonly met with between 15 and 25 years of age. The disease is not hereditary, nor directly contagious from man to man, for there is no personal transmission in families or among soldiers in barracks, but the patient is often shunned by his neighbours, who mistake this disease for leprosy.

Montoya has obtained moulds of the violet and the violet-black varieties from mosquitos, and it is quite possible that these insects may be able to introduce the spores of the parasite into man's skin. It is suggested that fleas and bugs may also introduce them. Montoya has found fungi of the dull violet kind in the water of gold mines in Colombia.

Rabbits can be inoculated with pinta.

Nine varieties of the fungus are given by Barbe: dull violet, pure violet, blue-violet, brown-violet, blue, violet-black, Chinese black, white, red; and to these Jeanselme adds yellow. The varied nature of the fungus accounts for the different colours of the eruption, which, when present on the same individual, give him a very grotesque piebald or tattooed appearance.

The violet varieties are met with among negroes and mulattoes of rural and mining districts. They generally begin on the face, or forearms and legs, and may appear in the mucous membranes; loss of pigmentation occurs later.

The red variety attacks white people living in towns, who complain of dryness and smarting of skin rather than of itching. The colour is at first pale, but quickly becomes brick red, and there is no secondary stage of loss of pigment. The skin of the palms and soles, when affected, is thick, and crossed by deep, painful fissures.

The blue, black, and yellow forms are only anomalies of colour, without accompanying symptoms. The black is said to occur in young children in Mexico.

The white variety (parasitic leucoderma) occurs oftenest in half-castes working in factories in towns. The first patches attract no attention, because they are on covered parts of the body, but they enlarge rapidly, so that in ten years they may spread almost all over the body.

The red and white varieties attack the rete mucosum and corium, while the others affect chiefly the epidermis.

The Incubation is uncertain, but Uribe found that about a month elapsed between the insertion of the fungus into the epidermis of mulattoes and the first appearance of the spots.

Symptoms.—The prodromal symptoms, such as fever, vomiting, and diarrhoea, of some of the older authors have, apparently, no connexion with this disease. The eruption is generally preceded by slight itching, and is confined to uncovered parts of the body. It may begin on the face, nape of the neck, cheeks, nose, lower forehead, or upper front part of the ears, and occurs later on the forearms, wrists, legs, ankles, and upper part of the chest, but avoids the palms and soles. The eruption is usually not symmetrical, and is accompanied by furfuraceous desquamation.

There are two stages, the first active in increase of pigment, the second characterized by disappearance of pigment or pseudo-vitiligo, of which the traces are said to be permanent. The early spots grow larger, and unite with later ones to form irregular patches, which in two or three years develop the characteristic colours. A patient may have an eruption of one or several colours. The nails are never affected, nor are the iris and choroid. The hair of the head and face in adults is not attacked, and protects the skin beneath, but if a man shaves, the skin may be attacked by the fungus, and the hair will then become white and will fall out. Moreover, when a boy's face is infected before puberty, he will remain more or less beardless all his life.

The mucous membrane of the mouth, tongue, prepuce, and vagina, in long-standing cases of the brown-violet variety may become coloured (Barbe).

In the second stage the pigment disappears always from the centre of the spot to the periphery, and the earliest sites to become leucodermic are the extensor surfaces over the bony prominences, which are rubbed—for instance, the right olecranon loses pigment earlier than the left if more exposed to friction. There does not seem to be any special odour peculiar to pinta, there are no constitutional symptoms, and there is no death-rate.

Duration.—The eruption may last twenty to forty years, and is considered incurable unless treated. Individual islets are easily curable, but this is not so when considerable tracts of skin are involved.

Pathology.—The fungus (trichophyton pictor, Blanchard) consists of roundish and oval spores from 8 to 12 μ in diameter, and tapering, branched mycelial threads to which the conidia are attached. It produces what may be called an aspergillosis of the skin.

For demonstration Montoya recommends that the scales be

soaked in ammonia for some minutes to remove fat, and that when the ammonia is poured off, there be added a saturated alcoholic solution of picric acid and 4 or 5 drops of acetic acid; after five minutes the scales should be washed in distilled water and then mounted dry. The picric acid hardens the mycelium and colours it yellow. The absence of spores in long-standing cases probably means that the parasite is dead.

Diagnosis.—Primary parasitic leukoderma caused by the white variety of fungus appears in large patches on the abdomen and extremities, and is not confined to the neighbourhood of joints, like the secondary leukoderma caused by disappearance of pigment in the second stage of the disease. This white variety is often confused with leukoderma (vitiligo) and some of the published illustrations of pinta would seem to be nothing but leukoderma. In the latter, which seems to be a trophoneurosis, not dependent on any fungus, the white patches are symmetrical, with convex borders, and are surrounded by increased pigmentation. Moreover, leukoderma is sometimes hereditary.

By the photographs of the two diseases which I now show, it can be seen that the white patches in pinta are much more speckled without convex borders, they are often not symmetrical, and not surrounded by increased pigment. The pinta patches are never anaesthetic, which is enough to distinguish them from the maculae of anaesthetic leprosy.

Pityriasis versicolor, which, on a coloured skin, looks silver gray, is usually absent from the face and limbs, and on scratching the patches with the nail much of the discoloration can be removed in scales or rolls, because it chiefly affects the superficial epidermic layers.

The coloured sketch now exhibited shows appearances on the face, something like lupus erythematosus, and also illustrates the difficulty of differentiating pinta from the scars of favus, with which it is often associated.

Treatment.—Tincture of iodine and Vleminckx's solution applied to early spots cause them to disappear, but both are useless in later cases, where chrysarobin ointment or nitrate of mercury ointment may be tried. The bedding and clothes of patients should be sterilized, and cleanliness is all essential. Mosquito punctures in an infected district should be carefully avoided.

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TROPICAL FORMS OF PITYRIASIS VERSICOLOR.

By Aldo Castellani, M.D.,

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Pityriasis versicolor is extremely frequent in the tropics. It is generally stated that the affected parts in coloured races appear of a yellowish tint, much lighter than the surrounding healthy skin. It is also stated that the abundant growth of the fungus conceals as a coat of yellow paint—to use the graphic description of Manson—the dark underlying natural pigment of the skin. This description applies perfectly to many cases, but, in my experience, not to all. In my opinion, several forms of the affection must be distinguished. In Ceylon, according to my observations, at least two principal types, each of which may show several varieties, can be found.

First Type: Pityriasis Nigra.

The affected parts are of a completely black, dull, lustreless colour, much darker than the surrounding healthy skin, which never is quite black in the natives of Ceylon. The patches are practically round, of various dimensions, and desquamating. When small they are apt to be slightly elevated. Little, if any, itching is present. This type, in my experience, never affects the face, though it may be found practically on any other part of the body. The neck is apparently the region most frequently affected. On the neck sometimes a very few small roundish patches may be observed, or in other cases the lesion may be diffuse to the whole of the anterior and lateral parts. The fungus found in this form of pityriasis is represented in Fig. 1. The mycelial threads are rather short, 18 to 20 μ, non-branching; they are about 2½ μ in breadth. Sometimes they may be irregular in outline, bent, banana-shaped, etc. The spores are globular and most of them very large, 5 to 7½ μ; the spores are frequently arranged in clusters. For this microsporon I propose the name "microsporon mansoni," in honour of Sir Patrick Manson.

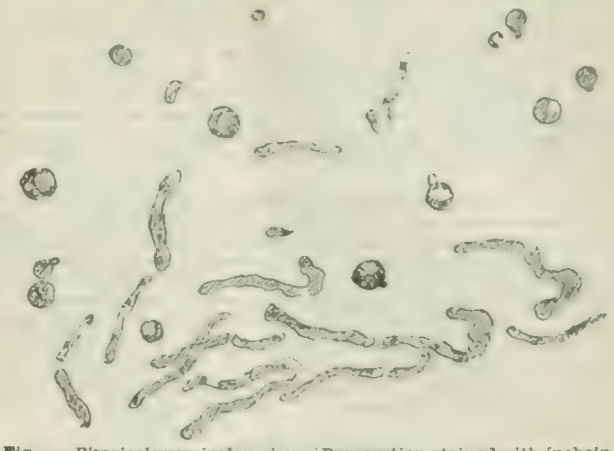


Fig. 1.—Pityriasis versicolor nigra. Preparation stained with fuchsin. The drawing does not show the many clusters of spores; this is best seen in fresh preparations.

Second Type: Pityriasis Versicolor Flava.

The affected parts are yellowish, of much lighter colour than the surrounding healthy skin. The patches are of various sizes, generally roundish, with sharply-defined but



Fig. 2.—Pityriasis versicolor flava of the first variety (face). From a preparation stained with fuchsin.

not elevated margin. Sometimes the patches are irregularly festooned, and may encircle areas of healthy skin. Occasionally the encircled healthy skin appears to be intersected by so many yellowish ribbon-like lines originating from the

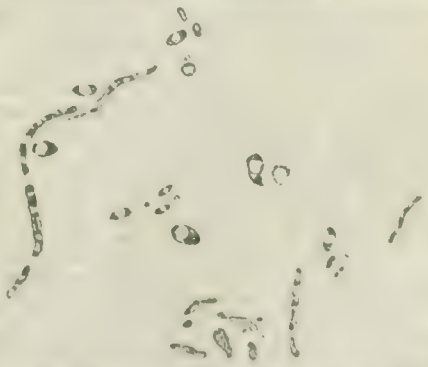


Fig. 3.—Pityriasis versicolor flava of the second variety (arms and legs). From a preparation stained with fuchsin.

surrounding yellow patch. There are, in my opinion, several varieties of what might be provisionally called pityriasis versicolor flava. Two of these varieties are very easily recognized.

First Variety.—The face, neck, and upper part of trunk are the regions generally affected: the patches are yellow, not elevated, and absolutely smooth. There is no desquamation

whatever; no itching. The patches are very difficult to cure. The fungus is scanty. The mycelial threads are generally short and thick, with numerous swellings, constrictions, and other irregularities in their shape. The mycelium contains sometimes specks of pigment. The spores are roundish or oval, rather small (3 μ to 4½ μ) in comparison to the mycelium, and apparently do not run together to form clusters. I propose for this microsporon the name of *M. tropicum*. In this form, in several cases, the fungus has apparently a deep, permanent disturbing action on the pigmentation processes of the skin, because even when the fungus has been destroyed the patches remain of the same colour—namely, yellow—for a long time.

Second Variety of Pityriasis Versicolor Flava.—This is generally seen on the arms and legs. The patches are of a very light yellowish colour, sometimes nearly white. The patches are slightly elevated—not quite smooth; a slight degree of very fine pityriac desquamation is present. The affection is easily cured with the ordinary antiparasitic substances. The fungus is very abundant; mycelium and spores are of small dimensions. The mycelial tubes are rather short and thin, regular in outline and often straight. The sporesare small, 3 to 3½ μ, oval in shape. Sometimes the spores form large clusters. I name this microsporon *M. macfadjeni* after Dr. Allan Macfadyen.

Mixed Infections.

It is not rare to find different varieties of pityriasis versicolor on the same individual. One of my patients, for instance, a Singhalese, had on the neck a few round patches of pityriasis versicolor nigra; on the face some smooth yellow roundish patches, and on the arms large irregular, very light yellow, slightly desquamating areas, different from those observed on the face. In another case both arms presented small roundish lustreless black areas alternating with areas of a very light yellowish colour and with areas of healthy skin. The various fungi were easily found.

Conclusions.

There are in Ceylon several forms of pityriasis versicolor. Two principal types may be distinguished: one black, pityriasis versicolor nigra: one yellow, pityriasis versicolor flava. As regards the microscopical appearances of the fungi, that of the pityriasis versicolor nigra is very abundant, has a mycelium of rather large size, and very large spores which run in clusters. In pityriasis versicolor flava of the first variety (face, etc.) the fungus is scanty, the mycelium being thick, irregular in shape, the spores few, not large, and not running into clusters. In pityriasis versicolor flava of the second variety the mycelium is thin and regular in outline, the spores very numerous, small, oval, and may be grouped in clusters. As regards the cultural characters of the various fungi found the investigation is not yet finished, and will form the subject of another communication. From the few experiments I have made, however, it would seem that the fungi are completely different also culturally.

REMARKS ON THE GEOGRAPHICAL DISTRIBUTION AND ETIOLOGY OF PELLAGRA.

By LOUIS W. SAMBON, M.D.Naples,
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HITHERTO pellagra has been known chiefly on account of its ravages in Spain and Italy, but the disease has a wide geographical reach, and I believe it is far more common in tropical and subtropical regions than we are aware of at present. When we speak of the geographical distribution of any disease we merely imply our limited knowledge of its distribution. This is especially the case with regard to pellagra. No doubt pellagra is still unrecognized in some of its endemic areas, its nervous symptoms, gastric derangements, and skin lesions being ascribed to other and separate diseases. There is no cause for surprise in this. A parallel and instructive example is that of kala-azar, a disease which was believed to be confined to the Assam valley until the discovery of its specific agent in 1903 showed that it had a very wide distribution not only in India, but throughout the tropical world. As regards pellagra, the recognition of the disease is not always an easy matter for those who are not familiar with its symptoms and course. Indeed, some authors have even affirmed that pellagra is altogether a factitious disease, a cumulation of three concomitant, but quite distinct, morbid entities.

Pellagra was first described by Gaspar Casal, in 1750, under the name of "mal de la rosa." In Spain and Italy the disease has been known for over a century and a half. In France it was first recognized in 1818, in Roumania in 1833, and in the island of Corfu in 1839. More recently other endemic centres have been discovered in Northern Portugal, in Austrian Tyrol, in Dalmatia, Croatia, Bosnia, Turkey, Greece, Bessarabia, Kherson, and Poland. In Africa pellagra was first recognized in 1847 by Pruner, who had studied the disease in Italy. Pruner's statements were discredited by Hirsch and others, but quite recently Sandwith has shown that pellagra is very prevalent in Lower Egypt, and is present also, although to a less extent, in Upper Egypt. Pellagra has been reported also from Algeria, Tunisia, and the coast of the Red Sea. It has been found amongst the Kaffirs and Zulus, and Sandwith saw two cases from South Africa, in 1900, among the coloured lunatics on Robben Island. From Asia we have very scanty information concerning pellagra. The disease has been reported from places in Asia Minor, and Ray stated, in 1902, that he had noticed several cases of pellagrous affections of the skin in one of the districts of North Behar in India. Sandwith had already pointed out that several medical officers to whom he had shown photographs of pellagra patients declared having seen similar skin lesions amongst their out-patients in India. In America pellagra has been recognized in Mexico, in Brazil, and in the Argentine Republic. Low, who had the opportunity of seeing cases of pellagra with me in Italy, informed me that he had encountered the disease in West Indian natives, and a further inquiry has convinced me that the disease is not uncommon in Barbados and other West Indian islands. Lastly, Neirte has reported it from New Caledonia.

In view of its gravity, I think it is urgent to draw the attention of Colonial medical officers to this disease. In Italy pellagra is considered one of the chief plagues of the country, and it is dreaded not so much on account of its deadliness, but because of the indescribable wretchedness and suffering to which it gives rise during its slow, cruel course of many years.

In 1881, in Italy, 104,067 persons were reported as suffering from pellagra. In 1903 it was calculated that there were about 60,000, but statistics on pellagra are very unreliable. The disease is not avowed because it is considered degrading, its notification is not compulsory, and its diagnosis is often difficult; besides, the local authorities have at times good reasons to make believe that it is decreasing in their respective districts. However, an examination of the mortality tables shows very clearly that pellagra is not decreasing, but increasing. It would be no exaggeration to place at about 100,000 the cases in which the disease is plainly manifest; of these 3,000 at least are in the lunatic asylums of the kingdom.

Pellagra has been ascribed to the most varied causes, such as insolation, poverty, insanitary dwellings, syphilis, irritant oils, bad water, alcohol, garlic, onions, maize. Della Bona, Sprengel, Heuster, Benvenisti, believed it to be a modified or degenerate form of leprosy. A great number of authors have considered it to be a true "sunstroke of the skin," and D'Oleggio, in 1784, proposed that the disease should be called "vernal insolation," because of the appearance of the erythema and other symptoms in the early spring (February, March, April). Mal del sole was an old popular name for the disease, and certainly the skin manifestations of pellagra are influenced by the action of the sun's rays. This was proved experimentally first by Gherardini, who varied the limits of the eruption by systematically displacing various parts of clothing, and later by Hameau, who obtained differently shaped patches of erythema by means of gloves fenestrated in various ways. However, the action of the sun is limited to a few weeks in the spring season, and only to certain parts of the body. Neusser pointed out that the erythema affects only the hands and feet of gipsy children in Roumania, although they go about perfectly naked. The appearance of the characteristic erythema in spring, and on the parts of the body most exposed to the sun, will probably prove to be one of those interesting correlations for the dissemination of infection of which we have so many examples in the diseases of animals and plants. For instance, the correlation between the night swarming of the larvae of filaria bancrofti in the peripheral circulation and the nocturnal habits of its liberating agent the mosquito. In any case, insolation is not the prima causa of pellagra. I will not discuss the futility of the arguments brought forward by those who ascribe the disease to such general and vague causes as bad water,

insanitary dwellings, and poverty. Neither will I take up your time to prove that syphilis, alcohol, irritant oils, onions, and garlic are not the causal agents of pellagra; but the maize theory needs a most searching scrutiny because it is the theory now almost unanimously accepted.

Lussana, Frua, and others endeavoured to prove that maize caused pellagra owing to deficiency in nutritive principles. This theory is now quite untenable. It has been proved that maize stands in a high position as regards alimentary value. Besides, insufficient nourishment may bring about inanition and marasmus, but will never cause the well-marked morbid state which is distinctive of pellagra. Whole populations who live solely on rice or potatoes remain quite free from pellagra, although these articles of food are far behind maize in nutritive value.

Some writers surmised that maize, like darnel *(Lolium temulentum)*, contained normally some specific toxic substance which gave rise to pellagra, and, of course, they were obliged to add that a special susceptibility was necessary to favour the toxic effects of sound maize. This theory has no foundation whatever, and I may add that the seeds of darnel grass are not poisonous in themselves, but owe their acrid and narcotic properties to an associated symbiotic fungus.

Neusser believes that there is nothing directly harmful in maize when ingested, but that poisons may arise from it within the intestines. He makes of pellagra a peculiar form of autointoxication. A similar theory is held by De Giaxa (1903), who ascribes pellagra to a poison elaborated by the common bacillus coli from sound maize ingested by the host. He declares to have produced the anatomical lesions of pellagra in dogs by feeding them on porridge made with sound maize, and also to have obtained the same symptoms and lesions in animals inoculated with a toxin produced *in vitro* by the colon bacillus cultured on maize media.

The majority of writers have ascribed the disease not to normal maize, but to damaged maize, some believing the symptoms to be due to certain toxic substances developed in the course of the decomposition of the grain under the influence of vegetable organisms, others attributing them to the organisms themselves. Consequently, the various fungi and bacteria found on maize have all been incriminated in turn as the causative agents of pellagra.

In 1845 Ballardini ascribed pellagra to sporisorium maydis, a mould which he had found in the greenish stain *(verderame)* so irequently seen in the germ-groove of maize grains. He made several experiments with this fungus, and produced gastritis and diarrhoea in man, loss of feathers and general wasting in fowls. Lombroso pointed out that sporisorium maydis could not be the cause of pellagra because of its extreme rarity. He believed, however, that Ballardini had confounded the sporisorium with penicillium glaucum, which is very common on musty maize. Monti and Tirelli suggested that Ballardini's organism was probably an incomplete stage of mucor racemosus. But whatever Ballardini saw under the microscope is of little importance, because his experiments, like those of Elia, Michelacci, and others, who confirmed his researches, were not carried out with a carefully-isolated organism, but simply with damaged grain containing all kinds of organisms. The Istituto Lombardo appointed a Special Commission to test Ballardini's discovery, and the verdict of the Commissioners was unfavourable chiefly on the ground that the verderame was very often found on maize in many other regions, such as Southern Italy and Sardinia, which were quite free from pellagra. However, Ballardini's theory was adopted in Italy, and also in France, especially by Roussell and Costallat. In 1860, Pari incriminated the maize smut (ustilago maydis) as the cause of pellagra. He pointed out that the dark olive-green spores of this fungus are invariably found in the dust of the wretched hovels of the peasants, who store their maize in the rooms in which they sleep and feed. Generali, at Pari's instigation, fed two horses on fodder mixed with the maize smut, and after seven months one of the animals presented a skin eruption on the parts of the body most exposed to the sun. Professor Imhof made some experiments on himself, and proved that the maize smut is harmless to man.

In 1871, Lombroso claimed that pellagra is not an infection, but an intoxication. He explained that certain toxic substances are developed in the parenchyma of the decomposing corn through the activity of saprophytic organisms, and that these poisons cause the disease. His experiments proved that the common saprophytes of maize are harmless in themselves. Working in conjunction with Dupré, Brugnatelli, and Erba, he obtained from fermenting maize a watery extract, an alcoholic extract, and a red oil by means of which he declared pellagra symptoms could be induced in man and animals. His theory is that there are two different poisons, and that their combined action gives rise to the complex symptoms of pellagra in the same way as sphacelinic acid and cornutin are believed to give rise to ergotism. The two toxins are (*a*) a narcotic substance resembling conium contained in the watery extract, and (*b*) an alkaloid resembling strychnine which is contained in the alcoholic extract and also in the oil, to which he gave the name of "pellagrozein." In fowls inoculated with these toxins, Lombroso observed diarrhoea, loss of feathers, and death; in rats, wasting, choreiform movements, contractures, and death; in men, vomiting, diarrhoea, desquamation of the epidermis, giddiness, dilatation of the pupil, and malnutrition.

Against Lombroso's experiments, it has been pointed out that the acute symptoms he obtained by means of toxic substances extracted from fermenting maize are in no way comparable to those of pellagra, and that identical results follow the administration or inoculation of analogous products extracted from wheat and other harmless foods when subjected to decomposition.

Very different substances have been extracted from damaged maize by various investigators. Hansemann found a narcotic tetanic poison which he called "maizina." Selmi demonstrated the presence of ammoniacal acrolein. In 1876 Pellogio extracted from diseased maize a bitter substance which produced paralytic symptoms. In 1881 Monselice analysed various specimens of damaged maize collected in pellagra districts, but was unable to find any alkaloid. He pertinently remarked that artificially fermented maize and ordinary damaged maize are two very different things.

In 1881 Majocchi found in both normal and diseased maize a very motile micro-organism which he named bacterium maydis. He claimed this organism to be the causative agent of pellagra, because he had found it in the blood, the brain, liver, heart, kidneys, lungs, intestinal mucosa, and erythematous skin of pellagra patients. Cuboni likewise attributed pellagra to a specific bacillus (bacterium maydis?) which he found in damaged maize and in the stools of pellagra patients.

Paltauf, who made a study of pellagra in 1880, on behalf of the Austrian Government, examined fifteen patients, but found Cuboni's bacterium in the stools of one only. However, he found it to be a very common saprophyte of damaged maize, and, together with Heider, proved that the maize toxins were partly due to the metabolism of this organism. At the same time he proved that bacterium maydis is no other than the well-known potato bacillus (bacillus solanacearum) and that its toxic products do not produce effects similar to those of pellagra.

In 1890 Monti and Tirelli studied the flora of Indian corn and found that the most frequently occurring organisms are: Penicillium glaucum, rhyzopus nigricans, mucor racemosus, and aspergillus, a yeast similar to that of beer, several bacteria amongst which bacillus solanacearum, and a bacillus similar to bacillus subtilis.

In 1894 Pelizzi and Tirelli made experiments on dogs and rabbits, administering per os, or injecting subcutaneously or endovenously, the toxic substances obtained from cultures of the bacteria of maize. They observed spastic paresis of the posterior limbs and other symptoms which they considered characteristic of pellagra.

In 1896 Carrarioli claimed to have found a bacillus in the blood, saliva, and stools of pellagra patients. He stated that he had inoculated the toxic products of this parasite subcutaneously into various animals, and that he had invariably obtained symptoms similar to those of pellagra. He therefore named the parasite bacillus pellagrae.

In 1900 Serena remarked that the toxic substances which give rise to pellagra are the product of schizomycetes and not hyphomycetes, because the latter invariably disappear in putrid infusions of maize.

Gosio, having observed that the commonest saprophyte of maize is penicillium glaucum, prepared pure cultures of this fungus and extracted a substance belonging to the aromatic series.

Ferrati made some experiments with the tincture of penicillium-damaged maize and found that it was exceedingly toxic to rats; the animals died in a few hours.

Di Pietro noticed that only a certain variety of penicillium glaucum has toxic properties. The poisonous substance is not present in cultures before the third day; it is a glucoside, and is found in the spores only. It has nothing to do with the culture media. Experiments on guinea-pigs, dogs, cats, and rabbits, with fluorescences from pure cultures, produced symptoms very different to those obtained by Lombroso in his experiments, but Di Pietro considered them characteristic of pellagra. Di Pietro also tested the toxic properties of penicillium glaucum on himself, and suffered from pyrosis, vomiting, giddiness, weakness in the legs, slight tremor of the arms, frequent micturition. Finally, having obtained a small quantity of serum from a pellagra patient recently cured, he made an experiment to ascertain whether it had any antitoxic power over the poison of penicillium glaucum. A guinea-pig, previously inoculated with the serum, presented no symptoms of poisoning when inoculated with the spores of penicillium, whilst a control did.

In 1902, Ceni stated pellagra to be a true aspergillosis due to two different species of aspergillus—A. fumigatus and A. flavescens. He declared that the seasons in which pellagra symptoms appear in man correspond to "the cycle of annual biological evolution" of the two hyphomycetes. Moreover, he stated that he had been able to isolate almost constantly and usually in pure culture the two aspergilli from the lung, pleura, pericardium, and meninges of cadavers of pellagra patients. He explained that the spores of the fungus pass through the intestinal wall and thus reach the internal organs.

In a later work, Ceni, together with Besta, and apparently forgetting his previous theory, ascribed pellagra to special toxic substances elaborated by aspergillus fumigatus and A. flavescens.

More recently Ceni and Besta describe two varieties of penicillium glaucum as the true causative agents of pellagra. The toxic properties of one variety are excitative and therefore cause the acute forms of the disease, those of the other variety are depressing and consequently give rise to the chronic forms.

Lastly, in 1904, Fossati declared having reproduced pellagra by feeding or inoculating guinea-pigs with maize damaged either by aspergillus fumigatus or penicillium glaucum.

Forasmuch as numerous authors have incriminated certain hyphomycetes as the causative agents of pellagra it is necessary

to review all the information we have concerning the pathogenic rôle of these fungi and more especially of those belonging to the genera aspergillus and penicillium. We know that a number of fungi attack the skin and the mucous membranes exposed to the air, causing as a rule very slight lesions. Some, however, under special circumstances, may reach the internal organs and even cause a general infection which may bring about the death of the host. But of all the diseases of man known to be caused by fungi, such as thrush, ringworm, pinta, tokelau, mycetoma, actinomycosis, not one in any way resembles pellagra.

Several investigators have incriminated the aspergilli and have positively declared to have reproduced pellagra experimentally by the intravenous injections of these hyphomycetes and their spores. But these statements are not consistent with those of the far more numerous scientists who have produced experimental aspergillosis independently of any preconceived idea. The first were Grohe and Block. These were followed by Grawitz, Koch and Gaffky, Baumgarten and Müller, Kauffmann and others, who obtained very different results. Lichtheim pointed out that the differences were due to the fact that all species of aspergillus are not pathogenic, and that his predecessors either did not use pure cultures or did not determine their species correctly. Some species (A. glaucus, A. niger, A. repens) are harmless; others (A. fumigatus, A. flavescens, A. subfuscus, A. nidulans, A. malignus) are very noxious. The virulence of the pathogenic forms is due to the fact that they are able to vegetate at a high temperature: 37° to 38° C., whilst the harmless species are unable to thrive at a temperature above 20° to 25° C.

Aspergillosis is very frequent amongst birds, and affects chiefly their respiratory organs. In mammals it also affects the lungs and bronchial tubes, but it may attack the spleen, the kidneys, and the muscular tissue. The histological character of the lesions are the same both in birds and mammals—a number of minute tubercle-like nodules or granulations formed by tufts of mycelia surrounded by epithelioid cells, some giant cells and leucocytes. In experimental aspergillosis we get the very same lesions, only their distribution varies with the method of infection. The infection due to aspergilli differs from that due to bacteria, in the fact that its intensity is exactly proportionate to the quantity of spores injected. These germinate but can never reproduce by fructification, and therefore can neither give rise to a secondary generalization nor to the transmission of the infection. Aspergillus can attain fructification only on the exterior surfaces or in cavities communicating directly with the exterior.

The aspergilli incriminated as causing pellagra are aspergillus fumigatus and A. flavescens. A. fumigatus is not found solely on maize, but is very widely distributed. It is found on the grains of millet, vetch, barley, wheat, rye, on oats, on hay, on straw, on dead leaves, on grapes, in the soil, in the atmosphere. As a pathogenic agent, it is found in the respiratory organs of birds. It has been found also in the horse. In man, it has been found in local affections of the skin, conjunctiva, ear, kidneys, intestines, and lungs. Very interesting investigations on this fungus have been reported by Dieulafoy, Chantemesse, and Widal, Potain, Gaucher, Sergent, and Rénon. These authors described a pneumonomycosis aspergillinia in men whose work compels them to handle grain or flour contaminated with the spores of aspergillus fumigatus. The disease begins either by bronchitis and an asthma-like dyspnœa which grows worse at night, or as ordinary tuberculosis, by cough, haemoptysis, and a greenish expectoration. The patient loses flesh and presents some fever towards evening. Auscultation reveals bronchitic râles and blowing respiration. The disease may last from three to eight years, and seldom terminates fatally unless complicated by tuberculosis.

Aspergillus flavescens has been observed in the ear of man. Tiraboschi, who has quite recently (1905) made a very careful study of the hyphomycetes found on maize grains in pellagra districts, states that he never found aspergillus flavescens, and believes that Ceni and Besta must have confounded it with aspergillus varians, which is very common. He also states that aspergillus fumigatus is rare, while Ceni and Besta stated that both A. flavescens and A. fumigatus were very common, and in some seasons even more common than penicillium glaucum.

The fungus incriminated by the majority of authors as the causative agent of pellagra is, strange to say, the common blue mould, penicillium crustaceum (= P. glaucum) which is found everywhere on the most heterogeneous media, such as jam, fruit, bread, cloth, cheese, all kinds of cereals, vegetable débris, and old boots. Maggiore and Gradenigo found it within the Eustachian tube in two cases of otitis.

In perusing these numerous observations, there is one fact which strikes one very forcibly, and that is that each investigator has claimed to have reproduced true pellagra either in animals or man, sometimes on himself, by inoculating beneath the skin, injecting into the veins, or administering by way of the mouth the special organism or toxic product which he happens to have isolated. But the peculiar symptoms and anatomical lesions of pellagra, together with its epidemiology and geographical distribution, show very clearly that the disease must have one specific cause, and that it cannot be brought about indifferently by any of the numerous fungi, bacteria, and chemical products to which it has been ascribed. It would be unwise, therefore, to place much reliance on any of these experiments. The fact is that we may err just as much in the appreciation of the results of experimentation as in the interpretation of natural facts. Similar mistakes have been made again and again in the investigation of almost every disease. Richardson claimed to have produced rheumatism by injecting lactic acid and by its internal administration. Klebs and Tommasi Crudeli stated that they had reproduced malaria in animals by inoculating a bacillus found in the soil of malarious localities.

The current maize theory of pellagra has no better foundation than that of the current rice theory of beri-beri. It is quite possible, however, that maize and rice, like the swamp in malaria, may represent necessary etiological factors in the natural history of the diseases with which they have been so long associated in popular belief. But, so far, no conclusive evidence has been adduced in support of the maize theory of pellagra. The maize theory of pellagra is chiefly an Italian theory. It has never found much favour in Spain, which is one of the principal seats of pellagra endemicity. In Spain the disease has been ascribed to wretched living, and even now it is looked upon by some physicians as a true *morbus miseriae*.

The general opinion is that pellagra appeared soon after the introduction of maize into Europe, and that it advanced *pari passu* with the extension of maize cultivation, and with the more general adoption of the new cereal as an article of food. This opinion has been repeated by almost every writer on pellagra, but it is by no means indisputable. In the first place, we know nothing positive about the introduction of maize into Europe. The general belief is that it was brought over by the Spaniards from South America, and Humboldt does not hesitate to say that it is indigenous to America only. But Bock (1532) Ruel, and Fuchs state that it came from Asia, and Santa Rosa de Viterbo says that it was introduced by the Arabs into Spain in the thirteenth century.

In the herbals of the sixteenth century it is called Frumentum turcicum, Frumentum asiaticum, and Frumentum or Milium indicum. Dodoens in his *Niewe Herball*, a translation of which was published in London in 1578, says: "They do nowe call this grayne Frumentum "turcicum, and Frumentum asiaticum: In French Blé de Turquie, or "Blé Sarragin: in high Douche Turkie Korn: in base Almigne "Torckschoren: in English Turkish Corne, or Indian wheate. This "grayne groweth in Turkie, wheras it is used in the time of dearth." Parkinson, in his *Theatrum Botanicum* (London, 1640) says: "The "usual Indian or Turkie wheate, groweth in the East and West Indies, "and from both places have been brought unto us, and have growne "with us, and sometimes borne ripe eares, but not always," and he adds: "It is very probable that this grain is that which Theophrastus "maketh mention of to grow in Bactria, which he saith was reported to "be as bigge as olive stones."

Although we have no positive information as to the date of the introduction of maize into Italy, it is certain that the cereal was used as an article of food about the middle of the sixteenth century, that is to say, about 200 years before the date assigned to the appearance of pellagra. We are thus confronted by a very serious dilemma. If we allow that pellagra existed and was known by other names previous to its recognition by Frapolli in 1771, then we can no longer assign a date for its introduction into Italy, and the most potent argument in favour of its association with maize is lost. If, on the other hand, we maintain that it did not exist before that date, then it is difficult to explain why it did not manifest itself sooner after the introduction of the dangerous cereal.

I think there can be no doubt as to the antiquity of pellagra. In fact, the majority of authors already concede that the "Alpine scurvy" described by Odoardi in 1770, and mentioned by Pujati in 1740, was nothing more nor less than pellagra. Then again the mal del padrone, very briefly sketched by Ramazzini in his famous work on the diseases of occupations in 1700, could hardly be referred to anything else. Frapolli

himself believed in the great antiquity of pellagra, and considered it to be the same as pellarella, a disease mentioned as early as 1578 in the regulations for admission to the Hospital-Major of Milan. Indeed, he affirmed that "pellagra is "as old as the sun."

Amongst the reasons given by a recent author against the antiquity of pellagra is the fact that "it would be very diffi- "cult to find the term pellagra before the end of the eighteenth "century." With this I heartily agree, because the term pellagra was first used by Frapolli in 1771, but the absence of the term pellagra does not necessarily mean the absence of the disease pellagra. Indeed, pellagra has a nomenclature list too long to be mentioned.

It has been pointed out again and again by numerous observers that the areas of pellagra endemicity and those of maize culture by no means overlap, and, indeed, there are vast regions in which maize is extensively cultivated and much eaten, but in which pellagra is absolutely unknown. A most convincing example is that of the United States of America. On the other hand, pellagra has been observed very frequently in places in which maize is not cultivated and in people who have never used maize as an article of food. To overcome these embarrassing obstacles to the maize theory the ingenious term "pseudo-pellagra" was invented. Now, therefore, the disease is pellagra only when it can be in any way connected with a maize diet; in every other case it is nothing more or less than "pseudo-pellagra." In 1903 Garbini described several cases which he had the opportunity of observing in the lunatic asylum of Messina, and stated that physicians from the north of Italy would have had no hesitation in diagnosing pellagra, but this could not be allowed because these patients were natives of Sicily, where maize is not cultivated, and, at any rate, having been long secluded, they had certainly not eaten maize for several years prior to the appearance of their erythema. The case of pellagra is, therefore, similar to that of enteric fever in India some years ago, when it was almost an offence to call it by its own name, because the medical officers highest in military rank had made up their minds that it was not to be found in India. The topographical distribution of pellagra within its endemic areas is very unequal. The differences are often very marked between contiguous districts, although there may be no difference whatever in the alimentation of the respective populations. Unfortunately, we have no precise data as to the conditions which determine the endemic areas of pellagra. It is always difficult to locate the actual infection foci of chronic diseases with long periods of incubation or latency. However, all the information we have tends, I think, to prove that the stations of pellagra are limited to low lying districts or to other localities with a high water-table.

A comparative study of the distribution and prevalence of pellagra at different periods is decidedly unfavourable to the maize-theory. In the days of Casal, the Province of Oviedo in Spain was one of the chief centres of pellagra. In 1900, it was the Province which suffered least from this cause, whilst the highest incidence of the disease occurred in the Province of Madrid. Now, no change whatsoever has taken place in the maize cultivation of the Province of Oviedo, the people there eat maize just as much as before, and no improvement has ever been adopted in the storage or preparation of maize. On the other hand, maize is hardly ever used as an article of food in the Province of Madrid. No less striking are the facts afforded by the epidemiology of the disease in Italy. Pellagra is still very prevalent in the North of Italy where maize forms the staple food of the peasants, but in recent years the disease has become far more prevalent in Umbria and in the Marche, and it has invaded the provinces of Siena and Grosseto in Tuscany, those of Campobasso, Teramo and Aquila in the Abruzzi and Molise where maize does not represent a principal article of food. It has also invaded the Province of Rome, the Campagna, the Puglie, Sicily, and Sardinia, thus proving that it has a tendency to spread slowly, but widely and independently of maize cultivation, and maize theories.

When once established in a region, pellagra is very permanent, but its prevalence varies considerably from year to year, not always in direct ratio to the amount of rainfall or the hygrometric state of the air, as has been erroneously asserted, but in connexion with other oecological conditions as yet undetermined.

A very important fact is that pellagra does not attack indiscriminately all those who live chiefly on maize, but only the field labourer. The inhabitants of towns, however poor, and although fed exactly in the same way as the field labourer, are not attacked. Towns in the very heart of intensely pellagrous areas show that same remarkable immunity towards pellagra that is witnessed in the towns of malarious regions towards malaria. Probably, therefore, it is in the maize field that the peasant comes in touch with the specific agent of pellagra, and possibly through the agency of some biting fly.

Another important fact is the age-incidency of the disease. Pellagra is chiefly a disease of middle age. The majority of cases occur between 20 and 50 years of age. If maize, or bad maize, were the cause of the disease, children would undoubtedly be the principal sufferers, as is the case in ergotism.

With regard to sex, in some countries the disease is more prevalent amongst men, in others it is more prevalent amongst women. This depends entirely on the share the women take in field work.

Pellagra exhibits a marked seasonal incidence; it makes its first appearance almost invariably in the early spring, and its successive relapses or recrudescences also occur in spring. The characteristic erythema reappears constantly every year in pellagrous lunatics, no matter how long they have been secluded in asylums in which maize is not an article of diet. This seasonal recurrence of the erythema and other symptoms of pellagra point strongly in favour of a living organism, and decidedly against a toxic substance as the cause of the disease. Pellagra does not attack all the members of a family at approximately the same time, as would be the case if the disease were due to some toxic food partaken of equally by all. Then, again, pellagra is not transmitted by means of lactation.

Until quite recently the majority of physicians believed in the hereditary transmission of pellagra, although it is difficult to understand how a poison could be transmitted by heredity. Contagion was not admitted, but cases of conjugal pellagra have been reported.

All these facts seem incompatible with the maize theory. I consider, therefore, that the general unquestioning acceptancy of this theory is to be regretted, notwithstanding that it is supported by the authority of great names.

The Italian Government is spending considerable sums of money for the very praiseworthy object of elucidating and eradicating pellagra. But so unanimous is the belief that the disease is caused by damaged maize that the researches are limited to a study of the fauna and flora of stored maize. The Prefects of the various provinces attacked by the disease are directed to collect specimens of diseased maize, and forward them to the laboratories of the Government Board of Health in Rome, where they await official examination.

I regret that the disease is not more fully investigated in the field by competent men, and independently of any theory.

If I were asked to suggest a new theory of pellagra, merely as a working hypothesis, I should feel inclined to draw attention to the many analogies between pellagra and some of the protozoal diseases which have been recently worked out. But my reason for bringing the subject of pellagra before this meeting is not to propound a new theory, but to urge the necessity of a more thorough investigation of this grave and widespread disease.

NOTES ON FRAMBOESIA TROPICA (YAWS).

By J. Campbell Graham, M.D.,
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The occurrence of this unpleasant affection among Europeans is so rare that this must be my excuse for bringing before your notice two cases, a little Dutch girl of 4 and a little German girl of 6 years of age. In the first case the diagnosis was not so easy, as there was never anything more than the initial papule on the thumb of the left hand to go by. This I at first took to be merely a small wart irritated by some cause or other, the more so as a brachial gland threatened suppuration. This it did not do, and looked so like a similar case where there was a distinct history of specific infection from a wound on the finger that I was still in doubt as to its true nature. However, the little papule took on a distinctly framboesian character, and thus cleared up the diagnosis; this was strengthened by the discovery of an exuberant yaw on the left breast of the child's Javanese nurse. This is the only case of glandular inflammation I have observed in framboesia tropica. There was no rise of temperature, but the child became cachectic and irritable. In spite of tonics—quinine, iron, cod-liver oil, haematogen—careful diet, and later attempts with potassium iodide and minute doses of

hydr. c. creta, there was no improvement. So after six weeks I sent her across to Penang, and asked Dr. W. C. Brown to see her. He concurred in the diagnosis, and sent her up Penang Hill. Here she rapidly improved, and returned to Deli three weeks later. The papule was still there and the gland still enlarged, but much less inflamed and reduced in size. The child's general health had been so far improved, however, that it was thought that these symptoms would gradually disappear. In spite of the greatest care, however, and the most generous diet, tonics, etc., there was not much improvement until, a year and a half later, the child went to Europe. There all symptoms disappeared within a month.

The second case was obviously yaws from the beginning, though unaccompanied by any prodromal symptoms; there was no rise of temperature, nor were there any rheumatic pains; the general health remained good throughout, although locomotion was greatly impeded by a large yaw at the root of the big toe of her right foot. The chief seat of the eruption was the left elbow and shoulder, the right lumbar region and the sole of the right foot. Here, also, tonics, internal and local treatment, were only palliative; fresh crops appeared from time to time, apparently yielding to one drug or another, but the disease was never completely eradicated. A complete cure was only established on her return to Europe about a year later. In this case also a Javanese nurse carried the contagion.

My experience with Javanese, among whom this affection is as common as their daily rice, is that only in an exceptionally small number of cases is there any fever or constitutional disturbance. If treated by pot. iod. and mercury, together with the local application of sulphate of copper, it runs a course of about four weeks to three months, including several consecutive eruptions, and then disappears for a year or more, to return and run a similar course, or may never return; but it is impossible to say in any given case that there will not be a recrudescence.

I cannot find any reference to the "time limit" which is considered sufficient after the disappearance of all symptoms when a framboesia patient is considered cured, and therefore protected from reinfection, and I am thus often in doubt if a case is a mere recrudescence or a reinfection. The man whose photograph I show, a Javanese, acts as private postman on one of the tobacco estates in Deli. He was not in any way affected by the exuberant crop of yaws which covered the greater part of his head and neck, and continued his usual occupation until I stopped him and sent him to hospital. There he made a good recovery and left, after four weeks, with only one or two small patches of desiccating yaws. In other cases the classic symptoms of fever, etc., are seen, but in most of my cases they were slight.

Europeans, it would seem, so far as the two cases may be taken as examples, do not recover as rapidly as natives, although the severity of the attack and the constitutional disturbances are not much greater. Race must have something to do with it; for the Javanese on the tobacco estates have practically all had it, either as infants or adults. Tamils rarely take it, the hill tribes (the Battaks) often. Chinese so rarely that I cannot recall an instance, although they form by far the greatest part of the population of Deli, and although they intermix very freely with the Javanese. Among Europeans I have only met with the above 2 cases in twenty-three years.

I have lately had some encouraging results with bicarbonate of soda internally in 4 gram. doses three times daily. The improvement was marked in a few days, and continued for a fortnight, but I admit that I then hurried on the convalescence by the local application of sulphate of copper in solution.

NOTES ON PIAN (YAWS) IN FRENCH INDO-CHINA.

By M. E. JEANSELME, M.D.,
Professeur agrégé à la Faculté de Médecine de Paris.

[Translated and abridged by F. M. SANDWITH, M.D., F.R.C.P.]

I first met or saw the first cases of this disease in 1899 in Cambodia, where it is very widespread. Of all diseases [illegible] that could be confounded with it, [illegible] be accepted, namely, [illegible] and running [illegible] simultaneously, each keeping its distinct characteristics, and partly because Charlouis has furnished us with the undeniable proof of the duality of the two diseases by inoculating with syphilis an individual who was already suffering from yaws. However, it is quite true that the differential diagnosis is sometimes impossible.

Among the signs which are common to both diseases are the pains in the bones and joints, which become worse at night, the tendency of the eruption to take a circular form, the preference for the neighbourhood of the orifices of the body, and the curative power of iodide of potassium and mercury.

The chief differences of the two diseases are shown in the following table:

Syphilis.	*Yaws.*
Pandemic, and acquired by heredity and by contagion.	Tropical, and acquired only by contagion.
Begins by a primary pathognomonic lesion at the point of inoculation.	The initial lesion is not constant, and is not different to later appearances.
The immunity conferred by syphilis is almost certain.	Reinfection of yaws is possible.
Auto-inoculation is impossible.	Auto-inoculation is possible during a long and unknown space of time.
A hard chancre and other syphilitic signs can be found on an individual who has suffered from yaws.	A syphilitic person can become affected with yaws.
A great variety of eruptions.	There is only one eruption, the papilloma.
The eruption, especially the tertiary form, damages the skin and leaves indelible scars after cure.	The eruption leaves no scar behind it, unless it has been unduly irritated.
The three definite stages, with primary, secondary, and tertiary symptoms.	All the appearances of yaws are identical, whatever their date.
The mucous membranes are involved.	The mucous membranes escape.
The internal organs are affected.	No affection in the internal organs.
There is no itching.	There is much itching.
Hair falls out in the secondary stage.	Hair never falls out.

With regard to the curability of the two diseases by the same drugs, it must be remembered that actinomycosis, which of course has nothing to do with syphilis, is also cured by iodide of potassium.

The author then gives notes of some cases in which an eruption exists with changes in the bones and joints, while reminding us that in countries infested by yaws syphilis is also met with. Unless some rare complications are present, yaws generally end favourably, though the prognosis is far from being always mild.

The prognosis is unfavourable in cases of chronic ulceration, of progressive serpiginous invasion of healthy skin, and where the tissues are undermined as far as the ligaments, and even the bones. These phagedenic ulcers leave horrible scars, like those of scrofula, or of deep burns.

No disease is more contagious than yaws. When a child in a hut has been attacked, all the other inhabitants contract the disease if, up to that time, they have been free from it. The apparently great preference of the illness for the young is due to the fact that many adults have become immune by a previous attack. Children are, of course, more exposed to contagion than adults. In Cambodia and Laos it is quite common to see an infant being suckled by a woman whose breasts are covered with yaws, and when the child is to be weaned the mother puts into its mouth pellets of rice which she has previously masticated. Up to the age of 5 or 6 the children of both sexes are naked, and their skin is covered with scratches, and the ravages of mosquitos and scabies; is it not possible that insects are the carriers of the disease? In certain countries the parents anticipate the inevitable attack of yaws by encouraging inoculation in every possible way.

Among adults the disease is propagated by the chopsticks which are used instead of forks, the waterpipe which is handed from mouth to mouth, and the sleeping mats which are common to all.

The author has often seen cases of yaws transmitted from an infant to the breast of the mother. Europeans are rarely attacked, because they keep their bodies cleaner. The disease is not hereditary.

After a short histological description of the papules, Dr. Jeanselme tells us that the natives of Cambodia, Laos, and Siam avoid all drugs during the first three months of the disease. The patient is then subjected to fumigations of

mercury, while wrapped in a mosquito net; now and then he washes out his mouth with water or tea, which does not prevent his getting stomatitis and loose teeth. This treatment is remarkably successful for a time, though relapses usually occur.

Iodide of potassium in antisyphilitic doses has a good effect on yaws in two or three months.

OBSERVATIONS ON "DHOBIE ITCH" AND OTHER TROPICAL TRICHOPHYTIC DISEASES.

By ALDO CASTELLANI, M.D.,
Colombo, Ceylon.§

THE classical investigation of Sabouraud has clearly proved the plurality of species of ringworm fungi affecting man. Sabouraud has come to the conclusion that each species has a particular sphere of influence, and that the results arrived at in the investigation of a fungus can only be considered as applying to the particular country in which the investigation has been carried out. In view of these facts it may be desirable to publish some observations I have had the opportunity to make in Ceylon, especially as according to an old tradition ringworm was introduced to England from India and Ceylon.

Technique.—In my investigations I have used the technique ordinarily employed for such researches: Microscopical examination of scales and hair in liquor potassae; preparations stained with various methods, the best of which is certainly Morris's method modified by Walker; of cultures the medium most frequently employed being Sabouraud's maltose agar.

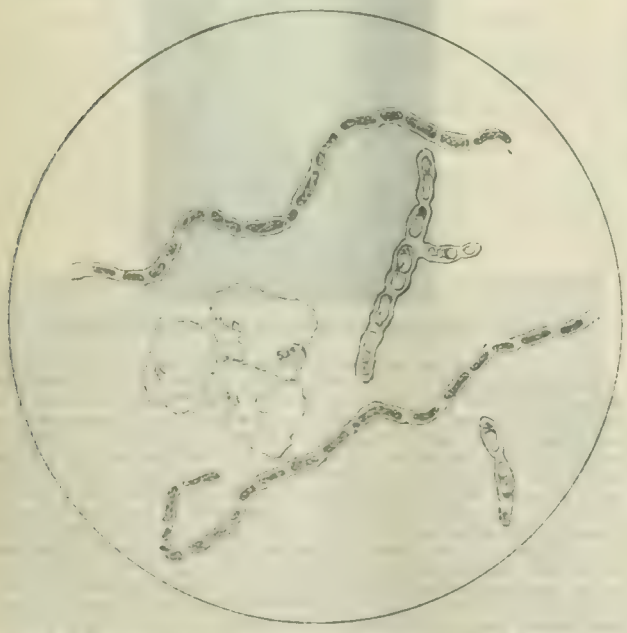


Fig. 1.—Dhobie itch. Scraping stained with fuchsin.

Dhobie Itch.—As is well known, this term is used very loosely in the tropics by the lay public to denote practically any pruriginous skin affection. The term, however, is especially used to denote a form of severe pruriginous intertrigo, which may affect the inner surface of the thighs, the axillae, and in stout women the regions under the breasts. It is in this stricter meaning that I use the word in the following cases, which I have chosen as the most typical among the good number I have seen:

CASE I.—European. Has been in Ceylon twelve months. A few weeks ago he noticed some roundish elevated red spots on the inner part of the thighs, associated with almost unbearable pruritus. When I saw him the skin of the inner surface of both thighs presented very large festooned patches with an elevated abrupt margin, which showed many reddish papules. The central portions of the patches were fawn-coloured and slightly scaly. The itching was very marked.

Microscopical Examination.—Scrapings were taken and examined in liquor potassae. A very few mycelial tubes and spores were found. The segments of the mycelium were almost completely straight and had a double contour. The mycelium showed some branching. The spores were oval or roundish and not of very large dimensions. Several maltose agars were inoculated. Greyish colonies, slightly crateriform in shape, were obtained. The fungus grew very slowly.

CASE II.—European. Has been in Ceylon two years. The inner surface of each thigh presented a very large festooned patch with an elevated red margin. On the scrotum smaller roundish patches are present. On the skin of the penis from the base to the prepuce was seen a papular eruption arranged in circles, and also in two or three long parallel lines; the eruption was very abundant and itchy. On the skin of the lower part of the abdomen and the external side of the thighs several very large rings with a thin slightly red elevated margin composed of very small papules were observed. The skin inside the rings was apparently normal. The eruption on the penis and abdomen disappeared quickly, practically without any treatment, the patient using simply washing with carbolic soap, the parasiticidal power of which is slight. The large pruriginous patches on the inner surface of the thighs and scrotum were most obstinate. After having tried all possible remedies for three months, a cure was ultimately obtained when I applied pure oil of turpentine, followed by a boracic ointment, to allay the pain produced by the turpentine. From the patches found on the scrotum and inner surface of the thighs as well as from the rings on the abdomen, etc., the same species of fungus was isolated identical microscopically and culturally to that found in Case I.

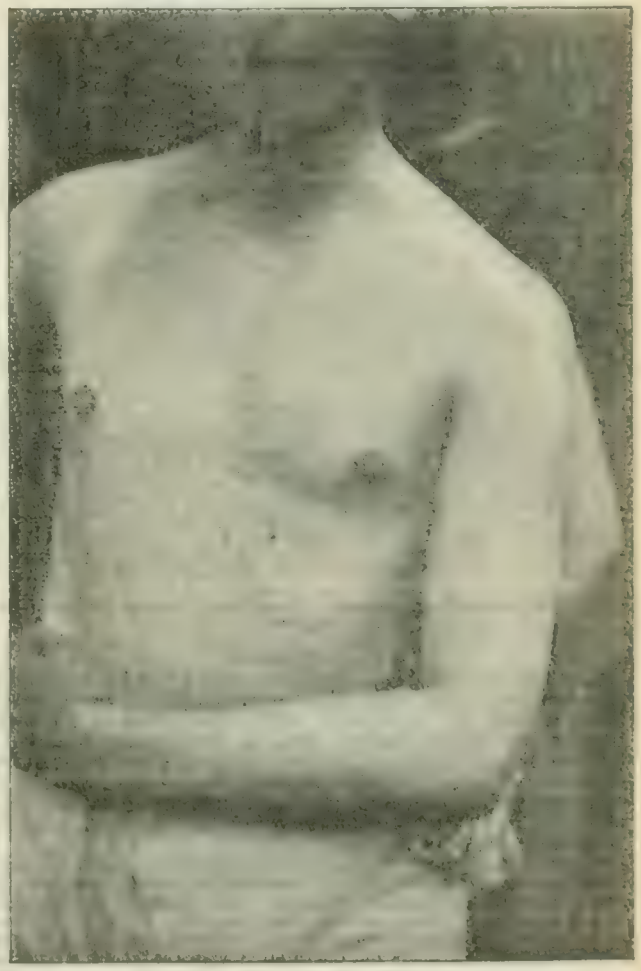


Fig. 2.—Tinea circinata. Case II.

This case is interesting as it shows that the trichophytons of dhobie itch may attack other parts of the body outside the usual regions (crutch, etc.), giving rise to a tinea circinata-like eruption. This, in my experience, is not a frequent occurrence. In such abnormal localizations the fungus did not apparently find the proper conditions of growth, as it quickly died out without any treatment.

Peculiar Type of Dhobie Itch.

CASE III.—European woman. The patient had resided a long time in the East—Japan, China, and Saigon. She has resided in Colombo, Ceylon, during the past eighteen months. On the inside of the thighs, extending also to the labia majora, a polycircinate eruption was present. The skin inside the rings was very dark, almost black, thickened, and hard. The edge of the patches showed polymorphic lesions—fine pityriasic squamae, minute vesicles, and papules. The pruritus was

very marked, and excoriations due to the scratching were present. The affection had lasted, according to the patient, two months. The microscopical examination showed the presence of a fungus with a short banana-shaped mycelium presenting no double contour. The segments of the mycelium were all separated. Several roundish spores of various size (3 to 4½ μ) could be seen. The spores were not arranged in regular groups, but scattered here and there irregularly. This fungus could not be cultivated on Sabouraud's medium or any other of the media employed, though I repeated the trials several times and kept the patient without any treatment which might interfere with the growth of the fungus. This case corresponded, I believe, to a peculiar form of dermatomycosis observed by Sabouraud in patients coming from Indo-China. The seat and appearance of the eruption was identical, and also in Sabouraud's cases the fungus, though easily detected microscopically, could not be grown on any medium.

I must add that, also, in typical cases of the common dhobie itch I have not been able in several cases to grow the fungus. In these cases the fungus was generally very scanty, though I failed also sometimes when the fungus was fairly abundant.

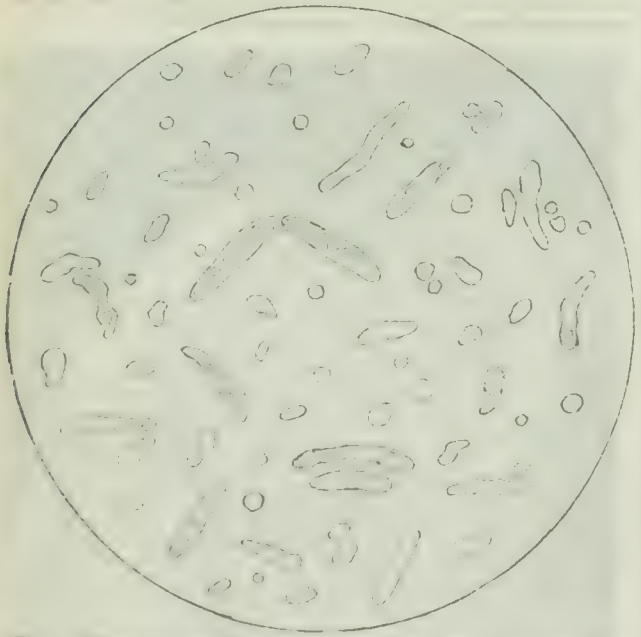


Fig. 3.—Tinea circinata (Case IV). Preparation from a maltose agar culture.

Tinea Circinata.

Cases of typical tinea circinata are not rare in the tropics. The disease, in my opinion, is quite different from dhobie itch; it does not generally affect the axilla or the other regions in which dhobie itch is principally found. I believe the fungi present in tinea circinata are quite different from those found in the typical dhobie itch, though all belonging to the trichophytons. The fungi found in tinea circinata in the tropics are also different species, possibly, from those found in Europe.

CASE IV.—European. Has been in Colombo twelve weeks. The eruption began ten days ago. When I saw him, the whole trunk and arms was covered with a circinate eruption. The circles were very small, and of a rosy tint. There was not much itching. The patient did not show any trichophytic lesions of the hair or beard. The axilla and the region between the thighs and the scrotum were free from any eruption.

Microscopical Examination.—Fungus scanty; mycelial tubes extremely rare, while spores are more easily detected. This is the reverse of what one generally finds in tinea circinata in Europe, where the microscopical examination shows the mycelium to be more abundant than the spores, though the fungus is on the whole always very scanty. The spores were roundish and of large dimensions (4 to 5 μ). The fungus grew very well on maltose agar, producing large acuminated snow white non-powdered colonies. In subcultures the growth of the fungus was much quicker, and the colonies coalesced, giving rise to an elliptical elevated snow-white mass. The fungus grew very badly on agar and gelatine agar, but fairly well in broth; it did not grow in peptone water. The fungus found belongs certainly to the megalosporon type.

Mixed Infection of Dhobie Itch and Tinea Circinata.

CASE V.—European. Has been in the island for several years, and is now going home (Germany). The inner surface of the thighs and nates presented a festooned eruption very itching practically identical to that found in Case I (dhobie itch). Besides this, on the upper part of the chest and on the left forearm an eruption arranged in rather large circles, with a slightly elevated rosy margin, was seen. The patient stated that this last eruption had appeared quite recently, while he had suffered from the affection of the thighs for several months. From the circinate eruption of the chest and arm a trichophyton was isolated perfectly identical, as far as could be made out, to the trichophyton isolated in the case of pure tinea circinata (Case IV). The fungus produced snow-white acuminated colonies in maltose agar. In the eruption of the thighs a trichophyton was found identical apparently to that found in Cases I and II of dhobie itch.



Fig. 4.—Tinea circinata (Case IV). Maltose agar culture.

Tinea Imbricata of Manson (Tokelau).

This skin disease, as it is well known, is due to the trichophyton Mansoni. As far as I know, no cases of such disease have ever been described in Ceylon. In December, 1904, a Tamil coolie presented himself to me stating that he had been bitten by a mad dog. I could not detect, however, any wound. Examining him—a rather poorly built man of about 40 years of age—I noticed that he was covered with a diffuse scaly eruption, which at first sight looked very much like a form of ichthyosis. On closer investigation it was easy to see that it was not a case of this affection. The dry large scales ran in concentric lines. The eruption involved nearly the whole of the body excepting the face, it was most marked on the trunk and on the back of the hands; the palms were not affected. I examined some scales microscopically with the usual technique; a trichophyton-like fungus was present in great abundance; the mycelial threads, the numerous spores could be easily seen; the mycelial tubes were long, longer than usually found in the common species of trichophytons; they were not curved, and did not show swellings. The spores appeared to be of a large size (about 5 μ), and of irregular shape; some were roundish, some oval, some nearly rectangular.

The microscopical characters of the fungus as well as the appearance of the eruption make me believe that the disease was really Manson's tinea imbricata. The case could not be investigated further, as he never came back. According to his statements, he had never been out of Ceylon.

Ringworm of the Scalp.—I have examined three native children with this affection. All of them presented on the scalp several roundish patches showing hairs broken off. The stumps were extremely short and did not show any whitish sheath. The patches were very slightly scaly. The epidermis was in fact practically not involved; no folliculitis or kerion was observed in any case. Hairs examined microscopically with the usual technique showed the presence of a trichophyton with large spores. These were disposed in regular chains within the hair. Cultivations succeeded in all the patients. The fungus grew on maltose agar, producing large white

acuminate colonies, apparently identical in all the cases. The fungus was certainly a trichophyton of the megalosporon endothrix type. So far I have never observed the microsporon audini (trichophyton microsporon) in Ceylon.

Conclusions.

In Ceylon there are many forms of trichophytic affections:

1. Dhobie itch. This is a trichophytic intertrigo which generally presents the clinical signs of "eczema marginatum" of Hebra. The fungi found belong most probably to the trichophytons, but, in my opinion, they are different from those found in tinea circinata. It is very probable that there are several species of dhobie itch trichophytons.

2. A rare, peculiar type of dhobie itch may be observed identical, probably, to the trichophytic affection described by Sabouraud in Indo-China patients. The fungus cannot be grown on the usual media.

3. Tinea circinata is not rarely met with in Ceylon. In the cases examined the fungus was of the megalosporon type.

4. Mixed infections of dhobie itch and tinea circinata may occur, presenting the two fungi growing on the same patient, though on different regions of the body.

5. Tinea imbricata, or tokelau, due to the trichophyton mansoni, occurs in Ceylon.

6. Ringworm of the scalp is observed. In the cases I examined the fungus was a trichophyton megalosporon endothrix. So far I did not see cases due to the microsporon audini.

A COMMUNICATION ON A TROPICAL SKIN DISEASE.

By John Bell, M.R.C.S., L.R.C.P.,

Superintendent, Government Civil Hospital, Hong Kong.

An Indian policeman was admitted to the Government Civil Hospital, Hong Kong, with a sore on his foot. He had been nine years in the colony, and knew of no other case of a similar kind amongst his comrades in the same station. He was accustomed to walking about with bare feet when off duty.

On the sole of the right foot was a superficial sore with ragged edges, about the size of a sixpence, which he thought was caused by treading on a nail. The sore slowly spread, and in about ten days the appearance was that shown in the

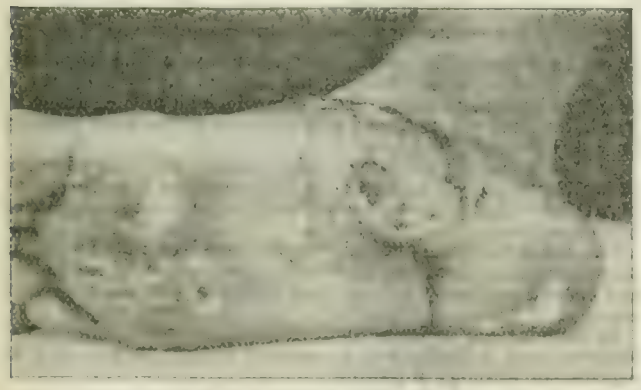


Fig. 1.—Photograph of foot showing condition of skin produced by rhizoglyphus parasiticus. (Taken from life by Dr. W. Pearse.)

photograph. There was a large circular patch about the size of the palm of the hand, red, and irritable in the centre, with circular edge undermined and burrowed in places, more especially above and below, the shallow burrow being here well marked and bleeding. Some of the skin was cut off, and after maceration showed several parasites. At no time was there any complaint of itching. Dr. William Hunter, Government Bacteriologist, at once identified the parasite as rhizoglyphus parasiticus, figured in Dr. Max Braun's *Thierischen Parasiten des Menschen*. They answered to the brief description there given, namely, as having an elliptical body, mostly grey in colour, though some were of a deep yellowish tint.

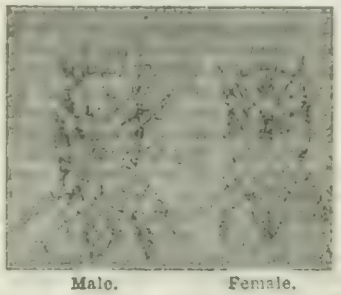
The photograph of the foot as well as of the parasite, were kindly done by Dr. Wilfrid Pearse, M.O H.

Treatment with 4 per cent. formalin in glycerine was rapidly successful.

Remarks.

As no record of this tropical disease is to be found in standard works (Manson, Scheube, Davidson, etc.), it must be fairly rare, and none of us in Hong Kong had ever seen a case previously.

Probably other cases have escaped notice or been looked upon as a variety of tinea somewhat resembling trichophyta circonscripta, and treatment would soon destroy any peculiarities of the disease. The diagnosis rests on finding the parasite, not a very easy proceeding, as they are few in number, and many slides showed none at all.



Male. Female.

Fig. 2.—Rhizoglyphus parasiticus, photographed from Dr. Max Braun's, *Die Thierischen Parasiten des Menschen*, by Dr. W. Pearse.

As our photomicrographic apparatus was not working, I have taken the liberty of reproducing Dr. Max Braun's plate to complete the case, the parasite there figured being identical with the one found in this case.

In discussing these papers, Dr. Radcliffe Crocker said the pathology of elephantiasis arabum required extended observations, and he was not of opinion that the blocking of the lymphatics by the miniature ova of filaria bancrofti, the cause of elephantiasis arabum, heretofore accepted, could be maintained. We have cases of elephantiasis occurring in this country which closely resembled that met with in countries where filaria prevailed, but the change seemed to be associated with the superficial rather than with the deep lymphatics, as is the case in E. arabum. Dr. Crocker stated that the cases of ringworm in all parts of the world seemed in almost complete resemblance, but it was quite possible the type of parasitic infection varied. Dr. Crocker had seen a case of granuloma in the groin of a negro who lived in London and had not been in a tropical country for some seven years.

Professor Rubert W. Boyce stated that the presence of filaria in the form of parent worms, as embryos, or as immature ova did not seem to explain the fibrous changes which were so prominent a feature in elephantiasis arabum. The cases of elephantiasis native to this country seemed to be due to a streptococcal infection, and possibly the same factor played a part in elephantiasis arabum, the filarial infection being merely an accidental occurrence.

Dr. F. M. Sandwith considered that weevils were not the direct cause of pellagra in man, though it was certainly true that weevils and mould often infected side by side the maize. As the female weevil pierced the grain with her snout in order to make a convenient hole to lay her eggs within, it was obvious that she could easily introduce inside the grain (which may afterwards be eaten by man) any spores of fungus which happened to be outside the grain.

Major G. H. Fink, I.M.S. (ret.), mentioned with regard to Oriental sore that it was known by a variety of names in India according to the locality it was found in, namely, Delhi sore or boil, Sindh sore, Lahore sore, and so forth. It was also known as "auranzebe," because, as he was told by a native, an Eastern Emperor Aurungzebe was supposed to have suffered from it, and tradition stated that it protected him from attacks of malarial fever. Whether this were true or otherwise Major Fink was not in a position definitely to confirm: but the idea prevailed in India that it did. With regard to his own experience, he had seen it occur in European officials in India on new arrival, on the parts of the body exposed while the person was asleep in his pyjama suit—namely, on the ankles, face, and hands, where the sandfly (*Simulidium*) of the district inflicted bites. He had examined the *Simulidium*, and out of a group perhaps of 200 (of various kinds) had found one of a particular type (three photomicrographs sent round for inspection) in that group, of which there might be only three or four teeming with parasites,

which were flagellated organisms, and could be seen on one of the photomicrographs distinctly. Sandflies bit and raised a papule, which turned into a small vesicle with a slight area of circumscribed inflammation around. The person bitten scratched it unconsciously, and the excoriated surface turned to an ulcer with little, if any, discharge; circular, and spreading along the edges; single sometimes, multiple at others; and in some instances likely to be mistaken for "specific sore" by novices in tropical ulcers, since they left an unsightly scarring around the inner ankle, which was a favourite site for bites, and there was a copper stain on healing.

Mr. JAMES CANTLIE said that amongst the skin affections referred to by the several speakers he had heard no reference made to a patchy pigmentation of the skin of the face, neck, and hands frequently met with in South China, in Ceylon, and no doubt elsewhere, especially amongst women. He had given the affection the name of the "tropical mask," which was a simple pigmentation not due to any parasitic infection, but resembled closely the pigmentation seen in the skin of various parts of the body in pregnant women. Mr. Cantlie mentioned a case in which the "tropical mask" had caused a medical man practising in Britain to regard a patient with this affection to be the subject of Addison's disease. Mr. Cantlie stated that he had seen small sores in different parts of the body resembling Oriental sores in an officer recently returned from Thibet; in these sores, however, no Leishman bodies were found.

LEPROSY IN ICELAND.

Dr. KARL GROSSMANN (Liverpool) gave a lantern demonstration of coloured photographs he had taken of lepers in Iceland.

ON THE PRESENCE OF SPIROCHAETES IN TWO CASES OF ULCERATED PARANGI (YAWS).

By ALDO CASTELLANI, M.D.,
Colombo, Ceylon.

IN February last, examining some films from the secretion of the ulcers in a case of parangi and stained by the Leishman-Romanowsky method, I noticed several extremely minute and almost invisible spirochaete-like bodies. I did not attach much importance to this discovery at the time, as the spirochaetes were found together with huge numbers of bacteria and were so faintly stained that their proper study could not be carried out.

A month ago Professor Schaudinn very kindly sent me a reprint of his preliminary note[1] on the finding of spirochaetes in syphilis.

Remembering the strict relation which, according to some authors, exists between parangi and syphilis, I began at once some investigations to ascertain if in yaws also identical or similar spirochaetes could be found. Unfortunately at the time there were only 2 cases of parangi in the General Hospital of Colombo, but 2 other cases—beggars off the streets—I was able to secure and examine. Only these 4 cases have been examined. Of these, 2 had dry lesions only—the well-known yaws—whilst the other 2 cases, in addition to a few dry lesions, presented some red fungoid, slightly secreting, ulcerated excrescences, such as are generally seen antecedent to the dry-yaws stage. The investigation of the two cases of dry yaws was completely negative as regards spirochaetes. In the other two cases spirochaetes were found, though mixed with various bacteria. Of these two cases, one I examined once only, as he refused to come again. The other is a patient in the General Hospital under the care of Dr. Paul, and I have examined him many times. He is a Singhalese lad, 10 years of age; he has never been out of Ceylon, and has had no other disease. There are no signs of acquired or congenital syphilis. He is in the second stage of the disease. The skin of his hands and arms presents several patches of furfuraceous desquamation; the lower parts of the legs and the soles of the feet show several fungoid, roundish, elevated, slightly secreting formations. The patient is undergoing mercurial treatment, and is improving. Practically all the experiments have been carried out on this case; the other, as already stated, refused to come again.

The Spirochaetes.—The spirochaetes found were generally mixed with numbers of bacteria. In the preparations taken from the surface of the lesions the number of bacteria was prodigious, but by scraping away the superficial layers till blood exuded and then making preparations the bacteria were fewer, whilst the numbers of spirochaetes were not sensibly diminished. The spirochaetes are extremely thin; they stain very faintly, and in fact are sometimes scarcely visible. If the Leishman alcoholic solution is, however, allowed to act for five minutes and after the admixture with distilled water for fifteen minutes, the spirochaetes are fairly well stained, generally taking on a purplish, occasionally a bluish, tint. The organisms are generally long, 14 to 20 μ, though short forms, 7 to 10 μ, are also met with. They are often pointed at both ends and present a variable number of waves. Two types might, perhaps, be distinguished—one much more delicate, with very small uniform waves, the other with fewer, larger and more graceful waves. Here and there, in the stained preparations, a few shorter, thicker and more deeply-

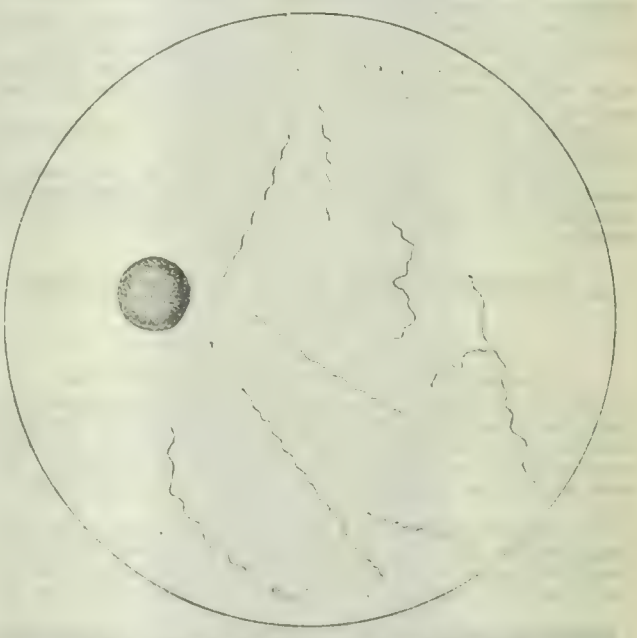


Fig. 1.—Spirochaetes found in two cases of parangi.

stained spirillum-like bodies, presenting one or two chromatin points in their substance, are seen together with bacilli of various shapes and cocci. In the few lesions of the same case which had not yet ulcerated spirochaetes of the more delicate type were found.

In fresh preparations (hanging-drop), the spirochaetes, though extremely thin, could be distinguished from the many motile bacteria by their peculiar movements so well described by Schaudinn.

The usual laboratory culture-media were inoculated with the secretion taken from the lesions; colonies of various bacilli and cocci developed, but, as was to be expected, no spirochaetes.

In conclusion, I wish to state that in publishing these observations, I desire not to commit myself in any way as regards the etiology of parangi.

REFERENCE.

[1] *Vorläufiger Bericht über das Vorkommen von Spirochaeten in syphilitischen Krankheitsproducten und bei Papillomen.*

INVOLVEMENT OF THE SCALP IN LEPROSY.

By GEORGE PERNET, M.R.C.S., L.R.C.P.,
Assistant, Skin Department, University College Hospital; late Pathologist, Hospital for Diseases of the Skin, Blackfriars, London.

IT is generally stated that the hairy scalp escapes in leprosy. As I have now seen two exceptions to this rule in this country the following short details may be of some interest:

The first case was in a male native of Bombay, aged 30, who was seen by me in August, 1898, whilst in charge of patients at University College Hospital. The patient had consulted an ophthalmic surgeon about his eyes, the condition of which had led to the idea of syphilitic keratitis, but the general condition of the man being mentioned to me I came to the conclusion that the case was very probably one of leprosy. When I had an opportunity of seeing the patient for myself,

there could be no doubt as to the leprous nature of the complaint. It was a typical case of advanced nodular leprosy. In this place it is unnecessary to give a full description. As to the scalp, this is the note I made at the time: A fair amount of hair in front, but otherwise diffuse irregular alopecia. On the vertex, a finger-tip sized depression which could be both seen and felt. To the left of this the scalp was slightly infiltrated, and there was anaesthesia to touch over an area the size of a shilling, but pressure with a pin was felt, both when blunt and sharp end used.

This patient was under observation for some little time and then disappeared. Inquiries made by me in 1903 at an address he had originally given me were fruitless. Considering how bad he was when I first saw him, death has probably closed the scene.

The second case is that of a white woman, who first came under the observation of Dr. Radcliffe Crocker in 1895; he described her then condition in *The Lancet*.[1]

This also was a case of nodular leprosy. At first the condition improved, but the patient became neglectful of treatment, refusing to carry it out, and was not seen for some time. She returned, however, with an *x*-ray burn of the centre of face, as a result of treatment at another hospital, from which she slowly recovered with local improvement. Since then she has been seen on and off, but she has pursued no treatment.

In March last, hearing the patient was very ill, I visited her at her home and found her in a very bad condition indeed, the disease having made further strides. I found, too, the scalp was involved. About the vertex and to the right of it and behind there were two areas of raised infiltration, reddened in parts, with loss of hair. In the other parts of the scalp the hair was scanty.

Although the diagnosis of these infiltrations rested on clinical grounds alone, and lacked bacteriological confirmation, yet I have no doubt that the scalp condition was of the same nature as the general disease.

In the case of the male patient, there was, it is true, a history of a sore and rash, the former of which might have been a soft chancre and the latter a leprous exanthem. Howbeit any basis for a certain diagnosis of syphilis was absent.

These two exceptions, which appear to me to be well-founded, do not invalidate the general rule that leprosy in the great majority of cases does not involve the hairy scalp.

The same may be said of lupus vulgaris. In that disease it is rare for the scalp to be invaded secondarily by extension from the adjacent parts, and rarer still for it to develop on the scalp separately. I have had an opportunity of seeing three instances of the latter mode of invasion. One of these is in a patient attending the Skin Department, University College Hospital.

The dilated vessels coursing over the lupus infiltrations have appeared to me to differentiate them from syphilomata and lepromata in the same situation.

In conclusion, I have to thank Dr. Radcliffe Crocker for kindly allowing me to make use of the above leprosy cases for the purpose of this note.

REFERENCE.
[1] *Lancet*, 1896, ii, p. 364.

A DISCUSSION ON SPRUE AND HILL DIARRHOEA.

I.—JAMES CANTLIE, M.B., F.R.C.S.,
Lecturer, London School of Tropical Medicine.

SPRUE.

SINCE the discussion on sprue at the meeting of the British Medical Association held five years ago, there has been practically nothing of pathological interest added to our knowledge of the disease. One effect of that discussion was to make sprue and its symptoms more widely known amongst medical practitioners generally in this country, so that patients returning from warm climates, when they stated they were suffering from sprue, found that their doctors in even remote parts of country were at least acquainted with the name of the disease if they did not actually know the treatment to pursue. It will serve a useful purpose that this subject should be again brought up by the Section of Tropical Diseases to still further acquaint the profession generally with this serious disease, and to emphasize the fact that stopping the intestinal flux by bismuth, chalk, and opium is not the treatment to be followed.

THE CHIEF FEATURES OF SPRUE.

It is not my intention to give a textbook account of sprue, for there are now several books in which the classical symptoms are set forth. Sprue is characterized by a bare and usually painful tongue; by frequent attacks of stomatitis with ulcers on tongue, palate, inner aspects of lips and cheeks and on the gums; by dyspepsia; by intestinal flux consisting of bulky fermenting, soft and frequent stools of pale colour, by loss of weight, depression of spirits, anaemia, and loss of strength.

The geographical distribution of sprue is fairly wide, but its special home seems to be the Malay Peninsula and the adjacent countries. From tropical Africa and some of the West Indian Islands the disease is also reported.

The commencement of the illness, which culminates in the manifestations which establish the diagnosis of sprue is quite indefinite. The prodromal symptoms, if they may be so called, are of long duration. The patients give histories of extended periods of dyspepsia, of irregular attacks of morning diarrhoea, and usually of tender mouth. These signs and symptoms are at first intermittent, and it is only when the morning stools are constantly soft, bulky, and fermenting that the ailment can be called sprue. Sprue is a disease especially consequent upon fairly long-continued residence in the tropics, and is a not uncommon cause of death in Europeans who have become wholly wedded to life in a warm or tropical climate, and who have reached advanced middle age. Again, sprue may attack old residents in the tropics or subtropics long after they have permanently taken up residence in Britain.

THE EFFECT OF LIFE IN A WARM CLIMATE ON THE ORGANS OF DIGESTION.

To understand sprue and the organic changes it engenders it is necessary to review the effect of climate on a European, especially of Northern Europe, from the time he or she takes up residence in a warm country. At first the heat serves as a stimulant; energy is at its maximum; the appetite is good and the liver acts freely, as testified by the copious, soft, and deeply bile-stained motions that are passed. After six or eight months this initial physiological excess subsides and gives place to a diminished physiological activity, when anorexia, dyspepsia, lassitude, constipation, and frequently loss of sleep supervene. The physically-unfit person, after a persistence of this physiological minimum of vitality, may, and often does, succumb to illness, may find stimulants necessary to keep him (or her) "going," or becomes more or less of a chronic invalid with gastro-intestinal symptoms as the chief note of complaint. In the case of persons of better stamina the physiological depression which followed the initial exhilaration is thrown off by knowing how to regulate their lives and how to adapt themselves to the exigencies of life in a hot country. The dyspeptic man or woman in time notices that the morning stools are frequently quite soft, pale, and copious, and that the desire to go to stool develops suddenly—as soon, in fact, as one gets out of bed. Accompanying these noted derangements tenderness of the tongue is usual, quite intermittently so, however, at first.

RECURRENT STOMATITIS.

It is not uncommon to meet with Europeans, women especially, in warm, Eastern, Asiatic countries who are subject to irregular attacks of stomatitis. The tongue, gums, and palate are at first tender; during the second week painful spots of irritation and patches of ulceration develop in any part of the mucous surface of the oral cavity; during the third week the tenderness ceases and the ulcers heal. A recurrence of this condition may be looked for in some six to ten weeks, when another three weeks' oral disturbance occurs. These intermittent attacks of stomatitis may recur for a year or two or more, although attended by some degree of intestinal flux towards the end of each attack, they are not always or necessarily followed by sprue, more especially should the patient leave the tropics for change to a temperate climate. Sprue on the other hand may develop without attacks of stomatitis, or even with but little (or even without) marked tenderness of the tongue. The tongue and the mucous membrane of the mouth generally look bare and rather glazed, but may not be pronouncedly tender.

REDUCED SIZE OF THE LIVER.

During this period of derangement of the digestive tract the organs of the abdomen concerned show evidence of serious

change. The only organ, however, in which the change can be fairly accurately gauged during life is the liver, by its change in size and by the nature of its secretions, as far as can be judged by the appearance of the stools. At first, whilst yet the new arrival is enjoying the stimulus of a warm climate, the liver will be found to be somewhat increased in size, and its functions are amply, in fact excessively, performed, judging by the appetite and by the dark and bilious nature of the large, soft stools freely passed. When the period of maximum functional activity gives way to the period when a minimum of secretion ensues, as above described, the liver will be found somewhat smaller than normal. Then comes the parting of the ways, when the man is to maintain his health in his new surroundings, or is to break down under the effects of climate. In the former case the liver assumes normal dimensions, which in the healthiest Europeans in the tropics is rather under than over the normal size found in dwellers in temperate climates. On the other hand, the liver may increase in bulk, or may, as in sprue patients, atrophy so markedly that it is difficult to elicit its presence either by palpation or percussion. Sprue is associated with a diminution in size—an atrophy and atony—of the liver, which would appear more physiological than pathological in character. Tenderness on palpation is rare, pathological changes have not been met with in *post-mortem* examination, and the way the liver responds, when appealed to by dietary treatment, shows that the tissues and functions of the liver are in a state of physiological atony and atrophy merely.

The actual cause of sprue would therefore seem to be associated with changes in the digestive tract, initiated by the effects of residence in a hot climate; and in all probability the actual manifestations which accompany the established disease are due to fermentative changes in the contents of the bowel owing to parasitic infection rather than to chemical action.

Changes in the Bowel.

Many careful observers have searched diligently for evidence of parasitic infection of the bowel, but no definite organism has as yet been isolated to which the ailment can be ascribed. Van der Scheer, in a paper translated for me by Dr. T. C. Graham of Sumatra, is inclined to associate sprue with suppressed appendicitis, and advises the operation of the removal of the appendix as a means of cure.

Post mortem evidence of the changes accompanying sprue is only obtainable in patients that have died after a long illness from exhaustion. The early changes in the organs of the digestive tract have not been seen. The *post-mortem* appearance of the abdominal contents indicate anaemia and atrophy of the viscera generally. The stomach and small intestines seem shrunken, the colon distended and almost transparent; the liver is reduced to perhaps half its ordinary size, but its tissue seems normal to the naked eye, to the touch, and to microscopical examination.

On laying open the intestines the walls of both the small and large bowel are found to be thin, almost tissue-paper-like in their thinness, and the mucous and submucous coats are abnormally soft and pultaceous, and so markedly loosely attached to the walls of the gut that they are readily stripped off by merely passing the finger along the tract of the opened intestine. Without elaborating the *post-mortem* appearances further, the above-mentioned constitute all the pathological evidence of real importance. Other noticeable changes are the absence of fat in the viscera and body generally, the bloodlessness of all the organs and of the muscles of the trunk and limbs—changes, in fact, which are without specific note, but serving to indicate death from a chronic illness associated with a starvation of the tissue and wasting of the whole body.

Age of Sprue Patients.

Sprue attacks people between the ages of 30 and 60 as a rule. The youngest case I have treated was a man aged 28, and the oldest a man of 62. When the patient's age is over 55, the chances of recovery are small, unless the disease has quite recently developed. In cases of long standing, an evening rise in temperature to 101° F. and over is well-nigh invariably an indication that a fatal issue may be expected within a month or two. The appearance of thrush (oidium albicans) in the mouth is a fatal sign; I have never seen a patient recover from sprue after thrush appeared, and in only one case of illness of any kind have I ever seen an adult recover after thrush developed.

Treatment.

Five years ago I advocated the "meat treatment" of sprue, and subsequent experience has convinced me of its efficacy. I then condemned the milk treatment of sprue, and I do so still.

Treatment by Milk.

I only mention treatment by milk to condemn it. This plan of dealing with sprue has many advocates who defend its use, and who give details of how it is to be administered. I refrain from giving these details in case any one who reads them might be tempted to try milk owing to want of courage to break away from traditional custom.

Milk is the usual diet in illnesses of every form, although why it is difficult to account for, except that it is handy, requires little or no preparation, and was the food of our infancy. Milk, however, is not used as a staple food by any adults of the human race, and a large proportion of the human race (amongst them the Chinese) never use cow's milk at all, either for children or adults in health or disease.

Without generalizing further, let us see what happens when milk is given in sprue. The stools may immediately or after a time become solid, a fact which is considered so satisfactory that the disease is said to be arrested or cured. The patient is, thereby, encouraged in the treatment, and it is not until additional food is taken that the cure is seen to be unreal. Return to the milk treatment alone is again rigidly enforced, and the same solid stools are produced, with satisfaction to the doctor and the patient. Months pass, and still milk has to be taken or reverted to when other food is attempted. A year or many years may pass, and the patient may, and in all probability will, still cling to milk as the sheet anchor whereby to check the diarrhoea, and procure a solid stool. What is this solid stool? It has neither the appearance nor the odour of faeces; it is a cheesy mass—a faecal cheese, or rather a cheese manufactured in the intestine, to which the term faecal is inappropriate. There is no appearance of bile in the evacuation, and if the liver is examined during the continuance of the "milk treatment," it will be found to diminish in bulk.

The patient cannot digest the milk—few adults can even in health—but the alimentary secretions serve to precipitate the curd of the milk and separate it from the whey. The patient absorbs, in fact lives on, the whey and passes the curd as a "solid stool."

The only rational treatment for sprue is to attempt to restore the faulty organs—and chiefly the liver—so that they may attain normal proportions and physiological activity. Milk does not call upon the liver to further its digestion, and the continued exhibition of milk allows the functional inactivity of the liver, which has been in abeyance for years it may be owing to "milk treatment," to continue, and a "cure" is impossible. The gradual addition of farinaceous foods to the milk does not better the treatment, for the liver is still left without work and even if the diarrhoea does not return when the additional elements are added to the diet, yet is the disease uncured and will return on the least provocation.

Treatment by "Meat."

I was first driven to try "meat" in place of milk in cases of sprue by circumstances which left an impression impossible to forget. A lady had suffered from sprue for some fifteen years. She had tried milk, change to Europe, and every remedy known to the allopath, homoeopath, native practitioner, and quack. When I saw her she had been on milk off and on for many years; solid stools frequently followed its use, but the disease recurred again and again. I gave her milk, even skimmed milk, in small and measured quantities, to no purpose. As a last resort the patient went a voyage from Hong Kong to Japan to undergo treatment there, but she came back in a state which seemed to indicate that she had but a few days to live. Having obtained permission from her husband to try "meat treatment" as a forlorn hope, I was rewarded by seeing the patient cured of the disease. This is now twelve years ago, and the patient continues in good health. The régime in this instance was one which is not necessary as a rule—not necessary, in fact, unless the patient is apparently dying. The treatment was teaspoonfuls of freshly-made raw meat juice (slightly warmed) every five minutes. After four hours the intervals between feeding were lengthened to fifteen minutes, and beef jelly and calves-foot jelly were given alternately with the meat juice. On the second day the feeding was prolonged to intervals of half an hour. On the third day lean meat, lightly cooked, was given midway between feeding along with the above. On the fourth day the quantity was increased to 2 oz. thrice daily, and the jellies continued, the patient being now fed every 1½ hours. On the

fifth day the same quantities were continued; on the sixth day a poached egg was added twice daily; and on the seventh day 4 oz. finely minced beef lightly cooked were given thrice daily instead of the pounded beef.

The patient was given tea as a drink made as follows: Half a teaspoonful of China tea (the finest procurable) is to be placed in a strainer which is held over a breakfast cup, and boiling water is poured over the leaves.

Rice Tea.—To make rice tea, roast some rice in the oven until brown; place 2 tablespoonfuls of the browned rice in a jug, pour 1 pint of boiling water over the rice, and allow the decoction to stand for 15 minutes, when the rice is strained off and the "tea" used as a drink. Either of these teas or each used alternately may be given 15 minutes after finishing food, never with the meat of course.

In an ordinary way, when a patient comes for treatment who has been treated by milk, as all patients who come to me always have been—it may have been for many months or for years—I immediately and invariably commence treatment as follows: (1) The patient is put to bed, at any rate, for a few days; (2) a wet-pack is applied—a towel, or double layer of flannel large enough to reach from nipples to groins, and sufficiently wide to reach half-way round either loin—is wrung out in warm water and laid upon the abdomen. Round the body a large bath towel is wrapped, pulled tight, and fixed by safety pins. The wet-pack is kept in for two hours at a time, and is to be applied morning and evening; (3) the patient (unless very ill) is given 5 oz. pounded beef, lightly cooked, for breakfast, luncheon, and dinner with salt to taste, unless the mouth soreness prohibits its use. Every two hours the patient is given jellied beef-tea, beef-jelly, calves-foot jelly, a plain jelly, all home made; the jelly is given also during the night should the patient wake; (4) 1½ drachms castor oil every morning for first three mornings; (5) 3 gr. santonin morning and evening for three days. The effect of this treatment is that the stools at once become "bilious"; the bile, which seems to have been pent up, owing to previous "milk treatment," flows with great freedom when meat is given, and at first the stools are copious, loose, and as many as two or three daily. By the third day, in all probability, no stool is passed, and when on the fourth day the motion is seen it is not infrequently fairly solid, faecal, and deeply bile-stained.

The diet may now (the fourth day) be increased, a poached egg is added to the beef at breakfast and dinner; pounded chicken may be given at the midday meal instead of the beef. On the sixth day the meat or chicken may be finely minced—thrice passed through the mincing machine—in place of being pounded. By the eighth day the patient may have a cut off a joint, the undercut of a piece of roast beef being the best.

As soon as the stools are solid or fairly solid add vegetables to the diet—stewed celery, stewed scakale, or vegetable marrow; pulled and baked bread—thin slices of bread kept in hot ovens for twenty minutes until dry and crisp. The patient's diet is now fairly varied and additional food can be tried—as judgement directs.

Strawberries.—There is no doubt of the value of strawberries in sprue. The late Dr. Thin first brought strawberries in sprue to our notice; Sir Patrick Manson speaks well of the treatment and I can endorse their good opinions of the fruit. The meat treatment and strawberries go well together, the patient being allowed to eat 3 or 4 lb. of fresh strawberries during the twenty-four hours between, not at, the regular meat meals. The patient can only be said to be cured when he can eat anything, but it will be months before milk puddings can be taken with impunity. As a rule sprue patients can never digest milk puddings at any subsequent period of their lives when they are taken at the end of an ordinary meal. Suet puddings and stewed fruit with rice (as prepared in the East for curry) are tolerated quite early in the treatment, and, as a rule, I give them during the second week.

The meat treatment of sprue will not fail if carried out early and systematically. The older the patient the greater the danger and the less chance of effecting a cure. If the 55th year is passed the chances of cure are lessened. Two old oriental residents—one from Japan and one from Central China—have been successfully treated by the meat treatment. One got well very slowly, the other in a few days. His history is interesting. The man, aged 61, had lived in Central China for thirty years. Seven years after taking up his residence in England he developed typical sprue. The chief point in his history is that he had had soft morning stools for some twelve or fifteen years. In February, 1905, he developed all the signs and symptoms of sprue. After an ineffectual course of treatment by drugs and milk lasting four months he was put to bed, wet packs applied, and a "meat diet" of pounded beef and jellies with strawberries *ad libitum* given in the usual way. In a week he had lost all traces of the disease, and, except for some occasional soreness of the mouth, he is quite free of the disease.

The liver, which at the commencement of a course of treatment by meat is quite small, rapidly attains normal dimensions and to all appearances becomes restored in function. The fact that fresh meat, fresh fruit, and even fresh milk have a curative action in sprue all seems to point to a scorbutic element in the disease, and to this may be ascribed the benefits of the several dietary agents mentioned. It is well to continue wet packs, gradually reducing the temperature of the water until it is quite cold, for a month or two after the signs of symptoms of sprue have disappeared.

II.—Andrew Duncan, M.D., B.S.Lond., F.R.C.S., M.R.C.P., Lecturer on Tropical Medicine at the London School of Tropical Medicine and the Westminster Hospital Medical School.

Hill Diarrhoea.

In the following remarks on the affection, I propose first briefly detailing the symptoms of the disease, then discussing its etiology, and I shall conclude finally with its treatment.

Symptoms.—The patient is attacked with a usually painless but occasionally painful purging, which sets in some time between 3 and 5 a.m. The motion is copious, liquid, watery or pasty, and has been well compared to recently-stirred whitewash. From one to six motions are passed up to about 11 a.m., when the purging ceases. There is great concomitant flatulence. During the remainder of the day the patient is free from the affection; but it recurs the next day, and so on, until liquid stools commence to appear in the evening. No straining or faintness attends the passage of the stools, but they are succeeded by a feeling of comfort. They may not be offensive at first, but afterwards become so. The flatulence is the most annoying symptom. The patient at first thinks but lightly of the affection, and does not consult a doctor; but as it advances appetite is lost, the tongue becomes more furred, and now he feels faint after the stools. The latter increase in frequency, and emaciation sets in, until, if unchecked, death occurs from exhaustion. As regards the secretion, no bile is found in the stools, the urine is frequently natural throughout, but by some is said to contain bile. I myself have never found bile in the urine. A minor variety of the disease is where the patient complains of dyspepsia.

The Etiology of the Disease.—Until comparatively recently, the affection was held to be one of the hills, a height of 6,000 ft. being necessary for its evolution. But it has been reported at Penang Hill, 2,000 ft. high only, and Dr. Nightingale has reported a case occurring in the plains.

As regards the time of its appearance in the hills, it attacks Europeans on their leaving the hot plains for their "leave" in these stations, and especially it breaks out on the onset of the monsoon, leaving also with the cessation of the rains. The late Surgeon-General Moore, of Bombay, held it to be due to what he termed torpor of the secreting cells of the liver, the result of chill; the bile then not being secreted, the diarrhoea resulted. Colonel Crombie, I.M.S., holds that it is due "to the "presence in the digestive tract of some organism which multi- "plies there, devours the colouring matter of the bile, and per- "haps other constituents, and so allows of rapid fermentative "changes in the intestinal contents." But the daily fluctuation of the symptoms—the restriction of the diarrhoea and other manifestations to the early morning and forenoon—are difficult to explain on this hypothesis, as given the presence of a micro-organism as a cause, surely its effect should not be limited to one period of the day. A more satisfactory view, should the facts on which he bases his conclusions be verified, is that of Lieut.-Colonel Dyson, I.M.S. This officer, who has had a large experience in the Sanitary Department of India, both in the Punjab and in Bengal, in which latter province he was Sanitary Commissioner, drew my attention to the influence of mica in the causation of the disease. When at Netley Professor Parkes drew attention to the action of mica in this respect. Dyson points out that hill diarrhoea occurs in those hill resorts where the geological formation contains schist. In hill stations resting on sandstone he says the disease does not occur. Poona lies at some elevation on sandstone, but has no hill diarrhoea. There is very little of the disease at Murree, and there is very little mica there. There is a large amount of mica at Darjeeling, and this station suffers enormously from hill diarrhoea. There is no mica at Chungla

Galli, and no hill diarrhoea. Dyson states that after the Pasteur filters were installed at Darjeeling, through which the mica could not pass, the hill diarrhoea no longer troubled the station. Again, during the cutting of the Panama Canal, mica dust got down the throats of the workers there, and diarrhoea attacked them. Dyson's theory as to the sequence of events is that officers on coming up from the plains at once take more exercise, and so get more thirsty. The consequent drinking more freely to assuage the thirst causes a certain amount of congestion of the alimentary canal; mica lodges in the follicles, and diarrhoea results. If mere elevation caused the diarrhoea, why is it not prevalent in Switzerland? The treatment, as we shall see, is by corrosive sublimate. Mica causes irritation, which the intestinal germs still further increase; corrosive sublimate kills the germ. This theory of Dyson I consider to offer the best explanation of the intestinal flux yet offered, if the facts mentioned as to its absence in those hill stations where there is no mica be proved to be true.

As regards the relationship of hill diarrhoea to sprue, some authorities hold they are the same disease. I cannot subscribe to this opinion on the following grounds: (A) *The Symptoms.* I have never seen in any case of hill diarrhoea, the mouth symptoms of sprue; nor have I ever observed the diminution of the liver dullness of sprue in hill diarrhoea. (B) *The Treatment.* I have never succeeded in curing any case of sprue with corrosive sublimate.

Treatment.—The individual who has previously suffered from hill diarrhoea should leave the hills before the rains commence. In the actual treatment of the disease, I had never had any success until I luckily read a paper by Colonel Crombie on this matter. This great authority on tropical disease stated truly that opium and the ordinary astringents are without the slightest effect Now the absence of bile in the disease had caused fermentation of the intestinal contents, hence we must supply the ferments to the intestine. Crombie accordingly advises the method originally brought forward by Macpherson and Bary, namely, in mild cases, 12 to 15 gr. of pepsin, ingluvin, or lactopeptin are given two hours after food, which must be of milk. In severe cases, 5 oz. of peptonized milk are given every two hours day and night, and also drachm doses of liquor hydrargyri perchloridi fifteen minutes after a meal. This will, as a rule, arrest the disease in three days, but some days must elapse before the colour in the motions is restored. There should also be absolute rest in bed. In my experience, since I have followed out the details of this treatment, I have had no failure. If, however, in spite of all treatment, the disease persists, the patient must take leave to England.

III.—LOUIS W. SAMBON, M.D.Naples,

Lecturer, London School of Tropical Medicine.

DR. SAMBON said the long incubation period which at times precedes the manifestation of sprue was a remarkable though by no means unique case of prolonged latency. Blackwater fever might likewise manifest itself for the first time in Europe several months after its endemic stations had been left. Sleeping sickness had manifested itself in negroes transported to the Antilles so long as three, five, and even seven years after removal from the tsetse-fly belts of the Congo. The morbid manifestations of hydrophobia appeared at times twelve or eighteen months after infection by the bite of a rabid dog. There were certain rare instances in which the period of incubation lasted two, three, and even four years. In an interview which he had been granted quite recently by the King of Italy, His Majesty, who takes the keenest interest in scientific questions, told him of a well-authenticated case in one of his own gamekeepers in whom the incubation period of rabies had lasted about three years. A very long period of latency was frequently noticed in leprosy. Hallopeau had published a case in which the first symptoms of leprosy had appeared thirty-two years after return from a country where this disease was endemic Tuberculosis contracted during childhood often manifested itself only at puberty. In some diseases due to trematodes and nematodes the morbid manifestations might not appear until several years after infection. This was often the case with schistosoma haematobium, filaria loa, and F. bancrofti. The length of the period of latency might depend on various causes, such as numerical strength and virulence of the parasite, resisting power of the host. In some cases it depended on the location of the parasite. Some parasites changed their anatomical habitat within the same host at certain stages of their development, or in consequence of other as yet undetermined conditions. But perhaps the most important factor was that of association with other pathogenic or non-pathogenic organisms, the associated organism rendering the soil more or less favourable or even conveying the quiescent parasite to a more important territory. Thus, possibly, Castellani's trypanosome might be the means of the streptococcic invasion of the nervous centres which brought about the terminal symptoms of sleeping sickness. In the last few years we had discovered that ecto-parasites played a very important rôle in the transmission of pathogenic micro-organisms from without into the system through the skin. It was most probable that some internal parasites might perform a similar rôle within the alimentary canal or the blood vessels, transmitting more minute organisms from one anatomical region to another. In conclusion, he wished to say that the long period of latency was not against the parasitic nature of sprue, of which he was absolutely convinced.

IV.—DAVID J. GALLOWAY, M.D.,

Singapore.

DR. GALLOWAY agreed with Dr. Sambon that the disease depended on a micro-organism. Clinical evidence proved this. In a series of 80 cases he cited numerous instances of wife affecting husband, or vice versa, and of other members of a family, demonstrating prolonged and intimate contact as the cause in about 25 per cent. of his cases. He objected to the term "sore tongue," as frequently the tongue is seriously affected without pain. The whiteness of the stools he believed to be due to the type of fermentation which they undergo in the intestine. A prominent symptom was the anaemia, which Mr. Cantlie, in his otherwise comprehensive summary of the disease, had not touched upon. The red-corpuscle count fell as low as 1,500,000, while the haemoglobin content might remain high, thus resembling progressive pernicious anaemia. As to treatment he thought that this flouting of all drug treatment was overdone, and he differed from Mr. Cantlie on the subject of milk. The line to adopt was to attempt the asepticization of the bowel, and calomel, given according to Bouchard's plan, is the best. By this means the aim which took four or five weeks on milk alone to attain may be got in as many days. He described also some subsidiary symptoms, among others hyperperistalsis.

V.—F. O. STEDMAN, M.D.,

Hong Kong.

DR. STEDMAN remarked that in many cases the milk treatment of sprue was of great use, and that many cases might be cured by its use. Some cases which did not improve on milk diet alone did so when given an intestinal antiseptic in addition. That which he had used was beta-naphthol. White stools occurred in many temporary attacks of diarrhoea, such as occurred with frequency in the early summer in Hong Kong. Diarrhoea was very frequent in Hong Kong after the first heavy rain in the beginning of summer, and it had occurred to him that it was very likely due to micaceous particles in the water, the water at that time being slightly opalescent from minute suspended particles.

VI.—JOHN CAMPBELL GRAHAM, M.D.,

Deli, Sumatra.

DR. GRAHAM said sprue was not common in Deli, Sumatra; it occurred chiefly in Europeans. The natives did occasionally suffer from true sprue, but as they, and in fact most people there, called all forms of stomatitis sprue, this led to great confusion. Those common forms rapidly recovered, and were not complicated by intestinal symptoms. He thought it of the first importance to eliminate those cases, and restrict the term sprue to those forms of stomatitis in which there were marked intestinal symptoms, and where the characteristic copious frothy stools were found. Dr. Graham also gave an abstract of a recent paper by Dr. A. van der Scheer, in which the author insisted on the intestinal lesions in sprue being primary, and the mouth, tongue, and gastric implications secondary merely. In all Dr. Scheer's cases the appendix was found to be seriously affected, and he suggested removal of the appendix as a means of curing sprue.

VII.—A. T. Chalmers, M.D.,
Ceylon.

Dr. Chalmers said: I think that cases of sprue are rarer in Ceylon than they used to be. A very careful diagnosis is required, as ordinary cases of diarrhoea are apt to be so labelled. My cases have all been of the better class, and in my only fatal case no *post-mortem* examination was available. I do not think it useful to theorize as to the cause, but consider that the liver should be more carefully inspected. The treatment I have found most useful has been liver soup both with or without intestinal disinfectant. This liver treatment is well known in Ceylon, and is in fact an old native remedy.

VIII.—Major G. H. Fink, I.M.S. (retired).

Major G. H. Fink stated that with regard to Dr. Sambon's remarks as to the useful purpose which would be served in having gentlemen bring forward native treatment of diseases by drugs, he would like to point out that a useful addition to our treatment of tropical diseases had been contributed by Dr. Bose, who had written a book on the subject. As to the drugs, Sir George (Dr.) Watts, the author of *Economic Products in India*, had mentioned some of them extensively in his work *As to the Treatment of Sprue in India*. Sterilized milk treatment had been found to be successful. As to hill diarrhoea, the cause assigned had been minute particles of mica which were in the soil and got into the drinking water supply, and thus brought about irritation, etc., which became most obstinate to treatment. As long as such water was drunk so the cause continued.

IX.—Andrew Duncan, M.D., M.R.C.P.,
London.

Dr. Duncan did not agree with Mr. Cantlie that milk would not cure sprue, as he had had cases under his care showing that sprue could be so cured; but he thoroughly agreed with him in his estimate of the much greater benefit exercised by the meat treatment over that of milk. Patients could get cured much more quickly, whilst the liver dullness reappeared much more speedily.

X.—C. F. Harford, M.D.,
Livingstone College, Leyton.

Dr. Harford alluded to the great economic importance of a more exact knowledge of various forms of tropical diarrhoea. As the result of experience of about 500 missionaries returning home from various tropical or subtropical climates during the past two years, he was of opinion that diarrhoea was the cause of the most serious forms of invaliding and involved the largest expenditure of money in their treatment. Perhaps the most unsatisfactory point was the want of exact knowledge as to the pathology of the various forms of intestinal trouble associated with diarrhoea, and he ventured to hope that the schools of tropical medicine would give more serious attention to this subject. As one who was called upon to advise missionaries going to the tropics in matters of health, he found that very few had any idea as to the seriousness of diarrhoea when occurring in the tropics, and he considered that every effort should be made to impress upon such individuals the importance of treating even slight forms of diarrhoea.

XI.—John Haddon, M.D.,
Berwick.

Dr. Haddon advocated vegetarian diet in the treatment of intestinal ailments, and was of opinion that a rigid vegetarian diet was the best form of food for Europeans in the tropics.

XII.—J. H. Ebell, L.R.C.P.,
Colombo, Ceylon.

Dr Ebell said he was well acquainted with the liver-soup treatment of sprue in Ceylon, and he could testify to its efficacy. "Toddy," made from the fermented juice of the cocoa-nut palm, was an old routine remedy much used in Ceylon in the treatment of sprue.

XIII.—John Hutson, M.B.,
Barbados.

Dr. Hutson stated that he was of opinion that the disease termed thrush in the Barbados was really sprue. Pellagra seemed to be associated with the disease in the West Indies. The difficulty in employing "meat" as a treatment for intestinal ailments in the tropics was the difficulty of procuring good meat. Dr. Hutson had successfully treated sprue on a diet consisting of bananas only for three or four weeks, and obtaining marked benefit thereby. Corrosive sublimate in minute doses frequently repeated had proved efficacious in his hands in the treatment of the disease.

XIV.—W. L. Strain, M.B., C.M.,
São Paulo, Brazil.

Dr. Strain said that during 20 years' residence in Brazil he had no recollection of diagnosing a case of sprue, but all the other forms of intestinal diarrhoea, from the mildest to the severest, were prevalent in the country. It had, however, been his experience that diarrhoea was very prevalent amongst all new comers. São Paulo is about forty-five miles from the sea and 2,700 feet above sea level, but he had never thought that elevation *per se* had any causative action, but always inclined to attribute it to dietary indiscretion. When diarrhoea took the fermentative form, with pale foul smelling stools, the use of some preparation of ox-bile had proved beneficial. A preparation of this in the form of a pill was made by Erba of Milan, and largely used in São Paulo.

DIARRHOEA FROM FLAGELLATES.

By Aldo Castellani, M.D.,
Colombo, Ceylon.

A few months ago I was called to see a Maltese merchant, resident in the island for several years, who was suffering from an attack of diarrhoea. The patient, a strongly-built man of 30 years, had no fever and his general condition was good. He had been passing for the previous three days six to eight motions in the twenty-four hours; no abdominal pains; no tenesmus. The stools were semiliquid and brownish, without any blood or pus. A few flocculi of mucus could be seen mixed with the faecal matter. As a matter of routine I examined microscopically the stools, and was surprised to see an enormous number of flagellates, described later on. The organisms were swarming; in each field of the microscope (Koritska, ob. 8, oc. 4) I could count forty or fifty at least. The microscopical examination showed also a few eggs of trichocephalus dispar, a few crystals of fatty acids, and some detritus.

No red blood corpuscles or leucocytes could be seen. The bacteriological examination revealed only the presence of the bacillus coli. It is remarkable that the colonies were not very numerous. No bacilli of dysentery or paradysentery group could be found. The blood was examined: Leucocytes 12,500 per c.mm. Differential count: Polymorphonuclear, 60 per cent, large mononuclear 20 per cent., small mononuclear 15 per cent., eosinophiles 5 per cent.

The increase in the number of the large mononuclear is interesting, though there was no history of malaria and the spleen was not enlarged. The urine was analysed twice, and contained nothing abnormal. Believing that the diarrhoea might be due to the enormous number of flagellates, I told the patient to stop taking any astringents, and instead ordered him to use twice daily a large intestinal irrigation of a 1 in 3,000 solution of methylene blue.

Methylene blue is very poisonous to blood flagellates (trypanosomes) and I thought that it might also kill the intestinal flagellates. This, as will be seen, was proved later on experimentally in the laboratory. The amount of the solution injected was 3 pints each time.*

The improvement was really striking. It was interesting to see how quickly the flagellates decreased, and how many of them had completely, or almost completely, lost their motility—losing their usual shape, assuming a globular form. In two days the diarrhoea completely ceased. In the motions some few flagellates could still be seen for several days, but one had to search several fields of the microscope before finding any. Since then the patient has been in perfect health.

I have examined his stools twice since—the first time a month after the attack was over, and the second time two months later. In the first examination I could find no

* A certain amount of methylene blue was apparently absorbed, as the urine became slightly coloured. It is generally stated that the intestinal flagellates live in the small intestine: it would be then difficult to explain the action of the intestinal irrigation. I may say, however, that at *post-mortem* examinations I have found the germs oftener in the contents of the large than in the small intestine.

flagellates; in the second, a very few could be detected after a long search.

Recently a case very similar to that just related has come under my notice. The patient, a prisoner in the Borella Convict Hospital, under the care of Dr. Johnson, had complained for several days of diarrhoea. There was no fever, no griping pains. The stools were liquid and of a brownish colour; they did not contain blood or pus.

The microscopical examination showed the presence of huge numbers of flagellates. The faeces were investigated bacteriologically—the bacillus coli and a coccus only were grown. The patient recovered in a few days, the number of flagellates decreasing enormously, though a very few remained after the attack was over.

The Intestinal Flagellates.

The parasites were studied in fresh preparations and in preparations stained with various methods. The stained preparations, according to my experience, are seldom very successful; if many slides, however, are examined it is possible to find a few parasites fairly well stained. The flagellates present could be divided into three groups:

1. Large, pear-shaped bodies 18 to 25 μ in diameter, possessing an undulating membrane along the body, two or three flagella at one pole, and a short thick one (if it is a flagellum at all) at the other pole. An indistinct nucleus was present, and several apparently non-pulsating vacuoles could be seen. In the very rarely well-stained preparations (Romanowsky's method) the nucleus is more distinct—at least, in some specimens; it is reddish and appears purplish [illegible]. The rest of the body is bluish. These parasites are trichomonas hominis (Davaine).

2. Small roundish bodies 8 to 12 μ in diameter, without any undulating membrane. These bodies had one flagellum only. The protoplasm was homogeneous. No vacuole present. In preparations stained by a modified Romanowsky method a small roundish, rather indistinct nucleus stained purplish could be seen close to the point where the flagellum takes origin. These parasites are, in my opinion, cercomonas. I may state that at the present time the general tendency is to consider as trichomonas the flagellates known to the older authors as cercomonas. In my experience, however, the differences between the two groups of parasites were too well marked; size, number of flagella, general shape of the body, were quite different in the two types.

3. Roundish non-motile bodies 15 to 20 μ in diameter, which stained by Romanowsky a pale blue, with sometimes a few vacuoles. The chromatin was collected generally at one point. These bodies may perhaps be considered as encysted forms. These forms are very much rarer than the motile parasites.

In case No. 2, besides the three groups of parasites just described, two more forms of protozoa were observed.

1. Several actively motile organisms, 12 to 16 μ in length, with eight flagella, two of them taking origin at the inferior pole of the body and the others from various parts of the body. In fresh preparations these flagellates showed in the posterior portion of the body two very refractile roundish points situated close together. This parasite is Lamblia intestinalis (Lambl).

2. A few individuals of another form of protozoa were present which I have met with for the third time. This protozoon may be a developmental stage of the trichomonas. Provisionally, however, I described it under the name of entamoeba undulans,[1] I observed the parasite for the first time in a case of chronic dysentery. It is an organism of variable size, the maximum diameter reaching from 18 to 30 μ. Smaller individuals may be occasionally met with—though very rarely. There is an absolute absence of flagella. The organism presents a continuous rapid undulating movement from one to the other extremity of the body, this being due to the presence of an undulating membrane. Now and then, at an interval of fifteen to twenty seconds, a very narrow, long straight pseudopodium is shot from the body. The pseudopodium is emitted very quickly, and as quickly retracted. Only one is emitted at a time. The parasite has a finely granular protoplasm; a differentiation between ectoplasm and endoplasm apparently does not exist. In a few individuals something like a very indistinct nucleus can be observed. One small vacuole—never possessing the characters of a contractile vacuole—is often present. The protoplasm frequently contains small granules and bacteria. This form of protozoon, which is intermediate between the mastigophora and the rhizopoda, might be simply a developmental form of the trichomonas hominis (Davaine).

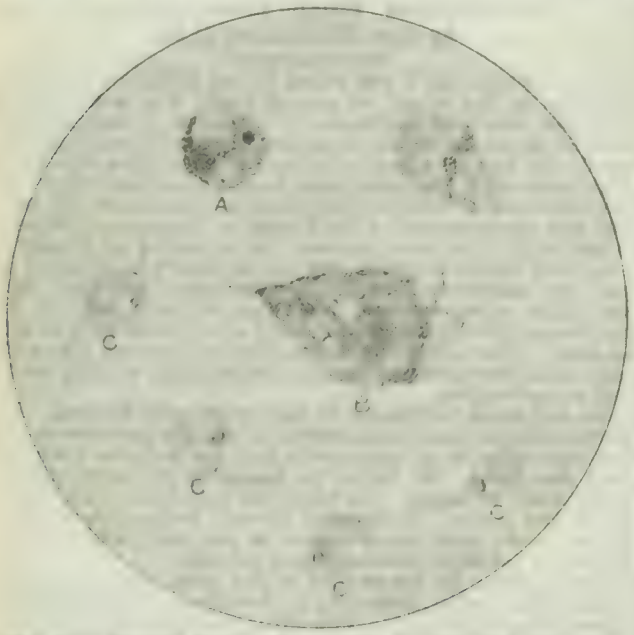


Fig. 1.—A, Encysted form; B, trichomonas hominis (Davaine); C, cercomonata.



Fig. 2.—A, Lamblia intestinalis (Lambl); B, entamoeba undulans (Cast.).

Trichomonata may sometimes lose their flagella and exhibit amoeboid movements; in such cases, however, in my experience, the undulating membrane also disappears and the pseudopodia are never so straight and long.

Experiments of Infection on the Lower Animals.—I tried to infect monkeys, rabbits, and guinea-pigs, but always with negative results. The stools recently passed by the patients and collected in large sterile Petri dishes were injected in various quantities into the rectum of those animals, and, although in several cases they were retained for a sufficiently long time, no successful infection occurred. The parasites disappeared very quickly, though they were present in large numbers and still actively motile when the stools were inoculated.

Resistance of the Intestinal Flagellates to various Chemical Substances.—The action of different chemicals on the parasites was tried repeatedly. Without referring in particular to all

the experiments, I may say that methylene-blue solutions were without doubt the most active—much more so, for instance, than quinine solutions. Mixing one loopful of 1 in 1,000 solution of methylene blue and observing microscopically, the flagellates were seen to take up the colour and stop almost instantly their movements, losing their ordinary shape and becoming globular without exhibiting any flagella or undulating membrane.

Relation of the Flagellates to the Diarrhœa.—Several authors have described cases of diarrhœa, probably due to flagellates. Epstein,[2] for example, gave a very interesting account of four cases in his clinic. By the great majority of authors (Grassi, etc.) the intestinal flagellates are considered as harmless inhabitants of the human intestine. They base their opinion especially on the fact that these parasites may be found in persons perfectly healthy. This is the same argument as used to deny the relation of amœba to a form of dysentery. That flagellates may be observed in normal people there is no doubt. I have examined with this object the fæces of many natives and of a few Europeans, and have found that the presence of the parasites (generally cercomonata) is not rare especially in natives; the organisms, however, were always in extremely small numbers. It seems to me that the intestinal flagellates, while harmless when few, must probably have some pathogenic action when present in such enormous numbers as in my two cases.

References.
[1] *C. B. Bakt. Parasit.*, 1905. [2] *Prager med. Woch.*, 1893.

A DISCUSSION ON BERI-BERI.

I.—J. Tertius Clarke, M.R.C.S., L.R.C.P.,
Perak, Malay States.

Of the present theories of the cause of beri-beri only the following need, I think, be considered:

1. The "arsenical" theory of Ross.
2. The "rice" theory.
3. The "place" theory.
4. The "acute" or "subacute" infectious disease of Hamilton Wright.

1. Of the "arsenical" theory, there is in support the similarity of most of the symptoms and the finding of arsenic in the hair and toenails of some cases; but the herpes, the pigmentation, and the painful feet of arsenical neuritis are not seen in beri-beri. To argue that pigmentation might be missed on a dark skin is beside the point, as on the skin of a Chinaman a change of colour is readily seen, and it is impossible to suppose that these symptoms can have been missed by men who have seen some thousands of cases of the disease. In addition to this, the neuritis of beri-beri is chiefly parenchymatous, while that of arsenic is chiefly interstitial.

2. The "rice" theory has its main support in the almost complete immunity of Tamils from the disease in a country where beri-beri is one of the three chief causes of death. These Tamils subject their rice before husking to a preliminary boiling, while the other races husk their rice raw, and so it may become contaminated by the poison which lies in the husk. This is not the only difference between the Chinese and the Tamils, for the former rarely take hot things with their rice, whereas the Tamils always take a quantity of pungent things containing essential oils, which it would be as reasonable to regard as preventives as it is to regard another article of diet as a cause of the disease.

3. The "place" theory supposes that the virus exists in certain places or gangs, some considering that the organism, others that only the toxin produced by the organism, gains entrance to the system. Only conjectures can be made as to how the organism or toxin enters the system.

4. The theory of Hamilton Wright is that beri-beri is "an acute infectious disease," "having a definite primary lesion" in the stomach and small intestine, and that the casual "organism may be ingested in any food and drink accidentally contaminated," and may "multiply and produce a toxin" both "in the contents and walls of the affected stomach and small intestine." The chief support for this theory is the finding of gastro-duodenitis in all cases which die in the early stages of the disease.

Of his definition, the words "acute" or "subacute" may be accepted. I do not understand in what sense the word "infectious" is used.

Bearing on the "rice" theory is a small experience of my own. I was in charge of a hospital and of a ward for decrepit vagrants in Lower Perak, Federated Malay States. The hospital had been in use for several years; the decrepit vagrant ward, though an old building, had for many years been empty, except that it was occasionally used as a dépôt for immigration purposes. At the time of its opening in September, 1903, as a decrepit vagrant ward it had not been used for any purpose for over a year. The hospital and the decrepit vagrant ward were about 300 yards apart, the soil, air, and water supply were the same. The hospital had cement floors and very well ventilated wards, the decrepit vagrant ward had raised wooden floors and very badly ventilated wards; there was more air space and floor space in the hospital than in the decrepit vagrant ward; there were about 60 Chinamen in the decrepit vagrant ward and about 30 in the hospital daily. The diet in the two institutions was similar in quantity and quality; there was one contractor for the two institutions. The coolie who took the provisions every morning took the supplies first to one and then to the other institution, and it may be assumed that every day the rice for the two institutions was actually taken from the same bag.

The conditions at the hospital were on the whole far better than they were at the decrepit vagrant ward, except for the one fact that the clothing, bedding, and utensils at the hospital had been in use for some time, whereas all these things at the decrepit vagrant ward were absolutely new.

Beri-beri cases were admitted into both institutions, but of 30 cases in the hospital between the middle of November, 1903, and the end of the year, 6 cases arose in the hospital in men admitted for other diseases, and 29 of the 30 cases died, showing an extraordinary virulence; during the same period at the decrepit vagrant ward no beri-beri cases died, and no new cases arose amongst the inmates. After very thorough disinfection of the hospital, which included boiling all clothes, perchloriding the bed-boards, floors, and walls, and changing the patients round, so that the Tamils occupied the Chinese ward and the Chinese the Tamils' ward, no more cases arose. No change was made in the diet.

No Tamils (who were about equal in number to the Chinese) acquired the disease, though their rice was the same and actually cooked in the same vessel with that for the Chinese. It may be noted, however, that they had hot curry stuffs, and no pork. The disease is generally regarded as a place, gang, or institutional disease, and the questions are: What kind of organism is the cause? Does the organism or only its toxin gain entrance to the body, and, in either case, how?

The disease may infect a place, may disappear from that place, and disinfection may apparently prevent further cases. Although it is possible that the infection is in the patient, something more is wanted, as it is quite the exception for dressers, or even for ward attendants who may sleep every night in beri-beri wards, to acquire the disease. I have known a Chinaman who had been a ward attendant for nine years (and who must have slept many hundred times in a ward containing thirty or forty beri-beri patients) leave in order to go tin-mining and come back into hospital in a few months with beri-beri. These attendants sleep and work in the beri-beri wards, and their diet is the same as that of the patients, the chief difference in the conditions being that the attendants have their own bed-boards, blankets, and mosquito curtains, which are not changed for those of the patients, while with patients these things are interchangeable.

If the infection lies in a hospital ward, it is most probable that it lies in the bed-boards, clothing, or bedding. It is not easy to see how it could lie in cement floors (which are washed and limed once a week), in lime-washed brick pillars, or in walls made of "bertam," which allow the air to percolate freely through.

The bed-bug is a most difficult thing to keep out of hospital bed-boards, and though the infrequency of the disease in towns, as compared with the mines, and the rarity of the disease in Tamils might suggest that this insect is not the cause, yet it seems to me that the so called "place" will probably come down to the bed-board, clothing, or bedding, and that a not uncommon inhabitant of these things might have something to do with it.

With this idea I tried to make bed-bugs bite monkeys. I kept beri-beri patients on bed-boards all day, and at night removed the patients and tied a monkey to the board, having first ascertained that bed-bugs were on the boards. This had no result. I then shaved a monkey and fixed up bed-bugs (taken from a beri-beri patient's bed-board) under a watch glass, which was bandaged and strapped over the shaven part. After two days those bugs which had not got out were dead. Nothing happened to the monkey; in fact, I do not think these bugs will bite monkeys. I then crushed up about

twenty bugs in water and injected this under a monkey's skin, but the monkey at the time of my leaving for England (three weeks afterwards) was still quite well. On several occasions I injected 4 or 5 drachms of cerebro-spinal fluid into monkeys and one monkey was ill after it for some days; did not take its food well, and was unable to climb a post, falling down after it had got about 6 ft., having apparently great weakness of its hind legs. Although these experiments all had negative results and the hospital epidemic described was only small, I think that they may be put forward, as if one insect is eliminated as a cause, another may be tried.

II.—R. TANNER HEWLETT, M.D., M.R.C.P., D.P.H.,

Physician to the *Dreadnought* Seamen's Hospital, Greenwich: Lecturer on Bacteriology, London School of Tropical Medicine; Professor of General Pathology and Bacteriology, King's College London.

A NORWEGIAN seaman was admitted into the Seamen's Hospital, Greenwich, suffering from a mild attack of beri-beri. His ship had come from the West Indies, and he and three others of the crew were attacked with beri-beri. On admission the knee-jerks were completely absent, the calf muscles were tender, the heart was somewhat dilated and its action irregular. Under complete rest and strychnine and digitalis his general condition soon improved and the heart's action became normal. In three weeks he began to get up, but there was considerable difficulty in walking. Strychnine, iron, and arsenic were given and galvanism regularly applied to the leg muscles, but he made little or no progress as regards regaining the use of his legs. After three weeks' treatment subcutaneous injections of $\frac{1}{30}$ grain of strychnine were given twice daily alternately into each thigh, that is, each leg received one injection of strychnine daily. Under this treatment he rapidly improved: in a week he could walk fairly well, and in a fortnight was discharged practically cured. Another patient, a German seaman, was admitted into the Seamen's Hospital suffering from old beri-beri paresis of nine months' duration. During the acute stage of the attack he had been in hospital at Philadelphia. On admission he was bedridden, there was complete foot-drop, loss of knee-jerks, great wasting of the calf muscles, and absolute inability to stand or walk. After treatment for some weeks with massage, galvanism, and tonics, strychnine injections of $\frac{1}{30}$ gr. were given into the right and left thighs alternately. Now, six weeks after commencement of the treatment, he is able to stand well, and can walk without help or the assistance of a stick. His condition has vastly improved, and I attribute the improvement mainly to the strychnine injections. I think these two cases emphasize the value of the local use of strychnine in paresis, a form of treatment which has been advocated in infantile paralysis by Dr. Leonard Guthrie and others.

III.—HAMILTON WRIGHT, M.D.McGill,

Late Director, Institute Medical Research, Federated Malay States.

DR. HAMILTON WRIGHT having referred to previous papers on the subject of beri-beri in which he had endeavoured to show that the incubation period of the disease is short—from seven to fourteen days—said: It is an acute or subacute infectious disease, due to a specific organism not yet certainly determined; the organism is not one whose special habitat is any food such as fish or rice, but one that may nevertheless be ingested in any food and drink accidentally contaminated; that, after gaining an entrance to the alimentary canal, the organism multiplies in the contents of the stomach and small gut, but chiefly in the contents of the duodenum; that it there elaborates a toxin which, being absorbed, poisons certain afferent and efferent neurones to different extents and in different degrees, and thus gives rise to a group of symptoms which can be classified as acute pernicious, acute and subacute beri-beri. I point out that the probable duration of the active stage of the organism is from two to six weeks, and that after its active stage has ceased and its virus has been eliminated, the paresis or paralysis it has engendered persists. For this persistent paralysis I have proposed the term beri-beric residual paralysis, and I maintain that the great mass of our knowledge of beri-beri is founded on the study and statistics of the residual effect of a disease—beri-beric residual paralysis—and not truly upon the disease itself, acute pernicious, acute and subacute beri-beri. It then seems evident to me that we should be just as clear in our conceptions of diphtheria if we had based our calculations of it on post-diphtheritic paralysis, as we are in our notions of beri-beri through basing our theories and hypotheses of it on its residual paralysis.

In my papers I have not only outlined my clinical and *post-mortem* observations on man, but gave a fuller description of the disease as seen in monkeys which had contracted the disease after a short stay in an environment in which many adult male Chinese and other Orientals had succumbed.

There is not only clinical evidence, but also indisputable *post-mortem* evidence, that beri-beri must be regarded as an acute infectious disease, having a definite primary lesion.

IV.—LOUIS W. SAMBON, M.D.Naples,

Lecturer, London School of Tropical Medicine.

DR. SAMBON read with great interest Dr. Wright's reports on beri-beri, and considered that the latter's careful and painstaking researches in the Malay Peninsula had elicited many important facts concerning the epidemiology of the disease, but he could not follow him when he stated that what we had hitherto called beri-beri was only a sequela, a "residual paralysis," and that the true disease was a duodenitis of short duration, an acute disease which he ascribed to a bacillus that he had neither cultivated nor inoculated but only found *post mortem*. To Dr. Sambon the neuritis was the essential feature of beri-beri, and considering that in each case, and at different periods during the course of the disease, different sets of nerves were implicated, and that some nerves recovered whilst others degenerated, he was inclined to believe that the causative agent of the disease was to be found in the diseased nerves themselves. In rabies the specific organism was to be found in the spinal ganglia, and in furious forms of the disease in the cortex of the brain and in the horn of Ammon. In leprosy, also, the bacillus was frequently found in the diseased nerves. As to a possible agent of transmission, he thought that notwithstanding Dr. Clarke's negative experiments the bed-bug was to be regarded as the most probable, because it was the only one which seemed to fully agree with the peculiar epidemiology of beri-beri. It also explained the difficulty of eradicating the disease from infected collective dwellings. Dr. Sambon wished to draw attention again to the latency and recurrence of the disease in those who had once contracted the infection. The relapsing of beri-beri at a certain season of the year, and under certain conditions, was analogous to that of malaria, and explained many obscure points in the epidemiology and natural history of the disease.

V.—D. J. GALLOWAY, M.D.,

Singapore.

DR. GALLOWAY said that probably no disease had been so lost sight of under the mass of its symptoms, or had given rise to more controversy, than beri-beri. A study of the literature showed that whatever the phase which the different writers started to elucidate, they all gravitated to the question of alimentation. Alimentation had two factors, the aliment and the alimentary tract, and a close study of the numberless experiments which had been tried, and the numberless food theories, could only point to the futility of attempting any explanation from the diet. There remained the alimentary tract, and he described the symptoms he had seen in very early beri-beri—epigastric pain, anorexia, diarrhoea, dullness and boarding of the epigastrium, pain over the upper duodenum, and a peculiar condition of the mouth. He found, in conversation with Dr. Lim Boon Keng, that these symptoms had been observed also by him, preceding the appearance of localized oedema or neuritic symptoms by ten or fifteen days. He sketched a possible process by which the infection might be spread based upon the habits of expectoration of the Chinese, and he drew a rough analogy between the waves of malaria which used to puzzle us before we knew of the rôle the mosquito played, and he suggested that possibly the ordinary fly might play the part of carrier.

VI.—F. O. STRDMAN, M.D.,

Hong Kong.

DR. STRDMAN gave details of an outbreak of beri-beri in a sailing ship during an eighty-day voyage from New York to Hong Kong, no port being visited *en route*. Ten days out from New York beri-beri developed. The passengers attacked occupied a saloon in the centre of the ship. None of the crew in the forecastle of the ship were attacked. The only explanation of the outbreak was attributed to the fact that a Chinese steward on board the ship, who occupied a berth near the saloon in which the beri-beri sufferers were quartered, was said to have had beri-beri previously. These cases would

seen to prove direct communicability of infection in beri-beri.

VII.—ANDREW DUNCAN, M.D., M.R.C.P.Lond.

DR. DUNCAN drew attention to a case of beri-beri under his care, in which, during the whole time he was in hospital, there was an increased knee-jerk instead of a loss of the same. He also mentioned the fact that in 1874-5, when he was House Physician at the Seamen's Hospital, he never saw a case of beri-beri, and, in fact, this disease did not appear in the annual hospital returns till several years after this date. Is it a more or less new disease since this date?

VIII.—W. L. STRAIN, M.B., C.M.,
São Paulo, Brazil.

DR. STRAIN said he had seen three sporadic cases of beri-beri occurring *post partum*, the symptoms appearing within a period of days after confinement. He had not seen any epidemics of beri-beri, but many sporadic cases. On one occasion he saw a small epidemic in the State gaol of Minas Geraes, and as a point of interest mentioned that the native surgeon to the gaol who accompanied him was treating the oedematous cases by administering one litre of cow's urine, stating that it was the best diuretic he knew, probably anticipating the more modern treatment of oedema by urea. Dr. Strain's belief as to the etiology was quite in accordance with the views expressed by Dr. Hamilton Wright.

NOTE ON A PECULIAR SCHISTOSOMUM EGG.

BY

S. R. CHRISTOPHERS, M.B.Vict., I.M.S. and J. W. W. STEPHENS, M.D.Cantab., Lecturer, Liverpool School of Tropical Medicine.

THE eggs were found in the urine of a Madras native suffering from haematuria. Their appearance at once struck one as different from that of the ordinary schistosomum haematobium egg, as seen, for instance, in the urine of soldiers who had returned from South Africa. Their striking peculiarity is their long spindle-like appearance. The thick end of the egg, instead of being bluntly rounded as in S. haemotobium, is prolonged into a long, snout-like process, giving the egg its spindle shape. The actual dimensions are: Length, 205.2 μ; width, 53.2 μ. So that in length the egg exceeds that given by any observer for S. haematobium: 135-160 μ by 53-66 μ (Railliet); 120-190 μ by 50-73 μ (Braun). They somewhat resemble the figures given by Railliet of the egg of S. crassum. It must be stated that the eggs in the urine are not entirely of this peculiar shape. Some are indistinguishable from S. haematobium. This fact makes it difficult to come to any decision about the nature of these eggs, and we must content ourselves with placing on record their occurrence without expressing any opinion as to whether they are a new species or not. The eggs were submitted by us to Professor Looss, of Cairo, who very kindly examined them for us. He states that he had not seen similar eggs in Egypt, but would hesitate to ascribe them to a new species solely on the appearance of the eggs. In this opinion we concur, and must await further evidence on the question, but we think that, having drawn the attention of observers to the possibility of new species of schistosomum, further data may be soon obtainable.

NOTE ON THE METHOD OF TAKING QUININE IN THE PROPHYLAXIS OF MALARIA.

By ST. GEORGE GRAY, M.B., B.Ch.Dub.,
Sierra Leone.

QUININE is one of the oldest and probably the most generally used of all the agents now employed in the prophylaxis of malaria, but none of them is used in so many different ways for this purpose by those who rely on it for the keeping of their health in the Colonies. One man takes his 3 or 5 gr. a day, another takes the same quantity every other day, while still another takes 10 gr. once a week or once a fortnight.

Each man thinks his own way to be the best, and recommends it to his newly-arrived friends. If the newcomer should happen to be advised by two or more persons whose methods of taking quinine differ, he perhaps consults the medical officer, and, as the medical officers themselves differ in their opinions as to the proper method of taking quinine, he is often puzzled to know which of his many advisers to follow, and takes his quinine or not as he thinks best.

This is certainly the case on the West Coast of Africa. I have made inquiries on this subject of my European patients, friends, medical officers, and fellow passengers on board ship, and find that hardly any two of them take their prophylactic doses of quinine in precisely the same manner, and not one of those that I have asked could tell me why he has adopted his own particular method, except that it was recommended to him by a friend or medical officer.

To those who ask me I invariably give the same advice. First of all it is necessary to understand something of the action of quinine on the parasite of malaria. It destroys the parasites in the blood, but, so far as we know, it destroys that parasite more surely at the moment of sporulation—that is, when the "spores" are free in the liquor sanguinis—than at any other time in its cycle of development. This takes place, as a rule (almost invariably in the West African colonies), once in forty-eight hours.

Fever declares itself about a week or ten days after infection if no quinine be taken as a preventive.

A man who takes his 5 gr. of quinine a day is pretty sure to escape malarial fever, but it is not every one who can take this dose for any great length of time without experiencing some of the unpleasant effects of too much quinine. If he takes it regularly he consumes about 150 gr. a month, or 1,825 gr. a year. I know some men who can stand this quantity of quinine, but there are many more who cannot. Three grains a day is not always enough, for I have known men to be attacked by malarial fever in spite of daily 3 gr. doses of quinine. Even this dose taken regularly for a long time often causes unpleasant symptoms.

Those who take their 5 gr. every other day sometimes get fever and sometimes escape. It is possible that the prophylactic dose may be taken so as to be in the blood at the time that sporulation takes place or it may not, and the quinine may or may not destroy the parasites according to the time that it is taken.

A man who takes 10 gr. once a week is more likely to escape fever than he who takes 5 gr. every other day, because the chances are that if the quinine misses the parasite one week it will be sure to catch it the following week, provided that infection does not take place too soon after one dose and that the second does not come too late.

The method of taking quinine which I recommend is based (*a*) on the fact that the life cycle of the parasites is nearly always forty-eight hours; (*b*) that some eight or ten days must elapse after infection before they become sufficiently numerous in the blood to cause an attack of fever.

Hence it follows that if a full dose of quinine (10 or 15 gr.) be taken on two successive days, with an interval of eight or nine days before the next two doses are taken, the parasites will always be destroyed before they can cause fever.

Nearly every European on the West Coast of Africa keeps a calendar on which he ticks off the days every morning until he is due for leave. On my calendar I mark certain days—namely, the 1st and 2nd, the 11th and 12th, and the 21st and 22nd of each month. When I see the date marked in this way I know that it is my day for taking quinine, and after taking it I make an additional mark to indicate that this has been done.

This additional mark is necessary as a reminder for those who have short memories, because they sometimes forget whether they have taken their quinine or not.

This is practically the method of Koch. It is quite as efficacious as the 5 gr. a day plan with the advantage that there is a clear week when one is not taking any quinine at all (which is fully appreciated by those who are susceptible to the unpleasant effects of the drug) and less than half the quantity is used.

I have taken my prophylactic quinine in this way for more than two years, and have not yet been off duty for a single day through illness, although I have been in all sorts of "unhealthy" localities, and have been obliged on more than one occasion to sleep in an open boat and in other places where it was impossible to avoid being bitten by mosquitos.

The advantages which I claim for this method of taking quinine as a prophylactic are:

1. It is at least as efficacious as any other.
2. Less quinine is necessary.
3. There is an interval of at least a week when the subject is not taking any quinine.

4. Last, but not least, patients and others are more willing to follow instructions if the reason why this plan should be adopted in preference to any other is explained to them.

MALARIAL FEVER IN BRITISH CENTRAL AFRICA.

By H. HEARSEY, M.D.,
Principal Medical Officer, British Central Africa.

THE forms of malarial infection met with in this country are mainly two, namely, those due to the parasites of "tertian" and "aestivo-autumnal" fevers.

1. *Tertian.*

This is by far the commonest type of intermittent fever prevalent, but owing to the frequent double infection by parasites and their reaching maturity on alternate days, the clinical manifestations are often those of quotidian fever. Blood films hardened in equal parts of alcohol and ether, and stained with methylene blue, show the parasites as small blue rings, in the peripheral portions of which are pigment granules. These two types, the "single" and "double tertian," are amenable to treatment with quinine. When there is "multiple" infection by tertian parasites, one of the so-called "irregular" fevers is the result. These forms are generally resistant to treatment with quinine.

2. *Aestivo-autumnal.*

This is the type of fever which, there is reason to believe, is mainly responsible for the "pernicious" attacks. Specimens of blood prepared in the above manner often show no parasites, but when seen they are found to closely resemble those of the tertian form, except that they are smaller, and contain but scanty pigment. It is probably owing to the presence of these parasites in several groups, with varying cycles of development, that we have associated with this infection the "remittent" and "continued" temperatures. These types are generally resistant to treatment with quinine.

Although one may in some cases fail to detect parasites in the peripheral circulation, the red corpuscles after the pyrexial attack has continued for some days show remarkable changes of a necrotic kind. They are wrinkled and crenated and of a marked pallor, giving them the well-known "brassy" appearance.

This leads me to the consideration of

Haemoglobinuric Fever.

After repeated examinations of the blood in this type of fever I have failed to find any parasites. But the degenerative changes in the red cells just described have always been found. In only three cases have I had an opportunity of examining the blood before the onset of haemoglobinuria; in two of these the results were negative; in the third a few small ring parasites were observed, which, however, subsequently disappeared when haemoglobinuria developed. I am therefore inclined to regard haemoglobinuric fever as a "pernicious" form of the aestivo-autumnal, the absence of parasites being probably due to their having left the peripheral circulation for the spleen and bone marrow.

The occurrence of haemoglobinuria may be attributed to the following causes as favouring its development:

1. An anaemic condition of the blood due to previous attacks of malaria rendering the haemoglobin more unstable, and permitting of its liberation on slight provocation. Quinine, even in small doses, may be regarded as the provocative agent in a large number of cases, at any rate, in this country.

2. A sluggish condition of the liver, whether induced by malaria, indiscretion as regards habits of life, food, or drink, or from climatic causes, preventing this organ from disposing of the unusually large quantity of haemoglobin set free by converting it into bile pigment. There is reason to believe that haemoglobin is liberated in every severe malarial attack, but it is ordinarily effectually disposed of by the liver, so that none appears in the urine.

3. The presence of nephritis, post-malarial or other, increasing the permeability of the renal epithelium sufficiently to allow haemoglobin to escape. A large number of post-mortem examinations made in British Guiana in fatal cases of malaria showed the presence of nephritis in considerably over half the cases.

In view of the repeated failures on the part of many observers to discover a specifically different parasite to account for this type of fever, I see no reason for regarding it as other than one of the many forms of pernicious malarial fever induced by one or more of the causes alluded to.

The therapeutic test of quinine failing to alleviate the symptoms of this disease no more proves it to be non-malarial than does the similar test in the case of iodide and mercury prove syphilis and yaws to be identical.

Treatment.

I now come to the question of treatment. Bastianelli has mentioned certain conditions under which quinine may be given in haemoglobinuric fever, and this has been quoted in almost every work on the subject. So far as this Protectorate is concerned, I think I may safely say that after an extended trial of this drug quinine will not again be given to a patient suffering from haemoglobinuric fever. A much higher percentage of recoveries has been obtained by completely discarding its employment, and patients have recovered satisfactorily and without any complications or sequelae.

Six years ago I pointed out that quinine not only did not appear to exert any beneficial effects, but on the other hand that it aggravated vomiting and added further to the distress of the patient. Its toxic action rendering the haemoglobin more unstable had also to be considered.

I then advocated treatment with bicarbonate of soda and perchloride of mercury, after a successful trial of this remedy in 9 cases; and later published a paper showing nineteen consecutive recoveries under this treatment. Since then I have only had the opportunity of treating two others, and both have recovered satisfactorily, making a total of 21 consecutive cases of recovery. Of the 8 cases previously treated with quinine, 4 died, 3 from suppression of urine, 1 from partial suppression and syncope. I have not had a single case of urinary suppression since adopting the present mode of treatment.

An injection of $\frac{1}{3}$ gr. of morphine is the most effective and reliable for controlling vomiting. Brandy is used to the exclusion of other stimulants; acid drinks are prohibited and the patient is allowed barley water for allaying thirst. Benger's food, milk diluted with barley water, chicken soup, Valentine's meat juice, and Brand's essences compose the dietary.

NOTE.—The mixture contains 10 gr. of bicarbonate of soda and 30 minims of the solution of perchloride of mercury in each dose. It is given every two hours during the first day and every three hours subsequently, until the urine clears.

TWO FURTHER CASES OF SNAKE BITE TREATED SUCCESSFULLY BY LOCAL APPLICATIONS OF POTASSIUM PERMANGANATE,

WITH SUGGESTIONS FOR EXTENSION OF ITS USE.

By LEONARD ROGERS, M.D., I.M.S.,

IN the *Indian Medical Gazette* of February, 1905, I placed on record five recoveries from snake bites after treatment by permanganate of potash applied locally after incisions through the fang marks had been made in accordance with the method lately advocated by Sir Lauder Brunton, Sir Joseph Fayrer, and myself. Two of the cases were treated immediately after the receipt of the bites of a cobra and of a Russell's viper respectively in the persons of snake men employed at the Zoological Gardens, Calcutta. In two other cases of bites by full-sized cobras, in the persons of natives living in the environs of Calcutta, ligatures were at once applied by the relatives of the patients and a native medical man summoned, who successfully carried out the treatment after fifteen and twenty minutes respectively from the receipt of the bite. One of the patients was a boy of 11, for whom the average amount of venom ejected by a cobra would have been twenty times a fatal dose. In each case the cobra was killed and was identified by the medical man. Since that time the following cases of undoubted bites by poisonous snakes have been reported to me as successfully treated in the same manner; and as they are the direct outcome of the revival and improvement of this method of treatment, while in one of them the snake lancet devised by Sir Lauder Brunton was actually used, and in the other the treatment was carried out by a layman when far from medical advice, they appear to be worthy of record as evidence of the simplicity and practicability of this method of treatment.

RUSSELL'S VIPER BITE SUCCESSFULLY TREATED BY A LAYMAN.

This case has been reported to me by Mr. Elves from a

remote part of the north of Siam. While in camp there his cook was bitten in three places in the left arm by a Russell's viper. Mr. Elves was in a tent a few yards away, and he had a ligature at once applied near the armpit; one of his men then sucked out the wounds, after which he lanced them freely, and soaked the arm in a very strong solution of permanganate of potash for half an hour. The ligature was taken off after five hours, and the arm swelled very much and became discoloured (as is always the case in viperine bites), but he was all right again in three weeks. The snake was killed and was identified with the aid of Nicolson's book on snakes. Although it is not possible to be certain that this man received a fatal dose of venom, yet there is a considerable degree of probability that he did so, and that his life was saved by the treatment so promptly carried out, although Mr. Elves's only knowledge of the treatment was from reading a letter of mine in the *Times* advocating it in very general terms.

CASE OF COBRA BITE TREATED SUCCESSFULLY WITH THE SNAKE LANCET AFTER HALF AN HOUR HAD ELAPSED.

This case has already been recorded by Dr. Protap Narain Singha in the *Indian Medical Reporter*, and the following abstract is taken from an account of the case he kindly sent me: A Hindu, aged 30, when going to bed, trod on a cobra, which bit him on the foot, both fangs entering. He immediately tied two ligatures, one just above the foot and one above the knee. Within half an hour of receiving the bite he was taken to a neighbouring dispensary, where the ligatures were found to be efficient, and the marks of the fangs very distinct, with a little bloody serum exuding from them. On pressing, a few drops of similar fluid exuded. An H-shaped incision was made with the lancet through and joining the fang marks, a small pocket made by raising the edges of the wound, and the wound packed with a few crystals of permanganate of potash, and a dressing applied. He had been bitten at 9.30 p.m.; the higher ligature was removed immediately after the treatment and the lower one three hours later. The next morning a deeply discoloured wound remained, with much oedema, which disappeared in three days, leaving an ulcer, and the man made a good recovery. Two snakes of the Gokura variety of cobra were killed in his room the next day, the smaller of which had a bruise on its back as if it had been trodden on.

SUGGESTIONS FOR THE POSSIBLE VALUE OF PERMANGANATE LOCALLY APPLIED IN OTHER CONDITIONS.

The successful use of permanganate of potash in the treatment of snake bite, the convenience with which it can be carried, and the safety in which it may be used by intelligent laymen in the absence of medical aid, suggest certain extensions of its usefulness as a local antiseptic, especially by persons in isolated positions, as when out on shooting expeditions.

In the Treatment of Scorpion Stings.—It has recently been shown by a worker in Egypt that the poison of scorpions is of the nature of an albumose—that is, it belongs to the same class of albuminous bodies as do snake venoms. It appears probable, therefore, that permanganate will act as well against the former as it does against the latter, and one case has been reported to me in which it has been applied in a strong solution to the seat of a sting by a scorpion, with the result of at once relieving the pain.

In the Prevention of Infection of Dust-laden Wounds by Tetanus.—It is well known that wounds into which the dust of streets or earth has entered are particularly liable to tetanus infection, and nowhere is this more common than in Calcutta, where the wards of Medical College Hospital are never long free from this terrible disease. Recently prophylactic doses of tetanus serum have been given in cases of wounds which are likely to be followed by tetanus, and the results of this treatment have been very favourable. I have long been of the opinion that this is the proper method of dealing with this disease where possible, but it is only available in the hospitals of large towns as a rule. The difficulty of preventing tetanus with certainty by even careful antiseptic cleansing of dust-infected wounds is well known, and I was much struck by the case of a man who had been dragged in a London street, resulting in a wound over the right anterior superior spine, with dust ground even into the bone, in which prolonged cleansing with antiseptics, and even scraping of the bone under an anaesthetic, failed to avert tetanus. As the bacillus of this disease is so markedly anaërobic, it occurred to me that such a strongly oxidizing substance as permanganate of potash might exert a specially powerful action on the infection of tetanus. In order to test this, I have carried out some experiments by infecting rats with the dust of Calcutta streets, which some previous experiments of Major Drury's has shown will usually produce tetanus in four or five out of every six rats.

Experiment I.—Twelve rats were chloroformed and a good pinch of dust, taken up with the finger and thumb, inserted under the skin of the back. In six of them a few crystals of permanganate of potash were inserted at the same time, the remaining six serving as controls. Five out of these six died of tetanus, the organism being found in the wounds, but the sixth remained well. Of the six with the permanganate in addition, five remained well and one died of tetanus. This was a very severe test, as the amount of dust inserted was very large for so small an animal, and the results were highly encouraging.

Experiment II.—Twelve rats were chloroformed and a number of abrasions and cuts down to the muscles were made in one thigh and street dust freely rubbed in. Six untreated served as controls. In three more the wounds were washed with a strong solution of permanganate half an hour after the dust had been applied, and the other three were similarly treated after one hour had elapsed. These six treated animals all recovered, and the wounds rapidly healed without sloughing or other trouble. Of the six controls four died of tetanus, the bacilli being found in the wounds, and one of staphylococcus septicaemia.

These results, as far as they go, strongly indicate that permanganate of potash exerts a powerfully preventive effect against the tetanus infection in dust-laden wounds, and indicate that the drug may be safely and usefully used in this class of cases in the absence of immediate medical assistance. Further work on this line is advisable.

In Wounds Inflicted by Wild Animals such as Leopards.—This class of wound is specially liable to occur in the jungle at a distance from medical aid, while the great fatality of such injuries is only too well known, cases being reported every year in India which might have been averted by prompt antiseptic treatment. Here, again, I venture to suggest that crystals of permanganate of potash or a very concentrated solution of the same, instilled into the depths of the bites and of the wounds inflicted by the claws of the animals—preferably after they had been enlarged with a knife—might serve as a safe and efficient antiseptic method of treatment, or at least so lessen or delay the gravity of the infection with putrefactive germs as to allow medical assistance to be reached in time to avert the more fatal forms of blood poisoning.

Wounds Inflicted by Rabid or Supposed Rabid Animals.—Here again, in the absence of immediately available medical treatment, it would appear to be well worth while to treat the wounds in the same way if the crystals are at hand as a preliminary measure, resort to the Pasteur treatment being, of course, made as soon as possible. I hope to test this suggestion experimentally as soon as a suitable opportunity occurs.

If this method of treatment proves of value in all or any of the conditions suggested, it will add greatly to the value of the permanganate lancet, and may lead to such a wide circulation of this instrument as will cause the saving of many lives in the remoter areas of India and other similar countries.

BLOOD COUNTS IN ACUTE HEPATITIS AND AMOEBIC ABSCESS OF THE LIVER,

WITH FURTHER EXPERIENCE OF THE RELATIONSHIP OF THE AMOEBA DYSENTERICA TO TROPICAL LIVER ABSCESS.

By LEONARD ROGERS, M.D., I.M.S.

NOTHING is easier than the clinical diagnosis of liver abscess in a large proportion of natives admitted to hospitals in India with this disease, as they so frequently only present themselves when the physical signs are very evident, and by no means rarely when a soft bulging swelling is apparent in the hepatic region, though I have known such a case taken to be a superficial abscess in the abdominal wall. On the other hand, in Europeans (and occasionally in natives) coming for treatment on the first appearance of febrile symptoms and more or less evident signs of a hepatitis, nothing is more difficult than to decide if suppuration demanding early surgical treatment has already taken place, or only acute hepatitis, which will undergo resolution under appropriate

TABLE I.—*Cases of Acute Hepatitis Without Abscess Formation.*

No.	Nationality.	Sex.	Age.	Result.	Red Corpuscles.	White Corpuscles.	Ratio of White to Red.	Polynuclears.	Lymphocytes.	Large Mononuclears.	Remarks.
1	European	M.	—	Recovered	5,390,000	11,500	1—468	73	23	4	Acute hepatitis present—liver abscess suspected.
2	,,	M.	—	,,	—	10,250	—	75	20	5	
3	,,	M.	37	,,	3,780,000	7,875	1—480	78	17	3	
4	Native	M.	24	,,	5,020,000	9,500	1—528	79	14	4	
5	,,	M.	32	,,	4,220,000	3,750	1—1,125	62	15	20	

Cases of Liver Abscess.

No.	Nationality.	Sex.	Age.	Result.	Red Corpuscles.	White Corpuscles.	Ratio of White to Red.	Polynuclears.	Lymphocytes.	Large Mononuclears.	Remarks.
6	Native	M.	40	—	2,670,000	13,250	1—201	—	—	—	Admitted for fever.
7	,,	M.	45	—	4,030,000	12,750	1—316	—	—	—	Admitted for perihepatitis.
8	,,	M.	45	Died	4,750,000	14,500	1—327	—	—	—	——
9	European	M.	38	,,	2,860,000	8,625	1—332	—	—	—	Admitted for anaemia and diarrhoea.
10	,,	M.	30	,,	3,485,000	38,500	1— 89	—	—	—	——
11	,,	M.	35	,,	5,740,000	12,750	1—450	08	20	12	Admitted for fever.
12	,,	M.	45	Recovered	4,830,000	20,750	1—233	86	10	4	Marked temporary improvement.
13	,,	M.	40	,,	3,440,000	13,000	1—260	89	9	2	Treated for malaria.
14	,,	M.	40	,,	—	14,500	—	76	14	10	Admitted for fever.
15	,,	M.	36	Died	3,960,000	15,250	1—260	88	9	2	,, ,, ,,
16	,,	M.	—	,,	4,500,000	35,250	1—127	87	8	5	,, ,, ,,

treatment, is present. During the last few years I have made blood examinations in a number of such doubtful cases, either in the Calcutta hospitals or in consulting practice, and as I have found blood counts, especially with regard to the presence or absence of leucocytosis, of great diagnostic value, I propose, in the present paper, to give the results of my experience, with some illustrative cases.

In the table I have placed first a few cases in which very evident symptoms of acute hepatitis were present and suppuration was suspected, but in which resolution took place without any evident abscess formation. In the second part of the table cases in which abscess of this organ was found are entered. A general review of the table shows a striking difference between the two classes of cases as regards the number of leucocytes. Thus, in the first part, comprised of cases of simple acute hepatitis, leucocytosis is either absent or limited to a very slight degree of that condition. In Case I, 11,500 leucocytes were found, but here the red were also above the normal owing to diarrhoea, so that the ratio of white to red corpuscles was very nearly 1 to 500. On the other hand, in the cases shown in the second part of the table (in which abscess of the liver was subsequently found, although the symptoms of it were not very clear when the blood examinations were made) a greater or less degree of leucocytosis was present with one exception. In several other cases, where the signs of liver abscess were clear, leucocytosis was also present, except in one case in which the abscess was pointing through the abdominal wall as a soft hemispherical swelling, and tension was thus to a great extent relieved, and no leucocytosis was found. These cases are not included in the table as there was no difficulty in the clinical diagnosis of abscess of the liver in them.

The Degree of Leucocytosis and the Acuteness of the Case.—The most striking point in the second part of the table is the great variability in the degree of leucocytosis present, between 30,000 and 40 000 having been present in two of the cases, while in others the increase is slight or even absent altogether. It is worthy of note that in the two cases which gave the highest count the breaking down of the liver substance proved to be very rapid, while in each there was also copious haemorrhage from the bowel and high fever. In one of them a *post-mortem* examination was obtained and very extensive amoebic dysentery, in addition to extensive liver abscess formation, was found. I have also seen over 40,000 leucocytes in very acute amoebic dysentery, with extensive sloughing of the large bowel. Such acute cases of liver abscess and amoebic dysentery are, in my experience, always rapidly fatal, although the classical symptoms of dysentery may be nearly completely absent, and the cases diagnosed as "sloughing piles" or "gangrene of the rectum." On the other hand, in cases of the opposite character in which the formation of abscess in the liver takes place very slowly and with no obvious symptoms pointing to the local condition for some time, only low, intermittent fever is present, and the degree of leucocytosis is slight. Case IX, with only 8,625 leucocytes, and Cases XI and XV, with 12,750 and 15,250 belong to this type, the last two having had no leucocytosis at all when first admitted to hospital for "fever," but the above counts were found at a later date when some enlargement and tenderness of the liver had begun to appear, and Case XI soon after began to cough up liver pus. In these insidious cases leucocytosis should be carefully watched for, and a comparatively slight degree of it will warrant exploratory operation either with an aspirator or the knife. Case VIII, in which no absolute increase of the leucocytes was present, is of special interest, for I was led to give the opinion that no abscess was present. The very experienced physician in charge of the case concurred in this opinion, and no operation was undertaken, but the patient gradually sank and died, and at the *post-mortem* examination I found a very large single abscess with a thick, fibrous wall in the right lobe of the liver and certainly amoebae. A closer examination of the blood count might have saved me from this error, for it will be seen that the number of the red corpuscles is only about half the normal, so that although only 8,625 white corpuscles were found, yet the proportion of white to red works out at 1 to 332, or nearly double the normal proportion, this figure being about the same as in most of the cases of liver abscess in the table, while the proportion is considerably greater than in any of the cases of acute hepatitis without abscess formation. In fact, a relative leucocytosis was present which should have put me on my guard, especially in the case of a slow and insidious onset such as this was. In this connexion it is interesting to observe that Cabot found marked leucocytosis in 6 out of 7 cases of liver abscess, and he remarks on the exception that "I have never been able to account for its absence in that case." Yet I observe that in his case also the red corpuscles were much below the normal, so that the ratio of white to red works out at 1 to 358, a relative leucocytosis being again present. It is clear, then, that before the presence of liver abscess is excluded on account of an absence of an absolute degree of leucocytosis the red corpuscles should be counted and a relative degree of this condition also excluded. On looking at the column in the table which shows the proportion of white to red corpuscles, the ratio of white corpuscles was markedly above the normal in all except one, and in that case the examination was made twelve days before he began to cough up pus in an insidious case, and unfortunately no later examination was made. Further, in the cases in the first part of the table, in which the signs of acute hepatitis subsided without evidence of suppuration, there was no marked increase of the ratio of white to red corpuscles. This increased ratio, then, appears to be a safer guide to the presence of

amoebic abscess of the liver than is the absolute number of leucocytes.

Remarks on Some of the more Instructive Cases.

I have already mentioned that only cases in which the diagnosis of liver abscess was clinically difficult have been included in the table, but it will be well to further illustrate this point by relating the histories of a few of the more interesting cases which have not been referred to above.

Case x.—The illness began with hepatitis, and, liver abscess being suspected, exploratory aspiration was performed, with a negative result. A week later profuse haemorrhage from the bowel occurred, and I was asked to test the blood for typhoid. As there had been symptoms of hepatitis I did a blood count at the same time, and found 38,500 leucocytes, while the Widal test was negative. A day or two later the physician in charge of the case asked me to examine the blood again, this time for malarial parasites, as he thought the temperature chart showed some trace of a tertian type of fever. This examination was also negative, and a few days later a large abscess in the liver was found by aspiration and opened; but the case terminated fatally, as cases with such a high degree of leucocytosis usually do.

Case xii. *Temporary Recovery with Subsequent Relapse.*—This case is of exceptional interest, for, in spite of my having found 20,450 leucocytes, and having diagnosed liver abscess on that account, the temperature fell to normal, and ten days later he left hospital apparently well. He proceeded to a hill station, where his symptoms quickly returned, and an abscess of the liver was successfully opened. In connexion with this history a case which occurred at the General Hospital, Calcutta, some years ago, is of great interest. Symptoms pointing to liver abscess were so marked that preparations for operation were made, but on the morning it was to have taken place the patient's temperature fell to normal, so it was postponed. He made a good recovery from that day and left the hospital. Some three years after he returned with a totally different disease, which proved fatal. A *post-mortem* examination was made, and an old encysted abscess of the liver was found. Another possible explanation of Case x is that the original abscess encysted owing to the amoebic infection having died out, but that another abscess developed, and was subsequently opened, as in a case to be mentioned presently.

Case xiii. *Case of Liver Abscess Treated as Malaria and sent on a Sea Voyage.*—This was another difficult case admitted for fever without at first any very evident signs of liver disease. The medical man in charge thought he had found malarial parasites in the blood, and, getting no good effect from quinine pushed up to 40 gr. a day by the mouth, he gave the drug hypodermically. As the temperature continued to rise he asked me to examine the case, and finding no malarial parasites, while the blood film showed an obvious increase of the leucocytes, I made a total count and found 13,000 white corpuscles, and a ratio of 1 white to 260 red, the latter being considerably below the normal. The medical man in charge had already made arrangements to send his patient on a sea voyage to try and "break the fever," and four days later he started for Colombo against my advice. At Colombo he went straight into hospital, where an abscess of the liver was opened without delay, and fortunately he made a good recovery.

Case of Coeliac Aneurysm with Leucocytosis Simulating Liver Abscess.—This case illustrates the importance of seeking for other possible causes of leucocytosis before concluding an abscess of the liver is present when the local symptoms point to that organ as the seat of the disease. A native patient was admitted for pain in the epigastric region and some enlargement of the liver. There were also signs of the base of the right lung being affected, and on aspiration some blood-stained fluid was drawn off from the lowest part of the right pleura. On examining the blood I found 17,000 leucocytes, and diagnosed liver abscess spreading to the base of the right lung. The abdominal pain was more marked than usual in liver abscess, and there was a swelling in the epigastrium which showed neither fluctuation nor pulsation. An exploratory abdominal incision was made, and a hard tumour found projecting from beneath the left lobe of the liver, which was considered to be a sarcoma, and consequently left untouched. A few days later the patient died, and at the necropsy I found the tumour to be a coeliac aneurysm, nearly completely consolidated with laminated blood clot in front, but which had leaked up along the right side of the vertebral column into the right pleural cavity, which contained a large quantity of blood.

Cases of Other Conditions Operated on for Liver Abscess.—The following cases may be mentioned as examples of errors of diagnosis in difficult cases which might very probably have been avoided by a blood count: In the *Indian Medical Gazette* of August, 1904, p. 298, my friend, Major Barry, I.M.S., records one case in detail, and refers briefly to a second, in which he diagnosed liver abscess, but, on operation, found what he considered to be caseous material of gummata, although it appears possible that at least one of them was an old encysted abscess of the liver. Recently I had the pleasure of showing him some blood counts, and he has since written to me to say that he has had another case in which he suspected liver abscess, and would have operated but that he found leucocytosis absent, and his patient made a good recovery without any operation. Another very difficult case was that of a man admitted in a very bad condition with enlarged liver and oedema over the ribs. Liver abscess was suspected and abdominal section undertaken the same day before any blood count had been made, but no abscess could be found. The case rapidly proved fatal, and granular kidneys and oedema of the lungs and other tissues was found. I cut sections of the kidney and lung, and the latter was quite free from inflammatory changes, so leucocytosis was most probably absent. In this case a blood count was only omitted on account of the urgency of the case; but in this connexion I would point out that a brief examination of a well-spread blood film rapidly stained will suffice, with a little practice, to enable a correct opinion being formed as to whether there is any marked degree of leucocytosis present or not, for, if present, twenty to forty leucocytes may be seen in a single field of a D lens at a thin edge of the film, while the proportion of polynuclears will be increased to some extent. It should be mentioned that the figures of the differential count given in the tabie above show that this polynuclear increase is not nearly so marked as a feature in liver abscess as in most acute inflammatory diseases of bacillary origin—as in streptococcus and pneumococcus infections, for example. Possibly this is due to liver abscess being caused solely—in the considerable majority of cases, at any rate—by the protozoal amoeba dysenterica. In fact, in three doubtful cases of suspected liver abscess during the last year I reported the presence of marked leucocytosis from the examination of a blood film only, and in each case operative measures were undertaken without further delay and an abscess opened. These cases have also been omitted from the table on account of the complete blood count not having been made. In each of them the determination of the presence of leucocytosis within a day or so of the patient's admission materially helped the early diagnosis of abscess of the liver.

In all the cases in the first part of the table a suspicion of the possible presence of liver abscess had arisen, but in each it was correctly negatived by the absence of any marked leucocytosis. On the other hand, I have met with one case in which enlargement and acute tenderness of the liver was accompanied by the presence of 13,000 leucocytes. I advised the immediate exhibition of large doses of ipecacuanha in hope of averting suppuration, as this method of treatment so frequently has a rapidly good effect in cases of acute hepatitis. In this case it appeared to do great good, as all the acute symptoms quickly subsided, and the patient recovered without operation. In cases of hepatitis with acute symptoms, then, a slight degree of leucocytosis may exist without suppuration, but clinically these cases are quite distinct from the insidious onset of suppurative hepatitis, which I have already mentioned may be accompanied by only a slight increase of the white corpuscles.

The above cases will serve to illustrate the value of blood counts in the differentiation of simple from suppurative hepatitis. They show that no absolutely hard-and-fast line can be drawn as to the number of leucocytes which indicate that suppuration has taken place; but nevertheless, in the great majority of doubtful cases blood counts will give very great aid in arriving at a correct diagnosis, especially if the ratio of the white to the red corpuscles and the acuteness or otherwise of the onset of the symptoms are taken into account.

Conclusions.

1. Absolute leucocytosis is nearly always found in amoebic abscess of the liver, but in chronic cases with marked anaemia only a relative leucocytosis may be found.

2. The degree of leucocytosis is very variable, being highest in the most acute cases, while a low degree is commonly met with in cases with an insidious onset, in which repeated examinations may be necessary.

3. In acute hepatitis without suppuration leucocytosis, both absolute and relative, is nearly always absent. A slight degree may sometimes be met with in the more acute cases, but the symptoms usually yield rapidly to large doses of ipecacuanha if no suppuration is present.

Further Experience of the Relationship of the Amoeba Dysenterica to Tropical Abscess of the Liver.

In a paper read before this Section three years ago I dealt very fully with this question, and recorded that by examining scrapings from the walls of the liver abscesses taken either during life, within eleven days of the abscess being opened, or *post mortem*, I had been able to find living amoebae in 35 consecutive cases, two-thirds of which were otherwise sterile, none of the ordinary pus-forming organisms having been present, and I concluded that the amoeba is the sole cause of the large "tropical abscess" of the liver, as opposed to the multiple pyaemic condition and suppuration within the bile ducts. Since that time I have had a further experience of nearly as many more cases, but the results are so similar to those I have already reported that it seems unnecessary to record them in detail. They may be summarized by saying that in nearly every case where a fresh scraping of the inner wall of the abscess has been obtained living amoebae have been found, while the considerable majority of them have been otherwise sterile when tested on agar. In two cases in which the material was not sent to the laboratory until five hours after it had been taken at an operation no living amoebae were found, and I have at last met with a case in which I failed to find any amoebae at a *post mortem* examination of a recently-opened abscess, which is of great interest as it throws light on the fact that this organism is, I have been informed, less frequently found in cases of tropical abscess of the liver treated in England than it has been in my Calcutta series.

Case of Single Tropical Abscess of the Liver in which no Amoebae could be Found Post Mortem, but with Amoebic Dysentery.—A Hindu male, aged 30, was admitted to the Medical College Hospital for liver abscess. He gave a history of diarrhoea but not of dysentery. Two days after admission a large abscess was opened through the eighth right costal space, but he died two days later. At the *post-mortem* examination I found a large abscess cavity in the right lobe of the liver with a very thick, nearly smooth, fibrous wall of an evidently chronic abscess. A careful examination of scrapings from the wall failed to show a single amoeba. The upper half of the large intestine showed typical and extensive amoebic dysentery. In cases terminating fatally so soon after operation as in this case I have always been able to find amoebae *post mortem* hitherto, but it will be observed that in this case the abscess was evidently an old-standing one, and doubtless the amoebae had died out, as the wall cicatrized to form a thick layer of fibrous tissue. In view of the presence of amoebic dysentery there can be little doubt that this was what had happened. Further, it is well known that tropical abscess of the liver may become completely encysted, as in the case already mentioned, and such a process is much easier to understand in the case of suppuration caused by an organism like the amoeba than when produced by virulent staphylococci, etc. The strongest possible confirmation of the view that an amoebic infection of an abscess of the liver may die out is afforded by the following case, which has been met with during the last week.

Triple Tropical Abscess of the Liver, with Amoebae in only two of them and Chronic Amoebic Dysentery.—The patient, a native, was admitted for abscess of the liver, but with no history of dysentery, and shortly after a large abscess was opened in the right lobe of the liver, but he gradually sank and died some two weeks later. At the necropsy I found two additional abscesses besides the one which had been drained. One presented a most remarkable condition, as it projected from the under and anterior portion of the longitudinal fissure between the right and left lobes of the liver in the shape of a very prominent gall bladder, but was of a white colour, and its wall was formed of a dense layer of fibrous tissue, which was also visible on the upper surface of the organ. It contained thin grumous material, which showed under the microscope granular detritus and acicular crystals, and a few degenerated pus cells, while a careful and repeated search failed to show any amoebae in scrapings from the nearly-smooth fibrous wall of the abscess. In the opened [illegible] living amoebae were easily found, while in the third smaller and evidently most recent abscess very numerous living amoebae were present, a number being seen in active motion in a single field of the microscope. The large intestine showed both recent scars of ulceration and also long transverse slit-like healing ulcers of a chronic amoeboid nature, but the rest of the large gut was free from ulceration, as is so often the case in latent amoebic dysentery, giving rise to liver abscess without any symptoms of previous dysentery. I think there can be no doubt that in this case the encysted abscess was the earliest, and that the amoebae which had caused it had died out, although they still remained in the other two more recent abscesses.

These cases appear to me to afford grounds for explaining the failure of English observers to find amoebae in as large a proportion of the tropical abscesses of the liver seen in European countries as I have found in Calcutta, for a large proportion of patients who have lived to reach Europe will present the more chronic forms of the disease, so that there is a greater chance of the amoebae becoming scanty or dying out before the abscesses are opened. Moreover, in the cold climate of England the amoebae will usually have lost their characteristic movement long before the necropsy is held, and hence be very difficult to identify with certainty. Again, in many recorded cases only the pus from the abscess has been examined, while in my former series I showed that by such a method the amoebae would have been overlooked in about half my cases, although easily found in a scraping from the wall of the abscess, taken either at the time of the operation or at a subsequent dressing. I venture to think that, if this method of examination were universally adopted and allowance made for the possibility of the amoebic infection dying out in chronic cases, any lingering doubt which may remain in the minds of some as to the amoeba dysenterica being the essential cause of tropical abscess of the liver would soon vanish. The argument that the amoebae bring cocci with them, and that the latter are the active cause of the suppuration, but yet die out before the abscess is opened in the great majority of the cases, I have never been able to understand, for it is frequently in the most acute and actively-spreading abscesses that the ordinary pus-forming organisms are completely absent. That they are more frequently present, in association with amoebae, in cases of very numerous small abscesses secondary to very extensive sloughing amoebic dysentery I have previously pointed out, but recently I met with such a case in which very numerous small liver abscesses showed no cocci on culture, but numerous amoebae were found in them, very extensive amoebic dysentery being present, so that even in the earliest stage of such abscesses staphylococci may be entirely absent, and only the amoeba dysenterica present. Taking all these facts into consideration, I still maintain that this protozoal organism does, as a rule, by itself cause tropical abscess of the liver without the help of any organisms of a bacterial nature.

SEVEN CASES OF LIVER ABSCESS OPERATED UPON BETWEEN JULY, 1904, AND JULY, 1905.

By James Cantlie, M.B., F.R.C.S.,

Surgeon, Seamen's Hospital; Lecturer on Surgery, London School of Tropical Medicine.

For some years now I have made it a rule to report the cases of liver abscess I have treated during the preceding twelve months at this Section of the British Medical Association. Of the 7 cases I have treated, 6 were tropical abscesses and the seventh developed in a man who had never been out of England. In 2 of the tropical cases the liver pus had penetrated the diaphragm and destroyed the lower lobe of the right lung; these patients died. Of the 4 tropical cases in which the pus was confined to the liver, 1 died of gangrene of the right half of the liver.

Case I. *Intrahepatic Abscess: Operation: Recovery.*—J. S. W., aged 30. Resided in Lagos since 1901. In good health until April, 1905, when he sustained an injury over right lower ribs. Whilst in hospital he developed fever, pain in the right side, and profuse night sweats. On July 5th, 1905, at Seamen's Hospital, an exploratory puncture showed pus close to the surface; a large trocar and cannula was immediately introduced between eighth and ninth ribs just behind mid axillary line and three pints of pus escaped. A large indiarubber tube stretched on a metal rod was passed through the cannula, the cannula withdrawn and siphonage established. During the first 24 hours 15 oz. of pus escaped by the drainage tube. The patient denied having had dysentery; there were no amoebae found in the pus which first escaped nor any other [illegible] The temperature fell immediately after the operation and the patient was quite well by July 24th.

Case II. *Suprahepatic Abscess: Operation: Recovery.*—H. W. G., aged 27. Had lived in Rio de Janeiro for four and a half years. In February, 1901, had hepatitis, and subsequently had occasional attacks of fever

with diarrhoea. On January 12th, 1905, soon after reaching England, was seized with rigors, fever, and sweating. Dr. Hugh Knox suspected liver abscess, and Dr. Mitchell Bruce confirmed the diagnosis. On January 22nd I found pus 4½ in. from the surface between the liver and diaphragm. A hepatic trocar and cannula was introduced in the mid-axillary line between the seventh and eighth ribs, a large indiarubber tube was introduced and siphonage established. There was some difficulty with the drainage, but by the end of February the patient was quite well and left for Brazil on March 7th. The pus drawn off at first was sterile. Dysentery was denied, but attacks of diarrhoea following hepatitis were admitted.

CASE III. *Intrahepatic Abscess: Operation: Recovery.*—H. J. T., 42. In May, 1903, had acute dysentery on board ship in Eastern waters. The dysentery continued off and on until March, 1904. Since then has had constipation with mild attacks of diarrhoea. In May, 1904, he developed a cough with red-brown coloured expectoration. He was admitted to the Seamen's Hospital on July 2nd, 1904; until a few weeks before admission there was no hepatic pain. On July 7th pus found and trocar and cannula introduced, first in front of posterior axillary line between seventh and eighth ribs. Cough and expectoration immediately ceased. On July 26th smaller tube introduced, and the patient left the hospital on August 8th with small tube in side. The patient removed the tube on August 28th, when expectoration of red-brown sputum recurred. The tract was again drained, and the wound finally healed September 30th.

CASE IV. *Suprahepatic Abscess: Destruction of Lung: Operation: Death.*—M. H., 39, resided in India since 1889. Invalided home on two occasions for dysentery. In December, 1904, began to have attacks of fever in India. In January, 1905, liver explored for pus, none found; no malaria parasites in blood. On February 28th, left India for England; when on board ship had dyspnoea, followed by expectoration of liver pus. On April 2nd, 1905, admitted Seaman's Hospital, with all the signs and symptoms of hepatic abcess, and coughing up blood-stained frothy mucus. Amoebae found in the sputum. On April 3rd, trocar and cannula inserted between seventh and eighth ribs in mid-axillary line and drainage tube inserted. Pus continued to come freely but the temperature kept up at night. On April 28th, seventh rib resected for 2 in., and a very large drainage tube inserted. The temperature fell for some time but fever recurred, and exploration showed a huge cavity in the lower lobe of right lung. A counter-opening was made at the angles of ribs, just below lower angle of scapula, and the original wound increased in size by removing part of the eighth rib and a large drainage tube passed from one opening to the other. For ten days the temperature fell; the cavity was packed with gauze. The patient improved in health and was sent to Osborne House. One month later he died.

CASE V. *Multiple Abscess: Destruction of Lung: Operation: Death.*—S. Y., 35, native of Calcutta. Admitted to the Seamen's Hospital for dysentery May 3rd, 1905. On May 10th developed pain in hepatic region and right shoulder. No elevation of temperature; leucocytes 10,000. May 19th, some dullness base of right lung. May 21st, cough and expectoration of frothy mucus tinged with blood; leucocytes 24 000. May 24th, pus formed, and drainage tube introduced between ninth and tenth ribs, just in front of posterior axiliary line; pus ceased to flow after six hours. May 29th, pus found by needle of aspiratory syringe between seventh and eighth ribs in mid-axillary line; drainage tube inserted; pus flowed freely for twenty-four hours. As drainage seemed unsatisfactory and temperature rising, 2 in. of seventh rib resected, when on exploring the cavity it was found the lower lobe of right lung was completely broken down; a counter-opening was made behind and a thorough drainage established. The patient gradually lost strength and died June 27th. The *post-mortem* examination showed a small abscess cavity in upper part of right lobe of the liver, communicating through an opening in the diaphragm with a large irregularly-oval abscess cavity involving the lower and middle lobe of the right lung. There was a second abscess in the anterior part of the left lobe of the liver, and an abscess in the upper lobe of the left lung. The caecum and ascending colon showed dysenteric ulcerations of no great depth.

CASE VI. *Suprahepatic Abscess: Operation: Gangrene of Right Side of Liver: Death.*—M. Y., 44, resided in India twenty years. Had dysentery some years previously. Had hepatitis in May, 1905; invalided and sent to England. Last week in June liver abscess diagnosed by Mr. George Morgan, F.R.C.S., Brighton; on July 3rd pus found 4½ in. from surface on dome of liver. The liver bled very freely, both when aspirating needle introduced into different parts of the right lobe of the liver between the ribs, and when the large trocar and cannula introduced. Siphonage established, but no pus flowed. On July 8th liver explored round seat of tube tract, but only sero-sanguineous fluid drawn off. On withdrawing the tube and clearing tract pus flowed freely. On following day (July 9th) patient died suddenly. Mr. Morgan was allowed only a partial *post mortem* examination. He found the right side of the liver broken down, pulpy throughout, and gangrenous in parts. Two small foci of pus were found in addition to the small abscess cavity in which the drainage tube originally introduced lay. This unique specimen it was unfortunately impossible to preserve.

CASE VII.—*Pyaemic Abscess of Liver: Operation: Recovery.*—D. M., 24. Had resided in England since birth. In May, 1904, had all the symptoms of influenza. The temperature remained high for weeks. Dr D. C. Gardiner, in consultation with Dr. Mitchell Bruce, concluded that the lesion was hepatic. On May 30th I explored the right lobe of the liver, and finding pus, I opened the abdomen and examined the liver. The liver punctures had bled freely into the cavity of the abdomen. The liver was oedematous everywhere, except at the point in the dome of the liver where the suspensory (falciform) ligament of the liver is attached to the surface. There was no discoloration to indicate pus nor was there any fluctuation; the *absence* of oedema and the unnatural hardness of the liver at that point indicating pus beneath. Not finding it possible to bring the part of the liver where pus was suspected to the incision in the abdominal wall, I close the wound by sutures, and, introducing the aspirating needle between the right seventh rib cartilage and the xiphoid, I found pus. The large trocar and cannula was introduced, and a large tube with siphonage established. The pus on examination contained streptococci. The patient had a long illness; a wandering suppurative perihepatitis developed, and the wound in the abdominal wall became infected by the streptococcal-infested discharge from the original wound. Counter openings were made at two separate places, but the evening temperature remained high for eight weeks. The patient, however, continued to take food well, and he so far recovered that he was able to be moved to Newcastle. Recent reports are that he is doing well.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

BIRMINGHAM BRANCH.

PATHOLOGICAL AND CLINICAL SECTION.

Birmingham, Friday, October 27th.

Professor J. W. TAYLOR, President, in the Chair.

Successful Enterectomy for Irreducible Intussusception.—Mr. GEORGE HEATON showed the patient and specimen from a case of enterectomy for intussusception. The specimen was an irreducible intussusception of the small intestine close to the ileo-caecal valve, and showed the usual appearances of a gangrenous intussusception. The patient was a little girl, aged 8, who had been acutely ill for four days with vomiting, abdominal colic, absolute constipation, and passage of blood and mucus per rectum. The intussusception was excised, and the two ends of the divided small intestine closed by silk sutures. An anastomosis was then made between the lower end of the ileum and the ascending colon by a side-to-side approximation of the gut. The anastomotic opening was made by simple suture. The patient made an excellent recovery. For some time she suffered from occasional attacks of violent abdominal colic, but was now, some eight months after the operation, in perfect health. Mr. Heaton referred to the various operations in vogue when an intussusception was found to be irreducible, and advised that whenever possible enterectomy should be performed on children over the age of 2 years. Under that age enterectomy seldom succeeded.

Malignant Adenoma of Uterine Appendages.—Dr. THOMAS WILSON showed a malignant adenoma of the right uterine appendages the size of the fist. The tumour was lobulated on the surface, and was situated at the outer part of the broad ligament, and was joined by the right ovary, a considerable portion of which was distinct on the surface. The Fallopian tube gradually became thickened, and 3 in. from its commencement joined the surface of the swelling. On microscopic examination the tubal lumen was distended, and at one limited part of the surface a mass of the growth was seen to be continuous with the epithelial lining. On the left side the ovary was adherent and cystic, and the tube closed and distended with serum. The body of the uterus was enlarged by several interstitial fibroids. The specimen was removed by total abdominal hysterectomy from a married woman of 40, whose one child was born eight years ago. There had been menorrhagia for one year, and slight pelvic discomfort for two or three months.

Sarcoma of Ovary.—Dr. WILSON also showed a spindle-celled sarcoma of the left ovary removed from a patient aged 24, who had been married eight months and never pregnant. There was tense ascites, and the left chest was distended with fluid which reaccumulated very rapidly after repeated tappings. The tumour was removed under local anaesthesia, and the patient made a good recovery. The chest three weeks after operation remained dull, and the breath sounds absent; but the left chest was not distended, and the patient's condition had markedly improved.

SOUTH WALES AND MONMOUTHSHIRE BRANCH: CARDIFF DIVISION.—At a meeting held at Cardiff on October 19th, Dr. C. VACHELL, the Chairman, who presided, delivered an address on the operative enucleation of the thyroid twenty years ago.—Mr. WILLIAM SHEEN described a case of stone in the right ureter of a male adult. The stone was removed by incision through the wall of the ureter. The

case was complicated by the presence of an abscess in the kidney. Recovery followed. The patient, stone, and Roentgen-ray photograph were shown.—Dr. D. R. PATERSON related a case of fish-hook in the oesophagus.—Mr. R. RUSSELL THOMAS described a case of purulent ophthalmia, and showed the patient.—Mr. H. C. ENSOR demonstrated a series of cataract cases.

SOUTHERN BRANCH: WINCHESTER DIVISION.—At a meeting of this Division held at Alton, Hants, on October 25th, Dr. LIVINGSTONE, Vice-Chairman, presiding, Dr. BEVAN (Alton) read notes on a case of cirrhosis of the liver in a young woman, aged 33. The chief points in the history were that: (1) She had not been considered healthy by her family for some time; (2) that recently she had had a small appetite; (3) she suffered from menorrhagia; (4) she suffered from a pain in her right shoulder for about five years, which had been diagnosed as arthritis, but which was probably a referred pain; (5) she had been a total abstainer, and took her first quantity of alcohol during her last illness. About eighteen months before her last illness she suffered from an attack of influenza, in which the temperature kept up for an unusually long time. Her cough was peculiarly irritating, her throat was venously congested and her lips were red. During her illness she had an attack of unexplained somnolence. She was then carefully examined several times, and no abnormal physical signs were discovered. The abdomen was soft; the liver was not enlarged, and there were no dilated veins. Her last illness came on gradually with increase of pain in the shoulder-joint, indigestion, and abnormal delusions while away visiting some friends. A diagnosis of ovarian tumour was made and agreed to by an eminent London surgeon. At the operation free fluid was found in the peritoneal cavity. No cause could be ascertained, but the ovaries, being hard, were removed. After the operation she became for several hours in a semi-comatose condition, with acetone-smelling breath, and her urine, which had hitherto been normal to ordinary tests, had sugar, which soon disappeared. She recovered from the operation and lived for three months afterwards, during which time she was tapped six times with very few intermissions. Her temperature remained high; she had three attacks of haematemesis, and also passed blood by the bowel. No physical signs other than the fluid could be discovered, and after withdrawal of the fluid nothing tangible could be found, a fact that was confirmed by Dr. Goodhart who saw her in consultation, and made a minute examination. It was thought she might have tuberculous peritonitis. She had not the aspect of one suffering from cirrhosis of the liver. Dr. Goodhart suggested as an alternative diagnosis that perhaps she might be suffering from sarcoma of the glands in the portal fissure secondary to some sarcoma elsewhere. At the necropsy the liver was found markedly cirrhosed and was about a third of the bulk of the normal liver. Microscopical examination was kindly done by Dr. Beattie of Edinburgh, who reported that the cirrhosis was extensive, and that it was a well-marked case of the form usually met with from alcohol. The case was discussed by Drs. HITCHIE, ENGLAND, BROWNE, LIVINGSTONE, and Captain IRVINE, R.A.M.C.—Captain IRVINE, R.A.M.C. (Princess Louise Hospital, Alton), read notes on a case of self-inflicted wound of the throat involving the larynx. The wound almost completely divided the thyroid cartilage at points midway between attachments of the epiglottis and the vocal cords. High tracheotomy was performed under cocaine. The thyroid cartilages were united by means of catgut sutures and the wound allowed to granulate up. The patient made a rapid recovery without any impairment whatever of his voice. Drs. BRISCOE, UNDERHILL, and LIVINGSTONE took part in the discussion which followed.—Dr. WILLIAMS (Alton) read notes on cases of Addison's disease. Drs. BRISCOE, BEVAN, UNDERHILL, and LIVINGSTONE took part in the discussion which followed.—Dr. HARMAN (Winchester) read notes on a case of membranous colitis, and showed specimens, being followed by Drs. LIVINGSTONE, BRISCOE, ENGLAND, and Captain IRVINE, R.A.M.C.—Mr. GODWIN (Winchester) read notes on five cases of suprapubic prostatectomy, and showed specimens of the prostates removed. The average age of the cases was 72 years. All cases recovered. One case was a malignant prostate; the patient died one year after the operation from secondary deposits in the skull. The bladder and skull of this case were shown. The following members took part in the discussion which followed: Drs. ROYDS, BRISCOE, BROWNE, and Captain IRVINE, R.A.M.C.

REPORTS OF SOCIETIES.

OBSTETRICAL SOCIETY OF LONDON.

A. C. BUTLER-SMYTHE, F.R.C.S.Edin., Vice-President, in the Chair.

Wednesday, November 1st, 1905.

SUBTOTAL HYSTERECTOMY.

MR. ALBAN DORAN presented tables containing after-histories of 60 cases in which the author had performed subtotal hysterectomy for fibroid disease on women who had not reached the menopause. In every instance at least two years had passed since operation. In 28 cases both ovaries were removed. In 3 the menopause was neither immediate nor complete, and in at least 2 the blood must have proceeded from endometrium. In 6 the menopause was complete without symptoms; all the 6 patients were over 38 years of age. In 9 the menopause was distinct, complete, and mild, whilst in 10 it was complete with severe symptoms. In 26 cases one ovary was saved. In 8 others the catamenia were regular for a longer or shorter period after operation. In 5 the catamenia appeared after operation, but irregularly. In 13 the menopause was complete and immediate after operation, without symptoms in 4 patients, whilst in none of the remaining 9 were the symptoms severe, as in the similar sub-series where both ovaries were sacrificed. In 6 cases both ovaries were saved. In 3 the catamenia continued regular after operation, in 2 they reappeared but were soon suppressed, and in 1 the menopause was complete and immediate after operation, without symptoms. The Abel-Zweifel theory, he thought, received support from these statistics, and considered that a similar analysis of 60 cases of panhysterectomy for fibroid where, of necessity, no trace of endometrium could be preserved would be instructive.

Mrs. BOYD suggested that in appraising the effect of operation in the production of menopause symptoms it was important to bear in mind how varying were the symptoms accompanying the natural menopause in different individuals.

Dr. HERBERT SPENCER had always endeavoured to leave one or both ovaries in every case of hysterectomy for fibroids. The retention of the ovaries was of value to the patient and was not followed immediately by flushings, whereas flushings usually occurred when the ovaries were removed. A case of his own was sufficient, as far as he was concerned, to disprove the statement that it was essential to preserve a portion of the endometrium to avoid a severe menopause. In his opinion total hysterectomy was greatly superior to the partial operation, and the mortality had recently been shown to be less.

Dr. HEYWOOD SMITH thought further investigation into the natural history of menstruation was required in order to judge the effect of the removal of one or both ovaries.

Dr. W. S. A. GRIFFITH altogether disagreed with Mr. Doran in his statement that the preservation of the ovaries in the operation of hysterectomy was never justifiable when cystic or inflammatory disease was present.

Mr. MALCOLM considered the effects of removal of both ovaries were extremely variable, and he was not persuaded by the evidence brought forward by Mr. Doran to alter his practice of removing the uterus completely.

Mr. DORAN replied.

ALKALINITY OF THE BLOOD IN ECLAMPSIA.

Dr. C. NEPEAN LONGRIDGE read a short communication on a case of eclampsia. The patient had a stillborn infant and eclampsia during the first labour. During pregnancy the patient had been seen at frequent intervals, and no symptoms of renal inadequacy or toxaemia were found. The fits began eight hours before labour, and continued for ten hours after its completion. The obstetric treatment was expectant, but citrates were given with the object of bringing up the diminished alkalinity of the blood to normal. Sugar was given by the mouth and rectum in order to replace the glycogen in the liver, without which that organ could not exert its antitoxic function.

Dr. EDEN thought that if diminished alkalinity should prove to be a constant occurrence in eclampsia, then a definite advance was assured, for by using an alkaline solution for transfusion an immediate effect might be confidently anticipated.

Sheffield Medico-Chirurgical Society.—At a meeting held on October 26th, in the Society's new room in the University, the President (Dr. W. Tusting Cockings) in the chair, Dr. Carter showed a woman with symptoms of ulnar paralysis, which he ascribed to a tumour on the nerve trunk situated just above a displaced internal condyle. As the signs were not strictly confined to the ulnar distribution, an alternate diagnosis of progressive muscular atrophy was suggested, the nodule on the nerve being possibly bursal in origin.—Dr. Arthur Hall showed specimens from a case of carcinoma of the colon, in which the symptoms of malignant disease, except for a rapid loss of flesh, were practically absent. The symptoms for which the patient attended were those due to thrombosis of the inferior vena cava and iliac veins. These persisted for a few weeks, when the patient was suddenly seized with right hemiplegia and aphasia, and died in a few days. A "paradoxical embolism" through a patent foramen ovale was a possible explanation, but the autopsy showed a simple embolus arising from mitral disease, which, in the absence of any rheumatic or other history, had probably arisen as an indirect result of the cachexia due to carcinoma.—Dr. Vincent read a paper on the relation of syphilis to general paralysis of the insane. After pointing out that the disease was on the increase, and that a history of syphilis was nearly always obtainable, he compared the comparative rarity of the disease in Eastern nations, where, speaking generally, syphilis, though rife, was untreated, with its greater frequency in Western nations, where syphilis was also common but treated with mercury and iodide, and discussed the possibility of the treatment having some influence in the production of paresis.—Mr. Cuff showed specimens of multilocular ovarian cysts with pedunculated warty papillomata apparently growing from the ovarian cortex.

Therapeutical Society.—At a meeting on October 24th, Sir Lauder Brunton presiding, Dr. Herbert French reported on the Health and Education Congress which he had attended as the Society's delegate. The therapeutically-interesting subjects were first the physical drill of girls with elaborate movements; secondly, the development of trypanosomiasis; third, the sterilization of milk for infants.—Mr. T. R. Elliott described adrenalin obtained from medullary cells of suprarenal bodies, and resembling sympathetic nerve cells. Of the three divisions of the sympathetic nerves—cranial, sacral, and thoracico-lumbar—the last alone acted on plain muscular fibres like adrenalin when locally applied. Both constricted blood vessels except the coronary and pulmonary arteries, both relaxed the stomach and intestinal muscles, and neither affected the bronchioles; the other sympathetic plexuses acted in the contrary manner. Hence adrenalin was a test for the connexion of sympathetic nerves and ganglia. In therapeutics adrenalin must be applied locally. When administered subcutaneously it affected only the area injected. If all the sympathetic nerves which acted similarly to adrenalin were removed the circulation failed and the animal died, but it might live when the other sympathetic ganglia had been removed. Adrenalin was useful when the suprarenals were impaired, as in Addison's disease, and perhaps in diphtheria and typhoid fever, but its use must be empirical as it was poisonous in large doses, causing nervous paralysis and death.—Drs. Steel and Plant described the treatment of serous effusions by the injection of adrenalin chloride. After tapping, 1 drachm of adrenalin chloride with 1 oz. of sterilized water was injected through the cannula. In 1 case no return of fluid occurred after injection. In 2 cases the little that returned after one injection disappeared and did not recur. A fourth case required three injections before the fluid permanently disappeared. In the fifth case the fluid diminished, and tapping was only necessary again after the lapse of ninety-two days. In the sixth case the fluid disappeared after one injection, but the patient died of mitral disease. It caused 2° F. rise of temperature for a few hours, and occasionally caused cutting pain in the liver but no other ill effects.

Society of Anaesthetists.—At a meeting on November 3rd, Dr. Edgar Willett, President, in the chair, Dr. B. J. Collingwood read a paper on dosage and methods of administration of chloroform. Speaking as a physiologist purely, and after pointing out that in ordinary parlance a "dose" of chloroform meant the amount administered and not the amount inhaled, he demonstrated that at first there was a wide difference between the percentage in the inspired air and that in the tissues, the alveolar air and the blood held at the time an intermediate position as regards percentage of chloroform; the decomposition of chloroform within the organism was very slight in amount. He demonstrated an instrument invented by him which had proved perfectly satisfactory in the laboratory as a means of supplying required percentages of chloroform vapour independently of respiration.

West London Medico-Chirurgical Society.—At a clinical evening, Mr. L. A. Bidwell (President) in the chair, on November 3rd, the following cases were shown:—By the President: A case of congenital syphilitic disease of the tongue. Mr. Bidwell pointed out that the patient, a woman, was not benefited by iodides, but improved rapidly under mercurial treatment. Her tongue was much worse when she was pregnant, but even when this was so she was delivered of a healthy child. Mr. Bidwell also showed (for Dr. Beale) a case of congenital papillomata of the tongue, for comparison.—Dr. Seymour Taylor showed a case of myoclonus, and pointed out that the causation of this condition was ill understood.—Two marked cases of adolescent coxa vara, both males, were brought before the Society by Mr. McAdam Eccles, who demonstrated the marked elevation of the trochanter and limitation of abduction, and also showed some beautiful skiagraphs of the condition; he also remarked that this condition was first drawn attention to in this country (though under another name) by a founder of the society, Mr. Keetley.—Mr. Laming Evans then showed a case of deformity of the femur of uncertain nature, and also a femur obtained recently in the excavations at St. Bartholomew's Hospital, and which must be at least 200 years old, but which showed marked signs of coxa vara.—Dr. Arthur Saunders brought to the Society three cases—one of acromegaly, one of osteitis deformans, and a third of myxoedema—and gave an instructive comparison and contrast of their similarities and differences.—A case of new growth of the sublingual gland was shown by Dr. Leonard Dobson, who said that it was most probably of similar nature to the mixed tumours more commonly seen in the parotid.—A case shown by Dr. Hall Dally was a good example of enormous gouty deposits in both hands; the condition of the bones was demonstrated by skiagraphs.—The meeting then adjourned.

British Balneological and Climatological Society.—At a meeting on October 26th, Dr. G. W. Hamilton Cumming, the new President, after his introduction gave an address on the climatic treatment of old age and senile diseases, and was followed by Dr. Felkin with a paper on sea voyages for invalids. In this it was pointed out that life on board ship was no longer what it used to be; the present rush and excitement which obtained on the big ocean liners were most undesirable from a medical point of view; the rapid transit and impossibility of getting away from "news" militated against the tranquillity which was one of the chief charms of sea voyages for invalids twenty years ago. Nevertheless the invigorating sea breezes, the sea baths, and the complete change of surroundings remained: in advising a long voyage, great regard must be paid to individual constitutions, and as a rule a companion was desirable. He thought the "desert camps" which were being established near Helouan and other places were likely to prove much more beneficial than the sea voyages or conventional trips abroad. Dr. Moxon (Matlock) observed that, having acted as surgeon to an African liner, he had formed a very definite opinion as to the proper class of cases to benefit by a sea voyage. Patients recovering from acute illnesses and those suffering from overwork (providing there was no tendency to depression or melencholia) were the most suitable; but if there was any serious amount of organic disease, the confined cabin space, the deterioration of food, and the inconvenience and discomfort arising from bad weather more than outweighed the other benefits to be derived from a sea voyage. Dr. F. M. Sandwith (Cairo) thought that no one should be dispatched on a long sea voyage unless there were grounds for believing that he was likely to enjoy life on board ship. The invalid should be officially handed over to the ship's surgeon. Dr. Percy Lewis (Folkestone) contended that all the good effects of a sea voyage could be obtained without the attendant disadvantages, by staying on land and crossing the Channel each way on suitable days. Dr. J. T. Gardner (Chelsea) was in favour of sea voyages, provided judgement was used as to the choice of ship and locality. Dr. Snow (Bournemouth) con-

sidered the beneficial effects of a sea voyage must be largely discounted by stuffy cabins, card-playing, and, especially in young men, by alcoholic excess.

Erratum.—In our report last week of the proceedings of the Clinical Society, at its meeting on October 27th, Mr. George Pernet was said to have stated that "acne very occasionally ran on to epithelioma" after the use of *x* rays. The complaint, however, which he really mentioned was lupus vulgaris and not acne.

REVIEWS.

TROPICAL MEDICINE.

Under the auspices of the Liverpool School of Tropical Medicine, Professor Boyce, along with Drs. Evans and Clarke, have written a *Report on the Sanitation and Anti-malarial Measures in Practice in Bathurst, Conakry, and Freetown*.[1] The information was acquired during the course of a short trip to those places last year. The results of their observations, together with a series of suggestions, are summarized at the beginning of the report. They consist of the time-honoured and usual common-sense principles which have been advocated continuously ever since the mosquito was incriminated in the spread of malaria; but all those sanitary reforms mean money, a commodity which many tropical colonies do not possess in superabundance. A more extended tour would have shown very similar conditions, some better some worse, in hundreds of other tropical towns. The governors and other administrative authorities are often willing to do what they can, but Rome was not built in a day, nor can a tropical town, without the expenditure of much money and time, be made completely sanitary from the European point of view. Again, the native is always a stumbling block; he must undergo years of education in the simplest hygienic duties before much return can be expected from him. The suggestion that the grant for sanitary administration should be increased is the crux of the whole situation. The amount of the grant must necessarily vary with the financial means of each individual place, but it is a point that the governments should not lose sight of; competent medical officers of health should be appointed and the advice they give accepted. An example of such good results is afforded by Hong Kong or Trinidad, and there is little doubt that eventually similar reforms will be carried out in the West Coast of Africa. Such a report as the present, though small and dealing with a very limited area, should do some good, because it shows what has been done in three towns, and what still requires to be done. Bathurst does not seem to differ much from other tropical West Indian and African towns; and the tubs and privies found there are rightly condemned. The health of the Europeans, as shown by the official report for 1903, is good. The visit to Conakry in French Guinea is specially interesting, as showing how our neighbours the French deal with questions of sanitation. There are no cesspits, the water supply brought from water courses 41 kilometres distant is abundant and pure, and the houses, judging from the excellent photographs inserted in the text, seem better than those in the English colonies. Malarial fever is not on the decrease, however, and the authors attribute this to the old disused wells which have not been filled up. It is strange that in this town, on which so much money has evidently been lavished, such a patent breeding ground should have been overlooked. The report on Freetown, famous as being the town in which Ross commenced his mosquito extermination experiments, shows the difficulty of completely exterminating those insects from any given locality. *Anopheles*, *Culex*, and *Stegomyia* still exist during the wet and dry seasons, and so does malaria. The death-rate, however, has diminished, but, as the authors point out, the returns are incomplete, and the statistics do not show whether the cases of malaria have been infected in Freetown or elsewhere. In view of the importance of Ross's experiment such an important return might surely have been kept accurately by the Government. The report is interesting; it is got up in the usual handsome style of the Liverpool productions, and has many excellent photographs throughout the text.

[1] Liverpool School of Tropical Medicine. Memoir XIV. *Report on the Sanitation and Anti-malarial Measures in Practice in Bathurst, Conakry, and Freetown*. By Robert Boyce, M.B., F.R.S., Professor of Pathology the University of Liverpool, Dean of the Liverpool School of Tropical Medicine; Arthur Evans, M.R.C.S., L.R.C.P.; and H. Herbert Clarke, M.A., B.C. Cantab. London: Williams and Norgate. 1905. (Demy 4to, pp. 40. 5s.)

The Thompson-Yates and Johnston Laboratories Report,[2] containing an account of the work done in connexion with the institution for 1904, contains several interesting papers. The first 112 pages, devoted to reports of the trypanosomiasis expedition to the Congo, forming Memoir XIII of the Liverpool School of Tropical Medicine, were published separately in August, 1094, and a review of them appeared in the British Medical Journal of November 26th, 1904, p. 1466. The new part has papers on A New Haemogregarine in an African Toad, Two Cases of Intestinal Myiasis, A Note on the Pathology of Tropical Swellings, and Non-Flagellate Typhoid Bacilli, by Dr. Stephens; on *Cladorchis Watsoni* (Conyngham), a human parasite from Africa, by Mr. A. E. Shipley; on the Intermediate Host of Filaria Cypseli, by the late Dr. Dutton; and three Chemical Papers by Messrs. Moore, Roaf, and Edie. The new haemogregarine came from a toad sent from Sierra Leone, and Professor Minchin, who examined it, considered that the parasites probably belonged to the genus haemogregarina in the sense used by him in his monograph on the sporozoa in Lankester's *Zoology*; he thinks that they probably belonged to a new species, but beyond these two points there is little of interest in the paper. The note on the pathology of tropical swellings is not sufficiently full to be of much value. An obscure case, called by Dr. Fletcher, who sent it home to England, cellulitis presented a marked eosinophile leucocytic increase. This means absolutely nothing, as cases from the tropics often show marked degree of eosinophilia without apparent cause. The article on the *Cladorchis watsoni* is of much value. Mr. Cunyngham, who first described this new human parasite in the British Medical Journal of September 17th, 1904, p. 663, only studied the external features. Mr. Shipley shows by sectional anatomy that the generic name *Amphistomum*, given by Mr. Cunyngham, is incorrect, and proposes the generic name *Cladorchis* instead. He surmises that the normal host is some herbivorous animal, man only occasionally becoming infected. A plate with accurate and very clearly-drawn figures is appended to the paper. The late Dr. Dutton, in his paper on the intermediate host of filaria cypseli, shows that a louse which feeds on the swift (*Cypselus affinis*) may act as an intermediate host for the filariae found in the blood of this bird. Developmental forms were found at different stages, but unfortunately Dr. Dutton failed to trace the exit of the parasite from the louse. Still the observation is interesting, in view of our knowledge of the development of some of the other filariae, and much useful and instructive work might easily have been done in this line.

Christophers, in a paper On a Parasite Found in Persons Suffering from Enlargement of the Spleen in India,[3] continues his researches on the Leishman-Donovan body. This communication forms his third report on the subject, and deals with the development of these parasites in citrated blood at low temperatures. Captain Rogers, I.M.S., it will be remembered, first drew attention to the development of those organisms outside the body, this discovery being confirmed by one of his assistants, and also by Major Leishman in England. The author, evidently in ignorance of those latter papers, has gone over the work again, and, with a few minor exceptions, has obtained similar results. After mentioning the original work of Rogers in detail, he gives an account of the technique he employed, and then describes minutely the changes undergone by the bodies when placed in citrate solutions at low temperatures. He states that development was observed in four cases, but does not mention whether those were all the cases examined—a rather important point—as apparently positive results are rarer than negative if a long series is examined. One very interesting fact elicited was that when a culture, in which many flagellated forms were present when stained, was examined fresh no trace of flagella or appearance suggesting motion of the organisms could be made out. This would seem to suggest the need for further work and for the careful examination of fresh specimens, but the author does not describe any such investigations. What is termed a new structure, the formation of a vacuole-like area,

[2] *The Thompson-Yates and Johnston Laboratories Report*. Edited by Rubert Boyce and Charles S. Sherrington. Vol. vi. (New series). Part i. London: Williams and Norgate. 1905. (Demy 4to, pp. 205. 12s. 6d.)

[3] *Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India*. New Series, No. 14. On a Parasite found in Persons Suffering from Enlargement of the Spleen in India. Third Report. By Lieutenant S. R. Christophers, M.B., I.M.S. Calcutta: Office of the Superintendent of Government Printing. 1905. (Demy 4to, pp. 14. 1s.)

was noted in some of the forms, and in others the extrusion of a peculiar "woolly" red-staining substance first noticeable as a tail-like process projecting from the end of the parasite in which the small chromatin mass was situated. In the early stages this might be mistaken for the commencing formation of the flagellum, but later the substance becomes more voluminous, and forms are seen in which it appears to be pouring out into the plasma. A reference to the diagram of this condition fails to make clear the nature of the substance or the relation it bears to the parasites. The report does not add materially to our knowledge of the subject, but it confirms the work of Rogers and others. In the excellent plate at the end some of the forms depicted strongly resemble developmental stages of trypanosomes. What these bodies really are it is difficult to conjecture, but at any rate no harm would be done by submitting them to some leading protozoologist for a definite opinion as to their nature. It is time that this was done, as it would indicate the lines for future study and research, and might lead to the question being definitely settled.

The first part of a paper by Dr. LINGARD on *Observations on the Filarial Embryos Found in the General Circulation of the Equidae and Bovidae, and their Probable Pathological Significance*,[4] deals with a filaria found in horses. The embryos exhibited a modified periodicity, never being entirely absent from the blood. This feature, common enough in many of the filariae, leads the author to the extraordinary conclusion that he is dealing with the progeny of two species—a F. perstans and a F. nocturna. What he exactly means by this it is hard to determine. Again, it is impossible to find out from the description given what his filarial embryo is really like, whether it is sheathed or non-sheathed, and other points in its anatomy are wanting; we are not told the effect of staining the filaria with haematoxylin to demonstrate its sheath, the nuclear column, the break in the cells, and the v. spot. The description of the adults is also inadequate; the length is not definitely given, and there are no details with regard to measurements, no description of the head or of the character of the tail; in fact, all the essential points for establishing the identity of the worms are left out. The question of an intermediate host is also left in an unsatisfactory state; hundreds of flies, mosquitos, etc., taken haphazard were examined without apparently taking into consideration the possibility that those insects might equally well have been feeding on filariated men, dogs, birds, or other animals. The search for filariae in water is open to a similar criticism. The description of the adult worms found in the aorta of bovines is better and more accurate; but here, again, important points are wanting; the length of the female is not given, and there is no mention either of embryos or of blood examinations for them. The chapter on "bursati" sores, though interesting, is not convincing. The theory that a minute obstruction to some capillary at a local sore would filter out and collect all the filarial embryos circulating in the blood will not commend itself to everyone. In the experimental production of the bursati sore, even granting that nematode embryos were present in the sore, there is no definite evidence to show that they were the same as those circulating in the blood. There is no description and no measurements, and no record of examining the blood after the production of the sore, to determine whether the embryos had disappeared or not. The photomicrographs of some of the worms are good, but the scientific value of the paper is small.

NOTES ON BOOKS.

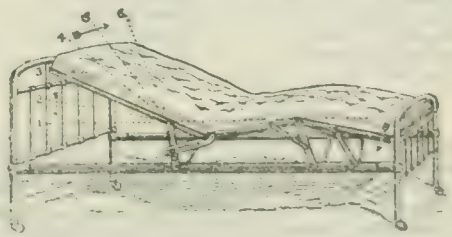
It appears that every year "hundreds of vacancies" for ships' surgeons are filled by the medical superintendents of the various passenger liners. To meet the needs of the many medical men who thus make a voyage in an official capacity for the first time, Mr. W. E. DAWSON has thought it well to compile *The Ship Surgeon's Pocket Book and Medical Officer's Log*.[5] It is a little book, containing some 55 small pages of large type, devoted to about an equal number of paragraphs containing information on various subjects. These paragraphs are arranged in alphabetical order and give information either on medical and surgical matters, or as to various seaports, indifferently. Thus, for instance, Algiers and Amazon River are sandwiched between Aether and Animation, suspended, while Gibraltar figures between Fractures and Heat Apoplexy. The general information is of the ordinary guide-book character, while the nature and value of the scientific notes may perhaps best be indicated by mentioning that amongst the three or four drugs which it is stated should be carried about by the surgeon in his pocket case are 5 minim capsules of eucalyptus oil as an antiseptic. In a footnote, it is thoughtfully added that when these are required for use they should be punctured and the oil expressed. The pages are well bound in leather, so the book may be expected to last at least as long as any medical man of average intelligence is likely to find it useful.

[4] *Observations on the Filarial Embryos Found in the General Circulation of the Equidae and Bovidae, and their Probable Pathological Significance.* By Alfred Lingard, M.B., M.S., D.P.H., M.R.C.S., Fellow of the Bombay University, Imperial Bacteriologist to the Government of India. Fasciculus I. Bursati (Part I.) London: Adlard and Son. 1905. (Demy 8vo, pp. 62, 12 plates. 2s. 6d.)

[5] *Ship Surgeon's Pocket Book and Medical Officer's Log.* By W. E. Dawson. London: Baillière, Tindall and Cox. 1905. (Fcap. 8vo. pp. 55. 2s. 6d.)

MEDICAL AND SURGICAL APPLIANCES.

WE had occasion a short time ago to examine a new bed which has been brought out by the Equipoise Couch Co., of Ashford, Kent. It is claimed for it that its mechanism is such that a patient, however heavy and helpless, can be raised into the sitting position by the nurse in charge without the slightest effort, and with equal ease be caused to lie flat again; also that if it be desired a patient can be left to alter the level of his head, shoulders and body to any extent, and as often as he pleases. In either case the position desired when attained, can be rendered for the time permanent, by the use of a simple locking device. These claims appear to us to be thoroughly justified, and it may also be noted that when the head of the bed has been raised, either by the nurse in charge or by the patient himself as indicated, the patient is in a more comfortable position than can be secured by any ordinary bed rest. Not only are his shoulders and head as thoroughly at rest as when lying flat; but since he lies upon a double



inclined plane, his thighs are supported and he does not slip down. On the other hand, if it be desired that the legs of the patient, as for instance in some cases of fracture, should lie upon a level surface, this can be secured while taking full advantage of the mobility of the upper part. The bed, in short, seems to us an extremely clever contrivance and calculated to afford great relief to persons who are temporarily or permanently bedridden, in addition to a very material saving of labour on the part of attendants. We understand that a similar principle has been applied to chairs, and surgery and other couches, but these we have not seen.

A New Needle-holder.—The woodcut annexed represents a pocket-case needle-holder which has been made to the specification of Dr. Leslie Thain, Medical Officer of the Dore Workhouse, by Messrs. Arnold and Sons of West Smithfield, E.C. Any ordinary bayonet needle can be fixed instantly in the socket by turning the screw shown. This screw, when the holder is to be returned to the pocket case, is placed as shown in outline on the right of the picture. The



holder is everywhere roughened, so the grip upon it is firm. In addition, this holder facilitates the threading of needles; thanks to the funnel-shaped eye-finder, Dr. Thain says he can thread a needle even in the dark. It is much more useful, Dr. Thain considers, to carry about a reliable needle-holder than, for instance, such a thing as a Belloeq sound.

SCHOOL HYGIENE.

REPORTS OF MEDICAL OFFICERS.

GLOUCESTERSHIRE: STROUD.

IN the report of Dr. Myer Coplans, Medical Inspector of Schools to the Subcommittee of the Gloucestershire Education Committee appointed to control the work of the medical inspection of schools, we have a very interesting document. The report deals with the schools within the area of the Stroud Union, and discusses a number of questions which enter into the province of the medical inspector, some of the subjects dealt with being vaccination and small-pox, consumption, physical development, vision, hearing, clothing, model exercises, and school sports. A great part of the inquiry was made with a view to discovering whether previous to school life children were comparatively well, and whether the school is responsible for children's ailments.

Statistics of Disease.

Regarding zymotic diseases, Dr. Coplans has relied upon the testimony of parents, while with regard to parasitic and contagious diseases he gathered his information from direct examination of the children at school.

The result of the examination is shown in the following table:

On books	... 7,294		
Examined	... 6,652		
Contagious.		*Non-Contagious.*	
Ringworm of head	82	Ear discharge	6
Ringworm of body	9	Eczema	46
Vermin	238	Dirty head...	570
Eggs of lice	670	Psoriasis	7
Large ulcers	17	Alopecia	5
Small ulcers	46	Ichthyosis	5
Inflamed eyelids	17	Urticaria	5
Itch	22		
Ecthyma	3	Total ...	644
Scarlatina	4		
Acute tonsillitis	28	Rheumatic fever	2
Whooping-cough	1	Phthisis	2
Chicken-pox	1	Heart Disease	2
Tuberculous discharge ...	3	Nephritis	1
Ulcerated dirty head ...	14	Goitre	9
Total ...	1,152		

The result of the inquiry proved that parasitic and contagious skin disease is spread from child to child by reason of children sitting close together and handling the same books. Dr. Myer Coplans says:

"It is possible in nearly every school to trace the source of "the contagion to one, two, or three families, who, almost "without exception, are known by repute to the head teacher "as excessively dirty, and on whom, for a long time, suspicion "as to the source of contagion has fallen.

"The law, if it permitted the exclusion of such children "from school, does not compel parents, whose children suffer "from contagious skin disease, either to seek medical advice or "to act upon that advice when tendered. In many cases such "advice has been gladly sought and fully acted upon, but in "other cases totally disregarded, and the threat of exclusion "openly welcomed.

"If, therefore, parents complain that, despite their efforts "for cleanliness, their children contract loathsome skin disease "from other known dirty children, the head teacher, although "nearly always cognizant of the prime offenders, cannot be held "blameworthy. It is a matter of regret that the law, which "compels the presence of the children at school, at almost "all cost, does not impose a penalty for those parents whose "offspring are knowingly and wilfully sent to school while "suffering from parasitic and contagious skin disease.

"As a temporary measure it would be advisable to introduce "short desks in sufficient number to make it possible to "isolate children suffering from parasites or contagious "diseases. This action would to a great extent remove the "complaints which head teachers so often receive from the "parents of cleanly children."

Infant Classes.

Dr. Myer Coplans relies upon the testimony of parents with regard to the infant school group of children. He has counted the before-school-age-period as three years and the period on her school influence in the infants' department as two years. In the big school department the average age is taken as 10½ years and the period of school influence 7½ years.

Diseases during the past fourteen years have shown approximate changes per 1,000 as under:

Disease.	At Home.	At School.
Scarlet fever	Increase, 4.5 to 6.3	Diminution, 14.6 to 10.0
Measles	Increase, 32 to 72	Diminution, 79 to 75
Chicken-pox	Increase, 17 to 26.2	Increase, 23.4 to 55.0
Diphtheria	Slight change, 0.5 to 0.3	Slight change, 3.2 to 3.9
Mumps	Increase, 3.7 to 8.5	Increase, 26.6 to 39.0
Whooping-cough ...	Increase, 32 to 38	Increase, 35 to 112
Croup...	Increase, 3.1 to 4.2	Increase, 3.0 to 6.3
Quinsy	Slight change, 0.8 to 0.77	Increase, 6.4 to 11.5
Rheumatic fever ...	Diminution, 0.2 to 0.0	Unchanged
St. Vitus' dance ...	*Nil*	(Infants, 1 in 2,221) Big school, 0.85

These results are approximate computations.

Prevention of Communicable Diseases.

Owing to the fact that children spend only one-seventh of their school life under the school roof, and because of their being so much together in the home, in the street, the recreation ground, and the Sunday school, any attempts at isolation are necessarily neutralized.

Dr. Myer Coplans recommends isolation desks for those with skin diseases, with books specially marked for their use, and more care about the clothes hung in the cloak rooms. He also dwells on the necessity of proper accommodation and efficient ventilation. He remarks that all these attempts may be rendered useless if there is not both among the scholars and teachers an increase in the knowledge of the laws of hygiene. By medical inspection the standard of cleanliness has been greatly increased among many of the scholars. With regard to vaccination in relation to small-pox the following table is given as the net result:

Vaccination.

	Completely Protected.	Partially Protected.	Unprotected.
Infant school children ...	30.6	15.3	53.6
Big school children ...	45.8	18.3	35.9

Phthisis.

As to consumption, Dr. Myers Coplans believes that in the families of children attending the schools not less than 6 per cent. are affected with this disease.

Height and Weight: Clothing.

All the children in the schools have been weighed and measured. As a whole, the children were found to be well developed, properly nourished, and in a great number of cases over-clothed, eight layers having been counted. The clothes are often too tight, especially across the chest, and the bigger girls wear the left-off, ill-fitting corsets of their mothers and sisters. The sleeves are also often so tight that they cannot move the arms freely for physical exercises, nor can they wash their hands comfortably. Boys' clothing is looser, but deformity is often caused by too tight braces, or braces buttoned tighter on one side than the other. Their boots, too, are often excessively heavy, clumsily made, ill-fitting, preventive of free action of the ankle. Under these conditions of clothing, physical exercises are only a tiresome, useless task.

Sports.

Dr. Myer Coplans finds that in many schools sports are neglected and that many head teachers would welcome a scheme in particular for inter-school sports for boys and girls.

Vision and Hearing.

With regard to vision 22.3 per cent. of the children in the upper standards have defective vision in one or both eyes; 5 per cent. of the children require artificial aids to vision. The height of the desks is such that reading matter is brought too close to their eyes, defects of vision ensuing. The desks, also, are frequently placed badly with regard to light. Defective hearing is often the cause that children are punished for inattention.

Medical Certificates of Absentees.

There appears to be no definite system of medical certificates by medical practitioners for absentee children, and in those who receive certificates the exact illness causing absence is not stated. Dr. Myer Coplans suggests that for statistical purposes, where absence is caused by illness, due note should

be made in the school attendance registers. These could be easily adapted to the purpose and the records would be valuable for statistical purposes.

THE REPORT ON THE SURGERY OF THE BOER WAR.

Although much information on the surgery of the Boer war was published at the time of this campaign by many of the civilian surgeons who went out as consultants to South Africa, the recent issue of an official report[1] based, it might be presumed, on a large and almost complete series of observations, should not fail, even after so long an interval, to excite some interest amongst the civil as well as the military members of the profession. This report, prepared in compliance with an order from Lord Roberts and the Director-General of the Army Medical Service, by Surgeon-General Stevenson and four colleagues, mainly consists of a number of commentaries on gunshot injuries of different regions and organs of the body, together with articles on the first field dressing and on skiagraphy. The range of the Committee's inquiries has, it will at once be seen, been somewhat restricted, and what might have been reasonably expected in a report of this kind will be found wanting in consequence of the fact that after an interval of three years detailed statistics of the killed and wounded during the war are not yet completed.

Imperfect Records.

Before passing in review the more important of the very able and instructive contributions of Surgeon-General Stevenson and his brother officers, and whilst warmly commending the uniform merit of their work, we would briefly allude to certain serious and regrettable facts which, it is candidly acknowledged, have rendered the preparation of this report very difficult and unsatisfactory. Indeed, it seems very evident that but for the strenuous efforts of the competent members of the Committee, their report would have been not only very disappointing but, in fact, totally useless. The amount of material, full allowance being made of the difficulties of collection in every campaign, and especially in the Boer war, in which the conditions were exceptionally unfavourable, was much less than it should have been, and much of this was vague and unsatisfactory. It is pointed out that in less than 8 per cent. of the cases of injury treated in the various hospitals were such records made as to prove of use to the members of the Committee in their endeavours to throw fresh light on the treatment of gunshot wounds, and to determine their mortality. Most of the data at the disposal of the Committee were supplied from the stationary and base hospitals, and records of the more severe cases treated in the movable hospitals near the seat of engagement were found deficient. The Committee have, consequently, good grounds for greatly regretting this very serious loss of valuable surgical experience, and their inability on this account to further the future education of army medical officers by making a worthy addition to the surgical records of the other campaigns of the last half century. Surgeon-General Stevenson, in accounting for these really lamentable failures, expresses a very high opinion, in which we heartily concur, of the unselfish devotion and efficient working of the Army Medical Service, and goes to the root of the matter by giving as the true cause of his editorial difficulties the fact that "the medical officers "found themselves in the presence of many times more medi- "cal and surgical work than had been expected and than pro- "vision had at first been made for." The suggested "statistical bureau" seems to be a somewhat inadequate remedy for a similar failure in future wars, which would very probably be more effectually prevented by relieving, especially under the stress of a vigorous campaign, the medical officer of much of his routine clerical work.

Head Injuries.

The Editor's article on wounds and injuries of the head, though based on a meagre list of complete cases, proves conclusively the great benefit that has been derived from the adoption of antiseptic methods in military surgery. Operative treatment, which was seldom practised in previous campaigns, even in the Franco-Prussian war, was as a result of the prevention and checking of septic infection by modern dressing, applied in the Boer war with such decided success that Surgeon-General Stevenson believes that it is hardly going too far to say that even the most severe cases of gunshot fracture of the skull—excepting, of course, those that are clearly inoperable—should be given the chance of recovery afforded by operative intervention. The section on gunshot injuries of the spine, also from the Editor, deals with traumatic conditions, which are probably the most difficult to treat in military surgery. Here we find a very unfavourable prognosis of laminectomy in such cases, which operation, it is pointed out, though it might do good in a simple case of fracture with depression, would certainly prove useless if such injury be complicated by the intense form of medullary concussion caused by the passage of a "high-velocity" bullet.

Abdominal Injuries.

To these two reports the Editor adds a third on the important subject of gunshot wounds and injuries of the abdomen, which section is based on notes collected by Lieutenant-Colonel Mallins, who was removed from the Committee at an early date for service abroad. In this very useful article Surgeon-General Stevenson discusses many points of interest in connexion with the mechanism and the therapeutics of these complex lesions. Of these points the most important is the modification of views with regard to the indications and prognosis of laparotomy for penetrating gunshot wound imposed by surgical experience in South Africa. The excessive mortality attending this operation in the course of the Boer war, on the one hand, and the frequent occurrence, on the other hand, of unexpected recovery in cases of undoubted penetrating wound—an experience according with that of military surgeons in the recent Spanish-American war—are certainly good grounds for the conclusion here laid down that under the inevitable conditions of warfare abdominal section is not justifiable unless such symptoms occur as point strongly to the onset of peritonitis, and not even then if means and materials for antiseptic work are not available. In cases of severe contusion, on the contrary, exploratory laparotomy, although the conditions of antiseptic work may be very unfavourable, is held to be indicated by any serious symptoms, as under such conditions expectant treatment is almost invariably fatal.

Injuries of Bones and Joints.

Notwithstanding the relative monotony of his subject, and though sadly handicapped by the scanty material at his disposal, Lieutenant-Colonel Hickson has succeeded in the preparation of an excellent and suggestive report on gunshot injuries of long bones and joints, the importance of which is enhanced by the addition of a profusion of clear and instructive illustrations, which certainly bears out the Editor's statement in another section that a considerable amount of valuable skiagraphic work was done during the war. In discussing the different factors that determine a wide difference in the forms of fracture of long bones caused by the Mauser bullet, the author suggests one that we think has not been fully regarded, in the statement that it is probable that the variation in the density of the long bones may contribute to this variation of type in fractures of the shaft at similar ranges. It is probable, although no definite information is given on this point, that amputation, now so seldom practised in civil surgery, was less frequently indicated for injuries to bone in the last than in older campaigns. Cases requiring primary amputation, it is stated, were not common; but this seems to have been due to the fact that the operation was deferred as long as possible in consequence of the unfavourable conditions attending early intervention. A satisfactory feature in the report is the indication in one of the meagre tables of a decided improvement in the death-rate of amputation performed at the hip and the upper third of the thigh. In gunshot wounds of joints, which were formerly classed among the most serious and fatal injuries in military surgery, the mortality during the Boer war, Lieutenant-Colonel Hickson reports, was undoubtedly low and primary amputations infrequent. In the surgery of joints, as of larger cavities, great changes have been effected by modern conditions both of warfare and of surgical methods, and, as we are informed, the introduction of the modern rifle of small calibre and high velocity, together with the advent of antiseptic surgery, has completely altered the character and prognosis of joint wounds.

Nerve Injuries.

Much attention has been paid in this report to the interesting

[1] *Report on Surgical Cases in the South African War, 1899-1902.* By Surgeon-General W. F. Stevenson. Fcap., pp. 308. (London: Wyman and Sons. 1905. 7s. 6d.)

subject of gunshot injuries of peripheral nerves, and particularly to that form of supposed concussion or vibration which, recognized for the first time by Weir Mitchell and other surgeons in the American Civil War, seems to have been very prevalent in South Africa, and excited much interest amongst both the service officers and the civilian surgeons. This lesion, which was very common in limb injuries during the war, and was at the time brought under notice at home by Mr. Makins and others, is fully considered in this report by interesting contributions from Lieutenant-Colonel Sylvester, Surgeon-General Stevenson, and Civil Surgeon Young. Those papers contain much information of practical value, but the instruction here given is somewhat marred by critical, and indeed polemical, matter, and by some apparent confusion as to the meaning of terms.

Although almost without any value as a statistical record, this report gives an immense amount of accumulated personal experience, and Surgeon-General Stevenson and his coadjutors deserve many congratulations on the good result of their arduous work, and for their success in having made, in spite of much difficulty, a real and durable contribution to the literature of practical surgery.

THE MIDWIVES ACT, 1902.

Central Midwives Board.

Result of Examination for Midwives.

We have received, by the courtesy of the Secretary of the Central Midwives Board, a list of the names of the successful candidates at the examination last month. The following is a classification of the places at which the successful candidates were trained:

Hospitals	168
Workhouse hospital, workhouses, and infirmaries	11
Maternity charities	52
Trained nurses' institutes	10
District nurses' societies and associations ...	17
Nurses' homes	8
Mothers' homes	11
Missionary home	3
Benevolent institution	2
Private tuition	72
Total	352

From a statistical note appended to the return it appears that there were 463 candidates. The number rejected was 111, or 24 per cent.

Somerset.

The Midwives Act Committee of the Somerset County Council reported that the Inspectress of Midwives had now inspected 85 out of 173 registered midwives practising in the county. Nearly all the midwives had made some attempt to comply with the rules, and, taking them as a whole, they were a respectable class of women, hard working and poorly paid. They received the visits of inspection well, and seemed anxious to improve.

Norfolk.

Miss Florence M. Bernard-Boyce, Inspector of Midwives, reports that 113 visits of inspection have been made of those women who are practising as midwives in the various divisions of Norfolk. Of these women, 23 are registered midwives and 90 uncertificated. Forty-eight of the women practising, registered and unregistered, were found to be clean and satisfactory in their person and residence, and their mode of work; many of them wearing washing dresses, and their general sanitary arrangements were good; 51 were only fairly clean; 14 very indifferent and dirty. Many of these women can neither read nor write, and it is interesting to note that most of them have welcomed the explanations and suggestions which have been made to them. Those who are now registered seem willing to learn and act upon the suggestions made to them, and to procure the few necessary appliances for their work as laid down by the Central Midwives Board. It has been found necessary to caution 11 unregistered women as to their method of work and mode of practice, and as to the use of the word "midwife"; also 1 registered midwife for not sending for medical help in the case of the birth of a child which lived only forty minutes. There are now 490 women acting as midwives in the county, 49 of whom are registered and certificated midwives. The report was adopted.

Urgent Midwifery Cases in Pauper Practice.

T. D. B. writes as follows: A woman whose husband is absent "serving His Majesty" has four children for whom only she is in receipt of parish relief, is suddenly taken in labour, not having previously engaged either midwife or doctor. A certificated midwife is called in who finds the case a serious one, and then procures the help of the nearest private medical practitioner, the district medical officer being two and a half miles away and the relieving officer at a greater distance. Our correspondent asks: (1) Who is responsible for the doctor's and midwife's fees? Our correspondent further asks: (2) Should the local doctor refuse to attend when sent for by midwives, he not having been engaged for the case? (3) Who is responsible should the woman die? (4) What ought one to do should another similar case occur?

*** (1) Unless special arrangements have been made by the local authority, we think that the only person who could be held responsible for the fee in this case is the patient, or possibly her husband. The patient ought to have obtained a medical order from the relieving officer for attendance in her approaching confinement, he would probably have considered it his duty to grant the application in anticipation of the event. (2) and (4) Pending an appeal to Parliament, we think that it would be in accord with the humane custom of the profession to give assistance when called upon by a midwife in an emergency, but the injustice thus inflicted upon medical practitioners should be pointed out to the Parliamentary representative and candidate for the division and to the political organizations. (3) No legal responsibility, however, can attach to a medical man who refuses to take the view expressed here.

CONTRACT MEDICAL PRACTICE.

Notice as to Districts in which Disputes Exist.

A notice as to places in which disputes exist between members of the medical profession and various organizations for providing contract practice will be found among the advertisements, and medical men who may be thinking of applying for appointments in connexion with clubs or other forms of contract practice are requested to refer to the advertisement on page 87

The Northumberland Miners' Association.

The Committee of the Northumberland Miners' Association which was empowered some time ago to take any steps it thought fit to obtain a reduction of the fees paid to colliery surgeons, issued a report on October 26th last. This states that in 1900 it was agreed that the fees paid by householder miners should be raised to 9d. a fortnight, and at the same time young men were subjected to reductions for medical attendance who previously had paid nothing at all. The incomes of the colliery surgeons were thus increased, the Committee estimates, by over 60 per cent. The time has now come, however, when in the Committee's opinion, the payments should be reduced to the old figure, for in 1900 the miners, it considers, were receiving exceptionally high wages. The Committee, therefore, will insist upon a reduction being made, but as an alternative to going back to the old payments would be prepared to recommend the miners to subscribe 8d. a fortnight instead of 9d.

The Northumberland Committee of the North of England Branch of the British Medical Association, it is stated, has considered this proposal, but has declined to accede to it. The medical treatment afforded to miners, it maintains, is superior to what it used to be a few years ago, and it is anxious to keep it at that improved level. This cannot be the case if the payments are reduced, because medical men of a good class will neither be attracted into the district nor remain in it if the work is insufficiently paid. No reduction is, therefore, permissible.

In view of this answer the Committee has considered various proposals such as the formation of a medical association under the control of the Northumberland Miners' Association. Instead, however, of adopting any of them, it has determined to ask the county to consider the position disclosed and to suggest that the various collieries shall respectively forward resolutions on the subject in time for the Council meeting due this month. The Committee's own opinion is that the best policy to adopt would be that of giving notice to the medical men that after the beginning of the new year the payments made by the men will be the same as they were before 1900.

The Glasgow University Club, London, will dine at the Trocadero Restaurant on Friday, December 1st. Mr. Walter Raleigh, M.A., Professor of English Literature in the University of Oxford, will take the chair at 7.30 p.m. Applications for tickets should be addressed to the Honorary Secretary 63 Harley Street, W.

Dentists for the French Army.—Among the resolutions passed by the Congress of the French Association for the Advancement of Science recently held at Cherbourg, was one calling on the Ministry for War to consider the expediency of creating a service of dental surgeons of sufficient strength to supply the requirements of each army corps.

LITERARY NOTES.

The *Berliner klinische Wochenschrift* of October 30th is a *Festnummer* in honour of the sixtieth birthday of Professor C. A. Ewald, one of the editors of that journal. It contains a number of scientific contributions from friends and former pupils, among whom are Professors von Leyden, Senator and Eulenburg, Dr. J. C. Hemmeter, Dr. Lépine of Lyons, and Drs. Einhorn, Salkowski, Jaergensen, Posner, and von Hansemann.

Mr. Heinemann will shortly publish a work on Death by the Danish physician, Dr. Oscar Bloch. It will embody the results of a scientific inquiry into the phenomena attending death, based on a large number of cases in the author's own professional experience.

Mr. Charles Williams, of Norwich, whose delight it is to play the part of "Old Mortality" to the memory of Sir Thomas Browne, has compiled a bibliography of the *Religio Medici* complementary to those of Simon Wilkin and Dr. W. A. Greenhill. The former terminates with the edition printed in 1736, the latter with the edition published by Longmans in 1874. Since that date fourteen editions have appeared, making in all—to the end of 1905—forty-five English and fifteen foreign editions. No foreign edition, as far as Mr. Williams knows, has been printed since 1746. He states that during the life of Sir Thomas Browne, 23 editions of his work appeared in print, 13 were English and 10 foreign —7 Latin, 1 Dutch, 1 French, and 1 German. From the year of his death (1682) to 1905, 32 English editions (of which 4 are American), 2 Latin, 1 Dutch, 1 French, and 1 German have been printed. This makes a total of 60 editions in 263 years. On the authority of Sir Thomas Browne, the work had also been translated into High Dutch and Italian.

In the current number of the *Journal of Anatomy and Physiology* (October) Professor Tait Mackenzie, of McGill University, Montreal, writes on the facial expression of violent effort, breathlessness, and fatigue. He illustrates the subject by reference to Sir Charles Bell and Hogarth ("one of the "keenest observers of the human face in all its moods") to pictures and statues, ancient and modern, and particularly by reproductions of masks modelled by himself from the study of many instantaneous photographs of athletes at work and from the observation of men in action at many athletic gatherings. His endeavour has been to combine what was characteristic in many so as to show the typical face of violent effort.

We have received the first number of the *Archivos de Hygiene e Pathologia Exoticas*, which is published under the auspices of the Lisbon School of Tropical Medicine. Professor Antonio de Lencastre contributes a sketch of the efforts made to found such a school in Portugal. He says the initiative in the matter was due to the late Pinheiro Chagas, who in 1885 introduced a Bill into Parliament providing for the teaching of "exotic pathology." The Bill died a natural death owing to the dissolution of the Cortes. Two years later another Minister, Henrique Barros Gomes, introduced a measure on the same lines which became law in 1887. A chair of exotic pathology was accordingly established in the Naval Medical School. In 1895 this chair was suppressed by Ferreira d'Almeida, then Minister of Marine, but was revived by Barros Gomes in 1897. When the School of Tropical Medicine was founded in 1902, the chair was transferred to it. From 1885 onwards efforts had been made to bring about the establishment of a special clinic of tropical diseases in connexion with the Naval Hospital, but owing to the active opposition of some and the indifference of most, they came to nothing. Public opinion, however, in favour of the scheme was ripening. In the beginning of 1902, Senhor Antonio Teixeira de Souza, then Minister of Marine, got a Bill passed providing for the creation of a Colonial Hospital and a School of Tropical Medicine. Through this school all candidates for medical services of the navy and the colonies have to pass. In addition to the strictly medical teaching, the school gives courses on tropical hygiene, and first aid to the sick and wounded, to missionaries, military officers, traders, agriculturists, employés in public works, and teachers whose sphere of activity is in tropical countries; for missionaries, officers and teachers these courses are compulsory.

The Marseilles Municipal Council has made a grant of £80 to the Bacteriological Institute of the Department to be applied in testing the value of Professor Behring's remedy for tuberculosis.

THE PLAGUE.

Prevalence of the Disease.

India.

During the weeks ended September 30th and October 7th and 14th the deaths from plague in India numbered 4,080, 3,624, and 3,395 respectively. The principal figures were: Bombay Presidency, 2,732, 2,327, and 2,263. Bengal, 179, 97, and 65; Punjab, 30, 32, and 38; Central Provinces, 580, 468, and 501; United Provinces, 60, 95, and 85; Madras Districts, 187, 186, and 156.

South Africa.

During the weeks ended September 23rd and 30th and October 7th and 14th no cases of plague were discovered in any town of Cape Colony except in *Port Elizabeth*, where 1 case occurred during the week ended October 7th. During the weeks in question no cases of plague in rats or mice were found anywhere in the Colony except at Port Elizabeth during the week ended October 7th.

Australia.

Queensland, Townsville.—Two fatal cases of plague occurred during the week ended September 16th. "Two suspect" cases of plague, also, were under observation on September 16th. The previous case was reported on August 4th. Rats were again found infected when plague appeared in man.

Mauritius.

During the weeks ended October 19th, 26th, and November 2nd the fresh cases of Plague numbered 16, 16, and 12, and the deaths from the disease 11, 11, and 9.

Hong Kong.

During the weeks ended October 21st, 28th, and November 4th the fresh cases of plague numbered 1, 1, and 2, and the deaths from the disease 1, 1, and 1.

MEDICAL NEWS.

The National Dental Hospital is to hold its annual students' dinner on November 24th at the Trocadero Restaurant, the Chairman on the occasion being Mr. James Cantlie.

The International Congress on Milk Supply will hold its third congress at The Hague, the centre of the milk industry in Holland, in 1907.

At the Wimbledon Borough Council Election on Wednesday, November 1st—the first under the recent Charter of Incorporation—no fewer than four medical men were elected.

At the meeting of the Royal Microscopical Society at 20, Hanover Square, London, W., on Wednesday next, at 8 p.m., there will be an exhibition of microscopic slides of sections of tsetse fly, trypanosomes, etc.

The French Academy of Moral and Political Sciences has decided to award the François-Joseph Audiffred prize, which is given in recompense of "the most beautiful and greatest "acts of self devotion of whatever kind they may be," to Professor Calmette, Director of the Pasteur Institute of Lille. The prize is of the value of £600.

The seventh annual dinner of the Medical Graduates' College and Polyclinic will be held at the Trocadero Restaurant on Friday, December 8th. The chair will be taken by Mr. A. W. Mayo Robson at 7.30 p.m. Ladies will be admissible as guests. Dinner tickets, price 7s. 6d. each, exclusive of wine, can be obtained from the Medical Superintendent, 22, Chenies Street, W.C.

Dr. A. P. Luff, of St. Mary's Hospital, London, delivered an interesting address on Certain Diseases in Relation to Spa Treatment at the Royal Baths, Harrogate, on Saturday, November 4th. The meeting was largely attended by the medical profession of Harrogate and the surrounding neighbourhood, who were entertained at afternoon tea by the President of the Harrogate Medical Society (Dr. Mouillot). A hearty vote of thanks was passed to Dr. Luff.

Bequests to Medical Charities.—The late Mr. Evelyn Thomas Brecknell Wightman, of Heigham, Norwich, whose will has now been proved, left to the Jenny Lind Infirmary for Sick Children at Norwich £500 or such further sum as may be necessary to endow a cot to be known as the Julia Evelyn Wightman Cot.

The New Buildings of the University of Birmingham.—A further anonymous donation of £50,000 has been promised to the University with the proviso that it is to be applied to the new University buildings at Bournebrook. This brings up the total amount of the fund for the new buildings to £450,000, the present authorized expenditure on the whole scheme being £250,000 for the buildings and £100,000 for their equipment. It is anticipated that the great hall will be completed in eighteen months.

British Medical Journal.

SATURDAY, NOVEMBER 11TH, 1905.

UNIVERSITY POLITICS IN SCOTLAND.

THERE is for most civilized sons of Adam a peculiar joy in a contested election, and we observe by reports from Glasgow that it is beginning to be shared by the daughters of Eve. The undergraduates of the Universities of Edinburgh and Glasgow last week took part with much keenness and, in the case of the Western University at least, with more than desirable physical vigour in the election of Lord Rectors. The elections, which are run on political lines, resulted in both instances in the return of the candidate supported by the Liberal party. But it is not in the swing of the political pendulum, of which political seismologists will find further evidence in these returns, that we are interested, for we are sure that the interests of the universities will be as safe in the hands of Mr. Haldane and Mr. Asquith as in those of their late opponents. It is rather to certain other contested elections which are agitating or have recently agitated the academic calm of Edinburgh and Aberdeen that it seems desirable to call attention.

It is, we venture to assert, well that a contested election has that power of stirring up interest to which reference has been made, for it is whispered that there are many graduates of both these Universities who do not fully realize how the supreme governing bodies are constituted, or what are the interests and the powers the graduates themselves possess in the constitution of those bodies. Surprising as, we are assured, the information will be to many who remember the awe-inspiring position of the University professors, yet it should be realized that the supreme control in university matters is not vested in these eminent instructors of youth. By the wisdom of the Legislature and of University Commissioners it resides in the University Court, which is representative of all sections of the University, and even, to some extent, of the public. The undergraduates are represented by the Lord Rector and his assessor, the graduates by four assessors, and the Senatus by a like number. The Chancellor and his assessor, who are also members of the Court, may be taken, we presume, to be representative of the general public, while in Edinburgh, the University being the town's college, the Court is completed by the Lord Provost, who also nominates an assessor.

The graduates constitute what is, perhaps rather ironically, called the General Council; it corresponds more or less closely to the Convocation of English Universities. The graduates of Edinburgh and Aberdeen are scattered, and a Parliamentary candidate for a Scottish University constituency has to face the fact that the majority of the electors reside in England. Moreover, the business which comes before the General Councils is not usually of an exciting nature, and their statutory meetings are commonly attended only by graduates resident in the city, and not by any means by all of them. The provision made for a poll by voting papers of all accessible candidates is therefore wise, though heretofore it has not, we believe, often been put in force.

In Aberdeen it had become the custom for the General Council to elect one medical, one legal, one clerical, and one educational representative. The medical graduates, however, constitute over one-third of the total number, and in recent years the feeling has grown among those resident in England that the time had come when medicine should be represented by more than one graduate. The result was a very warm contest, some account of which is given elsewhere. One effect will probably have been to awaken many Aberdeen graduates to a consciousness of their powers in the government of their University, and, therefore, of their responsibilities in this respect.

The graduates of the University of Edinburgh are now going through a similar experience. The University Court has before it important schemes affecting the medical, legal, and arts faculties, and those who are interested in seeing these new schemes carried through seem disposed to look to the result of the poll now in progress as a test of the views of the general body of graduates, and of the interest which they take in the welfare of the University. It appears, as is more fully explained elsewhere, that one of the assessors who has recently vacated office has been active in promoting a scheme involving certain changes in the medical curriculum which, in the opinion of many of those actively engaged in teaching in Edinburgh, would materially increase the efficiency of the medical school. His re-election is contested by another member of the legal profession, and the merits of the rival candidates have been placed very fully before the constituency in voluminous addresses. We have no doubt that they have been, or will be, carefully studied before next Thursday, and that a heavy poll will be recorded.

Finally, we may be permitted to express the hope that the interest aroused in university affairs by the contested elections will not die away, but that the graduates will continue to exert the influence in the conduct of their affairs which legitimately belongs to them.

BLOOD RELATIONSHIP AND THE PRECIPITIN TEST.

IT is now fully recognized that the precipitin test for blood serves two main purposes. It affords a valuable indication of the source from which any particular sample of blood was derived, and it also serves the biological purpose of demonstrating degrees of blood relationship between different species of the animal kingdom. The testing serum, which is prepared by utilizing the corpuscles of a particular animal, will give the optimum reaction with the blood of that animal, and in this sense the test is specific; but it will also give a reaction, though to a variable and less-marked degree, with the blood of allied species of animals, and the greater the amount of precipitate obtained the nearer will be the biological relationship of the blood which yields this precipitate to the blood of the animal for which the test is specific. Thus, for example, the relationship between man and the ape is demonstrated by the fact that when an experimental animal such as the rabbit is treated with human blood, the serum of this

animal will give a precipitate not only with human blood, but also, though to a less degree, with the blood of the ape.

But these highly interesting biological facts are, as Professor Uhlenhuth points out,[1] occasionally a source of embarrassment in forensic medicine when it is important to distinguish between the blood of two nearly allied animals. It is true that Weichardt has proposed to overcome the difficulty by an application of the "method of saturation." On this principle, if it is desired to distingush, for instance, between the blood of man and the blood of the ape, a rabbit serum is first prepared by inoculation with human blood, and to this serum ape's blood is added; the precipiate is then filtered off and the process is repeated until finally a serum is obtained which yields a precipitate with man's blood alone. But in practice the preparation of a diagnostic serum by this method is so difficult and uncertain, even under the most expert manipulation, that Professor Uhlenhuth regards it as extremely unsatisfactory. He now announces that he has discovered a better way of preparing serums of the desired nature.

The observations which led up to his discovery were initiated by a practical difficulty arising in a medico-legal case where he was asked to give expert evidence. It was necessary for him to decide whether a particular sample of blood submitted to him for examination was hare's blood or no. A serum, specific for hare's blood, had therefore to be prepared, and, as the rabbit is the animal almost invariably employed as the serum provider, three rabbits were inoculated for the purpose with hare's blood. It occurred to him, however, that the serum so obtained might prove unreliable, because the rabbit is nearly allied to the hare, and the generally accepted view is that when animals are inoculated with a nearly-related blood they do not react with the formation of specific precipitins. He therefore also inoculated three fowls with hare's blood. The serums of these six animals were eventually tested against hare's blood. It was found that one of the rabbit serums gave a very strong reaction, and the other two also gave a satisfactory reaction, though they were not quite so powerful; the three fowl serums, again, all gave good reactions. Further comparative experiments were then instituted. When the bloods of the hare, the tame rabbit, and the wild rabbit were tested simultaneously with the fowl serum, it was found that in a few minutes a marked precipitate was formed with the hare's blood: shortly afterwards precipitates were also formed with the bloods of the wild and the tame rabbit; these last two precipitates gradually increased and ultimately became as copious as the precipitate with hare's blood. On the other hand, when the bloods of the same three animals were tested against the rabbit serum, the hare's blood alone gave a reaction; the test tubes containing the blood of the wild and of the tame rabbit remained quite clear. These last results were confirmed by testing the blood of thirty-five normal rabbits against this same rabbit serum: the blood of every one of the animals remained perfectly clear, though very low dilutions of blood were employed (from 1 in 20 to 1 in 100), and the test was therefore a particularly rigorous one. From these data Professor Uhlenhuth obtained the remarkable and highly important result that the differentiation between hare's and rabbit's blood can be effected by a serum obtained from the rabbit, but cannot be effected by a serum obtained from a widely different species of animal the fowl.

[1] *D tsch. med. Woch.*, October 19th, 1905, p. 1673.

Professor Uhlenhuth therefore finds himself in opposition to the usually accepted view that when an animal is inoculated with nearly related blood its serum is not capable of producing specific precipitins. He explains the apparent discrepancy between his results and those of previous observers who have failed to produce precipitating serums under similar experimental conditions, by pointing out that there is a marked difference of individual susceptibility in experimental animals. Even when highly foreign corpuscles, such as those of man, are inoculated into rabbits, it is not uncommon to find that out of six or eight animals only two yield useful antiserums. He suggests, therefore, that previous failures to produce efficient antiserums against the blood of nearly allied animals were due to the employment for inoculation of animals which happened to be refractory, and he considers himself particularly fortunate in having so readily obtained active serums from the first three rabbits which he inoculated with hare's blood.

As corroborative evidence in support of his discovery, Professor Uhlenhuth records additional instances in which he has obtained an effective antiserum from the blood of a nearly allied animal. Taking the fowl and the pigeon, he has shown that he can produce in the former a serum which will give a precipitate with pigeon's blood, and, conversely, by inoculating fowl corpuscles into the pigeon he has obtained from the latter a serum which will precipitate the blood of the fowl. Still more interesting are the results he has obtained by inoculating apes with the blood of man. He utilized old world apes for the purpose, and selected two specimens of *Cercopithecus fuliginosus* and one of *Macacus rhesus*. With the last animal and with one of the two former he has obtained serums which have a high precipitating power for human blood, but do not give the slightest reaction with ape's blood, even when this is tested in very low dilutions, ranging from 1 in 10 to 1 in 50. He has therefore, secured from these animals a serum which will differentiate man's blood from ape's blood in a decisive way which is impossible when the serum of an inoculated rabbit is employed.

The general conclusion to be drawn from these observations is that, even in nearly allied animals, important differences must be present in the chemical constituents of the blood. How close the interrelationship must be before these chemical differences disappear is at present an open question. Occasionally the precipitin test has brought out differences in blood constitution even in animals which are zoologically identical. Thus Schütze prepared a serum by inoculating rabbits with rabbit's blood: this serum he tested against the blood of thirty-two rabbits, and in two instances obtained a precipitate. This rare phenomenon, in Professor Uhlenhuth's opinion, must not be explained by the supposition that an "iso-precipitin" has been formed, but ought rather to be regarded as due to a racial difference in the blood albumens of the animals in question. And similarly, he thinks, chemical differences may be present in the blood of various races of mankind.

THE FATALITY FROM DIPHTHERIA IN GREAT TOWNS.

DR. ARMSTRONG, of Newcastle-on-Tyne, has compiled an interesting return showing the number of notified cases of, the number of deaths from, and the percentage fatality of diphtheria in 31 large towns during each of the eleven years

1894-1904. It must be admitted that a statement of sickness and mortality in terms of populations would have been even more interesting, but as the returns were made with the object of ascertaining the annual fatality per 100 cases treated before and after the introduction of diphtheria antitoxin, and as this object is met by the present arrangement, we have no cause for complaint. Even as they now stand, the first two tables enable one to see at a glance for each of the large towns on the list the year or years in which diphtheria was most prevalent. This is aided in the table of cases by using leaded type for the specially epidemic years. By this means we can see not only the invasion of different towns in different years, but also the still more remarkable escape of other towns. What, for instance, has determined the relative freedom from epidemic invasion of Birkenhead, Burnley, Derby, Gateshead, Huddersfield, Halifax, Plymouth, and Sunderland? In view of the irregular time-incidence of epidemic diphtheria in the other towns in the list, it is possible that the turns of these towns will still come.

The percentage statistics of fatality of attacks are extremely interesting, although, as Dr. Armstrong points out, it is very difficult, if not impossible, to determine in these general statistics the exact share which treatment by diphtheria antitoxin has borne in the reduced fatality, owing to the want of definite information as to the precise dates at which the serum came into use in the respective provincial towns, and the relative extent of its employment in each. There is a further difficulty, as Dr. Armstrong suggests, in the fact that bacteriological aids to diagnosis have undoubtedly led not only to the earlier but to the more frequent recognition of diphtheria, when apart from such diagnosis slight cases would have been regarded as simple sore throat. When, however, full weight is given to these considerations the differences in fatality before and after the use of antitoxin began are too great to be explained without ascribing therapeutic value to this remedy. Taking the average of the total 9,511 cases of diphtheria notified in thirty-one provincial towns in the two years 1894 and 1895, the fatality averaged about 32 per cent.; in 1899, when the epidemic wave over England had become more fully extended there were 12,553 cases in the thirty-one towns, and the average fatality was only 25.2 per cent., antitoxin in the interval having come into fairly general use. In 1903 and 1904 the fatality had fallen to 17.7 and 18.0 per cent. The differences in fatality in the towns can scarcely be explained apart from enormous differences in completeness of notification of cases, in adoption of preventive measures, and especially in the steady employment of bacteriological aids in the detection of doubtful cases. Thus in Croydon the fatality in the last three years only averaged 8 per cent., in Brighton only 7 per cent.; while in Bolton and Oldham it averaged 18 per cent., in Halifax 21 per cent., and in Preston 34 per cent. Making full allowances for the variations in fatality during epidemics and the intervals between epidemics, it is fairly certain that in some towns a much larger proportion of the total cases come to the knowledge of the medical officer of health than in other towns.

The statistics for the metropolitan fever hospitals are much more satisfactory as a means of deciding the therapeutic value of antitoxin than statistics for the entire population. The average fatality of all diphtheria patients admitted to these hospitals in the years 1888-93 was 37.3 per cent., and in 1894-1904 it was 15.8 per cent. The use of antitoxin serums in the treatment of diphtheria began in 1894. It is unfortunate that no statistics similar to those published in the annual reports of the Hospital Committee of the Metropolitan Asylums Board have been collected for the chief provincial fever hospitals. Experience shows that whenever these have been obtained, the therapeutic value of antitoxic serum has been very evident, the fatality of the disease being great or small in proportion as the treatment is given late or early.

A NEW CLINICAL POST-GRADUATE SCHOOL FOR LONDON.

THE rapid advances which are taking place in the science and art of medicine and surgery are creating a necessity for corresponding changes in the educational facilities which a wider range of subjects and a greater elaboration of technique are rendering essential both for students and for qualified practitioners.

In the course of an address recently delivered to the West London Post-Graduate College, the President of the Royal College of Surgeons of England advocated a transfer of some of the more advanced and specialized subjects from the before-graduation to an after-graduation curriculum. Under such a system it would become feasible, without recourse to unprofitable "cram," to find time for achieving a sound knowledge of those essential subjects which form the groundwork of the knowledge with which practitioners have to face the responsibilities of the care of human life and the cure of disease. Freed from the anxieties of class and professional examinations, students would bring their unburdened minds and trained powers of observation to bear profitably on questions of special clinical study and investigation.

Mr. Tweedy also expressed the opinion that a course of practical work was necessary and should be made compulsory for every qualified man after he had been engaged for a certain number of years in active practice. The public services have already forestalled this suggestion by adopting a system of study leave for their medical officers. But for the general practitioner leave of any kind from the responsibilities of his practice is, except in a small minority of cases, almost impossible.

Though the day seems far distant when any Government in this country will become enlightened enough to see that the health of the nation is an asset of sufficient importance to justify money grants in aid of after-graduation education, yet the expediency of providing some of the sinews of war for post-graduate medical schools may not unreasonably be expected to commend itself to men of wealth as a public-spirited way of disposing of their surplus wealth. they would thus do something towards placing their country on a footing of equality with America, where philanthropy finds frequent expression through this commendable channel.

In London, though a good deal has been done in recent years, and the West London Post-Graduate College in particular deserves all the approbation it received from the President of the Royal College of Surgeons for the excellent pioneer work it has done and is doing, it cannot be said that existing facilities are adequate to needs or opportunities. We understand that a scheme for the establishment of a Post-Graduate Clinical College under the auspices of the Seamen's Hospital Society has already enlisted promises of co-operation from certain eminent members of the profession in London. The proposal is to assign a certain number of beds to these gentlemen who will give instruc-

tion in clinical medicine and surgery in association with the existing medical staff of the Dreadnought Hospital at Greenwich. The scheme is intended not to supersede but to complement the School of Tropical Medicine carried on in connexion with the Branch Hospital of the Society at the Albert Docks.

The Dreadnought Hospital at Greenwich contains 250 beds, and nobody with hospital experience will hesitate to agree with the proposition that where clinical instruction is given in the wards of a hospital the efficiency of the service rendered to the patients is increased. By the new step about to be taken, the Seamen's Hospital Society will therefore not only contribute to the advance of medical and surgical science, but will also be for the benefit of the cosmopolitan seafaring population which claims when sick the assistance of the Society's hospitals. We believe the greatest difficulty in the way of the Board of Management is the lack of pence which eternally troubles all organizations which seek to promote higher education in this country. The occasion offers a rare opportunity to the pious and benevolent founder.

BIRTHDAY HONOURS.

THE King on the occasion of his birthday has conferred the honour of knighthood upon Dr. James Barr, physician to the Royal Infirmary, Liverpool, and lecturer on clinical medicine in University College, Liverpool. Dr. Barr was for many years one of the representatives on the Central Council of the British Medical Association of the Lancashire and Cheshire Branch, and is well known to members of the Association as one of the leaders of the profession in the North of England. The same honour has been conferred upon Mr. Arthur Chance, President of the Royal College of Surgeons in Ireland. Mr Chance is surgeon to the Mater Misericordiae Hospital, Dublin, and has been President of the Dublin Division of the Leinster Branch of the British Medical Association. Dr. Theodore Thomson, one of the medical inspectors of the Local Government Board, has been made a C M G. in recognition of services rendered in connexion with sanitary matters to the Foreign Office and Colonial Office; he has represented this country at international sanitary conferences. The same honour is conferred upon Dr. Marc Armand Ruffer, President of the Egyptian Sanitary Board, distinguished for his researches in bacteriology and pathology; and upon Dr. Featherston Cargill, First Class Resident in the Protectorate of Northern Nigeria. Sir Felix Semon, C.V.O., Physician Extraordinary to His Majesty, has been advanced to be a Knight of the Royal Victorian Order. The honour of knighthood has also been conferred upon Mr. John McFadyean, professor of comparative pathology and bacteriology, Royal Veterinary College, London. Professor McFadyean is a graduate of medicine and science of the University of Edinburgh, and Editor of the *Journal of Comparative Pathology*.

A CONCEPTION OF DISEASE.

IT is not quite easy to understand how far Sir Frederick Treves intended his address to the Edinburgh Philosophical Institute on a Conception of Disease (p. 1251) to be regarded from a medical as well as from a popular standpoint. Scientifically considered, the address dealt with the phenomena of inflammation and other processes whereby the organism protects itself against infection. Amongst these details, and amongst the other matters considered which are directly of medical interest there is little which is new, and one or two points open to criticism; it may, for instance, be pointed out that the recurrence of diphtheria in the same person is by no means uncommon, and that therefore it would have been well to qualify the statement that "one attack "of diphtheria appears to protect the individual "against further outbreaks." Again, with reference to plague, Sir Frederick Treves says, "The con- "spicuous symptoms of plague are expressions of an "attempt at cure and are beneficent in intent. If they are "execrated it is because they are not understood. It is the "story once more of Gelert and the hound." But is it quite fair to charge popular tradition with stupidity on this score? As a matter of fact, it is a very long-standing popular belief, on which De Foe has laid special emphasis, that suppuration in plague means a favourable prognosis. If the main purpose of the address was to enlighten the general public on matters of general interest, then some of the statements verged too nearly on paradox to convey an altogether useful or desirable impression to the lay mind. Sir Frederick told his hearers that what is usually understood by disease "is not "one of the ills that flesh is heir to, but one of the good "gifts, for its motive is benevolent and protective." And again, "if it were not for 'disease' the human race would "soon be extinct." Thus, to take a concrete example, "peritonitis is, indeed, never a calamity, for it is never "other than a process of cure." Of course, medical men quite understand what Sir Frederick was driving at, and they will realize that his thesis would have looked better had he been speaking French. The French term "maladie" implies an evil process; the English term "disease" is non-committal. Etymologically it means no more than that the individual is not easy.[1] A man who has symptoms of peritonitis, or plague, or even of a common cold has every right to be uneasy, not because he has the symptoms, but because he has to resist an infection. They imply the introduction into the body of some agency deleterious to the organism. Against this agency the bodily tissues offer a resistance which, obviously and *ipso facto*, is beneficial. Of course, if persons, either through carelessness of thought or from ignorance of medical science, confuse these manifestations of resistance, such as inflammation, with the general morbid process which constitutes the disease in the true sense of the term, they render themselves liable to be betrayed into a palpable *reductio ad absurdum* which would run as follows: Disease is harmful; but disease consists in the manifestations of inflammatory and other reactions which are beneficial; therefore disease is at one and the same time both harmful and beneficial. Q E A. Nevertheless, the address contained a useful reminder to medical practitioners. We all of us recognize that the first principle of treatment in every case is, as a famous text-book says with insistent iteration, to remove the cause. But how if we do not know the cause, or knowing it do not know how to remove it? Are we not, as the common phrase goes, driven to treat symptoms, and may we not sometimes by over-zeal in this direction run the risk of interfering with that most potent of remedies, the *vis medicatrix Naturae*?

INFANTILE MORTALITY IN INDUSTRIAL CENTRES.

THAT the infantile mortality is higher in overcrowded manufacturing districts than among the scattered population of agricultural areas is a generally-accepted fact. Pinard, in a paper read a short time ago before the Académie de Médecine in Paris, directed attention to a report by Variot on the low infant mortality of Le Creusot, a French manufacturing town of some 30,000 inhabitants in the department of Saône-et-Loire. For the last twelve years—1893 to 1904—the average annual infant mortality has been only 110, comparing favourably with many agricultural communities, of which the Swiss canton of Vaud is quoted as an instance. This low mortality is traceable, according to Variot, to the wise philanthropy of MM. Schneider of Le Creusot expressing itself in amelioration of the dwellings and other surroundings of the working classes; provision of wages such as to allow the mothers "to devote themselves freely to their "maternal mission," and free medical treatment. Pinard

[1] Middle English *disese*, adopted from Anglo French *disease*, Old French *desaise*, formed on *dis* + *aise* (case).—Murray's *New English Dictionary*.

insists upon the predominant influence of the second of these factors: over 80 per cent. of the mothers are able to suckle their infants and also to give that care and attention which is rarely received from the hired friend or willing neighbour. Further, the pregnant women of the working classes, from the fifth month onwards, cease work and come under the instruction of a staff of women specially appointed. Thus the women are educated for maternity, and a certain number of premature births—in other words, of feeble infancies—is avoided. The mother is not allowed to resume work without a certificate from a medical man to say that neither her health nor her child's will be impaired thereby. The results at Le Creusot amply confirm the interesting figures quoted by Reid some years ago,[1] which showed that the infant mortality of Staffordshire towns varied directly as the percentage of women workers; the more the mothers went out to work the more likely were their infants to die. The matter was taken up by the British Medical Association, and a deputation waited upon Mr. Asquith, the Home Secretary of that date; but he was not convinced of the important relation between infant mortality and factory labour for women, and the matter dropped. At the present time, however, when much is being said as to the advisability of a pure milk supply for city-bred infants, it might be possible by private representations to induce wealthy employers of factory labour to assist in the provision of the most rational milk supply of all mothers willing and able to suckle, by working along the lines of an enlightened philanthropy such as is practised by MM. Schneider of Le Creusot.

INSPECTION OF CHILDREN IN ELEMENTARY SCHOOLS.

WE give elsewhere an abstract of a report to the Sub-committee of the Gloucestershire Education Committee on the Medical Inspection of Schools, drawn up by Dr. Myer Coplans, Medical Inspector of Schools. The report, which covers 20 pages and contains a summary of contents and many tables, is a most interesting piece of work, and should serve as an example to medical officers of health and medical inspectors of schools throughout Great Britain. It is most encouraging to hear that Dr. Myer Coplans met with the hearty co-operation of head teachers and that his efforts were welcomed by the vast majority of parents. All this points to the fact that, as we have so often maintained, the teachers are not to blame for antiquated methods and narrow views of education; those who are responsible are those inspectors who are either too lazy or too narrow-minded to allow teachers under them to display initiative or individuality. The inquiry as to whether children contract zymotic diseases at home or at school is very useful and should assist those who are endeavouring to check epidemics. We do not know of this having been done before. The Gloucestershire Education Committee is to be congratulated upon weighing and measuring the children attending the schools, and of taking cognizance of physical development, defects of vision and of hearing, and otherwise collecting information which will prove valuable from the statistical point of view. The number of separate elementary school departments in this district is 60, the scholars number 7,300, and as the experiment may form the basis of other schemes over the remaining portion of the country, it will be seen why a report such as Dr. Myer Coplans's is so welcome. We shall look forward with interest to the future reports he promises.

THE TOXINS OF ANIMAL PARASITES.

THE general biological law that animal excreta contain substances which are of a toxic nature must, says Professor E. Blanchard, hold good for the animals which live a parasitic existence; it is therefore of considerable interest and importance to consider the influence of these excreta upon the host in which the parasites reside. Upon this subject Professor Blanchard has written a useful article,[1] in which the possible toxic influence of the better known animal parasites upon their hosts is discussed in detail. He finds that intestinal parasites, such as the cestodes and nematodes, and biliary parasites, such as the trematodes, do not, under the usual conditions of their parasitic existence, produce any definite intoxication, since the injurious substances which they excrete are eliminated by the intestinal tract, and are not absorbed in sufficient amount to produce any deleterious action. With many of the blood parasites, again, the toxic excretory products are eliminated by the renal filter, and do not accumulate in the blood plasma in sufficient amount to cause serious disturbance. Thus Professor Blanchard denies the direct production of any serious vascular intoxication by such blood parasites as *Schistosomum haematobium*, *Filaria nocturna*, *Filaria diurna*, *F. perstans*, *F. immitis*, and *Sclerostomum equinum*. With the malarial parasites the case is different. Concurrently with the multiplication of these organisms within the red corpuscles, there is an accumulation of toxins; then, when the process is completed, the red corpuscles burst, and all this accumulated toxin is suddenly set free in the blood stream. The consequence of this liberation of toxic material is that a febrile reaction of greater or less intensity sets in, and persists until the poison is completely eliminated in the urine and the sweat. Certain parasitic protozoa are surrounded by a membrane of some density, and around this again a condensation of connective tissue takes place; this is the case with the *Sarcospiridia* in general and particularly with the *Balbiania*. The secretory and katabolic products of these parasites accumulate internally and form a cyst; they are unable to escape by osmotic diffusion, or at least do not escape in sufficient quantity to cause any mischief. Animal experiments, however, have shown that the toxicity of these products and, in particular, their pyrogenic action is remarkably high. Precisely the same conditions obtain with the cysticerci and the hydatids; the cuticle which surrounds them almost completely prevents the escape of the toxins which accumulate in the vesicular liquid. If, however, either by traumatism or by surgical intervention, the vesicles are ruptured, a diffusion of the toxic liquid at once takes place, and a more or less severe condition of intoxication is the result. Similarly, toxic effects are produced by the rupture of the *Filaria medensis*, when the liquid which fills the vast uterine sac of this organism is allowed to escape into the tissues, along with the myriads of embryos which it contains. The irritant action, in Professor Blanchard's opinion, is not due to the activity of the escaped embryos, but to the leucomaines or toxic ferments contained in the liquid, and, except under circumstances where there is an escape of this liquid into the tissues, the *Filaria medensis* may be regarded as relatively innocuous to man. Generally speaking, in fact, the organic toxins of the nematodes which are set free by simple rupture of the parasitic body, as in the case of *F. medensis* and the ascarides, or again, the toxins which may be obtained by maceration of the parasites in water, glycerine, and other liquids are not, under natural conditions, eliminated by the worms in sufficient quantity to exercise a deleterious action. And with regard to the acanthocephales, the trematodes, and the cestodes, Professor Blanchard draws a similar conclusion. He finds it difficult, however, to reconcile this view with the opinions of many authorities who have found a causal relationship between the presence of intestinal worms in the clinical manifestations of progressive pernicious anaemia. Many cases have been quoted in which the expulsion by means of an anthelmintic of large numbers of worms, particularly *Bothriocephali*, has been followed by the cure of severe anaemia. Professor Blanchard is therefore willing to admit that the *Dibothriocephalus latus*, either under normal conditions or under some special influences, excretes a particularly active toxin which possesses haemolytic properties. According to some authorities, the haemolysin in question is derived from worms which are either diseased or dead.

[1] BRITISH MEDICAL JOURNAL, 1893, II, p. 275 *et seq.*

[1] *Archives de Parasitologie*, tome x, No. 1. September, 1905.

THE POSSIBILITIES OF EXTRAUTERINE GESTATION.

Forty years ago tubal pregnancy was almost reckoned as a pathological curiosity, excepting in its later stages when the symptoms forced themselves on the observer, and when the fetus could not be overlooked. The earlier phenomena of tubal pregnancy were completely misunderstood, to such an extent, indeed, that conservative obstetricians of the present day point to the numerous cases of "pelvic haematocele" cured by rest in past days, and compare them with cases of "tubal abortion" which would also in their opinion get well without operation. But the writings of Parry and the dexterity and zeal of Lawson Tait threw much light on the pathology and symptoms of ectopic gestation. As to pathology, Tait's doctrine that that type of pregnancy is always primarily tubal seems contraindicated by certain cases of primary ovarian pregnancy, but Clarence Webster traces decidua in ovarian tissue to Müllerian or tubal elements. Still tubal pregnancy remains the most familiar type, and its varieties seem endless, as the Epitome indicates from time to time. That it may occur more than once in the same patient has been proved over and over again; it may also be bilateral or gemellar in one tube, or coincident with normal uterine pregnancy. Racoviceanu and Bogdanovici relate an instance of yet another variety.[1] A woman aged 24 came under their care for abdominal tumour associated with a suggestive history. Five years previously she had been normally delivered, and became pregnant again a few months later. The fetal movements could be clearly distinguished, and labour pains set in at the eighth month. They ceased in about thirty-six hours, and nothing was expelled by the vagina. Two months later the periods reappeared and continued regular for a few months, when once more labour pains set in without result. A tumour had been noticed ever since the first false labour, when it began to grow smaller, enlarging during the next pregnancy, and diminishing again after the second false labour. There was dark green vaginal discharge, and the sound passed 5½ in. into the uterus. Abdominal section was performed, and an old lithopaedion discovered strongly adherent to the omentum, mesentery, intestines, uterus, and pelvic walls. It was encapsuled, and included not only a well-developed fetal skeleton but also a small, shrivelled, yet otherwise well-preserved fetus. The uterine cavity contained a fetus, but its walls showed arrested and irregular evolution, the fundus and posterior wall having developed normally, whilst the remaining part was rigid. It appeared that the presence of the lithopaedion accounted for the imperfect evolution of the uterus; on the other hand, it was not clear whether the two tubal pregnancies were simultaneous or consecutive. It remained clear that the case represented missed labour and double tubal pregnancy—a remarkable complication, unique, it would seem, in the history of obstetrics.

TENDERS FOR MEDICAL WORK.

The Education Committee of the Dorset County Council has resolved to provide medical attendance for its pupils in the school of domestic economy and cookery at Dorchester; which is good. For such attendance it is prepared to pay; which is even better. There, however, our admiration for this committee must end; for the method which it has adopted to secure medical attendance of a desirable and suitable character is to invite all the medical men in the neighbourhood to tender for the job. They are requested to name the price at which they are prepared to supply advice and medicine at the school and at their own houses respectively, the Committee, of course, not binding itself to accept the lowest or any tender. This, it must be admitted, is an excellent method in placing contracts, say, for the supply of "shoes and ships and sealing wax," or even of butter; but it is utterly inapplicable to cases in which a public authority is called upon to spend public money in order to obtain the opinion of skilled experts. The proper course for the Committee to pursue will be to ascertain what rate of payment is considered reasonable by medical men of good standing in the neighbourhood, and then to invite applications for the appointment in the usual way.

[1] Doppelte extrauterine Schwangerschaft, uterine Schwangerschaft mit fötaler Retention, *Monatsschr. f. Geb. u. Gyn.*, September, 1905, p. 403.

VENEREAL DISEASE AND THE LAW.

A judgement of much interest was delivered not long ago by the Tribunal of the Seine in an action for damages. The plaintiff was a young woman who, having had illicit sexual relations with the defendant, eventually found herself to have been infected by him with venereal disease. The finding of the Court was that the defendant was aware that he was suffering from the disease, and that the fact that he had not intentionally infected the plaintiff was not a defence to the action. Consequently, he was condemned to pay exemplary damages. In England the communication of venereal disease by illicit sexual intercourse is not an actionable wrong if the act of intercourse has been voluntary. Nor is the import of consent to the intercourse vitiated by the fact that it has been accorded owing to concealment of his or her diseased condition by the other party to the suit, and that such concealment was wilful and intentional. The principle, indeed, in this case is the old *ex turpi causâ non oritur actio*. In this country, moreover, it is not held to be a criminal act *per se* for a man to communicate venereal disease to his wife; but, on the other hand, it is well settled now that the infection of a wife by her husband constitutes legal cruelty in proceedings for divorce. It is also true that in an action brought for breach of promise of marriage the plaintiff may allege and prove in aggravation of damages that after the promise she was seduced and that the defendant infected her with syphilis. This is about the total extent to which venereal disease has hitherto figured in medico-legal causes. It is conceivable, however, that an action might lie against a lying-in woman at the suit of a medical attendant who was infected by her with venereal disease as a result of his attendance: if, for example, being aware of her infectious condition she failed to warn him of circumstances which at the moment he was not in a position to discover for himself. Instances in which such infection has occurred are probably within the knowledge of most medical men. Apparently no such case has ever been tried, and it is obvious that many difficulties other than those of legal character would surround it. The extent to which venereal diseases prevail is enormous, and the damage that they cause to the health and stamina of the population of the country, born and unborn, incalculable. It is, therefore, greatly to be regretted that they cannot, either by a judgement of the High Court or by an amendment of the Public Health Act, be brought, so far as their nature permits, into line with other infectious diseases. The results would certainly be most beneficial.

SANITATION IN MANILA.

Those who remember Manila in the days of the Spanish occupation of the islands will recall the busy life of the quays and streets of the modern town, the curious costumes, and the scenes of the evening promenade on the Luneta with a feeling of pleasure. It is not likely, however, that they would number among their enjoyable sensations those afforded them by the canals at low water, or, far worse, by the fosses encircling the walls of the old town. The condition of these is better imagined than described, and the frequency of cholera and other epidemics aroused no wonder in the mind of the visitor from Europe imbued with the ideas of Western sanitation. One of the very first tasks, if we remember aright, which the Americans set themselves to perform on obtaining possession of the capital was to cleanse this Augean stable, and a very hard one they found it. But though matters were very much improved, it has not been found possible until lately to take in hand the question of the proper and

efficient drainage of the city. An era of development, however, now appears to be setting in throughout the islands, and not only are there to be large extensions of the railway system, it is said, of some 1,400 miles, and harbour improvements in many ports, but extensive municipal works are being taken in hand at the capital. Two enormous breakwaters are being constructed and the harbour dredged at the estimated cost of £600,000, and the Pasig River is being embanked along the whole course from the lake to the sea. But the most important undertaking is the drainage of the city, which is shortly to be commenced. The total length of sewers will be approximately 52 miles, of which 7½ miles will be of brick and concrete, and 43 miles of pipes, with an outfall of 42-inch piping about a mile and a quarter in length. Manila has never been a very healthy city, but under the new scheme the death-rate ought soon to be reduced.

HEALTH CONDITIONS IN SOUTHERN NIGERIA.

MR. EGERTON'S report on Southern Nigeria, just issued by the Colonial Office, is noteworthy as recording what must be a unique case in the history of our over-sea dominions—the pacification and administration of a vast extent of country peopled by savages without incurring any debt whatsoever. The progress that civilization has made in the Protectorate is certainly surprising, and must be most gratifying to those responsible. On this we have not space here to dwell, and must confine our remarks to that part of the report which deals with the hospitals and vital statistics. In Calabar there are two hospitals, the European and the native. At the former 127 persons were admitted as in-patients during the year, and 1,411 as out-patients, which, considering that the entire European population is given as 500, seems, if the figures be correct, to imply health conditions which leave something to be desired. The two classes together, however, only furnished 14 deaths from disease. The native hospital treated 31,932 cases, of which 1,072 were in-patients. This is an increase of some 28 per cent. over the numbers of the previous year, and, as Mr. Egerton claims, is a gratifying indication that European treatment is now becoming more generally appreciated. Of this total only 240 cases, or 7.5 per mille, terminated fatally. The number of successful vaccinations was recorded as 8,711, but this does not by any means represent the actual number of vaccinations performed. Sickness was most prevalent in the months of May, July, and October. The highest death-rate fell in August and October, but on the whole the general health of the Europeans is described as "fairly satisfactory," and the invaliding-rate dropped by 33 per mille, the figure last year being 84, as against 117 per mille of the previous year. The chief causes of death were malarial fever and "abscess," which is presumably hepatic in seat. Of the 500 persons constituting the European population 157 were officials and 343 merchants or missionaries, and among them were 16 deaths from disease, giving a mortality of 38 per mille as compared with 26 of the previous year. There was a severe outbreak of guinea-worm affection among the native soldiers quartered at Calabar and the Cross River stations, over 250 cases occurring. The men became infected while on active service in the Mkpani country about a year previously. Chicken-pox appears to be a common and rather serious malady, especially in the prisons, and three deaths occurred from it in Calabar gaol. There are now 22 prisons in the Protectorate, all of which are on the associated ward system, allowing each prisoner about 300 cubic ft. of air space, but the death-rate—42 per mille—seems rather high. This is said to be in great measure due to the sickness among the Ekomekus, who suffered severely from dysentery and pneumonia when put in the Calabar prison. Considerable progress has been made in the way of sanitation in various parts of the Protectorate. By systematic drainage and filling up of swamps much has been done to improve the condition of the stations at Opobo, Bonny, Brass, Forcados, Akassa, and other places. The last-named, once regarded as one of the unhealthiest stations in the country, has now become one of the best, and Duke Town, with an excellent water supply and improved sanitary arrangements, excites the admiration of travellers. There are cottage hospitals at Warri, Abob, and Egwarga; a leper settlement at Asaba which shelters 32 sufferers, and a lunatic asylum at Calabar which has just been built. A short meteorological table is appended to the report, which gives the average rainfall of the country at about 150 in. The maximum shade temperature at Calabar is 95° F., the minimum 64°, and the average rather over 80°.

THE ROYAL SOCIETY MEDALS.

THE Royal Society has awarded a Royal medal to Professor Charles Scott Sherrington, F.R.S., for his researches on the central nervous system in relation to reflex action. The other Royal medal goes to Professor John Henry Poynting, F.R.S., for his researches in physical science, especially in connexion with the constant of gravitation and the theories of electro-dynamics and radiation. The Copley medal has been awarded to Professor Mendeléef of St. Petersburg for his contributions to chemical and physical science, the Davy Medal to Professor Albert Ladenburg of Breslau for his researches in organic chemistry, especially in connexion with the synthesis of natural alkaloids, and the Hughes Medal to Professor Augusto Righi of Bologna in recognition of his experimental researches in electrical science.

CANCER RESEARCH.

THE trustees of the Pilkington Cancer Research Fund are about to appoint a graduate in medicine, or other qualified person, to carry out a research into the cause, prevention, and cure of cancer, under the supervision of the professors of general pathology and of systematic surgery in the Victoria University of Manchester (Professor Lorrain Smith and Professor G. A. Wright). The appointment will be for one year, but may be renewed for a further period of one or two years, and the holder of the post will receive an income of £300 per annum with a grant for laboratory expenses. Applications should be forwarded to Professor G. A. Wright at the Victoria University of Manchester, from whom information as to the conditions of the appointment may be obtained. Candidates must be prepared to give their whole time to the research. They should, in their applications, state their experience of research in biology and medicine, and give the name of a professor or head of a laboratory to whom reference may be made.

SIR FREDERICK TREVES has agreed to be nominated on non-political and academic grounds for the Lord Rectorship of Aberdeen University.

THE next session of the General Medical Council will begin on Tuesday, November 28th, when the President (Dr. Donald MacAlister) will take the chair at 2 p.m.

WE regret to announce the death of Professor Albert von Kölliker, which occurred at Würzburg on November 3rd. The famous histologist was in his 90th year. We hope to publish an account of his career in a later issue.

DR. G. WATSON has resigned the post of Assistant to the Director of the Pathological Laboratories of the London County Asylums, having been appointed to succeed Dr. Campbell as Pathologist to Rainhill Asylum. The vacancy as assistant to Dr. Mott is advertised by the London County Council in this week's issue.

BEQUESTS TO MEDICAL CHARITIES. The late Mr. James Davenport, of Hey-in-Lees, whose will has now been proved, left £1,000 to Oldham Infirmary for the endowment of a bed.

Scotland.

Rectorial Elections.

The Right Hon. R. B. Haldane, K.C., M.P., was on Saturday, November 4th, elected Lord Rector of Edinburgh University by 877 votes against 847 recorded for his opponent, the Lord President of the Court of Session (Lord Dunedin). Mr. Haldane is a graduate of Edinburgh University. For the last twenty-three years the Lord Rector has been a Conservative, and the contest excited a good deal of political feeling. Throwing their political animosties to the four winds, the students held their customary torchlight procession in the evening. About a thousand students took part.

On the same day the Right Hon. H. H. Asquith, K.C., M.P., was elected Lord Rector of the University of Glasgow by 866 votes, against 655 obtained by the Conservative candidate Lord Linlithgow, Secretary for Scotland. The students were divided in four nations, according to their place of birth. Formerly each nation voted in a different class room, but on the present occasion all had to exercise their privileges in the Bute Hall except the lady students, who voted at Queen Margaret College. Some rather rough horse-play took place at the University, as the Liberal voters took possession of the main entrance and sought to exclude their opponents; one student fell and sustained a fracture of the ankle, and later the Senate let it be known that unless the fighting ceased the election would be declared void.

The Election of Graduates' Assessors to the Edinburgh University Court.

It is a long time since there was a contest for the post of assessor of the General Council to the University Court, and many Edinburgh graduates will be at a loss to understand all the voting papers and circulars which they have recently received, and some will wonder why no medical names appear among the candidates.

The General Council sends four assessors to the Court, and it has long been tacitly understood that medicine is entitled to claim two of these, while the other two have usually been members of the legal profession. The present medical members are Drs. Joseph Bell and McKenzie Johnston, who were elected unopposed two years ago; the former for the third time, and the latter for the first time, in succession to Sir Patrick Heron Watson, who retired after serving the Court for many years. Four years ago Mr. Campbell Lorimer, K.C., and Mr. Grant Ogilvie were elected, and when the latter retired on appointment as an assistant secretary of the English Board of Education, Dr. Lowe, Head Master of George Heriot's School, Edinburgh, was elected in his place. These two gentlemen, Mr. Lorimer and Dr. Lowe, whose period of office had expired, sought re-election this year, but as a third candidate, Mr. J. A. Trail, LL.D., W.S., came forward, a poll has become necessary. Mr. Grant Ogilvie and Dr. Lowe were put forward by the educationalists, who have of late years become a strength in the University, and are likely to become still stronger.

It might seem, therefore, that the medical electors had little concern in the present election; but many are aware that there is in Edinburgh a strong movement for a thorough remodelling of the medical curriculum, which is fashioned on somewhat old-fashioned lines. The reforms aim at a rearrangement which shall enable the student to devote himself thoroughly to the work in hand and to do away with a tendency to overlapping of certain subjects. In the pursuit of this very desirable end Mr. Campbell Lorimer has been most assiduous. It was he who brought the matter before the Court and he has navigated the scheme through many whirlpools and cross-currents very nearly to harbour. It is felt by many that his defeat at this election would be regarded by the opponents of the scheme as a blow to it, and it would appear from the list of supporters appended to his address, that he has the support of very many of those who are reckoned reformers in the Edinburgh School. Dr. Lowe has only been a short time on the Court, and has therefore not had Mr. Lorimer's opportunities of mastering the somewhat intricate details of the scheme, but he is believed to be favourable to it.

The method of election prescribed by statute is not very satisfactory. At a general meeting a vote is taken by show of hands, and unless the proposers and seconders of the unsuccessful candidates demand it, those who have most hands are declared duly elected. The meetings of the General Council are, as a rule, small, and the elections are generally arranged. Owing probably to the fact that the Prime Minister, in his capacity as Chancellor, presided, there was at the meeting on October 27th an exceptionally large attendance of members, many of whom had to stand, so that the counting of hands was most difficult. The Chancellor declared that, so far as he was able to judge, Dr. Lowe was elected, and that Mr. Trail had a majority over Mr. Campbell Lorimer. A poll of the entire constituency was then demanded, and is now taking place.

The official voting papers have been issued by the University to the constituency, and must be returned so as to reach the Registrar, University of Edinburgh, not later than Friday next, November 17th.

Electors who are in doubt should study the addresses, and may find some interesting reading between the lines of the lists of supporters.

Edinburgh Philosophical Institution.

The inaugural address of the winter session of the Edinburgh Philosophical Institution was given in the Free Assembly Hall on Tuesday, October 31st, by Sir Frederick Treves, Bart., G.C.V.O., C.B., LL.D., Serjeant-Surgeon to the King. Lord Rosebery, the President of the Institution, presided, and introduced the lecturer in a single word. There was an audience of some two thousand persons. The subject of address, which is published in full at p. 1251, was "A Conception of Disease."

Sir William Turner, in moving a vote of thanks to Sir Frederick Treves, said that in Edinburgh, which claimed to have the oldest, or one of the oldest schools or medicine in the British Isles, an address on a medical subject even to the philosophers of the city, was most appropriate. The address was a remarkably clear and lucid expression of what might be called the philosophy of modern medicine. The vote was cordially adopted.

Mr. J. B. Sutherland proposed a vote of thanks to Lord Rosebery for presiding.

Lord Rosebery, in responding, said that he felt a deep interest in the Philosophical Institution, and was proud to sit in the seat where Gladstone, Carlyle and Macaulay had sat. He was happy to think that the Institution was taking a new lease of life. Never among all the number of introductory addresses to which he had listened had he heard one so profoundly interesting as that which Sir Frederick Treves had just delivered. Though so completely ignorant of the subject, he had felt for several minutes as if he fully understood it. So much did he enter into the spirit of the address that sitting by a constantly opening door he almost became conscious of the fact that he was about to suffer a slight bacterial invasion. He was not sure that he had not suffered, but he hoped to train himself by reading the address over again, not to say in a tone of distress, "I caught a horrid cold in the hall the "other night," but "I glory to find by several significant "symptoms that I am repelling the germs that have invaded "my person." When he had shut his eyes he had thought that it was an English Homer describing a fight between the invading bacteria and the resisting corpuscles, and he hoped that all present would be able to train themselves to that moral altitude, and be able to discern philosophically in the symptoms of disease the remedy and not the cause of their discomforts.

Lord Rosebery's speech, which was received with laughter and applause, brought the proceedings to an end.

The Election of Assessors to the Aberdeen University Court.

The poll for the election of assessors to the University Court by the members of the General Council having been completed on Wednesday, November 1st, the votes were counted on the following day at Marischal College. The result was announced as follows:

Successful.

William Dey, M.A., LL.D.	1,640
David Littlejohn, M.A., LL.D.	1,466
Dr. Westland (Aberdeen)	768

Unsuccessful.

Dr. Milligan (Manchester)	731
Rev. Dr. Selbie (Aberdeen)	689
Rev. James Smith (Aberdeen)	535

Some idea of the character of the vote may be gathered from the following interesting figures. An analysis of the Council list shows that medical graduates number 1,369,

clergy 724, teachers 606, and lawyers 183, leaving 1,084 persons to be otherwise accounted for. These figures show the power of the medical vote to accomplish what it has achieved on this occasion.

The announcement of the above result puts an end to a period of considerable excitement in University circles. Under an arrangement formulated by the late Professor Bain, for many years the assessors elected directly by the Council had been one scholastic, one legal, one medical, and one clerical. In all probability this arrangement would have held good on the present occasion had the feeling not arisen amongst medical graduates at a distance—particularly in Manchester and the Midlands—that the time had come for medicine to be represented by more than one assessor. While this idea was generally accepted by the medical profession in the North—quite in sympathy with their fellow collegiates in the South—the methods adopted and the arguments put forward both in circular and in lengthy newspaper correspondence did not commend the Manchester candidate either to Aberdeen graduates in the north, nor, apparently, to those in London and the South of England. The result was the adopt on of Dr. Westland as a candidate at a meeting of graduates held in London, and his nomination and subsequent return as an assessor at the recent election.

With regard to many matters treated of in the correspondence which went on for several weeks, nothing need now be said, but to certain remarks by Sir William Japp Sinclair in the *Aberdeen Free Press* exception must be taken. He appears to think that, while the preliminary and systematic teaching in Aberdeen are as good as any in the country, all are equally agreed as to the weakness of the Aberdeen medical school on the clinical side, and that the best medical student material in the United Kingdom receives the poorest finish, so that as a result Aberdeen men are likely to be beaten in the race by those from the provincial universities springing up in England. That the Scottish universities will suffer from the competition of these none will attempt to gainsay, since the question of which medical school a man attends is often a matter of pounds, shillings and pence, and the doctrine of propinquity comes into play with greater frequency than it did in the past. Be that as it may, there is reason to think that Sir William Sinclair is insufficiently informed of the improvement that has taken place in the clinical side of the medical curriculum at Aberdeen in recent years. More and better teaching is done both in the out-patient departments and in the wards than ever before, and greater opportunities are offered—and taken advantage of—in the matter of clinical research so far as undergraduates can go in this matter. For wealth of material Aberdeen cannot hope to compete with the schools Sir William Sinclair would have it follow, but Aberdeen can still aim, and does aim, at producing well-equipped medical men up to the M.B. standard. That the attempt is to no small extent successful is borne out by the recent report of the Inspector of the General Medical Council. For the "finish" which Aberdeen graduates lack in Sir William Sinclair's estimation, wealth of material to work amongst is a *sine qua non*. That Aberdeen does not possess, but its graduates still endeavour to get it, as they did of old, by filling appointments not only in provincial hospitals but in London. Of these, in spite of competition, they get a moderate share.

Royal Army Medical Corps (Volunteers): Aberdeen Companies.

Major J. Scott Riddell, M.V.O.

In honour of the distinction recently conferred on him by the King after the Royal Review at Edinburgh, and to mark the confidence and esteem in which he is held by his subordinates, Major J. Scott Riddell, O.M., commanding the Aberdeen companies of the Royal Army Medical Corps (Volunteers), was entertained at dinner in the Grand Hotel. All the officers of the Aberdeen companies were present, and Captain Ashley W. Macintosh occupied the chair. Professor Stephenson, Dr. R. G. McKerron, and Dr. W. R. Pirie were present as guests. The toast of "The King" was given by Lieutenant Rorie (Cults). Captain Macintosh, in giving the toast of the evening, referred to Major Riddell's long connexion with the corps, his untiring energy and enthusiasm in the interests of his command; in no quarter had the honour conferred on Major Riddell by the King aroused a greater feeling of satisfaction than among his fellow officers of the R.A.M.C. (Vol.). They were delighted to honour Major Riddell, not only for his excellence as a commanding officer, which readily called forth the obedience and hearty co-operation of his juniors, but also for his high character, which gained him universal respect. The toast was received with great enthusiasm, and Major Riddell, on rising to reply, was heartily cheered. In a characteristically humorous speech, he traced the history of the corps, showing how great its development had been in recent years, its present sound condition, financially and otherwise, and its excellent prospects. The corps was instituted in Aberdeen in 1889 as a single bearer company, now they had the *personnel* of two field hospitals, a brigade bearer company, and a volunteer company of the R.A.M.C. He thanked his fellow-officers for the spontaneous and unanimous token of their confidence and regard which that evening's entertainment made manifest, and for the able assistance they had always given him in carrying on the work of the corps. Songs were sung during the evening by Major Riddell, the Chaplain, Captain Fraser, and Lieutenants Rorie and Innes, while Dr. Pirie provided most able accompaniments.

Aberdeen Medico-Chirurgical Society.

The opening meeting of the above society was held in the Society's hall, King Street, Aberdeen, on Thursday, November 2nd, at 8.30 p.m. Dr. George Rose, the retiring president, occupied the chair. The minutes of the former meeting having been read and approved, Dr. Anne Mercer Watson and Dr. Laura Sandeman were admitted by a majority to the membership of the society. This is the first occasion that lady medical practitioners have been elected members.

Dr. Rose then delivered his presidential address. After referring to the progress of the Society during his term of office, he went on to speak of "Acute Bone Disease in Children." In a succinct and exhaustive paper he described the pathology, symptomatology, and treatment, illustrating his remarks by diagrams and by specimens derived from his practice as surgeon to the Royal Hospital for Sick Children. On the motion of Dr. Thomas Fraser, Dr. Rose was cordially thanked for his interesting and instructive address.

Ireland.

Examinations and Universities.

Inaugural Address by the President of Queen's College, Cork.

Dr. Windle, President of Queen's College, Cork, took for the subject of his inaugural address, delivered recently before a large attendance of students as well as prominent members of the general public, Examinations and Universities.

He referred to the very unsatisfactory state of university education in Ireland; England—for many years behind Continental nations, and far behind her sister country, Scotland—was now making rapid strides, but Ireland, for reasons well known to all, still lagged painfully behind. After avowing no intention of dealing with the university question as a whole, but merely with the question of university examination, the President went on to say that England was supposed to have borrowed the idea of examinations originally from China. From whatever source the disease was acquired, however, it took hold of England with great intensity and with serious results from an educational point of view. It was mainly to this cause that he traced the four deadly errors which had long affected England and Ireland, and from which had arisen and still continued to arise all sorts of misfortunes, not only educational but economic. These errors were:

1. That acquisition of knowledge and education were synonymous terms.

2. That education, as apart from mere knowledge, could be easily tested—nay, more, only be tested—by examination.

3. That a degree or other supposed stamp of learning, always expressible by a selection of letters from the alphabet, was in itself an object of value.

4. That it meant the same, however and wherever it might have been acquired.

The examination should be the logical conclusion of a rationally-constructed scheme of education; a fence which the candidate took in his stride, not an artificial obstacle towards and over which he was urged by whip and spur, and from the contest with which, whether successful or not, he retired weary and disgusted. The external system of education was a pure obstacle race; it was vicious and uneducational, yet there was much of it in Ireland as well as in England and even in Scotland. Moreover, the external system demanded the laying down of schedules or syllabuses of study; such

fencing-in of knowledge was prone to lead to undesirable results. After an experience extending over twenty years as an examiner, President Windle gave his vote in favour of the system under which a teacher and an external examiner worked together.

Referring to the loss the old Queen's University was to Ireland, Dr. Windle said that it should have been remodelled and made acceptable to those who were to use it instead of destroying it; no other university in Ireland had since maintained the sound academic principle, that residence and instruction in a college of its own, ought to be a condition precedent to obtaining a degree of any kind. The possession of a university degree in England or Ireland in no way proved that the owner had had a university education. He might have gained the knowledge which had purchased for him the right to add certain groups of letters to his name by private study or in an ordinary secondary school, but he had not had a university education. He had missed full half of his education if he had missed the benefits to be derived from contact with a large number of students of his own age and calibre, from the clash of opinion in the debating society, from the discipline of the cricket and football field. None of these could a student have outside the walls of a university or university college, yet all of them were factors in a genuine university education, factors too, which all who know anything about the question, would admit to be of the greatest possible value.

Until the whole system of university education were recast it would be difficult to substitute for the present unsatisfactory form of examination one of a better educational value. While not considering the federal type of university as by any means ideal, Dr. Windle recognized it as a step forward from a mere examining body; if the Royal University had its own four colleges, as suggested by the Royal Commissioners, and if, as they also suggested, it ceased to admit external students, then, under a federal system, it would be perfectly possible to carry out the rational scheme of examinations, for such a method of examination was actually carried out, and successfully carried out, in the Victoria University prior to its breaking up into separate institutions.

To sum up, the President said:

I desire to argue that we have at present for the great majority of its inhabitants a University system which almost necessitates a method of examination which is harmful in its effect on education; a method which leads to subterranean complaints and accusations, which though they may be, and almost invariably are, false, are none the less injurious to education generally: a method for which, indeed, no excuse can be urged except the excuse that the system arises out of the necessities of a position which never ought to have been created. When we come to consider how this bad method may be changed for a better, we find that we are at once engaged in a consideration of the general University question as it exists in this country, and that until we can get some changes in the situation it is almost useless to tackle the matter of examinations.

Belfast Medical School.

Opening Address by Dr. John Morrow at the Royal Victoria Hospital.

The opening address at the Royal Victoria Hospital was given by Dr. Morrow, Assistant Physician to the Hospital, on October 24th, the subject being our profession and its study. Dr. J. Walton Browne, Chairman of the Visiting Staff, presided. Dr. Morrow prefaced his remarks by welcoming the students on behalf of the staff. He emphasized to the students the high nature of the calling on which they were entering, a calling which, while it might have its drawbacks, was singularly interesting and attractive. Referring to the cry of overcrowding he did not think their position was worse than other professions, and he believed the failures were due either to an absolute want of natural aptitude or a culpable lack of diligence in following the profession. Similarly, diligence was essential in the study of medicine, the more so as the curriculum was much more extensive than it used to be. Thoroughness and painstaking must be imparted into every branch of medical study from the outset, and particularly in hospital work, for the tendency of present-day medicine was above all things practical, and the various examining boards were laying more and more stress on the practical side, so that a man must not only know his book work but must prove his actual acquaintance with the various forms of injury and disease and their methods of treatment. Proceeding, Dr. Morrow urged the students to give diligent attention to case-taking. He pointed out the many advantages to be derived from a residence as pupil in the hospital. Hundreds of practical things could be learned by the resident, which, even if he should not have the opportunity later on of becoming a house surgeon or house physician, would enable him to face the responsibilities of practice with some degree of equanimity. No opportunity of attending a *post-mortem* examination should be missed; and where cases ended fatally every effort should be made to verify, correct, and enlarge the diagnosis made during life, as in this way only could accuracy in our bedside work be attained.

Compliment to the New Hospital.

The lecturer also spoke of the great advance which had been made in Belfast in the matter of hospital improvement in recent years, notably the new Royal Victoria Hospital, with which the names of Mr. and Mrs. Pirrie would be for all time associated, and the new Maternity Hospital, in connexion with which Mr. and Mrs. Herbert Ewart had done so much. It was a matter for congratulation to them all—students and staff alike—that they were enabled to carry on their work in that magnificent and up-to-date Royal Victoria Hospital, which had proved a boon not only to the city of Belfast, but to the North of Ireland generally. The hospital had inherited all the honourable traditions of the old Royal in Frederick Street, with its broad-minded Board and its enthusiastic workers, but without its many defects of structure and accommodation, and the new institution was one which by the perfection of its equipment, and the wealth of its clinical resources, had removed from the Belfast medical school a long-standing reproach. They must not forget the great strides in midwifery education that had been made by the rebuilding of the Maternity Hospital. Then, at the Union Infirmary and Fever Hospital teaching had within the past few years been systematized, and in the two children's hospitals and the various special hospitals of the city improvements in structure and equipment had been steadily going on.

Queen's College Equipment Fund.

In closing, the lecturer alluded to the Queen's College Better Equipment Fund. Similar activity to that exhibited in the hospitals had been shown in keeping the medical department of the college abreast of the times. By private beneficence, chairs and lectureships had been founded, well-equipped laboratory accommodation had been provided, and original research was being encouraged. At present there was a great appeal before the public in connexion with Sir Donald Currie's generous offer for its better equipment, a movement with which all true friends of the College must sympathize, which had met with a cordial response, and which bid fair to be brought to a successful conclusion; a movement which was bound to result in the further amplification of facilities for study in the Medical Faculty of the College. With all those forces at work, the Belfast students surely could not but congratulate themselves on their choice of a school. In the past, notwithstanding the grave drawbacks by which they were handicapped, Belfast students had given a good account of themselves in every department of medicine, and it was only reasonable to hope that, availing themselves of the splendid opportunities for study in these later days, they would give even a better account of themselves in the future.

A cordial vote of thanks was proposed to Dr. Morrow for his address by Dr. Walton Browne, seconded by Sir William Whitla, and passed with applause.

Royal University of Ireland.

A good deal of public excitement has been aroused by the conduct of some students who, at the degree meeting of the Royal University on October 27th, behaved in a disorderly manner, and in addition are alleged to have used expressions insulting to His Majesty. They certainly did capture the organ and prevent the organist from playing the National Anthem. The matter was brought before the Standing Committee of the Senate on Friday, November 3rd, and a further meeting was held on Tuesday last. The Vice-Chancellor (Rev. Monsignor Molloy), who presided, expressed his belief that the Senate had no power under the charter or statutes to deal with such disturbances, and the Legal Assessor, who was present, gave an opinion to the same effect. It was then resolved to lay the question before the law officers, and to inquire whether the Senate is empowered to summon graduates

or undergaduates before it for misconduct and to inflict punishment. Pending a reply, the Committee further adjourned.

IRISH MEDICAL ASSOCIATION.

A special general meeting of the Irish Medical Association was held in the Royal College of Surgeons, Dublin, on November 1st, to consider the result of a meeting of the Council held on the same day. The matters before the meeting were certain proposals in reference to the reorganization of the Association, and particularly regarding the constitution of the Council. After prolonged discussion it was, we understand, determined that the Council should be composed of the President and one representative from each county, to be elected at the annual general meeting. In reference to large centres, such as Dublin, Belfast, and Cork, the first city will have four and the others two representatives each. These resolutions will be submitted to a special meeting on November 23rd.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

The winter session at the College of Surgeons was inaugurated on November 1st by an address from its President, Mr. (now Sir Arthur) Chance, who also distributed the medals and other prizes awarded during the year.

The Poor-law Medical Service.

The President did not omit to make reference to the grievances of the Poor-law medical service. The demands made, he said, were just and moderate, and no medical man should apply for an appointment unless he were satisfied (1) that the conditions of work were such as would permit him to perform his responsible duties towards the sick poor efficiently; (2) that the emoluments were sufficient to allow of his occupying a position such as the humblest member of the medical profes- was entitled to; and (3) that his action in accepting office would not weaken or tend to render ineffective the legitimate protests on the subject of his professional brethren to the authorities.

Diplomas and Degrees.

Allusion was also made to the relative value of diplomas and degrees. Medicine was the only profession, right to practise which could be conferred merely by a degree. They had lately been told by the President of Queen's College, Cork, that it was the instruction received, and not the examination, which was really important; the possessor, therefore, of a degree could not properly be assumed to have greater professional knowledge than a diplomate of a licensing body unless his particular degree could be shown to be one which required a superior training. The General Medical Council having laid down a curriculum alike for universities and colleges, the result was that the difference between the various licensing bodies as regarded the strictly medical curricula and subjects of examination was extraordinarily small. Where they did differ was in regard to residence, arts, and standards and methods of examination. Unfortunately in Ireland no university imposed residence, and though men seeking the degrees of the Royal University had to pass its First Arts Examination, the majority of all Irish students passed its Matriculation by way of fulfilling the general requirement as to a preliminary examination. As for methods, their own was that of associating as far as possible education and examination. In other words, they followed what the President of Queen's College had characterized as the ideal system—that under which a teacher and an external examiner worked together. For the rest, one thing which they had to try to discover was why a certain number of their students preferred to pass their examinations in Scotland or England.

SIR JOHN W. MOORE, M.D., of Dublin, will read a paper on the rainstorm of August 24th and 26th, 1905, in co. Dublin and co. Wicklow, at the meeting of the Royal Meteorological Society to be held at the Institution of Civil Engineers, Great George Street, Westminster, on Wednesday next at 7.30 p.m.

TROPICAL MEDICINE IN AMERICA.—The establishment of a school of tropical medicine in connexion with the Tulane University, Louisiana, is said to be in contemplation. It is intended to supply the educational needs of students from the Southern States, Mexico, Central America, and Cuba.

THE annual dinner of the friends of the Royal Dental Hospital of London, including its past and present students, is to take place at the Hotel Metropole on November 25th, Mr. Leonard Matheson presiding. Gentlemen either now or formerly connected with the hospital who desire to be present are requested to communicate with the Dean, at the Hospital, 32, Leicester Square.

SPECIAL CORRESPONDENCE.

PARIS.

The First International Congress of the Gouttes de Lait.

THE first international congress of the *gouttes de lait* organized by Dr. Variot, physician to the Sick Children's Hospital, and by Dr. Dufour (Fécamp), was recently held at the Pasteur Institute in Paris. The opening ceremony, at which Madame Loubet was present, was presided over by M. Merlou, the Minister of Finance, who in the name of the Government welcomed the scientists and philanthropists who had answered the invitation to take part in the Congress. Dr. Variot defined the essential aim of the *gouttes de lait* as being that of attenuating the bad effects of artificial feeding, and of giving advice to the mothers of the infants. The foreign delegates from the Argentine Republic, Brussels, Spain, Austria, Holland, Norway, and Italy, speaking briefly, also took part in the opening meeting.

Two afternoons and one morning were given up to the reading of papers and discussions on the subject. Dr. MacCleary (London) gave a history of the movement in Great Britain, and Dr. Variot stated that in the *gouttes de lait* the majority of the infants were bottle-fed, and were brought suffering from athrepsia. These institutions offered, he said, a vast field for observation, allowing atrophy in infants to be studied and cured, while disturbances in nutrition could be followed up, thanks to the systematic use of the scales. In concluding his report, Dr. Variot made the following proposal: (1) That *gouttes de lait* with distribution of milk under the control of a doctor should be in the domain of pediatry; (2) Infant consultations shall remain in the domain of obstetricians.

This report and its conclusions gave rise to an interesting discussion. Dr. Aviragnet protested against the separation proposed by Dr. Variot. It was necessary, he thought, that the work should be complete, and to have consultations in which help might be given to both mothers and nurslings, and in which, above all, breast feeding should be advocated. In his own infant consultation in Paris, as much help as possible was given to the mothers. Dr. Ulecia (Madrid) considered that the *goutte de lait* should be but the complement of the consultation for infants; it was a crime of "lèse-"maternité" to distribute milk without giving advice. By incessant propaganda women could be won over to breast feeding who had previously fed their infants with the bottle. Dr. Siegert (Cologne) advocated the creation of *gouttes de lait* in every commune. M. Lancry (Dunkerque) said the *goutte de lait* was costly. He thought that from the consultation for infants mothers should be sent to buy their milk at a dépôt of good milk. M. Montagnon (St. Etienne) said that consultations for infants could work without the *goutte de lait*, but the inverse should never exist. Professor Budin had been wrongly reproached with favouring artificial feeding because at his consultation at the Clinique Tarnier he gave away sterilized milk. *Gouttes de lait* should be centres of breast feeding before everything else. Dr. Leblond described the working of the *goutte de lait* at Beauvais, which was inaugurated three years ago by Professor Budin. In spite of the poverty among the patients, and aided by gratuities in money, food and clothing, the proportion of breast-fed infants had steadily increased every year. Mr. Neumann said that the municipal council of Berlin had voted large sums of money for the foundation of four *gouttes de lait*, the mothers receiving help in money and in free milk.

Discussions also took place on the care to be given in the feeding and milking of cows whose milk was destined for infantile consumption. The Congress unanimously adopted the following as the definition of a *goutte de lait*—"a "work which fights against infantile mortality by every "possible means; it gives advice to the mothers; it encourages "breast-feeding; it distributes milk when the breast fails and "is insufficient." Taking into consideration the fact that there always will be women who are incapable of giving the breast, and that they belong to the needy classes, the Congress passed the following resolutions:

1. That public authorities shall adopt every useful measure to diminish the number of mothers incapable of giving the breast.
2. That *gouttes de lait* shall be as generally established as possible.
3. That every *goutte de lait* shall be under medical supervision.
4. That public authorities shall encourage and facilitate their development.
5. That public authorities shall facilitate by every possible means the vulgarization of the rules of infantile hygiene.

That strict and firm legislation be instituted in every country for the control of milk distinct for infantile consumption.

7. That an international union of *gouttes de lait* be created, with a permanent bureau. The centre chosen is Brussels, in which city in September, 1907, will be held the second Congress of *Gouttes de Lait*.

The members of the Congress visited various consultations for infants in Paris, and spent two days visiting the *gouttes de lait* in Rouen and Fécamp in Normandy.

MANCHESTER.

Care of Feeble-minded Children.—Lancashire County and Death-rate.—Manchester Edinburgh University Club Annual Dinner.—Salford Hospital Annual Report.—Boracic Acid in Milk.—Jewish Kitchen in Royal Infirmary.

The Lancashire and Cheshire Society for the Permanent Care of the Feeble-minded has now been incorporated. Lord Stanley presided at its annual meeting, which was held on October 30th in Manchester. It was reported that the Cheshire County Council had made a building grant of £2 000, in return for which the Society had agreed to take charge of a certain number of the Council's defective children. There are now sixty-one boys and girls in residence at Sandlebridge.

At the meeting of the Lancashire County Council which was held last week at Preston, the report of the Midwives Act Committee was adopted. In moving its adoption Dr. Chadwick mentioned the need of spreading information to midwives and others with a view of checking infant mortality and sickness. As instances of injudicious feeding he told of a child under 12 months being fed on beer and sausages and another young child which had ice-cream and chip potatoes. In the county there are 1,064 midwives registered. Infant mortality in Lancashire is 11 per cent. higher than the rate for the whole of England.

The annual dinner of the Manchester Edinburgh University Club was held in the Midland Hotel on the 1st inst., when over a hundred graduates of Edinburgh University were present. Professor A. H. Young presided, the chief guest being Sir William Turner, Principal of the University of Edinburgh, who spoke of the great change of view with regard to the use of Universities. It meant that the Universities were to be something more than schools of training for clergymen, schoolmasters, barristers, country gentlemen, and the like. The credit for the modern multiplication of universities he claimed for the influence of those in Scotland.

From the annual report of the Salford Royal Hospital we learn that the number of accidents treated during the past year exceeds by 453 the number of the previous years, and this has required the conversion of the male isolation block into a male surgical ward, giving sixteen extra beds at a cost of £600. Several legacies were received, and from the Hospital Saturday and Sunday Funds £538 were received, being a decrease of £120 on the amount awarded last year. The contributions from workpeople were £352, being an increase on last year. From the Booth Charities a grant of £1,000 was received. The deficit during the three past years has been £1,969, £815, and £710 respectively. Moreover, it appears that during last year, from a population of 231 000, the annual subscriptions only amounted to £1,341 During the year the circumstances of 17,779 applicants for medical relief had been investigated, and 516 were reported as being able to pay for medical advice and treatment. The number of hospital in-patients was 1,555, of home patients 3 435, out-patients 16,314, and accidents 9,214. The Bishop who presided at the meeting pointed out that the annual subscriptions represent only twopence per head of the population, and pleaded for an extra twopence per head as a minimum, as this would double the amount and greatly help the funds of the hospital.

At Radcliffe a farmer was summoned for selling milk which analysis revealed to contain not less than 10 gr. of boracic acid in each pint. Evidence was given by the medical officer of health that it was one of the worst cases the County Council ever had and that such adulterated milk would be injurious to the health of children. Boracic acid, he said, did not preserve milk. The defendant swore he purchased the milk from a Manchester firm, and had received a warranty upon which he relied. The Bench considered the warranty good, and dismissed the case.

The new infirmary building is making rapid progress and now 400 men are engaged on the work. The Jewish community long ago expressed the desire to have a Jewish kitchen included in the new buildings. The matter has come up again, and the Chairman and influential members of the Jewish community are considering the question, which now is solely one of expense. The cost of the construction would be about £700, and a capital of £3,000 would be required for its maintenance.

BIRMINGHAM.

Police Ambulance Work.—Hospital Sunday Collections in Birmingham.—Hospital Saturday Collection at Oldbury.—Birmingham Children's Hospital.—Prosecution of a Midwife.—Food and Drugs Act.

At a meeting held in the Central Hall, Birmingham, on November 3rd, the Lord Mayor of Birmingham, Alderman C. G. Beale, distributed to the members of the Birmingham Police Force, the prizes, medallions, and certificates gained at the recent examinations held under the direction of the local officer of the St. John Ambulance Association, Dr. T. Nelson. The figures show that out of a total number of 897 officers in the force, 853 have earned first certificates; 730 second certificates; 644 third certificates, while 8 possess nursing certificates and 15 have obtained medals from the Royal Humane Society for saving life. At the meeting in question the Lord Mayor distributed 91 first certificates; 82 second certificates and 320 third certificates and medallions. Several instances were given where lives had been saved by the promptitude and skill shown by the officers, by the administration of antidotes or emetics in cases of poisoning, or by the prolonged employment of artificial respiration after attempted suicide by hanging and in suffocation by gas. Haemorrhage had also been successfully arrested in 3 cases of burst varicose veins and in 1 of cut-throat. There are fourteen hand ambulances in Birmingham, fully equipped with first-aid dressings, at the various police stations, and nine others are accessible in cases of emergency, but there is, unfortunately, only one police horse ambulance, although the need for having one for each police district has been fully recognized by the Watch Committee and postponed only on account of the not inconsiderable expense involved. There are, however, several horse ambulances in the City not under the control of the police, but available to a certain extent. A cup has been presented by Mr. Rowland Mason, J.P., for competition between the various police divisions in the performance of ambulance drill, and at the competition held last May the cup was awarded to the "R" Division. No one can doubt that ambulance drill and training are of the greatest public benefit and much credit is due to the police surgeons and the officers of the Birmingham Police Force for the interest they have taken in the work and for the degree of proficiency which has been attained by such a large proportion of the men.

The Hospital Sunday collections in Birmingham have this year amounted to £4,670, of which Edgbaston Old Parish Church contributed £622. The collections were made on October 29th, and the churches and chapels of all denominations contributed to the handsome total. Twelve charities are interested in the collection, including the General Hospital, the Queen's Hospital, the Children's Hospital, the Eye Hospital, the Women's Hospital, the Orthopaedic and Spinal Hospital, the Ear and Throat Hospital, the Deaf and Dumb Institution.

The final meeting in connexion with the Oldbury Hospital Saturday Fund Committee has just been held. The receipts amount to £660, and of this sum £592 has been contributed entirely by workpeople. The West Bromwich Hospital has received £400 of this, and the balance remains at the bank. The amount contributed this year is a little more than that raised in 1904. Considering that trade has been so unsatisfactory, the contribution from the workpeople is considered gratifying.

The pupils of the Church of England College for Girls gave a successful entertainment in aid of the cot fund at the Children's Hospital, Birmingham. The first part was from *Little Women*, the performers being members of the upper school. The comedy was much appreciated by a large audience. The younger children then appeared in some scenes from *Alice in Wonderland*. This was followed by a cantata, *Old Chums*. The whole performance was excellent, and met with great applause.

The first prosecution under the Midwives Act, 1902, at Worcester took place last week, when Mary George was summoned for not giving notice of her intention to practise as a midwife. She was registered with the Central Midwives

Board, who had given her notice that she must inform also the local authorities. These facts came to light during an inquest. It was considered an important case, and she was fined £1 and costs or fourteen days' hard labour.

At Wolverhampton the Keeloma Dairy Company were summoned by the Borough Inspector under the Food and Drugs Act for selling by retail a parcel of margarine labelled as something else. It was advertised as "churned with milk fresh from the farm," and 9d. per lb. was charged, which would be too cheap for butter and dear for margarine. It was called "Keeloma." The Stipendary inflicted a fine of £5 and costs on the case heard, and 10s. and costs on four other summonses relating to exposure and sale of margarine. The fines and costs amounted to over £21.

LEEDS.

Appointments at the Infirmary, at the Public Dispensary, and at the Hospital for Women and Children.

At a special meeting of the Governors of the General Infirmary, held on November 3rd, Dr. C. M. Chadwick was appointed a Consulting Physician, with the right to the use of six beds. It will be remembered that all physicians to the infirmary who have acted on the full staff for twenty years, or who have attained the age of 60, must retire from the full staff and become consulting physicians, with the right to use six beds. It is competent, however, for the Governors to appoint as honorary consulting officer of his department any honorary officer who may have resigned his position prior to his attaining the age of 60 or serving on the full staff for twenty years. That they have done so in the case of Dr. Chadwick, who has held the position of physician to the infirmary for eleven and a half years, is at once an honour to him and a source of pleasure to his colleagues on the honorary staff.

The number of applicants for the vacancies on the resident staff was this half year unusually large, and the Faculty of the infirmary have made the following appointments:

Resident Medical Officer to the Convalescent Homes—Mr. Arnott.

Resident Obstetric Officer.—Mr. A. Boyle, M.B.Leeds.

House-Surgeons.—Mr. W. H. Smailes, M.B., B.S.Lond.; Mr. O. L. Scarborough; Mr. J. H. Legge, B.Sc., M.B., B.S.Lond.

House-Physicians.—Mr. J. Whalley, M.B.Leeds; Mr. A. Gough, M.B.Leeds.

Two vacancies which have just occurred on the resident staff of the Dispensary have been filled by the appointment of Mr. Harold Fearnley, M.B.Leeds, and of Mr. E. C. Hood. Mr. Harold Leach succeeds Mr. Maffin as House-Surgeon at the Hospital for Women and Children.

CORRESPONDENCE.

THE CONTINUED SUCCESS OF THE ANTIMALARIAL CAMPAIGN AT ISMAILIA.

SIR,—Statements have frequently appeared recently in the press to the effect that the antimalarial measures at Ismailia, Havana, and elsewhere have not really had the success which has been attributed to them. For example, Colonel H. Hamilton, C.B., I.M.S., Honorary Surgeon to the Viceroy of India, says in the October number of the *Indian Medical Gazette*, "I know that Ismailia will at once rise to the lips of "the champion of mosquito brigade operations. But the chief "measures were drainage and filling up pools, and if it is "claimed that the improvement effected is the result of the "destruction of mosquitos, then I must say that my experi-"ence going through the Suez Canal last December leads me "to doubt it. Mosquitos abounded everywhere, and par-"ticularly in the neighbourhood of Ismailia, and I was much "struck by their aggressiveness during the day—no doubt "*Stegomyiae*—whilst at night they made sleep impossible."

This is an example of the kind of statement which continues to be made on the subject. Ismailia is about a mile from the Suez Canal, and the antimosquito measures carried out at Ismailia were not extended to the whole banks of the canal, so that a ship passing through the latter might easily pick up mosquitos anywhere *en route*. Colonel Hamilton does not appear to have visited Ismailia itself, but permits himself to infer without hesitation that mosquitos continue to abound there, notwithstanding statements to the contrary, because he found them to exist along the Canal! In order, however, to obtain further information, I wrote to the Secretary of the Suez Canal Company on the point, and now beg to enclose his reply, which I think will serve to dispose of Colonel Hamilton's criticisms. The facts (noted by the Secretary) that the insects tend occasionally to reappear and that success can only be maintained by "une surveillance constante" are, of course, only what we must always expect. Similar statements have appeared about Havana, based apparently on facts evolved in the inner consciousness of the writers, who seem to be entirely ignorant of the able monthly reports of the Board of Health of Cuba issued by Dr. Charles Finlay.—I am etc.,

Liverpool, Nov. 2nd. RONALD ROSS.

[TRANSLATION.]

Malaria at Ismailia.

Monsieur le Major,

In your letter dated the 24th of this month you have asked me what value ought to be attributed to the assertions published in the Indian press as to the reappearance of mosquitos and malarial fever in Ismailia.

I can inform you that the sanitary campaign carried out at Ismailia continues to give the most satisfactory results.

From statistics prepared by our medical officers it appears, in fact, that from January 1st to the end of September, 1905, the total number of cases of malarial fever recognized among the agents and workmen of the company, as also among their families, only amounted to 37, and it has been recognized that all these cases are only examples of recurrence.

Further, during the year 1901, the year preceding the organization of the antimalarial campaign, the number of cases of fever observed was 1,990, in 1902 (defensive measures commenced in September) it was 1,548, in 1903 it was 214, and in 1904 it was 90.

It is true that on different occasions during this year the presence of mosquitos, *Anopheles* or *Culex*, has been recorded in the town and its environments. But owing to the attentive and permanent supervision of the habitats of these insects, and the rigorous application of proper defensive measures, their disappearance on each occasion has been rapid.

It may, therefore, be said that, in spite of the momentary appearance of mosquitos, malarial manifestations at Ismailia show a continual decrease. But this happy result can be obtained only through constant supervision (par une surveillance constante), by the destruction of the insects as soon as their presence is recognized, and by the methodical labours of the sanitary corps. I may add that the distribution of quinine as a preventive measure is carried out at the same time with the greatest regularity.

Will you accept, Monsieur le Major, the assurance of our very distinguished consideration.

Le Secrétaire Général.
Le Secrétaire de la Direction.
Max Bertrand.

Paris, le 27 Octobre, 1905.

THE PERPLEXITIES OF SECRETARIES.

SIR,—Whilst I cordially agree with all Dr. Latimer has said, I would like to be permitted to reiterate it for the benefit of those he and many of us are anxious for. The number of those who are suffering and yet will not bestir themselves is very great—75 per cent. some think, others as many as 90 per cent. But it is curious that one thing they can and nearly always do is to grumble, instead of bestirring themselves and uniting as the working-class element has done for many years and with mighty and unexpected results.

The apathetic and discontented members are those we want to get at, and this is all the more desirable now that we have the new machinery of Divisions, etc., in our Association. I cannot help repeating what Dr. Latimer says, that it would be a very simple and easy matter, if the will were there, for most, if not all, members of Divisions to attend the few meetings which are held in each year. If they will only try and go they will soon be astonished to find what beneficial results will be derived by airing their grievances and by letting those know about them who are anxious to undertake their cause, and who have long been seasoned to the work. They will not need to take any further active part or incur any responsibility. There are many energetic men throughout the country who will do all that, so surely it is a small matter for them to attend the meetings of their Division, and they little know what encouragement it is to the workers to see a good attendance of the members. It is often dry and discouraging work to go to a Divisional meeting of six or twelve members instead of two or three dozen. If "unity is strength," let the grumblers and the dissatisfied try the experiment of meeting with their fellows, and I will guarantee they will soon see some beneficial results. But I must stop in order to be brief, yet I cannot help saying that I have held strongly for many years—and it is a result of actual observation—that the oftener medical men meet in small or great numbers, not only are they always personally benefited, but the whole profession more or less.

It was the habit of grumblers formerly to complain that the British Medical Association did nothing. Now that we have the new organization, they do nothing themselves and

still are complaining, for it is necessary that each individual item of a Division should do his part, if only in attending one or more meetings each year, if not the whole of them.

Besides, what a deterrent is it to those who are doing underhand work and undermining, as mentioned by some of the correspondents, if they knew those they were injuring would be at the meetings, and ready to expose them, either publicly or privately. Above all things, let all decent men "join hands" in all the Divisions and attend meetings at the very least, and we shall soon have a change in the financial aspect of the profession, and in many other ways. If decent men will only associate with and strengthen each other, the blacklegs and doubtful men dare not show their faces—at the very least they will have to keep silent in the background or reform. Let "hands together" be our motto.—I am, etc.,

Manchester, Nov. 6th. G. H. BROADBENT.

SIR,—How true it is that no one understands what another's work is, is exemplified by Dr. Latimer's letter; it even shows that one medical man fails to understand how another may be situated. Dr. Latimer thinks that I might spare two hours every six or eight weeks to attend the meetings of the Association. As a matter of fact, such attendance means for me an awkward train journey and at least seven hours away from my practice; if I further tell him that I practise in rural Devon, where the farm-labourer's wage is from 13s. to 16s. a week, where clubs pay 3s. 6d. a member within a three-mile radius, and where even this club pay is handsome compared to the remuneration of parish work (see a letter in the BRITISH MEDICAL JOURNAL of January 30th, 1904, p. 281), he may realize that with the best will in the world it is practically impossible for such as I to get a day off from the steady grind of twelve hours a day and seven (or at least six and three quarter) days a week.

Again, I do not "expect other people to fight my battles," but only that our representatives—the officials of our Branches and Divisions—should remember that there are so many of us who cannot make our voices heard at the meetings, and not shelve those important medico-legal questions simply because there is not present a strong contingent to speak on them.

For "Experientia" may I paraphrase my sentence commencing "I take it" thus: "the meetings which we attend "(when we can) are those on subjects in which we are "interested," and then I think he may judge my opinion more justly. Unfortunately, as I have shown, I myself cannot attend these meetings, although I am so deeply interested, but I can and do (through the courtesy of the Editor of the JOURNAL) furnish first-hand information about sweated practices, and I only ask that such opinions expressed in our own journal should carry as much weight as those heard in its meetings. Some time ago, in answer to a special invitation to such a meeting, I wrote to the President of the Branch explaining why I found it impossible to attend, and begging his attention to the serious condition of medical practice here which made it so, but I could not find out by reading the account of the meeting in the SUPPLEMENT that my remarks had been passed on to the members present.—I am, etc.,

November 4th. SWEATED.

UP-TO-DATE SURGERY AND THE TREATMENT OF CANCER.

SIR,—No good purpose will be served by bringing my critical faculties to bear upon Mr. Power's letter to you, so obviously that of one belonging to the school of thought to which I take exception. It would never have occurred to me that Mr. Marmaduke Sheild could have supposed that I included him in such a category, and I must have evidently in the process of condensation used a term which does not convey to him what it conveys to me.

In every rank and in every condition of society I have met that "old gang," which consists of individuals who consider that everything which is at all novel or original must be suppressed at all costs, unless that new thing has been introduced by sponsors vouched for by accredited authority, and that authority of the loftiest respectability.

It appears that Mr. Sheild has not grasped the points of the situation which I wished to bring forward. If a medical practitioner takes up a subject, gives his spare time to its study "in the humbleness begotten of a knowledge of its "mystery and a desire for accuracy and truth," as I can honestly assert I have done in connexion with cancer, and does not reveal the knowledge which he has obtained, he is designated a quack by the medical fraternity. If, as I have, he publishes his results from time to time for what they are worth, he is subjected to sermons.

If he publishes cases diagnosed as cancer without having previously obtained the co-operation and sanction of one of those accredited with knowledge, those cases are not deemed worthy of notice. If there is a successful case diagnosed as cancer by one who is accredited with authority, it is immediately disavowed. Members of the profession are between the devil and the deep sea.

I am in entire agreement with Mr. Sheild as to difficulties in clinical diagnosis, but I must point out to him that differences amongst pathologists as to what constitutes cancer are not unknown. As Mr. Sheild has assumed ignorance on these points on my part, I will assume ignorance on his part as to the chemistry connected with violet leaves. The flowers of *Viola odorata* contain a colouring matter, a volatile oil, three acids (violinic, salicylic, a red acid of unknown composition), and an emetic principle, called violin, identical with emetin. As a decoction of the leaves produces nausea and vomiting, it appears probable that the leaves also contain active chemical substances of the same character.

It appears to me that Mr. Sheild should consider, first, whether it is advisable to neglect any source of knowledge when he is contemplating the mysteries of cancer in the spirit in which, I am sure, he does contemplate those mysteries; and, in the second place, whether he supposes that there is no personal equation in patients.

No one, I suppose, who is as active in mind as Mr. Sheild can fail to have recognized the difficulties which arise when an explanation is desired for the disappearance of tertiary syphilitic tumours when potassium iodide is administered. There is no apparent reason why some drug should not be found to affect cancer, although that drug is not vouched for as a thing scientifically immaculate. If there is such a drug it will only be found by pursuing the course which I have adopted, and that is, if a series of cancer cases show that there is a reaction in the disease to a given drug, to attempt the work (with the aid of scientific chemistry) of testing the whole chemical series and its allies on the basis of therapeutic affinities.

I quite recognize that Mr. Sheild is not a physician, and probably cares for none of these things, but I am sorry to see him, as I think, on the wrong side. I am rather inclined to think that my unfortunate expression "old gang" has led him into the controversy, because I am quite sure he is the last person in the world to back up any "old gang," as I use the term.

In conclusion, it is to be hoped that members of the profession will not suppose that any finality has been arrived at. Dr. Morgan and I are working in our respective spheres. He has worked out and made a whole series of thorium compounds, has published his results in the *Pharmaceutical Journal*, and has put in my hands two fresh chemical substances of the coumarate series, with one of which I am at present working. I am greatly hampered by want of time and want of a large clinic, and for these reasons it is necessary for me to enlist the co-operation of any one who is willing to be a trier by publishing as soon as I can preliminary data.—I am, etc.,

Hatfield, November 6th. LOVELL DRAGE.

SIR,—It is difficult to see what Mr. Marmaduke Sheild and Mr. D'Arcy Power mean unless they belong to those, perhaps not very politely spoken of by Dr. Lovell Drage as the "old gang."

The surgeon in Dr. Drage's case, as well as Mr. Sheild and Mr. Power, all take the line that, if the case is cured, it could not have been cancer, because they say cancer can only be cured by us, the hospital surgeons. From my own experience I can assure Dr. Drage that he will get little encouragement from the hospitals, but will find the general practitioners much more open-minded. Mr. Power, taking to himself the position of head of the Dr. Drage's gang, says, "in no single case have we yet seen a genuine scirrhus or an undoubted "epithelioma whose course has been modified or whose "growth has been hindered for a single day by any of their "methods." This is only negative proof, and I have certainly seen what Mr. Power has not, at least if a complete case—several returns and microscopic examination—can prove anything. Does Mr. Power not see what a difficulty he is putting in the way of progress when he protests against the

publication of the case before us, unless he has missed Dr. Drage's previous reports on the same subject? It seems to me fair for any one to publish cases which have done well whether under *x* rays, coumarate of sodium, or anything else, so long as they are given for what they are worth. The publicity widens the experiment. On the other hand, if one wishes to bring forward a claim to have solved the question of the treatment of cancer, in whole or in part, it is not possible to have too much evidence.—I am, etc.,

London, W., Nov. 7th. SKENE KEITH.

SIR,—In the BRITISH MEDICAL JOURNAL of November 4th there is a letter from Mr. D'Arcy Power referring to cures for cancer, in which he says: "In no single case have we yet "seen a genuine scirrhus or undoubted epithelioma whose "course has been modified or whose growth has been hindered "for a single day by any of their methods." I should like to draw his attention to a case of scirrhus of the breast treated by *x* rays reported in the JOURNAL of December 12th, 1903. This case was sent to me as being inoperable, and was seen by at least a dozen medical men, including the late Sir William Banks and Dr. Crawford (our former senior surgeon) not one of whom had the slightest doubt as to the malignant nature of the tumour. The clinical signs were strongly marked, the stony hardness of the growth, the absolute fixation to the chest wall, the ulceration involving half the nipple, and, lastly, the chain of enlarged glands. What else but scirrhus could have produced such a combination? I would not advocate treatment by such a method where an operation could be performed, but in such a case as the one reported, where operation held out no hope of extirpation, I think, after the results obtained, treatment by the *x* rays might at any rate be tried. I have seen the patient recently, and there is no sign of recurrence.—I am, etc.,

Liverpool, Nov. 7th. H. LYLE.

SIR,—At the risk of having Juvenal's "*insanabile scribendi cacoëthes*" ascribed to me by Mr. D'Arcy Power, I think that he is a little too wholesale in his condemnation of any method of treatment in cancer except that of the knife.

In his letter in the BRITISH MEDICAL JOURNAL of November 4th he says that "In no single case have we yet seen a genuine "scirrhus or an undoubted epithelioma whose course has been "modified or whose growth has been hindered for a single day" by "high-frequency currents, various kinds of serum, the "injection of complex organic compounds, *et hoc genus omne!*" Unless I misunderstand his meaning, I think that there have been several cases of "genuine scirrhus" and "undoubted "epithelioma"—cases proved to be such by competent pathologists—which have been reported in the medical journals from time to time as having been distinctly benefited by other than purely surgical methods.

I refer more particularly to cases of carcinoma of the breast and rodent ulcer. A few months ago a letter appeared in the JOURNAL from Sir Alan Reeve Manby, in which he described cases of carcinoma mammae which had been much improved by repeated exposures to radium bromide enclosed in suitable tubes. It is, of course, too soon to say whether recurrence will or will not take place in time, but there seems to be no doubt that there was distinct improvement and apparent arrest of the disease. This is only one instance; but it is undisputed that many cases of rodent ulcer and surface cancers have been very materially benefited, if not actually cured, by the radium treatment.

There is no doubt that the failure of many methods of treatment of cancer in the past has made the medical profession sceptical, and that "new remedies" are looked upon with suspicion and impatience, especially by surgeons. That many so-called remedies and cures have been tried and found wanting is only too true, but surely a surgeon of Mr. D'Arcy Power's reputation cannot ignore the benefit that has resulted from the use of radium in surface cancers. In its application in these cases it has already passed the purely experimental stage. Though in the case of all cancers years must elapse before it can be said that a cure, by any method, has been effected, yet the undoubted temporary benefit and alleviation which has already resulted in these cases treated by the radium method, does not warrant its inclusion in Mr. D'Arcy Power's *hoc genus omne* as having failed to "modify" or "hinder" the growth "for a single day."

It may be that the radium treatment for cancer has an immense future before it. Time alone will show this. Already there are indications that its usefulness is extending, and it may become applicable in the treatment of several diseases besides cancer. It is a new remedy, and its potency is not yet fully known. It has been proved to have a strongly inhibitive effect on bacterial action, and it seems to weaken the attack of organisms invading the human frame, while it increases the resisting power of the body in its efforts to combat disease.

It is possible, and indeed very likely, that other methods of applying radium in the treatment of cancer will soon be forthcoming, and that in a modified form it will prove a hopeful means of treating internal cancer. So far, no other remedy except the knife has been of much avail here. But if benefit in these internal cancers is derived from radium by suitable internal administration it will become a formidable rival to the knife of the surgeon. This would be a consummation devoutly to be wished by all, whether doctors or laymen, in what is at present the most dreaded of all diseases, and which may not inappropriately be termed the "open sore "of the world."—I am, etc.,

ALEX. URQUHART, M.A., M.D., D.P.H.

Shepperton, Nov. 4th.

SOLITARY NON-PARASITIC CYSTS OF THE LIVER.

SIR,—I have read with great interest Mr. Bland-Sutton's clinical lecture on solitary non-parasitic cysts of the liver, published in the BRITISH MEDICAL JOURNAL of November 4th. I should like to make some observations on the surgical treatment of cystic tumours of this type.

In Mr. Bland-Sutton's case the tumour appeared as "an extremely thin-walled translucent cyst growing out from the lower border of the left lobe of the liver. The peritoneal investment and the capsule of the liver were continuous with the cyst wall. . . . By incising the capsule at its junction with the liver I succeeded in completely enucleating the cyst. . . . . The flaps consisting of liver tissue were carefully brought together by means of silk sutures, and the apposition of the flaps was made more complete by a continuous suture along the free edge of the liver."

Mr. Bland-Sutton refers to a paper, entitled Large Bile Cyst of the Liver: Jaundice Without Cholelithiasis, which I read two years ago at a meeting of the Royal Medical and Chirurgical Society.[1] I must thank him for helping to rescue that paper from sinking into oblivion in the peaceful grave of a society's archives. But he speaks of the radical operation on his own case as "superior to the method of incision and drainage adopted by other surgeons. Thus in Doran's patient the sinus persisted even seven months after the operation."

Decidedly enucleation of a liver cyst is the right treatment whenever practicable. As explained in the above quotations from Mr. Bland-Sutton's lecture, enucleation was quite practicable in his case. Allow me now to quote my account of my own operation: "The great cystic cavity occupied the lobulus quadratus and apparently the whole of the left half of the right lobe to the diaphragm and the back of the abdominal cavity." Enucleation was out of the question, whilst drainage was absolutely necessary. The boundaries of the big cyst consisted of liver tissue, perfectly rigid, and it is no wonder that the track was slow to close. In December, 1904, I found that it had closed, the patient was then pregnant, she was delivered in February. In June, 1905, two years and three months after the operation, there was no evidence that the cavity had refilled.

The radical operation, impracticable in my own case, was apparently as much so in those reported by Bird, Bayer, Winckler, North, and Mayo Robson, cases related in abstract in my paper on bile cysts. Drainage was the only resource. It is otherwise with pedunculated cysts of the same type. Hueter, according to Langenbuch, removed one entire, which held over 4 pints of greasy fluid, from a girl aged 11; the separation of its adherent part caused bleeding and a big gap was left in the liver. The gap was closed with sutures and the patient recovered. Mr. Bland-Sutton's case seems intermediate; it was not deeply placed in the substance of the liver, nor dependent from the edge of that organ. It protruded from the liver, whence it was successfully enucleated.

Mr. Bland-Sutton notes how these liver cysts are usually found in women, and speaks of the atrophied tissue often observed along the free border of the liver in female subjects. He then explains how a cyst may develop in this tissue. I must add that pregnancy must be taken into account; it is often the cause of biliary stasis (Potocki). In my own case the patient three years before operation slipped in her back yard and fell forwards, striking the right hypochondrium

[1] *Med. Chir. Trans.*, vol. lxxxvii, p. 1.

against the edge of a washing-tub; she was in the second month of pregnancy, and aborted a few hours after the accident. Rupture of a bile duct, favoured by the biliary stasis of pregnancy, most likely accounted for the development of a deeply-seated unenucleable cyst in that case.—I am, etc.,

London, W., Nov. 4th. ALBAN DORAN.

SIR,—Although simple non-parasitic single cysts of the liver are very rare, there is, at any rate, one more case on record than the six mentioned by Mr. Bland-Sutton in his paper in the BRITISH MEDICAL JOURNAL. After reading Mr. Doran's paper on the subject some years ago, I briefly recorded in the *Lancet* (November 14th, 1903) a case which had been under my own care. This also was in an elderly woman. The cyst was the size of an orange, and caused a visible swelling in the upper abdomen which resembled a distended gall bladder. It was a thin-walled cyst, containing clear straw-coloured fluid, and did not in the least resemble hydatid cyst. That it was not a distended gall bladder was proved by the fact that on its under surface was a layer of liver tissue. This case did very well as the result of drainage. All discharge had ceased eighteen days after the operation, and twelve days later there was only a spot of granulation tissue where the tube had been. When seen again, nearly five months after the operation, there was no sign of refilling of the cyst —I am, etc.,

Bristol, Nov. 6th. CHARLES A. MORTON.

THE EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS BY THE ROENTGEN RAYS.

SIR,—I am glad to see that Dr. Stanley Green has called attention, in the BRITISH MEDICAL JOURNAL of November 4th, to Dr. Theodore Williams's remarks on this subject at the Tuberculosis Congress. I agree with Dr. Green that it is hardly correct to say, as Dr. Williams is reported to have said, that there is a large class of early cases diagnosable to the stethoscope before the *x* rays show any sign of disease. I remember hearing Dr. Williams make the same criticism at the Harveian Society when Dr. Walsham read his paper on this subject earlier in the year.

I think it may be fairly urged that many of the cases where the stethoscope says "yes" and the screen says "no," are in reality not tuberculous at all. Even the most experienced clinician is frequently in doubt, and is constantly mistaken in diagnosis. I have watched patients where the *x* rays show normal lungs and where the stethoscopic signs are highly suspicious. How often these go on for months and years without anything developing further. Or suppose, later, phthisis does develop; is that a proof that the disease was in existence when examined before?

The more experience one has with the *x* rays the more one is led to believe that in doubtful cases the chances are that time will prove the screen to be the more accurate instrument of the two.

It is a pity, I think, that the elder members of the profession do not keep a more open mind on the subject; that they are apt to forget that a comparatively new means of examination of the chest is not necessarily "new-fangled." It comes to this: that what we can see with our eyes is often at variance with what in fancy we hear with our ears. In most cases our eyes are the safer guide.

I am afraid I cannot quite agree with Dr. Green when he states that "unilateral limitation of movement of the diaphragm" is the earliest known sign of pulmonary tuberculosis." It is certainly not always so, neither is that sign to be absolutely relied upon, at least in my experience. I find that it may be set up temporarily by nervousness on the part of the patient, or surface chill during the examination. Although a sign of great importance, I would add to it two others equally so—namely, difference in luminosity at the apices, and, still more important, difference in the degree of illumination which occurs when the patient takes a deep breath. I fancy this latter is the earliest sign of all. It seems, however, that in a new branch of physical examination, such as the *x* rays, anything tending towards dogmatism is highly dangerous, both to the patient and to the doctor. There is no such thing in medicine as "the one conclusive sign of any particular disease." In pulmonary tuberculosis, it seems to me, one requires at least two definite signs before one can make a diagnosis with safety.

It is certainly not the case that we shall be all putting our stethoscopes away in museums as obsolete implements. Yet when we are provided with a second instrument, equally useful, ought we to let conservative prejudices hinder its employment?

The essence of the whole matter is this: In doubtful cases of phthisis we must use both. A man who does that will make fewer errors than one who relies on one weapon only. Also let us remember that even if we use two instruments, or three or four or a dozen, we shall still make a vast number of mistakes.—I am, etc.,

London, N., Nov. 4th. C. WILLETT CUNNINGTON, M.B., B.C.

PAIN AND SLEEPLESSNESS.

SIR,—The discussion on Pain and Sleeplessness, at the annual meeting at Leicester, was directed more to relief than to prevention, which ought to be the aim of the physician in all cases.

Both symptoms are attributable to the same cause in the majority of cases. They are Nature's danger signals, and he who would aim at merely relieving them by drugs may be compared to him who would cover up the red flag of danger on the railway with a white one, while the danger continued. I find that both of these symptoms can be, not only relieved, but prevented, by regulating the supply of food, and there can be little doubt that, as Sir Thomas Lauder Brunton pointed out, waste products in the system are a common cause of both symptoms. It is time that the profession in this country should study diet, without prejudice, if the physician is to retain the position he has so long held in the estimation not only of the surgeon but of the public at large.—I am, etc.,

Hawick, Nov. 5th. JOHN HADDON, M.D.

SYNCOPAL BRADYCARDIA.

SIR,—You have already afforded so much space for the discussion of Dr. Seymour Maynard's interesting case of syncopal bradycardia, that I should not solicit your further forbearance, were it not that I had an opportunity on two occasions of seeing the case in consultation with Dr. Maynard.

I can fully corroborate, from my own perceptions, all that he has stated concerning the force of the impulses felt and the distinctness of the sounds heard during the long diastolic pause, certainly of the left ventricle, in this case.

The first of the subsidiary impulses and its accompanying sound were, as a rule, the strongest and loudest. The head resting on a straight stethoscope felt a distinct knock from some of the intermediate cardiac impulses. As Dr. Maynard has also stated in the BRITISH MEDICAL JOURNAL of November 4th, it is inconceivable to my mind that, had this phenomenon been due to an abortive systole of the left ventricle, it would not have found unmistakable expression on the descending limb of the radial sphygmogram. Had Dr. Gossage examined the case himself, I think it probable that he also would have excluded the influence of the left ventricle, and for the same reasons.

But I believe Dr. Gossage is correct in his surmise that the sounds heard and impulses felt require some other interpretation than that resting on the assumption of an auricular systole. The soft bruits and other noises which have been referred to in the correspondence, attributed to the action of the auricles, and suggested as the probable cause of the phenomena in Dr. Maynard's case, do not appear to me from their description to have been distinctly-heard cardiac "sounds" and distinctly-felt cardiac impulses, such as were present in this case. These were as easily appreciable as those due to many of the premature systoles which are so frequently heard and felt, for example, in association with the arrhythmical impulses which so often occur in disorders of cardiac motion both with and without valvular lesion.

Having examined Dr. Maynard's case, I do not recognize any similarity between the signs it exhibited and those described by Dr. Hay as occurring in the second case he relates in the BRITISH MEDICAL JOURNAL of October 21st. I have now seen a few cases of persistent bradycardia—how many I cannot precisely remember—but have never before met with the signs exhibited by Dr. Maynard's case. It is, I believe, a rare condition even in otherwise similar cases. The rarity, however, of the signs in Dr. Maynard's case does not disprove the conclusion at which he has arrived, and which I confess I share with him, namely, that in his case the most feasible interpretation of the signs he has related is that they were due to a mode of hemisystole of the right ventricle.

I do not wish to criticize in too adverse a spirit the value of venous tracings, which I have also taken, but appreciate

the force of Dr. Herringham's remarks with regard to clinical cardiographic methods as a whole. The value of arterial sphygmography has at times, I think, been unduly depreciated. Possibly I now underestimate the value of venous tracings. The fine distinctions of auricular and ventricular elevation in the latter, and the friendly jog of the neighbouring carotid—which Dr. Hay, I observe, regards as an advantageous incident—incline me, however, to place even less faith in the interpretation of such records than in the ascription of an auricular meaning to what Dr. Maynard terms "sinuosities" on the descending limb of the radial sphygmogram. Even the slow pulsation of a bradycardial heart and the long sweep of its diastolic phase fail at times to record this auricular coincidence, even in the hands of expert sphygmographists like Dr. Hay. His illustration on page 1035 in the British Medical Journal of October 21st is a case in point.

Very naturally many interesting but controversial questions have been incidentally raised in the course of this correspondence, as to the causes and nature of normal and abnormal cardiac action. To attempt to discuss these satisfactorily in this place would be to make too great a demand upon your patience and your valuable space. I would merely express my conviction, with all respect for the opinion of those who differ from me, that the rôle of the muscular factor in cardiac action, great as it necessarily is, has of late been unduly exalted by present-day physiologists and clinicians at the expense both of the haemic and neural factors, the influence of which on disorders of cardiac motion and sensibility I regard as far from negligible.

Professor Arthur Keith's delineated support of the theory of heart blockage in Dr. Hay's paper[1] is interesting, but surely the condition shown represents, possibly, a consequence, not necessarily a cause, of the heavy bradycardial heart.

"Heart blockage" is still, I presume, a theory, and the constricting cord must interrupt more than muscular motion. I trust that it is, therefore, permissible to suppose that this theory may be modified in time, like so many others which have preceded it, and equal attention be given by clinicians and pathologists to other factors besides the muscular in cardiac action.—I am, etc.,

London, W., Nov. 4th. ALEXANDER MORISON.

PAUPER NURSES (IRELAND).

SIR,—In the British Medical Journal of November 4th I see that Dr. Caleb Powell of the North Dublin Union has laid before the Board of Guardians of that Union a scheme for the abolition of pauper nursing in the Union hospital.

As one who has had more to do with the abolition of the employment of paupers as nurses than any one living, I need hardly say that I am in thorough agreement as to the wisdom of the course proposed; it is to the advantage of the patients and the ratepayers alike, because there is no doubt that acute cases do recover more properly with proper than incompetent nursing, and there is also far less waste of dressings, etc., not to speak of alcoholic stimulants, a large percentage of which in many cases where pauper nurses are employed never reach the patient.

There is, however, one suggestion that I would respectfully ask the guardians to reconsider—namely, the proposals to charge an entrance fee of £21 to each probationer for two years' training. My objection to the proposal is that if probationers are to be thoroughly trained so as to be competent for all positions the training should be for three years. My second objection is that the proposal to charge an entrance fee will be an insuperable obstacle to a very large number of excellent candidates who cannot afford to pay the entrance fee for their training. There is a very great demand for hospital nursing under first year's probationers, and after a quarter of a century's experience of the best managed hospitals in the United Kingdom, and also as Chairman of the S. W. Workhouse Nursing Association, I am convinced that even first-year probationers not only earn their rations and uniform but are also entitled to a small salary even for their first year of training.

If I can supply any information I shall be very pleased to do so.—I am, etc.,

[illegible] JNO. MILSON RHODES, M.D.

[illegible] Medical Journal, October 21st, p. 1035.

REMOVAL OF IRON FROM INTERIOR OF THE EYE BY ELECTRO-MAGNET.

SIR,—My attention has been drawn to an article under the above title in the British Medical Journal of November 4th, p. 1176, by Dr. Percival, in which reference is made to my electro-magnet. The method of using it there mentioned may be Dr. Percival's, but I should not like it to be regarded as mine. I would therefore ask any of your readers who may be interested in the subject to refer to any of the papers I have from time to time written, but especially to the article which appears in the *Ophthalmoscope* for February last, where the mode of using the electro-magnet in different parts of the eye, and the means of diagnosing the location of a foreign body, and other points, are fully discussed.—I am, etc.,

Sheffield, Nov. 7th. SIMEON SNELL.

THE INCORPORATED SOCIETY OF MEDICAL OFFICERS OF HEALTH.

SIR,—Paragraphs have been recently circulated in the press which are calculated to lead the public to believe that the Incorporated Society of Medical Officers of Health is promoting an exhibition of pure food, etc., I am instructed to ask you to be good enough to state that this is not the case, nor has the Society any intention of promoting such an enterprise, and I should feel obliged if you would give publicity to this statement.—I am, etc.,

WM. A. LAWTON, Executive Secretary.

1, Upper Montague Street, Russell Square, London, W.C., Nov. 6th.

UNIVERSITIES AND COLLEGES.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

ANNUAL REPORT OF THE COUNCIL, 1905.

THE annual report of the Council for the period from August 1st, 1904, to August 1st, 1905, which is to be presented to the annual meeting of Fellows and Members on Thursday next, November 16th, at 3 p.m., contains a record of the work done by the College in its various departments.

The report states that the annual meeting of Fellows and Members in 1904 was held on November 17th last, when there were present 17 Fellows and 34 Members. The resolutions passed at that meeting are recorded in the annual report of the Council.

The Title of Doctor.

The resolution that in the opinion of the Council called for any comment on their part was the following:

> That the Council be asked to take the necessary steps in conjunction with the Royal College of Physicians to ensure that all persons who pass the Conjoint examination shall be legally entitled to call themselves Doctors.

The Royal College of Surgeons addressed the Royal College of Physicians of London on this subject in the following terms:

> The Council, while they believe it to be impracticable to obtain a legal right to the title of Doctor for any persons who do not hold the degree of M.D., suggest it may be expedient not to enforce any measure prohibiting the use of the title by duly-qualified medical men.
>
> The Council therefore desire to call the attention of the Royal College of Physicians to the complaint made by Members of the Royal College of Surgeons holding the Licence of the Royal College of Physicians of London that they are forbidden by By-law 177 of the latter College to call themselves "Doctors."
>
> These members point out that for generations the title of Doctor has by public consent been accorded to medical men generally, and that it is used by those holding the degree of M.B., although they have no legal right to it. It is also stated that the Royal College of Physicians of Ireland officially sanctions the use of the title by its Licentiates, and that Licentiates of the Royal College of Physicians of Edinburgh are encouraged to use it.
>
> Those who have taken the diplomas of the two Royal Colleges under the regulations of the Conjoint Board therefore regard themselves as placed at a disadvantage as compared with the Licentiates of other institutions, and they moreover believe that the prohibited use of the title has in many cases the effect of preventing students from seeking the diplomas of the two Colleges.
>
> The Council therefore beg that the Royal College of Physicians will take the matter into consideration; and they trust that it may be possible to remove a prohibition which affects and is resented by a large number of Members of the Royal College of Surgeons.

This communication was taken into consideration by the Royal College of Physicians, but the decision arrived at was adverse to any alteration in By-law No. 177. It subsequently transpired, from a letter received from the Secretary of the Royal College of Physicians of Edinburgh, that the statement that Licentiates of that College are encouraged to use the title

of Doctor is misleading, and, with the object of removing any misapprehension which may have been caused by the statement, the following extract from the laws of the Royal College of Physicians of Edinburgh is quoted:

The Diploma granted by the College shall not entitle the holder, by virtue of such diploma, to assume the title of Doctor, or to append to his name the title of Doctor of Medicine, or the letters M.D., or other abbreviation which suggest that the holder had obtained the degree of Doctor of Medicine from a University.

Secondary School Certificates.

In July last the College received from the Board of Education a copy of certain proposals, framed by the Consultative Committee of the Board, for organizing a system of school certificates for the secondary schools of England—that is, certificates showing that the holders have received a good general education and passed a satisfactory examination in the subjects of an approved school curriculum. The Consultative Committee express the opinion that a general system of school certificates is desirable. They, however, do not suggest that the examinations should be conducted by means of papers set from a single central organization, but recommend that they should be controlled by a recognized examining body which should be either a university or a combination of universities, or an Examination Board representative of a university or universities and of the local authorities prepared to co-operate with them. It is proposed that recognition of these examining bodies should mean recognition by the Board of Education; that a Central Board, consisting of representatives from the Board of Education and the examining bodies, should be established to co-ordinate and control the standards of the examinations; and that the examinations should be conducted by external and internal examiners.

The Council of the Royal College of Surgeons, both separately and in association with the Royal College of Physicians, have considered the several proposals of the Consultative Committee of the Board of Education, and have expressed their general approval of the scheme.

Registers of Medical and Dental Students.

With reference to the endeavour of the General Medical Council to obtain statutory powers to institute registers of medical and dental students, the report quotes a resolution of the General Medical Council stating that that Council now sees great difficulties from opposition by certain licensing bodies to the Lord President of the Privy Council being asked to introduce a Bill giving the General Medical Council statutory power to establish and maintain registers of medical and dental students and to impose a fee not exceeding £1 for registration therein. The General Medical Council will be prepared at the proper time to offer an alternative proposition which it hopes may be approved of by the Lord President. During the discussion at the General Medical Council it was stated that the Royal College of Physicians of Ireland had resolved to oppose the proposed Bill. It was also stated that the "alternative proposition" mentioned was an increased fee on the registration of practitioners.

Proposed School for Early and Intermediate Subjects.

At the meeting of the Council in February, a proposal was brought forward that the Council should take into consideration the practicability of the institution by the College of a school for the teaching of the early and intermediate subjects of the medical curriculum and of advanced pathology. In April last the Council decided that "it is impracticable for "the College to institute such a school without adequate "endowment," and no further steps had been taken in the matter.

Cairo Medical School.

The report of the Committee of Management relating to the conditions under which students of the Cairo Medical School and Hospital may be admitted to the examinations of the Conjoint Examining Board is given in full.

Regulations for Licence in Dental Surgery.

In June of last year the Council received a petition signed by a large number of dental students, asking for the publication of a syllabus giving the general range of knowledge required in anatomy. A syllabus has been prepared and approved by the Council, and will in future be issued with the regulations relating to the licence in dental surgery.

Central Midwives Board.

The report of Mr. J. Ward Cousins, reappointed a member of the Central Midwives Board by the Council of the College, under Section 111 of the Midwives Act, 1902, is printed in the report of the Council. Concerning the women who have been placed on the Midwives' Roll because they have produced satisfactory evidence that before the passing of the Act they had been for at least one year in bona-fide practice as midwives, Mr. Cousins says: "The majority, it is no exaggera- "tion to state, are both ignorant and incompetent, and, "unfortunately, for some years at least they will continue to "follow their calling among the poorer classes of the popula- "tion throughout the country." Mr. Cousins points out that the county councils and county borough councils throughout England and Wales are now actively engaged in carrying out the administration of the Act. They have appointed 127 local supervising authorities, and each authority is called upon to exercise general control and supervision over all the midwives practising within its area, and also to investigate charges of malpractice, negligence, and misconduct, and whenever a *prima facie* case is established to report the same to the Central Midwives Board. He also notes that the opinion is steadily gaining ground that the introduction of educated midwives, controlled in their practice by well-defined duties and restrictions, will in a few years prove of inestimable benefit to the poor people of the land. Still, it is already evident that the Midwives Act of 1902 is by no means a perfect piece of remedial legislation, and that experience may show the necessity of many modifications. In its present form there are difficulties which are scarcely fair to the medical profession, and the Central Midwives Board has recently drawn the attention of the Privy Council to the omission from the Act of any provision for the payment of medical fees. Mr. Cousins concludes by stating that it is the universal spirit of the profession to be ever ready to render immediate help in the hour of danger, and it is true that every medical man acknowledges a moral obligation to assist in every form of emergency. Still, as the law now stands, medical men will be summoned in every part of the country, and many practitioners will have to travel miles to aid midwives in cases of difficulty and danger. The fact is medical men everywhere will be practically responsible for the safety of the poor parturient women during the attendance of midwives practising under legal supervision, and, therefore, for the successful operation of the Act some amendment is necessary in order to provide a fair scale of remuneration for professional services.

The British Medical Association, the Indian Government, and Fees to Medical Officers.

At their meeting in October the Council had under consideration a letter from the Chairman of the Council of the British Medical Association calling attention to a recently-issued order of the Government of India in regard to the remuneration of medical officers for attendance on native chiefs and nobles. The letter stated that the British Medical Association was endeavouring to obtain the withdrawal of this order, as an improper interference between the patient and the medical attendant, and it was suggested that the licensing bodies might advantageously take up the question. The Council, however, while sympathizing with the views held by the British Medical Association, and recognizing the propriety of a body, such as the Association, taking up the matter, were of opinion that it would not be desirable for the College to depart from its rule of abstaining from interference in questions relating to fees, and decided to take no action in the matter.

Finance.

The gross income of the College for the past year amounted to £25,755, being £1,214 less than the gross income of the previous year.

As regards the fees received by the College from the Conjoint Examining Board in respect of the examinations for the L.R.C.P. and M.R.C.S., there was an increase of £116 on the first examination, but a decrease of £301 on the second, of £114 on the third, and of £391 in the diploma fees paid by university candidates, resulting in a net decrease of £690.

The balance of income over expenditure amounted to £2,730, and was only £64 less than the amount realized last year, in spite of the fact that the gross income is £1,214 less.

Prizes, etc.

Full information in the report is given concerning the Jacksonian Prize, Blane Medals, Jenks Scholarship, the Foundation of the Macloghlin Scholarship, the Begley Bequest, and the Hunterian Festival.

Officers, Diplomas, etc.

The report contains details concerning the office-holders,

the issue of diplomas, and the attendances of members of the Council, together with paragraphs concerning the museum and library.

UNIVERSITY OF OXFORD.

Hebdomadal Council.—William Osler, D.M., Hon. D.Sc., Student of Christ Church, Regius Professor of Medicine, has been elected a member of the Hebdomadal Council.

Degree Days.—The Degree Days during the present term are as follows: Thursday, November 9th; Thursday, November 30th; Tuesday, December 19th.

UNIVERSITY OF CAMBRIDGE.

THE following examiners have been appointed:

First M.B.—Physics: P. V. Bevan, M.A., Trinity; T. G. Bedford, M.A., Sidney Sussex. *Chemistry:* J. E. Purvis, M.A., St. John's; W. J. Sell, M.A., Christ's. *Biology:* A. E. Shipley, M.A., Christ's; Dr. H. Marshall Ward, Christ's.

Second M.B.—Anatomy: Dr. A. Macalister, St. John's; Mr. F. G. Parsons, St. Thomas's Hospital. *Physiology:* F. G. Hopkins, M.A., Emmanuel; Dr. M. S. Pembrey, Guy's Hospital.

Third M.B., Part I.—Pharmacology: W. E. Dixon, M.A., Downing; Dr. R. Stockman, Glasgow University. *General Pathology:* J. S. P. Strangeways, M.A., St. John's; Dr. Sheridan Delépine, Victoria University.

UNIVERSITY OF ABERDEEN.

THE following candidates have been successful at the recent competition for bursaries in the Faculty of Medicine:

First Year's Students.—(1) Colin F. Simpson, £20; (2) Donald H. G. Ross, £20.

Second Year's Students.—(1) Finlay G. M. Ross, £22; (2) John A. Beattie, £20; (3) George C. Souttar, £18; (4) John L. Menzies, £18; (5) Adam Gray, £6.

ROYAL UNIVERSITY OF IRELAND.

THE following candidates have been approved at the examinations indicated:

M.D. Degree.—W. J. Bannister, *Sydney H. G. Blakely, T. H. Delany, S. R. Hunter, Frances E. M'Cune, A. Moss.

*Awarded a gold medal for distinguished answering.

M.B., B.Ch. B.A.O. DEGREES.

Upper Pass.—F. Coates, B.A., A. G. Cummins, J. S. Dickey, J. Donnelly, R. W. Harper, W. Irwin, B.A., R. S. Kennedy, J. Macarthur, C. G. Robb, P. Steen, H. C. Watson.

Pass. J. A. Beamish, H. W. Carson, J. Devane, J. Flack, D. H. C. Given, W. R. Hayden, R. L. Keown, A. Leitch, J. M'Closkey, E. M. O'Neill, T. M. Phillips, S. B. Walsh, B.A.

The following honours have been awarded in connexion with the examinations indicated:

FIRST EXAMINATION.

Second Class Honours in Botany.—J. M. M'Cloy, W. W. D. Thomson.
First Class Honours in Zoology.—W. W. D. Thomson.
Second Class.—J. M. M'Cloy.
Second Class in Chemistry.—W. W. D. Thomson.
First Class in Experimental Physics.—J. M. M'Cloy.
Second Class.—T. J. S. Moffett, W. W. D. Thomson.
First Class Exhibition, £20.—W. W. D. Thomson.
Second Class, £10.—J. M. M'Cloy.

THIRD EXAMINATION IN MEDICINE.

First Class Exhibition, £30.—J. A. Shorten.
Second Class, £20.—R. G. Kevin.
First Class Honours.—J. A. Shorten.
Second Class.—R. G. Kevin.

FINAL EXAMINATION.

First Class in Medicine.—J. S. Dickey.
Second Class.—A. G. Cummins, R. S. Kennedy.
First Class in Surgery.—A. G. Cummins, R. S. Kennedy.
Second Class.—J. S. Dickey.
First Class in Midwifery.—J. S. Dickey.
Second Class.—W. Irwin, R. S. Kennedy, A. G. Cummins, H. C. Watson.
First Class Exhibition, £10.—J. S. Dickey.
Second Class, £25.—A. G. Cummins.

The *Travelling Medical Scholarship* has been awarded Isabella G. A. Ovenden.

The *Medical Studentship* was not awarded, but special prizes of £25 each were granted to W. M'Carthy and J. C. Rankin.

Meeting of Senate.

At a meeting of the Senate held on the 7th, the Right Hon. the EARL OF MAYO, K.P., Chancellor, in the chair, a Royal Warrant appointing Mr. Charles Edward Martin, J.P., D.L., to be a member of the Senate was read.

The report of the Standing Committee on the results of the recent examinations was considered and awards made.

It was resolved that the degree of M.Ch., *honoris causa*, should be conferred on John Stephen M'Ardle.

There were referred to the Standing Committee for report resolutions received from Convocation in reference to (1) degree in public health; (2) university, library, and grounds; (3) pension fund; (4) the granting of an honorary degree.

A Royal Warrant was read empowering the Senate to admit to matriculation candidates who have passed other public examinations as the Senate shall from time to time decide to accept in lieu of the matriculation examination held by the University. It was referred to the standing Committee to draw up details of the examinations to be accepted in lieu of the matriculation, the detailed regulations to be published in due course after the meeting of Senate next February.

It was resolved to confer degrees in veterinary medicine.

It was enacted that all oral examinations in connexion with the first university examination be discontinued.

OBITUARY.

JOSEPH KELLETT SMITH, M.R.C.S.ENG., ETC., J.P.,

Honorary Consulting Surgeon, Stanley Hospital, Liverpool.

WE regret to record the death of Dr. J. Kellett Smith, which took place at his residence, West Kirby, Cheshire, on October 29th. Born at Yeadon, Yorkshire, on August 10th, 1836, he came to Liverpool as a youth. Being destined for the medical profession he was apprenticed to his uncle, Dr. Chippendale. He became a student at the Royal Infirmary School of Medicine and at the Northern Hospital. He qualified M.R.C.S.Eng. in 1860, and L.R.C.P.Edin. by examination in 1865. About this time he began to practise in Liverpool, and he became intimately associated with the late Dr. D. Dunlop Costine and Mr. E. Mason Sheldon, in their work at the Stanley Hospital. Soon after the foundation of the institution by these two gentlemen in 1867, Mr. Smith was elected Surgeon to the hospital, which office he continued to hold until his retirement at the end of his allotted service of twenty years, when he was appointed Consulting Surgeon. He had an extensive general practice, and was a keen politician and a prominent Mason. In 1892 he was appointed a Justice of the Peace for the City of Liverpool. In 1899 he relinquished practice and took up his residence in West Kirby, and became Chairman of the Hoylake and West Kirby Waterworks.

He had been failing in health for some time, and three weeks before his death he had an attack of influenza, which seriously diminished his strength.

He leaves a widow, a daughter, and three sons, all grown up. The interment took place at West Kirby Parish Church, and was largely attended by members of the medical profession and others.

JAMES JAMIESON, M.D., F.R.C.S.E.,

Edinburgh

WE regret to record the death of Dr. Jamieson at 43, George Square, Edinburgh, on Friday, November 3rd, at the age of 64.

He was educated in the Edinburgh Extramural School, and took the diplomas of L.R.C.P.E. and L.R.C.S.E., at the age of 23. He then became assistant to Dr. Alexander, of St. John Street, Edinburgh. He took the Fellowship of the Royal College of Surgeons in 1880 and the degree of Doctor of Medicine of the University of St. Andrews in 1883.

Dr. Jamieson, who was a native of the Scottish Borders, was a member of the Edinburgh Borderers' Union, and one of the original members and latterly chairman of the Council of the Border Counties Association. He was a staunch supporter of the Edinburgh Reading Club for the Blind. He was a member of the Kirk Session of the cathedral church of St. Giles, and one of his last public acts was to compile some interesting notes regarding that ancient and historic building for insertion in the book for the service in St. Giles's Cathedral at the celebration of the fourth centenary of the Royal College of Surgeons on July 20th.

He is survived by a widow and two sons, one of whom is a member of the medical and the other of the dental profession.

COLONEL JAMES CHARLES GORDON CARMICHAEL, M.D., Indian Medical Service (retired), died at Ealing on October 23rd, aged 60. He entered the Indian Medical Service as an Assistant Surgeon, April 1st, 1868; became Surgeon-Colonel, March 29th, 1895; and retired in 1900. Colonel Carmichael served with the Mahsood Wuzeeree expedition in 1881; in the Egyptian war of 1882, being present at the battle of Tel-el-Kebir (medal with clasp, and Khedive's bronze star); with the Burmese expedition in 1886-7 (mentioned in dispatches, medal with clasp); and in the campaign on the North-West Frontier of India in 1897-8, with the Malakand Field Force and Buner Field Force, as Principal Medical Officer, including the capture of the Tanga Pass (twice mentioned in dispatches, medal with clasp).

LIEUTENANT-COLONEL PETER MULVANY, R.A.M.C., died at Alton, Hants, after a very brief illness, on November 7th, aged 51 years. He joined the Army Medical Department as Surgeon, March 6th, 1880; was made Surgeon-Major, March 6th, 1892, and Lieutenant-Colonel March 6th, 1900.

ROYAL NAVY AND ARMY MEDICAL SERVICES.

CABINS.

A circular letter has recently been issued by the Admiralty with reference to the appropriation of cabins in H.M. ships, and notifying certain alterations in Article 537 of the King's Regulations and Admiralty Instructions.

Special cabins will be appropriated for the executive officer, the navigating officer, the engineer officer, the medical officer, the accountant officer, and the chaplain, the particular duties of the officer guiding the selection, and in ships fitted as flagships, for the secretary and flag-lieutenant. The appropriation of these cabins is not to be altered without Admiralty sanction.

The remaining cabins will be numbered and such numbers are not to be displaced. *So far as circumstances permit*, numbered cabins are to be provided for all ward-room officers.

When a ship is commissioned officers will be allotted the numbered cabins in the following order of priority:

1. Watchkeeping lieutenants in the complement.
2. Engineer lieutenants in the complement who keep watch at sea.
3. Other wardroom officers not keeping watch in the order of their relative seniority.

The subaltern of Marines is, as heretofore, always to have a cabin.

Officers who have been allotted numbered cabins should be allowed to choose their particular cabins in the order of their relative seniority.

There is some reason to fear that under the article as now modified cases of hardship to naval surgeons may arise, inasmuch as it will practically abolish the main advantage attaching to relative rank. Apparently all lieutenants and engineer lieutenants of whatever seniority will have the right to claim a cabin before a surgeon unless he be the principal medical officer of the ship. In our view, every medical officer borne on the complement of a ship should be provided with a cabin; but it would appear that in future on large ships the junior of three, and on smaller vessels the junior of two, may not be able to obtain a cabin for himself. Much will of course depend upon how the new regulation is worked; and should surgeons be deprived of cabins, their existence on board a man-of-war will be rendered intolerable.

ROYAL ARMY MEDICAL CORPS.

Examination for Commissions.

As will be seen from the advertisement columns, an examination for not less than forty commissions in the Royal Army Medical Corps will be held on January 26th, 1906, and following days. Candidates who are over the regulated limit of age at the date of the examination will be permitted to deduct from their actual age any period of service in the field after October 1st, 1899, that they could reckon towards retired pay and gratuity, if such deduction will bring them within the age limit. Applications to compete should be made to the Secretary, War Office, 68, Victoria Street, London, S.W., not later than January 16th, 1906.

INDIAN MEDICAL SERVICE.

Examinations for Commissions.

An examination for the selection of candidates for not less than twenty-one commissions in the Indian Medical Service will be held in London on January 23rd, 1906, and the four following days. Applications for admission to the examination must be sent in on or before January 9th, 1906. Copies of regulations for the examination together with other information can be obtained on application to the Military Secretary, India Office, London, S.W.

The late Dr. William Fuller of Oswestry, who died in August last, at the age of 88, left estate of the net value of £41,357.

French Surgical Congress.—The French Surgical Association will hold its nineteenth congress in Paris in 1907 under the presidency of Professor Monprofit of Angers. The following questions are proposed for discussion: (1) The surgery of the large venous trunks, to be introduced by MM. Lejars and Morestin; (2) ectopia of the testicle and its complications, to be introduced by MM. Souligaux and Villard; (3) routes and means of access into the thorax from an operative point of view, to be introduced by MM. Willems and Loison.

MEDICO-LEGAL AND MEDICO-ETHICAL.

CORONERS AND THE MEDICAL PROFESSION.

The Coroner for South-West London.

Mr. Troutbeck has again illustrated the peculiar method of his procedure, a procedure which has been criticized many times in our columns as, if not illegal, certainly inexpedient and calculated to bring the ancient office of coroner into evil repute. In a report published by the *Sun* of an inquest held on November 6th at Wandsworth, we note the following points:

The inquest was upon the body of John Wapel, aged 57, and from the evidence it appeared that Dr. McMurtry was called in to see the patient when he was in a dying condition: in fact death took place some twenty minutes afterwards. Dr. McMurtry made an examination as best he could, and found some evidence of bronchitis, but frankly told the relatives that he could do nothing for the patient. Quite correctly he refused to give a certificate of death and an inquest was ordered. It would naturally have been expected that Dr. McMurtry would have been directed by the coroner to make a *post-mortem* examination, but following his usual procedure Mr. Troutbeck ordered Dr. Freyberger to perform this, thereby entailing an additional, and, as we consider, an unnecessary expense to the county. Dr. Freyberger discovered double pneumonia as the result of his special pathological examination, and the jury returned a verdict of death from natural causes, and, partly at the instance of the coroner, censured Dr. McMurtry for wasting the public time, to which censure the learned coroner added another for "wasting the public money." The coroner, in his summing up, stated that there really was no cause for the inquest to have been held. We fail to see, therefore, why he directed one to be held, seeing that the coroner is the sole judge of the necessity, and without his order none could have been held.

Again, if there was no necessity for an inquest in this case, *a fortiori* there could have been no need to put the public to the cost of Dr. Freyberger's fees.

The censure directed against Dr. McMurtry was absolutely uncalled-for, and an abuse of the powers of the coroner's court. This case is an additional proof of the necessity for amended legislation in this respect. The present Coroners Act is shown by the procedure of Mr. Troutbeck to be an anachronism, and must, if justice is to be done, be replaced by an enactment more in accordance with the necessities of the present day.

The Coroner for Manchester.

A correspondent sends us some further particulars with regard to the inquest as to the death of an old woman in a lunatic ward of Withington Workhouse, which was referred to in our Manchester correspondence last week.

It appears that the coroner did not call either the visiting or the resident medical officer of the hospital, but asked questions of the superintendent of the imbecile wards as to the cause of death, and thus ignored the direction to call as a witness the legally-qualified medical practitioner who attended "the deceased at his death or during his last illness."

The case has been discussed by the Chorlton Board of Guardians, and it is not surprising to learn that they directed their clerk that in future the Board shall be legally represented at inquests whenever he thinks the circumstances of the case may require it.

REVIEWS OF MEDICAL WORKS IN THE LAY PRESS.

Mr. H. K. Lewis (London) writes: I should be glad if you would allow me to state in the columns of the British Medical Journal that no copies of Dr. Suckling's recent book were sent to any lay newspaper from my office. The editorial department of a certain London halfpenny paper sent a special messenger here for an advance copy, but the application was refused, and the editor was informed that any notice of the book in their paper would be regarded as objectionable, and unwelcome alike to the author as a professional man, and to myself as a publisher of medical works. Unfortunately, notions of etiquette apparently do not prevail in certain quarters.

PARTNERSHIP AGREEMENTS.

M R C S.—(1) A. is senior partner in a firm A. and B. C. contemplates joining this firm, but in the deed of agreement A. stipulates for absolute power in the matter of fees, expenses, and whole control of the practice, and gives his word that whatever he does shall be for the good of the practice. Should C. consent to do this? (2) The agreement, as sent to a representative of C., consists of fifty-six pages, and is complicated. A. urges that the whole business, payment of premium, etc., included, could be concluded in about a week. Is not this unusually quick work? (3) A. is anxious that the agreement should be signed, and the premium, or the greater part of it, paid two months before the partnership actually commences. Is such a payment of premium usual?

*** (1) The power claimed by A. is altogether at variance with a partnership. If C. consented to it, he would not be a partner really, but a permanent assistant, with some extra privileges. (2) Under the circumstances, a longer time than a week should be allowed. (3) It is usual for a considerable instalment of the premium to be paid on the signing of the partnership deed.

BUYING A PRACTICE.

"AJAX" writes that he has recently bought a general practice the receipts from which average £830 per annum. He now finds that about £60 per annum was derived from pure dental work, no mention of which was made by the vendor. Was he justified in putting down this £60 in his general receipts without disclosing the source from which it was derived?

*** It would have been better to have disclosed it, but it is doubtful whether the vendor was bound to do so. A certain amount of dentistry is frequently done by general practitioners.

AGREEMENT WITH *LOCUM TENENS*.

B. M. A. writes that he was sent by a medical agent as a *locum tenens* to a practitioner, who had written for one, for at least a fortnight. On his arrival he was told that he was required for only four days, or at the most six. He wishes to know whether he can legally claim payment for a fortnight.

*** If our correspondent was engaged by the medical agent for a fortnight, and in pursuance of that engagement travelled down to the practitioner in question, he is entitled to recover payment for a fortnight. If, however, he consented to a varying of his engagement by agreeing to stay with the practitioner for a shorter time than had been previously arranged, he is only entitled to payment for that time.

FEES RECEIVED BY *LOCUM TENENS*.

A PRACTITIONER writes that he was away for a holiday and engaged a *locum tenens* to attend to his practice at a specified rate of pay. During his absence the *locum tenens* was asked to act for another medical man in the district, and did so, receiving payment for his services. While acting for the latter he was called to a case of suicide, and, in consequence, was ordered to make a *post-mortem* examination and to attend the inquest on the deceased. On leaving the *locum tenens* retained all the fees. (1) Was the *locum tenens* justified in acting for the other practitioner and in accepting money for same? (2) Was he justified in retaining the *post-mortem* examination and inquest fees? He was not in any one's service at the time he made the *post-mortem* examination and attended the inquest.

*** (1) The *locum tenens* had no right to act for any other practitioner while in charge of his principal's practice, and, if he did, it was his duty to hand over any payment he received to his principal. (2) He was legally entitled to the *post-mortem* examination and inquest fees.

NOTIFICATION FEES PAID TO *LOCUM TENENS*.

DERBYSHIRE writes that a medical practitioner went for his holiday, leaving a *locum tenens* in charge of his practice. Two cases of infectious disease were notified by the *locum tenens* while in charge. To whom ought the fees for notification to be paid by the sanitary authority—the principal or the *locum*?

*** The fees must, of course, be paid to the *locum tenens*, but it is the duty of the latter to hand them over to the principal.

MEDICAL ETIQUETTE.

O. C. M. writes that a girl was brought to his house; on discovering that she was being attended by another doctor six miles away, near her home, O. C. M. explained that he could not undertake the treatment of the case, but would examine her and communicate with her doctor. He did so, giving his diagnosis and suggested treatment by letter. In spite of this, he is accused by his colleague of a breach of etiquette, and he wishes to know whether he ought to have refused to examine the patient without the consent of her own medical adviser.

*** Our correspondent seems to have acted with proper courtesy towards the girl's own medical advisor. A patient has a perfect right to consult any medical man, and a medical man has a right to see any patient who comes to his house to ask for his opinion; but where, as in this case, he discovers that the patient is under the care of another practitioner, it is right and courteous that he should do as our correspondent did. To complain of his conduct under these circumstances is unreasonable.

FEE FOR PROLONGED ATTENDANCE ON POLICE CASE.

FAG writes that he was recently called by the police to a case of opium poisoning. He was detained from 12.15 a.m. till 8.30 a.m., and during seven out of the eight hours the patient was unconscious and required the most assiduous attention. Our correspondent gave hypodermic doses of atropine, caffeine and strychnine at intervals, and used the faradic current at frequent intervals and also washed out the stomach. He asks what would be a reasonable charge to make in sending in his account to the chief constable?

*** We are of opinion that a fee of two guineas would be a perfectly reasonable one to expect in such a case.

ILLNESS OF ASSISTANT.

T. writes that while acting as an assistant to a practitioner he was taken ill and had to be removed to a hospital. He was an in-patient there for six weeks, and on convalescence left the service of his principal with the latter's consent. He wishes to know the extent of the principal's liability for salary.

*** This depends on the agreement between principal and assistant. As a general rule, the contract between a principal and his assistant is one terminable by a month's notice on either side. Where an assistant becomes disabled by sickness, the principal may determine the contract at once by paying a month's salary in lieu of notice. If he elects to keep him in his service and to wait till his recovery, but at a later period changes his mind, the assistant would be entitled to his salary while ill, and could claim a month's notice of the determination of the contract.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

Y. WOULD be glad to know details of a successful apparatus for biliary fistula. Is there more than one variety of self-retaining catheter (rubber) on the market? The instrument makers seem to have a limited experience in the matter. What is wanted is an apparatus that will catch the bile without leakage.

W. H. M. is anxious to hear the views and experience of correspondents on two points relating to the treatment of breech presentations if discovered early in labour. Lately he has been rather sharply criticized by the parents of a somewhat important baby, presenting by the breech, and unfortunately stillborn, for not turning. He had discovered the condition by abdominal palpation. The woman was a multipara, and he had such confidence in a happy termination that he did not think it wise to interfere. His reply to the criticism was that he had deemed non-interference with the presentation the wiser course all round, and that he had used what skill he possessed. On these facts he raises two questions: (1) Is cephalic version, by whatever method, the proper treatment for breech cases which have been discovered sufficiently early to allow its performance? (2) Do not most primiparae lose their full-time children if these present by the breech? If the latter is usually the case then he supposes that cephalic version should be the rule. On the other hand, there would appear to be some possible disadvantages accruing in the practice of the average man—for example, occurrences such as premature rupture of the membranes, transverse presentation, extended legs, displaced limbs, certain results of wrong diagnoses, results from unrecognized twins (he has seen most skilful men "miss" twins), and, lastly, sepsis.

STEAM MOTORS.

PERPLEXED would be glad to hear from any country practitioner who has used an English steam motor car (White, Turner, or Stanley) and has given it up. What was the cause of its being discarded, and what are the weak points of steam motor cars, as they seem so admirably adapted for hilly country work?

LIPOMA NASI.

E. Q. desires information regarding the best and most recent treatment for lipoma nasi of several years' standing. Multiple scarification on successive occasions only resulted in slight and temporary improvement. Information regarding multiple puncture with hot needle on successive occasions, and treatment by electrical vibratory puncture or massage will be gratefully received.

ANSWERS.

SIMPLE TEST FOR THE COMPLETE REDUCTION OF FEHLING'S SOLUTION.

F. G. G. writes: In reply to "W. D. G." in the BRITISH MEDICAL JOURNAL for August 26th, 1905, I may say that I was taught the following test in the physiological laboratory at the University of Sydney. It depends on one of the reactions used as a test for copper salts and is probably well known, though I have never seen it described in print:—Draw off a few drops of the Fehling's solution in a pipette, filter, let the filtrate run into a mixture of two drops of 50 per cent. acetic acid and one drop of solution of ferrocyanide of potassium. If the Fehling's is not completely reduced there will be a red-brown precipitate (cupric ferrocyanide).

LETTERS, NOTES, Etc.

FOREIGN BODY IN RECTUM.

A. writes to call attention to the treatment of a case of foreign body in the rectum, attributed to a French surgeon in the BRITISH MEDICAL JOURNAL of November 4th, p. 1244. If the feeding bottle could have been reached by the hand inserted into the rectum, any obstetrician could have delivered the foreign body by small midwifery forceps alone; or the widest part of the fenestra of one blade passed over the neck of the bottle (presuming the neck were furthest off, judging by description) would have been a much more surgical proceeding than that described, and far less injury would have been inflicted on the patient, who actually died.

ERRATUM.—In the heading of the paper by Dr. W. S. Syme published in the BRITISH MEDICAL JOURNAL on November 4th, p. 1204, the word "internal" should be read for "anterior," and "Assistant Surgeon" take the place of "Aural Surgeon."

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

Eight lines and under	£0	4	0
Each additional line	0	0	6
A whole column	2	0	0
A page	5	5	0

An average line contains six words

Advertisements should be delivered, addressed to the Manager, at the Office, not later than first post on Wednesday morning preceding publication; and if not paid for at the time, should be accompanied by a reference.

Post Office Orders should be made payable to the British Medical Association at the General Post-Office, London. Small amounts may be paid in postage stamps.

N.B.—It is against the rules of the Post Office to receive letters at *Postes Restantes* addressed either in initials or numbers.

Clinical Remarks

ON

THE OPERATIVE TREATMENT OF SIMPLE FRACTURES.

[With Special Plate.]

By W. ARBUTHNOT LANE, M.S., F.R.C.S.,

Surgeon to Guy's Hospital, and Senior Surgeon to the Hospital for Sick Children, Great Ormond Street.

It is now more than thirteen years since I devised the operative procedures in the treatment of simple fractures of the long bones which I have systematically employed since with uninterrupted success. The early and somewhat violent opposition to this method of mine, by which fractured bones can be restored accurately to their original form, has now completely died away and the operative treatment of simple fractures is now recognized as the most efficient means we have at our disposal.

The operative treatment of simple fractures is comparatively simple in the large majority of cases, and if due care be taken and reasonable skill be exercised the risk is practically *nil*.

In a certain small proportion of cases the bone may be too friable or too thin or too much broken up, and the surgeon may therefore be unable to restore it completely to its original form. Even in these circumstances he can almost always obtain a much better result by operating than by any other form of treatment. Many complaints have been made by surgeons who have failed to obtain good results by operation. For example, some have said their screws would not hold, and others that they could not obtain union. These failures are due to the fact that the very moderate cleanliness necessary to obtain a good result in ordinary operations is quite insufficient to meet that required when a large piece of metal, whether steel or silver, is left buried in the wound.

If the surgeon has not succeeded in such a simple operation as wiring fractures of the patella without killing or permanently disabling many of his patients, he had better bring himself to believe that the results of the generally accepted methods of treatment are excellent, and that any statements to the contrary are exaggerated or imaginary, and leave operations on recent fractures alone, since they may test the methods and skill of the operator to the utmost.

In performing these operations, not only must you not touch the interior of the wound with your hands nor permit the patient's skin to do so either, but you must never let any portion of an instrument which has been in contact with your skin or with that of the patient touch the raw surface. All swabs must be held in forceps and applied to the wound in that manner. They should not be handled in any way previous to being used. After an instrument has been used for a length of time, or forcibly, it should be reboiled or placed in a germicidal solution.

I have occasionally seen beginners employ the handle of a knife or dissecting forceps to separate adherent parts, or to displace some structure, instead of using the particular instrument made for that purpose. I need not remind you that this must not be done on any pretext whatever. It is probably unnecessary to say that no germicidal or other liquid should be introduced into the wound.

Mode of Operation.

The details of the operation are as follows: Get the skin thoroughly clean. This may sometimes take several days, as the thick indurated epidermis of the foot and knee is often difficult to remove. I find large moist compresses with careful scrapings most effective in enabling one to get rid of suspicious material. When this has been properly done, a germicide should be applied to render the skin as clean as possible. Choose a situation for your incision which will involve a minimum chance of damage to important structures and a maximum advantage from the point of view of accessibility.

Do not hesitate to make an incision of a length sufficient to enable you to deal effectually with the fragments. There is no greater mistake than to increase the difficulty of the operation by employing too small an incision. Its length adds in no way to the risk the patient runs, but usually adds to his safety, since it enables the surgeon to deal with the fragments more readily. Having made the incision, exclude the skin of the patient from the wound. This can be done very well by attaching sterile cloths to the cutaneous margins of the incisions by forceps such as those illustrated in Fig. 1.

The fragments are exposed and examined, and when all clot and material intervening between them have been removed they are brought into accurate apposition. To do this much traction may be necessary, combined with the leverage action of elevators and the approximating influence of powerful long-handled forceps. The long forceps I employ are very powerful, and are made with a limited grasp to facilitate their use. They are illustrated in Fig. 2.

If there be any bleeding, I employ strong compression forceps long enough to allow that portion of the handles which have come into contact with the fingers to protrude beyond the area of the wound. Their grip is sufficiently firm to occlude the vessel if they are kept on for a time, and so the necessity for a ligature is obviated. Fig. 3 represents this instrument, the head being shown full size also.

Having obtained accurate apposition, you employ screws, silver wire, or staples to retain the fragments in apposition. In some conditions one of these instruments is more advantageous than another, while in others they may all be used advantageously to obtain a perfectly firm secure junction.

Generally speaking, the screw is by far the most efficient and most powerful means by which the fragments can be retained immovably on one another. Remember, in gauging the size of the drills you intend to employ in drilling the hole for any particular screw, that the calibre of the barrel of the screw is much larger than that of the thread, and that an aperture in dense bone which readily admits the thread may be much too small for the barrel, and, if the screw is driven into it, the bone may be hopelessly comminuted. The drills and screwdrivers should be of sufficient length to avoid any risk of the fingers touching the wound. Fig 4 represents the handle and bits which I find most serviceable. If silver wire be employed it should be pure, and before use it should be raised to a red heat in a flame to increase its flexibility.

The form of staple I now employ resembles that devised by Dr. A. Jacoel,[1] and has since been slightly modified by Dr. Dujarier. They are peculiar in that the portions which penetrate the bone are serrated transversely to prevent their working out.

If you expect much oozing, a drainage tube may be employed for a day or two with advantage. In most cases a splint is required after the operation, but occasionally, as in fracture of a femur ankylosed at the hip joint in a position of considerable flexion, it may be impossible to employ any support.

Cases.

This is well brought out in the case of a woman, aged 46, who had sustained a fracture of the right femur about its middle third. As long as she could remember the right hip-joint had been fixed in a position of considerable adduction and flexion. She had compensated for the considerable shortening by the use of a boot with a thick cork sole. The radiograph showed that the femur presented a spiral fracture, and that both fragments were more or less comminuted.

Owing to the position of the ankylosed limb it was clear that the femur could only be restored to its original form and functions by operation, and that failure to do this would be disastrous to the individual, since all her mechanics had been modified in consequence of the deformity.

The fragments were exposed through a vertical incision in the outer side, and extending along the length of the thigh. The several pieces of bone were successfully laced together by stout silver wire, and the connexion had to be rendered sufficiently strong to ensure immobilization of the bone without the use of a splint, which could not be applied under the circumstances.

Fig. 5 shows the perfect condition of the limb four months after the operation. The patient lay on her back during convalescence, the deformed leg resting for support on its normal fellow.

Figs. 6 and 7 illustrate a case of simple fracture of the lower end of the femur in a boy aged 15. The injury was a very serious one indeed, and but for the prompt treatment of the doctor who saw him immediately after the injury it would probably have resulted disastrously, since the inner sharp margin of the lower end of the shaft had almost pierced the skin. The fracture was accompanied by laceration of the adductor muscles and by effusion of blood about the great trochanter. Every attempt at restoring the lower fragment to its normal position resulted in failure. The fracture was exposed by a vertical incision along the inner aspect of the

leg, and with considerable difficulty the lower fragment was restored to its normal relationship to the shaft. The line to the left of the shaft of the femur in Fig. 7 indicates the periosteum which was detached by the accident. It was



Fig. 1.

retained immovably in position by the use of three staples which perforated the bone at various angles. The subsequent progress of the case was as satisfactory as it was uneventful; the functions of the joint were gradually restored.

Fig. 8 illustrates a case of fracture of the tibia and fibula, the fracture of the fibula being too high up to be shown on the plate. The tibial fragments were brought into apposi-

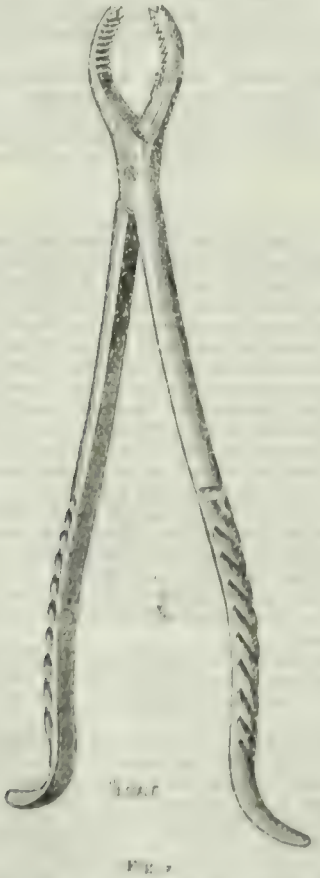


Fig. 2.

tion by means of traction, approximation forceps, and elevators. As the fracture involved a shorter length of the tibia than usual it was necessary to employ a long screw run in very obliquely, and supplemented by a couple of strong silver wires which assisted in retaining the fragments immovably in position.

Fig. 9 illustrates a serious injury of the forearm in which

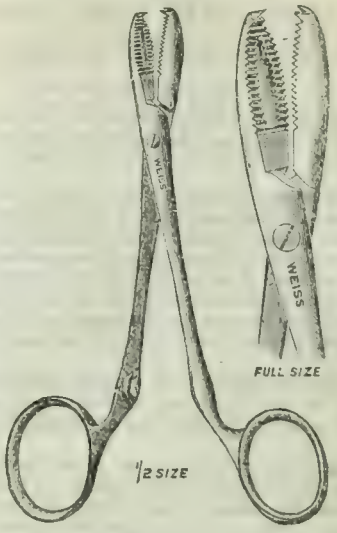


Fig. 3.

both bones were broken and the planes occupied by the several fragments altered very materially. As the damage was produced by direct violence, there was much injury to the soft parts and considerable extravasation of blood and consequent inflammation. By means of free incisions and much manipulation the fragments were got into very fair apposition. Fig. 10 represents the result obtained some months after the injury when the normal functions of the arm were restored almost perfectly. Had an extensive operation not been performed, the arm would have been practically a useless one.

Fig. 11 illustrates the condition of a bad Pott's fracture,

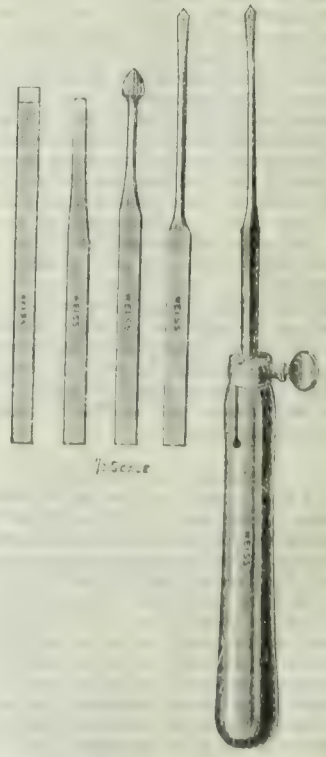


Fig. 4.

which term may be more scientifically described as comprising the various fractures which result from excessive abduction of the foot. In this as in most severe cases the foot was dislocated backwards very considerably. An oblique incision



Fig. 5.—Femur four months after operation for spiral fracture.



Fig. 8.—Fracture of tibia treated by screw and wire.



Fig. 6.—Fracture of lower end of femur.



Fig. 7.—Same case as Fig. 6, after treatment, showing staples.



Fig. 9.—Fracture of both bones of forearm.



Fig. 10.—Same case as Fig. 9, after treatment.



Fig. 11.—Pott's fracture of ankle.



Fig. 12.—Same case as Fig. 11, after treatment.

was made over the inner aspect of the ankle-joint, and through it the tibia was brought backwards till the broken fragment could be fitted accurately in position. A screw was driven through the malleolus into the lower end of the tibia, fixing the fragments securely in apposition, and restoring both the tibia and fibula to their normal form. The result was excellent (Fig. 12), the patient rapidly regaining the use of the limb.

These cases illustrate very well the use of the several appliances—screw, wire and staple—under varying conditions, and all with complete success.

I may say that age is no barrier to operation; indeed, in old people an operation is often more imperatively called for than in vigorous life, for the reason that prolonged recumbency in old age is a very serious matter, often entailing of necessity a fatal result. The shock sustained because of surgical interference is trivial, and old people bear operations very well indeed.

REFERENCE.

[1] Une agrafe pour sutures osseuses, *La Presse Médicale*, December 25th, 1901.

OPERATIVE INTERFERENCE IN FRACTURED CLAVICLE.

By H. N. TAYLOR, M.A.Cantab., M.A., M.D.Dublin, F.R.C.S.Edin.

Surgeon-Captain, Army Medical Reserve; late (temporary) Surgeon-Captain in the Army.

The patient, No. 6074 Private A. E. S., 5th Royal Irish Lancers, was admitted into my wards in the Colchester Station Hospital on March 28th, 1903, having sustained a fracture of the left collarbone, which was treated by Sayre's method. At the end of three weeks, however, there was no sign of union or of any formation of callus; the ends of the bone were, therefore, well rubbed on each other, and the arm secured as before.

After the lapse of another fortnight, there being still no evidence of any attempt at union, the arm was simply placed in a sling, in the hope that the somewhat limited mobility thus allowed would excite the formation of the encircling callus usual under such circumstances.

By the end of May, however, not only had the clavicle remained ununited but there was not the slightest evidence of any preparation for union, and the patient was very anxious that "something should be done" to enable him to return to his duty—an anxiety which was increased by the fact that a comrade who had been admitted on March 29th had now been discharged from the hospital. I therefore decided to cut down on the clavicle and wire the fragments.

Adopting Mr. Barker's plan[1] I turned up a semilunar flap including some muscular fibres, and exposed the clavicle. There was no false joint, as in Mr. Barker's case, and no formation of any ensheathing callus, but merely a very thin layer between and strictly limited to the surfaces of the fracture.

I decided not to remove any bone, but after refreshing the surfaces, I passed a stout silver wire from above downwards and a little forwards, about ⅜ in. from the ends of each fragment. The wire was tightened and twisted, thus securing firm apposition, and the ends were nipped off and bent well under the bone to guard against any subsequent irritation from the pressure of braces or shoulder straps.

The wound, which was dressed with iodoform gauze and a large pad of salicylic wool, healed readily, though there was some little delay from a small stitch abscess.

The arm was secured to the side by firm bandaging, and there was at no time any exuberant formation of callus. The man was discharged on "sick furlough" on July 14th with an apparently firmly-united clavicle and with no impairment in the mobility or usefulness of the arm.

If I may venture to express an opinion, I think that this operation might be performed more often than it is in the case of delayed union of the clavicle, with the advantage to the patient of a considerable saving of time, and in those cases of deformity, especially in women, produced by a vicious union, Jacobson considers the procedure quite justifiable. The structures beneath the clavicle are, as the same authority points out, rendered quite safe by the interposition of the subclavius muscle.

My thanks are due to Major Beyts, R.A.M.C., for his kind assistance during the operation.

REFERENCE.

[1] Jacobson's *Operations of Surgery*, vol. i, p. 187, 1902.

A CASE OF CONGENITAL SYNOSTOSIS OF BOTH UPPER RADIO-ULNAR ARTICULATIONS.*

By S. HAMILTON, B.A., M.B., B.Ch.,

Newport, Mon.

The defect in this case is clearly shown in the two radiographs which are here produced. There is a complete bony fusion of the radius and ulna at their proximal ends in both arms. I have described it as synostosis because the condition is congenital, as the history will show, rather than

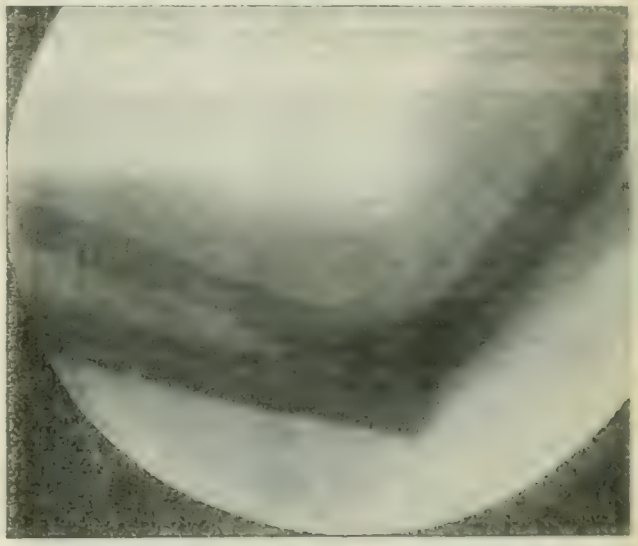


Fig. 1.—Normal elbow (for comparison).

ankylosis, because this term is generally applied to the result of a pathological process, such as acute suppurative arthritis, tuberculous joint disease, or chronic rheumatism.

The patient is a man aged 32. His mother, who is alive,



Fig. 2.—Congenital synostosis of right upper radio-ulnar articulation.

gives a very clear history of the case. Nothing unusual was noticed until between the age of 3½ and 4 years, when he was

* Read before the Monmouthshire Division of the British Medical Association (and patient shown), November 25th, 1904.

sent to an infants' school. The teacher asked him to hold out his hand. He tried but failed to perform the act of supination. The teacher grasped his hand and tried to forcibly supinate it but was unable to do so. She then took the boy home to his mother and told her that there was something wrong with his arms. He was shown to two medical men (since deceased) who expressed the opinion that his arms were in the same condition at birth, suggested an operation, but did nothing. His mother states that previous to the abnormality being noticed he had not suffered from any acute illness or fever. He has never had an accident to his arms. He has never had rheumatism. There is no history of syphilis either congenital or acquired. There are no cicatrices about his elbow or other joints to indicate old suppurative disease. He never remembers any swelling of his joints. Necessarily he has never had the power of supination and pronation, and his forearms were in exactly the same state when first I saw him six or seven years ago. He works every day as a fitter's helper. In doing his shopping he finds it most inconvenient to receive change, as he cannot take it in the palm of his hand, but can only grasp it between his index finger and thumb.

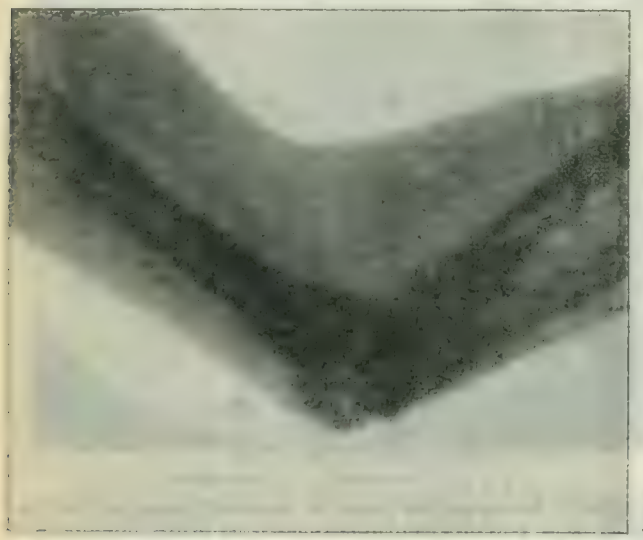


Fig. 3 Skiagraph of left upper radio-ulnar articulation (congenital synostosis).

The morphological condition is a rare one. I have been unable to find any similar case recorded in any surgical work. Dr. Hepburn Professor of Anatomy at Cardiff University College, who has kindly consulted for me the *Transactions* of anatomical societies and various works of reference on anatomy, cannot find a parallel case reported. In looking over the comparative anatomy of the mammalia for a homologue, we must look back some distance from *homo* before we come across a loss in the power of supination and pronation. In many mammals the bones of the forearm (antebrachium) are more or less coalesced. In bats and some ungulates—for example, the ruminants—the radius is enlarged at the expense of the ulna, of which only the proximal third remains ankylosed. The radius and ulna are completely ankylosed in camels. Among some insectivora they are ankylosed inferiorly. They ankylose at both ends in sirenia. They are never ankylosed in carnivora or rodentia, or monkeys and apes.

In man in the second month of embryonic life the elbow-joint appears. At first the radius is in front of the ulna; afterwards the radius moves sidewards so as to lie parallel to the ulna, and by the rapid growth of the head of the radius the ulna becomes flattened or concave so as to form the lesser sigmoid cavity of the ulna.[1]

In the case here described we are dealing with a condition which presents a partial return to one of the lower vertebral forms of the elbow-joint, whereby, owing to an arrest of growth, the joint cavity has failed to develop and the tissue which ought to have advanced to the formation of joint surfaces has remained in the embryonic condition until it was transformed into fibrous tissue and afterwards into bone, thus constituting a synostosis.

The radiographs which illustrate this paper were done for me by Mr. W. Jones Greer, F.R.C.S., whose kind offices I beg to acknowledge.

REFERENCE.
[1] Karl v. Bardeleben. *Handbuch der Anatomie des Menschen.* Vol. xi.

THE INFLUENCE OF POSTURE ON THE NORMAL CARDIAC SOUNDS AND ON THE NORMAL CARDIAC DULLNESS.

BY WILLIAM GORDON, M.D., F.R.C.P.,
Physician to the Devon and Exeter Hospital.

THE changes in cardiac murmurs which occur on change of posture are so pronounced as to suggest the inquiry whether alteration of position also affects the normal heart sounds. Careful observation of normal hearts will soon convince any one that change of position does affect the normal heart sounds, sometimes slightly, sometimes markedly. The change produced is a change in the character of both sounds. It will generally be found that, in the upright position, the first sound is sharper, whilst the second sound is duller, than in the recumbent position, so that the two sounds are much more like each other in the upright position than they are in the recumbent. Indeed, it may be fairly said that the "lub-dup" of the textbooks is, in most cases, a true description only of the sounds when the body is recumbent, and that "lup-lup" more exactly describes them when the body is erect.

How can these differences be explained? I have shown elsewhere[1] that the changes in cardiac murmurs produced by



Fig. 1.

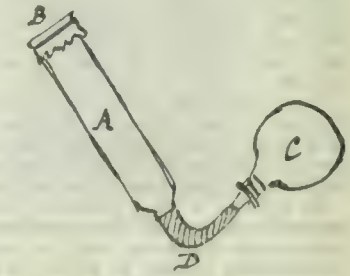


Fig. 2.

change of position can be explained partly by the action of gravity on the intracardiac currents, partly by the flattening of the chest which occurs, as I have pointed out, when the patient lies on his back.

As the changes now referred to are changes in the *character* of the sounds, differences in the depth of the chest cannot be held to account for them, and the question reduces itself to this: "Can the action of gravity account for the changes?"

If the position of the valves of the heart in the upright and recumbent positions are considered it becomes obvious that, when the first sound is produced, a weight of blood is resting on the mitral and tricuspid valves if the person examined be *recumbent*, but that if the person be erect no such weight rests on these valves. Also it is obvious that, when the second sound is produced, a weight of blood is resting on the aortic and pulmonary valves, if the person be *erect*, but that if he be recumbent no such weight rests on these valves. Therefore the question resolves itself into this (since the first sound is admittedly in part valvular): "Does a valvular sound vary according as a fluid weight does or does not rest on the valves producing it?" The following experiment shows that it does:

A glass tube A, 3 cm. in diameter, has one end open and the other drawn out to a neck. A membrane, B, of inelastic waterproof material is stretched not quite tightly over the broad end. The neck is connected with a ball syringe, C,* by a short length of rubber tubing, D. The whole apparatus is filled with water, so that a slight sudden pressure on C makes B suddenly tense, and thus produces a sound. It will be found that when A is held, as in Fig. 2, with B upwards, that is, with no weight of fluid on B, this sound is sharper than when A is held with B downwards,

* The ball syringe is kept hand upwards in both experiments to prevent any air bubbles it may contain from getting into the tube A.

as in Fig. 1—that is, with the weight of the water in A resting on B.

The observed changes in the normal heart sounds produced by change of posture may therefore be reasonably explained, at least in part, by the different relations of the valves to the weight of blood in contact with them in the different positions.

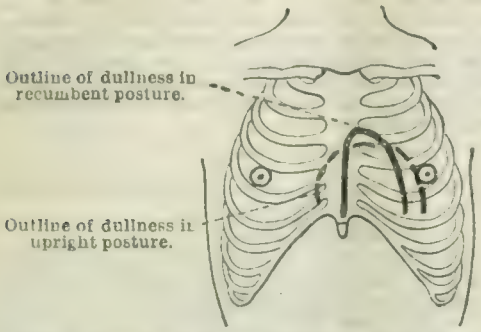


Fig. 3.—Diagram to illustrate the change in the limits of cardiac dullness with change of position.

Posture also affects the deep cardiac dullness. In the erect position the cardiac dullness drops nearly a rib's breadth (on an average) further from the clavicle than in the recumbent position, and (in the average adult) becomes about $\frac{3}{4}$ in. wider from side to side at the level of the fifth costal cartilage, the increase being greater to the right than to the left, that to the left being about $\frac{1}{2}$ in. The accompanying table, of 36 consecutive unselected cases with normal hearts, illustrates these changes.

Thirty-six Unselected Cases with Normal Hearts.

Sex.	Age.	In Hospital for—	Changes on Rising from Recumbent to Erect Posture in— Width of Dullness.	Height of Dullness.†	Depth of Chest.*
M.	7	Circumcision ..	+ $\frac{3}{4}$ in.	— 1 rib, 1 space	+ $\frac{1}{4}$ in.
F.	7	Accident	+ $\frac{1}{2}$,,	— 1 ,, 1 ,,	+ ,,
M.	10	Accident	+ $\frac{3}{4}$,,	— $\frac{3}{4}$,,	+ ,,
M.	13	Accident	+ $\frac{1}{2}$,,	— 1 ,, 2 ,,	+ ,,
M	13	Hypospadias ..	+ $\frac{1}{2}$,,	+ 1 ,,	+ ,,
F.	14	Flat-foot	No change	No change	+ ,,
M.	15	Accident	+ $\frac{3}{4}$ in.	— $\frac{1}{2}$ in.	No change
M.	15	Accident	+ $\frac{1}{2}$,,	— 1 rib, 1 space	+ $\frac{1}{4}$ in.
F.	16	Housemaid's knee...	+ $\frac{3}{4}$,,	— $\frac{3}{4}$,, 1 ,,	+ ,,
F.	16	?	+ 1$\frac{1}{2}$,,	— $\frac{3}{4}$,,	+ ,,
F.	16	Lateral curvative ...	+ $\frac{1}{2}$,,	No change	+ ,,
M.	17	Accident	+ $\frac{1}{2}$,,	No change	+ ,,
M.	17	Accident	+ 1$\frac{1}{4}$,,	— 1 rib	+ ,,
M.	17	Varicocele	+ 1 ,,	— 1 ,,	+ $\frac{1}{2}$,,
M.	17	Hammer-toe	+ $\frac{3}{4}$,,	— $\frac{3}{4}$,,	+ 1 ,,
M.	18	Hernia	+ 1 ,,	— 1 ,,	+ $\frac{1}{2}$,,
M.	18	Accident	+ $\frac{1}{2}$,,	— $\frac{3}{4}$,,	+ 1 ,,
M.	18	Varicose veins ..	+ 1$\frac{1}{4}$,,	No change	+ 1$\frac{1}{2}$,,
F.	18	?	+ 1 ,,	No change	+ $\frac{3}{4}$,,
F.	19	Synovitis, knee ..	+ $\frac{3}{4}$,,	— 1 rib, $\frac{1}{2}$ space	+ ,,
M.	20	Varicose veins ...	+ $\frac{1}{2}$,,	— 1 ,,	+ ,,
F.	21	Synovitis, knee ..	+ $\frac{3}{4}$,,	— $\frac{3}{4}$,,	+ ,,
F.	22	Phlebitis	+ $\frac{1}{2}$,,	?	+ ,,
F.	23	Hip disease	+ $\frac{1}{2}$,,	+ $\frac{1}{2}$ rib, 1 space	+ ,,
M.	24	Varicocele	+ $\frac{1}{2}$,,	+ $\frac{1}{2}$,,	+ ,,
F.	24	Tuberculous glands	+ 1 ,,	— 1 ,,	+ $\frac{1}{2}$,,
F.	26	? Appendicitis ..	+ 1 ,,	— 1 ,, 1 space	+ ,,
M.	29	Perineal abscess ...	+ $\frac{1}{2}$,,	No change	+ ,,
M.	30	Sebaceous cyst ...	+ 1 ,,	— 1 rib	+ ,,
M.	30	? Carcinoma, penis	+ $\frac{1}{2}$,,	$\frac{1}{2}$,,	,,
M.	31	Varicose ulcer ...	+ 1 ,,	— $\frac{1}{2}$,, 1 space	No change.
M.	33	Tuberculous knee..	+ $\frac{3}{4}$,,	— 1 ,, 1 ,,	+ 1$\frac{1}{2}$ in.
M.	34	Talipes	+ 1 ,,	— $\frac{3}{4}$,,	+ 1 ,,
F.	35	Ulcer of leg	+ 1$\frac{1}{4}$,,	— 1 ,, 1 space	+ $\frac{3}{4}$,,
F.	36	"Uterine"	+ 1 ,,	?	+ $\frac{3}{4}$,,
M.	43	Tuberculous ankle .	+ $\frac{1}{2}$,,	— $\frac{1}{4}$ in.	+ 1 ,,

* Antero-posterior diameter measured at nipple level.
† Nearness of upper limit of dullness to clavicle.
+ Indicates nearer to clavicle.
— Means further from clavicle.

It will be seen that in several cases the upper limit does not alter, and that in three cases it alters in the reverse direction to the usual one. The change, however, in the width of dullness is strikingly constant, so much so that it seems curious that it has not been observed before. [The same change in width of dullness is even more striking in disease. Thus, in a case of hypertrophy and dilatation due to combined aortic and mitral disease, I have found the dullness on recumbency only 5 in. wide, whilst in the erect position it was actually 8 in. wide.]

How are these changes to be explained? I think in this way: On assuming the erect position the heart tends to fall lower in the chest, and, owing to the forward slant of the anterior part of the diaphragm, to also fall forward against the front wall of the body. Thus the cardiac dullness should tend to sink somewhat lower, and to widen out when the upright position is assumed, which is just what usually happens. [In disease, where the weight of the heart is increased, this drop on change to the erect posture may be very marked, the apex being sometimes found to beat, when the patient stands or sits, in a lower space than when he lies on his back.]

In a much smaller number of cases, however, the upper limit of dullness actually rises instead of falling. If this is due to the heart being anatomically more firmly held up than is usual, and to its upper part coming forward into contact with the chest wall when the person stands, it might be reasonably expected that the dullness in those cases would widen less than usual, and this is actually found to be the case in the very few examples included in my table, in each of which the widening was only $\frac{1}{4}$ in.

Whether the explanations I have offered of these changes in cardiac physical signs produced by change of posture be correct or no, I think that the importance of the changes themselves will be considered sufficient to justify me in bringing them to the notice of the Society.

REFERENCE.
1 BRITISH MEDICAL JOURNAL, March 15th, 1902, Posture and Heart-murmurs.

AN AID TO PROGNOSIS IN TYPHOID FEVER.

By ROBERT M. SIMON, M.D., F.R.C.P.,
Physician, General Hospital, Birmingham.

For a doctor to be able to form an opinion as to the probability of recovery in cases of enteric, must undoubtedly be of service to a patient and an encouragement or reason for extra care to the physician. In forming an opinion as to the chances of recovery or of death, the experience of the last fifteen years has led me to look to the amount of urine passed in the later stages of the disease as a guide of the utmost value.

Polyuria is a well-known symptom at the end of nearly all febrile disorders, but I am not aware that special attention has been paid to it in connexion with typhoid fever, in which, however, it is a very marked and conspicuous condition.

Towards the beginning of the fourth week, seldom earlier, sometimes a little later, the urine increases in quantity from 30 oz. or thereabouts to 60, 80, or even 100 oz. daily. For the last nine years, in order to confirm or disprove my estimate of the importance of this fact, I have had daily observations made of the amount of urine passed by every patient suffering from enteric fever. It was found that polyuria occurred not only in every case that was doing well, but also in many cases of great severity in which no general improvement or amelioration of symptoms could be observed. It was found that even in severe cases, if polyuria occurred, the patients all recovered.

It does not appear to be necessary, in order to estimate the value of polyuria as a means of prognosis, that the patient should be in a state to voluntarily empty his bladder.

I saw recently at Great Malvern a gentleman, aged 58, who had in the fourth and fifth weeks of an attack of typhoid lost control of the bladder sphincter. His general condition was one of extreme prostration. His temperature was continuously high, his tongue dry, his abdomen distended, heart sounds feeble, and pulse dicrotic. Recovery seemed to be out of the question, and my visit had been suggested to satisfy absent relations. I learnt that it was impossible to keep his bed dry on account of the enormous amount of urine voided. On this symptom alone I ventured to give a favourable prognosis, which was justified by his ultimate recovery.

The importance of the absence of polyuria in a case supposed to be doing well, as shown by a normal temperature and a quiet pulse, was well exemplified recently in the case of a boy under my care in the General Hospital. Despite a very real general improvement, I deprecated attaching too much importance to his general well-doing, as it was not associated with an amount of urinary excretion such as was

to be expected in the fourth week of the disease. For this reason his diet was not improved, and he was sedulously watched.

A sharp but short relapse occurred, at the end of which the urine passed increased from 30 to 40 oz. to 80 90, and even 110 oz., and an uninterrupted convalescence took place.

In no case in which polyuria was noted have I known perforation to occur, and in no case has haemorrhage of any moment ever occurred after polyuria has been established, and, furthermore, the occurrence of relapse is of the most extreme rarity when polyuria has once begun.

If these observations are correct and can be substantiated by others, it seems certain that we have in polyuria a valuable aid to prognosis. In the hope of obtaining the benefit of the experience of others who have the opportunity of seeing many cases of typhoid, I have ventured to publish an opinion which has been to me a great help and safeguard in estimating the chances of recovery of my patients.

A NOTE ON THE PRODUCTION OF DIARRHOEA BY THE BACILLUS PRODIGIOSUS.

By LOUIS C. PARKES, M.D., D.P.H.,

Medical Officer of Health for the Borough of Chelsea, and Consulting Sanitary Adviser to H.M. Office of Works.

At the end of last July I was asked to investigate the cause of an outbreak of diarrhoea in a large country mansion. About three weeks prior to the date of my visit the first attacks commenced, and had been more or less continuous ever since, nearly every one of the eighteen members of the household having suffered, and some having had more than one attack. The attacks appear to have been of a mild nature, like ordinary summer diarrhoea of a mild type. The only child living in the house escaped attack.

An examination of the premises showed that the drainage and sanitary arrangements were quite modern and in very good order. The water was the same as that supplied to the neighbouring town, where there has been no unusual diarrhoea, and the milk from the farm had been examined and found good. The little girl was the chief milk consumer of the household, and she had escaped attack.

About the time that the illness commenced some alterations had been effected with a view to improving the ventilation of the larder, more openings being made to secure ventilation from an adjoining yard enclosed by a high garden wall. The steam escape pipe of a new hot-water cylinder had also been made to discharge into this yard close to the larder door. Since these alterations had been carried out it had been noticed that the cooked meat, and sometimes puddings, kept in the larder were affected with a superficial pinkish growth. This had been sent to London for examination, and was pronounced to be a growth of *Bacillus prodigiosus*, and harmless.

An examination of the yard from which the larder drew its chief supply of air showed that there had been a continually recurring ejectment of hot water from the steam escape pipe on to the yard surface, which was defectively paved at this point with old, worn, and soft bricks. Owing to the enclosed nature of the yard a steamy saturated condition of the atmosphere must have been caused by the escape of so much hot water, a good deal of which must have soaked into the ground, and no doubt the recent heat of the weather had accentuated this condition.

Not being satisfied under the circumstances as to the alleged harmlessness of the *Bacillus prodigiosus* and its products in cold meat and cold pudding, and having also regard to the fact that the little girl who escaped attack never ate cold meat, I advised the temporary discontinuance of the larder, and the taking of such measures as would be required to carry off all surface water from the yard and the prevention of any soakage into the ground around the larder. The larder was also to be cleansed and disinfected before being taken again into use.

The family left the house for the summer holidays two or three days after my visit, and I now learn, by the courtesy of the owner, that my instructions were fully carried out in every particular, and that since the return of the family there has been no recurrence either of the pink bacillus or of any illness.

I am not aware of any hitherto recorded instance of illness due to the growth of *Bacillus prodigiosus* on food. It is evident that the growth must have been favoured by the atmospheric conditions prevailing in the adjoining yard; and possibly the bacillus was originally present in the soil of the yard, and was mechanically raised by the action of the escaping jets of hot water, which were ejected at a height of 7 or 8 ft. above the yard surface from the steam escape pipe.

Although the facts above mentioned are highly suggestive of the *Bacillus prodigiosus* being the cause of the diarrhoea, the chain of evidence is not complete; and I am informed by the medical practitioner who attended the cases that the attacks continued when he had no reason to believe that the patients had partaken of food contaminated by the bacillus. The occurrence, however, seems of sufficient importance to be recorded with a view to further investigation into the alleged harmlessness of the bacillus.

FURTHER OBSERVATIONS ON PARANGI (YAWS).

By A. CASTELLANI, M.D.,

Colombo, Ceylon.

On June 17th, 1905, I read a paper before the Ceylon Branch of the British Medical Association on the presence of spirochaetes in cases of parangi.[1] A few days before I had sent a note on the first two cases to Sir Patrick Manson, who kindly communicated it to the meeting of the British Medical Association held at Leicester on July 27th. At the meeting of the Ceylon Branch I was able to communicate that I had found spirochaetes in three cases out of six; that in two of the cases two varieties of spirochaetes could be seen, one thicker and with large waves, one thinner, extremely delicate, identical with or resembling greatly the *Spirochaete pallida* of Schaudinn. In the third case, in which the lesions had not yet ulcerated, there were only spirochaetes of a very delicate variety. Besides the spirochaetes, in several preparations a few rare, peculiar, oval bodies containing granules of chromatin could be seen. In the meantime I had sent a specimen taken from the first case to Professor Schaudinn. Professor Schaudinn has been so kind as to examine the preparation, and has written me a letter, dated Hamburg, August 8th, 1905, in which he states that in the preparation I sent he has observed three varieties of spirochaetes, one of which, very delicate, resembled closely the *Spirochaete pallida*.

As in the last two months I have had the opportunity of studying some more cases, and as I have recently had the good fortune of Dr. Daniel passing through Colombo and giving me his advice in the interpretation of several preparations, I think it may be desirable to publish the latest results of the investigation.

Technique.

Films are made in the usual way from scrapings of the eruptions. It is advisable to select lesions in which a secondary pyogenic infection has not yet taken place. Giemsa stain, which I have used only lately, gives good results; Leishman's method, however, gives also good results if the staining is done according to the following instructions:

1. Let the alcoholic solution of Leishman act for five minutes without fixing the films previously.
2. Mix the stain with equal or double amount of distilled water, and let it act for half an hour to several hours.
3. Wash with distilled water, and leave a few drops of it on the films as usual for half to one minute.
4. Blot and examine with very high power.

Description of the Spirochaetes Found.

In the preparations taken from ulcerated lesions, according to Schaudinn and myself, various spirochaetes are present. One form is rather thick and takes up easily the stain; it is morphologically identical with the *S. refringens* of Schaudinn. One form is thin, delicate, with waves varying in size and number, and with blunt extremities; I proposed for this variety the name of *S. tenuis obtusa*. A third form is also thin and delicate, but is tapering at both ends; I named it *S. tenuis acuminata*.

In non-ulcerated lesions there may be found a spirochaete which I believe to be identical with the *S. pallida*. The organism is extremely delicate, thin, and generally tapering at both ends. The length varies from a few microns to 18 and 20 microns. The number of waves varies also, but they are generally numerous, uniform, and of small dimensions. Sometimes two spirochaetes may be seen attached together, or apparently twisted one on the other. Two organisms close together and nearly parallel, but united at one end, as described in *Spirochaete pallida* by Schaudinn and McWeeney, have been seen. With the microscopes at my disposition the

minute structure of the parasite cannot be studied satisfactorily.

Frequently the patients presenting spirochaetes do not show them constantly, but only at long intervals. Weeks may pass before a single spirochaete is found; according to my experience, no spirochaetes are observed in lesions which are healing.

Description of some Peculiar Bodies found in Cases of Parangi.

In several preparations taken from patients presenting spirochaetes and also from patients suffering from parangi in whom the spirochaete could not be found, I have observed some peculiar bodies, which are represented in Fig. 2. These bodies are generally oval or roundish, 5 to 8 microns in length and 4 to 6 in breadth, sometimes they may have smaller or much larger dimensions.

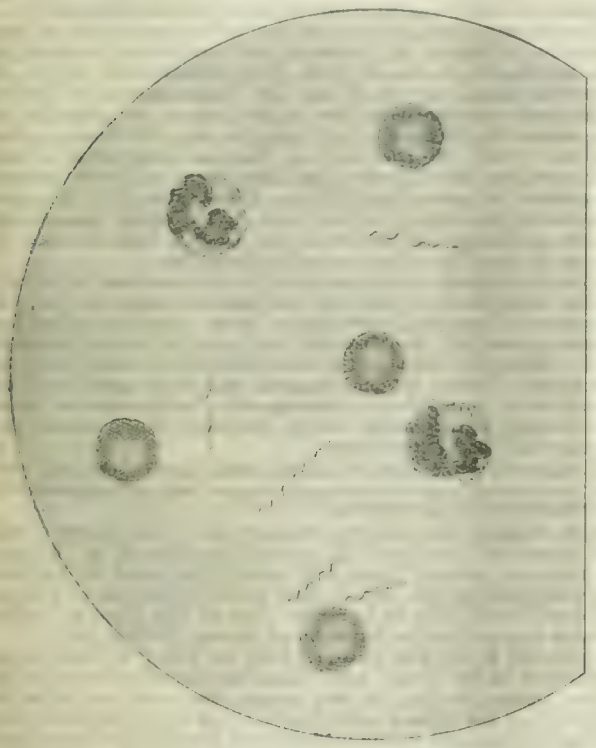


Fig. 1.—Spirochaetes found in parangi.

In preparations stained by Leishman's method these bodies are stained slightly purplish or bluish and contain chromatin. The chromatin may be collected at one point near one of the extremities, or may be scattered at several points. There is no pigment. What these bodies really are, and whether they have anything to do with a developmental stage of the spirochaetes, I cannot yet say. I have shown them to Dr. Daniel, who is also of opinion that they must be the developmental stage of a protozoon, and that the scattering of the chromatin would point to the parasite being in a stage of preparation for division.

CASES.

CASE I.—Singhalese boy, General Hospital, Colombo. Typical ulcerated fungoid lesions on the lower limbs and feet. Scrapings from the ulcers show numerous spirochaetes, some of which are very delicate.

CASE II.—Singhalese beggar. Ulcerations healing. No spirochaetes present.

CASE III.—Singhalese beggar. Ulcerated lesions. Spirochaetes of various appearance present.

CASE IV.—Singhalese woman, General Hospital, Colombo. Typical lesions in the yaws stage. No spirochaetes present. An enlarged gland is excised from the neck and films made. No spirochaetes found so far.

CASE V.—Child, Singhalese, General Hospital, Colombo. Spirochaetes absent.

CASE VI.—Singhalese woman, General Hospital, Colombo. Scrapings are made from a fresh eruption not yet ulcerated. Extremely delicate spirochaetes present; also a few oval bodies presenting chromatin, as already described. No bacteria present.

CASE VII.—Singhalese woman, General Hospital. Numerous ulcerated lesions; spirochaetes found, together with numerous bacteria. Scraping the ulcers deeply till blood only exudes, spirochaetes only and a few oval bodies are found.

CASE VIII.—Singhalese child, General Hospital. Spirochaetes absent, some extremely rare oval bodies present.

CASE IX.—Singhalese girl, Hospital for Tropical Diseases. Ulcerated fungoid lesions; spirochaetes, some of which were of a delicate variety, were found for several weeks, then they disappeared, and for the past month no spirochaetes have been found.

CASE X.—Singhalese girl, Hospital for Tropical Diseases. Spirochaetes absent.

CASE XI.—Singhalese woman, Hospital for Tropical Diseases. This is a very typical case. In fresh eruptions spirochaetes of an extremely thin variety only and no bacteria are found. Oval bodies are also present, though very rare.

Summary.

1. In 7 out of 11 cases of parangi spirochaetes have been found. Of these spirochaetes there is an extremely delicate variety which in my opinion is absolutely identical with the *Spirochaete pallida* of Schaudinn. If my hypothesis should be proved to be wrong a proper name for the organism might be *S. pallidula*.

2. Peculiar oval, chromatin-containing bodies—represented in Fig. 2—have been observed in 4 cases, 3 among those presenting spirochaetes and 1 which did not show any spirochaetes.

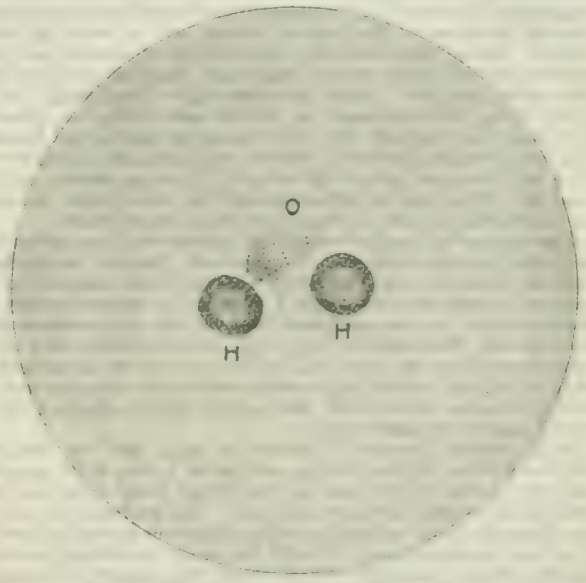


Fig. 2.—H, Red blood cells, parangi (yaws); O, peculiar oval body, the dots represent chromatin.

I wish to express again my greatest thanks to Professor Schaudinn for his kindness and for the most valuable help and advice he has given me.

REFERENCE.

1 *Journal* of the Ceylon Branch of the British Medical Association, July, 1905.

A NEW SANATORIUM FOR NEW YORK.—New York City is about to expend £400 000 on the erection of a city sanatorium for consumptives. The site is on Staten Island. The spot is said to be the highest on the Atlantic Coast between Maine and the Gulf of Mexico. The ward buildings will be in the form of an arc; all the windows are to extend to the floor and open on verandahs. The roof is to be treated as a roof garden, one portion being enclosed in glass. Two buildings are to be devoted exclusively to advanced cases, which will be treated in separate rooms. Patients in all stages of the disease will be admitted. The sum already allocated for the purpose (£40,000) will, it is estimated, suffice to provide accommodation for at least 100 patients.

BEQUESTS TO MEDICAL CHARITIES.—Under the will of the late Mr. William Keeling, of Nottingham, which has now been proved, the following institutions, all in Nottingham, are to receive the income of a sum of about £20,000: The General Hospital, the General Dispensary, the Midland Institution for the Blind, the Children's Hospital, the Women's Hospital, and the Nottingham and Midland Eye Infirmary. At the end of 21 years the capital sum is to be divided between them. The same institutions are also given a contingent reversionary interest in a further sum of some £20,000.

THE

Fitz Patrick Lectures for 1905.

DELIVERED IN THE ROYAL COLLEGE OF PHYSICIANS, NOVEMBER 14TH AND 16TH.*

By NORMAN MOORE, M.D.,

Fellow of the Royal College of Physicians of London; Physician to St. Bartholomew's Hospital.

Lecture I.

JOHN MIRFELD (1393), AND MEDICAL STUDY IN LONDON DURING THE MIDDLE AGES.

Mr. President,—It is right that these lectures should begin with a commemoration of Dr. Thomas FitzPatrick, the member of this College in whose honour they were founded by Mrs. FitzPatrick.

He was born in 1832, at Virginia, in Cavan, received his school education at Carlow, and graduated in the University of Dublin. His medical career at Trinity College was distinguished, and is fitly commemorated there by a scholarship bearing his name. He had an inborn love of learning, which was, of course, increased in the college of Burke and Swift and Goldsmith, and which continued without abatement to the end of his life. I had the advantage of knowing him and of enjoying his conversation, which was that of a man who had read and re-read the great books of Greek and Latin, of English, French, German, Italian, and Spanish literature till they had become part of his mind. He was devoid alike of love of display and of pedantry, and his one desire in knowing much was that it might help him to know more.

The history of medicine is a subject which has never been neglected in this College. Dr. Richard Bartlot, of All Souls' College, Oxford, our President in 1527, was learned in the particular part of it on which I propose to lecture to-day. It was included in the profound and varied attainments of Dr. John Caius, President in 1555. Sir Hans Sloane, our President from 1719 to 1735, made collections of materials for medical history which begin with twelfth-century manuscripts of Hippocrates and Galen, and extend to the letters of the physicians of his own time.

Dr. Baldwin Hamey, a Censor in 1640, and or forty-two years a Fellow of the College, wrote in Latin a biographical history of the physicians of his time from the year 1628, entitled *Bustorum Aliquot Reliquiae*. He endeavours to give the grounds of the celebrity or the character of each physician in a few sentences, and though he never sacrificed truth to brevity, he is not always free from the conceits which had been the fashion of his youth, and which the majestic composition of Milton and Dryden's perfect use of English had not yet driven from literature at the time of Hamey's death. His account of Harvey is an example:

> Of William Harvey, the most fortunate anatomist, the blood ceased to move on the third day of the Ides of June in the year '57, the continuous movement of which in all men, moreover, he had most truly asserted.
>
> What more: His statue in his robes, and the marble carved with his epitaph in his museum in our College, as well as his annual celebration will easily atone to Harvey for this my brevity.
>
> Unless perhaps it may be pleasing to add an epigram I made: That according to the opinion of Copernicus as to the motion of the earth, and of Harvey as to the movement of the blood, we are here:
>
> Ἐν τε τροχῷ πάντες καὶ ἐνὶ πᾶσι τροχοί
>
> in Latin
>
> Tunc agit atque agimus nos rota nosque rotam.
>
> Or in English:
>
> Then are we all in a wheel and a wheel in us all.

Books, like living teachers, not only give instruction in their subject but lead to future work in it, and the modest little book of Hamey, which only exists in manuscript, was probably the origin of Dr. William Munk's *Roll of the Royal College of Physicians of London*, a well-arranged collection of medical biography.

Dr. MacMichael, Censor in 1820, wrote part of the *Lives of British Physicians*, in which Dr. Munk also had a share, and which is a piece of good literature containing much information. The light and entertaining style of MacMichael's *Gold-Headed Cane* must not exclude it from consideration as a contribution to medical history.

Dr. John Freind of Christ Church, Oxford, was elected a Fellow of our College in 1716. He was already known for his classical learning, and soon became eminent in the practice of his profession. In 1725 and 1726 he published *The History of Physick from the Time of Galen to the Beginning of the Sixteenth Century*. He begins with Oribasius and Aetius and ends with Linacre, our founder. He had studied every author whose works he describes, and was as learned in the Arabian and mediaeval writers as in the Greeks.

He is always interesting even in his accounts of the most prolix writers of the least brilliant periods, and his book is valuable because he was skilled in the practice of medicine, as well as deeply read in the medical treatises of classical, mediaeval, and modern times. His history is one of those few writings on the subject of a particular profession which, like Sir William Blackstone's *Commentaries on the Laws of England*, deserve a permanent place in general literature.

I need only remind you of the numerous works of our Harveian librarian, Dr. Payne, of his FitzPatrick lectures, of his introduction to the reprint of the Cambridge edition of Linacre's Latin version of the *De Temperamentis* of Galen, of his numerous contributions to the history of epidemics, of his admirable biography of Linacre, and his many other medical lives in the *Dictionary of National Biography*, to convince you that the history of medicine is not neglected among the present Fellows of this College. Like Freind, Dr. Payne has illuminated the history of medicine by his sound knowledge of the pathology of his own day. It is a difficult task to lecture in the place of so learned a physician.

A few months ago, while watching the excavations necessary for the foundations of the new out-patient rooms of St. Bartholomew's Hospital, I saw dug up from many feet below the surface a piece of Samian ware and a coin of the Emperor Nero. Some few days later another coin of the same Emperor was found. These bronze *dupondii* had been used in that commerce of which their contemporary Tacitus speaks in the first passage in literature which contains the name of the famous city in which we live:

> At Suetonius mira constantia medios inter hostes Londinium per rexit, cognomento quidem coloniae non insigne, sed copia negotiatorum et commeatuum maxime celebre.

Such relics of the business transactions of the Empire and the numerous examples of mosaic pavements, of Roman inscriptions, pottery, glass, and coins discovered at various times throughout the city, as well as the fragments of Roman walls and roads, help us to realize that in the time of Galen London was within the influence of Roman civilization.

Lucretius is the first author whom we know to have been mentioned in our island, and if Quintus Cicero, in the army of Julius Caesar, feeling its way among the southern tribes of Britain, had the leisure and taste to think over that great poet we may believe that in the more settled times of the Antonines there were Roman citizens in London to whom the writings of Galen were known.

London had some share, however small, in the intellectual life of Rome, and through Rome felt the influence of ancient Greece in literature and in science. There is nothing improbable in the supposition that men who had consulted Galen as to their health may have walked along the Roman causeway in Cheapside, on which fifteen hundred years later Wren placed the foundations of the present tower of St. Mary-le-Bow, or may have watched the Britons bringing products of fishing or of the chase up Walbrook from the Thames in skin-covered wicker boats.

The tides of the world's mind ebb and flow, but however great the ebb some tide-marks generally remain, showing where the waves of intellect have been. Among the few traces left of the intellectual life of the Romano-British period are the *Confession* of Patricius and the *Epistle against Coroticus*. The "imperitia" and "rusticitas" of which the writer complains take nothing from the interest of these compositions as the authentic literary remains of Britain in the fifth century. As the letter in which Quintus Cicero wrote of Lucretius from the camp of Julius Caesar is the first indication of the spread of the literature of the civilized world to our island, so the *Confession* and the *Epistle* to the Christian subjects Coroticus, the work of a Roman citizen, seem the last remains, however remote, of living literature of the classical period in Britain.

When the son of Calpurnius set forth on his missionary travels the legions had already been withdrawn, and the tribes from whose union the English nation is mainly derived were pouring into Britain, making settlements after their own manner, and destroying the Romano-British civilization.

* In accordance with the terms of the foundation, these lectures are to be published at length in a separate book. The present report is to be regarded as a statement of the chief subjects considered.

Kent and Sussex, Essex and East Anglia, Wessex, Mercia, and Northumbria were carved out of Britain, kingdoms still marked in the vowel sounds and accents of their natives as we may observe them in the out-patient rooms or wards of our hospitals. After constant wars a Rex Anglorum arose strong enough to maintain his supremacy, and an Anglo-Saxon nation was formed and grew in strength. My learned predecessor in this lectureship has shown what progress was made in our subject, and incidentally how it was studied, and has maintained that the medicine and general science of that time were not unworthy of the countrymen of Caedmon, of Bede, and of Alcuin.

The Norman Conquest placed England once more in direct and constant relation with the rest of the Western world. For more than a hundred years London was a city in which foreign influence predominated. Though the Conqueror granted a charter (still preserved in the custody of the City at Guildhall) to Deorman, a prominent Saxon of London, and though the districts which ultimately made up the city and were very early called wards, were presided over by men with the Saxon style of Alderman, it is nevertheless clear that soon after the Conquest the chief influence in London was not that of the Saxons.

The Bishops of the See, the Deans of St. Paul's, the Canons of that Cathedral, the Deans of the College of St. Martin-le-Grand, many of the secular clergy, the magnates of London, the officials of the Exchequer, the justiciars were almost all of Norman, or French or Breton, or Italian birth or descent.

The charters of the time show the predominance of foreigners by the way in which the preambles so frequently mention the French first. A grant to St. Bartholomew's Hospital, made in London by John, Earl of Moreton, afterwards King John, on the eve of All Saints 1193, begins:

Johannes comes Moretonie omnibus hominibus et amicis suis Francis et Anglis presentibus et futuris salutem.

Another somewhat earlier charter of a great landowner in Essex begins:

Serlo de Marci omnibus hominibus suis Francis et Anglis presentibus et futuris salutem.

Another written in London and copied into the *Cartulary* of St. Mary of Dunmow:

Walterus filius Roberti omnibus sancte matris ecclesie filiis et omnibus hominibus suis Francis et Anglis salutem.

The civil institutions of London assumed a French complexion and the terms "Communa" and "Maior" were introduced from France.

I have dwelt upon this close relationship with France because it has an important bearing on the nature of our early hospitals.

In this time, when foreign influence was predominant in London while the great English nation of the future was slowly being formed, physicians are now and then mentioned in records still extant.

King Henry I had a physician named Grimbald, who appears as a witness in a very solemn Charter of 1105, in which Henry, King of the English, with the consent of Matilda, his wife, grants ten hides of land in Lifesholt to the Abbey of Abendon. The witnesses' names succeed their crosses or marks, and begin with: "Ego Henricus rex redicionem et donacionem hanc signavi." Ranulf, Bishop of Durham; John, Bishop of Bath and Wells; Hervey, Bishop of Bangor; Robert, Bishop of Lincoln; Roger, Bishop-elect of Salisbury; William de Werelwast; Waldric, the King's Chancellor, are the first eight witnesses and their names are followed by the record, "Ego Grimbaldus medicus interfui." Two standard bearers, or dapifers, important officers in the Feudal Court, come next, and four other witnesses follow. Another grant of the same king to the same abbey, giving a hospice in Westminster Street, London, to the Abbot, has as its witnesses Grimbald, the physician, and Nigell de Albini. It was made at Windsor.

The next charter in the beautiful register of the Abbey of Abingdon[1] is addressed to Richard, Bishop of London, and grants land to the Abbey. Its first witness is that Roger, Bishop of Sarum, who afterwards took so active a part in the early wars of King Stephen, and the fourth is Grimbald the physician. It was witnessed at Westminster. Another charter of Henry I to the same Abbey, addressed to the Sheriff (Vice-Comes) of Oxfordshire and executed at Romsey, is witnessed by the Chancellor and by Grimbald. Yet another charter, addressed by the King from Woodstock to Herbert, Bishop of Norwich, the builder of the present choir and transepts of Norwich Cathedral, has for its two first witnesses Ranulf the Chancellor and Grimbald the Physician. A grant of Queen Matilda to Faritius the Abbot and the Abbey of Abingdon is witnessed by Roger the Chancellor (afterwards Bishop of Salisbury) and Grimbald the Physician. An ordinance of King Henry I, issued from Oxford, addressed "Omnibus constabulariis et omnibus fidelibus suis de curia," orders that no one shall stay at Abingdon without the Abbot's leave, and its sole witness is Grimbald the Physician. A charter of Henry I about land at Winicfeld belonging to the Abbot of Abendon is witnessed at Northampton by Roger Bigot and Grimbald the Physician.

Thus it is clear that Grimbald lived in the royal court and travelled about with the King.

Two charters of the reign of Henry I now at St. Paul's Cathedral mention other physicians of the time. William, Dean of St. Paul's, grants to John, the physician, and his heirs, some land in Aldermanesburi, at a rent of three shillings a year, eighteenpence at Easter, and eighteenpence at Michaelmas. The last witness is Gilbert, the physician. William was Dean of St. Paul's from 1111 to about 1136, so that Aldermanbury may be regarded as the earliest recorded residence of a physician in London. It is clear by the position of the physician among the witnesses, and by the absence of any indication of clerical office, that Gilbert was a layman.

Another charter, also at St. Paul's, mentions a physician who, like our founder Linacre, and our original Fellow Dr. Chambre, was in holy orders. It is an agreement made about 1127 between William the Dean and the Canons of St. Paul's, and William de Marci, a member of a great family whose territorial designation survives in the name of the Essex town of Mark's Tey. After Otnel, son of the Earl; Hugh de Redvers; Aldewin, the Queen's Chamberlain; and Giffard, the Chaplain, Clarumbald, Physician and Chaplain, occurs as a witness, followed by nineteen other witnesses.

The first large monastic foundation in London was the Augustinian Priory of Holy Trinity, Aldgate, and its cartulary is preserved in the varied collection of books and antiquities which William Hunter bequeathed to the University of Glasgow. It contains a copy of a charter addressed to the Bishop of London by Geoffrey de Mandeville the Earl of Essex, who died in 1144, the remains of whose Castle of Plesby may still be seen in Essex. He was Chief Constable of the Tower, and in this Charter he restores to the Priory of Holy Trinity a mill and some land next the Tower which he had taken from them. The first witness of this charter is his wife Rohesia, and the two last are Ernulf the physician and Iwod the physician. Mr. J. H. Round, in his history of Geoffrey de Mandeville,[2] conjectures that the presence of these two physicians and of a Templar indicate that the restoration was made when this Earl, who was one of the great lords who made the state of England intolerable in the reign of Stephen, was on his deathbed slowly dying of an arrow wound in the head. This document, though connected with London by its address to the Bishop, was probably attested near Burwell, where the Earl lay.

An original charter, written later in the same century, was undoubtedly attested in London and by a London physician. It chances to be the earliest document relating to St. Bartholomew's Hospital in which a physician is mentioned, and is a grant of some land on the south side of Newgate Street in London from Gilbert, Prior of the Augustinian Canons of Butley in Suffolk to the brethren of the hospital. It was written between 1186 and 1189. The physician is the last of nineteen witnesses to this charter. Hubert Walter, Dean of York, is the first witness, who, though not a physician, was a man of science. This great man was first a clerk in the service of his relative Ranulf de Glanville, Chief Justiciar of England, and the earliest of English legal writers. Hubert was a Baron of the Exchequer in 1184, was Dean of York in 1186, and in 1189 became Bishop of Salisbury. He went to the Holy Land with Richard Coeur de Lion, and was one of the first band of pilgrims admitted by the Mussulmans to the Holy Sepulchre. In 1193 he became Archbishop of Canterbury and Chief Justiciar of England. In May, 1194—when Richard, after his release, left England—Hubert Walter was left as Chief Governor of the country. Having thus risen to the highest rank as an ecclesiastic, a statesman, and a lawyer, he appears, in November, 1197, in the chronicles as a man of science, the first reformer of the standards of England. He engaged in the difficult task of making uniform throughout the realm all weights and measures, whether of capacity or of length, "in bladis et leguminibus tam in civitatibus quam extra," of wine and of cloth. It is no detraction from the wisdom of his ordinance that, like many similar measures of later times, it failed to produce the uniformity intended, owing to the tenacity with

which men adhere to the familiar things of the household, the farm, and the market.

A charter in the British Museum relating to the hospital of St. Cross at Winchester, dated April 10th, 1185, of which the first witness is King Henry II himself, "Henrico illustri rege Anglorum," and which is also witnessed by Hubert Walter, has two physicians among its witnesses. "Magistris Hamone et Ricardo medicis."

King Henry was going abroad with Heraclius, the patriarch of Jerusalem, and Roger de Molins, Master of the Hospitallers, and these physicians were accompanying him, and were not the attendants of the Hospital of St. Cross; that hospital, indeed, was from the first intended as a refuge for the relief of poverty and not of sickness. Its inmates are called not infirmi, but pauperes. In this charter Richard, formerly archdeacon of Poictiers and a distinguished official of the Court of Exchequer, but then Bishop of Winchester, increases the number of those relieved from 113 to 213. The seals attached to this fine specimen of the penmanship of its period are perfect, and on one of them is a figure in a canopied bed with a hard-looking bolster, a representation of a twelfth-century bed such as the poor of that hospital and the patients of other hospitals of that time may have occupied.

Master Ranulphus Besac, that is of Bisacia, a contemporary of Dr. John of London, who was physician to King Richard I in Palestine, and afterwards lived to old age in London, related to Matthew Paris how when Saladin took the Prince of Antioch prisoner (Reginald de Chatillon is probably intended[1]) he was sent to try and arrange his release. Saladin was sitting in his court, and the captive Christian knight was led in with his arms bound.

"What," said Saladin, "would you do to me were I your prisoner as you now are mine?"

"I would cut off your head, and do it myself because though an infidel you are some kind of king," said the Christian knight.

Saladin said "Et ego te incontinenti decollabo," rose, and asked for his sword.

"Take, dog, this my head, thou shameful hairy bearded lean-faced and vile-eared Pagan. I have no more to say for myself than that I commend my soul to God."

Saladin said "O pertinax nec adhuc moriens vinceris," and with a light blow cut off his head.

Dr. Reginald de Bisacia, who witnessed this terrible scene, lived to the middle of the reign of Henry III, and while he filled the stall of Newington in St. Paul's Cathedral another Dr. Reginald was also known to Matthew Paris.

John of Hertford was elected Abbot of St. Albans on March 27th, 1235, and Matthew Paris, then himself a monk of that abbey, records that two monks, both in priests' orders, were sent to Rome to obtain confirmation of the election. One of these was Magister Reginaldus Physicus. They took formal letters with them, and later in the year came back with the document they sought from Pope Gregory IX. In the obituary of the Abbey of 1212-53 it is noted that this Reginald physician and priest (physicus, sacerdos) died September 21st, 1251.

Matthew Paris[2] in 1255 records the death of three trusted officials of the Queen of King Henry III. Robert Muscegros, her seneschal; Walter de Bradele, her treasurer; and Master Alexander, her physician, "tres viri omni laude dignissimi."

Queen Eleanor had also another physician, Magister Reginaldus de Bathonia,[3] she sent him to see her daughter the Queen of Scotland, and when he came "ad castrum puellarum quod vulgariter dicitur Edenture," he showed his letters to the Scottish Court and was well received. He asked the young queen, when he had a private audience, why she was so pale and depressed, and she admitted the Scots did not treat her kindly. He spoke severely to them as to their treatment of her. After a few days he fell ill, and took to his bed so that some said he was poisoned. When he knew he was dying he wrote to the King and Queen of England and said he had come to Scotland on an unhappy day and that the queen was inhumanly treated by the Scots. Matthew Paris thus records his death.

Magister autem physicus cum virus discordiae et magni venturi mala et dampni irrestaurabilis evomuisset animam miseram exhalavit.

In a charter belonging to St. Albans Abbey and of about the year 1250 of John son of Alexander the Carpenter of Walthamstede, the seventeenth of nineteen witnesses is Adam, the physician, and he is followed by William, his son. Another charter of the same period in the same register is that of John, son of Walter le Lever, granting a rent of six shillings to St. Albans Abbey. William, the physician, is the sixth of the twelve witnesses and it seems possible that this is the son of Adam the physician.

Matthew Paris, friend of King Henry III and of many magnates of the realm in Church and State and living in the premier Abbey of England in the midst of the intellectual life of the time, knew personally five physicians and may have seen two more. From the writings of this historian we can draw up a sort of Medical Register of the time of King Henry III.

ADAM, physician practising at St. Albans.

ALEXANDER, physician to Queen Eleanor of Provence.

BATHONIA, Reginald de, physician to Queen Eleanor of Provence, sent on a mission to the court of Scotland.

BISACIA, Reginald de, Canon of St. Paul's (1217-1243). Served in the crusade with King Richard I: was sent as envoy to Saladin.

JOHN de Sancto Egidio. Doctor of medicine, doctor of laws, doctor of theology: a Dominican: studied at Paris and at Montpellier. Professor at Paris and at Oxford. Sometime physician to the King of France. Physician to the Bishop of Lincoln.

REGINALD, physician: a priest; resident in St. Albans abbey: sent on a mission from the abbey to Rome (1235-1251).

WILLIAM, physician at St. Albans, son of Adam the physician.

That physicians were not numerous in London is suggested by the rarity with which they occur as witnesses in London charters in the long reign of Henry III.

It is clear that considerable attainments were necessary before a man was styled medicus or physicus. His study chiefly consisted in reading books and hearing lectures on books in the university.

Most learned men had read some medicine, or knew something about it, and some ecclesiastics had specially devoted themselves to a study the use of which was so suitable to their profession. Of this kind was the Abbot of Crokestone "in arte medicina erudito," who attended John, in 1216, at Newark. The King had been marching through Suffolk and Norfolk, ravaging the districts which had shortly before yielded to Lewis of France, and reached the Abbey of Swinestead in Lincolnshire, where he slept. He was deeply dejected by the loss of his baggage and treasure in quicksands. He had severe rigors, "acutis correptus febribus," yet, hungry after the march, ate a large meal and drank much new beer. His temperature continued to rise, "febrilem in se calorem acuit fortiter et accendit." Next day, nevertheless, he went on to the Castle of Sleaford. After a night there he was drawn in a horse litter to Newark. He took to bed and was conscious enough to receive the Holy Eucharist and afterwards to nominate his son Henry as his heir and to order the great seal to be affixed to letters patent addressed to the sheriffs and castellans of the realm commanding them to be "ei intendentes." He was obviously getting worse, and the Abbot of Crokestone, in guarded terms, asked him where he wished to be buried, should he die. The King, speaking, no doubt, in French, said, "To God and St. Wulstan I recommend my body and soul." This seems to have been on St. Luke's day, and he died the night following.

His illness thus terminating within a week and beginning with a violent rigor, and aggravated by his moving on from Swinestead instead of staying in bed, may have been acute pneumonia, or an acute gastro-enteritis, aggravated by exhaustion mental and physical. The Abbot of Crokestone "qui Medicus regis tunc temporis extiterat" made an autopsy "facta anatomia de corpore Regio," not for pathological purposes, but "ut honestius portaretur." He carried the viscera "copioso sale conspersa" to his own religious house and there honourably buried them. The body with its proper ornaments was carried to Worcester, where the royal tomb may be seen to this day.

Roger Grosseteste, Bishop of Lincoln from 1235 to 1253, knew Greek as well as Latin, and in his extensive reading he had not neglected medical books, and was able to apply his knowledge. To a preaching friar whose health was imperfect he recommends sufficient food, proper sleep, and good humour, clearly having in his mind the Salernitan lines:

Si tibi deficiant Medici, Medici tibi fiant
Haec tria: mens hilaris, requies, moderata diета.

He advised a friar who had a tendency to melancholia to drink a cup of good wine; and his insistence on its quality when his own ascetic life and the context are considered, shows that he had another verse of the Regimen Sanitatis Salerni in his thoughts:

Gignit et humores melius vinum meliores.

After a prescription in a fourteenth century manuscript (Mirfield) is written "Et dicitur hoc esse probatum per Robertum (leg. Rogerum) Grossetesto Episcopum Lincolni-

ensem." We may be certain that Grosseteste had read the chapter on medicine in the *Liber Etymologiarum* of Isidore of Seville and the *Flos medicinae* of Salernum. His chief friend was a physician, Dr. John of St. Giles, sometimes called John of St. Albans.

The libraries of monasteries and cathedrals always contained books on medicine, and as reading was thought the chief source of medical knowledge, books were even more important to a physician in the middle ages than they are at the present day.

The catalogue of the library of Chaucer's physician is familiar to every one:

> Well knew he the olde Esculapius,
> And Deiscorides and eek Rufus,
> Old Ypocras, Haly, and Galien;
> Serapyon, Razis, and Avycen;
> Averrois, Damascien, and Constantyn;
> Bernard, and Gatesden, and Gilbertyn.

Some such book as *Trismegistus ad Asclepium*, one leaf of which begins with the words "Asclepius iste pro sole," was perhaps in Chaucer's mind when he placed Esculapius in the list.

A copy of *Trismegistus* was in the library of Dover Priory, and the same library, which had in it some 118 medical treatises, contained amongst them works of Hippocrates, Galen, Rhazes, Bernard, and Gilbert, as is shown by the catalogue of the library written in 1389, and thus almost exactly contemporary with the *Canterbury Tales*.

The library of St. Augustine's Abbey at Canterbury contained ten of the fifteen authors mentioned by Chaucer in a collection of 230 or more medical works. Aesculapius, Rufus, Averrois, Damascien, and Gatesden are the writers who were not in the library. The catalogue was written towards the end of the fifteenth century.

The catalogue of the library of Christ Church, Canterbury, contains the names of over 280 medical treatises, including nine of those of Chaucer. The catalogue was written in the time of Prior Henry de Estria, whose name is known to every visitor to Canterbury at the present day, from the beautiful stone screen with finely proportioned geometrical tracery with which he enclosed the choir of that noble church. De Estria ruled from 1284 to 1331, so that he had been prior for twenty years before two of the authors in Chaucer's list had risen to fame, Bernard and Gatesden. Esculapius, Serapion, Rufus and Gilbert, are the others of Chaucer's list absent in the Christ Church Library.

These three catalogues have been printed by Dr. Montague Rhodes James, whose learning we may hope will long continue to produce works which add so much to the fame of the University of Cambridge and of the ancient foundation of which he has recently been elected the head, a foundation to one member of which, Henry Bradshaw, I should indeed be forgetful if I did not express my gratitude when lecturing on my subject of to-day, since he first opened to me the stores of mediaeval literature.

At St. Paul's Cathedral a solitary manuscript of Avicenna remains, given to it in May, 1451, by John Somerset, Master of Arts and Doctor of Law, Chancellor of the Exchequer of England.

Reading and hearing lectures were the chief means used to acquire medical knowledge, but hospitals existed which contained patients with various diseases, and so gave opportunities for observation.

Jacobus de Vitry, Bishop of Acre in Palestine, and a Cardinal, in his *Historia Occidentalis*,[6] written about 1220, shows the nature of the hospitals of his time in France, and consequently of similar institutions in England. He is giving an account of the state of society in the West of Europe:

> There are, moreover, very many associations of men and of women renouncing the world and living by rule in houses of lepers or hospitals of the poor, humbly and devotedly ministering to the poor and the sick. They live according to the rule of St. Augustine. . . . These servants of Christ, sober and sparing towards themselves, and rigid towards their own bodies, abound in compassion towards the poor and sick, and at once minister to them all necessaries to the best of their ability. For Christ's sake they bear the filth and impurities of the patients and the annoyance of almost unbearable smells.

He ends with a eulogium of several good hospitals, and says they are

> a refuge to the poor, an asylum for the wretched, consolations for the mourning, nourishment for the starving, a kindness and diminution of suffering for the sick.

The societies following the rule of St. Augustine were often devoted to the care of the poor, the sick, and the leprous. The frequent contrast in their statutes between *sani* and *infirmi* shows that the sick, and not merely the poor, were their care.

The statutes of the hospital of Angers (Hôtel-Dieu), founded in 1175, ordain that messengers shall be sent twice a week through the town seeking sick persons to be admitted.

> If it chances that at the gate any sick man be found desiring admission, the porter, if a brother (as we should say, one of the staff), shall admit him. If not he shall send word to the prioress, and she shall come at once or send another sister, one not hard or rough, but kindly, and she, if the patient ought to be received, shall admit him.
>
> After he has confessed his sins and received the Holy Communion, if with due devotion he desires to receive it, he shall be carried to bed. The brethren and sisters and the poor are to have the same diet and the same wine unless the weakness of the sick should require better bread and better wine.
>
> The following persons are not to be admitted to the hospital: Lepers, permanent cripples, blind, thieves whose hands and feet have been lately cut off, or foundling children.
>
> Lying-in women are to be received and cared for till well.

The statutes of the Hôtel-Dieu of Amiens of the year 1230 mention that the patients may stay in the hospital seven days after they are convalescent, if they wish.

These passages are sufficient to prove that in France, including the French dominions of the English Kings, there were many hospitals containing such patients as are to be found in our hospital wards at the present day.

In England it is clear that many hospitals were from the first intended for the care of the sick and maimed as well as of the poor. A few were restricted to some particular kind of poor person just as the leper hospitals were restricted to a particular kind of patient.

Several ancient records indicate that St. Bartholomew's in London was arranged on the same plan as the French hospitals. A husband and wife, for example, might be received as a brother and a sister of the hospital. Ralph de Quatremares and Albreda his wife, in the reign of John, gave to St. Bartholomew's Hospital a holding which they held of Westminster Abbey, next the church of All Hallows in Bread Street, with the house on it and all its contents, as well as an orchard which they held of the church of St. Paul in free and perpetual alms.

> And if poverty should come upon us, the brethren of the aforesaid hospital shall minister to us all necessary things as if we were a brother and sister of the hospital in our own house: and further, when it pleases us, they shall receive us into their society.

This last clause may be compared with a statute of the Hôtel-Dieu of Troyes[7] drawn up in 1263:

> Nullus recipiatur cum uxore sua nisi per dispensationem.

This statute shows that in earlier times it had been customary to receive a husband and wife as stipulated by Ralph and Albreda de Quatremares in London, and with other resemblances of arrangement justifies the view that the hospitals under care of the Augustinian order in France and England were foundations identical in function.

Some hospitals in England before the dissolution had become simply homes for poor men and women who had no other infirmity than that of age, but many continued to treat the sick. A passage in the close rolls of the 26th of Edward III shows that St. Bartholomew's Hospital was one of these. It was:

> Ad omnes pauperes infirmos ad idem hospitale confluentes quousque de infirmitatibus suis convaluerint ac mulieres pregnantes quousque de puerperio surrexerint, necnon ad omnes pueros de eisdem mulieribus genitos usque septennium, si dicte mulieres infra hospitale predictum decesserint.

The last part of this extract from the close rolls shows that in the middle ages the benefit of the revenues of a hospital were not always restricted to the sustenance and treatment of patients, but were sometimes extended to the support of orphans whose mothers had not survived their birth. This was naturally done "caritatis intuitu," as the old charters say, just as, equally, at the prompting of charity, we add museums and other means of increasing knowledge, and so relieving not only the patients of our own hospitals but sick men all over the world in ages to come as well as in our own time.

A passage in the will of the charitable Gilbert Chaumpneys, dated 1375, and preserved at St. Paul's Cathedral, suggests that there were patients, in our sense, in the Hospital of St. Thomas the Martyr in Southwark, which now flourishes in Lambeth under the tutelage of St. Thomas the Apostle, and of which my predecessor in this lectureship is so distinguished an ornament. Chaumpneys left a shilling to every leper in London, three beds with linen to the hospital of St. Mary without Bishopsgate, and three to St. Thomas's, and sixpence to every sick person (infirmus) in each of these hospitals.

This charitable man also left sixpence to every prisoner in Newgate and £20 to get debtors out of Newgate, twenty shillings to the prisoners in the Marshalsea, and the same to those in the King's Bench, twenty shillings to every nun in the Convent of Sopwell, with gifts to other nuns and to St. Paul's Cathedral, to fifteen parish churches, and to the fabric of a bridge in the country.

John Mirfeld belonged to the period when the practice of medicine was sometimes exercised by a layman, sometimes by an ecclesiastic, when some medical books were to be found in most libraries, and when in London there were some hospitals in which diseases were treated and might be observed. He was a resident in 1379 in the Convent of St. Bartholomew in Smithfield. This priory was founded in the reign of Henry I, shortly after the hospital of St. Bartholomew by Rahere, the founder of both. The priory had certain relations to the hospital, of which the most important were that the brethren of the hospital had to present their master on his election to the prior and canons for confirmation, and must obtain the same consent for the admission of members into their society, and that a certain share of the food and drink left by the canons must be given to the hospital.

In his medical writings Mirfeld speaks of "magister meus," his instructor in the practice of medicine.

My master operated (he says) in an original way in a case of hydrocephalus in a girl. He rubbed in sulphur ointment twice a day. Then bound a bandage of warm wool on the girl's head and kept it there a month or more. Then he tapped by a cautery in front—water came out slowly. After a time he did the same at the back of the head, and more water came out. In less than a year the girl was well. He closed the wounds with tents.

His master was called to a man in gaol who had stabbed himself so that when he swallowed, food and drink and air came out of the wound. Mirfeld's master joined the parts of the wound carefully, and covered the place with powders and bandages. The man recovered within a month.

His master once treated a woman who had lost her speech. He rubbed her palate with a preparation known as theodoricon emperisticon and with a little diacastorium. She recovered her speech and bore witness to his skill. Was this a case of hysterical aphonia?

An apothecary brought to his master a youth with a carbuncle on his face. His whole neck and throat were swelled beyond belief, and the sick man had already tokens of death; he had no pulse and was fainting. My master said to that apothecary that the youth should go home, for he was about to die in a short time. The apothecary said, "Is there no further remedy?" The physician replied, "I believe most truly that if thou mightest give tyriacum in a large dose there is a chance that he may live." Having heard this the apothecary took him home, and was barely able to get there, and he gave to him about 2 drachms of tyriacum and put him to bed. His head and the affected part broke into profuse perspiration, and after a little there was a general perspiration and his pulse returned. And the apothecary gave him the dose again of his own accord, and that day he was made whole, except for a little sore place, which afterwards healed up, and my master said that he had never seen any one else who had recovered after being in a faint and tremor and especially without pulse.

It is clear that Mirfeld's master was a physician and that, like Chaucer's doctor of physic,

> Ful redy hadde he his apotecaries
> To send him dragges and his letuaries.

The tyriacum which his master used was a preparation attributed to Mithridates, King of Pontus, which from the Augustan age to the eighteenth century was used by physicians. It did not come from Mithridates, says Quintus Serenus Samonicus, for when that King was vanquished by Pompey the medicine found in his casket was worthless.

> Antidotus vero multis Mithridatia fertur
> Consociata modis, sed Magnus scrinia regis
> Quum raperet victor, vilem deprendit in illis
> Synthesin, et vulgata satis medicamina risit,
> Bis denum rutae folium, salis et brevo granum,
> Juglandesque duas, totidem cum corpore flous.

Mithridatium, afterwards called theriaca, contained opium. It began with thirty-eight ingredients, then had fifty-three, and later still seventy-five, and continued to be made and prescribed long after the identity of many of its ingredients had been lost. Dr. William Heberden, one of the greatest of English physicians, wrote in 1745 an essay entitled *Antitheriaca*, relating its history and attacking its use.

From another passage in the Breviarium it may be inferred that Mirfeld had studied at Oxford. One Master Nicholas Tingewich, he says, related in his lecture theatre at Oxford that he rode forty miles to an old woman who had cured innumerable men of jaundice, and gave her a sum of money for teaching him her method of treatment. This seems like the statement of one who had heard the lecture.

Nicholas Tyngewich was King Edward I's physician, and he is mentioned in two documents of 1306. One is the King's request that he may be allowed to hold the living of Reculver, and the other Pope Clement V's letter confirming the presentation. His name also occurs in a charter of the same period at St. Paul's Cathedral.[3]

The late Mr. J. L. G. Mowat, who edited in the *Anecdota Oxonienses* in 1882 the "sinonima" or glossary, the only part of Mirfeld's works which has been printed, points out that John Mirfeld represented the Convent of St. Bartholomew in Court in the reign of Richard II, in 1392 and 1393. Mr. E. A. Webb has discovered that he gave the convent the manor of Walhale in 1392.

His chief medical work, as is shown by the calendar which is attached to it in its finest copy, was written before the year 1387. If Mirfeld was at Oxford when 16—a not uncommon age of university life at that time—and if at the time he appeared as one of the seniors of the Priory of St. Bartholomew he was about 70, he may easily have attended the medical lectures of Nicholas Tyngewich between 1336 and 1340.

The general impression left after reading his medical writings is that his magister was a layman, and that it was after his medical studies that Mirfeld entered the Convent of St. Bartholomew of Smithfield. The clerical subsidy rolls for 1379 show that he was then a layman (Webb).

The course of his studies was, perhaps, similar to that of Joannes de Sancto Egidio, a learned Englishman of the reign of Henry III, the friend and physician of Bishop Roger Grosseteste of Lincoln. John of St. Giles studied at Oxford and then at Paris and at Montpellier, where he pursued medicine with such distinction that he became physician to Philip Augustus, King of France. He lived in Paris in the Hospital of St. James, which he had bought, and later gave it to the Dominicans, hence called in Paris "Jacobins." It was the meetings of a section of the Revolutionists there which had led to the use of the word "Jacobin" in a sense so very different from that which it had for several centuries. He was, no doubt, in holy orders, as he became a doctor of divinity and lecturer on philosophy and theology, as well as on medicine. About 1222 he became a Dominican, and is said to have been the first Englishman to join that order. He came back to England in 1235, and stayed till his death, which took place in or after 1258. He became an intimate friend of Roger Grosseteste, Bishop of Lincoln. Their relations were chiefly ecclesiastical, but John was certainly Grosseteste's physician, attended him when he was supposed to be poisoned, and was sent for and went to the Bishop in his last illness. Matthew Paris, who had probably known John, says that he was an elegant scholar and teacher, skilled in medicine and in theology.

Mirfeld, like John, began life in the study of medicine, and was always devoted to it, but after his youth he became also a learned theologian and a member of a regular order. That Mirfeld knew something of the patients in St. Bartholomew's Hospital seems certain from some passages in his works.

Leland (1506-52), in his *Commentarii de Scriptoribus Britannicis*, mentions having a conversation with "Bertholetus Medicus," who had certainly studied the medical writings of Mirfeld. This Bertholetus was Dr. Richard Bartlot, an Oxford man, who was the first Fellow elected into our College (March 12th, 1523), and whose learning Caius praises. He was President in 1527, 1531, and 1548. He died in 1556-7, aged eighty-six. The President, Dr. Caius, and the College attended his funeral in the church of St. Bartholomew the Great. This was in the reign of Queen Mary, when that church, from which the Augustinian canons had been expelled under Henry VIII, was in the hands of the Dominicans. He had read the very copy of Mirfeld's book now at Pembroke College, Oxford; indeed, it seems to have belonged to him, for on a blank leaf of it is written "Richard Bartlet, in Medicinis Doctor."

The *Breviarium Bartholomei* is Mirfeld's greatest work, and as the first book on Medicine in any way connected with the oldest hospital in London deserves particular consideration.

I have examined two complete copies of the work: one in the British Museum and one in the library of Pembroke College, Oxford, as well as some fragments of a third copy also in the British Museum. The Oxford copy is in its original binding. The manuscript begins with a calendar which with some scattered notes occupies the first nineteen leaves. The *Breviarium* then has an illuminated page. At the foot of the page is a shield of arms: argent four martlets and a cross; and at the top of the page is a saint in a brown

tunic and with a lamb in his left hand, obviously St. John the Baptist. These ornaments show to whom the manuscript originally belonged, for the arms are those of the Abbey of Abingdon, and at the gate of the abbey was a hospital dedicated to St. John the Baptist. The possession of such a book by it is a sign that it was not as it afterwards became a mere almshouse but a hospital for the sick.

I had the opportunity of examining the book during several successive weeks in the rooms of the late Professor Henry William Chandler, a Fellow of Pembroke College and Waynflete Professor of Moral Philosophy at Oxford. I ought here to express my gratitude to this most learned man, who died in 1889, for his literary hospitality to me. His profound knowledge of Aristotle, his attainments in bibliography, and his untiring devotion to study, were well known at Oxford. His stores of mediaeval learning, his thorough acquaintance with English literature, his interest in human nature, his kindly disposition, made his conversation as delightful as it was full. After my perusal of the *Breviarium Bartholomei* I enjoyed his friendship to the end of his life. When I went to Oxford I always went to see him, and noticed on each occasion that before our conversation had lasted five minutes I had learned something hardly to be attained anywhere else, and that however long the conversation lasted it continued to the end as rich in learning as it had begun.

The British Museum copy is also a fine manuscript, though not so large. On fol. 21B is a note which has not hitherto been observed:

> Ordine peractato si connumeres capitales
> Nomen factoris demonstrabunt tibi tales.

Following this injunction the capital letters from fol. 21B make the words:

Ora pro nobis sancte bartholomee ait iohannes dde Mirfeld ut digni efficiamur promissionibus Cristi.

There are slight variations in the text of these two copies. Both belong to Mirfeld's lifetime. The index of the Oxford copy is headed with a fine illuminated "I," and the words:

Incipit tabula libri Johannis Mirfeld quem ipse composuit et Breviarium Bartholomei vocavit,

Et compilavit in monasterio sancti Bartholomei London eundemque divisit in partes quindecim.

The first of the fifteen parts is of fevers; the second, of affections of the whole body; the third, of affections of the head, neck, and throat; the fourth, of the chest; the fifth, of the abdomen; the sixth, of the pelvic organs; the seventh, of the legs; the eighth, of boils; the ninth of wounds and bruises; the tenth, of fractures and dislocations; the eleventh, of joints; the twelfth, of simple medicines; the thirteenth, of compound medicines; the fourteenth, of purgatives; the fifteenth, of the regimen of health.

As in most mediaeval systems of medicine, the part on fever follows the general arrangement of the subject in Galen. Mirfeld's chapter, "De febribus pestilencialibus," begins with the statement that such epidemics come in rotten and sterile seasons, when the crops are blighted and the air and water corrupted so that they infect human bodies. The infected air goes to the heart and round the whole body, and to it is added infected food and drink. Men and vermin and brute animals are attacked; and sometimes animals only, while the epidemic avoids men. Of all fevers these are the worst.

Signs of the approach of plague are comets and irregular seasons—too much cold in the hot season, too much heat in the cold season—thick and foggy air, the threatening of rain without rain. Also a warm and damp summer, a time when birds desert their nest and eggs, and when many reptiles appear on the surface of the earth. All these are signs that an epidemic is about to come. The symptoms are that the heat of the body is moderate externally and great internally, with thirst and dry tongue, and difficulty of breathing and precordial pain and fetor of everything coming out of the body. The prognosis is bad, and there are terrible and deceptive complications, and after these small-pox and measles may follow. Physicians are often deceived, and when they expect a good turn after the crisis then comes death. A person may be preserved from infection in a cold season by smelling and swallowing musk and aloes, wood and storax, calamita and amber, and such-like aromatics. If the season is warm, sandal wood and roses, camphor and citric acid—"acetositas citri"—sour milk, all kinds of sour herbs, and vinegar. Repletion of food and drink is to be avoided. If the extremities are cold they are to be rubbed. Purging and bleeding are protective. Warm baths are to be avoided. Sweets made with honey, green fruits, and sweet fruits are to be avoided. Veal, fowls, and partridges may be eaten with lettuce, vinegar, and acid herbs. Syrup of vinegar is to be taken in the morning, and at midday syrup of violet in cold water.

Brother John Helme, who was probably one of the brethren of St. Bartholomew's Hospital, recommended against the plague a mixture of aloes and myrrh, to be taken out of warm wine, the bulk of a littlenut of the powder to be the dose. Water distilled from diptamius, pimpernel, tormentil, and scabious, equal parts of each mixture are to be drunk daily. "Est enim optima et nobilissima medicina." Camphor 3 or 4 gr. avails against pestilential air, according to Hali Abbas.

To take warm bread a few morsels only, prevails against pestilential air and against fetid morbid vapours. This is also good against the fetor of the sea, and if you have not warm fresh bread, says Mirfeld, "da tostum."

I may here remark that our idea that sea air is wholesome has not always prevailed; for, in an account of Northamptonshire published in 1738, the author remarks:

> The air of Northamptonshire is exceedingly pleasant and wholesome, the sea being so remote that it is not infected with its noisome fumes.

Scented wine should be drunk: and on going out of the house throw an aromatic on the fire and smell it.

One proceeding difficult to explain is recommended in cases of fever.

A little twig of hazel, 1 ft. long, is to be broken in the middle. The two parts are to be held a little way apart, and certain words repeated, and by virtue of the words the twig becomes united in some place. Here it is to be held by finger and thumb, and the rest cut away so that there a little cross. This the feverish man is to hold above him, and to say some words in French, and five paternosters, and he will be healed, as has often been proved, says the *Breviarium*.

This therapeutic method does not seem less rational than the method of discovering subterranean water by the movement of a hazel rod in the hands of a water-finder which has been gravely defended and widely practised in our own time. The opinion that this method of cure of fever was sound because people who had used it had often recovered, and that the hazel rod in the hands of a water-finder is a true discoverer of water because it has often pointed towards it are conclusions of precisely equal logical value

Among the medical books of Mirfeld's time were treatises on the diseases of horses, of cattle and of hawks.

Epidemic disease in cattle may be warded off by hay prepared in a very harmless and charitable way. Three poor travellers are to be entertained on Christmas Eve and beds of hay are to be made for them. The hay is to be placed daily between the oxen from Christmas Day till Twelfth Day and by the goodness of God they will be safe for the whole year. To recommendations of this sort Mirfeld usually adds some such phrase as "so it is said."

Mirfeld had witnessed the long wakefulness of some cases of fever. His prayer to be used in such cases is based upon the legend of the Christians of Ephesus who outslept the age of persecution. The mention of the names of the seven sleepers of Ephesus in relation to insomnia was not confined to Christendom. It extended to the Mohammedan nations and is still in use among the Arabs in Algiers.

Mirfeld was not afraid to bend over the patient in fever and recommends that the thickly furred tongue should be wiped with a linen rag, moistened in acid juice. If uncertain whether the patient was alive or dead he put a little burnt lard to the nostrils. If alive he found that the patient thereupon scratched his nose.

Mirfeld's account of plague is based upon the chapter on the same subject in the *Lilium Medicinae* of Bernard of Gordon written at Montpellier in 1305. On all general questions Mirfeld uses Bernard's words, but his numerous remarks on protection from infection, as well as the way in which he leaves the reader to infer that treatment is of very little use in the plague, point to actual experience "tempore pestilenciae." The greatest recorded epidemic of plague occurred during Mirfeld's lifetime, and he was probably old enough in 1348-57 to have observed its phenomena, and if not might yet have received accounts of it from many men living in his time who had passed through it.

His chapter "De febribus pestilencialibus" reflects that time in the recommendations of numerous protective measures and in the observation that vermin and brute beasts as well as men died, and that the animals sometimes died when men did not: but he makes no original clinical notes.

In Part II skin diseases are described and couplets are often given to enable the memory to retain their names and symptoms. He is inclined to agree with Platearius (of Salernum)

that all kinds of leprosy are incurable, yet in one case by very severe purgative pills he did good and the leprosy was relieved for almost three years, yet after that it reappeared distinctly. The diet must be restricted. The patient's bread must consist of two parts rye and one part barley. He must drink clear well-scented wine, and may eat game and eggs. The flesh of domestic animals is to be avoided, as well as putrified food, cheese, salt meat, hares, and pulse.

Mirfeld treated chronic rheumatism by rubbing the part with olive oil. This was to be put into a clean vessel while the pharmacist made the sign of the cross and said two prayers over it, and when the vessel was put on the fire the Psalm "Why do the heathen rage" was to be said as far as the verse "Desire of me and I shall give thee the heathen for thine inheritance." The Gloria and two prayers are then to be said and the whole repeated seven times. The mixture of prayers with pharmacy seems odd to us, but let it be remembered that Mirfeld wrote in a religious house, that clocks were scarce and watches unknown and that in that age and place there was nothing inappropriate in measuring time by the minutes required for the repetition of so many verses of scripture or so many prayers. The time occupied I have found to be a quarter of an hour.

Scrophulu (scrofula) is, he says, according to Johannicius, nothing more than multiplied glands.

If other methods of treatment fail they go to King's, because by touch alone kings are wont to cure that infirmity thence called by many Morbus regius.

The chapter on epilepsy and apoplexy and that on hemicrania are based upon the chapters on the same subjects in John of Gaddesden's *Rosa Anglica*. Verses are to be repeated in the ear of the epileptic man as he lies on the ground. The epileptic unconsciousness lasts but a short time and no doubt, as Mirfield and other writers of his time assert, the patient often got up after:

Gasper fert mirram: thus Melchior: Balthazar aurum.
Hec tria qui secum portabit nomina regum,
Solvitur a morbo Domini pietate caduco,

was repeated in his ear. To a man ignorant of the fact that, while the condition which produces an apoplectic fit is one involving actual destruction of a part of the brain, that of an epileptic fit is a transitory state, it must have seemed reasonable by analogy that verses should do good to an apoplectic patient. Mirfeld recommends an empiric remedy of English Gilbert. The following two verses are to be tied round the arm, the Lord's Prayer being said the while. The verses are to be written with crosses above and below each word:

\+ + +
Amara timi taturi
\+ + +
Postos sigalos sicaluri
\+ + +
Ely poly carras
\+ + +
Polyll pylini lyvarras
\+ + +

There are several similar medical charms in "Marcellus Empiricus,"[9] and Professor Rhys[10] has lately maintained with great ingenuity that they preserve sentences of one of the three chief Celtic dialects of Gaul. He shows how interesting such verses may prove on minute examination. I may give one example from "Marcellus" for purpose of comparison:

Omnia, qua haeserint faucibus, hoc carmen expellet:
Heilen prosaggori nome si polla nabullet onodient ideneliton
Hoc ter dices et ad singula expues
Item lauces, quibus aliquid inhaeserit confricans dices:
Xi exuericone xu crigrionalsus serisi mionolor exugri conexu grilau.

To trace to their origin the numerous lines of verse of which Mirfeld recommends the repetition in various emergencies would take a long time, but I may point out the source of one couplet:[11]

Sancte Columquille remove mala dampna faville
Atque Columquillius salvet ab igne domus.

The lines were repeated as a charm to stop the burning of a house. In the life of St. Columcille or Columba in the *Leabhar Breac*, a fifteenth-century manuscript, occurs this passage:[12]

A great flame came towards him once in Iona. They asked him the cause of the flame. Fire of God from heaven (quoth he) came just now upon three cities in Italy so that it slew 3,000 men, as well as their wives and sons and daughters.

Mirfeld observes that an injury on the right side of the head is likely to lead to paralysis on the left side of the body, and relates the case of one of the Canons of St. Bartholomew's Priory, who was treated by his master.

The Canon was about to get on his horse, and when the said Canon wished to seat himself in the saddle that horse arose on his two hind legs, and the Canon fell head downwards over the crupper of the horse to earth, and fell so heavily upon his head that straightway he lost the sensation and movement of his whole body. My master having been called by the friends of the patient, made them shave his head, and then rubbed in oil of roses with a quart of warm vinegar, and sprinkled it with a powder, and put over it a fine cloth soaked in the aforesaid oil and vinegar, and over that fastened linen stoups and bound with bandages his whole head and put over all the skin of a lamb. And every day he visited him twice, and rubbed in ointment into his neck and as far as the middle of his spine. On the second day the patient opened his mouth a little. Then one of his friends wished to try if he would eat, but the physician would not allow it, and said, "Even if he wished to eat I would not let him." On the third day, when a question was put to him he tried to answer, stammering, but he could not form the word. On the fourth day he spoke stammeringly, and then they handed him a thin warm drink, which he saw and swallowed. The fifth day he took a thin tisane. On the sixth day they gave him chicken broth. He then began to grow stronger, little by little, and to be able to move, but it was many days before he could walk. When he was able to take food my master began to prepare pills, to resolve by evacuation the residue of the material accumulated by the fall on his head. He recommended that he should eat the brains of birds and fowls and kids, and thus doing he was cured. But the poor Canon was never quite the same man again, as Mirfeld says: "Nunquam tamen fuit ita subtilis ingenii et bone memorie sicut prius."

Hippocrates and Galen had observed that an injury to the left side of the brain may produce paralysis of the right side of the body and even a general man of letters like Plutarch knew this. Mr. J. D. Duff of Trinity College, in a letter to me of August 16th, 1895, says:

Here is something I noted for you from Plutarch's "Conjugalia Praecepta," 20 E: *ωσπερ οἱ ἰατροὶ λέγουσι τὰς τῶν εὐωνύμων πληγὰς τὴν αἴσθησιν ἐν τοῖς δεξιοῖς ἀναφέρειν.* What do you suppose he means? that an injury to the left side of the brain injured the right side of the body? and is that so? Plutarch was interested in medicine as in nearly everything and often quotes something from Hippocrates.

Cooke in his careful book on nervous diseases which appeared in 1820 tells as much and very little more of the relation of hemiplegia to destruction of part of the brain.

When he treats of injuries Mirfeld regrets that medicine and surgery have become separate lines of practice. The well-informed he says are aware that he cannot be a good physician who neglects every part of surgery, and on the other hand a surgeon is good for nothing who is without knowledge of medicine. Mirfeld times with precision the recovery of each broken bone. A rib will take twenty days. A humerus or a femur forty days. He had noticed that union is slower in the aged.

Mirfeld is very full on materia medica, and I might easily give a separate lecture on this part of his work. He describes the drugs, names their common adulterations, discusses their effects, and gives many prescriptions.

The last chapter—that on preserving health—is based on the *Regimen Sanitatis Salerni*.

Another work of Mirfeld's is the *Florarium Bartholomei*. It is to Mr. J. P. Gilson, a member of the learned staff in the MS. Department of the Library of the British Museum, that the discovery of the authorship of this book is due. At the foot of fol. 3 is written:

Ad Jesus incipiens capitulos inde notabis.
Nunc quo vado scies venio simul inde probabis.

Chapter 62 begins with the word "Jesus," and the initials of the following chapters make up the words

Johanni de Suthwelle per
Johannem de Mirfeld
Ora pro nobis beate Bartholomee
ut digni efficiamur promissionibus christi. Amen. Explicit.

Mr. Gilson was so kind as to point out to me this discovery of his, and I wrote down the first words of 114 chapters, from Chapter 62. Mr. J. P. Gilson has mentioned as indications of the date of composition, in his catalogue of the Royal MSS., that the constitutions of Simon Islip of 1362 are quoted, and that a sermon of John Grandison (written Cronson), Bishop of Exeter, 1328 69, is also mentioned. It is clear, therefore, that the *Florarium* was composed not earlier than 1362, and perhaps as late as 1369. The one medical chapter which it contains does not allude to the *Breviarium Bartholomei*, so I am inclined to believe that the *Florarium* was composed first.

The *Florarium* is a theological treatise with one chapter on physicians and their medicines. The manuscript in the British Museum once belonged to the library of the religious house (of the order of the Trinity) of Ashridge, in Hertfordshire, which monastery and its lands are now occupied by Lord Brownlow's house and park. It had been given to Ashridge in 1518 by Richard Hutton.[13]

The preface of the *Florarium* explains that the author has collected numerous passages from the Holy Scriptures and from sacred writers. A flower garden is a place where flowers abound, and so the name, he says, is appropriate to a collection of flowers from holy and spiritual writers, from doctors and wise men.

Sed quare cum hec addicione Bartholomei sic nominatur ad presens volo declarare non expedit quidem.

This secrecy is no doubt because it has pleased him to explain his name and place of writing by the acrostic already mentioned. There are 175 chapters, of which the first is on abstinence and the other subjects follow in alphabetical order.

The one medical chapter is of great length "on physicians and their medicines." Mirfeld urges physicians not to think too much of money, and relates as a warning the case of one to whom were owed £13 for his treatment of a patient during three years. The physician when dying, and exhorted to receive the Holy Eucharist, could say nothing but "£13 in three years."

He advised prelates to have a rope in their study hanging from the ceiling and knotted at the end on which they may take exercise, or to use weights in their hands if they cannot take enough outdoor exercise. He advises every one to bear in mind the verses:

Sit cena levis
Vel cena brevis
Sit raro molesta
Magna nocet
Medicina docet
Res est manifesta.

Gluttony slays more than the sword. Foods are not to be mixed, but a meal of bread to be taken in the morning and of meat in the evening. "And in this," he says, "all doctors of this faculty agree, but we English from long habit hold the reverse."

In the library of Lambeth Palace there is a manuscript which once belonged to Archbishop Sancroft, whose name (W. Sancr.) is twice written in it. The volume contains several manuscript fragments, and among them four and a half pages on prognosis abstracted from medical authors, and digested into a treatise called "John Mirfeld's Mirror" (*Speculum Johannis Mirfeld*). It ends:

Explicet iste tractatulus multum necessarius.

He does not mention his great contemporary Chaucer, nor any vernacular writer. The English men of letters with whose works he was familiar—Bede, John of Salisbury, John of Gaddesden, Ranulf Higden, all wrote in Latin. He was acquainted with Horace and Virgil and Ovid. He had read Boethius, and knew well the *Liber Etymologiarum* of Isidore of Seville. I am not competent to speak of his theological reading, but it was obviously extensive.

Mirfeld had read one medical book of his own time again and again, *The Lily of Medicine*, of Bernard of Gordon, and had a less profound acquaintance with the *Rosa Anglica* of John of Gaddesden and with the writings of Gilbertus Anglicus. These were the modern books of his time.

Of ancient authors he had studied the then current books attributed to Hippocrates and Galen. He had read a good deal in the continent of Rhazes, and was acquainted with some of the works of Serapion, of Avicenna, of Constantinus Africanus, and of Isaac son of Solomon. The works of Roger and Lanfranc and Platearius of Salernum and Arnaldus de Villa Nova were well known to him. The *Antidotarium* of Nicholaus and Aemilius Macer *De Herbarum virtutibus* were his chief reading in pharmacology.

Mirfeld had observed patients for himself both in the world and in a hospital, and had formed independent opinions on the effects of treatment and on general prognosis.

In universal humanity towards the sick, and in the wish to alleviate pain, and to consider the feelings of the patient, those essential parts of our profession without which the highest skill in our art can never be attained, he was equal to the physician of to-day. He was imperfectly trained in the art of observation, and was inclined to accept without examination the dicta of great teachers of medicine. His test of the usefulness of methods of treatment was that patients were said to have been better after employing them. He did not consider whether the improvement was a probable event of the disease, or examine very closely into the accuracy of the diagnosis.

Such was John Mirfeld, a physician of wide reading, both within and without his profession, with a mind full of all that was known in his time, a laborious and high-minded man, anxious to do all in his power for his patients, and to instruct others how to relieve suffering.

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A CASE OF TRAUMATIC ASPHYXIA.

By W. SIBBALD ROBERTSON, M.B., Ch.B.,

Late Resident to the Senior Extra-Mural Physician, late Resident Surgeon to Professor Annandale's Wards, Royal Infirmary, Edinburgh.

THE patient in this case, a child of 3, was knocked down on August 29th last by a cable car, and caught between the "cow-catcher" and the ground. He was tightly wedged between the two, and there was much difficulty in extricating him.

When picked up he was thought to be dead, but as he was being carried to the nearest medical man it was noticed that he was beginning to breathe, and that his face had assumed a peculiar bluish-black tint. A cut on his forehead was stitched by the surgeon, who sent him on at once to the infirmary. Artificial respiration was not performed.

State on Admission.—Temperature, 98° F.; pulse, 122 (weak); respirations, 40 (shallow and embarrassed). There was a small cut on his forehead, and an abrasion on the right side of his chest, extending in the anterior axillary line from the upper border of the third rib downwards for 6 in., and a corresponding abrasion on the back. With the exception of a bruise on the left thigh there were no other signs of violence.

The most striking phenomenon was the appearance of his face and neck, which were of an intense blue-black colour, much deeper even than in extreme cyanosis. There was a distinct line of demarcation round the neck, at the level of the middle of the clavicles, below which the skin was absolutely normal. The discoloration was rather less on the ears, and faded where the forehead met the hair. The skin of the hairy scalp seemed merely congested. The colouring on the face and neck was not homogeneous, but was seen to consist of a uniform blue tint, with a great many minute reddish-brown spots shining through it. These spots were most conspicuous near the line of demarcation on the neck and on the forehead, where the blue tint faded away. Pressure made no difference to the colour.

Under each conjunctiva there was a lozenge-shaped haemorrhage, extending from the border of the iris to the left angle of the eye. There were a few reddish-brown spots inside the inner surface of the eyelids. The pupils were normal, and there were no retinal haemorrhages. Vision did not seem to be affected, as far as the difficulties of testing it permitted to judge. There were also a few reddish-brown spots just inside the lips. Nothing abnormal was made out in the heart, lungs, or nervous system.

Progress.—The child was put to bed, and the question of bleeding was considered; but, since the patient was recovering rapidly, and the discoloration seemed due to something of the nature of haemorrhages into or under the skin, no treatment further than rest and a light diet was thought necessary. On the second day the intensity of the colour had diminished markedly, and the reddish-brown spots were less conspicuous. After the third day the colour faded steadily, but much less rapidly, and passed through none of the chromatic changes usual in extravasations of blood. The blue merely became less livid, then leaden, then faded gradually, until almost the normal tint was attained. On the second day there was a slight rise of temperature to 99.6° F., but otherwise recovery was uneventful.

Result.—He was discharged on the eleventh day, looking still somewhat swarthy. The conjunctival haemorrhages showed no change from their appearance on admission. Seen a week later, he still showed slight duskiness of the face. The outline of the conjunctival haemorrhages was irregular and rather more circumscribed.

Remarks.—According to an article in the *Annals of Surgery* for April, 1904, by H. H. A. Bach, M.D., of Boston, only 7 similar cases have been published, and the pathology of the question cannot be said to be definitely settled. The

discoloration is due either to "stasis of carbonized blood in temporarily paralysed and dilated capillaries," or to "haemorrhages into the skin and subcutaneous tissues." In the one case where portions of the skin were examined microscopically (by Dr. Wright, Massachusetts) no evidence was obtained of the presence of blood in the tissues outside the blood vessels, and the skin was found to be quite normal. The remarkable limitation of the colour is to be explained on anatomical grounds—the absence of valves on the course of the innominate and internal jugular veins (except a pair at the entrance of the jugular into the innominate, easily rendered incompetent), and on the course of the external jugular veins (except for two pairs of usually inefficient valves). If the accident is not immediately fatal the prognosis seems favourable, except for the risk of "contusion pneumonia" about the third day.

(For permission to publish these notes I am indebted to Mr. Hodsdon, under whose charge the patient was admitted to the Royal Edinburgh Infirmary.)

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, ETC.

CHLOROFORM SYNCOPE AND DIRECT MANIPULATION OF THE HEART.

J. W., male, aged 63, was admitted into the Stockton and Thornaby Hospital to have his rectum examined for suspected malignant growth. He was somewhat emaciated and his arteries slightly atheromatous. On October 19th, 1905, chloroform was administered on a Skinner's mask. The patient took it well, without struggling, and was fully anaesthetized in about four minutes. After the digital examination had been proceeding for a few minutes Dr. Daglish noticed the patient's breathing becoming shallow and pulse feeble. The anaesthetic was at once stopped, the pupils being then well contracted. In a few moments both pulse and respiration ceased altogether, the apex beat could not be felt, the pupils began to dilate, and the face became livid.

The patient's head was lowered, the tongue drawn out, artificial respiration commenced, and strychnine injected subcutaneously. Though air passed freely in and out of the thorax there was no attempt at voluntary respiration.

At this point, three minutes after the cessation of pulse and respiration, Mr. Smith opened the abdomen in the middle line, just below the ensiform cartilage, the diaphragm was completely relaxed, and the heart was easily reached by the fingers and pressed forward against the ribs. The ventricles were soft and collapsed, and only a slight tremor of the heart muscle could be felt; gently kneading the heart, a faint contraction occurred, followed by others, and in about sixty seconds the heart was beating feebly but fairly regularly; a few seconds later voluntary respiration began, and was soon regularly established. Artificial respiration, which had been continuously carried on throughout was then stopped. After an interval of a few minutes the wound was closed. As the surgeon's hand had recently been in the rectum and had been cleansed in a most perfunctory manner, a gauze drain was inserted in the angle of the wound. The remainder of the incision in the peritoneum was sewn up with a fine continuous silk suture, the same done with the aponeurosis, and the skin brought together with interrupted silkworm-gut sutures. The patient was able to be moved to the ward about ten minutes later, and made an uneventful recovery. The wound gave no trouble and there was no rise of temperature. The gauze was removed on the fourth day when a piece of silk was extruded from the wound and removed.

REMARKS.—A case reported by Dr. H. M. W. Gray, of Edinburgh, in the *Lancet* of August 19th, 1905, led to this remedy being tried successfully in this case. The question arises when such a measure is justifiable. In Dr. Gray's case and another reported by him ten minutes elapsed between cessation of pulse and resort to this process. In neither case did the patient survive more than hours, but Dr. Gray's case was already moribund. Certainly in abdominal operation the treatment can be resorted to at once without difficulty, and he reports a previous case where this was done with good result. Other remedies should, however, not be neglected, and above all artificial respiration kept up continuously, as this must increase the chances of restoring the heart's action. Dr. Gray speaks of massaging the heart, but the action would be better described as kneading, akin to that done on a relaxed uterus after parturition. In suitable cases the procedure presents great possibilities of averting some of the otherwise fatal cases of syncope under anaesthetics.

T. RUDOLPH SMITH, M.B., F.R.C.S.
Stockton-on-Tees. WM. ROBERT DAGLISH, M.B., B.S.

URINARY RETENTION DURING PREGNANCY.

THE relation of Mr. M. Cursham Corner's case (BRITISH MEDICAL JOURNAL, August 12th, 1905, p. 330) reminded me of a very similar one I had to deal with when house surgeon at a provincial hospital twenty-five years ago, and which is recorded in my notes of interesting cases in various parts of the world. A multipara, aged 35, was admitted with the same symptoms as described in Mr. Corner's case, except that she denied pregnancy owing to irregular appearance of blood-stained discharge. The abdominal enlargement was globular and central, but she assured us that she passed urine regularly.

The question of tapping what was thought to be an ovarian cyst was seriously considered, and I was requested to pass a catheter. I did this in the presence of the staff of the hospital, and drew off a few ounces short of 4 quarts of urine, the last pint or so being blood-stained. The diagnosis was thus cleared up, and two months later the woman was delivered of a healthy child.

I should mention that after the catheterization well-marked retroversion of the uterus was discovered. This was treated by placing the patient in the prone position as much as possible.

J. D. RECKITT, M.R.C.S., L.S.A., etc.
Gulmerg, Kashmir.

SURGICAL EMPHYSEMA WITH HAEMOPTYSIS.

THE following case is interesting, and somewhat uncommon. H. M., a lather, aged 22, was admitted to the Ayr County Hospital about 2.30 p.m. on February 20th. The following account of his accident was obtained: About 8.30 a.m. he tried to stop a runaway horse yoked to a milk cart. His foot slipped, and he fell, one of the wheels of the cart passing over the middle of his chest. This happened at a country place thirty miles from Ayr. He was brought here on a stretcher by the first train, and arrived at the time already mentioned.

On admission he was suffering from great shock. His temperature was subnormal, and his pulse feeble and rapid. He complained of severe pain all over the chest, but no particular spot could be detected where the pain was more acute. There was marked emphysema extending up as far as the top of the head, and below to about 2 in. beyond the costal margins. This was most marked on the right side. There was severe haemoptysis. No fracture of the ribs could be made out, but owing to the severity of the haemoptysis too vigorous an examination was not deemed advisable. He was given $\frac{1}{6}$ gr. of morphine hypodermically at 3.30 p.m. At 6 p.m. another $\frac{1}{4}$ gr. was given, as the pain was still severe. The emphysema was well marked about the neck, and impeded his respiration somewhat. So embarrassed did the breathing become about 10 p.m. that it almost became necessary to do something to relieve it. At 4 a.m. next morning he had $\frac{1}{6}$ gr. morphine and $\frac{1}{75}$ gr. strychnine hypodermically, the strychnine being necessary as his pulse had become so weak. As regards nourishment, he was given nothing but fluids, and these cold. At 10 a.m., as he had passed no urine since admission, and, according to his statement, since just before the accident, a red rubber catheter was passed, and 12 oz. of urine drawn off. There was no blood in it. His condition on the whole was a little better. The emphysema had not got any worse, and the haemoptysis, though still severe, was not quite so bad.

On the 22nd he was distinctly better. The emphysema was less, as was also the haemoptysis. At night, however, his temperature went up to 100.4° F., and he was somewhat restless, so he was given 30 minims of nepenthe. On the 23rd he was much better. A thorough and systematic examination of the chest wall was carried out, but no fracture of the ribs could be detected. He was put on heroin hydrochloride, gr. $\frac{1}{75}$ thrice daily, and his diet was cautiously increased. He steadily improved after this. On the 25th the emphysema was much less, and the haemoptysis had almost ceased. On the 28th there was no haemoptysis. On March 4th the emphysema had all disappeared except a little on the right side just below the clavicle. The heroin hydrochloride was stopped. Patient was now getting ordinary diet, and he was allowed

up. He was discharged on March 8th with no trace of emphysema.

The points of interest in this case are the rapid absorption of the air, the quick checking of the haemoptysis, and the fact that there was a laceration of the lung without any of the ribs being fractured.

I have to thank Drs. Naismith and Young for permission to publish this case.

JOHN ALLAN, M.B., Ch.B.

REPORTS
ON
MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

SUSSEX COUNTY HOSPITAL, BRIGHTON.

A CASE OF GENERAL GONOCOCCAL INFECTION.

(Reported by DONALD G. HALL, M.A., M.D., M.R.C.P., Assistant Physician.)

TAKEN along with the cases published in the BRITISH MEDICAL JOURNAL by Dr. William Hunter and Dr. W. M. Hamilton, the following case is worthy of interest.

G. F., aged 40, single, a labourer, admitted on August 16th, 1904, under the care of Dr. W. A. Hollis, gave a history of three attacks of acute rheumatism in 1897, 1899, and 1902, he on each occasion having been working in railway tunnels. The most recent illness lasted fourteen weeks; there were no complications to his knowledge. Three years ago he had gonorrhoea, the discharge lasting six weeks; it was not followed by gleet.

Recent History.—During the first week in August he had been drinking heavily. He went back to work from August 8th to 13th, but "had to drink a lot of beer to keep himself going." His average consumption was about sixteen pints a day. On the last three nights he had fallen asleep in a chair and had not been to bed. On August 14th he had pain in both ankles and did not go to work, next day he had acute pain in the left side on breathing, and on movement, and on August 16th he had in addition pain in the right wrist.

State on Admission.—He was a well-built, fairly muscular man; face rather pale, and tongue thickly coated. Both feet and ankles were swollen, the skin flushed and its venules dilated; the joints exquisitely tender; the right wrist was likewise tender. The skin was dry and there were no sudamina. There was coarse grating pleural friction in the left axilla, and tenderness to palpation low down in the axilla extending both in front and behind, the patient wincing when the left latissimus dorsi was caught between the fingers. In the mitral area the first sound was not pure, being faint and muffled, but there was no *bruit*. At the base there was a faint systolic murmur heard in the vessels of the neck, and in the pulmonary area the second sound was reduplicated and accentuated. The beat was in the left fifth interspace in the vertical nipple line. The pulse was 94, regular, full wave, low tension, and walls healthy; temperature 101.6°, respirations 20. The urine showed nothing abnormal.

Progress.—August 18th. The right elbow was swollen and painful, with a red blush over the posterior surface of the joint; other joints unchanged. At 6 a.m. the temperature was only 96.8°, at 10 a.m. 98.4°; the heart sounds unchanged, but rate diminished to 64. So far there had been no sweating.

August 21st. The swelling of the right elbow had diminished, but the joint was rigid and painful; pleural friction unchanged; the left ankle and foot were rather better, but the right showed no improvement. Patient was having a nightly rise of temperature to 101°, and so far aspirin and salicylate of soda had been equally futile. The urine now contained pus cells, and he was found to have a purulent urethral discharge, which contained gonococci. The infection he thought dated from August 12th. Mr. Willoughby Furner was called in to see the patient, who was left on the medical side, treatment now being directed against the gonorrhoea.

August 23rd. The left wrist was attacked.

August 26th. There was less discharge from the urethra, but there was pain and tenderness in the hamstring muscles of the right knee. The main active arthritis now was in the left wrist and the small joints of the left carpus. There had been no pain with micturition, and from the onset of the joint manifestations it looked as if this were really an old gonorrhoea lit up afresh. The pleural friction was unchanged.

August 29th. The left jaw was attacked.

August 31st. The patient had an exacerbation; the left jaw, left wrist, right elbow, and right ankle and small joints of the foot all being actively inflamed. He was hardly able to open his mouth, and his condition was wretched in the extreme. An attempt had been made to give him iodide of potassium, but both large and small doses produced iodism, and only added to his sufferings.

September 1st. He was put on 5-gr. doses of quinine twice daily.

September 6th. The temperature had fallen, the condition of all the joints had improved, and the urethral discharge had almost ceased.

September 11th. The left jaw had been blistered, with some improvement in the stiffness. On the other hand, the friction in the left axilla was more marked, and the patient had more pain on deep inspiration. The heart sounds now were normal. At no time had there been any evidence of endocarditis.

September 19th. A second attempt to administer iodide had failed. There was no pleural friction, and the right ankle and tarsal joints alone contained effusion.

October 3rd. There was no active arthritis, and the quinine was discontinued owing to cinchonism.

October 7th. There was return of pain and tenderness in both shoulders and both elbows, but apparently mainly muscular. The quinine was resumed. There was no rise of temperature.

October 10th. Patient had no pain except on movement, and was allowed up on a couch.

October 17th. He had his feet to the ground and could walk a little supported by two other men. Even now he was unable to open his mouth fully.

October 31st. He had made considerable improvement under massage, hot-air baths, arsenic, cod-liver oil, and generous diet. There was no complete ankylosis of any joint, but impaired mobility in all those which had been affected. The dynamometer grip of the right hand was only 30, that of the left 28.

Result.—On November 9th patient was sent to the Brighton Workhouse Infirmary, after a stay in hospital of nearly three months. He left the infirmary on March 30th, 1905, able to walk fairly well, but with stiffness of both wrists and both elbows, especially of the right arm, and quite incapacitated for work, seven and a half months from the onset of the arthritis.

REMARKS.—The case is of interest as a general infection by the gonococcus, from the number of joints involved, from the concurrent inflammation of the pleura and of muscle sheaths, and from the fact that the blood infection apparently arose from a gonorrhoea which the patient believed to have been cured three years previously. The purulent discharge of August 21st may or may not have been a fresh infection, but it cannot have been the cause of the arthritis, which began two days after the patient had exposed himself to fresh infection. The fact that the man had apparently had three attacks of acute rheumatism confirms the widely-held view that gonorrhoeal arthritis is more common in persons with a rheumatic tendency, and thus having presumably a *locus minoris resistentiae* in their joints. The case also shows how little amenable to treatment these cases are. Salicylates we found useless; the patient could not tolerate iodide; he took sandal-wood for five weeks with none but local benefit; the drug from which he derived most benefit was the sulphate of quinine. Whether *post hoc* or *propter hoc* he began to improve from the date it was first given, and its cessation was followed by a slight relapse. During the acute stage of the arthritis fixation of the joints, counter-irritation by iodine and blisters were practised. Later on treatment of the fibrous adhesions met with but little better result. At this stage he was able to tolerate the *B.P.* liniment of potassium iodide, which was used with passive movement and massage of the joints, but the drug given by the mouth with Fowler's solution again produced iodism. He had a three weeks' course of Tallerman-Sheffield baths with little beneficial effect.

I am indebted to Dr. Hollis for permission to publish this case, its description having been abstracted from the notes taken by me when house-physician.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

BATH AND BRISTOL BRANCH.

Bristol, Wednesday, October 25th.

J. MICHELL CLARKE, M.D., President, in the Chair.

Syphilitic Pachymeningitis.—Dr. J. R. CHARLES showed a case of syphilitic pachymeningitis affecting the base of the brain and extending down the upper cervical region of the cord. The case was also complicated by middle-ear disease.

Lead Paralysis.—The PRESIDENT showed a young man who was suffering from a form of lead paralysis, chiefly affecting the left forearm and hand, the distribution taking a spinal rather than a peripheral type.

Aneurysm of the Circle of Willis.—Dr. GEORGE PARKER read a paper upon aneurysm of the circle of Willis in a young woman. The specimen was shown, death having been caused

by rupture of the aneurysm. Ptosis of one eye was an early and marked feature of the case, and an additional interest was given to this by the fact that the sister of the case had also recently developed a ptosis. Various other cases occurring in young adults were referred to by Dr. J. R. CHARLES, Dr. BERTRAM ROGERS, and Dr. NEWMAN NEILD. Mr. CYRIL WALKER spoke to the ophthalmic changes in Dr. Parker's case, and the PRESIDENT pointed out that aneurysm of the basilar artery was the most easily diagnosable of the aneurysms at the base of the brain, and referred to the aid sometimes given by the stethoscope.

Myasthenia Gravis.—The PRESIDENT read a paper upon two cases of myasthenia gravis, first giving an outline of the symptoms, course, and treatment derived from the previously recorded cases. One case was a young woman with a strong nervous history. The chief symptoms were that the speech failed after talking for ten minutes; there was diplopia, difficulty in swallowing in the evening or if a meal was delayed; she could neither whistle nor blow out a candle, nor, later, could she raise the head unaided. The tongue was tremulous and wasted, and there was palatal paralysis. The duration of the disease was fourteen months. The second case, aged 63, began by the voice becoming indistinct and delayed, and difficulty was found in swallowing food. Later ptosis occurred, accompanied by lachrymation, failure of sight, with occasional diplopia. This case fell down suddenly during an attack of dyspnoea, and died, there being only a six weeks' history. Dr. Clarke proceeded to give a short account of the pathology of the disease.—Dr. ROSSITER (Weston-super-Mare) gave an account of the later symptoms of the case, especially mentioning the salivation that yielded to injection of morphine, the patient improving for eighteen days.—Dr. J. FORTESCUE BRICKDALE, Mr. CYRIL WALKER, Dr. GILL, and Dr. CHARLES joined in the discussion that followed.

Mastitis Neonatorum.—Dr. NEWMAN NEILD read a paper on two cases of mastitis neonatorum, jaundice, death. Death occurred at four and five weeks. The *post-mortem* examination was described, and the probable cause of the mastitis discussed.—Dr. C. E. S. FLEMMING, Dr. LEONARD, Dr. WILLS, Dr. FORTESCUE BRICKDALE, and Dr. CAREY F. COOMBS discussed the subject.

BIRMINGHAM BRANCH.

Birmingham, Thursday, November 9th, 1905.

Sir THOMAS CHAVASSE in the Chair.

Gall Stone removed by Laparotomy.—Mr. VICTOR MILWARD showed a gall stone, weighing 465 gr., which he had removed by laparotomy from the sigmoid flexure of a woman, aged 69. Symptoms of intestinal obstruction had existed for four days before the operation, and there was marked distension. An incision was made in the left iliac fossa, and the calculus removed by an incision in the long axis of the intestine. Convalescence was interrupted by bronchitis and mental depression, but in the end the patient perfectly recovered, and was discharged on the twenty-seventh day. The calculus was composed of about 30 per cent. by weight of carbonate of magnesium, with a large proportion of cholesterin and bile pigments. She had rarely taken "salts" as medicine. She died of bronchitis in the infirmary three and a half months after the operation, and the gall bladder was then found to be adherent to the transverse colon.

Strangulation of an Undescended Testicle.—Mr. GEORGE HEATON showed a specimen of a strangulated undescended testicle, which he had removed from a man aged 24 years. It was extremely swollen, the tunica vaginalis was distended with blood, and the body of the organ and epididymis distended with extravasated blood. After a fit of coughing the testicle suddenly appeared in the groin for the first time, and was at once strangulated by the external abdominal ring. The symptoms—both constitutional and local closely resembled those of a strangulated hernia. The organ and the sac of the congenital hernia present with it were removed, and a "radical cure" performed after Bassini's method.

Cystic and Pyonephrotic Kidney.—Mr. J. T. J. MORRISON showed a large dilated kidney, which he had successfully removed from a woman, aged 29, in the seventh month of pregnancy. The patient was sent to him by Dr. Welsh in July, 1905. On admission to the Queen's Hospital, she was in a critical state of septic infection due to acute pyonephrosis of the right kidney, which formed a tense and painful swelling in the right half of abdomen, bulging also into the loin. One hour after admission she had a severe rigor, and the temperature rose to 106° F. An operation was performed forthwith, an incision being made into the kidney, and more than a pint of foul pus liberated, after which the edges of the sac were stitched to the skin and drainage freely provided for. Prompt and rapid improvement followed, and about a fortnight later the whole kidney was excised. Recovery was uneventful, and delivery of a healthy child at full term has since followed. In addition to the large pyonephrotic cavity, the kidney was studded with a large number of cysts, varying in size from a pin's head to a walnut.

Ethyl Chloride as an Anaesthetic.—Dr. W. J. MCCARDIE read a paper on ethyl chloride as a general anaesthetic, of which the following is an abstract: The position of ethyl chloride among general anaesthetics; the indications for its use; the mortality attending its administration; contraindications. The paper was discussed by Messrs. MORRISON, L. K. THOMAS, HEATON, MILWARD, and Dr. CODD. Dr. MCCARDIE replied.

Rupture of Uterus.—Mr. JORDAN LLOYD showed a woman from whom he had removed the uterus ruptured during delivery, the specimen being subsequently exhibited to the meeting.

Surgical Treatment of Epileptiform Neuralgia.—Mr. JORDAN LLOYD then read a paper, of which the following is an abstract: The nature of epileptiform neuralgia or tic douloureux; its characteristics; the differences between it and other forms of "facial neuralgia." Inefficacy of medical treatment; surgical operations on nerve trunks are palliative only; radical cure by excision of the Gasserian ganglion is a reliable procedure; the Krause-Hartley and other operations. Notes on a series of cases. The PRESIDENT and Mr. LEEDHAM GREEN spoke to the paper, and Mr. LLOYD replied.

SOUTH-EASTERN BRANCH: BRIGHTON DIVISION.—At a meeting held at Brighton Dispensary on October 25th, Mr. T. JENNER VERRALL in the chair, Mr. V. T. GREENYER read notes of a case of malarial fever, and showed some interesting specimens of the blood.—Dr. G. R. MARSH read notes of a case of intrauterine fetation, and showed the specimen. The patient, who was 40 years of age, made a good recovery.—Dr. F. G. BUSHNELL read a paper on ulcerative colitis, of which the following is an abstract: In a recent epidemic at the Lancaster County Asylum during which there were 114 deaths, Goodliffe found an organism closely resembling the one found to be the cause of an epidemic of dysentery in Japan. This has been confirmed by several other observers. Dr. Bushnell then narrated several cases which had been under his own observation, and described the pathological appearances, showing agglutinations of the bacilli as found by Hewlett and others. The ordinary pathological appearances found *post mortem* were desquamation of the cells in Lieberkühn's follicles, the interglandular tissue being packed with cells of different types, but chiefly leucocytes. Some, he thought, were connective-tissue cells, probably derived from fibroblasts. Certain lymphatics are the seat of lymphangitis, being choked with endothelial cells. The solitary follicles are packed with lymphocytes. The serosa is thickened. A few short straight bacilli, staining with aniline dyes were found in mucosa or its remains. The ulceration, according to Rolleston, commences in the follicle. The islets of mucosa with swollen submucosa appear like polypoid growths, as they project above the bare muscular coat, which appears to be the natural level of the colon. The ulcers are single or multiple. Attempts at repair are rare. The shape is circular at first, but on union they appear like a geographical puzzle. Perforation and peritonitis may take place. Dr. Bushnell then gave a description of Shiga's bacillus, which he had been able to identify in several cases. It is to be classed with the colon and typhoid group of organisms. It stains with the aniline dyes, but not with Gram. No spore formation occurs. It is difficult to isolate in the chronic cases from *B. coli* and other organisms. Intraperitoneal and subcutaneous injections of this bacillus into mice, rabbits, and guinea-pigs is fatal. In rabbits subcutaneous injections have given rise to extensive pseudo-membranous inflammation of the caecum. A most exhaustive account of the disease from the clinical aspect is given by Hale White in *Allbutt's System of Medicine*. In the matter of diagnosis Dr. Bushnell laid stress on the reaction of agglutination with *B. dysenteriae*, together with an anaemia with moderately low colour index. Up to the present no serum or vaccine has been successfully made. The paper concluded by giving an extensive list of authorities.

REPORTS OF SOCIETIES.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Thomas Buzzard, M.D., F.R.C.P., Vice-President, in the Chair.

Tuesday, November 14th, 1905.

Influence of Posture on Cardiac Signs.

Dr. W. Gordon contributed a paper on this subject, which is published on p. 1328.

Mr. Stephen Paget confirmed the changes in the percussion note demonstrated by Dr. Gordon in the case of the healthy heart of persons, first in the erect posture and then in the recumbent.

Mr. Newton Pitt thought there was no doubt that there was a difference in the cardiac dullness in the erect and recumbent attitude. In regard to the sounds, he thought the position of the valve was immaterial; what was material was the head of blood above the valve.

Dr. W. Gordon, in reply, said that the distribution of pressure in a fluid in a closed cavity was equal in all directions, but the superadded force of gravity took effect when the column of blood was above the heart.

Dr. T. J. Horder thought the influence of ventricular pressure on the sound must be so much greater than the effect of gravity that it was hardly conceivable that the force of gravity could effect any appreciable alteration on the sound.

Dr. W. Gordon pointed out that, as a clinical fact, changes were appreciable in murmurs of patients when erect and when recumbent. Moreover, a definite change occurred in the width of the heart.

Influenzal Endocarditis.

Dr. T. J. Horder gave an account of 2 cases in which the influenza bacillus was repeatedly cultivated from the blood during life and which were advanced as instances of true influenzal septicaemia. The organism was cultivated during life, in the first case on four different occasions, and in the second on two. The bacillus had all the characters of the *Bacillus influenzae*, as described by Pfeiffer and others. It was unusually vigorous in its growth. In one case the diagnosis of influenzal endocarditis was established six weeks, and in the other case five weeks before death. Clinically, both patients were suffering from chronic "malignant" endocarditis, and both had suffered from previous attacks of rheumatism. In both cases there was a marked leucocytosis. The diagnosis was verified in each instance *post mortem*, the influenza bacillus being cultivated from the diseased endocardium. The bacillus was also demonstrated in sections taken through the heart valves.

Dr. Herbert French thought that leucocytosis was not the rule in cases of infective endocarditis—about 12,000 in most hospital cases. He asked how the influenza bacilli probably got into the patient? The cases suggested the question whether influenza patients should be brought into a ward with cases of chronic valvular disease.

Dr. Newton Pitt wished to emphasize the fact that the causal influence of the influenza bacillus in producing septicaemia had probably been overlooked because not so much as a syringful of blood had been examined in probable cases. Another explanation was probably because a quantity of blood had not been introduced into the broth of the culture tube. The method was a very important one.

Dr. Horder, in reply, said that in one of the cases a possible source of infection seemed to have been by the lungs, this was suggested by the position of the vegetation in the wall of the auricle away from the valve.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Professor John Chiene C.B., President, and subsequently Dr. J. Affleck, President-elect, in the chair.

Wednesday, November 1st, 1905.

The retiring President, Professor Chirne, C.B., delivered a most interesting valedictory address. He took as the subject the office-bearers of the Society in 1855. In that year the presidential chair was occupied by Dr. Sellar. The position of Treasurer was held by Dr. J. Struthers, who was subsequently knighted and became Professor of anatomy at Aberdeen University. The Secretaries were Drs. W. T. Gairdner and J. Warburton Begbie, men who afterwards rose to the highest position in their profession. A vivid and appreciative picture of the lives and works of those distinguished men was drawn by Professor Chiene. At the close of his address he received a unanimous and hearty vote of thanks from the Society, not only for his address, but also for his able and courteous conduct in the chair during the past year.

The Opsonic Index.

A contribution by Drs. David Lawson and Ian Struthers Stewart, on the use of the opsonic index of the blood in the diagnosis and treatment of pulmonary tuberculosis, was read by Dr. Lawson. Having explained the technique, the authors said opsonic indices varying from 0.9 to 1.2 were quite compatible with health, and those of patients suffering from tuberculosis were as a rule found to lie outside those limits—usually below 0.9 in the subacute and chronic forms of the disease and above 1.2 in acute cases. The behaviour of the opsonic indices of the blood of healthy and of tuberculous patients also differed when treated with tuberculin (TR). Injected in small doses into healthy persons, in all cases the index rose at once, whilst in tuberculous subjects injection was followed by a rise subsequent to an initial fall. This feature the writers considered important, both in relation to diagnosis and treatment. They had failed to establish any constant relation between the "negative phase" and temperature disturbance.

Dr. Alexander Bruce, though he had not obtained such marked success in the treatment of tuberculosis of the lungs by injections of small doses of tuberculin, guided by observations of the opsonic indices, as those claimed by the authors, had obtained satisfactory improvement in one case of myelitis, one of lupus, and one of glandular tubercle.

Dr. Gulland believed that the opsonic index would render administration of tuberculin safer and more satisfactory. He did not think that the number of cells counted—namely, 30—was sufficiently large to guard against error. The indices must be obtained in a very large number of cases by competent observers before reliable data could be furnished.

Mr. Harold Stiles, speaking as a surgeon, stated that he often had the greatest possible difficulty in determining whether a given joint case was tuberculous or not, and hoped that future observations would establish the claims set up for the value of the opsonic index in diagnosing early tuberculous lesions.

Dr. Beattie thought that at least 50 to 60 leucocytes should be counted in determining the opsonic index. The mononucleated leucocytes were those to which special attention should be directed.

Cases and Specimens.

Mr. Stiles: (1) A patient to illustrate the treatment of general peritonitis by multiple drainage: he had suffered from fulminating appendicitis: five incisions for drainage were made; the abdominal cavity was not washed out; (2) a child with fibroid changes in muscles of the forearm resulting from a supracondylar fracture of the humerus; (3) a patient after operation for strangulated intra-abdominal testicle; on opening the abdomen the testicle was found in the pelvis, and was about the size of an orange; it was twisted inwards two and a half times, and rather resembled an ovarian tumour; (4) a patient after operation for aggravated ununited fracture of the femur: to bring the ends of the bone together it was found necessary to remove about 1½ in. from each: they were then held in apposition by means of an aluminium plate and screws.—Drs. Bruce, McDonald, and Pirie: A specimen of localized doubling of the spinal cord.

CLINICAL SOCIETY OF LONDON.

H. H. Clutton, M.A., M.C., F.R.C.S., President, in the Chair.

Friday, November 10th, 1905.

Obstruction of Inferior Vena Cava.

Dr. C. W. Chapman read the after-history and *post-mortem* record of a man aged 48 in 1897, when he was first seen for palpitation and syncopal attacks, and had the veins of the abdomen greatly dilated (see vols. xxxii and xxxiii of the Clinical Society's *Transactions*). He contracted syphilis in 1877. In 1897 he had a lump behind the neck as large as half a walnut. A gummatous deposit obstructing the inferior cava was diagnosed, and mercurial treatment, followed by iodide of sodium, adopted. The nuchal tumour and syncopal attacks after a few weeks disappeared. Treatment by specific remedies was carried on in the out-patient department for eight years, suspension of that treatment being always followed by failure of general health. He had suppurative appendicitis in June last, and was admitted to the London Hospital, where he died of peritonitis. *Post mortem*, the root of the right lung, with the neighbouring vessels, including the end of the inferior vena cava, was firmly matted into a mass of fibro-calcareous material. The heart weighed 15 oz.,

the right side being as large as the left; the cardiac muscle was hard and tough, with visible strands of fibrous tissue running through it. Both ventricles and the right auricle were dilated; the left auricle was much diminished and constricted at its middle by calcification to a ring, which just admitted the tip of the index finger. Liver enlarged and indurated; kidneys normal.

Suppurative Pylephlebitis.

Dr. Francis Hawkins (Reading) described this case. The patient, a boy, aged 12, fifteen days before admission to the Royal Berkshire Hospital had an attack of vomiting, followed four days later by chill, vomiting, and diarrhoea which was said to have lasted twelve days. On admission there was pain with tenderness on pressure an inch to the right and a little above the umbilicus, and tenderness over the left half of the epigastric region. No jaundice; no vomiting; bowels constipated, relieved only by enemata. For six days after admission there was no definite sign that the liver was the seat of abscesses. But on the sixth day a swelling appeared in the epigastric region on the left side. The patient died four days later. At the autopsy the portal vein was found thrombosed and suppurating; multiple abscesses were found in the left lobe, and the right lobe contained two small abscesses. The mesenteric glands were enlarged, several were suppurating, and, one brownish-black, discharged offensive pus. The spleen, enlarged, contained no abscess. The Clinical Research Association reported that the pus contained organisms, but neither tubercle bacilli nor pyogenic cocci were found, and the only organism detected in cultures was the *Bacillus coli communis*. There was nothing in the structures of this mesenteric gland to throw light on the suppuration in the liver. Dr. Hawkins pointed out the rarity of such cases, and considered the suppurative pylephlebitis secondary to the necrotic mesenteric gland.

Dr. de Havilland Hall had seen an autopsy that day of a similar case following appendicitis. The absence of jaundice was exceptional.

Mr. Charters Symonds said that the trouble probably started in the suppurating gland. Was the appendix healthy? In his experience jaundice was exceptional. He described a recent case of appendicitis in which an inflamed vein close by the appendix was also removed. The patient did fairly well until the tenth day, when a rigor occurred, followed by pylephlebitis, which proved fatal in the fifth week. There was no jaundice.

Mr. W. G. Spencer described a case due to gastric ulceration, and accompanied by severe jaundice and temperatures of 105° and 106°. He had saved the patient by draining the gall bladder, from which flowed bile loaded with *Bacilli coli*. Other patients so treated had likewise recovered.

Mr. Symonds would restrict the term "pylephlebitis" to cases of venous suppuration, which were always fatal. It should not include cases of cholangitis, to which category Mr. Spencer's case doubtless belonged.

Dr. A. E. Garrod referred to a paper on pylephlebitis by Dr. W. Langdon Brown, in which of 43 cases 43 per cent. only had jaundice.

Dr. Hawkins replied.

Splenectomy for Rupture.

Mr. Graham Simpson (Sheffield) showed a man, aged 27, whose spleen he had excised for traumatic rupture. The patient had fallen 20 ft., striking his left side; he was admitted to the Sheffield Royal Hospital for fracture of the left femur; he did not show signs of intra-abdominal catastrophe till four hours after the accident. A diagnosis of rupture of intestine was then made, and the abdomen being opened contained much blood. The lower third of the spleen was found nearly torn off, and as the rupture involved the hilum the organ was excised. The man made a rapid recovery. The only points to note were temporary anaemia and leucocytosis, delayed union of the fracture of the femur (twelve weeks), and slight enlargement of some lymphatic glands. Mr. Simpson made observations on 100 cases he had collected. Three points of importance in the diagnosis were: An accurate history of the accident, the signs of internal haemorrhage, and the localizing signs. Of these last he attached most importance to Mr. Ballance's observation that on suitably changing the position of the patient the dullness of the right loin shifted, but not that of the left. He divided the cases into four groups: (1) The patient died at once, or within a few minutes of the accident (spontaneous rupture); (2) the onset of symptoms was greatly delayed—from twenty-four hours to fifteen days. This delay might be due to clotting or to the bleeding being at first subcapsular and subsequently bursting through the capsule; (3) the majority of cases, with symptoms showing themselves in from one to twenty-four hours; (4) a few cases where the symptoms of rupture of the spleen had shown themselves, and had gradually passed off without operation. He recommended that all these cases should be operated on; those of the fourth group because in 2 cases the blood later became infected. Splenectomy was usually necessary as the ruptures were often very extensive, and frequently involved the vessels of the hilum. He concluded by discussing the causes of failure of the operation and the sequelae of removal of the spleen.

The President thought the treatment should depend on the extent of the injury, and was in favour of plugging the wound wherever possible instead of splenectomy.

Mr. Crisp English described the case of an elderly woman in which no serious haemorrhage occurred until the third day, when severe collapse ensued. He operated, easily removed the ruptured spleen after free transverse division of the abdominal wall in front of the spleen, and she made a good recovery. She was now in good health except for great shortness of breath.

Dr. Ernest Jones thought the differential count in these cases might settle some points bearing on the question of the origin of the white corpuscles. Researches carried out in Russia by Kurloff had shown that in the first year a hyperlymphocytosis appeared followed in the second year by eosinophilia.

Mr. Simpson, in reply, agreed that plugging of the wound might be done wherever it was possible. He gave full particulars of the blood-counts made after the operation.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

Section of Surgery.

Friday, November 3rd, 1905.

Sir Arthur Chance, P.R.C.S.I., President, in the Chair.

Gastric Surgery.

Mr. Gordon, in a paper on the subject, said he had investigated the after-history of a number of cases treated by physicians in a general hospital, and the result of this investigation seemed to show that such treatment was generally unsuccessful. As for the relative risks of surgical and medical procedure, he thought there was a tendency to overrate the frequency of perforation and fatal haemorrhage, and a tendency, on the other hand, to underestimate the dangers of gastro-enterostomy.

Gastro-enterostomy.

Mr. McArdle, in a paper on gastro-enterostomy, said that the frequency of post-operative troubles rendered it imperative to study every detail in the after-history of cases of this kind. He now always performed the posterior operation, and to prevent any chance of looping or torsion of the small intestine he left the shortest stretch of intestine possible between the end of the duodenum and the point of anastomosis. Since he had adopted this method in 1904 he had never had any instance of the development of a vicious circle in his cases. They were all carried out with Murphy's button, and without any mortality.

Mr. Edward H. Taylor thought it important to leave a short loop of bowel between the duodeno-jejunal flexure and the site of the anastomosis, and to suture the jejunum to the stomach for some distance on each side of the latter. There was a type of female stomach intimately associated with tight lacing—one in which the gastric orifices approximated each other, the lesser curvature being sharply bent upon itself and the pyloric segment of the viscus represented by a large dependent pouch.

Mr. Jamieson-Johnston said that, with a limited extravasation, he favoured sponging; if extensive, he preferred douching.

Mr. Haughton said that many individuals supposed to be neurotic after gastro-enterostomy might really have a physical cause for the disorder in adhesions. In one of his cases a vicious circle had resulted from the jejunum being nipped by the margins of the aperture in the transverse mesocolon.

Mr. Kennedy favoured Murphy's button, as its employment resulted in the formation of a round punched-out hole, whereas the suture method left merely a slit.

The President would like more information on the subject

of feeding after operation; he always felt somewhat uncomfortable until seven days had elapsed.

Mr. GORDON, in reply, stated that it was his practice to begin feeding practically at once. Sips of hot water after the operation were followed next day by teaspoonfuls of albumin water every hour. Afterwards the amount of liquids given was rapidly increased, and solid food was allowed after the tenth day.

Mr. MCARDLE, in reply, said he allowed as much fluid as the patient desired from the start. He always employed the Murphy button.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

PRIESTLEY SMITH, F.R.C.S., President, in the Chair.

Thursday, November 9th, 1905.

PHLYCTENULAE.

DR. L. B. NIAS and Mr. LESLIE PATON read a preliminary note on the value of the opsonic index for tubercle in phlyctenulae. The research was suggested by Dr. Wright, who had observed that a crop of phlyctenulae frequently developed in patients undergoing inoculations with tuberculin. This suggested the investigation of the opsonic index in such cases in the hope that it might throw some light on the question of the tuberculous nature of the disease, and show whether it was exogenous or endogenous in origin. The opsonic index was determined by Dr. Nias in 20 cases of the disease, 5 patients with other forms of conjunctivitis being used as controls, and 7 of the 25 cases being simultaneously examined so as to determine their opsonic index for staphylococcus. The results showed in striking form variations from the normal in the tuberculous index of the cases of phlyctenular conjunctivitis, practically normal indices for the other forms, and practically normal indices for staphylococcus in the majority of cases tested. In one case in which there was fairly advanced phthisis, both the tubercle and also the staphylococcus indices were lowered.

ALBINISM.

Mr. NETTLESHIP, in a note on some varieties of albinism in man, mentioned the following: (1) Albinism of hair and skin with normal eyes; (2) Albinism of eyes with hair that, originally white, became yellow or red or quite brown about the age of puberty; (3) albinism of choroid only, with nystagmus and defective sight; (4) progressive pigmentation of the albinotic eye, as in Class 2, but occurring too long after birth to allow of any improvement of sight; (5) pied albinism—that is, congenital absence of pigment from certain areas of skin. In incomplete human albinism the whole uveal tract was entirely free from pigment, while the retinal epithelium was more or less pigmented. Manz proved this in 1878, and Usher had confirmed this in some sections from the eyes of two individuals. In sections of the iris of a completely albinotic man the author had found the posterior epithelium, as well as the iris itself, devoid of any trace of pigment.

COLOUR BLINDNESS.

In discussing the question of colour blindness in women, Mr. NETTLESHIP mentioned five families in which one or more females were congenitally colour blind; in four of them some of the males were also affected, and in one the family history was not obtained. He pleaded for a systematic search for colour blindness in females, especially in families affected by it, so that the current opinion, as to the ratio being 1 female to 40 males affected, might be tested; it could also be ascertained whether the disease passed from an affected father, through an unaffected daughter, to a grandson, as in haemophilia. Slight degrees of colour blindness, especially if intentionally concealed, would be more difficult of detection in women than in men.

METASTATIC SARCOMA OF THE RETINA.

Dr. ARTHUR J. BALLANTYNE gave a lantern demonstration of a case of metastatic sarcoma of the optic nerve and retina. The patient was a woman aged 58, with right-sided hemiplegia, paresis of the left internal rectus, and blindness of the left eye. All these symptoms were said to have come on within one week. A yellowish oval mass projected from the disc and completely concealed it; its diameter was about three times that of the disc; in the retina there were numerous flame-shaped haemorrhages. At the necropsy, patches of softening in the pons and corpus striatum were found, and a sarcomatous mass in the mediastinum and root of the left lung. Metastatic growths were found distributed almost all over the body; that in the optic nerve had pushed its way through the lamina cribrosa into the eyeball, and was thus seen ophthalmoscopically. The greater part was necrotic, but parts stained well. The author ascribed the metastasis to emboli reaching the blood stream through the walls of the pulmonary vein.

HARVEIAN SOCIETY OF LONDON.—At a clinical meeting on November 9th, at St. Mary's Hospital, Mr. C. B. LOCKWOOD, President, in the chair, the following were among the cases shown:—Dr. WM. HILL: A young man with extensive tuberculous disease of the right temporal bone, who had been operated upon several times; on the last occasion, one month before, the dura mater in the middle fossa was exposed, and removal of bone down to the lateral sinus was effected. There was no attempt at repair owing to the poor health of the patient. A sojourn at Margate was advocated. Mr. CRISP ENGLISH suggested the use of formalin locally and favourable surroundings in the country.—Dr. J. BROADBENT: A man with transposition of the viscera—the heart on the right side, and liver on the left. The man was apparently in good health, and robust.—Mr. CLAYTON GREENE: (1) A bulky man, from whose right ureter a small uric acid stone had been removed. He had renal colic on September 18th, followed by right epididymitis, and four days' anuria. When cystoscoped on September 23rd the right ureter seemed healthy, and white flakes were seen exuding from the dilated mouth of the left ureter. After the operation urine came out of the right loin, but none was found in the bladder for eight days. The wound healed on October 20th. A second cystoscopy showed pus escaping from the left ureter. The questions of the possibility of recurrence of the anuria, and of an operation on the left kidney were discussed. Mr. DANIEL thought the epididymitis was no doubt septic, the man having slight prostatic enlargement associated with the presence of micro-organisms. The PRESIDENT suggested the use of a separator to determine the secretion of the two kidneys, and referred to a case illustrative of the importance of this procedure. (2) A case of extensive aneurysmal varix in the right forearm of a young woman involving the radial, ulnar, and interosseous vessels, and probably of congenital origin. He contemplated arterial ligation, and spoke of possible amputation. The PRESIDENT said such conditions appeared more common in young women, and advocated some form of bandaging. Mr. CRISP ENGLISH suggested the successive ligature of vessels supplying the tumour, and the possible advantage of elastic bandaging; he urged time and patience and the trial of all possible measures before amputating.—Mr. MAYNARD SMITH: A case of enlargement of both parotid glands in a man, the right dating eighteen months, the left ten days. No calculus was found. He thought the cause was due to oral sepsis. Dr. CAUTLEY deprecated surgical intervention in the absence of obvious indications for operation, and referred to a case in point which had lasted seven or ten years without much discomfort.—Dr. COPE (for Dr. Lees): A young man admitted into the hospital for haemoptysis. He had a loud diastolic musical murmur at the cardiac base, and signs of phthisis at both apices, confirmed by examination with the *x* rays. Dr. SYDNEY PHILLIPS said that no deduction as to the condition of the aortic valves could be drawn from the musical character of the murmur. Dr. CAUTLEY referred to the interest of a diagnosis of tubercle of the lungs founded on *x*-ray observation.

MEDICAL SOCIETY OF LONDON.—At a clinical meeting on November 13th, Sir LAUDER BRUNTON, President, in the chair, Dr. F. J. POYNTON showed a case of congenital malformation of the chest in which the heart was on the right side of the body, the first to the fifth left costal cartilages being missing.—Dr. F. PARKES WEBER showed a case of chronic symmetrical oedema of the upper extremities in a woman aged 64, probably due to a peripheral neuritis following some general illness, after which there was for a short time pain in the lower limbs as well as the upper.—Dr. W. ESSEX WYNTER showed a case of osteo-arthritis of the spine—poker back—in a woman aged 36, who had been for seven years the subject of mucous colitis; Mr. C. GORDON WATSON, a case of ichthyosis associated with papilloma of the tongue of unusual size in a man aged 50, in whom the ichthyosis rapidly spread on one side of the tongue after the papilloma was removed from the other; Mr. EDRED M. CORNER, two patients, 15 and 30 months respec-

tively after operation for tuberculous glands in the mesentery, both of whom greatly improved; and Dr. Morgan Dockrell a case of cystic colloid degeneration of the sebaceous glands, one of cystic hyaline degeneration of the sweat glands, and one of fibro-cystic sebaceous celluloma showing colloid degeneration.

British Gynaecological Society.—At a meeting on November 9th, Dr. William Alexander, President, in the chair, Dr. MacNaughton Jones read notes on a specimen of early tubal haematocele in a patient, aged 23, whose symptoms appeared immediately after menorrhagia. During convalescence symptoms of internal haemorrhage supervened, necessitating immediate operation. The abdomen contained blood and clots, and the right tube was found ruptured; a rent extended through the right broad ligament to the posterior surface of the uterus. Haemorrhage only ceased after supravaginal hysterectomy. Degenerated chorionic villi were found in the dilated right tube.—Dr. Bedford Fenwick showed a fibroid uterus containing a fetus of 3 months removed from a patient, aged 40, married 17 years, and pregnant for the first time. The history was one of amenorrhoea with increasing pelvic pain and dysuria. The pelvis was filled by a tumour which extended to the umbilicus. Hysterectomy was performed. The tumour was particularly dense, and contained a fetus about 3 months old. Adhesions were numerous and firm.

Hunterian Society.—At a pathological meeting of this Society on November 8th, Dr. Fred. J. Smith, President, in the chair, Mr. John Poland showed: (1) A unique specimen of fracture through the anatomical neck of the humerus, with dislocation, in a woman of 56; Mr. Poland saw the patient six months after the accident and removed the head of the bone, replacing the upper end of the neck in the glenoid cavity; good movement resulted, a false joint being formed. (2) A girl of 8, first seen by him six months after an accident, with swelling of the upper end of the tibia; *x* rays showed great thickening of the upper third of the tibia with no involvement of the knee-joint; sarcoma, tuberculous disease, and traumatic effusion of blood were suggested as diagnoses; on operation, a cavity was evacuated containing about 5 oz. of soft, pulpy material and prune-juice-coloured fluid; myeloid cells were found, but Mr. Poland thought that they were phagocytes and not indicative of sarcoma; the leg was now, three years after the operation, in good condition.—Dr. Zum Busch: (1) Several small cysts filled with blood, removed during an operation on an inguinal hernia which contained an ovary and Fallopian tube; the cysts were connected with the round ligament, and Dr. Zum Busch considered that they were analogous to the similar structures sometimes found in the spermatic cord. (2) A single cholesterine gall stone from the cystic duct of a man, made up of crystalline flakes and plates.—Dr. C. H. Miller (introduced by the President) described a new method of embedding pathological specimens in flat glass capsules. The specimens were first washed in running water, then soaked in 40 per cent. formalin for at least a week, next put in 70 per cent. spirit for two days, and next into equal parts of glycerine and water; after this treatment a fresh surface was made and the specimen put into 40 per cent. spirit for at least a week, and finally embedded in warm gelatine. Numerous specimens embedded in this manner were shown with their natural colour preserved.

Manchester Medical Society.—At a meeting on November 1st, Dr. J. Dreschfeld read a paper on some points in the diagnosis and treatment of Graves's disease. Apart from the chronic type, it occurred in two different acute forms. In the one, affecting chiefly young people and occurring also during pregnancy, the prominent symptoms were well marked, but the patient did not suffer very much, and recovery often occurred in the course of a few months, even without any treatment; in the other, the affection was characterized by rapid and progressive emaciation, rise of temperature, great weakness, excitement and delirium, and often terminated fatally a few weeks or a few months after the onset. In the ordinary chronic form the heart often showed dilatation of either the right or left side, and this varied in extent from day to day. A symptom seen in almost all cases was the vasomotor irritability known as dermography; it was not only very marked and persistent, but might give rise to a distinct swelling—the urticaria factitia of Gull—and thus help in the diagnosis of incomplete cases. Of the numerous nervous symptoms, whilst the sudden giving way of the legs was very common, paresis and paralysis were rare. Some cases of neurasthenia, or mental disease, might have many of the symptoms observed in the abortive form of the disease, and diagnosis must rest on the inclusion of all the symptoms, especially the tachycardia and moderately enlarged thyroid. As for treatment, adrenalin might do good in cases where there was low arterial tension, and the antithyroid serum of Moebius had in some cases given very good results. As for surgical procedures Kocher had obtained 45 cures out of 59 operations (4 others died, 8 improved, and 2 experienced no relief).—Mr. Southam mentioned 4 cases of appendicitis in boys, in whom the attack developed immediately after the receipt of an injury. In three instances it was the result of direct violence applied to the abdomen, and in another it followed a severe strain of the abdominal muscles. When appendicitis followed an injury it was probable that the appendix was previously in an unhealthy or abnormal condition, either containing a concretion or stenosed and distended with fluid, or adherent to the abdominal wall.—Mr. Stanmore Bishop brought forward several cases illustrating the value of Murphy's test as an aid to the diagnosis of biliary calculi.

REVIEWS.

VETERINARY HYGIENE.

So much advance has been made in our knowledge of tuberculosis since the first edition of *Cattle Tuberculosis*[1] was written by Mr. Sessions and Dr. Legge, and so many regulations have been introduced as a consequence of this increased knowledge, that the book has had to be almost entirely rewritten. In its present form it should prove most valuable to those for whom it is primarily intended, and most useful to all who are engaged in public-health work or are interested in the prevention of tuberculosis. Written in plain language, so as to be readily understood by those who have had no medical training, it nevertheless gives the salient points of our knowledge of tuberculosis and the relation between the human and bovine types of the disease accurately and in sufficient detail. The reliability of the tuberculin test is fully considered, and the directions for its use are adequate. Some very valuable data on the effects of the tuberculin test are quoted at length from the report of the Committee appointed by the Royal Agricultural Society to inquire into this subject. One significant remark by the author may be noted. He says (p. 25): "At first it was hoped that the repeated injection of tuberculin might cure the disease, but at present this has not proved to be the case"; he also remarks on the rapidity with which tuberculosis may spread amongst pigs, and the frequent dissemination of disease because so few people know that pigs are affected in this way. The danger from the milk of tuberculous cows and the measures which may be employed to minimize or prevent this danger are discussed in Chapter VI. Meat inspection forms the subject of the next chapter, which is in turn followed by a consideration of the proper disposal of affected carcasses. With regard to milk, the author states that it is impossible for milk to be "pasteurized, freed from all disease germs, and the taste unaltered"; for with the necessary heat to kill germs the flavour of the milk must be affected. The clauses obtained by Brighton under Act of Parliament for the regulation of the milk supply are given in full, as an example of local powers in this direction which the author believes will soon become generally adopted. The stamping of meat is advocated in the interests both of the agriculturist and the consumer. The book contains much practical matter of interest to agriculturists, whilst to the inspector it constitutes a reliable textbook.

Colonel Smith's work on *Veterinary Hygiene*[2] contains useful information, conveyed in language which will enable the general reader who is interested in animals, more particularly horses and cattle, to obtain facts which should prove of value. The scheme adopted is to allot a chapter to each separate subject with which hygiene is concerned. Some of these chapters have been written by specialists. While the work may be said to meet a want and to be valuable to amateurs, there is

[1] *Cattle Tuberculosis*: A Practical Guide to the Agriculturist and Inspector. By Harold Sessions, F.R.C.V.S. Second Edition. London: Bailliere, Tindall, and Cox. 1905. (Crown 8vo, pp. 190. 3s.)

[2] *A Manual of Veterinary Hygiene*. By Colonel F. Smith, C.M.G. Third edition. London: Bailliere, Tindall and Cox. 1905. (Demy 8vo, pp. 1050; 255 illustrations. 15s.

no doubt that the intrinsic merit of the different chapters is not uniform. The earliest, for instance, which deal with water, air, and ventilation, contain sufficient information, perhaps, for the general public, but to the technical reader they would be of more assistance were they revised by a specialist. Further, we must confess that much seems familiar from our having read it in other works. It is true that some subjects become common property after a time; but the authorship of extracts should be acknowledged. At any rate, there should be no confusion such as is created by a reference to a well-known work on hygiene, while the facts and tables on the preceding and succeeding pages are taken without acknowledgement from a still better-known author whose work has long been a standard book of reference. Further, the omission of references is a drawback to those who would wish to pursue the subject. This being the third edition of the work, numerous misprints ought to have been corrected, such as "liquor ammonia" (p. 18), "a strata" (p. 22, line 31), "this data" (p. 112), etc. The use of the terms "soda carbonate," "ammonia oxalate," does not look well beside sodium phosphate and ammonium chloride. In a work of this kind the term "artificial grasses" should not be retained as a heading to the description of leguminosae. But though the style of the composition leaves much to be desired, the work may be commended to the general reader as likely to furnish good practical information on the hygiene, care, and management of domestic animals, while the illustrations of grasses, leguminosae, and certain parasites will supply a want. The statement (p. 998) that bursattee may yet be shown to be parasitic should not have retained its prophetic wording. The portion devoted to State and municipal hygiene gives information relating to legislation. In these days of specialization we are inclined to agree in principle with Colonel Smith's remarks regarding meat inspection. Meat in abattoirs should be examined by those who have special knowledge of morbid conditions present in carcasses of animals, so that only healthy flesh may find its way into the retail market. Such knowledge is not confined to veterinary surgeons. Some useful remarks are made relating to the care of milk. The author advocates milking by machinery in order to abolish the human milker, whom he holds responsible for epidemics spread by milking. The index is not as complete as could have been wished.

Friedberger and Frohner's *Veterinary Pathology*,[3] a translation of which we owe to Mr. M. H. Hayes, F.R.C.V.S., deals with the non-infective diseases of animals. It is not confined to the pathology of these diseases, but includes their history, statistics, causation, symptoms, diagnosis, and treatment. In a work professedly dealing with pathology the system adopted frequently appears curious. For instance, we find invagination of the intestine touched upon (we cannot say described) under the head of a symptom, colic. The authors "follow the old routine" of lumping together diseases of stomach and intestines, poisoning, and worms, under the head of Diseases of the Stomach. This course has been adopted in a chapter 183 pages in length. In spite of these defects there is much useful information, especially regarding treatment, in the work, the title of which gives no idea of the wide field covered. The term "clinical textbook," used on p. 463, is nearer the mark as a descriptive title.

INCOME TAX.

The *Income Tax Problem*,[4] a pamphlet by Mr. A. M. Scarff, consists of two articles reprinted from the *Magazine of Commerce*, and some additional matter dealing with the Report of the Departmental Committee on Income Tax. The author's expressed object is, by inducing the public to take "an interest in the gross anomalies in the Acts and their administration," to obtain "the appointment of a thoroughly representative Committee to go into the whole question with a view to a revision and codification of the Acts." He is by no means satisfied with the result of the labours of the recent Committee, asserting that it was not impartial, for it consisted "almost exclusively of Inland Revenue officials or those . . . engaged in the administration of the Acts"; the witnesses were not competent to speak from an extensive "experience of the working of the Income Tax Acts from the taxpayer's point of view," and its conclusion that no drastic alterations in administration are necessary, will not be endorsed by the great body of taxpayers. Mr. Scarff criticizes the report in detail, more especially the paragraphs dealing with "Fraud and Evasion," the simplification of the form of Income Tax Return, the proposed limitation of the taxpayers' right of appeal at the end of the year, and the system of computing profits on a three years' average, on all of which points he has hard things to say of the Committee.

Passing to the subject more particularly indicated by the title of his pamphlet, the author recommends drastic changes in the existing system of income-tax assessment. He speaks highly of the Special Commissioners of Income Tax, but would abolish the local Commissioners, of whom he writes that "their ignorance of the law and practice relating to income-tax is only equalled by their lamentable ignorance of accounts." We should be sorry to think that things are really so bad as Mr. Scarff would have us believe. That income-tax commissioners are frequently neither profound lawyers nor expert accountants is undeniable, but the author appears to lose sight of the fact that the majority of the taxpayers of this country keep no reliable accounts whatever, and therefore the office of Commissioner requires the possession of considerable local knowledge and practical acquaintance with the business conditions of the particular district, and calls for the exercise of a shrewd judgement on questions of fact, and a wide discretion in cases of doubt and difficulty, rather than the technical qualifications of the professional lawyer or accountant.

The author's "suggestions for improvement" include the acceptance of all returns of profits made by taxpayers, combined with a power to the authorities to require any person to prove the accuracy of his return. This plan has the virtue of simplicity, although the Chancellor of the Exchequer might object to the loss of a few odd millions per annum which would seem to be involved in its adoption; but the author regards the question only from the standpoint of the London professional accountant. The majority of small tradesmen, who constitute so large a proportion of the taxpaying community, are honestly ignorant of the amount of profit they are making; and to require them to keep books, as Mr. Scarff suggests, would be equivalent to the imposition of an additional tax upon them several times greater than that which they are now called on to bear.

The pamphlet is interesting, but bristles with controversial points. It does not touch upon what is perhaps the most burning question from the point of view of the professional man, that of the differential treatment for income-tax purposes of industrial and spontaneous incomes.

Mr. T. Hallett Fry has written a practical handbook on the *Recovery and Adjustment of Income Tax*,[5] which "is intended to be helpful to taxpayers who do not aspire to the knowledge of the expert." Information is given as to the manner in which the most frequently-used income-tax forms should be filled up, and chapters are devoted to the method of computation of business profit and the expenses which may and may not be deducted. The author deals with the well-known but little understood "Section 133" of the principal Income Tax Act, and the provisions for setting off business losses against taxed income. In later chapters Mr. Fry discusses several questions with which readers of his former little book on *Income Tax Anomalies* (noticed in the British Medical Journal for September 12th, 1903) will be familiar. Under the headings Residence, Foreign Profits, Women and their Income Tax, and Industrial and Spontaneous Income, many of the arguments put forward in the earlier work reappear in a more popular form. Advocates of a graduated tax will be disappointed with his conclusions on the subject, but may obtain comfort from his views as to the practicability of differential treatment of "industrial" incomes. It is to be regretted that in an effort to treat his subject in a popular manner Mr. Fry has occasionally sacrificed accuracy to brevity. Thus the statements on p. 17 as to fire, burglary, and other insurance, on p. 19 as to bank interest, on p. 27 as to loss by fire of stock-in-trade, and on p. 68 as to deferred annuity premiums, all require qualification in one direction or another. We commend to the attention of our readers the chapter headed Penalties, the enforcement of which has been revived to some extent in recent years. Put shortly, Mr. Fry's advice is, "Be honest; it pays!"

[3] Friedberger and Fröhner's *Veterinary Pathology*. Translated by M. H. Hayes, F.R.C.V.S. Edited by John Dunstan, M.R.C.V.S. Vol. II. London: Hurst and Blackett. 1905. (Demy 8vo, pp. 780. 10s. 6d.)

[4] *The Income Tax Problem*: The Chancellor's Promise and its Sequel in the Report of the Income Tax Committee. By A. M. Scarff, F.S.A.A. 1905. London: Simpkin, Marshall, Hamilton, Kent, and Co., Limited. (Demy 8vo, pp. 22. 6d.)

[5] *The Recovery and Adjustment of Income Tax*: What to Do and How to Do it. By T. Hallett Fry, F.S.S. London: Jordan and Sons. 1905. (Demy 8vo, pp. 119. 3s. 6d.)

MEDICINAL AND DIETETIC PREPARATIONS.

The Therapeutic Action of Yeast.—We have received from Messrs. Roberts and Co. (76, New Bond Street) specimens of compressed tablets of levurine made by M. Couturieux of Paris. Each tablet is said to correspond to a teaspoonful of fresh yeast. It is said that the process of drying does not alter the therapeutic properties, and the tablets will certainly be a convenient form for administering the drug. Not long ago[1] we drew attention to the alleged value of yeast in the treatment of various diseases, and it is therefore worth while to record that Strèlkov,[2] following out the suggestions of Presta and Tarruella, has used this remedy in the treatment of erysipelas in thirty cases admitted to the Military Hospital of Siedletz. He administered the remedy in the form of a tablespoonful of fresh beer yeast in half a glass of beer three times a day, and he is satisfied that it cut short the evolution of the disease. In most cases the duration of the affection was reduced to ten days, and the erysipelatous patch showed only a feeble tendency to spread while the general course of the disease was very benign. In some cases there were relapses, and for this reason Strèlkov recommends that the treatment should be continued until the redness has completely disappeared and the temperature become normal. As a rule, defervescence occurred by crisis, coinciding with the arrest of the extension of the lesion, but sometimes the patch continued to spread for twenty-four or forty-eight hours after the temperature had fallen. He used no other treatment except the application of an icebag to the head in cases of high temperature. While regarding this treatment as superior to any other, he hesitates to attribute to the yeast a true specific action upon streptococcic infection.

Intramuscular Injection of Mercury.—Mr. W. Martindale, Ph.D., 10, New Cavendish Street, Portland Place, W., has sent us a specimen of a mercurial preparation for intramuscular injection, made up according to the prescription recommended by Lieutenant-Colonel F. J. Lambkin, R.A.M.C., in the paper published in the BRITISH MEDICAL JOURNAL of November 11th, 1905, p. 1254. The preparation is sent out in 1 oz. wide-mouthed stoppered bottles; 10 minims contain 1 gr. of mercury.

MEDICAL AND SURGICAL APPLIANCES.

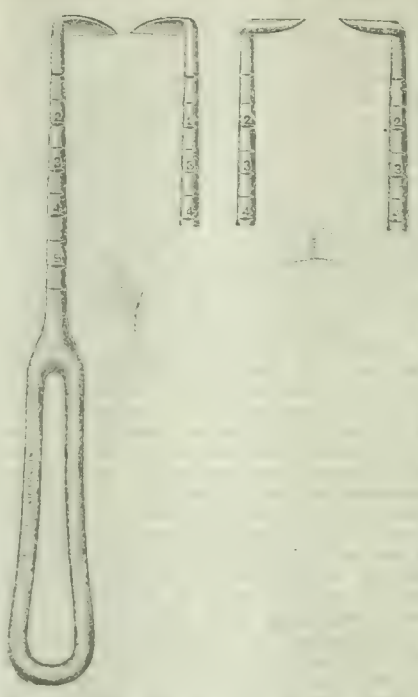
A New Chloroform Bottle.—The annexed illustration depicts a new chloroform bottle which, although of very simple construction, has several advantages. When used during the production of an anaesthetic the contents can be caused to flow out in a stream or merely drop by drop simply by moving a finger on or off an ingenious form of air vent. When the operation is over the stopper is reversed, and the bottle is then as hermetically sealed as any ordinary stock bottle, but remains ready for instant use without further trouble than that of again placing the stopper upside down. The latter is



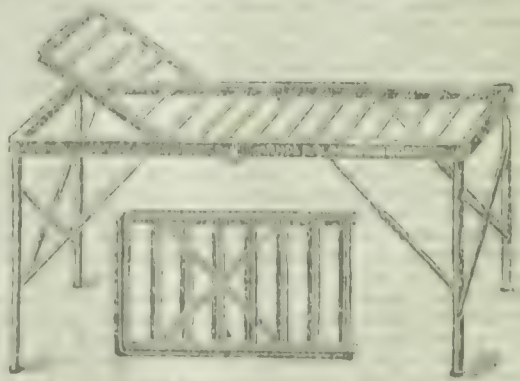
Free flow. Single drops.

made of a new patent composition named galalite, which is unaffected by chloroform or ether, and the bottle is free from the screw caps and washers common in those used for a similar purpose, and which are so easily mislaid. Thanks, moreover, to a metal clip, attached by way of extra precaution, the stopper is so firmly fixed in place that there is no chance of its jumping out, however the bottle may be shaken when carried about in a bag. It is made by Messrs. Arnold and Sons, instrument makers, of West Smithfield, E.C., and supplied in a neat leather case.

Some New Knives for Establishing Permanent Intra-nasal Drainage of the Antrum.—The accompanying illustrations show a set of knives which Messrs. Mayer and Meltzer have made for MACKAY MACDONALD, M.A., M.D.Cantab., M.R.C.P. Lond., Senior Clinical Assistant, Throat Department, King's College Hospital, and which he has found very efficacious. Their chief characteristic is a chisel-like cutting edge at a right angle to a shaft which is graduated in centimetres. In the course of his description of their advantages, Dr. MacDonald says that with these knives a roughly-rectangular portion of the inner wall of the antrum, together with a corresponding section of the inferior turbinal, can be removed, leaving the anterior and posterior portions of the latter intact. Four incisions are made: the first from behind forwards above the inferior turbinal; the second parallel to this, below that body, at as low a level as possible; the third and fourth at right angles to these, joining their posterior and anterior extremities respectively, carried from above downwards through the inner antral wall and the inferior turbinal. The posterior vertical and the two postero-anterior incisions should be begun about 4 cm. from the margin of the ala nasi, the graduation of the shafts of the knives being of use in determining the position of the extremities of the incisions, if these are not in view or are obscured by blood. In puncturing the wall of the antrum at the commencement of each incision, the point of the knife should be directed downwards and outwards. The opening thus made readily admits the little finger, by which nearly the whole of the antrum can be explored. Little or no pain follows the operation, and the cut surfaces of the inferior turbinal heal rapidly without the formation of troublesome granulations, such as sometimes occur when scissors are used.



A New Portable Operating Table.—Messrs. Arnold and Sons, instrument makers, of West Smithfield, E.C., have recently brought out an operating table, which is shown in the annexed illustration open and ready for use, and also folded up for transport. It is made of enamelled iron, and when opened out is extremely steady, a point in which so many



portable operating tables fail. It is a thoroughly practical table, and its very low price brings it well within the reach of general practitioners and others who have occasion at times to perform operations at their patients' houses or to whom a table of this character, and one which can be easily stowed away when not in use, would be a convenience in their own consulting rooms.

[1] BRITISH MEDICAL JOURNAL, 1905, vol. ii, p. 352.
[2] *Volenno Med. Journ.*, August, 1905.

MAJOR W. H. HORROCKS, R.A.M.C., M.D., D.P.H., has been elected a Fellow of the Royal Sanitary Institute.

EXPERT MEDICAL EVIDENCE.

At a meeting of the Medico-Legal Society, held on November 14th, at 22, Albemarle Street, under the chairmanship of the Hon. Mr. Justice Walton, President, a discussion took place on consultation among medical witnesses previous to trials.

In opening the discussion, Dr. W. P. Herringham said that a few years ago a man sued a provincial gas company for damages sustained by him owing to leakage in his bedroom from a pipe for which the company was responsible. Several physicians were called on either side; those for the plaintiff declared that he had sustained permanent damage to his lungs, those for the defendants swore that his condition was due to tuberculosis which could not have been produced by gas poisoning. The judge, in summing up, said that he thought it was a great pity that medical witnesses were not allowed to dispense with the formality of an oath, for they went into the witness-box with their minds made up, and their evidence was most contradictory. The jury found for the plaintiff, though for small damages, and the judge, in giving the order for costs, refused to make any allowance on the higher scale for the expert evidence, saying that he would give the medical witnesses nothing.

Essential Difficulties in Forming Opinion.

That such a statement should be made and such action taken must be exceedingly painful to all those who had the honour of their profession at heart. It was the general opinion among laymen that when two doctors gave widely different opinions one of them was bound to be wrong, and that that was due either to ignorance or to dishonesty. But those who knew something of the difficulties of their work would probably take a very different view.

For let them consider what obtained in an ordinary matter of sight and hearing, such, for instance, as a collision in the street. They did not expect that the testimony of the bystanders would be identical; almost every one would give a different version of what had happened. Nor was it the case that a better education, such as medical men possessed, or a higher standard of morality, which they should possess, would always result in making evidence the more harmonious.

He was no lawyer, but all doctors were trained more or less in cross-examination, and he was quite sure that those present would bear him out in saying that it was not by any means true that the more conscientious and more self-conscious among their patients gave them the most helpful evidence. On the contrary, not infrequently their extreme desire to tell everything that they knew, and tell it with the greatest possible accuracy, led them to multiply details, to lay importance on things that were unimportant, and really to imagine a great deal which did not exist.

They had only to attend consultations among the surgeons at a hospital, or to go round the wards with a physician, to realize first that men would take very different opinions about the same case, and secondly that all would admit the extreme difficulty of diagnosis even under conditions when no one had any desire or any temptation to do otherwise than speak the exact truth, and in the presence of the most acute critics on the face of the earth—a body of medical students. They would realize at the same time how easily any counsel with the least help from expert opinion would be able to cast discredit on any such diagnosis in the minds of a jury.

That was true of mere ordinary diagnosis, but a legal case almost always involved two other even more difficult questions. The first concerned the present state of the plaintiff; was it due to the accident or otherwise? The second concerned the public; was the plaintiff now able to work, and if not how long would it be before he was? The plain fact was that they could not expect doctors to agree, and the only wonder was that they agreed as much as they did.

Special Difficulties in Legal Cases.

In the next place the divergence which obtained in ordinary cases was accentuated by the circumstances under which medical witnesses appeared in a court of law. For what happened? They received a letter from a solicitor asking that they would examine such and such a patient, their client, and appear in court to support his claim. If after examination their opinion was not favourable to his case they would not be summoned on his behalf. They would go to somebody else. And similarly with the defendant's case. The appearance of medical witnesses on opposite sides, therefore, implied *ab initio* that they took widely divergent views. When a man appeared in court he was expected to stick to his earlier statements, and thus even under cross-examination if he had formed his opinion carefully, and believed it to be honestly supported by the facts, he was liable to become something of a partisan. If, on the other hand, he had not been careful about his facts, and allowed himself to be beaten out of his position, he inflicted a great injury upon his client, and never ought to have taken up the case.

Possible Remedies.

Still, it could not be denied that some medical evidence was scandalous, that the present position of things was most unsatisfactory, and that it was not to the credit or dignity of the medical profession that they should have given rise to a classification of liars into the liar, the damned liar, and the expert witness. For some time past that subject had been carefully considered by many among them with a view to finding a remedy for the present state of things, and last year the British Medical Association, a body numbering more than half of their profession in England and Wales, sent round for discussion among its Branches a proposal that medical men summoned on opposite sides in a legal case should meet in consultation over the patient before they appeared in court.

He need not dwell upon the obvious advantages of such a course, but there were objections to be brought against it both from a medical and from a legal point. A medical friend of his, a man of large experience in legal cases, of great skill in his profession, and of most honourable character, said to him that for his part he would greatly prefer that such consultations should not take place. "In an argument," he said, "as such a consultation would inevitably be, the victory does not always go to the best reason; it is often gained by the more dogged and persistent of the two parties, not from the excellence of the argument, but from the personal force with which it is urged. I myself am perfectly able to hold my own against an ordinary colleague, but I quite recognize that some men are much more dogged and obstinate than myself, and I believe that my opinion would be quite likely to be warped even against my better judgement by a consultation with such an opponent. On the whole, I should greatly prefer to go into court and give my opinion quietly without knowing that of the opposite side, and leave the judge and jury to decide between the two."

He supposed that some such opinion as that was in the minds of the considerable number of Branches who declared against the proposal for a consultation.

Then there was the legal point of view. That would probably differ according to the status of the legal authority. He imagined that a judge would almost always be in favour of such consultation. A judge hated anything that would bring justice or his court into disrepute, as widely divergent expert opinion was apt to do. He hated also the wide margin for error which such divergence left to the jury. But if they were to ask one of the solicitors or counsel employed for either side they would probably take a very different view. An eminent solicitor whom he had consulted put it to him thus: "I," he said, "am employed by my client to make his case as strong as I can, and I am not justified in doing anything which will weaken it. If you two doctors consult, as you wish to do, one of you will modify his opinion. It might be my man. In that case my client's case would be weaker than before, and I should be responsible. And again, what is it that you want to gain by consultation? You are practically setting yourselves up as assessors and more or less trying the case out of court. To such a position you have no earthly legal right, and moreover I, who pay large fees to medical witnesses, do not pay for an assessor; I pay for a medical witness on my side. If you wish to consult your dignity you will have to give up your fees, but I can tell you what would happen before that—I should go to somebody else who did not wish to consult with the enemy." "But," said Dr. Herringham, "supposing all my colleagues refused to go into court unless such consultation were allowed?" He replied that he would deal with that emergency when it arose. There were thus several objections to be urged against the proposal of the British Medical Association.

Precedents.

But they must not forget that the plan had actually been tried in practice and with considerable success. That happened at Leeds many years ago. One of the oldest judges on the bench told him that he remembered Leeds as a nest of thoroughly scandalous medical evidence, and that the action which was voluntarily taken by the medical men of the town

to remedy that completely transformed the character of the evidence and greatly improved justice. Dr. Atkinson was kind enough to write to Leeds to ask what actually happened, and they learnt to their delight that the action which was then taken was taken largely at the instigation of Professor Clifford Allbutt, the Regius Professor of Medicine at Cambridge. It was just the action he should have expected him to take, for both in precept and in example his whole life had been devoted to making them respect one another and respect themselves. They would be interested to hear from him presently a full account of what had taken place at Leeds. They must remember, however, that what could be brought about in a comparatively small area—a single town, where all medical men knew one another to a certain extent, and where, therefore, public opinion could easily be brought to bear—would be much more difficult to bring about over a wide area or over the whole country.

There was another principle recognized already in our law which might be used for the solution of the present difficulty, and that was the principle of expert advisers. In the Admiralty Court, as he was told—he had himself no personal experience of it—no expert evidence was allowed to be brought either by plaintiff or defendant. Such as was required was supplied by an Elder Brother of the Trinity House, who sat as assessor to the judge. He was also told that the common sailor man who appeared in that court suffered from a peculiarly virulent form of perjury; that, it might be, had determined the practice at that court. Such expert evidence was, of course, not medical. An Elder Brother of the Trinity House was an Old Man of the Sea, but, as an expert witness, he was in an analogous position to their own.

The same principle was applied to medical men in county courts under the Workmen's Compensation Act. By that Act the Home Office appointed medical referees for various districts, and those gentlemen could offer an opinion which would be final and unquestioned in more than one way. In the first place, a workman who had been attended by the employer's doctor could, if he was dissatisfied with the certificate of his condition which that gentleman gave, go to the medical referee and require from him a second certificate. A copy of that was supplied to both parties, and was the final evidence of the man's state of health. If, again, when a case came before the Courts, the medical evidence on each side was conflicting, the judge might require the medical referee to examine it and report upon it.

Procedure varied in different courts as to the status of the report. In one case of which he knew the report was read out in open court by the judge, and the medical referee was requested by him to be present in person. The immediate result was that counsel on each side jumped up and began to ask questions, and, as a practical result, the medical referee had to go through something which could not be distinguished from a cross-examination. On the other hand, Judge Addison at Southwark refused to supply a copy of the report to the plaintiff or to the defendant, and, on his ruling being questioned, referred the matter to the Home Office, who replied that it was entirely at his discretion to treat such a report as confidential. It was obvious that this plan must be adopted if the aim of the Act was not to be thwarted.

There was also a third way in which the medical referee might be placed in that position. County-court judges had the power under certain restrictions to make rules for their own procedure, and Judge Reginald Browne of Stamford had framed a regulation by which, whenever the two parties consented, the medical referee would stand as the only medical witness called in the trial. In those three ways, therefore, the principle of putting expert evidence on a disinterested basis, and of summoning it by the Crown and not by the plaintiff or defendant, was already recognized.

Foreign Practice.

He was aware that the laws of other countries differed widely from their own, so foreign practice could hardly be urged as a reason for modifying that of Great Britain; yet it would be of interest to mention that the principle of expert assessors was that which obtained both in Germany and France, and that within the last year strong representations had been made to the Government of Italy to introduce the same procedure in that country. In Germany and France there existed a body of experts, appointed by the Government, from whom the court selected such as they deemed most suitable. The courts were not in any way bound to accept the report which was signed by the medical experts, but as a matter of common practice they were, of course, very largely guided by it. That was the principle which, it appeared to him, would be far the best way of solving the difficulty, and he left the matter to the judgement of that Society, with the greatest confidence in its opinion.

Experience at Leeds.

The following letter from Professor Clifford Allbutt, addressed to Dr. Atkinson, Honorary Secretary of the Medico-Legal Society, was then read:

My dear Sir,

I was a consulting physician for many years in Leeds, at a time when interlocking points and signals had not been invented, and as six large railways ran into Leeds, and accidents were more numerous than of recent years, you may suppose our experience was very large; indeed I suppose that, omitting medical officers of railway companies, I saw more of railway injuries than any other medical man, as I was engaged regularly by the largest companies; while at the same time I endeavoured to be called frequently rather by plaintiffs lest my evidence should become or seem one-sided. I was so unpleasantly impressed with the cross-examinations of medical witnesses in these cases, and by the appearance of incongruity given to such evidence in matters of fact sometimes, and of opinion frequently, that I took some trouble to try to mitigate this evil, both for the credit of medicine, as well as for the assistance of the courts. And I should add here that in this effort I was so soundly and efficiently supported by my colleagues in Leeds, and they too I trust by me, that Mr. Justice Stephen, at the close of a certain long case, paid a very high compliment to the leaders of the medical profession in Leeds. He said he was in the habit of hearing medical evidence in all parts of the country, and Leeds was the only town in which he never heard those unseemly disputes between the legal and medical professions which occurred in other places. The Leeds physicians had set an admirable example for many years past of truth and candour and straightforwardness in the box, and their juniors in Leeds were following their example. He hoped such a state of things might long continue in Leeds, and be imitated in other towns. Now how did this come about? To cut a long story short we stood out whenever possible for a consultation between the medical experts of both sides in all cases. Sometimes circumstances made it impossible, for reasons of time or what-not; always our desire for such consultations was bitterly opposed by the solicitors, and occasionally they could browbeat the local men into acquiescence with them. I should say that this was the case chiefly with solicitors for plaintiffs. In any case, we endeavoured while waiting to be called to see the medical witnesses on the other side, and to obtain some harmony of views, if there was substantial agreement, or where there evidently was not, then to make our differences definite, to distinguish opinion from fact, and to bring our points of difference into clear discussion by defining them and their dimensions, and by agreeing not to detain the court on matters on which we were agreed. We always desired the solicitors to be present if they chose, but to reserve their comments until we had arrived at some understanding; then they were at liberty to make any objections or additions they pleased. Their observations were of course heard with deference, and any points which seemed to them put injudiciously revised. Now let me put to you a case in which this procedure issued as follows: A plaintiff from a distant town alleged an injury in a collision. His own medical adviser, a very honest but not highly educated man, did not take a serious view of the case, and was prepared to submit very moderate evidence, and had so instructed the solicitors. There was no time for consultation with us, and, indeed, we did not take much trouble about it as no serious demands were to be made. But in examining the plaintiff I discovered, with electrical means of diagnosis, a very serious but not obvious injury. When the plaintiff's physician had concluded his simple evidence, it was supposed the case would go at once to the jury. But, to the surprise of the other side, we asked to be heard, and we went into the box—I think Mr. Wheelhouse and myself—and stated, with the full consent of the defendant counsel and the solicitors of the railway company, that the injuries were serious. In his summing up the judge spoke to the following effect: "While, at the rising of the court for luncheon, I was standing at the window of my private room, I saw the plaintiff pass into the road with his wife on his way to the town; he could not have the remotest notion that I was watching him. Under these circumstances, I noticed certain clumsy acts, etc., which were obviously due to some sort of palsy. I was so convinced of this," said the judge, "that I intended, when the defendant witnesses were put into the box, as I supposed to minimize still more the evidence, to say in my charge to the jury what I had seen myself, and to ask them to consider my evidence in connexion with the medical evidence. But as it has turned out," he added, "I have the utmost pleasure in congratulating the defendants in their conduct of the case and on the assistance they have given to the court." This was, of course, a remarkable and unusual turn of the matter, but it illustrates the value of consultation beforehand. I repeat, there is no objection to the presence of the solicitor if he promises not to interfere until the medical men are ready to hear him. Of course, every deference then would be given to any remonstrance of his on his patient's behalf. There are, no doubt, points of tactics which, even if they seem to us rather transparent and tiresome, yet nevertheless are the business of the solicitor, and can be dealt with in the consultation with counsel, and dealt with as he may advise. Counsel usually brush these small tactics aside, but it is not for the witnesses to do so. After some years' experience—it was in all chiefly between the years 1870-1885—I read a paper at the Medical Section of the British Association, and so much

interest did my suggestions arouse that in contested cases the medical witnesses should consult together before the case comes on—that a resolution was carried unanimously in favour of such custom having the countenance and recommendation of the Association; and I remember that this unanimous resolution was sent up to the Council. I have little doubt a record of it will be found if a complete search is made. I know that those of us who were interested in the reform were rather dissatisfied at the supineness of the Council in respect of this unanimous appeal from one of its chief Sections. Nothing was done, at any rate, and I was too busy in private engagements to pursue the matter. It is difficult to conceive a method more calculated to thwart the true course of justice, and to forward the little wiles of parties, than at separate times—at times so distant that the testimony may be on different facts—to secure one-sided examinations so as actually to promote inconsistencies of opinion or even differences on facts. Both sides are working at cross-purposes, when, it may be, the differences are little more than verbal, or, at any rate, waywardnesses of impression, which a general consultation of all the physicians concerned would clear up. I need not say, on the other hand, that when a witness has committed himself in the box to a definite opinion he is often obstinate when at a private sitting he would prove reasonable enough. It is alleged by solicitors that the medical witnesses would "make a pot of it." Why? The tendency to support a patient is stronger than the vaguer desire for universal brotherhood. The doctor and patient know each other, the doctor's sympathies are aroused for him, and the doctor is sufficiently used to medical consultations to feel quite at his ease in holding his own. The tendency would be and usually is, indeed, to stick up for the "proof" which has been sent in to plaintiff's solicitors. So far as the opinions are modified in consultation they are easily put in the modified form to counsel—at the consultation, or in writing, in good time for him to consider his ground. Counsel never resented these consultations—quite the contrary. There is much more to be said, but I daresay this will be enough for present purposes. I can only assure you that my plan works, and works well, as Mr. Justice Stephen's encouraging words testified.

Yours truly,

(Signed) T. Clifford Allbutt.

A Legal View.

Mr. Addington Willis said he understood the position to be that the members of a very noble profession were much exercised in their minds that there should be such publicity given to a divergence of opinion between their brethren in the witness-box. Naturally they desired to find a remedy.

But it was first necessary to discover what were the causes of such differences of opinion. His experience was that the causes were of two kinds. First, they arose from the constantly changing theories which must obtain in a progressive science; secondly, there was the insufficiency and unreliability of the data upon which medical opinion had to be based. Those data were supplied almost exclusively to the experts by the medical gentleman who had attended the patient from the beginning of the illness or since the accident. Perhaps the data were based upon the diagnosis which the practitioner had made. Such diagnosis might not be accurate, because errors were sometimes made by even the highest members of the profession.

The remedy suggested was a consultation between the medical men before trial, and Professor Allbutt had given an illustration of the working of such a scheme. But he questioned whether that gentleman would have succeeded if his efforts had extended to a wider area, such as the metropolis. In dealing with the question, the investigation must not be confined to the High Court or to the high-class specialists who were there called; it must include the County Courts, for the High Courts heard only one-eighth of the cases which formed the subject of trials in the country. Under two statutes alone, of recent date, the cases numbered 1,654, in which were not included hundreds of instances of personal injuries. While, therefore, in the High Courts there were 514 medical witnesses called, in the County Courts there would be about 4,000.

His own opinion as a member of the Bar was that there need be no hesitation about suggesting at any time such a consultation as that advocated by Dr. Herringham. Indeed, it had been his practice during the last seven or eight years to suggest such consultations between medical witnesses and the patient just before trial. It was also the practice of his fellow members of the Bar who had a large business in that line.

But these consultations yielded little result, except in the cases in which there were two perfectly independent medical experts—specialists. When they were called they would be able at consultation to discover some common ground, and to shear away a great deal of superfluous matter. But in connexion with the average case, for some reason, that common ground was not apparent; there seemed to be an unconscious bias on the part of the medical witnesses. His suggested explanation was as follows: As Professor Allbutt had said, the plaintiff's medical adviser was strongly sympathetic; he had been in personal contact with the patient up to the day of the trial, and hoped to remain in personal contact with him for a long time to come. He could not be expected to give such an independent view of the patient's case as the doctor called in from Harley Street. If he were asked in the witness-box what he thought of the probabilities of the plaintiff being able to work now or soon, he knew that the patient was pinned by the answer he gave. If he thought the patient would resume work in a month, it was not possible to say afterwards that a mistake had been made and that he would not return for many months, because not a penny more could be obtained. The medical witness for the plaintiff was extremely guarded and cautious, and was bound in the interests both of the patient and of justice to allow himself considerable latitude. On the other side was the medical expert of the insurance company, a thoroughly well-qualified man, but who by his experience had become cautious, careful, and suspicious in regard to all cases with which he came into contact. The contest which he was about to support had probably been urged by himself—that is, he had advised his society to resist the claim because in his opinion the man was capable of working or was not entitled to all that he claimed. That medical man also was unconsciously biassed. What would be the good of bringing those two medical gentlemen together in consultation?

A Case in Point.

In a case heard at Brompton County Court, a man had slipped off a pair of steps, had gone into hospital, was examined by the house-surgeon—and he had always found that house-surgeons gave their evidence with the strictest impartiality, a fact which was noticed by judges, juries, and advocates—and as he could not find anything the matter with the man he did the orthodox thing—gave him a bottle of liniment and sent him home. Some time afterwards an action was commenced, and the man claimed heavy damages under the Employers' Liability Act. The witnesses included the hospital doctor and the insurance doctor, and he suggested that the medical men should have a consultation. That was done, the patient being present, and it was assumed that he was thoroughly examined. They declared that the man had been suffering from pleurisy. He (Mr. Willis) did not see how slipping off a pair of steps could cause pleurisy, and they added that he had three ribs broken. On cross-examination the first doctor said the patient was pretty well at the outset, a fortnight after he had been in the hospital and he had attended him ever since. The other expert stated the same thing. They also said any honest doctor could feel whereabouts those three ribs were broken. His (Mr. Willis's) witnesses came into the box, and the hospital doctor said he examined the man, but there was no bone in his body broken, and neither of them could discover any trace of any rib having been broken. Such a conflict of evidence arose even though there was a consultation.

An Alternative Remedy.

He put forward an alternative remedy. Judges and juries were often perplexed by the divergent opinions, but they had to decide somehow. They therefore adopted the rough and ready course. The jury would generally be found to say that they could not make head or tail of the doctors' evidence, but they had heard what the plaintiff had to say about his condition and also what his doctor said about it, and they were prepared to accept their evidence. The result was that often much injustice was done, and much money filched from the pockets of honest employers. During the eight years that he had watched the working of the Act he had only known one case in which a judge had sent a matter to a medical referee, and a fellow member of the Bar to whom he had spoken on the matter only had one case. To avoid that he suggested the appointment of a medical arbitrator, not an assessor, who should hear all the medical evidence before the trial in private, and be able himself to cross-examine. He believed that that would result in a more correct conclusion than would be arrived at by any number of jurymen.

Experience of a Medical Referee.

Dr. F. J. Smith related some experiences as a medical referee during the last six years. In one case a man was alleged to have been ruptured and to have been treated wrongly for it, and hence claimed compensation. Evidence was given on the other hand that he was not ruptured but had a hydrocele. It was perfectly clear that the latter view was the correct one. It was important to settle why it was that

medical evidence was contradictory. A very sharp line should be drawn between questions of fact on the one hand and of theory or interpretation of the facts on the other. The case of alleged fractured ribs mentioned by Mr. Willis might be instanced in that connexion, for the question whether there was or was not fracture could be easily settled. He suggested that judges and barristers should themselves observe the distinction between fact and interpretation. One of the benefits of consultation would be that one could ask whether there was any difference as to the facts. If there was, an examination should clear the point up; but on such questions as to how long the man was likely to remain ill there could very legitimately be differences of opinion. He had had experience of medical arbitration such as was hinted at by Mr. Willis—that is, cases in which an arbitrator was appointed on each side, and those arbitrators appointed an umpire. The chief objection to the course seemed to be the expense. He believed that often a consultation would lead to a good working compromise, if only the suggestion of Mr. Willis were carried out—namely, that the medical evidence should be heard before a medical expert not engaged by either side, but, if thought desirable, paid by both, and in any case well paid. That expert should give a report. That would put the judge in a very much better position than if he tried to form an opinion unaided in that way. After all, judges had not studied medicine, and therefore even they were quite incapable of appreciating points which to him were difficulties, but which to the medical man were not. His own preference would be, if any alteration in the law could be obtained, for the appointment of a medical assessor, before whom strictly medical evidence should be brought, and who should give a finding to the judge.

Lay Expert Evidence.

Mr. Coroner TROUTBECK said he believed that on the Chancery side issues of fact were decided by an expert, and it would be an analogous case to send a medical trial to a medical court. But in that case it would be extremely difficult to apply the ordinary rules of evidence; indeed, it would be rather creating a new method of trial altogether—that is, a more or less private court. Unless it were to be on oath there might be some difficulty with regard to counsel. It would not be of much use to bring in a lawyer to cross-examine a doctor as to purely medical facts. Consequently it would be necessary to create something like a medical Bar for the purpose. Dr. Herringham alluded in his opening address to some medical evidence which he called "scandalous." He (Mr. Troutbeck) did not believe that any method of consultation between witnesses whose evidence might be called scandalous would have any useful result. If witnesses originally intended to give evidence which could not be regarded as loyal it was very probable that in any interview they had with another medical man they would still remain in that frame of mind. He did not see why the differences of opinion so often noticed among medical men should be objected to in the least. He had had some experience of hearing witnesses on one side or another in another branch, namely, valuing. It had been his duty to preside over cases of compensation, in which extraordinary differences of opinion were expressed by expert valuers upon facts about which there was no dispute. Each declared he was judging from the results of his own experience of property and dealings in the neighbourhood, and he did not doubt that those gentlemen were justified in their opinions. He did not think it occurred to the jury to blame the witnesses for the opinions expressed. He believed that medical men were not criticized at all by laymen. He quite agreed that it would be very desirable to have some expert to whom questions of a technical character could be referred, and whose opinion could be accepted as final at a trial.

Dr. F. S. TOOGOOD said that when real experts gave evidence in courts on medical matters, great diversity of opinion was not so noticeable. It was when medical men who had no real claim to the title of expert gave evidence that wide divergence of opinion most often occurred.

Facts and Opinions.

Mr. JUSTICE WALTON said that there were certain medical facts which could be actually observed, felt, or heard, and in regard to those a consultation was eminently desirable. In the Admiralty Court, dealing with questions of injuries to ships, surveyors were called in in regard to the damage, but their evidence was of little value to the court unless they had met and gone over the injured ship together. Concerning the actual condition of the patient in a medical case as observable by the senses, a consultation was a sensible method of dealing with the matter. The two experts should meet and look at the man, and see what could be seen, and feel what could be felt. There would be many points on which they would agree, but, of course, there were other difficult points concerning diagnosis in regard to which inferences had to be drawn from the observed facts. The expert witness for the plaintiff presented the views most favourable to his client, and the other expert presented the best case for the defendant. If those two experts met, certain difficulties and differences would be smoothed away in regard to opinions, and the result of the consultation would be merely to minimize difficulties. The consultation suggested by the speakers at that meeting would therefore have its uses.

Referees and Assessors.

During the discussion there had been a certain amount of confusion concerning assessors and referees. The assessors in the Admiralty Court sat with the judge and gave him such assistance as he wished, but the case was tried by the judge only. In those cases tried by jury the assessor would, therefore, have to be put into the jury box. The plan of having an assessor could not work in cases tried by a jury. A referee had totally different functions, and he thought that, under the existing rules, a medical question might be referred to a medical referee, and certainly it might by consent of the parties.

The plan might be desirable in certain cases, but he felt that it was so contrary to the ordinary methods of trial in this country, that there was no likelihood of it being adopted. On the Continent the system of referring facts to special referees was almost universal. He believed it was a rare thing for courts abroad to try the facts; they were nearly always referred to one or more experts. In England nine-tenths of a judge's time was occupied with dealing with disputed questions of fact. On the Continent their methods easily adapted themselves to the plan of dealing with medical cases by means of referees, but that system was scarcely practicable in England, because the procedure was so different. In his experience as a judge he had many medical cases before him, and considered that there was much less difference of opinion now between medical witnesses than there used to be. He had noticed how frequently the differences that did exist disappeared before the case was over when the medical witnesses understood fully what the questions before the Court really were.

Mr. Justice Walton then gave some interesting details concerning cases in which these differences of opinion did not disappear, dealing especially with one case in which the question of organic or functional paralysis was argued. He concluded by expressing his opinion that consultations amongst medical men engaged in a case before the Court would be useful in minimizing differences, and would render the cases easier to be dealt with, but consultations would not remove the difficulty of the jury having to arrive in a short space of time at a positive conclusion concerning matters upon which in this world no one could be certain.

Reply on the Discussion.

Dr. HERRINGHAM, in reply, said that much had been made of the difference between medical facts and medical opinion, but, on looking closely into the cases that had been discussed that night, it would be seen that the so-called medical facts seemed to wane in importance, and matters of medical opinion seemed to increase. That arose from the different interpretations put by medical men upon the facts observed. He regretted to hear Mr. Justice Walton's opinion that the effort to obtain a disinterested opinion in medical cases was foreign to the spirit of the law in England. It would be a good thing, if possible, to be able to arrive at the truth otherwise than through a shower of gold, and it would be well for a court of law to be able to get a disinterested opinion in medical cases.

CONSULTATION BY TELEPHONE.—In the Prussian official tariff of fees no provision is made for the remuneration of consultations by telephone. The wish has been largely expressed by practitioners in that country that this omission should be repaired. The Cultus Minister has sent a circular letter to the Medical Chambers asking for their views on the subject. The Pomeranian Chamber has replied that consultations by telephone should be remunerated on the same scale as those at the practitioner's own house. It is expected that the other Chambers will reply in the same sense.

SCHOOL HYGIENE.

REPORTS OF MEDICAL OFFICERS.

Blackburn.

The report presented by Dr. Alfred Greenwood, Medical Officer of Health to the County Borough of Blackburn Education Committee, was issued this year. It is divided into four sections:

Section I.—Duties of the Medical Officer to the Blackburn Education Committee, and school attendance during 1904.
Section II.—Sanitary conditions of Blackburn schools during 1904.
Section III.—Infectious diseases in Blackburn schools during 1904.
Section IV.—Medical inspection of Blackburn school children during 1904.

I. Duties of the Medical Officer.

The following is a list of the duties which are being carried out by the Medical Officer to the Education Committee. These may require modification in the future as circumstances may demand.

1. Supervision of the sanitary conditions of school buildings. A detailed report has been prepared on this matter, dealing with every possible branch of sanitation as affecting school buildings.
2. Supervision over all infectious diseases occurring in schools. A detailed report has been prepared on this subject.
3. Periodical visits to all the schools of the borough in connexion with the two duties mentioned above.
4. Examination of all school children referred by the School Attendance Officers as to their fitness or otherwise for school.
5. Medical inspection of school children when possible and where demanded through special circumstances. For example: At present I am conducting an investigation into the hearing of school children in order to trace the varying effects of granite setts and wood setts in the streets immediately adjoining the schools.
6. The examination of the epileptic and mentally or physically defective children. A list is being made of these, so that they may be taught in the special school which will shortly be erected.
7. The examination and certification of children who are deaf or blind.
8. The examination and certification of children committed by the magistrates to an industrial school.
9. The preparation of monthly and annual reports for the Education Committee.
10. The preparation of special reports on any points as desired by the Committee.
11. Attendance at Committee meetings when desired.

II. Sanitary Conditions of Schools during 1904.

A special report dealing in detail with the sanitary conditions of the fifty-two public elementary schools of this borough was presented to the Education Committee in 1904, and has already been referred to in the British Medical Journal.

Copies of this report were forwarded to the managers of all the schools, and their observations upon the various recommendations were requested. It was also resolved on the medical officer's recommendation that a thermometer should be placed in each schoolroom, and the temperature recorded on charts at 9 a.m. and before the afternoon interval. Also that a card be placed in each schoolroom with instructions as to ventilation, and stating the number of scholars which it is desirable shall not be exceeded in each room.

As a consequence, these recommendations were put into practice, and improvements were carried out in some thirty-six out of the fifty-two schools, and more were anticipated during the summer holidays.

III. Infectious Diseases in the Schools.

Investigations were made during 1904 into the question of epidemic diseases in the elementary schools, as a result of which certain hints as to ventilation and infectious diseases were printed on large cards, and a copy fixed in each classroom of every school in the town.

Measles.

This disease appeared in epidemic form amongst the schools of Blackburn in September, 1903, and continued until July, 1904. The epidemic came to an end after the Midsummer holidays of 1904. The total number of cases of measles reported from the schools during the first six months of 1904 was 2,207, compared with 233 during the last six months of that year. The greatest number of cases was reported during March, 1904—namely, 631—but the greatest mortality from measles occurred during January.

Scarlet Fever.

The total number of cases of this disease reported during 1904 was 458, of which 302 occurred amongst school children, or 65·9 per cent. During the first nine months of the year there was a very small amount of scarlet fever amongst the schools—namely, 95 cases—compared with 207 cases during October, November, and December of 1904.

Diphtheria.

The total number of cases of this disease reported during 1904 was only 60, and of this number 24, or 40.0 per cent. occurred amongst school children; 19 cases occurred at schools during the first six months of the year, compared with 5 cases during the last six months. During August, September, and October no cases occurred amongst school children.

Whooping-cough.

The number of cases of this disease reported by school teachers during 1904 was 837. The disease assumed epidemic form during April, May, and June, 696 cases, or 83.1 per cent., being reported during those three months.

Chicken-pox.

School teachers reported 211 cases of this disease during 1904; 177 cases were reported by medical men, as this disease was made a compulsorily notifiable disease for a period of six months from September, 1904, in connexion with preventive measures against small-pox.

Mumps.

Of this disease, 117 cases were reported by the teachers as occurring amongst the children during 1904. Of this number, 87 occurred during the first six months, as compared with 30 during the last six months, of the year.

IV. Medical Inspection of School Children.

Dr. Greenwood expressed the opinion that it is questionable whether a daily medical examination of school children for infectious diseases would give results commensurate with the time and trouble involved, provided school teachers would report without delay all suspicious cases. He also thinks it doubtful whether a complete medical examination of all the children, involving weight, measurements of heads, limbs, etc., would have the same practical results as special attention paid to those children pointed out by the teachers, and as systematic inspections when the medical officer considered such to be necessary.

Anthropometrical observations would probably be useful for statistical purposes, and for future comparisons; but Dr. Greenwood considers there is other work to be carried out first which will show more immediate practical benefits to the children. For this work he would place some reliance upon the co-operation and observations of school teachers, although he believes that it would be unwise to add unduly to their duties. At the same time, however, they can, he says, give much useful help by pointing out those children who hold their eyes near the books, who appear deaf, who twitch, who sit in unnatural positions, who cough, or who become blue or breathless on exertion, etc. But all this involves some extra knowledge on the part of the teachers; and in order to attain this object it is necessary that these officials should themselves understand the importance of these symptoms.

He therefore believes that it would be of great benefit if school teachers could attend a course of lectures dealing with the various conditions which affect school life.

The following is the result of the close personal examination of 338 school children made by Dr. Greenwood:

Diseases of the skin	44
Nervous diseases	50
Diseases of the circulatory system	33
Diseases of the respiratory system	22
Tuberculous disease	54
Infectious diseases	8
Diseases of the eye	34
Diseases of the ear	10
Other diseases (adenoids, rickets, anæmia, gastric catarrh, debility, etc.)	44

Dr. Greenwood next treats each of the diseases under the above headings in detail, winding up with the following paragraphs:

It is often difficult for suitable treatment to be obtained by the children of poor parents. In Blackburn I have been able to obtain recommends for the infirmary through the kindness of members of the Education Committee. I think each Education Committee should subscribe to the nearest general hospital, so that a certain number of recommends could always be in the hands of the medical officer.

In the case of the children of the better classes an intimation may be sent to the parents.

It is necessary for the Medical Officer to the Education Committee to be approved of by the Board of Education as a suitable officer to carry out the medical duties under the Act of 1899 for epileptic and mentally-deficient children. This has been done in Blackburn. These duties so far have involved the preparation of a list of children suitably classified who can be taught in a "special school," at the head of which there should be a specially-trained teacher.

Arrangements can also be made to convey helpless children to and from their homes. And here I would say that I think parents would be more willing to send such children to these schools if they were termed "special" and not "defective" schools.

A periodical examination of these scholars is necessary in order to draft to ordinary schools those children who have improved sufficiently, and in order to give advice concerning those who cannot improve.

Much more interest is now taken in the conditions under which school children are taught than formerly. Members of education committees, school managers, teachers, and the public generally are keenly alive to the great importance of watching closely every branch of school hygiene.

NOVA ET VETERA.

SIR HANS SLOANE.

By Professor BYERS, M.A., M.D.

MAY I add some further facts to your interesting account[1] of that celebrated Ulsterman, Sir Hans Sloane? Hans Sloane was the seventh son of Alexander Sloane, who was Receiver-General of Taxes in County Down during the civil war, and was a Commissioner of Assay after the Restoration. He must have been in easy circumstances, for, in addition to 300 acres of land which he owned in the Ards district, he had a house in Killyleagh. Hans Sloane's mother was Sarah, daughter of Rev. Dr. Hicks, Chaplain to Archbishop Laud; and this Dr. Hicks is named in the will of James, Earl of Clanbrassil, as one of the persons to aid and assist his executors (Clanbrassil was a son of Viscount Clandeboye, of whom the late distinguished diplomatist and man of letters, the Marquis of Dufferin and Ava was the heir-general, and he had been raised a step in the peerage by Charles I). It was in a house in Back Street, Killyleagh, a busy little town situated on the south-west side of Strangford Lough, co. Down, that on April 16th, 1660, young Hans Sloane was born. Some years ago this house was rebuilt, but the inscribed keystone of the doorway was preserved and built into the wall of the present house—a block of Castle Espie limestone (a bright, red-brown, crystalline limestone of lower carboniferous age, occupying a strip of the coast of Strangford Lough, not far from the town of Comber), with the inscription, "1637. G. S. M. W." This house is at present occupied by a grocer, Mr. John McArdle. The eldest son of Alexander Sloane was twice member for Killyleagh in King William's Parliament. His seventh boy, the future Sir Hans, got his name evidently from one of the Hamiltons of that surname. The Hamiltons, who came over from Scotland at the time of the Ulster plantation, own Killyleagh Castle, which, with the forfeited estates of Clannaboy, came into their hands about the close of the sixteenth century. The name Hans is common in the district of Down around Killyleagh.

Young Hans Sloane was delicate in his youth; at the age of 16 he suffered from haemoptysis, and it may have been due to the poor state of his health that he went abroad. It is also recorded of him that owing to his delicate health he early abandoned the use of wine and ale, and was always temperate in his habits. In London, it would appear, he studied chemistry and physic and botany in the Apothecaries' Garden in Chelsea, and it is interesting to note that in 1721, when his name and fame had become known everywhere, he presented the Apothecaries Company with the freehold of that very Garden in which he had studied as a boy, and which previously the Company had held only on lease. He subsequently studied medicine at Paris and Montpellier, and in July, 1683, he became M.D. of the University of Orange, which was in the town of the same name in the Department of Vaucluse, thirteen miles north of Avignon. The following year, as you mention, he returned to London and came under the influence of the Father of English Medicine, Thomas Sydenham, in whose house he resided, and where he probably met Sydenham's friend and counsellor, the English Socrates—John Locke—who, among other subjects, studied medicine at Oxford, and was physician and afterwards confidential secretary to the first Earl of Shaftesbury, who was a member of the "Cabal." It was only natural that Sydenham, who was essentially a man of action rather than of books, should advise young Sloane to study at the bedside, where alone he thought he could learn disease. However, in 1687 he went as Physician to the Duke of Albemarle to Jamaica, where the latter was Governor of the island, and while there he collected those botanical specimens and other objects of natural history which formed the beginning of that museum which was, along with other collections, to be the nucleus of the British Museum. He continued to the end his natural history pursuits, not only collecting himself, but pressing others into his service. On one occasion he asked Sir Charles Hanbury Williams to send him whatever curiosities he could find when travelling abroad. In reply, Sir Hans Sloane received the following amusing poetical catalogue of rarities:

I've ravaged air, earth, seas, and caverns,
Mountains and hills, and towns and taverns,
  And greater rarities can show
  Than Gresham's children ever knew.
From Carthage bought the sword I'll send,
Which brought Queen Dido to her end.
  The stone whereby Goliath died,
  Which cures the headache, well applied.
A whetstone, worn exceeding small,
Time used to whet his scythe withal.
  The pigeon, stuff'd, which Noah sent
  To tell him when the water went.
A ring I've got of Samson's hair,
The same which Delilah did wear.
  St. Dunstan's tongs, which story shows
  Did pinch the devil by the nose.
The very shaft, as all may see,
Which Cupid shot at Anthony.
  And, which above the rest I prize,
  A glance of Cleopatra's eyes.
Some strains of eloquence which hung
In Roman times on Tully's tongue.
  I've got a ray of Phoebus's shine,
  Found in the bottom of a mine.
A lawyer's conscience large and fair
Fit for a judge himself to wear.
  In a thumb-vial you shall see,
  Close corked, some drops of honesty,
Which, after searching kingdoms round,
At last were in a cottage found.
  An antidote, if such there be,
  Against the charms of flattery.
I ha'nt collected any care:
Of that there's plenty everywhere.
  But, after wondrous labours spent,
  I've got one grain of rich content.
This my wish, it is my glory,
To furnish your nicknackatory.

Sloane's principal works were *Catalogus Plantarum quae Insula Jamaica sponte proveniunt aut Vulgo Coluntur* (London, 1696, 12mo), and *A Voyage to the Islands of Madeira, Barbadoes, Nieves, St. Christopher's and Jamaica, with the Natural History of the Last* (London folio). This he dedicated to Queen Anne. The second volume was published in 1725. In 1745 he issued his only medical publication, *An Account of a Medicine for Soreness, Weakness, and Other Distempers of the Eyes* (London, 8vo, 2nd edit., 1750; French trans., Paris, 1746). Retiring from practice in 1721, he died on January 11th, 1753, at the advanced age of 93. His statue is in the Apothecaries' Garden, in Chelsea, and his portrait, by Stephen Slaughter, is in the National Portrait Gallery. Another portrait, by Kneller, is in the Royal Society, and a third, by Thomas Murray, is in the dining room of the College of Physicians. In the *Literary Magazine*, November, 1790, there is a portrait of him.

By his will he left his collections to the nation on condition that £20,000 should be paid to his family. The first cost had been over £50,000. In June, 1753, an Act of Parliament was passed accepting this great gift of his museum. In 1754 the trustees appointed by Parliament having purchased Montague House, removed Sloane's collections to it (along with the Cottonian collection and the Harleian MSS.), and in this way the British Museum was founded.

Sir Hans Sloane was elected a Foreign Member of the French Academy of Sciences, and a member of the Imperial

[1] BRITISH MEDICAL JOURNAL, November 4th, 1905, p. 1225.

Academy of St. Petersburg, and of the Royal Academy of Madrid. In appearance he is said to have been tall and well-built, and "with a wise expression but little colour in his face." He was of social habits, and once every week he entertained at dinner his colleagues of the Royal Society and the College of Physicians. He was a very able physician, and most popular at Court. When Queen Anne consulted him it took him four hours—in his coach-and-four—to drive down to see her at Windsor, a journey our present King does in a short time in his motor-car. He believed in inoculation, and he inoculated several members of the Royal Family. He was most charitable, and gave his whole salary as Physician to Christ's Hospital (the old Bluecoat School), a post he held from 1694 until 1730, to the foundation. It is also recorded of him that he never refused to give his advice to any person who could not afford to pay a fee.

One of his maxims to his patients—and he practised it himself—was:

I never take a physic when I am well; when I am ill I take a little, and only such as has been well tried.

His famous MSS., 3,000 in number, in the British Museum are of great value medically, inasmuch as among them are letters and notes by most of the leading doctors of the country preceding his death, and they thus form the principal source of the medical history of England during a period of six reigns—Charles II to James II. His library contained 50,000 volumes. It is in the British Museum. Sir Hans Sloane did not escape being immortalized by the writers of his own time. The poet Young satirized him as

Sloane—the foremost toyman of his time;

and Pope, in reference to his natural history tastes, refers to him in one place;

And books for Mead and butterflies for Sloane;

and again in reference to his books:

Or Sloane or Woodward's wondrous shelves contain.

Most of the descendants of the Ulster Sloanes emigrated to North America, and some of their progeny have succeeded well in that country. During the rebellion of 1798 a reward of £100 was offered for the capture, dead or alive, of one of the Killyleagh Sloanes, who was a captain of the United Irishmen, but he escaped to the United States. In the Belfast *Northern Whig* of August 30th, 1900, Mr. James Sloane, of Ballymacbrennan, Lisburn, wrote in reference to an interesting article on Sloane, written by the editor, Mr. J. R. Fisher, B.L., himself a well-known Killyleagh man, which had appeared two days previously in that paper:

To show the great change which has taken place in Ulster, when my great-great-grandfather, a son of James Sloane, mentioned in the article as the oldest brother of Sir Hans, settled where my farm is, the road which leads from Comber to Hillsborough, on which my farm is situated, was a dangerous road to travel on account of wolves and wood-kernes. The descendants of these dangerous kernes are only known now by their old Irish names. They have generally, on account of intermarriages, changed to the prevailing creed of the district, and the mixture of races seems to make a good blend.

Kern, kearn, or kerne is derived from the old English kerne and the Irish Ceatharnach (*th* and *ch* nearly silent), a "soldier," and was originally a light-armed foot soldier of a poor grade, in the ancient Militia of Ireland and the Highlands of Scotland, armed with a dart or skean (from the Irish Gaelic sgian=a knife or bronze leaf-shaped dagger). The gallowglass (Irish galloglach=a servant) was, on the contrary, a heavy-armed soldier. In the second scene of the first act of Macbeth the bleeding soldier says:

The merciless Macdonald
. . . . . .
from the Western Isles
Of kerne's and gallowglasses is supplied.

The word "kerne" afterwards came to be applied, figuratively, to an idle person or vagabond. It is interesting to note how many distinguished men were associated with that part of co. Down in which Sir Hans Sloane's ancestors resided.

It was in Killyleagh, the birthplace of Sir Hans Sloane, that Dr. Edward Hincks, the great Egyptologist, lived for many years (1825-66) as rector. A member of a most distinguished family (his father, Dr. T. D. Hinks, was head classical master in the Royal Belfast Academical Institution), Dr. Edward Hincks first employed the true method of deciphering Egyptian hieroglyphics, and, simultaneously with Rawlinson, discovered the Persian cuneiform vowel system. An interesting story is told of how, when a mummy was unrolled, Dr. Hincks would say,

I think I know something about this gentleman; I think have met this gentleman's father before.

Recently at Cairo on the occasion of the unveiling of the statue of Mariette, the French Egyptologist, who founded the great museum at Cairo, Mons. Maspero, Director-General of Antiquities for Egypt, told our distinguished Belfast Egyptologist, Mr. John Ward, F.S.A. (author of *Pyramids and Progress*, *The Sacred Beetle*, *Greek Coins*, etc.), that he owed more to the teaching of Hincks than to that of any one else, and that as an indication of his gratitude, he felt it incumbent on him to erect a portrait bust of Hincks in the Cairo museum. Mr. Ward was able, with considerable difficulty, to supply the necessary material for this to be done, and, among other articles, a copy of the picture of Hincks, which hangs in Trinity College, Dublin, of which he was a distinguished student. It is a truly remarkable fact that a man living in the centre of co. Down, who was never in Egypt, acquired such a knowledge of the ancient language of that country; and it is the opinion of Professor Sayce of Oxford (my friend Mr. Ward tells me) that we would never have arrived at our present knowledge of the cuneiform vowel system had it not been for Hincks. It was Hincks who discovered the pointing of the words of cuneiform writing, which at once led to an intelligent reading of the language. In addition to the statue of Champollion, the great Gallic orientalist (representing France), and the bust of Hincks (the renowned Irish discoverer), it has also been arranged to erect a bust to perpetuate the memory of Young, a medical doctor, who, after practising in Norwich, came to reside in London, and who helped Champollion in the first deciphering of the Egyptian letters. Not far from Killyleagh is one of the most interesting antiquarian and ecclesiastical spots in Ireland—Downpatrick. Here, or at Saul, close by, lie the remains of Ireland's patron saint, and to Downpatrick John de Courcy conveyed the remains of St. Brigid and St. Columba to be enshrined with the ashes of their great predecessor, and in the old cathedral above the effigies of the three saints are these lines:

Hi tres in duno, tumulo tumulantur in uno
Brigida, Patritius atque Columba pius.

In Downpatrick there was in former times a leper hospital, as well as at Kilclief, a place near it, where there is a church which is said to represent one of the most ancient ecclesiastical foundations in Ireland. It was in Downpatrick that on August 8th, 1694, Francis Hutcheson, the celebrated philosopher who upheld the ethical principles of Shaftesbury against those of Hobbes and Mandeville, was born; and the same place (Downpatrick) is also claimed by many as the birthplace of Joannes Scotus Duns (commonly styled Duns Scotus), who is believed to have been an alumnus of the Franciscan Monastery there. Born in the latter part of the thirteenth century (1265 ?), he founded the scholastic system called "Scotism," which long contended for supremacy among the schoolmen with the system known as "Thomism," founded by Thomas Aquinas. Duns Scotus—surnamed Doctor Subtilis—is said to have been a Professor of Divinity in Oxford in 1301, and to have also been regent of Paris University. His name Duns, Dunse, Dunce, at first used for a follower of his philosophy, came afterwards to be applied to a cavilling, sophistical person, and finally, satirically, to ignorant or stupid people—hence the modern "dunce." Not far from Killyleagh, almost in the centre of co. Down, there is a mild chalybeate spa, near the town of Ballynahinch (where, during the Irish rebellion, there was a battle), and about a quarter of a mile from the well-known well, there lived in former times the Thomsons, Lord Kelvin's ancestors. Lord Kelvin, who was born in Belfast, June 26th, 1824, was, like his co. Down predecessor, Sir Hans Sloane, both Secretary and President of the Royal Society; and it is interesting to note that at the present moment Dr. Joseph Larmor, the Lucasian Professor of Mathematics at Cambridge (a post held in former years by Sir Isaac Newton, whom Sir Hans Sloane succeeded as President of the Royal Society), who is a co. Antrim man, is at present Secretary of the Royal Society.

CONTRACT MEDICAL PRACTICE.

Notice as to Districts in which Disputes Exist.

A notice as to places in which disputes exist between members of the medical profession and various organizations for providing contract practice will be found among the advertisements, and medical men who may be thinking of applying for appointments in connexion with clubs or other forms of contract practice are requested to refer to the advertisement on page 86

MEDICAL NEWS.

Dr. F. S. Lambert was on November 9th elected Sheriff of Lincoln.

The authorities of Bath have recently issued a well-illustrated booklet drawing attention to the many just claims which this Spa has to be preferred to its Continental rivals.

The work of the Midland Medical Society for the current session was formally inaugurated on November 9th by an address from Dr. Frederick Taylor of Guy's Hospital on the Spleen and its Sufferings.

Notices have been issued for the holding of a special meeting of the Neurological Society of the United Kingdom at 11, Chandos Street, W., at 8.30 p.m., this day, Saturday, November 18th.

Mr. C. B. Lockwood, F.R.C.S., the President, will take the chair at the annual dinner of the Harveian Society, which will be held at the Hotel Great Central on Thursday next, at 7.30 p.m.

The annual meeting of the Rural Housing and Sanitation Association will be held at the Westminster Palace Hotel on Tuesday next, when the chair will be taken by Sir John Gorst, M.P., at 3 p.m. Discussion is invited.

Colonel Maurice Henry Smith, of Cambridge Terrace, Hyde Park, formerly an officer of the Indian Medical Service, who died on October 12th, aged 55, left estate of the net value of £25,660. Among the bequests made by him was one of £200 to King Edward's Hospital Fund.

On Sunday, November 12th, a tablet, the gift of Dr. Charles J. Renshaw, was unveiled at St. Martin's Church, Ashton-upon-Mersey, whereon was carved all the names of the rectors since the foundation of the church in 1304—forty-one in number. The tablet is of white marble, with black letters, the capitals being in red.

The annual dinner of the Royal Free Hospital and London School of Medicine for Women will be held at the Hotel Cecil on Wednesday, December 13th. Miss Cock, M.D., will take the chair. Application for tickets should be made to one of the Honorary Secretaries—Dr. Phear, 47, Weymouth Street, W., or Mr. T. P. Legg, F.R.C.S., 141, Harley Street, W. —not later than Wednesday, December 6th.

A special meeting of the Society for the Study of Disease in Children will be held at the rooms of the Medical Society of London, Chandos Street, Cavendish Square, on Friday, December 15th, at 5.30 p.m., for the discussion of the subject of pleural effusion. It will be introduced in a series of papers on pathology and bacteriology by Dr. J. G. Emanuel (Birmingham); on symptomatology by Dr. G. A. Sutherland; and on treatment by Dr. E. Hobhouse (Brighton) and Mr. P. Lockhart Mummery (London).

Some large bequests in furtherance of university education in Wales appear in the will of the late Mr. John Eyton Williams, formerly a chemist and druggist of Chester, which has now been proved. A sum of £10,000 is directed to be paid to the trustees of the University of Wales for the foundation of scholarships and prizes, an equal sum being allotted to the University College of North Wales at Bangor. The latter institution also receives £2,000 towards its building fund. In addition, the ultimate residue of the estate, which appears likely to amount to a further sum of some £10,000, is to be divided between the two bodies mentioned. In a memorandum on university education in Wales which is attached to the will, the testator directs that those selected for the scholarships and prizes furnished by the trust moneys must be not only of Welsh birth but belong to the Protestant Church. In view of this latter sectarian stipulation, it is possible that the bodies concerned may refuse to accept the moneys offered.

Dr. R. R. Alexander, Medical Superintendent of the London County Council's Asylum at Hanwell, has just retired on pension after thirty-two years' service. He began asylum work in London in 1873 when Hanwell was still under the control of the Middlesex magistrates, and before that date had held lunacy appointments both in Scotland and in Buckinghamshire. He was the recipient on retirement of an address signed by 292 of the officers and male and female nursing staff of the asylum, accompanied by a fitted travelling case; a corresponding testimonial, in the form of a silver cigarette box, was also made by the administrative staff. The address, engrossed on parchment, and these presents were formally presented to him on behalf of the subscribers by the Chairman of the Hanwell Subcommittee of the London County Council, and from the observation which this gentleman made, it is obvious that Dr. Alexander is as highly esteemed by his authority as he has been popular with his subordinates. He is succeeded by Dr. P. H. Baily, who has for some years been his senior assistant.

The late Professor Nencki.—On October 13th, a bust of the late Professor M. Nencki was unveiled in the Chemical Department of the Institute of Experimental Medicine, St. Petersburg, of which the deceased scientist was the official head. Professor Pawlow delivered an address, in which he gave a sketch of Professor Nencki's life-work.

Congress of Experimental Psychology.—The next meeting of the German Society of Experimental Psychology will be held at Würzburg on April 10th to 13th. Reports will be presented on the following subjects: (1) The relations between experimental phonetics and psychology (by E. Krueger); (2) experimental aesthetics (by O. Kuelpe); (3) the psychology of reading (by F. Schumann); and psychiatry and individual psychology (by R. Sommer).

Medical Mayors.—Among the list of mayors who took office on November 9th we notice the following members of the medical profession: Dr. H. B. Brackenbury (Hornsey), Dr. Hunt (Yeovil), Dr. R. Arthur Prichard (Conway), Dr. Allan Glaisyer Minns (Thetford) re-elected, Dr. Richard B. Searle (Dartmouth) re-elected, Dr. Ernest Skinner (Rye), Alderman Dr. Roberts (Bootle), Professor W. R. Smith (Holborn), and Councillor Dr. Neville Williams (Harrogate).

The Eyesight of Dundee Children.—At the annual meeting of the Dundee Institution held recently, Bailie Martin called attention to a part of the Social Union report dealing with the defective eyesight of school children. It was found that nearly 7,000 of the children had more or less defective vision. The chairman, Sir William Ogilvy Dalgleish, said the question of the eyesight of the young was of national importance. In institutions such as the industrial schools and reformatories, special attention was paid to the teeth of the children, but he thought it was even of more importance that their eyesight should be examined. Parents, many of them poor, had not the means, and, he was afraid, very often lacked the inclination, to have this matter attended to. It would therefore not do to depend upon the parents; it would be necessary to insist on compulsory examination.

The Functions of a Transplanted Kidney.—In a communication which appears in our American contemporary, *Science*, of October 13th, Messrs. Alexis Carrel and C. C. Guthrie, of the Hull Physiological Laboratory, University of Chicago, report that the state of the circulation and of the secretion of a transplanted kidney has been observed on an animal operated on in that laboratory. A careful search has revealed no mention of a similar experiment having previously been performed. The kidney of a small-sized dog was extirpated and transplanted into the neck. The renal artery was united to the carotid artery, the renal vein to the external jugular vein, and the ureter to the œsophagus. Three days after the operation the neck and the abdomen were opened, with the object of studying the functions of the transplanted kidney, and comparing them with the functions of the normal organ. The transplanted kidney was found adherent to the muscles, and dissection was necessary to free it. In size it was larger, and in colour darker than the normal kidney. To the touch the consistency of its tissue was normal, and the pulsations of its artery were as strong as the pulsations of the artery of the normal kidney. In short, the circulation in the transplanted kidney was slightly greater than in the normal kidney, as shown by the touch, copiousness of haemorrhage from an incision made in the cortex, and pulse tracings. The secretion of urine by the transplanted kidney was about five times more rapid than by the normal organ. The intravenous injection of sodium chloride solution caused no change in the rate of secretion in the normal organ, but markedly increased the rate of the secretion in the transplanted kidney. The composition of urine secreted by the transplanted kidney differed somewhat from that secreted by the normal one. The constituents were similar, but the chlorides appeared to be more abundant in the urine from the transplanted kidney, while the organic sulphates, pigments, and urea were more abundant in the urine from the normal organ.

British Medical Journal.

SATURDAY, NOVEMBER 18TH, 1905.

TUBERCULOSIS IN SCHOOLS.

ELSEWHERE we give an abstract of the report made to the Education Committee of the county borough of Blackburn by Dr. Alfred Greenwood, Medical Officer of Health. The report is very thorough, and is evidence that its author has given much time and thought to the subject of hygiene in schools. The elaborate notes dealing in detail with the various matters under the different sections, a list of which is quoted in our abstract, should be carefully studied by teachers. If they thoroughly understood the matter contained in this part of the report they would be materially assisted in looking after the health of their scholars.

Of the 338 school children examined personally, no fewer than 54 were suffering from tuberculous diseases, the largest number for any one disease. Among these there was a case each of tuberculous bone, of tuberculous mesenteric glands, of tuberculous abscess, of tuberculous ulcer, of tuberculous cervical adenitis and conjunctivitis, of tuberculous hip, of tuberculous knee and hip, of psoas abscess, and of scoliosis; 7 of general tuberculosis, 4 of tuberculous cervical adenitis, and no fewer than 34 of tuberculosis of one or both lungs. It is a terrible state of affairs that, out of 338 children taken at random for examination, 34 should be suffering from pulmonary consumption. Unfortunately there are, as a recent correspondence in our columns has shown, no sanatoriums for consumptive children in England. There is nothing left but for the teacher to send these children back to the surroundings where they probably contracted the disease. We may say candidly that this statement of Dr. Greenwood surprises us far less than that of other officers who discovered only a very small proportion of phthisis. We are convinced that many and many a case is passed over because in England the fact is not sufficiently realized that young children suffer from pulmonary consumption in a proportion which may not improbably turn out to be as high as it is in the adults for whose benefit so many sanatoriums for the treatment of consumption have been established.

Having discovered the cases, it is a matter for regret that Dr. Greenwood does not lay more stress upon the risk of their remaining in school, where they are sources of danger to others. It is, moreover, obviously impossible for a child with one or both lungs attacked to benefit by education or to recover while continuing to live under the same conditions.

Dr. Greenwood lays great stress upon the proper care of the teeth, and, quoting Dr. Leslie Mackenzie, urges that the school outfit should include a tooth brush, and that the teacher should see that it is used. This suggestion has already been made in our columns, and we are glad to find that there is some prospect of its being carried out in practice.

In discussing the subject of medical examination of school children, Dr. Greenwood expresses a doubt whether a daily medical examination of school children for infectious diseases would give results commensurate with the time and trouble involved provided school teachers would report suspicious cases without delay. He doubts also whether complete medical examination, including a record of the weight and measurements of all the children, would have the same practical results as special attention paid to those children pointed out by the teachers, combined with systematic inspections when the medical officer considered it to be necessary. We venture to differ, believing strongly that systematic medical examination of all the children by a local practitioner in his daily rounds is the only possible way of getting at children suffering from special affections or sickening for zymotic diseases. It is surely the province of the medical man to find out cases and to deal with them, and it is absurd to cast the responsibility upon teachers who have not been trained to discharge this often very difficult duty.

While admitting that anthropometrical observations might be useful for statistical purposes and for future comparisons, he thinks that there is other work to be carried out first which will show more immediate practical benefits to the children. Neither can we agree with Dr. Greenwood's opinion on this point. We again strongly urge that this shall become part of the routine work in all schools. Nor do we consider that to attend a course of lectures dealing with the various conditions which affect school life will be of much use to teachers unless they are first thoroughly grounded in hygiene based on physiology.

There was an outcry for a Commission to report upon matters which would improve the general health and physique of the nation. The Committee on Physical Deterioration was handicapped for want of statistics on which to base a definite opinion as to whether physical deterioration existed or not. What has been done since the issue of the report to supply accurate data for future consideration? If a Committee working in the interests of the community issue suggestions which appear sane and sound, it is surely the imperative duty of medical officers to education authorities to efface their own personal opinions and to treat the question on broad lines.

MENDEL'S LAW OF HEREDITY.

MENDEL'S so-called "law of heredity" is better spoken of as a theory of gametic purity (it cannot strictly be defined as a law), and the central phenomenon is segregation. The theory is that hereditary characters are distributed among the germ cells according to a definite system. It was formulated as follows by Mr. William Bateson, F.R.S., in his presidential address to the Section of Zoology at the Cambridge meeting of the British Association;[1] the reader need not be repelled by the technicality of the definition, for the hypothesis can be simply explained by examples:

"This system is such that these characters are treated "by the cell divisions (from which the gametes result) as "existing in pairs, each member of a pair being alternative

[1] *Nature*, August 25th, 1904, p. 406.

"or *allelomorphic* to the other in the composition of the "germ. Now as every zygote—that is, any ordinary "animal or plant—is formed by the union of two gametes, "it may either be made by the union of two gametes "bearing similar members of any pair, say two blacks or "two whites, in which case we will call it *homozygous* in "respect of that pair, or the gametes from which it "originates may be bearers of dissimilar characters, say "a black or a white, when we call the resulting zygote "*heterozygous* in respect of that pair. If the zygote "be homozygous, no matter what its parents or "their pedigree may have been, it breeds true inde-"finitely" (in regard to that character) "unless some "fresh variation occur. If, however, the zygote be "heterozygous or gametically cross-bred, the gametes in "their formation separate the allelomorphs again, so that "each gamete contains only one allelomorphic character "of each pair. At least one cell division in the process of "gameto-genesis is therefore a differentiating or *segregating* "division, out of which each gamete comes sensibly pure "in respect of the allelomorph it carries exactly as if it "had not been formed by a heterozygous body at all."

This gives the Mendelian interpretation of facts which were first discovered by Gregor Johann Mendel, Abbot of Brünn, in the course of experiments upon crossing varieties of the garden pea (*Pisum sativum*), upon which he published a paper entitled *Versuche über Pflanzenhybriden* in 1865. He selected seven pairs of characters, which were as follow: (1) Shape of ripe seed, round or wrinkled; (2) colour of cotyledons, yellow or green; (3) colour of seed skin, grey or white; (4) shape of seed pod, smooth or constricted between seeds; (5) colour of unripe pod, yellow or green; (6) nature of inflorescence, flowers arranged along axis of plant or terminal in a kind of umbel; (7) length of stem, very long (6 to 7 ft.), or very short (½ to 1½ ft.).

Mendel crossed peas differing in respect of these characters; for example, round-seeded with wrinkled-seeded peas, yellow-seeded with green-seeded, and so on. The experiments in all cases resulted in the first generation exhibiting one of the two characters of a pair to the complete exclusion of the other character. In the second generation, produced by allowing the cross-bred plants to fertilize among themselves, *both* characters reappeared among the offspring, some exhibiting one of the alternatives, others the other. The interesting point was that the offspring bearing the one character were found to occur in a definite proportion numerically to those exhibiting the other character: that is, 75 per cent. of the offspring exhibited the character which alone had appeared in the first generation, and which Mendel called dominant, and the remaining 25 per cent. exhibited the other character which Mendel called recessive. Among subsequent generations the recessives allowed to cross among themselves always produced pure recessives, while the dominants, similarly allowed to cross among themselves, always produced 75 per cent. dominants and 25 per cent. recessives, the latter always afterwards bred recessives. Among the 75 per cent. dominants it was found that one-third always bred out again as pure dominants, while the remaining two-thirds were cross-breds, which in subsequent generations continued to breed out 25 per cent. pure dominants, 50 per cent. cross-breds, and 25 per cent. pure recessives.

The report of these experiments was completely lost sight of for about thirty-five years, when Mendel's work was rediscovered by three biologists of repute almost simultaneously and working independently, namely, de Vries, Correns, and Tschermak. Much further work has since been done, and the majority of cases are claimed by Mendelians as confirming Mendel's results.

Mendel's theory has, however, been challenged, and Professors Karl Pearson, Weldon, and others belonging to the school termed by Mr. Bateson the "Ancestrians" have sought to show that there is nothing in Mendel's results which cannot be equally well explained by Galton's Law of Heredity. For instance, Professor Weldon finishes an important paper upon Mendel's experiments with the following remarks: "The fundamental mistake which "vitiates all work based upon Mendel's method is the "neglect of ancestry, and the attempt to regard the whole "effect upon offspring, produced by a particular parent, as "due to the existence in the parent of particular structural "characters; while the contradictory results obtained "by those who have observed the offspring of parents "apparently identical in certain characters show clearly "enough that not only the parents themselves but their "race, that is, their ancestry, must be taken into account "before the result of pairing them can be predicted."[1]

Dr. Archdall Reid considers the work done by Mendel and his followers as being of secondary importance in the main question of heredity, saying, "It must constantly be "borne in mind that the mating of distinct varieties is "not the same thing as breeding within the same variety. "The former must occur so very rarely in Nature that it "can play no part in the adaptation of species to their "environments."[2] This statement appears to be much too sweeping, and the latter part claims more knowledge of Nature than we possess.[3]

THE UNION OF MEDICAL SOCIETIES IN LONDON.

A SPECIAL general meeting of the Royal Medical and Chirurgical Society will be held at 5 p.m. on Thursday next, November 23rd, and a special general meeting of the Clinical Society of London will be held on Tuesday next, November 21st, at 5.30 p.m., to consider a report on the union of medical societies in London as amended and adopted at the meeting of the General Committee of Representatives of Societies held last July. The notice issued to Fellows and members of both societies makes a special appeal to them to attend these important meetings.

We have already published the main outlines of the scheme embodied in the report of the General Committee of Representatives of the various London societies, and the advantages which may be confidently anticipated to follow such an amalgamation are sufficiently obvious to render it unnecessary to recapitulate what has been said. At the present time there are two central general medical societies in London—the Medical and the Royal Medical and Chirurgical, both covering practically the same ground, both possessing libraries, and both having valuable assets. It can hardly require any argument to convince any impartial observer that there must be a certain waste of energy and

[1] Mendel's Laws of Alternative Inheritance in Peas, *Biometrika*, vol. i, Part II, 1902.

[2] *The Principles of Heredity*, p. 74, note.

[3] The following is a list of a few of the publications in English upon Mendelism. Good bibliographies of the subject will be found especially in 1 and 4. Mr. Punnett's little book is an excellent summary of the subject:—1. W. Bateson: *Mendel's Principles of Heredity: a Defence*. Cambridge. 8vo. 1902. 2. The same: Presidential Address, Section D, British Association, 1904. Loc. cit. 3. The same: Reports of the Evolution Committee, Royal Society. 4. W. F. R. Weldon: Mendel's Laws of Alternative Inheritance in Peas. Loc. cit. 5. The same: Professor de Vries on the Origin of Species. Ibid. 6. The same: On the Ambiguity of Mendel's Categories. Ibid, vol. ii. 1902. 7. R. C. Punnett: *Mendelism*. Cambridge. 1905. 8. W. E. Castle: Mendel's Law of Heredity. *Proc. Amer. Acad. Sci. and Art* vol. xxxvii. No. 18, January, 1903.

money in continuing this duplication and the somewhat scanty attendance at many of the meetings proves that members find the tax upon their time inconvenient. The scheme now submitted to the consideration of the Fellows and members of the Society goes, of course, a good deal beyond this, for it proposes to bring about a union of many other central medical societies in London. Among these the Clinical Society may be reckoned as a general medical society, since it concerns itself with both medicine and surgery, and the Obstetrical and Gynaecological Societies, and the Pathological Society complete the cycle. It is proposed that the work at present carried out by these societies should be carried on by sections of the united society. In addition it is proposed that certain other London societies dealing with special departments of medicine, the Neurological; the Epidemiological; the Medico-Psychological; the Ophthalmological; the Laryngological; the Laryngological-Otological-Rhinological; the Otological; the Dermatological; the Dermatological of Great Britain and Ireland; the Society for the Study of Diseases of Children; the Association of Medical Officers of Insurance Companies; the Balneological; the Society of Anaesthetists; the Electro-Therapeutic; the Therapeutical, and the Odontological should also form sections of the proposed united society, for which the title of the Royal Society of Medicine is proposed by the Committee.

The general management of the Society would be under the control of a general council, consisting of the president, the presidents of the various sections, two treasurers, two librarians, two secretaries, and eight other members to be elected by the Fellows. In order that existing societies may retain their individuality as far as possible, it is proposed that each section shall have power to make laws and regulations for the conduct of its business, and to elect as members of the Society such persons as the council of the sections may think fit, provided the names of the candidates shall previously have been approved by the general council of the Society.

With regard to general meetings of the Society, a slight modification has been suggested by the Council of the Royal Medical and Chirurgical Society, which proposes that there shall be one annual business meeting for the election of officers, and four other meetings during the year, to be arranged by the General Council, the object in view being to afford an opportunity for general debates on topics which it is considered have become ripe for general discussion by the whole body, probably after preparation in the sections. It is also proposed to issue monthly a fasciculus of *Proceedings*, to contain a record of the work of each section during the previous month. Incidentally, it is hoped to increase the value of the present library belonging to the Royal Medical and Chirurgical Society by providing an additional reading room. The subscription of a Fellow of the Society, it is suggested, should be 5 guineas a year, but provision would be made for persons who desire to join only one particular section; they would pay 1 guinea a year, but if they desired to have the use of the library, would be required to pay an additional guinea a year. It appears that at the present time there are 3,725 persons who are members of one society only, the remainder (1,272) being members of more than one society. An analysis of the lists of the societies made by accountants shows that at the present time 1,300 persons are paying two guineas and upwards in annual subscriptions, so that the estimate of 600 persons as the number likely to be willing to become Fellows of the united society at an annual subscription of three guineas does not seem to be excessive. If an amalgamation between the London societies can be brought about on equitable terms, as we believe it can, the change would without doubt assist the study and investigation of clinical problems, and therefore contribute to the advance of medicine.

THE BISHOP OF LONDON ON CHRISTIAN SCIENCE.

PRESIDING at a meeting of the Women's London Diocesan Association on November 11th, the Bishop of London took occasion to express his views on Christian Science. In everybody there was, he said, a personality which in time of sickness might be strengthened to the point of endurance or even recovery. In illustration of this he told a story of the wife of one of his clergy who had to undergo a serious operation. Two days before the appointed time the Bishop found her in a state of moral collapse; partly owing to fear and partly to other causes, her faith and hope were entirely gone and her medical attendants recognized that it would be impossible to operate while she was in that state. The interview with the Bishop so far fortified her that, when the time came, she walked from her room to the operating table without a quiver. The surgeons exclaimed "What has the Bishop done to you?" and she replied, "Something which none of you could "have done." Quite apart from the authority of the speaker, there is no reason to doubt the absolute truth of this story. Every practitioner of any experience knows what a beneficial effect spiritual ministrations may in certain cases have on a suffering body. It is this which explains whatever measure of success attends the practice of Christian Science. The influence of the mind on the body is, as the Bishop says, a real truth: but on that, as he points out, the Christian Scientists have erected a gigantic heresy.

The theological aspects of that heresy do not concern us, though, as Mark Twain has shown, the accumulation of vast wealth in the hands of a person uncontrolled by any authority constitutes a danger of the utmost gravity not only to other churches, but to the body politic. In the medical sphere the heresy is less harmful, for the simple reason that in the great majority of cases the cures which Christian Science effects are as imaginary as the diseases for which the treatment is applied. In the face of real disease it is as futile as any other form of quackery, the only difference being that it leads oftener to the holding of inquests.

There can be no doubt that, probably as a result of reaction from the materialism which was the predominant mode of thought some years ago, faith-healing in various forms is very prevalent at the present day. There is nothing in Christian Science that has not been known to physicians from the dawn of medical history: the new thing in its teaching is not that disease can be cured by mental influence, but that it does not exist. This doctrine must be comforting to those who can believe it. It makes life delightfully simple. If it be true, as Mr. Bicknell Young told his audience at Queen's Hall the other night, that neither disease nor sin has any real existence, the occupation of the priest is gone as well as that of the physician. It follows—if the laws of human thought can be applied to absolute unreason—that there is equally little need for Christian Science. We are glad that the Bishop of London was careful to guard against misinterpretation of the story

which he told, by impressing on his audience that he never suggested that the woman should not undergo the operation which was so essential to her cure. He exhorted those who thought they possessed special gifts of healing never to try to exercise those gifts apart from the medical profession. This recommendation was received with applause, which seems to show that the members of the Women's London Diocesan Association are ladies of sound common sense.

The Bishop wished the medical profession to understand that the Church regards their healing art as a sacred thing, adding that as Christian ministers they ought to demand a right to have their place in the sick room allotted to them by the doctors. Of course, he said, they must exercise tact and discretion; but it would be an ill return for the honour the clergy were seeking to give the healing art if they were to be excluded from the sick rooms either of the wealthy or the poor. We hope we are duly grateful to the clergy for the honour they are seeking to give the healing art; we venture, however, to remind his lordship of the precept of a higher authority, which bids all men honour the physician for the need they have of him. The minister of religion has his place in the sick room when his assistance is asked for, nor has the doctor the right to exclude him any more than he has the right to prevent the patient making his will. It is, of course, his duty to spare a dying man needless mental disturbance, but he steps outside his province if he interferes with the spiritual or other personal concerns of his patient. So far from attempting to exclude the clergyman from the sick room, we do not hesitate to say that the doctor welcomes his help, given in due season and with the tact and discretion on which the Bishop of London rightly lays stress.

THE ROYAL COMMISSION ON MOTOR CAR TRAFFIC.

The Royal Commission on Motor Car Traffic will at its meeting on November 29th hear the evidence of Mr. C. B. Lockwood, F.R.C.S., Chairman of a Committee of Medical Men Using Motor Cars, and of Dr. H. E. Bruce Porter, honorary secretary of the same committee. The committee has been formed with the object of pointing out to the Royal Commission how the medical profession will be affected by restrictive legislation or increased taxation of motor cars. Owing to the increased use of cars by the medical profession, the matter is one of considerable practical importance, and Mr. Lockwood will be glad to have any information or suggestions from medical men using motor cars. Such suggestions should reach him at as early a date as possible, and should be addressed to him at 19, Upper Berkeley Street, Portman Square, London, W. The committee is constituted as follows: Chairman, Mr. C. B. Lockwood, F.R.C.S.; Vice-Chairman, Professor Watson Cheyne, C.B., F.R.C.S.; Dr. C. Barker, Finchley; Mr. J. R. Benson, F.R.C.S., Bath; Mr. L. A. Bidwell, F.R.C.S., London; Dr. T. H. Brown, Streatham Common; Mr. R. W. Doyne, F.R.C.S., London; Dr. Lovell Drage, Hatfield; Dr. David Ferrier, Sir Victor Horsley, Dr. Handfield Jones, and Mr. Henry Juler, F.R.C.S., London; Dr. Lewis Lock, Uxbridge; Dr. E. W. Marshall, Mitcham; Dr. W. E. C. Musson, Hammersmith; Dr. John Phillips and Mr. Bilton Pollard, F.R.C.S., London; Dr. C. Basil Richards, Prestwick, N.B.; Dr. J. Bruce Ronaldson, Haddington, N.B.; Mr. Gerald Sichel, F.R.C.S., Guildford; Dr. W. H. H. Tate, Dr. StClair Thomson, and Mr. G. R. Turner, F.R.C.S., London; Mr. J. H. Walters, F.R.C.S., Reading; Dr. P. P. Whitcombe and Dr. Percival White, London; Dr. C. Rawdon Wood, Frome; Dr. J. Crossley Wright, Halifax, and the honorary secretary is Dr. H. E. Bruce Porter, 6, Grosvenor Street, London, W.

PRESENTATION TO DR. C. J. MORTON.

At a meeting of the Walthamstow Division of the Metropolitan Counties Branch on November 7th, a handsome silver salver, subscribed for by the members of the Division, was presented to Dr. C. J. Morton, the late Honorary Secretary, on his leaving the neighbourhood. Dr. Morton was elected, in 1898, Secretary to the East London and South Essex District, and on the formation of the Walthamstow Division, under the new constitution of the Association, in 1903, he undertook the secretarial duties. Dr. Morton, as an enthusiastic reformer, took great interest in all matters connected with the Association. He served on the Branch Council as Representative both of the old District and the present Division. He represented the Division at the Representative Meetings at Cardiff, Oxford, and Leicester, at each of which he did good work. He was also a member of the General Council of the Association, to the work of which he devoted much time and attention. The presentation was made by the Chairman, Mr. H. T. Brickwell. Mr. Percy Warner, late Chairman, and Dr. C. H. Wise, the first Chairman of the Division, expressed their sense of gratitude to Dr. Morton for the help he had given them during their terms of office, and regretted that they were losing from their midst one who had all the ideas and work of the Association at his finger tips. Dr. Morton, in expressing his thanks, said the presentation had come to him somewhat as a surprise. He had taken great interest in the work of the Association, which had always been a pleasure to him, as it had brought him in touch with medical friends. He hoped all the members would visit him at his new home, and help him to make appropriate use of the present they had given him.

ST. GEORGE'S MEDICAL SCHOOL.

As our readers are aware, St. George's School has recently made a great advance in transferring the early portion of the students' curriculum to the University of London and in confining its energies to subjects which have an immediate relationship to the treatment and cure of disease. Owing to this important change of policy much space is now available in the school, which it is hoped to utilize for the purposes of the investigation of disease and its treatment, and for the establishment of a post-graduate school. For many years past medical education in London has been conducted below cost price, and in some instances schools have been dependent upon the gratuitous teaching of the hospital staff. Lately the Committee of the King's Fund reported adversely upon the practice of hospitals making grants to their schools, and the effect of this decision is likely to be felt severely. The authorities of St. George's wish not only to continue to provide efficient education for those students who must be attracted in order that the hospital work may be carried on, but also to enlarge the scope of their work in research and post-graduate teaching. They are faced, however, by a want of money. Consequently they have taken the step of appealing to the public for £60,000 to form a permanent endowment fund for the school. This appeal has the approval of His Royal Highness the Prince of Wales. No part of the Endowment Fund will be used for building purposes, or for the payment of salaries to those teachers who as members of the hospital staff are engaged in private practice. A pamphlet entitled *The Nation's Debt to St. George's Medical School* has been issued, and in it will be found many arguments which ought to convince the public that efficient medical education is a matter which affects them vitally, and that they should subscribe to such funds as St. George's not only as a matter of self-interest and as an insurance against disease, but in gratitude for the numerous discoveries given to the world so freely by the medical profession. St. George's is fortunate in its past, and can point with pride to the work of such men as John Hunter and Edward Jenner. A school which has given the founder of surgery and the discoverer of vaccination to the world deserves well of the public. Vaccination, indeed, is a concrete example of the debt the public owe to medicine from a mere money point of view. The fact that the cost of treating small-pox patients during

the London epidemic of 1902 was £877,810, and that the money loss from 1,634 deaths was estimated at £285,000, shows how much money the community is saved by efficient vaccination. The pamphlet further shows how England lags behind other countries in aiding medical education. Particulars are given of the State aid afforded on the Continent, and of the wise private munificence of America's rich citizens. We welcome anything which may tend to educate the English public to a sense of its indebtedness to medicine, and of its responsibilities to medical education, and we congratulate the authorities of St. George's on this appeal, and on the broad lines on which it has been made. We are particularly glad to see that a school attached to a large London hospital intends to establish a complete post-graduate school, for in this respect we do not compare favourably with other countries.

INSTRUCTION IN HYGIENE FOR ARMY OFFICERS.

Attention was called in the British Medical Journal some time ago to the curtailment by the War Office of the courses of instruction in hygiene given to military cadets and officers at the suggestion of the Advisory Board. It is of the highest importance that combatant officers should be conversant with the principles of military hygiene. Such knowledge cannot fail to make them more intelligently appreciative of the value of the advice given by medical officers, and therefore more ready to act on it than they have often been in the past. The secret of the unprecedented freedom of the Japanese army from disease is the ready compliance of officers and men with the sanitary rules laid down for them. Had their commanding officers acted in the spirit of Lord Wolseley's foolish maxim, "Medical advice is a good thing—when it is asked for," their armies would have been ravaged by disease, like those of the Russians, or our own in South Africa. It is to be hoped, therefore, that the teaching of hygiene to military officers, so far from being curtailed, will be extended in scope and made available for soldiers as well as officers. Already, in the French army, soldiers are receiving elementary instruction in the nature and prevention of venereal diseases, and the results are said to be excellent from the moral as well as from the sanitary point of view. A far more important step has been taken in the United States Army. By an order of the Secretary of State for War, dated October 19th, a department of military hygiene has been established in the Military Academy at West Point. The Senior Medical Officer at the Academy is placed at the head of the new department, and will act as a member of the academic board. This means that in future every officer in the United States army will have gone through an adequate court of instruction in military hygiene. In the Spanish-American war the United States troops suffered severely from the disregard for medical advice displayed by some commanding officers. They have taken to heart the lesson of the Japanese war; when will it be learnt by our War Office?

DIAMOND CUTTING IN AMSTERDAM AND LEAD POISONING.

A correspondent sends us the following interesting account of the occurrence of lead poisoning among diamond cutters in Amsterdam. The industry is one of the oldest in the city. There are sixty diamond-cutting shops, giving employment in the city to 8,000 persons. In some of the large works there are as many as 400 men employed. Good wages can be made, several of the men receiving from £4 to £5 a week. The diamonds come mostly from South Africa, but the market is London. The occupation is sedentary, and nearly all the men who follow it are pale and unhealthy-looking. Most of the workrooms are overheated. The work is extremely trying to the eyes; many of the men wear spectacles. In the initial processes it requires a diamond to cut a diamond. The rough stone is placed in a kind of cement; the projecting part of the stone is cleaned by friction with another diamond. The stone is subsequently taken to be shaped. This is done by placing the diamond in a mass of molten metal composed of 60 per cent. of lead and 40 per cent. of tin, the latter being added to harden the alloy. The projecting portion of the diamond is shaped and smoothed by means of an iron wheel rotating at the rate of 2,400 revolutions a minute. It is this part of the occupation that is unhealthy and has been the source of lead poisoning. The number of cases of plumbism has fallen of late, as will be seen later on. Many of the men who were interviewed were pale, their hands were thin, and the small muscles of the hands distinctly atrophied; they alluded to several of their comrades who had suffered from wrist-drop, and had been obliged to give up the work. On examining the hands of the men in this department it was noticed that the palmar surface of their fingers was heavily coated with a black substance composed of thickened epidermis and metallic products the result of burns caused by handling the hot lead. As each diamond has sixty-four facets requiring to be smoothed, it takes a workman about two weeks to polish one stone. The diamond has to be set and reset in the molten lead eighteen times. In order to fix the lever at one end of which is placed the molten knob of lead wherein the diamond is embedded, lead weights were employed until recently. As a consequence of the frequent handling of the lead, plumbism was a common event. Several of the men examined had suffered from colic, and on their gums a blue line was still visible. To diminish the amount of lead poisoning in this particular department a new method of polishing diamonds called the "mechanical" has been introduced. In it no lead is used. The diamond is placed in a brass tube and held therein by means of a key. The projecting portion of the stone is smoothed on a revolving wheel. Only large stones can thus be dealt with. This process is even more trying to the eyes of the workmen than the other, but it has reduced the number of cases of plumbism. With the view of further diminishing the cases of lead poisoning in diamond cutters or abolishing them altogether, the Dutch Government has offered a prize of £500 to any person who will invent a method whereby diamonds can be polished without the use of lead or its compounds. This offer remains good until December 21st of the present year.

DEATH OF A MEDICAL EXPLORER.

Medical men have been among the most conspicuous pioneers in the exploration of unknown lands, and the names of doctors are writ large in the history of colonization. The most casual mention of the subject recalls the names of Mungo Park, David Livingstone, Sir John Rae, Emin Pacha, and Sir John Kirk, to mention only the first that come to mind. Another has recently passed away in the person of Dr. Jean Marie Bayol. Born in 1849, he entered the French navy as a medical officer. He was attached to the expedition under Captain (now General) Gallieni, who in 1880 was commissioned to explore the region of Africa extending from the confluence of the Bafing and Bakoy rivers to Bammako on the Niger. He was afterwards placed in charge of an expedition to the Fonta-Djallon region, now French Guinea, and he succeeded in getting it officially recognized as a French protectorate. Having taken a prominent part in extending French influence in Central and West Africa, Dr. Bayol was about 1889 appointed Lieutenant-Governor of the Rivières du Sud provinces and dependencies. In that capacity he visited Dahomey with the object of negotiating a fresh treaty with King Gle-Gle, who had refused to be bound by one made with France in 1878. It was an arduous and dangerous undertaking. Although the King consulted him nearly every day about his health, Bayol had to endure much insolence at the hands of the heir to the throne. He was forced to walk between two rows of human heads just cut off, and to be present at human sacrifices. The mission was a failure, Prince Kondo declaring that since France had chosen to allow itself to be governed by a woman—to wit, the Republic—treaties previously signed with that country might be regarded as null and void. The king died, and was

succeeded by Kondo, who took the name of Behanzin. His attitude towards the French became so aggressive that a punitive expedition had to be sent out under General Dodds. Dr. Bayol again narrowly escaped death at the hands of hostile natives when he was Governor of the Benin Settlements on the Ivory Coast. Owing to failing health, Dr. Bayol retired a few years ago with the title of Honorary Colonial Governor, and returned to France. His energetic spirit would not, however, allow him to stand aloof from public life. He was elected to the General Council of the Bouches-du-Rhône Department, which he afterwards represented in the French Senate. His name deserves to be added to the ever-lengthening list of members of our profession who have done splendid service to their country as explorers and administrators *in partibus infidelium*.

THE BEGETTER OF THE CELL THEORY.

In these days, when statues of parochial worthies disfigure every small town and the windows of every church are stained with the names of pushful philanthropists, it is a distinction that a really great man should be without a memorial. That a man who has enlarged the boundaries of knowledge should be commemorated in such a way is foolish enough; his work, like that of Sir Christopher Wren, should be a sufficient monument. But the average man has a short memory, and it is well that he should be reminded of the men whose discoveries have been the means of making his life less burdened with pain and less hampered by ignorance than but for them it would have been. While the world rings with the jangles of politicians and the newspapers are full of the doings of millionaires, the silent workers who mould the future destinies of mankind are for the most part forgotten in death. It is not surprising, therefore, that Theodore Schwann, to whom science is mainly indebted for the cell theory which has been so fruitful of far-reaching results in the domain of pathology as well as in that of biology, should be without a memorial. This is a reproach to his fellow countrymen, and it is, therefore, pleasant to learn that now—a quarter of a century after his death—the reproach is to be removed. The citizens of Reuss in the Rhineland have at last awakened to the perception that it is the birthplace of a great man, and they propose to do honour to the town by commemorating the fact. A local committee has already collected £5,000 for the purpose; a further sum of £5,000 is wanted. The money is to be applied to the erection of a suitable memorial and the foundation of a Schwann Stipendium or scholarship for the education of young men who show promise of doing good work in scientific research.

THIOSINAMINE IN CICATRICIAL CONDITIONS.

In the first volume of his *Handbook of Practical Medicine*, Professor Klemperer speaks favourably of the treatment of certain cicatrical conditions by thiosinamine—for example, in perigastric adhesions causing pyloric obstruction or in cicatricial stenosis of the pylorus and in hour-glass stomach. He tells of cases in his own experience in which perigastric adhesions have disappeared in the most "striking manner," while in cicatricial stenosis the results were "very gratifying." This remedy has not come into general use in this country, and it may, therefore, interest some readers if we remind them that it was brought into notice in 1893 by Dr. Hans von Hebra, who recommended it for the treatment of lupus cicatrices. It is chemically allylsulpho-carbamide, and is formed by warming oil of mustard with alcoholic solution of ammonia. Hebra's statement as to its value in lupus was confirmed by F. Juliusberg,[1] who also found it influence favourably cases of sclerodermia, and said it sometimes produced malaise, fever, or a morbilliform eruption of the skin accompanied by itching. Teleky[2] reported his results in cases of stricture of the œsophagus, employing it as an aid to dilatation; he found that by its use he was able to proceed with larger bougies when the stricture had appeared to be unyielding. He reports three successes and one failure. In his opinion the treatment should not be begun until the cicatrix is fully formed, and he fixes this at six months after the swallowing of the corrosive fluid or other injury to the canal. The only ill-effects he noticed were temporary anorexia and depression. The method followed by all these writers is hypodermic injection of a 10 or 15 per cent. solution about three times a week, the amount used being from a half to a whole syringeful. Originally alcoholic solutions were used, but these were found to be painful, and a solution in glycerine and water was found to be free from this inconvenience. The formula used by Klemperer is: Thiosinamine, 10 parts; glycerine, 20 parts; distilled water, 70 parts.

[1] *Deut. med. Woch.*, August 29th, 1901.
[2] *Wien. med. Woch.*, February 20th, 1902.

THE ETIOLOGY OF PLAGUE.

Sydney has been unfortunate lately in regard to outbreaks of plague, a fourth epidemic, happily limited in extent, having occurred last year. Dr. J. Ashburton Thompson, Chief Medical Officer to the New South Wales Government, in a report on this outbreak made for the Board of Health, enters into a discussion of the etiology of the disease based on its observed epidemiology. His studies demonstrate that an epizootic disease (plague) among rats preceded the first local case which occurred in man, and that the area over which the epizootic extended was practically coextensive with that on which cases of plague in man were observed. As the epizootic died out the epidemic ceased, the cases in man evidently being communicated by infection from rats. Dr. Thompson rightly does not commit himself to any theory as to how this takes place. In view of this uncertainty further experiments with fleas, conducted on a scientific basis, are urgently required.

THE SOCIETY OF APOTHECARIES.

The Master and Wardens of the Worshipful Society of Apothecaries of London entertained a number of guests at dinner in the Hall of the Society, Blackfriars, on the evening of Tuesday, November 14th. After the usual loyal toasts had been honoured, that of the "General Medical Council" was given by the Senior Warden, Dr. Parker Young, and acknowledged by the President, Dr. Donald MacAlister, who dwelt upon the statutory limitations under which the Council has to work. The toast of "The Royal Colleges of Physicians and Surgeons" was given in a humorous speech by the Junior Warden, Dr. J. C. Thorowgood, and acknowledged by Sir Richard Douglas Powell, President of the Royal College of Physicians, and Mr. John Tweedy, President of the Royal College of Surgeons. Mr. Tweedy recurred to the subject of the defects in the existing medical curriculum to which he has referred on more than one occasion recently, and expressed the opinion that the existing system of examination, which he described as a system of rush, crush, and cram, prevented students of the present day from exercising their reasoning powers. He spoke in a critical spirit of the increase of universities, and contended that it would be better to retain the duty of examining and licensing candidates for the practice of medicine in the hands of corporations consisting of men experienced in the actual work of the profession. The toast of "The Society of Apothecaries of London" was given by Dr. Crosby, Alderman of the City of London, and acknowledged by the Master, Deputy-Surgeon-General J. H. Jeffcoat. The toast of "The Visitors"—who, in addition to those already mentioned, included Sir Shirley Murphy, Medical Officer to the County of London; Dr. Champneys, President of the Central Midwives Board; Mr. Alderman Robinson, President of the Pharmaceutical Society; Mr. David Howard, President of the Institute of Chemistry; Mr. E. J. Bevan, President of the Society of Public Analysts; the Prime Warden of the Goldsmiths Company, and the Master of the Skinners Company—was given by Mr. A. Mowbray Upton, Clerk of the Society of Apothecaries, and acknowledged by Sir Lauder Brunton.

THE FEET OF BAREFOOTED AND SHOE-WEARING PEOPLES.

The question, What is the normal form of the foot? has hitherto not been satisfactorily answered. It is well known that among boot-wearing people useful and painless feet are to be found, which may vary from the high aristocratic arch, under which "a mouse could run," to one which almost touches the ground on the inner side; but it is difficult to estimate the effect of footgear and highly artificial environment in producing these results. As regards the barefooted races, to whom we should naturally turn for information, it unfortunately happens that those who have had the opportunity of studying them have not often or effectually availed themselves of their advantages. In a paper read at the last meeting of the American Orthopaedic Association, however, Dr. Hoffman of St. Louis has done a great deal to clear up the obscurity of the subject by giving the results of a minute and prolonged study of the feet and the gait of various Philippine and African natives who had never worn shoes and who were for some months dwelling at the Louisiana purchase exhibition. One hundred and eighty-six pairs of feet were examined, and among them he found as great a variation as there is among the Caucasian clad-footed people. Not only was there a wide range of form, but an almost equal diversity appeared as regards gait, which renders untenable the opinion widely held that eversion of the foot is a civilized boot-wearing habit. Some of these barefooted people found it necessary as the weather grew colder to take to boots, which even in the short space of two months produced a marked effect upon their feet, especially as regards the position of the great toe, which became markedly abducted from the pressure of the boot, just as the Caucasian child's foot—which until footgear is worn is as mobile and has an adducted great toe like that of the savage—speedily becomes deformed and stiffened by the pressure of shoes and stockings. The great toe is at a disadvantage in this respect. Its so-called abductor has very little, if any, power to draw the digit inwards (that is, towards the other foot), and its ligaments on the inner side cannot withstand the leverage to which it is subjected. It is undoubtedly a most difficult task to devise and make a boot which will encourage or even allow adduction. A study of boots and shoes and sandals in various museums, some of which date from the fourth century A.D., and of statues and other works of art showing even more ancient forms, leads to the conclusion that, while the sandal preserved the form of the foot and the adducted position of the great toe, all the boots, shoes, and slippers, with the doubtful exception of the broad-toed, puffed-out shoes of the early sixteenth century, must have squeezed the big toe and produced hallux valgus. The modern Arab sandal from the East Coast of Africa is wide and quite straight on the inner edge, while the Arab slipper, like the Turkish, is pointed and narrow by comparison. The main conclusions arrived at by Dr. Hoffman are that the differences between the feet of the clad-footed races and the barefooted are due to shoes, and are not inherent, and that "there is no relationship or coincidence "between the height of the arch and the character "of the gait"; and, further, that "the height and "shape of the longitudinal arch have no bearing "on the strength or usefulness of the foot." This bears out the conclusion arrived at by Dr. R. W. Lovett of Boston, from the examination and observation of the feet of 500 hospital nurses—that the form of the foot bears no relation to its liability to become weak or painful. Those probationers whose feet on first entering the wards were classed as "excellent" in form were slightly more liable to subsequent trouble than were those whose feet were classed as "poor." It seems probable that the factor which determines the occurrence of symptoms is what, in the absence of more exact knowledge, may be called the arthritic diathesis, without going so far as to admit with Lorenz that definite arthritis is present in all cases of painful flat-foot. We would recommend the papers of Dr. Hoffman and Dr. Lovett, which were published in the *American Journal of Orthopedic Surgery* of October, 1905, and August, 1903, to the attention of medical examiners for the army and the other branches of the public service, for it may prevent their rejecting, solely on account of the form of their feet, desirable candidates, who are no more likely to become incapacitated than are the owners of ideal lower extremities.

THE MEDICAL PROFESSION IN JAPAN.

Owing to various causes, the official register of licensed medical practitioners in Japan ceased to be trustworthy some years ago. An investigation as to the number of persons practising medicine and pharmacy was, therefore, made in 1901. It was found on July 31st of that year that the total number of practitioners was 33,508. Of these, 9,733 had passed a recognized examination, 1,297 were graduates of the Imperial University, 2,097 graduates of the higher schools, 2,283 graduates of local medical schools, 883 were licensed on the ground of official experience, and 74 were graduates of foreign medical schools. Of the whole number of practitioners 16,758 were in practice before the establishment of the register, and 401 were licensed to practise only within a limited district. The number of licences to practise issued during 1901 was 1,219, of which 702 were granted to persons who had passed a qualifying examination, 36 to graduates of the Imperial University, 274 to graduates of the Higher Schools, 202 to graduates of local medical schools, 4 to graduates of foreign schools, and 1 to a person previously in practice. During the year 863 practitioners died. As compared with 1900 there was a decrease of 7,416 in the number of registered practitioners; this is attributable not so much to any marked decrease in the number of persons entering the profession as to the wholesale weeding out of deceased or retired practitioners whose names still appeared on the list. The proportion of practitioners to population was for the whole of Japan 7.32 to every 10,000. The proportion in Tokio was 11.61, in Kochi 11.61, and in Ishikawa 10.79 to every 10,000 inhabitants.

THE INFLUENCE OF HOSPITALS.

In consenting to open, at the beginning of this month, an additional ward at the New Hospital for Women in Euston Road, the Archbishop of Canterbury paid a compliment to the institution of which it is by no means unworthy. Although still known as the New Hospital, it is very nearly thirty-five years old. The present premises have only been occupied for some fifteen years, but before that a hospital of identical purpose and under the same general management, and with the same conception at its base, had been carried on in the Marylebone Road since 1872. This earlier institution itself again grew out of a dispensary for women, which Mrs. Garrett Anderson—who, we are all glad to know, is still among us and doing excellent work as Secretary of the Imperial Vaccination League—started and carried on with great success. This was the first medical institution conducted entirely by women for women, and the present very successful hospital in the Euston Road is its direct successor. All the members of the active staff are medical women, though on the consulting staff, which is unusually large, both men and women find a place. In the course of his speech the Archbishop made some very suggestive remarks, one of which was to the effect that a crying need of the day was that hospitals should occupy a larger place in the minds of the healthy than they did. At first sight this may seem untrue, but those who have studied the matter are aware that the percentage of the population which interests itself at all in the financial affairs of hospitals or renders them any material support, is exceedingly small. Allusion was also made by him to the humanizing influence which hospitals exerted upon those who sought their aid merely for physical disorders. Every one must have noted the improvement which took place in the minds and manners of those who remained any time in the wards. The moral influence which a staff,

from the surgeon in charge down to the dressers and junior nurses, exerted and might exert was perhaps not sufficiently recognized by its members, and certainly did not receive adequate recognition at the hands of the public at large. The part, indeed, which the modern hospital played as a civilizing agent was very great. Independently of anything else, it taught the value of discipline, and no patient could return home after a week or two in a hospital without some faint glimmer at least of what was meant by cleanliness such as could never fade from his mind, and must certainly do something to aid the work of a medical officer of health.

SPIROCHAETES IN YAWS.

Dr. Schaudinn's discovery of the *Spirochaete pallida* in syphilitic lesions has naturally stimulated the search for similar parasites in other diseases, the etiology of which is obscure. We published last week (p. 1280) a communication from Dr. Castellani, in which he announced his discovery of certain spirochaetes, not unlike the *Spirochaete pallida*, in two cases of yaws. In a later communication (p. 1330) Dr. Castellani tells us that he submitted his first specimens to Professor Schaudinn for examination, and was told by that authority that they contained three varieties of spirochaetes, one of which resembled, but was not identical with, the spirochaete which is associated with syphilis. Dr. Castellani has now found spirochaetes, including the variety which bears a resemblance to the *Spirochaete pallida*, in 7 out of 11 cases of yaws, and has also found in some of his specimens peculiar oval, chromatin-containing bodies which may represent a developmental stage of some possibly specific protozoon. We agree with Dr. Castellani that it would be premature to assert that the organisms which he describes bear a causal relationship to yaws; but he is quite justified in making these preliminary announcements, and we hope that they will prove to be the starting-point of a useful investigation.

THE RUSSIAN LOSSES IN MANCHURIA.

At the annual meeting of the Association of Military Surgeons of the United States, held not long ago in Detroit, Colonel Valery Havard, Assistant Surgeon-General, U.S. Army, who was detailed for duty with the Russian army in Manchuria, presented a report of his experiences. He gave the ratio of killed to wounded in the Japanese army as 1 to 4·5, and in the Russian army as 1 to 3·96. The wounds from shrapnel were much more numerous than those caused by bullets. Wounds caused by the bayonet and the sword, weapons generally considered obsolete, were still met with; before the battle of Mukden 500 Russians were killed and wounded by the bayonet. The ratio of sick in the Russian army up to June 13th, 1904, was 3·28 per cent. After the rainy season had set in the ratio increased to 3·74 per cent., and at that time the number of cases of communicable disease was 1,117, including all cases of dysentery and diarrhoea. At that time there were only 54 cases of typhoid fever, 15 of typhus fever, and 9 of recurrent fever. On December 8th, 1904, there were in the hospitals 819 officers and 17,384 soldiers. Two months later the number had increased to 873 officers and 17,892 soldiers. The Russian statistics showed that during 1904 at least 20,000 Russians were killed in action or died from wounds, while during the same period the number of deaths from disease was only 2,730; the ratio was therefore about 7 to 1. In Manchuria epidemic diseases might have been expected to break out, but to Colonel Valery Havard's surprise not only were such epidemics absent, but the usual camp diseases were not prevalent. The variation of percentage of infected wounds in summer and winter dependent on the condition of the skin and the amount of clothing worn by the soldiers is interesting. In Mukden hospitals hardly 10 per cent. of the wounds inflicted in summer were infected, while in winter hardly 10 per cent. of the wounds escaped infection, notwithstanding the primary dressings which had been applied in most cases. Colonel Valery Havard's conclusion was that the prophylactic measures before going into action should be the taking of a bath, the donning of clean linen, and a clean and light uniform, and that, although the soldier should be well fed, his intestines should be empty on the day of battle.

WHISKY AND BRANDY.

Summonses taken out at the instance of the Islington Borough Council against traders in the borough for selling as Scotch and Irish whisky an article really consisting of patent still, otherwise called silent or neutral spirit, and not whisky, are being heard before Mr. Fordham, the magistrate of the North London Police-court. Readers who desire to be informed of the nature of the contention advanced by the Borough Council, and on the differences between patent and pot-still whisky will find the subject fully discussed in an article published in the British Medical Journal of December 26th, 1903, p. 1645. This week also an appeal was heard at the Clerkenwell sessions before Mr. McConnell, K.C., against a conviction and fine of £5 imposed by the justices of Kensington for unlawfully selling to the prejudice of the purchaser certain brandy which was not of the nature, substance, and quality demanded, being adulterated with at least 58 per cent. of spirit not derived from the grape juice or wine. In this case the bench affirmed the conviction and fine with costs, holding that the article was sold to the prejudice of the purchaser and was not of the nature demanded.

Mr. G. C. Franklin, F.R.C.S., President of the British Medical Association, has been appointed by the Lord Chancellor a Justice of the Peace for the borough of Leicester.

As a mark of appreciation of the hospitality extended by the Mayor and Mayoress of Leicester to members of the British Medical Association at the annual meeting last July the Leicester Executive Committee have presented the Mayoress (Mrs. Hilton) with a pair of solid silver chased candlesticks.

We are requested to announce that, in consequence of unforeseen contingencies, Mr. Cockerton, the Local Government Board Auditor, has postponed the adjourned hearing of the case before him, in which the Association challenges certain payments made by the London County Council, from November 21st to November 28th, at 11 a.m.

Sir William Broadbent will give an address on the Tuberculous Children of the Metropolis, at a meeting of the Council of the Invalid Children's Aid Association to be held on Thursday, November 30th, at 4 p.m., at Denison House, Vauxhall Bridge Road. A report on the work of the Association and its possible development will be presented. Persons interested in the work of this excellent Association are invited to attend.

The specimens which have been added to the Museum of Pathological Anatomy in University College, London, during the past year will be on view in the museum until the end of the month. The specimens are upwards of one hundred in number, and among the more interesting may be mentioned a series illustrating deformities of the hands and feet in anaesthetic leprosy, specimens of multiple fibromata of the skin, the bone-marrow in polycythaemia, hydatid disease of the kidney, oesophageal sacculus, carcinoma of the bile papilla with suppurative cholangitis, associated sarcoma and carcinoma of the uterus and a series illustrating diseases of the breast prepared in connexion with the new edition of the Catalogue of Surgical Pathology, the third and final volume of which will shortly be issued.

Scotland.

Election of Lord Rector of Aberdeen University.

The Rectorial contest in Aberdeen, which ended on Saturday, November 11th, has in some respects been unique. In the first place, it is probably the shortest on record, and it was also the first, for many years at least, that has been fought on purely academic grounds. Though the contest was short, there was no lack of energy, and the result adds to the interest of a peculiar election. A week before the voting day there was no sign of a contest. The official Liberals had agreed during the summer session not to oppose the re-election of Mr. Ritchie, and his return for a second term seemed to be assured, especially as efforts to secure an opposing candidate—first in the person of Lord Elgin, and then of Mr. Austen Chamberlain—came to nothing. No doubt Lord Elgin's position on the Carnegie Trust weighed with him in declining nomination, and Mr. Chamberlain refused to oppose an old colleague, even on the understanding that the contest would proceed on the lines of Free Trade *versus* Tariff Reform. Then came the discovery of an error in the date of the election. This had been originally fixed for November 18th. According to ordinance, however, the latest date on which it could take place was found November 11th, and that day had to be fixed, and it was thought that the last chance of opposition had disappeared. This accident did not in any way depress those students who had set their minds on a contest. Their exertions to find a candidate were redoubled, and the name of Sir Frederick Treves occurred to some one. It proved a happy inspiration. Sir Frederick accepted nomination by telegram on Wednesday, the 8th instant, provided the contest were on academic grounds. Even then it was thought that Mr. Ritchie would win the day, and the nomination meeting on Thursday night did not dispel this hope. The Treves supporters, however, worked most enthusiastically, and, considering that three fourths of the students had not taken part in the last contest—having come to the University since 1902—they had plenty of material to work upon. The result was that when the fight for the standard took place on Friday afternoon the Treves party won an absurdly easy battle and carried the enemy's stronghold in a few minutes so that on Saturday Sir Frederick was elected Lord Rector by a large majority in all four "nations." The following is the result of the voting by the various nations into which the students are divided, according to birthplace, for purposes of rectorial elections:

Mar.		*Angus.*	
Treves	113	Treves	93
Ritchie	46	Ritchie	27
Majority ...	67	Majority ...	66
Buchan.		*Moray.*	
Treves	121	Treves	63
Ritchie	55	Ritchie	25
Majority ...	66	Majority ...	38

Total vote:—Treves 390
Ritchie 152
Majority for Treves 237

According to the method of election a candidate having a majority of three nations wins the day even if he has not an absolute majority. On this occasion a majority was obtained by the successful candidate in all four nations—a very unusual occurrence.

The victory was certainly dramatic and an illustration of the chances which attend popular election. Of political significance the result has none, the chief factors in the situation being the desire—a natural desire—on the part of a great many arts and medical students for a contest, and the personal distinction of Sir Frederick Treves.

In certain quarters within and without the University there has been some talk of the ungraciousness of the dismissal of Mr. Ritchie at such short notice since he had proved himself an excellent Lord Rector. If there is even an appearance of such then the blame lies with the officials—by no means representative of the student body as a whole—who took upon themselves to promise him re-election without a poll, without in any way really tapping present student opinion. They ought to have recognized the great change that takes place in the constituency in the course of three years. No constituency cares to have things arranged above its head, and perhaps least of all a body of students, and it was not to be expected that the undergraduates would acquiesce to a course that would have deprived them of the fun of a rectorial contest. Undoubtedly the fact of Mr. Ritchie's retiral from public life militated against his chance of re-election, but in any case it is recognized that in the present condition of the student mind he would have had a hard fight for his position. In Sir Frederick Treves the other party had a candidate who is particularly well known, and, apart from his eminence as a surgeon, there is no doubt that his personality seized the imagination of the students and carried all before it. In him the University has a Lord Rector of high distinction, and one well fitted to add honour to the celebrations next year. In honour of the Lord Rector a grand torchlight procession takes place on the evening of November 18th.

Aberdeen University Medical Society.

On the occasion of the opening meeting of this society an address was delivered by Dr. J. McKenzie Davidson (London) on X Rays and Radium. Professor Cash, the Honorary President, occupied the chair, and there was a very large attendance. In his opening remarks Dr. Davidson said that about a quarter of a century ago he had the honour of reading a paper on the telephone to the society, and he well remembered that only ten students were present. It was a pleasure to come back among them and see how the society had increased from a small beginning. He then dealt with the work which led up to the discovery of the *x* rays, and performed several very interesting and most successful experiments in illustration of his remarks. He referred to the valuable work of Sir William Crookes, and said that Roentgen's researches practically covered the whole ground which had been touched up to this time with regard to the *x* rays. It was remarkable how thoroughly he had worked out the subject. The lecturer then dealt with the importance of the rays in relation to surgery, and explained the methods adopted for localizing foreign bodies in the human frame, showing a large number of shadowgraphs in illustration of his remarks. He then went on to speak of radium, its discovery by Madame Curie, its properties, the medical application of it in the cure of disease. At the close, Mr. A. S. Leslie, M.A., President of the Society, moved that the thanks of the society be accorded to Dr. Davidson for his address, which motion was most heartily received.

Aberdeen University Quatercentenary.

The Latin letter of invitation to universities and other learned bodies has been drafted by Professor Ramsay and will soon be dispatched. A list of about 300 such institutions, prepared by Mr. P. J. Anderson, the University Librarian, has been under the consideration of the Invitations Committee, and it has been thought desirable, except in nine instances, to invite only one delegate from each. The nine favoured institutions, the number of invited delegates from which will be left indefinite, are the Universities of St. Andrews, Glasgow, Edinburgh, Oxford, Cambridge, Dublin, Paris, Bologna, and Tokio. All the members of the Senatus have been requested to submit lists of distinguished individuals whom they consider should be specially invited.

Edinburgh Obstetrical Society.

The following office-bearers were elected on November 8th: *President:* Dr. J. W. Ballantyne. *Vice-Presidents—Senior:* Professor Sir Halliday Croom; *Junior:* Dr. Berry Hart. *Treasurer:* Dr. William Craig. *Secretaries:* Dr. Lamond Lackie, Dr. Barbour Simpson. *Librarian:* Dr. Haultain. *Editor of Transactions:* Dr. Angus Macdonald. *Members of Council:* Professor Simpson, Dr. W. Fordyce, Dr. Thomas Wood (Leith), Dr. Oliphant Nicholson, Dr. N. T. Brewis, Dr. Munro Kerr, Dr. Freeland Barbour, Dr. Haig Ferguson.

R.A.M.C. (Vols.) Glasgow Companies.

On relinquishing the post of Adjutant Major C. C. Fleming, D.S.O., was entertained to dinner by the officers' mess. Major Fleming is the first regular adjutant whom the corps has had, and during his three years of office he has been deservedly popular with all ranks. From a small beginning the Glasgow Companies have grown to respectable dimensions, and no difficulty is experienced in obtaining recruits, though the university students do not provide so large a contingent as in the earlier days of the corps. If the most recent proposal of the War Office be carried into actual practice there is no doubt that the numbers joining the corps will be greatly increased. The proposal is that in order to form a reserve of the

R.A.M.C. volunteers may join for six years' service in the reserve. Such men will be borne on the strength of their volunteer corps, but as supernumeraries. During the time that they are on the reserve they will receive 6d. a day and will be liable to be called up for army duty under the conditions which apply to the army reserve generally. The physical standard will be that of the regular army, and the men on entering the reserve must be between the ages of 19 and 30. They must remain efficient according to the volunteer standard, and as long as they are efficient will not be called upon to attend reservists' drill or training. When called out for military duty the pay will be at army rates, according to rank. This scheme, if carried through, will probably attract many suitable men from volunteer R.A.M.C. corps and from bearer companies. The rate of pay is fairly high, and the requirements are only those of the ordinary volunteer regulations. So far no scheme for retaining the services of the officers has been suggested, but doubtless it will follow in due course.

Gartloch Asylum.

The eighth annual report of the Glasgow District Asylum, Gartloch, for the year 1904-5 shows that there has been an increase of 29 in the number of inmates. The total number treated was 947, and the average number resident was 681. The admissions numbered 297, while 268 patients died or were discharged. Of these latter 111 were discharged as recovered, a percentage of 37.37 on the admissions. Further, 85 patients were sent away relieved or not improved; of these 28 were boarded out, and 30 went to friends. The recovery ratios would have been higher but for the effect of sending so many acute recoverable cases to the mental wards in Duke Street Hospital. Of the admissions, 28 per cent. were more or less recent attacks; but the remainder represented congenital cases, return attacks, and more chronic cases of more than a year's standing. Dr. Parker holds that the most important factor in producing the insanity was alcohol. He attributes 21.88 per cent. of the admissions directly to it; in some other cases alcoholism was associated with other supposed causes. Further, he insists on the danger to the offspring of parental abuse of alcohol.

The total number of deaths, 72, are equal to an annual rate of 10.6 per cent. on the average number of patients resident. The cause of death in 22 cases was due to general paralysis, which seems to be steadily increasing. *Post-mortem* examinations were obtained in 61 of the cases. The good effect of the open-air sanatorium treatment for tuberculous cases is shown by the fact that in only 8 of the cases—11.1 per cent.—was death directly due to tuberculosis, though evidence of tubercle was discovered in half the cases, either more or less quiescent or completely cured. Previous to the segregation of tuberculous cases in the sanatorium the death-rate from tuberculous disease was 20.28 per cent. The Commissioner in his report draws attention to the fact that, despite the improved accommodation and shortening of the hours of duty, the changes in the nursing staff have been very numerous. He suggests that possibly a more settled type of attendant might be obtained if the provision for married quarters were increased, and he strongly recommends the building of more cottages with this end in view. In Gartloch the number of patients who are treated in bed is much higher than is usual in Scottish asylums. The average all over Scotland is 8.1 per cent., but in Gartloch 22 per cent. of the total number resident were confined to bed. A gratifying feature of the report is that cost of maintenance per patient has fallen from £33 0s. 10d. in 1904 to £30 3s. 10d. in 1905.

Children's Home Hospital, Aberfoyle.

The second annual report of this useful institution shows that considerable progress has been made. Towards the end of 1904 a strong appeal for funds was made, and the response was so hearty that the Committee felt justified in enlarging the home by taking in the adjoining house. This addition was opened in May last, and accommodation is now provided for 18 children and 2 adults. The children are chiefly selected from the invalid or cripple schools in Partick, Hopehill Road, and Anderston, Glasgow. The home is intended to secure country treatment for children suffering from diseases of the bones and joints, rickets, etc., for whom permanent cure is impossible under the conditions of a confined city life, but for whom there is a reasonable chance of recovery under the combined action of country life and good food. Since August, 1904, 36 children have been treated, and most of the cases were examples of one form or another of tuberculous disease. A system of open-air treatment was carried out, and chief reliance is placed on good food, sunshine, and fresh air. The results obtained have been very satisfactory. All the children discharged were, with one exception, either cured or greatly improved. The length of stay is not fixed in any case, but is left to the discretion of the medical officers. As a rule the patients remain for long periods, and the average stay of the children discharged is considerably over three months. During the time that they are in the home the children receive elementary teaching from a certificated mistress. The cost of maintenance for each cot averages about £20 a year. In addition to the children, 15 adult patients were treated. In several cases mothers were accompanied by their infants.

LONDON COUNTY COUNCIL.

Public Control Department.

The annual report for 1904-5 of the chief officer of the Public Control Department of the London County Council recently issued.* contains statistics and other information as to matters of medical interest. An abstract of the more important of these may be of interest to our readers.

Coroners' Inquests.

In 1904, 7,391 inquests were held in the County of London, which is at the rate of 1.5 inquests per 1,000 of the estimated population—4,625 965. The number of inquests held in London during the past four years were: 1900, 8,027; 1901, 7,932; 1902, 7,729; 1903, 7,245. Particulars are given of the number of inquests in each coroner's district, the ages at which death occurred, the causes of death, the finding of juries, the number of *post mortem* examinations and other matters. During 1904 there was an increase of 162 in the number of cases reported to coroners. Of the 7,391 inquests held, no less than 3,577, or 48 per cent., resulted in a verdict of "death from natural causes." The adoption of a system of inquest procedure such as that indicated under the heading "Coroners' Law Amendment" would have rendered an inquest in a large proportion of these cases unnecessary. There was also an increase of 220 in the number of *post-mortem* examinations as compared with 1903. The lowest percentage of *post-mortem* examinations was in the Eastern District, and the highest in the Westminster and South-Western Districts. The distribution of inquest cases in London is shown in a tabular summary of inquests held, places where death occurred or the body was found, and *post-mortem* examinations made in each sanitary district of the County of London.

The revision of coroners' salaries is made at the instance of the Council or the coroner, as the case may be, every five years, the salary being based on the average number of inquests held in the district during the preceding five years. One salary was revised during 1904—namely, that of the coroner for the North-Eastern district. The average number of inquests held in this district during the five years ended June 5th, 1904, was slightly in excess of that held during the previous quinquennial period, and the coroner, therefore, made application for a revision. The new salary was fixed on a basis of £1 6s. 8d. per inquest, together with a sum of £100 for travelling expenses, which amounted to a salary of £1,599 4s., or an increase of £63 9s. 4d. on the previous salary.

The number of juries was less than in 1903, and the amount of fees paid showed a decrease of £68 0s. 4d. In regard to the cost of inquests, there was an increase of £344 6s. 9d. on the expenditure under that head in 1903, of which £63 9s. 4d. was in respect of coroners' salaries and £280 17s. 5d. in respect of disbursements. The increase in disbursements is attributed to the larger number of inquests held, the number during 1904 having been 146 in excess of the number held in 1903.

Coroners' Law Amendment.

The question of amending coroners' law has engaged the attention of the Committee for some years past, and representations on the subject have from time to time been made to the Lord Chancellor and the Home Secretary, but hitherto without result. The resolutions which were adopted by the Council in 1895 were as under:

(a) That in no case should a death be registered without production of a certificate of the cause of death, signed by a registered medical practitioner or by a coroner after inquiry.

* Printed for the London County Council by Southwood, Smith, and Co., Limited, and may be purchased, either directly or through any bookseller, from P. S. King and Son, 2 and 4, Great Smith Street, Victoria Street, Westminster, S.W., agents for the sale of the publications of the London County Council. No. 900. Price 9d., post free 10½d.

(*b*) That a medical practitioner in attendance should be required, before giving a certificate of death, to personally inspect the body and identify it as the body of the person he has attended, and should include in his certificate a statement pointing to the absence of accident, poison, violence, or criminal neglect; and that the coroners be required to hear evidence from representatives of the families of the deceased whenever it is alleged that death has been caused by accident.

(*c*) That a form of certificate of death should be prescribed, and that in giving a certificate, medical practitioners should be required to use such form.

(*d*) That medical practitioners should be required to send certificates of death to the registrar instead of handing them to representatives of the deceased.

(*e*) That it should be made a penal offence to bury, or otherwise dispose of a body, without an order from the registrar, stating the place and mode of disposal, which order, after it has been acted upon, should be returned to the registrar who issued it.

(*f*) That it should be made an offence to retain a dead body unburied or otherwise legally disposed of beyond a period not exceeding eight days, except by permission of a magistrate.

(*g*) That the certificate should be endorsed by the burial authority, with the date of interment or disposal, and the place where the body is buried, and returned to the registrar by the burial authority.

(*h*) That when the medical practitioner is unable to certify, he should be required to report direct to the coroner. Relations, friends and others having cognizance of suspected cases should also be required to report them to the coroner.

(*i*) That every case of death after surgical operation should be reported to the coroner with a view to preliminary inquiry, and, if necessary, the holding of an inquest.

(*j*) That medical investigators should be appointed—

(1) To inquire into the causes of all uncertificated deaths, assisted by qualified and responsible inquiry officers.

(2) To examine the body in all such cases and make *post-mortem* examination where necessary.

(3) To report the result to the coroner sitting in court, who will then decide as to the necessity for holding formal inquest.

(4) To give evidence at inquest and act as medical adviser to the coroner.

(*k*) That London should be divided into districts so arranged as to give approximately equal amount of work, and that coroners be paid by salary not dependent on the number of inquests held.

(*l*) That franchise districts should be abolished.

(*m*) That a court or courts should be provided for each district, with a coroner, clerk, inquiry officers, and other necessary officials as in police courts.

(*n*) That one or more medical investigators should be attached to each court, and be paid by salary.

(*o*) That the office of deputy-coroner should be abolished as unnecessary in London.

(*p*) That inquests should be held and evidence taken by the coroners in all cases where the reports of the medical investigators show further inquiry to be necessary, and in all cases of violent or suspicious death.

(*q*) That viewing the body by a jury should no longer be obligatory.

(*r*) That the number of jurymen should be reduced to one-half of the present number, that is, to not less than six or more than eleven.

(*s*) That in cases involving subsequent criminal proceedings, such as murder or manslaughter, or other criminal offence, the coroner should have full power to bind over all witnesses.

(*t*) That proper records of all cases dealt with by the court, whether inquests be held or not, should be kept as records of the county.

(*u*) That the court should have jurisdiction in cases where the body is lying in the district to which it is attached, except in cases of accident, etc., where more than one death has taken place, when the jurisdiction should be with the court for the district in which such accident, etc., occurred.

(*v*) . . . That coroners' juries should be summoned by *rota*.

Coroners' Courts.

The present position of each of the metropolitan boroughs in relation to mortuaries, *post-mortem* rooms and coroners' courts is as follows:

1. Twenty boroughs now possess one or more mortuaries, *post-mortem* rooms, coroners' courts—namely, Battersea, Bermondsey (two courts), Bethnal Green, Camberwell, Finsbury (two courts), Fulham, Greenwich, Hackney, Hammersmith, Holborn, Islington, Kensington, Lambeth (two courts), Lewisham, Paddington, St. Marylebone, St. Pancras, Shoreditch, Southwark, Stepney, Westminster.

2. Three boroughs are provided with good mortuaries and *post-mortem* rooms, and with fairly satisfactory accommodation for holding inquests otherwise than in specially constructed courts — Chelsea, Hampstead, Stoke Newington.

3. Only provisional accommodation exists in Deptford, Poplar, Wandsworth, Woolwich.

Water.

In view of the transfer to the Metropolitan Water Board of the undertakings of the eight metropolitan companies, with all their rights and liabilities, in accordance with the provisions of the Metropolis Water Act, 1902, it may be interesting to set out the statutory relations which now exist between the Council and the Board.

Metropolis Water Act, 1871.—The provision of a constant supply through the county has been carried out by the various water companies (except in the few places such as Hampstead, Highgate, and Sydenham, about the statutory limits of height), and the Water Board must maintain such constant supply.

Metropolis Water Act, 1897.—This Act enables the Council to complain to the Railway and Canal Commission that the Water Board had failed to perform some statutory duty or that the quantity or quality of the water supplied is defective. The Council may aid a water consumer in obtaining the determination of any question that appears to them to be of interest to water consumers within the county, with respect to the rights, duties, and liabilities of the Water Board, in reference to the quantity or quality of the water supplied or the charges made.

The regulations made under the Act of 1871 for the purpose of preventing the waste or misuse or undue consumption or contamination of water are still in force, and the power of enforcing them is transferred to the Water Board.

Shop Assistants.

The employment in shops of young persons under the age of 18 is regulated by the Shop Hours Acts, 1892-5, which limit the period of employment to seventy-four hours a week, including meal times. "Shop" is defined to mean wholesale and retail shops, markets, stalls, warehouses, hotels, licensed public houses, and refreshment houses of any kind. A notice indicating the requirements of the Acts must be conspicuously exhibited on the premises, so that those affected by the Acts may be made acquainted with their requirements.

The enforcement of the Acts in London is accomplished by means of a staff of inspectors—six male and three female—each of whom has a district. Each shop in the district has to be visited at least once a year, but shops where irregularities have occurred, or where, for various reasons, it is desirable that the premises should be kept under observation, are visited more frequently. During the past year 123,248 inspections were made, and 6,716 irregularities were discovered. This is a decrease of 1,034 compared with the figures for the previous year; 510 of the irregularities were in respect of over-employment, and 6,206 were cases of non-exhibition of the notice of the provisions of the Acts. In 50 cases legal proceedings were taken, and convictions obtained in 46 cases, when penalties and costs amounting to £73 2s. were imposed; 1 case was withdrawn and 3 dismissed. Written cautions were sent in 464 cases, and oral cautions were given by the inspectors in the remaining cases. The cases of serious over-employment—that is, in excess of eighty hours per week—were slightly lower than in the previous year, being 102, as against 112 in 1903, 167 in 1902, 212 in 1901, 249 in 1900, and 454 in 1899. This steady decrease is satisfactory.

The essential section of the Seats for Shop Assistants Act, 1899, is as follows:

> In all rooms of a shop or other premises where goods are actually retailed to the public, and where female assistants are employed for the retailing of goods to the public, the employer carrying on business in such premises shall provide seats behind the counter, or in such other position as may be suitable for the purpose, and such seats shall be in the proportion of not less than one seat to every three female assistants employed in each room.

During the year no legal proceedings were taken under the Act, but many letters of caution were sent, which in all cases were successful in obtaining observance. Shopkeepers, as a rule, recognize the usefulness of the Act, and loyally endeavour to comply with it.

(To be continued.)

Bequests to Medical Charities.—The late Mr. Christopher Dove Barker of Great Malvern, whose will has now been proved, left £500 to the Malvern Cottage Hospital and £200 to the Worcester Infirmary. Sir Frederick Cowper, formerly of Tunbridge Wells, who died on September 28th, bequeathed £200 to the Seamen's Hospital Society, and a similar sum to the Tunbridge Wells General Hospital.

AN ANTIVACCINATION POST-CARD.

A MEDICAL man has sent us a post-card which was delivered at the house of a patient of his immediately after the announcement in the *Times* of the birth of a child at the patient's house. The post-card is as follows:

VACCINATION IS A DANGEROUS AND USELESS PRACTICE.

Justification.

(1) In 22 years (1881-1902) there are registered by Medical Certificate 987 deaths from "Cow-pox and Effects of Vaccination," almost equal to one Death in each week.

(2) In the same period there are registered Deaths from Small-pox and Chicken-pox to the number of 21,596, of which only 5 080 are specified as *un*vaccinated.

Authority

Annual Reports of Registrar General for England and Wales.

The card is not authenticated by signature or address, and affords another example of the *suppressio veri* which forms so large a part of antivaccinist propagandism. The mention of cowpox in a death certificate by no means necessarily attributes death to that cause. As pointed out by the Royal Commission

The cases in which death has been certified as connected with vaccination cannot all be regarded as cases in which there was the link of causation between them.

In a large number of them death was due to erysipelas, which is unfortunately no uncommon malady in young infants quite independently of their vaccination. In Scotland the compulsory vaccination age has always been six months, and the proportion of deaths certified as in any way related to vaccination has always been much smaller than in England. Now, however, that the Scottish age for compulsory vaccination has been adopted in the English Act of 1898, many of the deaths from erysipelas which were previously associated with the time of vaccination will take place before that operation is performed, so that the number of cases in which vaccination can be mentioned will be greatly reduced. The post-card of course makes no reference to the aseptic precautions which are now taken by public vaccinators everywhere, nor does it point out that there were from 14 000 to 15,000 vaccinations performed for every instance in which vaccination appears as in any degree related to death.

Similarly, regarding the second point in the post-card there is careful omission of any statement of the large proportion of small-pox death certificates in which the medical man gives no statement as to vaccination. The insertion of information regarding vaccinal condition was always voluntary, and in supplying State documents, such as death certificates are, without fee or reward, many medical men no doubt thought they did enough without going into details which are not compulsory. But even as the figures stand, they give some indication of the value of vaccination. Assuming that every one of the cases as to which no statement was made had really been vaccinated, those definitely certified unvaccinated amount to over 23 per cent. of the total, and in England in the period in question the average neglect of vaccination did not amount to nearly 23 per cent., so that the unvaccinated contributed much more than their proportional share of small-pox deaths. Moreover, the statistics refer to all ages, and it is a most important part of the doctrine of vaccination that protection should be renewed by revaccination, as it is in Germany, where small-pox epidemics are practically unknown. In Germany, with its population of 56 millions, in the twelve years 1891 to 1902 inclusive, the total small-pox deaths were only 607, and many of these occurred near the borders of less completely vaccinated countries, like Russia and Austria. In England, with its much smaller population of 32 millions, the small-pox deaths in the same years were 6 761, the great majority of them being a needless human sacrifice, for which Parliament and the public are jointly responsible. The whole tendency of such antivaccination post-cards is to increase this frightful waste of life, but there is no power to prevent their issue.

THE MIDWIVES ACT, 1902.

URGENT MIDWIFERY IN POOR LAW PRACTICE.

A. M. writes as follows: I was summoned at 5 a.m. to assist a licensed midwife who required medical assistance in consequence of alarming haemorrhage during labour in a case she was attending. The application to me was accompanied by an order for medical attendance on the patient in question which had just been granted by the relieving officer, and was marked "urgent" by him. On reaching the patient I found the haemorrhage had momentarily ceased, but on examination could reach the edge of the placenta. After considerable difficulty I delivered by podalic version. The child was dead. My attendance occupied two and a half hours. I should be obliged for your opinion as to whether Art. 182 or 183, quoted in the BRITISH MEDICAL JOURNAL of November 4th, 1905, p. 1216, is that which has reference to this case.

*** Art. 183 unmistakably applies, as the case was one of grave character and delivery was effected by considerable difficulty. £2 is the proper fee for the medical attendance.

LITERARY NOTES.

WE understand that at the end of the year Dr. T. W. Eden will retire from the editorship of the *Journal of Obstetrics and Gynaecology of the British Empire*. He will be succeeded by Dr. C. J. Cullingworth.

It is said—we know not with what truth—that from Lieutenant-Colonel Peter Mulvany, R.A.M.C., whose death was announced in the BRITISH MEDICAL JOURNAL of November 11th, Mr. Rudyard Kipling borrowed the name of the leading spirit among his immortal *Soldiers Three*.

Alma Mater, the Aberdeen University Magazine, has secured the right of serial publication of a novel entitled *The Adopted Daughter*. The author is Dr. Edward Marten Payne, a medical graduate of Aberdeen. The novel deals with student life at Marischal College and with medical practice in England. The picture of student life is said to be very good, and the incidents will appeal strongly to past and present students.

The Moscow Censorship Committee has instituted legal proceedings against the editor of a book entitled *The Russian Medical Society in Memory of Pirogoff in his Struggle against the Cholera*.

According to our American contemporary, *Medicine*, the first pharmacopoeia published in the United States was one issued for the special use of the army under the direction of Dr. James Tilton, who in 1777 was appointed Superintendent of Washington's General Military Hospital at Princeton. He found laymen in charge of all the medical departments of Washington's army, and abuse and corruption everywhere rampant. Dr. Tilton set about a thorough reform. Relatively inexpensive, readily ventilated log hospitals took the place of the costly old mansions previously used. The result was that the mortality diminished and convalescence was hastened. Through Dr. Tilton's efforts a standard for drugs was established and an official military pharmacopoeia was compiled. "Patriotism" had previously prevented the use of foreign standards. Dr. Tilton was several times a member of Congress, and during the war of 1812 he was Surgeon-General of the United States Army. He died in 1822 at the age of 71.

In the account of the travels of Jacques Cartier given in *Hakluyt's Voyages* is the record of what, according to the *Montreal Medical Journal* is the earliest reported *post-mortem* examination performed in Montreal. It took place in 1535, when the winter was passed in Hochelaga, and many of the crew died of an epidemic disease:

That day Philip Rougement, borne in Ambroise, died, being 22 yeeres olde, and because the sickenesse was to us unknowen, our Captaine caused him to be ripped to see if by any means possible we might know what it was, and so seeke meanes to save and preserve the rest of the company. He was found to have his heart white, but rotten, and more than a quart of red water about it; his liver was indifferent faire, but his lungs blacke and mortified; his blood was altogither shrunke about the heart, so that when he was opened great quantitie of rotten blood issued out from about his heart; his milt [spleen] toward the back was somewhat perished, rough, as if it had bene rubbed against a stone. Moreover, because one of his thighs was very blacke without, it was opened, but within it was whole and sound; that done, as well as we could, he was buried.

A work by Dr. Charlton Bastian, entitled *The Nature and Origin of Living Matter*, is to be issued immediately by Mr. Fisher Unwin. It is said to embody conclusions arrived at by Dr. Bastian after years of research.

Mr. Henry Frowde announces a volume of *Counsels and Ideals from the Writings of William Osler*, Regius Professor of Medicine at Oxford. It has been compiled by Dr. C. W. B. Camac of New York, who explains that "for his own purposes, in order to renew from time to time the personal influence which, as pupils and *internes*, we had come to depend upon," he had for some years made extracts from Dr. Osler's lectures and addresses. The subjects dealt with cover a wide extent of ground.

Mr. Frowde has also nearly ready for publication a memoir of Miss Catherine Grace Loch, Royal Red Cross, Senior Lady Superintendent Queen Alexandra's Military Nursing Service for India, written by Surgeon-General A. F. Bradshaw, who was Principal Medical Officer to the Forces in India. Field-Marshal Earl Roberts contributes an introduction, in which,

as a soldier, he pays a grateful tribute to the memory of Miss Loch.

Lord Edmond Fitzmaurice's *Life of Lord Granville*, just issued, contains a few references to matters interesting to members of the medical profession. It used to be believed that the late Sir William Jenner was something of a despot in his professional dealings with the Sovereign whose fullest confidence he enjoyed for so many years. Apparently this belief was unfounded, for in an important letter to Mr. (afterwards Sir) Arthur Helps dated August 3rd, 1871, Lord Granville, referring to complaints about the seclusion in which the Queen lived, says:

> But when we have to state what the Queen can and cannot do, we can only give the opinion of Her Majesty's medical advisers, and unfortunately there is an almost universal opinion that Sir William Jenner, notwithstanding his great professional reputation, is somewhat swayed by a natural desire to avoid saying anything which might run counter to the Queen's wishes.

Lady Palmerston, who, we learn, thought the Nightingale Fund great humbug, had a sympathetic feeling for the old-time nurse. She expresses it as follows:

> The nurses are very good now. Perhaps they do drink a little, but so do the ladies' monthly nurses, and nothing can be better than them. Poor people, it must be so tiresome sitting up all night, and if they do drink a little too much they are turned away, and others got.

The charm of Lord Granville's manner was felt by every one who came near him. He could even jest about medical art without incurring the wrath of the Faculty, as may be gathered from the following story:

> Lord Plunkett, the orator, had told him that he laid it down as an axiom always to make a pause before bringing out any phrase which he had particularly prepared, to give his hearers the idea that it was impromptu. He once told this anecdote to Mr. Disraeli. The reply was: "Don't we always do it?" A good instance of this oratorial effect was the repetition on one occasion by him, amid great applause, of an old quip at the dinner of the Royal College of Physicians, when he inquired of his learned audience if in their long experience they really could say they had known a case of *cause following effect*. There were of course cries of dissent amid laughter. Then after a proper pause, "Not even," said Lord Granville, "when the doctor follows his "patient to the grave?"

Lord Palmerston, as is well known, looked upon doctors as useful intermediaries in unofficial negotiations. His own physician, Dr. Robert Ferguson, was very useful to him in that way. Another practitioner of whom mention is several times made by Lord Granville was Dr. Frederic Hervey Foster Quin, who is described as "a physician of "considerable reputation and much personal popularity "in London society, in which he was a conspicuous "figure, especially in political circles, which he frequented "irrespective of party." Through Dr. Quin, Mr. Disraeli tried to feel his way towards securing Lord Granville as a colleague. The negotiation in this instance came to nothing, but that was not the fault of the physician. Dr. Quin was, we believe, the first physician who practised as a homœopath in England. He was a man of great social gifts and a noted wit. It may be mentioned that on the testimony of his own physician, Dr. Meryon, Lord Granville's pulse was in his normal state of health only 48. It may be remembered that Napoleon's was only 40.

In another book lately issued, Mr. Alexander Innes Shand's *Days of the Past*, the only doctor to whom any space is devoted is Sir Richard Quain. Mr. Shand met him at the Greenwich dinners of the old *Saturday Review*, where Quain represented medicine, the representative of science being Sir Richard Owen. Of Quain, Mr. Shand says that he may be said to have constituted himself physician in ordinary to the literary guild. From the members of that guild he would take no fee. He was so interested in current events that he would often talk about anything rather than the object of the patient's visit. A great crony of Delane's, he was especially concerned about the leaders in the *Times*, and the men who wrote them. He was a sportsman and emphatically a cosmopolitan.

> He loved to take his holidays in the Hungarian plains or the Carpathians, and many a boar's head and *hure* came to his table from Magyar friends who had entertained him in their castles. A busy man, he was seldom to be seen in the Athenæum, and then the carriage would draw up at the door and he would drop in late. You would be roused with a touch to find him perching on the elbow of your chair, eager as any citizen of old Athens to hear or tell any new thing. If he had another fault as a physician, it was that in the flow of anecdote he was inclined to be indiscreet as to the celebrated patients who had consulted him. When years had gone by he was not over-scrupulous as to the incognita which anonymous princes and veiled queens had jealously sought to guard.

This may perhaps have been one reason of Quain's popularity among journalists, who are ever ready to pick up unconsidered trifles of gossip that may be useful to them. It is said (not by Mr. Shand) that one of Delane's "scoops" was the announcement that Lord Lytton had been appointed Viceroy of India, when his selection was still a secret to all but the inner ring of the Cabinet. The famous editor had heard an eminent physician, now no more, casually remark that the noble lord had that day asked whether his constitution would stand the Indian climate. This was enough for Delane, and next morning, to the astonishment of the world, Lord Lytton's appointment was announced in the *Times*.

SPECIAL CORRESPONDENCE.

PARIS.

Académie de Médecine: Chantemesse and Borel on Cholera Dissemination.—Société de Chirurgie: Discussion on the Therapeutic Value of Lumbar Puncture in Cases of Fracture of the Skull.—Académie des Sciences: H. P. Emile Weil on the Serum Treatment of Haemophilia.

AT a recent meeting of the Académie de Médecine, Professor Chantemesse and M. Borel made a communication on cholera and flies. Having shown that during the last four years cholera had caused more than 1,500 000 deaths in India and the Far East, they said cholera advanced in three different ways—by transport to long distances, by propagation from town to town, and by dissemination from house to house, from individual to individual. Their general conclusions were as follows: (1) It does not seem that during the actual epidemics merchandise, baggage, or drinking water taken on board in infected ports have played any part in the transport of cholera to long distances. It is different with patients coming from an epidemic area; some show symptoms of the disease immediately after leaving the area and embarked while incubation is in progress; others are suddenly seized with cholera fifteen, twenty, or even thirty days afterwards. These latter cases are very dangerous, and the only ones to be feared, for the maritime sanitary authorities are quite helpless in face of such an eventuality; its possibility was proved this year among the Mussulman pilgrims to Mecca. The researches of Dr. Gotschlich have proved the presence of the bacillus in the intestines of persons dying from other diseases. This latent microbe seems to have a duration limited to six or seven weeks at most. (2) Propagation from one town to another can occur through merchandise, but is especially due to persons apparently healthy, with a latent microbe and with an incubation of short duration. (3) To explain dissemination from individual to individual or from house to house, many factors are possible, and certainly transmission by water plays an important rôle, although this does not explain all the epidemics. The way variations of temperature act is important, but the way in which they act is not well understood. There is probably an intermediary whose activity depends on the elevation of the temperature, and which plays an analogous rôle to that of mosquitos in yellow fever; this intermediary may be the fly. The authors have made experiments to find out in what organ of the fly these microbes could get localized and how long they retained their activity. They had by inoculating their suckers, their feet, and their intestinal contents been able to obtain cultures after seventeen hours but not after forty-eight hours. Domestic flies can therefore easily soil food, and thus may constitute powerful agents for the dissemination of cholera; but they are not to carry it a long distance. This explains why water, which kills the flies, retards the extension of cholera epidemics.

At a recent meeting of the Société de Chirurgie, M. Potherat read a paper on the therapeutic value of lumbar puncture in cases of fracture of the skull. In a case with marked characteristic symptoms and recognized as very grave, he performed lumbar puncture on several consecutive days, and after each intervention he remarked a marked improvement in the patient's condition. Little by little the patient was cured, and the cure is now complete. M. Potherat said he had observed several cases of fracture of the skull which got well spontaneously without any intervention at all, either trephining or punctures. M. Terrier, in a case of fracture of

the skull treated in his wards, accompanied by violent headaches, noted a marked amelioration after each lumbar puncture. M. Guinard described a case in which lumbar puncture brought about a passing alternation of the symptoms but no cure, the patient dying the day after the second intervention with a return of the cerebral symptoms. In this case the fracture was not diagnosed at once, and the first cerebral symptom was violent delirium, resembling delirium tremens; after withdrawing large quantities of cerebro-spinal fluid—40 c.cm. in two punctures—the delirium ceased immediately, and was followed by a period of calm which lasted several hours. M. Rochard had always noted an amelioration after lumbar puncture which he now applies systematically in all cases of fracture of the skull in his wards. M. Tuffier said he considered it dangerous to withdraw too large quantities of cerebro-spinal fluid, for there is a risk of lowering too much the intraspinal and intracerebral tension, especially at the level of the fourth ventricle, which might cause a compression of the bulb of the cerebellum. M. Terrier thought that death in M. Guinard's case might have been the consequence of withdrawing a too large quantity of cerebro-spinal fluid.

M. P. Emile-Weil recently communicated to the Académie des Sciences the results of a research in the serum treatment of haemophilia. He injects the patients with human and bovine serum. His conclusions on the subject are as follows:

1. The intravenous injection of normal serum acts on all the elements which constitute the flow and the arrest of haemophilic blood at the level of the vessels and of the tissues. In the veins the flow is slower and the blood stops spontaneously; blood taken from the finger coagulates normally.

2. Intravenous injection of bovine serum acts like human serum on the defective coagulation in haemophilic patients, but human serum acts more powerfully.

3. Vaccination of haemophilic blood obtained by this treatment is only passive. The action of the serum, which is distinct after forty-eight hours, diminishes in ten days; in five weeks the coagulation again becomes abnormal in its duration, but not in its form. The action of the serums on haemophilic blood appears to be as good *in vitro* as in the living subject.

4. The rise in the coagulation of the blood in haemophilic cases, attributed by some to the tissues, by others to the blood, really belongs to the blood itself.

5. The prevention and curative action of injections of serum in haemophilic subjects is undeniable.

SOUTH WALES.

Cardiff Infirmary—Caerleon District Council.—Rhondda District Council.—Sirhowy Valley Water Supply.—Doctors and Friendly Societies.—Police as Sanitary Inspectors.

A MEETING of the Board of Management of the Cardiff Infirmary was held on November 8th; Major-General Lee presided. In recognition of their efforts as joint honorary secretaries in connexion with the recent "charitaria," Miss Beatrice Jones and Mr. Frank L. Perry were elected life presidents of the institution. The movement was the means of bringing £1,000 to the infirmary. Mr. D. W. Evans, the honorary secretary of the Patti concert, sent a cheque for £805 16s. 2d., the profit of the concert, after deducting all expenses. It was resolved to place the amount on deposit for the general purposes of the institution. On the motion of the Chairman, the Baroness Cederstrom was unanimously elected a life president of the institution, and also Mr. D. W. Evans. Dr. Howell Rees, who initiated the concert, was also specially thanked. It was further resolved to thank the Lord Mayor, Dr. Charles Vachell (Chairman of the Concert Committee), Miss Beatrice Jones, and other devoted ladies.

At a meeting of the Caerleon District Council, the Medical Officer of Health reported an outbreak of typhoid fever. There was a well on the premises quite close to the drain. The water had been analysed, and the results showed it to be of the vilest description, and absolutely unfit for drinking purposes. He was quite satisfied that the fever was due to the use of the water. The surveyor stated that the well had now been closed.

At the monthly meeting of the Rhondda District Council, held at Pentre on November 9th, the recommendation of the Health Committee as to the demolition of certain houses, ten in number, in Wood Street, Mardy, was adopted. Dr. J. D. Jenkins, the medical officer of health, submitted regulations with respect to dairies, cowsheds, and milkshops in the Council's area, which were adopted. The Clerk reported that the conference at Neath with regard to the preservation of Welsh waters had been attended by the Vice-Chairman and himself. Whilst they were at one with the county council in their desire that Welsh waters should be reserved for the Welsh people, it was felt that those councils which had already provided efficient schemes should not be called upon to join in a scheme involving a large expenditure. The Clerk to the county council, it was understood, would draft a Bill, which would be submitted to the district council.

With the rapid development of the Sirhowy Valley, the question of water supply is becoming acute, and will soon have to be faced by the local authorities in a decided manner. Tredegar at the head of the valley has an ample and pure supply, but Blackwood, Argoed, Bedwellty, New Tredegar, Bargoed, Abergargoed, and other districts in the Sirhowy and Rhymney Valleys are not well supplied even in wet seasons, whilst the scarcity in dry periods amounts to a famine. At the last meeting of the Tredegar Council a deputation representing the Mynyddislwyn District Council made an urgent appeal for a water supply from Tredegar. It was decided to hold a special meeting to consider the request of the deputation and the water question generally.

At a special meeting of the Cardiff Friendly Societies Council a discussion arose on the paper read by Dr. P. J. England on the increase of sick pay, its causes, and suggested remedies. The causes assigned were idleness, unemployment, workmen's compensation, old age, over-insurance, and leniency on the part of the medical men. Dr. England's remedies were a declaration from members when going on the sick list, whether in or out of work, as to how many clubs they were in and the benefits received from each, stopping over-insurance, centralization of the funds, stricter certificates from medical men, increased pay for medical officers and, lastly, the appointment of a medical referee. Dr. England said that medical men made enemies by acting straighforwardly, but the appointment would do away with all that. A vigorous discussion ensued, and on the motion of the Chairman a vote of thanks was accorded to Dr. England.

At a meeting of the Maesteg Council, held on November 7th, Mr. J. H. Thomas, J.P., said that, notwithstanding that the Council had completed a new sewerage system, the question of sanitation generally still required very careful treatment, and he threw out a suggestion that steps be taken to petition the authorities to make the police assistant sanitary inspectors. The Council had a sanitary inspector and an assistant, who had a great deal of work to do, and there were some twenty-five constables in the district who might, without very much increase of their present work, look after the state of back premises of houses, etc. He also thought the police might act as assistant school attendance officers. The matter was deferred.

CORRESPONDENCE.

SIR FREDERICK TREVES'S ADDRESS.

SIR,—The address delivered by Sir Frederick Treves before the Philosophical Institution of Edinburgh, now that it is published in the columns of the BRITISH MEDICAL JOURNAL, is sure to provoke comment. It is possible that a large proportion of his audience, even though intelligent, educated, and cultured, had not advanced further in their conception of the nature of disease than as something "evil in origin, evil in intent, and evil in effect"; and that they thought, if they had given any thought to the question at all, that symptoms—pain, high temperature, frequent pulse, etc.—actually constituted the disease. Others, however, would have a vague idea of some process underlying the symptoms. Most would have learnt by personal experience that vomiting and purging after an imprudent indulgence in unwholesome food or drink, however unpleasant their concomitants, and however evil in origin, were not evil in intent and effect. Had the audience been medical, he would have been preaching to the converted. The average family doctor recognizes that there is nothing preternatural in disease, and that, with certain limitations, its symptoms are marked by beneficent purpose. This is what is meant by the time-worn phrase of "vis medicatrix Naturae." But there are limitations. Nature may intend to cure by the processes which come under the term disease, but sometimes her employment of the "vis" reminds one of the affectionate monkey which, seeing a fly settle on its master's nose, proceeded to kill it by a violent blow with a stone. The diarrhoea of enteric fever, for example, which is welcomed as carrying off

poisonous secretions, may become so violent as to exhaust and kill the patient; the high temperature which is an incident attending the elaboration of an antitoxin may go on to a fatal hyperpyrexia, and the ulceration which opens a blood vessel or drills a hole through the bowel, if at any period a defensive process, obviously goes beyond its mission.

With Sir Frederick Treves's vivid description of the contest between the phagocytes and bacteria no one will find fault, and the benefit conferred upon humanity by Lord Lister (with whose name that of Pasteur ought always to be associated) cannot be too often recounted. But it may be said of peritonitis as of fire, that if it is a good servant, it is a bad master. The white membrane of diphtheria again is a product of the activity of the disease germs rather than a manifestation of the protective inflammation. Inflammation, indeed, the universal friend, under the name of catarrh, lies under the suspicion of furnishing a nidus for the bacillus. In a common cold the sneezing and nasal flux are a reflex response to a surface chill—many people sneeze on going out into bright sunlight. If there are certain microbes around they find in the secretion or in the mucous membrane a congenial soil on which they flourish, and then the cycle of catarrh has to be gone through for their expulsion. So in the case of diphtheria, the Klebs-Loeffler bacilli are often found in perfectly healthy throats without doing harm, but let a catarrh supervene and they find their opportunity.

By medicine *à la mode* Sir F. Treves obviously means medicine as understood by the general public, and the shock he has given to the crude notions it comprises will no doubt be useful. The conception of disease generally which he expounds is not new to the medical profession; it is, indeed, a one-sided fragment of the larger, more comprehensive, and suggestive conception which medical science has reached after toiling through the stages of confusion and error on which he pours contempt. All science has passed through similar stages. Herbert Spencer's final definition of life as a process was that—given the organism—life consisted in the continuous adjustment of internal coexistences and sequences to external coexistences and sequences—in other words, the exercise of the inherent power of adjustment of the organism to its environment. Health then will consist in all processes by which this adjustment is effected, and there will be disease when the adjustment is incomplete, or when, either from the violence of external disturbing influences or from effects of the counteracting processes set in motion, the organism suffers damage. The reaction by which the adjustment is maintained will vary in character and degree according to the nature and intensity of the influences brought to bear upon the organism, and an unusual disturbance will require and will be met by abnormal functional manifestations.

It is consistent with this idea that while, say, the vomiting and purging, which get rid of irritating food, are a defensive exaggeration of functional activity, making for readjustment, severe gastro-intestinal catarrh, giving rise, perhaps, to ulceration, which may be set up, is disease. In every case which comes before us we have to endeavour to distinguish between the two classes of operations which may be simultaneously going on.

The teachings of pathologists and bacteriologists which furnish Sir F. Treves with his illustration of the fight waged by the phagocyte cells against invading bacteria have penetrated all ranks of the profession. The less picturesque, but perhaps more important, defence by the production of bactericidal substances which kill the microbes, and of antitoxins which neutralize their poisonous products, is also followed with intelligent interest. The new light thrown by the opsonic theory on phagocytosis and the action of vaccines is eagerly welcomed.

The medical profession has long outgrown the idea that inflammation is a dire calamity. It is beginning to realize that pyrexia is not an enemy to be combated by all available means and overcome at any cost. Any danger of mischievous activity which may exist at the present moment arises, not from obstinate clinging to old antiphlogistic notions, but from premature attempts to apply new knowledge.—I am, etc.,

London, W., Nov. 14th. W. H. BROADBENT.

THE PERPLEXITIES OF SECRETARIES.

SIR,—"Sweated" works 81 hours a week, or 175½ days in the year, and yet when he receives a special invitation to a meeting he cannot even attend this. Suppose, for one moment, that members not attending their Division meetings communicated to you, Mr. Editor, their grievances for publication in the BRITISH MEDICAL JOURNAL, what would our JOURNAL become?

Doubtless the President of the Branch of which "Sweated" is a member would say to himself, If this member will not attend *one* meeting at which he might explain the serious condition of medical practice in his district, then it is useless for me to lay his case before the Branch as very urgent; as, at once, members would remark, Why is our member not here to lay his case before us, and take part in the discussion as to the best means of ameliorating his position? To express the pious wish that opinions expressed in the JOURNAL will carry as much weight as those heard in meetings is ridiculous. Reading opinions never impresses one's mind so deeply as hearing opinions given by their authors, and never can. Sometimes when we read an account of a meeting at which we have been present, how little exhilarating it appears when compared with the actual meeting. No; we must, as Dr. Broadbent says, "join hands." We must put forth individual effort.—I am, etc.,

November 12th. EXPERIENTIA.

THE MEDICAL SECRETARY AND MEETINGS OF DIVISIONS.

SIR,—As secretaries of the North of England Branch, we should like to acknowledge through the BRITISH MEDICAL JOURNAL the service done to the Branch by the kindness of the Chairman of the Medico-Political Committee in allowing the Medical Secretary to attend and address various Division meetings in the Branch. Our Branch Council, seeing the great importance of the Contract Practice Report, and not wishing that our Divisions should take a vote on the weighty recommendations of the Medico-Political Committee without the fullest information that could be laid before them, arranged a series of six meetings extending over three days, and Mr. Whitaker was kindly sent down. The meetings were very successful, and, in addition to the able exposition of the present position of the Contract Practice question, many other points of interest to Division secretaries and members were discussed. The point on which we would specially lay stress is that these visits of the Medical Secretary do more than could be done in any other way to bring home to members the solidarity of the profession and the solicitude of the Association for its members in everything which interests them as part of the profession, wherever they may live. Judging by the good results of the meetings here, we would urge that, so far as is possible, every Branch in the kingdom should from time to time organize such meetings, and have the advantage of the Medical Secretary's presence.—We are, etc.,

Gateshead, Nov. 11th. ALFRED COX, JAMES H. HUNTER } Honorary Secretaries.

OBSTETRIC EMERGENCIES AND THE DOCTOR'S FEE.

SIR,—This point has been lately becoming rather prominent. A doctor is summoned by a registered midwife, a certified midwife, or by a woman who may practise as long as she doesn't call herself midwife (a rather ridiculous distinction). Let the case be one where the relieving officer has already refused an "order"—a case in which certainly his council would probably not grant one afterwards. I cannot but think it is clearly the doctor's duty to go; and if this be granted the district medical officer is the most called upon to go, for, by the nature of the case, the patient is practically a pauper, although not recognized as such by the Board.

Who is to pay the doctor? The councils very rightly argue: (1) They must keep down rates, (2) they desire not to pauperize, (3) they desire to inculcate thrift. The doctor replies, "You know very well I shall go; you depend on my self-sacrifice or necessity to guard my reputation; you encourage the thrift, etc., at my expense—and I, also, am a ratepayer."

The fact is, the poor trade on their certainty some doctor will come, and also trust to luck that he won't be wanted. It is a sign of the degeneracy of the day that they will not face their duty to pay, but prefer to depend on charity. On the other hand, we should help them. If we can act as Poor-law officers for 10s. 6d. per normal case, we can likewise "go" for the fee unofficially, and thereby we should encourage poor women to put by 3d. a month for emergencies. If the money

were not used it would come in useful afterwards, and, moreover, possibly an arrangement could be made with some Friendly Society to give some sort of interest on the money put by. It seems to me we, as a body, are losing considerable reputation in the eyes of the public by this endless carping about fees. After all, we have no right to be constantly pressing "public bodies" to pay our fees; it really is a matter between doctor and patient; our attitude in expecting State help is as much a mark of degeneracy as it is on the part of the patients. We must strike the happy mean between being imposed upon and imposing upon others. We must help the public in the matter—help instead of taking our present tendency of *non possumus*. Our ancient dignity and prestige for charity is to be preserved.—I am, etc.,

Ilminster, October 5th. W. H. Maidlow, M.D., F.R.C.S.

TENDERS FOR MEDICAL WORK.

Sir,—A similar incident to what you describe in the note, "Tenders for Medical Work," happened in the neighbouring county of Devonshire a few years ago. The local authority dismissed their medical officer of health and applied to the Local Government Board to know what was a suitable salary to offer for the work. The Local Government Board replied that they thought it ought to be £100 per annum. Then the authority advertised the vacant appointment, and asked for tenders for the work. I understand several gentlemen applied asking for various sums from £100 downwards, and one of them was appointed for a good deal less than the Local Government Board thought a suitable salary. I suppose the next thing will be that we will be asked to tender for an attack of measles.—I am, etc.,

November 11th. L. S.

HYGIENE AND PHYSICAL CULTURE.

Sir,—When, over thirty years ago, the Education Act made it compulsory that the children of the nation should be educated, a system was adopted which was rather a one-sided one, and it is only now that the public are awakening to the fact that a very important part of a proper education has been neglected. I refer to the proposed teaching of general and personal hygiene and physical culture.

I have for years been very much struck with the dire need of such instruction. The children—and, indeed, adults—one meets with have but very vague ideas as to the meaning of real personal cleanliness, fresh air, food that is nourishing, healthy houses, drainage, and the like. Very rarely indeed is physical culture, even in the most rudimentary manner, carried out in the homes of the people. The Educational Department has published a most excellent book of suggestions on this subject which should be largely read.

Much nowadays is said, and more written, about drunkenness, physical degeneration, crime, and all manner of diseases, but I am sure that the foundation that ought to be laid in the crusade against such things ought to be a clear understanding in the youthful mind of all the rules of personal and general hygiene, thoroughly and theoretically taught, and then demonstrated and illustrated in a practical manner. Can any of us wonder that the working man leaves his home, where he has to sit in an ill kept, stuffy room, and take his badly-cooked food, which is given or thrown to him in the presence of his equally ill-kept children, and that he rather seeks comfort and brightness in the neighbouring public-house? Or can we wonder that the children, brought up in total ignorance of clean, and orderly ways, show signs of physical deterioration or that the first seeds of crime begin to grow in such unhappy surroundings? Or does it surprise any of us, that where, of necessity, numbers of human beings have to live in very small quarters, and are allowed to remain, by the nation, in ignorance of the laws of health, disease finds a convenient soil, an unchecked growth, and a large harvest of victims, who either die, or swell the ranks of the unemployed from physical inability to work, or fill our workhouses with chronic and incurable inmates.

I may express the further view, that in teaching hygienic principles, emphasis should be laid, especially in classes of girls, upon the relation of these principles and the looking after sick persons and young children and further, that much more time than is at present bestowed, should be given in all girls' schools to the theory and practice of simple cookery. It should be constantly pointed out to these girls' classes, the great advantages of carefully prepared, well cooked, varied, and palatable food, in contradistinction to the coarse, badly cooked, fried up foods, that are the cause of so much indigestion, anaemia, and physical weakness amongst many of the people.

The main point to which I want to draw attention is, that I believe it to be the duty of every medical man to remind those in authority, with whom he may come in contact, of the great need of a thorough course of theoretical and practical training of the young in hygiene matters and physical culture, by competent teachers. The recent Education Act has brought into being new authorities, and it seems to me that we, as medical men, ought to create enthusiasm in the minds of all the members of such authorities, so that the above matters can be carried out in an efficient and spirited manner, which would ultimately be for the good of the individual and the nation at large.—I am, etc.

Arthur Conning Hartley, M.D., F.R.C.S.Edin.

Bedford.

SCHOOL HYGIENE.

Sir,—Among the latest published reports upon school hygiene I have had the opportunity of perusing that of Dr. Mearns Fraser, medical officer of health for Portsmouth, and, while agreeing for the most part upon all the positive points set forth by Dr. Fraser, one cannot but be forcibly struck or disappointed by the entire absence of any report upon the primary points which surely fall to be dealt with by a schools medical officer or any one having any medical supervision of schools.

Dr. Fraser says:

> Important as is the purely educational part of the duties that have devolved upon the sanitary authorities as administrators of the Education Act, they are secondary to obligations to neglect nothing to protect or improve the health of the children entrusted to their care,

and proceeds to discuss and suggest certain acknowledged broad constructional principles with which every one with any knowledge of hygiene must cordially agree, but these matters of constructional hygiene are not the property solely of the medical faculty, for they can be handled equally well, both theoretically and practically, by the architect. When, however, we come to the part of the report which I hoped would deal with that vital point, the defective conditions of the scholars, I find it is summarily dismissed with the remark that they are not touched upon because they need the attention of the medical specialist, and that they are "secondary to the general sanitary supervision of the schools."

This appears to me to be a candid admission that the medical officer of health is not the proper person to be appointed by the education authority. I mean no disparagement to the medical officers of health generally, but that the practice of a schools doctor is a "special" one, and as Dr. Fraser admits that his ideas received a stimulus by his attending the Conference on School Hygiene, held in London last February, let me remind him of the remarks of one speaker whose authority on the subject is least doubted of any man's, that

> most medical officers of health are quite ignorant of the time required for the work, and nine tenths of the school doctor's work has no affinity with the medical officer of health's duties: where there is no school doctor medical oversight must be non-existent.

The school doctor should be able to differentiate between backward, dull, and mentally defective children, and to indicate the prognosis; should be able to diagnose external conditions of eye diseases and errors of refraction; to have a considerable knowledge of ear troubles and of all other diseases which are more commonly found in school life, for the number of children suffering from such is simply enormous; and should have a diploma in public health. Small towns and thinly populated areas will not be able to command the services of such a medical officer for their schools, but this can hardly be said to apply to Portsmouth.—I am, etc.,

London, W., Nov. 11th. H. G. Critchley, M.A., M.D., etc.

MOTOR CARS IN PRACTICE.

Sir,—I was much interested in your correspondent's letter in the British Medical Journal of October 28th, p. 1152. I quite agree that everything that can be brought to bear on the Commission *re* taxation, etc., should be brought forward.

I do not see the use of a movable stage to put the car on, as an 8 or 10 h.p. car can be pushed about easily by one person. I consider I have got, to my own order, an ideal doctor's light car 8 h.p., $4\frac{1}{2} \times 4\frac{1}{2}$. The front seat will at a pinch carry three adults, with hood and glass shield. In this I have never felt cold as in my trap. When the hood is

removed I have a back seat to put on, and can carry four up any hill I know of. Price, all told, under £230. I find it saves an enormous amount of time and is a great delight.—I am, etc.,

November 14th. RURAL G.P. AND M.O.H

SIR,—I agree heartily with Mr. F. L. Nicholls that it is of great importance for medical men who use motor cars to have their case strongly represented to the Royal Commission. There can be no question that the evidence of the large and rapidly-increasing number of practitioners who find their cars invaluable to them in their daily work must have an important effect on the findings of the Commission, if properly presented. As I gather from Mr. Nicholls's letter that he is not a member of the Motor Union may I inform him that evidence is being collected by that body for this purpose, and a committee of medical men has been formed to look after the interests of the profession? Might I suggest that those who are interested can best help by joining the Motor Union at once, and filling in the circular which has been issued, before it is too late?—I am, etc.,

Shrewsbury, Oct. 30th. R. de S. STAWELL

*** As will be seen by a paragraph at p. 1369, Mr. C. B. Lockwood, F.R.C.S., and Dr. Bruce Porter, have been invited to give evidence before the Royal Commission on November 29th on behalf of a committee of medical men.

THE ELECTION OF ASSESSORS TO THE ABERDEEN UNIVERSITY COURT.

SIR,—The writer of the paragraphs in the BRITISH MEDICAL JOURNAL of November 11th, p. 1311, on the recent election of assessors to the Aberdeen University Court appears to me to take the position of a partisan: of this there is evidence both in expression and suppression.

Your correspondent refers to an "arrangement" as to the representation of faculties which nobody appears to have heard of from 1889 until now. There was, in fact, no compact in any ordinarily accepted sense of the term.

The medical graduates with whom I have been in touch did not want simply another assessor, but a different kind of assessor, namely, a man engaged in the work of a vigorous progressive University school of medicine and in touch with the graduates living outside the social and academic influences at work in Aberdeen.

There has been for long an organized group of Aberdeen graduates in Lancashire, and we nominated Dr. William Milligan of Manchester as a man possessing all the desired qualifications. "The methods adopted and the arguments put forward" in his behalf were perfectly straightforward and intelligible. I can say with entire confidence that no electioneering artifices were adopted. There was no need. We only wished to give our fellow-graduates the opportunity of supporting a policy, the success of which we believed would be beneficial to the University. But our correspondent appears to say that our methods and arguments were such that "the result was the adoption of Dr. Westland as a candidate at a meeting of graduates held in London." Of that "meeting" I had occasion to write in the *Aberdeen Free Press*:

> The importance of that meeting could be expressed numerically in one figure, and it was as nearly to being equally divided as an odd number can be.

No exaggeration, mere description in this. In reference to Dr. Westland's candidature I quoted an obviously inspired newspaper paragraph and commented on it in the same journal:

> We also understand that in view of the announcement of the candidature of Dr. William Milligan, Manchester, Dr. Albert Westland will also be nominated as an eligible representative of the medical profession who has the advantage of being resident in Aberdeen. . . . In the event of Dr. Milligan's candidature not being persisted in, it is probable that Dr. Westland will also withdraw from the contest.

Among my comments on a candidature such as that hinted at in this paragraph, I referred to it as a mere move in an academico-political game intended to exclude completely a representative of the medical graduates who are not fortunate enough to reside within the jurisdiction of the Aberdeen Parish Council. It requires some hardihood in the engineers of such a candidature to speak of "methods and arguments," as if hinting at something weak or discreditable in the candidature of Dr. Milligan. The "methods," without the arguments, were on the other side.

In the long paragraph on the clinical side of the Aberdeen Medical School, with my opinion as a text, your correspondent does not merely describe; he apologizes and argues as an advocate and partisan. His matter consists of the usual conventional platitudes, which are intended to make out something on behalf of a squalid case. Still it must be a comfort to all her alumni to learn from him that Aberdeen "does aim" at producing well-equipped medical men! Dr. Milligan's supporters never doubted there were "good intentions"; they only wished to push her on to more efficient performance.—I am, etc.,

Manchester, Nov. 14th. WILLIAM J. SINCLAIR.

A PLEA FOR THE INVESTIGATION OF CATARRH.

SIR,—It is amazing the amount of successful research that has been brought to bear upon a number of tropical diseases in the last few years. It is very well that the diseases of the tropics should be investigated and remedies discovered, but let me put in a word for our own country. How is it that none of these professional investigators ever think it worth their while to investigate the cause and prevention and successful treatment of the respiratory catarrhs that cause such an enormous amount of disability, suffering, and even death in our own country?

I believe these catarrhal disorders cause as much disease, and perhaps as great a mortality, as the malarial diseases of the most malarial countries; and yet, as regards knowledge of the cause, treatment, and prevention, we know no more and can do no more than we could thirty-five years ago. These catarrhal disorders are the malarias of temperate climates. The diseases I refer to are nasal and bronchial catarrh and the influenzas. My only hope that these diseases will ever be done justice to is that, at some future day, an intelligent, educated, scientific Hindu may visit this country, and, being struck with the prevalence of these diseases, and our utter helplessness in the face of them, investigate them for us, teach us what they are, and how they may be prevented or cured.—I am, etc.,

Blackpool, Nov. 11th. WM. HARDMAN, M.D.Edin., etc., J.P.

POST-MORTEM MENINGEAL INFECTIONS.

SIR,—My notice has been drawn to Dr. Bastian's letter in the BRITISH MEDICAL JOURNAL of November 4th, which escaped my attention last week. Referring to a remark made by me in the course of my contribution to the discussion on acute meningitis at the recent meetings of the Association, Dr. Bastian asks me for hints as to how *post-mortem* contamination of organs by bacteria can be brought about. I can only offer as explanation the following facts: that during the act of dying there occurs an agonal invasion of the blood and lymph stream by organisms from the alimentary canal and other situations where they have a nidus during life, and that after death bacteria pass directly through the tissues from these same parts of the body to remote organs. Which of these two processes is the more important in producing the condition of bacterial invasion of the cadaver so often met with in the dead-house depends upon a variety of circumstances, but that both occur is proved by *sub-mortem* and *post-mortem* bacteriological observations as well as by actual experiment.—I am, etc.,

London, W., Nov. 14th. THOMAS J. HORDER.

THE PAY OF POOR-LAW MEDICAL OFFICERS IN IRELAND.

SIR,—Probably no point amongst the many grievances of the Irish Poor-law medical officers is more discussed than the ill-effects of Section VI of the Local Government (Ireland) Act of 1902. Before the passing of this Amending Act of 1902, 50 per cent. of the Poor-law medical officers' pay was paid by the State, and all increases sanctioned were likewise to the amount of 50 per cent. paid by the State.

Section VI of the Irish Act of 1902 forbade this routine, and fixing a standard year as a financial basis declined to pay in future any part of the 50 per cent. of future increases of salary, the full burden of the increase falling, therefore, entirely on the local rates.

This action of the Irish Secretary has caused marked discontent in Ireland and largely helps to paralyse any general increase of salary for the medical officers in that country.

For some time I thought that this act of the Irish Secretary was special to Ireland, but I find that the action taken by this official was simply one of assimilating the English and the Irish Local Government Acts. As a similar clause has existed in the English Local Government Act for many years, limiting the State grant in aid to that of a fixed standard

year, all increases of salary being charged in full against the rates.

In the well-to-do English Poor-law districts this limitation may not press with any marked severity on the locality; but in the poorer parts of Ireland it is a matter of grave importance, and highly injurious in the effects on the medical officers' salaries.

I find that in the comparatively well-to-do English unions the pay of officials has been very largely increased indeed since the standard year was fixed, entirely by increment to the rates; and I gathered from official inquiry that it is the opinion that the limiting section in the English and Irish Acts is entirely injurious in its effects, and that instead of fixing for ever the grant in aid from the State, there should be a periodic readjustment at three or five-yearly periods.

A five-yearly readjustment of charges between the local central authorities would lead up in Ireland to a possible *modus vivendi* between the medical profession, the State, and the guardians, and might do much good to the underpaid medical officers. Even the most hard-hearted Irish guardians might grant increases if they knew that at the end of a term of three or five years the State would, for all future years, pay 50 per cent. of the increase.—I am, etc.,

GEORGE J. H. EVATT,
Surgeon-General (ret).

London, Nov. 13th.

THE PRECIPITIN TEST.

SIR,—The value of the biological test for blood, although it has been pressed upon their attention by myself and others, seems to be studiously ignored in this country by the majority of our forensic experts. In Germany it has for some time been "official." Possibly the article in the BRITISH MEDICAL JOURNAL of November 11th, p. 1304, will act as an efficient stimulus.

The interest of Uhlenhuth's recent observation, although considerable, is perhaps theoretical rather than practical, since it will not often be necessary to differentiate forensically between human and monkey or hare and rabbit blood. I may remark in passing that there is a zoological slip in your article, since the monkeys named (*Macacus rhesus* and *Cercopithecus fuliginosus*) are not apes; they are further removed from man than the apes, a fact which somewhat diminishes the weight of the observation.

But the main object of this letter is to call attention to a delicate modification of the test which Neisser and Sachs[1] have recently described. It depends on the fact that the haemolytic power of a mixture of amboceptor and complement—for example, serum of a rabbit immunized with ox blood *plus* guinea-pig serum—cannot be inhibited by the addition of a human antiserum—for example, serum of a rabbit injected with human blood—alone, but is inhibited if a minute trace of human serum be first added to the human antiserum.

It is an elegant and sensitive reaction for which a weak human antiserum and so little as 0·0001 c.cm. of human blood suffice. Like every other delicate reaction, it requires experience and suitable laboratory equipment.—I am, etc.,

ALBERT S. GRÜNBAUM.

Leeds, Nov. 12th.

INDIVIDUAL VARIATIONS OF METABOLISM.

SIR,—In the discussion on the relationship of disease to heredity,[2] Dr. A. W. Gilchrist calls attention to the view of Bouchard that some morbid conditions depend fundamentally upon a retardation, others upon an acceleration, of metabolism. In a work just issued[3] I have sought to show that a retardation of carbonaceous metabolism is a common primary cause of disease, but that its action is indirect. In a physiological condition of the organism the carbonaceous income to the blood from the alimentary canal is necessarily balanced by the carbonaceous expenditure from the blood—that is, so long, of course, as the supply of food is not inadequate. The carbonaceous expenditure may be divided into carbonaceous katabolism (combustion), carbonaceous anabolism (fat formation, etc.), and menstruation. Inadequacy in the sum of carbonaceous expenditure, which may depend on inadequacy of any or all of the above items, must lead to an ultra-physiological accumulation of unoxidized or imperfectly oxidized carbonaceous material in the blood. And to the implied blood-state, I have, for convenience, applied the term "hyperpyraemia" (*Gr. pureia* = fuel).

To hyperpyraemia, then, and not directly to retardation of metabolism (as in Bouchard's view), may be ascribed many recurrent and other disorders, such as migraine, or sick-headache, and asthma; and it is easy to see that such recurrent affections are capable of reducing or dispersing hyperpyraemia, whether through restriction of income, or through increase of katabolic expenditure.

Dr. Gilchrist seems to infer that "an underlying tendency to excessive vital expenditure" is a factor in phthisis. It must be admitted that phthisis in many cases, especially, of course, such as are frankly pyrexial, is accompanied by an excessive vital expenditure—it has been shown that the CO_2 output and the O intake may be increased by 60 and 70 per cent. respectively (Roget and Binet). But it may well be that the implied increase in combustion is a result, not a cause, of the tuberculous process. This view receives confirmation from many sources. One is suggested to me by Dr. Gilchrist himself, who says, in his article on individual metabolism:[1] "Some twenty analyses of the respiratory chemism of the subjects of acne vulgaris show a very constant and a very persistent diminution of absorbed oxygen." The implied retardation of combustion is undoubtedly a factor in the acne, for it can be shown that conditions which accelerate combustion exert a conspicuously favourable influence upon the eruption. Prominent amongst such conditions is pyrexia. Pyrexia of almost any kind, if of some duration, practically never fails to disperse for the time being a pre-existing acne. This is doubtless well known to the physicians of all fever hospitals. Phthisis, being pyrexial or subpyrexial, tends to act similarly. In many cases of phthisis the complete subsidence of acne is one of the earliest signs of the disease, and this fact is of high value in early diagnosis.

Again, migraine and asthma are ascribed by Bouchard to retarded metabolism. And these two could be shown by innumerable cases to subside at the onset of pyrexia or pyrexial phthisis.

Hence it may be inferred, at least in such cases of phthisis, that the anteceding condition is not one of increased vital expenditure, but rather the reverse.—I am, etc.,

FRANCIS HARE.

London, W.C., Nov. 6th.

THE ARMY MEDICAL ADVISORY BOARD.

SIR,—In addition to the reasons given in the BRITISH MEDICAL JOURNAL against the abolition of the Army Medical Advisory Board permit me to add another: The civilian members of the Board are among the leaders of the profession, and their remuneration for serving on the Board can be of no consequence to them—they can, therefore put their views before the War Office with a firmness and independence which no individual army medical officer could do consistently with his own interests.

Besides, if necessary, and if their reasonable recommendations were neglected by the War Office, the civilian members could resign and appeal to public opinion.

From what I know of War Office methods and feeling I can well understand that the abolition of the Advisory Board, as at present constituted, would be popular with many War Office officials, but its abolition would not be in the interests of the army or of the medical service.—I am, etc.,

SURGEON-GENERAL.

THE RESULTS OF NEGLECT IN SUPPURATIVE DISEASE OF THE EAR.

SIR,—Yesterday I had to perform a radical mastoid operation on a man who had had a running ear for some years. Six weeks ago I was asked by one of my colleagues to see him on account of persistent headache and high temperature. He had a discharge from the right ear. After wiping out the passage one could see pus oozing from the mastoid cells into the middle ear. I advised operation, but this was refused and the man went home. He returned to hospital last Wednesday, his condition having somewhat changed; a small incision had been made just above the right clavicle from which pus oozed. A most unpleasant odour was noticeable at some distance. At the operation I found the mastoid extensively diseased, and the right side of the neck from the mastoid to clavicle infiltrated with pus and softened granulations.

I wish every case of serious complications from infected middle ears could be reported, for I do not think the dangerous nature of this disease is sufficiently appreciated by the public, or, indeed, by some medical men.—I am, etc.,

F. FAULDER WHITE.

[1] BRITISH MEDICAL JOURNAL, October 28th, 1905, p. 1113.

[1] [illegible], p. 1293.
[2] [illegible] and Co.

OBITUARY.

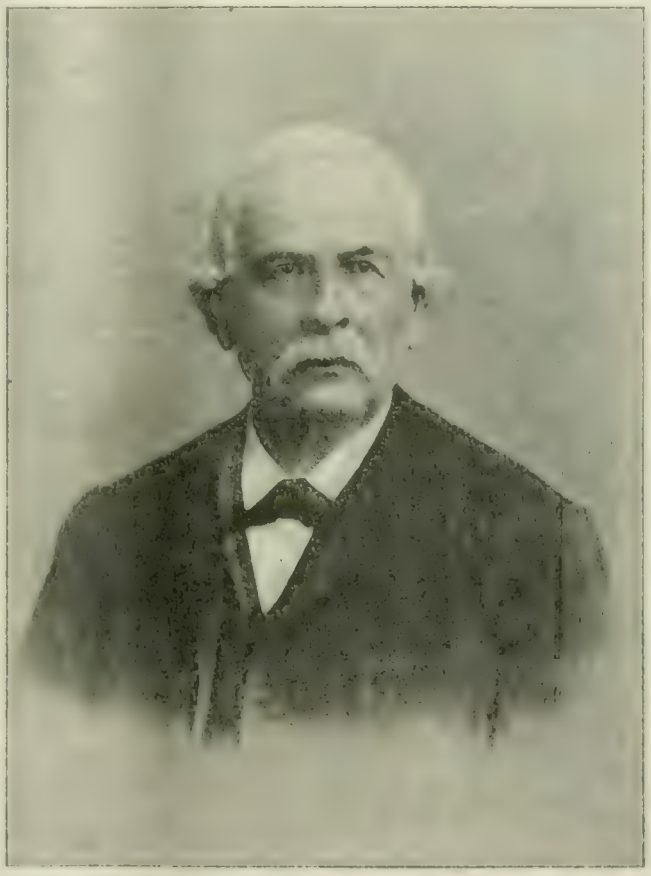
RUDOLPH ALBERT VON KOLLIKER, M.D.,

Professor of Anatomy in the University of Würzburg.

THE death of Professor Kölliker was announced in the BRITISH MEDICAL JOURNAL of November 11th. The venerable scientist died on November 3rd of pneumonia after an illness of thirty-six hours.

The name of Kölliker has been familiar to all histologists and anatomists for nearly half a century, for there is scarcely any department of histology to which he did not contribute largely by his original work. The whole animal kingdom was laid under contribution, and his contributions dealt both with the structures as they appear in adults and with tissues and organs in their development.

Born at Zurich in 1817, just four years after the birth of Claude Bernard, Kölliker began his studies in the university of his native town in 1836. In 1839 he proceeded to Bonn, and later in the same year to Berlin, where he became a pupil of Johannes Müller, who exercised a profound influence on the young and ardent student. Müller's wide survey of physiology led Kölliker to take the same broad view of histology. He took the degree of Doctor of Philosophy at Zurich in 1841, and because that university insisted on a *viva voce* examination when he presented a dissertation for a medical degree, he elected to take his degree in Heidelberg in 1842, presenting on the occasion a thesis on the development of *Chironomus* and *Donacia*.



Rudolph Albert von Kolliker, M.D.

Schleiden, of Jena, published his work on vegetable cells in 1838, and Schwann his cell theory in 1839. In the memoir entitled, *Microscopical Researches into the Accordance in the Structure and Growth of Animals and Plants*, the cell theory was formulated. Kölliker was thus fortunate in finding a field of research which he cultivated with such marvellous success, that up to 1899, when he published *Erinnerungen aus meinem Leben*, when he was over 80 years of age, the total number of his papers is given as 245, most of them on histological and allied subjects. At Zurich he listened to the stimulating lectures of Oken on zoology; in 1839, in Bonn, he attended the clinic of Nasse, who gave his lectures in Latin. The future anatomist tells how at the clinic at Bonn he was unable to find the vein in the arm of a very fat lady patient who was ordered to be bled. The turning point in his career came in Berlin in 1839 where he fell under the spell of Johannes Müller and Jakob Henle, whose influence on him was powerful. Under Müller he studied comparative anatomy and pathological anatomy, and under Henle normal histology. Henle instilled into him the epoch-making doctrines of Schwann, and directed his attention to the microscopical structure of the body. There also he got much encouragement from Ehrenberg, Meyen and Robert Remak. He took a private course under Remak who gave lectures and demonstrations at his own house, on Development of the Chick. This led in future years to a study of development in mammals and many other animals and to the publication in 1861 of his *Entwicklungsgeschichte des Menschen und der höheren Thiere*.

Kölliker tells how, at his *Staats-examen*, he knew all about the finest branches of the cranial nerves, the structure of the ear, brain and eye, yet he could not answer a simple question on the portal vein. In the session of 1841-2 he became assistant to Henle, who at that time was Professor of Anatomy at Zurich. In 1842 began the first of a series of journeys to other lands which were always utilized for scientific purposes. The first was undertaken with Nägeli to Naples, where he devoted his time to comparative anatomy of aquatic forms, a subject which began to be studied in the thirties and forties by Stannius, W. Peters, J. Müller, Milne-Edwards and Quatrefages. While there he made eight researches in all, on amphioxus, cephalopoda on the hectocotylus of Argonauta, and kindred subjects. After Henle left Zurich in 1844 to go to Heidelberg, the chair in Zurich was divided and Kölliker at the age of 27 became Professor of Physiology and Comparative Anatomy with an income of Fr. 1,200. In 1847, when 30 years of age, he was called to Würzburg, largely through the influence of Henle and the then Rector, Professor Rinecker. Originally at Heidelberg he taught physiology, but Kölliker made it a condition that as soon as the chair of anatomy became vacant he was to have it, for he desired to devote himself to microscopical anatomy. During the Zurich period he published papers on the Pacinian corpuscles, the tissues of the tadpole, independence of the sympathetic nervous system, development of *Cephalopoda*, on blood, spermatozoa, and the structure of smooth muscle. By the use of nitric acid he showed that smooth muscle is made up of fusiform cells. He also found that cellulose existed in the skin of tunicates.

At Würzburg he taught physiology, and added to this microscopic anatomy and development, so that in 1849, when the chair of anatomy became vacant, he taught all these subjects and was the head of two Institutes. Kölliker, in his first decennium in Würzburg, was particularly fortunate in his associates and assistants, for he had as friends the gifted Heinrich Müller, Carl Gegenbaur, and Franz Leydig. Professor Rinecker had a microscopical Institute, with Franz Leydig as an assistant, but Kölliker gave the first microscopical course in 1848. On the death of Heinrich Müller, in 1864, physiology was separated from anatomy, and Professor A. von Bezold was called to fill the chair of physiology.

In 1849 Kölliker had as prosector Gottfried von Siebold, and in the same year these two founded and edited the *Zeitschrift für wissenschaftliche Zoologie*. Many papers on zoological subjects were contributed by him to this journal. Amongst his later assistants were Eberth, Forel, C. Hasse, M. Flesch, R. Fick, Grenacher, Eimer, M. v. Lenhossék, M. Heidenhain and Ph. Stohr, who succeeded him on his retirement from active duty as an anatomist in 1897, when he had completed his eightieth year, and his fiftieth as an active Professor of Anatomy. He still retained what he called his second institute, namely, that for comparative anatomy, microscopy and embryology.

Kölliker, on arriving in Würzburg, found the want of a scientific society, and to him was largely due the foundation in 1849 of the well-known *Die physikalisch-medicinische Gesellschaft in Würzburg*.

As showing the width of his training Kölliker lectured on

human anatomy, physiology, comparative anatomy, gave a microscopical course on normal histology, and lectures on topographical histology, and comparative histology, and also courses on embryology—human and comparative. He also gave short courses on comparative anatomy and physiology, and on topographical anatomy.

Kölliker of course was the recipient of many honours. In 1897 there was conferred on him the title "Excellenz" by Prince Luitpold of Bavaria. Only once, however, was he Rector of his University, and he did not take any very active part in the inner academic life.

In early youth Kölliker was a great gymnast, and indulged largely in manly sports. He was a keen sportsman, especially as a hunter. He also was a great climber, and he records that in 1837 there was not an inn in Zermatt. *Sic tempora mutantur!*

He also travelled much, and was a splendid linguist. English he spoke with great fluency, and he was a great admirer of English life and English ways. French and Italian he knew well, and he published papers in all three languages. In 1840 he visited Heligoland and worked up the fauna of the surrounding sea, for most of his visits had a scientific object. Naples and Sicily were visited in 1842. In 1845 he first visited London, and on his way stopped at Louvain to make the acquaintance of Schwann and Van Beneden. In London he made the acquaintance of Sharpey, who was then professor in University College. A close friendship sprang up between them, and Kölliker had the highest regard for Sharpey, who was greatly interested in the young histologist, who demonstrated to Sharpey the termination of nerves in Pacinian corpuscles. He also became the friend of Owen, Bowman, Todd, Kiernan, Wharton Jones, and Ed. Forbes. Spain was visited in 1849, Holland, England, and Scotland in 1850. To London he was accompanied by Czermak. In Edinburgh he was the guest of Goodsir and Simpson.

In his letters he gives a charming account of the Edinburgh professors of those days. He says he knows only three anatomists and physiologists in all England who do not practise medicine for a profession, namely, Owen, Sharpey, and Grant. He placed Sharpey and Bowman at the head of English microscopists. When he and Czermak were the guests of Goodsir in Edinburgh, Goodsir gave him *Tom Jones* to read in bed. When he was tired he got up and blew out the gas, but fortunately he did not fall asleep just at once, the smell of the gas aroused him, else the career of the young histologist might probably have been short. He was present at the meeting of the British Association in Glasgow in 1855 as the guest of Allen Thomson, and on that occasion read several papers. He made another visit to Scotland in 1857 and again in 1861. He delivered the Croonian Lecture in 1862. He visited Manchester to see the histological work of the late Professor Williamson on fossil plants. In 1887 he visited Pavia to study under Golgi his method of preparing sections of the nervous system, though he was then already 70 years of age. He published about twenty papers on the results he obtained on the nervous system by the Golgi and Cajal methods.

To give a detailed account of Kölliker's work would be to write a treatise on comparative histology. His *Gewebelehre* was published from 1850 to 1854. His *Handbuch der Gewebelehre* was first published in 1852, and reached its sixth edition in 1893-9. The *Manual of Human Histology* was translated by Busk and Huxley for the Sydenham Society in 1853-4. Even as late as 1851 Virchow held to Schwann's doctrine of "free cell formation." Before this Kölliker had rejected this theory. His studies on the eggs of cephalopods had shown him the untenable nature of Schwann's views. He attached great importance to the study of protozoa and the simplest animals.

Kölliker published but little on ordinary naked-eye anatomy. His work lay chiefly in microscopical studies. He was an excellent lecturer, good draughtsman, and a most methodical teacher. For eighteen years he taught physiology, and admits that the physical and chemical side of this subject were left somewhat in the background. His microscopical course was largely attended, and was given in the evening; each meeting lasted two hours. He regarded the incisures of Lantermann, the funnels and spirals of Golgi, and the Ewald-Kühne networks in nerve fibres as artificial and produced by the action of reagents. He supported Ranvier's view of the outgrowths of nerve fibres from a nerve cell.

That he did not do more work in naked-eye anatomy, and, in fact, produced only one large work on this subject: *On the Position of the Internal Female Sexual Organs* (1882), he explains by the fact that his scientific activity fell at a time when microscopical anatomy and embryology were in their infancy. Comparative anatomy he was fond of partly because it stood in such intimate relation to the Darwinian theory, a theory which he subjected to keen criticism.

Kölliker made many important observations in physiology. He studied the action of poisons such as curare, strychnine, veratrin, upas antiar, and conium. He was specially interested in curare, for in 1856 he showed that there were poisons that, although they paralysed intramuscular nerves, left the excitability of the muscle tissue itself intact. He published his researches on curare before those of Bernard were published. He also extended the study of poisons to other muscular tissues, such as the heart. The emission of light by *Lampyris* and *Noctiluca* was carefully studied. He also made some experiments on the electrical condition of the heart and on the secondary contraction resulting when a nerve of a nerve-muscle preparation is laid on a beating heart.

On embryology he published his great work in 1861, of which a second edition appeared in 1879. His *Grundriss* on the same subject reached a second edition in 1884.

Many papers were published on bone; the most elaborate and the best illustrated is, *Die normale Resorption des Knochengewebes und ihre Bedeutung für die Entstehung der typischen Knochenformen*, 1873. In 1872 he coined the word "osteoclast" in lieu of Robin's word "*myéloplaque*," and linked up their function with the production of Howship's lacunae.

To the subject of Darwinism he contributed several papers, and he gives in his *Erinnerungen* a broad and excellent account of the doctrine of descent as it affects the cellular and other elements of the body.

Classifying his published papers, we find that on histology he published 108, including in this number his various textbooks and their editions; on anatomy, two; physiology, sixteen; embryology, fifty-two; on Darwinism, five; compara

ive anatomy and zoology, nineteen, including his *Icones Histologicae* and five papers on unclassified subjects. This gives a measure of the variety of his work, but not of its importance. He continued to produce good scientific work until a very short time before his death.

When the writer first made the acquaintance of Kölliker his hair was already white—not so much with age, for it appears that his hair changed its colour rapidly. This gave to his suave and noble face a pleasant and reverend appearance, which, coupled with a charming manner, made Kölliker an attractive personality, while his great knowledge, keen interest in all that was new, and his vast experience made him a veritable Gamaliel at whose feet it was a pleasure to sit and easy to gain inspiration and profit.

Dr. J. Dulberg (Manchester) writes: When I was at Würzburg some sixteen years ago or so, Kölliker was still, in spite of his advanced age, one of the most indefatigable workers in the Medical School, and it was a real pleasure to listen to him when either lecturing or demonstrating. It was touching to see the solicitude with which he used to arrange his microscopical specimens with his own hand and the pride he took in them. On one occasion, particularly, I remember he kept me for over a quarter of an hour discussing the merits of a section of the spinal cord which he told me was the finest he had ever seen. He examined me in Anatomy for the "Doctor Examen," but instead of asking me questions he spent nearly the whole of the time allotted to me in giving me a miniature lecture on some anatomical detail. Even in his ordinary conversation he would not forget that he was an anatomist. When I went to say good-bye to him before leaving Würzburg he presented me with his photograph which stands before me as I write, and in doing so pointed out to me that the photographer had exaggerated the activity of his corrugator supercilii. As a teacher Kölliker was kind, patient and helpful, far more than the generality of German professors, and to foreigners he was particularly attentive. What an army of doctors all over the world there must be to mourn the loss of one who has been a teacher for well-nigh three generations!

HERBERT TYRRELL GRIFFITHS, M.D.

The medical profession is much the poorer by the sad death of Herbert Tyrrell Griffiths, who died at Preston Candover, on November 3rd, from pleuropneumonia.

Dr. Griffiths who was born in 1853, was educated at Eton and Trinity College, Cambridge, taking the degree of M.A. in 1879 and that of M.D 1884.

He was Herbert Exhibitioner and Martin Medallist at the Army Medical School Netley, and also held the posts of House-Physician and Medical Registrar at St. George's Hospital, of Physician's Assistant, Brompton Hospital, and of Clinical Assistant, Central Throat Hospital. He was Surgeon to the Kensington Dispensary.

Dr. Griffiths was for some time a partner of the late Mr. Merriman of Kensington Square, after whose death, until two years ago, he had carried on the large practice unaided, and this no doubt, had taxed too much a not particularly robust constitution. At the beginning of the year Dr. Griffiths left Kensington for Preston Candover, greatly to the regret of his patients, who felt that this step implied the surrender of a position of very considerable achievement and great promise, for at the time of his death Dr. Griffiths was only 52.

Dr. Griffiths was a man of much refinement and culture. He was passionately devoted to music, and wrote the words of several charming songs. He held a high view of his profession, and was a clever and a capable physician and surgeon. He was very kind hearted, and the writer of this notice knows of many instances of his goodness and unfailing consideration. His departure from Kensington caused genuine distress to his numerous patients, and the news of his sudden death was a shock which very many of them will be long in forgetting. Dr. Griffiths was much esteemed by his old hospital staff and by his fellow practitioners, and was exceedingly popular amongst his fellow students at St. George's.

LIEUTENANT-COLONEL PETER MULVANY.

Lieutenant-Colonel Peter Mulvany, R.A.M.C., the Officer Commanding the Princess Louise Hospital, Alton, Hants, succumbed to a brief illness on Tuesday, November 7th, and was buried at Brookwood Cemetery with full military honours on November 9th.

Lieutenant-Colonel Mulvany received his medical education at the Ledwich School of Medicine, Dublin, and was a Licentiate of the Royal Colleges of Physicians and Surgeons of Edinburgh and the Apothecaries Hall, Dublin, and a D.P.H. of the Royal College of Surgeons of Ireland. As already briefly mentioned, he entered the Army Medical Department in March, 1880, and was promoted to be Lieutenant-Colonel in March, 1900, succeeding Lieutenant-Colonel Rainsford, R.A.M.C. At the Princess Louise Hospital his way was to some extent paved by his predecessor, who was the first to hold the command of this important military hospital. As most of our readers know, this hospital was originally named the Absent-Minded Beggar Camp, but, owing to the interest taken by Her Royal Highness the Princess Louise (Duchess of Argyll) it assumed the new name under the auspices of the military authorities. During the period of Colonel Mulvany's command the hospital has reached a high degree of excellence, and many important additions and alterations have been carried out. Among these has been the installation of electric plant and of *x*-ray apparatus. It was originally specially intended for military medicine and surgery. It has proved a considerable boon, by the courtesy of the late Colonel Mulvany, to local practitioners. Instead of having to send cases requiring the *x* rays and high-frequency current elsewhere they have found at the Princess Louise Hospital an apparatus at their disposal. The plant itself was entirely arranged by Colonel Mulvany himself, who spent a fortnight in London studying the best means and methods of installing the *x* ray apparatus and its subsidiary branches. Through the generous gift of £200 from Sir Alfred Harmsworth, and the great interest shown by the Princess and the Duke of Argyll, this military hospital has now an *x*-ray installation second to none.

Colonel Mulvany was a true Irishman, kind, thoughtful, and a respecter of the feelings of other people. His character was depicted in his face, although that varied when on duty, and when in his happy home. He could be as gentle as a lamb, but when it was necessary as strong as a lion. Thus officers and orderlies alike received the verdict due to them, yet he invariably finished the tribunal with "fatherly advice," and often gave them a warning—"don't let it occur again." He was beloved by every man at the hospital and by his professional brothers in Alton. As a member of the Winchester Division of the Southern Branch he was much interested in the progress of the British Medical Association. Only recently he suggested to the secretary of the Division that a meeting should be held at the Princess Louise Hospital; but his bad health of late compelled him to confess that he was suffering from the complaint which formed one item on the agenda paper—namely, membranous colitis, which was apparently a secondary cause of his death.

At the meeting of the Winchester Division which was held in Alton on October 25th, this respected member was unable to attend, to the great regret of his fellow-members, to some of whom the seriousness of his condition was known. For the greater part of his military medical services Colonel Mulvaney served in India, and was always known to be able to command and demand respect. To his wife we offer our sincerest sympathy in her irreparable loss.

Surgeon-Captain William Carr Sprague, M.D., late Indian Medical Service, Bombay, died at Saffron Walden, Essex, of double pneumonia, on October 31st, at the age of 39. He was the third son of Thomas Bond Sprague, LL.D., of Edinburgh, and entered the Bombay Establishment as Surgeon-Lieutenant, January 30th, 1892; he was made Surgeon-Captain, January 30th, 1895; and retired from the service in 1898. Dr. Sprague's brief career was one of decided success throughout. At Edinburgh Collegiate School, where he received his general education, he was head of the school in mathematics and science, and obtained many prizes, and when he came to study medicine in the University he likewise won distinction, carrying off a medal, and graduating M.B., C.M., with honours. Subsequently he spent a considerable time on the Continent, where he engaged in physiological research at the Universities of Vienna and Prague, and embodied the result of the work in his thesis for the M.D. On his return to London he added to his degrees the diplomas of M.R.C.S., L.R.C.P., and then became House-Surgeon to the Cumberland Infirmary. He followed this up by a year as Senior Assistant Medical Officer at the Birmingham City Asylum, and then went to Netley, having been successful at a competition for admission to the Indian Medical Service. His work at Netley was as good as that which had preceded it, and resulted in his carrying off the gold medal, the Herbert

Prize, and other distinctions. His connexion with the Indian Medical Service only extended over six years, as the Indian climate did not suit his wife. He therefore returned home and settled down in private practice at Saffron Walden, where, as was to be expected, he met with much success. Among the appointments he held were those of Medical Officer of the Saffron Walden Hospital and of Public Vaccinator and Poor-law Medical Officer of the No. 7 District of the Union. He was an active member of the British Medical Association, and at one time held office in it as President of its Cambridgeshire and Huntingdonshire Branch.

By the death of Dr. Michael Benny the profession in Scotland has lost one of her ablest and most cultured practitioners. He studied at the Universities of Edinburgh and Glasgow when Christison, Syme, Simpson, the two Begbies, Professor George Buchanan, and Sir George Macleod were in the zenith of their fame, so that when he graduated as M.D. in 1861 he carried with him to Denny the impress of great teachers which had an abiding influence for the rest of his life. It was not long before Dr. Benny acquired a large practice, and the number of accidents he had to attend to in connexion with the works made him a warm supporter of the late Mr. John Collins, paper manufacturer, Denny, in his efforts to erect a cottage hospital, and ever since its opening Dr. Benny advocated its usefulness, and was mainly instrumental in making it an exceedingly popular institution. It is at present being enlarged, and its work is carried on by his two sons-in-law, Dr. Joss and Dr. Lumsden, who have been for a number of years happily associated with him in his practice. Dr. Benny's paper on Amputations after Injury in the Country shows how thoroughly he understood his work, and how successfully he carried it out. He was an excellent operator, and kept himself informed of all the advances in medicine and surgery, and it was impossible to meet him in consultation without feeling that he was gifted with a large amount of that medical instinct which is so helpful in dealing with disease. His commanding presence and charm of manner inspired many a sufferer with fresh hope, and often did more than drugs to hasten recovery. Dr. Benny was an enthusiastic sportsman, and enjoyed nothing better than a day on the moors or at the covert side, and was one of the keenest curlers in the county of Stirling. Latterly he devoted himself to consulting work, and his opinion was greatly valued by all who knew him. In the midst of his busy life he found time to take an interest in many matters outside his profession. The appreciation in which he was held was evident on the day of his funeral, which was the largest ever seen in Denny, the whole district turning out to attend it in order to show their respect for his memory. Much sympathy is felt for his widow and family.

Deaths in the Profession Abroad.—Among the members of the medical profession in foreign countries who have recently died are Dr. J. Howard Taylor, of Philadelphia, who served as Surgeon-General in the American Civil War, aged 80; Dr. Hermann Cordua, head of the surgical Poliklinik in St. George's Hospital, Hamburg, and one of the most popular members of the profession in that city, aged 53; Dr. Morris Wiener, a distinguished German physician and *littérateur* of Baltimore, aged 91; Dr. G. Dewalque, Emeritus Professor in the University of Liege, aged 80; and Dr. Bernardino Silva, Professor of Special Medical Pathology in the University of Turin, in his fiftieth year.

MEDICO-LEGAL AND MEDICO-ETHICAL.

RELATIONS OF MEDICAL PRACTITIONERS TO SICK SOCIETIES, PAROCHIAL SICK CLUBS, AND DISTRICT NURSES.

E. H. [illegible] The General Medical Council has made no pronouncement against sick clubs "whose members receive pecuniary profit from the [illegible]" but the Council has by its resolution of June 6th 1893 expressed strong disapproval of medical practitioners associating themselves with medical aid societies which [illegible] We do not understand what is meant by saying that the [illegible] payment is "in the name of" that of the [illegible] but we think that the members of the local practitioners [illegible] should be consulted and that they should meet [illegible] The ordinary club rates [illegible] and the nurses should not visit [illegible] and then the local practitioners act only in connexion with [illegible] the direction of the local medical practitioners [illegible] There is no statute or law to which nurses undertaking such work [illegible] which our correspondent tells appears to call for [illegible] the medical profession in the locality.

MEDICO-ETHICAL RULES.

Quaero, who for nine years has held a club appointment, declines a proposal to reduce his salary. The club officials approach B., and appoint him to the post at a much smaller salary than A. had been receiving. A. is a member of the district medico-ethical society, but B. refuses to belong to it. This society has the two following rules:

"No member shall take over a club appointment when the present holder shall have been dismissed, or threatened with dismissal, on account of his demand for higher fees."

"Members shall not meet in consultation any medical man who shall have been expelled from the society for unprofessional conduct, nor any medical man in the district who shall be proved to the satisfaction of the society to be persistently guilty of unprofessional conduct, the term 'unprofessional conduct' to include disregard for the medico-ethical rules of the society."

B. did not communicate with A. before accepting the appointment. A. asks whether the members of the local medico-ethical society should refuse to meet B. in consultation in accordance with the above-quoted rule?

**** The matter is one for the decision of the local medico-ethical society. Apparently, if B. persists in retaining the appointment, the society would be justified in putting their rule into application.

POPULAR LECTURES BY MEDICAL MEN.

X.Y.Z. writes that he is a member of a local scientific society. Having a knowledge of electricity, he is asked by the society to deliver a public lecture on this subject, to which the press are to be admitted: the lecture will discuss the theory of the production of the Roentgen rays, the ultra-violet rays, and high-tension currents. It is to be advertised locally by means of placards and newspaper advertisements in which the lecturer's name will appear. He is also asked to deliver a lecture on some scientific subject to a social club to which the press are admitted. Could he choose "Physical Degeneration" and treat it from a purely medical point of view? For example, might he explain the cause and the remedies of consumption, the causes of infantile mortality, the effect of alcohol? If "X.Y.Z." consents in either or both cases would he be committing a breach of etiquette?

**** There is no ethical objection to medical men giving popular lectures on scientific or medical subjects of public interest; indeed it may be a public duty for those who have a vocation for such work to educate the public in such matters. Adverse comments are, however, sure to be made if there is much advertising, and we would advise our correspondent to insist upon seeing all proposed advertisements before they are published, and to retain a right to forbid any to which he thinks reasonable objection may be made.

SUPERSESSION.

E. R. asks: Is there any redress to be had in the case of a practitioner taking up a neighbour's patients while the latter are actually under treatment, the first attendant not being consulted about a second opinion and not knowing anything about a second being called in until he went to pay his next call? The superseding practitioner knew of the other's attendance; he is not a member of any society or association.

**** Patients are at liberty to change their medical advisers, and medical practitioners are not precluded from undertaking the charge of persons who are under the care of other practitioners, for to do so would be to deny that right; but the patient who desires to change owes it as an act of courtesy to his late medical adviser to write and inform him that his services are no longer required, and it is desirable that superseding practitioner should make it his business to see that this is done.

ADULTERATED SPINACH.

A case was tried at Marlborough Street Police Court on November 6th, in which the Civil Service Co-operative Society, Limited, Haymarket, was charged with selling to the prejudice of the purchaser a tin of spinach containing 0·0166 per cent. of copper (the equivalent of 4·57 grains of copper in each pound of spinach). Dr. F. J. Allan, Medical Officer of Health for Westminster, stated that in his opinion the use of copper in tinned spinach was unnecessary and harmful; he had seen preserved spinach with its natural colour retained without the use of copper. For the defence it was contended that this particular spinach was not sold to the prejudice of the public, inasmuch as its nature was disclosed on the label: sulphate of copper had been recommended as a preservative and was the only means of keeping spinach in an appetizing form. The Magistrate imposed a fine of £10 with £5 costs.

THE MEDICAL PROFESSION AND THE SALE OF SECRET REMEDIES.

Canis asks if it is unprofessional for a medical man to advertise and sell a secret remedy for distemper in dogs.

**** It would be unprofessional for a medical man to advertise and sell in his own name a secret remedy for distemper in dogs, and it would be undesirable that he should be interested in the sale of such a remedy or hold shares in a company formed to carry on such a business.

NOTICES OF MEDICAL MEN IN THE LAY PRESS.

Sussex sends us a cutting from a Manx paper, which under the heading "About People" states that a local practitioner "left the Island yesterday (Friday) morning for England to spend a well-earned holiday." It mentions further that he is accompanied by his wife, and gives the name of the gentleman who is to act for him during his absence. Our correspondent adds, "I wish to know whether it is ethical."

**** We have repeatedly expressed our opinion that such notices should not be sent to newspapers by medical practitioners, but we cannot hold them responsible for everything that appears in the local press.

ROYAL NAVY AND ARMY MEDICAL SERVICES.

SOUTH AFRICAN MEDALS AND CLASPS.

MEDALS or clasps for the undermentioned gentlemen who served as civil surgeons in South Africa, and whose addresses are unknown, await issue at the War Office.

Application for these should be made to the Secretary, War Office, 68, Victoria Street, London, S.W.

Albertyn, J.	Langdon, D. C.
Aldred, A.	Leslie, G. W.
Alexander, K. B.	Loeser, H. A.
Allport, P.	Lundie, G. F.
Bayley, P.	Mantell, H. T.
Bishop, W. O.	Mate, W. F.
Booth, R. R.	McDougall, A. H.
Calder, W. J.	Milne, J. E.
Clark, M.	Nangle, J.
Clarke, G.	Nixon, E. A.
Clarke, W.	O'Connor, C. E.
Crean, G. G.	Ogle, A.
Dunlop, C. D.	O'Farrell, F. J.
Elmes, H.	Parkinson, W. G.
Fehrson, J. McC.	Peters, C. A.
Fenton, J.	Phillips, N. C.
Froud, W.	Ralston, F. C.
Fryer, R. C.	Riordan, H.
Galbraith, H. T.	Robertson, W. R.
Gillanders, I. L. G.	Rowland, R.
Gilbert, R. G.	Short, W. R.
Gillespie, J.	Simon, E.
Gould, H.	Simon, W.
Hangen, T. M.	Smith, W. H.
Hart-Jackson, W.	Somerville, W.
Harvey, H.	Stephen, L. N. G.
Harwarden, G. F.	Stow, F. E.
Hibberden, G. A.	Thomas, F. C. M.
Horne, H. R.	Thomas, H. S.
Hudson, W.	Tucker, J. A.
Hunter, C. W.	Twigg, E.
Hunter, F. A.	Visser, J.
Johnston, T.	Warren, T.
Jones, G. B.	Wellford, F.
Klein, M.	Wilkinson, R. H.
Kerr-Bell, T. J. H.	Woodhouse, W. B.

UNIVERSITIES AND COLLEGES.

UNIVERSITY OF OXFORD.

EXAMINERS IN MEDICINE.

THE following have been appointed Examiners in Medicine:

In Human Anatomy: Alfred H. Young, M.B.Edin. *In Physiology:* Leonard E. Hill, M.B.Lond. *In Pathology:* Ernest W. Ainley Walker, D.M., Fellow of University College. *In Forensic Medicine and Public Health:* Arthur L. Ormerod, D.M., New College. *In Medicine:* John R. Bradford, M.D. Lond. *In Surgery:* Harold J. Stiles, M.B.Edin. *In Obstetrics:* Sir Arthur V. Macan, M.B.Dub.

UNIVERSITY OF CAMBRIDGE.

THE following degrees were conferred on Thursday, November 9th:

M.D.—D. J. Morgan, Joh.; B. J. Collingwood, Gonv. and Cai.; L. B. Scott, Christ's.

M.B.—L. Courtauld, Trin.

UNIVERSITY OF LONDON.

MEETING OF THE SENATE.

A meeting of the Senate was held on October 25th.

Regulations for the M.D. Degree in Tropical Medicine.

Regulations for the M.D. Degree in Tropical Medicine, for internal and external medical students, were adopted.

Incorporation of University College in the University.

The Principal reported (1) that he had received from the Clerk of His Majesty's Privy Council a notification that on August 7th, 1905, His Majesty appointed Sir Edward Fry to be the first Commissioner under the University College, London (Transfer) Act, 1905; (2) that he had received from the Secretary to the University College Transfer Commissioners a communication to the effect that the Commissioners had chosen September 1st, 1906, to be the appointed day under the University College, London (Transfer) Act, 1905, without prejudice, and that they had appointed Mr. Arthur Paget to be their Secretary; (3) that he had received from the Principal of University College a notification that "a sum of £16,000 for investment as 'the Bawden Fund' had been allotted to the fund for promoting the incorporation of the College in the University by Mr. Edgar Speyer out of the sum of £100,000 entrusted to him for distribution by Mr. E. G. Bawden, whereby the total of £200,000 required to render the scheme practicable had been completed."

In connexion with the last statement the Senate passed the following resolutions:

"1. That the Principal be requested to express to Mr. Edgar Speyer the gratification with which the Senate have learned that the amount required to render practicable the incorporation of University College in the University has been completed by the allocation to that purpose of the sum of £16,000 out of the £100 000 entrusted to him for distribution by Mr. E. G. Bawden, of whose generosity and public spirit as manifested in this munificent donation for the cause of education the Senate are cordially appreciative."

"2. That the Principal be requested to express to the Worshipful Company of Drapers the gratification with which the Senate have learned that the financial problems involved in the scheme for the incorporation of University College in the University, in respect of which the Company made their munificent donation four years ago, has now been successfully surmounted."

Appointment to the External Council.

Mr. A. Pearce Gould, M.S., F.R.C.S., has been appointed a member of the External Council for the remainder of the period 1905-6.

Appointment of Representative.

Dr. Philip H. Pye-Smith, F.R.S., has been reappointed the representative of the University on the General Medical Council.

Awards of Scholarships and Medals.

The following awards have been made upon the results of the Intermediate Examination in Medicine, the M.D. and M.S. examinations: *University Scholarships in Physiology*, Frederick James Fitzmaurice Barrington (University College); *University Scholarship in Anatomy*, Albert James Walton (London Hospital); *University Scholarship in Pharmacology*, Latimer James Short (University College, Bristol); *Gold Medal at the M.D. (Medicine) Examination*, Arthur Bousfield, B.Sc. (King's College); *Gold Medal at the M.S. Examination*, Thomas Holmes, M.D. (Guy's Hospital).

UNIVERSITY COLLEGE.

The Bawden Fund.

AT the session of Council of University College, London, on Monday, November 6th, the following resolution was adopted and ordered to be communicated to Mr. Bawden and Mr. Speyer:

"That the most grateful thanks of the Council be offered to Mr. E. G. Bawden and Mr. Edgar Speyer for providing and allotting the sum of £16,000—to be known as 'the Bawden Fund'—to the Fund for Advanced University Education and Research, thereby making up the balance of the sum of £200,000 necessary to complete the financial arrangements for the incorporation of the College in the University. The Council are of opinion that by promoting the incorporation of the College in the University they can most effectually realize the purposes for which the College was founded and can best advance the cause of learning and science. They therefore feel that they can congratulate Mr. Bawden and Mr. Speyer on helping to complete an arrangement that is likely to have a far-reaching influence in the furtherance of advanced education and research in London."

Appointments.

The following appointments were made: Dr. Herbert Tilley to be Surgeon of the Ear and Throat Department of University College Hospital; Dr. Thiele to be Pathologist to the hospital for a further period of twelve months; Mr. N. F. MacLeod to be Assistant in the Department of Hygiene.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN Ordinary Council was held on November 9th, Mr. John Tweedy, President, in the chair.

Begley Studentship in Surgery and Anatomy.

This studentship, provided under the will of the late Mrs. Jane Begley, widow of Dr. William Chapman Begley, a former member of the College, is of the value of £20 per annum and is tenable for three years. It is to be awarded for the first time in April, 1906.

The studentship will be open on the occasion of the first award, to any candidate admitted to the Second Examination of the Conjoint Examining Board in England held in April, 1906, and will "be awarded to the candidate, if any, obtaining the highest number of marks in the anatomical part of the examination. If two or more candidates in the anatomical part of the examination shall obtain an equal number of marks, being with respect to the other candidates the highest number of marks obtained by any candidate, reference shall be made to the marks obtained by them respectively in the physiological part of the examination, and on the combined result the adjudication shall be made; and, if their marks shall still be equal, it shall be open to the two senior Examiners in Anatomy appointed by the Royal College of Surgeons to call upon such candidates to present themselves for further examination, or to take such other steps as may enable them to adjudicate in the matter."

Board of Examiners.

In consequence of the resignation of Mr. W. H. A. Jacobson, which will take effect after the conclusion of the final Fellowship Examination in November, a vacancy will be caused which is to be filled in during December.

Sir Thomas Browne.

The thanks of the Council were given to Mr. Edmund Owen and Professor Howard Marsh for their attendance at Norwich on October 19th as the representatives of the College on the occasion of the unveiling of the statue of Sir Thomas Browne.

Bradshaw Lecture.

This will be delivered by Mr. Henry T. Butlin on Wednesday, December 13th, at 5 p.m., the title being Carcinoma is a Parasitic Disease.

New Members.

Diplomas of membership have been issued to the following gentlemen who have passed the required examinations and conformed to the by-laws:

S. F. Abbott, R. J. Archibald, H. L. Askham, W. G. Attenborough, E. B. Aylward, A. Ball, J. L. Barlord, E. C. E. Barnes, A. E. Baron, Jose Maria Barrionuevo, J. D. Barris, H. Bazett, F. G. Bergin, J. H. Board, J. R. Briscoe, J. F. Broughton, E. L. Bunting, H. W. Burman, L. H. Burner, P. C. Bushnell, M. A. Cassidy, H. J. Clark, G. Cockcroft, G. H. U. Corbett, V. A. P. Costobadie, W. Crampton, F. D. Crew, R. Crompton, J. R. Davies, H. D. Davis, H. L. Evans, T. J. C. Evans, H. J. Fardon, E. R. Faulkner, E. R. Flint, R. A. Fuller, A. A. H. Fyzee, F. Gans, S. R. Gibbs, L. G. Gibson, K. T. Gilmour, A. S. S. Goonewardene, H. E. Goolden, H. O. Gough, H. J. Gould, W. B. Grandage, G. F. Groening, M. Grundy, P. L. Guiseppi, E. M. Harrison, W. Harrison, C. W. C. Harvey, C. S. v. R. Harwood, S. A. Henry, F. S. Hewett, L. F. Hirst, F. D. G. Howell, H. L. Howell, A. B. Howitt, M. O. Hunter, A. H. Jacob, A. N. Jeans, R. C. Jewesbury, V. G. Johnson, H. M. Langdale, A. A. H. Lawrence, A. E. Leapingwell, C. N. Le Brocq, G. W. Lloyd, W. G. Loughborough, G. H. K. Macalister, U. Marks, E. H. Mayhew, P. S. Mills, E. G. D. Milsom, A. W. Moore, W. W. Moore, A. E. Oakeley, E. H. B. Oram, W. R. Pagen, G. O. Parsons, V. G. J. Paul, G. R. Plaister, L. Rawes, F. J. Rees, W. Reeve, M. B. Reichwald, S. S. Rendall, P. W. Saunders, J. E. Scales, O. L. Scarborough, J. W. L. Scott,

H. C. G. Semon, D. M. B. Snell, H. C. Squires, W. D. Sturrock, A. A. Sutcliff, W. S. Sweet, P. Talbot, C. E. Tangye, M. B. Taylor, R. S. Taylor, A. N. Thomas, J. C. Teesdale, J. E. L. A. Turnly, O. H. Vevers, W. P. Walker, J. Warburton, J. G. Watkins, C. S. Willis, A. J. M. Wright, A. C. Wroughton.

MEETING OF TRUSTEES.

A quarterly meeting of the trustees of the Hunterian collection was held at the College on November 10th. The chair was taken by Lord Onslow. The President of the College presented a report on the condition of the museum, and stated that the redecoration had now been completed at a cost to the College of £1,100.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.

A QUARTERLY meeting of the Royal College of Physicians of Edinburgh was held on Tuesday, November 7th, Dr. Playfair, President, in the chair.

Admission to the Fellowship.

The following members were admitted by ballot to the Fellowship of the College: George Freeland Barbour Simpson, M.D., F.R.C.S.E., M.R.C.P.E., Edinburgh; Charles Mowbray Pearson, M.B., Ch.B., M.R.C.P.E., Edinburgh; and Edwin Matthew, M.A., M.B., C.M., M.R.C.P.E., Edinburgh.

Admission to the Membership.

On a ballot the following candidates were admitted to the Membership of the College after examination: Henry Grabham Lys, M.R.C.S., M.D., Bournemouth; Charles Mackie Begg, M.B., Ch.B., L.R.C.P.E., Edinburgh; and John Herbert Yearsley, L.R.C.P.E., L.R.C.S.E., Edinburgh.

Admission to the Licence.

The Registrar reported that since the last quarterly meeting forty-nine persons had obtained the Licence of the College by examination.

Hill Pattison Struthers Bursary.

The Hill Pattison Struthers Bursary in Anatomy and Physiology, which is in the gift of the College, was awarded, after examination, to Mr. Andrew Johnstone Brown.

CONJOINT BOARD IN SCOTLAND.

THE following candidates have been approved at the examinations indicated:

First Examination (4 Years' Course).—A. V. Bam.

First Examination (5 Years' Course).—C. O'Herlihy, K. S. Kanga, V. M. Walsh, D. Hickey, T. B. McKendrick, E. Spence, A. Y. Kelsey, H. H. Scott, A. C. Livingston, B. Flack, and R. Massie.

Second Examination (4 Years' Course).—J. S. Bruggman and D. J. O'Connell.

Second Examination (5 Years' Course).—E. R. Porter, T. B. Eames, S. Sharples, A. McMurray, J. W. M. Hunter, J. A. S. Phillips (with distinction), Anna Sarah Lindsay, Jane Hall Filshill, T. S. Reddy, V. S. Sanzgiri, C. L. Stewart, R. B. Davidson (with distinction), B. S. Tarapurvalla, A. O'Flaherty, F. H. Kiddle, J. Reid, F. W. Milne, D. W. Anderson, and P. Stewart.

Third Examination (5 Years' Course).—E. F. Niven, Gertrude E. Austin, D. C. McCabe-Dallas, O. D. Gunasekara, A. P. Dias, L. Murphy, F. B. Elwood, J. S. Peebles, J. W. R. Rockwood, J. Ferguson, T. C. Dykes, E. A. Smith, R. R. Bakshi.

Final Examination.—W. G. Scott, C. A. E. Ring, J. A. Mathers, Rosa Collier, F. F. Middleweek, E. H. G. Duncan, R. P. Hosford, J. Murphy, R. G. S. Simpson, H. S. Gettings, S. Wertheim, W. R. A. Coates, J. Dixon, H. H. McIntosh, V. Macdonald, N. S. Simpson, E. L. Raffel, J. Coffey, G. D. M. Beaton, E. E. A. Murphy, M. P. Desmond, J. K. Bell, E. P. Titterton, Desai, G. L. Baker, J. E. Bromley, R. R. Chaubal, T. E. Flitcroft, T. F. Murphy, K. V. G. Menon, E. P. J. Dawes, J. Dawson.

PUBLIC HEALTH AND POOR-LAW MEDICAL SERVICES.

DUTIES OF MEDICAL OFFICER OF HEALTH.

B. asks for information on the following points: (1) Some years ago when I was appointed medical officer of health, my district was rural and some cottages were purchased and converted into a hospital for infectious diseases; a few years ago part of my district was made an urban one and the aforesaid hospital is situate in the urban district, but still remains the property of the rural council; can the urban council object to infectious cases being brought into their district from the adjoining rural district to this hospital? (2) Should a medical officer of health, giving only part of his time to the duties, be paid for giving evidence before the magistrates in a case of prosecuting a person for exposing himself while suffering from an infectious disease? (3) Is it part of a medical officer of health's duty, giving only part of his time to the duties, to obtain samples of water and mud from streams five or six miles distant from his residence for purposes of analysis; and if so can he charge extra for that work, or should it be done by the sanitary inspector? (4) In the case of patients being sent from only one parish to the hospital, who pays the expense of medical attendance, nursing and maintenance? Is it the district council or the parish from which the patients are sent? I know the structural expense is borne by the sanitary authority.

"*" (1) No. If the hospital belongs to the rural district, but by alterations of boundaries is now situated in the urban district, the latter district cannot complain if rural cases of infectious diseases are moved to hospital. (2) If the case is in his own district giving evidence in a court of law for his own district council is not usually considered as outside his duties, and therefore calling for extra remuneration. But it is usual for the council to consider the payment of a fee in exceptional cases. (3) No; such a task should be fulfilled as a rule by the inspector. (4) This is always a matter of arrangement, and without such arrangement the sanitary authority should pay. It is not a matter for the parish council.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

QUERIES.

PHENAD asks for reference to works on bacilluria or cases of bacilluria which produce malaise, fever, and prostration, due to a hitherto unrecognized bacillus in the urine.

A COMMON COLD.

F. S. asks for experience as to the best means of preventing and curing attacks of acute nasal catarrh (coryza).

MOTOR FOR PROFESSIONAL USE.

JACOBUS writes: May I ask any medical man who has been using a motor for professional purposes to oblige me with his opinion as to what are the advantages or otherwise of the car he has selected, as this would greatly help both in selecting and avoiding? I have a fairly mechanical bent, and would expect to be my own driver.

ANSWERS.

AMICUS should recommend his friend to consult an experienced general practitioner. Such histories are by no means uncommon.

INTESTINAL ANTISEPTICS.

DR. C. E. WINCKWORTH (Shefford, Beds) writes: In reply to "Fibula," who has asked for an antiseptic remedy for offensive stools, I would recommend him to try sulphocarbolate of soda or bismuth. I would also advise his patient to abstain from eating green food and to be sparing in taking meat. It is noticeable that the faeces of flesh-eating animals have a far more disagreeable odour than those which consume grain, hay, etc. Aperients containing sulphates should be avoided. The various preparations of mercury act antiseptically, and a pill of calomel and colocynth has a happy knack of clearing out corners of faecal accumulations which give rise to fetid emanations.

STEAM MOTORS.

DR. ROBERT A. WELSH (Felton, Northumberland) writes: In answer to "Perplexed" may I first remind him that none (at least of two out of the three he names I am certain) are English cars, and he asks for information of English steam cars. Two of those named—the "White" and the "Stanley"—are American. I use one of the latter type in my practice in a hilly country. I have not given it up, however. It has its weak points, and I have yet to see the car that has not, whether steam or petrol driven. Its weak points, if they can be so called, so far as my experience goes, are, the time taken to raise steam—which includes, of course, the lighting-up process. However, I may here remark that it takes no longer than the getting ready of a horse and carriage, but, of course is much longer than it would take a petrol car to get on the road if everything was right with it. Practically the only bother I have had with my car was the pilot-light vaporizing tube getting carbonized up—the wire therein being bound hard and fast. I seem now to have got over this trouble, but of this I am not certain. The pilot light goes out occasionally when standing about, and if detected soon is easily lighted with a match, but if it has been out for any length of time and the car is standing, say, in an exposed situation on a wet or gusty day, then lighting up is a difficult and vexatious business. Some days, and even for weeks, this never happens, and then it may happen half a dozen times in one day. Beyond this I have little but praise for the car. I can take any hill with three passengers, and its noiseless running, easy control, and absence of vibration count for much. There is, in my opinion, less to go wrong and infinitely less chance of not getting there or back again with a "Stanley" than a petrol car, but there is more attention required while travelling than in the petrol motor. As to other details, such as cost of fuel, wear on tyres, filling of water tank, life of superheaters, etc., I shall be very pleased to tell all my experience has taught me during the past year.

LETTERS, NOTES, Etc.

FOREIGN BODY IN RECTUM.

DR. G. WESTBY (Liverpool) writes: Some years ago a patient came to me; he said he had swallowed a chicken bone, and that he felt it in his rectum. I readily delivered him of it with an ovum forceps, passing each blade separately.

ERRATUM.—In our issue of November 4th, at page 1181, one of the degrees attached to the name of Mr. E. B. Waggett should read B.C., and not C.M. as printed.

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An Address
ON
DYSPEPSIA.

Delivered at the Opening Meeting of the Medico-Chirurgical Society of Norwich, October 3rd, 1905.

By ROBERT HUTCHISON, M.D., F.R.C.P.,
Assistant Physician, London Hospital, and Hospital for Sick Children, Great Ormond Street.

When you did me the honour to invite me here to-day I had, I confess, some difficulty in selecting a subject upon which to address you. On the one hand I felt that if we were to have a stimulating and profitable discussion—and discussion, I take it, is the main function of such a society as this—one must choose a subject in which we are all more or less interested and this meant that one must deal with a common disease; on the other hand, I was painfully alive to the fact that disquisitions upon common diseases are particularly apt to be stale and unprofitable, and to excite in one's hearers the natural query, "What can he have to tell us about that?"

I took heart of grace, however, when, upon further reflection, it was borne in upon me that it is just in the case of common diseases that our notions of pathology are most apt to be vague and our treatment either stereotyped or loose and unsatisfactory, familiarity with them too often either breeding a contempt which makes us think them beneath our notice or kindling a feeling of despair, either as to our ever knowing more about them than we already do or treating them more efficiently than we have hitherto done. To no common disorder, I think, do these remarks apply with greater force than to that which I finally selected as the text of my discourse this afternoon.

Neglect of its Study.

Dyspepsia, it will be generally conceded, is one of the commonest of the minor ills to which civilized flesh is heir. Not in itself a directly fatal disease, it still does more to embitter life and impair its usefulness than many which fill a much larger place in our textbooks and nosologies; yet how often its treatment baffles us and drives us to despair of our art! No one here will deny, I believe, that he has less confidence in managing cases of dyspepsia, less of that feeling of inward satisfaction which can only come from a firm and rational line of treatment, based upon a clear understanding of the nature of the disease, than he experiences in most of the other common maladies with which it is his daily duty to deal. This unsatisfactory state of things is due in part, no doubt to the essential nature of dyspepsia itself, and to the obscurity which still enshrouds the chemical and mechanical processes which go on in the stomach. To this I shall return later, but let me as a member of the teaching staff of a large hospital humbly confess that it is also due in large measure to the perfunctory way in which the instruction of students in this important group of diseases is carried out at our medical schools. Go into a ward of any large general hospital, and how many cases of ordinary dyspepsia will you find? Examples of severe organic disease of the stomach, cases of carcinoma ulcer, and dilatation you will find in plenty, but of ordinary functional dyspepsia few or none. It is a matter of common knowledge that the nature and treatment of such cases must be learnt, if indeed they be ever learnt at all, in the out-patient room, but there the very number of unfortunate dyspeptics precludes any but the most superficial routine investigation and treatment of the individual case. This contempt of the stomach and its disorders is characteristic, I venture to assert, of the whole of modern English medicine. I say "modern" and "English" advisedly. At the middle of last century, and even earlier, there were not wanting plenty of admirable English textbooks dealing with dyspepsia in its every aspect—books from which we could still all learn much would we but go to them humbly, putting off the pride of our modern knowledge—but how many really good treatises on diseases of the stomach has this country produced in the last twenty years? We build hospitals for the special study and treatment of the diseases of women and children, of fevers and skin diseases, of disorders of the heart, lungs, nervous system, and even of such a humble, though necessary, organ as the rectum, but who in this country would think of building a hospital specially for sufferers from diseases of the predominant partner in the alimentary system—the poor neglected stomach? Yet no one will deny that special hospitals contribute powerfully to the advance of our knowledge of the diseases for which they are established.

And I say "English" medicine because, so far at least as I can perceive, this neglect of gastric disorders is not characteristic of the profession in other countries so much as in our own. In France, Germany, and America, the only foreign countries with whose medical literature I can profess to any degree of familiarity, there are numerous and abundant textbooks of native production dealing with this special branch, and in some of them hospitals or clinics for the exclusive study and treatment of gastric affections. Knowledge is thus both gained and disseminated, and the results are seen in a much more scientific attitude towards dyspepsia and its treatment than we can boast of here. Even the scientific terminology of diseases of the stomach is not yet in general use amongst us. What meaning, for instance, do the terms "motor insufficiency," "achylia gastrica," or "hyperchlorhydria" convey even to the well educated student of medicine, who could probably tell you all about achondroplasia, acromegaly, or Friedreich's ataxia? From personal observation I venture to reply, little or none.

Into the reasons for this neglect of the scientific study of dyspepsia in this country I cannot enter now, though it raises many interesting reflections, but the first point I wish to make in this address is that such neglect exists. It is no pleasure I am sure, for me to utter or for you to hear this jeremiad over our sins, negligences, and ignorances in matters gastric, but I do believe that such things are true, and need to be said, and if a very minor prophet may so far dare I would venture, myself in sackcloth and ashes, to call our profession to repentance. I fear, however, that I have preached on this theme as long as your patience will stand, and so now I propose to turn in the remainder of my sermon to what more immediately concerns us—the practical application, and to point out what I believe to be the way of salvation in the treatment of gastric disorders, the only safe way through that confused welter of symptoms and complaints, of guess-work diagnosis and haphazard treatment which makes up the clinical tale of most cases of indigestion.

Classification of Dyspepsias.

Before we can have any clear ideas on the subject of dyspepsia we must be able to classify its varieties. The word "dyspepsia," it need scarcely be pointed out, is only a short and convenient expression for any condition in which the process of digestion is accompanied by pain or discomfort to the patient. It is not, strictly speaking, a disease at all, any more than dyspnoea or dysphagia are diseases, but merely a symptom or group of symptoms. What we must try to do, then, is to construct some simple classification of the disorders of structure or function in the stomach which may give rise to the symptom "dyspepsia." It is surprising that but few attempts of this sort have been made. Most writers on dyspepsia have contented themselves with grouping its varieties according to the chief symptoms present, and have arrived at such divisions as "acid dyspepsia," "flatulent dyspepsia," "bilious dyspepsia," and so on. Now I need hardly remind you that no satisfactory classification of diseases can be based upon symptoms alone, for the simple reason that the same symptoms may be produced by very different causes, which will require very different treatment. The only satisfactory classification of the diseases of the stomach or any other organ must be either (1) anatomical or (2) physiological, that is to say, it must either depend (1) upon the changes in the structure of the organ which are revealed to the eye or the microscope after death, or (2) upon changes in the way in which the normal functions of the organ are performed. In the case of most organs both these methods of classification are adopted. In grouping the affections of the heart, for instance, we describe valvular diseases which depend upon anatomical alterations in structure, and functional diseases such as tachycardia, bradycardia, arrhythmia and the like, which consist in departures from the normal mode of action of the organ. Diseases which one can demarcate by the first method of classification we speak of as "organic," those which we are able to recognize by the employment of the second method we designate as "functional." Now I am well aware that there are some pathological purists who deny that there is such a thing as functional disease at all. With these gentlemen I do not intend to pick a quarrel, but I would only remark that, as practical men of common sense, we must recognize that an organ may be disordered in the way in which it performs its work without there being

any lesion of its structure that we can recognize by our present methods of investigation, and such disorders we may as well call "functional" as anything else. Now if you look abroad over the field of medicine, you will be struck by the fact that wherever we have to deal with organic diseases there we have fair precision in diagnosis and practical unanimity as regards treatment; where, on the other hand, we have to deal with functional disorders, we find loose and hesitating diagnosis, and corresponding uncertainty in therapeutics. This general principle finds no better application than in the case of affections of the stomach.

The organic diseases of that organ—carcinoma, ulcer, gastritis, dilatation—are well-defined maladies not difficult of diagnosis as a rule, and about the main lines in the treatment of which every one is agreed. When we come to the functional disorders of the stomach, on the other hand, to which the great majority of cases of dyspepsia belong, how different is it! Here we find nothing but uncertainty in exact diagnosis and corresponding indecision in treatment.

Leaving aside, then, the organic diseases of the stomach which may cause symptoms of dyspepsia, let us try for a moment to arrive at some sort of classification of its functional disorders. Now, the positive functions of the stomach are two—secretion and movement—and it has one negative function—namely, not to feel. These functions may be disturbed in the following directions:

Secretory	Increased=hyperchlorhydria and continuous hypersecretion.
	Diminished=hypochlorhydria and achylia gastrica.
Motility	Increased=pyloric spasm and tormina ventriculi.
	Diminished=motor insufficiency culminating in dilatation.
Sensibility	Increased=hyperaesthesia (the "morbid sensibility" of the older writers) and gastralgia.
	? Diminished. Of this we can know nothing, as the normal stomach is already insensitive to ordinary stimuli.

I believe that all the symptoms of functional dyspepsia can be referred to disturbance of function in one or more of these directions, and that we should classify our cases according to the function or functions disturbed. Unfortunately, however, there are but few cases of dyspepsia in which one function is affected alone; in most there is a departure from normal in several directions. Careful investigation further shows that there is a tendency for certain disturbances of function to occur together. Thus diminished motility and secretion usually coincide to produce what is often spoken of as "atonic" or "nervous" dyspepsia, whilst increase of sensibility and secretion frequently co-operate in the production of a group of cases which I propose to speak of as "hypertonic." The former of these groups has as its chief symptom flatulence, the second is chiefly characterized by pain, and into these two great divisions the majority of the cases of ordinary "dyspepsia" seen in practice fall. Sometimes, however, it may happen that one function is disturbed alone. Thus there may be hypersensitiveness of the stomach, without alteration of secretion or motor power, or there may be impaired motility with normal secretory activity and sensibility.

How to Class a Case of Dyspepsia.

Now, having got thus far, I think I hear you saying: "That is all very well on paper, but how are you to place any given case of dyspepsia and tell which function or functions of the stomach are affected in it?" To this I would reply that we are now in a position, thanks to improved technique, to investigate almost all the functions of the stomach and determine whether they are being exercised normally or not.

1. The secretory functions of the stomach we can investigate by means of a test meal and the stomach tube. Into the technical details of such an investigation it would take me too far to enter now, but I would only say that it is really quite a simple matter. Yet how seldom it is employed! No one would think of giving an opinion on a chest case without employing a stethoscope, but how often are complicated cases of dyspepsia prescribed for without any preliminary investigation by aid of the stomach tube! If you say that patients object to its use, I can only reply that such has not been my experience. If you retort that the results which it yields are uncertain and not worth the trouble of its employment, I would reply that the results are trustworthy so far as they go, and that though one can rarely found one's diagnosis upon them alone, yet the additional facts which they supply are of the greatest assistance in unravelling a complicated case.

2. Upon the motor functions of the stomach light is also thrown by the use of the tube, for the presence of food at the time when the stomach ought to be empty is itself indicative of impaired motility. Even without using the tube one can, by careful percussion or auscultatory-percussion with or without the aid of preliminary inflation, arrive at a very fair idea of the state of the motor function, for any increase in size of the organ is the result of interference with its motor power. One can even gauge the state of the musculature of the stomach more intimately than this, for if after the administration of 75 gr. of tartaric acid followed by 120 gr. of bicarbonate of soda the vertical diameter of the organ increases by more than 4 cm., one can feel sure that some degree of "atony" exists.

3. The third function, that of sensibility, is more difficult of investigation. Some means of estimating pain quantitatively is a much-needed instrument of clinical research, and a "gastric aesthesiometer" would be of the greatest service in the scientific investigation of dyspepsia. Meanwhile, until that is invented, it is sufficient to remember that the stomach is normally insensitive to all ordinary degrees of stimulation, and that, in the absence of a lesion in continuity of its mucous membrane, any real pain arising during digestion is in itself evidence of increased sensibility. Here, then, we must rely upon the information given to us by the patient. Diminution of gastric sensibility, if indeed it ever exists, is beyond our power to determine.

Relation of Disturbances of Function to Symptoms.

I pass on now to consider the way in which disturbance of the functions of the stomach manifest themselves, or, looking at it from the point of view of the patient, the symptoms to which they respectively give rise.

1. *Secretory Functions.*—It is now clearly established that disturbance of secretion in the stomach does not necessarily by itself give rise to any symptoms at all. The amount of hydrochloric acid in the gastric juice may rise considerably above the normal, or, on the other hand, the secretion of the stomach may be entirely arrested and yet no symptoms of disordered digestion may be present. Should an increased secretion of hydrochloric acid, however, be added to even a slight degree of hyperaesthesia, pain is felt, and should a diminished secretion coexist with impairment of motility, flatulence and discomfort during digestion are the result.

2. *Motility.*—Of all the functions of the stomach, the most important, physiologically speaking, is its motility. So long as the organ is able to drive on its contents within the usual time, digestion will be adequately carried out by the pancreatic juice, and the elaboration of nutriment receives no check. So soon, however, as the motor power is interfered with, and in exact proportion to the degree of such interference, is the normal process of digestion arrested. Hence it is that there is no disorder of function in the stomach which more quickly gives rise to symptoms than diminution of its motility. Diminished motility manifests itself at once by a feeling of weight and discomfort during digestion, though not by actual pain, and more especially, I think, by a feeling of "sinking" at the epigastrium and the development of flatulence. Why it is that impaired motility produces flatulence I do not know, and I cannot stop to discuss the matter now; but I would only say that it is certainly not, in all cases at least, by any process of fermentation. An increase of motility is far less common than its diminution, and declares itself, like increased contraction of unstriped muscle anywhere, by a feeling of cramp or spasm. It most often occurs, I believe, towards the pyloric end.

3. *Sensibility.*—An increased sensibility of the stomach manifests itself by the production of pain. Sometimes there is an exaggerated sensibility to ordinary mechanical and thermal stimuli; in such a case pain follows immediately upon the taking of food. In other cases there is an exaggerated sensibility to the action of the acidity of the gastric juice, to which the gastric nerves are normally attuned, and in that case the pain is not experienced until the acidity reaches a high point, or until free hydrochloric acid is present in the gastric contents, that is, about two hours after a meal. In other cases, again, there is an actual neuralgia of the stomach nerves, pain being felt even when the organ is empty, and for such cases I think the term "gastralgia" should be exclusively reserved.

Whether a *diminished sensibility* of the stomach ever exists we are unable, as I have already said, to determine, and we cannot, therefore, correlate it with any of the symptoms of dyspepsia. It is possible, however, that it plays a part in the production of the nervous form of anorexia.

I cannot leave this part of our subject without a word upon what one may describe as the psychical aspect of disturbed sensibility of the stomach.

The physiological processes in that organ, like all the processes of organic life, are in healthy conditions silent—they are "subliminal," as the psychologists say, and do not obtrude their operations into the domain of consciousness. It is conceivable, however, that they may in certain conditions rise above the level of consciousness and it is in this way, perhaps, that many of the uncomfortable sensations experienced by dyspeptics and which they find it so hard to describe to their doctor—unless, indeed, he also has experienced them in his own person—may arise. Such penetration of stomach sensations into the higher regions of the brain may play a part, too, in the gastric symptoms of hysteria and hypochondriasis, and in the determination of idiosyncrasy to certain articles of food. Such reflections, however, open up a field too wide and too speculative to be entered upon now, and so I shall pass on to the more prosaic subject of the means which we have in our power for remedying disorders of function in the stomach, or, in common clinical phraseology, for the treatment of dyspepsia.

Causes of Disturbance of Function.

But if we are to approach this aspect of our subject along rational lines we must first seek to ascertain, so far as we can, what the perturbing influences are which are capable of leading to derangement of the gastric functions. And here again I shall pursue the method by which we have already been guided so far and consider these functions separately.

1. *Secretion.*—The ingenious experiments of Pawlow have taught us to attach great importance in the production of gastric secretion to the part played by psychical influences, and it is to such influences that we must naturally turn first in any attempt to explain deviations from the normal secretion. And who will deny the part played by such influences in the production of dyspepsia? How often we have all heard the sufferer from dyspepsia ascribe the onset of his troubles to some period of worry, anxiety, or grief—mental influences which interfere with the production of gastric juice!

Such depression of secretory power may also result from physical conditions, from anaemia, prolonged under-feeding, or the exhaustion of acute disease. All that is readily understood. But when we turn to increased gastric secretion and inquire as to its production, the explanation is not so simple. I hesitate to say, for if I did so you might think me tainted with the Brunonian heresy, that excessive production of gastric juice, or its chief ingredient, hydrochloric acid, is due to excess of vitality, although as a matter of fact those who suffer from it are often persons in otherwise perfect health. The most orthodox physiology, however, teaches that the gastric secretion varies in quality with the kind of food which calls it out, and that the strongest and most acid juice is produced by an animal diet; and is it not a fact that it is in patients who habitually consume large quantities of meat that hyperchlorhydria is most apt to develop? I think so, but in addition to meat I would incriminate also salt and stimulating condiments as contributing to the production of such a derangement in many cases.

That, I am afraid, is all I know about the influences which disorder gastric secretion.

2. *Motility.*—Impairment of the motor power of the stomach—atony of the gastric wall, if you will—is due, I believe, in the majority of cases, not to any primary disturbance in the stomach itself, but to a general nervous exhaustion. Hence it finds its best exemplars in the victims of physical, and especially of mental, overstrain; in a word, amongst those who live the "strenuous life." Such patients are usually in a greater or less degree neurasthenic, though the dyspeptic symptoms may play such a prominent part in their complaints as to justify the term "gastric neurasthenia" sometimes applied to them. Overactivity of the motor function, on the other hand, is always due, I think, to [illegible] be one of the normal excitants of the muscular coat of the stomach; and if the acidity be in excess, the excitation may be so violent as to lead to spasmodic contraction, or cramp. However it is to [illegible] is most apt to appear, and the latter is really a remote result of the same influences as lead to the former.

3. *Sensibility.*—Hyperaesthesia of the stomach is often a good illustration of the "irritability of weakness," and in its extreme form—gastralgia—of that other clinical apophthegm, "the cry of the nerves for better blood." Thus it occurs in those whose nervous systems have become irritable and excitable from prolonged overstrain, or who have impoverished or poisoned blood. Not always, however, for one may observe it in persons who seem otherwise quite healthy. I am not sure that in such cases climatic influences do not play a part in its production, for it is in cold and damp weather or places that it seems specially prone to develop. Every one knows how a north-east wind may cause facial neuralgia, and I rather think that it may cause a neuralgia of the stomach as well. At all events, it is well known to every experienced practitioner that it is in the spring of the year, when north-east winds are specially prevalent, that most dyspeptics are loudest in their complaints. It is probable, also, that the habitual consumption of too stimulating foods may ultimately lead to a hyperaesthesia of the stomach in otherwise healthy persons, the oversensibility in such cases going hand in hand with an exaggerated secretory activity. Of anaesthesia of the stomach, as I have already said, we know nothing, and hence we know nothing also of its causation. If it exists at all one might expect it to occur, as functional anaesthesia does elsewhere, in hysterical conditions, but this, I admit, is a mere guess.

You will observe that in discussing the causes which lead to disturbances of the functions of the stomach I have ascribed but a limited part to dietetic errors. I have done so deliberately, for in spite of a general impression to the contrary, it is my firm belief that errors of diet have but a small share in the production of functional dyspepsia. What dietetic sins has the dyspeptic committed that he alone should be called upon to suffer what a clerical patient—who should know—once described as "the tortures of the damned"? I cannot tell you, nor, indeed, do I believe that he has sinned dietetically beyond his brethren. Unsuitable diet affects the stomach by irritating it either chemically or mechanically. But irritation of the stomach leads to gastritis, which is an organic disease and not, believe me, a very common one at that. In any case, it is outside our purview at present. I have already said that too stimulating a diet may lead to hyperchlorhydria and hyperaesthesia, but as regards functional dyspepsia in general, it is my deliberate conviction that so far as general dietetic errors produce it at all, it is far more often due to underfeeding than to overfeeding. Your experience, I am sure, will agree with me when I say that it is not in the gourmand that one meets with the most [illegible] examples of dyspepsia, but far more often in the "clear spirit" who "scorns delights and lives laborious days."

On the other hand, the part played by the nervous system in the production of dyspepsia cannot be exaggerated.

It would be no overstatement to say that in the majority of cases functional dyspepsia is merely a symptom of nervous disease. A recognition of this fact must in most cases dominate our treatment of dyspepsia, to the consideration of which subject I propose to devote what remains of this address.

The Treatment of Dyspepsia.

In dealing with this part of our subject I shall depart from the plan I have hitherto adopted, and instead of considering the ways by which one can correct the disorder in each function separately, I shall take up the agents which are at our disposal for these purposes, and indicate very briefly the manner in which they can be used to influence favourably any disorder or group of disorders of function which the stomach may exhibit. I need hardly add that the time at my disposal will only permit of a mere sketch of rational gastric therapeutics.

The agents of which we can avail ourselves in any attempt to regulate the functions of the stomach are these:

1. [illegible]—for example, rest, exercise, massage, hydro-[illegible].
2. [illegible].
3. [illegible].
4. [illegible].

We may consider very briefly the special limitations and [illegible]

1. [illegible] in a large part nervous influences play [illegible] from this that we must in [illegible] the treatment [illegible] rest. I do not mean rest of the stomach itself, such as one obtains by exclusive rectal feeding—for that, I believe, is but rarely required in the treatment of functional dyspepsia—but general rest of the body as a whole, rest in bed. So potent

is this agent that it suffices in many cases to send a dyspeptic patient to bed to relieve him at once of most of his complaints. Yet I am certain that we do not make nearly as much use as we might of this simple means; we do not send our dyspeptic patients to bed half often enough. Equally important is mental rest and the liberation of an overtaxed brain from the cares and worries of an active business or professional life. I am sure there must be many amongst my hearers who have experienced for themselves the extraordinary improvement in all the functions of the stomach which is brought about by going away for a holiday and casting off for a time the preoccupations and anxieties of practice. Exercise is a therapeutic agent of far less utility than rest, and it is much more difficult to know when to prescribe it. I believe it to be specially indicated in some cases of depression of the motor and secretory functions, just as rest is chiefly to be used in cases of exaggerated sensibility.

Of all forms of exercise, riding is probably best—I think it was Palmerston who said that "There is nothing like the outside of a horse for the inside of a man"—but walking, especially in a mountainous country, is very serviceable (it was by means of tours in the Alps that Huxley, for instance, kept his habitual dyspepsia at bay), and golf, which combines with walking some exercise of the abdominal muscles, is also very helpful. Something, also, is to be said for the use of the voice. Loud reading—*clara lectio*—was a favourite prescription of the Roman physicians, and its mode of action probably consists in compression or massage of the stomach by the diaphragm favouring motility. Certainly any one who has ever done much lecturing knows what an appetizer it is, which, I suppose, is the explanation of the hospitable plan which your Society has of providing the giver of this address with a good dinner after his oratorical efforts.

Massage—by which I mean especially abdominal massage—is a great aid in promoting one function of the stomach—namely, motility. I doubt if it has any influence on secretion; in hyperaesthesia it is positively harmful. Hence its use must chiefly be confined to atonic cases. With hydrotherapy as a means of treatment I may deal briefly, for in truth I know but little of it. I can speak confidently, however, of the value of hot fomentations in allaying hyperaesthesia, and I can well imagine that suitable douching might greatly stimulate motility.

About the value of electricity as a therapeutic aid I confess that I know even less, for it is so difficult to get the treatment properly applied by honest and competent persons and at a cost which most patients can afford. I am prepared to believe, however, that it might aid greatly in stimulating the movements of the stomach, and I see no reason why it should not be of as much use in diminishing hyperaesthesia, as it sometimes is in painful affections elsewhere, such as sciatica. The difficulty about most of those so called physical methods of treatment is that of getting them carried out efficiently and persistently. We are greatly in need in this country of institutions where such treatment could be obtained under skilled supervision and at reasonable cost.

2. *Dietetic Means.*—I have already stated my belief that errors of diet play but a small part in the production of dyspepsia, and I would now add that dietetic means are not really of much value in its cure. We can do much to palliate a patient's symptoms by adjusting the diet so as to burden the affected function as little as possible, but this is not to cure him in the proper sense. Meanwhile, the stomach may recover spontaneously, or the error of function be cured by other means, but a dyspeptic has not really recovered until he can digest food like other people. So long as he requires to observe rules of diet, even although he is perfectly free from symptoms, so long is he a sick man.

Time will not allow of my discussing with you the principles of dietetic treatment, but I would only say, in general terms, that where motility is chiefly affected the mechanical form of the food is of more importance than its chemical composition, but that where secretion is perturbed the reverse is the case, a bland in hyperacidity as the form and composition and temperature of the food have all to be considered. Good cooking is of importance to the dyspeptic in so far as it affects the form and consistence of the food, and attractive serving of meals is of the greatest help in promoting secretion.

Amongst dietetic means must be reckoned alcohol, which in moderate doses is a powerful stimulant both of the secretory and motor functions. Its use should therefore be reserved for the atonic cases.

3. *Drugs.*—I remember an eminent physician, now deceased, who used to sum up his advice to his students regarding the use of drugs in dyspepsia in these simple words: "Gentlemen, if you fail with your alkalies try your acids." And is that not pretty much what most of us do? If we fail with our bismuth we try our rhubarb, and if we fail with rhubarb we try pepsin, and so on—groping in the dark, in the hope that we may find something that will do good. From such treatment no mental satisfaction can be obtained, but by adopting such a classification of cases as I have suggested, our choice and use of drugs at once becomes easy and rational. One has merely to determine what function is perverted and in what direction, and then to make use of the drugs which are known to act upon that function. Into details of the administration of drugs in dyspepsia I cannot enter now, but I would venture to suggest a list of those which are of most help in each form of disturbed function.

Increased Secretion.—Belladonna undoubtedly lessens gastric secretion; but as its administration is attended by inconveniences, it is usually better to content one's self with neutralizing the excess of secretion by earthy carbonates, such as carbonate of magnesia; astringents, such as tannic acid, also lessen secretion, and the stomach may be washed out with solutions of them in some cases.

Diminished Secretion.—Secretion may be promoted by the use of soluble alkalies—for example, bicarbonate of soda—and bitters before meals; also by stimulating drugs, such as capsicum and ginger. It may be supplemented by hydrochloric acid given an hour after food. Pepsin preparations are rarely needed and of doubtful value.

Diminished Motility.—The movements of the stomach may be stimulated by ipecacuanha, strychnine, quinine, and probably also by hydrochloric acid.

Increased motility is best met by neutralizing the excess of acid which causes it (vide supra). Also by the sedative drugs useful in hyperaesthesia.

Increased sensibility is allayed by bismuth, hyoscyamus, bromides, chloral, cocaine, hydrocyanic acid, opium, and chloroform, and by agents which neutralize hyperacidity. In the idiopathic (gastralgic) form it may be treated by arsenic, the coal-tar derivatives, by nerve tonics such as quinine and strychnine, and by bromides.

It will be observed that in this list there are no very novel drugs; nor do I believe them necessary. These old and well-tried weapons, rightly used, are capable, I believe, of doing for us all that we can wish. I do not agree with those who deprecate the use of drugs in dyspepsia, and who prefer to treat their patients by diet alone. After all, it is in the case of stomach disorders, if anywhere, that drugs should be of service, for it is in such cases alone of all internal maladies that we are able to bring our drugs directly into contact with the organ we wish to influence. If drugs have fallen into disrepute it is probably because we do not know how to use them, or because we merely play with them instead of giving them in efficient doses. But if any one wishes to learn how to use drugs he must not consult modern textbooks, but return to the writings of the physicians of the middle of last century, at which period, as it seems to me, the art of prescribing reached its zenith. In the works of Graves and Trousseau, of Leared, King Chambers, and Todd, and even in the *Peptic Precepts* of Kitchiner there is more practical information to be gained on this subject than is contained in all our Systems of medicine. In this, as in so many medical matters to-day, we need to be reminded of the words of Clough:

> "Old things need not be therefore true,"
> O brother men, nor yet the new;
> Ah! still awhile the old thought retain,
> And yet consider it again!

4. *Surgical treatment* I may dismiss in a few words, for I believe that in purely functional dyspepsia surgery can help us little if at all. There is a danger that the brilliant results which gastro-enterostomy has yielded in some cases of organic disease of the stomach may lead to attempts to employ operation in severe cases of functional dyspepsia which may end by throwing undeserved discredit on the operation. Surgical treatment can do nothing directly to remedy faults of secretion or sensibility in the stomach, nor do I think that it is of service in cases of slight dilatation from impairment of motility; it should only be had recourse to, in my judgement at least, if the dilatation results from a mechanical obstruction to the normal escape of the stomach contents, but these are, *ex hypothesi*, no longer cases of functional dyspepsia.

And now, Gentlemen, I think your patience must be exhausted, and I must be drawing to a close. I have attempted

to deal with a large subject, and I fear I have done so rather cursorily. I have tried, however, to reduce to some sort of order a department of practice which at present may fairly be described as chaotic. Whether I have been successful it is for you to judge, and for subsequent discussion to elicit, but if I have spoken at times more dogmatically than you may think my experience justifies I ask your pardon. Of this at least I am sure, that whether the views I have put before you be right or wrong, it is only by dealing with cases on such lines as I have indicated that we are ever likely to have either satisfaction or success in our treatment of functional dyspepsia.

THE

Fitz Patrick Lectures for 1905.

DELIVERED IN THE ROYAL COLLEGE OF PHYSICIANS, NOVEMBER 14TH AND 16TH.*

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Lecture II.

DR. EDWARD BROWNE (1644—1708) AND THE EDUCATION OF PHYSICIANS IN LONDON IN THE SEVENTEENTH CENTURY.

Mr. President and Gentlemen,—In my former lecture I endeavoured to show what were the attainments and what the studies of a mediaeval physician in London. John Mirfeld knew something of the seven liberal arts of grammar, of rhetoric, of logic, of arithmetic, of music, of geometry, and of astronomy. He had been influenced by the society, the traditions, and the architecture of a great university; had been trained in medicine by a master who was a physician; had known the members of the staff of a hospital and seen cases in it; had read materia medica, medical botany, and pharmacology in Nicholaus and perhaps in Marcellus, surgery in Rogerus and Lanfranc, medicine in some books of Galen, in Rhazes, in Avicenna, in Platearius of Salernum, and in the more modern writers Bernard de Gordon, John of Gaddesden, and Gilbertus Anglicus. He had read Ysaac on diet and knew by heart the precepts on regimen of the school of Salernum. He was familiar with the names and with parts of books attributed to Hippocrates and to Aristotle. He knew something of Horace, of Virgil, and of Ovid, and had read the *De Consolatione Philosophiae* of Boethius and some of the other works of that last of the Latin classical writers. His chief source of general knowledge was St. Isidore, whose *Liber Etymologiarum* is a vast collection on everything known in the educated world of the sixth century. He was thoroughly versed in the Old and the New Testament. He had read much in the writings of St. Augustine and St. Jerome and something of St. Bernard, St. Anselm, and of St. Thomas Aquinas. He wrote easily the Latin of his time, the living language of the Church and the Law. He had read no Greek literature and probably did not know the Greek alphabet, yet he knew something of Aristotle and had heard of Alexander. In medicine he was capable of recognizing the general condition of fever and of distinguishing clearly a few species of disease in which fever occurs, the plague, for example, and tertian ague. He could distinguish to some extent the manifestations of diseases which we call pleurisy and bronchitis. He knew that dysenteric symptoms were not all due to the same cause. He had names for several distinct skin diseases. He had some knowledge of enlargement of the lymphatics. He was as well acquainted with epilepsy as most physicians up to the days of Trousseau. He had observed hemiplegia clinically. He could recognize gout. He knew something of dislocations and fractures. He understood the value of exercise and of rational diet for the preservation of health and the ill effects of intemperance. He was acquainted with some of the effects of opium, of turpentine, and of sulphur, and of some other drugs. He understood the necessity of attention to the details of nursing, and was aware of the importance of remembering the effect of the mind on the body. I need not point out the gaps in his knowledge of clinical medicine or of therapeutics, nor the defects in his whole system due to the small accumulated knowledge of his age in anatomy and physiology. Morbid anatomy was altogether unknown to him. Such were the attainments of John Mirfeld in the last quarter of the fourteenth century. A manuscript on pharmacology,[1] which was in existence in his time and which is now in the British Museum, has at the beginning a fine illuminated initial in which Serapion in a doctor's gown is shown lecturing on materia medica with a plant in his hand. The picture is instructive, for it shows that they are wrong who suppose that scientific methods were unknown in the Middle Ages. At the time of this manuscript a lecturer illustrating his teaching by specimens was clearly a familiar sight to students of medicine. While examining the manuscript I observed a Latin inscription in a much later hand which stated that the book belonged to Nicholas de Cusa, who had bought it and many other books on medicine and on the arts in 1449.

Nicholas de Cusa, to whom in the generation following Mirfeld's this copy of Serapion had belonged, was a man of varied learning and of a scientific habit of mind. He was a theological writer, a mathematician, and an observer of natural phenomena. He made an original examination of the Koran and critically discussed its contents, and in medicine he introduced an improvement which in an altered form has continued in use to this day. This improvement was the counting of the pulse, which up to his time had been felt and discussed in many ways, but never counted. The first method of a new invention is often unnecessarily cumbrous, but this does not detract from the merit of the man who first discerns its principle. Nicholas of Cusa proposed to compare the rate of pulses by weighing the quantity of water run out of a water clock while the pulse beat 100 times. Thus, he said, you may easily prove the degree in which the pulse of a young man is more rapid than that of an old man.

> The weight, therefore, of water that flows out in relation to the differences of pulses in the youth, in the aged man, in the healthy and the sick ought necessarily to lead to a truer knowledge of the disease, one weight being proper to one infirmity and a different weight to another.

The manufacture of watches with second-hands has since given us a simpler method of counting, but the merit of introducing this useful kind of observation into clinical medicine belongs to Nicholas of Cusa. He became a cardinal and is buried in the church from which he took his title, St. Peter ad Vincula. Devotion attracts many people to this church, and a love of art, since it contains a great work of Michael Angelo, many others, and science adds a third interest in the monument of this improver of clinical medicine. His tomb has no ornament but its inscription, yet it is not improper to consider that he has a more lasting memorial in his commemoration over the whole globe wherever medicine is practised by the simple clinical method of observation which he was the first to contemplate.

During the lifetime of Nicholas of Cusa Constantinople was taken by the Turks, and Greek scholars, bringing with them Greek manuscripts, came into Italy. Some knowledge of Greek is discoverable in Western Europe throughout the Middle Ages, and two Greek words at least were known by sound to every Christian. The Greek quotations in the *De Consolatione Philosophiae* of Boethius, for many centuries one of the most widely read of books, must have made every reader familiar with the Greek letters, and letters or passages of Greek are to be found written here and there in manuscripts, as in the Schaffhausen *Life of Columba*. Johannes Scotus Erigena, it is certain, knew Greek well enough to translate the *Pseudo Dionysius*, and both Roger Bacon and Robert Grosseteste had considerable attainments in it. But it was a rare accomplishment, and there were very few Greek books in the libraries. The study of this great literature by many men altered the aspect of the world of letters. The invention of printing gave force to the new learning, and both the aspect of libraries and the studies of students were altered.

Our founder, Thomas Linacre, was born about the time of the death of Nicholas of Cusa, A.D. 1464. A century after the *Breviarium Bartholomei* was written Linacre was pursuing the study of Greek under Demetrius Chalcondylas in Italy. Before 1500 he had taken his M.D. degree at Padua and had returned to England. In the Renaissance medicine was as closely associated with literature and general learning as it had been in the Middle Ages. The difference was in the kind of literature, and consequently in its effect. Linacre and his contemporaries had learned Greek, and the study of the books of ancient Greece, whether Hippocratic or philosophical,

* In accordance with the terms of the foundation, these lectures are to be published at length in a separate book. The present report is to be regarded as a statement of the chief subjects considered.

opened their minds to the true source of natural knowledge—Nature herself and not books. Our College was founded in 1518 and established in our profession a permanent association with the world of learning.

The mediaeval physician attained nearly all his knowledge from books. He had read books of many kinds, but more on medicine than on other subjects. He tended to add little from observation. The physician of the Renaissance had read medicine too. Both reverenced the name of Galen and of Hippocrates, but the later physician had seen Galen and Hippocrates so near that he adopted the method by which they had attained knowledge, and did not only consider their conclusions. The trouble the later physician had to take to attain a knowledge of Greek, as on the one side it brought him to the true sources of natural knowledge, so on the other, bound him to the other branches of human thought. The knowledge required in this College was not to be attained but by living laborious days, yet many men attained it, and thus a physician in England was rightly thought a member of the learned world.

Leland and Caius, his contemporaries, have both borne testimony to the learning of our first elected Fellow, Dr. Bartlott. Since his attainments were admired by Caius it is certain that he knew Greek and was well read in Galen, and we have the direct testimony of Leland that, unlike most of the physicians of the Renaissance, he knew also the mediaeval writers. It was appropriate that a man not negligent of the old medicine and well versed in the new should be the first doctor to be elected into our College, and that the first occasion on which our statute book, bound in silver, should have been carried before the President in state should have been in the funeral procession which bore Dr. Bartlott to his grave in the church which had once been the daily resort of John Mirfeld, and in which probably his bones then rested. A fine medal struck in honour of Dr. John Freind has on its reverse figures of an ancient and a modern physician joining hands, with the words:

> Medicina vetus et nova:
> Unam facimus utramque.

The same design would have been appropriate to the commemoration of Richard Bartlott.

Linacre, our first President, and Dr. John Clement, President in 1544, were physicians of the Renaissance. Linacre was a priest and Clement a layman, but both were Greek scholars of extensive reading, and the practice of both was guided by what they had learned from many treatises of Galen and from parts of Hippocrates. Most of Linacre's translations were of books of Galen, but he also translated the Σφαῖρα of Proclus, a Byzantine Greek of the fifth century of our era who founded a system of philosophy drawn from Plato, Pythagoras, and Aristotle. Clement's translations were of theological writers. Linacre wrote on Latin grammar and taught it to the Princess Mary. Clement was Professor [illegible] was [illegible] [illegible] [illegible]

broke into weeping (says Mason), whereunto, besides the dolefulness of the matter, I think he was muche provoked by seeing the whole company do the lyke before there being in myne opinion not one man in the whole assemblie, stranger or another, that during the time of a good piece of his oration poured not out as abundantly teares, some more, some lesse.

The study of modern languages and their literature began in England soon after that of Greek, and with this part of learning our College was connected in several ways. Spanish was the first Continental language in which a Fellow of this College became distinguished. Thomas Doyley of Magdalen College was at Oxford with Sir Philip Sidney and Lyly the euphuist, and Hakluyt, who edited the great series of voyages, all of whom were affected by the taste for the Spanish language and literature which began in England in the reign of Philip and Mary and increased in the time of Queen Elizabeth. He took his B.A. degree in 1564 and his M.A. degree in 1569 and after some medical reading at Oxford went abroad in 1571 to pursue medical studies. He graduated M.D. at Basle in 1581. Throughout these years he continued to increase his knowledge of Spanish, and persevered in the study after his return to London in 1585. He was elected a Fellow of this College in 1588 and physician to St. Bartholomew's Hospital in 1590. He died in 1603, and was buried in the church within the hospital.

The first Spanish dictionary was published in London in 1591 under the title of *Bibliotheca Hispanica*, by Richard Percyvall: Gent. The dedication to "Robert Earl of Essex and Ewe, Viscount Hereford and Bourghchier, Lord Ferrers of Chartley, Baron Louvaine, Master of the Queen's Majestie's Horse and Knight of the Garter," is followed by an address to the reader. In this, after describing the aims and contents of the book and the help he had received from Don Pedro de Valdes and Don Vasco de Sylva, Percyvall says:

In very good time I chaunced to be acquainted with the learned gentleman Master Thomas Doyley, doctor in Physicke who had begunne a Dictionary in Spanish, English, and Latine, and seeing me to be more foreward to the presse than himself: very friendly gave his consent to the publishing of mine, wishing me to adde the Latin to it as hee had begunne in his, which I performed, being not a little farthered therein by his advice and conference.

The generosity of Doyley seems to have been as great as his learning, and having thus contributed to the dictionary he wrote a short Latin poem in praise of it:

Quas novus orbis opes quas profert India fructus,
Quas mare, quas tellus gemmas aurique fodinas
Has habet Hispanus, Jasonis vellere dives:
Cum populo aurato collubet ergo loqui.
Expetit Hispanus Belgas evincere, regem
Gallorum per vim regno depellere, regnum
Diripere Anglorum, quid non? Cupit esse monarcha
Cum rege hoc tanto, collubet ergo loqui.
Cum quibus aut bellum cupimus, commercia pacem.
Horum sermo placet: facilemque brevemque loquendi
Dat liber iste modum, dat Percyvallus author
Cum populo Hispano quam cito posse loqui.

An English commendatory verse by James Lea prefixed shows that though Spanish was the first modern language in which our College produced a master, French and Italian had before received more attention in the world of London:

Though Spanish speech lay long aside within our British Ile,
Our courtiers liking nought save French or Tuscan's stately stile,
Yet now at length (I know not how) steps Castile's language in
And craves for credit with the first, though latest she begin.

The reading of Greek books as the only true method of entrance to medicine in particular and to learning in general lasted about a hundred years. By that time the way to acquire knowledge, which Hippocrates and Galen made clear by example, had come to be thoroughly understood, and men eager to acquire more knowledge of things from nature no longer needed to be assured that thus only truth could be attained. The last words of the preface of the *De Magnete* of William Gilbert, published in 1600, the year in which he was elected President of this College, show that this stage had been reached:

To those early forefathers of philosophy, Aristotle, Theophrastus, Ptolemy, Hippocrates, and Galen, let due honour be ever paid; for by them wisdom hath been diffused to posterity; but our age hath uncovered and brought to light very many facts which they, were they now living, would gladly have accepted.

The addition of such facts by Harvey, by Glisson, and others in this College and by many other observers all over Europe rapidly brought medicine into that state of constant growth and improvement in which it has ever since continued. But the change was gradual and not sudden. Theodore Goulston, a Censor in 1626 and three earlier years, made translations of the Opuscula of Galen, published in 1640, eight years after his death, which were carefully read and annotated by Harvey. Goulston was, perhaps, the last physician of the Renaissance kind who studied Greek, and through it attained his medical knowledge.

If Gilbert may be regarded as the first physicist of the College the first Fellow who knew much of chemistry was undoubtedly Theodore Turquet de Mayerne, who came to settle in England from Paris in 1611, and was elected a Fellow of our College in 1616. He made many chemical experiments, and applied his chemistry to pharmacy and to therapeutics, making the lotio nigra, which has been valued ever since, and bringing calomel into use. He also carried out a long series of experiments on pigments. His varied attainments, his large practice and consequent great experience, as well as his upright character, caused his influence to be great, and he showed to the College the usefulness of knowing something of chemistry, while his habit of taking elaborate notes of cases gave an example which had a most valuable effect on clinical medicine. Sir Theodore Turquet de Mayerne died in 1655.

Linacre, Clement, Wotton, Caius, Doyley, Gilbert, Harvey, Mayerne, and Glisson represent the kind of knowledge which this College began and that to which it gradually attained in the first century and a half of its existence. Latin was the language of composition and communication. Botany of some kind was an inheritance of physicians from the Middle Ages, improved first by the study of the text of Dioscorides and then by the observations in the field of Lobel, and Gerard, and Parkinson, and many more in other countries. Greek was the most important professional training, diminishing in importance as the effects of reading Greek books became more distinct. The lesson was at last learned and the teacher was no more needed. The value of a knowledge of modern languages had come to be understood. Anatomy and physiology were sufficiently known by dissection and observation to make Harvey's discovery possible. The usefulness of physics and of chemistry had been demonstrated by Gilbert and by Mayerne. Morbid anatomy was considerably advanced and its importance in its relation to clinical medicine made plain in the work of Harvey, and Mayerne, and Glisson. The precise study of disease during life was established by the copious note-taking of Mayerne and the exact observations of Glisson.

The publication by the College of the *Pharmacopoeia* in 1618, for the first edition of which Mayerne wrote the dedication to the King, may be said to have established the study of pharmacology on a sound basis by providing in successive editions of the *Pharmacopoeia* a tribunal before which, as one may say, drugs might be arraigned from time to time to answer for their usefulness and be retained in the public service or dismissed from it according to the decision. The College of Physicians was the sole guardian of medical learning in England at this period, for the universities were inclined to treat the subject as a part of general book learning, only exercising a very slight and varying control over men who wished to take a Bachelor of Medicine or Doctor of Medicine degree. Such licences were occasionally refused, and it seems reasonable to suppose that this was sometimes on account of insufficient knowledge in the candidate or unsatisfactory evidence of study. The College, from its close connexion with Oxford and Cambridge—to which Universities all its Fellows by residence or incorporation belonged—and by the influence of its recognized supremacy in medical knowledge was sometimes able to prevent persons of insufficient attainments from admission to degrees. Thus, Simon Ludford, who had failed in his examination before the College in 1553, and tried to obtain a licence to practise in each university, though of most defective attainments, was for a time prevented—at Oxford by an appeal to the statutes and at Cambridge by the influence of Caius—from receiving licence or degree. The rebuff had the effect of leading him to improve himself, and he obtained an M.D. degree at Oxford about four years later (in 1567), and in 1563 he was elected a Fellow of this College. A copy of Avicenna is in our library, and in another book of his, *De Dissectione Partium Corporis Humani Libri tres a Carolo Stephano* (Paris, 1545), he has written a copy of Latin verses headed by the words:

Simonis Ludfordi est hoc volumen
Corporis dissecti, anatomicarum
Partium humani, docet hoc volumen,
Et modum, et formam, utilitatum et usum,
Illiteratos.

Absolutis comprobat argumentis
Actiones officia, atque nexus,
Esse quadam, symmetria coacta.
Particularum.

Cuilibet membro propriam figuram:
Et situm, cursumque notamque possit,
Nil inexpertum memorat nec ullum
Sectio fallet.

Erutum a scitis Veterum quod pansit:
Posteris charum, Stephanus relinquens,
Munus inculpabile, quo perhenne
Nomen adeptus.

Hiisce lectis, coetera quae medendoe
Sunt facultatis, potes experiri:
Evadis tandem ut medicus peritus.
Perge Galenum.

Floccipendas pecuniam, valebit
Ars: thesaurus deficiet, volumen
Sollidis hoc venditum habebis octo.
Totque ego solvi.

Whether these verses are sufficiently bad to have required his continued exclusion from the College I must leave to the distinguished Latin poets whom we have among our Fellows at the present day—to Dr. Robert Bridges and Dr. J. A. Ormerod. I suppose that Ludford did not obtain the purchaser who would pay the eight shillings he asked, as the book is in our library, to which, with the Avicenna, he probably gave it when, his early want of education having been repaired, he was honoured as a Censor.

Edward Browne was admitted a Fellow on July 29th, 1675, when Sir George Ent was President, who had known Harvey well and is honourably mentioned by Dryden in his *Epistle to Dr. Charlton*. Edward, the eldest son of the celebrated Sir Thomas Browne, was 33 years of age when he pledged his faith to the President and to the College, as we have all done, on his admission to the Fellowship, and the silver sceptre which you, Mr. President, have placed before you was on that day in the hands of Sir George Ent.

Edward Browne was already known as a man of letters, for he had published a volume of travels and a translation of a *Discourse of the Cossacks*. The travels had been widely read, and the Duke of Queensbury and Dover, the Scottish statesman, some years later, thought the translation of the *Discourse of the Cossacks* entertaining enough to take with him in his coach when travelling. Edward Browne had had all the advantages of education which a kind and learned father could give him. He was born at Norwich, probably in 1642, and received his school education at the Grammar School in the Close, just within the gate over which Sir Thomas Erpingham, a hero of Agincourt, was then kneeling in his niche as he is to this day. As the author of the *Religio Medici* took his boy to school I can imagine that he pleasantly pointed to the figure and quoted the words of King Henry V in Shakespeare:

Good morrow, old Sir Thomas Erpingham.

The conversation of his home must have been an important element of the education of Edward Browne. There must have been much delight to him in his boyhood in being told the nature and history of the many curious objects in his father's museum, of the narwhal's tooth, then called a unicorn's horn, of the birds' eggs, and of the funeral urns.

Sir Thomas Browne in his writings now and then is as sententious as Mr. Shandy, but his letters to his sons and theirs to him show that his nature had little in common with the selfishness of the Squire of Shandy Hall, who forgot every human feeling in his eagerness to establish the truth of his theories. On one occasion, that of the witch trial, he allowed theories drawn from ancient reading to interfere with human feeling, but in his family affection and in his kindness to the poor, and in a certain simplicity which shines through his fondness for recondite fragments of knowledge and paradoxical antitheses, Sir Thomas Browne shows a resemblance to that immortal example of goodness of heart, Captain Toby Shandy. A visitor in the household of the Brownes has in his writings a passage which represents the spirit which pervaded it:

"I can wonder at nothing more than how a man can be idle; but of all others, a scholar; in so many improvements of reason, in such sweetness of knowledge, in such variety of thoughts. Other artizans do but practise, we still learn; others run still in the same gyre to weariness, to satiety; our choice is infinite; others' labours require recreations; our very labour recreates our sports; we can never want either somewhat to do, or somewhat that we would do."[2]

In such a home Edward Browne was soon ripe for the university, and he entered at Trinity College, Cambridge, in October, 1657, which makes it probable that 1642 is the true date of his birth, and not 1644, as commonly stated, for 13 years was then an unusual age, but 15 years a common one to enter the university.

In 1663 Browne applied for admission to the degree of M.B. He preserved a copy of the supplicat[3] which he wrote on the occasion in one of his notebooks. It states that he had studied medicine for six years and had heard the usual lectures and passed through the required oppositions, responsions, and other exercises of the kind. He asks that these may be sufficient to allow him to enter into the faculty. He has also preserved a copy of the grace for his admission to the degree of Bachelor of Medicine at the congregation at which the grace is read or at the next. The exercises were matter of reading and of argument, but Dr. Francis Glisson, then Regius Professor of Physic, was careful that these should be duly performed, and it must have been an advantage to Browne to know something of a professor so deep in anatomy and morbid anatomy, and at the same time so exact a clinical observer. Browne seems to have had the opportunity of seeing two bodies dissected, probably at the demonstrations founded by Dr. Caius.

After taking his degree Browne returned to Norwich and continued his studies amid a good deal of enjoyment suitable to his years. The Duke of Norfolk was at that time the greatest person in Norwich, and his palace was in 1663-4 occupied by his brother Henry, and contained a part of their grandfather's wonderful collection of works of art—the Earl of Arundel, with whom Harvey visited Rome. Edward Browne was one of the guests on New Year's Day at this great house. He dissected a bull's heart on January 2nd and danced at the Duke's palace on the 4th. He dined there on the 5th, and danced again in the evening and again on Twelfth Night. Next day he dissected a dog, and on the 9th the knee-joint of a calf and another bull's heart and the larynx of a bullock. On January 11th he danced at the palace till 2 o'clock in the morning to celebrate his host's birthday. Next day he dissected a turkey's heart and examined the dentition of a monkey. Two days later he went over the monkey's skeleton, and on January 22nd studied the anatomy of a sheep, and the next day prepared the right fore foot of a monkey. At the palace he met Dr. De Veau, a godson of Sir Theodore Mayerne, and then or later Physician to Charles II. De Veau had with him a febrifuge powder, probably of cinchona bark, which he wished to try on a well-marked case of ague. On January 28th Browne studied the anatomy of oxen and the next day dissected a hare and further studied the monkey's skeleton. In February he prepared the skull and bones of the foot of a hare, dissected another hare, a hedgehog, and a badger. He paid at the same time some attention to botany, noting the flowering *Aconitum hyemale* and helleboraster, and gathered many seaside plants. He examined a nasal polypus and saw two patients—a man with consumption and an old man with a fever. He went to London, arriving on February 24th, and next day went to hear an anatomy lecture at Chirurgeon's Hall and saw a human body dissected—the third he had seen. In the morning, Dr. Christopher Terne, then assistant physician to St. Bartholomew's Hospital, gave a general introduction to the course in Latin and then lectured on the skin. There was a second lecture in the afternoon on the stomach, intestines, and mesentery, and before the lecture Browne was allowed to examine the dissected body in the "anatomising room." He no doubt needed a little fresh air after this well-occupied day, and took a walk in St. James's Park, where he saw the King's zoological collection:

Divers sorts of outlandish deer, guiny-sheep, a white raven, a great parot, a storke which, having broken its own leg, had a wooden leg set on, which it doth use very dexterously. Here are very stately walkes set out with lime trees on both sides and a fine Pall Mall.

Next day he heard the third lecture, which was on the suprarenals, the kidneys, and their related parts. He dined with his sister, who lived in Clerkenwell, and attended the fourth lecture in the afternoon. It was on the pleura, mediastinum, and lungs; he went to see them dissected before the lecture. His record of the fifth lecture has not been preserved. The sixth and last, on the afternoon of the third day, was on the anatomy of the eye. Dr. Terne concluded the course with a Latin speech. These six lectures, given on Thursday, Friday, and Saturday, were a course of anatomy of that time. The lecturer was a physician, the dissections were made under his direction by surgeons, the teaching was conducted in their

hall, and was chiefly for the benefit of the members of their company, though friends of the lecturer and others, if properly introduced, sometimes attended. Dr. Terne, who gave the lectures, was a well-read physician, who had studied at Leyden. He gave a Harveian oration, and wrote a thoughtful paper discussing the question, "An respiratio inserviat nutritioni?" but the only part of his writings which has been printed is a pair of Latin verses placed under the portrait of Dr. Christopher Bennet. This portrait is the frontispiece of Bennet's *Tabidorum Theatrum*, which is the fuller edition of the first treatise on tuberculosis published in England.

Hospitii quicumque petis quis incola tanti,
Spiritus egregia hunc consule scripta dabunt.

Browne married Terne's daughter, Henrietta, in 1672.

Dr. Windet, with whom Browne dined on the first lecture day, had practised in Yarmouth, and was a correspondent of Sir Thomas Browne. They agreed in a taste for out-of-the-way subjects and for verbal conceits. Windet at the Restoration brought out two Latin poems. One is a condemnation of the execution of Charles I, and begins with the word "occidimus." The other is on "His Majesty's happy Restoration," and begins with the word "vivimus." A Latin letter, "De vita functorum statu," of which young Browne probably thought fit to mention his father's admiration when on the first day of his anatomy lectures he dined with Dr. Windet, is a production containing much reading, Latin, Greek, Hebrew, and Arabic, and showing a turn of thought not unlike that often displayed by Sir Thomas Browne. The writer discusses the meaning of the word "Tartarus" and debates the precise sense of various Hebrew-Greek words and sentences used in describing the state of man after death, as well as all the opinions expressed by Hebrews and Greeks on the same subject. Windet was evidently a vast reader, but of the same kind as the Bishop of Gloucester, of whom, when Richard Bentley was asked whether Dr. Warburton was not a very learned man, he replied, "Dr. Warburton has a large appetite but a bad digestion." Sir Thomas Browne and Windet had minds fitted with the same kind of subjects, but while the works of Browne continue to appear in new editions and to form part of general reading, those of Windet are never opened. The difference exists in something difficult to express but easy to feel. Dryden has considered such distinctions, and has expressed his conclusion with his usual felicity:

A happy genius is the gift of Nature: it depends on the influence of the stars, say the astrologers, on the organs of the body, say the naturalists; 'tis the particular gift of Heaven, say the Divines, both Christian and Heathens. How to improve it many books can teach us; how to obtain it none; that nothing can be done without it all agree.

On March 1st Browne called on Dr. Joseph Dey, a Norwich man, who practised in Crutched Friars, and as he was out walked on to "Mr. King's, living in Little Britain, an ingenious chirurgeon," who showed him various anatomical preparations. "I being desirous to see the inside of a man's stomacke, hee cut up one for mee which he had by him." In the afternoon he went to see a private museum near St. Paul's, where he was shown a sea elephant's head, a sloth, and an Indian serpent, and then on to Arundel House in the Strand, which contained the famous Arundel marbles. Mr. King, the surgeon, afterwards gave up surgery and took to medicine, and was made Sir Edmund King and physician to Charles II in 1676. He became a Fellow of this College in 1687, and his picture by Lely is in our dining-room. His papers in the *Philosophical Transactions* show that he was a desirable man for a student to know. He was one of the first persons in London to use a microscope and to pursue histological studies. He also worked at chemistry and entomology, and wrote creditable papers on the habits of ants and on leaf-cutter bees. He had dissected a hundred human brains, and Dr. Thomas Willis, the author of the *Cerebri Anatome*, praises his dissections.

More than twenty years later King took part in the first scene of a memorable tragedy.

On the first of February (says Burnet in his *History of His Own Times*) the King eat little all day, and came to Lady Portsmouth at night, and called for a porringer or spoon meat. It was made too strong for his stomach. So he eat little of it: And he had an unquiet night. In the morning one Dr. King, a Physician and a Chymist, came, as he had been ordered, to wait on him. All the King's discourse to him was so broken, that he could not understand what he meant. And the Doctor concluded he was under some great disorder, either in his mind, or in his body. The Doctor amazed at this, went out, and meeting Lord Peterborough, he said, the King was in a strange humour, for he did not speak one word of sense. Lord Peterborough desired he would go in again to the bed-chamber, which he did. And he was scarce come in, when the King, who seemed all the while to be in great confusion, fell down all of a sudden in a fit like an apoplexy: He looked back, and his eyes turned in his head. The physician, who had been formerly an eminent Surgeon, said it was impossible to save the King's life if one minute was lost: He would rather venture on the rigour of the law, than leave the King to perish. And so he let him blood. The King came out of that fit: And the physicians approved what Dr. King had done.

Three days after his visit to Edmund King, Browne returned to Norwich, and for the rest of the month worked at botany, dissected a frog, a rat, and a polecat, did a little chemistry, and was consulted in a case of scurvy. Having filled his mind with information at home, at Cambridge, and in London, Browne was well prepared for the further education of travel. He left home on March 28th, 1664, reached London at midday on the 30th, went by boat to Gravesend and rode thence through Rochester, Sittingbourne, and Canterbury to Dover, whence he sailed to Calais and thence went by Beauvais to Paris. In Paris he lived in a room in the Rue St. Zacharie for seven livres a month and began regular studies at once. He went to four courses of lectures: Dr. Maureau on hernia, Dr. Dyneau on fevers, Dr. Le Bell on surgical operations, and that of Dr. Guy Patin who answered "all doubts and questions proposed" and was a staunch Galenist who laughed at the chemists. Browne also went round the Hôtel-Dieu and La Charité. In September he left Paris and went to Montpellier and studied there for about a month and then went on to Italy, visiting many cities and staying for some time in Rome. He travelled north again with Dr. Paman, a Fellow of St. John's College, Cambridge, who was afterwards public orator and long lived with Archbishop Sancroft and must have been an improving companion as Sydenham valued his friendship. Some of Paman's books are in our library.

Browne went to Venice, and then spent some weeks at Padua studying anatomy. The dissection was admirably done by a demonstrator named Marchetti, who had been instructed by Sir John Finch, "one that in anatomy hath taken as much pains as most now living." This was Dr. Finch, of Christ's College, Cambridge, a connexion by marriage of Harvey. Browne left Padua in April, 1665, and went to Montpellier again, thence proceeding to Paris, which he reached in the middle of June, and attended lectures on botany and chemistry, short courses of about a month's duration. In July he caught small-pox, an event which happened in the life of very many students at universities of that period. Some months later he returned home. He had learned French and Italian. In August, 1668, he went abroad again to Holland, where he visited universities, their libraries and museums, and attended lectures. He went on to Vienna, and there learned much from Lambecius, the librarian, and seems to have learned colloquial Greek. From Vienna he went into Thessaly, and visited Larissa, in order to know the air and place in which Hippocrates practised. He also made a tour in Hungary, and one in Styria and Carinthia. He came home in 1669. He went abroad once more in 1673, visiting Cologne and the Low Countries. He was admitted Fellow of this College in 1675, and elected Physician to St. Bartholomew's Hospital in 1682, and was our President 1704-8. He died in 1708.

I have chosen to consider Dr. Edward Browne in relation to the education of physicians in London in his time, because while his opportunities of learning were excellent they were yet such as physicians often enjoyed. He began life in an educated home, going to the grammar school of his native city, and at the age of 15 years went to the University, where after six years he took the degree of M.B. He had seen some human dissection, but had not done any with his own hands, and had attended some university exercises, probably both lectures and disputations, conducted by Glisson. He had probably read the *Aphorisms* of Hippocrates, of which Ralph Winterton, Glisson's predecessor as Professor of Physic, had edited a convenient edition with translations of each aphorism into Greek and Latin verse, and from some passages in his writings he seems to have also read the Hippocratic treatises on air, water, and situation, as well as the epidemics. He had also some reading in Galen. He could write and speak Latin. After taking his M.B. degree he continued his anatomical studies, and worked practically at zoology, botany, chemistry, and pharmacology, and at medicine, parts of surgery, and morbid anatomy. He learned French and Italian, and could speak a little Greek. He used every opportunity of conversing with learned men, such as Swammerdam the

zoologist, Glauber the chemist, and Lambecius the bibliographer. He had read widely—*Purchas, His Pilgrims*, the travels of de la Martinière in the Arctic regions, Raleigh's *History of the World*, Ashmole's *Order of the Garter*, and the Duchess of Newcastle's *New Blazing World*. His father advised him to study Cicero, and not to read much of Lucretius. Quotations may be taken from it, says Sir Thomas, but

> otherwise I do not much recommend the reading or studying of it, there being divers impieties in it, and 'tis no credit to be punctually versed in it; it containeth the Epicurean natural philosophy.

Besides his university examination, which was a kind of disputation, Edward Browne was no doubt examined in this College for admission as a candidate in 1668, after he had been engaged in medical studies for about ten years. He took his M.D. degree at Oxford in 1667, when he had studied nine years, and in his own University in 1670. This degree was probably given on proof of study in the faculty. It was chiefly in less regulated periods and work that this course of education differed from that of a physician in our time. There were as yet no organized schools of medicine in England, and except in this College there was no thorough examination of candidates.

The study of history is most worth pursuing when the consideration of the past can be made useful to us in the present. The lesson, "Ars longa, vita brevis," is plain enough wherever we contemplate the attempts of men to learn and to teach medicine. Further than this, we may learn that it is only subjects thoroughly learned that are of value, and learned so that the student can feel that he has sought out things for himself, and is not resting on the dicta of a teacher.

Last, we may conclude that medicine in itself, with its essential preliminary anatomy, contains sufficient opportunities of training in every form of observation and of logical deduction from what is observed and, that for the rest, a mind which has been opened by a sound literary education is that best adapted to follow the lifelong study of medicine which is the duty of every physician. These are the conclusions to which I have been led by a study of the history of the education of physicians in London from the time of John Mirfeld to that of Edward Browne, from the Middle Ages to the time when the methods of study which we now follow began to be used.

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[1] Harley, 3745, in British Museum. [2] Bishop Hall, *Epistle to Mr. Milward.* [3] MS. in British Museum, Sloane, 1797.

A CASE OF SIMPLE STRICTURE OF THE COMMON BILE DUCT TREATED BY A PLASTIC OPERATION.

By B. G. A. MOYNIHAN, M.S., F.R.C.S.,

Leeds.

THE following are the notes of a case of fibrous stricture of the common bile duct, in which I practised with success a plastic operation upon the duct.

HISTORY.

M. S. B., aged 63, had suffered for ten to twelve years from the following symptoms: Pain across the epigastrium, rather more on the right side, of the nature of cramp, radiating at times all over the abdomen, and especially to the left costal margin, and to the back of the right shoulder blade; vomiting, which came on soon after the pain and very often gave relief to it, and jaundice, which was first noticed only eight years ago. There has been a history of attacks of pain followed by vomiting and jaundice. In the end of 1902 and the early part of 1903 the jaundice did not disappear for four months; during this time there were still attacks of pain followed by a deepening of the jaundice, and occasionally [illegible]. In August, 1903, a gall stone [illegible] was passed, it is thought, and [illegible] was passed in shape, "like a plover's egg." After this stone he was quite well for [illegible] months, when there was an attack of colic followed by jaundice. Until August, 1904, he remained in [illegible] health, but after that time he began to lose flesh and strength. He remained [illegible] up to the time of operation. The jaundice had varied a little, being deeper after attacks of pain, but, on the whole, has become steadily deeper, and for the last six to eight weeks, during which he has been [illegible], but not lessened at all, but the colour has become progressively darker. He has lost 3 st. in weight, 1 st. in the last eight weeks.

A diagnosis of stone in the common duct was made, and operation advised.

OPERATION.

The operation was performed on December 10th, 1904. The abdomen was opened through a vertical incision over the right rectus muscle, the upper end of the cut being prolonged inwards along the costal margin to the middle line. The gall bladder was slightly adherent, its walls a little thickened, and there were many stones in its cavity. These were removed, but the gall bladder was not extirpated, in view of the conditions found in the ducts. The common duct was found dilated, forming a cyst-like swelling. It was aspirated, and 11 oz. of bile were withdrawn. The needle being removed, an incision was made into the duct, and a stone the size of a nutmeg withdrawn at once; six other stones were found in the duct. After the dilated duct had been cleared of all easily discoverable stones by a scoop, the finger was passed in the duct upwards to the bifurcation of the hepatic duct, which was also dilated. The finger was then passed downwards, but no orifice could be felt; the inside of the duct seemed smooth everywhere, and no evidence of a passage from the cyst could be discovered. The outside of the cyst was then cleaned by gauze stripping, and the common duct below was defined. It was dilated also; an incision was made into it, and after a little difficulty a probe could be passed upwards into the dilated cyst-like duct. It was clear, then, that there was a narrow stricture of the duct, and that the dilatation of the

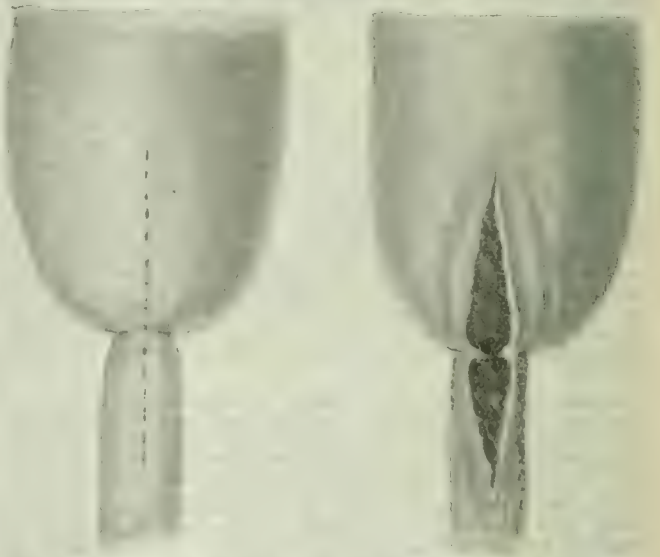


Fig. 1.—Showing the line of incision through the stricture.

Fig. 2.—Showing the duct laid open at the point of stricture.

upper part had resulted from the obstruction. Between the two openings now made in the duct, one above and one below the stricture, an incision was made, dividing the stricture completely. Its nature was then seen. It was cicatricial, hard, indurated, and clearly the result of an old ulcer. An attempt was made to perform a plastic operation upon the duct, but it became evident that, despite the distension of the duct, it would [illegible] to [illegible] it after the manner of Heaton. This was done, and the plastic operation was then readily performed. The [illegible] which had been freely divided by a vertical incision, was now abducted by the approximation of the edges of the incision in a transverse direction. A rubber [illegible] will show how this was done. A fine [illegible] strip of catgut was used, threaded upon an [illegible] needle. The transverse wound was not completely closed, a small [illegible] being left for the introduction of two rubber tubes one of which passed upwards into the hepatic common duct, and the other downwards towards the [illegible]. Each tube was fixed with a single catgut stitch. The tubes were removed on the sixth day. The liver wound [illegible] in large quantities, so that all the bile passed through the wound. Some [illegible] was also escaped in this way, as was shown by the discoloration of the skin around the wound. In the sixth week bile began to pass into the intestine, and in the ninth week the wound was entirely closed. The patient was sitting up in bed from the first, and was allowed to get up on the third week.

Since the operation he has been perfectly well, and a report received in September, 1905, says that he has gained 3½ st. in weight, has returned to work, and is in all respects quite well.

REMARKS.

The course of events in this case would seem to be quite clear. In December, 1902, a stone became impacted in the common duct; in April, 1903, this stone was passed. As a result of the irritation set up by the stone in the duct an ulcer formed, and this ulcer in healing gave rise to the stricture. The subsequent dilatation of the common duct and hepatic duct behind the stricture was due to the obstruction, which was increased when stones again arrived in the duct from the gall bladder.

Acquired stricture of the common duct is rare. It follows, as a rule, upon ulceration caused by the constant fretting of the wall of the duct by a stone; other causes are said to be typhoid ulceration and syphilis. Cases are recorded by Pye-Smith,[1] Johnson,[2] Phillips,[3] and Pennato.[4]

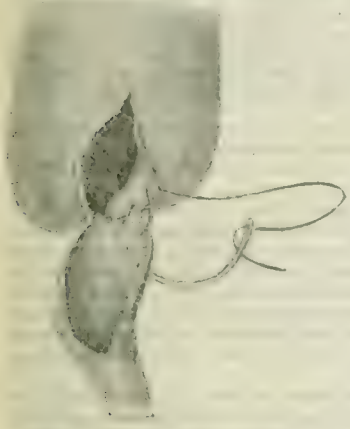


Fig. 3.—Suture commenced.

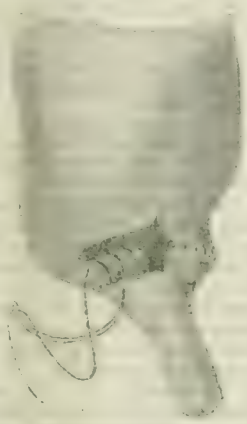


Fig. 4.—Suture continued.



Fig. 5.—Suture completed; an opening left for the introduction of the tubes.

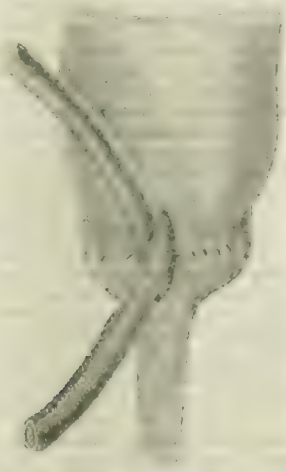


Fig. 6.—Tubes introduced, operation completed; note that the lower part of the duct though small in comparison with the upper part is also dilated.

Körte[5] records the case of a man, aged 40, who had suffered for five months from jaundice, [illegible] and remittent fever. On opening the abdomen, the gall bladder was found dilated, and stones were present in the cystic duct. The hepatic and common ducts were dilated. The common duct was opened and found to contain a stone behind a very narrow stricture. The stricture was excised and end to end anastomosis made between the cut ends. A large tube was placed in the hepatic duct, and cholecystostomy was performed. The patient died on the twelfth day of hæmorrhage from an ulcer on the lesser curvature of the stomach; a large vessel was found eroded. Kehr[6] also records a case of excision of a stricture of the common duct.

The various plans of treatment that may be adopted are: Excision of the stricture and end-to-end anastomosis; excision of the stricture, closure of the lower cut end of the duct, and implantation of the upper end into the duodenum, which is "mobilized" to make the approximation easier; excision of the stricture, closure of both ends, and cholecystenterostomy.

The case now recorded is the first in which a plastic operation has been attempted, and the success of the case would seem to warrant the adoption of this method in a future case, as one of easier accomplishment than any other.

The illustrations have been drawn for me by Miss Ethel M. Wright.

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A CASE OF SUPPURATIVE CHOLANGITIS FOLLOWING CHOLELITHIASIS AND CHOLECYSTITIS.*

By G. MONTAGU HARSTON, M.B.Lond., M.R.C.S., L.R.C.P.,

WITH PATHOLOGICAL NOTES ON THE CONDITION OF THE LIVER BY

WILLIAM HUNTER, M.B., C.M.,

Government Bacteriologist, Hong Kong.

THE following case is one of somewhat unusual interest, and fortunately of comparative rarity. Suppuration in the substance of the liver is a common occurrence within the tropics, but its more usual etiology and situation in the liver tissues contrast forcibly with the etiology and situation of the suppurative process in the case I now bring to your notice.

I considered it somewhat important that I should bring this case under your notice for two reasons: First, that a knowledge of this case might possibly be of some assistance in diagnosis should a similar case be met with by you; and secondly, that possibly a prophylactic treatment in the early stage, when a diagnosis of cholecystitis or cholelithiasis has been made, might lead to a happier result than ensued in the case under consideration.

W. H. D., aged 27 years, male, was sent up from Manila to Hong Kong on October 12th, 1904, convalescent from an illness characterized by "a sharp febrile reaction, moderate jaundice, nausea, and vomiting, and by a moderate but distinct enlargement of the liver." These symptoms were detailed by Dr. Strong of Manila, who also added that no leucocytosis was present.

Past History.—The patient had resided in Manila for the past four years. During the past three months he had suffered from two similar attacks, but in neither of these attacks was the liver enlarged. He had never suffered from dysentery, but had, however, suffered from diarrhœa now and again—in fact, while in Manila there was always a tendency towards loose motions. There was no history of gall-stone colic. He had never had typhoid fever.

Present Condition.—Temperature 100.5°, pulse 60, good tension and regular. The skin is of a yellowish tinge, and there is distinct jaundice in the fornices conjunctivæ and over the sclerotics. Heart sounds normal. Breath sounds somewhat impaired over the right base behind. Liver: Dullness not enlarged upwards, but there is a definite tongue-shaped protrusion of liver substance downwards under the right rectus: this protrusion extends for three fingerbreadths below the costal margin. There is marked tenderness over the fundus of the gall bladder. No calculi can be felt. Spleen: Lower edge reaches two fingerbreadths below the costal margin. It is not tender on pressure. Urine: Specific gravity 1020, reaction acid, no albumen, no sugar, bile is present to a moderate extent. Stools: There is a tenderness to looseness without actual diarrhœa, slight acholia, no calculi or sand discoverable after careful search.

[illegible] *of Blood.*—Three smears were made and stained with Leishman's stain. No malarial parasites were present. There was no leucocytosis. A provisional diagnosis of cholecystitis and [illegible] was made, and a careful examination of the stools ordered to be made daily for the presence of "sand."

Treatment.—A light non-farinaceous diet was ordered, together with rest in bed. The following drug treatment was adopted: Hydrarg. cum creta gr. iij. Nocte. Carlsbad salts 1 dr. [illegible] podophylli mlv; [illegible] chlor. gr. xv; acid. [illegible] hyd. [illegible] mxv; infus. gent. co. ad 3j. T. d. s. Hot fomentations were applied constantly over the whole hepatic area.

[illegible] the back of right [illegible] preparations [illegible] operation over the [illegible] tion of the liver remains unaltered, tenderness being slightly increased.

On [illegible]th. Examination of the blood reveals a slight leucocytosis, the [illegible] The liver extends further [illegible] tender on

* Read before the Hong Kong and China Branch of the British Medical Association.

palpation. The jaundice has diminished slightly. The stools are still somewhat pale. The temperature is normal in the mornings, and rises to 100° or 99.5° in the evenings.

October 30th. Chloroform was administered, and an aspirating needle inserted twice through the right rectus into the enlarged liver substance in a direction upwards and backwards towards the dome of the organ. On each occasion a quantity of dark venous blood, but no pus, was withdrawn.

November 3rd. A rigor occurred at 2 a.m., the temperature rising to 102°.

November 7th. Rigors occur every night now, the temperature rising to 102° and over. The liver is further enlarged, and its dullness is now increased upwards to the lower margin of the fifth rib in the nipple line. It extends four fingerbreadths below the costal margin. Blood examination reveals a marked polymorphonuclear leucocytosis.

November 8th. Under chloroform a needle was inserted: In front through the right rectus in the same direction as before; in the sixth space in the mid-axillary line horizontally inwards; from behind towards the dome of the liver in the line of the scapular angle. No pus was found.

Diagnosis.—Suppurative cholangitis was now diagnosed, and it was surmised that the process was diffused throughout the liver substance with no definite localization of liquid pus suitable for aspiration and drainage.

November 25th. The patient has become markedly cachetic in hue. There is some referred tenderness down the right side of the abdomen towards the right iliac fossa. Rigors are of daily occurrence, generally taking place towards early morning. In a vain endeavour to afford some relief to the patient, chloroform was administered, and a 4-inch vertical incision was made through the middle of the right rectus as advocated by Mayo Robson. The abdomen was opened and the liver found considerably enlarged, the right lobe extending fully 4 in. below the costal margin: there were no superficial adhesions. After packing round the liver with sterilized gauze a needle was inserted in various directions directly into the liver substance. No pus was withdrawn. On the inferior surface of the liver the gall bladder was found to be completely adherent up to its fundus; it was not distended, and no actual gall stones could be felt. There were also adhesions between the under surface of the liver and the hepatic flexure of the colon and duodenum. The wound was united in separate layers with silkworm gut, the skin incision with horsehair, and a collodion scab applied.

After Progress.—December 3rd. Wound dressed; some suppuration at upper portion of wound in one stitch. The temperature the past three mornings has been below normal, rising with a rigor to 102.5° F. in the evening.

December 4th. A considerable quantity of "sand" was passed in the stool this morning; this was subsequently analysed by the Government analyst, Mr. Franklin, and found to consist of pure phosphate of calcium with some organic matter. Gmelin's test for bile pigment was positive. The passage of this sand in large quantities continued for ten days, accompanied by much tympanites and abdominal pain, the patient having to be kept continually under the influence of morphine. The aspect of the patient was markedly cachetic. The jaundice, which had disappeared except in the fornices conjunctivae, giving place to a very muddy complexion: emaciation was extreme, but the patient took his nourishment well, stimulants being administered freely.

December 23rd. There is now shifting dullness in the flanks; pain shooting through to the right scapula; cough and expectoration of muco-purulent material; there is some friction audible over the base behind and in the mid-axillary line.

December 25th. Toxaemia profound; temperature normal, no evening rise; pulse 100, very feeble.

Result.—The patient died a week after the last note at 11.30 a.m.

Remarks.

One of the chief features of interest in this case lies in its pathogenesis. The pathogenesis of biliary calculi is still very obscure; experimental research has not as yet effected much in the elucidation of this important problem. Two main theories occupy the field:

1. The chemical theory.
2. The anatomical theory, as it is called, but personally I would prefer to contrast it with the chemical theory and call it the bio-chemical theory.

According to the first—the chemical theory—calculi are formed by the precipitation of cholesterin from special chemical changes in the bile. Cholesterin is dissolved in the bile by alkaline bile salts and soaps of sodium and potassium. If, as the result of nutritional exchange in the tissues, more especially in the nervous system, cholesterin is formed in large amount and is eliminated in the bile, supersaturation occurs and precipitation follows. Further, supersaturation is not even *necessary*, for the alkaline reaction of the bile may be diminished or changed to acid by a permanent excess of organic acids in the fluids of the body or by their imperfect combustion within the body. These organic acids set free a larger amount of lime from the tissues, and this being eliminated in the bile forms calcium soaps and bile salts of calcium, both of them insoluble. The diminution of glycocholate and taurocholate of sodium and potassium further contributing to the precipitation of the pigment which they hold in solution.

The chief objections to this theory are those raised by Naunyn. These appear to me to completely negative the theory, namely:

1. The proportion of cholesterin in the bile is constant and is not increased in cholelithiasis; and
2. The bile contains an amount of biliary salts, soaps, and fats greater than is necessary for complete solution of the cholesterin present.

The second theory—the anatomical, or, as I prefer to call it, the bio-chemical theory—holds that calculus formation is due to a special catarrhal condition of the bile passages, whose function it is to separate the cholesterin and the salts of lime which, by reason of this inflammatory process of the mucosa, increase in amount.

According to this theory, then—a theory which in the light of modern pathology seems a reasonable one—calculus formation depends on catarrh of the bile passages.

What is the cause of this catarrh? Researches tend to demonstrate a bacterial origin. It has been proved—

1. That the gall bladder is a favourite habitat of the following organisms: Colon bacilli, staphylococci, streptococci, pneumococci and typhoid bacilli, the latter in Welch's laboratory having been isolated from the gall bladder in pure culture seven years after an attack of typhoid fever.
2. That gall stones can be produced experimentally by injecting micro-organisms into the gall bladder of animals.
3. That gall stones have an association with certain specific fevers, more especially typhoid.

In the case under consideration I have already stated that the patient had always, while resident in Manila, a tendency to looseness of the stools—it is not improbable, therefore, that he suffered from a chronic colitis with subacute attacks, as evidenced by his occasional attacks of diarrhoea. Now, under conditions such as these it is well known that the *Bacillus coli communis*, ordinarily harmless, can become pathogenic, and I venture to think that this organism was perhaps the causa vera of the trouble.

As regards the diagnosis of such a case, I think it will be freely admitted that this is difficult. Gall stones may exist in the gall bladder and cause no symptoms. If this is the case with true calculi, how much more likely is it to be the case when gall stones occur in the form of gravel or sand! In the present case symptoms were caused perhaps from the outset of the disease. Amongst these symptoms one noticed an association which led one at once to suspect the true nature of the case. I refer to—

1. The tenderness over the gall bladder.
2. The tongue-shaped protrusion of liver substance beneath the costal margin, such as is often present in such cases.
3. The presence of jaundice.
4. The nausea and vomiting.
5. The enlargement of the spleen without obvious cause.

With such an association of symptoms I feel sure that few would neglect a careful examination of the stools for calculi or "sand." In this case the search proved negative at first, but continued search cleared up the nature of the case. The jaundice was not intense—it rarely is in cases of cholangitis. The tongue-shaped enlargement of the liver associated with cholelithiasis only occurs when the gall bladder is elongated and brings down with it the adherent right lobe of the liver.

Amongst the many affections of the spleen, enlargement associated with cholelithiasis is rarely mentioned, and yet such is often the case. If careful blood examination fails to reveal a cause for the enlargement in a case with the already mentioned associated symptoms, and if there is no other obvious cause, I would always regard this sign as strong confirmatory evidence of cholelithiasis. Naunyn gives it as one of the distinguishing signs of stone in the common duct, but he gives it in association with other symptoms which were not present in this case.

With regard to the form of cholelithiasis in this case, while "gall sand" is not uncommon, the formation of actual calculi is by far commoner. If the gravel type is assumed the stones generally consist of bilirubin calcium, and vary in size from a grain of sand to a pea. In this case the rarest type occurred—namely, phosphate of calcium associated with bile pigments—and, as you have seen, the form taken is that of a very fine sand.

As regards the occurrence of suppurative cholangitis, this is fortunately a rare event, though perhaps, if all cases were collected, not so rare as we might be led to suppose. It generally follows suppuration around a calculus or calculi in a branch of the hepatic duct, spread of infection taking place

to the finer ducts. In the case under consideration, I think the sequence of events must have been cholecystitis, simple non-suppurative cholangitis, the formation of sand, then suppurative cholangitis; my chief reason for this being that in the early stages of the disease there was an entire absence of leucocytosis, as evidenced by Dr. Strong's examination and my own. Cholecystitis can occur without known pre-existing disease. This was proved by Maurice Richardson, who, in a paper published in the *American Journal of the Medical Sciences*, stated that in 10 out of 59 cases of operation on the gall bladder acute cholecystitis was present with no history of previous disease.

In this case we have a past history of colitic trouble which I have already noted. The occurrence of spread of infection to and suppuration in the bile ducts is marked by increased enlargement, tenderness of the liver, increased pain, often radiating through to the angle of the scapula, leucocytosis, and progressive emaciation and loss of strength. Such cases generally run a short course, and recovery is said never to take place. That spread of infection from the gall bladder to the bile ducts does not occur oftener is due to the fact that in acute infectious cholecystitis the cystic duct is usually occluded.

With reference to treatment in such a case, the only hope lies in surgical interference—namely, cholecystotomy and drainage. In this case such a procedure proved a physical impossibility owing to the great enlargement of the liver and inaccessibility of the gall bladder. Had such a procedure been possible, it is almost beyond doubt that in this case little relief would have been given owing to the diffuseness of the suppuration in the bile ducts.

With regard to prophylactic treatment, the diet should be carefully regulated, avoiding as much as possible starchy and saccharine foods. The sulphate, or phosphate of soda or Rochelle salts, may be taken in doses of 1 to 2 drachms daily; regular exercise should be indulged in.

If the diagnosis is confirmed on examination of the stools and the patient's condition is not improving, early surgical interference is necessary, and drainage of the gall bladder before adhesions have formed and before the infective process has spread from the gall bladder up the biliary ducts.

Only a limited examination was possible *post mortem*.

The following notes on the condition of the liver are by Dr. Hunter (Government bacteriologist, Hong Kong):

Pathological Appearances.—The liver was generally enlarged, increased in weight and in specific gravity, and its consistence was tough and leathery. It was jaundiced. There was no marked congestion. The general contour of the organ was maintained.

On section of the organ, the following appearance was presented: Studded throughout the entire right hepatic lobe were rounded areas of a yellow colour. These varied in size from a millet seed to a pea. Many had a deeply pigmented centre. Surrounding these areas there was a narrow zone of [illegible] a deep brownish colour.

The remaining cut surface of the organ was that of a jaundiced liver with commencing interlobular cirrhosis.

An examination of the yellow areas more in detail shewed that they were not equally distributed throughout the right lobe. They were most abundant in the neighbourhood of the main portal, hepatic, and biliary channels.

In the intervening hepatic parenchyma they were few and scattered.

These areas were further examined as to their relation to the parenchyma of the liver, to their consistency, and their microscopic and bacterial composition.

They bore no direct relation to the actual hepatic parenchyma. These yellow areas could be picked out *en masse*, leaving a hollow or space with roughened but hard and fibrous walls. The consistence of these masses varied. Some were pultaceous; others were hard and gritty. To touch, the harder masses were like small peas, and could be thrown about without much damage to their form.

Microscopically, the softer masses were composed of fibrin, hepatic duct epithelium, pus, corpuscles, and a variable amount of bilirubin pigment.

The harder masses were made up of a hyalin-looking material, in which traces of fibrin, pus, corpuscles, etc., could be seen. In the meshes of this material appreciable quantities of bilirubin calcium were found.

Bacteriologically, nothing definite could be obtained, owing to the fact that an examination could not be made until about twenty-four hours after death. *B. coli communis* was found in large numbers. With this organism, however, numerous other extraneous bacteria were present.

The zones, of a deep brownish colour, immediately surrounding the yellow areas, presented the following microscopic appearance. The areas of tissue nearest to the yellow masses were composed of young proliferating connective tissue and hepatic duct epithelium. The changes found were typical as regards a chronic inflammation of the walls of the hepatic duct and its ramifications. Immediately outside this zone of newly-formed tissue, a narrow band of degenerated hepatic parenchyma was found. Large quantities of bile pigment were deposited in this narrow band of newly-formed tissue and degenerated liver cells.

Apart from these changes, the microscopic examination of the liver substance showed marked interlobular increase of connective tissue and the presence of pronounced paracholia.

PORTAL PYAEMIA AND PYLEPHLEBITIS.

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I.—Gastro-intestinal Ulceration as a Factor in Suppurative Pylephlebitis.

Gastro-intestinal ulceration is usually held to be the most potent cause of suppurative pylephlebitis, especially when that ulceration is in the neighbourhood of the appendix. Yet diseases in which gastro-intestinal ulceration is most extensive are not those which lead to suppurative pylephlebitis. If such ulceration were really the direct cause, surely we should expect to find this complication frequently in enteric fever and dysentery, for example. As a matter of fact it is extremely rare in these diseases. In the *post-mortem* register of St. Bartholomew's Hospital I have not been able to find a single instance of pylephlebitis in enteric fever; and Dr. J. H. Bryant has kindly informed me that a search through the records of Guy's Hospital (which reach back to 1828) was equally fruitless.

Hugue[1] found that hepatic suppuration of any kind was very rare in enteric fever, and that if it occurred there was usually colon typhoid. With multiple abscesses there was usually pylephlebitis. He adds the interesting statement that this complication is more common in those who have already suffered from some lesion of the liver. Osler[2] has only seen one case of suppurative pylephlebitis in enteric fever, and here there was also an empyema of the gall bladder, with a sinus running back from the cystic duct which ended close to the suppurating branches of the portal vein. Romberg[3] saw 87 necropsies out of 677 cases of enteric fever at Leipzig, and in only one was there pylephlebitis. Here, besides healing ulcers in the ileum, there was a suppurating phlegmon in the mesentery. Lanaris[4] saw one instance out of 71 necropsies of enteric fever. In this there was definite ulceration of the appendix.

It should be noted that in two of the above cases suppuration other than the typical intestinal ulceration occurred, and that in the third the appendix was involved—a point at which the portal vein is specially liable to invasion.

Again, though single abscess follows dysentery, multiple abscesses with suppurative pylephlebitis is a rare sequel. Marotte[5] records a case, and Bryant's[6] statistics give an example. I have only found one instance of it recorded at St. Bartholomew's Hospital. I am, of course, excluding cases where septic infection followed operation on a tropical abscess. We may conclude that it is decidedly rare for pyogenetic organisms to invade the portal vein from the surfaces denuded by dysenteric ulceration. It has been suggested, moreover, by Councilman and Lafleur[7] that even the *Amœba coli* does not usually reach the liver by the portal vein, but through the peritoneal cavity. Councilman found circumscribed masses on the walls of a tropical abscess, which proved to be the persistent remains of the portal system.

Considering the liability of the gastro-intestinal tract to ulceration, and the varied nature of the microbes inhabiting that tract, it is at first sight surprising that portal pyaemia is not a more frequent occurrence. Elsewhere[8] I have urged that "a collection of pus outside the gastro-intestinal tract is the real exciting cause of portal pyaemia. Ulceration of the tract is of importance as leading to this accumulation." This would explain why the region of the appendix is so frequently the focus, for nowhere else are "the conditions more favourable to . . . ulceration by faecal concretions or foreign bodies and to the production of such an accumulation of pus" within the portal zone.

Since writing thus, eight cases of suppurative pylephlebitis have occurred at St. Bartholomew's Hospital; a brief summary of them appears to me to lend considerable support to my contention.

Case I (under Sir Lauder Brunton).—A female infant, aged 3 weeks, had a collection of dark material within the folds of the umbilicus; the umbilical vein was filled with pus, as were also the large portal branches in the liver, the superior mesenteric, and the splenic veins. There were no abscesses in the liver substance, but there was an abscess in the left lung communicating with the pleural cavity which had set up an empyema. Bacteriological examination showed streptococci (probably *Pyogenes aureus*) in pure culture from the portal pus and pleural fluid.

Case II (under Mr. Bowlby).—A youth, aged 16, who had been operated on two years previously for tuberculous peritonitis, was admitted with a small discharging sinus and signs of portal pyaemia. At the necropsy the peritoneal cavity was found to be full of purulent serum containing flakes of lymph. The cause of the peritonitis was a leaking perisplenitic abscess, which was surrounded by recent peritoneal adhesions. The spleen was much enlarged and was lardaceous. The liver was very much enlarged; the left lobe contained a large abscess, and the whole viscus was channelled by purulent tracks. The portal vein, with 1 in. of the splenic and superior mesenteric veins, was thrombosed; the clot was soft and mixed with pus, which extended into the liver substance. Some of the mesenteric glands were tuberculous; others were enlarged but apparently not tuberculous.

Case III (under the late Mr. Walsham).—A youth, aged 15, was operated on for gangrene of appendix with abscess. At the necropsy general peritonitis was found. The portal vein was blocked by a breaking-down thrombus extending down to about 1 in. from the junction of the superior mesenteric and splenic veins. On the diaphragmatic surface of the right lobe the liver was destroyed by the presence of multiple abscesses, which were in places running together to form larger cavities. On section of the liver brownish pus exuded everywhere from the portal canals. Other abdominal organs natural.

Case IV (under the care of Mr. Lockwood).—A woman, aged 36, died after the operation of cholecystotomy for gall stones. The abdominal wound led down to a contracted gall bladder surrounded by many old adhesions. The portal vein was plugged with septic clot, and the liver was riddled with abscesses containing bile-stained pus. The spleen was normal. The peritoneal cavity contained some bile-stained fluid.

Case V (under care of Mr. Langton).—A man, aged 52, was admitted for a fluctuating swelling midway between the ensiform cartilage and the umbilicus. This was opened and proved to be a localized peritoneal abscess. Four days later a boil appeared at the right edge of the wound; this spread, in spite of treatment, until it covered almost the entire surface of the abdomen. Cultures from it showed *Streptococcus pyogenes aureus* and staphylococci, but no actinomycosis. After death the abscess cavity was found to be surrounded by many old firm adhesions and to lead upwards towards the liver. The hepatic flexure of the colon and the duodenum were bound to the under surface of the liver by firm adhesions. No ulceration was found in any part of the intestines. The stomach was small and contracted, and bore no evidence of old or recent ulceration. The liver contained multiple abscesses, and there was suppurative pylephlebitis. The mesenteric glands were somewhat enlarged. There was no evidence as to the origin of the abdominal abscess. Cultivations from the heart's blood showed *Bacillus coli* only.

Case VI (under care of Mr. Bowlby).—A man, aged 29, was operated on for gangrenous perforative appendicitis, with an abscess on the outer side of the caecum shut off from the general peritoneal cavity. At the necropsy general purulent peritonitis was found with suppurative p[illegible]

[illegible] under care of Mr. Lockwood).—An infant, 3 weeks old, was admitted with septic inflammation of the umbilicus and died within twenty-four hours. The umbilical vein was found to be much thickened and contained pus. There was suppurative [illegible] and suppurative peritonitis. The peritoneal fluid showed streptococci on cultivation.

Case VIII (under care of Mr. Battey).—A woman, aged 46, dying from cholelithiasis showed at the *post-mortem* examination general peritonitis, with two abscesses in the upper part of the right lobe of the liver and suppurative pylephlebitis. The gall bladder was very much shrunken, being only capable of holding a few minims of fluid. A probe could not be passed into the common duct: the liver at this spot was puckered and the duodenum was adherent to the gall bladder. The common bile duct was enormously distended and lying in the duodenal orifice (which was much dilated also) was a large gall stone. The pancreas was hard and not evidently inflamed. The spleen was large and soft. Cultivations from the peritoneal fluid grew *Bacillus coli*, streptococci, and staphylo[illegible]. From the [illegible] blood alone grew.

I am indebted to the [illegible] physicians and surgeons under whose care these cases were for permission to refer to them.

Of these 8 cases, then, 6 showed localized septic foci outside the alimentary canal, and in the other two the cause (gall stones and appendicitis in the immediate neighbourhood of the liver. In each the cause, where a part of the alimentary canal (the appendix) was involved, there was also an abscess [illegible]

Adding these cases to those I have already collected and published from our records, we obtain the following table:

TABLE I.—*Etiology of Twenty Cases of Suppurative Pylephlebitis.*

a. Vermiform appendix and caecum:			
Perforation of appendix with abscess	7		
Thickening around appendix ...	3		
			10
b. Stomach:			
Gastric ulcer with localized abscess and old abscess in spleen... ...	1		
Malignant ulcer of stomach... ...	1		
			2
c. Localized peritoneal abscess not obviously dependent on gastro-intestinal ulceration			2
d. Spleen: small pyaemic abscesses ...			1
e. Gall stones			2
f. Infection from umbilicus			2
g. Focus not found (mesenteric glands calcareous)			1
			20

II.—The Relationship between Pylephlebitis and Portal Pyaemia.

It is desirable that the terminology of disease should accord with pathological conditions so far as we can determine them during life, and the division of affections of the portal vein into adhesive and suppurative pylephlebitis is unsatisfactory for the following reasons:

1. In suppurative pylephlebitis the essential feature is portal pyaemia; and I shall attempt to show that we really have no means of distinguishing between cases of such pyaemia in which the vein is involved and cases in which it is free.

2. In "adhesive" pylephlebitis, so-called, the essential feature is the occlusion of the vein, and this may be produced by a variety of causes, among which sepsis is by no means an unimportant one.

(1) From the St. Bartholomew's Hospital records I have collected the cases of multiple hepatic abscesses in which the vein was not involved, and a comparison of their causation with those of the cases of suppurative pylephlebitis (Table I) is instructive. Out of the total 18 the infection was part of a general arterial pyaemia in 8. The focus in the remainder was as follows:

TABLE II.—*Portal Pyaemia without Phlebitis.*

a. Vermiform appendix and caecum:			
Perforation and ulceration of appendix ...	3		
Scars of old ulcer in caecum	1		
			4
b. Old tropical abscess which had been drained			1
c. Perinephric abscess			1
d. Abscesses about spleen			1
e. Focus not found (in one of these the glands near the liver were calcareous or caseous)			3
			10

As might be expected, the causes of portal pyaemia are closely similar whether the portal vein be or be not itself affected. Indeed, "phlebitis may exist without being discovered, and pyaemia may exist without phlebitis."[9]

The symptoms and progress are the same. Similar lesions are established in the liver. Thus Payne[10] recorded in the same paper two cases of suppuration in the liver consequent on irritation in the appendix. In one the portal vein (with its tributaries and branches) was quite natural; in the other, the superior mesenteric and portal veins were involved. Yet the cases were very similar in all other respects. At the Royal Free Hospital,[11] within a few months of each other, two cases of multiple hepatic abscesses following appendicitis occurred in men just over 30. In the first the portal vein, its right intrahepatic branches, the superior mesenteric and splenic veins, were all involved; in the second, all the portal system appeared healthy. Yet the cases ran very similar courses. The first was jaundiced and the second was not, apparently because in the former suppurative cholangitis had occurred by direct extension. It is interesting to note that the second case had rigors and marked enlargement of the spleen while the first had not. For both these points have been urged as diagnostic features in suppurative pylephlebitis as opposed to multiple hepatic abscesses without phlebitis.[12] These two cases show how little such signs are to be relied on in the diagnosis.

Indeed we may ask what reliable sign we have of the existence of phlebitis in a case of portal pyaemia? In 53 cases of suppurative pylephlebitis I have collected signs of portal obstruction were the exception; ascites occurred in only 6 instances, in 2 of them only to a slight extent. The super-

ficial veins were enlarged in 3 cases. Enlargement of the spleen was detected in 11 cases, but in one of these lardaceous disease was the cause of the enlargement, and toxaemia alone will enlarge the spleen.

The clotting in the portal vein and its tributaries is sometimes discontinuous in suppurative pylephlebitis. Thus, out of the cases I have collected, in 2 some of the veins near the caecum were involved, but the trunk of the superior mesenteric vein was not. In 2 other cases the pancreatic vein was involved, together with the duodenal vein in 1 of them; the portal vein and its branches contained pus, but no other tributaries were affected. Emboli become detached from the peripheral thrombosis and are carried up towards the liver, here starting another septic focus. But there is no reason why the infective particle should always find even one intermediate resting-place: it may be swept up in the blood stream from the primary focus, and not settle down till the capillaries of the liver are reached, thus producing portal pyaemia without phlebitis.

It would appear that the degree of intensity of the pyogenetic affection determines whether pylethrombosis or suppurative pylephlebitis, as ordinarily understood, results. With rapid invasion and speedy softening of the clot the septic infection will reach the liver and set up typical portal pyaemia; with a slower or less virulently septic process the resulting thrombosis blocks the way for further inroads, and symptoms of obstruction rather than of portal pyaemia follow. Sometimes, by the development of an adherent clot in the portal vein after the infection has reached the liver, signs of portal obstruction become grafted on a case of portal pyaemia: rigors and a "typhoid" state are combined with ascites, and marked enlargement of the spleen, as in the first case that came under my observation.[13] Thus the position of the adherent clot plays a very important part in determining the nature of the symptoms, and it will be just in the most "pyaemic" cases that the signs of obstruction will be best marked.

The commonest place for the adherent clot to form is at the junction of the superior mesenteric and splenic veins; of this I have been able to collect five examples.

To summarize—in some cases of portal pyaemia obstructive symptoms occur, but in the majority they do not; their absence cannot be regarded as excluding pylephlebitis: their presence is usually the result of a firmly adherent clot in the portal vein or its annexes, rather than of the soft disintegrating purulent thrombus.

(2) In the second place the objection to the term "adhesive pylephlebitis" is that the condition recognizable during life is one of portal occlusion, which may be the result of various morbid processes, to some of which a name implying inflammatory adhesion cannot fairly be applied.

In Table III I have grouped the causes of portal occlusion apart from portal pyaemia that have occurred at St. Bartholomew's Hospital since 1867. From this table it will be seen that invasion by new growth is not infrequently the cause of obliteration of the vein. In one such case where I had the opportunity of cutting sections of the portal vein I found the intima of the vein at the point of invasion destroyed, and the coats separated by the invading growth. Some of the vasa vasorum were choked with growth. A small vein running into the portal vein was quite blocked peripherally by growth, centrally by clot. Further away from the main vein the clot in this small vein showed growth right in its centre. In such cases the mechanism of the occlusion is clear.

TABLE III.—*Causes of Portal Occlusion.*

Cirrhosis of liver	11
Malignant disease of liver:	
Compression	1
Invasion	1
Malignant disease of pancreas:	
Compression	4
Invasion	1
Malignant disease of stomach	
Compression	1
Invasion	2
Septic causes:	
Retrocaecal abscess	1
Sepsis following laparotomy	1
Cause doubtful:	
? Matting by adhesions	1
? Kinking by volvulus	1

But even in malignant disease we must not overlook the possibility of a terminal infection. In one case carcinoma of the pancreas and liver was complicated by infective endocarditis, which may well have helped to the infarction of the intestines, from which the patient died.

Sepsis may lead to portal thrombosis, which raises an additional objection to the existing nomenclature. Thus in one case (previously reported by Dr. West[11]) there was a large abscess cavity about 6 in. long behind the caecum. The mesenteric vein and its radicles—the portal vein and its branches—were all thrombosed. In another case in my series there was cirrhosis of the liver, but also tuberculous ulceration of the intestines. In the portal vein was a [illegible] clot: the fact that this clot was breaking down into thick dirty fluid in its centre suggests a septic origin. In the following [illegible] the septic nature of the clot was proved by bacteriological examination.

A kitchen porter, aged 43, was admitted under care of the late Mr. Walsham, with symptoms of cirrhosis of the liver. Laparotomy was performed and the great omentum stitched to the abdominal wall with the view of providing more efficient collateral circulation. He had severe attacks of abdominal pain four, seven, and ten days respectively after the operation. On the eleventh day he died. One and a half feet of the small intestine were deeply congested and almost gangrenous. The portal vein, its branches and the superior mesenteric vein, were thrombosed. A large round-celled infiltration had taken place into the thrombus, and clusters of micrococci, staphylococci, and streptococci were seen in the surrounding vein wall.

Here was a case of pylethrombosis associated with invasion by pyogenetic organisms, yet it was not suppurative pylephlebitis that followed.

In the literature of pylethrombosis I have found cases recorded where a septic origin was, to say the least, probable. Bradford[15] records pylethrombosis resulting from a suppurating mesenteric gland communicating with a vein; in a case of Rolleston's[16] there was old dysenteric ulceration and recent inflammation of the rectum; while a concretion was ulcerating through the appendix. In a case of Treves's[17] which recovered but which had symptoms of thrombosis of superior mesenteric vein, the patient was suffering from dysentery when these symptoms appeared. In another case[18] the patient had been recently confined and that she was sapraemic was shown by the existence of phlegmasia alba dolens.

Out of 48 cases I have collected from the hospital records and from the literature a septic origin for the occlusion was therefore present in 7, or approximately 14·6 per cent.

Whether the cause of the obstruction to the vein be external compression (by cirrhosis, new growth, or chronic peritonitis), invasion of the lumen by new growth, atheroma of the walls, or septic thrombosis, the symptoms are very similar. Ascites and enlargement of the spleen occur in three-quarters of the cases, haemorrhages into the gastro-intestinal tract and diarrhoea occur in half the cases, and enlargement of the superficial abdominal veins in one-third of the cases. Gastro-intestinal haemorrhages or the signs of intestinal obstruction are the leading symptoms of cases with acute onset, ascites that of cases with gradual onset.

As it is the physical condition of the vein, independent of the pathological cause, which leads to these characteristic symptoms, I suggest that the name "portal occlusion" would be more satisfactory than "adhesive pylephlebitis," because it connotes less.

Conclusions.

1. A collection of pus within the portal zone is the principal cause of portal pyaemia. Ulceration of the alimentary tract is only important as being a frequent precursor of such a collection.

2. Signs of portal obstruction are the exception in suppurative pylephlebitis.

3. There are no signs by which we can distinguish with certainty cases of portal pyaemia with suppurative pylephlebitis from those in which the vein is not involved.

4. In "adhesive pylephlebitis" the essential feature is the occlusion of the vein, and this may be produced by a variety of causes, among which sepsis is not an [illegible].

5. Therefore, if our terminology is to accord with pathological conditions so far as they can be determined during life, we ought to speak of two conditions, portal pyaemia and portal occlusion, remembering that we may meet with cases of portal pyaemia with occlusion.

[illegible]

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OBSERVATIONS ON THE OPSONIC INDEX OF PATIENTS UNDERGOING SANATORIUM TREATMENT FOR PHTHISIS,

WITH SPECIAL REFERENCE TO THE EFFECT OF EXERCISE.

BY

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In the summer of 1904 Professor Wright was kind enough to examine the blood of several of the patients in this sanatorium, and to estimate their opsonic power against tubercle. It was at once seen that certain differences in opsonic index were associated with certain differences in clinical character, and some cases, which at first appeared to be exceptions to this view, showed by their subsequent course that they were not. The opsonic index in these cases proved a more correct indication of their true character than their clinical appearance and previous history.

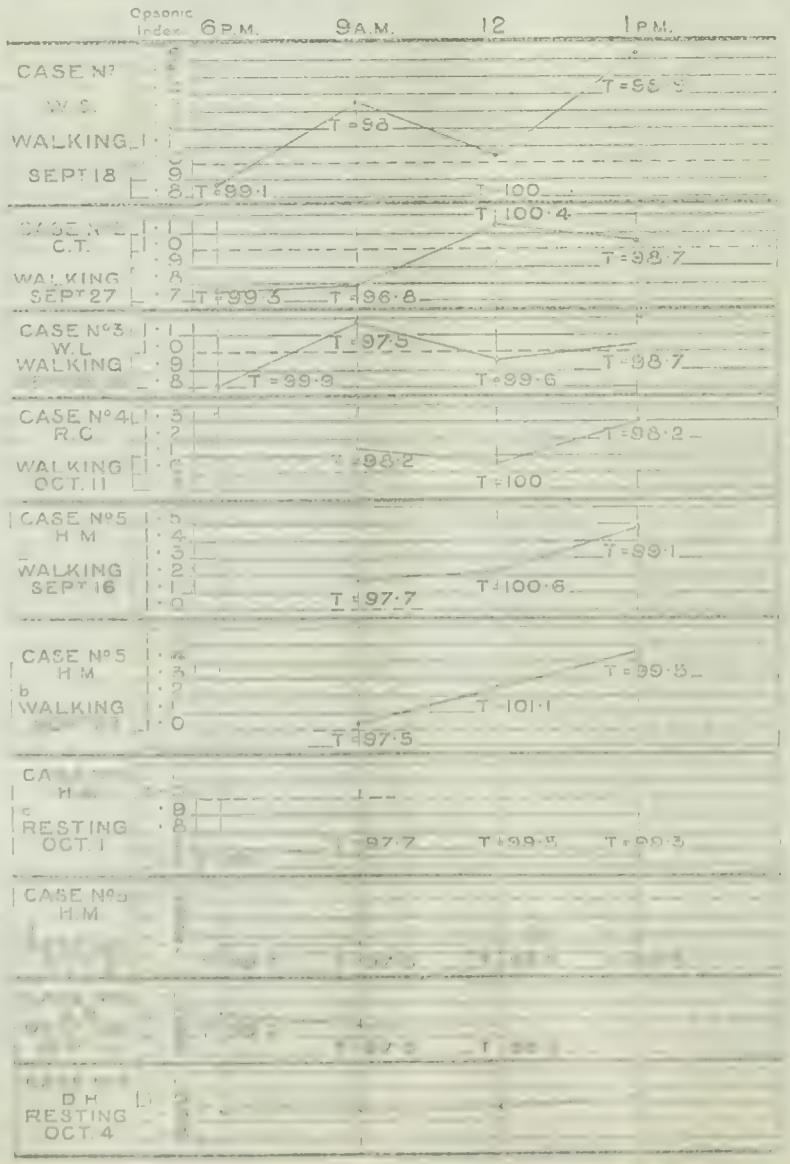
These blood examinations were made with the view to the use of "new" tuberculin, and since then a series of cases has been treated with this remedy with encouraging results, which we hope shortly to publish.

The work of estimating the opsonic index is now done at the sanatorium, thanks to Dr. Wright and Captain Douglas, I.M.S., who very kindly took much trouble to teach us the technique, and it is therefore possible to make a large number of observations every week.

Since the word "opsonin" is still a new one, we may, perhaps, be excused if we explain briefly what is meant by "opsonic index," and how it is estimated. It has been shown by Wright and Douglas that the rate of ingestion of bacteria by polynuclear white blood corpuscles depends upon the extent to which the bacteria have been previously acted on by some substance existing in serum to which the name "opsonin" has been given. There appears to be a separate opsonin for each variety of bacteria. The presence of opsonin is determined, and its quantity in a given serum is estimated, by the rapidity with which polynuclear white corpuscles devour bacteria which have been exposed to the action of the serum in question.

The experiment is performed by mixing together equal quantities of (1) serum-free corpuscles obtained by washing blood in 1 per cent. citrate of soda in normal salt solution and afterwards in normal salt solution only, (2) an emulsion of tubercle bacilli, and (3) the serum to be tested. The mixture is incubated at a temperature of 37 C. for twenty minutes, and then a film is prepared and stained in the usual way with carbol fuchsin and methylene blue. The average number of bacilli ingested by each polynuclear white corpuscle is ascertained, and, taking the average number ingested when the serum of a healthy man is employed as unity, the opsonic value of any other serum is expressed in terms of this. Thus, if the average number ingested by each polynuclear with healthy serum is 5, and with the patient's serum is 4, then the healthy man's opsonic value being called 1, the opsonic value of the patient will be 0.8; on the other hand, if the experiment with patient's serum gives an average ingestion of 7 then his opsonic value will be 1.4.

It was noticed at the outset that our results, while showing the same range of variation after tuberculin injections, were, taken on the whole, much lower than those obtained by Dr. Wright, and we were quite unable to endorse the view expressed by Dr. Urwick in the BRITISH MEDICAL JOURNAL (July 22nd, 1905) that "the opsonic power of the majority of patients suffering from pulmonary tuberculosis is higher than normal." It seemed that either our controls were higher than those of Dr. Wright and Dr. Urwick, or our class of patients different from theirs. A comparison of our results with results obtained in Dr. Wright's laboratory by a simultaneous examination of the same blood showed that our controls only differed from Dr. Wright's by 0.05. Clearly, therefore, the discrepancy could not be due to a difference in controls. While still seeking for an explanation, it occurred to us that the samples of blood sent to Dr. Wright had always been collected at 2.30 p.m., in time to catch the afternoon post, while the samples examined by us were taken at 9 a.m. A series of observations was then made to ascertain what variations, if any, took place during the day, and the times chosen were those which fitted in with the routine practised in this sanatorium. All patients are visited before they rise in the morning, and are given directions as to how they are to occupy their time until noon—that is, either by walking



(and, if so, how far) or by resting. The temperature is recorded immediately the patient comes in, and he then rests in a long chair until 1 o'clock. As is now well known, even healthy men show a considerable rise of temperature after exercise, and the rise is followed, on resting, by a speedy fall. The same phenomena occur, as a rule, in a case of phthisis, and an exercise temperature of 100° F. recorded at noon will usually fall to 99° or 98.8° F. at the end of rest hour.* The times chosen were therefore 9 a.m., noon, and 1 p.m., and to complete the list, an observation was also usually made at 6 p.m. the evening before.

A series of these observations is shown in the accompanying chart, and it will be seen that in all "walking" cases, except one, the 1 p.m. observation shows a much higher index than the observation made at 9 a.m., and in cases that are resting there is practically no variation throughout the day. The explanation of this, no doubt, is that the exercise leads to a slight degree of auto-inoculation, which is followed by a very transient rise of opsonic index. The one exception, No. 3, was a patient with a nearly-healed lung and a small, healing ulcer in the larynx. He showed less tendency to rise after walking, probably because his lesion was so small that auto-inoculation could only take place to a very slight extent. This series at once explained the difference between Dr. Wright's results and ours.

From this series, which has been quite free from any conflicting results, we conclude that *it is a matter of great importance in estimating the effect of injections of tuberculin, or of any particular form of treatment, that the observations should be made at a time when the opsonic index is at its ordinary level, and undisturbed by recent exercise.* It is therefore our practice to take all samples of blood at 9 a.m., though, if the patient is resting, the time is obviously unimportant. We have had no opportunity of observing whether exercise in a case of "surgical" tubercle is followed by a rise of opsonic index, but we should expect that, where the focus was small and the chance of auto-inoculation slight, there would be only a slight rise or none, as in the laryngeal case referred to above. We have never found that a patient's temperature gave any clue to the level of his opsonic index.

In view of the fact that so much of the present-day sanatorium treatment is admittedly empirical, and much of it difficult to explain on any scientific grounds, it was hoped that useful knowledge might be gained from an observation of the opsonic indices of sanatorium patients. We think that the series of observations shown here is at least an abundant justification of the routine usually followed, and explains why patients so often make rapid progress as soon as they are well enough to walk without harm. But, in a case where active disease is still present, the decision whether walking is likely to be beneficial or otherwise is one of the most difficult that the sanatorium medical officer is called upon to make, and for which the widest experience is necessary.

As Dr. Urwick has pointed out, a case of active phthisis, shows an alternating high or low opsonic index which he believes to indicate alternating positive and negative phases following auto-inoculation.† If this is the case—and all our observations lead us to endorse his view—it is clearly important that a patient should rest during his negative phase, and probable that he will benefit by walking when his opsonic index is high, since, as shown by Wright and Douglas,[2] the opsonic pressure is always reduced at the focus of infection even when the opsonic pressure of the blood serum is high. We hold therefore that, taken into consideration with the clinical condition of a patient, a knowledge of his opsonic index will materially help in choosing the routine that will give him the greatest benefit.

We are inclined to think, but our observations are at present too few and the time that has elapsed too short for us to speak with any confidence, that the opsonic index and its range of variation, is a valuable factor in making a prognosis. Wherever there is active disease, either in an early case that has not been long under treatment, or in a case that has not responded to treatment, the opsonic index shows a wide range of variation, but when the disease becomes less active, the opsonic index settles down to a level which shows scarcely any variation from day to day (in blood drawn at 9 a.m.), and this level varies widely in different cases. In one case, after initial variations ranging from 0.5 to 2.4, the opsonic index after six weeks settled down to an almost constant 1.0, the observations made every three days being as follows: 0.975, 1.1, 1.0, and 1.07. Another case settled to a mean level of 0.8. Our experience tends towards the view that the case that settles to an opsonic index much below 1.0 is the case that becomes "chronic," that recovers to a certain extent, but that can only maintain that degree of recovery while living under sanatorium conditions. We believe, on the other hand, that a case which shows a steady opsonic index of 1.0 or over is the case which makes a complete recovery if favourable conditions are maintained for a sufficient time.

It is in cases of the first group, with an opsonic index that settles to a level of 0.8, or even lower, that we have had the most encouraging results with injections of tuberculin, and even in cases of the second group we believe it is possible to shorten the time necessary for recovery by artificially raising the opsonic index by the same means.

We are led to publish these observations because we think that, few as they are, they are sufficient to show that a knowledge of the opsonic index of a patient can be of great interest and help to those responsible for his care, since it to some extent explains the *rationale* of much that has hitherto been empirical in the routine of sanatorium treatment. The process of estimating the opsonic index is slow and tedious, and this prevents any rapid advance in knowledge. It is essential that large numbers of observations should be made, and the curves of variation under varying treatment carefully plotted out. It is only when the work is much more widely taken up than it is at present that any rapid progress will be made. Perhaps these few very incomplete observations may prove sufficient to induce others to take up the work.

CASE I.

Very chronic—extensive disease of lungs. Physical condition fair.

CASE II.

Very chronic lung disease—has responded in a very satisfactory manner to sanatorium treatment.

CASE III.

Nearly healed lung. Small ulcer on left vocal cord. Physical condition good. Opsonic index originally 0.73—now rising after injection of 1/600 mg. of tuberculin on September 17th.

CASE IV.

Chronic lung disease. Physical condition fair.

CASE V.

Chronic lung disease. Physical condition good; C. and D. record negative phase following injection of 1 1,000 mg. tuberculin on September 30th, opsonic index previously 1.0.

CASE VI.

Opsonic index rising after injection of 1/1,000 mg. tuberculin on August 31st; opsonic index before injection 0.68.

CASE VII.

Double psoas abscess, healing sinuses. Injection, 1/750 mg. tuberculin on September 22nd.

REFERENCES.

[1] *Proc. Roy. Soc.*, vols. lxxii. and lxxiii. [2] *Lancet*, September 14th, 1901.

* It is interesting to remember that it is only recently that this rise of temperature after exercise has been generally recognized, while a "normal" temperature on waking in the morning is now regarded as dangerously high, and in most sanatoriums is taken to indicate the need for complete rest during the day.

† Dr. Wright has shown that the rise in bactericidal power which follows inoculation with a bacterial vaccine is preceded by a negative phase of lowered bactericidal power of varying duration.

ON A HITHERTO UNDESCRIBED CHANGE IN THE URINE OF PATIENTS SUFFERING FROM NEPHRITIS.

BY

MARC ARMAND RUFFER and G. CALVOCORESSI.

[From the Port Vieux Laboratory, Alexandria.]

In a preliminary paper (British Medical Journal, 1903, vol. i, p. 190) Armand Ruffer and M. Crendiropoulo showed that the injection of the urine of man, or of certain animals, into rabbits rendered the serum of rabbits haemolytic for the blood corpuscles of man or of that species of animals the urine of which had been injected. In another paper (*Journal de Physiologie et de Pathologie*, 1905, p. 820) the same authors and G. Calvocoressi showed that the substances (lysogens) producing a haemolytic serum dialysed slowly, were totally insoluble in ether and almost insoluble in alcohol, were precipitated from urine by saturation with ammonium sulphate or lead acetate, showed great resistance to the action of heat, but were quickly destroyed by acids or alkalies. They disappeared

slowly from such urines as were kept for several weeks exposed to air, but they resisted putrefaction for some days.

In an extensive series of experiments the same authors showed that a small fraction of the total quantity of urine passed by a healthy adult in twenty-four hours, when injected into a rabbit weighing approximately 1 kg., sufficed to produce a powerful haemolytic serum, dissolving human red blood corpuscles rapidly, and acting even when greatly diluted. Further experiments showed that any estimation of the quantity of lysogen in any given sample of urine could only be very remotely approximate.

The object of the investigation now to be described was to ascertain whether pathological urines contained more or less lysogen than normal urines; and for this purpose we examined the urines of patients suffering from various diseases, according to the method to be described presently. In this paper, however, we shall treat only of our investigations concerning the urines of patients suffering from albuminuria due to chronic or acute nephritis.

In order to estimate the lysogen of any given sample of urine, the total quantity passed in twenty-four hours was collected, and a given proportion of it injected into an animal weighing 1 kg. approximately. Suppose, for instance, it was decided to inject one-sixtieth of the total quantity of urine passed in twenty-four hours, then 30 c.cm. were injected if the man passed 1,800 c.cm., and 50 c.cm. if he passed 3,000 c.cm. in the twenty-four hours. The quantity of urine so injected was always such that we knew that a corresponding amount of healthy urine would surely produce a haemolytic serum. Nevertheless, in all cases, we injected another rabbit with a corresponding amount of healthy human urine.

The animals were killed one week after the injection, and the serum tested by our usual method (see papers quoted above) on human red blood corpuscles.

All but two of the patients whose urine was injected were typical cases of chronic nephritis. They all had albumen in the urine, and for the most part casts also. In most of them there was considerable anaemia, together with oedema of the extremities, puffiness of the face, and occasionally ascites. Dyspnoea, high tension pulse, and irregularity of the heart were often present. Impairment of vision, anorexia and digestive troubles were also common symptoms. The two exceptions were cases of acute diphtheria nephritis.

Table Summarizing Results Obtained:

(*A*) Number of patients whose urine was injected	... ...	16
The urine of 1 patient produced a strong haemolytic serum		
,, 4 patients produced weak haemolytic serums		
,, 11 did not produce haemolytic serum.		
(*B*) Number of control experiments...	... ...	16

In every case the urine produced a strong haemolytic serum.

A weak haemolytic serum is one which in a 83 per cent. solution does not haemolyze a given quantity of red blood corpuscles, but produces slight haemolysis in more than one hour. A strong haemolytic serum is one which, added in the same proportion, dissolves blood corpuscles completely in less than one hour. As a matter of fact, however, when added in such proportions, all the strong (powerful) haemolytic serums but four dissolved the blood in less than five minutes; and even when diluted they acted very rapidly, generally in less than five minutes.

The only conclusion we draw at present is that the physiological action of the urine of [illegible] differs [illegible] regarding it. In the vast majority of cases they do not differ from the urine of the same quantity of urine of healthy human beings.

On [illegible] Medico-Chirurgicale de Paris, which [illegible] and has been [illegible] of its Medical Faculty of Medicine, founded in [illegible]. Being assisted by Dr. [illegible] Dr. [illegible], President of the [illegible] delivered by Drs. Dreyer, Husband, and [illegible]. In the evening the members of the Society dined together, the Minister of Public Instruction, M. [illegible], being present.

We regret to learn that Professor Albert Ladenburg of Breslau, to whom the large majority recently awarded the Davy Medal, has succumbed to the disease of angina pectoris from which he has suffered for some time. Nevertheless, Professor Ladenburg hopes to be able to continue to discharge the duties of his Chair.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, ETC.

A CASE OF CEREBRO-SPINAL MENINGITIS.

THE following case in a spinster, draper's assistant, an unmarried woman, aged 36, recently occurred in my practice. The day preceding her illness, the patient, being then in excellent health, went on a seaside trip, partaking in the evening, in common with several others, of some tinned salmon. The following day (August 18th) she complained of severe headache, had abdominal pain, vomiting, and diarrhoea. It continued throughout the night; she had no rigor or vertigo. At 7 a.m. on August 19th she was seen by my assistant; her condition then was as follows:

She was lying on her side in a semi-comatose condition, being only roused with difficulty, her face flushed, tongue furred, pulse 90 and somewhat bounding in character, temperature normal; abdomen moved naturally and did not appear tender; cardiac and pulmonary sounds normal; pupils equal and normal, no squint, no muscular twitchings; menstruation was in progress.

Calomel ½ gr. was given every three hours until 2 gr. had been taken. Later in the day I visited her myself. The vomiting and diarrhoea had stopped. She took some notice but was too deaf to answer any questions. She was given a mixture containing bismuth, potassium bromide, tinct. card. co., bicarbonate of soda, and aromatic spirits of ammonia. She apparently continued improving till the evening of August 20th, when she became actively delirious and a chloral draught was given and the foregoing mixture repeated, but she did not sleep and became even more excited. On August 21st her head was found to be retracted, her back slightly concave, her legs drawn up, and the facial muscles twitching. Herpes had appeared round her mouth; pulse 100, full and bounding; temperature 100.5° F. She was still wildly delirious. Ice was applied to the head and spine; she was ordered a paraldehyde draught which was without effect; two hours later a half-grain morphine suppository being given, she slept for six hours. Her condition was then as follows:—

Head much retracted, opisthotonos well marked, pupils contracted and equal, legs drawn up, Kernig's sign present, together with marked contraction of the hamstring muscles. Knee-jerks unaltered; no ankle clonus; Babinski's sign absent. Numerous petechial spots, dark in colour, and one or two lines in diameter over the upper part of her back. Temperature (at 11 p.m.), 102° F.; pulse, 100, full; Cheyne-Stokes respiration; still acutely delirious.

She was given another morphine suppository, after which she again slept for some hours. From this time, however, she gradually sank into a comatose condition, and died at midday on the 22nd, the retraction of the head and spine becoming very marked towards the end. Owing to the extreme delirium of the patient, lumbar puncture unfortunately could not be performed.

The history and symptoms of this case are very instructive, and afford an almost typical picture of what in Osler's classification is termed the "ordinary" form of cerebro-spinal fever, as opposed to the "fulminant" and "anomalous" varieties. The severe vomiting and purging at the outset, following the [illegible] of tinned salmon, might possibly have led one at first sight to diagnose ptomaine poisoning, but after-events proved the true nature of the case. Hardly a symptom was [illegible].

I have notes of a similar case in a girl, aged 13, whom I saw fourteen years ago, and which terminated fatally in an equally [illegible].

Chard. NATHANIEL CLOSE, L.R.C.P.Ed., etc.

A NEW METHOD OF GIVING IRON.

I have [illegible] trying a new way of giving iron, which [illegible] advantages over the pill method. It was [illegible] suggested by Dr. [illegible] at a meeting of the [illegible] Society in January, and as I have obtained excellent results in a few cases, I thought others might like to [illegible] of it.

The constituents of Bland's pill (*Pil. Ferri, B.P.*) are enclosed in an airtight gelatine capsule with cod-liver oil. The idea is that [illegible] the gastric mucous membrane from [illegible] as well as being useful when absorbed; that the [illegible] of iron is combined in its nascent state in the stomach; and that the resulting sulphate of soda tends to counteract the constipating effect of the iron.

At my suggestion, Messrs. Allen and Hanbury have made some capsules about the size and colour of a French olive, which are quite an "elegant preparation." I find patients much prefer them to pills, their size and flexibility allowing them to be easily swallowed, much more easily than pills; for, as one patient said, "They seem to slip down comfortably, almost before you are aware of it." They contain ½ drachm of cod-liver oil and 2 gr. each of sulphate of iron and carbonate of soda.

Meissner in his paper reported about 150 cases of anaemia treated in this way; of these, 2 complained of eructation and 2 of profuse menstruation. Excellent results were obtained in all the rest.

Bromley. PHILIP N. RANDALL, M.B.Lond.

BILIARY CALCULUS AND INTESTINAL OBSTRUCTION.

THE following case occurred in a patient belonging to my partner, Dr. David Price. The part I played in it was the operation, in which I had the valuable assistance of Mr. Edwards of Wincanton.

The patient was a well-nourished, hardworking woman, aged 52, who, like many of her sex, had little regard for her peristaltic exercises, and often suffered from piles. During the past twenty years she had had such pain, in evacuation, on one or two occasions that she might have passed a stone. In 1901 and 1903 she had attacks of severe pain under the right ribs, but no jaundice nor high-coloured urine was observed.

October 5th, 1904. Pain in the old place became much worse; she vomited frequently and had tetany. For two or three days morphine (given hypodermically) and belladonna relieved the pain. Enemata failed to produce any motion.

On October 7th the distended abdomen and rectum were explored under an anaesthetic. Nothing was found.

Two days later a median incision was made, and the small intestine traced until a hard lump was found in the right loin and brought to the surface; the intestine was cut open about an inch, and a nearly spherical gall stone removed. Its longest diameter was 1¼ in. No other stones and no cicatrices could be felt near the gall bladder.

The operation resulted in relief of pain and vomiting, and the bowels acted in three days. Pus formed in the wound, 2 oz. escaping on the eighth day and a fortnight later. Much hardness was found (about 2 in. across) on the right of the umbilicus a fortnight later. It disappeared, however, when the bowels had been induced to act by an enema. Probably there was paresis of the intestine. The patient recovered rapidly. Six months after the operation a small sinus remained, but healed without finding any remains of suture or ligature.

The behaviour of gall stones is capricious. Dr. Warden of Paris (BRITISH MEDICAL JOURNAL, September 24th, 1902) found an obstructing gall stone much longer than mine (2⅝ in.), but of the same diameter. Nevertheless, for years its presence was not revealed. On the other hand, Dr. Bridges[1] reported impaction of one only ⅝ in. in diameter.

On section the stone, in my case, showed a spherical centre of radiating crystals of cholesterine, ⅜ in. in diameter; then a layer of compressed dried mucus and epithelium, then a layer of dried bile, and another epithelial layer on the surface.

Castle Cary, Somerset. CAREY COOMBS, M.D.Lond.

POST-PARTUM ECLAMPSIA AND GLYCOSURIA.

IN view of the late discussion on eclampsia, the following case has some interesting points: The patient, a fairly healthy woman, aged 35, was delivered normally of a healthy child; second pregnancy. An aperient given on second evening acted freely, and she gave no cause for anxiety till the fourth day, when I was called at 2.30 a.m., and found her unconscious and with typical convulsions. Between 2 a.m. and 6 a.m. she had eight fits, remaining unconscious in the intervals. She was treated with morphine injections, and had hot packs and enemas of saline solution. She had no fits after 8 a.m., and gradually made a good recovery. Urine drawn off with a catheter during the night showed a faint cloud of albumen. That examined not long after the last fit occurred was only slightly albuminous, but reduced Fehling's solution freely. On the day following that on which the fits occurred, the urine was found free from albumen, and no longer reduced Fehling's solution.

As for the antecedents of this case, for six weeks before labour I treated her for obstinate constipation and dyspepsia. I examined the urine on three occasions, the last time only two days before delivery, and never found albumen. No history of epilepsy or signs of diabetes. The amount of albumen was never more than a faint cloud. The reaction with Fehling's solution was quite characteristic, and, taken with the specific gravity, 1030, indicated a fair amount of reducing sugar. I can only suggest that it might be lactose, the breasts being very full and hard. Might not such a substance circulating in the blood be the cause of the profound nerve storms in the attack I have described?

Sunderland. J. B. WATERS, M.B., B.S.

REPORTS
ON
MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

ROYAL INFIRMARY, NEWCASTLE-ON-TYNE.

THREE CASES OF INTERSCAPULO-THORACIC AMPUTATION.

(Under the care of Mr. RUTHERFORD MORISON.)

[Reported by FRED STOKER, M.B., B.S.(Durham), late House-Surgeon, Royal Infirmary, Newcastle-on-Tyne.]

DURING my term of office as House-surgeon in the Royal Infirmary, I have had the opportunity of observing the two following interesting cases, which, through the kindness of Mr. Rutherford Morison, I am enabled to report. The third case is from the Registrar's notes and is inserted for the sake of completeness.

CASE I.

M. M., a girl, aged 18 years, was admitted to the hospital with a large painful swelling in the position of the upper part of the humerus.

History.—About three months prior to admission she complained of a severe pain in the shoulder, which radiated down to the wrist. The pain was worse at night, preventing her from sleeping. Three weeks before she came to the hospital the shoulder swelled, and the pain became worse than ever, and on movement of the shoulder it was unbearable. These symptoms had since been progressive, the movements of the joint had become more and more restricted. There was no pain in any other part of the body. She did not remember having received any injury to the arm. Of late the patient had lost flesh. There was no family history of malignant disease, or indeed of any serious malady.

State on Admission.—The patient was a pale thin girl with an anxious expression of countenance. She had no abnormal temperature; the viscera appeared to be healthy. Locally, a rounded swelling the size of a newborn baby's head occupied the upper part of the right arm and encroached on the shoulder joint. The skin over it was reddened, and large veins ran over the swelling. Opposite the insertion of the deltoid the swelling was continuous with the humerus, which was normal below this point. The patient could not move the humeral head in the glenoid cavity, the movements at the elbow were quite free. On palpation the tumour was smooth and firm, surrounded the upper end of the humerus uniformly and extended into and filled up the axilla. There was a painful spot on its anterior surface. No enlarged glands could be felt.

Diagnosis.—Periosteal sarcoma of the upper end of the humerus. A radiograph was of assistance in making the diagnosis as the tumour gave a perfectly distinct shadow.

Operation.—On February 16th operation was undertaken. Every precaution was used to avoid shock; ethyl chloride was used to commence anaesthesia, and ether to continue it; ⅕ gr. of strychnine hydrochlorate was administered hypodermically. The arm was first emptied of blood, and then firmly bandaged with elastic. At first the arm was applied to the side, and an incision made along the clavicle from its sternal to its acromial end. The bone was exposed, the subclavius muscle separated from beneath it, and the clavicle was divided with a Gigli's saw at the junction of its inner and middle third. The distal portion of the clavicle was elevated, and half an inch sawn from it with an ordinary saw; the periosteum was removed with the bone. The third part of the subclavian artery was now isolated, tied, and divided between ligatures, the vein immediately afterwards being submitted to the same treatment. The nerves forming the brachial plexus having been injected with cocaine (Crile), the incision was next continued from near its acromial termination downwards in front of the anterior axillary line to the inferior margin of the pectoralis major, and the skin was reflected off the chest wall. The pectoral

[1] BRITISH MEDICAL JOURNAL, July 2nd, 1904.

muscles were now cut through, the arm being held at right angles to the trunk. The next step was the completion of the incision, which was carried out by extending it from near the acromial end of the clavicle, round the back of the shoulder and downwards to meet the anterior cut beneath the axilla. The skin was dissected off the back of the scapular region, and the trapezius, latissimus dorsi, interscapulo-vertebral muscles, omo-hyoid and serratus magnus divided. The arm was held away from the body, and the nerves and remaining connexions with it were divided. After the tying of the subclavian artery the haemorrhage was necessarily limited, but any which did occur was immediately controlled by forceps and ligature. The wound was sutured with a continuous catgut blanket stitch with a few guardian silkworm gut sutures here and there.

Pathology.—On section and microscopic examination the tumour was ascertained to be a chondrifying sarcoma.

After-Progress.—After the operation there was practically no shock, and the patient both felt and slept well. The wound was dressed six days after the operation, and had healed by first intention.

Result.—On the seventh day she left the hospital feeling quite well. On June 16th, 1905, she came up to the hospital. She was perfectly well and there were no signs of recurrence or dissemination.

CASE II.

T. T., aged 62, retired stationmaster. This patient was first in the hospital in June, 1904, when a scar epithelioma was removed from the left hand, and at the same time some enlarged glands were dissected out of the supratrochlear region and axilla, but the portions of those submitted to microscopical examination did not, like the sore itself, show any evidence of malignant infiltration. In September of the same year he was readmitted, the sore on the hand never having healed, and showing signs of malignancy to such an extent as to require amputation through the lower third of the fore-arm. The wound healed by first intention and the patient left hospital quite well, having gained 4 lb. since the operation. On February 13th, 1905, he was again admitted for pain and swelling of the left arm, and he gave the following history:

In November last he began to feel the cold very much in his left arm and fore-arm, and at about the same time his arm began to swell. A few weeks later he had pain in the arm and elbow, which was of a dull, aching, continuous character, radiating from the elbow to the shoulder; it was worse at nights, preventing sleep. The pain was continuous up to admission, and the swelling had gradually increased. About three weeks before a definite swelling about the size of a pigeon's egg appeared suddenly in the axilla. His doctor incised it, and it had been discharging since. He had lost weight lately.

State on Admission.—He looked fairly well, though much thinner, had a poor appetite, and slept badly on account of pain in the arm. He had no elevation of temperature, and the heart and viscera appeared to be healthy.

Locally there was marked swelling from the amputated wrist to the shoulder of the left arm, and in some places the skin was shiny and smooth. The scars at the seat of amputation and in the supratrochlear region were perfect.

The arm could not be abducted from the chest, and the elbow movements were interfered with, the latter being probably due to the oedema. A sinus was discharging pus from the upper part of the axilla, and the skin of the [illegible] neighbourhood was brawny, red, and infiltrated. Enlarged fixed glands were felt on the internal axillary wall. No enlarged glands could be felt in the left posterior triangle or in the right axilla.

Diagnosis.—The case was viewed as one of secondary malignant growth in the axilla, involving the nerves and blood-vessels of the arm.

Operation.—At the operation, performed on February 10th, the incisions were so planned as to tie the subclavian artery immediately outside the scalene muscle and to remove the whole of the skin and muscles on the upper part of the chest along with the axilla and its contents, the flap to cover this large raw area being borrowed from the deltoid area of the upper arm. The glands, which on exposure were found to be enlarged, were entirely excised from the lower part of the posterior triangle. A gauze drain was left in for four days, when the first dressing was removed and the sutures left temporarily untied over the gauze drain were finally tied.

Pathology.—The arm was in a condition of [illegible] all the glands in the axilla were infiltrated with growth, microscopically epithelioma, and on making serial transverse sections of the arm the infiltrated lymphatic vessels were well seen.

After-Progress.—Patient left hospital fifteen days after the operation, the wound was quite healed, he was greatly improved in health, and had ceased to pain. Shortly after his return home nodules were noted in the skin around the scar, in a few days the scar began to break down, and very soon did so completely, the ulceration spreading over the side of the thorax from the clavicle to the last rib and from spine to sternum.

Result.—He died from exhaustion fifteen weeks after operation, without ever exhibiting signs of internal dissemination.

CASE III.

The patient was a man, aged 24, admitted to the Royal Infirmary in October, 1902. Five months before admission he began to have pain in the left shoulder, which he set down as rheumatic. Six weeks before coming to hospital the pain got much worse, and the joint began to swell. Three weeks later his own doctor made an incision into the lump, and removed a piece for examination; this turned out to be sarcoma. From this time the swelling rapidly increased in size.

State on Admission.—When admitted to the hospital the man looked thin and ill, but there were no signs of growth in the internal viscera. There was a very large swelling in the position of the upper end of the left humerus, and growth protruded from the old incision.

Operation.—On October 10th the arm and shoulder girdle (outer half of clavicle only) were removed. There was nothing in the operation deserving of note except that the great nerve trunks were injected with a 4 per cent. solution of cocaine; there was practically no shock. The tumour proved to be a periosteal sarcoma of the round-celled type.

Result.—On November 3rd he went to his home. The wound was perfectly healed, and his general condition much improved. Shortly afterwards he developed pleurisy with bloody effusion, and had blood-stained sputum. Death occurred on December 31st, 1902, just over eleven weeks from the date of operation.

REPORTS OF SOCIETIES.

ROYAL ACADEMY OF MEDICINE IN IRELAND.—At a meeting of the Section of Medicine, on November 10th, Dr. JAMES LITTLE in the chair, Dr. WALTER SMITH read a paper on chemical solubility in connexion with human urine and gout. There were, he said, two kinds of molecules in urine: (*a*) non-ionized, represented in normal urine chiefly by urea and kreatinin; in pathological urines, by sugars and proteids; (*b*) ionized—that is, dissociated molecules—namely, the ordinary salts of the urine. The uric-acid theory of gout was inadequate, and misleading in practice. Uric acid never behaved otherwise than as a monobasic acid; its solubility in water at 18° C. was only 1 in 40,000, as shown by His and Paul. The true pathology of gout was still unknown, and when patients had been enjoined to take freely such foods as milk, cream, and cheese, which were almost free from purin bodies, and to be sparing of food which contained a large amount of purin bodies—for example, meats, thymus, and pancreas—little more could be said. Dr. TRAVERS SMITH thought it hard to accept some obscure alimentary toxin as the cause of gout in view of the hereditary character often shown by the disease, and of the fact that gout in females was rare till after the menopause, though there were the same dietetic errors before as after.—Dr. W. R. DAWSON read a paper on a year's asylum work, in which he expressed the belief that hereditary predisposition played a larger part than was generally believed.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.—At a meeting on November 16th, Dr. GILMORE ELLIS read a paper on opium drinking and the morphine habit in the Straits Settlements, illustrating it with lantern slides of insane and delirious victims of morphine, opium, and "hasheeh" or "bhang." Seventeen years' experience as Superintendent of the Government Asylum at Singapore, and the study of a few thousand cases, led him to state that "the hard-working, honest coolie and labourer never became ill by daily taking his two doses of opium extract, any more than the British workman in taking his two half-pints of ale a day." The abuse that existed was always traced to quacks and itinerant vendors, who went among the people and would offer to inject large doses of morphine and give large quantities of opium to smoke in the "hookah." These abuses had become so impudent and intolerable, that the Straits Settlements Legislative Assembly were bringing in a new law to enforce reform. The paper was discussed by Dr. G. FIELDING BLANDFORD, Mr. BRUCE, and Dr. YELLOWLEES, who quoted at length the conclusions of the Royal Commission of 1893 on the whole

subject); Dr. Robert Jones and Dr. Lloyd Andriezen, who gave a summary of the literature of the subject, and showed that the inhabitants of the fenland of the Thames Valley centuries ago discovered the virtues of opium as a prophylactic against malarial fevers.—Dr. Graham Crookshank read a paper on evolution in its relation to psychiatry, concluding that the physical and psychical might, with the addition of a little advanced biology, be explained on a theory not very different from Leibnitz's formula of "pre-established harmony."—Dr. G. W. Greene read a contribution on the prognosis of general paralysis, mentioning amongst other things that the variations in the course of general paralysis occurred at different life-periods, and that the prognosis varied accordingly.

Epidemiological Society.—At a meeting on November 17th, Dr. J. F. W. Tatham, President, in the chair, Dr. J. L. Todd read notes of an inquiry conducted by the late Dr. J. E. Dutton and himself, on behalf of the Liverpool School of Tropical Medicine, into the distribution and spread of sleeping sickness in the Congo Free State. They had passed two years and travelled 2,000 miles questioning personally and examining several thousand natives and others, obtaining replies to circular letters addressed to all the officials of the State, missionaries, and traders, and consulting the report of the French Commissioners in 1897. He had prepared three maps showing the distribution of the disease in (1) 1884, when European influence was but beginning to be felt, and it still followed the native and Arab trade routes; (2) 1897, when, after the expulsion of the Arabs and the opening-up of long-distance transport by caravans and river steamers, a considerable extension took place; and (3) 1905, by which time the establishment along the great trade routes of posts manned by native soldiers and labourers, often recruited from infected districts, had led to a spread of the disease into areas hitherto free. The cause of the sleeping sickness, and of the fever which preceded or existed side by side with it, was doubtless the presence of the haematozoon, *Trypanosoma gambiense*, the intermediate host being the fly, *Glossina palpalis*: and the apparent influence of wars and famines was to be explained by the consequent flight and migration of infected communities. The larva, though not aquatic, required moist shady spots, consequently the disease prevailed in the vicinity of rivers and lakes, and populations not two miles removed on high open plains might escape. It was constantly seen that the first cases in a previously healthy district were immigrants from an infected one; and, so far as was known, a district once infected remained so. But the chronicity of trypanosomiasis was such that many persons as well as animals experimentally infected might carry the parasite for five, ten, or more years without showing any symptoms. For practical purposes, it was sufficient to detect general enlargement of the posterior cervical glands, which in the absence of tubercle might be taken as evidence, though for positive and scientific diagnosis resort should be had to puncture of the glands and examination of the fluid. To prevent the further alarming spread of the disease, he recommended the establishment on all the lines of trade of posts of inspection, and the expulsion from districts hitherto uninfected of all persons with enlarged glands, with their removal to places already infected. Absolute quarantine would be impracticable, but the natives had learned to connect the enlarged glands with the disease, and would not resent a control over traders and migrants. Sir Patrick Manson read a letter from Captain E. D. W. Greig, I.M.S., on the recent extension of the sleeping sickness down the Nile, as far as lat. 4° N., and urging inquiry as to the distribution of the *Glossina* in non-infected areas, asking too whether a population ever became "salted." This Sir Patrick thought very important, but suggested that it be a matter rather of toleration than of acquired immunity. Dr. G. C. Low said that sleeping sickness was first reported from Uganda in 1900 by the missionary Dr. Coote, but probably many deaths previously ascribed to famine had been due to this cause, for it was hard to think that in so short a time it could have taken such a hold on the population. It was spreading in all directions, but chiefly northwards owing to the increasing trade. Dr. D. N. Nabarro, when in East Africa, had seen no sleeping sickness around the Albert Nyanza or on the Nile, but now the people of Uganda generally were dying at the rate of 100,000 per annum in a population of five millions, and in some districts 30 per cent. had the parasite. Dr. L. Sambon believed that the alleged extension of the tsetse fly area was due merely to better observation, for so long as it did not cause trypanosomiasis its presence was ignored. He had predicted the spread of the disease down the Nile when he found the *Glossina* there. Dr. F. W. Mott had now examined thirty brains of sleeping sickness, and found in all a characteristic chronic inflammation of the perivascular lymphatics, having some resemblance to that occurring in the general paralysis of the insane. Dr. Todd, replying, said that in rare cases recovery might occur, but the toleration, not immunity, was seen in the extreme chronicity of the disease in the form of trypanosomiasis, though sleeping sickness, whether primary or supervening on the fever, might be fatal in a few weeks or months. In one village the entire population—children included—were infected, but without symptoms, the adults having probably been infected for years. Accurate and practised technique was necessary, for it was impossible to recognize the parasites in the presence of water or of air bubbles; if the examination and staining were not carried out quickly they became indistinct and disappeared. He had found them in 85 per cent. of a series of 3 000 natives examined by gland puncture. In some comparative experiments they were present only in 15 per cent. in the blood, but in 50 per cent. after centrifuging, in 87 per cent. of fluid from lumbar puncture, and in 97 per cent. of the glands examined. The use of a combination of arsenic and aniline had been encouraging in experiments on animals, but had not yet been tried with man.

Sheffield Medico-Chirurgical Society.—At a meeting on November 9th, Dr. W. Tusting Cocking, President, in the chair, the proceedings included the following: Mr. Graham Simpson described a case of diffuse phlegmonous gastritis in a man, aged 35, whose symptoms resembled those of perforated gastric ulcer. After infusion the abdomen was explored, but the patient died during the operation. The stomach, which was exhibited, had its walls greatly thickened, the submucous layer being the seat of a whitish infiltration. Under the microscope masses of streptococci could be seen.—Mr. Pye-Smith showed (1) a large mulberry calculus removed from the bladder of a young man whose history indicated that it had been present since childhood; (2) four mummified gangrenous toes which had separated spontaneously in the course of four years, the foot having been carefully cleansed with antiseptics.—Dr. Barnes: (1) A specimen of pulmonary embolism, which occurred eleven days after operation for extravasation of urine. The embolus was a long one extending from the tricuspid valve to the bifurcation of the pulmonary artery, both branches of which were plugged; (2) a case of syphilitic myelitis coming on suddenly seven months after a primary sore. In one leg there was loss of sensation to pain and heat, but not to touch. Both legs were in a state of spastic weakness.—Dr. G. Wilkinson read a short communication on treatment of fractures of the humerus, and showed a splint named by him the "double wedge," made of millboard packed with cotton wadding. It filled the space between the chest wall and the arm, giving a firm support for the latter to rest upon. An outer splint of millboard or Gooch splinting was used, being kept in position by bandages sewn on to the wedge, and tied round the arm and outer splint. He recommended the use of the "double wedge" equally for fracture of the neck, shaft, or lower end of the humerus.

North of England Obstetrical and Gynaecological Society.—At a meeting at Sheffield on November 17th, Dr. D. Lloyd Roberts, President, in the chair, the following were among the cases shown:—Dr. J. W. Martin (Sheffield): A myeloid sarcoma of the uterus and a large fibromyoma which had undergone axial rotation and partial cystic degeneration.—Dr. W. E. Fothergill (Manchester): A calcified fetus removed from the abdomen seven years after an ectopic pregnancy which was said to have advanced for five months.—Dr. R. Favell (Sheffield): A myomatous uterus removed by abdominal hysterectomy, together with the ovaries. The latter contained lutein cysts, while the uterine cavity was occupied by a large vesicular mole. He also mentioned a case of Caesarean section done for acquired stenosis of the vagina, and another in which he operated for the second time on the same patient and found considerable adhesions between the uterus and the abdominal wall.—Dr. A. W. W. Lea (Manchester) mentioned a case in which he was consulted for persistent pain following a Caesarean section, and on opening the abdomen found adhesions so extensive that after separating them the uterus could not be saved, and was removed by abdominal hysterectomy. In discus-

sion some of the speakers thought that adhesions implied some degree of septic infection, while others thought that the chemical irritation of antiseptics used during the operation was sufficient to cause adhesions. It was considered to be rarely possible to do a second Caesarean section in the presence of adhesions without opening the peritoneal cavity.—Dr. T. B. Grimsdale (Liverpool) showed an example of ovarian pregnancy, and Dr. J. E. Gemmell (Liverpool) a large mass of fibromyomata removed by the abdominal route with the uterus, which contained an ovum of a few weeks' growth.—Dr. T. B. Grimsdale (Liverpool) showed composite charts of the pulse and temperature during a few days before and a week after operation in 120 cases. Antiseptics were used in 40 cases, aseptic precautions in another 40, and rubber gloves in addition to aseptic precautions in a third series of 40 cases. In the "pulse" chart the "antiseptic" curve was less satisfactory than the "aseptic" curve, and the "glove" curve was the best, as it returned to normal about twenty-four hours before either of the other curves. In view of the importance of the pulse curve as an indication of morbidity, this was regarded as strong evidence in favour of the use of gloves. In the temperature chart also the "glove" curve was superior to the "aseptic" curve in some respects, and both were markedly in advance of the "antiseptic" curve.

Edinburgh Obstetrical Society.—At a meeting on November 8th Dr. Freeland Barbour narrated a case in which a 4-para was first seen in the seventh month of pregnancy. She had not felt any movements, and the fetal parts could not be easily located owing to hydramnios. Soon after this a severe haemorrhage occurred. In a short time labour came on; the breech of the child was born without difficulty, but the head was arrested at the brim. This arrest was found to be due to exomphalos. After considerable delay the child was delivered by suprapubic pressure.—Dr. B. P. Watson read his gold medal thesis on Removal of the Liquor Amnii as a Cause of Death of the Fetus and of Changes in the Placenta. The paper was based on experiments with rabbits. He drew the following conclusions: (1) In all cases almost immediate death of the fetus follows aspiration of the liquor amnii or the yolk sac fluid. Death results from arrest of the circulation of the fetus consequent on the general alteration of pressure within the sac following on aspiration of the fluid. When examined three days after aspiration of the liquor amnii the fetal placenta is distinctly less vascular in appearance than normal. At the same time there is a slight deposit of coagulated lymph in the mesoderm at the surface and in the substance of the fetal placenta. The ectoderm, though it already shows signs of degeneracy, still retains its power of penetrating the maternal tissues. The maternal portion differs from normal only in the greater amount of fibrinous deposit amongst the decidual cells and the more distinct differentiation of the zone of separation. In fact it continues to develop along the normal lines, but at a more rapid rate than usually obtains. Examination of placentae at later dates shows progressive degenerative changes in the fetal portion. The fibrinous deposit in the maternal part becomes more and more extensive, resulting in degeneration and disappearance of the decidual cells. The fibrin laminae round the vessels become thickened, so that many of the latter become obliterated, while the tissue forming the zone of separation becomes more attenuated. Thus the maternal placenta continues to develop along normal lines, whereas the fetal portion degenerates. The behaviour of the two component parts exhibits, therefore, remarkable difference. The behaviour of the maternal portion throws much light on the rarity with which abortion was induced during these experiments. The difficulty sometimes experienced in inducing abortion in the human subject may be explained on the same lines. The formation of the zone of separation does not depend on the death of the fetus. Emeritus Professor Simpson expressed regret that the paper did not reveal the origin of the liquor amnii. Dr. Hart thought the apparent growth of the placenta after death of the fetus might in part be due to the presence of organized blood. Dr. Haultain said that though withdrawal of the liquor amnii was not always followed by abortion in the human subject it usually was; in one of his cases such abortion was delayed for a month. The paper seemed to throw light on the development of a carneous mole and the difference between it and a missed abortion. The latter might be due to escape of liquor amnii followed by the death of the fetus and of the maternal decidua, whereas the carneous mole was perhaps due to the fact that though the fetus died the maternal portion of the placenta still continued to grow.

Association of Registered Medical Women.—At a meeting on November 7th, Miss Aldrich-Blake, the President, in the chair, Mrs. Savill, M.D., showed a woman, aged 26, suffering from epidermolysis bullosa. The patient was one of a family of eight, the only other member similarly affected being a brother aged 44. From early infancy they had been troubled by the formation of bullae on those parts of the body exposed to friction or traumatism. The bullae appeared more frequently and were larger in summer, while in cold weather they were often absent. Dystrophy of the nails was present in both cases, but no milium-like cysts. Permanent cicatrices were left on the legs where the bullae had been most frequent. A section of a bulla under the microscope showed effusion of serum between the stratum lucidum and the stratum granulosum. Treatment by ergot had caused marked improvement in the hot months of August and September.—Dr. Constance Long read a paper on What is normal menstruation and how ought we to treat the adolescent girl? She pointed out that very little of the medical literature on the subject was written by Englishmen and none of it by medical women. Greater attention to hygiene during adolescence was urged, particularly with respect to action of the bowels and long hours of sleep. Gymnastics and outdoor games in moderation might be allowed even during the period, but the adolescent girl should never take part in matches. Menstruation being a physiological function should be painlessly performed, and ought in no way to interfere with the ordinary life of a normally healthy girl. Much harm had been done in the past by unhygienic and unnecessary restrictions regarding bathing. The girl should be encouraged to continue her usual practice of a hot or cold bath at the time. Watchfulness should be exercised by the mother or guardian, and the girl should be discouraged from concealing special suffering under the generic plea of "a headache": abnormalities of menstruation should be reported and medical aid obtained, but the function when healthily performed should be treated with wholesome neglect. In the general discussion which followed, bathing during menstruation was upheld, but gymnastics during the first few days was condemned by some speakers.

Pathological Society of Manchester.—At a meeting on November 8th, Professor Lorrain Smith in the chair, the following were among the exhibits:—Dr. R. G. Rows: a series of sections of two dermoid cysts found on the frontal lobe of the brains of two epileptics, aged 73 and 77 respectively. One of these tumours consisted of a cyst encircled by a layer of epidermal cells, and contained cells which had been shed, plates, and fat cells. The other was much larger, and in it were found, besides epidermal structures, sebaceous glands, hairs, fibrous tissue, embryonic blood vessels, cartilage and bone. No symptoms of tumour of the brain had been evident during life, but there could be no doubt that the epilepsy was intimately connected with the tumours, or with an associated anomalous development of the brain. It was suggested that Beard's theory of the derivation of tumours from "wandering primary germ cells" explained the existence of these cysts.—Dr. Charles Melland: Specimens from a case of lymphosarcoma. Clinically the case ran a very rapid course, and was characterized by slight enlargement of cervical glands and enlargement of the liver, which could be felt to be studded with secondary nodules. At the autopsy it was found that practically all the internal lymphatic glands were the seat of a general lymphosarcomatosis, and this was most strikingly shown in the lymphoid tissue of the Peyer's patches, which had undergone marked sarcomatous changes. The Malpighian corpuscles in the spleen were unaffected. There were numerous secondary nodules in the liver, and a few in the kidneys, but none elsewhere.—Drs. Dixon Mann and Melland: Specimens of an unusual urinary deposit, consisting of large, colourless, crystalline masses composed of aggregations of irregularly-polyhedral crystals of uric acid.

Glasgow Medico Chirurgical Society.—At a meeting on November 17th, Dr. J. Lindsay Steven, President, in the chair, Dr. J. Walker Downie showed a man on whom he had performed oesophagotomy for the removal of a tooth plate impacted in the gullet. The patient, while asleep, suddenly woke up with a sense of suffocation, accompanied by sharp pain in the throat. When seen by Dr. Downie the

denture was felt, by an oesophageal probe, lying well below the level of the cricoid cartilage. Being assured that the plate had no hooks or clasps, a coin-catcher was passed, the hook of which readily engaged the tooth plate, but the latter could not be moved. Killian's oesophagoscope having failed to bring the plate into view, oesophagotomy was performed, under chloroform, thirty-six hours after the plate had slipped into the gullet. When the gullet was exposed it was found that a sharp projecting corner of the plate was pushing out the oesophageal wall, and, at this point, the wall had sloughed under pressure. The plate was of vulcanite with four incisor teeth, and had two pins to fit into tooth sockets. After removal the gullet wall was not stitched, but a soft rubber tube was passed through the nose into the stomach, and the wound packed with iodoform gauze; it closed so satisfactorily that, at the end of two weeks, the patient could swallow semisolids, and, in another week, meat and potatoes.—Dr. A. A. GRAY gave a lantern demonstration of some pathological conditions found in the inner ear: (1) An accessory ampulla in the horizontal canal; no symptoms relative to such a condition were known. (2) Calcareous deposits in the vestibule of both labyrinths. These probably produced the symptoms of giddiness of which the patient complained during life. He was also deaf, but no changes were found in the cochlea sufficient to account for this symptom. (3) Otosclerosis, affecting both labyrinths and causing absolute deafness. The labyrinths were both affected by the presence of calcareous deposits, the canals being affected on one side and the cochlea on the other. The auditory nerve was atrophied on both sides.—Dr. W. WALLS CHRISTIE read a paper on stovaïne as a local anaesthetic. He stated the results obtained in 63 throat and nose cases in which the electrocautery or cold-wire snare had been used. The solution employed was 20 per cent. His conclusions were: (1) That stovaïne is at least as powerful a local anaesthetic as cocaine when swabbed on the mucous membrane of the upper air passages; (2) its effect is produced and passes off more rapidly; (3) it is much less toxic; (4) although not a vaso-constrictor, its use is not attended by any more haemorrhage.

REVIEWS.

GYNAECOLOGY.

THE mucous membrane of the uterus is very difficult to study in the normal condition, as it is more than a mere mucosa. Like the inner lining of the stomach, it is an organ with complicated functions, and besides, it is periodically shed to a certain—or, rather, as far as our knowledge goes, to an uncertain—extent. Hence, we cannot easily recognize a standard or normal endometrium, and in consequence the pathology of that membrane is a very difficult theme. Another hindrance to the study of the normal human endometrium is made prominent by Dr. JESSIE MACGREGOR. There is little difficulty in procuring a fresh sample of uterine mucous membrane from a case of cancer or fibroid, as the pathologist can take charge of a uterus affected with either of these diseases directly it is removed, but for self-evident reasons it is very difficult to procure a normal uterus. *Post-mortem* changes are very rapid, and the cause of death may gravely affect the uterine mucosa. Thus it is clear that *The Pathology of the Endometrium*[1] represents hard work on a difficult subject, and we must admit that the authoress has produced a most instructive treatise. The illustrations, over a hundred in number, are a very essential feature of a pathological work of this type, and it is satisfactory to find that they are photomicrographs of the highest class printed on sheets separate from the text. Amongst the finest are several which show how leucocytes make a breach in the epithelium of the endometrium, often followed by haemorrhage, which detaches the epithelial cells. Figs. 87 to 90 show that it is the action of the leucocytes which first makes the breach, not mere bursting of adjacent capillaries and carrying off of epithelial cells in a stream of blood. The author, as might be expected, has found the study of cancer and adenoma relatively easy, since carcinomatous and adenomatous growths are, taken as a whole, the same in the uterus as elsewhere; but it is different with the study of endometritis. Fortunately she has been granted the opportunity of examining specimens obtained from 250 curettings and sent for report to the laboratory of the Royal College of Physicians, Edinburgh. The chief result of Dr. Macgregor's researches is to rehabilitate "endometritis" to a great extent; the author insists that it has been abused as an indefinite term, but she endeavours, not without success, to limit its application. Her researches rather tend to confirm an old-fashioned classification which distinguished a true uterine catarrh the homologue of catarrhal inflammation of any other mucous membrane. The writers of a past generation made this distinction on theoretical considerations, but Dr. Macgregor claims to have detected catarrh proceeding in the endometrium, and further research will, we suspect, confirm her views. Her observations on degenerative changes in the endometrium due to oedematous and vascular degeneration are of the highest interest. In conclusion, she insists that there is much not yet fully explained in the benign changes in the endometrium, and therefore it would be useful if gynaecologists would carefully examine, or cause to be examined, microscopically every case of curetting, and not merely those which present unusual or suspicious features. We may add that their examination will be greatly aided by a faithful study of this publication.

Dr. ASHTON'S *Practice of Gynaecology*[2] is a very solid publication, but it is totally free from anything that might be irreverently termed padding. There are no references either as footnotes or as bibliography lists at the ends of chapters; and another familiar feature of textbooks—tables, or statistics of operative triumphs and mortality—are conspicuous by their absence. Thus this work is "solid" in the best sense of the word. Some may think that a few statistics would have been advisable, but the author perhaps held that they might be misleading to the learner and to the inexperienced. Dr. Ashton has also carefully avoided the multiplication of methods of performing any one operation—a besetting sin amongst medical-book compilers. As the *Practice* is all first-hand information, or, at least, deals with essentials before any secondary considerations, it must have entailed a great amount of labour on its author. The illustrations, which are very numerous, are clear, though seldom up to the level of the artistic perfection common in American medical works. Some of the nude outlines marking the position of patients during exploration and operation might have been spared, and the pathological drawings are of poor quality; thus, at page 489 the diagrams do not clearly demonstrate the distinction between salpingitic and perimetritic closure of the ostium, as in the well-known sketches originally published in a paper on closure of the ostium in inflammation of the Fallopian tubes, where its author introduced the above-noted terms. Reference to that paper is given by another author, to whom the establishment of the distinction is here wrongly ascribed very near a passage which Dr. Ashton quotes in full. The best feature in the illustrations is the care which Mr. Altender has taken to make his drawings of the steps of plastic operations—the despair of gynaecological artists—fairly intelligible, and on the whole we may say that he has succeeded. The chief original feature in the text is the stress laid on the essential accessories of gynaecology. The chapter on diet might well be read not only by the British student but also by British authors of works on diseases of women. Dr. Ashton treats of the alimentation of the sick, by which he means any patient with any disease peculiar to women, and not only patients submitted to operation. The clear directions for making broths and gruels are far from out of place. Some of the "soft" diets are too exotic for British homes and hospitals, whilst "peach foam," which we are told forms, when properly made, "a thick, smooth, velvety cream," may seem designed for the epicure rather than for the invalid. But, where the patient is to be treated by rest, the tedium of prolonged inactivity is much relieved by an agreeable dietary. One reason why many women with chronic inflammatory pelvic diseases beg for an operation so as to have done with their troubles—as they hope—is the dread of prolonged half-fasting on mawkish "light diet" as prepared in too many British homes and nursing establishments. Ladies fed on lukewarm soup and gruel are likely to be less patient than others kept going on "peach foam," "chicken panada," and "creamed

[1] *A Contribution to the Pathology of the Endometrium.* By Jessie M. Macgregor, L.R.C.P. and S., M.D., Junior Acting Medical Officer, Edinburgh Hospital for Women and Children; Lecturer on Gynaecology in the Edinburgh School of Medicine of the Royal Colleges. Edinburgh and London: William Green and Sons. 1905. (Demy 8vo, pp. 52, 106 photomicrographs.)

[2] *A Textbook on the Practice of Gynaecology for Practitioners and Students.* By William Easterly Ashton, M.D., LL.D., Professor of Gynaecology in the Medico-Chirurgical College, and Gynaecologist to the Medico Chirurgical Hospital, Philadelphia, etc. With 1,046 new line drawings illustrating the text by John F. Altender. London: W. B. Saunders and Co. 1905. (Demy 8vo, pp. 1,079, 1,046 illustrations. 27s. 6d.)

potatoes." Lastly, we must turn to what is reckoned as everything in gynaecology by many compilers. The clinical portion of the textbook is very fair, though, of course, not original. In the description of clinical appliances Dr. Ashton is strong, thus he introduces directions for the use of the urinary segregator. We agree with him in warning the reader against the perils of myomectomy for fibroid, and in being very reserved about the benefits of the operative treatment of uterine cancer, but many will criticize his opinion that the "vast majority of uterine fibromata demand removal." In conclusion, we may define Ashton's *Practice of Gynaecology* as a textbook well suited to the post-graduate student.

The standard treatise on clinical and operative gynaecology,[3] by Dr. Pozzi, has reached a fourth edition which has been revised by its author while still in the active practice of his professorship and of his profession. The second volume of this issue of the *Traité de Gynécologie* will, we are informed, appear shortly. Much new matter has been added, especially concerning operative asepsis, and the author and his assistant have been obliged to reduce the bibliography to what they consider to be the smallest possible proportions. Nevertheless we find over twenty references more than once at the foot of a single page, so that it cannot be said that the labours of others are neglected. This question of references is growing more and more difficult, for it is often very advisable that the reader of a book should trace all quotations to their original source, whilst on the other hand a multiplicity of footnotes is harassing to the student and liable to excite distrust in the mind of a practical and experienced reader. The chapter on fibroid and pregnancy illustrates this difficulty very plainly; in the tables a considerable number of cases is collected but many more have been published, yet it is doubtful if long tables of cases of this class be needed at the present day. Readers of a textbook by an authority like M. Pozzi will wish to learn the author's opinion on the surgical treatment of diseases like uterine fibroid and uterine cancer, and the readers of a new edition will take even greater interest in any modification of his opinion. M. Pozzi, in summing up the results of abdominal hysterectomy, admits that the mortality is very low, but insists that enough stress is not laid on the state of health of the patient at the time of operation. A healthy subject can tolerate the removal of a fibroid of moderate size, "operative recovery being the absolute rule," but perfect asepsis and operative skill, with high experience to boot, cannot reduce mortality to a cypher when patients are reduced in health owing to long-standing haemorrhages, and are subject to cardiac and renal disease. As to the variety of hysterectomy to be chosen, M. Pozzi holds that the "subtotal" operation is the more simple, the more rapid, and the less serious of the two; therefore he prefers it to the other method, panhysterectomy, "sharing in this respect the authoritative opinion of Professor Terrier." The summary of the immediate and distant results of hysterectomy for cancer of the cervix is exceedingly instructive. The author displays considerable scepticism about certain statistics. M. Pozzi's own mortality in vaginal hysterectomy is 15 per cent., but his 9 most recent cases all recovered; and of 34 cases of cancer of the cervix, where he removed the uterus through an abdominal incision, 8 died. Like several recent writers, he is not enthusiastic about after-results. "Definite cure of uterine cancer is not yet demonstrated, for recurrence has been observed after six, seven, or even eight years of apparent cure. Even the most favourable cases can only be spoken of as *long survivals*"—the italics are in the original text. MM. Pozzi and Jayle hold that some statistics of non-recurrence are so suspiciously brilliant as to give rise to some doubt about the operator's histological interpretation of the uterine lesion. Fränkel considers that uterine cancer is perfectly curable if treated as soon as possible after its earliest origin; but the statistics of Ott and others suggest that a minute non-cancerous lesion may occasionally be mistaken for incipient cancer.

Dr. Findley's book on *The Diagnosis of Diseases of Women*,[4] is a didactic work, intended, we presume, to help the student to pass his examination, and the practitioner to find out what is the matter with his patients. It is not written to bring new methods or new facts before the profession, nor does it make any attempt to present an exhaustive and critical account of the diagnostic criteria that have been laid down by different writers upon gynaecological subjects. It is very comprehensive; the student is taught how to examine the blood, and how to cut and stain sections. In cases of doubt, the author tells us that the nature of the disease can be determined by the microscope in twenty minutes in the operating room. He adds, however, "While the freezing method has an important place in connexion with the operating room, the sections are not eminently satisfactory, for the reason that only small sections can be made, and differentiating stains cannot be used." The pages given to the diagnosis of dysmenorrhoea are unsatisfactory. No mention is made of spasmodic dysmenorrhoea, nor of any dysmenorrhoea curable by dilatation of the cervix. But the author says: "My personal opinion is that severe dysmenorrhoea in the absence of pelvic abnormalities is rare." We submit that it is precisely in the patients—young unmarried girls—who have no pelvic abnormalities that the severest cases of dysmenorrhoea occur. The idea that in these young unmarried girls there must be some organic disease to account for the pain has in the past led to physiological conditions being taken for disease, and treated as such, greatly to the detriment of the patient. We should anticipate the same evil consequence from our author's teaching as to endometritis. He says that "one and all of the pathological forms of endometritis may exist without clinical signs." One of the worst superstitions with which a young doctor starting in practice can be encumbered is the idea that endometritis is common in virgins, and may exist without local symptoms. The sections dealing with new growths of the uterus and ovaries treat of their etiology, pathology, and histology, as much as of their diagnosis; and these parts are the best in the book, for the author has read widely, and is obviously an accomplished histologist. The paragraphs on clinical diagnosis show a lack of the judgement which long experience alone can give. Thus in setting forth the diagnosis between small ovarian tumours and fibroids the author tells the student that the history will help. Experience would have taught him that in 99 per cent. of small ovarian tumours the patients know not that they have tumours until the doctor tells them; and therefore that there is no history. We believe that opinion is almost unanimous against the use of exploratory puncture as a means of diagnosis of large collections of fluid in the abdomen—a practice recommended by our author. In short, while the book has many merits, and may be read with interest by any one who studies gynaecology, yet we cannot recommend it as a complete and trustworthy guide for the practitioner or student.

The method of treatment described in his book on positional pressure treatment[5] is, according to Dr. Pincus, so successful that operation is hardly ever required. The treatment consists in putting the patient on a plane inclined at about 30 degrees from the horizontal, her heels being higher than her head. In this position a bag of mercury, weighing from 2 lb. to 10 lb., is laid upon the hypogastrium and another bag of mercury weighing from 1 lb. to 3 lb. is placed in the vagina. The inclined posture favours the return of blood from the pelvic organs; and the compression between the two bags of mercury is thought to favour the absorption of inflammatory exudations. If the patient is being treated at her own home, this compression is kept up as long as the patient can stand it. If she visits the doctor at his house, she is kept propped up and pressed upon for from half an hour to two hours. The bags of mercury do not exhaust Dr. Pincus's therapeutic resources. He has variously-shaped pieces of wood, a bow, a wheel, a spindle, with which he massages the abdomen; and he attains similar ends by putting the woman in various positions—for example, bending her body till her toes are almost in contact with her face. When we add that, before putting the bag of mercury into the vagina, Dr. Pincus is careful to thoroughly disinfect, and as far as possible sterilize, that canal, it will be realized that this treatment is no joke. The man who can persuade a number of

[3] *Traité de Gynécologie Clinique et Opératoire.* Tome II. Clinical and Operative Gynaecology. Part 2. Pp. [illegible]. *Traité de Gynécologie à la Faculté de Médecine de Paris.* Quatrième édition revue et augmentée avec la collaboration de F. Jayle. Vol. I. Paris: Masson et Cie. 1905. Demy 8vo, pp. 482, 526. Illustrations. Frs. [illegible].

[4] *The Diagnosis of Diseases of Women.* A treatise for students and practitioners. By Palmer Findley, B.S., M.D., Assistant Professor of Gynaecology and Obstetrics, Rush Medical College, Chicago, etc. Second edition. London: Baillière, Tindall and Cox. 1905. Roy. 8vo, pp. 882, 19 plates, 221 Illustrations. 21s.)

[5] *Behandlungsmethoden. Grundsätze einer nichtoperativen Behandlung chronisch-entzündlicher Frauenkrankheiten und ihrer Folgezustände.* (Positional pressure treatment. Fundamental principles of a non-operative treatment of the chronic inflammatory diseases of women and their sequels.) Von Dr. Ludwig Pincus, Frauenarzt in Danzig. Mit 25 Abbildungen. Wiesbaden: J. F. Bergmann; and Glasgow: F. Bauermeister. 1905. (Demy 8vo, pp. 152. 4s. 6d.)

patients to submit to this treatment daily for many weeks must possess the power of self-assertion in a most enviable degree. Dr. Pincus's diagnostic powers seem to be also very marvellous. Most English gynaecologists, when they are called to a case of pelvic peritonitis will not venture further in the diagnosis than to express an opinion whether there is or is not, a collection of pus. If they think there is pus, few will try to predict whether the pus will be found in the tube or in the ovary, or in both, or in a cavity bounded by adhesions about the tube and ovary. But Dr. Pincus appears able to differentiate perimetritis, "pelio-perimetritis," peri-oöphoritis, peri-salpingitis, enlarged painful fixed ovaries, and chronic tubal swellings. The only contraindications for this "positional pressure treatment" are the presence of pyrexia, smallness of the vagina, and the fact that when tried the pressure makes the patient worse. We may note a further practical point: that the author examines his patients while they are on this inclined plane; and he says that it has such extraordinary advantages that whoever has practised bimanual examination in this position will never use any other. It will become absolutely indispensable to every gynaecologist. We have outlined the contents of this book. We wonder if a gynaecologist can be found in England who will persuade patients to lie for hours on an inclined plane with bags of mercury in position: and then compare the results with those of patients with similar disease kept horizontal in ordinary beds without pressure.

MEDICAL AND SURGICAL APPLIANCES.

An Untearable Mosquito Netting.—A frequent source of trouble and annoyance with a mosquito net in the tropics is the ease with which it gets torn, and thus full of holes. It is not uncommon to be supplied even in hotels with a net containing sufficient apertures for the ingress of many mosquitos, and the liability to such a condition is, of course, much greater in a bush life. Lately Mr. A. M. Hart, 13, Gerard Street, London, W., has perfected, after a considerable amount of trouble, an untearable mosquito netting made out of the well-known "Ramie" fibre. This netting, resembling in pattern the old cotton material, differs in its great durability and strength and untearable qualities. It should prove of great benefit to travellers and others, and in ordering a net one should be careful to choose this material in place of the other forms of cotton and muslin so often used and so easily torn.

Book Support.—The annexed illustration depicts an ingenious book support which has been designed by Mr. Arthur Englefield, of Longford Lodge, Gloucester. In one of the forms in which it is sold is included a frame for use as a drawing board. The bracket seen on the right of the picture can be raised or lowered, and the angle at which the book is supported thus varied as may be desired. These supports are sold at prices sufficiently low to bring them within the reach certainly of the proprietors of all private schools, and in these it is to be



noted that the question of posture and proper seating of the child during reading or writing does not receive as much attention as in the better organized elementary schools, and not half as much as it demands. In private schools the children are often expected to do their work at ordinary flat tables, and many of them suffer in consequence in the way of crooked spines and acquired short sight. These supports seem well calculated to remove these risks, and their use might also be extended to private houses where young people during the holidays often spend much of their time poring over books and drawing boards for their own amusement.

THE PRONE PRESSURE METHOD OF ARTIFICIAL RESPIRATION.

We have received several inquiries with regard to Professor Schäfer's prone pressure method of artificial respiration in consequence of a letter relating a case in which it was successfully applied published in the British Medical Journal of October 28th. The best answer that can be returned is to republish the description of the method given by Professor Schäfer in his paper in the *Medico-Chirurgical Transactions*, vol. lxxxvii, p. 613.

Instructions for the Treatment of the Apparently Drowned.

Immediately on removal from the water place the patient face downwards on the ground with a folded coat under the lower part of the chest. Not a moment must be lost in removing clothing. If respiration has ceased, artificial respiration is to be commenced at once; every instant of delay is serious.

To effect artificial respiration put yourself athwart or on one side of the patient's body in a kneeling posture and facing his head (see figure). Place your hands flat over the



lower part of the back (on the lowest ribs), one on each side, and gradually throw the weight of your body forward on to them so as to produce firm pressure—which must not be violent—upon the patient's chest. By this means the air (and water, if there is any) is driven out of the patient's lungs. Immediately thereafter raise your body slowly so as to remove the pressure, but leaving your hands in position. Repeat this forward and backward movement (pressure and relaxation of pressure) every four or five seconds. In other words, sway your body slowly forwards and backwards upon your arms twelve to fifteen times a minute without any marked pause between the movements. This course must be pursued for at least half an hour, or until the natural respirations are resumed. If they are resumed, and, as sometimes happens, again tend to fail, the process of artificial respiration must be again resorted to as before.

Whilst one person is carrying out artificial respiration in this way, others may, if there be opportunity, busy themselves with applying hot flannels to the body and limbs, and hot bottles to the feet; but no attempt should be made to remove the wet clothing or to give any restoratives by the mouth until natural breathing has recommenced.

Hypodermic injections of atropine sulphate (1/100 to 1/30 gr.) and of suprarenal extract (either as adrenalin chloride or in any other form) may be used to assist recovery.

The advantages claimed for this method are:

1. The ease with which the physical operations necessary to carry on artificial respiration may be performed—hardly any muscular exertion is required.
2. The efficiency of the gaseous exchange produced by it between the outside air and the air in the lungs.
3. The extreme simplicity of the procedure: no complex manipulations are required.
4. The impossibility of the air passages being blocked by the falling back of the tongue into the pharynx.

5. In cases of drowning, the readiness with which water and mucus are expelled from the air passages through the mouth and nostrils.

6. Involves no risk of injury to the congested liver or to any other organ.

LONDON COUNTY COUNCIL.

Public Control Department.

(Concluded from p. 1367.)

The Council has no direct control over smoke nuisance, the duty resting with the various metropolitan borough councils. Under Section 100 of the Public Health (London) Act, 1891, however, the Council has a general power of acting in default, and the Council's coal officers have therefore been instructed to report any nuisance from black smoke of serious duration coming under their observation in the course of their ordinary duties. Evidence of 8,579 cases of smoke nuisance has been furnished by the Council to the various borough councils. Much nuisance was observed in some districts, but abatement was generally secured, and it was not found necessary for the Council to take action in default. In many cases much of the nuisance was of an intermittent character. Despite representations made at various times to the War Office both by this Council and by the local authority, Woolwich still suffers from smoke from the Arsenal. Unfortunately, property belonging to the Crown is exempt from the Act, so that whilst manufacturers are compelled to adopt precautions for preventing nuisance, a Government factory may emit smoke without restraint.

At the conference of the metropolitan borough councils on the administration of the Act, held in July last, the following resolution was passed:

> That in the opinion of this Conference it is desirable that the provisions of the Public Health (London) Act, 1891, as to nuisance arising from the emission of smoke should be applied to property in the possession of the Crown.

When opportunity arises for amending the Act this defect will not, the Chief Officer of the Public Control Department says, be lost sight of.

One considerable source of nuisance unaffected by the present law, which particularly concerns London, is the smoke from private houses. Many hundred thousands of domestic chimneys emit smoke daily in winter in London, and it is obvious that so huge a volume of smoke must pollute the atmosphere to a serious extent. Not only does smoke materially assist in forming and intensifying fogs, but in calm weather, even when no specific fog is formed, smoke hangs over London in clouds, depriving it of a large amount of sunshine. Dr. W. N. Shaw, of the Meteorological Office, states that he finds from comparison of records that London loses at least one half of its sunshine in winter, and there can be no doubt that domestic fireplaces contribute largely towards this evil.

Several attempts have been made to discover a form of domestic grate which will burn bituminous coal smokelessly, and recently the Coal Smoke Abatement Society conducted series of tests of open grates with that object in view. Some of these grates gave good results, and the society memorialized the Council to carry on the tests on a more extensive scale. In addition to this request, a number of metropolitan borough councils asked the Council to experiment with the other source of domestic smoke—the kitchener—to ascertain if there is an economical and smokeless form of apparatus for cooking which can be readily adopted for general use. These requests were carefully considered by the Public Control Committee, and the Committee came to the conclusion that, although it is very desirable that a thorough investigation should be made of the whole subject, it is not a matter with which the Council itself has power to deal.

Infant Life Protection.

The Infant Life Protection Act, 1897, requires that persons who undertake the care of:

(*a*) More than one infant under the age of 5 years, for a longer period than forty-eight hours, for hire or reward, or

(*b*) A single infant under the age of 5 years in consideration of a lump-sum payment of not exceeding £10 without agreement for further payment,

shall notify the fact to the local authority. Notice is also required to be given on the removal of any infant, and to the coroner in the event of the death of an infant. Power is given to the local authority to cause infants to be removed to a workhouse when they are found kept under conditions which endanger their health.

The Council employs three women inspectors, who have special experience in the care and management of infants, to inspect the infants coming under the Act and the premises in which they are retained. Each inspector is responsible for advising as to the proper maintenance of the infants in her district, and is required by the Act to give any necessary advice as to such maintenance.

During the year under review 332 houses and 1,043 infants have come under inspection, and 3,175 visits have been paid by the women inspectors to these dwellings. Generally speaking, the keepers of notified houses are found to be respectable, hard-working women, anxious to do their best for the infants in their charge, and very frequently under adverse conditions as to remuneration. It is a matter of frequent experience for the inspectors to find the adults in notified houses going short of food, but in no case have they found the nurse infants deprived of necessary nourishment.

Eighty-two deaths of infants of statutory age have occurred in notified houses during the year, of which 72 were of infants under the age of 12 months. This gives a higher death-rate than that of the two previous years, it being 78 per 1,000 for infants under 5 years, as compared with 60 in 1902-3, and 61 in 1903 4 respectively. The deaths of infants under one year reached 124 per 1,000, as against 103 and 75 respectively in 1902 3 and 1903-4. The general death-rate for London for infants under one year is 146 per 1,000 births.

The causes of death of infants under 5 years at notified houses are classified as follows: Diarrhoea and enteritis, 37; diseases of the respiratory system, 7; marasmus and malnutrition, 16; heart diseases, 3; syphilis, 3; meningitis, 2; convulsions from constipation, 1; misadventure, 1; irritation of stomach, 1; and exhaustion following acute disease of middle ear, 1.

Inquests were held in 9 cases during the year, in 7 of which verdicts of death from natural causes were returned. In 1 of the remaining cases a verdict of death from natural causes was given, but a rider was added censuring the previous nurse-mother for neglect. As this person had failed to give the Council notice of the keeping of nurse-infants, proceedings were taken against her for the neglect of this statutory requirement. In the other case a verdict was returned of death from sudden heart failure while suffering from chronic irritation of the stomach and intestines, due to improper feeding.

The Act as a whole has proved a useful measure in safeguarding the lives of infants coming within its purview, and the only difficulty experienced by the Council in its administration is as regards cases of adoption for sums not exceeding £20. Four cases have arisen during the year, which again demonstrate that it is the "lump-sum" infant which is most likely to meet with improper treatment, or to be taken with no intention of complying with the Act.

Two male inspectors are employed by the Council in detecting persons in London who may be evading the Act. These officers, who are in touch with all officials likely to have cognizance of infants placed out to nurse, have succeeded in discovering twenty-eight infringements during the year, in six of which proceedings were taken, and penalties amounting to £19 16s. imposed.

A Bill to amend the Infant Life Protection Act has again been introduced into the House of Commons on behalf of the Poor-law authorities of Great Britain, who are the local authorities for the administration of the Act outside London. This Bill, with slight modifications, has been introduced into Parliament in each of the last four sessions. The amendments in the present Act which the Council think desirable are as follows:

1. Additional powers for more adequately safeguarding the lives of adopted infants.

In addition to the proposals to effect this object contained in the amending Bill, the experience of the Council's inspectors appears to indicate that the following additions should be made to Section 5 (the adoption clause):

(*a*) To require that notifications as to the adoptions of infants shall contain particulars as to such infants similar to the particulars as to infants notified under Section 2 of the Act;

(*b*) To prohibit the retention or reception of more than one adopted infant without the written sanction of the local authority; and

(*c*) To prohibit the transfer of an adopted infant without the consent of the local authority.

2. Further inspectorial powers, in order to bring under supervision persons who systematically advertise or answer advertisements for the care or adoption of nurse infants; and lying in houses; and

3. Power to local authority to enforce the provisions of the Preven-

tion of Cruelty to Children Act, in respect of acts of cruelty to infants coming under the Infant Life Protection Act.

In June, 1904, the Home Secretary was asked to receive a deputation to place the Council's views fully before him; but Mr. Akers-Douglas replied that, as the Government could not introduce legislation on the subject that session, no useful purpose would be served by his receiving the deputation.

Contagious Diseases in Animals.

The reported cases of contagious diseases among animals in London during the past year were as follows:

Anthrax.—Four horses, all of which died.

Glanders.—1,718 horses, of which 1,654 were slaughtered by order of the Council, 23 by order of the owners, and 41 died whilst suffering from the disease. Compensation amounting to £5,418 7s. 6d. was awarded in respect of 1,623 animals.

Swine Fever.—Three outbreaks; 11 swine were killed, by order of the Board of Agriculture, as diseased, or as having been exposed to infection.

Epizootic Lymphangitis.—126 horses, all of which were slaughtered by order of the owners.

Of the cases of glanders 471, or about 27 per cent., were diagnosed solely by the use of mallein. Mallein has also aided diagnosis in 375 cases presenting suspicious symptoms.

Rabies.

No single case of rabies occurred during the year in the county, which has now enjoyed immunity from the disease since 1898. As a result of its extermination, hydrophobia has also ceased to exist. Prior to 1898 this dread disease was, for a period of upwards of 20 years, responsible for the death of, on an average, 20 persons annually in Great Britain.

Under regulations as to the control of dogs made by the Council in 1897, and still in operation, about 20,000 stray dogs are annually destroyed in the metropolis.

Under the Rabies Order of 1897, every diseased or suspected dog, or a dog which has been bitten by a diseased or suspected dog, is required to be compulsorily slaughtered. In all such cases a *post-mortem* examination is made by one of the Council's veterinary inspectors; and in cases of doubt, or where a person or animal has been bitten by a suspicious animal, further investigations are conducted at the Royal Veterinary College or the Brown Animal Institution. During the year 26 *post-mortem* examinations have been made in these cases, in 4 of which further experiments were conducted, but in every case with a negative result.

Importation of Dogs.

In order to prevent the reintroduction of rabies into this country, the Board of Agriculture passed the Importation of Dogs Order of 1901, which regulates the landing in Great Britain of dogs brought from any country except Ireland, the Channel Islands, or the Isle of Man. This order requires the detention and isolation, under licence, of all imported dogs. Special conditions are also imposed on the landing of performing dogs. The Council, as the local authority for the County of London, is required to see that the imposed conditions are observed, and is empowered to deal with any cases of contravention. During the year 58 licences have been issued in respect of imported dogs brought to London; 41 of these related to 222 performing dogs, and the remainder to dogs required to be detained at veterinary surgeons' premises.

In certain exceptional circumstances the Board issue special orders for the detention of imported dogs upon private premises under stringent quarantine provisions, one of which involves the wearing at all times of a leathern harness prescribed by the Board. Seven dogs have been brought to London under these regulations during the year. No case of serious irregularity has been reported in London in connexion with the importation of dogs during the year.

Bequests to Medical Charities.—The late Mr. John Eyton Williams, of Chester, in addition to large bequests for educational purposes, left £500 to the Denbighshire Infirmary at Denbigh, a similar sum to the Royal Alexandra Hospital for Children at Rhyl, and £50 each to the Mold Cottage Hospital and the Chester Skin Dispensary.

Medical Examination at American Ports.—It is announced that all first-class passengers landing at American ports are in future to be subjected to a medical examination as rigorous as is enforced in the case of steerage passengers. Up to the present the first-class passengers have escaped the medical inspector, who has accepted the statement of the ship's doctor as to their health.

LITERARY NOTES.

The next number of *The Library* will contain a freely-illustrated article on Sir Thomas Browne by Professor Osler.

Le Progrès Médical issued its annual "Numéro des Etudiants" on November 11th. Therein will be found full information concerning medical study and graduation in France. The address of the publisher is Rue des Carmes 14, Paris.

The Prussian Royal Academy of Science has voted a grant of £40 to Dr. Gotthold Mamlock, a physician of Berlin, to be applied towards defraying the cost of publishing the correspondence of Frederick the Great with members of the medical profession.

From the beginning of the new year the *Medical News*, which was founded in 1843, will be incorporated with the *New York Medical Journal*. Some two and a half years ago that enterprising periodical absorbed the *Philadelphia Medical Journal*. The purchaser is Mr. E. R. Elliott, proprietor of the Elliott Advertising Agency and of the *American Druggist*. If he goes on eating up medical journals at this rate, he will before long be able to recite a new version of the mystic chant of the sole survivor of the crew of the *Nancy Bell*.

We regret to learn from Messrs. John Wright and Co., the well-known medical publishers and printers of Bristol, that by a fire which originated in a neighbouring warehouse on November 4th the whole of their offices, factory, and stock were destroyed. There are, however, a few copies of most of their publications at their London agents, Messrs. Simpkin and Co., Limited. These can be supplied as long as any remain. In the meantime a fresh start has been made in a temporary factory, and most of the volumes are being reprinted by Messrs. Wright themselves, and by other firms throughout the country. In a few weeks they hope to reissue the volumes likely to be most immediately in demand, and trust to the forbearance of their patrons for any temporary inconvenience thus unavoidably caused.

In an interesting article entitled "Jenner and Folk-Lore," published in the *Northern Whig* on November 20th, Professor Byers of Belfast states that in connexion with the unveiling of a portrait of Edward Jenner at a reception given on November 16th by the President of the Ulster Medical Society, Dr. W. Calwell, and Mrs. Calwell, Sir Otto Jaffe advised that Lord Londonderry, the Minister of Education, should be asked to recommend all school authorities to introduce into the "Common Reader" pieces referring to Jenner and vaccination. Professor Byers says he is sure that many people in Ulster will recollect that the original Second Reading Book, which was issued by the Commissioners of National Education about the middle of last century, contained lines entitled "Signs of Rain." These lines must be familiar to most persons of middle age. It is less well known that the author was Edward Jenner, to whom the world owes the priceless boon of vaccination. They were sent as "an excuse for not accepting the invitation of a friend to make a country excursion," and begin:

> The hollow winds begin to blow,
> The clouds look black, the glass is low, etc.

Jenner had a versatility of mind and a variety of accomplishments which astonished those who made his acquaintance for the first time. He was at home in the field of general literature, and was a worshipper, though *parcus et infrequens*, of the Muse. His early friend, Edward Gardner, was "gratified to find that the ancient affinity between Apollo and Æsculapius was so well maintained in his person." Baron says:

> His imagination, indeed, was always singularly vivid; and he had a peculiar facility, even in common conversation, of clothing his remarks in the gay and lively colours of poetry. His knowledge of the economy of plants and animals, and his vigilant attention to all the varied forms and properties of surrounding objects supplied him with an inexhaustible fund of analogies and imagery, which alike animated and adorned every subject that he touched upon. His conceptions of this sort were frequently embodied in little fugitive pieces which were sometimes read at convivial meetings, or passed between himself and his friends in the ordinary interchange of their correspondence. Gardner, who was no mean judge of matters of this kind, who had been the schoolfellow of Chatterton, and who had with no inconsiderable success devoted himself to a study of poetry, often declared that Jenner, in becoming a distinguished physician, had lost the opportunity of acquiring renown as a poet.

A liberal discount must be made here for partial friendship. Jenner himself did not take his harmless warblings seriously. Writing about a song which he had just written he goes on to say:

> I wish I could give up, or at least suspend, the little acquaintance I have made with the Muse. Every time I begin a bagatelle I almost swear it shall be the last; and hardly steer clear of perjury, you see.

His versification is always easy and often graceful, and displays a familiarity with natural things which could have come only from a habit of close observation. Jenner was fond of music, and played on the violin and the flute. Baron says he has often seen him in his later years throw off the worries of the struggles and controversies in which his discovery had involved him, and sing one of his own ballads with all the mirth and gaiety of his youthful days.

To the *Scottish Historical Review* for October Mr. A. Francis Steuart contributes a paper based on laborious research on the Scottish "Nation" at the University of Padua. This was of all the Italian universities the one to which English and Scottish students were most indebted after the thirteenth century. At first the *Natio Anglica* included English, Scots, and Irish alike. By 1534, however, the Scots were formally separated from the English, nor did they ever unite again as long as the "nations" lasted—that is, till 1738. From 1600 to 1612 the list of Scottish students included the names of James Craig, probably the physician to King James VI, and later to Charles I; John Wedderburn ("Johannes Wordorbernius"), who eventually became Proto-Medicus in Moravia, and who founded a "sang scool" in his native town of Dundee; Arthur Johnston, who graduated in 1610, better remembered, probably, as a Latin versifier than a doctor. In 1614 the degree of Doctor of Medicine was conferred on George Sibbald, uncle of the Sir Robert Sibbald, also a physician, who founded the Botanic Garden at Edinburgh in 1667. In 1652 Thomas Forbes took his degree, and before returning to Scotland filled for some time the Chair of Medicine at Pisa. The Civil Wars in Great Britain, and the constant brawls between town and gown in Padua, greatly decreased the number of British students at Padua. For a long time Padua was the most famous medical school in the world. In 1645 John Evelyn wrote:

> Hence to the scholes of this flourishing and ancient University, especially for the study of physic and anatomie. They are partly built in quadrangle, with cloysters beneath, and above with columns. Over the great gate are the armes of the Venetian State, and under the Lion of St. Mare. Sic ingredere ut teipso quotidie Doctior: sic egredere ut indies Patriae Christianaeq: Republicae utilior evadas; ita demum Gymnasium a te feliciter ornatum existimabit. CIↃIX. About the walls are carv'd in stone and painted the blazons of the Consuls of all the nations that from time to time have had that charge and honour in the Universitie, which at my being there was my worthy friend Dr. Rogers who here took that degree.
>
> The Scholes for the lectures of the severall Sciences are above, but none of them comparable or so much frequented as the theatre of Anatomie, which is excellently contriv'd both for the dissector and spectators.

The *Journal des Débats* has unearthed a small "*oeuvre de poéshie*" by the ex-Premier of France, Dr. Emile Combes, who has been accused of many things but had not previously been suspected of verse-making. The volume, which is entitled *Épitre d'un grognard au bon Dieu*, was published by Georges Kugelmann, of Paris, in 1876. M. Combes's muse is distinctly of the pedestrian order, and his description of himself as a grumbler is amply borne out by his criticism of life. He is the opposite of Pangloss; to him all is for the worst in the worst of all possible worlds. Everywhere the motive of human action is the most sordid selfishness.

> Le hardi carabin, sans crainte qu'il le navre,
> Sur un marbre sanglant, désire un beau cadavre.
> Tandis qu'aux croquemorts il faut de beaux décès,
> Qu'il faut aux médecins de graves maladies,
> Avocats, procureurs, appellent les procès,
> Et l'agile pompier ne rêve qu'incendies.

Food is bad and dear; in a rightly-ordered universe, truffled pheasants, cutlets and smoked hams should grow on trees. M. Combes, for whom nothing is too trivial, finds matter for grumbling in the habits of certain ignoble parasites which have no respect for the noble human race. With ponderous facetiousness he asks:

> Dans un jour de malheur, qui donc les engendra?
> Quoi qu'on disent l'auteur et sa docte cabale,
> Ce n'est pas vous qui fîtes tout cela.
> Je dis que c'est le Diable ou mon portier. . . . Voilà.

The most curious thing about this youthful indiscretion of M. Combes is that he will have nothing to do with politics:

> Nous toucherons à tout, sauf à la politique,
> Nul sans permission ne saurait en parler.
> Sur le seuil est écrit: "Qui s'y frotte s'y pique."
> En théorie ainsi qu'en commune pratique,
> Ce n'est qu'un procédé pour gruger un budget.

We wonder if M. Combes has changed his opinion since.

The *Glasgow Medical Journal* for November contains the text of Professor Lindsay Steven's presidential address to the Glasgow Medico-Chirurgical Society. It is entitled Morgagni to Virchow: an Epoch in the History of Medicine. He says that up to the middle of the eighteenth century there was no scientific medicine. Morgagni, whose life extended from 1682 to 1771, was its creator. The physicians of his day were on the whole more concerned about the establishment of systems of theory and practice based on *a priori* principles, and the drawing up of systematic nosologies than about the application of Baconian methods to their studies. According to Baglivi one of the chief impediments to the progress of medicine was "the preposterous reading of books and the fatal itch of making systems." Morgagni's great work, *De sedibus et causis morborum per anatomen indagatis*, first saw the light at Venice in 1761, when the author was 69 years of age. The book, says Professor Lindsay Steven, differed from all that had preceded it mainly in this, that in it Morgagni set himself definitely to explain the symptoms manifested during life by the morbid changes which were shown to have taken place after death. What Vesalius and Harvey did for anatomy and physiology Morgagni did for pathology and practical medicine. His work gave the death blow to the great metaphysical medical systems of the eighteenth century, and started medicine on a new career.

The *St. Bartholomew's Hospital Journal* for November contains some notes by Mr. F. G. Parsons, Lecturer on Anatomy at St. Thomas's Hospital and the London School of Medicine for Women, on bones recently dug up on the site of Christ's Hospital. He thinks it probable that the bones were those of persons who died during the seventeenth and the early part of the eighteenth centuries, and who were either inhabitants of the neighbouring parish of Christ Church, prisoners from Newgate, or boys who died in the Blue Coat School. Mr. Parsons saw the bones disinterred, and was struck by the fact that they were huddled together in such a fashion that it is difficult to believe that they had all been buried in coffins. He thinks it not unlikely that during the visitations of plague in 1625 and 1665 large numbers of bodies were thrown into common graves or pits in the cemetery which formerly occupied the site, and that the bones found may belong to some of these bodies. He examined and measured a hundred skulls picked out at random, and his attention was at once drawn to the teeth. He had not long before had the opportunity of examining the two large collections of mediaeval bones, one at Dover, certainly pre-Reformation and probably fourteenth and fifteenth century in date, the other at Hythe, which he believes to be a little later. The Dover skulls were remarkable for their perfect white teeth and the absence of caries, but although they were so sound they were worn down to an extraordinary degree, so that one wondered that the pulp cavity had not been exposed; this was due to coarse and ill-ground grain. The Hythe skulls also showed considerable, though not so great, wear, and caries was more common, while in these London teeth caries was very common, and only about half the skulls showed much wear, though when the teeth were worn they were seldom carious. From the length of the femur Mr. Parsons concludes that the average height of the original owners of the London bones was 5 ft. 5⅛ in. in the case of males, and 4 ft. 11 in. in that of females. The height of the males, therefore, tallies fairly with present averages, but that of the females is below the average stature of modern Englishwomen. Mixed with the fragments of human skeletons were a number of bones of animals, chiefly sheep and oxen. These may be relics of the time when the town ditch was the common receptacle for all kinds of offal; but Mr. Parsons does not think so, because they do not seem any older than the human bones. He thinks they show that our ancestors were not very particular what they put into the graveyard. From the fact that in many of the sheeps' bones the epiphyses were united, Mr. Parsons draws the conclusion that in the seventeenth century Londoners got older, and therefore better, mutton than we get nowadays. Is this one of the causes of our physical degeneracy?

Cremation in Germany. Cremation has recently been legalized in the Kingdom of Saxony. The other States of the German Federation in which that method of disposing of the dead is permitted by law are Saxe-Coburg-Gotha, Hamburg, Baden, Hesse, Saxe-Weimar, Württemberg, Bremen, and Meiningen.

MEDICAL INSPECTION AND FEEDING OF SCHOOL CHILDREN.*

An Interdepartmental Committee was appointed on March 14th, 1905, by the President of the Board of Education with the following reference:

1. To ascertain and repor on what is now being done and with what result in respect of medical inspection of children in public elementary schools.

2. And, further, to inquire into the methods employed, the sums expended, and the relief given by various voluntary agencies for the provision of meals for children at public elementary schools, and to report whether relief of this character could be better organized, without any charge upon public funds, both generally and with special regard to children who, though not defective, are from malnutrition below the normal standard.

The committee consisted of:

Mr. H. W. Simpkinson, C.B., Assistant Secretary of the Board of Education (Chairman).

Dr. H. Franklin Parsons, M.D., Assistant Medical Officer under the Local Government Board.

Mr. Cyril Jackson, Chief Inspector of Elementary Schools under the Board of Education.

The Hon. Maude Lawrence, Chief Woman Inspector of the Board of Education.

Mr. R. Walrond, Senior Examiner of the Board of Education.

Mr. E. H. Pelham, Junior Examiner of the Board of Education (Secretary).

The committee took evidence from two witnesses as to both medical inspection and the feeding of children, from nine as to medical inspection only, and from thirty-three as to feeding of children. The committee also obtained by correspondence information for all Local Education Authorities.

Medical Inspection.

The committee has ascertained that medical officers for educational purposes have been appointed by six counties, thirty-five county boroughs, thirty-one boroughs, and thirteen urban districts. Only in Manchester and a few other areas does the medical officer devote his whole time to the duties of that office, he frequently also holds the post of medical officer of health and is very frequently in private practice.

No opinion is expressed in the report with regard to the question whether the office of school medical officer should be combined with that of medical officer of health, as the members of the Committee consider that they were confined by their reference to noting results, but they enumerate the advantages claimed for the arrangement. The main advantage mentioned is that it tends to prevent duplication of work with regard to the inspection of children for the prevention of the spread of infectious disease and to the sanitary inspection of premises. It is also claimed that the staff of the sanitary department is more easily accessible for the disinfection of schools, for following up cases of dirty and verminous children, and for obtaining attention to conditions of the home as well as of the children. The danger the committee sees is that the work for the prevention of infectious disease may tend to swamp work in other directions.

Being, as they considered, precluded from making recommendations for improvement, the committee merely summarize the result of their inquiries in the following paragraphs:

1. There is no doubt that the establishment of proper organizations for the prevention of the spread of infectious disease has had marked results. Diphtheria especially, it is stated, is now in several areas under such complete control that it can be stopped in a few days. The knowledge now possessed by many teachers of the symptoms of infectious diseases enables them to act with the promptitude which is essential if effective measures are to be taken. The Education Act of 1902, by uniting to a large extent the sanitary and educational authorities, has undoubtedly facilitated prompt and effective action in dealing with epidemic sickness.

2. Much has been done to secure greater cleanliness and freedom from vermin and to attack such troublesome diseases as ringworm. The results here have been further improved in certain areas by the prosecution of the parents in extreme cases of neglect. Apart from the general physical gain to the child resulting from greater cleanliness, there is also the consequent improvement in the *morale* of the school.

3. The establishment of medical inspection has caused more careful and widespread attention to be given to defective children. Minor physical defects have been remedied; surgical apparatus has been obtained.

4. To nothing probably has more attention been paid than to eyesight and in no direction have beneficial results more certainly been obtained. Defects have been discovered which would otherwise have passed unnoticed, and spectacles have been provided. Overstraining of the eyes has often been stopped, with the consequent disappearance of many headaches and much apparent stupidity.

5. Some steps have been taken towards dealing with the more difficult question of defective hearing.

6. Teachers have been led to take a more intelligent and more sympathetic interest in the physical welfare of the children placed under their care. Ventilation is better attended to as its importance becomes more fully realized. The school medical officer gives teachers valuable support in any effort they may make to arouse the better feelings of the apathetic or negligent parent.

7. Generally we feel no doubt that the medical inspection has done much towards bringing to view defects, the treatment of which secures the child from unnecessary suffering and may save him from serious trouble in later life. Finally, we desire to point out how small is the expenditure which inspection involves; in no urban area does it require more than 1·10d. rate, generally not so much.

To this summary the following observations are added:

We are confined by our reference to noting results; we are not bidden to make recommendations for improvements. We may, however, be permitted to say that in our view the results leave something to be desired, and that there is much opening for improvement. It is to be remembered that the local authority does not attempt treatment of the children's defects; it merely points out to the parent their existence; and, except in very rare cases, it has no power to force him to have the defect remedied. We have not sufficient data upon which to base any estimate of the percentage of cases not receiving treatment; such percentage probably varies greatly from area to area, but we fear there is no doubt that it is a large one. The poverty of the parent, and more often his apathy and indifference, if not positive negligence, are formidable obstacles to the care of the child. Poverty may be partly met by charity: but the apathy and negligence will only decrease as the parent is slowly brought to see the material gain which results from giving due attention to his children's ailments. After all, medical inspection is but now making a beginning, and there is every reason to hope that as time goes on its value will become more widely recognized by the parents, and that the results it produces will thus become more completely satisfactory.

Feeding of School Children.

The report contains a number of details with regard to schemes which have been instituted in various towns for the feeding of children attending public elementary schools, and concludes with a summary of recommendations for better organization. The scope of these recommendations is limited by the statement that they are to be taken to apply only where arrangements are made for feeding school children. The committee did not consider it within the terms of the reference to recommend that such arrangements should be made, nor to express any opinion as to the wisdom from an economic or social point of view of relieving children, apart from their families, by the provision of school meals.

The recommendations are as follows:

1. The local education authority, or some central body authorized for the purpose by them, should be kept regularly informed of any feeding of scholars which is in any way organized in connexion with the schools maintained by the authority, and of all funds received by managers or teachers for that purpose. This recommendation applies with special force to London.

2. The local education authority should co-operate as far as practicable with any feeding agency established in its area, and unless there is any good reason to the contrary, should be represented thereon, though such representation may not be feasible or even desirable in London and the county areas.

3. Any organization for feeding school children should be of a permanent character—that is to say, the framework of the organization should be kept continuously in existence, notwithstanding that its operations may be in some cases properly intermittent.

4. Provision should be made for enabling meals to be given, where necessary, throughout the year, though summer needs will generally be small.

5. Where meals are provided it is desirable that they should be obtainable at least as often as every school day.

6. The object of the agency should be to feed the most destitute children regularly, rather than a larger number irregularly.

7. The children of families in temporary distress should be made the first care of any feeding agency.

8. It is not desirable that teachers should be required to take part in serving or supervising children's meals.

9. While teachers may properly make the initial selection, they should not be made responsible for the final choice of the children to receive meals.

10. A "relief committee" should be formed for each school or group of schools, and provision should be made for placing on such committee an adequate number of women.

11. In selecting children to receive meals (*a*) the information in the possession of school attendance officers should be utilized; (*b*) the co-operation of Poor-law guardians and relieving officers should be invited; (*c*) as far as possible the co-operation of religious and philanthropic agencies in the district should be enlisted; (*d*) where there is a

*Report of the Interdepartmental Committee on Medical Inspection and Feeding of Children attending Public Elementary Schools. London: Wyman and Sons; Edinburgh: Oliver and Boyd; Dublin: E. Ponsonby. 2s. 3d.

school medical officer or nurse, their advice and help should be obtained.

12. Care should be taken to give adequate notice beforehand to their parents when children are to receive meals: sufficient notice of the discontinuance of meals should similarly be given.

13. The parents should be told clearly that they are in receipt of charitable relief for their children where such is the case, and greater effort might be made to obtain payment from parents for the whole or part cost of meals supplied to their children.

14. Care should be taken to make the meals orderly and to give them a civilizing and educative effect upon the children.

15. Registers should be kept showing exactly what children have received food and on what days.

16. Schoolrooms and classrooms should not be used for meals, if other convenient rooms can be found.

17. Cookery centres may in some cases be usefully employed for the provision of children's meals. But a cookery centre can only provide for a few children, and it should be remembered that its essential purpose is the provision of cookery instruction.

SMALL-POX IN THE GERMAN ARMY.

"NEW AND INTERESTING TESTIMONY."

IN the *Vaccination Inquirer* of November 1st, the following appears under the title "Franco-Prussian War Small-pox":

Here is a new and interesting testimony on the small-pox statistics of the German Army during the war of 1870. We take it from the *Melbourne Age* of August 31st:

"*The Vaccination Question.—A Medical Opponent.*

"Mildura, Wednesday.

"Before Mr. Green, P.M., to-day, ten defendants were each fined the maximum penalty of £2 with costs, for neglecting to have their children vaccinated. The defendants included Dr. Abramowski, who had previously been a public vaccinator, but who resigned the position in consequence of his objection to vaccination. Dr. Abramowski cited statistics in support of his assertion that vaccination was not a preventive of small-pox. He stated that during the Franco-Prussian War, in which he served as an army surgeon, 53,288 German soldiers who had been vaccinated, and revaccinated, had been affected with small-pox. A child was produced in court which was vaccinated with Government lymph six weeks ago, when it was perfectly healthy, but which had now a bad attack of skin disease known as impetigo."

It will be observed that the *Inquirer* is careful to express no opinion as to the truth of this wild statement about small-pox in the German army. Its utter falsity is indeed manifest to those who know anything of the subject, and looking to the frequency of antivaccinist references to this very question, it is difficult to believe that those responsible for the publication of the *Inquirer* did not themselves regard the figures as being miles away from the truth. Yet they seriously refer to them as "new and interesting testimony." The natural, possibly the not unlooked for, result of the *Inquirer's* action is the immediate adoption of the figures for controversial purposes in newspaper correspondence, so that in a West Bromwich weekly newspaper the *Chronicle*—of November 3rd (two days after the publication of the *Inquirer*) we find the *Melbourne Age* paragraph repeated from the *Inquirer* in a letter signed "E. Mynett," the letter being admittedly written to influence a local electoral contest.

The Royal Commission on Vaccination devoted a section (347) of their final report to the question of small-pox in the German and French armies in the epidemic of 1870-1, and they definitely state that, according to the official reports, the number of small-pox deaths in the German army during the two years 1870-1 was only 316. That this was not an understatement of the mortality by Lord Herschell and his colleagues may be taken as incontestable, and indeed if it could be successfully impugned, that would have been done long ere this. Manifestly the number of attacks represented by 316 deaths must be the merest fraction of the 53,288 alleged by Dr. Abramowski. How little attention was paid to him by the local court appears from the paragraph itself, which records that the maximum penalty for infringement of the Compulsory Vaccination Act of Victoria was imposed alike on Dr. Abramowski and the nine other defendants.

It happens that we have received a copy of a local news sheet, the *Mildura Cultivator*, of September 16th, which contains Dr. Abramowski's own report of his pleadings in the case, and the facts are remarkable. He says:

I served in the German army during the Franco-German war (1870-71) as a volunteer in the artillery, and had an opportunity of seeing the French soldiers and the French civil population greatly afflicted by small-pox. I did not see any of the German soldiers suffering from small-pox—perhaps because they were too quickly isolated and amongst us soldiers it became a fixed belief that we, thanks to vaccination and revaccination, were proof against small-pox.

He then goes on to state that when a medical student at Berlin University in 1871-5 he was taught how small-pox had attacked the French soldiers and civilians, and passed by the German army, so that he became a strong adherent of vaccination. It was not until nearly thirty years later that he "investigated" the statements which had been made to him at college. It appears that some three years ago he read somewhere that

during the Franco-German war the German army and the German people suffered as much from small-pox as the French;

and, naturally enough, he could not believe his eyes, and regarded this as a lie. But he goes on to say:

I wrote to Germany, to England, and to America for statistics, and when I got the facts I saw with horror that my cherished belief in vaccination was founded on misrepresentation. It took thirty years of my medical life before I got to the truth, and it was only by an accident, so to say. However, the truth is that during the war 53,288 German soldiers—all vaccinated and revaccinated—were seized with small-pox, and that a great number of them died. . . .

He then proceeds:

These facts, supported by official figures, fell like a blow on my conscience, but I wanted further proof before I would declare all my previous beliefs unfounded,

and he started on what he calls a "research concerning the true nature and influence of cow-pox vaccination," and found, among other things, that the so-called "cow-pox" is really "great-pox, commonly called syphilis." He also found "that in the district of London alone every year on the average 52 cases of death were registered as caused by vaccination."

Such is the story of Dr. Abramowski's conversion to anti-vaccination as told by himself. It is certainly an interesting one. He started out in search of facts, and seems to imagine he has obtained facts, whilst in reality he must just have been stuffed with antivaccination fictions. His assertion about the 53,288 German soldiers is not in the least based on any knowledge or experience of his own in the Franco-German war. His knowledge, indeed, was all the other way; but three years ago he chanced to read some antivaccination fable, and then "wrote to Germany, to England, and to America for statistics." There can be no little doubt as to the kind of sources he got into communication with. In England he certainly did not go to the reports of the Royal Commission. Manifestly he has been most shamefully imposed upon by reckless opponents of vaccination, but his own credulity in the matter is nothing less than amazing.

Whether the figures which were furnished to him were of German, English, or American brand does not appear, but the particular falsehood about the 53,288 German soldiers is so audacious that we are not inclined to attribute it to English imagination. It is difficult to suppose that even the most unscrupulous antivaccinationist in this country would risk such a story, though, when once it is published in Australia, the *Inquirer* here is quite willing to repeat it, and so to give it currency through antivaccinist letter writers to the newspapers. The figures with which Dr. Abramowski appears to have been furnished regarding deaths registered as caused by vaccination in London are more nearly within the limits in which antivaccinist fancy roams in our own land. The average of 52 deaths per annum, or one death a week, is quite ordinarily given with reference to England and Wales as a whole, and it happens that comment was made on this very point in our issue of last week.[1] To confine the figures, therefore, to London makes only about a six-fold exaggeration, and in antivaccination polemics that is a mere nothing.

The whole incident is a curiously complete illustration of the methods of anti-Jennerian propagandism. As a youth Dr. Abramowski was a combatant in the Franco-German war, and from what he himself saw then, and was taught afterwards in college, he formed opinions about the influence of vaccination and revaccination on small-pox such as are held by all who have any real knowledge of the subject. Then, thirty years later, he accepts some atrociously false antivaccinist statistics, which were in flat contradiction to his own experience in the war, and these German statistics were supplemented by preposterously false figures relating to deaths after vaccination in London. In consequence, Dr. Abramowski turns antivaccinist himself, and goes to a police-court to defend his non-compliance with the local compulsory vaccination law. The German army figures furnished to him in the above fashion are next got hold of by an Australian newspaper reporter, who straightway describes the artillery volunteer as "an army surgeon" in the war, and the story thus embellished is reproduced by the

[1] BRITISH MEDICAL JOURNAL, November 18th, 1905, p. 1368.

Vaccination Inquirer in this country, and from it is transferred to a West Bromwich newspaper, so that Dr. Abramowski, who had himself been so conspicuously hocussed by antivaccination, now comes to be referred to by its disciples as the authority for the very figures which antivaccination would appear to have invented for him.

The long-talked-of general election is now approaching, and, unless this exposure acts as a check, it will not surprise us if Dr. Abramowski's name and statistics are added to the stock evidence with which candidates for Parliament will be assailed in order that they may give pledges in favour of relaxing even the very moderate degree of pressure which in this country is still exercised in favour of protection of the nation against the ravages of small-pox.

PROPOSED AMALGAMATION OF LONDON MEDICAL SOCIETIES.

A special general meeting of the Clinical Society was held on Tuesday, November 21st, at 20, Hanover Square. Mr. H. H. Clutton, the President, was in the chair. The senior Secretary, Mr. W. G. Spencer, read the notice convening the meeting, also letters from Mr. Howard Marsh, Mr. Mayo Robson, Dr. T. D. Acland, Mr. W. H. Battle, Mr. T. Carwardine (Clifton), Mr. R. S. Charsley (Slough), Dr. H. G. Lys (Bournemouth), and Mr. F. D. Driver (Southsea), regretting the absence of the writers, and all expressing an opinion more or less in favour of the proposed amalgamation.

The Chairman briefly introduced the subject, and stated that changes in the laws of the Society could only be proposed at the annual meeting. This meeting, however, could consider the question.

Dr. Fred. J. Smith contended that the acceptance of the scheme need not necessarily alter the rules, and that that meeting, having been duly summoned, had full power to come to a decision.

Sir W. S. Church thought the meeting would probably give its assent to a scheme of amalgamation. The proposal now before the members was only an imperfect outline. The final scheme would naturally come before the Society at a future date, when it had been well considered.

Sir Dyce Duckworth said that the business was to gather the opinion of those present as to amalgamation. The question of finance seemed to be the crux of the whole question. Amalgamation would place the London Societies on an altogether higher plane, and he hoped the Society would favour the scheme. He proposed for acceptance the resolution already passed by the Council of the Society, viz.:

> That the Clinical Society expresses an opinion in favour of the amalgamation of the various medical societies of London, provided that the scheme proposed prove to be financially feasible.

Mr. Charters Symonds, one of the Trustees of the Society, in the unavoidable absence of Mr. G. H. Makins, the Treasurer, seconded the resolution. At the same time he thought the scheme might be improved. Thus, there would be a section of medicine and one of surgery, but in the Clinical Society these sections met; it would be necessary, therefore, that their Society should, under the scheme, preserve the character in this respect which it now had. As to funds, also, there was in the scheme no mention of how the funds were to be dealt with or disposed of. The Society had a reserve fund of £700. What power would the Society, after amalgamation, possess over the central reserve fund? Some provision should be made that the reserve should be kept up to a certain standard. For instance, the funds should not be spent on buildings, etc., so as to starve the life of the affiliated societies. Again, they should ask for information as to the publication of the *Transactions*. He presumed members would prefer to have the *Transactions* of their sections alone and not bound with the *Transactions* of the other sections. Finally, the general management of the future amalgamated societies was a most important business, and one that probably few members of the profession were quite competent to transact.

Dr. T. D. Savill inquired if it would be possible to extend the benefits of the library to members of the Clinical Society.

Mr. John Langton said that all were probably in favour of the proposed fusion. The question of finance was most important; for instance, the estimated income only exceeded the estimated expenditure by about £300 annually. The invested moneys of four societies, the Medical, Odontological, Obstetrical, and Pathological, were about £14,000; and two societies, the Medical and Medical and Chirurgical, had debentures; those of the former amounted to £2,800, and those of the latter to £33,000, which must be paid off or provided for in thirty-four years' time. The improvements in the premises at 20, Hanover Square would probably cost £6,000. Doubtless, a guarantee fund should be formed of not less than £5,000, and if 100 members guaranteed £50 each that could be done. The members of the Medical Society had a very valuable library to be brought into the amalgamation, and should not be called upon to pay an extra subscription for the use of the library in the future.

Dr. John Anderson suggested that the subscription to the Fellowship of the future society might be raised to 4 guineas or even 5 guineas annually.

Dr. Habershon suggested that the words "provided the identity of the Society be maintained" should be added to the original resolution.

The President thought it would be disastrous if the Clinical Society lost its *Transactions*. There should certainly be a clinical volume.

Mr. Symonds said only the main proposal could be accepted at present; afterwards the perfected scheme would come before the Society.

Sir W. S. Church said the members of the Clinical Society, which had no library, would only be able to make use of the library upon further payment of one guinea a year. He believed the new Society could become a financial success by giving all its benefits to members for an annual subscription of three guineas. Also, the members of the Clinical Society could not lose by amalgamation, and might gain considerably.

Sir Felix Semon thought the new central body should be an academy of medicine, in which the various societies could sink their identity. An academy would be on a par with the academies of medicine of Paris, Berlin, and New York.

Sir W. S. Church thought it was still an open question for the various societies as to what the new body should be called.

The resolution proposed by Sir Dyce Duckworth was carried unanimously.

SCHOOL HYGIENE.

REPORTS OF MEDICAL OFFICERS.

Staffordshire.

The annual report for 1904 of Dr. George Reid, Medical Officer of Health for the Staffordshire County Council, contains 124 pages, and deals with a great number of subjects besides school hygiene.

Instruction of Teachers.

Regarding school hygiene, Dr. Reid says that since the Education Act of 1902 the Staffordshire Education Committee has realized the importance of inculcating health principles in school management, and has framed certain regulations to be observed by teachers with a view to securing as healthy conditions as possible in existing school buildings. An important initial step has also been taken in instructing school teachers in domestic and general hygiene, in anticipation of the inclusion of such teaching in the school curriculum—a policy which, among other benefits, is sure to be the most efficient means of reducing the present enormous infant mortality rate of the county. Courses of lectures and practical demonstrations on such subjects have been given by Miss Curwen at two centres, and the success which has attended the movement has led the Committee to provide for further and more extended courses during the coming autumn and winter.

Sanitation of School Buildings.

With reference to the ventilation and general sanitation of existing school buildings, certain principles have been embodied in regulations which will be enforced as circumstances permit, and in all cases when structural alterations become necessary.

The Board of Education has approved of designs favoured by Dr. Reid, and Mr. Hutchings, the architect of the Education Committee, for some new school buildings on the pavilion system, a plan of which will be found at the end of his report.

The present type of building makes adequate cross-ventilation of the classrooms impossible on account of the central hall.

Infant Classes.

Owing to the inutility, from an educational point of view, and the unwisdom, on health grounds, of the attendance of children under 5, these are to be discouraged, and in new schools no provision will be made for them.

Feeding of Infants.

With regard to infant feeding Dr. Reid says:

Experience compels one to come to the conclusion that it is hopeless to attempt to educate the present race of mothers and overcome the ignorant tradition of centuries, and it is only by school instruction of the rising generation of both sexes that any real headway can be made. . . . Now that the education authorities throughout the country are the health authorities, may we not hope that the long-looked-for day has come when by far the most effective remedy against the present needless sacrifice of infant life will no longer be neglected?

The question is: How is a beginning to be made? The obvious answer is that we must first educate the teachers, for, however simple the instruction given to school children may be, it is essential that those who impart such instruction shall be well-grounded in the elements of the subject. . . . It is to be hoped that the school authorities in those districts which are outside the county education area will determine, as soon as teachers are available, to introduce hygiene teaching into their schools.

The Medical Officer of Health of Coseley writes:

With regard to the infantile mortality which, unfortunately, remains high, I would recommend . . . that the Education Committee be asked to provide for the teaching of the elementary rules of health to older scholars in the day schools. To this end, the first step, of course, must be to equip the teachers with the knowledge which it is desired they should impart.

The Medical Officer of Health of Quarry Bank writes:

The method of bringing home instruction on the question of infant training, which promises to become more popular, has already been tried in this district. I refer to the teaching of "infant hygiene" to the girls in the upper classes of day schools. This has now been done for the past two years . . . and the results are encouraging. The headmaster of the High Street Schools reports: "Nearly 90 of our older girls are now under instruction in infant hygiene. The interest shown in the lessons is still undiminished. The matter is fresh in the minds of children either leaving or about to leave school, and each scholar in the former case carries with her a book from which she has studied. Added to this, the girls promise to carry out what they have learnt as occasion may arise. Such a leavening influence is calculated to do good, and we may reasonably expect it to gain increasing influence in this respect.

The Medical Officer of Health of the Borough of Stafford writes:

There were 94 deaths of children under a year old, which is equal to a rate of 155 per 1,000 registered births. This is 30·3 higher than the average rate for the preceding ten years, and is, in fact, the highest death-rate since 1893, when it stood at 168. The causes of death were: measles 1, diarrhœa 14, enteritis 1, tuberculous diseases 14, bronchitis 12, pneumonia 1, convulsions 15, meningitis 6, premature birth 6, diseases of digestive system 2, accident 1, marasmus 21.

The following extract from the report of the Medical Officer of Health of the Borough of Stoke-on-Trent is not very encouraging:

In previous reports I have ventured to suggest that some form of general regular inspection of children under a certain age, and in houses under a certain value, would be of great use in ensuring better care and attention being bestowed on the rearing of infants. In the absence of such a general inspection, the agency of female inspectors can be made use of. In 1903 I drew up a report on this matter, and presented it to the Health Committee, but on its being pointed out that it would entail an expenditure of something under £100, the report was not further considered. A considerable portion of that report was included in my last annual report. I regret to say that no further action has been taken in the matter. The distribution of leaflets on infant feeding, which was introduced four years ago, has been regularly carried out by the registrar of births and deaths. It is now possible for the sanitary authority to obtain the addresses of all births in the borough from week to week, but such information is of little use without a sufficient staff.

The Medical Officer of Health of the Borough of Tamworth writes under this heading:

Nine of these deaths were due to prematurity, the infants only surviving their birth for a few hours. Eight were due to diarrhœa, and one to suffocation in bed. The other deaths were largely due to conditions interfering with proper growth and development, such as improper food or feeding, unhygienic surroundings, and neglect leading to a condition of general malnutrition or marasmus. Some attempt has been made to try and lessen the existing evils by the distribution of leaflets, and by lectures to mothers and others interested in the bringing up of children. A more lasting benefit is likely to take place by making a knowledge of hygiene a part of general education in the County Council schools, and in this way laying the foundation of a knowledge which must eventually prove beneficial in the rearing of infants and young children.

The Medical Officer of Health of Tunstall writes:

The subjoined statistics show no improvement in the infantile mortality, in fact, a condition of things quite the opposite. The deaths of children under 1 year of age during 1903 number 226. This number represents an infant mortality of 245 per 1,000 births registered, and with one exception is the highest rate recorded for the past ten years. The serious rise thus shown can be partly explained by prevalence of measles and whooping-cough during the year, the complications attending the latter disease having been particularly fatal to young children.

Teaching of Hygiene.

Dr. Reid says:

During the year a large and influential deputation waited upon Lord Londonderry, urging the importance of making compulsory the teaching of hygiene, with special reference to the action of alcohol and narcotics in all schools. This is the outcome of a persistent propaganda by many of the leaders of the medical profession, and formed the subject of an important discussion at the annual meeting of the British Medical Association at Oxford, at which I was present. The President of the Board of Education, in reply, recognized the importance and necessity of the subject, and regretted that delay would be necessary in putting it into force, but practically promised the deputation that in six years at least their desires would be realized, and meanwhile he encouraged all educational authorities to take immediate steps to have the subject taught in their schools.

It would appear that we cannot hope to make much impression on the present race of mothers, but can we not look a little further ahead and endeavour, by means of simple teaching in schools, to instil into the coming race reasonable ideas regarding everyday matters affecting health, including infant feeding, and so lead to a radical change for the better in the future? I have pointed out in my preliminary remarks the Education Committee of the County Council has taken the initial step in this direction by introducing training classes for school teachers.

The following extract from the report of the Medical Officer of Health of Heath Town is quoted:

In most of the districts in this and other counties it is the custom of the education authority to assist the Medical Officer of Health by requiring or encouraging elementary school teachers to send to him stamped printed post-cards (supplied by the sanitary authority) daily or weekly, containing a list of all absent children, with a note of the cause if known. In this way the medical officer is kept thoroughly informed of the nature and extent of epidemics of non-notifiable infectious disease, and is able to take suitable measures to arrest their spread. When entering upon my duties I made a formal request to your educational authorities that they would arrange for the teachers to send me these weekly returns of absent children. The managers of the voluntary schools promptly acceded to my request, and the returns from the teachers of these schools have been of the utmost value. The managers of the county schools at first acceded to my request, but limited the returns to infectious cases only. I thereupon specified the infectious diseases with regard to which I particularly desired returns—namely, measles, whooping-cough, pneumonia, influenza, diarrhœa, chickenpox, mumps, and German measles, weekly returns for which the County Medical Officer of Health asks from all medical officers in the county; and up to the next meeting of the Attendance Committee much valuable information was afforded by county school teachers. At their next meeting they rescinded their former resolution, and resolved that only cases of those diseases compulsorily notifiable by law should be reported to me by teachers. This is practically equivalent to refusing my request altogether; thus those cases are unrecorded whose existence practically cannot be recorded in any other way, and a knowledge of which is so necessary for proper supervision of the public health of the district. These returns are made in twenty-three urban and eight rural districts in the county.

The following extract from a memorandum issued by the Local Government Board on the Closing of Public Elementary Schools, etc., Section 7, Paragraph 3, is quoted:

The attention of school attendance officers and of schoolmasters should also be drawn to the following considerations. Frequently they themselves will obtain the earliest information of the occurrence of infectious disease among scholars, and it is most desirable that such officer or master should without delay communicate the facts to the Medical Officer of Health. Absence of any child from school on the plea that it is suffering under one of the before-mentioned diseases, and absence of several children of one family from school at the same time, no matter what name be given to the complaint that keeps them at home, should be reported to the health officer. In practice it has been found that this notification of absentees has materially aided the local health officer in taking measures for the suppression of infectious disease, to the advantage alike of the district and of the school. Furthermore, schoolmasters may properly be asked to take note, especially when an epidemic threatens or is present, of symptoms occurring in any of their scholars that may indicate the commencement of disease, febrile in nature. Besides heat of skin, such symptoms as shivering, headache, and languor, especially if commencing suddenly, vomiting, rashes on the skin, and sore throat. When scarlet fever or diphtheria is about, every trace of sore throat should be looked upon as suspicious. In any case where such symptoms are observed the safest course will be to exclude the child from school until assurance can be had that it may attend school without harm to itself or danger to other scholars.

"It is not too much to ask the Committee of the council schools to reconsider their decision in the light of this important memorandum from the central authority."

Zymotic Diseases.

In dealing with the zymotic diseases, Dr. Reid gives the death-rate from zymotic diseases, including under this heading, according to the Registrar-General's classification, the seven principal ones—namely, small-pox, measles, scarlatina, diphtheria, fevers, whooping-cough, and diarrhoea; Dr. Reid remarks that although it was higher than the two preceding years, it cannot be said to be excessive.

In the following table the comparative figures are given for the past sixteen years, together with similar figures for England and Wales, and for the larger towns in England:

Zymotic Mortality per 1,000 of Population.

	Districts in Administrative County.			England and Wales.	Large Towns in England.
	Urban.	Rural.	Urban and Rural Combined.		
1889 ...	2.36	1.17	1.99	2.40	2.72
1890 ...	2.06	1.15	1.77	2.05	2.77
1891 ...	2.00	1.30	1.82	1.83	2.41
1892 ...	2.03	1.10	1.77	1.90	2.63
1893 ...	2.41	1.58	2.17	2.41	3.17
1894 ...	1.68	0.97	1.47	1.76	2.43
1895 ...	2.39	1.15	2.04	2.14	2.82
1896 ...	2.71	1.55	2.39	2.18	2.90
1897 ...	2.91	1.57	2.54	2.15	2.87
1898 ...	3.41	1.68	2.97	2.22	2.85
1899 ...	2.54	1.27	2.22	2.21	2.81
1900 ...	3.04	1.89	2.75	2.60	2.50
1901 ...	2.50	1.39	2.21	2.05	2.68
1902 ...	1.63	0.93	1.44	1.64	2.12
1903 ...	1.63	0.86	1.43	1.46	1.89
1904 ...	2.41	1.15	2.14	1.94	2.49

A comparison of the deaths from particular diseases in 1903 and 1904 is given. Thus in the administrative county measles caused 249 deaths in 1903, and 357 in 1904; of those in 1904, 316 were in urban and 41 in rural districts. Diphtheria, 190 in 1903, and 203 in 1904; of those in 1904, 175 occurred in urban and 28 in rural districts. Whooping-cough, 163 in 1903, and 387 in 1904; of those in 1904, 306 were urban, 81 rural. Diarrhoea caused 425 in 1903, and 758 in 1904; of those in 1904, 713 were urban and 45 rural; 757 deaths from phthisis occurred during the year 1904.

MEDICAL NEWS.

Dr. J. W. Gill, D.P.H.Lond., of Llantwit Major, Glamorgan, has been elected an honorary life member of the St. John Ambulance Association for services rendered, he has also been appointed an examiner to the Association.

The following donations have been received by the Treasurer of the St. George's Medical School Endowment Fund: Lord Iveagh, £500; Messrs. N. M. Rothschild and Sons, £210; Dr. R. A. Gibbons, £205; the Duke of Devonshire, £200.

Medical Bequests.—The late Lieutenant-Colonel Walter Boden of Mickleover left £100 each to the Derbyshire Royal Infirmary and the Derbyshire Children's Hospital.

A Bill is to be introduced this winter into the Massachusetts State Legislature "to prohibit all experiments under any circumstances and for any purpose whatever, with or without an anaesthetic, upon dogs or cats."

A morning performance in aid of the rebuilding fund of St. Bartholomew's Hospital will take place on December 11th at His Majesty's Theatre by kind permission of Mr. H. Beerbohm Tree. Sir Charles Wyndham and Miss Marion Terry, Mr. George Alexander, Mr. Charles Warner, Mr. Arthur Bourchier, and Miss Vanbrugh are among those who have consented to contribute to the entertainment.

A *conversazione* is to be given next Wednesday in the new building of the Hampstead General Hospital by the President, Vice President, and Council of the institution, to members of the medical profession and their friends. The object is to afford an opportunity of inspecting the new building, and especially the wards and rooms intended for patients under treatment by their ordinary medical attendants.

The King has been pleased to appoint Staff Surgeon Arthur Reginald Bankart, M.V.O., R.N., M.B., to be an Honorary Physician to His Majesty.

A Chair of Therapeutics has recently been established in the University of Paris through the liberality of the Duc de Loubat. Dr. Albert Robin will be the first incumbent.

The late Mr. William Ralph Smith of Uttoxeter, whose will has now been proved, bequeathed £1,000 to Derby Royal Infirmary, and £500 to the Children's Hospital in the same town.

Dr. J. Milson Rhodes was unanimously elected Chairman of the Central Poor-law Committee of England and Wales, at the annual meeting on November 15th. Dr. Milson Rhodes is the first member of the profession to occupy the chair since the conferences were established thirty years ago.

At a meeting of representatives of the district councils for the national registration of plumbers, held at the Guildhall, London, last week, under the presidency of Dr. Robert Crawford of Glasgow, it was resolved that all plumbers applying for registration after the end of this year should be required to undergo practical and theoretical examination.

The autumn dinner of the Irish Medical Schools' and Graduates' Association will take place on Tuesday next, at 7 p.m., at the Hotel Cecil. Sir William Whitla will take the chair. The dinner will be followed by an entertainment and smoking concert. Tickets can be obtained from Mr. E. Canny Ryall, 145, Harley Street, W.

We are requested to state that Mr. F. W. Forbes Ross, M.D., F.R.C.S., of the surgical staff, Mr. A. Gordon Wilson, M.D., F.R.C.S., aural surgeon, and Mr. A. H. Payan Dawnay, assistant ophthalmic surgeon and honorary secretary to the medical committee, have severed their connexion with the Queen's Jubilee Hospital, London.

Sir John W. Moore, M.D., contributed a paper to the opening meeting of the Royal Meteorological Society for the present session on the remarkable rain storm on August 24th to 26th, 1905, which caused destructive flooding in the low-lying parts of the Bray urban district. In some places the water rose to the height of 4 ft. in the streets, flooding houses, destroying domestic animals, wrecking furniture, and covering the floors, yards, and gardens with a thick alluvial deposit. Sir John Moore said that the atmospheric disturbance which caused the torrential rainfall travelled very slowly north-west from the Scilly Isles up St. George's Channel. The rain storm was brought about, in his opinion, by the co-operation of several factors—a chill antecedent to the arrival of the rain-bearing depression, the slow progress of the depression, the fact that the counties of Wicklow and Dublin lay to the westward of the cyclonic centre and so received its north-easterly and northerly winds, and the configuration of those counties and their coastline.

Medical Magistrate.—Dr. R. W. Henderson (Ballintoy) has been appointed a Justice of the Peace for the county of Antrim.

Acute Torsion of the Uterus.—Axial rotation of the pedicle of a subserous fibroid is not unknown, and a few instances have been recorded where the uterus has shared in the twisting process. An extreme case of this condition has been reported by Schou of Copenhagen (Et Tilfaelde af Myoma uteri med Axedrejning af Uterus og fuldstaendig transversel Overrivning af denne, *Ugeskrift for Laeger*, No. 33, 1904, and *Monatsschr. f. Geb. u. Gyn.*, November, 1905, p. 707). A single lady, aged 54, was suddenly seized with violent abdominal pains, followed by feverishness and uterine haemorrhage. Ten years earlier a large fibroid tumour was detected accidentally, but it caused no inconvenience until the acute pain set in. Abdominal section was performed. The tumour, which had for so long proved harmless, weighed over 15 lb. Its pedicle, which included the uterus, was twisted two turns and a half. The torsion mainly involved the body, which was completely divided across its lower part, replaced by a thin sheet made up of the anterior and posterior serous coats and a little connective tissue bearing very big thrombosed veins, but uterine muscular tissue and mucosa were entirely wanting. This serous band was carefully secured and divided. There were numerous fresh haemorrhages in the substance of the tumour. The patient made a good recovery. Schou believes that this is the most acute case of axial rotation of the uterus ever known. That organ, nulliparous and atrophied in this case, was actually thinner than the pedicle of the fibroid attached to its fundus.

British Medical Journal.

SATURDAY, NOVEMBER 25TH, 1905.

THE WORKING OF THE MILK REGULATIONS.

As a result of the recommendations of the Departmental Committee appointed by the Board of Agriculture, the Sale of Milk Regulations came into operation on September 1st, 1901, and have therefore now been in force for four years. The Regulations lay down that where a sample of milk contains less than 3 per cent. of milk fat, or less than 8.5 per cent. of solids not fat, it shall be presumed until the contrary is proved that the milk is not genuine. Likewise, when a sample of skimmed or separated milk, not being condensed milk, contains less than 9 per cent. of solids, including fat, it shall be presumed that the milk is not genuine. On December 28th, 1901, the Board of Agriculture issued a circular letter to the local authorities in Great Britain, directing attention to these new standards, and animadverting upon them. The Board pointed out that the standards were low, and that it was important that local authorities charged with the administration of the Sale of Food and Drugs Acts should be watchful to protect the community against artificial reduction of the quality of natural milk to the official limits by abstraction of cream or addition of water or separated milk. The Board further pointed out that occasionally in certain seasons of the year genuine milk might fall below the standard; and to meet cases of this kind it was suggested that, in the absence of special circumstances indicating that the case was fraudulent, the local authority might, before prosecution, ask the vendor for explanation, and that if this were satisfactory proceedings need not be taken. The same circular made further recommendations respecting the fraudulent practice of adding gelatine to cream, and as to methods of collection and retention of samples.

On March 27th, 1905, the Board of Agriculture, as was stated in the BRITISH MEDICAL JOURNAL of April 22nd, 1905 (p. 894), issued a further circular to local authorities stating that they had received "numerous representations from "dairy farmers and others complaining of the institution "of proceedings" under the Milk Regulations, in cases due to accidental causes and not to any fraudulent action on the part of the vendor, and that on this account the Board desired to draw attention to its circular of December, 1901, the propriety of which had been confirmed by three years' experience. The Board further added that it would be glad if the local authority would co-operate with it in securing that farmers, dairymen, and cowkeepers should have samples of their milk tested at the agricultural colleges from time to time with the view of discovering whether or not the milk sold by them was up to standard. The Board believes that if keepers of cows will from time to time test the quality of their milk and local authorities will hear what the vendor has to say before taking the case into open court, any legitimate ground of complaint on the part of producers as to the administration of the law so far as the adulteration of milk is concerned will be removed.

When this new policy was put into practice difficulties and dangers were, as we anticipated, encountered. The origin of the circular of 1905 is admittedly the receipt by the Board of complaints from a trade it is the duty of the Board by law to control, and, therefore, such complaints may safely be accepted with considerable reserve. As a matter of fact, the vendor has open to him, in case of prosecution, a variety of defences from which to select, including "the appeal to the cow," and he has not hitherto been found to be slow in availing himself of his opportunities of impressing magistrates. The broad fact is that an immense amount both of adulterated milk and of filthy milk is being placed on the market to the prejudice and injury of the purchaser, and the primary object of the law is the protection of the consumer. It is from that point of view that the matter must be judged. And it is from that standpoint that various medical officers of health have raised objection to the policy suggested by the Board in its circulars. The standards laid down are if anything too low and have opened the way to fraudulent reduction of natural milk before being placed on the market to meet the standards. That is a grave defect. But in addition to this to place what is surely a premium on defence for infringement does seem to be overstepping the mark. Dr. H. E. Armstrong, the Medical Officer of Health for Newcastle, has clearly stated the objections to this policy in a special report to his authority. He points out that the prosecutor cannot well act as adjudicator as to whether or not the vendor's "explanation" is adequate, and for the local authority to invite explanations parts of which may subsequently be used against the defendant is wrong in principle. Moreover, the same explanation would be given by the fraudulent as by the ingenuous producer and it would be difficult without hearing all the evidence of both sides to distinguish the one from the other.

When the law has been broken explanations are better made publicly in court than privately to a sanitary committee, which, however well-intentioned, may have sympathetic interest in protecting the implicated vendor. And, as Dr. Armstrong urges, the business of protecting the vendor from prosecution is for himself and his trade, it is not for the local authority. All producers of goods other than milk have to protect their own interests. Then again, with regard to testing milk, it is in every way desirable that farmers should test their milk for their own guidance and protection; but to ask the local authority to co-operate with the dairy trade in sending milk samples to various agricultural colleges is to open a wide field of complication. Dr. Armstrong rightly points to the low milk standards as a source of much of the present difficulty. It entails a loss to the consumer, benefits inferior producers only, injures the producer of the superior article, who obtains no higher price than the inferior, and opens the door to fraudulent reduction of quality. A higher standard strictly adhered to, and, when broken, followed up to the source of fraud, leaving the retailer to seek his own remedy against the producer, would not only protect the interests of milk consumers but would bring the real defrauder to justice. But, given a low standard, the least that can be done is strict and uniform enforcement of the law, and then the vendor, knowing his position, will keep the law. We need not add that it is the practice of Dr

Armstrong and other experienced medical officers of health to advise prosecution only in cases requiring it, and to be willing always to listen to any genuine reason for default, but to invite "explanations" is a totally different thing.

BRAIN WEIGHTS AND INTELLIGENCE.

An interesting summary of recent investigations of the relation of the size of the brain to intelligence has been published recently by M. P. Girard, who has himself made important contributions to the subject.[1] A very short consideration of the subject was sufficient to show that a mere comparison of actual weights was useless. The actual weight of the brain in man is less than the weight of the brain of certain large mammals, the whale and elephant, for instance. Obviously, having regard to the reflex and motor functions of the brain, its weight must be in part determined by the size of the body.

The first attempt to arrive at some rational result was made by comparing the weight of the brains of man and other animals in relation to the weight of the body. This did not give results much more satisfactory; for, though the relative weight of the brain of man is greater than that of the whale or elephant, it is much lower than that of certain small animals not remarkable for intelligence, the canary, for instance, which is so low in intellectual rank that its name, *serin*, is a term of reproach in France. A step in advance was made by Manouvrier, who in 1882 attempted to estimate numerically the two factors in the bulk of the brain—namely, the size of the body and the degree of intelligence. As a measure of the mass of the body, he took the femur, and compared the relation of the weight of the brain to the weight of the femur in two animals of the same species and the same degree of intelligence. He thus got two factors which when added together gave the total weight of the brain, the one being the part corresponding to the bulk of the body as measured by the weight of the femur, the other corresponding to the intelligence. This gave concordant results for a large number of animals but broke down when applied to extremes. Still it was a distinct step in advance and paved the way for the next step towards a more satisfactory hypothesis.

In 1897, Dubois of the Hague, best known as the discoverer of the bones of *Pithecanthropus erectus* in Java, published a new theory of the relation of the weight of the brain to the extent of the surface of the body, the correctness of which has since been confirmed by independent observers. He started with the assumption that the brain consists entirely of the central parts of reflex arcs, the function of which is to bring sensory and motor nerves into relation with each other, and concluded that in animals presenting the same degree of physical development, the number and weight of these reflex arcs would be proportional, approximately, to the number of sensory nervous fibres. In two animals in the same stage of psychical evolution, but of different bulk, the number of sensory nervous fibres will then be proportional to the total extent of the perceptive surface, that is to say, to the extent of the surface of the body. On the other hand, in two animals in very different stages of psychical evolution but of the same bulk, and having therefore approximately the same number of sensory fibres, the animal in whom the central parts of the reflex arcs attain the greater degree of complexity will have the heavier brain. Now it appears that the cube root of the square of the weight of an animal multiplied by a constant which varies with each species expresses with fair accuracy the relative size of the surface of its body. If S and s be the weight of the body of two animals then the surfaces will be

$$\sqrt[3]{S^2} \text{ and } \sqrt[3]{s^2} \text{ or } S^{0.6} \text{ and } s^{0.6}.$$

In two animals of the same degree of mental evolution and the same bulk the weight of the brains would be equal. But if the mental development differs, then we have a variable factor, and the problem is to find this, which will express what Dubois calls the relative cephalization, or relative amount of brain corresponding to the difference in intelligence in the physiological sense of the word. In practice the factor by which S is to be multiplied is not exactly 0.6, because in an animal with a very small body a part of the perceptive surfaces of its sensory organs is relatively more extensive, and consequently the terminations of the sensory fibres in the brain are denser, and the extent of the cortex relatively increased. Dubois took a series of animals of similar form, and, in his judgement, of similar intelligence, but differing very much in size, choosing, of course, adult animals of average weight and bulk; by an equation which we need not reproduce, he calculated the value of the factor by which S should be multiplied in each case. He found it to be almost constantly 0.56, the extremes being 0.54 and 0.58. He thus got the equation—

$$E = cS^{0.56}$$

where E equals the weight of the brain, S the weight of the body, and c the factor of cephalization indicating the degree of intelligence. Dubois found that the results obtained by calculation in the case of a large number of animals were concordant. Thus the factor of cephalization in man was 2.8186, in the monkey from 0.7607 to 0.4636, in the donkey 0.4390, the horse 0.4380, the cat 0.3284, and the mouse 0.0770. The only obvious defect in his table is that the dog (0.3586) comes below the horse, which is not quite in accord with popular experience. Lapicque and Girard[2] have recently afforded striking confirmation of the accuracy of Dubois's criterion by a series of observations on birds. They found that the factor of cephalization in the various groups corresponded with the accepted opinion as to the degree of intelligence. The parrot was at the head of their list, the barndoor fowl, surely one of the most foolish of birds, at its tail. Crows, magpies, and jays stood very nearly as high as parrots.

Another very suggestive result of these observations is that the equation given above is found to be true not only for the total weight of the brain as a whole but for its several parts, for the cerebral hemispheres, the cerebellum, and the corpora quadrigemina.

[1] *Revue Philosophique* for September.

THE SPECTACLEMAKERS' COMPANY.

The Spectaclemakers' Company, as reported in the *Daily Telegraph* of November 14th, held high festival on the previous evening, under the presidency of the Master, Lord Burnham, who in his speech claimed the company to be the proper authority for granting diplomas of efficiency, not only in optics but in sight-testing, and referred to the fact that it is promoting a Bill to that end in Parliament; this he hinted would probably be introduced next session into the House of Lords by Lord Goschen.

Sir G. Faudel-Phillips, in speaking to the toast of "Success to the Industry," said that the Company, since

[2] *C. R.*, Av. 10, 1905.

adopting its certification scheme eight years ago, had "had "1,261 candidates for examination, and during the previous "eighteen months had held eight examinations, at which "280 candidates had been examined for the diploma in "sight-testing and 160 for the diploma in general optics." We note, in passing, that he said nothing about the number of those candidates who had failed in the examination, so that it may be presumed that the whole of the candidates who presented themselves passed! He considered that this large number of applicants for the diploma of the company fully justified its existence; "they did not "pretend to be oculists, or surgeons, or doctors, but "they aimed at adding to the high education which "those who dealt in spectacles now possessed a higher "education, and to foster and enlarge that know-"ledge which they had developed. It was idle to say "that these diplomas were in any way injuring the great "scientists and the great doctors; did they reasonably sup-"pose that a poor man dwelling in a small village could pay "the expense of coming to London to consult an oculist and "pay his fee before purchasing a pair of spectacles? Their "notion was that such a man might be able to walk to the "adjoining country town and go to a man who thoroughly "understood his business, who could show him what he "needed if his eye was not diseased, and who would tell him "if his eye was diseased that a medical man was the proper "person whom he should consult."

From these speeches we may take it as certain that it is the intention of the company, which possesses no inconsiderable amount of political influence, to endeavour to obtain by legislation a recognition of the status and qualifications of opticians to examine and prescribe for the refractional defects of the eye, although this is undoubtedly the business of the medical profession and cannot be performed properly except by persons possessed of a medical education. The arguments of Sir G. Faudel-Phillips are unworthy of a speaker who was appealing to an educated and intelligent audience, for he can hardly suppose that London is the only place which possesses medical practitioners competent to advise the public in the matter of spectacles. It would have been just as reasonable if he had contended that it was necessary to go to Germany or America, because these countries contain ophthalmologists of eminence and world-wide reputation. Fortunately, all students now receive some instruction in diseases of the eye, while practitioners possessed of more than ordinary skill in ophthalmic matters are to be found in every county town, and are numerous in each of the large centres of population. But even if it were not so, the argument would be that the State must recognize a body of inferior practitioners in order to supply a public want, instead of following the practice of all civilized countries by encouraging the development of properly trained men to serve the public need. The eye under no conditions can be safely regarded as a combination of lenses; it is a living organ made up of highly differentiated and delicate tissues, and its visual power depends upon the integrity and proper function of nerve, muscles, blood and lymph supply as much as upon its refraction. We have no desire to limit the liberty of the public or any members of it who may desire to purchase spectacles without medical advice. No doubt there are a number of cases in which the patient can suit himself with spectacles, as, for example, in presbyopia; but the pretensions of diplomates of the Spectaclemakers' Company, as set forth in numerous advertisements to which we have drawn the attention of the authorities of the Spectaclemakers' Company, are that the examinations they have passed have proved their capacity to deal with *all* cases of refractional defects. Many of these certainly require greater skill than these diplomates possess, but no serious effort seems to be made by the company to check the bold advertisements by which these claims are proclaimed far and wide amongst the public. It is high time that the medical profession bestirred itself to oppose this legislative project. The British Medical Association may be relied upon to do its utmost, but the Royal Colleges of Surgeons of each division of the Kingdom and the Ophthalmological Society of Great Britain may each in its own sphere render great assistance by forwarding at the proper time petitions to both Houses of Parliament against the Bill, and, if the matter is referred to a Select Committee, by giving evidence to bring home to our legislators the true facts of the case.

THE BANKS MEMORIAL LECTURE.

THE first memorial lecture before the University of Liverpool will be delivered by Mr. Reginald Harrison on December 18th. Mr. Harrison was for many years a colleague of the late Sir William Banks—first in the Liverpool Medical School, and then in the medical faculty of University College—and he will no doubt have much of interest to say of the great work which his friend helped to do in Liverpool. It was frankly acknowledged by more than one speaker during the University festivities at the end of last week that the University of Liverpool had grown out of the medical school, and the fact that the fund to commemorate Sir William Banks reached the large total of nearly £6,000 is one evidence of the high esteem in which he was held by the citizens of Liverpool. During the lifetime of the present generation he will not be forgotten, but it is well that this memorial lecture in the University should have been founded to remind future generations of the great work Sir William Banks did for the city of his adoption.

THE OXFORD MEDICAL SCHOOL.

ON November 16th, the Oxford Medical Graduates' Club entertained a number of guests at dinner at the Trocadero Restaurant, London. Professor Osler, who was in the chair, after congratulating the club upon its success and upon the large number—some 150—present at the dinner, spoke in glowing terms of the many excellencies which he found in the undergraduates at present prosecuting their preliminary medical studies in Oxford. He praised the laboratories of anatomy, physiology, and pathology, but said that the school needed laboratories of pharmacology and hygiene. He did not think it advisable to attempt to create a school of clinical medicine, but he had commenced to give clinical instruction, and hoped that all Oxford men coming up for clinical work in London would be sufficiently trained to take immediate advantage of the facilities there afforded. The Vice-Chancellor, Dr. Merry, Rector of Lincoln College, said that the action of the medical graduates in raising a fund for the endowment of a chair of pathology had been highly appreciated in Oxford, as was also the generosity of Mr. Edward Whitley, B.A., of Trinity College, who had not only given a special donation of £1,000, but had also promised to double any sum raised by the medical graduates. Sir William Church subsequently said that the fund now amounted to £2,168.

MISTAKEN DIAGNOSES OF INFECTIOUS DISEASES AND ADMISSION TO ISOLATION HOSPITALS.

IN an article published in the BRITISH MEDICAL JOURNAL of August 19th, p. 395, attention was drawn to the extraordinary statements made by a medical member of the Metropolitan Asylums Board, at one of its recent meet-

ings, as to the unnecessary expenditure incurred by the admission to its hospitals of patients whose illness had been erroneously diagnosed. We pointed out, among other things, that a rigid compliance with the lines of action implied by this statement would mean that the true function of the Board, which is to prevent the spread of infection, would necessarily be defeated. The matter—as will be seen from the letter of the Chairman of the Committee published elsewhere—has now been reported on by the Hospitals Committee of the Asylums Board, which took as the basis of its investigation the statement contained in a letter from the Holborn Borough Council that an expenditure of about £60,000 had been incurred during the last five years by the admission of patients who "were not suffering from the diseases for which those "hospitals were provided." The Hospitals Committee, as will be seen, has now reported that the extra cost to which the Board has been put by the admission of these patients does not exceed an average sum of £3,200 per annum, which is reassuring after the extravagant statements previously made. They then proceed to lay stress, on the lines of our former article, on the difficulty of diagnosis in the earlier stages of many infectious diseases, and on the spread of infection which would frequently result from detaining at home every patient until certainty of diagnosis was attained. They enunciate clearly the principle on which we laid stress that the primary object of the Board's hospitals is to prevent the spread of disease, and that it must therefore be "always wiser to "remove a doubtful case than to leave it outside, with the "danger of infecting others." This being so, we congratulate the Committee on recommending the managers to come to the conclusion, and the managers on confirming the report, that they "would be going quite beyond the "scope of their functions if they took any step which would "have the effect of discouraging medical practitioners "from freely exercising their judgement in seeking for "their patients admission to the Board's hospitals." This decision is wise and statesmanlike, and ought to go far towards undoing the mischief caused by the inaccurate statements which formed the subject of the Hospital Committee's report.

AUTOMOBILES FOR MEDICAL MEN.

THE exhibition promoted by the Society of Motor Traders and Manufacturers has been in progress throughout this week, and has attracted an enormous number of visitors. The alleys and stands have been packed day by day, and anything in the way of a general rapid survey of what there was to be seen has been impossible. The hall at Olympia must be one of the largest in London, and the Society has spent some £10,000 in extending its accommodation, but nevertheless the place is really far too small for the purpose to which it has been put. The Society endeavours to find room in it not only for touring cars and automobile vehicles for medical and other professional men, but also gives space for the exhibition of omnibuses, lorries, motor boats and yachts, and motor accessories of all varieties. It endeavours, in short, to show in one building of no vast proportions, everything which appeals to the motor-man of to-day or which may attract recruits for to-morrow. The inevitable result is overcrowding, and no one could examine the exhibition thoroughly and be certain that he had overlooked no novelty who did not set about the task in a business-like way, and with a determination to see things through in spite of difficulties. To the man already well versed in motors, these exhibitions are doubtless useful by enabling him to see the latest productions of the more prominent firms without running from show-room to show-room, but to the neophyte they must be merely confusing. Under the circumstances it seems a pity that the show is not split up into the three divisions into which it naturally falls, for it would then be possible to display, each in its turn, all branches of motor industry in a much more attractive and useful way. For the rest, it may be said that nothing of a very epoch-making nature was, as far as we could discover, on view. As for the general principles of motor building there seems to be a tendency towards multiplications of cylinders, the adoption of "live axles" in exchange for chain transmission, and an endeavour to render driving safer by leaving the hands as little work as possible beyond that of controlling the steering gear. As for prices, a process of levelling, both downwards and upwards, seems to be in progress; in other words, it is now possible to get a high-powered car by a first-class maker at a much lower figure than formerly; while, on the other hand, there were on exhibition fewer cars of very low price than last year. Probably the majority of those who have tried to build cars at much under £200 find that the market was too limited to be attractive. It is the car at from £200 to £350 which seems best to meet the needs of professional men, and in this division old favourites whose prices are nearer the lower than the higher limit seem to be more than holding their own. They are adhering to the general construction on which they have acquired their repute, but are introducing sundry improvements in detail. As last year, there were a good many cars to be seen avowedly intended to catch the medical eye, and a remark made on the subject by an acquaintance indicates that it is worth while to remind the unsophisticated that it is the *chassis* of a car, and not its body, which is of primary importance to a car buyer, whatever the purpose in view.

TYPHOID BACILLI IN THE BLOOD.

DRS. WARREN COLEMAN AND B. H. BUXTON, of New York, have put together the results[1] of the bacteriological investigation of the blood in 604 cases of typhoid fever. Sixty of these records are based on their own observations, and the remainder have been collected from statistics provided by other observers. Out of these 604 cases, 453, or 75 per cent., showed typhoid bacilli in the blood at some stage of the disease, and the authors are inclined to believe that this high percentage will be exceeded when future investigations are added, since the most recent records show that with improved methods of technique the bacilli can be demonstrated almost invariably in the first three weeks of the disease. The method employed by Drs. Coleman and Buxton is to obtain 10 c.cm. of blood, and to distribute it into four flasks, each containing 100 c.cm. of broth, and then incubate this medium at 37° C. When a flask shows morbidity and bacilli are found by microscopic examination, an agar culture is made. From this growth subcultures are prepared in glucose gelatine, litmus milk, neutral-red agar, and other differentiating media; the identification of the bacillus is then confirmed by agglutination tests with an active serum. Particular attention is called to the periods of the disease in which typhoid bacilli have been found in the blood. Eighty-five examinations have been made in the first week, and, amongst these, 79 cases, or 93 per cent., have yielded positive results. The earliest recorded positive result was obtained on the third day; other positive results have been reported on the fourth and fifth days. In the second week records of 108 examinations are available, with positive results in 151 cases, or 76 per cent. In the third week 115 examinations yielded positive results in 65 cases, or 56 per cent; and in the fourth week there were 18 positive results out of 55 cases, an average of 32 per cent. The interesting fact brought out by this analysis is the large percentage of positive results obtained in the first week and the steady decline in later periods of the disease. These facts suggest that the earliest site of infection or dissemination of the disease is the blood, and that, on this account, the process ought to be regarded as septicaemic. The number of cases of relapse where the bacteriology of the blood has been studied is too small to justify any general conclusions, but the interesting result is brought out that in 21 recorded instances of examination the bacillus was found in all but 3 cases. In discussing the diagnostic value of bacteriological examinations of the blood in cases of typhoid fever the authors express the very sensible opinion that this procedure is unnecessary in the

[1] *Proceedings of the New York Pathological Society*, 1904.

majority of cases, but may prove of very decided value in exceptional instances. The method is particularly deserving of application in those examples of the disease in which the clinical manifestations are difficult of interpretation, and when, as not infrequently happens in the earlier phases of the infection, the serum reaction fails to give a decisive result.

SCROFULODERMIA AND FURUNCULOSIS.

With the use of "pure carbolic" in the treatment of whitlows and allied lesions, for the disinfection of the appendix stump after excision of the organ, and, after Neisser, as an application to the soft chancre, every surgeon is familiar, and the occurrence of toxic symptoms is very rare. Dr. Hans Vörner, Assistant to Professor Hoffman at the Leipzig Poliklinik, now extends the principle to the treatment of furunculosis and scrofulodermia. He claims great and swift success for his method. By experiments on dogs he has determined the superficial extent, relatively to the body surface that may be safely exposed to the action of pure phenol, and in the light of this information has applied the drug to lesions in the human subject with a confidence hitherto undisturbed by the supervention of any alarming symptoms. A gram of carbolic acid crystals liquefied with water or alcohol suffices to cover a surface of 100 square cm., and a case is instanced in which, after four times this area had been treated, no carbolic appeared in the urine. In this connexion it is important to remember that individual differences are very marked with respect to the excretion of phenol. Dr. Vörner claims for his method, which extends to some eight applications on successive days, that it greatly hastens healing and does away with excessive scar-tissue formation. Apparently the continued existence of the caseating or broken-down glands beneath the infected skin is not considered by the author to necessitate surgical intervention. Without throwing any doubt upon the efficacy of the treatment to secure healing, yet, bearing in mind the frequency with which involvement of the skin is followed by generalized tuberculosis, it must be said that the importance of complete excision of skin and underlying glands can hardly be overrated. When the disease reappears in the scar, the application of "pure carbolic" is certainly useful, but not by any means unknown in this country. Again, in furunculosis the underlying principle is not fresh. The occasional effect of fomentations in disseminating the lesion is recognized, and iodine has been employed as a topical application by means of a match or probe to promote healing by first producing superficial necrosis, and subsequently disinfecting the cavity. The objection to iodine is the severe pain it causes, but as employed by Dr. Vörner, without deep injection, it appears that the pain from carbolic is negligible; the local action of the carbolic is similar to that of iodine. The most satisfactory feature of the treatment, however, is the fact that long standing and inveterate cases clear up within a week or two and do not relapse. Small furuncles need but one application; those in which there is a pus cavity of any size require two or three, and carbuncles, after incision, daily application for a week or a fortnight.

THE PROPHYLAXIS OF ANKYLOSTOMIASIS.[1]

Dr. A. Manouvriez of Valenciennes draws attention to sodium chloride as a means of destroying ankylostoma in coal pits. As far back as 1880 Perroncito demonstrated by experiments the toxic action of sodium chloride upon the larvae of the parasite. The immunity of the salt miners employed at the famous mine of Wieliczka, near Cracow, has been attributed to the large quantity of common salt held in solution in its subterranean lakes. Four years ago Lambruit of Liége showed that encapsulated larvae became immobile after being exposed for twenty-four hours to a 15 per cent. solution of sodium chloride, also that movement reappeared if the liquid was replaced by pure water. In 1902 Bruns fixed the toxic dose of salt at 4 per cent. for the ova and 3 per cent. for young larvae. About this period Boycott and Haldane in this country were making experiments upon encapsuled larvae of six weeks' growth and upon larvae just hatched, and they found that while newly-hatched larvae were rapidly killed by immersion in 1.8 per cent. solution of sodium chloride, encapsuled larvae were still living at the end of thirty-six hours. Practical application and confirmation of these experiments have been found in the conditions which exist at the Levant Mine, near St. Just in Cornwall, a mine from which tin, copper, and arsenic are still being extracted. Although it is one of the very deep mines of Cornwall it is also one of the healthiest. In this mine the ova of many of the intestinal parasites that infest man were found, but in the faecal matter lying about no ova of the ankylostoma were detected. This was attributed to the fact that as the mine is worked under the sea the sea water filters through the strata into the mine. That this percolation occurs is more than suggested by the analyses of samples of water taken at different levels in the mine, some of which contained as much as 2.7 per cent. of sodium chloride. Although a trace of arsenic was present in some of the samples, it was proved that this had no effect upon the parasite. The percentage of sodium chloride in the Levant Mine is greater than that required to destroy larvae that have just emerged. In some of the inland coal mines of France, especially those between Anzin and Denain, Manouvriez found that the waters percolating into the mines were saline, and that they probably came from subterranean pouches, remnants of ancient seas, or of salt-water lakes lying above the carboniferous strata. On analysis these waters were found to contain 0.7 to 2 per cent. of common salt, according to the source in the pits from which they had been drawn. It is interesting to observe that in those pits in which the higher percentages of salt prevail there are no cases of ankylostomiasis among the miners, although the malady is present in the other pits not so fortunately watered. In the French mines that have been saturated by salt water not only do the workers not harbour the ankylostoma, but they are also free from anaemia, whereas in the other pits not thus protected the mines are infected and the colliers are anaemic. At Anzin, as at the Levant in Cornwall, the opinion is therefore held that the mines have been rendered refractory to the ankylostoma by the percolation of salt water. Spraying with a 2 per cent. solution of sodium chloride is therefore recommended as a prophylactic for dusty mines and the scattering about of salt for moist mines.

[1] *Mines de Houille rendues Réfractaires à l'Ankylostome des Eaux Salées de [illegible].*

THE MEDICAL SIDE OF RABELAIS.

An article bearing this title appeared in a recent number of the American *Medical Library and Historical Journal*, and its author is Dr. Charles G. Cumston of Boston, a name not unknown on this side of the Atlantic. The subject is not original, but Dr. Cumston's views upon it are worth reading. We need not dwell on Rabelaisian commonplaces nor on the disputed question about Rabelais's cure of souls at Meudon. In respect to the latter subject Dr. Cumston shows that he could not have been cure, or parish priest, for long, and holds that at the end of two years he had to give up his benefice, probably on account of the scandal caused by the publication of the fourth book of *Pantagruel*, which was far more aggressive than the preceding instalments of that work, as far as religion was concerned. W. F. Smith, in the introduction to his English translation of Rabelais's works (1893) seems rather to attribute this resignation to a change of bishops, the new prelate proving hostile to Rabelais on account of his peripatetic tendencies which interfered with his parochial duties. Dr. Cumston holds the usual views as to the signification of the chapters on the education of Gargantua; teaching everything ends in the pupil learning nothing. The idea that the young prince should exercise his intellectual faculties when attending to the wants of nature was, we must remember, openly advocated in later times by Chesterfield, who advised his son to study

an ode of Horace under such circumstances previous to making use of the page for toilet purposes. Dr. Cumston is convinced that Rabelais possessed an excellent knowledge of the materia medica and pharmacology of his time. His hyperbolic eulogy of remedies, in high estimation in his day, is manifestly satirical, but it is unfortunate that his want of good taste prevents us from referring in detail to his sarcasms on transcendental therapeutics. Gargantua wears an emerald "as big as the fruit "of an orange" about his person, so that he may beget vigorous offspring—an allusion, of course, to the numerous recipes to ensure long life and other desiderata when the drug was practically impossible to procure, whilst even if it could be obtained there was not the slightest reason to believe that it would prove of the least benefit to the patient. This fallacy is the keynote to satire about drugs during the Renaissance. Later, in Molière's day, drugs were represented as curing by explanation, a fever being stopped by cooling drinks because it ought to be cured by such remedies, and opium ("grains," as Queen Henrietta Maria and her daughter called it, according to J. A. Taylor's life of Charles the First's consort) causing sleep because of its dormitive properties. Cumston also indicates how Rabelais ridiculed sixteenth-century etiology; we need hardly say what malady was selected by the satirist, who found a large field for characteristic jests in the curious theories about syphilis held by Steber, Grunbeck, and Leoniceno. Rabelais thoroughly understood the value of general treatment, exercise, hygiene, rational diet, and above all the keeping up of the patient's spirits. These principles, though put in the background by mediaeval physicians, were not wholly ignored by the multitude; thus, according to tradition, Robin Hood and other popular heroes forcibly undertook the medical treatment of corpulent ecclesiastics by riding on the backs of those dignitaries for a mile or twain before the latter were suffered to break their fasts. Rabelais advised the patients to whom he prescribed his writings, and the critics who condemned them, to hoop themselves well, like barrels, with stout girths, lest they should burst with laughter. Dr. Cumston shows that Rabelais more than hints that Pliny was a liar, and considers that the long chapters explaining how Panurge wanted to find out if his hypothetical future spouse would be faithful to him, is a long piece of sarcasm hitting the great majority of the physicians of antiquity. Yet Rabelais believed in the ancients, although he despised his mediaeval predecessors. Ridicule, however, was the weapon which he knew best how to use. Molière and Voltaire also employed it successfully against fashionable fads and Bourbon despotism, but as far as medicine is concerned, Rabelais far excelled them in his use of laughter. Above all, he utilized it not only as a lash, but likewise as a remedy. How many of his readers have forgiven him his ribald wit because of the lines heading the prologue to Gargantua: "Mieulx est de ris, que de larmes escripre: pour ce que "rire est le propre de l'homme"!

EXTRACTION OF CATARACT IN THE CAPSULE.

EVERY one would agree that, were the operation a safe one, the results of removing an opaque lens in its capsule would be far better than when the capsule is left behind, for sooner or later it becomes wrinkled or opaque, and an operation has to be undertaken to get rid of it. Major Henry Smith, I.M.S., is an ardent champion of the removal of the cataract in its capsule, and he fully expressed his views on the subject at the annual meeting of the British Medical Association held at Cheltenham in 1901. Since that time he has done many more operations, but his views have only become strengthened with time and experience. In a paper published in the *Indian Medical Gazette* for September, 1905, he again goes over the whole question, and strongly advocates the views he has previously expressed. His personal experience now extends to over 11,000 cataract extractions, and as only 2,000 of these were done in the usual manner, it leaves the magnificent total of upwards of 9,000 cases on which to base his opinion. Out of 2,767 cases operated on by him during the last year, only 151, or 5.4 per cent., were deemed by him to be unsuitable for extraction in the capsule. He starts the incision close to the corneo-scleral junction and then cuts upwards and forwards so as to finish up in the cornea midway between the pupil and the edge of the cornea. Pressure is made with a strabismus hook below, while counter pressure is made above with a spoon. By gradual pressure with the hook, the lens is slowly delivered in its capsule; the iris if prolapsed is replaced, if a bead of vitreous is seen it is cut off, but besides this nothing further is done. A point on which he insists is that the moment the incision is made, the speculum should be removed, and the upper lid raised with a strabismus hook by the assistant, while with his other hand he depresses the lower lid and retains his hold until the operation is finished; this is done in order to obviate the action of the orbicularis, which by contracting is more than likely to cause the escape of vitreous, but if the lids are held in this way its action is sufficiently controlled to prevent its doing harm. His results are splendid. Out of 2,616 cases operated on by him between May, 1904, and May, 1905, he obtained 99.27 per cent. first-class results. He obtained second-class results in 0.38 per cent. and failures in 0.34 per cent. Nothing could be better than that, though in spite of it we fear it will be a long time before British surgeons will be persuaded to adopt this operation, which, though it gives such incomparable results in Major Smith's hands, most people will still regard as extremely dangerous.

MEDICAL PRACTICE IN BUENOS AIRES.

A BILL has for some time been before the Parliament of the Argentine Republic relative to the exercise of medicine in the province of Buenos Aires, and has already been passed in part with only slight modifications. By this measure medical consultations in pharmacies are forbidden. Advertisements in which a cure of all or certain specified diseases, whether at a stated price or otherwise, is promised, are declared to constitute illegal practice. In the same category will fall statements that a therapeutic agent is of infallible efficacy in one or more diseases. A fine is imposed on whosoever shall, directly or indirectly, contribute to the publication of such advertisement. The obligation of professional secrecy is remitted in special cases in which its observance would be attended with danger to the public health or interfere with the penal laws. Special authorization is required for the sale of prophylactic or curative serums, modified toxins or organic liquids intended for the cure of diseases. Moreover, the preparation of these substances is subjected to special supervision.

THE GRAPE FRUIT.

As a result of the more rapid service of steamers instituted by the enterprise of Messrs. Elder Dempster between this country and Jamaica, it is possible to obtain the fruits of the latter island in a fresher condition than has hitherto been the case. One species of fruit which can now be readily bought in London deserves wider recognition and adoption for its healthful and delicious qualities. This is the grape fruit, a variety of the *Citrus aurantia* group—looking, in fact, like an exaggerated orange or small melon. From inexperience in selecting and preparing the fruit for eating, many persons who have essayed it are not enthusiastic, and it has not won the approval which it assuredly deserves. This is because the fruit is often sold and eaten in an unripe condition and without preparation. The fruit is gathered in Jamaica while the rind is still green, but when it arrives in England the colour is a light yellow; it may acquire some dark-ringed facetted marks, which are the result of pressure, during transit, and are of no importance. The fruit should be of a doughy softness, and its surface should pit slightly when pressed with the finger. It should be prepared by dividing it into hemispheres by cutting it across in a horizontal plane at right angles to the axis of the "navel." In each hemisphere thus produced

will be seen a white pithy core surrounded by white seeds like those of the common orange. Core and seeds should be freely cut away with a small sharp knife, leaving a conical depression or pit into which the juice speedily flows. It should be prepared some hours before it is required to be eaten, in order to allow the juice to fill the cavity, and powdered sugar should be poured into the hollow according to individual tastes; in warm weather a lump of ice put into the hollow adds to the refreshing effect. The fruit is eaten by scraping with a small spoon at the sides of the pit, and mixing the segments of fruit with the juice in the pit. In Jamaica and in the United States, where the fruit is very popular, it is usually eaten at breakfast and as a *hors d'oeuvre* at lunch; but it is equally palatable as a dessert. It has a wholesome, clean, slightly bitter taste, blending with the acidity of the orange, and has the physiological action of stimulating the appetite and promoting salivary and gastric digestion.

THE HARVEY LABORATORY.

On November 18th the Archbishop of Canterbury opened, at the King's School, Canterbury, a new laboratory recently erected to the memory of William Harvey, who was a pupil at the King's School. Prior to the opening ceremony a largely attended meeting was held in the school gymnasium, over which the Archbishop presided. The Dean of Canterbury gave an excellent report of the school's work, and the Archbishop said that it was the oldest public school in England. He drew a contrast between the conditions of life in Harvey's time and those which now prevailed. There was no reason why some of those King's scholars who would be afforded the opportunity of studying in the new laboratories should not electrify the world in years to come by great scientific discoveries. The Dean briefly explained that it had been found necessary to erect the laboratory to meet the growing needs of the school. Sir R. Douglas Powell, after expressing the pleasure he felt at being allowed to be present at the inauguration of a new laboratory commemorative of that great physician and philosopher, William Harvey, said that he understood that there was in the school a society for the study and for the encouragement of natural history and biology, which was well named the Harvey Society. Linacre also had been educated in the school. The period between that when Linacre entered the school (about 1472) and the time when Harvey was instructed there in 1587 covered the wonderful renaissance of learning. In mediaeval times there were no books, and manuscripts were hard to come by. The teaching of the great masters in religion, in science, in art, and in literature had to be conducted orally. The return of learning in the time of Linacre and Erasmus enabled exact knowledge to be brought to bear on the original masterpieces. Harvey taught and studied nature by direct observation and by way of experiment, and so introduced the scientific spirit into the study of natural things. The other lessons to be derived from the teaching and character of Harvey were the lessons of patience, of untiring industry and discipline. Of the simplicity of his life, of the nobility of his faith, and the steadfastness of his character there were abundant records. Professor Herbert Jackson (King's College) also addressed the meeting, and after the head master, the Rev. A. J. Galpin, had proposed a vote of thanks to the Archbishop and the speakers, His Grace proceeded to the new laboratory, and formally declared it open.

OBJECTIONABLE LITERATURE.

A correspondent sends us a copy of a most objectionable magazine, which we infer from our correspondent's letter has been circulated among women and girls in the neighbourhood in which he lives. We will not give the thing a gratuitous advertisement by mentioning its name or place of publication. It professes to be devoted to physical culture. Within its covers we find full-page advertisements of certain books, to be bought for 1s. 6d. each. These advertisements contain synopses of the contents of the books, chapter by chapter. Many of the chapters are devoted to the functions of the sexual organs, which, both in and out of the married state, appear to be discussed in great detail. References to the same subject appear in the body of the magazine. It appears to us that literature of this sort does much more harm than the suggestive French post-cards and magazines, the sale of which the police will stop. The pictures and post-cards are not looked at twice by decently-minded people, and are not allowed to exist in respectable houses. But these books, insinuating themselves under the excuse of promoting health, not only gratify the morbid tastes of the prurient, but, what is worse, put into the minds of innocent and well-meaning people false ideas of their duty, and groundless fears as to their health. And the publishers of this trash, stuffed full of references to sexual matters, advertise for boys and girls to become agents and sell it! Surely the police might interfere.

THERAPEUTIC INOCULATION FOR TUBERCULOUS INFECTION.

At the meeting of the Royal Medical and Chirurgical Society on Tuesday next a discussion will take place on the principles of therapeutic inoculation as applied to the treatment of tuberculous infection. The papers will be read by Dr. A. E. Wright on the general principles of therapeutic inoculation by bacterial vaccines as applied to the treatment of tuberculous infection; by Drs. David Lawson and Ian Struthers Stewart on the study of some points in relation to the administration of tuberculin (TR) controlled by observations of the opsonic index in pulmonary tuberculosis; by Dr. W. Bulloch on the treatment of tuberculosis by tuberculin; and by Mr. John Pardoe on the treatment of tuberculosis of the urinary system by tuberculin (TR). These papers, it is believed, will cover the whole ground bacteriologically and pathologically, and it is anticipated that the discussion will extend over more than one meeting.

THE HEREDITY OF ALBINISM.

An investigation into the heredity of albinism in man is being carried out by Professor Karl Pearson, F.R.S., of University College, London, with the co-operation of Mr. E. Nettleship, F.R.C.S., Shottermill, Surrey, and Dr. E. Stainer (Physician to the Skin Department, St. Thomas's Hospital), 60, Wimpole Street, London, W., and cases bearing on the subject, either positively or negatively, will be very thankfully received by any of those gentlemen. The investigators desire to collect a large series of examples of albinism—complete or incomplete, general or partial—in which the family history of the albino patient can be traced for one, two, three, or more generations. The sex and prevalent colour of eyes and hair, in as many of the patient's relations and ancestors as possible should also be noted, whether any of them were albinotic or not; also all instances of consanguineous marriage. Cases of albinism of the eyes in persons with congenitally-pied skin (most easily recognized amongst dark races) will also be very valuable, even without family history, acquired leukoderma being, of course, excluded.

We regret to have to record the death, on Tuesday, November 21st, of Mr. John Croft, F.R.C.S., Consulting Surgeon to St. Thomas's Hospital, London. We hope to publish some account of his life in an early issue.

We have also to record with much regret the death, on November 21st, of Mr. Pearson Robert Cresswell, C.B., F.R.C.S., of Dowlais, at the age of 71. Mr. Cresswell was one of the representatives of the South Wales and Monmouthshire Branch on the Council of the British Medical Association.

Dr. Richard Caton, Consulting Physician to the Liverpool Royal Infirmary, and Emeritus Professor of Physiology in the University of Liverpool, has been elected Chairman of the Education Committee of the County Borough of Liverpool.

Scotland.

The War against Tuberculosis.

A Pioneer Institution.

The Royal Victoria Hospital for Consumption at Edinburgh is the pioneer among sanatoriums in this country. Founded in 1887, it was doing highly useful work some years before the National Association for the Prevention of Consumption and other Forms of Tuberculosis came into existence under royal patronage in response to a demand on the part of the public as well as the profession that an active warfare should be organized against the "white plague."

The Edinburgh hospital sprang from humble beginnings, and its founder, Dr. R. W. Philip, had for a long time to struggle against the usual hindrances which have to be encountered by the initiator of a great reform. The results achieved with the very limited means available and in spite of disadvantages which might well have disheartened a man with a less vigorous belief in his enterprise, soon forced themselves on the attention of the profession. Dr. Philip demonstrated the fact that the open-air treatment could be carried out with success even in such a climate as that of Edinburgh, from whose east winds consumptives like poor Robert Louis Stevenson were wont to flee as from the breath of destruction; this alone did much to open men's eyes to the benefits of what may be called the sanatorium system.

The Royal Victoria Hospital is, however, much more than a sanatorium; it is the embodiment of a comprehensive scheme of warfare against consumption. In organic connexion with the sanatorium proper, into which selected cases are received for treatment which they cannot receive at home, there is a dispensary fully officered and equipped for the treatment and assistance of poor patients in their own homes; a colony where those who have recovered can be under supervision; lastly, there is a home for the dying. The initiation of the tuberculosis dispensary, so necessary an adjunct to the sanatorium, is generally attributed to Professor Calmette, of Lille, but that philanthropic scientist was anticipated by several years by Dr. Philip. The Victoria Hospital has developed into an important institution, and by the sheer force of the work which it has done, it has won for itself a considerable measure of public support. But a great deal more might be achieved but for the want of money, which makes so many

> Enterprises of great faith and moment
> With this regard their currents turn awry.

A Beggar's Wallet.

It would be a grievous pity that so useful an institution should be crippled in its work or checked in its development by want of means. We hope that the bazaar now being held in aid of the Victoria Hospital at Edinburgh may result in a large supply of the sinews of war. We think it likely that many of our readers who have a kindly memory of the Northern Athens, and others who are interested in the success of a good work for its own sake, may be glad to know of a way in which they can help the institution. If they buy *A Beggar's Wallet*,* issued under the editorship of Mr. Archibald Stodart Walker, they will have the double satisfaction of contributing their mite to a most deserving charity and enriching their library with a book in which the promise of a handsome exterior is more than fulfilled by the variety and charm of the contents.

In his preface, Mr. Stodart Walker describes himself as having been on a "tour of literary mendicancy" in search of materials to fill his wallet; we can honestly say that he has been a singularly successful beggar. The "certain workers in arts and letters" who have helped to fill his wallet are well-known artists and writers, many of whom are not directly associated with Edinburgh; but one and all have generously striven to give something that should be worthy of the cause they were invited to assist. The result is a collection of delightful odds and ends, in which there is something to suit the most diverse tastes. For the serious reader there are essays on history, literature, and the drama; for the lighter-minded there is an abundance of sketches and stories; lovers of poetry will find some lovely snatches of verse; for the artistic there are many exquisite drawings and pictures. It seems almost impossible in such a collection of good things to single out any for especial praise. Mr. Eden Phillpotts describes "The Seasons" with a happy touch of impressionism; the last two lines on winter

> Draw the cloud curtains close, and spread below
> Our dreaming mother's coverlet of snow,

have a tender grace that makes them linger in the mind's ear like an echo. Ellen Thorneycroft Fowler's verses on "A Battlefield" are in a different vein. The battle is simply a football match between some schoolboys, but the secret is cleverly kept till the last lines, which suddenly reveal that

> 'Twas neither war nor tumult, but a batch
> Of schoolboys struggling in a football match.

Walter Herries Pollock's "Serenade" and Mr. Justin Huntly McCarthy's "Heliodora" are pretty love songs. Mr. Stodart Walker himself contributes some verses on the late Robert Brough, A.R.S.A., accompanying a beautiful sketch of the young artist by Cadenhead, and a longer poem entitled After Many Days. Other contributions are by the Lady Margaret Sackville, Lady Troubridge, Maria S. Steuart, Sir George Douglas, Henry Johnstone, J. M. Bulloch, John Buchan, Arthur C. Benson, R. C. Lehmann, Alfred Noyes, Will. H. Ogilvie, James Cadenhead, Ronald Campbell Macfie, G. K. Chesterton, J. W. Brodie-Innes, J. Logie Robertson ("Hugh Haliburton"), Gabriel Setoun, and Rosaline Masson. Mr. H. J. C. Grierson, the Professor of English Literature in the University of Aberdeen, has very successfully adapted "Antony and Cleopatra" from the French of Heredia, and an unpublished fragment of a poem by the late Robert Buchanan is a poignant cry of the heart, a revelation of hidden mental conflict for which many who may have judged of the poet's attitude by his more defiant utterances will scarcely be prepared.

Among the prose the first place naturally belongs to the last, a short article entitled The Motif, by Dr. Philip, to whom the book is appropriately dedicated. He dwells on the ravages of consumption, shows how they may be mitigated and prevented, and modestly sketches the work of the Victoria Hospital. An excellent article on Literature and History is contributed by Mr. G. W. Prothero, the editor of the *Quarterly Review*, in which he shows that history can be well written and yet accurate. Incidentally he does justice to Charles Darwin's merits as a writer which have been sniffingly denied by some superfine critics. Miss Eva Blantyre Simpson's Dogs of Celebrated Edinburgh Men tells of the dogs of Scott, Dr. John Brown, and her own illustrious father, Sir James Simpson. Another celebrated dog, Mr. H. W. Lucy's "Toby," in his M.P.'s Parliamentary Guide, gives evidence of commencing senility. Mr. Douglas Story, the war correspondent with the Russian forces in Manchuria, gives a vivid picture of the horrors of war in Tide Marks of Battle. A. Francis Steuart writes amusingly on The Dinner-hour in Fiction. Hugh Warrand's Some Strange Visitations contain four entirely new and original ghost stories, all guaranteed as authentic. In every instance the ghostly appearance is a detached phenomenon, without relevancy, moral or sequel of any kind. This, while producing an impression of genuineness, rather detracts from the interest of the "spook." Mr. Stodart Walker contributes a very sympathetic sketch of Chatterton, the "peerless boy who perished in his pride."

To us the most interesting article in the book is one by Miss Rosaline Masson, who gives some reminiscences of Herbert Spencer. They place that somewhat dismal philosopher in a more human light than he shows himself in his *Autobiography*. While holding the great man in reverence Miss Masson has a feminine eye for some of his weaknesses. She tells us that he had no eye for colour but much opinion on it—a delightfully illuminative touch. When he suffered himself to be approached, he would be found lying on a couch clad in a weird dressing-gown of several shades of red. He asked if they matched, and was told emphatically they did not; strange to say, he does not seem to have argued the point. It is pleasant to hear that he would [illegible] Douglas Jerrold's jokes, though one may feel a respectful curiosity as to what he thought about them. But with Miss Masson he would chat about almost anything—the poetry of William Watson, Dr. George Keith's *Plea for a Simpler Life*, the origin of kissing, Jewish morality, and the comparative power of observation in boys and girls (as to which, characteristically, he generalized confidently on a wrong fact). He refused to say anything about George the Fourth,

* *A Beggar's Wallet.* Containing contributions in prose, verse, and pictorial illustration, gathered from certain workers in art and letters. By Archibald Stodart Walker. To be disposed of in aid of the Royal Victoria Hospital for Consumption, Edinburgh, at the Great International Fair, to be held in the Waverley Market, in the month of November, 1905. Printed by Dobson, Mollie, and Co., Ltd., Edinburgh and London. 1905. Pp. 291.

on the ground that he took no interest in the criminal classes. But what the philosopher seems to have enjoyed most was a Scotch story, which he would listen to when he would not give ear to anything else. Such delight, indeed, did he take in Scotch stories, that Miss Masson says, "it almost went to prove wrong the generalization that the English have no sense of humour." Herbert Spencer as redeemer of our reputation as humorists! Systems of philosophy—"synthetic" as well as others—have their day and cease to be; but we scarcely think that, even in the Elysian Fields, Spencer would be particularly pleased to learn that his name was saved from oblivion by his appreciation of Scotch stories when his philosophy is forgotten. Among the other contributors are the Dowager Countess de la Warr, the Viscount Goschen, the Rev. John Kelman, jun., and the late L. F. Austin, who have all added something rich or rare to Mr. Stodart Walker's *Wallet*.

We have left ourselves no room to speak in detail of the illustrations. It is enough to say that Mortimer Menpes, James Cadenhead, James Paterson, Robert Burns, John Duncan, W. D. Mackay, A. G. Sinclair, Will Rothenstein, and the late Otto Leyde, have all helped to make the book a thing of beauty. There is also a fine reproduction of Raeburn's Marion Stodart.

The *Beggar's Wallet* is indeed a casket of jewels, literary and artistic, which lovers of such treasures will be glad to possess for its own sake, and which the charitable may safely buy for the sake of the cause in aid of which it has been fashioned by Mr. Stodart Walker and his collaborators. It is to be hoped that their labour of love will bring what they would doubtless look upon as their best reward, a large addition to the funds of the Royal Victoria Hospital for Consumption.

Royal Victoria Hospital for Consumption, Edinburgh.

On Wednesday, Thursday, Friday, and Saturday of this week, a great international fair is being held in the Waverley Market, Edinburgh, with the object of raising a fund for the endowment and extension of this hospital. The sum aimed at is £12,000. The bazaar was formally opened on Wednesday by the Right Hon. Lord Dunedin of Stenton, Lord Justice-General of Scotland. Sir Alexander Christison, Bart., occupied the chair.

University of Edinburgh—Election of Assessors.

It will be remembered that at a meeting of the General Council of the University of Edinburgh, held on October 27th, two Assessors to the University Court fell to be elected. Three candidates were proposed and duly seconded—Mr. J. Campbell Lorimer, K.C., Dr. D. F. Lowe, Headmaster of George Heriot's School, and Dr. J. A. Trail, W.S. On a show of hands at the meeting the Chancellor (the Prime Minister) declared that Dr. Lowe had indubitably been elected. On a second show of hands the Chancellor said it appeared to him that Dr. Trail was duly elected. The seconder of Mr. Campbell Lorimer demanded a poll. This has been taking place during the last three weeks; the votes were counted on November 16th, and the result was declared on that day. It was found that upwards of 3,000 members of the General Council out of a total of some 9,500 members had recorded their votes, with the following result:

Dr. D. F. Lowe	2,297
Mr. J. Campbell Lorimer	1,991
Dr. J. A. Trail	1,021

Edinburgh Royal Infirmary.

At a meeting of the managers, held on Monday, November 20th, Mr. John W. Spence, L.R.C.P. and L.R.C.S. Edin., was reappointed clinical assistant in the medical electrical department for another year.

Aberdeen Medico-Chirurgical Society.

The business meeting of the above society was held in the Hall, King Street, on the evening of November 16th. The Council's report for the past year was read and approved, and thereafter the following office-bearers were elected for session 1905-6:

President: Professor Alexander Ogston.
Vice-Presidents: Dr. E. ... Galloway.
Secretary: Dr. ... Mercer.
Treasurer: Dr. David Bennett.
Librarian: Dr. J. H. Lister.
Curator: Dr. Peter Howie.
Members of Council: ... Professor Cash, Drs. Kelly, Lovsak, A. W. Macintosh, Riddell, and Ross.

The annual dinner of the Society is to be held in the Society's rooms on the evening of Friday, December 15th.

Ireland.

Sanatorium for Consumption in Cork.

At a meeting of the Joint Hospital Board held recently it was decided by a majority of two to adhere to the selection of the Mount Massey site for the building of the sanatorium. When Dr. Smyth of Dublin made an exhaustive examination of the several sites offered for the purpose he found that he was not in a position specially to recommend any, but in the belief that the Joint Hospital Board were prepared or rather determined to erect this sanatorium somewhere within the county he selected for the Board's further consideration the three sites which he considered the least objectionable, and placed them in the following order of merit: Coolselure, Mount Massey, and Rahan. The first he considered an ideal site in all respects save one, the rainfall, which is heavy in this district. As far as the rainfall at Mount Massey is concerned it may be as great or greater, for no definite information on the point has ever been given, but the very serious objection to Mount Massey is its close proximity to Macroom and Massey town, of which it is a suburb. Dr. Cremen, who has been instrumental in setting this movement going in Cork, is opposed to Mount Massey; and, in a letter which was read at the meeting, he mentioned that he had laid the facts of the site before Dr. Otto Walther (Nordrach) and Dr. Theodore Williams (London), and they strongly condemned Mount Massey owing to its proximity to Macroom, pointing out that amongst other requirements the sanatorium should be at least four miles from a town. A letter from Dr. Smyth was also read at the meeting, which deserved more attention than it received. He said that there is at present a movement on foot in Clonmel to establish a sanatorium for consumption. He expressed the hope that in Tipperary a more ideal site might be found, and that Cork and Tipperary could combine, and the subsequent expense of administration would be proportionately less as the area of charge became extended. Tipperary has a much lower rainfall than Cork, and in many parts it is much better sheltered. It is hoped that upon reflection the members of the Joint Hospital Board will at least suspend operations till they see whether some arrangement better calculated to serve the end in view cannot be entered into.

Queen's College, Cork.

Judging by the honour list at the autumn examinations of the Royal University, the Medical School of Queen's College, Cork, has as usual held its own. At the Third Medical Examination, the only first-class honours, awarded together with a first-class exhibition, were taken by a Cork student, while at the M.B. Examination three students obtained second-class honours in the various groups, one of the three obtaining a second-class exhibition. At the M.D. Examination, the name of an old Queen's College, Cork, man appears on the coveted lists.

The Report of the Irish Local Government Board.

We have received the report of the Irish Local Government Board for 1904-5, which grows yearly in bulk since the inauguration of Irish local government imposed vastly-increased duties upon this department.

Taken on the whole, it is not unsatisfactory. The Board has had more than ordinary difficulties to contend with. It had to evolve some sort of order out of chaos; to try and regulate the schemes of illiterate peasants to whose control the Act of 1898 committed the well-being of His Majesty's subjects in Ireland, and he would be a captious critic who would deny the members of the Board their just meed of praise.

The Medical Service.

Naturally the observations of the report which will be of most interest to the readers of the British Medical Journal are those relating to the Irish Poor-law Medical Service. It is justly called "the Cinderella of the services," and has been for years past in a state of open revolt.

We find then, that, while the population is steadily decreasing, the work of the Irish dispensary medical officers steadily increases, not because of any increase in pauperism—for there is an actual decrease in that class—but because of the readiness of the Irish peasants to avail themselves of the free gift of medical attendance provided for them by a paternal Government at the expense of the ill-paid dispensary medical officers. Whether this system of pauperizing the population is wise

from the politico-economical point of view is another matter. Political expediency and political economy are not convertible terms.

Number of Cases Treated.

The year ending March 31st, 1905, shows an increase of cases treated at the dispensaries over those of 1904 of 24,116, and of visiting tickets, 7,362. Upon examination of these statistics and comparison with those of previous years, before the passing of the Local Government Act of 1898, we find that in 1891 the dispensary tickets issued numbered 395,000, increasing in 1905 to 469,000, while the visiting tickets only increased in the same period from 161,000 to 163,000.

Salaries.

The salaries of the medical officers took an opposite course, for whereas in 1897 they amounted to £93,000, they had shrunk in 1905 to £90,000.

Infectious Fevers.

The decrease in infectious fever in Ireland within living memory has been most remarkable. In forty years the number of cases reported by the Poor-law medical officers has fallen from 26,566 to 1,497 last year. Only two causes for this diminution can be assigned. The decrease in the population preventing overcrowding, and the increased vigilance of the medical officers, for the Sanitary Acts as administered by boards of guardians in Ireland are useless. For their efforts in this direction, we are not aware that the dispensary medical officers have ever got any credit and most certainly no reward.

Midwives.

The Local Government Board is to be congratulated upon its efforts to establish a qualified midwife in every dispensary district, and the increase in the number of these women is shown by the increase of the salaries paid to them, from £9,000 in 1900 to £13,000 in 1905. As a rule, their salaries are very small; from £20 to £25 a year, and out of that they have to pay their own car hire. However, an increase of a thousand midwives in five years should soon show its effects upon the rate of puerperal mortality.

Workhouses.

While the number of inmates of workhouses has been practically stationary for years, their better treatment, since our Commissioner in 1895 dragged the horrors of these institutions into the light of public opinion, is shown by the steady increase in the average weekly cost, from 3s. 5½d. in 1897 to 4s. 1½d. in 1905. Even that 8d. per week means a big diminution in human suffering.

There is no reference in this report to the Viceregal Commission which for more than a year has been inquiring into the lessened need for workhouse accommodation in Ireland, a report anxiously awaited by all those interested in Irish Poor-law administration, inasmuch as guardians all over the country are making it a welcome excuse for delaying the most necessary reforms.

Outdoor Relief.

Since union rating took the place of divisional rating in 1898, outdoor relief has increased by leaps and bounds, and is fast becoming a serious menace to the financial position of Irish unions. In 1895, 57,500 persons were in receipt of outdoor relief, while in 1905 there were 96,500 on the list, a formidable increase of 41,000 paupers in ten years.

ROYAL UNIVERSITY OF IRELAND.

We learn that the Law Officers of the Crown have given their opinion on the questions referred to them by the Standing Committee of the Royal University in reference to the late disturbances at the conferring of degrees. It will be remembered that the legal assessor gave it as his opinion that the Senate had no power under their Charter or Statutes to punish members of the University. The Law Officers do not agree with this view, and declares that it is competent for the Senate to summon before it members of the University charged with misconduct, and to inflict punishment. At the last meeting of the Standing Committee the reference to the Law Officers was carried by a majority, the minority being satisfied with the opinion of the legal assessor.

REFORM OF THE SYSTEM OF POOR RELIEF.

At the opening meeting of the University of Dublin Philosophical Society, Mr. Atkinson, the Auditor, gave an address on the Irish system of poor relief.

Subsequently Dr. Thompson, M.P. for North Monaghan, spoke on the same subject. He criticized the constitution of the Viceregal Commission now sitting, on the ground that only one of its members, Mr. George Murnaghan, M.P., was not an official. He urged that the Local Government Board in Ireland required strengthening by the addition of the elective element, and proposed that the Central Council of the county councils should have the right to elect two members, one belonging to the Nationalists, and the other to the Unionist party. The methods of appointment to the higher administrative offices under the Board should be altered, and the influence of politics altogether abolished. He thought that the Boards of Guardians contained too many members, and met too often.

He believed that the Commission would recommend the amalgamation of workhouses and expressed the opinion that Boards of Guardians should beabolished, rural councils being retained for country work. Most of the workhouses were in a deplorable condition and were not wanted. Any unbiassed person who visited the asylum and then the six workhouses in the county of Tyrone, housing about 800 poor, would be certain to find the comparison most unfavourable to the workhouse. The workhouses were badly constructed, with most inefficient sanitary arrangements; there were no nurses or attendants of any sort except pauper helps, no discipline was maintained and the inmates had no occupation; in the Omagh workhouse many of the inmates slept on straw mattresses on the floor.

The workhouse or district hospitals had been much improved in many respects, but their condition was in many instances still very unsatisfactory. In no workhouse nor any district hospital was there a night nurse, the unfortunate inmates being locked in at night and never visited, but left to the tender mercies of each other. This was a serious reflection upon the control and inspection of the Local Government Board and on the management of the Boards of Guardians.

He would make the unions and electoral areas identical, and have one, or at most in the larger counties two, workhouses placed centrally. Half of the inmates of the existing workhouses could be readily boarded out at a cost of £10 or £12 a head, and, as they could do some useful work and have a freer life, their condition would be much happier. He believed that in Tyrone alone a saving of at least £6,000 a year might thus be effected. Workhouse and district hospitals should be subject to close inspection by well-qualified and experienced medical men; inspection as at present carried out was little better than a farce.

The Irish Poor-law Medical Service was in a very disorganized and unsatisfactory condition; the initial fault really lay with the candidates for office, since there were numerous applications for every vacant dispensary district. He advised young men not to enter the Irish Poor-law Medical Service until it had been entirely reformed. He regarded the right to superannuation as the most urgent of the reforms necessary. In the interests of the poor it was disgraceful to allow a medical officer to go on to the age of 80 trying to render services he was physically, and often mentally, incapable of giving efficiently. He recalled one case of an unfortunate dispensary medical officer who, at the age of 85 years, partly deaf and nearly blind, had to continue in his office because the Board of Guardians, forgetful of the trust reposed in them, refused to grant him superannuation. The entrance to the Poor-law Medical Service should be by examination, with graded rank and pay, the higher positions being thrown open as prizes for faithful and efficient service.

THE ELECTION OF A DIRECT REPRESENTATIVE.

Dr. Leonard Kidd has again addressed the electors as a candidate for the position of direct representative in opposition to the present member, Sir William Thomson. He expresses the hope that "political and sectarian animosities will not be allowed to bias the judgement of the electorate." He points out that Dr. Mahon is no longer a candidate. The fight will therefore lie between Sir William Thomson and Dr. Kidd, unless, indeed, Dr. Laffan of Cashel should present himself; he has intimated his readiness to enter the field if he should be invited. Meanwhile he disapproves of Dr. Kidd's views on some matters, and will not support him.

DECREASE IN THE GERMAN BIRTH-RATE.—A statistical report recently presented to the German Imperial Chancellor is said to show that the birth-rate of Germany is receding rapidly, at any rate in the towns. In 1904 the birth-rate was 30·5 per 1,000 inhabitants against 30·9 in 1903, 32·1 in 1902, 33·4 in 1901, and 33·7 in 1900. The decrease, therefore, is continuous, and has begun to cause anxiety.

MEDICAL CANDIDATES AT THE GENERAL ELECTION.

The following list of members of the medical profession who are seeking re-election or election at the General Election is probably incomplete. We shall be much indebted to any correspondents who will supply omissions:

Dr. R. Ambrose, M.P.; N. (West Mayo).
Dr. J. Court; C. (North-East Derbyshire).
Dr. E. M. Crookshank; C. (East Grinstead).
Dr. R. Dawson; L.U. (East Edinburgh).
Sir Conan Doyle; L.U. (Hawick Burghs).
Surgeon-General Evatt; L. (Hants, Fareham).
Sir Michael Foster, M.P.; L. (London University).
Sir Walter Foster, M.P.; L. (Ilkeston, Derbyshire).
Dr. Alfred Hillier; L.U. (Beds., South).
Dr. C. F. Hutchinson, M.P.; L. (Rye, Sussex).
Dr. M. A. McDonnell, M.P.; N. (Leix).
Dr. H. O'Neill; C. (South Belfast).
Dr. Pollard; (Southport).
Mr. R. J. Price, M.P.; L. (East Norfolk).
Professor W. R. Smith; (Glasgow and Aberdeen University).
Dr. E. C. Thompson, M.P.; N. (North Monaghan).
Sir John Batty Tuke, M.P.; U. (Edinburgh and St. Andrews Universities).

CONTRACT MEDICAL PRACTICE.

Notice as to Districts in which Disputes Exist.

A notice as to places in which disputes exist between members of the medical profession and various organizations for providing contract practice will be found among the advertisements, and medical men who may be thinking of applying for appointments in connexion with clubs or other forms of contract practice are requested to refer to the advertisement on page 87

THE PLAGUE.

Prevalence of the Disease.

INDIA.

During the weeks ended October 21st and 28th the number of deaths from plague in India amounted to 3,336 and 2,713 respectively. The principal figures were: Bombay Presidency, 2,233 and 1,556; Central Provinces and Berar, 455 and 422; Mysore State, 109 and 104. During the latter week the Punjab reported 72 deaths and the United Provinces 134 deaths from plague.

SOUTH AFRICA.

During the weeks ended October 21st and 28th no cases of plague were reported in any part of Cape Colony.
Plague-infected rodents were found only at Port Elizabeth.

AUSTRALIA.

No cases of plague has occurred in the State of Queensland since the case which was reported from Townsville on September 14th. The plague hospitals were closed on October 14th.

[illegible] cases of plague [illegible]

SPECIAL CORRESPONDENCE.

MANCHESTER.

Measles at Rochdale.—Ancoats Hospital: its Work and its Needs.—Self-supporting Convalescent Homes for Workpeople.—Percentage of Rejections amongst Recruits.—An Action for Libel against a Newspaper.—Meeting of the University Court.—Appointments.

The annual report of the Medical Officer of the Education Committee of [illegible] during the past year 786 children suffered from measles, of which only 51 were to be found among the [illegible] in the mixed departments. By far the greatest percentage of infection was found among the children aged 3, 4, and 5 years.

The annual meeting of the subscribers to the Ancoats Hospital was held on November 11th, when it was stated that during the past year 21,500 patients had been treated, being an increase of [illegible] on the previous year. The cases of accidents numbered 13,512, being equal to an average of 37 per day, and an average of 43 for every working day. Over 600 patients had been sent to the convalescent home at Worsley for three weeks. The cost of [illegible] had been £750 or 1½d. per head. Towards the hospital funds the following sums were received: [illegible] from the executors of the late Mrs. Silkensladt, £1,000 from Miss M. H. Melland, £1,000 from Alderman J. Grantham, and £250 from an "Ancoats Friend." The total expenditure was £6,281, and the income £5,210. Taking the past deficiencies and the present, there is a debit balance on the working account of £2,726 due to the bank. The greatest increase of patients was in the accident class, and this and several other facts were mentioned as an incontestable proof of the value of a hospital placed in the midst of the mills and workshops of Manchester. This class of work may be expected to increase when the Royal Infirmary is removed from the centre of the city to Stanley Grove.

An earnest endeavour is being made to make provision for the addition of a convalescent home for workpeople who are recovering from illness, as this is known to be one of the pressing needs of Manchester. Hospitals for the immediate treatment of disease are available, but the provision is not so good for the convalescent stages. To this end a bazaar was held during the present week, with the laudable desire to obtain sufficient money to establish such self-supporting convalescent homes for the workpeople of Manchester, Salford, and surrounding district. The sum of £10,000 is required to erect these homes; their maintenance would come from contributions by the workpeople themselves.

The returns of recruiting in the Manchester district for the year ending September 30th show that the percentage of rejections for physical reasons was even higher than in 1904, when of 5,038 men who presented themselves for the regular army only 1,738 were finally approved, and of 5,150 who offered for the militia 1,600 were accepted. Last year the number of applicants was 4,554, and only 732 were finally approved for "the regulars"; 3,813 applied for the militia, and of these only 599 passed the physical and medical examinations.

At the assizes Dr. Fenwick, of Accrington, sought to obtain £1,000 from the *Accrington Gazette* Company, Limited, as damages for an alleged libel published in their newspapers. The plaintiff's case was that the defendants had publicly charged him with professional incompetence for having (it was alleged) diagnosed the illnesses of two boys subsequently found to be suffering from small-pox as chicken-pox and influenza respectively. The defence was a plea of justification, and also that the words complained of were fair comment on a matter of public interest. In view of the evidence—for Dr. Marsden and Dr. Harris testified to the difficulty of distinguishing in some cases small-pox from some other diseases in its earliest stages—the plea of justification was withdrawn. The jury awarded £1,000 to Dr. Fenwick, and judgement was given accordingly.

A meeting of the Court of the Victoria University of Manchester was held on November 16th. The Chairman of the Council, in presenting the report of the Council to the Court, referred to the completion of the arrangement by which the Professor of Pathology in the University becomes a member of the Medical Board of the Royal Infirmary, facilities being provided by the infirmary for instruction in morbid anatomy, and secondly an arrangement whereby the authorities of the Eye Hospital were offering full facilities for teaching ophthalmology. The pressing need of extension of the departments of botany and zoology were referred to. Mr. William Thorburn, F.R.C.S., and Mr. Walter Whitehead, F.R.C.S.E., were elected by the Court as members of the Council of the University.

Mr. J. E. Platt, F.R.C.S., has been appointed Lecturer on Practical Surgery (in succession to Mr. Joseph Collier, deceased), to the Victoria University of Manchester, and Mr. B. Biggar has been awarded the Junior Platt Physiological Exhibition. Mr. A. H. Burgess, F.R.C.S., has been appointed Assistant Surgeon to the Royal Infirmary.

SOUTH WALES.

Children's Eyesight at Newport.—Western Valleys Sewer (Mon.).—Hereford Hospital Dispute. Newport's Milk Supply.—Merthyr Poor-law Relief.—Rhondda District Council.—Cardiff Medical Society.—Corporal Punishment in Schools.—Ambulance Work.—Cardiff's Garden City.—Portheawl Rest.

The Newport Elementary Education Committee has recommended that the Medical Officer of Health should visit all the schools to inquire into the children's eyesight and report on the number of children needing attention.

The proposed inclusion of Tredegar district in the Western Valleys main trunk sewerage scheme was discussed at a

recent meeting of the Abertillery District Council, when it was stated that the Mynyddislwyn district has now been included; Tredegar in the Sirhowy Valley and Bedwellty were also favourable to joining the scheme. A member remarked that although there might be a difference of opinion as to the desirability of taking Tredegar in, they should bear in mind the prospective development of that valley, which would prove advantageous in the matter of cost. Further consideration of the question was deferred.

A disagreement between Dr. Chapman, an honorary physician and member of the Board, and Mr. George Cresswell, at the last meeting of the Governors of the Herefordshire General Hospital, on the election of a new house-surgeon, was followed by a letter from Mr. Cresswell to the chairman resigning both the hon. secretaryship and the management of the penny monthly subscription fund, which he had founded in the county. The Chairman said that he and other Governors had endeavoured to induce Mr. Cresswell to withdraw his resignation, but without avail. Sir Arthur Croft, the joint hon. sec., said that Mr. Cresswell would only continue his offices until the end of the month. The Board unanimously expressed regret that Mr. Cresswell had intimated his wish to resign, and feeling that such resignation would be most unfortunate for the hospital, hoped he would reconsider it.

The Newport Sanitary Committee has made inquiries with respect to the milk supply of the town, and finds that 75 per cent. of it comes from districts over which the Council has no control, two-thirds being brought in by carts, and one-third by rail from Gloucestershire, Somerset, Wiltshire, and Monmouthshire; the remaining 25 per cent. is obtained from cows kept by vendors living in the town. Mr. E. Sayer, veterinary surgeon, has been appointed to inspect all milch cows in the borough. The medical officer has also been asked to make suggestions for making the inspection of milk more effective.

Mr. Bircham, Poor-law inspector, during a recent visit to the Merthyr Board of Guardians, stated that during the past ten years the population of the Union had gone up 15 or 16 per cent., but pauperism had increased only 4 per cent. They had, he declared, greatly improved their administration of indoor relief, but they could not expect improvement without having to pay for it. While they were agreed that the relief of paupers was a necessary evil, he would appeal for consideration of paupers according to the classes from which they were drawn. The guardians had a certain amount of power to help in this respect, and that lay in the recognition of those who tried to help themselves. Young men of the present day did not evince such a desire to subscribe towards provident clubs as was the case in years gone by. Whether they invested their money in other ways he could not say. As to the Workmen's Compensation Act, he maintained that it ought to prove the greatest inducement to young men to join provident societies; as they were ousting men of 55 and upwards from employment, they ought to subscribe while able-bodied ere they themselves were shunted in the same way. Referring to the number of ladies who paid visits to the house, he said that it appeared to him that there was an amount of undigested philanthropy of which better use might be made. Efforts should be made to form working committees.

The report of the Medical Officer of Health to the Rhondda district for September stated that the number of births registered during the month was 350 (183 boys and 167 girls), equivalent to a birth-rate of 36.4 per 1,000 per annum. During the corresponding period of last year the birth-rate was 39.2. The number of deaths from all causes was 135—74 males and 61 females—equal to a death-rate of 14 per 1,000 per annum. The Medical Officer of Health submitted regulations to the Special Health Committee with regard to dairies, cowsheds, and milkshops within the council's area. These regulations were fully considered and approved of by the Special Health Committee and, it was resolved that they be submitted to the Local Government Board for its formal approval.

At the annual meeting of the Cardiff Medical Society on November 14th Professor Osler, Regius Professor of Medicine at Oxford, delivered an address on the Johns Hopkins University. There was a large attendance of members. The annual dinner of the Society was held in the evening at the Royal Hotel, Professor Osler being the guest of the evening.

At a meeting of the Barry Education Committee held on November 13th new regulations in respect of corporal punishment were submitted by a subcommittee. They provided that certificated teachers be empowered to use the cane, the punishment not to exceed one stroke on the palm of the hand. All forms of corporal punishment in infants schools are forbidden except in grave cases of moral delinquency. All irregular, cruel, and excessive punishment is absolutely prohibited, such as blows by the hand, cuffs, boxing the ear, striking on any part of the head, and shaking. A member moved that corporal punishment be absolutely prohibited in girls' and infants' departments. Another member considered that, while it was barbarous to inflict punishment on infants, it was necessary in girls' and boys' departments in order to maintain a proper standard of efficiency. The regulations proposed by the subcommittee were adopted.

The fourth annual contest for the Newport and County Ambulance Cup was held at the Tredegar Hall, Newport, on November 16th, when six teams competed. Dr. Griffiths of Bristol, who adjudicated, said that the competition was above the average. Newport Old Boys Brigade, 222 marks out of a possible 300, took first prize, and the Great Western Railway, Dock Street, 221 marks, second prize.

Mr. John Cory, one of Cardiff's leading philanthropists, intends to establish a garden city. The scheme is to be carried out near Peterston station on the G.W.R. main line, and is to be called Coryville—the Garden City of Glamorgan. The services of one of the best landscape gardeners in the country have been requisitioned to help in laying out the streets or avenues. It is understood that Mr. Cory contemplates erecting 500 dwellings after the type of those at Bournville and Port Sunlight.

The Porthcawl Rest has been closed for the winter; 1,124 patients have been received during the year, and the Rest will open in the New Year as soon as 10 applications for admission are received. A number of patients from the Cardiff Infirmary and Newport Hospital are being admitted for the winter under special arrangement.

CORRESPONDENCE.

THE PERPLEXITIES OF SECRETARIES.

SIR,—I have read the correspondence on this subject with much interest, and I quite agree with the remarks of "Experientia" in the BRITISH MEDICAL JOURNAL of November 18th. My own experience leads me to say that with few exceptions it is the best men and the men with the largest practices who are ever ready to forward the interests of the profession and British Medical Association. If you ask the busy man to do anything he will generally do it, for it only means 1 per cent. more work to him, but ask the man with a small practice (either town or country) to do anything for the welfare of the profession, and he will most likely say he is too busy. It means to him not 1 per cent. more work, but 50 per cent., and he retreats with horror at the bare idea. In our Branch the busy man and the man with a large practice will travel fifty miles and more to a Council or Branch meeting, and while ever ready to do all he can for his fellow-members, yet he naturally becomes discouraged because men such as "Sweated" will not come forward and take his part. I have in years gone by had considerable experience of country practice, and I say unhesitatingly that where there is a will there is a way, and that men such as "Sweated," be he a country or town practitioner, can attend many, if not most, of his Division and Branch meetings if he will. It is not inability to attend meetings that keeps these men away, but apathy, apathy, absolute apathy over any matter that concerns their own interests and that of their profession. I apprehend, Sir, that the medical profession will suffer a great deal yet at the hands of the public before we realize that union is strength. The leaders of the Association are doing their part, and when "Sweated" and his *confrères* come forward and do their part, then and not until then will the Association be in a position to secure those measures that are needed to uphold the safety, honour, and welfare of a noble profession.—I am, etc.,

November 19th. A BRANCH SECRETARY.

THE MEDICAL SECRETARY AND MEETINGS OF DIVISIONS.

SIR,—If the long and well-organized forces in Durham are so much benefited by the three days and six meetings' visit of the Medical Secretary, as indicated by the letter of Drs. Cox and Hunter, what would be the benefit to those Divisions which are not so well, if at all, organized?

I am glad the letter has appeared. It is on the lines of the

page in the BRITISH MEDICAL JOURNAL I tried for at the Leicester meeting—namely, that the Medical Secretary should let the members of the Association know from time to time what he was doing. By this means, those who had no idea of it would see the necessity there was for the office and its emoluments; whilst others, by seeing the kind of work he was often, if not constantly, when free from other duties, engaged in, would be induced to ask for a visit to their Divisions as necessity arose.

I would go further than this, and ask, What the Assistant Secretary does? What are his duties? If Mr. Whitaker were ever prevented by illness visiting a Division, would he be prepared to take his place? I contend that he ought to be, for surely one man is not enough for such important work.

I take it the Central Council is satisfied with the way the Assistant Secretary performs his duties, and is fit to fill emergencies, that they have reappointed him.

When we have well-paid officials the members are entitled to expect efficient execution of their duties, and to have some idea of how their time is occupied.

Some gentlemen are very anxious to retain their seats on the Central Council from year to year, and perhaps they will enlighten members of the Association through the columns of its JOURNAL as to what is received for the salaries which are paid. Such elucidation would, many of the members think, cause others to take more interest in the work of organization in the Association, and might help as a stimulus to officials to fully exert themselves for the common good.

My idea was in the resolution at Leicester that the Medical Secretary should give us an epitome of the subjects dealt with at meetings he attended, and throw out suggestions for the furtherance of organization in all Divisions.—I am, etc.,

Manchester, Nov. 20th. G. H. BROADBENT.

ERRORS OF DIAGNOSIS AND INFECTIOUS DISEASES.

SIR,—I notice in a leading article contained in the BRITISH MEDICAL JOURNAL of August 19th, 1905, on the subject of Errors of Diagnosis and Infectious Diseases, that the following remark occurs:

> By their present line of action the Metropolitan Asylums Board, if its policy be reflected in the remarks of Professor Smith, is in danger of greatly increasing the public danger from infectious diseases.

As you are aware, Professor Smith is a member of the Metropolitan Asylums Board, and is the Chairman of the Board's Statistical Committee.

You will be interested to learn from the accompanying (copy) report by their Hospitals Committee, which the Board have almost unanimously adopted, that so far from the Board's "policy" being "reflected" in the remarks to which you make reference, their views lie in the contrary direction to those expounded by the learned Professor.

In adopting the above-mentioned report, the Board gave directions for a copy to be sent to the Holborn Borough Council in reply to their letter, and for all the borough councils of the metropolis and the metropolitan boards of guardians to be supplied also with copies.

A copy of the Holborn Borough Council letter, which is referred to in the report, is sent herewith.—I am, etc.,

J. T. HELBY,
Chairman of the Hospitals Committee of the Metropolitan Asylums Board.

London, E.C., Nov. 20th.

METROPOLITAN ASYLUMS BOARD.
Board Meeting (11th November, 1905).
(Copy Report of Hospitals Committee.)

2nd November, 1905.

1. *Accommodation of Patients.*—On the 14th October last the Board received from the Council of the Metropolitan Borough of Holborn, dated 18th September, 1905, in which they call attention to the expenditure incurred in sending [illegible] to the Board's hospitals, and stating that they may have [illegible] during the last five years that the Board's hospitals are provided, and [illegible] not suffering from infectious diseases, and suggesting a conference between the Board and the several metropolitan boroughs to consider the subject.

As regards the financial statement, the Holborn Borough Council appear to have been misled. The amount of the Board has expended upon the cases sent to it which the Board has been put to by the admission of these patients would not exceed [illegible] per annum.

As regards the matter which it is proposed to discuss, it is undeniable that in the earlier stages of many cases of infectious disorder there can be no absolute certainty of diagnosis, and that to detain at home every patient until such certainty is attained must frequently result in the spread of infection, the prevention of which is the primary object of the Board's hospitals.

It must, therefore, be always wiser to remove a doubtful case than to leave it outside with the danger of infecting others, which, if done, would of necessity increase the number of admissions, and thus cause a very considerable expenditure of the rates.

The business of the managers is to receive cases which are certified by a qualified practitioner, provide proper accommodation, and then leave them in the experienced hands of the medical superintendents.

In our opinion, the managers would be going quite beyond the scope of their functions if they took any step which would have the effect of discouraging medical practitioners from freely exercising their judgement in seeking for their patients admission to the Board's hospitals.

The suggestion that the medical officer of health should confirm the diagnosis is not one for the Board; but, in our opinion, it is very doubtful whether such a proceeding would be of any value, and it certainly would be attended with distinct disadvantages.

We do not see that any useful purpose would be served by such a conference as the Borough of Holborn suggest, and we cannot recommend the managers to take any part therein.

We recommend:

(A)

(A) That the report (2nd November, 1905) of the Hospitals Committee on the subject of the letter (18th September, 1905) from the Council of the Metropolitan Borough of Holborn with reference to accommodation of pstients be approved and adopted, and a copy thereof forwarded to the Town Clerk in reply to such communication.

(*Adopted.*)
(Signed) J. T. HELBY,
Chairman.

(Copy letter from Holborn Borough Council above referred to.)

Town Clerk's Department, Municipal Offices,
197, High Holborn, W.C.,
September 18th, 1905.

Dear Sir,—The Council of the Metropolitan Borough of Holborn have had under consideration the reports of the Metropolitan Asylums Board for the past five years, and their attention has been drawn to the fact that during that time no less than 10,000 patients have been admitted suffering from diseases for which the hospitals were not provided, and that they have been detained, on an average, about three weeks, at a total cost for the whole period of about £60,000.

Having regard to these figures, I am directed to ascertain whether, in the view of the other metropolitan boroughs, a joint conference upon the subject between the various metropolitan boroughs and the Asylums Board could with advantage be held to discuss the matter.

Among the suggestions that have been made is one that the medical officer of health should be required to confirm the diagnosis of the medical practitioner in each case.

With a view to discussing this proposal, or any other remedies for the existing state of affairs, I am to ask you whether your Board would be prepared, in the event of a conference being decided upon, to appoint representatives.

I am, dear Sir,
Yours faithfully,
(Signed) HENRY WALFORD.

The Clerk,
Metropolitan Asylums Board.

TUBERCULOSIS IN SCHOOLS.

Sir,—In your leading article of November 18th, 1905, on tuberculosis in schools, and in which you review my report to the Blackburn Education Committee, I read the following:

> It is a terrible state of affairs that [out of 338 children taken at random for examination 14 should be suffering from pulmonary consumption.

I should like to point out that these 338 children were not taken at random, but were children specially selected amongst attendees from schools. As might be expected, the amount of [illegible] is higher than amongst a similar number of children taken at random.

At the same time, I agree with you entirely that the extent of tuberculosis in schools is greater than many imagine, and I believe that in towns where back-to-back houses and overcrowding are prevalent the percentage of this disease amongst school children will be found to be even greater than in

Blackburn. Moreover, I always lay great stress upon the exclusion from school of children suffering from phthisis.

My object has not been to deprecate anthropometrical observations altogether, but, for the present, rather to assign to them a secondary place until those children had first been dealt with who were in attendance at school in such a condition as to endanger their own health. Indeed, on the other hand, I am hoping that in the matter of weight and measurements of school children, Blackburn will shortly take a prominent place, as it has already done in other medico-educational questions. Also, I have a weekly class of nearly 150 school teachers who are being thoroughly grounded in hygiene based on physiology.

Finally, in thanking you for your remarks on my report, I can assure you that I always try to efface my own personal opinions, and treat the question on broad lines.—I am, etc.,

ALFRED GREENWOOD,
Medical Officer of Health and Medical Officer to the Education Committee.

Blackburn, Nov. 21st.

SIR,—In your leading article on the subject of tuberculosis in schools a reference is made to the frequency of tuberculosis of the lungs noted by Dr. Greenwood in school children.

There can be little doubt that Dr. Greenwood's experience of the frequency of chronic tuberculous disease of the lungs in children has been exceptional. About two years ago Dr. J. O. Symes and myself analysed the *post-mortem* records of 500 fatal cases of tuberculosis occurring at all ages.[1] Amongst these 500 cases there were only 7 between the ages of 7 and 12 years which presented chronic lesions of the lungs of such a size that it was probable they could have been detected during life. It is needless to remark that tuberculosis of the lungs is not uncommon in children, but it usually runs an acute or subacute course, and is comparatively rarely a cause of prolonged illness or ill-health.

While, however, chronic tuberculous lesions of the lungs of extensive character are not common in children, tuberculous bronchial, or mediastinal glands are, as is well known, very frequently present. But to diagnose such diseased glands is very rarely possible, if, indeed, it is ever possible with certainty. Yet from the point of view of danger to others—to which your article refers—this inability to diagnose deep-seated tuberculosis in children is probably not of great importance.

In closing, it may not be out of place to mention that some non-tuberculous chronic lung affections may sometimes be clinically considered to be tuberculous. Dilatation of the bronchial tubes, for example, is not infrequently limited to one lobe of a lung, to an upper lobe not much more rarely than to a lower lobe, and may be mistaken for chronic tuberculosis. Such cases, however, are not sufficiently common, if mistaken for tuberculosis, to materially affect any statistical inquiry.—I am, etc.,

November 18th. THEODORE FISHER.

GENERAL PARALYSIS OF THE INSANE AND DIPHTHEROID INFECTION.

SIR,—I am advised that some misapprehension may be caused if I do not take notice of the paper on Diphtheroid Organisms in the Throats of the Insane, by Drs. Eyre and Flashman, which appeared in the BRITISH MEDICAL JOURNAL of October 28th. I therefore ask permission to trespass upon your space in order to make a short statement of fact, and to point out the unscientific character of the inferences they have drawn from the results of their observations.

It is made perfectly clear that the object of the research recorded in the paper was to test the validity of the hypothesis that general paralysis is in large part dependent upon the pathogenic action of a member of the diphtheria group of organisms. I have endeavoured to place myself in the position of one of your readers who should happen to make his first acquaintance with this subject from the paper in question. He would be led to believe that I had advanced this hypothesis simply on the ground that I had been able to obtain diphtheroid organisms from the throats of 85 per cent. of a total of 20 living general paralytics examined. He would further learn that the authors of the paper had carried out a systematic research with the object of testing the accuracy of this observation, that they had ascertained that diphtheroid bacilli were no more common in the throats of general paralytics than in those of the ordinary population, and that, therefore, the whole hypothesis was proved to be erroneous. If, after having reached the end of the paper, any doubt remained in the mind of the reader as to whether this was the conclusion to be drawn from the results of the investigation, it would be entirely dispelled by a perusal of the supplementary remarks of Dr. Mott. As a matter of fact, however, the impression thus conveyed to the reader would be founded upon a complete misapprehension as to the grounds upon which the diphtheroid hypothesis is held. It would, indeed, be very easy to show him that this hypothesis, far from having been destroyed by the results of the researches recorded in the paper, remained entirely unaffected by them.

I shall as briefly as possible state the facts. Early in 1903 Dr. Douglas McRae, Dr. John Jeffrey, and I published in the *Review of Neurology and Psychiatry* a preliminary note and a paper in which we recorded the fact that we had been able to cultivate an organism resembling the Klebs-Loeffler bacillus from the inflamed ileum, stomach, tonsils or pharynx, bronchi, lung, and brain of a number of general paralytics. We ascertained that the organism had characters which excluded its being either Hofmann's bacillus or the xerosis bacillus, and that it was not a virulent diphtheria bacillus. We therefore, in accordance with bacteriological evidence and authoritative teaching, provisionally regarded it as a Klebs-Loeffler bacillus of low virulence. In this first paper we clearly recognized the fact that the Klebs-Loeffler bacillus is not uncommonly present in the throat and on other mucous surfaces in other diseases and even in healthy subjects. We insisted upon the occurrence of a preliminary local and general breakdown in the defences against bacteria as an essential factor in the etiology of general paralysis. We contended that the bacillus obtained a more or less permanent lodgement in certain catarrhal mucous membranes, more especially those of the stomach and small intestine. The facts that we chiefly insisted upon as evidence that the bacillus in question had a pathogenic rôle were that it could readily be obtained from such catarrhal areas, and that it had in four instances been cultivated from the brain. We did not attach any special importance to the occurrence of the organism in the throat. In another note by Dr. Shennan and myself in the same journal, it was stated that it had been found that the organism was not virulent for guinea-pigs, that intrapleural injection had proved fatal in the case of a rat, and that three rats fed for some weeks with broth cultures had succumbed, and that they showed changes in the brain having a distinct resemblance to those that occur in general paralysis. In a paper published in the *Review of Neurology and Psychiatry* in July of the same year I brought forward certain histological evidence which it appeared to me tended to support our hypothesis. This evidence was briefly as follows: It was found that a bacillus, morphologically identical with that which had been isolated by bacteriological methods from the same situations, could be recognized in the catarrhal exudations in the alimentary or respiratory tracts of all of 20 cases investigated. In 8 of the cases the bacilli were present in very great numbers. In 5 of the cases a lymphatic invasion by a special thread organism was observed, and evidence was adduced in support of the belief that this organism represented a terminal invasion by the bacillus under investigation. At the annual meeting of the British Medical Association held at Swansea in the same year, I opened a discussion upon the pathology of general paralysis of the insane, and my paper was published in the JOURNAL on October 24th. In eight paragraphs I summarized the existing evidence in support of the hypothesis advanced by myself and colleagues. Dr. [illegible] took part in the discussion. Last May [illegible] in the journal in which the previous papers of the series had appeared, a paper in which we recorded the results of some further observations regarding the presence of diphtheroid bacilli in cases of general paralysis. We stated that we had found that apparently all female general paralytics suffer from chronic [illegible] 14 such cases [illegible] a diphtheroid [illegible] in films [illegible] original disclosure [illegible] that similar results had been obtained with material taken [illegible] the surface of the mucosa of 20 consecutive cases of general paralysis in the male. Diphtheroid bacilli were also found in the same situations in a considerable proportion of controls, but we did not attach prime importance to the mere presence of a diphtheroid organism, but to whether or not the condition of the local and general defences of the patient was such as to permit of this organism exerting a pathogenic action. We also recounted the history

[1] BRITISH MEDICAL JOURNAL, April 16th, 1904.

of a goat under the observation of Dr. Lewis C. Bruce, which became infected in its alimentary tract by a diphtheroid bacillus isolated from a case of general paralysis, and which became paretic and died like a general paralytic, and the brain of which showed changes resembling those found in general paralysis. We further recorded the facts that in 4 cases of general paralysis with tabes we had found that the bladder contained large numbers of diphtheroid bacilli, and that we had succeeded in obtaining a culture of our bacillus from the brain in 7 cases of general paralysis out of 20 in which cultures were made from this organ.

Such is in brief the evidence in support of the diphtheroid hypothesis of the etiology of general paralysis as it stood nearly three months before the paper of Drs. Eyre and Flashman was read. I would particularly draw attention to the fact that at no period of the investigation have we attached any special importance to the presence of diphtheroid organisms in the throat of the general paralytic. The evidence upon which we specially insisted has been that of the presence of the diphtheroid organism in large numbers in the catarrhal exudation over inflamed areas in the alimentary and respiratory tracts, the occasional terminal invasion by this organism in thread form in these situations, the frequent presence of the bacillus in the brain, its constant presence in the genital tract, its occurrence in the bladder of tabetics, and the reaction of lower animals to experimental infection.

These are the facts, and they have been ignored *in toto* by the writers of the paper. Our last two papers are not so much as mentioned in their bibliography. They have failed even to discover that I have colleagues. As I have said, they represent that the evidence brought forward in support of the hypothesis consists in the alleged isolation of diphtheroid organisms from the throats of 85 per cent. of a total of 20 living paralytics examined. The manner of their statement and the context in which it stands leave no other interpretation of it open to the reader. Now, the figures, which are taken from our first paper, really refer to the number of cases in which the bacillus was isolated from one or more of six different organs. In the same place we state that the organism was isolated from the tonsils or pharynx in 9 cases out of 12, not from the living patient but *post mortem*, and chiefly from purulent foci discovered after incision of the tonsils. This single attempt to convey to the reader some information as to the basis of the hypothesis assailed has thus produced only an erroneous and misleading statement. Not only is the evidence upon which we have relied completely ignored, but our special methods of investigation are similarly disregarded. The negative results obtained in the examination of the alimentary tract are thus rendered of not the slightest value as evidence against the positive results obtained by my colleagues and myself. We paid special attention to inflamed areas in the stomach and intestine, and took our cultures chiefly from the submucous coat after cutting through the peritoneal and muscular layers.

I think it will be apparant to most of those who are accustomed to weigh evidence that the paper of Drs. Eyre and Flashman leaves the diphtheroid theory of the etiology of general paralysis just where it was. The assumption of the authors and of Dr. Mott that the question can be determined one way or the other by ascertaining the frequency of the occurrence of diphtheroid organisms in the throat is, I think, in the present position of knowledge untenable. Dr. Mott has said that,

> even if such an organism were found in the tissues of a general paralytic, it could not be causal.

A statement of this kind is of no scientific value unless supported by evidence. Dr. Mott has had two excellent opportunities of producing such evidence; one at Swansea in 1903, and the other on the occasion of his uttering these words; but he has failed to bring forward any.

It seems to me very unfortunate that Dr. Mott, "at whose instigation the investigation was undertaken," should not have included in his "valuable advice and criticism," for which the writers of the paper express their indebtedness, a recommendation to ascertain at first hand from the published record what "the facts hitherto observed" and "the inferences drawn from them" really were. If he had done so, I might at least not have had forced upon me the unpleasant duty of publicly protesting against a criticism that is unjust to my colleagues and myself, unscientific in its method, and detrimental to the interests of research in the field of the pathology of insanity.—I am, etc.,

Edinburgh, Nov. 4th. W. FORD ROBERTSON.

SIR FREDERICK TREVES'S ADDRESS.

SIR,—In his Lettsomian Lectures, delivered in 1894, Sir Frederick Treves did not deny the existence of an aseptic inflammation, but with reference to peritonitis he said that "a consideration of the whole matter leads to the conclusion that the production of peritonitis by non-infective irritants has not yet been satisfactorily proved."[1] He referred[2] to myself as holding different views. In again bringing this subject forward at the Philosophical Institution in Edinburgh on October 31st, as reported in the BRITISH MEDICAL JOURNAL, he attributed to Lord Lister the statement that if micro-organisms can be kept out of the body "the aid of inflammation will be uncalled for,"[3] and he added, "Such is the whole teaching of antisepticism."

This assertion involves the particular point on which Sir Frederick Treves differed in 1894 from my views published in 1893.[4] On October 24th of the present year I read another paper before the Royal Medical and Chirurgical Society, explaining and elaborating these views, and I then pointed out that Lord Lister did not teach that the occurrence of inflammation could be obviated by the use of antiseptics. He said that "the antiseptic system of treatment consists of such management of a surgical case as shall effectually prevent the occurrence of putrefaction in the part concerned."[5] Not only this, but he also asserted that "a certain amount of inflammation, as caused by direct irritation, is essential to primary union"[6] of a wound. I therefore claim that Lord Lister's teaching favours my view of this matter rather than that of Sir Frederick Treves.

It seems to me that there are many who believe that they are following Lord Lister when they maintain that all inflammation is caused by micro-organisms, but I think that they would find it difficult to reconcile this view with his writings. It is, of course, impossible to overestimate the importance of the influence of micro-organisms as causes of disease, but I have endeavoured to show that our most recent knowledge indicates that the process of inflammation, as defined by Lord Lister, merges, on the one hand, into healthy physiological action, and on the other into various phases of septic mischief.

Sir Frederick Treves's comparison of inflammation to a battle between the leucocytes and invading bacteria seems to me to be apt, but incomplete. If a hostile fleet were to bombard a seaport town without effecting a landing, much local and general excitement would arise in the nation attacked. The conditions would illustrate the effects following an aseptic incision. Again, an earthquake or the eruption of a volcano may cause great damage and much excitement in a country, and these effects may be accurately compared to the conditions arising in consequence of the twisting of the pedicle of an ovarian tumour or the fracture of a bone. No human agency is involved in the one case, and it has yet to be proved that a bacterial action is the cause of inflammation in the other.—I am, etc.,

London, W., Nov. 18th. JOHN D. MALCOLM.

A PLEA FOR THE INVESTIGATION OF CATARRH.

SIR,—In reference to Dr. Hardman's letter in the BRITISH MEDICAL JOURNAL of November 18th, may I be allowed to say as follows:

Theory.—Catarrh is similar to diphtheria in being at first a local disease usually of the naso-pharynx, and caused in the same way by some of the organisms found in the saliva. Later it becomes a constitutional affection due to the toxines produced.

Practice.—If at the first symptoms a mild antiseptic and saline lotion is poured through the nostril into the posterior nares and held there for a few minutes, and this repeated several times for two days, catarrh is cut short in three days instead of its normal course of ten to fifteen days.—I am, etc.,

Ingatestone, Nov. 20th. SHEFFIELD NEAVE.

SIR,—In the JOURNAL of November 18th are two letters, one from Dr. Hardman (p. 1373) urging an investigation of catarrh, another from "F. S." (p. 1380) asking for experience as to its prevention and cure. It is now twenty-two years since I

[1] *Med. Soc. Trans.*, vol. xvii, p. 150.
[2] Loc. cit., p. 152.
[3] BRITISH MEDICAL JOURNAL, November 11th, 1905, p. 1252.
[4] *Med. Soc. Trans.*, vol. xvi, pp. 188 et seq.
[5] Introductory Lecture, University of Edinburgh, 1869.
[6] *Lancet*, 1870, vol. cxlviii, p. 500.

urged, in the *Collective Investigation Record* of the Association, the investigation of catarrh in conjunction with the sporadic forms of influenza we were then familiar with. Since then many things have happened. Influenza has come among us in an epidemic form, collective investigation, which is assumed to rest on somewhat superficial units of observation, is completely discredited, and only the results of special bacteriological research are regarded with favour. Scientific precision has taken the place of empirical generalization, and our knowledge of pathology and treatment has advanced accordingly. The amount of distress caused by catarrhal disorders in this country, and the frequently dangerous character of their sequelae are surely sufficient inducement to bacteriologists to make a strenuous attempt to discover their origin and purpose. What are their predisposing and exciting causes, and are they simply culture-beds for the dreaded tubercle bacillus, or are they, on the other hand, Nature's efforts to destroy this bacillus and prevent its ingress by means of the violent local inflammation on the mucous surfaces? Either of these views may be correct as far as our clinical experience leads us. It is only bacteriological research that can determine between them, and tell us whether the microbes of coryza are preventive or incubative, antituberculous or protuberculous. The neglect of this line of research is no doubt due, as Dr. Hardman suggests, to our constant familiarity with the disease; but the importance of the investigation cannot be denied. The question of "F. S." is practically answered by Dr. Hardman's letter:

> Of the cause, treatment, and prevention we know no more and can do no more than we could thirty-five years ago.

With this statement my own experience of thirty-five years exactly corresponds. During that time I have tried practically every remedy in the *Pharmacopoeia* and out of it, both internal and external, with the monotonous result that almost every remedy aggravates the disease, while nothing succeeds in mitigating it in the slightest degree. This, I believe, too, is the usual experience of nearly all specialists in nasal and laryngeal affections. If there is an exception to this rule it is, perhaps, in the administration of quinine. I have sometimes found, or thought I found, that if quinine is taken sufficiently early, and in sufficiently large doses (15 or 20 grains a day for three or four days), it will shorten in some degree the duration of the attack. But this may have been a coincidence. Mark Twain's account of the treatment is as true as ever.—I am, etc.,

London, S.W., Nov. 18th. J. Foster Palmer.

POST-MORTEM MENINGEAL INFECTIONS.

Sir,—It would seem that the assumption of a causal relation is often much too-readily arrived at in cases where all that is really known is the coexistence of particular microbes with different morbid processes. If we put aside the case of tuberculous meningitis, it appears that no strict warrant exists for speaking of the micro-organisms associated with other forms of meningitis as "causal organisms." All that we certainly know is that one or other form of microbe is apt to coexist with one or, perhaps, two different forms of meningitis. As to the source or precise mode of infection in cerebro-spinal meningitis, either in its epidemic or in its sporadic forms, we are profoundly ignorant, and are quite unable to say that the organisms found may not be mere concomitant products. We are told, moreover, that the meningococcus in question seems to be identical with that met with in the "posterior basic" and the "simple meningitis of children." Out of the 65 consecutive cases studied by Dr. Tooth, 17 belonged to this group, and in regard to the source of infection he says (p. 1010):

> In the meningococcus group 4 had otitis media: one a serous discharge from the nose on admission, and another "snuffles" from birth.

His 7 pneumococcus cases show, he says, one

> purely secondary to pneumonia: one otitis media: and another had a profuse nasal catarrh the day before onset,

while of his 3 streptococcic cases

> one had a rather severe pharyngitis, one otitis media, and another general infection with septic endocarditis.

Such associations afford no vestige of actual proof of a causal relationship between the organisms found and the morbid processes, nor is any attempt made to trace a definite connexion between an otitis media, a pharyngitis, or the existence of "snuffles" in this or that actual case of meningitis.

Looking at the matter from this point of view, when I found Dr. Horder saying (p. 1015) that

> a subarachnoid exudation rapidly becomes the seat of *post-mortem* contaminations of considerable number and variety,

I was curious to know how he would account for such rapid infections in accordance with strict bacteriological principles. In his reply to my query he says, in the British Medical Journal of November 18th, by way of explanation,

> that during the act of dying there occurs an agonal invasion of the blood and lymph stream by organisms from the alimentary canal and other situations, where they have a nidus during life; and that after death bacteria pass directly through the tissues from these same parts of the body to remote organs.

These explanations do not seem to me to be quite so satisfying as they appear to be to Dr. Horder. Let us take the latter first. When the blood no longer circulates, I very much doubt whether bacteria can pass from any pre-existing nidus "to remote organs." I anticipated Dr. Horder might have supposed that from some adjacent nidus, such as the middle ear or the pharynx (the seats of supposed specific infections), there might also grow continuously through the intervening tissues to the meninges *post mortem* several other different kinds of bacteria. For my own part, I felt very sceptical even as to the reality of such a process, and should be still more sceptical of its being capable of "rapidly" bringing about multiple infections. Can any strict proofs of the existence of such a process be adduced?

In reference to Dr. Horder's alternative explanation—namely, as to the existence of

> an agonal invasion of the blood and lymph stream by organisms from the alimentary canal and other situations where they have a nidus during life—

this seems to me to be a possible process during a prolonged process of dying, though one which would be very difficult positively to verify. And what we want are facts, not mere conjectures. On the other hand, I know that without any such process (that is to say, in the absence of disease and of a prolonged process of dying), if a healthy animal be killed suddenly, bacteria may be found in and beneath the pia mater, over all parts of the brain, within a varying number of hours or days (according to the temperature at the time). But if bacteria do not exist in the blood of a healthy animal during life, and yet, notwithstanding the motionless state of blood and lymph, they appear in numbers, widely distributed, in and beneath the pia mater, it seems to be legitimate to suppose that such lowest forms of life may have arisen *de novo* in these remote sites.

Prolonged investigations—carried on many years ago and renewed during the last six years—have sufficed to convince me that different kinds of bacteria are constantly arising *de novo* by processes of heterogenesis, and I claim to have adduced stringent evidence in proof of this of a kind wholly different from the very problematical explanations which Dr. Horder asks us to accept in explanation of rapid *post-mortem* meningeal infections. I would refer him and others who may be interested in this subject to Chapter IX. of my work, just published, on *The Nature and Origin of Living Matter*.

I trust the time is coming when some of the younger workers will begin to bestow upon this subject more of the consideration which it deserves, and that they will maintain an open mind also concerning the possible heterogenetic origin within the human body of such elementary forms of life as amoebae and flagellate monads—modes of origin for such organisms which I have traced over and over again in other sites. Let some of these workers investigate the peculiar and most variable Leishman bodies from this point of view, trying to ascertain whether the actual origin of such bodies can be traced in the cells of the spleen in kala-azar. It would be well for some such workers to see also whether the amoebae associated with dysentery and the flagellates associated with diarrhoea—about which Leonard Rogers and Aldo Castellani had much of interest to say in the Journal of November 11th—may not be found to be derived from minute zoogloeae masses existing in the large intestine. This mode of origin of such organisms from the segmentation of zoogloeae masses found on the surface of many organic infusions is absolutely certain. I have described and illustrated the process in another chapter of the book above mentioned, and any skilled microscopist can easily satisfy himself as to the truth of this mode of origin of amoebae and of flagellates.

Any one who has had much experience of these organisms will know how easily they are killed by changes in their

media, and for neither of them are resistant germs known which might enable them to pass from external sources unscathed through the varying media they would find in the mouth, stomach, and small intestines; yet such organisms are now well known to be found very commonly in the rectum and other parts of the large intestine, apart from any indications of disease. Even where they are abundantly present in association with diarrhoea, all attempts at infection, according to Castellani (p. 1286), by introducing swarms of them into the rectum of healthy animals, have been attended by negative results. This may be taken as another indication of their frailty, and it supports the view that they are mere concomitant, though perhaps harmful, products, rather than causes, when they are found existing in abundance in association with diarrhoea or dysentery. As Sir William Broadbent says in a letter in this week's JOURNAL,

> In the case of diphtheria the Klebs-Loeffler bacilli are often found in perfectly healthy throats without doing harm, but let a catarrh supervene and they find their opportunity.

Much the same may be said concerning the flagellates and the amoebae so often present in the large intestine. But what we want to know is how these latter organisms come to be present in such a locality.—I am, etc.,

London, Nov. 19th. H. CHARLTON BASTIAN.

CHLOROFORM SYNCOPE AND DIRECT MANIPULATION OF THE HEART.

SIR,—May I venture to suggest that the case of "Chloroform Syncope and Direct Manipulation of the Heart," reported by Messrs. Smith and Daglish in the issue of the BRITISH MEDICAL JOURNAL of November 18th, p. 1340, was merely a very interesting example of overdosing with chloroform, in which the patient's life was saved by vagus inhibition of the heart?

Messrs. Smith and Daglish cannot surely ignore the fact that chloroform has no direct action upon the heart, and that consequently there is no such condition as chloroform syncope. In any case the lividity of the face which they mention, consistent as it is with interference with the respiration, entirely precludes the idea of syncope of any kind. "As the surgeon's hand had recently been in the rectum and had been cleansed in the most perfunctory manner," Messrs. Smith and Daglish may consider themselves fortunate that the victim of their [illegible] method of chloroformization did not succumb to the operation of manipulating the heart. An examination of the rectum does not usually demand more than a partial dose of chloroform. Whether this is so, or if for any reason complete [illegible] is deemed necessary, is not the surgeon of the present day bound to employ my method of giving the anæsthetic by which alone is free from the possibility and risk of overdosing? If instead this method is neglected, and operation as kneading the heart is to be [illegible] by the profession, the indications of chloroform [illegible] must become rather oppressive. It would [illegible] to impress sensible people to take [illegible] the dangers of overdosing, they are to be [illegible] to those of opening the abdomen in a hurry [illegible] manipulation of the heart.—I am, etc.,

London, W., Nov. [illegible] EDWARD LAWRIE.

SANITARY OFFICIALISM.

SIR,—In your Manchester correspondent's letter of Saturday, November 4th, I observe the Parliamentary subcommittee recommend the council of the Corporation to seek powers in their 1906 Corporation Bill for securing correct information from occupiers in respect of infectious diseases. It would be interesting to know through whom this information is to be conveyed. Already the profession here sorely complains of the mischievous interference of the sanitary inspector, who not infrequently makes his diagnosis of the case in the house he has been sent to inspect, and communicates his opinion to the parent. Indeed, in a case of scarlet fever in a child under my care he assured the parent the doctor was quite right, but the child would soon be well, as it was but a mild case! The child was removed to hospital, detained fourteen weeks, and when she had been home a fortnight another case broke out in the house. A very practical illustration of the uselessness of *isolation*. The fact is, in practice, removal to hospital is a distinct disadvantage to the community.

This question has been again and again before some of the Divisions of the Lancashire and Cheshire Branch, and it is hoped some practical proposals will be made and some method adopted to prevent the unwarrantable meddling of unskilled officials. Imagine the proposal of one medical officer of health that the sanitary inspector should supervise midwives.—I am, etc.,

Old Trafford, Nov. 21st. J. BRASSEY BRIERLEY.

SPIROCHAETES IN YAWS.

SIR,—In my paper on Parangi, published in the BRITISH MEDICAL JOURNAL of November 18th, Case IV is given as negative; further study of the films, however, from the excised gland, as well as from the eruption, has revealed the presence of a few spirochaetes of the delicate variety which I believe to be—morphologically at least—identical with the *S. pallida* of Schaudinn. Before leaving Colombo I examined three more cases, all of which presented the same organism. I have shown preparations to Dr. Barratt, of the Lister Institute, and he agrees with me that the parasite cannot be distinguished from the *S. pallida*. Professor Schaudinn also informs me that the spirochaetes present in the films from non-ulcerated lesions I have sent him lately are morphologically identical with the *S. pallida*.—I am, etc.,

London, S.W., Nov. 20th. ALDO CASTELLANI.

THE ASSOCIATION OF MEDICAL DIPLOMATES OF SCOTLAND.

SIR,—Permit me space in your valuable JOURNAL to call the attention of those holding the qualifications of the Royal Colleges of Edinburgh and the Faculty of Physicians and Surgeons of Glasgow to the good work the above Association is doing. It is a comparatively young Society, and up to the present has achieved a great success in the following ways: The opening up of appointments to those holding the qualifications in question; the securing of a distinct academic costume; and, again, this week a deputation is to attend the Royal College of Surgeons of Edinburgh to present a petition for the alteration of the title of "Licentiate" to that of "Member." Is not this a good record of work done? Let me urge upon all who take an interest in these affairs to join us so as to strengthen our hands and encourage us in our endeavours to promote the welfare of our colleagues. Our able Honorary Secretary, Dr. David Walsh, 18A, Hanover Street, W., will gladly forward conditions of membership.—I am, etc.,

London, W., Nov. 20th. CLAUDE ST. AUBYN-FARRER, President.

LIFE ASSURANCE WITHOUT MEDICAL EXAMINATION.

SIR,—I should like to know whether other medical men have had the same experience as I have had lately.

In four cases within the last six weeks for which I have signed the death certificates I have been written to by the insurance companies asking for the duration of the illness, and in all four cases I had to leave the duration of the original illness blank. In two cases the patients were suffering from heart disease, and it was obviously impossible for any medical man to say how long the patient had been suffering from it; he could only say what was the matter when he was called in to attend. The same remarks apply to a case of cancer of the uterus, and also the last one—chronic bronchitis and heart failure. The fact is, these insurance companies will allow any one to insure another person's life without any medical examination. For instance, Brown can insure Jones without Jones knowing anything about it; but, if Jones dies, the insurance company want a certificate from the medical attendant to say how long Jones was suffering from his complaint before he died: and, if the certificate says he was suffering from that complaint before the policy was taken out, they refuse to pay, although quite possibly neither knew that the one insured was otherwise than healthy.

The insurance companies take the premiums without any medical examination being required, and then, when the person insured dies, and they are called upon to pay, they try to get out of it by pleading what they could have found out for themselves if they had had the proposer properly examined.

Since writing the above, I have just come across a typical case—a [illegible] with mitral disease, with a loud murmur, who has had [illegible] attacks of rheumatic fever, I am just been accepted by one of these companies. I have already refused to [illegible] from three to [illegible].

Apologizing for the length of this letter,—I am, etc.,

Taunton, Nov. 15th. W. FRATON FISHER.

UNIVERSITIES AND COLLEGES.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Annual Meeting of Fellows and Members.

The annual meeting of Fellows and Members of the Royal College of Surgeons of England was held at the College on November 16th, with the President of the College, Mr. J. Tweedy, in the chair.

Report of Council.

Mr. Tweedy, in placing before the meeting the report of the Council for the last year, described the work done by the Council. An abstract of this report was published in the British Medical Journal on November 18th (p. 1379).

Mr. Tweedy said that 3,069 Members and 640 Fellows of the College had applied for copies of the report of the Council.

The Title of Doctor.

Mr. Tweedy then reminded those present that at the last annual meeting of the Fellows and Members a statement was made that the Licentiates of the Royal College of Physicians of Edinburgh were encouraged to use the title of "Doctor."

Mr. Joseph Smith here informed Mr. Tweedy that he had given notice that he would move the following motion:

> That, in protest against the repeated neglect by the Council of resolutions passed in previous years, this meeting declines to have the report of the Council laid before it.

Mr. Tweedy assured Mr. Smith that in due time he would be called upon to move his motion, and, continuing his speech, said that the Secretary of the Royal College of Physicians of Edinburgh had called the attention of the Royal College of Surgeons to the inaccuracy of the statement, and had sent a copy of the laws of the Royal College of Physicians of Edinburgh, according to which the diploma granted by that College did not entitle the holder to assume the title of "Doctor."

Mr. A. S. Morton informed the meeting that in spite of that law it was a fact that the Royal College of Physicians of Edinburgh had through its Secretary addressed its licentiates as "Dr."

Mr. F. W. Collingwood said that, although there might be existing at the present time such a law of the Royal College of Physicians of Edinburgh, those present at that meeting should be made acquainted with the fact that such a law was only of recent date, and that for years the licentiates of that College were called "doctors."

Mr. Tweedy then concluded his remarks by referring in detail to the several items in the report of the Council.

Mr. Joseph Smith then moved the resolution printed above. It was, he said, a protest against the manner in which the Council of the College ignored year after year the resolutions [illegible] and Members. [illegible] meetings. [illegible] as [illegible] Council [illegible] Fellows and Members, but the latter had no practical control [illegible] pursued. If the Council continued to act as [illegible] much longer. At the [illegible] for the Conjoint Examination [illegible] in the provinces, where they could get an M.D. degree.

Mr. W. Gibson Bott, in seconding the motion, said that the members had for many years attended these meetings and passed resolutions protesting against the disabilities under which they laboured, and urging that something should be done to restore to them their birthright, which had been [illegible] in the year 1843. The Members were the body corporate of the College, and no new powers which had been acquired had deprived them of that position. Their patrimony, however, had been appropriated, and was devoted to purposes about which they had no knowledge, and concerning which they had no voice. Their College had become a close borough, and only the privileged few were permitted to participate in its government or the administration of its funds. An oligarchy had been created, and had surrounded itself with such insurmountable barriers that, approach it as the Members might, their efforts were fruitless and their reward was only the contempt born of prestige and privilege. If ever the Members were to make any impression on the Council they would have to wait until the time arrived when the College, like all similar institutions constituted and administered on such lines, was revolutionized. He invited the members of the Council to note what was going on in the provinces. He drew their attention to the fact that the large provincial towns now had their own schools, colleges, and universities, and the London hospitals were attracting a diminished number of students. He foreshadowed that that was only the beginning of the retaliation on the Council by thousands of Members in the provinces, because the Council did not think it worth while to cultivate their esteem. These Members sent their sons to the provincial medical schools, and counselled parents to avoid sending their sons to the College of Surgeons. All that meant a serious change to the College and those interested in it, and was a matter with which the Council would have to deal in the near future. It behoved the Council to pause in the course they were pursuing, and to throw open the portals of the College to all who had a claim, and allow the Members to take an interest in its welfare by permitting them to share responsibilities and participate in the administration of its affairs.

Surgeon-Major Ince then moved the previous question.

Dr. J. V. Bell (Rochester), in seconding the motion, said that 3,069 Members and 640 Fellows desired the report of the Council, and it would be discourteous to these Fellows and Members to pass Mr. Smith's motion, which amounted to saying, "Take the report away, we will not have it," merely because about 40 Members present at that meeting refused to have the report.

Mr. Joseph Smith explained that the report in question had been already received by the 3,060 Members and 640 Fellows.

Dr. Bell, continuing his remarks, advised Mr. Smith to let the resolutions which were passed at the annual meetings rest for a while, and bring them out again when they were a little fresher.

Mr. Tweedy observed that no one could believe that the Council could be guilty of discourtesy to an assembled meeting of Fellows and Members any more than it would be to any individual Fellow or Member. The annual meetings of the Fellows and Members were held in accordance with the wish of those gentlemen, and could, of course, be discontinued if the Council were given to understand that that was the wish of the Members and Fellows. He hoped it would be clearly understood that the Council desired to extend to all Members and Fellows every possible courtesy.

Mr. Tweedy then put "the previous question" to the vote, and it was rejected by 16 votes to 10.

An amendment was then submitted by Mr. B. Roth, and seconded by Dr. Bell, to the effect that the report should be received.

Dr. Vinrace assured the Council that the Members wished to see the College conducted in the best manner possible, and to share in its administration.

Mr. F. W. Collingwood said there must be something wrong when medical men advised intending students not to enter for the Conjoint Examination [illegible] as Birmingham and other provincial [illegible] to use the title of "Dr." The Members of the College of Surgeons laboured under the disadvantages of a mediæval constitution. The College was behind the times and its disabilities must in the end cause a less number of students to enter for its examinations.

Mr. Joseph Smith, in replying, said that he had numerous letters from Members who had become utterly indifferent as to what became of the College. [illegible] Mr. [illegible] that in the opinion of many he was [illegible] President of the Council and did not represent the College. If some of the Members were elected to the Council then the President would really represent them.

Mr. Tweedy [illegible] the amendment was out of order [illegible] to put Mr. Smith's motion to the vote, when it was [illegible] lost.

The announcement of the voting was received with considerable uproar because several members of the Council had joined in the voting.

Mr. Smith declared that for twenty-one years he never remembered members of the Council voting and he was astounded at such an occurrence. One of the Members then called out that it would be better for them to leave the meeting, and considerable confusion arose, many departing. Several expressions of opinion on the action of the Council were heard. One Member, however, went too far in declaring the voting of the Council "a dirty trick"; he was promptly called upon by Mr. Tweedy to withdraw the words, which of course was done, with an ample apology.

The meeting terminated with a vote of thanks to Mr. Tweedy for presiding.

UNIVERSITY OF LIVERPOOL.

OPENING OF NEW MUSEUM AND LABORATORY OF ZOOLOGY.

THE University of Liverpool celebrated last week the completion of the new museum and laboratories of zoology, which were formally opened on Saturday by the Earl of ONSLOW, until recently President of the Board of Agriculture and Fisheries.

It had been recognized for some years that the accommodation provided in the old college buildings was so inadequate as seriously to hamper the research work undertaken. With the partly-adjacent botanical laboratories and museum, the new laboratories form a biological institute of which the University may well be proud.

The New Buildings.

The buildings consist of a central tower containing the entrance-hall and a staircase, and some smaller rooms for the head of the department, Professor Herdman, and the demonstrators. The southern block contains the museum, occupying with its gallery two stories, a lecture theatre, and at the top of the house a large junior laboratory. The north block has five floors; the two lower floors contain extensions of the museum intended to receive special collections, a senior class-room, the senior and honours students' laboratories, a special library, and laboratories and storerooms for the use of the Sea Fisheries Department, the work of the economic entomologist, and of the Marine Biology Committee. A special department of the library has been dedicated to the memory of the late Mr. Isaac Cooke Thompson, for many years treasurer of the Liverpool Marine Biology Committee. This Committee has for twenty years been intimately associated with the Natural History Department of the University, and possesses an excellent marine station at Port Erin. The Chair of Natural History in the University was founded in 1881 by the fifteenth Earl of Derby, and the Port Erin station is under the direction of the Derby professor. Intimate relations exist also between the University Department and the Lancashire and Western Sea Fisheries Committee.

The University Association.

On Friday evening the University Association entertained a number of distinguished guests at dinner at the Adelphi Hotel. The chair was taken by Mr. Muspratt, the Pro-Chancellor, and among those who spoke after dinner were Sir Thomas Elliott, K.C.B., Secretary of the Board of Agriculture and Fisheries, Sir John Brunner, M.P., Sir John Murray, K.C.B., formerly a member of the Fishery Board for Scotland, the Rev. Spotswood Green, Chief Inspector of Fisheries, Ireland, and Mr. Deemster Kneen, representing the Isle of Man.

The Opening Ceremony.

The first part of the opening ceremony on Saturday took place in the Arts Theatre of the University before a large audience, including many ladies.

The Earl of DERBY, Chancellor of the University, who presided, said that whenever it had been shown that the University of Liverpool required new buildings or increased facilities there had not been wanting benefactors and persons of spirit and knowledge ready to help the University on the road of success.

Lord ONSLOW, who was very warmly received, congratulated the University on having acquired a museum and laboratories suitable to the needs of a zoological department. When he remembered the great liberality of the captains of industry in Liverpool he could not but be struck by the fact that there, at any rate, the application of science to commerce was thoroughly appreciated. Still, he feared it would have to be confessed that the amount devoted to the promotion of university education paled before the sums provided for the same purpose in the United States of America, where as much as seven millions had been bequeathed or given in the space of two years. He believed that the great blessing which the people of this country enjoyed in the cheapness of food was more largely due to the advance of science than to the operation of any fiscal regulations. The greatness of England in the past century has been due to its great men of science—Watt, Stephenson, Faraday, and Kelvin. He feared that at the present day a wise not being done which should be done to give an opportunity to latent inventive and scientific genius, and it was only in a few favoured cases that there was an educational ladder by which an intelligent boy at an elementary school might work his way up to a university. He hoped that the nation was awakening to the necessity of providing increased educational facilities. As recently Minister of Agriculture and Fisheries, he knew that there was a very great amount of practical and useful work, especially research work, to be done through the co-operation between the University of Liverpool and the Lancashire Sea Fisheries Committee. Through that co-operation Professor Herdman and the department over which he presided had the use of a surveying and dredging vessel, which rendered it possible to make investigations, and to collect specimens from the open sea. He referred to the work done in the University in connexion between human disease and the consumption of shellfish, and expressed the hope that all who had worked in the laboratories of the University would be stimulated to still greater efforts in the new buildings.

The CHANCELLOR then read a letter from the Board of Agriculture congratulating the Liverpool University on the completion of the new museum and laboratories, and making a grant towards the work of £200.

A vote of thanks to Lord Onslow was proposed by the Pro-Chancellor, Mr. MUSPRATT, and seconded by Sir JOHN BRUNNER, who, referring to the gift of £200 from the Board of Agriculture, said that while he did not wish to look a gift horse in the mouth, he felt that if they had no better steed to ride upon, their concentration of cavalry would not be very effective in the battle.

Lord ONSLOW, in reply, said that he was very sorry that the gift of £200 was looked upon as such a poor pony, but the Board of Agriculture was very poor, and looked upon that little pony as the pride of the stable.

The CHANCELLOR, accompanied by Lord ONSLOW, then inspected the new buildings. In the theatre Sir JOHN MURRAY delivered an interesting address upon Oceanography. Mr. HALDANE, K.C., who is evidently a great favourite with the students, in the course of some remarks, said that he hoped that the £200 extracted from the Chancellor of the Exchequer for the laboratories would establish a principle, and would convince the Government of the necessity of supporting research work of this character.

The Medical Institution.

Although not directly connected with the University celebrations, it may here be noted that the first meeting of the Liverpool Medical Institution for the session was held on Thursday, November 16th, when a very hearty vote of congratulation was accorded to the President, Dr. James Barr, on the knighthood which the King had announced his intention to confer upon him. The PRESIDENT then delivered an inaugural address upon the treatment of arterio-sclerosis, a continuation of the address delivered by him at the beginning of last session. This address we shall hope to publish in an early issue.

At the conclusion of the address a vote of thanks was proposed by Dr. FREDERICK ROBERTS and seconded by Mr. REGINALD HARRISON, both of whom had been elected at the meeting honorary members of the Society.

On Saturday evening a *conversazione* was given in the recently renovated buildings of the institution, and for the first time we believe in the history of the Institution ladies were invited. During the evening Mr. T. H. BICKERTON, Oculist to the Royal Infirmary, gave a very interesting address, illustrated by a large number of lantern slides, upon Old Liverpool.

UNIVERSITY OF OXFORD.

JOHN SCOTT HALDANE, M.A., Fellow of New College, D.M.Edin., F.R.S., has been reappointed Lecturer in Physiology for a period of three years.

The degree of Doctor of Medicine has been conferred on Francis J. Stevens, Exeter College.

UNIVERSITY OF CAMBRIDGE.

MR. STRANGEWAYS of St. John's College, has been reappointed Demonstrator of Pathology.

The following have been appointed Examiners in State Medicine for [illegible]:

Dr. Nuttall, Christ's College; Mr. Purvis, St. John's College; Dr. Lane Notter, Dr. Sweeting, and Dr. Newsholme.

Examiners in Tropical Medicine and Hygiene:

Dr. Nuttall, Dr. Daniels, and Professor Ronald Ross.

UNIVERSITY OF LONDON

WESTMINSTER HOSPITAL MEDICAL SCHOOL.

Applied Physiology.—The date of Dr. Bertram Abrahams's next lecture on applied physiology has been changed to Thursday, November 30th, at

5 p.m. There will be an additional lecture on Thursday, December 7th, at the same time. The lectures are free to graduates and students of the University of London.

UNIVERSITY OF ABERDEEN.

The Recent Elections.

At the last meeting of the University Court, Principal Lang presiding, Mr. Robert Walter, Secretary to the Court, announced that he had received formal intimation of the election of Sir Frederick Treves as Lord Rector of the University. Principal Lang said: "This announcement reminds us that we have got a new head to this Court since we last met, and I am sure that it is the hope and the confidence of the Court that the new head will be not only an ornament of the University, but will also be a Lord Rector who will guide us and help us in the important matters that are committed to our charge. Sir Frederick Treves is no stranger to us; he has assisted in the work of the University, he is an honorary graduate of the University, and he takes it as a very great compliment that he has been elected by the votes of the students on non-political grounds, and I am sure we are prepared to tender him a most cordial welcome when he comes among us." The Principal then welcomed the new Lord Provost of Aberdeen, who took his seat for the first time, and referred to the excellent help they had got from his predecessor in office. Drs. Dey, Littlejohn, and Westland took their seats as Assessors, appointed at the recent election, and Dr. Lang referred to the good work Dr. Westland had done for the University in London while he lived there. On a report from the Faculty of Medicine, it was resolved to grant an application by Dr. Levack, Lecturer on Medical Electricity in the Royal Infirmary, for recognition as an extra-academical teacher in connexion with the University.

The Library.

The University Librarian reported that the new regulation, whereby under certain restrictions students are permitted to borrow books without making any deposit, had led to an increase in the number of student borrowers of about 200 per cent. Borrowers' slips were now being used at the rate of about 10,000 per annum.

TRINITY COLLEGE, DUBLIN.

PREVIOUS MEDICAL EXAMINATION.

The following candidates have been approved in the subjects indicated:

Anatomy and Institutes of Medicine.—J. A. W. Ponton, G. F. Graham, G. Halpin, E. J. H. Garstin, G. A. Jackson, T. P. S. Eves, O. St. J. Gogarty, H. S. Millar.

Physics and Chemistry.—G. E. Craig, D. F. Hunter, W. H. M'Carthy, W. Nicholson, T. W. E. Henry, E. B. Bate, R. E. Lee, W. A. R. Spong, E. J. Powell, J. E. M'Causland, H. S. Metcalfe, W. H. Hart, V. B. Kyle, R. Charles, A. K. Cosgrave, C. P. Smyly, J. A. Yourell.

Botany and Zoology.—R. Friel (Sch.), C. Hanan, G. E. Craig, P. H. Lemass, J. Alston, A. C. Hallowes, G. B. M'Hutchinson, C. J. Pentland, W. H. M'Carthy.

The following candidates have been approved in Section A of the Final Medical Examination:

G. F. Graham, H. J. Keane, R. G. S. Gregg, C. H. O'Rorke, F. Stevenson, E. T. Jameson, H. de C. Dillon, J. D. K. Roche, B. A. H. Solomons, F. W. H. Bigley.

CONJOINT BOARD IN IRELAND.

The following candidates have passed the examination undernoted:

Final Examination—Autumn, 1905.—J. M. Alcorn, E. J. Condon, T. W. Conway, C. Cooper, V. J. Cullen, R. F. O. Dickinson, R. F. Hayes, Florence Josephine Lardner, A. C. Lewis, T. J. Madden, W. T. Morton, R. H. Smythe, W. J. Tobin.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND.

The following registered medical practitioners were admitted Licentiates in Midwifery of the College on November 10th:

Jehangir Cowasjee Balsara, L.M. and S. Bombay, 1904; L.R.C.P. and S. Edin., L.F.P. and S. Glasg., 1905. Maneckji Pirozshaw Kerrawalla, L.M. and S. Bombay, 1904; L.R.C.P. and S. Edin., L.F.P. and S. Glasg., 1904; M.D. Brux., 1905.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

Dental Examination.

The following candidates have been approved at the examinations indicated:

Primary L.D.S.—N. Allann, J. E. Hogan, C. J. Hyland, P. D. McCreery, and F. C. Warren.

Final L.D.S.—E. Bermingham, J. W. Harvey, W. G. G. Quinn, and J. Walker.

SOCIETY OF APOTHECARIES OF LONDON.

The following candidates have been approved in the subjects indicated:

Surgery.—†A. Bernfeld, *†R. Heathcote, *†M. O'Brien, *†G. H. Rains, *†C. A. Sampson.

Medicine.—*H. S. Burnell-Jones, †W. G. H. Cable, *C. F. Kernot, *†M. O'Brien.

Forensic Medicine.—H. S. Burnell-Jones, R. C. T. Evans, M. O'Brien.

Midwifery.—L. C. W. Brigstocke, M. O'Brien, A. P. Wright.

The diploma of the Society has been granted to Messrs. A. Bernfeld, R. Heathcote, M. O'Brien, G. H. Rains, and C. A. Sampson.

* Section I. † Section II.

OBITUARY.

On October 23rd, at St. Leonards-on-Sea, quietly passed away Dr. FRANCIS HENRY PARSONS, aged 69 years. For a good many years he had been living in retirement at Worthing after a long professional career. In his early life he was for several years a surgeon in the service of the P. and O. Steam Navigation Company, and in that capacity visited many parts of China and India. Returning to England, he practised for some years at Nottingham, and at Barking in Essex. On retiring from active practice he resided for some time at Hastings, and later at Worthing. He frequently passed the winter in Switzerland, the Canary Islands, or other health resorts, as to the respective merits of which he contributed important papers to the medical journals. In 1881 he contributed to this JOURNAL an interesting paper entitled The Health Resorts of the Engadine. Dr. Parsons was always popular both as a practitioner and among his professional brethren. Although many of his old friends have gone before, those that survive will sorely miss him from his accustomed haunts. An ardent traveller, he would often appear unexpectedly among distant friends, to whom his kind and genial presence was always most acceptable. He was a loyal member of the British Medical Association; he rarely failed to attend the annual meeting, and not a few of his brethren will miss his well-known features at future meetings. He leaves a widow but no family.

The death occurred on the last Sunday in October of Dr. WILLIAM O'NEILL, of Lincoln. He had been resident in the city for some fifty years, and in spite of advancing age had continued his ordinary avocations until a month or two ago. Dr. O'Neill received his medical education at Trinity College, Dublin, where he had the advantage of working under such men as Corrigan and Stokes, and after holding one or two hospital appointments in the same neighbourhood joined the University of Aberdeen. There he graduated M.D. in 1859, while some ten years later he took the M.C. of the same University, and was also admitted to the membership of the Royal College of Physicians of London. In addition, he was a Fellow of the Academy of Medicine in Ireland and of the Royal Medical and Chirurgical Society, and a member of the Lincoln Division of the Midland Branch of the British Medical Association. The greater part perhaps of Dr. O'Neill's work was of a consultative character, but he was for long Physician of Lincoln Lunatic Hospital and the Lincoln General Dispensary, and it was partly due to his representations that the latter institution was removed from its former inconvenient quarters to its present excellent position in one of the principal thoroughfares. Dr. O'Neill devoted much of his leisure to literary work, archaeology and china being his pet studies. He was a member of several societies which interest themselves in the former, and was a recognized authority in respect of several varieties of old pottery and china, and wrote many papers about them. His funeral at Canwick Churchyard on November 3rd was attended by many residents of Lincoln and by the majority of the leading practitioners in the city.

MEDICO-LEGAL AND MEDICO-ETHICAL.

SENSATIONAL JOURNALISM.

In the BRITISH MEDICAL JOURNAL of November 18th a note was published on chloroform syncope and direct manipulation of the heart, by Messrs. T. Rudolph Smith and W. R. Daglish, of Stockton-on-Tees. In the *Northern Echo* of the same date, which circulates in [illegible] the substance of this article appears under [illegible] lines. Mr. Rudolph Smith and Mr. W. R. Daglish ask us to state they had nothing whatever to do with the publication in the *Echo*. From inquiries we have made, with the assistance of Mr. [illegible] it would appear that the substance of the article was [illegible] graphed from London by one of the press agencies on Friday, November 17th, the day on which the BRITISH MEDICAL JOURNAL is circulated in the metropolis.

From information which reaches us from other sources it appears that paragraphs founded on the note have been published in other newspapers in various parts of the country.

We understand that the general subject of the publication of the names of medical men in the general press in connexion with clinical matters will shortly be discussed by the Standing Committee of the North of England Branch. We are glad to hear that [illegible] will be welcomed by the Ethical Committee of the Association, which has already had the subject under its consideration on several occasions.

INQUESTS AFTER OPERATIONS.

AJAX wishes to know if any inquest is required if a man dies one day or one week after a surgical operation: and, secondly, what the law is with regard to deaths after anaesthesia and surgical operations.

*** There is no statutory law compelling a coroner to hold an inquest when death supervenes after a legitimate surgical operation, if performed with due skill and care, whether the patient dies a day or a week after the event. In cases of death occurring while under the influence of an anaesthetic it is usual for the coroner to hold an inquest, but there is no statute law on the subject. In the holding of inquests much discretion must be exercised by the coroner, and the circumstances of each case are considered before he determines to hold the inquiry.

PROFESSIONAL SECRECY.

PRO BONO PUBLICO writes: Dr. A. is sent for by a lady to attend one of her servants. He finds the patient suffering from the effects of a recent abortion, which till now she has concealed. She informs him (in the presence of her mistress) that she recently went to London to consult Dr. B. (giving his name and address), who performed an operation, which led to the abortion. I should like information on the following points: (1) Is there any legal responsibility attaching to Dr. A.? (2) What is the proper course for him to pursue? (3) Does any legal responsibility attach to the patient's mistress, who is now aware of the facts?

*** We do not think we can do better than quote from the summing-up of Mr. Justice Hawkins (now Lord Brampton) in Kitson *v.* Playfair, who is reported to have said:

"It was also said by the medical witnesses that if in the course of professional practice they came across a case which indicated either that a crime had been committed, or was about to be committed, that under those circumstances they were bound to divulge it. To whom? To the Public Prosecutor? If a poor wretched woman committed an offence for the purpose of getting rid of that with which she was pregnant and of saving her character, her reputation, and it might be her very means of livelihood, and if a doctor was called in to assist her—not in procuring abortion, for that in itself was a crime—but called in for the purpose of attending her, and giving medical advice—how she might be cured, so as to go forth about her business, he (the learned judge) doubted very much whether he would be justified in going forth and saying to the Public Prosecutor: 'I have been attending a poor young woman who has been trying to procure abortion with the assistance of her sister. She is now pretty well, and is getting better, and in the course of a few days she will be out again, but I think I ought to put you on to the woman.' To his (the learned judge's) mind a thing like that would be monstrous cruelty. He did not know what the jury's views would be; he spoke only of his own. Therefore, when it was said that there was a general rule existing in the medical profession that, whensoever they saw in the course of their medical attendance that a crime had been committed, or was about to be committed, they were in all cases to go off to the Public Prosecutor, he (the learned judge) was bound to say that it was not a rule which met with his approbation, and he hoped it would not meet with the approbation of any one else."

This opinion may be compared with that given to the Royal College of Physicians in 1806 by Sir Edward Clarke and Mr. Horace Avory, which was to the effect that a medical man should not reveal facts which had come to his knowledge in the course of his professional duties, even in so extreme a case as where there were grounds to suspect that a criminal offence had been committed.

MEDICAL ETIQUETTE.

J. [illegible] to our answer to "O. C. M.," under this [illegible] the decision, and he goes on to say: "Up [illegible] and to undertake the treatment of the case [illegible] but when he proceeded to examine the patient [illegible] and suggested treatment, as he had not [illegible] ed to, I think here he made a mistake, and [illegible] impertinence, and I quite understand it being resented."

*** That is to say, [illegible] a patient consults a medical practitioner when under the treatment of another, it is impertinent of the former to examine the case and [illegible] letter to the patient's medical attendant giving his opinion [illegible] treatment. We believe such a contention to be impracticable. The public insists upon its right to ask for a second opinion; this course is constantly taken, and it is admitted that it would be impossible to allow a patient no appeal under any circumstances without the consent of the practitioner in attendance upon him. We cannot stop this practice, but we have endeavoured to establish a rule that the practitioner so consulted should do as the consultant did [illegible] profession who make these exaggerated protestations, and treat consultants who write to them under these circumstances as if they were committing an impertinence, that there is a difficulty in getting even well disposed men to accept the obligation of the rule.

CHARGE AND REMOVAL [illegible] PATIENTS IN SCOTLAND.

[illegible] dealing with the case and those the parish council would have to discharge.

MEDICAL ETIQUETTE AND PAUPER PATIENTS.

EPSILON, who is a district medical officer, states that he was called on to visit a female pauper in his district. He told her she would be better in the workhouse, he paid her three or four visits subsequently, and then allowed six days to elapse without a further visit. When about to visit her again he received a note from her daughter, saying that she was not satisfied with his attendance, and that another medical man had been (or would be) called in. In consequence of this, he paid no further visit, and has since learnt that the medical man last consulted lives four or five miles away, and holds the appointment of medical officer to an adjoining district of the same union. He asks if this is correct treatment by a supposed friend.

*** This patient (from some cause best known to herself) did not wish to become an inmate of the workhouse, and, as she was not satisfied with the advice and attendance given her, she made arrangements to place herself under another practitioner. As she gave our correspondent a written notice of her intention to do so, and he thereupon ceased his attendance, we fail to see that he has much to complain of. The patient had a perfect right to change her medical attendant if she had the means or opportunity to do so, and any other practitioner might then regard himself as being at liberty to take up the case if he should wish to do so.

THE RULE ABOUT DOORPLATES.

A. N. B. writes: I wish to put a plate on my door, my qualifications being M.R.C.S.Eng., L.R.C.P.Lond. Which is more correct or advisable: to place one's qualifications on the doorplate, or the words physician and surgeon, or surgeon only? What objection is there to putting physician as well as surgeon?

*** There is no ethical objection to either of the forms suggested, and there is quite as much propriety in putting up the word physician as the word surgeon. The only reasonable objection we have ever heard to putting physician by itself is that it might mislead some people, who would expect to have to pay a heavy fee, and so be deterred from consulting the owner of the doorplate. The selection of the particular form must, therefore, be a matter of taste.

ACCIDENT TO CLUB PATIENT.

KAPPA.—A. is a medical practitioner, a club patient of whom, B., while acting as a beater, is shot in the face and neck by C. A. is asked by C. to send him his account for attending B. Should A. do so, notwithstanding the fact that B. is a club patient?

*** Under his contract, A. is required to attend B. without charge for any ailment for attendance on which B. or his friends would be liable to be charged, except such as are specially excepted by the rules of the club. Where B. would not be liable, A. may properly accept payment for such attendance, but it is doubtful whether he could recover the same in a court of law.

INLAND REVENUE AND GOODWILL.

NOVUS writes that he has purchased a death vacancy, and would like to know if he is obliged to tell the surveyor of taxes what amount he paid for the goodwill and the number of years' purchase at which such goodwill was estimated, as he has been requested to do.

*** If our correspondent is willing to accept any assessment the surveyor of taxes chooses to make in his case, he may safely withhold the information in question. If he is dissatisfied with such assessment, in order to get it reduced it would be necessary to furnish every information relative to his practice, which would include price paid for goodwill, etc.

MIDWIFERY FEES.

A CORRESPONDENT writes that he was engaged to attend a lady in her confinement at a stated time. He then had no communication from the patient till he was informed from other sources that she had been confined, and another practitioner called in. He wishes to know if he can [illegible]

*** [illegible] ing, he is entitled, if he can prove the contract, but [illegible] ons have been given on this point by different county court [illegible] t if he were to say the result would be uncertain. Had he [illegible] patient about the time the confinement was expected and [illegible] and had to [illegible] protected his services [illegible] he might have sued her at once [illegible] (Hochster *v.* De La Tour, 2 E. [illegible]

PRIVATE ROAD TOLLS.

A CORRESPONDENT asks: (1) Can a tenant of an estate claim toll from a [illegible] (2) Would a medical man be justified in forcibly driving [illegible] uld the tenant refuse the medical man if the [illegible]

*** (1) If the road in question is part of the tenant's holding, he can fairly claim payment from those that use it to assist him in keeping it [illegible] legal right in preventing any one [illegible] would [illegible] *ab initio*. (2) The urgency of the case would not justify an [illegible] action. Very few owners would refuse permission under such circumstances, and where a charge was made it would be the duty of the medical man to pay it.

ROYAL NAVY AND ARMY MEDICAL SERVICES.

ROYAL NAVY MEDICAL SERVICE.

Cabins.

We have received the following letter from a correspondent with reference to the recent Admiralty circular letter alluded to in our issue of November 11th, p. 1323:

If the new order is interpreted as rescinding Article 538 this will cause very much dissatisfaction amongst senior non-executive officers. Article 538 allows officers serving in a ship fitted as a flagship, but in which no flag officer is borne, to occupy certain allotted cabins if they prefer them to their own labelled ones, the choice of cabins under these circumstances being made strictly in accordance with relative rank. When this privilege became officially recognized and embodied in the Admiralty instructions, senior non-executive officers rejoiced that one of the greatest drawbacks of being a non-executive officer was removed.

In the present day with rapid promotion all executive officers in the wardroom are young. It frequently, in fact almost invariably, happens that the senior lieutenant has not more than eight or nine years seniority in his rank. If, then, the privileges conferred by Article 538, which has added so much to the comfort of senior non-executive officers, are withdrawn, these officers will not only lose in comfort, but will feel their position still more accentuated by seeing men many years their junior in years and service occupying better cabins than they do. The question of surgeons' cabins would soon settle itself. Medical officers on entry are still in touch with their contemporaries at the civil hospitals, and if they find themselves treated (as it is so often expressed) as "necessary evils," and in addition to being given a bad name are given a cabin worse than that of the most newly-fledged watch keeping lieutenant, these newly-joined, or, as the service expression aptly puts it, "newly-caught young doctors," will soon communicate their views on the subject to their hospitals. The Royal Navy, never at any time too attractive or popular a service, will lose many of the good, sound practical men who at present are content to put up with the many discomforts and disadvantages inseparable from a seafaring life, in the hope of obtaining an assured income, fair treatment, and a pension, when that blessed time "no more sea" shall have arrived.

THE INDIAN SUBORDINATE MEDICAL DEPARTMENT.

Assistant-Surgeon Branch.

The following changes are notified to take effect from November 3rd in the organization and conditions of admission to the Assistant-Surgeon Branch of the Indian Subordinate Medical Department:

The existing three presidential lists of military assistant-surgeons are amalgamated, and there will be one list for all general service purposes except for promotion to the senior grades—that is, the names of assistant-surgeons now in the service will be placed in one combined list for all India in the same grades as those in which they now appear, the order of seniority in accordance with the date of their appointment thereto being retained. They will henceforth be liable to all the conditions generally attached to a unified service: but for the purposes of promotion to senior grades no change will be made in existing conditions, and their names will continue to be borne on their respective presidential lists, which will be maintained in the office of the Director-General Indian Medical Service, until the last of those upon the present establishments is absorbed.

All future appointments to this Branch of the Indian Subordinate Medical Department will, however, be made on the general list for all purposes, including that of promotion, and in place of the present system, under which three separate examinations are held for the selection of candidates for admission to the Presidency Colleges of Madras, Bombay, and Calcutta respectively, only one competitive test will be instituted in future, and that on the first Monday in February in each year. Convenient centres throughout India will be fixed by the Director-General of the Indian Medical Service, and the examination will be conducted under his direction with the assistance of the Educational Department. Candidates for this examination must be of European or Eurasian parentage, and between 16 and 18 years of age at the date of the examination, of sound bodily health, and in the opinion of the Director-General Indian Medical Service suitable in all respects for admission to the Indian Subordinate Medical Department.

Accepted candidates will be allocated to the medical colleges at Madras, Bombay, and Calcutta, according to the number of vacancies in each, but as far as possible the wishes of candidates and the location of their former residence will be considered in apportioning them to a particular Presidency college for professional training. Selected candidates will be admitted to the college on June 15th in Calcutta and Bombay and on July 1st at Madras, and the courses of study will be instituted in common in all colleges and lasting for four years. During this period of instruction the pupils will each receive a monthly allowance of Rs. 264, and at the conclusion of each year's course they will be examined in subjects of study, and their progress therein will be reported to the Director-General Indian Medical Service, who may remand an unsuccessful student to his studies for a definite period.

At the conclusion of the examination in the subjects of the fourth year, in which their practical knowledge will be tested, the principal of the college will report to the Director-General Indian Medical Service on their fitness for admission to the Indian Subordinate Medical Department. Those declared fit will be examined by written papers issued by the Director-General Indian Medical Service, and common to all the colleges. This examination will commence on the first Monday in March of each year. The successful candidates will, after signing the prescribed declaration, be appointed fourth-class assistant surgeons and their names will be placed on one list, their position therein being determined by the results of this final examination.

VISIT OF THE KING OF GREECE TO THE CITY.

The Royal Army Medical Corps Volunteers (London companies) supplied the ambulance arrangements, on the occasion of the visit of the King of Greece to the City, for over two miles of the route—namely, from Oxford Circus to the Guildhall. Three ambulance stations were formed, each under the charge of a medical officer. The wagons were horsed and driven by the transport section of the companies. Stretcher squads and medical officers were also placed at intervals along the line of route. These were the only volunteers employed in connexion with His Majesty's visit to the City, and it is a noteworthy fact that the corps has performed similar duties on every such occasion during the past twenty years.

HOSPITAL AND DISPENSARY MANAGEMENT.

METROPOLITAN HOSPITAL SUNDAY FUND.

At a meeting of the Council of the Metropolitan Hospital Sunday Fund to be held at the Mansion House at 3 p.m. on Tuesday next, under the chairmanship of the Lord Mayor, the Secretary, Sir Edmund Hay Currie, will announce that all the hospitals having medical schools receiving grants from the fund have agreed to be guided by the recommendation of the report of Sir Edward Fry's Committee to the effect that

For the future, the distinction between the hospital and the school should in every case be drawn not only definitely and exactly, but with such clearness that it may be understood by the general public, and so that no question may arise as to the destination and application of moneys contributed, whether by the King's Fund or from any other source.

The annual meeting of the constituents of the Fund will be held at 3 p.m. on December 18th, and it is recommended that June 17th, 1906, be the date of the next Hospital Sunday.

NATIONAL ASSOCIATION FOR THE ESTABLISHMENT AND MAINTENANCE OF SANATORIUMS FOR WORKERS SUFFERING FROM TUBERCULOSIS.

H.R.H. Princess Christian of Schleswig-Holstein presided on November 18th at a public meeting held at the Memorial Hall, Farringdon Street, E.C., in support of the above Association.

The objects of the National Association for Providing Sanatoriums for Workers, of which Princess Christian is president, have already been stated in the British Medical Journal on various occasions, and the immediate intention of the meeting was to draw special attention to the need for raising the capital required for the erection of the first sanatorium at Benenden, in Kent. It is desired to raise by subscription the sum of £50,000 for building purposes, the maintenance of the institution being then provided for by the subscriptions of the workers themselves.

Mr. G. H. Garland emphasized the necessity for further provision for the sanatorium treatment of consumptive workers. He appealed to the sound sense and intelligence of the members of the Friendly Societies and trades unions, whom he described as the thriftiest and most intelligent sections of the working classes, and said that he felt sure they would be struck by the importance of the movement, and would bring the scheme to a successful conclusion.

The Bishop of Stepney, who supported the Chairman, appealed to the Friendly Societies and trades unions to make some corporate and sustained effort in one of the great struggles on which the efficiency of the working classes depended, the struggle against the terrible waste of life caused by tuberculosis.

Sir A. Rollit, M.P., then moved:

"That this meeting of representatives and members of trades unions, Friendly Societies, and other organizations of workers, cordially approves of the scheme prepared by the National Association for the Establishment and Maintenance of Self-Supporting Sanatoriums."

This was seconded by Dr. Lister, who stated that the agricultural colony in connexion with the sanatorium was an essential part of the scheme.

The resolution was supported by Mr. Crooks, M.P., and carried unanimously.

Mr. Malcolm Morris, in proposing a vote of thanks to Princess Christian for her presence at the meeting, uttered a warning against expecting every consumptive to get well, even under sanatorium treatment, and advised that money should not be wasted on bricks and mortar.

Dr. Latham seconded the motion, which was carried with cheers.

This scheme is deserving of every success, but we would suggest that when the first sanatorium is completed, the Committee should hold its hand until sufficient time has been given to test the economic value of the place, before proceeding to the erection of the further sanatoriums contemplated by the scheme.

Japanese Losses in the War.—According to the Tokio correspondent of the *Times*, the Japanese Minister of War, speaking at a banquet of representatives of the medical service, said that Japan at one time during the war had 1,200,000 troops under arms. Of this number 70 000 died and 310,000 were wounded or sick, but only 15,000 died of sickness, and 9,800 died of wounds after coming under treatment.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 2, Agar Street, Strand, W.C., London; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone, unless the contrary be stated.*

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Manager, 429, Strand, W.C., on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not to his private house.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London.* The telegraphic address of the MANAGER of the BRITISH MEDICAL JOURNAL is *Articulate, London.*

TELEPHONE (National):—
EDITOR, 2631, Gerrard. GENERAL SECRETARY AND MANAGER, 2630, Gerrard.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

DUBIOUS asks for opinions as to the therapeutic value of tuberculo-albin.

DISCOMFORT asks for suggestions for the treatment of a small but very persistent corn in the centre of the ball of the great toe. The application of salicylic acid, paring, etc., gives no relief; and after walking the pulp becomes so inflamed as to cause great discomfort.

PAROTID OBSTRUCTION (?)

DELTA would be glad to know the treatment for the following condition: A young lady is troubled with both parotid glands swelling (perhaps not at the same time), so much so that she can scarcely open her mouth. By pressing the swellings the clear secretion of the glands escapes into the mouth and she has again power to open her mouth as before. There is nothing to be seen blocking the ducts locally. The lymphatic glands of the neck used to swell when exposed to cold, but since the above has appeared, the lymphatic glands do not swell.

MORTUARY AND POST-MORTEM ROOM.

J. F. W., a medical officer of health to an urban district council, asks: In constructing a small mortuary suitable for *post-mortem* examinations what size should the building be?

*** The mortuary and *post-mortem* room should be quite separate: the mortuary being for the reception of the dead pending an inquest or burial; the *post-mortem* room adjoining should be at least 16 ft. long and 12 ft. wide, which is sufficient for one *post-mortem* table; but if two are required, the room should be proportionately larger. It should be well ventilated and lighted from the roof, in addition to the usual side windows. We should advise our correspondent to pay a visit to some of the London mortuaries attached to the coroners' courts, and make himself acquainted with the necessary appliances and fittings.

ANSWERS.

APOTHECARY.—The causes of impotence are many, and the treatment ought, of course, to depend on the cause. As regards "Yohimbine," opinions vary. Professor Posner of Berlin has recently stated that though it is probably useful in some cases, in the majority it is not.

LETTERS, NOTES, Etc.

ASSURANCE COMPANIES AND THE MEDICAL PROFESSION.

WE are informed that a letter in the following terms has recently been addressed to a number of medical practitioners in a provincial city:

The Life and Health Assurance Association, Ltd.,
London Office,
38, Gresham Street, E.C.,
October 18th, 1905.

Dear Sir,

We wish to appoint a medical examiner in the district to enable us to deal with the life, sickness, and sickness and accident proposals, and also for reports on claims made workmen's compensation, employers' liability, third party, accidents, and sickness and accidents.

Referring to the sickness and life examinations, the fees we pay are £1 1s. and 10s. 6d., and the fees on reports on claims made vary and depend on the details required.

Your name having been given us, we are writing with a view to ascertaining whether you would be willing to undertake same; and as I am specially coming down to ——— shortly to finally arrange same, I shall be glad to hear from you at your earliest convenience.

I enclose prospectus, and shall be glad to hear also whether you will take up a policy with us, and, if so, for which department—life, sickness, or accident? In order to avoid delay, please address all letters direct to me, and oblige,

Yours faithfully,
(Signed) N. E. ROBINS,
Agency Manager.

Dr. .....
.....

We are further informed that the life assurance company in question has had a medical referee in the city for some years past. It would be well for medical men receiving such circular invitations to consider carefully the significant suggestion contained in the last paragraph of the Agency Manager's letter.

MEDICAL EDUCATION: A SUGGESTION.

DR. FREDERICK T FAGGE (Llanfairfechan, North Wales) writes: In consequence of the great advance of medicine, surgery, midwifery, etc., and to the increased knowledge of all subjects required by the modern medical student, the difficulty of acquiring an all-round education is greatly enhanced. Would it not be possible to limit the most scientific teaching of bacteriology and minute chemistry to a certain number of students who would perhaps make these subjects more or less of a speciality hereafter, and give to the mass of students who perforce must be general practitioners afterwards only a general knowledge of these subjects? I feel convinced that no medical man (unless he has a very small practice) can possibly find time to make blood counts, etc. Of course there are difficulties in the way of carrying out this plan, but it would be a great gain to the poor medical student. A bit le time back I met a young doctor who was making a blood count. I remarked to him that I considered my position quite equal to his, though of course, as I entered the profession many years ago, I have not the requisite knowledge to do this and similar examinations. I told him that I had only to send a specimen to London, to the Clinical Research Association, or Mr. Eastes's laboratory be an evening post, and that I should know the result by wire the following morning. I make this suggestion for what it is worth, in the hope it may draw attention to the amelioration of the present condition of the overdone medical curriculum.

A DEADLY BREATHING EXERCISE.

GREAT stress is rightly laid in most of the many systems of training by which modern men and women are to be saved from physical degeneracy on the importance of a proper method of breathing. An inquirer who was interested in the principles of one of these systems which he saw advertised wrote to the "professor" for details. In reply he received a descriptive pamphlet. Therein he found among the rules on the very first page the following direction: "After the morning bath take a deep breath, retain it as long as possible, then slowly *expire!*" It is not surprising to learn that he determined not to try that particular system.

MEDICAL TITLES.

DIGAMMA writes: In connexion with the recent application by Members of the Royal College of Surgeons to be allowed to assume the title of "Doctor," partly on the ground of common usage, it may be interesting to point out—not in any hostile spirit—that this usage sometimes takes quaint forms. Thus, I notice that the out-patients at the hospital with which I am associated nearly invariably allude to my revered predecessor—who was M.D., F.R.C.S., F.R.C.P.—as "Mr. X.," while the hospital dispenser is as frequently styled "Doctor Y."

A TROPICAL SKIN DISEASE.

MAJOR E. CARRICK FREEMAN, R.A.M.C. (Military Hygiene Laboratory, Colchester) writes: The illustration of the foot of a patient suffering from the effects of infection by a tick in Dr. Bell's communication on a tropical skin disease, published in the BRITISH MEDICAL JOURNAL of November 11th, reminds me very strongly of a case which came under my notice in Bermuda five years ago. This man, J. B., was a policeman in the dockyard, formerly a soldier, and suffered from a circumscribed superficial ulceration and oedema of the sole of the foot. He was treated in the Naval Hospital without success, and fared no better at my hands. Under local antiseptic and general tonic treatment the ulcer constantly healed up, but thin scar tissue only formed, and it all broke down again as soon as he began to move about. Finally he was sent to Canada to the hospital at Toronto, where excision and scraping, together with the change to a cold climate, effected a complete cure, and the patient has performed his duties at the dockyard of Bermuda ever since. Now, this case was certainly one of erythema keratodes, confined to the sole and not symmetrical. It is described by Malcolm Morris in his *Diseases of the Skin*, and he refers to a description of the disease by Brooke in the *British Journal of Dermatology*, 1891, p. 335, to which unfortunately I am unable to refer.

The disease is described as rare, and Dr. Bell can find no reference to his case in tropical medicine. Perhaps some one who has opportunity of access to a medical library would look the matter up and see whether erythema keratodes may not be a tick disease, and Dr. Bell's case the same disease or an allied form. If a tick were the cause, it would explain the fact of the disease appearing in healthy people, the non-affection of the general health, its intractability and tendency to recur, and, in my patient, the rapid cure after thorough scraping and removal from a hot climate.

THE INTERNATIONAL MEDICAL CONGRESS AT LISBON.

DR. CHARLES J. RENSHAW (Ashton-on-Mersey, Cheshire) writes: It is the intention of some of the members of the International Medical Congress to proceed, after its termination, to Badajos, Seville, Cordova, Granada (for the Alhambra), and back to Lisbon to catch the steamer to Liverpool, arriving there about May 13th. Any one wishing to join had better communicate with Mr. Banks, 20, Cockspur Street, Charing Cross, as the party will have to be limited owing to the dearth of accommodation.

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N.B.—It is against the rules of the Post Office to receive letters addressed *Poste Restante* either in initials or numbers.

A Lecture
ON
INTRACRANIAL TUMOURS.

Delivered at the National Hospital for the Paralysed and Epileptic, Queen Square, W.C.

By JAMES TAYLOR, M.A., M.D., F.R.C.P.,
Physician to the Hospital.

I wish this afternoon to show some cases of intracranial tumour, and then to say a few words with reference to the prominent symptoms of them and their treatment, and the degree of recoverability which one may expect from the medicinal measures resorted to, or from operation if it is decided that that should be carried out.

The first patient is one who was in the hospital fifteen years ago, and the history of the case is extremely interesting, as is also the sequel to the treatment during his stay in the hospital. He came first of all on account of severe headache and vomiting. He also had, I may say, intense optic neuritis and right-sided weakness, affecting both the arm and the leg. In addition there was very great difficulty with speech. It was not a true aphasia but rather a slowness of articulation, and apparently a difficulty in expressing what he wished to say as well as to understand what was said to him. He was put upon small doses of iodide of iron; but he only continued that for a week or two, because the administration of anything by the mouth became so difficult that he was left practically without any medicinal treatment. He became rapidly worse, the impairment of power in the limbs became much greater, and the weakness spread so as to affect the opposite side. In course of time he became completely paralysed in all four limbs. At this time he was also unconscious, taking no notice of anything which was said to him, and only swallowing, and that automatically, when anything was put on the back of his tongue. A surgeon was then asked to see him in reference to operation. But the surgeon was of opinion that it was not the kind of case in which operation could be reasonably expected to do good. The patient remained unconscious for about two months, completely blind and deaf. Then he gradually began to recover, and in some months he attained the condition in which you see him now. The only defect with which he was left—a most unfortunate one—was a very grave defect in his vision on account of the intensity of the optic neuritis, which had proceeded to atrophy. During those years he has remained quite well except for that one defect, and he is now working at piano tuning. He is a man of considerable intellectual ability, and with very marked intellectual tastes, and those attributes have not suffered in any degree by his illness.

The case illustrates the fact that, however hopeless the condition of a patient may appear to be, it is possible for him to recover from a very severe degree of paralysis without impairment of mental functions. And it also illustrates that the great danger of these cases which recover is that permanent and grave impairment of vision is apt to remain. The question of the nature of such a tumour is one of very great interest, and in this case I think there was some reason for supposing that the tumour was probably tuberculous in character. You will notice that on the right eyelid he has a scar which looks like a strumous scar, and he has told me to-day of something which has occurred since I saw him last, namely, that his father has recently died of phthisis. So I think we may look upon it as probably a tuberculous tumour, in which the tumour has become calcified or encysted, and in consequence of that it has ceased to exert any pressure or other influence on the surrounding structures.

This is by no means a unique case. I have seen several cases of similar character, although perhaps not of the same intensity, in which recovery has resulted without operation. It is always interesting to speculate what would have happened if this patient had been trephined. There is no doubt that when the surgeon was asked to see him there was very intense intracranial pressure and a very considerable tumour present. There was probably a great deal of oedema around the tumour, and of course there were vessels no doubt getting larger, which were supplying that tumour. Whether the actual intracranial pressure was an element in the recovery by leading to a certain degree of strangulation of the vessels it is very difficult to say. If it is so, then of course operation in his case, although it might have been undertaken with the view to saving his sight, might conceivably have led to the reduction of intracranial pressure, and so perhaps have favoured a state of matters likely to lead to an increase of the tumour.

The next case I wish to show you is that of a girl in an even more advanced stage of recovery, and I am very sanguine that in the course of time she may illustrate a similar condition of recovery from very severe symptoms of cerebral tumour. She came to the out-patients' department of the hospital in October last, sent by Dr. Battams, with a history that for about a month she had been sick every morning, had suffered from severe headache, and had developed weakness of the left arm. Just before she came she developed a weakness of the left leg also. It was also found on examination that she had fairly well-marked optic neuritis. After she was admitted, the only other sign of illness which developed or was visible was a defect in the field of vision. It was a quadrantic defect, the lower left quadrant of each field being absent. There was also a slight degree of sensory impairment on the left side. Here, then, was a patient with left hemiplegia, with slight sensory impairment, and with some hemiopic defect and general symptoms of intracranial tumour. It was comparatively easy to localize such a tumour in the posterior part of the internal capsule, because we know that there the motor and sensory fibres for ordinary sensation, and also for the special senses, are collected together, and a tumour pressing in that region would give rise to all the symptoms which this patient had. The history since then has been exceedingly interesting. She was put to bed, and remained there for some weeks, and from the very beginning she began to improve. She was put on small doses of iodide of iron. I would not attach too much importance to the influence of medicine upon recovery. Yet she began to rapidly lose her symptoms. She had practically no headache after she was put to bed, little or no sickness, and the motor power began to return in the left limbs. First of all, the sensory impairment disappeared from the left side, and the defect in the vision disappeared, and the optic neuritis also subsided. Then she began to develop an affection on the right side. She had also tremor of the left hand and arm, and weakness of the right arm and leg. This was combined with a recurrence of the weakness on the left side, with tremor, especially in the left arm and hand. There was no recurrence of the headache or of the vomiting, and the optic discs remained free from neuritis.

It is very difficult to understand what the condition was which was present under those circumstances. It is possible there was a small tumour on the posterior part of the internal capsule on the right side, and round that tumour a very considerable degree of oedema, which had interfered with the use of the left arm and leg. It is conceivable that this tumour spread across the middle line so as to affect the other side, and that in doing so the pressure was taken off the parts which subserved the left limbs. Still, that, of course, must be more or less a matter of conjecture. The point that remains quite distinct is that there was a very marked increase of her symptoms, which could naturally be referred to the increase in the tumour which was without doubt present. After she had become exceedingly ill and weak and very much disabled, recovery began to take place, and in the last few weeks the degree of recovery which has taken place is extremely gratifying. The tremor, which is still present, you will observe, is very well marked in this right hand but not so distinct in the left, although at one time the left was very much worse. The limbs are still somewhat weak and spastic, but she has a very much greater degree of control over them than she had two or three weeks ago, and, as I have said, the tremor is very much less troublesome than before. As a matter of fact, a few weeks ago she was compelled to lie in bed on her arm in order to keep it from shaking.

This is not so striking as regards recovery as the other patient; but if you had seen her two or three weeks ago you would have been very much struck by the improvement which has occurred since that time. And the gratifying point is that the recovery is still in progress, and she is even better to-day than she was this day last week. So one hopes—and, in fact, one is justified in feeling sanguine, I think—that even more improvement may occur than has actually taken place. The question of the nature of the tumour in this case is also very interesting; whether it is tuberculous

or whether it is some tumour of a curiously soft character which changes the incidence of its pressure, as it grows in different directions, it is not easy to say. One hopes, however, that it is tuberculous, for it may become encysted, and in that case there may be considerably more improvement than has yet occurred. You will remember I said that the optic neuritis in her case has already disappeared, and there is no fear, therefore, of the patient losing her vision.

The next patient is a little girl, who was apparently fairly well until August, 1904. She had had a discharge from the ear more or less ever since her birth. At all events there is no doubt when she came under observation, which is some months ago, she had a very marked offensive discharge from both ears, and there was perforation of both tympani. Apparently she last August developed severe headache, and there was also occasional vomiting, but the intensity of the condition was not sufficient to attract attention or to raise any suspicion of any very grave form of illness in her mother's mind. Nothing of that character occurred until some three or four months ago, at which date she was brought to the Moorfields Eye Hospital to see Mr. Lawford. And she was brought there because of her failing vision, which interfered with her work at school. On examination she was found to have intense optic neuritis in both eyes, more marked in the right. There was also some headache and a history of headache and vomiting. Mr. Lawford accordingly asked me to see her, and we had her in here, because in any case in which you have chronic ear discharge it is conceivable that any symptoms of intracranial tumour arising may be the result of the formation of abscess. We know that abscess formation is frequently associated with middle-ear disease, and when you have a combination of the symptoms of intracranial tumour with ear discharge, it is well to think of the possibility of abscess. We have examined her here, and the only additional symptom we found was a slight degree of pain on the right side of the head. I asked the surgeon to see her, and he agreed it was a case for trephining, and he acquiesced in my view that it would be well to trephine on the right side first of all, chiefly because of this localized pain on the right side. There was no sign of cerebellar impairment, no staggering or inco-ordination, and the deafness which was present was such as you find as a result of middle-ear disease. Sir Victor Horsley trephined on that side, and explored both temporo-sphenoidal lobes on that side, also the cerebellum, but without being able to find anything definite. There was evident bulging of the brain at the seat of the operation, a bulging which you see still persists. A few weeks later she was trephined on the other side, in the corresponding region, and another careful and exhaustive exploration of those regions was made, but without any result. Her head has healed up completely, and the only thing which remains is this bulging on the right side. On the left side there is no bulging at all, and it seems to me that the bulging on that side and the evident increased pressure on that side justifies us in having trephined first of all on that side, and it seems that it also justifies further exploration on that side on the chance of finding something which may possibly be removable. She has no headache and no vomiting now, but her sight is rapidly going; as a matter of fact, her right eye is almost blind. So if anything is to be done in saving her vision by relieving intracranial pressure, and possibly removing what is causing it, it must be done soon. I have therefore asked Sir Victor Horsley to see her again, and consider whether under the circumstances of the bulging still persisting on the right side, and the evident increased pressure there, it will not be justifiable to make a further exploration.

It may be asked, Can an abscess be possibly present in such a case? Of course, an abscess is often acute, giving rise in a very short time to very severe symptoms. But we must also remember that there are in the cerebellum and cerebrum chronic abscesses. I think I have read of a case in which there was reason to suppose that an abscess found *post mortem* had been present as long as ten years. And one has seen cases of abscess of the brain and cerebellum *post mortem* in which there has been a very thick wall to the purulent cyst, a wall which would take a considerable time in its formation. So in this child I think it is conceivable we may have to deal with a collection of pus which is encysted in a strong resistant wall.

This next patient is a woman who also came to Moorfields, and there saw Mr. Treacher Collins. She attended that hospital two or three years ago on account of failure of vision. There has been nothing else to point to any interference with cerebral functions, or those of the nervous system, except this interference with vision. And this interference with vision is evidently due to the severe optic neuritis which was present at that time and which still persists. So this case illustrates the fact that a patient may have for a considerable number of years very well-marked and indeed very intense optic neuritis, without its leading to any very considerable impairment of vision, because I may say that it is only in the last few months that the vision in her case has become very much impaired. She has had severe headache for some years—intermittent, of course, and associated with vomiting. She has had also optic neuritis, but no other symptom or sign giving us the slightest indication as to where the intracranial growth is which probably accounts for her symptoms. And I want you to see her to-day especially in association with the other cases which you have seen, because the signs are very similar to those in the last patient. In each there has been intense optic neuritis, in each there is a history of headache and vomiting, and the neuritis has persisted for a considerable time. In the girl we have an indication of a possible source of trouble in the double ear disease which has persisted, as I have said, for so many years, but in the present patient we have no such indication, and one is at a loss in such a case as this to say where the supposed growth is. No doubt some cases of cerebellar tumour are like this without giving rise to any very severe symptoms. But if it is cerebellar we would have expected the neuritis to be more progressive, and the failure of vision to have occurred to a greater degree, and at an earlier stage in the illness. So there is no sign here which will help us to say in what part the new growth is. There is no evidence of it being pontine because there is no paralysis of cranial nerves, so one must suppose it to be in some more or less unimportant part, so to speak, of the cerebral hemisphere, that is to say, some part of the hemispheres in which the function of any particular part of the body is not definitely and alone represented. Of course there are various parts of the cerebrum in which that is the case, more especially in the frontal and occipital regions. In her case there is no evidence of interference with the mental processes, or of any interference with vision beyond that which can be accounted for by the optic neuritis. So we are in a difficulty in this patient as to where the supposed new growth is situated, and also we are in a difficulty as to what to do for her. The question in this case also is whether we could by any possibility relieve her condition by trephining. One hesitates to undertake such a measure, especially where there is chronic optic neuritis such as this is, in which, presumably, a good deal of damage has been done to the nerve which might not be recovered from, even if the pressure is relieved. Her headache and vomiting are very slight, and her symptoms have almost disappeared, so one hesitates to recommend such a severe operation on the off-chance of relieving her vision.

The next case is one about which I may speak freely, as she is deaf. She is rather a young woman, sent to me by Dr. Cooper of Rochester, and the history of her illness shows it to have been rapid. In January of this year she began to be troubled with giddiness, and also had diplopia and severe headache, especially in the right frontal region. And in March she had some interference with her eyelid. She had some degree of ptosis and some internal strabismus of the right eye. In April she began to have some weakness of the right side of the face, and also some deafness of the right ear. A month later she developed deafness of the left ear, and now she is practically totally deaf. When she walked here, you saw that she staggered a little and did not walk at all easily. She has headaches over the right frontal region, double optic neuritis, slight ptosis on the right side, nystagmus on deviation in every direction. Her nystagmus is very marked indeed, especially to the right side, and she also has intense optic neuritis. So in this case we have signs of interference, especially with the structures about the base of the brain, and more especially related to the pons and cerebellum. The striking thing about her is the intensity of the headache, and also the fact that the headache is most marked on the right side. Another point is that she has very marked impairment of sensation, both ordinary sensation and painful sensation, over the upper two divisions of the fifth nerve on the right side. So the signs here all point to the presence of intracranial growth. There is, however, nothing to indicate the probable nature of such a growth. Her family and personal histories are above suspicion. But the position of the tumour is much more clearly

indicated than in the last case. The affection of the fifth nerve and of both eighth nerves, and the nystagmus and the inco-ordination, with the staggering gait, all point to the likelihood of it being in the region of the cerebellum and pons—that is to say, they show it to be a subtentorial tumour, and the rapid progress indicates the same thing.

The question one has to discuss and consider in such a case is, if the tumour is in the cerebellar region, is it in the cerebellum, or is it extra-cerebellar? In this case I am inclined to the opinion, on account of the involvement of the nerves which has taken place, that the tumour is very likely to be extra cerebellar, and in that way it is conceivable that operation might be a justifiable procedure. Fortunately, or unfortunately, as the case may be, the symptoms have become very much mitigated since her admission, so that with a patient apparently improving one hesitates a little to have resort to surgery. But, of course, if the patient were to cease to improve, and especially if her headache and vomiting became worse, and the optic neuritis remained very intense, one would certainly feel not only justified, but would feel bound to give her such a chance as surgery offers.

General Observations on Symptoms.

In conclusion, I wish to say a few words with reference to the symptoms of intracranial tumour and the recoverability of such cases, and also a few words with regard to treatment.

Headache and Optic Neuritis.

First of all, with regard to the symptoms. Of course, headache is one of the most severe symptoms, which nearly always suggests the possibility of intracranial tumour. Vomiting I have also referred to, and the headache and the vomiting nearly always go together in the same patient. Optic neuritis is of the utmost importance. There are only a few other conditions except intracranial tumour with which optic neuritis is associated. One of these is albuminuria, and in many cases it is exceedingly difficult to say whether the case is one of intracranial tumour or one of kidney disease. In the case of the woman we have had in, in whom there is no sign of localizing growth, I thought for some time we should probably find signs of kidney disease present, but no such signs have been found, either in the urine or in the heart or blood vessels.

Another condition in which you find optic neuritis sometimes present is simple anaemia. There are, no doubt, cases of simple anaemia in which optic neuritis is present in which the neuritis disappears when the anaemia is treated by such drugs as arsenic and iron. One of the signs associated with optic neuritis is that the patient complains occasionally of amblyopia. Just as patients with uraemia get transitory amblyopia, so in cases in which there is intense optic neuritis patients sometimes say that a mist frequently comes over their eyes and makes them for the time almost totally blind. Such a symptom usually indicates that the neuritis is of severe degree, and may lead to severe and even complete blindness. It may be asked—Does the intensity of the optic neuritis give us any indication of the locality in which the tumour may be supposed to be? I think there is very little doubt that subtentorial tumours as a class cause much more intense optic neuritis than do tumours in the hemispheres. I say "as a class," because exceptionally one finds that tumours of the hemisphere do give rise to just as intense optic neuritis as you ever find. But, as a class, tumours under the tentorium do give rise to more intense optic neuritis, and of a more rapidly progressive character, and to optic neuritis which is much more apt to lead to blindness, than is the optic neuritis associated with tumours of the hemisphere.

Another point which is of considerable interest is, Does the degree of neuritis present on one or other side give any indication as to the site of the tumour? I made a good many examinations a few years ago of cases of tumour of the hemispheres and also of the cerebellum in reference to the question of whether the optic neuritis was more intense on the side of the tumour or on the opposite side. I found that in half the cases the optic neuritis was more intense on the side of the tumour and in the other half on the side opposite to the tumour. That is to say, in one series of cases the optic neuritis was more intense on the same side, and in another series the optic neuritis was more intense on the opposite side to the tumour. And on looking at those cases and regarding them from the point of view of symptomatology and in regard to the possible position of the tumour, I think there seemed to be very little doubt that when the tumour is pretty well forward in the frontal region, especially if it be in the Rolandic area, the optic neuritis is more likely to be more intense on the same side as the tumour, but when the tumour is in the occipital or cerebellar region, the optic neuritis is likely to be more intense on the side opposite to that on which the tumour is situated. I think the cases which I examined were suggestive of some such view as that. I do not know that it is a view to which one would attach a great deal of importance with reference to localization, but it is a view which might conceivably influence the surgeon in reference to the side on which he would attack the disease in any case of doubtful localization.

Fits.

Another of the series of symptoms which arise in tumour is fits. Fits are fairly common in cases of tumour of the hemisphere, and Jacksonian fits are one of the most common varieties or signs which we come across in reference to the localization of tumours, and we know it is this sign which led Dr. Hughlings Jackson to make the discovery which is associated with his name. In cases which we recognize as cases of tumour they occur in association with the classical signs and symptoms of tumour. There is a class of cases in which fits do occur before there are any signs of tumour present. I have seen several cases in which a similar history to the following has been given: A patient comes to the out-patient department on account of what are called epileptic fits. The history is that he has been in perfect health up to two or three weeks before, and then he has a fit, which is not peculiar in regard to local commencement or local effects, nor is headache or optic neuritis associated with it. He is put under treatment for ordinary epilepsy, and goes on with the treatment for some time. Perhaps one day he comes and complains of headaches, and on examining his eyes you find there is present intense optic neuritis. I have a case in my mind which came in that way, and attended with very successful results as far as the fits were concerned, for two years. One day he complained of intense headache, and I found he had a marked degree of optic neuritis. He came into the hospital, and was operated upon, and it was found that he had a large tumour on the right side. I have no doubt that in that case the tumour had been present from the very first onset of the fits, which had been present two years before there was anything to excite suspicion of a new growth; it was probably up to that time of very small size, and only exerted an influence which amounted to slight irritation, and so giving rise to those fits, which were justifiably regarded as epileptic. So the condition of fits arising in a patient who had been perfectly healthy up to a certain time should be regarded with a certain amount of suspicion lest these fits may be really one of the early signs of new growth.

Tremor.

Another condition which is present in many cases, especially in mesencephalic tumours, is tremor—tremor very similar to that of disseminated sclerosis, intensified by volitional movement, and giving rise also to a condition which suggests occasionally the possibility of paralysis agitans. Where you find a tremor of that character present, especially on one side, and associated with headache, and especially if also associated with fits, it is always well to suspect the possibility of the presence of a tumour, and you should examine the eyes to see if there is any optic neuritis present.

Prognosis.

Now a few words with regard to the recoverability of patients who have intracranial tumours. The cases I have had here to-day for your inspection show that in some instances there is a natural tendency for the patient to recover. There is no doubt many syphilitic tumours do disappear, so far as their symptoms are concerned, under the influence of iodide of potassium and mercury. It is also true that many syphilitic tumours do not disappear under those drugs. A certain amount of necrotic tissue remains, and that tissue produces all the effects of a foreign body inside the skull. And of course those syphilitic tumours very often have their symptoms persisting, and are associated with a degree of mental impairment which is very marked. Another point in reference to the effect of antisyphilitic remedies is this: that one must not be misled in any particular case of intracranial growth by the remarkable effect which sometimes follows the administration of iodide of potassium and mercury. I have seen cases in which all the symptoms have, if not disappeared, at all events been very materially mitigated, so much so as to make one positive that the tumour which was present must be syphilitic. I have seen such cases and afterwards examined

them *post mortem*, and found that after all it was not a case of gumma. But I suppose that in every rapidly-growing tumour there is around it a considerable quantity of freshly-formed new tissue which is amenable to the influence of such drugs as iodide of potassium and mercury. So we must not be misled into giving a favourable prognosis when we happen to see the symptoms very much reduced by the administration of iodide of potassium and mercury.

Then with regard to the recovery after operation. It is curious how the results in this respect have varied in this hospital from time to time. In some periods one has been far from sanguine as to the favourable results of operation in tumour cases. At other times the brilliant results of surgical interference have been most encouraging. And there is no doubt, I think, that if the tumour can be removed, and if it is one of those tumours which has been exerting its influence by pressure, rather than by infiltration, the outlook is extremely good, even when the pressure which has been exerted has been excessively great. And the fact that such a result follows operation in certain cases, and the fact that you never can be quite sure whether a tumour is infiltrating or whether it is one which is growing into the nervous tissues from the outside, seems to necessitate a resort to operation in many cases. No doubt in some of the cases which we have had here the results have been extremely gratifying, and have been far better than one would have dreamed of. It is true that in other cases the results have been most discouraging, but it seems to me that as the condition is one of intracranial growth in which the outlook without operation must be exceedingly poor, that one would be justified in stretching a point in order to give the patient the possible benefit which surgery might have to give. Of course, with regard to the influence of iodide of potassium and mercury, there cannot be two opinions in reference to their efficacy in most syphilitic growths and also in some non-syphilitic ones. A considerable fallacy exists with reference to the influence of those drugs in the case of intracranial tumour, because the effects which those drugs may have in the cases which are not syphilitic may lead to the idea that they are syphilitic. So the treatment of intracranial tumours resolves itself into two points. First of all, the administration of iodide and mercury in every case, whether there is a syphilitic history or not, and the administration of some drug like iodide of iron, which is supposed to influence tuberculous growths. The second point is the treatment by surgery, and wherever the treatment by drugs seems inefficacious, unless there is some strong indication to the contrary, which I can scarcely conceive, I think we should give the patient the benefit of an exploratory operation. Of course in many cases it is found after exploration that the tumour is of such a character that it cannot be removed, but in such a case the condition of the patient is not worse than it was before, and the chances are that he is relieved of his headache and vomiting, and possibly also his optic neuritis may subside as a result of the operative measure.

An Address

on the

CRYSTALLINE LENS IN HEALTH AND IN CATARACT.

Delivered before the Post-Graduate Class in Ophthalmology in the University of Oxford, July 10th, 1905.

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Gentlemen,—If and when the complete history of ophthalmology is well and truly writ, I trust that due mention will be made of, and due credit will be ascribed to, the life and labours of Alhazen, the Saracen. He flourished in the eleventh century of our era, and died at Cairo in 1038. He was, alike in theory and practice, a man in advance of his time, and perhaps was more successful with his theories than with his practice. It is true he failed in his undertaking to dam the Nile, a work the completion of which it has been reserved for this generation to witness. He, however, seems to have been the first to explain that vision was due, not to some emissive property or tentacular agency on the part of the eyes, but to the refractive influence of their translucent media and to sensory impressions made upon the retinae. He also demonstrated atmospheric reflection and refraction, thus accounting for the phenomena of twilight and of the apparent reduction of size of heavenly bodies as they pass from the horizon towards the zenith. Before Alhazen's time the rôle of the crystalline lens was incomprehensible and mysterious. It had been sanctified by the ancients as the seat, or one of the seats, of the soul or πνεῦμα, while other old authorities had deemed it to be the organ of vision; just as the vulgar to-day will sometimes bring the extruded lens from a case of perforative ulceration of the cornea and tell you the child's "sight" has come out.

It is not surprising that a structure so beautiful and so unique in the animal economy as the lens should, even in these prosaic times, excite our thoughtful scrutiny, and we do but find our interest stimulated and fascinated as we proceed to investigate the development, the structure, the function, and even the defects and diseases of this dioptric jewel of the globe.

I need not tell you that no amount of condensation will enable me to crowd into the limits of a single lecture even a *résumé* of the work that has been accomplished in this department of ophthalmology; the lecturer and the subject of the lecture being alike the selection of your excellent Reader, Mr. Doyne, I am absolved of responsibility, while the amplitude of the title will enable me to dwell on such topics as I have paid special attention to while passing lightly over such matters as you will find adequately dealt with in the ordinary textbooks.

The crystalline lens, in almost every aspect in which we approach it as an object of study, presents features which, if not unique, are almost without parallel in other structures of the body. Take, for example, its persistent growth from infancy to age; its complete isolation from blood supply, coupled with its most perfect nutrition by endosmotic and exosmotic currents; its elasticity so perfectly controlled by muscular action as to subserve faithfully the purposes of the most delicate of our senses; while its pellucidity, which is shared by the other dioptric media, is, in its case, accompanied and sustained by a construction so complex, and a mode of growth so involved, that there are some points in relation to both which have not yet been thoroughly elucidated.

The rôle of the lens in disease has afforded no less occasion for wonder, mystery, and disputation. By a curious inversion of order, successful treatment of cataract appears to have preceded any accurate knowledge of its cause. It would almost seem either that a traditional treatment had survived the knowledge on which it was originally based, or that a pre-established harmony had guided the hand of the empiric.

Thus, Albucasis the Moor, a skilful surgeon of Cordova in the eleventh and twelfth centuries, has a chapter on the cure of cataract by depression, and, in a fine reproduction of his works in Arabic and Latin, edited by Channing at Oxford in 1778, you will find a neat representation of the instrument he employed. Yet he speaks "*de cura aquae quae descendit in oculo vel cataracta*." Pliny and Galen seem to have been acquainted with "couching." The term cataract appears to have been employed by the School of Salerno, derived from the Greek καταρρήγνυμι, but whether used metaphorically, as in the quotation I gave from Albucasis, or in the sense of "breaking down" or "confusing" is not clear. The older Greek writers had called it ὑποχυσις ὑγρου, the Latins "suffusio," and the Arabo-barbarians, "gutta in oculo," all terms borrowed from humoral pathology. How, indeed, was any rational pathology then possible?

However, since Helmholtz presented us with the ophthalmoscope, about the middle of last century, much mystery has been cleared away. Amaurosis, that invention of the schoolmen which connoted a condition of the eye in which neither the patient nor the oculist could see anything, has been resolved, and the parts played by the lenticular and the deeper structures of the globe respectively in its production have been correctly apportioned, while the old confusion between glaucoma and cataract has been for ever set at rest.

M. Brisseau, of Tournai, appears to have been the first to explain correctly the true nature of cataract. A soldier with cataract having died in the Tournai Hospital in 1705, he examined the eyes *post mortem*: he thereupon made the startling discovery that a cataract was nothing but an opaque lens, and not a membrane engendered in the aqueous. Much elated, he reported his secret to Duverney, who would not

hear of it, and advised Brisseau not to endanger his reputation by publishing so ridiculous a proposition; moreover, the iconoclastic Brisseau was given to understand that his discovery might occasion offence to some members of the Academy who had written on optics.

Such are the perils that await the reformer, even in matters of science, when authority is at variance with the facts. The sequel is not uninstructive; poor Brisseau published his thesis, and he was thereupon informed, not that he was wrong, but that it was no discovery after all, in fact, that he had been anticipated by other observers some forty years previously. How true is the observation that a test of truth is its capacity for re-discovery.

Even nowadays the term "cataract," which may be used as synonymous with any departure from pellucidity of the lens or its capsule, is still received by the laity with scarcely less awe and foreboding than are those other terms of terror commencing with the same initial, "consumption," and "cancer." Happily, with our modern methods of ophthalmic surgery we are able authoritatively to assuage such terror as often groundless. The lens, even in its opacity, is again unique in this fact, that, having ceased to be useful, it can very well be done without, and that, after its successful extraction, almost perfect sight may be restored, and that, too, without the long period of waiting in twilight which was once the pitiable lot of the cataractous.

Just as von Baer has taught us that the embryological history of the higher organisms repeats, as in epitome, the evolutionary history of the race, so in the case of an individual and highly differentiated organ like the human eye, as we trace its building up in the embryo, we pass—though it may be rapidly—in review some of the stages which are recognized as final in the lower animals; and the story is again true as we study in detail the embryological history and comparative anatomy of its component parts.

Whether we turn our attention to the rudimentary eyes of he leech, or the starfish, or to the multitude of eye dots which are scattered over the surface of some of the marine slugs such as *Onchidium*, or, on the other hand, investigate the compound eyes of insects and crustaceans, or the refractive eyes of cephalopods and vertebrates, we find three elements, all owning an epiblastic origin, early co-operating in promoting some influence or impression by the outside world upon the nervous system of the individual. These three elements are—(1) nerve fibre; (2) pigment cells; (3) a crystalline medium.

How the collocation of these three elements, perhaps at first fortuitous, then subserving some humble function (possibly nutritive in its nature), later on evolves, by gradual steps, into an elaborate optical camera for conveying visual impressions is a problem upon which we may speculate at pleasure. We know that animal pigment, like chlorophyll in plants, not improbably plays an important part in facilitating absorption of chemical energy from the sun. Any collection or concentration of light by a crystalline structure overlying such pigment would of course facilitate this "heliophagic" (sun-eating) process; while the stimulation of a subjacent nerve by the solar energy, and the withdrawal of such stimulus by the intervention of opaque bodies would awaken a sense of externality, excite muscular action, and lead to locomotion. It has been found that *Medusæ* will collect around a ray of sunlight in a darkened jar, not, presumably, because they see it, but because they eat it and gain energy from it. It is possible, then, that association of nerve, pigment, and refracting cell, all modified ectoderm, may have evolved through a heliophagic stage, and thence onward into an agency for the appreciation of light from darkness, thus giving a sense of environment more delicate than the tactile, and finally, by progressive differentiation and integration, the most delicate of the organs of special sense may have been progressively built up.

It is, however, in contemplating the progressive development of organs of such complexity and adaptation as the human eye that the insufficiency of natural selection as explanatory of the whole process is most apparent. The action and reaction of structure and function is so intimate, a slight morphological change affording some distinct dynamic advantage, or *per contra* some habitual physiological action effecting some desirable modification of structure, that we may find it hard to decide which takes the initiative and which is the resultant. Indeed, whether any highly evolved organ or organism be but the heir of all the ages and survivor of the fittest as the result of mere natural selection, or, on the other hand, expresses the formulation of some increasing purpose, must be decided in accord with our particular metaphysical conceptions, but of the reality of the evolutionary process, alike in organ and in organism, there seems no room for doubt.

Development.

While dealing with these general considerations it is interesting to reflect that the lens, as its alternative name reminds us, betrays an affinity with the bodies classed as crystals. Its formation and upbuilding, with geometric precision, around tri-radial or multi-radial polar axes is reminiscent of the deposition of a crystal from solution, and although it is true the analogy must not be pressed too far, it is interesting and instructive to recall this striking link in the chemico-biological chain.

In following out the life-history of the lens it is well ever to bear in mind its derivation from the ectoderm, and to remember that it continues to own allegiance to cuticular tendencies even when it has entered upon an independent career in a new situation. It is also necessary to bear in mind that at an early period of fetal life this lens vesicle or follicle, when no longer pedunculated to the ectoderm, gets surrounded with a vascular envelope of mesoblastic derivation. This vascular invagination takes place through a cleft in the secondary optic cup at its lower and inner portion, and default in later closure of this cleft we know as coloboma of the iris or of the choroid, or of both. On the other hand, the plication of this vascular sheath gives rise to the pecten of birds and the falciform fold in the eyes of fishes.

A yet more proximate influence upon the early nutrition and development of the lens is effected by a most interesting and usually evanescent structure, also of mesoblastic origin, namely, the capsulo-pupillary membrane. In 1887, in the *Moorfields Hospital Reports*, I published a case, with a picture, of the persistence of a portion of this membrane, and in the following year, in another paper on the capsulo-pupillary membrane, I showed how the failure to clear away some or other of the parts of this fetal scaffolding may give rise to certain vestigial anomalies and defects, and certain non-pathological cataracts (as I have called them), the occurrence of which needs to be borne in mind in diagnosing the nature and causation of some of the anomalies encountered in or around the lens.

It is important to remember that the iris is a relatively late outgrowth from the choroid, and that in early fetal life the vascular envelope of the lens plays a very important part not only in nourishing the crystalline, but also in upbuilding the structures surrounding it.

Posteriorly this sheath extends into and indents the optic nerve, whose central artery is continued into it and through it to the posterior pole of the lens. Equatorially the lens capsule (if not itself derived from this sheath) is reefed into place by cordage connecting it with the ciliary processes, while anteriorly this sheath occupies the place which is destined to become the aqueous chamber.

As the iris develops and advances centripetally it comes into contact with this capsulo-pupillary sheath. Anastomosis appears to take place between their vessels along a circle which is later known as the corona iridis about a quarter or one-fifth of the distance from the sphincteric to the ciliary margin in the adult, but which was at the fetal period in question the edge of the advancing iris. At the seventh month of intrauterine life all trace of this capsulo-pupillary sheath should in the normal process fade away, while the iris continues to concentrate yet nearer to the axis of the eye.

As I showed in my paper of 1888, it is easy to see how, by the failure in one or other of these successive steps, by which the final condition which we recognize as normal is arrived at, different vestigial anomalies may result. Proceeding from behind forwards we may have:

1. Persistent hyaloid artery or patent canal of Stilling.
2. Some opacities occasionally seen in the hyaloid fossa, due to retention or failure to clarify, of some portion of the posterior part of the capsulo-pupillary tunic.
3. Some instances of circumscribed opaque plaques on the anterior surface of the lens, either with or without connecting threads with the iris; also some cases of capsular cataract and of otherwise inexplicable anterior polar cataract.
4. Many varieties, which I figured, of persistent pupillary membrane.

Chemico-Physical Properties of the Lens.

Chemically the lens is a bag of watery albumin, consisting of globulin, some alkali-albumin, and serum-albumin, and possibly some other albuminoid bodies. Its globulin appears to differ from other globulins, and to resemble vitellin in not being precipitated from dilute brine by saturation. There

are also traces of salts and of cholesterin and lecithin in the normal lens. In a paper read before the British Medical Association at Leeds in 1889 I set out the results of some analyses I had made of the healthy and the cataractous human lens. I found that the clear lens contained about 70 per cent. of water (69 to 73) and 30 per cent. of solids, and of these solids 2 per cent. remained as ash after incineration. I discovered that the percentage of water in healthy lenses was much the same in a child of 10, in an adult, and in a person over 60 years of age. These results differ somewhat from those of other observers. True, the number of fresh clear human lenses at any time available for such analysis is not large, but I may mention that they were all removed from recently-excised eyes, not from *post-mortem* cases, mostly from cases of injury or of growth not affecting the lens, and were generally on the water-bath in my laboratory within an hour of removal from the living body.*

Physically the crystalline is in man a biconvex lens, with an anterior curvature of 10 mm. radius and a posterior of 6 mm. during repose. Its specific gravity is about 1130 compared to water 1000, and as the ratio of water to solids remains constant in the clear lens throughout life, so does the specific gravity. The bearing of these facts on the alleged increase of density with age usually vouchsafed as the cause of presbyopia I shall discuss later on. The mean refractive index of the lens has been variously given as from 1.38 to 1.45, and some observers have found a slightly greater refractive index in the nuclear than in the cortical layers. It has also the property of double refraction.

The lens substance is, during life, almost perfectly diaphanous, but owing to its sectorial construction the image formed by it is not absolutely stigmatic. That form of astigmatism known as irregular, which gives the "stellate" appearance to the stars, is attributable to the arrangement of the lens fibres. Some spherical aberration is also attributable to the crystalline regarded as a lens, and some entoptic phenomena are referable to the curious disposition of its fibres betwixt tri-radial axes; this disposition may even be seen objectively in some clear lenses under certain modes of illumination, and in disease it is often disclosed very conspicuously.

The lens is truly described as very elastic in the sense of readily tending to resume its original form and volume after the withdrawal of any force that has modified its form or volume. I should not be disposed to allow that the same elasticity is true of its capsule, though this is alleged by most authors. From a study of it in dissection and in operations in health and in disease, I should be more disposed to say with Bowman, it is "a hard and dense structure, and determines the exact outline of the lens." On laceration it gapes and sometimes curls in a fashion suggesting that it is held taut by the reefing-lines that bind it to the ciliary processes. The capsule is composed of albuminoid substance, and not of elastic tissue, and betrays no trace of cellular structure.

Histologically the crystalline presents the most perfect exhibition of continuity alike in time and space betwixt cells and fibres. Thus the flattened epithelial cells beneath the anterior capsule, the lineal descendants of the cells which form the anterior wall of the primitive lens follicle, are seen towards the equator (where growth of the lens by superposition is most marked) to elongate with exquisite gradation into nucleated fibres. These attenuated fibres may be shown to be $\frac{1}{2000}$ in. broad, and hexagonal on section, while in some fishes their edges are markedly dentated.

The Life-History of the Lens.

I now proceed to what I conceive to be the most interesting and the most important considerations, both physiologically and pathologically, in the life-history of the crystalline lens.

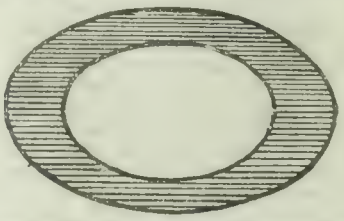
From what we have already said as to its origin from isolated epiblast, its growth by equatorial accretion of cell-born fibres, with its oldest elements enwrapped in the deeper nuclear layers, we should, *a priori*, expect the lens to grow continuously from infancy to age. Its epiblastic homologues —for example, epidermis and hair and nails—while in some respects similarly regenerated, are liable to accidents of surface, such as attrition and adventitious destruction, from which the lens, securely encapsuled yet nurtured by circumambient fluid, is practically immune. Alone of all the tissues of the body it seems to live an enchanted existence endowed with endless growth. It is in this very peculiarity there lie hid the sources of disease and default.

From my own observations and those of others I find that the human lens at birth, which approximates to the spherical form of the crystalline in fish, weighs about 120 mg., at 10 years of age about 160 mg., at 25 about 190 mg., at 45 about 220 mg., at 65 about 250 mg., and at 80 about 260 mg.

Becker found the volume of the lens at 20 to be 155 c.mm. at 50, 195 c.mm.; and at 60, 217 c.mm. Priestley Smith, from a large number of examinations of lenses taken from the body after death, found the volume of the lens increased with great regularity from 163 c.mm. in the third decade to 225 c.mm. in the seventh decade.

The antero-posterior diameter of the lens at birth is 4 mm., it is 5 mm. at 20, and 6 mm. at 60. The transverse diameter, on the other hand, is about 5 mm. at birth, 8 mm. at 20, 9 mm. at 50, and 10 mm. in advanced life.

Remember that the specific gravity remains nearly constant throughout life, and therefore increase of weight means increase of bulk, and this increase of bulk is largely due to equatorial expansion converting a spheroidal lens at birth into an ellipsoid in the adult by progressively filling up the intracapsular circumlental space. I have endeavoured in the accompanying diagram to indicate roughly the change in form which accompanies the growth of the lens. The shaded portion represents post-natal addition.



Rough diagram to illustrate growth of lens from infancy to age.

The prevalent teaching, then, that the healthy lens becomes more solid as age advances, if this is to be held to mean that the older lens contains more solids in proportion and less water than the young, or that the lens becomes denser in the sense that its specific gravity is increased, is a doctrine not founded on fact, and must be discarded as fallacious; and, in so far as such explanation is vouchsafed as accounting for the progressive loss of accommodation which accompanies advancing years, culminating in presbyopia, such pathology must be accordingly discounted.

The progressive increase in bulk of the lens from infancy to age needs to be enforced, and must be correlated with the progressive loss of accommodation which proceeds *pari passu*, and for which, in my opinion, it accounts.*

Becker, whose work on the crystalline is monumental, considered that the growth of the lens was arrested with the growth of the individual, at about 25. Bader, who recorded the fact that a lens at 70 is nearly as heavy again as a lens of 20, attributed this to an assumed increase of density. Norris, in 1889, though referring to Priestley Smith's and my researches, yet states that after adult life the lens grows but slowly.

Donders taught that there was an increase of solidity in the lens with age, and thus explained presbyopia and hypermetropia acquisita. *Quain's Anatomy*, in 1904, alleges an increase of specific gravity in age. Lawson speaks of a loss of fluid in advancing years. Schwalbe, in Landolt and Wecker's *Traité Complet*, presuming on some unsatisfactory analyses of Deutschmann, alleges a cornification of, and loss of water by, the lens with advancing years. But, as I pointed out in a lecture on the Pathology of Cataract[1] at St. Bartholomew's Hospital in 1896,

* Water and solids in lens (W. J. C.):

Age.	Weight in Grams.	Water.	Solids.	Water per Cent.
10 ...	163 ...	114 ...	50 ...	69
27 ...	191 ...	138 ...	53 ...	72
...	...	...	66 ...	...
74	248	... 177	71 ...	71

In cataracts:
Water 62 per cent.
Solids 38 per cent.

* This correlation between increasing bulk of lens and loss of accommodation power was exhibited in the form of a diagram based upon the following figures:

Age.	Weight of Lens in Milligrams.	Amount of Accommodation in Dioptrics.
10 ...	160 ...	14.0
25 ...	190 ...	8.5
45 ...	220 ...	4.0
65 ...	250 ...	0.5
80 ...	260 ...	0

the fictitious sclerosis of the lens fibres, which has been alleged, in so far as that term suggests dehydration, is in no sense corollary to its derivation from cuticular epiblast or its homologous relationship with the epidermis. Because the latter exposed to air and pressure tends to cornification and dehydration from its surface, that, I submit, is no reason why the lens, excluded from air—nay, bathed with fluid—should exhibit a similar change at its nucleus, which is required to make this fallacious analogy complete. The growth and nutrition of the lens are without parallel in any other tissue of the body.

Presbyopia.

Neither is the other explanation generally called in to explain the progressive loss of accommodation any more equal to the task—I mean the alleged enfeeblement of the ciliary muscle. This muscle, though unstriated yet voluntary, is scarcely likely to be so different from all other voluntary muscles that it should become the victim of a progressive palsy at the very time when the other muscles are increasing in power and development. Moreover, microscopic examination of ciliary muscles at different ages lends no support to this view.

Accepting the statement that the ciliary muscle in contracting constricts the zonule, and thereby acts as a *laxator capsulae lentis*, the extent to which the elastic lens will change its form so as to increase the curvature and refractive power (chiefly of its anterior surface) must be materially affected by its increased bulk and equatorial growth as age advances. The elasticity of the capsule is not great and is certainly not unlimited; even after removal of a lens the remaining capsule is tightly stretched by the cordage of the zonule.

As the lens grows into its capsule equatorially, every year witnesses some encroachment upon the intracapsular circumlental space, and as this potential cavity becomes occupied by the augmented lens in a passive state of refraction less space and opportunity are afforded for that occasional active expansion which effects accommodation. This, I submit, affords an explanation of that remarkable correlation which I have pointed out between the progressive growth of the lens through life, and the progressive loss of accommodative power from youth to age.

I have thus been led by my investigations to propound an entirely new theory of the causation of presbyopia, which I venture to leave to your critical consideration.

Moreover, the gradual repletion of the circumlental space by the equatorial extension of the lens in later life occasions a predisposition to blockade of the filtration angle of the anterior chamber, and thus facilitates the precipitation of an attack of glaucoma. Such a sequence of events is rather more likely to come about in eyes in which the perilental space is small to start with, as is said to be the case in hypermetropia.

Senile Cataract.

The prevalent but erroneous teaching of the cornification and solidification of the crystalline lens as a natural senile change is responsible for the equally prevalent doctrine that the changes in the lens which we speak of as senile cataract are, in fact, merely exaggerated and intensified or accelerated senile changes. My investigations lead me to believe they are nothing of the kind, and, indeed, in some respects, the changes exhibited in cataractous lenses are the reverse of the changes which age alone brings. Thus cataractous lenses, unlike old lenses, are usually less in bulk and lighter in weight than clear lenses of corresponding ages are. In my experience it is rare to find a cataract weighing as much as 200 mg., a weight which is usually surpassed by the healthy lens at 40 years of age. If cataract were but premature senility of the lens we should expect to find cataracts weighing heavier, not lighter, than healthy lenses—114 to 136 mg. is the range of weight of a series of cataracts which I have weighed from persons of 46 to 87 years of age.

Again, I have found that while age alone gives no increase in the percentage of solids contained in the lens, in cataract the percentage of solids is increased from 30 to 38 per cent., and there is some increase in the ash.

Besides loss of weight and loss of water observed in cataractous lenses there are certain chemical bodies found in relative excess whose presence and amount favour the view that they have been occasioned by transformation of the albuminoid bodies contained in the normal lens, a transformation presumably due to some failure of nutrition. There is more cholesterin and lecithin, sometimes a little fat, and more salts. Dextrose has been found in some diabetic cases. Microscopically, in senile cataract we find marked fibrillation of the lens, with dissociation of the fibres; also granular or fatty degeneration and vacuolation of the fibres. Calcification, and even ossification, of the lens have been described, though the latter lacks confirmation. Fluid degeneration is sometimes encountered, and is often spoken of as Morgagnian cataract.

Traumatic cataract arising from penetrating injury is due to swelling and solution of the lens substance under the influence of the aqueous humour, a process which affords the basis of our procedure in the operative treatment of soft cataracts. The absorption and solution may be complete, or evacuation of the swollen lens débris may be necessitated through a corneal incision. In such cases, and also sometimes after extraction of senile cataracts, there may be a regeneration of cells from any epithelial residue which may be left clinging to the capsule.

Lenticular degenerative changes may appear in the cortex or in the nucleus, or in both, or in the zone between the two, or they may be dotted throughout the lens substance. Then, again, there may be opacities upon, or beneath, or in the substance of the anterior capsule. At either pole and upon the anterior capsule are the favourite seats of what I have termed non-pathological cataracts.

Reverting to the question of non-pothological cataracts, I would refer you to a paper[2] in which I drew attention to the fact that most English textbooks then accepted the usual explanation of anterior polar or capsular cataracts by way of corneal perforation and its consequences to an extent which would seem almost to exclude an embryological explanation of any opacities in that region. Those who are in the habit of minutely observing the conditions of the media of the eye in large clinics, however, cannot fail to come across, and not very infrequently, opacities in or about the crystalline which do not own a pathological origin. Negative history as regards antecedent inflammation and collateral evidence arising from the normal appearance of surrounding structures compel inquiry for some embryological explanation. Here, as elsewhere, the physiological may pass almost imperceptibly into the pathological, and some default in normal embryological processes may pave the way for morbid terminations.

De Wecker, in 1886, wrote, in reference to this question:

> Evidently, then, there is still an etiological point which escapes us, and congenital forms of anterior capsular cataract should not be exclusively attributed to a prolonged contact with a perforated cornea, and still less so since the anterior chamber is, as it were, virtual during intrauterine life.

Soelberg Wells, in 1873, had remarked that

> anterior capsular cataract may be congenital, but is more frequently found in early childhood in consequence of a perforating ulcer. If it is congenital and there are no traces of iritis or of an ulcer of the cornea, it is probably due to some intrauterine arrest of development.

Ammon of Dresden, in 1858, had also called attention to peculiarities at the posterior pole of a congenital nature. He spoke of

> an indentation of the posterior capsule, which at times is octagonal, at others quadrangular. Later this disappears, probably through distension of the lens capsule by the growth of the posterior pole of the lens.

He adds:

> I do not quite understand the meaning and cause of this peculiar appearance, but it seems likely that it may have some influence on the development of quadrangular congenital posterior cataract.

I have repeatedly pleaded for a more liberal recognition of embryological and non-pathological explanations of many of the opacities found in or around the lens and its capsule, alike at the anterior and posterior poles, and also on the surface of the anterior capsule, either with or without capsulo-iritic attachments. Such recognition of the true nature of these peculiarities has an important bearing on the prognosis of the course that the lesion is likely to pursue, will serve to prevent unfortunate confusion with the products or the processes of disease, and will obviate errors in treatment based on such erroneous etiology.

Black Cataract.

A certain amount of pigment is noticeable in most hard cataracts, varying from a pale amber to dark brown and even black, but black cataract is a *rara avis in terris, nigroque simillima cygno*. Its pathology appears to have been somewhat obscurely treated by most English authors. I find no reference to such variety in Nettleship's *Diseases of the Eye*, a passing allusion merely in Juler's handbook, while Berry observes "often the lens is very darkly coloured, when the cataract is said to be black." If this statement means that black cataracts are often met with, it is at variance with the experience of most oculists. Thus Galezowski says: "Quant à ce qui me concerne, j'en ai rencontré jusqu'à présent 9 cas."

The *Transactions of the Ophthalmological Society* contain reports of two cases—one by Mr. MacHardy in 1882, and one by Mr. Power in 1885. The latter, in commenting on his case, remarked on "the rarity of this variety of cataract in England. This was the first example he himself had met with."

Mackenzie, in his comprehensive treatise (1854) has an apposite observation on the difficulty of diagnosis of such cataracts. He says (p. 751):

I have seen a few cases of lenticular cataract in which the opacity was so very dark that, without close examination, the disease might have passed without detection. On concentrating the light on the pupil the opacity appeared striated; such cases have been called black cataracts. I have not seen the lens after it has been extracted in any of these cases.

Accounts of black cataracts recorded prior to the introduction of the ophthalmoscope must be received with reservation, as there is ground for believing that cases of glaucoma, or "amaurosis," or haemorrhage into the vitreous were sometimes so called. Dupuytren had never seen it, and did not believe in its existence; and Delpech, in his great *Dictionnaire* in 1813, doubted the assertion of the ancients that such a form of cataract existed. Janin of Lyons, in 1772, records the successful extraction of black cataract, the first he had met with in 500 operations. He noted that after extraction the capsule became opaque and olive-tinted. J. Scott removed one in 1843 which he says was as black as pitch. Graefe, the elder, diagnosed black cataract in the case of the Duke of Cumberland after other surgeons had diagnosed amaurosis. J. Z. Lawrence had a case, the first in 2,100 patients. Nunneley met with one case in 1,200 extractions. A few other scattered references occur, mostly in foreign authors, the earliest I have come across being that of Rolfink, of Jena, in his *Dissertatio de Cataracta* in 1664.

Four cases have come under my own observation, in two of which I performed extraction. The first was in a swarthy woman with raven black hair. Her vision was reduced to counting fingers, but the pupils looked quite black; though the fundus could not be illuminated, it was only by minute examination with oblique illumination that I could convince myself, by observing fine striae and nacreous lustre, that the defective vision was due to lenticular opacity. I extracted the more mature lens. The operation was uncomplicated, but some weeks afterwards there was a little iritis, though when this cleared up she could read small Jaeger type with a plus 15 D. During the iritis I noticed a very interesting appearance; there were some deposits on the back of the cornea, as in serous iritis; with a strong lens I observed that many of these dots were deeply pigmented.

What is the pathology of black cataract? What is the nature of the pigment? It has been alleged that it is due to "infiltration of haematin into the opaque lens." I do not think that explanation is correct; it certainly will not hold for all cases. I tried soaking extracted cataracts and clear lenses in fresh blood, but found they absorbed haemoglobin with difficulty. Moreover, spectroscopic examination in one of my cases failed to give any evidence of blood pigment. In a case recorded by Hulme, Dr. Harley found that, with HCl and KCNS under the microscope, a red colour was obtained, and that it was to be inferred that iron was present. Hulke examined the lens in Windsor's case, but confessed himself unable to determine the nature of the pigment.

Now I do not think any essential distinction can be drawn between the amber tint of an ordinary cataract when seen by transmitted light and the "black" cataract. Indeed, intermediate examples running through all the shades of a London fog could be found. Now the lens is of cuticular ancestry, and tissues are apt, under certain conditions, which we call pathological, to revert to ancestral habits. The pigment of the negro's skin resides in and is elaborated by the deepest layers of the cuticle. The lens, therefore, contains the progeny of cells whose homologues can produce pigment. *A priori* it would appear not improbable that the pigment is the same in each case. In the outer layer of the optic cup, also derived from epiblast, we have evidence of the pigment-forming capacities of cuticular cells when withdrawn from the surface. Indeed, is not the abundant presence of a form of keratin in the brain a curious chemical testimony to its epiblastic derivation? When these reflections are supported by the fact of the spectroscopic and chemical analyses of the lens pigment differing markedly from those of pigment directly derived from blood, the conclusion may appear to be strengthened that the colour of brown and black cataracts is analogous to that in the rete mucosum, the so-called melanin. Of course, it must not be forgotten that the lens may, in rare cases, be stained by pigment proximately derived from adjacent blood effusion, or that a melanotic sarcoma of the ciliary body may even invade the lens, not to speak of the common attachment of uveal pigment to the anterior capsule consecutive on iritis. That the pigment in question is not any proximate derivative of haemoglobin, but that it is the product of cell activity, like the pigment of hair or of the skin, is, I think, tolerably clear.

The Maturation of Cataracts.

"Never prophesy unless you know" is advice especially applicable to any speculation as to the rate at which cataracts will mature. Experience may, however, help approximations to accuracy, especially by the careful observation of collateral signs and symptoms. Thus cataracts associated with myopia are prone to slow ripening. Here is a note of an interesting case in illustration:

When I was clinical assistant to Mr. George Lawson, at Moorfields, I saw a man, aged 85, who, contrary to the habit of out-patients, had preserved and brought with him an old out-patient letter bearing Sir William Bowman's name, and the date July 24th, 1862. The note of that date was: "Left eye, cataract nearly mature, fingers within six inches; right eye, words of No. 2, myopic." On September 21st, 1886, under atropine, I noted that the cataracts were partial; in the left there was a very dense white nucleus and cortical striae, occupying all except the uppermost part; likewise in the right the upper part is alone clear. Through these gaps the fundus of each eye could be seen, and, indeed, large posterior staphylomata. Here, then, was a case in which twenty-four years had witnessed scarcely any ripening.

Cataracts beginning at the posterior pole, or by striae, with anterior concavity stretching thence to the equator, are often slow in maturing. There may be some fallacy in this statement, by reason of our estimation of maturity by the amount of clear cortex, through which the iris shadow is cast on the deeper opacity. But allowing for such mere verbal fallacy, I believe that the opacification spreads less quickly through a lens under such circumstances than when the first departure from pellucidity is nuclear or is anteriorly placed. As an illustration of what I mean, and of the rapid influence of iridectomy in accelerating maturation, I may cite the case of a gentleman who was the secretary of a well-known microscopical society:

He was 51 in 1886, when he consulted me about his eyes; his sight had then been failing for twelve years. His vision was reduced in the left eye to $\frac{6}{36}$, and with the right eye he could count fingers at 3 ft.; he was unable to use his microscope, which was to him a great deprivation. His lenses exhibited posterior opacities at the pole, and concave striae proceeding arcwise therefrom; there was apparently some axial myopia. The cataracts were in a condition then accounted too unripe for extraction, but ripe enough to excommunicate their unfortunate possessor from most of the pleasures of his life. On October 8th, 1886, I did a preliminary iridectomy on the right eye, and on January 7th, 1887, the cataract to all appearances being perfectly ripe, I extracted it, with a resulting vision of J. 1, and $\frac{6}{9}$, with glasses. I had occasion to see the patient again some eight years afterwards, and found the other eye practically *in statu quo*, red reflex could still be obtained, and the anterior hemisphere of the lens was for the most part pellucid. He had resumed his favourite investigations of diatoms with the microscope with the operated eye, and was so well satisfied with it that he would not yield to my suggestion to deal similarly with the other.

This case enforces the slow maturation of cataracts of this class, and their rapid ripening by iridectomy, and indicates the mode of escape from the intolerable dilemma, wherein the lenses are opaque enough to frustrate useful vision, and clear enough to preclude extraction with a clear conscience. An iridectomy performed with this object should be a large one, and the iris should be removed well up to its ciliary border. I have seen disappointing results attend iridectomies done with a view to maturation where these points have not been attended to.

Methods of trituration of immature cataracts with the object of ripening them are not, in my opinion, very advisable. Such methods should certainly be confined to extra-ocular manipulations. I am led to doubt the value of such procedure the more because I have found that the dangers apprehended in the attempted extraction of lenses not largely opaque have been unduly magnified. This opinion is by no means a new one, for I find that Samuel Johnson, writing on October 18th, 1760, to a Mr. Langton, said:

Mr. Sharpe is of opinion that the tedious maturation of the cataract is a vulgar error, and that it may be removed as soon as it is formed. This notion deserves to be considered. I doubt whether it be universally true, but if it be true in some cases, and those cases can be distinguished, it may save a long and uncomfortable delay.

It is interesting to note both the prescience and the caution which mark the pathological opinions of the great lexicographer.

The Classification of Cataracts.

The ordinary classifications of cataract are hopelessly illogical, it is to be hoped that the practical man, who scorns logic, finds them proportionately "practical." They lack a common *basis divisionis*. Age, consistence, situation, cause, etc., are evoked as bases in the same classification, with a bewildering effect. No mere dichotomous division as into hard and soft, senile and juvenile, is satisfactory. Still less is there any special value in distinguishing between nuclear and cortical cataract, and the existence of laminar cataract makes such division non-exhaustive.

Etiology is doubtless the best basis for classification, but while the pathology remains in part obscure, no complete and satisfactory classification is possible. As an approximation to such an arrangement I would submit the following:

CATARACT.

Opacity of lens or capsule attributable to:

1. Developmental causes: (1) Congenital, remains of capsulo-pupillary envelope, dot cataracts, etc., etc.; (2) Infantile—for example, laminar.

2. Cachectic causes: for example, toxaemia: (1) From without—for example, ergot, naphthalin, etc.; (2) from within—for example, diabetes.

3. Secondary results of ocular disease—for example, some anterior polar cataracts: myopic cataracts; glaucomatous cataracts.

4. Vascular disease—for example, atheroma of carotids, aneurysm.

5. Nervous disease—for example, disease of fifth nerve or of the Gasserian ganglion.

6. Traumatism, direct, or indirect—for example, result of dislocation.

In reference to the toxaemic group, I would associate myself with those who think the influence of diabetes as a cause of cataract has been over-estimated. Von Graefe put 25 per cent. down to this cause. Probably less than 1 per cent. is nearer the truth, and the co-existence of the two conditions does not prove their causal relationship. Atheroma of the arteries is, I believe, a true cause; I remember de Wecker demonstrating the fact in his clinic when I was there some fifteen years ago. Ergotism as an alleged cause is interesting in view of its recognized vaso-constrictive action.

I must now bring these observations to a conclusion. I rejoice to have been permitted to take part in this reunion of earnest students of ophthalmology at the invitation of my old friend and colleague, Mr. Doyne, within the venerable precincts of the University of Oxford. This course of ophthalmology appears to me to have been conceived upon the best didactic methods. We are dealing with a speciality, it is true, but the base of that specialty we are endeavouring to lay on broad, rational and strictly scientific foundations. Dr. Billings, of New York, once wittily said:

> A specialist should be a good general practitioner and something more, but he is very often something else.

In the ophthalmic speciality there is happily no place for the empiric and the charlatan. Thanks to the completeness with which we are enabled to make our observations on and within the globe of the eye this microcosm has been made to reveal nearly all its secrets. The great discovery of Helmholtz cannot be again repeated; the joy of being the first to behold the living human retina was his alone. He was, indeed, "the first that ever burst into that silent sea." Yet the same principles of research which animated him may inspire us. What were those principles? He tells us in his autobiography:

> I ascribed my success in great measure to the circumstance that, possessing some geometrical capacity, and equipped with a knowledge of physics, I had by good fortune been thrown among medical men, where I found in physiology a virgin soil of great fertility, while on the other hand I was led by the consideration of the vital processes to questions and points of view which are usually foreign to pure mathematicians and physicists.

There is the secret if secret it be. It argues for the unity of knowledge, for the cross-fertilization of the sciences, for keeping the base of all our specialties broad, for the application of the methods of one department of knowledge to the investigation of others, and it behoves us to see to it that all our studies are governed and directed by a whole-hearted devotion to philosophic truth.

REFERENCE.

[1] *Medical Press and Circular*, July 8th, 1896. [2] *Lancet*, July 16th, 1904.

Bequests to Medical Charities.—The late Mrs. Emma Poncia, of Edgbaston, whose will has now been proved, bequeathed £10,000 each to the Birmingham General Hospital and the Queen's Hospital in the same city.

A Report
on
HUMAN AND BOVINE TUBERCULOSIS.

Read in German at the Paris Congress on Tuberculosis, 1905.

By Professor Dr. H. KOSSEL,
Giessen.

Ever since Villemin by his classical researches definitely proved that tuberculosis is an infectious disease, the relations between human and animal tuberculosis have been the object of investigation. Though general opinion favoured a belief in a close connexion between the two, doubts were occasionally raised. The solution of the problem by experiment was often tried, but no definite success was obtained. The difficulty of protecting the experimental animals from unintended infection by tuberculosis frustrated the majority of the attempts. Only when the discovery of the tubercle bacillus by Koch had shown what the infectious agent in tuberculosis was and where it was to be found, did thorough comparative studies become possible.

For the moment, however, the question seemed to be answered in the sense of a uniform germ common to the tuberculosis, at any rate, of the mammals. The micro-organisms cultivated from human tuberculosis resembled so closely those cultivated from "*Perlsucht*" in bovine animals, that no doubt of their identity seemed at that time possible.

It was not before 1896 and 1898 that Theobald Smith raised serious objections to the identity, based on comparative studies of tubercle bacilli from human, bovine, and porcine sources. He called attention to morphological differences apparent in cultures on artificial media as well as to differences in virulence for small animals. Later on Koch—by experiments carried out in common with Schütz on cattle, swine, and sheep—convinced himself that the bacilli of human tuberculosis differed from those of pearl disease. The practical conclusions which he drew changed the question into one of universal interest, for now it had become doubtful whether meat and milk derived from tuberculous animals—which, so far, had been universally considered as an important source of tuberculosis—were really dangerous to human beings. Medical and veterinary experts in all countries devoted themselves to the study of this question. Up to the present day such numbers of papers have been published on it that it seems impossible to deal with them thoroughly in a communication like the present, and this is my reason for refraining from giving a minute review of the literature, and for confining myself chiefly to detailing results which I have obtained during several years at the Kaiserliche Gesundheitsamt at Berlin in collaboration with Weber and Heuss.

Koch's Views.

Koch's new teaching may be thus summed up:—The tuberculosis of man and the pearl disease of cattle owe their wide distribution not to the same germ. By injection of cultures of tubercle bacilli under the skin of cattle it is possible to determine whether one has to deal with a germ from a human or from a bovine source. The tubercle bacillus derived from man cannot produce tuberculosis in cattle. Whether the bovine bacillus produces tuberculosis in a human being has not yet been definitely proved, but even if infection of humans by the bovine germ is possible, it is certainly of rare occurrence. To take measures against this remote possibility is therefore not advisable—or, to use Koch's own words in the German original, "*nicht für geboten.*" Koch's words apparently leave nothing to be desired in lucidity of expression, but nevertheless there are some who have not seen that there are really two questions involved:

1. Is *Perlsucht* in cattle spread by the same germ as tuberculosis in man?

2. Is man susceptible to the germ which causes pearl disease in cattle?

Let us begin with the former question:

1. *Is Perlsucht in Cattle spread by the same Germ as Tuberculosis in Man?*

If one follows Koch in cultivating the tubercle bacilli from tuberculous organs of cattle, cultures are obtained showing specific properties. The bacilli are mostly short, rather plump, and give the characteristic staining reactions of tubercle bacilli. They may be cultivated on artificial media, especially on beef serum with or without addition of glycerine

They grow on fluid media also. In glycerinized broth (2½ per cent.) they grow in the shape of a very tender, often hardly visible, pellicule. Sometimes this pellicule is more strongly developed, in which case, however, it does not increase uniformly in thickness, but shows wartlike excrescences. The bacilli change the reaction of the acid broth, as Smith showed, by giving to it a permanently neutral or feebly alkaline reaction.

They are highly pathogenic for mammals. Even small doses injected into guinea-pigs, rabbits, monkeys, sheep, goats, swine, cattle, cause progressive tuberculosis, leading to death in a comparatively short time. Especially for cattle their pathogenic power is high. After intravenous injection of minute doses the animals succumb to acute lung disease. A subcutaneous injection of 5 cg. of bovine bacilli in the neck of cattle causes tuberculosis at the place of injection, the disease at once spreading to the nearest glands. But the germs do not stop there; they spread all over the body of the animal and cause disseminated tuberculosis. The animals often succumb within six or eight weeks, but even in cases not so rapid the disease proceeds uninterruptedly.

When calves are fed on cultures of the bovine bacillus, severe tuberculosis of the alimentary canal and the glands connected with it ensues, and later on the lung and the serous membranes are affected.

If calves are made to inhale tubercle bacilli, even in small doses, caseous pneumonia ensues, to which the animals succumb rapidly. Should they recover from the acute inflammatory stage, a somewhat chronic disease develops, with pronounced tuberculosis of the serous membranes—a true picture of pearl disease. The changes in the latter respect are similar when the animals have been fed with bacilli.

There is no difference between cultures from organs of animals with extensive tuberculosis or merely with slight lesions, or even with a single tuberculous gland, the cultivated germs always showing a marked virulence for cattle.

Tubercle bacilli endowed with these properties are found in other tuberculous domestic animals, such as swine, sheep, and goats.

If the same methods are employed for investigating the products of disease in consumptive persons, tubercle bacilli are met with which differ somewhat from those described above. To begin with, the morphological features in the cultures are generally different; more slender and longer forms are prevalent, and many are curved. They grow more luxuriantly on artificial media, and thrive especially on glycerinized broth. Broth inoculated with freshly-isolated bovine bacilli generally covers itself with a thin pellicule only, but after inoculation with tubercle bacilli from consumptive persons a film is formed, which grows quickly and soon covers the broth with a thick, wrinkled skin. On broth containing 3 to 5 per cent. of glycerine and a certain degree of acidity, the bacilli, according to Smith, produce considerable and steadily-increasing quantities of acid.

The action of human bacilli on various animals is different from that of bovine bacilli. In animals as susceptible to tuberculosis as guinea-pigs the difference is not sufficiently well marked; it is more so in rabbits. The latter withstand injection of doses which in the case of bovine bacilli would have caused fatal tuberculosis. Vagedes, Dorset, Beck, and Heymans obtained the same results, and even Villemin, in his original experiments, as well as later on Orth and von Baumgarten observed a difference in the susceptibility of rabbits to tuberculous matter derived from cattle and man respectively. They are, however, by no means immune against human bacilli; for while an injection of the latter into the blood-stream will cause tuberculosis and is a severe infection, rabbits will frequently recover from it, whereas they succumb quickly and without exception to the same dose of bovine bacilli.

The difference between bacilli of the typus humanus and those of the typus bovinus, as they have been called, is more obvious in cattle than in rabbits. For instance, in contrast to what has been just stated, a subcutaneous injection of 5 cg. of bacilli belonging to the typus humanus causes in cattle only a local reaction at the seat of infection and in the neighbouring glands, and, moreover, this reaction decreases, and even after protracted observation no spreading of the disease to the internal organs is noticeable.

As the local reaction may, however, be violent at first, the bacilli should not be introduced into parts of the organism like the lungs, where such a reaction might by itself endanger the animal's life.

The difference between the two types is specially apparent when the animal is made to swallow or inhale the bacilli. Then even three months' feeding of cultures of the human type has only caused accumulation of the bacilli in the mesenteric glands without other changes than calcification having been produced, certainly without dissemination into other parts of the body, as in experiments with the bovine type. We found them entirely without effect when cattle were fed on tuberculous sputum; but this mode of experimenting seems undesirable on account of the numerous non-specific bacilli present in sputum.

When cattle were made to inhale bacilli of the human type no changes were found after inhalation of doses that in the case of bovine bacilli would most certainly have produced progressive tuberculosis. But here also there is a limit that must not be exceeded, otherwise acute inflammatory changes of the lungs ensue which are not characteristic of tubercle bacilli, and may be caused by inhalation of saprophytic bacilli such as the *Bacillus phlei*.

The difference in virulence between the two types can also be observed in goats and swine. The latter seem, however, to be susceptible to a certain degree to the bacilli of the human type, as proved by experiments in feeding; but even here the bacillus of the bovine type is the more virulent. A third tubercle bacillus entirely differing from the two types described above is found in tuberculous fowls. This so-called avian tubercle bacillus is recognized as different even by some of those who do not agree with the separation into two types of the mammalian tubercle bacilli.

The tuberculosis of our domestic fowl seems to be exclusively caused by infection with these avian bacilli. But there are other birds which are also susceptible to tubercle bacilli of the human type, as has been observed in parrots by Strauss, Weber, and Heuss, and L. Rabinovitsch. A parrot can therefore be infected by a consumptive person and itself contribute to the spread of human tuberculosis.

The view maintained—especially by Lignières amongst others—that the tubercle bacilli of mammals can be separated into two types, has met with opposition. Some say that the differences described above are not constant enough to justify a separation into two types; that, for example, on microscopic examination certain morphological differences are not always observable.

As to this, attention may be called to the fact that for comparisons only comparable material must be used. If in one case the microscopic preparations are made from young cultures, in another from old ones, if first one then another nutritive medium is used, it is impossible to arrive at a correct conclusion. Cultures on serum can be compared only with serum cultures of the same age; cultures on broth only with others on the same broth. All other conditions should correspond accurately; for example, the temperature of the incubator and the method and duration of the staining process.

Finally, here as well as in other comparative researches, fresh strains must be used which have been recently isolated from the animal body. If all these points are carefully observed then certain differences between the two types are unmistakable. On serum the tubercle bacilli of the typus bovinus are mostly considerably shorter and more plump than those of the typus humanus. When cultivated on broth the tubercle bacilli of the typus bovinus are distinguishable by an irregular absorption of the colouring matter used and their variable shape. Again, different is the appearance of the tubercle bacilli of fowls.

All the same, I would not advise, especially in the case of inexperienced observers, that opinions about the origin of the bacilli should be based on their morphology alone. Only the consideration of all the distinguishing signs can give adequate assurance in separating the types. Not only the shape, but also all the conditions of growth, as indicated above, on nutrient media, especially on broth with 2½ per cent. of glycerine, and the pathogenic power for rabbits and cattle must be taken into consideration. Another distinguishing mark has been described by Arpad; his cultures of human tuberculosis show a reddish-yellow tint, which is not the case with bovine cultures. Beck found differences in virulence for rats, besides morphological and biological incongruities.

As to the pathogenic power one has, however, often heard the opinion that the differences between the typus humanus and the bovinus are not constant but rather differences of quantity than of quality. The tubercle bacilli from cases of tuberculosis in cattle were, for instance, not at all alike as to virulence for cattle after subcutaneous injection. It must, however, be remembered that the virulence of the various strains varies within certain limits in

bovine bacilli: as is the case with all bacteria. Nevertheless, I have never cultivated a strain from tuberculous cattle which did not possess the power of producing progressive tuberculosis in cattle after subcutaneous injection of 5 cg.

In many cases the cause of erroneous views may be found in faulty experiments. Thus, for example, varying results have been obtained by those who did not inoculate the animals with cultures, as Koch advised, but with pieces of tuberculous organs. Such experiments occasionally gave no result at all, or disagreed altogether in their results with other experiments. And no wonder—for the animals treated with pieces of diseased organs were inoculated in one case with numerous, in another with only a few, living tubercle bacilli, just according to the state of the diseased piece used and the number of specific germs contained in it. Since, however, the number of the bacilli inoculated is not by any means an unimportant matter, the infection of the animal succeeded in one case while it failed in another.

These discrepancies can be avoided by careful dosage, and this again is possible only when accurately measured quantities of broth cultures are used. Should even then an animal not fall ill with generalized tuberculosis after subcutaneous injection of 5 cg. of bovine bacilli, the experiment must be repeated in another animal, for sometimes cattle are met with which possess a higher degree of resistance against subcutaneously-injected tubercle bacilli than others do, a fact for which previous spontaneous infection or differences of breed may possibly account. The experiments should, therefore, be made on animals of nearly the same age and of the same breed. For the same reason also the experiments should be as far-reaching as possible, so that one may not be led to upset a rule for the sake of an apparent exception. In our experiments, for example, inoculations with 27 different strains of the typus bovinus yielded disseminated tuberculosis in 32 out of 33 cattle—that is, in 97 per cent., while the injections of 38 different strains of the typus humanus into 44 cattle produced local lesions only.

Now some observers, amongst others Arloing and De Jong, hold the view that it is possible to produce tuberculosis in cattle by cultures of the typus humanus. They base their opinion on observations made with injections of tubercle bacilli into the jugular vein of cattle, and it must be admitted that they succeeded in killing cattle or producing tubercles by injecting suspensions of human tubercle bacilli into the jugular vein. But these experiments were made with such enormous quantities of bacilli that they cannot be looked upon as deciding the question. The animals did certainly not contract progressive tuberculosis such as develops after intravenous injection of even minute doses of the typus bovinus. Finally, it is not remarkable if an animal succumbs when the capillaries of its lungs have been blocked by the bodies of bacteria containing such irritating substances as the tubercle bacilli, or that the germs should not disappear without leaving behind certain reactions in the tissues.

But such reactions, which can be observed even after injection of dead tubercle bacilli or of other acid-fast bacilli, are not to be confounded with progressive tuberculous lesions.

Likewise, one cannot be surprised if the injected bacilli of the typus humanus withstand the destructive and dissolving influences of the tissue fluids for a long time, even in non-susceptible animals. This peculiarity is accounted for by the special substances contained in the cells of the tubercle bacilli, and it appertains not only to them but also to other micro-organisms known as acid-fast bacilli. When taking note of all these circumstances, which must never be overlooked in experimenting with tubercle bacilli, one cannot avoid the conclusion that two types of mammalian tubercle bacilli exist, and that tuberculosis of cattle owes its distribution to the bacilli of the one type (typus bovinus) while human tuberculosis is spread chiefly, as we shall see later on, by another type, the typus humanus. Besides those investigators who deny *in toto* the differences between the two types there are some who acknowledge the existence of differences, but do not consider them essential, chiefly because it is assumed that the two types can be transformed into one another. This opinion is based on the experiments of von Behring and De Jong, according to whom passage through goats is able to change the bacillus of the typus humanus into the typus bovinus.

Experiments on transforming one species of bacteria into another have played an important part prior to the introduction of Koch's methods. Some bacteriologists seem to have forgotten how little the conversions, said to have been successful, were able to withstand the tests of strictly accurate methods. While the sources of error are considerable even in endeavouring to obtain the conversion on artificial culture media, the difficulties increase when the animal body is made use of. In this connexion may be mentioned the supposed conversion of the tubercle bacilli of warm-blooded animals in the bodies of poikilothermes. Quite recently the experiments of Weber and Taute have thrown light on this subject.

Bataillon, Dubard and Terre, Moeller, Lubarsch and Dieudonné, and Herzog respectively asserted that they had succeeded in changing the mammalian tubercle bacilli by introducing them into cold-blooded animals. After more or less prolonged sojourn in the organism of the latter the mammalian tubercle bacilli are said to have been changed to such an extent that their optimum of growth was attained at low temperatures, and that they lost all virulence for warm-blooded animals. But it is strange that the different observers did not succeed equally quickly. In some cases forty days sufficed for the change, but in subsequent experiments no success was obtained in transforming the tubercle bacilli, even after leaving them for nine and a half months continuously in the body of cold-blooded animals.

In consequence, Auché and Hobbs, Sion, Herr, Cornet and Meyer and Morey disputed this assumption. Weber and Taute, on the other hand, were able to prove that the tubercle bacilli of cold-blooded animals supposed to be derived from the mammalian bacilli were nothing else than the widely-prevalent saprophytes found, for instance, in soil, moss, and mud, which, however, only agree to a certain extent as regards the acid-fastness with the true tubercle bacilli, but otherwise have no connexion with them. They had been transferred from the organs of the cold-blooded animals, where they are found even in healthy subjects, to the nutritive media used by the experimenters, and thus had wrongly been looked upon as a transformation of the inoculated germs.

This example clearly shows how much care is needed in forming an opinion as to the experiments of transformation. The apparent change of the human into the bovine type is probably to be explained in a similar way. The assumption is justified that, in the experiments published up to now, not the inoculated bacilli have been recovered from the animals through which they have passed, but other micro-organisms which had found their way into the animals by uncontrolled and uncontrollable means. This applies both to von Behring's and to De Jong's experiment.

If one leaves a goat, as De Jong did, for three and a half years after inoculation with tubercle bacilli of the typus humanus before recovering cultures from it, it is within the range of possibility, especially in view of the wide distribution of tuberculosis among domestic animals, that tubercle bacilli of the typus bovinus would also find their way to the experimental animal and infect it. Moreover, the goat, according to De Jong, was used also for other experiments. Tuberculin preparations from different cultures of tubercle bacilli were repeatedly injected, and presumably among them tuberculin preparations of bovine bacilli.

I have no reason for doubting that the tubercle bacilli cultivated from the animal in question belonged to the typus bovinus, but, on the other hand, proof is wanting that they were derived from the tubercle bacilli of the typus humanus originally introduced into the goat.

In any case the first thing needful was that an animal used for so important an experiment should not be subjected to other tests also, which, irrespective of other sources of error, are capable of diminishing the resistance of the animal to secondary infection. The fact that the fatal disease did not begin until three years after the inoculation had taken place is suggestive of its secondary character.

In such experiments a negative result is more conclusive than a positive one. The experiments made by Weber, Heuss, and myself in passing bacilli of the typus humanus through goats had the result that the germs, even after five passages, retained the typus humanus and did not change. After repeated passages through cattle, also, a change into the other type did not once occur. With such a result of our experiments we could rest assured that we had really to deal with the offspring of the germs previously injected, although they had remained a long time in the organisms of the experimental animals—namely, in goats up to 202 days and in cattle up to 381 days. Our results, therefore, agree with those of Gratia, Moeller, and Lignières, who also did not succeed in changing the bacilli by passage through animals.

Arrangements for experiments in which sources of error cannot be avoided, as is the case in passage experiments, should not be made use of for decisions as to the question of identity, because they only lead to confusion. The same is applicable to the experiments of some investigators who endeavour to efface the differences as much as possible by subjecting the culture of the tubercle bacilli to all sorts of artificial influences. That bacteria can, for instance, ultimately be robbed of their virulence is sufficiently well known, but this does not prove anything in the present question. It is the misfortune of those devoted to these researches that tubercle bacilli mostly retain their peculiarities with great tenacity.

The theory that the tubercle bacilli of the typus bovinus change into the typus humanus after having been some length of time in the human body has not been proved either. On the contrary, the cases in which bacilli of the typus bovinus have been cultivated from the human body point to their retaining their peculiarities even when growing in the human organism.

From observations of Spronck and Hoefnagel it is evident that in the case of persons having contracted tuberculosis of the skin by infection with bacilli of the typus bovinus, the tubercle bacilli recovered in cultures several years after their entrance into the human skin presented the typus bovinus to a pronounced degree.

Furthermore, it must not be assumed that the bacilli of the typus bovinus should in such a susceptible organism as the human one change into another, less virulent, form; while this change does not take place in the case of cattle, sheep, swine, monkeys, and many smaller animals. In fact, it has been strongly asserted by different observers that the strains of the typus humanus cultivated from human organisms can in no respect be distinguished from the strains cultivated from tuberculous lesions of cattle.

Finally, it is raised as an objection to the separation of the mammalian tubercle bacilli into two types that it is possible to immunize cattle with the aid of tubercle bacilli of the typus humanus against the bacilli of the typus bovinus. This fact is adduced as proving that one is dealing with one and the same germ, on the ground that immunity against a bacterium can only be produced by an identical micro-organism. Especially von Behring and Lorenz have emphasized this fact as conclusive. On the other hand, it must be remembered that immunity in this direction is not equally specific in all species of bacteria. The fact that efficient tuberculin can be prepared from avian tubercle bacilli as well as from mammalian by itself suggests caution in applying to tuberculosis such experiences as have been gained with regard to immunity in other groups of bacteria. Furthermore, Beck observed that animals injected with acid-fast bacilli had become hypersensitive to tuberculin; and Koch stated that by injection of tubercle bacilli into animals a serum could be produced which possessed agglutinating power not only on tubercle bacilli, but also on saprophytic acid-fast bacilli.

Finally, opinions are not wanting that the treatment of experimental animals with saprophytic acid-fast bacilli—that is, by micro-organisms in no way identical with tubercle bacilli—has a protective influence against the infection by tubercle bacilli (Moeller, Friedmann). I do not deny that the tubercle bacilli of the typus humanus are nearly related to those of the typus bovinus, and that their origin may be traced to a common stock; but these are considerations for which sufficient foundation is wanting. To-day we are dealing with two types that do not play the same part in the distribution of tuberculosis in animals and man, and therefore must not be confounded. It is not essential whether these types are defined as different species, or races, or varieties, for in any case they are not identical.

And now we have arrived at the second question:

2. Is Man Susceptible to that Disease Germ which Causes Perlsucht in Cattle?

This question must be answered in the affirmative.

It has been shown by a number of investigators—among whom Ravenel, Smith, Fibiger and Jensen, Lignières, de Schweinitz, Dorset, and Schroeder may be mentioned, owing to the number of their experiments—that the micro-organisms found in certain forms of human tuberculosis act on cattle and otherwise behave just as does the bacillus of bovine tuberculosis. The result of the far-reaching experiments conducted under my direction in the Gesundheitsamt at Berlin has been to show that in human tuberculosis tubercle bacilli may exist that correspond in every respect in their morphological, biological, and pathogenetic qualities to bacilli of cattle tuberculosis—that is, such as belong to the typus bovinus.

Among 56 cases of human tuberculosis we found these germs 6 times—that is, in 10 per cent. of the cases. It would, however, be erroneous to conclude from these figures alone that 10 per cent. of all cases of human tuberculosis in Berlin were caused by infection with tubercle bacilli of the typus bovinus, and that for the following reason: We included in the number of our experiments chiefly cases in which we could assume that the tuberculosis owed its origin to an intestinal infection, and possibly, therefore, to food containing tubercle bacilli.

Tubercle bacilli of the typus bovinus appear chiefly in tuberculous lesions in children, and among our cases we found that, with one single exception, it was the mesenteric glands or intestinal ulcers that contained the bovine germs. When, on the other hand, the sputum of adults suffering from pulmonary phthisis—the most widespread form of tuberculosis—was examined, only bacilli of the typus humanus were found. That tubercle bacilli of the typus bovinus can, however, also enter the adult body was ascertained by our finding them, together with those of the typus humanus, in a case of extensive tuberculous ulcers of the intestines in a woman.

This latter observation also taught us that an infection by tubercle bacilli of the one type may be accompanied by an infection by those of the other. Ulcers of the intestine are probably highly favourable to the absorption of tubercle bacilli from food. Which of the two tubercle bacilli most frequently paves the way for the other only further experiments can show.

When surveying the experiments of other investigators, it is often difficult, or even not possible, to compare them with our own, as different methods have been employed. But still one may conclude with safety from the material to hand that over and above those already mentioned, amongst others Thomassen, Westenhoeffer, De Jong, Stuurmann, Dammann, Hamilton and Young, Eber, and the English Royal Commission on Tuberculosis, were working on cultures of the typus bovinus or other material which contained tubercle bacilli of this type. Also by the experiments of these investigators we are taught that just those cases of tuberculosis in which the digestive organs may be considered as the point of entry of the infection owe their origin to infection by bovine germs.

When bovine bacilli have been found in humans, the original material has mostly been derived from cases of tuberculosis of the intestines, of the mesenteric glands, of the glands of the neck, or of the peritoneum. Moreover, tuberculosis of the skin due to infection with tubercle bacillus of the typus bovinus has been observed as a disease to which persons are specially subject who, like butchers, come into frequent contact with meat or with excretions of cattle infected with pearl disease. Excepting these latter observations, the experiments made by different investigators in countries widely distant from each other point to tubercle bacilli of the typus bovinus as infective agents, particularly in such cases of human tuberculosis in which transmission of the germs by food cannot be excluded or is even highly probable.

Tubercle bacilli can, however, find their way into the digestive organs also by other means. Bacilli that have been inhaled may be deposited in the mouth and thence enter into the nearest glands, or they may be swallowed and absorbed by the intestinal mucous membrane. The same thing may happen when tubercle bacilli are introduced into the mouth by unclean hands, utensils, or toys. Furthermore, food may be polluted by bacilli which are derived from consumptive persons and have fallen into the food. Milking cows by hand, making butter and cheese, and the milk trade generally give opportunity for pollution even before the food has been delivered to the consumer. But especially in a household of which a consumptive person is a member, carelessness or want of cleanliness may expose the children to the danger of infection with tubercle bacilli when taking food.

The fact that a child suffers from primary tuberculosis of the intestines, therefore, does not prove that the disease is due to tubercle bacilli derived from an animal, for instance, from the udder of a tuberculous cow and transmitted into the food. For this reason in cases of primary tuberculosis of the intestines or mesenteric glands, tubercle bacilli of the typus humanus are at least as often found as those of the typus bovinus. But the fact that cases exist, where the primary infection of the alimentary canal is due to tubercle bacilli of

the typus bovinus, points to cattle as being a possible source of infection of human beings.

We have now still to investigate to what extent the distribution of tuberculosis in human beings is attributable to infection from the bovine source. Koch estimates the extent of infection by the milk and flesh of tuberculous cattle, and by the butter made of their milk, as being hardly greater than that of hereditary transmission. Of late years observations have been published which show that in some countries the spread of human tuberculosis is entirely independent of the tuberculosis of animals. When in London, Koch called attention to the fact of how often milk and butter containing tubercle bacilli is consumed in large towns and how comparatively rarely intestinal tuberculosis occurs. In Japan milk and products of milk play, according to Kitasato and others, no part in food of the inhabitants and still tuberculosis, and even intestinal tuberculosis, is at least as widely distributed there as in European countries, where the consumption of milk and its products is general. In Greenland, according to Rördam, feeding infants with cow's milk is entirely out of the question on account of the scarcity of cattle, and yet the Greenlanders, according to Kjier, succumb to tuberculosis in great numbers, particularly in youth. In Germany, von Behring and Biedert did not succeed in establishing by statistics the relative frequency of tuberculosis in cattle and in man; no more was Flügge able to determine the influence of feeding infants with cow's milk on the frequency of consumption.

This also seems to demonstrate that occasionally an infection from the bovine source occurs, but, on the other hand, that the tuberculosis of cattle is not responsible for the extraordinary distribution of consumption. To this it may be objected that the infection from bovine sources would with us be much more frequent if milk were not boiled, as it very generally is before being consumed, and if the inspection of meat were not carried out as stringently as it is. As to this latter, it must, however, be remarked that its great advantage in a sanitary respect lies in a different direction. In any case, the muscle itself, according to general opinion, rarely conveys tubercle bacilli. Also the boiling of milk alone cannot have the influence in question, as milk even to-day is often consumed raw, especially by children over 1 year of age. Butter and cream are nearly always consumed without having been previously heated. Further research alone can give new light in this respect, especially in countries or districts where children are still frequently brought up on unboiled cow's milk.

The recent investigations of Heller and his followers seem to show that intestinal tuberculosis is more frequent in some districts than in others. It would certainly be worth while to look further into the causes of this fact. After what has, however, just been said it would not be right to at once attribute these intestinal infections to cow's milk. Moreover, it would be desirable to search as carefully in the respiratory organs as it is already done in the mesenteric glands for primary tuberculous foci.

Facts ascertained so far by no means speak in favour of the view that the infections with tubercle bacilli derived from cattle are a greater danger for man than a transmission of bacilli from human sources. From the fact that the tubercle bacillus of the typus bovinus has always been proved to be the more virulent one for experimental animals, conclusions must not be drawn as to its effect on human beings, and this also in view of the experiments of von Baumgarten and F. Klemperer. Tuberculosis in cattle has existed with us for a long time, and therefore also the transmission of tubercle bacilli from animals to man. For this reason persons to whom tuberculosis was conveyed from bovine sources must have had ample opportunity of transmitting the bovine germs to their fellow-beings. Consequently, tubercle bacilli of the typus bovinus ought to have been found also in many cases of consumption which have resulted from an infection from man to man. In all the literature on this subject which has come under my notice, the only case in which an adult consumptive expectorated bacilli of the typus bovinus is the one described by Stuurmann, and even there the patient was considered as having been infected directly from cattle.

From the experiences gained hitherto, the inference may be drawn that an infection which a human being receives from cattle is not easily transmissible to other human beings, and in most cases, therefore, does not lead to the spread of the disease.

Finally, attention must be called to the fact that in those cases where tubercle bacilli of the typus bovinus have been found in human beings the course of the disease was by no means distinguished by particular malignancy. On the contrary, calcified foci in the mesenteric glands, which were accidentally found in children having succumbed to other diseases, have also supplied highly virulent bacilli of the typus bovinus.

In any case, the observations at hand suffice to justify the demand that the measures against transmission of tuberculosis by food should remain in force to the present extent, and yet there is no reason to extend them; on the contrary, Koch's warning should be earnestly taken to heart that through over-estimating the danger impendent from tuberculous cattle, the more important problem should not be neglected—that is, the prevention of the transmission of tuberculosis from man to man. I therefore arrive at the following conclusions:

1. By bacteriological investigation of tuberculous lesions in human beings, cattle and swine, two types of tubercle bacilli can be detected which may provisionally be called typus humanus and typus bovinus.

2. The widely-spread tuberculosis of cattle is to be traced exclusively to infection with tubercle bacilli of the typus bovinus.

3. Swine are susceptible in a high degree to the tubercle bacilli of the typus bovinus, in a lesser degree to those of the typus humanus.

4. The tuberculosis of human beings chiefly arises from infection with tubercle bacilli of the typus humanus, which is transmissible from man to man.

5. Tuberculous lesions in human beings can be produced by tubercle bacilli of the typus bovinus.

6. Tubercle bacilli of the typus bovinus can be transmitted to human beings by food derived from tuberculous animals, especially by milk of cows affected with tuberculosis of the udder.

7. The part played by infection from bovine sources in spreading tuberculosis in man is small in comparison to the danger threatening from a consumptive human being.

A CASE OF INFLAMED RETROPERITONEAL HERNIA (SO-CALLED DUODENAL):

OPERATION: RECOVERY: DEATH FROM TYPHOID NINE MONTHS LATER.

By R. LAWFORD KNAGGS, M.C.Cantab.,
Surgeon to the Leeds General Infirmary.

John R., aged 22, was admitted to the Leeds General Infirmary on March 23rd, 1904, unconscious, with a broken right arm and some suspicion of abdominal injury. He was at work on some scaffolding in the morning, when it gave way, and he was precipitated a distance of 45 ft. on to some ashes. He was picked up unconscious and brought to the infirmary, but recovered consciousness before he was removed to the ward. No further ill effects of the concussion were subsequently observed.

The right humerus was fractured about the middle, and in due time united satisfactorily. There were also bruises and scratches on the loins and blood in the urine, but the haematuria disappeared after the first twenty-four hours. The pulse was 100; respirations, 24. The other symptoms were abdominal, and proved to be connected with a condition which has led to this paper being written.

It was subsequently ascertained that before the accident he had been ailing for some time, and as the other consequences of his injury need not be further considered the story may be told in the ordinary way.

Report of Case.

Previous History.

He had scarlet fever a year ago, and before that his health had been good. Afterwards he suffered from frequent pains in the lower part of the abdomen, and these were often associated with slight diarrhoea, which he attributed to cold. These abdominal pains were so frequent that he was rarely quite free from them. The week before the accident, which occurred on a Wednesday between 9 and 10 a.m., he had complained very much of stomach-ache. The diarrhoea had been

very troublesome on the Tuesday, and on that day he did not go to work. He did not feel well on the Wednesday, and went to work rather late, and very shortly after he began the accident occurred. There was no doubt that the accident was the result of the defective scaffolding.

Condition on Admission.

When admitted he was suffering from some degree of shock, but was not collapsed. He had not vomited, and, as

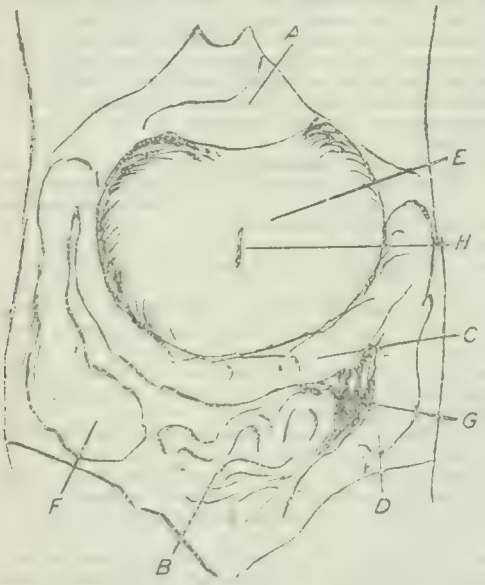


Fig. 1.—Diagrammatic sketch of the arrangement of parts found on opening the abdomen: *a*, Stomach; *b*, small intestine; *c*, transverse colon; *d*, descending colon; *e*, sac covered by gastro-colic omentum; *f*, caecum; *g*, great omentum; *h*, opening into sac.

already stated, he had quickly regained consciousness. The abdomen was rigid, and only moved very slightly with respiration. There was no tenderness, but he complained of pain in it below the umbilicus, which was like the pain he had been having with the diarrhoea. The liver dullness was slightly diminished, and there was no abnormal dullness in the splenic region. The note was dull over the intestinal region, more particularly on the left side, and there was a doubtful thrill obtained in the left flank. The pulse, at first 100, soon fell to 84. In the evening the abdominal signs

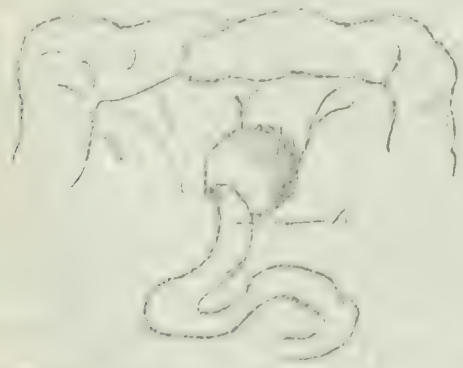


Fig. 2.—Transverse colon turned up to expose the orifice of the sac in the transverse mesocolon (operation): *a*, jejunum.

were less marked, there had been no vomiting, and the patient felt better.

The following day, March 24th, at 2 p.m., the pulse, taken hourly, showed a considerable and sustained increase (116 to 120). The abdomen was fuller, rigid, and immovable but was not tender. There was a fluid thrill and shifting dullness in both flanks; a fair amount of urine had been passed. During the examination he vomited—for the first time since admission—about 1½ pints of orange-coloured fluid having a marked intestinal odour. His countenance did not suggest abdominal trouble.

Operation.

An operation was at once decided on. At 4 p.m. ether was administered, and the abdomen was opened by a medium incision below the umbilicus. There was a considerable quantity of fluid present; it was of a brownish colour, slightly muddy and odourless, but strands of dirty-looking lymph came up on the swabs with which it was mopped up from the pelvis.



Fig. 3.—Diagrammatic sketch of the orifice of the sac and its relation (*post mortem*): *a*, jejunum; *b*, pancreas; *c*, inferior mesenteric vein; *d*, tributary vein from mesocolon.

The incision was extended above the umbilicus and down to the symphysis to enable a better view of the parts to be obtained. There was nothing abnormal about the colour or vascularity of the exposed intestines. The coils of small bowel were neither distended nor collapsed.

The distended caecum was prominent just to the right of the incision. The transverse colon lay collapsed at the upper part, and above it was a bulging swelling of a dark-red colour, and for a moment taken for the stomach. The ascending colon lay on the right of this swelling, but out of sight and higher up.

The incision was now extended to within an inch of the ensiform cartilage, and the dark-red swelling more freely exposed. On lifting up the upper angle of the incision, the stomach, pale and collapsed and small, was seen far up and at a considerable depth, lying upon the upper anterior surface of the swelling as it sloped backwards towards the posterior abdominal wall. The position of parts is represented in Fig. 1. The tumour was now a very marked object. It was globular in shape but somewhat flattened antero-posteriorly, and its tranverse and vertical diameters would each probably measure about 8 in. The stomach lay deeply upon its upper surface, and the transverse colon, with a meso-colon, lay around its lower circumference and slightly upon its anterior surface.

The gastro-colic omentum constituted a thin layer over the cyst-like tumour, which showed, smooth and rounded and of a red-claret colour, through it. The tumour was tympanitic, and fluid, and intestines could be seen and made to move about within the cyst.

The hand could be passed under the lower edge of the swelling below and behind the transverse colon, and towards

the middle line the finger, meeting with no resistance, passed, as subsequently determined, through an orifice into the interior of the tumour. Though the transverse colon had a distinct mesocolon, its lower surface was much broader than the upper, the latter appearing to blend with the coverings of the cyst.

On raising the transverse colon and omentum, and drawing it well upwards, the small intestine could be seen to pass into the cyst on its inferior and posterior surface, and lying upon the posterior abdominal wall.

It was decided to open the cyst upon its prominent anterior surface through the gastro-colic omentum between the stomach and the colon. The abdomen all round was first adequately packed with gauze, then the lesser peritoneal cavity was opened by tearing through the gastro-colic omentum, and, lastly, the cyst wall composed of two layers of peritoneum, namely, the posterior wall of the lesser cavity and the lining membrane of the cyst, incised at its most prominent part. A good deal of odourless fluid escaped, and more was mopped out, and several feet of distended coils of small intestine were exposed. The coils were only slightly congested, and were covered with much yellow lymph, agglutinating them in parts, but the adhesions were easily separable.

The edges of the opening into the hernia being now held by clips, the transverse colon was turned upwards, and traction made upon the bowel emerging from the hernial orifice. The small intestine to the extent of 6 or 8 ft. was easily withdrawn until the commencement of the jejunum was reached. No sign of constriction could be detected, but the bowel withdrawn was markedly distended, somewhat inflamed, and throughout its length had layers of yellow lymph attached to it in longitudinal lines, where it had been deposited in the spaces between contiguous coils. Some of the last coils to be drawn out were more or less completely covered with thick yellow lymph, looking as though they had been plastered over with custard pudding. This lymph was entirely confined to the contents of the sac.

The aperture into the sac was circular and about 3½ in. in diameter. It was situated in the posterior part of the inferior layer of the transverse mesocolon and just to the left of the spine. Its edge was rounded but not indurated. Emerging over the posterior edge of this orifice was the commencement of the jejunum, which as it lay within the sac was attached to the posterior abdominal wall. The impression given was that the hernial protrusion had taken place through the root of the transverse mesocolon and superficial to the duodeno-jejunal flexure.

The operation was concluded as follows: The sac was wiped out through the incision made into it in front. The hernial aperture was then diminished by a continuous silk suture applied on the inside of the sac through the edges of the opening, and in the end closed by sutures attaching it to the jejunum. The sutures through the edges of the ring were only superficial for fear of injuring a large vessel. The edges of the incision through the anterior wall of the sac were then attached to the upper angle of the parietal wound, and the interior of the sac was packed with gauze. The pelvis was drained at the lower angle of the incision and the wound closed.

After-History.

The patient was much collapsed at the close of the operation, and 2½ pints of saline fluid were infused. For some time it was feared he would not rally, but eventually he did. His condition was very critical for three days, but by March 31st he was on the high road to recovery.

Unfortunately, the abdominal wound became infected and broke down, and had to heal by granulation. The cavity of the sac gradually contracted and in due time closed, and the patient was discharged on May 14th quite well.

Between this date and his subsequent readmission he was seen at rare intervals. He maintained that he was very much better since the operation than he had been for a long time before. He had been quite free from pain, and it now appeared that notwithstanding the history obtained soon after admission, he must have had some vague abdominal discomfort for years. He felt so well that he discarded his abdominal belt, with the result that the scar stretched to a width of quite 3 in., and the intestines could be seen mapped out beneath it.

Three weeks before his readmission he came up to complain of severe headache. On November 1st his wife came to say he was very ill, and that his doctor had referred him to the infirmary. He was at once readmitted, when it was evident that he was suffering from typhoid fever. He was transferred to the care of Dr. Barrs and passed through a very severe attack and then had a relapse, from which he died on December 5th, nearly nine months after the operation.

Necropsy.

There were the usual *post-mortem* evidences of typhoid, and several of the ulcers had penetrated almost to the serous coat of the intestine. But the chief interest, so far as this paper is concerned, lies in the conditions connected with the former hernia.

On opening the body, the site of the aperture in the gastro-colic omentum through which the hernial cavity had been packed was recognized by a radiate arrangement of fibrous tissue lying on the surface of the omentum above the transverse colon. Two rounded bands arose at this spot and diverging, were attached to the anterior abdominal wall. These attachments were separated by the whole width of the diaphanous cicatrix. These two bands were the principal adhesions present between the anterior parietes and the abdominal contents.

There was a very wide omental adhesion attaching the transverse colon to a coil of small intestine below it. This was divided, and the transverse colon and great omentum turned up, whilst the small intestine was removed from a few inches below the commencement of the jejunum. In this way the parts connected with the hernia were thoroughly exposed.

No aperture or trace of an obliterated aperture was present in the transverse mesocolon, but a very remarkable pocket of peritoneum was found at the back of the abdomen immediately to the left of the spine and just below the parietal attachment of the transverse mesocolon. When the mouth of this pocket was expanded and drawn forwards by the separated fingers and thumb of one hand its cavity was sufficiently deep and capacious to have lodged a very large orange. It was quite 3 in. deep, and on its floor at the upper part the pancreas could be recognized behind its peritoneal lining. When first exposed it lay flaccid and collapsed, and was empty except for the first inch or two of the jejunum which emerged over its lower edge (Fig. 3).

In the fold of peritoneum that formed the margin of the mouth of the pocket the inferior mesenteric vein was found. Ascending on the left, it arched round the top, and descended on the right until it disappeared, to pass below the lower edge of the pancreas to join the splenic vein. Just where it began to curve round the upper end it received a considerable tributary from the left hand side of the transverse mesocolon. From this description it will be seen that the pocket was in all probability a remarkably developed fossa of Landzert.

Remarks.

In placing upon record this remarkable and interesting case of retroperitonial hernia there is no need to waste time in discussing from what particular fossa the hernial sac originated. It is sufficient to recognize that the orifice of the sac lay to the left of the spine, and was encircled on the left and above by the inferior mesenteric vein in the latter part of its course. It is evident that the vein was a most important factor in producing the conditions which favoured the formation of the hernia, and that in all probability it was some slight peculiarity in development that caused it to exert such an influence.

Mr. Moynihan, in his *Retroperitoneal Hernia*, goes very fully into these points, and to his pages the reader who wishes for further information is referred.

The death of the patient from typhoid some nine months later enabled the impressions formed at the operation to be compared with the conditions present *post mortem*. It must be admitted that at the first glance they appeared incapable of being reconciled. At the operation the mouth of the sac was apparently unmistakably in the transverse mesocolon. *Post mortem*, what was no doubt the sac lay on the back of the abdomen, and the transverse mesocolon was quite normal.

However, this difficulty soon disappeared, for it was obvious that, as the hernia had forced its way beneath the transverse mesocolon, and had enlarged to an enormous extent above it, the aperture of the sac had gradually been drawn upwards, and, when the transverse colon was drawn up to expose it, had appeared to be situated in the mesocolon.

This case would no doubt belong to the group called by Mr. Moynihan "left duodenal hernia," but it will be noted that the growth of the hernia was upwards. A somewhat similar arrangement is shown in Fig. 17 in *Retroperitoneal Hernia*, but in that case the lateral deviation to the left is more marked than in the present one, and it is on the lateral deviation that the more simple nomenclature is based.

A point of very considerable interest was the result of the method adopted to obliterate the sac. After suturing the edges of the aperture and packing the whole interior of the collapsed sac with gauze, which was renewed regularly until the cavity shrank and healed up in the usual way, it was natural to suppose that there would be no possibility of a return of the hernia.

My astonishment was extreme when I saw how utterly the proceeding had failed. The silk suture had evidently quickly been shed into the interior of the sac and come away with the discharge and the dressings, allowing the orifice to resume its patency, whilst the only trace of the effects of the packing were some adhesions at the upper part of the pocket, which the pathologist almost unconsciously separated with his finger as he explored its limits and extent.

A CASE OF RETROPERITONEAL FIBROLIPOMA: OPERATION: RECOVERY.

By R. J. JOHNSTONE, M.B., F.R.C.S.,
Assistant Gynaecologist, Royal Victoria Hospital, Belfast; Assistant Physician, Belfast Maternity Hospital.

In Mr. Alban Doran's admirable summary of the literature of benign retroperitoneal tumours,[1] comment is made on the scarcity of recorded cases, only 13 records being available for purposes of comparison. This circumstance is, I think, sufficient apology for the publishing of the account which follows.

My patient, M. A., was admitted to the Royal Victoria Hospital on August 27th, 1904. She was married and a 3-para, aged 38, but older looking; her last confinement was eleven years previously. She first noticed the tumour six months before admission; it had increased in size rapidly for three months, and had since remained quiescent. It caused no pain, did not interfere with her appetite, or with her daily work. Menstruation had been always regular from the age of 15, was 4 to 5 weekly in type, lasted as a rule four days, and was copious. The menses came on three days after admission, and the loss, which was fairly profuse, continued for a week. She had typical "facies ovarica," was rather thin and anaemic, but heart, lungs, and kidneys were sound. The abdomen was distended by a tumour reaching from the pelvis to within 2 in. of the ensiform cartilage, rather more prominent below than above the umbilicus. It was roughly globular in shape, irregular on the surface, some of the projections being distinctly firmer than the general mass. There was no true fluctuation, but here and there one got a sense of elasticity, like that given by a small tense cyst. The whole tumour was dull on percussion, a clear note was got above it, and in the left flank. Per vaginam the uterus could be felt fairly normal in position, the pelvis was empty. I diagnosed an ovarian tumour, perhaps a multilocular cyst with almost solid contents, or more probably a fibroma.

On September 10th I opened the abdomen by an incision 3 in. long midway between the pubes and umbilicus. The tumour was greyish-pink in colour and quite solid, the uterus and both ovaries perfectly normal. The incision was rapidly extended up to within two inches of the ensiform cartilage and the tumour thus fully exposed was found to spring by a broad base from the right flank, its attachment ending below at the right iliac fossa. The front and sides of the tumour were covered by peritoneum, the ascending colon lying on what one might call the left brow of the tumour. The peritoneum was incised along a line parallel to and about 1½ in. to the right of the ascending colon, which was then carefully stripped off the tumour, my assistant making traction to the right on the mass. When this had been done the right ureter and kidney came into view, being apparently embedded in a deep groove on the inner and under aspect of the tumour, which was freed from them, a small piece of the kidney capsule coming away in the process. The tumour then shelled very easily out of its bed in the loin, and was completely separated by dividing the peritoneal reflection along its outer border. Only two leashes of vessels required ligature. The oozing from the large raw surface left was checked by copious douches of hot saline. The cut edges of peritoneum were then sutured, bringing the right colon and kidney into approximately normal position, and the abdominal wound closed.

There was some rise of temperature for the first five days of convalescence (101° F. on two occasions), due probably to absorption from the raw surface. Diarrhoea was present for the first week, owing, I suppose, to interference with the blood supply of the ascending colon. The patient left hospital four weeks later, much improved in appearance, and with a sound abdominal scar. I saw her again nine months after operation. She had put on flesh, and expressed herself as "never better." Abdominal palpation showed no return of the tumour, and the kidney could be felt in its normal position.

The tumour weighed 20lb. on removal. On section it proved to be a lipoma with small myxomatous areas, and a fair amount of connective tissue, and this diagnosis was confirmed microscopically.

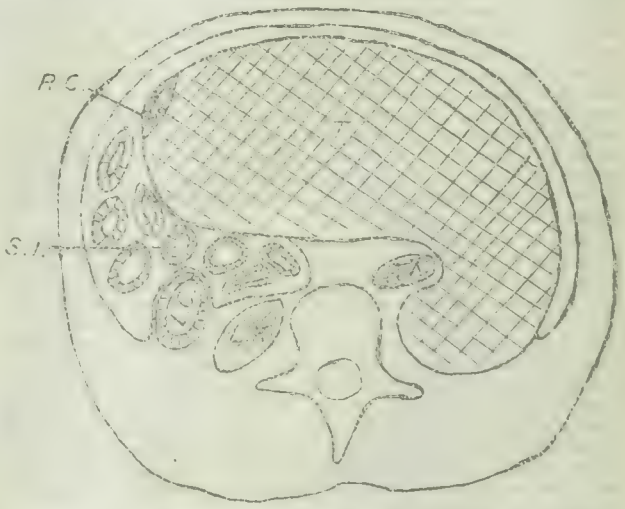


Fig. 1.—Ideal section to show relations of tumour: T., tumour; R.C., right colon; L.C., left colon; S.I., small intestine; R.K., right kidney; L.K., left kidney.

The case requires very little comment. Like most other surgeons who have reported cases of this kind, I had no idea of the true state of affairs until the abdomen was opened. This might be avoided, and a correct diagnosis reached sometimes at least by careful and repeated examination of the relative areas of dullness and resonance; but some cases, I am convinced, would, even after the greatest pains had been taken, be confounded with ovarian tumours. As regards the operation, I was surprised in my own case at the ease with which it was performed, but I have since then assisted Professor Byers in an attempt at the removal of a large retroperitoneal tumour, which turned out to be a myxosarcoma. The growth was so intimately connected with the vessels of the mesosigmoid into which it extended that removal was impossible without endangering the vitality of the gut; and in addition tremendous venous haemorrhage, which could only be checked by plugging with gauze, followed the separation of the upper part of the tumour, which lay to the right of the middle line below the mesenteric attachment. This patient, however, recovered from the operation, and left hospital comparatively well. It is easy to understand, therefore, that the ease and safety of the removal will altogether depend on the relations of the tumour to the viscera, and still more to the vessels of the abdomen. As regards the treatment of the capsule, I am firmly convinced that in a simple case, such as mine, the best practice is not to plug with gauze, but to suture the cut edges, close the abdomen, and rely on firm pressure with a binder to prevent, or at least to check, oozing and the formation of a retroperitoneal haematoma. Even should this form, with aseptic methods there is practically no risk, and every probability of its ultimate absorption, while the patient escapes a lingering convalescence, a troublesome sinus, and the increased chance of a ventral hernia.

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[1] British Medical Journal, October 22nd, 1904.

Professor Czerny has resigned the Chair of Surgery in the University of Heidelberg, which he has held since 1877, in order to devote himself entirely to the duties of Director of the Institute of Cancer Research. He will be succeeded in the Chair of Surgery by Professor Garré, who accepted a "call" to Breslau after the death of Professor von Mikulicz.

RATS IN RELATION TO PLAGUE.

By BRUCE SKINNER,
Lieutenant-Colonel, R.A.M.C.

IV.

The connexion of domestic rats with plague requires for its elucidation some further remarks on the distribution and life history of the tick, *Hyalomma aegyptium*, and also on the cattle diseases referred to on p. 624 of the British Medical Journal. It is necessary to mention certain points indicative of the possibility of the transference of a cattle-seuche to rats and men by the agency of ticks.

Although Burmah has up to the present not suffered severely from plague, the more recent returns indicate a tendency to invasion of that province. It will be interesting to note if this invasion coincides with an invasion of *H. aegyptium*, which has hitherto not been found in Burmah, although several species of ticks from that country have been recorded by Professor Neumann.

Dr. Yersin[1] records plague as existing in Yunnan from March to July yearly since 1871. Previous to that date the record is not reliable, but tradition points to outbreaks of plague having occurred in Yunnan frequently in the past.

It has been observed above that *H. aegyptium* has not yet been noted from Yunnan. The epizootics also of this province remain for future investigation. In the neighbouring province of Tonkin, however, bovines have been considered[2] to suffer from "peste bovine," attended by an enormous mortality. Dr. Yersin's note indicates that it was only after the administration of a serum prepared for the "peste bovine" first observed that a difference was noted in the disease affecting cattle and buffaloes, the serum proving efficacious in diminishing the mortality of the cattle but less so in the case of the buffaloes. Later, barbone among buffaloes and pasteurellose bovine among cattle were found to exist. These epizootics are at present under investigation in the Bacteriological Institute at Nhatrang (Annam).

I have no information regarding the cattle diseases of Mongolia, which is an area where plague appears to be endemic.[3] It appears in August and September and disappears with the cold, when both ticks and marmots hibernate.

The Mongolians have long been familiar with a disease of rodents which they call "peste de tarabaganes" (*Arctomys bobac*). As *Arctomys bobac* ranges from Kamtschatka to North Germany,[4] and as it does not suffer in Europe from this "peste" there must be some local cause for its suffering from that disease in Mongolia. The marmot has been observed in Thibet, but there is as yet no evidence that it suffers there from peste[5]. The Thibetan marmots do not appear to belong to the species under consideration, but that of course is no reason why they should not ultimately be found to suffer from plague. In connexion with this liability of *Arctomys bobac* in Mongolia to peste it may be noted that the larvae of ticks often pass the period before their first moult in the fur of wild rodents. Thus *H. aegyptium*, which is present in the region, would be brought into contact with the natives who capture marmots for food or other purposes. The nymphs would also be brought into the homes of the Mongolians by the same means, and would thus be be an efficient vehicle of plague from an infected marmot to man, even if the ordinary means by which man acquires ticks indicated below were not as usual in existence.

Dr. Zabolotny noticed in Mongolia a form of human plague which he had not seen in India. He calls it the pustular form; on the surface of the skin small limpid vesicles appear surrounded by a zone of red hard skin. After twenty-four hours the vesicles become clouded, and contain microbes enclosed in phagocytes. Two days later in the centre of the pustule appears a black spot surrounded by a red zone. In two cases he was able to fix the point of entry of infection which much resembled these spots. He attributes the mechanism of infection to insects, such as flies, bugs, fleas, lice (op. cit., p. 840).

I may here refer to the remarks[6] made by Drs. Calmette and Salimbeni on lesions of the skin in plague. A case is recorded of a patient in the Oporto epidemic having been bitten by a bug (it is not stated whether the bug was seen); the bite became the site of extensive necrosis. There is, they say, a particular form of peste, recognized as far back as the Middle Ages, and also by the German and Austrian savants in Bombay, in which the primitive lesion is represented by one or more pustules on the surface of the body. The pustule begins by a vesicle surrounded by an inflamed zone, sometimes black, with sero-sanguinolent contents, and filled with free peste bacilli. Certain cases reported by Surgeon-Captain L. F. Child, I.M.S., may perhaps belong to the same category.[7] Although this eruption has not been recorded frequently in the Indian plague epidemics, yet it may be usefully compared with the pustules caused by nymphs and male ticks, whose habits we may now consider.

The larvae of ticks ascend the stalks and blades of grass, and remain at the summits awaiting the advent of some mammal to which they may transfer themselves. They may often be "observed in the fur of wild rodents; they do not attach themselves by the rostrum." . . . . It is possible that they effect their transformation into nymphae in the ground." The nymphae live, like the adults, "with the rostrum implanted in the skin of their host—penetrating sometimes beneath it, and causing the formation of purulent tumours. . . . . Finally, they leave their host for the ground, where they undergo the change which endows them with sexual organs." The nymphs during this period are nourished on the pus produced in the above-mentioned pustules. Similar pustules are produced by the male tick.

The part attacked by the female tick may suppurate and even form sloughs.[9] Dr. Theiler also records that the full-grown *H. aegyptium*, known in South Africa as the bont-leg tick, "very often causes a festering wound on the spot of attachment, and even large pieces of skin may become necrotic and drop out."[10]

There are, then, two periods in the life-history of the *H. aegyptium* when infection may be conveyed to another animal. The first period is when as a nymph the rostrum is first developed. During this period pustules are caused on the animal attacked. The action of the male tick resembles that of the nymph in this respect.

The second period is when a female tick attacks a mammal in order to withdraw blood. During this period a local slough may be produced in the neighbourhood of the puncture.

In either case the nymph or the tick may be brushed off the host; or may, owing to the death of the host, fall off. In such cases, if a second host is accessible, the nymph or tick will attach itself to it.

Taking into consideration the facts now mentioned, the seasonal incidence of plague in India may thus be explained:

During the rains the young and the ova are, if not concealed beneath stones, washed away by the heavy rain. When the dry season commences the Ixodes betake themselves to bushes, grass, and crops, where they "maintain themselves suspended to plants by their anterior legs, ready to fall upon any animals which pass within their reach."[11]

Hence the recrudescence of plague when the natives begin to take in their crops. During the "cold" weather the ticks enjoy comparative immunity from rain. When the weather is becoming hot the ticks multiply enormously, this being the normal season for the hatching of the larvae, and during the wheat harvest they leave the corn and grass to attack the native reapers working in their midst. The nymph and also the male tick—when attaching itself to an animal, inoculates the bacillus; it does this while causing a vesicle, which later becomes a pustule teeming with plague bacilli. The nymph ingests the pus, and when full falls off its host and remains on the soil until developed into the tick. The latter, still carrying the plague bacillus—replenished by those ingested in the pus food of the nymph—attacks and inoculates its host, this time, if a female, without producing a vesicle but causing necrosis at the site of puncture. The female when full falls off, lays her eggs under a stone, and dies. If, however, from some cause she has been removed from her host too early, she attacks the nearest animal in order to complete her feeding and her period of gestation. By this latter method plague might be carried to a man from a mammal of another class.

Domestic rats also suffer most severely at this period of harvest, cornfields having a special attraction for them. The plague incidence commences to fall with the completion of the wheat harvest, owing to the native being less exposed to the ticks in their favourite resting place among the crops and undergrowth; but the number of attacks is still considerable until heavy rain falls and washes the ticks away.

The native with his bare legs is thus peculiarly liable to attack, the well-clothed European being comparatively protected.

The part of the body attacked by the tick determines the site of the earliest bubo. The favourite spot being the scrotum or mammae, explains the point brought out by Dr.

A. M. Elliott[12] that inguinal buboes are most frequent in males, and axillary in females.

When one remembers how minute is the nymph of *H. aegyptium*, one is not surprised that its attack has escaped observation. With regard to the female tick, she is hardly likely to remain any length of time on a human host, for the latter would soon remove any source of irritation, although this would not be done until inoculation had been effected. Consequently she would not be allowed to remain until through distension she had attained dimensions which could not fail to attract attention.

Wheat cargoes, especially when they contain a certain amount of soil among the grain, are liable to contain the young of ticks, which, maturing in the warmth of the hold, may find their way to other animals, and thus cause cases of plague among rats and men. The same may, of course, happen to any cargo to which ticks may have gained access before loading.

With regard to the other factor—a cattle disease—it has already been suggested on page 624 of the BRITISH MEDICAL JOURNAL that we must look to one of the cattle diseases present in India as the source of plague. Ghotwa was noted as present in that country, and of the pasteurelloses this is the one which from its distribution and from the morphology of its bacillus appears to bear the closest relation to plague. It is known generally as barbone, and is the same as Buffelseuche in Hungary and khoun-naq in Egypt.[13]

In addition to the above countries, barbone has up to the present been reported as established in Spain and Portugal, Sardinia, Italy, and Tonkin. It remains to be seen whether the epizootics among cattle, which have been noted as occurring during plague epidemics at other places, such as Hong Kong, Manchuria, etc., are also barbone. If this prove to be the case, it will be found that the human plague bacillus is a cultural modification of the barbone bacillus, and both perhaps ultimately cultural modifications of a bacterium ovoïde existing under certain conditions of soil.[14] It is possible that the modification may require the passage of the bacillus through the body of the tick. That some such process is required is shown by the difficulty of maintaining the virulence of cultures of the bacteria of haemorrhagic septicaemias, as pointed out by Dr. Yersin,[15] the virulence being reduced by repeated passages through the bodies of experimental animals, as stated by Drs. Kister and P. Schmidt.[16] The latter writers recognize the biological affinity between the plague bacillus and the bacteria of haemorrhagic septicaemias.

There is no exception in the domain of bacteria to the universal law that species adapt themselves to their surroundings. The more complex the organism the longer the time required for adaptation. Conversely, in simpler life forms time may be measured by the duration of life of the individual, and the period required for modification be infinitesimal when measured by the human standard. So that the production of specific changes in an allied group of bacteria may, without damage to established convictions, be conceived to occur during the period of growth of a colony in a medium other than that to which the parent stock had been accustomed. Thus a bacterium ovoïde in the soil may become a barbone bacillus in the tissues of a buffalo, and the same bacillus (perhaps only after it has passed through the buffalo) may become a plague bacillus in man, or a rat-plague bacillus in the rat. The conception of such a change is facilitated when the possibility of its being carried out through the medium of the tissues of a tick is realized. This change will, however, only become an accepted fact when its actual occurrence in Nature has been demonstrated.

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OFFICIAL information has been received of the death in Southern Nigeria of Dr. J. F. Stewart. The deceased had only recently returned to the Colony from a visit to his friends in Belfast. He is supposed to have lost his way in the bush and to have been murdered by fanatical natives.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, ETC.

ACUTE OEDEMA OF LIDS AND CONJUNCTIVAE.

THE following case seems worthy of record. I was called on June 28th at 7 p.m. to see a gentleman, aged 28. He had been suffering from hay fever. At 6.45 he had dropped into each eye one drop of pollantin (the new serum for hay fever). In less than two minutes his eyelids commenced to swell, and in ten minutes the swelling was so intense that he had great difficulty in opening them. I found the eyelids enormously swollen, red, and erysipelatous-looking. The conjunctiva was jelly-like and protruding, the iris appearing sunk in and partly covered by it. There was no tenderness over the eyeballs, redness of the conjunctivae or herpetic eruption, and except for the conditions noticed the patient seemed perfectly well. I ascertained that the patient had had three similar attacks before. Two of these attacks occurred in early life from no known cause, the third after bathing the face and eyes with cold water. On each occasion the swelling had appeared in a few minutes and had disappeared again in a few hours.

Cold fomentations were applied, and a solution of cocaine instilled into each eye, and, as I expected, by the next morning the jelly-like effusion had disappeared, leaving a somewhat highly injected conjunctiva. The swelling in the lids had diminished, and twelve hours later were less swollen. The patient's condition had become normal. Shortly after this eye condition the patient complained of tenderness over the testicle, and I discovered enlargements of the veins there. In twelve hours this also disappeared.

The urine contained albumen. It had been examined before and found normal. Thorough examination of the patient's actual condition and late history threw no light on the symptoms mentioned, and showed him to be apparently perfectly healthy.

It is conceivable that the dropsical swelling of the eyelids and conjunctivae, enlargement of the veins beneath the testicle, and albumen in the urine were all dependent on the same cause, giving rise to disturbance of the circulation at these parts. If such were the case one would have expected other symptoms of toxic infection, which were entirely absent in this case. And if there was a tendency to increased coagulability of the blood, it is difficult to understand why the attack was so sudden and what was the cause. That there was a cessation for the time being in the circulatory stream or lymph flow through the lids and conjunctivae there is no doubt; but how this occurred and what was the chief factor in its production are the interesting points in the case. (Pollantin may have done it in this instance, but what did it before?) On one occasion after the marked swelling of the lids, the patient tells me that on the subsidence of the oedema a discoloration remained for a time, at first brownish, and ultimately passing through the phases of green and yellow before finally becoming absorbed. The eyesight remained perfect during the attack.

I can find no record of any similar case, nor can I find any satisfactory description of the mechanism that governs the flow of blood and lymph through the conjunctiva and its neighbouring parts to account for the peculiar condition met with in this case.

J. SOUTTAR MCKENDRICK, M.D., F.F.P.S.G., F.R.S.E.,
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CONDITION OF THE SKIN IN PNEUMONIA.

IN October, 1904, I was called to a young woman, aged 24 years, whom I know to suffer from chronic endocarditis. A week previously she went to a dance, and had not been well since, and during the night before my visit had suffered from "stitch" in the left side. She was thirsty, her tongue clean and moist, temperature 102.7°, pulse 108. Her throat was not sore, but the glands along the anterior border of the left trapezius were enlarged. A little sodium salicylate was given, and next day the pulse was softer, 90 per minute, respirations 24, temperature 99.5°. She slept well and felt better, but subsequent developments led to a consultation being held. Pneumonia of lobar variety (right apical) was diagnosed, and the friends assured that if she lived ten days she would recover. Instead, she slowly worsened for ten weeks, during which time crepitations came and went at all parts of the lung, and finally she died. One of the points I

noted during the first days of illness was that the patient's skin remained moist.

This fact troubled me at the time of the consultation, and since then I have come to the conclusion that in lobar pneumonia the skin is dry, whilst in the lobular variety it is moist—at least, in the folds of the axilla and groin. In other words, I believe that the drier the skin the more likely is the temperature to end by crisis. This observation was of service in the following case:

Geo. H. B., aged 10 years, suffered from measles in February, 1904, followed by bronchopneumonia. On July 15th, 1905, he complained of being cold, vomited, was costive, and when seen on the 16th his temperature was 104°, respirations 48, pulse 112. All over the back, inspiration ended in a high-pitched note, there were no crepitations or dullness, and the skin was hot and dry. From this latter sign I assured the friends that his illness would end suddenly between the 19th and 22nd, and this proved to be the case.

In the interval the physical signs indicated bronchitis as well as pneumonia, and but for the state of the skin one would have put down the latter as of the lobular type and expected it to end by lysis. Instead it ended by crisis, and so confirmed the prognosis I made on the strength of the dryness of the skin.

Blackburn. ARTHUR H. GREGSON, M.B.

REPORTS
ON
MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

ILFRACOMBE ISOLATION HOSPITAL.

CASES OF SCARLET FEVER RELAPSE.

(Reported by E. J. SLADE-KING, M.D., D.P.H., Medical Officer of Health.)

THE following cases of relapse in scarlet fever appear worth recording. During the eighteen years that I have been in charge of this hospital I have never met others similar to them. Though the cases are but briefly reported here, the patients were under my daily observation and accurate records were compiled.

CASE I.

History.—Willie M., aged 5 years, was admitted on December 22nd, suffering from scarlet fever. On the eighth day the rash had disappeared, on the ninth desquamation, which was free and typical, commenced on the child's neck and chest, extending over his body and limbs. On the twenty-eighth day he was convalescent, but was detained in hospital so that the peeling of his hands and feet might be completed.

Relapse.—On the following or twenty-ninth day his temperature rose slightly and his pulse quickened. On the thirty-first day his temperature stood at 103° and his pulse was 138. This rise of temperature was accompanied by the appearance of a scarlet fever rash which was of a most vivid red, brighter than most of the other cases in hospital had exhibited. It commenced on the chest and extended in the usual manner to trunk and thighs, and had entirely faded away by the thirty-sixth day after the commencement of his original illness. His throat and fauces were at the same time swollen, red and painful, and he had a copious discharge from his nostrils. On the forty-first day temperature was normal, but the child was in a condition of great exhaustion and could be fed only with difficulty.

Result.—Finally the patient was discharged well on the eighty-fourth day. The progress of the desquamation was not interfered with by the relapse, but the separation of large flakes of skin from the feet rendered them very much more irritable and tender than is usual in less protracted cases.

CASE II.

Elsie C., aged 4 years, was admitted on May 3rd, suffering from scarlet fever. The primary course of the fever was regular, and the desquamation typical, but I had noted it as "excessive."

Relapse.—On the thirty-third day of her stay in hospital she was convalescent; on the thirty-fourth day her temperature and pulse both went up; on the thirty-ninth day her temperature stood at 103° and pulse at 144. Her throat was red and painful from the morning of the thirty-seventh day; and by night-time she was covered with a bright scarlet fever rash, and all her conditions were those of acute scarlet fever.

Result.—On the same day a copious nasal discharge was set up which cleared itself in twelve days. She again became slowly convalescent. Desquamation was neither hastened nor retarded and she was discharged well on the sixty-fourth day from the date of the initial attack.

REMARKS.—In both these patients relapse took place during convalescence from an attack of well-marked scarlet fever, and was concurrent with a copious nasal discharge and with throat trouble. Reinfection by a freshly admitted patient ill with scarlet fever, caused by a different organism is in these instances possible, but cases of relapse have been recorded in private houses where direct fresh infection has not been possible, though medical attendants or nurses may have imported fresh germs. The circumstances of the cases noted in this communication seem to indicate some direct relation between the profuse discharge from the nostrils and the relapse and suggest self-infection from germs of scarlet fever which were dormant in the soft tissues of the throat and nose of the children and became potent at an unusually late stage of the fever.

5

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

NORTH OF ENGLAND BRANCH.—At the autumn meeting, held on October 13th at Durham County Hospital, Dr. G. C. H. FULTON, President, in the chair, Dr. T. BEATTIE read a paper entitled Pleurisy: a Symptom, in which he laid emphasis on the importance of bearing in mind the frequency with which pleurisy was associated with some general or remote disease, or with underlying disease of the lung. He agreed with Dr. Charles that there was no tendency for pleuritic fluid to become purulent except in cases of mixed infection.—Mr. RUTHERFORD MORISON read a paper on the functions of the omentum, illustrated with slides; it will be published.—Mr. W. G. RICHARDSON forwarded a paper entitled A Note on an Unusual Cause of Sciatica, which was read. He referred to a case the notes of which were published in the *Northumberland and Durham Medical Journal* in the year 1898, and supplemented this reference by notes on another case seen this year. In both cases the symptoms were the same, being those of intractable sciatica. The patients were both clerks, and were accustomed to sit in the familiar position assumed by clerks who use high office stools. After a careful examination Mr. Richardson discovered that the position of greatest ease in these cases was when pressure was removed from the bursa over the small trochanter of the femur and the tendon of the psoas muscle relaxed. The speedy recovery, after long illness, made in both cases when measures were taken to remove the pressure from the small trochanter, confirmed Mr. Richardson in his opinion that irritation from pressure was the cause of the condition.—In the unavoidable absence of the staff of the hospital, Dr. RUFFMANN demonstrated several specimens exhibited.

SOUTHERN BRANCH: PORTSMOUTH DIVISION.—At the autumn Divisional meeting, held at Portsmouth on November 15th, Dr. R. EMMETT, Chairman, presiding, Dr. L. MAYBURY read a paper on transient aphasia in a patient aged 80, without paralysis or paresis of any kind; also a paper on vaginal cysts and their treatment.—Dr. BANKART, M.V.O., showed a case of bilateral paralysis of the extensors of the fingers without wrist drop; it was considered to be an early stage of lead poisoning.—Dr. BLACKMAN exhibited a case of partial paralysis of the abductors of the larynx, due to pressure from secondary deposits following scirrhus of the breast.—Mr. CHILDE showed a case of excision of the tonsil with parts of the upper and lower jaw and tongue for epithelioma; also a case of excision of the stomach and transverse colon for malignant disease.—Dr. L. MAYBURY showed a case of retinitis pigmentosa; heredity and consanguinity were present as causes, and the disease could be traced back in the family for 175 years. He also showed a case of complete atrophy of the testicle following the operation for varicocele eight years previously. It was the unanimous opinion of members present that the operation was unnecessary in by far the majority of cases.—Mr. RUNDLE and Mr. RIDOUT showed a case of septic arthritis of the knee following injury, in which continuous irrigation had resulted in cure with perfect movement.—Mr. MONTAGUE WAY showed a case in which he had removed by suprapubic cystotomy a stone weighing 6 oz.; also a case of thyroidectomy by transverse incision. On all of these cases considerable discussion by the various members took place.

REPORTS OF SOCIETIES.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Sir R. DOUGLAS POWELL, Bart., K.C.V.O., M.D., F.R.C.P., President, in the Chair.

Tuesday, November 28th, 1905.

DISCUSSION ON THE TUBERCULIN TREATMENT OF TUBERCULOSIS.

DR. A. E. WRIGHT, in opening this discussion, made a communication on the general principles of therapeutic inoculation by bacterial vaccines as applied to tuberculous infection. Bacterial infections were classified into two categories—local, in which the machinery of immunization was not called into play and the protective powers of the blood were below normal, and systemic, in which the machinery of immunization was in action and the protective powers of the blood were continually fluctuating. In the treatment of localized infections it was necessary to raise the protective power and keep it at a high level, and to bring the antibacterial lymph into contact with the organisms in the local lesion. The methods for bringing these results about were discussed. In the systemic infection, as in pyrexial tuberculosis, there was constantly recurring auto-infection, leading to either the formation of protective substances or to a fatal issue. The treatment consisted in the arrest if possible of the auto-inoculations, and the injection of bacterial vaccines, where the resisting powers promised a sufficient margin of safety. The differences in the effect produced by injection of toxines into the subcutaneous tissues or into the blood stream were emphasized: in the former case a maximum immunization with a minimum intoxication, and in the latter the reverse. The practical working out of these principles was illustrated in the case of tuberculosis, before and during and after the pyrexial stage.

Dr. DAVID LAWSON and Dr. STRUTHERS STEWART, in continuing the discussion, communicated a paper on some points in relation to the administration of tuberculin controlled by observations of the opsonic index in pulmonary tuberculosis. They had set themselves the following questions and obtained the following replies: Was there any difference between the opsonic indices of the blood of healthy persons, persons who were suffering from pulmonary tuberculosis, persons who had suffered from pulmonary tuberculosis and were now cured? Tables were shown in which the opsonic indices of the bloods of 50 healthy persons and 25 of each of the remaining two classes were compared, demonstrating that such difference did exist. Could this fact be turned to practical use in dealing with the disease? It was shown to possess a value particularly in relation to diagnosis. Was there any difference in the behaviour of the opsonic indices in these three classes of cases after injection of tuberculin? Tables of comparative cases showed such difference to exist. Could this fact be utilized in relation to diagnosis and treatment? It was shown to be of material value in both, but especially in treatment. Could the negative phase which followed tuberculin inoculations be recognized by any less laborious method than by regularly ascertaining the opsonic index? In 160 instances the alterations in temperature, pulse, and respiration were shown alongside of the disturbance in the level of the opsonic index, but so far no such method had been discovered. A rise of temperature was observed in less than half the observed cases of tubercle after the injection of tuberculin, while a negative phase in the blood was observed in all. The importance of not reinoculating during the negative phase was emphasized. The use of tuberculin seemed to not only produce a larger number of cures, but also to prevent to a greater extent relapse.

Dr. W. BULLOCH also read a paper on the treatment of tuberculosis by tuberculin, in which was included the results of his own experience, extending over eight years with the use of Tuberculin R. He first examined the opsonic index in 84 healthy persons, and found that, as compared with his own, taken as unity, it varied only between 0.8 and 1.2, the average being 0.96. In 150 cases of lupus the average opsonic index was 0.75, and varied between 0.2 and 1.4, 75 per cent. of the cases having an index below the lowest normal limit of 0.8. It was found that better results were obtained with the Finsen light method when the opsonic index was within the normal limits or above them. In 11 cases of surgical tubercle the lowest index was 0.3, and the highest 0.8. In 14 cases of "sanatorium cures" the lowest index was 0.4 and the highest 0.86. A very low and an abnormally high index probably indicated infection. The determination of the specificity of tuberculous opsonins was claimed. No relation of opsonins to the leucocytosis of infection had been made out by him. In almost every instance of inoculation a negative phase was observed. Of 11 cases of very severe localized tubercle treated with the new tuberculin 5 were apparently cured, 4 were greatly improved, in 1 the treatment could not be apparently tolerated, and in 1 death occurred, apparently in spite of the treatment.

CLINICAL SOCIETY OF LONDON.

H. H. CLUTTON, M.A., M.C., F.R.C.S., President, in the Chair.

Friday, November 24th, 1905.

CALCAREOUS MORTAR-LIKE FLUID IN THE PLEURA.

DR. SAMUEL WEST described the case, diagnosed as empyema, of a man, aged 32, admitted to St. Bartholomew's Hospital. The whole left side of the chest was dull. Except for lateral curvature, convex towards the right, the patient was well developed and well nourished. Exploratory puncture obtained a white fluid like Devonshire cream in appearance and consistency. This contained very little fat, no trace of cells, and was chiefly composed of phosphate of lime. Paracentesis withdrew only an ounce or two. It was decided not to open the side, as the lung must be bound down and useless. The pleura, wherever tapped, always yielded similar fluid. The patient remained well for three weeks, then developed bronchitis, and died after a few days' illness. It was learnt subsequently that his doctor had known of the existence of the fluid for twelve years. *Post mortem*, the left pleura contained about four pints of white mortar-like fluid; this formed a thick lining to the pleura, in places ½ in. thick, containing numerous flat calcareous plates, a few adherent, but most of them detached. The left lung was merely a little pigmented fibrous tissue round the bronchi. The spinal column was curved, but without disease of bones. There were no signs of tubercle or bacilli in the fluid or any part of the body. The fluid consisted of equal parts of lime salts and organic residue, the latter composed of fat and cholesterin chiefly, and a nitrogenous residue. Presumably the fluid arose from a degenerate empyema. The case was believed to be unique.

The PRESIDENT thought it was probably a residual tuberculous abscess, possibly dating from infancy. In old psoas abscesses, for example, it was often impossible to find certain evidence of tuberculosis, though doubtless such was their origin.

Dr. EWART considered the entire destruction of the lung by maceration very extraordinary.

Dr. WEST, in reply to Mr. Barker, stated that no inoculation experiments had been done with the fluid.

PERIODIC RESPIRATION.

Dr. SAMUEL WEST contributed this paper. Periodic respiration was the name given to breathing when it occurred in regular phases. There were two special forms: (*a*) Cheyne-Stokes breathing, (*b*) grouped respirations. The characters of Cheyne-Stokes breathing were: (1) Groups of respirations separated by long pauses. (2) The gradual crescendo and diminuendo of the respiratory movements. (3) The rapid rate of breathing while it continued might be 120 in the minute. The characters of grouped respirations were: (1) Group of two, three, or four respirations. (2) Equal depth of individual respirations—that is, no crescendo or diminuendo. (3) Of slow rate, not more than 8 to 10 in the minute. Cheyne-Stokes breathing might be met with in central nervous affections, cerebral or bulbar, when the patient was moribund, but was most frequent and characteristic with a failing left ventricle, when it was of fatal omen, even though there were no other alarming symptoms. In the former the patient was dying of the disease, so that the phenomenon was of no clinical assistance. Grouped respirations were met with only in meningitis, especially in the posterior basic form. In the latter case, if recovery took place the phenomenon passed off, and it was again of no importance for prognosis. The two forms of periodic respiration were therefore strongly contrasted, not only in character, but also in prognostic value. Tracings of the two forms were exhibited.

Dr. GARROD referred to Cheyne-Stokes respiration occurring during sleep, instancing an example he had witnessed for years in an old man who had also great irregularity of pulse,

In one case of severe aortic disease Cheyne-Stokes respiration developed, but was arrested by subcutaneous injections of strychnine, and the patient was living nine months afterwards. In uraemic cases the patient might be restless, though not violent; and he had seen such a patient die in the course of a few days, with Cheyne-Stokes respiration, but without uraemic convulsions. This was an important type of case, which unless looked for might escape observation.

Dr. HERBERT FRENCH described the case of a woman with sarcoma of the uterus, involving both ureters, but without kidney lesions. She passed no urine for twelve days before death, and during the last eight days of life had perfect Cheyne-Stokes respiration, but no other signs of uraemia.

Dr. WEST, in reply, said that the onset of Cheyne-Stokes respiration in cases of chronic interstitial nephritis, without any sign of uraemia, was of grave import.

RELAPSING TETANY ASSOCIATED WITH DILATATION OF THE SIGMOID FLEXURE.

Dr. F. E. LANGMEAD gave an account of this case. The patient was a boy, aged 6, admitted into the Hospital for Sick Children, Great Ormond Street, on five occasions, suffering from tetany associated with evacuation of porridge-like stools. He was discharged free from these symptoms after each stay in hospital, lavage to the lower intestine proving successful when other treatment had failed. There was general abdominal distension, also a hollow tumour in the left half of the abdomen. On the fourth admission haematuria was present. On the fifth the tetany was complicated by diphtheria, which proved fatal. *Post mortem*, the dilated viscus was the sigmoid flexure, of very unusual dimensions. Two uric acid calculi were in the right kidney. The interest in the case lay in the association of tetany (1) with dilatation of the sigmoid flexure, (2) with renal calculus. (1) Only one recorded case of tetany associated with local dilatation of intestines could be found. The dilatation of the sigmoid flexure was probably analogous to the dilatation of the stomach and showed that the stomach was not an essential factor. (2) Although no record of tetany associated with renal calculus could be found, there were 3 such cases among 10 fatal cases of tetany in the *post-mortem* records of Great Ormond Street Hospital, whereas such calculi occurred in only 0.57 per cent. of the general autopsies at the hospital.

The PRESIDENT thought the case emphasized the necessity for operation in cases of huge dilatation of the bowel. The surgeon, after opening the abdomen must deal with what he found, as by short-circuiting or drainage of the intestine, with subsequent anastomosis.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF OBSTETRICS.

R. D. PUREFOY, F.R.C.S.I., President, in the Chair.

Friday, November 17th, 1905.

TREATMENT OF ECLAMPSIA.

AFTER the delivery of the President's address, which dealt with the history of the Society, Dr. DE LA HARPE read a paper on the treatment of puerperal eclampsia in the Rotunda Hospital, bringing forward statistics for thirteen years. They included a series of 71 cases treated by morphine injections and exclusively palliative measures; 12 died, a percentage of 16.9. He advocated the adoption in practice of the Rotunda methods, which consisted of (1) injections of morphine up to ½ gr. in twenty-four hours; (2) thorough lavage of the stomach by means of a siphon tube; (3) purgation by castor oil and croton oil combined, these being passed through the tube before its removal; (4) thorough lavage of the lower bowel; (5) keeping the patient lying on the side to prevent fluids formed in the mouth entering the lungs and causing the so-called oedema of the lungs to occur; (6) poultices to the loins; (7) plenty of saline fluid to be administered through stomach and rectal tubes, or injected beneath the breasts. No operative interference of any kind was considered advisable.

Sir ARTHUR MACAN said he was satisfied with the results obtained by the treatment used while he was Master. This was a big turpentine enema, and chloroform to begin with, followed by chloral hydrate per rectum, as much as ʒij in three or four hours. Latterly he had used the hot-air bath with satisfactory results. He thought the profession almost universally recognized that the termination of labour was a very important point in the treatment.

Dr. HORNE thought every case should be treated on its merits and its condition on admission. No special form of treatment could be relied on, and they must be prepared to use morphine, or in certain cases Caesarean section, vaginal section, Bossi's dilator, etc.

Dr. JELLETT said he was more in favour than formerly of radical treatment. He would not argue that it was the right one to adopt in all cases, but there were grounds for considering whether, in cases that appeared to be severe, the radical treatment of emptying the uterus should not be adopted from the start.

Dr. HASTINGS TWEEDY regretted one line of treatment could not be followed. In default, useful statistics could not be collected. Progress would not be much forwarded by knowing what the poison was; there were fair grounds for saying it was a toxaemia in the system, but there was toxaemia which just fell short of eclampsia, headaches, drowsiness, dullness, etc.

Dr. NEILL related his experiences at the Coombe Hospital. He had used with success in all cases morphine, vapour baths, and active purgation.

Dr. GIBBON FITZGIBBON thought the question of purgation was a good deal neglected, and deserved more attention than it received.

The PRESIDENT said it was plain, from a study of the old Masters' books in the Rotunda Hospital, that free venesection was the routine treatment of puerperal eclampsia for nearly a century after the opening of the hospital; and in many of the cases, even those admitted in coma, recovery took place. To himself no method of rapid emptying of the uterus had ever commended itself, though he was convinced of the wisdom of expediting delivery by forceps when the head was within reach. He had tried venesection, sometimes alone, sometimes followed by intravenous saline injection, but without success, possibly because the patients were beyond the reach of any treatment.

Dr. DE LA HARPE replied.

MEDICAL SOCIETY OF LONDON.

Sir LAUDER BRUNTON, M.D., F.R.C.P., F.R.S., President, in the Chair.

Monday, November 27th, 1905.

DISCUSSION ON RHEUMATOID ARTHRITIS.

Dr. A. E. GARROD in opening this discussion pointed out that concerning diseases which involved the joints, whilst there was much to learn, there was also much to unlearn. Owing to the manner in which ideas about them had developed, the prevalent notions were in many respects antiquated and shaped by traditions inherited from the past. The clinical group of cases spoken of under the names of rheumatoid arthritis and osteo-arthritis did not coincide in extent with the anatomical group, osteo-arthritis, and no single morbid entity corresponding to the rheumatoid arthritis of the text-books really existed. A sketch was given of the systemic disease, probably infective, in which fusiform swelling of joints and thickening of their capsules were associated with very conspicuous muscular atrophy and constitutional symptoms such as febrile disturbance, anaemia, brown smeary pigmentation, and rapid pulse. Emphasis was laid on the importance of distinguishing the active stage of this disease from the stage of sequelae, and of adopting different lines of treatment in the two stages. It was suggested that the name rheumatoid arthritis should be appropriated to this single disease, in which the joint did not exhibit osteo-arthritic changes, at any rate in the active stage. Certain definite clinical groups of cases with osteo-arthritic lesions were referred to, such as malum coxae senile, spondylitis deformans, etc. It was suggested that the osteo-arthritic changes were not specific, but constituted a group of degenerative changes which might develop *de novo*, or as sequelae of long-standing articular disease of any kind. In some cases the osteo arthritic lesions were primary, multiple, and widespread, but it was suggested that such cases were wholly distinct from those of the acute or subacute disease previously referred to as rheumatoid arthritis. The character of the joint lesions, their distribution, and the age-incidence and prognosis of the two diseases were different, and the resemblance between them was merely superficial. However, both were commoner in women, and both implicated many small joints, including those of neck and jaw.

Dr. E. J. CAVE grouped the cases under two headings—one of direct infection of the joint tissues and the other of trophoneuroses. There were often in the latter group premonitory nerve symptoms, the joint affection was symmetrical, and the changes were more degenerative than

inflammatory. In the former group there were no premonitory nerve changes, the symmetry was not so close, and there were signs of inflammatory change. It was probable that one infective agent alone was responsible, but that there were many channels of infection, the mucous-lined cavities and the alveolar sockets being the chief. The prognosis in those cases in which the cause was discoverable and removable was favourable. In the alveolar cases a micro-organism had been found in the sockets which seemed to be identical with the *Micrococcus rheumaticus*. In treatment he expressed preference for iodide, the persistent use of guaiacum, and the inunction of the ointment of colloidal silver.

Dr. A. P. LUFF thought septic arthritis might be differentiated from the entity rheumatoid arthritis, and its recognition was not difficult. The cases of so-called chronic rheumatism were really cases of chronic fibrositis and not a part of an infective disease. In these there was creaking but not grating. Rheumatoid arthritis was an infection from one of the mucous membranes, and usually began in one of the small joints of the hands; the symmetrical infection was a later phenomenon. The special value of potassium iodide and guaiacol carbonate in treatment was emphasized.

Dr. BUCKLEY alluded specially to spondylitis deformans, which he considered to be a fibrositis, and not rheumatoid arthritis. The treatment of the latter disease might well be on the lines of the hygienic treatment of tuberculosis; he had obtained good results from an excess of meat with restriction of carbohydrates and an ample supply of water to drink.

Dr. HARBURN believed that many of the cases of rheumatoid arthritis were toxaemias and of gastro-intestinal origin. He had found galvanic electricity and counter-irritation of much value with arsenic, guaiacol carbonate, and cod-liver oil.

Dr. BERTRAM ABRAHAMS could not distinguish very clearly between rheumatoid arthritis and osteo-arthritis; the two types seemed to him to depend on differences in intensity of infection. He had found guaiacol carbonate of especial service in the early stages; iodide was of special use in the late stages.

Dr. F. PARKES WEBER wished to differentiate certain clinical types of arthritic affections: those in which there was difficulty in finding out the site of septic infection; those of the so-called "acute rheumatoid arthritis," an asymmetrical infection of the joints, not merely a toxaemia; the chronic joint affections in children described by Dr. Still, possibly, he thought, allied to rheumatism or even to tubercle; and the group known as spondylitis deformans, really a distinct affection.

Dr. W. HALE WHITE said that some cases of Still's disease did not react to tuberculin; it was no doubt a variety of rheumatoid arthritis. This was a disease *sui generis* the source of whose infection was unknown. At a necropsy the bone and cartilage were healthy, the change was around the joints and in the synovial membrane. The transparency of the bones in acute rheumatoid arthritis to the *x* rays was characteristic.

Dr. F. M. SANDWITH referred to the arthritis following dysentery. Something as to the pathology might be learned from a study of the geographical distribution of the disease. The most intractable cases were children in their teens.

Dr. POYNTON said he had reproduced the disease with Dr. Payne in animals by injecting a micro-organism similar to that of acute rheumatism. He was rather against the view that rheumatoid arthritis was a definite disease. He preferred the term arthritis deformans for the doubtful group of cases, being possibly a malignant type of rheumatism.

Dr. GARROD replied.

LIVERPOOL MEDICAL INSTITUTION.—At a meeting on November 23rd, Dr. R. J. LOGAN, Vice-President, in the chair, Dr. LESLIE ROBERTS showed a man, 42 years of age, suffering from anaesthetic leprosy. The symptoms commenced about eleven months ago, a dusky red spot appearing on the tip of the right great toe. The toe was now swollen to twice the normal size, redness extending to the dorsum of the foot. On the right forearm, near the wrist, there was another patch similar in colour, the skin being anaesthetic over both these regions. Dr. GROSSMANN showed a man, aged 34, who had suffered severe pain in the left side of the head for the last three months; otherwise he was in good health. One month ago the headache disappeared, diplopia was observed, and the left eyelid drooped. There was now complete ptosis and paralysis of all the eye muscles with the exception of that supplied by the fourth nerve, the eyeball rolling on an antero-posterior axis on attempts being made to look outwards and downwards. The pupil neither reacted to light nor to accommodation. The lesion was thought to be situated at a point where the third and sixth nerves perforate the meninges, and to be of a syphilitic nature. Dr. T. R. BRADSHAW fully agreed with the localization arrived at by Dr. Grossmann, and felt confident that the lesion was syphilitic in origin. Quite lately he had seen a similar case of ocular paralysis undoubtedly syphilitic in origin. In this case, however, there was also paralysis of the hypoglossal nerve of the opposite side.—Mr. K. W. MONSARRAT related a case in which a patient was admitted to hospital five weeks after the commencement of an attack of appendicitis; it had previously been treated by medical measures. At the time of admission the signs of thoracic disease overshadowed all others, and the previous diagnosis of appendicitis was not then known. A small subphrenic abscess and a large right-sided empyema were opened under local anaesthesia. Four days later an abscess, the presence of which was not at first clear, was opened in the right loin. This lumbar abscess lay in front of the right kidney below the liver, and extended downwards to the outer side of the colon as far as the pericaecal region. The patient was discharged well in seven weeks.—Dr. W. CARTER stated, as the result of many careful observations upon himself, that after swallowing 5 gr. of potassium iodide dissolved in ½ oz. of water the drug was recognizable in the urine in from twelve to twenty-four minutes, and continued to be found for from thirty-five to forty hours. It appeared as early in the saliva, and was observed in it from four to five hours longer; it was never found in the faeces. In such small doses (5 gr. in thirty-six hours) potassium iodide gave relief from the pains of a crippling neuritis that had lasted for two months.—Dr. DAVID SMART read a paper on the modern treatment of syphilis. He much regretted the general apathy in England on the subject of venereal disease, as instanced by the absence of lock hospitals in large centres and in large naval and military stations. He referred to the great importance of general hygienic treatment—namely, rest to the body and nervous system and rigid regulations as regards tobacco and alcohol, laying especial stress on the antisepsis of the mouth and teeth. After discussing the value of mercury in the several stages, he mentioned the three main means of administering it—by the mouth, by means of intramuscular injection, and by inunction—expressing a decided preference for the latter mode of treatment, both in private and in hospital practice. An interesting description of Aix-la-Chapelle and its inunction "Kur" was given, the paper concluding with a strong appeal for the more general adoption of this method in England. Dr. STOPFORD TAYLOR said that during the last eighteen months he had regularly practised the intramuscular method of administering mercury, and the way in which patients had improved had been a revelation to him. He should be very sorry to return to the oral method of medication, and considered the routine treatment by inunction to be impossible in this country. Dr. A. BERNARD said when all the symptoms pointed to the syphilitic character of the primary lesion, it was his invariable practice to administer mercury without waiting for the onset of secondary symptoms. He greatly preferred to employ inunction or intramuscular injections rather than to give the drug by the mouth. Dr. F. H. BARENDT said that in private as well as in out-patient practice he used the oral method. He found it, on the whole, the most satisfactory one, and it did not interfere with the patient's occupation and personal comfort or betray his secret. When the nature and seriousness of the affection were placed clearly before the patient no difficulty was experienced in keeping him under observation for three years. Dr. LESLIE ROBERTS spoke in favour of the oral method; in the later lesions of syphilis he had used inunction with marked benefit; he considered there was some appreciable danger in intramuscular injections. Dr. W. ALEXANDER, Dr. W. B. WARRINGTON, Mr. E. M. STOCKDALE, Dr. T. R. BRADSHAW, Mr. F. C. LARKIN, Mr. F. T. PAUL, Dr. R. W. MACKENNA, and Dr. A. G. GULLAN also took part in the discussion.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.—At a meeting on November 13th, Professor MUIR, President, in the chair, the following were among the exhibits:—Dr. JAMES H. NICOLL showed (1) several patients from a further series of cases of hernia of the ovary in infants. He had seen in all 35 cases, in 30 of which the diagnosis was verified by operation. In his present series of cases he was able to deal with the condition without the removal of the ovary. Reference was also made to his former cases (*Glasgow Medical Journal*, October,

1905) and to the diagnosis and treatment of this condition. (2) Several of the most recent cystoscopes, with special reference to the inspection of the ureteral orifices, in showing which he expressed the opinion that the results of ureteral catheterization and of urinary segregation were not meantime sufficiently uniform to establish confidence, and that in practice reliance must be placed on careful, and if necessary repeated, cystoscopic inspection of the ureteral orifices. (3) Lantern slides of the steps of an operation for the radical removal of penile carcinoma. The method shown, which had been used for eleven years, aimed at the removal *en masse* of the anterior two-thirds of the penis, the dorsal vessels and lymphatics, the fat of both groins with the contained superficial inguinal glands, and of the deep inguinal glands in the pelvic brim, a Y-shaped incision with a looped leg being employed.—Dr. Freeland Fergus read notes of a case of conjunctival tuberculosis which occurred in a child aged 6. There was a 4 mm. broad ulcer present on the upper fornix of the right eye with accompanying slight granulations at its margin, and enlargement of the pre-auricular and one of the cervical glands. The whole of the affected tissue was excised, together with the involved glands, and the wound healed perfectly. Six months later the child was in excellent health. Dr. Inglis Pollock demonstrated the microscopical preparations of the case.—Dr. James Hamilton read notes of a case of cerebro-spinal meningitis, and Dr. John Anderson showed microscopical preparations from the same. The patient was a young man aged 24, whose illness, of three weeks' duration, presented the features of a sporadic case of cerebro-spinal meningitis. The fluid from lumbar puncture and the subsequent autopsy showed the infection to be pneumococcal in character.

Society for the Study of Disease in Children.—At a meeting on November 18th, Mr. Clement Lucas in the chair, the following were among the cases shown:—Mr. Jaffrey: A child with spina bifida and well marked post-anal dimple. Her legs were weak, but there was no definite paralysis. Mr. G. R. Wilson: A female child with complete hare-lip on the left side and partial on the right with a cleft palate affecting the left side.—Mr. P. Lockhart Mummery: A case of Volkmann's contracture in a boy, aged 12, following an injury of the wrist treated by splints. He was of opinion that the best treatment for severe cases was resection of portions of the radius and ulna.—Mr. George Pernet: Two cases of tinea tonsurans, one in a girl of 9 and the other in a boy of 11, who had been treated by one application of the *x* rays for twenty minutes. The girl's hair had regrown, but that of the boy had not yet returned, though the disease was cured.—Mr. Sydney Stephenson: A girl, aged 15, who on October 26th noticed what she described as a "dazzling" in her left eye and found that she could see parts of objects only. Ophthalmoscopic examination showed that the optic disc was indistinct, and the central part of the retina very pale except as regards a small area contiguous to the lower outer side of the disc. The sight of the eye was reduced to the appreciation of shadows only. The obstruction is almost certainly due either to embolism or thrombosis of the central artery.—Dr. Poynton: A case showing some results of anterior poliomyelitis in a boy aged 5. There was widely distributed loss of power, affecting the arm and trunk muscles. There was no loss of sensation and reflexes were everywhere obtained.—Dr. F. Parkes Weber: A case of peculiar pigmentation of the skin in a girl, aged 15, probably an incomplete form of Recklinghausen's disease. The earliest pigmentation was noticed at the back of the neck when the child was about 18 months old. There are now three kinds of pigmentation to be distinguished on the body, namely, (1) large ill-defined brownish patches, (2) sharply defined brown spots, (3) a group of very dark, almost black, spots. The patient presented only one small flaccid molluscous tumour.—Mr. Macintosh read a paper on some points in the diet of children during the second year. He pointed out though sometimes a child was in apparent robust health at the end of the twelve months, but during the next few months, in spite of the most careful directions, often failed to thrive and refused to take an adequate quantity of milk, the explanation was to be found in faulty dieting; the causes being the administration of solutions of meat extractives and an undue preponderance of starchy food which makes the child disdain the bland taste of milk and gives the child a vicious craving comparable to that of alcohol.—Mr. Jaffrey described a case of multiple renal calculi in a girl aged 9. The child had suffered for two years from frequent acks of pain in the left lumbar region. He removed eleven calculi about the size of a pea. Their composition was calcium oxalate with a small quantity of calcium phosphate.—Dr. Cautley: A specimen of saccular dilatation of small intestine, the size of a hen's egg, removed from a child, aged 5 weeks. It opened into the ileum by a small orifice. The wall was composed of normal gut. It had given rise to symptoms of intestinal obstruction.

British Laryngological, Rhinological, and Otological Association.—At the annual general meeting on November 10th, at the rooms of the Medical Society, Dr. R. H. Woods, the newly-elected President for the ensuing session, delivered his Presidential address. Having thanked the Fellows for the honour conferred on him, he said it was pleasant to observe that the attitude of the profession at large towards the speciality had improved. Laryngology had advanced from a position of tolerated dependence to one in no way inferior to that of any special department of medicine. There had been an increasing tendency of late years to treat disease by surgical means, and large numbers of operations, especially on the nose, were now performed under local anaesthesia, which not only avoided the disadvantages of administering a general anaesthetic, but preserved to the operator the co-operation of his patient. He strongly recommended the use of the dental chair in ear, nose, and throat operations, for the following reasons: (1) the chair can easily be raised and lowered to suit the patient to the operator; (2) the operator can get closer to his work; (3) constraint in the operator's posture is avoided—a matter of no small importance in prolonged operation; (4) the patient can rapidly be brought to the horizontal position in cases of nervous or toxic syncope; (5) his position is one of complete rest. In conclusion, the President pointed out that although it was the first duty of laryngologists to cure disease, they must also assist in its prevention. Much had been done to prevent disease of the nose and throat, but much still remained. One of the commonest, as also the most easily recognized and the most easily prevented, causes of throat disease was oral sepsis. Neglect of the teeth by the patient was a fruitful source of this condition, while it was also often due to neglect of elementary hygiene by those incompetent dentists who fitted artificial contrivances over septic areas.

REVIEWS.

MEDICINE AND THE PUBLIC.

That for the cure of present discontents two things are wanting, a closer and more effective union among medical men themselves and a better understanding by the public of the true relations of the medical profession to the State, will doubtless be admitted with practical unanimity by the medical profession. It was mainly with the former of these objects in view that the British Medical Association was reorganized four years ago, and the measure of success already obtained is sufficient to encourage the hope of much more complete success in the future. Towards the attainment of the second object it is to be feared that less progress has been made, and the profession will, we feel sure, be grateful to Dr. Squire Sprigge for the volume *Medicine and the Public*,[1] written with the avowed object of setting out the grievances of different sections of the medical profession, so as to show "that reform should be undertaken in each case in the interests of the whole community." The education of the public in this respect has always been one of the aims which the medical press has held in view, and Dr. Sprigge's long connexion with the *Lancet* cannot fail to lend special weight to the opinions he expresses.

It is unfortunate that the question of fees is mixed up with so many of the matters upon which the medical profession has to appeal for public sympathy. This is, however, inevitable so long as great classes of the public, and even the Legislature itself, endeavour to saddle upon medical practitioners duties indispensable to the community or the individual, without making any provision to pay for services rendered, or tendering remuneration on anything like an adequate scale. A very glaring instance of what Dr. Sprigge calls the "very flattering but very embarrassing reliance upon the generosity of the medical profession" shown by Parliament was afforded by the Midwives Act. The position is very pithily put in the following sentences:

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[1] *Medicine and the Public*. By S. Squire Sprigge, M.A., M.D. London: William Heinemann. 1905. (6s.)

Under the Midwives Act the midwives are in certain circumstances required to seek medical co-operation, but the Act contains no provision for the payment of the medical man, it being apparently taken for granted that he will give his services if the patient cannot afford to pay him. She never can afford to pay him, and the medical man works for nothing.

The last statement is we are glad to say, rather too absolute, because in certain districts payment has been sanctioned, and there seems good reason to hope that the system may become general; if this result is attained, it will, we venture to say, be owing mainly to the action now being taken by the British Medical Association. While we gladly recognize the absence of any disposition to indulge in carping criticism of the British Medical Association, we venture to think that throughout the book there is a tendency to underestimate the value of the work which is being done by it for the profession. Nobody knows better than the author the difficulties which beset the path of the medical reformer; nobody has, indeed, stated them more fully and forcibly than he has in writing this book, but a more intimate acquaintance with the recent work of the Association might have induced him to take a more hopeful view of the possibility of surmounting them. Nobody expects the walls of Jericho to fall down at the sound of a trumpet blown by the Medico-Political Committee, least of all the members of that Committee itself, but there are not wanting signs that economic causes are working on the side of the medical profession for the enlightenment of public opinion.

Dr. Sprigge sees this very clearly with regard to certain desired reforms—with regard to the one-portal system, for instance; and we may take the argument on this head as an example of his method. He recognizes that the corporations "are almost certain to object to any one-portal system as taking away from them their most valuable privilege," and refers to the line taken by the President of one of the Colleges in support of this view. But he points out, and quotes the observations of Professor Churton Collins in support, that the growth of the provincial universities is changing, has already very greatly changed, the conditions of middle-class education; at the same time there has been a large increase in the number of undergraduates at the two older universities. Fifty years ago Oxford and Cambridge received annually about 2,000 undergraduates. Now each of them receives over 3,000 a year. Altogether, where there were half a century ago 2,000 undergraduates at two universities, there are now 20,000 at many. In the new universities the most important faculties are those of science and medicine, and with the growth of universities and of the habit of sending sons to the local university the proportion of medical students who start their career as undergraduates with the prospect of the degree of M.D. at the end of it will rapidly increase. It has increased very greatly, and will probably go on increasing in almost geometrical ratio, for no man who has a university degree himself will be content to send his son into the medical profession by way of the corporations. The rank and file who seek qualifications from conjoint boards are likely, therefore, to diminish in number, perhaps very rapidly. As to the honours men, the men who now take, for example, the F.R.C.S.Eng., they are increasing in number, but Dr. Sprigge argues, justly, as we believe, that the ambitious young man seeks the diploma because at the present time it is made a condition of appointment to the surgical staff of the majority of English hospitals. So soon as the hospitals begin to accept the degree of Master in Surgery as entitling the holder to compete for a hospital appointment, one main reason for seeking the F.R.C.S. will disappear. Probably some of the universities will have to screw up their regulations and examinations before this comes about, and any M.Ch. is recognized as equal to the F.R.C.S., but meanwhile local patriotism may be expected to do a good deal. But, if and when this happens, the corporations, finding the demand for their diplomas, both higher and lower, disappearing, must either give up the struggle for existence or seek some other reason for existing. They will, Dr. Sprigge suggests, find salvation in advocating a one-portal system, under which the duty of examining would be entrusted to the corporations. It is admittedly a guess, but a guess which, for two reasons, seems rather probable. In the first place, it would fulfil Mr. Tweedy's condition that the examiners for a licence to practise should be men actively engaged in practice—a very sound view; and, in the second place, it would be a solution in thorough accord with the genius of the race. The British have always, since the seventeenth century, preferred reform to revolution, have preferred to adapt existing institutions to new conditions rather than to replace them by a new system contrived on a logical syllogism. Incidentally, the change would justify a drastic reform in the constitution of the General Medical Council, for it would not be necessary to give examining bodies, subordinate to the Council, any representation upon it.

We may turn from this interesting attempt to forecast the future to a hardly less interesting attempt to analyse the past. Sir James Paget's statistical study of the career of 1,000 men who entered the medical school of St. Bartholomew's Hospital is well known; of this total 224 or nearly a quarter have to be eliminated, 41 died during pupilage, 87 died young, and 96 abandoned medicine while still pupils. Of the remaining 776, the number who failed utterly owing to inaptitude, bad health, or bad conduct was 56. This leaves 720, and of these 23 met with distinguished success, 66 with considerable success, 507 with fair success, and 124 with very limited success. Dr. Sprigge has made a similar inquiry as to the fate of 250 students who entered at another medical school in London on or after October 1st, 1879, and his results are so consonant with those of Sir James Paget, as to lead to the conclusion that the older estimate gives a fair average. The number who gave up, or died while pupils or while still young was 31, the number who either failed in practice or gave it up for other callings was 12; of the remainder 9 have met with distinguished success, 45 with considerable success, and 71 with fair success.

We have said, we hope, enough to show that Dr. Sprigge's book is well worth reading and studying. It contains the observations of a shrewd observer, with excellent opportunities of gaining information, and gifted with a temperament which enables him to draw dispassionate conclusions from the facts as they present themselves to him. It is a book which will be interesting not only to medical men, but to any intelligent layman who wants to know what are the difficulties and the aspirations of the medical profession, and in what way it believes that the public can and ought to help it to realize those aspirations.

SEMMELWEIS.

IN the BRITISH MEDICAL JOURNAL of September 9th, 1905, we noticed the publication of Semmelweis's biography, by Dr. Schürer von Waldheim, and we took from it a brief account of the way in which Semmelweis was led to his great discovery—how puerperal fever could be prevented. We need not, therefore, now repeat that story. The matter contained in the bulky volume compiled by Dr. VON GYÖRY[1] is chiefly of historical interest. The whole civilized world now recognizes that Semmelweis was right and his opponents wrong. The principles of his teaching are acted on in every lying-in hospital that is successfully managed. Every student learns these principles as being unquestionable propositions, and the truth of them is brought home to him every day afterwards by practice.

But it may interest those who read German easily to follow the working of Semmelweis's mind as he seized his great discovery, and the methods in which he sought to prove its value and enforce its application. The volume, we ought to mention, opens with an inaugural dissertation in Latin on the life of plants. Then we come to the publications by which Semmelweis's discovery was first put before the world. He had an aversion to writing, and his work was made known by Hebra, the dermatologist, in December, 1847. The new knowledge was brought to England and communicated to the Royal Medical and Chirurgical Society in 1848 by Dr. C. H. F. Routh, who is still living; and a German translation of Dr. Routh's paper is here given. Then Carl Haller published a brief report of the facts. A more elaborate exposition of Semmelweis's facts and the theory derived from them was put forward in October, 1849, by Skoda. Semmelweis gave some lectures to the Imperial and Royal Medical Society of Vienna, but he did not write them out. Reports of them are in this volume. The first book he wrote was in the Hungarian language, and therefore attracted no notice outside Hungary. His great work on puerperal fever was published in 1860. After that, as his teaching was not quickly accepted, he wrote some "open letters" to different people. In his great work he shows himself a man possessed of strong reasoning power, of great

[1] *Semmelweis' gesammelte Werke, herausgegeben und zum Theil aus dem Ungarischen übersetzt.* (Semmelweis's collected works, edited and in part translated from the Hungarian.) Von Dr. Tiberius von Györy, Privat dozent an der Universität zu Buda Pest. Mit unterstützung der Ungarische Academie der Wissenschaften. Mit dem Portrait von Semmelweis und einer Abbildung seines Grabmals. Jena: Gustav Fischer. 1905. (Demy 8vo, pp. 604. M. 12.)

industry in accumulating facts and ability in dealing with them, and also of the power of lucid exposition. He is vigorous in language, and in meeting opponents he is direct and blunt even to the point of rudeness. Here are specimens of his amenities of controversy:

> Carl Braun's opposition to the eternally true etiology of puerperal fever discovered by me arises, not from his conviction that my etiology is not true; his opposition is based partly on his ignorance of the most important principles of my etiology and partly on his ill will.

Then he goes on to give instances which he thinks show Braun's evil intentions. He tells Scanzoni that his (Scanzoni's) results in his new lying-in hospital have knocked away the foundations for the projects of the ignorant Frenchmen to build new lying-in hospitals; for he has shown that it is possible to do much in the way of murder in the newest and best-equipped lying-in hospital, if only the necessary qualities are present. Semmelweis was not content with flooring an opponent; he must jump upon him, dance upon him, cut him up, and mangle him. This is lively and entertaining, but it is not the way in which a successful missionary spreads a new faith; and it goes far to account for the slowness of his professional brethren to accept Semmelweis's discovery.

The volume concludes with Semmelweis's gynaecological papers: some reports of cases, some papers on menstruation and its disorders, which show him to have been a man of large resource in the way of treatment; and a paper on the treatment of ovarian cysts by puncture, by drainage, by pressure, and by injection of iodine. Only a strong personal interest in the author will make any one read this today. But we suppose there are antiquaries who like such reprints.

The volume is a monument of the best kind to an able and clear-headed man, who did a great work and might have done a much greater work had he possessed in higher measure the virtues of courtesy and justice. To reprint all his works without exception is a pleasing proof of the loyalty of the Hungarian Academy to the memory of its great man. But we confess we could have dispensed with the essay on plant life, and that on obsolete modes of treating ovarian tumours; and we should have been pleased had the more important works been severely edited and the polemical passages deleted, so that Semmelweis's constructive work might have stood alone in naked majesty.

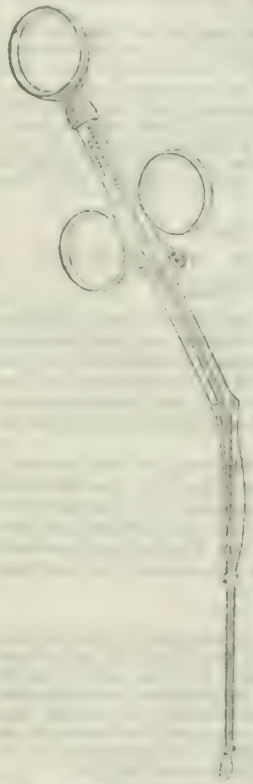
MEDICAL AND SURGICAL APPLIANCES.

An Alae Nasi Prop.—Dr. Alexander Francis, Henrietta Street, Cavendish Square, W., writes: A not uncommon cause of difficulty in breathing through the nose is a too flaccid condition of the alae nasi. During inspiration the alae are more or less drawn in against the septum, causing an impediment to the free ingress of air, and the suction thereby produced causes a tumefaction of the soft parts within the

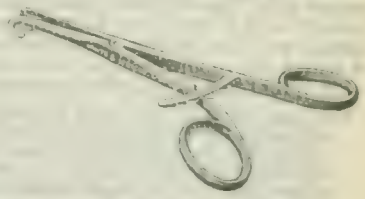


nose. Messrs. Mayer and Meltzer, of Great Portland Street, have made for me a small silver instrument, here figured, which claims the following advantages over other appliances designed for the purpose: (1) It causes little or no irritation of the mucous membrane, even when worn constantly for a considerable time; (2) it is unseen when in use; (3) it is easily inserted and removed. The flat surface is intended to rest upon the septum, while the arch "props" out the ala. It can be obtained in several sizes. Motorists and others who travel rapidly through the air have derived great comfort from its use.

An Improved Snare for Nose and Ear.—Mr. George W. Badgerow, M.B., M.R.C.S.Eng., Resident Medical Officer, Throat Hospital, Golden Square, W., writes: The accompanying woodcut represents a snare which I have had made. It possesses many advantages over others which I have seen, and has performed its work so well that I think it will be generally appreciated. It is light, strong, and is easily manipulated. The snare works noiselessly. Its construction is very simple, the wire being exposed, and the ordinary barrel being discarded, so that it is easily cleaned, and does not rust. It is quickly threaded, and the loop is easily reformed. It may be made single by having the top ring left off. It can be obtained in two sizes for nasal and aural polypi respectively. It is made by Messrs. Mayer and Meltzer, of 71, Great Portland Street.



Tracheotomy Dilator.—Mr. K. W. Monsarrat, F.R.C.S.E. (Liverpool), writes: The requirements of a satisfactory tracheotomy dilator



are that it should be easy of introduction, that it should remain in position when once introduced, and that it should not impede the passage of the tracheotomy tubes. Messrs. White and Wright, 93, Renshaw Street, Liverpool, have made an instrument at my suggestion which I have found meets these requirements. It is a two-bladed instrument with curved and beaked extremities. It is introduced close alongside the knife, and, as it is opened in the wound, the curved beak makes it practically impossible to displace if steadied by slight traction on the handles. The shape of the beak is also designed so that the handle and blades may be depressed downwards, and brought out of the way of the tube without slipping; this I consider the most important advantage of the instrument, the tube being introduced with the greatest ease, which is by no means always the case with tracheotomy dilators of other patterns. A rack makes the instrument self-retaining when opened in the wound, and the off handle is shaped to fit the position of the thumb in the act of introduction.

The population of Bulgaria, aggregating less than four millions, is stated in a recently-issued report of the Sanitary Department of the Bulgarian Minister of the Interior, to include as many as 330 persons, male and female, over 100 years of age.

Lepers in the United States.—It is estimated that there are some 300 lepers in the United States. They are scattered through twenty-one States and Territories, but the six States of Louisiana, California, Florida, Minnesota, and North Dakota have all but forty-eight of them. In Louisiana there are 155 cases, recruited for the most part among persons who have gone there from Southern Europe. California and Florida each have 24 cases. In Minnesota there are 20, and in North Dakota 16. There are 5 cases each in Illinois, Mississippi and Wisconsin. The other States in the list have from 1 to 2 cases each. In 186 of the cases the disease was contracted in this country. Only 72 of the total number of lepers are at present isolated.

MEDICAL CANDIDATES AT THE GENERAL ELECTION.

To the list of medical candidates for election to Parliament at the next General Election published in the British Medical Journal of last week the following should be added:

Mr. Charles Harvey Dixon, M.R.C.S., L.R.C.P., Conservative candidate for the Market Harborough Division of Leicestershire.

Sir George Scott Robertson, K.C.S.I., Liberal candidate for Central Bradford.

Sir George S. Robertson, who received his medical education at the Westminster Hospital medical school, entered the Indian Medical Service in 1878, and retired with the rank of Lieutenant-Colonel. He served through the Afghan campaign of 1879-80, and in June, 1888, passed into the employment of the Indian Foreign Office. In 1890-91 he travelled for a year among the wild hillmen of Kaffiristan, and his work on *The Kaffirs of the Hindu Kush* is the principal authority on the topography of that almost unknown mountain land. He conducted a political mission to Chitral in 1893, and early in March, 1895, was besieged there, and severely wounded.

PROPOSED AMALGAMATION OF LONDON MEDICAL SOCIETIES.

A special general meeting of the Royal Medical and Chirurgical Society was held at 20, Hanover Square on the afternoon of November 23rd for the purpose of considering the report on the union of medical societies adopted at the meeting of the General Committee of Representatives of the Societies held on July 19th. There was present a large and representative gathering of the Fellows.

Sir R. Douglas Powell, Bart., President of the Society, after stating from the chair that the object of the meeting was the consideration of the Representative Committee's report with the suggested amendment of the Council of the Society, and if approved to instruct the Council to proceed further with the matter, recapitulated the facts of the position of which the report was the expression.

Sir William Church then moved,

> That the report on the union of medical societies as amended and adopted at the meeting of the General Committee of Representatives of the Societies held on July 19th, 1905, be and is hereby approved and adopted, subject to the modifications recommended by the Council of the Royal Medical and Chirurgical Society, and that the Council be and is hereby instructed to endeavour, in negotiating with the General Committee of Representatives of the Societies, to secure the adoption of all these modifications.

He emphasized the fact that what was then before the Society was not the scheme for an amalgamated society, but the question of the possibility of amalgamation having regard to financial and other considerations. The Council had decided that it was feasible. It was not intended that all medical societies in the outskirts of London, much less in the provinces, should be affiliated, in the first instance at any rate, but only those meeting in the Society's house and in that of the Medical Society of London. It was believed that such an amalgamation would tend to the welfare of the science of medicine and of the medical profession. Speaking as Honorary Treasurer of the Society he could say that never during the past ten years had it been in a sounder financial position.

Dr. Robert Hutchison, in seconding the resolution on behalf of the junior Fellows, said that amalgamation recommended itself to them because it made for economy and efficiency.

Colonel Myers moved that the resolution be postponed for six months in order that the financial considerations involved should be more carefully investigated, particularly in regard to any outstanding debts of other societies. He suggested that the Society had much to lose and little or nothing to gain by the amalgamation. He considered it would mean the extinction of the Society. This amendment did not find a seconder.

Dr. F. E. Batten considered that the list of the societies for whom amalgamation was proposed should be the minimum and that it should be open to attach others.

Dr. Edgar Willett remarked that if women were excluded from the amalgamated society, at least one society in the list would find difficulty in taking part.

Dr. Seymour Taylor thought that if women were admitted they should not be entitled to take part in administration.

The resolution was then put to the meeting and carried with one dissentient.

Dr. P. Pye-Smith then moved a second resolution directing the Council to take the necessary steps for carrying into effect the amalgamation of the Society with any sufficient number of the Societies named in the report or other societies. Mr. D'Arcy Power seconded this resolution, which he looked upon as a vote of confidence of the Fellows in the Council, and it was carried unanimously.

AUSTRALASIAN MEDICAL CONGRESS.

[From Our Special Correspondent in Sydney.]

The Seventh Session of the Australasian Medical Congress was held at Adelaide, South Australia, from September 4th to 9th.

Addresses.

The President was Professor E. C. Stirling, M.D., F.R.S., C.M.G., Professor of Physiology in the University of Adelaide, who, by his geniality, warm hospitality, and excellent presidential address, proved himself an ideal president. His address on medical science and social problems was delivered in the Elder Hall before a very large audience of lay and professional people, and was warmly applauded. In the Section of Medicine the address was delivered by Dr. Daniel Colquhoun of Dunedin, New Zealand, President of the Section, on the standard of ethics and work in medicine. In the Section of Surgery the presidential address was given by Mr. Frederick Bird of Melbourne, on abdominal syphilis. In this address Mr. Bird gave a summary of his recent experiences of this form of syphilitic disease, which was listened to with deepest attention. In the Section of Pathology Professor David Welsh, Professor of Pathology in the University of Sydney, gave his presidential address on recent work on the pathology of cancer. This address proved to be one of the best addresses at the Congress. In the Section of Gynaecology the address on some practical points in gynaecology and obstetrics was delivered by Dr. Byrne of Brisbane. Dr. Syme gave the address on medical ethics in the Section of State Medicine, and Dr. W. G. Armstrong of Sydney gave the address on infantile mortality in the Section of Public Health. Several important resolutions were passed at the last general meeting of the Congress.

Next Meeting.

Professor Allen of Melbourne was elected the President of the next Congress to be held in Melbourne in 1908. Professor Allen, who is the Professor of Anatomy and Pathology in the University of Melbourne, has always taken an active interest in the welfare of the profession, and there is no doubt he will worthily fill the presidential chair.

Organization of the Profession.

Probably one of the most important acts done by the Congress was the appointment of a Committee composed of representatives from all the medical associations throughout Australia, to take into consideration the important question of the organization of the profession in Australia. This Committee is to discuss the whole question, and bring up a report at the meeting of the Congress at Melbourne in 1908. How far this Committee will be able to devise a scheme for this purpose which will be entirely satisfactory to all parties remains to be seen; but it is quite obvious that such a scheme can only be completed by a policy of give and take on all sides. Hitherto the Branches of the British Medical Association in Australia have been both numerically and influentially the most important of the Australian medical organizations, and those who have worked hard in the past in raising these Branches to their present position of influence are not likely readily to give way to any scheme which might imperil the union of these societies with the parent Association.

Public Health.

Other resolutions passed at the Congress dealt with various matters of the public health, such as the compulsory notification of pulmonary phthisis, the establishment of sanatoriums for the treatment of pulmonary tuberculosis among the poor, improvements in school hygiene, etc. It was also resolved that the use of the γ rays, radium and Finsen light treatment should be in the hands of the medical profession alone, or under its direct supervision. It was also resolved that the future provision for the care and treatment of the insane in Australasia should be based upon a recognition of the threefold requirements of (1) up-to-date mental hospitals; (2) farm and industrial colonies; and (3) benevolent asylums. That there was imperative need for the establishment in the different

States of epileptic colonies, in which epileptic children should receive education, epileptic adults being suitably employed, and epileptics generally find a home as well as the most successful treatment. The General Secretary of Congress was instructed to forward these resolutions to the proper authorities in the different States.

Scientific Work.

The general scientific work of the Congress was of a high order, and the members were most hospitably entertained by his Excellency the State Governor, the State Government, the Mayor of Adelaide, and many private individuals as well as the local members of the profession. Altogether the meeting was pronounced to be one of the most successful of all the Congresses.

COMPARATIVE STUDY OF THE LINCOLN, MAIDSTONE, AND WORTHING EPIDEMICS OF TYPHOID FEVER.

In the course of a comparative study of the recent epidemic of typhoid at Lincoln with those at Worthing in 1893 and at Maidstone in 1897, at the last meeting of the Society of Medical Officers of Health on November 10th, Dr. Childs called attention to the similarity in the temporal and local incidence of these epidemics, and also to the remarkable parallelism of the development and course of the infection as indicated by the daily notifications.

Epidemic Explosions.

In each case the spread of the infection was coextensive with the distribution of the water supply. The "explosive outburst" characteristic of waterborne epidemics was well marked, and followed by a rapid decrease and subsequent graduated decline. The following table shows these characters and similarities, and also the striking parallelism of the weekly decline in numbers.

Comparison of the Three Epidemics.

Table showing the Number of Cases Notified at the end of each Week after the Beginning of the General Invasion.

	Lincoln. Jan. 22nd to June 21st, 1905. Pop., 51,000.		Worthing.* Second Outbreak—July to Dec., 1893. Pop., 15,317.		Maidstone. Sept., 1897, to Jan., 1898. Pop., 33,830.	
1st week	125		139		128	
2nd ,,	268	847	244	557	544	1201
3rd ,,	154		174		529	
4th ,,	126		92		240	
5th ,,	59	220	59	214	116	423
6th ,,	35		63		61	
7th ,,	55		57		44	
8th ,,	38	125	29	100	34	100
9th ,,	32		14		22	
10th ,,	39		13		20	
11th ,,	27	87	14	46	15	46
12th ,,	21		19		11	
13th ,,	17		12		7	
14th ,,	6	28	5	20	4	11
15th ,,	5		5		0	
16th ,,	2		3		3	
17th ,,	2	8	6	11	0	3
18th ,,	2		2		0	
19th ,,	0		4			
20th ,,	2	3	2	6		
21st ,,	1		0			
			In December ..	4		
Total	... 995		Total ... 958		Total ... 1764	
Previous invasion—Dec. 1st to Jan. 21st	25		First outbreak—May 3rd to July 1st	303	Sept. 4th to 11th	2
Total	... 1021		Total ... 1261		Total ... 1780	

The water supplies of the three towns were typical of public supplies liable to specific infection, and to consequent production of explosive epidemics. Lincoln's water, condemned frequently by its medical officer of health during the last twenty years, was derived from streams constantly polluted by human as well as bestial excreta.

Maidstone was supplied from numerous springs, several of which were open to pollution and officially beyond the access of the medical officer of health. Worthing drew its water from deep wells in the chalk, close to fissures which were in indirect communication with defective sewers and drains.

From consideration of the conditions of these and other similar water supplies, and of the fact that a widespread invasion of typhoid may be conveyed through the water before either analysis or notification can give any warning of the invasion, Dr. Childs came to the following conclusions:

(1) An accurate and full knowledge of the source, tributaries, course, storage, and distribution of all water supplies, and also of all sand filters or other contrivances for purification should be obtained.

(2) A full and detailed description of the above should be printed and published, together with adequate maps, plans, etc., and made accessible to each water-rate payer.

(3) Where it is possible the sources of supply should be safeguarded by regular and systematic patrol and inspection, and by regular and frequent bacteriological analysis. The medical officer of health should have free access to the sources of supply, for inspection and the taking of samples.

(4) Where sand filtration is used the filters should be constructed, and the filtration carried on, in accordance with the conditions approved by our best authorities on this subject.

(5) Although it may be impossible to prevent some accidental contamination of the supply, the managers of the waterworks should be held responsible for any contaminations which may be caused through obvious carelessness or neglect.

(6) In cases where water authorities refuse to listen to the repeated warnings of the medical officer of health with regard to the dangerous character of a water supply, the Local Government Board should take action to cause those authorities to take the best practicable means for removing the dangers to which attention has been called.

The dates of attack, as recorded at Maidstone and Worthing and of notification in all three towns, indicate that more than half of the cases notified in each epidemic had been infected about two or three weeks before the outburst of notifications began, allowing three weeks as the average period between actual infection and notification; and it was inferred that nearly all the cases occurring during the explosive outbreak were due to water infection, the secondary epidemic beginning as the primary came to an end.

Other views urged by Dr. Childs were as follows:

Forerunning Diarrhœa.

Neither notification nor analysis—useful as they might be in other respects—definitely forewarn against a typhoid invasion, even when it has actually begun. In the absence of any premonitory signs, it becomes an important consideration whether the occurrence of an abnormal number of cases of typhoid (as at Lincoln) or of diarrhœa (as at Maidstone and Worthing) may be regarded as the forerunners of a general typhoid invasion. In the great epidemics of the United States volunteer encampments in 1898 this question was investigated on a large scale with elaborate care. The results indicated that a large number of cases of diarrhœa occurred previous to the typhoid outbreaks in the various regiments, and that a considerable proportion of these were in reality mild cases of typhoid. Such cases may very possibly be either the source of a widespread epidemic or the forerunner of a general invasion already begun.

Any case of typhoid or abnormal prevalence of diarrhœa in a community should be regarded and treated as the advanced force of a general invasion until it is proved to the contrary. Each member of the household in which such a case occurs, and every "contact" should be investigated clinically, and with the aid of the most advanced bacteriological methods, for example, the bacteriological testing of the blood and faeces.

By carrying out precautions to this extent the medical officer of health would run the risk of being stigmatized as an alarmist, causing unnecessary annoyance and expense. To counteract such risk he should have the right of claiming expert and authoritative assistance, so far as might be necessary, from the Local Government Board entirely free of cost, in case of a threatened epidemic; and his tenure of office should be so secure that it should not be in any way imperilled by his conscientious endeavours to prevent disastrous outbreaks; the public should be educated to regard such precautions as routine measures required in order to insure them against disastrous explosions.

The Secondary Cases.

At the present time he considers very little is known as to the way in which secondary cases of infection are caused. Some, no doubt, will be due to infection from the fomites of the patient, the dwelling and its surroundings, the drainage, etc. Probably there is much more direct infection from the patient and from ambulant cases than is generally suspected. Evidence

* That is, Worthing alone. There were 303 cases notified in the first outbreak from May 3rd to July 1st.

from medical officers of health, from fever hospitals, and from other sources has been constantly accumulating of late in favour of the infectiousness of typhoid by contact.

By the time the presence of an explosive epidemic is realized the infections derived from the primary cases have begun to multiply. It is at this period—or earlier if possible—that deliberate, careful, and exhaustive investigations should be made of the numerous obscure problems connected with a typhoid epidemic. In conclusion, he made the following suggestion:

The medical officer of health and his ordinary staff are more than fully occupied in carrying out those measures which are required for arresting and preventing the spread of infection. At that time it would be impossible for them without additional staff to make those exhaustive inquiries which are needed in order to carry out a complete scientific investigation of an extensive epidemic. A staff of specially-trained assistants, consisting of assistant medical officer, bacteriologist, chemist, and several sanitary inspectors, might make such investigations under the guidance and control of the medical officer of health, and would at the same time assist him by regularly reporting to him the result of their inquiries. Such a staff might be commissioned at ordinary times to assist, under an experienced epidemiologist, in systematically investigating and stamping out the endemic typhoid where it prevails in various parts of the kingdom, somewhat in the same way that Koch began his campaign in 1902 against the endemic typhoid prevalent in the villages of Western Germany. It should be prepared at short notice to visit any locality invaded by a typhoid epidemic, if called upon, to investigate the obscure problems of the epidemic, and, so far as required, to assist the local medical officer of health.

BRITISH MEDICAL BENEVOLENT FUND.

THE monthly meeting of Committee was held at 84, Brook Street, on Tuesday, November 21st, Mr. PARKER YOUNG in the chair. The Treasurer reported a balance of £257, of which £116 was expended in grants to thirteen applicants. The Honorary Secretaries of sixteen Divisions of Branches of the British Medical Association had expressed their willingness to act as honorary local secretaries for the Fund, and were duly elected. The payment of a legacy of £100 from the executors of the late Mr. Joseph Proctor Mann, was reported. This, with other sums amounting in all to £300, were ordered to be invested for the annuity department.

The following is an abstract of the cases relieved:

New Cases.

1. Daughter, aged 65, of a surgeon who practised in Edinburgh. Has supported herself for many years by teaching, but unfortunately has lost savings in a boarding-house which did not pay, and is now practically destitute. Voted £12 in twelve instalments.

2. Widow, aged 70, of M.R.C.S., who practised in the service of the East India Company. Was left fairly provided for, but income is now reduced through depreciation of property to £1 per month; has lost sight of one eye and is partially paralysed. Voted £12 in twelve instalments.

3. Widow, aged 70, of M.D.Edin., who had practised in Gloucestershire. Had a small income at husband's death more than twenty years ago, and became a mental nurse, educating only son by her efforts. Finally took a boarding house, but lost her capital. Voted £12 in twelve instalments.

4. L.R.C.S., L.R.C.P.(Ireland), whose practice in a London suburb gradually dwindled away, and who is now dependent on *locum* work, but has had no engagement for two months. Four children, the eldest only 9. Voted £5 in one sum.

5. Widow, aged 40, of M.D., M.R.C.S., L.R.C.P., who practised in the West Indies, and has recently died from a new growth. Income £20 a year, and a little help from relations. Two children, aged 12 and 9. Voted £5 in one sum.

Old Cases.

6. Widow, aged 48, of M.D., M.R.C.S., who practised in Yorkshire. No income; lets lodgings. Only child, a daughter aged 18, helps with housework. Relieved five times, £60. Voted £12 in twelve instalments.

7. Widow, aged 33, of M.R.C.S., L.R.C.P., who practised in India. No income; three children, aged 12 to 7, and in indifferent health. Asks for help towards getting herself and family back to India, where her brothers-in-law are willing to support her. States that she has collected half the cost of the passage, and is promised further help. Relieved twice, £10. Voted £10, subject to the rest of the passage money being obtained.

8. Widow, aged 68, of M.R.C.S., who practised in London. Dependent on small annuity, and has been laid up for some months from an accident. Relieved six times, £33. Voted £5 in one sum.

9. Widow, aged 68, of M.R.C.S., L.S.A., who practised in London. Has a share in some property, but six months' rent has had to be spent on repairs ordered by the sanitary inspector. Relieved three times, £21. Voted £5 in one sum.

10. Widow, aged 49, of L.S.A., who practised in London. Has a temporary engagement as companion, but is obliged to pay rent for three rooms as a home for three youngest children. Relieved nine times, £117. Voted £10 in four instalments.

11. Daughter, aged 63, of M.D.Edin., who practised in Scotland. Is allowed £1 per month by a charity, and is obliged to attend to invalid mother (a pensioner of this fund). Relieved three times, £24. Voted £6 in six instalments.

12. Widow, aged 48, of L.R.C.P., L.R.C.P.Edin., who was a surgeon in the Coolie Emigration Service. Four children only just self-supporting; takes boarders, but at present has none, and has been in very bad health for the past year. Relieved three times, £27. Voted £10 in two instalments.

13. Daughter, aged 59, of M.D.Edin., who practised in Manchester. Maintained herself as a companion for many years, but is now losing her sight. Relieved once, £12. Voted £12 in twelve instalments.

NEW MEDICAL ACT FOR NEW ZEALAND.

THE following is the text of a new Medical Act passed by the New Zealand Parliament at the end of October:

MEDICAL PRACTITIONERS REGISTRATION.

ANALYSIS.

Title.
1. Short Title.
2. Qualification for registration. Repeal.
3. When name of person may be removed from register.
Schedule.

Title.—An Act to amend the law relating to the Registration of Medical Practitioners.

Be it enacted by the General Assembly of New Zealand in Parliament assembled, and by the authority of the same, as follows:

1. *Short Title.*—The short title of this Act is "The Medical Practitioners Registration Act, 1905"; and it shall form part of and be read together with "The Medical Practitioners Registration Act, 1869" (hereinafter referred to as "the principal Act").

2. *Qualification for Registration.*—(1) Every person who possesses any of the qualifications mentioned in the Schedule hereto is entitled to be registered as a medical practitioner under the principal Act.

NEW SUBCLAUSES.

(2) Nothing herein shall affect the registration of any person registered under the principal Act on the passing of this Act.

(3) Where a medical graduate of a foreign university whose diploma is not recognized by the Governor in Council presents himself for the final examination of the New Zealand University, and satisfies the examiners of his proficiency and qualifications, he shall be entitled to registration.

Repeal.—(4) Section twelve of the principal Act is hereby repealed.

NEW CLAUSE.

3. *When Name of Person may be Removed from Register.*—The name of any person who has obtained registration through fraud or misrepresentation, or whose qualification has been withdrawn or cancelled by the college or university of which he is a member or by the General Medical Council of the United Kingdom, may be removed from the register by the Supreme Court upon application made in that behalf by the President of the British Medical Association of New Zealand or his deputy.

SCHEDULE.

QUALIFICATIONS FOR REGISTRATION.

The applicant must be:

(1) A graduate in medicine and surgery of the New Zealand University; or

(2) Registered on the register kept in accordance with the provisions of the Acts regulating the registration of medical practitioners in the United Kingdom; or

(3) Eligible for registration on such last mentioned register; or

(4) The holder of a diploma, granted by a university in any British possession, or any other university which, in the opinion of the Governor in Council, is equal in status to that of New Zealand, after a course of not less than five years' study of the subjects pertaining to a medical and surgical degree or licence.

THE DENTAL HOSPITALS OF LONDON.

The two institutions in London devoted purely to dental surgery, the Royal Dental Hospital of London in Leicester Square, and the National Dental Hospital at the corner of Devonshire Street, W., both held the annual gatherings of their past and present students during last week. The formal dinners took place on two consecutive evenings, the earlier being that of the school in Devonshire Street, which in point of years is slightly junior to its fellow in Leicester Square. The former has forty-four and the latter forty-six years of good work behind it. Some account of these gatherings follows.

The National Dental Hospital and College.

There was a large assemblage at the Trocadero on Friday, November 24th, of past and present students of this institution, when Mr. Cantlie presided at its annual dinner.

In proposing the toast of "The National Dental Hospital and its College," Mr. Cantlie made allusion to the perfection of modern dentistry. He had been greatly impressed by what he had seen at a recent visit to the college; the work of a dental surgeon was no longer merely an art, but an exact science, with objects at least as important as those of ophthalmology and otology. If the practice of general surgery could be put upon anything like the same precise footing it would mean an advance which would throw into the shade all the great progress of late years. As a contrast, Mr. Cantlie then gave an amusing account of dentistry as practised in the Far East, and concluded this part of his speech by convincing his audience, with the help of much Biblical lore and an admixture of imagination, that references to dental surgery were quite common in the Pentateuch and the Prophets. He even showed that Job was well acquainted with the use and nature of Nasmyth's membrane. Turning to the future, he suggested that the time had come when dental prophylaxis should occupy a much larger place in the thoughts of dental surgeons than was at present the case. Whatever views might be held on the general subject of physical degeneration, early dental decay was a prominent characteristic of the age. It was, perhaps, merely part of the chain of a vicious circle, but in any case it was for dental surgeons to show how it could be avoided. In view of the part which they must play in physical reform, he would like to see the Dental Section of the British Medical Association greatly enlarged, and its members constantly interchanging views and experiences with those of the other Sections into which the scientific work of the Association was divided.

Mr. Sidney Spokes, in his response on behalf of the institution, of which he is Dean, said the college was pursuing the even tenor of its way, and keeping step with the times. As things were now, he did not think that English-trained dentists had anything to learn from their American *confrères*. As for the teeth of children, an immense difference would, in his opinion, be made if mothers could universally be persuaded to suckle their infants even for a couple of months.

The prizes and other awards of the year were then distributed. The Rymer Gold Medal and those for Dental Mechanics (Practical), Dental Materia Medica, Bacteriology of the Mouth, and Dental Histology respectively were all carried off by Mr. E. W. Cooke; while Mr. A. J. Dalton received those for Dental Surgery, Dental Mechanics (Theoretical), and Dental Metallurgy. The Entrance Exhibition of £40 went to Mr. O. McGowan, other first prize winners being Mr. G. V. Geckie (the Ash Prize), Mr. F. C. Fritche (Dental Anatomy and Physiology), and Mr. Ashley Smith (Operative Dental Surgery).

On the toast list being resumed, Sir Victor Horsley proposed the health of "Past and Present Students." After expressing his gratification at his recent appointment to succeed Mr. C. Heath as consulting surgeon of the hospital, he discussed the position of practitioners of dental surgery from a political standpoint. Their brother practitioners of medicine, as represented by the British Medical Association, had done what they could by including dentists in the benefits of the new Bill which it was promoting in the House of Commons. To make that Bill law and to put the practice of medicine, surgery, and dentistry alike on a desirable footing, much work was required, and he would like to see the relations between the two bodies, the British Medical and the British Dental Associations, drawn much closer. In any case, they must remember that the Government would do nothing for anybody of its own accord, and if they desired to improve their outlook they must unite to play the part of the importunate widow.

The response to the toast came from Messrs. Morgan Hughes and G. W. Geckie on behalf of the old and present students respectively, the former saying that, thanks to the new Bill, he hoped that competition with unregistered men would soon be a thing of the past; the competition of the future, that between the qualified and competent man and his qualified but less competent fellow, would be equally keen but less undignified.

The toast of "The Visitors" having been proposed by Mr. Rushton, and acknowledged by Mr. A. S. Underwood, Mr. Kenneth Goadby proposed the final toast of the evening, that of "The Chairman," which was received with musical honours. After a reply from Mr. Cantlie, which included some excellent stories, the formal proceedings terminated.

The Royal Dental Hospital of London.

The Royal Dental Hospital held its corresponding festival on the succeeding day. Following the precedent happily established last October by the staff of the London Hospital, it gave an "At Home" at the school in the afternoon as a preliminary to the dinner in the evening. It was not merely a social gathering, but a businesslike meeting, at which old students were afforded an excellent opportunity of studying the ways in which the hospital now does its work. Thus, in the "Regulation" department demonstrations were given of recent methods of modifying the arrangement of ill-placed teeth. In another department methods for removing sensitive pulps under pressure anaesthesia were shown. There were numerous demonstrations of similar character, and a description was also provided of the general procedure which is adopted in all work, and by which mouth treatment is brought into line with the principles of general surgery. Thus nothing in the way of fitting plates or crowns is permitted unless the patient agrees to have all roots which cannot be rendered aseptic extracted.

The place of reunion in the evening was the Whitehall Room of the Hotel Métropole. Mr. Leonard Matheson, formerly Lecturer on Dental Surgery at Owens College, Manchester, himself an old student of the school, was the chairman of the evening, and the room was well filled with members of the staff, past and present students, and numerous guests. Mr. Matheson took charge of the loyal toasts—"the King and the Queen and the Royal Family"—dwelling in particular upon the ever-ready and ever-active sympathy of Her Majesty Queen Alexandra with all forms of suffering alike. He then proposed the toast of "Past and Present Students," placing it and claiming it as the toast of the evening. In the course of the earnest speech which he proceeded to make it was apparent why he had done so. He regretted that any one who could possibly attend should habitually absent themselves from these annual dinners. Their main and direct purpose, of course, was that of giving old friends an opportunity of meeting again and exchanging reminiscences and experiences, but in doing so they knitted together the bonds of true professional comradeship, fostered their affections for their Alma Mater, and strengthened within themselves the spirit in which they had been trained: one to which they owed so much, which had made them what they were, which would keep them what they would be. The school had doubtless gained part of its reputation owing to its splendid equipment and its smooth working arrangements with the general hospitals, but it owed still more to the men who laboured for it, men who took their duties seriously, and felt a delight less in making a name for themselves than in furthering the work to which they had put their hand, and in forcing the plough right to the end of the furrow. Their own presence there that evening he thought might be taken as a sign and symbol that they, too, were trying to add to the reputation of the school, that they were living and practising all the year round so as to keep up its name for turning out capable, strenuous, whole-hearted men.

The toast was acknowledged by Mr. G. O. Whitaker (Manchester) on behalf of the old students, and by Mr. W. D. Frew for those who are among its present pupils.

The following toast, that of "The Hospital and the School," was proposed by a guest, Mr. Golding-Bird, Chairman of the Dental Committee of the Royal College of Surgeons. He, too, made reference to the value of the traditions of institutions. The Dental Hospital had moved three times, but bricks and mortar counted for little. Their traditions were the memories of the great men who had helped to make the school, and in those memories they had a great asset, for the school was not the outcome of any great legacy, but was definitely created to do what it had done—raise the dental profession

from the slum of charlatanism to the present high position which it occupied to-day. In this connexion he mentioned in particular Robert Hepburn, Underwood, Ibbetson and Sir John Tomes. He was much struck by the school buildings; they were admirably complete, everything desirable being provided, but not a shilling wasted on luxurious fittings. As a whole it was an admirable object lesson, well calculated to teach the philanthropic public to support not only hospitals but their schools. Dental students had fought for and obtained from the Royal College of Surgeons a constitution in the shape of a syllabus, but he hoped they would nevertheless take a broadminded view of their work and not strive merely to reach a syllabus standard of knowledge.

The toast was acknowledged by Mr. J. H. HALE, Chairman of the Board of Management, and by Mr. COLYER, the Dean. The former alluded to the need of the hospital for further financial support, and the latter, in addition to giving some details of the work of the school, spoke of the effort being made to educate not only its students but the public also, both by the general rules which were enforced upon patients, and by a little book on the care of the teeth which was being distributed.

The toast of "The Visitors" having been proposed by Mr. DOLAMORE and acknowledged by Mr. ADDISON, Mr. JOHN ACKERY proposed the final toast of the evening, that of "The Chairman," in which he mentioned Mr. Matheson's recent election to the Presidency of the British Dental Association. Mr. MATHESON terminated his reply by suggesting that he and all were merely striving to pay their debts; as Wordsworth's Old Shepherd had said when explaining why he had tried to be a good father:

Herein I but repay
The gift I have received at others' hands.

SCHOOL HYGIENE.

REPORTS OF MEDICAL OFFICERS.

MANCHESTER EDUCATION COMMITTEE.

INCORPORATED in the report of the Education Committee of the City of Manchester for 1904-5 is a report on his work presented by Dr. A. Brown Kitchie, from which we quote the following:

Eyesight and Hearing.

The Medical Officer has pleasure in reporting that the scheme for the testing of the eyesight of the school children is now being carried out to the full extent, and all children in Standards II and above have now been tested, and the test will be repeated every two years. The schools are taken in rotation—last year Standard II of the municipal schools and Standards II and above of the non-provided; this year Standard II of the non-provided and Standards II and above of the municipal. The total number of children tested was 32,486, of whom 2,126 were found to be suffering from defects of such gravity as to warrant a circular being sent to the parents. 316 cases of defective hearing were reported, and in 119 cases the parents were advised of some defect.

In connexion with the testing of hearing, the Medical Officer expected in the returns now coming in a large increase in the numbers reported. This has proved to be the case, and, owing to the greater familiarity of the teachers with the work, the number has so increased as to amount to a very large item in the coming year's work.

The system of testing the sight and hearing having now been in force for two years, it is possible to form some idea of the result. It is gratifying to be able to say that in a large proportion of the children found defective, medical advice has been sought, and in the case of those suffering from defective vision, many have had glasses supplied through the Education Committee's scheme for aiding those unable to pay for glasses themselves.

Infectious Disease.

A very large number of visits have been paid to the schools in connexion with infectious disease, and, with the help of the teachers, every effort is made to exclude all children suffering from or suspected to be suffering from any infectious or contagious disease. The Medical Officer is able to report distinct progress in the manner in which those cases are recognized by the teachers, and in many cases the teachers notify the Medical Officer of the occurrence of outbreaks without waiting for the weekly return shown below.

The Medical Officer is now called upon in an increasing number of cases to give advice with regard to children other than those suffering from infectious disease, and in this work there is the possibility of great good being done, though at present only a very limited number of children can be examined.

During the winter months, a series of these addresses on infectious diseases, eyesight, hearing, and general hygiene of schools, was given to the teachers of the elementary schools. The attendance was voluntary, but so large a number of tickets was applied for that the series had to be repeated. In all, 1,200 tickets were issued, and a very large proportion of the ticket holders attended the addresses. These addresses will be printed for circulation, and it is hoped that a copy will soon be in the hands of every teacher.

As a further development of the experiment of giving these addresses, arrangements have now been made for the medical officer to deliver to the pupil teachers attending the training centre a series of twelve lectures on school hygiene. By this means it is hoped that the pupils will begin their career as teachers with much knowledge which has hitherto not been available to the seniors, or only acquired after years of experience.

Underfeeding.

With regard to the question of badly-nourished children, the medical officer has made an exhaustive inquiry dealing with over 10,000 children, and a full report with statistics has now been handed to the Director of Elementary Education for submission.

The honorary staffs of the Manchester Eye and Ear Hospitals have given valuable aid in examining the large numbers of school children who have visited their institutions as a result of the Committee's notification to the parents that the children were suffering from serious eye or ear trouble.

Cookery Instruction.

A woman superintendent has been appointed to deal with the control and organization of the cookery instruction for girls in the public elementary schools. There have been 4,428 girls under instruction during the year.

Department ..... School

Week ended ..... 19 .

III.—CHILDREN ABSENT OWING TO INFECTIOUS SICKNESS.

	Measles.		Whooping cough.		Scarlet Fever.		Diphtheria.		Chicken-pox.		Ringworm.	Any other Infectious Sickness. (Signed)	
	No. Absent Actually Suffering from Measles.	No. Absent owing to Measles in the Home.	No. Absent Actually Suffering from Whooping cough.	No. Absent owing to Whooping cough in the Home.	No. Absent Actually Suffering from Scarlet Fever.	No. Absent owing to Scarlet Fever in the Home.	No. Absent Actually Suffering from Diphtheria.	No. Absent owing to Diphtheria in the Home.	No. Absent Actually Suffering from Chicken-pox.	No. Absent owing to Chicken-pox in the Home.	No. Absent owing to Ringworm in the Home.	No. Absent Actually Suffering from	No. Absent owing to ..... in the Home.
New													
Old													

Principal Teacher.

Country School.

The following is a brief description of the country school carried on for the benefit of Manchester children:

A corrugated iron school building, with dormitories and dining hall to accommodate 80 children, has been erected at Knolls Green (3½ miles from Mobberley Station, Cheshire), in a thoroughly rural spot, on about five acres of land.

Relays of children, boys and girls alternately, have been sent with their teachers from the Manchester elementary schools during the summer months. The children carry on a modification of their ordinary school work, giving much time to object lessons on their rambles, to gardening, and to open-air pursuits of varied kinds.

The time tables have been so arranged that the greatest possible good may be got out of a short stay in the country. The children's attendances have been counted in their own schools. This was done with the approval of the Board of Education. There is an experienced matron, and every care has been taken of the children's health. This year the country school has been open from April 24th to October 7th, and over 900 children have enjoyed a fortnight's stay. At Whitsuntide about 80 children went from the schools for mentally-deficient children, and during the midsummer holidays 209 children from Mill Street Day Industrial School were in residence for three weeks, the boys (156) being housed in tents. This country school is carried on by a voluntary Committee.

School Playgrounds.

The Committee opened certain school playgrounds for the general use of children from May 2nd to September 30th from 4.30 p.m. to dusk every week-day except Saturday, and from 9 a.m. to dusk every Saturday and every week-day during the school holidays.

Defective and Epileptic Children.

Three special day schools for mentally-defective children are maintained by the Committee. A number of children are also sent to the Sandlebridge Residential Schools by arrangement with the Committee of that institution.

During the year a residential school for epileptic children has been opened at the Manchester David Lewis Epileptic Colony at Sandlebridge. The school is certified by the Board of Education for 42 children.

Crippled Children.

The instruction of crippled children has engaged the careful attention of the Committee during the year, and a residential school has been opened for thirty children. The school will provide ample accommodation for an extension of the work.

Industrial Schools.

The number of children in the residential industrial schools continues to decrease. The number so maintained a year ago was 489, compared with 479 at the present date. This is evidence of continued improvement in the general condition of street children, a result, no doubt, largely due to the excellent police supervision of those engaged in the selling of newspapers, etc.

LITERARY NOTES.

On November 1st the *Revue de Déontologie* ("Déontologie" being interpreted means medical ethics) ceased to be the organ of the Corporate Association of the Medical Students of Paris.

A correspondent of the *Daily Chronicle* recalls the fact that in Taylor's *Life of Old Parr* it is stated that

> He was of old Pythagoras's opinion,
> That green cheese was most wholesome with an onion,
> Coarse Mesclin bread; and for his daily swig,
> Milk, butter-milk, and water, whey, and whig.

The writer thinks this quotation affords corroborative evidence of the sour-milk theory of longevity. The diet is sufficiently indigestible for ordinary stomachs to arouse enthusiasm in the bosom of the faddist. But before trying it one would like some better assurance than is likely to be forthcoming at this time of day that Old Parr really lived to anything like the age claimed for him by his biographers. It may further be pointed out that the diet as described is not exactly the "sour milk" recommended by Professor Metchnikoff as the *elixir vitae*, the right brand of which, we believe, is to be procured only at a particular establishment. But even if we were sure that the systems of Old Parr and M. Metchnikoff would prolong our life to years beyond those of Methuselah, we should prefer a shorter span of existence with a more cheerful diet than green cheese and sour milk.

Dr. James Peddie Steele of Florence, a retired physician, well known as a contributor to the *Lancet*, has offered a prize of 100 guineas for the best essay on Sixteenth Century Humanism as illustrated by the Life and Work of George Buchanan, the competition to be open to alumni of the four Scottish universities. George Buchanan is perhaps best known at the present day as the tutor of James I of England, whom, in his own words, he made the most learned fool in Europe. His accuracy as a historian has been impugned, but of his scholarship his Latin version of the Psalms remains as a witness. This forms a link of interest between him and Dr. Steele who is also an accomplished writer of Latin verse. On the occasion of the Diamond Jubilee of Queen Victoria he contributed to the *Lancet* a Latin ode in alcaic metre. The four hundredth anniversary of George Buchanan's birth is to be celebrated by the University of St. Andrews in April, 1906.

PUBLIC HEALTH
AND
POOR-LAW MEDICAL SERVICES.

BURIAL OF PAUPERS.

B. A. writes: The relieving officer of a country district refuses to bury the paupers dying in the hospital. By 16 and 17 Vict., cap. 97, sect. 12c, paupers dying in lunatic asylums and registered hospitals are to be buried by the union.

*** The relieving officer is acting according to law. In Glen's *Poor-law Orders*, p. 422, footnote, will be found the following: The guardians of a union are not under any legal obligation to bury the bodies of persons dying in public hospitals (Reg. *v.* Stewart, 12 A. and E. 773). The exercise of the power given by 7 and 8 Vict., c. 101, s. 31, is only discretionary on the part of the guardians, who may decline to undertake to bury any dead body, not being in the workhouse, if they think fit so to do. Some hospitals have printed forms, which they require to be filled in before admitting an in-patient, whereby some householder guarantees to be responsible for such burial if the necessity should arise. The reference to paupers in asylums, etc., has no bearing on this point.

WEST RIDING OF YORKSHIRE.

The area of the administrative county of the West Riding is 1¾ million acres, and the population is only slightly less (1,443,280). There are 160 sanitary authorities, and thus Dr. Kaye's report covers the sanitary work of a wide area and of a number of different authorities. For 1904 the birth-rate was 27.7, a further decline on 1903, and the death-rate was 10.5. The infantile mortality-rate was 147 per 1,000 births. During the year Dr. Kaye made 140 official visits to different parts of the Riding, and supervised a large amount of public health work. As many as 2,310 samples under the Food and Drugs Acts were taken, which with 284 further samples taken by the local authorities made a total of 2,594, of which 81 (3 per cent.) were adulterated. In 1893 12 per cent. of the samples taken were adulterated, so that a marked improvement has occurred. Much additional work has been undertaken in connexion with the Midwives Act and the supervision of schools, the medical and sanitary work of the Education Committee being placed under the direction of the county medical officer. The zymotic death-rate for 1904 was 2.2 as compared with 1.8 for the last five years. This rise is largely due to the prevalence of small-pox, of which there were 2,101 cases with 170 deaths. But scarlet fever (5,849 cases with 207 deaths), diphtheria (1,363 cases with 243 deaths), and enteric fever (1,225 cases with 237 deaths) also contributed. There were in addition 712 deaths from measles, 471 from whooping-cough, and 1,115 from diarrhœa. The cancer death-rate continues to rise (0.80 per 1,000). Dr. Kaye includes in his report particulars as to hospital isolation, water supply, drainage and sewerage, scavenging, etc., and interesting sections on the paving of streets and yards, lead poisoning, school hygiene, and dairies and cowsheds. An examination of district water supplies revealed the fact that 25 contained no lead in solution, 8 contained less than ⅛ gr. per gallon, and 10 contained more than that amount. The fourth annual report of the work of the bacteriological laboratory is appended. Diphtheria swabs, Widal's serum diagnosis, tuberculous sputa, and a number of miscellaneous specimens have been examined, numbering in all 2,234.

DERBYSHIRE.

The estimated population of the administrative county of Derby at the middle of 1904 was 517,276. The birth-rate was 31.48, the lowest on record; the infant mortality-rate was 132 per 1,000 births, and the death-rate was 14.8. Dr. Sidney Barwise, the County Medical Officer of Health, furnishes an admirable report on the sanitary work undertaken during the year. Small-pox was again somewhat prevalent (140 cases and 8 deaths), and scarlet fever more prevalent than at any time during the last five years (2,504 cases, with a mortality per cent. of 3.40). The cases of enteric fever numbered 352, and Dr. Barwise considers the prevalence of the disease is due "to the degrading privy-midden system." He adds that, "comparing houses of less than £10 annual rental which have privy middens with those that have waterclosets, it has been found that the incidence of typhoid fever is four times greater in the houses with privy middens," and he recommends the adoption of waterclosets and the paving of back yards. Diphtheria was responsible for 552 cases. Much attention is being given to the prevention of phthisis and to school hygiene, and Dr. Barwise inserts a useful summary of the progress which has taken place in the

county since 1801 in respect of sewage purification. Abstracts of the local medical officers' reports for the urban (29) and rural (16) districts are appended to the county report.

UNIVERSITIES AND COLLEGES.

UNIVERSITY OF OXFORD.

Radcliffe Travelling Fellowship, 1906.

An examination for a Fellowship of the annual value of £200, and tenable for three years, will be held in February, 1906, commencing on Tuesday, February 27th.

Candidates must have passed all the examinations required by the University for the degrees of B.A. and B.M. They must also have been placed in the First Class in one of the Public Examinations of the University, or have obtained some University prize or scholarship.

Names should be sent in to the Regius Professor of Medicine on or before Saturday, February 10th. Further particulars are to be found in the *University Gazette* of November 21st.

UNIVERSITY OF CAMBRIDGE.

Mr. C. T. R. Wilson, M.A., of Sidney College, has been reappointed Lecturer in Experimental Physics.

The following degree was conferred on November 23rd:

B.C.—C. E. A. Armitage, Emm.

UNIVERSITY OF LONDON.

The following candidates have been approved at the examinations indicated:

M.B., B.S.—G. C. Adeney, H. Ainscow, F. B. Ambler, A. W. Baker, E. Barker, W. H. Barnett, J. A. Berlyn, V. H. Blake, W. B. Clark, M. Culpin, D. Davies, H. De Vine, D. E. Finlay, A. R. Finn, T. E. Francis, Florence E. Gubb, Dorothy C. Hare, E. M. Harrison, W. D. Hartley, H. G. M. Henry, C. H. M. Hughes, H. Isaacs, A. G. Jones, Charlotte A. King, S. M. Lawrence, B. R. Lloyd, E. C. Lowe, H. S. Matson, W. O. Meek, E. F. Milton, J. H. Nixon, J. M. O'Meara, W. J. H. Pinniger, T. P. Puddicombe, R. L. Ridge, C. C. Rushton, P. H. Seal, D. L. Sewell, F. A. Sharpe, E. B. Smith, M. W. S. Smith, Olive B. Smith, G. A. Soltau, A. A. Sutcliff, C. E. Tongye, B.A., H. A. Watney, Edith W. T. Watts, W. Welchman, T. F. Wilson.

Group I only.—H. H. Bashford, J. F. Blackett, Margaret L. A. Boileau, J. B. Dawson, E. V. Dunkley, J. Ferguson, F. W. Higgs, J. H. Horton, W. A. McEnery, A. H. Parkinson, B.Sc., T. C. Pocock, J. E. Robinson, Bessie W. Symington, J. B. V. Watts.

Group II only.—T. H. Barton, A. Beely, F. C. H. Bennett, R. J. Bentley, A. C. Bryson, T. C. Clare, E. T. H. Davies, C. N. Davis, J. E. Dunbar, H. R. Evans, C. Fletcher, G. Hamilton, T. M. Hardy, V. Hetherington, H. S. Hollis, H. S. Knight, Eleanor Lowry, A. T. Marshall, W. C. Pickering, A. Randle, P. M. Roberts, Sophia Seekings, S. H. Sweet, F. Turner, H. F. Warner, R. J. Waugh, G. P. Young.

B.S. (for students who graduated in Medicine on or before May, 1904).—Ruth L. Bensusan, A. J. Blaxland, A. C. Haslam, M.D., M. G. Louisson, E. E. Maples, C. D. Pye-Smith.

Honours.

The following candidates were awarded honours:

M.B., B.S. Examination.—R. W. Allen (*a*), Guy's Hospital; R. H. Miller (*a*), St. Mary's Hospital; P. S. Mills (*d*), Guy's Hospital; R. Milne (*a*), London Hospital; A. B. O'Brien (*d, c*), Guy's Hospital; J. B. Rous (*a*), St. Mary's Hospital; D. P. Sutherland (*a, b, University Medal*), Victoria University; A. D. White (*d*), St. Bartholomew's Hospital; S. R. Wilson (*d*), Victoria University.

(*a*) Distinguished in medicine.
(*b*) Distinguished in pathology.
(*c*) Distinguished in forensic medicine and hygiene.
(*d*) Distinguished in surgery.
(*e*) Distinguished in midwifery and diseases of women.

B.S. Examination.—Mr. A. M. Fitzmaurice-Kelly (University medal), St. Mary's Hospital; H. C. C. Mann, Guy's Hospital.

VICTORIA UNIVERSITY, MANCHESTER.

Pilkington Cancer Research Endowment.

Applications for appointment under this endowment will be received by Professor C. A. Wright at the University up to Wednesday, December 13th.

JOINT BOARD IN IRELAND.

The [illegible] have been successful at the Examination for the [illegible] 4th:

[illegible] Barry, W. Cremin, R. V. Khadkar, W. F. B. [illegible]

ROYAL NAVY AND ARMY MEDICAL SERVICES.

ROYAL ARMY MEDICAL CORPS.

Medical Units for Field Army Organization.

The War Office has drawn up a new distribution of medical units for field army organization, in place of the allotment of [illegible] given in the Field Army Tables (Provisional) of last March. The 1st, 2nd, and 3rd Cavalry Brigades, the 1st to the 5th Infantry Divisions, and the Corps Troops, Army Corps are provided for under the new arrangement; but for the 4th Cavalry Brigade and the 6th, 7th, 8th, and 9th Infantry Divisions it is stated "No unit available."

SOUTH WALES BORDER VOLUNTEERS INFANTRY BRIGADE.

Upon the recommendation of Major-General Sir F. Howard, K.C.B., C.M.G., Acting General Officer Commanding in Chief Welsh and Midland Command, the Secretary of State for War has granted an extension of service under Volunteer Regulations to Brigade-Surgeon Colonel P. E. Hill, V.D., 1st V.B. South Wales Borderers, Senior Medical Officer South Wales Border Volunteer Infantry Brigade.

MEDICAL NEWS.

The net profit of the American Bazaar held at Stratford last week in aid of the West Ham Hospital is stated to be about £3,500.

Dr. J. W. Farndale, a former student of the London School of Tropical Medicine, has been appointed District Surgeon of Mwomboshi, North-East Rhodesia, by the British South Africa Company.

The seventh annual dinner of the Medical Graduates' College and Polyclinic will be held at the Trocadero Restaurant at 7.30 on Friday next, December 8th, under the chairmanship of Mr. A. W. Mayo Robson.

Mr. Joseph Kellett Smith, of West Kirby, Consulting Surgeon of the Stanley Hospital, Liverpool, who died on October 29th, left property valued at £68,200. To the Stanley Hospital he bequeathed £1,000 for the endowment of a cot in the Kellett Smith Ward.

The next course of vacation lectures given by the Association of Privatdocenten in Berlin will commence on March 11th, 1906, and terminate on March 28th. Further particulars can be obtained on application to Herr Melzer, Ziegelstrasse 10/11, (Langenbeck-Haus) Berlin.

The Cancer Charity of the Middlesex Hospital has received a grant from the Mercers' Company of £250. Of this sum £50 is to be awarded to one of the workers in the Cancer Research Laboratories and styled "the Mercers' Prize," and the rest used for the general purposes of the Cancer Research Fund.

The Matron of the Queen's Jubilee Hospital asks us to state that she, together with the sister and staff nurse, have resigned from the nursing staff of the institution, and will sever their connexion with the hospital forthwith. Mr. Sydney Stephenson, M.B., C.M., F.R.C.S.Edin., has been appointed honorary ophthalmic surgeon, Mr. Douglas W. Sibbald, M.B., Ch.B.Edin., resident house-surgeon, and Mr. Archibald Craig Amy, M.B., Ch.B.Glasg., resident house-physician to the hospital.

Among the Russian students of both sexes working in the medical and other Faculties of the University and in the art schools of Paris, much distress is stated to have been caused by the recent occurrences in Russia. The great majority of the students live on remittances from home, and these they have not received, in some cases owing merely to the breakdown of postal arrangements, and in others because those who used to send them have been ruined.

A Committee of the Incorporated Medical Practitioners' Association has been formed for the purpose of presenting Mr. George Brown, Direct Representative on the General Medical Council, with some token of their regard on his retiring from office as Senior Editor of their official journal, the *General Practitioner*. Mr. George Brown has given the best part of forty years in working for the interests of general practitioners, to improve their medical, social, and political status. He has done good work in improving club practice, and also on the nurses and midwives questions. In the General Medical Council, those men who secured his return know how well he has represented their views, and spoken on the subject of increased representation for the rank and file of the profession, where they are so inadequately represented. It is possible that there are many practitioners who are not members of the Incorporated Medical Practitioners' Association who would like to join in this tribute to the qualities and sterling worth of Mr. George Brown, who has spared neither time nor money in looking after the interests of his brother practitioners without thought of fee or reward. Any gentlemen who would like to testify their gratitude and respect for him may do so by sending their subscriptions to J. Pollock Simpson, M.D., Secretary and Treasurer of the fund, No. 8, Upper Montagu Street, Montagu Square, W., who will acknowledge all sums received. Cheques should be crossed "George Brown Testimonial Fund."

British Medical Journal.

SATURDAY, DECEMBER 2ND, 1905.

THE GENERAL MEDICAL COUNCIL.

The President's address traversed a considerable field, but inasmuch as it dealt partly with matters that had occurred since the last session of the Council and had been dealt with more or less completely, it did not foreshadow a very lengthy meeting. Commencing with a graceful tribute to the services of Sir William Turner, who has found it necessary to resign his seat upon the Council, the President welcomed the new members of the Council, no less than five in number, one of whom, as the representative of the new University of Sheffield, adds to the total number of the Council. The question of the growing cost of the meetings, through the steady increase in the numbers, had been raised at the last session, and it had been left in the hands of the President and of Sir John Tuke to see what could be done in the matter, especially in view of the course adopted by the recently-incorporated Universities of taking powers under their Acts of Parliament to return a member to the Council, instead of waiting for the operation of the course prescribed by Section 10 of the Medical Act, 1886, which leaves it to the General Council, when it thinks fit, to represent to the Privy Council that a University, being in the opinion of the Council of sufficient importance to be worthy of such a privilege, should have the power, either separately or in association with some other body, of returning a member. To take an extreme but actually existent case, it would seem that it was not the intention of the Legislature that a new University which as yet has not a single medical graduate should return a representative; but this is overridden by a clause in an Act of Parliament which from its nature attracts but little attention in the House of Commons. The President and Sir John Tuke have, however, succeeded in arranging that the last incorporated University—namely, that of Sheffield—shall bear the expense of its own representative till such time as an order of the Privy Council decrees otherwise. It may be remembered that a similar provision as to the payment of the representatives of corporate bodies by the bodies themselves is to be found in the Medical Acts Amendment Bill of the British Medical Association, where, however, it is proposed to make the provision general.

Whilst upon the subject of medical legislation we may mention that the President called attention to two new medical ordinances propounded in Crown Colonies—namely, in the Straits Settlement and in Ceylon—which had been submitted for comment by the Secretary of State for the Colonies. In both ordinances a strong prohibition of unqualified practice is to be found, for an unqualified person who "practises or professes to practise, or publishes his name as practising," is subjected to a penalty, an exception being made in favour of the Vedaralas of Ceylon, who may practise according to native methods provided that they do not pose as being anything more. Out of the Straits Settlement ordinance arose an application from the Japanese Embassy for reciprocity of recognition; qualifications from any European medical school, from America, or from the Empire of Japan are expressly mentioned as entitling to registration provided that the diplomas are recognized by the General Medical Council. But as no Japanese diploma is at present so recognized, this proviso is of the nature of an empty compliment, and this the Japanese seek to remedy. After the example which our allies have set in the organization of their army medical service, we do not anticipate that there will be much difficulty in their obtaining the desired recognition, but from the nature of the process as prescribed in the second part of the Act of 1886 this will necessarily take a little time, and the matter cannot be dealt with during the present Session.

The action of Sir John Tuke in introducing late in the last session of Parliament Bills dealing with the question of company practice, and thereby rendering it almost impossible for the Departmental Committee sitting on the subject of company law to ignore this aspect of the matter (which they otherwise would have done, as not being within the terms of their reference), was also commented upon, and it was mentioned that the British Dental Association had obtained the leave of the Attorney-General to prosecute in his name two dental companies, with the result that the two companies threatened promptly dissolved. The British Dental Association is on the look-out for some company which will show more backbone and enable the legal position to be determined in England as it has been in Ireland. In adopting this course of action the British Dental Association deserves the thanks of the whole profession.

Sundry legal points have been settled by opinions given by Mr. Lushington, the standing counsel, who has succeeded to Mr. Muir Mackenzie, but to these we must take other opportunities of referring.

A mass of evidence has been accumulated and classified upon the subject of instruction in midwifery, in answer to a motion brought forward at the last session by Sir John Williams, who impugned the present system as ineffective; this will prove of the greatest general interest when it comes to be published.

After touching slightly upon various other matters, the President concluded by mentioning the anxiety and responsibility imposed upon him in regard to penal cases, and expressed his thanks to the Penal Cases Committee, which, it may be remembered, is an advisory committee formed to assist the President in dealing with such cases in their preliminary stages.

THE IMPORTANCE OF LONGER HOURS OF SLEEP AT PUBLIC SCHOOLS.

If we turn to the dictionary for the definition of the word "school" we find that it is "an establishment for the "tuition of children." Apart from dictionaries, however, we may, if we look into our own minds, define it with greater aptness as par excellence the place of growth—figuratively, a garden set apart and tended for the protection and the encouragement and the supervision of the growth of the young body and of the young mind. If it be

objected that the school is primarily, after all, the place of instruction, we may reply that the scientific study of education shows more and more that the educator cannot create, he can only promote, and direct, and restrain, and amplify the unfolding powers and tendencies of the individual life. The opportunities which life offers to the public schoolboy may almost be summed up in the one concept "growth." It is a period pregnant with a future manhood's fate—a period whose opportunities not taken can never be reseized.

A boy enters the public school with one foot still to add to his stature, with more than 40 per cent. still to make of his adult weight, and with a dynamometer grasp which has still some 40 per cent. to add in order to reach its due adult power. He should leave his public school with but one-twentieth of the adult stature to complete, and with his full brain weight acquired to within about one-hundredth. His muscular system and his bony framework should be almost of their due adult form. This period is therefore fraught with vivid interest to the parent and to the community that has proper interest in its own efficiency of the immediate future. And this period of development is entrusted chiefly to school régime. For the school, therefore, a duty paramount is to see that no block or bar cramp the springs of growth, and that the young life given to its charge can at least flower to the fullest that its ancestral heritage of natural power allows. That is a sacred duty of the school. In our great public schools, where the fees charged suffice to sweep aside such difficulties as beset the schools for children of the poor, each parent has a right to expect his boy's school life to afford every scope for healthy growth, and to provide, as far as human provision can, those lifelong assets that such growth assures.

Not, however, in every case is this natural demand of the parent satisfied. The governance of school life is, rightly, entrusted to the schoolmaster. He has for long, unbroken periods in these great boarding schools the charge of the development of mind and body. But, unhappily, the master of the public school often enters upon his professional career singularly unequipped to meet some of its most important responsibilities. He is too often uninstructed either in the scientific study of the mind, psychology, or in knowledge of the nature of the bodily frame, physiology. But our great public schools have wisely been provided with medical officers. Unfortunately, the advice of these competent authorities is in many cases neglected or contravened.

Attention has recently been drawn to the question of the allowance of sleep given to young boys at school. Their school life is strenuous, and it is excellent that within measure it should be so; but the body after exercise, the brain after study, need rest. Moreover, above that, the young require rest to achieve their growth. After a long day of activity the boy goes to bed usually shorter in stature than when he rose from it; he rises in the morning recuperated, and measurably taller than when he went to bed the night before. Most of the child's actual bodily growth is done in bed. It is a fallacy to suppose, as some schoolmasters have it, that physical exercise lessens the need for sleep. Those who have given much attention to the matter are practically unanimous that nine to ten hours of undisturbed rest are needed by boys up to the age of 16. The allowance provided in many of our great public schools falls altogether short of this. They do not allow it even in their scheduled hours. The deficiency is often made even greater by further curtailment of rest through lights and talking being allowed after bedtime, and by want of proper darkening of the dormitory. Also, the lay authority of the school too little recognizes the seasonal adjustment of the hours of rest. More sleep is needed in winter. It is not "coddling" to allow boys to lie longer in the cold winter mornings than in the warm summer ones. It is a mischievous fallacy to think that a boy is hardened for manhood by depriving him of sleep in his growing years. Sluggishness of body and mind during the day is often only evidence that the hours of sleep have been too short. To overwork boys, and allow them too little sleep, and especially to do both, is like forcing the pace for a short distance in a long race. It is often done at schools in which capital is made out of the little boys' brains at the expense of their future development. It would be considered folly in an athletic contest, and surely it is much greater folly in the race of life.

It is noteworthy that in cases where there is difference of opinion between the school authorities, it is the medical expert who pronounces that the boys require longer sleep, while it is the lay authority which pronounces that they do not. The Association of the Medical Officers of Schools has recently published in pamphlet form an address by Dr. Acland on this subject. The address, besides reviewing the question from the hygienic standpoint in a way which leaves no doubt as to its importance or as to its true solution, contributes valuable data as to the sleep allowance in forty of our best-known public schools, as also in five of the great schools of the United States. Our American cousin is not wont to be accredited with any lack of strenuousness; but he allows his schoolboys considerably longer hours of sleep than our boys are allowed at most public schools in England. The Medical Officers of Schools Association, a body which, under the presidency of Sir Thomas Barlow, includes amongst its members the medical officers of nearly every public school in the kingdom, has sent Dr. Acland's address to the head masters and governing bodies of all the important public schools with a covering letter pointing out that insufficient sleep at school is a serious factor in the production of intellectual inefficiency.

At the Section of School Hygiene of the Congress of the Royal Institute of Public Health held last July in London a resolution, proposed by Professor Simpson and seconded by Sir Charles Cameron, was unanimously passed to the effect "that the hours of sleep allowed to boys under 16 "years of age in some of the public schools are too short to "enable the boys to attain their highest physical and "mental development." This has been forwarded to various educational authorities. The Parents' National Educational Union also has issued a letter signed by their President, Lord Aberdeen, calling the attention of school authorities to the subject as one of exceptional importance.

Part of the obstruction which medical advice on this question encounters is, no doubt, due to want of adequate scientific knowledge in those who have direct charge of school life and who should co-operate with the medical officer in establishing the reform. Some reform is important and urgent. We do not want the school to be the legitimized arena for a severe form of natural selection on these lines, a place of competitive contest through which only the strongest pass unscathed. The medical profession, both as parents and as medical authorities, do not take that view of the true function of school life. It is to be hoped that those to whom is entrusted the management of

our great schools will, now that their attention has been opportunely directed to this important question of school hygiene, lose no time in taking steps to carry out a reform that is much needed.

BURDON-SANDERSON.

The removal of Burdon-Sanderson, after a long and trying illness, is free from the poignancy of regret experienced when a hopeful career is suddenly cut short, as when Mayou, or Bichat, or Laënnec were prematurely taken. His was a long and varied course of service to the institutes of medicine, practice and prevention, normal and morbid physiology, the functions of vegetable as well as animal structures. His long and varied career, combined with rare personal and mental gifts, gave him an almost unequalled influence in the guidance of medical education and academical development.

His early work on the sphygmograph with Anstie, his early days of clinical observation in the Middlesex and Brompton Hospitals, the example which led Stricker to say that English physicians begin as botanists, his pathological experiments with Klein, his work under Simon on tuberculosis, his remarkable observations on muscle and nerve and on the electrical phenomena of vegetable tissue, these researches (of which the list could be much extended) were combined with departmental work, with lectures and laboratory courses, with examinations and introductory addresses, with the direction of the Brown Institution, the professorship of physiology at University College, London, and at Oxford, and lastly with the difficult post of Regius Professor of Medicine in that university. All this is more fully set out elsewhere in this issue.

Very few men are competent to estimate the importance of Burdon-Sanderson's work in this wonderfully varied course. But without attempting this estimation, it may be said of him that he carried into every department the detached and statesmanlike quality of grasping the fundamental facts and devising the methods of investigation most suitable for the problem in hand.

He was never petty or departmental in his views, but looked all round. While excellent in planning an attack on a problem by laboratory methods, he had little of the mechanical skill of many eminent investigators. It might be said of him that he was great in strategy, good in tactics, and chiefly dependent on his assistants and pupils for the instrumental details. Who these pupils were and how they regarded him is told by some of them in the tributes to his memory which we are enabled to publish this week. Various as is the outlook of the distinguished men who have written these tributes, dealing as they do with different aspects of scientific inquiry, it will be observed that they all agree in testifying to the stimulating influence of personal contact with Burdon-Sanderson. In him the critical faculty was developed to a very high degree, but it was combined with an eager desire that criticism should bear fruit, that, having discovered a fallacy, the matter should be reconsidered and investigated again, avoiding that fallacy. Along with his remarkable intellectual powers, Sanderson possessed a quality scarcely less important than knowledge and insight—enthusiasm. He took a deep interest in education and in science, read widely and critically, spared no labour in his duties, and was capable of inspiring a contagious intellectual zeal.

Nothing was finer than his defence of experimental science in the great Oxford debate concerning the equipment of a physiological laboratory. He looked and spoke with a force and distinction which compelled the respect of those who were most prejudiced against him. Part of his success on such occasions was no doubt due to his stature, to his noble and expressive countenance, and his unaffected but most expressive language and voice. It was said in the height of the storm against vivisection that, if the worst came to the worst, and a victim were demanded, the striking and ascetic figure of Sanderson would have decided the case in favour of science.

To complete the picture of his life and work one cannot omit his genuine and unconscious simplicity, of which many stories were told, some of them invented long before his time: it was a *sancta simplicitas* like that of Newton or Darwin, and added a charm to his learning and experience. His patience and fortitude during his long illness added to the affection felt by all who were privileged to share in his friendship, for in this, as in every period of his long career, his life was gentle, his aims lofty, and his great endowments continually devoted to the service of science and humanity.

SCHOOL HYGIENE.

In the annual report of the City of Manchester Education Committee for 1904-5, an abstract of which is published elsewhere, hygiene is only briefly dealt with. This is disappointing, but when it is remembered that in Manchester there are some 170 schools, with 120,000 scholars, the authority will be blamed rather than the medical officer upon whom this herculean task is thrust. That a good deal is being done we feel sure: with regard to infectious diseases, for instance, cases of measles, whooping-cough, and of the notifiable diseases are notified on a special form, sent weekly to the medical officer. The cases of notifiable diseases are also notified immediately on discovery to the medical officer of health, and the medical officer also receives a notice of all outbreaks of a serious nature, especially of scarlet fever and diphtheria, without waiting for the weekly return. In comparing the number of children who are taught cooking, 4,428, with those who attend the schools, 120,000, it will be seen that the instruction in domestic subjects is utterly inadequate. This is a grave fault in the system. The country school, to which groups of children, numbering 60 to 80, are sent for a fortnight at a time, is an interesting feature, and the movement might with advantage be extended in Manchester and imitated in other large towns. We understand that there is "a special teacher for the feeding and care of "babies, general hygiene, elementary sick nursing, etc." This must be a very wonderful person, and, since hygiene is not at present a compulsory subject, we congratulate Manchester upon having secured his services. The more seriously we view the problem of vast assemblies of children collected together for the purposes of education, the more clearly do we see how absolutely necessary is a system of medical inspection by which every child in every school can be under supervision. Without instruction in even the elements of moral and physical hygiene, how can this mass of humanity turn out? We may well ask—What are a few addresses and twelve lectures on school hygiene among so many? It is to be hoped, after the opening given by the chapter relating to hygiene in *Suggestions to Teachers* issued by the Board of Education, that every student will take up hygiene based on physiology as a subject, and that teachers now in the schools will be wise enough also to qualify in this all-important subject. Evidence of the interest taken in the subject of school hygiene in another great industrial centre or congeries of centres was afforded by the report of the Medical Officer to the Staffordshire County Council, some account of which we gave last week (p. 1411). The reports of the district medical officers of health

embodied in the general report prove that throughout Staffordshire there is a keen desire that the principles of hygiene should be grasped by teachers, and the time is approaching when, instead of being patted on the back as good boys because they have a wish to learn hygiene, to be ignorant of the laws of health will be a slur. The next feeling will probably be that there should be co-ordination in the teaching. The only way in which the personal element should be allowed to intrude is in the taking into consideration the different conditions of different districts. But no opinion as to the advisability of, say, remodelling the schools before attending to the scholars, should be permissible, or much valuable time and material will be wasted.

A ROYAL COMMISSION ON THE POOR LAW.

A Royal Commission comprising eighteen members, with Lord George Hamilton as Chairman, was gazetted on November 28th, to inquire into the working of the laws relating to the relief of poor persons in the United Kingdom and the means which have been adopted outside of the Poor Laws for meeting distress arising from want of employment, particularly during periods of severe industrial depression. The Commission is also instructed to report on the question whether any, and if so what, modifications of the Poor Laws, or changes in their administration, are desirable, and as to fresh legislation for dealing with distress. The only medical member of the Commission is Dr. A. Downes, senior Medical Inspector for Poor-law purposes to the Local Government Board. Considering the very large part which medical relief plays in Poor-law administration, it is a matter of regret that the Commission does not include a member of the medical profession having experience of Poor-law work from the point of view of the Poor-law medical officer. It will be remembered that the Medico-Political Committee made representations on behalf of the Association to the First Lord of the Treasury pointing out that the Commission might with advantage contain a member of the medical profession who had had actual experience as a Poor-law medical officer, and a member who has been engaged in ordinary general practice. It is a matter for regret that these representations have not been adopted, but the Medico-Political Committee has already arranged to submit evidence to the Royal Commission, and has appointed, jointly with the Public Health Committee, a subcommittee to collect and prepare such evidence, and to nominate witnesses. The Scottish and Irish Committees have been asked to appoint representatives on this subcommittee.

LONDON SCHOOL OF CLINICAL MEDICINE.

In the British Medical Journal of November 11th it was announced that it was proposed to establish a post-graduate school at the Dreadnought Hospital at Greenwich. It was there stated that the scheme had the approval of several eminent members of the medical profession, some of whom had promised their personal co-operation. We are now in a position to state that the staff has been fully constituted as follows: Physicians—Sir Dyce Duckworth, Dr. Frederick Taylor, Dr. Rose Bradford, F.R.S., Dr. R. T. Hewlett, and Dr. Guthrie Rankin; Surgeons—Sir William Bennett, K.C.V.O., Mr. Mayo Robson, Mr. A. Carless, Mr. William Turner, and Mr. Lawrie McGavin; Ophthalmic Surgeon—Mr. Vernon Cargill; Diseases of the Skin—Mr. Malcolm Morris; Diseases of the Throat, Nose, and Ear—Dr. StClair Thomson; Radiography—Mr. Mackenzie Davidson; Diseases of the Teeth—Mr. Kenneth Goadby. To these gentlemen a certain number of beds will be assigned, and they will all take an active part in teaching. In this way the large and varied clinical material of the Seamen's Hospital will be made available for instruction. A special advantage of the school will be the exceptional opportunities for acquiring skill in operative surgery afforded by the relatively large number of unclaimed bodies which can be utilized for the purpose. Negotiations are, we understand, in progress with various special hospitals with the view of making the teaching of the London School of Clinical Medicine complete in every detail. It is intended, further, that it shall be equipped with laboratories, a museum, and all that goes to the making of an up-to-date post-graduate school. The Seamen's Hospital Society is to be commended for the zeal for the best interests of humanity which has led it to enter upon an enterprise which cannot fail to do much to promote a higher training among practitioners, and for the enlightened liberality with which it is striving to ensure its success.

MEDICAL ADVICE GRATIS.

As newspapers, from the *Times* downwards, are seeking for outside attractions in order to maintain their circulation, it is not surprising to find that *Answers* announces that it is ready to place at the disposal of its readers in return for one year's subscription the right to consult "our staff of "doctors" who are said to be part of "a fully equipped "staff of brilliant specialists in every field of human "activity." This is not quite so cheap as a gift with a pound of tea, but yet is an economical way of obtaining medical advice if we consider that the annual subscription amounts only to 4s. 6d., and that there is no limit to the number of times each subscriber may seek advice, the only drawback being that "consultations" are through the post. We should like to know who are the medical practitioners who render assistance in this way and to what class in the profession they belong. Consultations by post are unscientific and ought to be condemned by medical opinion, as the only information upon which the recipient of the letter acts is the statement of the patient, unless this is supplemented by secretions sent for examination, but even then the risks of mistakes are too great to make the practice safe. There is a more serious aspect of the question which should not be overlooked. Although the practitioners who undertake this work are not advertised by name, the system is in effect advertising for practice, and all patients who come to them through the newspaper are obtained by advertising; therefore it would be in accordance with the principles upon which the General Medical Council has acted if such practice were to be regarded with the same disfavour as that of the Medical Aid Societies which advertise and canvass to procure patients.

DECAPSULATION OF KIDNEYS FOR NEPHRITIS IN CHILDREN.

Dr. Edwin Graham, Professor of Diseases of Children in the Jefferson Medical College, Philadelphia, has collected 10 cases of decapsulation of the kidneys for nephritis in children, adding an eleventh in his own practice.[1] In the entire 11 there were 5 deaths, or 45.4 per cent. All would, in Dr. Graham's opinion, have died if not operated upon. In 1 case, of chronic parenchymatous nephritis with marked anasarca and ascites, the anasarca disappeared a week after decapsulation of the right kidney. The left kidney was operated upon two months later, the patient, a girl aged 9, remained in a much improved condition for over a year and then took cold, dying with symptoms of acute nephritis. Hospital cases are not favourable for the study of the after-histories as the patient requires careful management rarely available after discharge. One case in Dr. Graham's series was distinctly improved, 2 not improved, whilst there were 4 probable, or at least possible, cures. The forms of nephritis most benefited are the acute and subacute, but even when they are diagnosed only such cases should be submitted to operation as are not doing well under appropriate treatment. The results in the chronic cases are not good. Regeneration of the kidney tissue is more likely to occur in the child than in the adult, and it is less probable that the renal lesions are not complicated by degenerations in other parts, and hence improvement following immediately on decapsulation is more likely to be permanent in the child. Dr. Graham doubts Edebohls's theory that this operation is followed by the establishment of new and liberal supplies of arterial blood. Graham attributes the

[1] *Archives of Pediatrics*, 1905.

good effect of decapsulation to relief of kidney tension, while another factor which has much to with the improvement noticed during the first few days is the massage which the kidneys receive at the hands of the surgeon during the removal of their capsules. Dr. Graham adds that it is now well known that within three or four months the decapsulated kidneys become enveloped in a much thicker capsule than that which was removed, and hence it is necessary to be careful about the good results so frequently seen for a short time after operation. Their permanency seems doubtful, more so, perhaps, than Dr. Graham appears to believe. He is reasonably sceptical about the regeneration of essential elements in the kidney, but insists that the probabilities of new cell development are infinitely greater in children than in adults. The opinion concerning hospital cases is important. When we remember what kidney inflammations are, and what treatment they require, it seems almost useless to expect good results from decapsulation in a workman, who, on his recovery, will certainly be exposed to chills, damp, and the fatigue of manual labour, and very probably to insufficient food and alcoholism. As Dr. Graham says, it is important to collect statistics from private practice, as the results ought to be better than in cases under treatment in hospitals.

HEALTH IN WEST AFRICA.

From the Colonial Office Reports on Sierra Leone, Lagos, the Gold Coast, and the "Northern Territory" of the Gold Coast, recently published, some information may be gathered on the health conditions of these various portions of our West Coast possessions. In the first-named colony dispensaries are now established in all the principal villages, and hospitals at Sherbro and the head-quarters of each of the five districts of the Protectorate. These are exclusive of the hospital in the capital (Freetown), where some 1,600 in-patients and 10,000 out-patients were treated during last year. In the two small-pox hospitals there was a total of only 34 cases admitted, and the disease seems to be well under control in the colony, and indeed in most places on the West Coast. The vital statistics for the whole colony are not sufficiently accurate to be of value, but those of the capital can be depended on, and here the birth-rate was 17.46 and the death-rate 27.9 per mille. It was a healthy season, no deaths occurring among the European Government officials and the sick-rate being low. A sanitary department superintends the cleansing of the town and makes a house-to-house visitation to inspect all yards, etc. Lagos does not show quite such a clean bill of health as Sierra Leone. There were many more cases of malaria and a much higher percentage of deaths than in the previous year. At Ebute Metta the death-rate advanced from 76 to 94 per mille, but these statistics being based on the population returns of 1901, and the town being a rapidly-increasing one, it is probable that the calculations may not be correct. In any case, however, the conditions cannot be looked upon as satisfactory. At the same time steady work is being done in the way of sanitary improvement. The filling up of the swamps in the neighbourhood of the town is being proceeded with rapidly, a sum of not less than £10,000 having been spent on this most useful work. The sea-wall has also been extended, and these two undertakings have combined to render the town both more pleasant and healthier. A real interest, according to the Colonial Secretary's statement, has been awakened in the sanitary condition of the town, and he sees no reason to doubt that a vast improvement in the conditions of life and in the health of the community will take place in the near future. Although the sanitation of all the towns in the "Northern Territories" of the Gold Coast Colony in which Europeans reside is carefully looked after, and none of the little company of Europeans, of whom there are apparently 24, died in 1904, the health statistics were not so good as in the previous year, and 2 cases of blackwater fever were invalided home. Two of the five stations, however, are only lately founded, and it is a well-established fact that new stations in West Africa are never so healthy as those which have been occupied for some years. Passing to the Gold Coast Colony proper, as distinct from the "Northern Territories," we find that the health of the Europeans shows an improvement over the previous year. There were fewer deaths, but the invaliding rate was slightly higher. Out of the total population of 1,953 whites 25 only died, but 157 were invalided. Although the resistance to sanitation on the part of the natives still continues it is not so great as formerly, and very considerable improvements in this respect have been carried out during the past year, more especially at Cape Coast, Sekondi, and Axim.

EMERGENCIES UNDER THE MIDWIVES ACT.

A conjoint meeting of the Manchester and Salford Divisions of the Lancashire and Cheshire Branch of the British Medical Association was held on Tuesday last to consider what steps should be taken in view of the statement that the Midwives Committee of the City Council might appoint one or two medical men in each district to give medical assistance to midwives in cases of difficult labour as prescribed by the regulations framed by the Central Midwives Board under the Midwives Act. The meeting was quite unanimous in adopting the following resolutions: (1) That a list of medical men in each district willing to give assistance be drawn up and be given to each midwife. (2) That no special appointment should be made. (3) That every registered medical man willing to give assistance shall have his name placed on the list. (4) That the patient's usual medical attendant, if on the list, shall in all cases have preference, and that in his absence the nearest medical man whose name is on the list be sent for. A deputation was appointed to confer with the Midwives Committee, and we should hope that the unanimous opinion of medical men practising in the district will convince the Committee that the course which, it is believed, it had thought of adopting would be mistaken. Quite apart from the primary consideration that in an emergency help is required at once, there can be no doubt that the proposal would inevitably lead to friction, which, in the interests of everybody concerned, ought to be avoided.

"MEDICAL SPECIALIST" AND FORGER.

A trial which has occupied some twelve days of the time of the Central Criminal Court came to an end on Wednesday evening last. The prisoners were "Dr." Talbot Bridgwater, aged 49, described as a medical specialist; Lionel Peyton Holmes, aged 53, said to be a dispenser and doctor's assistant: William Edward Shakell, aged 49, a surveyor: and Elizabeth Foster, aged 67, who was described as of no occupation. These persons were jointly indicted for stealing blank cheque forms, for forging and uttering an order for payment of £819, for obtaining that sum by false pretences from a bank, and for conspiring and agreeing together to commit the said offences. The evidence given was exceedingly lengthy, and such parts of it as are of medical interest are detailed below, the source of information being the daily reports of the trial supplied by the *Daily Telegraph*. The trial ended in the conviction of all the accused except Elizabeth Foster, who was declared not guilty by the jury: the prisoner Bridgwater was sentenced to seven years' penal servitude, Shakell to five years, and Holmes to fifteen months' hard labour. The prisoner Foster, however, although acquitted at this trial, was not released, but was put back until next session to answer another indictment. This trial is of interest to medical men because the prisoner Bridgwater has been three times prosecuted for offences under the Medical Acts. Bridgwater formerly carried on the work of a medical practitioner at Cardiff with a woman whose name was removed from the *Medical Register* in 1894; they were both prosecuted by the Medical Defence Union under Section xl. of the Medical Act, but the magistrate refused to commit them because the female defendant produced a degree of M.D. Zurich, and Bridgwater swore that he held that of M.D. U.S.A. On the case going to the

Appeal Court, Mr. Justice Henn Collins said that the Medical Acts were in such a state of fog that the decision of the magistrate must stand. At a subsequent date Bridgwater, with the same companion, settled in London, where he opened the Progressive Medical Alliance in Oxford Street. On two occasions he was successfully prosecuted by the Medical Defence Union under the Apothecaries Act, and as he made no attempt to pay the penalties imposed, an endeavour was made to enforce them by application to the County Court. The Union, however, was informed by the judge that it was useless to press the claims, as the Court was full of judgement summonses against the defendant Bridgwater. In the present trial the two principal witnesses were both persons who had been amongst Bridgwater's patients in Oxford Street. One of them, a Miss Toovey, he had used as a tool in order to effect a forgery of the name of a gentleman said to be an American millionaire, whose secretary she was, and the other was a convict who had stolen the cheques used. Bridgwater at one part of the trial denied having ever seen the latter, but at another said that he had been under his treatment for three or four months. He explained his first denial on the ground that, although he had seen the witness so frequently as a patient, he had never seen him without his hat until he came into Court. He himself, he said, possessed several American qualifications obtained by examination. He admitted to knowing and to having been associated with several forgers and other notorious criminals, but he did not think it fair that he should be blamed because, out of his 3,000 or more patients, he had some who had been in trouble. He had been thirty years in his profession and had never before had a slur cast upon him. The stories of the witnesses against him were wicked slanders. The prisoner Elizabeth Foster admitted that she had been associated with Bridgwater for fourteen years. She had had medical diplomas. At one time she worked in the Oxford Street establishment, but since October, 1902, she had lived at Seaford. When she gave up this work she dropped her professional name of Macdonogh-Frickhart.

PLAGUE ON THE RAND.

A report by Dr. Pakes upon the outbreak of plague on the Witwatersrand, an outbreak which lasted from March 18th to July 31st, 1904, has just reached us. In recent years several useful reports have appeared upon similar isolated epidemics in non-endemic countries, and their study has proved of great value. Perhaps the chief lesson to be learned from this present report is the great danger of not diagnosing the early cases, such a misadventure often leading to the most serious results and great financial loss. In this particular instance the first individuals attacked suffered from the pneumonic type of the disease. The description of the case of one patient who died in the beginning of February was nevertheless a typical picture of bubonic plague, but there was apparently some delay in notifying it, and before the authorities could take action the body had been removed to Natal for burial. Between this date and March 18th, when plague was first definitely diagnosed, other cases of a suspicious form of pneumonia were frequent, and plague had been demonstrated in rats as far back as May of the previous year. The fact that the rats were attacked before man would also seem to explain the origin of the epidemic better than Dr. Pakes's idea of the plague-infected rice from Bombay. Once the disease was diagnosed the Committee and their medical officers quickly set about stamping it out, and too much praise cannot be given to Dr. Pakes and Dr. Mackenzie for the very able way in which they went about their work. The destruction of the coolie location by fire was without doubt the best and most efficacious way of dealing with the emergency. Formation of the plague camp, the intelligence department, the regulations concerning travellers, the inspection of natives, the disinfection, and the rat extermination, were all measures deserving of high praise. The bacteriological part of the report is good; it shows how fallacies may creep in, unless the inquirer goes through the routine of cultivating on different media, in addition to inoculations and the establishment of mere morphological identity. The report is not favourable to the method of exterminating rats by Danysz's bacillus. The subject of plague, though so much discussed, is by no means exhausted yet. The mystery of its spread from rat to man, its power of apparently lying dormant again to recrudesce, are all points for the future investigator, and until those are solved prophylaxis will always be difficult.

LIFE ASSURANCE WITHOUT MEDICAL EXAMINATION.

Dr. Crawshaw has sent us a report of a case heard recently in the Dukinfield Police Court, which, as he says, is an illustration of the evil to which Dr. W. F. Fisher called attention in the British Medical Journal of November 25th, p. 1430. It was a case in which the wife of an artisan sued the Universal Insurance Loan and Investment Company, Limited, Leeds, to recover £10 16s. upon a policy of insurance on the life of her mother. The case for the plaintiff was that the deceased woman had suffered for twelve years from chronic rheumatism, and that the superintendent and agent of the insurance company, having spent about an hour and a-half in the house and having seen the woman, knew that she was not in good health, but yet drew up a proposal form and induced the company to accept the life. For the company it was contended that the state of health of the person insured was concealed from the superintendent, and upon the receipt of a certificate that the woman had died from rheumatic gout the company refused to pay; it was alleged that the superintendent and agent advised the insurer that she would be foolish to fight the case, and offered to refund the premiums. The insurer appears to have been under the impression that the medical man who gave the death certificate was in some way blameworthy for stating that the cause of death was rheumatic gout, but it is clear that he had no other alternative. The magistrates gave judgement for the amount claimed, the court costs and two guineas for advocate's fee. The representative of the company gave notice of appeal. Cases of this kind are, we believe, of not infrequent occurrence to every general practitioner whose work lies amongst the industrial classes. The case indicates the readiness with which medical men may be blamed when the company refuses to pay. The result of the system is either that the medical man loses his patient or is tempted to suppress the truth in his certificates. We believe that, as in this case, this temptation is resisted, but the system is a bad one, affording temptation to the poorer classes to fraud if not to something worse.

DECREASE IN THE NUMBER OF MEDICAL STUDENTS.

The President of the Royal College of Surgeons of England recently deplored the decrease in the number of medical students in England, and he seemed disposed to attribute it to the unreasonable educational requirements of the General Medical Council. The phenomenon is not, however, an isolated one. For a few years past there has been a steady decrease in the number of medical students in France, Germany, and the United States. In France the number has diminished from 7,779 in 1895 to 6,703 in 1905. In Germany the number, which from 1858 to 1888 had shown a steady increase, began to fall after that period. While in 1888 there were in German universities 8,513, in 1903 there were only 6,232. The number of students in the United States in 1904 was 28,142; in 1905 it had fallen to 26,147. It is noteworthy that in America the decrease is greatest in the homœopathic colleges.

The General Medical Council went into *camera* on Tuesday shortly after the conclusion of the President's address, and adjourned, according to custom, at four o'clock, to enable certain committees to meet for the completion of their reports. On Wednesday the Council was occupied for the whole day in hearing penal cases.

Scotland.

Parliamentary Representation of the Universities of Edinburgh and St. Andrews.

Mr. J. St. Loe Strachey.

Mr. J. St. Loe Strachey, editor of the *Spectator*, who has come forward as a candidate for the Parliamentary representation of the Universities of Edinburgh and St. Andrews in opposition to the sitting member, Sir John Batty Tuke, M.P., recently received a deputation from the Council of the Dundee Branch. A series of questions drafted by Dr. Buist, Chairman of the Medico-Political Committee of the British Medical Association, were handed to Mr. Strachey. The terms of these questions differ slightly from those subsequently approved by the Parliamentary Subcommittee and the Medico-Political Committee and published in the Supplement to the British Medical Journal of November 18th. To these questions Mr. Strachey sent the following reply:

November 9th, 1905.

Dear Sir,—In regard to the questions handed to me by the deputation which met me at Dundee last Tuesday, November 7th, I desire to make the following answers:

Medical Acts Amendment.—I consider that the admission of so many new universities to the Council, and the prospect of still further additions, makes it not only reasonable but necessary that there should be an alteration in the constitution of the General Medical Council, and I should certainly support a Bill directed to a substantial increase in the number of the direct representatives of medical and dental practitioners. I am further of opinion that in the case of the universities and corporations, it would in many cases be advisable to widen the basis of election, in order that the members thus chosen should have a more representative character. To Questions 2, 3, and 4, under your heading, "Medical Acts Amendment," my answer is, Yes. (2) I think the General Medical Council should have full control of the course of education. (3) I am in favour of the "one-portal system," which has, I realize, become a necessity in view of recent developments. (4) The evasion of present restrictions against the practice of unqualified persons by the use of the Companies Acts is a matter which, in my opinion, calls for immediate legislation in the general public interest. Those Acts were never meant to give immunity to "quacks."

Death Registration and Coroners Acts.—I should be willing to support an amending Bill, based on the principles stated in your memorandum. The matter is one to which I attach great importance on public grounds, and quite apart from the special interests of the profession.

The Lord Chancellor and Coroners.—I would support the inquiry you ask for under this heading.

Reorganization of the Local Government Board.—I approve the request for a Royal Commission on the lines laid down by you.

Public Health Bill.—I would support legislation under the three headings set forth. I may say generally that I think security of tenure is essential to the proper carrying out of their duties by medical officers. It is most unfair, and also contrary to the public interest, to ask men to perform their functions in offices of trust, and where it may be their duty to call for action which will be unpopular to large and influential sections of the community, unless they are given full security of tenure. A proper superannuation scheme is also, in my opinion, most desirable in the case of medical officers of health and sanitary inspectors.

Revaccination.—On the question of revaccination I have always felt strongly, and would support legislation to make revaccination compulsory for all children before leaving the elementary schools, subject to the same exceptions as apply to primary vaccination.

Public Vaccinators.—What I have said in regard to medical officers of health applies of course to public vaccinators, and I would therefore support the Bill outlined by you.

Incipient Insanity.—If it can be shown that the system in Scotland leads to no abuses in regard to the liberty of the subject, I should have no hesitation in supporting an amendment of the Lunacy Acts suggested. As I understand them, the present arrangements in England are often very unsatisfactory, and lead to a great deal of inconvenience, not merely to the medical practitioners concerned with the working of the Act, but to the general public.

Habitual Inebriety and Drug Habits.—I would support an amendment of the Acts in the direction indicated, and believe that great good might follow if such amendment were carefully and judiciously made. The fear of procedure under the Lunacy Acts being put in force might, I believe, often have a strong deterrent effect on non-criminal inebriates and subjects of drug habits.

Poor-law Medical Officers, Scotland.—I would support the desired amendment of the present law.

Poor-law Medical Officers, Ireland.—I would support the desired amendment in this case also.

Vivisection.—Though you do not mention the subject of vivisection, I should like to take this opportunity of stating my attitude on the question. I am satisfied with the present state of the law, and would oppose any attempt to alter it in the direction of prohibition. The compromise arrived at seems to me to be a wise and humane one, and in the public interest.

I should like to say generally that if I become the representative of the Edinburgh and St. Andrews Universities I should endeavour, in the case of medical questions which come before the House, to be guided on technical matters by the best opinion in the profession. I should endeavour, that is, to ascertain and give weight to the views of the various bodies through which the trend of medical opinion may be authoritatively ascertained. Needless to say, I do not intend when I say this to suggest that I should abrogate my independence as a Member of Parliament, or that I would subordinate what I consider to be the public interest to sectional claims. What I mean is, that on technical questions, where my own judgement might easily be at fault, I should consult the best professional opinion. As a matter of fact, I do not believe that there is the slightest danger of any conflict between the public interests and those of the medical profession. The legislative proposals which you have brought before me strongly support my contention in this respect. Not only are they most moderate and reasonable in themselves, but are clearly quite as much designed in the general interest as in that of the great and honourable profession which you represent.

Believe me, dear Sir,
Yours faithfully,
J. St. Loe Strachey.

To Dr. Buist.

N.B.—Since this letter was written I have been shown the amplified questions approved by the two Committees. The additions, however, do not materially affect their meaning, and I may say generally that my assent is given to them as well as to the somewhat shorter questions actually submitted to me at Dundee.

Sir John Batty Tuke.

Sir John Batty Tuke, M.D., has addressed to us the following letter:

Sir,—I have received from one of my constituents resident in Edinburgh the series of questions published in the Supplement to the British Medical Journal of November 18th, page 285. I enclose my replies.

I am, etc.,
(Signed) John Batty Tuke.

London, Nov. 28th.

Medical Acts Amendment.—(1) I am of opinion that reorganization of the General Medical Council is desirable in the interests of the public and of the profession. I have stated publicly my opinion that an increase of direct representatives is desirable. (2) I have for many years advocated the General Medical Council should have complete control over the registration and education of medical and dental students, including fixing the standard of preliminary general education. (3) My experience on the General Medical Council has convinced me that the one-portal system is desirable in the public interest. (4) I am strongly of opinion that the practice of medicine or dentistry by unregistered persons or by companies, and the signing of medical certificates by unregistered persons, should be more completely prevented. In fact, I introduced into the House of Commons last year two Bills bearing on the subject: one to prohibit the practice of medicine by companies, and the other applicable to dentists.

Death Registration and Coroners' Law.—I am in favour of all the proposals of the British Medical Association under this head, and would support Parliamentary amendments of the law.

Public Health Bill.—I would support in Parliament an alteration of the law to give medical officers of health in

England and Wales the same security of tenure as is at present enjoyed by medical officers of health in Scotland and London, and by Poor-law medical officers in England and Wales, and approve of the terms of the Bill drafted by the British Medical Association. I propose to form one of the deputation to the President of the Local Government Board on November 30th to advocate the principles embodied in the Bill.

Revaccination Bill.—I introduced this Bill into Parliament in the session of 1904.[1]

Public Vaccinators.—I should be disposed to support a Bill to give public vaccinators the same security of tenure as Poor-law medical officers.

Reorganization of the Local Government Board in England.—The appointment of a Royal Commission to investigate the present central administration dealing with public health would have my support, and I consider that the scheme of reform contained in the Bill drafted by the British Medical Association is on the right lines.

Midwives Act.—An amendment of the Midwives Act to enable local authorities to make provision for the payment of medical practitioners called under the provisions of the Midwives Act to assist midwives in emergencies would have my support in Parliament.

The Lord Chancellor and the Coroner for South-West London.—I am in accord with the effort of the British Medical Association to obtain from the Lord Chancellor the judgement to which it is constitutionally entitled upon the case placed before him by the Association impugning the conduct of the Coroner for South-West London.

Incipient Insanity.—I introduced a Bill at the instance of the London County Council to give in England the same power of dealing with cases of unconfirmed mental disease as has existed in Scotland since 1857.[2]

Habitual Inebriety and Drug Habits.—During the session of 1902 I introduced into the House of Commons a Bill to give power to deal with non-criminal inebriates and the subjects of other drug habits.

Poor-law Medical Officers.—Since I entered Parliament I have advocated the cause of the Poor-law medical officers both in Scotland and Ireland. I backed two Bills introduced by Mr. Eugene Wason for the purpose of giving Poor-law medical officers in Scotland security of tenure.

The Quatercentenary of Aberdeen University.

A meeting of the Celebration Committee was held in Marischal College on November 24th, Principal Lang presiding.

Reports were given in from subcommittees as to the invitations to be issued to various universities, literary, philosophical, and other bodies in all parts of the world, and as to the circular which should be used in connexion with those invitations. The circular, it is proposed, should be an interesting piece of typography in the style of black letter popular at the period when the University was founded four hundred years ago, and this circular will set forth the aims of the celebrations, as also interesting particulars regarding various ceremonies. It was announced at the meeting that the King had signified his intention to be present at the celebrations next year and to open the new Marischal College buildings. Hitherto uncertainty as to the visit of His Majesty and the formal opening of the new buildings by him had prevented the fixing of any time except the earlier half of September. No precise date, in fact, has yet been fixed, but it is expected that this will be shortly made public. The Principal also expressed the opinion that if the Queen would accompany His Majesty on the occasion it would add to the honour and enhance the pleasure of this gracious visit. The co-operation of the Lord Provost, magistrates, and Town Council was essential, and he was happy to say they could rely on that. The desire of the citizens of Aberdeen was at one with that of the University to give our Sovereign and the Queen a right hearty and loyal welcome to the Northern city, the capital of the county in which is situated the Scottish home of the Royal Family. The Principal then proceeded to emphasize some of the features of the celebrations, touching on the part to be taken by the students, the music to be provided, the opportunities to be given of seeing and hearing leaders of thought and research in Great Britain and the Continent, and the entertainments of various kinds. In concluding his statement he said it was hoped that in the meantime all interested would work with a will and work together for the common end, and that the result would be a commemoration of an interesting past that should be also the prophecy of a great future—generous, but not extravagant; academic, but free from pedantry; representing worthily the height, width, and breadth of the brotherhood of letters.

Meanwhile, rapid progress is being made with the new medical buildings. The mason work is practically completed, the building roofed, and a large amount of work has been done in the inside of the structure. During the summer the magnificent pile has attracted great attention from visitors, and been much admired not only for the beauty and grace of the outline but also for the grandeur of the decorative scheme.

Edinburgh Social Union.

In the twenty-first annual report of the Edinburgh Social Union, which was presented on November 24th, it is stated that in connexion with the movement to organize the public charities of Edinburgh, some discussion has taken place between the Executive of the Union and that of the Social and Sanitary Society as to the federation of the two bodies. The Social and Sanitary Society was formed about the same time as the Social Union, and its objects are to improve the dwellings and social condition of the poorer classes of the city by:

(1) Procuring information regarding their social habits and sanitary condition; (2) communicating the information obtained to the authorities, with a view to the remedy of existing evils; (3) suggesting remedies in the interests of the health and comfort of the poor; (4) endeavouring to get both landlords and tenants to co-operate in carrying out the objects of the Society; and (5) specially endeavouring by practical advice, the diffusion of health literature, and kindly sympathy, to set the people on ways of self-improvement, industry, thrift, and cleanliness.

These objects being similar to those of the Social Union, it is considered that it would be for the benefit of both societies to be in closer union, holding a joint annual meeting and issuing a joint annual report. The Social and Sanitary Society would continue to have its own committee as before, but would be asked to appoint two of its members to form a joint executive with the Edinburgh Social Union. The Social Union administers such property as is committed to its charge by landlords who have confidence in its methods, and with whom the superintendents arrange the terms of management for each property. This year the work has not increased, but endeavours have been made to consolidate it and to make it more efficient. The aim of the window gardening department is to encourage children attending elementary schools to rear plants in their own homes. Arrangements are made with a gardener to supply plants and seeds at a reduced rate to the children. The plants and seeds are given out in spring, and a flower show is held at the close of the session in every school in which it can be organized. The introduction of Nature study into the school curriculum has given a great impetus to the cultivation of plants both in the schools and in the homes of the people. This summer the shows were particularly successful, and in some of the schools the exhibits numbered over 500, and the bare schoolrooms glowed with colour. The objects of the Industrial Law Committee of the Union are: (1) To spread a knowledge of the industrial laws. (2) To constitute a body to which may be reported breaches of the law, and other matters relating to industrial employment, in order that these may be inquired into, referred to the proper authorities, and otherwise treated as may be deemed advisable. (3) To secure a more effective administration of the existing law. All complaints received regarding breaches of the Factory and Workshops Acts are forwarded to H.M. Inspector of Factories, and receive immediate attention. The paintings by Miss Macgibbon in the Tron Church Hall are now completed. The scheme of subjects chosen for the paintings was taken from the Acts of the Apostles, as it was considered typical of the practical missionary work for which the building is used.

Royal Victoria Hospital for Consumption, Edinburgh.

Under the patronage of Her Majesty the Queen, a great international fair was held on Wednesday, Thursday, Friday, and Saturday, November 22nd to 25th, in the Waverley Market, Edinburgh, on behalf of the funds of the Royal Victoria Hospital for Consumption, Edinburgh, and so successful were the workings of the four days that a sum approaching £17,000 was realized, creating a record for bazaars in Edinburgh. The whole proceedings were fired by warmth and enthusiasm, and were conducted on a scale of much distinction. Stalls and stallholders representative of all branches

[1] Supplement to the British Medical Journal, March 19th, 1904, p. 49.
[2] British Medical Journal, April 15th, 1905, p. 846.

of the social economy in Scotland were concerned in the affair, and the result is not only a matter of congratulation to the great cause of charity, but to those directly concerned with the institution itself, which has as its pioneer and chief worker Dr. R. W. Philip. The Chairman of the Executive and Management Committee was the Lady Dunedin of Shenton, whose husband, the Lord Justice-General for Scotland, formerly Secretary for Scotland, opened the fair on the first day. Under her brilliant guidance was a band of hard and consistent workers, amongst whom may be mentioned Mrs. George Crabbie, Mr. J. E. Crabbie, Mr. Norman Cairns, Mr. W. Gardner Sinclair, Mr. Stewart Kennedy, and Mr. Stodart Walker. To Mr. Walker is due a magnificent volume, *A Beggar's Wallet*, which was reviewed in the British Medical Journal of November 25th, and the edition of an amusing evening paper, *The Bacillus*. An elaborate series of amusements—theatres, concerts, shooting galleries, and the like—served as a contrast to the serious work of the stalls. Of the stall-holders special mention must be made of Lady Dunedin, Anna Countess of Moray, Lady Grant, Lady Christison, Lady Grainger Stewart, Mrs. Crabbie, Mrs. Philip, Mrs. Redford, the Hon. Mrs. Trotter, Lady Cranston, and Miss Crabbie, whilst amongst the assistants were the Countess de la Warr, Lady Belhaven and Stenton, Lady Playfair, Lady Margaret Sackville, the Countess of Northesk, Lady Clementine Waring, the Hon. May Hamilton, the Hon. Muriel Hamilton, the Hon. Mary Graham Murray, Mrs. Pelham Bruce, and Lady Anne Kerr. The picturesqueness of the market, converted for the time into a fair of all the nations, and loaded with goods from all parts of the world, attracted great crowds during the week, and with the assistance of the bands of the Royal Scots Greys and the Highland Light Infantry the public were enticed to visit and revisit the the most successful attempt of its kind of modern times. Messrs. Dobson, Molle, and Co.'s printing press, turning out thousands of the evening paper, with its brilliant cartoon and its clever sketches, was one of the attractions of the fair, which aroused so much public interest that even the city tramcars were decorated as for a coronation day. The Lady Helen Munro Ferguson and the Lady Marjorie Mackenzie were amongst those who declared the fair open. There can be no doubt whatever that the response of the Scottish public was an evidence of their deep interest in the great charity, and that the results will do much to encourage the directors and staff of the hospital—chief of whom is Dr. Philip; to him is dedicated the *Beggar's Wallet*, "out of respect for his distinguished attainments as a physician, his exceptional wisdom as a citizen, and his unfailing loyalty as a friend."

Association of Medical Diplomates of Scotland.

On November 27th a deputation from the Association of Medical Diplomates of Scotland was formally received by the President and Council of the Royal College of Surgeons of Edinburgh. The deputation consisted of the President of the Association (Mr. St. Aubyn-Farrer), the Honorary Treasurer (Mr. W. Bell), and the Honorary Secretary (Dr. David Walsh). The gentleman last mentioned introduced the deputation and explained the object of the petition which they were then to present on behalf of the diplomates of the Edinburgh College. The petitioners prayed for the substitution or addition of a membership diploma for the existing qualification of Licentiate and Fellow. The desirability of such a change was urged by licentiates, who found themselves handicapped by competing in practice with those holding the membership of the English Royal College. An apparent inferiority was attached to the licentiateship, a disadvantage which it was hoped the College would, if feasible, take steps to remedy. The petition was then read by the President of the Association, who pointed out that it was signed by between 700 and 800 diplomates of the College. The petition, handsomely illuminated on vellum and bound in red morocco, was then formally handed by him to the President of the College, Mr. C. W. MacGillivray. Some discussion then took place upon various points raised by the petition. On behalf of the College the President undertook the careful consideration of the important issue involved. Before withdrawing, Mr. St. Aubyn-Farrer thanked the President and Council for their most courteous reception.

We are requested to add that it is hoped that Licentiates and Fellows of the Royal College of Surgeons of Edinburgh who have not yet sent in their signatures to the petition will do so at once to Dr. Walsh, 18A, Hanover Street, W., for a supernumerary list.

The late Mrs. Elder.

By the death of Mrs. John Elder the University of Glasgow has lost a generous benefactor, who at various times subscribed liberally to the University funds. She founded the women's department at Queen Margaret College, and for a long time took great interest in its welfare. Unfortunately some years ago Mrs. Elder considered that the University officials had broken faith with her by instituting mixed classes at Eilmorehill. Among other gifts to Govan, Mrs. Elder erected the Elder Cottage Hospital in connexion with the Cottage Nurses' Training Home. By her will she directs her trustees to pay any balance of the cost of the hospital building and of the equipment, and in addition she has set aside a sum of £50,000, of which the revenue is to be used in payment of the expenses of the hospital. To the Training Home she bequeaths the villa and ground presently occupied by that institution.

The Paisley Infirmary.

During the latter half of the past week a very successful bazaar has been held in Paisley in aid of the funds of the Royal Alexandra Infirmary. The promoters aimed at securing £15,000 to remove a debt of £11,000, and place the institution upon a sound financial footing. The infirmary was erected a few years ago at a cost of £98,000, and by subsequent donations and subscriptions a further building fund of £90,000 was obtained. The debt of £11,000 arose from the yearly contributions falling short of the annual cost of maintenance. The institution provides accommodation for 167 patients, and there are in addition an isolation block, nurses' home, etc., while a dispensary was erected by private subscription as a Jubilee Memorial of the late Queen Victoria. The appeal for funds was warmly responded to by all classes, and valuable gifts and contributions were given. The bazaar was opened by Her Highness the Duchess of Albany on Wednesday, and at the termination on Saturday evening the Committee were able to announce that the total receipts amounted to £17,432, so that the sum aimed at was more than realized.

Ireland.

The Election of Direct Representative for Ireland.

We have received the following letter from Dr. Laffan of Cashel:

"Your reference to the above in the British Medical Journal of November 25th induces me to trouble you with some remarks on so important a matter. Personally I have no ambition to be the elected representative of a body of men who for so long a period have lain down under the metropolitan whip. Our profession is split up into two bodies in Ireland as with you—the rulers and the ruled. The doctor-making folk and the doctor-paying folk—the lordly minority and the suffering majority. Now let us see what the suffering masses ought to insist on.

"1. They ought to insist on examinations which should be open to the presence of every registered medical practitioner. Full liberty should be allowed to introduce shorthand reporters at the orals and to take copies of all written answers. Such an arrangement would get rid of fraudulent examinations and give us all more elbow room by lessening the in-put into the profession.

"2. Hospital abuses should be sternly put down by making it infamous for any medical man to serve a hospital which by the admission of rich patients should rob the poor, the profession, and the charitable. A motion to this effect should be introduced at every meeting of the Medical Council by our direct representative.

"3. The professional masses who could formerly bestow estates on their sons by the cheaper medical education they could give them, should have that property restored to them by being readmitted to a share in the training of the neophytes of their profession, and the grounds for the repeated condemnation of the Medical Council visitors on the defective practical training of the profession be removed. In this way the views of the late Sir J. Paget, Mr. Wheelhouse, and other independent members of our calling would be given effect to.

"Lastly, a Council which is supported by us should be so reformed as to be elected by us, and not by those who prey on our very vitals.

"The foregoing seem to me the main planks for which the masses should strive. I will support any man who may be

selected by a public meeting, without any reference either to his polemics or politics, who will support the above, and I appeal to the Cork doctors outside the Queen's College folk to summon a meeting of the provincial men into their city."

DEPORTATION OF IRISH PAUPER LUNATICS.

The Committee of the Cork District Asylum have for some time past been objecting to the "dumping" of lunatics from America into the Cork Asylum no matter what part of the world they may belong to. Now the Clonmel Lunatic Asylum Committee seem to be suffering in a similar way, for Dr. Harvey reports that the deportation of Irish pauper lunatics from the United States to this country has been going on for some time. In one case a girl emigrated at the age of 14 years, and when 5 years older was placed in a New York lunatic asylum, and after ten years there was sent back. Another patient was brought back in charge of two nurses, and on inquiry he was told that these nurses brought over five patients. Dr. Harvey stated he had made representations to Dublin Castle on the subject. Dr. Heffernan stated there were 1,093 Irish-born patients admitted to asylums in New York for the eleven years 1888-99. The number of lunatics in Ireland is over 180 000. If all the Irish patients were sent across from America there would be no room for anybody else. Steps were taken to have the matter brought under the notice of Parliament.

THE REPORT OF THE IRISH LOCAL GOVERNMENT BOARD.

We have received the following letter with reference to the article in the BRITISH MEDICAL JOURNAL of November 25th, p. 1422, on the report of the Irish Local Government Board:

Local Government Board,
Dublin,
28th November, 1905.

Dear Sir,

The Medical Commissioner has asked me to present his compliments, and to say that he has read with much interest your article on Ireland in the last number of the BRITISH MEDICAL JOURNAL. At the same he thinks it well that, as Chief of the Statistical Department of the Local Government Board, I should point out a few inaccuracies in the figures given on page 1423, which, possibly, you may wish to correct in a future issue of the JOURNAL.

As regards the salaries of medical officers, it is stated that they amounted to £93,000 in 1897, and had shrunk to £90,000 in 1905; but when payments for temporary medical services are taken into account, as is the case with respect to the amount given for 1897, it is found that the salaries in 1905, instead of having shrunk to £90,000, had increased to £103 880.

With reference to the statement that there has been an increase of 1,000 in the number of midwives in the last five years, I have to observe that in 1900 the total number of midwives authorized was 473, and in 1905, 605.

The numbers on outdoor relief are stated to have increased by leaps and bounds since 1898, and it is added, in proof, that in 1895 57,500 persons were in receipt of outdoor relief, while in 1905 there were 96,500 on the lists—a formidable increase, it is observed, of 41 000 paupers in ten years. From the tables contained in the Board's reports, it will be seen, however, that in the year 1894-5 the daily average number on outdoor relief was 57,435, and the highest number on any day 63,703, while for the year 1904-5 the figures are—daily average, 57,665; highest number, 68,773, this latter including 8,715 persons who were afforded exceptional relief by means of special works provided to meet the distress occasioned by the failure of the potato crop in 1904.

I am, dear Sir,
Yours faithfully,
H. COURTENAY.

The Editor,
BRITISH MEDICAL JOURNAL.

TYPHOID FEVER IN TYRONE.

On November 25th the Omagh Guardians were occupied for some time in dealing with the epidemic of typhoid fever which has been prevalent in the district now for some weeks. The fever hospital was fully occupied with twenty-six patients, and extra nurses had to be employed. Several patients have refused to enter the hospital. Dr. Bradley, medical officer of the Gortin district, wrote that the epidemic was spreading, that cases were being hidden, and that the creamery authorities had refused to close the creamery, although this step had been recommended both by himself and the Local Government Board inspector. Dr. Fleming's recommendation for the hospital were approved.

IRISH MEDICAL ASSOCIATION.

The general special meeting of the Irish Medical Association to consider the new reorganization scheme was held in the Royal College of Surgeons, Dublin, on November 23rd. The scheme submitted was that approved by a preceding meeting, and was based upon the principle of county representation, with certain exceptions in the case of three large cities. The Council will now be composed of a president, honorary secretary, honorary treasurer, 32 members representing as many counties, with 3 members for Dublin, 2 for Belfast, and 2 for Cork. The total number, therefore, will be 42.

MEDICAL MAGISTRATE.

Dr. James D. Williamson, of Belfast and of Helens Bay, county Down, has been appointed a Justice of the Peace for the county Down.

NATIONAL COMMERCIAL TEMPERANCE LEAGUE.

An interesting and important lecture on Scientific Researches on the use of Alcohol was delivered by Dr. Norman Barnett, honorary secretary of the North of Ireland Branch of the British Medical Temperance Association, to a meeting of the National Commercial Temperance League on the evening of November 18th. The effect of alcohol on animal and vegetable life was illustrated by lantern slides. The lecturer concluded by giving ten scientific reasons in favour of total abstinence, and remarked that alcohol was unnecessary, if not actually prejudicial, in health, and should only be used in disease with the greatest caution.

QUEEN'S COLLEGE, BELFAST.

Sir Donald Currie's offer of £20,000 to the Better Equipment Fund of Queen's College, Belfast, is conditional upon an equal sum being raised by the College before Christmas. A third list has lately been published bringing the sum total up to over £16,000, so that some £4,000 must be raised before the date mentioned. President Hamilton appeals once more to all not to let the disgrace of an insufficient reply to the generous offer rest upon Belfast and Ulster. As one friend expressed the situation, "the honour of Ulster, as well as the well-being of the College, is concerned." It is earnestly hoped that all old graduates will remit their subscriptions, the bigger the better, but no matter how small, with promptness to the Honorary Treasurer of the Fund, James J. Blackwood, Esq., J.P., Ulster Bank, Belfast.

SPECIAL CORRESPONDENCE.

PARIS.

An Intestinal Ferment: Mucinase.—Organization of Crèches and Natural Feeding in Industrial Centres.—The Laicization of the Hôtel Dieu and St. Louis Hospitals.—Creation of a New Chair of Clinical Therapeutics in the Paris Faculty of Medicine.

AT a recent meeting of the Société de Biologie Dr. Roger made a communication on a ferment extracted from the mucous membrane of the small intestine, to which he proposes to give the name of mucinase. This ferment has the power of coagulating mucin and rendering it insoluble in lime water. It is very easily obtained by treating with glycerine the mucous membrane of the small intestine and precipitating this glycerine extract with alcohol. Dr. Roger has experimented with mucinase, by means of which, when in contact with mucin of intestinal or biliary origin, he has obtained a coagulation of the mucin, which is precipitated in the form of small flakes. When mucinase is in the presence of pure bile the mucin is not coagulated, the liquid remaining clear. Bile possesses the curious property of preventing the action of mucinase, owing this property to substances which are soluble in alcohol and which resist boiling. It is now easy to understand why mucus remains in the liquid state in the small intestine, why it is coagulated in the large intestine, and why in certain cases of enteritis it is expelled in the form of concrete masses and in wide ribbon-like filaments.

During 1904 Professor Budin called the attention of the

Académie de Médecine to the initiative taken by MM. Blin and Blin, of Elbeuf, who put up a notice in their manufactory urging their women hands to place their newborn infants under the care of the municipal crèche situated close to the works, and stating that every facility would be given to mothers to go at times they would select to give the breast to their infants. MM. Blin and Blin, moreover, offered a gratuity in the shape of Fr.100, placed in the savings bank in the infant's name, for each mother who should have fed her infant at the breast. MM. Blin and Blin have recently published a small pamphlet on the organization of the service of maternal feeding at Elbeuf, which has been working for the last sixteen months; 37.7 per cent. of new-delivered women made up their minds to follow the advice of MM. Blin and Blin, a great advance, as formerly the number of mothers who gave the breast was zero. From April 1st, 1904, to July 31st, 1905, among the 500 female hands, there were 63 confinements, with 61 infants (3 were stillborn and one case of twins). All the breast-fed infants (23 in all) are still alive, although among them was one born prematurely and one case of congenital weakness. In one case cited, a mother had had twelve children, all born prematurely, and fed with the bottle; she had lost them all, one only having survived three months. She is now feeding the latest arrival, also prematurely born, at the breast, and the infant is 7 months old, is well, but weakly. Of 38 infants who have been bottle-fed, 8 are already dead, giving a mortality of 21.05 per 100; while the mortality is zero per 100 among the breast-fed infants, who are looked after in the crèche near the manufactory while the mothers are at work. MM. Blin and Blin have carried their philanthropy further by encouraging the women to remain in their homes during the first year of breast feeding: their places are kept for them in the works for their return, and they have other advantages. At the present time twenty-three mothers give the breast, of these nine are at work and feed their infants at the crèche, whilst the fourteen others remain at home. Each infant, in addition to Fr.100, is given a complete outfit of clothes. A doctor examines and weighs the nurslings every week. A mutual aid society has been formed among the women workers, which allows Fr.40 to each lying in woman, and work can only be resumed after one month's rest.

At a recent meeting of the Municipal Council of Paris, the following motion was passed:

> The Director of the Assistance Publique is invited to replace the sisters at the Hôtel Dieu and St. Louis Hospitals by lay nurses, and this in three months from the date of the promulgation of the decree. In no case will the Augustine sisters be admitted to continue their service in lay uniform.

This practically completes the laïcization of the nursing staff in the Paris hospitals.

The Council of the University of Paris, at an extraordinary meeting presided over by M. Liard, the Vice-Rector, unanimously accepted the offer by the Duc de Loubat of the sum of Fr.400,000 (£16,000) for the creation of a Chair of Clinical Therapeutics in the Faculty of Medicine.

LIVERPOOL.

Reopening of the Medical Institution: Improvements and Extensions: the Library: Reception by the President: Address by the Treasurer on the History of the Institution and of the City: Biennial Dinner.

THE alterations of the Medical Institution which have been in progress since the spring are so far completed, that the sessional meetings, which had to be postponed for a month, have now been resumed.

The extension has been rendered possible by the absorption of the house hitherto occupied by the resident librarian. The enlargement and other improvements of the building and the necessity for providing a new dwelling for the resident librarian will entail a considerable increase in the cost of the upkeep of the Institution. It is confidently anticipated, however, that the increased comfort and general convenience provided will be an inducement to many medical men who have not yet become members of the Institution to join it. No doubt there are many practitioners who find it extremely inconvenient or impossible to attend the evening meetings, and hitherto there was little to induce them to enter the building in the daytime except for the purpose of borrowing books from the library. In future, however, there will be much to induce members not only to visit the Institution in the daytime, but also to spend some time there.

The library has been brightened by the addition of a gallery and a lantern; the newspapers and magazines have been removed from it to a cosy room where they can be read in comfort, and the council room has been enlarged to nearly twice its original size. Further, a room is being fitted up for the use of members who desire to study the books in the library on the spot. This will supply a want which has long been felt, and will add greatly to the usefulness and accessibility of the fine collection of works relating to medicine and the allied sciences in the possession of the Institution. The permanent collection of books has for many years been the object of special attention on the part of the Council and the Library Committee, and no pains have been spared to procure all books and periodicals which are likely to be of permanent value or to be needed by those engaged in research. Works of less permanent value are equally accessible to members, for by an arrangement with Lewis's London Library any book published in English can be obtained without delay.

On Saturday evening, November 18th, a reception was held in the Institution by the President, Sir James Barr, and Lady Barr, nearly 1,000 guests being present. The enlarged premises were greatly admired, though their decoration has been postponed until next summer.

During the course of the evening Mr. T. H. Bickerton, the treasurer, whose efforts to secure a renewal of the lease of the premises on advantageous terms deserve the highest praise, and who has thrown himself with characteristic energy into the work of extending the buildings, delivered a most interesting address on the history of Liverpool in general, and of the Institution in particular. The paper, which it is hoped he will publish in full, was the result of many weeks' research among authorities that are apparently little known, and is likely to be a standard treatise on the subject with which it deals. It appears from it that while Liverpool is one of the most modern of English cities, its medical society is one of the oldest in existence. Thus the first authentic mention of Liverpool is no earlier than the time of King John, who gave it a charter; it is not mentioned in *Domesday Book*, and there are good grounds for believing that in Roman and Anglo-Saxon times the estuary of the Mersey did not exist, but was represented by a lake drained by a stream which entered the sea by way of Wallasey Marsh. But though the name and site of Liverpool are traced back to the thirteenth century, it remained little better than a small fishing village, and underwent little or no expansion until the second half of the eighteenth century, when it attained the "bad eminence" of being the head quarters of the slave trade. The Medical Institution took its origin in the formation of what was known as "The Liverpool Medical Library," at a meeting attended by the medical men connected with the Infirmary and the Dispensary on October 17th, 1779. The origin of the Institution, therefore, dates back to fourteen years before the death of John Hunter, twenty-six years before the foundation of the Royal Medical and Chirurgical Society of London, twenty-one years before the formation of the Library of the Royal College of Surgeons of England, and eight years before that of the Royal College of Surgeons of Ireland.

The biennial dinner of the Liverpool Medical Institution took place at the Adelphi Hotel on Saturday, November 25th. Covers were laid for nearly 150. The President, Sir James Barr, was in the chair, and the guest of the evening was Sir William Broadbent, Bart., K.C.V.O. The usual loyal toasts having been duly honoured, the toast of "The City and Port of Liverpool" was proposed by Dr. D. A. O'Sullivan of London, and replied to by Sir Robert Hampson. The President then proposed "The Health of Sir William Broadbent," who in the course of his reply said that his professional career had coincided with an extremely interesting period in the history of medicine. Thus within his recollection the science of bacteriology had arisen. Before that certain diseases had received the name of zymotic, from the analogy between their course and the progress of fermentation. It was supposed that defervescence was due to the medium of the ferment being exhausted. Then the researches of Pasteur placed the theory of the infective fevers on an experimental basis, and it was now known that the infective organisms died, not through the exhaustion of the medium, but through the formation of antitoxins. His attention was early directed to the nervous system. He was acquainted with Lockhart Clarke and Hughlings Jackson.

Owing to his hypothesis of the bilateral representation in the brain of certain regions he enjoyed the friendship of Charcot. He also performed Sibson's vivisections, and learnt the important lesson that one must not take the results of previous observations for granted. During his time he had seen great changes in the organization of the profession. When he qualified specialism was only just beginning, and was looked upon with a certain amount of disapproval. Great changes had also taken place in the method of conducting examinations. He was only examiner for one hour at the College of Surgeons. The toast of "The Medical Institution" was given by Mr. Jeans and replied to by the Treasurer, Mr. T. H. Bickerton, in an interesting speech, in which he dealt with some points in the medical history of Liverpool. The toast of "The Visitors" was proposed by the Secretary, Mr. F. C. Larkin, in a humorous speech. An excellent musical programme was rendered by the Idlers' Quartette.

BIRMINGHAM.

Birmingham Medical Mission.—New South Staffordshire Small-pox Hospital.

The thirtieth annual meeting of the Birmingham Medical Mission was held on November 16th in the New Mission Hall, Canon Ford being in the chair. The report showed that 4,502 cases had been dealt with during the year, and that since the mission was founded over half a million poor people had been helped in various ways. The receipts amounted to £1 671 and the payments to £1,632. Dr. H. B. Wilson is the medical superintendent.

The new South Staffordshire Small-pox Hospital, erected for the use of the boroughs of Wolverhampton and Smethwick and for the districts of Amblecote, Bilston, Coseley, Darlaston, Heath Town, Rowley Regis, Sedgeley, Tettenhall, Tipton, and Wednesfield, will be opened on December 4th for the reception of patients. The area includes a population of over 300,000. The hospital is at Moxley, and is almost entirely isolated from dwellings. There will be accommodation for 40 patients and for an emergency staff of nurses and officials in case of a sudden epidemic. The site of 56 acres is surrounded by an unclimbable iron fencing. The administrative block includes rooms for a resident medical officer, matron, fourteen nurses, and servants, and also kitchens, surgery, storerooms, and bath rooms. There are in all three pavilions. The first and third will hold 16 patients each, and the second is an observation block for doubtful cases, and will hold 8 patients. Each pavilion has two wards, male and female. There are large concrete areas laid out for the quick erection of temporary blocks in the event of any serious epidemic. The total cost is £18,000.

SOUTH WALES.

Cardiff Guardians and the Cost of Vaccination.—Pontypool Water Supply.—St. David's College, Lampeter.

At the meeting of the Cardiff Board of Guardians on November 18th a letter was read from the town clerk asking for particulars of the cost of vaccination in Cardiff for the last five years. Mr. Wheatley explained that he had received the inquiry from the town clerk of Salford and would be glad of a reply. The Salford Health Committee, it was pointed out, was anxious to obtain the statistics to lay before the Council of the Association of Municipal Corporations. A member said that the idea of the meeting in London of the Council of Municipal Corporations was to transfer the powers and obligations of relieving officers to corporations. The Chairman recommended that as it was not a Government business the Guardians should, in reply, state that they were not in a position to give the statistics, and this view was adopted.

In his monthly report to the Pontypool Council, Dr. Mason, the Medical Officer of Health, states that, although there is plenty of water about, very little finds its way into the pipes and taps in the upper part of the district, and if this condition of things continues he fears that an epidemic may occur, with serious consequences. The surveyor also draws attention to the shortage of the water supply, and states that some of the inhabitants on the higher level are, and have been for days, without water, and in other cases the supply has only been on for one hour a day.

The Principal of St. David's College, Lampeter, has received from a donor, who wishes to remain anonymous, a promise of £2,500. This money may be used either for post-graduate scholarships or for a new chapel. It is for these two objects in particular that the Principal has been appealing. St. David's College has also benefited recently by the creation of a trust by Sir John Llewelyn, who has assigned the sum of £5,000 for various purposes, including the provision of £100 a year for students proceeding to Oxford and Cambridge under the "affiliation" scheme.

NEW SOUTH WALES.

Consultation with Homœopaths.—School Holidays.

At a special meeting of the New South Wales Branch of the British Medical Association, held on October 13th, a long discussion took place on a resolution submitted by Dr. Gordon Craig, that "homœopaths should not be met in consultation." Various opinions were expressed on the subject, and an amendment was moved by Dr. Walter Spencer, and seconded by Sir Philip Sydney Jones, to the effect that such consultations were permissible if the subsequent treatment of the case were conducted on orthodox lines. On the suggestion of Dr. Hankins, and with the approval of the mover and seconder of the original motion, the original motion was amended by the addition of words to the effect that such consultations are inconsistent with membership of the New South Wales Branch of the British Medical Association, and that steps should be taken at an early date to incorporate this in the Articles of Association. This motion as thus amended was carried by a large majority. In view of the divergence of opinion on this subject, not only here but in England, it was felt by some that the passing of this resolution was uncalled-for.

At this same meeting a resolution was submitted by Dr. Rennie to the effect that it would be advantageous to the young in this State, and conducive to their educational progress, if the school terms were arranged with more consideration of the periods of the year suitable or unsuitable for study. That it was therefore advisable that the summer vacation should be lengthened and the midwinter vacation be shortened. This resolution was submitted with a view to strengthening the hands of the officials of the Education Department who are in conference with the University Senate, and who are desirous of making a change on the lines indicated, and it was carried almost unanimously.

Cyprus.—It is still a difficult matter to disabuse the public of the firmly-rooted idea, dating from the early days of the British occupation, that Cyprus is one of our unhealthy possessions. It is the fact, however, that malarial fever plays, as a rule, a very insignificant part in the lives of the European residents; and in the Colonial Office Report on the island just issued, the Chief Medical Officer speaks of the general health of the population as being very satisfactory, a small-pox outbreak at once suppressed, a few sporadic cases of typhoid, and conspicuously rare cases of diphtheria being the only instances of zymotic disorders. The leper farm has 109 inmates, and nine deaths occurred during the year. There are stringent laws for the compulsory segregation of persons suffering from the disease, and the decreasing number of cases at the farm shows that leprosy is diminishing in the island. The lunatic asylum leaves much to be desired, being situated in the middle of the town of Nicosia, and quite devoid of proper accommodation. There is a crying need for a suitable asylum outside the walls of the town. The Government Laboratory is spoken of as having done excellent work, not only in rendering bacteriological assistance to the medical profession, but also in aiding the community at large by furnishing analyses of soils, water, minerals, etc. The High Commissioner dwells at some length on the delightful climate to be obtained on the pine-clad heights of Troodos, and regards it as inexplicable that such an excellent sanatorium, so easy and economical of access, is not taken advantage of for the relief of the exhausted British garrison in Egypt.

The Tuberculosis Congress.—The French Permanent Committee of the Tuberculosis Congress has, it is stated, written to President Roosevelt accepting his invitation to hold the next meeting in the United States. The Committee, at the head of which are M. Casimir-Perier, ex-President of the French Republic, and M. Léon Bourgeois, expresses its satisfaction at the fresh opportunity offered by the Congress of strengthening the friendly relations between France and the United States, which have so many times co-operated in furthering the interests of mankind.

OBITUARY.

SIR JOHN BURDON-SANDERSON, M.D., F.R.S.,

LATE REGIUS PROFESSOR OF MEDICINE IN THE UNIVERSITY OF OXFORD.

Sir John Burdon-Sanderson died at his house in Oxford on Thursday night, November 23rd. He had a severe illness about ten years ago, and though his intellectual vigour remained unabated his physical health has ever since caused anxiety to his friends. He spent last winter in Algiers to escape the inclemencies of an English winter. The immediate cause of death was bronchopneumonia and heart failure.

Biography.

John Scott Burdon-Sanderson was born at Jesmond, Northumberland, in December, 1828. His father, Richard Burdon-Sanderson, of West Jesmond and Otterburn Dene, was the son of Sir Thomas Burdon, of a well-known Northumbrian family, and several times Mayor of Newcastle. His mother was a sister of John Scott, Lord Eldon, the famous Chancellor, and William Scott, Lord Stowell, a distinguished judge. He took the name of Sanderson on his marriage with Elizabeth Sanderson, the only daughter of Sir James Sanderson, Bart., M.P., a London merchant who had been Lord Mayor of London. Richard Burdon was a Fellow of Oriel and had a distinguished University career, taking his degree with First Class Honours, as well as gaining the Newdigate Prize. Keble was his tutor, and through him and others he came under the influence of the Tractarian movement. After leaving Oxford he was called to the Bar and became secretary to his uncle, Lord Eldon, but in consequence of his extreme dislike to the system of ecclesiastical patronage then existing, with which his appointment as Secretary of Presentations brought him in contact, he resigned his post and finally severed his connexion with the Church of England. Until his father's death and his succession to his estates in Northumberland, he lived in Kent, where his elder children were born, and in later life he became greatly absorbed in evangelical work. John Burdon-Sanderson was his second son, the first being Richard, who played a distinguished part in public life in the North of England, and died from injuries received at Abbott's Ripton railway accident in 1876. There were besides the two sons three daughters, all of whom shared in their brother's ability; of these two survived, one being the mother of the Right Hon. Richard Burdon Haldane, M.P., and Dr. John Scott Haldane, F.R.S.

Burdon-Sanderson was educated at home by tutors under his father's direction. His early life was spent entirely in the country, either at Jesmond or at Otterburn in the Cheviots, where he fished, shot, rode, and learned everything that could then be learned about plant and animal life. He constantly spoke of the happy days spent on the moors. To the end, nothing pleased him more than a walk in the country, where he could stop to identify the plants or watch the animals. He was not sent to a public school, nor to Oxford or Cambridge, owing to his father's strong feelings on ecclesiastical questions. His father wished him to become a lawyer, and follow in the footsteps of his uncle, Lord Eldon, after whom he was named. It was the interest excited by conversation with Dr. Glover of Newcastle (who was attending his brother during a serious illness) that caused Burdon-Sanderson to choose a medical career. He matriculated at the University of Edinburgh as a medical student, and there became the pupil of Balfour in botany, Goodsir in anatomy, and Alison in physiology, while, amongst other teachers, were Christison, Syme, Gairdner, and Hughes Bennett, for whom he acted as demonstrator. Amongst his immediate student friends were Murchison, Priestley, Rutherford, Haldane, and Saunders. He took the degree of M.D. in 1851, receiving a gold medal for his thesis. His first published paper, which appeared in the *Edinburgh Monthly Journal of Medical Science* for 1851, was on the metamorphosis of the coloured blood corpuscles and their contents in extravasated and stagnant blood. In it he criticizes the current theories of the spleen as a blood-destroying or blood-forming organ, and gives the results of a number of experiments and observations, which he had himself made evidently working to a large extent under the inspiration of Hughes Bennett. It is interesting to note on the title-page of his paper that he was at the time Vice-President of the Physiological Society of Edinburgh.

In the same year he went to Paris, where he worked at chemistry under Wurtz, and seems also to have given much attention to botany, in which he was greatly interested.

Soon after his return to England he married, in 1853, Ghetal Herschell, a daughter of the Rev. R. H. Herschell, and sister of Farrar Herschell, who afterwards became Lord Chancellor as Lord Herschell. How much he owed to her throughout his whole subsequent career only those who knew him well are fully aware.

On marrying he settled in London, and was appointed Medical Registrar and Lecturer in Botany (afterwards in Medical Jurisprudence) at St. Mary's Hospital. How thorough was his knowledge of botany at the time is shown by the elaborate and masterly article on Vegetable Reproduction which he wrote, about 1854, for Todd's *Cyclopaedia of Anatomy and Physiology*. His lectures on Medical Police and Medical Jurisprudence, of which he printed a syllabus, included the subjects which would now come under the heading of hygiene, a large part of the lectures being also devoted to poisons and their physiological action and detection. With this part of the subject his Paris training had made him specially competent to deal. He held appointments at St. Mary's from 1854 to 1858.

In 1856 he was appointed medical officer of health for Paddington, an office which he held till 1867, and from this time on he was specially interested in questions of public health, and particularly in questions relating to infection. In 1860 he was appointed an Inspector in the Medical Department of the Privy Council, which had just been organized, with Mr. Simon at its head as Medical Officer. This position he held until 1865, and during the succeeding twenty years he contributed to the *Annual Reports* of the Medical Officer of the Privy Council and of the Local Government Board a series of important reports on subjects connected with public health and pathology.

He was Assistant Physician to the Brompton Hospital for Consumption from 1859 to 1863, and again from 1865 to 1867; in 1867 he became Physician to the hospital, and retired in 1871. At the Middlesex Hospital he was Assistant Physician from 1863 to 1870, and Lecturer on Physiology from 1866 to 1870. He was also in private practice up till about 1865, but, as might be expected, his other occupations prevented his devoting more than a limited amount of time to practice, except in connexion with his hospital appointments. He was nevertheless keenly interested in practical medicine, and took a deep personal interest in his patients. His sympathy for those who were suffering was never for a moment blunted by his scientific interest in the study of disease. In 1870 he resigned his hospital appointments in order to devote himself to physiology and experimental pathology.

His first work in experimental physiology was in connexion with an inquiry set on foot by the Royal Medico-Chirurgical Society in 1862 as to the best means of restoring the apparently drowned. With a view to this inquiry he made a large number of experiments on the two methods of resuscitation which were then regarded as most effectual—namely those of Marshall Hall and of Sylvester. The experiments led to the adoption of the latter method by the Royal Humane Society.

After this work was terminated he made numerous experiments on asphyxia, which led to the conclusion that the views then taught on the subject were erroneous, and that it was necessary to investigate the whole subject of the influence of the respiratory movements on the circulation by new methods. He constructed apparatus for recording graphically and simultaneously the respiratory movements and the variation of blood pressure, and made a large number of important experiments on this subject, which were published in the *Philosophical Transactions* in 1867. In the same year he was elected a Fellow of the Royal Society.

During the next few years he was chiefly engaged in pathological and public health investigations. In 1872, in conjunction with Drs. Michael Foster, Lauder Brunton, and Klein, he published the *Handbook of the Physiological Laboratory*, and in 1873, at the suggestion of Charles Darwin, he began his experiments on plant electricity.

He was appointed Professor Superintendent of the Brown Institute in 1871, and held that post until 1878.

At the end of 1870 he was appointed to the Chair of Practical Physiology and Histology in University College, London,

vacated by Professor Michael Foster on his accepting the newly-instituted office of Praelector in Physiology at Trinity College, Cambridge. The appointment of Burdon-Sanderson to this chair coincided almost exactly with changes in the regulations of the University of London and of the Royal College of Surgeons, which rendered the study of practical physiology obligatory upon all medical students. As a result larger accommodation was given for practical physiology, and additional class-room and laboratory accommodation was provided for it and for histology. He continued to hold the Chair of Practical Physiology until 1874. In that year Professor Sharpey tendered his resignation and was made Emeritus Professor of Physiology and Anatomy. Burdon-Sanderson was then appointed Professor of Human Physiology. The chair had in the previous year been endowed by Mr. T. G. Philips Jodrell, and has since been known as the Jodrell Professorship. Sharpey was a most remarkable man, who, with no little justice, has been called the Father of English Physiology. The majority of English physiologists of that day had been his pupils, and those who had not actually attended his lectures had been profoundly influenced by his strong character and burning enthusiasm for science. He had grown old in the service of physiology, and no longer found himself equal to the strain of conducting large classes, for at that time University College was one of the largest schools of medicine in England. It was such a man that Burdon-Sanderson was called upon to succeed, and the way in which he set about the organization of his department marked the transition from the old school of physiology to the new. His lectures were less picturesque, less enthralling to the average student, but this was because the new school, with Sanderson at its head, thought very much less of lectures and more of practical work. It was a difficult task. Methods and apparatus had to be invented and competent assistants discovered. Histology was safe in the hands of the present Professor of Physiology in Edinburgh, while for practical physiology the accomplished teacher who was afterwards to succeed Burdon-Sanderson in the Waynflete chair of physiology in Oxford was soon found. Another assistant whose services were most valuable at this time both in the laboratory and the class-room was Mr. F. J. M. Page, now Lecturer on Chemistry in the London Hospital Medical School.

It seemed then that Burdon-Sanderson had found his final office, and there can be no doubt that he himself was happy in his life in London, where he was brought into contact with all the chief men in all the sciences, and where he could hope to continue those experimental inquiries in which he was absorbed: but fate and the needs of Oxford ordered otherwise.

One of the results of the second University Commission in 1887 was to create the Waynflete Professorship of Physiology. It was a great opportunity for bringing to Oxford a teacher of established reputation, who would not only be able to organize the new department on lines worthy of a great university, but who would be able to overcome the opposition which it was certain would be offered by the old régime to the introduction of this branch of scientific study, which in its modern sense was new to the University. Sir Henry Acland persuaded Dr. Burdon-Sanderson, who was then Professor of Human Physiology at University College, London, to allow himself to be nominated for the office, to which he was elected in 1882.

The difficulties which had been anticipated soon presented themselves. It was necessary entirely to reorganize the department, and to provide new plant and appliances for the teaching of physiology, since up to that time the University has possessed a physiological department which was very inadequate for the purpose for which it was intended.

A vote of £10,000 was asked from Convocation for the purpose of erecting a laboratory, work room, and lecture rooms for the new professor, and this it was which caused the storm of opposition to rise.

The vote was objected to, not only on financial grounds, but because Burdon-Sanderson had the reputation of being a "vivisector," and as such was abhorrent to a certain section of university voters. The vote was carried only by a majority of three, the late Warden of New College opposing it on financial grounds, whilst the Warden of Keble (now Bishop of Southwark) expressed himself as not satisfied with the propriety of the vote, although most reluctant to share in any opposition to scientific studies. Eventually, however, the vote was carried, but the opposition was renewed in a more strenuous form when the proposal was made to realize the £10,000 by the sale of stock, for which purpose it was necessary to obtain a decree in Convocation. Much indignation was felt at the unprecedented nature of this opposition, since it was considered that to vote the sum (which had been done), and then to prevent the necessary amount being raised, was quite unworthy of the University.

The debate which followed was a memorable one. The Dean of Christ Church opened it, and he was followed by Professor Freeman, who made a fierce attack upon the new department, and upon the Professor, deprecating the establishment in Oxford of "a chamber of horrors." The end of the fight was that the vote was carried by 188 to 147 votes, but the antivivisectionists were not yet beaten, and in the following March they opposed the vote for £500 for coal, gas, and water, and for the general upkeep of the laboratory; again the Sheldonian theatre was a scene of conflict between those who were opposed to the vote on what they professed to be humanitarian grounds, and those who were desirous of forwarding scientific teaching in Oxford. In the whole of this contest Professor Burdon-Sanderson was staunchly supported by Sir Henry Acland and by Liddell, who was then Dean of Christ Church.

Burdon-Sanderson continued at Oxford as Professor of Physiology until 1894, when Sir Henry Acland resigned the Regius Professorship of Medicine. The personality of his successor was a matter of deep concern to Acland. The relation of Oxford to medical education had been the subject of much discussion and some not always friendly criticism. Sir Henry felt that it was necessary that the new occupant of the chair should be a man of acknowledged scientific eminence, and one who would wisely steer the University through the numerous difficulties which he felt were sure to arise in the decision as to how far Oxford was competent to give a complete medical education.

Amongst those suggested for the vacant Professorship, Burdon-Sanderson possessed these qualifications in a marked degree. Apart from the strictly medical view, his personal distinction, combined with an acknowledged scientific reputation, seemed to fit him to be a wise and authoritative guide to the University in any development which might take place in the teaching of those sciences which are the foundation of medicine, and in the establishment of a department of pathology. It was thought that he would take a broader view of the duties of the University towards the study of medicine than others who might possibly be better fitted to engage in clinical teaching from the narrower standpoint of the ordinary medical school.

Many of the younger Oxford medical graduates expressed a strong wish that Sir William Church should be appointed to the office, and an effort was made to induce him to take it. This effort failed, and Burdon-Sanderson was appointed Regius Professor of Medicine in accordance with Acland's wish, and he worthily filled the important position during an exceptionally critical period in the history of medical education at the University of Oxford.

PHYSIOLOGY.

By FRANCIS GOTCH, F.R.S.,

WAYNFLETE PROFESSOR OF PHYSIOLOGY AT THE UNIVERSITY OF OXFORD.

A GREAT scientific man has passed away. Greatness is not mensurable, nor can it be defined in set terms, but the expression, a great scientific man, is, in general estimation indicative not only of acknowledged achievement, but of qualities of mind and character which are even more valued, and which constitute the essence of greatness. Speaking more definitely, it may be said that a great scientific man is one who has, by his own discoveries, advanced our scientific knowledge in many directions, who has prosecuted researches with that continuity of sustained effort which, for Buffon, constituted genius, who has maintained throughout a truly scientific point of view, and who, by the character of his work and his own personality, has exercised a fertile influence over others, enriching their lives and stimulating their powers. All these features are recognizable in Sir John Burdon-Sanderson's work and life. He carried out fruitful investigations in many departments of biological science—botany, hygiene, pathology, and physiology. His capacity for work was remarkable, and was sustained over a period of half a century. He possessed those intellectual powers which enable a great man to differentiate the true from the false, to know when he stands on solid ground, and to avoid the quicksands in which so many scientific erections have been engulfed. He possessed more than most men that capacity



J. Burdon Sanderson

for brooding over facts which is so productive of effect, and is the mark of a creative genius. He never wavered in his belief that the business of the pathologist and physiologist was to investigate processes; as he himself expressed it, the question to be answered "is ever how rather than why." He always maintained that this investigation could only be carried out by experiment, and that it was a matter of reproach that in physiology and pathology restrictions should be placed upon the only method which could be fruitfully employed—that of experimental research.

As regards the influence which he exerted upon others, all those who were in touch with his inspiring personality will acknowledge its vivifying effect. If I venture to dwell on some of those qualities of mind and character which contributed to this result, it will, I hope, be understood that I only mention those which lay, as it were, upon the surface, and were therefore so apparent as to be unquestionable.

I refer to the simple courtesy with which he listened to ideas of even the youngest of his students, the extraordinary consideration which he paid to even crude conceptions, and the gentleness with which he introduced broader views, or set the whole matter upon surer ground. Moreover, since his ideal was invariably the pursuit of scientific truth by the only avenue along which the investigator could walk with safety, that of experimental inquiry, he never ceased to take the utmost interest in all practical work, and entered into any demonstration with a contagious enthusiasm which exalted even the humblest worker. His presence at meetings in which such practical demonstrations were made, for instance the meetings of the Physiological Society, was felt by many to be itself an inspiration. His extensive knowledge, ranging over so many departments of science, was ever ungrudgingly placed at the disposal of younger men, and it is not therefore surprising that, with the added charms of manner and sympathetic interest, his influence should have been of so commanding a character. The words which he used in regard to Ludwig may be appropriately transferred to himself. Younger men attracted by his discoveries and personality "were held by the force of his character, and became associated with him as his loyal friends and followers."

It is now nearly thirty years since, with many others, I joined this band, and had the privilege of becoming, first his student in the academic course, and then, in a wider sense, his life-long student and friend. I fancy that upon me, as upon others, his impressive personality was at first rather awe-inspiring. The really suggestive character of his lectures was to some extent obliterated by this, and by other features which all remember and love him for exhibiting. Intense interest was aroused by his attitude, his voice, manner, and by many little familiar incidents associated with his absorption in the subject-matter of his exposition. These incidents invested what he did with somewhat of the same charm that the conjurer awakens in juvenile spectators, and we were in a state of suppressed excitement based on the uncertainty as to what Dr. Burdon-Sanderson might do next. I touch lightly on these early recollections, although they make a more direct appeal to the hearts of those who honour and revere his name than does a mere record of the work which is the substantial proof of his greatness.

I remember well the start of my studentship in the wider sense. I called on him in the familiar house in Gordon Square after great hesitation, having been urged to do so by the late Mr. Christopher Heath. Our interview took place in the dining-room, and when he realized that I thought of trying to do a little physiological work of an advanced kind, his response was prompt and singularly to the point. It consisted in leading me into a small back-room full of apparatus, where a gentleman unknown to me was seated within what seemed to be an impenetrable jungle of wires. This was Mr. F. J. Page, now Lecturer in Chemistry at London Hospital, who acted as his assistant for several years. We threaded our way through the maze, the experiment was explained, and I was invited to sit down and assist.

As a matter of fact, this work formed part of an extended inquiry which is now prominently identified with Burdon-Sanderson's name, being a rheotomic investigation of the electrical changes in the beating ventricle of the frog's heart. The complete research was published in 1880, and was entitled *The Time-Relations of the Excitatory Process in the Ventricle of the Heart of the Frog.* It was followed by a similar research upon the heart of the tortoise.

The exactitude of the methods employed, and the lucid interpretation of the recorded observations, make this research a classical one. It settled the questions then in dispute, and conclusively demonstrated that the various phases of the electrical change, which were present in the beating heart, were the signs of a transmitted excitatory process, this revealing itself mechanically by change of form.

It is characteristic of the pertinacity with which he grappled with a physiological problem, that last winter he seriously contemplated, and actually initiated, the reopening of this early inquiry, in order to obtain a more exact measure of the electromotive force associated with cardiac activity. The work is generally regarded as an epoch-making one. A new instrument was employed, namely, the capillary electrometer, invented by Lippmann, and used for physiological purposes by Lovén. The conditions under which the heart was placed were varied in a way which no previous investigator had used, and the manner of setting forth made others regard the work as a model, so that most of the subsequent researches have been framed on the same general lines.

Although this was the first physiological research carried to completion during his professorship, it was by no means his earliest contribution to experimental physiology. Thus, in 1873, there appeared the celebrated *Handbook for the Physiological Laboratory* under his editorship. His collaborators were Foster, Klein, and Brunton, but he himself undertook one of the most important parts of the book, that dealing with experiments upon the respiratory and circulatory mechanisms.

The work on the heart to which allusion has been made has, however, a special interest, since it formed the first of a series of researches which has extended over the last twenty-five years. These are directed towards the elucidation of the fundamental phenomena of excitable tissues, or, as he himself used to call them, elementary aspects of living processes. As set forth with the utmost lucidity in the remarkable address delivered at Nottingham in 1893 as President of the British Association, the living processes were to be regarded as instances of the special activities which any given tissue normally performs, "its *norma*, or rule of action, being in each instance the interest of the organism as a whole of which it forms part, and the exciting cause some influence outside of the excited structure, technically called a stimulus. It thus stands for a characteristic of living structures which seems to be universal." This universality justifies the expressions fundamental and elementary in connexion with what are now commonly described as tissue excitability and the aroused excitatory process. To determine the conditions of such excitability and to obtain knowledge of the characters of the excitatory process in any given tissue was the chief end of his later work. He felt, however, that "no real advance could be made until it became possible to investigate the phenomena by methods approaching more or less closely to those of the physicist in exactitude.' For this reason he was eager to apply every new method which promised to give measurable results, and spent much time in selecting the appropriate instrument. The capillary electrometer was early recognized by him as a possible instrument of precision, and he spent years in working with it and in prevailing upon others to assist him in perfecting it.

Acting on a suggestion made by Charles Darwin, he investigated plant structures, and discovered that electromotive phenomena associated with transmitted excitatory states were present in excitable vegetable tissue. One of the most laborious of his investigations was that carried out on the leaves of the Dionœa plant. These rapidly close when certain structures on them—excitable hairs—are moved. He found that this response was associated with pronounced electrical changes which were indicative of excitatory processes occurring in the leaf cells. Such processes could be aroused by electrical and other stimuli, and when aroused in one leaf lobe were transmitted to the other. The whole elaborate investigation, extending over several years, was published in the *Philosophical Transactions* of 1881 and 1888.

The elucidation of the fundamental phenomena of active skeletal muscle was the object of another laborious investigation, carried on for nearly twenty years. The characters of the excitatory process which shows itself mechanically by change of form, tension, etc., were inferred from observations in which the electromotive effects present during muscular activity were recorded in a way which has commanded the admiration of electro-physiologists in this country and abroad. The accuracy, and mensurable character of the records, give a special value to those publications in the *Journal of Physiology*, and in the *Proceedings of the Royal Society*, which set them forth in detail. An exposition of the whole subject,

based upon these researches, formed the material for one of the Croonian lectures of the Royal Society.

Since he considered that the most precise information as to the character of the process in an active tissue was that given by the electrical concomitant of such process, he naturally often contemplated the desirability of investigating tissues in which such electrical changes constitute the chief appreciable sign of activity, and do so on an extensive scale. Such tissues are those which form the special electrical organs of certain fishes.

In 1887, 1888, and 1889 apparatus was transported to St. Andrews, Plymouth, and Arcachon, and these biological stations were utilized for experiments on these organs. Such expeditions afforded him the greatest enjoyment, for in addition to his satisfaction in carrying out experimental work upon a new form of tissue, he had a special joy in Nature. Above all he delighted in sunlight, expanse of sea, moors stretching out until they met the sky, forests, wild flowers, and wild birds. He had those gifts of observation and of appreciation which make the born naturalist; as regards systematic botany, he possessed a most extensive knowledge, having worked at it in early days, and lectured on the subject at St. Mary's Hospital.

The above are only a few selected examples of his physiological researches. It would be impossible to deal with the numerous other investigations which were dovetailed into spare time; and when it is remembered that, apart from all these physiological investigations, others of a pathological kind were initiated and supervised, it will be evident that his scientific life was, from the point of view of experimental inquiry, an astonishingly full one.

In conclusion, a few words must be added as to the very great influence which he has exerted on the character of physiological teaching. Although it must through lack of space be stated briefly, it is in reality a most important feature of his life's work. When he commenced his professorial duties at University College, London, students were taught physiology almost entirely by lectures, these being supplemented by microscopic demonstrations introduced by his predecessor, Dr. Sharpey. Practical work in histology, to be attended by all students, was soon introduced, but in addition, Burdon-Sanderson organized class work in physiological chemistry, and other classes for carrying out simple experiments upon the muscles, nerves, etc., of the frog. To these classes he always attached a great educational value, regarding them, not as mere vehicles for the transport of facts into the memory, but as means for the early cultivation of those powers of observation and reflection which the practice of medicine demands. The course of practical exercises in physiology, published in 1880 and enlarged in 1882, was the first work of the kind, not in England merely, but in any country. His comprehensive knowledge of chemistry, largely due to early work in the Paris laboratories, enabled him to realize its great importance and to foresee that, in a near future, it would acquire a significance which would be recognized by all in both physiology and pathology. Time has justified this, and now every course of physiological training is regarded as incomplete unless it includes practical physiological chemistry. The change which has thus come over the methods of teaching may be truly said to have been inaugurated by Burdon-Sanderson when he left the Brown Institution and became Jodrell Professor of Physiology at University College, London.

The above inadequate sketch of his scientific achievement justifies the statement that in every sense of the word Sir John Burdon-Sanderson was a great scientific man, and the world, made richer by his life and work, is impoverished by his death. To one who like myself has received all that is implied by close and intimate friendship with such a man for nearly thirty years, the personal loss is such as almost to obscure all other aspects; but on this I feel it impossible to enlarge.

PATHOLOGY.

By E. KLEIN, M.D., F.R.S.

The infectivity of human tubercle, experimentally established by Villemin, had been the subject of an independent study by Dr. Burdon-Sanderson and Dr. Wilson Fox, towards the end of the Sixties. Dr. Burdon Sanderson ascertained that in the guinea-pig—the animal best suited for this study—the tuberculous process is an "infective" inflammation of the tissues of the lymphatic system; of the tissues, namely, which in this animal are already in the normal state conspicuous, that is, the omentum, spleen, lymph glands, and the peribronchial tissues, the tuberculous process induced in this animal by subcutaneous injection of traces of human tuberculous matter, following and involving precisely those organs. The question first presenting itself was to find the exact channels along which the "infective" material enters, and by which it travels through the body. Experiments conducted with Dr. Klein showed the lymph channels and lymph vessels were the paths along which this "infective" inflammation extends. By injections into the peritoneal cavity of guinea-pigs and rabbits of various particulate matters, besides the tuberculous virus, their passage into the lymph channels and lymph vessels of the omentum and mesentery—their existence then for the first time described—and further, into the lymph channels and lymph vessels of the diaphragm, liver, and the lung was directly observed; and, further, it was shown that as regards the tuberculous matter in particular, its entrance into and passage through the lymph channels was associated with the same kind of progressive "infective" inflammation as is observed in the tuberculous process of the guinea-pig induced by subcutaneous inoculation.

The next question investigated was this: The process of "artificial" tuberculosis in the guinea-pig being a progressive "infective" inflammation appeared, therefore, to be essentially different from an ordinary, that is, "non-infective" inflammation, like an abscess or simple phlegmon; that is to say, an inflammation in which no such progressive infection of the organs and tissues of the body occurs. Could this experimentally be proved? At first, of course, considering clinical experience, an infective inflammation, such as the tuberculous process, seemed to be something essentially different from a non-infective one, like a simple phlegmon, yet various experimental facts were brought to light which did not agree with the supposed sharp demarcation existing between them. Thus, for instance, we showed that by injection into the peritoneal cavity of certain chemical irritants, like iodine, ammonia, an acute inflammation is set up which in some instances, for one reason or another, assumed the character of an infective process, inasmuch as the injection into a further animal of a trace of the peritoneal exudation caused an acute severe infective inflammation altogether different from the acute process of sapraemia induced by the injection of the previously sterilized products of putrid decomposition. It was principally these facts, furnishing evidence of the possibility of changing—that is, enhancing—a non-infective inflammation into one of an infective nature, to which Burdon-Sanderson wished particularly to draw the attention of surgeons at the meetings of the Pathological Society, 1871-2, for at that stage of surgical science no experimental explanation had yet been forthcoming for the well-known clinical observation of the occasional infectivity of a wound. But even at the present time, when the various surgical and other infective processes have become more or less classified, according to the different species of bacteria which are their causes, no line of demarcation can be drawn between inflammatory processes which clinically are "non-infective," like a simple phlegmon, and those which are "infective," like septicaemia or erysipelas; for the same species of bacteria may in one case cause a simple local effect, whereas in another it may lead to general and virulent infection. The *Staphylococcus pyogenes aureus*, the *Streptococcus pyogenes*, and others furnish illustrations of the differences in the pathogenetic and virulence of the same microbe under different conditions.

By JAMES RITCHIE, M.D.,

PROFESSOR OF PATHOLOGY, UNIVERSITY OF OXFORD.

There is no doubt that even in his student days the bent of Sir John Burdon-Sanderson's mind was towards the scientific side of medicine. This was probably early recognized by his teachers, for Sir John used to relate with interest that when a clinical clerk in Professor Hughes Bennett's wards he was put in charge of the first recorded case of the up till then unrecognized condition of leucocythaemia. In connexion with the earlier part of his career, when he was brought into contact with the practical side of medical work, there is evidence of a deepening interest in the problems of pathology. It was thus inevitable that in the midst of the more purely administrative duties of an inspector under the Privy Council a man of Sir John Burdon-Sanderson's originality should be dissatisfied with the condition of the knowledge of infectious disease as it existed in the early Sixties, and he was soon at work to widen its boundaries. He early worked at the question of the pathogenetic properties of the stools of cholera patients, and showed that in many cases these caused disease when

introduced by the mouth into animals. The value of these results, judged by the work of Koch nearly twenty years later, may be called in question, but Burdon-Sanderson was on surer ground when his attention was directed to the question of the contagiousness of tuberculosis, regarding which there was at the time great difference of opinion.

In 1867, as the result of his own experimental work, he showed that by the injection of minimal quantities of tuberculous material the lesions of the disease in the human subject were reproduced. The research is a monument of exactitude in the careful histological inquiries which it entailed, and his account of the way in which a chronic tuberculous infection invades the animal body is an outline to which later work with more elaborate microscopic methods has merely added the details. In his summary of the feeling of the period regarding the origin of the tuberculous process, though he expresses himself with reserve he evidently inclines to the view that living matter may be the causal agent. The late Sixties was a time of great confusion of thought regarding infection as a whole. The so-called germ theory of disease was beginning to come to the front. The theory was often considered in connexion with the microbic origin of fermentation, but there were many who with regard to the latter still inclined to a chemical explanation of the phenomena. Again, many were repelled from considering a bacterial origin for infection by the unguarded researches of Hallier, whose work, though of great merit, was marred by its author insisting that a direct morphological connexion existed between the bacterial forms observed in disease conditions and what were undoubtedly moulds which subsequently developed in his growths, although there was not the slightest evidence of these latter having any pathogenetic action. The whole subject was further confused by the non-recognition at this period of the possibility of there being distinct bacterial species. It is characteristic of Burdon-Sanderson's scientific attitude to find him at this period (1869), and in this atmosphere, saying that although all "microzymes" (as he called them) are not contagious, yet all contagious particles may be microzymes. In the following year he had arrived at the fundamental properties of contagia, which he expressed by saying that all contagia have infinite powers of multiplication and can preserve their properties for long periods of time. Shortly after this he was making experiments on blood poisoning, Always pursuing the experimental method he was injecting pus from cases of pyaemia into animals and observing that in the serous inflammations which resulted there were cocci which he figures and which are undoubtedly the staphylococci and streptococci with which bacteriologists are now so familiar. His views as to the possible relationship of these to the pathological conditions in which they were found may be judged of by the following passage, in which practically the whole modern position is foreshadowed. Writing in 1869 he says:

"There are two obvious objections which stand in the way of the acceptance of any chemical explanation of the phenomena of contagion. The first is that the multiplication of contagion in the body of the infected individual is a process which cannot be compared to any which is brought about by chemical processes independently of organic development. The second is, that all contagia possess the power of retaining their latent virulence for long periods (after resisting the most unfavourable chemical and physical conditions) and only show themselves to be what they are when they are brought into contact with living organisms. Outside of the body the contagious material withstands all these changes to which on chemical grounds we should expect it to be liable, while in the body it manifests a degree of activity and gives rise to an amount of molecular disturbance which is quite as unaccountable."

"Neither of these difficulties stands in our way if we suppose that the contagious process is connected with the unfolding of organic forms. The increase of contagium in the body of the infected individual is not more rapid than many known cases of organic reproduction; and, on the other hand, the explosion of infective action which occurs the moment that particles of contagium are, so to speak, fecundated by contact with living substance, has its parallel in a vast number of organic processes in which the collision of one organized particle with another of antagonistic properties, manifests itself in a sudden outburst of previously latent formative activity. The practical result of these considerations is, that chemical investigations of the nature of contagia affords but little prospect of direct result; for even if specific principles could be discovered, it is difficult to see how the phenomena could be accounted for by their chemical properties; whereas there is good and scientific ground for anticipating that the solution of the problem will some day be attained, by the investigation of the morphological phenomena which attend the infective process. I am myself strongly impressed with the conviction that if this investigation is to be successful it must be experimental in every stage of its progress. In studying the forms and metamorphoses of contagious particles the observer must carefully guard himself against confusing that which is merely of contagious origin, or has been grown on contagious soil, with that which can be proved by experiment to be itself contagious. He must not allow himself to be tempted from the contemplation of the morbid process he is studying into the vast and interesting field of morphology."

By 1873 Burdon-Sanderson had arrived at the conclusion that in all acute inflammations bacteria abound in the exuded fluids, that septicaemia can be produced by small quantities of liquids derived directly from living tissues in certain states of inflammation, that pyaemia cannot be distinguished from septicaemia, that both are associated with the existence of bacteria in the inflammatory fluids, and that the intensity of an inflammation is indicated by the number and characters of the organisms present. He further pointed out the very important experimental result which he had obtained—namely, that in severe inflammations (as that originated by the injection of iodine into the peritoneal cavity) no bacteria, such as were found in similar inflammations caused by the injection of pus, occurred. There is no doubt that Burdon-Sanderson's perspicuity placed him at this period in advance of his time, as, indeed, is shown by the fact that he has seldom been credited with the important discoveries involved in these experiments. The cardinal facts to which he at this time clung were the minimal quantities of infective agents capable of originating the gravest changes and the constant recurrence of microscopic appearances which he interpreted as indicating the presence of forms of living matter. One cannot help feeling that the work of Pasteur in relation to fermentation made Burdon-Sanderson feel convinced that further investigation would show that living forms were in reality the causal infective agents. In this relation it is probably very significant that his own repetition of the fundamental experiments led him to range himself in the camp which rejected the theory of spontaneous generation. During the Seventies, Burdon-Sanderson was gradually specializing along physiological lines, but his utterances from time to time showed him still interested in his former studies. To this period also belongs his verification of all the main experiments on which the modern knowledge of the process of inflammation is based. This formed the bases of his article on inflammation in Holmes's *System of Surgery*, which has ever since been accepted as the classic on the subject. His last contribution to experimental pathology might have been the most far-reaching. Towards the end of his tenure of the Superintendency of the Brown Institute an epidemic of anthrax came up for investigation, and it is not generally known that in the course of the work done Burdon-Sanderson established the most important fact that the passage of the anthrax virus derived from the ox through the bodies of rodents such as guinea-pigs diminished its virulence for the bovine species. About the same time he adduced some evidence for believing that the intravenous injection of the virus of pleuropneumonia in cattle gave rise to a degree of immunity against the disease. In closing his paper on anthrax he says, "The question whether this fact, like the analogous one of the mitigation of human small-pox by transmission, can be directly applied to a practical purpose I leave to be determined by future inquiry." This was published three years before Pasteur elaborated his system of protective inoculation against anthrax; and, from the purely pathological standpoint, one can hardly help regretting that the growing claims of physiology prevented Burdon-Sanderson from following up what would have in all probability led him to become one of the foremost workers in the fertile field of immunity inquiries.

In later days Burdon-Sanderson always manifested the keenest interest in the progress of the subject of pathology, to which he had formerly devoted so much of his attention. As time went on, and his attention was engrossed with other work, his personal participation in pathological research naturally became less, but by his writings, notably by his lectures on immunity and his article on "Fever" in Clifford

Allbutt's *System of Medicine*, he was constantly influencing current pathological thought. He was always ready and eager to discuss its developments, and there was little of importance in connexion with recent work with which he was not familiar; and up to the last there was always the same eagerness to think of experimental methods which might elucidate the questions at issue, and the same demand for rigorous proof before any theory could be accepted. Thus up to the time of his death there was no one whose opinion was so much sought and whose judgement was more relied on in regard to all questions affecting this department of science.

PUBLIC HEALTH WORK.

By EDWARD C. SEATON, M.D.,
MEDICAL OFFICER TO THE SURREY COUNTY COUNCIL.

Among the first of those appointed as medical officers of health for metropolitan districts more than half a century ago were several members of the medical profession who belonged to its highest rank, and whose names were already known in the domain of medicine and science. Two of them, Burdon-Sanderson and Odling, were destined to occupy high positions in the University of Oxford, the former as its Regius Professor of Medicine. No better example can be afforded than that of the life of the eminent physician who has just passed away of the advantage which may accrue to the public by maintaining a close union between curative and preventive medicine, or between the work of the laboratory and its practical application for the purpose of sanitary administration. This is a theme on which Sir William Gairdner has written so wisely and so well. Executive duties in our department have grown enormously since the days when Simon, Burdon-Sanderson, and Bristowe, to mention no others, were able to devote a large part of their time to clinical and research work. It is impossible, therefore, to conceive at the present time any one undertaking the responsibilities of a medical officer of health for a large population along with those attaching to membership of the staff of one of our great metropolitan hospitals and schools of medicine. In the instance before us now we have a remarkable illustration of the benefits that may flow from the appointments of men of such calibre as Burdon-Sanderson. Indeed, the occasion should be seized to point out to sanitary authorities in England, great and small alike, the wisdom of taking somewhat broader views of the functions of medical officers of health than those that have generally prevailed in the time of the present generation.

It was fortunate that in the days to which we now refer the necessity for systematizing one branch of administrative work—namely, public vaccination—called for advice and assistance from our profession in a way that could not be disputed even by the influential and dogmatic antimedical sanitarians of the period. Consequently, an indirect but important result of the working of the Vaccination Acts was that it conduced to the formation of an organization under the Privy Council, from which the present Medical Department of the Local Government Board may be said to have sprung. A *Staff* it could hardly be called, for there were then, early in the Sixties, only two permanent officials. It was rather a little group of co-workers, inspired with enthusiasm and bound by the most honourable traditions of the profession. Among those who met for conference and consultation in the old rooms at Richmond Terrace was Burdon-Sanderson. His labours, along with those of three others, in amassing information on which further reforms in the national system of vaccination had to be based, are duly chronicled in the reports of the Medical Department of the Privy Council during the five years 1860-4. This business had to be carried through, and Burdon-Sanderson was one of those chosen for the task. It is chiefly due to that fact that those celebrated researches referred to as "Auxiliary Scientific Investigations" in the Public Health reports published by the Royal Sanitary Institute in 1887, and in Simon's volume, *English Sanitary Institutions*, which appeared two years later, were conducted under Government auspices.

The name of Burdon-Sanderson will always be connected with the study of the cattle plague—a work he undertook in aid of the Royal Commission in 1865. He then succeeded in showing experimentally that the true contagium admits of being physically distinguished in the animal juices which contain it, and of being so separated from them as to leave them without infective power. The general conclusion seemed further to be justified that microphytes (particulate contagia) were characteristically-shaped, self-multiplying forms, peculiar to the disease they accompanied, and that living organisms were probably the essence, or an inseparable part of the essence, of all the contagia. It is beyond the scope of this brief notice to attempt to assign the proper relation of this work in the intimate pathology of contagia carried out by Burdon-Sanderson so many years ago. It can, however, be said with certainty that our distinguished countryman materially helped to bring the study of morbid contagion into affinity with that which for some years before had been made by M. Pasteur in France with regard to the ordinary processes of fermentation and putrefaction. Several years after, Burdon-Sanderson, in conjunction with Simon and Buchanan, acting as Assessors to a City company, advised the Court to devote their prize of £1,000 to rewarding any discovery of a method whereby vaccine contagium may be cultivated apart from the animal body. It may further be mentioned in this place as indicating the desire of this great man to further the interests of human and animal pathology, and to raise the status of workers in the latter branch, that he was most anxious that the University of Oxford should institute a degree or diploma in veterinary science. May his wishes in this respect soon be fulfilled.

The present writer had the privilege of co-operating with Sir John when the examination for the Diploma in Public Health was placed on a somewhat new footing at Oxford, and he knows, therefore, how keenly alive the Regius Professor was to the importance of promoting a sound system of sanitary administration in this country. This brief notice may be fittingly concluded by a reference to this aspect of his work. Sir John's career was devoted far more to the laboratory than to that other equally essential part of public-health work aptly termed "practical epidemiology"—that, namely, which involves laborious investigations ("field observations," "house-to-house inquiries," "statistical research," etc.) in which accurate and reliable records are required, as well as acute reasoning to interpret their meaning. Yet, in framing the scheme of examination, prominent place was given to this part of the training of the medical officer of health. Again, in connexion with sanitation, it was his desire that the qualifications of a candidate for the D.P.H. should be tested not only as regards the application of knowledge in physics, chemistry, and bacteriology, but that evidence of a really practical knowledge of our complex organization and methods of sanitary administration should have been acquired by any who by reason of their diploma were to be regarded as efficient medical officers of health.

Thus, during the last few years, Sir John Burdon-Sanderson, physician and physiologist, continued to be a great influence in the development of preventive medicine. It was, indeed, a wide sphere in which his energies were spent during a long and active career. His life-work was useful in the highest sense, and of a truly noble character. He is mourned by many to whom he is endeared by his invariable kindness and personal charm, and by whom he will always be revered on account of his single-minded efforts for the benefit of the race.

[To the above note by Dr. Seaton we may add the observation that Sir John Burdon-Sanderson always retained his interest in preventive medicine, especially in its advancement by experimental research. It was, therefore, appropriate that Sir John Burdon-Sanderson should be asked by the University of Oxford to represent the University on the Council of the British Institute of Preventive Medicine on its constitution in 1891. On the reconstitution of the British Institute of Preventive Medicine in 1899, Sir John Burdon-Sanderson was appointed a representative of the Council on the governing body of the Jenner Institute. Sir John always took an active part in the deliberations of the governing body, and was intimately associated with the development of the Institute. It was largely owing to his influence that the department of physiological and pathological chemistry was founded. He showed a constant interest in the work of the various departments, and his advice was often sought and willingly given. His loss will be deeply felt by the governing body and by the members of the staff of the Institute.]

INFLUENCE IN THE OXFORD SCHOOL.

By Sir WILLIAM S. CHURCH, Bart., M.D.

By the death of Sir John Burdon-Sanderson the University of Oxford has been deprived of one of its most distinguished and most widely known members, who for many years had taken an influential part in developing biological study in the

University, and did much to raise its scientific and medical school to the high position in which it now stands. When, after Professor Rolleston's death, the Waynflete Professorship of Physiology, established by the University Commissioners of 1877, was instituted, Burdon-Sanderson's reputation as a physiologist stood very high, and his appointment was generally approved and gave rise to little or no adverse comments. Although physiology had been taught, and well taught, by the Linacre Professor, Oxford at that time possessed no proper means for teaching physiology, and it had long been evident that it was impossible for any one professor to attempt to cover the ground which Professor Rolleston, a most exceptional man, had in a measure succeeded in covering, when biological science was less developed and students less numerous. The University at that time knew little and cared less about physiology; the professorship had been forced on it by the Commissioners, and it made no provision for affording the professor means to teach his subject.

The year after Burdon-Sanderson's appointment £1,500 was voted by Convocation to provide instruments and apparatus for the physiological department without giving rise to much opposition. Comparatively few now remember the turmoil which arose in Oxford, or the bitterness with which not only the teaching of physiology but Sir John Burdon Sanderson himself was assailed, when this grant was followed by a notice given to Convocation that a large sum of money would be required to build a proper laboratory and workrooms. To veil their opposition to science and knowledge, the opponents made vivisection the keynote of their attack, and were as regardless then of truth and fairness as are the antivivisectors of to-day. Fortunately for Oxford the opposition was unsuccessful, and in June, 1883, the decree authorizing the curators of the University Chest to expend a sum not exceeding £10 000 in the erection of the necessary laboratory and workrooms was carried by the narrow majority of three. It was hoped that this decision of Convocation would not be challenged, but another decree being required to authorize the sale of stock to provide the requisite sum, the opposition, led by the late Professor Freeman, used every effort "to prevent the establishment out of University funds of a centre of vivisection in Oxford;" on this occasion (February 5th, 1884) the majority in favour of the decree rose to 31. Even then the opposition was not satisfied, and a month later took the childish course of opposing an annual grant for gas, water, coal, and the general upkeep of the laboratory.

During the year, or rather more, that this storm and turmoil shook Oxford almost to its foundations Burdon-Sanderson's self-control was remarkable; he took no part in the battle that raged round him, although he received the strongest provocation. His opponents were determined, if they could not prevent the study of physiology in the University, to render it impossible for Burdon-Sanderson to remain in Oxford. He firmly declined to pledge himself not to make use of vivisection for his private researches, but publicly announced that he would not perform such experiments for the purpose of demonstration in his lectures or permit students to experiment on living animals.

Oxford, and indeed physiological science, cannot be too thankful for the firmness and self-control Burdon-Sanderson exhibited during this trying time; he quietly and unostentatiously set about organizing his department, while he left it to others to fight his battles. The writer will never forget his striking face and figure, as he stood quietly leaning against the wall of the Sheldonian Theatre during the momentous debate in Convocation on February 5th, 1884.

The excitement which had filled Oxford with uproar gradually died down, and not a few of those who had been the strongest opponents to the establishment of physiology on a proper basis at Oxford lived long enough to regret, if not to be ashamed of, the part they had taken in supporting the antivivisectionists in their vituperation of physiology and its professor.

Under Burdon-Sanderson's fostering care, supported as he was by Sir Henry Acland, all the science teachers, and the more enlightened heads of colleges and tutors, the number of physiological students kept steadily increasing. As he became known in Oxford his modesty and his personal charm made him many friends, and, except on the grounds of economy, no voices have of late years been raised against the biological sciences in Oxford.

Burdon-Sanderson was eminently fitted for his post; the Oxford School of Physiology was mainly recruited from those who intended making medicine the occupation of their lives, and in him they found a teacher who was much more than a pure physiologist; he had himself been a practising physician, a medical officer of health, a pathologist in the widest sense, whose work had been equally distinguished both in human and comparative pathology, and was thus well acquainted with the needs of medical students. As a teacher his strength lay not so much in superintending the drudgery and hard work necessary, as in the enthusiasm for the subject which he had the gift for imparting to his pupils. At the same time no serious student, however dull, failed to receive kindly help and encouragement from him; how successful he was in imparting his own keenness and enthusiasm to his pupils is best shown by the number which now hold important teaching posts.

For thirteen years Sir John Burdon-Sanderson held the professorship with ever-increasing reputation and success, and upon the resignation in 1895 of the Regius Professorship of Medicine by Sir Henry Acland, it was felt by many that notwithstanding Burdon-Sanderson's long dissociation from clinical medicine, no fitter person, in the interests of the Medical School of Oxford, could be found for the Chair of Medicine. He had firmly established physiology, and it was hoped that his influence and reputation, which was not less as a pathologist than as a physiologist, would enable him to be equally successful in establishing pathology. These hopes have been realized; by his influence and the munificence of a private donor the University is now provided with an excellent pathological laboratory, and it is hoped that means may soon be found for securing a permanent endowment for a Pathological Chair in the University.

Sir John Burdon-Sanderson's name must be added to those who have shed lustre on the professoriate of the University. Pre-eminent as he was among his fellow workers in his particular branches of knowledge, his services to Oxford cannot be overrated. He was the connecting link between a struggling and insufficiently recognized biological school and the scientific world, and we must rejoice to remember that he lived long enough to see the changes that he took so large a part in effecting generally acknowledged, and Oxford, to which he so loyally devoted his services, take its proper position among the universities of the country in the newer as well as the more ancient branches of knowledge.

By ARTHUR THOMSON,

PROFESSOR OF HUMAN ANATOMY IN THE UNIVERSITY.

The recollection of my first meeting with Burdon-Sanderson will never fade from my memory. It was on a winter afternoon, early in the year 1885, that Professor Turner brought a tall and gaunt stranger into the dissecting-room of the University of Edinburgh, where I was then Senior Demonstrator. My surprise was great when I was introduced to the distinguished Oxford Professor, the more so as at that time I was a candidate for the Lectureship in Human Anatomy at Oxford, which had just been advertised. It appeared that Professor Burdon-Sanderson, having been instrumental in inducing the authorities at Oxford to provide a Lectureship in Human Anatomy, had undertaken the duty of visiting the likely candidates in their respective schools, with the object of obtaining evidence as to their qualifications for the post.

To me it was a trying ordeal, yet conducted with such sympathy and kindness on his part that one felt instinctively attracted to the man. This first experience has stood the test of twenty years.

I have mentioned this incident in order to show how thoroughly Burdon-Sanderson went about anything he undertook; he always liked his information at first hand, and never spared any trouble in acquiring it. When in the spring of 1885 I came to Oxford, it was to the Waynflete Professor that I naturally looked for help. Whilst all my colleagues were kindly disposed and sympathetic, it was Burdon-Sanderson who proved my guide, philosopher, and friend; it was not so much because our interests were identical that we were brought into such intimate relations with each other, as that it was part of his creed always to identify himself with the welfare and work of the younger generation. It is this that has been so marked a feature of his life. Many a time in the course of conversation has he told me that "this was an age of young men," and that in keeping in touch with the work and aspirations of the younger school he remained up to the very end of his life young in thought and feeling.

Though the Professor had succeeded in getting the University to establish a Lectureship in Human Anatomy, yet no provision had been made to supply that teacher with

laboratory. With characteristic energy the Waynflete Professor set to work, and aided by a few friends raised a sum of money sufficient to erect a small brick building, which for long was known as the "anatomical shed."

The history of the next seven years is replete with interest. Burdon-Sanderson, fully realizing that the development of a school of physiology must depend to a great extent on the coincident growth of a department of anatomy, left no stone unturned to promote the interest of the latter subject. When others looked askance, or declined to co-operate when their assistance was sought to secure a supply of bodies for dissection, Burdon-Sanderson alone, of all those immediately concerned, lent a helping hand.

At this time, when fortune, in the shape of a steadily increasing number of students, seemed favouring the two departments of anatomy and physiology, opposition, from an unexpected quarter, threatened to wreck their success. It was seriously proposed to exclude students of medicine, who were preparing for the Honour School in Natural Science (Physiology), from the classes and dissecting room of the lectures in Human Anatomy. Had such a proposition been carried it would have been tantamount to dealing a death-blow to any further development of medicine in Oxford. Burdon-Sanderson rose to the occasion, the opposition was swept aside and Oxford medicine emerged, refreshed and stimulated, from the struggle. The extension of the then existing buildings and the subsequent erection of a new department of human anatomy at a cost of £7,000, owe much, if not all, their inception and completion to his allegiance and all-powerful influence of the Waynflete professor.

Meanwhile, in co-operation with Sir Henry Acland, Professor Burdon-Sanderson had been successful in piloting through the new medical statute, a labour involving much foresight, and the consideration of many conflicting interests.

Having been instrumental in securing proper provision for the teaching of human anatomy in Oxford, the Waynflete Professor now felt himself at liberty to turn his attention to developments in other directions.

With the assistance of such experts as Dr. Lauder Brunton and Professor Dunstan, he entirely remodelled the courses of instruction in inorganic chemistry and materia medica; and, in pursuance of his policy in regard to the latter subject, he exerted his influence to secure the appointment of Dr. J. Smith Jerome as lecturer on pharmacology. It was, I know, his wish that adequate endowment should be found for the teachers of that subject, and also for the provision and upkeep of a laboratory, but unfortunately the funds at the disposal of the University have not hitherto been such as to bear the necessary expense. The completion of some such scheme would be a fitting memorial of the man who has done so much for medicine in Oxford. When in 1895 Sir Henry Acland resigned the Regius Professorship of Medicine, it became a question of much importance to us in Oxford as to who was to succeed him. It was felt by many that the chair should pass to him who had especially identified himself with the renaissance of medicine in Oxford; but there were technical difficulties in the way. How in reason could you make a professor of physiology into a professor of medicine? Fortunately the Waynflete professor was as distinguished in pathology as he was in physiology, and since the report of the last Commission embodied the suggestion that the Regius Professor might undertake the teaching of pathology, a way out of the difficulty seemed possible. But we had to reckon with the man. Burdon-Sanderson was reluctant to sever his active connexion with physiology. He felt little inclined to exchange a life of activity for the dignified leisure of his Chair of Medicine, and it was only when it was pointed out to him that it was more or less a duty to the school he had done so much to resuscitate that he consented to stand.

In this connexion, I know, he was much influenced by the hope that by himself giving instruction in pathology he could best promote the interests of that science within the University. How successful have been his efforts recent events have proved. Having secured the services of Dr. Ritchie as Lecturer in Pathology he worked unceasingly to attain a proper recognition of his subject. Strange though it may appear the inclusion of pathology within the curriculum as a separate subject, and an independent examination, was not carried without opposition, but happily success crowned his efforts and he lived to see, not only the establishment of an up-to-date laboratory, but the due recognition of the importance of the subject by the promotion of Dr. Ritchie to a professorship. By Sir John's influence, too, a closer relationship was established between the Radcliffe Infirmary and the University Department of Pathology—a matter of no small importance in these days.

The foregoing are but a few examples of the wide influence exercised by the late Regius Professor over the growth of the Oxford Medical School, but perhaps even more remarkable was that personal magnetism of his. He had the power of attracting men to work. He was ever surrounded by those whose energies he had striven to direct, and probably few teachers have ever unconsciously controlled the destiny of so many of their pupils as he has done. He was a man of few words when business was on hand; he was doing whilst other folks were talking. Many stories are told of his absent-mindedness. Most of them are fables.

People misunderstood him. Oftentimes I have seen him sit through a lengthy debate with eyes closed as if in sleep. He was probably most dangerous then, for suddenly when least expected he would start up and flash out some criticism which was unanswerable. He was a thinker rather than a speaker, though as a conversationalist provided he found himself in congenial society he had few equals. In disposition, kindly to a fault, he was yet severe when he suspected anything like fraud or deceit. His ideal was truth—the patient, laborious, arduous search after truth. The first-hand knowledge of a fact repaid him, even though its verification led to no ostensible result.

His quaint and withal impressive personality will be missed in Oxford. Somewhat careless as to dress, there was a dignity about him which was indefinable. You felt his presence. I cannot recall a more expressive face. Knowing him, as I did, only in later life it is difficult to form an estimate of his youthful appearance, but to me his face was one of the most beautiful I have ever seen. You seemed to see through it into the very soul of the man, and all was pure and good and true.

THE BRITISH MEDICAL ASSOCIATION.

By WM. COLLIER, M.D., F.R.C.P.,

PRESIDENT AT THE OXFORD MEETING.

Sir John's connexion with the British Medical Association dates back a great many years, for he joined it on or about 1866, and had thus been a member for nearly forty years. He was a Vice-President of the Section of Physiology in 1870, when the Association held its annual meeting at Newcastle-on-Tyne. Three years later, when the Association met in London, he accepted an invitation to give the address in physiology. In this he devoted himself to the task of illustrating the practical connexion between medicine and physiology, and of combating the idea, very prevalent in those days, that conclusions derived from physiological reasoning should always give way to the dictates of practical experience, and that science could never be a guide to practice. He took for his example the subject of the febrile state, and discussed in detail the various theories which prevailed as to its causes, and the answers given by experimental research. He concluded a very notable address in the following words:

> I venture to think that it is an object in every respect worthy of this great Association to further and promote the organization of physiological and pathological research, by fixing on the questions to be investigated, by appointing persons of acknowledged scientific ability to take the direction of the inquiries, by encouraging young men of the highest ability to devote the earlier years of their professional life to research, and by providing the necessary funds.

It is interesting to note that at the conclusion of his address, a vote of thanks was proposed by Professor Virchow (Berlin), and seconded by Dr. de Mussy (Paris).

In 1875, when the Association met at Edinburgh, Sir John presided over the Section of Physiology; nor did his connexion with the Association terminate here, as for many years from 1874 to 1891 he rendered valuable services to the Association as an active member of the Scientific Grants Committee.

Only as recently as 1900 Sir John, in response to the invitation of the members of the Oxford Branch, accepted the office of President of the Branch, and on June 28th, 1901, the date of their annual meeting, he delighted the members by giving a most interesting and instructive address on "Our Duty to the Consumptive Bread-earners," which was fully reported in the British Medical Journal of July 6th, 1901. Nor must we forget how greatly the success of our recent annual meeting at Oxford was due to him. He it was who first mooted the subject of inviting the Association, and when

it was decided to do so, the Branch Council were naturally most anxious that he should allow himself to be nominated for the office of President. To the great regret of all he was compelled very reluctantly, as he himself stated, owing to the condition of his health, to decline the Council's invitation. He proved, however, the interest he took in the meeting by making a most generous contribution to the Guarantee Fund, and by addressing an admirable letter to members of the University, inviting their aid in making the meeting a success. Nor was this all; his counsel was frequently sought in connexion with the necessary arrangements, and was always most freely and readily given.

SOME PERSONAL TRIBUTES.

I.—*By T. CLIFFORD ALLBUTT, M.D., F.R.S.,*

REGIUS PROFESSOR OF PHYSIC IN THE UNIVERSITY OF CAMBRIDGE.

Your request for a few commemorative notes of Sir John Burdon-Sanderson is as hard to decline as to fulfil. And it is sad work—this gathering-up of the fragments of shattered friendships, the painful setting-up of images in the gaps of the broken circle.

So far as the outward image goes, Burdon-Sanderson will not fail to live in the memory of every man who had ever seen him, were it but once. No one could see him and forget him. Unlike Acland as he was in feature, in the big frame, the rugged, lean face, the deeply-set eyes, high cheek bones, and strong jaw, which we Northerners know and prize so well as the signs of strength of purpose, dauntless courage, and tenacity of homely affections—unlike Acland as in these respects he was, and, like his kinsman, Burdon of Castle Eden, one of the great Chairmen of Quarter Sessions in the old days, yet, in some other respects of his picturesque personality—Burdon-Sanderson was strangely like his distinguished predecessor, in the tall frame, the distinguished carriage, the noble head, and the dreamy, ascetic look telling of an idealism of life and purpose which were apt to carry both of them aloof—sometimes far aloof—from the temporal and local conditions of our life here below. While always possessed by certain stalwart Northern characters, it was, nevertheless, hard to realize that Burdon-Sanderson was not originally bred of the bone of Oxford, so akin was his temperament to Oxford, so deeply had the riches of those pastures entered into his life and bearing.

As within the last few days I have had no converse with those nearest to him, this letter must not trespass on any other than personal impressions. It was by that dear friend of so many of us older men—Wilson Fox—that I became acquainted with Burdon-Sanderson; our closer friendship began in a two or three days' visit to me in Leeds, when we were both bachelors just entering life. Burdon-Sanderson had not then decided whether to devote himself to science or to the practice of medicine. He chose the field for which his abilities eminently fitted him. I see him vividly now as he was on that first visit to me, rather elegant in appearance, leaning in the light of a bay window, discoursing on the sphygmograph—a discourse from which I derived the sources of my subsequent interest in the problems of the circulation. At a later date Burdon-Sanderson and Wilson Fox, with a bagful of tuberculous specimens, visited me on some public occasion, perhaps a meeting of the British Medical Association. And then for Burdon-Sanderson came the appointment to the Brown Institute, with more tubercle experiments, the study of other infections, and the enlargement of pathology and medicine to embrace not mankind only but all living things. The next monument on this great route was Paget's celebrated address on the diseases of plants; the next again was raised by the bacteriologists.

The judgement I formed of Burdon-Sanderson's illustrious parts was that they consisted not so much in "genius," in flashes of inspiration or swift imaginative insight, as in large and powerful grasp of truths, a wise discernment and appreciation of the relative values of facts and arguments, and the co-ordination of them, which come of natural endowment educated by broad and liberal culture, made fruitful by an earnest, sagacious, and systematic perseverance in pegging out claims on the outskirts of knowledge. His gift was rather an ardent, copious, and penetrating mind than divination—an order of mind which in the field of science may prevail more and more.

On the ethical side—too large a side of his character to be omitted—Burdon-Sanderson was as reticent as most strong men are reticent, in no churlishness but in diffidence and reverence before the mysteries of existence. Of his ethical and philosophical opinions, then, I must say little, though they were of the essence of his thought and life. I can say only that, although, like all opinions of his, they were personal and independent, they seemed to me to be substantially in harmony with those of his distinguished kinsmen, the Haldanes. I remember his cordially commending to me the *Pathway to Reality* on its first appearance.

In respect of personal character, it needed little insight to read much of the gentleness and unselfishness, and something of the remarkable combination of forbearance, sensitiveness, and even of fastidiousness, which were the fuller experience of those who knew Burdon-Sanderson best. For his equable urbanity was far from being the affability of an easy judge of men; at critical moments he would reveal himself as an acute, and perhaps even rather severe, judge of persons. No notable man in Burdon-Sanderson's high place can avoid controversy, or conflict of duties or opinions: and he was the last man to evade issues of principle. At the same time, I think in no man have I seen so magnanimous a forbearance with opponents, so sweet a freedom from resentments. Of many occasions, I may name one which touched me nearly: Sir John Burdon-Sanderson knew that on some matters of academic organization I disagreed with him; he knew, moreover, that in conversation with Sir Henry Acland I had advocated different arrangements in connexion with the Chair and scope of Medicine in Oxford, for I had not hesitated to tell Burdon-Sanderson so: yet not only were his letters and conversation with me without umbrage, but one of his first acts as Regius Professor was to invite me to join him for a long period as Examiner in Medicine. I believe that this experience of mine was that of all those friends of Burdon-Sanderson who now and then would have with him such divergencies of opinion as are inseparable from the conduct of public affairs. On his generosity in scientific emulation it is not necessary to dwell, so finely chivalrous was he in these fields of comradeship, so magnanimous in his recognition and encouragement of the work of younger men.

In this humane and generous disposition was engendered the late Regius Professor's ardent attachment to public medicine, a pursuit which at first sight might have seemed to lie outside his immediate vocation, at any rate in later years. But I think indeed that from first to last no subject—and in this again he resembled Acland closely—lay nearer his heart than the promotion of sanitary science and practice, especially in the cause of the poor. But I dare not proceed; painfully am I aware how feeble—but I trust not dissonant in any word of it—this halting tribute must appear to those who are suffering the desolation of a family bereavement, and how inadequate to us all who are lamenting the decease of one of the chief men of our time, and who, in his tract of the great waters, feel as if left unpiloted.

II.—*By JOHN G. McKENDRICK, M.D., F.R.S.*

PROFESSOR OF PHYSIOLOGY IN THE UNIVERSITY OF GLASGOW.

By the death of John Burdon-Sanderson British science has lost one of its most distinguished representatives, and the world is the poorer by the removal of one whose uprightness of character, single-minded devotion to duty, and loyalty to friendship make him stand out as a conspicuous example of true greatness. Beginning his professional life as a physician, he then became a pathologist; this led him into the province of physiology, and he finished his active career by returning to medicine. Like Helmholtz in this respect, he made his mark upon each of these subjects.

He had much of the spirit of the true naturalist, who loves knowledge for its own sake, and who never wearies in its pursuit. When a subject came before his mind he brooded over it, looking at it from many points of view, and always with insight and originality of thought. Accuracy of expression, measurement where that was possible, the conscientious scrutiny of even the most minute detail, were the characteristics of his methods of investigation, as they are the marks of all true scientific work. I frequently observed that when he discussed any subject in private conversation, and while he was feeling his way towards a knowledge of the facts, he often asked for quantitative statements: "How much?"—"What volume?"—"What temperature?"—"What size?" etc. were the questions put, and he was never satisfied with vagueness of statement or an off-hand method of description. It is this quality of mind, this constant striving after accuracy, that gave the highest value to all his scientific

writings, although it often led to a certain obscurity of style that rendered their perusal sometimes a hard task. As an example, take his well-known essay on muscle in Professor Schäfer's *Textbook of Physiology*. Anything more elaborate and thorough can scarcely be conceived.

Sir John also had in a high degree the scientific imagination, which enabled him to penetrate into the hidden and invisible causes of phenomena. This also gave him a wide grasp of Nature. I recollect being specially struck with this quality while he spent a few days with me in my country home at Shonehaven. All natural phenomena were of interest to him. The mysteries of plant life, the hidden chemical processes going on in the plant cell, the phenomena of movement, the conditions of aquatic life, the symbiosis of the lichens, the electrical phenomena in the skates of our northern seas, all furnished fruitful subjects of discussion, and his eyes fired with enthusiasm when some new method of investigation was suggested.

While he was a physician and pathologist, the science to which he was most devoted was physiology, and the revival of physiological research in this country about thirty-five years ago was largely owing to Sir John's foresight and earnestness. I recollect well how disturbed he was at the time of the vivisection controversy that led to legislation on the subject, and how apprehensive he was of danger to the science to which he had devoted his life. No one realized more vividly the importance of physiological research to pathology and to medicine, and he often looked forward to the time when medicine would become less empirical and have surer scientific foundations.

But with the feeling of a great loss as I write these words, there is a satisfaction in having known a man of such nobility of character. After all, his personality stands out most in relief. His striking Dantesque countenance, firm, gentle, often humorous, and with that touch of melancholy which is so allied to humour—can never be forgotten. There also come into the memory words of encouragement in work, of sympathy in sorrow, of congratulation in success that betoken the true friend. Science will miss him, but British physiologists will miss him most. He was our Nestor, our ideal, our example.

III.—*By SIR VICTOR HORSLEY, F.R.S.*

As one of the large number of students who received in the late Seventies from Sir John Burdon-Sanderson their introduction to the real science of physiology, I feel that the sense of the great debt we owe to him in the guidance of a professional life should find expression.

In 1875 the traditional views of physiology were essentially anatomical in character, and one of the most impressive features of Burdon-Sanderson's lectures was the vivid interest of his teaching that physiology was the philosophy of function and the study of active life and living things. It is interesting to remember that this was thirty years ago, and that even at the present time the antiscientific spirit of a small section of the so-called "educated" public believes, or affects to believe, that physiology, the science of life, can be taught by contemplation of dead organs.

Starting from such a high and broad standpoint of biology, Burdon-Sanderson at once raised his subject from an imperfect guessing at the meaning of structure to the level of a precise experimental science of applied physics and chemistry. By thus placing it on its proper basis of exactitude, and by illustrating it with the close logical Harveian method of experimental research, he succeeded in impressing his hearers with the conviction that accuracy was to be the prime factor through all their work. In this way he did infinitely more than "teach his subject," he actually inculcated the principles which should guide the student throughout his whole curriculum.

Probably his encyclopaedic knowledge of biological literature, his lifelong studies in pathology (begun under the great French patho-physiologists), and his constant interest in the phenomena of aberrant physiology, specially gifted him to state general biological principles and laws in language of impressive breadth and picturesque interest.

Certainly no one better secured, by his earnest and obviously intense desire to teach what was positively known, the close attention and affectionate respect of the students of University College.

In this his success was the greater by reason of his kindly and sympathetic nature. To every one he was accessible, to every one he readily gave a helping hand. Physiology, pathology, and clinical medicine all owe to him much of the impetus which has been characteristic of their progress during the last thirty years, but for how much, those whom he trained can best appreciate, and best express their gratitude.

IV.—*A. D. WALLER, M.D., F.R.S.,*

DEAN OF THE FACULTY OF SCIENCE, UNIVERSITY OF LONDON.

THE feeling aroused by the death of Sir John Burdon-Sanderson is that which is naturally attached to the loss of a very close and honoured relative. We feel that we have lost the head of the family, but after the first shock of sorrow that a gracious and gentle personality should not have remained among us for a little longer, we realize that Burdon-Sanderson can never leave the minds of those who have been privileged to be touched by him. The instigation to learning aroused by contact with the master was immediate and lasting. The immediate incentive of the unstinted sympathy with the most youthful inquirer passed imperceptibly into a habit of thought in which the absent master was still an actual presence, and although for the last twenty years he lived at Oxford and visited London, he has exercised a continuous and a growing influence over the life of his London pupils and friends. That influence has not ceased, Burdon-Sanderson remains among us as a living force, impelling us along the path that he trod himself.

V.—*By W. D. HALLIBURTON, M.D., F.R.S.,*

PROFESSOR OF PHYSIOLOGY IN KING'S COLLEGE, LONDON.

I FEEL quite sure that every old pupil of Sir John Burdon-Sanderson would like to add a word of appreciation and affection to the notices of his career which you will be publishing. From 1877, when as a first year's medical student at University College I attended his lectures and practical classes, I have received from him nothing but kindness and helpful sympathy. The interest he always took in young men was one of his most characteristic traits. At the Physiological Society, the meetings of which he attended with regularity until the last, he followed the communications with the keenest appreciation, and to the junior adherents of the Society he always gave either a word of encouragement or a helpful piece of criticism.

He followed the recent advances of science so closely, and was such a mine of information on the literature of all branches of physiology and pathology, that investigators felt sure of assistance when they placed before him the problems they were working at. To speak of a branch of the science at which I myself have done some work—namely, the chemical side of physiology—it is not too much to say that the insight Burdon-Sanderson had into the meaning of chemical processes in the body was one of the inspirations that has led English physiologists to bestow so much attention on it. It is the universal testimony of workers in other branches that they also have had the same kind of stimulating influence from his words and works. It will, however, not only be the physiologists that will mourn his irreparable loss, for the whole world is poorer by the death of so good and great a man.

VI.—*By LEONARD HILL, M.B., F.R.S.,*

LECTURER ON PHYSIOLOGY, LONDON HOSPITAL MEDICAL SCHOOL.

THE striking thing about Burdon-Sanderson was his personality. He was a big man and looked at things in a big way. He had an enthusiasm for all knowledge, an interest in all the higher pursuits of man. This enthusiasm he had the power to communicate to students who in any measure possessed the same sympathetic and large nature. He was not as a teacher fitted to the task of making his subject clear and simple to the ordinary medical student, but was rather a source of inspiration to the highest class of students, men who, like him, aimed at enlarging human knowledge.

My first acquaintance with Burdon-Sanderson was one evening when I was a student at University College. He came to give the Medical Society an address on the life of Cohnheim. His touching account of the life of this man, who all his life sought to *know*, filled me with a desire to follow such an example.

Of his absent mind, many are the stories, and some apocryphal; but I myself have seen him wiping the board with his handkerchief and smoking a long stick of chalk. The latter he pulled out of his mouth and crossly regarded

because it refused to draw. When Page and he were working at the electrical response of the frog's heart, lunch was brought to the laboratory, and after Burdon-Sanderson had finished and the tray was removed, Page brought in the frog preparation. "No more, thank you," said the Professor. At breakfast, one day, when a lady passed back her plate and requested the Professor to help her less liberally to bacon, he piled some fish on to the top of the bacon, and returned the plate with that sympathetic smile which charmed all who knew him.

Burdon-Sanderson's love for learning, and his keen pursuit for this, above everything, throughout his long life, reminds me of the character which Browning has so finely drawn, in "A Grammarian's Funeral":

> That low man seeks a little thing to do,
> Sees it and does it:
> This high man, with a great thing to pursue,
> Dies ere he knows it.
> That low man goes on adding one to one,
> His hundred's soon hit:
> This high man, aiming at a million,
> Misses an unit.
> That, has the world here—should he need the next,
> Let the world mind him:
> This, throws himself on God, and unperplexed
> Seeking shall find him:

VII.—*By M. S. PEMBREY, M.D.*,

LECTURER ON PHYSIOLOGY, GUY'S HOSPITAL.

I GLADLY comply with your request that I should write a few words of tribute to the memory and work of the late Sir John Burdon-Sanderson. A few years after his appointment to the Waynflete Professorship of Physiology I first attended his lectures and practical classes, and I well remember that it was his great personality which impressed undergraduates when they started work in his laboratory. At that time the School of Physiology numbered but few students; nevertheless, the Professor and his assistants, Mr. Francis Gotch and Dr. Haldane, devoted so much energy and time to advanced teaching and research, that no one, I think, will gainsay the statement that physiology was in those respects the foremost among all the scientific subjects taught at Oxford. The strong point of his method was not elementary and dogmatic teaching, but the inculcation of the value of reading the original records of the work upon which physiology is based, the balancing of evidence, and practical investigation. His insistence upon such methods of work, upon the importance of literary form, and the history of the subject raised his school above that contempt for science which, not without some reason, was felt by many of the ardent supporters of a classical education. Under Burdon-Sanderson, physiology became an excellent subject for a real scientific education.

Later I obtained, as Assistant to the Professor and University Demonstrator of Physiology, an insight into the difficulties with which he had to contend, and the sacrifices both of time and money which he willingly and privately made for the sake of his science. The opposition of the antivivisection party in the University, formidable and at the same time puerile in its pettiness, needs no further mention here. There were other battles to fight. The School of Natural Science and the School of Medicine were indeed integral parts of the University, but they had to fight for their proper position and due recognition. In loftiness of aim for scientific education Burdon-Sanderson was foremost; he yielded to neither of the extreme parties; he loved physiology for its own sake, and would not see it debased to the position of a subsidiary subject to classics, general science, or medicine.

His interest in pathology was as keen as in physiology, and to his influence is largely due the establishment of pathology at Oxford upon a basis which the University cannot fail to make permanent in the near future. As Regius Professor of Medicine he lectured upon pathology; these lectures were admirable, and to many of the senior students appeared to be more valuable than those which he had formerly delivered in physiology, for his extensive knowledge of experimental or general pathology raised the subject far above the contemptible level of morbid anatomy into which it had fallen in many of the London medical schools and provincial universities. His pathology was that taught by John Hunter and Cohnheim, the pathology of the future.

It may not be amiss to mention how Burdon-Sanderson personally impressed his students and junior colleagues. Among the students he was affectionately known as "The Burder." They revered him not for his capacity as a teacher of elementary physiology—for that was not his strong point—but for his unique personality and sympathy. He recognized to the full the value of those methods of self-education which are embodied in the Oxford Junior Scientific Club; he attended these meetings of undergraduates, took part in the discussions, and there encouraged and did indeed receive candid criticisms of his views from the most junior members. This unconventional attitude was as dear to him as to the undergraduate; more than once he remarked that he valued these free discussions far above the restrained and dignified procedure of some of the senior societies of the University. This personal contact, this friendly intercourse between teacher and pupil, is one of the most valued characteristics of the older universities, and was always fostered by the late Regius Professor and his devoted wife. Even his pronounced absent-mindedness endeared him to the students: many are the stories, true and untrue, which have been told of this failing, and any remarks upon the great personality of Burdon-Sanderson would be incomplete without some reference to this characteristic. It should in truth be said that this failing and a certain waywardness in the initiation and direction of reforms in the necessary courses of study at the University probably prevented him from raising the Schools of Physiology and Medicine to an even higher level of influence and importance in Oxford.

All who worked at research in his laboratory were impressed by his critical power and truly marvellous knowledge of the literature of physiology and pathology, whether it were English or foreign. His interest in the scientific work of his old pupils was unbounded and endured to the very last days of his life; he had not the common failing of the veteran, the wish to talk only of his own work. The advance of physiology to the position of one of the most active and progressive sciences in this country is chiefly due to the influence exerted by Burdon-Sanderson upon his pupils, but upon this point more competent pupils than the writer will have spoken.

VIII.—*C. S. SHERRINGTON, M.D., F.R.C.S.*,

HOLT PROFESSOR OF PHYSIOLOGY, UNIVERSITY OF LIVERPOOL.

THE death of Sir John Burdon-Sanderson removes from medical science a personage rare and in many ways unique. By character and mental power he exercised an influence that, if relatively seldom voiced, by himself at least, on any public platform was none the less potent, and always made for progress in scientific medicine. Typically he was an "intellectual." Interested and keenly appreciative of the more immediately utilitarian advances of medical science, his own inquiries plunged directly toward the inner depths of biological phenomena remote from any present practical aim. His researches on the excitability and electrical reactions of muscle and nerve exemplify this. If his physiological writings may seem in places to lack lucidity it is not by any fault of verbal expression, but rather because the arguments involved concern thoughts followed to the very boundaries of human knowledge. One of the most successful pieces of criticism and exposition of a physiological question which we have had in recent years was contributed by him to the Physiology Section of the British Association at Cambridge last year. It had as its subject the rôle of oxygen in relation to the functional activities of the organs of the animal body. His intellectual handling of a theme was habitually penetrative and intensive, but he also possessed rare width of acquaintance with varied aspects of biological subject-matter. Certain lines of plant physiology had occupied him on and off during many years. Only the other day I heard him give a trenchant and reasoned word of caution against pushing so far as do some—he mentioned Schimper, for instance—the analogy between the reflexes of animals and the responsive reactions of plants.

I carry away the impression from acquaintance with him in his later years that he regarded medicine as an experimental science. Pre-eminently an experimentalist, any improvement in experimental method obviously possessed peculiar fascination for him. To him physiology will always owe a debt for his share in the introduction of the capillary electrometer as a means of physiological research.

At the Physiological Society's meetings he was a frequent attendant. His vacation of his Chair of Physiology and the weight of increasing years did not make any appreciable difference to the constancy of his attendance at the Society's meetings. His direct influence upon other physiologists

extended not only to his own and the immediately succeeding generation, but to the generation surrounding him as workers just commencing at the present time.

IX.—*WILLIAM STIRLING, M.D., F.R.S.E.,*

BRACKENBURG PROFESSOR OF PHYSIOLOGY IN THE VICTORIA UNIVERSITY OF MANCHESTER; DEAN OF FACULTY OF MEDICINE.

As one who enjoyed the privilege of the friendship of Sir John Scott Burdon-Sanderson may I be permitted to add my tribute to the value of his work, to his worth, to his influence, and to his genial and picturesque personality?

The keynote of Burdon-Sanderson's work was struck in his early Edinburgh days, when the problems of botanical science attracted his attention. These at a later period found their due expression and application in his elaborate articles on the vegetable ovum, and the study of reproduction—a sure and safe foundation on which to build those later studies on the problems of micro-organisms in relation to contagion, infection, and allied subjects, with which his work as a medical officer of health brought him into daily contact. It is rare that a frontal attack succeeds on scientific frontiers. The mental outfit and discipline as a means to attack the problems of infection, pyaemia, cholera, vaccination, the febrile process and inflammatory and zymotic processes were laid early in his career as a student of medicine. His masterly researches on these subjects deserve to be reprinted and brought from their hiding places in Blue Books into the full light of day, for there can be no doubt that his work greatly extended our knowledge and conceptions on these fundamental problems. Even at the present time his papers on infectivity, the febrile process, and tubercle are deserving of careful study, both as masterly groupings of the then known facts and on account of the original work they contain.

He saw clearly, and when he was President of the Nottingham meeting of the British Association he enunciated his view that the principle of adaptation separates biology from the exact sciences. In the vast field of biological inquiry the end we have in view is not merely to investigate the relation between a phenomenon and the antecedent and concomitant conditions on which it depends, but to possess this knowledge in constant reference to the interest of the organism. His aspirations, in part fulfilled, were to rescue this country from the backward position which it long occupied in relation to the scientific study of the great subject—the causes and mode of prevention of infectious diseases. What his own brain and pen have effected in this way all pathologists know, and what he was still further able to do when he became Waynflete Professor in Oxford, the medical profession now know and understand. There was no longer the cry about a lost medical school, when his influence began to be felt in that great historical home of learning.

Burdon-Sanderson was fortunate as regards the time when he entered the scientific arena. Müller still taught in Berlin, the "mechanistic view of the phenomena of life" brought with it about the middle of last century a revolution in scientific thought. Experiment supplanted speculation and fact was substituted for theory. He has himself given us a sketch of this mid-century period when physiologists had microscopes but no laboratories. The remarkable work begun by Brücke, du Bois-Reymond, Helmholtz, Ludwig and Claude Bernard between 1845 and 1855, he knew well, and to many of the problems investigated by these great physiologists he added his contributions, notably on blood pressure and the influence of the respiratory movements thereon, on the electrical phenomena in plants and in muscle, cardiac and skeletal—the excitatory processes in responsive tissues; electromotive phenomena, time relations of muscular response and allied subjects. The problems in later times that brought out the genius of Marey and Chauveau also engaged his attention.

He had a just appreciation of the value of anatomy, and he was a most competent histologist, and knew also full well the great importance of mechanical aptitude as means to aid the physiologist in his difficult task.

It was his wide knowledge of the facts and history of biological science, of anatomy, histology, and pathology that made a discourse by him on any subject both interesting and suggestive. He was sure to take a wide sweep in viewing the problem in hand. To any young aspirant his advice was always helpful and encouraging. Moreover he had a kindly way of suggesting how the study of a subject might be advanced. His interests were most catholic, for his knowledge was wide and deep. He moved in no narrow groove, but took into his view the grand panorama of general physiology and pathology. In the confines between the two his penetrative mental vision found full scope.

All of us will henceforth miss the charming personality, the encouraging, nay, almost paternal advice, of one who endeared himself to many generations of students, and to all physiologists both at home and abroad.

"By their works ye shall know them," is an old phase. By his work and its fruits the name of Burdon-Sanderson will long adorn the roll of fame of British physicians and physiologists.

To few is it permitted to enjoy the glorious vista that was vouchsafed to him in beholding the development of the science he loved, and to few does it fall to have so many friends both old and young, at home and abroad, for he was always a welcome personality in the schools and laboratories of France and Germany and at the scientific meetings when health and circumstances allowed him to be present.

THE FUNERAL.

The funeral took place at Oxford on the afternoon of Tuesday, November 28th. The first part of the service was held in the chapel of Magdalen College, of which, since his resignation of the official Fellowship attached to the Waynflete Professorship, Sir John Burdon-Sanderson had been an Honorary Fellow.

In the chapel there was a very large assemblage of those desirous of paying their last tribute of respect. Amongst those present were: The Vice-Chancellor of the University (the Rev. Dr. Merry, Lincoln College), the Proctors, the President of Magdalen, and a representative gathering of the Fellows of the College (including Professor Gotch, Professor Odling, Professor Elliott, Professor Miers, Professor Vines, Professor Raleigh, Dr. Vernon, Mr. Günther), the heads of most of the Oxford Colleges, the Regius Professor of Medicine, Professors Cook Wilson, Weldon, Goudy, Love, Clifton, Robinson Ellis, Tylor, Poulton, Thomson (who also represented the General Medical Council), Ritchie, Dr. Pembrey, Dr. Buckmaster, Dr. Bourne, Dr. Ramsden, Dr. Ainley Walker, Dr. Mallam, Dr. Legge, Dr. Waters, Dr. Mann, Dr. Waterhouse, Mr. Winkfield, Mr. Parker, and Rev. Dr. Fairbairn. The following public bodies were represented:—The Royal Society, by Sir Lauder Brunton and Dr. Gaskell; the University of Edinburgh, by Professor Schäfer; the University of London, by Dr. Pye-Smith; the Royal College of Physicians, by Sir William Church, K.C.B.; University College, London, by Dr. Rose Bradford, Professors Starling and Sidney Martin, and Dr. Mott; the Governing Body of the Lister Institute, by Dr. C. J. Martin; the Physiological Society, by Dr. Waller; the Local Government Board, by Dr. Sweeting; the British Medical Association, by Dr. Collier; the Society of Medical Officers of Health, by Dr. Seaton; the Royal Society Club by Professor Dunstan. There were also present the Regius Professor of Medicine of the University of Cambridge; Professor Sherrington (Liverpool), Professor Lorrain Smith (Manchester), Dr. Shore, Dr. Burch, Dr. Bayliss, Dr. Neil, Mr. H. P. Symonds, Mr. H. P. Mallam, and a number of the junior members of the Oxford Medical School. The coffin was borne into the chapel preceded by the choir singing with great feeling the verses at the beginning of the Burial Service. The first part of the service was sung, finishing with the anthem, "Blessed are the Dead," to the music of Spohr. Then between the lines of those who had come to honour the departed, the coffin was carried out into the grey winter afternoon to the hearse which was to bear it to its last resting place, and Oxford was left without the last relic of one who had toiled so unweariedly in her service, and whose influence will long survive his presence in the scene of his labours.

The interment was in the Wolvercote Cemetery, some three miles from Oxford, but, by the express wish of Sir John Burdon-Sanderson, only the private mourners followed the funeral to the cemetery, including Lady Burdon-Sanderson and Mr. Richard Burdon-Sanderson, Mr. James Burdon Sanderson, Lord Herschell, Mr. R. B. Haldane, K.C., M.P., Dr. J. S. Haldane, F.R.S., and Mr. W. S. Haldane (nephews), Mr. J. B. S. Haldane (grand-nephew), the Hon. Muriel Herschell and Miss E. S. Haldane (nieces), and Miss E. Herschell (cousin), Mrs. J. S. Haldane, Miss Florence Buchanan, Lady Brunton, and Mrs. Gotch.

[The portrait contained in this issue of the JOURNAL is from a photograph taken by Professor E. A. Schäfer about 1885. Many of his most intimate friends agree with us in thinking that it is the most striking and characteristic portrait of Burdon-Sanderson which exists.]

PEARSON ROBERT CRESSWELL, C.B., V.D., F.R.C.S.Edin.,

Senior Surgeon, Merthyr General Hospital, and Honorary Colonel, 3rd Volunteer Battalion the Welsh Regiment.

Aged 71, Companion of the Order of the Bath, in the Civil Division, Honorary Colonel of the 3rd Volunteer Battalion of the Welsh Regiment, and Member of Council of the British Medical Association, Mr. Pearson Cresswell died on November 22nd, as briefly recorded in the British Medical Journal for the same week. It was with Dowlais, Glamorganshire, that Mr. Cresswell had been identified for forty-five years, and it was at Dowlais that he died. He had not been in good health for a considerable time, but continued at work until November 9th, when he seems to have received a chill on a visit to Cardiff. His final illness was comparatively short, and was recognized from the first to be likely to end fatally. Mr. Cresswell, who was the second son of the late Mr. Charles Cresswell, solicitor, of Worcester, was born at Henwick, near that city, and was educated at Worcester Cathedral School. While still a youth he left England for Australia with his family, but returned to take up the study of medicine. For this purpose he entered at the Middlesex Hospital, and in due course became successively M.R.C.S. in 1859, L.S.A. in 1863, and F.R.C.S.Edin. in 1873. After occupying the post of House-Surgeon at the Middlesex Hospital for about a year, Mr. Cresswell — who was somewhat older than the majority of newly-qualified men — obtained the appointment of Chief Surgeon of Dowlais Iron Works, and very soon began to play a leading part in the affairs of the district. His interests and evidences of activity were so numerous, indeed, that it is only possible to deal with them in outline.



As a surgeon Mr. Cresswell was one of the earliest to recognize the possibilities of antiseptics, and published in 1868 an excellent paper on the treatment of gunshot wounds and compound and comminuted fractures on antiseptic principles, and in 1885, having meantime published several other papers on operative surgery, he was Vice-President of the Section of Surgery at the meeting of the British Medical Association at Cardiff. Throughout his career his opportunities for the study and practice of surgery, especially that connected with the treatment of accidental wounds and severe injuries, were great.

The Dowlais Workmen's Hospital during its existence was in his sole charge, and he shared with the late Dr. Dyke the work of the Merthyr Children's Hospital, and subsequently, when the Merthyr General Hospital was established and took over the responsibilities of its predecessors, he became its Senior Surgeon. Nor did he confine himself solely to the surgical side of his profession, for he was both Public Vaccinator and Medical Officer of the First District of the Merthyr Tydfil Union, and had charge of the Pant Fever Hospital. Ambulance work was another subject in which he took great interest. The need for knowledge of "first aid to the injured" was naturally great in such a district as that of Dowlais, and he early inaugurated classes. The present *Welsh Manual of the St. John Ambulance Association*, of which he was made an Honorary Associate in 1897, was one of the indirect outcomes of his energies, for its translators were Dr. E. Davies, Fochriw, and the late Dr. J. Owen of Llanberis, then his assistants at Dowlais.

With the British Medical Association Mr. Cresswell's connexion was early and close. He was already a member of its Administrative Council as far back as 1872, and in that year also served on what was known as the "Journal Committee," a body now merged into the "Journal and Finance Committee." He gave up his position for a time, but in 1904 he returned again to the Council of the reorganized Association as joint representative of the South Wales and Monmouthshire Branch with Dr. Lynn Thomas of Cardiff.

The part which Mr. Cresswell played in the general public life of South Wales was even more prominent than his rôle in medicine. He was a Justice of the Peace for Glamorgan, held a special commission as a Justice in Lunacy, and was Chairman of the Income Tax Commission and member of the Licensing Committee, and at one time High Constable of Caerphilly Higher. A zealous Churchman, he was President of the South Wales Branch of the English Church Union, an old member of the Llandaff Diocesan Conference, and in his own parish carried on the duties of Churchwarden for thirty-six years. In politics, too, he took some part, being Chairman of the Constitutional Club at Dowlais. By his professional brethren Cresswell will perhaps be best remembered as a good surgeon and as a man who, though his own position was absolutely unassailable, took the keenest interest in the welfare of those who like himself were engaged in colliery work; but by others the services which he rendered to the volunteer movement will longest be borne in mind. His first commission was dated 1860, and was that of an Assistant-Surgeon in the 2nd Glamorgan Rifles, which had then recently been formed. He soon, however, joined as a Lieutenant a company of Engineers, the original nucleus of what afterwards, through the action of Cresswell himself, became the 3rd Volunteer Battalion of the Welsh Regiment. Of this corps Cresswell became Lieutenant-Colonel in 1881, and his association with it did not cease until, having reached the utmost permissible limit of age, he retired in 1901 with the rank of Honorary Colonel. During his long command he completely reorganized its affairs, raised its strength from 1,500 to nearly 2,300, transformed a debt of some £4,000 into a credit of nearly £2,000, established a cyclist company, and a machine-gun section and messes for officers and N.C.O.'s; and, finally, organized and sent to the front during the South African war three companies from the volunteer Welsh regiments. He was one of the first to receive the special decoration for long service in 1893, and five years later was awarded Companion-

ship of the Most Honourable Order of the Bath—a remarkable record for one who in other directions also was doing enough work alone to satisfy the ambitions of most men.

Mr. Cresswell, whose brothers and sisters remained in Australia, was twice married; his first wife was a daughter of the late Mr. Skeffington Robinson, of Brighton, and died in 1884. His second wife, daughter of the late Mr. Thomas Williams, of Ely, survives him, together with two daughters and two sons, one of whom—Dr. Stuart Cresswell—became his partner in 1901, while the other—Dr. Frank Cresswell—is in practice at Cardiff. Mr. Cresswell was buried at Newland, near Malvern, in the family grave, on November 25th, a largely-attended service of a military character having been held the same morning at Dowlais.

In reference to Mr. Cresswell's decease, Mr. Lynn Thomas, C.B., F.R.C.S., writes:

When my friend and co-representative of the South Wales and Monmouthshire Branch of the British Medical Association, Mr. Parson R. Cresswell, of Dowlais, and I walked out together from the last Council meeting I little thought that that would have been the last occasion on which I should have enjoyed the pleasant and delightful companionship of a man for whom I had the greatest admiration. He was reserved and unobtrusive by nature, but held very high ideals of the duties of a citizen towards his monarch and country and also to the profession to which he was proud to belong; it was only on occasions when duty to his country and the honour and the responsibilities of the medical profession were concerned that Mr. Cresswell's voice would be heard.

I had the privilege of knowing Mr. Cresswell ever since February, 1887. At that time I acted as *locum tenens* for him when he was suffering from a Colles's fracture, and the lasting impression made upon my mind is that I have never known any man who said so little aloud, and who nevertheless exercised so much influence for good amongst those who came in contact with him. He was proud to have been re-elected under the democratic conditions of 1904, as he felt that the autocracy which existed in 1872 in the British Medical Association had not dealt in an altogether kindly way towards the spirit of reform which he at that time considered he advocated.

Mr. Cresswell took the keenest interest in the contest which is now going on in the South Wales coalfield between the medical profession and those who employ them. He was very jealous of the dignity and the honour of the profession, and would have sacrificed everything rather than be placed in a position which would hamper his impartiality in giving an opinion under the Workmen's Compensation Act. He wished to be free from bias to employers or employed.

In the ultimate power of the British Medical Association Mr. Cresswell had the greatest confidence, and held that the safety of the profession lay in organization, co-operation, and discipline of its members under the rules and regulations of the Association.

Mr. Cresswell was the pioneer of antiseptic surgery in South Wales, and so long ago as 1878 he contributed valuable reports to the then new method. Up to the end he displayed a wonderful plasticity of mind towards asepticity, the use of gloves in operations, and in the latest methods of treatment of diseases such as goitre and hypertrophied prostate, and short-circuiting in gastro-intestinal disorders.

We have lost in Mr. Cresswell a man whom it is difficult to replace in South Wales.

THE death occurred on November 21st, at the East Anglian Sanatorium, Nayland, of ROBERT B. DALY, L.R.C.S.I., L.R.C.P.I., of Dalkey, county Dublin. He had held the post of House-Surgeon at Jervis Street Hospital, Dublin, and had latterly practised in England. He obtained his diplomas in 1899, but had already proved himself a practitioner of sterling merit and deserved popularity. His untimely death from tuberculous laryngitis is very deeply regretted by his numerous friends in Dublin and elsewhere, and has deprived the profession of one who promised to be of great repute in the field of general practice.

LIEUTENANT-COLONEL MAURICE HENRY SMITH, late of the Indian Medical Service, Madras, died on October 12th, at the age of 55. He joined the department as Surgeon, March 31st, 1876, became Surgeon Lieutenant-Colonel, March 31st, 1896, in which year he retired from the service. He served in the Burmese campaign in 1885-7, receiving the Frontier medal with clasp, and with the Chin-Lushai expedition in 1889-90, when he obtained another clasp.

JOHN CROFT, F.R.C.S.,

Consulting Surgeon, St. Thomas's Hospital, London.

MR. JOHN CROFT, whose death took place at West Kensington on November 21st, was the son of Hugh and Maria Croft, and was born near Newhaven, in Sussex, in 1833; he was the grandson of Gilmore Croft, who was a successful practitioner in the City and later removed to Hastings. His father came to London, and lived at Lower Clapton, and the son received most of his early education at the Hackney Church of England Grammar School.

In 1850 Mr. Croft entered as a student at St. Thomas's, attending Mr. Le Gros Clark's lectures on anatomy. During the same time he gained a knowledge of materia medica and pharmacy by going daily to Messrs. Shuttleworth's, the druggists, in Leadenhall Street. In 1852 he was appointed dresser to Mr. Le Gros Clark, and established the close friendship which afterwards existed between them. He was apprenticed to Mr. Thomas Evans of Burwash, in Sussex. In the latter part of 1854 he obtained the diplomas of M.R.C.S. and L.S.A., and at the beginning of 1855 he was elected House-Surgeon for six months; at the expiry of this office he became Assistant Surgeon to the Seaman's Hospital ship *Dreadnought*. In 1859 he passed the examination for the F.R.C.S.

In 1860 he left the *Dreadnought*, and returned to his old hospital as Assistant Demonstrator of Anatomy and Surgical Registrar; he was also elected Surgeon to the Surrey Dispensary. Upon his appointment as Resident Assistant Surgeon in December, 1863, he resigned the last two posts. During his residence at the temporary hospital at the Surrey Gardens he gained a large experience, which resulted in his appointment as Assistant Surgeon on January 1st, 1871; six months later he was promoted to be Surgeon on the opening of the new hospital on the Albert Embankment. With the reorganization of the Medical School at this time he resigned the Demonstratorship of Anatomy and became Lecturer on Practical Surgery. In 1881 he vacated this to become Special Lecturer on Clinical Surgery, which post he held up to the date of expiry of his Surgeoncy in July, 1891. He was then elected Consulting Surgeon to and a Governor of the hospital. In the work of the Nightingale Home for Nurses he took a special interest, and for many years acted as one of their lecturers.

Outside St. Thomas's Mr. Croft acted as Surgeon to the National Truss Society and to the Magdalen Hospital; he was also Consulting Surgeon to the Royal Kent Dispensary, Kensington Dispensary, Miller Memorial Hospital, and the Hounslow Cottage Hospital. For many years he was Surgeon to the National Provident Assurance Society, only resigning this within the last few years, when his health began to fail.

At the Royal College of Surgeons he had been a member of Council, a Vice-President, and a member of the Court of Examiners. He had also acted as Examiner in Surgery at the Royal College of Physicians and in the University of Durham.

When the British Medical Association met at Nottingham in 1892 Mr. Croft was President of the Surgical Section.

Among many contributions to surgical literature the papers in the *Lancet*, 1878, and *Med. Chir. Trans.*, 1881, on immediate treatment of fractures of the leg by plaster-of-paris splints, perhaps stand first. Croft's splints are universally known, and their introduction effected a most radical progress in dealing with these injuries. A subject in which he was deeply interested was disease of the hip-joint; he advocated early excision, publishing a paper based on the results of 47 cases in the *Trans. Clin. Soc.*, 1880. Although at the present time a more conservative treatment might appeal to the majority, it must be remembered that then free drainage was demanded, and the result was a shortened convalescence, a reduced mortality, and many excellent cures at the expense of considerable shortening. Another very important paper on rupture of the intestine without external wound, based on a successful case of resection, appears in *Trans. Clin. Soc.*, vol. xxiii; this was one of the very first reported. Many other interesting papers are to be found in the *Transactions* of Societies, and in *St. Thomas's Hospital Reports*.

Convinced of the value of healthy exercise, Mr. Croft was for many years an enthusiastic golfer until cardiac irregularity and defective eyesight stopped his favourite pursuit.

To those who knew him intimately he was a most genial, kindly companion. Devoted to the interests and doings of St. Thomas's, he was always delighted in his last years to hear all the latest news and to discuss old times with his

former colleagues. He was most courteous and dignified, and had a stern sense of duty, which at times to the outsider might appear almost exacting. A man of strong religious convictions, he was always ready to ally himself with those working to remedy some social defect and to produce a higher ideal.

In 1864 he married Annie Douglas Douglas, the daughter of Alexander Douglas Douglas, Esq., who survives him, but he leaves no issue. We must express our deep sympathy with one who was his partner for so many years and who has made every interest for the good of the hospital especially her own.

The funeral service took place at St. Barnabas Church, Addison Road, on Saturday last, nearly all Mr. Croft's late colleagues and many old friends being present. The interment was at Kensal Green Cemetery.

CORRESPONDENCE.

THE OPERATIVE TREATMENT OF SIMPLE FRACTURES.

SIR,—For the last ten years I have frequently practised Mr. Arbuthnot Lane's method of treating simple fractures by operation when good functional result by non-operative means was not likely to be obtained.

In certain cases such as complicated fractures in the neighbourhood of the surgical neck of the humerus, end-to-end apposition of the fragments can only be obtained by means of operation; the future usefulness of the arm does not depend upon the reposition of the fragments to the normal line, but rather upon the restoration of the soft damaged tissues, and this is to be obtained by the simpler and more certain method of massage and mobilization introduced by Lucas-Championnière many years ago. Those who have had the experience of seeing Lucas-Championnière's patients at the end of his treatment will not risk the questionable desirability of operative interference with the bone in the proximity of the shoulder joint, in order to get a result which appeals mainly to the eye of students of skiagraphy; however, there are cases in other parts of the body in which the best functional results of a limb can only be obtained by operative treatment. In cases of fractures of the olecranon and of the patella one can get perfect bony union by careful suturing of the periosteum and fascia at the edges of the bone injury, and that without interference with the bone itself. When one deals with a broken bone where the fragments can be brought into the position of a scarf joint, Lane's screws give results which no other method of treatment can touch. I recorded an example of such case in Walsh's *Roentgen Rays in Medicine* in 1897. Mr. Lane's recent excellent lecture—published on November 18th in the BRITISH MEDICAL JOURNAL—reminded me of the remarkable development of the operative treatment of fractures which has been evolved by Dr. Lambotte of Antwerp, and as I had the privilege of seeing and examining several old cases which had been treated by him, and also of seeing some under treatment when I was on a visit to his clinic, I desire to draw attention to a method which struck me as being ingenious, bold, and daring, and founded upon sound mechanical principles.

The good old surgical rule of fixing the joint above and below the seat of fracture is absolutely ignored. Dr. Lambotte aims at end-to-end apposition in broken bones. The instruments he uses for bringing broken bones into a straight line are large and powerful, and the means by which he keeps them in that position are novel, and at present not well known. Dr. Lambotte's screw is certainly the mechanic's ideal *tria juncta in uno*—drill, reamer, and screw in one; the point acts as the drill, a small flattened bevelled shoulder acts as the reamer, then follows the screw with its head and the ordinary groove for the screwdriver; but an ordinary screwdriver is not used; in its place a simple mechanical device is fixed into a brace-bit which clutches the screw-head and groove. All one has to do is to attach the screw to the brace-bit and drive it home.

The splinting of the broken limb is entirely confined to the particular segment of the limb which is under treatment; the joints are quite free. The splint consists of a round steel bar to which are fixed the long special screws which act as the retention apparatus. A short report of one of the cases I saw will serve as an illustration of Dr. Lambotte's method of treatment. Skiagraphs showing the broken bone before, during, and after treatment were shown me.

A Case of Simple Fracture of the Femur in Two Places.

A man aged about 30 fractured his thigh about two and a-half years ago. The first skiagraph showed fracture (1) immediately below the trochanter minor with the usual flexion displacement of the upper fragment; (2) a fracture at junction of middle and lower third of femur, with marked displacement.

An incision had been made on the outside of the thigh, and extended from the great trochanter to the outer tuberosity of the femur—practically the whole length of the thigh. The special screws which are attached by a collar to the steel bar splint were inserted—one into the great trochanter and the other into the outer tuberosity of the femur. The upper and the lower fractures were then fixed in the normal line of the femur by more screws, and the steel bar passed through the collar attachment of the various screws and fixed by suitable adjustments. The incision closed except where the screws projected. The dressing was applied between the steel bar and the skin. The result was all that the patient desired, and the skiagraph showed a straight femur.

Dr. Lambotte has not had any special difficulty in making his cases run an aseptic course, although the screws which are fixed by the steel bar outside are left in the bone for three to six weeks and then removed.

I cannot help thinking that Mr. Lane magnifies the risk of sepsis in dealing with the operative treatment of fractures. Those who have not yet had experience in the operative treatment of simple fractures would feel somewhat timid in attacking such injuries after reading Mr. Lane's article. Mr. Lane's dread of manipulating the interior of wounds by either fingers or instruments which have touched skin is shared by most surgeons, and I believe that other methods of dealing with these particular operations have yielded results equal to those achieved by Mr. Lane.—I am, etc.,

Cardiff, Nov. 27th. J. LYNN THOMAS.

SIR,—In the article on this subject in the BRITISH MEDICAL JOURNAL of November 18th Mr. Arbuthnot Lane makes use of the following expression: "Which I have systematically employed and with uninterrupted success."

Might I suggest to Mr. Lane that your readers would be glad if he would be a little more explicit as to what he means by the phrases "systematically employed" and "uninterrupted success." Personally I confess to a doubt that I may put a wrong construction upon his meaning.

Does he intend it to be inferred that he advocates and adopts wiring or screwing together of every case of simple fracture? If so, I venture to think he is mistaken in supposing that "the violent opposition to this method of mine has now completely died away." I believe it is recognized by every surgeon that certain cases of simple fracture, in which it is impossible to correct the displacement, are cases suitable for wiring or screwing, but to advocate this treatment as a routine measure is quite another matter, and is likely to lead to very disastrous results if there is the least failure in the elaborate operative technique adopted by Mr. Lane.

What does Mr. Lane mean by "uninterrupted success?" Does he intend it to be understood that during the 13 years that he has systematically employed this treatment he has had complete immunity from suppuration in all his operations upon simple fractures, and has consequently been entirely free from such awkward complications as necrosis of fragments, persisting sinuses (necessitating the removal of the wire or screw), want of union as the result of suppuration, or even—I dread to use the word—pyaemia; if so, Mr. Lane is indeed to be congratulated on his uninterrupted success, which doubtless leads him to speak so enthusiastically upon the subject. If, on the other hand, he has met with any of the slight (?) reverses mentioned above, I am sure the profession will be glad to hear of them, so that they may form a balanced opinion before advising patients to take the risks inherent in this treatment.—I am, etc.,

London, W., Nov. 24th. DOUGLAS DREW.

DR. THOMAS YOUNG.

SIR,—In his most interesting account of Sir Hans Sloane in your issue of November 18th, Professor Byers refers to another illustrious member of the profession in terms that are hardly consonant with the great position held by him in his lifetime, nor with the view of those now living who are capable of judging of his attainments. I refer to Dr. Thomas Young. Professor Byers speaks of him as

A medical doctor who, after practising in Norwich, came to reside in London, and who helped Champollion in the first deciphering of the Egyptian letters.

One would hardly gather from this account that we are dealing with the discoverer of the undulating theory of light,

and with the man who made the first successful attempts at solving the problem of Egyptian hieroglyphics; not as an assistant to Champollion, but quite independently of the great Frenchman.

The *Encyclopaedia Britannica*, in its article on Young, speaks of him as

> One of the most remarkable figures, alike in literature and science, in the beginning of the nineteenth century in Great Britain.

At the age of 14 he was versed in Greek, Latin, French, Italian, Hebrew, Persian, and Arabic. In 1802, at the age of 29, he was appointed Professor of Natural Philosophy at the Royal Institution as a colleague of Sir Humphry Davy, and before this he had completed the researches which established the undulating theory of light. For more than a quarter of a century he was Foreign Secretary to the Royal Society.

When the Rosetta stone, now in the British Museum, was taken from the French by the British army about the year 1801 and brought to London, Young was asked to make a translation of it. As is well known, the inscription is written in three languages—Greek, Hieroglyphic, and Demotic. Up to that time nothing whatever was known of the last two languages, and Young attacked the problem of their interpretation, taking the Greek text as his guide. For many years he worked at it, and it was not until 1821 that he published the full report of his results. Meantime, Champollion was also, but independently, working at the same problem and on the same basis—namely, that of the Rosetta stone, and he published his results in 1822. There thus arose a great storm as to the relative priority and as to the relative importance of the work of Young and Champollion, much in the same way as a storm arose as to the priority of discovery of the planet Neptune by Adams and Leverrier. In this matter we may, I think, safely take the evidence of Dr. Budge, who says:

> There appears to be no doubt that Champollion was greatly helped by the publications and labours of Young, who had succeeded in grouping certain words in Demotic, and in assigning accurate value to some of the Hieroglyphic characters used in writing the names of the Greek rulers of Egypt.

The fact is that, as is so often the case, a great discovery was led up to by the work of several men. But that Young was the pioneer in the work can scarcely be denied when it is considered that Champollion was only born in 1790, and was therefore only a child when Young began his researches.

Young died in 1829 and was buried in Edinburgh, a medallion being placed to his memory in Westminster Abbey.

Young studied medicine, in common with many other subjects, at many universities, British and foreign. He took the degree of M.D. at Cambridge, but being of independent fortune, he never laid himself out for private practice. Nevertheless, he did a certain amount of this, and I remember many years ago an aged relative of mine telling me that Dr. Young had attended a sister of his; that he had once had occasion to fetch him in the night, and that he had a vivid recollection of the remarkable conversation with which Dr. Young had regaled him during a four or five miles' drive in the darkness.

Young's life was written by Dr. Peacock, Dean of Ely. Peacock, who was a profound mathematician, and Lowndean, Professor of Astronomy at Cambridge, was well calculated to appreciate Young's immortal work on light, and his life of Young, though a book now rarely seen, is one of great interest.

I must apologize for writing at such length, but Young's history is I think of equal importance with that of Sloane, and certainly sheds an equal lustre on the profession to which they both belonged.—I am, etc.,

Nice, Nov. 25th. W. ALLEN STURGE.

UP-TO-DATE SURGERY AND THE TREATMENT OF CANCER.

SIR,—The letters lately appearing in the BRITISH MEDICAL JOURNAL under this heading open up very important points as to whether it is better to try, wait, and think, as advocated by Mr. Power, or to act according to Mr. Lovell Drage's opinions.

For my part, I hold that the results of treatment, whether good or otherwise, should be published early. My method in dealing with cancer is to have the site of disease, where practicable, photographed before commencing treatment, and, where specimens are available, to have the opinion of two recognized microscopical authorities as to the nature of the case, and to submit the patient before, during, and after treatment to the members of a medico-chirurgical society. By so doing, the doubts as to diagnosis are reduced to a minimum in some cases, and quite eliminated in others; therefore I cannot agree with Mr. Power that no genuine case of scirrhus or epithelioma has ever had its course modified, or whose growth has been hindered, by methods of treatment other than the knife. I have treated dozens of cases of rodent ulcer by *x* rays, radium, Finsen lamp, and ultra-violet rays, and the majority of them have now remained cures for over a period of three years.

In numerous cases of scirrhus and epithelioma which I have treated by methods other than the knife there has been modification of the growth, not certainly always beneficial, yet in the majority there has been relief of pain, lessening of discharge, and prolongation of life, while a few have up to now remained to all appearances clinical cures. I may briefly mention three:

1. Mrs. H. in March, 1903, requested me to remove a tumour the size of a hen's egg from the outer side of the breast. Four months previously she had received a blow on the site of the tumour. As I did not suspect malignancy, I simply shelled the tumour out, but on submitting specimens to two different authorities for microscopic examination it was found to be scirrhus. That being so it was decided to remove more of the breast and any glands that might be found, but as the patient refused any further operation she was thoroughly treated with *x* rays, and up to the present date there has been no recurrence of the growth.

2. A. M., aged 50, had cancer of right side of tongue and floor of mouth, with indurated, enlarged glands on one side of the neck. The diagnosis was confirmed clinically by about thirty medical men at a society meeting, and microscopically by two authorities. The growths in the mouth were treated by *x* rays and radium, and the glands by *x* rays alone. All the growth and enlargement of glands disappeared and remained away for several months, when a slight recurrence in the scar on the tongue showed itself. This, however, after a few weeks' further treatment, disappeared, and there has been no further recurrence fifteen months after the second treatment.

3. A lady was put under *x*-ray treatment two years ago for inoperable scirrhus. She had been operated on eight months previously. Injections of cinnamate of soda, together with radium bromide, were added to the *x*-ray treatment. Owing to the growth breaking down, specimens were obtained and the malignancy verified by two microscopic authorities. She was inspected by the members of the medical society already referred to during treatment; after treatment they also examined the patient and could find no trace of the growth. A year has now elapsed since then and there is no recurrence, although in the axilla of the opposite side there are glandular enlargements.

These few cases out of many others will suffice to show why I side with Mr. Lovell Drage.—I am, etc.,

West Hartlepool, Nov. 22nd. HAROLD E. GAMLEN, M.B.

A PLEA FOR THE INVESTIGATION OF CATARRH.

SIR,—May I be permitted to remark that the bacteriological investigation of "cold in the head," coryza, catarrh, or, as this scourge is more frequently called nowadays, influenza, has not been quite so much neglected as some of your correspondents seem to imagine? It is, moreover, now clear—and I can state this from personal experience—that in cases of this type, cases that clinically seem to offer little ground for differentiation, the bacteriologist can already discern a number of different infections.

First and foremost of these is the classical influenza that was prevalent in Berlin during January, 1892, and was there investigated by R. Pfeiffer, with the result that the sputum of patients infected with the disease was found to present in enormous numbers the very definite though minute microorganism which he termed *B. influenzae*. Confirmation of this discovery of Pfeiffer's was soon forthcoming from all quarters, and for a time it looked as if the influenza microbe was at last identified, and a bacteriological test found by which that infection could be differentiated. Those who are interested in obtaining further particulars of *B. influenzae* and its association with influenza will find Beck's article in Kolle and Wassermann's *Pathogenen Microorganismen*, Band iii, 1903, pp. 359 407, well worthy of perusal.

It soon appeared, however, that in the matter of influenza-like diseases the resources of Nature were by no means exhausted with the bacillus of Pfeiffer. In 1890 Kirchner cultivated from 10 cases of a disease of the influenza type a

Gram-negative coccus which had been previously noticed by Seifert in sections of the lung in cases of influenza. This coccus was next found by R. Pfeiffer in enormous numbers in the sputum of some mild cases of febrile bronchitis, and he named it *Micrococcus catarrhalis*. An interesting feature with regard to this micro-organism was that it was apt to be markedly intracellular in the sputum: a point that recalls the mode of occurrence in urethral pus of that allied but quite distinct Gram-negative coccus, the gonococcus. Since *Micrococcus catarrhalis* was named by R. Pfeiffer it has been detected in cases of the influenzal category not only in Germany and France, but also in America. In some cases *Micrococcus catarrhalis* is found together with *B. influenzae*, but in others Pfeiffer's bacillus appears to be absent. In an epidemic of so-called influenza in Paris last winter *Micrococcus catarrhalis* was the chief micro-organism found in the sputum by Bezancon and de Jong, whereas Pfeiffer's bacillus was not found.

Now, Sir, I must apologize for going into these details, because the British Medical Journal of August 26th of the present year contained a paper on this very subject by Dr. R. A. Dunn, M.O.H. of the East Herts combined district, and myself. Dr. Dunn observed during the early months of the present year an epidemic in his district of a disease generally of the influenzal type, but presenting in some cases symptoms of cerebro-spinal meningitis, while in others a rash appeared which in most cases was scarlatinal in character. Dr. Dunn asked me to co-operate with him in the investigation of this disease and the result of our joint efforts was the paper to which I refer. The uniform feature of the epidemic was the presence of *M. catarrhalis*, and in some cases examined at the height of the attack this micro-organism was present in the nasal mucus in such enormous numbers that the microscopical appearance of the mucus in question resembled an artificial culture of *M. catarrhalis*. I may add that both Dr. Dunn and Dr. Francis Fremantle, M.O.H. of the county of Herts, are at the present time taking active measures with a view to preventing as far as possible further epidemics of this disease.

But as the influenzal resources of Nature are not exhausted with Pfeiffer's bacillus, so also the chapter does not end with *M. catarrhalis*. Some years ago Dr. Edmund Cautley reported to the Local Government Board on the subject of the bacteriology of coryza, and he pointed out the occurrence in the nasal mucus in "influenzal colds" of a segmented bacillus of the xerosis category, which he aptly named *B. coryzae segmentosus*. I have frequently examined the nasal discharge in cases of coryza and found this micro-organism to be present. It is often associated with Hoffmann's bacillus, but both Pfeiffer's bacillus and *M. catarrhalis* may be absent in such cases.

I hope that I have said enough to show that the subject in question is not being neglected by the bacteriologists. It is true that we have still much to learn bacteriologically, as well as clinically, about the different infections in question and their direct and indirect results, but I venture to think that progress would be much more rapid and sure if the physician would utilize the resources of bacteriology already available, and co-operate more towards our common end. I am, etc.,

London, S.E., Nov. 25th. M. H. Gordon.

Sir,—The letters on this subject which appeared in the British Medical Journal of November 18th and 25th have raised points of much interest, both from a practical and scientific standpoint. In all probability most practitioners will agree with Drs. Hardman and Foster Palmer in thinking that we know no more of the causes, treatment, and prevention of catarrh than was known thirty-five years ago. As Dr. Hardman points out, it is surprising that a disease of so great importance has been entirely neglected by scientific investigators. May I briefly refer to some recent work which has a direct bearing on this subject.

In a paper in the *Lancet* of February 11th, 1905, on The Rôle of an Excessive Meat Diet in the Induction of Gout, I showed that a diet containing an excessive amount of animal proteid produced marked alterations in the structure of the thyroid gland. One of the most striking changes was in the secretion, which assumed the characters of a thin mucinoid secretion instead of the typical colloid characteristic of the normal gland. This modification in the character of the thyroid secretion was frequently associated with catarrh, as shown by the marked indications of increased activity of the glands and other structures in the mucous membrane of the trachea.

These facts indicated the importance of reinvestigating the subject on an enlarged scale, one object of the extended research being the determination of the relationship of diet to those structural changes in a mucous membrane which collectively constitute catarrh. This investigation is in progress, and its results will be published in due course.

My object in writing, however, has special reference to the practical points raised in your correspondent's letters. In our researches we have found that a catarrh of the respiratory tract may readily be induced by different diets—namely, one containing an excess of carbohydrates (rice) or an excess of animal proteid (oxflesh or horseflesh). This result merely confirms and further establishes two facts of clinical medicine: (1) The great tendency to nasal and bronchial catarrh met with in children whose diet contains an excess of starchy foods, and (2) the frequency with which a similar catarrh in later life is associated with the use of a diet which contains an excess of animal proteids. The first of these is probably universally regarded as established; the second is less generally recognized, although in importance it ranks with the other. I have paid particular attention to this point for some years, and have frequently found that a modification of diet, and more particularly a reduction in the total amount of animal proteid, has been followed by a very marked improvement, as shown in a diminished frequency and severity of the attacks of catarrh. Prolonged observation is of course essential for arriving at any just estimate of the influence of a charge of regimen in these cases. In this direction the careful observations of general practitioners can be of the greatest service.

In framing a dietary suitable for these cases much assistance will be derived from a perusal of the results of the recent valuable researches of Chittenden given in his work on the *Physiological Economy in Nutrition*. This investigator has clearly shown the necessity of materially modifying the views on diet requirements in health that are given in old and recent standard works on diet. As the results of his researches are not yet included in those textbooks, it is important that the attention of practitioners should be directed to the original work.—I am, etc.,

Edinburgh, Nov. 25th. Chalmers Watson.

Sir,—In the British Medical Journal of November 25th, p. 1428, Mr. Sheffield Neave mentions a treatment of the first symptoms of catarrh. For ten years or more I have used for the same purpose a saturated solution of camphor in sp. vini, applied by placing a small quantity on the ball of the thumb, and applying to the openings and inhaling through the nostrils. The spirit evaporates rapidly, and leaves a fine precipitate, and to this I attribute an inhibitory action. I consider it effective only with the first symptoms—sneezing, coryza, slight congestion; but am under the conviction that by its use I have on many occasions cut short in a few hours what would otherwise have been typical attacks, lasting several days. Kept in a corked phial in solution, the camphor loses little of its volatile properties. I have applied it frequently (hourly) and at bedtime.

So far it is but a *post hoc* argument, almost wholly empirical, its only basis of reason the generally accepted fact of aërial communicability, which points to the mucous membrane of the parts as the place of infection.—I am, etc.,

November 27th. W. H. B.

Sir,—A common cold in the head is not, as a rule, a serious matter, but it is so unpleasant, and causes so much inconvenience, that any simple and easily-applied means of stopping it is worthy of attention. Believing it to be due to bacillary infection, it occurred to me that it might be worth while to try spraying the nostrils with carbolic solution, and I was pleased to find that in every case this almost at once put a stop to all unpleasant symptoms. The solution I use is 1 to 40 of water, with a little glycerine.—I am, etc.,

Crieff, Nov. 27th. Philip G. Borrowman, M.D.

Sir,—I had an interesting experience in India some ten years ago. I happened to be in a native doongha in a large river the day after a flood, when the river was very dirty, and being thirsty I helped myself to some of the river water. My attendants in the boat warned me that I should suffer from a cold in the head if I drank the flood water. I, however, disregarded their admonition, and had a large draught of the turbid water. Two days later I had a severe coryza, an

affection to which I was not liable. The infection in this case must have been through the alimentary tract, probably the stomach or intestines.—I am, etc.,

London, Nov. 28th. S. ZOBEL, M.B.

AN AID TO PROGNOSIS IN TYPHOID FEVER.

SIR,—Probably most medical men who have typhoid-fever wards, and see cases of that disease in the mass, rely at times on the output of urine as a point in prognosis. It is, however, a long step from this position to the one outlined by Dr. Simon in his brief but interesting note in the BRITISH MEDICAL JOURNAL of November 18th. Referring to observations made by him over a period of nine years, he writes:

It was found that polyuria occurred not only in every case that was doing well, but also in many cases of great severity in which no general improvement or amelioration of symptoms could be observed. It was found that even in severe cases, if polyuria occurred, the patients all recovered.

The outlook in typhoid fever is so uncertain that, if this remarkable finding holds after the further examination for which Dr. Simon asks, there will be good reason to be grateful. And even if the free excretion of urine as an aid to prognosis should still prove subject to far greater qualification than appears from his particular series, something will be gained in the clearer definition of its relative value.

It seems to me a pity that a matter of practical interest to the great body of clinicians should have been dealt with in a bare note. From its very compression it is vague at one or two points, and inevitably raises pertinent questions that are left without answer. What, for example, of the protean forms, erratic course, widely varying duration, and numerous complications of typhoid fever? Is it not difficult to conceive the diverse factors that may make for death in so complex a disease all linked up with the discharge of urine in such a way that they rarely become effective unless the output is small? This was a matter for analysis within the series prior to outside criticism and comparison. Again, there is the question of accurately measuring the urine. Is this not least often possible in the cases which are most likely to give anxiety, and are not mere estimates, as against measurements, often very unreliable even when they are made by a nurse expert in the work?

Some of the following conclusions, based on the measurement of the urine in 10 cases of typhoid fever at Plaistow Hospital would, if representative, lessen the utility of Dr. Simon's sign. The daily amount of fluid given to the patients averaged from 3 to 3½ pints.

1. In the average case that ends in recovery the urine is more or less scanty in the earlier part of the developed stage.
2. The increase which subsequently occurs does not in the majority of cases reach 60 oz. within the febrile period.
3. The increase is usually gradual.
4. It may appear midway in the developed stage, but is more likely to occur towards the end of it, during defervescence, or in convalescence.
5. Wide fluctuations are not rare.
6. The course of a case may be quite favourable although the output remains well below the average throughout the developed stage.
7. A patient may die although the output is free, approaching 100 oz. in the twenty-four hours.—I am, etc.,

London, W., Nov. 23rd. JOHN BIERNACKI.

THE EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS BY THE ROENTGEN RAYS.

SIR,—With regard to the statement made by Dr. Theodore Williams at the recent Tuberculosis Congress, and quoted in a recent correspondence on the subject in these columns, that there is a number of cases of early pulmonary tuberculosis where physical signs detect lesions undetected by the Roentgen rays, I should be glad to know on what grounds this assertion is based, since at present one is loth to accept the statement as proven, seeing that it is opposed to the experience of, at any rate, the great majority of workers in this special branch of investigation.

Dr. Stanley Green's letter I read with much interest, and I fully endorse his remarks. In a paper published in the *Lancet* of June 27th, 1903, as a result of many careful observations, I formulated three conclusions. One of these was:

That unilateral limitation of diaphragmatic movement, as seen by means of the fluoroscope, is often the earliest indication of commencing pulmonary tuberculosis.

Up to the present I have seen no reason to change the opinion which I then expressed. With reference to "nervousness and surface chill" causing unilateral diaphragmatic limitation, I can only say that in some hundreds of cases I have never seen this happen.

In the two lungs the difference in degree of transradiancy depends upon the varying content of air and blood in the thorax, and the "difference in degree of illumination on deep breathing," and the other sign, "difference in luminosity at the apices"—which latter is really only a part of the general difference in transradiancy—are not "earlier than," but synchronous with and directly dependent upon the descent of the diaphragm, causing influx of air and efflux of blood. The reasons that the affected side does not "light up" as readily are, first, because the diaphragm on the affected side moves badly; secondly, because the sound side often appears comparatively more transradiant on account of compensatory hypertrophy owing to the diseased lung being to some extent put out of action; and thirdly, later in the disease because of the infiltration of the lung tissue.—I am, etc.,

London, W., Nov. 22nd. J. F. HALLS DALLY.

OBSTETRIC EMERGENCIES AND THE DOCTOR'S FEE.

SIR,—An "emergency" is an emergency whether it be medical, surgical, or obstetrical, and I think that, in common humanity, we should and do go to all or any if the need arises. If the patient is an actual or potential pauper, we need not continue our attendance after the "emergency" has been tided over, but can refer the case to the Poor-law authorities.

It is not the patient who would pay but who cannot that we mind seeing; it is the patient who can pay but who won't who makes the long-suffering medico querulous. And my experience is that it is of no use pressing the second class, either by collector or by county-court. There is only one remedy. Don't attend them, except, of course, in "emergencies." There are plenty of people who can afford moderate fees who are ready and willing to be attended by us till the crack of doom, if need be, so long as they do not pay, and so long as they can, therefore, make other use of the money that should pay us—for example, by spending it on fine clothes, drink, or pleasure. These people frequently are heavily in debt to small local tradesmen. They are interesting from a sociological point of view, but they are no use as patients.

There is yet another aspect of the question. Attendance on "obstetrical emergencies" may be viewed in the light of post-graduate work. All knowledge is ultimately utilitarian, and I venture to think that a knowledge of obstetrical emergencies gained by practical experience is speedily and markedly so.

We could afford to be far more charitable if a good many of our patients were honest. What we want is some system of combination whereby those who impose on us to further their own pleasures shall be brought to reason.

The State cannot make people honest by Act of Parliament. I quite agree with Dr. Maidlow that it is not dignified for us to dun public bodies for private debts owing to us. I repeat—what we want is combination for mutual assistance and protection.—I am, etc.,

Upham, Hants, Nov. 21st. JAMES C. HOYLE.

SIR,—I admire Dr. Maidlow's sentiments, and am sorry I cannot act up to them; but if I did so I should soon become a pauper myself. I have held a large Poor-law district for more than 30 years, and soon after the Midwives Act came into operation I was sent for by a district nurse to a difficult forceps case with complications, four miles from home. The people had no money, and were heavily in debt, so I wrote to the head of the nursing institute asking for my fee. She replied, "very sorry, but had no fund from which, etc." I then applied to the guardians, but they declined any responsibility. I then wrote to the guardians and to the head of the nursing institute, to the effect that I should for the future refuse to attend any case for which I had not been previously engaged unless the messenger brought either £2 or a parish order, and that the responsibility and any scandal would rest on them and not on me. I have had no trouble since. A relieving officer, or even an overseer, is bound to give an order, on loan if he thinks fit, in any case of sudden and urgent necessity. The public will respect us if we are independent not otherwise.—I am, etc.,

November 20th J. G. C.

INDIA AND THE COLONIES.

MALTA.

The report of the Deputy-Governor, Sir W. F. Kelly, on the island of Malta and its dependencies is rather more lengthy than usual. The total population on April 1st last was estimated at 202,134, an increase of over 5,000 in the course of the twelve months preceding. The birth-rate rose to 40.45 per mille, but the death-rate was also slightly higher at 25.40. In the urban areas it did not rise above 26.42, so that the general state of public health may be described as good. Under the existing law all medical practitioners are bound to report any case of the following diseases: Small-pox, scarlet fever, diphtheria, enteric, measles, puerperal, continued, and Mediterranean fevers, erysipelas, chicken-pox, influenza, whooping-cough, and pneumonia. Though they are liable to a fine for not doing so, Sir W. Kelly thinks that this law is honoured rather in the breach than the observance, and states that it is contemplated to adopt the system of paying a fee for every case reported. Among the zymotics Mediterranean fever and enteric stand at the head of the list as far as regards mortality. The report of the Royal Society's Commission on the first-mentioned disease, it will be remembered, was published last March, and a following report somewhat later, and it is unnecessary here to allude to the results obtained, or to the discoveries that have since been made. The number of cases occurring during the twelvemonth under consideration was 1,110, and of these 104 proved fatal. This figure was 358 in excess of that of the previous year, but the case-mortality remained about the same. Of the civil population 663 were attacked, while 447 cases occurred in the army and navy. Almost exactly half the number of cases were registered during the four months following July 1st, the average number of cases in these months being 134 as against 69 in the other eight months of the year. It is stated that there is good reason to believe that a considerable number of cases are not reported, while others are incorrectly diagnosed. Of enteric 207 cases were reported, with the high mortality of 68. The large majority occurred in the autumn months, which is the period of the heaviest rainfall, so that the prevalence of the disease at that season may be due to surface pollution being carried into the water tanks. In the year under review there was an exceptionally heavy rainfall, and the cases were nearly twice as many as in the preceding year. An instructive incident occurred in the month of August, when a number of cases of fever of an unusual type appeared in the neighbourhood of the Imtarfa barracks. An examination of the patients' blood revealed that they were suffering from intermittent fever of tertian type. There were several men in the barracks who had contracted malaria abroad, and *Anopheles* mosquitos were found in a swamp close to where the outbreak occurred. On the place being drained, the disease ceased to spread.

Considerable progress was made during the year with the works now being carried out under the general drainage scheme. In the undrained villages, it appears, the people are in the habit of throwing the sewage into the streets in order to avoid the expense of emptying cesspools. The infant mortality is very high. One of the appendices gives the cost per head of persons treated in the various hospitals and asylums, and the differences are rather striking. The patients at the Central Hospital, which has on the average 176 inmates, cost 3s. 3d. per head per diem. At the lunatic asylum, with an average of 664, the cost is 11d. According to the returns, there are 80 inmates of the asylum for lepers, and this, it may be assumed, is the sum total of the sufferers from this malady in the islands.

MEDICO-LEGAL AND MEDICO-ETHICAL.

SUPERSESSION.

QUAERO writes: X. is away on his holiday and Y. is called in because patient Z. does not like X.'s *locum tenens*. The Z. family have been patients of X.'s for ten years. Y. writes on X.'s return that the Z family are old patients of his, and as they did not wish for a consultation he has reluctantly gone on with the case. Is this in accordance with medical etiquette?

*** If a medical practitioner is away from home and a patient, not caring to see his *locum tenens*, consults a neighbouring practitioner, the latter is free to continue the case to the end. It is more conducive however, to friendly relations if, on the return of the usual medical attendant, he offers to resign the case: if this suggestion is not accepted he should state that he considers that he is acting as a substitute for his colleague by whose absence he has profited. This must, however, depend upon the mutual relations between the practitioners.

NOTICES TO PATIENTS ON DISSOLUTION OF PARTNERSHIP.

H. F. G. S. T. states that he is a member of a firm consisting of three partners, and that by mutual agreement he is going to leave the firm and carry on practice from his present residence. He wishes to know whether the announcement of the dissolution of partnership should be sent out in the form of a letter from the present firm, or whether separate letters should be sent? The old firm is taking in a new partner, and our correspondent does not want his announcement "to be complicated by the addition of the new man's name," yet he understands that the firm will desire to announce it. He also wishes to know whether, being an M.B., Ch.B. of Victoria University, he may put "Dr." before his name.

*** (1) The letter announcing the dissolution of partnership and the arrangement made by which our correspondent will remain in his present house and continue his practice, and the newcomer will join the firm, should all appear in one letter which should be signed by all the members of the present firm, and be sent out only to bona-fide patients. There should be no further attempt to advertise any individual or to canvass for the patients. (2) It is very generally allowed that a Bachelor of Medicine may put "Dr." before his name.

THE TITLE OF DOCTOR.

MEMBER B.M.A. writes: Would you kindly assist me by giving me answers to the following? A person holds L.R.C.P.Edin. 1880 and L.S.A.Lond. 1889. (1) Can he have Dr. So-and-So on his doorplate? (2) Can he style himself Dr. So and-So on his visiting cards? (3) Can any legal proceedings be taken against him for doing either (1) or (2)? (4) What is the proper title for his doorplate to give the public information that he is a doctor? (5) What would be correct for his visiting card?

*** There is no law to prevent a registered medical practitioner calling himself "Dr." either upon his plate or his visiting cards, but the right to do so is very much disputed, although a certain proportion of those who do not possess university degrees claim the right to give themselves this title. The Medical Acts Amendment Bill of the British Medical Association contains a clause to the following effect: "13. (3) A registered medical practitioner may use the style of doctor as a prefix to his name." The style of the doorplate is a matter of taste, and our correspondent must choose whether he will put his qualifications or the words "Surgeon" or "Physician" or both.

MEDICAL FRATERNITY.

APPENDIX writes: Dr. R. started practice in a large town some years ago. He has recently undergone an operation for appendicitis. One of his neighbours, Dr. C., drew up a letter conveying to Dr. R. the sincere sympathy of the neighbouring practitioners and their earnest hope for a speedy recovery; it also stated that each one of them would be most happy to attend any of his patients and hand them over on his recovery. This was signed most willingly by all the men in Dr. R.'s immediate neighbourhood, except one who was of the opinion that Dr. C. had committed a great breach of professional etiquette, and that the letter was an insult to professional honour. The letter has been a great source of comfort to Dr. R. Dr. C. would like to know if he has committed an error of judgement.

*** Medical etiquette has been well defined as the application to professional relations of the golden rule that we should do unto others as we would they should do unto us. If we understand the facts aright, Dr. C. merely endeavoured to carry out in its true spirit this noblest rule of professional conduct.

BAD DEBTS.

SOLUBLE writes that in the sale of a partnership a small amount is to be deducted for bad debts, as the purchase money is to be based on the average earnings for the last three years. He wishes to know: (1) If there is any usual percentage upon which bad debts may be calculated (2) How long may an account be overdue before being considered a bad debt? (3) How may a bad debt be generally defined for this purpose

*** (1) The percentage of bad debts likely to occur in a practice can be estimated only by ascertaining the actual amount of the same in a given number of years, and striking an average. (2) This would depend entirely on the knowledge of the character of the debtor possessed by the practitioner. In some cases in a very short time he might know the debt was hopeless: in other cases six years might have to elapse before the debt would become irrecoverable. (3) A bad debt can only be defined as a debt which is extremely unlikely to be paid and practically valueless. It is very unusual to calculate the value of a practice or a partnership on the average *earnings*. The *gross receipts* are nearly always made the basis of the calculation.

THE DOORPLATE AGAIN.

NOMAD asks if the name-plate as below would be in strict accordance with medical ethics?

Dr. ————,
Diseases of the Skin. 2 to 4 p.m.

*** It is not thought becoming in this country to put the speciality practised upon the doorplate. An American correspondent wrote from New York with reference to a similar answer published in the BRITISH MEDICAL JOURNAL some years ago, to say that he had never seen such a doorplate in that country, belonging to any one who was not a quack—that is, one not recognized by those of regular professional standing.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 2, Agar Street, Strand, W.C., London; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

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CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

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☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

THE PRACTICAL LIVES OF THE BLIND.

DR. GEORGE M. GOULD, 1722, Walnut Street, Philadelphia, will be grateful for any trustworthy information as to the methods which have been devised by the blind in overcoming their disability, or in gaining a livelihood. Accounts of such lives, anecdotes, references to literature, etc., will be appreciated.

TEMPORARY COTTAGE HOSPITALS.

H. M. H. asks if there is any legal difficulty in temporarily converting a house into a hospital without registering it as such, either from sanitary or local authorities?

*** We believe there is no legal difficulty in such a temporary arrangement to meet emergency—provided the sanitary authority approve. We know of various instances where such temporary cottage hospitals have served a useful purpose. R. M. H. might consult *Cottage Hospitals*, by Sir Henry Burdett, K.C.B. (Third Edition. London: Scientific Press. 1896. (10s. 6d.)

ANSWERS.

MOTOR FOR PROFESSIONAL USE.

VIATOR writes: In answer to your correspondent "Jacobus" (BRITISH MEDICAL JOURNAL, November 18th), I may say that during the last eighteen months I have had a 6 h.p. De Dion car in constant use in my my practice, and have now driven it nearly 5,000 miles. I have found the car absolutely reliable. Only once have I had an involuntary stop, and this was merely due to a broken trembler, which I replaced in a few minutes. On another occasion I found the silencer had worked a little loose, and it cost 2s. having this put right. Beyond this nothing has ever gone wrong. My expenses on repairs and renewals up till now (not counting tires) are as follows:

	£	s.	d.
2 New Dry Batteries	2	0	0
2 Sparking Plugs	0	5	6
1 Trembler	0	2	6
Minor repairs and renewals	0	5	0
	£1	0	

I think these are all the necessary expenses I have incurred, but twice I have had the car varnished to protect the paint, with the result that it now looks as smart as on the day I bought it. Varnishing costs about £1. On tires I have spent about £15. The management of the car is very easily learned. I had no previous experience of motor cars, but soon understood how to do everything that was necessary. Once a week I clean and adjust the electrical parts. This takes about ten minutes. My former coachman fills the tanks, cleans, and lubricates. Nothing else is required. The car nearly always starts with the first turn of the handle, but this may be due to the fact that when I bought it I paid 30s. extra to have an auto-trembler fitted. This facilitates starting. My only objection to the car is that it is rather noisy. If he wants a more silent car he should get one with two or more cylinders.

DR. THOS. A. WATSON (Sunderland) writes: In reply to "Jacobus'" query re motors for professional use, I have used, for over two years, a 9 h.p. Beaufort with satisfaction. The advantages of this car are that it has magneto ignition, and there is no need to bother with accumulators. In a hilly district it averages 15 to 18 miles an hour, and uses a gallon of petrol for every 20 to 25 miles. I have tried Sirdar solid tires, which were not bad for a month or two, and gave freedom from punctures, but they became very hard and dead, and unpleasant, and it was a great relief to return to pneumatic tires. The cost of upkeep depends on the method of getting repairs done. If the car is sent to a certain class of repairer, one may find a good deal of skill shown in producing an inordinately large bill, but very little skill in the work done. If, on the other hand, you get the parts from the maker, and get your chauffeur to replace them, the expense of upkeep will be comparatively trifling. The disadvantages of the car are: (1) that it was difficult to start in cold weather (this was remedied by adding a transport battery and a coil, at a cost of £5), and (2) that the power is rather low. It will take all hills, but not at a fast pace.

DR. OTHO R. TRAVERS (St. Leonards-on-Sea) writes: In answer to "Jacobus," I have been using a 6 h.p. Wolseley since January 26th last, driving it seven days a week, also to Dumfriesshire and back. The only fault I have to find with it is the inconvenience of getting at the exhaust valve; but with my car the valves do not often require grinding in. If "Jacobus" lives within reach of me, I shall be very pleased to let him have a run on my car. If not, let me strongly advise him to begin his motoring with a single cylinder car, and he cannot do better than a Wolseley for an English car or a De Dion for a French one. There are some cars which I would like to warn him against; but those things are best said, not written.

TREATMENT OF CORNS.

J. E. P. writes: Let "Discomfort" apply a pencil-shaped piece of potassa fusa cum calce to the corn, which will speedily reduce it. The caustic is not to be wet, and the foot should be poulticed the same night. A second application is rarely necessary. I have cured myself after much suffering.

DUMBNESS.

D.—From the history of the case there is probably some defective cerebral development, especially as an elder brother is dumb and paralysed in the lower limbs. The question whether improvement may be expected in such cases depends upon the degree of cerebral defect; if severe, the power of articulate speech is very rarely obtained, but even if moderate articulation is often delayed four to six years after the normal. Such children are always better placed in an institution with other children, and about 4 years of age is the best time for that. The curing of the harelip would facilitate rather than hinder the acquisition of the lip language, and the sooner the cure is effected the better.

SERUM TREATMENT AND DIPHTHERIA MORTALITY.

DR. JOHN HADDON (Denholm, Hawick) writes: The leading article in the BRITISH MEDICAL JOURNAL of November 18th on the above subject would seem to prove that since the serum treatment came into use the mortality has been lessened, but I should like to point out (1) that since the treatment was adopted nearly every case of diphtheria is removed to hospital in some localities, so that the mortality now and formerly, when only the worst cases were taken to hospitals, cannot be compared with any hope of settling the question of mortality; (2) that in the town of Melrose, during an epidemic, where there were two practitioners, one using serum and the other not using it, the one had just as good results as the other; (3) that, even now, the mortality varies greatly in different towns and in various epidemics, as is pointed out in the leading article. With such facts one ought to be cautious in coming to any definite conclusion one way or another from hospital statistics. Anxious as I am to believe in serum-therapy, I have never seen any reason to believe that any disease so treated has had its general mortality reduced. In my experience in general practice, before serum was known, the mortality from diphtheria, except in the laryngeal form, was very small, and even then some of the worst cases of the laryngeal form recovered without tracheotomy or intubage. Such a subject deserves the attention of the profession, and a collective investigation might settle the question at once.

LETTERS, NOTES, Etc.

THE TITLE OF "DR."

SCOTTISH DIPLOMATE writes: I have been much interested in the endeavours of the London Conjoint men to secure the liberty to use the courtesy title of "doctor." To refuse it seems to me to be very short-sighted policy on the part of the authorities if they really have the true interests of the London colleges and medical schools at heart. In these days of the multiplication of provincial universities in England men are not likely to patronize the examinations of a body who thus handicap their diplomates in the struggle for existence. What is the true reason of so many persistent refusals? Legally speaking, have the Council the power to prevent the use of the coveted prefix? In Scotland I should think quite 90 per cent. of the triple diplomates use the title "Dr." I question if any of us ever heard until now of the clause against that use which has recently cropped up. We are always addressed as "Doctor," whether verbally or by letter. To the public we are all doctors. The title signifies our occupation. To the "man in the street" we are doctors, not physicians or surgeons. After all, too, we have as good a right to the courtesy use of "Dr." as the M.B. No one will convince me that on the same grounds the B.Sc. or B.D. has not the same claim to the title as the M.B. that is, if it is to remain a matter of university degrees. This would obviously be ridiculous. The authorities of the English and Scottish Colleges would do well to take a leaf from the book of the Irish Colleges and declare "that a Fellow, Member, or Licentiate may by courtesy and usage call himself 'Doctor,' but he has no right to use the letters M.D. or call himself a Doctor of Medicine . . ." The insertion in their laws of such a clause would be in the true interests of the colleges concerned and of British medicine.

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A Clinical Lecture

ON

THE PRINCIPLES OF TREATMENT OF TYPHOID FEVER.

Delivered at St. George's Hospital on October 8th, 1905.

By WILLIAM EWART, M.D.Cantab., F.R.C.P.,

Senior Physician to St. George's Hospital and to the Belgrave Hospital for Children: Joint Lecturer in Medicine at St. George's Hospital.

Gentlemen,—To you this may perhaps sound too elementary a theme for a clinical lecture, but graver critics are much more likely to regard its selection as a presumption. "First principles" are given to us in the pure sciences at the beginning of our schooling, but in our clinical studies they are too often not to be reached until near the finish, if ever; and as that has been my own experience, I can wish you no better wish than that you should begin where I am ending. I cannot pretend to give you the "principles of cure." The direct, rapid, germicidal method which will some day supersede all previous gropings is not yet within our grasp. Nevertheless, even in this temporary makeshift treatment addressed to the clinical condition rather than to the cause, there is a more stable side—that which is measured out upon life itself, upon the obvious perversions of the functions, and upon the visible alterations in the structures—in a word, upon physiology, clinical pathology, and morbid anatomy. Sound principles are the only lasting part of our therapeutics; all the rest shifts like the sands. Therefore, although there is a definite therapeutic formula appended to the method to be laid before you, I attach no final importance to the individual agents employed, and I should be the first to replace them by better remedies if any could be procured.

The Typhoid Ulcer.—Formerly we were taught that the typical lesion of typhoid fever was to be found (as in the specimens placed before you) in "the longitudinal ulcer of the ileum, close to or at the valve, with thickened and sloughing base and faecal staining"—a grim comment upon our therapeutics. But some of your seniors can also remember the time when the phagedaenic chancre was regarded as a genuine expression of the syphilitic process, and hospital gangrene as a normal development in pathology—views which are no longer held. Possibly some similar change of opinion may be in store for us in connexion with the typhoid ulcer. Indeed, we are already aware that the lesion does not in all cases proceed to the stage of ulceration. I may then, for the practical purposes of this lecture, venture upon assumptions, and state it as my opinion that the classical description in question is a picture, not of that which constitutes the essence of the typhoid lesion pure and simple, but of that which it should never be allowed to become, and that the "foul" typhoid ulcer is a preventable condition, the product of bad forms of infection combined with worse sanitation.

The Line of Treatment.—As the clinical aggregate includes every degree of severity, and every variety of type, the adoption of any one uniform method seems almost impracticable: yet thoroughness of treatment is always essential, if not for the safety of the patient, at any rate for our own; and the early stage is the only season for success. Our need, then, is a practical treatment, so effectual as to safeguard the bad cases, and so harmless as to be suitable even for the mildest ones. That to be described to you is my best attempt in that direction, but one much open to improvement. Most of the suggestions upon which it is based are free from the reproach of being novel or heterodox, since they are variously stamped with such good names as Jenner, Brunton, Bouchard, Gee, and others. The chief novelty is their practical combination in the service of simple and straightforward principles, for well-defined purposes of action.

To put before you at once the heart of the matter: The two generally approved aims in the treatment of typhoid are also our aims, namely, to (1) feed the patient, and (2) starve the disease.

The first, largely represented under the heading of "diet," should also include any indirect help towards nutrition and "general support." The second will include all measures tending to check the morbid process, and among them a special endeavour to apply the neglected principle, "local treatment for the local disease." How this may be attempted will need some further explanation; but a general idea will at once be suggested by the following heading:

The Empty Bowel Treatment.

("Traitement à Vide.")

RETROSPECTIVE REMARKS.

The French name is already identified with the method, thanks to my having recently enjoyed in France the privilege of explaining the latter to *confrères* who are perhaps more often called upon than we now are to treat typhoid. Both names are used, not in metaphor, but in their plain practical sense, "no faeces." Inasmuch as this method is a development of previous ones, it is opportune to preface it with a brief retrospect, particularly in connexion with diet, medication, and other therapeutic measures.

Diet.

This has long been the question of vital importance. "Milk only," the now prevailing alimentation for typhoid, is a compromise between two dangerous extremes which have had their day, namely, "no food" and "solid food."

1. The "starvation plan" would have been more popular had typhoid fever been identified as a disease prior to the decline of the old idea that the *ens* of a fever could be starved out like a beleaguered garrison, or that in a mutual-devouring struggle the famished forces of health might outlast the foe. The so-called water cure was advocated and practised for many years by M. Luton of Rheims,[1] water only and water *ad libitum* (supplemented by water enemas when necessary) being allowed until after the appearance of the exanthem, and afterwards chiefly milk. For this plan Luton gave some good reasons and claimed excellent results. But the practice has not survived in its extreme form, and we have probably heard the last of it in an interesting paper by Yandell of Louisville.[2] He himself had fasted for seventeen days for rheumatism, and he gives an account of five cases of typhoid fever satisfactorily treated for two or three weeks on plain water. This is a diet better adapted for goldfish in a bowl than for man in a consuming fever; though it may be excellent for the bowel it is not good for the patient, except during the early "typhoid" stage of invasion, when, as long urged by various authorities, and recently in this country by Dr. Fred. Smith, it is the most suitable of diets and of treatments. So great may be the advantage then secured in respect of the local lesions that this alone may explain the successes obtained by Yandell, in spite of the undue prolongation of the fast.

2. "Mixed solid food" might, with the kindest intention, be really the worse evil of the two. Both issues are obscured by the fact that the average "mild case" is proof against most dietetic errors. All typhoid cases are essentially cases of bowel disease, but the "well-regulated case," once safely steered through the early period, is one of bowel disease only, often coupled with an excellent gastric digestion. This happy possession does not, however, in itself warrant a diet of square meals. High feeding is not a safe cure; it cannot *per se* save life, and it is fraught with great risks. It is quite right to say in its support that, although strictly speaking the patient's death may never be directly due to starvation but to toxaemia, still he has been usually much reduced by the virtual starvation of fever so as to fall an easy prey to toxins; and to say that his resistance would have been vastly increased if he could have digested food, and had had it supplied to him. But how is this to be worked in the severe cases? And if a milder case is making good progress why should we not leave well alone, rather than introduce uncalled-for elements of danger? My own contention some years ago was that milk might not be nutritious enough, or sufficiently varied for the ideal nutritional requirement; instalments of the fresh principles of vegetables and fruit were suggested, as well as cream and malted preparations; but I never discovered sufficient reason for the solid diet so warmly advocated by various writers.[3]

3. Exclusive milk diet—that *medio tutissimum*—is not, after all, a middle course of absolute safety. Nay, in the evil stage of the worst cases milk is a danger so great that we should take warning against the use of milk in any of them. This danger had been clearly perceived by some of our great authorities, in particular by Sir William Jenner,[4] although he did not draw from his observations their full conclusions; and Burney Yeo[5] subsequently pointed out the advantages of whey as an alternative to milk in some cases, whilst Gee and a few others have entirely substituted whey for milk. This is the practice which I have adopted for some years, after

reading in one of our journals the cogent advocacy of "exclusive whey" by a *confrère* whose name I should like, if I could, to honour by remembrance. But it really dates further back. Dr. Mackenzie of Normanton informs me that in the Highlands whey has long been in use as a routine in fevers, "because milk was found too heavy," and that he himself has prescribed it for more than forty years. The point is this, that when digestion is paralysed, whilst even whey will leave minute flaky residues in the intestine, pure milk loads it with massive curds which breed intestinal putrefaction and ultimately favour the intragastric fermentation of the fresh milk supplies. Each feed will aggravate the tympanitis when the putrefactive process has once gained the upper hand over the aseptic fermentation of normal digestion. Even whey may have to be diluted; but usually complete absorption of the small amount of albumen which it contains occurs within the upper bowel, except during the apeptic stage of typhoid prostration.

Stimulants.

This has always been a delicate question in disease as well as in health, but it is not a difficult one in typhoid fever. Stimulants are not often necessary, and in the majority of cases should not be given. We have all known cases where brandy had been prescribed because of the apparent exhaustion of the patient, and where it had to be abruptly withheld just in the hour of added peril and weakness, on account of severe haemorrhage, and yet the patient did not succumb. The moral is obvious. Emergencies may call for the help of "eau de vie" in any of our cases; but the generality of patients may be classed into two categories. Those able to take food do not require alcohol, although quite able to digest both food and wine. The others are so ill that they cannot digest, and they must of course be kept up; but in view of the severity and coming duration of their attack, it is not the temporary stimulant which they most need, but the permanent support—that of food, not alcohol. The urgent indication is therefore to regulate their condition, to cleanse away their septic encumbrances, and to restore their function of absorption. But we must admit that there is a useful place for alcohol either as a substantial help or as a placebo, namely, in the early as well as in the late toxaemia. In the initial "typhoid" state, food is certainly worse than alcohol; and if concessions have to be made to secure for the patient the blessings of water or of whey, a little alcohol may be prescribed to tide over the situation for two or three days. And again at a later stage, if all our assiduous efforts to treat and to feed the patient should prove to be futile, brandy skilfully used may prolong and perhaps may save life in moments of danger.

Recent Therapeutics.

Medication.—The chapter of symptoms has always occupied a large share of attention in the treatment of typhoid, although the great aim has been to limit their occurrence by improving the general state. If we take it as read, an outline of the rest of the history of medication is quickly told. The primary causal indication pointed by Eberth's discovery may be some day fulfilled by bacteriological agency. Professor Wright's method is a considerable step in that direction. But the power to arrest the disease does not, so far as known, reside in any drug; none has been put forward as a direct germicide.

The secondary causal indication has been the object worked at—namely, to moderate the march and limit the inroads of the disease by making a direct attack upon its essential processes—fever and infection. It is upon those two lines that the more "specific" forms of treatment have been conceived. But the two sets of remedies employed, the antipyretics and antiseptics, are not before us to-day for detailed enumeration or valuation. Experience has given its verdict, and the attention of observers has turned to other quests. *Antipyretics* have rightly fallen into disuse as inferior to other antifebrile measures through combining greater risks with less efficiency. *Antiseptics*, also open to similar criticism, are still used by some, who might with some truth argue that the trial hitherto given has not been quite fair. Anyhow, the results have not succeeded in establishing a reputation for any single member of the group, nor in recommending the system itself for universal adoption. Nevertheless, Dr. Foord Caiger's[6] recent good accounts of oil of cinnamon encourage a hope that there may yet be a future for medicinal antisepsis. That excellent bowel remedy is free from risks in moderate doses, although it cannot claim to be a very powerful germicide. It was given in one of my cases, and I expect to resort to it again on suitable occasions for the sake of its carminative and stimulating properties; but meanwhile the continued administration of small doses of mercury—$\frac{1}{6}$ gr. of calomel three times daily—represents the antiseptic intention in my treatment without much of the effect. Pending further observations, I lay more stress upon "diet" than "medicine," and I prescribe little beyond such drugs as may help to "regularize" the gastro-intestinal situation, the best, so far as I know at present, being a daily routine of castor oil, of mineral oil, and of vegetable charcoal. I doubt whether this alone could ever shorten an attack, but I believe that future medication, including antiseptics, will be much assisted by the empty-bowel condition as a basis. Incidentally, we may note that, according to Dr. Secheyron,[7] so long as charcoal is supplied it is relatively useless to give medicines by the mouth, so many of them being neutralized by contact with charcoal.

Non-Medicinal Treatment by Nursing and Hygiene.—These aspects of treatment have received during recent years an increasing amount of attention. If I should dwell but briefly upon them it is not from any underestimate of their value. As adjuncts they are indispensable if the best results are to be secured from any treatment, and among them *pure air and sunlight* are first requisites, urgently needed in proportion to the acuteness of the affection.

Cutaneous Hygiene.—Scrupulous cleanliness is almost of greater value to the nurse and the surroundings than to the patient. But the regulation washings contribute a definite instalment of active treatment in promoting the cutaneous excretory function which is conspicuously torpid. Greater still is the help to be got from a cultivation of the nervous function of the skin. Systematic cold spongings and friction can therefore claim a prominent place among our therapeutic agents, quite apart from their antipyretic properties, which more immediately concern the heat-regulating function. Fever heat, though part of Nature's cure, is demonstrably harmful when excessive, and therefore to be checked. You will realize, however, that its forcible repression gains an advantage over a symptom only, doubtless a major symptom, but not over the cause. Three methods have been practised to secure peripheral refrigeration: (*a*) The *cold atmosphere method* carried out either (1) by continued exposure of the surface to the cool air, in winter under very light coverings, or under a single sheet in summer; or (2) by artificially cooling the air of the bed by means of the ice cradle, or some equivalent device; (*b*) the *cold-water method*, by which surface heat is periodically abstracted by cold-water spongings, by successions of cold or even of iced compresses, or by rubbing with ice; and, lastly, (*c*) the most active method of all, the *cool-bath method*, to which we must presently devote separate consideration.

Hygiene of the Bowel, which forms the chief theme of this lecture, stands foremost among our principles of treatment but has been the last to receive its due share of attention. The duty of intestinal sanitation, at any rate so far as it consists in keeping the lower bowel free from any septic accumulation, is too obvious not to have been attempted repeatedly by separate observers. Suitable systematic irrigations of the colon as a direct means of limiting the absorption of toxic fluids were not, however, brought forward until relatively late, and they have never obtained a place in the routine of treatment. As they may not be in the future so much called for, we may defer for a while their consideration, whilst specially noting their importance in relation to all septic cases.

SYSTEMATIC REFRIGERATION.

THE CURRIE-BRAND COOL BATHING TREATMENT.[8]

The late E. Brand has deserved well in our day as an observer and as a healer, but the least that can be said of Currie is that he was a prophet; for he preached the remedy long before the disease was known. Prophet-like, he has reaped the homage of silent imitation elsewhere, and, in his own country, scanty recognition. Happily, his claims as a pioneer need no better proof than the title of his work:

> "Medical Reports On the Effects of Water, Cold and Warm, as a Remedy in Fever and Febrile Diseases; whether applied to the Surface of the Body or used as a Drink: with Observations on the Nature of Fever; and on the Effects of Opium, Alcohol, and Inanition. By James Currie, M.D., F.R.S., Physician in Liverpool and Fellow of the Royal College of Physicians of Edinburgh. Liverpool. 1797."

But it needed Brand's staunch belief in those strange workings which he never quite succeeded in explaining, and Brand's strong clinical instinct, to endow us with a practical method.

Whilst we look in vain elsewhere for some active plan of treatment

commanding general recognition, this plan is not only active, nay, even heroic, but successful. Its credentials, which are not disputed, are a reduction in the mortality of typhoid, estimated by Osler at 6 per cent.* and at an even higher figure by Francis E. Hare,† to whose labours so much of our information is due. Even if we adopt the least valuation which has been made of its life-saving advantages—namely, a lower mortality by 2 per cent. than that under the best of any other treatment, there is clearly much to say for a method which will rescue 25 per cent. of the otherwise doomed, without material damage to the interests of those in less danger. How shall we explain that its adoption is not a conscience clause with all of us—nay, that it has been abandoned by some of those who had used it? Surely this cannot be on the score of any lack of familiarity with the dangers of the disease and with its treacherous character. More probably there is a lurking impression that in this treatment, brilliant as are its results, we have not yet the true treatment of enteric fever, and that it lacks directness of attack. Perhaps, too, at bottom there is the "practical excuse" that in the vast majority of individual cases the advantage is disproportionate to the trouble entailed upon the patient and the attendants, although we are assured by Hare that the alleged trouble is much less than that of systematic spongings; and, again, an exaggerated estimate may have been formed of the precautions necessary for safety. In this country it has been a canon of practice to secure for typhoid patients the most absolute repose in bed, and the absence of a suitable lifting apparatus to save the patient from any exertion may have checked the action of many practitioners. Abroad less anxiety prevails, and the risks which have been taken have not had the effect of reducing the statistical rate of success of the method. In many foreign hospitals—as, for instance, to my personal knowledge, in those of Geneva and of Montpellier—patients, with few exceptions, are allowed to step from their bed into the bath, only the worse patients being lifted by hand. A French gentleman whom I recently saw in consultation with Dr. Dardel of Gisors in Normandy was able, throughout a severe attack, to walk from his bed into the adjoining bathroom for his bath every three hours without any evil effect. This more liberal rule as to locomotion might go far to facilitate the bathing plan, though nothing will probably render it quite popular. It is, unfortunately, impracticable in the absence of a sufficient water supply—as sometimes in the severe epidemics in war. Much nevertheless may be done under adverse conditions by enterprise and energy. I was much struck by Dr. Dardel's statement that since he first tried the treatment he has for several years applied it in every case, even in distant country cottages, and that he has since then never lost a patient. Personal testimony of this sort, added to the evidence of statistics, may be trustworthy as a guide for individual practice; at the same time, it belongs to clinical and therapeutic progress that we should learn more about the physiological *modus operandi* of the remedy.

The Claims and the Limitations of the Cool Bath Treatment.

All are agreed that the reduction of high temperatures is in itself an important boon in the treatment of fevers. Brand's system claims to do more than alleviate the discomfort and mischief of over-fever, namely, to influence the disease by a persistent repression of the latter. Yet, in spite of it all, bathing does not succeed in shortening the attack—a result which would have been a sure sign of a germicidal effect.

Brand had further claimed for his treatment that if begun sufficiently early it would save every case. This sanguine undertaking is unfortunately nullified by the fact that the early diagnosis which would be necessary is almost unattainable. As in the series treated and studied by F. E. Hare, the percentage of the mortality from perforation has not differed from its percentage under other treatment, the most favourable estimate is that whilst bathing may be capable of preventing the occurrence of severe complications, it is powerless to obviate the fatal developments of the worst lesions which have been started before the application of the remedy. Special stress must also be laid upon two other facts which F. E. Hare's statistics claim to have proved:

1. The average duration of the pyrexial period is not diminished, although the average degree of pyrexia is lowered.

2. The incidence of haemorrhage is not decreased, although according to F. E. Hare its fatality is slightly diminished.

The absence of any appreciable reduction in the duration of the pyrexia in a series of cases which include so many relatively mild ones is consistent with a view that the local lesion is not arrested, even when relatively slight. At any rate, the marked saving of life effected is obviously not due to any arrest of the worst forms of local disease, but only due to a mitigation of those which are rather less extreme; and above all to the extraordinary improvement brought about in the vitality of the patient. It might then be argued that the chief value of the Currie-Brand treatment is its vitalizing effect, and that if some more effectual check could be found for the local lesions the need for that laborious restorative process would have lapsed.

An imperfect acquaintance, such as mine, with the practical use of the method does not carry any "conclusions," but impressions only, and they are these:

1. It is strange beyond any ordinary explanation that a treatment recognized as capable of saving life in so high a proportion—however difficult or irksome it might be in the performance—should not have imposed itself for universal adoption.

2. If, as it may be assumed, the benefit of "bathing" is chiefly in the direction of "raising the vital powers," as a large majority of cases do not present serious depression, all-round bathing would in the event prove to be for the larger number a superfluity.

3. On the other hand, any cases unmistakably severe from the first must claim the life-saving benefit of Brand's system if no equally good substitute for bathing were to be available.

4. But what of the ingravescent "treacherous" cases which begin with the mildest complexion and end with the worst? They are, happily, on the whole, uncommon. These are just the cases which are deprived of their chance so long as bathing is not made a universal rule, but reserved only for the fully-declared bad attacks. This risk could be expressed statistically by the relative rate of occurrence of the insidious cases in question, and it would probably work out at a low figure. This small risk is usually taken in this country in all mild cases in preference to the trouble involved in "bathing."

5. A larger risk is obviously incurred when "bathing" is not used at all, even for severe cases; and, in view of the percentage of deaths capable of being prevented, this complete neglect still calls for an excuse.

6. Until the principles set forth in this lecture shall have had an adequate clinical trial it is not for me to discourage the fullest application of the Currie-Brand treatment. Some rational explanation of its mode of action has yet to be given. For my part, I am not a sceptic as to reflex nerve interactions between the general and the visceral periphery; and, although my present concern is with a more direct local treatment, I fully recognize and favour their utilization for the purpose of stimulation in ordinary cases of typhoid, over and above the life-saving value to be secured in bad cases.

7. If I may venture to draw a practical conclusion it is this: That we need some other less irksome method which shall at least equal and if possible surpass Brand's favourable record of cures, and that if no alternative is found "bathing" should if possible be rendered less trying, and capable of general adoption in all cases where it can be of any use.

8. Should, as we may hope, its results be surpassed by some other plan in the future, we shall still benefit by the clinical lesson it has given us in demonstrating how great is the reserve of cardiac energy in typhoid as compared particularly with pneumonia, and to what extent the heart is able to respond to most searching vasomotor stresses.

Clinical Cases.

Having said so much let us turn to this afternoon's main business, which is to explain to you those principles and that practice which may help to render systematic refrigeration unnecessary, and which are illustrated in the following cases:

The cases treated have been few because few have been admitted. I need not dwell at any length upon the clinical progress, which was uneventful and satisfactory, and is fully recorded in the *Medical Register*.

Case 1 (*St. George's Hospital Medical Register*, No. 1,582, of 1904).—F. B., hotel clerk, aged 24, was admitted on November 28th, 1904, after two weeks' illness, with dry and brown-furred tongue, a history of diarrhœa preceded by some constipation, of nocturnal restlessness, and of delirium.

Pulse 120, respiration 30, temperature 104.6°. The chief features in the temperature chart during the remaining three weeks of his fever (five weeks presumably in total duration) were as regards temperature: (1) During the third and fourth week high level readings (maxima often 104°, minima as low as 101°, rarely); average oscillation between 102° and 103°; (2) during the last week no great oscillations of remission or of intermission, but a gradual sloping descent (occupying nine days) down to normal; (3) thereafter a continuous, almost absolutely level, normal temperature, without any subnormal period. Pulse: High readings throughout; even during the first five days of defervescence (fifth week) it remained above 120; at 100 for the first

*"In general hospitals from 6 to 8 patients in every 100 are saved by this plan": Cf. *The Principles and Practice of Medicine*, by William Osler, M.D., etc., 5th edition (London and New York, 1905).

†According to Hare, the hospital death-rate from typhoid under the bathing system, including all cases admitted in all stages of the disease, and including also those which are too bad to bathe, is about 7 per cent.

six days of apyrexia, and finally at an average of 90. Respiration: A gradual rise to 48 and a gradual fall again to 30 occupied half the third and half the fourth week. Then a few oscillations up to 35 or 40, and finally a slow return to a rate of 20 per minute.

The severity of the attack was further evidenced by the cyanosis, copious exanthem, dry tongue, tremulousness, nocturnal deliriums, and diurnal semi-stupor or drowsiness which persisted; by the abdominal distension; by the slight albuminuria; and by the embryocardial action and weak sounds of the heart. The cardiac weakness at the beginning was so marked as to call for repeated doses of brandy; and for four days four-hourly injections of strychnine were given under the skin. The existing looseness of the bowels was maintained under treatment, and the fluid evacuations after a few days presented the appearances which I have described.

Treatment.—For diet, 4 pints of whey to which one-sixth part of lime water was added. Spongings were ordered three times daily. To relieve the tympanites, which was then considerable, a dose of castor oil, cold compresses, and the long tube were used. A mixture containing oil of cinnamon (mlij) and liquid paraffin (3ss, soon increased to 3j, to 3jss, and to 3ij, every four hours) were prescribed on the fourth day of his stay: and next day vegetable charcoal (gr.30 every four hours) in addition. Oxygen inhalations were still required that day, but not the next day, when, after a small dose of castor oil (which was then ordered for daily or frequent repetition), there was marked decrease in the tympanites, which the following day had completely disappeared, the abdomen henceforth remaining flat or slightly retracted. The patient's condition from that time became satisfactory and the routine uneventful. He was thin, but his energy and muscular power were better than might have been expected after so severe an attack. His convalescence was slightly lengthened by a gluteal abscess and its surgical treatment.

The medicine was suspended on December 20th, and the charcoal on December 22nd.

The maltine, of which 3j had been given since December 5th, four times daily, was now supplemented with the hypophosphites of calcium, sodium, and iron (8 gr. of each of these salts at a dose). In the diet the following gradual additions have to be recorded:—December 2nd—loaf sugar—½ lb. daily, also three eggs (the whites in the whey, the yolks with brandy); 6th—one egg additional, jelly, 3j of raw meat juice; 13th—3ij meat juice, and cream 3ij daily; 16th—burgundy, 3viii daily; 19th—honey, sugar, and beef-tea (strained); 21st—the strained juice of grapes and oranges; 23rd—peptonized milk instead of whey; 24th—bread and butter; 27th—pounded fish and a solid diet.

Case II (*St. George's Hospital Medical Register*, No. 1.261 of 1905).—J. N., aged 11, was admitted on August 9th, 1905, with marked typhoid aspect and torpor, feverishness, prostration, slight sordes and partly dry tongue, and tumid abdomen. The date of onset was not clearly made out, but headache and constipation had existed for three weeks. Pulse, 88; respirations, 36; temperature, 101° to 103°. The temperature chart presents no striking features, the pulse varying between 90 and 100, the respirations between 24 and 26, and the temperature between 100° and 102.3°, rarely up to 103°. Remissions nearly to the normal began on August 20th, and subnormal intermissions on August 30th; complete apyrexia (with little subnormality) setting in on September 4th.

The diet and treatment prescribed were almost the same as in Case 1, but no oil of cinnamon was given, and castor oil certainly not often enough. The abdominal distension, which had decidedly improved at first, recurred and varied together with the constipation. I was well satisfied with the early progress of the case, my own entries being on August 11th, "abdomen less"; on 12th, "breath perfectly sweet"; on 13th, "abdominal respiration now free."

I left for my holiday three days after the onset of the remissions, which continued to occur daily as stated, and the charcoal and paraffin treatment was stopped the next day, August 23rd. On August 26th three-hourly doses of brandy (3ij) were ordered and continued until 29th; but no permanent aggravation was put on record, and the morning remissions and the general progress of the case appear to have been maintained.

Comment on the Cases.

Both cases did well, though they might have done better had I had more experience of the use of the method. This applies particularly to the second case, where the chief indication—the constipation—was not sufficiently studied. As neither the charcoal prescribed (℥ss 4th h^{a}) nor the liquid paraffin (℥j 4th h^{a}) are competent to set up flatulence, the persistence of distension must have been due to the diet. Too much whey (Oiij) was ordered on the first day, and the orders for sugar (2½ oz. on August 10th), for albumen (3 whites of egg on the 13th), and for cream (1 oz. on the 16th) were probably premature in the face of the imperfect bowel relief. But all might have been well had I given day by day the needful small morning dose of castor oil.

The Principles of Local Treatment.

Surgery and Local Treatment.

Failure to employ local treatment had not been an oversight, much less intended neglect, but only postponement of an urgent study from lack of leisure and of cases. It is not now a regret that I should have appealed in vain to surgeons for some means of continuous irrigation of the diseased loop of bowel, as their assistance no longer seems to be indispensable for topical curative measures. Nay, I have not only ceased to think of any form of treatment by early laparotomy, but I expect in the future a considerable reduction in the necessity for late, urgency laparotomies "for rescue."

On the other hand, I still look to surgery for its teachings, and endeavour to copy its methods, prophylactic, protective, and curative, for the local treatment of the lesion.

How do surgeons deal with a simple ulcer? Locally, not from a distance. It is true that we are not dealing with a common, but a specific ulcer, and we may conceive of its not yielding to purely local measures. But it is equally true that any advantage which the latter can confer is much needed and in conscience not to be neglected; for if ever there was a lesion crying for help it is the typhoid ulcer with its dangers of haemorrhage, of perforation, of peritonitis; with its evils of necrosis and of resulting secondary septic absorption—a common cause of death in fatal cases; and with its fearful multiplication of the germs of disease. More was wanted of the physician than had been accomplished; but in the absence of any practical suggestions, the principles of local surgery were in vain present to mind and close to hand, because, as it then seemed, hopelessly inapplicable. We may now at last endeavour to turn them to account. Those which are in daily use for ulcers of the leg are the following:

1. To *cleanse* the ulcerated surface;
2. To *keep it clean* and free from septic contact;
3. To *protect* its delicate repairs from any destructive irritations; and
4. By *suitable stimulations* of the local circulation to induce the growing tissues to appropriate the nutriment supplied in a liberal diet.

Sanitation.

1 and 2. The necessity for an initial cleansing is now generally recognized. Calomel is used, or castor oil; or, better still, both together at one dose, or with half an hour's start for the calomel. This simple cleansing is a boon, but from a Listerian standpoint it would hardly pass muster as sufficient to establish and maintain internal sanitation. Much more is needed than casual enemas or aperients. Not alone in cases of persistent constipation, but particularly in that vicious circle of diarrhoea where over-assiduous feeding aggravates the foulness which needs cleansing, a frequent, sometimes daily, repetition of the small morning dose of castor oil is indicated, and it must therefore form part of our method.

Postural Treatment of the Bowel.

An elementary measure of local sanitation had suggested itself to me some years ago in default of the wished-for surgical help. It is explained in a paper on "Suggestions for the Practical Treatment of Typhoid Fever,"[9] on a principle slightly different from that for which Dr. R. W. Leftwich[10] has since claimed under the name of "Intermittent Syphonage of the Colon," a still wider application. The object intended and apparently attained was the automatic drainage by posture of the caecal cesspool, to save the ulcerated and paralysed bowel from continuous maceration in foul warm juices. If percussion has not deluded me, the caecum can be easily emptied and kept empty by an occasional inclination of the bed so slight as to be unnoticed by the patient. The suggestion remains a good one, though I now have much less occasion for its use: I have not yet discovered its disadvantages; but this is an open chapter, as the method has not hitherto received either criticism or comment.

Asepsis and Antisepsis.

The notion of a "clean bowel" is incongruous except in the case of the fetus, where little adventitious matter enters the tract. Some recent investigations by Kelly and Lieberméister[11] have shown that in rabbits the small intestine has a remarkable bactericidal power which is entirely lost when its mucous membrane is injured or inflamed. But it is probable that after birth a strictly aseptic condition can never be restored, even by absolute starvation, much less when the bowel is kept charged throughout its length with relays of fermentables, as any antiseptics, before they could disinfect its surface, would have to sterilize the bulk of its contents. This thought has discouraged most clinical workers, the doses of antiseptic medicines being much too weak for bowel disinfection even when too strong for the patient. Nevertheless, short of the *summum bonum* of asepsis, antisepsis remains as a partial fulfilment to be steadily pursued, and with that view I had long advocated and practised Wedgwood's[12] treatment by mercury and iron, though largely, too, for its general usefulness. From time to

time mercury itself has repeatedly been put forward by a series of writers whom I need not enumerate, and I still use small six hourly doses of calomel throughout the attack.

No Faeces.—As it is hopeless to disinfect the faeces, the only course is to suppress them. Is this conceivable, is it feasible, is it wise? Scepticism may carry the argument, but the patient should be allowed the benefit of the practice. A not unreasonable objection is that the presence of faeces is part of the normal state of the intestinal tract in health, and as such to be preferred; but can this contact be equally suitable for the intestinal surface when ulcerated? Again, it cannot be disputed that undigested and indigestible food residues are not the only constituents of the faeces; epithelial débris and other off-castings of the mucous membrane, mucus, and the various glandular secretions, including bile, pancreatic juice, and succus entericus, must all contribute an appreciable solid residue, even if all food remnants should have been eliminated. But an important distinction has to be made. None of these strictly physiological constituents are in themselves prone to fermentation, though, according to Rolly and Liebermeister,[13] bile, pancreatic and intestinal juice are efficient culture media. It is mainly in the remnants of the ingesta that the putrefactive process is started and kept going; and their absence, although not providing ideal conditions, would be of great sanitary advantage.

The Agents Employed in the Local Treatment.

3. The "surgical" standard of cleanliness might be still further approached if the surface of the ulcers could be covered by some protecting layer analogous to the antiseptic dressings applied to external wounds and ulcers. This would no longer be unattainable if the faeces could be eliminated or reduced to their physiological elements. A further realization, too, might then be contemplated—that of bringing antiseptic agents into working contact with the ulcerated surface; a responsible question the immediate discussion of which is not opportune. Not feeling quite convinced that they are necessary I am not at present tempted to complicate with their risks the simplicity of our method which is limited to the use of absolutely harmless and mainly protective substances.

Liquid Paraffin.—The choice of safe agents of this class is much narrowed by the requirement that any substance intended to reach the distant seat of the lesion must be neither soluble nor capable of absorption. Oil, the natural protective and lubricant for dry and for wet surfaces, fails us here, special provisions existing in the small intestine for its saponification and absorption. Moreover, it is not always well tolerated in large and continuous supplies. Mineral oil, on the other hand, such as petroleum or paraffin, is neither absorbed nor dissolved; therefore, after all absorbable ingesta are taken up by the lacteals it will still remain within the bowel. In this way pure liquid paraffin is valuable, precisely because it is inert; moreover, it might some day, perhaps, be made the vehicle for effective topical remedies. The internal use of petroleum was strongly advocated some years ago by William Duffield Robinson in phthisis, as well as for tuberculous and other forms of diarrhoea,[14] but does not appear to have obtained recognition. In proof of the non-absorption of these products he refers to the observations of Samuel G. Dixon and Archie Randolph, who published in 1885 their results of the administration of vaseline, "in doses of from four to eight drachms daily, every grain of which was reclaimed unchanged from the stools, save the minute loss attributable to separating and purifying"; and Robert Hutchison[15] has also arrived at the same results in connexion with the petroleum contained in "petroleum emulsion." Liquid paraffin is as tasteless as it is harmless, and is therefore acceptable to all patients in almost any dose. Two teaspoonfuls every four hours, equivalent to 1½ oz. in twenty-four hours, is the maximum daily amount which I have hitherto used for adults, but this amount might easily be increased. Frequency in the repetition of the doses is part of the indication, both for the sake of lubrication and of cleansing. And it need hardly be said that paraffin in sufficient doses is in itself a non-irritating mechanical laxative.

Vegetable charcoal in fine powder is a much older remedy of well-known properties. It was long ago prescribed in conjunction with magnesia as a remedy in typhoid fever by M. Dille[16]; and Bouchard found good results from the continuous administration of as much as a tablespoonful of it every three hours.[17] Morel[18] also praises its use because of its disinfecting and deodorizing power, and of its beneficial effect upon the ulceration, an influence which Constantin Paul considered to be of a mechanically stimulating nature, in agreement with Sir Lauder Brunton's[19] view of the mode of relief procured by it in gastric flatulence. Sir William Jenner[20] had previously in 1879 dwelt upon its probable action in preventing pyaemic absorption from the ulcers.

But the therapeutic study of charcoal is to be traced much further back. To P. F. Touéry[21] is due the credit of having discovered and utilized the power of animal charcoal to fix alkaloids and various inorganic substances such as arsenic and phosphorus, in addition to its condensing power for gases, and of having subsequently demonstrated its virtues as a safe and effective antidote for a considerable number of poisons, including strychnine, of which, to prove the fact, he swallowed a large lethal dose with impunity. Touéry's grandson, Dr. Secheyron of Toulouse, to whom I am indebted for these particulars,[22] advocates its use as a general household antidote. He is of opinion that, although not a germicide, it absorbs the toxins, as held by Sir William Jenner; and this also agrees with Professor Bouchard's observation that sleep is restored to bad cases of typhoid fever by the administration of charcoal.

Non-germicidal and Inert.

In spite of these good opinions charcoal seems to have been forgotten, and so little mention is made of it in recent literature that I had not realized that my use of it was a mere revival. It is a fact fully recognized by Bouchard that the virtues of charcoal do not include any germicidal action. Dr. Slater kindly undertook at my request an independent investigation into this question. The results, which I hope he may publish, are to the effect that the presence of charcoal in any quantity in a moist or in a fluid medium does not interfere in any degree with the growth of Eberth's bacillus. Incidentally I may also refer to Dr. Slater's investigation now in progress as to the action of liquid paraffin, and I may state the broad fact that it does not exercise any bactericidal action in cultures to which it is added, although bacilli cannot be made to grow in it. It could only influence the growth of the cultures in any fluid media by forming an upper layer which might exclude air from them. In short, neither paraffin nor charcoal is capable of arresting the growth of Eberth's bacillus in the bowel.

As regards charcoal we may conclude that, in spite of its wonderful properties as an absorbent for animal poisons and effluvia, it behaves as an inert body towards microbes as it does towards animal tissues. In typhoid I first used it some years ago in suspension of water as an irrigation for the colon. At that stage of my observations, not having succeeded in getting into touch with the lesion itself, I regarded irrigation as an indication of primary importance—and I still regard it as such—because of its ability to lessen the evil of septic absorption by keeping the entire colon and the caecum free from the foul products of gangrenous ulceration: and I imagined that the deodorizing action of charcoal would be a useful addition to the mechanical cleansing by enteroclysis. I have been well pleased with the result, but I hope in the future to have less and less need of this method, which, though it refreshes the patient, is a disturbance and a source of fatigue. I now give the charcoal internally in free and frequent supplies (hitherto a maximum of two teaspoonfuls every four hours, suspended in a little water) as a suitable solid adjunct to the equally inert and insoluble liquid paraffin. I have discovered only good effects from its employment; but I need hardly state that its continued administration calls for intelligent and assiduous attention to the action of the bowel. A systematic inspection of the faeces, which is *de rigueur* in enteric fever, coupled with a daily examination of the abdomen, will supply the necessary guarantee that the powder is doing its office without any tendency to accumulation and concretion. This is a risk which might give trouble if any insoluble mineral powders, such as magnesia were combined with the charcoal; but it is almost completely guarded against by the fluid and oily character and by the laxative tendency of the paraffin with which it travels down the bowel. Moreover, an important part of the treatment is the frequent or daily administration of a small morning dose of castor oil (℥j or ℥ij) if the bowel should fail to act at least once every day.

An additional reason for the daily administration of oil is the desirability of keeping the upper section of the alimentary tract as free from charcoal as possible lest this should, perhaps, exercise upon some of the valuable constituents of food that selective fixation to which Dr. Secheyron[23] has again directed our attention. Indeed, we may have to reckon with various chemical actions, which should be more completely

studied. It hardly needs to be again emphasized that under empty-bowel conditions the paraffin and the charcoal are brought into direct contact with the diseased surfaces, and therefore realize in some important measure one of our great therapeutic principles—the local treatment of the lesion.

THE EMPTY-BOWEL ALIMENTATION.

We must now return to the practical consideration of those two great principles—"plenty of food" and "no faeces"—seemingly incompatible but really easy to combine, which are able to secure perfect nutrition together with absolute safety. A lump of loaf sugar melts in the mouth and is gone without a trace. Let every ounce of the food that we give equal the solubility of sugar, its direct absorption, and its inability to yield a precipitate, and the problem is solved. The food that needs no digestion, but only to be absorbed, is the ideal for a disabled alimentary tract. Just for awhile the typhoid patient is to be brought back to the régime of the ovum, namely, "alimentation by imbibition." The recognized vital requirement that there shall be within the bowel a sufficient bulk of solid insoluble material, is to be met in the present treatment not by food but by the charcoal supplied. The whole question, therefore, narrows itself down to a skilled selection from the group of foods which leave "no residue."

The Dietary.

Typhoid patients can ill afford to spare from their dietary two essential groups apt to be forgotten under the régime of pure milk in which these are not sufficiently represented: (1) the mineral salts and (2) the organic acids and essences contained in fruits and vegetables.

Common salt is not, as in nephritis, a complication—the typhoid kidney not being impervious—but a help to digestion and to metabolism. It should be given in the whey in the proportion of 10 to 15 gr. to the half-pint in addition to sugar. The phosphates are not less important, and a more abundant supply than is contained in the milk can only do good. This additional amount may be conveniently given in syrup as a medical food. But we possess in vegetable diet a natural source for their derivation and for that of other mineral and organic salts.

Neither vegetables nor fruit should be administered in bulk, although, as I realized many years ago, clarified vegetable soups are specially indicated in typhoid fever, as they also are in rheumatic fever. I have therefore ceased to allow baked apple—as I had done since Dr. F. Dickson suggested it to me—in view of the bulky residue which apples leave. This objection, which applies to all fruit and vegetables, cannot be made against their watery extracts duly strained, especially when freed by boiling from any excess of coagulable albumen. The juice of various fruits may be relished in this way, and a standing item is the daily cup or two of vegetable soup or broth lightly flavoured with fresh beef or bacon and scrupulously clarified.

Most acceptable, too, is a frequent rotation of fruit jellies, among which apple jelly is probably the most salutary. The pectose which these jellies contain is probably absorbable without precipitation, and there is no other precipitable element in them.

As to the comparative bacteriological merits of the "meat" and of the "vegetable bouillons" I must leave it to experts to decide which of the two is the more favourable monstruum for pathological cultures in the intestine. From a merely clinical standpoint I regard an attack of typhoid fever as a fine opportunity for the blessings of a vegetarian course, particularly for the purin-encumbered patients past middle age, who are so often rejuvenated by their long illness; and I prefer to derive most of the needful nitrogenous income from other sources than meat.

The nitrogenous supply is represented by peptonized whey, and, if thought desirable, by genuine artificial peptones, but more simply by white of egg diffused in the whey before peptonizing. Eggs are (in the absence of any adverse idiosyncrasy) a most valuable part of the dietary. The egg may be regarded as "chicken milk" at the same time as the "fetal paburum" of the chick. Its albumen is most diffusible, and when dissolved in the whey in small and progressive quantities, and peptonized, it is probably absorbed in the upper part of the intestine. As to the diffusibility of the yolk, enough that we should remember that it fulfils the same office as the maternal plasma in the placental mode of fetal nutrition, in feeding the tissues by direct penetration. A yolk a day in divided portions may be added to the dietary at a fairly early date without fear of unabsorbed sedimentation. Egg is thus a complement to the whey, making up for some of its deficiencies in albumen and in fat, and something more, inasmuch as it is in itself a complete storehouse of all the constituents of the animal body.

The carbohydrate supply is most easily managed, sugars and dextrines being all absorbable without residue. In addition to saccharose and lactose, which are fermentable, but nevertheless usually well tolerated, we have the animal glucose in a non-fermentable form as clarified honey, a favourite member of the typhoid dietary. Sugar and glucosides are also abundantly present in the fruit jellies. Maltine, too, is an additional resource. Not one of the members of this large contingent is capable of furnishing a residue so long as there is enough water to keep it in solution in the alimentary tract.

Among the fats the least likely to yield any residue is oil itself. But cream is more acceptable. It may be taken alone or added to the whey. One ounce a day is a sufficient amount, to be worked up to progressively from smaller doses.

Although it is not mathematically accurate to say that no organized remnant and no chemical precipitate can be left in the jejunum by the foods enumerated, this is substantially true. It is for the physician to suit the proportion of each of the latter to the stage under treatment, bearing in mind that it is a mistake to attempt much feeding during the first few days. Even whey may yield more coagulum than can be digested. Two pints and a half of salted whey may be quite sufficient, in addition to plenty of water, pure or flavoured. The whey should not be fortified in the manner described until the turgid abdomen has subsided and the mucous membrane has recovered from its early typhoid disablement. Sugar, albumen, and cream may then be supplied, singly at first, but afterwards jointly, with due regard to the indications afforded by a daily inspection of the stools. As soon as it is quite clear that the fortified whey, which is the basis of the diet, is suiting the digestion, the soup and the spoon-food delicacies—such as honey, fruit, jelly, and the rest—may be added to the dietary one by one; and in a short while the arrears of nutrition will begin to be made good; but the growing total of food supplies will make it the more essential to provide for a daily evacuation.

The Contents of the Lower Bowel, and the Evacuations.

No opportunity has arisen for an examination of the bowel contents *in situ*, but a description may be given of the dejecta voided day by day under the gently laxative influence of the paraffin, or after the administration of small doses of castor oil. The stools, in accordance with the hygienic rule now invariably practised, were passed into a carbolized or mercurial disinfecting solution, and then transferred for subsidence and inspection into a conical glass receiver. So long as the treatment is in force their chief feature is the thick, jet-black layer of clean, unmixed charcoal at the bottom. Above this is a slightly turbid, flaky fluid with a few almond-sized blobs, and a thin, scummy, flaky upper layer. The black, semi-floating blobs, examined one by one, prove to be made up of charcoal and of a very soft, semi-fluid base—apparently paraffin. This is perhaps mixed with mucus; but I have failed to find any mucous shreds in the stools examined.

These details are not unimportant, as with them rests the vindication by actual demonstration of the special claims of the "empty-bowel method;" and in this direction the charcoal fulfils a useful purpose as an index. Doubtless if any scybala were formed its intense blackness might possibly disguise the presence within them of a good deal of faecal matter; but the loose stools obtained under the influence of paraffin and of castor oil do not leave room for any doubt on that score. As just now stated, the thick layer at the bottom, the "coal-mine" as it might almost be termed, consists of loose charcoal powder only, the unmixed state of which can at once be verified by running it out on a flat white surface. If it is fair to assume that the composition of the dejecta does not materially differ from that of the contents of the ileum at the valve, then we may safely infer on the strength of the chemical evidence as regards the paraffin, and of the ocular evidence in the case of the charcoal, that they must both enter into contact with the diseased surfaces, and that the contact of the latter with any faecal matter must be very slight, or *nil*. Moreover, since any small amount of faecal matter that may be present, other than oil, is mainly composed of granules and of cellular débris, it does not possess that mechanical tendency to cling to soft surfaces so characteristic of vegetable charcoal powder. It is, therefore, not a figure of speech to say that this form of local treatment

realizes the capabilities for better or for worse of the surgical treatment of ulcers by the charcoal poultice; only the poultice is kept on, not for so many hours, but continuously for two, three, or four weeks, and is kept constantly refreshed. This reminds us that, half a century ago, G. M. Jones,[24] of Jersey, used with much success for sloughing sores and wounds a rather thin paste of vegetable charcoal and fresh yeast.

Whatever the therapeutic value of this bowel treatment may be, there is no doubt as to the fact that local treatment is being applied, and that the main object in view, which was to save the diseased intestinal surface from coarse mechanical irritations and from the septic contact of faeces, is in large measure secured. It is perhaps not too much to hope that any pre-existing gangrenous process may be benefited, that any threatenings of gangrene may be discouraged, and that any fluids undergoing absorption from the lower bowel may have been largely deprived of their toxic properties.

Very few words will suffice to indicate some of the collateral advantages accruing from the empty-bowel conditions to the patient and to the surroundings.

1. Provided, of course, the bowel is not allowed to remain unrelieved, any marked decrease in the frequency of the evacuations and in their quantity must obviously be a gain, as it means relative physiological rest for the bowel, and as it saves the patient from much unnecessary disturbance and fatigue.

2. From the nursing side of the question there is an economy of labour which *caeteris paribus* is well worth securing.

3. Not the least important aspect is that of preventive sanitation. *Verbum sapienti:* "The less the bulk of faeces so much the less the amount of infective material."

4. Finally, as regards the disposal of the faeces, combustion, which is so much the better way (also for the urine), is facilitated, not only by the quantity of charcoal present, but by the fact that, owing to their relatively aseptic and odourless condition, a much less dilution with disinfecting fluid is needed in the pan.

What are the Prospects of the Method?

This is a question which cannot be answered to-day, and which I must leave to others with wider fields of observation. I believe that, being absolutely harmless, it is worthy of a trial, and that its publication is the only means of securing for it an adequate trial—a trial not only extensive but thorough. The success of any treatment largely depends upon the amount of attention bestowed upon its details, and I cannot disguise from you that this method makes larger claims than some others upon the assiduous supervision of the physician. If the hopes that I venture to entertain should not come true, and that, even with the help of any future improvements in the application of the method, we should fail to obtain a better control over the disease, a check to the downward progress of the ingravescent cases, a mitigation of the worst features of the bad cases, and a perceptible reduction in the mortality, there will be no choice but to recommend the adoption of the Currie-Brand treatment on the strength of its recognized efficacy. *Habeant sua fata* -whichever way the experiment should turn out, and whatever form of treatment you may ultimately be led to practise, I believe that the principles which we have considered to-day will fit in with the scheme, and that they will form a useful part of your practical management of typhoid fever.

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An Address

ON

ARE THE PROBLEMS OF CANCER INSOLUBLE?

Delivered before the Brighton and Sussex Medico-Chirurgical Society, December 7th, 1905.

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REFERRING to du Bois-Reymond's discussion of the limits to physiological inquiry, Mach, in his *Analysis of the Sensations*, points out that those problems which are insoluble from their very nature should be outside the domain of scientific thought. He suggests that their insoluble nature depends on the form in which they are stated—depends, in short, on an erroneous formulation. Rational thought must devise a restatement of such problems in a way that makes their investigation profitable.

More than other problems of medicine, the problems of cancer present a varying facies, according to the number, the variety, and the nature of the facts which we take into our purview in attempting to formulate them, and the conflicting standpoints of different investigators are the natural result. Experience and discussion have, however, already provided for the proper formulation and solution of some of those problems, but the history of the investigation of cancer presents many instances of problems still baffling solution, because, as I believe, having been originally formulated on insufficient data, they have been wrongly formulated. Nevertheless, their direct solution continues to be freshly attempted.

I propose to indicate my present conceptions of some of the problems of malignant new growths, and the means by which their solution is being attempted. I shall restate some of the problems which have long baffled solution, in a form which makes their investigation profitable and their solution more hopeful.

I shall express my opinions on the progress made towards the attainment of these ends as definitely as possible; and in reply to any criticism that I am not dogmatic enough, I shall contend that the investigation of cancer has suffered, and suffers to-day, from a too great readiness to hold dogmatic opinions on a subject of which we know so little, and regarding which hitherto unsuspected facts have accumulated in recent years and are still accumulating.

Some three years ago the investigations of the Imperial Cancer Research Fund commenced. Those actively engaged in the task essayed to grapple with the disease, not as a problem of human pathology only, but as a comparative biological problem and one requiring experimental treatment. Dr. Murray and myself have striven to place the exact knowledge of the nature and incidence of the disease on a basis commensurate with its ramifications in men and animals. For on the one hand those facts which were matters of common knowledge to the medical profession were drawn from an extremely narrow field of investigation—namely, the study of the disease in man—and, on the contrary, the hypotheses explaining them ranged over the full field of biological knowledge and speculation. To preserve an attitude sufficiently free from bias was no easy matter, because all co-ordinated investigation must be conceived in terms of a working hypothesis of some sort.

Older Hypothetical Explanations of the Nature and Growth of Cancer.

At that time various hypotheses were prominently before the medical profession—three especially contested for favour. In the Cohnheim hypothesis and its variants an embryonic origin was postulated, and to the minds of many the only alternative to an awakening of latent powers of growth in "embryonic rests" was the acquisition of new powers of growth by adult differentiated tissue. What was the amount of growth requiring explanation? It was the amount which sufficed to cause a patient to succumb to cancer, and the explanations were formulated accordingly. The energy with which growth proceeded showed no diminution up to the time of death, and was loosely described as "limitless." How was this amount of growth to be elicited in either

embryonic or adult tissue? Various forms of stimulus (for example, chronic irritation) were suggested. These suggestions were held to be an unsatisfactory answer to a question which the third hypothesis attempted to dispose of by assuming the intervention of a parasite to elicit the necessary power of growth.

The supporters of the two hypotheses first mentioned were not very active, partly owing to the absence of new facts to argue from, and partly from the necessity for testing the fresh evidence brought forward in support of the parasitic hypothesis. The view that cancer was an infective disease directly transmissible from individual to individual was in favour in France, and also in Germany, where the statistical results of a census of all the cases of cancer recorded on a definite day throughout the German Empire had been adduced in its support for the first time. At home, on the Continent, and in America, most of the serious investigations were being directed to proving or disproving this hypothesis, although some suggestive work was being done bearing on the possible embryonic nature of tumours.

In regard to the hypothesis of infection, discussion chiefly centred around the interpretation of the increase recorded in the number of deaths from cancer, the apparent endemic occurrence of the disease, and the nature of certain bodies—the alleged parasites—frequently found in cancer cells, the best defined being those described by Plimmer in cancer of the breast. With the exception of the work done by Shattock and Ballance, and some doubtful observations by Hanau, Moreau, and L. Löeb, only haphazard efforts* to prove or disprove the possibility of transmitting cancer experimentally had been made, and the results were contradictory and wholly unsatisfactory. Any one tackling the problem and seeking an explanation of the frequency of cancer, found himself obliged to sift the evidence for and against the view that cancer was directly communicable by infection. More recently—indeed, just a year ago—a distinguished surgeon anathematized the bed clothing and the discharges of cancer patients as dangerous sources of infection!

The causative influence of geological formation, of soil, of climate and diet, of dwelling near rivers and trees, all found advocates. Civilization even was blamed for calling cancer into being; the negro in his native Africa was said to be free from cancer, the negro of America was known to be prone to it. The veterinary profession had shown that all the forms of cancer occurred in domesticated mammals, but medical men alleged, or were unable to disprove, that this was due to contact with man. Wild animals were said to be free from it. The evidence for its occurrence outside the mammals was regarded with the greatest distrust. Doubts were even expressed as to the identity of the disease in man and animals, although in 1899 Professor (now Sir John) McFadyean had protested against the assertion of a distinguished member of the medical profession that cancer was a disease peculiar to man.

The Investigation of Cancer still in a State of Confusion and Error.

The confusion of opinions and conflicting statements of fact were disconcerting in the extreme to the mere medical man seeking guidance. The chaotic state of the whole matter was emphasized by the absence of any criteria serving as guideposts in the wilderness of fact and fiction. Obviously, where so much divergence of opinion was possible, many of the matters under discussion were open to ambiguity of interpretation or insufficiently supported by accurate observation. Investigation was hampered by the need for paying heed to a mass of disorderly details without any more obvious relation to one another than could be found for them in the imaginations of a multitude of authors wildly guessing at truth and formulating the problem they sought to solve in terms fitted less to the facts than to the solutions advanced. Truly, there was, and is, need for work—much work and accurate observation—to cope with the flood of speculation and to elevate the investigation of cancer from the kind of "Tom Tiddler's" domain it had become, and unfortunately still remains. From the outline I have given it will be evident to you that we had to attempt to solve, not one, but many problems associated with cancer.

Organized Attempt to Systematize Investigation.

Those responsible for the institution of what is now the Imperial Cancer Research Fund foresaw that only a very far-reaching scheme of inquiry, backed by the most disinterested supervision possible, that of the Royal Colleges of Physicians and Surgeons, would suffice to clear the ground. With the approval of the Executive Committee, I determined to pursue five preliminary lines of inquiry covering most of the points at issue discussed above, and affording means for submitting cancer to experimental study. In the first place it seemed essential: (1) to define the extent to which cancer occurred throughout the civilized and uncivilized races of man; (2) to determine the extent to which it pervaded the animal kingdom, outside of the domesticated animals; (3) to ascertain whether the disease were transferable; (4) to demonstrate that any experimental observations made were made with cancer in all ways comparable to that found in man, and to show the advantage of undertaking the study of specific problems in the animals best suited to their investigation*; (5) The important deductions derived from statistics and their conflicting nature, together with the need for their valuable aid in furthering the zoological and biological lines of investigation, made it imperative to inquire into the uses to which statistics could be properly put, and to ascertain the reliability of the clinical and pathological data on which they must be based. In this connexion the higher incidence of cancer in old age required special attention as a comparative biological problem; its statistical importance had long been recognized by accurate statisticians, and most fully emphasized by Newsholme.

These preliminary lines of inquiry being objective in nature, they permitted of investigation fairly free from bias. In their early stages they bore less on the nature of the disease, and more on the value of existing knowledge and the elucidation of the relation of known facts to one another. I shall not weary you with details of the organization† necessary for the conduct of those five lines of preliminary inquiry, in such a way that they formed parts of one co-ordinated investigation, the results of which will, I hope, show you that during the past three years many contradictions have been resolved, fallacies have been exposed, new facts have been elicited, the experimental method of investigating cancer has been placed on a sure and comparative basis, and the whole field of inquiry narrowed.

Ethnological and Zoological Distribution.

The energy of medical and other Colonial officials speedily led to the discovery of cases of cancer in native races of mankind hitherto supposed to be exempt, dwelling in parts of the world remote from European civilization. Where in the first instance the disease was not found cases have since been brought to notice. The inhabitants of Japan and China suffer from cancer, and upwards of 1,000 cases have now been reported from the numerous native castes coming under the observation of European medical officers in India. The Danish Government informed us of its occurrence in the Arctic regions.

The hearty response of the veterinary profession to the appeals addressed to them brought a surprising amount of material from domesticated mammals, and some from wild animals in captivity. One of our earliest cases was a carcinoma mammae in a wild mouse. Malignant new growths were obtained from birds (tame and wild), some from fish—for example, from trout in hatcheries and from carp, also from marine fish living in a state of nature. Independently of us, Dr. Pick described cases of malignant new growths in a fowl, a giant salamander, and in trout, the last having been originally recorded by Miss Plehn. A large tumour in an oyster, described as long ago as 1887, has been brought to our notice, and efforts are being made to find out its true nature.

The information on all the above lines continues to accumulate, and the search has been taken up in widely-separated parts of the world. A few weeks ago Sir Wm. McGregor forwarded a specimen of what is probably a malignant new growth in a codfish caught off Newfoundland, and Dr. Smallwood

* Jonsso's and Borrel's investigations had not then been published.

* For example: For the study of minute cell structures the amphibia have long been classical objects. The study of the cells of malignant new growths in amphibia has been of the greatest value to us. The same group, owing to the power of regeneration, amounting even to the regeneration of entire limbs in some species, affords opportunities for studying the alleged analogy between the growth of cancer and the growth of tissues in reparative processes to replace defects. Up to the present, however, malignant new growths have only been successfully propagated in the mouse, which has been found to be well suited for the experimental study of many features of cancer.

† We have elsewhere acknowledged our indebtedness to Government departments, London hospitals, medical and other officials of the Colonies and India, and to many collaborators at home and abroad—to Borrel, Gilruth, Jonsson, Miss Plehn, and Pick especially—who have worked independently on single lines of inquiry similar to or identical with some of those mentioned above.

of Syracuse, U.S.A., sent us specimens of a new growth in a frog, which we find is a columnar-cell carcinoma infiltrating the kidney. Recently Professor Welsh of Sydney, New South Wales, has also noted the occurrence of cancer in an aged lioness, an old tigress, and in a marsupial, likewise another growth in a frog. Dr. Pick of Berlin continues to augment our knowledge of malignant new growths in fish. His account of a painstaking investigation of carcinoma in trout aroused great attention last month at the Berlin Medical Society; many of Dr. Pick's hearers went to the meeting still doubting the existence of such things.

It soon became probable that all races of mankind were liable to cancer, and likewise all vertebrate animals,* whether living in captivity or in a state of nature. To this general statement there is still one exception, which we have pointed out before—a true malignant new growth has not yet been described in a reptile—but evidence was bound to be late in coming in the case of some groups, and there is no obvious reason why reptiles and invertebrates should not also suffer from cancer. There are, of course, difficulties in obtaining reliable data on its relative frequency either in native races of man or in animals.

Identity of Cancer in Men and Animals.

I illustrate some of the facts alluded to by slides showing carcinoma mammae, malignant adenoma of the mammae, squamous-celled carcinoma of the jaw, adeno-carcinoma of the small intestine, etc., in the mouse (tame and wild); carcinoma, and malignant adenoma in salamender and in frog; also in the trout, codfish, gurnard, and some examples of sarcomata, from which you will see that the histological lesions characteristic of the disease throughout the vertebrates are identical with those characteristic of the disease in man.†

Constant Association with Old Age in Men and Animals.

I must, however, also tell you that cancer has the further remarkable common feature that in animals it has the same higher incidence in old age, and therefore the same relation to the duration of life as in man, which involves that in animals with a shorter life tenure the period of relative immunity is correspondingly shortened. Within the limited compass of the life of a mouse (3 years) there are condensed the vital activities which in man may occupy more than half a century, and all series of events are correspondingly shortened. The association of cancer with old age is the only factor known to be constantly associated and intimately bound up with the processes responsible for the development of cancer in man and animals.

Limitations to Transmission and its Unique Features.

With apparent identity in the nature of a disease of such universal occurrence we were face to face with a new aspect of the old problem, was it transmissible? Did an infective agent entering the body from without link together the sporadic cases so widely distributed in the animal scale from civilized man to marine fish living in a state of nature? The surmise was quickly arrived at that external factors such as habitat, food, and conditions of life generally played little, if any, direct part in causing a disease showing constant and unique characters in organisms so divergent. The influence of such inconstant external agencies is probably a mediate one, as contrasted with the direct and constant association of cancer with old age. The essential factor or factors appear to be properties common to the cells of all the divergent organisms prone to the disease, and therefore the time of its appearance merely obeys the laws which set different limits to the compass of life. This conclusion would have been perhaps premature if drawn from the evidence of ethnological and zoological distribution alone. Concomitantly, however, the results of some of the other preliminary lines of inquiry showed that civilized man's responsibility for the occurrence of cancer in native races and domesticated animals was in all probability limited to providing them with an opportunity for reaching the "cancer ages."

To the newly-ascertained wide occurrence of the disease were also added (1) the knowledge of the still more astonishing limitations to its transmission, and (2) the discovery that cancer possessed powers of continued growth after the death of the original host, unparalleled either by organisms or tissues in the vertebrate kingdom.

We have attempted the experimental transmission of the disease on a most extensive scale. In mice alone we have performed upwards of 10,000 experiments. We have obtained incontrovertible evidence that the disease is only readily transmissible from one individual to another of the same species, or even of the same race. But to this restriction under favourable experimental conditions there are added yet others, so that its transmission naturally from one individual to another is a very improbable contingency—a conclusion supported by the negative results of numerous experiments in which animals suffering from cancer have been housed with healthy animals.

I show you a series of slides illustrating the sequence of events when cancer is successfully inoculated from one animal to another. You will observe how a few parenchyma cells retain their vitality and continue to divide and multiply, giving rise to large tumours at the site of inoculation. On the contrary, you will notice the rapid degeneration of the supporting tissues and blood vessels forming the stroma. They have not the vital powers of the cancer cells: they die and are supplied afresh each time a piece of tumour continues to grow after being transferred to a fresh host. Nevertheless, the new stroma assumes the distinctive features of the original stroma of sporadic tumours differing among themselves.

The new tumours are therefore exactly like the original ones. Extensive metastases may form in the lungs, and you will observe that the growth of such transplanted tumours is either expansive or infiltrative, according to the site in which they are growing. Cancer thus artificially growing has all the properties of cancer as it occurs sporadically, even to the difficulty of discovering any specific symptoms of its presence. This identity is well illustrated by the behaviour of two growths in the walls of the small intestine. The appearances and mode of spread, from the mucous membrane towards the peritoneal surface, in the sporadic growth are duplicated in the invasion of the small intestine from the peritoneal surface by a growth following an intraperitoneal inoculation. The metastases in the lungs and the infiltration of the liver, kidneys, and diaphragm yield all the evidence necessary to make the demonstration complete.

Propagation succeeds as well in young animals as in old—perhaps better. Thus, although old age is constantly associated with the origin of cancer, it is not a necessary condition for the growth to continue when once it has started. Growth occurs in a large percentage of all the animals of the race used, and by reinoculating those in which failure takes place in the first instance, tumours can subsequently be obtained. Within one race there is little, if any, evidence of idiosyncrasy or varying suitability of the soil, as it were, and experiments show that success and failure are determined almost, if not entirely, by factors within the tumour cells themselves.

The facts I have been relating refer to the mouse, the only animal in which carcinoma has been successfully propagated. A mouse cancer will only grow in other mice, that of a tame mouse only well in other tame mice of the same race, that of a wild mouse only in another wild mouse of the same race. The cancer of a tame or wild Danish, German, or French mouse grows with difficulty, or not at all, in the corresponding race of English mice. It has been absolutely impossible to get cells from a mouse tumour to grow in any other species of animal.

The outstanding features in the artificial transmission of cancer are therefore: (1) The great difficulty of transmission as contrasted with that of the known infective diseases; (2) the continued vitality of the cancer cells as opposed to the death of the stroma cells, and renewal of the stroma by the reaction set up in the tissues of the host at each reinoculation; (3) the cells descended from any one sporadic tumour, although apparently undifferentiated (embryonic), retain constant properties determining the specific nature of the stroma freshly supplied at each inoculation; (4) the importance of unsuspected subtle differences in different races of mice sufficient to determine success or failure, and, *per contra*, the unimportance of changes associated with age and other natural processes in the life cycle of the individuals of any one race when once cancerous growth has started; (5) the contrasts established between the transmission of cancer and all known processes of infection.

The contrast between the transmission of infection and the

* In this connexion we do not rely on sarcomata alone, which in animals may be closely simulated by other little-known processes.

† We have refrained from detailed pathological anatomical descriptions of tumours in lower animals because to have done so would have been to forsake the main purpose of our investigations, and Dr. Pick had taken up the subject in a most able manner. Where the tumours have been the starting-point for experiments their pathological features have been carefully studied and described.

propagation of cancer is worthy of the serious attention of all those brought into contact with patients suffering from the disease, or engaged in its investigation. The degeneration of the stroma of cancer on inoculation from one animal to another illustrates also what happens to the tissues of a tuberculous nodule, if they be used to transmit tuberculosis to another animal; they degenerate, but they hand on the tubercle bacillus to the tissues of the new host, and these, becoming infected, themselves exhibit the peculiarities of the disease. The experimental transmission of cancer means the continued growth of the tumour cells of one animal in a succession of other animals. The tissues of the new hosts do not acquire any cancerous properties; they merely react to the presence of the cancer cells and supply them with nourishment. The process is fundamentally different and distinguishable from all known processes of infection.

The transference of cancer cells from one mouse to another therefore affords them an opportunity for continuing to grow in a succession of animals. Jensen's tumour is growing to-day with undiminished energy four years after the death of the mouse in which it arose, and therefore for a period of one year longer than a mouse lives. In our own experiments growth has proceeded in some 3,000 mice successively, all of which are now dead, yet the tumour cells themselves are multiplying in other mice as actively as ever, and producing enormous masses of tissue. The power of proliferation in this and four other tumours, stands in no relation to the normal length of life, nor to the limits set to the growth of a mouse. In describing the artificial propagation of cancer, Dr. Murray and I have pointed out that it is a phenomenon unparalleled in the vertebrates, and is a truer measure of the nature of the growth than that formerly known, which terminated in the death of a patient and itself ceased at that death. The experimental study of "expansive" and "infiltrative" growth shows that there is no essential difference between them. What is understood by the "malignancy" of a tumour is but a manifestation of the power of growth: a conclusion to which Ehrlich and Apolant have recently given confirmation.

General Conclusions from the Ethnological and Zoological Distribution: The Age Incidence: The Nature and the Limitations to the Transmission of Cancer.

Such is the difficulty of transmitting cancer from the tame mice of one country—for example, France or Germany—to the tame mice of England, and the all but impossibility of transmission from tame mice to wild mice, that I venture to assert that the prevalence of cancer among the negroes of America was not brought about by contact with cancer-infested white men. Cancer was inherent in the negroes when they were shipped from their native Africa, where it probably existed, as it still does to-day, in natives remote from civilization. Nor has the white man been the focus from which the disease has spread throughout the vertebrate kingdom. The study of the limitations to the transmission of cancer shows that cancerous tissue possesses properties more specific to and distinct of a species than any of the criteria by which the zoologist separates one species from another, or than the differences which the "precipitin test" has revealed between the blood of even nearly-allied animals. Sporadically the disease arises *de novo* in each organism attacked, and appears to be a process to which the tissues of the most divergent organisms are liable in the old-age period of life. The only alternative is to postulate that each species, race, and even tissue, has got its cancer, or rather cancers, which are handed on from generation to generation like some family heirloom. This assumes that cancers are themselves organisms implanted from individual to individual; that they are specific to the species, or even race, whose vitality they sap, and directly descended from some primæval cancer which started in remote geological ages. The supposition is entirely irrational, and is disproved by the fact that cancer is constantly a disease of old age, whereas old age is not necessary for the transmission and growth of cancer; there is therefore no reason why cancer, transmitted as supposed, should not prefer youthful animals, instead of being increasingly frequent as age advances. This *reductio ad absurdum* is but one demonstration of the value of the comparative and experimental method of studying cancer.

In the light of the knowledge we now possess, many of the problems that faced us three years ago have been solved, and many of the confusing statements to which I have drawn attention cease to be worthy of serious consideration. The occurrence of cancer in codfish off the banks of Newfoundland may not show that icebergs and fogs cause cancer, but it does show that dwelling in the neighbourhood of trees, or on a clay soil, living under the influence of civilization or indulgence in alcohol, are not indispensable to the appearance of cancer. Time prevents me adding many facts to those I have laid before you. I can only allude to the valuable aid the statistical investigations have been to the others, and state that the minute study of the prolonged artificial propagation of cancer shows that the energy and the amount of proliferation fluctuate from causes inherent in the cells themselves, and led us to discard, as being incompatible with the facts, the working hypothesis that growth might be maintained by the intercalation of heterotypical mitoses (like those of reproductive tissue), followed by nuclear fusion.

In our investigations we have obtained evidence against all the explanations yet advanced as to the cause and nature of cancer, proof that cancer cells have not reverted to an embryonic undifferentiated state, or that the growth and ceaseless cell division of cancer resembles the intermittent growth and cell division of reproductive tissue, or that the artificial propagation of cancer resembles the grafting practised by horticulturists in the propagation of plants and trees.

Thus at present any attempts to directly ascertain the cause and nature of cancer are surrounded by so many sources of fallacy that, to my mind, they remain to-day as unprofitable as they have been in the past. The attempt to produce cancer experimentally—for example, by chronic irritation, for what form of chronic irritation is constant throughout the vertebrate scale?—is also surrounded with great difficulty, not the least of which is the liability apparently inherent in all animals to acquire cancer in old age.

The constant association of cancer with old age suggests a direct attempt to ascertain the nature of the connexion. But such a direct attack is unprofitable because it at once opens up the bigger problem, What constitutes senility itself? This is a problem at present beyond our powers. There has long been indirect evidence that the connexion between senescence and cancer was local and not constitutional. Otherwise multiple primary growths would be the rule and not the exception. Our own observations show that the influence of age is active in relation to the origin of cancerous growth, and not in relation to its continuation; for cancer can be propagated almost better in young than in old animals. If it be permissible to formulate the association of cancer with old age in other terms, one may say that tissues which become cancerous alone escape the consequences of the senescence to which organisms as a whole succumb, or, that if cancerous tissues are also prone to succumb to senescence, they are able to recover from it. Stated in either way, the association of the origin of cancer with old age becomes a problem to be attacked after those formulated below, with reference to the continued growth of cancer, have been solved.

The artificial propagation of cancer tells us nothing directly as to the origin of cancer—it only indicates that the distinctive characters of any single malignant new growth, once acquired, are probably permanent; for under artificial propagation different carcinomata of one organ (the mamma) retain their individual characteristics. They are not convertible into one another, nor do they merge into a common type. Artificial propagation gives the opportunity of studying many of the properties of malignant new growths in detail with a thoroughness unattainable in the case of sporadic tumours. It has already proved the inadequacy of the standards by which an anthropocentric pathology has attempted to measure the proliferation and probe the nature of cancer. The true measure of that proliferation has not yet been arrived at. Its study suggests what appears at first sight to be a series of new problems, but may really be restatements of old ones, namely, Why is the amount of the growth of cancer relatively greater than that of any vertebrate organism? Are growth and cell division always progressive? Is cancer subject to a process of natural decay, or if not, how is its energy of growth and assimilation maintained?

To all these questions it should be possible to obtain a definite answer with the means at our disposal, and once they have been answered the original problem, so long the object of futile direct attack, will present itself in another form, more approachable than the old problem, "What is the cause of cancer?" has proved to be.

Competitive Research and Co-ordinated Investigation.

In conclusion I feel it to be my duty to call attention to the risks attending the state of transition through which the

investigation of cancer is passing at present. On the one hand, a change has come over the status of the actual investigators. A few years ago the investigation of cancer attracted voluntary workers only, and almost, if not entirely, from the medical profession. To-day we have an increasing number of laboratories springing up all over the country, and they are, or will be, provided with staffs obliged to investigate cancer, and to devote their whole time to this duty. I have seen the phrase "in these days of competitive research" used in a newspaper article on the efforts being made to explain cancer. I think the phrase is unfortunate; it shows the existence of the wrong spirit among those engaged in cancer research, of a desire to make a show, to get out some results, to claim progress when none is being made; in short, it is a phrase coined to fit the spirit of scamped work and hasty conclusions, and it may even be a symptom of a tendency to exploit cancer research for other purposes. I should like to see it possible to substitute the phrase "in these days of co-ordinated research"; but at the same time contributions to the discussion of cancer banished from lay journals. At the very least those actually engaged in research should not countenance such contributions.

It will be obvious to you that in so far as the work of the Imperial Cancer Research Fund has been productive of progress, that progress cannot be placed solely to the credit of Dr. Murray, Dr. Cramer, and myself, that is, to the credit of investigators enjoying the facilities accorded to the Royal Colleges for the pursuit of these investigations. In every direction we have simply gleaned the results of a multitude of willing collaborators at home and abroad, without whose aid investigations on the necessary scale would have been impossible. We have had the additional advantage of expert advice from members of subcommittees, and have never hesitated to seek further advice at the best sources, both at home and abroad, on matters of importance. It is my firm conviction that it behoves those placing themselves under obligation to devote their whole time to the study of cancer to beware of being impatient of results, and that those who supervise or subsidise the investigators must not be in a hurry to see a quick return for the money spent.

On the other hand, a change has come over the methods of investigation and the training and the kind of experience required of the workers themselves. Purely pathological studies are being departed from for experimental and for other methods, requiring the specialist's knowledge of statistics, general biology, chemistry, and physical chemistry to a degree not required of the mere medical man. The posts which would formerly have been filled by pathologists, bacteriologists, and others skilled in the procedures of experimental medicine, are better held by investigators trained in other sciences, but for that reason lacking the attitude of restraint imposed on every member of the medical profession by contact with human suffering. The very reasons leading us to welcome the assistance of other specialists are also reasons for caution, lest too great significance be attached to observations viewed solely in the light of their apparent analogy with normal processes familiar, for example, to the chemist, the zoologist, or the botanist. Having myself fallen into such an error in formulating a working hypothesis, I trust I may be permitted to voice the necessity for caution.

Workers skilled in the methods of the various sciences must learn to appraise the relative value of their respective standpoints, and not hastily conclude that one branch of science has succeeded where another has ignominiously failed. They must control their individual observations by considering them from every standpoint—only so can the rational study of cancer proceed. The facts, and the methods, of pure pathological anatomy cannot be ignored—they may be too rashly held to be bankrupt. They constitute the sure and the laboriously-laid foundations on which the investigators of the present day are striving to build. The pathologist, the experimentalist, the botanist, the zoologist, the chemist, and those engaged in the application of radio-active agents to the treatment of cancer will be obliged to bow to the requirements of pathological anatomy. Hence, during this transition stage in the investigation of cancer, the representatives of different sciences will do well to take a modest view of their respective capacities, and, above all, they must not indulge in "competitive research" but sacrifice themselves to "co-ordinated investigation," otherwise the investigation of cancer will merely lapse from one state of confusion and error into another.

Remarks on SHOCK.

Read at the Autumn Meeting of the East Anglian Branch of the British Medical Association at Colchester.

By JOHN D. MALCOLM, F.R.C.S.Edin.,
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Mr. President and Gentlemen,—When Dr. Nicholson asked me to read a paper on shock at this meeting, I accepted the invitation with particular pleasure because the request seemed to indicate an interest in a theory which I recently published.* On the occasion referred to, my attention was devoted only to a consideration of the condition of the vessels brought about by an injury, but the question of shock is a broader one than that of its vascular phenomena, and, before discussing these, I propose to make a few observations on the changes in the nervous system which accompany them.

Changes in the Nervous System.

A laceration or crushing of a limb or of a part of the body, even when there is practically no loss of blood, may immediately reduce a man of full vigour to a state of absolute helplessness. He lies unconscious and motionless. His pulse at the wrist is imperceptible or hardly to be felt. The skin is pale and clammy. The surface and rectal temperatures both fall below normal, and after a very short time it may be noted on placing the hand over his mouth that the expired air is also distinctly chilly. The presence of life is obvious only from the movements of the heart and of respiration. The cardiac sounds may be heard and the impulse in the larger vessels may usually be felt, whilst the chest movements are slow and shallow. There is a considerable interval before signs of conscious life return, but if there is no definite lesion of the brain and if the injury has not been too severe, the mental, sensory and motor powers are completely restored, often in a few minutes, usually within half an hour.

Our most frequent and convenient opportunities for observing the condition of shock are found, however, in the course of severe operations, for the performance of which the patient is first rendered unconscious by means of an anaesthetic. In these cases a condition of profound shock may be so gradually produced, that it does not fully develop until the tissues have undergone a great deal of manipulation.

Very long operations generally induce a state of the deepest shock, and in administering an anaesthetic for such operations the amount of the drug required becomes less as the degree of shock deepens until, at the end, it is hardly necessary to give any at all. Although little of the anaesthetic is administered for a considerable time before the operation is finished, it may be only after a period of perhaps several hours that definite evidences of reaction are discovered. Hence, although the effects of an operation are usually complicated by those of the anaesthetic, there can be no doubt that a sufficient degree of injury inflicted during a surgical procedure renders a patient unconscious and inert, exactly as a severe accident does. The evidence seems to show, also, that when a condition of shock is slowly produced by a continued or repeated traumatism, its effects are more prolonged than when it is rapidly brought about by an injury acting instantaneously.

The condition of shock has a considerable but, of course, far from an exact resemblance to that of sleep. Natural sleep is accompanied by loss of consciousness, a paralysis of sensation and of motion, a diminished activity of all the functions, and a tendency to a lowering of the body temperature. Although it is easy enough to wake the sleeper as a rule, there are those whom it is, at least occasionally, extremely difficult to rouse. I have known of a door having to be broken open and the sleeper having to be violently shaken before he showed consciousness. Children, in particular, may sometimes be quite oblivious to any amount of noise, even when there is no question of drugs or stimulants having been administered. The condition, as in the case of all other regular or irregular periodic changes in the animal body, seems to be due to a rhythmic process, whereby a stage of activity is followed by a period of repose. If the stage of activity is sufficiently prolonged there comes a time when it is

* Lecture delivered before Post-graduates at the Samaritan Free Hospital. The *Lancet*, August 26th, 1905, p. 573.

impossible for the individual to keep awake, and it therefore seems certain that the condition of sleep is due to an exhaustion of some kind of nervous energy. It is said that in sleep the supply of blood to the brain is diminished, and the difficult question arises as to whether this is a cause, or an effect, or merely an accompaniment of sleep.

The application of an extremely low temperature to the body, if it be sufficiently continuous, also brings about, or at least accentuates, a condition of unconsciousness and inertia. So long as a man is able to keep moving he can bear very great degrees of cold, but those who have travelled in high latitudes assert that, if sufficient shelter and external warmth are not obtainable, sleep terminates only in death. During light sleep, if the body becomes too cold, the exposure usually acts as a stimulant and wakes the sleeper. But when the arctic traveller sleeps in a too exposed situation he has resisted the desire, well knowing its dangers, until his powers of wakefulness are exhausted. When an absolute necessity for sleep arises, as it ultimately must, his slumbers should be proportionate in duration to his previous period of waking, and long before he has rested sufficiently the natural tendency to lose heat is increased to such a degree by undue exposure that life is impossible. The same causes are at work to produce unconsciousness as in natural sleep, and those of an extreme degree of cold are added.

There is another condition which is accompanied by very similar brain symptoms, I refer to natural death—death from old age. When life ends in this way, the final scene has often, and very accurately, been compared to a falling asleep. There is a gradual failure of the powers generally, a slow diminution of temperature, a passing into a condition of unconsciousness, and of course in this case death is inevitable. The unconsciousness is certainly due either to an exhaustion of nervous energy or to a starvation of the brain.

Some years ago I published a description of cases which are now rarely seen; in fact, in their full details they are never seen. I refer to those in which death was due to a paralysis of the intestine[1] following an abdominal section, the effects being aggravated by the administration of opium. In these cases I compared the fatal issue, including the unconscious condition, to that brought about by death from old age, and I attributed the unconsciousness to starvation of the brain[2]—a point to which I shall have to return later.

These conditions—shock, sleep, extreme lowering of the surrounding temperature associated with bodily exhaustion, death from old age, and death from certain complicated febrile conditions—have the following features in common, namely, that the functions of the central nervous system are partly in abeyance, so that the patient loses consciousness and the powers of sensation and of motion, whilst the temperature tends to fall. But as long as life continues the physiological changes—cardiac, respiratory, and nutritive—which are necessary to existence are carried on, although with a lower degree of activity than when the individual is in a state of consciousness and movement.

Recovery from the unconscious condition may be complete and leave no trace, except, of course, in death from old age, and in those cases in which the injury or exposure is too severe or prolonged, and I think we may conclude that, when there is no actual lesion, one of the causes of unconsciousness in all the cases under consideration is an exhaustion of nervous power in the brain centres. In the case of an injury the exhaustion of energy seems to be due to an over-stimulation of the sensory nerves whether the stimulus is applied gradually or suddenly.

Certain drugs and poisonous substances, when circulating with the blood, produce similar conditions of unconsciousness, and it is well known that when an individual is very drunk it may be extremely difficult or even impossible to be sure that he is not also suffering from a serious or perhaps a fatal injury; and, again, it may not be an easy task at the end of a long operation to decide whether a patient is suffering more from the anæsthetic or from the surgical treatment.

A profuse loss of blood may also lead to a condition closely resembling, and, if the haemorrhage is concealed, very difficult to differentiate from, that of shock. In such a case the unconsciousness seems to be clearly due to a cutting off of the blood supply, a starvation of brain substance, and a consequent exhaustion of brain power.

Other causes of unconsciousness are connected with definite brain lesions, and frequently with increased intracranial pressure, but at present we are only concerned with conditions which involve no discoverable lesion.

The Effects of Unconsciousness on the Tissues.

When a limb is paralysed by disease or by injury, the other parts of the body remaining healthy, atrophy of the muscles and, in children, arrest of development inevitably follow, the temperature of the paralysed part being invariably lower than that of the corresponding limb on the other side of the body. The emaciation and atrophy may become very marked, but the tendency to a fall of the temperature beyond a certain degree is restrained by the fact that the blood is being continually mixed with that from the normal tissues, and by the fact that the tissues are not dead, but only have their vitality lowered.

From a consideration of these conditions following a partial paralysis we may, I think, conclude that the inert condition of the body during sleep and in the state of shock, although it permits a continuance of destructive changes in the body, must tend to reduce the activity of the constructive changes partly on account of the exhausted state of the central controlling power, and partly, of course, by interference with the ordinary conditions of nourishment. In cases of prolonged unconsciousness, as in the cataleptic state and in hibernating animals, the body necessarily feeds on its own stores, and therefore a progressive emaciation must take place. In shock, and during natural sleep, evidences of such changes have not time to become obvious, but it seems to me that in all cases the condition of the unconscious, inert body approximates somewhat to that of a cold-blooded animal, so that its temperature is influenced by that of its surroundings, which, as a rule, is lower than the normal body heat.

It is obvious that in dealing with the subject of consciousness and its absence we approach questions that are very speculative, if not metaphysical, but I have put together these remarks because there seems to be no doubt that direct and indirect physical effects are produced on the nervous system by injuries, and that these effects, although we do not know their exact nature and can only detect their consequences, are too important to be left out of account in a discussion on the state of shock. Moreover, I hope to show that the physical conditions to which I have referred possess important relations to the changes in the vascular system taking place as a result of injuries.

The Changes in the Vessels.

The changes in the vascular system seem to be comparatively easy of detection, and yet their explanation is certainly not altogether obvious, for very divergent views are held as to their cause or causes.

Some years ago it was generally taught that shock was due to a paralytic dilatation of the vessels in the area supplied by the splanchnic nerves. This view was founded on an observation by Goltz[3] that repeated tapping of the mesentery of a suspended frog gave rise to a paralysis of the vessels of the splanchnic area. It has also been shown that division of the splanchnic nerves may cause such a flow of blood into the vessels supplied by them that the animal may die from being "bled into its own belly."

It is obvious, however, that although paralysis of the vessels in the splanchnic area gives rise to a collection of blood in these vessels, it does not follow that a collection of blood in the interior of the body may not be brought about in other ways.

In operating on the abdomen I have often observed that although a state of severe shock existed, nevertheless, the division of parts in the depths of the abdominal cavity gave rise to little loss of blood, and that there was usually no evidence of congestion of the capillaries of the intestines. Of course, any process which causes peritoneal inflammation induces a peritoneal congestion, and various other conditions are accompanied by congestion of the parts, but, for example, after a very prolonged operation which I recently performed, and which involved the removal of a "cold" abscess and about 14 in. of gut which, with its mesentery, formed the wall of the abscess, the patient when put to bed was in an extremely collapsed state, yet, although there was no serious loss of blood, there was no evidence of a dilatation of the arterioles in the splanchnic area. Similarly in removing tumours, when much pelvic dissection is necessary, a degree of extreme shock may be brought about, but a congestion of the peritoneal surface does not necessarily or usually arise. These facts seem to me to prove that, whatever the condition of the large arteries may be, the arterioles of the splanchnic area are not relaxed, and therefore that the vessels of this area are not paralysed as a consequence of shock.

More recently the view has been put forward that there is a general relaxation of the vessels during shock. This theory is founded on the fact that a severe injury gives rise, after a time, to a lowering of blood pressure in the medium-sized vessels and in the carotids. I believe that Dr. George W. Crile first propounded this view. He wrote that "in shock the essential phenomenon is a diminution of the blood pressure," and that the cause of this fall of blood pressure "must be an exhaustion of the cardiac muscle, of the cardiac centres, of the blood vessels, or of the vasomotor centres."[4] After giving reasons for eliminating the first three of these causes, he arrived at the conclusion that the explanation of the vascular conditions observed in shock were to be found in "an exhaustion or breakdown of the vasomotor centre."[5]

There is, however, another explanation of the fall of blood pressure which does not seem to have been taken into account by the author of this theory of the nature of shock, and the contention upon which the whole of his views seem to be founded—namely, that a lowering of blood pressure *must be* due to a dilatation of the vessels—is only correct in a very limited sense. It might indeed be argued that the exact opposite is equally or even more true.

When the term "blood pressure" is used, it may refer to the pressure within the heart, within the large, medium, or small arteries, within the capillaries, or within the veins. But in many cases, when this subject has been discussed, very little care has been taken to define the position of the pressure referred to. If it is asserted that the blood pressure is altered in any way without a definite indication as to where the observation is made, the statement that it is raised or lowered by any particular conditions of arterial contraction or relaxation may be true with reference to one part of the vascular system, but it is more than likely to be erroneous as regards some other part, and a general argument founded on any such hypothesis may therefore be altogether misleading.

It is true that the blood pressure in the large arteries is regulated by the vascular tone of the smaller vessels. When these contract the blood pressure in the large vessels is raised, and when the arterioles relax this blood pressure is lowered. But the broad conclusion that the cause of a lowered blood pressure must necessarily be a relaxation of the arteries does not follow.

Although the vascular system is always full, changes in the distribution of the blood may be very considerable within physiological limits. They take place very easily, and permit of a rapid contraction or relaxation of the vessels from local and perhaps evanescent causes. During digestion there is a more free flow of blood in the splanchnic area than when the intestines are functionally less active. As already pointed out, the blood vessels of the brain are said to relax during sleep. Exercise, warmth, and friction cause a flow of blood to the surface. Rest and cold applications tend to throw the bulk of it into the central areas. Of course, the ordinary laws of pressure control the movements of the blood, but the questions of dynamics which are raised are extremely intricate. There is seldom any simple uncomplicated question of power opposed to power, as when the piston of a force pump is pressed home. Very frequently the blood simply slips away when the vessel contracts, and provision is made for its accommodation elsewhere. We know, however, that when fluids flow through elastic vessels "the resistance in narrow tubes increases more rapidly than the diameter of the tube decreases."[6] When a blood vessel diminishes in size from active contraction of its wall, the fact that it contracts *actively* proves that it exercises force, but the fact that the vessel becomes smaller is necessarily accompanied by an increase in the resistance to the flow of blood through it, and the more an artery contracts the greater is the resistance, the less is the volume of blood in it, and the less the pressure in it, until if the vessel closes, the blood pressure in the occluded part must be removed altogether, and Lister has shown that the vessels in the web of a frog's foot may contract "to absolute closure."[7]



Fig. 1.

If Fig. 1 is taken as a representation of a vessel extending from the heart, on the left, to the capillaries on the right, it is obvious that if the arterioles contract the resistance in them will be increased, and the larger parts of the artery will therefore tend to be dilated, the condition being represented somewhat as in Fig. 2.

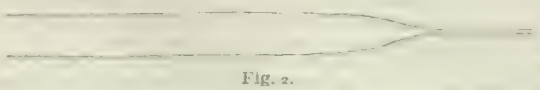


Fig. 2.

If the stimulus causing contraction becomes greater, still larger vessels will be affected, and the condition represented in Fig. 3 will be produced.



Fig. 3.

The medium-sized and small vessels will then be contracted, the blood pressure will be much reduced in them, and the almost or quite imperceptible pulse of shock will be developed.

The small, thready pulse of fever may be accounted for in the same way. In fever, as in shock, an initial rise of blood pressure has been observed, followed by a fall, and in the two conditions there are the same reasons for believing that the primary rise and the subsequent fall of pressure are due to a contraction of the arteries. The more slowly-progressing changes in the vessels accompanying the febrile process are, however, less difficult to follow, and in certain complicated cases the progress of the changes in the vessels is even more easily made out. In the condition of paralytic distension following an abdominal section, already mentioned in this paper, as I described it when such cases were fairly common owing to the constant treatment by opiates, when the abdominal distension gradually increased the resistance to the flow of blood through the splanchnic vessels became progressively great. These vessels were more and more tightly compressed between the liquid and gaseous contents of the bowels, on the one hand, and the much stretched abdominal wall on the other, whilst at the same time they were elongated and therefore narrowed by the distension of the gut. In order to prevent an entire dislocation of the circulation it was necessary that the other arteries throughout the body should contract. Moreover, when this particular cause of contraction of the vessels was first added to that of the febrile reaction, the febrile symptoms other than those connected with the vascular system were for a time tending to abate. Therefore it was possible to watch the effects of a firm contraction of the arteries, to a great extent apart from other abnormal conditions.

It was from a study of these cases that I first became aware of the intensity of the symptoms that may be induced by a contraction of the arteries. I was able to trace the full and sometimes bounding pulse of commencing fever into the small, hard, and, at a later stage, the thready, and finally the imperceptible pulse.

As the beats ceased to be felt at the wrist and death approached the extremities became cold, the kidneys ceased to act, unconsciousness supervened, and the patient died, the symptoms tending to show that the heart was capable of beating to the very last. The same evidences that heart failure is not a direct cause of death may also be found in most cases of shock—a view which was also put forward by Dr. Crile. Moreover, in some cases of pseudo-ileus, in which the patients approached very near to death but yet survived, the symptoms of a return to the normal state, as in the case of patients recovering from shock, all seemed to indicate that, as the mischief passed off, the vessels dilated.

If I were to argue from these cases alone, I might easily come to the conclusion that in all the conditions of unconsciousness to which I referred in the early part of this paper, and in which there was no discoverable lesion, the cause of the loss of consciousness was an anaemia of the brain. But I think that an exhaustion of nerve power also tends to bring about unconsciousness, especially in the case of sleep following prolonged physical exertion, and in the conditions which are immediately produced by an injury. In the other states of unconsciousness which are not accompanied by any discoverable lesion, and perhaps in all of these, there seem to be two disturbing conditions tending to bring about a loss of brain power, namely, nerve exhaustion and brain anaemia, due, except in sleep, to the intense contraction of the arteries to which I now invite attention.

It has been held that a brain anaemia during sleep causes the unconsciousness, but the evidence that it is due to a

periodic though irregular nerve exhaustion is very strong. The local anaemia is probably induced by the lowered functional activity of the brain, and it may be brought about in a manner the direct converse of that which induces an increased flow of blood to the splanchnic area during digestion.

As I have pointed out, the diversion of the greater flow of blood from the peripheral area to the splanchnic, and vice versa, occurs easily and frequently as a consequence of the digestive process. The flow of blood through these two areas may be compared to that of a stream along its natural bed and along a mill leat. In the blood vessels and in the river the flow is easily diverted from one channel to the other. If the sluice gates are closed the pressure of water in the leat is reduced, whilst that through the natural course is increased. The same effects would be brought about if the leat were filled in, or if it could be supposed to contract from the wheel to the sluices like an artery. And again, the same would happen if the weir were removed. But, so far as I know, when the main stream is supposed to represent the splanchnic area, the condition comparable to the removal of the weir is the only one that has been considered in discussing this subject. If the accompanying diagram (Fig. 4) is taken to represent the normal condition of a vessel in the superficial area (*A*) and of another in the splanchnic and portal areas (*B*), then Fig. 5 would indicate the distribution during digestion.



Fig. 4.



Fig. 5.

If we assume, as I believe to be the case, that the arterioles and other small arteries are contracted throughout the body during shock, this vascular contraction would not interfere with the transference of blood which so easily occurs in normal conditions from the superficial to the central areas, if an adequate cause for the change of distribution should arise.

Such a cause obviously does arise. When a patient is being operated upon under an anaesthetic a state of inertia is produced, with loss of sensation and of motor power, and there is therefore no movement which might help to keep up the body heat. As a state of shock approaches the temperature falls, and then the whole tendency of the conditions is to throw the blood from the surface into the centre of the body, as happens when extreme cold is applied in health, so as to conserve heat as much as possible. Under these circumstances, if the arterioles of the splanchnic area were to relax it would be impossible to open the abdomen without recognizing immediately an obvious congestion of all the parts, and the blood would collect in the splanchnic capillaries and veins to such an extent that the individual would rapidly die as if from haemorrhage. I have never seen such a condition as a consequence of shock, and therefore it seems to me to be a mistake to suppose that the arterioles in the splanchnic area are dilated or that they are paralysed during shock. In gradually induced shock there is certainly much resistance to the fatal processes, however they occur—a long-continued resistance, indicating a great conservative effort, overcome by a stronger power rather than a gradual yielding where no force is employed. There, of course, cannot be any power driving the blood to the centre if the superficial vessels are relaxed.

The figures illustrating this article are entirely diagrammatic, but it seems to me that the well-marked shoulder joining the dilated with the contracted part in Fig. 2 indicates very well the change taking place in the earlier stages of an arterial contraction. Definite evidence of such a condition is not easily made out during the onset of shock, but in cases of operation when the inflammatory reaction was very slight I have occasionally observed that the pulse at the wrist was full and very soft, as if it were dilated by relaxation as well as by opposition to the blood flow. Such a pulse could not arise if the arterioles were relaxed, but it seems to me that the easy way of providing for the blood displaced from the arterioles by their contraction is by the dilatation of the larger parts of the same vessels, and I think that this may be one of the most immediate changes consequent on the contraction of the arterioles from any cause. Such a relaxation associated with a slight contraction of the arterioles would produce a full soft pulse, and the full bounding pulse of advancing fever also seems to indicate that the radial and other medium-sized arteries are dilated.

There are two causes for contraction of an artery—namely, a want of blood pressure, best shown when a copious haemorrhage occurs, and a muscular contraction, well exemplified by the diminished calibre which all agree is the first effect of stimulation of a sensory nerve. In the same way dilatation may be due to increased pressure in the vessel or to its muscular relaxation. But although one agency may be dominant in producing a change of the diameter of an artery, two factors are necessarily concerned in every alteration of arterial calibre. An artery cannot contract unless the blood pressure gives way, and if the blood is removed the artery must contract, and always does so by virtue of its elasticity. On the other hand, a relaxed condition of a vessel only causes its dilatation if the blood stream has sufficient force to flow freely into it, and the blood flow can dilate a vessel only if its walls yield. The fact that a vessel is dilated indicates that it has yielded. Cardiac pressure alone cannot dilate an artery. It follows that as the blood is gradually transferred from the superficial to the internal vessels by any cause, the latter must become dilated in their medium-sized and larger parts, and thus a condition arises in the internal vessels comparable to that which exists in the systemic arteries when there is a full and soft or a full and bounding pulse at the commencement of an inflammatory attack. The fact that the large vessels are dilated indicates clearly that the arterioles have not lost their tone and have not become paralysed. I would draw particular attention to the fact that both in the case of the stream divided into two by the formation of a weir and leat, and also in the case of the blood distribution between the central and superficial areas it is in the contracted stream that the pressure is lowered, for both in the course of digestion and in the condition of shock it is asserted that the pressure in the internal dilated vessels is raised, whilst that in the systemic vessels is diminished.

This is in accordance with my contention that the blood pressure is lowered where the vessels are contracted. It is not in accordance with the theory that the lowered blood pressure found in the state of shock must depend on some condition causing vascular relaxation of the arteries, such as "an exhaustion of the cardiac muscle, of the cardiac centres, of the blood vessels, or of the vasomotor centres." It is true that a contraction of one vessel of a particular size often causes a rise of blood pressure in a larger vessel, but the effect of contraction in the individual artery is to bring about a fall of blood pressure in it. Whether the pressure is diminished actually at the point of contraction or slightly to the distal side of it must depend on the degree of cardiac force. As the process of contraction of the arteries proceeds, and as the blood collects more and more in the central and warmer parts of the body, danger must arise from the shutting off of the nourishing fluid from the peripheral parts, and, finally, from the brain, and this seems to be the ultimate cause of death in a gradually-induced shock.

I now propose to show from an examination of the symptoms that the hypothesis that a contraction of the arteries is the dominant vascular change induced by an injury fits in with all our definite knowledge on the subject better than any other.

When an artery contracts, the change begins in the arterioles and gradually extends to larger vessels, and relaxation takes place by an inverse order of procedure. It is agreed, I believe, by all observers that the first effect of stimulation of a sensory nerve is a contraction of the small vessels and a rise of blood pressure in the large vessels. So far as I am aware, no evidence has ever been brought forward to show that this stimulus to contraction is altered by an addition to the degree of injury, except Dr. Crile's hypothesis that the vascular tension *must be* relaxed because the blood pressure is lowered. In addition to the reasons I have given showing that this fall of pressure may be explained in another way, I would point out that a relaxation of vessels from exhaustion of the vasomotor centres cannot occur until the arteries have been intensely contracted. Exhaustion only follows extreme effort. Moreover, if a relaxation of the vessels does occur, whether before or after a contraction, they ought to become filled with blood, because the blood pressure is at first

raised, and because the large vessels are so elastic that they must contract and drive the blood into the small vessels if the latter yield. The effects of this change should be obvious on the surface; but there is no clinical evidence, as shock develops, either that a rapid extreme change from contraction to relaxation occurs, or that a gradual relaxation takes place. The latter, after a contraction, would lead to a refilling of the vessels and a more satisfactory pulse beat. But such a change never occurs unless the patient's condition improves. It therefore seems to me that in the phenomena observed there is no evidence of the existence of a paralysis of the vessels from exhaustion of the vasomotor centres. A gradual dilatation, without previous contraction of the vessels, cannot, I think, be attributed to an *exhaustion* of this centre.

Again, when a patient is in a state of extreme shock the administration of vaso-dilators, such as nitroglycerine and alcohol, causes the small vessels to relax, a greater volume of blood flows through them and the pulse improves. This seems to me quite an impossible effect of these drugs if it is assumed that the pulse is already absent from over-dilatation.

The complete or partial anuria observed in shock also indicates that the arterioles are constricted. A constriction reduces the pressure in the small vessels and consequently in the glomeruli of the kidney. The flow of the watery parts of the urine depends chiefly on the relative pressure in the vessels of the glomeruli and in the renal tubules, and if there is not sufficient pressure in the vessels to promote a flow of the watery parts of this secretion, the urine must become concentrated and its secretion may be suppressed. If the small vessels were dilated the blood pressure in the glomeruli would be increased and (other factors being the same) the flow of urine in that case would be greater than normal rather than less.

Saline Injections.

Another point of importance is the effect of saline injections into the veins during shock. When shock was severe, Dr. Crile found that it was only with great difficulty that a saline solution could be got into the blood vessels, and that it very quickly flowed from them into the tissues. As the condition of shock passes off, however, the absorption of fluid is easy and rapid. It is well known how quickly a rectal injection is absorbed as the patient shows signs of recovering, and how rapidly an improvement of the pulse follows. Evidently the arteries take in fluids at this time from every available source, for an injection is absorbed equally quickly, whether it is thrown into the rectum, into the peritoneal cavity, into the subcutaneous tissue, or into a vein.

If, on the other hand, it is assumed that a dilatation of the vessels exists when shock is severe, and that a contraction takes place as the patient recovers, then we should expect that a large quantity of fluid could be injected easily when the condition was at its worst, and that during recovery the absorptive power would diminish.

Much stress has been laid on the fact that adrenalin causes an immediate rise in the blood pressure when it has been reduced by cutting out the vasomotor centres, but such experiments have no direct bearing on the condition of shock, unless it is a fact that the vessels are dilated during shock, and it is this hypothesis that I venture to suggest has not been demonstrated.

Another point to which much importance has been attached is that adrenalin causes a rise of blood pressure when such a degree of shock has been induced that no other treatment has any effect in that direction. This also has been considered a proof that the arteries are dilated. But if, as I hold, the arterioles are contracted throughout the body, and the internal vessels contain most of the blood on account of the excessive constriction of the superficial arteries due to the lower temperature of the surroundings of the body, it is obvious that the administration of a very powerful vaso-constrictor, such as adrenalin, hemisin, or ergot, may act with great force on the partially-dilated internal vessels, and yet may have little effect on those already intensely contracted. The result would be that some of the blood collected in the visceral areas would be thrown into the systemic vessels, and thus a rise of pressure in the latter would be brought about in exactly the same way as compression of the abdomen raises the blood pressure in the carotids and proves beneficial during shock.

It has been shown that during the state of shock the specific gravity of the blood is raised. Exchanges between the fluid parts of the blood and the tissues take place constantly and very easily in health, and, as the specific gravity of the blood plasma is less than that of the blood, it seems quite certain that the rise of specific gravity is due to an escape of fluids into the tissues and into the lymphatics. This cannot, I think, be explained if the vessels are dilated. In that case the tendency would be for the fluids to pass from the tissues and lymphatics into the blood vessels, and the specific gravity of the blood would be lowered, as it is found to be after haemorrhage. The rise of specific gravity of the blood during the state of shock is, however, fully accounted for if, as I believe to be the case, the blood is subjected to pressure by a general vascular contraction. I do not know to what extent the bulk of the blood may be reduced by an escape of its plasma from the vessels, but in fever the blood is rapidly destroyed, and in shock there is, I believe, the same vascular condition as in fever, but without the reaction and consequent rapid compensating, or partially compensating, manufacture of fresh blood. In the cases of death from pseudo-ileus to which I have already referred, in which death was accompanied by evidences of a steadily advancing contraction of the arteries, one of the chief features of the condition was the enormous amount of bilious fluid which was ejected through the stomach from the intestines. It has been held that death in these cases was due to poisoning. But in certain cases of this kind in which the obstruction to the intestines, which always complicated a case of pseudo-ileus, was removed, as soon as the signs of obstruction ceased, large quantities of foul fluid were rapidly absorbed, whilst the patient as rapidly recovered.

The amount of fluid vomited in these cases and the quantity of bile excreted certainly indicated that an excessive destruction of blood took place.

It seems to me that if the specific gravity of the blood is raised during shock, and if this condition is not altered by an early return of the plasma to the vessels, a destruction of blood cells, and therefore of the quantity of the blood as a whole, must soon follow. Bilious vomiting is a common accompaniment of recovery from accidental injuries, and a great deal of bile may be ejected after an operation. This may indicate that the destruction of blood corpuscles is increased. Moreover, after a very severe operation, even if no great amount of blood has been lost, the patient generally continues pale until an inflammatory reaction develops. Thus the evidence, although it is perhaps not very direct, seems to show that there is a definite tendency to a destruction of the blood as a consequence of shock, and this may have considerable importance as an explanation of the difficulty frequently raised as to where the blood goes in these conditions. There can be little doubt that the physiologico-mechanical difficulty of getting rid of the blood is one of the most important safeguards against death from shock. It may be stated generally that all conditions which tend to maintain the pressure within the systemic vessels, and thus to keep the blood in these vessels, tend also to prevent the development of shock. Every condition, in fact, which resists or prevents the arterial contraction in the systemic vessels is beneficial. Even tying the aorta above the offset of the coeliac axis is said to delay the development of the symptoms. On the other hand, any condition which lowers the blood pressure in the larger systemic vessels without raising it in the peripheral vessels, and which thus facilitates the exclusion of the blood from the tissues supplied by the systemic arteries, immediately increases the severity of the symptoms of shock. Haemorrhage is the most powerful force acting in this way. When a patient is in a state of extreme shock, any considerable loss of blood is a very serious, and may perhaps be a fatal, complication. Obviously, if the vessels generally are contracted and the bulk of the blood is thrown into the central areas in which the vessels are somewhat less constricted than elsewhere or are even dilated, a sudden loss of blood must facilitate a further constriction of the systemic arteries, and, it may be, a shutting-off of the blood supply from the central nervous system, which is a sufficient cause of death.

As to the treatment, all the usual methods seem to be in harmony with the views I advocate. If it were true that the vessels became relaxed in the state of shock, the application of warmth and the administration of stimulants and other vaso-dilators would certainly be harmful, at least in theory; and the suggestion which naturally follows that we should revolutionize our views on these methods of treatment is, in my opinion, one of the strongest arguments against the theory that the condition of shock is due to a relaxation of the vascular system.

Dr. Crile recorded that by administering large doses of strychnine he was able to induce a state of shock, and there is no difficulty in believing that this treatment would bring about an intense contraction of the vessels, although he maintained that it induced a relaxation; the only evidence he adduced, however, being a fall of blood pressure, which, as I have shown, does not prove that the vessels are relaxed. Assuming that strychnine in large doses produces contraction, it seems to follow that small doses would also be harmful in their influence on the vascular changes, but strychnine acts primarily on the nervous system, and in full therapeutic doses it produces an irritability of the nerve centres which in all probability favours the numerous reflex actions tending to assist in the defence of the body rather than those directed towards its hurt.

There is no doubt in my mind that whenever a patient has been put to bed, if the wound has been nicely closed, if no septic condition remains, and if no further loss of blood takes place, the whole physiological tendency is towards recovery, and the explanation of the beneficial effects of strychnine, which clinically seem indisputable, may be that it acts as a general stimulant.

In conclusion, I would point out that the views I advocate are founded on the well-known physiological fact that stimulation of a sensory nerve causes arterial contraction, whereas the view that a general paralysis of the arteries is caused by an injury has no such basis. Moreover, in addition to the exhaustion of brain power due to over-stimulation of the nerves and the starvation of brain tissue which may be explained by the theory that the vessels are contracted in proportion to the intensity of the stimulus caused by an injury, this theory that the arteries contract also explains fully those cases of sudden death in which the injury, although severe, does not affect any vital organ. It is quite certain that a sufficiently acute contraction of the arteries might suddenly overcome the power of the heart, and might thus induce death immediately from heart failure. This is an explanation of the cause of the fatal issue quite different from that which I have suggested as taking place when death is due to a prolonged operative procedure, and it seems to me that if death in the latter case is attributed to shock, death from sudden heart failure might be attributed to *acute* shock—a description which on careful consideration will, I am sure, not be considered such a contradiction in terms as it may at first appear.

Death may also be brought about by fear. Sir Lauder Brunton has recorded a case in which a man was killed, after a mock trial, by a smart stroke of a wet towel on the back of his neck, when he expected an axe to descend.[7] Without doubt fear causes a blanching of the skin, which must be due to a contraction of the arterioles, and it seems quite possible that these contractions might be sufficient to arrest the heart action even when produced by fear alone.

Very chronic conditions of vascular contraction, such as those causing hypertrophy of the arterioles in connexion with chronic kidney disease, might also be discussed as bearing indirectly on the questions I have raised, but I hope I have said enough to show that a careful reconsideration of our views on the vascular changes produced by an injury is necessary.

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ON ATYPICAL "INTERNAL DERANGEMENTS" OF THE KNEE JOINT.

By ARTHUR E. BARKER, F.R.C.S.,
Surgeon to University College Hospital.

No surgeon can operate on a large number of cases of "internal derangement of the knee joint" without sooner or later becoming convinced that the classical description of this lesion does not cover all the displacements of structures within the joint which give rise to the symptoms usually supposed to indicate dislocation of the internal semilunar cartilage. In other words, he will arrive at the conclusion that in some few cases, where both the history and symptoms point to a condition closely if not exactly resembling a displacement of the meniscus, the latter may be in no wise altered in its relation to the coronary ligament. And, further, that these symptoms do not depend upon a "loose body" slipping about freely in the joint unattached, and therefore felt frequently under the capsule, now in one place now in another. The fact is that the delicate mechanism of the knee joint, with its complex hinge-movement and gliding of the round condyles on the almost flat tibia, may be deranged by any substance which becomes interposed between either the bones or between the ligaments and the bones. Further, it is sometimes almost certain that irregularities produced on the borders of the articular surfaces such as arise in chronic rheumatic arthritis, will occasionally lead to symptoms closely resembling those due to a displaced semilunar cartilage.

But it is to a condition quite different to any of those mentioned that I desire now to draw attention, inasmuch as it appears fairly common and yet has been but little noticed in the ordinary literature of the subject of derangements of the knee joint. In the last dozen or so of cases in which I have operated I have found this condition three times.

There is, as is well known, behind the patellar ligament and on either side of it, a quantity of loose areolar and fatty tissue underlying the folds of synovial membrane, which follows all movements of the joint. Under normal conditions this fat and synovial tissue is yielding in every direction and escapes all pinching during movements of the joint. But in some cases, owing to bygone inflammation, traumatic or other, it may lose its great resiliency, and, moreover, be thrown into folds and prominences, and these may become engaged between some of the moving surfaces of the articulation, giving rise to symptoms deceptively like those of displaced semilunar cartilage. Such a condition is quite another thing to the hyperplastic fringes produced in tuberculous synovitis. It is certainly independent of tubercle, and the tags produced by the chronic irritation are limited to the front of the joint, behind the patella so far as I have seen.

The reason for drawing attention to this condition is that it produces symptoms sufficiently like those of a displaced internal meniscus to mislead a surgeon and lead to disappointment unless it is recognized. He may open the joint under the impression that the internal semilunar cartilage is detached from the coronary ligament and dislocated, and be surprised to find it in its usual situation and quite normal. If he look no further he will have to close the joint with the feeling that it has been opened to no purpose, and much to the patient's disappointment when the old symptoms return. I have been very near to making this mistake in several cases, and have only been saved from it by a thorough inspection of the interior of the joint with good light through the first incision. The symptoms were so alike in the last three cases that the same description will serve for all. There was the usual account of a slip or wrench of the joint, followed by pain and swelling. After this had gone down a feeling of insecurity followed. Then another slip or stumble at a shorter or longer interval was followed by more or less "locking" of the joint in the flexed position and lasting some time. This locking or stiffness was not as clearly pronounced as in the typical cases, but was nevertheless a factor in the case. The pain was always in the same place, namely, over the inner and lateral part of the knee, and of a very severe kind, though not so bad as in the most typical cases of displaced semilunar cartilage.

Nothing objective could be discovered on an examination of the knee in the intervals between the attacks to account for the trouble. Taking these symptoms to indicate a derangement of the internal meniscus, I operated as for the latter by the curved internal antero-lateral incision. On opening the joint as usual under the internal meniscus the latter was found normal, but in further inspecting the cavity during flexion and rotation outwards of the tibia a long white "tag" was seen in both cases projecting backwards from the loose tissue behind the patella. This was drawn with a sharp hook towards the opening, and was removed with scissors. The tags in these cases proved to consist of dense fibrous tissue. The patients were quite relieved of all their symptoms.

The best explanation of the formation of these loose fibrous fringes in this situation which offers appears to me to be that the original wrench of the joint had led to a subacute synovitis, and that a hyperplasia of the synovial tissues behind the patella had followed, increasing their bulk until they came to catch between the femur and tibia. Each nip thus received would increase the irritation and add to the

size of the fringe. Without a very careful examination of the interior of the joint such a body would be easily overlooked. But in the position of extreme flexion and rotation of the tibia outwards on the femur such an inspection is easy if the light be good.

This condition of things is probably not so rare as might at first sight be supposed. I have operated on several among many scores of typical cases of dislocation of the semilunar cartilage which have passed through my hands. But it seems probable that in some cases of "derangement" where the symptoms were not so severe as to appear to call for operation this condition was present. It is worth noting that the pain in all cases was in the same place, namely, over the inner anterior aspect of the knee. But, as far as I can see, this is the rule in all cases of derangement of the knee involving the catching of displaced material of any kind between its surfaces. The explanation is probably this, that when during flexion something is interposed between the surfaces of the two bones the latter cannot be fully extended without a severe stretching of the lateral ligaments of the joint, and, of the two, perhaps the internal more than the external. Be this as it may, the pain is usually referred to about the tibial insertion of the internal lateral ligament.

This fact may be very misleading, and if not fully realized may result in great disappointment. This may be illustrated by another case. In this all the symptoms seemed to point to a complete dislocation of the internal semilunar cartilage, and yet on opening the joint this was found intact, while the external semilunar was completely separated at its periphery, and was only attached at its two ends.

The patient, a gentleman of about 60, had formerly been in the army. During some violent exercise when quite a young man he had wrenched the right knee. This was followed by typical symptoms of dislocation of a semilunar cartilage—that is, pain, locking of the joint in flexion, and synovitis. The same attacks recurred from time to time, causing much inconvenience. But this was dwarfed by an affection of the left hip joint, presumably tuberculous, which after a long time healed, leaving a serviceable but somewhat shortened limb, with movements limited but not so much as to prevent exercise with the help of a stick or crutch; but for several years past the condition of the right knee had been causing much trouble. There were repeated attacks of "locking" in it, requiring chloroform for reduction. Besides this, there was always a feeling of insecurity in the right knee, which was peculiarly troublesome to one whose other leg was limited in power.

When I was consulted the pain was always described as confined to one spot on the inner and anterior aspect of the head of the tibia. Here there was also tenderness to pressure but nowhere else. During the locking, too, the pain was described as on the inside of the joint. All this, taken together with an experience of a large number of cases of this trouble among which were no instances of dislocation of the *external* semilunar, led me to expect to find a loose internal meniscus. But, on opening the inner anterior side of the joint, the semilunar cartilage was seen to be intact. Suspecting a tag behind the patellar ligament such as described above, I flexed the knee strongly, and rotated the tibia outwards. The light now fell well into the joint but no tag was seen; but beyond the crucial ligament I saw a white mass, and on putting a fine hook into it could draw it forward. It was then seen to be the external semilunar cartilage only held by its two ends, and forming a free loop between these. With a slender scissors passed into the joint it was easy to divide both the attachments of this loop when put upon the stretch with the hook. This semilunar cartilage now before me is of normal size and shows on its outer border where it was originally torn away from the coronary ligament a smooth surface. This is not to be wondered at, as the original tear took place, according to this gentleman's description, as long before as forty-four years. The patient made an excellent recovery, and writes that he has no further trouble.

Although I have now operated for a very large number of loose semilunar cartilages, this is the only instance in which the external was at fault. And if I had been told that it would be possible to remove the external cartilage through the usual small, curved incision in front of the internal lateral ligament which I always make for dealing with the internal meniscus, I should not have believed it. But, as a matter of fact, it offered but little difficulty, once the displaced external cartilage was seen. This case, however, reminded me of what I had suspected once or twice before—namely, that the symptoms of a dislocated external cartilage may all be referred exclusively to the inner aspect of the knee.

My object in writing this short communication is to point out that we may meet with atypical as well as the typical cases of "internal derangement" of the knee, and must be prepared for them. Also to insist that with flexion of the joint, combined with external rotation of the knee, we can with a good light discover which of the varieties we are dealing with. I have never been obliged to divide the internal lateral ligament, and hold this practice to be most undesirable as likely to weaken the joint. Further, my own cases—now very numerous—prove that, whatever variety is met with, it is possible to deal with the case without ever allowing the hand or finger to come in contact with the wound or any part of the joint surface. I believe this to be most important, and that it is one of the reasons why I have never had any inflammatory trouble in these joints which has injured the patients.

In a paper published in 1902 I described the many varieties of displaced semilunar cartilage which may be met with, and figured those which I had actually seen. The present communication is complementary to this, and adds, I hope, some information on an interesting subject.

ACUTE ARTHRITIS DEFORMANS.*

By BERTRAM ABRAHAMS, M.B., B.Sc., F.R.C.P.,

Assistant Physician, Westminster Hospital; Joint Lecturer on Medicine, Westminster Hospital Medical School; Examiner to the Conjoint Board.

The accompanying plates are selected from a series of slides which were shown at the Leicester meeting, and are intended to illustrate some of the salient features in the condition which has been described as acute arthritis deformans. In a recent communication read before the Clinical Society of London some evidence was brought forward in favour of the view that there is no essential clinical or pathological difference between the chronic and acute forms of this disease. The plates now reproduced afford further support to the opinion that the



* Read in the Section of Pathology, Annual Meeting held at Leicester, 1905.

variation in the symptoms of the two forms is merely an expression of the fact that the effects of an acute or subacute infection are chiefly local synovial inflammations with some rise of temperature, whereas the prolonged action of the virus is felt more in the cartilages, bone-ends, and nervous system. Careful examination, however, leads not only to the discovery of borderland cases bridging the gap between the two types, but also to the detection in each of symptoms which at one time were held to be distinctive of the other.



Fig. 2

Thus, for instance, it has been said that acute arthritis deformans attacks only the female sex; one of the plates is a skiagraph taken from a young man, in whom, moreover, although the disease had only lasted three months, there was a marked exaggeration of the wrist-jerk on the affected side. This patient, Dennis M., aged 25, came to my out-patient department with crippling of the left hand, which had come on acutely three months before. As will be seen, there was marked ulnar deviation but no visible osseous change, though the bone-ends seemed a little thin when examined skiagraphically. There was much pain, and the hand was quite useless. He was put [illegible] carbonate, and in six weeks had recovered almost perfect mobility in the affected joints, was free from pain and back at work. The left wrist-jerk was still a little increased, but was not nearly so violent as when [illegible].

The second case is that of [illegible], aged 25, who was for many years under the care of Dr. Allchin, who has kindly allowed me to examine and report upon her. When she was about 11 years of age she began to be attacked, and in the course of a year or so virtually all her joints had become, so to speak, crystallized in the position in which they are shown in the figure. The appearance due to the ankylosed jaw-joint is very characteristic. The skiagraphs show that, although she had been virtually rigid for more than half her life, no bony overgrowth can be anywhere detected. There is, however, marked thinning of the bones, especially of the extremities—far more than can be accounted for by mere disuse. It will be remembered that the effects of disuse upon joints have been experimentally studied by Weichselbaum and others. The girl's menstrual functions are unaffected, and her mind is no more impaired than that of any other helpless invalid would be in similar circumstances.



Fig. 3.

The prognosis is of course by now hopeless as regards recovery of the joints, but it is quite possible that the present condition might have been, to some extent, averted had vigorous measures been at once taken. Thinning of the bones in the neighbourhood of the affected joints is by no means limited to acute arthritis deformans. It is almost constant in the chronic form, and I have also demonstrated it in Charcot's joint disease and other similar affections associated with nervous disorders.



Fig. 4.

I would, in conclusion, reiterate my view that the line of cleavage of cases of arthritis deformans does not divide them into acute and chronic; it is much more probable that the clinical distinction, largely based upon reaction to treatment, put forward by Dr. A. E. Garrod, is on the track of the truth. Still's disease is a totally different form of infection and osteo-arthritis a senile change, which may appear *de novo* or may ring down the curtain upon any of the others.

REFERENCE.

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BALNEOLOGICAL CONGRESS.—The Berlin Balneological Society will hold its twenty-seventh annual meeting this year in conjunction with the Central Union of Austrian Balneologists, under the presidency of Professor Oscar Liebreich. The General Secretary is Dr. Brock, Thomasiusstrasse 24, Berlin, N.W., to whom all communications relative to the Congress should be addressed.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, Etc.

CONGENITAL SYNOSTOSIS OF RADIO-ULNAR ARTICULATIONS.

Having read with interest the account given by Mr. S. Hamilton of a case of congenital synostosis of the upper radio-ulnar articulations, I herewith enclose particulars of another instance of the rare condition.

A girl, aged 8 years, was admitted into the hospital in July, 1899. The following note being then taken:

Both the arms are pronated, supination is impossible. The head of the radius cannot be felt in the normal position—the radius appears to join the ulna just below the elbow-joint. The mother states that the arms have been in the same condition since birth.

The *x*-ray photograph showed the radius joining the ulna about one inch below the elbow-joint on either side. I operated on both arms, dividing the upper end of the radius at its junction with the ulna, removing about one inch of the shaft, leaving only sufficient for the attachment of the biceps tendon. Passive movements were commenced early and a fair range of movement obtained. I did not see her again until May this year. I then found that her condition was practically the same as before operation. After her discharge from hospital the movements had been entirely neglected. On readmission a skiagraph showed that the bones had joined again—this time a definite ankylosis. On June 6th I operated on the left arm, separating the radius from the ulna, removing as much as possible of the upper inch and a half of the shaft and leaving only the attachment of the biceps tendon. In order to keep the bones apart, a small sheet of zinc was introduced between them and kept *in situ*. Passive movements were commenced the next day. There was again considerable improvement and she was discharged at the end of July. Early in September the zinc sheet was removed and she was instructed to attend in a week, but so far she has failed to do so.

Remarks.—This is probably the first case of operation for the correction of the deformity. The great difficulty is to secure the separation of the bones without sacrificing the biceps tendon. There is no doubt an improvement in the condition of this girl, but her irregular attendance is most unsatisfactory.

Kidderminster. J. Lionel Stretton,
Senior Surgeon, Kidderminster Infirmary and Children's Hospital.

TRAUMATIC PNEUMONIA.

It was with much interest that I read the report in the British Medical Journal of October 14th of Fleet-Surgeon Beadnell's case of traumatic pneumonia.

Traumatism as a causative factor in pneumonia is rarely mentioned in the textbooks, but clinically I have for some time been convinced that it plays an important part. In my case books of the past seven years I find no less than 5 cases in which a typical acute pneumonia supervened on a chest injury.

I will briefly mention the case of D. W., seen in 1902. He was a boy, aged 13, who, up to that time was in excellent health. He fell whilst mounting a bicycle and was struck by the twisting handle-bar a sharp blow over the angle of the right scapula. Within four days he was suffering from acute pneumonia at the base of the right lung; at least, the symptoms and physical signs were not distinguishable from those met with in that disease, and the temperature fell by crisis on the ninth day. There was no question of exposure to wet or cold either previous to or between the time of the accident and the onset of the pneumonia.

So was it in the other four cases.

Fleet-Surgeon Beadnell's explanation that the damaged lung presents a favourable nidus for the pneumococcus is a sound one. That a locus resistentiae minoris can be produced by injury is undoubted, and that a blow on the chest wall does not more often result in acute lung inflammation is accountable by the protection afforded by the resilience of the ribs.

There is a further point in this connexion of equally great interest. I refer to pneumococcic arthritis. As has been pointed out by Dr. Cave of Bath and others, during the course of a pneumonia a joint which is injured is more prone to develop arthritis of pneumococcal origin than others. Great care, therefore, must be taken by nurses not only in handling patients suffering from pneumonia, but also in watching them through the delirium stage so as to prevent them unwittingly injuring themselves. To sum up.

1. During the course of, or very shortly after, pneumonia, a very slight injury to a joint may result in an acute arthritis, possibly suppurative.

2. Some injury to the chest wall, not necessarily a severe one, is in certain cases the only traceable cause of pneumonia. Moreover, should this pneumonia prove fatal, the cause would have a very important medico-legal interest.

West Southbourne, Bournemouth. Frederick C. Forster.

PERITONEAL TOLERANCE.

The following case is of sufficiently rare a nature to justify publishing: J. T., aged 72 years, a farm labourer, first felt discomfort in his right iliac region four or five years ago; he never had any acute attacks of pain in the abdomen, only a feeling of distension, and was never laid up a single day. During this period he was constipated and had to take aperients regularly. Two years ago he noticed a swelling above the right groin and consulted a medical man who told him that he had a "kind of rupture." About the middle of last July he first consulted me as he was getting a good deal of pain in the swelling. I found he had a tense swelling in the lower part of the abdomen just above the centre of the right Poupart's ligament, irreducible, dull on percussion, giving a feeling of tense fluctuation and about the size of a hen's egg. He was advised to have an anaesthetic and allow me to cut down upon the lump, with a view to clearing up the diagnosis. This course he readily consented to and I found the swelling consisted of an abscess which I opened by Hilton's method. Upon passing a finger into the cavity it passed downward and backwards in the direction of the right sacro-iliac joint; deep down one came upon a constricted opening through which the finger would not pass, and fearing to cause infection of the peritoneum I desisted, put in a drainage tube, and drained the abscess. In a week or two it had practically finished discharging, and was healed all but a small sinus. Several times I examined this with a probe, and some inch within the sinus felt what appeared to be a piece of carious bone, but could not remove it with forceps. On October 12th he again had an anaesthetic, and I opened up the sinus, and found a rabbit's rib lying in it. The rib was perfect, all but a small piece broken off from the sternal end, was 1⅛ in. long, and darkened in colour. Since then the wound has completely healed, and the man is quite recovered. It is remarkable that this rib should have travelled from the intestine without producing any acute symptoms, and have rested for four or five years within the patient's abdomen without causing more inconvenience.

Culmstock, Devon. W. Horton Date.

PEPSIN IN SPRUE AND HILL DIARRHOEA.

In connexion with the very interesting discussion on sprue and hill diarrhoea at the annual meeting, reported in the British Medical Journal of November 11th, may I point out the great benefit to be derived in the treatment of these diseases from the use of pepsin, and especially of malto-pepsin?

In the milder cases, those characterized by three or four frothy motions in twenty-four hours, which may have lasted many months or even several years, without causing more than a moderate degree of anaemia, debility, and wasting, the patients may be allowed to perform their ordinary duties, provided these do not entail any great physical strain or exposure to inclement weather. For a couple of weeks it is necessary to prohibit bread, and to strictly limit the amount of farinaceous food. The diet should consist mainly of fish and of good, easily-digested meat, slightly underdone. Immediately following each meal malto-pepsin gr. v should be given. The diarrhoea usually ceases in three or four days, but it is best not to make any change in the treatment for at least a fortnight. If all goes well the diet may then be cautiously increased. The malto-pepsin should, however, be continued after each meal for a month or even longer, according to circumstances.

In severe cases the treatment recommended by Dr. James Cantlie, plus malto pepsin in gr. v doses after each meal, will be found to give excellent results. The use of malto-pepsin greatly hastens convalescence and the return of health and strength.

Dr. Cantlie very rightly lays stress on the grave significance of thrush, but he rather overstates the case in calling it "a

fatal sign." I have seen at least one case where thrush was exceptionally marked recover completely under treatment by pepsin.

G. H. Younge,
[Lieut.-Colonel, R.A.M.C. (R.P.).

DISLOCATION FORWARDS OF THE FOREARM WITHOUT FRACTURE OF THE OLECRANON.

J. C., aged 45 years: "Walking quickly downstairs, felt as if he had trod on something slippery, his foot went from under him, he twisted round in order to save himself and fell backwards downstairs, the tip of his left elbow striking the edge of staircase first." His elbow was found to be held at an angle of 130 degrees; it could be slightly flexed and extended, and permitted a good deal of lateral movement. The head of the radius and the olecranon process of ulna could be felt lying on the shaft of the humerus, about 2½ in. above the condyles, the forearm being distinctly lengthened. All the anatomical points at the end of the humerus, the olecranon fossa, coracoid depression, trochlea and capitellum, could easily be made out. That the case was one of dislocation forwards of the ulna and radius, without any fracture of the olecranon, was obvious.

The points of interest are: (1) Rare occurrence; (2) no fracture of olecranon; (3) the relationship maintained between radius and ulna. Attention is called to this in Treves's *Surgery* by Marmaduke Sheild, who states that "this dislocation is extremely rare," and quotes Canton's case where radius maintains its relationship to ulna. Looking up the literature on this subject, I find there are about twelve recorded cases. Erichsen states that six cases of this dislocation are on record. Rose and Carless state that fracture of olecranon always occurs in this dislocation. Gould and Warren[1] refer to this dislocation as

rare and its occurrence without existing fracture has been doubted; in point of fact, the latter complication has been still more rarely recorded.

Helferich:

This is a very rare injury; it was formerly said it never occurred without simultaneous fracture of olecranon; may be produced by a fall or blow on olecranon while arm is in extreme flexion.

Hamilton quotes nine cases, and states:

It seems to have been in most cases caused by a fall upon elbow while forearm is forcibly flexed.

Cheyne and Burghard:

Is sometimes met with as result of a severe blow upon back of flexed elbow.

Stimson, in his book, refers to a case which he had in 1895:

The elbow is held at a right angle, but can be somewhat flexed and extended, is movable laterally, the epitrochlea can be plainly felt, also the inner face and edge of trochlea, the overlying flexor muscles of hand having been torn away from humerus. The tip of the olecranon is below and even a little in front of the trochlea, the inner anterior portion of articular surface of which can also be felt on depressing the skin. The head of radius is in front of capitellum. The forearm is markedly abducted.

The only other reported case is Wright's; the symptoms were similar.

F. W. Staunton, M.B., T.C.D.,
Waterford. Hon. Surgeon, Waterford County and City Infirmary.

OEDEMA IN THE UVULA.

A case of this condition, which came under my notice recently, gave, at first sight, no clue to the actual local cause. Accompanying the oedema was some symmetrical congestion of the soft palate. Suspecting that some general condition, possibly of renal nature, was at the root of the mischief, I prescribed a placebo and told the patient, a married woman of middle age, to bring a specimen of her urine at her next visit. This to ordinary tests was normal; the throat, however, now showed a dirty, punched-out ulcer to one side of the base of the uvula, but less oedema and congestion. A small gumma had evidently broken down; for a week's course of iodide of potash and mercury resulted in a virtual healing of the ulcer and great improvement in other respects.

Cheltenham. Ernest C. Carter, M.D.

POLYNEURITIS FOLLOWING PUERPERAL SEPSIS.

In the British Medical Journal of October 14th, p. 951, Dr. R. C. Worsley reports a case of polyneuritis following puerperal sepsis. In April, 1903, I saw a young woman who had well-marked peripheral neuritis of both lower extremities.

The history was as follows: She had become pregnant for the first time in October, 1902, and severe vomiting and weakness followed; so much so that it was considered necessary to induce abortion at the third month. Nine days later nervous symptoms appeared. There was numbness of the legs, the reflexes were first increased and then lost. She could not walk, and she moved her legs with difficulty. For a time there was also loss of memory and mental depression. A prolonged convalescence resulted in complete recovery.

There was no alcoholism nor plumbism, and the neuritis with cerebral involvement was, I consider, due to septic absorption.

St. John's, N.B., Canada. Murray MacLaren, M.D.

[1] *International Textbook of Surgery.*

REPORTS
ON
MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

ROYAL VICTORIA HOSPITAL, DOVER.

THROMBOSIS OF THE CAVERNOUS SINUS.

(Reported by J. A. Menzies, M.B., C.M., Ophthalmic Surgeon to the Hospital, and Egerton L. Pope, B.A., M.D.McGill, M.R.C.S., House Surgeon.)

The patient in this case, a girl aged 20, was out walking with a friend on September 21st in the afternoon. A high wind was blowing, and the patient stopped suddenly, remarking that she had an uneasy sensation in her right eye, which she attributed to a bit of dust having blown into it. On reaching home her mother noticed a little redness, and bathed the eye with milk and water. She went to bed at her usual time and slept soundly. Next morning she still complained of the same feeling of uneasiness, which, however, did not actually amount to pain. She went away to her work, her occupation being that of general servant and nursery-maid. Late in the afternoon the discomfort became so severe that she went home earlier than usual. As she was now suffering a good deal of pain, medical advice was sought, and the case was thought to be one of acute conjunctivitis. Boracic lotion and hot bathing were ordered. That night she slept fairly well, but awoke early on the morning of September 23rd with intense pain behind the eye, radiating to the forehead and temple. Some swelling of the lids was noticed. The severe pain continued during that day and on September 24th, and the swelling increased rapidly. She was then sent to the hospital, where she was admitted.

State on Admission.—The patient was well nourished. She complained of intense general headache and great pain in the right orbit. She was quite apathetic and flushed, her tongue was deeply furred, and many of her teeth were in a state of advanced necrosis, her breath was very foul, her temperature was 101°, and her pulse 110. There was very marked proptosis on the right side, so much so that the swollen lids failed to cover any of the cornea. The lids were greatly swollen, oedematous, and boggy, but no fluctuation could be felt. The conjunctiva was intensely injected, the cornea was dry and very hazy, the eye was immobile, and the pupil did not react to light. The pupils were about equal in a dull light. The vision of the affected eye was entirely gone, and there was no perception of light. The cornea was too hazy to permit of ophthalmoscopic examination. The vision in the left eye was apparently normal, but the patient was too ill to be tested with type.

Operation.—The presence of suppuration in the right orbit was suspected. The patient was anaesthetized and an incision was made through the upper lid and the orbit was explored with a grooved director. As no pus was found, the periosteum was deeply incised in different directions in order to exclude the possibility of subperiosteal abscess. The periosteum on the floor of the orbit was explored through the lower lid. No pus, however, could be discovered. The wounds were packed with iodoform gauze. Morphine, gr. ¼ p. r. n., was ordered, and hot fomentations continued.

Progress.—On the morning of September 25th there was noticed a slight proptosis of the left eye, which increased during the day, accompanied by swelling of the lids, and the temperature rose steadily until seven o'clock, when it registered 104.4°. In the evening there were tenderness and oedema over the right mastoid. This sign had been previously sought for, but was absent until now, when, along with it, there was retraction of the head and stiffness of the neck, with tenderness along the jugulars. There was extreme prostration. As soon as the second eye became affected, accompanied by signs over the right mastoid, the diagnosis of thrombosis of the intracranial sinuses was established.

Result.—On September 26th the proptosis of the left eye was as great as that of the right, and the condition of the left eye became practically

the same as that of the right had been two days previously. By this time the swelling of the right lids was beginning to decrease. The whole face, however, became swollen, the prostration deepened, and there was occasional delirium. On the afternoon of September 27th the patient became comatose and died.

Remarks.—The chief point of interest in this case lies in conjecture as to the probable cause. An autopsy might have been of great interest, but was not obtainable. The personal history of the patient was fully investigated, with a view to ascertaining the cause of the intracranial thrombosis. As a child she had been delicate, but had no serious illness. There was no history of scarlet fever. A little before puberty she is said to have had occasional epistaxis and bleeding from the ears. There was no history of nasal trouble or discharge from the ears, the bleeding tendency disappearing entirely with the onset of menstruation. At 16 she had what appears to have been an ordinary attack of suppurative tonsillitis. About two months before her last illness she had a gumboil, which burst spontaneously. Her teeth had been very bad for years. The family history has no bearing on the case. The patient up to the day of commencement of this illness was practically well, with the exception of the shocking condition of her teeth, and we are strongly of opinion that here must be sought the origin of the septic thrombosis which spread upwards till it involved the large intracranial sinuses. There was no evidence of disease in any of the air sinuses surrounding the orbit, and the ears were quite healthy. At the time of the operation no bare bone could be found, and there was evidently no periosteal abscess.

LEICESTERSHIRE AND RUTLAND ASYLUM.

GANGRENE OF INTESTINE FROM PARTIAL OBSTRUCTION OF THE SUPERIOR MESENTERIC ARTERY.

(By John Richards, M.B., F.R.C.S.Ed., Assistant Medical Officer.)

The following case is of interest as illustrating the difficulty in diagnosis, especially in the insane, of a condition which is fortunately of rare occurrence.

The patient, H. H., a female chronic dement, aged 68, had been in the Leicester County Asylum nearly fifty years. Her bodily health had always been good, she was well nourished, fairly active, and a good ward worker. Mentally she had been for years reserved and unsociable, and would rarely speak to others.

Last Illness.—On February 9th, 1903, she was occupied with her usual ward work, and airing court exercise in the morning. At dinner time (1 p.m.) she was noticed to be looking not quite herself; her pulse, however, was normal in rate and strong; she was given some sick diet instead of the ordinary dinner. During the afternoon she had a slight attack of sickness and diarrhœa, and at times rubbed her abdomen as if in pain. About 5 p.m. she suddenly became very pale and collapsed, had profuse diarrhœa, the motion being very foul-smelling. She was at once put to bed and the medical officer sent for; but she rapidly sank, and died a few minutes later.

Post-mortem Examination.—The abdomen was found somewhat distended and tympanitic, the abdominal cavity containing about a pint of foul-smelling, slightly blood-stained, watery fluid. The following parts of the intestine were black and gangrenous:—The lower 4 in. of the ileum, the cæcum, ascending and transverse colon, and the first 2 or 3 in. of the descending colon. The vermiform appendix was unaffected. There was no ulceration, perforation, stenosis of the gut or peritoneal adhesion. The portal vein and superior mesenteric artery were dissected out as far as possible, but showed no thrombosis, embolism, or other lesion. On opening up the abdominal aorta, however, which showed several atheromatous patches and calcareous plates, it was found that the orifice of the superior mesenteric artery was partly occluded and converted into a transverse slit by the presence of a semilunar calcareous plate just above it. Resting on the plate was a small mass of soft dark blood clot which partly concealed the orifice but did not extend into the lumen of the artery. The other organs showed nothing of interest in relation to the intestinal gangrene.

Remarks.—The distribution of the gangrene is a point of particular interest. The orifice of the superior mesenteric artery was partly, but not entirely, occluded, for the small intestine was unaffected except at its lower end. The restriction of the blood supply, as it became more marked, would probably be first felt in the area supplied by the terminal branch and by the branches given off from the concave side of the main trunk, for, owing to their origin at almost a right angle, the blood flow would be more retarded in them than in the branches given off to the small intestine from the convexity. It is interesting to note that the gangrenous area corresponded to the area supplied by the branches above indicated, with the exception of the inferior pancreatico-duodenal branch, which anastomoses freely with the superior pancreatico-duodenal branch of the gastro-duodenal artery.

The vermiform appendix in this case possibly owed its escape from gangrene to the fact that it received an additional blood supply from the right ovarian artery.

The comparative mildness and late onset of the symptoms were surprising features, taking into consideration the severity and extent of the lesion; it is, however, not uncommon to find physical signs and symptoms disguised or suppressed to a large extent in the insane.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

ULSTER BRANCH.

Adjourned Autumn Meeting.

Belfast, Wednesday, November 29th, 1905.

W. Calwell, M.D., Vice-President, in the Chair.

Erythema Induratum Scrofulosorum (Bazin).—Dr. W. B. McQuitty showed 2 cases:

Case I.

A. C., aged 21, single, tobacco packer, came to the Royal Victoria Hospital a little more than a fortnight ago complaining of a pain in the left side of the chest and of swelling of the legs.

Family History.—Mother died from heart disease following rheumatic fever. A sister died at 13 from typhoid and another at 14 from rheumatic fever. One brother, aged 33, is confined to bed with paralysis of the legs.

Personal History.—Ever since she remembers her face used to swell in the winter; five years ago she had rheumatic fever and was confined to bed for a month. Shortly after getting better the glands on the right side of the neck became inflamed and suppurated. For three or four years she has been easily put out of breath on slight exertion. Has always been subject to cold feet and hands, but has never had chilblains.

Present Illness.—Nearly five years ago a spot like a "hive" came on the back of the right ankle. It was painful, gradually spread, and got a "blue black" colour. After a month or two a blister formed and broke, leaving a raw sore, which remained open for six months. Then it healed, but there was left a livid red mark. About six months ago the back of the right ankle began to get sore again and both feet to swell, especially the left. At the same time crimson marks appeared on the lower half or third of both legs. They felt like lumps under the skin, and were painful. Three months ago two small similar marks about the size of a shilling developed on the back of the right upper arm. The pain in her left side, of which she also complains, came on about Christmas last, and has troubled her now and again since. It is referred to a spot below and just outside the left breast, is aggravated by a deep breath, and especially by walking or any exertion. She has never spat blood, but bleeding at the nose often occurs. Menstrual periods are normal.

Present Condition.—A somewhat pale girl, weight 10 st. 12½ lb. There is a scar on the right side of the neck behind the lower jaw. Pulse 72, soft and regular. Tongue clean.

Lungs.—Nil.

Heart.—Apex, 4½ in. from the middle line in fifth interspace; impulse short and sudden; no thrill. Both sounds are audible at the apex and a double murmur can be heard, the presystolic being sometimes very plain and sometimes almost disappearing; the systolic very soft and easily missed. The pulmonic second sound is accentuated.

Abdomen.—Nil.

Urine.—Normal.

Right Leg.—Ten or twelve livid, copper-coloured spots, varying in size from that of a sixpence to a plaque measuring 2 in. by 3 in., involving the lower half of the leg chiefly on the posterior and outer aspects. There are no spots for 3 in. above the level of the malleoli. Each spot is level or almost level with the surrounding skin, with the exception of one posteriorly, which only appeared a week ago, and is bright red, distinctly elevated and tender. Each spot is found to be indurated on attempting to move it on the subjacent tissue or on passing finger over it. On the large posterior patch there are some scaly flakes where a blister formed last Easter. A small ulcer formed on one of the spots last July.

Left Leg.—Nine or ten similar spots, occupying lower third of leg, but distributed fairly evenly around it. The hands are bluish-red and cold. She stands half the day and sits the other half. Until three months ago she sat all the time.

Case II.

A. V., aged 37, married, came to the Royal Victoria Hospital on November 16th, complaining of a pain in the small of the back and o lumps in the legs.

Family History.—Unimportant.

Personal History.—Nothing noteworthy except that she was always troubled with cold hands and feet.

Present Illness.—Patient was confined last June, and about a month later the lumps of which she complains first appeared. They came one or two at a time, and were never painful.

Present Condition : Heart.—Apex in sixth space, three fingerbreadths outside mammary line. Presystolic thrill and murmur.

Right Leg.—There are nine or ten livid, raised, indurated spots along the whole of the front of the leg and nine on the lower half of the back of the leg.

Left Leg.—There are eight or nine similar spots on the lower half of the calf and two or three on the front of the leg. All are of the average size of a shilling. In the neck there is a chain of enlarged glands behind left sterno-mastoid.

Dr. MCQUITTY said both of these cases were examples of erythema induratum (Bazin), the first being a completely typical case. What gave them a special interest was the fact that both were the subjects of mitral stenosis. It was quite possible that this association might be purely accidental, still its occurrence in two cases was suggestive of a causal relationship between the cardiac condition and the erythematous lesions. A reasonable hypothesis would be that cardiac back pressure by aggravating the peripheral venous stasis already present in such patients increased their predisposition to the development of the nodosities of this disease.—The cases were discussed by Mr. FULLERTON and Dr. CALWELL.

Optic Neuritis.—Dr. CECIL SHAW showed a peculiar case of optic neuritis. The patient was a healthy young woman of 27, occupied in farm work, and with no history of any ailment except some disturbance of vision, chiefly in the form of flashes of light and dark spots, for the past five years in the right eye only. Vision was $\frac{6}{9}$ in the right eye, and $\frac{6}{6}$ in the left. Ophthalmoscopic examination showed a rather intense choked disc, with full veins, but no haemorrhages. Careful examination failed to show any cause for the eye condition.

Paralytic Flat Foot.—Mr. A. B. MITCHELL showed a case of paralytic flat foot, and a young man apparently in good health from whom he had removed an osteosarcoma several months ago. Remarks on the latter case were made by Dr. DARLING (Lurgan), Mr. ROBERT CAMPBELL, and Professor SYMMERS.

Urine Trial Glass.—Dr. R. M. FRASER showed a new urine trial glass, made for him by Messrs. John Clarke and Co. of Belfast; the object was to provide a glass in which small quantities of urine could be collected and examined, especially in insurance cases.

Silent Tubal Abortion.—Mr. R. J. JOHNSTONE read notes of 2 cases of silent tubal abortion, and showed specimens. The specimens consisted of the thickened and distended tubes, which had in each case formed part of the wall of an encysted pelvic haematocele, evidently the result of a tubal abortion. The interesting point was the history. In neither case had there been a missed period, but, on the contrary, menstruation had become more frequent, in one case for twelve and in the other for four months, culminating in a practically continuous flow for the month preceding admission to hospital. There was no history of sudden pain, sickness, or faintness in either case, which caused him to give them the name of "silent tubal abortion." In both cases a distinctly unilateral tumour was felt behind and to the right of the uterus. This, with the history, made one very suspicious of pyosalpinx. Operation was attended with the usual difficulty through firm adhesions, the cyst wall having to be curetted off the pelvic contents. No drainage was used, and perfect recovery followed. These cases were reported to call the attention of members to one of the more unusual methods of a termination of tubal pregnancy, where haemorrhage occurs so slowly and gradually as to give no signs of local or general disturbance till the resulting haematocele becomes large enough to do so.

Subacute Yellow Atrophy of Liver.—Dr. MCKISACK read notes of a case of subacute yellow atrophy of the liver, and showed pathological preparations, and Professor SYMMERS made some remarks on the case, and showed two other specimens of the disease.

Specimens.—Mr. ROBERT CAMPBELL showed: (1) A malignant stricture of the upper part of the rectum; and (2) a caecum in which perforation was caused by a peach stone. The cases were discussed by Messrs. FULLERTON, MITCHELL, and JOHNSTONE.—Dr. DEMPSEY showed several uterine and ovarian tumours of clinical interest.

Lightning Stroke.—Drs. DARLING, FRIER and PEDLOW (Lurgan) reported the following cases of lightning stroke: On Sunday, July 9th, 1905 about 5 p.m., a gospel tent near Waringstown, in which a congregation of about 250 were assembled, was struck by lightning. Very heavy rain preceded the lightning and dripped through the canvas roof, causing a good many persons to put up their umbrellas to shield them from the drops. The tent was supported on two large wooden poles, with a ridge pole between, and about 7 ft. above the ground an iron wire ran between the poles for the purpose of suspending lamps. The seats were closely placed on either side of a central passage, above which this wire ran, and the more severe injuries were sustained by the people in this immediate vicinity. The flash struck the pole nearer to the entrance, travelled downwards as far as the insertion of the iron wire, then across this to the other pole. It made a furrow $\frac{1}{4}$ in. deep and 1 in. wide in the first pole as far downwards as the iron wire, wrenched out the iron staple holding this, and, on reaching the other pole, splintered the wood to a depth of $\frac{1}{2}$ to $\frac{3}{4}$ in. and a length of about 2 ft. above and below the wire. Several of the injured stated that "they distinctly saw a ball of fire run down one pole, run across the connecting wire, and then explode on reaching the other pole with a loud noise," while others saw nothing but heard a loud explosion. A large number asserted that on the instant they felt as though struck a violent blow with a sledge hammer on the chest and were hurled to the ground. Those unhurt of the panic-stricken congregation at once bolted out of the tent, but about 60 were left lying on the floor of the tent in various states of insensibility. Some of these came to in a few minutes and crawled out on their hands and knees, as they were unable to walk, and presently those uninjured came back to attend to their less fortunate brethren, whom they carried out and laid on the wet grass. After varying periods of time all these regained consciousness with the exception of two men—one of whom was apparently killed outright while the other survived for some minutes. Medical assistance was at once sent for, and Dr. Frier soon arrived, followed in about half an hour by Drs. Darling and Pedlow. The more serious cases were removed to neighbouring houses, or to their own homes, by motor cars kindly provided by Mr. Liddell, M.P. Most of the injured complained of severe pains, numbness, and afterwards soreness in the legs, especially the calves; some of painful spasm of the diaphragm with hiccough; others of cardiac pain; others again of pain in the muscles of the chest, shoulder, and back. A small number, of elderly persons especially, showed signs of cardiac failure; and almost all showed decided symptoms of shock. About fifteen had burns of small extent; several of these were about the size of a shilling or florin, and situated on the shoulders, neck, or chest, the hair being singed in one or two cases. Linear burns were not uncommon. One woman had a red, linear mark running from the middle of the neck on to the shoulder; she complained of great pain along the track of this. Across the chin of a girl sitting under the wire was a red linear burn, about $2\frac{1}{2}$ in. long, probably caused by the wire striking her while hot after the flash. Two young women sat together near the wire and were wearing silk blouses. In one of the latter there were burns in the right shoulder of the size of two half-crowns, with blisters to correspond in the skin of the wearer. This girl had a watch in her belt secured by a long chain suspended from her neck and outside her blouse. The blouse, though not burned in this place, showed a black track along the course of the chain, and the neck of the girl was burned to correspond. Her watch showed a fused spot, about the size of a large split pea. Her companion had a small burn in the sleeve of her blouse, and a small blister underneath on her left elbow. She complained for an hour of anaesthesia of both legs, but this gradually passed away. A man who felt as though hit with a sledge hammer on the left side of the chest, and who complained of much soreness in the side and shoulder, as well as both legs, had a blister about the size of a hen's egg over the right biceps. A curious case was one seen by Dr. Darling. She and her husband complained of much pain in the chest and spasm of the diaphragm. She explained that this was her second experience of the kind, as she had been in a church at Glasslough, co. Monaghan, when it was struck and injured by lightning. On that occasion, too, some of the congregation—including herself—had been hurt by the flash, and she then suffered from similar pains, so that her two experiences of lightning stroke exactly corresponded. Two girls had both eyebrows and eyelashes with hair over the temple and adjoining skin burned, and both cases were followed by conjunctivitis. One of these girls had a burn extending from her left ear for about 7 in. down on to the shoulder, and had also a small burn on the groin. One lad, seen by Dr. Pedlow, had a peculiar mark upon the groin. He had his right hand in his trouser pocket, and apparently the lightning hit him there, for the back of his hand was red and swollen. It then passed directly through his hand to his groin, where there was distinctly imprinted in red lines the outline of a small fern plant. The resemblance to the latter could not fail to strike

the observer. We heard of another case in which the representation of a tree was marked on a man's side, but as none of us personally saw it we cannot vouch for its accuracy. Dr. Frier examined the two men killed. The elder man, aged about 65, had a black discoloration on the front of the breast, and a slight mark on the right brow; there was none on his clothes. He breathed for a short time. The younger, aged 35, had a broad dark mark on the front of the abdomen, and a dark mark about 1 in. wide running down the outside of both legs from mid thigh to ankle, also a mark on the outside of the right arm. His trousers were burned in lines corresponding to the marks down both legs. He died instantly. The treatment used was (1) to combat shock and symptoms of cardiac failure; and (2) to relieve the severe pain and allay symptoms of mental excitement. Hypodermics of strychnine with rest, warmth, etc., were adopted for the first, and morphine proved most efficacious for the second.

BIRMINGHAM BRANCH.

Pathological and Clinical Section.

Birmingham, Friday, November 24th, 1905.

Professor J. W. Taylor President, in the Chair.

Suppuration in Parenchymatous Goitre.—Mr. Barling showed a case of widespread suppuration in a parenchymatous goitre simulating malignant disease. The following are notes of the case:

A man, aged 63, was admitted to the General Hospital on September 26th, 1905, complaining of a swelling in his neck and extreme pain up the right side and back of the head. Nine years ago the patient noticed a small lump in the right side of his neck, which he thought might have been due to a paroxysm of coughing. The swelling grew very slowly until a few weeks ago, when it increased in size much more rapidly, and it seemed to push the windpipe over to the left side. A little time before the rapid enlargement of the lump in the neck there was severe pain of a neuralgic character running up the back and right side of the patient's head.

Condition on Admission.—On the right side of the neck there was a large swelling reaching to within 1½ in. of the lobule of the ear at its upper extremity and downwards to the sternum in the lower, it overlapped the trachea, pushing it to the left and externally displaced outwards the sterno-mastoid. The skin was becoming adherent to the surface of the swelling, the base of which appeared to be to a great extent fixed. There were several enlarged glands along the external margin, some of them nearly an inch in diameter.

Operation, September 25th.—A long incision, reaching from the lobule of the ear well on to the manubrium of the sternum, was made. It was extremely difficult to define the capsule of the growth, and in endeavouring to do this a small loculous of pus was opened into. This, of course, gave the clue to the condition, and, the upper pedicle having been tied, the goitre was separated from above outwards from the carotid sheath, to which it was very adherent. It was then freed on the inner side from the trachea and isthmus, finally the inferior thyroid vessels were divided close to the exterior of the goitre; the right recurrent laryngeal nerve was not seen. It was now found that there was a large process descending into the posterior mediastinum behind and to the outer side of the trachea, and this portion, like most of the rest of the growth, was found to be in a state of suppuration. The finger carefully enucleated this and liberated a collection of pus outside the capsule of the tumour in the tissues of the mediastinum. The extreme depth of this cavity required the whole length of the index finger to reach it. The upper two inches of the incision were sutured and the rest of the cavity was packed with iodoform gauze and left open. An extremely good recovery followed without any complication whatever, the temperature never rising above 99°.

The patient's past history is of interest in that on two occasions the patient had been under Mr. Barling's care in hospital—first of all, nine years ago, for suppuration in an ankle-joint, which, after drainage, healed well, and with free movement. Three years later the man was admitted with suppuration in the left knee-joint, the pus having escaped through the capsule into the tissues of the thigh. Here, again, thorough drainage ended in complete restoration of the function of the knee-joint.

Suppurative Otitis Media.—Mr. Gamgee showed a boy, aged 14 years, who for eleven months prior to July, 1905, had suffered from suppurative otitis media on the left side.

On July 18th he began to complain of left mastoid pain and tenderness. Three days later his temperature was 103.8° and pulse 120: his mental condition was unimpaired; there was no paralysis or pain of any kind, and he had not vomited. The mastoid antrum was opened and found to contain neither pus nor granulation tissue. On further exploration a perforation in the roof of the tympanum was found. The middle fossa was opened up and the temporo-sphenoidal lobe explored, but no pus was found. For four days after this the general symptoms remained the same, the temperature varying from 101° to 104°, and the pulse from 100 to 120. On the fifth day a discharge of 2 or 3 drachms of pus occurred from the auditory meatus, and this continued intermittently for ten days, the temperature falling nearly to normal, when the discharge was free. On the tenth day the discharge ceased, the temperature went up to 104° and the pulse to 120, and, for the first time, the outlines of the optic discs were noticed to be blurred. The temporo-sphenoidal lobe was again explored on August 7th and an abscess found. The abscess cavity was syringed out, and it was noticed that the fluid escaped through the auditory meatus. The patient made a good recovery.

Attention was called to the following points of interest:—(1) The complete absence throughout the progress of the case of any of the typical symptoms of brain abscess; (2) the spontaneous opening of the abscess into the tympanum.

Congenital Pyloric Stenosis.—Mr. Barling showed a specimen from a case of congenital pyloric stenosis in which posterior gastro-jejunostomy was performed:

A male child, 5 weeks old, was sent to the General Hospital on September 14th, 1905, by Dr. Jackson Smith, with the diagnosis of pyloric stenosis. The child was a healthy, strong baby at birth. It was fed for the first three weeks by the breast, when persistent vomiting set in; then with cow's milk, diluted with barley water in the proportion of three parts to one part of milk, this food being administered every two hours—quantity, 1½ oz. Vomiting still persisting, the food was changed for Nestlé's condensed milk, diluted with egg albumen water. This, however, made no difference to the vomiting. Questioned as to the nature of the vomiting, the mother said that the stomach contents were always evacuated with great force; commonly, vomiting took place several times a day, but occasionally there would be no vomiting for a whole day, when the child appeared to bring up at one effort all that it had taken during the day. The bowels were irregular; sometimes the motions were loose and offensive. The only note of the child's weight before it was admitted to hospital was that at 4 weeks old, in its clothing, it weighed 9½ lb.; on admission, without clothing, it weighed 7 lb. 4 oz. Various changes in food were tried, both as to the amount given and as to the material, but, despite all this, the vomiting persisted.

On examination of the abdomen, on several occasions it was found that there was marked peristalsis of the stomach to be seen passing from left to right across the upper abdomen; by deep palpation, when the child's abdomen was relaxed, a distinct lump could be felt to the right of the spinal column, close under the liver; this was taken to be the thickened pylorus. Despite the most careful nursing of the sister in the children's ward, the oral feeding being supplemented by nutrient enemata, the child did not gain, but rather lost, weight, and on the eighth day after admission I determined to resort to operation for relief of the condition, feeling that if matters were allowed to go on the opportunity of successful intervention would pass away.

Operation, September 22nd, 1905.—The abdomen was opened a little to the right of the middle line above the umbilicus, and a dilated and hypertrophied stomach was recognized. At the pylorus there was a rounded dense mass standing out above the level of the surrounding stomach and duodenal tissues; it was about ¾ in. in diameter, and free from adhesion. Posterior gastro-jejunostomy was performed in the manner I generally adopt by suture. The operation, despite the smallness of the parts, was perfectly simple and straightforward; the time occupied from the making of the first incision until the dressing was applied was forty minutes, and the operation was borne very well, considering the extreme youthfulness of the patient.

Subsequent Progress.—There was some vomiting, slightly bile-stained for the first three days, after that scarcely any. On the second day the dressing was found to show blood stains through, and when it was changed it was discovered that there had been quite a large haemorrhage from the skin incision, the quantity being estimated at 4 or 5 oz. Collodion was applied to the wound, and a fresh dressing, and there was no further oozing. On the morning of the fifth day it was noticed that the child looked white and seemed very feeble; this was in marked contrast to its condition on the previous days. There was no response to free stimulation, and the child died on that day.

Post-mortem Examination.—The autopsy showed a perfectly healthy abdominal cavity, the union of intestine and stomach being quite firm and satisfactory. The pylorus showed much less distinctly after death than it did during life, and the remarkable difference between it and a healthy pylorus is now more easily demonstrated by palpation than by inspection. There is a rounded and elongated mass, some ¾ in. in length, which feels as dense as a uterine myoma. The cause of death was to be found in the condition of the lungs, in both of which there were considerable areas of bronchopneumonia, and a certain amount of collapse.

Interstitial Fibroid of Uterus.—Dr. Purslow showed (1) a uterus with an interstitial fibroid in its wall, the whole constituting a tumour the size of a four months pregnancy. He had removed this by abdominal hysterectomy from a single woman, 24 years of age, who was reduced to a condition of severe anaemia by frequent and profuse menstruation extending over three years. The tumour caused an absolutely spherical enlargement of the uterus, and was situated in the right wall, the cavity being deflected to the left and not enlarged. The tumour was firm, and was easily diagnosed as a fibroid. The patient made an uninterrupted recovery.

Dr. Purslow drew attention to the youth of the patient, and remarked that this was the second case in which he had operated for uterine fibroid in a patient aged 24 within the last eighteen months. The other case was published in the *Lancet*, July, 1904. (2) A uterus with an interstitial fibroid, the latter having undergone myxomatous degeneration. The specimen was removed by abdominal hysterectomy from a married woman, aged 30, the mother of two children. There had been menorrhagia and micturition troubles for two years. The tumour caused a uniform enlargement of the uterus; and the swelling in its shape and consistence bore an exact resemblance, on palpation, to a gravid uterus of four and a half months' development. Easy recovery followed operation.

South Midland Branch: Bedfordshire and Hertfordshire Division.—At a meeting held on November 28th, Dr. Major (Bedford), the President, who was in the chair, read a paper on some points in medical treatment dealing with the conditions singultus, hystero-epilepsy, and myocarditis.—Mr. Gifford Nash (Bedford) read notes on a child, aged 4, in whose right kidney a skiagraph had revealed a calculus; this proved to be flat and sharp-edged, and its removal through the substance of the kidney was followed by profuse haemorrhage which could not be checked by ordinary measures and which threatened to prove fatal, and necessited the removal of the kidney. The patient recovered. Mr. Gifford Nash also read notes of a case of rupture of the lung caused by muscular exertion; the patient, a strong healthy lad of 18, had just violently exerted himself during a game of football, when he was seized with very severe dyspnoea. On examination he was found to have a right pneumothorax and no injury to his ribs. Mr. Nash entered into the question of diagnosis of this case, mentioned its rarity, and stated that the patient is recovering under rest and aspiration.—Dr. Savory of Bedford showed a patient, the subject of chondrodystrophia foetalis hyperplastica. The patient, a bright intelligent lad of 11, exhibited all the typical characteristics of this condition—the dwarfism, large head, depressed bridge of nose, the shortening of the long bones, enlargement of epiphyses, partial fixation of elbow and shoulder-joints, laxity of the ligaments of the knee, the prominent belly and lordosis of spine. Mr. Nash showed photographs of two similar patients.—Dr. Major and Dr. Savory showed some microscopical sections and blood films.

Bath and Bristol Branch.—At the second ordinary meeting of the session held at Bath on November 29th, Dr. J. Michell Clarke, President, in the chair, Dr. E. J. Cave showed a specimen of calcified pericardium, and also a case of lichen planus.—Dr. Watson Williams showed a specimen of calcareous concretions removed from the nose (rhinolith).—Mr. W. M. Beaumont showed a patient suffering from ulceration of an eyelid of doubtful nature.—Dr. E. J. Cave and Mr. W. M. Beaumont showed a case of acromegaly.—Dr. W. P. Dickson read a paper on cerebrospinal meningitis in India, and remarks were made upon it by Dr. Cave, Dr. Charles, and the President.—Dr. A. E. Norburn read notes of a case of resection of the small intestine in a patient, aged 75, followed by recovery, and comments were made by Mr. Lansdown.—Dr. W. P. Kennedy described a case of nephritis following cystitis, and it was discussed by Dr. J. Michell Clarke.—Dr. R. Waterhouse read a paper on a case of sclerema neonatorum.

South-Eastern Branch: Brighton Division.—At a meeting held on November 22nd, Mr. T. Jenner Verrall in the chair, Mr. A. J. Martineau showed a patient upon whom he had done a radical mastoid operation for disease of the ear of many years' duration.—Dr. Benham (on behalf of Dr. Bushnell) showed some microscopical specimens—namely: (1) The *Spirochaete pallida*, which had been obtained from a mucous tubercle, and was stated to be peculiar to syphilis; (2) a section of spinal cord showing most extensive degeneration of nerve tracts; (3) cells of the blood in myeloid and lymphatic leukaemia.—Mr. V. T. Greenyer read notes of a case of pyelitis and paroxysmal haemoglobinuria.—Dr. Marsh read notes of a case of sarcoma of the ovary (endothelial variety) and described the operation undertaken for its removal. The patient was a married woman, 48 years of age, and the tumour, which occupied nearly the whole of the abdomen, had apparently been growing for about eight months. It grew from the left side, and had a hydrosalpinx attached to it, which was removed with the tumour. The operation took place on November 3rd, and patient left the hospital on November 22nd. An abstract of the Public Health Bill was read, and it was decided that the Executive Committee should be instructed to bring the matter before the Parliamentary candidates at the next election.

REPORTS OF SOCIETIES.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

Section of Pathology.

Joseph O'Carroll, M.D., F.R.C.P.I., President, in the Chair.

Friday, November 24th, 1905.

Aneurysm of Aorta.

Certain cases of aneurysm of the aorta having been described, Professor McWeeney called attention to the fact that it had recently been found possible to produce aneurysms in animals experimentally by the continued injection of extract of suprarenal capsule; therefore, it would appear that one of the pathological factors in the production of aneurysm might be some toxin, with a capacity for raising the arterial pressure.

Lymphosarcoma.

Mr. Seton Pringle showed a specimen of lymphosarcoma of the mediastinum from a patient, aged 30, who had been under observation for eight weeks before death. The growth was very rapid, but the pulse remained synchronous and equal in both radials, although the innominate artery was embedded in the new tissue, while the left subclavian was free. Another specimen was shown by Dr. T. G. Moorhead. The patient had first noticed an enlargement of the glands in her groin, neck, and axillae two years previously. When first seen in May, 1905, she presented the typical appearance of Hodgkin's disease, except that there was no splenic tumour. The leucocytes were reduced to 3,000 per c.m., and showed a relative excess of eosinophiles and hyaline cells. When seen again in August, 1905, her condition was unchanged, but twenty days later she returned with the glands swollen to five or six times their former size, and with distinct evidence of thoracic involvement. He regarded the case as one of acute Hodgkin's disease—a process which he regarded as identical with lymphosarcoma.

Unusual Tumour of Kidney.

Mr. C. Arthur Ball showed a renal tumour from a young married woman, aged 23. It was first noticed by the patient herself, five days after her confinement, as a small lump which she could move about in the left side of her abdomen, and it grew rapidly. It was removed exactly seven weeks afterwards. The kidney, which weighed exactly 3 lb., was very adherent, and surrounded by large blood vessels. The patient made an excellent recovery. The rapid growth of so large a solid tumour of the kidney was interesting. The patient never had haematuria, and the urine was quite normal.

Professor O'Sullivan said the tumour was an encapsuled lobulated growth lying in the enlarged pelvis of the kidney, which it completely filled. The microscopic appearances were various.

Professor McWeeney thought there was nothing against the view that the tumour was of suprarenal origin.

Dr. Earl said he had followed out some kidney cases in which big tumours had been removed, and no recurrence had taken place. There was no organ of the body in which it was so difficult to say of what nature a tumour was, as the kidney.

Dr. Gunn described a case of rapidly-growing kidney tumour in a girl, aged 14. There had been no recurrence, and the case had done well.

Melanuria.

Dr. T. G. Moorhead exhibited specimens from a case of melanuria. The patient, a woman, aged 30, had suffered from an orbital tumour for seven years. In September she was admitted to the City of Dublin Hospital suffering from enlargement of the abdomen and from breathlessness. The urine was of a light brown colour when passed, but rapidly darkened on standing, and ultimately became almost black. It gave a typical black colour with perchloride of iron, and was also darkened by strong acids. There was no indican, no sugar, and no blood present. Neither the ascitic fluid nor the blood gave the melanin reaction. *Post mortem* the liver was found to weigh 13½ lb., and was extensively infiltrated with melanotic growths of various sizes. Both

ovaries had become converted into large unilocular cysts with melanotic walls

Dr. Mooney said the original orbital tumour was the blackest he had ever seen. The sclerotic was invaded, and after removal of the eye the remaining tissues were still infiltrated with black pigment.

PATHOLOGICAL SOCIETY OF LONDON.

P. H. Pye-Smith, M.D., F.R.S., Vice-President, in the Chair.

Tuesday, December 5th, 1905.

The Chairman referred to the late Sir John Burdon-Sanderson, till the time of his death President of the Society, and a vote of sympathy to Lady Burdon-Sanderson was passed by the meeting.

Columnar-celled Carcinoma of the Testicle.

Mr. A. G. R. Foulerton exhibited a specimen of the above, the testicle being removed from a man 58 years of age. Symptoms of recurrence within the abdomen appeared not long afterwards. The specimen contained a single cyst of some size below the chief tumour, and into the cyst the remains of the testicle projected. The testis showed certain alterations in structure, some of its tubules being obliterated. The stroma of the new growth itself offered nothing noteworthy; in it lay tubules lined with columnar cells, and solid tracts of polyhedral cells suggestive of modified testicular tubuli. Certain of these presented a squamous disposition. The specimen closely resembled those described by Kanthack and Pigg in the Society's *Transactions*. The author did not consider that the polyhedral cells in his specimen corresponded with those described as chorionic by Schlagenhaufer. He doubted the occurrence of malignant teratoma, indeed, entirely. The presence of cartilage was not invariable in carcinomata of the testis. The growth of cartilage in the metastatic growths was difficult of explanation; possibly the epithelial cells influenced the connective tissue around to produce cartilage.

Mr. S. G. Shattock did not deny the occurrence of columnar-celled carcinoma of the testicle, of which Mr. Foulerton's case seemed an example, but to hold that no such growth as a malignant teratoma occurred was opposed to fact. He had seen an example which Dr. Selous had discussed with him (the speaker), in which, besides columnar cell-lined spaces, there were present bundles of unstriped muscle, cartilage, lymphatic tissue, and distinct nerve fibres. The occurrence of teratomatous cysts in the testicle, containing teeth, etc., was quite authenticated as an observation and told in the same direction. Schlagenhaufer's hypothesis and observations the speaker regarded as amongst the most brilliant of recent histo-pathological researches. In the above case the speaker had suggested to Dr. Selous that the columnar cell-lined channels were in fact not improbably aberrant formations from an intestinal structure, the presence of lymphatic tissue and unstriped muscle pointing to this possibility.

Giant Cells in Tumour of the Thyroid Gland.

Dr. Maynard Smith showed sections of the above, in which, with the sarcomatous elements, conspicuous numbers of multinucleated giant cells were present. The author was not able to offer a satisfactory explanation of their presence. The growth was removed from a woman aged 65, and was limited to the right side of the neck. The cells did not arise in a fusion of the epithelium of the thyroid vesicles. Mr. Waring had exhibited to the Society a growth from the neck containing giant cells and cartilage, and which he (Mr. Waring) thought arose in connexion with the clavicle.

Tuberculous Adenitis, with Congenital Bronchiectasis and Cirrhosis of the Liver and Pancreas.

Dr. J. G. Forbes recorded the above case. Tuberculosis and cirrhosis were rarely combined. The lungs after death were found honeycombed with spaces; the congenital form possibly depended upon some maldevelopment of the organ.

Note on Fundus of Eye from a Case of Amaurotic Family Idiocy.

Dr. F. J. Poynton described the change as consisting in optic atrophy, with a cherry-red spot at the macula lutea. After death the red spot was found to be due to a complete atrophy of the retina, which allowed the pink choroid to show through.

Spirochaete Pallida.

Dr. J. O. W. Barratt exhibited specimens of this micro-organism from a hard chancre, and (for Dr. Castellani) from an unulcerated yaws nodule. The similarity of the organisms did not prove that the two diseases were identical.

Glasgow Medico-Chirurgical Society.—At a meeting on December 1st, Dr. Walker Downie, Vice-President, in the chair, Dr. W. F. Somerville read notes on a case of exophthalmic goitre in a man formerly of athletic habits. He was found to have a cardiac murmur fifteen years ago, and three years ago developed tremor of the hands and general weakness. When first seen, three months ago, the cardinal symptoms of Graves's disease were all well marked. The treatment adopted was isolation, with complete rest in bed, a very liberal diet, the high-frequency current twice daily, and every second day 5 milliampères by the continuous currents for ten minutes (the positive pole being over the thyroid, the negative at the back of the neck), and heart massage. This treatment was continued for five weeks, but during the last two weeks he was allowed out. The medicinal treatment consisted in giving 2 minims of strophanthus in tabloid form—four-hourly—and 5 gr. thymus gland tabloids thrice daily. The patient was considered very greatly improved, but all general treatment was still being carried out except that the electrical form of treatment had been dropped, and drachm doses of syr. acid. hydriodic. were given instead of thymus gland.—Dr. Alex. MacLennan showed three smear films in illustration of the parasites found in connexion with syphilis. The preparations were made by gently curetting the surface to be examined, waiting until bleeding had ceased, and then expressing the serum. A smear was then made on a slide, dried and fixed by heat in absolute alcohol for ten minutes, and subsequently for three hours with a very strong solution of gentian violet with a large proportion of glycerine. He had seen one *Spirochaete pallida* with three arms, and another with a head like a spermatozoon.—Dr. D. M. Paton read a paper on present methods of administration of antiserums, as the result of seven years' experience. He considered that the antitoxic and antibacterial effects of serums were best obtained by their hypodermic administration, while systemic resistance could be most satisfactorily augmented by giving them by the mouth.

Liverpool Medical Institution.—At a meeting on November 30th, Dr. G. C. Walker, Vice-President, in the chair, Dr. J. Lloyd Roberts showed two cases of Friedreich's ataxia occurring in a brother and sister, aged respectively 16 and 23 years. The girl was the third and the boy the fifth of a family of 7 children. The other children were healthy, and no relatives, as far as could be ascertained, had ever suffered from any disease similar to theirs. The parents were alive and healthy; there was no blood relationship between them. In the girl the symptoms were well marked; they had been noticed six years ago, first appearing in the upper limbs. The boy's condition dated back about six months, beginning in the legs. In addition to muscular weakness and ataxia he now had slight nystagmus in both eyes; this was not constant, and only occurred when the eyes were moved to the extreme right or left: the pupils were equal, somewhat dilated, and reacted to light.—Dr. W. H. Broad read a note upon massage and exercise treatment. He had obtained the greatest possible benefit from a combination of mechanical and manual exercises. A summary of six months' hospital work was given, during which period there had been 1071 attendances, including cases of scoliosis, wry neck, flat foot, stiff joints, ruptured muscles, rheumatoid arthritis, etc. Early systematic manipulations of the muscles and joints of a limb which had been fractured he regarded as a surgical obligation.—Dr. Hubert Armstrong read a note on the possible danger of exploratory puncture of the chest, instancing the case of a girl aged 2 years and 9 months, whose chest he had explored with the view of excluding empyema, the physical signs being those of chronic interstitial pneumonia. The puncture was followed by haemoptysis and sudden alarming collapse, from which the patient, unlike some others cited, eventually recovered. There was danger of syncope, especially in children, when the needle entered a lung in a state of chronic inflammation.—Mr. W. Thelwall Thomas read a paper on internal derangement of the knee joint, including in that phrase all the conditions which cause locking of the joint. These were classified as: (1) Fracture and displacement of the semilunar cartilages, (2) fracture of portions of the femoral condyles, (3) loose bodies, (4) synovial fringes, (5) other rare conditions. In a series of forty-four cases the semilunar cartilages were

found at fault in 28, the internal cartilage being damaged in 25, the external cartilage in 3. Of the internal cartilage, longitudinal fracture, partial or complete, was found in 18 cases, total separation of the circumference in 1 case, partial separation of the anterior third in 6 cases. Of the external semilunar cartilage (3 cases) separation of the anterior third was seen. In no case was the fibrous extremity of either cartilage damaged. Three cases of fracture of the femoral condyles were described. In the treatment of the initial synovitis, absolute rest, with the application of a posterior splint specially padded at the popliteal space, together with firm pressure over the knee, was advised. Supports of any kind were useless when recurrent locking took place; operation was desirable when the occupation of the patient demanded much strain upon the joint. His habit was to remove the offending portion of the semilunar cartilage or fringe, and allow movement of the joint ten days later. The material used for suturing the synovial membrane and capsule of the joint was chromicized reindeer tendon. Mr. RUSHTON PARKER agreed that stitching of the damaged cartilage was seldom practicable and never valuable. His practice was to cut off the torn portion. Mr. ROBERT JONES had operated upon 23 cases this year. In 2 the injury was to the external and in 21 to the internal cartilage. When the protrusion could be felt from the outside, it favoured a diagnosis of displaced synovial fringe rather than of damaged cartilage.

SOCIETY OF ANÆSTHETISTS.—At a meeting held on Friday, December 1st, the President, Dr. EDGAR WILLETT, in the chair, Mr. J. H. CHALDECOTT read a paper on the Evolution of Ethyl Chloride, its Uses and Abuses. He regarded ethyl chloride as an invaluable anæsthetic agent in "single-dose cases"—for example, in removal of tonsils and adenoids. He pointed out the serious mortality of chloroform in these cases in the ten years 1895-05, and the disadvantages of gas and ether. He regarded gas and ethyl chloride combined as superior to either alone. There was less sickness and other after-effects, and less rigidity at the time, when the combination was used. Gas alone did not give a sufficiently long anæsthesia always. He deprecated the use of ethyl chloride—for example, in dental cases—when gas met the requirements of the case. Mr. Chaldecott emphasized the fact that ethyl chloride is not the absolutely safe drug it was made out to be by many non-professional persons, and referred to thirty collected deaths in the literature of the drug. He was of the opinion that the ethyl-chloride-ether sequence was not so safe as the gas-ether sequence. He insisted that ethyl chloride was the ideal anæsthetic for short cases when given properly with a minimum of air. No anæsthetic was so certain or so rapid. No anæsthetic gave as long and as safe an anæsthesia when a single dose only was given. Rigidity did occur, and was very exceptionally dangerous; but marked rigidity was generally due to too much air.—Dr. SILK commented chiefly on the value of the ethyl chloride CE mixture sequence.—Mr. CARTER BRAINE agreed with Mr. Chaldecott on the value of ethyl chloride in minor surgery, in dental cases, and in tonsil and adenoid cases. He pointed out the danger of rigidity, and insisted on the importance of never administering ethyl chloride without first putting a prop into the patient's mouth. He regarded the ethyl-chloride-ether sequence as so valuable that he had quite discarded gas as a preliminary to ether. He gave ethyl chloride (3 or 5 c.cm.) for forty seconds, and then changed to another inhaler containing ether.—Dr. BARWISE insisted on the superiority of ethyl chloride over the CE mixture in tonsil and adenoid cases.—Dr. PROBYN-WILLIAMS pointed out the difficulty in teaching students how to determine when to remove the mask in ethyl chloride anæsthesia.—Dr. BARTON admitted that rigidity did occur, but it was very transient. Ethyl chloride was not uncertain, but some patients did need more than the orthodox 5 c.cm. Before chloroform he used (1) C_2H_5Cl ℥j to ℥ij on a Skinner's mask for one or two minutes; the (2) ethyl chloride 5 c.cm. on the same mask (covered with a towel to limit the air supply) until the corneal reflex was abolished, after which he removed the towel and went on with (3) pure chloroform. Dr. KIRKBY THOMAS gave CE in the small Clover without its bag, preceded by ethyl chloride. He found it excellent and safe. He insisted that ethyl chloride should not be pushed beyond the early stertorous stage. Mr. DE PRENDERVILLE objected to the custom of administering ethyl chloride in a single large dose and described an apparatus for giving it in continuous fractional doses. When so administered there was an absence of rigidity and after-effects.—Dr. BLUMFELD thought that the danger in ethyl chloride cases was not the rigidity, but its effect in producing cardiac depression, although experimentally it was shown only to be fatal through respiratory paralysis.—Dr. KINGSFORD differentiated two kinds of rigidity. (1) Usual kind coming on early and negligible; (2) occurring later; whilst possibly due to an overdose, it was more probably due to want of air. The after-sickness depended on the dosage and the want of preparation of the patient. He advocated the use of 2 c.cm. of ethyl chloride to remove straining coming on in the course of an ether administration.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—At a meeting on November 24th, Dr. ROBINSON in the chair, after a number of specimens had been shown by various members, Mr. MOYNIHAN read a paper, in which he dealt with some aspects of the surgical treatment of cancer in the stomach. He pointed out that, with the present methods of the treatment of cancer, wherever occurring, the surgical essentials were: Removal of the whole of the primary growth, of the lymphatic vessels draining the area in which the growth occurred, of the glands into which the vessels drained, and, finally, of the tissues in which these glands were buried. This principle carried out in the case of growths of the pylorus involved in all cases, early or late, the entire removal of the lesser curvature to a point about 1½ in. to 2 in. beyond the limits of the palpable growth, the upper part of the gastro-colic omentum, and the first part of the duodenum. The steps of the operation were illustrated by lantern slides.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—At a meeting on December 1st, Mr. L. A. BIDWELL, President, in the chair, Dr. S. A. BONTOR read a paper on Jamaica as a health resort. He pointed out that in point of interest it would be hard to find a more suitable place, as the scenery would be difficult to surpass anywhere, while the native population, to one who did not know it, formed an additional source of interest. As to the climate, this left little to be desired, for the island was so mountainous that a very great variety could be obtained, while in many parts a very equable temperature could be enjoyed for the greater part of the year. Dr. Bontor's paper was followed by a survey of some of the Continental health resorts by Dr. W. S. COLMAN, who said that the most important features of these resorts were that they were in beautiful surroundings, that everything was done to make the treatment impressive, and so to influence the patient on the mental as well as the physical side, and that due provision was also made for patients' friends in the way of amusements. At the same time the invalid was subjected to a regimen which in the new surroundings he was willing to follow, because it was the fashion; he was therefore generally much better controlled than could be the case at home. In addition, the influence of the waters of the different spas, if one suitable to the particular case be chosen, was undoubtedly beneficial. Both papers were illustrated by lantern slides.

HUNTERIAN SOCIETY.—At a clinical meeting on November 22nd, Dr. FRED. J. SMITH, President, in the chair, the following were among the cases and exhibits brought forward:

Dr. W. J. M. ETTLES: a man whose vision had deteriorated gradually during the last three years. When first seen (in September, 1905) he had extensive choroiditis, the vision in the right eye was only $\frac{1}{60}$, and in the left eye there was perception of light only. He denied having had syphilis, but had had a chronic sore throat and skin eruptions; subconjunctival injections were given of 4 minims of $\frac{1}{2000}$ solution of cyanide of mercury, together with 4 minims of 1 per cent. solution of acoin, increased later to 10 minims of the mercurial solution. The vision gradually improved, and when shown he could read $\frac{6}{12}$. During the last twenty days there had been little further improvement, and the treatment was being supplemented by weekly intragluteal injections of 10 minims of Colonel Lambton's grey cream, containing 1 gr. of metallic mercury. Dr. Ettles also showed a patient complaining of difficulty of seeing with the right eye ever since an accident sixteen months ago. A tumbler thrown at him struck the right eye, which became suffused with blood. There were also extensive chemosis and orbital discoloration. The vision in the right eye was $\frac{6}{9}$ and in the left $\frac{6}{6}$. There was no error of refraction. He had diplopia owing to paralysis of the right external rectus and superior and oblique muscles. Two fine linear ruptures could be seen in the lower half of the

right fundus, and atrophy of the lower part of the disc. The perimeter showed the lower half of the retina to be blind. The line of demarcation was quite sharply defined, so that he had mononuclear horizontal hemianopia. Taking into consideration the trauma, orbital haemorrhage, isolated paralysis, hemianopia, and optic atrophy, Dr. Ettles thought that the case was one of fracture of the bony wall of the orbit, involving the sphenoidal fissure and optic canal. The localized periostitis involved the fourth and sixth nerves. The condition of the optic nerve seemed to be more likely to be due to a localized retrobulbar neuritis than to thrombosis.—Dr. Lewis Smith: Part of the large intestine of a girl, aged 14, who had four weeks of pyrexia followed by two weeks of apyrexial period, and then two weeks with temperature 104° to 106°, ending in death. *Post mortem*, the lower 4 ft. of the small intestine showed numerous clean-healing ulcers, while in the large intestine were multiple small sloughing ulcers. Dr. Lewis Smith drew attention to the following points: (1) In this case the Widal reaction was negative three times in the course of a fairly typical case of enteric fever; (2) the colon is frequently affected in enteric fever; (3) a relapse means reinfection; (4) relapses are sometimes fatal.—Mr. Farrant: A case of fibrous ankylosis of the knee after what had appeared to be an ordinary attack of acute rheumatism. Several Fellows considered that the joint was gonorrhoeal. A case of nerve-grafting, the hypoglossal being used to innervate the facial muscles after division of the facial nerve in the evacuation of a tuberculous abscess. The patient began to recover some facial movement in one month. Implantation of some fibres of the internal popliteal nerves to innervate the soleus and gastrocnemius muscles in a boy with infantile paralysis. The boy was now able to extend his ankle.

REVIEWS.

GASTRO-INTESTINAL DISEASES.

The task of preparing the volume of essays on the pathology of the digestive organs,[1] given to the world under the name of Dr. Knud Faber, Physician to the Medical Clinic, Copenhagen, has been shared by Dr. C. E. Bloch, who contributes three out of the eight papers herein included, and is joint author with Dr. Faber in two others. The last-named papers deal with the pathological changes in the digestive tract in pernicious anaemia. By fixing the cells by intra-abdominal injection of formalin solution soon after death, they have made very beautiful preparations of the gastro-enteric mucosa, and have satisfied themselves that the intestinal changes described by Ewald and others are merely cadaveric; that the true lesion is confined to the stomach and the beginning of the duodenum, and that it consists of diffuse inflammation of the mucous membrane, with more or less extensive atrophy of the glands. They also conclude that these changes, which vary greatly in degree, are not the cause of the anaemia; they think it possible that both are the consequences of a third factor, which may be an intestinal toxin; in support of this they refer to cases of anaemia in association with (*a*) an intestinal stricture, and (*b*) the presence of *Bothryocephalus latus*. The formalin method has enabled Dr. Bloch to make an admirable study of the microscopical changes in the gastro-enteric catarrh of infants, and Dr. Faber has applied it with success to a case of "sprue" (tropical diarrhoea). Of more clinical interest is a paper by Dr. Faber, in which he argues that there is such a thing as intestinal dyspepsia, that is, discomfort after food due to derangements having their seat in the intestine, but he admits that these intestinal troubles react upon the stomach, so that the "dyspepsia" is the immediate result of something that has gone wrong in the latter organ. For example, he points out that many cases of "dyspepsia" depend upon constipation, and are cured when the bowel functions are regulated; vertigo and hyperacidity may result from constipation or from tapeworm. This is all doubtless true, but is not what is generally meant by those who maintain the existence of "intestinal dyspepsia." The last paper is an anatomical discussion of appendicitis obliterans, a condition which may give rise to extensive adhesions without causing any local pain or tenderness. We have endeavoured to give a brief summary of the contents of this volume, but before parting with it we desire to express our sense of the beauty of the microscopical preparations and of the valuable character of the work they illustrate.

Dr. Jouaust's little volume on the treatment of enteritis[2] is another of the cheap series published by Messrs. Baillière et Fils, of Paris, under the general title of *Les Actualités Médicales*, several of which have been noticed in these columns. We believe that the late Dr. Soupault should have written this book, and we desire to express our sense of the loss the profession has suffered by his death, as his writings were well known and appreciated on this side of the Channel. The title of the book is misleading, as it is entirely devoted to one form of enteritis—that which Dr. Jouaust appropriately enough calls muco-membranous entero-colitis. He discusses the various theories of its pathogenesis, but adopts the view that it is always secondary to some other abdominal affection; for example, to disease of the liver, kidneys, appendix, etc., founded upon a "neuro-arthritic" constitution. He claims to have proved by experiment that aseptic injuries of these organs are always followed by a hypersecretion of intestinal mucus. Rational treatment, therefore, should be directed to the cure of the fundamental lesion and the diathetic condition. But instead of this we have a verbose statement which is not easy to summarize. In the matter of diet he appears to prefer white fish to meat, but does not forbid the latter; he proscribes crustaceans and molluscs, vegetables which contain skins and seeds, or those which contain acid, or are eaten uncooked, or are fried in butter; also uncooked fruit with the exception of bananas, peaches, and grapes; bread is to be eaten moderately, and rusks preferred; butter is the only form of fat permitted; it must be uncooked and quite fresh; eggs and milk are allowed in moderation, with cream cheese. Mineral waters, with a little white wine, are allowed as drinks; but all liqueurs, undiluted wines, cider, beer, tea, and coffee are forbidden. The mode of life must be quiet and regular, the clothing warm, and exercise moderate. The chief indication for drug treatment is constipation, for which he places castor oil in the first rank; for spasm he regards belladonna as the best remedy. He appears to hesitate as to the value of irrigation, but is more favourably disposed towards wet compresses, douches, and baths; massage should be used with caution, gently, and gradually; a belt is of value when there is enteroptosis. He recognizes the advantage of what we call in this country Weir Mitchell treatment, of special cures at bracing watering places, and of mild electrical treatment by static electricity or by galvanism, with large electrodes and a current of from 50 to 150 milliampères. The book seems to be written by a man who conscientiously desires to omit no measures that are in favour at the present time, but lacks the experience to serve as a guide in their selection.

That a third edition of Dr. Weggle's book on the treatment of diseases of the stomach and intestines[3] has been published shows that it has established itself as a standard authority and has passed beyond the range of criticism; but it is probably not so well known in this country as in Germany. About half the book is taken up with a very interesting and well-written discussion of the factors that determine healthy digestion, including the care and feeding of children, the quality and quantity of food, the teeth, the use of corsets, of alcohol, tea, coffee, tobacco, the effects of menstruation and constipation, and a careful consideration of the value of the various means in vogue for treating digestive derangements, such as the stomach tube, alkalies and mineral waters, acids, pepsins, and peptonized food, and the indications for surgical interference in stomach disorders. The second half of the book is devoted to the special treatment of specific conditions, and is characterized by the peculiarities of the German regimen; for example, we are told on page 212 that if a patient who has been suffering from acute gastric catarrh has so far recovered as to be able to take ordinary food, he may be ordered:—

> cautiously, half a cup of albumen water, beef-tea, meat juice, meat pepton in bouillon, meat broth with yolk of egg, and proceed to farinaceous and leguminous gruels. Nevertheless, if young and strong people can stand such a diet for some time, abstinence must not be pushed too far; in children and elderly people the general condition must not be overlooked, and the necessary stimulant, such as tea with cognac, champagne and tokay, must not be spared. The transition to

[1] *Beitrage zur Pathologie der Verdauungsorgane.* Arbeiten aus der medizinischen Klinik in Kopenhagen. [Essays on the Pathology of the Digestive Organs. From the Copenhagen Medical Clinic.] Herausgegeben von Dr. Knud Faber. Band 1. Berlin: S. Karger; and London: Williams and Norgate. 1905. (Demy 8vo, pp. 318. 8s.)

[2] *Les Actualités Médicales. Les Traitements des Entérites.* Par Dr. Maurice Jouaust. Paris: J. B. Baillière et Fils. 1906. (Cr. 8vo, pp. 94. Fr. 1.50.)

[3] *Die Therapie der Magen- und Darmerkrankungen.* [The Treatment of Diseases of the Stomach and Intestines.] Von Dr. Carl Weggle. Dritte Auflage. Jena: Gustav Fischer. 1905. (Demy 8vo, pp. 474. [illegible].)

solid food must take place gradually, and is best introduced by scraped raw meat or ham, in small quantities; calves' brains put through a sieve and mixed with soup, jellies of veal to supply the required albumen, while carbohydrates (and fats) may be taken in the form of gruel made with starch, flour, or tapioca, or potato *purée* prepared with milk and a little butter; we must be careful (as the older physicians always were) to forbid the use of new bread, the moist crumb of which is penetrated with difficulty by the gastric juice (*Magensaft*). We should give preference to rusks and toast; by degrees we reach roast meat, apple *purée*, cocoa, rice, etc., and the stomach accustoms itself to normal fare.

It is possible that the current prejudice against new bread is well founded (it is, at any rate, so generally entertained in this country, that few of us get the chance of making any experiments with it in our own households), but at any rate the reason given is not satisfactory. The crumb of bread is not put straight into the stomach, nor is it digested by the gastric juice (*Magensaft*). However dry it may be, it becomes moist when masticated, and it would appear that it is not more difficult to get moist bread thoroughly insalivated than dry bread. Hot buttered rolls are probably indigestible, because the butter forms an oily envelope around the starch, and so prevents the access of the saliva, but the indigestibility of new unbuttered bread cannot depend upon its moisture.

NEUROPATHOLOGY.

PROFESSOR LIEPMANN is well known for his writings on psychopathology, and now in his small volume on the disturbances of action in brain disease[1] he presents us with a careful study of the symptoms due to interference with the cortical mechanism for action. The disturbances shown in the performance of skilled movements have not received the same amount of attention as the analogous disorders of speech, and the author attempts to remedy this defect. He discusses the psychology of action and the possible ways in which its mechanism may be disturbed, but the greater part of the volume is concerned with apraxia. By apraxia is usually meant the general symptom of inability to recognize the use or import of an object—that is, mind-blindness, mind-deafness, etc.—but the author extends this definition to include inability to adapt movements rightly to the object presented. He carefully distinguishes it from ataxia due to the loss of kinaesthetic presentations on the one hand, and from the results of cortical blindness, haemianopsia, cortical deafness, etc., on the other. Apraxia itself he divides into three varieties—sensory, ideational, and motor. His sensory apraxia is equivalent to the apraxia of other authors and the sensory asymbolism of Wernicke. In motor apraxia the kinaesthetic centres may be intact, but the movement is not in agreement with the ideational process; the patient recognizes the object and understands what he is intended to perform, but fails to make the necessary adaptations. The disorder is localized and confined to one limb or one side. Ideational apraxia, on the contrary, is a diffuse process associated with general disorders of consciousness. There is perfect correspondence between the movement and the ideational process, but the latter is faulty; the thought of the end is not sufficiently prominent in consciousness, attention is feeble and other ideas come between, so that the movement cannot be properly originated. These various varieties are illustrated by cases either of the author's or described by Pick in his studies on motor apraxia. The book sums up what is known on this interessing subject, and the author's arguments are clear and forcible. Altogether it is an excellent contribution to this department of medical science.

The monograph on *Tumours of the Cerebellum*[2] before us is an [illegible] attempt to bring into the sphere of practical use the little about the cerebellum that is at present ascertained. It consists of a series of papers reprinted from the *New York Medical Journal* and *Philadelphia Medical Journal* of February 11th and 18th, 1905. The papers are (1) on the diagnosis of tumours of the cerebellum, especially with reference to their [illegible] by Dr. CHARLES MILLS; (2) remarks upon the surgical aspects of tumours of the cerebellum by Dr. CHARLES FRAZIER, with cases illustrative of both papers; (3) on the ocular symptoms of cerebellar tumours by Dr. G. E. DE SCHWEINITZ; (4) on the pathology of cerebellar tumours by Dr. T. H. WEISENBURG; and (5) on the functions of the cerebellum by Dr. E. LODHOLZ. The idea of this collaboration in writing on the difficult subject of cerebellar tumours strikes us as excellent. If it be asked what is the new and practical outcome of the book as a whole, the reply must be, not much, but it crystallizes the view that the prognosis after attempts to remove cerebellar tumours by surgical operation is more hopeful than it was. Five years ago the mortality stood at about 70 per cent., now it is about 40 per cent. Six cases are described from the writers' own experience. Of these 1 died after the first stage of the operation, the dura not being opened, 2 recovered after removal of the tumour, but in 1 of these recurrence took place, 1 was much relieved after evacuation of a cyst and there was no recurrence of symptoms more than a year after the operation; in 2 the tumour was not found although the dura was opened and in 1 of these there was striking improvement in the symptoms, in the other there was no improvement. Besides these cases the principal details of 116 recorded instances of cerebellar tumour are given and classified. Not much is added to our knowledge of the localization of cerebellar tumours; Dr. Mills says that in his experience the patient tends more often to fall to the side of the lesion, but the more general view is probably the reverse. It is pointed out that the position of headache may be misleading, and the extreme degree of optic neuritis as helping to distinguish cerebellar from cerebral cases is indicated perhaps too emphatically; to its presence in 87 per cent. of 164 cases perhaps too much importance is attached in respect of the differentiation of cerebellar from cerebral tumours. Still where there is great darkness a mere glimmer of light is welcome and if followed may lead to open day. The papers on the ocular symptoms of cerebellar tumours and the functions of the cerebellum are little more than careful and judicial analyses of current knowledge. The paper on the pathology of cerebellar tumours, however, contains a fair amount of the author's personal experience. We have no hesitation in recommending this book as affording a useful representation of what is so far known of the diagnosis and treatment of tumours of the cerebellum and the cerebello-pontile angle.

The first edition of Dr. BERNARD POLLACK'S book on staining methods for the nervous system[3] was published in 1897, and was reviewed in the BRITISH MEDICAL JOURNAL on July 17th of that year. The third edtion is now before us. At this date the book has many competitors in its own important sphere, of which a few are more and several much less exhaustive. Whether an elaborate book is desirable for a particular worker is a matter for consideration. This book, as far as it goes, is up to date and trustworthy. Besides the subject matter proper to the book—the staining methods for nerve cells, axis cylinders, neuroglia, and so on—other matters are taken into account, such as the removal of the brain and its treatment for macroscopic purposes, the hardening, fixing, and sectioning preliminary to microscopic examination. Certain valuable methods, according to British views, are omitted, but it is an important feature of the book that the writer distinguishes between the methods he considers of first importance and those of second-rate value; that some may disagree with him in his selection hardly affects the praiseworthiness of his book. Another good feature is a bibliography at the end of each chapter relating to its special subject. We have no hesitation in again recommending Dr. Pollack's handbook in its latest edition.

EPSOM COLLEGE REGISTER.

WE note with pleasure the appearance of the *Epsom College Register*, a record of fifty years' work (from October, 1855, to July, 1905) at Epsom College with its Royal Medical Foundation. Though the scope of the school has widened with the express consent and wish of its founder, it is impossible to dissociate the school from the medical profession, to which the foundation was restricted and which has received so many of its pupils. It is a noticeable feature of the present record that no indication occurs to distinguish the orphans of medical men who receive a free education from the bulk of those who entered as in any other public school. Many names well known in connexion with the staffs of London and provincial hospitals are to be found in its pages, with notes of early prowess in the class-room and playing

[1] [illegible] Handbuch bei Gehirnkranken. Von Professor Dr H [illegible] in the University of Berlin, Assistant Physician [illegible] and London: Williams and [illegible] (Demy 8vo, pp. [illegible])

[2] *Tumours of the Cerebellum.* By C. K. Mills, M.D., C. H. Frazier, M.D., G. E. de Schweinitz, M.D., T. H. Weisenburg, M.D., and E. Lodholz, M.D. New York: A. R. Elliott. 1905. (Demy 8vo, pp. 179. For private circulation.)

[3] *Die Färbetechnik für das Nervensystem.* By Dr. Bernard Pollack. Third edition. Berlin: S. Karger; and London: Williams and Norgate. 1905. (Demy 8vo, pp. 158. 3s. 6d.)

fields. It would appear that some 30 per cent. of the boys educated at Epsom have entered the medical profession, engaged either in ordinary practice or some branch of the public service. But that from the first it refused to be a class school is evident from the distinction won by Epsomians in every profession and walk of life. The Church, Navy, Army, and Law, as well as the Indian Civil Service, the Institute of Civil Engineers, and the pursuit of Arts and Science have each their representatives. Among notable distinctions occur the Order of St. Michael and St. George, the Royal Victorian Order, the D.S.O., and the Victoria Cross.

Seeing that the earliest of its scholars can scarcely have passed the zenith of their powers, this is a most satisfactory record, and may well promise even greater distinctions in the future. In a list of some 3,000 names whose possessors are well within the "the three score years and ten" which mark the span of human life, the number of careers cut short is very noticeable, and must appeal forcibly to those who survive; but the medical profession stands first among those dangerous to life, not excepting the navy and army, and among brief notes as to the causes of death occur references to not a few who lost their lives in South Africa.

In addition to the records of Epsomians themselves, the *Register* makes mention of the head and assistant masters, and includes a very good history of the school by the present Principal, the Rev. T. N. H. Smith-Pearse, embellished with some photographs which will bring back to former pupils faces and scenes long familiar to them. The frontispiece is a portrait of the founder, Mr. John Propert. A good index makes reference easy, and the volume represents an excellent review of the work of the school not only within its own bounds, but in the larger field of life; it should, therefore, be stimulating and interesting to those who have been at the college or who meditate sending their sons there. It is published at 5s., and can be obtained through the honorary secretary of the Epsomian Club, 27, Wimpole Street, W.

DERMATOLOGY.

The latest atlas on skin diseases is *An Atlas of Dermatology*[7] recently issued by Dr. Morgan Dockrell. The feature of this new work is the coloured presentation of the histology side by side with the clinical appearances. Both the photographs and the sections are due to Mr. Colhoun, and it may be said at once that they are well done. With regard to the microscopical sections they have been stained pretty uniformly in the same manner and magnified to the same extent, but although the magnification of the section on Plate xxxv is given as the same as that of some of the other histological figures, it is in error. Where it has been necessary to show bacilli, such as the tubercle bacillus, the magnification has been, of course, that obtained with an immersion lens. It would have been a good plan to have stated in all cases the amount of magnification—×1000 for instance—as is the rule nowadays. In Fig. D of Plate II, the stratum lucidum is not correctly brought out; it should have been indicated as just above the stratum granulosum. The author places seborrhoeic dermatitis and psoriasis together—an association which is not generally admitted. Moreover, an examination of the sections represented in Plates IX and XI does not quite support the view put forward. With regard to hyaline degeneration of the skin, it may be said that there is still difference of opinion as to colloid and hyaline changes. Whilst agreeing with the author that lupus erythematosus is not a good name and that the disease is not essentially tuberculous, yet it must be borne in mind that some writers still support the view that it is tuberculous. The change of name to ulerythema centrifugum is not, therefore, advisable at present. The designation is for the moment limited to the condition described as ulerythema ophryogenes by Tänzer. Taking the atlas as a whole, the plates are well done, and will be found useful for reference. The fundamental idea, as already pointed out, is good, and so is the addition of the Plates I and II at the end of the volume. The publishers are to be congratulated on the way in which they have carried out their share of the work.

The third and concluding part of Dr. Rasch's Danish work on diseases of the skin[8] is now before us. It is well up to the high standard attained by the first two parts, which have been reviewed in these columns. In this third portion the discussion of Hebra's prurigo is concluded, and the various forms of pruritus are dealt with, as well as the important matter of ulcers with their differential diagnosis. Zoster, herpes, and hysterical skin affections are then reviewed. With regard to the latter, malingering must always be thought of. In Section VIII skin diseases of unknown cause are ably and succinctly dealt with. Under this heading such conditions as lichen ruber—that is, lichen planus—psoriasis, pityriasis rosea, pemphigus, and so forth are described. Anomalies of pigmentation and new growths of the skin are dealt with in a general way without redundancy of detail. The remaining pages of this third part are taken up with the affections of the sweat apparatus and of the hair and nails, terminating with congenital deformities of the skin, such as naevi, moles, etc. Altogether, it may be said that Dr. Rasch's work is very well done, and is a practical review of the whole field of dermatology, including rare conditions such as lymphangioma tuberosum multiplex (a better name for which is naevi or cystepitheilomatosi), etc. The book is well got up, and worthy of the Gyldendalske Boghandel, so well known for fine editions. Paper, printing, and illustrations are first rate. The three parts bound together should form a handsome volume and a handy book of reference. The work is provided with an index. Fig. 61, which was pointed out in these columns as having been printed upside down, has been attended to, and the page reprinted and added to this part for binding in its proper place.

Dr. Stelwagon, of Philadelphia, whose fine treatise on diseases of the skin is well known, has published in compact form a small companion book, as it were, to serve as an introduction to the subject, entitled *Essentials of Diseases of the Skin.*[9] The volume forms part of Kimpton's Essential Series, and the subjects dealt with are presented in the form of question and answer, the space allotted to each morbid condition being based on its relative importance. The fact that this is the sixth edition shows that this method of imparting knowledge finds favour with students in the United States. That it may be useful and help students reading together goes without saying, but only as an adjunct to wider surveys of the subject. The information is conveyed in a succinct manner, and altogether the book passes in review in a satisfactory way the diseases of which it treats. On the whole the illustrations are well selected for the purpose in view, provided the reader familiarizes himself with the various common conditions by attentive examination of living patients.

X RAYS AND LIGHT ENERGY.

In the preface to his little book on *X Rays and their Employment in Cancer and other Diseases*[10] Dr. Cowen laments the excessive expectations of the public and deplores the distrust of the profession. Yet his text is well calculated to inflame the former and warn off the latter. Speaking of cancer, he says:

> The glands which we pride ourselves in removing so thoroughly are Nature's barriers against the infection of the whole organism, and in removing them we are throwing open the doors to a possible general infection. Their removal is the more unnecessary now, since we have found in the *x* rays a means of certainly restoring glands to their former size and consistency when they have become enlarged as a consequence of the presence of a malignant growth.

A gibe, a truism, a question begged; a valorous dogmatism and a discreet lack of precision—a paragraph to damn a greater book than this! The chapter on cancer is altogether too optimistic. It is a pity to obscure the issues by mixing up *x*-ray treatment with mercurial cataphoresis in the treatment of uncertain cases, but it is something to find candid admission of such a circumstance in the course of a cancer cure. Dr. Cowen does not recommend the use of *x* rays for ringworm, and his fears of permanent baldness are shared by many radiographers, but the success which has attended the treatment in expert hands recently, suggests at least an improvement in the power to control effects. The best feature of the book is the care taken to furnish all the details of every exposure, so that the author's experience in

[7] *An Atlas of Dermatology.* By Morgan Dockrell, M.A., M.D. (Dub. Univ.) London: Longmans, Green and Co. 1905. (Imp. 8vo; 62 plates with letterpress. 50s.)

[8] *Hudens Sygdomme og deres Behandling* [Diseases of the Skin and their Treatment]. Af C. Rasch. Third Part. Copenhagen: Gyldendalske Boghandel; and Christiania: Nordisk Forlag. 1905. (Royal 8vo. pp. 198. 57 figures. 6 crowns—Danish.)

[9] *Essentials of Diseases of the Skin,* including the Syphilodermata, arranged in the form of questions and answers, prepared especially for students of medicine. By Henry W. Stelwagon, M.D., Ph.D. Sixth Edition. London: H. Kimpton. 1905. (Cr. 8vo. pp. 274; 61 figs. 4s. net.)

[10] *X Rays: Their Employment in Cancer and other Diseases.* By Richard I. Cowen, L.R.C.S.I., L.R.C.P.I. London: H. J. Glaisher. 1904. (Crown 8vo. pp. 110. 2s. 6d.)

any individual disease is freely at the disposal of any radiographer who takes the trouble to read these pages.

Whatever may be said of the value of *Light Energy*[1] in therapeutics, there is no gainsaying the indefatigable energy of the authoress of this ponderous volume. Whether it be in the collection of evidence as to the nature and qualities of every known form of "light" energy or in devising some practical means for applying the same to the ills of which the human flesh may be the inheritor; or again to abstruse speculations upon the physical interpretation of physiological minutiae, Dr. Margaret Cleaves betrays an activity as varied and manifold, and at times almost as bewildering, as the true inwardness of the phenomena she catalogues. Every variety of ray from α to ω—or is it only to $\nu\iota$?—comes within the purview of her explanatory pen. The *n* rays of Blondlot, the emanations of radium, blue, green, red, and violet "frequencies," ultra-violet waves, all that pure science and applied mechanics can furnish in the way of visible and invisible "light," save *x* rays, are submitted to review in this volume; so that as a work of reference it should prove useful. The general impression left by a perusal of these evidently hastily-compiled pages is that of an indigestible or imperfectly-cooked mental feast. There is nothing settled; where results are absolute the prognosis is often unfavourable; where results are still quite uncertain an immense hopefulness shines out. There is, it seems, no form of disease or morbid state for which light energy cannot provide a palliative or curative measure. But the operator is often content with a tangible result no greater than that which the physician who knows how to wait, how to preserve a masterly inactivity, has a right to expect from the *vis medicatrix Naturae*: especially when, as in many of the light-treated cases, rest—Nature's most trusty servant—is simultaneously secured. There is a remarkably good index to the book, which certainly is a mine of information.

NOTES ON BOOKS.

Pictures from Nature.

The excellence of the photographs of birds and other animals taken in the wild state by the brothers Kearton are well known, and the books in which they have been published have frequently been praised in these columns. We now have the pleasure of calling attention to a portfolio of fifteen *Pictures from Nature*,[2] enlarged reproductions of photographs taken in the field; all but three show wild birds; the exceptions are leverets in their form, a squirrel, and a hedgehog. The birds are all very good; the plate of "Kittiwakes at home," perhaps best justifies the epithet "Rembrandt" applied to the photogravures, but the two plates of the kingfisher and the young willow-wrens have the qualities of good Japanese drawings. The triumph of the collection is the photograph of the black-throated diver; it is a very shy and wary bird and difficult to shoot, so that the patience and perseverance required to photograph the bird on her nest, all unconscious of the intruding camera, will easily be understood. It is impossible to praise these photogravures too highly.

Evidence of the revival of interest in recent years in what are commonly called functional diseases of the heart is afforded by the appearance, after a very short interval, of a second edition of Dr. Gibson's small volume of lectures on *The Nervous Affections of the Heart*.[3] It is evidence also that the anticipations expressed in the review of the first edition, published last March, have been justified by the event. Dr. Gibson has repented himself and added an index, and by so much improved the usefulness of a very useful volume.

[1] *Light: its Power in Health. Physiological Action, and Therapeutic Application.* By [illegible] A. [illegible] York). London: Rebman, Ltd. [illegible]

[2] *Pictures from Nature.* By Richard and Cherry Kearton. London: Cassell and Co. [illegible]

[3] *The Nervous Affections of the Heart.* Being the Morison Lectures delivered before the Royal College of Physicians of Edinburgh in 1902 and 1903. By George Alexander Gibson, M.D., D.Sc. Edin., LL.D. St. And., F.R.S. Edin. Second Edition. Edinburgh and London: Young J. Pentland. [illegible]

[illegible] Kensington, formerly proprietor of the *Manchester Guardian*, Owens College, now merged in the Victoria University of Manchester, will receive a legacy of £20,000 while £1,000 is left to Manchester Infirmary and £5,000 to the London Temperance Hospital.

MEDICAL AND SURGICAL APPLIANCES.

An Intralaryngeal Syringe.—Dr. Wyatt Wingrave, Physician, Central London Throat and Ear Hospital, writes: The instrument shown in Fig. 1 differs from the ordinary intralaryngeal syringe in having three apertures placed laterally instead of one central opening—an arrangement which ensures distribution of the injected fluid over the supraglottic region. It is equally useful for intratracheal injection, since the combined sectional area of the apertures is sufficient for free escape of the fluid. Messrs. Mayer and Meltzer have made a most serviceable instrument graduated to a capacity of ℥iv.

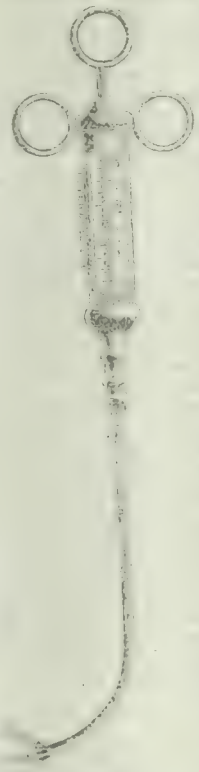


Fig. 1.

A Spring Stem Pessary.—Messrs. Maw and Son, 7 to 12, Aldersgate Street, have brought out a stem pessary which they believe to constitute a new departure. In its general appearance it does not differ materially from many other stem pessaries, but unlike its fellows, both the pessary and its stem are made of watch spring. Hence it is termed "the resilient stem pessary." Each pessary is supplied with a suspension band, to which the firm end of the stem can be screwed securely when desired. The instrument is inexpensive.

Stitch Removing Forceps.—Mr. E. Muirhead Little, of the National Orthopaedic Hospital, has devised the forceps shown in Fig. 2 in order to facilitate the removal of stitches which have been long left *in situ*, and are therefore embedded in dried discharge and epidermis. With ordinary forceps it is often not easy to effect this without disturbing the line of union. One limb of these forceps ends in a prong, the other having a hole to receive the prong at its apex. In using them the prong, with the blades widely separated, is passed under the stitch and the forceps then clipped together. The



Fig. 2.

stitch cannot slip from their grasp, and the suture, being divided with scissors but still held by the forceps, is easily withdrawn. Messrs Down Bros., St. Thomas Street, Borough, who are the makers, have carried out Mr. Muirhead Little's instructions very carefully.

Paris Scientific Information Bureau.—Professor Debove recently presented to the Académie de Médecine the report for 1904 of the Scientific Information Bureau. During the year 8,000 persons applied for information as to courses of instruction, laboratories, hospitals, libraries, and archives. Fifty-five per cent. of the applicants were foreigners, the countries represented being Great Britain, the United States, Russia, Scandinavia, Italy, Spain, South America, Germany, Japan, and China. Sometimes there were from seventy to eighty applicants in one day. The staff of the Bureau consists of four persons, and answers to questions can be given in five languages. The members of the Bureau are paid by the Municipal Council and the Council of the University. It may be mentioned that the information supplied is by no means confined to matters relating to medicine; replies are given to inquiries as to the French language and literature, the fine arts, industrial physics and chemistry, etc.

The Chapter-General of the Order of the Hospital of St. John of Jerusalem has conferred a number of medals for distinguished acts of gallantry in saving life on land at imminent personal risk on the occasion of the disastrous earthquake last spring at Dharmsala, in the Punjab. Among the recipients is Major Patrick Hehir, M.D., Indian Medical Service (Bengal), Medical Officer 7th Gurkha Rifles, who has been awarded a silver medal.

GENERAL MEDICAL COUNCIL.

NOTES.

Unprofessional Advertisement.—A warning notice to medical practitioners, on lines somewhat similar to that previously issued to dentists, was adopted. In general terms it sets forth that advertisements issued for their own gain and to the detriment of other practitioners, or the employment or the sanctioning of the employment of agents or canvassers for the purpose of procuring patients, may be held to be disgraceful or infamous conduct in a professional respect and may lead to erasure from the *Medical Register*. The difficulty of defining objectionable advertisement is obviously very great, and the Council has probably done well to leave the resolution in general terms without attempting close definition.

Inspection and Visitation of Examinations.—The consideration of a number of amended Standing Orders propounded by the Executive Committee was postponed till the next session. Dr. McVail had called attention to certain points in the present practice which appeared to him inadvisable, and a reference to the legal assessor elicited the opinion that the present practice was not in strict conformity with the terms of the Act, but that the inspector's report should be quite separate, and should not be influenced by nor signed by the visitor. It was therefore proposed that in future the inspector shall report formally upon the sufficiency of the examination, entering into considerable detail, and that the visitor shall hold a more roving commission to report and comment upon such matters as he thinks it desirable to bring under the consideration of the Council. This proposal did not content Dr. McVail, who wishes that the inspections should be continuous—that is to say, that they should be always going on instead of forming cycles with intervals of no inspections.

Penal Procedure.—An amendment of the Standing Orders by which the charges against an accused practitioner shall be so set forth as to distinguish the items of the charge, so that the Council may be enabled to find certain things proven without the whole charge being proved, was adopted.

Surgery Examinations at the University of Edinburgh.—It may be remembered that at a previous session of the Council a report had been received from the Council's inspector and visitor which spoke in no high terms of this part of the examination. The criticisms having been strenuously opposed by the representative of the University on behalf of the body which he represented it was finally decided to shelve the report for the time being and to reinspect this portion of the examination, for which purpose Mr. Howard Marsh, Regius Professor of Surgery at Cambridge, consented to act as the Council's inspector. Whilst declaring the examination in surgery, considered as a pass examination, to be sufficient, his report cannot be called eulogistic, and it is therefore in a measure confirmatory of the previous report which was so much objected to. On the other hand, as was pointed out by Sir Thomas Fraser, the features which he criticizes are not identical with those previously criticized, a fact which may be read either way, though Sir Thomas Fraser prefers to interpret it as the usual conflict of expert testimony. The report was adopted and the authorities of the University have promised to consider the suggestions arising therefrom.

The University of Sheffield.—A question was addressed to the President by Dr. Norman Moore as to the steps necessary to place the representative of this University upon the same footing as regards fees as the other members of the Council, and an answer was given detailing these steps. It will be remembered that this subject was broached by the President in his address. The Medical Act prescribes the course by which a new university, when in the opinion of the Council it has attained such importance as to be worthy of such a privilege, shall obtain representation upon the Council, so that there is full provision made already. But certain of the recently-incorporated universities have not thought fit to wait for the operation of this clause, but have secured representation at once by clauses in their own Acts, even though they possess at present no body of medical graduates to be represented. This has been felt to be an anomaly, and without opposing the University of Sheffield in similarly obtaining its representation at once if it desired it, it was arranged that for the present it should bear the cost itself, and not impose an additional burden on the depleted finances of the Council, till such time as it would have been entitled to a representative under the provisions of the Acts which govern medical education and the constitution of the Council. This was in the nature of a compromise, and may establish a desirable precedent.

Physics and Chemistry.—The Education Committee had been asked to report as to the advisability of the preliminary scientific examination being passed before the student was allowed to commence the study of anatomy and physiology. The Committee thought that such a change would operate towards lengthening the period of study, which already is, in practice, often six or more years, instead of the prescribed five. The subject was debated, but no conclusion was arrived at, the matter being again remitted to the consideration of the Education Committee on the motion of Mr. Morris, who extended the scope of the inquiry to include the consideration of removing the preliminary scientific subjects from the five years of medical study altogether. Although Mr. Morris, in justification of the propriety of making such a remit to the Committee, entered to some extent upon the controversial ground of the proper place of these studies, it was obviously impossible to discuss the merits of the question on his motion, and the Council, in adopting it, held itself clear of the expression of an opinion on this vexed question. Mr. Morris suggested that meantime the various bodies which grant qualifications should be consulted, but it would seem better that the Council should arrive at some definite view before this is done—in any formal manner, at all events.

The Fifth Year of Medical Study.—The Education Committee had also been asked to consider whether it was desirable that the fifth year should be absolutely and entirely limited to clinical work. This question also was referred back to the Education Committee by Mr. Morris's motion. The Committee had expressed an opinion against any rigid limitation, but Mr. Morris's motion put the question in a different form, that of an inquiry whether, supposing preliminary scientific subjects were removed from the period of medical study proper, the fifth year of study should still be retained.

Students' Registration.—The question of charging a fee of 5s. for the registration of students, in order to cover the expense to which it is estimated the Council is put in keeping and publishing the *Register*, came up for discussion, and, although it had been recommended by the Executive Committee and the Finance Committee sitting jointly for the purpose, it was negatived by the Council. Apparently, notwithstanding that the proposal had the sanction of the Privy Council, it was thought that it might have an influence in hindering the registration of students, who have up to the present continued to register in about the same numbers as before, although registration is not now required by all licensing bodies, and that the Council ought not to collect a fee, even though a small one, which it had not legal power to enforce. An amusing incident in the debate was that Sir John Moore pointed out that Trinity College, Dublin, whose representative had been instructed to strongly oppose the proposal, itself collected the 5s. which was the point at issue.

Public Health.—The Council approved in general terms the Public Health Bill promoted by the British Medical Association, but it considered Clause 2, which would give fixity of tenure to all medical officers of health, too sweeping, in that this fixity of tenure could be reasonably asked for only where the practitioner devoted his whole time to public duties and did not combine them with private practice. It was admitted, however, that something could be said in favour of its extension to such persons on the grounds that they also needed protection in the enforcement of measures which might be unpopular in their district.

Irish Poor-law Medical Service.—At the close of the session Sir William Thomson called attention to the grievances of the Irish Poor-law Medical Service, and drew a deplorable picture of the conditions under which the medical officers serve. He invited the Council to appoint a committee to report on the subject at the next session; but many members, while expressing their sympathy with the views advanced by

Sir William Thomson, considered that the Council had no *locus standi*, and the resolution was eventually withdrawn, the President promising to take an opportunity to consult the legal advisers as to whether it was in the power of the Council to appoint a committee for the purpose proposed.

University Dental Degrees.—The substance of a legal opinion as to whether these degrees were registrable as primary qualifications was that they were, but that in order to conform with the Act they should carry with them a certificate of fitness such as the Act prescribes. Incidentally it appeared that when a body having power to grant medical qualifications institutes a dental degree or diploma, it is at once *ipso facto* registrable, and that any exception which the Council might take to the conditions under which it is granted must be raised subsequently and not antecedently. This is the legal position, though doubtless qualifying bodies will continue as heretofore to submit their regulations to the Council at an earlier stage.

Reciprocity with Japan.—A conciliatory resolution was passed, and the Council promised at the proper time to consider the recognition of Japanese qualifications. But, under the terms of the Act, the first step must come from His Majesty in Council, who, if satisfied that British practitioners receive in a country recognition of their qualifications, may direct that Part II of the Medical Act, 1886, should apply to that country. Only then does it become the duty of the General Medical Council to examine into the various qualifications issued in that country, and to report which, if any, should be recognized.

Penal Cases.—In the case of Mr. Kirwan, as to which a decision had been postponed from the last session, the Council directed the erasure of his name from the *Medical Register*. It seldom happens that the penalty is inflicted in these adjourned cases; the object of the adjournment is to give the practitioner involved an opportunity of retrieving his position by unexceptionable conduct in the interim, and he usually does so. In this case the Council was apparently not satisfied that Mr. Kirwan had done all that could be expected; probably, if we may judge from the report, the facts that he had only at the last moment disposed of his several businesses, and that he had sold one to an unqualified practitioner, to whom he gave some sort of introduction, weighed against him. The second case dealt with was one of advertising by the use of newspaper advertisements of an institution for stricture, the said institution being, it was alleged, nothing more than the private surgery of the practitioner. Illness having been pleaded as a reason for non-attendance in answer to the Council's summons, the facts were found to have been proved, but the decision upon them was postponed and a medical certificate called for. The third case was one of alleged abduction of a girl who had been a patient and subsequently became housekeeper to the defendant, who, after the cessation of the relation, procured her work as a nurse by means of testimonials. The Council found the facts proved, and directed the Registrar to remove the name of the practitioner from the *Medical Register*. The fourth case raised again the question of canvassing on behalf of a medical aid society. Mr. Hamlet Lloyd Davies had accepted and still held the office of medical officer to the Rusholme and District Provident Dispensary. Evidence of canvassing was tendered. Evidence was also given that there was little need for a provident dispensary in the district, and that the medical officer first appointed had resigned, the dispensary having been only lately constituted. The Council found the facts proved, and postponed its decision upon them till the next session.

A Dental Company.—The last of the penal cases was one in which seven registered dentists were summoned for having associated themselves with a dental company worked under somewhat novel conditions. Two unqualified and unregistered persons—Guy White and F. Sinclair Kennedy—had been prosecuted and convicted under the Dentists Act in May, 1904. As has often been done before, these persons appeared to have desired to avail themselves of the protection afforded by incorporation into a limited company, but their *modus operandi* differed from that usually adopted. They, by payment of a guinea and the present of a share apiece, which was not paid for, induced seven dentists, all registered as having been in practice prior to 1878, to sign the memorandum of association of a company which was to purchase the practice of Guy White and Co., which, notwithstanding the addition "and Co.," was not a registered company. The new company does not appear to have advertized in the newspapers, though objectionable handbills containing untrue statements were circulated. The names of Guy White and Sinclair Kennedy do not appear on the file, and the company had an appearance of being on better lines than some others, because its signatories were all upon the *Dentists' Register*. Kennedy, however, acted as manager. But there was also a benevolent dental society, consisting, for all that the evidence before the Council showed, of a single individual, which professed to supply free dental treatment to deserving cases. The advertisements of this society attracted the attention of *Truth*, which paper, after making inquiries, inserted a strong paragraph upon the subject. When persons applied to this society in response to its advertisements they were told that the demand upon its resources had been so heavy that no more free treatment could be for the time given, but they were referred to Guy White and Co., Ltd., who would accept payment by instalments, etc. The secretary of this society attended the directors' meetings of Guy White, and Co., and received payments, presumably as commission for his recommendations, as it did not appear that he rendered any other services to the company. Thus it was managed that the company presented to outside view a respectable appearance, and the advertising by which it was profiting was kept out of sight. The Council found the facts proved against all of the seven dentists who had signed the memorandum of association, but in the cases of five of them, who had not been shown to have done more than lend their names, the Council postponed its decision till the next session. In the cases of two of them, however—Mr. Blount and Mr. Green, whose association with the company had been of a more intimate nature—the Council took a less lenient view, and directed the erasure of their names.

MEDICAL CANDIDATES AT THE GENERAL ELECTION.

The following is a revised list of members of the medical profession who are seeking re-election or election at the General Election and is probably still incomplete. We shall be much indebted to any correspondents who will supply omissions.

Dr. R. Ambrose, M.P.; N. (West Mayo).
Dr. J. Court; C. (North-East Derbyshire).
Dr. E. M. Crookshank; C. (East Grinstead).
Dr. R. Dawson; L.U. (East Edinburgh).
Dr. Charles Harvey Dixon; C. (Market Harborough).
Sir Conan Doyle; L.U. (Hawick Burghs).
Surgeon-General Evatt; L. (Hants, Fareham).
Sir Michael Foster, M.P.; L. (London University).
Sir Walter Foster, M.P.; L. (Ilkeston, Derbyshire).
Dr. F. Rutherfoord Harris, M.P.; C. (Dulwich).
Dr. Alfred Hillier; L.U. (Beds., South)
Dr. C. F. Hutchinson, M.P.; L. (Rye, Sussex).
Dr. M. A. McDonnell, M.P.; N. (Leix).
Dr. H. O'Neill; C. (South Belfast).
Dr. Pollard; L. (Lancashire, Eccles).
Mr. R. J. Price, M.P.; L. (East Norfolk).
Dr. Rolland Rainy; L. (Kilmarnock Burghs).
Sir George Scott Robertson, K.C.S.I.; L. (Central Bradford)
Dr. V. H. Rutherford; L. (Brentford).
Professor W. R. Smith; (Glasgow and Aberdeen Universities).
Dr. E. C. Thompson, M.P.; N. (North Monaghan).
Sir John Batty Tuke, M.P.; U. (Edinburgh and St. Andrews Universities).

Sir Robert B. Finlay, K.C., the Attorney-General in Mr. Balfour's Government, is also a member of the medical profession, but he has practically ceased to take any interest in its affairs.

Medical Magistrate.—Dr. F. H. Alderson of Branksome, has been appointed to the commission of the peace for the town and county and borough of Poole.

The Committee to which was entrusted the organization of the visit of British physicians and surgeons to Paris in May last has recently presented a statement of accounts which shows a handsome surplus. A sum of £172 has been paid over to the widows and orphans fund of the Association Générale des Médecins de France.

THE TUBERCULOUS CHILDREN OF THE METROPOLIS.

Sir William Broadbent attended a meeting of the Council of the Invalid Children's Aid Association held on November 30th at Denison House, Vauxhall Bridge Road, and delivered an address on the Tuberculous Children of the Metropolis.

Before this address was given Mr. Leveson Scarth, who presided at the meeting, described the progress made by the Association since the Council last met six years ago. In 1899 the number of annual applications to the Association for help was 588, and the number in 1904 was 1,209. The general aim of the Association was to obtain for sick children of the poor the best possible medical treatment, to enable them to earn their livelihood in the future. Mr. Scarth concluded his remarks by calling on Sir William Broadbent to give his address.

Sir William Broadbent's Address.

Sir William Broadbent began his address by observing that the subject of the tuberculous children of the metropolis was one of great general interest from a social as well as from a medical point of view, and opened up many questions.

Incidence of Tuberculosis in Childhood.

It was a remarkable fact that, while consumption, the most prevalent form of tuberculous disease, had diminished year by year for the last thirty years, there had been no corresponding diminution in the death-rate of the tuberculous affections which were specially incident to infancy and early childhood—meningitis, peritonitis, tabes mesenterica, disease of spine, bones and joints, and scrofulous glands. On the contrary they had increased. As tubercle bacilli were very often found in the milk distributed to London, the suggestion presented itself that contaminated milk was the source of the tuberculosis of early life. The bovine tubercle bacillus differed in some respects from the human bacillus, and some observers stated that the diseases named were demonstrably due to the bovine form. Without committing himself to that conclusion, he might say that tuberculous meningitis and peritonitis were often due to cow's milk, and it had been stated that no child suckled by a healthy mother ever had either of those diseases. A consideration pointing in a different direction was that the children of the poor in large towns such as London, who were most subject to early tuberculosis, got very little milk. What they did get was likely to be of inferior quality, robbed of cream, diluted with impure water, poisoned by preservatives and possibly crowded with bacilli, and the improper food and the debilitating influences under which they existed rendered them susceptible. Unfortunately children living in the country, even in a dairy country, might be just as badly off for milk as those in towns. He had endeavoured to obtain some idea of the number and distribution of the children suffering from tuberculosis in London, and to begin with he might give the number of deaths under 5 years old, for which information he was indebted to Dr. Tatham, the Registrar-General. During the years 1901-3, 6,391 children under 5 died from different forms of tuberculosis; of these 2,894 died before they were a year old, the mortality decreasing rapidly with every successive year of life. Tuberculous meningitis appeared to be at every age the most fatal form of the disease, carrying off 861 children in the first year of life, 742 in the second, 391 in the third, 303 in the fourth, and 184 in the fifth. Next to it in the first year of life came tabes mesenterica with a death roll of 694 and tuberculous peritonitis with 414, dropping respectively to 170 and 176 in the second year, and 46 and 72 in the third. Pulmonary tuberculosis was said to be responsible for 237 deaths under 1 year and 234 under 2 years, becoming after that age the most fatal form of tuberculosis, with the exception of meningitis. Tuberculous disease of the glands, bones, and joints are classed under one heading, and account for 688 deaths in the first year of life, 429 in the second, 161 in the third, dropping to 113 in the fourth, and 85 in the fifth. Tuberculous meningitis was an acute and fatal disease; in a less degree so was tuberculous peritonitis, and on that account they scarcely came within the scope of the Invalid Children's Aid Association. On public grounds those deaths were scarcely to be regretted. If a child contracted tuberculosis at an early age it was probably susceptible, or the unhealthy influences surrounding it were strong, and for its own sake death was preferable to a life of suffering; in the interests of the community and of the race the elimination of a burden and source of weakness was desirable; not infrequently it gave a better chance to other children in the family, and it might also call attention to conditions of life which ought to be remedied.

Pulmonary Tuberculosis.

Pulmonary consumption in young children was very difficult to recognize: it was frequently overlooked till it had reached an advanced stage and in children it was a very fatal illness. The Invalid Children's Aid Association could do little or nothing for cases of true pulmonary consumption which came under its cognizance beyond sending early cases into the country. Such cases, however, constituted a small minority of the affections of the lungs met with among London children and it was astonishing what an amount of structural damage to the lungs by other forms of disease was survived with apparent restoration to health and vigour, the lesions being repaired and compensatory changes taking place in other parts of the lung affected or in the opposite one. Sequelae of measles, whooping-cough, bronchitis, and other affections were often mistaken for consumption, and there were no cases in which fresh air and good food made a greater difference. A child, otherwise condemned to life-long delicacy and suffering, might by a change to the country or to the seaside, and particularly to a good convalescent home, be made permanently well and strong. That Association might therefore be encouraged to take charge of children suffering from disease of the lungs of whatever kind. If the results were disappointing when the affection was actually tuberculous, its efforts would be abundantly rewarded by remarkable recoveries when tubercle was not present. It might illustrate the difficulty of distinguishing between the two if he mentioned that while Dr. Jane Walker and other physicians of large special experience considered that pulmonary tuberculosis in children was a rare disease, Dr. Greenwood, who had been making a special examination of delicate school children in Blackburn, stated that out of 338 examined 54 were tuberculous, of whom 34 were suffering from pulmonary tuberculosis.

The French Organization.

In France more attention had been paid to that question than in England, and the hospitals of Ormesson and Villepinte provided accommodation for about 500 children suffering from pulmonary tuberculosis. Dr. Léon Petit, in the report for 1904, spoke of 25 per cent. as having been restored to health and only 10 per cent. of deaths as the result of eighteen years of experience at Ormesson, and said that out of 3 911 tuberculous children admitted to the hospitals 983 were discharged as cured. Of these many were known to have kept well, and some of the boys had gone through their period of military service. At Ormesson only early cases were accepted, but at Villepinte, which was for girls and women up to the age of 30, patients were admitted in all stages, and there were no separate statistics for the children. The Sister Superior, however, stated that young children did well, and she knew of many instances in which they had grown up strong and healthy.

A Beginning in England.

In England an excellent beginning had been made in the Millfield Home, on the south coast near Littlehampton, for children suffering from pulmonary tuberculosis. It is under the control of the Metropolitan Asylums Board, and had been open for nineteen months, and the results so far appeared to be astonishingly good. Dr. Last, the medical officer to the home, informed him that 36 children had been discharged as being in a satisfactory condition of health, their average gain in weight being 1.2 lb. per month and the average length of stay nine months. He said that the response of those early cases to fresh-air treatment, combined with cod-liver oil and iron where required, was very encouraging, and their improvement in general health and physique very noticeable. He added: "One must not lose sight of the possibility that certain of them may not have been tuberculous, and that their impoverished condition on admission was due to ill-feeding and other causes. The early signs of tubercle are illusory, but I was satisfied of undoubted evidence in the majority of the cases." Of 22 of the most serious cases still under treatment, all believed to be undoubted cases of pulmonary tuberculosis and having gross lesions, "many show improvement, nearly all in their physique, and they eat and sleep well." Dr. Nathan Raw (Liverpool), who had to deal with a similar class of patients, considered that children under sanatorium treatment did better than adults. For children who are above the pauper class there was little accommodation, and it was difficult to

know where to send them. If certified as phthisical they were refused admission at almost all convalescent homes, and it would not be wise to allow them to mix indiscriminately with other delicate children without expert supervision. For early cases, where there was practically no risk of infection, boarding out had been tried with some amount of success, but there was great need of a home where those children could be received and given the benefit of open-air treatment. Such a building might be of the simplest possible construction and of the least expensive material. It should be only one room thick, and be open back and front with an air space between the walls and roof, so that even when shut up for dressing or undressing the place should be really flooded with air. If children were well fed and comfortably, not too heavily, clothed, they stood exposure to the coldest weather extremely well. The French believed very strongly in the treatment of children in the pretuberculous stage, and they might with advantage take a lesson from one of their latest developments, initiated by Dr. Grancher, which consisted in the removal of children from homes infected by tuberculous parents till more satisfactory conditions could be established.

Tuberculosis of Bones Joints, and Glands.

Coming now to tuberculous disease of the spine, bones, and joints, and of glands, which constituted a large proportion of the clients of the Invalid Children's Aid Association, they found 1 476 deaths attributable to that class. As those cases were protracted, 1,476 deaths represented a large number of children affected by those forms of disease; and as, again, those diseases involved daily suffering, the pain endured by those young children was distressing to think of. During the last five years 1.736 cases of surgical tuberculosis, previously unknown to the Association, had been placed on the books, and out of 1.209 new cases referred to it last year 502 were those of children suffering from different forms of surgical tuberculosis, including 89 of glands, while 68 were said to be phthisical. A certain proportion of these would be arrested cases, requiring only temporary assistance; others would die, or be lost sight of; but, judging from the reports of representatives, there must be over a thousand tuberculous children known personally to the visitors of the association, and it was interesting to note that the distribution of the cases corresponded pretty nearly with what would be expected from knowledge of the different parts of London. Districts in the South and East, such as Camberwell, Bermondsey, Southwark and Bethnal Green, showed the largest proportion of cases; while in Hampstead the number dropped to 16. Kensington, Marylebone, and Paddington, however, showed a much larger proportion than was right, and that might possibly be due to the unsatisfactory housing conditions which prevailed in the poorer and more congested parts of those rich neighbourhoods.

Causes of Tuberculosis in Childhood.

He had referred briefly to the question of the source of the tubercle bacilli which gave rise to bone and joint disease. A more instructive inquiry was as to the circumstances and surroundings among which the cases arose and to which they might practically be attributed. It was by amelioration of those surroundings that prevention might be favoured, that suffering might be alleviated, and in some instances recovery promoted, but recovery must be sought by removal from the influences which had brought on the disease. They knew in general terms that tuberculosis among children was due to unwholesome housing, overcrowding, improper feeding, dirt, bad ventilation—to the incidents of poverty generally. For some of those conditions public authorities were responsible; others must be set down to the account of parents. Some were remediable in spite of poverty, most could be alleviated. On that question of causation the Invalid Children's Aid Association could give them the valuable intimate knowledge which could be obtained in no other way. Primarily it was the duty of municipalities to see that the housing of the poor was not incompatible with health, that the houses themselves, from imperfect water supply, sanitary arrangements, negation of sun and air, were not direct causes of disease. In not one of those particulars could it be said that the housing of the poor complied with the requirements of health and decency. There were many dwellings in which water was not supplied plentifully and conveniently, so as to favour cleanliness, and in which it was not protected from contamination. Very often the so-called sanitary arrangements in tenements were indescribably disgusting and revolting. Light and air were alike excluded from the staircases, passages, and living rooms. Too often houses officially condemned as unfit for human habitation had an interminably long shrift extended to them, advantage of which was taken by the worst type of tenants. Basements were in some districts still in use as dwellings. As a set-off against those shortcomings on the part of public authorities it might be said that the tenants were not to be trusted with the control of the precious water, that they wasted it carelessly and wantonly, that the sense of decency seemed to be wanting, that the occupants would exclude the light and air if the rooms did not.

Overcrowding.

In regard to overcrowding, which was one of the chief causes, both direct and indirect, of tuberculosis, the responsibility was divided between the municipal authorities and the occupants. There were regulations which ordained that every dwelling should give a certain number of square feet of floor space and a certain number of cubic feet of air to each inhabitant, but in some parishes they were not enforced, and one of the most flagrant violations of municipal obligations was the fact reported by visitors of the Association that families of children were allowed to live in basements. The tenants of the tenements on their part, especially in bad times or cold weather, constantly tried to evade the regulations; they sublet rooms or took in lodgers, and families combined together. A terrible difficulty arose in the case of large families. In France children were at a premium, and there were dwellings which were only let to families comprising at least three. In London three became a serious consideration, four a difficulty, five almost a disqualification for any accommodation which could be found at the rent a labourer could pay. Not infrequently a new baby raised the number to the point which constituted legal overcrowding, and the worst of it was that that might happen in decent families where the children had been cared for and kept alive. Too often room was made for the newcomer by the death of others. There were cases known of parents and five children living in one room, without even a scullery, and it not infrequently happened that the basement was the only place where large families could take refuge, notwithstanding the fact that it was illegal for children to sleep in an underground room. The difficulty was so great, the alternative so ghastly, the fate of those children so melancholy, the deterioration of the race so serious, that the most convinced believer in the injurious results of indiscriminate relief, of whom he was one, might almost relent and be tempted to ask whether there should not be some substitution of national for parental responsibility in families above a certain number, where for the few years before the eldest children were free to leave school the burden of maintenance seemed almost too great to be borne. In careless or vicious families the children were perhaps better dead, and it was not uncommon to find only 3 or 4 surviving out of perhaps 10 or 12, but it was quite possible for a respectable working man to have a family of 6 or 8 living under the age of 14, and if there was even a short period of irregular earnings during the year the foundations of permanent ill health might be laid or some of the children would succumb to tuberculosis. It was these cases in the pre-tubercular stage of delicacy, perhaps after some acute illness, that the Association might find it well worth while to save.

"An Invention of the Devil."

For the feeding of the children the parents were, of course, responsible. The greatest safeguard against tuberculosis in early life and against infantile mortality generally was that the child should be suckled by the mother. There was no substitute for that within the reach of the poor, and there was no subject on which the poor were more ignorant or with regard to which their ideas were more outrageous than as to the feeding of children. The bottle was, perhaps fortunately, when the breast milk was not available, the best means of keeping an infant quiet, and to warm milk cost less trouble than the preparation of other forms of nourishment, but the milk was usually of indifferent quality, the bottle was not properly cleansed, and was often furnished with an india-rubber tube which was never sweet and was infested with microbes. The so-called comforter, a teat constantly seen in the mouths of infants of all classes, was an invention of the devil. It was a fraud on the unhappy child, it led to waste of its digestive secretions, and it picked up every kind of filth when it fell on the floor. If there was consumption in the house it was the readiest and easiest of all ways of conveying the tubercle bacilli to the child. Some

slight protection from contamination was afforded by tying it round the child's neck.

Improper feeding did not come to an end with infancy. The child usually had exactly the same food as the parents. Very commonly there were no regular meals, such cooking as was done was bad. Tinned foods were largely used, any meat bought was chosen with a view to cheapness, the appetite was stimulated by condiments and pickles, and children lost all taste for simple food.

About dirt and want of ventilation and light nothing need be said, while vice, drink, neglect and carelessness on the part of parents were largely responsible for infantile mortality and the tuberculosis which kills and cripples so many children.

Existing Provision for Tuberculous Children.

The contemplation of the causes of tuberculosis among London children was disheartening, and he turned with pleasure to a brief survey of what was being done, imperfect and insufficient as it was, for the little victims of tuberculous affections of the spine, or the hip and other joints, and of bones. First to be mentioned was the Alexandra Hospital for Hip Disease. It had 65 beds in London, 20 at Clandon in Surrey, 12 at a convalescent home at Painswick. Only acute and early cases were admitted, though once in the hospital they were kept there indefinitely. The number received, therefore, was small—only 173 children were under treatment in 1904—but the results were excellent. Next came the Children's Hospital for the treatment of hip disease at Sevenoaks, with 35 beds; and there, again, only early cases were admitted, which, however, were kept as long as necessary. At Cheyne Hospital the more advanced cases, both of hip and spinal disease, were admitted and kept indefinitely. Finally, at all the general and children's hospitals in London those cases were treated as out-patients, and admitted when necessary for operation. At the seaside they had the Victoria Home at Margate for cases with open wounds, where the children were kept as long as there was hope of improvement, the Royal Sea-bathing Hospital, and some small nursing homes which could only accommodate a few children. There was also a home at Herne Bay for convalescent cases under the Metropolitan Asylums Board, and in London the Poor-law infirmaries admitted the advanced cases and kept them as long as necessary.

There was no special provision for spinal disease, and it was seldom possible to obtain admission anywhere for an incipient case, whether of spinal or joint disease, without a long wait, which often compromised the chance of recovery and resulted in deformity, which might have been prevented. The amount of suffering which would be saved to the children by early treatment is incalculable. To say nothing of that, it would often be an economy in the end, since recovery after an abscess had once formed was slow and uncertain, and the liability to relapse far greater. Those children, excepting when very young, often did not die even under very unfavourable circumstances, and early and efficient treatment might make the difference between extreme deformity and practical restoration to health. When cases of hip or spinal disease could be taken at an early stage and kept at rest under proper conditions the results were so excellent that it seemed a pity more could not be done in that direction.

In France the desirability of treating this class of cases away from large towns in properly-equipped institutions at the seaside had long been recognized, and there were between four and five thousand beds available in the various sanatoriums on the coast of France for children who were either suffering from some form of surgical tuberculosis or merely rickety and anaemic. The figures given by Dr. Armaingaud spoke of 32 per cent. of cures, even in the case of spinal disease, and 53 per cent. in other diseases of the bones, while he considered that an additional 25 per cent. were much improved.

Need for Greatly Increased Accommodation.

A review of the question of tuberculosis as affecting children in London afforded striking evidence of the extent of the demand for institutional accommodation and treatment and the inadequacy of the provision. That demand was not simply in the nature of a refuge for the deformed and crippled but for efficient means of preventing suffering and deformity and helplessness. It could not be too emphatically insisted that the opportunity for successful treatment was in the early stages and that in early stages the treatment was extraordinarily successful. In comparison with France they were doing nothing for their unfortunate tuberculous children. It was true that they set the example of seaside treatment at the Margate Hospital, but the usefulness of that institution must have been impaired by the short sojourn permitted through the admission letter system, and there had been no such extension as had been demanded and might have been expected. They had also the Alexandra and Cheyne Hospitals, but all authorities agreed that recovery from all stages of tuberculous disease was much more sure and rapid in sea air or in the country than in the wards of the best appointed hospitals, and if those hospitals could at once send into the country the early cases and cases after operation and so become more extensively available for the cases in which the skill of the surgeons would find employment, their usefulness would be increased ten-fold.

Resolution.

The following resolution was then moved by Sir Charles Freemantle, seconded by Mr. Brudenell Carter, supported by the Rev. W. Conybeare, and carried unanimously:

> That this meeting approves the present practice of the Invalid Children's Aid Association in endeavouring to make possible the early and efficient treatment of children who are suffering from different forms of surgical tuberculosis by assisting to pay for them in nursing homes and special hospitals or by the supervision rendered by trained visitors in the children's own homes; and it likewise approves any future action of the Association in taking up the cases of children who are affected, or suspected to be affected, with pulmonary tuberculosis, with a view to finding out how far they may be curable and to obtaining for them more satisfactory provision than at present exists.

The meeting concluded with a cordial vote of thanks to Sir William Broadbent.

CONTRACT MEDICAL PRACTICE.

Notice as to Districts in which Disputes Exist.

A notice as to places in which disputes exist between members of the medical profession and various organizations for providing contract practice will be found among the advertisements, and medical men who may be thinking of applying for appointments in connexion with clubs or other forms of contract practice are requested to refer to the advertisement on page 87

Contract Work: A Suggested Remedy.

Dr. T. Cuming Askin, M.D. (Alderton, Woodbridge, Suffolk), writes: I have just read in the Supplement to the British Medical Journal of December 2nd Mr. Housman's admirable paper, "Contract Work: A Suggested Remedy." Here at last is a paper full of sound common sense on this all-important question. I only wish that it (this paper) could be discussed by all the Divisions and some concerted action taken as soon as possible on the lines here laid down. I have had fourteen years' experience of contract work, and am deeply and painfully conscious of its blighting influence on all that makes for good honest work. The whole system, so far as medical attendance is concerned, is rotten to the core.

The National Deposit Friendly Society.

A correspondent informs us that on sending in his account recently he received a letter from the local secretary to the National Deposit Friendly Society which contained the following passage: "I am inquiring if Dr. X. has a branch surgery at A, and, if so, the member must pay the mileage himself, also the mileage itself is in question." Our correspondent adds that the member, who has been his patient for some years, resides two and a half miles away, and that the mileage has never been questioned before. Dr. X. lives four miles away, and has no surgery at A. Our correspondent thinks that pressure is evidently being brought to bear on members of the National Deposit Friendly Society in the choice of their medical attendant despite professions to the contrary.

The Irish Medical Schools' and Graduates' Association held its autumn general meeting on November 28th, when the Council reported that it had under consideration the removal from the roll the names of all members who were two years and upwards in arrears with their subscription. The list to be published with the forthcoming annual report would, therefore, not contain such names unless good cause for delay were meantime shown. The names at present on the roll number upwards of 850. The autumn dinner took place the same evening at the Hotel Cecil, a number of ladies being present. Only two toasts were drunk, that of "The King" and "The Prosperity of the Association," the latter being proposed by Sir Dyce Duckworth. Owing to the unavoidable absence of Sir William Whitla the chair at the meeting in the afternoon was taken by the Chairman of Council, Dr. J. H. Swanton, and at the dinner by Dr. P. S. Abraham. A variety entertainment followed the dinner.

THE BRITISH MEDICAL BENEVOLENT FUND.

By Samuel West, M.D.,

Physician to St. Bartholomew's Hospital, Treasurer of the Fund.

1. General Objects of the Fund.

The principles upon which the Fund is established cannot be better expressed than they are in the original rules and regulations laid down in 1836, the year of its foundation:

That the object of the Fund be the relief of medical men and their families under severe and urgent distress occasioned by sickness, accident, or other calamity.

That any medical man or his family labouring under such afflictions be considered a fit object for the charity.

That the claims of contributors shall, as far as possible, have the preference; but that the contributions to the Fund give no claim of right to relief, the Fund being one of pure charity, and that each case be judged according to the urgency of the distress.

That under circumstances of peculiar emergency relief may be extended to the widows and orphans of medical men, it being understood that it is not the design of the Fund to relieve medical men from the necessity of providing for their families by ordinary life assurances and such other means as prudence dictates.

It was further stated that the Fund was not intended to be either a benefit or, as we should now call it, a provident society, or an assurance club the benefits of which are restricted to its members, but strictly speaking a benevolent or charitable institution, and that

while the sole design of this Society was to hold out the hand of charity and benevolence to a suffering and afflicted brother or his family, it would not countenance improvidence or idleness or evil habits of any kind.

It was soon found that the cases of distress fell into two groups: In the one the distress was of a temporary character, and required only temporary relief: In the other it was continued, so that a grant made one year had to be repeated in the next and subsequent years, and the annual grants became to all intents and purposes annuities. Consequently it was determined to invest all bequests and donations, and to apply the income therefrom so soon as it was sufficient

to the granting of pensions or annuities to such deserving members of the profession as may have been rendered incapable of following their profession by age, disease, or any other infirmity, or to their widows or orphans in indigent circumstances.

These principles have guided the Executive of the fund to the present day, and the objects of the fund are now more concisely stated to be—

1. To make grants of money to distressed members of the profession, their widows, and orphans.

2. To provide annuities for such after they have reached the age of 60 years, or in case of blindness.

2. The Administration of the Fund.

The funds are administered in two corresponding departments:

1. The Grant Department, the income of which fluctuates and depends upon the annual subscriptions and donations.

2. The Annuity Department, the income of which is fixed and is derived from investments.

The Annuity Department.

It is the standing rule that bequests are to be invested and placed in trust securities. In this way the invested capital has reached the sum of upwards of £60,000, yielding an income of about £2,300 per annum. This suffices for 124 annuitants.

When times are bad, distress prevalent, and funds low, the temptation to supplement the grant department by drafts upon the invested capital is great. Hitherto it has been resisted, and wisely, for a strong annuity department is the backbone of the fund, and affords permanent relief to the grants, inasmuch as cases upon the grant list pass automatically on to the list of annuitants so soon as they have reached the age of 60 years, if, after investigation, they appear in other respects suitable.

The average annuity is £20 a year. There is a small fund left for the special purpose of raising six of the most deserving to the sum of £26 a year, or 10s. a week. This special fund is restricted to medical men themselves, and is not available for their widows or orphans. It is hoped as funds accumulate that it may be possible to raise all annuities to that sum, which is indeed little enough. To do this would involve, however, an addition to the expenditure of nearly £700 a year, or the income derivable from about

BRITISH MEDICAL BENEVOLENT FUND.

GRANT DEPARTMENT.

Dr. *Statement of Account for Year 1904.* *Cr.*

RECEIPTS.

	£ s. d.	£ s. d.
To Balance from last Account	—	232 0 3
Subscriptions	1,190 15 4	
Donations	832 8 1	
Special Donation for Christmas Gifts	20 0 0	
	2,043 5	
Interest on Deposit	—	5 7 9
Instalments of Grants voted, remaining unpaid on December 31st, 1904, *£430 5 0*		
	£2,280 11 3	

EXPENDITURE.

	£ s. d.	£ s. d.
By Grants voted December, 1903, paid in 1904, as per last account	83 0 0	
,, ,, January, 1904	124 0 0	
,, ,, February ,, ...	203 0 0	
,, ,, March ,, ...	280 0 0	
,, ,, April ,, ...	139 0 0	
,, ,, May ,, ...	161 0 0	
,, ,, June ,, ...	182 0 0	
,, ,, July (nil) ,, ...	—	
,, ,, September ,, ...	97 0 0	
,, ,, October ,, ...	159 0 0	
,, ,, November ,, ...	105 0 0	
,, ,, December ,, ...	196 0 0	
	1,729 0 0	
Less December vote payable 1905... ...	181 0 0	
Less returned and lapsed Instalments...	85 10 0	
	266 10 0	
Nett amount of Grants paid...		1,462 10 0
Special Christmas Gifts	... ...	20 0 0
Working Expenses:		
Collector's Salary and Commission	12 19 10	
Clerical Assistance, Hon. Sec.	78 0 0	
,, Treasurer	25 0 0	
Petty Cash	2 4 11	
Bank Charges for Stamps and Cheques ...	7 9 0	
Printing and Stationery	44 14 8	
Advertising	1 7 0	
Gratuity to the late Collector	10 10 —	
		131 5 5
Balances at Bank, December 31st, 1904:—		
(a) General Account...	577 16 0	
Country Cheques	89 0 0	
		666 16 0
(b) Instalments Account to meet Liabilities, as *per contra*, *£430 5 0*		
		£2,280 11 3

We have examined the above Account with the Books and Vouchers of the Fund for the year 1904, and certify that it is in accordance therewith. The Cash Balances have also been verified by us.

DELOITTE, DEVER, GRIFFITHS AND COMPANY, Chartered Accountants. } Hon. Auditors.

February 4th, 1905. 4, Lothbury, E.C.

ANNUITY DEPARTMENT.

Dr. *Statement of Account for Year 1904.* *Cr.*

RECEIPTS.

	£ s. d.	£ s. d.
To Balance from last Account	—	267 15 10
Receipts on account of Capital:—		
Legacy. H. de Tatham, Esq., dec.	100 0 0	
,, J. P. Bartrum, Esq., dec.	250 0 0	
,, Dr. Sutton, dec.	900 0 0	
Subs. Special Fund	1 1 0	
		1,251 1 0
Dividends on—		
£900 Land Securities Co. Mortgage Debenture	18 4 2	
£4,867 London, Brighton, and S. C. Ry. 4½ per cent. Debenture Stock ...	208 15 0	
£2,000 London and S. W. Railway 3 per cent Debenture Stock	57 3 [illegible]	
£1,500 Great Northern Railway 3 per cent. Debenture Stock	42 17 9	
£3,300 Huddersfield Corporation 3 per cent. Stock	94 5 1	
£5,133 Great Eastern Railway 4 per cent. Debenture Stock	195 13 10	
£41 East India Railway Ann. "B" ...	36 2 7	
£2,500 Forth Bridge Railway 4 per cent. Stock (includes £125 Stock purchased with the "Gee" Legacy, 1897)	95 2 2	
£2,400 Midland Railway 2½ per cent. Debenture Stock	57 3 0	
£6,728 Bank of England Stock	605 10 4	
£[illegible] India 3 per cent. Stock	192 18 0	
£[illegible] Birmingham Corporation 3½ per cent. Stock	29 13 3	
£2,470 ,, ,, 3 per cent. Stock...	70 11 1	
£[illegible] Liverpool Corporation 3½ ,,	92 16 4	
£[illegible] Nottingham ,, 3 ,,	85 10 [illegible]	
£3,805 West Ham ,, 3½ ,,	117 11 8	
£[illegible] Swansea ,, 3½ ,,	00 0 5	
£700 Leeds ,, 5 ,,	33 6 6	
Rs. 33,000 India Rupee Paper Loan 3½ ,,	71 10 9	
£1,600 Paisley Corporation 3 ,,	45 12 0	
£[illegible] Scinde and Punjab Railway Annuity "B"	48 7 4	
£2,000 Sheffield Corporation 3 per cent. ...	57 2 6	
£1,000 India 3 per cent. ("Patmore Bequest," per Official Trustees of Charitable Funds)	32 8 4	
£1,500 Midland Railway 2½ per cent. Debenture Stock		
	2,328 6 7	
	£3,897 3 5	
Returned Income Tax for 1904, but not received until 1905 ...	99 9 1	

EXPENDITURE.

	£ s. d.	£ s. d.
By Investments on Account of Capital:		
£1,500 Midland Railway 2½ per cent. Debentures		1,106 6 0
Payment of 121 Annuities, namely:		
7 at £10 ,, ...	70 0 0	
2 at £15 ,, (Dunlop) ...	30 0 0	
102 at £20 ,, ...	2,040 0 0	
9 at £26 ,, (Special)	234 0 0	
1 at £36 ,, (Morgan)	36 0 0	
	2,410 0 0	
Less Returned and Lapsed Instalments ...	35 [illegible] 0	
Nett amount of Annuities paid		2,374 13 4
Working Expenses:		
Bank Charges for Stamps and Cheques ...	8 8 3	
Printing and Stationery.	14 44 8	
Gratuities to the late Collector	17 10 0	
Clerical Assistance—Treasurer	25 [illegible] 0	
,, ,, Honorary Secretary...	25 0 0	
Carriage, Mr. East	2 [illegible] 6	
Petty Cash	5 14 4	
		128 12 9
Balance at Bank, December 31st, 1904	—	197 11 4
		£3,897 3 5

We have examined the above Account with the Books and Vouchers of the Fund for the year 1904, and certify that it is in accordance therewith. The Securities held by the Fund, as shown above, including the Cash Balances, have also been verified by us.

DELOITTE, DEVER, GRIFFITHS AND CO., *Hon. Auditors.*
Chartered Accountants.
4, Lothbury, E.C.

£23,000, so that there is no immediate prospect of this aim being achieved. In general, it seems preferable, when it comes to the point, with the many suitable cases waiting on the list, to appoint new annuitants rather than to increase the amount of existing annuities. Still, a sufficiently large legacy would enable this to be done at once, and of this those who have charitable funds at their disposal may well be invited to take note.

THE GRANT DEPARTMENT.

The income of this department is derived entirely from the contributions of the year. It is always a source of anxiety on account of its uncertainty. All that comes in is spent.

Under special circumstances, a single grant of £5, £10, or even £20 may be made to meet some emergency, but, as a rule, experience shows that it is best to spread the grant over the year and pay it in instalments of £1 to £1 10s. monthly.

The balance-sheet for the two funds for the year 1904 is given above.

(To be Continued.)

AT a recent meeting of the Zoological Society of London, Dr. Walter Kidd, F.Z.S., read a paper, illustrated by lantern slides, on the Papillary Ridges in Mammals, chiefly Primates. The arrangements of the ridges on the hand and foot of twenty-four species were shown and described, and their functions discussed. Arguments were brought forward in support of the view that their primary function was to increase the delicacy of the sense of touch.

THE FIFTEENTH INTERNATIONAL CONGRESS OF MEDICINE, LISBON, 1906

A MEETING of the National Committee for Great Britain and Ireland of the Fifteenth International Congress of Medicine was held in the rooms of the Medical Society of London on November 30th, 1905. Dr. PAVY, F.R.S., was in the chair.

The HONORARY SECRETARIES (Mr. D'Arcy Power and Dr. Clive Riviere) made a report upon the travelling facilities offered to members going to the Lisbon Congress which is to be held in Easter week next year. The arrangements with the railway companies are not yet complete, but a substantial reduction in fares is promised, though there will be the same troublesome formalities as were enforced at the Madrid Congress. Messrs. Thomas Cook and Son, acting in conjunction with Messrs. Anderson and Green, of the Orient Pacific Line, have chartered the *Ophir*, a twin-screw steamer 6,814 tons register and 10 000 h.p. The steamer will leave Tilbury at 2 p.m. on the Thursday before Good Friday, and will arrive at Tilbury at 8 a.m. on Sunday, April 26th, at 8 a.m. The boat will call at Cherbourg, Vigo, Tangier, Gibraltar, and Oporto. She will lie at Lisbon for six days, in order that her passengers may make the ship their home while attending the Congress, and be spared the discomforts and risks of the shore hotels at a time when they are certain to be overcrowded. The usual routine of meals will be maintained on board, and regular communication with the shore will be kept up. During the stay of the *Ophir* at Lisbon a series of excursions will be made to suit those passengers whose time is not fully occupied at

the Congress. The fare for the seventeen days' cruise (exclusive of shore excursions) will be from 15 guineas upwards, according to the position of the cabin. The ss. *Ophir*, it will be remembered, is the vessel which was commissioned as H.M.S. *Ophir*, and conveyed T.R.H. the Prince and Princess of Wales on their tour round the world. Early application for berths is desirable, as a considerable number of the cabins are already engaged. Application should be made to Messrs. Thomas Cook and Son, Ludgate Circus, E.C., or to the Orient Pacific Line, Fenchurch Avenue, E.C. A few berths are being reserved for delegates of the different scientific societies who are duly accredited to the Lisbon Congress.

The Travel Bureau, of 29, Cockspur Street, Charing Cross, S.W., has arranged two tours in connexion with the International Congress at Lisbon. The first is under the leadership of Mr. J. B. Banks, F.R.G.S. The party will leave Charing Cross on Sunday, April 15th, 1906, will sleep at Paris, and arrive in Lisbon at midnight on Tuesday, April 17th. The return journey will commence on Friday, April 27th, and will end in London on Wednesday, May 2nd. The inclusive first-class fare, with excursions to Cintra and Mont Estoril and two days at Bussaco, is 32 guineas. This includes the train-de-luxe from Paris to Lisbon, but passengers who wish to use the Sud express on the way home must book their own seats and pay the excess fare. The Travel Bureau has also arranged for the conveyance of passengers by the Royal Mail steamer *Ambrose*, a vessel of 4,130 tons register in the South American service. Passengers can join the R.M.S. *Ambrose* at Liverpool or at Havre. The fare (first-class throughout) is 11 guineas from Liverpool back to Liverpool, or 12 guineas from London to London. Berths on the homeward voyage cannot be selected before leaving England, but a list is kept showing the order in which passengers are booked, and berths will be allotted on the returning steamer in accordance with this list.

SCHOOL HYGIENE.

REPORTS OF MEDICAL OFFICERS.

City of Manchester.

Dr. James Niven's report on the health of the city of Manchester contains 382 pages, and includes numerous tables. Regarding school hygiene Dr. Niven writes:

In the report for 1903 I discussed briefly some general questions affecting the improvement of the physique of Manchester citizens, and it is unnecessary for this year to enter fully into the question. But as I believe this question to be one which most profoundly concerns public health, I shall briefly recapitulate the main points of the position.

The education of children must necessarily fail unless the pupils are healthy and well nourished. There may be exceptions to this rule, or apparent exceptions; but it has been abundantly proved that underfed children cannot be taught much. They are disabled from learning, and in return they disable the teacher. It is from the ranks of the underfed children that we get the most abundant supply of the vicious and criminal classes. It is largely these children who swell our death registers, at more advanced ages, under the heads of heart disease, phthisis, lung disease, and many other causes of death. The excellent investigations into the health of school children which have been made for Edinburgh, Aberdeen, Dundee, and Salford abundantly prove that this must necessarily be so.

Quite inadequate attention has been, even yet, devoted to the disabling affections of children at school, comprising affections of the eyes, affections of the ears, lung diseases, heart disease, and infectious illnesses, although I fully recognize the excellent work done by the medical officer of the Education Department, and the impossibility of overtaking such arrears all at once. Nor has adequate provision been made for securing attention to these, and their proper treatment.

A magnificent opportunity is offered to educational authorities for seeing that the health of children is properly looked after, and it is moreover a duty incumbent on them, since on its performance depends the success of our educational systems. It is, however, necessary not merely that school children should be looked after, but that children at younger ages, and especially infants, should also be seen to, since at these earlier ages much, and frequently irreparable, damage is inflicted on the constitutions of children by ignorant and negligent management.

The first thing requisite, therefore, is to have a race of young women, the mothers of the future, who understand in some degree the duties of a wife and a mother. It is necessary for the general welfare that young women should be well grounded above all in this knowledge.

In my opinion, whatever else girls may or may not be taught, it should be absolutely compulsory on them to get a thorough grounding in certain domestic branches of knowledge before leaving school, and they should not be allowed, generally speaking, to leave school until they can show a competent acquaintance with those branches, unless provision is made for their subsequent education.

A girl should know how to cook a variety of common articles of food, and to sew and mend. She should know, also, how to clean a house, and when a house can be regarded as clean. She should be taught the dangers to health arising from filth. The course should comprise the properties and prices of suitable food. She should learn how to clean, manage, and feed infants and young children. She should also know something about infectious diseases, their dangers, and how to act when they occur. All boys and girls should be taught the elementary principles of personal hygiene. The knowledge embraced in the course which I have sketched should be intimate and practical.

Such a course as the above should be regarded as the necessary feature of a girl's education, and nothing should be permitted to displace it.

If this position be accepted, the next question is, who is to give the instruction? and the answer is not easy to supply. The education of teachers has not, so far, embraced these most vital requirements, and, no doubt, to make teachers competent to give the necessary instruction a kind of training is needed, which they have not hitherto received. Yet the need is urgent, and whatever further expense is required for the training of teachers, or for the payment of such specially-trained persons, should be cheerfully encountered. The money will be speedily recouped in the improved physique and capacity of the generation trained by such teachers.

It has been put forward that the girls so taught will forget their instruction and training after they have left school. That will depend, of course, on the thoroughness, character, and duration of the instruction. Moreover, if the education so given be real, a much larger number of young women will put themselves about to take further instruction in continuation classes. The object aimed at, however, is of such overwhelming importance that nothing should be allowed to interfere with its realization. Unless a girl shows a thorough intimacy of acquaintance with the subjects named, it should, in my opinion, be obligatory upon her to attend continuation classes.

It is, however, not merely the education of girls and young women that is concerned in the special training of teachers in hygiene and domestic economy. The whole of the preliminary, and the greater part of the entire work to be done in noting the physical condition of school children will rest upon the teachers. Neither as a matter of economy, nor in point of efficiency, can this work be profitably placed on other persons.

As has been urged on previous occasions, the teachers have so many opportunities of observing their scholars—at their tasks, while performing physical exercises, and during the progress of school games—that any teacher of reasonable intelligence cannot fail to perceive when there is anything seriously amiss with their health. The important thing is to train their appreciation, so that they may form a fairly rapid and just estimate of what it is that is wrong, and of the means by which it may best be put right.

The sphere of the medical officers will then be to revise the judgements of the teachers in cases of doubt and difficulty, and to define their lines of action. Dr. Ritchie is engaged in giving such a course of instruction to teachers. The courses of instruction, both for teachers and for the older girls, should be restricted as much as possible, and should be thoroughly practical, opportunities being made to illustrate the subjects taught by practical examples. Theoretical teaching in such matters, without demonstrations, would have very little value.

It has been said that the education of the older girls and of young women should embrace the management of infants and young children. Here, again, the question of the training of teachers becomes very important. Where suitable crèches exist, the nucleus of a training school is already present. But it may be doubted whether the existing crèches are in general well adapted for teaching; or, rather, it is certain that they are not. What is required is a central hall for teaching purposes, with rooms leading off it. With this school should be associated a museum of feeding appliances and a teaching

kitchen. With the school might also be associated a plant for the modification and sterilization of milk for infants, either on the lines of St Helens, Liverpool, and Battersea, or with such modifications as the experience of local experts may suggest.

I am not at all certain that day crèches are much called for in Manchester. At all events, they do not appear to flourish. This arises in no small measure from the manner in which the population is housed. Crèches are much more likely to be useful where people are housed in tenements, and where by consequence there are a large number of infants belonging to poor families within a small space of ground. There is, then, no great distance to cover in taking the infant to the crèche. Where, however, the population is not crowded on the site, as is usually the case in Manchester, the distance which the mother has to carry her infant acts as a deterrent, and there is difficulty in getting the infants brought in. Generally speaking, therefore, day nurseries—that is to say, those which might be supposed useful to working mothers—are not regarded with much favour. Another factor which militates against day crèches in Manchester is the comparatively small proportion of mothers in Manchester who go out to work. No doubt there are a considerable number over the whole city; but the number in any one district is small.

If, however, there is not a great call for day crèches as charitable or semi-charitable institutions, there is a very great and pressing need for the establishment of crèches for teaching purposes. For both purposes it is clear that such establishments should be in the crowded parts of the city. . .

It is evident that the full advantage of an organized supervision over the health of children at school cannot be obtained unless at the same time every effort is made to insure as much attention as possible to the health of children prior to their arrival at school. The chief means by which this may be effected is the compulsory education of older girls and young women in the elementary principles of hygiene and domestic management. But, in addition, there is needed the systematic work of a staff of district visitors, as supplied in Liverpool and Birmingham under the Corporation, and in Manchester by the Ladies' Public Health Society. These visitors require, however, to be carefully trained before entering on their very important duties, otherwise it is only in exceptional instances that the full results can be expected.

A great extension of this work is indicated. It is too much to expect that the necessary funds will be supplied by charity, and it is not good for the continuity of the work that it should be dependent on that source of income. Yet, at the present time one cannot expect that the public funds will be available. Nevertheless, the need for such extended teaching as a present instalment requires to be mentioned.

Summary of Recommendations.

In improving the physique of the next generation three changes are, in Dr. Niven's opinion, indicated, all, no doubt, requiring a considerable increase of expense.

1. Special training of teachers in the elementary principles and practice of hygiene so far as these relate to children. In the case of female teachers there is required, in addition, a special training in domestic management and in the care of infants and young children.

2. A course of practical instruction in domestic hygiene and economy should be made compulsory and primary for all girls, and also for young women who have not shown a sufficient knowledge of such subjects while in attendance at school.

3. As a control, the methods at present adopted through health visitors, or, better, through lady inspectors, to instruct and assist mothers in the management of their infants and young children should be improved and extended.

There is a necessary connexion between sections 1 and 2 of the above statement, but section 3 is now, and should in my opinion continue to be, attended to by the Sanitary Committee.

It has now come to be regarded as an axiom that insufficiently-nourished children cannot be educated, and may be injured by their school tasks, and the important question arises how a sufficiency of nourishment can be secured for them. The first thing necessary is clearly to have some means of determining when children are not being adequately nourished.

No better means suggests itself in the first instance than the observations made by the teacher. The value of these, however, will depend largely on the training of the teacher. Once a reasonable belief is established that any particular children are not receiving a sufficiency of suitable food, it becomes easy to observe the subsequent course of events by taking the weight of the children at regular intervals. In any doubtful cases the medical officer to the Education Authority would give his opinion.

In seeing that children receive sufficient food, it would be a profound mistake to allow parents to throw off their responsibilities. It thus becomes necessary to determine whether parents are in a position to discharge their responsibility to the children. Under the recent order of the Local Government Board, the investigations necessary to establish the ability or inability of the parents to supply sufficient nourishment would seem to devolve on the relieving officer. With him would rest largely the determination of the form which relief should take, whether it should be given by way of loan or otherwise, and whether action should be taken against the parents. If this important work is fully carried out it will throw much additional work on the relieving officers, and it will require much care for its discharge. In any case, it is now clear that the effectual supervision of the feeding of school children is an integral part of the educational machine, more especially since drill has become generally carried out.

For a great number of years the birth-rate has been declining, and there has been much speculation as to the cause of this phenomenon. The chief cause, doubtless, is the steady tendency to an advance in the ages of marriage, both of males and of females. It is probable also that the diminishing death-rate has had an effect in lowering the birth-rate. The excess of emigration over immigration has diminished, and in the result the rate of increase of the population in the ten years preceding 1901 was greater than the rate in the previous ten years, in spite of a lower rate of natural increase. The pressure of growing population has probably caused a diminution in the birth-rate.

We give in the following table the rates of mortality from certain specified causes in children, up to the age of 14, per 1,000 living at those age-groups:

City of Manchester, 1904.—Annual Rates of Mortality at Six Groups of Ages, per 1,000 Living at those Age-Groups, from Certain Prevalent Diseases, and Groups of Diseases.

Causes of Death.	Under 5 Years.	5 to 14 Years.
All causes	75.75	3.71
Small-pox	0.02	—
Measles	6.24	0.13
Scarlatina	0.88	0.21
Diphtheria, memb. croup	1.00	0.28
Whooping-cough	4.69	0.10
Fever: Typhus	—	—
Fever: Enteric	0.05	0.04
Fever: Continued	—	—
Diarrhoeal diseases	11.33	0.03
Tuberculous diseases	4.26	0.92
Malignant disease	0.00	0.02
Diseases of: Nervous system	4.75	0.24
Diseases of: Heart and blood vessels	0.52	0.31
Diseases of: Respiratory system	16.56	0.47
Diseases of: Digestive system	4.08	0.23
Diseases of: Urinary system	0.29	0.03
Other diseases	21.64	0.70

Causes of Death at Different Age Periods.

In commenting on this table Dr. Niven says: We see that at ages 0 to 4 the heaviest mortality is exacted by the zymotic group of diseases and by respiratory disease. Diseases of the digestive system also take a very important share in causing the high fatality in this group.

At school age (5 to 14) tuberculous disease is already the most important cause of death, and about 25 per cent. of the deaths comes under this heading. Zymotic diseases come next in importance. Respiratory disease, other than phthisis, also plays an important part.

Dr. Niven gives much space to the question of summer diarrhoea in children, and in his conclusions says that there appears to be considerable reason for believing that the disease is often carried from one house to another by the common house-fly—sufficient, in fact, to form a basis for practical action.

It cannot, he says, be doubted that the question is one of great moment. The imprint made on the future health of these poor children by their treatment during the first few years of life is probably deep and lasting. It is of these neglected units that our future citizens are made. Clearly, the all-important thing is that the mothers should be as

intelligent and skilful as they are for the most part affectionate. The pleasure of having healthy children, and the numerous little cares which mothers would have to exert to that end, would go far to banish slovenliness and selfishness.

I. The first and most important thing is to make a real and sustained effort to train girls and young mothers in domestic management and in the proper feeding and care of children. At present this vital necessity of education is hardly touched. It is not that the action hitherto taken is not on right lines. It is wholly inadequate. Nor is it is easy to see how the necessary training is to be given. It is true the Education Department might make elementary instruction of the necessary kind compulsory on schoolgirls. But it can only be offered to girls who have left school. It may be possible to do more than is being done by employing skilled and trained women to visit poor homes, and instruct those mothers who appear to need instruction in the things necessary to preserve the health of the infants.

This instruction would embrace such points as the following:

1. The necessity of cleanliness in the house, and especially the importance of clean floors.

2. The precautions needful in the storage of food, and especially its protection from dirt and flies.

3. The clothing requisite for the health and safety of the child.

4. The amount and kind of food which it needs.

5. How to prepare it, in the case of an infant artificially fed. This is a technical matter, and needs intelligence, skill, and patience. If one or two municipal teaching centres were established, teachers and mothers might also receive practical instruction there.

6. Mothers might also be taught what they ought not to do in many particulars, as in rubbing the child's gums, giving it teething powders, feeding it on unsuitable food, allowing its clothes or bed things to get dirty. A great extension of this house-to-house work is certainly needed.

II. Mothers ought to be prevented from giving their young children starvation foods, and cases in which it could be proved that they had done so, after receiving instruction, should be dealt with.

III. Where insanitary conditions of a permanent character are present they should be dealt with. This remark applies to the numerous narrow passages still in existence, lined with pail closets, and fetid in summer time.

IV. Where parents are in such poverty that assistance is needed, either provision should be made from private charity or they should be compelled to apply for poor relief. The claim of the unprotected infant to food should be enforced, and indeed is, at present, enforced in part.

V. The question of cow's milk is an important one. But, in the main, it is embraced in the above recommendations. All food to be used by infants should be required, by law, to to be protected from flies. It is, however, to the extension of instruction that we must chiefly look for real improvement.

Measles.

Dr. Niven states that the education authority has hitherto furnished to the medical officer of health a daily list of all cases of measles coming to their knowledge. The homes of these cases are visited by the sanitary inspectors, who instruct the relatives in the precautions to be taken, and attend to any sanitary defects found. No schools or parts of schools were closed by the sanitary authority during 1904.

Scarlet Fever.

For the last eighteen years the number of attacks per 1,000 living were:

From 1887-95	...	47	38	35	51	48	50	58	42	19
From 1896-1904	...	44	33	16	27	40	49	42	36	37

The year 1898 formed the bottom of the trough of the last wave of the incidence, and the year 1901 its crest. In 1902 and 1903 there were falls; 1904 is, for practical purposes, equal to 1903.

The table demonstrates that scarlet fever is most fatal in the first year of life, and becomes less and less so, reaching the lowest mark of fatality at the 10-15 year age period. It also shows that the incidence is greatest in the fifth and sixth years of life. The greatest number of deaths occurs in the fourth year of life. As one would expect from the slightly increased incidence, along with a diminished death-rate, one finds the case fatality per cent. smaller for 1904 than 1903.

City of Manchester.—Scarlet Fever: Number of Attacks, of Deaths, and Case Fatality per Cent. at Different Ages, for the Ten Years 1894-1903, and for 1904.

Ages.	1894-1903.			1904.		
	Attacks.	Deaths.	Case Fatality per Cent	Attacks.	Deaths.	Case Fatality per Cent.
Under 1 year...	256	55	21.5	18	7	38.9
1 to 2 years..	767	136	17.7	61	8	13.1
2 to 3 ,,	1,461	205	14.0	145	16	11.0
3 to 4 ,,	1,925	223	11.6	162	11	6.8
4 to 5 ,,	2,201	193	8.8	228	11	4.8
5 to 6 ,,	2,162	96	4.4	239	8	3.3
6 to 7 ,,	1,968	71	3.6	211	5	2.4
7 to 8 ,,	1,783	52	2.9	176	3	1.7
8 to 9 ,,	1,472	27	1.9	185	2	1.1
9 to 10 ,,	1,199	21	1.8	146	3	2.1
10 to 15 ,,	3,405	49	1.4	346	8	2.3
15 to 20 ,,	1,030	30	2.9	77	—	—
20 to 25 ,,	486	9	1.9	25	—	—
25 to 35 ,,	375	10	2.7	31	1	3.2
35 to 45 ,,	95	3	3.2	11	1	9.1
45 to 55 ,,	28	1	3.6	2	1	50.0
55 to 65 ,,	5	—	—	—	—	—
Over 65 ,,	—	—	—	—	—	—
All ages ...	20,568	1,181	5.7	2,063	85	4.1

MEDICAL NEWS.

Mr. Macleod Yearsley, F.R.C.S., has been appointed the delegate of the Otological Society of the United Kingdom at the International Medical Congress at Lisbon.

Miss Thorold, having retired after thirty-five years' service as Lady Superintendent of Middlesex Hospital, the Court of Governors has unanimously voted her a retiring pension.

We regret to announce the death of Dr. Ernst Ziegler, Professor of Pathology in the University of Freiburg, which took place after long suffering, on November 30th. Professor Ziegler was in his 57th year.

A special general meeting of the Dermatological Society of London will be held at the rooms of the Medical Society, 11, Chandos Street, W., on Wednesday next at 4.45, to consider the proposal for the union of London medical societies.

The West Riding Education Committee is offering for competition by students attending plumbing classes throughout the Riding two grants, each of the value of £12, to enable the recipients to join a course of advanced instruction for plumbers conducted by the Plumbers' Company in conjunction with various education authorities at King's College, London.

At the annual general meeting of the Otological Society of the United Kingdom last Monday, Mr. A. E. Cumberbatch was elected President, and Messrs. C. A. Ballance, A. Bronner, and R. H. Woods, Vice-Presidents. Other officers chosen were Drs. Edward Law, R. Lake, and W. Jobson Horne, who now respectively fill the positions of Honorary Treasurer, Librarian, and Editor of the *Transactions*. In addition six members of council were chosen, and Messrs. Macleod Yearsley and H. S. Walker appointed Joint Honorary Secretaries. The members dined together at the Trocadero the same evening, the President of the Royal College of Surgeons of England and Professor Lermoyez of Paris, being among the guests.

A strong committee has been formed for the purpose of erecting a sanatorium in and for the county of Middlesex. It is intended to keep the cost of the building down to the lowest possible point, and it is estimated that the 100 beds in view will all be covered by a capital expenditure of £30,000, including land, building, lighting, and furnishing. Public authorities in the county have already promised to pay for a quarter of whatever beds are provided, and for the rest public subscriptions are sought. The scheme seems to have been well thought out, and should receive support. The Honorary Secretary, Colonel Gerard Clark, 8, Grange Park, Ealing, is ready to receive donations, and also to supply any information desired with reference to the project.

Professor William Stirling, M.D., Brackenbury Professor of Physiology and Histology in the Victoria University, Manchester, has been elected Fullerian Professor of Physiology to the Royal Institution, London. Professor Stirling will give a course of six lectures adapted to a juvenile auditory after Christmas. Mr. Francis Darwin will give three lectures on the physiology of plants; Mr. J. W. Gordon, two lectures on advances in microscopy; and Professor J. J. Thomson, six lectures on the corpuscular theory of matter. The Friday evening meetings will commence on January 19th, when Professor J. J. Thomson will deliver a discourse on some applications of the theory of electric discharge to spectroscopy. Among those who will deliver discourses on later dates are Dr. R. Caton of Liverpool and Dr. Hutchison.

Successful Vaccination.—Dr. Charles Griffith Jones, Public Vaccinator for the No. 1 District of the Cardigan Union, has received for the fourth time the Government grant for successful vaccination.

Bequests to Medical Charities.—The late Mr. John Richard Hutchinson, of Lillington, near Leamington, whose will has now been proved, bequeathed £200 each to the Warneford Hospital, Leamington, and to the Hospital for Incurables in the same town.

A School for Mothers in Brussels.—A school for the training of mothers in the proper rearing of children has recently been opened in Brussels under the auspices of the Belgian National League for the Protection of Infants. Lectures and courses of practical instruction in the hygiene of infancy are given to school-mistresses and teachers well as to mothers.

The Virchow Memorial.—The Committee appointed to carry the proposal of a memorial to Rudolf Virchow into execution has now a sum of £4,000 at its disposal. Of this amount, £1,800 has been contributed by subscribers and £2,200 by the city of Berlin. Three prizes, of the value respectively of £150, £100, and £50, are offered for the best design of a memorial. Drawings must be sent in before April, 1906.

The Supply of Antitoxin in Pennsylvania.—Five hundred antitoxin dépôts have, we learn from *American Medicine*, been established by State Health Commissioner Dixon for the free distribution of diphtheria antitoxin in Pennsylvania. Practitioners attending patients who cannot afford to buy antitoxin will be able to procure the serum free at the nearest distributing point, which will be either a drug store or country general store. The practitioners must undertake to send in clinical reports of the cases in which the antitoxin is used.

International Congress of Anthropology.—The International Congress of Prehistoric Anthropology and Archaeology will hold its thirteenth meeting at Monaco, under the patronage of Prince Albert the First, from April 16th to 21st, 1906. The important discoveries made in the territory of Monaco, especially those due to the initiative of the Prince himself, will lend special interest to the meeting. Excursions are being organized to the celebrated caves of Baoussé-Roussé, and to other places of prehistoric interest. Detailed information as to the Congress may be obtained on application to the General Secretary, Dr. Verneau, 61, Rue de Buffon, Paris.

Presentation.—On Thursday, November 30th, at a meeting held in Newcastle-on-Tyne, over which Dr. Buttercase, Forest Hall, presided, Dr. David Drummond, in a speech into which he infused a good deal of feeling, presented to Mr. Rutherford Morison a Bechstein boudoir upright grand piano, on which was the following inscription: "Presented to Mr. Rutherford Morison, on the occasion of his marriage, as a token of esteem and in recognition of his varied and valuable services to the profession, by the medical men of Newcastle and Northumberland, September, 1905." Mr. Morison having suitably replied, an interesting and successful meeting was concluded by votes of thanks to the Chairman and to Dr. Cromie, Blyth, who had organized the testimonial.

Female Nurses for the United States Navy.—The Surgeon-General of the United States Navy is in favour of the employment of women nurses in the navy. The women nurses in the United States army have shown themselves capable of adapting themselves to service conditions, and efficient in institutions under military control. Their employment in the navy would, it is thought, ensure as careful nursing in the naval hospitals as is now given to the sick of the army. Women nurses would also be of value in teaching and training the men of the hospital corps. In the event of war, besides being utilized on hospital ships, they could, in large measure, take the place of the men in the naval hospitals, thereby setting the latter free for service with the force afloat.

International Congress of Criminal Anthropology.—The sixth International Congress of Criminal Anthropology will open at Turin on April 28th, 1906. The following questions are proposed for discussion, and the communications presented will, as far as possible, be grouped round these as central themes: (1) The treatment of juvenile criminality according to the principles of criminal anthropology, to be introduced by M. von Hamel; (2) the treatment of female criminality, to be introduced by Dr. Pauline Tarnowsky; (3) the relations of economic conditions to criminality, to be introduced by Professor Kurella: (4) the equivalence of the various forms of sexual psychopathies and criminality, to be introduced by Professor C. Lombroso; (5) criminal anthropology in police organization, to be introduced by Professor Ottolenghi; (6) the psychological value of evidence, to be introduced by Dr. Brusa; (7) prophylaxis and treatment of crime, to be introduced by Dr. Ferri; (8) establishments for the perpetual detention of criminals declared to be irresponsible on account of mental defect, to be introduced by Professor Garofalo.

Medical Women in Germany.—The fear expressed by certain sections of the medical profession in Germany that the throwing open of universities and medical degrees to women would greatly increase the stress of competition in professional life has not so far been justified. The *Deutsche medizinische Wochenschrift* of November 23rd published some statistics on the subject collected from official and private sources by Miss Johanna Maass, M.D. The number of women who since 1900 have received the German State licence to practise medicine is 46. As to 31 of these, information has been obtained which shows that 9 are settled in Berlin, 4 in Charlottenburg, 1 in Bremen, 1 in Breslau, 1 in Darmstadt, 1 in Dresden, 1 in Frankfort-on-the-Maine, 2 in Hallé, 1 in Hamburg, 1 in Karlsruhe, 1 in Königsberg, 1 in Leipzig, 1 in Mannheim, 2 in Munich, 1 in Nuremberg, 1 in Rostock, 1 in Weimar. One has gone from Frankfort to practise in Florence. Of the whole number 24 are in practice as physicians for women and children, 4 are specialists (1 in diseases of children, 1 in orthopaedics, 2 in diseases of women); 3 are assistants (1 in a lying-in house, 1 in a State lunatic asylum, and 1 in a psychiatric clinic); 2 of those engaged in private practice are medical officers to schools, and 1 is a police surgeon. Of the 31 all but 1 have taken the degree of doctor. Four are married. There are also 6 legally-licensed female dentists, of whom 1 practises her profession in Berlin, 2 (sisters) in Dresden, 1 in Hanover, 1 in Königsberg, and 1 at Munich.

Medical Sickness and Accident Society.—The usual monthly meeting of the Executive Committee of the Medical Sickness, Annuity, and Life Assurance Society, was held at 429, Strand, London, W.C., on November 24th. The chair was taken by Dr. de Havilland Hall. The statement of accounts was presented. It showed that the number of new entrants into the Society since the beginning of the year was greater than in any previous period of the same duration, and unless there is an appreciable falling off in the new proposals during the next few weeks the year 1905 will be the record year of the Society for new business. The claims experience of the Society during the summer months has been very light, and there is now little reason to fear that the current year will show any excess of claims over the expectation. The heavy claim account which is always produced by the cold weather in the early part of the year is generally balanced by a great falling off in the claims in the summer months, and this year has been no exception to the rule. Several additions have been made during the year to the number of those who are on the permanent list that is drawing half-pay until age 65. But the total number of these chronic cases has not grown. Two or three members who have drawn sick pay continuously for some years have died, and in two instances the members have found themselves sufficiently recovered to resume at least partial work. In one of these the member has been totally incapacitated for more than four years, and the regular sick pay of the Society has probably largely aided his recovery. Prospectuses and all particulars on application to Mr. F. Addiscott, Secretary, Medical Sickness and Accident Society, 33, Chancery Lane London, W.C.

British Medical Journal.

SATURDAY, DECEMBER 9TH, 1905.

TUBERCULOSIS IN CHILDHOOD.

When some years ago attention was first called in these pages to the inadequate provision for the treatment of children suffering from tuberculosis in one or other of its protean manifestations, our conclusions not only failed to arouse sympathy but met with active opposition. We then asserted that the system of sending children who had been operated upon in hospital back to their homes was cruel to the child, a waste of public money, and unscientific. We pointed out that the rational course after operating upon a child in hospital would be to send it to a country or seaside home to convalesce, not for three or four weeks, but indefinitely, until it was cured of its disease. As a practical way of meeting some of the difficulties raised, it was suggested that, as a beginning, some of the mansions in the parks acquired by the County Council should be converted into homes for the reception of children who had been operated on in London hospitals. This scheme could have been carried out at a comparatively small cost, but, unfortunately, it was a little before its time.

Among other objections to the movement was that it was unpractical. We therefore arranged for a special commissioner to visit and report upon the principal seaside and country hospitals for children in France. The result of this inquiry was published in a detailed illustrated article on June 11th, 1904.[1] It contained a description of the large hospital at Berck-sur-Mer, maintained by the Municipality of Paris, mainly for children suffering from tuberculous disease of the glands and bones, as well as of the sanatorium at Hendaye on the Bay of Biscay, near the Spanish frontier, which is especially intended for Parisian children showing a predisposition to tuberculosis, although not actually presenting evidences of infection. The large children's hospital at St. Pol near Dunkirk maintained by Liége and other manufacturing towns in the north-east of France was also visited and it was shown that most excellent results were obtained. Finally an account was given of the admirable work done for the children of Paris by a voluntary organization called the Oeuvre de la Tuberculose. This society receives children certified by medical men to be either suffering from tuberculosis in an early stage or predisposed to the disease, and drafts them to one of the three sanatoriums which it maintains on the high plateau forming the eastern side of the valley of the Marne a few miles from Paris. All these institutions have one common characteristic—that a child once admitted is kept there until cured, whether the period necessary be three months or three years. At Berck and St. Pol there are surgical wards and operating theatres, and the majority of the cases are examples of pronounced tuberculosis; the sanatoriums of the Oeuvre and that at Hendaye are for the most part what may be called prophylactic institutions, the only treatment being good wholesome food, long hours of sleep and an open-air life. The records prove that these measures are most successful and that the children return to Paris in robust health.

We are naturally much gratified to find the views which we have so persistently expressed echoed by Sir William Broadbent, whose address on the subject of tuberculosis in London children is published in another column. He says that he has been struck, on a review of the question of tuberculosis as affecting children in London, by the extent of the demand for institutional accommodation and treatment and the inadequacy of the provision. This demand was not simply in the nature of one for a refuge for the deformed and crippled, but for efficient means of preventing suffering and deformity and helplessness. It could not, he said, be too emphatically insisted that the opportunity for successful treatment was in the early stages, and that in early stages the treatment was extraordinarily successful. In comparison with France we were doing nothing for our unfortunate tuberculous children. Sir William Broadbent's address was delivered at a meeting of the Invalid Children's Aid Association, and we are glad to see that a resolution was passed committing the Association to continue its endeavour to make possible the early and efficient treatment of children suffering from different forms of surgical tuberculosis, and recommending it to take up the case of children affected, or suspected to be affected, by pulmonary tuberculosis.

To deal adequately with the problem a careful organization will be required, for Dr. Ménard, whose long experience of the hospital at Berck enables him to speak with authority, told our commissioner he estimated that every large city with slums, such as exist in London and Paris, should have at country or seaside hospitals a thousand beds for children for every million of population.

[1] A few copies of a reprint of this article are still available.

ANTIVIVISECTIONISTS ON THE WAR PATH.

From time to time we receive reminders of the existence of the antivivisectionists in the shape of reports of meetings where professional agitators denounce the "horrors of the laboratory to an audience—meet though few—of local parsons and sentimental ladies. At Chester the other day an address of the usual kind was delivered by Mr. T. A. Williams, whose name is unfamiliar to us, though he is described as "a well-known antivivisection lecturer," and Councillor R. H. Lanceley moved a resolution that vivisection, which he charitably characterized as "pure devilry," should be abolished by Act of Parliament. At Brighton again, after speeches by Lady Pinder and Dr. Charles Reinhardt—who, we are told, "dealt with the question from "the point of view of the medical expert"—the Chairman, Mr. E. A. Villiers, one of the local M.P.'s, made the uncompromising assertion that "vivisec- "tion of animals very often led to vivisection of persons." The honourable member, after some ignorant remarks about French hospitals, was good enough to say: "No one "has a greater admiration for the doctors of this country "than I have, but I don't want to make devils of our "doctors." We hope the profession will appreciate the delicate compliment thus paid them.

The residents of Cromer, too, had the privilege of listening to Dr. Reinhardt, but here the Chairman seems somewhat unkindly to have stolen the thunder of the orators of the evening and their speeches are not reported. At Lambeth Dr. A. Wall "told some terrible stories of vivisection," which, he said, not only violated God's moral law but was a curse to mankind.

At Chelston Dr. Sykes of Paignton informed his audience that he had learnt to abhor vivisection when he was a young medical student. The vivisector might, Dr. Sykes was good enough to allow, claim "good intention." So, he added, did the brutal costermonger, but the law punished him not for his intention but for his cruelty.

At Clifton Mr. Stephen Coleridge himself took the field —"the great Achilles moving to the war"—but met an unexpected adversary in Mr. Richardson Cross. Mr. Coleridge, who has been taught something of the decencies of debate in an expensive school, was unusually temperate in his language. He even showed some consideration for the medical profession, for he pointed out that "if a Bill "was brought in to abolish vivisection, whether painful "or painless, they would put the slaughterman who did "not use anaesthetics above the man of science."

This result would doubtless be sincerely deplored by Mr. Coleridge, and we hope his sensitive soul may be spared the affliction. In the meantime it is interesting to have from him an admission that vivisection is ever "painless"; we have some faint remembrance of an impassioned orator according to whom nothing less than torture was ever practised in the laboratory. Mr. Richardson Cross evidently impressed an audience ready to listen to any calumnies against the medical profession by showing the extent to which the denunciations of vivisection were based on exaggeration. Medical students, he said, never experimented on living animals, and many medical men did not vivisect. What would be the use of vivisection experiments carried out by anyone but an expert? As a matter of fact there were only a limited number of men in the medical profession who desired to make vivisection experiments. He expressed regret that the clergy should take sides against the medical profession. If the clergy were properly informed he did not think it likely they would always be ready to support Mr. Coleridge on such a platform.

Referring to the infamous catalogue of instruments used in vivisection experiments circulated under the auspices of the National Antivivisection Society, he described it as unfair and horrible, a remark which we are pleased to note was greeted with applause. Mr. Richardson Cross went on to remark that it was said by the antivivisector that no scientific knowledge had ever been gained by vivisection experiments; it was said so as to make the public believe that vivisection was a cruel amusement, indulged in by the medical practitioner only for a pastime. But how, he asked, was it that the whole, or very nearly the whole, of the medical profession kept away from the antivivisection platform? They knew perfectly well that the case was misstated; they knew that in order to continue the investigation into disease they were bound to make experiments upon living things. There was no doubt whatever as to the enormous advantage surgery had derived from experiments. The Royal Colleges of Physicians and of Surgeons were at present investigating the disease of cancer. Would those present admit that if it were possible or probable that some knowledge of the terrible disease might follow the investigations under anaesthetics on a limited number of animals, that would not be justifiable? This point, too, elicited cheers.

Mr. Cross concluded by saying that only a few persons, and those thoroughly capable, ought to be allowed to do it. By such investigations he believed that the human race as well as the animal kingdom would be great gainers, and scientific knowledge, which it was their duty to endeavour to advance, would be advanced, and with it would be advanced, he believed, the happiness of the human race.

It is noteworthy that Archdeacon Robeson, in moving a vote of thanks to the speakers, pointedly included Mr. Richardson Cross. Mr. Cross is entitled to the thanks of the profession for so effectively vindicating them from the calumnies which are persistently brought against them before audiences incapable of forming an intelligent judgement on the questions at issue. It is an unpleasant task to contend against prejudice and stupidity, but if medical men would come forward oftener in defence of scientific progress, the itinerant propagandists would be more careful in their statements. As the whole strength of their crusade lies in exaggeration which is too often left uncontradicted, it would crumble away before the power of the plain truth.

THE SCIENCE AND ART OF MEDICINE.

A loose form of expression, fostered to some extent by the title given to many textbooks on medicine, is responsible for considerable confusion between the sciences which constitute the foundation upon which the theory of medicine is built, and the methods of art by which that theory is put into practice.

By repeated experience we have become aware that the hopes aroused by scientific discovery are often unfulfilled when submitted to the searching test of practical application. So frequently, indeed, has this been the case, that careful men regard new remedies and novel methods of treatment with doubt, and even suspicion, until their claim to permanent usefulness in the cure of disease has been incontestably established.

Unfortunately, the enterprise of the nostrum-monger, the sensational energy of a certain section of the press, and, in some instances it must be admitted, a too strenuous desire on behalf of investigators to find a short cut to the pinnacle of fame, bring new knowledge and fresh discoveries prematurely into prominence, with the result that theories are accepted as facts statistics are regarded as infallible proofs, and plausible theory is enthusiastically welcomed as if it were absolute truth. The quack plays up to this element in human nature and prospers undeservedly, but it is deeply to be regretted that many legitimate discoveries are robbed of their importance by being proclaimed from the housetops before they are mature and before they have been sufficiently submitted to the test of experience to justify an unconditional acceptance of the virtues and merits claimed for them.

The statement which is heard every day that science must be progressive is one about which there can be no diversity of opinion. But is this generalization true of science only? or is it possible that if science is progressive, the arts to which it is auxiliary can be retrograde? The question is suggested by an address delivered by Sir Dyce Duckworth at the opening of the present session of the Abernethian Society of St. Bartholomew's Hospital. The paper is entitled "The

Present Decline of Art in Medicine," and the gist of the argument is contained in the contention which the author thus expresses: "While the sciences on which medicine is "based have made astounding progress in the last half "century, the art of medicine itself has materially declined "and fallen into neglect during this period." We are ready to agree with Sir Dyce Duckworth that the preliminary and intermediate subjects have been allowed to usurp too large a part of the medical curriculum, and are crowding into a corner the training of the student in the practical subjects with which he ought to be thoroughly familiar before being entrusted with the care of human life, amid the multifarious responsibilities of active practice. Either the curriculum will require to be again extended, or the preliminary examination must be made to embrace several of the scientific subjects which are now included within the curriculum, as we understand Mr. Henry Morris to suggest. Failing either alternative, we must fall back on an additional term of post-graduation study devoted specially, if not entirely, to clinical work. This plan possesses the further attraction that, by such a scheme, facilities for instruction to post-graduates, as distinguished from undergraduates, will be put at the disposal, not only of those who must make use of them in order to qualify for higher degrees, but also of the large body of general practitioners who are compelled, in order to keep pace with the times, to bring their knowledge up to date by periodically making themselves conversant with the latest methods of clinical investigation and the most modern therapeutic measures for the alleviation and cure of disease.

But because the present trend of events is placing the burden of responsibility for increased educational demands upon the scientific side of medical education, and is thereby leaving the student of to-day fewer opportunities for acquiring familiarity with the practical details of diagnosis and treatment than those enjoyed by his predecessor of half a century ago, it does not necessarily follow that the art of medicine is on the decline. It must at least be admitted that his present training frees the student from some of the rule-of-thumb teaching which so strongly characterized the older system of tuition, and that, being better instructed in principles, he is competent to adapt his practice to the needs of his patient with more precision and greater safety than he who was empirically taught to starve fevers, to resort to venesection not only as a curative but as a preventive measure, and to regard alcohol as a necessity in every form of illness which, from duration only, warranted the presumption of cardiac weakness.

Sir Dyce Duckworth's protest against the pursuit of novelties is well-timed, and cannot be too strongly urged on the attention of all who practise medicine. Similarly, his warning against the danger of unnecessary operations is a salutary note of caution from one of long experience against the tendency to relegate to the surgeon many cases which formerly yielded, and would probably still yield, to ordinary medical management if conducted with skill and patience. His arguments, however, do not convince us that there is any real decline in the art of medicine. Such achievements as the serum treatment of diphtheria, the treatment of myxœdema by thyroid gland extract, the prevention of malaria by the destruction of *Anopheles*, the limitation of infectious diseases under the influence of the Public Health Acts, the admitted value of many modern drugs, and the widely-accepted submission on the part of the public to approved rules of moderation and regulation in matters of dress, exercise, and diet, are a few among many instances that might be quoted to prove that medicine as an art is still progressive, even though its footsteps, being more uncertain, lag behind those of the sister science to which it is so closely allied.

THE GENERAL MEDICAL COUNCIL AND CANVASSING AND ADVERTISING BY PRACTITIONERS.

On Friday, December 1st, the General Medical Council, having considered a communication from the British Medical Association respecting the desirability of issuing a general warning notice to medical practitioners against the practices of canvassing and advertising for the purpose of procuring patients, agreed to issue the following notice:

> Whereas it has from time to time been made to appear to the General Medical Council that some registered medical practitioners have, with a view to their own gain and to the detriment of other practitioners, been in the habit of issuing or sanctioning the issue of advertisements of an objectionable character, or of employing or sanctioning the employment of agents or canvassers, for the purpose of procuring persons to become their patients: And whereas in the opinion of the Council such practices are contrary to the public interest and discreditable to the profession of medicine: "The "Council hereby give notice that any registered medical "practitioner resorting to such practices thereby renders "himself liable to be charged under the 29th section of the "Medical Act, 1858, with 'infamous conduct in a professional "respect'; and if after due inquiry he is judged by the Coun- "cil to have been guilty of such conduct, the Council may, if "they see fit, direct his name to be erased from the *Medical* "*Register*."

It is of great importance that practitioners should attend to this warning, as in the past many offenders have pleaded in defence of their conduct that they were unaware that the actions complained of contravened any rule of the profession. This warning makes such a plea impossible in the future, and those who attempt to procure patients by means which are unfair and prejudicial to their professional brethren expose themselves to the risk of having their names erased from the *Medical Register*.

HYGIENE IN SCHOOLS.

Dr. Niven's report on the health of the city of Manchester is a splendid record of the work this officer has done in the cause of health. In a short abstract it is impossible to do justice to the report, but we hope to deal at greater length with such subjects as infantile mortality, tuberculosis, and milk, of which Dr. Niven has made a careful study. He rightly maintains that proper feeding during infancy is a most important factor in determining the future physique of children; he gives the results of an elaborate study of the cause of summer diarrhœa, and deals with the question of the relation of milk to it. As is well known, Manchester has worked hard to improve its milk supply, and the value of Professor Delépine's investigations is too generally appreciated to need praise here. Dr. Niven states that the figures for 1901-3 showed a steady and marked rise in the percentage of milks found to be infective. In his report for last year he endeavoured to explain the decided rise in 1903 as being due to a more perfect system of supervision in the taking of the samples, by means of which samples of milk were obtained from districts which had never previously been tapped, with the result that a number of those milks were found to be tuberculous. He expresses the hope that the decrease in the figures for 1904 may be indicative of improved conditions, though he does not go so far as to say absolutely that they are. He adds that there is no doubt that the operations should be made as wide as possible, and that samples of milk should be collected so as to represent every district supplying the City of Manchester, for even though only one farm be visited in a certain district, the result of that visit is certainly not confined to that farm, but other farmers begin to overhaul their cattle and turn out suspicious animals. A great deal

of space in the report is given to the consideration of zymotic and other diseases in children. Dr. Niven shows that at school ages (5 to 14) the chief headings under which the mortality of the township are excessive are tuberculous diseases and lung disease; at these ages phthisis has begun to exact a high mortality, and the influence of malnutrition tells heavily against children. This bears out the opinion we have expressed that tuberculosis of the lungs is more prevalent in schools than is now supposed, and that sufficient attention has not hitherto been given to this subject by medical officers of health. The reason that they have not shown themselves more alive to the importance of this question may be that they feel that to diagnose a disease for which there is no means of treatment under existing circumstances is to throw away energy. But if medical officers of health were all with one accord to resolve to collect and publish statistics, the evil could no longer be passed over as if it did not exist. Dr. Niven's report should do much to encourage others in this most urgent matter; it is a long time since we have seen such a good piece of work.

MEDICAL WITNESSES.

It is very disagreeable to have a judge of the High Court expressing the opinion from the bench that the evidence given before him by three medical men was discreditable. It becomes necessary, therefore, to investigate the circumstances which led Mr. Justice Darling to give utterance to such an opinion. The case was one in which a seaman was arraigned at the York Assizes on a charge of murdering a woman with whom he had lived. His own story, told immediately after the event, was that the woman first cut her own throat, that he then took the razor from her, put her down, and "finished her off." He said that afterwards he had made an attempt upon his own life, and he presented some trivial wounds. He modified his statement when giving evidence at the trial, saying that all he did was to remove the razor from the woman's throat. The question on which medical expert evidence was called was as to whether the three wounds in the woman's throat might all have been self-inflicted, as was contended for the defence. Dr. Soutter, of Hedon, who first saw the body after death, gave it as his opinion that the woman could not have inflicted all the three wounds herself, or that at least it was very unlikely, because after inflicting the first wound she must have suffered from shock and loss of blood. Mr. Howlett, F.R.C.S., senior surgeon to the Hull Royal Infirmary, and surgeon to the Prison, expressed the opinion that the wounds were not self-inflicted. The three medical witnesses for the defence had not, so far as it appears, seen the body. The first, a practitioner resident in York, said that he did not think the shock from one wound would have been so severe as to prevent the deceased from inflicting another, and the counsel for the prisoner was about to question him as to medical opinion on the question whether self-accusations without foundation were apt to be made in a condition of overstrain of the nerves, when he was interrupted by the judge. The next medical witness, a practitioner resident in Hull, expressed the opinion that the wounds on the woman's throat were self-inflicted, basing this on their number direction, and depth. Had it been a murder, he would have expected the principal wound to be deeper and longer. In cross-examination, however, he admitted that the wound went down to the backbone, which led the judge to make the observation that it could not have been deeper unless the head had been cut off. The third medical witness, who holds, we believe, the post of junior house-surgeon to the Royal Infirmary, Hull, said that in his opinion the shock from the first two wounds would not have been sufficient to prevent the deceased from inflicting the third wound. In reply to the judge, however, he admitted that the wounds were compatible either with murder or with suicide. In his summing-up Mr. Justice Darling dealt severely with the medical evidence for the defence, asking whether it would be unsafe to assume that a case could be one of murder unless the head was cut off. Some things, he observed, were said by experts which were simply an outrage upon common sense. The prisoner was found guilty with a recommendation to mercy. The judge refused the costs of the witnesses for the defence: as to the three doctors, he said—we quote from the *Eastern Morning News*—he would not dream of allowing anything for such evidence, which he regarded as discreditable. There was no justification whatever for calling them. A regrettable incident in the trial was an attempt by counsel for the prisoner to discredit Dr. Soutter of Hedon, on the ground that he practised in a small place. Dr. Soutter is, we believe, the leading practitioner in his own district, and the judge in his summing-up said he was sorry to see the manner in which Dr. Soutter was treated by the defending counsel, and asked very pertinently whether the jury were prepared to place a village doctor of experience on a lower level than any doctor from an infirmary in a large town. Judging from the reports before us it would seem that the judge took a harsh view of the conduct of the medical witnesses for the defence. He was perhaps influenced by the attempt to discredit Dr. Soutter's evidence, although he allowed the costs of the defending counsel. However this may be, the incident will confirm the opinion of those who hold it to be desirable in the interests of the profession and of public justice, that the profession itself should take steps to prevent the conflict of medical evidence in courts of law. The Medico-Political Committee of the British Medical Association has recommended that consultation between medical witnesses is desirable, and this recommendation has been approved by the Annual Representative Meeting. This expression of opinion is now before the Divisions and the matter is really one which the profession has very largely in its own hands. The argument that the lawyers on either side might object is really beside the mark, for they would be compelled to agree if they could not obtain expert medical evidence on any other conditions.

PUBLIC TELEPHONE BOXES.

The obvious uncleanliness of many telephone public call boxes was the subject of comment last year, and led to their general arrangements being severely criticized from the standpoint of scientific hygiene. Dr. Collingwood, Medical Officer of Health for the City of London, one of those who paid attention to the matter, was, however, able to prove that the statements made were of an unduly sensational character. The allegations, for instance, that the mouthpieces contained collections of pathogenic organisms, and were to be regarded as a common source of infectious diseases, he showed to be ill-founded. On the other hand, many of the boxes were destitute of any means of ventilation, and built in such a way as to make keeping them clean a matter of difficulty. He therefore put himself in communication with the National Telephone Company, and in a subsequent report to his authority was able to state that the requisite improvements would be made. It appears now that the Company has decided to adopt his suggestions, and that the boxes to be erected in future are likely to be of a thoroughly satisfactory kind. Adequate ventilation will be provided by means of an opening in the roof, 24 in. by 6 in. in area, and at the same time the privacy desired will be ensured by an ingenious mechanical arrangement whereby the opening will automatically close when the telephone is in actual use. At all other times it will be open and pure air driven through the box by the opening and shutting of the door. Attention has also been paid to the desirability of keeping the boxes dust-free; instead of lining the boxes with cloth or woolly paper, the walls are to be of hard smooth material which can be enamelled and easily cleaned.

AN ANTIQUACKERY CONGRESS.

A Congress for the repression of the illegal practice of medicine will, as has already been stated in the British Medical Journal, be held in Paris from April 30th to May 3rd, 1906, under the presidency of Professor Brouardel. The subjects proposed for discussion are the following: (1) Illegal practice by bonesetters, sorcerers, and empirics

of a similar kind; reporter, Dr. Leon Poulot, of Poitiers: (2) Illegal practice by quacks, magnetizers, and hypnotists; reporter, Dr. Barbanneau, of Pouzauges (Vendée); (3) Illegal practice by lay or religious persons with a charitable purpose or the pretext of such; reporter, M. Bruno-Dubron, Advocate at the Paris Court of Appeal; (4) Illegal practice by members of societies for the aid of the sick or wounded; reporter, Dr. Noir, of Paris. (5) Illegal practice of massage: what massage is, its dangers, and the remedies for them: schools of massage, what they are and what they should be; reporters, Dr. Mesnerd, of Paris, and M. Mathiot, Advocate at the Paris Court of Appeal. (6) Illegal practice by manicurists, pedicurists, barbers and hairdressers; reporters, Dr. Millan and M. Lafay, pharmacist of Paris. (7) Illegal practice by pharmacists: reporter, Dr. Dubousquet-Laborderie, of Brive-Saint-Germain. (8) Illegal practice of medicine by opticians: reporter, Dr. Ayrenx, of Paris. (9) Illegal practice of ophthalmology: reporter, Dr. Péchin, of Paris. (10) Illegal practice by "medical electricians": reporter, Dr. Laquerrière, of Paris. (11) Illegal practice of medicine by dentists: reporter, Dr. Lassudrie, of Paris. (12) Illegal practice by foreign doctors; reporter, Dr. de Grissac, of Argenteuil. (13) Illegal practice by midwives: reporter, Dr. Dieupart. (14) Illegal practice by medical students; reporter, Dr. de Grissac. (15) Usurpation of title of Doctor of Medicine by *officiers de santé*; reporter, Maitre Geoffroy, Advocate at the Paris Court of Appeal. (16) "Covering" by doctors; reporter, Dr. Sentourens, of La Ferté-Bernard. (17) The part played by the press in regard to illegal practice; reporters, M. Breitel and M. Goret, Doctors of Law, Paris. (18) Medico-pharmaceutical advertisements by unqualified persons; reporter, M. G. Leredu, Advocate at the Paris Court of Appeal. (19) Illegal and charlatanic practice of medicine by advertisement; reporter, Professor Folet of Lille. (20) How to warn the public as to the dangers of illegal practice; reporter, Dr Leredde of Paris. (21) The social causes of illegal practice (psychological and economic considerations); reporter, Dr Bardet of Paris; (22) The law of November 30th, 1892 (regulating the practice of medicine); critical examination; its defects; its applications; inadequacy of repressive enactments, amendments; reporters, Dr. Albert Prieur of Paris, and M. Leon Prieur, Advocate at the Paris Court of Appeal. (23) Action of syndicates; reporter, Dr. Maxwell, General Advocate at the Court of Appeal, Bordeaux. (24) Proposed creation of a central office for the repression of illegal practice; reporter, M. Ch. Levassort of Paris. Communications in foreign languages will be received, but must be accompanied by a translation or an abstract in French. Communications should be addressed to the General Secretary, Dr. Ch. Levassort, 2, Place des Vosges, Paris.

DIRTY AND INFECTIOUS MILK.

Not much evidence of improvement in the milk supply of the City of London is to be found in the latest monthly report of Dr. Collingwood, Medical Officer of Health for the City of London. Of 22 samples of milk, covering supplies drawn from most of the Southern counties, and submitted by him to Dr. Klein for bacteriological examination during the month of August, one-third proved to be unclean and unfit for human food, while 9 per cent. were found to be infected with tubercle bacilli. These results are sufficiently striking and Dr. Collingwood's statement, that they clearly point to the grossest carelessness amounting almost to criminal negligence in dealing with so important an article of food, can scarcely be considered too strong. Moreover, the abstracts of correspondence furnished show that by no means all milk firms dealing with the City are ready to endeavour to remedy matters when defects are pointed out to them. Nor do the majority of the milk companies take any steps whatever to secure sanitary supervision for the farms from which they derive their supplies. It would seem that if they attach any importance at all to sanitation in connexion with dairy work and milk production, they prefer to rely upon that of the local authorities rather than exercise it themselves. The former, however, in many cases is non-existent, and the firms will not move in the matter themselves unless what is practically compulsion is brought to bear upon them. Dr. Collingwood rightly regards the provision of a good milk supply as of such vital importance to the country, that he is anxious to persuade his authority to force the matter upon the attention of the Local Government Board and of the Board of Agriculture.

MORE CHRISTIAN SCIENCE.

Adherents of ordinary science can once more hold up their heads, for Christian Scientists, as represented by these latest deputy prophets, apparently claim them as their brothers. Professed teachers of religion are equally honoured, so now we can all be happy together. Nor should our satisfaction be dimmed by the thought that Christian Science must be immeasurably the superior article. It has, for instance, as proclaimed last week at Queen's Hall, "cured" a million people during the short term of its existence. The number itself is remarkable, but the fact is still more striking when it is considered that most of these "cured" persons had been suffering from "incurable" diseases. Naturally those who listened to these statements cheered; whether there were present any irreverent persons who likewise laughed we are not informed. A blood relationship between Christian Science and the common ordinary variety is however a little difficult to understand, for it appears that Mrs. Eddy not only invented Christian Science, but likewise discovered the laws of life and health. Knowledge of these constitutes much of ordinary science, and formerly we believed that something at least was known about them before Mrs. Eddy was born. Historical facts, however, thanks to our acquired relationship, are now exactly what we choose to make them. Under the circumstances all must regret that when, after his sermon in London, the new apostle went to Manchester he should have been so unhappy in his chairman, Sir T. Thornhill Shann, ex-Lord Mayor of the city. In view of what was to follow, the chairman's *sursum corda* should have been an appeal to the audience to abandon common sense. Instead of this he commenced the proceedings by explaining that he had no sympathy whatever with faith healing. Faith was doubtless a great aid in the sick room, and by inspiring a patient with a belief in his recovery the work of the doctor and nurse might be materially lightened. Anything, however, that dispensed with medical help and good nursing should have no countenance, while in the eye of the law it was little worse than criminal negligence of the worst possible type. To this broadside the apostle could find no better reply than that science and religion were one. Q.E.A.

SERVICE EXAMINATIONS.

Only one return relating to examinations for admission to the services was presented at the meeting of the General Medical Council last week. It covered the examination for admission to the Royal Army Medical Service held in July, and the following figures respecting it may be of some interest. There were altogether 60 candidates for 40 vacancies, but 11 men withdrew from the examination, so that the actual competitors numbered 49 only. Of these no less than 45 proved to be qualified, only 4 obtaining half marks. Of the latter, the Society of Apothecaries and the Irish Conjoint Board were each responsible for 1 and Edinburgh University for the remaining 2. Of all the candidates, 21 came from English schools and universities, 18 obtaining commissions, 2 being qualified but unsuccessful, and 1 failing altogether. The Scotch candidates only numbered 8; of these 6 were successful and 2 failed altogether. Of the 20 Irish candidates, 16 won commissions, 3 others qualified but were beaten in competition, and 1 failed to reach half marks. Of the English candidates, again, the great majority as usual held the Conjoint Board diploma alone, and all of them qualified, 15 out of the 17 obtaining commissions. Of the other English candidates, only 1 held a degree as well as a diploma; he was a London M.B., and won the seventeenth place. Regarding places, it may be noted that of the first six places an Edinburgh M.B. won the first, English Conjoint Board men

the second, third, and sixth, and Dublin M.B.'s the fourth and fifth places. The only special feature of the whole competition is the unusually large proportion of Irish candidates, and the low proportion of those from Scotch universities and schools. As a rule, of late years the Scotch and Irish candidates have been about equal in number, the two together just about equalling those from England. On this occasion the Irish candidates were practically as plentiful as the English and outnumbered the Scotch by 5 to 2.

EPSOM COLLEGE.

We would draw the favourable attention of readers to the appeal printed in another column from Sir Constantine Holman, the energetic treasurer of Epsom College, for contributions to a fund which must be raised to pay off the debt incurred owing to the recent breakdown in the drainage of the College. This misfortune was due to bad workmanship and to the somewhat elementary ideas of sanitation which prevailed when the College was built. Everything has now been put into the best possible order, but householders who have gone through a similar experience on a small scale will not be surprised to learn that the finances of the institution have been seriously crippled. An appeal is now made for £6,000, and Sir Constantine Holman has received from a warm supporter of the College an offer of £200 if nine others will subscribe a similar amount to enable the payment of £2,000 to the drainage contractor, which must be made in the first week in January. We hope that this particular offer will open the purses of the wealthier members of the profession, but everybody can help according to his means, and the occasion is one upon which the profession may be expected to show that generosity which has in the past never been found wanting. For very many years past a sum of £6,000 has been collected and distributed in the relief of fifty pensioners and to provide a fund for fifty foundation scholars whose presence in the school justifies the claim of Epsom College to be a medical foundation. Subscriptions may be sent to Mr. J. Bernard Lamb, Secretary of Epsom College, 37, Soho Square, London, W.

NON-PAYING PATIENTS AT ST. LOUIS.

The medical profession of St. Louis has decided to protect itself against the non-paying patient. Under the title of the "St. Louis Medical Credit Guide" a list of residents who have failed to pay their doctors' bills is being compiled from the records of a collecting agency which devotes itself to this class of business. It is said to contain some 15,000 names, and this list is the fruit of three years' experience in collecting the bills of 500 practitioners. The book will also contain the names of 70,000 persons who are described as "good," presumably in Shylock's sense that they are "sufficient." The book is to be kept up to date by the issue of a monthly sheet, and will be revised once a year, like a city directory.

MR. HENRY MORRIS.

Mr. Henry Morris has resigned the office of Surgeon to the Middlesex Hospital, finding that he is no longer able to give as much time to hospital duties as hitherto, and wishing to make way for the earlier promotion of some of his junior colleagues. The resignation has been accepted with regret, and Mr. Morris has been appointed Consulting Surgeon to the hospital. The report presented to the Governors at the meeting at which this election took place referred to the valuable services rendered by Mr. Morris both to the hospital and medical school during the last thirty-five years, and to his recent munificent gift of £1,000 to establish a permanent endowment fund for the maintenance of the medical school. The Medical Committee of the Middlesex Hospital at its meeting on November 18th adopted the following resolution, which must be extremely gratifying to Mr. Morris:

> The Medical Committee has heard with great regret that Mr. Henry Morris has resigned the office of Surgeon to the hospital, and desires to place on record its deep sense of the loss the hospital will sustain thereby. The Medical Committee desires to assure Mr. Morris of its very high appreciation of his long-continued and eminent services to the hospital. The work he has done at the hospital has not only been of the highest value to the institution and those associated with him as his patients and pupils, but it has left an indelible mark upon the history of surgery, and it is glad to think that his name will for ever be most honourably associated with very important developments in surgical practice. In parting with Mr. Morris as an active colleague, it assures him of its warmest good wishes for his continued success and happiness, and trusts that he may for many years hold the office of Consulting Surgeon to the hospital.

MEDICAL CANDIDATES AT THE GENERAL ELECTION.

The revised list of medical candidates at the General Election, published at page 1532, contains twenty-two names. There are nine Liberals, three Liberal Unionists, two Unionists, five Conservatives, and three Irish Nationalists. Nine of the candidates—of whom four are Liberals, one a Conservative Unionist, one a Conservative, and three Nationalists—are seeking re-election for the constituencies they represent in the Parliament now about to expire. The proportion of medical candidates in Scotland—five, or if we count Sir Robert Finlay six, out of seventy-two constituencies is higher than in England or Ireland. We hope that the list may grow longer during the next few weeks, and shall be obliged for corrections and additions.

THE ANNUAL MEETING AT TORONTO.

The local committees charged with the duty of making arrangements for the annual meeting of the British Medical Association, which is to begin in Toronto on August 21st next, are already at work. A meeting was held recently between the local committee of arrangements and the Chairman and Secretaries of all the subcommittees, a list of which was published in the Supplement of December 2nd, pp. 302-3. An understanding was then come to as to the way in which the work is to be subdivided, and we hope to have an opportunity of publishing a preliminary programme before long; particulars with regard to travelling facilities in Canada will probably be available early in February. Many of the sections will meet in the main medical building of the University of Toronto, and ample accommodation will be available for the other sections as well as for the museum and exhibition.

According to a Swedish journal, the Nobel Prize for medicine will this year be awarded to Professor Robert Koch.

Sir George Anderson Critchett, surgeon-oculist to His Majesty the King, has been made a Commander of the Victorian Order.

Lieutenant-Colonel D. Prain, M.B., I.M.S., Director of the Botanical Survey of India, has been appointed Director of the Royal Botanic Gardens, Kew, in succession to Sir William T. Thiselton Dyer, K.C.M.G.

The Bradshaw lecture before the Royal College of Surgeons of England will be given by Mr. Henry T. Butlin, F.R.C.S., on Wednesday, December 13th, at 5 p.m., the title being Carcinoma is a Parasitic Disease.

The German Anatomical Society has decided to erect a memorial of its honorary president, the late Professor Albert von Kölliker. The memorial will be erected in Würzburg with which the name of the famous anatomist is so intimately associated.

A statue of the Queen is to be erected in the grounds of the London Hospital in recognition of the many and great kindnesses shown by Her Majesty to the hospital. It is said that it will be the first statue of Queen Alexandra erected in this country. The Governors at the meeting at which this proposal was adopted resolved to name the new nurses' home after Miss Eva Lückes, who has been for twenty-five years Matron of the hospital.

Canada.

New Hospitals in Montreal.

Montreal has never seen such activity in hospital construction as during the past year; the Montreal Maternity Hospital and the St. Paul Hospital for Contagious Diseases are completed; the Alexander Hospital for Contagious Diseases, the Notre Dame Hospital and the Western Hospital are well on the way to completion. In addition new buildings are going up in connexion with the Royal Victoria Hospital.

The New Maternity Hospital.

The new maternity hospital, which stands at the corner of St. Urbain and Prince Arthur Streets, is a handsome structure of pressed brick with stone facings, has a frontage of 130 ft. on one street and 80 ft. on the other, and has cost about 125,000 dols. It contains fifty-six beds, of which thirteen are in private wards. The delivery rooms are on the middle flat, close beside the resident physicians' quarters, while the operating room is upstairs. All of these are finished in white marble and fitted with every modern convenience. The students' waiting-rooms are furnished with comfortable couches and everything necessary for tedious waiting, a great improvement upon the old system when the men cast lots for a place to lie on the table. The old building has a good record both on account of the excellent results of the treatment and on account of the good quality of the nurses who graduated from the institution. With greater facilities the results will no doubt be better. The affiliation of the General and Royal Victoria Hospital staffs with that of the Maternity will undoubtedly increase the efficiency of the training school. Formerly it was seldom that a graduate of either of the above-mentioned hospitals had any maternity training, as it involved a four months' course in addition to the regular three years. Now, however, the course is included in the regular training, and nurses who have had a thorough preliminary education in nursing live in the Maternity Hospital for the term, and return to the general hospital to complete the regular schedule of work. The increased accommodation in the new building will greatly facilitate this new scheme.

Infectious Hospitals

The St. Paul Hospital for Contagious Diseases is really the contagious ward of the Notre Dame Hospital, and has been erected for the purpose of supplying accommodation for Roman Catholics suffering from measles, scarlet fever, and diphtheria. The Alexandra Hospital, which is nearly ready, is the corresponding institution for Protestants.

The St. Paul Hospital is situated near Parc Lafontaine, and is composed of an administration building and three ward buildings. In the administration building are situated the kitchen, heating and lighting apparatus, rooms for the staff, nurses, laundry, etc., and also, in the left wing, rooms for doubtful cases, and for erysipelas. The diphtheria pavilion, 120 ft. by 28 ft., is three stories high. The ground floor is for light cases, and the other two for male and female wards. There is a visiting room in each ward, covered in with glass, so that the friends and patients may see one another without risk of infection. In this pavilion also there is an operating theatre. The measles and scarlet fever buildings are similar, though somewhat smaller.

Tunnels connect the pavilions with the administration building, and from the latter a tunnel runs to the Notre Dame General Hospital, which is situated across the road.

Revelations by the Montreal Pure Milk League.

To those interested in the problem of supplying pure milk to the inhabitants of a city the report presented by the inspector of the Montreal Pure Milk League will prove valuable.

The Cows and Byres.

In all, 255 establishments were visited and 4,352 head of cattle examined. The cows were found to be generally healthy, although tuberculosis was suspected in three cases. A very careful inquiry was made into the kind and quality of the food given to the cattle, but it varied so much that statistics of any value could not be compiled. It was found that the water supply was in ten cases contaminated, but on the whole the conditions in this respect were good. Stable sanitation was the next question investigated. Instead of the regular 600 cubic ft. of air space (the minimum), four stables had but 200 cubic ft., and but twenty-seven fulfilled the conditions required. Besides this the window space was far too limited and the means of ventilation inadequate; one hundred and twenty-five had no ventilators and nine no windows. In classifying the stables, only four filled all the conditions of sanitation, and could be set down as excellent; of the rest, ninety-two were bad and eighty four very bad.

The Uncleanly Milker.

Most of those questioned upon the subject of cleanliness in milking replied that they were always careful to wash their hands before touching the udder of the cow, but the inspector found good reason to doubt this, and in one instance saw the milker deliberately tie the cow's dirty tail to its leg, and then calmly proceed with his work.

Ignorance and carelessness in the aëration and cooling of the milk proved to be very common. In 60 cases of the 255 aëration was not thought of. A little more than half of the farmers used ice, but nearly all of them less than was actually necessary for the work. In 236 instances they could not say at what temperature the milk was shipped, only nine thermometers being found in use. Some dairymen said they did no cooling whatever, as the customers did not demand it. In classifying milk-houses or dairies, under this head, only six were found to be in proper condition, and to have all the requirements necessary for the best results.

Sunday Milk.

A most important point in the investigation was the age of the milk at the time of distribution. After arriving in town the milk generally took twenty-four hours to reach customers. Besides this delay the farmer usually kept it for twelve or fifteen hours before shipping, making a total of about thirty-six hours before the consumer obtained it. Several farmers, however, kept it a day, and one kept it thirty-six hours. One reason for the delay is that the milk is saved for the Sunday trade. Many of the local trains are discontinued on the Sabbath, and, in consequence, milk is in demand, and can only be supplied by saving from the old stock.

The Uncleanly Milk Can.

Uncleanly milk cans occupies, as it should, a large part of the report. The shape of the majority of the cans is the first point worthy of criticism, they are made in such a way that it is next to impossible to clean them thoroughly, more especially as the soldering is in general very faulty and crevices are left in which sour milk is sure to remain for a long period. Of the great number of cans examined on their return from the city, only 11 per cent. were found to be free from putrefaction. These cans should all have been washed in town, but in the majority of cases this was neglected.

When the Inspector's Away.

An amusing instance of the efficacy of inspection was given at Vandoeuil, where an examination of the cans was continued for several days in succession. On the first day 40 per cent. were unwashed, on the second 30 per cent., and finally the number went down to 4 per cent. The inspector then skipped a day, and the milkmen thinking that he had left became careless, and the following day saw the percentage once more back to 40.

Conclusion.

In conclusion the inspector said that very few of the dairies were what they should be, and that the methods in use were careless in the extreme, but that the farmers professed themselves eager to adopt his suggestions, and that if Legislature would take up the question an improvement would be certainly noticed in a very short time.

The Medical Protective Association.

From the latest report of the Canadian Medical Protective Association it appears that the membership of the society is constantly growing, though not as rapidly, perhaps, as its well-wishers might desire. Nevertheless, income is keeping well ahead of expenditure, and the society can boast that last year it was uniformly successful in defending the interests of its members whenever a call was made upon its organization.

Smoke Abatement.—The conference on smoke abatement arranged by the Royal Sanitary Institute and the Coal Smoke Abatement Society will be opened at the Royal Horticultural Society's Hall, Westminster, on Tuesday evening next at 8.30 p.m., when the chair will be taken by the Duke of Fife, and Sir Oliver Lodge, President of the Conference, will give an address. Domestic smoke abatement will be discussed on Wednesday, factory and trade smoke abatement on Thursday, and administration, legislation, and necessary reforms on Friday.

Scotland.

Modern Highland Problems.

In a lecture recently delivered before the Glasgow High School Gaelic Class, Dr. Lachlan Grant, of Ballachulish, said that at the opening of the twentieth century every country in the world found itself confronted with social and economic problems of the deepest import, and the Highlands had their share of burning questions awaiting solution to enable the people to live that large and rounded life demanded by true civilization. The first problem to be solved was "freeing the land." Land nationalization simply meant that the nation took over the land at a fair valuation, and the purchase money was crystallized in the form of Consols. There would be a central land office with departments and branches, whose business it would be to develop the natural resources of the country, and probably agriculture would require to be a State industry. Afforestation would be an important branch in itself. Whatever plans might be suggested to solve the land question emigration was certainly not one of them. Emigration simply meant exporting the best bone and muscle of the population, which ought to be considered a portion of real wealth of the country, thus leaving more and more of the physically degenerated population at home. No one could believe that emigration was good for the Highlands during the clearances or since, and he thought they would also agree that what was wanted was a vast increase in the population of the straths and hills that at one time furnished homes for many thousands of sturdy Highlanders. Instead of spending £300,000 to take 15 000 families to Australia, as recently proposed by General Booth, it would be more sensible to adopt the plan of Mr. Fels to spend that sum in settling the people at home. Neither exporting people nor limiting families would solve any of the bread and butter problems. They must get to the root of the evils and discover how to extract the greatest amount of sustenance from the land with the least possible expenditure.

Sanitation was another important matter requiring the earnest attention of all local authorities in the Highlands as well as Parliament. Some districts, especially in the Western Highlands, were notoriously insanitary. The Local Government Board Inspectors, Dr. Dittmar and Dr. Miller, recently reported on the state of things in the Lewis and other parts, and the state of things revealed was something incredible. They talked about awful insanitary places not fit for cattle, and that many of the houses were uninhabitable and a disgrace to civilization. From personal experience, he could confirm the sad details made public. The housing problem was as acute in the remote Highlands as in our towns. Something would have to be done to put in operation the provisions of the law condemning insanitary houses or overcrowding in houses in the country. The law, as it stood, was quite sufficient to operate in condemning many dwellings, but the difficulty seemed to be in the lack of administrative adherence to the law, and he understood that many medical officers found their work much hampered by unprogressive County Councils and certain influences at work to prevent any action that might lead to increase of the rates. There were, no doubt, parts of the country that were rated and taxed to the utmost already, but if more money was required to enable the people in those parts to live decent lives, then grants of money must be got from the national exchequer to make up any deficiency; this applied also to the Poor-law administration and educational matters.

The movement throughout the country for feeding school children and attention to the general health of boys and girls must also come into operation in the Highlands. Many schools in scattered districts were attended by children who walked as far as five or six miles, and in all such cases provision should be made for supplying suitable meals and conveyance to their homes, and in some needy cases even to supply them with their boots, shoes, and overcoats. All children should be medically examined in schools periodically, and defective eyesight, bad hearing, infectious skin diseases, etc., should be treated without delay.

The whole question of medical service required the attention of legislators, and in the Highlands every family should be entitled to medical attendance as a simple right of citizenship. This would be properly carried out only if the commercial system of fee-paying doctors were done away with, and instead a system of State medicine was established on a similar basis to the rate-supported fever isolation hospitals or asylums. The efficiency should not depend on the wealth or poverty of a district; it was a question of general efficiency throughout the country. For instance, they knew that the Government run scores of post-offices at a loss simply to meet the requirements and convenience of a district. And so with medical service, the well-to-do sections of the country should pay for the poorer parts. Good medical men could then be had to attend the more remote parts of the Highlands without any risk of leading a starvation existence. On the one hand, they found many districts were quite neglected for want of doctors and capable, trustworthy nurses; while, on the other hand, scores of qualified medical men were vainly seeking employment or eking out a miserable pittance until they found a more lucrative post. Many doctors in poorer districts did a vast deal of work for no remuneration whatever.

More local industries were required in the Highlands. County councils might have their own farms and dairies, and supply the people with milk, butter, cheese, and eggs, under best conditions. It was rather strange that milk should be scarce in the very districts where it was produced, and he knew from experience how difficult it was in some parts of the Highlands to get an adequate supply of good milk for the children. The councils might even have their own sheep farms and weave cloth for the people, who would no longer require to import the shoddy rubbish now being used. All this might seem to them like dreams from some Utopia, but many of them, knowing the trend of the times, saw that the awakening consciousness of the people would insist on the establishment of publicly-owned organizations to deal with the wants of the public.

Royal Infirmary, Edinburgh.

New Surgical Out-patient Department.

Of the many changes which have taken place in the Royal Infirmary, Edinburgh, within recent years, none has been of more importance and value than that which is at present nearing completion.

For several years past it has been recognized that the surgical out-patient department was not in such a satisfactory condition as regards equipment and organization as some other departments of the hospital, and that with all the modern improvements constantly being introduced throughout the buildings, improvement in this direction had perhaps somewhat lagged behind. In order to obviate this discrepancy the department has been re-established on a completely new basis.

The primary object aimed at has been that of severing as completely as possible the connexion between the wards and the daily crowd of out-patients coming up for treatment, and though it has not been found possible to confine the out-patients to a separate building, yet, apart from that, their isolation has been as thoroughly secured as possible.

A large suite of rooms and dressing-rooms, with a commodious theatre and waiting-hall, has been set apart for their use, and so thoroughly and efficiently have all the preparations been carried out, that ere long this department will prove of immensely greater value and usefulness both to patients and students. The conduct of the department has been put into the hands of a separate staff, having at its head one of the assistant-surgeons of the institution, each of whom in rotation will assume control for a period of three months.

The rooms themselves have been fitted up with all the necessaries and many of the luxuries associated with modern surgery. There is separate accommodation for the examination and treatment of septic, aseptic, and fracture cases, while special provision has been made for lady medical students.

Leading from a perhaps not too commodious waiting hall there is a very complete operating theatre fitted up for teaching purposes and capable of accommodating over 100 students, while for exceptional cases provision has been made by the establishment of special casualty wards. By this new arrangement the comfort, convenience, and security of both in-patients and out-patients is undoubtedly enhanced, while senior students have greatly-increased facilities for systematic practical instruction in minor surgery.

Association of Women Graduates of Glasgow University.

An association of women graduates of Glasgow University has been formed, and the first annual dinner was held in the Windsor Hotel, Glasgow, on December 2nd. Mrs. Hugh McCullum was in the chair, and upwards of 60 members were present. As guests the Association entertained Miss Galloway and Miss MacLehose. After the dinner speeches were made

by graduates representing the medical and arts faculties, and an enjoyable evening was spent.

Denny Cottage Hospital.

A new wing of the Denny Cottage Hospital was opened on December 2nd, by the wife of Provost Hunter. The cost of erecting and furnishing the wing has come to about £800.

Glasgow University Club in London.

Glasgow graduates as represented by the Glasgow University Club in London, gathered in force at the Trocadero on December 1st, on the occasion of the annual dinner. Professor Walter Raleigh, the Chairman, in proposing the toast of the evening, spoke of the valuable by-products of the University's work in the shape of the unrecognized great among its alumni. As one such he mentioned James Boswell, who, having sat as a Glasgow student at the feet of Adam Smith, afterwards, as the biographer of Samuel Johnson, did so much to bring about a right understanding between Scotland and England. In responding to the toast of "The Guests," Sir Thomas Raleigh deprecated too free recasting of the time-honoured methods of Scottish University study, and too many innovations in the various courses. The majority of diners remained on the conclusion of the toast list to enjoy an excellent programme of music.

Ireland.

The Irish Poor-Law Medical Service.

A correspondent calls our attention to a report of a recent meeting of the Swinford Board of Guardians when a communication was read from the Local Government Board forwarding extracts from letters received from the medical officers of Kilkelly and Lowpark Dispensary districts, complaining that although the official duties increased year by year there were no corresponding increments in the salary. The guardians unanimously adopted a resolution stating that if the medical officers were not satisfied with their position and salaries it was open to them to resign. The attitude of the guardians illustrates the need for union among the members of the profession in Ireland. If individual members would refrain from applying for appointments carrying salaries found by the present holders to be inadequate Boards of Guardians would be unable to pass such resolutions.

The Report of the Irish Local Government Board.

The statements in the following letter, which we have received from an experienced correspondent, who signs "Fiat Justitia," appear to call for some explanation from the Medical Commissioner:

"Would you permit me to ask the Medical Commissioner of the Irish Local Government Board if he would kindly explain, through Mr. H. Courtenay, why, as chief of the Statistical Department, he considers it fair to represent to the public that the salaries of the Irish dispensary medical officers have been increased from £93,000 in 1897 to £103,880 in 1905 by including the payments made for temporary medical services to substitutes during sickness, holidays, and vacancies? It looks to me very like an attempt to prejudice the claims of the officers in their attempt to secure adequate remuneration for their services. The same objectionable method of computing the salaries is adopted in the annual report of the Local Government Board for the year ended March, 1903 (31st), and the total amount of the salaries of the medical officers and temporary medical officers during the year ended September 30th, 1853 (the year after the introduction of the dispensary system into Ireland), namely, £56,966 is contrasted with the total amount similarly computed in 1902, which was £91,178. The former gave an average for each officer of £73 8s., and the latter an average of £112 11s.; whilst, without taking into consideration the onerous, disagreeable, and self-sacrificing duties which the officers were obliged, and compulsorily obliged, to perform under the Public Health Acts, the miserable salaries attached to their sanitary appointments were still further added, so as to make the salary of each dispensary medical officer reach the bloated total of £141 11s. As a sort of excuse for thus lumping the permanent salaries and temporary fees, the Local Government Board mention in the same report that they have observed that a large number of permanent officers are selected as temporary substitutes during the absence of their colleagues, and that this practice has become much more general during the current year, but it must be given to the public that this same Local Government Board urge guardians to select if possible for a temporary appointment a man who will reside in the district, and in a great many unions this advice is given effect to. Indeed, in my union a non-poor-law practitioner is invariably appointed as temporary substitute in every dispensary district, and it is inconceivable how the payments made to such can help to swell the pockets of the permanent officer. I think, therefore, I am fully justified in asking the chief statistician how he reconciles his method of computing the salaries with fair play."

Dispensary Doctors' Salaries.

The medical officers of the Gorey Union recently applied to the guardians to adopt the principle of gradual increase of salaries, according to the scale suggested by the Local Government Board. The Chairman was sympathetic, and suggested that a committee should be appointed to inquire into the subject; but it was brusquely proposed that no action should be taken, and this was carried by 24 to 16 votes.

In Rathkeale Union a letter from the Local Government Board was read, in which it was stated that if the guardians accepted the compromise suggested by the medical officers the Commissioners would be prepared to sanction such a scale, and they suggested that on a vacancy occurring the guardians might rearrange the districts, so that the four remaining officers could do the work, and thus effect a saving of the proposed increase. The guardians, however, refused to make an increase unless the Government agreed to pay half.

In Rathdrum Union a committee which had conferred with the medical officers recommended an increase of £10 every five years until the salaries should reach £200. To this a direct negative was proposed by a lady guardian, who carried her opposition by 39 to 19 votes. In spite of such failures there can be no doubt that a feeling more favourable to the medical officers is growing up; and we hope they will not be discouraged. But they must be pertinacious and united.

The Guardians of Castlerea Union have agreed to hold a public inquiry into the claims of their medical officers for increased salaries. Dr. Donnellan made a very forcible appeal at a meeting of the Board in support of the application unanimously made by the whole medical staff. He very pertinently asked:

> How can I, with a salary of £110 per annum, working a huge poor district with all its necessarily high expenses, live, make provision for those naturally depending on me, and be contented with my position? This general discontent of your officials is against public interest, and it must make for inefficient and uneconomic discharge of the very responsible duties we have to perform.

Election of Direct Representative.

The term for which Sir William Thomson was elected Direct Representative for Ireland on the General Medical Council will expire on February 28th, 1906. The usual advertisements giving notice of the approaching election will be issued early in January, and the President of the General Medical Council, as returning officer, has fixed January 18th as the last day for the receipt of nomination papers; the result of the election will be made known on February 8th.

The Ulster Medical Society.

Portrait of Jenner.

Sir Otto Jaffé has presented to the Ulster Medical Society a copy of Northcote's portrait of Jenner, the original of which is in the National Gallery. It is hung in the main hall of the Medical Institute, and was unveiled on November 16th by Mrs. Joel (Lady Jaffé's sister).

Health of Belfast.

At the monthly meeting of the City Council, held on December 1st, the Superintendent Medical Officer of Health reported the notification of 234 cases of zymotic disease, including 100 of scarlatina; 842 births were registered, and 574 deaths, a death-rate from all causes of 20·8. The deaths of 139 children under 1 year were recorded, a mortality of 5·0. There was nothing of especial interest in the report.

The Action against Dr. Darnell (Bangor, co. Down).

The action Ingham *v.* Darnell was twice tried in Belfast. On the first occasion the jury disagreed, on the second a verdict for Dr. Darnell was found. The plaintiff moved in the Divisional Court for a new trial on the ground of alleged misdirection by Mr. Justice Wright at the trial, and that the

verdict was against the weight of evidence. The Divisional Court refused the application, and from that order the plaintiff appealed to the Court of Appeal. The Lord Chancellor, in giving judgement, said that he considered there had been misdirection by the judge, and that the expressions had gravely and substantially affected the decision of the jury. Lord Justices Fitzgibbon and Holmes concurred, and a new trial was ordered. Great sympathy is felt with Dr. Darnell, and it is hoped that he will once more come out of the contest victoriously.

Cork Medical and Surgical Society.

The Cork Medical and Surgical Society has begun its work for another session, and judging by the very pleasant reunion at the annual dinner the good feeling which prevailed is bound to result in hearty co-operation for a session's serious work. Dr. Crosbie, the President for the year, occupied the chair, and the usual toasts were honoured. Some 57 members and their friends were present. At the opening meeting of the session the President delivered the inaugural address on Appendicitis Reviewed.

Queen's College, Cork.

The King has been pleased to appoint the following to be visitors of Queen's College, Cork: The Right Hon. Mr. Justice Kenny, Sir Rowland Blennerhassett, Bart., Sir John William Moore, M.D., His Honour Judge Shaw, and Mr. John Lentaigne, F.R.C.S.I.

The Deaths of Dr. J. F. Stewart and of Dr. James Waddell.

Much regret and sorrow has been felt on all sides, and especially among the younger medical men, at the death of these two promising, well-known, and popular Belfast doctors —one in South and the other in West Africa. They were well known to each other and personal friends. Both had excellent openings at home, but preferred the more stirring life of the Royal Army Medical Service and the Colonial Service.

Queen's College, Belfast.

Last week it seemed doubtful whether it would be possible to secure Sir Donald Currie's offer of £20,000 for the Queen's College Better Equipment Fund. Less than a month remained of the period he had fixed within which the fund must collect a corresponding amount from other sources, and some £3,000 odd were still lacking. All fears on the subject are, however, now at rest, for this week Sir Otto Jaffé has come forward and swept away the deficit with a single cheque.

THE CENTENARY OF SKODA.

On Sunday next the hundredth anniversary of Professor Skoda, one of the men who made the Vienna School famous throughout the world, is to be celebrated in the Imperial-Royal City with appropriate pomp and circumstance.

Joseph Skoda was born at Pilsen, in Bohemia, on December 10th, 1805. He began the study of medicine in the University of Vienna in 1825, and took his doctor's degree in 1831. In the same year he was appointed District Medical Officer for cholera duty in Bohemia. In 1833 he was appointed assistant physician in the General Hospital, Vienna. While giving great attention to physical diagnosis, he worked at pathology under Rokitansky. At the same time he zealously discharged the duties of a Poor-law medical officer. In 1840 he was placed at the head of a department for diseases of the chest, and in 1841 he was promoted to the rank of full physician. In 1846 he was appointed professor in the University of Vienna. This, together with his hospital work, opened to him a field of activity which gave full scope for his extraordinary abilities. His singular insight as a clinician and his marvellous power as a teacher soon gained for him a world-wide reputation. Students flocked to his wards and his lecture-room from the ends of the earth. Owing to failure of health he resigned his chair at the beginning of 1871, and lived in retirement till his death, which took place after a long and often painful illness on June 13th, 1881.

The work with which Skoda's name will always remain associated is the development of the methods of physical diagnosis which were introduced by Auenbrugger, Laënnec, Piorry, and others. Skoda made of percussion and auscultation veritable instruments of precision in diagnosis, and his name deserves to rank with those of the actual discoverers of those methods. His *Abhandlung uber Percussion und Auscultation*, which appeared in 1839 and ran through many editions, is one of the classics of medicine. He did not write much, but what he did contribute to medical literature is almost all pure gold.

Through the kindly offices of Dr. Theodore Williams, and the courtesy of Professor Schrötter of Vienna, who was intimately associated with Skoda, we are enabled to publish a translation of a letter written by the famous physician to his brother during a visit to England which he paid in 1842. Professor Schrötter has in his possession a precious collection of forty-two letters written by Skoda, and thinking that one in which he gave his impressions of this country would be particularly interesting to English readers, most kindly placed it at our disposal. The following is a translation:

"London, August 27th, 1842.

"Dear Brother,—

"I wrote you from Paris, and you doubtless received my letter. I have been in London since the 12th. We posted from Paris to Dieppe in twelve hours; thence to Brighton by steamer in eight hours, and from Brighton to London by train in two hours. The sea presented a fine spectacle, but this time it gave me no pleasure. We arrived at Dieppe when it was already dark, and left it about two in the morning. Although the sea was quite smooth, sounds of sickness were soon heard in different parts of the ship. Rokitansky was among the first. I believed I should get through, as, keeping the recumbent position for several hours, I felt merely giddiness, but no discomfort. Towards morning, however, I began to be ill, and the sickness did not cease till I landed in England. It was the most glorious morning; the sunrise, the many ships visible over the whole horizon made a magnificent spectacle. But I was unable to enjoy it: I could not look at it, and wished for nothing more eagerly than once again to have firm ground under my feet. Hardly had I stepped from the tossing ship on to the landing-stage when all discomfort was over. I had an opportunity of admiring the sea from Brighton harbour, but after many hours of sickness one is not in a fit state for such a survey, and before I could recover myself I had to go on by train to London.

"All England is like a park. Nowhere are there to be seen wider stretches of fields; everywhere are trees in abundance, and the fields and meadows are bordered with quickset hedges. The villages are uncommonly neat, and the whole country is covered with small separate houses. After a two hours' journey, a forest of masts became visible on the right side, and the train began to run over houses. Immediately there unfolded itself on the right and left an immeasurable wilderness of houses over which the train ran and we became aware that this was London. A cab took us from the station to an acquaintance where we were received in a friendly fashion, and that same evening we went to the lodgings which a friend had found for us. We live in the West-End of the town. One always forms for oneself from books certain notions as to towns and countries. It has hitherto been my misfortune that my notions have not harmonized with the reality, and especially is this the case with London. In a city where, it is said, two millions of people move about, there is no dust and scarcely any dirt. The streets are wide, with convenient pavements which are almost always clean. Nowhere are there the usual smells of drains or warehouses. How is this?

"Each house, with few exceptions, is tenanted by a single family. The houses are two to three stories in height, and have one, two, rarely more than three, windows in the front of each. It is only from the numbers that one learns that the houses are small. Five, ten, twenty, and more houses are built together in one pile, and so produce the impression of very large houses and palaces. Each family takes care that everything is kept clean in front of the house. The doorstep is cleansed with running water. The pavement is partly of stone as in Vienna, partly of square blocks of wood; some of the streets are well macadamized. Continually carts go up and down sprinkling water, and nowhere is any spot allowed to become quite dry. This is practicable only owing to the fact that there is no wind, and the atmosphere is always moist. The dirt of the streets must be very carefully removed, as one notices it so little. The interior of the houses is always as bright as a looking-glass. The stairs and the floors are always laid with carpet. The houses are not painted on the outside; instead of this one sees the naked bricks which are blackened by the constantly-falling soot. We have so far had unusually fine

weather. Notwithstanding this, in the morning there is almost always a thick haze, and the countless smoking chimneys wrap London in clouds. If the windows are open the room is soon thickly covered with soot which shows on the white wall paper. On that account the windows are not often opened. This the climate, which is seldom hot, renders unnecessary. The houses are heated with open fires and the winter is seldom cold enough to reach the freezing point.

"We are treated by the doctors in a most friendly manner, and as we are asked out to luncheon and dinner every day, our stay is fairly cheap. Apart from this, however, London is unjustly said to be enormously expensive. This is the case only in the swell hotels, the use of which we leave to other fools. Meat is as dear again as in Vienna, but this, in the opinion of the ladies, is compensated for by the fact that it goes twice as far. Fish is cheap, also fruit and vegetables. Of poultry there is little to be seen. Stuffs are on the whole better and cheaper, but the price of labour is very high. Cab fares are somewhat cheaper than in Vienna: railway travelling is dearer. Of music there is not much to be had in London. But where is there any music outside Vienna and Bohemia? At Windsor two bands play alternately before the Queen—waltzes by Strauss, too—but wretchedly. If Queen Victoria had any notion of music she would certainly ask a hundred Bohemians to come to her.

"London has a number of very large parks with glorious evergreen lawns and trees always in leaf, beautiful ponds, etc. Besides these every one of the countless squares has a garden belonging to the houses around. But the finest thing in London is the Thames whereon steamboats bustle about like living monsters. One has not eyes enough to disentangle the intricacy of it all—amidst a countless number of other steamers and a still larger multitude of small boats threading their way everywhere, at every instant seeming on the point of being sunk by collision with the steamers, but gliding unhurt through all the surging and tossing. At the landing stages there are always five or six, or even more, steamers, close together in a mass. The people go on board and come off; one has to go over three or four of the steamers before coming to the right one. Suddenly from the midst of them one of them casts itself loose and goes off as if it were a little boat. Yesterday we went up the Thames to Richmond. The river is not much broader there than the rivers at Pilsen. We passed under two low bridges. The channel is scarcely a foot broader than the steamer. Something had first to be slackened to bring the ship into the right course. Then it flew like a bird. If it should strike against one of the supports, both bridge and steamer would be smashed. But we sailed through without deviating one hair from the middle. On the return journey we learnt that by chance we had got on the swiftest steamer. Two which had started half an hour before us were overtaken and jeered at by the sailors and by many passengers—probably shareholders.

"From all this you can see how much I am enjoying myself here. I cannot understand how it is that people speak of the French as courteous, and of the English as rude and dry. The common people of London are very pleasant and talkative. Every cabman who has driven me has pointed out to me the buildings and other objects of interest, although I have been obliged repeatedly to tell them that I did not understand one hundredth part of what they said. The police here have no other duty but to watch over the public safety. Of passports one hears nothing.

"Lastly, as regards the attentions shown us by our colleagues, I should find myself in a great difficulty if I had to return them in Vienna on the same scale. Very hearty greetings to all acquaintances. In Berlin I may perhaps find a letter from you. Certainly I will write again. To our parents and your wife hearty kisses from your brother

"Joseph."

It will be observed that very little is said about his scientific intercourse with the profession of London, though it is clear that he was treated with the cordial hospitality which British physicians are always ready to extend to foreign guests. One would have liked, however, to hear the impressions made on such men as Skoda and Rokitansky by what they saw of the medical world of London. Skoda seems to have been mainly interested in the steamboat traffic on the Thames, which appears to have been a more thriving business in early Victorian days than it is now, when a progressive County Council weighs heavily on metropolitan mankind. Skoda's remarks on the cleanliness of our streets and the absence of dust and bad smells are calculated to make the twentieth-century Londoner envy his predecessors in the early Forties. It must be remembered, however, that he did not see London in rain or fog. It is a little remarkable that so practised an observer has nothing to say of the impression made on him by the men and women whom he saw.

LITERARY NOTES.

Our usually well-informed contemporary the *Berliner klinische Wochenschrift*, in its issue of December 4th, announces the death of "der bekannte *Kliniker*, Professor Sir John Burdon-Sanderson." What an empty thing is fame!

The Copenhagen Royal Society of Science and the Royal Prussian Academy of Science have agreed to combine for the preparation of a catalogue of extant MSS. of the Greek and Latin writers on medicine. On the basis of this material it is proposed to organize, under the auspices of the International Association of Academics, a scheme of co-operative work with the object of producing a complete scientific edition of all the medical writers of antiquity. The matter will be brought before the general meeting of that body to be held at Vienna at Whitsuntide, 1907.

Mr. David Rorie (Cults, Aberdeenshire) writes: In reference to the note in your issue of October 21st regarding the medical study of Scarron, first husband of Madame de Maintenon, which was presented to the Académie de Médecine on October 3rd, by M. Antonin Poncet, it may be of interest to give Scarron's own description of his appearance, as it is recorded in the preface to *The Whole Comical Works of Mons. Scarron*, translated by Mr. Tho. Brown, Mr. Savage, and Others, seventh edition, published in London, 1759. Under Scarron's portrait, as frontispiece, are the lines:

> Attack'd by Sickness, and to Pain a Prey,
> I keep my Humour, Chearful, still and gay,
> With sour Grimace, and magisterial Pride,
> Those canting Sots the Stoicks, Pain Defi'd,
> Yet fell beneath the Burthen when 'twas try'd;
> None but my Self did e'er that pitch attain,
> To Sport with Misery and jest in Pain.

In his preface "To the Courteous Reader that never saw me" he says:

> I have been informed that some facetious Gentlemen make themselves merry at the Expence of an unhappy Wretch, and describe me another Sort of a Monster than really I am. Some affirm my Rump bone sticks out like the Ace of Spades, by the same token that it perforates (*sic*) all my Breeches, and that I am set upon a Table in a Cage, when I chatter like a blind Magpy. Others will tell you, and swear to it too if you would have them, that my Hat is fastened to a Cord which runs through a Pully, and that I pluck it up or let it down, as often as I am to compliment any Friend that does me the Honour of a Visit. . . . I am past Thirty, as thou mayst see by the Back of my Chair. If I live to be Forty, I shall add the Lord knows how many Misfortunes to those I have already suffered these eight or nine Years past. There was a time my stature was not to be found fault with, tho' now it is of the Smallest. My Sickness has taken me Shorter by a Foot, My Head is somewhat too big considering my Height, and my Face is full enough in all Conscience for one that carried such a Skeleton of a Body about him. I have Hair enough on my Head not to stand in need of a Perl wig, and it is gray too, in spight of the Proverb. My sight is good enough, tho' my Eyes are large; They are of a blue colour, and one of them is sunk deeper into my Head than the other, which was occasioned by my leaning on that Side. My Nose is well enough mounted. My Teeth, which in the Days of Yore looked like a Row of Square Pearl, are now of an Ashen Colour, and, in a few Years more, will have the complexion of a small coalman's Saturday Shirt. I have lost one Tooth and a half on the left Side, and two and a half precisely on the Right, and I have two that stand somewhat out of their Ranks. My Legs and Thighs in the first place compose an obtuse Angle, than (*sic*) an equal one, and lastly an acute. My Thighs and Body make another, and my Head leaning perpetually over my Belly, I fancy makes me not very unlike the letter Z. My Arms are shortened as well as my Legs, and my Fingers as well as my Arms. In short, I am a living Epitome of Human Misery. This, as far as I can give it, is my shape. Since I am now got so far I will e'en tell thee something of my Humour. . . . I was always a little Choleric, a little given to my Guts, and a little Lazy. I frequently call my Man Son of a Whore and a Fool, and a little after salute him Sir. I hate no Man, and could wish all the World did the same by me. . . .

To *American Medicine* of November 18th an article on Chinese Medicine is contributed by Tee Han Kee, M.D., Municipal Physician of the Manila Board of Health. The history of Chinese medicine dates back as far as 3 000 years before the Christian era. Roughly, that history may be divided into three periods: (1) The first period, or the "Dark Ages," which extends from the time of the Emperor Sinliong to that of Confucius, a period of 2,280 years; (2) the "Progressive Age," which covers the time from Confucius to the Emperor Shunti, the first Emperor of the present dynasty, a

period of about 1,800 years; (3) the "Retrograding Age," which extends from the Emperor Shunti to the present day, a period of 268 years. The first man in China who understood medicine was the Emperor Sinliong, the Second Emperor of the "Dynasty of the Five Rulers." He was born about the year 2,785 B.C., at the city of Yukiong, in the province of Shensi, where the present Emperor and Empress Dowager fled during the Boxer trouble. He was one of the best rulers in Chinese history, he was an inventor, an agriculturist, a philosopher, and particularly a physician. He was the first who tested the actions and uses of different drugs on his own system, and he was also the first writer of pharmaceutical works. His verses on therapeutics are frequently quoted by Chinese doctors. Books on other subsidiary subjects, such as anatomy, physiology, and therapeutics, were also written. During the "Progressive Age" medicine, as a profession, attained its height. Amputation at the shoulder-joint is said to have been performed successfully. Wah-to, a celebrated surgeon, operated on Kwan-hu-choo, a Chinese general, who was advised to have the operation performed under an anaesthetic; he preferred, however, to have it done without it while he was playing chess. This case seems to show that the use of anaesthetics was known in Chinese medicine during this part of the "Progressive Age." The specific use and action of mercury for syphilis were also discovered, and it has been used up to this day. Small-pox inoculation was introduced, and was first practised by a physician from a town near the "Great Desert of Gobi," a prince of the royal blood being the first one inoculated. Since then it has been continually practised up to this time. It is performed in four different ways: (1) By wearing clothing of persons suffering from small-pox; (2) by inoculating the pus from the vesicles through the nose; (3) by blowing pulverized scabs directly through the nostrils; (4) by inserting through one nostril the scabs in moist cotton, and keeping this in position for five days. The last method is considered the best. During the "Progressive Age" not only did medicine make great strides, but there were great advances in other directions, the use of gunpowder, printing, the compass, etc., being discovered. In the "Retrograding Age" medicine has gradually gone back. Physicians, instead of leaving their knowledge to posterity, have allowed it to be buried with them. There are no schools of medicine. Only through apprenticeship can a little knowledge of medicine be gained, and for fear of competition the master will not teach all he knows. The student is therefore compelled to gain the larger part of his knowledge from actual experience. At other times a man buys two or three books and begins to practise. In such an instance it is chosen more as a trade, or, in other words, to dispose of his medicine, instead of charging a fee for his professional services. This custom or practice is carried on not only in China, but in Manila, where every Chinese practitioner keeps a drug store. In China there is no surgery worthy of the name. An abscess, instead of being treated with a knife, will be plastered throughout its whole course. Every disease is classified as "hot" or "cold." It is evident therefore that a "hot disease" requires a cooling diet and medicine, and a "cold disease" a heating diet or medicine. This simple pathology enables the layman to argue with his doctor on an equal footing. In fact, they hold a preliminary examination on the doctor before they try his treatment. Before a Chinese official will take a doctor's advice the latter must submit a written medical essay on the patient's disease. Medicine in aqueous solution is, like water, regarded as cooling. Quinine in solution would therefore be considered suitable in malarial fever, but not in malarial neuralgia or cachexia; however, one gets over this difficulty by giving the drug in pills. Dr. Tee Han Kee gives an amusing account of anatomy and physiology as set forth in Chinese medical books, with copies of diagrams. Like Galen, the authors derive their knowledge not from dissection of the human body but from what is seen in animals. As all diseases are classified as hot or cold, the actions and uses of different drugs are classified accordingly. The heating drugs must be gathered during the daytime in summer, when the weather is hot, and must be prepared by the aid of fire, either by frying or boiling. The cooling drugs must be gathered at night, during winter, and then soaked in water. Some of the medicines that are commonly used are ginseng, gentian, chrysanthemum, dog's testicles, cockroaches, sulphur, orange bark, dragon's bones, almonds, rhubarb, mercury, deer's horns, spiders, urine, milk. Medicine is usually prescribed in the form of decoctions. Nevertheless pills, powders, and other forms are also used. Chinese doctors study the pulse from a book entitled *Eighty-one Difficulties*. In forming a diagnosis of disease, they must always feel the pulse of both wrists, which takes about ten minutes for each side. When it is very difficult to make a diagnosis, they will feel a pulse for several hours or even a whole day. Sometimes both patient and doctor fall asleep during the process. It is believed that some expert diagnosticians can tell all the diseases a patient has suffered from throughout his whole life. Dr. Tee Han Kee says the conservative spirit of the people, the respect for traditions, the reverence for the authority of the ancients and for what has been written, their disbelief in things that are strange, are the greatest obstacles to the advance of modern science. Yet in time, by patient demonstration and by multiplied proofs, the old fancies and the old superstitions will be abolished. At the present time modern medicine is slowly, but surely, forcing its way among the Chinese in Manila, and especially in many seaport towns of China, where European dispensaries are rapidly taking the place of Chinese drug stores.

SPECIAL CORRESPONDENCE.

PARIS.

Tuberculosis Conflicts.—Paratyphoid Fevers.—Acute Post-operative Dilatation of the Stomach.—New Medical Journals.

The medical profession in France—in Paris more particularly—has been deeply interested and stirred by the great International Congress of Tuberculosis. While awaiting the first flasks of elixir, $x+y$, which are to be supplied to them by Germany, French physicians are showing a practical interest in the fight against tuberculosis by means less mysterious, if not, alas! more efficacious. Even the professors, abandoning for the moment the higher speculations of transcendental science, are studying the scourge as a social evil, and we are on the rising wave of an anti-tuberculous socialism which is, it will be admitted, a happy way of playing at politics. That there is not complete accord as to the ways and means by which the object in view is to be realized may be judged from what follows: Some wish to devote every penny available to the German system of sanatoriums, others pin their faith to the English method of hygienic reform by the improvement of housing; others, again, believe that the French method is not altogether to be despised. Professor Grancher, founding himself upon Pasteur's original conception of how to combat the infection which decimates mankind, has declared that the most urgent step is to save the stock, and asks that all our efforts should be directed to the isolation of the child, who ought to be taken out of tuberculous families, and brought up in the open air. *Adhuc sub judice lis est*, and the microbe awaits patiently to be treated *à l'Américaine* at the next international congress in 1908.

If the reputation of the bacillus of Koch still remains high, that of the bacillus of Eberth is at the present moment under a cloud. The researches of Professor Netter compel us to recognize that it is very easy to appear to have typhoid fever and nevertheless not to have it. The duration of the illness may be very much the same, but the depression is much less, the abdomen is less distended, and the temperature less continuous, showing great oscillations. The physician hesitates at first between the diagnosis of typhoid, of tuberculosis and of influenza, but finally accepts that of typhoid fever. When, however, he seeks to confirm it by sero-diagnosis the agglutination test fails with the bacillus of Eberth, but is found well marked with cultivations of allied organisms such as the paratyphoid bacillus, alpha, beta, gamma, or delta, to the colon bacillus of different degrees of virulence, or to the bacillus of Gaertner. These paratyphoid affections, the recognition of which we owe to Professor Netter, are characterized by an irregular course, with two or three distinct febrile periods; after the first fall of temperature there is a relapse, but the whole attack is not serious, and though the patient relapse more than once, he is never in any serious danger, for the initial disease is much more benign than its dangerous prototype.

But if medicine has presented us with new diseases, surgery will not consent to be behind its rival, and the leading laparotomists are telling us about a new complication, "acute post-operative dilatation of the stomach." Certain patients a few days after an operation on the abdomen pass into a serious condition characterized by alarming distension of the

stomach, with dyspnoea and signs of syncope. Whether this be always due to septicaemia or commencing peritonitis, as MM. Routier and Walther maintain, or whether it be due to a peculiar nervous condition with hyperchlorhydria, paving the way to a kind of shock of the solar plexus, as MM. Leguen and Reynier believe, it is consoling to be able to state that the condition can be relieved, often very quickly, by repeatedly washing out the stomach, using on each occasion 1 or 2 litres of liquid. This treatment, however, has seemed too simple to some surgeons who have proposed to perform gastro-enterostomy in place of trusting to the simple soothing injections.

For some time past the students of several of the French faculties have protested against the encroachments made on the short period of medical study by theoretical courses, which they declare to be too numerous and too long. At the present day, as in the past, they desire before everything to acquire the elements of the practical medicine which they will find it necessary to exercise every day when they undertake the duties of a doctor of medicine, whether in a town or in the country. In conformity with the law of supply and demand, these aspirations have led to the appearance of publications, all inspired with the most admirable intentions with regard to practical matters. The great provincial medical and surgical schools of Lyons, Bordeaux, Lille, Nancy, and Toulouse have united their clinical resources to found a provincial clinical journal. The capital desiring as always to prove its superiority to the provinces, is founding at one and the same time two new journals. One, which has just made its appearance, is called *Le Médecin Praticien*, and the other, which is to make its bow to the public within a few days, is, if my information be correct, to be called *La Clinique*. If, after this, French practitioners do not become clinicians, and if the clinicians do not become practitioners, it will be time to despair of the future of medicine in France.

MANCHESTER.

Royal Infirmary.—Death from Burning: Once More Flannelette.—Hospital Sunday and Saturday Funds: Decrease of Contributions.—Appeal against Rateable Value of Crossley Sanatorium.—Low Death rate at Levenshulme.—Hospital Amalgamation.—The Dental School and its Hospital.—Provision for Examination of the Eyes of School Children.—Southport and its Infant Mortality.—Proposed New Ear Hospital.

AT a meeting of the Board of Management of the Royal Infirmary held on November 27th, it was stated that there were about 400 workmen engaged on the new building, and that the progress was satisfactory. The new building will be lighted by electricity. The Committee have decided not to generate their own electricity, but to arrange terms with the Corporation. At the same meeting it was announced that £1,000 had been received under the will of the late Mrs. Hannah Beswick, of Stamford Road, Mossley, and also a donation of £50 from the Satterfield Convalescent Charity. The Chairman called the attention of the Board to the very large number of deaths that now occurred from the use of flannelette, especially in garments for children. The experience of the officials of the infirmary tended to show that a very large number of the burning cases which came there arose from the use of this article for the clothing of children.

Cognate to the remarks of the Chairman of the Infirmary Board are those of the City Coroner, made on November 27th, as to the number of deaths from burning that he was called upon to investigate. He said that in ninety-nine out of every hundred cases there were the same three features: No fire-guard, children left alone, and flannelette clothing. In spite of all his endeavours to educate parents and to warn them of these dangers, he said it was enough to make one feel heart-sick to find that parents did not take the precaution of avoiding the dangers of fire.

At the annual meeting of the Saturday and Sunday Funds which was held on November 27th it was stated that the Hospital Sunday Fund reached £3,539, a decrease of £87, and the Hospital Saturday Fund £4,328, a decrease of £13 as compared with last year. The amount distributed was £7,500, the same as last year. The Lord Mayor said he thought that a city like Manchester should contribute more than £8,000. He thought the Fund did not receive from the employers of labour that personal interest which it ought to receive, and would if received make it successful.

A successful appeal was made at the Eddesbury Petty Sessions against the assessment levied on the Crossley Sanatorium for Consumptives at Delamere by the Runcorn Union Assessment Committee. The sum fixed of net rateable value was £1,050. The sanatorium cost £50,000, and was built for charitable purposes, with accommodation for 90 patients. It was contended that the rateable value should be fixed according to the number of beds. Evidence from a number of hospitals was given which showed that the rating of them worked out at 30s. per bed. The trustees would be satisfied if the rate were £3 per bed. To work the hospital it requires an annual sum of £7,000. In the end the magistrates decided to reduce the gross assessment from £1,200 to £586.

The Medical Officer of Health for Levenshulme, in his monthly report, states that the death-rate for the past month reached the remarkably low level of 4·36 per 1,000 of the population, as against 10·83 last year.

The Treasurer of the St. Mary's Hospitals has received £500 to help to meet the excess of current expenditure over income from a Manchester gentleman, who is an old friend of the hospitals and a well-wisher of the amalgamation—that is, the amalgamation of St. Mary's and the Southern Hospital.

The annual meeting for the distribution of prizes to successful students at the Dental School of the University and the Victoria Dental Hospital was held on December 1st. It was stated that the authorities of the hospital had received notice to quit their present premises. An effort is to be made to raise £12,000 to build and equip a thoroughly new and modern hospital, which is urgently required. The annual report states that the number of dental students is at present thirty-five, as against thirty last year. Sixteen students have passed the final examination during the year.

The Rochdale Education Committee has taken a wise step in appointing an eye surgeon to test and report on those children in their schools where eyesight is defective. Dr. Menzies has been appointed to the post, and he will report upon the eyesight of scholars referred to him by the Medical Officer of the Committee, Dr. Jefferson.

The Health Committee of the Southport Town Council recommend to the Council to grant £50 a year for a special nurse to instruct the poorer parents of the borough in the feeding and rearing of babies, with a view to reduce the infant mortality of the town. Last year the death-rate among infants was 134 per 1,000, while the average for the past ten years has been 145 per 1,000, and all this in a town so pleasantly situated as Southport, and one which is regarded as a model health resort.

The Committee of the Manchester Ear Hospital has issued a preliminary appeal for funds with which to build a hospital on a site near the new infirmary. The amount required for land and a hospital with twenty-four beds is estimated at about £15,000.

BIRMINGHAM.

Instruction of Medical Students.—Anthrax at Selly Oak.—Pharmaceutical Conference in Birmingham.—Enteric Fever in the Potteries.—North Staffordshire Infirmary.—Dudley Guest Hospital.

THE practices of the General and Queen's Hospitals are open to students of the University for the purpose of clinical teaching. The medical students, at the time of commencing their hospital work, are allocated in equal numbers to these two hospitals respectively. A student remains for a year at one hospital, acting as clerk or dresser, and then in the next year passes on to the other, and so on until his fifth year, when he can attend at both hospitals. The total number of beds at the two hospitals is 450, and during the past year there have been about 7,500 in-patients and 90,000 out-patients, so that there is plenty of clinical material. Clinical lectures in medicine, surgery, and gynaecology are delivered every week at the hospitals during the winter and summer sessions, and there are also tutorial classes in these subjects, both for senior and junior students. They are also obliged to attend *post-mortem* examinations, and demonstrations on morbid specimens are given once a week by the pathologists. Besides these, there are classes in all the special departments and in anaesthetics. The dental students also attend classes at the two hospitals on medicine and surgery. All the clinical work is performed at the hospitals in the mornings, and in the afternoons lectures and classes are held at the University.

At King's Heath Police-court a farm bailiff of Selly Oak was summoned and fined £2, and his employer £10 and costs, for

the very serious offence of having a heifer suffering from anthrax in his charge and taking its carcass into the Birmingham market. On November 13th the bailiff found the heifer ill, and on the following day it became much worse. He gave the animal a draught, and it died almost immediately afterwards. He then bled it, and told the owner what he had done. Thereupon the owner had it taken to the Birmingham market. The meat examiner found evidences of anthrax and condemned it. The hide was traced and also the intestine, which, together with the carcass, were burnt. In 1903 the Board of Agriculture issued leaflets minutely describing the symptoms and the dangers of anthrax, and these leaflets the owner among others had received. The owner and bailiff pleaded ignorance.

After an interval of twenty years the Conference of the Pharmaceutical Society of Great Britain is to be held at Birmingham. Mr. Thomas Barclay, J.P., presided last week over a large meeting of representatives from all parts of the Midland counties to make preliminary arrangements. It was decided that the Conference should take place at the University during the week beginning July 23rd, 1906. The Lord Mayor will give a reception on the first day, and other entertainments will be arranged. The Secretary of the University has kindly undertaken to make the necessary arrangements. Mr. Barclay was appointed President of the local Committee; Mr. Charles Thompson, Honorary Secretary; Mr. James Bradford and Mr. A. W. Southall, Assistant Secretaries; and Mr. J. Poole, Treasurer. At the last conference of the Pharmaceutical Society, held in Birmingham in 1886, Mr. Barclay and Mr. Thompson acted in similar capacities.

The question of dealing with enteric fever cases has again come before the Joint Hospital Board of Hanley, Stoke, Fenton, and Longton. The Local Government Board stated that reserving the hospital for scarlet fever and diphtheria, to the exclusion of enteric fever, was not making the best use of their accommodation. They wished the Joint Hospital Board not to make any further building extensions, but to use their existing wards. The cases of enteric fever during the last five years numbered about 800, and nearly a quarter of the patients died, chiefly from want of proper nursing and feeding. The Local Government Board therefore suggested that one of the present wards, holding 24 beds, should be used for enteric cases, and were of opinion that there would still be sufficient accommodation for the scarlet fever cases. These recommendations were adopted, and will be put into execution at the beginning of the financial year.

At the annual meeting of the North Staffordshire Infirmary the financial report showed an income of £11,661, which is a a decrease of £936 as compared with last year. The expenditure amounted to £11 932, which is a decrease of £32. The number of patients admitted during the year was 2 201, an increase of 299; the number of out-patients was 13 524 and casualties 919. The Hospital Saturday Fund was considerably less this year, and this is the chief cause of the serious falling off in the income. The open-air ward for consumption has been in constant use and is of great benefit. The Duke of Sutherland was re-elected Patron, and Dr. Folker was elected President in the place of Mr. T. Bullock, who died during the year. This is the first time that a medical man has been elected to the office of President. A special department for the treatment of diseases of the eye was suggested. The nurses' home is now in full working order. The debt on the institution is now £4,832, of which £500 has been added in 1905.

At the thirty-fourth annual meeting of the supporters of the Dudley Guest Hospital the income was stated to be £3 539, as compared with £3,388 in the previous year. The private subscriptions showed a considerable increase, and this has been due to the efforts of the ladies' committee founded by the Mayoress of Dudley. The workmen's contributions showed a decrease, being £794 as against £850 of last year. The average daily number of beds has been 75. The cases treated as in-patients have been 829, and 349 surgical operations have been performed. The question of funds is a very difficult one, particularly in the new eye department, which is overwhelmed by would-be patients.

LEEDS.

Surgical Appointments.—The Public Dispensary.

In consequence of the promotion of Mr. Littlewood to the Chair of Surgery in the University a vacancy arose in the post of Lecturer in Practical and Operative Surgery. It was decided to make two appointments, and Mr. R. Lawford Knaggs, M.A., M.D., C.M.Cantab., F.R.C.S., has been appointed to the Lectureship in Practical Surgery, and Mr. Walter Thompson, F.R.C.S., to the position of Lecturer in Operative Surgery. To the position of Honorary Demonstrator of Surgical Pathology rendered vacant by Mr. Knaggs's appointment the Council has appointed Mr. Harold Collinson, M.B., B.S.Lond., F.R.C.S., while a new post of Honorary Demonstrator in connexion with the class of Surgery has been filled by the appointment of Mr. Joseph F. Dobson, M.S.Lond., F.R.C.S.

A meeting of the trustees of the Leeds Public Dispensary was recently held at the new buildings in North Street for the purpose of making certain alterations in the rules which have been rendered necessary by the completion of an arrangement entered into by the Board of the public dispensary on the one hand and the Board of the recently-instituted Leeds Southern Dispensary on the other, whereby the latter is taken over by the older institution, and will be known in future as the Southern Branch of the Leeds Public Dispensary. For many years it has been the desire of the Board of Management that the special benefits of the charity—those, namely, which consist in the visiting in their own homes of the poorer classes who are not attended under the Poor Law—should be exercised over a larger area of that part of the city which lies south of the river. A small area has participated in these benefits, and it has been financial considerations only which have made the Board hesitate to enter on extensions. When, however, a second dispensary was started, it was felt by many that the work could be more efficiently and more economically carried out under a scheme of amalgamation, which would do away with the overlapping which necessarily results from the existence of two separate institutions under distinct Boards of Management, and it is satisfactory to learn that the negotiations have been brought to a successful termination. The Board of the Leeds Public Dispensary, which already has on it some representatives of the employers of labour on the south side of the river, is to be strengthened by the addition of four new members identified in some way with the same part of the city. The management of the Southern Branch of the Dispensary will be in the hands of a subcommittee of the Board, consisting of the chairman and six members, including the four newly elected members, together with the honorary staff of the branch. The extension of the work will involve the inclusion and organization of the two new districts south of the river. To each district there will be appointed two honorary officers, one in charge of medical and one of surgical cases, and two new resident medical officers will be required, bringing up the total number of resident appointments at the dispensary to five. These two resident officers will in the first instance live at the central institution, but it is hoped that when funds permit more suitable and more conveniently situated premises may be obtained for the work of the branch, where the residents will be accommodated, and an ever-open door for accidents and emergencies be provided on the south side of the river, similar to that which already exists on the north side. It has also been arranged to elect to the central institution an honorary surgeon in charge of a department for diseases of the throat and nose. All these new honorary appointments, of which it will be seen that there are five, are to be made in accordance with the rules of the institution by the special committee for that purpose, which consists of the members of the Board of Management, supplemented by the Lord Mayor, the Vicar, and the stipendiary magistrate of Leeds for the time being.

BRISTOL.

The Hospital Sunday Fund.

The annual meeting of the Lord Mayor's Hospital Sunday Fund was held on November 27th in the Council House, the Lord Mayor presiding. The Honorary Secretary, in his report, called attention to the very satisfactory collection that was made in January last; nine places of worship took part, and the amount received was the largest since the fund was started eight years ago. The actual amount was £2,053 5s. 11d., bringing the total for eight years to over £12,000, a sum raised on as small expenditure for management as is possible with due efficiency. It was pointed out that the limit of places where collections could be made was nearly reached, and the continued success of the movement lay now with the clergy and ministers bringing before their congregations the needs of the medical institutions. The Report also referred to the warm interest the late Lord Mayor

took in the fund, and expressed the gratitude of the Council and of the institutions benefited.

The honorary treasurer gave details of how the fund had been distributed—namely, the Royal Infirmary £804, the General Hospital £675, the Children's Hospital £260, the Eye Hospital £120, and to the smaller institutions was allotted £170. Expenses came to £85, and a balance of £31 was carried forward to next year. The usual votes of thanks were proposed and carried, and in place of the honorary secretary, Dr. Bertram Rogers, who did not seek reappointment, Mr. Mortimer Harley was appointed. The collection in 1906 will be held on January 28th.

SOUTH WALES.

St. John Ambulance Work—Pontardulais Water Supply. Proposed Asylum for Swansea.

Dr. Cureton, Assistant Commissioner in charge of No. 7 Welsh District, St. John Ambulance Brigade, writing from Shrewsbury on the work of the St. John Ambulance Society in Monmouthshire says that the movement is rapidly gaining ground in Wales, and that divisions are springing up where they are sorely needed; that the colliery medical officers are ever ready and willing to do their part in this splendid work, and deserve the grateful thanks of the community at large. He had recently visited a part of Wales with 3,000 colliers, but only 70 had first aid certificates. With the co-operation of the colliery surgeon, two divisions have been formed, and five first-aid classes are at present in formation. He adds that if application is made to him, every assistance will be given to form divisions of the brigade. Dr. Stewart (Bridgend) and Dr. Arnallt Jones (Aberavon, Port Talbot) are also prepared to afford immediate information.

A meeting of ratepayers was held at Pontardulais on November 29th to discuss the district council's proposed water scheme for the parish. It was decided to appoint a Committee to consider the question of supplying Gorseinon with water from the Cray, and Pontardulais from the Llygad Llewpur, and to report to a future parish meeting.

The Swansea Asylums Subcommittee on December 1st decided to recommend that a site for the new asylum, consisting of about fifty acres, be secured on May Hill, above the Swansea Workhouse. The General Purposes Committee had previously recommended amalgamation with the Brecon and Radnor Asylum.

CORRESPONDENCE.

THE ROYAL COMMISSION ON THE POOR LAWS.

Sir,—I regret to observe that the representations made by the Medico-Political Committee, on behalf of the Association, to the First Lord of the Treasury, suggesting the appointment on the Royal Commission of a medical man in general practice, and of a Poor-law medical officer, has in neither case been acceded to.

It is difficult to understand how the Royal Commission can be effectively constituted without such members, and, indeed, I doubt whether it will be worth while, under the circumstances, to tender medical evidence before it. I cannot but think that the omission is one which the profession should strain every nerve to rectify, and I hope that the Medico-Political Committee will lose no time in making a strong representation to the new Government on the subject. It is possible that the latter, when formed, will see things differently from its predecessor. But in any case, such a deplorable public mistake should not be allowed to pass without at least a formal protest to the proper authorities and communicated to the public press.—I am, etc.,

London, N.W., Dec. 4th. F. R. Humphreys.

REPRESENTATION OF UNIVERSITIES ON THE GENERAL MEDICAL COUNCIL.

Sir,—Your leader in the British Medical Journal of December 2nd does not represent my position in respect of the Sheffield University Bill quite correctly. This is due to the fact that the discussion on the question was held *in camera*. The attitude I adopted was that the privilege of sending a representative to the General Medical Council should have been sought for in accordance with the provisions of the Act of 1886, as stated in your article, and that it was not desirable that the general provisions of that Act should be overridden by a private Bill. My objection to the special case of Sheffield University was that it had no graduates, and therefore had no constituency to be represented. I accordingly put down an amendment to the effect that the clause in the Bill granting a representative on the General Medical Council should be omitted. My reasons for not pushing the amendment were—first, that I could not find a single member who took any interest in the matter—not even a medical member—and therefore had I spoken I should not have had a seconder. Secondly, the Bill came on at 9 o'clock, taking precedence of an Irish Bill. It is certain that had I spoken for a quarter of an hour or twenty minutes—barely enough time to present the position to the House—a motion for the adjournment of the debate would have been moved from the Irish benches, which would certainly have been carried, and the Sheffield University Bill would have been wrecked. I do not think any one would have desired that I should have undertaken the serious responsibility of bringing this about. I therefore did not move.

I may be allowed to add that this event, along with other circumstances unnecessary to detail here, changed my views materially as to direct representation. I felt that the representation of a single body without (so to speak) a constituency destroyed the balance established by the Medical Act of 1886, and that, if only on the ground of equity, further direct representation was desirable.—I am, etc.,

Edinburgh, Dec. 3rd. John Batty Tuke.

THE BRITISH MEDICAL ASSOCIATION AND CONTRACT PRACTICE.

Sir,—Before the Association gives its sanction irrevocably to contract, as against private, practice may I point out that:

1. The relief of the sick poor is, quite as much as the question of unemployment, a State affair.

2. The British Medical Association, being a private corporation, is not required to undertake State work, though, doubtless, the State will not object.

3. Contract practice, as intended by its founders, does not relieve the sick poor, and so fails in its object.

4. It does not promote the best interests of our profession, and is disliked by both private and club practitioners.

The British Medical Association scheme assumes that all the medical men in a district will fall in with it—any way, it hopes so—that they will cease to hold separate appointments and private clubs. It proposes to tie down medical practice to five shillings a year, for simple or complicated cases, to include women and children with their manifold and often tedious ailments. It proposes adequate remuneration for medical officers and representation on the governing bodies, yet it recognizes appointments by non-medical bodies. It does not insist on complete control. How will the profession exercise complete control whilst cheap physic institutions remain, and medical men, who are not members of the British Medical Association, will still be available to undertake their work?

The scheme proposes to perpetuate contract practice and to throw the weight of influence of the Association on the side of the cheapest, not the best, work a medical man can perform. The State has machinery to hand which only requires extension and improvement, but the Association proposes to run a rival "show," not for the benefit of those who need it, but for those who can afford to pay for it. These are not the "sick poor."

The scheme proposes to establish a monopoly in the interest of members of Friendly Societies and clubs, since no one can benefit who is not a member.

These societies, which advertise as their great attraction cheap medical attendance—a sort of commercial commodity—resent the imputation of charity. They fix a minimum wage limit for membership, so that the artisan, shopkeeper, farmer, and other well-to-do classes may benefit, but the poor labourers, industrial and agricultural, who work under these people, are debarred on account of their poverty. The clubs will not have them. The members of these societies, if not satisfied with their club doctor, can, and often do, afford to employ another medical man, and when required most of them can find a consultant's fee. Many of them draw more money in sick pay than they get in wages. Hence they can afford to engage two doctors, and we find that one man's club patient is another man's private patient.

If club members can afford this they can afford to pay the ordinary rates of private practice. There was a time when the doctor bled the patient; now the patient bleeds the doctor. The British Medical Association scheme proposes

to perpetuate this sort of thing in the interest of the "sick poor," but there is no provision for the really needy. There is no security for the man who buys or starts a practice from unfair competition. It will alienate a considerable body of practitioners who object to contract practice: it will not help those who wish themselves out of it, nor will it attract outsiders into our Association.

The scheme will, as in the past, drive men who object to sacrifice their independence into the ranks of the sixpenny doctor and private club practitioner. It will do nothing to remedy the inequalities in our professional reputation with the public, nor does it guarantee satisfactory remuneration.

May I suggest that, in the interest of the suffering poor, the British Medical Association should urge the duty of the State to provide advice and medicine free for any one, however poor or unfortunate, in town or country, free from disabilities or the stigma of pauperism? This can be done through the local authorities, who can be trusted to exercise the wage and class limit.

I would suggest that the burden of medical relief should be moved from the shoulders of the medical profession on to the rates. We as a profession could afford any small increase of rates if private practice were properly safeguarded.

The British Medical Association should stand by private, not contract, practice in the interest of all our members. It should fix a minimum rate of remuneration for private practice. The weekly-payment system renders payment of accounts easy for the poorer classes. Cease to recognize any societies as responsible for the treatment of members. Insist on the right of doctor and patient to deal direct.—I am, etc.,

West Gorton, Nov. 22nd. J. D. WILLIS.

MEDICAL LAW REFORM.

SIR,—The Medical Acts are pronounced by a judge of the High Court to be "in a state of fog," and the trial of Bridgwater and his confederates, upon which you comment in the BRITISH MEDICAL JOURNAL of December 2nd, proves once more the correctness of the description. In the present state of the law it is impossible to prevent unqualified quacks from assuming titles, or from conducting "medical institutions," or from adopting other methods which lead the public to take them for authorized medical men. The exposure of the internal economy of the "Progressive Medical Alliance," which took place during the recent trial, showed clearly the scope for nefarious enterprises which the law allows to the medical impostor; and it must be borne in mind that not the slightest reference was made to infringement of medical law, and that the prosecution was due solely to the fact that the "medical alliance" had been used as a cloak to conceal the schemes of Bridgwater and the men associated with him. It is possible the judge was aware of the history of Bridgwater, but it is questionable whether the jury had any doubt about his claim to membership of the medical profession, and it is certain that the public is completely ignorant with regard to every legal phase of the matter; and I venture to affirm that not more than 5 per cent. of members of Parliament possess any greater knowledge of the subject than the average plain citizen. My own knowledge is based upon experience during the years occupied in promotion of the Dentists' Act, and I am certain no one with wider experience will dispute my main statements.

If reform of the penal clauses of Medical Acts is to be worked for, it must be fully recognized that the protection of the profession has never been—it is certain never to become—the prime object of the Legislature. The object has always been first, if not solely, the protection of the public. The prevention of practice for gain by unqualified persons has never been seriously proposed and is certain never to be seriously entertained by Parliament. The chief aim of legislation as set out in Medical Acts has been to enable the public to distinguish between qualified and unqualified practitioners. It is in this regard that medical law is a failure, and it is in this direction that it most urgently needs amendment. To obtain this amendment it will be first necessary to bring home the facts to the minds of practical statesmen if not to the minds of the people, and to break down the opposition which will certainly be aroused in the loud-voiced, and therefore unfortunately influential, parties who on various grounds rank among the enemies of the medical profession and of the true scientific progress with which it is identified. Demands for reform by the profession are invariable ascribed by these people to mere trades-union motives—selfish and sordid aims. The parties include the antivaccinationists and the antivivisectionists. They are powerfully represented in the press, both metropolitan and provincial. Among London papers the *Daily News* and the *Star* are constantly engaged, directly or indirectly, in depreciating medical science and disparaging the profession.

Further, it must not be forgotten that, not even excepting the *Times*, which until lately denounced quackery and refused quack advertisements, the whole press gains a large percentage of its income from quack advertisements. It is not to be expected that the proprietors of these papers and periodicals—and it is they who have the power to call the editorial tune—will take part eagerly in exposing the infamy of quackery, and so oblige themselves to cease from making money by abetting those denounced by the *Times* only a short time ago as "the worst class of swindlers and impostors parasitic upon modern civilization." For successful promotion of a new Act of Parliament dealing with quackery it will be necessary to prove to the satisfaction of law-makers that the evils complained of are hurtful to the public; and it is to this that reformers of medical law ought seriously to devote themselves. It would be easy to prove that quackery forms a potent factor in deterioration of the public health, and that, on the other hand, it constitutes a source of pecuniary profit to legitimate practitioners. There exist large classes of invalids whose ailments are either entirely manufactured, or aggravated by quackery; and of these the vast majority gravitate sooner or later into the hands of qualified men, and thus money which would not otherwise be earned is put into the pocket of the profession. Any number of cases exposed in the Law Courts within late years are available in proof of the facts; and it would be the easiest possible task—it has already been done in the JOURNAL—to demonstrate the fraudulent and harmful character of the trade in quack medicines of every variety. It will be useless to ask for new legislation until the facts I have referred to have been acknowledged by those who make our laws; and the only way to gain this acknowledgement lies through the medium of a Parliamentary commission. Such a commission can call witnesses, can examine them on oath, and leave them free from penalties for statements alleged to be libellous. Similar commissions in questions of much less importance have been appointed in late years. If the profession would combine in a demand for such an inquiry, they ought in the end to succeed: but without preliminary enlightenment of public and Parliamentary opinion there exists not the remotest chance of amendment of the law, even if a proposed new Act be supported by the united voice of the entire profession—30 000 practitioners.—I am, etc.,

London, W., Dec. 2nd. HENRY SEWILL.

GENERAL PARALYSIS OF THE INSANE AND DIPHTHEROID INFECTION.

SIR,—My attention has been drawn to a letter by Dr. Ford Robertson which appeared in the BRITISH MEDICAL JOURNAL of November 25th under the above heading, and with reference thereto I should be glad of the opportunity of stating:

1. That "the facts hitherto observed" were not only ascertained at first hand from the, at that time, published records, but were supplemented by "first hand" verbal communications by Dr. Robertson to my collaborator, Dr. Flashman, even during the course of our observations. My ignorance of Dr. Robertson's latest contribution is to be attributed to the fact that I am unable to obtain the *Review of Neurology and Psychiatry* at either the British Medical Association or the College of Surgeons' libraries. Moreover, it is hardly necessary to point out that *diphtheroid* organisms are fairly common saprophytes on and about the genitalia (also in the conjunctival sac) of both males and females—sane as well as insane—nor are they unknown in the bladder in cystitis.

2. That in view of the probable channel of infection, it was impossible to neglect the throats of the living. In Dr. Robertson's cases diphtheroid bacilli were isolated from the tonsils and the pharynx after death in no less than 75 per cent.—and there is no reason for assuming that repeated examinations would have failed to detect the organisms in those situations *ante mortem*—truly a remarkable percentage incidence.

3. That the scope of the observations detailed by Dr. Flashman and myself is wider than the title of the paper indicates, for we include the results of the examination of material (including that from tonsils and pharynx) obtained *post mortem* from 10 cases of general paralysis of the insane, and of 26 cases of other forms of insanity. These results are

ignored by Dr. Robertson on the ground that his special methods of examination were disregarded. By this, I presume, he means that material was not obtained from inflamed and catarrhal areas in the intestinal canal. That such was the case was our misfortune. The intestinal canal, after removal from the cadaver, was invariably opened up and carefully searched from end to end for these areas upon which such stress is laid, but none were found in any of the 10 cases of general paralysis of the insane. (The details of the observations on this point will be published in connexion with the subject of typhoid in asylums.) Histological examination of the inflamed areas of the intestinal canal was similarly necessarily omitted.

4. That, despite Dr. Robertson, a comparison *can* be made between the results tabulated by him in 1903 of the study of *post-mortem* material and those obtained by Dr. Flashman and myself—for example:

Diphtheroid Organisms Isolated Post Mortem from Cases of G.P.I. from

	Drs. Roberston, McRae and Jeffrey.	Drs. Eyre and Flasnman.
Inflamed portion of ileum ...	5 cases out of 16	Not examined.
,, ,, caecum ...	Not examined	1 case out of 10.
,, ,, bile ...	Not examined	0 ,, ,, 9.
,, ,, stomach ...	7 cases out of 16	—
Tonsils and pharynx ...	9 ,, ,, 12	4 cases out of 7.
Bronchi	3 ,, ,, 5	3 ,, ,, 10.
Lung tissue	3 ,, ,, 6	
Heart blood	0 ,, ,, 2	1 ,, ,, 8.
Brain (? brain tissue) ...	4 ,, ,, 16	Not examined.
,, (cerebro-spinal fluid) ...	Not examined	0 case out of 9.
Total cases examined	20	10

Dr. Robertson considers all the diphtheroid organisms observed by him to be genuine diphtheria bacilli; Dr. Flashman and myself are satisfied that not one of those we isolated from *post-mortem* material was *B. diphtheriae*.

5. Finally, in view of the total dissimilarity of the *post-mortem* findings in the cases of general paralysis studied by Dr. Robertson and those observed by Dr. Flashman and myself, the possibility of a "local or asylum infection" affording a satisfactory explanation demands further consideration.

As Dr. Flashman left England long before our paper was read, and is now in Australia, the responsibility for the above remarks must be attributed solely to me.—I am, etc.,

London, S.E., Nov. 28th. JNO. EYRE.

CORONERS AND MEDICAL EVIDENCE.

SIR,—As the subject of medical evidence at inquests is of considerable importance, the following personal experience may be of interest. An imbecile infant, who had been attending at a children's hospital as an out-patient under my care, developed measles at home, having caught the infection from another member of the family, and died rather suddenly on the third day of the illness. A doctor was sent for, but on his arrival found the child dead, and consequently was unable to give a certificate. The mother then came to me, and, although I was unable to certify, I gave her a letter to the coroner for the Willesden district, who is also a medical man, informing him of the child's mental condition and physical debility. A reply came saying that the child had had undoubted measles, and that he (the coroner) thought I might justly certify. I sent off a certificate at once, which stated that the child had died of measles, and across the certificate I wrote "By authority of the coroner." The reply to this was that the certificate would not do, as nothing was said as to secondary causes of death, and that he could not excuse my attendance at the inquest, however inconvenient it might be.

Five days after the infant's death I made a *post-mortem* examination by order of the coroner, but failed to find any gross lesion to account for death. The inquest followed, and the parent gave a straightforward account of the last illness. I was asked to certify as to the cause of death from the *post-mortem* examination, and replied that I could not do so, as I had failed to discover any evident cause. The coroner then proceeded to characterize this as the most extraordinary statement he had ever heard, and said that I was deliberately refusing them information, that they could only return a verdict of "death, cause unknown," but that certainly he would refuse to pay me a fee, and that I could try to recover it by legal action if I pleased. Having fully demonstrated my profound ignorance to the jury, he next asked them if they wanted to put any questions to me. The jury took the matter in hand, and I was able to render it evident to their intelligence that a feeble child might be easily carried off in the early days of measles without there being any *post-mortem* evidence of the cause of death. They promptly returned a verdict of death from measles, which the coroner was compelled to accept notwithstanding his previous statements. As he already had a medical certificate to that effect in his pocket, and as no suspicious circumstances had ever been present, he may justly be charged with wasting our time and the ratepayers' money. The facts speak for themselves.—I am, etc.,

London, W., Nov. 27th. G. A. SUTHERLAND.

THE CAUSATION OF SOME OF THE CHIEF SYMPTOMS IN GRAVES'S DISEASE.

SIR,—Is it not the case that in Graves's disease the toxins produced by the thyroid gland act mainly upon the important vital centres in the medulla, and is it not chiefly from the medullary centres being affected that most of the important symptoms arise? If so, then enough emphasis is not placed upon this fact in the description given of this disease.

Is it not the case that the tachycardia is mainly due to toxins acting upon the medullary cardiac centres? Could the tachycardia be explained by saying the toxins stimulate unduly the cells of the cardio-motor centres or depress the cells of the cardio-inhibitory centres in the medulla or is there a combination of these two factors at work causing the tachycardia? The vaso-motor system is disturbed as seen by the throbbing lax walled vessels, low tension pulse, flushing of skin surfaces, and some of the eye symptoms, etc.

Can these symptoms be accounted for by saying the toxins unduly depress the cells of the vaso-constrictor centres or unduly stimulate the cells of the vaso-inhibitory centres in the medulla, or are the symptoms due to a combination of both these factors? In such a disease, where there is increased metabolism, we would also expect an increased respiration rate, but may not some of the increased respiration rate be due to stimulation of the respiratory centres?

May not likewise the attacks of apparently causeless vomiting and even the glycosuria and polyuria have a toxic medullary origin? It may be asked—If these important vital centres in the medulla are so affected, why do the nuclei of many important cranial nerves in the medulla escape? Could that not be explained by saying that the cells of these nuclei of important cranial nerves in the medulla are not of an automatic nature like the cells of the vital centres in the medulla, but are more under the control of higher centres in the brain?

The medulla is the first part of the nervous system which has a more specialized structure than the spinal cord, and does it not seem to be the case that these toxins have a more special affinity for its automatic vital centres than for centres of a higher type from a developmental point of view? Whether is the tremor that occurs in this disease of a spinal or cortical origin? If cortical, it would be difficult to explain how two cortical motor centres for the upper limbs in the motor areas should be picked out and the other motor areas be apparently unaffected in those cases at least where the tremor is confined to the upper extremities alone.

It has been noticed that the disease occurred quite suddenly as after a severe fright and in fact this is nearly the only reliable or correct etiological factor we do know. Does this not seem to indicate that some severe emotional excitement has in some way acted reflexly and perverted the internal secretion of the thyroid gland? We know the secretion of the mammary gland can be altered by fright, etc.

Does it not seem feasible enough that if the secretion be once perverted in that reflex manner that it would be very difficult to bring the secretion back to normal, and so if that is the case it would be easy enough to account for the difficulty there is in curing the malady.

Could not many of the sudden deaths which occur under the influence of chloroform in Graves's disease be accounted for by saying that these vital centres in the medulla which are already excessively stimulated or depressed are already sorely taxed and anything that would have a further tendency to stimulate or depress them would have a very powerful influence to completely annihilate their remaining vitality?

Could not the advantages of local anaesthesia in thyroidectomy be explained in this way?—I am, etc.,

Edinburgh, Nov. 29th. A. W. G. CLARK, M.B., C.M.

DR. THOMAS YOUNG.

SIR,—In his most interesting account of Dr. Thomas Young, in the BRITISH MEDICAL JOURNAL of December 2nd, Dr. W. Allen Sturge rather finds fault with me in reference to two points in an article on Sir Hans Sloane, in the JOURNAL of November 18th. First. The first thing is that I did not refer to Young in terms consonant with his great position; and, secondly, he objects to my saying that Young helped Champollion in the first deciphering of the Egyptian letters. May I say in reply (1) that my article was on Sir Hans Sloane, not on Thomas Young, and that in referring to a distinguished Irish Egyptologist, Hinks, who lived in the same town—Killyleagh—in which Sloane was born, I mentioned the interesting fact that his bust was to be erected in the Cairo Museum, and I added that, in addition to the statue of Champollion, it had also been arranged to erect a bust to perpetuate the memory of Young. I was speaking of Young simply from the point of view of his study of Egyptian inscriptions, and I really thought that in bringing out a new and hitherto unpublished fact which was so much to the credit of Young, instead of belittling him, I was doing something to demonstrate how much his pioneer Egyptian work was now appreciated. Had my article been on Dr. Thomas Young, "the founder of physiological optics," "Phenomenon Young," as he was styled at Cambridge, I would have referred to his work *On the Mechanism of the Eye*, where one will find probably the earliest description and measurement of astigmatism, his *Medical Literature*, his *Essay on the Cohesion of Fluids*, and his discovery of the law of the interference of light which contributed largely to the establishment of the undulatory theory of light (in strict parlance, Young was not, as is claimed by Dr. Sturge, "the discoverer of the undulating theory of light," for the originator of the wave theory was the Dutch physicist, Christian Huygens (the man who invented the pendulum clock in 1656), who wrote *Traité de la Lumière* in 1690, about a hundred years before Young's time—1773-1829. Newton did not adopt the hypothesis because of the difficulty about explaining the rectilinear propagation of light, and his authority postponed the general adoption of the theory. Young by his interference theory lent strong support to it, and the matter was finally settled by the French physicist, Augustin Jean Fresnel, who explained diffraction and straight-line propagation—but my theme was Sir Hans Sloane, not Dr. Thomas Young. (2) Dr. Sturge objects to my saying Young helped Champollion in the first deciphering of the Egyptian letters, and he represents Young as the man who made the first successful attempts at solving the problem of Egyptian hieroglyphics, not as an assistant to Champollion, but quite independently of the great Frenchman. Now, I beg to say that I never wrote, nor did I think, that Young was "assistant to Champollion." What I said, and what I again repeat, is that Young helped Champollion in the first deciphering of the Egyptian letters, and I am willing to take the very evidence put forward by Dr. Sturge—that is, the statement of Dr. Bridge quoted by him:

> There appears to be no doubt that Champollion was greatly *helped* by the publications and labours of Young, who had succeeded in grouping certain words in Demotic and in assigning accurate value to some of the hieroglyphic characters used in writing the names of the Greek rulers of Egypt.

The facts are that in 1821 Champollion published a work—*De l'Ecriture Hiératique des Anciens Egyptiens*—in which he wrote that the hieroglyphs were "signs of things and not of sounds." He changed his opinion in less than a year, and, applying Young's method, he made rapid progress, and in 1824 published his great work, *Précis du Système Hiéroglyphique*. Surely this shows how Young helped Champollion, although it has been said by Dr. C. H. Lees that the parallel but virtually independent investigations of the two scholars are elucidated by Renouf in the *Proceedings of the Society of Biblical Archaeology*.

I am in thorough agreement with Dr. Sturge as to the high position occupied by Dr. Thomas Young, whom we are both, I am sure, proud to reckon as a member of the medical profession, and whom I certainly would be the very last to belittle.—I am, etc.,

Belfast, Nov. 5th. JOHN W. BYERS.

THE OPERATIVE TREATMENT OF SIMPLE FRACTURES.

SIR,—In Mr. Lynn Thomas's letter in the BRITISH MEDICAL JOURNAL of December 2nd, p. 1495 he describes the "operative treatment of fractures which has been evolved by Dr. Lambotte of Antwerp." If Mr. Lynn Thomas will look at my paper on the prevention of shortening and other forms of mal-union after fracture, by the use of metal pins passed into the fragments subcutaneously, in the Medical Society's *Transactions* for 1893 pp. 181 to 187, he will see that Dr. Lambotte's method might have been "evolved" from methods described and practised by myself. In fact, at page 183, the use of special screws held in place by an external steel bar is quite plainly indicated. I possess such instruments, and have used them, but in the vast majority of cases, even in comminuted fractures of long bones, they are simply a complicated method of obtaining results which can be obtained as well, and more simply by my own L-shaped pins which involve no external wound more serious than two or more simple punctures.

Mr. Lynn Thomas also refers to large and powerful instruments used by Dr. Lambotte to bring broken bones into a straight line, and to keep them there. These indications can be fulfilled by the surgeon's hand moulding a broken limb placed in the extension frame, described by me in the *Clinical Journal* for January 28th and February 4th, 1903, or by the use or either Lorenz's or Schede's frames for extending the lower extremity, also in combination with moulding by the hands.

With regard to the fixation of broken bones "of which the fragments can be brought into the position of a scarf joint," riveting the fragments together with a simple pin or screw was originally recommended by Gaillard. It is apt to be defective for the following reasons:

1. The shaft of a long bone is more like a hollow pipe than a solid cylinder.
2. It is often broken spirally and split.

When, therefore, a hollow pipe like a long bone is broken, even if there is no comminution, either the screw or the nail is apt to be an imperfect instrument for uniting the fragments.

I have no hesitation in asserting that in the particular case of simple fracture of the femur in two places related by Mr. Lynn Thomas, in which an incision had been made on the outside of the thigh extending from the great trochanter to the outer tuberosity of the femur, as good a result in a shorter time could have been got by the use of my pins, and with no other wound than two, or, at most, four punctures.—I am, etc.,

London, W., Dec. 5th. C. B. KEETLEY.

SIR,—With regard to the phrases "systematically employed" and "uninterrupted success," I, as a reader of the BRITISH MEDICAL JOURNAL, am quite clear what Mr. Arbuthnot Lane means in his excellent article on the operative treatment of simple fractures published in the JOURNAL of November 18th. To quibble over such simple English is to me beyond comprehension. However, we have a right to doubt even the accuracy of a dictionary, although surely the words "systematic" and "uninterrupted," if used in surgical writings, speak for themselves.

Those of us who look back several years and compare modern surgery with past surgery, will be struck by the simplicity necessary for uninterrupted success, provided we are systematic. Just as the physician would use the same expressions to the student when examining the chest or the abdomen, so, I maintain, it is the duty of the surgeon to do likewise.

The adage, "Cleanliness is next to Godliness," is as true now as ever it was; and this in the hands of an anatomist with skill and ingenuity added must tend to uninterrupted success. I have no doubt whatsoever that others will agree with my brief analysis of the above expressions used by Mr. Arbuthnot Lane.

Were I not very much interested in the operative treatment of fractures in the insane I should not have encroached on the valuable space of this JOURNAL. But, as an article of mine, Fracture in the Insane, is shortly appearing in one of the medical weeklies, I feel I may be excused if I allude to the fact that I have myself made use of the same forcible phrases, "systematically employed" and "uninterrupted success." I beg to enclose my card.—I am, etc.,

December 5th. PSYCHOLOGIST.

POST-MORTEM MENINGEAL INFECTIONS.

SIR,—Dr. Bastian, in designating my two explanations of *post-mortem* microbic invasions as "conjectures," omitted to note that I offered the explanations as being the results of observation and experiment.

1. *The Direct Passage of Bacteria through the Tissues after Death.*—Hauser, in an extensive series of experiments on this subject,[1] injected cultures of organisms into the peritoneum of the human cadaver and demonstrated the rapid passage of bacteria into different organs. In the lower animals similar results were obtained. The rapidity of invasion of the tissues depended upon a variety of conditions, such as temperature, position of the body, etc.

2. *Agonal Invasion of the Blood and Lymph Stream by Organisms from the Alimentary Canal and Other Situations.*—This process is often called a "terminal infection," but the expression, "agonal invasion," is preferable for this *sub-mortem* spread of bacteria to the tissues; "terminal infection" may then be reserved for that condition of microbic action against which there is some reaction on the part of the patient, as shown by the presence of fever, local inflammatory changes, etc. Using the terms in this sense we should say that a terminal infection causes a patient's death, whereas the act of dying causes an agonal invasion. Of late a considerable amount of work has been done in connexion with blood cultivation during the few hours preceding death from various chronic diseases; these *sub-mortem* blood cultures have actually proved the fact of agonal invasion—a process which Dr. Bastian considers "very difficult positively to verify." I have myself on several occasions proved this fact. But I refer Dr. Bastian to an excellent paper by F. W. White in the *Journal of Experimental Medicine*, vol. iv.

An examination of Dr. Bastian's letter shows that the writer really admits the possibility of both the above processes. Process 1 is admitted provided the source of the organism is allowed to be "some adjacent nidus." But as no organ of the body is very far removed either from the skin, intestine, or other mucous surface, an adjacent nidus is always present. Process 2 is admitted provided death be prolonged or disease be present. I allow that it is difficult, ofttimes impossible, to say in any particular case which of the two processes is the more operative in the production of the *post-mortem* invasion of the body by bacteria. It is a conjecture which is as good as truth to say that if the act of dying be very brief, an agonal invasion is less likely to occur than if death be prolonged. Yet, even in sudden death the end result is the same—the organs remain sterile for a while, but, having lost their vital resistance, they yield to the ubiquitous germ at last; for in every sense, not only bacteriological, is not death the most chronic disease of all?

Of the origin of bacteria *de novo*, with which the greater part of Dr. Bastian's letter is concerned, I have nothing to say. I hope I have adduced good reasons for regarding such a hypothesis as quite unnecessary to explain the facts of *post-mortem* bacterial invasion.—I am, etc.,

London, W., Nov. 28th. THOMAS J. HORDER.

A PLEA FOR THE INVESTIGATION OF CATARRH.

SIR, One cannot practise long in this country without being convinced of the fact that the common cold, or "catarrh," is an infectious disease leading to a mortality greater than that of many of the well recognized fevers. That the subject has not received the attention and thought which it deserves is illustrated in an incidental manner by a remark of Sir Wm. Broadbent in the BRITISH MEDICAL JOURNAL of November 18th. He says: "In a common cold the sneezing and nasal flux are a reflex response to a surface chill." Does he mean that he accepts the popular theory of draughts and chills causing these catarrhs?

I am with those who look upon it as a definite and highly-infectious fever, with a definite incubation period, and a definite course, unfortunately often followed by more serious sequelae. As to infection, let me give you a recent experience of my own:

On November 13th I visited a patient with gastritis, inhaling her breath. She had at that time no sign of nasal catarrh, but at my next visit, some days after, she told me that she had developed it violently a few hours after my first visit. Forty-eight hours after breathing her breath I developed a violent cold and catarrh. A neighbour who went to see her suffered in the same way at the end of the same incubation period, and now has a sharp attack of bronchitis to follow. Her husband also developed it. Another patient whom I visited at an isolated farm developed the identical complaint forty-eight hours after my visit.

Were we speaking about scarlet fever, this would be considered fairly conclusive in the way of evidence of infection.

So much do I dread the consequences which often follow, especially in old people, that when I have a cold I usually defer my visits to such whilst the infectious period lasts. This, according to my observation, begins even before other symptoms develop, and lasts about three days.

If all infectious catarrhs could be isolated as we isolate scarlet fever, I quite believe that the effect would soon be seen in the mortality tables of the country. In old people bronchitis frequently follows directly upon it, and why not tuberculosis in the young? Its investigation opens a promising field for the enthusiastic young bacteriologists who have already done so much for us.—I am, etc.,

November 21st. G. P.

EPSOM COLLEGE.

SIR,—As Treasurer of the Royal Medical Foundation of Epsom College, may I ask for the assistance of your readers at a time when the efforts of the Council to carry on the good work of the institution are severely handicapped?

Owing to a breakdown in the drainage system, which was laid fifty years ago, a sum of over £6 000 has had to be spent in making everything perfectly sound, and this has only been managed by selling a part of our small general purposes fund.

In the face of grave difficulties, the numbers of pensioners and foundation scholars have not been allowed to sink below fifty of each class. These numbers have very inadequately met the urgent appeals for help, yet even these cannot be kept up unless more support is received. To reduce the number in either case would inflict untold misery.—I am, etc.,

C. HOLMAN, Treasurer.

26, Gloucester Place, Portman Square, London, W., Nov. 27th.

P.S.—Since writing the above letter I have received from a warm supporter of the College an offer of £200 if nine others will subscribe a similar amount to enable a payment which must be made of £2 000 to our drainage contractor in the first week of January. I can but hope.

THE INFLUENCE OF POSTURE ON THE NORMAL CARDIAC SOUNDS AND ON THE NORMAL CARDIAC DULLNESS.

SIR,—Dr. William Gordon, in a paper read before the Royal Medical and Chirurgical Society on November 14th, pointed out that he had observed a difference in the normal heart sounds which depended on posture, since "in the upright position the first sound was sharper, whilst the second sound was duller than in the recumbent position." This difference in the sounds Dr. Gordon considered "might be reasonably explained, at least in part, by the different relations of the valves to the weight of blood in contact with them in the different positions." "It was obvious," he remarked, "that when the second sound was produced a weight of blood was resting on the aortic and pulmonary valves if the person were erect, but that if he were recumbent no such weight rested on these valves." It is to me far from "obvious" that the weight of blood on these valves is increased in the upright position. The blood vessels form a closed system of full tubes, and the weight of the contents of returning vessels tends to balance the effects of gravity on the contents of outgoing ones. The aorta itself is a siphon, having the first part as the shorter arm, and the more upright a siphon is placed the more rapidly liquid flows from the shorter to the longer arm. The weight of liquid in the short arm of a siphon in action is not only nothing but less than nothing, in that it is flowing and pressing upwards instead of downwards. The recumbent or upright positions probably have, on the whole, very little influence on the weight of the blood upon the aortic and pulmonary valves, hydrostatic siphonage relieving the heart of any appreciable trouble on that account. If, however, the word *pressure* be substituted for the word "weight"—and the change is a very important one—it is quite likely that Dr. Gordon's explanation of the sound modifications to which he has called attention is the correct one. In the upright position the pressure on the aortic and pulmonary valves is distinctly increased. The erect position demands considerable muscular activity to maintain it, and an increased quantity of blood has in consequence to be sent to

[1] *Zeitsch. f. Heilk.*, xviii, 421.

both muscles and lungs. The heart has to augment the pressure in the aorta to effect this. It is this increased pressure due to work the valves have to support, and not an increased weight of blood due to position.

I trust I may not be considered quibbling in pointing out this essential difference which appears to have been overlooked in the discussion on Dr. Gordon's paper.—I am, etc.,

Mentone, Nov. 27th. D. W. Samways.

OBITUARY.

HENRY ISAAC FOTHERBY, M.D.Lond.

Dr. Fotherby was born at Louth, Lincolnshire, in 1822, and was educated at the Priory School in that town. He came up to London at the early age of 15, travelling all night by coach, and arriving on the morning of January 1st, 1838. He served his apprenticeship with his uncle Mr. William Graves, a surgeon in Great Alie Street, who had a large practice in the East End. While working hard in his uncle's surgery, he matriculated at the University of London, and began his studies at Guy's Hospital in 1841, taking the diploma of M.R.C.S. in 1847. His teachers were Dr. Addison, Mr. Aston Key, and Mr. Edward Cock, and he was closely associated in his student days with Mr. Cooper Forster and his lifelong friend Dr. Braxton Hicks; the three took the degree of M.B. together in 1847. Fotherby also read with the late Sir William Gull, who at that time held the office of House-Physician; with him Dr. Fotherby always maintained the most cordial intimacy. He entered into partnership with his uncle at Trinity Square, Tower Hill, and in 1857 he married his cousin, a daughter of the late Henry Ewen, F.R.C.S., of Long Sutton, Lincolnshire, a fine specimen of a country surgeon, a shrewd, able, and skilful practitioner, an accomplished botanist, and so zealous that he learnt to use the ophthalmoscope only a few years before his death. Fotherby's happy union was very brief, for after four years his wife passed away, leaving one son, Henry Arthur, also educated at Guy's Hospital, and now in practice at Headcorn, Kent.

Dr. Fotherby became a well-known practitioner at the East End, and was allowed to pass by day or night through streets which were unsafe for any one else. He had many patients in the Tower of London, and had the pass word given him every night during the epidemic of cholera in 1858. In 1866 he married the daughter of the late Charles F. Engström, British Consul at Gottenburg, Sweden, with whom he lived nearly forty years of domestic happiness. His widow and daughter survive to mourn his loss.

In 1867 he took the degree of M.D.Lond., and in 1870 moved to Finsbury Square, where he henceforth practised as a Member of the College of Physicians. He was for many years physician to the Metropolitan Hospital in Devonshire Square, now rebuilt in the Kingsland Road, and retained the post of Consulting Physician until his death. This threw him into contact with many Jewish patients, by whom he was universally beloved and respected, and they elected him Physician to several of their societies.

His work for the Hunterian Society, which he joined in 1854, was a very important feature in his life. He became Secretary in 1857, and infused much of the energy of his own character into its work. In 1869, on the jubilee of the Society, he, as Vice-President, gave the annual oration on the Rise, Progress, and Influence of the Society. He became Treasurer and Trustee in 1872, President in 1876, and continued his Treasurership till 1887 and his Trusteeship till 1903, when failing health compelled him to resign.

He was a member of the Pathological Society and Fellow of the Geological Society. For many years and until the last he was closely connected with the London Institution and a constant attendant at the Board of Management, beloved and respected by all his colleagues. He was a lover of the old City of London, a Member and Past-Master of the Fruiterers' Company, where he initiated much practical work for the furtherance of fruit culture in England.

In 1888 he retired from practice to his home at Reigate, where his love for his garden gave him many hours of interest and enjoyment. He was able almost to the last to visit the London Institution and continued a wide range of general reading, besides keeping up with everything connected with his beloved profession. His devotion to his native county of Lincoln was an absorbing passion, and to the last he loved to read and talk about the old scenes and the history of the county.

Surrounded by faithful friends, his last years were peaceful and happy. While a faithful member of the Church of England, all Christian work, whether philanthropic or missionary, had his sympathy and help.

In November, 1902, he had a slight stroke of paralysis, and although he made a good recovery he never regained his former strength. A sudden attack of pneumonia spared him the "cold gradations of decay," and put an end to his long, useful, and honourable life on November 18th.

JOHN AUGUSTUS TATAM CARTWRIGHT, M.R.C.S.Eng., L.S.A.Lond

We regret to record the death of Dr. John A. T. Cartwright, which took place at Leintwardine, Herefordshire, on November 17th. He received his medical education at St. Bartholomew's Hospital, and obtained the diploma of M.R.C.S. in 1871, taking that of L.S.A. in the following year. After filling the post of Resident-Surgeon at the Salop Infirmary, Dr. Cartwright succeeded to a large general practice at Leintwardine at the early age of 23, and for thirty-six years he worked unsparingly and with marked success in the district. He died practically in harness at the age of 59.

A good physician and a kind friend, his death is mourned not only by his patients but by his neighbouring professional brethren, who recognized in him a man of sterling worth and high principle. To do as he would be done by was the ruling principle of Cartwright's life; to the poor he was ever kind and generous, whilst his wealthier patients regarded him as their true friend and adviser as well as their doctor.

His funeral, which took place on November 21st at Leintwardine, was largely attended by all classes of the community, and amidst a profusion of wreaths and flowers the body of the "dear old doctor" was laid to rest close to the Parish Church of the district which he had loved so well and which held him in such deserved affection and respect.

PUBLIC HEALTH AND POOR-LAW MEDICAL SERVICES.

THE ROYAL COMMISSION ON THE POOR LAWS.

The following are the terms of reference of the Royal Commission on the Poor Laws. The Commission is instructed to inquire:

(1) Into the working of the laws relating to the relief of poor persons in the United Kingdom;

(2) Into the various means which have been adopted outside of the Poor Laws for meeting distress arising from want of employment, particularly during periods of severe industrial depression; and to consider and report whether any, and if so, what, modification of the Poor Laws or changes in their administration, or fresh legislation for dealing with distress are advisable.

The Commissioners are:

The Right Hon. Lord George Hamilton, M.P. (Chairman).
The Right Hon. The O'Conor Don.
The Right Hon. Sir H. A. Robinson, K.C.B., Vice-President of the Local Government Board for Ireland.
The Right Hon. Charles Booth, F.R.S.
Sir Samuel Provis, K.C.B., Permanent Secretary to the Local Government Board for England.
Mr. F. H. Bentham.
Dr. A. Downes.
The Rev. T. Gage Gardiner.
Mr. George Lansbury.
Mr. C. S. Loch.
Mr. J. Patten Macdougall, Vice-President of the Local Government Board for Scotland.
Mr. T. Hancock Nunn.
The Rev. L. R. Phelps.
Professor William Smart.
The Rev. H. Russell Wakefield.
Mrs. Bernard Bosanquet.
Mrs. Sidney Webb.
Miss Octavia Hill.

Mr. R. H. A. Duff, of the Local Government Board, has been appointed Secretary.

The only medical member is Dr. Downes, senior medical inspector for Poor-law purposes to the Local Government Board in England.

CLAIM FOR PENSION UNDER SUPERANNUATION ACT, 1896.

C. J. S., who is 54 years of age, holding two poor appointments, one for twenty-seven years, the other for twenty-four years, asks the following questions: Could he claim a pension on one of these and continue to hold the other? Would certified ill-health be allowed to shorten the regulation period (*sic*)? Could he appoint a deputy for two or three years while he took a rest and then claim a pension? Could he obtain permission to reside out of his district for several years, leaving a deputy in his place?

*** As our correspondent is not 60 years of age, and has not had forty years' Poor-law service, he could only claim a pension under the Superannuation Act, 1896, if he has become incapable of discharging the duties of his office with efficiency by reason of permanent infirmity of body or mind (duly certified). We cannot see that under any circumstances

he could claim a pension on resigning one appointment if he continued to hold the other. It would not be in accordance with the regulations of the Local Government Board for a deputy to be left in charge of either appointment for such a length of time as two or three years.

SMALL ISOLATION HOSPITALS.

M.O.H. asks for particulars as to the cost of erection and working of small isolation hospitals in rural districts and for references to books dealing with the subjects, or to hospitals making provision for from ten to twenty patients.

*** The minimum cost of erecting an isolation hospital of ten beds would be at the rate of £300 per bed. There would be a minimum standing charge of £40 to £50 per annum, whether the hospital were occupied or not; and when occupied the cost would vary from 20s. to 30s. weekly for each patient according to the number of patients in the hospital at one time. Useful information upon the construction and administration of isolation hospitals will be found in Dr. Roger McNeill's book, entitled *The Prevention of Epidemics*, published by J. and A. Churchill. A series of articles upon isolation hospitals was published in the *Public Health Engineer* during 1901-2-3, and in the *Hospital* during 1904.

STRUTHIO.—The fee usually charged for a patient brought from an adjoining district (and in some places the same applies to patients temporarily resident in the town) to a fever hospital is £2 2s. weekly, or if the medical attendant at the hospital is paid by fees, £3 3s. weekly. These charges are increased if there are no other patients in the hospital and it has to be kept open for one patient only.

MEDICAL ETIQUETTE IN POOR-LAW PRACTICE.

CYRIAX.—We cannot see that our correspondent would be right in making any application for the appointment about which he writes, as it does not appear to be vacant at the present time. The fact of his having had some communication with one or more individual guardians (who may be his own personal friends) in reference to the matter in question cannot be sufficient to justify him in taking any action whatever which may have the effect of depriving another practitioner of the appointment he now holds. Should a vacancy be publicly declared, or should our correspondent receive an official communication sent to him by direction of the Board of Guardians, he might then, but not till then, give the matter careful consideration.

MEDICO-LEGAL AND MEDICO-ETHICAL.

THE ELECTROSOL INSTITUTE.

A CORRESPONDENT sends us a card advertising the "Electrosol Institute" for the treatment of various diseases by light, electricity, and vibration at an address which is that given in the *Medical Directory* for the resident physician whose name appears upon the front page of the card. Descriptions are given on the card of the diseases for which the various methods of treatment carried on at this institute are said to be suitable. These include gout, rheumatic affections, anaemia, debility, nervous disorders, diabetes, catarrh, deafness, clergyman's throat, constipation, stiff joints, and spinal curvature—a tolerably comprehensive list. The advertisement goes on to say that it is hoped "medical men and other persons interested in the treatment of disease by the finer forces of light, electricity, and vibration, will not hesitate to visit the Electrosol Institute and examine its various instalments. Secretary, ———, from whom this prospectus can be obtained." Such an advertisement issued to the public is, in our opinion, objectionable, and having for its object that of procuring patients, appears to come within the terms of the warning addressed by the General Medical Council at its recent sitting to medical practitioners.

MEDICAL ELECTRICITY.

ENQUIRER complains that a medical practitioner a short time ago settled in his town to practise in medical electricity, and called upon the resident practitioners asking their support, and promising that he would not "undertake any case unless sent by a medical man." Six months later our correspondent sent him a case to treat, which terminated fatally. Some months afterwards the husband of this patient consulted the medical electrician about himself. He was examined and charged a guinea, and then sent for treatment to another practitioner. Our correspondent asks whether the medical electrician was right in making an examination, expressing an opinion, and charging a fee to this patient after the promise he had made to each medical man who would support him?

*** If the medical electrician understood his pledge in the sense in which our correspondent understands it, he was absolutely debarred from practice on his own account, except with patients introduced to him by members of the medical profession.

THE DISPENSING QUESTION.

G. R. H. writes that he has succeeded to a practice where the late holder "sold grey powders and the like to his patients after they ceased to be ill, was not above tendering on the unprofessional conditions named. He has stopped this, but he likes to can quote me a decision of the General Medical Council that will make people understand that there is a dividing line between the medical and the chemist."

*** There is no rule or decision of the General Medical Council dealing with the question, nor so far as we are aware has any licensing body issued any notice to its ordinary diplomates forbidding them to keep shops or to dispense or sell medicines, but several of the licensing bodies forbid their Fellows or Members to dispense medicines or to keep anything of the nature of an apothecary's or chemist's shop. We do not know to what our correspondent refers as "the unprofessional conduct clause"; he was quite within his rights in declining to continue any part of his predecessor's dispensing work to which he objects, but owing to the peculiar circumstances under which a part of the medical profession in England has developed from the status of the apothecary, the dividing line which exists in other countries between the apothecary and the medical man is still undefined.

MONTHLY NURSE'S ENGAGEMENT.

DISAPPOINTED would like to know what sum is customary and fair to be paid to a trained nurse who was engaged to attend a lady in her confinement at the end of November. For unexpected reasons the nurse's services will not be required, and she was informed of this early in October. She is believed to have missed another case on account of the above engagement.

*** It is not unusual for a nurse to accept half her fee and take her chance of getting another engagement: but she is quite within her right in refusing to take less than the whole fee. Then, if at the time for which she was engaged she is without employment, she could recover her fee in the county court. On the other hand, if she accepts another engagement at this time for which she is paid, she could only recover the difference, if less, between the fee she receives and what she was to have received under her original engagement.

COLLIERY SURGEONS AND BONESETTERS.

IF a collier who is injured goes to a bonesetter, and afterwards applies to the colliery surgeon for a certificate, the latter is justified in refusing to give one unless the collier consents to give up the bonesetter and to put himself under the surgeon's care. The colliery surgeon would not be justified in refusing to attend the collier if he asks for his attendance because he had first been to the bonesetter, but he should attend and give a certificate dating only from the commencement of his attendance.

A PROCURATOR-FISCAL'S PROCEDURE.

A. B. C.—It must be borne in mind that the expenditure of procurators-fiscal is strictly supervised and limited by the Exchequer, and that they are liable to be surcharged for any fees the payment of which they cannot justify according to the Exchequer regulations. Taking the particular case referred to by our correspondent, it was clearly not well for the procurator-fiscal to ask for a report from another practitioner; but as the procurator-fiscal had already asked for a report from our correspondent, the case is not a good one to pursue further. We strongly advise our correspondent to call upon the procurator-fiscal in a friendly way, and talk over matters, with a view to obviating sources of complaint in future.

UNIVERSITIES AND COLLEGES.

UNIVERSITY OF OXFORD.

Examination in Preventive Medicine and Public Health (D.P.H. Examination).—Candidates have been approved at the examinations indicated:

D.P.H.—Part I only: A. H. Hogarth, P. K. Muspratt, J. P. Tildesley.
Parts I and II: J. F. Beale, W. Cahill, L. B. Scott, D. J. Thomas, R. P. Williams.

UNIVERSITY OF CAMBRIDGE.

W. L. H. DUCKWORTH, M.D., Jesus College, has been approved for the degree of Doctor in Science.

Dr. Anderson, Dr. Graham Smith, and Dr. G. H. F. Nuttall have been appointed members of the State Medicine Syndicate.

Mr. W. M. Fletcher, of Trinity College, has been reappointed a member of the Special Board for Medicine.

Dr. D. MacAlister has been reappointed a member of the Appointments Board.

The following degrees were conferred on December 2nd:—*M.B.*: W. G. Howarth, Trin.; S. H. Clarke, Gonv. and Cai.; R. O. Lee, Emm.; P. W. Leathart, Clare; G. Holroyd, Christ's. *B.C.*: P. W. Leathart, Clare; G. Holroyd, Christ's; S. H. Clarke, Gonv. and Cai.

UNIVERSITY OF BIRMINGHAM.

THE following candidates were approved at the examination indicated:
M.B., Ch.B. (Final).—R. W. Aitken, W. D. Carruthers, F. T. H. Davies, Helen G. Stewart, S. G. Walker.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

THE following candidates have been approved at the examinations indicated:

Final Fellowship Examination.—R. W. Burkitt, L. L. Carlos, H. H. B. Cunningham, and T. A. Dillon.

Primary Fellowship Examination.—T. J. McDonnell and H. D. Woodroffe.

Licence Examination.—H. W. Mason.

TRINITY COLLEGE, DUBLIN.

THE following candidates have been approved at the examinations indicated:

Final Medical Section B.: R. S. Oldham, G. Dougan, F. O'B. Ellison, E. D. Caddell, J. du P. Langrishe, A. L. Robinson, W. Hutchison, R. Holmes, L. V. Hunt, J. Gray, M. Leahy, G. G. Vickery, F. Canemont, T. B. W. MacQuaide.

Final Surgery.—H. English, J. W. Burns, B. Johnson, D. M. Corbett, W. [illegible] T. King-Edwards, J. Chambré, W. C. MacFarlane, T. P. H. Robinson, W. R. Galway, J. M. Harold, C. Kelly, A. C. Elliott, C. H. M'Cosmas, H. H. White, E. D. Atwell.

Final Dental.—C. R. Kidd.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 2, Agar Street, Strand, W.C., London; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone, unless the contrary be stated.*

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Manager, 429, Strand, W.C., on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not at his private house.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Attiology, London.* The telegraphic address of the MANAGER of the BRITISH MEDICAL JOURNAL is *Articulate, London.*

TELEPHONE (National):—EDITOR, 2631, Gerrard. GENERAL SECRETARY AND MANAGER, 2630, Gerrard.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

IGNORAMUS would be glad of any information about Epsom College, particularly with reference to the Junior School, from a parent.

PARALYSIS AGITANS.

R. S. W. asks for hints for the relief of a patient with paralysis agitans, who cannot dress himself, feed himself, read, write, or sit.

SWEDISH TREATMENT OF SPRAINS.

E. T. asks if there is any book published dealing with the Swedish treatment of sprains?

*** Information will be found in the volume on *Mechanotherapy*, by J. K. Mitchell and L. Gulick. This is one of the volumes in *Cohen's System of Physiologic Therapeutics*, and is published by P. Blakiston Son and Co., of No. 1012, Walnut Street, Philadelphia.

RESIDENCE.

OBLIGATION writes: I should feel extremely indebted to any member who would take the trouble to tell me of any cheerful town or city suitable for myself and wife, retiring upon about £200 per annum. I am rheumatic, but walk and cycle. The essentials are: soft water supply, a fairly warm sunny winter climate, but not relaxing; small rainfall, variety of hard roads and good cheap shops.

CLIMATES OF ENGLAND.

BUNDELA asks to be recommended a work on the climates of England, on medical and residential grounds, to enable him to select a locality as a residence.

*** The two volumes on the *Climate and Baths of Great Britain* issued by the Royal Medical and Chirurgical Society (London: Macmillan and Co., vol. i, 1895, 21s.; vol. ii, 1902, 12s. 6d.), might be consulted, but medical advice from the localities thought of should also be obtained.

THE PRONE PRESSURE METHOD OF ARTIFICIAL RESPIRATION.

DR. W. GROSETT COLLINS asks for an explanation of what appears to him a contradictory direction in the article on Professor Schäfer's method of artificial respiration (BRITISH MEDICAL JOURNAL, November 25th, p. 1405): "Not a moment must be lost in removing clothing"; further on, "but no attempt should be made to remove wet clothing," etc. I suppose by the first sentence is meant "Don't waste time in removing clothing, but get to work at once at the artificial respiration," but as the sentences stand at present they may be taken to directly contradict each other.

*** We have referred the question to Professor Schäfer, who writes: For "lost" read "wasted." It is ambiguous taken alone, but in connexion with the other part could hardly be misunderstood. Nevertheless, I am sorry I used the word "lost."

TUCKER'S ASTHMA CURE.

INHALER asks whether we think there is anything in the treatment by Tucker's inhaler, and whether there would be anything unprofessional in his wife or he, who are both asthmatics, filling up the form and obtaining the inhaler to try?

*** According to Hutchison, the liquid consists of atropine, cocaine, hyponitrous acid, and various balsamic extracts. A somewhat similar preparation is sold by Messrs. Oppenheimer as Nebuline compound No. 21, to be used in their aerizer. The formula of this is given in Messrs. Oppenheimer's list, and we would suggest that our correspondent should try it. He must not expect to get cured.

SOME MISCELLANEOUS INFORMATION.

MICRO asks for answers to the following questions: (1) Is a ½-power sufficient for blood counting and tubercle bacillus examination? Does the work require much practice? (2) Might the continuous use of small hypodermic doses of strychnine produce acute cerebral mischief? (3) Is the continued use for weeks at a time of 3 gr. of quinine daily as a prophylactic against influenza harmful?

*** (1) ½-power is insufficient for blood counting and for the examination for tubercle bacilli. The process of staining and counting blood cells and of staining for tubercle bacilli does not involve a large expenditure of time in learning—a fortnight or less time in a good laboratory would be sufficient, and the examinations are well within the scope of a general practitioner's time. (2) Probably serious acute cerebral manifestations would be preceded by convulsive seizures originating in the spinal cord which would give ample warning of toxic effects. No tolerance can be instituted for strychnine, even when given for some time. (3) 3 gr. of quinine (sulphate) given to an adult for two and three weeks at a time are usually well tolerated. Idiosyncrasy does, however, occur in certain cases, and the patient should be watched carefully.

ANSWERS.

PERPLEXED.—Three guineas would be a proper fee to charge in this case.

SCHOOL BOARD MEDICAL OFFICER.—Sets of lantern slides can be hired from Messrs. Reynolds and Branson, 14, Commercial Street, Leeds, who have the following series: Teale's Dangers to Health; Slipshod Sanitation, by an M.O.H.; Is My House Healthy? by another M.O.H., and various other slides for general hygiene.

MOTOR CARS FOR PROFESSIONAL USE.

Petrol Cars

J. A. A. writes: In answer to "Jacobus," I wish to say that I have had a 6-h.p. De Dion for fifteen months and that there has not been a single day that I could not go out on it. The car has been used very roughly through all kind of weather and on all sorts of roads, and has taken heavy loads, for example, 40 gallons of petrol, and very often 25 st. weight in passengers. I believe most of my extra expenses have been due to ignorance and consequent bad usage: these have been a new side brake and a new piston, and small sums to blacksmith for fixing silencer, etc. I had trouble in starting at first, but since I used accumulators have had no further difficulty. I had no instruction except on my journey home with the machine (a distance of 200 miles), but should advise any purchaser to keep one of the De Dion Company's employés for at least a week.

GILBERT H. LANSDOWN (Knapp Hill, Surrey) writes: Referring to your note in the BRITISH MEDICAL JOURNAL of November 25rd (p. 1417), on automobiles for medical men, I may say that the Rover Company, Ltd., Coventry, make a good 6-h.p. two-seater car. I have one, and it cost me, all told, including tuition and all accessories, under £150. It runs well and is very simple in its mechanism, and in my opinion is an excellent car for a doctor.

Steam Motors.

Dr. E. H. O. SANKEY (Boreatton Park, Baschurch, Shrewsbury) writes: In answer to "Perplexed," although I cannot claim to be a country practitioner who has given up steam, I may perhaps be allowed a few words. Of the three cars he mentions as English, two are American and the Turner the only English one. I bought a Turner 6 h.p. second-hand, two years ago and have driven it ever since in fair and foul weather. It has been stopped twice on the road—once I broke a chain, my own fault for driving with the chain so loose that it mounted, and once I got my burner stopped up, again my own fault for not keeping it reasonably clean. I do not drive my car in a general practice not being a general practitioner, but it has to go something like 4,000 miles a year in a hilly country (Salop) on bad roads. The sole reason I can conceive why any one should go from simple steam to more complicated petrol is that it takes about fifteen minutes to get the generator hot from dead cold. The Turner car is cheaper to drive, quieter and simpler than any petrol car I have ever seen; there is no vibration, and it will climb any hill I have ever met.

The Other Side.

NOVICE writes: To brother practitioners hovering on the verge of going in for a motor-car, the extracts below, culled from my diary with but slight expurgation, may be helpful. It all came about through reading Filson Young's admirable book on the motor, and then seeing an attractive advertisement in the *Motor* paper. I asked the maker to let me see his "light car." He promptly came down with one, gave me a run, and in a fortnight's time my own car arrived, together with a young man who was to instruct me for a week in its management. He should have arrived the day before, but he had been detained on the road by something going wrong with the contact brakes, and "the governor" had to run down by train and assist him. However, he came on November 4th. It was washed on November 5th, and we all admired it very much. It is a 6-horse power car, with seats for three. On the 6th we went out on my rounds, and had successfully accomplished quite five miles when, on coming out of a cottage—it was a very dirty, rutty lane, and I had asked James to be so good as to turn her round—I found the young man under the car, from which he shortly emerged with the sprocket wheel in his hand. So we towed home behind a hawker's cart. November 7th is, of course, a blank, but on November 8th I observe that we drove twenty four miles, and barring the fact that the back chain would come off every mile or two, she went very well, and we got home safely. At home, on looking over the machinery, we found several nuts loose, including one on the thing that fastens the spring on the axle. James adjusted the loose chain, and tightened up the nuts, and when he had done I noticed that the bands round the spring, and the gear box too, had been shifted from the position they previously occupied. However, I said nothing. On November 9th we ventured out again, this time my wife taking the back seat, and we got quite five miles without any adventures whatever, when, in turning round, the chain hanger snapped with a bang. For your non-mechanical readers it may be as well to explain that this is the curved piece of iron which connects the spring to the body, and I observed that it was on the side where the tinkering of the previous day had been performed. We had a very pleasant walk home. November 10-11 blanks. November 11th was the day on which James should have accomplished his mission, but under the circumstances he thought he had better delay his departure. On November 12th a man arrived from headquarters and fixed up another hanger. November 13th we did six miles without incident. November 14th, another short journey. November 15th, did a round of four miles or so, and when a mile from home the front chain snapped and dropped on the road; another tow. November 16th, did six miles

or so: car pulling badly. November 17th, another run of two miles, when she stopped dead, and I left James and went round the village on foot, rejoining him in about an hour, to find him still struggling with the commutator, inside which a spring had got loose: she ran home in leaps and bounds, and James was all the afternoon on his back. On November 18th she went a mile quite nicely, when the front chain broke again, and we had to be towed home. This untoward circumstance prevented James from fulfilling his promise to his mother to be back in town to-day. He has now been with me a fortnight, and I may here say that he was a very nice young man and never lost his temper or indulged in unseemly language or did anything worse than flirt with our parlour-maid, and one can hardly blame him when one remembers the quantity of spare moments he had on his hands while waiting for things to be sent down from London. Well, on November 22nd a new chain arrived and James put it on, and I noticed a lot of messing about the gear box, moving it this way and that. I had invited the wife to come for a drive, but, said the chaffeur, I would first run a trial round the village. It was, perhaps, just as well, because we had not gone a quarter of a mile before the gear lever snapped in two. Most fortunately we were close to our blacksmith's, so we shoved her in. The broken bar had been made in two pieces—one end hollow, the other to slip in, and I can see now the sarcastic smile of the smith as he inspected the wreckage. The solid end had been introduced into the hollow end for one-sixteenth of an inch, and brazed! This business was soon put right, and next day (November 23rd) we went a long journey of 24 miles. The trouble to-day consisted in the fact that the gears would not stop in, and James had to lean over and hold on to the handles all the time, while I steered. November 24th. Went into our town to get my hair cut, and on the return journey, five miles from home, the front chain—the new one—broke in two. James walked to a neighbouring village and got it mended, while I stood on guard over the car for a couple of hours. We then sailed home. November 25th. My man left me in the morning, remarking that he had enjoyed his holiday very much. In the afternoon I took things in hand myself, and did as Filson Young tells me—looked for loose nuts, etc. (I should say that I had had a pit dug in my coach-house, which was a great convenience in getting at the bowels of the car after the foot of water had been laded out every morning). I soon discovered that the nut had disappeared from the bolt of the back-chain, and the belt itself was nearly out. It was obviously unwise to attempt to run the car until this could be put right, and it was equally impossible to find a suitable nut or bolt in this benighted place, so it was a case of writing to the maker to send down a bolt at once. Having written my letter, I was again wiping round the car when I noticed the wire actuating the spark advance hanging by one strand. This meant reopening my letter and making a further appeal. The date of these incidents, you observe, is November 26th, and the day of writing this letter is December 3rd, but the parts have not yet come. I was very fortunate in being able to sell my horse and trap with all appurtenances belonging thereto in one job lot. They departed on November 11th, and the quantity of bicycling and walking I have accomplished since then is enormous. But I am still hopeful. When paying my first instalment to the financial firm who negotiated with the maker to receive my payments, I asked them to be kind enough to say a word or two to the maker, and they have evidently done so, because yesterday I got a telegram from him saying that the parts will be down shortly. And now as to cost of running for the month. I cannot boast of the mileage that your recent motor correspondents say their cars have covered, because the sum total miles run by my car since November 6th is about 90 or 100 miles. Expenses work out thus—I do not count sums expended on goggles, spare tubes, jacks, etc., which of course come under capital outlay—

	s.	d.
Postage and telegrams	1	6
Towage	4	6
	6	0

Against this I have saved on three weeks' keep of horse and trap, which at 10s. per week would have amounted to 30s.; so that the whole thing works out at £1 4s. total gain on the month's travelling expenses. I do not think many motor doctors can beat this.

W. H. M. writes: Your enthusiastic motorists who speak so certainly of their economy seem to me to forget these dilemmas to the ordinary man: (1) If he do not keep an expert, then he must spend most of his spare time looking to his motor, and will get himself into a nasty mess; (2) if he spend most of his spare time thus, he will have none for other improvements and if he gets his hands into a mess he will spoil them; (3) if he keep an expert man he will probably have to pay him a week, who will be constantly getting himself, his master, and the car into disasters of a greater or less degree. I quite think for the man of means nothing beats motoring, but I scarcely advise that he who posts his bank book it in motors. I have motored now with a [illegible] this month. Certainly, my practice has increased, but, on the other hand, my expenses: so the result is the same. I may have a little more leisure [illegible] to employ it usefully. All this applies, I should say, to the country general practitioner. Probably in the town practice of high rates matters cheaper. This is the reverse of my case, and I, of course, may be unfortunate with my [illegible] In the country we need a commercial Marconi [illegible] I am trying a pigeon post—not with great success!

THE PRACTICAL LIVES OF THE BLIND.

E. H. J. O. writes: Dr G. M. Gould will find Javal's book of use. It has been translated into English by Dr W. Ernest Thomson, under the title *Javal Man's Work for the Blind*. [illegible] *Irregular Astigmatism. Advice to Patients*. London: George Pulman and Sons, Theyre Street, W. 1904.

DISINFECTANTS AND DISINFECTION.

M.O.H. (1) The d[illegible] vary considerably. For [illegible] linen and clothing steam at 100° is best, next to that boiling, and, if both be impracticable, steam soaking in carbolic (1 in 20), [illegible] of perchloride of mercury (1 in 1000). Stools should be [illegible] with an equal bulk of carbolic (1 in 20), or izal (1 in 100), or fresh [illegible] of lime (1 in 10). Urine may be mixed with equal volume of [illegible] and epidemic, etc., may be treated in a similar way. Plates, cups, spoons, and other utensils used by the patient may be washed in [illegible] Perchloride of mercury (1 in 1000) is still widely used, and is satisfactory if used in the presence of moisture. Formaldehyde gas similarly used (25 to 30 tabloids per 1,000 cubic ft.). By Trillat's or Lingner's apparatus formalized steam, formalin (1 in 40), and steam are also used. The walls and other surfaces should be well washed with soap and hot water or sprayed with formalin or chloride of lime (1 to 2 per cent.). (3) "Any bottle of disinfectant left at any house" is an unsatisfactory arrangement. The only sound and safe advice for the ordinary artisan householder is thorough cleansing with hot water and soap. All other advice would depend entirely upon what disinfectant is to be used.

POLICE NOTICE.

THE superintendent of police of Guisborough, North Riding of Yorkshire, gives notice that a woman named Manning, alias Shaw, Beeley, Hollands, and Buckley is wanted on a warrant for obtaining money by false pretences from a medical man at Saltburn on November 24th; she is short, stout, and fair, with blue eyes, and wearing gold-rimmed eye-glasses. She has eight false teeth in the upper jaw, a scar on the back of the right hand and on the right of the forehead, and three moles on the right of the neck; she was wearing a black hat, a brownish-grey Inverness cape, and a blue jacket faced with silver embroidery. She is a known swindler, and appears to devote her attention chiefly to medical men and high-class schools. The notice requests the police to arrest her and wire the Superintentent at Guisborough, who will send an officer with the warrant.

METALLIC ELECTRODES.

ENQUIRER.—The application of a metallic electrode to a raw, moist surface will cause the passage of metallic atoms, in the ionic form, into the tissues, when the metal electrode is made the positive pole. In the case of the metal silver, which ionizes with difficulty, there will be no great migration of silver ions into the tissues, but with zinc, copper, lead, and most other metals the metallic ions will enter the tissues freely from the positive pole, the amount carried in by 10 milliampères of current in ten minutes being about 4 milligrammes. With a silver electrode there will be some movement of metallic ions inwards into the tissues, but the chief chemical effect will be the liberation of oxygen and chlorine at the positive pole, and the formation of insoluble silver chloride there. The sensations will be painful, and a caustic effect will be evident, and [the same results will follow if the metal is made the negative pole, but no metallic ions will pass inwards in that case.

BOOKS ON RADIOGRAPHY.

T. W. asks: Will you kindly recommend me a good book on radiography, not radiotherapy? I have read Williams and Belot, but neither give the practical part, more especially as to development, etc.

*** Our correspondent might consult *The Roentgen Rays in Medical Work*, by D. Walsh, M.D., third edition (London: Baillière, Tindall, and Cox. 1902. 12s. 6d.); *The Practical Application of the Roentgen Rays in Therapeutics and Diagnosis*, by W. A. Pusey, M.D., and E. W. Caldwell, B.S. (London: W. B. Saunders and Co. 1903. 21s.); and, for the photographic part, *The Ilford Manual*, by C. H. Bothamley (Ilford: Ilford Plate Co. 1s.).

LETTERS, NOTES, Etc.

THE VISIT TO TORONTO.

In the SUPPLEMENT of December 2nd a general account was given of ways and means of taking part in the visit to Toronto next year, the route advised being that from Liverpool to Quebec and Montreal by one of the three great lines trading between these ports. The Anchor Line, however, is anxious that it should be known that, although it does not trade with Canada, it has steamers which leave Glasgow for New York and New York for Glasgow every Saturday, and that they are British steamers not included in the "Morgan combine." Two of their steamers are as large as 10,000 tons, the price of a saloon passage ranging in the summer from £14 to £25 and upwards.

LIME WATER IN THE TREATMENT OF WARTS.

FLEET SURGEON W. EAMES, R.N. (Royal Naval Hospital, Plymouth) writes: In connexion with the subject of lime water in the treatment of warts which has been dealt with by Dr. Burdon Cooper in the issue of the BRITISH MEDICAL JOURNAL for August 26th of this year, p. 441, I would mention a case in which this treatment proved most efficacious. The patient, a lad aged 17, came under my care for a small patch of eczema auris on the right side. This was quickly cured by local applications; but noticing at the same time that his left hand was covered with well-marked warts to the extent of thirteen in number, which I was informed had existed for three years, I thought it a suitable case for the lime-water treatment; this was adopted on October 28th, and most marked was the steady decrease in the size of the warts until Nov. 17th, when all had completely disappeared, inclusive of one at the right angle of the mouth, which was congenital. This would appear to be something more than a therapeutic coincidence.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Eight lines and under	0	4	0
Each additional line	0	0	6
A whole column	2	13	4
A page	8	0	0

An average line contains six words.

Advertisements should be delivered, addressed to the Manager, at the Office, not later than first post on Wednesday morning preceding publication; and if not paid for at the time, should be accompanied by a reference.

Post-Office Orders should be made payable to the British Medical Association at the General Post-Office, London. Small amounts may be paid in postage stamps.

N.B.—It is against the rules of the Post Office to receive letters at *Poste Restante* addressed either in initials or numbers.

Carcinoma is a Parasitic Disease.

BEING THE BRADSHAW LECTURE DELIVERED BEFORE THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

BY HENRY T. BUTLIN, F.R.C.S., D.C.L.,

Consulting Surgeon to St. Bartholomew's Hospital; Vice-President of the College.

IT is probable that cancer has been during many centuries regarded as a parasitic disease. To the ancients it presented itself as a loathsome beast, which seized upon the breast, drove its long claws into the surrounding tissues, derived its sustenance by sucking out the juices of its victim, and never even relaxed its hold in death. In those days it was an animal.

It is probable that at a later date it presented itself to our forefathers rather as a vegetable, and the terms fungous, fungating, and the like, denoted certain conditions of cancer. The likeness of morbid new growths to some of the large parasitic tumours of plants and trees also tended to encourage the belief in the parasitic origin of cancer.

The moulds which attack and infiltrate the tissues and organs of certain insects and the larva of insects, and gradually replace them, although their form may still be maintained and distinguished, remind us of those cases of cancer in which the walls of hollow organs, such as the stomach, although infiltrated and thickened by the disease, still retain their form as walls.

The resemblance of cancerous masses to the masses formed in specific, tuberculous, and other diseases which we now recognize under the general term, the infective tumours—a resemblance so close that it is sometimes impossible to distinguish between cancerous and infective masses—provides another reason for the belief in the parasitic nature of cancer. And the disposition of the secondary growths in the two kinds of disease lends still further colour to the theory.

And there are certain parasitic diseases of fish, of the barbel and the pike especially, in which the tumours are almost entirely made up of myxo-sporidia, and in which the resemblance to malignant disease is so striking that it is almost impossible to believe that they are not cancerous.

It would be easy to multiply reasons, some of them wholly fantastical, some quite sound, for regarding cancer as a parasitic disease, or, at least, as a disease due to the presence or influence of parasites.

Of course, the parasite has been frequently sought for, and, as every one knows, has not infrequently been found. Now, it is vegetable, of the nature of yeast. Now, it is animal, one of the sporozoa. Anon, it is a bacillus or bacterium. And, again, it is a body of uncertain character which is sometimes presented to us under the name of its creator. Scheuerlin, Darier, San Felice, Jackson Clarke, Nils Sjöbring, Sudakevitch, Ruffer, Plimmer, Pfeiffer, and I know not how many clever and distinguished men, have believed in the existence of a cancer parasite, and have presented it in one form or another to the scientific world; always with the same result down to the discoveries of the last few months. It has been examined, tested, tried and found wanting, until, at length, the Director of our Imperial Cancer Research, in the Scientific Report of this year (1905)[1], says: "The parasitic hypothesis has been subjected to severe criticism in practically every textbook of pathology."

It might, therefore, be thought that the parasitic theory of cancer should be buried, never again to be unearthed except as a warning to those who come after us of the waste of time and energy which may be incurred by a too obstinate adherence to a preconceived idea. Yet, so strong is the feeling in the minds of many surgeons in favour of the parasitic theory, that I confess I experienced a grave sense of disappointment when I found it ruthlessly condemned by our Director, particularly as the first issue of the scientific reports last year raised the hope that it might be considered from another point of view.

I am afraid it will be regarded as nothing short of audacity that I should, in the face of the almost unanimous opinion of pathologists, once more insist that carcinoma is a parasitic disease, not in the limited sense in which the term appears to have been used of late, as synonymous with infective, but in the larger and wider sense in which it used to be, and should always be, employed, to express the fact of one organism living at the expense of another organism, each pursuing its otherwise separate and independent existence. The organism which lives upon the other is the parasite, and the organism on which it lives is the host, and these terms, which are perfectly well understood, I shall employ. And I shall limit the discussion to carcinoma, not because there appears to me to be an essential difference between sarcoma and carcinoma in relation to the parasitic theory, but to avoid confusion, and on account of the much greater attention which has been paid to carcinoma experimentally, and because a single lecture is far too small a compass in which to compress a consideration of all and every kind of malignant disease.

Before I go farther I wish to direct attention to some important modifications in the views of cancer pathologists. For many reasons the elements of carcinoma were regarded, until quite recently, and probably are still regarded by many pathologists, as directly derived from the elements of the part in which the carcinoma first appears. It is much more easy to exhibit this in epithelioma than in the other varieties



Fig. 1.—Transition of normal into abnormal processes of the epidermis. (Butlin, *Sarcoma and Carcinoma*, 1882, Plate 3.)

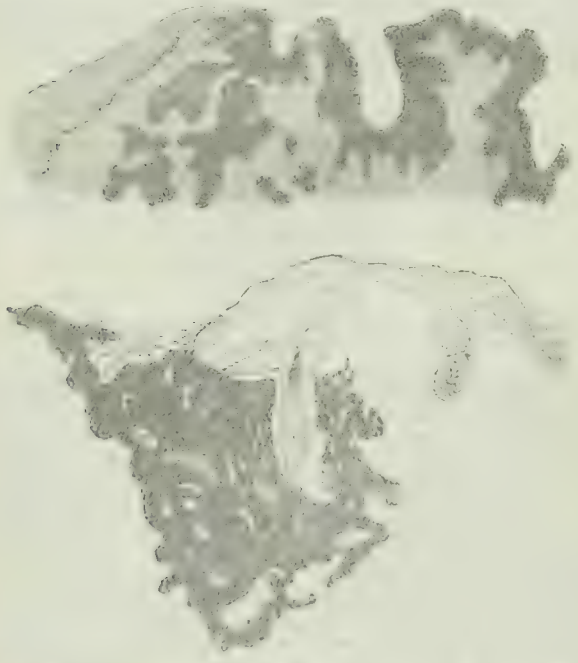
of carcinoma, and I show here one of my own drawings, made many years ago, for the purpose of illustrating the transition of the normal into the abnormal processes of carcinoma. It was further believed that, although the growth of carcinoma is chiefly due to the growth and reproduction of its own proper cells, it may also in part be due to transformation of the elements of the normal tissues, similar to the primary transformation out of which the carcinoma had its origin. And there was always doubt regarding the origin of the stroma or framework of carcinoma.

A few years ago, I think Ribbert first maintained, from the examination of much earlier specimens of carcinoma of the skin than had previously been submitted to pathologists, that the microscopic anatomy of continuous sections of these early growths does not support the theory of the derivation of carcinoma from the extension downwards of the normal processes of the epidermis. The very youngest carcinoma of the skin consists of cells which resemble in many respects the cells of the epidermis, and which may lie in contact with the processes of the epidermis, but which cannot be shown to be derived from the cells of the epidermis. On the contrary, the cells of the carcinoma may invade the processes of the epidermis, may change their shape by pressure, and may lead to their destruction, but the carcinoma cells are neither transformed into normal cells, nor can they be shown to be derived from the normal cells. This view is now held by many pathologists, and is maintained by our Director, Dr. Bashford, and his assistant, Dr. Murray. To illustrate it I have copied drawings and diagrams of Ribbert and Borrmann for carcinoma of the skin, and of Bashford for carcinoma of the tongue.*

The second modification is even more important, and it also is supported by the observations of our research: that the growth of carcinoma depends on the growth and reproduction of its own proper cells, and does not depend on transformation of the neighbouring cells into carcinoma cells. Our Director confirms this view from the examination of carcinoma of different varieties in different parts of the body. There is no transformation of the normal cells of the adjacent parts, whether these be squamous or columnar or spheroidal. They may be thrust aside by the carcinoma cells, or undermined, or atrophied, or actually destroyed, but they are not transformed. The growth of the disease is due to the multiplication of its own proper elements.

*In this connexion it is very interesting to study the third plate of Thiersch's atlas, which is intended to show the origin of cancer of the skin from the processes of the epidermis. Two of the figures show precisely the same relation of the growth to the surface epithelium as that which is exhibited in Ribbert and Borrmann's drawings, and might be used for their purpose. But it either had escaped the observation of Thiersch or had been differently interpreted by him.

There is a third matter on which our Director has been working and has made authoritative statement: the origin of the stroma or framework of carcinoma. This has frequently been discussed; but our pathologists have watched its development day by day in carcinoma which has been inoculated. They tell us that it is derived from the connective tissue of the part in which the carcinoma grows, and does not depend on transformation of the carcinoma cells. Whether the stroma is formed as a result of "irritation" produced by the presence and progress of the disease; whether it is disposed and arranged in this manner or in that manner in obedience to an influence exercised by the carcinoma cells, as was suggested many years ago by Baliance and Shattock,[3] I do not know.



Figs. 2 and 3.—Carcinoma of the skin and adjacent epidermis. (Ribbert, *Geschwulstlehre*, 1904, Fig. 469; and Borrmann, *Zeitschrift für Krebsforschung*, 1904, Bd. II, p. 86, Fig. 45.)



Fig. 4.—Very early [illegible] of the [illegible] nant mucous membrane. (P[illegible] the Investigations of the Imperial [illegible]

It suffices for my purpose that modern observation, under the most favourable conditions, sho[illegible] There is no transformation of normal [illegible] cells in the course of the growth of the disease, and that the stroma is not developed from the cells of the carcinoma. And, for the present, there is no direct [illegible] that the cells of the youngest carcinoma are derived [illegible] cells of the part in which it first appears.

On these and other grounds, which I will presently mention, I shall maintain that the carcinoma cell is an independent organism, like many a protozoon; that it lives a life which is wholly independent and proper to itself; and that it lives as a parasite in the body of the animal which is affected with carcinoma, deriving its nourishment from this host, and doing nothing to repay the host for the sustenance of which it robs him.

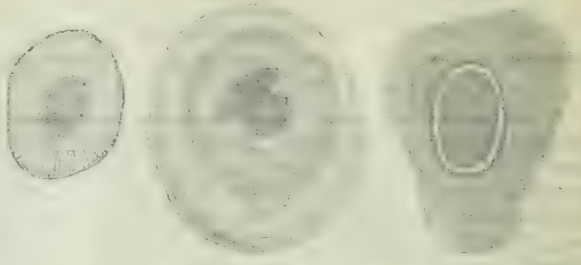


Fig. 5.—Young carcinoma cell, with nucleus and membrane.
Fig. 6.—Large carcinoma cell with double membrane and multiple nuclei.
Fig. 7.—Carcinoma cell without a membrane. (All three from Fabre-Domergue, *Les Cancers Epithéliaux*, 1898, Plate II.)

See what the cell is like. It presents itself to us as a mass of protoplasm, sometimes, but not always, surrounded by a membrane, and containing a nucleus. The nucleus and the body of the cell consist, so far as we have ascertained, of constituents precisely similar to those of which the simplest protozoa are composed. The protoplasm of the cell often contains granules, and is frequently vacuolated. It generally exhibits the same general characters in the same carcinoma, but its shape and size are affected by its surroundings and by the conditions under which its life is passed. Such is its anatomy; it is the anatomy of the simplest forms of animal life.

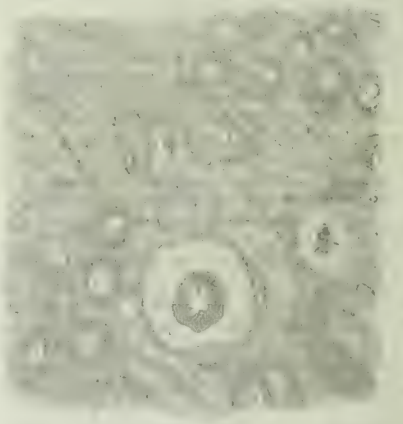


Fig. 8.—Section of squamous carcinoma, showing prickle cells. (From Plate II of Fabre-Domergue.)

Of its physiology we know less, for it has not yet been possible to study it outside the body of the host. Examined on a warm stage, it is said to exhibit amœboid movement, and to change its shape. The prickle cells which we frequently meet with in squamous-celled carcinoma remind us of the pseudopodial processes of certain of the protozoa. We may assume that it ingests, digests, and excretes, and that many of the appearances which the cells present on section are due

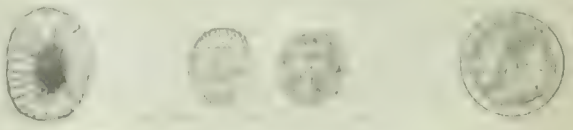


Fig. 9.—Nucleus of calcituba.
Fig. 10.—Cells of Plasmodium malariæ.
Fig. 11.—Colpoda steinii cells. (All three [illegible]alkun, *The Protozoa*, 1901, Figs. 14, 8, and 17.)

to these phenomena. There can be no doubt that it may become surrounded by a membrane, that the membrane may become horny, and that the cell is liable to dropsical and degenerative changes.

Although we have not been able to follow all the phases of reproduction in the carcinoma cell, there is evidence that this takes place by mitosis and by amitosis, and the conjugation of nuclei has been observed not only in sections taken from carcinoma of the lower animals, but in carcinoma from the human subject. Whether this conjugation is concerned with the reproduction of the cells, or whether it is a means by which they renew their vitality, may be doubtful, but it appears to be of vast importance in the lives of the simplest animal forms.



Fig. 12.—Direct division of cell of carcinoma of the breast.

Fig. 13.—Endogenous multiplication of a cell from carcinoma of the breast. (Figs. 6 and 25 of Fabre-Domergue.)



Fig. 14.—Actinosphoerium Esch.
Fig. 15.—Branching nucleus of Ephelota.
Fig. 16.—Division (budding) of Euglypha alveolata. (All from Calkins. Figs. 17, 28, 54, and 23.)

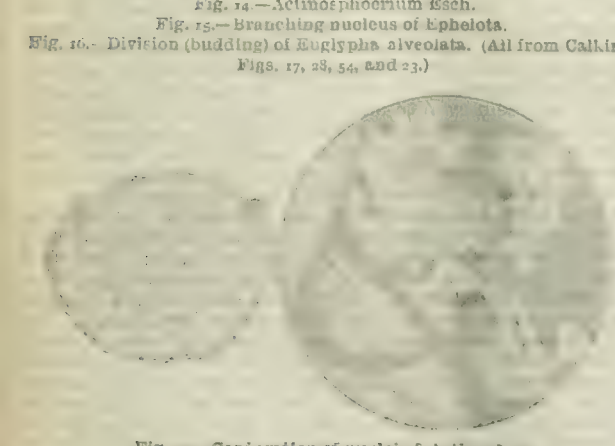


Fig. 17.—Conjugation of nuclei of Actinophrys.
Fig. 18.—Conjugation of nuclei from epithelioma of mouse. (Bashford, Scientific Reports, No. 1, 1904, Fig. 32.)

Whether the cells of carcinoma never die a natural death, and thus fulfil the axiom that "unit masses of living matter are in some measure exempt from natural death,"[4] I do not undertake to say, but one thing is sure, that they exhibit a singular tenacity of life, for they have been kept for many days at a temperature of less than 27° F., or have been placed in sterilized flasks of glass and sent across the sea by post, and have in each instance been inoculated with as good result as if they had just been transplanted from one animal to another. There seems, therefore, no reason to doubt that they may live during long periods of time, provided the conditions are sufficiently favourable. Our Director thinks they do not produce or "manufacture" any specific poison which is hurtful to the tissues of the host; but, on the other hand, they certainly seem to be liable to the attacks of pathogenic organisms in the same way in which the myxo-sporidia of the barbel and the pike are liable to them.[5]

Of course, I cannot claim that the life-history of the carcinoma cell is complete in the sense in which it is complete for many of the protozoa. It would be strange if it were so, for hitherto it has been almost entirely studied as a dead organism, and with preconceived opinions on its origin and nature.

Let us imagine a tumour wholly composed of such elements as these cells, having no other interest than their own maintenance and the reproduction of the species; tenacious of life, even under very adverse conditions; probably capable of living long periods of time where the conditions are moderately favourable, but not thriving and multiplying unless they are peculiarly favourable, even then usually not developing or multiplying very rapidly. Let us imagine that, in the growth of the tumour and in the destruction which is occasioned by its growth, masses of cells are detached and carried to distant parts of the body, where they sometimes meet with conditions which are favourable to their maintenance and multiplication; or that young cells, or spores of cells, gain access to the interior of the blood vessels and lymph vessels, and are caught up and carried in the circulation until they are arrested in the vessels of distant organs and tissues, where they may, or may not, meet with conditions which are favourable to their maintenance and multiplication.

Let it be understood that they take no part in the maintenance or repair of the body in which they live; that they are not themselves transformed into the normal tissues of the part in which the tumour grows, nor do they transform the cells of the part into their own likeness; and that the only relation between the cells of the part and the cells of the tumour is that the cells of the part are, so to speak, commanded to form a stroma suitable to their support and maintenance. Let us take no heed for the moment of the likeness of the cells of the tumour to the normal cells, and we have all the materials which are needed to explain almost all the phenomena of carcinoma with which we are acquainted:—

The commencement of the disease in the form of a tumour which is scarcely more than a tiny spot or an indolent lump, without pain and without discomfort, which has probably been growing for some time before it was discovered. The increase of the tumour, usually not very rapid, but sometimes more slowly, sometimes more rapidly, as the conditions of life are favourable to the cell, and its vitality is less or greater. The destruction of the tissues of the part in which the tumour grows. The exposure of the tumour when the superficial structures are destroyed, and the consequent processes of suppuration, ulceration, and sloughing, due to the access of pathogenic organisms to the tumour cells. The long lines of cells, similar to those of the tumour, which are often found beyond the limits of the tumour in the interstices between the muscular fibres.[5] The occasional blocking of the calibre of lymph vessels and blood vessels by a similar extension along them of the multiplying cells of the tumour, which have gained access to them at some point where the walls are weak or broken. The frequent occurrence of secondary masses in glands, and lungs, and liver, and in other organs and tissues; each mass composed of cells so like in shape and character to those of which the primary tumour is made up, that there is no doubt of their source, so like that the nature of the primary disease may often be determined without fail from an examination of the secondary growths. The occasional occurrence of tumours in the lungs due to the detachment of small masses of cells which are carried in the air stream, and deposited in the smallest bronchi, and which are composed of cells precisely similar to those of the primary disease.—All these phenomena are at once clear to us.

We can understand not only why these secondary growths occur, but, in a manner, why they fail to occur. The conditions are not favourable to the activity and multiplication of the cell. And, bearing in mind the tenacity of life with which the cell is endowed, we may assume that although the conditions are not for the moment favourable to the active life of the cell, they are yet not so unfavourable as to destroy its

and that it may lie dormant in the parts to which it has gained access during long periods of time, until the conditions become more favourable, when it resumes its activity, and multiplies as if it still formed part of the original tumour. Thus we can understand why the occurrence of secondary tumours in the glands and other organs is sometimes so long deferred. We can appreciate something of the conditions on which depend very late occurrences of carcinoma in glands and other organs which take place years after the successful removal of the primary disease, and which have always been a puzzle to us. During those long years the cells have probably lain dormant, not dead, but sleeping, until what we are pleased to call "some chance" awakens them from their torpor, puts new life into them, and enables them to prosper and multiply exceedingly. More than once I have seen carcinoma thus lighted up in glands long after it ought naturally to have occurred, and just when we were beginning to hope that all danger was at an end; once by exposure of the side of the neck to a cold draught during several hours, and more than once by an attack of inflammation of a salivary gland, within or in the immediate neighbourhood of which the lymphatic glands were placed.

We can understand why our operations fail and why they succeed. The surrounding tissues are already widely infiltrated by the parasite in the one case, and we have not cut beyond it; or it has already gained access to some gland or distant organ. In the other case, it is less vigorous and active, and having gained but a poor foothold on the tissues of the host, has been easily and effectively removed. The action of destructive agents is just as intelligible: it is a question of complete destruction.

As certain tissues and organs of the host receive the wandering cells coldly, as if they would only harbour them and give them shelter, so we may assume that there are tissues and organs of the host which are not suited to the support of the cell, and which never can be rendered suitable; and that there are other tissues and organs which are only suitable at certain times and under certain conditions. And, as these may become more suitable at one time and the cells may not merely find refuge in them but may even grow and multiply; so, at another time, circumstances may render them less suited to the life of the carcinoma cell, and we can thus comprehend those rare instances in which the carcinoma undergoes spontaneous cure, either without or after operation. And in the same way we can understand the rise and fall in the tide of carcinoma, how the tumours are at one time smaller, and again larger and more active; how the patient may, indeed, seem to have been cured, but the cure has been delusive, due to lowered vitality of the parasite or to raised resistance of the tissues of the host. And to this greater resistance we must attribute the happy result of those treatments, such as removal of the ovaries, or the administration of such remedies as thyroid extract, which have occasionally achieved a success which has raised the wildest hopes in the minds of patients and their medical men.

With regard to the general condition of the host at the time of the first appearance of carcinoma, it is a matter of common knowledge that many parasites, particularly vegetable, obtain access to the body of the host when its strength is impaired; and it is equally a matter of common knowledge to our profession that many of the patients who suffer from carcinoma "are, for their age, in a full average of general good health."[6] But it must not be forgotten that, although the health of the whole body may be or seem to be unimpaired, the health of the part attacked is more frequently impaired than not. Of the greater liability of one sex than the other to carcinoma, it may be safely held that this is largely a question of the greater or less liability of particular organs and tissues, and of their condition at the time of the attack. And again, of inheritance, it may be said that it is the inheritance, not of the disease, but of organs and tissues which are peculiarly vulnerable to the disease, and that the nature of the inheritance is the same as that of many persons to the attack of the tubercle bacillus.

Of the influence of dwelling and soil and climate it is too soon to speak. They stand for the present discredited, and the age incidence is in the ascendant. But I am not yet disposed to rate them as of no consequence in the etiology of carcinoma.

I might continue this part of the subject to occupy the remainder of the lecture, but there are certain problems which command attention. If the carcinoma cell is an independent organism, living as a parasite, it ought to satisfy some, at least, of the following requirements: It should present the same or similar characters in every part of the host in which it occurs; it should be transmissible from one part to another of the same host; it should be transmissible from one host to another host under certain conditions; and it should be capable of living outside the body of the host, as some similar parasites are able not only to live but to thrive and multiply outside the body of their host.

The first and second of these conditions are fulfilled so regularly and so frequently that every student knows that carcinoma is conveyed through the medium of the blood and lymph, and that the characters of the primary disease are repeated in the secondary growths with such fidelity that the variety and seat of the primary growth can often be accurately determined by a study of the secondary growths.

The question of the transmissibility of the parasite from one host to another host is naturally inseparably involved in the question of the infective nature of carcinoma. In dealing with this part of the question, I must ask leave to substitute the term "communicable" for the terms "infective" and "contagious." Mere contact with animals suffering from the disease may be quite insufficient to communicate carcinoma; and the mere breathing of the same air may be equally inefficient to communicate carcinoma. But that carcinoma is a communicable disease there can remain no possible doubt. Whether Morau, as Fabre-Domergue asserts,[7] was the first person to successfully inoculate mice with cancer some fifteen years ago, or whether priority rests elsewhere, there is not the least doubt now that carcinoma of mice is successfully inoculated in mice by many pathologists in many countries. The experiment has been repeated with such a large percentage of success that no one any longer doubts it. If, therefore, the carcinoma of the mouse is identical in nature with carcinoma in the vertebrate animals generally, carcinoma is a communicable disease; and all failures to communicate it by inoculation in other animals than the mouse only prove that it is difficult to inoculate. The difficulty in the case of mice has been overcome, and it has been overcome in spite of the fact that large numbers of healthy mice kept in cages with carcinomatous mice have not contracted the disease. This circumstance has been employed to prove that the disease is not "infective" or "communicable." It only proves that it is exceedingly difficult for healthy animals to contract it from animals suffering from carcinoma. And it is a matter of congratulation to our unhappy race that a communicable disease, such as carcinoma, is communicated spontaneously so very rarely that we may regard it as "not catching" from a popular point of view.

Hitherto, I believe that all experiments which have been made with the object of cultivating the carcinoma cell outside the body of the host have resulted in failure, and this has been regarded as strong evidence against the parasitic theory. Even if it be admitted, it is not a serious obstacle to the acceptance of the theory, for there are other parasitic organisms which are believed to be unable to exist outside the body of the host. But I am sure the last word has not been spoken on this part of the subject. Ballance and Shattock,[8] who do not seem even to have been successful in keeping the cells alive outside the body of the host, still maintained their unshaken belief in the parasitic nature of the disease; and themselves suggested that "a process of cultivation more nearly allied to the natural" might be indispensable.

In their later experiments on the inoculation and cultivation of psorosperms from the livers of rabbits, they not only failed in every attempt to inoculate the parasite, but only succeeded in keeping it alive in tubes by preparing the tubes with rabbit-blood serum. Even then the authors thought there was no evidence that the psorosperms multiplied. Yet these are organisms of the nature and independence of which no doubt exists. Of course, it may be that the carcinoma cell is an organism incapable of thriving and multiplying outside the body of the host. But I am not at all disposed to take this for granted. Dr. Bashford quite confirms the experience of Professor Jensen[9] on the vitality of the cells of carcinoma. Jensen made successful inoculations from tumours which had been preserved for eighteen days in ice at a temperature of 0.3 C., while the incubator at body-heat seemed to agree with the cells so ill that less than forty-eight hours of it sufficed to render the results of inoculation negative. Then Professor Jensen forwarded by post, under sterile precautions, portions of tumour from Copenhagen and, five days later, Dr. Bashford inoculated it with such success that more than 25 per cent. of the inoculations were successful. After this, it is clear it would be premature to express the opinion that the cells of carcinoma belong to the class of

parasitic organisms which cannot be induced to thrive and multiply outside the body of the host. That they can live apart from the host is clear. Whether they can thrive there is yet to be discovered.

Thus the carcinoma cell satisfies what is required of it so far that it presents the same or similar characters in every part of the body of the host in which it occurs. It is transmissible from one part to another of the same host. It is transmissible under certain conditions from one host to another host. It will live outside the body of the host for many days; and at the end of many days, if it be placed in favourable conditions, it will thrive and multiply as if it had never left the body of the host.

I must confess, seeing how well this theory explains almost all the phenomena of carcinoma, and how much evidence is already present in proof of it, I am surprised that it has scarcely been maintained before. Hauser[10] is the only pathologist, so far as I am aware, who has propounded it in his attempt to show that the cells of carcinoma are a new race of cells.

In truth, everybody who has worked at cancer has been far more engaged in attempting to discover the origin of the cell than to determine what it is. Our minds have been possessed by the conception of the cell of carcinoma as a normal epithelial cell which has escaped from the bondage of the laws which confine such cells, and has, so to speak, run wild, obeying no laws and performing no duties. Pathologists have been wondering what has driven it to such evil courses. Some have explained it by assuming that every epithelial cell is capable of acting in like manner if certain restraints, local or general, are lowered or removed. Others suggest that the unnatural activity of the cell of carcinoma is due to irritation of the cell itself. Others that the ill-mannered and unmanageable cell is derived, not from the normal epithelium but from cells which were intended to become epithelial, but which have remained embryonic and in a dormant condition for as many as fifty years or more. And from Professor Farmer[11] and his colleagues we have received information of another kind which may help us to the discovery of the genesis of carcinoma in the future.

Although for the present I am much more concerned in determining the nature of carcinoma than its origin, and the object of my lecture is to persuade biologists and pathologists to help us to solve the problem, which I do not think so very difficult; and although I might fairly claim that the consideration of its genesis is no part of my duty, it would be absurd that I should close my eyes to the difficulties of the problem of its origin, if the carcinoma cell is admitted to be an independent organism—a parasite within the body of the host. I suppose we must then assume that the parasite is introduced into the body from without, after the manner of parasites generally; or that it is formed, in some unknown manner, within the body of the host.

In favour of the former view many reasons can be urged. Carcinoma first appears in a very large number of cases either on or just beneath the external or internal surface of the body. Or, if it appears at some distance beneath the surface, it frequently attacks parts to which there is free access from the surface—take the breast as an example. In many instances the part which is attacked is lowered in vitality; it is a sick part: it has been prepared for the entrance of the parasite by injury, or long-continued inflammation, or by degeneration. We are familiar with this preparation in parts which are frequently and readily examined, such as the lower lip and tongue. And we know, or think we know, that the first appearance of carcinoma in these parts is preceded by an actual wound or sore, through which the parasite may have gained an entrance. And in similar parts of the body which are not so readily examined, such as the larynx, the œsophagus, the intestinal canal, we have the right to assume that the occurrence of the disease is similarly preceded by injury, or long-continued inflammation or degeneration. The youngest carcinomata which have been studied by microscopists appear to be separate and distinct from the tissues of the part in which they occur; and from this separate and distinct mass of cells the extension and dissemination of the disease are traced in so many instances that we cannot doubt that the conditions are the same for all. The natural or spontaneous occurrence of carcinoma accords in its characters and course with the course and characters of carcinoma which has been inoculated; and the metastases of carcinoma in the body of the host in which it has developed spontaneously are regarded by pathologists, quite justly, as each and every one successful inoculations of the disease wherever they occur. Cases of auto-inoculation and reputed cases of contagion of carcinoma which have been placed on record and which are admitted by many pathologists, but which are for the moment discredited by the pathologists of our own research, point to the same conclusion.



Fig. 19.—Metastatic squamous carcinoma of lung. (*Path. Trans.*, vol. xxii, Plate III.)



Fig. 20.—Metastatic columnar carcinoma of lung. (*Path. Trans.*, Vol. xxv, Plate VI.)



Fig. 21.—Metastasis of mouse-carcinoma in lung to show the demarcation between the carcinoma and the normal tissues. (Bashford, Scientific Reports, No. 2, Plate XI.)

The more frequent occurrence of carcinoma in particular houses and in particular districts suggests that the parasite may exist outside the body of the host in those houses and in those districts; and although many of the cases of cancer houses and cancer districts will not bear close investigation, we are not yet in a position to regard them all as worthless. Indeed there is so much to be said in favour of the entrance of the parasite from without, and the theory is so inviting and

would render the further study of the disease so much more simple, that I set down with reluctance the evidence against it; but this is so important and of such a character that it is impossible to pass it by.

First, the characters of the carcinoma cell, the parasite. These conform so closely to the characters of the epithelium of the part in which the carcinoma first appears that, for some thirty years, Waldeyer's theory of the descent of the carcinoma cell from the normal epithelium has held almost undisputed sway over the minds of pathologists. The same type of cell prevails in all the metastases of the same carcinoma. The three great types—the squamous, the columnar, and the spheroidal—are so constantly reproduced in their metastases that there is seldom any difficulty in recognizing them. The squamous type, so far as we know, never arises in or in the vicinity of columnar or spheroidal epithelium. The columnar type only arises in close contact with tubes lined with columnar epithelium; and the spheroidal type arises only close to acini which are lined with spheroidal epithelium. The constancy of this phenomenon is not questioned; the difficulty is to explain it. We may conceive that a single parasite gains entrance to the body from without, comes in close contact with the epithelial cells of the part in which it settles, and is so impressionable that it is moulded into the shape and develops the characters of the normal epithelium. Even if the parasite were crossed with the normal epithelium, it would be difficult to understand why the resulting cells should be so strongly influenced by the mere breeding-in of the two kinds of cell—the parasite and the normal cell. And it is still more difficult to understand why the influence should be transmitted from generation to generation of the resulting cells, so that the cells of every metastasis present the general characters of the epithelial cell. Again, we may conceive the idea of several parasites, one, for instance, for each of the three great types of epithelial cell—a squamous parasite, a columnar parasite, and a spheroidal parasite. But it would, even then, be necessary to admit that each of the three parasites will only thrive and multiply when it is introduced into the body in, or in the near neighbourhood of, the epithelium which it resembles; or when, by chance, it finds its way there. The proposal is so improbable that we reject it as soon as uttered.

Quite apart from the mere anatomical characters of the three types of cell, and quite apart from the differences in malignancy of carcinomata which depend on the anatomical features and relations of the parts in which the tumours grow, there are reasons for suspecting that the cells themselves vary in the powers they possess. It is notorious that squamous carcinomata chiefly affect the tissues in the immediate neighbourhood of the part in which they grow and the associated lymphatic glands, and that they are rarely disseminated in other parts of the body. It is equally notorious that spheroidal carcinomata form their metastases in the glands, the lungs, the liver, the bones, and other organs and tissues. And it is perfectly well known that columnar carcinomata also form their metastases in the glands, the lungs, and liver. These peculiarities can only be in part attributed to the relation of the parts in which the three varieties of carcinoma primarily occur to the parts in which their metastases are found. And we can only assume that the columnar and spheroidal cells are hardier than the squamous cells, and that they find in many parts of the body of the host conditions which are favourable to their development; while the squamous cells are more dainty, or less hardy, and require more favourable conditions generally, and that these conditions are usually only found in certain parts. This is sometimes singularly illustrated in cases in which two varieties of carcinoma occur simultaneously in the same individual. Recently an old gentleman in whom I took great interest died after many months of suffering from carcinoma of the larynx and carcinoma of the rectum. The symptoms of the carcinoma of the larynx were present long before the symptoms of the carcinoma of the rectum, but I will not, on that account, understand that the carcinoma of the larynx preceded, in point of time, the carcinoma of the rectum. The *post-mortem* examination disclosed that a large part of the larynx had been destroyed by the columnar variety of carcinoma we sometimes see. There was in the rectum an ulcerated columnar carcinoma which had reduced the lumen of the bowel. There were some cancerous glands in the neck, and there were secondary carcinoma deposits; and there were a few small secondary carcinomata in the lung. Now, the carcinoma of the larynx had been ulcerated for several months before it was discovered, and lying right over the entrance to the air passages, might have been expected to be the father of the tumours in the lung; while the carcinoma of the rectum being far distant from the lung, and having no other access to it than the medium of the blood, which was common to both carcinomata, could scarcely have been suspected as the more likely parent. Yet it was so, for the characters of the tumours of the lung were those of columnar carcinoma. Where two varieties of carcinoma come in contact, the one is said to invade the other, and the stronger remains in possession of the field;[12] but I do not know whether the spheroidal and columnar carcinomata under these circumstances always prevail over the squamous carcinomata.

Secondly, there is the difficulty of the structure of carcinoma, the arrangement and disposition of the parasitic cells, and the stroma or framework in which they are disposed and arranged. It has been already stated that the stroma, so far as the latest researches can decide, is derived from the connective tissue of the part in which the tumour grows. It may be said to hold a subordinate position in the anatomy of the disease. If the formation of the stroma is attributed to the irritation produced by the presence of the carcinoma cells, we should expect that it would be very similar for each of the three types of carcinoma tumour. But this is not the case. The stroma of each of the three types is peculiar to that type, within certain limits, and is not common to all three. This is particularly well shown in columnar carcinoma, in which the cells are disposed and arranged in follicles similar to normal follicles lined with columnar epithelium, but rarely so orderly and regular. If the formation of the stroma is attributed to a kind of influence or command exerted on the connective-tissue elements by the carcinoma cells, like that which the epithelial cells appear to exercise over the connective-tissue elements in the development of the body, it is still more difficult to conceive that parasitic cells entering the body from without should acquire such a specific influence over the connective-tissue elements of the part in which they settle.

Thirdly, there is what is termed the "age incidence" of carcinoma. And I speak particularly of carcinoma here because I still hold to the opinion that the age-incidence of sarcoma and carcinoma is essentially different. But for carcinoma there is no doubt; it occurs spontaneously in individuals, for the most part beyond the period of middle life. And the longer men and women live the more likely are they, in comparison with the total number of persons living at that age, to suffer from carcinoma. In other words, the liability to the first attack of carcinoma increases as age advances. The Imperial Cancer Research has taught us that this law is probably as true for animals as it is for man. And our Director suggests that it is equally true for organs. But, however that may be, we have to face the problem of the occurrence of carcinoma in relation to age. Why are middle-aged and old people so much more liable to carcinoma than young people, so much more so that young people are generally regarded as almost exempt from carcinoma? For many years past the question has been answered on the assumption of the descent of the carcinoma cell from the normal epithelium. And the answer has been that this descent cannot take place unless the tissues are degenerated, and that this degeneration is the result of advancing age. We might still accept the necessity of degeneration of the tissues, and assume that a parasite of the nature of the carcinoma cell cannot enter the body and obtain a foothold in it unless the tissues are degenerated. There is nothing unreasonable in the supposition. But inoculation experiments on mice have shown that, although mouse carcinoma occurs spontaneously only, so far as is known, in aged mice, yet inoculation of the disease is as successful in young mice as it is in old mice. So that it would seem that the tissues of the young and healthy are quite suited to the maintenance and prosperity of the parasitic cells, but that they are not able to produce them.

It must be admitted that these three features of carcinoma, the characters of the cell, the structure of the tumour, and the age-incidence, make it difficult to conceive the idea of a parasite introduced into the body from without. And they do strongly suggest that the parasite is actually formed or developed within the body of the host, and that it is in some manner derived from the elements of the host.[13] Hauser has no doubt that his new race of cells is derived from the elements of the host, and appears to find no difficulty in the hypothesis. I confess it is to me an astounding proposition; for, set forth in plain terms, it is none other than the origin of new species of the lowest forms of animal—of protozoa. The

mode of origin which is suggested is so different from that we have been accustomed to accept for the last five-and-twenty years, that I scarcely dare to set it down in words. That there will be much discussion and dispute over it I cannot doubt; for I am quite confident that time and research will confirm the view I have expressed to-day of the nature of the carcinoma cell. And, as I am anxious that it should be confirmed as speedily as possible, I will indicate the weak links in the chain of evidence, and the means by which they may be strengthened.

We want to complete, if possible, the life history of the carcinoma cell outside the body of the host; and, with this end in view, repeated attempts should be made to induce the parasite to thrive and multiply under artificial conditions, which will permit the study of every phase of its existence. We have learned that it can live; we have now to learn whether it can thrive outside the body of the host.

We need incessantly repeated attempts, under all conceivable conditions, to inoculate the carcinoma cells in other animals than the mouse. The Imperial Cancer Research is occupied with these experiments at the present time—thus far without success. I would suggest that the cultivation and inoculation experiments are far more likely to be successful if they are preceded by series of experiments of the kind practised years ago by Ballance and Shattock[14] on the psoroperms of rabbits. The failure of their attempts to cultivate the parasite and to inoculate the rabbit with psorosperms taken from rabbits clearly shows that the cultivation and inoculation of parasitic protozoa is not by any means so simple a matter as it might be deemed to be, and that the laws and methods of these cultivations and inoculations must be studied and practised again and again under various conditions before the lesson can be learned and successfully applied. In the prosecution of this study lies the clue to the inoculation of other animals besides the mouse.

Finally, we want the most careful and detailed study of cases of reputed contact cancers occurring in the same individual and from one individual to another. This is the only research for which I am competent, and in which I may hope to take a part. Our Director has pointed out to me that, in many of the cases in which one individual is reputed to have caught cancer from another, the disease is not the same in the two individuals. Not only is it not the same variety of carcinoma; it has even been sarcoma in the one and carcinoma in the other. Of course, such cases cannot at the present moment be accepted as cases of contagion. But all the reputed cases of contagion should not be condemned because many of them appear to be worthless. Each individual case must be investigated on its own merits; and I have a very strong impression that some cases of true contagion, if only a very few, will be discovered. I would not yet cast aside the cases which appear to have no value because the disease is not of the same variety in the giver and the receiver. They should be carefully recorded by competent observers, in the hope that even they may throw some light on the problems which we have to solve. I am sure there is no circumstance so small that it should be lightly passed over in this investigation; and, on the other hand, that there is no obstacle so large that it should not be boldly faced and treated without prejudice.

NOTES AND REFERENCES.

[1] Bashford, Scientific Reports, Imperial Cancer Research Fund, No. 2, 1905, p. 81. [2] Bashford, Scientific Reports, No. 1, p. 34, and note. [3] *Path. Trans.*, vol. xxxviii. [4] Thomson, *Outlines of Zoology*, 1899. [5] Mr. Lenthal Cheatle has kindly drawn my attention to the spread of carcinoma of the tongue in the interstices between the muscle fibres far beyond the apparent limit of the tumour, and I have found his observation amply confirmed in some of my own specimens. [6] Paget, *Clinical Lectures and Essays*, 1879, p. 13. [7] Fabre-Domergue, *Les Cancers Épithéliaux*, 1898. [8] Loc. cit., p. 434. [9] Scientific Reports, Imperial Cancer Research, No. 1, p. 14. [10] *Ziegler's Beiträge zur Path. Anat.*, 33, S. 1, 1903, Giebt es eine primare zur Geschwulstbildung führende Epithelerkrankung? [11] *Proc. Roy. Soc.*, vol. lxxii. [12] Scientific Reports, Imperial Cancer Research, No. 1, p. 34, note. [13] Loc. cit. [14] *Path. Trans.*, vol. xlii, p. 377, 1891. [15] Pfeiffer, *Untersuchungen über den Krebs*, Jena, 1893.

MEDICAL MAGISTRATE.—Dr. J. Selwyn Cowley of Upton-on-Severn has been appointed to the commission of the peace for the county of Worcester.

DR. W. G. STEVENS, Medical Officer of Health for the Burgh of Renfrew, has had the happy idea of issuing an illustrated health almanac for hanging on the wall; surrounding advice as to the prevention of consumption, advice which if carried out would go far towards the prevention of other diseases also, are pictures of old and new public buildings in Renfrew, and on the back is a diagram of the Hincks Bird ventilating window arrangement. The almanac is called the "Public Health Circular No. 1."

OBSERVATIONS ON THE HEREDITY OF INSANITY.*

BY A. R. URQUHART, M.D., F.R.C.P.E.,
Physician Superintendent, James Murray's Royal Asylum, Perth.

IN addressing you from this honourable position I bear in mind, first of all, that we meet here for no exclusive or local purpose, but as members of a great Association, representative of medicine and surgery in the widest sense. Last week many of us were engaged in the work of an Association limited in numbers, and specialized in intention; this week the hospitality of Leicester, to our common advantage, affords us opportunity of coming into contact with those who are less intimately interested in our department of medical science. It is the advantage of a wider horizon, and a freer air. No doubt it will be generally recognized that the main questions which we, as psychiatrists, propose for discussion on this occasion are of vital interest to our profession and to our country. Thus, we are to consider the heredity of insanity, occupation and environment as causative factors of insanity, and prognosis in mental disorders. These are subjects of urgent importance, and if we can elucidate them, and promote their further investigation, we may hope that general principles will be evolved, and will be applied to the advantage of the common weal. I regretfully admit that the guidance of the profession in the political sphere is very frequently regarded with suspicion, and that our advice often falls on deaf ears. There seems to be a lingering objection to adopt measures urged by doctors, fortunate above all in their education and training, seeing clearly that amendment of our civilization is now necessary to avert national calamity. I still more regretfully admit that there are doctors who from time to time offer panaceas which can only be rejected with derision.

What we as a nation require is an intelligent understanding of the methods of Nature and an adjustment of national conditions to these methods in accordance with the circumstances of the day. It is my unhesitating belief that the medical profession will do its part in this regenerative work by the attainment and diffusion of exact knowledge culminating as principles of action.

We have lately discussed heredity in the light of recent researches in biology, and it is not my intention to enter upon a consideration of the results. Indeed, a full critical account of the observations now personally recorded would pass beyond all limits of time and patience. Statistics are more appropriate in cold print than in spoken words. I know that there is a certain impatience of the mere counting of noses, and that the newer school of psychiatry largely asseverates that statistics are unfruitful. I hope, therefore, to avoid, in as far as possible, an intolerable recital of figures and percentages, which, of course, must be the groundwork of this kind of study.

One feels on rising from a perusal of these depressing records that there is an intolerable deal of madness in the country. When an old friend of mine made polite inquiries of Lord Beaconsfield, "I hope you are quite well," he got answer, "Is there anybody quite well?" In the records of a special hospital it is in the nature of things that the special disease treated should be prominent, not only in the wards, but in the homes of the patients. Thus, in considering the heredity of insanity, I believe that the lop-sided results are comparatively useless. Professor Karl Pearson suggests that insane inheritance will be found to occur in nearly the same proportion as the inheritance of physical characteristics. What we really require is an investigation into the heredity of diseases, altogether apart from the experience of special hospitals. To that I shall return in the hope of gaining your support for my concluding proposal.

I need not say much about the work which has been done in the past in this particular category. The statistics of insanity were considered under favourable circumstances by Thurman at the York Retreat (1840), and I hope that the more modern experience of the medical staff there will yet find expression.

Of the later inquiries into insane heredity in this country I might mention three of definite interest. Dr. H. Grainger Stewart, too early lost to our speciality, reported upon 901 cases. 49 per cent. having hereditary predisposition to insanity or eccentricity. His careful study was prefaced by references to

* Presidential address to the Section of Psychological Medicine, Annual Meeting held at Leicester, 1905.

the work of other observers in this and other countries, and his method must be generally adopted by those who continue these investigations.[1] Dr. Savage, distinguished by his wide interests in medical inquiries, made a valuable contribution to our knowledge of mental disease and inheritance in 1877. He recorded 375 patients in Bethlem as having had one or more insane blood relations—34 per cent. on the total number of 1 072.[2] Lastly, Dr. W. F. Farquharson presented, as his graduation thesis to the University of Edinburgh, a study of heredity in relation to mental disease. The proportion of hereditary cases occurring in the Cumberland and Westmorland Asylum was 30 per cent. out of 3,907 admissions. The well-kept records of that institution enabled Dr. Farquharson to enter into details which he marshalled with a skill which gained the commendation his Alma Mater.[3] I may say at once that the results of my inquiry broadly corroborate the findings of these observers. The differences are of interest, however; and, as will be seen, there are differences between earlier and later records in my own experience.

Every statement as to the hereditary nature of insanity is prefaced by a complaint. The information upon which results are expressed is imperfect, untrue, or inaccessible in a great number of cases. Dr. Grainger Stewart, with patients from the Borders, had the advantage of dealing with cases drawn from the educated class; Dr. Savage, at Bethlem, had unusual opportunities of arriving at correct statements; and Dr. Farquharson investigated almost the entire insane population of his district. My own observations refer to the private class of insane patients (mainly Lowlanders and Highlanders from the central counties of Scotland), and they issue in the finding of hereditary insanity in 45 per cent. of the persons noted as certified, as compared with 49, 34, and 30 per cent. recorded by the writers named. I must also claim an advantage in my long residence at Perth. This is apparent in improved methods of observation and statement, and still further in having access to information which at times ekes out the scanty gleanings of the consulting room.

In these inquiries we must get rid of the professional bias and the specialist bias. We must correct the personal equation, and not read more into ascertained facts than is absolutely justifiable. This constitutes a difficulty in our investigations. Not only is there difficulty in extracting an admission of insanity in this or that member of a family, but insanity is likely to be softened into eccentricity, and eccentricity again into mere nervousness. In our haste to establish a case, too, we may be in the wrong—making too much of the neuroses. I believe that the best work of the world is done by nervous persons; although the dull phlegmatic sort, irresponsive to sensations, deficient in imagination, and slow in initiative, may give that stability which makes for endurance and persistence in the race.

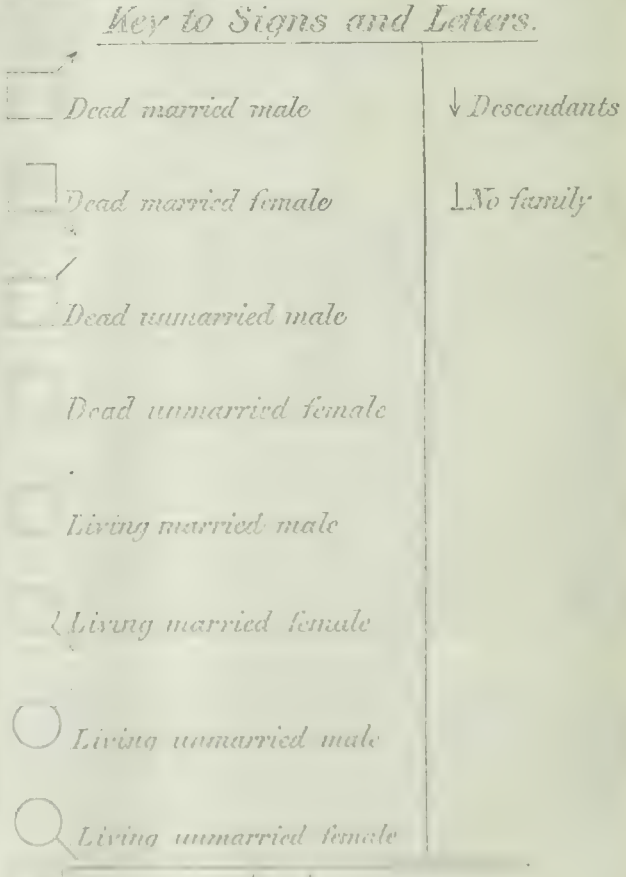
I very much doubt if the neuroses issue in insanity to the extent which is often asseverated. We would gain something if we could define the term; it is the despair of the lexicographer. Let us be content with the usual explanation as applicable to nervous disorders betraying no definite lesion. We find generally some hyperaesthesia, some undue sensitiveness, or, on the other hand, anaesthesia and hemianaesthesia—it may be merely some fidgety sense of *malaise* under circumstances inappreciable to the stolid. In the lower depths we find somnambulism and hypochondria and the protean forms of hysteria. These last are frequently manifest in the families of the insane, but in these observations I have recorded only the graver forms of neuroses.

Eccentricity is quite another matter. The occurrence of eccentricity—decided oddity of conduct—is a sign of definite mental aberration. The person so affected is really insane: he cannot adjust his conduct to his environment. Dr. Grainger Stewart had arrived at this conclusion, for he recorded the occurrence of eccentricity as well as insanity as the basis of hereditary predisposition in the cases upon which he reported. I suggest, therefore, that care should be exercised in discriminating between eccentricity and the neuroses: that the neurotic affections of insane families should be separately stated from eccentricity and insanity. We require, as I have indicated, a wider investigation than asylum statistics can afford to determine the effect of neurotic heredity.

Case 2331 apparently shows the evolution of insanity from neuroses. Father and mother both highly nervous and excitable. Two sons insane and one daughter very nervous out of a family of four. The easy descent from eccentricity to insanity is marked in Case 2441, a record of eccentricity in father and mother, with atavistic alcoholism resulting in incurable insanity of an alcoholic type.

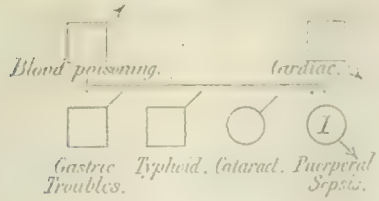
There are also nervous disorders, such as chorea, which appear in the families of the insane, and I need only refer to the association of chorea with rheumatism. It is frequently found in the families of insane persons—for example, Case 2596—in a family of eleven brothers and sisters two suffered from chorea, one from asthma, and two from post-operative insanity. Asthma is frequently observed, and it is in accordance with common experience that these neurotic troubles often disappear when insanity supervenes, engulfing the less serious malady.

I barely name epilepsy as our returns show so few cases. Epilepsy is still comparatively infrequent in Scotland, and among the middle classes specially rare. The chronic infections of tubercle and syphilis are also in evidence in this relation. As to tubercle—in 886 persons admitted, tuberculous disease occurred in the families of 96 males and 82 females, a total of 178—I find that there were 259 relations so affected, 130 males and 129 females, but it is not clear that this is a greater number than would have occurred in the general population. The number of deaths from tubercle recorded was 14 out of a total number of 172, being 8.1 per cent. The number of tuberculous persons under treatment was 36, and tuberculous disease was noted in the families of one-third of these persons, 33.3 per cent. Dr. J. C. Dunlop has kindly considered these figures and concludes that they are insufficient to prove that the true death-rate from tubercle is actually less than that for Scotland.

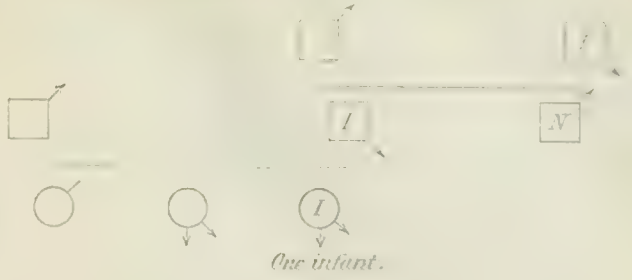


The heredity of syphilis is an impossible inquiry in my experience. It is only in the rarest circumstances that we can discover it. The intoxications (exotoxic) of course find

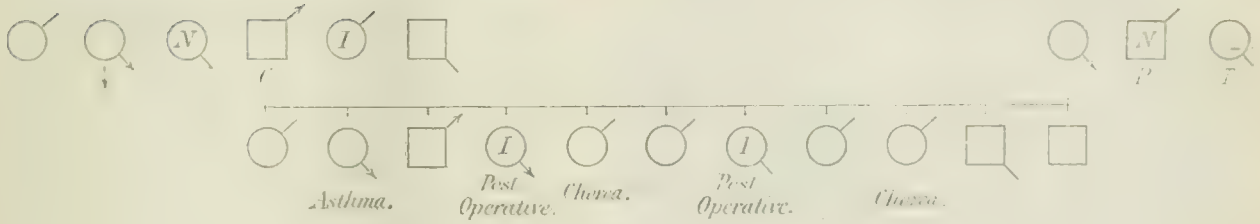
I. 2282; Accidental and Toxic.



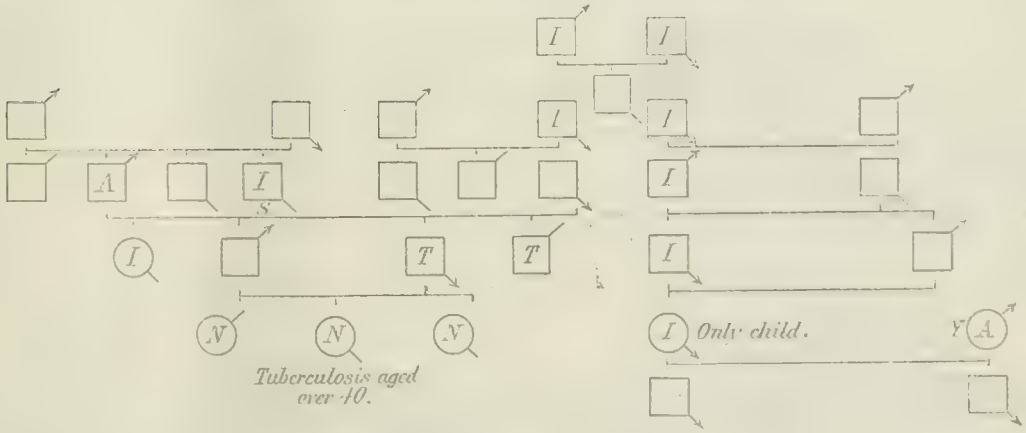
V. 2398; Persistence of Delusions of Poisoning.



II. 2596; Collateral Neuroses and Insanity.



III. 2107; Extinction of Family in Two Branches.

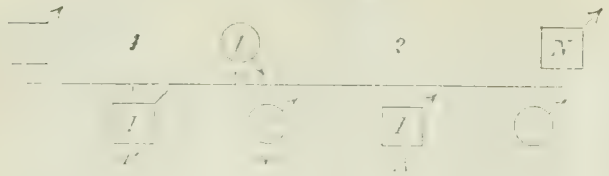


IV. 2185; Extinction of Large Family.

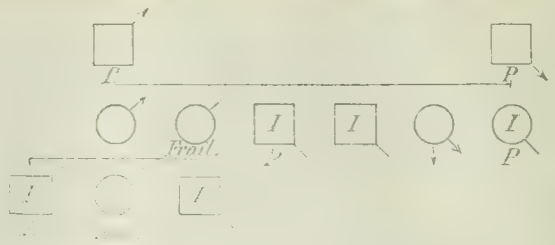


(a) 21 reported in this family mostly died young.
(b) 11 reported in this family mostly dead.
1 Hydrocephalic. 2 Idiot. 3 Insane epileptic. 4 & 6 Somnambulist. 5 Very nervous.

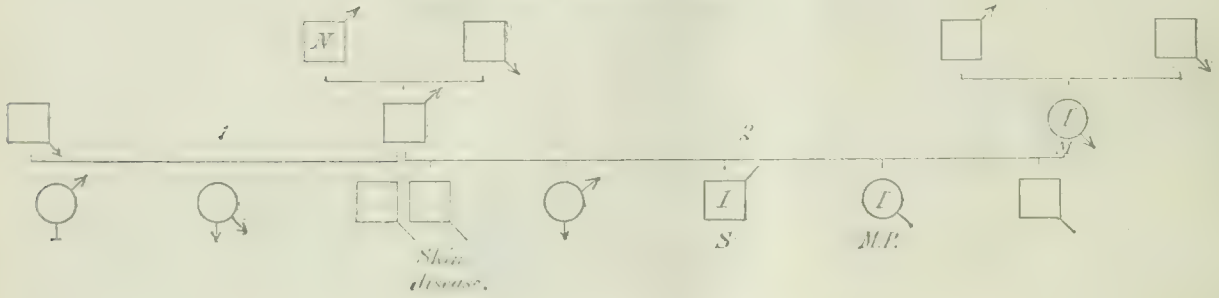
II. 2437; Two Families.



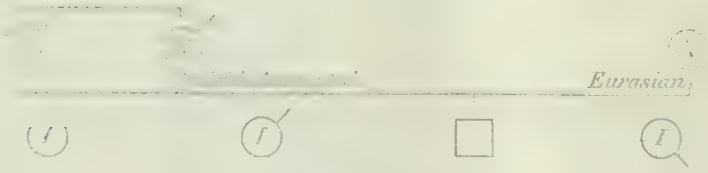
IV. 256; Family history paternal and maternal.



VII. 2461; Two Families.



VIII. 2635; Consanguinity and Eccentricity.



IX. 2683; Twins.

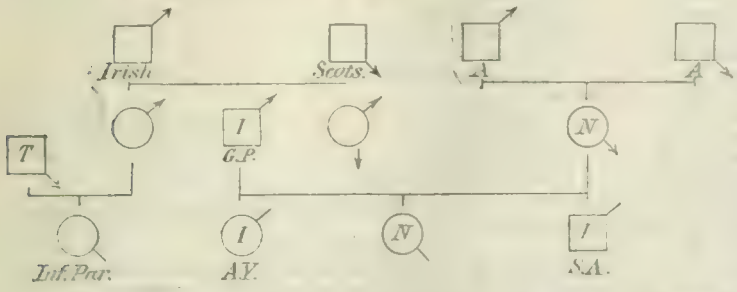


X. 2188; Tubercular heredity and insanity



large room in our records. Alcoholism is widespread, opium much less common, and lead is entirely absent from these family histories.

XII. V.76; Descendants of a General Paralytic.



XIII. V.69; Alcoholism to convulsions in infants.



XIV. 2586; Eccentricity to Alcoholism and Insanity.



Diseases of obscure causation—rheumatism, gout, and diabetes—have not been so thoroughly studied in the inheritance of insanity as is necessary. They are all reported, but the exact incidence requires a wider investigation. Diseases of the kidneys are by no means uncommon, and I have noted their occurrence as well as the prevalence of cardio-vascular degeneration.

Paralysis is of definite importance, and it is stated as having occurred in 191 relatives of the patients observed. The degenerative changes issuing in paralysis may or may not be causative of insanity, but it is apparent that the frequency of this condition demands special attention.

One word as to cancer: Seventy relatives were affected by cancer, but few deaths occurred in the asylum. The statistic stands thus: In 886 persons admitted, cancer occurred in 3 cases, being 1.7 per cent. of the whole deaths. Cancer was recorded in the ancestry of 60 patients, affecting 70 persons. Dr. Dunlop informs me that these figures indicate that the rate for cancer is less than the rate for Scotland, and that cancer is less common in Murray's Asylum than in Scotland generally.

During twenty-five years I have had 1,104 cases under care, representing 886 persons; 623 of these persons were hereditarily predisposed to insanity, eccentricity, neuroses, paralysis, or alcoholism, while 394 had a distinctly insane heredity. During the last ten years 375 persons under care showed neurotic and insane heredity to the number of 304, while the heredity of insanity occurred in 180 cases.

These figures include voluntary patients as well as certified. Table I gives a detailed statement of these classes separately. Of late years there has been an increasing disposition to avoid certification, and it will be observed that the hereditary tendency to insanity in voluntary patients is as much as 33 per cent. I shall not detain you with a consideration of the figures, except to explain that it has been found useful to divide the retrospect as indicated. There were seventy-two patients on the registers of the asylum in the beginning of 1880, and these are included in the first period. The history of many of them was very inadequate, and I lay greater stress on the accuracy of the last period (from 1895 till 1904 inclusive)—that is a term of 10 years. The results for the last period may be stated briefly: Certified patients with a hereditary history of insanity, 48.53 per cent.; voluntary patients, 42.42 per cent.; both classes, 48 per cent. If the neuroses and eccentricity, paralysis, and alcohol are included, the results are increased to 81.28, 78.78, and 81.06 per cent. respectively.

Referring to 623 certified and voluntary patients showing a heredity of insanity and neuroses, the total number of insane relatives recorded was 702 of all degrees of affinity, the number of neurotic relatives was 240. Relatives known to have suffered from paralysis numbered 191, alcoholics 169, tuberculous 259, and cancerous 70.

Table II gives details of the relatives affected and shows several well-established facts. For instance, the insane fathers of patients affected number 54, in the proportion of 30 for fathers of males and 24 for fathers of females. The mothers number 66, in the proportion of 28 for mothers of males and 38 for mothers of females. The direct paternal and maternal influence show the same tendency, while the female sex is evidently more liable to hereditary forms of insanity than the male sex. Expressed in percentages we arrive at the following results:

			Males.	Females.
Total number of persons ...	886	=	471	415
Persons with hereditary predisposition to insanity ...	394	=	201	193
Percentage of hereditary cases	44.4		42.6	46.5

I next pass to the consideration of eccentric and neurotic relatives, regretting that greater care has not been exercised in discriminating between eccentricity and neuroses. The influence of the fathers is expressed in similar ratio—as fathers of 16 males and 14 females. The influence of the mother, however, is distinctly reversed. Thus:

			Males.	Females.
Total number of persons ...	886	=	471	415
Persons with hereditary predisposition to eccentricity and neuroses	229	=	130	[illegible]
Percentages of hereditary cases	25.8		27.6	23.8

It would be rash to make any deductions from the small numbers recorded in relation to eccentricity alone.

The proportion of fathers and mothers noted as eccentric more nearly approaches the insanity table, thus:

			For Males.	Females.	Total.
Fathers eccentric	...	...	6	2	8
Mothers eccentric	...	...	5	4	9
			11	[illegible]	17

In considering the incidence of paralysis, the results also resemble the table for insanity. Although on the total paternal influence the figures are: males, 54; females, 35; total, 89; it will be observed that the total maternal influence is: males, 30; females, 28; total 58. I believe, however, that this can be explained by the fact that cerebral haemorrhage, arterial degeneration, and so on, are less frequent in women than in men.

The table for alcoholism is, of course, liable to the same deduction, and may be offered without remark.

I trust that I am not misunderstood in the use of the word *Heredity* in reference to these matters. I have no belief whatever in the hereditary transmission of cancer, or the possibility of tubercle bacilli lying dormant in germ cells ready to awaken to vigour in the course of events. It is late in the day to make these reservations, so one might guard against an imputation of belief in the malignant influence of the moon on being betrayed into speaking of lunacy.

The fact remains that there are mad families, doomed to extinction or regenerated by prepotent new blood; that in investigating the history of these families it is evident that

degenerative diseases are common and widespread; that, following on the usual experience of medical observations, we do not ordinarily discover a single cause, but rather groups of causes, which we may continue to term *degenerative*.

It is still necessary to explain and to reiterate that the mental disorders which are called insanity, must be regarded from the scientific standpoint. The mystery of insanity is no more elusive than the mystery of rheumatism. We are all on very familiar terms with rheumatism, and prescribe salicylates or the equivalent of yesterday, with the utmost confidence in pharmacology, but we are still at a loss to trace rheumatism to its inception. It is still a disease of obscure origin. Of course it is toxic, and toxines are very much in the air just now. High hopes are entertained by our advanced workers in psychiatry that the heredity of insanity will soon be proved a certain inborn susceptibility to toxines which will be combated by appropriate remedies. At least one may hope for the fulfilment of a promise which certainly would herald the dawning of a better day, and relegate sulphonal and the like to a top shelf. I refrain from entering on a discussion of the work done in this direction, not that it would be premature but rather because it would lead too far afield. The realization of this hope will not affect the questions at issue; the inheritance of such conditions as are favourable to the occurrence of insanity will be the more stringently observed, and prevention will continue to be the affair of the physician.

I must not encroach upon Dr. Hyslop's subject for to-morrow, but may be permitted to refer to environment in connexion with heredity. It is, of course, a very important and responsible position for the physician who is consulted as to the future of a person belonging to one of these neuropathic families. Even if we regard heredity as the prime factor in the production of good or evil in the individual, and the generation of insane persons by those more or less eccentric as a great wrong, we must admit the regenerative effects of healthy environment. We have in Perth an industrial school which for many years has been most potent in rescuing boys from degradation. These boys are heavily burdened with inheritance of vice, crime, and insanity. Indeed, the primary purpose of the institution was to give the waifs and strays a decent chance in life. The results of the school are none other than amazing in face of asylum statistics.

I am assured by Mr. Hutcheson, the Superintendent, that the Fechney boys turn out law-abiding, respectable citizens in the proportion of at least 80 per cent. They may not rise to eminence or make a great stir in the world, but every year brings him letters of gratitude and information as to their welfare. I desire, therefore, to present statistical facts and conclusions with this alleviation, and shall now ask your attention to illustrative cases, rather than to further statistics and arithmetical details.

[*Diagrams of 268 families were shown as illustrative of the heredity of the cases under review.*]

General Paralysis.

I pass now to a brief consideration of the heredity of general paralysis, as represented by 39 cases, 1 being a female. Thus only 4½ per cent. of the total number of persons admitted represents this group. During my service in the Perth District Asylum over thirty years ago, the disease was still rarer. It is a disease of great cities rather than rural districts, the urban residents referred to numbering 34 out of 39. It is noteworthy, too, that the great majority have been admitted during the last ten years, the percentages for the three periods being: First period, 2.91; second period, 2.62; third period, 6.66; or 4.40 on the whole term of years. It used to be said that the incidence of heredity in reference to general paralysis was but slight, and one endeavoured to console afflicted relatives by expressing that opinion. If my limited experience be found correct for larger numbers, however, that opinion must be changed. I have shown that ordinary forms of paralysis are very common among neuropathic families, especially amongst the male members; and similarly I find records of insanity and other neuroses referable to the families of general paralytics. Table III gives a list of these occurrences. Briefly, the heredity of insanity finds expression 14 times, eccentricity 4 times, neuroses 12 times, and alcoholism 7 times. Rheumatism, gout, and tuberculosis are also noted. Thus there was a distinct neuropathic heredity in 32 cases. Turning to those in whom no morbid heredity could be ascertained, they may be separately mentioned:

Males only.

		Cases.
Family history: Ancestors:		
	Insanity denied	1, 2, 3, 4, 5,
	Consanguinity	3
	Deformities	3
	Tubercle	2, 4
	Rheumatism	3, 4
Descendants:		
	Lupus	4
	No information	6, 7
Personal history:		
	Syphilis	1, 3, 4
	Alcoholism	1, 6
	Mental stress...	2, 3, 4, 6, 7
	No cause assignable	5

[*Here followed cases illustrative of the neuropathic heredity of general paralysis.*]

Alcoholism.

With regard to the incidence of alcoholism I must in the first place explain that, in so far as possible, I discourage the admission of habitual drunkards as voluntary patients to Murray's Asylum on the grounds that they are so frequently vicious persons who require reformation rather than treatment; that the arrangements of a hospital for the insane are generally unsuitable; and that the attitude towards an insane person is quite inappropriate towards an ordinary drunkard. To these principles I adhere, and must not be tempted to argue the case, or to enter on a consideration of the different kinds of alcoholic persons—the Saturday night drunk, the chronic tippler, the insane drunkard, the dipsomaniac, and so on. I merely direct your attention to the fact in order to preclude the supposition that there might have been some change in local conditions of management. Ten years ago I prepared a return for a Departmental Committee, and found that the alcoholic cases under care constituted 9.2 per cent. of all admitted. The changes demonstrated by Table IV are most unsatisfactory. The figures do not represent the alarming total which Dr. Clouston reports from the Royal Edinburgh Asylum, where all classes of patients are received, but it is sufficiently disconcerting to find that the alcoholic persons have increased in numbers throughout the three periods from 6·8 to 24·8 per cent., the mean being 16.3. The general impression is that the last two years have afforded a gratifying decline in the national consumption of alcohol, and a recent paragraph in the daily newspapers gives astounding details of the decline in Spiers and Ponds' business—41,000 fewer bottles of wine, 75,000 fewer gallons of spirit, etc. Some diminution in the numbers of alcoholic patients admitted during the years 1903·4 may give rise to hopes that the tide has turned, and in my experience there has been a diminution in all classes of patients since 1903, a tendency in this direction having been generally noticeable in Scotland according to the later reports of the Commissioners in Lunacy. However that may be, the figures now presented have been carefully checked, and stand as stated.

On examining these 145 cases, we find that 38.62 per cent. were hereditarily predisposed to insanity, and 5.51 per cent. were hereditarily predisposed to eccentricity and neuroses. Alcoholism was found among the near relatives of 24.13 per cent., while the remaining 31.72 per cent. were apparently not of a hereditary nature. No doubt, occupation and environment played a considerable part in the evolution of these last-named cases, and fuller knowledge would assuredly reveal a faulty heredity in a certain proportion of them.

[*Here followed cases illustrative of alcoholism with and without neuropathic heredity.*]

This study of insane inheritance must be left incomplete for the time being. I hope to carry it further on a future occasion by a consideration of the life-history of these cases. To-day I am content to trace the neuropathic heredity in general terms.

What has been in mind throughout these remarks has been set before you quite lately, by Professor Karl Pearson, in the BRITISH MEDICAL JOURNAL of May 27th. He has so thoroughly anticipated my conclusions that I must refer you to his important note. In giving some account of the investigations of Dr. Otto Diem of Herisau, Professor Pearson suggests that they should be pursued in this country by the collective investigation of the medical history of at least 1,000 families taken at random specially recording those unaffected by neuropathic or other disorders.

[*Here followed charts of families of insane fathers and mothers.*

TABLE I.—*Showing the Neuropathic Heredity of Patients under care in James Murray's Royal Asylum, 1880-1904 inclusive.*

	Heredity of Insanity.			No Heredity of Insanity.			Heredity of Insanity, etc.			Total Numbers Admitted.			Percentage of Heredity Insanity.			Percentage of Heredity of Insanity, etc.		
CERTIFIED PATIENTS—	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
I—Year ending 1884	41	45	86	58	57	115	55	90	145	99	103	202	41.41	43.68	42.57	55.55	58.25	56.93
II—Year ending 1894	63	55	118	77	73	150	100	82	182	140	138	278	45.00	42.30	43.70	71.42	63.07	67.40
III—Year ending 1904	79	87	166	107	71	178	144	134	278	182	160	342	43.40	54.37	48.53	79.12	83.75	81.28
Total	183	187	370	238	206	444	299	276	575	421	393	814	43.46	47.58	45.43	71.02	70.22	70.06
VOLUNTARY PATIENTS—																		
I—Year ending 1884	2	0	2	1	1	2	2	1	3	3	1	4	66.66	—	50.00	66.66	100.00	75.00
II—Year ending 1894	7	1	8	21	6	27	14	5	19	28	7	35	25.00	14.28	22.85	50.00	71.42	54.28
III—Year ending 1904	9	5	14	10	9	19	16	10	26	19	14	33	47.36	35.71	42.42	84.21	71.42	78.78
Total	18	6	24	32	16	48	32	16	48	50	22	72	36.00	27.27	33.33	64.00	72.72	66.66
BOTH CERTIFIED AND VOLUNTARY PATIENTS—																		
I—Year ending 1884	43	45	88	59	59	118	57	61	118	102	104	206	42.15	43.26	42.71	55.88	58.65	57.28
II—Year ending 1894	70	56	126	98	81	179	114	87	201	168	137	305	41.66	40.87	41.31	67.85	63.50	65.90
III—Year ending 1904	88	92	180	113	82	195	160	144	304	201	174	375	43.78	52.87	48.00	79.60	82.75	81.06
Total	201	193	394	270	222	492	331	292	623	471	415	886	42.67	46.50	44.46	70.27	70.36	70.31

Columns headed Insanity, etc., include insanity, eccentricity, the graver neuroses, paralyses, and alcoholism.

TABLE II.—*Showing Neuropathic Relatives Affected, Direct and Collateral (including Voluntary Patients).*

Total Cases, 1,104. Persons Recorded: Males, 331; Females, 292; Total, 623.

Insane Relations.

		Direct.			Collateral.			Totals.					
		M.	F.	T.	M.	F.	T.	M.	F.	T.		M.	F.	T.
Group 1	Co'l. ..	2	2	4				2	2	4	Pat.	65	54	119
	F. F. ..	2	4	6	36	31	67							
	F. M. ..	4	3	7										
Group 2	F. ..	30	24	54										
	F. B. ..	16	11	26				27	21	48				
	F. S. ..	12	10	22										
Group 1	Coll. ..	2	1	3				2	1	3	Mat.	71	67	138
	M. F. ..	4	1	5	35	42	77							
	M. M. ..	3	3	6										
	M. ..	28	38	66										
Group 2	M. B. ..	9	12	21				24	24	48				
	M. S. ..	15	12	27										
	B. S. ..	49	51	100				81	122	210	Others	220	235	455
	S. ..	39	71	110										
Group 3	Ch. ..	5	1	6	5	1	6							
	Others ..	127	112	239				127	112	239				
Total		346	356	702	76	74	150	270	282	552		346	356	702

Eccentricity and Neuroses.

		Direct.			Collateral			Totals.					
		M.	F.	T	M.	F.	T.	M.	F.	T.		M.	F.	T.
Coll.		—	—	—							Pat.	22	19	41
F. F.		3	1	4	20	16	36							
F. M.		1	1	2										
F.		16	14	30										
F. B.		1	0	1				2	3	5				
F. S.		1	3	4										
Coll.		—	—	—							Mat.	36	16	52
M. F.		0	1	1	31	13	44							
M. M.		1	0	1										
M.		30	12	42										
M. B.		3	1	4				5	3	8				
M. S.		2	2	4										
B.		21	14	35				45	40	85	Others	1	[illegible]	147
S.		24	26	50										
Ch.		0	2	2	0	2	2							
Others		36	24	60				36	24	60				
Total		139	101	240	51	31	82	88	70	158		139	[illegible]	241

Paralysis.

		Direct.			Collateral			Totals.					
		M.	F.	T	M.	F.	T	M.	F.	T.		M.	F.	T.
Group 1	Coll. ..	—	—	—							Pat.	54	35	89
	F. F. ..	6	2	8	43	32	75							
	F. M. ..	4	4	8										
Group 2	F.	32	26	58										
	F. B. ..	4	1	5				11	3	14				
	F. S. ..	7	2	9										
Group 1	Coll. ..	—	—	—							Mat.	10	28	38
	M. F. ..	8	3	11										
	M. M. ..	2	2	4	27	24	51							
	M.	17	19	36										
Group 2	M. B. ..	[illegible]	2	[illegible]				[illegible]	4	7				
	M. S. ..	3	2	5										
	B. ...	[illegible]	4	12				[illegible]	6	[illegible]	Others	32	12	44
	S.	11	2	13										
	Ch.	—	—	—										
Group 3	Others ..	13	[illegible]	19				[illegible]	[illegible]	19				
Total		116	75	191	70	56	126	46	19	65		116	75	191

Alcoholism

		Direct.			Collateral			Totals.					
		M.	F.	T	M.	F.	T.	M.	F.	T.		M.	F.	T.
F. F.		3	1	4	26	19	45				Pat.	34	29	63
F. M.		1	0	1										
F.		22	18	40										
F. B.		6	10	16				[illegible]	10	[illegible]				
F. S.		2	0	2										
Coll.		—	—	—							Mat.	18	5	23
M. F.		4	0	4	11	4	15							
M. M.		1	0	1										
M.		6	4	10										
M. B.		7	1	8				7	1	8				
M. S.		—	—	—										
B.		23	22	45				27	30	57	Others	42	40	82
S.		4	8	12										
Ch														
Others		16	10	26				16	10	26				
		95	74	169	37	23	60	58	51	[illegible]			74	169

NOTE.—For F. F. read Father's Father, F. B. Father's Brother, etc.

I have already indicated that the statistics of special hospitals constitute only a part of the data required for a due understanding of heredity. Such a general medical survey as is now proposed would greatly advance our knowledge.

We asylum physicians are continually appealing to our brethren to come over and help us to elucidate the prodromata of mental disorder, at present a most important subject, to record those slight deviations from mental soundness which Professor Karl Pearson happily describes as "want of mental balance." We hardly touch these and similar questions in the segregate practice of medicine in hospitals for the insane, and I urge that we should have that help which we need at the hands of those who are well able to meet our requirements. The heredity of disease is just as important as the heredity of character; historical studies have their place in our regard, but I would rather see the nation sound in mind than learned in scholastic arts and dwindled, peaked, and pined.

The fact is, these questions must be faced. Professor Ray Lankester has just warned us that it is the destiny of man to understand and control the relentless mechanism of Nature, as man has from the earliest times more and more definitely resisted the inexorable discipline of death to those who do

TABLE III.—*Heredity of General Paralysis.*

M., 38; F., 1; Total, 39.

Recorded in Relatives:	
Insanity only	7
,, and neurosis	2
,, and paralysis	2
,, and neurosis and alcoholism	1
,, and neuroses, and paralysis and alcoholism	1
,, and eccentricity and alcoholism	1
Eccentricity only	2
,, and alcoholism	1
Neurosis only	6
,, and paralysis	1
,, and alcoholism	1
Paralysis only	5
,, and alcoholism	1
Alcoholism only	1
No heredity of the above ascertained	7

Or, inheritance of insanity, 14; of eccentricity, 4; of neurosis, 12; paralysis, 10; and alcoholism, 7. In addition, the families of 9 were tuberculous, 3 rheumatic, and 2 gouty. Consanguinity was noted in 1 case, and consanguinity with bodily deformities in 1 case.

Admissions by Periods.

	M.	F.	Total.	Percentage.	
First period, 1884	6	0	6	2.91	Calculated on 386
Second period, 1894	8	0	8	2.62	
Third period, 1904	24	1	25	6.66	
	38	1	39	4.40	

Personal History of General Paralysis.

		Percentage.	
Acquired syphilis	23	58.97	Calculated on 39
Alcoholic	14	35.89	
Gout	2	5.12	
Severe influenza at onset	2	5.12	
Malaria	1	2.56	

TABLE IV.—*Showing the Incidence of Heredity in Patients Addicted to the Intemperate Use of Alcohol or Drugs.*

Heredity of:	Certified.			Voluntary.			Totals.			Percentage Calculated on 145.
	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	
Insanity	38	8	46	9	1	10	47	9	56	38.62
Neuroses	6	1	7	1	0	1	7	1	8	5.51
Alcoholism	16	8	24	7	4	11	23	12	35	24.13
None ascertained	25	8	33	11	2	13	36	10	46	31.72
	85	25	110	28	7	35	113	32	145	100.00

By Periods:	Certified.			Voluntary.			Totals.			Percentage Calculated on [illegible]
	M.	F.	Total	M.	F.	Total.	M.	F.	Total.	
First to 1884	10	3	[illegible]	1	0	1	11	[illegible]	[illegible]	6.8
Second to 1894	22	5	[illegible]	11	0	11	[illegible]	[illegible]	[illegible]	17.4
Third to 1904	53	17	[illegible]	1	7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]	110	[illegible]	7	[illegible]	113	[illegible]	145	[illegible]

not rise to Nature's standard. It is right here that understanding should take form. It is the plain duty of this great Association of medical men to investigate, to report, to advise.

I need not recapitulate the honoured names of those who have been deeply engaged in the solution of these problems of life and mind, but cannot conclude without having the pleasure of informing you that last year Dr. John Macpherson, Commissioner in Lunacy for Scotland, instituted an inquiry into the heredity of sane and insane persons. The results are as yet inadequate for the purpose, but they form a foundation for further operations. Dr. Macpherson's initiative merely requires development. He heroically undertook an investigation which required wide and willing co-operation and adequate financial support. It is a reproach that such labours and such [illegible] should be relegated to blind chance. I have had the advantage of perusing the returns which Dr. Macpherson has received, and feel assured that you will hear [illegible] which is calculated to complete [illegible] survey which he has planned. I suggest that the [illegible] of Psychological Medicine should pass a resolution asking the Central Council to appoint a committee for the investigation of hereditary tendency of disease, and to place at the disposal of the Committee such funds as will enable them to report on the whole subject.

Finally, I must make grateful acknowledgement to the members of my staff, past and present—living and dead—who have so loyally and ungrudgingly assisted me in the preparation of this address, and to you, gentlemen, for your gracious and patient hearing.

[A discussion on this paper will be found in the SUPPLEMENT, p. 347.]

REFERENCES.

[1] *Journal of Mental Science*, 1864. [2] *Guy's Hospital Reports*, vol. xxii. [3] *Journal of Mental Science*, 1898.

PROGNOSIS IN MENTAL DISEASES.*

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PROGNOSIS—pro (L.), gnosis (G.), prae-cognitio, prae-dictio, praescitio, prae scientia—means generally to foretell, foreshow, forebode; to predict, presage, or to prophesy what is likely to take place, and the ability implies a power of foretelling something future by the correct interpretation of present signs. When applied to the principles of medicine it is the judgement formed by the physician regarding the future progress and termination of any disease, and this power can only be attained by the prolonged observation and comparison of particular symptoms. It is not essential to treatment, in so far as it relates only to the future, but of all aspects of disease (and especially is this true in mental disease) it is the one which causes most anxiety, and which confronts the patient and his friends more than any other. It is, moreover, the cause of several very definite and ofttimes embarrassing interrogatories being presented to the medical man, these being in substance, firstly: Is there danger to life? or Will the illness terminate in recovery or death? And again, Is the illness likely to be a long-continued one? also, likely to be any permanent mental weakness? It is of the utmost importance and significance that a correct answer should be given, for upon these, in cases of mental disease, depend the domestic and civil relations hitherto enjoyed by the patient, and such answers may probably save a family from serious financial and social difficulties, as well as from a possible tragedy which may cast a stigma upon many innocent dependents. It is therefore important for the family approximately to know how long the great expense of the care and treatment of an insane relative will have to be borne; for, of all ailments, insanity is the one which is most costly to nurse and to care for. In order to form a correct opinion, great skill and long experience are necessary, and the facts should be numerous, so that definite knowledge may be based upon them. Even the most skilful physician requires to speak with caution in the matter of prognosis, for no human sagacity can anticipate the numberless influences—either for good or evil, for better or for worse—that may come into play in the course of any particular disease, or upon any particular constitution. Considerations relating to the estimate of the constitution, the general vitality and powers of recuperation of the individual, or the stock from which he descends, also the duration of the illness, the liability to recurrence, and the mode of termination, enter more fully into the question of prognosis as to insanity than in regard to any other form of disease. Moreover, the age of the patient, the sex, and the form and stage of the mental disorder count for much in forming an opinion as to the course of the illness.

Insanity is a generic term, having many species and varieties, some of these differing widely as to prospects of recovery, and also as to the occurrence, in their course, of life and death. Therefore, prognosis, in regard to mental diseases, may either be an opinion formed in the abstract as to the chances of life or death, or as to the actual duration of life after an attack of insanity generally, or it may be an opinion formed in regard to any particular case suffering from a definite form of insanity, and the sources of this information may, for convenience, be divided into three groups—(*a*) the study of the particular form of mental disease; (*b*) the study and knowledge derived from experience of the temperament or peculiarities of the patient, more especially the history of the stock whence he arises, and, therefore, of his heredity; the nature of mental evolution in, or the mental development of, the individual, especially in regard to changes which may

* Read in the Section of Psychological Medicine, Annual Meeting held at Leicester, 1905.

TABLE A.—*Showing (I) Ratio per 1,000 of Deaths to Patients Living in Asylums during 1902, and (II) Ratio per 1,000 of Deaths in the Whole Population for the same Period, and Estimated for the Middle of the Year at Various Ages.*

Ages:	Under 5.		5–9.		10–14.		15–19.		20–24.		25–34.		35–44.		45–54.		55–64.		65–74.		75–84.		85 & upwds		Total.	
Sex.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
I ...	—	—	8.0	4.0	5.4	[illegible]	71.6	80.5	68.8	70.8	79.0	66.8	111.2	65.3	102.7	66.8	127.1	85.0	198.8	163.4	416.1	308.9	506.3	513.7	116.4	90.7
II ...	53.7	44.5	3.9	4.1	2.2	2.1	3.5	3.1	4.5	2.8	6.2	5.2	10.5	8.2	18.0	12.6	[illegible]	[illegible]	47.6	30.6	124.4	124.0	474.7	459.1	17.4	15.3

have occurred from one stage of mental life to another—for example, the change from childhood to puberty; the development of puberty, or the change from puberty to adult life; the occurrence of some neurosis such as hysteria, or any partial disintegration of personality in youth or early adult life, and the influence of this upon the question of mental breakdown during some of the periods described as "epochs," namely, during pregnancy, at the puerperium, or about the climacteric. And thirdly (*c*) external influences which may modify the disease as well as the patient, and in this category are included access to pure air and sunshine, the opportunity for an abundant supply of good nourishment, and facilities afforded for good nursing, there being for the individual as well as for a group of individuals—for example, organized society—a law of relation of mind to environment. The necessity for early change in the environment will be pointed out in a later section of the paper.

To deal with the question of prognosis in a broad, comprehensive manner, and to reply to the first of the interrogatories already referred to—namely, Is there danger to life through an attack of insanity?—it must be borne in mind, as previously remarked, that there are different forms of insanity, each depending upon factors of causation, age, evolution, and pathology, and each with its own danger to life or life value. Insanity connotes, among other things, a higher mortality than occurs among the general population.

If we consult the comparative mortality returns in the Registrar-General's report and those of the Lunacy Commissioners, we find the proportion of deaths during 1902—which is the latest available year—to be 16.3 to every 1,000 living in the whole community, whereas in the asylums of England and Wales the proportion of deaths per 1,000 living was 103.2, a mortality which is between six and seven times higher than among the general population, even when allowances are made for infantile mortality, the various exanthemata later, and all kinds of accidents—causes of death rarely recorded among the insane. In European and American asylums the mean annual death-rate varies from 8 to 12 per cent. upon the average numbers resident in these institutions, so that death occurs among the insane at least six times as frequently as among the sane at corresponding ages, as seen by Table A.

The average age of 2,085 males admitted during 1903 into the London County Asylums was 42 years, and the expectation of life at this age, based upon actuarial tables, is 24 years, which would allow the average age at death of ordinary persons to be 66 years; but the average mean age at death of 721 males dying during 1903 in the asylums of London was 50.7 years, although seven of these were between 85 and 95 years of age—a life expectation of only 8 years at the age of 42—a shorter life by 15 years at least than would be the expectation among the sane. These asylum statistics, however, include deaths from general paralysis which is known to be a disease of not more than two years' average duration, so that apart from this disease, insanity has a slightly longer expectation of life than the mean average of 8 years recorded above.

The average deaths for all ages in England and Wales (and it may be remarked that these figures, of course, include not only the deaths of children up to 5 years of age, and all those that come under the designation "infantile mortality"—which amount to about 55 per 1,000 living—but they also include those in asylums which we separately analyse and present) during the 10 years ending 1901 was 17.6 per 1,000 living. The rate was lower during 1902, being 16.3 per 1,000 (males, 17.4; females, 15.2), and the tendency is still further to decrease; whereas deaths in asylums during the quinquennium 1898 to 1902 averaged 98.7 per 1,000 living, and during 1902 these deaths amounted to 105.15 per 1,000 living among the certified insane (119.0 males, 91.3 females), a ratio six times as high as that which occurs in the ordinary population, and as we know there are few certified insane under 20 years of age, so that the insane population is almost entirely above the age of highest mortality among the sane.

It is estimated that out of every 100 persons attacked for the first time with insanity, 30 recover and remain well, 20 recover, but relapse and die insane either during the first or subsequent attacks, but in my opinon this estimate is too high. If the admission rate of the insane persons for any one year into the county asylums of London be enumerated—say for 1903—when 4,502 (2,085 males, 2,417 females) were received, 378 of these (234 males, 144 females) died during the year, yielding a percentage of 8.3 deaths upon the admissions (10.2 per cent. males, 5.9 per cent. females).

If the same test is applied over a number of years—say from 1893, the year of opening the Claybury Asylum, to 1903 inclusive, a period of eleven years—a much higher mortality is demonstrated. During this period 41,274 patients (18,962 males, 22,312 females) were admitted into the London asylums, and during the same period 9,920 patients (5,341 males, 4,579 females) died—a proportion of deaths, calculated upon the admissions, of 24 per cent. (28.1 per cent. males and 20.5 per cent. females), and a proportion of 7.1 per cent. (9.4 per cent. males, 5.5 per cent. females) when calculated upon the average numbers resident.

Take further, the total number of insane persons who have been received into the asylums of London since the year 1831—the first year in which any records were made—and up to and including 1903, and it is found that 96,846 patients (45,804 males, 51,042 females) have been admitted.

Of these 32,258 deaths (17,165 males, 15,093 females) are recorded in the asylums, a proportion of 33 per cent., but the mortality has occurred in a greater degree among the males (38 per cent. males and 29 per cent. females), although during the period referred to 5,238 more females were admitted than males.

These figures show that the death-rate among the insane in institutions is greater among men than women, and also that during certain age periods it is exceedingly high when compared with the corresponding age periods in the general population. We are thus justified in looking upon insanity as a diseased state which shortens life, and upon the insane as a class which is marked by considerable physical inferiority and lowered vital resistance to disease, and this is significantly demonstrated by the statistics quoted, which show that the chances of survival in any particular case, speaking in an abstract and general way, are at least six times less than if insanity had not occurred.

Now, let us take the length or duration of the illness, and here it may be stated that insanity has more extreme time limits than any other malady, for it may last a lifetime; also that the life of a sane person is six times better as to duration than of persons who have suffered from certifiable insanity. In further proof of the statement that insanity is dangerous to life, let us consider the duration of residence in some of the deaths. Of the 12,772 (6,506 males, 6,266 females) who have died (Table I) in the asylums of London during eleven years, 1893 (date of opening of Claybury Asylum) to 1903 inclusive (and some of these had been in the asylums for sixty years), 5,569 (3,234 males, 2,335 females), a proportion of 43 per cent. of the total deaths, died within the first year, and of those dying within the first year of residence, nearly one-fifth died within the first month; moreover, only 21 per cent. of all the deaths (males and females) occurred after five years' residence, or from the fifth to the sixtieth year of residence in the asylums. It is significant that of the 6,506 total male deaths, 3,234, or nearly 50 per cent., died within the first twelve months, and 1,138, or a proportion of 16 per cent., died between the first and second year (a high death-rate, probably due to general paralysis), whereas only 15 per cent. of the total male deaths occurred after the fifth year of residence.

Then, again, as to those who have recovered. During the same eleven years, 1893-1903, there have been 12,400 patients who have recovered (Table III), and of these 26 per cent. recovered within the first three months, 28.6 per cent. from the third to the sixth month, and 27.2 per cent. between the sixth and the twelfth month. It is seen, therefore, that 82 per cent. of all cases which recover do so within the first year, and that twice as many recover during the first six months of the year of residence as during the second half, whereas after the fifth year only 1.6 per cent. of the recoveries occur, and some of these, of course, relapse. This shows that neglect of treatment not only postpones recovery, but renders it less complete. It also shows how absolutely essential it is to obtain early treatment for insanity, and that the chances of recovery dwindle out of all proportion by delay. It is therefore not too much to say that insanity is curable in inverse ratio to its duration, and that if actively and skilfully treated within the first month, more than 70 per cent. of the recoveries are sent out cured (using this word in the sense ordinarily employed for the recovery of mental cases), whereas after the first year only about 10 per cent. recover, after the second year 3 per cent. after the third and up to the fifth 2.6 per cent., and after the fifth, recovery is exceptional. It is thus seen that the duration of mental disorder is an indispensable element in the prognosis, for recovery and curability are directly influenced by it. Unfortunately, however, most cases of insanity do not come under treatment during the early manifestations of mental disorder, but the reasons for this and the remedies therefor need not be discussed here. There are other factors upon which prognosis also depends, such as the form of insanity, the long continued action of the same determining cause (such as alcohol, lead, dissolute living, years of misery or worry, etc.), which also enter into the question of prognosis, and to which reference will be made later.

As to ultimate recovery, the meaning of the word "cure" should, in a case of mental disease, be more definitely considered. Is there likely to be any permanent mental weakness when recovery is stated to have taken place, or are the so-called recoveries permanent? It is to be feared the answer is not a satisfactory one, for one attack increases the probability of a subsequent one, and there is a tendency to recur in all forms of insanity; still the possibility of a recurring attack grows less as time elapses, and the longer the subsequent attack is deferred the better are the chances of absolute freedom. Of all cases admitted into the London asylums an average recovery-rate of 30 per cent. is recorded upon the total admissions.

As may also be seen in the statistics when taken for a term of years—for example, from 1893 to 1903 inclusive, so as again to include the whole history of Claybury, in regard to which only I am personally familiar—the proportion of recoveries, calculated upon the admissions for these years averages 29 per cent.; but if the total recoveries be calculated for London since the year 1831, the proportion per cent. is 30 upon the total admissions. This computation, however, takes no notice of relapses, and of all the relapsed cases—7,896 in number (3,681 males, 4,215 females), calculating each separate relapse as a separate case and not as a separate person—an average of nearly 28 per cent., based upon the total recoveries—namely, 29,323 (13,083 males, 16,240 females), have relapsed since 1831. Of the 4,502 (2,085 males, 2,417 females) persons admitted into all the asylums of London during 1903 only 636 of them recovered during that year—an average of only 14 per cent. when calculated upon the admissions; but as against this might be rejoined the fact that many cases admitted during this year would recover in the next or subsequent years. The long series of years given above should, however, tend to correct any errors made for the limited period of a year.

Another interesting record has been made for London during nine years ending December 31st, 1903, and may be quoted in regard to the relapsing of recovered cases. This shows that an average of 25.72 per cent. of cases discharged recovered had been readmitted during the period referred to. A parallel record shows that an average of 12.22 per cent. of cases discharged from the asylums as recovered relapse and are brought back under treatment during the same year they are discharged in. In estimating the chances of recurrence, the danger of a relapse must not be lost sight of. Child bearing is a case in point, when the original cause may again become operative. If this can be evaded, a subsequent attack may be kept off. A second attack of puerperal insanity may be prevented by avoiding a second pregnancy, or, at any rate, lengthening the period between two confinements. Another example of danger of the original cause is the frequent recurrence in cases of alcoholic insanity owing to the too easy access to stimulants.

What is the usual termination of an attack of insanity? It may be stated generally that, when the case does not end either in recovery or in death, there may be a partial improvement, so that the person may be able to live at home or under mild supervision, otherwise the case deteriorates, so that life is on a lower mental and social plane, the habits become defective and self-respect is lost, the person being indifferent to all environmental stimuli, and leading what may almost be described as a vegetative life.

If the statistics of the London asylums are again drawn upon they show that there were admitted into these asylums from the year 1831 to 1903 inclusive, 96,846 patients (45,804 males, 51,042 females), of these at the end of 1903, 4,858 (2,384 males, 2,474 females) had been discharged not improved, and 13,718 (males 6,206, females 7,512) had been transferred elsewhere or discharged relieved, which means not cured—a proportion of 23 per cent. of the admissions. Moreover, 16,689 (6,966 males, 9,723 females) still remained under treatment—a further proportion of 17 per cent.,—and possibly this represents the actual remnant when statistics are taken over a long number of years. Briefly summarizing these totals, 30 per cent. recover (of whom possibly more than 10 per cent. again relapse), 33 per cent. die in the asylums within a definite time, and approximately 40 per cent. remain incurable and eventually die insane.

These statistics prove the sad and significant fact that there is probably always some mental weakness after an attack of insanity, and that there is no such happy issue as a complete and permanent recovery. Complete recovery is certainly infrequent and is not the rule; more, however, will be stated upon this aspect when dealing with the individual varieties of mental diseases.

Of the actual causes of death in insanity, tuberculosis in its various forms has been credited as one of the most frequent. It has been customary at Claybury, since 1902, to report monthly to the Pathologist the cases of suspected tubercle among the patients and staff. These are about 3 per cent. of the average number resident of the male patients, and about 4 per cent. of the females—a low enough proportion. About 20 per cent. of the phthisical males recover bodily in the asylum, and about half this proportion of the females. The result of *post-mortem* examinations made during the last three years by the Pathologist reveals the presence of active tubercle in 21 per cent. of the total male deaths, and 27 per cent. of the total female deaths, but tubercle is not necessarily the cause of death. Obsolete tubercle, as evidenced by fibrous scars, or depression at the apex, by calcareous bronchial or mesenteric glands—but not by adhesions, which may be due to pleurisy—are found in 37 per cent. of the total male deaths, and in 30 per cent. of the total female deaths, and it is safe to assert that this is not a much higher proportion than occurs among the sane outside the asylum. It is stated in the Registrar-General's report that the mortality-rate for phthisis in the general population is about 8.3 per cent. of all deaths. This is probably much too low, and Osler gives the proportion as 14.3 per cent. of all occurring deaths, and during the year 1903 phthisis was responsible for 16.3 per cent. of all deaths in institutions for the insane, but the rate varies much in different asylums, being higher for some and lower for a few others.

The cases of insanity most prone to tubercle are those of the depressed type, and those of adolescent dementia, otherwise called "dementia precox," and it is concluded that tubercle probably appears in them simultaneously with the onset of mental symptoms, and therefore mostly before their admission into the asylum. I think it cannot be too strongly laid down that the tendency to phthisis indicates a degeneration of the constitution, and therefore of a lowered resistance to disease. I believe it is true to affirm that the tendency to phthisis may almost be looked upon as a tendency to insanity, and conversely that insanity is a condition which tends to phthisis. Phthisis in one parent, and a neurosis—such as a previous attack of insanity—in another, appear to be convergent factors which constitute a powerful force towards deterioration, and the definition of insanity as a "vicious organization" is one which well harmonizes with facts as known to those of great experience.

Age, which is a relative term, distinguishes the periods of infancy, childhood, puberty, adolescence, the adult stage, and senescence. The period of development of the individual from one stage of the above to the other is marked by definite

psychological characteristics, and the gradual unfolding of the mind through the different "epochs" enumerated may be variable, for each or any stage may be arrested or be precocious, being characterized either by strivings, exaltation, impulses, hopes, doubts, or depression, each of which may be considered definitely morbid according to their prominence, or their influence upon conduct, or according to the response by the individual on their account to objective environmental stimuli. The period relating to the awakening of the sexual functions is, for many individuals, one of much concern if not of anxiety and danger; and age in a special measure affects the prognosis of cases of insanity. In regard to it a high authority has recently declared somewhat axiomatically that "Youth is not on the side of the neurotic," meaning that insanity is not favourable in the young. It is certain that "youth" is a period of compensation and youth is also favourable to survival, and, according to my experience, to recovery (in its modified meaning) from insanity. That youth is a period of compensation was recently well shown by Sir Victor Horsley in cases operated upon for cerebellar tumours—children having regained equilibrium and co-ordinated movement, yet half the cerebellum had been removed, results which did not follow in the adult. Age, in the sense of growing old depends upon the nature of the involutional changes in the vascular system, and the adage that "a man is as old as his arteries" is doubtless a true test of senility. If large numbers of cases of insanity are tabulated in respect to age, as is shown in the following table of statistics of the London County Council asylums, we find (see Table II) that in the two age quinquennia, 10 to 14 and 15 to 19 years, the death-rate is only 7 per cent. of the admissions, whereas after these ages the death-rate rises progressively up to between 60 and 70 years, when the proportion of 54 per cent. of deaths upon the admissions is reached. Moreover, as to recovery the percentage upon admissions between 15 and 19 years and between 20 and 24 years is 40 and 41 per cent. respectively, and is higher than for any other age period, after which it gradually declines until in senescence it is less than half this proportion, that is, to a recovery-rate of only 18 per cent. of those admitted between 60 and 70 years of age.

It is interesting, further, to compare results in the two sexes as to the insanity of youth. A higher percentage of girls under 25 recover than boys for each of the quinquennia (10 to 14, 15 to 19, and 20 to 24), but a higher percentage of deaths occurs in boys than girls for each of these periods, showing that insanity up to the age of 25 years is more recoverable in girls and more fatal in boys. Below the age of 7 years prognosis is absolutely bad, and it is worse the younger the patient. The more the insanity of boys approximates in type to that of girls—for example, the hysterical type—the better the prognosis.

In cases of insanity under 20 relapses occur with much greater frequency than above this age, and the prognosis is therefore unfavourable as to ultimate recovery. In my own experience there have been 220 cases admitted into Claybury between the ages of 10 and 20 (9 between the ages of 10 and 14, 211 between 15 and 20 years). Of these, 96 were discharged recovered (a proportion of 43 per cent.), but 24 of these (a proportion of 25 per cent.) relapsed, and had a second attack within a period of from one to ten years after discharge; a higher proportion still would therefore ultimately relapse. Of these 24 cases, 8 (a proportion of 33 per cent.) of the recovered relapsed a third time, and were again readmitted into Claybury. It is thus seen that insanity during the period of adolescence, even when recovery takes place, interferes with the growth of the nervous system and with the due unfolding of the mental faculties, which may thus be permanently damaged; and it is beyond doubt that one attack, more especially in youth, greatly predisposes to future ones.

TABLE I.—*Duration of Residence of Patients who have Died in all the London Asylums During the Years 1893 to 1904 inclusive.*

	Males.	Females.	Total.
Under 1 month ...	583	505	1,088
1– 3 months ...	817	551	1,368
3– 6 ,, ...	840	562	1,402
6– 9 ,, ...	562	394	956
9–12 ,, ...	432	323	755
1– 2 years	1,138	863	2,001
2– 3 ,, ...	542	601	1,143
3– 5 ,, ...	569	761	1,330
5– 7 ,, ...	309	454	763
7–10 ,, ...	241	373	614
10–12 ,, ...	90	173	263
12–15 ,, ...	98	147	245
15–20 ,, ...	125	226	351
20–25 ,, ...	83	153	236
25–30 ,, ...	34	72	106
30–40 ,, ...	27	71	98
40–50 ,, ...	13	28	41
50–60 ,, ...	3	9	12
Total	6,506	6,266	12,772

TABLE II.—*Ages of Male and Female Patients in all the Asylums of London from 1848 to 1903 inclusive.*

Years.	Admissions.	Recoveries.	Deaths.
		%	%
5– 9	14	1 = 7.0	3 = 21.5
10–14	164	38 = 23.1	11 = 6.7
15–19	1,737	699 = 40.2	123 = 7.1
20–24	3,364	1,378 = 41.0	317 = 9.4
25–29	4,088	1,456 = 35.6	576 = 14.1
30–34	4,855	1,659 = 34.1	794 = 16.3
35–39	5,212	1,642 = 31.5	1,368 = 26.2
40–44	4,719	1,460 = 30.9	1,404 = 29.7
45–49	4,193	1,308 = 31.2	1,255 = 29.9
50–54	3,744	1,101 = 29.6	1,213 = 32.4
55–59	2,821	703 = 24.9	1,074 = 38.0
60–64	2,516	566 = 22.5	1,141 = 45.3
65–69	1,764	288 = 16.3	1,115 = 63.2
70–74	1,158	137 = 11.8	972 = 84.0
75–79	653	57	718
80–84	230	13	332
85–89	66	1	124
90–94	9		24
95-upwards ...	14		
Unknown ...	49	11	7
	41,370	12,518	12,571

TABLE III.—*Showing the Ages in the Admissions, Recoveries and Deaths, and the Percentage upon the Admissions in each Class During the Years 1893 to 1903 inclusive, of Patients under 25 Years.*

Years.	Admissions.		Recoveries.		Deaths.	
	Males.	Females.	Males.	Females.	Males.	Females.
			%	%	%	%
5– 9 ...	11	3	—	1=33.0	3=27.0	—
10–14 ...	91	73	18=20.0	20=28.0	4= 4.0	7= 9.0
15–19 ...	823	914	302=37.0	397=43.0	74= 9.0	49= 5.0
20–24 ...	1,522	1,842	496=37.0	882=48.0	155=10.0	162= 9.0
	2,447	2,832	816=33.0	1,291=44.0	236= 9.6	216= 7.0

Let us now briefly consider the different forms of insanity as to prognosis, and of these there are certain types that bear the stamp of incurability *ab initio*. Such are the forms accompanying general paralysis, cerebral tumours, advanced tuberculosis, or malignant disease; those accompanying diabetes mellitus or diseases necessarily fatal and attacking the great internal organs (heart, liver, kidneys, etc.), epilepsy, paralysis from embolus, thrombus, or haemorrhage; also those conditions described as paranoia or chronic delusional insanity, alcoholic insanity with hereditary predisposition, and senile dementia. All these have a prognosis which may be described as absolutely unfavourable. The same may be affirmed of congenital mental defects of all kinds, varieties twice as often met with among the poor as among the rich; and although these cases are capable of some amelioration under specific treatment, yet I think it will be admitted that cures or recovery do not take place in congenital weakmindedness. As to survival, imbeciles have a better expectation of life than normal persons if cared for in institutions, as the statistics of such places as the Earlswood Asylum will confirm.

As to general paralysis of the insane, which occurs mostly in men (82 per cent. of all cases occur in men), and which forms 11 per cent. of all cases of mental disease among males who are admitted into asylums, it may be interesting to record that the duration of residence in Claybury of 331 male general paralytics admitted and dying therein (there have been admitted possibly 800 such cases), a proportion of about 10 per cent. males and 4 per cent. females (in whom the diagnosis was verified by the pathologist at the *post-mortem* examination), was one year four months and a

few days, and the total average duration, including the time from the onset of the first mental symptoms and prior to asylum treatment, cannot, I think, be more than about two years. There are cases diagnosed as general paralysis of the insane which may linger on for many years, but I am inclined to question the diagnosis in these. I have one case which has already survived twelve years, but I think the similarity to general paralysis is on the whole less than to some cases of cerebral syphilis. General paralysis hitherto has proved to be peculiarly unyielding to medical treatment, and it causes in certain territorial asylums (especially those receiving patients from cities, ports, or densely-crowded areas) no less than 33 per cent. of the deaths. In 1903, in all the asylums of England and Wales, nearly 25 per cent. of the total deaths were due to general paralysis, the age of greatest incidence being the decennium from thirty-five to forty-four years.

As to the prognosis in the different varieties of general paralysis, the disease is more chronic in the melancholic and in the tabetic than in the ordinary forms with typical grandiose delusions, the duration in the tabetic variety being from two to five years, and the proportion of tabetic cases being about 2 per cent. of the whole. Tabetic cases also occur further, in point of time, from the original syphilitic infection than the ordinary form of general paralysis, and all forms seem to occur when the original infection has been slight and the treatment neglected or shortened. Pupils fixed to light are met with in fully 33 per cent. of cases, and the duration is shorter in these than when the pupil reacts to light and accommodation, as in exceptional cases it does so react. Much variation occurs in regard to the pupils; they may be fixed at one period and react to light at another. The fixed pupil may be a definitely syphilitic lesion, whereas others of the symptoms may be para-syphilitic in their nature.

As to some of the other varieties of insanity, those forms based upon a hallucination of the senses are unfavourable; such is the form called "delusional insanity," characterized by systematized delusions, that is, by a tendency to argue and to reason out a cause for the persecution, which is based upon some unaccountable plot or prejudice; or cases of "fixed ideas" which are amenable to no reasoning or persuasion—the so-called "cranks"—these cases do not tend to recover. This form of insanity is four times more common among the private than among the poorer class, and this is a form which is rarely followed by weakness of mind or dementia—the patients remain insane cranks or "headstrong" persons all their lives. They are the most ingeniously-minded of all who suffer from insanity and they always have an excuse for their delusions. This form, as a rule, is an insanity of men, often of able men, and mostly between the ages of 25 and 35 years, the period of greatest mental activity. As to recovery, it may be described as hopeless, but as to actual survival such an insanity does not *per se* shorten life, and every asylum includes a large number of these among its chronic cases. As to epilepsy, when this is associated with insanity—and this combination is three times more frequent among the poor than among the rich (also about 1 in every 18 cases of epilepsy requires asylum treatment)—I believe they are better lives in institutions than when they are cared for outside, for the risks from accidents, choking, suffocation at night during a fit, serious falls, and the results of low inflammation from impaired circulation after repeated fits, are all thus reduced to a minimum. In England and Wales male epileptics constitute 9·9 per cent. of all cases annually admitted into asylums. We may safely state in regard to survival that epilepsy shortens life. Of all male deaths in asylums during 1903 epilepsy was the cause in 5·2 per cent., but in the general population during the same period it was the cause of death in only 4·7 per 1,000. The average age at death of all males in asylums during 1903 was 50 years, but the average age at death of males suffering from epilepsy and insanity was only 40·5 for 1903—nearly ten years lower. Out of 373 epileptics admitted during ten years into Claybury Asylum, 32 per cent. have died, one-third of these directly from epilepsy, and the average age of these at death was 38·5 years. Dr. Alexander has very kindly given me the experience of Hanwell in this respect for the last 50 years, during which period he records the death of 171 males from epilepsy at an average age of 37·7 years, and we are, therefore, justified in giving an unfavourable prognosis both as to recovery and to life in cases of epilepsy with insanity.

As to prognosis in acute insanity, there is one form which is most fatal—that is, acute delirious mania. In this form the risk to life is great. The condition, so far as my experience goes, is exceedingly rare. I have met with less than 20 in nearly 10,000 cases of ordinary insanity—namely, a proportion of 1 in 500. They probably die before they reach the asylum stage. Sixteen (7 males, 9 females) were decided cases, and the percentage of deaths, especially among the males, was exceedingly high—namely, 70 per cent.—death occurring in from two days to one week after admission, in spite of the greatest effort to save life. The death-rate in American asylums is similarly high, being estimated at over 70 per cent., or about the same proportion as in this country. Other forms of acute insanity are acute mania and acute melancholia, the latter being more frequently met with among the rich than the poor (in the proportion of 30 to 23), and the age of greatest incidence being from 25 to 34—the age, as has been described, of greatest mental development and expansion. I believe that all acute insanity implies some secondary dementia or weakening of mental powers.

More cases of melancholia than mania—246 to 153—were admitted into Claybury last year (1904), and a greater number of melancholia cases recovered—111 to 62 of mania—also a greater percentage of women recovered than men (41 per cent. to 30 per cent. upon the admissions). It used to be advanced that melancholia involved a greater and deeper reduction of mental power than mania, and that the latter was more recoverable. I am now disposed to question both these assertions. It is not often to-day that we meet with many cases of acute mania, a melancholy form of insanity tending to dementia having apparently taken its place; and there may have been in this respect a gradual change in the type of insanity during the last quarter of a century, probably depending upon the pressure of civilization.

Now, there are certain signs in the course of mental disease which are favourable to recovery, and the first of these is normal sleep, which can be graphically indicated in hours by means of the "sleeping chart," those cases reported as sleepless upon admission gradually increasing the period of sleep to the normal within the first few weeks of treatment, if recovery is to take place. Another symptom and one of great import is a return to the normal mean average bodily weight when the acute mental symptoms have passed off. Of the 195 cases (76 males, 119 females) which recovered during 1904 at Claybury, 38 males gained an average of 14 lb. each in weight, and 70 females gained an average of 13 lb. Nine males lost an average of 5 lb., and 11 females lost an average of 7 lb., the men gaining a mean average of over 12 lb, and the females a mean average of over 11 lb. In adolescent insanity a gain in weight not accompanied by mental improvement is of bad augury, and indicates chronicity and possibly confirmed dementia. A return of the facial innervation and the restoration of the natural expression and appearance is a favourable symptom, as is also the revival of natural affections which in insanity so frequently become perverted. An interest in friends and in the patient's own personal appearance and the consciousness and recollection of having been ill are all favourable signs and indicative of returning sanity.

There are some symptoms, on the other hand, of bad prognosis, and these are, defective habits, what is by some called "gatism." Patients often become faulty in their habits from want of attention, or from an inhibition of voluntary control as well as from the retardation or dullness of the ordinary reflexes. Sometimes from this cause—that is, dullness of the reflexes—there is no diarrhœa in the insane although there may be extensive dysenteric colitis, and some bolt their food and may get choked in consequence of an impairment of the laryngeal reflex; cough may also be absent owing to a loss of the bronchial reflex. Similarly, with a full bladder, the afferent stimulus is either not conveyed, owing to spinal sclerosis, or when conveyed is not responded to, owing to some cortical affection. The absence of the patellar reflex is an unfavourable symptom, as are also myosis, tremor of speech, wasting, the accumulation of rubbish, extravagances in dress or personal adornment, the coining of new and peculiar words, together with systematized delusions. All these are, speaking generally, unfavourable symptoms.

The *cause* of insanity not infrequently has a direct bearing upon prognosis. A brief accidental exposure to a single toxic cause is favourable to recovery, such for instance are the puerperal cases with confusional insanity, and the acute delirium which follows one bout of alcoholic indulgence. If a single and powerful cause be operative—such as a disappointment in love to a sensitive woman—the prognosis is better than if several causes, such as poverty, anxiety, and domestic bereavement acted in conjunction. Also, one great cause, acting for a short time, is more favourable to the patient than a long-continued

one. The course of the attack also bears upon the prognosis, for a short convalescence is bad, and so is a sudden recovery after an attack. The presence of severe bodily disease is certainly an unfavourable accompaniment.

The appearance, however, of an acute inflammation may sometimes cause the recovery of a chronic case—for example, erysipelas faciei, and carbuncle or pneumonia, by bringing about some constitutional alteration of the trophic functions, possibly by inducing artificial leucocytosis. An attack with a long incubation, and with eccentricity, oddity, perversity, etc., is of bad augury. Tubercle, indicating a poor resisting power, is also an indication of an unfavourable prognosis. It cannot be too much impressed that insanity is the result of a vicious organization, and is due to neglect of the rules of health, and through attempts to override or to disregard the laws of Nature, and such may be taken in a very wide sense; for example, it may be favoured by a dissimilarity in the age of the parents, in their temperament or race; too much similarity, such as the marriage of cousins—which produces convergent characters—and drink in the parents may also involve a regression of the offspring. Such neglect of the laws of development and production involves a lowered vigour and vitality, a diminished resistance to disease, and a general deterioration if not a degeneration of both mental and bodily energy, whereby not only the output of work is diminished, but also any given stress approaches nearer the breaking-point. A lowered vigour is caused not only by tubercle in its various forms, but also by alcohol, syphilis, and various other toxins; also, poverty, vice, and crime become the indirect causes of insanity through an environment which tends directly to impair the general health. Speaking generally, causes which favour and conditions which perfect a high standard of health among a community tend also to prevent insanity. I therefore maintain that the environment of the germ plasm may be a most potent influence, and may be most pernicious, far more so, in my opinion, than the direct evils of hereditary tendencies, influential as no doubt these are in the production of mental diseases.

It has been frequently asked, "What do you mean by heredity?" and it does appear that we are not quite agreed as to the precise meaning of the term. It is variously employed by different persons, for in speaking of heredity in relation to insanity some signify the transmission from parent to offspring of certain distinguishing characters of structure, whereas others intend the term to apply only to function, and they fail even to consider the organism as a whole, but they regard single organs only and their function alone to be subject to hereditary variations. We know for certain that some characters are inherited, those termed instincts are definitely transmitted, but it may be pointed out that precisely as there is no inheritance of genius, so there is no inheritance of insanity.

The tendency of modern interpretation has been to transfer discussion from the organism to the cell, which, according to Virchow—*Omnis cellulâ e cellulâ*—implies a continuity, and this continuity is maintained by the nuclear chromatic substance of the cell—otherwise called the germ plasm. In the sexual cells it is assumed that there are representatives—Darwin's gemmules—of all parts of the adult, and in the germ plasm of Weismann these are represented in the "biophores" and "determinants." This continuity of the germ plasm implies absolute resemblance between parent and offspring, but we know that protoplasm is an unstable compound, and that it is acted upon by a complex environment, in consequence of which variations are normal, but these variations do not proceed by leaps and bounds—that is not Nature's method, and it is altogether against the law of evolution—for great strides do not occur in Nature, it is only the small and definite little adaptations to environment that are transmitted, not the affections of one organ alone, but the disposition of the whole in so far as characters appertain to the special need of the individual in its environment. Hallucinations—for they suggest the reaction of the organism to its environment—are fundamental, and upon these hallucinations grow delusions; these, again, influence and guide conduct. By this is meant that an inheritance of neurosis is only a danger under certain conditions, namely, whether the neurosis is essential and fundamental; that is, in certain forms of insanity is an inheritance possible. If there be parental insanity it may be only an indication of instability in the offspring, in whom, when affected with insanity, the unexpected as to prognosis may ever happen. Acute cases with a hereditary history of insanity often make rapid so-called recoveries, and such recoveries are sometimes sudden and may apparently be complete; on the other hand, the recoveries may be partial and incomplete, or there may be frequent relapses. It is the experience of the majority of physicians that acute cases of insanity with a similar parental history may recover quickly; but if in addition there are present hallucinatory disturbances of the senses the prognosis is bad. Parents who have suffered from hallucinatory insanity with fixed delusions—cases of paranoia—often have children who grow up to be "cranks," "eccentrics," "oddities," etc., and they appear to transmit the characters which they themselves possess. In any long asylum experience such cases are met with, and possibly of all abnormal mental states, this form, and depression with suicidal tendencies—a pleasure-pain reaction to environment—these appear to be the most heritable. I have experience of grandparents, parents, and offspring who have committed suicide at about the same age, and even if the children of such parents do not themselves become suicidal, there is often a premature senile decay and a hopeless progression of the mental symptoms.

In regard to heredity, it is essential for the complete study of insanity that "family tendencies"—a sufficiently distant perspective of the organism—should be studied, for the organism needs to be considered in its descent, both as a whole and in its relation to its environment. In these investigations we obtain much information as to the incidence of cancer, phthisis, epilepsy, and paralysis, and as to tendencies in regard to drugs, such as alcohol, etc., the liability to toxins, such as uric acid, phosphates, and others, also as to the tendency to vascular degeneration, and generally as to the habit of body or of the particular temperament of the individual.

It has been truly stated that "fortunately we are not only the children of our parents, but of our grandparents, and also of our great grandparents and remoter ancestors," therefore whatever harm or damage may have occurred to the parents, such may be much lessened in the descendants.

It must be remembered that the tendency of Nature is to the average or normal type. The children of very tall parents are less tall and those of short parents are taller; also, the children of one insane parent, and possibly of two insane parents, may be not only healthy but sane.

I have taken the histories of 230 male cases admitted during twelve years into Claybury, whose father or mother were known to have been insane. In 10 of the cases both parents were insane; 3 of the 10 patients died of general paralysis. Of the total 230 male cases the high proportion of 27.4 per cent. had previous attacks; 30 cases died from general paralysis, a proportion of 13 per cent., a slightly higher proportion than occurs in the admissions as a whole, and it is thus seen that general paralysis not only may but does present a hereditary history of insanity. The number of deaths was 87, a proportion of 38 per cent., which is abnormally high, and demonstrates that hereditary insanity tends to extinction. The recovery rate is the same, namely, 38 per cent., which is also higher than among the general admissions. Of those who recovered 13 8 per cent. relapsed during the twelve years, again a slightly higher ratio than occurs among the total recovered of all classes (13 2 per cent.). These facts tend to show that cases with a hereditary neurosis (taking an attack of insanity to indicate this) recover quicker, that they relapse sooner, and that the others die sooner. This is epigrammatically foreshadowed by a high authority, who states that hereditary cases are easier broken down but are easier reset, and that as to recovery, "if a man is to become mad, he had better have a mad ancestry," meaning that the prognosis as to recovery is better when a hereditary taint is recorded.

Gentlemen,—In these remarks, which I fear have been set forth at undue length, I have based many of my calculations upon the arithmetical argument, and I trust, although I may have wearied you with figures, that I have succeeded generally in dealing with the chief symptoms which, when interpreted, may give us some definite information as to prognosis in mental diseases.

[A discussion on this paper will be found in the SUPPLEMENT, page 348.]

BEQUESTS TO MEDICAL CHARITIES.—Ex-Provost Alexander Hay Moncur, of Dundee, in addition to many other charitable bequests, left £5,000 to the Sidlaw Sanatorium for Consumption; £3,000 to the Bannatyne Home of Rest, Newtyle; £1,000 to the Royal Victoria Hospital for Incurables, and £500 each to the Dundee Royal Infirmary and the Poor Sick Nursing Society, Dundee.

An Address

ON

POST-MORTEM EXAMINATIONS WHICH DO NOT REVEAL THE CAUSE OF DEATH.*

By FREDERICK J. SMITH, M.D., F.R.C.P.,

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The subject of this address is only one chapter out of a very large question upon which my attention is closely engaged—namely, the *post-mortem* examination from a medico-legal point of view—but it is perhaps the most important chapter, for within it may come many cases of concealed murder which cannot be detected by an autopsy, or at least are not likely to be detected except by either a happy chance or preternatural ingenuity on the part of the medical man.

One might put the question, Is the occurrence of an autopsy without pathological appearances to account for death an example of of any large class of deaths, or is it an accident due to carelessness or an incomplete survey of the conditions found?

The daily press of the evening genus, and more particularly the halfpenny species, would lead one to suppose that the latter is the case when one finds it gravely reported that an expert specially engaged by one of His Majesty's coroners stated that a man died from "threatened apoplexy." One can imagine that the appearances were really compatible with death from natural causes, but that something more in the nature of a definite diagnosis was required from one with such expert knowledge. It is statements like this that bring expert evidence into ridicule. But there can be no question but that the first hypothesis is the correct one: one has only to think of a few of the diseases of the nervous system—epilepsy, for instance—or some of the chronic scleroses; or, again, of some of the zymotic diseases, such as whooping-cough, to realize at once that in the absence of the clinical history of the case a *post-mortem* examination, done with the most scrupulous care, will fail to reveal the cause of death in the absence—aye, and even in the presence—of a prolonged microscopical research. Or take, again, numberless vegetable poisons, without something to go upon suggesting a prolonged and careful chemical analysis, what chance would there be of detecting death from any alkaloid, or similar substance, possibly with the exception of strychnine? I know of none that would reveal its presence to naked-eye inspection. The argument need not, however, be laboured, for it is only in the mind of ignorance and quasi- or pseudo specialism, that has for its own notorious reputation to twist the indefinite appearances of natural death into some alleged definite indications of the precise cause of death, that any doubt exists. The larger one's acquaintance with natural *post-mortem* appearances the greater is one's hesitation to attribute these to some fixed and definite cause acting while life was still present, or even to ascribe death to some gross change found.

Our records at the London Hospital for a period of some nineteen months finally put a crown of proof on the argument. During these nineteen months there were 2,123 *post-mortem* examinations performed carefully and recorded with exactitude, and in no less than 102 there were found no naked-eye changes whatever to which death could be attributed. I propose to briefly analyse these 102 cases, and then to consider some reasons why such need not surprise us.

There were in the period covered by my report 150 cases of death ascribed by clinical evidence to marasmus—that is, wasting without obvious clinical cause—and diarrhœa and vomiting, and of these no fewer than 83 showed nothing whatever in any internal organ to which death could be ascribed, and in all these it would have been impossible from autopsy alone to explain why the thread of life had snapped when it did.

The remaining 19 cases were of various denominations, the most frequently occurring being prematurity, of which there were four examples. It might be argued that immaturity can be detected by inspection, and so it can in many cases born at six, seven, or even as late as eight months, but if immaturity be taken in its physiological sense of incapability to live an extrauterine existence, there will be found several in which by inspection alone it would be hazardous to assert positively that such was the case. I have, for instance, 5 such cases, aged respectively 1, 8, 18 days, and 5 and 8 weeks, the first of which was born during eclampsia of the mother. Besides these children there were one at 7 weeks, in which a guess was made that the child might have had congenital syphilis; one at 4 months, with liver and spleen somewhat larger than usual, but nothing else; one at 20 months, in which there was a doubtful history of laryngismus stridulus; and two at 2 years each, in one of which there was some slight evidence of rickets, but in the other every organ in the body seemed perfectly healthy, and no reason could be ascribed why life, which had lasted for these two years, should not have continued. The remaining 5 cases were adults. One, a girl aged 22, was known to have had acute mania, another, a man of 25, was seen to faint with the heat, and died at once, and the other three remained without a label from lack of clinical and *post-mortem* evidence, and would in former days have been described as death from the visitation of God.

I maintain if this be the experience in the *post-mortem* room of a hospital with a large medical school attached, a similar experience must be common in places where no critics are present to ask questions or to discuss the morbid appearances disclosed. There is no keener critic than a body of medical students. The reasons why we do not hear of more verdicts, "cause of death unknown," is, first, that when a medical man who has seen the patient during life does the autopsy he is quite competent to say that what he found *post mortem* was quite compatible with the symptoms he had observed during life and can label the disease accordingly; and, secondly, that when a stranger does the autopsy he magnifies natural appearances into morbid ones and makes a statement accordingly, a statement which nobody cares to or perhaps can controvert.

How such cases occur is after all not very difficult to answer, for if one takes a general survey of all the possible causes of death, one is immediately struck by the very few absolutely tangible and definitely certain causes of death of which the naked eye makes us at once aware.

Two or three limbs torn off or crushed and mangled, an internal organ lacerated, with the pleurae, peritoneum, or meninges filled with blood; severe cerebral haemorrhage or extensive softening, a few forms of extensive kidney destruction, pus deluging a serous membrane, a consolidated lung, cancer blocking a tube or causing perforation thereof, a few cases of corrosive poisoning, are nearly all in which we can positively assert that such a condition is immediately or after a very short interval quite incompatible with a continuance of life. In the great bulk of cases, probably about 95 per cent. of all cases of death, kidney, heart, lung, stomach, may any or all of them be grossly diseased, and we may say that the disease was the cause of death, but only because we have known something of the symptoms that preceded the fatal termination; they are none of them in their nature necessarily fatal within a given short period of time, and our evidence before the law must run, "I found gross disease of such and such organ, and it would be sufficient to account for death sooner or later, and may have caused it now."

Apart from this line of reasoning we have well-known physiological, physical, and physico-chemical principles upon which to rely. The basis of the first being the fact that cellular and somatic death or the death of the individual in the ordinary sense of the word and the death of the individual cells of the organs by no means coincide, the interval between the two events being very variable, possibly amounting to several hours; in physiological experiments this is well shown. The physical principle is the well known law that fluid will when left alone sink down to a position of stable equilibrium; in other words, and directly applied to our subject, blood while liquid will sink and soak into the lowest possible part of the vessels and organs of the body, filling them to the highest available point, and thus simulating *ante-mortem* congestion to such an extent that the microscope may be necessary to distinguish between a vital reaction to an irritant and a mere physical phenomenon. The physico-chemical principle is the well-recognized fact that cells—both those necessary to life and those less important ones—may be slain by substances of a foreign nature gaining access to them and stopping their vital functions without leaving any traces behind them; this subject has been the object of many physiological researches, and proved up to the hilt, but one might illustrate it by asking what changes would any one expect to find after a hypodermic dose of any powerfully poisonous alkaloid such as conine, nicotine, morphine, or strychnine, and yet assuredly death is

* Delivered before the Medico-Legal Society, December 12th, 1905.

directly due to the physico chemical action of these substances upon nerve cells.

We may consider these points from a practical point of view by taking the individual organs of the body, those at least, such as the brain, heart, and lungs, which are necessary to life and disease of which may cause death; indeed, it is usually asserted that death only takes place through one or the other of them, an assertion which fairly well expresses the truth, though in some, such as haemorrhage and septicaemia, it might be difficult to assert that one only was the ringleader in the catastrophe.

The brain: A dead body is invariably laid on its back, and hence the meninges at the base of the brain become full of blood, usually liquid, and unless care be taken, it may be assumed that meningitis or cerebral congestion of a fatal character was present before death.

The gross organic changes such as haemorrhage, gross softening tumours, abscess, pus on meninges, tubercle and adherent meninges, are easily detectable and not likely to be overlooked, but such diseases as epilepsy, convulsions due to peripheral causes, leave no traces by which they can be recognized. An excess of submeningeal fluid or excessive appearance of puncta cruenta may make one suspect that they owe their origin to *ante-mortem* influences acting fatally upon the brain, but in uraemia, in bronchitis and emphysema, in pneumonia, in morbus cordis, I have frequently found the brain in a condition indistinguishable from that which might easily be caused by these troubles, and if one thinks for a moment about the actual dying of the patient—the real essential *why* did he die in these cases—it is very easy to see that they frequently do die in all sorts of diseased conditions actually and proximately because of the serious disturbance of the normal physiology of the brain.

Meningitis itself when early requires a good diffuse daylight for the recognition of the simple dry greasy appearance presented in such a condition, and I have more than once been in doubt whether it was present or not, and should have overlooked it—even when tubercular in origin—had I not had the *ante-mortem* symptoms to guide me.

With regard to the heart, it is an established axiom in physiology that it never stops in systole but always in diastole, and yet *post mortem* it is very frequently found in a condition of apparent contraction due to rigor mortis, and as rigor mortis is universal in muscle the following is a justifiable statement: If the heart be found flabby, with other muscles stiff, it is probable that there is something in the condition of the heart muscle itself to account for it, some form of degeneration—fatty, fibrous, or simple—but to state that this was the cause of death is going much beyond anything we have justification for.

Take any disease you like—and one can undertake to say that the heart may in two consecutive cases be found in the one contracted and in the other flabby, in the one a good colour and in the other a bad colour—and who can say without the clinical history whether the heart was the real cause of death or whether it was merely what one may call an accessory to the fact. In carcinoma brown atrophy is a very common appearance; in cirrhosis of the liver, in fatty liver, in old age with atheroma, a fatty heart is frequent, but fatty degeneration takes a long time, and who by naked eye or even with the aid of a microscope can say at what stage of the diseased process the organ failed from absolute incapacity, or that it has been only unequal to some unusual strain? Again, the opposite is true, and cancer, cirrhosis, etc., may kill, and yet the heart be found quite healthy. Are we, then, in the one case to say the heart killed and in the other the independent disease? Such a position is one of pure guesswork, and only the clinical history can decide.

It is when the lungs are considered that the greatest difficulties are met with in deciding between appearances that may have been the ultimate cause of death and those which may be an accidental accompaniment of death, and also those which are mere *post-mortem* effects. There can be no question but that when somatic death takes place—death, that is, of ordinary parlance—all the cells of the body do not die at the same time, and from the mucous lining of the bronchial tubes a certain amount of mucus is exuded *post mortem*, and it is impossible to estimate whether the mucus thus found was enough to cause death or not. Again, supposing, as is frequently the case—and I believe almost universally—a little pus can be squeezed out of the medium-sized and smaller tubes, are we, therefore, to say that bronchitis was the cause of death? I hold very strongly we are not justified in so doing unless we have an account of the symptoms immediately preceding death, for these give just the information we require.

Haemorrhage into the lung, tubercle, consolidation, subpleural ecchymoses are all obvious and evident enough, and their indications may be translated into lethal expressions; but what about oedema of the lungs? It often kills, I have no doubt; but it is equally often found in septicaemia, uraemia, apoplexy, etc., when its indications are, to say the least, very doubtful. Supposing, then, it is the only gross change found, are we justified in saying it was the cause of death? Assuredly not without the clinical history of symptoms preceding dissolution. And we are bound to include oedema of the lungs amongst those *post-mortem* appearances which leave death unexplained.

Again, what is known as hypostatic congestion of the lungs may be what its name implies, a pure and simple mechanical effect capable of taking place *post mortem*, though often enough in certain debilitated conditions of the system it is a very real *ante mortem* phenomenon easily capable of killing, and it wants very great experience of clinical history combined with *post-mortem* findings to say how far it was the cause of death. The phenomenon, moreover, can hardly be distinguished from the very early stage of pneumonia; in both there are precisely the same dark red, almost black, condition of the bases of the lungs or of one lung, and it requires very nice discrimination and long experience to say that degree of resistance to the finger is natural, and that is pathological; in fact, again, without the symptoms and the temperature that preceded death, I believe the distinction to be oftentimes impossible.

One cannot pass over in silence the extreme difficulty one meets with in deciding from naked eye anatomy whether the kidneys are or are not healthy. I admit that gross changes are common enough and easy enough to detect, and yet one often has to call the kidneys normal to the naked eye when the clinical history has shown that they at any rate allowed much abnormal material to filter through them, and that they were the clinical cause of death whatever may have been the proximate and essential cause.

Even if gross changes be observed we are again face to face with the difficulty—they must at some time lead to death, but have they caused it now?

These cases are very important, and it follows from what I have said that they occur with moderate frequency; we have seen also the reasons why they occur, and we have now to consider their importance from a medico-legal point of view. This may be summarized in a sentence, though details must be discussed rather more fully. That procedure of a coroner's court by which a verdict is arrived at on the evidence of the pathologist alone is simply a farce, for no such person, even if skilled, can by naked-eye evidence alone determine the true cause of death in a completely satisfactory manner. It is absolutely essential that with him should be associated the medical man who last saw the deceased alive. Do not let me be misunderstood. I am not denying the value of expert pathological evidence; I am merely stating that it is insufficient for the needs of justice and the safety of the public, and requires to be supplemented by other medical evidence; but I do go so far as to say that if only one person can possibly give evidence at an inquest, that one should be a medical man who has seen the person alive, even if it be only in his death agony.

The real genuine pathological appearances of organs as opposed to the mere accidental exudations and congestions, so often distorted by self-assertive would-be experts into evidence of the cause of death, are not likely to be overlooked by any medical man, though I must admit that it is possible they may be, for I have myself seen carcinoma of the sigmoid leading to perforation of the gut remain entirely unperceived by a medical man; but this class of mistake is of infinitely less importance than that of attributing a death from morphine poisoning to bronchitis, which is a very possible or even probable mistake which might be made by one who relied upon *post mortem* evidence only.

Let us imagine a person in South-West London, for example, is taking medicine containing morphine and that some evilly-disposed person gives an overdose: the medical man in attendance feeling that the disease should not have proved fatal may refuse a certificate; a *post mortem* examination is made and an inquest held without any reference to or communication from the medical man. Alleged signs of bronchitis are found and a verdict in accordance is given, and a foul murder is hushed up probably for ever. The mere possibility of such an occurrence makes one shudder, and yet the

ignoring of the medical man in attendance makes such, one might say, probable. In my own experience within the last few months a case in point has occurred: Dr. Wynn Westcott asked me in September last to make a *post-mortem* examination on two children who had died after taking liquozone, a strong solution of sulphurous acid. On autopsy I could find no possible nor even probable cause for death, and had one not known that repeated doses of simple irritant poison may leave no traces in the alimentary canal beyond those attributable to mere *post mortem* changes I should have been obliged to say that I could find nothing to account for death had I not had the invaluable, nay indispensable—if justice was to be done—support of the evidence of Dr. T. W. Morcom Harneis, who had attended the deceased children for some three or four days, with all the symptoms of irritant poisoning. It was on his evidence combined with mine that a correct verdict was given—namely, poisoning from the effects of taking liquozone in repeated doses.

It may be urged that the mere fact of no cause being found on autopsy prima facie sufficient to account for death, should make the pathologist suspect some insidious form of poison, but a reference to my analysis of cases will at once show that such a connexion is by no means necessary, and common experience leads in the same direction, especially, perhaps, in that terrible cause of infant mortality so-called overlaying. I believe that in the majority of such cases there are no pathological conditions found after death.

MEMORANDA:
MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, ETC.

UNION OF SEVERED NOSE.

IN September, 1904, a lady, aged 24, lost control of her bicycle, and was thrown through the plate glass window of a shop. I saw her about twenty minutes afterwards, and found the end of her nose was missing, while her upper lip was so gashed that it was attached to the face by the internal mucous membrane only. Ten minutes later the tip of the nose was handed to me, having been found on the shop floor, and brought across the road to where the patient lay; it measured about three-quarters of an inch from side to side, half an inch vertically, and was under an eighth thick, but fortunately contained almost no cartilage. Being quite cold, it was placed in warm water for a few minutes, then washed in 1 in 40 lysol, and secured in position by four catgut stitches. The wound was then painted with tinct. benzoin. co., and a few shreds of cotton-wool, saturated with this fluid, applied. The same treatment was used for the lip. The patient was kept in bed for ten days, and allowed fluid nourishment only. Within twenty-four hours she could feel the point of a pencil when brought in contact with her nose, and acuteness of sensation gradually increased, until in about four days it was normal. The wound healed by first intention, and there was no discharge from it until a fortnight after, when the superficial layers of the skin sloughed off. Under a dressing of quarter strength boracic ointment the epidermis regenerated in a few weeks, and, excepting a little redness at the junction of tip with nose, and a slight nick in the right nostril, the organ looked normal. The lip healed by first intention. Now, several months after the injury, there is nothing abnormal to be seen, except a slight not readily observed deficiency at the margin of the nostril.

Shotley Bridge. J. MURRAY RENTON, M.A., M.B.Edin.

THE ALBUMINURIA OF PREGNANCY.

MRS C., aged 21, a primipara, expecting her confinement on April 1st, came to see me several times on account of repeated attacks of urticaria. She was very constipated, and the uterus was enormous. Twins were suspected.

On March 20th she had a good deal of oedema about the feet and ankles. Her urine proved to contain much albumen, and was passed in very small quantities and at long intervals. She was given a diuretic and carefully dieted. The following day she suddenly discovered she was unable to see with the right eye. Two days later as she developed a marked internal strabismus of the same eye, the diuretic was made stronger, purgatives administered, and the patient kept in bed.

No improvement took place, and on March 26th the left eye became similarly affected, though loss of vision was not complete.

On ophthalmoscopic examination an unusually pale condition of the fundus was found, but no evidence of haemorrhage or albuminuric retinitis. She was now passing more urine, with slightly less albumen, and the bowels were acting better. Labour commenced on March 27th.

In due course I ruptured the membranes, and after a gush of liquor amnii she called out in a joyful voice that she could see with her right eye. Shortly after she was delivered of twins, and, the second child being born, I noticed that the squint was much less marked, but she told me that she could see "two of me."

The rest of the labour, except for considerable haemorrhage, was uneventful. On its termination she could see with both eyes, but the left eye was still turned inwards a good deal. During the puerperium the oedema which, after she was kept in bed appeared in the lumbar region, rapidly disappeared.

The squint persisted until April 5th, when it too vanished, and vision became normal. The urine was collected carefully as soon as possible, and the albumen found to be lessened in quantity. She was given an iron tonic, and by April 14th there was no longer any trace of it, while her face, which had been red and puffy, had resumed its normal appearance. She has since remained in good health. The two babies were healthy and well developed. It seems remarkable that she should have escaped eclampsia.

London, N.W. JOHN SPURWAY, M.B., C.M.Edin.

SUDDEN DEATH AND THE THYMUS GLAND.

THE following case recently occurred in my practice: An urgent message was sent me from a house a few doors away. I got there in three minutes, but found the patient—child—dead. A first glance at it showed it to be an extremely well-developed infant, about 8 months old. On each cheek was a dusky patch; the lips were slightly blue, but the finger nails of a natural colour, and there were no other signs of asphyxia. I immediately commenced artificial respiration, and persisted in it for twenty minutes, but without success. The mother, it appeared, had fed the baby from the breast, and had then put it to bed, apparently in perfect health. About a quarter of an hour afterwards she went to look at it and picked it up dead. Close questioning disclosed nothing pointing to any previous disease. The child was always thought to be extremely healthy; it invariably, however, turned on its face to sleep, and had a habit of throwing its head back in its mother's arms. An examination was made by myself, with the kind help of Dr. H. Roger Smith, the usual family doctor. The brain and all the organs were found to be healthy, with the exception of the thymus gland. This occupied the entire region from the thyroid to the diaphragm, or, by the rib marking, to the upper border of the seventh rib. On removing it from the trachea, it was found to consist of three lobes; it measured 4 in. in length, 2½ in. across, and ¾ in. thick, and weighed 2 oz. The trachea was full of half-digested milk. The enlarged thymus may perhaps explain why the child used to assume the attitudes which have been described. They were probably those in which the pressure on the thymus was least felt. In Osler's *Medicine* under "Diseases of the Thymus Gland," it is stated that enlargement of the gland is a recognized cause of sudden death in infants, owing either to its direct pressure on the trachea or to its pressure on the pneumogastric causing spasm of the glottis. In this case, however, there was no flattening of the trachea or evidence of pressure *post mortem*. There appear to be no symptoms by which the condition can be diagnosed with any assurance during life.

Hampstead. EDWARD JESSOP.

A NEW TREATMENT FOR "HOUSEMAID'S KNEE."

A FEW days before the case of accidental rupture of a housemaid's knee seen by Dr. Pogson I had a similar one in a much older patient.

Mrs. J., aged 68, was under my care for osteo-arthritic pain of the left knee from June 13th to July 11th, 1905, by which time it had quite subsided. On July 24th she came to show me a typical medium-sized, painless enlargement of the left bursa patellae which had arisen during the preceding fortnight. I told her to give up kneeling, and the following day went away for a holiday.

I next saw her on August 16th, and she told me that the swelling had remained stationary till about August 12th, when she accidentally fell on the stairs and heard it go pop.

She said there was no appreciable pain at the time and none at all since. The knee was certainly free from any swelling or tenderness.

London, S.E. FREDERICK A. FIELD, M.D.Lond.

REPORTS
ON
MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

SOUTH DEVON AND EAST CORNWALL HOSPITAL, PLYMOUTH.

A CASE OF SARCOMA OF THE CORPORA CAVERNOSA PENIS.

(Reported by H. W. WEBBER, M.S., Assistant Surgeon to the hospital.)

J. B., aged 51, labourer, was admitted to the hospital on May 30th for swelling and hardness of the penis. The following notes were taken:

Personal History.—He had been a healthy man all his life, except that thirty years previously he had a small hard sore on the penis near the meatus; this became hard and appeared about six weeks after exposure to infection; there were no secondary symptoms nor any local disease otherwise. His wife had nine children and three miscarriages; all the children were healthy.

History of Present Illness.—He was well until twelve months ago; then began to experience pain 1½ in. from the meatus, at first on sexual congress, then when from any cause the penis became erect, and finally on passage of urine. Pain came on and still comes after the passage of fluid, not during. Of late (the last week or two) there has been great and increasing difficulty in passing water. Now urine only passes drop by drop. About six months ago a small lump was felt at the site of the first pain (1½ in. from the meatus) along the urethra. This increased steadily in size and involved the whole substance of the penis. A few weeks ago a catheter was passed by a medical man; bleeding resulted and continued three days; a considerable amount in all was lost. This is the only bleeding that has occurred. There has been of late (for ten days) slight purulent discharge. Thus up to the present the local symptoms have been: (1) General enlargement of penis; (2) pain and difficulty in micturition, with increased pain after the act: (3) some slight purulent discharge: (4) a history of considerable haemorrhage; (5) general discomfort in the organ, and dislike to move it.

Present Condition—The patient's general health is not good; he feels miserable, and has a bad appetite. He has lost flesh, especially of late. The whole penis is enlarged; the scar of an old chancre is easily visible just to the left of the meatus. The glans is hard, as though infiltrated with a growth; especially is this marked along the urethra. The next small section of the organ appears almost normal, and then one passes on to an enlarged part, which is hard and bossy. Both corpora cavernosa and the corpus spongiosum are involved at this point. This hard and bossy condition extends, gradually becoming less, almost to the pubic attachment of the organ. Behind this the infiltration is more obviously confined to the urethra and surrounding tissues of the corpus spongiosum, extending well into the bulb and seemingly terminating at the triangular ligament. The consistence of the infiltrated parts above described is of stony hardness. There is some slight purulent discharge from the meatus. The whole organ is tender, and the patient does not like to have it moved. The glands in both groins are enlarged, especially the oblique set on the right. They are very hard, and suggest malignant disease. An examination of the urethral discharge was made by Dr. Pethybridge, Pathologist to the Hospital, and he reported 'no gonococci either in film or obtained by culture. Staphylococci and putrefactive organisms present."

Treatment and Progress—Potassium iodide, 15 gr., with liq. hydrarg. perchlor. 1 drachm, were given three times a day, and this was increased on June 3rd to 22 gr. and 1½ drachms respectively. At the same time a small piece of ung. hydrarg. was rubbed in locally twice a day.

Operation.—On June 8th suprapubic cystotomy was performed. Previous to this an attempt was made to pass a catheter. A stony resistance was encountered just anterior to the level of the scrotum. Some bleeding resulted, but soon stopped. The bladder was found considerably distended, the urine was sweet, the bladder wall and urethral orifice normal. The bladder was drained by a rubber tube, the bladder wall being sewn round it.

The result of this operation was to establish a satisfactory suprapubic drainage of the bladder, but increasing growth of the penis, with pain, necessitated further measures. On June 20th the penis was amputated close to the triangular ligament, the bulb being removed separately from the main mass, only the attachments of the crura to the ischial rami were left. A section through healthy tissue, well beyond the growth, was obtained. Both testicles were also removed; the inguinal glands were not attacked.

Result.—The wound healed well, and the enlarged glands gradually subsided until, in the first week in August, they were of normal size. About a week after the operation considerable oedema of the left lower extremity supervened, with pain requiring nepenthe in 10 minim doses for its relief. The swelling and pain, however, gradually disappeared, and by the second week in August the left lower extremity was of normal size and quite comfortable. Patient was discharged on August 24th, 1905, wearing a suprapubic rubber drain and urine bottle.

Pathological Report (by Dr. Pethybridge).—The greater part of the corpora cavernosa is replaced by a firm, whitish mass, which has also invaded the corpus spongiosum and glans penis. The posterior fourth of the corpora cavernosa is not invaded by the growth, and a well-marked line of demarcation exists. Microscopically the section shows a fibrous tissue network with wide irregular spaces filled with large round and oval cells.

Remarks.—I am indebted to Mr. Whipple, under whose care the case was, for permission to publish these notes, which were taken by the house-surgeon, Mr. A. G. Pitts. Primary sarcoma of the penis is a rare disease, and few cases of it have been recorded. According to Erichsen[1] it is "very "rare; it appears to commence in the cavernous tissue." "A few cases of primary sarcoma of the penis, originating in the erectile structures, have been recorded" (Morris).[2] Mr. Battle[3] showed, at the Pathological Society (March 17th, 1885), a specimen from a patient 60 years of age, the clinical symptoms being gradual enlargement of the penis and haemorrhage. Microscopically the section showed "cells of various kinds, of which the majority were round cells; in places there was a tendency to alveolar grouping." At the same Society Mr. Hurry Fenwick[4] showed on November 19th, 1889, a specimen removed by Mr. Waren Tay from the left crus penis of a man aged 36. The disease was of three and a half years' duration, the symptoms being those of slowly increasing growth, with slight pain and no involvement of the urethra. Microscopically it was a mixed spindle-celled and round-celled sarcoma. The specimen from the case has been presented to the Pathological Museum of Guy's Hospital.

Note, November 27th, 1905.—I visited this patient at his home to-day, and I found him anaemic and weak, and confined to bed. There is a granulating surface as large as a florin projecting from the suprapubic wound, which is raised and bleeds on touching. No doubt this is of sarcomatous nature. The anterior half of the perineum is filled with firm, hard growth, which is adherent to bone, and tending to fungate. The inguinal glands on both sides are moderately enlarged, and the lower extremities oedematous.

REPORTS OF SOCIETIES.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Sir R. DOUGLAS POWELL, Bart., K.C.V.O., M.D., F.R.C.P., President, in the Chair.

Tuesday, December 12th, 1905.

DISCUSSION ON THE TUBERCULIN TREATMENT OF TUBERCULOSIS.

MR. J. PARDOE, in resuming this discussion, contributed a paper on the treatment of tuberculosis of the urinary system by new tuberculin (TR). The disappointing results of the treatment of urinary, and especially vesical, tuberculosis by operation and bladder washes had led him to try tuberculin injections. The elimination of unsuitable from suitable cases for such treatment was of the first importance; the criterion was whether under the local reaction induced any obstruction to the urinary channels was likely, and a careful cystoscopic examination to decide this point was necessary, the reagent not being employed unless there were clear ureteric orifices and a clear discharge on at least one side. Details of the method of employment were given in regard to precautions as to sterility of the agent, size and frequency of dose, and length of time during which it should be used. Results in 21 cases were described; of these, 5 were apparently cured; 4 showed marked improvement, 6 showed no improvement, and 6 died. The conclusion drawn was that, as regards these 21 cases, the results gained were at least as good as those by any other method, and that for vesical tuberculosis it seemed the best remedy at disposal.

The PRESIDENT, after giving a summary of the papers, said that the point, in the cases occurring in his experience, that seemed of primary importance was that the disease should be fairly localized and quiescent. It suggested that in the "stormy" cases sanatorium treatment should precede the

[1] *Surgery*, tenth edition, vol. ii, p. 1225.
[2] Morris, *Treves's System of Surgery*, vol. ii, p. 1015.
[3] *Lancet*, March 21st, 1885.
[4] *Lancet*, November 23rd, 1889.

tuberculin injections. It would be of interest to know whether such treatment had an influence on the opsonic index. There was ground for hope that a clinical index would shortly be arrived at and a routine of treatment laid down and that with a minimum of test observations.

Dr. Ross had been engaged for the last nine months in applying Dr. Wright's methods in the diagnosis of many cases of tuberculosis and in the treatment of 6 in the Victoria Park Hospital. In 100 cases of phthisis the opsonic index was 1.2. in only 11 was the index below 0 8. Out of 30 cases, mostly advanced, 27 showed an opsonic index at some time above normal, 25 showed a fluctuating index, 27 one above the normal limit; in confinement to bed the index fell, and rose again on taking exercise. As a general statement, as the temperature rose the index rose. As to treatment, the value of a high opsonic index was great. In no case of tuberculosis had he seen it higher than 1.3. The fluctuation of the opsonic index more than four decimal points in repeated examinations indicated probably tuberculous disease. It seemed as if an inherited predisposition was accompanied by a low opsonic index of the blood. In cases of acute illness the non-occurrence of a high or fluctuating opsonic index was strong evidence against its being tuberculous. His results with regard to the negative phase agreed with those of Dr. Lawson and Dr. Stewart. He had inoculated 6 cases of pulmonary tuberculosis with tuberculin (TR) with an index of 1 or below. The 6 included 4 advanced and 2 early cases; of the four 1 was much improved and 1 somewhat improved—the method did not seem so suitable for advanced cases; of the 2 comparatively early cases the opsonic index was increased and the clinical symptoms much ameliorated. He had treated 2 cases of localized tuberculosis of the skin and bladder with much improvement.

Dr. A. Whitfield gave details of the results he had obtained with tuberculin injections in skin cases. One rapidly-increasing case of lupus was slightly better, the improvement occurring from the centre outwards. Two cases of scrofulodermia had done well, and two of erythema induratum had been brought under control. The low index he believed to be, not a congenital thing, but in some obscure way associated with the tuberculous infection.

Dr. Emery said the opsonic index was not necessarily proportionate to the amount of opsonin in the blood; the falling-off of the index was disproportionately slow in progressive dilutions. That organisms varied in the ease in which they were taken up was possibly the explanation. He had seen several cases of tuberculosis largely improved by the method and in small doses with the check of the opsonic index no harm would be done if no good, and in any case there was great improvement in the general health. Raising of the index was indicated in cases of surgical tubercle before operation, minimizing the risk of general distribution of the organisms. The relation of opsonic index to inherited conditions needed further investigation.

Dr. Butler Harris emphasized the necessity for extremely small doses; the system of progressively-increasing doses meant a long negative phase and deterioration in the clinical state; also the importance of the opsonic method in diagnosis even in general practice, and quoted cases in point in which physical signs were slight or lacking, including one case of vesical tuberculosis that had improved greatly under injections of tuberculin (TR) in small doses.

Dr. Wright, Dr. Bulloch, Dr. Lawson, and Mr. Pardoe replied.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Dr. J. O. Affleck, President, in the chair.

Wednesday, December 6th, 1905.

The Treatment of Fractured Patella.

A paper on the treatment of fractured patella was read by Mr. George G. Hamilton of Liverpool. Formerly he had been opposed to the open method of wiring the patella, but thanks to improved technique, whereby risks of sepsis were diminished, he now prefers this method, specially for male patients of the working class. They were willing to take a little risk in order to get back quickly to work. He prefers transverse to vertical wiring for the following reasons: (1) As the wire is twisted it acts like a splint to the fragments, compresses them very tightly, thus preventing any oozing of blood into the joint. (2) The wire can be placed quite superficially, and thus, if at any time it was necessary to remove it, a small incision, one inch in length over each end of the wire would be sufficient. (3) No trouble from the wire in kneeling. The main features of his method were: (1) The proper preparation of the skin; this took a few days, and when very hairy or very dirty a preparation named "haarof"—a sulphide of barium—was found to be of great use. Mixed with a little oxide of zinc ointment, it caused no irritation, and removed the hard, dead epithelium much better than anything else. (2) At the operation a flap was rapidly turned up, but as it did not extend above the middle of the upper fragment pouching of the skin was thus prevented. The joint being opened by a knife placed between the fragments, all old blood clot was removed by sterilized gauze, the joint not being washed out. After trimming the fragments with the knife, Down's mechanical drill was used to penetrate soft and hard structures, transversely and superficially. The fragments were not handled, but merely steadied while the drill was at work The operation, including suturing of the skin, took about sixteen minutes. A MacIntyre's splint was applied for ten days, and the patients allowed out of bed in a fortnight. They were then encouraged to move the joint, and in another fortnight they could usually bend it to a right angle. In all his cases bony union had resulted.

Mr. Cathcart could not see much advantage in transverse over vertical wiring of the fragments, nor was bony union absolutely essential. In many cases when fibroid union had occurred the limb was quite useful.

Mr. Caird agreed that wiring was the best treatment for working men. Shortening of the ligamentum patellae occurred in some cases where splints were employed, and should receive attention.

Mr. Alexis Thomson thought very excellent results could be obtained without wiring. There were many objections and risks connected with the latter.

Cases and Specimens.

Among the exhibits were the following:—Mr. Charles W. Cathcart: Fracture of patella due to muscular action. The ends of bone had been united by chromicized catgut. Seven months afterwards the patella was again broken by muscular action; the fragments were then sutured by silver wire.—Dr. Byrom Bramwell: (1) Multiple lipomata. Patient's arms and legs were covered by lipomata in great numbers. They had been present as long as the patient could remember, and caused no pain. A similar condition was present in the patient's mother. (2) A case of apparent impairment of muscular sense.—Mr. David Wallace: Two patients after prostatectomy by the suprapubic route. He found that if the abdomen and the bladder were opened at different levels urine passed sooner by the urethra than if they were made at the same level.—Mr. Francis Caird: (1) On patient recovering from tetanus, contraction of the abdominal muscles gave the first clue to the nature of the case. At no time had there been difficulty in swallowing. (2) A patient after recovery from perforating gastric ulcer. During convalescence pleurisy and empyema developed, both streptococcal in origin. This complication had occurred in three consecutive cases of perforating gastric ulcer operated on by him.

CLINICAL SOCIETY OF LONDON.

H. H. Clutton, M.A., M.C., F.R.C.S., President, in the Chair.

Friday, December 8th, 1905.

Treatment of Congenital Dislocation of Hip-Joint.

Mr. Jackson Clarke described the results obtained by him in two series each of 10 consecutive cases treated by Lorenz's manipulative method. In the first series the patients' ages varied from 3 to 9 years, and 2 were cases of bilateral dislocation. There were, therefore, twelve joints, of which nine (75 per cent.) were cured. In 3 the head of the femur was "anteverted" at the operation beneath the anterior superior iliac spine. In one of these cases the joint had a full range of movement, and the girl could walk firmly. In the second series of 10 cases the ages varied from 2 to 9 years, there were three bilateral dislocations. Complete reduction was effected in each of the thirteen joints (100 per cent.). In neither series was there any operative mishap. The scepticism formerly evinced respecting the value of the treatment had been renounced and a belief was growing that irreducible cases would soon cease to exist. In each series of cases there were nine girls to one boy, which was about the usual proportion of the sexes. It was best to operate when the child was 3 or 4 years old; after five years the operation became increasingly difficult: but even at six and a half years with preliminary treatment by tenotomy and massage success might be expected.

Peritonitis in Typhoid Fever without Perforation.

Dr. E. W. Goodall described the case of a boy, aged 10,

admitted to hospital with mild typhoid on the ninth day. On the nineteenth day he had pain, the abdomen became rigid and distended, and the temperature rose to 104° F. Laparotomy was performed, but no perforation could be found. Acute peritonitis existed near the ileo-cæcal valve. There were patches of lymph. All that could be removed was wiped off the peritoneum and the fluid present swabbed up. The lymph and serum were sweet. The patient made a good recovery. The case instanced the difficulty in diagnosing perforation, and was an unusual form of peritonitis in typhoid. Peritonitis not due to perforation was generally most intense opposite the intestinal ulcers; but that was not the case here. The case also showed the slightness of the symptoms that might accompany the early stages of peritonitis.

Mr. W. G. Spencer also related a case. A boy, aged 12, was seized with acute abdominal pain, followed by vomiting and distension; the motions were pale, pasty, and odourless, but there was no typhoid rash. Upon incision there was greasy peritonitis, with reddish turbid fluid in the pelvis. The ileum, cæcum, and appendix were congested, not otherwise altered. The patient afterwards passed through a severe attack of typhoid, and Widal's reaction was obtained four days after the operation. The temperature became normal after five weeks. The wound healed without hernia. Four fatal cases had been recorded this year, in which the appendix was not diseased, there was no perforation, nor had the ulcers deepened to the peritoneal coat. It was necessary to operate at once, without waiting to confirm the diagnosis of typhoid.

Dr. F. H. Hawkins (Reading) related a case of peritonitis in typhoid in which at the autopsy no perforation was found; and remarked on the rarity of peritonitis without perforation in this disease.

Dr. J. P. Parkinson inquired as to the value to be attached to the presence or absence of leucocytosis, and described a case.

Dr. Goodall, in reply, said that he had had 39 cases of peritonitis with perforation in typhoid, and 15 other cases without perforation, but in 3 of these latter cases there was deep ulceration, and possibly inflammation had extended to the peritoneal surface. If peritonitis arose, laparotomy should be done directly, whether leucocytosis existed or not.

Mr. A. E. Barker said that, although the operation often seemed desperate, it was occasionally successful beyond expectation. He described a case in which the lower 3 ft. of the ileum were ulcerated and partly gangrenous, but the removal of this mass of infective material led to great immediate improvement, although death eventually resulted from severe haemorrhage.

Mr. Spencer, in reply, spoke of peritonitis in the three stages of typhoid. The first occurred long before ulceration arrived at the peritoneum; laparotomy and sponging the peritoneum usually resulted in recovery. The second variety occurred during the middle course of typhoid. In the late cases, with the intestine honeycombed, only 1 in 10 recovered after operation.

Traumatic Pancreatic Pseudo-Cyst.

Mr. T. H. Kellock described the case of a man, aged 20, kicked by a horse over the pancreas. He was at first collapsed, and pain continued for three weeks, with occasional vomiting, irregular temperature, and feeble pulse. The upper part of the left side of the abdomen became full and rigid, but resonant, and the heart's apex was displaced upwards. About 1½ in. of the ninth rib in the anterior axillary line was removed, and a large cavity found beneath the diaphragm, from which, on its incision, clear fluid escaped at considerable pressure, whilst a piece of omentum presented at the opening. The cavity was subsequently kept drained. The fluid collected measured 88 oz., and was pancreatic secretion. The best device for keeping the cavity drained was a gum-elastic catheter, through which and a piece of rubber tubing the fluid flowed into a bottle by the bedside. The quantity averaged 28 oz. a day. Five weeks afterwards the drainage ceased. The bowels acted regularly throughout; no abnormality was detected in the stools. The wound healed, and the patient had since remained in good health and was at work.

Mr. V. W. Low described a similar case, resulting from a kick, in which the tumour appeared on the left side of the abdomen, just below the stomach, between it and the transverse colon. The cyst wall was stitched to the abdominal wall, and the boy did well for three days, when he became maniacal and died. Nothing was found *post mortem* to explain the mania. The cyst arose from the pancreas, though the pancreatic duct itself was not injured. There was no sepsis anywhere.

The President had seen a similar case develop mania on the fourth day.

Mr. Kellock, in reply, stated that his case had never had any mental symptoms.

MEDICAL SOCIETY OF LONDON.

Sir Lauder Brunton, M.D., F.R.C.P., F.R.S., President, in the Chair.

Monday, December 11th, 1905.

Discussion on Modern Methods of Diagnosis in Kidney Disease.

Mr. Hurry Fenwick, in introducing this discussion, reviewed the modern methods of estimating renal disease either of a medical or surgical type. He detailed the current opinions of workers in the urinary field, upon cryoscopy of the blood and urine, on the phloridzin test, the dye tests (methylene blue, indigo carmine, and eosine), and gave the fallacies and the limitations of each of these methods. From a medical point of view, he considered that nothing was so important as a careful microscopical, bacteriological, and quantitative chemical examination of the urine extending over several successive days. He brought forward evidence of the value of the cystoscope, chromo-cystoscopy, the ureter cystoscope and radiography, and argued that all methods were uncertain when taken singly. He stated that a diagnosis should never be founded on any one symptom or method alone, new or old, but that all should be employed, and that only when the results of several coincided was it safe to form a positive diagnosis.

Mr. A. E. Barker referred to the cryoscopic method, emphasizing the point that conclusions should not be drawn from it except after prolonged experience; the possibilities of error were too great.

Mr. Swinford Edwards said his experience of radiography in the diagnosis of renal and ureteric stone had not been altogether fortunate, and he relied less on the method than formerly. He alluded to the use of the segregator, which was also liable to fallacy.

Mr. Charters Symonds said the renal cases that gave the most difficulty were the tuberculous kidneys without urinary symptoms, and hitherto he had opened the abdomen and examined both. He also mentioned other difficult cases in which one kidney was diseased and the other had been previously destroyed.

Mr. J. Pardoe considered that cystoscopy was misleading unless it was quite certain what was seen, and this certainly needed long training. The use of the separator had perhaps fewer dangers than that of the ureteric catheter.

Mr. Fenwick, in reply, pointed out the fallacies of the segregator, and said he would not wish to depend on it. The ureteric catheter was of more value in female subjects.

OBSTETRICAL SOCIETY OF LONDON.

W. R. Dakin, M.D., F.R.C.P., President, in the Chair.

Wednesday, December 6th, 1905.

Ventral Fixation of the Uterus.

Dr. G. Ernest Herman, in opening a discussion on this subject, distinguished four classes of cases in which ventral fixation was useful: (1) Retroflexion without appreciable descent, but with tenderness of the uterine body, not relieved by mechanical support. In these, ventral fixations, Alexander's operation and vaginal fixation were equally effective, but ventral fixation was to be preferred. (2) Adherent retroflexion of the uterus with tenderness. Here ventral fixation was the only treatment so far as the displacement was concerned; but it was to be advised cautiously because (*a*) the tenderness might be due to the condition of the peritoneum; (*b*) many of the patients were neurasthenic, and from either of these causes the operation might not be an immediate therapeutic success; (c) because in these cases it was more dangerous. (3) Retroflexion without tenderness of the uterus, but with descent. Here ventral fixation was the only effective surgical treatment; but mechanical support, if effective, was to be preferred. Many of the patients were neurasthenic, and for that reason the immediate result of the operation might be therapeutically a failure. (4) Prolapse of uterus and vagina. Here ventral fixation was therapeutically a failure unless accompanied by elytrorrhaphy. The author considered ventral fixation less dangerous than Alexander's operation, and more surely permanent than vaginal fixation.

If properly performed ventral fixation did not interfere with subsequent pregnancy or labour; and there was reason to think it might prevent miscarriage.

Dr. HORROCKS considered that uterine fixation was performed too often, partly because sufficient time and skill were not spent in trying to remedy the condition, and partly because some men recommended and performed the operation without trying the effect of mechanical support at all. When the uterus was well fixed to the abdominal wall it was an unnatural position which was not unattended by danger. Sometimes the operation not only failed to cure the patient but added to the old complaint a pain attributed to the scar, and due no doubt to the dragging of the adherent uterus. In cases in which owing to adhesions the uterus could not be restored and maintained in position by mechanical means, the operation became much more difficult and dangerous. For these reasons he considered that ventral fixation was an operation only to be resorted to in a few cases when all other means had failed.

Dr. GALABIN preferred intraperitoneal shortening of the round ligaments in some of the classes of cases referred to, and particularly where future pregnancies were probable. He agreed that ventral fixation combined with elytrorrhaphy was the most effective operation in extreme and obstinate cases of prolapse, but he had known this even to fail. In cases of retroflexion without much prolapse and without adhesions skill and perseverance with pessaries would almost always give relief.

Dr. RUSSELL ANDREWS thought the difficulties occurring in subsequent labour had been under-estimated by Dr. Herman.

Dr. BLACKER did not recommend the operation in women likely to become pregnant. The chief indications for it were cases of retroflexion with adhesions, and cases of prolapse of the uterus in women at or past the menopause who had to work hard for their living.

Dr. ARNOLD LEA said that there was a small though real danger of intestinal obstruction following the operation of ventral fixation. He considered it essential that the fundus should be left free in patients who might subsequently become pregnant. In uncomplicated cases of obstinate retroflexion he gave the preference to intraperitoneal shortening of the round ligaments.

Dr. HERMAN, in reply, said he thought that when they found that after the operation delivery took place without difficulty in 94½ per cent. of cases, they might safely conclude that the difficulty in the remaining 5½ per cent. was not due to the operation as usually performed, but to some features special to each case, of which an unusual method of operating might be one.

REPEATED TUBAL GESTATION.

Mr. W. GIFFORD NASH related a case of repeated tubal gestation which was successfully operated upon twice. On the first occasion the left tube was ruptured, and was removed together with the ovary. On the second occasion, two years later, the unruptured right tube and ovary were removed. The symptoms on each occasion were very similar, and the dates of occurrence of the chief symptoms in each attack corresponded very closely.

SARCOMATOUS TISSUE IN THE WALLS OF OVARIAN CYSTS.

Dr. FRANK E. TAYLOR, in a paper on the above subject, said the development of such tissue was probably of more common occurrence than was usually believed. Clinically the sarcomatous change therefore might not be indicated by the onset of symptoms such as abdominal pain, ascites, rapid and irregular growth of the tumour, emaciation, and the development of cachexia. Recurrence usually followed ovariotomy. The tumour grew with great rapidity, and death usually occurred within a few weeks, or at most months, after the performance of ovariotomy.

OTOLOGICAL SOCIETY OF THE UNITED KINGDOM. At an ordinary meeting on December 4th, the out-going PRESIDENT (Dr. Thomas Barr) read his valedictory address. In this he pointed out that the field of otological research was growing and congratulated the Society on the important part its members were playing in the matter. A paper on the prevention of ear affections due to exposure to loud noises and to explosives was read by Mr. CHEATLE, who urged that the authorities should pay serious attention to the great frequency of ear affections due to gunfire in the navy. The Japanese had already recognized the importance of this matter, and were taking active steps in investigating means by which it might be prevented.

REVIEWS.

MEDICAL JURISPRUDENCE AND TOXICOLOGY.

DRS. AMORY and EMERSON are the editors of the Section on Poisons, which forms the second volume of the fifth edition of WHARTON and STILLÉ'S treatise upon *Medical Jurisprudence*.[1] The first edition of this well-known American publication appeared in 1855, the second in 1862, the third in 1872, and the fourth in 1884. Such a record is in itself evidence that, on the one hand, the work has not been allowed to get out of date, and on the other that, in spite of the fact that during this time a large number of new books on forensic medicine have appeared in the United States, this has retained its popularity. That the publishers of this edition are the Lawyers' Co-operative Publishing Company is sufficient indication that it is intended as much for lawyers as for medical men, the binding even being of the stamp that is associated with books on the law rather than with works on medicine. One marked improvement in the present edition is in the arrangement; poisons are now classified according to their physical and chemical relations, instead of according to the similarity in the symptoms produced by them. One striking feature of the book is the completeness of the scheme for facilitating the finding of any subject to which reference is desired; not only is there a comprehensive index occupying forty-eight pages, in which all the important subjects are distinguished by large type, and in which the figures are given both for the page and the section concerned, but also at the commencement of each chapter there is a classified table of contents of that chapter, with sectional references, so arranged that it can be seen at a glance whether the matter required is to be found in that chapter or not. The value of this to counsel, who are so often required to refer to authorities without breaking the thread of a cross-examination, will be very considerable. Whilst in the main written for American jurists, those of other countries will also find the volume of much value, owing to the large number of statistical tables it contains and to the catholicity of the editors in going to the literature of all countries for the material which they have required to render the book as complete as possible. Thus they have included detailed lists of cases of poisoning which have occurred in England and Wales, in Prussia and in France during a series of years. A very comprehensive chapter of over 100 pages is devoted to the subject of poisons in general, in which such matters as how to make necropsies in cases of suspected poisoning, the modes and the channels of absorption and elimination of poisons, the cumulative action of certain poisons, and the duties of medical men in connexion with cases of poisoning, are fully and well considered. In the chapters dealing with individual poisons the treatment is, however, somewhat unequal, the accounts given in most cases being full and adequate, but in some sparse and incomplete. In many cases whole paragraphs are quoted from other authors, and this of necessity results in an occasional want of continuity and sometimes even in a certain amount of confusion of ideas. The discussions—one might almost say dissertations—upon the relative values of the different tests for some of the more important poisons are most comprehensive, and add greatly to the value of the work as a book of reference. The chapter upon alkaloids is especially full and detailed and may be said to represent the state of knowledge upon this difficult subject fairly, though even here we find that somewhat important observations have been occasionally overlooked and some that are hardly reliable introduced. The appendix contains detailed notes of a series of cases that have been before the courts of various countries and a valuable summary of results and experiments made under the direction of the United States Agricultural Department upon the effects of the taking with food of boric acid and borax. The volume will rightly occupy an important place as a book of reference upon poisons, and will form a valuable addition to the library of all criminal jurists, whether legal or medical.

DR. F. W. DRAPER, the Professor of Legal Medicine in the Harvard University, has written a *Textbook of Legal Medicine*,[2] in which he limits himself to the consideration of those subjects which more strictly come within the scope of the medical

[1] *Wharton and Stillé's Medical Jurisprudence.* Vol. II. By R. Amory, A.M., M.D., and Robert L. Emerson, A.B., M.D. Fifth Edition. Rochester, N.Y.: Lawyers' Co-operative Publishing Company. 1905. (Demy 8vo, pp. 858.)

[2] *A Textbook of Legal Medicine.* By F. W. Draper, A.M., M.D., Professor of Legal Medicine in Harvard University. Philadelphia and London: W. B. Saunders and Company. 1905. (Demy 8vo, pp. 575. 18s.)

practitioner as distinct from the expert. All matters connected with insanity, idiocy, will-making, and unnatural sexual offences are omitted, whilst toxicology is only dealt with in two brief chapters, in one of which the obligations of the medical practitioner in connexion with homicidal poisoning are dealt with, and in the other the effects produced by the inhalation of certain noxious gases are shortly described. The author further diminishes the value of his work by restricting his references to legal enactments to those which are in force in the State of Massachusetts. It may be, as he says, that "these citations represent the most progressive and most intelligent expression of modern jurisprudence," but the medical jurist is bound to act in accordance with the law of the country in which he practises, even though that law be "a ass." Within its somewhat restricted boundaries the book is thoroughly good; practical, readable, up-to-date, and sufficiently full and detailed in its descriptions. The author has made full use of recent authorities, and is always careful to acknowledge his indebtedness. At the same time, he has incorporated the results of his own wide experience in medico-legal matters, and has further freely criticized, by the light of his own knowledge, the conclusions at which others have arrived. In the table recording his own experience with regard to the causes of "sudden death," it is interesting to note that whilst out of 475 bodies on which necropsies were made 84 died from heart disease, 59 from cerebral haemorrhage, and 86 from pneumonia; out of 1 375 cases in which no *post-mortem* examination was made, the figures were for heart disease 723, cerebral haemorrhage 171, and pneumonia only 33. Comment is superfluous. The table, in many other respects, is valuable, and the author might with advantage have devoted more consideration to it. The ordinary subjects are treated in the ordinary way—that is to say, neither better nor worse than in most other good medico-legal textbooks; but the section dealing with wounds and wounding is distinctly above the average of even good textbooks, and is at the same time well illustrated. As before mentioned, the book is very readable, at times being almost chatty in its style, and, as it is the work of one who has had wide experience, contains, on the whole, the things that are wanted, and leaves out many things which are either of small importance or of none at all; it may therefore be read with profit and advantage by all who require to possess a knowledge of medical jurisprudence.

Dr. Brundage has issued a fourth edition of his *Manual of Toxicology*[3] which, however, does not differ greatly from the second edition, comparatively recently reviewed in the British Medical Journal. The chief alteration is that the author has included in this edition a number of illustrations. The three colour process is a great improvement upon older methods, and has rendered it possible, without going to the almost prohibitive expense of having the cuts coloured by hand, to present pictures which have a resemblance to the conditions that they profess to represent. The highly coloured illustrations in the volume before us, though evidently inexpensively produced and consequently somewhat rough, have to a great extent reproduced the salient features of the lesions produced by the various poisons, and may, therefore, help to impress them upon students. There are also in this edition a number of cuts illustrating the principal poisonous plants, and these are on the whole good. For the rest, the book has been revised and some slight additions have been made here and there, and these may be said to increase its usefulness as a compendium of the salient points connected with toxicology.

Dr. J. W. Holland, in his *Textbook of Medical Chemistry and Toxicology*,[4] has approached the various matters of pathological and physiological chemistry from the chemical rather than the medical side, and has prefaced his account by a brief dissertation of the physical and chemical laws on which the various reactions and results are based. It may be convenient, but it is hardly satisfactory from the educational point of view, to limit the facts given to those which are directly connected with the poisons or medical conditions under review, as knowledge so acquired must almost of necessity be scrappy and easily forgotten; to students, however, who have already been through a systematic course of chemistry and physics, such a direct application is not only useful but of considerable value and will enable them to appreciate the problems that present themselves at the bedside, and in the chemical and physiological laboratories. The more purely scientific parts of the book are brief, sometimes even being so condensed as to render them, if not unintelligible, at least rather confused. Still, even a brief description of such matters as the physical laws upon which thermometry, spectroscopy, polarimetry, etc., are based may serve as a useful refresher to those who have grown somewhat hazy in their school work. In the toxicological portion, the chemical side is well treated; the inorganic poisons are thoroughly dealt with, and the various tests for them are fully considered and discussed, but the accounts of symptoms of poisoning and the *post mortem* appearances met with in fatal cases, are very brief and incomplete. In the portion of the volume dealing with organic chemistry a short account of the various series is given, together with more detailed descriptions of those members which are poisonous. The alkaloids are fully and comprehensively treated. In the section devoted to physiological and clinical chemistry, there is a good description of the physiological and pathological relations of the stomach contents in so far as these have a clinical value. The examination of milk and the chemistry of the urine are also adequately considered. The illustrations, especially those in colour, are good and well chosen.

[3] *A Manual of Toxicology.* By A. H. Brundage, A.M., M.D., Phar.D. Fourth edition. London: Bailliere, Tindall and Cox. 1904. (Crown 8vo, pp. 402. 8s. 6d.)

[4] *A Textbook of Medical Chemistry and Toxicology.* By James W. Holland, A.M., M.D., Professor of Medical Chemistry and Toxicology, Jefferson Medical College. Philadelphia and London: W. B. Saunders and Co. 1905. (Demy 8vo, pp. 592. 15s.)

SURGERY OF THE LIVER AND BILE PASSAGES.

Professor Körte's contributions to the surgery of the diseases affecting the gall bladder and bile passages have been numerous and excellent. For his new volume[5] he has gathered together all the cases upon which he has operated, and has discussed all topics relating to them fully, clearly, and with constant reference to the experience of others. The result is that the work is one of the most satisfactory that has been published. Chiefest among its virtues is this, that a surgeon confronted with a condition of things a little out of the common—say, for example, malignant disease of the papilla Vateri associated with stone in the common duct, or chronic thickening of the gall bladder, possibly simple, possibly malignant—will find cases of a similar character given in detail, with precisely those points emphasized which he was in need of having elucidated. It would indeed be hard to exaggerate the practical value of the book. Almost all aspects of gall-stone disease are discussed. The causation of gall stones, the pathological changes to which they give rise, according as they are situated in the gall bladder, the cystic, hepatic, or common ducts; the conditions of infection, acute or chronic; the incidence of malignant disease independent of or as a direct consequence of gall stones; the association with cholelithiasis of pancreatic disease—all these things are discussed in a manner wholly admirable. Criticism of such a work as this is hardly possible; we accept the book with gratitude, as the well-considered expression of the results and of the experience of a surgeon whose work in this subject is recognized as being of the highest merit.

NOTES ON BOOKS.

Cancer Research.

Dr. Otto Schmidt announces that the results of the cancer research work done in his laboratory will appear in a serial publication.[6] The work, we understand, will all be based on the parasitic theory of cancer causation. Part I consists of two articles, both by Dr. Schmidt. In the first he deals with the presence of a protozoon-like parasite in malignant tumours, and describes his method of cultivating it outside the animal body. This parasite, he declares, occurs abundantly in all malignant tumours, both in man and in the lower animals, and, when inoculated in pure culture, produces in experimental animals new growths of a definitely malignant nature. Both dead cultures and the serum of animals which have been immunized by means of culture inoculations are productive of a strong protective action against malignant growths; and by progressive inoculations

[5] *Beiträge zur Chirurgie der Gallenwege und der Leber* (Contributions to the Surgery of the Bile and Liver Passages). Von Dr. W. Körte, Berlin. Oct., pp. 348, with 21 tables and 16 figures. Berlin: August Hirschwald. 1905. (Demy 8vo, pp. 452. M.18.)

[6] *Mitteilungen aus Dr. Schmidt's Laboratorium für Krebsforschung.* Heft 1. Bonn: Martin Hager. 1905. (Roy. 8vo, pp. 73. With 3 plates.)

on man, commencing with a minimal dose of dead culture, it is claimed that regressive changes and finally granulation are produced in the malignant growth. In his second article Dr. Schmidt discusses in detail the application of his methods for therapeutic purposes. Dr. Schmidt's work does not appear to us to be altogether convincing, but the same may be said of most alleged cancer discoveries, and, in view of the obscurity which attaches to the subject as a whole, Dr. Schmidt is serving a useful purpose by bringing to a focus in his new publication the evidence and statements which can be accumulated in favour of a particular theory.

The more important of the papers contained in the second volume of the fifteenth series of *International Clinics*[7] appear to be mostly included in the therapeutic section. Among them are a clear and logical account of the treatment of acute nephritis in children, by Dr. J. L. Morse; observations on the therapeutic indications of kephir, by Professor G. Hayem; adverse references to the treatment of pulmonary haemorrhage by adrenalin chloride, by Dr. D. Barty King; suggestions in regard to the treatment of neurasthenia, by Dr. R. T. Edes, in which he advocates the adoption of handicrafts; and a paper on the *x*-ray treatment of tinea tonsurans, by Dr. Sabouraud and Dr. Noiré. Among other papers of interest are one on the diagnosis of incipient phthisis, by Dr. R. N. Willson; one on galloping typhoid fever, by Professor Roger of Paris: one on hernia in children, by Mr. E. M. Corner; and one on the chromaffin system, with special reference to Addison's disease and status thymicus, by Dr. J. Wiesel of Vienna. The persistence of the thymus gland, he maintains, is an index of imperfect development; the hypoplasia of the chromaffin system in the adrenal bodies and elsewhere is another; and the sudden death in status thymicus he explains on the theory that there is a deficiency of the secretion of the chromaffin cells, which, as in the case of adrenalin, supports the blood pressure and influences the tonicity of the vessel walls and cardiac muscle.

The *Verhandlungen* (proceedings) of the first meeting of the German Laryngological Association held in Heidelberg were issued under the editorship of Dr. GEORGE AVELLIS of Frankfort a few weeks ago.[8] They form a pamphlet of 65 pages, and contain the text of some, but not all, of the principal papers read, with very brief notes of the discussion. A report of the business meeting at which the association was constituted, a copy of its rules and a list of its members are included.

The twenty-third volume of the *Transactions of the Royal Academy of Medicine in Ireland*,[9] edited by the Secretary, Dr. JAMES CRAIG, contains the proceedings of the various sections during the session 1904-5. Among these are many papers of great clinical interest, most of which have already been noticed in our reports of the meetings of the Academy.

The *Manual of Practical Hygiene*,[10] by CHARLES HARRINGTON, Assistant Professor of Hygiene in the Medical School of Harvard University, which we praised in a review published in September, 1901, has now reached a third edition. The book has been revised throughout, and a chapter has been added in which immunity is discussed in the light of latter-day facts and theories. The book is one which can be recommended to any member of the profession who wishes to study hygiene from a general point of view without reference to the peculiarities of the administration of sanitary law in various countries.

Drs. DUNN and GORDON have reprinted in a pamphlet the paper on *The Clinical and Bacteriological Aspects of an Epidemic Simulating Influenza*,[11] which was published in the BRITISH MEDICAL JOURNAL of August 26th, 1905. Opportunity has been taken to make some minor corrections and additions, and to add a table giving particulars of the symptoms exhibited by the individual patients.

THE CHOICE OF A MICROSCOPE.

Mr. SCALES'S unpretentious little book on *Elementary Microscopy* is intended to aid the beginner in his choice of a microscope and to teach him how to use it.[12] We note that Mr. Scales is strongly English in his sympathies, and has much to say on the superiority of microscope stands made in this country over their Continental rivals. He finds it difficult to understand why the latter are so popular in our medical laboratories. The explanation is probably to be found partly in the greater business enterprise of the Continental firms and partly in the fact that the alleged defects in the Continental stands do not prove a practical inconvenience to the majority of people who use them. At the same time we consider that our English firms are turning out excellent work, and we wish Mr. Scales every success in his efforts to gain for it a wider appreciation.

GARDENING BOOKS.

Carnations, Picotees, and Pinks,[13] by H. W. WEGUELIN, tells very clearly and concisely the best ways of growing carnations, and impresses very strongly the fact that they are easily grown, so that the veriest amateur may possess these exquisite flowers. Too much stress cannot be laid on the fact that carnations are hardy plants and resent coddling. They are primarily outdoor plants, but where larger blooms are wanted glass is necessary, and carnation growers in or near towns should afford their plants some slight protection from dirty rain, smuts, etc. The author explains the difference between carnations and picotees, often so confusing to amateurs. The treatment is the same for both. Propagation is most satisfactorily performed by layering and cuttings, both very simple modes, and the author's teaching about layering is so clear and the process as described by him so interesting that failure should be out of the question; when we remember how quickly carnations grow and how side shoots develop, a large stock of these plants might very soon be raised. Raising carnations from seed is most interesting, but is, of course, a slower process, and a large proportion of the seedlings may not be worth preserving. Hints to exhibitors will be found, and the way to banish insect pests; and a chapter on pinks brings to an end a useful and practical little book which we strongly recommend.

Those who have from time to time read and appreciated the very interesting and instructive articles on chrysanthemums by Mr. CRANE in *Amateur Gardening* will hail with delight his volume on *Chrysanthemums for Garden and Greenhouse*,[14] knowing that from such an authority the information will be practical and reliable. From its pages we gather that there is no other work which treats of the chrysanthemum as a garden flower, so that this work cannot fail to supply a much-felt want, especially when we realize how important a part the chrysanthemum plays in autumn gardening. The author has taken great pains to make his teaching plain, and he defines very simply and clearly the various technical expressions associated with chrysanthemums. It is an admirable book, teeming with instruction, and we follow with the keenest interest the growth of the chrysanthemum plant from the perfect cutting—a most important matter—through the various stages of repotting, "stopping," "securing," to the final development of the perfect flower truss or cluster. We are especially in sympathy with Mr. Crane in his love of the more natural growth of the chrysanthemum as a plant of flowering clusters rather than as a plant of one, two, or three monstrous growths more wonderful than beautiful, and it is by encouraging the use of this plant as a garden decoration that this may be attained. The book is admirably illustrated throughout.

[7] *International Clinics*. Edited by Dr. A. O. J. Kelly. Vol. II. Fifteenth Series. Philadelphia and London: J. B. Lippincott Co. 1905. (Demy 8vo, pp. 318. 10s. 6d.)

[8] Würzburg: A. Stubers Verlag. 1905. (Demy 8vo, pp. 65. M. 1.50.)

[9] Dublin: J. Falconer; London: Baillière, Tindall, and Cox; Edinburgh: James Thin; Bristol: John Wright and Co. 1905.

[10] London: Henry Kimpton. 1905. (8vo, pp. 793. 21s.)

[11] Harrison and Sons. (8vo, pp. 19.)

[12] *Elementary Microscopy: a Handbook for Beginners*. By F. Shillington Scales, F.R.M.S. London: Baillière, Tindall, and Cox. 1905. (Crown 8vo, pp. 179; 78 Illustrations. 3s.)

[13] *Carnations, Picotees, and Pinks*. By H. W. Weguelin, F.R.H.S. Second edition. London: W. H. and L. Collingridge. 1905. Cr. 8vo, pp. 104. 3s. 6d.)

[14] *Chrysanthemums for Garden and Greenhouse*. By D. B. Crane, F.R.H.S., F.N.A.G.A. London: W. H. and L. Collingridge. 1905. (Crown 8vo, pp. 194. 2s. 6d.)

BEQUESTS TO MEDICAL CHARITIES. The late Sir John Groves, of Weymouth, whose will has now been proved, left £100 to the Dorset County Hospital, and a similar sum to the Weymouth Hospital. Mary Amelia, Lady Lucas, who died on November 7th, bequeathed £100 each to the Ascot Cottage Hospital, the Samaritan Hospital, and the Hospital for Sick Children, Great Ormond Street; to the Lowestoft Convalescent Home £50 was left, and to the Ashstead Sick Nursing Institute half that sum.

POST-MORTEM EXAMINATIONS AND THE CAUSE OF DEATH.

At a meeting of the Medico Legal Society held on Tuesday, December 12th, Mr. Justice Walton in the chair, a paper entitled *Post mortem* Examinations which do not Reveal the Cause of Death, was read by Dr. F. J. Smith; it is published at p. 1584 in the present issue of the British Medical Journal. A discussion followed the reading of the paper.

Dr. W. Wynn Westcott said that he had held more than fifteen thousand inquests and experience fully confirmed his opinion that whenever a medical practitioner had been in attendance upon any sick or injured person in his last illness, such medical man should be called to give evidence at the inquest. If there were any legal or medical reason for scientific precision as to the exact cause of death, then there should be a *post-mortem* examination of the body so that the true cause of death might be registered. The more learned the practitioner was who made the examination the more accurate would be the result; they should, therefore, cultivate the pathological expert, as he alone could help them to discover the cause of death when no evidence of medical attendance was procurable, as for example when unknown persons were found dead. But to assert, as some persons had done, that *post-mortem* examinations alone should guide a coroner's jury to a verdict, was wilfully to discard clinical evidence of the utmost value and thus multiply enormously the chances that the cause of death would be given incorrectly. If it was found by a *post mortem* examination that a man had grave cardiac and aortic valvular lesions it was no proof that he had not died from poisoning, the symptoms of which might have been recognizable before death, and might have been recognized, and such evidence might be procurable for a legal fee. To find that a man had grave kidney disease with calculi and cysts was not absolute proof that he had died of those lesions, for he might still have died from one of many unnatural causes, as, for example, from inhaling escaped gas in his bedroom, an incident he (Dr. Westcott) had known by experience. Dr. Smith had referred to two deaths which followed the use of liquozone in which the *post-mortem* appearances were very slight, and for that reason great pressure was brought to bear upon him to retract his opinion that sulphurous acid caused the deaths, but no impartial person who read the complete evidence of the parents and of the medical attendant had questioned the propriety of the verdict. Passing from the uncertain results occasionally afforded by *post-mortem* examinations even when made by experts in hospitals, Dr. Westcott said he was quite aware that the *post-mortem* examinations made by the general practitioner were often of much smaller value from lack of knowledge, absence of facilities, and want of time. Pathological anatomy was not taught in a systematic manner when he was attending medical schools, and there were still thousands of medical practitioners who had studied at that time, and those gentlemen could not be regarded as likely to obtain scientifically accurate results from *post mortem* examinations unless they had had special facilities since qualification. He believed also that there were many younger practitioners who possessed but a small knowledge of pathological appearances, for which reason it would be desirable in the future to make further facilities for the employment of specialists. He considered it was necessary that county councils should obtain for coroners full permission to pay fees, higher than the ordinary fees specified by the Coroners Act of 1887, in special cases, and provided always that the discretion of the coroner in the choice of a specialist should not be hampered. Some county councils seemed inclined at the present time to seek statutory power to deprive coroners of free choice by making a selection of physicians and surgeons themselves. As a medical coroner, he would object to be deemed unfit to choose the medical expert witness best suited to any special case, although a coroner of the legal profession might not perhaps so much object to the action of county councillors in the matter. There was, however, a reason why the performance of *post-mortem* examinations should be gradually separated from the life-work of the general practitioner, and that was the danger to parturient women and some other patients which was involved in the performance of that dirty work, needing to be done at odd times in the intervals of clinical work. Perfectly aseptic hands were difficult to secure at all times, but after making examinations of the internal organs of the dead, the difficulty was greatly enhanced.

Mr. Troutbeck, Coroner for South-West London, expressed his gratification at having heard such eminent authorities as Dr. Smith, the latest editor of Taylor, and a coroner of such long experience as Dr. Westcott. He wished to associate himself strongly with the reiterated opinion, especially with Dr. Smith's opinion, on the importance of having, if possible, clinical evidence in a case when such was available. He noticed that both speakers agreed with what he (Mr. Troutbeck) regarded as the universal opinion amongst coroners—namely, that *post mortem* examinations performed by a gentleman who was a medical practitioner and was not generally employed in that work, was not the most satisfactory way of dealing with *post-mortem* examinations. But general medical practitioners, when they had clinical evidence to give, obviously ought to give it. That was so clear that it scarcely required arguing. The difficulty was that in many cases there was no clinical history except that given entirely by laymen. That was a difficult thing to state without going into the particulars of each case, but he had looked out the numbers of inquests during the last five years in London, and they were contained in the published reports of the London County Council, and could be purchased by anybody for 9d. each. During the last five years there were 38,324 inquests. In those there was an average of about 48 per cent. in which the deaths were said to be due to natural causes. With regard to the first point made by Dr. Smith, in the return there was a column for cases in which death was stated to be due to causes unascertainable; but during those five years in over 38,000 inquests there were only 116 such cases returned. In the face of so skilled an opinion as Dr. Smith's, it seemed to be an excessively strong criticism on the manner in which at least some of the causes of death were ascertained. He supposed his own district was different from most districts of London, in that in it there happened to be five of the great general London hospitals with medical schools attached. That made the percentage of hospital cases in his district considerably larger—probably twice as large—as the number of cases in other parts of London. He calculated that he must have held in his time inquests on at least 2,300 persons who had died in hospitals. The practice in the district was that there should be almost invariably a *post-mortem* examination, and in those hospital cases it was made by the pathologist of the hospital in the presence of the house-surgeon or the house-physician, and very often, if the hospital was a clean one, in the presence also of the physician or the surgeon. Therefore, there was every advantage in such cases derivable from the highest skill in pathology, and many generations of it, as well as the highest skill in clinical attainments. There was also the very great advantage of method in the observations which were made clinically. The records were all there in writing. The result of that had been that, rightly or wrongly, with two or three exceptions only, the cause of death had been ascertained. He did not in the least profess himself qualified to criticize those pathologists who came to that conclusion; he assumed that they were the highest in their profession. He need only mention the names of the hospitals to show the class of evidence which it must have been—St. Thomas's, St. George's, Westminster, Charing Cross, and King's College. But it was obvious that the same apparent result had been obtained with evidence of very widely different character—evidence which had been sufficiently described by Dr. Westcott. The coroner had no business to take an inquest where the cause of death was not supposed to be violent; he had no business to hold an inquest unless the cause of death was unknown. In practice that really meant that there was no clinical history. That meant also that in a large proportion of cases—probably 40 per cent.—of that 38,000 there was no clinical history. In such cases general practitioners, who could not have a tithe of Dr. Smith's experience or of that of the other pathologists, were prepared to say that they had found a cause of death, and they stated it without the slightest qualification or doubt. That was not a very satisfactory state of affairs, and it could be shown that some great authorities did not regard it as satisfactory. It was found that in one district of London during that time 54 per cent. of the cases were stated to be due to natural causes ascertained, but only 19 per cent. of the whole of the cases were cases in which a *post mortem* examination was made. That meant that in no less than 35 per cent. of the whole of the cases in that district a verdict was returned where, prima facie, there was no history at all, and in the absence of history—that absence being the only justification for an inquest where there was no *post mortem* examination—the

result could only have been guesswork, and the absence of a *post-mortem* examination must have been due to the fact that the coroner had come to the conclusion that a *post-mortem* examination was of little or no value, and was not worth paying for. That state of matters could not be regarded as satisfactory. He admitted that one must take into consideration the grave reasons which Dr. Smith had given for doubting that in all cases the cause of death could be ascertained by *post-mortem* examination. But that was a reason for only entrusting those examinations to people of the highest skill and experience. At present there were obvious practical difficulties in the way of doing that, and it seemed to him that a reform in that direction was more than ripe for being brought about.

Dr. Claude Taylor argued that the principle enunciated by Mr. Troutbeck of only having the most skilled evidence was ideal but not quite practical, otherwise where was the general practitioner to come in? Was not a medical man ever to be entrusted with the work unless he possessed the highest qualifications? *Post mortem* examinations as a rule did not need the highest skill, and moreover, the making of them not only kept the medical practitioner in touch with pathological details, but might reasonably be looked upon as his right, especially when the deceased person had been his own patient.

Mr. G. Pernet pointed out that unless the intimate facts and clinical history of a case were available, opinions as to the cause of death might easily be erroneous, even when that opinion was given by an expert pathologist, and after making a careful microscopical examination. He dilated upon the absence of a systematic study of the dead subject in London, and commented upon the enormous waste of profitable material in this direction, pointing a strong comparison with the practice in Paris, especially at the Morgue. He also deprecated the usual primitive police methods when first called in in a case of sudden death, which resulted often in the obliteration of most essential surrounding conditions which would have been most important in arriving at a verdict.

Dr. Shepley Part contended that there were points in favour of the general practitioner being allowed to do the *post-mortem* examination as he was the person acquainted with the clinical symptoms. He had had a wide and extensive medico-legal experience in various parts of the world, and expressed his objection to the frequent practice of pressing a medical witness for a statement as to the cause of death when he had already declared that he did not know. He had often been requested to hazard a guess or to give some indication as to what the cause might have been when he would rather have been quite negative. It could easily be understood that a medical man practising in the same district might not care to declare his ignorance, but it was often the safest course. He concluded by appealing for a more generous financial recognition of the work entailed in *post-mortem* examinations.

Dr. Arthur Powell said that a striking point in his experience was that he had not had a case in which the general practitioner did not give a cause of death, whereas the expert occasionally expressed his inability to give a cause.

Mr. Schroeder said that it was common in country districts for the coroner to omit to call in medical witnesses; if he did so it was at the request of the jury. *Post-mortem* examinations were often objected to on the ground of expense, but he hoped rural districts would follow the lead of some town councils.

The President (Mr. Justice Walton) expressed the opinion that it was necessary to distinguish between cases. In a considerable number of cases he thought the cause of death could be ascertained without any reasonable doubt by the facts quite independently of medical evidence. There were many cases in which the cause was fairly disclosed by the condition of the dead body. But there was a large class of more obscure cases, and probably all would agree that in a number of those a *post-mortem* examination might afford no evidence at all of the cause of death. The *post mortem* examination might in other cases disclose a diseased condition which was or might be sufficient to account for death, but in a large proportion of them the *post mortem* examination could not be treated as in itself proof of the cause of death. Thus the *post-mortem* examination was only a link in the chain. If there were no other evidence at all it might be such a strong link as to be practically the chain. But in other cases what was the rest of the chain? Everybody seemed to believe that clinical history was an important link. But if there was no clinical history there could be no evidence of it. But even in such a case there might be such non-medical facts as would enable a conclusion to be drawn. As to who should make the *post-mortem* examination, obviously it should be a competent man. A general practitioner might be very good and useful, but not necessarily a competent pathologist, but that was a matter out of his (Mr. Justice Walton's) province. Personally he respected a man who honestly said he did not know.

Dr. Smith, in reply, expressed the opinion that medical evidence would be more frequently forthcoming if it were oftener asked for, and if efforts to procure it were made in the right direction. He understood a coroner's business was to find out by what means the person came by his death, and to view a dead body was, he did not hesitate to say, absolute nonsense without making an internal examination. He objected to the term "found drowned"; he could understand a verdict "found in the Thames." He declared that the time was distinctly ripe for a radical change in coroners' courts. The inquest of the present day was exceedingly cumbrous as a method of inquiring into the cause of death, which in 50 per cent. of the cases was returned as due to "natural causes." In such a *post-mortem* examination might have been necessary, but certainly not an inquest.

CONTRACT MEDICAL PRACTICE.

Notice as to Districts in which Disputes Exist.

A notice as to places in which disputes exist between members of the medical profession and various organizations for providing contract practice will be found among the advertisements, and medical men who may be thinking of applying for appointments in connexion with clubs or other forms of contract practice are requested to refer to the advertisement on page 90

Contract Work: A Suggested Remedy.

J. M. L. writes with reference to Mr. B. W. Housman's address (Supplement for December 2nd, 1905): I have for some time past held similar views, and I feel grateful to Mr. Housman for having given expression to them. I feel convinced that it is only by some such scheme that we shall arrive at anything like a solution of the difficulty.

Whatever plan is adopted a great deal will be left to the discretion and good sense of the members of the medical profession. Those qualities ought to regulate the practice of doctors with respect to unnecessary calls on patients and fees charged, should any such scheme as that proposed by Mr. Housman ever obtain.

With respect to another trouble likely to arise—the depletion of funds by patients' over-anxiety or want of consideration in calling in a doctor for trivial ailments, a certain percentage, say 12½ or 25 per cent. of the total amount of fees charged by the doctor, might be paid by the patient and the society pay the rest; of course, the society being responsible for the whole; but this would be a matter for the societies to arrange amongst themselves.

Combination is the root of the whole matter. We may go on talking and writing for generations, but I am afraid that nothing of much worth will be done unless the whole or practically the whole of the members of the profession unite in one Association. Now how is this to be done? I suggest, therefore, that the attention of the profession might be aroused by the constant and persistent sending out of circulars to those who are not in the combination appealing to them to join it without delay, and pointing out the reasons for their so doing. Then, when the Association is sufficiently strong to have no fear of its decisions being upset by outsiders, the time would be ripe for giving notice to the societies to terminate engagements with them at the end of a certain time, at the same time giving them some idea of what arrangements would be acceptable to the medical profession.

Investigation.—With such a powerful combination doctors would be enabled to charge fees proper to the apparent means of the patient, and this power ought not to be abused by charging fees too high. This system would compel the Friendly Societies to be careful not to admit, at least for medical benefits, persons too well-to do. This I think would do away with the waste of time and trouble to the profession of finding out the "minimum fee."

Persuasion and Conciliation.—There would be no need for this if our combination were strong enough to ignore the impositions of Friendly Societies, and to charge a just fee for work done and skill applied. The same combination would then be ready to consider the terms of accident clubs, parish appointments, and other forms of public service. From what I have seen and know of parochial medical service it is most unsatisfactory, both to patient and medical officer.

Major M. P. C. Holt, D.S.O., R.A.M.C., Royal Herbert Hospital, Woolwich, has been appointed Consultant in Operative Surgery to the Eastern Command.

Bequests to Medical Charities.—The late Mrs. Eliza Eyre, of Dursley, Gloucester, whose will has now been proved, bequeathed £2,000 each to the Gloucester Infirmary, Margate Sea-Bathing Infirmary, Guy's Hospital and St. George's Hospital; to the Bristol Infirmary, Bristol Hospital, and the London Hospital she left £1,000 each, and sums of £500 to the Gloucester Children's Hospital, West of England Sanatorium, and the Convalescent Hospital, Walton-by-Cleveland.

AN EPITOME
OF
CURRENT MEDICAL LITERATURE.

MEDICINE.

(373) Tobacco Intoxication and High Arterial Tension.

C. Barazzoni (*Gazz. Med. Ital.*, August and September, 1905) has reinvestigated the connexion between tobacco and arterial tension. He quotes numerous authorities who agree that tobacco raises the tension of the pulse. He regards nicotine as the active principle involved and finds that the effect of any particular brand of tobacco on the pulse is very much in proportion to its strength. His subjects of experiment were men and women convalescent from indifferent diseases in most cases, but some of them suffering from well-defined high or low arterial tension. He administered tobacco to subjects fasting and after food, and carefully observed the pulse tension and pulse frequency at intervals of five minutes for some time before and after administration. It was given usually in the form of a fine powder for swallowing, but some of the patients took it by smoking or chewing and to some it was given in the form of clysters containing an infusion from the leaf. The experiments were to elucidate the immediate and not the remote effects of the drug. The principal conclusions arrived at are: (1) Tobacco has an unmistakable effect on the pulse tension, determining a peripheral vascular spasm, and within certain limits strengthening the cardiac systole. (2) An increase of tension is caused by tobacco, whatever be the mode of administration, and whatever the preparation employed. No part of the effect can be traced to any process of manufacture. (3) Women present a much greater susceptibility than men to the effects of tobacco on arterial tension. (4) Even in great smokers tobacco produces an increase of arterial tension, but not to so great an extent as in those unaccustomed to its use. (5) If a further dose of tobacco be administered as soon as the effect of a first dose has completely passed off, its action is much less and much less prompt than that of the first dose. (6) There is a constant and notable difference in the action of tobacco, according as it is administered after food or to a fasting subject. In the latter case, owing to the quicker absorption and excretion of the poison, the effect on the pulse is greater, quicker in reaching its height, and quicker in disappearing than when tobacco is given whilst digestion is at its height. (7) In subjects with normal pulse tension the ingestion of tobacco by any path causes a rapid and almost instantaneous elevation of blood pressure of an extent and duration almost proportional to the amount and strength of the dose taken, the duration varying also according to the time occupied in the absorption of the dose. (8) In subjects with low-tension pulses there are, in addition to these effects, signs of decided depression of the nervous system and irregular action of the myocardium. (9) In subjects with high-tension pulses the rise of pulse tension is more excessive than in either of the other two classes of cases, and leads to dyspnoea, palpitation, precordial distress, vertigo, tremors, convulsions, and other symptoms. (10) Tobacco has a true diuretic effect, probably attributable to its action in increasing arterial tension. (11) Tobacco always determines, to an extent proportional to its effect on blood pressure, a transitory tachycardia, lasting for some time with small variations and then disappearing.

(374) Systemic Blastomycosis.

Eisendrath and Ormsby (*Journ. Amer. Med. Assoc.*, Oct. 7th, 1905, p. 1045) describe a case of blastomycosis in a man aged 33. The first symptoms were pulmonary, and consisted of a sense of discomfort in the chest. The sputum later contained blastomyces. Four months after the first onset cutaneous symptoms occurred. These consisted of ulcerations on the legs, subcutaneous nodules and extensive swellings on the arms. From the pus obtained after incision of the swellings the blastomyces were stained and demonstrated. Lesions also appeared on the face in the form of papillomatous, and sometimes verrucose, protrusions. For four months the temperature ranged from 98.6° to 102.8° F. An exacerbation occurred each evening. Large doses of potassium iodide were given and improvement followed. Cessation from general treatment was followed by recurrence of symptoms. Local dressings and radiotherapy were also employed. In all the lesions the blastomyces were found to be present. The pus, etc., was inoculated into guinea-pigs with negative results. Tuberculosis was therefore absent. The blastomyces occurred chiefly in budding forms, and practically every giant cell contained some of the organisms. Polynuclear leucocytes were present in large numbers. On glycerine agar the blastomyces formed a moist, pasty surface, with large folds and depressions. Microscopically these cultures showed the formation of a large amount of mycelium. On glucose the growth was drier, and aëreal hyphae appeared. On blood serum the growth was pasty, but contained a very large proportion of the organisms.

SURGERY.

(375) Gastric Carcinoma and its Recurrence after Operation.

Dario Maragliano (*Il Policlinico*, January, 1905) states that the growth of gastric carcinoma is unicentral, not pluricentral, and this fact is an encouragement to anticipate some completely satisfactory operation. He does not accept the dictum that the presence of a tumour palpable through the abdominal wall shows the case to be too advanced for successful extirpation. Some surgeons consider that when enlarged glands are found in the neighbourhood of the stomach in the course of operation radical cure is impossible, and a gastroenterostomy is the best thing that can be done. But the author states that in many such cases the enlarged glands have been examined and found free from malignant infection. There is also a remote possibility that the organism may overcome the cancerous infection of a few glands when the main growth is removed. In any case there is a reasonable hope that the progress of malignant growth in the lymphatic glands may be very slow compared with what it would have been in the stomach. In spite of the obvious fallacies of the statistical method as applied to such a question, some importance must be attached to the fact that in the hands of some operators gastroenterostomy has a greater mortality than the apparently more severe operation of removal of a gastric carcinoma. The author therefore recommends that when the abdomen has been opened the appearance of enlarged lymphatic glands should not be taken as a reason for omitting to excise the growth. The glands, or as many of them as possible, should be removed at the same time. After operation a recurrence, though not actually present, may be simulated exactly by a growth of cicatricial tissue gradually constricting the intestine, and even inspection and palpation after laparotomy are not always sufficient to clear up the doubt. The treatment for this condition is gastroenterostomy, and the prognosis is bad. Though the author admits that recurrence is usually local—that is, in the stomach or duodenum, and not in the glands—he considers recurrence in the glands more common than it is usually said to be, and of four cases in his own experience (three of them verified by autopsy) he found the recurrence in the glands three times, local once only. The chief point in his paper is his method of avoiding, so far as possible, local recurrence. He aims at the removal of at least 2 cm. of healthy tissue all round the growth. He directs that after the removal of the tumour and some apparently healthy tissue all round it—that is, soft tissue, without apparent hypertrophy of the mucosa or thickening of the stomach wall—an assistant makes incisions all round the edges of the part removed, carrying them 2 cm. into the tissues, and leaving less than 1 cm. between each two adjacent incisions. He then carefully observes the mucosa and the submucosa along the line of each incision. The mucosa should not be hypertrophic, should present normal folds, and should be capable of being moved and raised from the muscular coat for about 1 cm. When the stomach wall is compressed the mucosa should come very nearly indeed into contact with the muscle. The submucosa should show its normal loose texture and pearl-white colour. If at any point along the line of incision these conditions are not met with for at least 2 cm. at the cardiac end of the tissue removed and at least 1 cm. at the duodenal end, more gastric or duodenal substance should be removed. The author believes that in the majority of cases a naked-eye inspection of the tissues removed, occupying no more than five minutes, will give trustworthy results with an experienced and skilful assistant. In this way the operator will remove the whole growth, including the zone of submucosal sclerosis with parvicellular infiltration and nests of cancer cells in the lymphatic spaces, and also

the whole of the outer zone of parvicellular infiltration without cancer cells, and will have a wound with healthy edges. The author refers to four cases at the Augusta Hospital in Berlin, in which he has followed this method since he last wrote on the subject. Two died after operation, and the microscope verified the accuracy of the macroscopic observations made during the operation. One patient is alive and well a year after operation. The remaining case is that of a woman aged 27, with a large tumour palpable through the abdominal wall. After several unsatisfactory examinations of the edges of the part removed, it was judged that the whole tumour had been extirpated. Microscopical examination confirmed in every respect the decisions arrived at. The patient left hospital in good health. She returned three months later, having developed during the few preceding days symptoms of acute ileus, and died under operation. The autopsy showed that there was recurrence of the growth in the glands along the small curvature of the stomach, but no recurrence in the walls themselves of the stomach or duodenum.

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(376) Azoospermia.

C. POSNER again deals with the question of azoospermia, and this time deals exclusively with the diagnostic puncture of the testicle (*Berl. klin. Woch.*, August 28th, 1905). He has found that, unlike other glands, the testis is capable of producing spermatozoa even if the ducts have been blocked for years. This is not so strange as would appear at first sight, if one considers that the production goes on irrespective of whether the sperm cells are required or not, and during sexual abstinence the secretion undergoes disintegration and absorption, which he believes is of physiological importance. The observations of Brown-Séquard and of Poehl tend to show that spermatic substance is of use in the tissue change. The object of the puncture of the testis is to determine in a case of azoospermia whether the testis still produces spermatozoa. The puncture in itself is absolutely free from danger, and is easy to carry out. Posner has only performed it in the interest of the patient, and never on perfectly healthy persons, but in no case has he seen any bad effects of the procedure. He employs an ordinary hypodermic syringe with a very sharp needle, avoids all visible superficial veins, and observes strict asepsis. No local anaesthesia is necessary. The needle is plunged quickly into the organ, which is held tense. One then aspirates, and as the needle is slowly withdrawn, the wound is covered with sterile wool. As a rule, one obtains only a very small amount of fluid, but this is sufficient to make a cover-glass preparation, while when considerable quantity of fluid is aspirated, one has either punctured a hydrocele or gone into a cystic dilatation of the seminal canals. The microscopical examination reveals, first, a few red cells, some large fat-containing cells, some polynuclear (neutrophile) leucocytes, and ill-defined débris. The object of the puncture being to determine whether there are any spermatozoa present, this is best done by staining dry preparations with May-Grünwald's solution. A single negative result must not be accepted as evidence against their presence in the testicle, but a second puncture should at once be made. Normal testes may yield no sperm cells on a single puncture at times. The author is not prepared to say whether the diagnostic puncture will prove of value in tuberculosis, tumours, syphilis, etc., of the organ. In the cases which he has examined, 12 had had epididymitis during the past twelve years, and of these only 2 failed to show sperm cells, while of 5 cases in which the epididymitis dated more than twelve years back, only 1 still had sperm cells. In conclusion, he speaks of the mobility of the spermatozoa. It is a recognized fact that the sperm cells in the testis lie dormant and do not exhibit any motion, and therefore it is not surprising that in the vast majority of cases he has only found still cells.

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(377) Treatment of Non-malignant Strictures of the Rectum.

HOWARD A. KELLY (*Amer. Med.*, September 16th, 1905) says that painstaking prophylaxis should guide us in the treatment of rectal strictures situated in the distal portion of the bowel. Careful investigation should be made in all cases of so-called diarrhoea and dysentery. The treatments consist in rest, diet, keeping the upper bowel emptied, cleansing solutions and applications, healing applications and packs. A stricture of moderate calibre may be cured by dilatation with bougies; by the elastic pressure of a rubber bag, distended by air and made to distend in a uniform manner by a silk covering (Sweetnam's plan), and by digital distension and massage. If a contracting bowel is watched and treated, the patient may go on for a long time, for years even, in great comfort, though the disease is not cured. Resection of the bowel may be practised even when the disease extends over an area as long as 20 cm. A posterior incision with the removal of the coccyx, and sometimes of the last sacral vertebra, with the preservation of the anal sphincters and ampulla when possible, and an end-to-end anastomosis of the bowel, is the best procedure. It is sometimes worth while, in the attempt to save the bowel when the local process persists in advancing, to make an artificial anus, completely diverting the faecal current. The bowel may then heal and the extensive surrounding inflammation undergo resolution, when, after some months or a year or more, and generally after a successful resection, the artificial anus may be closed. In a high grade of tuberculous or syphilitic stricture, when an extensive area is involved, it is often best to make an artificial anus and extirpate the diseased bowel. Kelly prefers to do this by amputating the bowel above first, and ligating such haemorrhoidal vessels of the lower end as are within reach, and then to complete the extirpation from below by an incision from sacrum to anus. Advanced tuberculosis always demands extirpation, and syphilis calls, of course, for persistent specific treatment in addition to whatever local means may be employed.

MIDWIFERY AND DISEASES OF WOMEN.

(378) Version and Extraction in Placenta Praevia.

DEMELIN (*L'Obstétrique*, September, 1905) finds that in about one-third of all cases of vicious insertion of the placenta with flooding, version is indicated. In 90 cases in the Paris Maternité between 1881 and 1890 version was performed 28 times; in 32 cases under Tarnier's superintendence between 1889 and 1895 the same obstetric operation was undertaken 14 times. The total amounts to 42 turnings in 122 cases, or 34 per cent. The mortality attending version for placenta praevia is far more the result of the complication than of the operation. Demelin insists that the operator's responsibility lies more in the treatment of the case after turning—that is to say, it is not always right to extract the fetus. This may be done when the os is so far dilated that there is little fear of laceration of the cervix and inferior segment. Unfortunately there is often great danger of these injuries, so that it is best not to hurry on the extraction of the fetus. Whilst awaiting the dilatation of the os, all means ensuring provisional haemostasis must be employed, especially free rupture of the membranes, and application of the vaginal and cervical tampon. Then careful version with one hand will bring the breech into the lower segment and the thigh into the os, so that uterine contractions will be excited. These contractions, as a rule, check the haemorrhage and allow of the slow and safe dilatation of the os; the cervix is more likely to be torn by the breech than by the hand during manual extraction, but in spontaneous delivery of the breech after turning this accident is less probable. Demelin prefers in cases of complete or central placenta praevia to detach the placenta up to its borders, in order to reach and rupture the membranes, rather than to tear through placental tissue.

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(379) Case of Spontaneous Evolution.

C. B. REED of Chicago (*Amer. Journ. Obstet.*, September, 1905) conducted a labour where the patient was a multipara aged 29. The presentation was transverse, left shoulder anterior, right arm and cord prolapsed. There was no pulsation in the cord. The uterus was not rigid or contracted on the fetus; the pains were not very strong. The membranes had ruptured eight hours before Reed was called in. The patient was in good condition, and whilst preparations were being made for extraction the pains became suddenly stronger. The back was doubled up and forced into the vagina, the breech and legs were delivered, followed by the shoulder and head. Thus this case must be ranked amongst the less frequent varieties of spontaneous evolution. The child was rather immature in appearance, but weighed 5¼ lb. The pelvis in this case was of average size, the spines measuring 25 cm., the crests 27 cm., and the diagonal conjugate 12 cm. Reed appends to his report some statistics of spontaneous evolution. According to Payer 287 cases were reported in the nineteenth century. In 10 the children were living.

(380) Cancer of Ectopic Bladder.

KEITLER (*Monatsschr. f. Geb. u. Gyn.*, July, 1905) exhibited before a medical society a woman, aged 55, with ectopia vesicae and deficiency of the symphysis pubis; the right ureteral orifice could be distinguished, but not the left. A year and a half previously some tuberous masses were seen on the border of the bladder, and they had developed into a tumour of the size of a fist, breaking down at several points. The case was quite inoperable.

THERAPEUTICS.

(381) The Action of Barium Chloride and Barutin.

BRAT speaks of the work done in connexion with Schedel's recommendation to employ barium chloride instead of digitalis (*Berl. klin. Woch.*, September 18th, 1905). It has been stated that barium chloride has very little activity in comparison with digitalis, on account of the action being due to a vaso-constriction, and therefore even when the blood pressure is high, in cardiac failure and renal insufficiency, cannot produce a sufficient diuresis. It appeared to Brat that a combination with theobromine should produce a desirable action. He succeeded in forming a compound consisting of theobromine, barium, and sodium salicylate, which he calls barutin. The theobromine barium was prepared without any difficulty, but it proved to be very insoluble, and therefore he sought to prepare a soluble salt, which he found in the combination with sodium salicylate. The double salt contains 9.5 per cent. of barium and 25.5 per cent. of theobromine. The reaction of solutions of barutin is slightly alkaline, and it is capable of taking up carbonic acid easily. To avoid this it is necessary to avoid shaking up the solution and keeping it in stoppered bottles. Barium chloride has a comparatively high toxicity, but the author hoped that, since the double salt was less soluble than the chloride, its poisonous effect would be lessened. Experimenting directly on frog's heart, he found that there was a marked difference between the two preparations, and this difference could be explained by the antagonistic action of the salicylate. The symptoms produced by lethal and nearly lethal doses on rabbits did not differ materially from those of chloride of barium. The lethal dose of chloride of barium for rabbits is 0.113 gram for each kilo body weight, whether applied subcutaneously or by mouth. Barutin did not always kill when given in doses of 0.949. Since barutin contains one-sixth of the quantity of barium as compared with the chloride, he is justified in saying that it is nine times less poisonous. Having followed out some careful experiments on the action of barutin, he comes to the conclusion that both the barium combinations induce primary slowing and secondary quickening of the pulse, with lengthening of the diastole. During the increased action every second stimulus produces an extra systole. These changes are not produced in the heart, but are directly caused by action on the vessels, through the splanchnics. Barutin does not produce the irregular stormy arrhythmic action which barium chloride causes, and therefore appears to be more suitable for therapeutic action than the latter. Further experiments are required in order to determine the indication for the medicinal uses of barutin in human illness. This should also secure a definite place for barium compounds among the cardiac remedies.

(382) Treatment of Joint Stiffness

GUSTAV NORSTROM describes (*Med. Rec.*, November 4th, 1905) the application of massage as a means of facilitating the reduction of joint stiffness by manipulation. Stiffness of joints, he says, may be caused in three ways—by traumatism, by rheumatism and gout, or by chronic inflammation due to tuberculosis. Cases of traumatic ankylosis are readily amenable to treatment, though difficult cases occur in which the false ankylosis has followed periarticular fractures. Those of the olecranon are especially serious, as the mobility of the joint may be entirely destroyed by exuberant callus, which it is impossible to remove. The author does not believe that in practical work true ankylosis ever follows immobilization, though joint stiffness may be observed. False ankylosis of rheumatic origin presents numerous varieties. They are all the more obstinate if the process is an old one, and if the attacks have been frequent. These are, however, not unfavourable cases for treatment. When there are no synechiae or productions of new connective tissue, and the pathological changes are entirely confined to the periarticular fibrous tissue, the tendons, and the fleshy parts of the muscles, rectification combined with massage gives results that could not be obtained either by forced extension or by forced flexion alone. In false ankylosis, due to gout or following hyperplastic granular synovitis, the condition is not favourable for treatment. In tuberculous lesions interference is not contraindicated if there is reason to suppose that the bacilli have disappeared. Concerning the actual procedure, the author says that massage is used in various ways, both before and after rectification. Employed in the first case for some time it softens the tissues, diminishes their tension and resistance, and gives them a certain flexibility; consequently it facilitates the manœuvre employed. After extension or flexion, massage in the shape of effleurage is performed for about ten minutes. Massage will then favour the absorption, and not fail to remove the little swelling often produced through the manipulations. Besides, it is of real service in secondary atrophies. No procedure is better to stimulate or to regulate the nutrition of the muscles.

(383) Formiate of Soda in Ocular Therapeutics.

JACQUEAU (*Lyon Med.*, Sept. 17th, 1905) has been led by Clément's experiments with formic acid to try local instillations of solutions of sodium formiate for ocular fatigue due to accommodative asthenopia, or to a fault in convergence. The solution—1 in 50 to 1 in 30 in strength—caused a disagreeable pricking sensation in some instances, which was probably due to impurities of the salt. In all cases errors of refraction were corrected by glasses before the use of the solution. In most cases the instillation caused an amelioration of the symptoms of fatigue, and in several cases—for the time being, at any rate—a cure. Patients suffering from faults of convergence got more relief than those who had weakness of accommodation, showing that the formiate acted upon the motor muscles of the eyeball rather than upon the ciliary muscle. It might be objected that fatigue of convergence is most common among nervous subjects, and that the relief might therefore be due to suggestion. Against this hypothesis is to be set the fact observed, that amelioration was not immediate, but occurred first a few days after the beginning of treatment, and did not cease for some days after the cessation of treatment. It may be concluded, then, that formiate of soda augments the force of the motor muscles of the eyeball and retards visual fatigue.

(384) Local Anaesthesia with Stovain.

RATTNER reports on the uses of stovain, a synthetic product, in *Die Heilkunde* of September, 1905. It is employed in aqueous solutions, from ½ to 1 per cent., and the total quantity of the substance which is given as the maximum for injection is 0.12 gram. The anaesthesia attained by infiltration with such a solution is very complete, as is instanced in a case of a man of 72 years, who underwent the operation of extirpation of a cancer of the rectum, and who stated that he felt nothing of the operation, but heard the hammer when the operator was removing the sacrum. Not a single author has yet met with any signs of intoxication from the drug, and failures to act have likewise not been reported. The anaesthesia is often accompanied by a paralysis of the lower extremities. The action lasts for about twenty minutes, but can be prolonged at will. As a rule, it sets in immediately, so that one can make the skin incision as soon as the infiltration has been accomplished. Hyperaesthesia does not follow the infiltration. It is said that ½ to ¾ per cent. solutions of stovain act as powerfully as 1 per cent. solutions of cocaine. Rattner thinks that the drug is a very valuable one, and that it is likely to revolutionize the anaesthesia question.

PATHOLOGY.

(385) Albuminuria and Glycosuria of Fatigue.

G. GOBBI (*Riv. Crit. di Clin. Med.*, April 29th, 1905) describes observations made during and after a 26 kilometre race. Before the race began, he examined 8 out of 27 competitors, and satisfied himself that they were in good health and that their urine was normal. Four of them were gymnasts and four were soldiers of an Alpine regiment. One was not afterwards examined. The urine passed by the others directly after the end of the race forms the chief subject of the paper. The author gives a vivid description of the different stages of excitement, fatigue, reaction, and exhaustion through which the subjects passed. The most striking facts about

the urine are that albumen was present in all cases, usually to an extent decidedly greater than has been considered possible as the result of fatigue alone, and that sugar was found in every case. The albumen in two cases gave only slight traces; in one it was present in the proportion of 0.25 per 1,000, in 2 in the proportion of 0.5 per 1,000, in another 1 per 1,000, and in the last 2.5 per 1,000. The greatest proportion of albumen hitherto noted as the result of fatigue has been 0.25 parts per 1,000. the urinary sediment in all cases contained leucocytes, in four cases some red corpuscles, in one hyaline casts, in three granular casts, in one case epithelial casts. Glucose was found in all cases, the quantity varying from a minimum of 0.05 per cent. to a maximum of 0.5 per cent. This glycosuria of fatigue is a fact not hitherto observed, although some observers have recorded a physiological glycosuria which has never, except in the case of ingestion of much sugar, in nurslings, and during the puerperium, been held to account for more than 0.02 per cent. of glucose in the urine. Eight days after the race the competitors and their urine were examined again. The examination of the sediment gave uniformly negative results. Traces of glucose were found in five cases, and traces of albumen less than 0.25 per cent. in three cases. The results already referred to, and statistics as to the times in which the distance was done, the pulse-rates before and after the race, the quantities, specific gravities, and solid contents of the urines are tabulated, along with the ages of the competitors (two below 20, the others from 20 to 22). From this table the author draws the following conclusions: (1) No connexion exists between the quantities of albumen and of glucose eliminated by the same individual. (1) There is no clear connexion between the amount of albumen and the nature of the sediment. (3) The amount of urine secreted during the race in a time between two and three hours, shows notable differences, varying from 65 c.cm. to 180 c.cm. (4) The quantity of urine secreted by different individuals seems to have no connexion with the amount of abnormal constituents met with in it. (5) In 2 cases where there was much albumen the specific gravity of the urine was very low, the total amounts of solids excreted during the race were very low, the two competitors were more exhausted than any of the others and their pulse-rates were 88 and 82, while all the others had pulse-rates above 100. The total amounts of urine passed were too small to allow Gobbi to test the statements of Spiro and Vicarelli who find lactic acid always present in the urine after extreme muscular fatigue. Amongst possible causes of the severe albuminuria of fatigue the author enumerates irritation of renal epithelium by the elimination of toxins, cold especially, as the day of the race was very cold and the competitors all arrived with intensely cold extremities, a nervous mechanism comparable to that which causes transitory albuminuria after division of the vagus, and the modification of the arterial tension which has been supposed by Senator to explain other rather similar cases. After a consideration of numerous other forms of glycosuria dependent on nervous action the author concludes that the glycosuria of fatigue is a form of hyperglycaemia produced by a reflex or toxic nervous action which empties the reservoirs of glycogen. In claiming priority for his observation of the glycosuria of fatigue the author refers to cases, probably of a different nature, in which Goodhart has described glycosuria in patients who had become very nervous as a result of excitement or excessive work.

(386) Gastric Ulcer.

F. Schilling (*Berliner Klinik*, 17 Jahrgang, Heft 206, August, 1905), in discussing the etiology of gastric ulcer, expresses the opinion that defective nutrition of the mucosa owing to impaired vascularization is an important factor in producing this condition. He does not think that too much stress ought to be laid on the injurious influence of hyperacidity, because this condition is only observable in about one-third of the cases, and in the rest the acidity is either normal or subnormal. Very little light has been thrown on the subject by recourse to animal experiments. Traumatic lesions produced in animals, though followed by haemorrhage and ulceration, have practically no resemblance to the human gastric ulcer. Division of the vagi and injury to the mucosa have been tried, bacilli have been injected, the medulla oblongata has been cut, the omentum has been ligatured, and the coeliac and splanchnic plexuses have been damaged, but the resultant lesions cannot be regarded as reproducing the disease found in the human subject.

(387) Tabes Mesenterica due to Bovine Infection.

Fife and Ravenel (*Proceedings of the Pathological Society of Philadelphia*, New Series, vol. viii, No. 3, 1905) report a case of tabes mesenterica in a child 2 years old, the main interest of which consisted in the fact that from material obtained *post mortem* a tubercle bacillus was isolated, which, though slightly atypical morphologically, and perhaps attenuated to a very slight degree in virulence, proved to be of the bovine type. It is noted that the child was fed during practically the whole of its life on cow's milk. In answer to a question as to whether the lesions produced with the organism were those of human or bovine tuberculosis, Ravenel replied that in his experience in the laboratory of the State Live Stock Sanitary Board bovine bacilli had never produced bovine tuberculosis—that is, *Perlsucht*, or grape disease. The only instances in which bovine lesions were produced were those in which the inoculation was with a human bacillus.

(388) The Action of Roentgen Rays on [the Virus of Rabies.

Ceni (*Clin. Med.*, July 26th, 1905) has undertaken a series of experiments in order to determine the efficacy of x-ray applications in cases of rabies. By employing a standardized virus he was able to establish exactly the length of time required to kill the animal, and could calculate whether inoculation delayed its death or not. He experimented in two ways: First, by exposing a portion of the rabid nervous system to the rays, and then injecting it into rabbits; and secondly, by exposing to the rays that part of the body of the rabbit into which he had injected a virus not previously submitted to treatment. In his first series of experiments he exposed half of the brain of a rabbit which had died from the standardized virus in five days to the action of the Roentgen rays for fifteen minutes. He then injected an emulsion made from this brain into the sciatic nerves of two healthy animals, and found that they died in nine days. When, however, he injected two healthy rabbits of the same weight as the preceding ones with an emulsion made from the other half of the same brain, and which had not been exposed to the rays, the animals died in eight days. By injecting an emulsion not modified by the action of the rays into the anterior chamber of the right eye he caused death in seven days. He then injected the same emulsion into the anterior chamber of the eye of another animal, and exposed it daily to the Roentgen rays for fifteen minutes; this animal died in eight days. He then took a rabbit which had died from the virus in five days, and having previously exposed half of the brain to the rays for twenty-five minutes, made an emulsion from this portion of it. He injected it under the skin of one animal, and it died in seven days. Another which he injected in the eye died in eight days. An injection with an emulsion made from the other half of the same brain produced death in seven days, but when injected into the eye and treated daily with Roentgen rays for twenty-five minutes the animal lived eight days. From these results he infers that the fatal action of the virus is delayed, both when an emulsion is used which has been submitted to the rays and when an animal inoculated with non-modified virus is exposed to the action of the rays. The delay averages twenty-three hours when the exposure has lasted for fifteen minutes, and twenty-six hours when it has lasted for twenty-five minutes. Further experiments are necessary before any general conclusions can be drawn.

(389) Spirochaeta Pallida in Syphilis.

Bandi and Simonelli (*Gazz. degli Osped.*, July 16th, 1905) have examined 5 cases of secondary syphilis with a view to the detection of the organism (*Spirochaeta pallida*) described by Schaudinn, either in the blood or the secretions. In 3 out of the 5 cases the authors were able to detect the organism in question, both in fresh preparations and after twenty-four hours' staining by Giemsa's method. The spirochaeta is a very slender spiral, serrated filament, possessing a very rapid undulatory movement, and staining with difficulty. Masses of spirochaetae were found, as if agglutinated, in the scrapings of secondary syphilitic papules in 3 cases. In one case the spirochaeta was found in the blood taken from an erythematous cutaneous lesion, under conditions where one could exclude accidental infection from outside.

THE BRITISH MEDICAL BENEVOLENT FUND.

By Samuel West, M.D.,

Physician to St. Bartholomew's Hospital, Treasurer of the Fund.

(Continued from page 1537.)

3. The Kind of Case Relieved.

The kind of cases relieved is best shown by short abstracts of some of those now actually on the list:

Annuitants.

Medical Men.

5. 1889. 230. *F.R.C.S., aged 78. Without income. Has to support himself and invalid daughter upon an allowance of £30 made by son £26

70. 1901. 398. *F.R.C.S., aged 77, who practised in London. No income; slight help from eldest son, and has to support an invalid daughter... 26

86. 1903. 418. M.R.C.S., aged 68, totally incapacitated by a carriage accident. Seven children, but only able to give very slight help. Income, £13 per annum ... *10

87. 1897. 345. M.B.Lond., M.R.C.P., aged 63, practised in London. Blind, and unable to continue in practice. Small uncertain help from friends 20

75. 1902. 404. M.R.C.S., aged 74. Has lost practice owing to ill health and old age; tries to support himself by *locum* work. Three children, but only one able to give a little help 20

108. 1904. 443. M.B.Lond., M.R.C.S., aged 75, who practised for nearly fifty years in London and lost his savings by an unfortunate investment. Wife endeavours to pay rent of a small house by taking two or three boarders, and applicant has done several voyages as ship's surgeon, but fears each one will be the last on account of his age 20

Widows.

28. 1895. 322. Widow of M.R.C.S., aged 63. Has £4 a year left by husband, recently deceased. Very infirm ... 20

80. 1902. 411. Widow, aged 61, of late M.D.St. Andrews, who practised in London. Formerly a nurse, and then kept a lodging-house; now in very bad health 20

117. 1904. 452. Widow, aged 73, of M.D.Edin., who practised in Staffordshire. Has been a confirmed invalid for twenty years and dependent on daughter, a governess, whose earnings are now very much less than formerly 20

40. 1900. 371. Widow, aged 65, of L.S.A., who practised in London. Supported herself by teaching for many years, but now paralysed 20

82. 1902. 413. Widow, aged 60, of M.R.C.S., L.S.A., who practised in Hunts. Has supported herself for many years by giving music lessons and acting as organist, but now becoming crippled by rheumatism; only child a governess unable to help 20

903. Widow, aged 37, of M.D., R.U.I., who practised in London. No income; earns 15s. a week by book-keeping. Seven children, aged 16 to 4, the eldest earning 9s. 6d. a week.

1. 1892. Widow, aged 62, of M.R.C.S., practising at Sunderland. No income, and hopelessly deaf. One daughter in Post Office, very delicate 15

Children.

31. 1896. 335. Daughter of M.R.C.S., L.S.A. No income. Has hitherto managed to earn her own living, but could not save. Sight and hearing both failing... 20

76. 1902. 406. Daughter, aged 60, of a London consulting surgeon. Used to keep a lodging-house: no income ... 20

72. 1901. 400. Daughter, aged 61, of late M.D.Edin., who practised in London. Lets lodgings; supports a delicate orphan nephew... 20

94. 1903. 416. Daughter, aged 62, of late M.B.Trin.Coll.Dub. For many years nursery governess, but now unable to get engagements on account of age; health failing; no income 20

105. 1904. 440. Daughter, aged 62, of late M.R.C.S., L.R.C.P., who practised in Warwickshire. Father's savings entirely exhausted by a long illness previous to death. Only income a small monthly allowance from a charity which has to be shared with a bedridden sister 20

103. 1904. 438. Daughter, aged 64, of late M.R.C.S., L.R.C.P.Edin., who practised in Worcestershire. Maintained herself and a widowed mother for many years by teaching, but is no longer able to get engagements. No income; occasional slight help ... 20

114. 1904. 449. Daughter, aged 64, of late M.R.C.S., L.S.A., who practised in Devonshire. Has lived in South Africa with a brother who has been ruined by the war. No income 20

* To supplement another annuity.

Grantees from Last Year's List.

Medical Men.

33. M.D., M.R.C.S., aged 70, who practises in London, but whose earnings are now extremely small; has had two attacks of apoplexy. Two children, one an invalid, the other only just self-supporting. Voted £12.

36. M.R.C.S., L.R.C.P., aged 64, who practised in Queensland. Has malignant disease of the prostate, and only a few pounds left. Voted £20.

37. L.R.C.P., L.R.C.S.Irel., aged 40. Used to practise in Sunderland but is incapacitated by spinal caries. Relieved four times, £46. Voted £8.

116. L.R.C.P., L.R.C.S.Irel., aged 40, who practised in Sunderland, but is quite incapacitated by spinal disease, having lost the use of his lower limbs; no children; no income. Relieved three times, £44. Voted £6.

147. L.R.C.S.Edin., aged 53, who practises in Lincolnshire, but who finds great difficulty in getting in his money owing to the prevailing agricultural distress. Applicant's wife has dismissed the servant, sent her children to the village school, and endeavours to earn a little by needlework. Relieved once, £20. Voted £10.

Wife, Widow, or Child.

9. Wife, aged 39, of M.R.C.S., L.R.C.P., who is incapacitated by general paralysis of the insane. Income £12 a year and is promised £20 annually by a brother; takes paying guests. One child, aged 3½ years. Has to pay £27 yearly to keep up husband's policies. Relieved once, £10. Voted £12.

10. Widow, aged 41, of M.R.C.S., L.S.A., who practised in Sussex. Earns £12 a year as a housekeeper but has to keep three children, aged 20 to 16. Relieved five times, £64. Voted £12.

48. Widow, aged 30, of L.R.C.P.Irel., who practised in Lancashire. No income: no children. Wishes to train as a midwife. Voted £10.

65. Widow, aged 67, of M.R.C.S., who practised in Carmarthenshire. Was left unprovided for many years ago, and, by letting lodgings and help from this Fund, has brought up a family of five. Health now declining, and children only able to give very slight help. Relieved fourteen times, £162. Voted £12.

15. Widow, aged 54, of L.S.A. who practised in Ipswich. Income £8 a year; lets lodgings. Five children, of whom two are dependent whilst the others can only give slight help. Health very indifferent. Relieved twice, £24. Voted £12.

43. Wife, aged 66, of M.D.(Aberdeen), L.R.C.P.(Edin.). Husband has practised in Yorkshire but is now incapacitated and has to be supported by his relations. No children. Relieved once, £12. Voted £12.

44. Widow, aged 45, of L.R.C.P., L.R.C.S.(Edin.) who practised in Liverpool. Quite unprovided for when left a widow with three children eleven years ago; lets lodgings and health is breaking up. Relieved once, £18. Voted £18.

47. Widow, aged 55, of L.R.C.P.(Edin.) who practised in Manchester. No income and practically bedridden; only child a daughter earning 4s. a week. Relieved three times, £42. Voted £12.

123. Widow, aged 66, of M.R.C.S., L.S.A. who practised in the West Indies and in London, and recently died in an infirmary. Has supported herself by music copying, teaching, etc., for many years whilst husband has been incapacitated by general paralysis of the insane. No income: no children. Voted £12.

69. Widow, aged 32, of M.R.C.S.(Eng.), L.R.C.P.(Lond.) who practised in India. No income: has been attempting to maintain herself by nursing and by needlework, but health has recently broken down. Three children aged 11, 8 and 6. Husband died from plague leaving applicant quite unprovided for. Voted £5.

70. Widow, aged 39, of L.R.C.P., L.R.C.S.(Edin.) who practised in Jamaica. Three children aged 19, 16 and 14, the two elder earning a few shillings weekly. No income; is being helped by the Working Ladies' Guild; health of applicant and of children very indifferent. Relieved twelve times, £136. Voted £12.

80. Widow, aged 59, of M.R.C.S. who practised in Flints. Is supported by her children but asks help to keep the youngest, aged 19, at school for another year. Relieved once, £12. Voted £12.

89. Son, aged 18, of M.R.C.S. who practised until recently in Cambridgeshire but who is now obliged to give up on account of locomotor ataxy. Applicant has recently developed phthisis and help is needed to place him in a suitable home. Voted £10.

23. Daughter, aged 38, of late M.R.C.S. who practised in Somersetshire. Applicant tries to support herself and imbecile brother by needlework and sale of poultry. Relieved seven times, £93. Voted £12.

The Saddest of All: July, 1904.

There were 22 cases on the list this month, but the balance at the Bank being quite exhausted, in fact slightly overdrawn, none of them could be dealt with. Their consideration, therefore, had to be postponed until September.

4. The Mode of Selection.

When application is made for relief a form is sent, which has to be filled up by the applicant, and endorsed by the signatures of two persons, one of whom must be a subscriber. The form must be supported by letters from two persons to whom the applicant is personally known, one of whom must be a medical man. The information thus given is confidential, and is laid before the committee at its meeting in due course, when the case is dealt with as its merits demand.

No Canvassing.

As the selection is thus made privately by the committee, the pain of making public their distress is spared to the applicants, many of whom have once held a good position in the world. This is right, but it has one disadvantage to the fund. Canvassing for votes, no doubt, advertises a charity well and gains it many subscribers, but in such cases as our fund has to deal with the publicity which such canvassing involves would be cruel. Every case is most carefully investigated by the committee, and its relief does not depend upon the influence of friends but upon its own intrinsic merits. A visit to one of the committee meetings would be very instructive.

Detection of Imposture.

By means of the confidential inquiries made cases of imposture are easily discovered, and there are not many instances in which the committee has fallen a victim to deceit or fraud. The fund has a most deterrent effect upon impostors and professional begging writers. Hardly a month passes without inquiries being addressed by members of the profession to some of the officers as to persons applying to them privately for relief. Many of these prove to be well-known begging-letter writers, and the fund is thus able to put a check on their operations. In this respect the fund has the advantage of much help and co-operation from the Charity Organisation Society, who readily give what information they possess, or set their officers to make further inquiries. The fund would be even more useful in this respect if all those appealed to privately would communicate without delay with the officers of the fund, who would gladly give all information they possess or make the necessary investigation. It would often be found that what had been already given had gone to support a fraud and would have been much more usefully spent by the fund.

(*To be Continued.*)

HOSPITAL SUBSCRIBERS' LETTERS OF RECOMMENDATION.

Amongst all the writers, lay and medical, who have discussed in recent years the subject of the great and growing abuse of hospital relief in London there is a practical agreement that one of the great obstacles to reform is the existence of letters of recommendation given to subscribers, or to institutions like the Hospital Sunday or Hospital Saturday Funds, in proportion to the amounts contributed to the hospital funds. Thus, in the admirable address on hospital abuse delivered by Dr. Ford Anderson before the Hampstead Division of the British Medical Association, and published in the Supplement to the British Medical Journal for June 3rd, 1905, p 301, one of the recommendations for reform suggested by the Hospitals Committee of the Association, and quoted with approval by Dr. Ford Anderson, is:

> That the production of subscribers' letters shall cease to be compulsory, and that, where possible, the system shall be abolished.

Letters of Recommendation a Source of Abuse.

The South London Hospitals Committee, which during the year now drawing to a close has been occupied in discussing the subject, placed first among its recommendations, "that there be no issue of subscribers' letters," stating that evidence showed that subscribers' letters were a source of hospital abuse, owing to their being given to persons able to pay for medical advice, or to those suffering from illnesses unsuitable for hospital treatment. In the same way the Hospital Reform Association, of which Dr. Garrett Horder was the active and energetic secretary, in 1896 resolved that inasmuch as there "is strong evidence that the letters or recommendations of subscribers for the out-patient department are much misused, the Association is of opinion that the best course for hospitals to adopt is to abolish such letters or recommendations, and to consider each case from the point of view of its suitability for gratuitous hospital treatment."

Metropolitan Hospital Sunday Fund.

These quotations may serve to show the opinions of representative medical bodies on the matter, while as to its practical working we find from the report of the Metropolitan Hospital Sunday Fund that under Law VIII the Council is authorized to recommend, through its secretary, on the application of the contributing ministers and others, in-patients and out-patients to the several hospitals and dispensaries sharing in the Hospital Sunday collection; but its recommendations shall be equal to half the number only of what might be claimed by annual subscribers whose contributions in the aggregate would represent a sum equal to the award made out of the Hospital Sunday Fund to the respective hospital or dispensary. Further on in the body of the report we find that recommendations are given on their application to the respective ministers of any contributing congregation for the use of its members, and to others whose names appear printed in this report, so far as the supplies in the hands of the secretary will admit.

With regard to letters for convalescent hospitals, however, holiday and rest-seekers are warned that they cannot be provided with letters for convalescent institutions.

With regard to the supply of surgical instruments, orders for these are given to representative ministers of any contributing congregation for the use of its members, in accordance with certain rules, one of which is that an estimate must be sent for the Committee's approval in all cases in which the appliance asked for is likely to cost more than a guinea, unless the patient or recommender is prepared to pay any excess. A further rule is that no order exceeding a value of £5 shall be allowed for any one instrument or appliance.

Metropolitan Hospital Saturday Fund.

From the report of the Hospital Saturday Fund we find that the Distribution Committee issued 36 614 letters of recommendation for participating institutions during the year 1904, and that the Surgical Appliance Committee supplied 4,644 appliances during the year, towards the cost of which the patients contributed £2,289 9s. 4d. The supply of artificial teeth, it is stated, is still restricted to the subscribers or their wives, and the applications are so numerous that many are required to pay the full cost, in one sum or by instalments, and in no case is less than three quarters of the cost charged. Further on it is stated that the Surgical Appliance Committee supplies surgical appliances to applicants recommended by registered collectors or the honorary officers of local committees upon the payment, in instalments or otherwise, of half the cost, with the exception of artificial teeth, of which at least three-fourths of the total cost must be paid by the applicants.

King Edward's Hospital Fund for London.

The King Edward's Hospital Fund for London, it may here be noted, does not receive or distribute any letters of recommendation.

Ideal System of Hospital Administration.

If now we turn for a moment to the ideal system desired both by the Hospitals Committee of the British Medical Association and the South London Hospital Committee, we shall have no difficulty in seeing why the system of subscribers' recommendations stands in the way. These Committees have before them the facts, as stated by Dr. Ford Anderson in his address, on the authority of Sir Henry Burdett's *Hospitals and Charities*, 1905, that out of a total London population of 4,613,812, the number of patients receiving medical relief at the different institutions in London was 2,302,563; and that, whereas the population of London increased in the ten years 1894 to 1903 by 6 per cent., the number of patients increased by 23 per cent., or out of all proportion to the increase of population. The Committees desire that inability to pay for adequate treatment shall be the consideration for the admission of all patients to hospital treatment; but it may well be supposed that they despair of seeing this while recommendations giving a claim to treatment are scattered broadcast among contributing congregations; and with all respect for the ministers of the various religious bodies, they may consider them unsuited for the special work of distributing recommendations for hospital relief.

It is, moreover, considered very desirable to establish a system of consultations at hospitals, whereby obscure and interesting cases might be brought or sent with a note from local practitioners for an opinion when a consultation fee cannot be paid, and the chief difficulty in the way of such an arrangement being made at present is the overcrowding of the out patient departments with cases of trivial accident or illness.

The Quid Pro Quo Argument.

It is easy to understand the desire of hospital secretaries and committees to secure as many subscribers as possible by offering a *quid pro quo* in the shape of letters of recommendation, but knowing as we do the highly-intelligent manner in which the affairs of the Hospital Sunday and Saturday Funds

have been guided by their respective Committees, we cannot think that when the matter is fully laid before them, either of those bodies would desire to stand in the way of so great an improvement in our hospital arrangements as that outlined above.

It may be added that where the abolition of subscribers' letters of recommendation has been tried, as at the Bolingbroke Hospital, subscriptions have not fallen off, but have on the contrary increased.

TUBERCULOSIS IN THE CITY OF MANCHESTER.

In his report for 1904 Dr. Niven, Medical Officer of Health for the city of Manchester, deals extensively with the question of tuberculosis. He attributes the large number of cases chiefly to bad housing and the insanitary conditions of houses, and to malnutrition. Manchester City is divided into three main divisions. In these divisions there are great differences in social circumstances, such as in the housing. Some 8 000 persons residing chiefly in the central part of the city (Manchester Township) live in common lodging-houses, and their death-rate for three years was about 80 per 1,000. The conditions of housing are worst in the centre. There are the remains of courts, many back-to-back houses, narrow streets, and tall buildings, which darken the dwellings. This is the oldest part of the city, and here dwell those persons engaged in the poorest occupations.

South Manchester contains the large district of Hulme, in which the houses are crowded with narrow spaces between the backs. The majority of the closets are pails. Here also are a considerable number of back-to-back houses, many labourers having houses or lodging here.

North Manchester is the abode of the industrial classes more especially. A number of the districts are served to a large extent, however, by privy middens.

Dr. Niven says: Phthisis has now become a subordinate cause of death, but it is notable that it is now more than eleven times as fatal in the Township, and more than three times as fatal in South Manchester as it is in North Manchester. The conditions of life in the Township serve in fact to produce a constant supply of tuberculous infection, which is distributed and retained in all parts of the city.

Table Showing Annual Rates of Mortality from Tuberculous Disease for all Manchester and for Divisions of Manchester at Six Groups of Ages per 1,000 Living at those Age-Groups.

	Under 5.	5 to 14.	15 to 24.	25 to 44.	45 to 64.	65 and Upwards.
Manchester ...	4.26	0 92	1.80	3 14	4 31	2 06
Township ...	4.61	1 24	2.32	4 75	7.50	5 16
South	5 65	0 84	1.81	2.99	4 06	1.36
North	2.19	0 78	1.45	2.18	1 91	0 44

He continues: No one who is at all acquainted with the history of phthisical fatality can doubt that, though phthisis is greatly dependent for its propagation on personal health, circumstances, and habits, yet, given a sufficient amount of infection and sufficient propinquity, the disease will fasten on the strongest persons and on the best nourished. It is a disease eminently dependent on distress and overcrowding.

Tuberculous diseases of infancy. This is probably an entire misnomer. What positive evidence we have shows that fatal tuberculosis is rare in the first months of life, gradually increasing afterwards. This is inconsistent with the statistics of the declared causes of death. These are certainly erroneous.

That it increases rapidly may be seen by reference to the table. At school ages, 5 to 14, the chief headings under which the mortality of the Township exceeds are tuberculous diseases and lung disease. Dr. Niven says: Phthisis has now begun to exact a high mortality and the influence of malnutrition tells heavily against children.

With regard to the influence of sex on mortality from tuberculosis, the male death-rate exceeded the female in 1904 at every group, except at the ages 5 to 9. Dr. Niven accounts for this in the following manner. He says: Partly it is due to the more strenuous work on the part of the males; partly to the considerable numbers of unmarried male labourers living under unfavourable conditions. It cannot be doubted that the large number of persons who inhabit or go to common lodging houses when ill, and who swell so largely the list of phthisis deaths, help to make the difference between the male and female mortality.

With regard to malnutrition, as Mr. Seebohm Rowntree pointed out, when the children are young and unable to earn any money to assist their parents, they yet require good feeding and housing, but the parents are often so pinched for money that they cannot afford to give them sufficient food. Dr. Niven believes that a problem which wants solving is how it is possible, by a system of loans, to supplement the resources of deserving families at that period when the children are young, and the income inadequate to their maintenance, to such an extent as to ensure that all the members have enough food and clothing. The solution of this problem involves in part instruction to poor families in the manner in which the income must be spent so as to give the maximum result in physical upbuilding at a mimum of cost.

Dr. Niven points out that some cases of phthisis are notified as dying from bronchitis owing to the difficulty in diagnosis which may occur in the last stages of the illness, but as a greater number of specimens of sputum are examined in each succeeding year, a definite diagnosis of phthisis is being arrived at in cases which would otherwise have been certified as bronchitis.

Infection.

The discharge from the infected area of the lungs in phthisis, containing myriads of tubercle bacilli is coughed up, and part is divided into a fine spray. In sneezing and in loud talking a fine spray is also produced, but as this consists chiefly of saliva which is only infected secondarily, tubercle bacilli are probably present in much fewer numbers. The particles of the fine spray produced, for example, in coughing will at once begin to fall towards the ground. The larger particles will fall rapidly; the smaller will fall very slowly, and will be carried considerable distances by air currents.

1. *The Larger Particles of Spray.*—One may take it from recent experiments that the larger particles of the spray do not pass further than 1 metre (about 39½ in.) from the patient. The healthy individual is comparatively safe at that distance, although a phthisis patient is coughing, provided there are no strong air currents towards him and that he is on the same, or a higher, level than the patient. Infection from the larger particles of spray directly is most likely to occur when a phthisis patient sleeps with a healthy individual; it may also occur in places where people cannot easily alter their relative positions—in public meeting places and crowded railway carriages.

It follows:

(1) That a phthisis patient should have a bed to himself.
(2) That he should be taught to cover his mouth with a rag while coughing, so that the larger particles of spray may be arrested at once.

A considerable percentage of cases are traced to members of the same family.

2. *The finer particles of spray* take much longer to fall to the ground, and are also easily moved by air currents. They may be carried, therefore, to any part of a large room. It is, however, in the air of the small, badly-ventilated room that these are likely to be present in relatively great numbers. If tubercle bacilli are carried in these finer particles in a similar manner to the *Bacillus prodigiosus*, then these particles of spray may lead to infection.

The phthisis patient who coughs much should have a bedroom to himself if possible, but failing this the room should be well ventilated, with the bed of the patient near the air outlet. A gauze cover suspended mosquito-netwise over the patient would catch a great many of the spray particles.

3. *The Sputum and the Spray which Falls to the Ground.*—As has been so frequently repeated, the sputum is dried, mixed with dust, and on disturbance again rises into the air. The phthisis patient is asked to spit into a special bottle (163 spit bottles were supplied gratis to notified cases during the year), or an impermeable cardboard box, or Japanese tissue paper, all provided for him free of charge. Some patients use rags. All are warned against using handkerchiefs or any article which cannot be burned or easily cleansed.

Sanitary Precautions against Tuberculosis.

Much is being done in Manchester to combat tuberculosis. There is a system of card indexes which Dr. Niven describes as follows:

1. In the street and house card index we have approximately 17,500 cards, representing houses which have been infected or in which consumptives have lived.

2. A card index has been made containing the names of all notified cases still living.

3. A card index has also been made containing the names of all persons who have died from phthisis during and since 1898.

The number of cases notified is greater than the number of deaths. If one takes three years as the average duration of life after the onset of phthisis, then one would expect that after a scheme of notification had been existent for a few years the number of new cases arising would approximate more and more closely to the number of deaths. If all cases were notified (which is not so, seeing that of all deaths occurring from phthisis in Manchester only a little more than half that number occur amongst notified cases), then, over a number of years, the number by which the notifications of new cases exceeded the number of deaths from phthisis would represent—

1. The number cured, and the number mistakenly diagnosed as phthisis;
2. The number notified who had left Manchester before death;
3. The number of phthisis patients who were certified as dying from some other disease.

1. The number cured after notification is small, and the great proportion of these cures occur amongst children.

Legal powers have been obtained to prevent people spitting on the floor, side, or wall of any public carriage or of any public hall, public waiting room, or place of public entertainment, under a penalty not exceeding £5. A letter was sent during 1904 to all public-houses and to all warehouses with regard to precautions against spitting. In commenting on this, Dr. Niven writes:

The sooner dried sputum is mixed with dust and is floating in the air the more likely are any contained tubercle bacilli to be virulent. Great danger is run from dust containing recent spit (1) in the public-house, (2) in the common rooms of common lodging-houses, (3) in the railway carriage smoking compartment.

In these positions one constantly finds spit upon the floors. In the first two spittoons are usually provided but are not used by all the frequenters. In summer flies are seen in great numbers in the spittoons feeding upon the spit. The carriage of tubercle bacilli to articles of food on the body of the fly provides a possible, although one is inclined to believe a rare, source of infection. Such spittoons should not be filled with sawdust or other dry material, but their contents should be moistened with some powerful disinfectant, or should be fluid.

During 1904, in 284 instances the public-house and in 106 instances the common lodging-houses were probable or possible sources of infection.

In the railway carriage nothing is provided, and the majority of smokers do not seem to recognize the danger which they run. When one considers how well known are the irritating qualities of dust, and also its possible infectious character, one is surprised that dry dusting and sweeping are still almost universal. An inquiry as to principal occupations of the patients shows that a great number are charwomen.

Milk.

The question of milk is discussed at length in the report, and much is being done in Manchester to prevent the sale of tuberculous milk.

Samples of milk are taken at the Manchester railway stations, or elsewhere within the city, by the food and drug inspectors. These are submitted to Professor Delépine for bacteriological examination. All samples reported by him as having been found to cause tuberculosis are followed to their source at the farm by the medical officer of health (or his representative) and the veterinary surgeon. The veterinary surgeon examines all the milking cows on the farm, and takes samples of milk from cows having diseased or suspicious udders. The special samples are taken in sterilized vessels provided by Professor Delépine, and every care is taken to avoid extraneous infection. These samples are in turn submitted to Professor Delépine for bacteriological examination, and in this way the fact of a cow having tuberculosis of the udder is definitely proved. Samples from cows found to have diseased or suspicious udders by clinical examination, without previous station samples, are examined in the same way. In all cases, control samples are taken to ensure that the examination has been satisfactory and the source of infection removed.

Dr. Niven states that the reports of the veterinary surgeon show that in country districts there has not been the improvement in the condition of the cowsheds and the handling of the cows which is necessary for reasonable safety. He enumerates the reforms necessary as follows:

1. Cows of a less advanced age are required, so as to diminish the risk of tuberculosis of the udder. This, I am informed, farmers are, in their own interest, beginning to recognize.

2. As regards cleanliness of the cows, suitable water supply, cleanliness of the cowshed, and cleanliness of the milker, there is an improvement, but to a very inadequate extent, in rural districts.

3. It is of the most urgent importance that, in summer especially, milk shall be at once submitted to cooling processes—to refrigeration, if possible—and that it shall be kept in an ice chamber prior to dispatch.

It should be kept cool on its way to the railway station, and this is easily effected by spreading a wet cloth over the milk cans. On its railway journey it should be placed in a special cool van containing ice, and acting practically as an ice chamber. On arrival, unless immediately handed over to the milk dealer, the cans should be placed in an ice store. In the subsequent treatment of milk the same policy should be pursued. Progress has begun in respect of each of these requirements. Farmers are contemplating putting down ice-making plant, and one farmer amongst those by whom we are supplied has already done so. Milk dealers are moving in the direction of providing cold storage. In June, 1904, the Milk Dealers' Association approached the medical officer of health with a view to obtaining greater cleanliness in the railway vans carrying milk, and cooler milk trucks. Accordingly, arrangements were made for interviews between the representatives of several railways on the one part, and on the other Alderman McDougall, the medical officer of health, and representatives of the Manchester and Salford Milk Dealers' Association. The means by which the objects aimed at were to be obtained were discussed, and, as regards cleanliness of the trucks, there is reason to believe that something was effected.

Some difference of opinion existed as to the best means for securing cooling of the milk. It will probably be found that the provision of non-conducting vans carrying ice is the only sufficient and suitable remedy.

Dr. Niven commends the suggestion made recently by Mr. Hale Wood that the railway companies should provide cold storage for milk arriving overnight or early in the morning, and adds that such provision is said to be contemplated by one railway company. Dr. Niven mentions also that the Milk Dealers' Association has recently designed a wooden cold store for milk, for use in small retail dairies, which appears likely to be effective.

CELEBRATION OF THE CENTENARY OF SKODA.

[FROM OUR SPECIAL CORRESPONDENT IN VIENNA.]

ON December 10th just one hundred years had elapsed since the birth of Joseph Skoda, one of the pillars of modern medicine, and one of the founders of the Vienna Medical School, whose name is a household word amongst clinical teachers. A sketch of his life was published in the last issue of the BRITISH MEDICAL JOURNAL, and it is only necessary to add that he was the third son of a poor Bohemian blacksmith, and that he suffered severe hardship and poverty before he gained the degree of M.D. As the anniversary fell on a Sunday, the official celebration was postponed until Monday, December 11th. But on the actual day the statue of Skoda, which occupies a prominent place in the grand hall of the Vienna University, was beautifully decorated by the university authorities, and numerous wreaths and flower gifts were laid at the foot of the marble pedestal on which the bronze bust of the scientist stands. Skoda died only twenty-four years ago, so that there are still many people living who have seen him and were in close contact with him. They all agree that the expression of the statue is absolutely lifelike. The clearly-defined, somewhat sarcastic mouth and the Olympian eyebrows are said to have formed a superb contrast when Skoda was lecturing. The festival at the statue was witnessed by a large gathering of former friends, pupils, and patients of the famous physician, besides the official representatives from the Senate of the University, the Ministry of Teaching, and several members of Skoda's family.

The official celebration took place on Monday evening, when Professor v. Schrötter, the pupil, friend, and successor of Skoda, gave a vivid description of his beloved teacher's life and of his position and rank in medicine. The Vienna Clinical Society and the College of Vienna Practitioners had combined their celebration, and a great number of Viennese and foreign doctors assembled in the grand meeting hall of the Clinical Society. Schrötter, who was in intimate connexion with his teacher, destroyed several legends concerning Skoda's life. Thus, he denied that Skoda was ever punished for gross neglect; it was, on the contrary, on account of an act of insubordination, which Skoda committed for the sake of saving the life of a patient, that he was sent for three months to serve at a lunatic asylum. The work of the young reformer was, of course, repudiated by the older members of the faculty, and even scorned and laughed at. Although French physicians were the originators of the new method, Skoda was the first to apply natural laws to the phenomena of percussion and auscultation, and his tedious, troublesome, and difficult experiments are the basis of modern diagnostic researches; they have stood the test of time, and of the latest results of research in physics. Even the *x*-rays have not been able to take away anything from the importance and truth of Skoda's simple and absolutely logical findings; they have, on the contrary, simply confirmed their accuracy. A remarkable incident narrated by Schrötter is worthy of mention. The Prime Minister of Charles X was sent to Vienna on account of an abdominal disease. Several consultations of the most eminent physicians resulted in the diagnosis "liver disease." Skoda was then called to the consultation on the recommendation of Dr. v. Türkheim. He was at first eyed askance by the professors, but when he diagnosed aneurysm of the abdominal aorta, and added that he expected it to burst within a few days, and when the necropsy, which had to be performed actually four days later, revealed the very condition predicted by Skoda, his position was established. When Skoda was appointed Professor of Clinical Medicine he had sufficient material for completing his studies, and he turned to the pathology of the heart. Schrötter asserted that we are nowadays not much further in the diagnosis of these conditions than 70 years ago, and that the latest observations on heart block, arrhythmic unilateral contraction, or one-day pneumonia, or cardiac effusion and pericardiac effusions, had been made by Skoda several decades ago. In association with his friend, Rokitansky, he succeeded in revolutionizing the entire process of thinking as regards physical signs of disease, and his ideas were true and everlasting, because they were the outcome of Nature and her laws. As regards treatment, Skoda gave up all the complicated formulae of the old Pharmacopoeia. His prescriptions were very simple, sometimes too simple. He did not rely upon internal medication to effect physical changes or produce physical improvement. He advocated mechanical rational treatment, and adopted the open-air treatment of phthisis in consequence of his physical view of the destruction of the lung tissues by this disease. He was called the "nihilist of treatment," but unjustly so. His idea was to stop further damage, not to try to rebuild what was irreparably lost.

The speech was listened to with the greatest interest by the illustrious gathering, and the President of the meeting closed it very solemnly by saying: There is only one way leading to progress—the truth.

DIABETIC FOODS.

A CORRESPONDENT lately drew our attention to the diabetic food specialities sent to this country by the American manufacturers, Messrs. Farwell and Rhines, and sold here by their agents, H. H. Warner and Co., Ltd, known to the profession as the vendors of the nostrum that goes by the name of "Warner's Safe Cure." The gluten flour had been used lately by one of our correspondent's patients on account of its cheapness, for while he was asked 2s. 6d. per lb. for gluten flour from known makers, he only paid 6d. per lb. for this preparation. Our correspondent could not see that Farwell and Rhines's gluten flour differed from ordinary flour, while the bread made from it seemed like ordinary bread; he therefore asked us to ascertain its composition. We were not previously acquainted with Messrs. Farwell and Rhines's preparations, but we obtained samples of the gluten flour and special diabetic food from H. H. Warner and Co., and have analysed them in order to see what proportion of carbohydrates convertible into sugar they contain.

In the preface to a pamphlet containing testimonials to the value of their foods, Messrs. Farwell and Rhines, whose facsimile signature stands at the foot of the page, say:

> We have faithfully and honestly striven to answer it [that is, the demand for a safe diabetic food] in our "Special Diabetic Food," which is prepared with the advice of experienced and practical physicians and chemists. This, and our gluten flour, are pronounced by very high authorities to be unrivalled in America or Europe for relief of diabetes and dyspepsia.

Further on they say:

> Our claim is that because of the careful elimination of objectionable elements and skilful combination of the vital properties of the cereal in the manufacture of our special diabetic food and gluten dyspepsia flour—bread, biscuits, gems, griddle cakes, etc., made from these goods are reliable and nutritious in the highest degree, free from deleterious, indigestible matter, and as nearly free from starch as practicable to make such products.

The following table shows the analyses of these articles placed by the side of the figures of the official analyses of wheaten flour published by the United States Department of Agriculture.

	Department of Agriculture, U.S.A.		Messrs. Farwell and Rhines.	
	Spring Wheat.	Winter Wheat.	Gluten Flour.	Special Diabetic Food.
Water	10.4	10 5	12 65	11 06
Proteid	12.5	11.8	10 60	12 40
Fat...	2.2	2 1	—	3 02
Convertible carbohydrates	71 2	72.6	70 30	71.06
Mineral matter	1.9	1.8	0 44	1.52
Fibre	1.8	1 8	—	—

Our readers will see that these things, which are stated to have been prepared with so much care, and to possess such special qualities as to justify the public being asked to pay for them a price which is about four times the market value of common flour, contain practically no less convertible carbohydrates than if they had not been the subject of any "faithful and honest" striving, or, instead of having received the attention of "experienced and practical physicians and chemists," they had had no attention at all except that directed to the construction of bold and misleading advertisements. It is perfectly true that it is impossible to bake bread from wheaten flour alone unless it contains a certain percentage of starch, which may be stated to be 25 per cent. for a minimum, and also that gluten flours and gluten breads manufactured in this country by reputable firms contain proportions of starch varying from 25 per cent. to 40 per cent.; and, further, that there may be room for difference of opinion regarding the dietetic value of these articles, which, while costing many times the price of ordinary bread, are of advantage to the diabetic only in the proportion of something like two to one; that is to say, a diabetic who may eat with safety ½ lb. of bread made from gluten flour containing 35 per cent. of starch can take with equal safety ¼ lb. of bread made from ordinary wheat flour containing 70 per cent. of starch. Nevertheless, in these preparations care has been taken to provide an article in which the proportion of starch is largely reduced, but in the productions of Messrs. Farwell and Rhines there is no evidence of such reduction or of any special preparation. The alleged qualities of these foods exist only in the imagination of their vendors and the givers of their testimonials, among whom we regret to notice the names of a doctor of medicine and an analytical chemist, dating their letters from addresses in London. With regard to the former, whose name is given as A. J. Benedict, M.D., 73, The Lawn, Uxbridge Road, London, W., we have ascertained that there is no such name on the *Medical Register*. It is usual to give dietetic analyses signed by analytical chemists of known standing, but the English chemist who has ventured to testify to the value of Messrs. Farwell and Rhines's productions gives no analysis, and merely makes a general statement of his approval of them.

The facts disclosed by this inquiry show the need there is for medical practitioners to exercise care in every case before permitting their patients to use advertised articles of diabetic food.

THE PLAGUE.

PREVALENCE OF THE DISEASE.

INDIA.

DURING the weeks ended November 4th, 11th, and 18th the deaths from plague in India numbered 3,090, 2,762, and 2,826 respectively. The principal figures during the period were: Bombay Presidency, 1,789 deaths; Bengal, 207; North-West Provinces and Oudh, 166; the Punjab, 40; Rajputana, 15; Kashmir, 7; Madras Presidency, 67; Central India, 95; Hyderabad State, 42; Mysore, 129.

During the weeks ended November 11th and 18th almost half of the deaths from plague in India occurred in the Bombay Presidency.

SOUTH AFRICA.

During the weeks ended November 4th, 11th, and 18th only 1 case of plague was met with—namely, a coloured female—on November 18th, at Port Elizabeth.

Plague seems to have died out amongst rodents, no rat or mouse being found infected by plague at any town in South Africa.

AUSTRALIA.

Queensland.—No cases of plague were under treatment in any part of the State of Queensland during the last week of October. The last case of plague died at Townsville on October 21st. Unless another case of plague should occur in the State or a plague-infected rodent be found, no further bulletins will be issued.

MAURITIUS.

During the weeks ended November 23rd, 30th, and December 7th the fresh cases of plague in Mauritius numbered 8, 9, and 3; the deaths from the disease amounted to 6, 6, and 1.

MEDICAL NEWS.

THE next Congress of Electro-biology and Medical Radiology will be held at Milan from September 5th to 9th, 1906.

IT has been decided that the third meeting of the Congress on Pellagra shall take place at Milan on September 26th, 27th, and 28th, 1906.

DR. W. M. ROBERTSHAW of Stocksbridge has been elected without opposition to represent the Wadsley Bridge Division on the County Council of the West Riding of Yorkshire.

DR. WILLIAM STIRLING, Fullerian Professor of Physiology, will deliver a course of six lectures on Food and Nutrition at the Royal Institution, Albemarle Street, at 5 p.m., on Tuesdays in February and March.

THE *matinée* at the Shaftesbury Theatre in aid of the rebuilding fund of St. Bartholomew's Hospital last Monday was somewhat marred by the fog, but nevertheless resulted, it is understood, in the substantial profit of £500.

A LARGE new hotel, called the Grand Hotel St. Moritz, has been opened this month at St. Moritz-Dorf in the Engadine. Ample provision is made for the winter sports to which visitors to Switzerland have become accustomed. The hotel will also be open in the summer.

THE new buildings of University College Hospital, London, have been completed, and eighty-six additional beds were taken into use in September. The cost of the rebuilding was defrayed by the late Sir J. Blundell Maple, but the Committee appeals for more annual subscriptions to meet the increased expenditure due to the larger number of beds now in use.

ACCORDING to the *Times*, Mr. Roosevelt has appointed a Commission of three surgeons-general, representing the army, navy, and marine hospital service, to inquire into the conditions prevailing in Government offices and workshops, and to recommend measures for the prevention of tuberculosis therein.

THE Richard Middlemore post-graduate lecture will be delivered at the Birmingham and Midland Eye Hospital by Mr. H. Eales, Senior Surgeon to the hospital, on Tuesday next, December 19th. The subject of the lecture will be Some Affections of the Eye and its Surroundings caused by Nasal Disease. All qualified members of the medical profession are invited to attend.

FLEET SURGEON BASSETT CHARLES EDWARD FITZGERALD GUNN, R.N. (retired), died at Chatham on November 20th, aged 46. He entered the Royal Navy as Surgeon, February 28th, 1883; became Staff Surgeon, February 20th, 1895; and Fleet Surgeon, February 26th, 1903. He retired from the service June 29th, 1903.

THE reports put in at the forty-third annual meeting of the Surgical Aid Society last Wednesday showed a substantial growth in the annual income. The total receipts for the year were £20 787, or more than £2 000 greater than in 1904. There had been a slight reduction in the expenses of management, which during the year equalled only 16·2 per cent. of the total expenditure. The 35 083 surgical appliances which had been supplied included over 1,000 sets of artificial teeth.

WE have received a copy of the *Melbourne Argus* tables of the Australasian mails for 1906. It forms a small pocket volume, and contains complete official British and foreign mail services to and from Australia and New Zealand, rates of passage, postal and cable charges, with an excellent Orient-Pacific line coloured track chart of the world, showing distances from port to port, and differences in time. Copies may be obtained gratis at the London offices of the *Argus*, 80, Fleet Street, or by enclosing a penny stamp to cover postage.

BEQUESTS TO MEDICAL CHARITIES.—Miss Catherine Severne of Brighton, who died on November 1st, left £200 to the National Hospital for Paralysed and Epileptic, Queen Square, Bloomsbury.

LAMBETH GUARDIANS AND LADY DOCTORS.—At a meeting of the Lambeth Board of Guardians held on November 29th, it was decided that no lady doctors should be eligible for posts in connexion with the new scheme of nursing the poor in their own homes.

INTERNATIONAL CONGRESS ON HYDROLOGY.—The next International Congress of Hydrology, Climatology, Geology, and Physical Therapeutics will be held at Algiers, October 5th to 10th, 1906.

KUSSMAUL PRIZE.—Professor Czerny, of Heidelberg, has founded a gold medal in memory of his father-in-law, the famous clinician Kussmaul, who died in 1903. The medal, together with a prize of £50, will be awarded every three years for the best German research on therapeutics.

A HYGIENIC EXPOSITION AT LYONS.—In connexion with the meeting of the French Association for the Advancement of Science to be held at Lyons in August, 1906, Professor Courmont, President of the Section of Hygiene, intends to organize in the name of the city of Lyons all methods, apparatus, and materials used in town sanitation.

NEW ISOLATION HOSPITAL AT ROTHERHAM.—The new Rotherham Isolation Hospital, the foundation stone of which was laid some fifteen months ago, was opened with due ceremony on December 7th. The total expenditure upon the undertaking, including land, building, and furniture, has only a little exceeded £19 000, and for this sum 33 beds for male patients and 33 beds for female patients have been provided. The buildings consist of an administrative and six other blocks, including the laundry, disinfector, and discharge lodge, and the observation ward. The special characteristic of the hospital as a whole is that separate provision has been made for acute and mild cases of scarlet fever. This rapid conversion into practice of the very modern conception that the aggregation of severe and mild cases of scarlet fever is dangerous is a very welcome feature of the plan, and specially creditable to those, including Dr. Alfred Robinson, the Medical Officer of Health for the district, who have been responsible for the erection of the new buildings. The distribution of beds is of some interest; 18 beds are assigned to severe scarlet-fever cases, 16 to those of milder type, 14 each to diphtheria and typhoid, and 4 beds in two separate wards to observation cases. The buildings lie on elevated ground, about 1½ miles from the centre of the town, and have 8½ acres of ground devoted to them; the different blocks are, therefore, well separated. All the wards face south east, and each is provided with a glass-covered verandah for the use of convalescent patients; each block, moreover, forms a complete and independent unit by itself, being provided with its own kitchen, bathrooms, and stores. The ventilation is natural fireplace ventilation, supplemented by outlet shafts in the ceilings, and grids under each bed. The scarlet-fever patients have an allowance of 2,106 cubic feet of air space, and 156 superficial feet floor space, while the diphtheria block is provided with a small operating theatre.

British Medical Journal.

SATURDAY, DECEMBER 16TH, 1905.

THE NEW GOVERNMENT.

THE medical profession includes members who hold political opinions of every colour—blue, yellow, and green. Collectively, therefore, it has nothing to do with politics in the ordinary sense of the word, and can take a detached view of a change of Government. But whatever the particular shade of opinion a medical man may hold, all are agreed in desiring increased efficiency in administration in the multitudinous matters which touch the public health, the public services, and the welfare of the poor. The principles on which the new Government, at the time of writing almost but not completely formed, has been constituted, do not appear to mark any definite advance on those which have guided similar enterprises in the past. If, however, it includes members whose only claim to guide the great work of administration is that they have gained a certain notoriety in the House of Commons by methods which do not give any guarantee that they possess the qualities which make successful statesmen, it will be gratefully recognized that some of the most important offices are held by men whose record in public affairs warrants the expectation that they will bring to their new duties the width of view and freedom from prejudice which ought to be deemed essential in the head of a great department of State.

From this point of view the appointment of Mr. Haldane to be Secretary of State for War is of good omen for the army, though his strong grasp of all educational matters would have marked him out as the right man for the Education Department were it administered by a Secretary of State. As it is, Mr. Haldane will have the opportunity of rendering great services to the country, for we feel confident that he will approach the duties of his new office with a determination to work for efficiency, and will recognize from the first the immense importance of placing the sanitary administration of the army on a thoroughly sound basis. He is not, we believe, likely to underrate the value of expert advice, or to allow himself to be led into the fatal mistake of supposing that the machinery for preserving the *personnel* of an army in health can be improvised at the outbreak of war.

The nomination of Mr. John Burns to be President of the Local Government Board is one of the most interesting appointments made by Sir Henry Campbell-Bannerman, since it is the first occasion on which a Labour member has won a seat in the Cabinet. Though new to office, Mr. Burns has had a long experience of Local Government work as a member of the London County Council, and the lessons he has learnt there will stand him in good stead now. There is no department of Government with which the medical profession is more nearly concerned, and none in which the central administration calls more urgently for extension and consolidation in the directions indicated by the British Medical Association. Reforms in the existing system of local public health administration, especially in rural districts, are urgently required, and one of the first duties of the new President will be to examine the proposals for new legislation pigeon-holed in his office. We hope that his influence with his colleagues may prove to be strong enough to force these measures into the programme of the new Government.

Among the great responsibilities which fall upon the shoulders of the Secretary of State for India not the least are those concerned with the health of the teeming population of that great dependency. Mr. Morley will have the advantage of receiving, it may be hoped at no very distant date, the report of the scientific commission appointed by his predecessor to study the question of plague. The disease appears to have become endemic in some parts of India, and to be extending to others in epidemic form; the fact that it so seldom attacks Europeans is evidence that it must be possible to devise precautions to check its continuance and spread among the natives of the country. If plague is an opprobrium to British rule in India, the helpless attitude of the authorities of tropical colonies in face of the terrible rates of mortality and invaliding from malaria and allied diseases has been until recent years a blot on the administration of the Colonial Office. Mr. Chamberlain's tenure of office as Colonial Secretary proved how much an enlightened administration could accomplish, and we trust that Lord Elgin will be not less zealous in encouraging those sanitary precautions which have done so much to diminish the prevalence of malaria whenever they have been intelligently applied.

It is well not to be too sanguine; new brooms do not always sweep clean. The new Government, like the old, contains little tincture of science, and until the scientific spirit becomes more widely diffused—as will happen in perhaps a generation through the work of the new universities—it is rash to expect any fundamental reform in our antiquated methods of government.

PROGNOSIS IN MENTAL DISEASES.

"PROGNOSTICKS, or signes of things to come, are either "good or bad," said Burton in opening his wise and erudite chapter on the Prognostics of Melancholy. That the bad "prognosticks" in mental diseases far outweigh the good is a matter of common observation, and, unfortunately, for many reasons, insanity is the most disabling of all diseases, drawing the sufferer irresistibly into dependency on others. On this account a prognosis is awaited by the relatives of its victims with extreme anxiety, and yet, unhappily, in no class of diseases should a prognosis be more guardedly expressed. "The cure is hard in man but "much more difficult in women. And both men "and women must take notice of that saying of "Montanus consil. 230 pro Abbate Italo: 'This maladie "doth commonly accompany them to their grave; "Physicians may ease, and it may lye hid for a time, but "they cannot quite cure it, but it will return again more "violent and sharpe than at first, and that upon everie "small occasion or errour;' as in Mercuries weather-"beaten statue, that was once all overgilt, the open parts

"were clean, yet there was *in fimbriis aurum*, in the "chincks a remnant of gold; there will be some reliques "of melancholy left, in the purest bodies (if once tainted) "not so easily to be rooted out." But, again, "if this "maladie be not hereditarie, and taken at the beginning, "there is good hope of cure, *recens curationem non habet "difficilem*, as saith Avicenna . . . but if it be inveterate it "is incurable, a common axiome, *aut difficulter curabilis*, as "they say that make the best, hardly cured."

Between Burton and Kraepelin some two and a half centuries have passed away, and yet, notwithstanding the great advances of modern psychiatry, the enormous additions to pathological, clinical, and nosological information, and the endless distinctions of psychological methodology, the reader of the *Psychiatrie* of Kraepelin must be struck by the sameness of utterance, the identity of view as to the sparing curability of insanity, in the two writers, and must inevitably ponder the question whether the undoubted advances in treatment justify any lightening of the load of apprehension as to the future of an insane person felt by his relatives. Both writers display, with the Arabian philosopher and physician, the same pessimistic attitude. Kraepelin, indeed, lays it down that recovery, in the strictest sense of the word, occurs only in the deliriums of fevers, in toxic and thyreogenic insanities, in the psychoses of exhaustion, and in a certain number of the insanities of involution. In all other so-called recoveries the "reliques of melancholy"—a diminished mental vivacity and vigour, a shallowness of the emotional life, and a loss of independent initiative—are discoverable. "Gerade das Beste und Wertvollste ist," said Griesinger, "von der geistigen Individualität abgestreift." Precisely the same gloomy view appears throughout the important address on this subject delivered by Dr. Robert Jones of the London County Asylum at Claybury at the meeting of the Psychological Section at Leicester, which is published in full on another page. "Statistics," he said, "prove the "sad and significant fact that there is probably always "some mental weakness after an attack of insanity, and "that there is no such happy issue as a complete and per-"manent recovery." Dr. Jones's address covered necessarily so wide a field, and the subsequent discussion opened up so many issues, that we are able to refer only to some of the main points, leaving aside others which, as it appears to us, are open to controversy.

In any form of illness the point of greatest prognostic importance, after that of the possibility of recovery, is the risk of death. The fact that the insane as a class are short-lived is universally appreciated, but the difference between the death-rates of the insane and the sane populations are, perhaps, insufficiently recognized. Dr. Jones has compiled tables based on the results of a comparative study of the mortality returns in the Registrar-General's Report and those of the Lunacy Commissioners for 1902, which show that the proportion of deaths per 1,000 patients living in asylums in England and Wales was 103.2, as compared with 16.3 per 1,000 for the whole general population, that is, that the death-rate for the insane was between six and seven times higher than that of the whole community, notwithstanding the fact that the 16.3 per 1,000 of the Registrar-General's Report included the insane deaths, and also an infant mortality of 49.1 per 1,000 children under 5 years of age. The same fact may be expressed in terms of expectancy of life, and Dr. Jones shows that, on the basis of actuarial tables, the males admitted during 1903 into the London County Asylums would have a life expectation of twenty-four years, whereas the average mean age at death of males dying in 1903 in these asylums showed a shorter life by fifteen years, or a life expectation of only eight years, at that age.

The general lowering of nervous tone—for example, in melancholia and dementia—may be expected to have an unfavourable influence on trophic function, producing a diminished resistance to disease, and the unnatural repose of the thoracic musculature may very well mask the symptoms of tuberculous disease and at the same time facilitate its inroads. In this light the theory of Dr. Johnstone of Leeds, who stated that he regarded the extension of tubercle in the lungs as being favoured by a lowering of pneumogastric nerve function and tuberculous joint affections by a weakening of the peripheral innervation—tuberculous affections being then conditioned by nervous function in a manner analogous to diabetes or asthma—is of suggestive interest. Dr. Jones's further deduction that the statistics quoted "show that the chances of survival in "any particular case, speaking in an abstract and general "way, are at least six times less than if insanity had not "occurred," is obviously not intended to apply to any individual example—for the entire value of prognostic indications is focussed on their application to particular concrete cases—nor intended to divert the consideration of the individual constitution and temperament to generic deductions; for, if we may adapt Celsus, *in hac quoque rursus alia proprietatis notitia semper necessaria est.*

Returning to prognosis as regards recovery, Dr. Jones shows that in 82 per cent. of the cases he had under review recovery took place within the first year and that the recoveries in the first half of the year were twice as numerous as those during the second, thus proving the necessity for early treatment of insanity and the diminishing chance of recovery occasioned by delay. Another fact of great importance with regard to the so-called recoveries brought out by Dr. Jones is that during the nine years ending 1903, 25.72 per cent. of the cases discharged from the London County Asylums as recovered relapsed during that period and that an average of 12.22 per cent. of the cases discharged as recovered were brought back for treatment during the same year in which they were discharged. So high a percentage of relapses is a matter of serious moment, and whilst a considerable number of such relapses are doubtless inevitable, their occurrence in such proportion should of itself be sufficient to enforce the much-needed extension of After-Care societies for the education, by the dissemination of literature and personal visitation of their homes, of discharged patients and their friends.

With respect to the age-period at which insanity may be regarded as least unfavourable, Dr. Jones is in general agreement with other authorities that the period of highest recoverability coincides with that of the greatest activity. He shows that the percentage of recoveries upon admissions was higher from 15 to 24 years of age than for any other period, but that below 7 years of age the prognosis is absolutely bad, and that it is worse the younger the patient. Unfortunately, the recoveries of adolescence appear on Dr. Jones's showing to be particularly prone to relapse, a point worthy of remembrance, and which to some extent justifies the high authority quoted as saying that "Youth is not on the side of the neurotic."

Prognosis in mental diseases is, however, not only conditioned by individual and general considerations, such as these we have mentioned, but depends very largely on the

form of mental disorder. Many of these may be, of course, dismissed at once as hopeless, bearing, as Dr. Jones said, the stamp of incurability *ab initio*. The insanities accompanying general paralysis, cerebral tumours, and other necessarily fatal diseases and epilepsy; paranoia or chronic systematized delusional insanity; the intoxication psychoses with a marked hereditary predisposition, whether those of alcohol, cocaine, or morphine; the degenerative insanities and, so far at least as perfect recovery is concerned, dementia praecox, all belong to this class, and do not require further mention. Paranoiacs, however, rarely proceed to marked dementia, and frequently, in our experience, show considerable amelioration, being able to conduct their ordinary affairs with apparent propriety, though preserving continually in the background their delusional framework and lifelong suspicious temperament. Many find their way to prisons, but the majority, Kraepelin has well said, remain always outside the asylum. Another numerous class of incurables—who, however, but rarely require sequestration and are only alluded to in passing by Dr. Jones—are the victims of obsessions which are recognized by the sufferers themselves as foreign and absurd, and are included by Soukhanoff under the ideo-obsessive constitution. These constitute an exceedingly interesting class, concerning whom the literature in English is remarkably scanty—possibly owing to the fact that the help of alienists is rarely sought, for though, like paranoia, the affection is lifelong, it seldom terminates in certifiable insanity. The acute insanities—with the exception of acute delirious mania, a fortunately rare but rapidly fatal affection—hold out much more hope of recovery than the above-named classes, though probably most asylum superintendents will be in agreement with the Superintendent of Claybury that almost all acute insanity implies some secondary dementia or weakening of mental power. Probably also the experience of most alienists is in accord with that of Dr. Jones, who gathered from his statistics that more cases of melancholia than of mania recover, melancholia being, as Dr. Claye Shaw has said in his *Ex Cathedrâ Essays*, universally postulated as a condition of the simplest mental reduction. The point is not one of much prognostic importance, as so much depends on the colouring given to a disease-picture by the individual temperament. Too much attention as regards prognosis has, perhaps, always been devoted to the form of disorder and too little to the individual constitution. That we have not diseases but sick people to consider is truer for mental diseases than for any other, and it may be broadly stated that the less symptoms point to inherent causes and the more they depend on accidental or extrinsic causes the more hope is there of recovery; and further, that single, even powerful single, causes are less damaging than several causes in conjunction.

The presence of inherent flaws in the mental make-up, depending, as most certainly do, on hereditarily transmitted abnormalities or peculiarities, does not necessarily connote an absolutely unfavourable course. Paranoia and the ideo-obsessive constitution, both strongly hereditary affections, hardly ever terminate in dementia, and a very remarkable series of 230 cases, whose histories have been collected by Dr. Jones, and in whom both parents were known to have been insane, showed both high death-rates and recovery-rates; the latter, indeed, higher than among the general admissions. They showed, however, a higher proportion of relapses, indicating as Dr. Jones said, that they recover more quickly but relapse more easily. Of all the well-known individual signs, occurring in the course of any individual case, enumerated by Dr. Jones as of favourable augury, such as the return of the normal duration of sleep, increase of body weight, a restoration of natural expression, and so on, we should place first on the list that which he names last, "the consciousness and recollection of having "been ill," or better, the *Einsicht* of German alienists, the recognition by the patient of the abnormality and strangeness of the morbid phenomena of his mentality, even though in a certain number of cases this self-recognition is to be encountered in the permanently invalid.

In discussing the question of prognosis in mental diseases we have not so far touched upon the chances of improvement open to the feeble-minded. Their correct estimation as regards numbers, apart from those certified as insane, is attended with the greatest difficulty, but, from information we have received, it appears probable that they exist in a proportion of at least 1 per cent. of the ordinary population. They are thus nearly three times as numerous as the certified insane, and their possible education and adaptation to the ordinary demands of social life is intimately connected with the welfare of the community at large. They appear, in our experience, singularly susceptible to transient attacks of insanity, and from their restricted outlook on the world, their cramped judgement and defective sensibilities, are particularly prone to develop fugitive delusions. From these attacks, however, they readily recover, and as readily relapse.

We cannot but agree with Dr. Jones that congenital weakmindedness is a permanent condition offering no chance of true recovery, even though we admit, with Dr. Fletcher Beach, that many of them may be so improved by suitable treatment that they may be enabled to earn their living under proper supervision. The prognosis of mental diseases is thus in overweening proportion, a proportion much greater than official recovery tables show, a matter for the gravest outlook; and we may say with Burton of the insane man, "Hee is the cream of human adversity, "the quintessence, and upshot; all other diseases whatso-"ever are but flea-bitings to Melancholy in extent: 'Tis "the pith of them all,

> What need more words, 'tis calamities Inne
> Where seeke for any mischief, 'tis within."

THE IRISH DISPENSARY SERVICE.

To accept in full satisfaction of professional ambition a salary of from £80 to £180 per annum, with little or no prospect of its augmentation by private practice; to live in a professional and social isolation which does not make for efficiency; ceaselessly to traverse a district which may extend to 100 square miles, with no allowance made towards the expense of locomotion; and at the end of it all to lie at the mercy of a Board of Guardians who at their will may or may not vote a pension; such is the lot of many an Irish dispensary doctor in the wilder and poorer parts of Ireland. That this picture, drawn once more by Sir William Thomson, is not one whit exaggerated, was vouched for by the other Irish members of the General Medical Council during the debate on December 2nd, and that this body took no immediate action was not due to any want of sympathy, but purely to doubts as to its *locus standi*.

There is no lack of precise information upon the conditions of this service; in 1891 Sir William Thomson undertook and ably carried out for this JOURNAL an extensive investi-

gation, and more recently Surgeon-Major Evatt undertook a tour of investigation, the results of which were published in the spring of 1904, whilst in 1895 Miss Wood similarly visited and reported upon the workhouses of Ireland.

Of all the grievances, perhaps the greatest is the uncertainty which attaches to the grant of a pension; no matter how long the service at a rate of pay which admits of no saving, the question cannot be entertained until the medical officer has rendered himself helpless by the actual resignation of his office. Then it lies solely with the guardians to determine what, if any, pension shall be voted, and the nature of the considerations by which they are prone to be influenced is illustrated by what has taken place at the election of medical officers, as for instance recently at Sligo and at Claremorris. In this last election questions of religion, of political opinions, and of fervour for the preservation of the Irish tongue—of anything except the professional merits of the candidates, which were not even mentioned—were openly and avowedly set forth as the grounds on which to vote; one speaker remarked of a candidate that though he was a Roman Catholic he had been at Queen's College, and that though he might have emerged from the portals of that college untarnished, it was very hard for a man who works for four years in a tar shop to come out without a stain; this sentiment was applauded.

Great abuses exist in the distribution of the red tickets, which entitle the holders to be visited at their own homes; in one case the priest's favoured candidate had not been elected, the district was a wide one, and the priest gave red tickets wholesale to the most distant inhabitants, no matter how trivial their ailments. But the medical officer was a man of resource; when he found out what was going on he took to telling these distant patients that they were so bad that they must send for the priest at once. This soon led to a truce, and to the final establishment of most friendly relations between the representatives of medicine and the Church. But things do not always end so well in Ireland.

Repeated efforts by deputation and otherwise have been made to find a remedy, but they have been blocked by official inertia; the last deputation received the answer that the remedy lay with the doctors, who need not accept the appointments if they were not good enough, but that there was no lack of candidates to compete for the offices. This is a very narrow view of the situation: the efficiency of the services rendered is the aspect of the question which should appear important to a true statesman. Is it likely that an underpaid practitioner, called upon, amongst other things, to discharge the duties of a medical officer of health, will do so courageously when, by rendering himself unpopular, he will lose all chance of a pension? Is it reasonable to expect efficient medical service in the squalid surroundings of too many of the dispensaries, or from a practitioner whose circumstances are such that he can hardly provide himself with books to keep abreast of the times?

Local control of local affairs is the cry of the day, and anything to the contrary can barely get a fair hearing; but it is nevertheless true that there are some things to which full local control is not advantageously applicable. By the operation of the Irish Local Government Act, 1898, things have been made worse in some respects. Prior to that time there was upon the electing boards an infusion, in the form of *ex-officio* members, of persons of education and status; but these *ex-officio* members have been abolished, with the result that the electing boards may consist wholly of persons of a class from whom broadness of view is not to be expected.

The Local Government Board of Ireland has a heavier responsibility for the state of affairs than it has yet been induced to recognize. One-half of the salary is provided by it; it alone can dismiss a medical officer, the guardians' power stopping short at suspension; and to it various reports are regularly made. It is therefore recognized that the management cannot be left wholly to the guardians, and the service is a semi-public service. What appears to be needed, in order to place it on a satisfactory basis and to secure a higher degree of efficiency, is that the control of the Local Government Board should be extended and the service constituted a civil service under central authority, to which entrance should be secured by competition.

It is hardly possible to conceive that a fully responsible central authority should rest content with a state of things which it countenances whilst, as now, it can divide the responsibility with the local guardians. Adequate pay, a system of pensions, proper housing for the medical officers, who sometimes now live in a public house, and surgeries in decent buildings decently kept, are the least that a department fully responsible could for its own credit grant.

If this is impracticable in the present state of Irish politics then the next best thing would be for the Local Government Board to extend further than at present its supervision and control.

Divided responsibility, interpreted in the sense of leaving as much as possible to the local authority and as little as possible to the central authority, has been tried and found wanting, nor is there any likelihood in the immediate future of the local authorities taking an adequate view of what is required to render the medical service such as it should and can be. It is difficult enough to get measures of reform recognized as necessary even by the highly-educated classes, though some progress is being made in this direction, but it is absolutely hopeless to expect it from the average Irish Poor-law guardians in the remoter parts of Ireland. A strong case therefore exists for the establishment of more complete central control.

THE ANNUAL MEETING AT TORONTO.

THE annual meeting of the British Medical Association will, as already announced, begin on Tuesday, August 21st, 1906. On the evening of that day Dr. R. A. Reeve will give his Presidential address to the Association, and this will be followed by a general reception. In the afternoon of that day the address in obstetrics will be given by Dr. W. S. A. Griffith of St. Bartholomew's Hospital, London. The Sections will first meet on Wednesday morning at 9.30, the address in medicine will be given by Sir James Barr at 2.30, and the address in surgery by Sir Victor Horsley, F.R.S., at 8.30 on that day. The Sections will meet also on the mornings of Thursday and Friday, and there will be an address in State Medicine on Thursday afternoon. The annual dinner of the Association will take place on Thursday evening, and on each afternoon there will be garden parties, and on Wednesday and Friday evenings there will be *conversaziones*.

COUNTY COURT JUDGES AND MEDICAL REFEREES.

IN a case recently tried before His Honour Judge Mulholland in the County Court at Tamworth, and reported in the *Birmingham Gazette and Express* of December 5th, there was an unusual amount of conflict of medical opinion respecting the condition of a miner who was injured in

the side in September, 1904, and had been receiving compensation in the form of a weekly allowance for some time. It seems the man recovered sufficiently to carry on light work from January to May of the present year, but in the latter month he suddenly ceased work altogether and had done nothing since. Dr. Geo Haddow of Birmingham and Dr. C. H. Joy of Tamworth gave evidence for the colliery company to the effect that they could find no trace of organic disease and that the man was merely nervous. On the other hand, Dr. C. W. Suckling of Birmingham, called for the miner, said that the man's left kidney was "down and tender," and that he was unable to carry on his ordinary occupation. To the question whether medical men of ordinary experience could detect the condition, he is reported to have replied, "not one in a thousand," and to the further question whether he was so experienced that no other doctor but himself was able to diagnose it, he answered, "No! but there are not more than one or two in "Birmingham who could do it." On the other hand Dr. C. Burd of Tamworth, also called for the miner, said he could find nothing wrong with the kidney, but that the man's heart was disabling him. Dr. Suckling's attention was directed to the difference between himself and his colleague, and he is reported to have said that Dr. Burd "tried to feel it (that is, the kidney), but could not do so; "I tried to teach him!" The Judge said the case was a most mysterious one, for the medical men disagreed. "One "said nothing was the matter with the man, another "that his heart was wrong, and yet another "that he had dropped kidney. One said that he was "totally unfit for work, and another that he was quite "able to work." In these circumstances Mr. Cave, who appeared for the colliery company, asked the judge to appoint a medical referee; to which His Honour is reported to have replied: "Oh dear no; I am not satisfied "upon the medical evidence that the man is strong enough "to resume work. I shall make no order: defendant to "have the costs." That is to say, where there is marked conflict of medical opinion, and where it is provided in the Act that in such circumstances the judge or arbitrator may call to his assistance a medical referee, the judge declines to do so on the ground that "the evidence is conflicting." It was precisely for the purpose of dealing with cases of this kind that the Workman's Compensation Act of 1897 provides for the appointment of medical referees, and it is well known that medical men of the highest professional standing all over the country accepted these appointments because they believed that they would be of service in preventing litigation, and by giving impartial awards further the object of the Act, which was to secure that the sick and wounded of the great industrial army should not be thrown upon the world through no fault of their own to beg their bread or seek relief as paupers; it was not intended to foster imposition or to make the way of the malingerer easy. That this has been to some extent the effect of the Act is shown by the complaints of the Friendly Societies that since its passage the numbers on their sick lists have greatly increased. Cases such as this are of the kind which should be submitted to a competent and impartial referee. The county court judges seem to resent the honourable position assigned by Parliament to the medical profession when it gave power to the medical referee to settle such disputes, for they take good care that he gets no opportunity of exercising this function. The decision of the county court judge amounts to this—that where the evidence is conflicting the workman gets the benefit of the doubt; but such a practice is unjust to employers, and prejudices the successful working of a beneficent Act of Parliament. These remarks are especially called for where the two medical men called for the miner cannot even agree as to his condition, and where one of them propounds views admittedly not those of the majority of his profession. We can only hope that Dr. Suckling did not say all he is reported to have said; but had he expressed himself with due modesty, such opinions as his would still require to be checked by the well-balanced mind of a medical referee.

TUBERCULOSIS IN MANCHESTER.

The facts with regard to tuberculosis in Manchester, reproduced in another column from Dr. Niven's report for 1904, are interesting from several points of view. In the first place, they show a general correspondence between the conditions of the population as to poverty and housing in the three divisions into which the city is divided for statistical purposes and the death-rate from tuberculosis. In the centre, where the conditions of housing are worst and where the persons engaged in the poorest trade occupations live, phthisis is more than eleven times as fatal as in North Manchester, which is the abode of the industrial classes more especially. Another point of interest brought out by these statistics is the importance of tuberculosis as a cause of death at school ages. Tuberculous disease is, in fact, the most important cause of death at ages 5 to 14 years, accounting, as may be seen from the table published last week, page 1539, for nearly a quarter of the deaths at those ages. Again, as is shown in the table published this week, there is a regular gradation in the death-rate from tuberculous disease at these ages corresponding to the social and housing conditions in the three districts. Interesting as the facts are, Dr. Niven's report is yet disappointing with regard to tuberculosis in school children. We do not learn how they have contracted the disease, nor what measures are being taken with regard to treating them and isolating them from their companions. Certainly to malnutrition is due the weakly state of children and their special susceptibility to contract tuberculosis. This points to the wisdom of prophylactic measures, and of establishing sanatoriums where delicate and badly-nourished children could be sent to be built up in order to resist tuberculosis. With such statistics as those presented in his report to justify him, and with his energy and enthusiasm, Dr. Niven, we hope, will accomplish this much-needed work. Not only will it lessen the children's death-rate, but will tend to wipe out tuberculosis. The really hopelessly unfit children will die out, while the survivors, with proper care, will outgrow their delicacy. We are glad that Dr. Niven lays stress on the fact that the care of the infant decides in a great measure the future of the child, and urges no pains should be spared to teach the future mothers hygiene and the proper management of infants.

BARBER-SURGEONS.

An interesting ceremony, reminiscent of a period in the history of surgery when it was still looked upon as a mere handicraft, took place last week in the Hall of the Ancient Guild of Barbers in Monkwell Street. At a Court of Assistants held on December 7th, Mr. John Tweedy, President of the Royal College of Surgeons of England, was admitted to the freedom and livery of the Company. The President was entertained at a dinner in Barbers' Hall the same evening, and in responding to the toast of "The Junior Freeman" spoke of the pride and pleasure which it gave him to be associated with the Guild and the Hall, that had once been the home of so many of his illustrious predecessors. A Barbers' Guild or Confraternity existed as early as 1308, though it did not attain the rank of a Company till many years afterwards. In 1354 mention is made in the City Records of a charge of malpraxis, in which evidence against one John le Spicer of "Cornhulle," was given by the Prior of Hegges, Master Paschal, Master Adam de la Poletrie, and Master David de Westmerland, surgeons, who testified to his lack of surgical skill. According to South's *Memorials of the Craft of Surgery in England*, it is not till 1368 that the surgeons are first referred to as a distinct body, who, like persons following other trades and professions, were required to appear before the authorities of the City of London to be by them licensed to practise within their jurisdiction. The licence was given under promise "well and truly to serve the people in their cures, 'to take of them reasonable fees, to exercise their mystery 'faithfully, to report to the Mayor and Aldermen any 'surgeon neglecting his patients and to give information to

"the City Officers of the hurt, wounded, or otherwise in peril "of death." In 1375 a complaint was made to the Mayor and Aldermen by the barbers that "men barbers from "Uppeland, little skilled in their craft, come into the City "from day to day, take houses, and intermeddle with "barbery, surgery, and to cure other maladies. Whereas "they have not known nor ever were taught how to do "such things to the great danger and cheating of the "people, and grievous disgrace to all honest barbers in "this city." It appears from this that the barbers were practising surgery as a part of their craft as early as the reign of Edward III. Their prayer to the City Fathers that none should be allowed to practise barbery until "they had been found able and skilled in the said "art by trial and examination before certain barbers" was granted; the inclusion of surgery in the craft and mystery of barbery was, therefore, recognized in 1375. Still there were a number of surgeons free from the degrading association of the shaving brush. In 1462 a charter was granted to the barbers which fully recognized them as surgeons. The Barber-Surgeons and the Fellowship of Surgeons continued to exist independently till the two bodies were made one by Henry VIII in 1540. The granting of the Charter by the King to the new incorporated body is the subject of the famous picture by Holbein which is now the chief treasure of the Barbers' Company. The union between the surgeons and the barbers continued till 1745 when it was dissolved by Act of Parliament. The barbers retained possession of the old hall in Monkwell Street, where it has been situate since the days of Richard II, together with the corporate property, records, plate, and pictures. The walls of Barbers' Hall, which was erected by Inigo Jones in 1636, and fortunately escaped the Great Fire of 1666, are adorned with historic pictures by Holbein, Vandyke, Sir Peter Lely, Sir Joshua Reynolds, and Gainsborough. The Company has some choice old plate, notably the Tudor Grace Cup and cover (plate mark 1519) presented by Henry VIII, the Royal Oak Cup presented by Charles II, in commemoration of his escape at Boscobel, a large silver punch bowl presented by Queen Anne, and numerous other fine specimens of old silver. Among the illustrious predecessors referred to by Mr. Tweedy may be mentioned Thomas Vicary, Sergeant-chyrurgeon to Henry VIII and First Master of the United Company, Thomas Gale, and Robert Balthrop, who attended Henry VIII to the Field of the Cloth of Gold and was afterwards sergeant of surgeons to Queen Elizabeth.

TETANUS AFTER OBSTETRICAL OPERATIONS.

Rubesha, Chantemesse and Widal, and others have collected much evidence concerning infection of lying-in women with tetanus. Dirty instruments have introduced the virus in more than one instance, although the complication has been met with in cases in which no internal examination had been made, everything being left to Nature. Dr. Riss, of the Marseilles Maternity, described a case in which tetanic infection was the cause of death after an operation rendered necessary by another grave complication in childbed.[1] A primipara, aged 18, was taken with labour pains at her home, a foul room in a poor and unhealthy neighbourhood. She had reached term, the membranes burst four days before admission, when she had been in labour for forty-eight hours under the care of an elderly incompetent midwife who had diagnosed an unfavourable presentation, yet hesitated about sending her into hospital. Riss found the patient much exhausted, the right hand of the fetus projected from the vulva. The uterus was in a state of tonic contraction. In attempting embryotomy Riss found that the lower uterine segment gripped his fingers like a vice, but suddenly yielded, the laceration was transverse, and nearly 2 in. in length. After thorough cleansing of the parts, which took twenty minutes, Dr. Riss opened the abdominal cavity and performed Caesarean section. He then amputated the uterus after Porro's method, as the state of the patient did not allow of any procedure taking up much time. All went well until the twefth day, when the patient complained of difficulty in deglutition and retraction of the tongue. Dr. Riss detected trismus, which became very marked on the thirteenth day. Notwithstanding the administration of antitetanic serum, the patient died suddenly thirty-six hours after the first manifestation of tetanus. The abdominal wound and the stump of the uterus were healthy. Some sanious fluid which was found issuing from the os externum was examined at the bacteriological institute of the department, and the tetanus bacillus was discovered. The patient might have survived the malpraxis, the neglect, the subsequent obstetric manipulations, the rupture of the uterus, and the operation, had she not been infected with tetanus, and Riss has no doubt that the infection occurred before admission.

[1] *Comptes Rendus de la Soc. d'Obstét. de Gynéc. et de Pédiat. de Paris*, October, 1905, p. 205.

MORPHINOMANIA IN THE STRAITS SETTLEMENTS.

Some of the remarks by Dr. Gilmore Ellis on the subject of morphine indulgence and opium smoking in the Straits Settlements appear to have been misunderstood by a portion of his audience at the last meeting of the Medico-Psychological Association. He is not of opinion that either opium smoking or indulgence in the morphine habit lead to insanity, whatever other evils they may produce. The local Government, it appears, has already taken active measures to suppress illicit trading in morphine. A law, known as the Morphine Ordnance, passed not long ago, is especially intended to protect the public from being tempted by itinerant vendors to purchase either opium or morphine. It is of a stringent character, and is being actively enforced. It has met the greater part of the pre-existing evils, and that which still remains to be dealt with is due to the practice of a form of quackery. Thus, there are a certain number of persons who travel about the Settlements vaunting their ability to aid persons who wish to give up the habit of opium smoking and to cure the craving. What they really do is to supply injections of morphine, and thus bring about in them a state of things which is worse than the original evil.

THE POLYCLINIC.

The annual dinner of the Medical Graduates' College and Polyclinic took place on December 8th, at the Trocadero Restaurant, under the chairmanship of Mr. Mayo Robson. A number of ladies were present, and as usual it was a crowded and very cheerful festival. Speaking of the work of the Polyclinic when proposing a toast in its honour, Mr. Robson reminded his audience that it was the Army Medical Service, whose Director-General was present, which had been the first to see the need for post-graduate study. Not only was such work now the rule throughout all the services, but in the Royal Army Medical Corps examinations before promotion had been instituted. The advantages of such study required further recognition in civil life. The science of medicine and surgery had advanced, and was advancing rapidly, and practice was being materially altered by the introduction of new methods of observation and treatment. It was impossible, therefore, for a practitioner to rely merely upon the knowledge which he had acquired as a student, and if he tried to do so he was bound to fall behind his fellows, and to do neither himself nor his patients justice. Consequently the need for post-graduate study was so great that he thought the day would come when its pursuance would be the rule and not the exception. Even a system of post-graduate examinations seemed possible, and in any case the public would learn to expect its medical attendants to disappear every two or three years for the purpose of joining teaching centres in order to bring themselves up to date, and it would not be satisfied unless they did so. The public benefit of post-graduate study was indeed immense, and the work which the Polyclinic was doing did not receive as much recognition as it deserved. To support hospitals was good, but to support medical schools, especially post-graduate schools, was even better. It was a form of charity which directly commenced at home. No one was named on the toast list

to acknowledge this toast, but in response to a general call, Captain Pinch, the medical superintendent, returned thanks for the institution. In doing so he told some excellent stories of the sayings and doings of patients at the Polyclinic, and mentioned that the college has now over 1,000 members, while the daily attendance of post-graduate students, in one department or another, averages over 120. The toast of "The Guests" was proposed by Dr. C. Theodore Williams and acknowledged by Sir Richard Douglas Powell and Surgeon-General Keogh, both of whom expressed a high opinion of the value of post-graduate work, and especially that carried on at the Polyclinic. Surgeon-General Keogh in particular mentioned that he himself had been one of the first to join the Polyclinic, and that before it was instituted he had learned by experience that a graduate, however anxious to do so, could not get the sort of instruction he wanted at ordinary medical schools. Private reading did not suffice; men must get into close touch with one another at centres of thought and progress. This was the reason London had been chosen for the new military medical college. The formal proceedings ended with a vote of thanks to the Chairman, proposed in a humorous speech by Mr. J. Cantlie, but the guests remained some little time longer to hear the conclusion of an excellent programme of music.

PUBLIC HEALTH IN EGYPT.

A correspondent of the *Times*, writing from Alexandria, says that the Sanitary Administration will be known henceforth, in general, as the Public Health Department. This announcement is understood as emphasizing the intention of the Government to devote more consideration in future to the health and well-being of the native population. Much, says the writer, has already been accomplished to reduce the catalogue of the plagues of Egypt, and neither cholera nor the plague can now be considered as periodical and inevitable visitations. But some criticism has been directed against the Government on account of the high rate of infant mortality, which, it is contended, is discreditable, having regard to the progress of Egypt in wealth and civilization. The land can, indeed, support an immensely greater population, and the development of many parts of the country is undoubtedly hindered by the scarcity and relative dearness of labour. The neighbouring territory of the Sudan would be only too glad to absorb any surplus population, but in view of the infant mortality the latter contingency seems at present somewhat remote. The Public Health Department intends to pay particular attention to adulteration.

OUR CANDID FRIENDS.

In his recently-published volume, entitled the *Staff Officer's Scrap Book*, Lieutenant-General Ian Hamilton has expressed his regret that the Japanese military surgeons have seen fit to model their practice on German rather than on British methods. He says: "I freely confess that to me this is "a depressing discovery. Whatever the cause may be, "the fact is indisputable that, despite their wealth and "titles and British prestige, our doctors have been "handsomely worsted in that open world competition of "the nations, where Japan crowns the victor with sincerest "flattery." In other words, General Hamilton accepts the Japanese estimate of the inferiority of British surgical methods as compared with German. We notice, however, that he is not equally willing to accept their conclusions when they refer to his own profession, for he several times speaks disparagingly of Japanese tactics as "made in Germany"; for example, on page 143, in criticizing the density of the formation in which the Japanese advance, "an officer "gave me the stock German answer, 'You cannot have "success without loss of life,' and I did not argue the "fact; undoubtedly the formation was far too dense." Such comments are common throughout the book, while even the fact that the Japanese imitate our navy is not allowed by him to be a proof that our navy is all that it should be, for he quotes a Japanese as saying, "It is only "in the close and eager application of copying that we "light upon the shortcomings of our models." We have no hesitation in telling Lieutenant-General Hamilton that, whatever may be the status of the British army in the eyes of the world, British surgery stands pre-eminent, and that the details of aseptic surgery, with a few trifling exceptions, have originated in the practice of British surgeons. In Germany education is not only better organized than with us, but living is less costly; and Japanese students, whether sent at the cost of the Government or going at their own expense, naturally prefer the well-equipped State-endowed German schools, where they can live at a much cheaper rate than in any large centre in Great Britain.

SCHOOL SLATES.

A deputation from those interested in the slate industry was received at the Education Office by the Marquess of Londonderry on December 5th. It was represented that if the department carried out its policy of discouraging the use of slates in schools an important industry would be ruined. In reply Lord Londonderry said that no definite rule had been made against the use of slates in elementary schools; the matter had been left to the discretion of local authorities, and in the award of grants the point would not be taken into consideration. One of the deputation made a statement to the effect that to abandon slates would not mean hygienic progress but retrogression, for in Germany the glare of white paper had been found so injurious to children's eyes that the use of slates had been again introduced. We have not heard from other sources of this reversion in German schools, and even if it has really taken place the cause assigned does not seem likely to be the true one. The objections to slates in school are very tangible, and those described by the speaker quoted as having being experienced in Germany very problematic and avoidable. It is not necessary to use highly glazed paper or even pure white paper at all. The principal sanitary drawback of slates is that they may readily act as the disseminators of pathogenic organisms, though were the children in elementary schools constantly subjected to skilled medical inspection, the danger of slates in this direction would be reduced.

QUACKS AND THE PRESS.

At a recent meeting of the Medical Society of the County of New York, Dr. Wendell C. Phillips recalled the action taken by the Society for over a hundred years, with the sanction of the State of New York, in endeavouring to "regulate the practice of physic and surgery," and enforcing the public health law relative thereto. He stated that the Society had been instrumental in securing hundreds of prosecutions and convictions of quacks; he added, however, that a large percentage of these had found admission to the advertising columns of various papers in the city and county of New York, and the protection of the public health been made much more difficult as a result of those advertisements. He therefore proposed that the Society, at its hundredth annual meeting, should record emphatically its protest against the criminal [alliance between quacks and certain newspapers in New York and elsewhere; and should declare that in the courts of honour and conscience and morals, if not in the courts of law, the newspapers that profit by the publication of the false advertisements of notorious quacks and charlatans are in no wise less guilty than these charlatans themselves. The resolution was passed unanimously. It was further resolved that the thanks of the Society should be given to the *Ladies' Home Journal* and *Collier's Weekly* for their "telling exposures of the criminal alliance existing not "only between quacks and some newspapers, but between "the latter and powerful companies controlling well-known "patent medicines long since proven to be dangerous to the "health and comfort of the people."

SMOKE ABATEMENT.

On Sunday and Monday last Londoners were groping their way through one of the worst fogs of recent years, and on Tuesday evening, when the fog had lifted, a conference on

smoke abatement arranged by the Royal Sanitary Institute and the Coal Smoke Abatement Society was opened at the Horticultural Hall, Westminster, when Mr. W. N. Shaw, Director of the Meteorological Office, gave an address. He contended that the abolition of coal smoke would abolish 20 per cent. of fogs altogether; in the winter months in London white fogs formed in the morning, especially in the neighbourhood of open spaces, and extended upward to about the height of the houses, above this was formed a layer of warm smoky air, which took up some of the sun's heat, and neutralized its influence upon the cold, fog-laden air near the ground. In the City 82 per cent. of the burning power of the December sun was lost, in Westminster 61 per cent., and at Kew 15 per cent. The conference was continued on Wednesday and a number of papers were read. The speakers insisted upon the enormous waste of money involved in the present methods, and Mr. Ackermann said that producer gas, such as was distributed in South Staffordshire, could be sold at 3½d per thousand feet; the law forbade its use in private houses, however, and the private consumer had to pay from 2s. 5d. to 3s. per thousand if he used illuminating gas for heating purposes.

LONDON SCHOOL OF CLINICAL MEDICINE.

We understand that the following hospitals have become affiliated to the London School of Clinical Medicine: The General Lying-in Hospital, York Road, for midwifery; the Royal Waterloo Ho-pital for Children and Women, and the Bethlem Royal Hospital, for mental diseases. With these important additions to its resources, the London School of Clinical Medicine is completely equipped for practical teaching. The progressive spirit and large-minded freedom from the petty jealousies which wreck so many useful schemes shown by the Boards of the hospitals named, in consenting to join hands with the Seamen's Hospital, cannot be too highly commended. The following is a list of gentlemen who have agreed to act as extra-mural lecturers of the School: Diseases of the Nervous System, James Taylor, M.A., M.D., F.R.C.P.; Mental Diseases, W. H. B. Stoddart, M.D., M.R.C.P.: Hygiene and Public Health, W. J. R. Simpson, M.D., F.R.C.P., D.P.H.; Applied Anatomy, James Cantlie, M.A., M.B., F.R.C.S.; Gynaecology, William T. Gow, M.D., F.R.C.P., and Herbert Williamson, M.A., M.B., M.R.C.P.; Surgical Diseases of Women, T. Russell Howard, M.B., M.S., F.R.C.S.; Surgical Diseases of Children, Herbert S. Pendlebury, M.A., M.B., F.R.C.S.: Medical Diseases of Women, Alex. Haig, M.A., M.D., F.R.C.P., and Robert O. Moon, M.D., M.R.C.P.; Medical Diseases of Children, Charles O. Hawthorn, M.D., M.R.C.P.: and Thomas D. Lister, M.D., F.R.C.S., M.R.C.P.; Midwifery, W. Radford Dakin, M.D., F.R.C.P., and Robert Boxall, M.D., M.R.C.P.

AN AMERICAN MASTER SURGEON.

A "testimonial banquet" was given to Dr. Nicholas Senn at Chicago on November 11th, at which 686 members of the medical profession, representing twenty States, were present. Dr. Joseph D. Bryant of New York presented to Dr. Senn a gold medallion, miniature replicas of which were distributed among those present. On one side was a likeness of Dr. Senn; on the other the inscription: "To "Nicholas Senn, the Master Surgeon, from his Fellows, "November 11th, 1905." Dr. L. G. Nolte of Milwaukee presented to Dr. Senn a silver loving-cup, which was given by his former private pupils. Dr. Charles A. L. Reed of Cincinnati said that American medical literature had its birth in a very unpretentious publication in the City of Boston some 218 years ago, when Dr. John Fletcher published a small pamphlet directing the people how to avoid contamination by small-pox. From that little paper of about 4,000 words had grown a mass of literature which, perhaps, would make a pyramid of great pretensions if it could be measured. In that pyramid were to be found valuable contributions from the pen of Dr. Senn. In the last twenty years the official index of his contributions to American medical literature amounted to more than 250 entries, 238 of which related to surgical subjects. In the list of titles were twelve printed volumes, some large, some small, but all of them important, many of them being used as textbooks, others as standard works of reference in the majority of medical schools in the Western hemisphere. Of these contributions a large number had been translated into foreign languages. The range of subjects embraced practically every department of surgery. For the most part, these contributions were absolute protocols of original investigation. They covered, among other subjects, the surgery of the pancreas, stomach, the intestines, and the gall bladder.

THE PREVENTION OF SUICIDE.

A London magistrate once expressed his determination to "put down" suicide. His method, which consisted in the enforcement of pains and penalties, was indifferently successful. The opposite plan has recently been proposed in America; suicide is, so to speak, to be killed with kindness. The Mayor of Cleveland, Ohio, Mr. Tom L. Johnson, has appointed an Antisuicide Commission of three, whose duty it will be to inquire into all cases of intended suicide brought to their notice, and endeavour to remove the causes which produce the wish to shuffle off this mortal coil. The step was suggested by the increase of suicide, no fewer than 93 persons having made away with themselves in Cleveland during the last nine months. When the suicidal impulse is caused by want of work the commissioners will get it for the individual, and as they have the whole city administration behind them they will have no difficulty in doing this. If there is any other cause the commissioners will do their best to reconcile the intending suicide to life. It is to be feared they have undertaken a difficult task. It would be interesting to know how they will deal with cases which the prospect of a well-paid job will not cure—with those who are simply tired of life and with others who have to bear

> The whips and scorns of time,
> Th' oppressor's wrong, the proud man's contumely,
> The pangs of despised love, the law's delay,
> The insolence of office, and the spurns
> That patient merit of the unworthy takes.

THE GENERAL MEDICAL COUNCIL'S WARNING.

The warning of the General Medical Council with regard to canvassing and advertising by registered medical practitioners, to which attention was drawn last week, is published as an advertisement in this issue of the Journal. The issue of the notice is, we believe, cordially approved by the profession, and its terms are so explicit that it will no longer be possible to plead ignorance.

Professor Kassowitz has been elected President, and Professor Ausserer and Imperial Councillor Dr. Czaras Vice-Presidents, of the Austrian Society for the Repression of Quackery, which was formally constituted on November 11th.

The first William Mitchell Banks Memorial Lecture will be delivered by Mr. Reginald Harrison on Monday next, at 5 p.m., in the Arts Theatre of the University of Liverpool. On the evening of the same day a *conversazione* will be held in the Medical School Buildings and Laboratories.

The Nobel Prize for Medicine, which, as announced last week, was awarded this year to Dr. Robert Koch, was formally presented to him by the King of Sweden in Stockholm on December 10th. The prize, which is of the value of £7,700, was accompanied by an illuminated diploma and a gold medal, was awarded in respect of Dr. Koch's investigations in tuberculosis.

Among the honours conferred by the King in connexion with the recent resignation of Mr. Balfour's Ministry is that of knighthood upon Mr. Edgecumbe Vonning, F.R.C.S., who has attended Mr. A. J. Balfour on different occasions. We notice, also, the name of Mr. Samuel Faire, who so hospitably entertained the Association at a garden party during the annual meeting at Leicester last July.

Scotland.

Clinical Teaching at the Royal Infirmary, Glasgow.

The future status of the Royal Infirmary has been giving rise to some anxiety. The question is whether the Royal Infirmary is to remain a great clinical school, or whether it is simply to exist as an institution for tending the sick. An elaborate statement has been drawn up by Dr. D. C. McVail for the consideration of a joint committee representing the Royal Infirmary and St. Mungo's College. In it is shown the great importance of clinical teaching, both for the staff and for the patients. Though the largest hospital in Glasgow, the number of students attending the Royal Infirmary is very small. This was not always the case. Before the migration of the University from the High Street to Gilmorehill all medical students obtained their clinical instruction at the Royal. But the opening of the Western Infirmary immediately led to the supplanting of the Royal Infirmary. The distance is too great for students to take classes at Gilmorehill and attend the Royal Infirmary for clinical purposes. The women students, owing to the overcrowding of the Western Infirmary, are forced to go for clinical instruction to the Royal, but this is recognized to be inconvenient, and the probability is that in the not far-distant future arrangements will be made for teaching them at the Western. When the University removed to Gilmorehill, the necessity for specially catering for students attending the Royal was speedily realized, and the immediate result was the foundation of the Royal Infirmary School. Despite the excellence of the teachers, this extra-mural school did not prove successful in attracting students to the Royal Infirmary. This was partly due to the fact that only a limited number of Scotch students preferred not to take a university degree. Still, a certain number continued to attend, attracted in part by the lower fees and in part consisting of outsiders—Welsh and Irish. With the increased facilities and the foundation of many new medical schools in England and Ireland the numbers of students from those countries has been gradually falling, so that in 1883 the managers of the Infirmary were compelled to reconsider their position. They endeavoured to obtain parliamentary sanction to convert the Infirmary School into a college of the University, thus changing it from an extra-mural school into an integral part of the University. In this object they were not successful, but the school was changed into the St. Mungo's College, with liberty to teach not only medicine but also all other departments of learning. One effect of the change was that the Infirmary managers no longer were responsible for the expenses of the school. Certain endowments and donations were collected, but these are not adequate, and with the continued falling off in students a serious encroachment has been made on the funds, so that the extinction of the college is threatened. Extra-mural teaching at St. Mungo's has been seriously affected by the working of the Carnegie bequest, as it enables even the poorest class of Scotch student to pay the university fees. To remedy this unsatisfactory state of affairs Dr. McVail considers four courses.

The first suggestion is that the students from Gilmorehill might be induced to take all their clinical but no systematic instruction at the Royal. This is unlikely to be accepted, as the element of distance immediately becomes of importance.

Another suggestion is that, in addition to clinical tuition, facilities should be afforded at St. Mungo's for teaching the final systematic subjects. This plan is also regarded as inexpedient, as the students would doubtless prefer to be taught by those who are to examine them.

The most feasible course to provide a sufficient attendance of clinical students is to have a complete systematic school which will give an entire medical course. This is the plan favoured by Dr. McVail, but to ensure its success it will be necessary for this school to obtain the status and privilege of a university. The St. Mungo College must become affiliated to the University. Provision for such affiliation is already given in the Universities Act. The institution or college in question must be sufficiently endowed. It will then become necessary to obtain the consent of the University Court. The decision whether the college is eligible for affiliation rests with the Privy Council. Probably in the case of St. Mungo's College the first step would be to apply to the Court of Session to amend the memorandum of association of the college by the formal abandonment of all the faculties except the medical faculty. Prior to approaching the Privy Council, adequate endowment for the chairs in the medical faculty must be obtained. Dr. McVail suggests that a sufficient endowment could be obtained for £2,700 a year, representing a capital sum of £80,000. The sum to be collected is large, but he suggests that, if the classes were thrown open to women students and some change made in the name and constitution of this college, the Muirhead College Trust might devote a large share, or even the whole, of their fund, which now amounts to £40,000, towards the endowment of a combined school of medicine for men and women.

Ireland.

Irish Medical Association.

We learn that the recent decisions of the meetings of the Irish Medical Association in relation to its reorganization must be reconsidered. Counsel has given the opinion that the decisions were not arrived at according to the law governing such proceedings. Very great disappointment has been caused, but there appears to be no other course than to hold further meetings and to follow the legal course prescribed.

The Report of the Irish Local Government Board.

We have received the following letter from Mr. H. Courtenay, chief of the Statistical Department of the Local Government Board of Ireland with reference to the letter from "Fiat Justitia," published last week, p. 1550:

> With reference to recent observations in the British Medical Journal respecting the remuneration of dispensary medical officers in Ireland, I have to point out that the figures relating to this subject appear in the Local Government Board's Annual Reports, and for the years 1897 and 1905 they are as follows:
>
> 1897, salaries £88,198, payments for temporary services £5,034
> 1905 ,, £90,734, ,, ,, ,, ,, £13,140
>
> It will be observed that under both headings there has been a considerable increase.

The writer of the note to which Mr. Courtenay, on behalf of the Medical Commissioner, took exception, sends us the following observations:

> Inability to obtain access to the Blue Books I used when commenting upon the report of the Irish Local Government Board for 1904-5 prevented me from comparing Mr. Courtenay's figures with my own until now. I do not profess to be a statistician; only an ordinary member of the profession trying to gather the salient facts likely to interest my fellow-members.
>
> As your correspondent in the British Medical Journal of December 9th, p. 1550—"Fiat Justitia"—seems to take the same view that I did as to what is properly included in the phrase "salaries of medical officers," and has expressed that view better than I could, I pass over that point.
>
> Mr. Courtenay finds fault with my statement that outdoor relief has gone up by leaps and bounds since the Irish Local Government Act came into force, although the fact is notorious in Ireland, and is the reason given by so many Boards of Guardians for demanding a return to divisional instead of Union rating.
>
> On page 856 of the annual report of the Local Government Board for 1900, I note that the increase in the number of persons placed on outdoor relief in the year ending September 29th, 1898, over the previous year was 42,676. The total number placed on outdoor relief in 1897 being 54,648, and in 1898 98,266, while last year it was 95,950—the figure I quoted from page 728 of this year's report.
>
> I regret to find that I was in error with regard to the number of dispensary midwives, believing that the efforts of the Local Government Board to establish them in every dispensary district in Ireland is one of the greatest boons they have conferred upon the Irish peasantry.
>
> I searched the report for the exact figures Mr. Courtenay now gives, and being unable to find them, made the best estimate I could from the increase of expenditure under this head.

Direct Representation in Ireland.

Dr. Leonard Kidd has called attention in the lay press to Sir William Thomson's speech at the General Medical Council

in reference to the Irish Poor-law Service, and comments upon the circumstance that the matter was introduced at "the eleventh hour," after ten years' silence, and when "a fresh election is impending." Sir William Thomson replies that Dr. Kidd ought to have been more sure of his facts, and states that several years ago he brought the matter before the former President, who ruled that it could not be discussed in Council. He explains that a decision come to by the Council on Thursday, November 30th, gave him the opportunity which he desired, and the motion was placed on the agenda for Saturday, December 2nd. "The implication that I selected the time because it was near an election is quite unworthy and absolutely baseless."

The precept for holding the election will be issued by the President, Dr. Donald MacAlister, on January 17th. Nomination papers must be delivered on January 18th. Voting papers will be issued between the 22nd and 25th, and the last day for return of these will be Friday, February 2nd. The votes will be counted on February 3rd (Saturday), and the result will then be made known. The formal declaration of the poll will be made by the returning officer (Dr. MacAlister) on February 7th.

KING EDWARD'S HOSPITAL FUND FOR LONDON.

THE Award meeting of the General Council of King Edward's Hospital Fund for London took place on December 8th at 15, Portman Square, under the Chairmanship of the DUKE OF FIFE, who is acting as President of the Fund during the absence in the East of the Prince of Wales.

The proceedings having been formally opened, minutes confirmed and letters of regret read, Mr. H. C. Smith, Chairman of the Executive Committee, presented its report. It stated that when the accounts were made up it would be seen that including legacies and other amounts not specifically allocated to capital by testators or donors, the income for the year 1905 exceeded £100 000. That sum, however, should be the maximum of the distribution for the year, inasmuch as that the amount received in legacies was considerably in excess of the average, and that in previous years sums had been taken from capital to make up the amounts granted.

DISTRIBUTION COMMITTEE.

The report of the Hospital Distribution Committee was next read by its Chairman, Sir William Selby Church. The more important statements which it contained were as follows:

The amount with which it had to deal was £100,000, as against £79 000 last year. There were six new names in the list of applicants, but as six old ones had fallen out, the number of hospitals applying for assistance was the same as in 1904.

Amalgamation of Hospitals.

The Committee had learnt with satisfaction that negotiations were in progress for the amalgamation of various throat, nose, and ear hospitals. As it now seemed likely that the City Orthopaedic Hospital would join in the amalgamation between the National and the Royal Orthopaedic Hospitals, a grant to it was recommended, subject to the final arrangements for amalgamation being approved by the Executive Committee.

New Hospitals.

The Committee reiterated its conviction that, in default of the fullest consideration, both of the necessity for and of the means of maintaining them, the opening of new hospitals was most undesirable. When newly-established hospitals applied for grants, the practice of the Hospital Sunday Fund should, it thought, be adopted, grants, under ordinary circumstances, being refused unless and until such hospitals had been maintained for fully three years.

Special Grants.

The removal of King's College Hospital to South London being a most desirable undertaking, a further grant of £4 500 was recommended, the sum bringing up the total awarded by the Fund for the purpose to £11,500. As the Great Northern Hospital had an opportunity of purchasing a piece of freehold land adjoining its site, at a cost of £1,600, and as it was in the interests of the charity that it should be enabled to do so, a special grant of the sum mentioned was advised. Similarly in the case of the West Ham Hospital a special grant of £2,500 was considered desirable upon the ground that this hospital is about to enter into possession of some adjoining and much-needed premises and that if provided with a sum sufficient to equip them the benefit of this hospital extension in a very poor neighbourhood would be immediately felt.

Grants and Donations.

Hitherto awards have been divided into annual grants and special donations, and this plan has again been followed. The Committee, however, is of opinion that in future years, the distinction indicated should not be made, as the Fund now had a permanent income from invested property of £50,000. The Fund was certain to be able to continue to pay such sums as it had hitherto awarded in the form of annual grants, and on the other hand there were many hospitals which only received donations, but which were quite as much in need of yearly help as those receiving such annual grants. In some cases, again, in which grants had been made for the reopening of beds, such assistance was no longer required, and in others the reopening of such beds had not meant any permanent addition to the accommodation, since other wards had subsequently been closed. Any further distinction, therefore, between grants and donations was undesirable. Finally, as regards grants for building purposes, these in some cases in the past had not been spent. In the future, therefore, any grants so made should be retained to the credit of the institution until the money was actually required.

Reports of Visitors.

The reports of the hospital visitors continued to be of material assistance in assessing the needs of applicants. Various suggestions had as usual been privately made to different hospitals, and in several instances in making awards, special consideration had been given to cases where expenditure seemed to be unduly high or where conversely efforts were being made to reduce expenditure.

The list of awards were then read. The following excerpts from it give an idea of the grounds upon which awards were either made or withheld. The Committee made a statement to the effect that the refusal of a grant did not necessarily imply dissatisfaction with the hospital involved, or with the way in which it was managed. As has been stated, the total sum distributed was £100,000, £72,200 being in the form of donations, and the balance as annual grants.

Belgrave Hospital.—£1,000 donation; £500 to debt. The Committee view with satisfaction the removal to South London.

Cancer Hospital.—No grants. An excellent institution.

Central London Throat and Ear Hospital.—£300 donation. In view of the negotiations in progress for the amalgamation of the Throat and Ear Hospitals, the Distribution Committee would regard with grave dissatisfaction any steps toward rebuilding at present.

Chelsea Hospital for Women.—£350 donation.

City Orthopaedic Hospital.—£250 donation: subject to the arrangements to be made for amalgamation being approved by the Executive Committee.

East London Hospital for Children.—£1,700 donation; £700 towards improvements. The Committee view with satisfaction the economical management.

Evelina Hospital.—£100 donation. The Committee will be prepared to give substantial help towards the reconstruction of the out-patient department when the work has been commenced.

Great Northern Central Hospital.—£750 annual: £2,350 donation: special grant £1,600 to provide freehold land. The Committee view with satisfaction the economical management.

Guy's Hospital.—£1,000 annual; £3,000 donation; £3,000 to debt. The Committee view with satisfaction the economical management.

Hospital for Diseases of the Throat.—£100 donation. The Committee would view with satisfaction an amalgamation of the Throat and Ear Hospitals.

Invalid Asylum.—No grants. The Committee consider that this asylum is outside the scope of the Fund.

King's College Hospital.—£1,000 annual; £5,000 donation; £4,000 to the fund for the removal of the hospital to South London, which the Committee view with great satisfaction.

London Hospital.—£2,000 annual; £3,000 donation.

London Lock Hospital (Female).—£1,500 donation; £1,000 towards improving nursing accommodation.

London Throat Hospital.—£100 donation. The Committee would view with satisfaction an amalgamation of the Throat and Ear Hospitals.

Metropolitan Hospital.—£500 annual; £500 donation.

Middlesex Hospital.—£1,000 annual; £1,950 donation; and Middlesex Hospital [illegible] no grants. The Committee in making their grant have, as hitherto, considered the Cancer Charity in conjunction with the hospital, and therefore do not now separate it.

Mount Vernon Hospital for Consumption.—£1,000 annual; £1,500 donation. The Committee view with satisfaction the economical management.

National Antivivisection Hospital.—No grants.

National Hospital for the Paralysed and Epileptic.—£750 annual; £1,250 donation.

National Orthopaedic Hospital.—£400 donation. This grant is given pending the amalgamation with the Royal Orthopaedic Hospital, which the Committee view with great satisfaction, and for which a special sum is set aside.

Queen's Jubilee Hospital.—No grants. The Committee feel unable to recommend a grant to this hospital until they are satisfied that the recent changes in the management have secured efficient administration.

Royal London Ophthalmic Hospital.—£2,000 annual; £1,500 donation. The Committee consider this hospital should receive more support from the public.

St. George's Hospital.—£2,000 donation. The Committee view with satisfaction the efforts being made to reduce expenses, and the transference of instruction in the preliminary and intermediate subjects of medical education to university centres.

St. John's Hospital for Diseases of the Skin.—£50 donation.

St. Saviour's Hospital, Osnaburgh Street.—£200 donation.

St. Thomas's Hospital.—No grants. The Committee are not satisfied that the hospital is in need of present assistance from the Fund.

Samaritan Free Hospital.—£500 annual; £300 donation; £300 to out-patient department.

Santa Claus Home.—£25 donation. In consideration of the fact that curable cases are admitted.

Tottenham Hospital.—£1,000 annual; £2,000 donation; £2,000 to building. The Committee view with satisfaction the economical management.

West Ham Hospital.—£500 annual; £2,500 donation. Special grant £2,500 to provide the furniture and fittings for the new ward.

West London Hospital.—£1,500 annual; £1,000 donation; £1,000 for debts. The Committee view with satisfaction the economical management.

Westminster Hospital.—£750 annual; £2,000 donation; £2,000 to discharge existing debts. The Committee view with satisfaction the transference of instruction in the preliminary and intermediate subjects of medical education to university centres.

Convalescent Homes.

The report of the Convalescent Homes Committee stated that in distributing the £1,000 entrusted to the Fund by the London Parochial Charities it had taken into consideration the nature of the work carried on by the applicants and their connexion with London. The list of awards was then read. The sum available was divided between 15 homes, in amounts varying between £25 and £200. All the recipients are directly connected with hospitals in London.

Adoption of the Reports.

The reports of the sundry committees were then adopted. In moving a resolution to this effect, the Duke of Fife said that the Fund, had it done nothing more than create a greater interest in the London hospitals and improved their organization, would have earned the gratitude of the whole community, but it had done far more, and rendered material assistance to the institutions for whose benefit it was founded. Moreover, the League of Mercy had enlisted the sympathy of a class which would otherwise have been difficult to reach. Nevertheless, in spite of the existence and success of the various hospital funds, they could not disguise from themselves the fact that the great majority of the London hospitals were only patronized by somewhat unsound methods of finance and continuous sensational appeals.

The meeting terminated with a vote of thanks to the Duke of Fife and a resolution that cheques for the sums awarded should be posted on December 14th.

PREVENTION OF CONSUMPTION.

Dr. Greenwood, Medical Officer of Health, Blackburn, has prepared a report on the subject of a sanatorium for the consumptives of the town, in response to a request of the Health Committee of the borough for "more satisfactory information regarding these institutions." The report is divided into four sections. The first section deals with the general question of the prevalence of phthisis throughout the country and in Blackburn particularly, and recounts the measures taken in Blackburn for the prevention of the disease. The measures are: (1) Voluntary notification, which has been in operation since 1901 with but little success; (2) visitation of such notified cases as the medical attendant desires; (3) verbal instruction to these cases as to the destruction of sputum and printed handbills detailing necessary precautions: (4) disinfection of houses and clothing after a death, where the relatives agree to this process being carried out by the sanitary authority; (5) examination of sputum for all the medical practitioners; and (6) cautions against spitting fixed in workshops. There is, however, no sanatorium for the treatment of consumptives, and Dr. Greenwood's object in this report is to place before the members of the Health Committee such facts and opinions as will enable them to decide upon the advisability or otherwise of erecting one of these institutions. For this purpose Section II treats of the action taken by other county boroughs. The assistance to be derived by the Committee from a perusal of the next section is, however, problematical. This section deals with "statistics and opinions relating to open-air sanatoriums." The statistics are interesting, as are also the abstracts of certain articles which have recently appeared in the medical journals. The numerous letters which have lately appeared in the British Medical Journal on the question—"The Sanatorium Treatment of Phthisis—Is it Worth While?" are printed and occupy nearly twenty pages of the report. The conclusion arrived at by Dr. Greenwood is that he does not at present advise the provision of a sanatorium for the treatment of the consumptives of Blackburn. He gives as his reasons for this conclusion, first, that it is impossible to state from statistics that open-air sanatoriums in England have been a success, and further that it would be necessary to consider provision for the families of those admitted into the sanatorium and arrangements that the patient when discharged should not be compelled to follow his former trade if this were likely to cause a recurrence of the disease.

LITERARY NOTES.

The medical literature of China surpasses that of any other known nation in the length of its books. If not luminous, it is at any rate voluminous. A vast treatise, which dates from the third century of the Christian era, is devoted to "the pulse and other difficult medical questions." A manuscript of older date and more formidable length bears the somewhat mixed title, "Internal diseases and amputations." In the thirteenth century there appeared a treatise in twenty-four volumes on diseases of women, and in the fourteenth a medical encyclopaedia in twenty. These are trifles to the writings of Prince Chu Su, a celebrated Chinese physician, which number 160 volumes. A comparatively modern work on the practice of medicine, which saw the light in 1740, is in 90 volumes.

The *Bio-Chemical Journal* is the title of a new periodical, of which the first number will be issued in January next. Its purpose and scope are indicated by the title. The pages of the new journal will be open for contributions from all workers in the domain of bio-chemistry in its widest sense, both botanical and zoological, including the physical and organic chemistry of the cell and its products, and the effects of reagents upon it; pathological chemistry, the effects of pathological products, and the reaction of the cell to them. The issue of the journal has been financially guaranteed for a number of years, and it is hoped that the volume of contributions will make it a permanent record of advance in the subject. The journal will be issued monthly, in so far as material is available, so as to ensure a rapid publication, and the date at which each communication is received will be stated at the head of the paper. The editors are Professors Benjamin Moore and Edward Whitley, of the University of Liverpool.

To the *University Review* for November Dr. Bertram Windle contributes a vigorous article on examinations in Ireland and the university question. He sets himself to expose

> Four deadly errors which have long affected England and Ireland, and from which have arisen and still continue to arise all sorts of misconceptions . . . and misfortunes not only educational but economic.

These are:

1. That acquisition of knowledge and education are synonymous terms.
2. That education—as apart from mere knowledge—can be easily, nay more, can only be tested by examination.
3. That a degree or other supposed stamp of learning—always expressible by a selection of letters from the alphabet—is in itself an object of value; and
4. That it means the same however and wherever it may have been acquired.

Dr. Windle has no scheme to propound whereby examinations may be wholly done away with; he wishes he had. He regards examinations as an evil, but a necessary evil for a long time to come. He wishes to make the evil as little as possible. He has tried all systems. He has experienced the system where the teacher was alone responsible for examining his pupils; he has examined his own pupils with the help of an external examiner; he has acted as external examiner in our universities, with the teacher of the students in each

case as his colleague; he has acted with another examiner in examining pupils for whose instruction neither of them had been responsible. He unhesitatingly gives his vote in favour of the system under which a teacher and an external examiner work together. Of the other two plans he would prefer the purely internal to the purely external system.

The General Secretary of the American Medical Association in his annual report, presented at the Portland session, said:

It has long been recognized that a permanent biographical card index of American physicians, giving data in regard to preliminary education, medical education, previous locations, etc., would be of great value to the Association and to the profession. Such an index would be of value in tracing a physician through various localities, making up matter for directories and in compiling statistics in regard to the profession. This work has been begun and is now being carried on along two different lines, namely, first, the accumulation and indexing of biographical data in regard to the members of the profession now engaged in active practice: second, the accumulation of similar data in regard to graduates of the current year and of recent licentiates of State Boards of Health. This has been carried on through the assistance and co-operation of medical colleges and secretaries of State licensing Boards.

This was approved by the Committee on Reports of Officers, and adopted by the House of Delegates, and the General Secretary was instructed to continue the work of collecting and classifying biographical information. In accordance with this instruction, a biographical card index of the medical profession in the United States has been established, and it is hoped that very soon this index will contain a card for every medical practitioner in the United States. Each year a supplementary list of recently graduated and licensed physicians will be added to the general index. There will thus be formed a list of all medical graduates, as well as of all legally-qualified practitioners, made up from official records, and carefully corrected and revised each year. Out of this collection of *fiches* is to be compiled a medical directory which, it is said, will differ from all directories hitherto published in the States in three particulars: First, it will be a directory of the American medical profession, published and owned by practitioners themselves. Secondly, information regarding the source of degrees and licences will be verified from official and authoritative sources. Thirdly, it will furnish the same information regarding each practitioner, whether he be a subscriber to the directory or not. No information that is paid for will be included. The directory will also be a medical society blue book, the names of all members in good standing of the constituent State associations and their component branches being printed in capital letters, as a distinctive mark of such membership. Information contained in the directory regarding each practitioner will include name in full, year of birth, college and year of graduation, office address and office hours.

The New York *Medical News* of November 18th contains some interesting reminiscences by Dr. Thomas Addis Emmet. He was born at the University of Virginia, near Charlottesville, where his father, Dr. John Patten Emmet, one of the original professors appointed by Jefferson, occupied first the Chair of Natural History, afterwards that of Chemistry. Professor Emmet died when his son was 14, leaving him little more than his example and his good name. From that time Dr. Emmet practically paid his own way. He entered the University of Virginia as a student, but falling behind in his classes, was after a time invited by the Faculty to withdraw. He then entered the Jefferson Medical College, where he took his doctor's degree at the age of 21. He says he passed a creditable examination "without having dissected more than the sartorious (*sic*) muscle, without having written a prescription, or having attended an obstetrical case." He tells a story of one of his surgical teachers who was announced to lecture on hernia one July afternoon, "when it was hot only as it can be sometimes in Philadelphia." The doctor weighed about 300 lb., and after divesting himself of all the clothing he could spare, came in with the trunk of a subject to make his demonstration. But the heat was too much for him, and, mopping himself between each word, he began:

When you come to operate for hernia you will find little you have been taught to expect, and I cannot now enter into a fuller explanation, but it is in a nutshell—cut until you come to the gut, and you will be a damn fool if you cut it. Good day.

Many a time in after-life did Dr. Emmet, when he had lost his way in the abdominal cavity where everything had become matted together by frequent attacks of peritonitis, and where often in the tissues there seemed but the thickness and consistency of damp tissue paper as the only barrier to some accident which might cause the death of the patient, feel a wave of demoralization pass through him down to his knees. Then he would suddenly think of the lecture on hernia with the full details not recorded, and, with a smile not in keeping with the situation, his faculties have been sharpened, so that with care he soon worked out into a clearing. On the very day of his graduation Dr. Emmet received an appointment as surgeon to an expedition entrusted with the making of the first railway in Chile. The salary offered was £600 a year in gold, with all living and travelling expenses. This seemed a fortune to the young doctor, but on thinking the matter over he could not bring himself to face the responsibilities of the position. He was then appointed Resident Physician to a hospital for Irish immigrants who after the great famine were bringing typhus fever with them to the States. At the end of ten days he was himself attacked and narrowly escaped death. He held his appointment for three years; during that period he had to deal with about eleven thousand cases of disease of all kinds, made up vast quantities of medicine, and made fully one thousand *post-mortem* examinations. On the expiry of his term of office as Resident Physician he was appointed a member of the Visiting Board of Physicians. He embarked in private practice, earning £10 in his first year; after that, however, he advanced rapidly. He became associated with the Women's Hospital, where he was the colleague of Marion Sims, with whom, during their joint service of five years and a half, his relation was as close as that of a son. Feeling the deficiencies of his early education, Dr. Emmet (who says he never learnt the multiplication table, though by some mental process of his own he is able to get at what he wants), after he had been some years in practice, went through a college course with tutors. He gave particular attention to natural philosophy, and learnt to test every operation in plastic surgery by some principle of mechanics. He is convinced that no one has ever been a successful operator in plastic surgery unless he possessed a mechanical instinct. Dr. Emmet's work, *The Principles and Practice of Gynaecology*, was published in 1879, and went through three editions in the United States within fifteen months. All three editions were reproduced in London and French and German translations were printed at Paris and Leipzig. He has been told that one was also made into Spanish, but the manuscript was accidentally lost. In 1898 he issued a work entitled *The Emmet Family, with some Incidents relating to Irish History*. In 1903 he published a large book, *Ireland under the English*, which cost him years of labour. He has written a number of articles on professional subjects, which have appeared in various medical journals, and many papers and addresses relating to American and Irish subjects.

SPECIAL CORRESPONDENCE.

BERLIN.

The late Director General of the German Army Medical Department.—The new Director-General.—Decrease in the Number of Medical Students.—Ambulance and First Aid Stations.

HIS EXCELLENCY PROFESSOR RUDOLF VON LEUTHOLD, chief body-physician to the German Emperor, and Director-General of the German Army Medical Department, died on December 3rd, after a severe attack of influenza, at the age of 75. Von Leuthold's medical career began in 1857, when he entered the Prussian army as assistant surgeon. He then became assistant to the celebrated physician, Professor Traube, and remained in this position until 1860, when he was appointed post-surgeon in Danzig. Von Leuthold took part in the campaign of 1870 and rose steadily step by step to a surgeon-generalship in the year 1880. In 1882 he was appointed vice-physician in ordinary, and, after three years, chief body-physician to the German Emperor. In 1901 he succeeded von Coler as Director-General of the Army Medical Department, thus reaching the highest step of the ladder. Von Leuthold was distinguished by the wide range of his learning, by his great energy and power of work, as well as by his kind-heartedness and the urbanity of his manners. The official

German organ, *Der Reichsanzeiger*, publishes an unusually warm obituary notice of the deceased, pointing out that, indefatigable as he showed himself to be in his special field of activity, he could still find time to share in labours connected with entirely different branches of the profession. Thus he gave his aid to the Prussian Ministry of Education in working out its plan for the reorganization of the medical curriculum, and materially furthered the efforts of the Government when it drew up its scheme for combating infectious diseases. The article concludes by saying that the memory of the man, whose valuable medical advice had unfailingly been at the service of the army and the Emperor, who in the 70th year of his life took upon his shoulders the direction in chief of the entire Army Medical Department, whose every effort was to the last concentrated on the army's health and the people's well-being, will ever be reverently and gratefully remembered.

Dr. Schjerning, one of the heads of department under von Leuthold, has been appointed to succeed his chief as Director-General of the Army Medical Department, while the post of Chief Physician in Ordinary to the Emperor has been given to Dr. Ilberg, hitherto second in attendance. Much as in von Leuthold's case, Dr. Schjerning has worked his way upwards through all the grades of the profession, from the year 1878, when he was first gazetted assistant army surgeon. His name is associated with inquiries on the subject of war surgery, of army hygiene and sanitation, and of epidemics; and it was under his guidance that the now historic investigations on the effects of the small-bore cartridge were carried out.

At the last meeting of the Berlin Society for Applied Medicine, Hygiene, and Medical Statistics there was a debate on the causes of the present decrease in the number of medical students. The general opinion was that there need be no fear of a dearth of doctors, remembering how very far the supply is ahead of the demand in Germany at present. Professor Lassar said that in his opinion there should be a complete reorganization of the medical profession; he would have three categories of medical men. First, those belonging to the State Medical Service, who should be full-salaried officials, without private practice. Secondly, those who would place themselves at the disposal of the State for medical work in the sick clubs and State hospitals, the presumption being that the sick clubs should previously pass into State control. Thirdly, free practitioners. Clinical professors and the chief surgeons and physicians of the large hospitals should be more adequately salaried, so as to enable them to renounce all other means of profit.

The Berlin ambulance and first-aid stations gave first-aid during the last year in 54,678 cases, twenty stations being made use of, and 1,980 times ice was given away in emergencies. These figures speak for themselves.

MANCHESTER.

The University: Lectureship in Surgical Pathology.—Halls of Residence for Students. — Small-pox at Oldham. — Cancer Hospital Report.

In former years in Owens College, in addition to instruction given by the Professors of Surgery and Pathology, there was a Lectureship in Surgical Pathology. The University has decided to reinstitute a Lectureship on Surgical Pathology, and Mr. William Thorburn, F.R.C.S., has been appointed to the post. Mr. A. H. Burgess, F.R.C.S., has been appointed Assistant to the Professor of Systematic Surgery.

The value of halls of residence for students living in a large city like Manchester cannot be gainsaid. There are two halls for men and one for women students. Experience has proved that this is not sufficient for the growing needs of the University. All halls are full to their extreme capacity. The Governors of Hulme Hall have now made an appeal for £15,000 with which to erect a new hall in Victoria Park, within easy distance of the new infirmary. By the terms of the trust Hulme Hall expends £500 of each year's income on the provision of bursaries for students who show sufficient merit.

Small-pox shows little signs of abatement in Oldham. Indeed, it has been found necessary to close two elementary schools because of cases having appeared amongst the children. During the past week fourteen cases have been reported.

At the annual meeting of the Christie Hospital for Cancer it was reported that during the year £2,050 has been received in legacies, but the subscriptions only reached £473. There was an adverse balance of over £100. During the year, 136 patients were treated—91 in-patients and 45 out-patients. There is still a need of more beds for women, for there are more cancerous women than men, while women once afflicted go on longer than men. The rules of the hospital have been altered to admit patients in a precancerous condition and those suffering from chronic ulcerations. The fact that the hospital has originally been regarded as a purely "cancer" hospital has deterred patients not quite sure of their condition from seeking treatment. This had also retarded research work.

BIRMINGHAM.

Annual Dinner of Past and Present Medical Students. Gifts to the University.

The annual dinner of the past and present students of the Birmingham University Medical School was held on December 5th in the Grand Hotel, Dr. Thomas Wilson being in the chair. The gathering was large, numbering about 150. Sir James Crichton-Browne, in proposing "Prosperity to the Medical School," spoke of the part that Birmingham played in medical and scientific work. He mentioned the names of men who had been connected with the medical school, and who through their skill and ability were of world-wide renown. Birmingham was the nursery of the Provincial Medical Association, out of which had grown that great and powerful body—the British Medical Association. Speaking of the diminution in the number of medical students throughout the country, Sir James said that, while it was perhaps largely due to increasing educational demands, it was also in some measure attributable to the diminished demand for medical services. The death-rate had gone down, and that must have meant a diminished prevalence of sickness, whilst the birth-rate was also decreasing. Every advance made in the prevention of disease must mean some further curtailment of medical practice. He thought that there was no other profession which observed such a self-denying ordinance. He pointed out that the diminution in the number of medical students was also going on in France, Germany, and the United States. He was convinced that quackery was never more audacious or more popular than at the present time. The advertisements in the lay newspapers and on the hoardings in the streets were sufficient to prove this. The sum that was spent in one year on quack medicines, if devoted to the endowment of research, would soon give an insight into many maladies for which the remedies were not at present known, and might even produce a cure for cancer. The corrective of quackery was no doubt the wider diffusion of scientific knowledge, but scientific teaching in the schools was as yet very superficial. Sir James then went on to speak about the great advantage it was to the students of the medical school that they were brought in contact with the students of the other Faculties of the University. This contact lifted them out of their professional groove, broadened their horizon, enlarged their sympathies, and introduced them to that general culture which ought to belong to every member of a learned profession, and was invaluable to a medical man. Their profession, he said, must not be looked upon as merely a bread-winning one, for it was a ministry of science. The toast was responded to by Dr. Robinson, professor of anatomy, in a most excellent speech. The Honorary Secretaries, Messrs. B. A. Lloyd and A. A. Saunders, also responded. The toast of "The Guests" was proposed by Professor Jordan Lloyd, and responded to by Sir Thomas Chavasse. Dr. Carter proposed the health of the Chairman. During the evening, between the speeches, glees were excellently rendered by the Hoseley Quartette.

A sum of £10,000 has been given to the University by the family of the late Mr. Charles Harding for the purpose of erecting a library. The family offer this sum on the condition that it is regarded as large enough to erect a suitable library, which will be sufficiently distinct from the other University buildings to warrant it being in some way permanently connected with the names of their father and mother. The Council had great pleasure in accepting this munificent gift, subject to conditions being arranged with the family which will be mutually satisfactory.

An anonymous gift of £50,000 was announced last month, intended to include the erection of a tower in connexion with the new University buildings at Bournebrook. The cost of such a tower is estimated at £25,000, and it is suggested that

it should be about 300 ft. in height. It would be useful in connexion with the physical department, as well as being a record tower. The Council have decided to erect buildings fronting the University Road, which will provide accommodation for the departments of physics and chemistry, and to erect the tower in front of these buildings. It is probable that the central building will be the Harding library.

The sons of the late George Henry Marshall, M.D., F.R.C.S., have given to the University a sum of £1,650 to endow an open classical scholarship of the value of £40 per annum, and an annual prize of £10 for the encouragement of research in ophthalmology. Dr. Marshall was Consulting Surgeon to the Birmingham Eye Infirmary.

NEWCASTLE-UPON-TYNE.

Presentation to Dr. G. H. Hume.—Tetanus in the Royal Infirmary.—Clinical Society: Lecture by Dr. Byrom Bramwell.—Banquet.—Parliamentary Representation of the Universities of Glasgow and Aberdeen—Conference of Teachers.—Miners' Unions and Reduced Medical Fees.

AT a large and influential meeting of the Committee of the Royal Infirmary, at which the honorary staff was fully represented, Dr. G. H. Hume was last week the recipient of a handsome printed testimonial on the occasion of his retirement from the active staff of the Infirmary. Lord Armstrong, who was in the chair, in a few appropriate and complimentary remarks, made the presentation. Dr. Hume, in his reply, said that after thirty-six years spent in active service as Assistant-Surgeon and Surgeon to the Infirmary he felt it something of a wrench to separate himself from an institution in which he had laboured so long; he hoped, however, still to take an active interest in the welfare of the hospital and to do all he could to further its aims.

There are in the surgical wards of the Royal Infirmary at the present time 4 cases of tetanus. Two patients were admitted into the hospital suffering from tetanus: two patients have developed the malady inside the building after operation. Careful sifting of all the circumstances is being made, and until the results of bacteriological examinations of the catgut have been announced no opinion can be expressed as to the outbreak.

On December 7th, under the auspices of the Newcastle Clinical Society, Dr. Byrom Bramwell gave an address on "Aphasia" at the University of Durham College of Medicine. The large audience listened with close attention to the lecture, which was one of the most lucid, and which quite sustained the reputation of the lecturer. Dr. Bramwell's diagrammatic representations contributed much to making this abstruse subject intelligible to and easily followed by the audience. Cases illustrative of the particular types of aphasia described in the discourse were mentioned. On the motion of Professor George Murray, seconded by Dr. T. Beattie, a hearty vote of thanks was awarded to Dr. Bramwell.

In the evening, the orator of the afternoon was entertained by the members of the Clinical Society to dinner in the County Hotel. Upwards of one hundred sat down at table. The chair was occupied by the President of the Society, Dr. W. Hardcastle. After the Royal toast from the Chair, Professor Page, as one of his oldest friends, proposed the health of "Our Guest," to which Dr. Bramwell fittingly replied, and alluded to the pleasant years he had spent in Newcastle, and his connexion with the Royal Infirmary. "The College of Medicine" was proposed by Mr. [illegible], and responded to by Sir G. H. Philipson. Dr. James Smith submitted the toast of "The Royal Infirmary," to which Professor T. Oliver responded. By Alderman T. Richardson the toast of "The Newcastle Clinical Society" was admirably given, and suitably replied to by Mr. J. W. Leech. To Dr G. H. Hume was entrusted "The Commerce of Tyneside," which the Sheriff of Newcastle in appropriate terms acknowledged. "Our Visitors" was given by Mr. W. H. Vickery, the Treasurer of the Society, and responded to by Dr. J. H. W. Ridley. Interspersed between the toasts were songs. It is seldom that a more successful medical banquet has been held in Newcastle. It was felt that the success was entirely due to the untiring energy of the Secretaries, Messrs. Leech and Foggin.

The prospect of an early dissolution of Parliament has kindled political feeling in the North of England. As there is to be a contest for the parliamentary representation of the Universities of Glasgow and Aberdeen, both candidates, Professor W. R. Smith of King's College and Sir Henry Craik, late of the Scottish Education Department, have already had the opportunity of addressing their constituents. A return visit is looked forward to.

In the first week of January a conference of teachers of the northern counties of England is to be held in Newcastle. The last conference was held in Liverpool, when upwards of 2,000 adherents were present. A large meeting is expected in Newcastle. Among other matters of medical and educational interest to be discussed will be the subject of physical training, which has been entrusted to Professor T. Oliver. In the discussion Dr. Ethel Williams and other members of the medical profession have promised to take part.

The miners of Northumberland and Durham have given notice to the medical unions through their secretaries of their intention to reduce the payment to their medical men from 9d. to 6d. a fortnight.

SOUTH WALES.

Doctors and Workmen—Cardiff College Council.—Diphtheria Outbreak.—Contagious Eczema in Gower.—Welsh Water Areas.—Death of Dr. Brogden (Cardiff).

Two mass meetings of the members of the Ebbw Vale Workmen's Doctors' Fund were held at the Market Hall on December 4th to consider proposals of the British Medical Association respecting the future condition of employment of the medical staff, and the reply to the proposals of the Committee of the Workmen's Doctors' Fund. Mr. Albert Burrows said that upon the death of Dr. Keith Campbell (the chief of the staff) the British Medical Association had without any apparent cause issued instructions to the medical profession not to accept engagements under the Ebbw Vale Workmen's Fund before first of all communicating with the Association. This had been the means of preventing the Fund Committee from filling up some of their most important vacancies. Several interviews had taken place between the Committee and the members of the British Medical Association, whose main objections appeared to be on the question of private practice, representation of the medical staff on the Committee, and compensation to the doctors who had been deprived of private practice. He thought the whole aim of the British Medical Association was to secure full control of the Ebbw Vale Fund. This was clearly put forward in a SUPPLEMENT of the BRITISH MEDICAL JOURNAL, in which it was stated "that funds of organized bodies should be gradually brought under the direct control of the Association." Mr. Carter said that the desire of the Medical Association to obtain the lion's share of the management of the workmen's fund could not be tolerated. The private practice had been taken from the members of the staff because more attention was paid to private patients than to members of the fund, who paid the salaries. Besides demanding an increase in the staff, at increased salaries, the British Medical Association also wanted a guarantee of nearly £6,000, which was to be vested in trustees, over which those who found the money would have no control at all. Mr. Voyce, miners' agent, said that everything had been done by the British Medical Association to bar the progress of the fund at Ebbw Vale. The Association complained that the doctors were underpaid, and that there were not enough medical men for the district. If they took Tredegar as a comparison, it was about equal to Ebbw Vale in population, with similar works, and, if anything, with a larger area for the doctors to cover. There they had a medical staff of five, with an aggregate salaries of £1,800. Under the existing scheme at Ebbw Vale there were eleven doctors, with aggregate salaries of £3,670. Yet the British Medical Association wanted them to increase the staff to thirteen men with salaries amounting to £4,800, and, in addition, to provide a guarantee fund of over £5,000. Should the medical staff go on strike, it was for the men to consider what action they would take in the matter. The morning's meeting unanimously rejected the British Medical Association's proposals, and decided to adhere to the terms of the existing scheme.

A meeting of the Council of the University College of South Wales and Monmouthshire was held at Cardiff on December 6th. Dr. A. Sheen was appointed to represent the Council at the Sanitary Congress at Bristol in July, 1906. Principal Griffiths submitted an exhaustive report on the accommodation and equipment of the scientific and medical department of the College, in which he urged that the total

urgently and immediately required was £2,500. The Council decided to approve of the expenditure, and referred the question of how the money was to be obtained to a committee. The Principal was authorized to make such expenditure for equipment as he deemed absolutely necessary without awaiting the report of the Committee. It was reported that Dr. S. F. Harmer, F.R.S., of the University Museum of Zoology, Cambridge, had presented to the College a valuable gift from the collection of the late Mr. J. S. Budgett, Bristol. The Registrar reported that he had received a cheque for £121 14s. 11d. in payment of the balance of the legacy bequeathed to the College under the will of the late Dr. C. J. Jones, Pontypridd.

At a meeting of the Llandilo Rural Council held on December 2nd, Dr. Alfred Lloyd, Medical Officer of Health, reported on the recent outbreak of diphtheria in the parishes of Llandebie and Ammanford, stating that in the first instance the outbreak was due to an infected cat at Bwlche Farm. The children were constantly nursing the cat, and four of them contracted diphtheria, and two died. In the entire locality there had been about 63 cases, of which 7 were fatal. In consequence of the ill-health of the children at Llanfynydd, he had ordered the closing of the school.

Dr. Mole, Medical Officer of Health to the Rural District Council of Gower, in his monthly report to that body, stated that the children at the Llanrhidian School were suffering from a very curious kind of eczema of the fingers, which was contagious. Under the circumstances he had ordered that the playground should be put into a better condition. The Chairman thought it better for the authority to communicate with the managers forthwith respecting Llanrhidian Schools, which are non-provided schools, and this was agreed to.

At a meeting of the Water Committee of the Glamorgan County Council held on December 4th, Mr. J. Blandy Jenkins presiding, it was unanimously resolved to recommend the County Council to adopt the draft Bill empowering the formation of a Joint Water Board for the counties of South Wales and Monmouthshire to protect the Welsh water areas, and to provide for the supply of water for the various districts within the counties.

Dr. Brogden died on December 2nd at his residence, Cardiff. He was a student at Edinburgh and Glasgow, and qualified in 1887. He also studied at the London hospitals, and has practised in Cardiff for many years.

CORRESPONDENCE.

INHERITANCE OF DISEASE AND THE RELATIONSHIP OF DISEASE TO CERTAIN MENTAL CHARACTERISTICS.

SIR,—I am engaged at present on an inquiry of a two-fold nature: (*a*) as to whether types of chronic ailments and of special forms of mortality tend to run in particular families, and (*b*) the extent to which these pathological conditions influence in general the mental characters of the stocks with which they are associated. The inquiry is essentially a statistical one, and likely to be very long and laborious. It can, of course, only proceed by the filling in of schedules giving the ailments and causes of death of as many members as possible of a family, and adding, when known, the temperament and the ability of such members. I have already received a number of schedules from members of the medical profession, and I should be only too glad of further aid. Of course, in an inquiry of this kind the returns can only be of a general descriptive character; it is quite impossible to make minute and fine distinctions. I shall be only too pleased to send schedules to any one undertaking to fill them in. I want no names of individuals, only that of the recorder; but, of course, it is understood that the account shall be absolutely frank and complete as far as knowledge extends.—I am, etc.,

University College, London, W.C., Dec. 12th. KARL PEARSON.

THE EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS BY THE ROENTGEN RAYS.

SIR,—I have been much interested in the discussion on the use of the Roentgen rays in the BRITISH MEDICAL JOURNAL which has followed the publication of my report on the early diagnosis of tuberculosis by new methods to the Paris Congress of Tuberculosis, and I am by no means displeased with the criticisms contained therein, though some call for explanation.

Dr. Stanley Green, Dr. Willett Cunnington, and Dr. Halls Dally object to my third class of cases of pulmonary tuberculosis,

> where the physical signs detect lesions which are undetected by the Roentgen rays:

and Dr. Halls Dally asks on what grounds this assertion is made,

> seeing that it is opposed to the experience, at any rate, of the great majority of workers in this special branch of investigation.

The statement is based on the experience gained by the writer in the clinics of Dr. Greg, the accomplished radiographer in charge of the *x*-ray departments of the Brompton and St. Thomas's Hospitals. At the former place this department is growing in importance, and a large number of patients are sent from the wards and out-patient departments for *x*-ray examination. Comparison of the two methods of examination among these patients has led me to the classification alluded to; and I find I am supported by Dr. Greg and by many of my colleagues on the staff; and at the recent Tuberculosis Congress at Paris the evidence of the French physicians I conversed with pointed to the same conclusion.

Doubtless the size of Class III depends on the skill with which the *x*-ray examination is made, but it also depends on the skill with which the physical examination is carried out; and I am sorry to state that, according to my experience, physical examination, except by a certain number of experts, is not practised with the same diligence and accuracy as it was by the immediate successors of Laennec.

From what I have witnessed, I should in some of the cases at any rate in which Roentgen rays are stated to have detected tubercle before physical signs have done so, doubt whether the physical examination was thoroughly and effectively carried out.

I am not in any way opposed to the use of the Roentgen rays, and, as I have said at the Clinical and Harveian Societies, I welcome them as a new and valuable aid to diagnosis; but if a comparison is to be made of the relative value of Roentgen rays to physical signs in diagnosis, such comparison should be checked by physicians, who, while submitting cases to Roentgen rays, are also thoroughly conversant with the resources of physical signs.

Dr. Greg writes to me:

> I think the writers of the letters in the BRITISH MEDICAL JOURNAL take rather too strong a view of the value of *x* rays in the diagnosis of of early phthisis;

and at the end of his note he remarks "that, after reading the letters, he still thinks that Class III is still a big one."

Let us hope that with the progress of radioscopy and radiography it will grow smaller.—I am etc.,

London, W., Dec. 8th. C. THEODORE WILLIAMS.

ATYPICAL "INTERNAL DERANGEMENTS" OF THE KNEE JOINT.

SIR,—Mr. Barker's paper on "Atypical Internal Derangements of the Knee Joint" calls attention to a subject of considerable importance to all surgeons interested in the surgery of the knee. I suppose most operators from time to time find the internal semilunar cartilage quite normal in cases which present a typical history of "slipped cartilage," or, as it should be called, "ruptured cartilage," for the essence of the injury is always a tear. When this occurs it is important to search carefully for some other condition, as Mr. Barker remarks. One of the commonest of these conditions is the presence of an elongated synovial fringe or tag, and the commonest positions in which such tags are found are the alar ligaments of the patella. I have several times had to deal with cases very similar to that described by Mr. Barker. An instructive article with good illustrations on the same subject by Carleton P. Flint will be found in the September number of the *Annals of Surgery*, 1905.

Another possibility which, as Mr Barker points out, may be easily overlooked, is that the torn cartilage may be really the external and not the internal, as it proved in the last case which he relates. I agree with him that a very large part of the interior of the knee can be inspected when the joint is well flexed and rotated outwards, but it can only be a very complete peripheral laceration of the external cartilage which will permit the latter to be seen and removed through an incision over the inner side of the knee. I am inclined, in future, when nothing abnormal is found through the usual

incision, to make a second incision and explore the outer side of the joint.

I agree with Mr. Barker as to the importance of not touching the wound with the finger. I think this applies equally to all wounds, and that the best way to avoid it is to wear sterilized rubber gloves.—I am, etc.,

Wolverhampton, Dec. 11th. E. DEANESLY.

"SPIROCHAETE" OR "SPIROCHAETA": A QUESTION OF NOMENCLATURE.

SIR,—Any one who has followed recent researches on syphilis and other diseases in which spiriform organisms have been found must have been struck with the confusion which exists in the spelling of the generic name applied to these organisms. Thus, in a leading article in the BRITISH MEDICAL JOURNAL of October 28th the spellings "spirochaete" and "spirochaeta" both occur (p. 1138); in that of September 23rd the organism found in syphilis is termed the *Spirochaeta pallida*; and in the EPITOME of December 9th (No. 372) it is termed *Spirochaete pallida*.

By the rules of nomenclature, a name once having been used must always be used, and if an organism is transferred from the vegetable to the animal kingdom, its botanical name is accepted in zoological nomenclature. The valid name of a genus or species can be only that name under which it was first designated.[1] Now, the generic name "spirochaeta"—this spelling—was originally founded by Ehrenberg in 1833 to describe certain spiriform organisms believed by him to be animal forms. I find, on reference to Ehrenberg's original paper,[2] the following:

SPIROCHAETA. Novum genus. Schlingenthierchen . . . in spiram angustam, filiformem, plicatilem, contortum.

Therefore there can be no doubt that "spirochaeta" is the correct spelling of the genus, and happens to be so referred to by Stiles (loc. cit.).

I believe the confusion which has arisen must be traced to Cohn. In his *Beiträge*,[3] p. 131 he reviews Ehrenberg's classification of bacterial forms, and refers to Ehrenberg's genus, spirochaeta (*sic*). But on p. 146, where he is suggesting his own classification, he gives,

Tribus IV. Spirobacteria. Gattung 6. *Spirochaete* (*sic*) (Ehrenberg).

thus, although referring to Ehrenberg, modifying the latter's spelling. Again, on p. 180, Cohn says:

Wir unterscheiden nach Ehrenberg zwei gattungen der Schraubenbacterien: *a.* Spirochaete (*sic*), etc.

These extracts seem to me to show that Cohn, either through a *lapsus calami* or through an uncorrected printer's error, modifies Ehrenberg's spelling of spirochaeta into spirochaete, and subsequent authors have copied his mistake, never having referred to Ehrenberg's paper. In Saccardo's great work, the *Sylloge Fungorum*, for example, in vol. viii, in which the bacteria are dealt with by de Toni and Trevisan, spirochaete (*sic*) is used throughout, though the term is referred to Ehrenberg's original paper already quoted.

There can be no doubt, therefore, that the proper spelling is spirochaeta, and not spirochaete. According to the rules of nomenclature, the generic name of a species should always be written with a capital initial letter—for example, *Bacillus coli*, and not *bacillus coli*.—I am, etc.,

King's College, W.C., Dec. 12th. R. TANNER HEWLETT.

*** We must plead guilty to some inconsistency of usage. We had already considered the question, and decided that the form *Spirochaeta* shall be used in future in accord with the *International Code of Zoological Nomenclature*, adopted at the Fifth International Zoological Congress held in Berlin in 1901. When, however, the term is used not as the designation of a genus or a species, but as applied to individual members of the group, we propose to spell it "spirochaete," and print it in Roman type as an English word, like trypanosome.

THE DIET OF TYPHOID FEVER.

SIR,—The admirable clinical lecture by Dr. Wm. Ewart on "The Principles of Treatment of Typhoid Fever" in the BRITISH MEDICAL JOURNAL of December 9th, 1905; especially his remarks on "diet," are particularly worthy of the attention of the rank and file of the profession.

The ordinary idea appears to be that milk is the one (and perhaps only) diet for typhoid fever patients. Now, though I have no accurate conception as to how many persons have died during an attack of typhoid fever through too strict an adherence to a "milk diet," I am convinced in my own mind that the comparatively high death-rate or rather case mortality from this disease is largely due to an unreasoned acceptance of milk as the sole diet for typhoid fever. This is treating the disease and not the patient with a vengeance.

Too rigid an application of the exclusive milk diet spells disaster in many cases. I can call to mind more than one case of typhoid fever which has been admitted to hospital under my care most desperately ill, not so much through the disease *per se* as through the loading of the intestinal tract with massive milk curds, producing both harmful toxins and mechanical irritation—in short, a condition analogous to that met with in many young infants when the one and only way of treatment is to stop all milk, administer castor oil, and for the time to allow only whey as diet. In one instance, although from the hour of my first seeing him, a boy, aged 15, suffering from typhoid fever was given only whey—milk in any other form being absolutely prohibited—it took the best part of a week, even with the aid of small doses of castor oil, to clean the intestines of irritating milk curds. Had this patient remained another few hours on a milk diet, I very much suspect that his illness would have proved fatal. When, however, the intestinal tract was once free of these dangerous curd masses, the illness progressed in an uncomplicated fashion.

To the ordinary mind uninfluenced by physiological (shall I say also philosophical?) considerations, milk is considered to be a bland liquid food, while stale bread crumbs might be considered a solid and possibly irritating diet. As physiologists we are, however, aware that in the stomach milk separates into solids as well as liquids; and that when the digestive functions are parlysed these same solids form very tough and irritating curd-masses as they pass unchanged through the whole intestinal tract. On the other hand, given a typhoid patient with a moist tongue and mouth at any stage of his illness, physiological knowledge indicates a sufficiency of saliva to convert small bread crumbs into a fluid, absorbable, saccharine solution, long before the site of typhoid fever bowel lesion is reached.

It is such considerations as these that should in my judgement be applied to the treatment of each individual case of typhoid fever.

I can fully endorse, after a considerable experience, all Dr. Ewart says as to the value of strained vegetable and fruit broths, which I have employed largely during the last four years. My individual experience has rapidly lessened very considerably during the last two years, but the application of the principles sketched above, and so ably expounded by Dr. Ewart in the treatment of 123 cases of typhoid fever of all types of severity (and not excluding cases admitted to hospital moribund), has resulted in the low case-mortality of 9.4 per cent. (At least one-third of the fatal cases were admitted moribund, with symptoms of perforation.)

I am not an advocate of "exclusive whey" in every case of typhoid fever, because, in my judgement, the patient's general condition and a daily inspection of the stools are the best criteria as to whether the patient is able to digest diluted milk. Should tympanitis come on, or any undigested milk appear in the stools, the time for whey alone has arrived. Dr. Ewart's arguments for the "*traitement à vide*" are, however, so forcible that this method will no doubt commend itself to most physicians.—I am, etc.,

Southend-on-Sea, Dec. 11th. J. T. C. NASH, M.D.Edin.

LIFE ASSURANCE WITHOUT MEDICAL EXAMINATION.

SIR,—I would suggest to Mr. Fenton Fisher, who writes on the above subject in the BRITISH MEDICAL JOURNAL of November 25th, p. 1430, that he simply ignores that part of the death certificate form which asks for the duration of illness. As medical practitioners we are only bound to state the "cause of death." The Medical Act does not require us to mention the "duration of the illness."

Over twenty years ago I was annoyed similarly to your correspondent by one of those petty insurance companies, and I was consequently led to look carefully into this matter, with the result that I discovered that the "form" exacted more information than I was legally bound to give. Since then I have always left that portion which deals with the "duration" severely alone. If insurance companies want

[1] See Stiles's Report on the International Code of Zoological Nomenclature. Bull., No. 24, Hygienic Lab., Washington, 1905.

[2] *Physikal. abhandl. der König. akad. der Wissenschaften zu Berlin, 1833.* Berlin, 1835.

[3] *Beiträge zur Biologie der Pflanzen*, Bd. 1, Heft II, p. 127. Breslau, 1875.

further information from me they may get it by paying for it; as a rule, however, I am not troubled by those smaller companies, as the mention of fee is, I find, enough to make them settle their claims without further dispute.—I am, etc.,

Glasgow, Nov. 28th. JAMES HAMILTON.

POST-MORTEM MENINGEAL INFECTIONS.

SIR,—The primary contention of my letter in the BRITISH MEDICAL JOURNAL of November 25th was that there was no adequate warrant for speaking of the meningococci, pneumococci, and streptococci often found in association with different forms of meningitis as "causal organisms." To this criticism of Dr. Horder's phraseology he makes no reply, so we may suppose he is not prepared to impugn the validity of the criticism.

Then, again, my contention that bacteria could not pass after death from any nidus where they existed during life "to remote organs" is in no way contradicted by the experiments of Hauser to which Dr. Horder refers. His observations are in fact absolutely inconclusive in face of the possibility of the *de novo* origin of bacteria in the tissues after death, to the evidence in favour of which I referred Dr. Horder. When I admitted the possibility of contamination of the meninges from "some adjacent nidus" it was not by the "direct passage of bacteria through the tissues," in the sense of an actual locomotion and transit (as to which I am very sceptical), but by the continuous growth of organisms, for the most part motionless, through the tissues—a process which I know to be one requiring a considerable time, and therefore not capable of "rapidly" leading to the "*post-mortem* contaminations of considerable number and variety," of which Dr. Horder originally spoke. But altogether apart from the question of time, no such *post-mortem* growth of bacteria from ear, throat, or nose, has, so far as I know, ever been shown—and that is the only mode of *post-mortem* contamination of the meninges recognized by me.

Then, again, when I admitted that "an agonal invasion of the blood and lymph streams by organisms from the alimentary canal, etc.," was a possible process during a prolonged process of dying, "though one which would be very difficult positively to verify," what I had in view was the verification of the actual passage of the bacteria during the last hours of life through the walls of the alimentary canal, etc., and into the blood and lymph stream. I had no grounds for denying the "possibility" of any such quasi-voluntary exodus, however sceptical I might be as to its actual occurrence. But when I spoke about the difficulty of verification, I had in mind the difficulty of finding positive evidence of this actual migration and transit through the walls of the intestine. It seems to me, however, even ludicrous for Dr. Horder, when he was referred to stringent evidence as to the heterogenetic origin of bacteria contained in chapter ix of my work on *The Nature and Origin of Living Matter*, to adduce as "proof" of his supposed agonal invasion of the blood and lymph streams, the finding of bacteria by F. W. White and himself in cultivations of blood taken from persons "during the few hours preceding death from various chronic diseases." Yet Dr. Horder complacently says:

> These *sub-mortem* blood cultures have actually proved the fact of agonal invasion.

That is not the kind of proof to which I referred; it is in fact no proof at all.

In accordance with strict bacteriological principles, such *sub-mortem* findings of bacteria might be explained by supposing that the bacteria which are usually "destroyed" in the blood during life are often able to survive during the last hours of life in persons dying from chronic diseases; or, in accordance with my views, these *sub-mortem* findings, so far from proving an agonal invasion of the blood from the alimentary canal and other situations, might be explained by the supposition of the *de novo* origin of some of the organisms in question in the blood during the last hours of life. The former of these possibilities seemed to have escaped Dr. Horder when he spoke so confidently about his proof of the "agonal invasion," while upon the latter point of view he is content to turn his back. Of course it is always easy to abide by your own opinion if you carefully shut your eyes to all adverse evidence. The method is, however, unscientific, and not likely to lead to an increase of knowledge.—I am, etc.,

London, W., Dec. 11th. H. CHARLTON BASTIAN.

OBSERVATIONS ON THE OPSONIC INDEX OF PATIENTS UNDERGOING SANATORIUM TREATMENT FOR PHTHISIS.

SIR,—The feelings of appreciation with which we have read the most interesting and suggestive paper upon the above subject published by Dr. Meakin and Dr. Wheeler in the BRITISH MEDICAL JOURNAL of November 25th, is one which will no doubt be shared by many besides the members of that small band of workers who are engaged in trying to gather from the region of the Unknown the full significance of the opsonic index in relation to the treatment of tuberculosis.

The cause of truth can be promoted in two ways: on the one hand an observer may supply evidence to substantiate claims which are true; or, on the other hand, he may effectively refute claims which he believes to be false.

Along with Dr. Struthers Stewart I have now made between 2 000 and 3 000 observations upon the opsonic index of the blood of patients suffering from pulmonary tuberculosis, and in consequence we are in possession of a considerable body of facts bearing upon the subject under consideration.

It gives us pleasure to join issue with these authors in the following four statements—in the case of the fourth with some reservation:

1. We are quite unable to endorse the view expressed by Dr. Urwick that "the opsonic power of the majority of patients suffering from pulmonary tuberculosis is higher than normal."

2. It is a matter of great importance in estimating the effect of injections of tuberculin or of any form of treatment, that the observations should be made at a time when the opsonic index is at its ordinary level and undisturbed by recent exercise.

3. We have never found that a patient's temperature gave any clue to the level of the opsonic index.

4. We believe that a case which shows a steady opsonic index of 1.0 or over is the one which makes a complete recovery if favourable conditions are maintained for a sufficient time.

There are, however, other views expressed in the article referred to; the grounds upon which such views are based are unfortunately not always stated, which we believe to be unsound. In calling attention to these views we have thought it well to supply the evidence upon which our opinion of their unsoundness is based.

First, "our experience (no figures given, D.L.) tends towards the view that the case which settles to an opsonic index much below 1.0 is the case that becomes chronic, that recovers to a certain extent, but that can only maintain that degree of recovery while living under sanatorium conditions." We have made a large number of observations upon the opsonic index of the blood of patients who have been cured of pulmonary tuberculosis by sanatorium treatment. Of the first 30 such cases, no less than 43 per cent. exhibit indices ranging from 0.5 to 0.9; the average for 13 cases is 0.72. The statement that such "can only maintain that degree of recovery while living under sanatorium conditions," is contradicted by the fact that 29 out of the above 30 cases have now been carrying on their usual occupations, in the vast majority of instances in towns, from periods ranging from six months to four and a-half years, and to-day appear to enjoy perfect health.

Secondly, "It is probable that a patient will benefit by walking when his opsonic index is high." High indices are frequently associated with very acute disease and grave constitutional disturbance. The opsonic indices of two patients suffering from miliary tuberculosis were found by us to be respectively 1.6 within twenty-four hours of death, and 1.4 within seventy-two hours of death. We could, if space permitted, adduce many additional facts to show that a high reading is not in itself a safe indication for prescribing or regulating walking exercise.

Thirdly: "It is important that a patient should rest during his negative phase." This statement does not appear to us to be a logical inference from the premisses submitted. We have gone carefully into this question in relation to nearly 200 instances of negative phases following inoculation of tuberculin administered by ourselves, and have arrived at the conclusion that the mere presence of the negative phase in itself furnishes no indication whatever for resting the patient.

We need hardly say we fully share the high opinion which these two writers appear to have formed of the value of inoculation treatment regulated by Wright's method of administration in pulmonary tuberculosis, as well as their sincere desire that its application may be extended. The work done by Wright is good and must stand. The recognition of its value by the profession at large can only be a matter of time. Meanwhile its recognition can best be pro-

moted by its advocates successfully withstanding the temptation, born of their admiration for the method, to set up claims which, if not altogether extravagant, are, at all events, not warranted by the facts, so far as they are at present known.—I am, etc.,

Banchory, N.B., Nov. 29th. DAVID LAWSON.

A PLEA FOR THE INVESTIGATION OF CATARRH.

SIR,—As there appears to a be good deal of mystery in connexion with the "common cold," the following observations, based on a study of the subject extending over three or four years, may be of interest:

1. "Colds" are always infectious. The source of infection can be discovered in more than 90 per cent. of cases.

2. The period of incubation is usually less than twenty-four hours and almost always less than forty-eight hours. Only very rarely is it as much as four or five days. Possibly these differences in the period of incubation may be caused by a variation of micro-organisms in different cases.

3. The infection must be fairly concentrated, as in a badly ventilated room, church, or railway carriage, and must be continued for some time (twenty minutes or half an hour).

4. Whether a person be hot or cold, wet or dry, does not at all influence his liability of becoming infected. The important point is the dose of the infection.

As for treatment, the best that can possibly be done for a patient is to place him in the open air or in a room with a good through draught. The reason, apart from the obvious improvement in general health resulting from such a course is that a "cold" is a disease in which a patient reinfects himself again and again if shut in the confined space of an ordinary living room.

The best means of prevention follow as a corollary to these facts: Never sit in a room that is not thoroughly ventilated, and avoid especially any room occupied by a patient suffering from a "cold."

It is good news to hear that Dr. Chalmers Watson is carrying on investigations as to the predisposing causes, but it is to be hoped that he will at the same time make careful notes as to the question of infection. In his letter he speaks of excess of animal proteid as causing a tendency to catarrhs. Does he mean to convey a distinction in this respect between animal and vegetable proteid, or does he find that vegetarians who eat a large amount of proteid are also prone to catarrhs? This would seem to be a point of some interest.—I am, etc.,

December 5th. H. H.

SIR,—The correspondence in your columns on the etiology and prevention of catarrh fails, I think, in usefulness, through ignoring the most frequent initial factor in the process, namely, chill.

Granted that certain bacteria are secondary factors in producing the inflammation of mucous membrane characteristic of catarrh [illegible]t. I think, be admitted that they are [illegible] on the mucous membrane, only rendered pathogenic through some change either in themselves or in the tissues of their host, induced by chill. What the action of chill is, what changes take place between its infliction and the appearance of the first symptoms of catarrh, [illegible].

That chill is the initial event in most catarrhs is a commonplace both of experience and of authority and tradition. Liebermeister, for instance, in quoting a chill as a characteristic instance of a simple as contrasted with a specific cause of disease, says that

> A chill may in one person give rise to a common cold, in another to a bronchial catarrh, in a third to diarrhœa, in a fourth to toothache, and in yet other persons to a variety of "rheumatic" complaints,

and each of us must, at one time or another, have experienced in his own person the truth of this dictum.

Some years ago I was called upon by the coroner in winter to make a *post-mortem* examination on an old man who had been found dead in his cottage. The cottage was fireless, had a stone floor, and was deadly cold, so that during the whole time of the operations I felt chilled to the bone. On the night of the day next following I developed a smart attack of [illegible] three days. The other day I attended a meeting of the Church Missionary Society here, which was held in a quarter filled, unwarmed building, and I felt chilled during the entire meeting. On the evening of the following day I developed an ordinary nasal catarrh. As a younger man I was often subject to catarrh, and noticed that if my clothes became damp during the day, and were not at once changed, catarrh almost invariably appeared at the end of approximately twenty-four hours.

I would define "chill" as "a joint or separate condition of the external temperature and of the thermal mechanism of the individual, which injuriously affects the organism of the latter. It is characterized by a disagreeable sensation of chilliness in the victim at the time it is inflicted." I would venture to lay down the law that "catarrh" is of alternate origin, (*a*) chill, and (*b*) infection, with an incubatory period of from twenty-four to thirty-six hours in both kinds. What we want to know is:

(1) What change, if any, does chill produce in the tissues so as to render them prone to the invasion of pre-existing bacteria?

(2) Or is it in the bacteria themselves, or in their toxins, that chill produces pathogenic changes?

(3) Are the pathogenic bacteria of chill-produced catarrh and of infection catarrh identical?

In answer to the last question, it seems probable that the pathogenic bacteria of the two conditions are identical, if the common observation of a chill-induced catarrh in one member of a family spreading by infection through all the other members, is reliable.—I am, etc.,

WILLIAM SYKES, M.D., F.S.A.

Paignton, South Devon, Dec. 4th.

SYNCOPAL BRADYCARDIA.

SIR,—As this discussion has already taken up too much of your valuable space, I will conclude with a brief reference to one or two of the many points raised in Dr. Morison's letter.[1]

He fails to acknowledge that the tracings published by Dr. Maynard[2] afford proof of auricular systoles occurring in the diastolic phase of the left ventricle. I refer him to the work of Mackenzie,[3] Wenckebach,[4] and Gibson,[5] where he will find tracings and other evidence sufficient to satisfy the most sceptical.

As to the value of venous pulse tracings, that may with advantage be left for the future to settle. In the hands of men like Mackenzie they have already done much to unravel many of the mysteries of cardiac arrhythmia.

I fail to understand what Dr. Morison means to convey by his statement:

> "Heart blockage" is still, I presume, a theory, and the constricting cord must interrupt more than muscular motion.

Heart block is no longer a theory—it is a fact, and has been recognized as such ever since Gaskell[6] published his classical research on the contraction of cardiac muscle.

The causes of heart block are various, but, as to its occurrence, that passed from the stage of theory to that of accepted fact years ago.—I am, etc.,

Liverpool, Nov. 22nd. JOHN HAY.

OBSTETRIC EMERGENCIES AND THE DOCTOR'S FEE.

SIR,—I see my letter has evoked some replies. I should like to point out a careless blunder of mine: "3d. a month" should of course be "3d. a week"; forty weeks brings the fee to 10s. I suggest the Friendly Society would be able to make the fee to some higher [illegible] in return for interest on the money paid into it by the expectant woman, if she had to pay the fee eventually. If she did not, then she would have the 10s. returned to her. The difficulty, of course, would occur in determining who should be attended for this smaller fee. At present it would be those who the doctors, but not the guardians, consider entitled to a parish order. The question is full of difficulties, but I do not see how we are to get any fee otherwise from this particular class of patients under present circumstances. Things are in a transition state at present, and doubtless soon some order will be evolved. I believe some such scheme as that suggested would be one way out of this muddle, and that we ourselves must allow the Friendly Society to approach us on the settlement of what is the proper fee for the given patient or patient group under discussion. I am, etc.,

Ilminster, Dec. 4th. W. H. MAIDLOW.

[1] BRITISH MEDICAL JOURNAL, November 11th, 1905. Letter, A. Morison.
[2] Ibid., October 7th, 1905. A Case of Syncopal Bradycardia, J. S. Maynard.
Ibid., March, 1905. New Method of Studying Affections of the Heart. Figs. 11, 13, 14. J. Mackenzie; Ibid., 1902, The Cause of Heart Irregularity in Influenza, II. [illegible], J. Mackenzie.
[4] Arrhythmia of the Heart, Wenckebach, pp. 88, 89, 90, 91, Fig. 32.
[5] Bradycardia, G. A. Gibson, *Edinburgh Medical Journal*, July, 1905, pp. 14, 15, 27, Figs. 1, 2, 3.
[6] The Contraction of Cardiac Muscle, W. H. Gaskell, *Textbook of Physiology*, Edited by E. A. Schäfer, vol. ii, p. 169.

Sir,—There is another side to the story told by "J. G. C." in the British Medical Journal of December 2nd. I also have a Poor-law medical district, and some time ago one night I received an urgent call to a woman living some miles from me. I drove off at once—as we all do in such emergencies—and was kept at the house till 6 a.m. next morning, my man and horse having to stand outside in a perfect hurricane of wind and rain for several hours. It was a very difficult primiparous labour (third vertex), requiring forceps and chloroform. After all was safely over I asked for my fee. The answer I got was that they had not meant to call in a doctor, and could not afford to pay any fee. Then I wrote to the guardians, detailing all the matter to them, and asking them to pay a fee. This they declined to do, stating that they had no power to pay a fee in such a case. I replied that they had such power (in this I fear I was wrong), and that in future I should refuse to attend any such sudden calls unless the applicant came provided with a parish order, and in the event of any accident following upon such refusal on my part I should let the blame fall upon the guardians.

To this I got an answer from their clerk accusing me of impertinence, and demanding an apology. This I refused to give.

The guardians then said that they should in that case write to the Local Government Board, and ask the Board to call upon me to resign my appointment. A Local Government Board inspector came down and interviewed the guardians and me. He told me I was quite wrong to treat the guardians so, and in the end, for the sake of peace, I agreed to withdraw my letter.

But the guardians have never forgiven me, and never will.

"J. G. C." ends his letter by saying "a relieving officer . . . is *bound* to give an order (the italics are mine) . . . in any case of sudden and urgent necessity." Is he? At any rate, not *after* the event, I imagine, and as he lives some miles away from me, such an order could not be got at the time.—I am, etc.,

Chadwell Heath, Dec. 4th. T. Reuell Atkinson.

MEDICAL LAW REFORM.

Sir,—Without wishing to impugn Mr. Henry Sewill's prophetic accuracy, may I suggest that his statement of fact is not correct? So late as the year 1815 Parliament *did* prohibit practice for gain when they passed the Apothecaries Act (55 George III). The state of the law in 1830 is thus described by J. W. Willcock, Barrister-at-Law, writing at that date:

The law recognizes only three orders of the medical profession—physicians, surgeons, and apothecaries. It tolerates, however, such persons as through charity, and *without receiving any remuneration*, minister to any outward sore, uncome, or apostumation, outward swelling or disease, any herbs, baths, poultices, or emplasters, according to their experience or knowledge: or drinks for the stone, strangury, or agues. Chemists and druggists also are noticed as persons who may make and vend medicines; and it may be difficult to show that they may not compound them according to the prescriptions of a physician, or the orders of an apothecary; but they cannot, in any case, prescribe physic of their own authority.

Permit me to add the following extract from Mr. Willcock's book, because it seems to state the case for the Medical Acts Amendment Bill better than I have elsewhere seen it:

Whatever may have been the origin of the various distinctions in the medical faculty, however inconvenient it may be to retain them, however inadequate to their purpose the present institutions may be by some persons considered, all must concur in deeming some examination necessary before men are allowed to enter upon the dangerous profession of administering medicine, and performing hazardous experiments upon the human frame; yet, either on account of the antiquity of the laws against the offence, or the difficulty in furnishing sufficient evidence, or the want of persons particularly appointed or interested in enforcing them, this kingdom is overrun with illegal pretenders in medicine, often as ignorant as its ancient professors—the artificers, smiths, barbers, astrologers, and witches.

When the practice of a profession is of such a nature that the conduct of the practitioners is before the eyes of the public, so that all men may be able to form a fair estimate of their comparative capacity, a preliminary examination may not produce any great public advantage, as the various talents and deficiencies of the competitors soon become known to those who may have occasion to select from among them. But, on the contrary, when the practice is secret, so that people have no opportunity of forming a general opinion on the competency of the practitioner; when, too, it requires a considerable portion of scientific knowledge in each individual who is to be separately subjected to his operations, to enable him to arrive at any reasonable conclusion as to the skill or ignorance of the professor; and particularly when it is of such a nature that the incompetency of the practitioner is often attended with fatal, generally with irremediable, and always with most dangerous consequences: the fear of punishment for malpractice, and the liability to damages for ignorant or negligent practice, are by no means sufficient to indemnify the public, and to deter rash empyrics, who, too ignorant to be conscious of their own incapacity, too avaricious to be restrained by compassion for their unfortunate patients, and confiding in that impunity with which they [illegible] the difficulty of furnishing that direct and [illegible] necessary to bring them within the scope of the law, may sacrifice the lives and impair the constitutions of thousands before their ignorance and rashness are detected.

Surely a vendor of a quack medicine is not affected by this Bill. The purchaser, the patient, does the practising and this not for gain, but to his own hurt.—I am, etc.,

London, W., Dec. 8th. W. H. Dolamore.

SANITARY OFFICIALISM.

Sir,—Dr. Brierley does well to call attention, by his letter published in the British Medical Journal of November 25th, to the meddlesome methods practised by many sanitary inspectors in performing their duties. It is time public notice should be directed to the matter, and some steps be taken to check the officious zeal of these humble servants of the ratepayer. They are, no doubt, an estimable and well-meaning body of men, mainly actuated by a desire to do their work thoroughly and to stand well with those in authority over them; but their enthusiasm appears to render them peculiarly prone to overstep the bounds of their proper sphere of action, and to assume functions which do not belong to them. I do not know how the case stands in other parts of the country, but in this district, at least, their behaviour is a somewhat frequent cause of complaint. For example, it is a common practice here for inspectors to enter the bedrooms of patients—often without invitation; and while there they naturally, as in the instance mentioned by Dr. Brierley, yield to the temptation of exercising their budding powers of diagnosis; and even sometimes suggest methods of treatment and comment on the doctor's instructions. I have in my possession records of a number of cases in which such faults have been committed.

I understand from the Medical Officer of Health for Manchester that definite instructions are given to all inspectors that they shall not go into the bedrooms of patients unless invited to do so. But what business have they in the sick-room under any circumstances, invited or uninvited? What good end is served by such intrusion? Is it, for instance, either seemly or safe, or even expedient, that a man whose vocation it is to inspect ashpits and drains and other germ-breeding spots, and who may have come direct from performing such insanitary duties, should be allowed to enter the lying-in room of a patient suffering from puerperal fever?

Surely the medical attendant alone is responsible for the sanitary condition of the sick-room and the proper isolation of the sufferer: and he needs no unsolicited assistance from ignorant officials in carrying out the measures needful for securing those ends.

If information which can only be gained in the patient's room is required by the medical officer of health, it is always possible for him to obtain it direct from the doctor in charge of the case.

The whole question of the relations of sanitary and other officials to medical practitioners and their patients is well worth the serious consideration of the profession. It behoves us all to bestir ourselves, and, while paying due regard to the public welfare, to see that any powers which may be applied for by corporations and like authorities are not such as will interfere with our freedom of action. There is some danger, it seems to me, that if we doctors are not in this instance more careful of our interests than we have sometimes proved ourselves to be in other matters in the past, we may shortly be witnessing the manufacture of another body of inferior practitioners (as in the case of the midwives), who will still further curtail our work, and interfere with our chances of earning a reasonable livelihood.—I am, etc.,

Manchester, Nov. 27th. John S. Prowse.

DUPLICATE COPIES OF MEDICAL PUBLICATIONS.

Sir,—The Manchester Medical Society has had prepared a list of all duplicate monographs, periodicals and pamphlets in its possession: the list contains about five hundred separate items. I shall be very glad to hear from other medical societies and institutions, having similar lists wishing to make exchanges.—I am, etc.,

Cuthbert E. A. Clayton,
Manchester, Dec. 11th. Librarian to the Society.

THE NEED FOR UNION OF SOCIETIES.

Sir,—The fact that the various London medical societies are attempting to consolidate themselves into one great society leads one to propose that an effort should be made to merge the various associations that at present exist for the defence of the medical profession in its many branches into the British Medical Association.

It must be apparent to every thinking member of the profession that the British Medical Association has now an organization which is perfectly competent to deal with all questions which affect the material and moral welfare of every medical man. Moreover, there can be no possible doubt that an Association which has within its ranks a membership of 20,000 men must naturally have a much greater influence with the governing powers than one that has only one or two thousands. I am not thinking at the present moment of the medical defence societies, but of the

Poor-law Medical Officers' Association,
Poor-law Officers' Association,
Public Vaccinators' Association.

All these appeal to one for annual subscriptions, all have paid officials and expenses connected with offices and with printing, etc.

It seems to me it would not be a difficult matter to make such arrangements with the Medico-Political Committee of the British Medical Association so as to ensure a thoroughly exhaustive discussion of the various topics that affect the welfare of their members.—I am, etc.,

Cardiff, Dec. 5th. T. Garrett Horder.

MEDICO-LEGAL AND MEDICO-ETHICAL.

FRACTURE-DISLOCATION OF THE SHOULDER: AN ACTION FOR DAMAGES.

At the Glamorgan Assizes last week Mr. T. A. Southern, consulting mining engineer, brought an action for alleged negligence against Dr. Skyrme and Mr. Lynn Thomas of Cardiff in connexion with the treatment of an injury sustained on July 19th, 1904. The counsel for the plaintiff were Mr. Abel Thomas, K.C., M.P., and Mr. Bailhache; the counsel for the defence were Mr. S. T. Evans, K.C., M.P., and Mr. Hill Kelly, instructed by Messrs. Hempson, solicitors to the Medical Defence Union.

The plaintiff was knocked off a bicycle and received a violent blow over the right shoulder, with lacerations and bruises of the face, wrist, hand, knee, and ankle on the right side. He was seen about half an hour later by Dr. Skyrme, who discovered a dislocation downwards of the head of the humerus, with swelling of the shoulder. By pulling on the limb with his foot in the axilla Dr. Skyrme was able to replace the dislocated head, but finding crepitus and effusion in the axilla he anticipated serious complications and expressed a wish for a second opinion. Mr. Lynn Thomas then saw the plaintiff and confirmed the serious view which Dr. Skyrme had taken. There was half an inch shortening showing that the fragments were over-riding, the pulse was small, compared with that on the opposite side and the veins of the forearm and hand were engorged.

It was not thought advisable to submit the limb to the manipulation necessary to bring the fragments into end-to-end apposition, as it was deemed dangerous to apply the usual methods necessary to retain the fragments in position; lateral apposition was obtained by bringing the elbow to the side and fixing it there. The usual large pad in the axilla was omitted, a small pad only being placed there. During the following night the plaintiff removed the small pad from the axilla, and some days later Dr. Skyrme found him lying in bed with an ambulance book in front of him and a set of bandages which, with the assistance of the nurse, he was endeavouring to arrange. On August 3rd a skiagraph was taken, and was shown and explained to the plaintiff on August 6th. His case was largely based on this and others taken subsequently; they showed displacement inwards of the upper end of the lower fragment, and in this position union took place. He put in a document signed by three medical men, who founded their opinion on the evidence of the skiagraphs, an examination of the plaintiff some months after the accident, and statements made by him. The plaintiff stated that the right arm was crippled although he admitted in cross-examination that he could use his right hand. In order to obtain medical evidence in support of his case he visited various medical men, but met with difficulties in inducing them to give evidence. At the action Mr. A. J. Pepper and Mr. W. Rose, two of the surgeons who had signed the report, and Mr. W. H. Battle gave evidence on his behalf. Mr. Pepper did not accept the evidence given by Dr. Skyrme and Mr. Lynn Thomas as to the nature of the injury; he gave it as his opinion that there had been no dislocation and no such interference with the circulation as to threaten gangrene; he thought that the deformity ought to have been reduced at the time of the accident, and failing that, that open operation should have been advised when the skiagraph displayed the extent of the displacement. Mr. Rose and Mr. Battle agreed with this evidence, and expressed the opinion that the treatment of the case had not been properly carried out.

Mr. Lynn Thomas informed the patient that the result of an *x*-ray photograph of the shoulder could not affect the line of treatment; and, in discussing the condition, he emphasized the necessity of keeping a strict look-out for further embarrassment of the circulation, and dismissed the idea of open operation.

For the defendants, Sir Thomas Smith gave evidence; he considered that the only proper judges as to what should have been done to bring the bones into apposition on the day of the accident were the medical men in attendance, and he did not think that operation at a later stage with a view to replacing the fragments would have improved matters, his experience being that such an operation usually left the patient worse. Asked whether he thought the *x* rays had modified treatment, he said "They have largely increased actions at law."

Mr. Mansell Moullin and Mr. Robert Jones, of Liverpool, also gave evidence on the same side, the former stating that an attempt to bring the fragments into apposition on the day of the accident would have been dangerous, considering the injury to the vessels, nor would he have favoured operation at a later stage, considering that what had been done had ensured the plaintiff a useful arm.

In the event the jury disagreed and were discharged. The conflict of medical evidence in the case was not based on a difference of opinion as to the proper treatment under the circumstances described by Dr. Skyrme and Mr. Lynn Thomas; the surgeons who gave evidence on behalf of the plaintiff only disputed the accuracy of the diagnosis, that is to say, the presence of dislocation and the imminence of the risk of gangrene. Mr. Pepper stated that it was extremely rare to find a fracture of the surgical neck associated with dislocation of the head, and when asked by counsel "When Dr. Skyrme states there was danger of mortification, do you say there was not?" he replied, "That is my opinion." He further said in the course of his evidence, "If the injury had been properly diagnosed, the proper treatment at the outset would have been to replace the two fragments in apposition." The case for the plaintiff, supported by the surgeons who appeared on his behalf, was therefore that there had been no dislocation and no risk of gangrene, and that the fracture of the humerus had been improperly treated.

The condition which Dr. Skyrme and Mr. Lynn Thomas described as present at the outset was serious; they stated that the successful reduction of the dislocated head of the humerus relieved the situation greatly. If this had proved impossible without operation, the laceration of the axillary vein and the large effusion would have considerably compromised success. Once the head was reduced, the condition of paramount importance remaining was the obstruction to the circulation; according to the evidence of the defendants, this was the point which most seriously engaged their attention, and it was thought necessary under the circumstances to avoid any attempt to get perfect apposition and the use of the usual retentive apparatus. There are many points of interest in the case, both from a surgical and a medico-legal and ethical point of view, but in view of the disagreement of the jury we are debarred from comment.

MEDICAL WITNESSES' FEES IN POLICE COURTS.

Victim writes that on a subpœna from the police he attended the police court to give evidence on October 5th, from 10 a.m. to 1 p.m. and from 2 p.m. to 6.30 p.m.; and again on October 11th, on a second subpœna, from 10 a.m. to 1 p.m. For these attendances he claimed, after consultation with the chief superintendent of police managing the case, a fee of £3 3s. for the first and £2 2s. for the second attendance. The County Council decline to sanction a fee of more than £1 1s. for each attendance, and our correspondent wishes to know his exact legal position in the matter.

*** Under the Home Secretary's Rules, made in 1903, there may be allowed to medical men, for attending to give professional evidence in the town or place where the witness resides or practises, not more than one guinea a day, "town" meaning municipal borough or urban dis-

trict, and "place" the area within a radius of three miles from the court-house. Should he reside more than three miles from the police court, our correspondent might be allowed 2 guineas a day; but to enforce his claim he would have to proceed against the police superintendent in the county court, which we cannot advise him to do.

COST OF PARTNERSHIP AGREEMENTS

FEMUR.—Whether, when on the sale of a practice the books are examined by an accountant, that expense is paid for by the vendor or purchaser would be a matter for arrangement between the parties. In the absence of such the party wishing for the accountant should pay for his services.

THE DOOR PLATE AGAIN.

QUANDARY says that he has taken a consulting room for ophthalmic work in a large block of chambers having nearly seven hundred rooms, tenanted by solicitors, architects, patent agents and other professional men, and he wishes to know whether there is any objection to putting Ophthalmic Surgeon or Oculist after his name. He says the list of names is not seen from the street.

*** We presume the list of names is in the lobby, but we should be sorry to express approval of a departure from the rule that medical practitioners should not intimate the speciality they practise upon their door-plates, as this constitutes a form of advertisement not sanctioned by professional usage.

THE PURCHASE OF A WEST-END PRACTICE.

O. L would like to know how many years' purchase would be a reasonable price for an established practice in the West End (centre of fashion), with a year's introduction, and also for a share in the same.

*** We are informed that the question is more complicated than it may at first appear. The value of such a practice depends not only upon the amount taken in recent years by the vendor, but also upon the ability of the purchaser to retain the patients, especially in a district (such as the "centre of fashion") where competition is severe. An amount which would be a fair sum for a strong man to pay for the purchase might be much too high a price for another man. Subject to these reservations, a fair price for the kind of practice indicated would be about a year and a-half's purchase, reckoned on the average gross receipts of the previous three years; whilst for a partnership share the price would probably be a two years' purchase of such a share of three years' gross receipts, provided that the vendor is to remain for some years a working member of the partnership.

THE MONTHLY NURSE.

DISMISSED writes a long story recounting the difficulty he had with a primipara and the insolent conduct of "the experienced monthly nurse," which ultimately led to his dismissal. We will endeavour to answer the questions he submits to us in the following terms: (1) From the facts as related there was nothing to complain of in his conduct, nor do we understand that any one has complained. (2) It would not have been in accordance with his duty to the patient to have retired from the case. (3) There is no objection to his sending a copy of this JOURNAL to the patient's husband. (4) If he can obtain satisfactory evidence that any of the parties are slandering him he should place the matter in the hands of a solicitor without delay.

MEDICAL SECRECY.

W. A. C. writes: Mrs. K. is a patient and W. A. C. receives a letter from the lawyers of his patient's (Mrs. K.) relations, asking him to make a statement regarding the condition of her health and inquiring about her mental condition, if she is able to conduct her own monetary affairs, etc. W. A. C. thinks also that the lawyers have and have had, Mrs. K. as their client. W. A. C. refused to give much information without his patient's permission; was he right in doing so?

*** Our correspondent must take care that the parties applying to him are acting in the interests of his patient. It is obvious that in the case of a lunatic or insane person it may be in her interest to waive the obligation of medical secrecy.

FOREIGN MEDICAL DEGREES.

M.D. PENN. asks: What is the law relating to foreign degrees on a plate or after one's name? Is it necessary to add the abbreviation showing where the degree is obtained? Does the fact that it was obtained before June 25th, 1886, and is registered, make any difference?

*** The law takes no notice of the use of foreign degrees in the case of a medical practitioner who has other registrable qualifications, but the fact that the degree is registered would in itself justify its use.

BUYING A PRACTICE.

SPECTATOR has sent us a long letter advising extreme caution in the buying of medical practices and partnerships. The following are some of the points to which he draws attention: (1) That any one buying through a medical agent should regard the latter in the same light as a litigant would the solicitor on the other side. (2) That buying a partnership requires greater caution than the purchase of a practice. (3) That with a six months' introduction an average man keeps about half the income, but not more; and that where the practice is a very large one, and sold by a man of "exceptional power," the loss will probably be greater.

THE RIGHT TO PRACTISE.

G. A. writes: A village has of late years gradually become a seaside resort with a season for visitors; the population has been increasing, and is now about 4000, and building is going on. There were two practitioners in the place, one being there over twenty years, and the other fourteen years. Another medical man took up his residence for his health, and three months after, seeing that there was room for another to practise, put up his plate, after calling on the two practitioners and acquainting them of the fact that he intended to practise. One acknowledges his right, and says there is room for a third; and the other after losing some of his patients, goes about saying the newcomer is an "intruder," and has no right to practise in the place, and cuts him. What action should the newcomer take in the matter?

*** Any registered practitioner has the right to practise where he pleases in the British Isles. The newcomer is acting within his right, and the former practitioners must make the best of it, but the newcomer's wisest course will be to ignore the other's proceedings, and to avoid anything that savours of retaliation. If he goes too far in his remarks, a warning letter from a solicitor would probably make him more cautious in future.

FEES PAID TO ASSISTANTS.

A CORRESPONDENT writes: If Dr. A., who is ill in bed, employs his assistant, Dr. B., at a fixed salary, and a case of accidental death occurs, and Dr. B. is summoned to give evidence at the inquest, to whom does the fee belong?

*** This question has been frequently answered in our columns: the coroner can only pay Dr. B., but it is B.'s duty to hand the whole fee over to his principal.

SUPERSESSION AND CONSULTATION.

AUT CAESAR AUT NULLUS.—X. should ascertain from his patient whether he has been superseded by Z. or not; if not, the patient should ask Z. to write to X.

OBITUARY.

FRANK BULLER, M.D.,

Professor of Ophthalmology, McGill University, Montreal.

THE death of this distinguished ophthalmic surgeon will be deeply lamented in Canada and the United States, and also in Great Britain, where he had many friends in the profession.

A member of the well-known Devonshire family (his father having emigrated to Canada in the Thirties), Dr. Buller graduated at the old Victoria College, Toronto, and immediately went to Germany, where he served under Virchow as an assistant in one of the military hospitals in Berlin during the Franco-Prussian war. Becoming interested in diseases of the eye, he worked for a time at the von Graefe clinic, and in 1872 went to London, where he was made a Clinical Assistant at Moorfields, of which hospital he subsequently became House-Surgeon. Here his accuracy, skill, and painstaking attention to the duties of the position made him very highly appreciated by the members of the staff. He took every advantage of the unusual opportunities, and rapidly became a most skilful diagnostician. One amusing incident will be recalled by older members of the staff of the hospital. A young woman was brought from Devonshire by her rector, complaining of blindness. Nothing whatever was found in the eyes, and it was evident that the blindness was of a hysterical nature. Dr. Buller went into the laboratory where Dr. Brailey was working, and took from the aquarium the largest-sized frog. Holding it by the backbone, between the thumb and first finger, he returned to the out-patient department with the frog behind his back, and, going up to the young woman, he told her to open her mouth wide. Then he asked her if she could see, but she assured him that everything was dark before her. Bringing the sprawling frog from behind his back he held it up in front of her mouth, at which she gave a loud scream, and the spell of her blindness was broken. The rector, we believe, was not a little aggrieved at what he thought was harsh treatment on the part of Dr. Buller, and reported the matter to the Committee.

He became a Member of the Royal College of Surgeons, and hearing that an ophthalmic surgeon was needed in Montreal, he settled in that city in 1876. He was made First Lecturer, and subsequently Professor of Ophthalmology, at McGill University, and Ophthalmic Surgeon to the General Hospital. When the Royal Victoria Hospital was opened he transferred his services to that institution.

He had a most distinguished career, and for years was in the enjoyment of an exceptionally large practice. He was possessed of indomitable energy and a keen interest in the scientific as well as the practical aspects of his speciality. While not a voluminous writer he has left many important contributions, the last of which was published recently in conjunction with Dr. Wood of Chicago, on methyl alcohol blindness, a most elaborate consideration of the whole question. He was much interested in improving the technique in ophthalmic practice, and several important devices are known

by his name. In the affairs of the McGill Medical Faculty, and of the Royal Victoria Hospital, he took a deep interest. He was a clear and attractive teacher, quick to grasp the essential features of a case, and fully alive to the needs of the medical student. One of the last conversations the writer had with him was on the question of improving the clinical opportunities of the students, whose work he contended was encroached upon very much by the modern pupil nurses.

He had enjoyed remarkable health until a year before his death, when he began to have dyspepsia. In the autumn anaemia came on, with all the features of the pernicious type. He is survived by his wife, a son, and three daughters.

JAMES LYNASS, M.B.R.U.I.,

Belfast.

The news of the sudden and unexpected death of Dr. James Lynass on December 5th was a shock to his many friends in North Ireland.

Some two years ago Dr. Lynass suffered from a prolonged and serious attack of peripheral neuritis, probably following influenza, and, at a later stage, complicated with deep jaundice. Eventually, however, after nearly a year's inability, he recovered completely and engaged in his professional duties with all his accustomed interest, zeal, and conscientiousness; latterly every one had rejoiced to see him looking so well. On the night of December 4th he complained suddenly of headache, and in a few minutes it was noticed that he was unable to move his right hand or to speak distinctly, and in a few more he became unconscious, and never rallied, death ensuing in six hours from what was evidently a haemorrhage into the base of the brain.

Dr. Lynass was educated at Queen's College, Belfast, and received the M.B. of the Royal University in 1892. He became Resident Medical Officer in the Belfast Union Infirmary in 1893, and in 1899 was appointed Visiting Medical Officer. In 1904 he was asked to act as Medical Officer to the Donore Children's Convalescent Home. He was building up a large and valuable practice, and had done some excellent surgical work at the infirmary, where he had charge of the surgical cases. The careful and conscientious discharge of his duties and his invariable kindness were much valued by the Board of Guardians, by whom highly appreciative references were made at their meeting on December 5th.

Much sorrow is felt amongst the profession at such a promising career being cut short at so early an age, and deep sympathy is felt with his widow and the members of his family.

CAPTAIN JAMES WADDELL, R.A.M.C.

It is with much regret that the unexpected death of Captain James Waddell has just been received in Belfast. Dr. Waddell was the son of a Presbyterian missionary in Tokio; he was educated in Belfast, and entered Queen's College. He obtained the M.B. of the Royal University in 1899. He was appointed Medical Officer of the Banbridge Infirmary, but volunteered for the South African war in 1900 as civil surgeon. He served two years at the front, receiving a medal and two clasps, and was offered a commission in the Royal Army Medical Corps, which he accepted. He was, however, laid up for two years, and it was only in last July that he was pronounced fit for service, and was ordered to South Africa. His death at Middelberg has terminated a most promising career. Dr. Waddell came of a fighting and enterprising stock which during the last two centuries has distinguished itself on many occasions in the service of the country; it also included the well-known name of Captain Mayne Reid. Captain Waddell married only last July; much sincere sympathy is felt with his young widow and with other near relatives.

J. F. STEWART, M.B. Edin., C.M.,

Nigeria.

A letter was received on November 29th by Dr. John Stewart, Belfast, Medical Officer to His Majesty's Prison, from the Colonial Office, intimating the death of his eldest son in Southern Nigeria. Dr. J. F. Stewart had studied in Belfast and Edinburgh, and, after a successful undergraduate course, he obtained the degree of M.B.Edin. in 1898, and subsequently the C.M. of the same University. He volunteered for and served in the South African war, and on its termination was offered and accepted the post of Colonial Surgeon, West Africa.

In 1903 he obtained the certificate of Tropical Medicine in London and the D.P.H. of the Dublin College of Physicians. In 1904 he was elected a Fellow of the Royal Geographical Society. He wrote home for the last time on November 4th, in excellent health and spirits, saying he was sailing for Old Calabar. The letter received from the Colonial Office intimated that a telegram had been received from the Acting High Commissioner of Southern Nigeria, which stated that Dr. Stewart had apparently lost his way, was fired on, and had taken refuge in a native compound, but was cut down. The greatest regret is felt at so promising a career being cut short in such a tragic manner, and deep sympathy is felt with the the family in their distress and grief.

It is announced that Surgeon-General Dr. von Leuthold died of influenza on December 4th in his 73rd year. He served in the war against France in 1870-71, and in 1874 was appointed Professor in the Kaiser Wilhelm's Academy of Medicine. He held the post of a Physician-in-Ordinary during the last three years of the reign of the Emperor William I., and was confirmed in his appointment by the present Emperor. At the time of his death he was Surgeon-General-in-Chief of the Prussian army. He did good service in the field of military hygiene.

The death is announced of Dr. James Rankin of Kilmarnock at the ripe age of 75. He received his education at Glasgow University and Anderson's College, and became L.F.P.S. and L.M.Glasg. as far back as 1857. Dr. Rankin carried on a large practice at Kilmarnock for a great many years, and was highly esteemed throughout the district, being a man of singularly genial temperament and manners. Among his contemporaries and the younger members of the medical profession he enjoyed considerable popularity, and was at one time President of the Ayrshire Medical Society and Club. In his practice he included a good deal of colliery work, and he was also medical referee to several assurance societies. In the work of the British Medical Association, of which he was an old member, he took a great interest, and frequently attended its meetings. To the British Medical Journal he contributed several papers dealing with cases which he met in practice; one was a paper illustrative of the dangers of untrained midwifery work, and another an account of the successful amputation of the knee in a patient aged 72 suffering from senile gangrene. In spite of his advanced age, Dr. Rankin's activities, both mental and physical, were preserved till quite recently; and, but for the shock he sustained by the loss of his wife late last summer, it seems likely that he might have continued in good health for several years. Three of Dr. Rankin's children survive him—two sons and one daughter.

Deaths in the Profession Abroad.—Among the members of the medical profession in foreign countries who have recently died are Dr. Felix Fraenkel, Surgeon to the Nuremberg Hospital and author of numerous writings on the radical operation for hernia, gastro-enterostomy in non-malignant stenosis of the pylorus, etc.; Professor Alexander Tarenezki, head of the St. Petersburg Military Medical Academy and author of a number of papers on normal and comparative anthropology, etc., aged 60; Dr. Johann Setschnow, Emeritus Professor of Physiology in the University of Moscow, aged 76; and Dr. Leopold Brühl, for many years a member of the German Imperial Health Bureau and author of numerous medico-statistical publications, aged 60; Surgeon-General Julius Port, of the Bavarian army, author of numerous writings on military hygiene and the equipment of field hospitals, aged 71; Dr. Eduard Korczynski, the well-known clinician of Cracow, aged 61; Dr. Pierre Roz, Chef de Clinique in the Department of Mental Diseases in the University of Paris, and author in collaboration with M. Launois of an important work entitled *Biological Studies of Giants*, for which in the same year the Academy of Medicine awarded the Herpin prize, the Academy of Science the Monthyon Prize, and the Anthropological Society the Broca Prize; Dr. Julio Magranez, Professor of Clinical Medicine in the University of Valencia; Dr. Ludwig Herz von Hertenried, a well-known ophthalmic surgeon of Vienna, and a former assistant of von Arlt and von Stellwag; and Dr. Baraban, Professor of Pathological Anatomy in the University of Nancy, and Deputy Mayor of that city, aged 55.

HOSPITAL AND DISPENSARY MANAGEMENT.

THE EXETER DISPENSARY.

A difficulty has suddenly arisen at the Exeter Dispensary, an institution which has existed for over eighty years, and has led to the members of the honorary medical staff tendering their resignation. About a month ago a member of the committee of management brought forward a proposal for the appointment of a paid medical officer to be in daily attendance so as, "on the one hand, to relieve the honorary medical officers of some part of their onerous duties, and, on the other, to secure speedy attention to the patients." In support of the proposed change, the statements were made to the effect that patients were often kept waiting a long time in an ill-ventilated room, and that they were hurriedly treated. As to the alleged insanitary state of the waiting-room, that is of course a condition which it is obviously the duty of the committee of management to remedy, but the medical officers take strong exception to the action of the committee in referring what they consider to be a charge of unpunctuality and neglect of duty to a subcommittee without giving them an opportunity of answering the accusation.

The charges were supported in the Subcommittee by statistics showing a want of acquaintance with the conditions under which medical work has to be carried on, and the implication of neglect was, it was felt, made in language of an offensive character.

The Subcommittee resolved to recommend improvement in the waiting-room accommodation, but adjourned the further consideration of the subject until the opinion of the medical staff had been obtained upon two questions: (1) Whether it would be practicable or advisable to appoint two or three additional honorary medical officers; (2) whether two or three evenings a week could be appointed for the attendance of male patients. The honorary medical staff, however, felt that it would be impossible to continue its connexion with the dispensary in view of the fact that the Subcommittee had not exonerated it from the inconsiderate charges made by one member. The following letter was accordingly signed by all the medical officers of the institution, with the exception of Dr. Augustus Drake, consulting physician, who, we observe, no longer resides in Exeter:

> We, the undersigned medical officers of the Exeter Dispensary, extremely regret that the proposed appointment of a paid medical officer was referred by the Committee to a Subcommittee without previously inviting the opinion of their medical officers. We resent most strongly the offensive manner in which this question has been brought forward and discussed. We have no intention of discussing the value of our services to the institution, and feel that the only course left to us is to tender our resignations as medical officers to the institution, to take effect on Thursday, December 21st, 1905.

We are glad to learn that at a meeting of the Governors, held on December 13th, the following resolution was adopted:

> That the Governors of the Exeter Dispensary regret the attacks that have been made upon the medical officers by certain members of the Committee, and desire to express their appreciation of the zeal and ability with which the medical officers have discharged their duties and their entire confidence in them; and being of opinion that the appointment of a paid medical officer is unnecessary and inexpedient, trusts that the medical officers will withdraw their resignations.

UNIVERSITIES AND COLLEGES.

UNIVERSITY OF CAMBRIDGE.

The following additional examiners have been appointed:

Third M.B.—Part I: Professor Bradbury, Professor Woodhead. Part II: Dr. J. M. Clarke, Mr. G. H. Makins, C.B., and W. D. Harmer, M.C.

The Medical School Building Syndicate has been authorized to spend £570 on cases for the Humphry Museum.

The following degrees were conferred on December 5th:

M.D.—A. I. Simey, King's; C. H. Miller, Trin.; W. R. Grove, Sid. Suss.

M.B.—S. H. Daukes, Gonv. and Cai.

UNIVERSITY OF LONDON.

MEETING OF THE SENATE.

A meeting of the Senate was held on November 22nd.

University Extension Examiners.

The name of Professor Charles S. Sherrington, F.R.S., was approved for inclusion in the panel of examiners.

King's College.

A course of lectures upon modern research in the psychology of memory, accompanied by an exhibition of apparatus, will be given by Dr. C. S. Myers, Lecturer on Experimental Psychology at King's College during the Lent term on Fridays, commencing January 12th at 5 p.m. The course, which is recognized by the University as a B.Sc. Honours Course, is free to teachers and to internal students of the University.

University of London Lodge of Freemasons.

On November 9th, Dr. Amand Routh was installed as Grand Master in succession to Mr. Benjamin Whitehead.

Lectures for Teachers in London Elementary and Secondary Schools.

A course of lectures on physiological hygiene with special reference to school hygiene will be given at the Bedford College for Women by Dr. J. S. Edkins, commencing on Saturday, January 20th, at 10 a.m. The lectures will be open without fee to all teachers in London elementary and secondary schools. Application forms to attend lectures can be obtained from the Executive Officer, L.C.C. Education Department, Victoria Embankment, W.C., and must be returned by December 16th.

UNIVERSITY COLLEGE.

The Council has conferred on Dr. G. A. Buckmaster the title of Assistant Professor of Physiology.

The Christmas vacation of the Medical Faculty begins on December 21st and terminates on January 4th, 1906.

UNIVERSITY COLLEGE, BRISTOL.

Medical Faculty.

The anatomical department has been greatly improved. The dissecting room has been enlarged, lighted from the top, and relaid with "cubeolith." New dissecting tables—copies of those in use in the University of Leeds—have been provided. The electric light has been installed in it. A new block, providing a well-lit and spacious private laboratory for the professor, a room for demonstrations, and excellent injecting and storage rooms, has been built; this, too, is lit throughout by electric light.

Bacteriology.

A new building has been erected for the teaching of bacteriology, and is rapidly approaching completion.

The following appointments have been made: J. Michell Clarke, M.A., M.D. Cantab., F.R.C.P.Lond., to be Chairman of the Medical Faculty, and Professor of Medicine, vice Dr. E. Markham Skerritt, resigned; Edward Fawcett, M.B., C.M.Edin., to be Dean of the Medical Faculty, vice Dr. E. Markham Skerritt, resigned; P. Watson Williams, M.D.Lond., to be lecturer in diseases of the nose and throat.

CONJOINT BOARD IN IRELAND.

The following candidates have been approved for the Diploma in Public Health:

H. W. Ballie, Alice M. Barry, E. A. Chartres, W. Cremin, M. H. Hannigan, R. V. Khedkar, W. F. B. Loughnan, C. J. O'L. Maguire, F. J. Moore, J. J. O'Sullivan.

TRINITY COLLEGE, DUBLIN.

The following candidates have been approved at the examination indicated:

Final Examination in Midwifery.—S. G. S. Haughton, T. H. Peyton, J. C. P. Beatty, B. G. Brooke, M. D. Ferguson, P. B. Egan, R. A. Connell, J. D. Sands, F. R. Coppinger, D. M. Corbett, H. J. Knox, J. M. Harold, E. D. Atwell, W. I. Thompson, H. J. Wright, C. H. M'Comas, G. S. Walton.

ROYAL NAVY AND ARMY MEDICAL SERVICES.

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS) LONDON COMPANIES.

On Saturday last the annual competition, limited to London companies, for the challenge shield was held at the headquarters, 81, Calthorpe Street, Gray's Inn Road. The members of the winning company (No. 4) were congratulated by the Examiner, Captain Mackenzie, on the smart manner in which they carried out their drill. After the competition the officers entertained their friends at mess, the sergeants' mess being also held in another part of the building.

PUBLIC HEALTH AND POOR-LAW MEDICAL SERVICES.

ATTENDANCE AT ISOLATION HOSPITAL.

M. H. asks what would be a reasonable charge for medical attendance on scarlet fever patients in a temporary hospital containing two and six beds respectively. The hospital opened during [illegible] The Local Government Board. The nearest was open for two weeks, the number of patients altogether being 21. The nursing arrangements were carried out by the parents of the children, the parents being also resident at the hospital, a nurse not being allowed. He had sole charge of everything, the medical officer of health visiting about two or three times during the eighteen weeks.

*** Assuming that the hospital is not more than a mile or a mile and a half from M. H.'s house, a fair charge would be 10s. 6d. for each visit,

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 2, Agar Street, Strand, W.C., London; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone, unless the contrary be stated.*

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Manager, 429, Strand, W.C., on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not at his private house.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Articulate, London.* The telegraphic address of the MANAGER of the BRITISH MEDICAL JOURNAL is *Articulate, London.*

TELEPHONE (National):— EDITOR 2631, Gerrard. GENERAL SECRETARY AND MANAGER 2630, Gerrard.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

ALIEN asks for advice in the treatment of a married nullipara, aged 25, who has not menstruated for the last three years. She suffers no discomfort, has always been healthy, and has not grown stouter.

ANSWERS.

LUCINA.—So far as we are aware, or can ascertain, it is not the custom for a medical man to make a charge for medical attendance on his own coachman, or on his coachman's wife and family.

INCOME TAX.

PALATINOID.—The partners in a profession or business may ask to be separately assessed for the purpose of claiming the statutory abatements to which they may be respectively entitled. Application for separate assessment should be made by filling up the appropriate "Declaration" printed on page 2 of the buff form of income-tax return, and the abatement can be claimed by completing page 4 of the same form. If there are two partners, each of them must make his own abatement claim, including his share of the total partnership profits, and any other income which he may possess.

ASSESSMENT OF HOUSE AND SURGERY.

JUNIUS.—No[illegible]other can be done. The meaning of the overseers' decision is that, in considering the annual value to be placed on the house, the purpose for which it is actually occupied must be taken into consideration, and it cannot be dealt with on the basis of the letting value if occupied for a different purpose. Under the Acts relating to the inhabited house duty, however, all dwelling-houses are charged on the higher scale unless they come within one of the specific classes to which the lower scale applies—that is, shops, inns, lodging-houses, or farmhouses. The charges made are therefore correct.

LETTERS, NOTES, ETC.

EXPERT MEDICAL EVIDENCE.

[illegible] Three points in relation to the above question stand out [illegible] factor: The ordinary attendant [illegible] bias in favour of his patient [illegible] then the house-surgeon, who [illegible] with the surgeon in charge the [illegible] If the case remain at home under [illegible] than if any disagreement as to terms of [illegible] should be obtained; and [illegible] the medical attendant of [illegible] The fairness of [illegible] every reasonable patient [illegible] the patient at the time [illegible] really no reason for [illegible] graph would have clinched the diagnosis. (3) A reasonable deduction of the length of incapability of work: This would be secured by attention to my first point. Subjective symptoms are very apt to lead one astray, but if an entire stranger examine the case and is unintluenced by external circumstances, I am sure that a reasonable agreement could in most cases be arrived at. The medical man in attendance does not, I am sure, wish to prejudice the case, but between a medical man and his patient there is always a sympathy, which in legal matters, when it means the payment of £ s. d., should, if possible, be eliminated. I may add that I have had experience in compensation cases as a house-[illegible]ence which exists between the different relationships between doctor and patient in these two conditions.

SIGNS OF MASTURBATION.

DR. DRINKWATER (Wrexham) writes to draw attention to three signs which [illegible] together [illegible] are pathognomonic of masturbation: (1) A very dilated pupil; (2) a cardiac impulse so exaggerated that the observer expects to feel a full bounding pulse; (3) instead of this, the pulse is small and very feeble. He adds that there are many cases of masturbation in which this triple sign does not occur, but whenever it is [illegible] there could be no doubt whatever as to the cause. He is [illegible] at present possible to [illegible] picion if they will be on the look out for cases.

THE BEST BED.

H. E. S. writes: The following story of a conversation heard at Gore Farm last week has a pathetic as well as a humorous side and throws a light on one of the many difficulties with which the authorities have to deal in their endeavour to cope with the spread of notifiable infectious illness: "Fetchin' your kid 'ome, are yer? That's like me. 'As my plice been disinfected? Yaas, but yer see I 'as it done like this: When I knows they're a-comin' to disinfect I tikes my nice 'oo bed out of the room and puts in an old one I've 'ad for years, an' I've allers kept it for this sort of job. Spoil my nice noo bed? Not 'arf."

SEVILLE AS A HEALTH RESORT.

MR. JOHN DALEBROOK, M.A.Oxon, M.R.C.S., L.R.C.P. (O'Donnell 27, Seville), writes: Seville has been "boomed" lately as a winter resort, offering especial advantages to those suffering from rheumatic and rheumatoid diseases. It is the earnest wish of both Dr Karminsky, the German doctor resident here, and myself, the English doctor here, that the profession and the public should understand that the matter has not got beyond the experimental stage. We shall be glad to give statistics as soon as we have collected sufficient cases.

THE PRELIMINARY EXAMINATION OF THE COLLEGE OF PRECEPTORS.

A. H. D. writes: The examination in Latin at the College of Preceptors in September, 1905, as a preliminary to medical study has given rise to much dissatisfaction. Men who have passed the Intermediate Arts of the London University said that it would have caused them great difficulty. Why should the College so suddenly raise the standard of Latin in their examination? The competition of provincial universities is already severely felt in London, where the entry this year has fallen off considerably. Is it wise of the College to raise so suddenly the standard in Latin and probably drive still more students to the provincial schools? Does the College think that hitherto their examination has been thought little of, and that they would show that their examination was not only equal to but more severe than the entrance examination at the provincial schools? If so, they have indeed swung the pendulum too far on the other side. London schools of medicine have great advantages. If, however, the door of entrance is blocked by the College of Preceptors, still more would-be students of medicine will go to the provincial or to the Scotch universities where degrees are obtainable.

THE GEORGE BROWN TESTIMONIAL FUND.

Dr. J. POLLOCK SIMPSON (3, Upper Montagu Street, Montagu Square, W.), Secretary and Treasurer of this fund, writes to acknowledge the following list of subscriptions:

	£	s.	d.		£	s.	d.
Dr. F. Spicer	1	1	0	Dr. David Walsh	1	1	0
Messrs. Ingram and Royle, Limited	1	1	0	Dr. Colin Campbell ...	0	10	6
Dr. Arthur Hill	1	1	0	Dr. H. W. Kiallmark ...	0	10	0
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Dr. Hugh Rennett	1	1	0	Dr. Thos. M. Watts ...	0	5	0
Dr. Danford Thomas ...	2	0	0	Mr. Cursham Corner, J.P.	0	10	6
Dr. John Brown	2	2	0	Dr. C. G. C. Scudamore ...	1	1	0
Dr. J. T. Churchill, ...	1	1	0	Dr. F. Lowe	0	10	6
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Dr. P. Mehan McDermott ...	1	1	0	Dr. Lennox Wainwright .	1	1	0
Dr. Percy Allan	1	1	0	Dr. W. G. Dickinson ...	0	10	6
Dr. Clement H. Sers... ...	1	1	0	A. K	0	2	6
				Anon	0	5	0

THE INTERNATIONAL MEDICAL CONGRESS.

MR. GEORGE JACKSON (Plymouth) writes: With regard to the above I wish to point out that, although hotel accommodation in Lisbon is limited, it has been secured for those who travel by the Royal Mail steamer *Ambrose* of the Booth line. Doubtless many would prefer staying on shore in an hotel to having to go to and from a ship. It will also be feasible to make an excursion to Seville, Granada, etc., and then return home by a subsequent boat of the same line. Further information can be obtained by applying to the Travel Bureau, 20, Cockspur Street, S.W., who have charge of all the arrangements. A large number of the best deck cabins have been reserved for members of the Congress.

DIPLOMA IN TROPICAL MEDICINE AT CAMBRIDGE.

I. M. S. should write to Dr. Nuttall, 3, Cranmer Road, Cambridge, for the rules and regulations of the examination for the diploma in Tropical Medicine of the University of Cambridge. Scientific work done abroad is considered. A course of practical laboratory work is generally required. The following books might be consulted: Sir Patrick Manson's *Tropical Diseases*, new edition (London: Cassell and Company, 1903. 10s. 6d.); Dr. Scheube's *Diseases of Warm Countries*, second edition (London: John Bale, Sons and Danielsson, 1903. 30s.); Stephens and Christopher's *Practical Study of Malaria*, second edition (London: Williams and Norgate, 1904. 12s. 6d.).

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

Eight lines and under			[illegible]
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A whole column	2	12	6
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THE FIRST

Mitchell Banks Memorial Lecture.

DELIVERED BEFORE THE UNIVERSITY OF LIVERPOOL.

BY REGINALD HARRISON, F.R.C.S.,
Surgeon, St. Peter's Hospital, London.

RETROSPECTS AND PROSPECTS RELATING TO UNIVERSITY LIFE.*

To the great sorrow of a host of friends, William Mitchell Banks, aged 61, died suddenly on August 9th, 1904.

* * * * *

To-day we are met within the University which he materially assisted to raise and to endow, to do special honour to his memory, and to stimulate, now and in the future, others to emulate those qualities of heart and head which he lavishly and unselfishly utilized for the benefit of his fellow-citizens.

The sorrow occasioned by his death was soon followed by the expression of a widespread public desire to perpetuate his memory in a manner suited to his life and work. With this object meetings were held in the Town Hall, presided over by the Lord Mayor, supported by a large number of citizens, members of the University and of the learned professions, and other friends.

A considerable subscription was rapidly raised, and after careful consideration it was resolved that the memorial should take the following form:

First, to promote an addition to the Royal Infirmary of an out-patient department. The want of this with all modern accessories has been much felt as affording the means for treating a large number of persons suffering from sudden accidents, and medical emergencies not requiring to remain in the infirmary.

In the second place, to provide for a lectureship in connexion with the University. Thus it is desired to perpetuate the memory of our friend in the double capacity he so long and worthily fulfilled in this city of surgeon and teacher.

On the invitation of the Council of the University the honour and privilege of delivering for the first time what will henceforth be known as the William Mitchell Banks Memorial Lecture has devolved upon me.

If, Sir, in referring to the progress of this University, which under your direction is taking so prominent and useful a position in the daily life of this city, I appear to attach undue importance to the influence exercised on the movement by my professional brethren in bygone days, it is not, I can assure you, for vain or empty reasons.

History will be found to furnish examples showing that as the study of medicine in the past has contributed no little to the renown of some of the older universities, both at home and abroad, these institutions have in their turn shed much lustre and distinction upon us by broadening and solidifying the foundations upon which our work is based, in common with other learned professions.

It may not be without advantage on this occasion if for a moment, before speaking of other matters, I refer to that portion of the history of the Liverpool Royal Infirmary School of Medicine, as it was called, which intervened between 1864 and 1874. I select this period from records which go back to 1834, partly for the reason that it includes the time I was Registrar of the School, as the Dean was then called, and partly because it was during that period that its struggles for existence were the keenest, and called forth exceptional exertions on the part of all those interested in its welfare, and which eventually secured its renaissance.

Within this decade records show, and some living memories recall, that it increased from 15 students in 1864 to 103 in 1874. With this advance in numbers the scholarship of its students increased proportionately, and successes at the universities were more frequently added to those for diplomas of the "college and hall," as these licensing bodies were then briefly called.

In 1867 in consequence of the gradual increase in the number of students, a joint deputation from the Medical Board of the Royal Infirmary and the School of Medicine represented to the Committee of the infirmary the desirability of granting additional land for a future extension of the school premises should this prove necessary. This was acceded to, and the School Committee was pleased to think they had taken time by the forelock, as subsequent events showed.

The removal of the asylum for lunatics—the site which the University now includes—into the country was mooted, and at that time seemed not improbable. The medical school recognized the prudence of the step they had taken, as if the asylum had been closed it was impossible to predict what might have replaced it. Had the site of the asylum been disposed of and otherwise utilized this would have strengthened the hands of those who desired to see the future college located in the neighbourhood of Princes Park, over a mile distant from the infirmary. Such a step would have been a serious detriment to the medical school. About the time I am referring to some minor extensions were made in the buildings.

In July, 1871, a Committee consisting of the chairman and registrar (Dr. Nevins and Mr. Reginald Harrison), together with Dr. Cameron, Mr. Bickersteth, Dr. Caton, and Mr. Banks, was appointed to prepare plans for the extension of the school. These were shortly afterwards adopted, and steps taken to raise £5 000 of which fund Dr. A. T. H. Waters was treasurer. Mr. John Pemberton Heywood headed the list with £1,500, and the citizens of Liverpool, including a large number of the medical profession, brought the total to £5,763. A full list of the donors will be found in the annual report of the Royal Infirmary for 1873. The extensions and alterations in the medical school were thus summarized by Dr. Caton in his introductory address to the students on October 1st, 1873:

> We have increased our space to the required degree, more than doubling the size of the school building, and putting ourselves in possession of the most complete and efficient means for teaching. New chemical and physiological laboratories and class rooms, several important additions to the anatomical department, and a large new museum have been erected and furnished. A library and reading room and a pathological room have been provided, and various minor additions made to the school. It may now fairly be said that for its size there is no school in the country more fully equipped for the work of medical teaching in all its scientific and practical departments.

There could be no doubt that at that early period the school was in a state of preparation for assuming the greater responsibilities arising out of its being constituted the medical faculty of a university or other teaching institution connected with higher education with which it might be incorporated. It had been long recognized by the Royal College of Surgeons of England as one of the medical schools at which the curriculum of professional education might be completed for its diploma of Fellow and Member. It had youth and vigour on its side, which only waited for opportunity.

Mr. Banks, as he was then, came to Liverpool in 1868 as assistant to Mr. E. R. Bickersteth, and enjoyed for some years, as I had previously, the great advantage of studying surgery in private and hospital practice under the direction of one of the most accomplished operators and experienced surgeons of his day. Both master and assistant certainly had this in common, that they were both devoted disciples of Professor Syme, and greatly favoured surgery as taught in the renowned school of Edinburgh.

After a short period of service as Demonstrator of Anatomy and Pathologist in the *post-mortem* rooms he was appointed Lecturer on Anatomy in 1870, and, after some years of duty as assistant, Surgeon to the Royal Infirmary in 1877. The method and course of Banks's life, so far as the teaching of anatomy was concerned, is worthy of notice, as it seemed to outline the subsequent direction of his more prominent work as a surgeon. He was taught anatomy by Sir William Turner, he was Prosector of Anatomy for Goodsir, he in turn taught anatomy to others as Demonstrator to Professor Allen Thompson. Here was a combination of teaching power applied to a single subject and to one personality at the very outset of his career, a coincidence which I am sure all anatomists will recognize as being almost unique.

He resigned his chair of Anatomy after holding it for nearly a quarter of a century, and was succeeded by Professor Andrew Paterson. During this long period of office he greatly enriched the anatomical museum by dissections, preparations, and drawings of inestimable value. Through the kindness of Lady Banks these gifts have been most importantly supplemented by the presentation to the University, for the department of anatomy, of Sir William's very valuable professional library. Thus they will serve to remind future generations of students of his indomitable industry and varied skill.

* Owing to the many demands on space it has been necessary to omit a few passages.

On the occasion of resigning the professorship his friends and old pupils presented him with his portrait, painted by the Hon. John Collier, as a mark of esteem for his long and valuable services in connexion with this department.

Steady progress being made in public and professional esteem, the time shortly arrived when it was felt to be impossible, having regard to the future and the rapid strides medical science was taking in our own country and all over the civilized world, further to develop the school without having means on the spot for studying collateral branches of knowledge and carrying on research.

Up to this date, and for some time afterwards, the medical school was conducted as a self-supporting institution in buildings belonging to and adjoining the Royal Infirmary. In return for this advantage the school was able to supplement the resident staff of the infirmary by a sufficient number of competent dressers and clinical clerks selected from the students for fixed duties in the wards under the direction of their own physicians and surgeons. This kind of reciprocity worked well and fairly so far as both parties were concerned.

The financial position of the school permitted of the payment of a proportion of the students' fees to the respective lecturers and demonstrators. But this remuneration was quite out of relation to the great amount of labour and time bestowed on teaching duties, and was a serious consideration, especially in its application to that most important element of a progressive medical school—namely, the junior staff.

Furthermore, it was recognized that at no distant date, having regard to the greatly extending area of work in some subjects, it would be necessary to provide teachers who should be exclusively occupied in teaching and investigating, and not engaged, as hitherto had been the case, in carrying on private practice. Anatomy, physiology, and pathology are now taught in this way in addition to chemistry.

In the meantime, the spirit of progress which was animating the medical school appeared to be having some influence on the public in promoting the cause of higher education generally. What had been done so well and successfully on a small scale by its citizens for their medical school seemed worthy of trial on a much greater one.

The completion of the new Royal Infirmary early in the Eighties was an additional source of strength to the adjacent college. In the construction of this splendid monument to the fame of its architect, the late Mr. Alfred Waterhouse, R.A., born in Liverpool in 1830, Sir William Banks, in conjunction with his old colleague, the late Dr. Alexander Davidson, took the greatest personal interest. Both of these medical representatives on the building committee of the infirmary lived to see their work accomplished and greatly appreciated by all authorities on hospital construction.

It is to be desired in the best interest of medical progress and education in Liverpool that the long existing ties between the infirmary and the Medical Faculty of the University should be drawn as close as possible without unnecessarily narrowing the avenues of approach to the highest position in the former.

A hospital physician or surgeon should be expected in the present day, amongst other accomplishments, to know how to impart knowledge to others, otherwise his work as such will only be imperfectly done. We can all recall the "impressionists" of our student days. Were they not those who eventually became, by their marvellous powers of diagnosis at the bedside, and by their logical and experienced methods of explanation, clearly expressed, the examples and idols of our lives?

I am pleased to see, in the last annual report of the Council of the University, that representatives have been appointed to confer with the Committee of the Royal Infirmary on the relation of medical chairs in the University to the clinical organization of the infirmary. This subject is a most important one, second only, in my opinion, to the change that was made in Liverpool some years ago in the matter of hospital appointments generally, when the old scramble for a majority of the votes of the subscribers was abolished, and election by a special committee substituted.

In the preface to the first calendar of University College, published in 1882, when Professor Rendall was Principal, will be found some interesting references to its early relations with the medical school. For instance, it states:

> The members of the medical profession in Liverpool had also felt in their own particular experience that there was a real need for such an institution (University College), and to them, aided by not a few sympathizers outside of the profession, is due in a very large measure the success of the efforts which resulted.

In all that tended to promote higher education, and to bring about a cordial union between the Old School and University College, Banks, in conjunction with his colleagues, took the deepest and most active interest, and he lived to see his hopes and dreams realized.

It will be fitting here to briefly notice the financial support this College and University have received during the quarter of a century which has wellnigh elapsed since the former obtained its charter of incorporation on October 18th, 1881. The benefactions commence with the founding and endowing of seven professorships in 1881; this was followed by a gift of £30,000 for a site for a college by the Corporation of Liverpool. The total sum for sites and buildings given by various persons during the period mentioned amounts to £305,984 18s. 11d.

Twenty-six chairs in the various Faculties of Arts, Science, Engineering, Law, and Medicine, have been endowed with £10,000 apiece, with the exception of one chair which is not quite completed, at a total cost of £249,361 3s. 11d. For the endowment of laboratories for physiology, pathology, and chemistry, £10,825 3s. 11d. For a library fund, £6,000. For four lectureships on different subjects, £12,664 19s. 4d. These, together with some other donations, make a total sum given for College and University purposes during the last quarter of a century, or rather less, of £695,510 8s. 11d.

In addition, there are endowments for fellowships and scholarships—excluding City Council scholarships now available for medical students—which yield nearly £1,300 a year for the benefit of medical science and improvement. It will be interesting when the time comes to compare this with what the next quarter of a century provides and the developments that take place to correspond, for no university can now afford to stand still.

Though these are records for any university city to be proud of, we hardly grasp, I think, what is being done for medical and surgical research alone in America. Addressing the members of the International Congress of the Arts and Sciences at St. Louis last year, my friend, Dr. Frederick S. Dennis, a leader in surgery in New York, and Professor there of Surgery in Cornell University, stated:

> A century ago our country could boast of only two small medical schools, while now there are 154 medical schools affording instruction to 26,821 students last year, and nearly all of these medical schools are an integral part of some great university; 418,000,000 dols. scarcely represents the value of the property belonging to medical schools, and 8,000,000 dols. their endowment. It is a fact worthy of honourable mention that the wealthy men of the present century have contributed most liberally to the science of medicine, as is obvious from a record of different gifts and endowments amounting to many millions, especially during the past few years.

I have incidentally referred in respect to the teaching of anatomy that Sir William Banks's aptitude and knowledge of this subject determined in a measure the line of surgery he so greatly excelled in.

It was a matter of common observation by those of us who at the time I am alluding to were connected with the great hospitals of this city, that cancer and hernia were common complaints in this part. My own experience at the Royal Infirmary for over twenty years' duration led me to believe that the proportion of both these affections was in excess of other districts. The places and hamlets situated on the banks of the Mersey, for instance, furnished a large number of cancer cases, whilst the shipping industry connected with the extensive range of docks provided a large proportion of serious cases of hernia in all forms. To improving the operations for cancer and for the radical cure of hernia, and adding to our resources in treatment, Banks devoted a great mount of attention with satisfactory results.

His first paper on malignant disease was read to the Lancashire and Cheshire Branch of the British Medical Association in 1877. His energies, however, in investigating this disease and dealing with it operatively on more reasonable lines than had hitherto been generally applied, and coincidently with what I saw his friend, the younger Gross, practising in Philadelphia, did not stop here. The next paper was read to the Worcester meeting of the Association in 1882, when he narrated the results of forty-two cases; and the next to the Harveian Society, in 1887, when he presented eighty-two cases. He finally gave the Lettsomian Lectures at the Medical Society of London, on cancer, in 1900. I understand that almost up to the day of his death his investigations were

continued and being prepared for publication, and it is hoped they will shortly be forthcoming.

In looking over the constitution of this modern university, I was pleased to see that, though providing as it should for the study of Greek particles, conic sections, and various forms of mathematical calculi with which I regret to say I am unacquainted, it also emphatically states that "it shall promote research."

I note in looking over the charters and statutes of several universities, some old and others new, research is made permissive and not like Liverpool, obligatory. This being so, it points to the desirability of the University being well provided in respect to its several Faculties with those valuable supplementary means for following up investigations in the form of scholarships and exhibitions. Investigators and explorers are born and not made, and when discovered should be encouraged.

Liverpool, at the present moment, may be said to occupy a prominent place in the van of research. I am limiting my observations to those forms of inquiry about which I am supposed to know something, as I have no intention of going outside that Faculty of the University which chiefly concerns me.

By the munificence of Mr. T. Sutton Timmis a sum of £10,000 has been given for conducting, through a committee representing the Royal Infirmary and the University, research in reference to cancer. I have already indicated a reason why such a form of inquiry may be regarded as appropriate to a city whose hospitals receive so large a number of cases, wherever their source may be.

Numerous as the conquests of medicine and surgery have become under the benign influences of anaesthetics and antiseptics, cancer still awaits the issue of perhaps long and laborious research and time tests, both in the sick wards and in the laboratory. Success may even be at our doors; on the other hand, it may be indefinitely postponed. In the meantime, the duty of the community is clear: to see that no stone is left unturned or money spared until the profession can, as a body, proclaim, with no uncertain sound, that "research has explained cancer."

Again, research in Liverpool has been, and is being, applied with great and increasing advantage to those conditions of ill-health known as tropical diseases. In the promotion of this object the community is largely indebted to Sir Alfred Jones for the vigour and enterprise he has brought to bear upon this movement and the generous aid he has given it. No one can be more alive to the necessity for the objects aimed at by the Liverpool School of Tropical Medicine than myself. For twenty-five years, which almost represented the period of my residential life in Liverpool, as medical officer for quarantine for this port, I spent innumerable days and nights on the Mersey, often in open boats, in pursuit of the yellow fever and the plague.

Though during this long experience I rarely met with these terrible disorders, I frequently encountered others in the way of typhus, typhoid, African and jungle fevers, dysentery, cholera, beri-beri, and the like, which, when discovered, and not coming under the limitations of the old Quarantine Acts, I carefully handed over, as instructed, to my friend, Dr. Hope, or one of his predecessors. In this way a large amount of infectious and noxious diseases was prevented entering Liverpool, unless under official supervision, with but little interruption to the passenger traffic.

The old quarantine laws were terrors in their way, and have been replaced by more certain methods of dealing with importations of disease at our large seaports.

I once got into serious trouble about a ship from the Brazils I had quarantined in the Sloyne, on the suspicion of yellow fever. The trouble arose not because I had detained her, but for the reason that I was not able, for the life of me, at a moment's notice, to prescribe the legal process by which she was to be liberated. This incident led to a better method of dealing with vessels under suspicion.

About the time I am referring to the condition of vessels arriving from the West Coast of Africa especially was often very serious, by reason of the entire crew being struck down with various forms of fever, commencing shortly after starting, and not abating until a colder region had been reached. Ships with many lives and much valuable property were often lost in this way.

Research, relative to some of the most terrible scourges to which certain places and the marine industry are liable, has been already followed by most gratifying results.

In the course of numerous visits to the United States I have seen something of their universities and hospitals. I refer amongst the former to Columbia, Cornell, and Harvard. It has always struck me on these occasions that on the other side of the Atlantic these institutions adapt themselves more readily to existing requirements than ours. And more than this they anticipate what later on will be pressed upon them.

How far a university life, and I mean a specialized life, which ends at or about the age of puberty, may be made to take the place of the old fashioned commercial routine which commenced with "polishing up the handle of the big front door," and often ended in the millionaire, is a problem I cannot attempt to discuss. It must be left for experience to determine. It seems, however, that it is being tried on a large scale by our transatlantic neighbours, who, I have no doubt, have good reasons for so doing.

A university seems to me to resemble a habitable house in many respects. There is the building, and in addition to this the fixtures, as a landlord would call them, and also the furniture.

To one who has known Liverpool intimately for nearly half a century, for it was in 1859 that I received my first appointment here, it is a great pleasure to look back for a moment at the past—to call to recollection matters which are historical and also have a professional interest attached to them.

For instance, to note the rise and development of a great educational movement, which has culminated in the erection and endowment of a vigorous modern University.

To witness the founding of a tropical school of medicine under Royal auspices.

To bear testimony to the marvellous improvement that has taken place under able leadership in the sanitary condition and death-rate of a city which, at one time in my recollection, stood very low on the lists.

To recognize that the three great hospitals of the city, in two of which I served, have been swept away and replaced by modern buildings fully equipped medically up to the line of to day; and lastly,

To find the best provision for the care of those who fall sick or wounded "by the wayside," by means of an amoulance organization for the whole city, which also serves as probably the best model for other places.

Permit me, in conclusion, for a few moments to occupy your time by some personal recollections, which may be of service to those who may follow me.

As years pass over our heads the number of those who knew Sir William Banks as a colleague in the full vigour of his life and work will sensibly—nay, rapidly—diminish. Others will address you in succession from this place with, perhaps, little or no knowledge of his personality, but in more eloquent and appropriate terms than I can lay claim to.

It has been said, with truth, that "manners maketh the man." In applying this to our deceased friend, I do not say that he had pre-eminently what has been referred to humorously as "good bedside manners."

Though kind and sympathetic to a degree to all who were ill, Banks laid no claim to this distinction; in fact, he often expressed his admiration to me of an old Liverpool doctor, who, in the days of our youth, occasionally rather shocked society by his Abernethian ways. I need hardly say I refer to the late Mr. James Long, for whom the parents and grandparents of many present here to-day had a most affectionate and appreciative regard.

As a speaker, whether in debate at the Council of the College of Surgeons, where for some years we constantly met, or at the General Medical Council, where I used occasionally to hear him from the gallery, Banks was fluent, honest and convincing.

As an after-dinner speaker he was excellent, and could hardly be surpassed. He possessed a fund of amusement and wit in his well-selected stories, which were told crisply and without sting. His power and method of speech would have commanded success at the Bar, and I sincerely hope and believe that this feature will descend from father to son.

Some of his public utterances not only showed his versatility, but were charming examples of composition, expressed in good plain English, with much pathos and sympathy. He not infrequently treated a "full dress" medical audience, somewhat unexpectedly, to a discourse singularly free from what is known as "shop." Witness his address to the students of the Yorkshire College at Leeds in 1892, entitled the Gentle Doctor, and his oration before the Medical Society of London in the following year. An excursion with some friends, and known to them as A Voyage of the Argonauts, is

a good sample of how descriptive and entertaining he could write in this line.

Profound scholarship, gifted attainments in scientific and professional pursuits, are often marred in their application to our daily life and wants by personal characteristics which repel rather than attract.

Banks, whether at work or at leisure, was a *persona grata*. He drew persons to him by an attraction of his own. Nor did this feature always take the form of the "*facilis in modo*"; there was plenty of the "*fortiter in re*" in reserve, if necessary, for emergencies, or when applied for the advantage of those opinions or persons whose cause he befriended. Like other persons, he was not always right, and then it was difficult to convince him he was wrong. But whether right or wrong he always respected an honest resister.

He had the courage of his convictions, and as age advanced this characteristic was not infrequently publicly avowed. "Were I a younger man," he remarked, in a professional address, "I would not dare to say this."

Of his many distinctions, the one which appeared to give him the greatest satisfaction and pleasure was the LL.D. of his old university—a pleasure which was only equalled by that of his numerous friends when our late most beloved and gracious Queen Victoria conferred upon him the well-deserved honour of knighthood. He was the first member of the medical profession in Liverpool to receive this distinction.

Permit me to take this opportunity to offer my hearty congratulations to the President of the Liverpool Medical Institution (Sir James Barr) on being the second recipient of this honour.

I will bring my address to a close in the appropriate words of the first calendar as then applied to what is now the University of Liverpool. May it continue to prove "a centre of culture, sound learning, and good fellowship."

An Address

ON

MODERN FASHIONS IN SURGERY.

Delivered before the Cardiff Medical Society.

By J. LYNN THOMAS, C.B., F.R.C.S.Eng.,

President of the Society; Surgeon, Cardiff Infirmary.

After thanking the Society for having done him the honour of electing him to the office of President, Mr. Lynn Thomas continued as follows: In these days of rapid progress it is necessary from time to time to slow the pace and to follow Renan's advice "to sit down for a while to rest by the wayside of the Via Sacra, in order to reflect on the vanity of received opinions." Since Lord Lister appeared as the apostle of the true gospel of modern surgery, his disciples all over the world have from time to time modified, altered, or completely changed the ritual which he introduced in the treatment of wounds. My reasons for choosing this subject are that I am the first who confined himself to the practice of surgery in Wales, and was appointed one of the Assistant Surgeons to our infirmary, when surgery was separated from medicine at that institution some ten and a half years ago. It is interesting to recall the conditions which existed at our hospital regarding the status of the surgeon anterior to 1895. In the first place, a medical man was appointed by the governors to the post, which went under the name of "out patient medical officer," and his duties had no limitations as far as the out-patients were concerned, except that he did not treat diseases of the eye, but he hardly ever had anything to do with in-patients until a vacancy took place through death or resignation of a physician, and on that day he suddenly found himself raised to the post of "surgeon," with charge of beds, and was thus made suddenly responsible for major operations without having previously had any facilities or opportunities of doing such work! At the same time as the out-patient medical officer was made "full surgeon" the senior surgeon resigned his post in order to be promoted to that of "physician," the highest dignity the hospital authorities could confer upon him.

The above regulations appear extremely absurd to many of us, but it is a notable example of the conservatism of human nature in hanging on to old traditions respecting the status of members within our ranks who were formerly known to the laity as apothecaries, surgeon-apothecaries, barber-surgeons, surgeons, and physicians. We feel thankful that the funeral rites of this mediaeval custom have been duly performed at the Infirmary, but we must be careful in practice to remember that a sound knowledge of medicine is still absolutely essential to the art of good surgery. Before dealing with modern surgical fashions in civilized countries I would draw your attention for a moment to the present condition of surgery in Tibet. It is only just a little over a year ago that the veil was torn off the face of that forbidden land, and thanks to the graphic account in the fascinating book *Lhasa and its Mysteries*, by Dr. Waddell, of the Indian Medical Service, we gather that the Temple of Medicine in Lhasa is a very imposing edifice built on the top of a high and steep rocky spur, the "Iron Hill," in close proximity to and connected by a ridge to another crag, on which rests the holy palace of the Dalai Lama, the pontiff of the Tibetan priests. Alas! we are disappointed to find that we cannot with advantage take a hint from Tibetan surgery, for the Lama physicians belong to a class of wise men or "Gwyddoniaid," resembling those who dominated the healing art in Wales about 3,000 years ago, as we have it on the authority of *Meddygon Myddvai* (published by the Welsh MSS. Society in 1861) that medicine was practised by the "Ancient Cymry before they became possessed of cities and a sovereignty which is generally dated about a thousand years anterior to the Christian era."

The Tibetan surgical instruments are practically confined to the actual cautery, bleeding lancet, and a cupping horn, and "its priests are seldom paid more than five pence a day for reading litanies and offering sacrifice to the devils of disease."

I shall not pursue this very interesting topic any further than to remark that it is surprising to find that the great men of our profession in this country not so long ago believed that a thorough knowledge of astrology and astronomy was essential to guide them through the perplexing mysteries of their calling; and to-day perhaps it is startling news to many a young surgeon to read that a well-known barber-surgeon made a thousand a year by phlebotomy only a little over a century ago! Notwithstanding the fact that the modern physician no longer carries his cane and that the modern surgeon has thrown off for ever the clothes of the mystic and the barber, still we find that fashions in surgery have undergone extraordinary changes since the time I became a student some twenty-five years ago. At that time the surgeon who was engaged at an operation was dressed in mackintosh sheeting that would withstand the purifying action of some strong antiseptic lotion, and was extremely proud of his carefully-selected sponges, and very careful in deputing some reliable person to take charge of the carbolic spray. What a change! To-day he is dressed in white garments, like the Essenes or Therapeutes of old, and never hears the mystic hiss of the carbolic spray, nor revels in a hunt for splendid sponges in the latest consignment from abroad. I have here a sketch (Fig. 2), which is intended to illustrate some of the points which characterize the surgeon at the beginning of the twentieth century. Perhaps before the end of this century a future President of this Society will be able to entertain his listeners with this sketch as evidence of the extravagances of fashion of the operating surgeon of the present day. However, I must not anticipate what may never take place, but must confine myself to the views which now guide us in our practice. The surgeon of the latter part of the nineteenth century took part in a peaceful revolution against the prevailing government of antiseptics, and substituted in its place a republic of asepsis which does not possess any elements that might contaminate or poison the constitution of patient and operator. On the right side of the sketch is shown a useful method by which the surgeon takes off his vest and shirt sleeves, instead of turning them up; it serves the double purpose of preventing a possible infection of the patient and of adding to the comfort and cleanliness of the operator.

Overall.

The sterilized overall is made long enough to prevent the surgeon's hands from coming in contact with his nether garments, which are under suspicion of being surgically unclean. The sleeves are long enough to cover the forearm down to the wrist. The overall possesses a bib with which the surgeon himself can cover his mouth and nostrils by slipping the tapes round the ears and tying them under the chin. I saw it in use by Dr. Le Dentu when I was on the *l'entente médicale* visit to Paris last summer. I consider it a more suitable appliance for protecting the mouth than the operating cap of the Nansen type, because it can be easily put on or taken off without interfering with the cap. The bib is

necessary for a surgeon who has a long, flowing beard, or has a cold, and also to those who cannot keep their mouths closed during operations, or who perspire freely.

Cap.

A sterilized cap is essential for surgeons who wear long hair, or are short-sighted, or who go in for motoring, for all these conditions contribute to the accumulation of and to the disturbance of organisms from hair during operations. When two surgeons, after a motor ride, brush their hairy heads against each other over an operation, one can see with the naked eye a fall of suspicious dust. The loop on the cap is made for the purpose of allowing the surgeon to shift or take off his cap without infecting his hand; the inside of the cap in that situation has an extra lining to give it additional safety.



Fig. 1.

Gloves.

A surgeon, in order to be *de rigueur* should wear gloves. One must never forget that the surface and the superficial layers of human skin are looked upon as the high veldt for sheltering organisms, and that the surgeon's hands enjoy a most evil reputation for introducing these undesirable aliens into harmless wounds, hence various methods have been introduced in order to remove, kill, or imprison them before and during operations. It is not necessary for me to recall the many antiseptics which have enjoyed the passing reputation of a *Mithridaticum* or *Theriaca* as reliable antidotes. The introduction of gloves has done away with the necessity of painting the hands and forearms mahogany colour and of bleaching them with nascent sulphurous acid. The simplification of the ritual of surgery should always be kept in view and the rational washing of hands in falling water together with the policy of protection are steps in the direction of fulfilling the principle that prevention is the best cure. The fashion of wearing particular types of gloves varies with the mental attitude of the operator; some maintain that impermeable rubber gloves should be worn on all occasions, whilst others are convinced by long experience that rubber gloves need be used only in septic or dirty cases, and that permeable thread gloves are sufficient protection against a successful invasion by organisms of the field of operation in aseptic or clean cases. I published a paper in 1899 advocating the latter fashion in wearing of gloves; so far I have had no reason to change those views because the results of this operative method are satisfactory as far as the disappearance of septic complications are concerned. The use of thread gloves on the hands of a surgeon who does not take the strictest precautions against infecting his own fingers would be dangerous, because a highly-infected forefinger would be like a snake in the grass inside a permeable glove. A surgeon should always protect himself against personal contamination during the examination of patients. Cavities like the rectum should never be examined without a suitable rubber protector on the fingers, the ordinary fingerstalls sold by instrument makers are not suitable because they fit too tightly, are too short, and interfere with the sense of touch, they should be made longer and more roomy or baggy, so that one or two fingers can be moved easily within them without any hindrance. I need hardly state

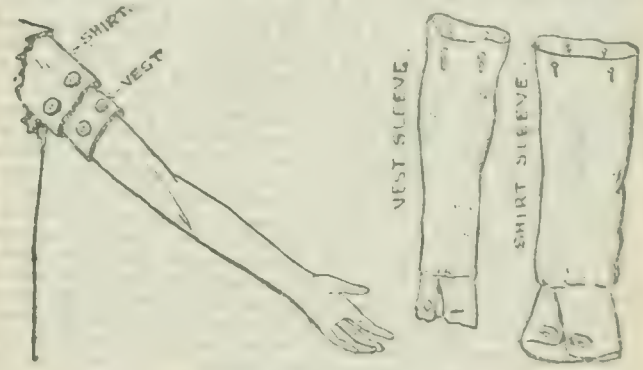


Fig. 2.

that a surgeon who pushes his fingers into suppurating cavities, or palpates an erysipelatous surface without any intervening protective medium, should invariably wear rubber gloves at operations. He who constantly adopts necessary precautions which his own habits demands gets the best results in his operative results. Whenever a clean operation wound suppurates the surgeon should put his house in order. Dr. Schildberg has very kindly on several occasions made for me bacteriological investigations of thread gloves used in aseptic operations, and in most cases the result was satisfactory from the bacteriological standpoint, but on some occasions a stray staphylococcus grew from a fragment of the glove, but it made no difference from the practical standpoint, as primary union of the wound took place. A few staphylococci may apparently only cause the rapid concentration of microphages of sufficient force to overwhelm the invaders; perhaps it would require a whole army corps in the field of operation before dangerous infection takes place. The free ends of finger nails, which are looked upon as adornments in civilized countries, have come in for the modern surgeon's special denunciation and condemnation, but the appearance of nails cut to the quick with discoloured "back friends" is a positive reflection upon his aesthetic sense. The wearing of gloves during operations allows the surgeon to keep his hands in such a condition that it would require more than a veritable Zadig to guess his calling from an examination of the tell-tales of manual occupations.

Modern Operation Theatres and Appliances.

The first time I saw scientific aseptic surgery carried out was at the clinic of the late Professor Axel Iversen at Copenhagen in 1892. The theatre had good light, rounded corners, and no ledges for the deposition of dust. Boiling and boiled water were used for sterilization before and during operation. The roof, walls, and floor of the room were washed down with a hose after each operation. The theatre was heated by means of a large polished metal cylinder, the interior of

which was connected with the heating apparatus beneath the floor. Every person who entered the operating theatre had to take off his coat and wear a sterilized one, and also had to wear big rubber boots in order to complete the precaution against the introduction of stray pathogenic organisms into the operating room. Lastly, we were incarcerated for a few minutes between two doors in the wall of the operation theatre whilst a current of sterilized air was passed over us. By taking all the above precautions Professor Iversen was able to prove that the gospel of surgical cleanliness could be observed without the use of antiseptics in clean operations. Modern operating theatres in our public hospitals are built in such an expensive fashion that it is not possible for the middle and upper classes to get their operations done under such palatial surroundings. A hundred and fifty years ago it was only the well-to-do who could command the services of a medical man; to-day it is only the poor and the working man who gets the best places in which modern operations can be performed according to present-day ideals. The fallacy of these high ideals is shown by the result of operations in private houses.

Some years ago, whilst gleaning information and hints from hospitals at home and abroad before the erection of our new aseptic operation room in Cardiff, I was much impressed with the extraordinary varieties of basins and taps that were in use for surgeons to wash their hands in. It would be waste of time to describe the devices which I saw in use for preventing the surgeon soiling his hands after washing them in water. In one place a nurse was told off to turn on and off the hot and cold water taps, in other places three levers were worked by foot in order to avoid being shadowed by a nurse, but yet one could not get tepid running or falling water to wash in, and had to be content with stagnant water in a basin. Some taps had handles which were "manipulated" by the leg, or the knee, or the elbow, and one had two separate crutch-shaped levers for the hot and the cold supply, and were controlled by the front of the biceps region being placed in the crutch! In the bewilderment and complicity of the above appliances for washing we fell back upon the shampooing taps of our ancient associates—the barbers—and had them fitted over a basin at such a distance that one can wash his hands and forearms in running or falling water at any temperature desired. The single handle of the shampooing tap is turned off by the surgeon himself by using the sterilized ebonite shield which is kept in 1/20 carbolic lotion. Washing in falling water is so important and still so rarely seen in practice that I think our simple mechanical device is worthy of record. (Fig. 3).

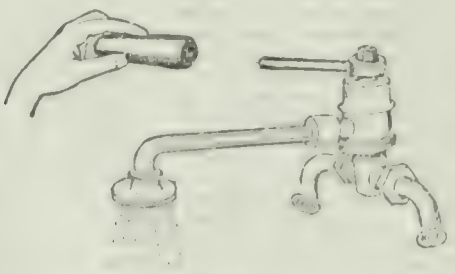


Fig. 3.

There are other fashions in the manufacture of surgical appliances which are of little importance were it not for the inconvenience and the unnecessary expense that we are subjected to by their adoption. When I started practice every instrument was made with a "take off" joint, a fixed joint being considered unorthodox and "old-fashioned" like the old unwashed operating coat, but it was not long before one experienced that one half of the instrument got astray during critical moments, and the blessings of the surgeon took the practical form of going back to the ancient screw joints that he could depend upon.

Lastly, I will just refer to the superstition that grew up a few years ago against wood being used as material for operating tables. Every operation theatre that had a wooden table in it was at once a fitting theme for the jeers, jibes, and sneers of the up-to-date surgeon whose new instincts demanded glass, iron, steel or some new alloy that theoretically lent itself to the chase and death of the ubiquitous germ! Still plain wooden tables answer the purpose as well, if not better, than those of the more expensive fashionable forms, because in this country, and any other country that I know of, the patient's naked back and the table's top are never in immediate contact and are not sterilized for a condition which patients would not tolerate for a single moment. Wood is a non-conductor and is relatively comfortable for contact with the naked skin, whilst metal is a good conductor, is difficult to keep clean and warm, and soon chills those who are unfortunate enough to have to lie on it; the myth of their "superior asepticity" over wood is upset by the very practical fact that during operations some warm non-conducting porous material is placed under patients. Surgeons who disbelieve in the efficacy of thread gloves often depend upon the efficiency of sterilized towels being placed under or over garments worn by patients; seemingly they are not frightened by the possible stealthy creeping of a wandering microbe through towels from tables or parts of the body other than the hands.

I believe that the present desire of surgeons is towards the simplification of the ritual of the gospel of cleanliness and to the adoption of sensible methods which can be observed in places other than the modern palatial halls of our public hospitals.

REMARKS ON THE VALUE OF THE SIGMOIDOSCOPE IN THE DIAGNOSIS BETWEEN PRIMARY AND SECONDARY COLITIS.

By P. LOCKHART MUMMERY, B.C., F.R.C.S.,
Surgeon, King Edward VII's Hospital; Assistant Surgeon, St. Mark's Hospital for Diseases of the Rectum, etc.

At the present time, when the subject of colitis is receiving considerable attention from both surgeons and physicians, it is not, I think, out of place to draw attention to some of the more important points in the diagnosis of this condition. It has often seemed to me that colitis is not infrequently labelled as a disease in cases where it is merely a symptom. Thus, cases where there is chronic diarrhœa or frequent discharge of mucus with the faeces, and even cases where there is little more than some undue looseness of the stools, are often called colitis, and treated for that condition without any further evidence than that afforded by the symptoms, and perhaps a digital examination of the rectum.

In these days when we are beginning to recognize the paramount importance of diagnosing and treating disease in its earliest stages, it is most necessary that in all cases where such symptoms are present a most careful examination should be made before treating the case as one of colitis.

In addition to the information obtained from an examination of the stools, which should, whenever possible, be supplemented by a report on the chemical and microscopical characters, the diagnosis rests upon (1) an examination of the abdomen, (2) an examination of the bowel.

Examination of the Abdomen.

This may result in the detection of some abdominal condition to which the colitis is secondary, or at least accessory. Such conditions, for instance, as a chronically inflamed or thickened appendix, which though it may not have given rise to a definite attack of appendicitis, may yet be the cause of the colitis. Or a freely movable kidney may be discovered which, by pressing or dragging upon the colon, may be the chief factor in the production of the colitis. The hard rope-like feeling of the colon, as felt through the abdominal wall in some cases of colitis, is also an important diagnostic point in some cases, as it indicates an unduly irritative condition of that portion of the bowel.

The Local Examination of the Bowel.

A careful digital or bimanual examination of the rectum should always be made in order to exclude any rectal cause for the symptoms, as there are several conditions of the rectum which may somewhat closely simulate colitis in symptomatology.

Case 1.

A gentleman, aged about 50, had for some time suffered from some looseness of the bowels and a feeling of discomfort in the anus. He said that he had a feeling as if the bowel had not been emptied, and a constant feeling of weight in the part. He was thought to be suffering from cancer of the bowel. A careful examination, however, excluded the presence of any growth in the rectum or pelvic colon, and led to the discovery of a much hypertrophied anal papilla, which was undoubtedly the cause of his symptoms.

It is now possible by means of the electric sigmoidoscope to examine the whole of the rectum and the greater part of

the pelvic colon directly; most valuable information can thus often be obtained. I believe that a careful examination of the pelvic colon with the sigmoidoscope ought always to be made in cases in which symptoms of colitis exist. Serious errors in diagnosis can thus often be avoided and definite information can be obtained on which a rational line of treatment may be based. Those cases in which the symptoms of colitis are due to a tumour (simple or malignant) situated high up in the bowel can by such an examination be separated from those in which the cause of the colitis is different, and a growth perhaps detected at a date when its removal is still possible. The two following cases are good examples of this:

CASE II.

A woman, age 42, under my care at St. Mark's Hospital, had suffered from diarrhoea for about three months before I saw her. The bowels acted several times a day and the stools consisted largely of slimy mucus. She passed considerable quantities of mucus at times. During the last month the bowels acted six or seven times in the twenty-four hours. At no time had she ever seen any blood in the stools. When I first saw her she had been under treatment at another hospital for colitis for six weeks. A careful digital examination of the rectum revealed nothing abnormal. I was inclined to believe that the case was one of true mucous colitis, especially as she had never passed any blood, and had a history of attacks of pain in the abdomen, followed by diarrhoea and the passage of much slimy mucus. I have recently made it a rule, however, always to examine such cases with the sigmoidoscope as a routine. And in this case the examination revealed the presence of a malignant stricture situated about 7 in. or 8 in. from the anus.

A careful examination seemed to indicate that the growth could be successfully excised from the abdomen. At the operation, however, I found on opening the abdomen that there were several secondary malignant glands up the side of the aorta, and I was therefore obliged to abandon the excision and perform colotomy.

CASE III.

The patient was a man, aged 63, who was under my care at St. Mark's Hospital in November, 1904. Eighteen months before I saw him he had an attack of diarrhoea, accompanied with considerable pain and tenesmus. This lasted for about six weeks, and then stopped. There was no blood in the stools. Two other similar attacks of pain and diarrhoea had occurred between this and the time when I first saw him. During the last attack he noticed a little blood with the stools on one or two occasions. On examining him with the sigmoidoscope, I found a papilloma about the size of a five-shilling piece situated on the posterior wall of the rectum between the middle and upper Houston's valves. I subsequently removed the growth, after excising the coccyx, and restored the rectal wall. The patient made a good recovery, and has remained well since.

A case is recorded by Dr. Pye-Smith in the *Transactions* of the Pathological Society (vol. xlvii) which is very similar to my first case:

The patient was a woman, aged 50, in Guy's Hospital. She had been suffering for over a year from constipation with distension of the abdomen and occasional attacks of diarrhoea. During the whole time she had been passing, at frequent intervals, large soft gelatinous shreds, and more or less complete mucous casts, per anum. She had frequent griping pains, and there was visible peristalsis of the intestines. A microscopical examination of the casts showed that they consisted of mucin. The patient died, and at the *post-mortem* examination it was discovered that she had a carcinomatous stricture at the commencement of the sigmoid flexure. The colon both above and below the stricture was greatly thickened and distended. After removing the adherent mucus, the mucous membrane of the colon was found to be normal except at the site of stricture.

Dr. Pye-Smith mentioned two other similar cases, one of Dr. Goodhart's and one of Mr. Hutchinson's.

These cases show, I think, that typical symptoms of mucous colitis may exist with a malignant growth of the bowel and that without a careful local examination it is often impossible to distinguish between a case of simple mucous colitis and one of malignant disease of the bowel.

In other cases, again, an examination with the sigmoidoscope reveals the presence of ulceration and further often enables us to ascertain the position and limitations of the ulcerated area and thus to form a definite opinion with regard to the best method of treating it. In fact the examination with the sigmoidoscope replaces a more or less guess-work method of making a diagnosis in such cases by an exact observation.

CASE IV.

The patient was a young man, a patient of Dr. Bruce Porter, aged 27. Three years ago, while in South Africa, he had a bad attack of diarrhoea (said not to be dysentery), for which he was treated in hospital. His stools at that time consisted of blood and slime. He got slightly better, but more or less ever since he has suffered from diarrhoea and has passed blood and slime. On returning to England he got much worse, and when I saw him with Dr Bruce Porter he was much emaciated, was suffering from more or less continuous diarrhoea, and was passing much blood and mucus. An examination with the sigmoidoscope revealed the presence of numerous shallow ulcers with a granular base extending throughout the whole of the sigmoid flexure. The appearance of the ulcers was not tuberculous. A careful examination of the discharges showed the presence of pus, but there were no tubercle bacilli or bilharzia parasites. Considerable improvement followed a carefully-regulated diet and irrigation of the colon.

In cases of real mucous colitis an examination with the sigmoidoscope is sometimes the only method by which we can be certain that we are dealing with that condition and not with a new growth in the pelvic colon. This is well shown in Case v. The similarity between the symptoms in this case and in Case I, where the symptoms were due to cancer, show how impossible it is to make a correct diagnosis without a direct examination of the parts such as can be obtained with the sigmoidoscope.

CASE V.

The patient, a man aged 35, was employed as a chef. For about three months he had suffered from diarrhoea and constipation. The bowels often acted six or more times in the day, and the stools consisted largely of slimy mucus. He had never passed any blood. The attacks of diarrhoea were generally initiated by colicky pains in the abdomen. There were often periods of constipation between the attacks. A careful examination was made of the abdomen, and the pelvic colon and rectum were also examined with the sigmoidoscope. Beyond some slight congestion of the mucous membrane, however, nothing abnormal was found. I came to the conclusion that the case was one of mucous colitis, and he was placed upon von Noorden's diet. The symptoms disappeared almost at once, and he remained free from his trouble until some months later, when he got a recurrence, as the result of dietary indiscretions. A return to the diet, however, was again effectual in getting rid of his symptoms.

In the present position of our knowledge of the numerous conditions of the large bowel which are often grouped under the name of colitis, it does not seem possible, or even desirable, to attempt to classify these various conditions too exactly. But I think it is most important that the greatest care should be taken to exclude carefully the presence of any definite lesion of the bowel before attempting to treat a patient with symptoms of colitis. The cases I have quoted seem to me to prove how utterly fallacious a diagnosis of colitis based entirely upon symptoms may be. And I believe that a careful examination of the pelvic colon with the sigmoidoscope should be made a routine practice as a preliminary to treatment in all cases of colitis.

WANDERING SPLEEN: HAEMORRHAGE WITHIN THE CAPSULE: SPLENECTOMY: RECOVERY.

By CHARLES P. CHILDE, B.A., F.R.C.S.,

Assistant Surgeon, Royal Portsmouth Hospital; Senior Surgeon, Medical and Surgical Home for Women, Southsea.

CASES of wandering spleen are, generally speaking, of sufficient rarity and sufficient interest to place on record. The following instance presents some unusual features even in this uncommon condition, which invest it with additional clinical and surgical value.

REPORT OF CASE.

History.

P. L., aged 54, sent to me by Dr. Knott, of Southsea, was a spare woman of healthy rosy complexion; she was married, and had had nine children, five of whom were living; four had died of children's complaints. She had always had good health and normal confinements; had never suffered from any abdominal or other injury, and till the present illness had never felt any pain or inconvenience in the abdomen or pelvis.

She stated that about two months previous to her admission to the Royal Portsmouth Hospital on November 5th, 1904, she had influenza, though in the light of future developments it is more probable that her illness was associated with some pathological changes in the tumour. While recovering from this attack, which, whatever its nature, was accompanied by the usual symptoms of feverishness, she was seized with sudden pain in the lower abdomen, retching, and faintness. She stayed in bed for a week, during which time she had fever and profuse perspirations, but no return of the pain after the first day. Dr. Knott attended her during this illness, and discovered a tumour in the lower abdomen. The acute symptoms subsided quickly, and did not return up to the time of my seeing her two months afterwards.

When I first examined her, at the end of October, a largish tumour occupied the false pelvis and lower abdomen, extending

up higher and involving the left side more than the right, as shown in diagram (Fig. 1). The left part (*a*) was completely

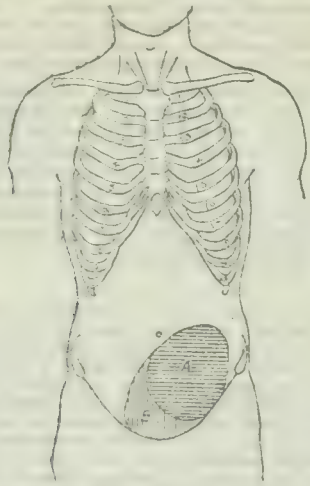


Fig. 1.—Diagram of condition before abdomen was opened: (*a*) entirely dull and tender; (*b*) partially dull.

dull, the portion (*b*) which extended into the right iliac fossa being only partially so, owing to overlapping intestine. It could be moved, to a certain extent, from side to side, but could not be pushed up at all. The loins and upper abdomen were resonant, and the tumour did not extend into the kidney region on the left side. It was smooth, rounded, and felt of fluid consistence, but there was no distinct thrill. No tumour could be felt in the pelvis on vaginal examination, but there was a sense of resistance in front and to the left of the uterus, and bimanually an impulse could be communicated to the finger on this side, which could not be felt on the other. The uterus was retroverted and normal in length, and the tumour did not appear to be attached to it. The left part (*a*) was distinctly tender on pressure. There were no bladder symptoms and the urine was normal. Some constipation was present. The temperature was not elevated.

The diagnosis was made of ovarian cyst, the acute attack being attributed to torsion of the pedicle, with haemorrhage into its cavity, followed by peritonitis which had caused some adhesion and fixation of the tumour. It will be seen that from the history and physical signs this diagnosis was not unwarranted; indeed, the case seemed a fairly clear one.

Operation, November 10th, 1904.

After opening the peritoneal cavity in the middle line by the subumbilical incision, a rounded cystic tumour was exposed with omentum adherent everywhere over its front and sides. On partially separating the adhesions and plunging a trocar into the cavity dark blood escaped to the amount of about a pint, and the diagnosis was thought to be verified. The tumour could not be brought forward into the wound, being firmly fixed in the pelvis. It was also remarked that the cyst wall tore very easily. After extending the abdominal incision above the umbilicus, enlarging the opening in the cyst, and sponging out its contents, and further separating omentum adherent to its sides, it was still found that the tumour could not be delivered into the wound, being bound down especially in the left iliac fossa. On separating further adhesions a dark mass that looked at first, as it appeared from among them, like a coil of deeply congested and distended intestine, was brought into view from the right side of the pelvis. This was soon seen to be the upper pole of the spleen, and the nature of the case was now for the first time evident—a wandering spleen, with a large blood cyst attached to it. The lower pole was found to be firmly fixed to the left wall of the iliac fossa, the spleen lying obliquely across the pelvis (Fig. 2) with the pedicle twisted on itself, and the lower part of it very tense. The upper pole, which was lowermost, and turned towards the right, lay in front of the fundus of the uterus, contributing no doubt to the retroversion of that organ previously noted. The external and posterior surface of the spleen facing upwards formed the lower wall of the blood cyst. Its contents were incised between thumb and finger, which had been thrust in by the haemorrhage. All adhesions having been freed, an attempt was made to pull off the broad attachment to the left iliac wall, so as to get the tumour out of the wound, and deal with the pedicle last. In doing this the splenic tissue tore very readily, and the free haemorrhage that ensued enforced the abandonment of this procedure. A sponge was therefore plugged into the tear, and pressure kept up by an assistant, while the pedicle was dealt with *in situ*. It was attacked from above and tied in sections. It was very wide, and the lower part of it very tense, so that I was in considerable fear of the ligature slipping here. Each section, as it was tied, was divided between the ligature and a large Spencer Wells forceps placed on the distal side. Finally the lower pole was peeled off the left iliac wall, and spleen and blood cyst removed. The operation lasted 1 hour 10 minutes. A gauze drain was inserted in Douglas's pouch, which was removed in 24 hours.

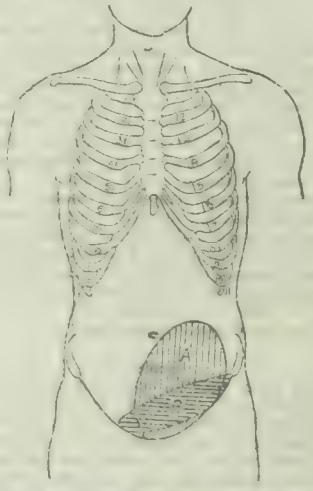


Fig. 2.—Diagram of condition found at operation: (*a*) blood cyst; (*b*) spleen. The spleen was below and behind the cyst, and not visible till the latter was evacuated.

No shock followed the operation, and a normal recovery ensued, the temperature not rising above 99° F.

The length of the spleen after removal was 8 in., breadth 4 in., and weight (after emptying the blood cyst) 8 oz. A section of it was reported on by the Clinical Research Association as follows:

The tumour has the characteristics of a spleen. The capsule is somewhat thickened, and the vessels traversing its walls have hyaline thickened walls and sheaths. There is also some increase of the fibrous stroma of the splenic pulp.

REMARKS.

As regards the diagnosis, the likeness of this case in its history and physical signs to an ovarian cyst, with twisted pedicle and haemorrhage into its cavity, is manifest. The abdomen, however, has a nasty habit of presenting a "surprise packet" to the operating surgeon, and the one under notice serves to illustrate the fact that not every unilateral cystic tumour rising out of the pelvis of a woman is of ovarian or tubal origin. The more or less transverse position occupied by the spleen in this instance is the one which has been usually noted in cases of displacement. How this comes about is readily explained if we consider the normal position of the spleen and its attachments prior to descent. It lies very obliquely in the left hypochondrium, with its upper pole much nearer the middle line than the lower. It rests in this position on the pleuro-colic ligament, stretching from the diaphragm to the splenic flexure of the colon, and is attached to the stomach by the gastro-splenic fold of peritoneum, which reaches from the hilus to the left border of the great omentum. Its normal position is, therefore, oblique, and its attachment toward the middle line. As the spleen descends in cases of displacement, this oblique position and attachment to the stomach cause the upper pole to tip forward towards the middle line, and the organ to assume a more and more horizontal position. The upper pole turned toward the right therefore comes to lie eventually on a level with the lower pole, turned towards the left, and a still further descent will result in the spleen assuming an oblique position with the upper pole lowermost. Moreover, this change of position must cause a rotation of the pedicle from left to right, and from above downwards, so that its upper border will eventually lie lowermost. When the

descent and rotation are gradual and accompanied by stretching no serious symptoms may ensue; but it is easy to imagine that the rotation may be sudden or suddenly aggravated, in which case, as in other abdominal tumours with pedicles, peritonitis or haemorrhage, or both, may occur. It is not remarkable, considering the close attachment of the spleen to the left end of the stomach, that these patients should commonly suffer from abdominal pains and indigestion; and one would expect this to be so especially in traumatic cases, where the displacement, or the initial stages of it, at all events, occur suddenly. My patient suffered from no abdominal symptoms whatever—no dragging pain, no feeling of sickness, or indigestion—and but for the accident of haemorrhage and peritonitis would have probably been going about now, quite unconscious of any internal abnormality. The most careful inquiry failed to elicit any history of injury, and her absence of previous symptoms is explicable on the assumption that the displacement was a gradual one, so that the gastro-splenic omentum had time to stretch and lengthen out, and the stomach was thereby



Fig. 1.—From a photograph of the tumour on removal (two-thirds natural size). The blood cyst when distended was the size of a large cocoa-nut.

enabled to accommodate itself to the abnormal drag upon it. Finally, some sudden increase in the rotation of the pedicle took place, resulting in the haemorrhage and peritonitis which first directed attention to her condition. It may be mentioned that the patient was rather a spare woman, and that she had had nine children, not by any means an unusual number among the class that can least afford to support them.

It must be admitted that splenectomy is not the ideal treatment for wandering spleen. At the same time, owing to practical difficulties in accepting the alternative and more rational measure of splenopexy—these difficulties being, first, that of replacing the organ, and, secondly, that of keeping it there when replaced—the former is frequently the only feasible plan of dealing with the condition. In the case here quoted it was obviously the only method open. The position the spleen had come to occupy low down in the pelvis, its broad adhesion to the iliac wall making separation before the pedicle was tied impossible, the attachment to it of a large blood cyst, and the urgent and dangerous symptoms the patient had suffered from in connexion therewith, made splenectomy imperative.

Several methods of splenopexy have been adopted. Kenwar in 1895 was the first surgeon to perform the operation, making use of tamponnade for the purpose of keeping the organ in position. In one case he was obliged to remove the tampon for ileus. Rydygier in the same year made a pocket in the abdominal parietes in which he fixed the lower end of the spleen, suturing it also to the tenth rib and parietal peritoneum. Basil Hall, acting on similar lines, ingeniously made use of the notch (situated low down in his case) by bringing the parietal peritoneum and the aponeurosis of the abdominal muscles round it, so as to grasp and fix the lower end. Such an unusual conjunction of circumstances as a notch low down in a wandering spleen will be as rare as honesty in politics.

Balch's case, published by J. Collins Warren, resembled my own in some particulars. The spleen was adherent by one pole to the pelvic brim, and the uterus was tipped backwards by the other, its position being very similar to that found by myself. There was, however, no blood cyst in connexion with it, and Balch had to deal with the displacement only. He succeeded in freeing the adhesions to the pelvic brim, using ligatures and the cautery to arrest haemorrhage. The separation of these left plenty of raw surface, and the organ was then pushed up into position, gauze packing being used to keep it there and promote adhesions. I attempted with great gentleness to separate the broad attachment of the spleen to the iliac wall, not, however, with the idea of performing splenopexy, for I considered that from the first not feasible, but of dealing with the pedicle more easily. The bleeding was, however, so fierce from the torn splenic tissue, welling from it as from a squeezed sponge, that this had to be abondoned. No cautery or ligatures would have been of any use here. I was obliged to keep up sponge pressure in the tear, and to deal with the pedicle as expeditiously as possible, whereupon, of course, the bleeding ceased spontaneously. Thus it will be seen that splenopexy is the ideal treatment for this condition, to be adopted where the special circumstances of the case admit of it, but that splenectomy is frequently the only feasible course on account of the practical difficulties of placing the spleen in its natural position and of keeping it there, or on account of the trouble from haemorrhage, or, lastly, from some such complication in connexion with the displacement as occurred in the case under notice.

With regard to blood cysts in connexion with the spleen, Giulano gives a record of 15 cases of haemorrhagic cysts, including his own. They were apparently of a different nature from the one recorded here, occurring in the enlarged spleens of malaria, a portion of which softened and became diffluent, so forming a blood cyst. The origin of the cyst in my case was, as the specimen shows, entirely different. The spleen itself is seen to be entire, and the cyst is not within its substance, but between the capsule and the pulp. It was formed apparently by a sudden haemorrhage occurring from the rupture of a vessel at the time of the acute attack above described, the symptoms of which were those of an internal haemorrhage. This tore up the capsule from the splenic pulp, a blood cyst being thus formed between the two. It was probably caused or favoured by the torsion of the pedicle, and was followed by a localized peritonitis, and is comparable to haemorrhage within an ovarian cyst from the same cause, a condition from which in its symptoms and physical signs it was undistinguishable. Giulano recommends, in the cases described by himself, opening the cyst, stitching the wall to the parietes, and drainage. This treatment was not applicable here. As far as I have been able to ascertain by a reference to the literature on the subject, there is no other recorded instance of the condition found in this case, namely, a spleen fixed in the pelvis, and associated with it a large blood cyst of the nature described above. Referring to the immediate risks of the operation, during the last decade there have been 43 recorded cases of splenectomy for wandering spleen, with 3 deaths, a mortality of 7 per cent. Inasmuch as it is a novel and rare operation there is a not unnatural disposition to record every successful case, while the operators are prone to shrink publicity, we may assume that the mortality is somewhat higher than this. So that on the score of immediate risk

alone this operation is not to be recommended, unless it is clearly causing the patient great inconvenience and suffering, or possibly, as in my case, danger to life. A suitable truss would, of course, too, in any ordinary case be tried and found wanting prior to the consideration of any operative procedure.

As might have been expected, after the removal of an organ of the apparent importance of the spleen, though very little is certainly known of its functions, ultimate ill-effects have been recorded in some cases. After the patients have made a good recovery from the operation, they have begun to lose ground and to manifest symptoms of weakness, emaciation, thirst, and drowsiness. Thus, of the three cases brought before the Clinical Society in 1896 by Messrs. Ballance and Pitts, two suffered in this way. The unfavourable symptoms were successfully combated by the administration of sheep's spleen, raw bone marrow, cod-liver oil, and arsenic, and the patients were eventually restored to good health. All three of them, however, exhibited enlargement of the superficial lymphatic glands. In the case recorded here nothing except ordinary food, and no medicine whatever has been administered since the operation. One year has now elapsed, and the patient has suffered no inconvenience at all from the removal of her spleen, nor does she appear to miss it in the least. There is also no enlargement of any lymphatic glands that can be palpated. A report on the blood kindly made for me by Dr. Leon on February 8th, 1905—that is, three months after operation—showed a decrease of white corpuscles (7,000 per cm.), and the lymphocytes relatively decreased. Possibly in cases where no after-effects have followed splenectomy, spleniculi may have existed which were not observed. None were observed in this case, and they were certainly not present in the situations where they have been usually noted—namely, the gastro-splenic and great omentum. At the same time, as no definite search was made for them, they may have been present and have escaped notice. The Malpighian bodies, situated on the minute branches of the splenic artery, are closely packed with lymphocytes, and their removal, along with the spleen, seems to throw increased work on the other generators of lymph corpuscles—the lymphatic glands, which consequently become hypertrophied. The other chief supposed rôle of the spleen is the purification of the blood by the destruction of effete red corpuscles, and the numerous extractions such as formic, butyric, lactic acids, etc., which are obtained from a chemical analysis of the spleen, are probably derived from the destruction of these worn-out constituents. It might be anticipated, therefore, that the removal of this great purifier, so to speak, of the blood would be followed by some such toxic symptoms as have been enumerated above, owing to the introduction into the system of poisonous matter, of which the spleen normally cleanses it. The ultimate disappearance of these symptoms may have been due to the remedies given. More probably they were owing to compensatory action becoming established in some other gland, or to the presence of spleniculi, which have stepped into the breach and gradually restored the normal balance. In the case recorded here no remedies have been given, which might have anticipated, so to speak, the want in the economy produced by the loss of the spleen. Yet its removal has been followed by no apparent deviation from normal health, nor is there evidence of any other organs of the body—for example, the lymphatic glands—being burdened with increased work. Whatever be the explanation, it is remarkable that the spleen, which, *a priori* from its size, its large blood supply, its structure—which alone of all organs in the body allows the blood to come into actual contact with the living cells of the tissues (Starling)—can be removed without the patient apparently suffering any inconvenience or deterioration of health. The probability is that though perfection of health requires the presence and normal working of every organ of the body, a degree of it which is by our imperfect methods of observation satisfactory, may be maintained on a much shorter allowance; and that by some compensatory action which may serve the purpose, but be less than perfect, the human organism may be able to do without some of its component parts apparently without serious inconvenience or disability. I say apparently, because the question as to whether these mutilations eventually shorten life cannot be shelved, and the after-histories of such operations as gastro-enterostomy, removal, or, what amounts to the same thing, exclusion of the large intestine, etc., has yet to be written. It is well to remember, however, that there is an after-history, of which complete thyroidectomy and oöphorectomy have afforded instructive and somewhat disconcerting object-lessons in the past. The mere ability to show a patient apparently in perfect health after the entire removal of some organ which *a priori* might be assumed to be essential to its well-being, though it may flatter our pride, should not in our surgical efforts lessen our respect for every part of the body, or diminish our consideration for any part, because we happen to be ignorant of its functions, or because our patient seems able to do without it. The assumption, for instance, that the large intestine is a cesspool is, to say the least of it, not a bashful one, and is, moreover, contrary to our experience of its uses. On theoretical grounds, I think, every surgeon would treat such an organ as the spleen at all events with respect, and would not remove it unless absolutely obliged to do so.

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SOME OBSERVATIONS ON PUERPERAL ECLAMPSIA.

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While house-surgeon in Glasgow Maternity Hospital, I had an opportunity of studying 8 cases of eclampsia, and of analysing 42 others which had been treated during the three preceding years. As much interest has been manifested of late in this condition, I should like to draw attention to a few points in its course and treatment which particularly impressed me, and especially to the use of saline infusion and *accouchement forcé*.

Premonitory Symptoms.—Oedema was present in 30 of the 50 cases, but it is no criterion of the imminence of convulsions. It may be present for weeks or months—a symptom of chronic renal disease—but an intense toxaemia may occur so rapidly that convulsions forestall oedema. The swelling is more significant when affecting the cellular tissues of the face. It is a fairly frequent history that oedema of the legs and feet has been present for weeks; then, without increase of this swelling, the face becomes oedematous, and eclampsia supervenes within forty-eight hours. This sequence is well illustrated in 2 of the 8 cases. In the first, oedema of the lower extremities was present for eight days; the eyelids then became swollen, and convulsions ensued in twenty-four hours. In the second, oedema of the feet commenced three weeks prior to the attack, became gradually worse, and was succeeded by swelling of the face. Only eight hours later eclamptic seizures followed.

One of the most important, because one of the most suggestive and unequivocal, of the prodromals is pain in the epigastrium. The pain is at first slight, or there may be only a sense of discomfort; but when this symptom is well marked, it becomes later so intense that the woman is rendered prostrate and is forced to cry out. It may be associated with pain in other regions of the abdomen or in the loins, and may be accompanied by vomiting or difficulty and oppression in breathing. These concomitants are most frequent when the pain has become intense and continuous, and betoken the imminence of convulsions.

Epigastric pain was present in 6 of the 8 cases, but either this is a larger proportion than usual, or less attention has been paid to this symptom than its importance deserves. Munro Kerr[1] in an analysis of 80 cases found it mentioned thrice. Duhrssen[2] in 200 cases found it mentioned once. Parvin[3] called it the "least frequent" of the prodromata. It is similarly mentioned in other obstetric works as one of the least important and most inconstant of premonitory symptoms, or is not mentioned at all. Of these 50 cases, 33 are carefully reported as to the presence or absence of prodromals. In 17 of these 33 epigastric pain is mentioned as present, and in 16 is either not mentioned or said to have been absent. In my own 8 cases, when present, it became continuous and very severe shortly before the onset of convulsions. To my mind its significance is very similar to that of headache: both may be present for some time intermittently and not very acutely, but when either becomes intense and constant it is unmistakeable evidence that the patient is far advanced in toxaemia.

Duration of Paroxysm.—Herman[4] says that the duration of a fit is seldom longer than a minute, and that the interference with respiration is such that a fit which lasts longer than two or three minutes must be fatal from asphyxia. He explains

fits reported to have lasted for many minutes as really instances of a succession of rapidly-following paroxysms. One of my patients, a 2-para, aged 24 had had twenty-four seizures before admission; she then had five more at gradually lengthening intervals the last, comparatively slight, at 4 p.m. She was delivered by forceps at 8 p.m. Next morning at 11.30 she had another convulsion, which I did not see, but which the nurse said lasted five minutes. In the afternoon at 3 o'clock, while I was in the ward, she had a fit differing from any eclamptic seizure I have seen. In the order of parts involved it exactly resembled the previous fits, thirty in number; but the progression of the spasmodic wave from one group of muscles to another was very slow, while the contractions were not more frequent than 30 per minute. Clonic spasm continued for eight minutes by the clock. Respiration during this time was short and gasping, but there was a hiss at each contraction, which meant that air was issuing from the chest. After we had watched the convulsion for eight minutes, chloroform was administered, and the movements ceased within a minute. This does not quite prove that chloroform was inhaled, for the fit may have been on the point of stopping in any case; but it is certain that efficacious respiration must have gone on during those eight minutes to some extent, otherwise the patient could not have lived. I am equally certain that during the whole period of clonic spasm the movements were quite continuous and regular, and that there was no interval at any time long enough to allow of natural breathing.

Another point which makes improbable Herman's explanation of long-continued fits being in reality a series with respiration active in the intervals, is that after an ordinary eclamptic seizure the patient does not immediately breathe, but for a few seconds (sometimes ten) lies absolutely motionless, with the face pale or cyanotic. If, then, a patient were to have a series of convulsions so rapid in succession as to be mistaken for one continuous paroxysm, the interval could not be made use of for respiration. It is almost certain that during a seizure oxygenation of the blood must go on to some extent, and, if that be the case there is nothing to prevent our acceptance of cases reported to have had very prolonged convulsions, lasting even to twenty minutes.[5]

Rapid Involution of Uterus.—In all my own cases a very rapid involution of the uterus took place, the fundus reaching the brim of the pelvis in one case on the fourth day of puerpery, and in the slowest case on the sixth. I do not know what is the cause of this, or whether it occurs in all eclamptic patients. Parvin[3] says that the eclamptic is more liable to *post-partum* haemorrhage, but this does not seem to be the general experience. Jardine,[6] in reporting a case where there was an "alarming" *post-partum* haemorrhage, says:

> In my experience of eclampsias, which has been a fairly large one, I have only seen one other case of *post-partum* haemorrhage, although many of them had been under chloroform for a long time, and the uterus had been purposely left to relax if it would.

This tendency to immediate retraction was remarked in all my cases. Even without manual control of the fundus during the third stage and after, the uterus at once retracted firmly, and the bleeding was less than usual. This natural "good management" of the placental stage may partly account for the rapid involution.

Treatment.—Although we cannot, from want of knowledge, employ a method of treatment calculated to influence the primary cause of eclampsia, our efforts may be so far rational that we can improve some of the morbid conditions present, which, although not the first step in the disease, tend to increase the general breakdown of the economy, resulting in epileptiform seizures. For example, the failure of the kidneys to secrete urine is not the original cause of eclampsia, but we know that if suppression of urine cannot be speedily relieved the patient will die, hence treatment directed to the promotion of diuresis is to some extent rational, and certainly it is scientific and will be helpful to recovery.

Now, in Glasgow Maternity Hospital the death-rate from eclampsia prior to 1898 was over 40 per cent.; since then it has been less than 25 per cent. The class of patients and the general circumstances are the same, the obstetrical treatment is practically the same, yet a great fall in the death-rate has been established, and that over a large number of cases. The only great change in the treatment has been the introduction of saline infusion. Is it not, then, unhealthy scepticism to assume that a new method, introduced for the first time just prior to the improvement in the results and continued ever since, has not been largely instrumental in the improvement, or to say that "no treatment has been proved to do good,"[4] and that "there is no treatment of eclampsia from which benefit can be certainly predicted"?[7]

The intercellular infusion of saline solution was introduced into Glasgow Maternity Hospital by Dr. Jardine. The solution now used is 1 drachm each of sodium chloride and acetate of soda to a pint of water. This solution, sterilized and at 100° F., is run into the areolar tissue beneath the breast, or after delivery, into the lax abdominal wall. The object of the treatment primarily is "to get the kidneys to act."[6] In Herman's article on eclampsia in *Allbutt's System of Medicine* (vol. vii) there is this statement:

> The secretion of urine begins to be re-established in from six to twenty four hours after the cessation of the fits . . . but it takes from two to four days for the secretion to become as abundant as in health.

If we compare this with the accompanying table of cases where saline infusion was used, it will be seen that diuresis was always equal to, or even in excess of, the normal quantity within twenty-four hours of the cessation of fits.

Case	Hours from Cessation of Fits.	Amount of Urine.
1	First 24 hours	Two pints.
2	,, ,,	,, ,,
3	,, ,,	"Passing urine copiously:"*
4	First 18 hours	Three pints
5	,, 12 ,,	"Fair quantity."
	Second 12 hours	"Passing urine freely, probably about two pints.
6	First 12 hours	Urine was lost.
	Second 12 hours	One pint
7	First 24 hours	"Nearly two pints."
8	,, ,,	Two and a half pints.

* When the exact amount is not stated the collection of the urine had been interfered with. The words in inverted commas are from the nurses' reports.

Analysis of the urines of eclamptics during convalescence[8] shows a marked increase in the elimination of urea and uric acid, and probably other bodies are washed out which are even more harmful to the patient. Besides this eliminant effect saline infusion dilutes the toxins still in the blood stream, and this may be observed in other diseases—for example, diabetic coma.

There is the further benefit to the patient of the stimulation which immediately follows this treatment in collapse. This effect is of course best seen when the collapse is due to loss of blood, but even in other cases it is often marked, for at such times the disposition of the quantity of blood in the body makes the same circumstances for the heart and brain as an external haemorrhage—for example, the collapse subsequent to a lengthy operation when there has been practically no bleeding.

Infusion of saline solution may, however, be overdone. If the patient be very oedematous, if there be marked cyanosis with high arterial tension, and if there be much pulmonary congestion, it should be practised only to a moderate extent (say 1 pint) unless the patient be bled at the same time. There is more than a slight risk of increasing the work of the heart by too large infusions, and the result will be, if not an immediate cardiac failure, an oedema of the lungs which will be no less certainly fatal

Obstetrical Treatment.—It is generally admitted that peripheral irritation is a bad thing in eclampsia, whether caused by uterine contractions or obstetrical operations, hence we should adopt that line of treatment which will subject the patient to least irritation. If the labour be well advanced and the os sufficiently dilated, it cannot be thought that a forceps delivery under chloroform would be as great a source of irritation as a succession of labour pains in the second stage, becoming more frequent and forceful, and probably lasting for an hour or more. The real difficulty in deciding on the proper obstetric treatment will only arise when the convulsions have occurred before or during early labour.

Herman[7] has shown that after delivery, in about half the cases, the fits do not cease; and he points out that the disease runs its course in less than forty-eight hours, and that in most cases where convulsions began in pregnancy or early labour a cessation of the fits would occur about the time of delivery, independently of whether the uterus were empty or not. In my 8 cases it appeared that in 1 case delivery stopped the fits, in 2 cases mitigated the severity of the fits, and in 4 cases had either no effect or a bad one. Of the other

42 cases, 2 died undelivered, 7 occurred in the puerperium; the effect of delivery on the remaining 33 is here shown:

No effect, or fits ceased three hours before delivery	21
Fits ceased at delivery, though frequent up till delivery ...	4
Fits mitigated after delivery, though severe just before delivery	3
Fits more severe and frequent after than before delivery ...	5

These figures strongly support Herman's contention that delivery has no definite influence in cutting short the convulsions. But, besides the effect on the convulsions, we must consider the effect of *accouchement forcé* on the patient. One cannot adopt a line of treatment to benefit the fits if it is shown to be harmful to the patient. Herman found that the chances were about 2 per cent. better if delivery were hurried than if an expectant attitude were maintained. In my 50 cases I find the death-rates with *accouchement forcé* and with expectant obstetrical treatment exactly equal; but of the 7 patients in the above table, where *accouchement forcé* had a good effect on the convulsions, 6 died within a week from sepsis, cardiac failure, or oedema of the lungs. This very strongly suggests that the good effect on the fits may have been secured at the expense of the patient, and it is sufficient to show that *accouchement forcé*, even when the patient is "deeply" under chloroform, is a very severe shock to her, and an extra risk.

In these 50 cases, of the 42 which occurred before the birth of the child, only 4 were during the expulsive stage. It is important to note the difference in the two clinical types: (1) those occurring in pregnancy and early labour, and (2) those occurring during the second stage. In the first class the patient has probably been in the pre-eclamptic condition for some time, and the slight additional irritation of the first pains of labour is sufficient to determine reflexly convulsions which were already impending. In the second type the toxaemia may not have been well marked, and the strong stimulus of the expulsive pains in the second stage is required to bring about the loss of balance of the cortical centres.

If such a case be immediately chloroformed and delivered by forceps she will probably have few succeeding convulsions or none, but to apply the same treatment to a patient whose labour has not begun, or is in an early stage, is adding another risk, and is not only useless but harmful treatment.

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THE SURFACE TENSION OF URINE IN HEALTH AND DISEASE:

WITH SPECIAL REFERENCE TO ICTERUS.

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In recent years the chemical examination of physiological fluids has been considerably supplemented by an application of the newer physico-chemical methods. Amongst these may be mentioned determinations of freezing point, electrical conductivity, refractive index, viscosity, etc. Thus the freezing point of urine has been employed in the clinical diagnosis of renal disease, whilst the freezing point of milk affords valuable information to the analyst and the medical officer of health. Extensive researches have also been carried out both in this country and abroad on the electrical conductivity of urine. In the regions of physiology, as distinct from those of applied pathology and clinical diagnosis, reference may be made to the brilliant researches of Paul and his pupils on the equilibrium of uric acid and the urates, to the electro-chemical investigations on the question of the so-called alkalinity of the blood, and to the innumerable kinetic investigations on the mode of action of the salivary, gastric, and pancreatic ferments. With regard to the vital question of immunity from disease, there is every hope at present that the modern methods and results of physical chemistry, more particularly those pertaining to the nature and mutual action of colloids, will be of great service. It is, however, with the direct employment of physico-chemical methods in the clinical diagnosis of disease that we are more particularly concerned in the present paper.

1. Objects of Investigation.

Without attempting any analysis of the already very extensive literature in this department of science, the subject in hand may be illustrated by a reference to the work of Ph. A. Guye and St. Bogdan.[1] The methods referred to above are here considered in relation to urine. The nature of the results obtained will be immediately evident from the following table:

	Normal Urine.	Pathological Urine (Tuberculous).
Electrical conductivity (18° C.) ...	0.01937	0.00029
Lowering of freezing point	1.39	0.39
Coefficient of viscosity (18° C.) ...	0.0113	0.0109
Index of refraction (n 18°)	1.3397	1.3355

The pathological urine exhibits a very much smaller conductivity and freezing-point depression, thus pointing to a great diminution, not only in total dissolved matter, but also in those constituents (salts) which conduct the electric current.

Of course, variations such as these can only acquire value for the physician when they are considered in the light of an extensive experience of similar measurements made on urine under varying conditions of health and disease.

Whilst considering this subject, it occurred to us that it would be of interest to carry out an investigation on the surface tension of urine, as it is already known that, under certain pathological conditions (icterus), the surface tension of urine is liable to be greatly lowered. In this connexion the simple and easily carried out sulphur test of Matthew Hay will probably be familiar to every physician. Special experiments have shown that Hay's test is of very considerable delicacy—for example, we found it was easy to detect an addition of 0.1 per cent. by volume of ox bile to normal urine, the limit being apparently reached at about 0.04 per cent. This method, however, gives only qualitative results, and is therefore not adapted to the purposes of scientific investigation.

Many methods are available for the measurement of surface tension, but the majority of these are unsuitable for the purposes of clinical diagnosis. In the choice of a method we have been guided by two main considerations: (1) The method must be simple and easily carried out, and must not involve the employment of delicate or elaborate instruments; (2) the method must be such that the results are not affected by accidental contamination of the surface of the urine to be examined.

As is well known, the surface tension of water is greatly lowered by a very small amount of greasy or fatty matter. Since it would in general be difficult to guard against such contamination under ordinary circumstances, it will be seen that the second condition referred to above is sufficient to exclude the majority of the methods commonly in use, since in these methods there is no constant formation of a new surface from the bulk of the liquid, although the contaminated surface can be purified by adopting special precautions. This condition is, however, satisfied by the method in which the liquid to be examined is allowed to drop slowly from a pipette and the number of drops contained in a given volume of fluid counted. As this method, moreover, requires only very simple and easily-constructed apparatus, it is clearly the one which is best adapted to the purposes of clinical work.

The general principle may be easily explained. The hanging drop is supported against the action of gravity by the tension acting in the surface of the liquid. It has been shown that, for an orifice of given diameter the surface tension is proportional to the weight of the drop.[2] If n be the constant volume of liquid delivered from the pipette (as determined by two marks on the stem), d the density of the liquid, and s the

number of drops, the weight of a drop will be equal to $\frac{d}{n}$. Hence, for the same dropping pipette, the surface tension will be proportional to $\frac{d}{n}$—a relation which may be stated in the form $T = k\frac{d}{n}$—where T is the surface tension, and k a constant, independent of the nature of the liquid employed. In order to determine surface tensions by this method, we require to determine k first by employing a liquid of known density and surface tension. Denoting the value of these quantities for the standard liquid by d_o and T_o, and supposing it gives n_o drops, we have

$$T = k\frac{d_o}{n_o},$$

and therefore

$$k = \frac{n_o T_o}{d_o}.$$

Hence we get

$$T = \frac{n_o T_o}{d} \cdot \frac{d}{n}.$$

This formula enables us to calculate the value of T for any liquid as soon as we have determined d and n. If we wish to express the surface tension of the liquid under examination as a percentage of that of the standard liquid at the same temperature, we have at once—

$$\text{Required percentage} = \frac{T}{T_o} \times 100 = \frac{n_o}{d_o} \cdot \frac{d}{n} \times 100.$$

For clinical purposes this latter method of expressing the results is very convenient.

Recently this method of determining surface tensions has been subjected to a very searching inquiry by Guye and Perrot.[3] According to these researches it would appear that in order to obtain very accurate results it is necessary to introduce two corrections, one of which is a function of the total number of drops, the other of the time of formation of a drop. Tables of the corrections to be employed are given in the second of the two papers referred to above. Unfortunately, these tables are not sufficiently extensive to cover the wide variations of surface tension exhibited by pathological urine, and so we have been obliged to employ the simple formula given above.

In order, however, to form some estimate of the possible errors hereby incurred we have determined the surface tension of a dried and refractionated specimen of monochlorobenzene at 9.5° C. According to Ramsay and Aston[4] its density at this temperature is 1.1182 and its surface tension 33.7 (dynes per cm.). At a temperature of 9.5° C. the monochlorobenzene gave 481 drops. As a standard liquid we employed distilled water (ordinary tap water gave very nearly the same result). At the mean temperature of the measurements—namely, 16° C.—water gave 199 drops. Taking the surface tension of pure water at 16° as 73 dynes per cm. (according to Landolt and Börnstein's tables), and its density as sufficiently near unity for the present purpose, we get for the surface tension of monochlorobenzene:

$$\frac{199 \times 73 \times 1.1182}{481} = 33.8$$

This result agrees with the value determined by Ramsay and Aston. This is, moreover, an extreme case, since the drop ratio (number of drops of liquid ÷ number of drops of water) is here 2.4, whilst in the case of the urine determinations, where the number of drops varied from about 220 to 280 (in icteric urine), the mean drop ratio is only about 1.2. It may fairly be concluded, therefore, that the error in the latter case is very small. Probably one would be safe in allowing 0.1 per cent. as the maximum error involved. According to Duclaux, for a pipette giving 100 drops with water, there is no correction up to 140 drops. If the correction is chiefly a function of the drop ratio, then our pipette should require no correction up to 280 drops—that is, throughout the range in which it has been employed. This indicates that the allowance of 0.1 per cent is probably an outside limit. This degree of accuracy is, however, amply sufficient for all purposes of clinical diagnosis, since normal urine, even under similar conditions, may exhibit variations of surface tension amounting to 4 per cent. (and sometimes much more).

After the present investigation had been planned and a considerable amount of experimental work carried out, we discovered a paper published by J. Amann[5] in which the results of similar measurements are described. We have only, however, been able to see a brief abstract[6] of this paper. According to Amann, the surface-tension of normal urine is about 90 to 92 per cent. of that of water. The depression is said to be considerable in diabetes, nephritis, enteritis, and icterus, whilst in cases of anaemia the surface tension is slightly increased. In certain cases of "grave" anaemia the surface tension may, according to Amann, even exceed that of water. So far as we can interpret the brief abstract referred to above, the depression of surface tension is ascribed by Amann to "extractive substances."

We have not considered it necessary to discontinue this investigation owing to the publication of Amann's work, as in a new field such as the present the results of independent workers may supplement each other in important particulars.

2. Apparatus and Method of Measurement.

The apparatus employed is shown in Fig. 1.:

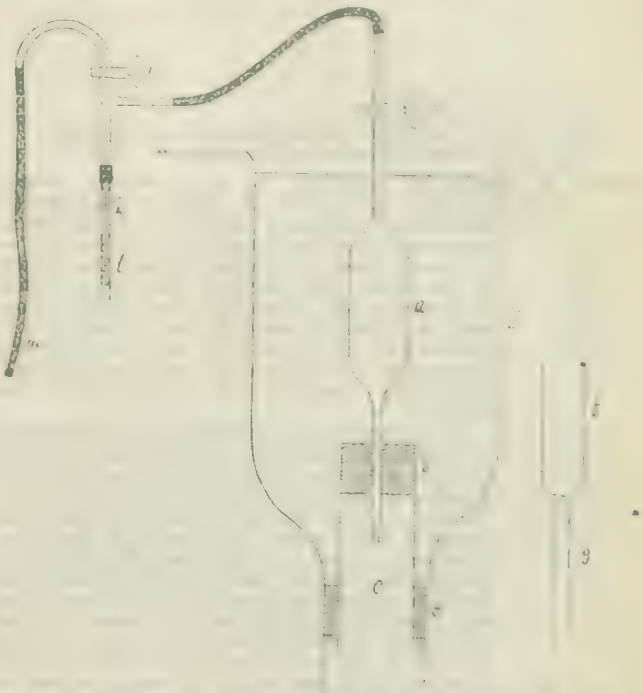


Fig. 1.—Drop pipette with speed control and water-jacket. *a* is the dropping-pipette provided in its upper stem with a tap (*h*). The lower stem of the pipette passes through the rubber stopper, *b*, which closes the upper end of the glass cylinder, *c*. The latter is held firmly in the neck of the water-jacket, *d*, by means of the rubber stopper, *e*. By keeping the water in the jacket at the desired temperature the temperature of the liquid at the place where the drops detach themselves is as nearly as possible the same as the temperature of the water-jacket. The lower end of the pipette consists of a short piece of thin-walled truly cylindrical glass tubing of small bore sealed to the lower stem. We have not, however, made any experiments to ascertain whether this is the best form of orifice to employ.

Fig. 2.—Effect of bile salts on the surface tension of normal urine.

It is necessary that the drops should form slowly, and that the total time of outflow should vary as little as possible. This is effected by allowing the air which replaces the liquid in the pipette to pass through a very narrow capillary tube, *k*. It is easy to allow the walls of an ordinary piece of capillary

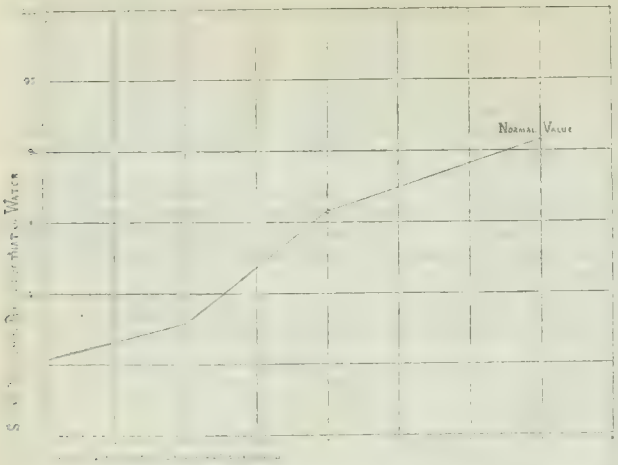


Fig. 3.—Chart showing rise of surface tension of urine during recovery from catarrhal jaundice.

tubing to nearly fall together in the blowpipe flame, and then to narrow the bore by pulling out somewhat. When a suitable tube has been prepared it can be simply fastened on to the T-piece by means of rubber tubing. As shown in the figure, the capillary tube is provided with a wider piece of tubing, *l*, containing cotton wool in order to prevent dust entering and blocking the fine bore of the orifice of the pipette is plunged well under the liquid in the tube. The taps, *h* and *i*, being open, the pipette is filled some distance above the upper mark by suction applied to the end of the rubber tubing, *m*. The taps, *h* and *i*, are then closed. After the liquid in the pipette has been given time to take up the temperature of the water jacket, the tap, *h*, is opened and counting begun as soon as the level of the liquid arrives at the upper mark on the stem of the pipette. Counting is most easily effected by having a supply of sheets of paper ruled into squares of convenient size. Every time a drop is heard or seen to splash into the beaker placed below the apparatus a mark is made in one of the squares. This simple arrangement obviates the use of any elaborate automatically registering apparatus, and enables the experimenter to determine the number of drops with very little fatigue. It is in general not necessary to make a duplicate determination, since the results are uniformly identical. Needless to say, it is highly important to wash the pipette once or twice with pure water (by sucking up water in the manner indicated) after making a urine determination.



Fig. 4.—Drop pipette for rapid measurements.

3. Variation of the Surface Tension of Urine in Health.

All the experiments were carried out at a mean temperature of 16° C. A variation of temperature amounting to one degree produces, however, a scarcely perceptible effect on the drop number, as the following experiments with distilled water show:

Temperature.....	16°	17°	20°	21°
Number of Drops..	179	200	201	202

In all cases the surface tension is given as a percentage of that of pure water at 16° C. Thus in the case of a urine giving a drop number of 225 and a density of 1 021, we have:

$$\text{Surface tension} = \frac{199}{225} \times 1.021 \times 100 = 90.3 \text{ per cent.}$$

If we take as the surface tension of pure water at 16° C., the value 75 (dynes per cm.), it is only necessary to multiply the percentage numbers given by 0 75 to convert them to surface tensions expressed in dynes per cm. So far as our experiments go, the surface tension of the urine of apparently healthy individuals is subject to considerable fluctuations. This is illustrated by the following table. The urines examined were in every case the secretion during twenty-four hours of different individuals.

Density	1 026	1 026	1 022	1 016	1 033	1 018	1.017	1.025	1.017
Number of drops...	226	227⅞	223½	217	228	212	216	224	214
Surface tension ...	90.3	89 7	91 0	93 2	90.2	95.6	93 7	91.0	94.6

It will be observed that in the above cases a high surface tension is associated with a comparatively low density, whilst it will be presently shown that in certain cases where normal urine shows a low surface tension, this is usually associated with a relatively high density. Such variations are therefore to be ascribed to variations in the general concentration of the urine. In considering the surface tension of a sample of urine we must therefore take the density into consideration at the same time, as an index to the general degree of concentration of the urinary constituents.

In the case of samples which are not drawn from the total secretion of twenty-four hours, we may expect still greater variations. In order to investigate this point, and to determine the influence of other factors, the urine of a single individual was examined from time to time during over a fortnight. The man in question was taking very little exercise throughout this period, except on one occasion when a ten-mile walk was undertaken in order to ascertain the effect produced (this is indicated in the results by the letter E).

Date.	Time.	Density.	Number of Drops.	Surface Tension.
August 9 ...	5 30 p.m.	1 026	224	91.1
,, 10 ...	Morning*	1 029	235	87.1
,, 15 ...	,,	1.027	247	82.7
,, 15 ...	4 30 p.m.	1.021	217	93.6
,, 16 ...	Morning	1.027	244	83 8
,, 16 ...	4 15 p.m.	1.024	222	91.8
,, 17 ...	Morning to night	1.016	217	93.2
,, 22 ...	,, ,,	1.033	242	84 9E
,, 23 ...	Morning	1 035	250	82.4
,, 24 ...	Morning to night	1.033	228	90.2
,, 27 ...	,, ,,	1.025	224	91.0
,, 28 ...	Morning	1.034	248	82 9

* That is, after sleep.

The morning urines are uniformly characterized by a high density and low surface tension, both of which effects are probably to be ascribed to a considerable concentration of the morning urine. This effect may be absent, or not so pronounced, in other individuals, as the following results of measurements of the morning urines of several other persons show:

Density	1.023	1 015	1.025
Drop number	224½	210	233
Surface tension ..	90.7	96.2	87.5

The effect produced by unusual exercise is interesting. There is a great fall in surface tension, and this is accompanied by a rise in density corresponding to the concentration of the urine produced by the exercise (that is, due to perspiration, etc.). The results of August 24th show, however, that a high density is not necessarily associated with a low surface tension.*

It is clear that the urine of apparently healthy individuals may exhibit considerable variations of surface tension. In considering the surface tension from a diagnostic point of view, attention must be paid simultaneously to the density, the time of day at which the urine was passed, and possibly to various other factors, such as amount of exercise, etc. If a sample drawn from the total secretion of twenty-four hours cannot be obtained, it would be well to avoid morning urines.

* All the urines examined were tested for the presence of sugar and albumen, both of which were absent.

The question naturally arises as to what are the constituents which cause the surface tension of normal urine to be about 10 per cent. lower than that of water. This effect cannot be due to any of the inorganic salts, since these are known to increase the surface tension of water. Nor is the effect due to urea or urates, as the following results show:

Effect of Urea on the Surface Tension of Water.

Grams Urea in 100 c.cm.	Density.	Drop Number.	Surface Tension.
0	1.000	199	100.0
3	1.008	200½	100.0
6	1.012	202	99.7

It was thought at first that the low surface tension of the morning urines might be due to an increase in the concentration of urea. The results of the experiments made to test this hypothesis given in the table show that variations in the concentration of urea have practically no effect:

	Density.	Drop Number.	Per Cent. Urea.
Urine A (afternoon)	1.021	217	1.8
Urine B (morning)	1.027	244	3.5
Urine A + enough urea to make it 3.5 per cent.	1.024	217	3.5

In order to test the effect due to urates, 0.33 gram of sodium urate (from E. Merck) was dissolved in 100 c.cm. of water. The density of this solution was 1.0025 and its drop number 199½. Its surface tension is therefore practically the same as that of water. We have not been able to pursue this matter any further, although the question is one of great interest.

The property of lowering the surface tension of water when present in relatively small concentration is not by any means a common one. Besides the soaps and the bile salts, the higher aliphatic alcohols and acids are known to possess this property in a marked degree.

Not having been able to gain access to his paper, we do not know whether Amann has been able to ascertain the actual chemical nature of the substance or substances which produce the depression of surface tension in normal urine. In the abstract quoted above he refers to them as extractive substances, but this term is one which might cover a great number of different bodies.

Until, however, we know the exact nature of the effective substances and their origin, it will be difficult to interpret the variations of surface tension observed under apparently normal conditions. This uncertainty, moreover, diminishes the value of surface tension observations as an aid to diagnosis in pathological conditions. An exception must, however, already be made in the case of jaundice, where a definite connexion between the surface tension of the urine and the presence of certain pathological constituents has been established.

4.—Influence of Pathological Constituents on the Surface Tension.

In order to ascertain the effects due to the presence of the more commonly-occurring pathological constituents we have carried out experiments in which known amounts of these substances were added to normal healthy urine.

Sugar.—A sample of pure fused dextrose (Kahlbaum) was employed. The results obtained are recorded in the following table:

Influence of Dextrose.

Per Cent. Sugar.	Density.	Number of Drops.	Surface Tension as per Cent. of that of Pure Water.
0.00	1.026	228	89.5
3.26	1.038	220	90.2
4.87	1.044	230	90.3
10.33	1.066	233⅛	90.8

The effect of the dextrose is very slight, tending to increase the surface tension. So far, therefore, as the presence of sugar is concerned surface-tension measurements are not characteristic of pathological conditions.

Bile Salts.—In cases of ordinary (obstructive) jaundice these salts enter the blood stream and thence find their way into the urine, where they produce a very marked depression of surface tension. It is a matter of interest, therefore, to ascertain the effect produced by the addition of these salts to normal urine *in vitro*. The following results show the enormous effects produced by extremely small concentrations of these salts, and enable one to form some estimate of the percentage of bile salts contained in icteric urine.

Sodium Taurocholate.—Specimen obtained from E. Merck:

Effect Produced by Sodium Taurocholate.

Per Cent. Taurocholate.	Density.	Number of Drops.	Surface Tension as per Cent. of that of Water.
0.00000	1.026	227	89.9
0.00165	,,	233	87.6
0.00495	,,	244⅛	83.5
0.00990	,,	257	79.4
0.01650	,,	268	76.2
0.01980	,,	272	75.1
0.03300	,,	286	71.4
0.04950	,,	297	68.7
0.05250	,,	312½	65.3

Sodium Glycocholate.—From E. Merck. Different specimen of urine:

Effect Produced by Sodium Glycocholate.

Per Cent. Glycocholate.	Density.	Number of Drops.	Surface Tension as per Cent. of that of Water.
0.00000	1.022	223⅜	91.0
0.00166	,,	235¼	86.4
0.00498	,,	255	79.8
0.00990	,,	277	73.4
0.01660	,,	295	68.9
0.03320	,,	307	66.2
0.06640	,,	320	62.4

These results are shown graphically in Fig. 2, in which the ordinates represent surface tensions as percentages of that of water, whilst the abscissae represent the concentrations of the bile salt in thousandths of 1 per cent.* The glycocholate acts more powerfully than the taurocholate. It must be stated, however, that the glycocholate employed did not appear to be quite free from pigment, as a stock solution made up from it (2 grams in 100 c.cm.) had a rather brownish colour. The solutions of glycocholate in urine were also rather cloudy. This may possibly have been due to a slight separation of glycocholic acid, caused by the acidity of the urine.

It will be seen from the cases recorded below that the highest drop number observed (in a case of deep jaundice) was 295. Recollecting that human bile contains a much greater proportion of glycocholate than taurocholate, and assuming that the variation of the surface tension from the normal is principally due to the presence of bile salts, we may estimate the proportion of bile salt present in the urine as about two-hundredths of 1 per cent. Although this estimate cannot make any pretension to accuracy, it is quite certain that it is correct, so far at any rate as the order of magnitude is concerned. This result explains the difficulty of isolating and estimating the bile salts in icteric urine by chemical methods. The effect produced by the addition of filtered ox gall to normal urine may be illustrated by an experiment made in the earlier part of this investigation. The drop number only, and not the surface tension, is given, since the time of outflow varied somewhat owing to the deficiencies of the form of speed-control originally employed.

Effect Produced by Filtered Ox Gall.

C.cm. Cholic Fluid in 100 c.cm. Solution.	No. of Drops.	Density.
0.00	215	1.023
0.04	225	
0.10	239	
0.20	255	
0.40	275	
0.60	288	
1.00	297	1.025
1.80	308	1.026

The results are similar to those produced by the bile salts alone.

* Both curves are referred to a urine whose surface tension is 90 per cent. of that of water.

The effect produced on the surface tension by the bile salts is very similar to that caused by the alkali salts of the higher fatty acids—that is, by the soaps. It is very probable that one of the physiological functions of the bile salts is to exercise an emulsifying action on the fats contained in the intestine, similar to the well-known emulsifying action produced by the soaps.

It would be very interesting if determinations could be made of the variation of the surface tension of blood serum in cases of jaundice. Although the concentration of the bile salts in the blood will doubtless be very much lower than in the urine, it is possible that the amount in the blood is sufficient to lower its surface tension in a marked manner. It might be supposed that such an effect would materially alter or derange some of the secretory or other processes in which the blood is concerned. The presence of an emulsifying agent in the blood might also be expected to cause unusual effects.

Acetone.

As acetone occurs in the urine under certain conditions, a few determinations have been made with this substance, as recorded in the table below:

Per Cent. Acetone by Volume.	Number of Drops.	Density.	Surface Tension as per Cent. of Water.
0.0	22½	1.0020	91.0
0.4	22½	1.0215	89.9
1.0	230	1.0210	88.3

Addition of acetone lowers the surface tension, but the effect is not very marked unless about 1 per cent. by volume of acetone is present.

Albumin.

We have not made any experiments with blood proteids, but as all proteid substances exist in a state of pseudo or colloidal solution, it is highly probable that they all behave alike in respect of producing little effect on the surface tension. That this is true for the proteids of egg-white is shown by the following results:

	Number of Drops.	Density.	Surface Tension.
Normal urine	219	1.025	93.1
100 c.cm. + egg-white*	221	1.024	92.2
100 c.cm. + same volume of distilled water	214	1.016	94.7

* The amount added measured exactly 1 fluid oz.

Although the addition of the egg-white not only dilutes the normal urinary constituents, but adds inorganic salts as well as proteid, the results clearly demonstrate that the effect produced by a large amount of proteid is relatively small. The conclusion appears justified that the surface tension affords no certain indication of the presence of serum proteids.

It would be interesting to extend this inquiry to other less commonly occurring pathological constituents, such as the amino-acids (leucine and tyrosine), aceto-acetic acid, lactic acid, beta-oxybutyric acid, etc. It is possible that the result of such an inquiry would be the discovery of pathological constituents other than the bile salts, which produce in small concentration a marked effect on the surface tension of urine.

5. Surface Tension of Urine under Pathological Conditions.

In all cases of catarrhal jaundice so far examined, the surface tension of the urine has been found to be abnormally low and to rise progressively to the normal value as the jaundice passes off. The results obtained in a number of such cases are recorded in the following table.

The progressive rise of surface tension during recovery (see Case E in table) is illustrated by the accompanying chart (Fig 3). It is clear that in all the cases quoted above, bile salts were present in the blood during the icterus, and that their disappearance occurred *pari passu* with the disappearance of the jaundice. In cases of so-called non-obstructive jaundice ("toxæmic jaundice"), bile salts are said to be present in very diminished quantity. A careful examination of the surface tension of the urine in such cases would be very interesting, but during the progress of this work we have not had any opportunity of examining such cases. An examination of the curves given in Fig. 2 shows that the surface tension method is particularly suitable in cases of this sort, since owing to the steepness of the curves near the origin, very small quantities of the bile salts produce a marked effect.

Surface Tension of Urine in Cases of Ordinary Catarrhal Jaundice.

	Density.	Number of Drops.	Surface Tension (Percentage).
A.	1.023	277	73.5
B.	1.020	274	74.1
,, Several days later. Now non-febrile, but skin still yellow	1.017	260	77.8
C. Temporary jaundice (slight) ...	1.022	242	84.0
D. Severe	1.015	295	69.1
,, Two days later	1.021	284	71.5
,, Jaundice gone	1.006	208	96.2
E.	1.022	270	75.3
,, Two days later	1.030	263	77.9
,, Two days later. Bile in motions, tongue clear, and patient better	1.013	235	85.8
,, Three days later. Jaundice quite gone	1.027	225	90.8
F. Incipient jaundice	1.015	248	81.4
,, Several days later	1.020	272	74.6
,, Jaundice gone	1.019	215	94.3
G. Evanescent jaundice	1.018	250	81.0

With regard to other diseases, our observations are scarcely sufficiently numerous to permit of definite conclusions. Owing to the statements attributed to Amann in the abstract alluded to above, we have examined, amongst others, one or two cases of diabetes and of pernicious anaemia, but have not so far observed any very definite effects. It is to be hoped, however, that those who have the resources of a large hospital at their disposal will continue these observations. The tracing of a definite connexion between the surface tension of the urine and other morbid conditions would have considerable value, owing to the ease with which measurements of surface tension can be made. The following table contains some of the determinations referred to above:

	Density.	Number of Drops.	Surface Tension (Percentage).
A. Diabetes mellitus, sugar 4 per cent.	1.030	226	90.7
B. Gouty glycosuria, sugar 5.2 per cent.	1.027	217	94.2
C. Albuminuria	1.020	248	81.8
D. Pernicious anaemia	1.016	231	87.5
E. Suspected pernicious anaemia...	1.010	216	93.0
E. One month later	1.016	241	83.5
F. Papilloma of ovary and phthisis	1.017	228	88.8

6. Pipette for Rapid Clinical Measurements.

For the purposes of rapid work in which the object is rather to detect the presence of abnormal conditions than to make a determination of surface tension, we have employed the small portable pipette shown in Fig. 4. To the lower stem is sealed a capillary tube of about 1 mm. inner bore. In its upper portion the bore of the capillary is sufficiently constricted to reduce the speed of outflow to a convenient value. The pipette shown in the figure contained about 5 c.cm., giving with water at ordinary room temperature 59 drops in eighty seconds. It is unnecessary to have a mark on the lower stem, as the dropping ceases when the level of the liquid reaches the constriction in the capillary. The following table shows the results of some comparisons between the portable pipette and the one used in this investigation:

Urine Employed.	Number of Drops. Portable Pipette.	Fixed Pipette.
Normal	65	227½
Icteric	72	242
,,	76	247
,,	77	260

Although there is not complete quantitative agreement between the two sets of results, it is clear that the small

pipette can be safely relied on to indicate an abnormally low surface tension with certainty, and to give an approximate idea of its value. As the pipette is of exceedingly simple construction and only measures a few inches in length, whilst the test can be carried out in a minute or two, it ought to prove of service as a convenient quantitative substitute for Hay's test.

In conclusion we have great pleasure in expressing our thanks to Mr. J. J. Macaulay, M.P.S.I., for valuable assistance rendered to us on several occasions.

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REMARKS ON A CASE OF DETACHMENT OF THE RETINA.*

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The case of retinal detachment which I propose to report to you is, I think, one of considerable interest. The treatment of detachment of the retina is, unfortunately, one of the most unsatisfactory in the whole range of ocular therapeutics, and the most diverse views are held by ophthalmic surgeons as to the value of different lines of treatment. While on the one hand some, and these mainly, I believe, Continental surgeons, persistently attack all cases of this affection coming under their notice by bold surgical measures, and are able to publish results which are on the whole encouraging—namely, results which go to show that in some cases the detached portion of retina can be restored to its original position, and kept there with a partial restoration of vision—there are others equally eminent who hold the most gloomy views as to the value of operative treatment, and even assert that they have never known a case where operative measures have effected a lasting cure. Some, indeed, condemn as specially inefficient the measures to which I attribute the success of this particular case, and in this connexion I may here point out that these measures were undertaken only after milder methods had been tried and had failed.

The case differs in some very important respects from the majority of those which have been reported. The chief points of difference are, first, the early recognition of the condition, which was effected before the central vision was impaired, which rendered possible the second, namely, that the patient still has full vision—that is, $\frac{6}{6}$. Most of the results which I have seen reported have been secured in patients whose vision had already been much impaired by the detachment and in whom recovery had necessarily been only partial.

The patient, H. A., came to me in July, 1903, complaining of an uncomfortable sensation in his left eye, which he described as being like the shimmer of strong light off the surface of moving water. This had been going on for three weeks previous to his coming to me, and as his sight in both eyes was quite good he did not attach any great importance to it, and, indeed, rather apologized for his visit, which he seemed to think was hardly necessary. There were no other symptoms and the vision in the eye was quite good.

On examination of the affected eye the field of vision was found to be defective below—namely, from a point 20 degrees from the fixation point to the periphery. Central vision was unaffected, the patient reading with full correction $\frac{6}{6}$. Examinations of the fundus revealed the presence of a clearly-marked detachment of the retina in the upper quadrant.

As regards the question of causation in this case, the patient had a myopia in the right eye of 9 D., with a slight astigmatism, and in the left (the affected eye) a myopia of 8 D. Myopia is, of course, the commonest predisposing cause of retinal detachment, but another possible factor in the case was the participation by the patient in a "tug of-war" a week or two previously. Whether the strain involved in this severe physical effort was instrumental in actually determining the detachment must, I suppose, be doubtful.

The condition of affairs, with its very unfavourable prognosis, was communicated to the patient, and the possibility of cure by energetic treatment was offered. Although I was not at all sanguine of success, I felt that this was a case where there were many circumstances in the patient's favour. He was a young and healthy subject; the detachment was obviously recent, and there was no evidence of other intra-ocular disease. And I was encouraged to adopt active measures the more as the patient, who was of a highly-intellectual type, fully realized the gravity of the situation, and was plucky enough to face all the rigours of what promised to be rather drastic treatment, with only a faint hope of ultimate success.

He was admitted to a private nursing home and treatment was begun. The dorsal decubitus was instituted and rigidly adhered to, and in view of the possibility of cure by mild measures only, I tried a course of daily subconjunctival injections of 2 per cent. saline and diaphoresis by daily hypodermic injections of pilocarpine of gr. $\frac{1}{6}$. At this time he was seen by my colleague, Dr. J. W. Browne, in consultation, as I was anxious that no doubt should exist in the patient's mind as to the need for what he had found by this time to be very irksome treatment. Dr. Browne's opinion coincided with my own—that the case was one for active treatment, and that if the injections, diaphoresis, etc., failed, puncture might be tried.

At the end of a week no improvement had taken place. I then decided to perform evacuation of the subretinal fluid by scleral puncture, and effected this without much difficulty, using for the operation an ordinary iridectomy knife. The immediate effect was all that could be desired. The subretinal fluid came away freely, and examination of the eye immediately afterwards with the ophthalmoscope showed the originally grey detached retina back in position with its pink colour restored, the subjective sensation of a grey veil simultaneously disappearing. I followed the puncture by another subconjunctival injection and bandaged the eye firmly with a pressure bandage.

In four days however, the retina again became detached, with return of the subjective phenomena, and I decided again to puncture and, in addition, to apply the galvano-cautery over the seat of operation, with the intention of setting up enough adhesive inflammations of the parts to fasten down the retina. This was done on the twelfth day from the institution of the treatment, and again the immediate effect was completely successful. For eight days after this the retina remained in position, and again the detachment recurred.

At this stage the patient was seen in consultation by my colleague Dr. Nelson. He considered that the former results of the operation had been so favourable as to justify a repetition of the procedure, and this was again done, now near the end of the fourth week from the beginning of the treatment. On this occasion I first dissected back a flap of conjunctiva in order to allow the puncture to be made so far back as possible, and the cautery was energetically used.

After this no signs of detachment again returned. As a precautionary measure, however, I thought it advisable to again apply the cautery at the end of a week in order to cause further inflammatory adhesions. On testing subjectively it was now found that there was a relative colour scotoma in that portion of the field corresponding to the seat of the detachment, that is to say, that colour sensations as determined by a blue test object were, according to the degree of illumination, confused or quite lost over this area, although the object itself could be seen.

Examination of the fundus showed slight opacity and one or two punctate deposits of exudate in the affected portion of the retina. The normal pinky appearance was, however, quite restored. More peripherally the position of the punctures and cauterizations could be easily seen as a deeply-scarred and pigmented surface.

The dorsal position was maintained for ten days further and then the patient was allowed to go home. Three weeks later the condition was still found quite satisfactory, central vision (corrected) being $\frac{6}{6}$, and the only visual defect being a relative colour scotoma over an area of the field extending from the 30th to 60th degree in the lower half. On November 16th this scotoma had so improved that the patient could appreciate colours, but blue appeared darker. The patient was last seen by me in April, 1905—that is, twenty months after the termination of treatment. Vision was still $\frac{6}{6}$, and no sign of detachment could be detected. I would call special attention to the following points in this case:

* Read at a meeting of the Ulster Branch of the British Medical Association.

1. The inefficiency of subconjunctival injections even in conjunction with rigid dorsal decubitus.
2. The prompt response to puncture, followed by the tendency to relapse, even while the decubitus was maintained.
3. To the effective result apparently obtained by the cautery, to which measure I indeed attribute the success of the result.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, ETC.

TRAUMATIC PNEUMONIA.

THE notes by Dr. Forster in the BRITISH MEDICAL JOURNAL, December 9th, recalled to my mind a case in my charge when House-Surgeon in Ayr Hospital. The pneumonia not only followed an injury to the chest wall, but throughout its course presented an interesting and somewhat uncommon clinical picture.

R. K., aged 11, was admitted to hospital on April 28th, 1905, suffering from right sided croupous pneumonia. The following history was obtained: On April 21st when out playing he fell and struck the lower part of the right side of his chest. Two days later he began to complain of pain on that side. No notice was taken for a day or so, as it was thought to be merely due to the bruising sustained in the fall. The pain, however, continued, his breathing became hurried and somewhat laboured, he lost his appetite and could not rest at night. A medical man was then called in, a diagnosis of pneumonia was made and he was removed to hospital on April 28th.

The diagnosis was confirmed on examination, the right lung (lower half) being the affected part. The temperature was 105° F. on admission, the crisis occurred on the ninth day, and in the acute stage the illness ran a fairly typical course.

During his convalescence, which was very prolonged, some interesting points were noted. On May 15th the temperature, after being normal for a week, rose to 101.8° F., and for the next ten days it varied from 99° to 102.8°. A careful examination of the chest was made, and over one limited area posteriorly there was increased vocal resonance and bronchial breathing. He had night sweats and was losing weight. The sputum was scanty and slightly purulent. On May 23rd antiphlogistine was applied, and two days later the temperature fell to normal. I examined the sputum for tubercle bacilli, but failed to see any. I sent up a specimen to the Clinical Research Association, London, for expert opinion, and I received the following report:

> The sputum consists of blood-stained muco-pus, but no tubercle bacilli can be seen after prolonged examination.

The patient shortly afterwards began to make headway. His appetite was good and he gained in weight. On June 7th nothing abnormal in his lungs could be detected. He was allowed up a few days later, and was discharged on June 23rd, 1905. There was no history in this case of exposure to wet or cold, and the injury seems to have been the exciting cause.

Edinburgh. JOHN ALLAN, M.B., Ch.B.

NASAL POLYPI AND ASTHMA.

IN connexion with the vexed question of a relationship between nasal polypi and asthma, the following case may be of interest:

Mrs. X., a lady past middle life, had suffered severely from asthma. She had had nasal polypi removed several times but they rapidly recurred, and it had been decided to try to relieve her by more radical treatment, for a diseased bone was obviously present in the ethmoid region. Dr. Gilmore (Brixton), whose patient she was, gave the anaesthetic (chloroform and ether), and I began by cauterizing the septum. This produced no obvious effect on the breathing but immediately I applied the curette to the middle turbinate region a violent attack of typical asthmatic breathing came on which at first was rather alarming. The operation, however, was continued and finished, and recovery was uneventful. *Post hoc* of course, is not necessarily *propter hoc*, but it certainly appeared as though stirring up the seat of the polypi produced the attack.

London, W. W. H. KELSON, F.R.C.S.Eng.

ABORTIFACIENTS.

DURING the comparatively short time that I have been in practice in this district I have met so many cases in which diachylon has been taken that I now invariably examine the gums of any female patient the nature of whose trouble is at all doubtful. In none of these cases have I seen wrist-drop, although some of them had been taking lead for several months. In one severe case with encephalopathy vomiting and optic trouble for two months, there was no sign of wrist-drop whatever.

Every young medical man fresh from hospital work should be on the look-out when he commences private practice for instances of attempted abortion by drug-taking. If he is, he will avoid much anxiety and trouble, and will never need to be saved from sending a patient to a hospital as a case of intestinal obstruction by a kindly neighbour's query: "Don't you think she has been taking something, Doctor?"

Belper. G. BRITTAN GILL.

REPORTS

ON

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

THE SICK CHILDREN'S HOSPITAL, NEWCASTLE-ON-TYNE.

A CASE OF OMENTAL CYST IN A BOY AGED 8 YEARS.

(Reported by PAUL MATHEWS, M.B., late Resident Medical Officer.)

THE following case appears one of such unusual interest that I venture to publish the notes in full.

J. N. F., a boy aged 8, was admitted to the Newcastle Sick Children's Hospital in October, 1904, with the following history. He had measles nine months previously, after which he began to complain of vague abdominal pain, chiefly in the left side. Gradual distension of the abdomen then set in, and continued until admission to hospital. He latterly suffered from considerable dyspnoea, at first on exertion only, then constantly. The pain subsided as the distension increased. There was no history of any previous illness or of trauma, and nothing of note was discovered in the family history.

State on Admission.—His general development was good, nutrition rather poor. There was no oedema or cyanosis, but slight dyspnoea. Abdominal tumidity was very marked, the general contour being globular. The superficial veins were distended, but no caput medusae was formed. Resistance to palpation was most marked in the centre and just above the umbilicus. The maximum circumference occurred 2 in. above this level, and was 27 in. The umbilicus was flattened, but not reddened. There was no pigmentation of the abdomen. The abdomen was not tender on palpation. Percussion gave absolute dullness everywhere except in the flanks and hypogastrium, where the note was tympanitic. The limits of dullness were not affected by alteration of posture. There was a well-marked fluid thrill. A few small glands were palpable low down in both axillae, in the groins, and in the supraclavicular triangle. The urine contained 0.1 per cent. of albumen, but no casts; reaction, acid. Examination of other organs revealed nothing of note.

Tapping.—October 10th. The abdomen was tapped in middle line below the umbilicus with a Southey's tube, and 84 oz. of fluid drawn off having the following characters: Opaque red-brown colour, alkaline reaction, specific gravity 1,024; did not coagulate on standing; heavy deposit of red blood cells, with few leucocytes and endothelial cells. On standing the deposit was bright red and the supernatant fluid olive green (opaque).

After tapping, the circumference of the abdomen was 21½ in., walls flaccid and permitting free palpation. The liver and spleen were not palpable, and there was no sign of enlargement of either organ. An indistinct mass was palpable lying along the right side of the vertebral column. Kidneys not palpable. The urine was free from albumen, and its presence never recurred.

The abdomen slowly filled again, and on November 16th the circumference was 24 in. After this it remained stationary and the patient had no discomfort or other bad symptoms. His general condition improved and he was allowed to go home, where he was kept under observation.

Readmission.—He was readmitted in April, 1905, as the tumidity was increasing and his general health was failing. On admission the general condition was much the same as before. Circumference of abdomen 26¼ in. He was again tapped and 40 oz. of fluid withdrawn with the same characters as before. The abdomen filled more rapidly, and on May 7th 70 oz. of fluid were withdrawn. The fluid on this occasion was examined, and found to contain no less than 750,000 red blood cells per c mm. Examined chemically it contained 3.78 per cent. of proteid, 0.8 per cent. inorganic salts and a trace of

fat. No reducing substance was present. The deposit consisted almost entirely of red cells, white blood cells being present in exceedingly small numbers.

After the third tapping the patient improved markedly, and the abdomen filled very gradually without producing any symptoms. On September 28th, however, he complained of severe epigastric pain, had several attacks of vomiting, and the temperature ran up to 102° to 103° F. For the next three days he had a high temperature (101° to 103°), vomiting was frequent, and assumed a bilious character; there was constipation but no obstipation, and he had frequent attacks of pain in the abdomen, varying in position, but usually most marked in the left flank and below the navel. The urine was free from albumen.

Operation.—On October 1st Mr. Whillis operated. An incision was made in the middle line above the umbilicus. As soon as the peritoneum was opened a smooth cyst wall with a somewhat greenish hue presented in the wound. This was tapped, and over six pints of dark brown fluid, resembling that which had previously been withdrawn, was evacuated. Having emptied the cyst its relations were then explored. It lay entirely in front of the intestines, and was slightly adherent to the parietal peritoneum in the mid line below the umbilicus and in the right flank. These adhesions were separated and the cyst found to be attached to a thick pedicle of omentum running up to the transverse colon. This pedicle was clamped and the cyst withdrawn from the abdomen entire. All the viscera appeared healthy, and the cyst was not attached to any viscus. Except for severe cyanosis at the commencement of the operation patient stood the operation well and exhibited no bad signs. On the day after the operation he was very collapsed, but this passed off, and he subsequently made an uninterrupted recovery. It is of interest to note that the temperature came down immediately after operation and never rose again. The vomiting also ceased with the exception of slight vomiting which might be ascribed to the anaesthetic. What the relation was between the pyretic attack and the condition of the cyst cannot be definitely determined.

Examination of the cyst showed that it consisted of a large sac with a smooth serous external surface. The internal surface was rough, and showed numerous somewhat shaggy thickenings. A portion of the cyst wall was examined by Dr. R. A. Bolam, who reported that it was composed of lymph-angiomatous tissue.

Result.—Since the operation patient has made an uninterrupted recovery, and has not shown any sign of recurrence. Examination of the abdomen reveals nothing abnormal, and patient's general condition is highly satisfactory.

I have to thank Dr. Ogden and Mr. Whillis for permission to publish these notes.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

BIRMINGHAM BRANCH.

Birmingham, Thursday, December 14th, 1905.

Sir Thomas Chavasse, President, in the Chair.

Pathological Dislocation of Hip during the Course of Scarlet Fever.—Mr. Haslam showed a girl, aged 13 years, who was as well and active as other children until four years ago, when she had a sharp attack of scarlet fever. After being in bed for a fortnight she had pain in the right hip, which soon became flexed. She remained in bed for another nine weeks, and when she got up she had some slight pain in the hip and there was limping. The limb was in good position. There was now shortening to the extent of 1½ in.; the trochanter was prominent and drawn up; the limb was parallel to the other, and the only limitation of movement was to a slight extent in that of abduction. She could walk several miles, and did not complain of anything but the limping. The *x* rays showed that the head of the bone was on the dorsum of the ilium just above the acetabulum.

Appendix Vermiformis Inherent to Cystic Ovary.—Mr. J. T. J Morrison showed an appendix and ovary closely connected by an adhesion caused, presumably, by acute appendicitis a year ago. He had removed both organs together on December 8th, at the Queen's Hospital, the operation having been undertaken for excision of the diseased appendix in a quiescent stage. This structure was traced into the pelvis, where it was found attached to the right ovary, which was cystic and the size of a small orange. There was also an independent cyst hanging from the ovary by a slender pedicle 2 in. long. The patient was a well-grown girl of 17 who had never menstruated. She had suffered great pain from the continuous dragging of the adherent appendix. Mr. Morrison called attention to the importance of examining the pelvic viscera in certain cases of appendicitis in women. The patient was making an uneventful recovery.

Subacute Lymphangitis.—Dr. McMunn, Wolverhampton, communicated notes of a case. A man, aged 35 years, had been quite healthy up to the end of November, 1902. He then developed pain all over, especially in the legs. In the following January the scalp and forehead became discoloured gradually, of a bluish-grey. In February the pain increased, and profuse sweating set in, and he was supposed to have rheumatic fever. On admission to hospital he was found to be suffering from lymphatic leukaemia. The case ran a subacute course, as the man lived about nine months after the symptoms began. The lymphatic glands became enlarged generally early in the case, and the spleen enormously enlarged. Haemorrhages took place into the skin and mucous membranes, but the most striking feature was the intense purplish discoloration of the face and scalp, which lasted up to death. On trunk, arms, and legs smaller haemorrhages were seen. The autopsy revealed lymphoid change in the marrow of femur, etc., lymphoid infiltration of liver and kidneys, and hypertrophy of a persistent thymus.

Cystic Disease of Liver and Kidneys.—Dr. McMunn also contributed notes on a case of combined cystic disease of liver and kidneys. Although very little liver or kidney substance was left owing to the invasion of cysts, yet the patient, a man aged 46 years, had very little discomfort up to two months before death. The liver and kidneys were found after death enormously enlarged from the presence of cysts, and yet, in spite of the renal condition, the urine appeared normal except for a trace of albumen. It was also passed in normal quantity. Drs. Kauffmann, Heath, and Wynn discussed the paper, and Dr McMunn replied.

The Temperature in Diseases of Liver.—Dr. J. W. Russell read a paper on the temperature in certain diseases of the liver and bile passages, under the following heads: Frequency of pyrexia in hepatic disease; difficulties in diagnosis; types of temperature chart in carcinoma, carcinoma with suppuration, hepatic abscess, abscess of gall bladder, gall stones, and catarrhal jaundice.

South Midland Branch.—The autumnal meeting of this Branch was held at the Eight Bells Hotel, Bletchley, on November 16th, under the presidency of Dr. Lipscomb (St. Albans). The Secretary read a lengthy and valuable account by Dr. Robb of the recent epidemic of cerebro-spinal meningitis in Irthlingborough. The paper included a history of the disease, its varieties, a minute description of all the cases, and remarks on the infectivity and treatment of the disease. Dr. Robb laid special stress on the mild or abortive form, which closely resembled influenza, but with distinct spinal pain and tenderness.—Mr. H. R. Jacobs (Culworth) read notes of 4 cases of mammary tumour, dwelling especially on prognosis in simple and malignant cases. The first case was remarkable, a small scirrhus having been removed without removal of the breast, and without clearing the axilla, and there had been no recurrence for sixteen years.—Mr. Cecil Powell (Stony Stratford) showed a woman with an enormous hypertrophy of breast, probably cystic adenoma. The papers and case were freely discussed by the members.

Metropolitan Counties Branch: Hampstead Division.—A meeting of this Division was held on Friday, December 15th, at 8.30 p.m., at the North-West London Hospital, Kentish Town Road, Mr. F. R. Humphreys in the chair.—Mr. Jackson Clarke gave a clinical lecture on Some Points in the Treatment of Tuberculous Disease of the Joints and Spine. He stated that it was not at all necessary that operations on tuberculous patients should be performed in the country, as such cases did well in London, so far as the operation was concerned. In cases of tuberculous abscess sinus the dressing he found best was double cyanide gauze wrung out of 1 in 40 carbolic lotion. The latter must be made with boiling water, so as to be evenly diffused, and was then safe for irrigating. The lecturer then showed a girl with tuberculous disease of the hip, who was wearing a Thomas's splint, and a boy with tuberculous disease of the spine wearing a Chance's splint. He spoke of the great value of these splints, and explained how they could be made accurately to a doctor's prescription. The doctor should always fit

the splint himself before the padding was put on. Chance's splint could be made at a cost of £2 to £2 10s. It was an excellent splint for spinal cases, as it gave just the right amount of support and could be adjusted to suit decreasing deformity. Its great advantage over poroplastic splints was that it did not interfere at all with the patient's breathing and was cool in hot weather. If the disease were high up a headpiece should be added. It should be worn from two to five years, when the patient was sitting or standing, not necessarily worn when lying down. Both Thomas's and Chance's splints had the great advantage of enabling the patient to get out into the air and to take some exercise.—Mr. CLARKE also showed: (1) A case of double congenital dislocation of the hip, undergoing Lorenz's treatment; improvement was illustrated by skiagraphs. (2) A curious case of a Polish boy, aged 4, with buphthalmos, proptosis and dilated pupil in the right eye, hypertrophy of the tissues of the right cheek, of the right side of the jaw, and of bone in the right temporo-parietal region; arteries thickened on the right side of the head. Mr. Clarke thought the case was one of partial giantism with some malignant growth in the right temporal bone superadded. A brief discussion followed.

REPORTS OF SOCIETIES.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

CHARLES J. OLDHAM, F.R.C.S., Vice-President, in the Chair.

Thursday, December 14th, 1905.

LIGHT SENSE IN STRABISMUS.

DR. D. MATHESON MACKAY read a paper on the light sense in strabismus, based on an examination of 1,245 cases of strabismic or amblyopic patients. No corresponding observations had been published, and his own investigations had been undertaken in order to discover if there were any defect in the light minimum, or the light difference, of the affected eye which could account for the strabismus or the amblyopia. The photometer employed was a new one, and was described as having several advantages over those previously used. The cases were arranged in six groups—convergent strabismus with amblyopia (66 cases), convergent strabismus without amblyopia (30 cases), alternate convergent strabismus with double amblyopia (2 cases), divergent strabismus with amblyopia (9 cases), divergent strabismus without amblyopia (4 cases), and amblyopia without strabismus (14 cases). In all these cases both the light minimum and the light difference were estimated separately, and the results in the more important groups showed that a large majority of the affected eyes had normal light sense (77 to 90 per cent. as to the light minimum, and 75 to 80 per cent. as to the light difference). The lesser groups had the same tendency, but on account of the small number of cases their results were not insisted upon. His general conclusion was that the condition of the light sense was not responsible for the squint or for the amblyopia.

CYCLOPS.

Mr. STEPHEN MAYOU read a paper on cyclops. The specimens, four in number, were obtained at the London Hospital through the kindness of Dr. Keith.

Case I was that of cyclops in a dog. It showed a single centrally-[illegible] lens, and a single retina. The [illegible] cells.

Case II was a human cyclops having two lenses, cornea and retinæ, with a single optic nerve. This specimen was peculiar in having no proboscis or olfactory nerve.

Case III was a human cyclops with extreme microphthalmos. It had [illegible] a portion of the pro[illegible]. The posterior halves of the ventricles were converted into a large cyst (local hydrocephalus).

Case IV was a twin cyclops, with complete union of heads, and fusion between [illegible] fœtus; the fusion was so perfect that no differentiation could be made out except a small coloboma of the nerve sheath.

Full anatomical details of the results of the maldevelopment of the first cerebral vesicle, together with the microscopic anatomy of the eyes, were given.

RETRO-OCULAR TUMOUR.

Mr. RICHARDSON CROSS gave a description of 7 cases he had operated upon for retro-ocular tumour; 5 of them were treated by Krönlein's method. He described the various conditions in which an exploratory operation such as this would be of the greatest benefit; it assisted the diagnosis, and left the patient no worse for its performance. The operation was briefly explained.

Case I was a fibro-adenoma of the lachrymal gland, but it left behind ptosis and partial paralysis of the ocular muscles with inversion of the eyeball; an unsatisfactory result. Case II was a hydatid cyst removed from the optic nerve. This was removed with good result. Case III was a fibro-fatty tumour of the eyeball, which passed backwards into the orbit. It was removed successfully. Case IV was a sarcoma of the upper lid, which caused proptosis. The eyeball had to be removed with the tumour, as it happened, although there seemed a reasonable probability that the eye might be saved before the operation was undertaken. The patient made a good recovery. Case V was a similar growth under the upper lid, in which the orbit was eviscerated without any attempt having been made to save the eye. Case VI was a large growth at the inner and lower part of the orbit, which was removed by an incision along the inner and lower walls of the orbit. Case VII was one of severe proptosis, with retro-ocular growth treated by Krönlein's method. A sarcomatous mass had destroyed the upper wall of the orbit, and was in contact with the brain. The antrum was also involved. The wound healed up and left good vision, and good use of the eyeball; even the internal rectus was not damaged.

Mr. Cross also showed another case in which he considered an exploratory operation desirable. He was greatly impressed with the utility of the operation, and urged that it should be done in any case in which there was doubt as to the nature of the condition of the orbit.

EDINBURGH OBSTETRICAL SOCIETY.

Dr. J. W. BALLANTYNE, President, in the Chair.

Wednesday, December 13th, 1905.

PUDENDAL MYXOMA.

DR. BARBOUR SIMPSON read notes of a case of pudendal myxoma. The tumour, of the size of a small orange, occupied the middle third of the labium majus, and was pedunculated, the stalk being formed by skin, blood vessels, and prolongations of the myxomatous tissue. Microscopical examination showed it to be a true myxoma, a type of tumour very rarely found in association with the external genitals.

Dr. ANGUS MCDONALD had met with a similar condition three years ago in a patient a short time before the birth of her first child. He removed the growth. Pregnancy occurred again this year, and again he found a similar tumour occupying the site of the one removed three years ago.

Dr. CARMICHAEL was of opinion that such growths arose from some fibres of the round ligament, the terminals of which were found in the labium majus.

Dr. CAMPBELL doubted if a true myxoma existed. Such tumours were primarily fibrous, and had undergone myxomatous changes.

The PRESIDENT believed that a true myxoma might occur, and in this secondary fibrous changes might arise. The umbilical cord, largely composed of myxomatous tissue, was occasionally the site of a fibrous degeneration.

SPINAL TAPPING.

The PRESIDENT (Dr. J. W. Ballantyne) read a paper on the delivery of a hydrocephalic fœtus. He regarded spinal tapping as the safest procedure by which to facilitate delivery of the head, as the risk of septic infection of the mother was lessened. He always employed a No. 6 silver male catheter, and before passing the instrument along the spinal canal into the brain he straightened out the curve. The patient whom Dr. Ballantyne had thus delivered of a hydrocephalic child, on a former occasion had given birth to an anencephalic female fœtus. In the vast majority of cases of anencephali which had come under his notice, the fœtus was of the female sex. Certain women, it appeared to him, were more prone than others to produce monsters. This he termed "monstriparity," and in proof adduced several examples. In his experience a syphilitic history was very rare in the parents of monsters.

PATHOLOGICAL SOCIETY OF LONDON.

WILLIAM PAVY, M.D., F.R.S., Vice-President, in the Chair.

Tuesday, December 19th, 1905.

THE MAMMARY GLANDS AND THE FŒTUS.

Mr. S. G. SHATTOCK, after referring to the recent work by Professor Starling, which showed that extracts of fœtal rabbit tissues when regularly injected for prolonged periods into the subcutaneous tissue of the virgin rabbit produced enlargement of the mammary gland such as occurs in the pregnant rabbit, put on record some observations of a converse character, which he had carried out five years ago. The question the speaker had put to himself was, Do the enlarging breasts of pregnancy

furnish an internal secretion which is necessary for the growth of the fetus? The mammary glands were removed in a series of guinea-pigs, the ducts being cut across quite close to the under side of the nipple. The complete removal was not itself difficult, as in the guinea-pig the mammary tissue did not wander far into fat; but the extensive raising of the skin was followed by some necrosis, although the wounds were carefully sutured and sealed with gauze and collodion. In three of the animals the wounds completely healed, and, being in good health, a male was put to each. One became pregnant. It was separated from the male, and in May, 1901, bore three young, two of full size. One of these was artificially fed, and kept alive for six days, when its weight was 56 grams. The author concluded from this result that the mammary glands during pregnancy did not furnish an internal secretion which was necessary for the proper development and growth of the fetus.

British Gynaecological Society.—At a meeting held on December 14th, Dr. Richard Smith read notes of a case of associated pyosalpinx and appendicitis and showed the specimen consisting of a dilated right Fallopian tube perforated appendix and small concretion which escaped during operation. There was a history of appendicitis associated with pregnancy five years previously since which dysmenorrhoea of increasing severity had existed. The patient complained of pain in the right iliac region much increased on movement. The right iliac region was occupied by a hard tender mass extending half way to the umbilicus and down into the pelvis closely contiguous to the uterus. An incision was made along the right semilunar line. The lower right quadrant of the abdomen contained a mass of inflamed hard tissue with dense adhesions. The tube was dissected out without rupture. Between the appendix and tube an abscess existed containing two or three drachms of pus. The appendix was behind the tumour and on removing it a perforation was found and near it the concretion. The pus was removed with gauze and no drainage established. The abdominal wound healed by the tenth day and convalescence was uneventful. Mr. Charles Ryall considered the case interesting from the association of pregnancy and appendicitis. Adhesions between appendix and pelvic organs were fairly common. He advised a routine examination of the appendix whenever the abdomen was opened. Dr. C. H. F. Routh mentioned a case under his care in which, on opening the abdomen, an abscess was found on the right side containing fetid pus and several intestinal sloughs. Next day a slough containing the caecum was found in the wound. The patient was well in three weeks. Mr. F. B. Jessett approved of dry swabbing rather than flushing. Dr. R. T. Smith said there was no pyrexia.—Dr. F. Purcell read notes of a case of broad ligament cyst removed by enucleation where the left ureter was injured during operation. Subsequent examination showed a fistula on the anterior surface of the ureter embedded in cicatricial tissue. The ureter was brought out on the loin as the remaining portion was too short to be implanted in the bladder. The peritoneum was united by a continuous catgut suture and the wall by the method described by Bishop.—The discussion on Dr. Smallwood Savage's paper on haematoma of the ovary was continued.

Dermatological Society of London.—At a meeting on December 13th, Dr. H. Radcliffe Crocker in the chair, Dr. Arthur Whitfield showed a case of psoriasis vulgaris in a woman aged 45 years, in whom on one patch of psoriasis a rodent ulcer had developed and persisted for five years. The edge of the ulcer was not of the usual firm consistence found in rodent ulcer, and the diagnosis had been at first rather hesitating, but a microscopic section from the ulcer showed unmistakable characters of rodent. The position—on the summit of the shoulder—was also very uncommon. The woman had had ordinary psoriasis for many years before the rodent had shown itself.—Mr. Percy Sargent, introduced by Dr. Dore, showed a woman aged 31 years, the subject of psoriasis since her childhood, who had developed an epithelioma upon a patch of psoriasis on the right thigh. The growth was operated upon ten months after its appearance, and at that time had attained the size of a small tea saucer. The inguinal lymphatic glands were also characteristically enlarged. A portion of the growth examined microscopically showed the presence of a squamous-celled carcinoma. The malignant excrescence was removed by operation, and a Thiersch graft successfully applied. It was interesting to note that psoriasis had occurred upon the grafted portion. No recurrence of the malignant growth had taken place, the operation having been performed ten months ago. A photograph of the condition before the operation was also handed in.—Dr. J. M. H. Macleod showed a child with multiple-pigmented naevi of the scalp. The history given was curious, in that it was said that the pigmented naevi had commenced as vascular naevi.—Dr. H. G. Adamson showed a child with a linear unilateral verrucose naevus on the left side of the chest (running across the thorax at the level of the nipple to the arm) which was described as having commenced at the age of 3 years, the child now being 10.—Dr. J. H. Sequeira showed a little girl with lupus of the nose, in whom the tongue had become secondarily affected with tuberculous disease.

Hunterian Society.—At a meeting on December 13th, Dr. Fred. J. Smith, President, in the chair, Dr. Treves Fox read a paper on the human alimentary tract, with special reference to constipation. He divided the tract into five retort-shaped portions, namely:—(1) Pharynx and oesophagus; (2) stomach; (3) duodenum, jejunum, and ileum; (4) caecum, ascending, transverse and descending colon; (5) sigmoid flexure and rectum. Each of these portions except the fourth was closed by a valve, and each retort was responsible for "ecbolismata"; these were comparable to discharges from a gun and quite apart from peristaltic movements. The rectum was not a receptacle; it should be merely a passage containing just enough gas to enable it to act as an air-cushion to afford comfortable support to the uterus or prostate. There should be a diurnal revolution—alternate conditions of systole and diastole occurring in all the five parts of the alimentary canal.—Mr. Hugh Lett read a paper on the surgical treatment of colitis, and discussed the relative merits of four operations—1. Right inguinal colotomy, with establishment of an artificial anus and subsequent irrigation of the colon. Disadvantages of this method were (*a*) absence of control over motions; (*b*) irritation of the skin from the action of liquid faeces; (*c*) necessity of a second operation to close the artificial anus. 2. Ileo-sigmoidostomy, the short-circuiting operation. Its advantages were that there was no artificial anus, and so no necessity for a second operation. 3. Carda-Gibson valvular caecostomy. After this operation irrigation of the colon could be carried out freely, there was no escape of faeces, and the valvular opening tended to close spontaneously. 4. Appendicostomy. If the appendix were healthy this operation was easy and safe, and the opening could be closed without difficulty, but only a small tube could be passed for irrigating purposes. After appendicitis the operation might be one of great difficulty. Mucous colitis often came to an end when the constipation was cured.—Mr. Hugh M. Rigby considered that ileo-sigmoidostomy had a great future before it, and described 3 cases in which he had performed this operation with success on account of obstruction. Some cases presented all the signs of acute obstruction although there was no mechanical obstruction. In these, operative treatment seemed to be of little use.—Dr. Ernst Michels had performed the operation of ileo-colostomy in 3 or 4 cases and had not seen diarrhoea following it. He had had great difficulty in closing the artificial anus in one case of right-sided colotomy on account of contraction of the excluded part of the gut.—Dr. Fortescue Fox discussed slight cases of colitis occurring in patients not subject to catarrh. They were associated with abnormal conditions of the peripheral circulation. The genu-pectoral position should always be used when giving large enemata.—Dr. W. A. Milligan related the history of a female patient who had suffered from alternating constipation and diarrhoea for fifteen years. For the last six months an occasional dose of bismuth had ensured normal action of the bowel.—The President disputed the value of rest for the colon and the correctness of the generally-accepted explanation of the etiology of stercoral ulcers. Typhoid ulcers healed without rest in spite of being constantly bathed in faeces. Two cases of colitis under his own care had improved steadily after appendicostomy. Irrigation with cyllin caused great irritation to the colon.

Association of Registered Medical Women.—At a meeting on December 5th, Miss Aldrich-Blake in the chair, Mrs. Boyd read a paper on 2 cases of primary carcinoma of the urethra treated by partial urethrectomy. Both cases involved the greater part of the urethra from the orifice upwards and only a very small length of urethra could be left, but the neck of the bladder was not encroached upon. In both there was almost complete control over micturition for

a short period, but it was lost when the patients began to get about. The conclusion was drawn that where the urethra had to be resected above the triangular ligament, the urethra should be closed below and permanent suprapubic drainage established. As regards recurrency, the first case had remained well for a period of four and a half years. In the second the operation was recent.—Miss Simpson read notes of a case of lympho-sarcoma of the mediastinum. The patient, aged 20, had been treated for anaemia and headache for four months when swellings were noticed above the right clavicle, but no general enlargement of glands. She had previously suffered from enlarged cervical glands first noticed at the age of 11 years and had been operated on at various hospitals. The glands removed were reported to be "sarcomatous in appearance" on one occasion and on others they were considered tuberculous at the operation, but no microscopical reports were obtainable. Four months after the swellings were noticed the patient developed acute dyspnoea and died of asphyxia. *Post-mortem* examination showed a large hard irregular mass enveloping the trachea and oesophagus and passing into the right side of the chest. Microscopic sections proved the growth to be lympho-sarcoma. The chief point of interest in the case was the question whether the original enlargement of the cervical glands had been due to slow-growing lympho-sarcoma, but in the absence of microscopical reports this question could not be settled.

Glasgow Pathological and Clinical Society.—At a meeting on December 11th, Professor Muir, President, in the chair, Dr. Alfred A. Young showed (1) a young man, aged 23, with a large and slightly ulcerated cancerous tumour of the scalp, having secondary nodules around it; there were also enlarged and hard lymphatic glands behind the ear and along the border of the sterno-mastoid muscle. A small tumour, supposed to be a wen, had been removed at the beginning of the year, but the wound never healed satisfactorily. Six months ago a fungating mass was removed, and shortly afterwards hard nodules appeared on the scar and in the neck and grew rapidly. The microscopic characters of the tumour resembled rodent ulcer, but the cells were of larger size, and appeared to be derived from the deeper layers of the skin or from the hair follicles. (2) A microscopical section of a small-celled cancerous tumour which appeared within a few weeks of healing in the scar of an empyema wound. (3) A specimen of a melanotic sarcoma arising from a pigmented mole in the skin of the forearm of a woman aged 40. The affected axillary glands, which were noticed to be enlarged within six months of the time when the altered character of the mole first attracted attention were also shown. The case clinically pursued a course like that of a quickly-infecting carcinoma, but the microscopic characters were clearly sarcomatous.—Dr. T. K. Munro read notes of a case of subacute spinal muscular atrophy. The patient, a man aged 56, had been in failing health for about a year previous to his admission to hospital. On admission he suffered from loss of power in his legs, want of control over bladder and rectum, and marked atrophy of the muscles of the lower limbs, loss of knee reflexes, no loss of sensation. The power of the upper limbs was diminished, but by no means lost. The illness was of a progressive character, and after three months' residence terminated in a low form of pneumonia. The changes in the spinal cord were investigated by Dr. J. W. Findlay, who showed a number of sections from the case; the chief features revealed by histological examination were: a great scarcity of the motor nerve cells in the lumbar and sacral segments; a number of the remaining ganglionic cells showed degenerative changes, the anterior nerve roots in the same regions showed marked atrophy, and evidences of degeneration on the pyramidal tracts were also present. The muscles of the thigh were also examined, and showed practically complete replacement by fatty and connective tissue.—Dr. J. Stoddart Barr read notes of a fatal case of septic thrombosis of the lateral sinus, secondary to chronic purulent otitis media and complicated with septic infarctions in the lung. The patient was a girl of 7, who suffered from a continuous discharge from the ear of a year's duration dating from an attack of whooping-cough. At the date of admission to hospital she was suffering also from headache and severe rigors, and the temperature ranged from normal to 104° F. The radical mastoid operation was performed, the sigmoid sinus was explored and found thrombosed, and this condition was also treated. The patient died two days later, and in addition there was found at the *post mortem* examination septic infarctions in the right lung. The organisms present in the case were the pneumococcus, streptococci, and an unidentified large bacillus.

Liverpool Medical Institution.—At the first pathological meeting on Thursday, December 7th, Sir James Barr, President, in the chair, the following were among the specimens shown: Dr. Ernest Glynn, a liver from a case of miliary tuberculosis and containing a number of small bile-stained abscesses; also the spleen from the same case with multiple infarctions distributed in its substance and containing in their centres an artery which showed advanced proliferation of the intima, leading in some instances to complete obliteration.—Examples of carcinoma in the male breast were shown by Mr. Newbolt and by Mr. Thelwall Thomas, the latter also showing a hypernephroma. Respecting this Professor Moore remarked that though at birth the suprarenal gland was relatively large it did not contain adrenalin.—Dr. Warrington exhibited a liver in which the biliary apparatus was practically absent, being represented by a small amount of fibrous tissue, apparently the remains of the gall bladder. The sections showed marked cirrhosis, and the bile capillaries were found infected even as far as their origin from between the liver cells. Mr. Douglas-Crawford, discussing the pathogenesis of such cases, concluded that the disease in this instance dated from about the sixth week of intrauterine life.—A paper was read by Professor Benjamin Moore giving an account of some researches undertaken by himself in conjunction with Dr. Roaf and Mr. Whitley on the chemistry of carcinoma: The more important conclusions reached by these investigators were (1) that whilst hydrochloric acid was found absent in the gastric juice in about a quarter of the number of analyses made, in which the juice was obtained from hospital patients not suffering from any form of cancer, it was absent in two-thirds of those suffering from cancer not of the stomach. This implied an increased alkalinity of the blood. (2) That alkalies were capable of altering the normal cell growth and division of the eggs of sea urchins, producing multipolar, asymmetrical and heterotype mitosis. Since in malignant disease the alkalinity of the blood to stable indicators was increased showing an increase in the concentration of disodium phosphate, the life-history of the phosphorus metabolism in the body was of much importance.—Dr. Alexander, whose patients had chiefly been examined for the purpose of this research, then made the statement that in a number of the cases of carcinoma so extensive and adherent as to be inoperable, the administration of hydrochloric acid and of acid sodium phosphate had resulted in a freeing of the growth from neighbouring structures, so as to permit successful removal of the cancer. Perhaps the most remarkable instance quoted was one of carcinoma of the rectum, in which the mass could be felt through the abdominal wall; a colotomy was performed, and acid given by the mouth. The patient who last May, at the time of operation, was apparently near death, was now engaged in his occupation, and no cancer growth could be felt by digital examination of the rectum. Whilst refusing to draw any certain inference from these cases, and recognizing the occasional apparent spontaneous disappearance of cancer, Dr. Alexander considered the treatment should be further investigated.

Sheffield Medico-Chirurgical Society.—At a meeting held in the University on November 23rd, Dr W. Tusting Cocking, President, in the chair, Dr. W. Harwood Nutt showed a patient with spleno-medullary leukaemia who had been treated by *x* rays. Before treatment the spleen reached to the level of the umbilicus; the liver was enlarged; there was pain on percussion over the ends of the long bones. The blood count showed 47·6 per cent. myelocytes, 65 per cent. haemoglobin, 591,250 leucocytes, and 1,560 000 erythrocytes per c.mm. There was a marked eosinophilia, and nucleated red cells and mast cells were present. The *x* rays were exhibited over the ends of the long bones, spleen, hips and sternum for ten minutes at a time, giving two exposures daily. From March 1st to May 29th, 1905, 80 exposures were given. This, combined with arsenic and rest in bed resulted in the general symptoms disappearing. The spleen became smaller and softer. The blood count showed 4,183 333 erythrocytes, 75 000 leucocytes, and 95 per cent. haemoglobin. A myelocytosis had given way to a leucocytosis of the polynucleated type. Since then, owing to less constant treatment some of the old symptoms had returned. The spleen and liver had increased in size. The leucocytes had increased and the ery-

throcytes and haemoglobin diminished.—Mr. P. E. Barber read a paper on a series of cases of Caesarean section. If, after careful pelvic measurement, he found that a living child could not be born at term, he advised either premature induction of labour or Caesarean section. Before performing the operation it was necessary to measure the fetal head and to see whether the head, if not engaged, could be made to do so, as children of the same mother might vary considerably in cephalic measurements, and that although a previous cephalotripsy had been necessary it might be possible to deliver with forceps or by version. Of 14 cases of section 12 had been for contracted pelvis, 1 for obstruction by an ovarian cyst, and 1 for growths—probably osteo-chondromata—from the pelvic bones. There were 13 maternal recoveries and 1 death due to a previously-contracted septicaemia, and 12 living children. In 1 case the uterus was removed for fibroids. His experience was that some form of generally contracted pelvis was more common than the flattened; this, too, was Edgar's experience in New York, but contrary to that of Herman. The opening in the uterus should be carefully closed with deep and superficial sutures. The three points of interest with reference to the operation were; (1) Time of performance; (2) sterilization; (3) uterine adhesions. He advised waiting for the commencement of labour, as there was less chance of haemorrhage at the time of the operation and after, although not so convenient in other respects. He advocated sterilization by tying and dividing the tubes; first, to avoid the necessity for subsequent operations; and, secondly, for the sake of the community. With regard to uterine adhesions to the abdominal wall, in many cases where the organ, particularly when enlarged, could not get into the pelvis, he thought that possibly tucking the omentum behind the uterus and the use of aseptics as opposed to antiseptics, might minimize the chance of their formation.

Anatomical Society of Great Britain and Ireland.—At the annual general meeting of the Society, held at St. Bartholomew's Hospital on November 24th, Mr. J. W. Thomson Walker introduced a discussion on the surgical anatomy of the prostate, making the following statement: The sheath of the prostate is formed by the rectovesical fascia, and envelops the organ, except at its basal attachment to the bladder and at the apex, where it becomes incorporated with the striped muscle surrounding the urethra. The sheath may be stripped off the prostate in the lateral and posterior surfaces, but not along the anterior surface, where it is firmly adherent to the organ. The anterior portion of the sheath differs from the rest of the envelope. It is firmly adherent to the prostate, and is not formed by the layer of fascia which passes down over the lateral aspects of the gland. In the surface of this part of the sheath is a thin layer of fascia, which corresponds to the upward reflexion of fascia over the bladder. Beneath this is a thick band, the fibres of which are irregularly set, and embedded in them are masses of fat and non-striped muscle and the veins of the prostatic plexus. The prostate is adherent to the under surface of the bladder base, and extends backwards for about ½ in. behind the urethra to about the middle of the trigone. The greatest lateral extent is in a line passing outwards and backwards from the urethra, and measures about ⅛ in. on each side. The trigone of the bladder is a definite muscular triangle, which is formed by a bar of muscle passing between the ureters and a band from each ureter to the urethra. These bands unite, and pass on into the wall of the urethra. Beneath these longitudinal fibres is a flat layer of circular fibres, which may be distinguished from the rest of the circular bladder muscle. This layer becomes thicker as it approaches the urethra, and forms a wedge behind the urethral opening, and then passes on into the urethral wall. This circular muscle is not found in the bladder wall in front of the urethra but forms a thick layer along the anterior wall of the prostatic urethra. The non-striped sphincter is formed by these layers of circular muscle. The outer longitudinal layer of bladder muscle is inserted into the base of the prostate. The ready stripping of the sheath of the prostate is an important point in the operations of perineal and suprapubic prostatectomy. For the suprapubic operation certain changes are necessary in the bladder base. The sphincter is dilated by the protrusion of a nodule of prostate into the bladder, and the finger can thus be pushed through the lumen of the sphincter, and need not penetrate through the muscle of the bladder floor. The striped muscle in relation to the prostate forms a ring surrounding the urethra at the apex of the gland. Thence it passes up beneath the anterior layer of the sheath as far as the bladder wall. This striped muscle probably plays an important rôle in retaining the urine after suprapubic prostatectomy. The prostatic plexus passes up the front of the prostate, and at the junction of this organ with the bladder gives off two branches which surround the bladder neck at its junction with the prostate. The shape of the whole plexus is roughly that of the letter Y. The principal veins of the plexus lie imbedded in the thick band of fascia which forms the anterior layer of the sheath, and do not come into direct relation with the capsule of the gland. The prostatic urethra is vertical and straight at its supramontanal part but below the verumontanum it curves forward. The prostatic urethra is removed with the prostate in the majority of cases of suprapubic prostatectomy without causing any change in the sensory part of the reflex act of micturition. The gland tissue of the prostate is in the form of a horseshoe at the base of the gland, with the urethra in the same plane as the anterior borders of the lateral lobes. No separate middle lobe could be found. The capsule of the organ was the unappropriated margin of the non-striped muscle stroma. The seminal vesicles were placed horizontally along the upper borders of the prostatic lobes. Mr. Cuthbert Wallis was of opinion that tumours of the prostate were adenomata; that in the operation of prostatectomy they were shelled out, and that their surrounding shell of prostatic tissue was left behind. Dr. Daniel agreed, and pointed out that the small amount of haemorrhage attending the operation was evidence that the prostatic plexus was not injured; it would be unavoidable if the whole gland were taken away. Such prostatic tumours as were in question were simply overgrown and distended prostatic glands, a urethral infection starting the process in the first place.

Midland Medical Society.—At a meeting on December 6th, Dr. J. Quirke, President, in the chair, Dr. Kauffmann showed a man, aged 25, suffering from double and equal optic atrophy and impairment of vision unassociated with other signs or symptoms. His sight had been slowly failing for seven or eight years, but until three years ago had not given him much trouble. For the last three months the progressive loss of vision had been very quick. The sight had always been worse after hard work and better after rest. There was no family history of any similar affection and no history of syphilis. Examination showed that the atrophy was not consecutive to neuritis; that there was double but not quite equal temporal hemianopia, and that the visual field was somewhat narrowed (peripherally) on each side. The case was regarded as one of pressure on the chiasma with some consequent degeneration of inner nerve bundles of that commissure. It was thought that possibly distension of the sphenoidal sinuses from chronic suppuration might account for the phenomena.—Dr. Douglas Heath showed a boy, 3 years of age, in whom a circinate and diffuse erythematous eruption had been present for two months. Five months previously the boy had been bitten on the right forearm by a rat, the wound suppurating. About a month after a right axillary gland became enlarged. The erythema started in the right shoulder seven weeks after the bite, and soon showed itself on the face and scalp. The rash lasted for two months, and while it was present the concatenate and submaxillary glands were enlarged. Dr. Heath called attention to the fact that erythematous rashes occasionally occurred a long time after animal bite.—Dr. P. J. Hay showed a case of persistent thyroglossal duct.—Mr. Nuthall showed a case of thrombosis of the left subclavian and right femoral arteries. The patient, a woman, aged 42, was taken ill on April 24th with what was thought to be influenza. On May 7th, whilst still in bed, a sudden attack of "faintness" occurred, followed by severe pain in the left side. A few hours later discoloration of the nails and fingers of the left hand was noticed. The hand and forearm became very painful, and the limb was cold and useless. A dry gangrene extending to the elbow developed, and on May 18th the limb was amputated through the middle of the arm. At 6 p.m. on May 20th numbness of the right foot and leg was complained of. Four hours later the limb below the knee was cold, pale, and pulseless. Great pain was experienced by the patient. Pulsation could be felt in the common femoral artery. In forty-eight hours some return of circulation, evidenced by warmth and loss of waxy pallor, set in, and from that time onwards the fate of the leg was assured. Recovery was not, however, complete. The patient's lungs presented ill-defined signs of pneumonia. There was no evidence of endocarditis, nor of embolism of the viscera. He considered that the condition was one of embolism,

originating from atheromatous patches in the aorta, but, in the discussion on the case, the opinion was expressed that the sequence of events was that of arterial thrombosis subsequent to influenzal pneumonia. A section of the brachial artery showed considerable endarteritis.

Therapeutical Society.—At the meeting on Tuesday, November 28th, in the Apothecaries' Hall, J. H. Jeffcoat, Master of the Apothecaries' Society, in the chair, Dr. W. E. Dixon read a paper on the physiological standardization of drugs, showing that the accurate standardization of drugs was most important to the practitioner. Crude drugs—such as opium and nux vomica—were often employed instead of their alkaloids, though opium sometimes contained more narcotine, which was exciting, than morphine, while the resins in nux vomica might interfere with the strychnine. But other variable drugs—such as ergot, digitalis, squills, strophanthus, and cannabis indica—could not be standardized chemically. Of these the active principles even varied greatly in efficacy. Of six specimens of liquid extract of ergot from chemists, two had a moderate action, two were too feeble to be of any service, and two were quite inert. The biochemical standardization, however, would show as with antitoxin the value of the drug; thus digitalis, which attacks the heart of frogs, causing death, required in one case twice as much of the tincture obtained from a chemist to produce death as in the standard tincture. The same occurred with tr. scillae and tr. strophanthi. These tinctures were generally obtained by the chemist from wholesale houses, and it was not probable that their inefficiency was due to deterioration from long keeping, since the standard tincture, which was examined in May and again on November 22nd, had not altered in the least in strength. A chemist should, therefore, prepare his own tinctures and standardize them. The following resolution was adopted:

> That in the opinion of the Therapeutical Society it is most desirable that those who are responsible for the *British Pharmacopoeia* should take steps to ensure the physiological standardization of drugs, particularly of digitalis, squill, strophanthus, ergot, and cannabis indica.

—Dr. C. Hawthorne spoke on drug idiosyncrasies in relation to an official dosage showing that the British pharmacopoeial doses were likely to mislead young practitioners. The proper dose of a drug should vary in each case, not only according to the age and weight of the patient, which could be allowed for, but also with the peculiar idiosyncrasies of the person treated; this could only be learnt by experience. These remarks were especially true of certain drugs, such as opium, mercury, and arsenic; but it also recommended that cautions respecting these deviations from the dosage prescribed should be inserted in the preface to the next *Pharmacopoeia*.

Clinical Society of Manchester. At a meeting on November 21st, Mr. A. T. Milner, President, in the chair, Professor R. B. Wild read a paper on Some Clinical Aspects of Syphilis, based upon an analysis of 1,000 cases of syphilis seen at the Manchester and Salford Hospital for Skin Diseases during the past 12 years. Cases of syphilis formed 5.17 per cent. of the total patients, as against the 6.1 per cent. found by Dr. R. Crocker in out-patient hospital practice in London, and the 8 to 10 per cent. of syphilis in America, as shown in the statistics compiled by the American Dermatological Association. Of the 1 000 cases 76 were congenital, 55 primary, 276 secondary, and 593 tertiary. Of the congenital cases 60 were infantile and 16 later manifestations; in addition, 4 cases of acquired infantile syphilis occurred. Of the 55 primary cases, no less than 14 were extragenital, the most frequent sites being the lips and fingers. Though there was a difference of ten years between the average ages of the secondary and tertiary cases, in several patients presenting tertiary ulceration occurred while the secondary rash was still present. In one case thirty-eight years elapsed between secondary and tertiary lesions. Of the [illegible] cases, in 3 there was marked [illegible] reaction at the seat of the chancre, in 3 others secondary syphilide was purpuric. In 5 cases a pigmentary syphilide appeared on the neck in [illegible], and in 15 the syphilide was [illegible]. As regards tertiary syphilis, the chief types were (1) the nodular, [illegible] (2) syphilomatous nodules, (3) a similar rash with superficial ulceration, (4) gummata and deep ulceration. In many of these tertiary cases [illegible] arrested. Out of [illegible] cases of tertiary syphilis of the skin, in only 3 was there any sign of implication of the nervous system. As regards treatment stress was laid upon the natural tendency to recovery in secondary syphilis and on the value of treatment in preventing tertiary manifestations. Preference was given to the administration of mercury by the mouth in ordinary cases. Intramuscular injections, though this might be the best method under special conditions, he reserved for exceptional cases. Iodide of potassium was more valuable than mercury in deep tertiary ulcerations, but was best given in full doses for short periods; it did not prevent recurrence if continued. In many cases of tertiary syphilis the use of mercury was essential, but was better given separately from iodide of potassium unless the latter were used in small quantities merely as a solvent for the mercuric iodide. None of the recently-introduced vegetable alteratives had proved to have any specific action, and they were quite unreliable for the treatment of syphilis.

Nottingham Medico-Chirurgical Society.—At a meeting held on December 6th, Mr. T. J. Dabell, President, in the chair, Mr. A. R. Anderson showed a female patient, aged 52, from whom he six months ago removed the right Gasserian ganglion for intractable neuralgia. The history extended over six years. Three years before the present operation the inferior dental, and subsequently both maxillary divisions of the fifth nerve, had been divided, but the pain eventually recurred. When the removal of the ganglion was undertaken the patient was the subject of chronic rheumatic change in the shoulder and hip, and was a perfect wreck physically and mentally, both with the pain and the narcotics she had had recourse to. The Hartley-Krause method was adopted and the ganglion removed piecemeal through the temporal region. A puncture of the cavernous sinus, occurring towards the end of the operation, was the only mishap recorded, and this necessitated a piece of sterile gauze being used as a plug for two days. The intense pain was at present wholly relieved, but the operation had left a considerable depression in the temporal region. The ophthalmic division was uninjured, so that there was no trophic lesion of the eye, but the right pupil was insensitive to greater or less illumination, remaining small, and some weakness of the left internal rectus muscle had produced diplopia. The right half of the tongue was insensitive to taste and other sensations, and though the temporal, masseter, and pterygoid muscles were useless on that side, no great inconvenience resulted. Hearing was good enough for all ordinary purposes.—Mr. Morley Willis read a paper on calculi in different organs. In 5 of the cases mentioned the biliary apparatus was affected, in 3 the kidney, in 2 the bladder, and in 1 the submaxillary duct. In every case pain was present, and there was often suppuration and pyrexia. In one of the renal cases, that of a girl aged 21, as many as sixteen stones had been found in the kidney; the pain was a dull ache, without attacks of colic, and had lasted eighteen months. The biliary cases were all women, their ages being 73, 39, 47, 55, and 54. In the last case the gall bladder was adherent to the transverse colon, and the liver showed a thickening suspicious of malignant disease, so that a considerable slice of it was removed along with the gall bladder, and the cut surfaces of the liver sutured together. Columnar-celled carcinoma was suspected, and confirmed microscopically, and the patient's subsequent history bore this out. Mr. Willis emphasized (1) the importance of examining the urine by segregation, so that the secretion of each kidney could be examined separately; and (2) examination by x rays. He recommended enucleation of the kidney from its capsule before incising it in cases where difficulty in lifting it on to the loin through the incision was experienced. It was subsequently replaced after suturing the gland. The salivary calculus occurred in a man aged 56, and presented a hard swelling at the angle of the jaw suggesting malignant disease or actinomycosis. Subsequently a swelling occurred in the floor of the mouth, and the calculus was detected. A speedy recovery followed its removal.—Dr. Jacob showed numerous x ray photographs of the kidney with and without calculus in it, and pointed out the fallacies possible in the presence of faeces in that region. In one case three calcareous mesenteric glands gave an appearance similar to calculi. Renal sarcoma had also to be distinguished; it was important to centrifugalize the urine, and examine the deposit for tubercle bacilli.

Mr. Frederick Bower, of Sunningdale, Berks, who died on November 22nd, bequeathed £500 each to the Cancer Hospital and the Lock Hospital.

REVIEWS.

THE TEACHING OF CLINICAL MEDICINE.

The three volumes of *Clinical Studies*[1] by Dr. Byrom Bramwell consist very largely of verbatim reports of the Wednesday clinics conducted by him in the discharge of his duties as Physician to the Royal Infirmary, Edinburgh, but the reader will find in addition reports of other lectures delivered on different occasions, and reprints of articles on various medical subjects.

Many of the studies are very typical of the particular diseases dealt with, but the reader need not expect to find the stereotyped descriptions met with in the textbooks, for that is not Dr. Bramwell's method. A case is described in detail, and a broad view is given by reference to other less typical cases, which are, however, equally fully discussed; this is an admirable way of bringing before students various clinical types of disease, but we do not quite grasp Dr. Bramwell's meaning when he says that these clinical studies are intended to form a more or less continuous course of post-graduate clinical instruction, for many of the studies are so simple that they appear likely to be palatable only to the students for whom many of them were designed. We must be forgiven if we cannot accept the title of the book as descriptive of the contents, for, with the admirable clinical records, we find rather heavily-weighted articles on "syphilis and life assurance," on "disseminated sclerosis," and long excerpts like that taken from Dr. John Thomson's article on infantilism in the *Scottish Medical and Surgical Journal*.

Dr. Bramwell is an ardent supporter of the view that in order to impart knowledge, and in order to discover that facts and theories are properly learnt, teaching by "question and answer" should be largely used. Invaluable as such a method is as a means of teaching a class of students, it does not appeal so much when reproduced in cold print. What good can it do to the reader to hear that during the correction of students' answers "Dr. B. made a long and emphatic pause" in order to emphasize the necessity for absolute rest in the treatment of acute endocarditis? Frequently throughout the lectures, as in p. 82 of the first volume, the writer gives reasons for the publication of the clinical studies, and some readers may be a little irritated when perusing the lecture on the treatment of acute pericarditis by reading that the publication of clinical studies has been received with great favour by the profession, not only in this country, but abroad; then, again, the introduction to the lecture on mitral stenosis in the second volume is quite privileged in the lecture room, if Dr. Bramwell is in the habit of making such remarks before the students; most of us are proud of our particular school and hospital, but is it necessary to give expression to this loyal feeling in a publication on clinical medicine?

So much for the form of the studies. With regard to the matter, we may be permitted to recall that chlorosis, according to the newer conceptions, is due largely to the wateriness of the blood, which accounts for the fact that it has a smaller quantity of haemoglobin and of red corpuscles per cubic millimetre than if it were not so diluted. Phlebitis chlorotica seems to us a more descriptive term than thrombosis chlorotica for cases in which the veins of the lower extremity become inflamed. Frequently we find that the student without correction is allowed to make use of the word "tubercle" instead of using the adjective. Probably the students of the classes derived a different impression of the value of paracentesis pericardii than the reader will obtain; but, following Dr. Bramwell through his discursive account, it seems unnecessary to give directions for plunging the needle firmly into the chest, if afterwards the writer says it is best to cut down upon the pericardium and lay it open carefully. Dr. Sloan's experience in cardiocentesis is quite possibly a remarkable example of recovery in spite of the treatment, and it is difficult to see why the account should have been embodied in the volumes. Dr. Bramwell's lectures put before the reader so attractive an account of clinical work that it is permissible to point out some directions in which future volumes may be improved, although those before us contain countless lessons valuable to the teacher and the student, to the consultant, and to the general practitioner.

The excellent clinical accounts of various diseases with regard to which Dr. Bramwell is a recognized authority will well repay perusal. Nothing could be more admirable than the way in which he pertinaciously follows out his cases to the end, and gives the reader the advantage of learning what ultimately was found as the cause of the various signs and symptoms. We strongly recommend for their practical common sense Dr. Bramwell's lectures on the treatment of cerebral haemorrhage, of cardiac disease, of haematemesis, and of gastric ulcer; on rare occasions it may be important for an aphasic patient to make a will, and the close reasoning and practical suggestions of the chapter on this subject will prove invaluable. Dr. Edwin Bramwell gives an admirable brief account of the Babinski sign and its diagnostic significance.

Those readers who seek for fresh ideas and for individuality on the part of an observer who possesses excellent opportunities for clinical investigations and who makes the most of them, will find ample satisfaction within these three compact volumes, and we heartily recommend the perusal of the lectures on optic atrophy in its relationship to tabes dorsalis, and on the various forms of infantilism, including the interesting group which, according to evidence brought forward by Dr. Bramwell, responds to treatment with preparations of the pancreas. Dr. Bramwell's advocacy of the use of arsenic and of thyroid preparations is well known, and the reader will find admirable illustrations of the benefit derived from this treatment in cases of ichthyosis and psoriasis.

At the present time, when the educational methods of London schools of medicine are going through a very severe examination and scrutiny, it is certainly a matter seriously to be considered whether some of the plans adopted in the northern capital should not be closely followed. Dr. Bramwell has the advantage of enthusiastic fellow-workers, house-physicians, and others whose insight contributes largely to the value of these studies. Are London teachers overwhelmed with clinical material, or are they wanting in that superb energy which such workers as Dr. Bramwell possess—energy which keeps in touch for years with cases of interest and succeeds week after week in holding audiences which from all accounts fill the lecture room to overflowing? We suspect that it is our method of teaching which is wrong, and that if London is to regain the reputation as a school of clinical medicine which it enjoyed thirty years ago the younger teachers must study the art of teaching, and in many respects they could not take a better model than Dr. Bramwell. In spite of the faults which we have ventured to point out, no reader will close these volumes without a sense of intense gratitude to the writer whose ability and energy have combined to give so attractive an account of important types of disease and of the clinical methods followed in Edinburgh.

[1] *Clinical Studies.* A Quarterly Journal of Clinical Medicine. Vols. i, ii, and iii. By Byrom Bramwell, M.D., F.R.C.P.E., F.R.S.E., Physician to the Edinburgh Royal Infirmary, etc. Edinburgh: R. and R. Clark. 1903, 1904, and 1905. (Demy 8vo, vol. i, pp. 388, and 47 illustrations; vol. ii, pp. 308, and 79 illustrations; vol. iii, pp. 424, and 90 illustrations.)

THE STUDY OF DISEASES OF THE KIDNEY.

It is within the recollection of all that the surgeon used to consider that an adequate examination of the capacity of the kidneys had been made when the daily quantity of the urine was measured and an estimate made of the presence of albumen, or blood, or pus, or sugar. In recent years, however, immense advances have been made in the estimation of the exact conditions of each kidney and of the power of each kidney to respond to increased demands. This work of Professor Albarran[2] deals exhaustively with all the modern methods for investigating the renal function; it is a record of a great work accomplished by many surgeons, and by himself not least of all. The functional value of the kidney as an organ of filtration is first considered. In order to determine this the blood is examined, a chemical analysis of the urine is made, the amounts of urea, uric acid, sodium chloride, and the phosphates being measured; the quantity of the urine is determined, and its density and freezing point, and its toxicity after the method of Bouchard. The methylene-blue and other tests are employed. In discussing the determination of the functional value of the kidney considered as a gland the formation of hippuric acid is referred to, and the opinion expressed that as yet this method is of no clinical value. The production of phloridzin glycosuria is considered to be the result of a true secretory action of the kidneys. A detailed description is given of the various methods of obtaining the urine from each kidney, by ureteral catheterism and by the various "separators," the best of which are those

[2] *Exploration des Fonctions Rénales.* Etude Médico-Chirurgical par J. Albarran, Professeur agrégé à la Faculté de Médecine de Paris, Chirurgien des Hôpitaux. Paris: Masson et Cie. 1905. (Demy 8vo, pp. 604, 143 illustrations. Fr. 12.)

invented by Luys and by Cathelin. Importance is given to the investigation of experimental polyuria, produced by administering two or three glasses of Evian water. Albarran concludes that among the methods of exploring the renal functions this is one that helps best to answer the two important questions—Which is the kidney which acts the better? and Which has the power of increased activity under stress to which each organ is liable? Professor Albarran has by his many and most able contributions established for himself a reputation among the highest. This work will help to consolidate and even to enhance it, for every page bears testimony to his great erudition and to his careful and accurate judgement.

NOTES ON BOOKS.

Sewage Effluents.

Mr. Thudichum has compiled a little book on the *Testing of Sewage Affluents*[1] for works managers, surveyors, and other persons not chemists concerned with sewage treatment. It deals simply with some of the outstanding facts in relation to the collection of samples, some of the chief chemical tests, meaning of results of analysis, and standards. The book should be useful to those for whom it is intended, although of necessity it carries with it some of the dangers of incompleteness. Reliable examination of sewage effluents, as of waters, is not always a simple thing.

Smoke Abatement.

This practical book on *Smoke Abatement*[2] by Mr. W. Nicholson, Chief Smoke Inspector to the Corporation of Sheffield, is likely to meet a widely-felt need. In recent years, partly owing to the growth of sanitary knowledge and partly owing no doubt to the Coal Smoke Abatement Society, public opinion has become more enlightened as to the desirability of reducing the output of black smoke. The growth of the towns has emphasized this requirement. Mr. Nicholson's book therefore comes opportunely, and we welcome such an adequate statement on an important subject. The first three or four chapters are devoted to a consideration of the legislation appertaining to the matter in this country and abroad. Much of the information respecting foreign law might well have been allocated to an appendix, and the chapter on smoke abatement itself elaborated considerably. The methods adopted in Sheffield receive undue emphasis, and the information respecting the metropolis and other large towns is very fragmentary. Comparatively little reference is made to smoke nuisances in rural districts, whilst a whole chapter is devoted to smoke from private dwelling houses and abatement is advocated. Two excellent chapters on smoke preventers and fuel savers conclude the book, which should prove of service to inspectors and others engaged in smoke abatement.

Diaries.

We have received from Messrs. John Walker and Co., Farringdon House, Warwick Lane, London, E.C., a specimen of a new pattern medical case-book, the *Arboreta*, which they are placing on the market. It consists of a series of loose sheets held together at the back by a specially-designed metal clip. A diary in loose sheets is supplied in the same form, and it is possible to make any combination desired, using partly case charts, partly diary leaves, and partly notes or cash ruled leaves. The leaves can be inserted or removed at will. Each case sheet contains space for name and address, notes on family history and previous and present illness, temperature and pulse charts, charts of chest and abdomen, and space for notes on the progress of the case. The same firm publishes a number of other diaries in various forms and sizes, the majority being provided with a back loop for carrying a pencil as well as ordinary desk and wall calendars, with or without cases. The prices of the diaries vary from a few pence to twelve or fifteen shillings, according to the size and the binding or cover.

Bale's Dental Surgeon's Daily Diary and Appointment Book, published by Messrs. John Bale, Sons, and Danielsson and Claudius Ash, Sons, and Co. (price 7s.; interleaved with blotting-paper, 8s. 6d.), is well known, the special feature being that there is a column for each day, divided up into the hours from 9 to 5. The novelty in the issue for 1906 is that the front cover has an opening through which a date calendar for the month shows, the leaves being perforated so that they can be detached at the end of each month.

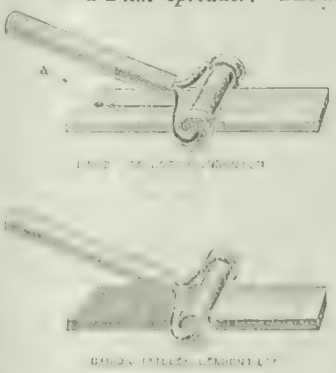
Books of Reference.

The edition of *Who's Who* for 1906,[3] owing to an increase in the number of biographies, contains about 80 pages more than the volume for 1905. The volume now consists almost solely of brief biographies of persons with greater or less claims to distinction, and the facts have been for the most part revised by the individuals themselves. It is one of the most useful annual works of reference in existence, and we have seldom or never consulted previous issues without finding the information required. It has a satellite, *Who's Who Year Book*,[4] which contains useful information with regard to the three estates of the realm, Government offices, universities and colleges, societies and clubs and newspapers.

The editor of *Whitaker's Almanack*, in his preface to the edition for 1906, claims that it is "the best, the most complete, the cheapest, and the most useful almanack in existence." Certainly we know of no other publication which equals it in comprehensiveness of scope and general accuracy. It is, of course, unfortunate that it has had to be issued at a time when the change of Government and a General Election must put much of the information with regard to political personages out of date, but this was inevitable. In every other respect the volume will be as useful a companion in 1906 as it has been for so many years past. The same publishers issue a new edition of *Whitaker's Peerage*, which includes not only peers, but baronets and knights.

MEDICAL AND SURGICAL APPLIANCES.

A Blood-Film Spreader.—The annexed engraving depicts an instrument which Dr. H. M. Johnston, one of the teaching staff of Trinity College, Dublin, has invented and uses for the preparation of blood films. It consists of a glass cylinder set in a convenient handle, the former being 3·5 cm. in length and 1 cm. in diameter. In using it, a drop of blood is touched with a clean glass slide about ⅓ in. from its end, and the slide laid, blood uppermost, on a flat surface. The cylinder is then placed on the slide in front of the drop and drawn backwards until it touches the blood. In a few seconds the blood fills the capillary space between the cylinder and the slide, and can be seen through the former as a clean red line. The cylinder is then pushed forward along the slide, dragging the blood along with it by capillary attraction. About two seconds should be occupied in pushing the cylinder to the end, because slow movement ensures a thin, even film. The advantage of the method in addition to securing a well spread film is that the blood cells are not subjected to any rubbing or pressure. The instrument can be obtained from Messrs. Baird and Tatlock, 14, Cross Street, Hatton Garden, E.C.



Stitch-Removing Forceps.

Dr. Alexander Duke (London) writes: The instrument described by Mr. Muirhead Little in the British Medical Journal of December 9th, p. 1510, does not embody any new idea. Years ago Messrs. Arnold made for me an instrument for the removal of sutures composed of tenaculum, forceps and scissors combined which is depicted in Messrs. Arnold's latest catalogue, page 95. The three instruments in one instead of two only are an obvious improvement.

[1] *Simple Methods of Testing Sewage Effluents.* By George Thudichum, F.I.C. London: Sanitary Publishing Co. (Fcap 8vo, pp. 60. 2s. 6d.)

[2] *Smoke Abatement.* By William Nicholson. London: Charles Griffin and Co. 1905. Crown 8vo, pp. [illegible], illustrations. 6s.)

[3] London: Adam and Charles Black. 1906. (7s. 6d.)

[4] London: Adam and Charles Black. 1906. (1s.)

The Mission to Lepers has received promises of contributions amounting to £825 towards the cost of erecting a new asylum for lepers at Poona. An appeal is made for further contributions to complete the sum of £1,000, which would enable the mission to claim the grant promised by the authorities.

METROPOLITAN HOSPITAL SUNDAY FUND.

Antivivisectionist Attempt to Wreck the Fund.

The annual meeting of the Metropolitan Hospital Sunday Fund, which was held at the Mansion House on Monday, December 18th, attracted a much larger attendance than usual. Rumours of battle were in the air; Mr. Stephen Coleridge, was expecting to deliver his swashing blow against the guardians of the Fund and the managers of hospitals with medical schools attached. Evidently there had been a mustering of forces on each side. On the platform members of the Council and ecclesiastical dignitaries were arrayed on either side of the Lord Mayor; in the front ranks of the audience was a close phalanx of parsons; the rest were for the most part apparently business men, with a small sprinkling of well-known doctors.

The Bishop of London, in moving the first resolution remarked in a somewhat pointed manner that the meeting was a business one; if this was intended as a hint that controversial matters might be held over for another occasion, it failed of its effect. His Lordship laid stress on the importance of the work in bringing together members of all denominations under one flag. An amusing illustration of this well-meant remark was soon afforded, when the title of "Bishop," bestowed by Mr. Sydney Holland on the Roman Catholic Archbishop Bagshawe, met with an immediate challenge from representatives of other sects. But the atmosphere of brotherly love was soon more rudely disturbed by Mr. Stephen Coleridge, who, before the first resolution was put from the chair, attempted to intervene with an amendment. An altercation followed, and the Lord Mayor took counsel with those about him; it may be guessed that he was asking, if we may slightly change Sampson's question to Gregory, "Is the law on our side if I say No?" At any rate he did say No, with an emphasis which silenced Mr. Coleridge for a time.

When the formal business was concluded, Mr. Coleridge found his opportunity. The gist of his speech will be found below; it was in the strain which much repetition has made as familiar as a popular tune ground out of a barrel organ. Nor was it much more musical. Mr. Coleridge is not an effective speaker. Archdeacon Wilberforce spoke of the "humorous" way in which he had stated his case. We regret that on the subject of humour, as on more serious matters, we find ourselves at variance with the Archdeacon. It must be admitted that Mr. Coleridge is in earnest. He becomes pale with excitement or anger and emotion chokes his voice. But his style of argument is that of a special pleader. He labours small points and gives the impression of one who seeks victory by verbal subtleties rather than by the force of truth. Our readers may remember how he used the harmless expression "clinical material" in a manner that suggested that patients lying helpless in a hospital ward were used for purposes of experiment. Another favourite device of his is to speak of the "diversion" of hospital funds; he did this before Sir Edward Fry's Committee, and although Lord Welby pointed out that he personally would not consider his subscription "diverted" if the managers decided that some part of it should go for the purposes of the hospital school, he evidently made no impression on Mr. Coleridge. Perhaps, however, it is to be hailed as a symptom of improvement that at the Mansion House he spoke of the "transference" of subscriptions to any other object than the general funds of the hospitals. When that term was objected to, he took refuge in Latin etymology. Altogether his appearance was not a success; the few cheers which he got came from a particular part of the room, and several times his voice was drowned in outbursts of indignant clamour, in which the clergy took the lead.

Mr. Sydney Holland, on the other hand, roused the audience to an enthusiasm which made them impatient, and even, it must be owned, somewhat intolerant of Mr. Coleridge and his supporters. When Mr. Holland bluntly said that his championship of the interests of the sick poor was simply cant, Mr. Coleridge's countenance might have served as a study for Pecksniff when, being called a hypocrite, he said, "Charity, my dear . . . . when I take my chamber candlestick to-night, remind me to be more than usually particular in praying for Mr. Antony Chuzzlewit, who has done me an injustice."

A piquant incident occurred when Mr. Holland, wishing to quote from the Minutes of Evidence given before Sir Edward Fry's Committee, appealed to Mr. Coleridge for the reference. Mr. Holland's asides were particularly effective. He caused a roar of laughter when, in reading the passage in Mr. Coleridge's evidence in which that gentleman said that if vivisection had been omitted in medical education, the world would never have heard of Stephen Coleridge, he said in a stage whisper, "What a blessing!" It is noteworthy that throughout the proceedings the word "vivisection" was scarcely mentioned, though it is fair to state that a reverend gentleman who supported Mr. Holland pointed out that the rejection of Mr. Coleridge's resolutions did not commit the administrators of the Metropolitan Hospital Sunday Fund to any opinion on the subject.

Mr. Coleridge's demand for a scrutiny was based on the fact that only "constituents" of the Fund have the right to vote. The exposure of the tactics of the National Antivivisection Society, which canvassed London clergymen for cards of admission with the evident purpose of packing the meeting, excited such disgust and anger that the meeting was in no mood to listen to more speeches. He was greeted with impatient cries of "Chair," "Order," "Sit down," and even "Shut up." His first resolution found about a dozen supporters, while for the second scarcely half that number of hands was lifted.

Report of Annual Meeting.

The annual general meeting of the constituents of the Metropolitan Hospital Sunday Fund was held at the Mansion House, on Monday, December 18th, the Lord Mayor, Mr. Alderman Vaughan Morgan in the chair. The meeting was very largely attended, among those present being the Bishop of London, Archdeacon Sinclair, the Chief Rabbi, Archbishop Bagshawe, Sir William Broadbent, Sir Thomas Smith, Mr. Pearce Gould, Sir Joseph Dimsdale, Sir Marcus Samuel, the Hon. Sydney Holland, the Hon. Stephen Coleridge, and many clergymen representative of various denominations. The Bishop of London moved the first resolution:

That the report of the Council for the year 1905 be hereby received.

His Lordship said the London hospitals were one of the grandest things they had; it was impossible to say how much the metropolis owed to them. Speaking from a long experience of the slums, and as one who had taken—he might say carried—patients to the hospitals, he could speak with special knowledge of the comfort it was to get poor sufferers removed from their hideous surroundings in the slums to the large airy wards of a hospital. Another good thing achieved by this movement was the drawing together of all denominations and the establishment of a noble rivalry between them in seeing which could do most in the cause of humanity. It was a work that blessed him that gave and him that took. He dwelt further on the voluntary character of the work, and expressed a hope that it would long remain so, as he would be very sorry to see the hospitals fall upon the rates. He congratulated the meeting on the magnificent sum collected.

The motion was seconded by the Rev. H. W. Harwood, as representing the Free Churches.

The Hon. Stephen Coleridge then attempted to move an amendment, but the Lord Mayor refused to allow him to put his motion at that stage of the proceedings. Mr. Coleridge persisted, stating that he had been permitted to do so last year without objection, and urging that he saw nothing in the rules of the Fund to prevent his speaking then. He also asked under what rule he was out of order. The Lord Mayor, however, ruled that he could not hear him then, adding that

Mr. Coleridge could say whatever he wished to say later. The resolution was then carried unanimously.

The second resolution:

> That June 17th be fixed for Hospital Sunday, 1906, and that the cordial co-operation of all Ministers of Religion within the metropolitan area be again invited in the usual way,

was proposed by Canon FLEMING, seconded by the CHIEF RABBI, and carried unanimously.

The third resolution:

> That the Council for the year 1905 be re-elected for the year 1906, with the addition of the Ven. Archdeacon of Middlesex, the Rev. R. J. Campbell, the Rev. Charles Brown, the Rev. F. Gurdon, and Sir Frederick Treves to fill vacancies,

was proposed by the DEAN OF CARLISLE, and carried by acclamation.

The following resolution:

> That the Committee of Distribution be empowered to set aside a certain amount for the purpose of grants to District Nursing Associations, employing fully trained hospital nurses, that such amount so set aside shall not exceed 5 per cent. of the sum collected in any year, and that the Laws of the Constitution be altered accordingly,

was proposed by the Rev. E. H. PEARSE, seconded by Mr. F. H. NORMAN, and carried unanimously.

The fourth resolution:

> That the best thanks of this meeting be given to George Herring, Esq., for his generosity, which has assisted the fund to secure the large amount of £78,379,

was proposed by the LORD MAYOR, seconded by Sir WILLIAM CHURCH, and carried amid loud applause.

The Hon. STEPHEN COLERIDGE moved the following amendment:

> That the constituents of the Metropolitan Hospital Sunday Fund resolve:
> 1. That no hospital which makes a grant to a school from its resources for any purpose whatever shall receive any money from this Fund;
> 2. That no hospital shall receive a contribution from this Fund whose managers have invited its subscribers to transfer their subscriptions to any other object than the general funds of the hospital until the subscriptions so transferred to any other account have been retransferred to the general funds of the hospital.

Mr. Coleridge proceeded to say that he came there not to attack the hospitals, but to stand up for the poor, for whom, in the past, large sums of money given exclusively for their benefit had been taken and applied to other purposes. He recalled the fact that a Commission had been appointed by King Edward's Hospital Fund, and said he wished to subscribe to every word of the findings of that Commission. He said the Commission had used very striking language in condemnation of the diversion of the funds from the hospitals to the schools. It had declared that the benefits received by the schools from the hospitals were a set-off against those received by the hospitals from the schools, and that in the case of schools which received benefits in money or money's worth from the hospitals over and above the benefits alluded to, no return was made by the schools to the hospitals which could be treated as recouping this expenditure of the hospitals, and that the schools still remained debtors to the hospitals in respect of these pecuniary contributions made to them. That debt, said Mr. Coleridge, to this day remained unpaid. If the resolutions proposed by him were not passed, the report of the Committee appointed to inquire into the financial relations between hospitals and medical schools in London would be null and void. His second resolution was directed against certain hospitals, which, seeing that the decision of the three Commissioners was against the diversions referred to, proceeded to devise means of evading them in a manner which they hoped would escape public notice, or, at any rate, would not be fully understood. Two hospitals had invited their subscribers to transfer their subscriptions from the general fund, in one case to a "separate" fund and in the other case to a "discretionary" fund; in both cases it was left to the managers of the hospitals to pay the money to the schools as they liked. In his opinion that was extraordinary conduct, and it was to prevent money being taken away from the sick poor that he moved these resolutions.

Archdeacon WILBERFORCE, who seconded the motion, said he associated himself with every single word uttered by Mr. Coleridge, and he had nothing to add to the case so well, and he would add, humorously, put by that gentleman. The main principle which underlay the resolutions and his object in seconding them was one which it would be inadvisable to bring forward on that occasion; though no subject had a tighter grip on his heart. He objected to the medical profession educating its alumni by means of sums contributed for the benefit of the sick poor. He was thoroughly satisfied with the findings of Sir Edward Fry's Committee, but he was not satisfied with the conduct of the hospitals which had sent round circulars asking people to subscribe to separate or discretionary funds. The Archdeacon went on to say that he held at present a fairly considerable sum from a Hospital Sunday collection, and it would remain in the bank till he knew the fate of the resolutions proposed by Mr. Coleridge. If they were not adopted, he would be unable to apply it to the purposes of the Hospital Sunday Fund. He would see that every penny went in some way to the relief of the sick poor.

Archbishop BAGSHAWE, who supported the resolution, said it was not honest to apply money given by congregations for a certain purpose to another. People gave money for the relief of the sick poor, and it was used for the educating of young medical men. It was said that the students benefited the hospitals by acting as clerks and dressers; but they were of no use until the last two years, and for the first three years they were simply receiving alms, dishonest alms, for their studies, and even during the last two years they received quite as much as they gave, probably more. The medical profession should be ashamed of this. Lawyers and clerics were not educated with the help of funds subscribed for another purpose. Moreover, it was not the students themselves who benefited directly, for the money subscribed for the hospitals was given not to the students who did the work, but to the schools.

Mr. SYDNEY HOLLAND, in reply, said he doubted very much whether any resolution moved by Mr. Coleridge could possibly be thought in order. Would it be believed that neither the Secretary nor the Council of the Metropolitan Hospital Sunday Fund had received any notice that these resolutions were to be moved by Mr. Coleridge? He knew, however, that private letters had gone out to clergymen all over London asking for the use of the cards of admission to which they were entitled in their official capacity, so that a snap-vote might be got in favour of Mr. Coleridge. Mr. Holland said that Mr. Coleridge complained that money was taken from the sick poor. Mr. Coleridge, however, was not concerned with the sick poor. In his evidence before Sir Edward Fry's Committee, Mr. Coleridge had said that personally he would never have raised this agitation, or said a word, had the schools avoided a certain practice which he and his friends objected to. It was simply that which had aroused them. They felt it was wrong that this money, which was subscribed for one purpose, should be diverted to that detestable practice. "If only," said Mr. Coleridge, "that had been omitted in the medical education given in these schools, you would never have heard of Stephen Coleridge and this agitation. I do not mind telling you that frankly. If it was not for that, as far as I and those I represent are concerned, we should have left it to the hospital managers to manage as they thought best. It is that which induced me to go into this agitation." Challenged by Mr. Coleridge to read further, Mr. Holland read the next question and answer as follows:

> The Chairman: Then you would rather agree that supposing this practice had been absent, you would not have seen any harm in what is being done in the administration of hospital funds?—I do not know that. I should never have found it out.

Proceeding, Mr. Holland said that those who had the management of the hospitals on their shoulders believed that in helping the schools they were helping the patients in the hospitals. He stated that the Council of the Metropolitan Hospital Sunday Fund at a meeting held on November 28th, 1905, passed the following resolutions:

> 1. That this Council cordially agree with paragraph 27 of the Report of Sir Edward Fry's Committee appointed to inquire into the financial relations between the hospitals and medical schools, of which the following is an extract:
> "For the future the distinction between the hospital and the school should in every case be drawn not only definitely and exactly, but with such clearness that it may be understood by the general public, and so that no question may arise as to the destination and application of moneys contributed whether by the King's Fund or from any other source."
> 2. That no grant should be made from the Metropolitan Hospital Sunday Fund to any hospital which fails to completely comply with the above-named recommendation.
> 3. That in estimating the amount to be contributed to the funds of any hospital from the Hospital Sunday Fund no moneys paid or subscribed during the preceding year towards the school attached to any hospital shall be taken into account.

The subscribers to the fund might therefore feel perfect confidence that the money they gave would not be thus applied. With regard to Mr. Coleridge's second resolution, Mr. Holland said that the "transference" to which Mr. Coleridge objected was for the future. It was childish to seek to interfere with the public in the disposal of its subscriptions. Surely a man might give his money to the hospital or to the school as he chose. How was that dishonest? Dealing with Archdeacon Wilberforce, Mr. Holland said he had given the arguments by which he justified the holding back of the subscriptions of his congregation in a sermon which he had the temerity to publish. Would it be believed that his chief argument was that, according to the report of the Home Office inspector, a large number of experiments had been performed on animals without anaesthetics? Would it be believed that the Archdeacon had omitted to add that these experiments were mostly inoculations and in no case involved a serious operation? On the contrary, Archdeacon Wilberforce dwelt on the prolonged agony and torture the animals had to endure! Even Mr. Coleridge had taken the Archdeacon to task for this. In conclusion, Mr. Holland characterized Mr. Coleridge's professions of zeal for the interests of the sick poor as cant. The real object of the agitation was to get a large number of people to attend that meeting for the purpose of wrecking the Fund and preventing the public spending its money in the way it thought best.

In further discussion, Sir Edmund Hay Currie said he wished it to be known why there was such a large number at the meeting, and what Mr. Coleridge and others had been doing to get people to attend. Sir Edmund read the following letter which he had received from a clergyman:

December 15th, 1905.

Dear Sir Edmund,—Do you know that the Antivivisection Society are canvassing each parish for Monday? They asked me to let them have my two cards of admission, as they could use them. I refused to see them.

Circulars were also sent out asking for support for Mr. Coleridge's resolution, with the card of Mr. R. Somerville Wood, of the National Antivivisection Society. Every clergyman in charge of a parish had two cards of admission given him, and the object of the canvass was to get hold of these cards. The clergy had perfect confidence in the administration of the Fund, which was demonstrated by the fact that they did not often attend its meetings in large numbers.

Mr. Coleridge's resolutions were then put to the meeting, and negatived in each case by an overwhelming majority. Mr. Coleridge then upon demanded a scrutiny, but this was refused by the Lord Mayor. The meeting ended with a vote of thanks to the Chairman, moved by Archdeacon Sinclair, and seconded by Sir Savile Crossley.

LUNACY IN LONDON.

Administration.

Distribution.

The annual report of the Asylums Committee to the London County Council for the year ending March 31st, 1905, issued recently, shows that the number of pauper lunatics chargeable to unions and parishes in the county of London on January 1st, 1905, was 24,652, which is a net increase of 704 on the number on January 1st, 1904. This increase is less by 292 than that of the previous year, but a graphic statement or chart, showing *inter alia* the relation of the increase to the increase in the general population during the sixteen years 1889-1904, demonstrates an increase in pauper lunacy entirely out of proportion to the growth of the population, or even to that of ordinary pauperism. This increase is the total pauper lunacy increase in London, those certified for asylum treatment having increased from the 17,130 of January 1st, 1904, to 17,770, which—excluding 398 private cases and those chargeable to the Prison Commissioners—represents an increase of 640 for the year 1904 as compared with 441 for the previous year, or the average of 512 for the past fifteen years.

It is to be remembered that three distinct authorities in the county of London make provision for the lunatic poor—namely, the London County Council, the Metropolitan Asylums Board, and the guardians of the poor—the total 24,652 above-mentioned being distributed as follows: In asylums and licensed houses, 17,770; in the imbecile asylums of the Metropolitan Asylums Board, 6,450; in workhouses, 280; and residing with relatives and friends, 152. The anomaly of two great public bodies like the London County Council and the Metropolitan Asylums Board providing for lunatics is commented upon by the Asylums Committee, who point out that the lack of accommodation provided by the Metropolitan Asylums Board has had the effect of largely increasing the proportion of pauper lunatics for whom the County Council has to build, and that this fact appears to be overlooked by the Commissioners in Lunacy, who have from time to time called the County Council to account for not providing sufficient accommodation. As regards the various unions or parishes to which these cases were chargeable, we see that St. Pancras was the largest contributor and Hampstead the least, and that the rates of pauper lunacy to estimated population range from 2.2 per 1,000 in the case of Hampstead to 14.1 per 1,000 in the case of Strand, the average for the whole number being 5.36 per 1,000 of general population.

Accommodation.

Although the total number for which the County Council was responsible to provide accommodation on January 1st, 1905, was 18,168, the accommodation actually in use at their asylums was 17,060, giving a deficiency of beds of 1,108. To cope with the increase of lunacy special efforts are being made—the Long Grove Asylum at Horton is being erected, an additional villa at Bexley Asylum and additions at Colney Hatch and Manor Asylums are to be built, and preliminary designs for an eleventh asylum of the villa type, with 2 000 beds, are in course of construction. These buildings, when completed, will find additional accommodation for 4,613 patients. The necessity for additions involving such extensive outlay has been a matter of anxious consideration for the Committee for many years, and it is to be regretted that the boarding-out of lunatics with relatives or friends under Section 57 of the Lunacy Acts is, as the Committee point out, practically a dead letter in England and Wales. If provision for boarding-out similar to that in existence in Scotland were legalized, it is possible, they say, that a number of their patients might be treated in this manner.

Cost.

The net weekly cost per head for patients maintained in the asylums during the year ending March 31st, 1905, was 11s. 3.58d.

Admissions and Readmissions.

There were resident on January 1st, 1904, in the asylums 16,689 patients, of whom 6,966 were males and 9,723 females. During the year 1,950 males and 1,863 females, or 3,813 cases in all, were admitted. This is a decrease of 489 on the admissions of the previous year, and 1,165 less than the admissions of 1902. Of the 3,813 admissions, 3,367 were "first" and 446 "not first" admissions, the total number admitted who had been previously under treatment in any asylum (exclusive of transfers) being 537. The return of patients who had been previously treated and discharged as recovered in such considerable proportion, as is evidenced by the above figures, is a matter of grave importance, its seriousness being still further revealed by a table in which the Committee show that no less than 25.75 per cent. of the cases discharged as recovered from their asylums during the ten years ending December 31st, 1904, were readmitted, and 12.06 per cent. within twelve months of their discharge. The Committee states that

The majority of these cases were known to be recurrent, but their recovery necessitated their discharge. The recertification of lunatics under the provision of the Lunacy Acts, 1890-1, accounts, to some considerable extent, for the discharge of relapsing cases. It would prima facie seem hard and unjust to deprive a person of freedom who has recovered his sanity, although his relapse within a certain period is a foregone conclusion; yet, on the other hand, numbers of the Committee, when discharging such patients under a certain age, cannot but feel that by so doing they are facilitating the possibility of an increase of future insanity. At one of the asylums a married female patient has been admitted no less than fourteen times within twenty-one years.

The mean age of all cases admitted during 1904 was 42.25 years. The Committee again allude to the increasing tendency to certify for asylum treatment cases of senile decay, and they again raise the question whether the County Asylum is the fitting domicile for these cases, or whether some special provision should not be made for them. This tendency is being felt not only here, but all over the country, and tends, owing to so many of these aged patients requiring infirmary treatment, to unduly raise the cost of administration. Exclusive of 4 cases of "insanity with stupor" and 71 cases of "insanity with delusions" at the Bexley Asylum, the admissions were classified as to the forms of mental disorder into:

Mania of all kinds, 1,222; melancholia of all kinds, 1,294; dementia of all kinds, 432; general paralysis of the insane, 340; acquired epilepsy, 243; and congenital or infantile defect, 198. Owing to a regrettable lack of uniformity in the tables under which the probable causes of insanity amongst the admissions are set forth, we are able only to select one or two of the usually accredited etiological factors. Leaving aside the epileptic colony, with which we shall deal later, alcoholic intemperance was assigned as cause in 689, or 18 5 per cent. of the admissions, and venereal disease in 223, or almost 6 per cent., giving a total percentage of 24 5 of cases caused by vicious habits. Insane heredity was ascertained in 733, or 19 7 per cent., and the so called "moral" causes were assigned in 969. The following remarks of Dr. T. E. K. Stansfield, the Medical Superintendent of Rexley Asylum, are worthy of quotation:

It has, perhaps, fallen to the lot of few alienists to have so large a number of cases of recent insanity come directly under their care and observation as I have had during the past fifteen years, and my experience has forced upon me the conviction that hereditary taint and congenital defect become more marked year by year: and, further, that the two important factors which enter into the cau-e are the modern treatment of mental disease and the strong desire which permeates the breast of every medical superintendent of an asylum for mental diseases to be able to show a high recovery-rate. The modern treatment of mental disease is responsible for an increasing number of patients suffering, for example, from the insanity of puberty and adolescence, and of pregnancy and the puerperal state, recovering their sanity, and being returned to their places in the world, with the result that the adolescents marry, sometimes taking for partner in life a former fellow patient, and beget potential insanity and future populations for asylums; for, unfortunately, insanity is not accompanied by sterility, as it ought to be; on the other hand, it is commonly prolific.

Dr. Stansfield divided the total number of his admissions into three groups: (1) When a full family history could be obtained (37 6 per cent.), (2) when only a partial history could be obtained (30.3 per cent.), and (3) when no history could be arrived at (31.9 per cent.). Group 1 is the only one for consideration, and in this an unquestionable history of hereditary insane taint was ascertained in a proportion of 53 9 per cent., and even this high proportion, he states, from the obvious difficulties which beset the inquiry, under-estimates the truth. The time has arrived, he considers, when the question of sterilization should be seriously discussed. Dr. Stansfield further gives an interesting table demonstrating the causal relations between syphilis and general paralysis. To day the causal *nexus* between these two diseases rests on such a wealth of evidence that it hardly requires discussion, but Dr. Stansfield's tables, covering the six years 1900 1905, require mention because they show that the general paralytics admitted to his asylum gave evidence of syphilis in 78 7 per cent. of the males and 70.23 per cent. of the females, and in no less than 20 per cent. of his general admissions for 1904.

Discharges.

During the year 1,281 patients were discharged as recovered, giving recovery rates (*a*) on the total admissions of 33 59 per cent., (*b*) on the average number resident (16,851) of 7 6 per cent., and (*c*) on the total number under treatment (20,502) of 6.25 per cent. The recovery-rate on admissions is thus higher than it has been since 1900 (36.28 per cent), last year's recovery-rate being 30.05 per cent., and the average recovery-rate since 1831 being 30 40 per cent. The recovery-rates on admissions of the several asylums were: Hanwell 42 11 per cent., Claybury 35 33 per cent., Rexley 29 68 per cent., Cane Hill 39 98 per cent, Banstead 35.76 per cent., Colney Hatch 40 per cent., Manor 14.72 per cent., and Horton 28 88 per cent. The above recovery-rates are calculated on the total admissions, not excluding transfers, the recovery-rate for the whole number, excluding transfers, working out at 35.72 per cent. During the year there were also discharged as relieved 612, and as not improved 205. The statistical tables show that of the total 1,281 discharged as recovered 255 were discharged during the first three months of residence, 399 during the second quarter, 212 during the third, 164 during the fourth, and a further 148 between the first and second years. After this period the percentage of recoveries is inappreciable.

Deaths.

During the year 1,753 deaths were recorded, giving a death-rate of 8.23 per cent. on the average numbers resident as compared with either the 9 00 per cent. of the previous year or with the 10.15 per cent. of the county and borough asylums of the whole of England and Wales for 1904. Horton Asylum had the highest death-rate (10 83 per cent.) and—excluding the epileptic colony—Manor Asylum the lowest (5 05 per cent.). Owing to a lack of uniformity in the tables showing the causes of death the Committee give no summary covering the returns from the separate asylums, but we may extract the following: Including the figures of the epileptic colony 557 deaths were due to the cerebro-spinal diseases, of which number 333 were cases of general paralysis. Almost 19 per cent. of the total deaths were thus due to this one disease. In 97 cases the deaths were returned as due to senile decay, in 39 cases to dysentery, and in 200, or in 11.4 per cent. of the total deaths, to tuberculous diseases. In only 6 cases does accident appear as the cause of death.

THE PATHOLOGIST'S REPORT.

The report of Dr. Mott, the Director of the Pathological Laboratory, and Pathologist to the London County Asylums, includes matter of so varied interest that we can only allude here to some of its more important features.

Tuberculosis.

First, with regard to tuberculosis in asylums. In order to compare the death-rate from tubercle in an old asylum with that of a new one, Dr. Mott undertook to make all the *post-mortem* examinations at Colney Hatch Asylum from September, 1903, to September, 1904. The result showed that the percentage death-rate from tuberculosis and the percentage number of cases with non-active tubercle did not differ at this institution from his results at Claybury. During the twelve months in question 141 autopsies were made and of these 30, or 21.2 per cent., showed active tubercle, and 31, or 22.0 per cent., signs of obsolescent tubercle. From the examinations made at these two asylums Dr. Mott arrived at the opinion

That the great majority of patients who died with active or obsolescent tubercle, undetected on admission, were nevertheless then the subjects of the disease.

A further report on tuberculosis in the London County Asylums, April 1st, 1904, to March 31st, 1905, however, shows that of 304 cases of tuberculosis reported as being in the whole number of the asylums, 78 were diagnosed on admission, 44 within a year of admission, and 182 after one year of admission.

This (Dr. Mott says) would tend to show that the majority of cases acquired the disease in the asylum, but the *post mortem* statistics entirely disprove this, and show that most of the patients who die with active tuberculous lesions, undetected on admission, were nevertheless the subjects of active or inactive disease; *in the latter case, the disease being lit up in the asylum.*

The italics are our own. A further interesting point in relation to tuberculous disease, brought out by Dr. Mott, is that the mental condition in these subjects is generally associated with mental depression or at times stupor, and is most often classified as melancholia. Thus of 19 patients under 30 years of age dying with active tuberculosis, 17 were cases of melancholia and only 2 of mania, whereas in 19 cases of the same age dying without any tuberculosis, 12 were cases of mania and only 7 cases of melancholia.

Heredity and Insanity.

Under this heading Dr. Mott points out the great difficulties attending any investigation into this relation, and asserts that no reliable statistics will be forthcoming until a collection of family trees showing the temperament and life-history of all the members on both male and female sides for at least three generations is drawn up. He has, however, compiled some statistics which "point to the probability that hereditary influence is an important factor," and which also "tend to show that maternal hereditary influence is a more powerful influence in both sexes, but that there is a greater tendency for males to derive an hereditary taint from the mother's side than females."

In 31 cases in which the insanity was recurrent or became recurrent, 55 per cent. had a family history of insanity, whereas of 300 medical and surgical cases admitted to Charing Cross Hospital there was a direct or collateral history of insanity in only 18 per cent.

Other Investigations.

Other interesting matter relating to dysentery and diarrhœa, confirming his previously-expressed opinion as to the infectivity of asylum dysentery, and a reference to an important investigation of his, with the collaboration of Dr. G. A. Watson, on the conformity of type of the occipital

lobe met with in some lunatics with that of lower human races, is contained in this report.

General Health.

The general health throughout the asylums was good during 1904. Practically the same number of cases of dysentery occurred as during the previous year, when a marked improvement was shown on all previous years, the numbers for 1903 and 1904 being 232 and 231 respectively as compared with 389 for 1902. A few isolated cases of enteric fever occurred, 2 at Colney Hatch, 1 at Hanwell, and 1 at Claybury, but otherwise the asylums were remarkably free from zymotic disease.

The Epileptic Colony.

The last of the nine villas of this institution was completed in June, 1904, and the report of the Medical Superintendent, Dr C. H. Bond, forms the Colony's first complete annal. The available accommodation has been continually in use and leaves no doubt, Dr. Bond says, that the colony entirely fulfils its aim. At the same time, Dr. Bond says, the experience of its management has brought out very clearly the need for similar provision for the non-certified sane epileptic.

On January 1st, 1904, there were 277 patients on the registers. During the year 94 were admitted, of whom 25 were direct admissions, the remainder having previously passed through an asylum. Excluding the congenital cases, which formed 22 per cent. of the whole number, in 55 per cent. of the admissions the mental affection was of less than two years' standing. In 69 of the total cases the patient was single, in 19 married, and in 5 widowed, but, eliminating the congenital cases, and deducting, further, from the single cases those who at the commencement of the mental disorder were not of marriageable age, the statistics show that the married and widowed were in the proportion of 24 to 25 single cases. The marriage of epileptics in such proportion is a serious matter, and justifies Dr. Bond in saying that such unions, favoured by the common belief that marriage tends to terminate the disease, is nothing short of a social crime. As regards the etiological factors in the admissions, family histories of insanity were elicited in 20 per cent., of epilepsy in 22 per cent., of alcoholic intemperance in 18 per cent., and of tuberculosis in 22 per cent. In 71 cases the epilepsy appeared before the age of 25 (Group A) and in 18 after that age (Group B). Dr. Bond premises that on account of their paucity a minute analysis of these figures would not be trustworthy, but he shows that the ascertained faulty family history was about equal in both groups, that an alcoholic heredity was twice as prevalent in the former group as in the latter, but that alcoholic excess in the patient, whilst present in 13·0 per cent. of Group A, was ascertained in no less than 78 per cent. of the cases in which the epilepsy developed after the age of 25. During the year 2 were discharged, 1 as recovered and 1 to the care of friends; 38 were transferred, 1 to single care and the remainder to other asylums as unsuitable for colony life, and there were 9 deaths. Six of these deaths were due to epilepsy, 1 to cardiac disease, and 1 to carbuncle. Progress in the work of the Colony has, Dr. Bond says, been steady and encouraging, and he instances as showing the amount of work done that between March 31st, 1904 and the corresponding date this year the farm yielded produce to the value of £604 14s. 6d.

THE BRITISH MEDICAL BENEVOLENT FUND.

By Samuel West, M.D.,
Physician to St. Bartholomew's Hospital, Treasurer of the Fund.

(*Concluded from p. 1596.*)

5. The Raising of Funds.

Annuities.

The annuity department deriving its income from invested capital may well be brought forcibly before executors and others who have the administration of charitable funds, whose attention may be drawn further to these facts:

1. That the investments are all placed in trust securities.
2. That the accounts are strictly audited and vouched for by chartered accountants of high standing.
3. That the books are open for inspection to any one interested.
4. That the total working expenses of the fund only just exceed 5 per cent. of the income.

The fund is therefore safely, soundly, and economically administered.

Grants.

The grant department derives its income from the donations and subscriptions of the year. It must, therefore, be fluctuating and uncertain, and consequently a source of constant anxiety. The fluctuations are most marked in the amount of donations, for when public appeals are made the response is generally in this form. The amount of the annual subscriptions has shown a slight increase during the last five years. Last year it reached £1,190, the maximum of any year so far. This is a poor result from a profession which numbers many thousands. It has been calculated that, including donations and subscriptions, the average works out at less than 1s. 6d. per head. It is really much less than this. The donations are largely given in response to special appeals, and often include large sums—£10, £20, £50, or even £100—given by single donors, many of whom add these special gifts to their annual contributions. If these amounts be deducted, the average would fall below the odd 6d. per head. It follows that if every member of the profession would give a few shillings only to the fund every year—and every one can afford something—the income would be very largely increased and its usefulness widely extended. The support of the fund at present is by the few and not by the many. The reason often assigned is that the fund is not known. Yet it ought to be known, for circulars without number have been sent out year after year and special appeals made from time to time in the medical and also in the lay press. Correspondence frequently takes place in the medical papers on questions connected with the fund, and of recent years on the annual notice of subscription sent out by the British Medical Association to every one of its members, two spaces have been added for contributions to this fund and to Epsom College. It is clear, then, that general circulars and notices have failed to produce the required result.

The effect of any circular or appeal would be largely increased if it were pressed home by personal advocacy, and in this respect the fund owes much to its honorary local secretary. Endeavours for some years have been made to increase the number of local secretaries, and to this is probably due in great part the gradual increases of the subscription list during the last few years. Amongst the most useful of our local secretaries used to be those who were also Branch Secretaries of the British Medical Association. In some of these Branches a capitation grant was levied of 5s. or so per member, which was collected with the annual subscriptions. In others a donation was made from time to time out of any funds the Branch might accumulate. The reorganization of the British Medical Association has altered all this. The subscriptions are now sent to head quarters, and the Branches cannot grant donations, for they have no longer any funds. The fund has thus at present lost not only these donations and subscriptions, but also the personal advocacy of their good old friends the local secretaries, for at the moment of writing only four local secretaries of the fund remain who are still Secretaries of Branches or Divisions of the Association.

Recently a circular letter has been addressed to all the Secretaries of the Branches and Divisions of the Association, inviting them to become local secretaries of the fund. A large number have already given their cordial assent, and promised their active support.

If each Branch or Division had also its local charity committee, a further useful step in organization would have been taken. What the fund requires is a large number of local centres of interest and support. The British Medical Association covers with its Branches not the United Kingdom only but the Colonies too. It has, therefore, the organization which the fund requires. It is gratifying to find a willingness to employ it in the interests of charity. From these local centres, so widely scattered, yet covering every part, would be spread the knowledge of the fund, its objects, and its work, the need of such a charity, and the necessity of its adequate support. The cases of distress speak for themselves with an eloquence which cannot be resisted, and it is clear that the Fund does, indeed, only require to be widely known to be sure of generous support.

The History of the Fund.

The British Medical Association took its origin in the year 1832, under the name of the Provincial Medical and Surgical Association. Four years later the Benevolent Fund was founded, with the title of the Benevolent Fund of the Provincial Medical and Surgical Association. When in the year 1856 the name of the Association was changed to that of the

British Medical Association, the name of the fund was also changed. Though bearing the same name, and closely associated together, each body was independent of the other, and had its own president, treasurer, and officers.

The report of the Benevolent Fund was read every year at the annual meeting of the Association up to the year 1869-70, when the two bodies severed the close connexion which had hitherto been maintained. The cause of this was financial. The Benevolent Fund, by means of legacies and donations, which had been regularly invested, had accumulated a considerable sum, amounting to several thousand pounds, from the interest on which it had paid the pensions or annuities. As the British Medical Association was at that time in pecuniary difficulties, and probably not solvent, it was clearly the duty of the trustees of the fund to take care that if the Association were wound up the capital of the fund should not be impounded. Separation, therefore, became imperative then. Since that date the connexion of the two bodies has never been so close as before, although many Secretaries of Branches have acted as honorary local secretaries of the fund, and done a great deal for it.

During the thirty-five years which have elapsed since the separation each body has developed greatly. The British Medical Association now embraces the great majority of members of the profession. The Benevolent Fund has also grown in each of its departments. The Invested Fund amounts to more than £60 000, upon the income of which 124 annuitants are supported. The grant department has grown less rapidly, for it has always been a difficult matter to maintain, and still more to increase, the annual subscriptions and donations. Now that the British Medical Association has reorganized itself, and is acquiring new powers under a charter, the time, it would seem, has come when the two societies should again take their place side by side and work together strenuously in the cause of charity, as they did for the first half of their existence.

ALCOHOL AND DRUNKENNESS.

The second Lees and Raper Memorial Lecture, which was delivered by Sir Victor Horsley, has been published as a pamphlet by the trustees, and also appears in the October number of the *British Journal of Inebriety*. We gave an account of its contents at the time of its delivery, but it is worth while to give a further description of them now. Though alcohol forms the central theme of the address, the question considered is not that of alcoholism commonly so-called, but that of the effect of alcohol on the higher centres when taken in such small quantities as are used at meal times, and which are generally regarded merely as dietetic and harmless. The excessive use of alcohol is not directly considered. The case for abstention from even small doses is set forth with convincing clearness and precision, and the scientific value of the paper is undoubted. At the outset the author reminds his hearers that alcohol is well known to be the cause of certain forms of paralysis in persons who have never in their lives been drunk in the ordinary sense, and its action through its chemical affinity with various parts of the human organism is illustrated by its effect on the peripheral nerves.

An explanation is given of the relations and functions of the cerebrum, cerebellum, spinal cord, and nerves. The structure of the cortex and cells of the sensory and motor centres are described, and the functions of the smaller cells in connexion with the operations of the mind indicated.

In investigating the action of alcohol upon the brain the author points out that the question is how fast and how accurately the brain will work when under its influence or without it. This can be answered by a simple reaction-time experiment, the records being marked on a revolving drum. Kraepelin's beautiful and accurate experiments are detailed, in which the ingestion of a small quantity of alcohol was found to cause a slight acceleration of the reaction period, then, after a few minutes slowing was observed, becoming more marked and enduring as long as the alcohol was in active operation. It is also demonstrated that the time occupied in a so-called complex reaction is never quickened by alcohol, but slowed throughout. Even in the small quantities called dietetic there is a depressing effect on the higher brain centres. Although Kraepelin thought that a small quantity of alcohol had an accelerating effect on the activity of his mind, he found that he actually performed such operations as adding and subtracting less quickly than before; the alcohol had deceived him in this matter. The analogy of this effect with that of small doses of anaesthetics is plain, the patient having the feeling of making powerful efforts while his brain is rapidly becoming paralysed and himself entering the stage of unconsciousness. When a man has taken a small dose of alcohol he often has the idea that he is thinking more than usual, when as a matter of fact he is thinking slower. The sense of well-being also is only an illusion.

Sir Victor Horsley maintains that the failure of intellectual judgement under the action of alcohol is in harmony with the view that its operation should be referred to the small cells of the brain, as these are the first to succumb to the onset of disease. He also maintains that the first stimulation effect of alcohol is not a real help, for it abrogates the highest function we know in the brain—its controlling mechanism. He makes reference to his own well-known experiment under laughing gas.

It is shown also that before the cortical centre which gives rise to motor impulses is paralysed by alcohol the sensory part is already affected, while fatigue is shown to be due not to fatigue of muscles and nerves so much as the motor portions of the brain.

The experiments of Kraepelin with a dynamometer show that at first an additional amount of work is put out under a dose of alcohol, followed by a depressant effect. Similar experiments with tea show a time acceleration at first but no loss of power afterwards. The acceleration is probably due to loss of control, and tends to show that alcohol and other drugs act in a paralysing way from beginning to end. The effect of the dietetic use of alcohol on skilled volitionary work (that of compositors) is investigated by Dr. Aschaffenberg, and his results are in complete harmony with the other experiments described. Attention is drawn to the especially poisonous effect of alcohol to the cerebellum, and the respective production of both inco-ordination and tremor are discussed.

Sir Victor Horsley makes it evident that owing to the minute and careful work of many observers proof is not wanting that even in small quantities alcohol is injurious to the proper working of the brain. And he has through this lecture put into the hands of both scientific men and social reformers much valuable and suggestive material for which they cannot fail to find practical use.

An excellent companion to Sir Victor Horsley's address is the corresponding memorial lecture delivered by Mr. John Burns, M.P., last year, which the trustees have now likewise published in pamphlet form. This presented the subject from another aspect, for it is a subject with many sides. Mr. Burns proved himself equally master of the question in his own field, and his lecture entitled Labour and Drink, and addressed to working men, is a practical and precise reading of the truth from the economic and social point of view, as Sir Victor Horsley's lecture is in the scientific aspect. Mr. Burns's subject afforded scope for an entirely valuable output of warning and denunciation as well as an array of very terrible facts, and his scathing indictment of the drinking habits of the working classes and his enumeration of the irreparable losses and unmitigated curses that accrue on this account is entirely just. The whole pamphlet is worth the attention of all interested in the problem of alcoholism as it presents itself in this country. Perhaps no part of Mr. Burns's paper is more emphatic or uncompromising than that in which he refuses to recognize poverty as a cause of drunkenness.

CONTRACT MEDICAL PRACTICE.

Notice as to Districts in which Disputes Exist.

A notice as to places in which disputes exist between members of the medical profession and various organizations for providing contract practice will be found among the advertisements, and medical men who may be thinking of applying for appointments in connexion with clubs or other forms of contract practice are requested to refer to the advertisement on page 76

The Royal Albert Asylum, Lancaster.—At the last meeting of the Central Committee, Dr. G. E. Shuttleworth, who was for twenty-three years Medical Superintendent of the Royal Albert Asylum, Lancaster, for the training of the feeble-minded of the Northern Counties, was appointed Honorary Consulting Physician to the Institution, on the motion of the Chairman, the Right Hon. Sir John T. Hibbert, K.C.B., seconded by Colonel Foster, D.L., Vice-Chairman.

SCHOOL HYGIENE.

London.

The report of the Education Committee of the London County Council submitting the report of the Medical Officer (Education) for the year ended March 31st, 1905, has been issued this week.

In his report for the year ending March, 1905, Dr. Kerr deals with a number of subjects relating to the physical and mental conditions of the children attending elementary schools. Turning to the table of contents, we find that it includes physical conditions, physical exercises, feeding of school children, age of attendance, personal cleanliness; infection in schools, with a special study of diphtheria and measles: vision, hearing, special schools, buildings and furniture, and hygiene.

Visits to Schools.

The average number of visits to schools made each week for examinations and inspections by officers of the Public Health Department was:

	Special Schools.	Ordinary Schools.	Domiciliary and Special Inquiries.
Medical Officer and four assistants	10	5	Not noted
Six oculists	–	18	,,
Twelve nurses	119.4		125

Each of the residential schools has now to be visited at least once a quarter by the Medical Officer (Education).

Physical Conditions.

With regard to measurements, Dr. Kerr says: We have no trustworthy measurements of the development of London children.

A scheme was put forward in November, 1903, for an inquiry into the relations between (1) educational status, (2) the physical condition, (3) the social position of about 50,000 London children. The cost of this work stood in the way, and even a more modest scheme, which would not cost more than £300, has been felt to be inopportune, and at present is in abeyance. Much care and expense is involved in the recording and analysis of mortality statistics concerning those whose lives have ceased. The vitality statistics of those who are about to enter on active service in the affairs of life, and whose energy is the chief of the national assets, is surely worth the cost of collection. The children whose measurements will form the units in the inquiry are not interfered with in any way; their self-respect will rather be increased, their sense of belonging to the community heightened by their participating in such measurements, and although the benefit to any individual is scarcely worth considering, yet the results to be hoped for are such that some effort must be made to conduct this inquiry, tedious though it may be to those who do the work.

Dr. Frances Berry and Dr. C. J. Thomas have made some investigations which, though insufficient, give some idea as to conditions of cleanliness, health, and nutrition among the scholars. We will give an account of this work later.

Physical Exercises.

Dealing with physical exercises, Dr. Kerr says: "The recommendations as to the exercises in the infants' departments never being slow, being of the simple and automatic nature, easily learned and massive in character, very intermittent and accomplished without regard to detail; the use of music in aiding infants' exercise, the rhythm diminishing fatigue; the necessity of short lessons in the infants' school, broken up by a few quick movements, or, if feasible, a very few seconds' run, are all points which have been borne out by the syllabus of physical exercises for schools. No formal syllabus has been set forth for use in infant schools; but what has been attained in London schools is wholly good, and, with trifling modification in some of the commands, will fit in as introductory to the syllabus devised for the standards. These exercises, for the sake of uniformity, will be required as a minimum in all the standards, and will be adopted in London from the beginning of the autumn session of this year."

After pointing out the danger of exercising children with chorea, the medical officer says: "It would be as well also that a special squad should be formed in large schools of children who present defects or deformities, often comparatively slight in nature, which interfere with their being properly looked after if exercised in large classes. Such children should be presented to the medical officer on his school visits for his opinion and advice as to exercise." He notices, too, the necessity for exercise in candidate pupil teachers, whose heart muscle is often out of tone and flabby, and whose reserve powers are at a low ebb. Owing to want of exercise, liability to diseases, particularly of the catarrhal type, is increased, and mental receptivity is diminished, and liability to show signs of comparative over-pressure, exhaustion, or even neurasthenia is almost to be expected.

Feeding of School Children.

The next question touched upon is the feeding of school children. In Dr. Kerr's opinion, "this is a matter in which it is quite impossible to attain an opinion of any real scientific value without the expenditure of time and money on observations of the physique of sufficient children to establish standards." An abstract from the report on the matter made to a subcommittee is given, and reference is made to limited experiment in feeding in certain centres, the cookery centres being utilized for this purpose.

The Age of Attendance.

Dr. Kerr observes that it is said that the infant school is chiefly responsible for the diffusion of such diseases as measles and whooping-cough. The greater part of the mortality of whooping-cough occurs at ages before school life begins, and the experience of the past three years goes to show that 25 per cent. of the infants entering school at 3 years of age have already had measles. He continues: "It is also said that children at early ages cannot learn efficiently; but this is entirely wrong. It is in reality the want of intelligence in the curriculum prevailing under official sanction, but which is now being amended. Children learn more in the years from 3 to 5 than they will learn in the same period at any time subsequently; but if it is attempted to get work out of non-existent organs there will be failure, and even immature tissues may and do suffer. But this is merely a reason for improving the kind of education and instructing the teachers."

In answer to the argument that much room is taken up by these children in schools, and that the accommodation which has cost much money would be set free by excluding infants and could be used by other children, Dr. Kerr points out that if they are excluded from school they must be accommodated elsewhere, in kindergartens or crèches. Crèches would make them dearer than any infant schools, while it is doubtful whether there would be any substantial gain in respect of the prevalence of infectious disease, which, if postponed till later ages, would certainly be a gain hygienically, although a great disturbance educationally, in the upper schools.

Dr. Kerr says: "Educationally, over-pressure only results in infant departments as one of the evils which the country has to suffer from want of a medical department for education and financially exclusion of children at present in the infant school would call for more costly treatment in small crèches. The real question then is narrowed down to whether the ratepayers are prepared for the additional call on the purses involved in the treatment of children between 3 and 5 in small crèches instead of in the present large schools. Should the question come into practical politics, it should be first tried in a limited district."

Under the heading Work of the Infant Department, Dr. Kerr touches upon such questions as the condition of the child when it first goes to school, physical exercises, speaking, seeing and hearing, drawing, reading and writing, bad positions, etc.

Personal Cleanliness.

In the section dealing with this subject, the work of the nurses in dealing with want of cleanliness is gone into:

"The nurses working under the late School Board, and continued by the Council, give no treatment, but are accomplishing a highly important work of considerable educational value. They were appointed first to examine cases of ringworm, and were, in fact, termed ringworm nurses; then their duties were extended to all forms of obvious uncleanness and disease. They also follow up their school work in many cases by home visits, and there is a noticeable tendency, both among the teachers and school attendance superintendents, to utilize the nurses' visits as a means of securing better school attendance.

"The method of working which the nurses adopt is to pay single visits here and there to different schools in their district,

but every third week begin a very thorough examination of one school, and pay several visits at short intervals till it is deemed sufficiently cleansed. The teachers should then endeavour to maintain the results of the nurse's work for weeks or months. Managers do not realize the amount of work a nurse has to do, and in many instances have sent in requests for more frequent visits from the nurse, or for greater attention to their particular school, which at present it is quite impossible to afford."

Ringworm.—It is estimated that loss of attendance owing to ringworm is about one-ninth; absence may be prolonged over many months and even years.

Favus.—Favus, which may be regarded as a disease nearly allied to ringworm, chiefly occurs in the East End. It has been decided to open an elementary school for favus cases only, to accommodate 80 children, a separate room for a nurse being provided.

Unclean Heads.—The number of unclean heads is continually diminishing. The methods of dealing with these cases are cumbersome and slow, and though the results are excellent, powers for a more rapid method of dealing with objectionable cases are required. The powers should be on the lines of the Glasgow Police Act, so that if a child is found by a duly-appointed officer of the Council (medical officer or nurse) to be in school in an objectionable state, notice may be served on the parents to cleanse the child within twenty-four hours, or it may be cleansed at the public expense and the cost recovered from them.

Baths.—Owing to complaints that children have become infected with vermin from using public baths, Dr. Kerr recommends that school baths for cleansing the children should be provided quite apart from swimming baths. He says: "For cleansing purposes a very shallow tank 6 in. deep, with a rose for a shower over each child is used, worked by a chain which the child pulls when under the rose. In some German schools the shallow tank is provided, others have a somewhat raised flat part with a gutter of white tiles round about 1 ft. broad and 6 in. deep. In a recently provided school the bath room was square, with a sloping concrete edge run round, and on this twenty ordinary galvanized iron slipper baths arranged, into which each child got before working the shower. All these devices are intended to economize room, to save expense in heating and in cost of water. With the campaign now being carried on in favour of personal cleanliness in schools, the provision of school washing baths, as distinct from swimming arrangements, is becoming increasingly necessary in many parts of London."

Infection in Schools.

Under this heading we find notification and school closure discussed. Dr. Kerr writes:

"School or class closure, in each case, is decided on individually and on its merits. We can now get the returns from the school so quickly that it is safe to judge as to school infection from these returns. As a rule, when measles appears in a single class of an infants' school, closure is applied, but where several classes are affected from the first, and especially where several schools in a district are affected, it is held that the district is generally affected, and experience has shown that school or class closure is of no benefit.

"Excepting the borough of Lewisham, the method of closing a school on account of the prevalence of measles, and because the attendance has dropped 10 or 20 per cent., has now been abandoned throughout the metropolis.

"It is to be noted that one of the consequences of the abolition of the Article marked 101* in the late Code of the Board of Education is that not only is the grant for absentees lost, but in cases of severe epidemics authorities are actually fined for keeping schools open, and it would be almost worth while defining what percentage attendance is required to prevent loss of grant arising from counting the school as open and marking the registers.

"The reinstatement of this Article 101* has been urged on the Board of Education by many educational and sanitary authorities in the country, but their entreaties are made to those whose training has not been such that they can appreciate the enormous importance of keeping infectious and convalescent children out of school without penalizing teachers and school authorities. The value of the regulation was so great that efforts should be continued to have it re-enacted."

Diphtheria and measles are dealt with at length, the report by Dr. Thomas on measles in the Woolwich district being given in an appendix.

Special Senses and Special Schools.

Vision, hearing special schools, and intermediate schools are further subjects of interest with which we hope to deal subsequently.

School Hygiene.

The report ends with a short note on School Hygiene, which we append:

"The necessity for a knowledge by the teachers of the conditions under which school life may be conducted in a healthy manner is now being urged on all sides, and some pressure has been brought to bear on the Board of Education to make this knowledge compulsory.

"A means exists in the course of training and examination in physical training for the Physical Exercise Certificate which is required to be passed by each teacher. It is quite possible to remodel this course and examination, to make it much more useful and practical than it is at present, and instead of a knowledge of physiology, as asked for at present, to draw up a syllabus of a course of lectures which, being given on scientific lines, and by using typical examples, would help teachers to gain a knowledge of the matters which are of importance, not only from the sanitary but also from the educational point of view, and by this means lead to a considerable practical improvement in school conditions and school life."

THE DIET OF THE PRECIBICULTURISTS.

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IX.

Neolithic Man of Europe.

It is probable that quite early in the neolithic age man began to cultivate the soil and breed animals for food, but though neolithic man must, strictly speaking, be regarded as a cibiculturist, a brief description of his diet may perhaps not inappropriately terminate this series of papers.

The neolithic age, or age of polished flints, lasted, according to Keane's estimate, some 70 000 years. Its culture was greatly in advance of that of the paleolithic age, for not only did man of this age cultivate the soil and breed animals, but he also understood the arts of spinning, weaving and pottery-making, as well as copper, tin, and gold mining; while he erected noble monuments to his dead, which, in the shape of cromlechs, tumuli, menhirs, stone circles and the like, still stretch wellnigh round the earth.

Our knowledge of the neolithic man of Europe is derived from the relics he has left in the Danish peat-bogs, the Danish kitchen middens, the oldest lake dwellings of Switzerland and Italy, the earliest tumuli, and, finally, the sepulchral caves of France and Belgium. Before considering the diet of neolithic man as disclosed by these relics, it may not be out of place to make a brief reference to the origin of neolithic culture.

There is little evidence that it developed in Europe from paleolithic culture, though Mortillet holds that this is what actually happened. He contends that towards the end of the Magdalenian epoch the climate of Europe became unfavourable to man's existence, and that, in consequence of this, his primitive industries fell into decay: he ceased to fashion delicate stone implements, while his elegantly carved weapons of bone and reindeer-horn gave place to more crudely-worked weapons made from stag-horn (the reindeer having permanently migrated to the north), of which the most characteristic was a short flat harpoon, pierced at one end and furnished with short irregular barbs. To this period he gives the name of Tourassian, so called from a rock shelter where relics supposed to be characteristic of it have been found; and he appears to hold that neolithic culture grew out of this Tourassian culture.

In some parts of Europe, at least, the gap between the paleolithic and neolithic cultures is so abrupt and striking that we must assume an entire disappearance of paleolithic man, and a subsequent repeopling by neolithic successors. This is what must have taken place in Britain, where

> the few scattered paleolithic hunters could scarcely have lived through the last ice age in a contracted region, at one time reduced by subsidence to a cluster of islets, and for long intervals entirely severed from the mainland (Keane).

Neolithic culture must, however, have emerged somewhere or other from the paleolithic. Keane places its origin in a southern region, where the conditions of life were much more favourable for advancement than in those parts of Europe which the devasting influence of the northern ice-cap

had rendered all but uninhabitable. One can hardly doubt that it had its birthplace in some southern clime—either in the southernmost part of Europe or Asia, or in northern Africa, and had attained considerable development long ere the termination of the old stone age in Europe, and

that while primitive man was still struggling with the mammoth in Dordogne and Britain, a relatively advanced degree of culture had already been developed, say in the Nile and Euphrates Valleys (Keane).

From these centres we may suppose that neolithic hordes spread over Europe, gradually imposing their culture on the surviving paleolithic inhabitants, and establishing it also in parts whence, as in Britain, man of the old stone age had long disappeared. In this latter case there would obviously be an abrupt break between the paleolithic and neolithic cultures.

In neolithic times the fauna was much the same as it is now. The reindeer had disappeared, but the wild bull and bison survived, as they did for some time afterwards. On the other hand the flora, especially as regards forest trees, was somewhat different from that of the present time.

We may now proceed to the diet of the neolithic man of Europe, as evidenced by his relics.

The *Danish kitchen middens* occur all round the shores of Jutland and neighbouring islands, and are of large dimensions, some of them being as much as 1,000 ft. by 200 ft. and 10 ft. high. These middens probably antedate the pile dwellings. They contain rude flint implements, coarse pottery, and many varieties of bones, though none of the domesticated animals, save the dog; nor do they show any evidence whatever of agriculture having been pursued.

Shells of the oyster, cockle, mussel, periwinkle occur in abundance, those of the whelk and snail in smaller quantity. The bones of certain fish also occur—for example, herring, dab, cod and eel; also the remains of the turtle. Inasmuch as neither herring nor cod are found near the coast, it is clear the inhabitants of the kitchen middens must have possessed seaworthy craft.

The chief mammalian relics found are those of the stag, kid and wild boar; others belong to the wild ox, bear, wild cat, lynx, fox, wolf, domesticated dog, otter, beaver, water rat, seal and porpoise. The absence of bones of the reindeer and musk ox indicate that the middens belong to a time when the climate was temperate, like that of the present day. The dog was apparently sometimes eaten, for the bones of this animal sometimes show traces of having been intentionally broken.

The bones of several varieties of bird are found, many of them aquatic—for example, wild duck, geese, swans and the great penguin. All the long bones containing marrow are split, evidently for the object of extracting it.

It is evident that these kitchen-midden folk lived chiefly by fishing and hunting, much in the same way as existing Fuegians live. How far they supplemented their animal by vegetable food we cannot say. That they cooked their food is shown by the existence of circular hearths made of flat stones covered with cinders and charcoal.

In some *caves*, notably in the South of France, remains of neolithic man are found, but in most if not all of these there is evidence of the domestication of animals, though Taylor contends that certain sepulchral caves of France and Belgium prove that at the beginning of the neolithic period the inhabitants lived by the chase, and had no domesticated animal.

In one of the neolithic caves the bones of the urus, a smaller ox, the stag, sheep, goat, antelope, chamois, wild boar, wolf, dog, fox and badger have been found. The bones were split lengthwise, after the custom of paleolithic man. Large quantities of snail shells were found in this cave, and there were remains of hearths.

Tumuli and barrows etc., were built from the beginning of the neolithic period to the introduction of Christianity. Thus some belong to the neolithic, others to the bronze, and others, again, to the iron age, and it is not always possible to say to which of these three any given specimen belongs, because stone implements were extensively used throughout the bronze period. The long barrows are looked upon as always belonging to the neolithic age, as metal has never been found in any of these, but even the oldest of them show evidence of the domestication of animals. No cereals have been found in British barrows, mealing stones and querns have, however, been met with, but whether these were used for crushing corn or wild vegetable produce it is not possible to say.

The *lake dwellers* of Switzerland and Italy passed through the three stages of stone (neolithic), bronze, and iron. It has been thought by some that the earliest of them were pre-cibicultural, though there can be little doubt that even they possessed domesticated animals, including the ox, sheep and goat, as well as, at a later period, the pig and the horse, and had already begun to cultivate the soil, growing, among other things, wheat, barley, millet, as well as flax. But while the lake dwellers increased their food artificially, they subsisted to a large extent on wild animals, such as the deer, boar, bear, wolf, beaver, otter and squirrel, and upon the produce of the uncultivated vegetable kingdom, as shown by abundant finds of crab apples, beech nuts, hazel nuts, water-chestnuts and acorns, some of them still adhering to the vessels in which they had been cooked.

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1897. Windle, B. C. A., *Life in Early Britain.*
1897. Munro, R., *Prehistoric Problems.*
1900. Lubbock, John, *Prehistoric Man.* 6th edition.
1904. Windle, B. C. A., *Remains of Prehistoric Age in England.*

For paper No. VIII. which dealt with paleolithic man, I am greatly indebted to the classic work of the two Mortillets: *Le Préhistorique*, 1900.

THE GENERAL ELECTION.

London Boroughs.

The lists so far published of candidates for London boroughs at the general election contain the names of three medical men.

In Bermondsey, the sitting member (Mr. H. J. C. Cust), who seeks re-election as a Unionist, will be opposed by Dr. G. J. Cooper, who is standing in the Liberal interest. Dr. Cooper has represented Bermondsey on the London County Council since its formation, and has for some years done valuable work as Chairman of its Public Health Committee. The constituency has been inconstant, as a Radical candidate was returned in 1885, was defeated in 1886, was again successful in 1892, but was defeated in 1895 and 1900.

In West St. Pancras, Sir William Collins, who has contested the constituency before in the Liberal interest, is standing again. Sir William Collins, who is an ophthalmic surgeon, has also achieved distinction as a member of the London County Council, of which he was chairman in 1897-8. On the formation of the London Education Committee he was appointed its chairman, an office which he still holds. He is a member of the Council of the King's Hospital Fund and Honorary Secretary of the League of Mercy.

Mr. F. Rutherfoord Harris, who is standing again at Dulwich, for which constituency he was elected as a Conservative at a by-election two years ago, is a member of the medical profession, holding the Licentiateship of the Royal College of Surgeons of Edinburgh; he has, however, we believe, long ceased to practise, and has not heretofore shown much interest in medical questions in Parliament.

University Constituencies.

There will be a contest for the representation of the University of London, the candidates being Sir Michael Foster, M.D., K.C.B., F.R.S., and Sir Philip Magnus. A circular has been issued, signed by the Chairman (Sir Thomas Barlow) and the Vice-Chairman (Professor Carey Foster) of Sir Michael Foster's Committee, stating that he seeks re-election primarily as a representative of science and higher education. He was first elected in 1900 as a Liberal Unionist and supporter of the Unionist Government; if re-elected he will take his seat on the Liberal side of the House. He is a Free Trader, and believes that the state of the country is to be bettered not by interfering with external trade, but by carrying out much-needed internal changes, by remodelling old laws which hamper, and promoting new laws which will advance, commercial, social, and agricultural development and interest. The circular letter in support of Sir Michael Foster's candidature is signed by members of both political parties. His opponent, Sir Philip Magnus, who is the candidate of the University Unionist Association, is Superintendent and Secretary of the department of Technology in the City and Guilds of London Institute; he is a graduate and a member

of the Senate and of the Committee of Convocation of the University.

As has been very fully stated already in our columns, Sir J. Batty Tuke, M.D., who seeks re-election as representative of the Universities of Edinburgh and St. Andrews, is being opposed by Mr. J. St. Loe Strachey, editor of the *Spectator*. The views of both candidates on medical questions have been very fully explained by them in the BRITISH MEDICAL JOURNAL of December 2nd, 1905, page 1475. Sir John Batty Tuke stands as a supporter of Mr. Balfour's policy, while Mr. Strachey is a Unionist Free Trader. Sir John Batty Tuke has done much work for the profession both in Parliament and as a member, for many years, of the General Medical Council. In another column will be found a letter from him with reference to his work on the latter body.

There will also be a controversy for the representation of the Universities of Glasgow and Aberdeen. Professor W. R. Smith, M.D.Aberd., formerly Medical Officer to the School Board for London and at the present time Mayor of Holborn, and a member of the Metropolitan Asylums Board, is opposed by Sir Henry Craik, K.C.B., who was Secretary of the Scottish Education Department from 1885 to 1904. Both candidates have, we believe, the support of graduates who are Liberal and Conservative Unionists.

IRELAND.

Dr. Edward Thompson, of Omagh, who is seeking re-election for the North Division of Monaghan, which he has represented since 1900 as a Nationalist, is to be opposed by a candidate to be selected by the United Irish League. Dr. Thompson has done much useful work in Parliament, and is known especially as the warm-hearted and eloquent champion of the Irish peasant, whose cause he has often pleaded in the House of Commons. It was owing mainly to his persistent efforts that the present Vicregal Commission was appointed to inquire into the Irish workhouse system, with a view to indicating the reforms necessary to bring these institutions into accord with the needs and the desires of the Irish people. He has also brought under the notice of Parliament the defects in the Irish Poor-law system, which, while they inflict hardship on the medical officers, are the cause of still greater hardships to the sick Irish peasant. Dr. Thompson has also shown an enlightened interest in all public health questions, and his defeat would be a distinct loss to the House of Commons.

Dr. Robert Ambrose, who has been M.P. for West Mayo since 1893, is again seeking re-election as a Nationalist candidate. He is in practice in Whitechapel, and is well acquainted with the difficulties of general practitioners. He took an active part in the debates on the Midwives Bill, both in the House and in Committee, and in the efforts made to improve its provisions.

Dr. Mark A. MacDonnell, like Dr. Thompson and Dr. Ambrose, is a member of the British Medical Association, and has represented the Leix Division of Queen's County as a Nationalist since 1892; he formerly practised in Liverpool, but now resides in London.

Dr. Henry O'Neill is standing for the South Division of Belfast as a Unionist. Dr O'Neill, who is consulting surgeon to the Royal Victoria Hospital, Belfast, has held the office of President of the North of Ireland Branch of the British Medical Association, and of High Sheriff, and has shown strong practical interest in public-health questions, both those affecting the housing and the food of the people. By his speeches and writings he has done much to instruct the public mind as to the necessity for hygienic reform.

LITERARY NOTES.

THE *Deutsche medizinische Wochenschrift*, which has for many years published admirable portraits of modern representatives of medical science will in future issue from time to time artistic reproductions of portraits and pictures illustrating the history of medicine. As a beginning, a portrait of Paracelsus was published on November 23rd. The portrait, which is an unfamiliar presentment of the inspired quack from one of whose names we get the word "bombast," is from the collection of Dr. E. Hollaender of Berlin, and is attributed to P. Soutman, a pupil of Rubens. Most probably, however, it is the work of van Sompel, a pupil of Soutman's. It is thought by experts to be a posthumous portrait, and somewhat idealized.

At a recent sale of pictures in Vienna one of great medical interest excited some competition. It was bid for by a representative of the Salpêtrière, which, owing principally to Henry Meige and Richer, has become the chief centre for the study of art applied to the illustration of medicine, but was knocked down to a higher bidder who, it is hoped, will allow it to remain in Vienna. The picture, which is by that rare master, Pietro Balten, who flourished about 1565 represents the workroom of an operator for that mythical disease, "stone in the head," which used to be a gold mine for Dutch quacks. Most nervous and mental diseases were supposed to be curable by the operation. The operator, who took care to provide himself beforehand with a stone of appropriate size, made an incision in the occipital region, or the forehead, and then exhibited the supposed *corpus delicti*, to the satisfaction of all concerned. The incision of the head was sometimes practised in good faith, just as English and other surgeons of the seventeenth century "trepanned" with the object of ventilating the brain. The Vienna picture represents a large, well-lighted room, furnished with books, crucibles, gallipots, knives, forceps, and salvers. On the table lies a document, the writing on which is unfortunately illegible; it may be a diploma, such as lies on the window-sill in Gerard Douw's famous picture, "The Dentist." It is evidently a busy day, for the surgeon is operating on a man who has just arrived, as is shown by his luggage on the floor, while others are waiting their turn. One man of aldermanic build has evidently lost heart when it has come to the sticking point, and is being urged by two women to take his place in the chair of torture. Another, with a bandage round his head, has just been delivered from the hands of the operator and is in a state of excitement, which takes a combative form, as is shown by his struggling with two women who are trying to soothe him and prevent him drawing a dirk. Near the door is a party with an epileptic. In the background are people trying to enter, and a group of eager onlookers at the window. The operation of extracting stones from the head had a special fascination for certain Dutch artists, notably Jan Steen, who painted it again and again; it is also the subject of works by Hieronymus Bosch, Teniers, Brouwer, Franz Hals, Mieris, Dietrich, and others. Dr. Henry Meige has published reproductions of a number of these paintings in the *Nouvelle Iconographie de la Salpêtrière*, 1895 and 1898, and in *Janus*, 1896-7.

The *Practitioner* for December contains an amusing sketch of some old physicians of Bath. One of the most notable was Dr. Tobias Venner, who in a work published in 1638 gives a curious picture of life at the watering-place which was then rising into fame. One gathers that the visitor on arriving at Bath was beset by touts eager to accommodate them with lodgings, and even with physicians—"perhaps a Doctor of their own creation, as some Emperick upstart Apothecary, or the like, magnifying him for the best Physician in the Towne." Doctors are earnestly counselled not to "subject themselves to these kind of people in hopes to get Patients by their meanes." Apparently some of the physicians were not altogether eaten up by zeal for the dignity of their profession, for Venner reminds them that it is "fidler-like" to tout for work, and urges them "to strive to maintaine the reputation of their Art and not by a base insinuating carriage or Mountibank-like tricks to get a note and repute, vilifie their owne worth, or disgrace so noble a Faculty."

A special feature of the quaternary celebrations to be held at Aberdeen next September, will be a large number of volumes of *University Studies* to be issued in honour of the occasion. We learn from *Alma Mater*, the Aberdeen University magazine, that among these volumes will be a "Festschrift" in honour of Professor D. J. Hamilton (who in 1906 will enter on the twenty-fifth session of his tenure of the Chair of Pathology), to be written and the entire cost of publication defrayed by a number of his most prominent pupils. This volume will be edited by Dr. William Bulloch, Lecturer on Bacteriology in the London Hospital Medical School (M.B. 1890); and will contain contributions on pathological subjects by the editor; Professor A. R. Cushny, University College, London (M.A. 1886, M.B. 1889); Professor W. St. Clair Symmers, Cairo (M.B. 1887); Professor J. J. R. Macleod, Cleveland, Ohio (M.B. 1898); Dr. W. Leslie Mackenzie, Local Government Board of Scotland (M.A. 1883, M.B. 1888); Dr. Arthur Keith, Lecturer in the London Hospital Medical School (M.B. 1888); Dr. George Dean, Lister Institute of Preventive Medicine (M.A. 1885, M.B. 1889); Dr. G. F. Petrie, Lister Institute (M.B. 1898); Dr. William Hunter, Government Bacteriologist, Hong Kong (M.B. 1897); Dr. G. A. Finlayson, Government Bacteriologist, Singapore (M.A. 1895, M.B. 1898); Drs. Duncan, Fraser, Laing, Low, and Russell,

Marischal College; and others. Among other volumes is a *Roll of Graduates of the University of Aberdeen*, 1860-1900, edited by Colonel William Johnston, C.B., of Newton Dee, and *Studies in the History and Development of the University of Aberdeen*, contributed to by Principal Lang, Professor Cowan, Davidson, Stephenson, Trail, and others.

We are indebted for the following interesting communication to Dr. Henry Barnes of Carlisle:

"In the FitzPatrick Lecture published in the JOURNAL (November 25th, p. 1389) Dr. Norman Moore gives some details of the attack of apoplexy from which King Charles II suffered in 1684 and for which he was promptly bled by Sir Edmund King, who happened to be in attendance. It is generally believed that the King died from a second attack of the same disease, and I think the following *jeu d'esprit*, extracted from the *Diaries of Bishop Nicolson*, which have recently been published in the *Transactions* of the Cumberland and Westmorland Antiquarian and Archaeological Association, will be read with interest. Under date December 10th, 1705, Bishop Nicolson writes:

"'Sr. Edmund King being Knighted for alleviateing ye Kings first Fitt of his Apoplexy, Fleetwood Shepherd wrote under his picture,

> This Dr's skill may surely be rely'd on,
> Who cur'd the Kg of ye Disease he dy'd on.'"

Munk, in his *Roll of the Royal College of Physicians*, vol. i, p. 449, states that Sir Edmund died in 1709, and left to the College by will the portrait of himself by Sir Peter Lely, which now graces the dining-room. This has been engraved by Williams; and at its foot he is described as the person "qui praesenti animo (ope divinâ) sereniss: Car. II a morte subitanea dexterrime eripuit, Februarii 2, 1684)."

In that vast survey of human life, Balzac's *Comédie Humaine*, a considerable part is played by doctors, who are treated with more understanding and therefore with larger sympathy than by other writers of fiction. Balzac had given much attention to physiology and pathology as innumerable passages show. He generally gives a clinical history of his characters, and as Taine says, "wherever there is a deformity or a sore there is Balzac playing his part as a physiologist accustomed to the dissecting room." In fact his detractors made what they called his *manie médicale* a reproach to him. And it must be confessed that his knowledge was after all that of the amateur and often led him astray. He believed in the therapeutic virtues of animal magnetism which he regarded as a panacea, and consulted *somnambules* who would now be called "hypnotists." Taine called him "Molière médecin." An interesting study of Balzac's doctors was made some years ago in a thesis entitled *La médecine et les Médecins dans l'oeuvre de H. de Balzac* (Lyons, 1900), presented to the Lyons Medical Faculty by M. Paul Canjole. Balzac has described practitioners of every type—the country doctor, the general practitioner in Paris, and the "princes of science." He drew the famous surgeon, Dupuytren, under the name of Desplein in *La Messe de l'Athée*. On the other hand Horace Bianchon, who appears as the fashionable physician in so many of his books, was a creation of Balzac's fancy; but so real did he become to him, that on his death bed, when the doctors in attendance were in doubt, Balzac said: "Why don't you call in Bianchon? He knows me." It is noteworthy that all Balzac's famous doctors are men who have risen from the poorest beginnings by their own efforts; they are all, too, materialists, and several of them recover their religious faith just before their death. A point much insisted on by Balzac is the power which women have over the destiny of the medical practitioner. He says:

> There is not a household in France where the family doctor is not chosen by the lady of the house. With her doctor a woman is like a Minister sure of his majority; she makes him order her rest, amusements, the country, the town, waters, horse-riding or driving, at her own sweet will.

One of the worst stones of stumbling in the way of a young doctor is the dislike of a woman which he may have incurred by telling her husband in all simplicity that there is nothing the matter with her and thereby unwittingly thwarting her secret wishes. What women can do to ruin a doctor's professional reputation or moral character by mere hints is well shown. How a woman can rule her husband through the doctor is illustrated by a story told by Balzac of Mme. de Maintenon. Whenever she could not get Louis XIV to do something she wished, she would send Fagon to threaten him with apoplexy. The Sun-King at once did as he was bid!

Dr. Weir Mitchell contributes to the *Century Magazine* for November a charming little poem entitled "Indian Summer." One or two extracts will serve to give an idea of the beauty of the thought and the language in which it is enshrined:

> Slow falls the evening of the dying year,
> Misty and dim the patient forests lie,
> Chill ocean winds the wasted woodland grieve,
> And earthward loitering the leaves go by.
>
> * * * * *
>
> The dead leaves rustle 'neath my lingering tread,
> Low murmuring ever to the spirit ear:
> We were, and yet again shall be once more,
> In the sure circuit of the rolling year.
>
> Trust thou the craft of Nature. Lo! for thee
> A comrade wise she moves, serenely sweet,
> With wilful prescience mocking sense of loss
> For us who mourn love's unreturning feet.
>
> Trust thou her wisdom, she will reconcile
> The faltering spirit to eternal change
> When, in her fading woodways, thou shalt touch
> Dear hands long dead and know them not as strange.

MEDICAL NEWS.

THE King has been pleased to grant Mr. Charles A. Ballance, F.R.C.S., permission to accept and wear the Insignia of the Third Class of the Royal Order of the Crown conferred upon him recently by the German Emperor.

THE King has approved the appointment of Giuseppe Caruana Scicluna, M.B., Chief Government Medical Officer and Superintendent of Public Health, to be a member of the Executive Council and an official member of the Council of Government of the Island of Malta.

THE next clinical evening at the Royal Ear Hospital, Soho, free to medical men, will be held on January 2nd, 1906, at 8.30 p.m.

MR. JOHN FEENEY has left £20,000 to the University of Birmingham to found a chair for some scientific subject directly connected with one or more of the trades and industries of Birmingham. He has also left £10 000 to the General Hospital, and £1,000 each to the Queen's Hospital, the General Dispensary, the Eye Hospital, the Women's Hospital, the Children's Hospital, the Wolverhampton Infirmary, and the Coventry Hospital. The total amount of the bequests for public purposes amounts to about £80,000, but the money will not be available for five years.

SURGEON-GENERAL WILLIAM M'CONAGHEY, M.D., late Surgeon-General with the Government of Bombay, died on September 28th last, in the 61st year of his age. He entered the Indian Medical Service as an Assistant Surgeon, October 1st, 1869, and was made Surgeon-General, October 30th, 1902. He retired so recently as June 20th last. He has no war record in the Army Lists.

THE new premises of the Hampstead General Hospital were formally opened last Saturday by the Princess Christian. The building at present provides accommodation for 64 beds, about one-third of which are devoted to children. The total expenditure, excluding the cost of the site, has been £32,000, against which £26,000 have been received. Including, therefore, the balance due on the purchase of the site, the total debt is some £10,000. There is room on the site for another wing, and the erection of this will complete the scheme of a hospital for 100 beds. It is stated that an anonymous donor has promised £20,000 to effect this completion as soon as half the present debt has been extinguished by ordinary subscriptions. The new institution promises to be useful to medical men practising within the boundaries of Hampstead for, as was stated some little time ago, a number of beds and small wards have been reserved for contributing patients who will have the privilege of selecting their own medical attendant. The site of the new hospital is certainly convenient but much less attractive than that which was occupied by the little make-shift hospital on the edge of the Heath. The general arrangements of the new building seemed satisfactory, but we were by no means favourably impressed with the way in which the building was furnished internally.

British Medical Journal.

SATURDAY, DECEMBER 23RD, 1905.

THE ANTIVIVISECTIONISTS AND THE HOSPITALS.

THE annual meeting of the Metropolitan Hospital Sunday Fund, a report of which appears elsewhere, was made the occasion of an organized attempt by antivivisection agitators to wreck the Fund, and thus divert one large stream of subscriptions from the London hospitals. The attack was led by Mr. Stephen Coleridge, who came to the gathering like a Highland chieftain with his "tail" on—among them an Archbishop *in partibus*, an Archdeacon and a gentleman who, we believe, has some reputation as a writer of fiction. Although he claims the report of the Committee appointed to inquire into the financial relations between hospitals and medical schools in London as a victory for the cause which he champions, still Mr. Coleridge is not happy. He complains that certain hospitals have sought to evade the consequences of the findings of the Committee by establishing "separate" or "discretionary" funds to which subscribers who wish to leave the money they give to be applied as the managers think fit, can contribute. Mr. Coleridge is difficult to please. He professes to be entirely satisfied with the recommendations of Sir Edward Fry's Committee; therefore he may be taken as endorsing that one (Par. 27) which refers to the future adjustment of the financial relations between hospitals and schools. The words of the recommendation are: "We venture to submit "that the distinction between the hospital and the school "should in every case be drawn, not only definitely and "exactly, but with such clearness that it may be under-"stood by the general public, and so that no question may "arise as to the destination and application of moneys "contributed, whether from the King's Fund or from any "other source."

We fail to see how it would be possible to carry out not merely the letter but the spirit of this recommendation more faithfully than by the establishment of funds distinct from those raised by general subscriptions, and the stamping of these funds with titles clearly conveying to the public the fact that they are intended to be applied at the discretion of the governing bodies of the hospitals. It would seem that Mr. Coleridge, if he had his way, would not allow people to do what they like with their own money. We can only suppose that anger at the defeat of his scheme to divert the flow of public charity from the hospitals has blinded him to plain facts and for the time obliterated his sense of justice. Mr. Coleridge's generalship is not of the kind that organizes victory; his tactics are characterized by the "slimness" that lays traps and shoots under a flag of truce. He thought to take the officials and supporters of the Metropolitan Hospital Sunday Fund unawares. He gave them no notice of his proposed attack, and he endeavoured to secure a snap-vote in his favour by means which the general voice of the meeting denounced as shameful. Every clergyman in charge of a London parish receives two cards of admission. Knowing well that the clergy have the fullest confidence in the administration of the Fund and therefore do not think it necessary to muster in force at the annual meetings, the National Antivivisection Society canvassed the parishes with the object of getting possession of the cards and thus packing the meeting. Documentary evidence in proof of the statement will be found at p. 1652. This was what some politicians would call a "dirty trick"; we prefer to see in it only an additional proof that the zeal of Mr. Coleridge and his friends often leads them to act on the principle that the end justifies the means. The manufacture of voters at a meeting is on a par with the manufacture of "spontaneous" letters intended to fan a languishing controversy into an appearance of animation to which we called attention some time ago. At the Mansion House, however, Mr. Coleridge was hoist with his own petard, and his discomfiture was almost painful to witness.

We are steeled against any feeling of pity for him, however, by the thought of his inhumanity towards the sick poor whose interests he professes to have at heart. What would be the consequences to them if his agitation were successful? The finances of the hospitals, where they are treated with every luxury of care and all the resources of the most advanced science, would be crippled to an extent that would be most seriously detrimental to their efficiency. It is a truth, which a very slight acquaintance with hospital work will abundantly confirm, that in hospitals with schools attached there are the strongest guarantees that the patients will be treated not only with skill but with humanity. The fierce light that beats upon a throne is nothing to that which makes every detail of the working of a teaching hospital visible to the little world of staff, students, and nurses. Medical students, as any one who has lived among them can testify, have a finer sense of humanity than any other class of young men; they are also the keenest of critics. Their presence constitutes a safeguard to patients such as could not be provided by the most suspicious humanitarianism. We remember hearing a famous surgeon declare that if he were ill he would rather be tended in a great hospital than in the privacy of his own home. Of all these advantages Mr. Coleridge would deprive the sick poor for no better reason than the gratification of a perverted sentiment that would allow fellow-creatures to suffer pain, disablement, and death, rather than let a few guinea-pigs be subjected to inconvenience.

We are glad that Mr. Coleridge had an opportunity of making his attack on the hospitals, for it showed before all the world what the real motive of his agitation is, and how little public support or sympathy it commands. It was not only bad taste but bad policy on his part to accuse the Lord Mayor of unfairness in refusing to grant his demand for a scrutiny, for it simply made his defeat more conspicuous. We do not know what authority Mr. Christie Murray has for stating in his letter to the *Times* that "several hundreds" of those who voted were not "constituents" of the Fund; probably this was one of those random statements in which antivivisectionists are, on the testimony of their own friends, so prone to indulge.

But accepting the estimate, for the sake of argument, the fact remains that Mr. Coleridge's resolutions were negatived by an overwhelming majority, for his supporters could easily be counted on the fingers. We may add that the complaint comes with a peculiarly bad grace from a faction which used every effort to capture and divert the votes of unsuspecting well-wishers of the Fund.

Although we have never admitted that the contribution by hospitals of money towards the support of the schools could justly be called "diversion" or "misappropriation" of funds, we are glad that any shadow of justification of such terms has been made impossible by Sir Edward Fry's Committee. The recommendations of that Committee have been loyally accepted by the hospitals, and the bottom has thus been knocked out of a peculiarly malevolent and mischievous agitation. The Council of the Metropolitan Hospital Sunday Fund has expressed its cordial agreement with the recommendation of the Committee as to the distinction to be drawn in future between the hospital and the school, and at a meeting held on November 28th it resolved that in future no grant should be made from the Fund to any hospital which failed to comply completely with that recommendation. The Council passed a further resolution that in estimating the amount to be contributed to the funds of any hospital from the Fund no moneys paid or subscribed during the preceding year towards the school attached to any hospital should be taken into account.

The hospitals themselves have taken action in the same direction. Charing Cross Hospital has decided that no money received after January 1st, 1906, will be used for the purposes of the medical school without the donor's express authority. The Governors of Guy's Hospital have intimated that they propose to carry out entirely the recommendations made by the Medical Schools Committee of King Edward's Hospital Fund. The Board of St. Mary's Hospital has stated that it has every intention to abide by the spirit of the paragraph we have quoted from the report of Sir Edward Fry's Commission. At the Middlesex Hospital it has been decided that no money hereafter given to the hospital will be used for the purpose of its school without the donor's express authority. The House Committee of the Westminster Hospital, in any dealings between the hospital and the school, will be guided by the recommendations contained in the report of Sir Edward Fry's Commission. At the Royal Free Hospital no payment whatever is made from the hospital funds to the school; on the contrary, the school pays to the hospital a percentage upon all fees received, in order to cover any possible expenditure to which the hospital may be put by the medical students. At St. George's Hospital the Board has stated that, should it be so desired in future, any contribution made by the Hospital Sunday Fund to the institution can be given entirely for the purposes of the hospital, as distinct from the medical school, and that the accounts will in future show how the funds subscribed have been allotted, in accordance with the recommendations of Sir Edward Fry's Committee. At the London Hospital all contributions and all legacies made to the hospital go entirely to the hospital. No grant is made by the hospital to the school. Some friends of the hospital have expressed their intention to send their money to the Committee of the hospital, to be used as the Committee think best for the hospital or for the school. At University College Hospital no part of the hospital funds is used for the purposes of the medical school, and on behalf of King's College Hospital it is stated that no funds given to the hospital are, or ever have been, used for the purposes of the medical school. As to all this, Mr. Coleridge and his henchmen are discreetly silent.

The public may therefore have the fullest confidence that the money which it subscribes to the hospitals will be applied to the particular purpose for which it is given. Persons enlightened enough to see that the advancement of medical science and the art of healing in this country are more directly beneficial to the poor than to the rich, still have the opportunity of contributing towards that end by giving money to be applied towards the improvement and development of the schools. We confess that, on the ground of efficiency, as well as policy, we should like to see the teaching of the sciences on which medicine is founded relegated to schools entirely separate from the hospital schools, which would then become true clinical schools.

We may repeat here what we said in the British Medical Journal of February 25th, p. 428, and June 10th, p. 1296, that we regard the outcome of Mr. Coleridge's agitation, futile as it fortunately has proved as a movement against the hospitals, with satisfaction because it tends to bring about a real progress in medical education. That the Honorary Secretary of the National Antivivisection Society should be a blind instrument of the advance of medical science is a proof that Archdeacon Wilberforce was right after all in his remarkable discovery of a humorous aspect in Mr. Coleridge.

TOXIC CYANOSIS OF INTESTINAL ORIGIN.

The term "cyanosis" is so generally restricted in our minds to those cases in which the skin and mucous membrane have a purple colour in consequence of alterations in the heart or lungs, that it seems worth while to direct attention to a group of cases in which cyanosis is not due to any lesion of the vascular or respiratory organs, but is probably dependent upon intestinal toxins. The late Professor Stokvis of Amsterdam first propounded this explanation of a case published by him in 1902. The patient, a soldier, had spent some years in the Dutch East Indies, where he had contracted diarrhoea of a most obstinate kind; this was followed by cyanosis, and the urine contained a substance which, when treated with phosphoric acid, gave a ruby-red colour and transformed oxy-haemoglobin into met-haemoglobin. At the *post-mortem* examination the absolute integrity of the respiratory and circulatory organs was confirmed, while the intestine was found to be the seat of ulcerative enteritis. The urine, which became alkaline a few hours after it was passed, when mixed with freshly defibrinated ox blood, turned the latter quite black in about ten minutes and the mixture gave with the spectroscope the characteristic band of met-haemoglobin. Moreover, by direct examination of the skin and cyanosed mucous surface, Stokvis succeeded in seeing besides the two absorption bands of oxy-haemoglobin, the band of met-haemoglobin. He regarded the cyanosis as due to an auto-intoxication of intestinal origin caused by substances formed in the diseased bowel, which passed thence into the blood and transformed a portion of the haemoglobin into met-haemoglobin, a change which doubtless would have been more marked but for the diarrhoea which favoured the elimination of the greater part of the poison.

Dr. L. Cheinisse, in an article contributed to a recent

number of *La Semaine Médicale* (No. 49, 1905, p. 577), has pointed out that the observation of Stokvis was to some extent anticipated by Tordeus and by Torti and Nazari, although they did not give the same explanation of their cases. Yet the case of Torti and Nazari, a child of 7 years of age suffering from worms with oedema and cyanosis, might be explained by the hypothesis of Stokvis. The patients whose cases were reported by Tordeus were aged 1 month and 7 weeks; they suffered from diarrhoea and vomiting, and are less satisfactorily explained by the author's suggestion of a reflex inhibition of the circulation than by the theory of intoxication, although no definite facts in its support were observed. A case has been recorded by Fallot of a French soldier of the Foreign Legion in Algiers who suffered from intermittent fever and dysentery, followed by dropsy and cyanosis, without any disorder of the circulation or respiration; in this case neither iron nor quinine improved the colour of the skin. Since the publication of Stokvis's case Professor Talma of Utrecht has published three others; in the first, a man aged 41, the met-haemoglobin was not dissolved in the plasma, but was fixed in the blood corpuscles; this patient suffered from extremely fetid diarrhoea, while the urine contained a large quantity of indol and scatol. In the second the patient, a man aged 29, had been a soldier for eight years in the Dutch East Indies, and had there contracted malarial fever, followed by diarrhoea which lasted a month and a half; for a long time afterwards blood appeared from time to time in the faeces, and he was admitted to hospital for general weakness, with diarrhoea, tenesmus, and enterorrhagia; his skin and lips were deep blue, and his extremities pale, cold, and purple. Spectroscopic examination of the blood showed the presence of the characteristic bands of oxy-haemoglobin and of met-haemoglobin; the urine was feebly alkaline—did not contain sugar or albumen, but was rich in indol and scatol. On a milk diet the quantity of indol progressively diminished, while at the same time the blood corpuscles lost their met-haemoglobin, and the general condition of the patient improved; after remaining in hospital two months he went out cured. The third patient, who only remained in the hospital four days, showed generalized cyanosis of the skin and visible mucous surfaces, with met-haemoglobin in the corpuscles, fetid stools, and abundance of indol and scatol in the urine. As in Stokvis's case, the urine rapidly transformed oxy-haemoglobin into met-haemoglobin some hours after being passed.

M. Hijmans van den Bergh has recently published two cases which differ in some respects from those just related. The first was a boy of 9, born with atresia of the anus, incompletely operated on two days after birth; later his mother noticed that he passed part of his faeces by the urethra, and that a large part of the urine escaped by the anus; soon after she noticed that the skin was cyanosed at first chiefly after exertion, but finally the tint became persistent. On admission, the cyanosis was marked in both skin and mucous membranes; the fingers and toes were clubbed, and there was profuse diarrhoea with liquid stools which were alkaline and exhaled a pronounced ammoniacal odour. There was atresia of the anus and a urethro-rectal fistula. Percussion and auscultation of the heart revealed nothing abnormal, while the blood-count gave 5,000,000 red and 20,000 white corpuscles; spectroscopic examination of the blood serum showed, besides the two characteristic bands of oxy-haemoglobin, a well-marked band of met-haemoglobin. As the urines of all persons some time after being passed contain nitrites which are capable of converting oxy-haemoglobin into met-haemoglobin, van den Bergh did not think it worth while to look for the poison in that secretion, but turned his attention to the faeces. On examining a mixture of faeces and blood he found a spectrum corresponding to the body described by M. Harnack as sulph-haemoglobin, while the chemical analysis of the blood showed its presence in that liquid. Bacteriological cultivations of the faeces revealed the presence of bacteria which formed sulphuretted hydrogen. M. van den Bergh concluded that in this case the transformation of oxy-haemoglobin into sulph-haemoglobin was due to the penetration into the blood of sulphuretted hydrogen formed in the intestine, this auto-intoxication being favoured by the presence of chronic enteritis with incessant production of sulphuretted hydrogen, and by the stricture of the anus leading to faecal stasis and distension of the intestine. Under appropriate treatment by which the urine was prevented from passing into the intestine and the bowel kept emptied, the cyanosis completely disappeared, but all the symptoms returned when the treatment was abandoned. His second patient was a man aged 25, the cyanosis depended upon met-haemoglobinaemia, but the intestinal troubles were less marked, being limited to two or three semi-liquid stools daily; in addition, he suffered from parenchymatous nephritis without heart or lung affection. The cyanosis disappeared in forty-eight hours when the patient was put on milk diet, to return when he resumed mixed diet. The method of examination used by M. van den Bergh is worthy of imitation; by using a small electric lamp furnished with a reflector, placed behind the ear, its rays were concentrated upon the helix while he examined the anterior surface of the organ with the spectroscope.

These cases seem to render it highly probable that there is a cyanosis dependent upon autointoxication of intestinal origin, and that this is due to met-haemoglobinaemia or sulph-haemoglobinaemia, as in M. van den Bergh's case. It is of practical importance to bear these facts in mind, as rational treatment must depend upon their recognition.

PULMONARY TUBERCULOSIS AND INTESTINAL INFECTION.

IN the issue of the *Annales de l'Institut Pasteur* for October 25th, 1905, p. 601, Drs. Calmette and Guérin record some interesting experiments upon goats, which they have carried out with the object of investigating the assertion of von Behring that the pulmonary tuberculosis of the adult is not due to infection by the respiratory tract, but is of intestinal origin, and is almost always the result of an intestinal infection contracted in early life.

They selected healthy goats which were in an advanced stage of gestation, and, by means of a tube inserted into the milk ducts, inoculated into the mammary glands of these animals cultures of bovine, human, and avian tuberculosis, and, in one instance, a culture of the Timothy bacillus. The goats which received the bovine bacilli, administered in doses of 20 mg. into each teat, became severely ill, and all died in less than sixty days with symptoms of intense intoxication, though the *post-mortem* examination did not, in most cases, show much extension of the disease beyond the mammary gland. The

human bacilli, inoculated in the same dose, produced much less severe general symptoms, and the local disease, though accompanied by considerable swelling and tenderness, gradually retrogressed; three months after inoculation the animals reacted to the tuberculin test, and their milk still contained tubercle bacilli, but they had regained apparently normal health. The avian bacillus produced very little disorder, even when the dose was augmented to 250 mg., and two months afterwards a tuberculin test proved negative. Bacilli could be detected microscopically in the milk up to the twenty-third day. The Timothy bacillus, inoculated in doses of 700 mg., produced practically no reaction, though bacilli were demonstrable in the milk up to the eighteenth day. Each goat was kept with its own offspring and in isolation from the rest, the young being given every opportunity to suck their mother's milk.

The kids which fed on milk containing bovine bacilli exhibited malnutrition in a marked degree. One of them was killed in forty-five days. All the mesenteric glands and those along the curvature of the stomach were found to be affected; they were soft, and contained in the cortex innumerable small tubercles filled with bacilli. There were no more distant lesions, and the lungs were not affected. Another kid died fifty-one days after birth. The mesenteric glands were very severely affected; the aortic, diaphragmatic, peribronchial, and retropharyngeal glands were normal; but the lungs were packed with early, translucent, miliary tubercles, containing tubercle bacilli. In the kids which fed on human bacilli it was found that tuberculosis of the mesenteric glands, with fibro-calcareous lesions, had been produced, but that the disease had not spread any further. Bacilli were found microscopically in some of the lesions, but were very rare, and guinea-pigs inoculated with some of the tubercles failed to develop tuberculosis. Neither the kids fed with avian tubercle bacilli nor those fed with Timothy bacilli became seriously ill. It was found *post mortem* that their mesenteric glands were greatly enlarged, and in some cases had undergone fibroid change, but they exhibited no histological tubercles; the other lymphatic glands and the thoracic organs were normal. It is interesting to note, however, that the two kids fed on avian bacilli developed joint affections which bore some resemblance to the "tumor albus" of infants.

After obtaining these results, the authors endeavoured to produce direct infection in young kids by introducing cultures of bacilli into the rumen with the aid of an oesophageal tube. In this way they fed three kids with bovine bacilli, two with human bacilli, one with avian tubercle bacilli, and two with the Timothy bacillus. Of the animals fed with bovine bacilli, two received on four successive days doses of 50 mg., with the result that acute disease of the mesenteric glands, lungs, and many thoracic glands was produced, whilst the liver, spleen, and kidneys were found to be normal. The third animal, fed with the same dose on two successive days only, also became very ill, and was killed in forty-five days, but the autopsy showed that the lesions, though severe, were confined to the mesenteric glands. The animals treated with the other viruses also received doses of 50 mg. on from two to five successive occasions; but, as they remained in good health, the majority of them were subsequently fed with bovine bacilli; the result being the production of severe disease, including pulmonary tuberculosis, similar to that obtained in the animals fed with bovine bacilli alone. The conclusion drawn by the authors, therefore, is that these less virulent types of bacilli failed to produce any immunizing influence against the bovine bacillus.

So far, therefore, the results of Drs. Calmette and Guérin were in support of von Behring's view that the intestinal tract in early life is the portal of entry for bacilli, of bovine origin, which lead to the production of pulmonary tuberculosis. But when, continuing their experiments on the same lines, they introduced bovine cultures into the rumen of adult goats by means of an oesophageal tube, they found reason to disagree with von Behring's hypothesis that the pulmonary tuberculosis of the adult is due to the dissemination of an intestinal infection which has been contracted in early life. They selected three healthy goats, aged respectively 2, 3, and 5 years, which gave negative results to the tuberculin test, and into the rumen of each of these introduced on four successive days doses of 50 mg. of bovine tubercle bacilli. In the first animal, killed after sixty-five days, they found some small tubercles in the mesenteric glands, but no other visible lesions in the abdomen, and no ulceration of the intestinal mucosa; but when they opened the thorax they found the lungs "packed with tubercles in "every stage of evolution, and enormous cavities full of "pus rich in bacilli." In the second animal, killed in fifty days, the condition of the abdomen was very similar to that of the first, whilst "the two lungs contained about "thirty tubercles, the size of hemp-seeds, scattered over "the surface beneath the pleura. The mediastinal, tracheo-"bronchial, and retropharyngeal glands were quite free "from disease." The third animal, killed in fifty days, presented lesions practically identical with those found in the second. From these observations, Drs. Calmette and Guérin conclude that the adult animal may readily contract pulmonary tuberculosis when virulent bacilli are introduced into the digestive tract, and that these bacilli may traverse the intestinal mucosa without producing lesions in it. They maintain, further, that the mesenteric glands of the adult offer a less complete resistance to the passage of bacilli than the mesenteric glands of young animals. On these grounds, they reject von Behring's view that the pulmonary infection of the adult is due to an intestinal infection contracted in early life, and insist, on the contrary, that the adult is more susceptible to pulmonary infection by the intestinal route than the infant.

These general conclusions we do not feel prepared to accept. They have an air of paradoxical unreality about them, and appear to be inspired by the ardour of controversial enthusiasm which magnifies isolated observations into general laws. Drs. Calmette and Guérin have still an arduous task in front of them before they can convince the majority of medical men either that pulmonary tuberculosis is usually of intestinal origin or that the adult is more susceptible than the infant to infection by the intestinal route. At the same time their experiments, taken merely as records of carefully observed data, must be regarded as an interesting and useful contribution to the study of tuberculosis.

The same journal contains another interesting contribution to the subject from Professor M. H. Vallée, who lends his support to the view that pulmonary tuberculosis is often due to infection by the intestinal route. He took two young calves and inoculated into each 10 mg. of bovine bacilli by the intratracheal method. The animals developed normally and were killed six months afterwards. They both showed *post mortem* a tuberculous focus at the point of penetration of the needle, and about a dozen

tuberculous vegetations on the visceral pleura, whilst the lungs, bronchial glands, and mediastinal glands were free from disease. Professor Vallée has also observed the effect of introducing virulent tubercle bacilli into the nasopharynx of young calves. Of twelve animals so treated only four suffered from more than transient lesions. These four showed disease of the retropharyngeal glands, and, in some instances, also of the cervical and tracheal glands, but in every case all the viscera, and also the bronchial and mediastinal glands, were found to be normal. The absence of disease, therefore, in the lungs and bronchial glands of all these animals is regarded as showing that the calf exhibits a high degree of resistance against infection directly introduced into the respiratory tract.

These results Professor Vallée contrasts with the lesions produced when the infection is introduced directly into the digestive system. He allowed four very young calves on two occasions, at intervals of forty-eight hours, to suck a cow suffering from tuberculous mastitis. All the animals became tuberculous. They were killed at periods ranging from 54 to 146 days after the commencement of the experiments. The necropsies showed that in every case the bronchial and mediastinal glands were markedly affected. In three of the animals the lesions in these glands were much more conspicuous than those in the mesenteric glands, and in none of the animals were lesions found in either the liver or the spleen. The lungs were not affected, but there was tuberculosis of the diaphragm. On two more calves Professor Vallée performed laparotomy, and introduced 1.5 mg. of bovine tubercle bacilli, in the one instance into a mesenteric gland, and in the other into a mesenteric vein. The main interest of these experiments lies in the fact that here again, where there could be no possibility of any bacilli having been accidentally introduced into the air passages, tuberculosis of the bronchial glands was produced.

As the general result of his experiments, Professor Vallée concludes that tuberculosis due to an infection through the alimentary tract is probably much commoner in man than is generally supposed; and he regards it as a highly significant fact that tubercle bacilli may travel from the intestine to the bronchial glands, and multiply in the latter situation, without leaving behind them lesions either in the intestinal mucosa or in the mesenteric glands.

THE NEW GOVERNMENT.

SINCE our last issue Sir Henry Campbell-Bannerman has completed the formation of his Government. The new appointments do not alter its complexion. Although the whole fabric of modern civilization rests upon the application of science to life, it contains no representative of science, and although there is no subject which so nearly touches the welfare of the people as public health, it contains no representative of medicine. This will be a very great disappointment to many who entertained some lingering hope that new men would mean new methods; the medical profession must thus begin over again its task of endeavouring to convince politicians of the necessity for legislation in respect of matters to which they have hitherto given little attention.

THE QUEEN'S CAROL.

THE *Queen's Christmas Carol* published on Wednesday in London, Manchester, and Paris by the *Daily Mail*, price 2s. 6d. net, is a handsome quarto volume bound in cream-coloured cloth. The book is published by permission and authority of Her Majesty, and the proceeds of sales will be devoted to the Queen's Fund for the Relief of the Unemployed. Its frontispiece is a portrait of Her Majesty, and it is described as an anthology of poems, stories, essays, drawings, and music by British authors, artists, and composers. It fulfils that description well. Mr. George Meredith in some forewords says, "The royal fund in aid "of the unemployed should, we may hope, conjure fruit-"fully from the procession of singers and narrators under "the headship of the Lady of the Land, bearer of light into "a region of thick darkness, where economists are groping "for a path. The heart of the nation responds to its "illustrious leader, and it is for the nation's mind to work "out the imperative means." Or, as Sir Francis Burnand more tersely puts it, referring to the editor,

> Of writers, composers, and "potes"
> He asks that, instead of their "groats,"
> They'll give him a terse
> Bit of prose, or some verse,
> A picture, tale, tune, or some notes.

Some of the contributions have reference more or less to the occasion; thus Mr. Swinburne sends "A Carol for Charity" and Mr. Watts Dunton a sonnet entitled "Mother and Child in Famine Street," illustrated by a charming pencil drawing of an infant by Mr. Solomon J. Solomon, A.R.A. Mr. Albert Chevalier has given a song which is an effective little protest against the separation of old couples in the workhouse; Mr. A. Morrison a pathetic description of Christmas in mean streets, illustrated by a cheerful drawing by Tom Browne; Mr. Hall Caine has written a moving appeal in the guise of a double story called "The Cry of the Children"; and Sir Lewis Morris another, this time in verse, entitled "For Pity's Sake." Other writers and artists have made contributions which are charming because characteristic; thus Mr. W. W. Jacobs is represented by an admirable sketch of the adventures of a four-wheeler on its way to a Thames wharf; Mr. Pett Ridge by a little study of working-woman nature as neat as it is true, and Mr. W. S. Gilbert by a copy of verses contrasting in Gilbertian manner the hard case of a king with the happy lot of a strolling player. Mr. Holman Hunt contributes a charming chalk sketch of the shepherds of Bethlem, while Mr. Linley Sambourne sends a finished pen-and-ink drawing of a sturdy bagpiper with vigorous distended cheeks looking, it must be confessed, very uncomfortable in his kilt as the snowflakes whirl about him. The first page of the volume contains a poem by the Poet Laureate, and there are two dramatic sketches, one by Mr. Alfred Sutro, and the other by Mr. W. L. Courtney. The composers are represented by Sir Alexander Mackenzie, Sir Edward Elgar, and the late Sir Herbert Oakley. The last page of the volume contains a few lines written by the Bishop of London, and collectors of autographs will be pleased to have the pages in which the signatures of all the contributors are reproduced. Quite apart from the motives which have inspired editor and contributors the volume will make a delightful Christmas gift book.

PROPOSED NEW GENERAL HOSPITAL IN PUTNEY.

THE late Mr. Henry Chester, of Putney, who died five years ago, left the residue of his estate to the Haberdashers' Company upon trust to employ the income to the maintenance of a general hospital in Putney, should such an institution be established by means of subscriptions or otherwise. A site considered to be suitable for such a building in Putney has been acquired by a resident who has offered to transfer it free of cost to duly appointed trustees. The site has been approved by the Haberdashers' Company, and it is understood that the amount of income available at the present time for the maintenance of the hospital is about £1,200, that this will be increased as certain annuities fall in, and that it will eventually amount to about £2,000 a year. The testator expressed a desire that the hospital at Putney should be similar in its nature and objects to the West London Hospital, and directed that if such a hospital were not built within twenty years of his death, the income from his estate should be paid to Guy's Hospital. We are

informed that the local committee moving in the matter has already received promises of contributions to the amount of about £5,000. We are informed also that there is a project to establish in Wandsworth, close to its boundary with Putney—that is to say, very much in the same neighbourhood as the proposed new general hospital—a small institution for women and children on cottage hospital lines. This institution is being promoted by funds placed at the disposal of Father Cooney by, it is stated, a Roman Catholic sisterhood. These proposals raise several points of importance to the public and to the medical profession; we are glad, therefore, to learn that the Chelsea, Wandsworth, and Richmond Divisions of the British Medical Association have formed a committee of representatives of medical men resident in the districts from which the proposed hospitals would draw their patients. The first point to be ascertained is, of course, whether either or both of the institutions are required, and a subcommittee has therefore been formed to ascertain the facts and make a report upon this aspect of the subject. It will be remembered that the Council of King Edward's Hospital Fund for London in its last report deprecated the establishment of new hospitals until it had been shown by thorough inquiry that a hospital was required in any particular neighbourhood, and also whether funds for its maintenance were likely to be available. The new districts in the west of London which have been covered with houses in recent years already possess the West London Hospital at Hammersmith and the Bolingbroke Hospital at Wandsworth Common; while still further west there is the Richmond General Hospital: all these institutions are, we believe, within a three-mile radius of the proposed site of the new general hospital at Putney. This fact alone obviously affords good grounds for desiring a thorough inquiry. Inquiry is also needed with regard to the circumstances of the population in the Putney district; so far as we are aware it is for the most part a very well-to-do neighbourhood, and the question suggests itself whether a small cottage hospital would not be sufficient to meet its requirements.

UNIFORMITY IN STATISTICS OF INSANITY.

In a thoughtful paper[1] on a universal scheme for statistics in insanity, Dr. C. C. Easterbrook, the Medical Superintendent of the Ayr Asylum, describes a scheme for which he claims statistical accuracy, medical utility, and a correct interpretation of the spirit of lunacy legislation. Asylum statistics of lunacy are beset with many difficulties, of which the three main are: First, the difficulty of distinguishing the voluntary boarder from the certified patient; secondly, that of distinguishing "cases" from "persons" in annual statistics; and, thirdly, the want of proper differentiation, for the purposes of the medical statistics of insanity, of the persons admitted into asylums. From the last difficulty arises the further difficulty of instituting a true comparison upon an equivalent basis of the persons concerned in the three parts of the United Kingdom. In any estimation of total insanity it is evidently necessary, when patients are discharged from an asylum, to distinguish between those who leave the asylums as free agents and those who leave it unrecovered. Similarly for admissions, if any others than those patients who have not been certified before admission as insane are included, we cannot obtain for the purpose of medical statistics any accurate statement of the freshly occurring and recurring insanity of the country. Thus, according to Dr. Easterbrook, the definition at present proposed by the Statistical Committee of the Medico-Psychological Association—"Direct admissions are persons received into an asylum "on new certificates and a new order"—does not exclude, in Scotland at any rate, the insane in private dwellings who number nearly 3,000, nor the insane in lunatic wards of poorhouses who number nearly 1,000, nor the previously certified insane maintained at home by their natural guardians, who must number fully as many as these together. The bearing of such facts as the above on the problem as to whether insanity is increasing is obvious. We have no intention to discuss Dr. Easterbrook's paper in full. It is most suggestive and valuable, and we hope it may lead to some method of unification of lunacy statistics which will make these statistics more approximately year by year a true index of the amount of insanity, and especially of the new cases of insanity occurring each year.

[1] *Statistics in Insanity: A Universal Scheme.* By C. C. Easterbrook, M.A., M.D. Reprinted from the *Journal of Mental Science*, April, 1905

PROBLEMS OF PRONUNCIATION.

The career of a promising young man is no longer blighted, as in Sydney Smith's day, by a false quantity committed in early life. Latin is not quoted in Parliament nowadays, and, indeed, is seldom heard anywhere, except, perhaps, in a stray introductory address. Fortunately, we have still among us a few physicians who are classical scholars, but as certain progressive universities now admit to the highest degrees in medicine candidates to whom Latin is an utterly unknown tongue, the fear of the false quantity has disappeared with many other traditions of the past. The time may soon come when a medical dean might, if the occasion arose, speak of Jacōbus and Carōlus, as the Duke of Wellington did when he was Chancellor of the University of Oxford, without exciting attention. Yet though we may shake ourselves free of Latin and Greek, we cannot altogether get rid of the incubus of quantity. It pursues us throughout our professional terminology, and, though common usage makes the right pronunciation of technical words familiar to most, there are certain corners where the bogey of quantity lies in wait for the unwary. Every now and again we are asked as to some of these. A common difficulty seems to be "enema"; as, however, this happens not to be a figment of the philological imagination but a good Greek word with an epsilon in the second syllable, there can be no question that the right pronunciation is enēma. Another word as to which inquiry has been made is "laboratory." Twenty years ago the accent was generally laid on the first syllable; now the tendency seems to be to place it on the second. "Labóratory" is certainly easier to say, and prevents a possible confusion with "lavatory." On the other hand, it is a characteristic of English speech to throw the accent as far back as possible. At present, therefore, both pronunciations are allowable; but we think the signs are that eventually *ceci*, in the shape of labóratory, *fuerit cela*. As regards other words, "paresis" is another good Greek word which is generally mispronounced. The original form is *πάρεσις*. Yet he would be a bold man who would dare to stand up in the medical synagogue and speak of parēsis. Here we think that, contrary to what is the case in regard to "enema," predominant usage has overwhelmed etymology. It is related that a young curate whose classical sensibilities were outraged by the customary pronunciation of "Alexandria" took counsel in his difficulty of Dr. Samuel Parr. The great scholar's answer may serve as a guide to young doctors whose orthoepic conscience vexes them as to some false quantity which has gained a footing in popular speech. "Young man," he said, "*I* may say Alexandria; *you* I should advise to say Alexandria, like every one else." The same moral applies to "angina," the middle syllable of which is short, according to the most eminent classical authorities. Here, again, ordinary people are justified in disregarding the quantity of the original word; "angina" has established itself among us by prescriptive right, which overrides mere grammatical rules. How vain it is to take the Latin quantity as the rule of our native speech is shown by the well-known story of the distinguished Scotch advocate, who, in pleading before the House of Lords, spoke repeatedly of a "curātor." This at last got on the nerves of a great scholar among the judges who mildly called the advocate's attention to his prosodical *faux pas*. The reply, which came without a moment's hesitation, was crushing, and contains in it the whole philosophy of pronunciation. "Certainly, my lord," said the Scot; "in the

presence of so many illustrious orators and distinguished senators, I have no difficulty in acceding to your request about curators."

THE AMBULANCE NEEDS OF LONDON.

THE London County Council, at its meeting on December 19th, adopted without discussion the recommendations made by the General Purposes Committee with regard to the establishment of an ambulance service. The scheme approved is more in the nature of an experiment than an attempt to satisfy all the various requirements recognized to exist; it is proposed to deal only with the localities in which street accidents are most frequent. The anticipated total expense is therefore relatively small—approximately £2 200 as an initial outlay and £5,200 for the working expenditure of the first year. In precise terms, the intention is to provide two stations—one north of the river and the other in Lambeth, near St. Thomas's Hospital. Motor ambulances are to be used, but the Committee has not yet decided whether to adopt those electrically driven or to depend on petrol engines. It is considered that a staff of fifteen men will be sufficient to meet the calls upon the service, and that they need not be resident at the stations. The men selected are to be skilled in motor driving and management as well as versed in the rendering of first aid to the injured.

ANTIMALARIA CAMPAIGN IN ALGERIA.

THIS year was the fourth of the campaign against malaria, conducted under the general direction of M. Roux, of the Paris Pasteur Institute. The actual director is Dr. Sergent. A certain number of railway stations and huts in the most infested districts have been protected with wire nettings; the breeding places of mosquitos in the neighbourhood of railway lines have been destroyed within a radius of one kilometre; and the employés have been ordered to take quinine regularly every day in summer. Wherever these measures have been strictly applied the results have been most satisfactory; malaria has appeared only in certain places where they have been neglected. Quinine has been administered daily to natives, under the supervision of a native medical student, with the best effects. The work of propaganda carried on unintermittently among the inhabitants of malarial districts has already borne good fruit. Instructions in French and Arabic are distributed by the Government among those in its service and among colonists, and many have protected their houses against mosquitos.

RUPTURE OF SPLEEN IN PREGNANCY.

DISEASES of the spleen and their surgical treatment are fairly familiar to the profession within the limits of the United Kingdom, although we have not in this country the experience which can be obtained in tropical and malarious regions. Subbotic of Belgrade has written of axial rotation of the enlarged spleen as though it were a familiar complication, like torsion of the ovarian pedicle, but British medicine can claim a large share in the advancement of knowledge as far as the spleen is concerned, and Sir Patrick Manson's notes on kala-azar or febrile tropical splenomegaly which appeared in the pages of the BRITISH MEDICAL JOURNAL, November 11th, will have been read with interest. Turning to the clinical relation of the organ in question to pregnancy and parturition, we may recall that two English practitioners, Mr. Nodes and Dr. Hinds of Worthing, reported before the Obstetrical Society of London in November, 1900, a case of fatal rupture of an aneurysm of the spleen very immediately after labour, and the specimen is preserved in the Museum of Anatomy, University College, London. In a recent number of the *Transactions* of a French society, M. Le Lorier[1] has reported a case of spontaneous rupture of the spleen during the fifth month of pregnancy, the patient being a primipara, aged 26

[1] [illegible] cause de la rate, chez une [illegible] Laparotomie! Mort. [illegible] Revue de la Soc. d'Obst. de Gyn. et de Pédiatrie de Paris, October.

Symptoms of internal haemorrhage followed an attack of pain which seized her when lifting a washtub. About twelve hours later she was admitted into the Hôpital Beaujon, in so exhausted a condition that no reliable history could be obtained. There was clearly pregnancy, and as evidently acute haemorrhage, but no blood had escaped from the vagina, anus, or mouth. The cervix was firm, the fornices free; the left iliac region was not clearly resonant on percussion. No abdominal tumour could be defined. The patient's head was lowered, a subcutaneous injection of artificial serum and other remedies administered, and the general condition improved for awhile. Within twelve hours, however, the patient grew much worse. M. Bazy operated with skilled assistants. A long medium incision was made, prolonged from the symphysis to the ensiform cartilage, as no source of haemorrhage could be found in the neighbourhood of the gravid uterus, which also bore a fibroid. This tumour seems to have impeded inspection of the peritoneal cavity, which was filled with blood. As the haemorrhage was at length seen to spring from the left hyponchondrial region, a second incision was made perpendicular to the first, and prolonged to the left axillary line. The spleen was examined with the hand, yet no breach of surface could be detected, although an oozing area was seen on the gastro-colic ligament, to which some catgut ligatures were applied. Then the peritoneum was cleared of clots and the wounds closed, two drainage tubes being first passed into the peritoneal cavity. The patient rallied for several hours, and then was able to relate the history of her case. But symptoms of internal haemorrhage soon recurred, and she died within nine hours of the exploratory operation. At the necropsy a rent was discovered passing vertically down the entire posterior border of the spleen; though not deep enough to be detected by palpation of the organ itself during the operation, it proved sufficient to allow of fatal haemorrhage, a fact worth bearing in mind. No doubt the bulky gravid fibroid uterus greatly interfered with free exposure of the wounded organ. The lesser peritoneal cavity was full of blood.

HEALTH IN THE GERMAN COLONIES.

A PERUSAL of the report on the German colonies for the past year arouses a somewhat pharisaical feeling in the breast of the British reader. He may well be thankful that he is not as the Teuton, whose colonial possessions are for the most part a very doubtful blessing to him. German South-West Africa is, of course, the worst of them, and in one section we are given a very interesting summary of the war which has cost so much in men and money. This part of the subject scarcely comes within our sphere, but it is worthy of note that up to the end of last May reinforcements to the number of 655 officers and 13,643 men had been sent out, and that 1,122 had been killed or had perished from disease, enteric being the chief malady with which the medical staff had to deal. The net result is summed up by Herr Wohltmann in the following sentence: "Nearly everything is destroyed, only the bare land remains, and even that has still to be reconquered." In the Cameroons, where risings also occurred among the natives, the whites number rather over 700 persons. It was formerly an unhealthy district, but the last statistics show a material decrease in mortality from tropical diseases, attributed to improved sanitation and the general employment of prophylactic quinine treatment. Of 431 persons in the town districts 23 died, death being due in twelve instances to blackwater fever. There were no epidemics among the natives, who appear to be very willing to be vaccinated. In Togoland, which matches with our own Gold Coast Colony, there were only six deaths—all due to tropical diseases—out of the total white population of 189. Sleeping sickness has existed since 1896 in the western districts, but it is interesting to note that it has declined rapidly during the last three years. While investigating this malady it was found that leprosy is extremely prevalent, cases existing in almost every village, but the natives at present resist all attempts at isolation, and little

can be done to check it. On the other side of the continent, in German East Africa, there were no serious epidemics, but plague was found to be endemic in the Iringa district, where it is being energetically combated. What is termed the New Guinea Protectorate comprises Kaiser Wilhelmsland, the Bismarck Archipelago, the Caroline Pelew, and some of the Ladrone Islands, but of these, as of the Marshall Islands and Samoa, no health statistics are given.

BACK TO THE LAND.

Mr. George Herring's gift of £100,000 to the Salvation Army renders possible an experiment which will be watched with great interest. The money is to be used to settle some of the unemployed of the great cities in rural districts in England, and is an alternative to the scheme of emigration about which there was some talk a few months ago. It is proposed to supply each settler with about five acres of suitable land and a cottage, and to provide stock, seed, implements, and other means necessary for cultivation as well as to make provision for the families until the land is sufficiently productive for their support. The whole capital expenditure is to be charged against the settler, and is to be repaid by him in annual instalments. When the holders have paid the entire sum the land will be conveyed to them, and the money given by Mr. Herring is ultimately to revert to the King's Hospital Fund for London. The scheme is to be conducted, controlled, and supervised by the Salvation Army, and the advantages claimed for it are, first, that it will supply an object lesson which if successful will check the exodus of agricultural labourers from the villages to the cities; and secondly, that it will attract back to the land from the cities many who have already migrated from the country. It is hoped that the capital to be provided by Mr. Herring will enable at least 200 small holdings to be started fully equipped. It would appear that each settler will be liable for an annual rental of £25 a year, and if the scheme is to be successful it will be necessary to exercise the greatest discrimination in selecting the settlers, for it is only the exceptional townsman who is fit to make his living by the cultivation of the soil. The directors of the Salvation Army are, however, no doubt very well aware of this, and have shown so much practical ability in dealing with the problems of the unemployed and the submerged tenth that the plan could hardly be started under better auspices.

SANITARY CONDITION OF LAGOS.

In an address on the affairs of Lagos, delivered not long ago before the Liverpool Chamber of Commerce, the Hon. C. A. Sapara Williams, unofficial Member of the Legislative Chamber of Lagos, referred to the sanitation of the colony. He said that although much was being done by the present chief medical officer, yet the present sanitary system of the town of Lagos was, to say the least of it, not what it should be under a Government claiming to be civilized. There were no sewers or drains. He urged the establishment of a destructor for the complete destruction of all refuse and night soil, as also of all the disease germs which they contained. Another great want of the town of Lagos was a good, reliable supply of drinking water. A scheme was devised and approved by the Board of Health in 1903 and sent to the Colonial Office for the approval of the Home Authorities, but although money had been expended in scientific investigations, no progress had been made in carrying it out. Mr. Sapara Williams went on to say that he would like to see the sphere of usefulness of the School of Tropical Medicine extended by its taking up the investigation on the spot of native diseases and native medicines, research into which would, he was sure, lead to most valuable results. He said he would also be glad to see a veterinary branch of the school established for the purpose especially of improving the breeds of cattle and beasts of burden. A good breed of draught oxen, for instance, would be of immense service in developing trade in portions of the colony and hinterland, to which railways could not penetrate for many years to come, and would be indispensable for an improved and scientific agriculture such as they wished to see established. Mr. Sapara Williams, who is a native of West Africa, is a practising solicitor and barrister in the Supreme Court of Lagos.

THE PASSING OF THE FIJIAN.

The Colonial Office report on Fiji places the total population of the islands at 121,773, an increase of about 2,000 on the numbers of the last census in March, 1901. Of these, the pure-blood Fijians number 90,063, from which it appears that there has been the lamentable decrease in this short period of three years and a half of no less than 4334. Most of this was due to a severe epidemic of measles in 1903, in which year the natives decreased by 2,481. In 1904 the decrease was 840, and it would seem as if the native race has been slowly but steadily disappearing ever since the terrible epidemic of measles in 1875, when over 40,000 are believed to have perished. The native death-rate was 48.90 per mille last year, as against a white death-rate of 15.25, and this with no epidemics and with a birth-rate of nearly 40. No comments are made in the report upon this high mortality which has been so long existent, but something might surely be done to ameliorate such conditions, though "native superstition and obstinacy" are represented as militating considerably against the measures lately taken to stamp out yaws. It is stated that there are eight provincial hospitals for the treatment of natives, as well as a leper asylum. The latter contains only sixteen inmates.

THE HIPPOCRATIC OATH FOR NURSES.

At the thirtieth annual commencement exercises of the New York City Training School for Nurses, held recently at the Nurses' Home on Blackwell's Island, a class of forty-one young women received diplomas, at the same time taking the Hippocratic oath to preserve inviolate the secrets of the sick room. This might furnish a hint for nursing schools nearer home.

Dr. Jean Charcot has presented to the Faculty of Medicine of Paris the entire library of neuropathological works which belonged to his father, Professor Charcot, on the condition that it be installed in connexion with the Faculty's clinic of nervous diseases.

At a meeting of the Court of the Spectacle Makers' Company on December 20th, Lord Burnham, the Master, being in the chair, the Bill promoted by the company for the registration of sight-testing opticians was finally revised with the assistance of counsel and a deputation from the General Board of Opticians. It is stated that Viscount Goschen, a Past Master of the Guild, will present the Bill in the House of Lords during the next session.

The German Colonial Office has made a grant of £60,000 towards the cost of an expedition to East Africa for the investigation of sleeping sickness. The expedition is to consist of a competent protozoologist; a physician well acquainted with health conditions in East Africa, and a bacteriologist who has given special attention to the subject of immunity and the prevention of infectious diseases. It is reported that Professor Koch may perhaps be placed at the head of the expedition. The expedition will probably be away from Germany for a year and a half.

The King held an investiture on December 18th, when Sir Felix Semon was invested with the insignia of a Knight Commander of the Royal Victoria Order, and Sir Anderson Critchett with those of a Commander of the same Order. Surgeon-General W. L. Gubbins was invested with the insignia of the Companionship of the Bath, Military Division, and Dr. Theodore Thomson with those of the Companionship of the Order of St. Michael and St. George. After the investiture the King conferred the honour of knighthood upon Dr. James Barr of Liverpool, Mr. Arthur Chance of Dublin, Mr. John McFadyean, M.B., Royal Veterinary College, and Mr. Edgcombe Venning of London. Subsequently the King decorated officers with the medal struck in commemoration of the Antarctic expedition, among the recipients being Dr. Edward A. Wilson.

Scotland.

The Parliamentary Representation of Edinburgh and St. Andrew Universities.

We have received the following letter from Sir John Batty Tuke, M.D., the representative of the Universities of Edinburgh and St. Andrews in the House of Commons:

Sir,—I am credibly informed that certain canvassers who are endeavouring to gain support for my opponent, Mr. St. Loe Strachey, are making statements regarding my action in the General Medical Council which are the reverse of accurate. Generally, it has been stated that I either absent myself from the Council when penal cases are under consideration or do not vote; specially, that I left the Council room when the Rusholme case was being deliberated on during the late session. As to the general statement, I may say that I have sat for eighteen years as a member of the Council, and that I have never been absent a single day during thirty-five sessions, and that I have taken part in every penal case and, except perhaps on one or two occasions when I was obliged to be in the House of Commons, always voted. As to the particular statement, I plead that when the Rusholme case was before the Council I and Mr. Jackson obtained leave from the President to be absent for an hour and a half in order to attend a deputation of the British Medical Association and other societies at the Local Government Board Office, and that I introduced the members of the deputation to Mr. Gerald Balfour. The object of the interview was to promote the interests of medical men working under the Local Government Board. These statements will, I am sure, be endorsed by every member of the Council. As the deliberations on penal cases take place *in camera* the misleading statements must have arisen from some vague and unsubstantial rumour.—I am, etc.,

Edinburgh, Dec. 18th. John Batty Tuke.

A "Health Conscience."

For some time now Dr. Clouston, the ever-active Vice-President of the Royal College of Physicians, Edinburgh, has been vigorously engaged in seeking means for furthering the development of a "health conscience" among the people, thereby to improve the physical condition of the masses and mitigate the manifold evils due to carelessness in the observance of elementary medical and sanitary laws, or to entire ignorance of them. By the introduction into the lives of ignorant, careless men and women of even the most simple products of the teaching of modern hygiene and medical science generally, and by their inoculation, in some degree, with a true sense of their physical responsibility for the well-being and utility of their progeny, an immense step would be made, not only in the art of preventive medicine, but also towards the ensuring to future ages a race as sturdy and strong as that of the past, and the removal of that ever haunting phantom of "physical deterioration." With all efforts towards this end, and with all agencies associated with it, medical men must be in entire sympathy and agreement.

In addition to our town and county official authorities, there have for long been engaged in valuable work of this nature societies throughout the country, which, while in many instances not primarily or necessarily medical in their nature, nevertheless contribute largely to the development of a "health conscience."

Prominent among such societies must be ranked those of the Prevention of Cruelty to Children and the Scottish Children's League of Pity, both of which have now for many years been doing unostentatious work of the highest merit. The work is naturally primarily for the establishment and furtherance of the welfare of child life in Scotland, and necessarily entails the inculcation into parents of the elementary medical axioms for a well-regulated healthy existence. Moreover, when from direct poverty, vice or neglect, the unfortunate and innocent victims are bereft of the aid of their natural supporters and protectors, they are sought out, tended, and if necessary, placed under more favourable auspices. A glance at the Report shows that from 1884 up to December 31st, 1904, no fewer than 127,198 cases of child suffering had been in some measure assuaged. By means of a large number of agencies and inspectors scattered throughout the country, suspected cases are carefully sought out, the erring or unfortunate parents interviewed, remonstrated with, and exhorted to improvement; for this difficult and somewhat delicate work the inspectors are carefully trained at the head office in Edinburgh, and afterwards sent to the various agencies throughout Scotland. Should their advice continue to be neglected, or should the case be urgent, the children are removed from their unhappy surroundings under the Society's care, or the case is reported to the local authorities.

In the report above quoted there are mentioned, under the heading of neglect and starvation, the cases of over 32,000 families—truly a woful state of affairs! During the same period there were admitted to the Society's shelter, in addition to children otherwise disposed of, 25,081 to whom thereby was given a chance, though late, of healthy development and a life of future usefulness. How many of these little ones, left in the midst of squalor and vice, their development stunted morally, mentally, and physically, would have been enabled to keep alive sufficient of the Divine spark to lead an upright, healthy life as law-abiding citizens in our midst? How many so brought up would have propagated anew a still lower type of being, physically degenerate, mentally defective, and morally warped?

Societies directed to combat such crying outrages on our national life are surely worthy of every support, more especially from that scientific profession the members of which are most readily capable of appreciating the dire effects of their continuance. That their resources may ever multiply, their harmonious co-operation continually persist, and their sphere of work and usefulness ever increase is the heartfelt wish not only of every medical man in Scotland, but of every Scotsman and every Scotswoman.

Professor R. J. A. Berry, of Melbourne.

Edinburgh for many years now has been a veritable nursing home for anatomists. All over the world at the present day her alumni are to be found, ranking high as distinguished anatomists, and proving worthy scions of the venerable parent stock. In more recent days, since the honoured Master in the subject has exchanged his onerous duties for those of Principal of the University, and his place has been filled by one of his most brilliant disciples, evidence has not been wanting to show that the work has been carried on with the zeal, energy, and discrimination which have so long distinguished it. Within the last few days a blank has been made in the number of teachers in the anatomy school, and what is Melbourne's gain is undoubtedly Edinburgh's loss. The University of Melbourne is fortunate in the choice for the chair of anatomy of Dr. R. J. A. Berry, Lecturer on Anatomy in the School of the Royal Colleges of Edinburgh. Besides possessing the soundest knowledge in his subject, he is endowed with the happy faculty of interesting his student in his work, sympathizing with him both in work and play, and by his broadminded interest in all things pertaining to student life, is capable of influencing those around him in no small degree. In these days of stress and competition, success in extramural teaching can be gained only by hard work and solid worth, and that the new Professor of Anatomy has for so long worthily upheld his position augurs well for the future training and prosperity of our anatomist cousins in the Antipodes. In Edinburgh a blank remains to be filled. Healthy competition and rivalry cannot but be beneficial and useful, and in the interests of all concerned it is to be hoped that a successor will speedily be forthcoming.

Edinburgh Town Council and Bacteriological Examination.

The Public Health Committee of the Edinburgh Town Council has had under consideration the question of arranging with the Royal College of Physicians that the results of the bacteriological examinations made at the laboratory of the College should become available to the medical officer of health on the conditions that formerly existed. In 1903 an arrangement was made between the Corporation and the John Usher Institute of Public Health (in other words, the University of Edinburgh) by which the latter should make the bacteriological examinations required by the Committee, and previously made at the laboratory of the Royal College of Physicians. Despite that arrangement, a great deal of the work continued to be done at the laboratory, while no payment was made therefor. Accordingly, Councillor Dr. Matheson Cullen brought up a motion to have the results of the general examinations made in the laboratory of the College made available to the medical officer of health, but a subcommittee to which the question had been remitted advised no action. The full Committee, however, recommended by a

majority that the Town Council should, without altering the present arrangement with the John Usher Institute with regard to the examination of specimens in cases of infectious disease, the Corporation should resume the former arrangement to pay the Royal College of Physicians for examination and report to the medical officer of health upon the specimens which may be examined by that College's laboratory. At a meeting of the Town Council on December 19th it was decided by 25 votes to 15 to let the existing arrangement stand.

Edinburgh Royal Infirmary.

There are to be seen in Ward 31 of the Edinburgh Royal Infirmary, under the care of Dr. James, a somewhat unusual group of cases—namely, a case of Malta fever, a case of sprue, and a case of epidemic cerebro-spinal meningitis.

The case of Malta fever is that of a young man who reports himself to have passed through an attack of enteric fever in May and June last. He recovered from this, but on the voyage home in July he got chilled, and has practically been feverish ever since. In the end of July the Widal reaction was present, but now it is negative. His blood, however, shows a distinct reaction with the *Micrococcus melitensis*. Joint inflammations, orchitis, and enlarged spleen have been present.

The case of sprue is that of a young engineer of 20, who had been ill for about a year. He states that he suffered from diarrhœa whilst on a voyage between this country and the United States, that some other men on board were similarly affected, and that its onset was ascribed at the time to the drinking water on board the ship. He presents all the characteristic abdominal symptoms of the disease, and it is noteworthy that, along with the peculiar nervous conditions found in sprue, he has suffered at times from well-marked tetany.

The case of epidemic cerebro-spinal meningitis is that of a boy of 9 years of age, who has previously been twice in the infirmary for mild attacks of chorea. The disease began with fever, vomiting, and very severe occipital headache. By the third day the pain was referred to the back of the neck, and marked retraction of the head was present. On the fourth day he was admitted to hospital with very pronounced head retraction; and as he lay on his side, the drawing up of the legs and the flexing of the arms were very characteristic. On the fifth day a measles-like eruption appeared on the chest and arms, the buttocks, and to a slight extent the face and neck. Gradual improvement followed this, and he is now nearly well.

A Patient's Gratitude.

At a meeting of the Edinburgh Public Health Committee of the Edinburgh Town Council, held on December 12th, a letter to the Convener was read from a boy of 10 years of age, who had been for nine weeks a scarlet fever patient in the City Hospital at Colinton Mains and at the Convalescent Home at Campsie House, expressing his gratitude to the nurses and others for the kindness he had received. His father had given him a Christmas present of £10, and, the letter ran, "he says I can use it in any way I like, so I think I cannot do better than enclose it for you to use as you think best for the hospital boys and girls, sisters and nurses."

Edinburgh University Union.

At the annual business meeting of the Edinburgh University Union the following office-bearers and Committee of Management for this session were appointed:

President: Mr. Stephen Forrest, M.A.
Honorary Secretary: Mr. J. B. Forbes Watson, M.A.
Assistant Honorary Secretary: Mr. Mark S. Fraser.
Committee of Management: Professor Rankine, K.C., LL.D.; F. W. N. Haultain, M.D., F.R.C.P.E.; H. J. Norman, M.B., Ch.B.; H. V. Rabagliati; H. M. Spoor; W. H. Kirkland, M.A.; D. M. Barcroft; and I. Ian Macpherson, M.A., LL.B.

Diet and Growth.

At a meeting of the Royal Society of Edinburgh on Monday, December 18th, Professor Schäfer presented a Preliminary Note regarding an Experimental Investigation into the Effects of Varying Diets upon Growth and Nutrition, by Dr. D. Chalmers Watson. The object of the research, which is still in progress, is to determine the influence of various diets on growth and nutrition of animals.

The diets employed have been (1) uncooked horse flesh, (2) uncooked ox flesh, (3) rice boiled in water, (4) oatmeal porridge made with milk, (5) bread soaked in skim milk. A known quantity of common salt was added to the rice and porridge foods, and an unlimited amount of water was given to all the animals except those fed on bread and milk. The animals employed have been tame rats of various ages (in number over 300)

The observations have been as follows: (*a*) On very young rats newly weaned, the controls being taken from the same litter (10 litters). (*b*) On young rats, aged 2 to 3 months (14 on each diet). (*c*) On adult rats (10 on each diet). (*d*) On castrated female rats (17). Special attention was directed to the influence of the various diets on the supervention of pregnancy, on the growth and nutrition of the animals in the second generation, and on the recuperative power of animals under a normal diet that had deteriorated in consequence of having been fed for a time, in some cases for more than one generation, on an unphysiological diet.

Results.—Rice diet arrests the growth and nutrition of young and adult rats; it is well tolerated by castrated female subjects. Porridge, although having the same chemical composition, is less satisfactory than the control diet of bread and milk. The flesh diet is fatal to very young rats, and had bad effects on the progeny of the flesh-fed adult rats, their mortality being high.

Professor Schäfer complimented Dr. Chalmers Watson upon his experiments and the clear statement of results. He had shown most clearly that if animals were fed on a diet which was deleterious to them their progeny would suffer. That was perhaps the most important practical point they had to deal with. It had great importance in connexion with the practical problems of the condition of the population, which there could be little doubt was deteriorating. Of course the results they had listened to were not to be taken and simply transferred to man. That would be absurd, because the normal diet for a rat was not the normal diet for a man. But the moral was that they had to feed the growing animal in a proper manner. There was no doubt that a great deal of the physical degeneration they heard about was due to wrong feeding and to underfeeding. Both these conditions could be got over, the one by education and the other by other means. So far as the public was concerned, the moral was that they had to feed the children correctly.

Eyesight of Glasgow School Children.

At a meeting of the Royal Philosophical Society of Glasgow on December 13th, Dr. W. B. Inglis Pollock read a paper on the eyesight of school children. He described the results of his examination of the pupils in three schools of the Govan Board—Hillhead High School, Church Street School, and Elder Park School. Although it was necessary in many trades to have two good eyes, it was different in school, and he had classed the children by their better eye. They were 8.2 per cent. with defective and 21.6 per cent. with fair vision in Hillhead High School; for Elder Park the corresponding numbers were 9.2 per cent. and 12.7 per cent: and for Church Street 22.2 per cent. and 30.3 per cent. respectively. Taking the three schools together, the defective percentage remained very constant for the young children, and then gradually fell during the ages of 10 to 14, when it increased very rapidly for the oldest pupils. The percentage of normal sight among school children was about 45, and ranged from 38.5 to 52 during the various ages at school. A very large number of all children at birth were hypermetropic; at 5 there were 55 per cent., and from that age the number gradually and steadily decreased, until at 18 years of age there were only 31 per cent. Twelve per cent. of all scholars had hypermetropic astigmatism. When such children reached 30 or 35 years of age they had to use glasses for near work. Many workmen of that age stated that they would be thrown out of employment if they put on glasses. As long as the present methods continued, hypermetropic boys should be warned to keep off these trades if they were to lose their employment at an early age. The only way to detect them was by a medical inspection of all children leaving the schools. Among 3,183 children, there were 71 squints. Such children should be treated as early as possible, otherwise the squinting eye in many cases lost vision almost completely. There were 5 per cent. of myopic children in Elder Park School, 7 per cent. in Church Street, and 8.3 in Hillhead, but this high number was made up of the large number in the secondary school. The percentage of myopia began as 1.7 at the age of 5, and rose steadily to 8.4 per cent. at 13 years of age, and thereafter rose with a bound to 25 per cent at 18 years of age. This was due to the withdrawal at 14 years of non-studious children, leaving only those working hard for University or Training Colleges.

Gartloch Asylum.

In a recent report the Commissioner of Lunacy expressed the opinion that the Glasgow Parish asylums at Gartloch and Woodilee were more expensively conducted than similar institutions in other parts of Scotland. He pointed out that the nursing staff was in the ratio of one nurse for about nine patients, whereas in other places the ratio was one to twelve or even fourteen patients. In order to give effect to the Commissioners' report, the Parish Council recently made certain changes in the working hours, which will permit the reduction of the staff, in order to bring it more into line with that of similar institutions. At the Parish Council meeting certain of the members protested in rather violent terms against the proposed alterations, and one member went so far as to characterize them as the introduction of white slavery. At Woodilee effect has not yet been given to the changes, but the staff have been warned that the new regulations will come into force early in the new year. At Gartloch the amended rules were promptly put into force, and led to considerable dissatisfaction among the nurses. At one time there was some talk of an organized strike, and as a result of their connexion with the movement, the services of five of the staff nurses were summarily dispensed with, and other members have since, we understand, resigned out of sympathy. As the result of the altered rules, the hours of duty are somewhat longer, and the free time for meals is curtailed, while, instead of receiving a whole day's leave each week, only a weekly half-holiday is given.

Corporation Milk Dépôt, Glasgow.

In the hope of reducing the excessive mortality among infants, the Corporation of Glasgow some time ago instituted milk dépôts for supplying suitable sterilized milk. Twelve months' experience of the scheme has been satisfactory, and there are now over 600 babies being fed with Corporation milk. In order to increase the efficacy of the scheme, it was resolved at a recent meeting of the Health Committee to appoint a lady medical practitioner to look after such of these children as required medical attention, while her services will also be available for children not using the Corporation milk. The proposal is that the doctor shall work in connexion with the lady health visitors. In certain districts where the mortality is very great, the Health Committee offer a fee of 1s. to the person who notifies a birth within forty-eight hours.

Skin Disease in Glasgow Schools.

At the annual meeting of the Glasgow Public Dispensary Dr. A. D. Stewart, in submitting the report of the department for diseases of the skin and ear, referred to the prevalence of alopecia areata. He expressed the opinion that the School Board authorities were much too lax in permitting children suffering from such a disease to attend school. The disease was easily mistaken for ringworm, and if the parent applied a little ink it was thought all had been done that was required. Dr. Stewart also emphasized the importance of dealing promptly with disease of the ear, pointing out that so imminent was the risk to the life of the individual that no first-class insurance company would now accept for insurance the life of any one having a discharge from the ear.

Ireland.

The Report of the Irish Local Government Board.

We have received the following remarks from "Fiat Justitia" with reference to the communication from Mr. H. Courtenay, Chief of the Statistical Department of the Local Government Board of Ireland, published last week, p. 1609:

> I am rather disappointed that Mr. Courtenay evades the question which I put to him as categorically as I could. The feeling that there is much lack of sympathy at head quarters for the unfortunate Poor-law officers in Ireland tends to considerably aggravate the unpleasantness of their position, and when we find that in addition to want of sympathy there is a decided tendency to throw dust in the eyes of the public by using sophisticated facts and arguments to show that our position is not as bad as we represent it, and in fact that it is steadily improving, a feeling of irritation on our part very easily gives way to one of resentment and indignation.
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> To emasculate the salaries of the medical officers with the remuneration of temporary substitutes, and then to divide the sum amongst the number of permanent officers so as to find the average salary paid to each officer, is no doubt a good idea on the part of the chief statistician, but not according to rule, to estimate the amount of work done by the number of tickets for the purpose of comparing the duties of medical officers in the first years of the twentieth century with that done in the first five years after the establishment of the dispensary system is only worthy of a Rip Van Winkle. Why, in those early days a medical officer of a dispensary might be either a surgeon, or an apothecary, or an accoucheur, or perhaps nothing at all. It was not until 1862 that the Local Government Board required a candidate for a dispensary appointment to be possessed of a diploma or degree in medicine, and years after that, when I first took up my appointment, I very well recollect that the entire armamentarium of my predecessor consisted of a pair of short midwifery forceps, sadly rusted, a tooth-key, a vaccination lancet, and a bladder enema-bag, whilst the stock of medicine was equally select. There was, it is true, also a unique stethoscope, so constructed that either end could be equally applied to the chest, and which I still treasure as a curiosity.
>
> Nowadays we carry about with us an aseptic pocket case, a tabloid case, hypodermic syringe, binaural stethoscope, perhaps even a phonendoscope, and would feel distracted and helpless if we happened to mislay our thermometer, whilst our up-to-date midwifery bag, case of minor instruments, gynaecological apparatus, and perhaps ophthalmoscope, etc., are ever ready at home for emergencies. During the first twenty-five years of the dispensary system tickets only represented single visits, but since that time the entire *morale* of dispensary practice, as well as private practice has, especially in the rural districts of Ireland, been completely revolutionized. Each ticket means an attendance during an entire illness, so that the number of tickets is not to be taken *per se* as at all indicative of the work done. Here, again, want of sympathy is very galling, especially when we have at head quarters a medical Commissioner whom we hope and expect to be thoroughly *au courant* with the progress of our profession, and the altered conditions under which the science of medicine is carried out. Adequate remuneration does not mean the same remuneration now as it meant fifty or even thirty years ago. It has altered both relatively and absolutely. In all the public services, in every walk of life, the wages and earnings have advanced with the times. A common labourer now spends three times as much on his household and personal requirements as did the labourer of 50 years ago; the common soldier and sailor are not offered the same pay as they were in the Fifties; and there is not an officer in any of the services, whether civil, naval, or military, who has not, as far as his wages are concerned, advanced with the times; but, unfortunately, the Irish Poor-law Service is a sort of mongrel product, and has to bear the "slings and arrows of an outrageous fortune" which are always directed against such despised mixtures. The figures which you give, Mr. Editor, regarding cases of out-door relief should go to show that the dispensary doctors' duties are very largely increased by keeping the poor in their own homes, and in fact that they should bear a very close relationship to each other, and would furnish a far more reliable index of the extent of the duties than any figures connected with the population, upon whose diminution the Local Government Board rely mainly to prove that the doctor's time cannot be so much occupied as when the population was greater. But to revert to the salaries, as I happen to have access to most of the Local Government Board reports, I beg to submit the following figures, and to leave them to tell their own tale, merely premising that between the years 1862 and 1878 the total amount of the salaries of the dispensary doctors rose from £67,008 to £88,028, that is, during the ten years after the Local Government Board required the three qualifications to be possessed by the doctors; and since 1878, although this is the period in which such a tremendous change has taken place in the practice of medicine the salaries have altered very little; and although the chief statistician's figures show that they rose from £88,198 in 1897 to £90,734 in 1905, yet we must not forget that in 1891 they were £90,488, and in 1890 [illegible].

Year.		Salaries.		Average Salary.
		£ s.		£ s.
1860	.....	6[illegible]	.....	85 19
1[illegible]	.....	81,771	.....	101 17
1[illegible]	.....	[illegible]	.....	109 14
1884	.....	[illegible]	.....	100 15
1890	.....	91,1[illegible]	.....	112 0
1[illegible]7	.....	8,1[illegible]	.....	109 11
19[illegible]5	.....	[illegible]	.....	112 8

Poor-law Medical Officers' Salaries.

The intolerable niggardliness of the Poor-law guardians has again been illustrated in the case of the Newry Board. A Committee appointed to consider the question of the salaries of the dispensary and workhouse medical officers reported, in the case of the former, in favour of a minimum payment of £120, rising, by an increase of £5 every five years, to £150; and in the latter case of a minimum of £140, rising to £170. Both these proposals were retrospective. The enlightened Board rejected the proposal by 30 to 3, and when the proposal was made without the "retrospective" condition it was again rejected—11 voting for it and 23 against.

Report on Lunacy in Ireland.

According to the report of the inspectors of lunatics in Ireland just issued, there were in 1904, 22,794 lunatics in the asylums and workhouses of that country, showing an increase of 202, the increase for the preceding year having been 656. The workhouses, we are glad to note, show a decrease of 340. District asylums show an increase of 521, private asylums of 21, and the criminal lunatic asylum of 6. The total increase is 332 less than the average of the past ten years—534. In the period dating from 1880 there has been an increase of 10 014 in the total number—a very alarming fact in relation to a falling population. The increase in the asylums in twenty-four years figures at 9,948, while the number of patients in private asylums has grown by 172.

The number of persons under control for lunacy has increased from 250 per 100 000 in 1880 to 522 per 100 000 in 1904. If to these be added the number of cases at large, the total—26 864—represents 610 per 100 000 of the population.

Of 1,940 discharged during the year, 759 males and 659 females were discharged "recovered"—a decrease of 30 on the previous year. The death-rate per cent. of the daily average number resident was 7.8, or 7.5 for males and 8.2 females.

The Edward H. Bennett Testimonial Fund.

Dr. Edward H. Bennett, after forty-five years' service in various capacities at the School of Physic, Trinity College, Dublin, having retired from the active duties of the Professorship of Surgery, some of his old pupils thought that the occasion was one upon which it would be a pleasure to mark in some tangible form their appreciation of his eminent services to the surgical profession and of his many acts of kindness to them while students.

A committee was formed, and circulars were sent to his old pupils. The response to these circulars has been very satisfactory, and at a meeting of the subscribers recently held the following resolutions were adopted:

1. That Dr. Bennett be asked to give sittings for a portrait medallion.
2. That from this medallion dies for stamping a medal be made.
3. That the original medallion be placed in the School of Physic in Ireland, and a copy of it in Sir Patrick Dun's Hospital.
4. That the first proof of the medal in gold be presented to Dr. Bennett.
5. That a medal in bronze to be called the Bennett Medal, with a suitable inscription on the reverse, be presented to the candidate who obtains the surgical travelling prize given by the Provost and Senior Fellows of Trinity College every second year.
6. That the surplus funds, after payment of initial expenses, be formed into a trust to provide for the production of the medal awarded every second year to the surgical travelling prize man, and that the balance of income from the trust be awarded as a money prize to be called the Bennett Prize to the candidate who obtains second place at every surgical travelling prize examination, provided that in the opinion of the examiners sufficient merit is shown. In the event of the Bennett money prize not being awarded from want of merit or other cause the accumulated income of the trust for the previous two years is to be invested and added to the corpus of the trust fund.
7. That the Provost and Senior Fellows be invited to accept this trust and the custody of the dies for the purpose of awarding the prizes, according to the terms of these resolutions.
8. That subscribers to the fund be authorized to obtain proofs of the medal in bronze as mementos, upon payment of 10s. each.
9. That a committee be formed of the two honorary secretaries, Dr. Bennett's two surgical colleagues at Sir Patrick Dun's Hospital, and Professor A. F. Dixon to carry out the details of these resolutions.

The Board of Trinity College has agreed to accept the trust. Any of Professor Bennett's old pupils, who from non-receipt of the circular or other causes have not yet subscribed, can still do so by sending their subscription to either of the Honorary Secretaries and Treasurers, Dr. R. H. Swanzy, 23, Merrion Square, or Dr. C. A. Ball, 12, Lower Mount Street, Dublin.

The Disturbance at the Royal University.

There was a large meeting of the Senate of the Royal University at Dublin, on Friday, December 15th, to consider the legal opinions which had been secured in relation to the disturbances at the conferring of degrees in October. These opinions varied, and after a full discussion it was resolved not to proceed further in relation to the charges of disorderly conduct, which, however, was condemned. The Senate then decided to ask the Chancellor to bring before the Government the whole question of the Senate's power to deal with such emergencies, and to seek such changes in the charter or statutes as will enable the Senate to exercise authority, if necessary. The whole matter appears to be full of difficulty, and the divergence of views set out by several eminent lawyers has only helped to increase the confusion.

The Dispensary Election at Swinford.

Dr. O. Beirne, who was one of the unsuccessful candidates for the office of medical officer of Kiltamagh Dispensary, Swinford Union, county Mayo, has addressed a letter of protest to the Board of Guardians. He complains that the division took place before the hour fixed; that the candidate selected was not present, as required by the advertisement, and he claims the office as being next highest on the poll. His application was not even read, and he asserts that Dr. Madden's application was only a record of "his merits as treasurer of a branch of the United Irish League."

Dr. O'Beirne, amongst other claims, urged on the guardians that he was a speaker of Irish, and he pointed out that in Wales the Welsh language is an essential qualification of a doctor. It was urged against him that he had not been educated at the Catholic University Medical School; but, in reply, he states that he was a student there for two years, having been at Queen's College, Galway, for a period prior to that. The *United Irishman* says "the religious pretext was never more dishonestly or contemptibly used within our recollection." The Haverstock and Fleet Street Branches of the Gaelic League in London have also protested against the proceedings at the election, but their letters were dismissed by the Chairman with the observation, "We will not take dictation of that kind from London."

Ulster Medical Society.

The second meeting of the session was held in the Medical Institute, Belfast, on December 14th. The President (Dr. William Calwell) occupied the chair, and there was a large attendance.

The President made reference to the deaths of Dr. J. Falloon Stewart (Colonial Service) in Nigeria, and Captain James Waddell, R.A.M.C., in South Africa, who were both well known in Belfast; and to the death of Dr. James Lynass, Belfast, who was a Fellow of the Society. Resolutions of sympathy and condolence were passed by the meeting. Dr. T. M. Tate and Dr. W. P. Tate, both of Downpatrick, were elected Fellows, and Dr. Annie K. Watson was elected a member of the Society.

Dr. John M'Craw showed a case of pseudo-hypertrophic paralysis in a young boy, the only one in the family, exhibiting the classical features of the disease; and read notes of an interesting case of anaemia in a child, and of the successful treatment of a very severe case of chorea by large doses of sodium salicylate. In the case of anaemia, which ended fatally, no *post-mortem* examination was obtained: the blood had the features of pernicious anaemia, with, however, a certain amount of lymphocytosis; the clinical features resembled the lymphatic leukaemia or atheroma. Drs. Beattie, M'Quitty, M'Kisack, and Houston spoke on this case.

Mr. Andrew Fullerton showed a case of congenital dislocation of the hip a year and a half after treatment by Lorenz's bloodless method. The result was very successful, as proved by the examination of the patient, and by skiagraphs taken before and after treatment. He also showed another case of double congenital dislocation, as yet untreated. He read also short notes of cases illustrating the use of urine segregations of De Luys and of Harris; and showed photographs of a

case of deformity of the nose treated by the injection of paraffin.

Dr. WILLIAM MCHARRY described a truss in which the pad can be adapted to any position, and when found to be in the best can be then tightly fixed; also a gynaecological crutch, which is cheap, and can be fastened to any examining couch.

Dr. PERCY CRYMBLE showed a case of locomotor ataxia and demonstrated Fraenkel's method of treating the ataxia; the patient had considerably improved.

Dr. AUSTIN made some remarks on the method.

Dr. J. S. RANKIN showed three patients suffering from lupus of the nose treated very successfully by the Finsen light.

Dr. H. L. MCKISACK showed 2 cases of tuberculous peritonitis treated with good results by Wright's method of tuberculin injection: the cases were now in good health and apparently cured.

Dr. THOS. HOUSTON read notes on a recent method of testing the efficiency of the kidney invented by Professor A. E Wright to take the place of cryoscopy, as the latter required a large quantity of blood and delicate apparatus, and was therefore not applicable to clinical work. Dr. Houston had examined a number of cases, including granular, parenchymatous, and other kidney conditions, besides some healthy individuals. The results seem to show that the method would prove a valuable addition to the methods of examination and a guide to treatment.

SPECIAL CORRESPONDENCE.

PARIS.

Immunization of Cows Against Tuberculosis.—New Isolation Hospital.—Centenary of the Medico-Chirurgical Society.

THE experiments which have been conducted during the present year at Melun, in the department of Seine-et Marne, to render cows immune to tubercle have been successful. On December 3rd a certain number of bacteriologists and veterinary surgeons assembled in the stables of the old barracks to verify the results. On February 19th last a certain number of animals—Dutch cows, Limousin bulls, and Normandy cattle—all young and healthy, were vaccinated with an emulsion extracted by Behring's method from tubercle bacilli by M. Vallé, Professor at the Veterinary School of Alfort. Towards the middle of June the vaccinated animals were divided into three lots: (1) Seven of these and seven healthy unvaccinated cows of the same race and age were all inoculated under the skin of the shoulder with the tuberculous virus; one month later all the control animals showed vast tuberculous lesions, while all the vaccinated beasts were free, with the exception of one or two which showed insignificant traces of the infection. (2) Six vaccinated and six unvaccinated animals had virulent cultures injected into the jugular vein, with a much more marked difference in the results obtained. The six vaccinated animals remained in good health, while all the control animals were gravely affected, three dying in a fortnight. (3) Vaccinated cows were placed alongside tuberculous animals in the same cowshed. The vaccinated animals have resisted, while the control animals on *post-mortem* examination showed generalized tubercle. MM. Vallé and Moussu, professors at Alfort, intend keeping these animals to prolong the experiment and see how long this immunity will last. M. Vallé gave a lecture explaining the results of the experiments to the assembled company. Immunity has been proved, but its duration is as yet unknown. If the vaccination will protect the animal for eighteen months or two years, then the problem may be considered as solved, which will only require a law making vaccination compulsory to protect cattle from infection. M. Roux, of the Pasteur Institute, is to make an examination of the tuberculous lesions in the animals which served as controls to check the experiments.

The President of the Republic opened the new isolation hospital, built on the site of the old wooden structure at the Porte d'Aubervilliers, which was burnt down as the cheapest method of getting rid of the useless, dilapidated buildings. The new hospital has been christened after Claude Bernard. The site is a strip of land over half a mile in length; the breadth varies, but does not exceed 200 ft. at its widest part. At the entrance is the administrative block, and beyond is a series of one-storied pavilions, respectively intended for doubtful cases, measles, scarlet fever, general services, smallpox, a reserve pavilion, a laboratory pavilion, a pavilion for *post-mortem* examinations and for the dead, the laundry, machinery, and a pavilion for the disinfection of the sewage of the hospital. The pavilions are simply designed, well exposed to the sun and air, and well lighted and ventilated. The wards have vaulted ceilings, the floors are tiled; the walls have rounded angles and are painted white, but to the height of nearly 5 ft. they are covered with enamelled sheet-iron which is varnished and painted a pale blue. The wards are heated by low pressure steam, the radiators being placed at intervals along the walls in front of the air inlets, which can be opened or closed at will; the air outlets are near the ceiling. The windows can also be used for ventilation at their upper portions; the panes are flush with the frames in the interior of the wards. One of the striking features of the hospital is the sterilization of the sewage in apparatus constructed by Dr. Bréchot, consisting of a sort of tub containing a cylinder of smaller diameter, which is open at each extremity, and the wall pierced with holes; the bottom of the cylinder is filled with coke, which forms a rough filter, retaining the solids; the liquid is led off to a cistern, where it is treated chemically and then pumped into the sewer. The solids remaining in the apparatus are then burnt with the coke, the entire cylinder with its contents being carried to a very high temperature. As there are four of these apparatus, the working is uninterrupted, and it has been calculated that only half an hour is necessary to burn the fecal matter coming from 400 patients. Another inovation in this hospital is the nurses' home, in which each nurse is to have a separate room, with a bed, an English wardrobe with mirror, and a washstand with outlet to the sewer. The great blot in the hospital is that there is no installation of hot water, which is most serious in any hospital, and especially in one for contagious disease. The continuous supply is replaced by large gas heaters in the bath rooms, at intervals in the corridors, etc.

The Société Medico-Chirurgicale de Paris celebrated its centenary, under the presidency of Professor Debove, Dean of the Faculty of Medicine, representing M. Beirveun-Martin, the Minister of Public Instruction. Numerous delegates were present representing the medical societies of Paris, the provinces and abroad. In the evening a banquet was held at the Elysée Palace Hotel, the Minister being in the chair. Every one present received as a souvenir an artistic medal by the sculptor M. Mourlon. The evening concluded with a musical entertainment.

BIRMINGHAM.

Hospital Sunday Fund.—Action of the Welsh Water upon Galvanized Vessels.—Midland Counties Home for Incurables.

THE annual meeting in connexion with the Hospital Sunday Fund was held in the Council House, Birmingham, on December 15th, the Right Hon. the Lord Mayor being in the chair. This year's collection, £5 900, was the largest ever known, with the exception of 1878, and it is an increase of £400 over last year. Of this sum £1 627 is allotted to the General Hospital and £1,668 to the Queen's Hospital, while fifteen other hospitals and allied institutions are recipients of grants of varying amounts. The Fund has now been in existence for 46 years. Some church congregations have earmarked certain portions of their collections for particular charities. The Lord Mayor recommended the more general system of non-allocation, which would give the Committee greater freedom in carrying out the original intentions of the Fund.

Dr. Robertson, Medical Officer of Health for Birmingham, has drawn attention to the harmful condition produced by the action of Welsh water upon some of the kettles now in common use. It is desirable that the water be boiled in enamelled or lined ware, and not in galvanized kettles. On investigating the articles sold as "galvanized Welsh water" kettles, he finds that any pure, soft water acts on the coating of these kettles with great vigour. So much of the zinc is dissolved as to make the water harmful and objectionable; the matter is, he considers, of serious importance from the point of view of the public health. A circular has been sent to the kettle manufacturers by the Health Committee of the City Council, asking the makers to call in any kettles so made or distributed, in order to prevent their sale. Another circular has been addressed to the ironmongers and others informing them that water boiled in the galvanized kettles becomes so charged with zinc as to be dangerous, and requesting them

not to sell any of these kettles. The water itself is above reproach.

The late Mrs. Finnie of Malvern Wells has bequeathed £3 000 to the Midland Counties Home for Incurables at Leamington. The Marquess of Hertford has succeeded the late Lord Leigh as president of the institution.

MANCHESTER.

Gifts for Hospitals in Glossop and Stockport.—Cost of Manchester's Bacteriological Scheme.—Ear Hospital Annual Report.

A PLEASANT Christmas surprise has been disclosed for the good people of Glossop. Captain E. Parkinton, who has extensive works in the town, has intimated his intention of presenting to the borough of Glossop £30 000 for the erection and endowment of a nursing and convalescent home for the sick poor of the town and for the provision of trained nurses. It is intended that the hospital shall be free in every way, and that in addition to providing for the sick and convalescent there shall be a staff of competent trained nurses, who will visit the poor in their homes and instruct mothers in hygiene, housekeeping, and the rearing of young children. A sufficient endowment will be provided. The late Mr. Albert Bowden, of Heaton Moor, has by will bequeathed £5,000 to Stockport Infirmary.

The great bacteriological sewage scheme of the Manchester Corporation has already cost £476 000, of which £200,000 was spent on the land and £276,000 for works, a sum which represents a rating of 6d. per annum per head of the population. It will still require an additional penny or twopence to enable the Corporation to complete the necessary undertaking.

From the annual report of the Ear Hospital we learn that there is urgent need for its extension. Since 1895 the out-patients have increased from 1 638 to 3 319 and the in-patients from 60 to 271. If the new hospital, which is estimated to cost £15 000, should be erected near the new Royal Infirmary by a certain date, the aural department of the infirmary would be given up, and overlapping would thus be prevented, as in the case of the eye hospital.

SOUTH WALES.

Cardiff Police Surgeons.—Cardiff Infirmary.

THE report of the Cardiff Head Constable with reference to the appointment and duties of police surgeons came before the Cardiff Watch Committee on December 13th, the Lord Mayor presiding. The Head Constable suggested that in future four divisional surgeons be appointed for police and fire brigade, and that there should be in addition a chief surgeon, whose duties should be separate and distinct from divisional work.

At the monthly meeting of the Board of Management of the Cardiff Infirmary, held on December 13th, it was resolved, on the motion of General Lee, who presided, to tender a vote of congratulation to Lord Tredegar upon his attaining the rank of Viscount. Dr. J. W. Evans wrote resigning the office of Resident Medical Officer, he having been elected by the Asylums Committee of the London County Council Assistant Pathologist under Dr. Mott. The resignation was accepted with regret. The Secretary and General Superintendent reported the receipt of a cheque for £121 14s., being the balance of a legacy under the will of the late Dr. C. J. Jones of Porth; £22 10s., the annual subscription of Messrs. Spillers and Bakers engineering department; and a cheque for 15 guineas from the Cardiff, Penarth, and Barry Coal Trimmers' Union, and £4 12s. 6d. from the Tramway Company's employés.

It is stated that immediately after the meeting of the constituents of the Metropolitan Hospital Sunday Fund, held at the Mansion House on December 18th, the Hon. Stephen Coleridge received an anonymous gift of £1,000 towards the funds of the National Antivivisection Society. It may be remembered that after the verdict in the case Bayliss *v.* Coleridge was given, the defendant was also presented with a cheque of like magnitude by an anonymous admirer. Mr. Coleridge may bear defeat with fortitude if it brings consolations more substantial than the fruits of many victories.

CORRESPONDENCE.

PROGNOSIS IN MENTAL DISEASES.

SIR,—I think that Dr. Jones, in his valuable paper published in the BRITISH MEDICAL JOURNAL of December 16th, is too pessimistic in the opinion he expresses as to the incurability of mental disease. He says:

> These statistics prove the sad and significant fact that there is probably always some mental weakness after an attack of insanity, and that there is no such happy issue as a complete and permanent recovery.

I cannot see that his statistics prove so terrible a conclusion. His premisses do not support his inferences. If you will allow me to say so, I think you have in your leading article of the same date caught a tone of pessimism from Dr. Jones, and have made too much of the two gloomy passages which you quote from charming old Burton. I will venture to say that I could cite a hundred complete cures as quaint as they are surprising related by Burton. There is no opinion expressed or fact related by Burton that he does not in some other part of the *Anatomy* contradict. That is one of his charms. He is one of the most delightful writers in the English language, but I do not admit his authority in modern scientific psychiatry. I do not admit either that you give quite a fair impression of the views of Kraepelin or of Griesinger, taking their writings as a whole, apart from individual passages.

There is one important qualification of your opinion and that of Dr. Jones that must be made. You both seem to refer entirely to the certified and mental hospital patient. I think you both go far too far, even in regard to his incurability. But he represents the worst and the most confirmed phase of mental disease. Thousands of people suffer from melancholic attacks, from periods of mental excitement or lassitude, or confusion, or from obsessions or loss of inhibition, who never are sent to mental hospitals for treatment. Their diseases are scientifically the same in character as those of many of Dr. Jones's patients. They only differ in degree of intensity. I believe there are far more people suffering from a morbid depression of feeling living out of asylums than in them in Great Britain. Would you or Dr. Jones say about such people that most of them do not recover? And that when they appear to do so the "reliques of melancholy" still live in them? The lives of Goethe, Hume, Stuart Mill, Tennyson, and thousands of other unwritten lives absolutely contradict such an opinion.

As good work has been done in literature, in art and in industry by men and women who have at some period of their lives suffered from some degree of melancholia as has been done by any similar number who have been rheumatic, or gouty, or bronchitic. Taking these three diseases, would you or Dr. Jones say they had not properly recovered if they had "reliques" of rheumatism, gout, or bronchitis still observable? Even in regard to patients who have had very acute attacks of mental disease and have been treated in mental hospitals, I can say, after forty years' clinical experience of perhaps 20 000 patients, that if general paralysis, the insanity of gross brain disease, epileptic insanity, senile insanity, and the idiotic and mental conditions were excluded, the majority of them recovered, and of those who recovered only about one-third had relapses, such as a similar proportion of rheumatic, gouty, or bronchitic people have relapses: while, to my personal knowledge, most of those who recovered did their work well and were a comfort and support to their relations. I think that if all those mental patients had received at the early stages of their attacks as suitable treatment as the rheumatic, the gouty, and the bronchitic receive, still more of them would have made good recoveries. Many patients do not fully complete their recoveries because their too-anxious relations remove them too soon from suitable treatment.

I cannot agree with Dr. Oswald's opinion that cases of mania more often completely recover than cases of melancholia. That is contrary to my clinical experience. I think Dr. Oswald must have been alluding to liability to relapse. Even in regard to that I doubt whether mania has the better prognosis, if one includes the milder cases treated outside institutions as well as those within.

My conviction that Dr. Jones's opinion and your article are calculated to discourage our profession, as well as unnecessarily to alarm and distress the public mind in regard to a disease about which they were already full of prejudices,

must be my excuse for troubling you with this letter.—I am, etc.,

Royal Edinburgh Asylum, Dec. 18th. T. S. CLOUSTON.

SIR,—In Dr. Jones's address published in the BRITISH MEDICAL JOURNAL of December 16th, page 1578, it is indicated that, during the last three years at Claybury, tubercle in one stage or another has been demonstrated in 58 per cent. of the total male deaths, and 57 per cent. of the total female deaths. I presume that by "total deaths" Dr. Jones means "total *post-mortem* examinations." But it is further stated that "it is safe to assert that this is not a much higher proportion than occurs amongst the sane outside." Dr. Jones, of course, means "amongst the sane outside with a similar age and sex distribution." But, even so, where is his evidence?

Dr. Jones furthermore tells us that the "Registrar-General's mortality-rate from phthisis in the general population is 8.3 per cent. of all deaths," and he goes on to say that this is "much too low." Again one must ask, What is the evidence? When, however, did the present or any Registrar-General give the percentage of deaths due to phthisis as a mortality-rate? The mortality-rate from any cause is a ratio of deaths to population. The percentage of all deaths due to any one cause is a ratio of one class of deaths to another.

The fact is that the death-rate from all causes is, in asylums, seven or eight times as high as it is outside asylums. It so happens that the death-rate from phthisis in asylums is nine or ten times as high as it is for the general population outside asylums.

In consequence, the percentage of all deaths due to phthisis in asylums is not very much greater than is the percentage of all deaths due to phthisis outside asylums. It is, however, most illogical to assume, therefore, as many have done, that phthisis is not much more prevalent in asylums than outside them. Those who make this assumption are comparing ratios which are disparate. "Total deaths in asylums" is a different kind of aggregate to "total deaths outside asylums," because, as the Scottish Commissioners pointed out in 1873, there is a relatively enormous incidence of deaths in asylums from nervous disease masking the true mortality from diseases such as phthisis, which are preventable.

If the death rate from suicide were, in any asylum, nine or ten times as great as it is amongst the general population, would Dr. Jones say, in excuse: Yes, but you know, the percentage of all deaths due to suicide is about the same as it is outside?—I am, etc.,

Barnes, Dec. 15th. F. GRAHAM CROOKSHANK.

THE GENERAL ELECTION AND THE GENERAL MEDICAL COUNCIL.

SIR,—With the General Election at hand, it is much to be hoped that all medical men will give close attention to the Medical Acts Amendment Bill as drafted by the Association, and use their utmost influence to secure its passing during the coming session of Parliament. Of several medical measures which claim attention, it is incomparably the most important and incomparably the most important part of it is that which relates to reform of the General Medical Council. Under its present régime our profession is as incapable of further wholesome development as a child's foot in a Chinese lady's shoe. Let those who doubt this consider the fate which befell the recent moderate proposals for remedying the deplorable state of our general education standard for students.

The present constitution of the General Medical Council ought to be, if it actually is not, illegal. It would cause some commotion in trade circles were Parliament to announce that, for the future, the boot trade was to be put under the control of a syndicate of leather sellers, in order that the public might know good boots from bad, and that this syndicate was to have power to tax the bootmakers, without allowing them effective representation upon it. Yet this is closely analogous to the conditions we have so long and so unwisely submitted to. A council of schoolmasters governs the medical profession, in order that the public may know good doctoring from bad, and is empowered to tax us without allowing us effective representation.

"What is sauce for the goose is sauce for the gander;" and if the medical profession tamely puts up with this sort of thing, the same system may easily be adapted to other callings. We ought to find plenty of assistance to carry our Bill through Parliament, if we only give our minds to it. I am, etc.,

Exeter, Dec. 16th. W. GORDON.

MEDICAL LAW REFORM.

SIR,—Mr. Dolamore has brought to light an interesting page from the ancient history of medical legislation. This unquestionably justifies him in impugning the correctness of one of my minor statements. The words "during the past ninety years" ought evidently to have been prefixed to the sentence the accuracy of which he disputes. In referring to medical law I did not mean to go back further than to the Act of 1858. I can see now that if I had examined the futile discarded legislation of 1815, to which Mr. Dolamore has called attention, it would have confirmed my opinion that the prevention of practice for gain by unqualified persons not pretending to be legally qualified is certain not to be seriously entertained by Parliament. Mr. Dolamore's criticism does not touch the main argument of my letter, which therefore need not be recapitulated.—I am, etc.,

London, W., Dec. 16th. HENRY SEWILL.

THE FUTURE OF "BOARDS OF GUARDIANS."

SIR,—I have been for many years advocating the amalgamation of the Municipal Corporations with the Boards of Guardians in the cities and towns, and with the District Councils in the country districts.

There are to my mind many reasons of an administrative character to justify these suggestions of mine, but in a purely medical journal I may point out how such a unification would operate on the profession of medicine.

At present in the municipalities the Mayor and Corporation employ a medical officer of health. He is as a rule single-handed, and has under him no trained medical men, and the next technical grade below him are the sanitary inspectors, who are not physicians, and whose scientific outlook is limited on this account. The health officer is thus, as it were, a commanding officer without officers.

Now, let us look to the Poor-law guardians. These gentlemen employ the parish doctors whose work covers the entire Poor-law district. These medical men visit the homes of the poorest and are well acquainted with the conditions of the people from a sanitary as well as a medical point of view. These officials are not in any dual relation to the health officer cannot rise to his position, cannot be called on to help him in their districts, and there is thus a corps of officers without a commandant or mouthpiece or protecting head. Hence, perhaps, their many remediable grievances and their want of *esprit de corps*.

I propose to amalgamate the Boards of Guardians with the municipal authorities, and in this way—speaking from the purely medical point of view—the now-separated medical officers of the corporations and the guardians would be brought together under one official grouping.

I think had this grouping taken place, instead of the educational duties being given over to the municipalities, it would have been a wiser action in the march towards national efficiency.

In dealing with poverty it is evident that a municipality which has no control over the Poor-law hands and a Board of Guardians which have no power to initiate municipal works must both be handicapped in dealing with so urgent a question in the same area.

Amalgamation would, I think, help to improve existing conditions and tend indirectly towards a unification of medical officials of the public service, which is desirable from many points of view.—I am, etc.,

London, W., Dec 18th. GEORGE J. H. EVATT.

POST-MORTEM MENINGEAL INFECTIONS.

SIR,—Dr. Bastian is incorrect in supposing that I am not prepared to impugn the validity of his criticism that there is no adequate warrant for speaking of the meningococcus, pneumococcus, and streptococcus often found in association with different forms of meningitis as "causal organisms." I did not deal with this criticism because to do so would necessitate a discussion upon the causation of diseases, including an excursion into inductive logic and the nature of causes. This I hoped was not essential to my reply to Dr. Bastian's original query, which referred to the source of the bacteria found in *post-mortem* invasions of the tissues. Incidentally, it is interesting to note that Dr. Bastian was prepared to "put aside the case of tuberculous meningitis" when advancing the criticism mentioned above, and that again, in his letter of December 16th, Dr. Bastian omits the tubercle bacillus from the list of organisms the presence of which in the lesions of meningitis he considers not proved to be causal. Dr. Bastian does not state his reason for this exception. I think as good

a case can be made out for each of the other organisms as for the tubercle bacillus. How good this case is, becomes, as I say, a matter for academic discussion. I am of opinion that the case is as good as it is for most other diseases having universally accredited causes.

May I refer to one other paragraph in Dr. Bastian's letter of December 16th? The writer says:

> In accordance with strict bacteriological principles, such *sub-mortem* findings of bacteria might be explained by supposing that the bacteria which are usually "destroyed" in the blood during life are often able to survive during the last hours of life in persons dying from chronic diseases. This possibility seems to have escaped Dr Horder when he spoke so confidently about his proof of the "agonal invasion."

Dr. Bastian's explanation seems to me to be a very plausible one, and is, indeed, the explanation I have always adopted for the process referred to as "agonal invasion." This being so the possibility can hardly be said to have escaped me. It must be remembered, of course, that it is possible, even if but one organism survives in this way, for multiplication of the organism to proceed almost indefinitely after death. It is still obvious, therefore, that Dr. Bastian admits, in essence, an explanation of *post-mortem* invasion of the tissues by bacteria, which is independent of his hypothesis of the origin of such bacteria *de novo* in the situations where they are found.

Is it quite fair, because I decline to discuss this hypothesis, to characterize my attitude as "unscientific?" I do not discuss it because my work has not hitherto led me to investigate the question of the origin of living matter, and therefore I hold myself an incompetent disputant on the subject. Surely such a position is not unscientific?

I readily grant that, were such a hypothesis as Dr. Bastian puts forward found to be true, my evidences regarding the mode of production of *post-mortem* bacterial invasions would need very serious reconsideration in the light of such discovery; but which of the thousands of facts laid bare by bacteriological study would not similarly need revision? Indeed, would any bacteriological observation made up to date be of the slightest value if the most fundamental of all "bacteriological principles" be disproved—namely, that a medium once rendered sterile remains so until infected from some non-sterile medium adjacent to it?

Dare I risk another charge of "complacency" by suggesting that the elaborate mosaic of bacteriological observations laboriously laid by so many workers could scarcely fit so well if the bed beneath were so insecure.—I am, etc.,

London, W., Dec. 19th. THOMAS J. HORDER.

OBSERVATIONS ON THE OPSONIC INDEX OF PATIENTS UNDERGOING SANATORIUM TREATMENT FOR PHTHISIS.

SIR,—When one so assiduous in opsonic investigation as Dr. Lawson comments on our small contribution, the commonest courtesy demands an acknowledgement from us.

Dr. Lawson selects seven expressions of opinion from our paper and challenges their soundness. The first four are as follows:

1. We are quite unable to endorse the view expressed by Dr. Urwick that "the opsonic power of the majority of patients suffering from pulmonary tuberculosis is higher than normal."
2. It is a matter of importance in estimating the effect of injections of tuberculin, or of any form of treatment, that the observations should be made at a time when the opsonic index is at its ordinary level, undisturbed by recent exercise.
3. We have never found that a patient's temperature gave any clue to the level of the opsonic index.
4. We believe that a case which shows a steady opsonic index of 1.0 or over is the case which makes a complete recovery if favourable conditions are maintained for a sufficient time.

These four statements Dr. Lawson sweeps away at once with the assertion that it gives him pleasure to join issue with us, but he mentions no reason for this difference of opinion beyond the fact that he and Dr. Stewart have made some 3,000 opsonic observations. We cannot believe that Dr. Lawson supposes that any accumulation of observations in itself establishes a claim to oracular utterance. No doubt he will presently furnish us with the evidence he has kept in reserve.

Three points remain for discussion:

1. "That the case which settles to an opsonic index much below 1.0 is the case which becomes chronic, that recovers to a certain extent, but can only maintain that degree of recovery while living under sanatorium conditions." We were careful to express this as an opinion, not as a demonstrated fact, pointing out that further observation was needed to confirm or disprove it. If Dr. Lawson can perform the latter operation, the ground will be so far cleared, the "cause of truth" promoted (to say nothing of the cause of humanity against the tubercle bacillus), and we shall rejoice as heartily as anyone; but Dr. Lawson's figures relating to cured cases are beside the mark. He cannot claim, on this evidence, that the opsonic indices of these patients were consistently below normal during the course of their "cure," while they were still under treatment, with active diseases present in their chests and tubercle bacilli in their sputum. We fail entirely to see how a knowledge of the opsonic index of a cured patient can be used to determine the opsonic index which existed while that cure was taking place.

2. In regard to the next point—that "it is probable that a patient will benefit by walking when his opsonic index is high"—if Dr. Lawson understands from our article that we regard a high index as a sufficient indication in itself for prescribing or regulating walking exercise, we have failed to make ourselves clear. Lack of space prevents us from enumerating the many contraindications of walking exercise which are, we believe, fully recognized by all sanatorium doctors. Surely no sanatorium doctor expects ever to depend solely on a knowledge of the opsonic index to prevent him from exercising a patient who is "within twenty-four hours of death."

3. The last point is "that it is important that a patient should rest during his negative phase," and here we think an emphatic expression of opinion is necessary. Dr. Wright, in his paper published in the *Lancet* of December 2nd, insists on the danger of accumulating one negative phase on another by injudiciously-timed reinoculation. Dr. Bulloch speaks in the same number of the *Lancet* of "the exacerbation of symptoms during a prolonged negative phase." Dr. Lawson and Dr. Stewart themselves, in the *Lancet* of December 9th, admit that reinoculation during a negative phase would probably do harm, and therefore they deprecated routine inoculations. But Dr. Wright maintains that

> Under the influence of limb and chest movements, and the circulatory disturbance and increased lymph flow which are associated with excitement, physical exercise, or mental overwork, tuberculous poisons from the infected tissues are conveyed into the blood."

Therefore, unless Dr. Lawson is prepared to "join issue" with Dr. Wright on this point, he must admit that to let a tuberculous patient walk is to offer a possibility for auto-inoculation. But if the patient is already in a negative phase, this is to run the risk of piling one negative phase upon another, and of producing the result Dr. Lawson himself pronounces harmful. In this sanatorium we not only rest our patients for three days after inoculation, but also at least for one day before and generally for two or three days. We believe that this procedure lessens the severity of the negative phase in many cases and shortens its duration, and clearly, in the present state of our knowledge, the interests of our patients demand caution as a primary requisite.

Finally, may we express our admiration for the painstaking labour of Dr. Lawson and Dr. Stewart, and our thanks for the mass of material their records place at the disposal of the medical world? The object of Dr. Lawson's letter is, in his own words, to promote the "cause of truth" by "effectively refuting claims which he believes to be false." The principal, if not the only "claim" in our paper is contained in the second of the first four statements Dr. Lawson sweeps aside without further comment. In the absence of any information from Dr. Lawson that he has ever examined the blood of the same patient more than once in twenty-four hours, however much he may believe our claim to be false, we do not think he can maintain that he has effectively refuted it.—We are, etc.,

Nordrach-upon-Mendip Sanatorium, Dec. 18th. HAROLD MEAKIN. C. E. WHEELER.

TREATMENT OF TYPHOID FEVER.

SIR,—In Dr. Ewart's advocacy of the use of charcoal in typhoid fever, the following two points have been apparently overlooked:

1. The value of charcoal as a deodorant depends on so-called occluded oxygen, but this is absent from moist charcoal, and it is difficult to understand how this agent can act as an intestinal deodorant.

2. A microscopical examination of most specimens of charcoal reveals the presence of partially-burnt wood fibres, together with crystals of carbonate and phosphate of calcium, and what protective value these can have on an ulcerated surface it is not easy to conceive.—I am, etc.,

A. CAMPBELL STARK, M.B., B.S. Lond.,
Late Demonstrator in Materia Medica, St. George's Hospital.

Manor Park, E., Dec. 14th.

POLYURIA IN TYPHOID FEVER.

SIR,—In his short but pertinent article entitled An Aid to Prognosis in Typhoid Fever, in the BRITISH MEDICAL JOURNAL of November 18th, Dr. Simon asks for the experience of others as to the significance of polyuria. I would point out that MM. Tripier and Bouverit[1] lay great stress on the prognostic value of this symptom. They state that towards the approach of convalescence the urine greatly increases in quantity, becomes pale, of low specific gravity, and neutral or even alkaline in reaction. They claim that this "critical polyuria" is precipitated by the systematic employment of cold bathing. The experience of the Brisbane Hospital was not fully confirmatory. Though it was found that systematic cold bathing increased the quantity of urine passed and reduced its specific gravity, the marked polyuria referred to was not frequently observed except where the temperature was on the down grade and where convalescence was presumably impending.[2]

It would seem that the successive variations in the amount of urinary water passed throughout the course of typhoid fever follow a fairly definite rule. They are found to run parallel with, and therefore probably depend upon, the successive variations in the degree of peripheral resistance in the vascular system. During the invasion period of slight cutaneous vasoconstriction and rising temperature there is commonly some degree of diuresis from increased pressure in the renal glomeruli. During the middle period of general vascular relaxation, the urine is apt to be scanty and high coloured from diminished pressure in the renal glomeruli; and it is at this period that, according to Leyden, a retention of water occurs in the tissues. But, when convalescence is approaching, the tone of the peripheral arteries is largely recovered, as originally pointed out by Marey; then the renal pressure rises once more, and the flow of urine, derived largely from the fluid retained in the tissues, becomes greatly and somewhat suddenly increased. The same fluctuations in the same order seem to occur in most fevers. They are conspicuous in the malarial intermittents. Here, however, in accordance with the rapid variations in peripheral vascular resistance, the cycle is completed within hours instead of weeks. In a work just issued[3] I have attempted to show that, in pathology as in physiology, fluctuations of blood pressure, due in the main to variations in peripheral vascular resistance, exert a dominant influence on the flow of urine.

If the above view is correct, the "critical polyuria" of typhoid is an index of the recovery of physiological vascular tone, and by so much must be of good augury. Clinically, I feel sure that it is, though I cannot give statistics. But I have known perforation and relapse follow it.—I am, etc.,

London, W.C. FRANCIS HARE.

A CONCEPTION OF DISEASE.

SIR,—I read with great interest the address by Sir Frederick Treves on the above subject given in the BRITISH MEDICAL JOURNAL of November 11th, but am afraid that, as is hinted in the same issue, he will have only conveyed to the popular mind a very misleading and somewhat one-sided impression of the nature of disease. I think this arises from the somewhat loose use of that term. What the public precisely understands by disease probably includes all the symptoms of it with which they are acquainted, and these symptoms constitute the outward manifestations of the morbid processes within.

As the tendency on the part of the human mind to generalize is rather strong, one might run away with the impression, after hearing the address—or, as I first did, reading an abstract of it in a daily paper—that all these symptoms were of good intent and necessary for the restoration of the patient to health. But is this really the case? I think not. As far as I am aware, it has been the teaching of medical science for some time that certain symptoms and morbid processes connected with various disease conditions were really Nature's attempt to rectify matters in some way or get rid of the offending cause. Perhaps, however, this has not been pointed out nearly as often as might be; in fact, I think one could discover in most diseases some symptom or other which was really of this beneficent nature. A little consideration, however, discloses the fact that one would be obviously in error to suppose that all symptoms and morbid processes were of this general intent. If we mentally analyse disease we see at once that it consists essentially of two factors, each of which entails its own symptoms. These two factors may, for want of better terms, be called (1) action and (2) reaction. Now, the symptoms and morbid processes which result from what I call the "action" of a disease have no bearing upon recovery; those, however—and those only—which are the manifestations of reaction obviously are more or less intimately related to the getting rid of the offending material and the return to the normal, and are, indeed, invaluable to the physician or surgeon as natural indications in the treatment of disease. To make matters a little clearer, take for example a specific fever. Here we have the introduction into the system of a poison probably of microbic origin. That poison has an action which is in fact the action of the disease—namely, pyrexia, degeneration of protoplasm generally, and perhaps some specific action on certain cells, such as those of the nervous system, leading to paralysis or spasm. None of these conditions is in any way related to recovery. There are symptoms, however, which are truly reactionary on the part of the system, and have as their purpose the elimination of the poison or the rendering of it less noxious by dilution or otherwise. There may be, for instance, a rash and bronchitis; these are probably expressions of the elimination of the poison by skin and lungs respectively; leucocytosis is for the purpose of attacking the enemy at entrance; sweating and thirst are probably attempts at elimination and dilution respectively as well as the lowering of temperature.

One might quote many examples of diseases where some symptom or other might be looked upon as a veritable godsend—for example, the epistaxis of chronic Bright's disease; here the patient bleeds into his nose instead of into his brain, and generally feels the better for it. It might be interesting to note that the tendency to bronchitis in old age (renal bronchitis) is probably beneficent in character, especially when it resolves itself into bronchorrhoea. The latter is an attempt at elimination of excretives depending on deficient renal elimination, the lungs here acting as Nature's safety-valve.

So much for examples. I should not like to say that one is justified at present in suggesting a classification of symptoms on the foregoing lines, for the field of research is yet very wide, and some symptoms do not appear to fall under either category, but are of quite a secondary nature.—I am, etc.,

London, S.E., Nov. 28th. F. B. SKERRETT, M.B., B.Sc.

SIR,—The moral of Sir Frederick Treves's address is that the physician should study nature and there would be less need for the surgeon. His graphic description of the mimic warfare waged in inflammation by microscopic creatures is no doubt true; but the physician ought to aim at preventing microscopic warfare, as the politician is now trying to stop macroscopic war. The cause of both such wars might be removed by breasting the billows of civilization and getting back to Nature. Hippocrates looked upon medicine as a corollary to dietetics, and taught that the aim of the physician should be to find a diet suitable for the sick.

Sydenham, who deserves to rank with Hippocrates in the history of medicine, was a close observer of Nature, and in his practice aimed at assisting Nature in overcoming disease. His definition of Nature is worth quoting. He writes:

> As often as I mention Nature I mean a certain complex of natural causes which are governed by the best counsel in performing their operations and accomplishing their effects, though they are without reason and destitute of all skill, namely, the Supreme Deity, by whose power all things are produced, hath so disposed all things, by his infinite wisdom, that they betake themselves to their appointed functions, doing nothing that is vain, but that which is fittest and best for the whole fabric of things, and their own private nature, and so are moved like engines, not by their own skill, but by that of the artificer.

He thus regarded disease as Sir F. Treves does, namely, as a beneficent operation of Nature. He prescribed a purely vegetarian diet in the treatment of disease, and attributed the immunity of the poor, and their lower mortality, from even such a disease as small-pox, to their simple way of living, and he seems to have had little faith in physic; for, writing of small pox, he says:

> This disease has destroyed more of the common people since they know the use of mithridate, diascordium, and of the decoction of hartshorn, and the like, than in ages more unlearned but far wiser; for now there is scarce a house wherein there is not a pragmatical woman, who practises that art to man's destruction which she never learnt.

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[1] *La fièvre typhoïde traitée par les bains froids*, Paris, 1886.
[2] *The Cold-Bath Treatment of Typhoid Fever*. F. E. Hare, 1898, p. 81. Macmillan and Co.
[3] *The Food Factor in Disease*, 1905, vol. II, p. 172 *et seq.* Longmans, Green, and Co.

Pythagoras, wisest of the Greeks, said that a man ought to be ashamed of being ill except from accident or climatic influences, and was ahead both of Hippocrates and Sydenham in prescribing a vegetarian diet for the human race. What Sydenham found was the best diet for the sick, would prevent sickness, and if universally adopted disease, according to Pythagoras, would be ranked with immorality, and no longer regarded as a visitation of God which should be borne with resignation. It may be that Sir F. Treves's address to the laity in the modern Athens may lead us to look upon disease in the same light as did the ancient Greek philosophers, and make this century notable in the history of medicine.—I am, etc.,

Hawick. JOHN HADDON, M.D.

TEETHING AND CORNEAL ULCERS.

SIR,—I am obliged to Dr. Pritchard for bringing the weight of his knowledge and experience to help us in clearing away some of the mists which cloud this subject.

We hear so much about this and that trouble being caused by teething, for which we cannot blame the mother; she has been supported in this by so many generations of medical men that it has become an assured fact in her mind that the coming teeth must be the cause of all the ills that infantile flesh is heir to. Consider the physiological growth of teeth, the first trace is perceptible about the sixth week of intrauterine life, yet we do not hear of the ill effects until as many months have passed; the soft tissues, then the hard fang become absorbed in the absence of any pressure, until there is left only the crown to drop out. Dr James Finlayson, in Keating's *Encyclopædia of Diseases of Children*, published in 1888, deals very severely with those who fall back upon teething as a causative factor in infantile complaints.

Dr. Pritchard draws a comparison between dentition and parturition, and with apparently a good deal of reason; both are physiological processes, and I admit that to some there may be a difficulty in associating the one with so much pain, and its absence in the other. I look upon the dribbling and gnawing of the fingers in teething as a providential habit which, by stimulating the salivary and mucus glands to extra secretion, keeps the gums soft and moist, and thus helps the absorption; this is the result of itching of the gums more than actual pain, and so the pain of parturition is a providential part of childbirth, not so bad in normal cases as is usually thought, otherwise it would not be compared to a visit to the w.c. We might say the same of this latter operation, many a person would put off his call of nature were it not for the abdominal disturbance and pain, and so it is with parturition, or the pain of uterine contraction: it is a symptom of the near approach of confinement; were it not for this the woman would have no sign that the time had come to take to her bed and send for the doctor.

Dr. John Dorning is pessimistic enough to think that the time of accurate diagnosis has arrived and the troubles of dentition a thing of the past. I am sorry my experience does not agree with his. Vogel on the contrary looks upon diarrhœa as the result of teething, a beneficial process in preventing cerebral affections, yet it seems a pity that Nature should risk lives in one direction to save them in another.

Dr. L. Webster Fox, in a pamphlet recently issued on *Dentition as a Cause of Disease*, describes the fifth nerve in its relation to the teeth and eye; this is perfectly true when the teeth are decayed. We admit cause and effect there, but to say that syphilitic interstitial keratitis is the result of Hutchinson's teeth, in the same relation as simple dentition and simple corneal ulcers, is more than I can understand; undoubtedly the same cause is giving rise to both conditions.

Professor Hueppe's theory that dentition, instead of being a common vulgar cause, should be looked upon as the "liberating impulse" followed by "nerve explosion," is a very pretty one, and much more to my liking than the older phrase, if I could adapt myself to the change of terms, for that is what it really comes to. Take a rachitic child: what more likely subject for nerve explosion?—rapid evolution and development of the whole gastric tract, new tastes and desires stimulated by the sight of new foods, its mouth by tuition and habit the common receptacle, an ignorant mother filling its mouth with all and sundry, a long tract of bowels full of fermenting, decomposing material and we have here a liberating impulse. Why go farther? I am sorry my space is filled, for there is much to be said on this important matter.—I am, etc.,

Darwen. F. G. HAWORTH.

THE PROBLEM OF CANCER.

SIR,—The important paper of Dr. Bashford and Mr. Butlin's Bradshaw Lecture that appeared in the BRITISH MEDICAL JOURNAL of December 9th and 16th respectively have interested me very deeply, and, as one who has laboured in the same field for many years, I offer the following observations:

The existence under the protection of the Royal Colleges of an institution for the investigation of one of the many diseases of unknown causation has been welcomed by the profession as a step in the right direction, and the scheme for obtaining new facts by experiment and for collecting information that Dr. Bashford has outlined must be recognized as sagacious. But however wide and elastic the scheme may appear at first sight, and however necessary it may be to give prominence to the word "cancer" in order to gain the interest and support of the lay public, it is none the less to my mind so exclusive that there is a risk of its main object being defeated. Of course, it is possible that cancer as we know it is a complete specific disease, one to be investigated apart from other diseases, even from what appears to be its close congener—sarcoma. It is possible that the "cancerous" growths of different animals are examples of the same disease, but it is also possible that they are only similar processes excited in epithelial tissue by quite distinct pathological causes, and really have no more significance than have different forms of inflammation.

I still think, as I did twelve years ago, that it is not unlikely that cancer will prove to be only an occasional and late phase of some complex malady. I will illustrate this point of view by the instance of gummata. Let us suppose that the primary and secondary stages of syphilis were unknown or not associated in our minds with the later phenomena, owing to their being insignificant or indistinguishable, say, from the spots and pustules of acne; that the treatment of syphilis was unknown, and the disease was as common as measles, with the result that some member of nearly every family was known to have died of gumma; whether scirrhus or encephaloid gumma; circumscribed or diffused (say, as gumma *en cuirasse*) ulcerated, fungating or umbilicated, cystic or caseating; round-celled, spindle-celled, or giant-celled, etc., in liver, spleen, brain, muscle, skin or almost any organ; till the thought of gumma became a horror to mankind. What evidence would there be that gumma was part of an infectious disease? Pathologists and surgeons might handle it, animals be inoculated or fed with it, without reproducing gumma. Cultures would be made in vain. At last, perhaps, a tribe of apes might be found in which gumma occurred naturally, and in them it might be propagated indefinitely, just as cancer is in mice, and still no solution of the causation would be forthcoming, and, to quote Mr. Butlin's words, it would come to be believed that gumma was "the work of a parasite actually formed or developed within the body of the host"—a proposition that Mr. Butlin well describes as "astounding." Under such circumstances, would an Imperial Institute for Gumma Research, with co-ordinated provincial branches, do much to solve the problem?

In my opinion Dr. Bashford gives a wrong impression of the responsibilities of a pathologist, if I rightly understand him to mean that he should wait for the biologist or chemist and others to come to lay before him any information they may chance to think may be of use. In my opinion, the pathologist must be biologist and chemist enough for the purposes of his own work.

In time I hope to see arise out of the Imperial Cancer Fund an Imperial Pathological Institute liberal in offering access to all whose previous training fits them for the investigation of disease and giving a right of entry to fever, lock, and other hospitals, and offering facilities for expeditions to different parts of the world. Such an institution would do more to dissipate our present ignorance with regard to the most important parasitic diseases of temperate climates, from measles to cancer, than an institution which has the exclusive aim of finding the cause of any one particular disease. Such an institution would help to place pathology in its proper position as the science on which our varied activities as physicians or surgeons should be based.—I am, etc.,

London, W., Dec. 15th. J. JACKSON CLARKE.

TREATMENT OF A COMMON COLD.

SIR,—Recently considerable interest has been taken in the etiology and treatment of common colds in the head, and the infective nature of most, if not all colds is now admitted. The obvious line of treatment is, therefore, to spray the nasal

passages with an effective antiseptic, and the difficulty has been to find one which is not only efficient but is also sedative to the mucous membrane. Such an antiseptic is to be found in resorcin. I have used this antiseptic upon myself for a considerable time, and I have also prescribed it freely, and the results have been most favourable. In my own case, it has relieved a most troublesome hypertrophic rhinitis, with which I have been troubled for years, and the nasal catarrhs which used to attack me with unfailing regularity whenever I had the misfortune to approach any one afflicted with a cold have been conspicuous by their absence. Similar good results have been reported to me by patients, and the drug appears worthy of a more extended trial. The best mode of employing resorcin is as a spray. A watery solution of about 5 gr. or more to the ounce is used combined with a little alkali. Tablets for nasal irrigation are made by the leading pharmaceutical firms, which contain bicarbonate of sodium and common salt, together with menthol, or thymol and oil of winter green. One of these tablets should be crushed and added to the resorcin solution to the strength required. The solution should be sprayed up the nasal passages freely regularly as a morning and evening duty, and the spray should be used very freely whenever a cold threatens. If this is done, if ever symptoms of a cold appear, they will soon disappear.—I am, etc.,

Hemel Hempstead, Dec. 17th. A. G. WELSFORD.

A PLEA FOR THE INVESTIGATION OF CATARRH.

SIR,—May I be allowed a few lines to point out to Dr. W. Sykes, who has a letter on this subject on page 1618 of the BRITISH MEDICAL JOURNAL of December 16th, that he will find the answer to most of his questions in a short article of mine on the etiology, prevention, and treatment of a common cold, which appeared in *International Clinics*, vol. ii, thirteenth series. In this I pointed out that cold is really a rheumatism of the affected mucous membrane, and that, like rheumatism, it may be precipitated by chill or by a microbe or by both acting together, but that, like rheumatism, it does not occur in those who are free from excess of uric acid. Hence, those who have lived for any considerable time on a uric-acid-free diet generally lose all tendency to cold and bronchitis, and it was this practical experience that led me to write the paper in question. The treatment of catarrh is simply the treatment of rheumatism, and it is interesting to note that, like rheumatism in other forms, it not infrequently serves to relight a smouldering endocarditis, and it may, of course, produce also a certain amount of arthritis and myalgia.—I am, etc.,

London, W., Dec. 18th. ALEXANDER HAIG.

THE INFLUENCE OF POSTURE ON THE NORMAL CARDIAC SOUNDS AND ON THE NORMAL DULLNESS.

SIR,—The article by Dr. William Gordon upon the above subject in the BRITISH MEDICAL JOURNAL of November 18th, 1905, p. 1318, is very interesting. He calls attention to the effect of different postures upon the heart sounds and the deep cardiac dullness. The deep cardiac dullness undoubtedly tends to become lowered and to become wider in the vertical posture, and I did not know that, as Dr. Gordon says, "it had not been observed before." I for one have frequently noticed it, and in a paper read before the Canadian Medical Association at Halifax this year upon the effect of posture on heart murmurs stated that "careful percussion of the absolute cardiac dullness shows this to be more extensive in the vertical posture." The reason for this increase in the width of the cardiac dullness in the vertical posture as compared to the recumbent one is, I think, that in the latter position the heart tends to gravitate away from the anterior chest wall, and the increased space between it and the wall becoming filled in by resonant lung, the dullness becomes less. On the other hand, in the vertical posture, the pull that gravity has been exerting on the heart at right angles to the chest wall being removed, the heart approaches the sternum, and the cardiac dullness becomes increased. It is possible that, as Dr. Gordon says, the incline of the diaphragm forwards may assist the heart towards the front; but, independently of this, one would expect the heart to be nearer the front chest wall when gravity acted parallel to the wall than when this force pulled the heart away from the parietes.

Dr. Gordon calls attention to the alterations in the normal heart sounds produced by changes in posture; the first sound becoming sharper in the upright position than in the recumbent, while the second is, on the contrary, more marked in the vertical than in the horizontal position. The observation is, as far as I am aware, a new one, and yet easily confirmed by careful auscultation in the two postures. Dr. Gordon's explanation of the phenomenon seems a likely one, that is, that a valve gives out a duller note when there is a column of blood resting upon it than when this is not the case.

But, to my mind, the most marked effect of change of posture upon the heart sounds is one that Dr. Gordon fails to mention at all—probably because it is too well known—namely, that both sounds are louder in the vertical than in the recumbent posture. If the patient not only sits up, but also leans well forward, then this increase in the audibility of the heart sounds is even more marked. This effect of change in posture may not be very evident when the sounds are already well heard in the recumbent posture, but in cases in which, from thickness of the parietes or some other cause this is not the case, it is often very striking. In a thick-walled patient recently under examination the heart could *only* be heard in the vertical posture. The explanation of this is, in my opinion, that the heart is nearer the front chest wall in the vertical posture than in the horizontal.

Thus I think that if Dr. Gordon will add this further effect of posture to his list of its influences, he will make the subject even more complete.—I am, etc.,

Toronto, Dec. 4th. ROBERT D. RUDOLF.

THE ANTIMALARIAL CAMPAIGN AT ISMAILIA.

SIR,—As reflecting the local opinion on the results obtained by the antimosquito crusade at Ismailia, the following extract from a daily journal published at Port Said, *La Vérité*, November 11th, may be of interest:

[TRANSLATION.]

Already successful experiments have been made by Major Ross and the Commission of which Dr. Pressat of our town was a member at Ismailia, and have established the marvellous results obtained by this method of destruction. As to the results obtained, they have been marvellous, absolute, that is to say malaria has now practically disappeared from Ismailia.

This paper also quotes statistics compiled by the medical officers of the Suez Canal Company to show that the incidence of malaria at Ismailia fell from 2,250 in 1900 to only 2 cases not previously infected, treated in 1904.

If for "Ismailia" Colonel Hamilton had substituted "Port Said," his remarks *re* the abundance of mosquitos could have been backed up by the experience of every passenger who comes ashore here for a few hours in the evening. This town, fortunately, has not been invaded by *Anopheles*.

So numerous, however, are *Culices* and other varieties of mosquitos that many residents have been forced to attempt measures against their suppression.

As yet there has been no organized crusade against the mosquito in Port Said, although some houses have been rendered comfortably habitable by laying down crude petroleum in the places where the mosquitos breed.

It is interesting to note that Malta fever has of late become rather prevalent in Port Said and that many people here suspect that it is carried largely by some species of mosquito. It is found also that for keeping down ants, sand-flies and other insect pests there is nothing more effectual than petroleum.

The experience of the workers at Ismailia shows that for a crusade against mosquitos to be successful, it is necessary to carry on the work with persistence and perseverance and as far as possible to enlist the co-operation of the European inhabitants.—I am, etc.,

Egyptian Quarantine Service, Port Said. J. S. PURDY, M.D., C.M.Aber., D.P.H.Camb.

THE NEED FOR UNION OF SOCIETIES.

SIR,—In the BRITISH MEDICAL JOURNAL of December 16th, page 1620, Dr. Garrett Horder complains of the multiplying of medical societies, and advises their union with the British Medical Association. No doubt much might be said for this view, and it is not my purpose to dissent from Dr. Horder's principle. But even if I agree with him in the abstract I strongly object to the concrete examples he instances. In my opinion a body like the Poor-law Officers' Association, dealing with every class of Poor-law officials, of which the medical section is comparatively small, is utterly inadequate to deal properly with purely medical grievances. At the

present time a large number of Poor-law medical officers are members of the Poor-law Officers' Association, and as such are entitled to all the assistance it can afford, so that if the Poor-law Medical Officers' Association were dissolved no greater help could be claimed than is now at the service of Poor-law medical officers.

With regard to the Public Vaccinators' Association the case is somewhat different. As so many public vaccinators throughout the country are Poor-law medical officers, it seems to me a pity that the work done by that Association could not have been entrusted to the Poor-law Medical Officers' Association. But, on the other hand, it might be contended that many public vaccinators have no connexion with the Poor-law service, and that one of the objects of the Vaccination Acts is to dissociate vaccination from Poor-law relief.

While wishing every success to the British Medical Association, I still think there is a necessity for the continued existence of certain special medical societies, and that it would be a mistake to abolish organizations that have existed, it may be, for many years, and have done much useful work.—I am, etc.,

MAJOR GREENWOOD,
Honorary Secretary, Poor-law Medical Officers' Association
London, N.E., Dec. 16th. of England and Wales.

PUBLIC HEALTH MINISTRY.

SIR,—The number of eminent lawyers in the present Liberal Cabinet is noteworthy, and equally striking, perhaps, is the absence of medical members.

A tendency for the party form of government to be replaced by groups has been observed, and I beg to submit to those members of Parliament and of the British Medical Association and profession who have done so much for State Medicine in the past that the time is opportune for the formation of a group pledged to the promotion of a Health Ministry, evolved from and based on the reorganization scheme of the Local Government Board put forward by the British Medical Association.

If the subject were made an official one at the public health sections of the meetings to be held at Milan, Lisbon, Toronto, etc., valuable and cosmopolitan information would be elicited. The field that exists for an influential group of men with an expert leader consistently advocating sound health measures in a broad sense is wide, and there are not wanting signs in the condition of the people of these islands that such a group is needed. No insurance could be better than that of our heritage of bodily and mental vigour. The President of the Local Government Board is interested in the matter.—I am, etc.,

Brighton, Dec. 19th. F. G. BUSHNELL.

EXPERT MEDICAL EVIDENCE.

SIR,—I read with considerable interest your report of the discussion at the Medico-Legal Society on medical expert testimony. As consulting medical officer in London to several large companies, I had many years' experience of this class of work, in the witness-box and out of it, usually on behalf of a defendant company. Apart from the duty of medical men—and others—to be strictly impartial, my duty to my companies was obviously to give them as fair an idea as I possibly could of the nature and extent of the injuries. It would indeed have been a sorry service to mislead them into believing that an injury was trivial when it might possibly prove to be otherwise, and my official report formed, of course, the basis of the evidence given in court.

It was a routine practice for the examination to be made in the presence of the plaintiff's medical (but not his legal) adviser, and I had every reason to be pleased with the results. With very rare exceptions we had no difficulty in agreeing as to the facts of the case, and often as to the probable duration of incapacity for work. Even when our views did not concord as to the future there was no conflict of evidence in court as to the nature and scope of the injury, and a difference of opinion is quite permissible—and, indeed, inevitable—when medical witnesses are asked to guess the ultimate course, for that is all it amounts to.

As to whether a given lesion is or is not the result of a particular accident, the plaintiff's doctor merely affirms that in his opinion the appearances and the history of the case are compatible with the relationship of cause and effect, while the defendant's expert may have to point out that the circumstances are equally in favour of an independent origin. Here again the medical witnesses merely endeavour to assess the probabilities, and on a moot point where the collateral evidence is conflicting some difference of opinion is no doubt unavoidable.

In making an examination alone it is always possible to overlook something, and not having observed it himself the medical witness is sorely tempted to deny its existence.

My view is that an examination in common greatly conduces to a fair estimate of the case, and in any event it avoids the unedifying spectacle of two medical men flatly contradicting each other on a simple question of surgical fact.—I am, etc.,

ALFRED S. GUBB, M.D.
Mustapha Superieur, Algiers, Nov. 24th.

LIFE ASSURANCE WITHOUT MEDICAL EXAMINATION.

SIR,—With part of Dr. Hamilton's letter I agree—namely, where he advises "ignoring that part of the death certificate asking for duration of illness." I invariably do so, and my main reason is that whoever has insured the deceased may get the money, and I do it with *malice prepense*, with the insurance company and their ways always in my mind.

Those smaller companies depend upon the death certificate as a safeguard, and when they find a "bad" life has been insured, as they so often do, they attempt to quibble out of paying. If they are parsimonious enough to try to do business without medical examination, so as to save the small fee thereby entailed, it serves them right should they be "done."

It is notorious in densely crowded districts amongst the poorer class, that when an individual is ill the agents of smaller insurance companies at once pester not only the relatives but neighbours, to insure the invalid, and by all sorts of tales and appealing to their avarice accomplish their object. Then, if things are not right, there is trouble over the payment. The companies depend on two things for information: (1) the duration being stated on the death certificate; (2) and failing that, that they only need to ask the medical attendant, and sometimes pay him for his information. So long as the companies can do that, of course it pays them to dispense with a medical examination.

I am not in accord with Dr. Hamilton when he states that "he gives the information if paid for it." That is the very thing which ought not to be done. So long as the companies think they can get information in that way, so long will they dispense with examination.

I attended a man, most patently suffering from phthisis of a very chronic type. Diarrhœa ultimately carried him off. I wrote on the certificate, "Primary, Phthisis Pulmonalis, Secondary, Diarrhœa." No duration. The man had been insured by three or four different people. The superintendent of one company travelled forty-five miles to see me. He bowed most politely, asked me, "Would I kindly tell him how long so-and-so had been ill?" I said, "No! I will not." He elevated his eyebrows in a rather surprised way, and said, "Oh! surely doctor just the duration?" I again refused, and as a last resort he said, "If you will write out a certificate I will give you a fee of 10s. 6d." I answered, "No! I will give you no information even for a fee, if your company does business on those lines, and they must know how the agents work, then you must take the consequences." He barely said "Good morning" when he retired discomfited. I heard afterwards that the company paid up, but with a very bad grace. It is too much to expect any combination amongst medical men, but so long as the companies can get the information they want as to individual cases, so long will they dispense with medical examinations and exploit the profession just as it pleases them. Surely any reputable company could pay a humble half-crown for small cases and so protect themselves.—I am, etc.,

December 18th. INSURANCE.

THE BRITISH MEDICAL BENEVOLENT FUND.

SIR,—The numbers of the BRITISH MEDICAL JOURNAL which have lately been reaching me have contained letters and articles bearing upon the above. This morning I opened the JOURNAL dated October 28th, which records the monthly meeting of the Committee who manage the Fund.

This is positively the first time in which the British Medical Benevolent Fund has been brought to my notice. Hitherto I believe I had some dim recollection of there being such a fund, but I had no idea who the secretaries or treasurer were, nor did I know the objects of such a fund, and far less was I

aware of the financial status of such a fund or the calls upon it.

I mention this because I feel sure that there are thousands of medical men like myself who, if they only knew of the existence of the fund, would gladly contribute towards it. I feel certain that the lack of interest, and consequent lack of funds, is due to ignorance upon the part of members of our profession. Speaking for myself, I may say that I have been qualified over seven years, and yet it is only within the last few weeks I have heard of the fund. My contribution I am remitting this mail.

I should like to suggest that all men when they qualify should be officially intimated as to the existence of such a fund, and also that the BRITISH MEDICAL JOURNAL and other medical papers should have a permanent notice relating to it placed in a prominent position.—I am, etc.,

PHILIP MILLARD, M.D.

Herschel, Aliwal North, South Africa, Nov. 22nd.

THE EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS BY THE ROENTGEN RAYS.

SIR,—I have been much interested in the discussion which has taken place in your columns, since the publication of Dr. Theodore Williams's report to the Paris Congress of Tuberculosis, on the early diagnosis of tuberculosis. I have now been working at this subject for some years and I cannot agree with Dr. Williams's remarks concerning Class 3. I have not yet seen a case which could be proved to be one of pulmonary tuberculosis, in which its presence could not be demonstrated by a thorough *x*-ray examination, though I will not say that such cases may not exist. I have examined cases in which the presence of tubercle would have been overlooked had a screen examination alone been made, but the action on a photographic plate is cumulative, and details are often brought out which might have been missed had radioscopy alone been employed.

I should like to ask Dr. Williams what has been his experience with regard to those cases mentioned by Dr. Stanley Greene and in which "the Roentgen rays demonstrated the presence of disease in both lungs, when auscultation and percussion would lead the physician to say that one lung was healthy." This in my experience is a very large class.

I think I am right in saying that Dr. Greg in his lecture given recently at the Brompton Hospital, attached little or no importance to the limitation of movement of the diaphragm. Surely this is contrary to the experience of nearly all observers, both in this country and abroad?

Finally, it must be remembered that all cases presenting symptoms and physical signs of tuberculosis are not tuberculous. So great an authority on this subject as Dr. Francis Williams of Boston says in his book:

> In some cases seen by me the symptoms and signs indicated tuberculosis, but the *x* ray examination showed normal lungs. This examination led me to state that these patients were probably not suffering from this disease, and the subsequent history of the tuberculin test indicated that this interpretation of the appearances seen on the fluorescent screen was correct.

It would be extremely interesting if Dr. Theodore Williams or some other authority would show at a meeting of one of the medical societies a series of cases of pulmonary tuberculosis presenting physical signs on auscultation and percussion, and in which the *x*-ray examination was negative; it should not be difficult if Class 3 is such a large one.—I am, etc.,

London, W., Dec. 17th. G. HARRISON ORTON, M.A., M.B. Cantab., etc.

OBSTETRIC EMERGENCIES AND THE DOCTOR'S FEE.

SIR,—I have read the letters from Drs. Maidlow and Atkinson in the BRITISH MEDICAL JOURNAL of December 16th. I fear that while Dr. Maidlow's scheme is being perfected some of us may starve. Evidently Dr. Atkinson has been badly used. If it had been my case I should have obtained a promise from the messenger that he would apply to the relieving officer, or to the overseer, for an order before I started. In default of an order being produced I should have sued the patient in the county court, regardless of expense, and have employed counsel, so that the facts might have been properly stated, and thoroughly ventilated by the reporters. I should not have expected to get the money, but it would have paid well eventually. I am, etc.,

December 18th. J. G. C.

PUBLIC HEALTH AND POOR-LAW MEDICAL SERVICES.

MEDICAL ORDERS FOR URGENT CASES.

AJAX asks whether in cases of necessitous persons being in urgent want of medical attendance (for example, difficult labour), there is any law under which this may be obtained by application to a minister or magistrate of the district when such attendance is required after the relieving officer's usual hours for granting medical orders.

*** We are not aware that relieving officers have any limited hours for attention to applications in reference to urgent cases of accident or illness; we consider that they are bound to give all necessary attention at all hours. Should a relieving officer be not available or be at too great a distance, the only person who could act for him would be one of the overseers or the assistant overseer of the parish in which the patient resides. Either of them could give a legal order for medical attendance but, to enable them to do this properly, the case must be an urgent one and represented as being such.

THE COST OF VACCINATION.

THE Corwen Board of Guardians recently passed a resolution expressing the opinion that the Vaccination Acts should be thoroughly revised and the cost of the administration of the Act amended to the extent that only the children of paupers should be vaccinated or revaccinated at the expense of the ratepayers. If the Corwen Board had been satisfied with the passing of this ill-digested resolution it would have been hardly worth while taking notice of its action, but as a copy of the resolution has been sent by order of the Corwen Board to the Boards of Guardians of every union in England and Wales with a request that a similar resolution should be passed by these Boards, it is desirable to point out that one result of giving effect to the principle embodied in the resolution would be enormously to increase the work of vaccination officers, for if they find it difficult now with free vaccination to persuade some parents to have their children vaccinated it would be infinitely more difficult if a charge were imposed. When the resolution of the Corwen Board came before the Tiverton Board of Guardians a member of the latter body, in speaking against the adoption of the resolution, said that if they wanted to reduce the expense of vaccination they should reduce the fees of the public vaccinators, who were liberally paid for making a few pinpricks. The report of the Interdepartmental Committee appointed by Mr Walter Long shows clearly that the members of that Committee, one of whom was the clerk to a Board of Guardians, do not share the view that vaccination is such a simple operation as the Tiverton guardian would have his colleagues believe. With respect to the high fees alleged to be paid to public vaccinators, the same Committee came to the conclusion after hearing evidence from, among others, representatives of Boards of Guardians, that, having regard to the work which under the Vaccination Acts and regulations the public vaccinators are required to perform, their remuneration for primary vaccinations since the Act of 1898 came into operation has in many cases not been excessive, particularly in country districts.

ROYAL NAVY AND ARMY MEDICAL SERVICES.

CORONERS' INQUESTS.

SURGEON R N.—We are informed that the Admiralty have decided that naval medical officers are not entitled to any fee for giving evidence at a coroner's inquest, or for performing *post-mortem* examinations connected with men in the service. With regard to men not in the service the same ruling would probably apply. The naval medical officer would attend on subpœna and would not be put to any expense. Should any fee be tendered and accepted it would belong to the Crown.

SURGERY IN THE R.A.M.C.

SCALPEL writes: I read with great interest your leader on the medical service of the army, and Sir Frederick Treves's eulogistic address on the same subject, but I was disappointed to find no allusion made to one very weak spot in our service—namely, the want of scope and opportunities for developing the R.A.M.C. officer into an efficient and up-to-date surgeon. Sir Frederick Treves and Professor Alexander Ogston, in their evidence before the War Commission, admitted the serious drawback to our efficiency, but no remedy was suggested beyond the six months' course of walking the hospitals and looking on at operations. In my opinion the only remedy lies in giving R.A.M.C. officers the same opportunities and the same field for practice in India as the I.M.S. officer enjoys. Do away with the effete and antiquated system of a dual medical service for India, and let there be one medical service for home and abroad.

Those who now select the I.M.S. could elect for foreign service for a certain number of years. In this way army medical officers with any surgical talent would have ample scope for surgical work by getting civil surgeoncy appointments for five years or longer. At present every budding Treves would develop into no thing more than a mediocre surgeon for want of sufficient surgical material, while he sees in India assistant surgeons and even hospital assistants doing major operations such as hernias, ovariotomies, cataracts, amputations, etc., every day of the week.

A common medical service would put the Army Medical Service in India on the same footing as the Russian Medical Service. I hope Sir Frederick Treves and the present Director-General will grapple with this much-desired reform. At present the service offers no scope for the surgeon, and he is wise if he selects the sister service.

MEDICO-LEGAL AND MEDICO-ETHICAL.

INQUEST FEES AND THE MEDICAL STAFF OF COTTAGE HOSPITALS

At a meeting of Devonshire County Council on December 14th, Earl Fortescue presiding, the Finance Committee reported that they had had under their consideration the report of the auditor upon the accounts for the year ended March 31st last. With regard to the payment of fees to medical officers of cottage hospitals, there appeared to be no doubt that this was contrary to the provisions of section 22 of the Coroners Act, 1887. The Committee had been informed by the Admiralty that they considered that the giving of evidence at inquests and the making of *post-mortem* examinations upon the bodies of men in the naval service form part of the duties of naval medical officers. The Admiralty do not desire that fees should be paid in such instances in the future. The Committee recommend that the coroners be requested to abstain from paying fees to these classes of medical witnesses.

Mr. Hepburn said the Committee came to the conclusion, referring to the payment of fees to medical officers of cottage hospitals, with very great reluctance, because they recognized that numbers of the honourable profession of medicine gave their services to cottage hospitals, and the fees hitherto paid to them, which the Committee would have continued but for the interposition of the auditor, were for additional work, often of an irksome and disagreeable character, loss of time, and often the sacrifice of money in out-of pocket expenses. The law, however, prohibited these fees being paid, and the County Council had no option but to admit that the auditor was right, and to cease paying the fees.

Mr. Hurrell said that medical men did so much honorary work that perhaps they did not mind this additional claim upon their generosity to do gratuitous labour in assisting in the due administration of the law.

The Chairman said the cessation of the payment of fees to medical officers of cottage hospitals for special services to the State, without which it would be impossible for coroners to carry out their duties, inflicted a great hardship upon the medical profession. The subject might well engage the attention of the new Parliament with a view to an alteration in the law. He trusted such would be the case, for a reform was needed in the direction indicated by the Committee.

The report was adopted.

UNREGISTERED DENTISTS.

The resolution adopted by the General Medical Council on December 1st, 1898, is as follows:

> Any registered medical practitioner who knowingly and wilfully assists a person who is not registered as a dentist in performing any operation in dental surgery, either by administering anaesthetics or otherwise, will be liable, on proof of the facts, to be dealt with by the General Medical Council as having been guilty of infamous conduct in professional respect.

Legally speaking, the holder of a foreign diploma not registrable in this country is as much unqualified as though he held no diploma at all. No case directly involving an issue as to giving an anaesthetic for an unregistered dentist holding an American doctorship in dentistry has been heard by the General Medical Council; it is therefore impossible to say what view that body would take. There seems, however, to be no doubt that a prima facie charge of covering would lie; moreover, as certain colonial dental qualifications are recognized for registration and as certain American diplomas were once recognized, but the recognition was withdrawn, those not registrable might be held to be regarded as insufficient. The length of time of practice in this country would not affect the question; the Acts only provided for those in practice prior to 1878.

MEDICAL INSPECTION OF SCHOOL CHILDREN.

Dairot.—Neither an order from the School Board nor from a member of the School Board "to inspect thoroughly, even to stripping," the children attending a Scottish public school, during school hours and at the school, would protect a medical man against subsequent legal annoyance. Only the parents' consent, previously obtained, would do that. The Public Health (Scotland) Act, Section 45, however, provides that the medical officer of health may enter any premises in which he has reason to believe that infectious disease has recently existed, and may examine any person found on such premises, with a view to ascertaining whether such person is suffering or has recently suffered from any infectious disease, and in the event of inspection or examination being refused may obtain a magistrate's warrant for such inspection or examination.

THE WARNING NOTICE OF THE GENERAL MEDICAL COUNCIL.

H. S. G.—If our correspondent will read again the warning of the General Medical Council adopted on December 1st, 1905, which was printed in the British Medical Journal of December 9th, 1905, p. 1544, and also in the Supplement of the same week, p. 336, and in the advertisement pages of the Journal of December 16th, p. 20, he will, we think, agree that it is directed solely against the employing, or sanctioning the employment, of agents or canvassers for the purpose of procuring persons to become the patients of the medical man or medical men employing such agents or canvassers. It does not apply to the employment of a collector who does not canvass; there is, of course, an obligation on medical men employing agents or collectors to see that the orders not to canvass are strictly obeyed.

FALSE REPORTS

T. R. H. writes that he has unfortunately to do his best to contradict an unfounded report circulated by a certain professional man's coachman to the effect that he is leaving the place where he practises, and he wishes to know what means we can suggest to let the inhabitants know there is no truth in the rumour? He further asks whether it would be considered wrong to deny it through the local press?

*** There can be no objection to a simple statement in the local press to the following effect: "We are requested to state that there is no truth in the rumour that Dr (or Mr.) .... is about to relinquish his practice in the town."

MEDICAL ETIQUETTE.

Somerset writes: A. is in practice at X., B. and C. (partners) at Y., two miles away; there are no other practitioners in the neighbourhood. A. is sent for to attend a confinement at Y. being told that B. and C. have been sent for but refused to go, as a fee was not forthcoming; the case is not eligible for a parish order, the husband being in work, and there being only two other children. A. knows nothing of the patient previously. Should A. attend or not? The patient is stated to be in full labour.

*** A. would be perfectly justified in attending the case in the urgent circumstances in which he was summoned, but he might write a note to B. and C. to mention the fact of his attendance, and ask whether he had been correctly informed that they had declined the case.

UNIVERSITIES AND COLLEGES.

UNIVERSITY OF LONDON.

The Senate has appointed Mrs Scharlieb, M.D., M.S., to be a Governor of St. Mary's College, Paddington.

UNIVERSITY OF EDINBURGH.

University Court.

At a meeting of the Edinburgh University Court on Monday, December 18th, a letter from Sir Henry D. Littlejohn, intimating his resignation as Professor of Forensic Medicine as from December 31st, was read. The Court accepted his resignation with regret, and resolved to record in their minutes their high appreciation of Sir Henry's services to the University. Sir Henry was appointed to the chair on the resignation of the late Sir Douglas Maclagan in March, 1897.

At the same meeting of the Court leave of absence, on the recommendation of the Senatus, was granted to Professor Chiene, on account of the state of his health, up to the Christmas vacation. The arrangements intimated as having been made for conducting his systematic and clinical courses of instruction were approved.

UNIVERSITY OF DUBLIN.

The following licences and degrees were conferred on December 19th:

M.D.—J. Chambré, M. du B. Ferguson, G. Hassard, J. A. Haran, G. B. M'Caul, T. C. A. Sweetnam, H. H. White.

M.B.—H. K. R. Fowler.

M.B., Ch.B., B.A.O.—J. G. Burns, J. Chambré, D. M. Corbett, H. English M. du B. Ferguson, G. R. Galwey, C. Kelly, C. H. M'Comas, G. C. MacFetridge, G. E. Nesbitt, T. T. H. Robinson, G. I. Thompson, H. H. White.

Licence in Medicine, Surgery and Obstetrics.—E. D. Atwell, J. M. Harold, B. Johnson.

UNIVERSITY OF WALES.

A petition has been presented to the Privy Council praying for the grant of a supplemental charter by which the University of Wales shall be empowered to declare any public educational institution in Wales duly equipped to be a college affiliated to the University; to admit members of its guild of graduates to degrees in recognition of original research carried out by them; and to establish a Faculty or Faculties of Medicine and Surgery. The petition having been referred by His Majesty to a Committee of the Lords of the Council will be considered by their Lordships on January 19th.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

An ordinary Council was held on December 14th, Mr. John Tweedy, President, in the chair.

The late Mr. John Croft

The Council passed a resolution appreciating the services rendered by Mr. Croft to the College in the conscientious discharge of the several duties which devolved upon him as a member of the Council and of the Court of Examiners.

Leeds Public Dispensary.

The Council recognized the dental practice of the above institution as fulfilling the requirements of Clause 7, Section 1 of the Regulations for the Licence in Dental Surgery.

Fellowship Regulations.

The Council adopted a report of a special Committee on the Regulations for the Fellowship. The main object of certain changes adopted is to make the conditions of admission to the First Examination fair for all classes of candidates. Under the present conditions two candidates may have pursued the same course of study, and yet one may be admissible and the other not. Thus a candidate who has studied chemistry, physics, and biology at a medical school for six months and has dissected at a medical school for eighteen months is admissible to the examination; but a candidate who has studied chemistry, physics, and biology elsewhere than at a medical school for six months and has dissected at a medical school for eighteen months is not admissible to the examination, although the study of chemistry, physics, and biology at non-medical schools is recognized and approved by the College. It is to remove this inequality of treatment that the proposed alteration of the Regulations is designed.

Appointments.

Mr. G. H. Makins was re-elected a member of the Court of Examiners. Mr. William Bruce Clarke was elected in the vacancy occasioned by the retirement of Mr. W. H. A. Jacobson.

The President was appointed a member of the Court of the University of Liverpool for the period from January 1st, 1906, to December 31st, 1908.

Mr. H. T. Butlin was appointed a member of the Court of Governors of the University of Birmingham for the period from January 1st, 1906, to December 31st, 1908.

At the same meeting diplomas of Fellowship were issued to the following candidates, who have passed the requisite examinations:

C. B. Howse, A. L. Home, E. W. H. Groves, F. A. Hadley, J. F. Cunningham, P. R. Wrigley, H. Walker, E. Bayley, S. A. Boyd, M. A. M. Fitzmaurice Kelly, G. S. Hughes, H. Balme, J. Burfield, E. L. Holland, C. D. Pye-Smith, P. E. H. Adams, L. S. Talbot, C. C. Choyce, R. E. Kelly, N. Pattorson, J. Stephenson, G. Wright, H. W. Wilson.

The licence in Dental Surgery was granted to forty-two successful candidates for this diploma.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

At a meeting of the College held on December 15th, the following were admitted Fellows: R. G. W. Adams, J. J. Bell, N. D. Buchanan, T. M. Callendar, K. N. Karanjia, W. Mackenzie, O. St. J. Moses, J. D. Munsiff, W. E. O'Hara, W. G. Porter, W. A. R. Sharp, H. Stedman, H. Y. C. Taylor, and A. Wilson.

HOSPITAL AND DISPENSARY MANAGEMENT.

ROYAL ALBERT ASYLUM, LANCASTER.

THE forty-first annual report of this "Training Institution for the Feeble-minded of the Northern Counties" was presented at the general annual meeting of subscribers held recently at Leeds under the presidency of the Lord Mayor. It consists of a series of reports, respectively from the Central Committee, the Principal, the Resident Medical Officer, and the Auditor, together with a very satisfactory set of accounts, showing in every case a balance on the right side. The annual income on the maintenance account is about £25,000, whilst the interest on the Sustentation Fund is nearly £5,600. Payments for patients amount to £12,328 5s. 7d., annual subscriptions to £4,134 9s. 2d., and there are besides donations and legacies to the extent of about £800. The average weekly cost of maintenance is given at 13s. 7¼d. per head, if all charges be included, or 12s. 9½d. per head if the cost of building, sundries, workshops, repairs and furniture be omitted. The average number of patients resident in the asylum during the year is stated as 619. The number admitted was 76, the number discharged 65, and 10 died during the twelve months from June 30th, 1904, covered by the report; the death-rate was extremely low, only 1.42 per cent. on the average number resident.

The Resident Medical Officer, Dr. Archibald R. Douglas, reported an absence of serious infectious disease, and beneficial results from open-air treatment and improved ventilating arrangements by means of electrically-driven fans in the schoolrooms and dormitories. An early-detected case of phthisis underwent open-air treatment, châlets having been provided in connexion with the infirmary by two medical members of the Central Committee, with very satisfactory results, and minor cases of the tuberculous diathesis had been greatly improved. No less than 74 patients had suffered from epilepsy, and 2,994 fits had been recorded during the year, though recognized epileptics are not admissible to the institution. The value of outdoor work in such cases is very properly insisted on, and objection taken to patients so severely affected as to be unfitted for training being received or retained. Outdoor exercise, Swedish drill, and recreations form the subjects of other paragraphs in the medical officer's report.

The general administration and arrangements for education and industrial training were dealt with in the report of Mr. James Diggens as Principal. The history of 367 patients discharged during the last twelve years, collected by him, shows that 33 are earning wages or the equivalent; 123 are living at home, 42 reported to be very useful, 32 useful, and 49 not useful; while 148 are in workhouses, lunatic asylums, etc., and 62 have died. These statistics, it is urged "show that no legislation on behalf of the feeble-minded can be complete unless permanent care be provided for. It will not be absolutely necessary for all cases, because where they lead orderly, industrious lives, and are able to maintain themselves, their segregation from the community does not appear to be justifiable." Experience at the Royal Albert Asylum does not point to the duties of matrimony being frequently undertaken by those who have been discharged; indeed, their marriage is a rare exception, and so far as is known the propagation of their kind is, contrary to what is so often thought, almost a negligible factor in the after-history of trained cases. Mr. Diggens's views, derived from experience of the feeble-minded classes—the mentally deficient in the broad sense of the term—leads him to urge the adoption of comprehensive measures for their education, training, and permanent care. He considers that for the merely mentally defective children the Act of 1899, made compulsory, should provide special classes, special schools, and residential schools for children under 16 years of age. For those above 16 he would suggest legislation, to enable county councils, or county borough councils, either acting [illegible] to establish colonies containing hospital wards, workshops, farms, and [illegible]. The [illegible] could be [illegible], and should be kept separate from the low-grade imbeciles. To those colonies should be sent such of the feeble-minded whose friends cannot take care of them and be responsible for their conduct; and the local authorities should have power to detain them indefinitely. In all cases the friends, if they can afford it, should be required to contribute towards maintenance. Mr. Diggens advocates plain, inexpensive (though comfortable) buildings accommodating at least 100 or 200 each. He does not think it would be right to segregate those who are under proper guardianship, or are able to lead quiet, respectable, useful lives, and are no charge to the community. The present voluntary institutions, he says, will still be most useful for training purposes.

The Central Committee record their high appreciation of the unstinted life-service of Mr. Diggens, who, while retiring from the duties of secretary (owing to ill health), retains the office of Principal.

The report contains a large number of excellent illustrations of the life and occupations of the asylum and of its various buildings, the most recent of which is a commodious block of workshops erected by the munificence of Mr. Herbert Storey.

THE EXETER DISPENSARY.

WE are informed that, in view of the resolution of confidence adopted at the meeting of Governors last week, the medical staff of the Exeter Dispensary have withdrawn their resignation.

AN INFIRMARY AND EYE HOSPITAL.

FOR the relations between a hospital and its medical staff to be of a very cordial character is fortunately by no means rare, but even when this is the case the legitimate energies of its members are sometimes rather jealously restrained within the purely professional areas of the institution's work. The position therefore which the staff at the North Staffordshire Infirmary and Eye Hospital, more commonly dubbed the N. S. Infirmary, has come to occupy is somewhat notable. There we find the medical and surgical staff of the hospital not only accorded a free hand in the conduct of the technical work of the institution, but playing an active part in its business administration. The new president of its governing board, indeed, is Mr. W. H. Folker, one of its consulting surgeons, and his election was proposed by another of its consulting surgeons, Mr. W. D. Spanton. Mr. Folker seems to have been connected with the institution for a very long period, over 50 years. He first joined it as house surgeon, served in turn as assistant and full surgeon, and some time ago made room for a younger man by joining the consulting staff, and now, with half a century's experience of the institution's affairs behind him, is to assume their chief control. The eye work of this infirmary, which contains 200 beds, is considerable, the average weekly attendance being 120. The ophthalmic department was started by Mr. Folker himself some fifteen years ago. Another pleasant feature of this annual meeting was a vote of thanks to the medical officers, in proposing which the mover drew attention to a point which elsewhere is not infrequently forgotten, namely, that without the friendly assistance of medical men, most medical charitable institutions would perforce cease to exist.

EDINBURGH HOSPITAL FOR WOMEN.

THE annual meeting in connexion with the Edinburgh Hospital and Dispensary for Women and Children was held on December 11th. The hospital and dispensary were instituted for the purpose of affording to suffering women as desired medical and surgical attendance by women doctors. The report stated that during the year 151 patients had been admitted, a larger proportion than formerly of these being for surgical treatment. At the dispensary 2,457 patients were treated, a number falling slightly below last year's total. The number of individual visits paid to the dispensary was 4,373. Mr. C. J. Guthrie, K.C., in moving the adoption of the report, said there were some people who would not entertain the notion of women as doctors undertaking general medical practice. They had seen, however, a good many astonishing things in regard to the question of women's education; but he did not think that Dr. Jex-Blake, even in her wildest dreams, ever supposed that a lady would be called upon to attend the Ameer of Afghanistan and his son. He did not suppose there was any reasonable and intelligent person who did not now believe in women doctors, and did not approve of an hospital such as they had.

INDIA AND THE COLONIES.

QUEENSLAND.

HOSPITALS FOR THE INSANE.

WE have received the annual report for 1904 of Dr. J. B. Hogg, the Inspector of Asylums for Queensland. The State institutions for the insane in this colony comprise those of Goodna, Ipswich, and Toowoomba, and four reception houses at Brisbane, Maryborough, Rockhampton, and Townsville. On December 31st, 1904, the two last-named reception houses contained only 4 patients, excluding which the patients were distributed as follows: Goodna, 1,031; Ipswich, 140; and Toowoomba, 707; giving a total number of patients housed in the State asylums of 1,882. This number is considerably greater than that of any of the preceding years, but that the increase is due to accumulations and not to a greater occur-

rence of insanity is evident from the statistics as to the admission-rate given by Dr. Hogg, referred to below. The proportion of the insane to the estimated population of Queensland (521,655) was 3.60 per 1,000, as compared with 3,509 per 1,000 for England and Wales on the same date. The ratios of insanity to 1 000 population in the other Australian States were: New South Wales, 3.46; Victoria, 3.84; South Australia, 2.59; West Australia, 1.96; and New Zealand, 3.53. Queensland thus shows the second highest ratio of insanity to population.

Admissions.

Turning, however, to the actual occurrence of insanity as evidenced by the admission-rate, a table furnished by Dr. Hogg shows that Queensland, during 1904, had the lowest admission-rate per 10 000 population in these States, the actual figures being: New South Wales 7.44, New Zealand 7.0, South Australia 6.83, Victoria 6.08, West Australia 5.85, and Queensland 5.54. Further, within Queensland the proportion of admissions to population has been falling steadily since 1899, when the ratio was 7.10 per 10 000. The number of admissions in 1904 in Queensland was 289, which is a decrease of 48 on the previous year and is the lowest number recorded since 1897. Of these 43 had been under care before, the average time which had elapsed since their discharge being four and a half years. Only 11 had relapsed within a year of discharge. About 53 per cent. of the admissions were natives of Great Britain and Ireland, and 33 per cent. were Australians. The remaining 14 per cent. were natives of other European States with a small number of Asiatics and South Sea Islanders. The admissions were classified as to the forms of mental disorder into: Mania 141, melancholia 49, dementia 72, general paralysis 4, epileptic insanity 14, and imbecility and idiocy 9. Dr. Hogg furnishes the usual tables showing the probable causes of insanity amongst the admissions, from which we extract the following: Alcoholic intemperance was assigned in only 27 or 9.3 per cent., hereditary influences were ascertained in 40 or 13.8 per cent., and congenital defect was found in 7 more; previous attacks had occurred in 29, and venereal disease was assigned as cause in 15. Epilepsy (13), diseases of the brain and its coverings (9), and locomotor ataxy (1) were given as cause in 23, and other bodily diseases in 18. Phthisis appears as cause in only 1 case, and the number of cases in which the malady was attributed to "moral" causes (11) is unusually low. Privation and overwork is only given in 1 case, and old age in 13 or 4.4 per cent.

The Reception Houses.

Many of the admissions had been previously under a period of provisional observation and treatment as the reception houses, which act as *dépôts* into which patients are gathered from wide districts until it is found whether they can be successfully treated there or must be sent to the main asylum at Goodna. The total number contained in the reception houses on January 1st, 1904, was 7, and on December 31st there remained 4, but the total number admitted during the year was 198. Of these, 91 were admitted to Brisbane, 13 to Maryborough, 44 to Rockhampton, and 50 to Townsville. On admission, 105 were cases of mania, 12 of melancholia, 53 of dementia, 4 of puerperal mania, 15 of delirium tremens, 3 of imbecility, and 6 of epilepsy and epileptic mania. Of the total number 157 were sent to the asylum, 40 were discharged, and 1 died. It is noteworthy that the whole number of the cases of delirium tremens 19 of the cases of mania and 2 of the puerperal maniacs recovered without it being necessary to send them to the asylum. Unfortunately the Inspector's report does not state whether any, and, if so, how many, of the patients—for example, cases of delirium tremens—had to be readmitted during the year; but, assuming that there were no readmissions, the reception houses appear to be worked in a very inexpensive manner, the total cost for the year (excluding the collection for the patients' maintenance) amounting to £2,219 18s. 7d., or slightly over £10 a patient.

Discharges.

Not including the 40 discharges above mentioned from the reception houses, there were during the year 125 discharged as recovered, giving a recovery-rate on admissions of 41.56 per cent. and 33 as relieved. Seeing that the hospitals receive all forms of insanity, and that many recoverable cases are sifted out at the reception houses, this recovery-rate must, as Dr. Hogg says, be considered highly satisfactory; 1 patient also was discharged as not improved, and there were 3 escapes. At the beginning of the year 26 patients were absent on trial, and during the year leave of absence was granted to 103 others. Of the whole number, 58 were discharged, 34 returned to the hospitals, 1 died whilst on leave, and 36 remained with their friends at the close of the year. This probative system is regarded with great favour by Dr. Hogg, as, first, it permits the friends to have the patients during quiet intervals; and, secondly, it tests the fitness of others for their return to society. The latter of these conclusions is incontestable. Whether or not, however, it is advisable to encourage the return of the subjects of recurrent insanities to their homes during lucid intervals is a point on which the minds of many asylum superintendents have been much exercised, and, considering the probably hereditary nature of many insanities, is open to grave doubt. One of the great advantages of an efficient family-care system is that it resolves immediately this difficulty of the formation of half-way houses between the asylum and home, and, whilst granting to recurrent or convalescent patients comparative freedom and domestic environment necessarily lacking in any asylum, it at the same time ensures adequate inspection and control. Possibly other members of the Australian Commonwealth may be influenced in this direction by the suggestions of the recent Royal Commission on the Hospitals of Tasmania.

Deaths.

There were 94 deaths during the year, 39 less than the previous year, giving a death-rate on the average numbers resident of only 5 per cent. Of these deaths 4 were due to accident, all officially investigated. The remaining 90 deaths were due in 18 cases to cerebro spinal diseases; 26 to chest diseases, exclusive of phthisis pulmonalis; 16 to abdominal diseases and the remainder to local and constitutional diseases, with also 3 to septicaemia from bedsores, 1 to enteritis and 1 to influenza. Tuberculous diseases of the lungs and bowels accounted for 22 deaths, or over 23 per cent. of the total deaths, and of these Dr. Hogg says, only 5 showed signs of tuberculous infection on admission.

Cost.

The cost per patient for the year 1904 after deducting collections, was, for Goodna, £20 11s. 3½d.; for Ipswich, £20 14s. 9d.; and for Toowoomba, £20 15s. 9d.

General Health, Etc.

The Inspector's report contains no information as to the general health, but, judging from the extremely low death-rate, a death-rate which has only been equalled on two occasions since 1883, this may be assumed to have been good. The question of accommodation does not appear to press so sorely on the administration as in many other countries, but we note that extensions are in process of erection.

INDIA.

Veterinary Science in India.

The Indian Government has published the Annual Report for 1904-5 of Dr. Lingard, Imperial Bacteriologist to the Civil Veterinary Department. During the year large amounts of protective serums against rinderpest and anthrax have been issued from Dr. Lingard's laboratory, with results which appear to be remarkably good.

The number of doses of antirinderpest serum which were prepared amounted to 151,855, as compared with 122,061 doses issued in the previous year. The serum was employed in dealing with 590 outbreaks; 56,483 cattle were inoculated; and the number of cattle which died of the disease after inoculation was 263, giving a death-rate of 0.43 per cent. In addition to the ordinary liquid serum, a few thousand doses of serum in powder were prepared and issued to Bengal and Burmah for trial in the field. This preparation, however, does not appear to have been found very satisfactory, partly owing to the fact that no antiseptic can be added to it, and that it is necessary to use the material within twenty-four hours after it has been made into solution. The liquid serum is therefore recommended for general use, notwithstanding its greater bulk and the consequently greater trouble in carriage.

There has also been a large increase in the output of protective serum against anthrax, 27,471 doses having been prepared, as compared with 8 003 in the previous year. This serum was employed in 187 outbreaks of the disease; 10,000 cattle were inoculated; and not a single animal died after inoculation.

The susceptibility of camels to rinderpest has been experimentally investigated. Some years ago it was shown that

the disease was inoculable to camels in Russia; the interesting feature in the experiments conducted upon Indian camels in Dr. Lingard's laboratory is that the inoculated disease does not as a rule produce very serious results in this animal.

In the endeavour to confer immunity against haemorrhagic septicaemia—a disease which causes very heavy annual losses—Dr. Lingard has prepared a serum from hyper-immunized bovines and buffaloes, which in laboratory tests appears satisfactory, though the length of time during which the conferred immunity lasts has not yet been completely determined.

Vigorous endeavours have also been made to secure an efficient prophylactic or curative agent against surra, but so far the results have been disappointing.

We note with pleasure that both the Inspector-General to the Civil Veterinary Department and the Under-Secretary to the Government of India refer in highly eulogistic terms to the valuable work which is being carried on in Dr. Lingard's laboratory.

NEW ZEALAND.

MENTAL HOSPITALS.

ON December 31st, 1904, the number of insane persons on the registers of the department was 3 038 (males 1,801, females 1,237), being an increase of 79 on the returns of the previous year. These patients were distributed among the eight mental hospitals of New Zealand, and were mainly natives of England (853), Scotland (384), Ireland (643), and New Zealand (808); European States other than Great Britain accounted for 129, and the small remainder were Maories, Chinese, or natives of other countries.

Increase in Number of Certified Insane.

Not only have the numbers of the certified insane steadily increased up to the present figure, but from statistics supplied by Dr. MacGregor, the Inspector-General of Mental Hospitals in New Zealand, the ratio of certified insanity to the general population shows a progressive increase, exclusive of Maories, from 1 in 296 in 1899 to 1 in 285, or, inclusive of Maories, from 1 in 311 to 1 in 296. These, Dr. MacGregor says, are somewhat disquieting figures, but he proves by a series of interesting tables that they do not demonstrate any actual increase in the occurrence of insanity. Thus, whilst the proportion of insane to population has grown from 2.12 per 1,000 in 1878 to 3 51 per 1,000 in 1904, the proportion of discharges and deaths on patients treated has sunk during the same time from 23 33 to 14 16, and the proportion of admissions to population from 0 83 to 0.68 per 1,000; and, further, the proportion of persons over 50 years of age in the asylums has increased from 17 03 to as much as 42.13, and the percentage of admissions of over 50 years of age, calculated on the total admissions, from 13.26 to 26 20—that is, that the apparently alarming increase on the total numbers is due to a diminished elimination and not to an increased production. Notwithstanding these reassuring figures, Dr. MacGregor fully recognizes the seriousness of the present ratio of insanity; he says:

> The intelligent consideration of this problem does not begin with—nay, it ends with—the establishment of mental hospitals, which are, in truth, the monuments of failure. It should begin with prophylaxis, and prophylaxis should begin before birth. It would be too great an interference with the liberty of the subject to forbid the marriage of unsuitable persons; and to preach the doctrine of heredity and stress is to speak to the deaf; but with a State insurance system (suggestive of that which obtains in Germany, though wider in scope) one may, on the principle that the issue of such unions may become chargeable to the State, fix a proportionately higher premium and thus enlighten the contracting parties by the most forceful of arguments.

Admissions.

The number admitted during the year was 580, which number is less by 111 than the admissions of the preceding year. These figures, however, include transfers from one hospital to another, of which there were 110 in 1903 and only 12 in 1904. The actual admissions were thus only less by 3 than in 1903. Of the total 580 admissions for 1904 105 were readmissions as against 202 for 1903 and 475 were admitted for the first time. Of these 292 belonged to the first class (first attack within three months of admission), 61 to the second class (first attacks above three and within twelve months of admission), 130 were "not first" attacks within twelve months of admission and the remaining 98 were of more than twelve months, or of unknown, duration. A considerable proportion of the admissions were thus at large whilst insane, only about one half of the admissions being received within three months from the onset of the attack.

We are unable to give any information as to the forms of mental disorders among the admissions, as neither the Inspector-General nor the various medical superintendents in their reports treat of this matter.

Considerable attention, however, is given to the probable causation of the insanities among the admissions, though, as more than one of the medical officers point out, their results are vitiated by the fact that, in any one case, only one cause must be assigned, whereas in nearly all cases the insanity is probably due to several causes in conjunction. Thus, for example, the tables of Auckland Hospital show under this heading hereditary predisposition in 11 cases, whereas, Dr. Barraclough, the Acting Medical Superintendent, says, there were in reality 39 such cases, and the same flaw is pointed out by Dr. Truby King of the Seacliff Hospital. From the long list of etiological factors we may, however, extract the following: Alcohol was noted as cause in 66 or 11.3 per cent. of the admissions, congenital and hereditary causes in 106 or 18 2 per cent., previous attacks in 48, syphilis in 12 and various forms of mental and emotional stress in 97.

Discharges.

During the year 263 were discharged as recovered, giving a recovery-rate on admissions of 45 34 per cent. There were also discharged as relieved 37 and as not improved 11.

After-Care Association.

The difficult question as to the suitability for discharge of a patient is discussed by Dr. MacGregor. In New Zealand, as in England, there is no half-way house between the asylum and the patient's home, to which patients who have apparently recovered may be discharged on probation, whilst remaining under modified official surveillance, or in which many who have not yet recovered, but might be discharged with advantage to themselves and with no disadvantage to the public—friendless, harmless, chronic cases—might be cared for. Such a system obtains in Scotland and many other countries, but Dr. MacGregor says that the class of people amongst whom patients might be boarded out does not exist in sufficient numbers in New Zealand to admit the establishment of such a system. To compensate to some extent for this want he urges the formation of an after-care association for hospital patients, with branches in each centre. One such society exists at Dunedin—the "Patients' (Hospital and Lunatic Asylum) and Prisoners' Aid Society"—but the conjunction implied in the title is unfortunate.

Extension of Accommodation.

Since our report on the New Zealand Mental Hospitals last year, the Seacliff Hospital has received an auxiliary estate on which three houses are available for patients. To one of these, male epileptic patients, unfit for discharge but sensitive to the influence of environment, have been removed, and the other two are reception houses for male cases who have been admitted for the first time, unsuitable cases being received at, or at once transferred to, the main hospital.

Morbidity and Mortality.

There were 190 deaths during 1904, giving the low death-rate on the average numbers resident of 6 38 per cent. We note that since 1876 the death-rate has only risen above 7 per cent. on three occasions, and has been as low as 4 82 per cent. The deaths were due in 64 cases to cerebro-spinal diseases, including 25 from general paralysis; in 66 cases to thoracic diseases, including 21 cases of phthisis pulmonalis and 11 cases of pneumonia; in 12 cases to abdominal diseases; and the remainder to general diseases, including 1 death from enteric fever, 2 cases of tuberculosis, and 2 from accident. With the exception of epidemic influenza and an outbreak of enteric fever at Porirua Hospital and at Avondale, the general health appears to have been good throughout the year. Shelters for the treatment of phthisical patients have been erected at Avondale; a home for the feeble minded at Richmond, near Nelson, has been acquired, and new reception-houses at Avondale, Porirua, and Sunnyside are contemplated.

Staff.

There have been some changes on the staff, Dr. Levinge, after many years' service, having retired from the Medical Superintendentship of Sunnyside Asylum, Christchurch, being succeeded by Dr. Gow from Mount View, to which latter hospital Dr. Crosby has been appointed.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

JUNIOR will feel obliged for hints as to best treatment for relief of cramps in the legs during progress of labour.

PUZZLED would be glad of the diagnosis and treatment of the following case: A woman, past the menopause, has suffered for about four months from severe pains in the right upper limb. There is a history of a strain some months ago, and possibly some chill. The pain is at times very severe, at others of a gnawing, aching character, and is most constant in the upper arm and the lower half of the forearm, at times also at the angle of the scapula. The pain is not fixed to any one nerve or group of nerves. All movements are free, and the pain is not increased nor diminished on movement. Occasionally patches of bright redness, often counterfeiting discoloured bruises, over the painful areas, and dryness of the finger tips occur for a day or two. The general health is good, and the heart, lungs, and kidney functions normal. Various anodynes and stimulating applications have been tried. Sodae salicylate, aspirin, quinine, and alterative tonics, massage, have not produced any amelioration. There is no muscular wasting.

APPENDICITIS AND ENAMELLED SAUCEPANS.

F.R.C.P.Ed. writes: May I ask if any of my professional brethren have had cases of appendicitis caused by the use of enamelled saucepans, etc., in their household, the enamel in such cases having got chipped off and got mixed with the foods?

THE RELATION OF CATARRH TO ASTHMA.

D. E. A. writes: I am a great sufferer, unfortunately, from asthma, and have noticed during the last few years that whenever a bad attack is coming on it is preceded by nasal catarrh. I have tried everything I can think of to check this catarrh, including antiseptic nasal sprays, but without avail. I feel firmly convinced that if I could check the catarrh at its onset I should have no asthma, at all events during the winter. I have used the nebuline compound No. 21 (Oppenheimer) mentioned in the BRITISH MEDICAL JOURNAL recently, but with no result. I am most careful with my diet and am an abstainer from alcohol. I have worked very hard during the last few years and have been successful in building up a good practice, which I am most anxious to keep, but am afraid that I shall lose some considerable part of it unless I am able to ward off these attacks of asthma. Can any of your readers give me help?

ANSWERS.

SURGEON.—(1) Removal of the prepuce merely because it is long would hardly be likely to cure masturbation. But if the prepuce causes irritation, by phimosis or in any other way, circumcision might be beneficial. (2) A little plain speaking by "Surgeon" himself would probably do more good than any book.

PARALYSIS AGITANS.

IN reply to the query in the BRITISH MEDICAL JOURNAL of December 9th, 1905, p. 1564, Dr A. Rose (Horwich) writes: If "R. S. W." will look up his JOURNAL of December 10th, 1904, he will there find a note of mine dealing with the treatment of paralysis agitans by the administration of hyoscine hydrobromate in gradually-increasing doses. The best prescription is that of Dr. Williamson, in which ½ gr. of hyoscine hydrobromate is dissolved in 6 oz. of chloroform water. At first two teaspoonfuls of this are given in the morning just after breakfast and at bedtime, and the dose may be gradually increased to six teaspoonfuls (⅓ gr.), but I never had to give more than $\frac{1}{150}$ gr. at one time. The tremors are quieted after the first dose, and after a few days they are hardly noticeable.

LETTERS, NOTES, Etc.

MOTOR CARS FOR PROFESSIONAL USE.

F.R.C.S. writes: You have opened your columns to a most interesting and useful correspondence, namely, motors for medical men. I bought a 6-horse power Little Wolseley six months ago, and I have done an immense amount of work with it, with a small expenditure. I am now going to purchase a larger car of about 10-horse power, and I shall be obliged if some of your correspondents will tell me their experience of the best makers of both large and small cars. I know many medical men who are anxious to engage in motoring, but who put off the day for purchasing a machine because they are puzzled as to the best type of small car. Your correspondent "Novice" seems to have fallen on very evil times. My experience with my Little Wolseley is that I have been able to do work with it I could not have attempted otherwise. It is very strongly built and easy to understand, and with a hood and a glass front makes an admirable winter or summer motor car for a doctor. If the same car could be made with an 8-horse power engine and a take on and off tonneau at nearly the same price, it would add greatly to its usefulness.

A MEDICAL MOTORIST OF FOUR YEARS' STANDING would also like to say to "Jacobus" that there is no better car for a doctor than a genuine 6-horse power De Dion with leather hood, glass shield, and side doors. It is suited for all kinds of weather, and is most reliable in every way. No chain to get out of order, as seemed to be the case with poor Mr Novice. My car can do thirty miles on 1 gallon of petrol, and it never gets out of order; of course it must be looked to by way of tightening nuts, oiling, etc., each morning before going on one's rounds. It costs now £225, inclusive of above extras, and it is well worth the money.

OWNER OF PETROL CAR writes: Medical men living in or near a town will always find it more economical to garage or keep motor in order than if far in the wilds, unless a competent driver mechanic is kept. But the whole economy of a motor car is to avoid a paid driver. Therefore a country doctor should only go in for a motor after first satisfying himself whether a steam (of the most modern pattern) or a petrol car will suit his purpose best. Again, a country doctor should not keep a motor car unless he has a very fair knowledge of such physics, chemistry, and electricity as is required for the preliminary scientific examination of the London University or its equivalent.

He also should thoroughly read up the small guides to a motor car, such as the *A. B. C. of Motoring*, Macredy's two books on motor cars, and the motor dictionary, and the O'Gorman's motor handbook, none exceeding 5s. in price; several months' study before buying a car would be invaluable, and make him quite independent of any driver mechanic. If the capital to be spent is easily at command, then it pays to invest it in a car for carrying on the practice.

All small cars must be strongly built, or they will be sure to fail. It is most important to realize that no small car can carry more than two people except on absolutely flat and smooth roads. Even medium-sized cars quickly break down from the heavy coachwork and too-great seating-room provided. Therefore a doctor's small car is only to be used for medical practice, and not for carrying the family or all his friends for long and hilly journeys.

Never buy direct from the companies, as you have to pay the highest list price, and get little consideration, but buy through a good agent, and make him responsible for defects in the car (which may be numerous). For comfort use heavy pneumatic tyres. For economy buy a car strong enough to use solid tyres, and drive slowly with them. The more easily one can afford a motor-car the more economical it becomes, and a rich man saves hundreds by keeping several motor cars instead of a large number of horses.

DR. HENRY W. SPAIGHT (Waltham Cross) writes in answer to "Jacobus": I have used a four-seated Speedwell car, with 6-horse power De Dion engine, single cylinder, to work a large country practice with great satisfaction. The roads were very bad but I could always average twenty miles per hour, and the only troubles were punctures. It is a quick starter, fairly silent, and easy to manage. My groom learnt to drive in a few hours, and we did all our own repairs. I believe these cars to be about the most suitable for a country practitioner—certainly for a beginner at motoring.

DR. J. INGLIS PARSONS (London, W.) writes: It may interest "Perplexed" to know that I have a 6-horse power Speedwell, two-seated. I only use it for pleasure, but I have no chauffeur; my gardener cleans the body and I look after the engine. Altogether I have done 1,000 miles on it and always got home safely. I drove it down to Ramsgate and stayed at the Granville, and drove it over to Sandwich every day for a week and then back to London. The following week I went down to Gloucestershire, over the Cotswold Hills (1,000 ft.). I never had a car before this, and only had four lessons in driving. Understanding electricity helped me, as most stoppages are due to faulty ignition. My tyres are Clincher, extra strong. No puncture has occurred, and I may say there is not a cut on them. In fear of puncture I carried a Stepney patent wheel, which I would advise all doctors to carry, as it can be put on in a few minutes, but so far I have had no use for it.

JACOBUS takes this opportunity of expressing his hearty thanks for the many, most useful, letters of advice and caution in reference to the purchase of a motor car.

CAUTIOUS writes: I should be glad to know the experiences of any member who has tried and tested the Rover Company's 100-guinea car, which is specially recommended for medical men by the company. The price seems suspiciously low, and yet the company has, I believe, a good name; but before I decide I should be glad to hear the experiences of other doctors, for it is one thing to keep a car for sport, and quite another to have a practice depending on the running powers of your car.

THE PRINCIPLES OF TREATMENT OF TYPHOID FEVER.

DR. THOMAS MCCARTHY (Sherborne) writes: The *confrère* referred to in Dr. Ewart's paper on Treatment of Typhoid Fever (BRITISH MEDICAL JOURNAL, December 9th, p. 1567) as bringing to his (Dr. Ewart's) attention an all-whey diet is Dr. Prideaux Selby of Toynham, Kent.

SMOKE ABATEMENT.

IN the note upon this subject published last week it should have been made clear that the Act of Parliament forbidding the supply of producer gas to private houses applies only to the districts served by the South Staffordshire Mond Gas (Power and Heating) Co. We are informed that the clause was inserted in the Bill promoted by that company in order to avoid additional opposition by companies supplying illuminating gas in the area.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Eight lines and under	0	4	0
Each additional line	0	0	6
A whole column	2	13	4
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An average line contains six words.

Advertisements should be delivered, addressed to the Manager, at the Office, not later than first post on Wednesday morning preceding publication; and if not paid for at the time, should be accompanied by a reference.

Post-Office Orders should be made payable to the British Medical Association at the General Post-Office, London. Small amounts may be paid in postage-stamps.

N.B.—It is against the rules of the Post Office to receive letters a *Postes Restantes* addressed either in initials or numbers.

British Medical Journal in 1906.

WITH the first number of the new year important improvements will be made in the type and get-up of the BRITISH MEDICAL JOURNAL. The type will be larger and better spaced, the page will be longer, and the columns somewhat narrower. These changes will increase the ease with which the JOURNAL may be read, and will thereby contribute to the comfort of readers.

Arrangements have been made for the publication of numerous Clinical Lectures and Addresses, among which the following may be mentioned:

On the Medical Aspects of Carcinoma. By WILLIAM OSLER, M.D., F.R.S., Regius Professor of Medicine, University of Oxford.

On Three Cases of Arterial Disease. By T. CLIFFORD ALLBUTT, M.D., F.R.C.P., F.R.S., Regius Professor of Physic, University of Cambridge.

On the Treatment of Arterio-sclerosis. By Sir JAMES BARR, M.D., F.R.C.P., F.R.S.E., Senior Physician, Liverpool Royal Infirmary; Lecturer in Clinical Medicine, University of Liverpool.

On Albuminuric Retinitis. By W. H. H. JESSOP, F.R.C.S., Senior Ophthalmic Surgeon, St. Bartholomew's Hospital.

On Some Points in the Diagnosis and Treatment of Renal Diseases. By J. R. BRADFORD, M.D., F.R.S., Physician, University College Hospital.

On the Significance of Small Quantities of Sugar and of Albumen in the Urine. By ROBERT W. BURNET, M.D., F.R.C.P., Consulting Physician, Great Northern Hospital.

On the Action and Use of Digitalis in Cardiac Failure. By J. MITCHELL BRUCE, M.D., F.R.C.S., Consulting Physician, Hospital for Consumption and Diseases of the Chest, Brompton; and to Charing Cross Hospital.

On the Clinical Importance of the Examination of the Blood. By H. BATTY SHAW, M.D., Assistant Physician to University College Hospital and Brompton Hospital for Consumption and Diseases of the Chest.

On Dilatation and Hypertrophy of the Heart. By SAMUEL WEST, M.D., F.R.C.P.Lond., Physician to St. Bartholomew's Hospital.

On Tabes Dorsalis: Diagnosis and Treatment. By Sir WILLIAM R. GOWERS, M.D., F.R.C.P., F.R.S., Consulting Physician University College Hospital, and to the National Hospital for the Paralysed and Epileptic.

On the Borderland of Insanity. By G. H. SAVAGE, M.D., F.R.C.P., Consulting Physician and Lecturer on Mental Diseases, Guy's Hospital.

On the Treatment of Neurasthenia. By [illegible] RANKIN, M.D., M.R.C.P., Physician, [illegible] Hospital and the Royal Waterloo [illegible].

On Some Clinical Manifestations of Malnutrition. [illegible] D., B.Sc., F.R.C.P. Lond., [illegible] Hospital.

On the Reality of Enterospasm and its Mimicry of Appendicitis. By HERBERT P. HAWKINS, M.D., F.R.C.P., Physician and Lecturer on Medicine, St. Thomas's Hospital.

On Sporadic Dysentery or so-called Ulcerative Colitis. By ROBERT SAUNDBY, M.D.Edin., F.R.C.P.Lond., Professor of Medicine, University of Birmingham; Physician, Birmingham General Hospital.

On the True Interpretation of Certain Clinical Manifestations often ascribed to the Liver. By H. D. ROLLESTON, M.D., Physician, St. George's Hospital.

On Infantile Scurvy. By G. F. STILL, M.A., M.D.Cantab., F.R.C.P.Lond., Assistant Physician for Diseases of Children, King's College Hospital; and Assistant Physician to the Hospital for Sick Children, Great Ormond Street.

On Some Common Errors in the Management of Healthy Children. By A. F. VOELCKER, Physician to Out-patients, Middlesex Hospital; and Physician to the Hospital for Sick Children, Great Ormond Street.

On the Complications of Scarlet Fever. By WILLIAM HUNTER, M.D., F.R.C.P., Physician London Fever Hospital; Assistant Physician and Lecturer on Pathology, Charing Cross Hospital.

On Tropical Diseases as they commonly present themselves to Medical Practitioners in Britain. By JAMES CANTLIE, M.B., F.R.C.S., Surgeon to Seamen's Hospital; Lecturer on Surgery at the London School of Tropical Medicine.

On Some Common Drugs and their Uses. By LEONARD WILLIAMS, M.D., M.R.C.P., Physician to the French Hospital and Assistant Physician to the Metropolitan Hospital.

On Evidences in the Skin of General Diseases. By JAMES GALLOWAY, M.D., Assistant Physician and Physician to Skin Department, Charing Cross Hospital.

On Enuresis. By J. HUGH THURSFIELD, M.D., Assistant Physician to the Hospital for Sick Children, Great Ormond Street.

On Some Surgical Combinations of Tabes Dorsalis. By ANTHONY A. BOWLBY, C.M.G., F.R.C.S., Lecturer on Surgery and Surgeon to St. Bartholomew's Hospital.

On Some Clinical Symptoms in Surgery. By HOWARD MARSH, F.R.C.S., Professor of Surgery in the University of Cambridge.

On Rare Manifestations of Syphilis in the Upper Air Passages. By Sir FELIX SEMON, K.C.V.O., M.D., F.R.C.P., Physician Extraordinary to H.M. the King; Physician for Diseases of the Throat, National Hospital for the Paralysed and Epileptic.

On the Treatment of Sprains. By Sir WILLIAM BENNETT, K.C.V.O., F.R.C.S.

On the Indications and Contraindications for Removal of the Gall Bladder. By A. W. MAYO ROBSON, D.Sc., F.R.C.S.

On Pelvic Appendicitis and the Importance of Rectal Examination. By G. E. ARMSTRONG, M.D., Surgeon, Montreal General Hospital.

On Diffuse Peritonitis from Perforation of the Appendix: its Diagnosis and Treatment. By CHARLES A. MORTON, F.R.C.S., Professor of Surgery, University College, Bristol; Surgeon, Bristol General Hospital.

On Carcinoma of the Breast and its Spread into the Lymphatics. By CHARLES BARRETT LOCKWOOD, F.R.C.S., Surgeon, St. Bartholomew's Hospital.

On Torticollis. By A. H. TUBBY, M.S., Surgeon to Westminster Hospital and Consulting Surgeon to the Evelina Hospital for Sick Children.

On Whitlow. By G. B. MOWER WHITE, M.B., B.S., F.R.C.S., Surgeon, Great Northern Central Hospital.

On the Accurate Delineation of Tuberculous Foci in Early Disease of the Kidney in Women before Operation is Undertaken. By HURRY FENWICK, F.R.C.S., Surgeon and Lecturer on Clinical Surgery, London Hospital.

On Some Varieties of Hernia in Children. By E. SCOTT CARMICHAEL, M.B., F.R.C.S.E., Assistant Surgeon, Royal Hospital for Sick Children, Edinburgh.

On Important Symptoms in Diseases of the Eye. By A. MAITLAND RAMSAY, M.D., F.F.P.S. Glasg., Surgeon, Ophthalmic Institution, Glasgow Royal Infirmary.

On the Midwifery of the Present Day. By PETER HORROCKS, M.D., F.R.C.P., Obstetric Physician, Guy's Hospital.

On the Prevention of Difficult Labour. By G. E. HERMAN, M.B., F.R.C.P., Consulting Obstetric Physician, London Hospital.

On Dysmenorrhœa. By AMAND J. M. ROUTH, M.D., F.R.C.P., Obstetric Physician, Charing Cross Hospital.

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A PRELIMINARY INQUIRY INTO THE TONICITY OF THE MUSCLE FIBRES OF THE HEART.

BY JAMES MACKENZIE, M.D.,
Burnley.

THIS paper is intended to direct attention to the explanation of a common cause of heart failure. Even in the present day heart failure, and particularly dilatation of the heart, is looked upon too much from a mechanical standpoint. The question of tonicity is one that still needs a great amount of study from physiological, pharmacological, and clinical aspects, and here I touch only on a few points that I have already worked out.

What is the Cause of Dilatation of the Heart?

In considering the causes of dilatation of the chambers of the heart one cannot fail to be struck with the inadequacy of the explanation usually given for this condition. The prevalent idea seems to be that it is due to an increased pressure within the chambers forcing the walls outwards. But if it be asked, Whence comes this distending force? the inadequacy of such an explanation is at once apparent. During systole the increased pressure within the chamber is produced by the contraction of the wall of the chamber itself, and one can scarcely assume that in the process of contraction dilatation is produced. One can conceive that dilatation of an auricle might be produced by the forcible regurgitation of blood from a powerful ventricle, but such a thing can only happen when there is a lesion of the auriculo-ventricular valves. Regurgitation apart from valvular lesion can only occur after the muscle fibres surrounding the auriculo-ventricular orifices have become relaxed—that is to say, dilatation of the auricles from such a cause would be produced after dilatation of the ventricle.

That neither the difficulty opposed to a chamber during its emptying nor the distending force during its diastole is the cause of dilatation, becomes evident when the conditions observed in certain hearts are carefully studied. Thus hearts whose walls are thinned, and whose muscle fibres are degenerated may continue to work against an abnormally high arterial pressure, and never show any signs of dilatation. In fact, the wall of the left ventricle may be so thinned that it will actually burst in its efforts to overcome the aortic pressure, and the walls will show no signs of dilatation. Dr. Arthur Keith, who has especially looked into this matter of ruptured hearts, informs me that such hearts may show no sign of increase in the size of their cavities. In a patient under my care the heart was so enfeebled that he could scarcely walk fifty yards without an attack of angina pectoris coming on, but no enlargement of the heart could be detected. He died suddenly from rupture of the heart, and I found that part of the heart wall was so thinned as to be made up of little beside the endocardium and pericardium, while, notwithstanding this enfeeblement of the heart wall, there was no sign of dilatation of the cavity.

Dilatation of the left ventricle may occur even when the diastolic force filling the ventricle is greatly diminished, as in cases of pure mitral stenosis. Here the quantity of blood reaching the ventricle, and the force with which it enters the ventricle is so greatly diminished that we must look for some other cause to account for the dilatation of the left ventricle that is found in advanced cases of mitral stenosis.

A Vital Factor and not a Mechanical the Cause of Dilatation.

From such considerations as I have detailed we are forced to conclude that dilatation is not due to a mechanical distension of the chambers of the heart. In considering what may be the cause, we turn naturally to the consideration of the functions of the muscle fibres. As the permanent lengthening of skeletal muscles is due to lack of tone, and as the lengthening of the muscle fibres of the heart is the immediate cause of the dilatation, and therefore comparable to the lengthened skeletal muscle, the cause of dilatation will in all likelihood be found to be due to depression in the function of tonicity.

The Function of Tonicity.

Gaskell has shown that the heart muscle fibres possess equally with the skeletal muscles this function of tonicity. He was able to produce experimentally both depression and increase of this function by appropriate drugs and by the stimulation of certain nerves. Thus by such drugs as sodium hydrate, digitalis, antiarine he was able gradually to prevent the relaxation after each beat till at length it was scarcely possible to recognize the separate beats. On the other hand, by the administration of such drugs as lactic acid and muscarin, the relaxation of the fibre gradually increased, while the contraction gradually diminished till finally the heart stood still in diastolic relaxation.

The Symptoms of Depression of Tonicity.

It might seem at first sight that the main result of the affections of this function would be dilatation of the chambers of the heart. There can be little doubt, when dilatation does occur, that here we have depression of tonicity: but in stating that dilatation is an evidence of depression of tonicity we only state but a part of the truth, for the enlargement of the heart which we associate with dilatation depends on the affection only of certain portions of the musculature of the heart. There are other symptoms which also point directly to failure of tonicity, such as "functional" murmurs and regurgitation of blood from the heart into the veins. These symptoms have hitherto been looked upon as a consequence of simple dilatation of the chambers of the heart, but this explanation is far from being sufficient. Thus we may have considerable dilatation of the heart without a murmur, and with no regurgitant waves in the veins, even though the veins of the neck are full and turgid. Again, we may have very little dilatation with marked systolic murmurs at apex and base, and with great regurgitant wave in the veins. The explanation of these apparent anomalies in the symptoms has hitherto baffled me, but I think an explanation is to be found when the functions of the muscle fibres are considered along with the remarkable description of the structure of the heart given by Dr. Arthur Keith. This observer has drawn attention to the fact that the musculature of the heart is built up of bundles of fibres, having as distinct places of origin and insertion as skeletal muscles, and that each bundle has its function as peculiar to itself as a skeletal muscle. But the heart-muscle fibres are distinct from skeletal muscle in this respect, that according to their special duties certain portions have individual functions more developed than other portions, some having such functions as rhythmicity, conjunctivity, or contractility more developed, while it is fairly certain that some have the function of tonicity more developed than others. It is manifest, for instance, that the muscle bundles that constitute the rings of the auriculo-ventricular orifices have a different function to perform from the muscle bundles constituting the auricular appendages or apex of the ventricle. In the latter cases contractility is the special requirement of the fibres, while in the former case there is but little need for contractility, but a firm contraction—that is, tonicity—is essential for the integrity of the valvular apparatus.

The Cause of Functional Murmurs.

This view of the subject cannot be better expressed or more convincingly illustrated than in the following quotation from Keith:

> Dr. G. A. Gibson proved years ago that the pulmonary valves of the human heart received their competency from the musculature of the infundibulum. The fibres of the bulbus arteriosus in lower vertebrates are not truly discharging, but regulating, fibres that maintain their tonicity when the true fibres of the ventricle have passed into a state of diastole. As far as one can tell with the naked eye, this seems to be also the case in the mammalian heart. They probably play a part in the much-discussed question of functional systolic bruit at the pulmonary orifice. When the right heart is distended the circular fibres round the base of the pulmonary artery form a functional stricture at the commencement of ventricular systole between the infundibulum and greatly-dilated artery, and are a factor which must be considered in explaining the production of pulmonary systolic bruits.

Seeing that the integrity of the valvular apparatus depends on the tonicity of the muscle fibres forming the auriculo-ventricular rings, the causation of the functional murmurs at the mitral and tricuspid orifices may be explained as due to a depression of tonicity affecting these muscle fibres. Any one who carefully studies the condition of the heart associated with these murmurs cannot but be impressed with the fact that they are frequently met with in cases that show little or no enlargement of the heart. As, on the other hand, one meets with cases of considerable dilatation without these murmurs, one seems justified in assuming that the tonicity of the muscle fibres forming the auriculo-ventricular ring may

be differently affected from that of the muscle fibres forming the wall of the ventricles.

The Cause of Regurgitation back into the Veins.

A similar explanation seems to be the cause of the regurgitation from the heart into the veins. Hitherto, in explaining the cause of the venous pulse, I have followed the usual description of the manner in which the blood is prevented from being forced back into the veins during auricular systole. But the view of Keith is so rational and based upon such convincing evidence that I have no hesitation in accepting it. He says:

How are the caval orifices closed during auricular systole? The current teaching is that they are closed by the contraction of muscular fibres which surround the termination of the great veins. The largest vein of all, the inferior vena cava, has no circular fibres surrounding its termination, those round the superior vena cava are weak and do not seem strong enough to act as a common sphincter. The coronary sinus, on the other hand, is covered by circular and longitudinal layers of muscle, and is provided with competent valves as well. Thus, the explanation usually given of the manner in which the venous orifices are closed breaks down under anatomical examination, and the true explanation is still to seek.

He then enters into a minute study of the evolution of the structures that prevent regurgitation in primitive hearts, and finally shows that the caval orifices are closed during auricular systole by the contraction of bands of muscle fibres in the auricular wall specially adapted for this purpose. Just as I have been struck by the want of relationship between the size of the heart and the presence of regurgitant murmurs, so in the past I have been greatly puzzled by the seeming anomaly of an absence of the venous pulse in some cases of extreme engorgement of the right heart. On the other hand, I have seen large forcible waves of blood sent back into the veins during auricular systole with no perceptible increase in the size of the right heart. It might, therefore, seem that in the former case the muscle bands that close the caval orifices acted efficiently, while in the latter case the tonicity of these bands had become so depressed that they failed to close the orifices efficiently, and thus permitted regurgitant waves during the contraction of the auricle.

The Cause of Depression of Tonicity.

The most striking instances of depression of this function occur with "failure of compensation in cases of valvular disease, the dilatation being the main evidence. In such cases exhaustion of the muscle no doubt plays the principal part. There are other cases, however, where some other factors seem to be at work. From the study of the experiments of Gaskell and others we can infer that certain drugs have a selective affinity for certain functions, and my clinical experience seems to suggest that similar results may be met with in the human heart. When in this part of Lancashire the beer was contaminated with arsenic some few years ago, cases of heart failure of a peculiar type amongst beer drinkers were fairly common. These cases have been described by Dr. Graham Steell in a paper on Muscle Failure of the Heart. Since the arsenical contamination of the beer has been prevented these cases are not nearly so common, though Dr. Steell informs me he still occasionally meets with them. Some of these I studied minutely, and there was one striking feature which Steell does not mention—namely, great regurgitation of blood back into the veins. Thus, in a publican, a heavy beer drinker, the veins in the neck exhibited large pulsations during two attacks of muscle failure of the heart, the pulsation disappearing on recovery. After the arsenic had been removed from the beer he continued his evil courses, and had two attacks of great prostration with a rapid, feeble heart, but there was no pulsation in the veins of the neck. In the last of these attacks he developed delirium tremens and died from exhaustion. Here I suggest that the peculiar combination of alcohol and arsenic had poisoned more particularly the function of tonicity, which was evidenced by the large venous pulse in his first and second attacks of heart failure.

In certain constitutional states I find a tendency to this depression of tonicity, and it seems possible that a poisoning of this function occurs. In anaemic conditions one finds a puzzling variety of heart changes. In some extreme cases one can detect no abnormal symptom, in others, systolic *bruits* in the heart and pulsation in the veins are very marked. Thus, in a case of what seemed to me severe pernicious anaemia, there was very slight enlargement of the heart, but distinct systolic murmurs at the apex and base of the heart, with large pulsations in the veins of the neck of which Fig. 1

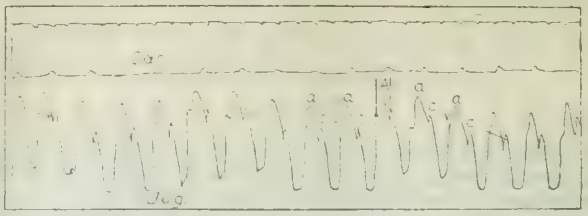


Fig. 1.—Simultaneous tracings of the carotid and jugular pulses showing the large waves thrown back by the heart into the jugular vein. The *a-c* interval (space A) is nearly one-fifth of a second. (The time marked in this and the other tracings equals one-fifth of a second.)

is a tracing. This patient's anaemia gradually disappeared, with a complete disappearance of the jugular pulse and of the murmurs. In a somewhat similar but less severe case the venous pulse was also well marked (Fig. 2), and on recovery

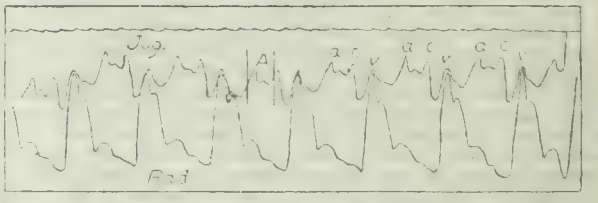


Fig. 2.—Simultaneous tracings of jugular and radial pulses. The *a-c* interval (space A) equals two-fifths of a second. (Mrs. W., October 5th, 1904.)

there was left a trace of the venous pulse. I give these tracings in order to point out a peculiarity in Fig. 2 that I have occasionally met with in anaemia—namely, a depression of the function of conductivity.

I have already shown in the British Medical Journal that one can estimate the condition of the function of conductivity by measuring the time the stimulus takes to pass the fibres between the auricle and the ventricle. This is done by measuring the time from the beginning of the auricular systole (which causes the wave *a* in the tracings of the jugular pulse) to the beginning of the carotid pulse (wave *c*). The normal *a-c* interval is usually about one-fifth of a second as shown in Figs. 1 and 4. In Fig. 2 it is nearly double this time, that is to say, the conductivity in the patient's heart from which Fig. 2 was taken was so depressed that the stimulus took nearly twice as long to cross the *a-v* fibres.

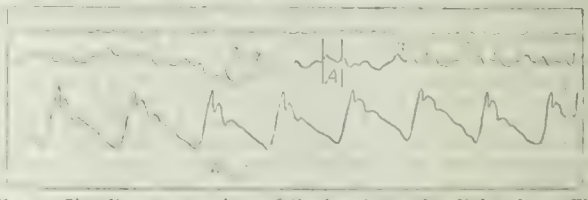


Fig. 3.—Simultaneous tracings of the jugular and radial pulses. The *a-c* interval (space A) is greater than one-fifth of a second. (Miss W., January 14th, 1905.)

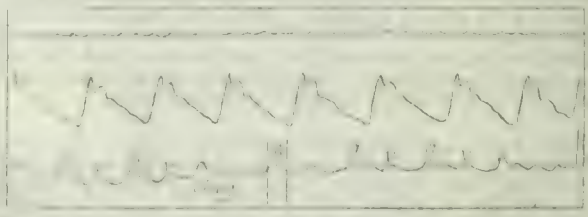


Fig. 4.—Simultaneous tracings of the jugular and radial pulses. The *a-c* interval (space A) equals one-fifth of a second. (Miss W., May 14th, 1905.)

With recovery from the anaemia the conductivity was gradually restored, as is shown by the *a-c* interval in Fig. 3 being smaller than in Fig. 2. While in Fig. 4, taken when the anaemia had disappeared, the *a-c* interval is of normal duration. In this latter case we have evidence, therefore, not only of a depression of tonicity, but also of a depression of conductivity, during a profound anaemic condition, with simultaneous restoration of both functions on the disappearance of the anaemia. Here, again, I suggest that in such cases as those from which Fig. 2 was obtained there is a poison that

selects not only the function of tonicity but also that of conductivity of certain fibres.

Digitalis and the Function of Tonicity.

In my observations on the effect of digitalis on the human heart, I pointed out that when a function such as conductivity or contractility was depressed, digitalis had a tendency to increase this depression. Notwithstanding this I found that while the digitalis depressed these functions a patient's condition may be distinctly improved, and it seems at first sight very anomalous that benefit should be derived from a drug which manifestly injures certain functions of the muscle fibres. But the drug digitalis affects more functions than one, and from such experiments as those of Gaskell already mentioned, we learn that digitalis primarily affects the function of tonicity. In cases of heart failure where there is dilatation of the chambers, the contraction of the heart takes place at a disadvantage, for presumably efficiency of contraction will depend on a certain normal distension of the chambers, and an over-distension or dilatation will interfere with the efficiency of contraction. In such cases the digitalis by restoring the tonicity will reduce the cavity to a size more fitted for the effective accomplishment of its contraction. Herein, probably, lies part of the explanation of why it is that the heart's condition is improved with a depression of certain functions manifestly due to the digitalis.

INEBRIETY AS A PHYSICAL DISEASE.*

By H. W. MANN, M.B.EDIN.,
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I VENTURE to ask your attention to this question of alcoholism, as it concerns us of the medical profession, and more particularly with regard to its treatment by the hypodermic method by injections of atropine. Perhaps next to tubercle there is no question more pressing or more discussed at the present time than this question of inebriety and the inebriate; and certainly there is no one on which the charlatan and the advertiser, lay and political, have thriven more abundantly. To this may in some measure be attributed the fact that medical men as a rule look sceptically and askance on the "cures" and specifics so lavishly offered in the daily press and monthly magazine.

Happily of late years medical men of note have given this matter scientific study and attention, and by regarding inebriety as a physical disease, in many cases capable of cure, they have rescued it from the advertising quack, who too often exploited the inebriate to his own purposes. The late Dr. Norman Kerr was the pioneer in this, and his work has been carried on by such men as Sir Victor Horsley, Professor Sims Woodhead, Mr. McAdam Eccles, Sir James Crichton-Browne, Dr. Clouston, to mention but a few of the more prominent.

In psychological medicine the great forward step in our times has been recognition of the insanities "as a physical disease with mental manifestations," as a condition cerebral in its essence rather than psychic, and on this recognition the modern treatment of this disease is based. Inebriety is one of the phases or varieties of the insane diathesis, and is akin to the *folie circulaire* or alternating insanity. It has its term of excitement, its depression, and its apparent equilibrium.

Inebriety has its etiology, its pathology, and its treatment. It is essentially an irresistible, uncontrollable, and periodic desire for alcohol. It is not thirst, and while the "crave" is present the appetite knows no satiety. In his book on *Mental Diseases*, Clouston places it under "States of Defective Inhibition," and while conscious of its gravity as a social evil, clearly regards it as a neurosis of defective inhibition, as a lack of that control which is the highest function of the cortical centres.

Briefly considered, the following have a place in the causation of this condition: traumatism, concussion, shock, injuries to the head. Epilepsy is frequently associated with inebriety, and, like it, is a periodic nerve storm. Perhaps no association is more commonly observed than tubercle or the tuberculous habit, and it is remarkable in how large a number of cases a family history of tubercle is found to occur.

Among what may be termed "moral" causes there are the numberless social influences, adversity, prosperity, education imperfect and education to excess, ambition, worry, and all those undefinable states comprehended in the word "Society." Though in such it is sometimes difficult to discriminate between cause and effect. Lastly, heredity has a prominent place in the etiology of alcoholism, and in this case undoubtedly the children do suffer for the sins of their parents.

The pathology of inebriety has received much attention of late years, and if any one fact in pathology is established, it is this—that alcohol, even in physiological quantities, is a direct nerve poison, affecting the cortical layers in the cerebrum, the cerebellum, and the peripheral nerve endings. In a recent lecture Sir Victor Horsley has pointed out how even by the ingestion of small quantities of alcohol the brain functions are affected, how the reaction time is lengthened, both simple and complex, as estimated by Kraepelin's method. And he has demonstrated that in continued absorption the nerve cell degenerates, the granules become obscured, the nucleus and nucleolus gradually disappear, and the active protoplasm is replaced by pigmentation, until finally the cell is inert and functionless. In the peripheral nerve endings the same toxic process goes on, and so in the confirmed alcoholic there are the pains of neuritis, affecting his peripheral nerves, while the tremulous hands and ataxic shuffling gait indicate cerebellar mischief, and the confused misty intellect corresponds to and is co-extensive with the destruction of the cortical layers in the grey matter of the cerebrum.

Ford Robertson, in his work on *Cerebral Pathology*, describes this destructive process graphically when he compares each successive bout of the dipsomaniac as resembling a hurricane of wind sweeping through a forest, which when it has passed shows to the casual onlooker no change, though the trained eye can see the broken stems, the torn branches, and the disarranged undergrowth. But, unlike the forest, to the alcoholic there is no new growth; no proliferated cells replace those lost.

With such a pathology of destruction it may well seem futile to talk of treatment, but with the 600 million of nerve cells which has been calculated to be the average endowment of the average brain there may be always the possibility of calling up from this vasty deep of subconscious cerebration some reserve and reinforcement of those altered and destroyed.

And so the treatment of inebriety, always granted the abolition of alcohol, amounts to a re-education. It must be borne in mind clearly that no treatment will help an inebriate unless he is willing to help himself. He cannot be cured against his will. If one can but control or abolish the insane impulse for alcohol, then the case resolves itself into a dependence on time and the ordinary processes of assimilation and metabolism. What is destroyed cannot be replaced, but what remains may be utilized.

Various drugs have been used for the purpose mentioned—notably the bichloride of gold. An antiethylic serum was put forward some years ago, but with what success I know not. The treatment by hypodermic injection of atropine combined with strychnine has in my hands proved of great value in relieving the intensity of the appetite, and when thoroughly pushed it does confer an indifference to alcohol. I may be mistaken, but I think it is to Dr. McBride of Norwood that the profession owes the first clear record of this method of treatment.[1] The following notes of cases will illustrate this:

A. R., admitted July 24th, a case of chronic alcoholism with degenerative nerve and tissue changes, ataxic gait, tremulous twitchy fingers, patellar reflex absent on both sides, plantar greatly increased, has had neuritis very badly, great mental confusion of time, place, and person; appetite for alcohol intense and continuous. He was given a calomel purge, and put upon atropine gr. $\frac{1}{100}$, with strychnine gr. $\frac{1}{60}$, given at 9 a.m., 3 p.m., and 9 p.m., with a cinchona mixture sandwiched midway between each dose of atropine. July 28th. Slept well, mental condition improved, quiet, calm, and clear; alcohol crave diminished. July 31st. Much better, complexion clearer, cheerful and pleasant, weight 9 st. 2½ lb. August 7th. Atropine increased to gr. $\frac{1}{75}$. August 23rd. Atropine gr. $\frac{1}{100}$; atropine stopped. October 2nd. Continues well, no relapse, no desire for alcohol, weight 9 st. 13 lb., is on parole.

Another case: August 29th. A.M., drinking for weeks, mainly solitary drinking; for a time he would square up, and then have a deeper and deeper debauch. Confesses his weakness, laments it, and promises reform. Put upon atropine and strychnine with cinchona, as in the other case. September 11th. Continues to improve, appetite for alcohol largely gone, is allowed to cycle out and go to and fro practically uncontrolled; has had no relapse. October 3rd. Improvement maintained and

* Read at the meeting of the Northern Counties Branch of the British Medical Association at Dingwall.

continuous, atropine and strychnine given regularly and to the full physiological limit; alcohol appetite disappeared entirely.

It is a remarkable fact that the dryness and consequent thirst created by atropine is a thirst for ordinary liquids, and is allayed by them, and is not a thirst for intoxicants. The use of the cinchona given as tinct. cinchon. co., with spirits of chloroform and ol. cinnam., is of great value. It cleans the tongue, braces up the appetite, and given in the early morning it assists in allaying the desire which in the morning is at its keenest. Beyond this drug treatment there is the dieting, abundance of vegetable food, and less of flesh meats. Milk in quantity and fish, exercise in the open air, and indulgence in some hobby, especially when that can take the form of any outdoor occupation. I have found sanatogen to be of great value in the early weeks, and when there is, as there often is, gastric trouble with vomiting or sickness, it is in my experience the best of artificial foods, easily retained and easily assimilated. I could give at the risk of wearying you similar examples of the influence of atropine in this combination on the "crave" which is the single real symptom of this disease. Its use is not wholly empirical, and the progress of such cases is well worth inquiry and investigation. It is no secret treatment, and it has the advantage that it is quite in the power of any medical man to pursue it in his own practice. There are, unfortunately, too many cases ready to the hands of the ordinary practitioner for trial, and I would urge upon the members of this Branch to give this method their interested study, and to look upon this condition not so much as a serious social evil, but as a physical disease depending on physical causes, and capable of responding to physical treatment.

Behind this lies the great question of permanence. It is not possible to repair damaged tissue, or to alter a man's character and disposition. No drug can do that, but that many cases of inebriety are curable I am thoroughly satisfied. I personally have too short an experience to permit of saying that the cure is permanent, but I know from a study of the case-books in a well-known Retreat, that cases under this method have been traced, and known to keep well without relapse for more than a dozen years, and the permanency of the result is largely determined by the completeness of the treatment. I had one case, which came to me in April last, in whom the agony of the crave was painfully intense. He had squandered his fortune, ruined his home, and in a fit of depression nearly killed himself. To-day, a sadder and a wiser man, he is steadily and soberly trying to regain something of his lost life, and is happy in his home. Such cases are common knowledge to us all, and it is precisely in such cases that the ordinary general practitioner can by this method, if regularly carried out, benefit his patient and those depending upon him.

It may be necessary for the State or the community to segregate the inebriate. It may even be desirable to adopt Dr. Rentoul's heroic method and sterilize him in the interests of the race, but neither segregation nor sterilization will cure him. But if the impulse, the crave, can be removed, if the inhibition can be made more complete, if the control can be regained, then he may return to the world and take part in its work. It may seem absurd and incredible to lift against this Goliath the tiny hypodermic syringe, the fresh air, and the simple life; but when one reflects how the lancet has controlled the horrors of small-pox and the serum treatment has modified diphtheria, then one may hope that medicine has not yet said the last word regarding inebriety as a physical disease controllable by physical treatment.

REFERENCE.

1 British Medical Journal, April 29th, 1905, p. 1006.

SOME TOXIC EFFECTS OF ASPIRIN.

By J. S. DOCKRAY, M.D.Vict., B.Sc.Lond.,

Bishop's Stortford.

As aspirin is a comparatively new drug, very useful in many forms of rheumatism and ill-defined rheumatic pains, and consequently very freely given, the following case, illustrating some of the toxic effects, may not be without interest:

History.—On February 8th, 1905, I was called to see a lady of about 50 years of age suffering from sharp pains in the regions of the loins. The temperature in the mouth was 100° F., the patient was extremely restless and excitable, far more so than the pain accounted for, but the pulse was steady, of good tension, and the pulse-rate was 80. This was about eleven o'clock in the morning, and she informed me that she had taken a dose of 10 gr. of aspirin a short time before. As she had taken it for lumbago previously, and it had always relieved her rapidly, I ordered the drug to be continued in the same doses, 10 gr. every three hours. Next morning (the 9th) the pain had disappeared, the temperature was 97.6° F., but the patient complained of singing in the ears and drowsiness. The excitability of the day before had disappeared. The pulse was unaltered. The drug was still continued. On the 10th I found the following symptoms: Numbness of the gums, tongue, and pharynx, causing a great difficulty in swallowing even fluids, and a sensation of impending suffocation and choking. There was no swelling of the mucous membrane, but it looked dry and glazed, and in that covering the gums and tongue sensation was practically lost, this anaesthesia being much more marked on the right side than the left; the teeth were not tender, but the patient said she felt as if she had lost them; very severe pain in the right ear but no tenderness or swelling over the mastoid; nausea but no vomiting; temperature subnormal, and the drowsy condition of the day before had now given place to one of extreme excitability and restlessness; the patient was constantly moving up and down in the bed and never still a moment; the pulse was unaltered. On inquiry, I found that she had in a previous attack of muscular rheumatism been ordered 20 gr. of aspirin every three hours for three doses and then three times a day for two or three days. After taking 120 gr. there was such a marked feeling of numbness all over the body, accompanied by a feeling of intoxication, that the drug was stopped.

Progress.—As evidently the uncomfortable symptoms were all due to the aspirin, I stopped it at once. More for the sake of doing something, I ordered warm olive oil to be dropped in the ear and warm linseed-meal poultices over the ear. No drugs were ordered, but the patient was advised to drink plenty of fluid, preferably hot water and hot tea. Had not the pulse been so good I should have ordered strychnine. At 8 p.m. the same evening the patient felt better. She was sleepy and quiet, but the pain in the ear was very troublesome. There was now also pain in the supraorbital region on the right side, with distinct yellow vision again confined to the right eye, vision in the left eye being quite normal. The nurse in charge stated that there had been distinct drooping of the upper right eyelid during the day, but I did not notice it myself. There was no squint, and the pupils were equal and moderately contracted. There was no flushing or pallor of right side of face. Temperature 100°, pulse good and steady.

February 11th. The patient much better. The right ear was much less painful, but completely deaf, and there was a slight discharge of blood-stained fluid; no yellow vision; no ptosis; severe pain was still felt in the supraorbital region, and now also along the facial and mental nerves. Total loss of smell and taste was now noticed for the first time, but there was no pain in the tongue. For the first time, also, the patient complained of shooting pains down the right arm and leg. The urine was very pale and greatly increased in quantity; specific gravity 1000, acid, no albumen or sugar, no coloration with $FeCl_3$. Temperature 100° F.

February 12th. Again much better. Temperature normal. The pain in the ear and the neuralgic pains in head and face were much less. The smell and taste had returned slightly, but the mucous membrane of the mouth was dry and scaly. The difficulty in swallowing was almost gone, and the patient could now take nourishment comfortably.

Result.—During the next two days recovery was rapid, the mouth became moist, desquamation occurred over the tongue and lips, and the smell and taste became normal. On February 16th she was practically well, with the exception of the total deafness of the right ear and some supraorbital neuralgia. There was no more discharge from the ear, and no treatment was carried out, as the hearing gradually returned, and by the end of the month was quite well. The neuralgia was rather persistent, but disappeared when the hearing was restored.

Remarks.

The interesting points to notice in this case are:

1. The marked idiosyncrasy to the drug. The patient had only taken 100 gr. in all, in 10 gr. doses.

2. The marked effect the drug had on all the sensory cranial nerves, causing, when the patient was most fully under its influence, numbness and anaesthesia, followed, as the patient was recovering, by pain. Except for the slight ptosis, which only lasted a few hours, and only occurred at the very height of the attack, there was no loss of muscular power. The facial muscles were not affected, there was no squint, and the difficulty in swallowing was probably due to the loss of sensation of the mucous membrane. Most cases (1 and 2) of reported intoxication by this drug differ from this one in that the chief symptom was a transitory oedematous swelling of the face and scalp. No mention is made of any effect on the sensory nerves.

3. The heart was not affected at all. Had not the pulse remained good and steady compared with the extreme restlessness of the patient, the case would have assumed an alarming aspect. Franke[2] says, in reporting his own case, that his pulse-rate "rose to 60"—not a very alarming or very high pulse-rate. Barnett[3] records quite recently two cases where a single dose of 15 gr. caused "violent palpitation, difficult respiration, a feeling of extreme weakness and gradually approaching unconsciousness"—these symptom

all pointing to an attack of syncope. In connexion with this point one notices that the drug had a marked diuretic action which lasted for some days. The specific gravity was extremely low for three or four days, and the colour of the urine was pale and straw-coloured. Although advised to drink plenty of fluid I do not think the patient followed out this instruction to such an extent as to affect the urine. No phenol reaction could be obtained. In Barnett's cases, on the other hand, the urine was dark green.

4. Although the ear was too painful for examination by an otoscope, we had here evidently an acute inflammation of the right middle ear which took some days to subside. This inflammation, I think, was due entirely to the drug, and it has made me careful in administering aspirin in any cases complicated with ear trouble. That the right side only should be affected is strange.

Finally, I would suggest that 7½ gr. is a sufficiently large dose of aspirin to begin with. If no unpleasant results occur after taking this amount, it can then be easily increased.

References.

[1] Otto and Mayer. *Deut. med. Woch.*, 122 and 124, 1903. [2] Franke, *Münch. med. Woch.*, July 28th, 1903. [3] Barnett, British Medical Journal, July 1st, 1905.

A PECULIAR FORM OF ACROMEGALY, POSSIBLY RESULTING FROM INJURY.

By Captain J. C. PRITTIE PERRY, F.R.C.S.Irel.,
Royal Army Medical Corps.

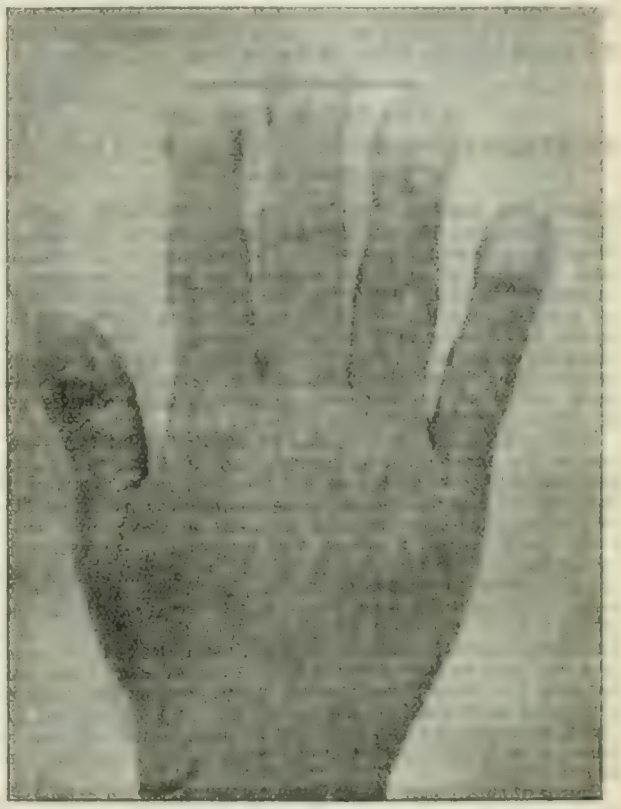
T. D., aged 20, a creole of Freetown, Sierra Leone, presented himself for enlistment in the West African Regiment at Wilberforce in August, 1904. His history, as well as could be made out, was as follows: In his early youth he states he fell from a tree and fractured the frontal bone, the depression caused thereby being quite apparent in the photograph. He



could give no date as to this accident. He has always enjoyed good health. About six years ago his fingers and toes commenced to enlarge gradually, but for the past year he does not think there has been any change in his condition.

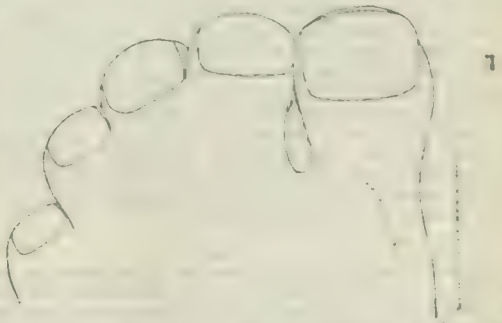
During the abnormal growth of the extremities he sometimes felt a curious local sensation, but he now suffers no inconvenience from the deformity or pain on pressure.

On examination, the bones of his fingers and toes were slightly enlarged, and the terminal phalanges of both extremities presented a drumstick appearance, being flattened from side to side, and greatly hypertrophied and hard. The toe-



nails, when pressed on, gave the impression as if they were floating on a shallow bath of jelly-like substance, and at the junction of the skin with the matrix were extremely thin.

As he had spent a short time on the Congo, Major F. Smith, D.S.O., R.A.M.C., kindly examined his blood, with a negative result. The urine was normal. He had a slight systolic murmur and loss of knee reflexes, especially the right.



The case appears to me to be of interest from the following points:

1. It is a local enlargement of the extremities, and so differs from the stereotyped complaint given in the textbooks.

2. The facial aspect in no way represents the usual type.

3. The man was active enough to present himself for enlistment and the hardships which necessarily fall to the lot of a soldier.

4. There was no pain in the extremities, nervous irritability, persistent headache, progressive loss of sight or muscular strength, which are usually associated with the disease.

5. There was no enlargement of the thyroid gland, and the persistence of the thymus gland which rests upon the slender evidence of increased dullness in its normal area, could not be made out. I do not, however, attach much importance to these, as I am inclined to think that when they do exist they may be looked upon as accidental occurrences.

As the disease is said to be associated with changes in the pituitary body, it is just possible that the early fracture of the frontal bone may have had some bearing on the local condition either by reflexly damaging that organ or by causing some obscure changes in its growth.

The two photographs and tracing of the toes of the left foot will give a fair idea of his local condition.

ADDISON'S DISEASE.

By WILLIAM TIBBLES, LL.D., L.R.C.P., M.R.C.S., Etc.
Nottingham.

Among the various discolorations of the skin Addison's disease holds an important place, on account of the constitutional changes which precede and accompany it, its frequently fatal termination, and its association with disease of the suprarenal bodies. Although the functions of these organs are not thoroughly understood, we may include amongst them (*a*) the elaboration of a secretion which is essential to the blood (haemopoietic), (*b*) the destruction of effete products of metabolism, especially haemoglobin, (*c*) and nervous functions which are closely associated with those of the great sympathetic system of the abdomen.

While excessive or irregular pigmentation of the skin is one of the most striking phenomena of Addison's disease, this can only be regarded as a cutaneous manifestation of a deep-seated malady involving the mechanism which produces or governs the distribution of pigment in the body. In the early stage, probably before any irregular or excessive pigmentation is observed, there is a gradually-increasing debility, breathlessness on exertion, a rapid, feeble pulse, and weak heart sounds, and epigastric or hypochondriac pain, which may be mistaken for dyspepsia or liver trouble; as the disease advances there are added to these giddiness, faintness, or a tendency to fall on rising from a bed or couch, and other cerebral troubles; the epigastric or hypochondriac pain persists, and anorexia, nausea, vomiting, and occasional diarrhoea are common; the nutrition is maintained, at any rate emaciation is not usual, and the temperature remains normal or subnormal.

Many of these symptoms give to the disease a complexion similar to various forms of auto-intoxication; and as the suprarenals are depurative organs, it is probable that the increasing debility, giddiness, cloudiness of the intellect, nausea, vomiting, diarrhoea, and similar symptoms are due to poisoning by bodies (probably leucomaines) resulting from the destruction of red corpuscles and the staining of the skin to the circulation of the products of disintegration of haemoglobin. However, in many cases of Addison's disease, the tuberculous or malignant process which is going on in the suprarenal bodies is accompanied by degenerative changes in the semilunar ganglia and branches of the solar plexus; such a disturbance of the great splanchnic nervous system could not occur without corresponding subjective changes, such as indigestion, nausea, vomiting, diarrhoea, and disturbance of the heart's action. It seems probable, therefore, that disturbance of the sympathetic nervous system and auto-intoxication are both concerned in these results, while progressive caseation or spread of malignant infection, when such occur, hasten the fatal termination.

Case I.

W. B. was a man of middle age when I first knew him, and he lived five years. He had very dark skin, hair, and eyebrows, and dark brown eyes; was born in the tropics of English parents; was stout, short of breath, and had occasional attacks of bronchitis. His occupation caused him to attend many public meetings, and led to the development of oratorical powers; but in 1895 he complained that his mental power was failing him; his words did not flow so freely as was their wont; sometimes he lost the thread of his discourse or was fast in the middle of a sentence for a word to express his meaning, and he was then unable to go on for a few seconds; the loss of memory was accompanied by giddiness and dimness of vision—everything was blank. When matters had reached this stage the pigment in his skin was much increased, and arranged in irregular but well-defined patches upon his back, chest, abdomen, and extremities; the linea alba was much pigmented and the scrotum nearly black; his sclerotics and the lunulæ on his finger nails were free from pigment, but there were dark spots on the mucous membrane of his mouth and tongue, a dark line on the lips near the junction of skin and mucous membrane, and dark lines in the palms of the hands in the natural creases of the skin; his digestion was disturbed, appetite very bad, vomiting occasionally, aching pain and tenderness in the hypochondriac and epigastric regions; his breathing and pulse were rapid and temperature subnormal. On a certain day the vomiting was so severe as to bring up much blood. From this time his condition became rapidly worse and he had to relinquish his duties; in a few weeks his circulatory and muscular powers were so enfeebled that he could with difficulty walk upstairs or about his room; anasarca, beginning in his feet and ankles, soon became general, and he was confined to a chair or bed; his once bright intellect became clouded, his powers of thought, concentration, and memory faded, and he sank from exhaustion about eighteen months after the diagnosis of his case.

The special points in this case were the colour of the skin, the freedom of the sclerotics and roots of the nails from pigment and the urine from bile, the absence of signs of liver or other disease which causes pigmentation, the appearance of the spots on the mucous membrane of the mouth and tongue, and of lines on the lips and palms of the hands, and the constitutional disturbance, and these agree with a diagnosis of Addison's disease.

Case II.

B. M., aged 30, came complaining of a dull, aching pain, and feeling of fullness in the left hypochondriac region; shortness of breath, increasing languor and debility, drowsiness, giddiness and sickness on rising from bed, palpitation on exertion, poor appetite, constipation. Her menses were regular; pulse, 120; temperature, 98° F. In appearance she was fairly well-nourished, and a brunette, black hair and eyebrows, brown eyes. There was considerable bronzing of her skin, but it was not uniform, and showed itself chiefly as large patches on the back, chest, and abdomen, which shaded off into normal or fair skin; the back of the forearms and hands, and the entire fingers were of a dark greenish-brown colour, as though they were stained with dye; upon the chin, the dorsal surface of each hand and of the right forearm were patches of skin, several inches in diameter, which had a white and shining appearance, smooth and colourless, but soft, pliant, level with the general surface, and having normal sensation. The pigmentation, and consequently the contrast of the white patches, was much increased by several weeks at the seaside.

The disease began two years before in an insidious manner; the first signs of ill-health being shortness of breath and debility, but as the pain increased the pigmented condition of her skin became more marked and the constitutional signs were severe; Addison's disease was diagnosed. The gradual development of the white patches was puzzling; there was no history of injury or neuritis to account for them, nor was there any burning pain or pinkiness of the skin as described by Paget in atrophodermia neuritica; nor were the patches due to atrophodermia pigmentosa, for, although the whiteness followed the pigmentation, as in that malady, they did not begin in childhood, but were comparatively recent; nor had they a depressed and shrunken appearance or pink spots of dilated capillaries upon them; on the contrary, they were soft, pliant, movable, could be pinched up with the fingers, and it was concluded that they were patches of leucodermia occurring in the course of Addison's disease.

She was placed under a course of treatment in which the principal drugs used were iron, arsenic, and nux vomica, for six months. During this time the pigmentation became noticeably less, the white patches lost their shiny appearance and approximated somewhat to a normal colour; the giddiness, sickness, palpitation also diminished, and the patient declared herself better than she had been for years, but whether and how soon a relapse will occur one cannot hazard a guess.

I have seen several other cases in which disturbance of pigmentation in persons of neurotic temperament has been improved by similar treatment; and it seems probable, in all cases which show marked improvement by treatment, that the nervous elements of the suprarenals have been principally involved, and that a marked degree of degeneration cannot have taken place. It is possible, however, that certain tuberculous changes may take place in these organs without a fatal result following, that such a process may end in caseation or calcification as elsewhere. The degenerated elements can never be restored, but, the process being checked, the body may accustom itself to the absence of some portion of adrenal secretion, or the healthy organ of the opposite side may in time become more active and supply the needed material.

THE PARATHYROIDS IN GRAVES'S DISEASE.

By S. G. SHATTOCK, F.R.C.S.,
Pathological Curator, Royal College of Surgeons of England, etc.

The publication by Dr. Laurence Humphry in the *Lancet*, November 11th, 1905, p. 1390, of his observations upon the above subject, leads me to publish the following description of a specimen of exophthalmic goitre which was added to the Museum of the Royal College of Surgeons, London, in July

last, and which at that date I had described in the nineteenth appendix of the Museum catalogue then printed, as follows:

"2906 D c. An enlarged thyroid gland together with the tongue, trachea, oesophagus, thymus, etc., from a case of Graves's disease.

"The thyroid is considerably and uniformly enlarged, each lateral lobe measuring about three and a half inches in its chief diameter. The divided surface presents to the naked eye no vesicular structure and no colloid, but is uniformly solid and homogeneous. At the back of the preparation on the left side, one of the parathyroids has been dissected out. The body in question, beneath which a fine rod of pink glass has been passed, is quite distinct from the thyroid gland, and is of narrow, somewhat oval form, 0·9 cm. (three eighths of an inch) in length; it lies in the groove between the lateral lobe and the pharynx, and above the entrance of one of the main branches of the inferior thyroid artery, into which a piece of red glass is inserted.

"Microscopic examination of the thyroid shows it to consist of a compact tissue made up of the walls of closely-set narrow spaces of complex form, variously lined with cubical and columnar epithelium. No colloid is present, the scanty contents of the gland spaces being of a finely granular character. The stroma is in places the seat of abnormal lymphocytic infiltration. The microscopic sections of the parathyroid, which were made so as to include the whole of the gland, display groups of fat cells fairly abundantly scattered amidst the proper glandular tissue, which is itself so compact as in a general and superficial way to resemble lymphatic tissue. Well-formed arterioles run in conspicuous numbers in the primary trabeculae of the interstitial connective tissue. As studied under a high power the gland cells are for the most part so closely arranged that no disposition can be discovered. In character the cells themselves are polyhedral, the cell body of conspicuous size, and furnished with a spherical nucleus. At the borders of the intraglandular trabeculae of connective tissue a certain grouping, but no definite arrangement, of the gland cells is brought about by the penetration of the capillaries which ramify in the mass. There is nowhere any trace of lumen in the cell groups.

"E. L., aged 20, admitted into St. Thomas's Hospital, June, 1897, with no history of previous illness except asthma. The onset of the disease was subacute; the patient first noticed gradual increase in the size of her neck, and this was followed by palpitation, tremor, and loss of flesh. She had suffered from several digestive crises, during one of which she was admitted. She was then well nourished, with marked exophthalmos, and suffering from severe diarrhoea and vomiting, with profuse perspiration. The thyroid was large, with a marked thrill over it. The patient had two attacks of syncope within twenty-four hours of admission, during the second of which she died. The autopsy was conducted by Dr. Hector Mackenzie. The body was much wasted, with very little subcutaneous fat, and no exophthalmos. The larynx was egg-shaped as a result of compression. The bases of the lungs were in a state of partial consolidation. Nothing suggestive of myxoedema is noted in the *post mortem* report."

It will be seen from the foregoing histological description that there is nothing present beyond an insignificant degree of fatty infiltration of the connective tissue within the gland, the proper cells of which remain normal. I have indeed seen as many fat cells in the stroma of the human parathyroid quite apart from Graves's disease. Under ⅛ the cytoplasm of the gland cells presents a normal structure. That the condition of the parathyroid in this case may be regarded as the regular one is fully shown by the further observations of Dr. Laurence Humphry already alluded to.

The last paragraph in the history appended to the preparation was inserted mainly because it bears on a view held by Dr. Arnold Lorand (Carlsbad).

The abnormal structure presented by the thyroid in Graves's disease was regarded by Greenfield—by whom it was first described—as indicative of hypersecretivity; the secreting area of the vesicles is increased by ingrowths from their walls. The histological argument—especially advanced by Edmunds—in favour of this view is that after partial excision of the thyroid in the dog the portion left, as was observed by Sir Victor Horsley, comes during its compensatory overgrowth to exhibit a precisely similar construction. This particular appearance is interpreted by Lorand in a directly contrary way—namely, as marking an exhausted phase of the gland—the vesicles once distended have ceased to secrete, their simple walls have in consequence collapsed, and the complex infoldings so conspicuous in the microscopic section have thus their explanation; under such circumstances of gland-exhaustion the symptoms of Graves's disease give place to those of myxoedema.

In the case in question, however, no marks of myxoedema were present, notwithstanding the fact that no trace of vesicular structure remains recognizable to the naked eye in the entire section of the lobe, and none beneath the microscope, in the portion of the gland submitted to histological examination.

Although the description of the parathyroid glands in man, by Sandström, is so comparatively recent as 1880 it is interesting to note that they were recognized in the rhinoceros by Owen so long ago as 1862. In his paper On the Anatomy of the Indian Rhinoceros, in the *Transactions of the Zoological Society of London*, vol. iv, p. 48, Owen's description runs as follows:

> The thyroid gland consisted of two elongate subtriangular lobes extending from the sides of the larynx to the fourth tracheal ring. . . The structure of this body is more distinctly lobular than is usually seen; a small, compact, yellow, glandular body was attached to the thyroid at the point where the veins emerge.

ON THE PATHOGENIC TICKS CONCERNED IN THE DISTRIBUTION OF DISEASE IN MAN

WITH SPECIAL REFERENCE TO THE DIFFERENTIAL CHARACTERS IN ORNITHODOROS MOUBATA.*

By R. NEWSTEAD, A.L.S., Etc.,

Lecturer in Economic Entomology and Parasitology, Liverpool School of Tropical Medicine, in the University of Liverpool.

It would be difficult to name any biological discovery that has made greater advance in medical and veterinary science, during recent years, than that of the extraordinary part which blood-sucking flies and ticks play in the dissemination of disease in man and his domesticated animals. Professor Ross has long since demonstrated the correctness of the mosquito-malaria theory, and this has undoubtedly led to the discovery by others that animals other than mosquitos are responsible for the transmission of disease in man and animals.

The association of ticks in the transmission of disease has engaged, and is still engaging, the attention of the medical and veterinary profession, the bacteriologist and the entomologist, with the result that questions of the greatest economic importance have been solved and the findings turned to profitable account. I refer more particularly to the extensive experiments which have been made in the United States of America and in South Africa, to test the practicability of eradicating the various tickborne diseases in cattle and of suppressing the ticks responsible for the transmission of the diseases. While it is very encouraging to be able to report such a substantial progress in the treatment of tickborne diseases in cattle, one cannot say that such marked progress has been made with regard to the suppression of tick fever in man, or anything devised for the elimination of the animals which transmit the disease. But seeing that the complete life-cycle and much valuable information regarding the habits of the tick (*Ornithodoros moubata*) concerned in the transmission of spirillum fever in man has been so thoroughly worked out by the late Dr. Dutton and his colleague, Dr. Todd, there can be little doubt that the result of their laborious studies will be put to some practical account.

The objects of the present paper is to briefly summarize the pathogenic ticks concerned in the distribution of disease in man, with special reference to the differential characters in the external anatomy of *Ornithodoros moubata* (Murray) together with an account of its life-history.

The Systematic Position of the Ticks.

Ticks (Ixodoidea) belong to the great class Arachnoidae—spiders, mites, etc.—and are closely related to the mites which produce acariasis in man and animals. This superfamily is divided into two subfamilies—the Argasidae and the Ixodidae. The former is composed of two genera: *Argas* and *Ornithodoros*, while the Ixodidae comprises nine genera. The members of the first division are recognized by the absence of a dorsal scutum, and the capitulum is more or

*Read in the Section of Tropical Medicine, Annual Meeting, Leicester, 1905.

less hidden under the projecting anterior margin. In the second division the capitulum projects from the anterior margin of the cephalic area, forming a projecting, beak-like prominence; and immediately behind the capitulum, on the dorsal area, is a large scutum or shield. The buccal organs are highly organized in all the members of the Ixodoidea, and are composed of four distinct bilateral parts. When about to take food from its host the animal fastens itself firmly by its legs, depresses its rostrum, and implants the toothed mandibles, and in proportion as these penetrate, the hypostome follows, and the retrograde teeth on the under surface fixes this organ in the wound. In this way the hypostome and the mandibles are driven into the wound to their full extent, and so firmly do they become fixed into the derma that it is often impossible to remove the tick without leaving the mouth organs attached to the host, or tearing away a small portion of the skin.

A fully engorged tick acquires considerable size, and after fecundation invariably falls from its host. Egg-laying takes place shortly afterwards, and the animal subsequently dies. The eggs are usually concealed beneath some object. The young larvae on hatching swarm up the herbage, or, as in the case of the domestic species, over the floor of the native huts seeking any convenient spot in which they can conceal themselves, only to sally forth in the dark to seek a new host.

Some species of ticks pass the whole of their lives from the larva to the adult stage on one host. Others have two or three hosts; but the members of the genus Ornithodoros and Argas have an indefinite number of hosts, and may live for several years. The ticks concerned in the transmission of human diseases are three in number: *Ornithodoros moubata*, *Argas persicus*, and *Dermacentor reticulatus*.

Of the Miana bug (*Argas persicus*) very little is known with regard to its injury to man, but it is said to be a terrible scourge to travellers both in Persia and Beluchistan. This species, or the closely-related *A. miniatus* is also responsible for the transmission of the spirillosus of the domestic fowl, a disease which is very prevalent in South Africa and Australia, but it does not affect man in those regions.

Ornithodoros Moubata (Murray).

Ornothodoros moubata, Murray, *Economic Entomology*, Aptera, p. 182. No. 31, two figures. 1877.

Nec Ornithodoros savignyi (Audouin), Neumann, *Mem. Soc. Zool. France*, ix, p 26, 1896 (*ubi synon.*).

(?) *Ornithodoros savignyi*, var. *coecus*, Neumann, op. cit., xiv, p. 256, 1901.

Ornithodoros moubata (Murray), Pocock, Thompson-Yates, and Johnston Laboratories Report, vol. v, pt. I., p. 188, pl. xv, 1903.

(?) *Ornithodoros savignyi*, var. *coecus** (Neumann), Lancaster, *Journ. of Trop. Medicine*, p. 124, 1905.

Adult female: Dorsum dusky brown, with irregular confluent blotches, rarely lines, of dusky ochreous yellow. In some examples the blotches were confined to the anterior region; in others they extended almost to the posterior margin; under side usually somewhat paler than the dorsum; abdominal region largely occupied by dull orange-ochreous blotches which gradually merge into the darker ground colour. Legs and rostrum of a pale translucent, ochreous white. Sculpture of dorsum fairly constant, but less pronounced in a partly engorged female than in the old and shrivelled examples. Capitulum hypostome not much wider at the base than at the anterior third, margin converging inwards, teeth in three bilateral rows; mandibles when fully extended reaching to the second articulation of the palpi, digit with a blunt terminal tooth, exterior apophysis with two widely separated teeth; *interior apophysis bidentate;* palpi tapering towards the extremity, second joint much the longest, sides of all the segments highly chitinized. Dermal cells, large irregularly ovate with one or two extremely minute spines at or near the margin and surrounded by a band of dark chitine, the latter character being much more pronounced in the region of the posterior margin. Stigmata lunular, peritreme finely pitted, and strongly chitinized. Dermal glands, irregular in outline and variable in size, the subcutaneous tubes attached to these organs are branched and appear like bundles of muscular fibre; there is a group between the base of the capitulum and coxa 1, another between the coxa 1 and 2 and a third between coxa 3 and 4, there is also a long bilateral series commencing immediately posterior to the genital pore. Legs normal. Margin of genital pore deeply crenulated. Nymph: Colour, pale ochreous-brown, legs translucent white with, in certain lights, a faint pale ochreous tinge. Form broadly ovate. Dorsum thickly studded with minute papillae, increasing in size posteriorly, forming at the margin a regular crenulated fringe. Sculpture of dorsum somewhat resembling that of the adult females. Capitulum partly projecting beyond the margin. Hypostome with two bilateral rows of teeth, basal pair minute, the remaining teeth are large and equal in size, mandibles strong, digit blunt, terminal. Palpi broad stout, third segment the shortest, apical segment about equal in length to the second and bears two or three short spines at the tip; all the segments have a broad marginal band of chitine. Legs sparsely spinose, rather long; leg 1 of seven segments, Haller's organs present, leg 2-4 of eight segments with the femora more dilated outwardly than in leg 1. Anal orifice placed a little posterior to the insertion of leg 1. Vaginal orifice absent. Spiracles minute, placed opposite insertion of leg 3.

The adult female of this species may readily be distinguished from *O. savignyi* not only by the absence of eyes—as has already been pointed out by Pocock (loc. cit.)—but also by the presence of the *interior bidentate apophyses* and the apparently narrower base of the hypostome. Drs. Dutton and Todd have called attention to the singular fact "that a clear fluid in fairly large quantity may ooze intermittently from between the bases of the first and second pair of legs." They were, however, unable to find "any trace of an opening." I find on examination that there are groups of glands in the situations indicated, and also a third group between the base of the capitulum and the first pair of legs, and in addition to these there is a long bilateral series immediately behind the vaginal opening. All the glands have subcutaneous tubes, which later are finely branched, and, as already stated in the diagnosis, these organs have much the appearance of bundles of muscular fibres. I find also that a group of similar organs exists in *Ixodes hexagonus* (Leach), but in this species the subcutaneous tubes are comparatively short and unbranched, but they bear a very striking resemblance to the so-called tubular spinnerets found in the Lecanid group of the Coccidae.

It is important to note that the cotypes of the species, which were kindly identified by Pocock (loc. cit.) as *O. moubata*, are still in the collection of the School of Tropical Medicine. Some of these specimens were prepared for microscopical study, and were found on examination to be specifically identical with the specimens recently received from the Congo Expedition. There should be no doubt, therefore, as to the correct identity of the species. I have placed Neumann's var. *coecus* as a doubtful synonym, as, unfortunately, I have not been able to consult Neumann's original description, but Pocock considers it to be the same as Murray's *O. moubata*. On the other hand, Ray Lancaster (loc. cit.) has quite recently (1905) identified some examples of *Ornithodoros* from Angola, West Africa, as belonging to Neumann's var. *coecus*.

Seeing that the specific characters of *O. moubata* are now found to be so markedly distinct from *O. savignyi*, there should be no difficulty in clearing up these somewhat important discrepancies by those who are in possession of the types. In many respects the habits of this species are not unlike those of *Argas persicus*, but, so far as I have been able to ascertain, the inert character of the larva of *O. moubata* is unique among the Ixodinae, in that it passes the whole of its life within the egg.

Experiments with the Ticks imported from the Congo Expedition.

Experiment I. June 19th.—Thirteen nymphs were placed in a hollow bamboo, which was fastened to the axilla of a young macaque monkey [illegible]. The ends of the tube were securely corked, and a large section was cut away providing the young ticks with ample means of access to the host. As a further means of precaution against admission of light the tube was covered with a thick cloth. Under these conditions the ticks were allowed to remain on the host for a period of about five hours. Result, *nil*. All the ticks refused to feed.

Experiment II. June 19th. Five adult female ticks were put into a similar tube to that in which the nymphs were placed, and fastened to an adult macaque. But, as the ticks refused to feed, they were subsequently removed and placed together on the monkey in the hollow below the knee of the left leg, and carefully covered with a chamois leather. One of the ticks almost immediately attached itself to the host; this took place about 1.30 p.m., and the female left the host, fully engorged, at 3 p.m.

Observations on the Engorged Tick and her Progeny.

The female became very restive after feeding, and made repeated attempts to escape from the bright sunlight. She

* Calman, who contributes the article, gives the name *Caecum*, evidently in error.

was put into a Petri dish on a deep layer of dry sand, in which she rapidly buried herself, and placed in a dry incubator at an even temperature of 29° C. After laying the first batch of eggs she was placed in a partly-hollowed-out banana and enclosed in a cardboard box. The animal immediately left the banana and took up a position in a broad groove where she was partly concealed, in which position she remained fixed and inert until long after the third batch of eggs was laid. No attention was paid to the banana; indeed she made a hasty retreat from the fruit, and got as far away from it as the limits of her cage would permit. Here two more batches of eggs were laid, both lots being protected for a few days beneath the body of the parent; but both lots finally slipped from beneath her and fell intact to the bottom of the box. She defaecated three times during the period of egg-laying; the white, fluid-like faeces, when dry, left a white deposit resembling French chalk in texture. The actual process of egg-laying was not observed. The length of the tick before feeding was 7 mm. The weight before feeding was 0.0270 gram, after engorgement 0.2602 gram, or an increase of about ten times her original weight. This was not a very marked increase as compared with certain other species of female ticks, which are known to increase to about thirty times their original weight after engorgement. Batches of eggs were laid on the following dates, during the night:

June 29th. First batch of seventeen eggs. These were found in a little cluster at the bottom of the Petri dish. July 2nd. Second batch of fifty-one eggs laid. These were protected for a few days beneath the body of the parent. July 10th. Third batch of twenty-six eggs laid. These were also protected by the parent for a few days.

Development of the First Batch of Eggs.

June 30th. First day—subcutaneous reticulation evident; poles slightly cloudy. June 31st to July 3rd. Second to fourth day—no change. Fifth day—subcutaneous reticulation more distinct. July 5th. Sixth day—form decidedly flattened, legs and capitulum of larva showing faintly through the cuticle of the egg. July 6th. Seventh day—form unchanged; legs more evident. July 7th. Eighth day—"arrow-shaped" patch of secretion formed beneath the cuticle of the larva near anal orifice. July 8th. Ninth day—egg shell split; larva fully formed. July 14th. Tenth to fifteenth day—cuticle of both egg and larva increasing in opacity, finally forming a dull white disc. July 15th. Sixteenth day—nymphs hatching. Several examples were seen to escape from the larval exuviae anteriorly.

Development of the Second Batch of Eggs.

Although these were laid four days later than the first batch, some of the nymphs appeared simultaneously with those of the first batch—that is, on July 15th.

Development of the Third Batch of Eggs.

These were laid twelve days after the first batch, or eight days after the second batch, and the first nymph appeared on July 18th, just three days later than the earliest appearance of the nymphs from the first batch. It should, however, be noted that the nymphs from all three batches were quite erratic in their appearance, as examples from each lot of eggs continued to emerge over a period of twelve days, the last appearing on July 27th.

Dermacentor reticulatus.

This is the tick which Surgeon John F. Anderson thought to be responsible for the transmission of spotted fever or tick fever of the Rocky Mountains region in the United States of America. Anderson founded his theory on the ground that the fever was always found where there was a history of tick bites about one week before the onset.

Claim not substantiated.

ON THE ETHICS OF A PRESCRIPTION.*

By G. A. BATCHELOR, M.D.,
Capetown, South Africa.

If we take a rapid and very cursory view of the history of medicine, we find that the ancient man of medicine gathered his herbs and made decoctions in secret, and retained his nostrums for his sole use in the treatment of his patients. In this way he created for himself a monopoly. When the patient wished to be treated he went to the man of medicine and obtained his potions, and when he wished for further treatment he was obliged to return to the man of medicine. By a rapid step we come to the general practitioner of some years ago, and who still exists in country places. He was a man who dispensed his drugs and sent out his combinations in carefully-labelled and corked bottles, treating the case that applied to him with mixtures the composition of which was his own property. He in this way insured to himself gain for every repetition. To-day, for our own convenience, we write prescriptions, which are dispensed by the chemist. It is in reference to the ethics of these prescriptions that I wish to bring before you certain points for your discussion. Before going any further it is necessary for us all to accept the position that the prescription is written for the purpose of the treatment of the ailment of the person applying to us for relief. In writing the prescription our objective is to supply the patient with certain drugs indicated in the treatment of the attack for which he applies. Consequently, the prescription does not take a practical form until it has passed through the hands of the chemist and has become a bottle of medicine or a box of pills, etc. The chemist acts as our mediary or agent, and does the work which was formerly done by the man of medicine and the practitioner. The first question which will present itself to you is, Who is responsible, the prescriber or the druggist who makes up the medicine? I venture to think that you will agree with me that the prescriber must be held responsible, and that his responsibility does not end at the moment he hands the prescription to his patient; as a fact, the responsibility does not take a practical form until the prescription has taken the form of a bottle of medicine, etc. The prescriber is then responsible for the effects produced by the drugs exhibited. The only responsibility the chemist has is in the correct reading of a prescription and its correct dispensing. His responsibility should be to the prescriber and not to the patient. This does not appear to be quite the position held by the chemist. He appears to acknowledge his responsibility to the person presenting the prescription. We not infrequently see written up in a chemist's shop or his window, "Prescriptions accurately and carefully made up," as an inducement to the public to bring their prescriptions. If the position I have suggested be the right one, then the chemist should send circulars to us writers of prescriptions stating their ability to make up our prescriptions accurately and carefully.

If we accept the position that the prescriber is responsible to his patients for the effects of his prescription, the next question which naturally follows is, How long shall the prescriber's responsibility last?

It appears to me that, in the present state of the conditions connected with a prescription, the liability is unlimited, at least it is unlimited as long as the prescription continues to exist and is negotiable into drug form, the person to whom the prescription has been given being in a position to have the prescription made up an unlimited number of times, either by the same chemist or any other chemist. Chemists are willing to repeat the mixture, etc., having for their authority for so doing only the request of the patient or his messenger. This state of affairs, I would submit to you, is both undesirable and loose. That we as a profession should be held responsible for something over which we have no control is unscientific from a medical point of view and is distinctly unbusinesslike from a commercial point of view. Such a state of affairs would not be tolerated in any other walk of life, and is ethically wrong.

The next question, and a natural sequence to the above, is: To whom does the prescription belong? I believe that it is held generally that the prescription belongs to the patient to whom it is given, and I wish to place this under review for discussion. The patient, in the first instance, applies to us for treatment, and, in order to suit our convenience, we hand him a prescription, by means of which he is able to obtain from our agent, the chemist, the necessary drugs for the carrying out of the treatment. He does not apply to us for a prescription; if he does, he does not mean what he says. He has slipped into a professionalism to which he is not entitled. After he has been supplied with the drugs indicated by the prescription, to my mind the prescription should be of no further use, either to the patient or to the chemist, for his further gain by the remaking of a prescription when not authorized by the writer, who is, as we have seen, the responsible party. Otherwise the prescription becomes a sort of blank cheque upon his reputation as a reputable and careful medical man. Let us take an instance of what not infre-

* Read before the Capetown Branch of the British Medical Association.

quently occurs. A patient presents himself at our consulting room with an attack—say, of neuralgia. It is principally in connexion with consulting-room patients that most of our difficulties occur. We prescribe for that patient with a view of relieving his pain, and expediting his restoration to health by means of drugs. The patient is probably told by the physician he consults that he is suffering from neuralgia. We are not called upon, I take it, to write a prescription for neuralgia itself, for there are many ways and various indications for treating neuralgia in different patients. What not infrequently occurs is this—the patient leaves the room with the knowledge that he is suffering from neuralgia, and he goes away with the prescription in his pocket, presumably for that disease. Neuralgia and the prescription become intimately associated in his mind. He takes the prescription to his chemist and has it dispensed. He retains the prescription, which enables him not only to have the mixture repeated for the current attack but for any subsequent attacks, and not infrequently he has the temerity to hand the prescription to his friends who may be suffering in a similar way. By this means is the doctor, who receives a guinea or five shillings or nothing at all, deprived of his just dues. So little do the public realize that by passing on a prescription to other friends they are depriving the doctor of the further fees to which he should be entitled, that they will not infrequently tell the doctor, with an appreciative remark, that they gave the prescription to Mr. So-and-so, who was suffering in a similar way; and nothing is left to the doctor but to smile and put on a gratified look at the success of his prescription at the expense of his pocket. The position I would suggest as being the correct one is, that the prescription having been dispensed by the chemist and the mixture supplied to the patient, the prescription should become dead, and should be neither at the disposal of the patient for further use nor for the use of the chemist for making up any subsequent mixture. If the prescription is to be resurrected the resurrection should only be by the signature of the prescriber. If this was the accepted rule we would be in a position to compel our patients to return to us for any repetition of mixture or for the treatment of any subsequent attacks, and I venture to think we would in this way have a larger amount of control over the treatment of our cases and we would be in a better position to follow up our cases, not only with benefit to ourselves medically and pecuniarily but also with benefit to our patients, and we would avoid our prescriptions becoming blank cheques on our reputations. When a case requires prolonged treatment, then by all means let the prescription be dated and let it be definitely stated on the prescription for how long the same shall be in use. At the end of that period the patient should return to his medical adviser for instruction should further treatment be required.

Take, for instance, the treatment of epilepsy with bromides. It may be necessary that the patient may have to take bromides for years, but it is very doubtful practice to allow a patient to deluge himself with bromides to the detriment of his mental condition without being under medical observation. This principle may even be carried out in such a small matter as the prescribing of a tonic. It would be much more scientific for the prescriber to state how long the tonic shall be continued and the limit on the prescription than to allow the patient to continue the treatment at his own discretion and perhaps to the ultimate detriment of his digestive organs. In the case of a patient being removed from the physician from whom he has received his prescription by a great distance, then I would suggest that after the patient has taken the prescribed drugs for the period stated on the prescription, he should either be compelled to communicate with the prescriber for further instructions, or submit the treatment to his local medical attendant for advice. In connexion with this, I think it is not altogether free from reprehension for physicians to undertake the prolonged treatment of a chronic case, living at a great distance from them, by giving prescriptions and advice, and quietly ignoring the local medical attendant of the patient. This is, in my mind, a transgression of one of the ethical principles connected with a prescription, as between one medical man and another medical man. If the idea of the safeguarding of a prescription be accepted as correct, I am of opinion that we would place the treatment of our patients upon a safer and more scientific basis than at present.

The fact that no restrictions are placed upon the use of a prescription will account for the way in which prescriptions are made use of, and run as patent medicines. I have no definite information to lay before you, but I think I am not far wrong when I state that probably a large proportion of the patent mixtures sold to-day have had their foundations in prescriptions the writers of which have received no royalty. Not only do they receive no royalty, but they become the unwilling means of doing a great deal of harm to the public and to the profession of which they are or were most probably honourable members. To give an instance which came under my own notice: I remember a tablet being introduced to me by a traveller of a well-known drug firm, as an excellent means for the treatment of neuralgia, and I was assured by the traveller that the tablet had been built up from a prescription written by a medical man practising in a provincial town in England who had found the combination give excellent results in his own practice. I am unaware that the medical man was in the receipt of any royalty from the sale of the tablet. To give another instance how we as a profession are being defrauded of the just reward of our hard-earned knowledge, I remember being told of a titled lady in London who obtained from a dermatologist a prescription for a hair wash, which she found so successful in her own case, and probably in that of her friends, that she patented the wash, possibly with some slight and immaterial alteration, and by the sale of the same reaped a rich harvest. It is open to us to suppose that the original cost was 2 guineas, probably 1 guinea.

I would draw attention also to the way in which prescriptions in popular books on medicine and in domestic journals, some of which not infrequently contain powerful drugs, are copied and presented to the chemist to be dispensed, without any signature representing the responsible person. I would ask the Association, Who is to be considered the responsible party for the effects of such a prescription? I would especially draw attention to the possible dangerous abuse of prescriptions containing narcotics. Cases must have come under the notice of most practitioners where patients have received a prescription containing opium, chloral, or other narcotic, evidently, in the first instance, prescribed for the necessities of the case, but the patient has continued to obtain repetitions from his chemist, without any further advice from the medical attendant, and in this way has sown the seeds of a drug habit disastrous in its results. The public are not always wrong when they accuse the medical profession of creating drug habits, seeing that prescriptions containing narcotics or other drugs capable of producing habits are allowed to exist in an irresponsible way with our signatures attached. I am of opinion that it should be penal for any chemist to repeat a mixture containing dangerous narcotic drugs without the prescription being each time signed again by the prescriber or his representative. I am not sure whether such dispensing could not be dealt with under the Act regulating the sale of dangerous drugs.

In conclusion, I would suggest, in order to protect ourselves professionally and commercially and our patients medically, and, by the way, of conducing to the fulfilment of the ethical requirements of a prescription, that each prescription shall be headed by the patient's name and address, and that the prescription shall be signed by the writer with his ordinary signature, instead of, as now, merely by initials in such hieroglyphic form that it is only decipherable by the writer, and that the prescriber's address shall be given, and that it shall be stated for how long or for what quantity the prescription shall be made up, and that it shall be only available for such time and quantity, and shall only be available for the person for whom it is written, and that after the prescription has fulfilled the instructions of the writer it shall be dead.

NOTES ON A CASE OF PNEUMOTHORAX.*

BY JOHN McKIE, M.B., C.M. GLASG., GLENLUCE.

THE patient in this, a school teacher, aged 21, called on me on September 29th, 1903, in the evening. He declared he had been in perfect health until the sudden onset of a sharp pain in the left side while taking his morning wash the previous morning. It had persisted ever since, but, nevertheless, he had continued his duties at school. The region he indicated as its site was from about the fifth to the eighth or ninth rib in the mid-axillary line.

There was no other complaint, and only on close questioning did he admit that he felt somewhat breathless on ascend-

* Read before the Scottish Division, Border Counties Branch of the British Medical Association.

ing the hill to school. He had had no cough previous to the onset of pain, but since there has been a slight, dry cough.

According to his own statement, he never expectorated blood, but his mother said she had on several occasions observed a "bloody spit" in the chamber-pot in the mornings. (This, of course, may simply have been from the gums.) There was no family history of chest complaint beyond that of a brother who was at one time subject to bronchitis, but had lately kept well. On auscultation I heard amphoric breathing, and asked him to go home and get to bed. I then examined him thoroughly.

State on Examination.—The patient is tall, with pale or slightly-sallow complexion, black hair, and dark hazel-brown eyes.

His tongue was clean, pulse over 80, but he was somewhat agitated. Temperature normal. Breathing quiet.

The left front of chest looked slightly full, and expansion on inspiration was very much diminished.

Cardiac impulse: This was clearly visible and strongly felt in the right intercostal space, slightly internal to the nipple.

Vocal fremitus was almost completely absent on the left side.

Percussion elicited tympanitic note all over the left lung and extending distinctly beyond the sternum.

Cardiac sounds were completely absent from precordial region.

Vesicular murmur was also absent, being replaced by a loud and distinct amphoric sound; and each inspiratory sound was accompanied by one or two beautiful metallic tinklings.

Vocal resonance existed all over, and especially in the lower part of the chest possessed well-marked amphoric quality, both with spoken and whispered voice.

Tintement métallique was also easily elicited. I failed to elicit the cracked-pot sound.

Diagnosis.—I made a diagnosis of pneumothorax, and prescribed liquor morphinæ and rest in bed.

Progress and Result.—Next day succussion sounds were easily elicited. Progress towards recovery at once began, and was steady. After a period of five weeks the heart had returned to its normal position, and vesicular murmur was normal all over the lungs.

Examination.—Two years later, in September, I again examined this patient's chest, and was unable to detect any trace whatever of disease.

Remarks.

I have stated the results of my original examination of this patient's chest at length in order that it may be clear that the pneumothorax was complete. The apparently sudden onset without previous manifestation of disease or ill-health (of course, I am presuming that the pneumothorax began with the onset of pain) is notable. Leaving out of account cases due to accident, fractured ribs, or puncture of chest wall, the majority of cases of pneumothorax occur as a consequence of some diseased condition of the lung or pleura, which has in most cases previously manifested itself. Moreover, in many of these cases the pneumothorax is limited in extent by pleural adhesions. In this case, however, as has been said, the pneumothorax was complete, while the patient professed to have enjoyed the best of health, not even admitting an occasional cough.

It must be rare to have a case of extensive pneumothorax such as this with symptoms so much in abeyance. The only symptom here was pain, and even that not sufficiently severe to prevent the patient performing his usual duties for two days before seeking medical aid.

As an explanation of these two points, I would venture to suggest—perhaps rightly or perhaps wrongly—that the onset of the condition was due to small tuberculous nodules in a latent state (and consequently not giving rise to symptoms) lying under the pleura; ultimately (probably due to some sudden expiratory effort) the pleura was ruptured. The perforation was very small and consequently the access of air to the pleural cavity took place slowly; otherwise acute signs, such as severe pain, dyspnœa, syncope, etc., must have resulted.

A further noteworthy point is the benign course of the disease, and the restoration to, and continuation of, good health.

This is the most interesting, and I believe a very exceptional, feature of such cases.

As it happened, shortly before this case came under my observation I had been reading Gairdner's *Clinical Medicine* which describes a series of cases of pneumothorax. Such a bad impression had this book left that I must confess I gave a prognosis which time, I am happy to say, has proved to have been far too gloomy.

In the course of a hospital career one sees many cases of pneumothorax, but has little opportunity of following to a finish any but those which prove fatal.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, Etc.

HYPERPYREXIA FOLLOWING TRAUMATISM.

K. T., Punjabi fireman, while discharging his duties at sea east of Ceylon, was struck when in a stooping posture on the nape of his neck, occiput, and upper part of the shoulders by a sackful of ashes weighing 72 lb., which fell from a height of 22 ft. He was a big, burly man, aged 32, of excellent physique and muscular development, and of previous good health.

When seen, fifteen minutes after the accident, he was lying on his back, with all his limbs rather flaccid, the pupils equal and slightly contracted, axes of eyes looking directly forward, and the conjunctival and light reflexes present. The pulse was full, strong, regular in force and rhythm, well sustained, and of normal frequency. The respiration was normal in every way. Patellar tendon, supinator, and triceps reflexes were all present, and perhaps very slightly accentuated. The patient seemed to be in a semiconscious condition, and an occasional reply could be elicited with a little trouble. No skin lesion was present, and nothing abnormal could be felt on palpation, tenderness on pressure, and pain on moving the head being alone in evidence. His condition eight hours later had scarcely altered, pulse and respirations being a little quicker, and slight rise of temperature being discernible. But four hours later (twelve hours after the accident), his breathing was laboured and stertorous. Respirations 38 per minute, with tendency to Cheyne-Stokes rhythm. Costal and diaphragmatic movements both impaired. Pulse 150, regular in force and rhythm, but weaker, smaller, and ill sustained, with probably a slight dicrotic wave. His temperature when taken in axilla and between thighs registered 109.1° F. No twitching of facial muscles was observed. The heart sounds were good, but numerous adventitious sounds could be heard in both lungs, and slight dullness existed posteriorly. The pupils remained equal, a little contracted, and directed straight forward. The conjunctival reflexes were still present. The abdomen was rather distended and tympanitic, the bladder empty. Stimulants and ice-sponging resulted in a slight rally, but death ensued one hour and a half later, the lungs appearing to give out before the heart. Unfortunately, a *post-mortem* examination could not be made and the exact lesion ascertained. There seemed no reason to believe that the cervical spine was fractured, and one can only surmise that the thermogenic, vagus, and phrenic nerve centres in the medulla were functionally disturbed, or otherwise influenced as a result of the concussion.

R. E. Humphry, M.R.C.S.Eng., L.R.C.P.Lond.,
Surgeon, P. and O. ss. *Nubia*.

INTESTINAL SAND.

X., a woman, aged 62, consulted me in regard to acute intermittent pains in the stomach, and difficulty in keeping the bowels active without constant resource to purgatives. There was no difficulty in swallowing, nor was the pain increased after ingestion of food. Very little vomiting. The history of pain in the stomach dated to two years previously.

On examination, a well-defined tumour could be felt near the pyloric end of the stomach, the size of a Tangerine orange. Per rectum nothing was to be felt, nor growths in any other part of the body were discovered. A diagnosis of cancer of the pylorus was made. Under drugs the condition improved. Three months later I again saw her; she had become much emaciated, she vomited blood and food frequently, and pain was constant. Diarrhœa had set in some few days previously; the motions were scanty and frequent, and consisted of faecal matter, mucus, blood, and undigested particles of food. Per rectum a well-defined hardness, almost completely surrounding the gut, could be felt, some $4\frac{1}{2}$ in. from the anal orifice. Two days later, on examining the evacuations, I perceived a few round bodies about $\frac{1}{8}$ in. in diameter. Each motion passed after this contained more and more of these bodies, until one could count as many as a hundred in an evacuation. They were smooth, round, of a dark-brown colour, and extremely hard. Unfortunately, the specimens were lost, so that their composition could not be determined, but I regarded them as intestinal sand.

The case came to a quick termination after the appearance

of the secondary growth, the patient sinking under repeated attacks of haemorrhage and diarrhoea. Operative interference had been refused, and so too was a *post mortem* examination.

What I have described as sand was not present in the evacuations until after the onset of diarrhoea, nor until the appearance of the secondary growth in the rectum, and when the sand appeared, the pain, which had been extreme, became very much less. What connexion is there between these facts? I can find no suggestions on the subject in works of reference, nor have I seen intestinal sand produced in any affection of the intestinal tract except carcinoma. Possibly the sand is formed because the larger intestine has in these cases to take on abnormal functions such as that of the elimination of phosphates.

Leicester. PERCY W. G. SHELLEY.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

SHROPSHIRE AND MID-WALES BRANCH.

Shrewsbury, Tuesday, October 31st, 1905.

CHARLES GWYNN, M.D., President, in the Chair.

President's Address.—After some introductory remarks, the PRESIDENT proceeded: It is customary for our President to give an address on some learned subject of special interest to the profession, but as the country general practitioner has not wide enough scope to select sufficient cases bearing upon our subject, I intend, with your permission, abandoning the old lines and speaking shortly on a subject which has for several years past been one of great interest to me, and one in which I have had no little experience. I refer to ambulance work. It is a subject which brings the medical practitioner into very close relation with the general public, and there are duties of the profession to the laity and vice versa which cannot well be overlooked, and which find their climax in this work. First, then, to whom ought ambulance to be taught? To every one—men, women, and children. Men in every class of life; in fact, one's education should not be considered complete unless the knowledge of giving first aid had been thoroughly acquired. We have seen the great importance of having our police and railway officials thoroughly trained in this work, and another class of the community ought to be relied upon in cases of emergency. I allude to the clergy. Often they are called on in our remote districts, and by being able to efficiently give timely help they would not only be lessening human suffering, and working hand in hand with our profession, but would at the same time strengthen their own position by gaining the confidence and love of their needy parishioners. My own experience of the clergy on this matter is very favourable. I have always found them most anxious to do all in their power, not only to aid in cases of sudden illness or accident, but have been foremost in arranging classes for the instruction of their parishioners. Well do I remember the valued services of a country vicar in the case of the Welshampton railway disaster; not only did he give first aid as far as laid in his power, but contributed most substantially and practically to the immediate wants of the sufferers. His example stimulated others, and by his good common sense, *plus* sufficient knowledge of the subject of first aid, was a most valuable assistant to those medical practitioners who happened to be there. Another important class, namely, the police, cannot well be passed by in silence. They are most important, as being our protectors, and not persecutors, or prosecutors. The point on which I always lay great stress in either instructing or examining them is the subject of insensibility, and it has often surprised me to find how many men who are otherwise bright and intelligent have the greatest difficulty in grasping this subject. Often have I had in the same class men who have been instructed by the same teacher, and yet have answered questions in a way which proved that they thoroughly understood what they were talking about, whilst others were in an abject state of confusion. The vast importance of this to the public cannot be too greatly appreciated. For a man suffering from apoplexy to be treated as an ordinary "drunk" could only end in disaster to the patient and disgrace to the constable. Women ought certainly to be instructed in ambulance work, not only in first aid, but in home nursing, management of children, and hygiene. I have been often taunted with the remark, "What is the use of teaching women first aid?" They would faint at the sight of blood, or lose their heads over a fracture. These are not the rule, but the exception. The very fact of knowing what to do gives confidence in emergency, and I have frequently had most valuable help from ladies who have undergone a course of training in first aid. Whatever flimsy objections may be raised against teaching women first aid, all will be agreed that the other three divisions are essential in the sick room. Woman decidedly holds her own as a nurse, and some instruction in her duties will make a great help to though not a perfect substitute for her fully-trained sister, the professional nurse. How many cases have we medical practitioners lost through ignorance of the first principles of nursing? Lives have been sacrificed who really ought not to have died had they been properly cared for between the doctor's visits. Some years ago I was attending a farmer for pneumonia: I ordered some beef-tea to be made, and asked the patient's daughter how she was going to make it. She was highly indignant at being asked such a question, and I took my rebuke and departure. On making my visit early next morning I found my patient moribund, and the beef-tea represented by a jug of tepid water with three slices of cold boiled beef floating about in it. Her knowledge of the other details of sick nursing were on a par with her skill in making beef-tea, and no wonder that my patient died. The management of children and hygiene are two very important subjects for women to learn; indeed, they may be said to be of national importance. Ignorance in either is fraught with disaster. How many young women of all classes of society leave school who are crassly ignorant of the treatment and care of their younger sisters and brothers, and when the time comes for them to be mothers themselves their ignorance is simply pitiable. Can we wonder at the deterioration of our race, if such is the case, when this state of things exists? Children born healthy and made puny by ignorance and unhealthy surroundings, ill-chosen and badly-prepared food, all pave the way for the favourable growth of that scourge of our race, the bacillus of tubercule. Give our infants a chance to fight the battle of life from the cradle by feeding and clothing them well and placing them in favourable surroundings, and then there will be less demand in later years for sanatoriums, and there will no longer be the taunt that our race is deteriorating. Though not strictly an ambulance subject, there is one thing closely allied to nursing and hygiene—cooking. Surely this might be taught in our schools instead of music or some of the other unnecessary accomplishments which are paid for out of the ratepayers' pockets. Some time ago I mentioned this to the mother of a large family, and her reply was: "It would look a great deal better if they gave us the meat, and we would soon find a way of cooking it." Whereat I mildly suggested that probably, instead of cooking it, she would speedily spoil it by her crass and stupid ignorance. The discussion ended abruptly. (*a*) Should children be taught ambulance work? Certainly. For the last three years I have held a class for boys at the Whitchurch Free Grammar School, and the enthusiasm with which they have taken up the work has been most gratifying and encouraging to me and highly creditable to them. When their examiner was asked to select the best candidate for a prize the competition was so keen that it was with the greatest difficulty that the prize was awarded; and, from a practical point of view, on more than one occasion members of my boys' class have rendered very efficient first aid in cases of accident, one instance being a fractured arm, which took place on their own football ground. (*b*) To what extent should ambulance work be taught? Only to the extent of rendering first aid as laid down in the handbooks of the St. John Ambulance Association. Frequently have I been asked by my pupils, "Are you not giving an advanced course of instruction?" My reply has invariably been, "Certainly not." The instruction given is complete as far as it goes, and was never intended to do more than tide over an emergency till the arrival of skilled help. Some of my pupils who were most desirous of advanced instruction were dispensing chemists and their assistants, who no doubt thought that such knowledge would help them to still further compete with the general practitioner than they do already, this competition being a very serious matter to some of our brethren in general practice. (*c*) By whom should the instruction be given? By fully-qualified medical practitioners; only in some cases county councils have had classes instructed by nurses. This plan, I believe, has not been altogether successful. It cer-

tainly is open to the objection that it takes the nurse out of her proper sphere and makes her a rival to the practitioner. On more than one occasion, when giving instruction on home nursing, I have availed myself of the assistance of a trained nurse in giving demonstrations on bed-making and lifting patients, etc.; but this is quite different from handing over the entire responsibility of training a class to a nurse. The St. John Ambulance Association rightly refuses to recognize such classes. (*d*) Then again arises the question as to the remuneration for conducting these classes. Many of us have given our services gratuitously where the members of the class could not afford the expense of paying an adequate fee, and this has been done ungrudgingly. It is not fair, however, to the profession for the public to expect this to be done in every case; more especially I allude to wealthy bodies—for instance, railway companies, who should be only too glad to give adequate remuneration for that instruction to their officials and servants which would be of the greatest service and benefit, not only to themselves, but also to the public. Some time ago I was approached by a wealthy railway company on the subject of instructing their employés. All arrangements were satisfactorily made except the fee, which the company declined to pay, giving me plainly to understand that the pupils would have to defray all expenses themselves. Needless to say, this class was not formed. Our county councils might have a little pressure brought to bear on them on this subject. For some reason, perhaps well known to themselves but not to me, the Shropshire County Council have declined to authorize any classes being formed under their auspices. This I know to be a great mistake on their part, as I have frequently been asked when the lectures on ambulance were to begin. Many young men would have availed themselves of the classes had they been formed. One point in this matter is of great importance to ourselves, and can only be adjusted by ourselves, and that by acting fairly and squarely to one another. In too many instances there is the danger of underselling, of which public bodies do not hesitate to take advantage. A few years ago I was asked to take a class at a neighbouring village, and I demanded the fee I had received from a class I had conducted the same distance from my home. I thought the matter had dropped, as I had no reply to my demand, when, to my disgust, I found the class was being conducted by a practitioner who ought to have known better, and who had undertaken to do so, for half the fee I had demanded. These instances are greatly to be regretted, and they can only be properly adjusted by practitioners being loyal to one another. I wish I could speak from experience of the benefit of having ambulance brigades. In small country towns it is an impossibility with the constantly shifting and changing population. Young men whom I may have trained one season have left the next, and I should experience the same trouble in keeping up the numbers as our volunteer captains have with their companies. That organizations of this kind are of the greatest use has been most amply proved. We have to go no further than this town to see a well equipped and officered brigade, under the command of our Vice-President, Colonel Cureton; to the efficiency and smartness of the men I can well testify, for I have had the honour of examining them on their ambulance work. Gentlemen, in making these few superficial remarks I am painfully conscious of not having brought to light any new facts, but it is well occasionally to take in review everyday, commonplace things, which for their very familiarity are apt to be disregarded. If ambulance work were made a subject of education, authorized and enforced by Government, it might well oust many fantastic and expensive subjects which are of no use to the children of our working classes, and only tend to unfit them for that station of life in which Providence has placed them. Instead of having a smattering of science and art, which is not thorough enough to be of any real value, our children would be taught to help one another in cases of accident and emergency, proper care would be bestowed upon sick persons and young children, and those who are healthy would be provided with food which, if not erring on the side of extravagance or sumptuousness, would at any rate be well cooked.

Medical Treatment of Uterine Fibroids.—Dr. Thomas Wilson, of the General Hospital, Birmingham, read a paper on the Medical Treatment of Uterine Fibroids and its Limitations. Uterine fibroids were very frequently found in the *post-mortem* room, but only in small proportion gave rise to symptoms; in 30 per cent. of the cases that did, the consequences were so serious as to demand operative treatment. Of the other 70 per cent., some with no active symptoms merely required watching, while others called in addition for medical treatment, under which heading might be included minor surgical and other local means. Medical treatment might be direct or symptomatic. The direct or absorptive treatment did not promise much advantage, especially if the many sources of fallacy were borne in mind which interfered with the correct appreciation of the results of treatment. Symptomatic treatment was often successful in tiding the patient over a crisis, and in obviating the necessity for operation. Bleeding was most often successfully treated by rest, ergot, and the intrauterine applications of iodine. Pain required treatment adapted to its cause; for its relief alcohol or morphine should be administered only in temporary and exceptional circumstances. The general condition of the patient, more especially the state of general nutrition and the cardiac and renal functions, required to be carefully watched. Operation should be recommended in the presence of severe and obstinate bleeding, incapacitating pain, pressure symptoms, or a rapid increase in the size of the tumour; and, generally speaking, when there was evidence that the health of the patient was becoming impaired, and that such impairment appeared to be referable to the uterine fibroid. The paper was illustrated by a number of specimens of degenerations and complications of uterine fibroids from the Birmingham University Museum.

The Blood in Pemphigus and Haemorrhagic Purpura.—Dr. Law Webb showed specimens of blood films from cases of pemphigus and purpura haemorrhagica. In the films from the former the eosinophile leucocytes were greatly in excess of the normal percentage, and the blood platelets were also more numerous than was usual. In the films from the purpura case there was a total absence of blood platelets, which was very remarkable. Most authors admitted that in purpura the number of these elements was greatly reduced, but would not allow that they were ever entirely absent. In this case, however, repeated examinations failed to discover a single platelet.

Gastric Ulcer.—Mr. Jackson read clinical notes of a case of gastric ulcer which had recently been under his care in the Salop Infirmary.

REPORTS OF SOCIETIES.

Epidemiological Society.—At a meeting on December 15th, Dr. J. F. W. Tatham, President, in the chair, Dr. A. Newsholme read a paper on the relative importance of the several factors involved in the control of tuberculosis, illustrated by numerous statistical diagrams. We were, he said, confronted by a considerable and steady decline in the death-rate from phthisis and tuberculosis in Great Britain, at any rate since 1866 or 1870, also in Germany and America (Massachusetts), whereas in Ireland, in France, and in Scandinavia the mortality was increasing, or was stationary. Among the several factors tending in either direction the influence of the predominant one might be obscured or concealed by that of others so long as we confined our inquiries to single communities, but by giving them an international character we might hope so to smooth these disturbing influences. This he had attempted with the result of bringing out as the predominant factor one that had been wholly unsuspected. Attention had been directed for the most part to preventive measures, direct or indirect, the former having originated on the Continent inspired by Koch's discovery, and the latter, or generally improved sanitation, having vindicated themselves in this country by their results. The machinery of the Poor Law had not been thought of as a possible factor, though great importance had been very properly attached to better food and general standard of living. His inquiries brought out the remarkable fact that while phthisis death-rates were higher in towns there had been the largest transference of the rural population to the towns in those countries where the decline in the death-rate had been greatest. It had been obtained in spite of the urbanization of large numbers of the rural population by some factor specially bearing on phthisis. This was proved by the fact that, though there was the same proportion between the general death-rates of the two sexes in town and country, the male phthisis death-rate showed an excess over the female enormously greater in towns than in the country. The cause of this must obviously be sought in conditions tending to decrease the resistance of the individual or to increase the oppor-

tunities for infection. If the former, it would act on both sexes alike, but in the industrial occupations and social habits of the male population were to be found the greater occasions of exposure to infection. Improved standard of living and better food were credited by many with the greatest influence in the diminution of phthisis, but whether measured by the price of wheat, of food and house rent, or by wages, the correspondence between these curves and the phthisis death-rate was very imperfect in England, slightly closer in Massachusetts, but scarcely, if at all, noticeable in Germany, France, Norway, or Ireland, nor was there any agreement between the adult phthisis death-rate and that of infants, as would be the case if Behring's hypothesis were sound. The ratio, however, of the curves of death-rates from phthisis and the logarithmic curves showing their rates of change on the one hand, and on the other of the number of inmates of workhouse infirmaries, lunatic asylums, and similar institutions to the total number of cases of phthisis, as nearly as could be ascertained, gave in every instance positive results. The influence of special sanatoriums might be ignored, being excluded on chronological considerations alone. The aggregation of large numbers of men in dirty workshops and under insanitary conditions, the association in the public-house with those suffering from phthisis, and their habit of expectoration tended to a high phthisis mortality among the male population in towns, and every case treated in a hospital or Poor-law infirmary was for the time being, and that usually the later and the most infectious period, segregated from his family and his fellows. In England, Wales and London, Scotland and Ireland, Norway, Sweden, and Denmark, Prussia, Berlin, Hamburg, France, and Massachusetts, the same inverse ratio held good. The practical outcome was that an existing machinery devised for economic purposes, and conducted at a far lower expense than would be incurred by setting up a new system, had for the last fifty years played a predominant part in Great Britain in the control of phthisis; and if it were extended and more completely separated from the ordinary treatment of paupers we might not only check the slackening of the declining phthisis curve, but give it a fresh impetus. The existing Poor-law accommodation for the sick might be made more attractive, and that already provided by isolation hospitals might, when not required for infectious cases, be utilized for phthisis.—Dr. NIVEN agreed with Dr. Newsholme that the segregation of phthisical cases in Poor-law infirmaries and asylums was a factor in the decline of the death-rate, but doubted its predominant influence. His own inquiries pointed to pauperism, and it should be borne in mind that the working classes were much better fed in England and Germany than in France and Ireland. Was the reduction greatest in those classes that provided inmates of pauper asylums? He thought not. Women were less frequently attacked even when employed in the same factories with men, but being as a class more home-keeping were more benefited by sanitary improvements in houses. He believed that the reduction was mainly due to higher wages and better food.—Sir SHIRLEY MURPHY desired to point out another factor hitherto ignored—namely, that with tuberculosis, as with all communicable diseases, there might be cycles of higher and lower virulence and resistance. When he was at the Fever Hospital scarlatina was very virulent in this country but mild on the Continent. Though there had been no material change in the conditions of the people during the last fifteen years, diphtheria had reached a maximum of virulence and was now showing an amelioration of type.—Dr. A. K. CHALMERS observed that in the Sixties the incidence of phthisis was heavier on females as it now was on males. Where the administration of the Poor Law was lax the outdoor pauperism increased, where it was strict the outdoor relief was restricted and indoor pauperism rose relatively.—Dr. FREEMANTLE said that in Berlin hospital and dispensary treatment were carried on in co-operation, working men, qualified as sanitary inspectors, visiting the poor in their homes to discover and recommend the cases suitable for either form of assistance. The correspondence between the extension of outdoor relief and the increase in the mortality from phthisis in Ireland was striking.—Dr. MOORE would attach much importance to the influence of a falling general death-rate on that from phthisis, which was in many instances a sequela of other diseases, as enteric fever.—Dr. NEWSHOLME, replying, remarked that the chronicity of phthisis would smooth out all waves; that the death-rate was declining in countries where there were no marked sanitary improvements; that it was not falling in Norway, where pauperism did not exist; that in other diseases waves did not affect the sexes unequally, and that marked as was the inverse ratio between the curves of the phthisis death-rate and of institutional pauperism, it would, he believed, be much more so could he have given only the numbers of cases of phthisis treated in such institutions.

NORTH OF ENGLAND OBSTETRICAL AND GYNAECOLOGICAL SOCIETY.—At a meeting on December 15th, Dr. D. LLOYD ROBERTS (President) in the chair, Sir W. J. SINCLAIR, in a paper on paravaginal section, regretted that the operation advocated by Schuchardt in 1901 was not now being used as freely as was desirable. He maintained that it was the best operation in one class of cases, while in another class it was the only operation which could suitably be performed. Thus, in cancer of the uterus this method raised the percentage of operable cases, and gave better remote results than vaginal hysterectomy without appreciably increasing the risk to the patient. It had great advantages over abdominal hysterectomy with pelvic dissection, which had a high mortality and without a proportionate improvement of the remote results. Paravaginal section was, therefore, the best operation in the more advanced but yet operable cases of cancer of the uterus. It was the only proper operation in another class of cases of which he gave four examples. Two of these were cases of uterine atresia with haematometra and haematosalpinx causing excessive pain and threatening life. In one both ovaries had been removed, and in the other one ovary had been removed previously by other operators. A third case was that of a senile virgin, aged 55, with a sloughing intrauterine growth. The fourth was a patient, aged 40, with a narrow vagina, haematosalpinx, and fibrosis of the uterus, which caused dangerous bleeding. In these four cases the affected organs had been simply and safely removed by the help of the paravaginal incision. Without this aid, the narrowness of the vagina in each case would have necessitated abdominal operations which would have exposed the patients to risks much greater than those attending the paravaginal section.—The following were among the specimens of cases shown: Dr. W. WALTER: A fibromyoma uteri removed by supravaginal hysterectomy from a patient, aged 60, because it was growing rapidly, although the menopause had been passed twenty years previously. Drs. W. K. WALLS and H. CLIFFORD: Uterine dilators so graduated, according to the English catheter gauge, that the tip of each had the same measurement as the stem of the next 1 in. from the point. Mr. A. J. RODOCANACHI: External genitals removed on account of their precancerous condition. Dr. W. E. FOTHERGILL: Four fibromyomatous uteri—one pregnant, and another removed one week after parturition—which had been impacted in the pelvis. The PRESIDENT recommended the use of catgut ligatures in vaginal hysterectomy, showing the uterus from a case in which the broad ligaments were secured in the vaginal vault by the sutures closing the vaginal wound. Two light packings with gauze, with a little douching, completed the after-treatment, the wound healing practically by first intention. He also showed a fibroid of the cervix enucleated through a vaginal incision, and urged the claims of enucleation as the ideal treatment for uterine fibroids. Dr. W. K. WALLS mentioned a case of rupture of the uterus in which abdominal hysterectomy was followed by recovery.

LIVERPOOL MEDICAL INSTITUTION.—At a meeting on December 14th, Sir JAMES BARR (President) being in the chair, Dr. W. B. WARRINGTON read a note on some unusual cases of spinal rigidity, commonly considered as forms of arthritis deformans. He related the history of a man who, after a trivial injury, rapidly developed marked rigidity of the whole of the spine, which was bent forwards and the head flexed upon the neck. A sister of his also suffered from a very similar condition. The cases were compared with those described by Marie as spondylose rhizomelique, and contrasted with the form of rigidity associated with pronounced lesions of the nervous system, first described by von Becqterew, and by him considered as primarily a nervous disease. Dr. Warrington then gave an account of the neuralgic forms described by Forrestier, and related a case of simple curable rigidity of the spine. It was suggested that in some of these cases the joints of the articular processes of the vertebrae might be the site of the disease, and that the spinal meninges became affected by direct continuity of the morbid process.—Mr. D. DOUGLAS-CRAWFORD related the case of a girl 18 years of age, in whom, as the result of an accident, the musculo-spiral nerve had been divided. At an operation

performed six weeks later, there was some difficulty in finding the ends of the divided nerve, which were lying 3 in. apart. The operation was performed in the country, and as it was impossible to directly join the divided nerve, a young rabbit was shot, and a portion of its spinal cord used to bridge over the gap. Four months later the patient had complete return of sensation, and extension of the digits and supination of the forearm were almost perfect.—Dr. C. J. Macalister related a case of mitral disease in which a loud vibrating systolic murmur was present. This murmur varied greatly in intensity, almost disappearing during expiration, and being very marked during inspiration. There were occasional attacks of tachycardia, the pulse-rate at these times varying from 180 to 200 per minute. At the autopsy the mitral cusps were found partially joined by shortened cordae tendinae. The left vagus was adherent to the aorta, and was involved in some adhesions behind an atheromatous patch in the vessel, which was narrowed in calibre just beyond the origin of the great vessels. This constriction had probably helped to increase the blood pressure in the heart during systole, especially during the expiratory act, and in consequence the mitral valve was the more completely closed and the murmur lessened.—Dr. John Hay read a paper on paroxysmal tachycardia, illustrated by numerous pulse-tracings and diagrams. Attention was particularly directed to three cases. Case I, a youth, aged 19 years, had suffered from seventeen attacks, which were typical in character, the pulse frequency being between 160 and 300. Between the attacks the action of the heart appeared to be normal in every respect. Case II, a child, aged 6 years, with no valvular disease. There had been one attack only, which varied from the usual type chiefly in its prolonged manner of termination. The pulse frequency during the attack was from 200 to 240 per minute. Case III, a man, aged 42 years, suffering from mitral stenosis, and liable to paroxysms of tachycardia, in which the heart frequency was from 160 to 180 per minute. The exhibitor was of opinion that the evidence tended to show that the primary seat of the disorder was situated in the myocardium; that in these persons the heart was unstable in its method of contraction; and that the exciting factor was some cause initiating stress in the right side of the heart. As a result of this stress, there was a sudden and fundamental change in the manner of the heart's contraction, the auricle and the ventricle contracting simultaneously, each responding to stimuli originating in the fibres joining the auricles to the ventricles. Dr. Hay also described the normal venous pulse, and demonstrated its departure from the normal in cases of paroxysmal tachycardia. In Case I there was present that rare and significant form, the "pulsus alterans." This was evidence of failure in the contracting power of the heart. In Cases I and II the typical pulsus paradoxus was present on several occasions. Treatment was considered and the various methods discussed. It was recognized that, though much could be done for the patient, the attacks tended to follow their own course towards recovery irrespective of medicinal treatment.

British Balneological and Climatological Society.—At a meeting on December 7th, Dr. Hamilton Cumming (Torquay), President, in the chair, Dr. Tyson, of Folkestone, read a paper entitled Some Remarks on the Prevention of Appendicitis. Among its occasional causes he mentioned oral sepsis, constipation, over-eating, such as seen in our modern hotels, unsuitable foods, alcoholism, weakened abdominal muscles, and wrong methods of stooling. He thought the use of the natural waters was conducive to the prevention of intestinal and toxaemic conditions. Dr. Symes Thompson regarded the disinfection and lubrication of the intestinal tract as the two main essentials in preventive treatment. "Salol" best secured the first, and petroleum the second of these requirements. In compressed form "Salol" was less reliable than when given in suspension in petroleum emulsion. Fluid vaseline in dessertspoonful doses kept up the normal action of the bowel without danger of purgation. Dr. Sandwith (Cairo) indicated his belief that appendicitis was less common among the coloured than among white races. This was perhaps due to the great care which coloured races took to avoid constipation, also to their freedom from nervous hurry during and after their meals, and, perhaps, most of all, to their efficient mastication. The races most dependent upon dentists were specially liable to appendicitis. Dr. Bezly Thorne attributed appendicitis to habitual toxicity of the contents of the bowel, and traced that condition mainly to gastro-duodenal and intestinal catarrh leading to fermentive decomposition. Castor oil, he thought, combined in the highest degree the qualities of an aperient, a disinfectant, and a bactericide. Dr. Percy Lewis (Folkestone) thought errors in diet were responsible in a great measure for the disease. The people of this country from childhood should be taught what food to eat and how to eat it, attention being specially drawn to the need of thorough mastication. Dr. Leonard Williams agreed that gastro-intestinal catarrh might be one factor in the production of increased toxicity of the bowel; there were certainly others in operation. One was an excessive amount of meat eaten. Appendicitis had been increasingly frequent as the price of meat foods lowered. Another was the increased amount of work thrown upon the intestinal canal by the neglect of the other emunctories. Much of the work intended to be done by the skin was thrown upon the bowel. Appendicitis was not common in those whose skins were active, and it would be a good thing if the present ridiculous and unscientific habit of wearing flannel next the skin were discontinued.—Dr. F. Strong Heaney (Blackpool) read a paper, illustrated by lantern slides, on the climatology of the Fylde Coast—that sea line stretching from the estuary of the Ribble to Morecambe Bay, and comprising the towns of Lytham, Ansdell, St. Annes-on-the-Sea, Blackpool, Bispham, Norbreck, Clevellys, Rossyl, and Fleetwood, all of them, save Fleetwood, owing their existence to their reputation as health resorts. Lytham, with a southerly aspect and sheltered from the north and east by trees, enjoyed at all times a mild climate, and in summer was relaxing, relatively, to the rest of the district under consideration. As one proceeded northwards from Lytham the climate became progressively more bracing until one reached the outcrop of the boulder clay which determined the limits of the characteristic Blackpool climate.

Glasgow Medico-Chirurgical Society.—At a meeting on December 15th, Dr. J. Lindsay Steven, President, in the chair, Dr. J. H. Nicoll showed several patients from a further series of cases of congenital obstruction of the pylorus treated by operation. He held that divulsion combined with gastro-enterostomy was the ideal operation for the affection, but that, as regards the patient, it was often inadmissible. In the 6 cases submitted, divulsion had been combined with a V Y plastic operation on the pylorus. The cases were not shown as cures, sufficient time not having elapsed, but as demonstrating the low operation mortality; only 1 of the 6 had died; of the others 4 were apparently cured (ranging from three to twelve months after operation). He also showed several prostates recently removed by operation, with considerations based on an experience of 100 cases of prostatectomy. The mortality-rate could be put at 5 per cent., and was being steadily reduced. He held that nothing essentially new in the technique of prostatectomy had been added during the past ten years.—Dr. G. B. Buchanan read a paper on scopolamine-morphine anaesthesia, and reported 4 cases in which he used it, following the method of Korff, recommended by Terrier, and described in the British Medical Journal for March 25th, 1905. In none of his cases did general anaesthesia ensue, and it was necessary to give a little chloroform in addition. Nevertheless, the effects of scopolamine as an adjunct to chloroform were very satisfactory. Fear and apprehension before the operation were absent, even in nervous patients; a very small quantity of chloroform was required; there was almost complete immunity to pain for the next twenty-four hours, and sickness was very slight. One of his cases showed marked slowness of breathing for half an hour (10 and even 7 respirations per minute), but the patient was otherwise well. All the patients expressed satisfaction with the effects. He quoted a number of cases reported in various periodicals, amounting to 4,345, including 408 cases of labour, and called special attention to a paper by Roith, in the *Münch. med. Woch.*, in which, amongst other points, a series of deaths was recorded and discussed. Those, with three others reported by Ries in the *Annals of Surgery*, amounted to twenty-three; all of them, however, except two or three, occurred in patients seriously disabled by disease, and could not be ascribed directly to the anaesthetic. The conclusions arrived at by the most competent observers were the following: (1) That scopolamine and morphine should be employed as an adjunct to chloroform, and not as a means in itself of inducing full narcosis. (2) Pure scopolamine only should be used; hyoscine, with which it is said to be isomeric, gave

uncertain and inconsistent results. (3) Small doses ($\frac{1}{120}$ gr. of scopolamine with $\frac{1}{2}$ gr. of morphine) should be injected half to one hour before operation; or if time allowed, divided into two doses and given separately with an hour's interval between them. (4) Chloroform must be given in very small quantities, drop by drop, and should not be pushed to the point of abolishing the reflexes; that, however, constituting one of the disadvantages. Ether was much less satisfactory in that respect. (5) Special care was necessary with those suffering from diseases of the heart or kidneys, and with children. (6) In old people the small dose of scopolamine was often sufficient to produce general narcosis without the aid of chloroform. (7) The solutions must be freshly prepared each time; and for that purpose tablets of scopolamine were now on the market.

Society for the Study of Disease in Children.—At a meeting on December 15th, Dr. Leonard Guthrie in the chair, a discussion on the bacteriology and pathology of pleural effusions was opened by Dr. J. G. Emanuel (Birmingham). He held that serous were four times as common as purulent effusions in adults, but that in children they occurred in practically equal numbers. In adults a purulent effusion was often secondary to a serous, but in children the effusion was generally purulent from the first; 75 per cent. of empyemata were pneumococcal, and these might either be secondary to pneumonia or primary. Streptococcal empyema was rare in children but common in adults.—Mr. Lockhart Mummery said that cases of empyema in children could be conveniently divided into (1) those in whom the infection was purely pneumococcal, and (2) those where a mixed septic or tuberculous infection exists. The great majority of cases were pneumococcal.—Dr. G. A. Sutherland referred to the frequent absence and slight character of the symptoms in many cases of moderate pleural effusion. Breathlessness and tiredness on exertion were the commonest symptoms complained of. Coughing, pyrexia, wasting, and anaemia were often present but were not diagnostic. A lemon-coloured skin, and clubbing of the fingers which had developed rapidly and without cyanosis, were strongly suggestive of purulent effusion.—Dr. W. J. S. Bythell said that about three years ago he had investigated the bacteriology of empyema in children. The objects at which he aimed were to determine (1) the source of infection of the pleura, (2) the species of micro-organism, (3) the influence of the bacteriology upon the clinical features of the disease. In 40 cases—the ages of the children varied between 10 months and 11 years, 27 being males and 13 females—the source of infection in over 80 per cent. was undoubtedly anacute bronchopneumonia, in 10 per cent. an acute pneumococcic infection of a pre-existing pulmonary tuberculosis, a scarcoma of the lung, while in 6 cases the empyema appeared to be primary.—Mr. L. S. Dudgeon said that during the last five years he had made many examinations of the fluid taken from the chest in cases of serous and purulent effusion. If effusion proved clear, and the cells, either in few or large numbers, consisted entirely of lymphocytes, he thought one could definitely say the effusion was tuberculous. If, on the other hand, one found what was described as the polynuclear phagocyte, the effusion was due to one of the pathogenic organisms. This rule, after a large experience, he had found practically constantly. In one case he found a very large number of cells which showed active myototic figures, and when the child died it was found to suffer from diffuse sarcoma of the chest cavity and pleura.

Nottingham Medico-Chirurgical Society.—At a meeting on December 20th, Mr. T. J. Dakell, President, in the chair, Mr. R. G. Hogarth showed a girl aged 12 from whom he had fourteen weeks previously removed a hydatid cyst in the liver. Although only a small lump could be felt through the abdominal wall, the left lobe of the liver was found at the operation enormously enlarged, reaching nearly to the umbilicus. After the removal of the mother and daughter cysts, drainage was provided and bile escaped from the wound for a long time, though eventually it healed soundly.—Dr. H. Michie, in opening a discussion on the treatment of uterine prolapse, by the aid of a diagram of a transverse section of the female pelvis, demonstrated what he believed to be the chief structures concerned in retaining the uterus in its normal position, and placed them in the following order of importance: the utero-sacral ligaments, utero-pelvic ligaments, levatores ani muscles, broad and round ligaments, and the perineal body. In his experience it was quite rare to meet with complete rupture of the perineum and prolapse of the uterus in the same subject. The uterine ligaments, though composed of the same kind of tissue, were not ligaments in quite the same sense as were the ligaments of joints, the latter being more compact, unyielding, and attached to fixed points. Since, under normal conditions the uterine ligaments, sacral and pelvic, could be quite easily felt, both from the vagina and from the inside of the pelvis, whilst in cases of pronounced prolapse those structures could not be made out at all, he considered that this was important evidence of their function; and considering that the complaint occurred for the most part in women past the prime of life, as did other forms of hernia, he believed it was due, as in these, to relaxation and attenuation of the tissues, and especially of the fibrous and tendinous structures. From its comparative frequency in spinsters he did not consider that pregnancy and labour had so much to do with its production as was generally supposed. Inasmuch as worn-out tissues could not be replaced or renewed, prolapse of the uterus could not be completely cured; it was possible only to compensate for their defects by means of pessaries, or to mend them in the best available way by one or other of the many operations performed or recommended for this purpose. He confined himself to the use of Hodge or ring pessaries as mechanical supports, and for the most part to Tait's operation of extension of the perineum with or without the removal of a greater or less extent of the vaginal walls. This operation, when well performed and modified according to circumstances, he believed to be more satisfactory than any other, and should recurrence take place, which he did not deny might happen after a longer or shorter interval, a pessary would still afford the requisite relief. Dr. W. R. Smith (Beeston) dwelt on the importance of prophylactic measures in the milder cases, such as (1) rest, (2) remedying endometritis or any other cause of local congestion, and (3) anything determining downward pressure, as tight lacing, straining at stool, and especially chronic cough. In the matter of pessaries, he thought the combination fluid ring acted best; cup and stem pessaries were certainly very irksome. Among operative measures, on the whole he favoured ventrifixation, combined with anterior or posterior colporrhaphy. In suitable cases this gave excellent results, while the risk was practically nil. Not the least important part of the treatment was the subsequent rest in bed for at least a month, especially if the stitches were taken out. The President said that one great difficulty with all pessaries was cleanliness. Dr. W. Hunter found patients often derived great comfort from a ring pessary, and failing that Napier's cup and stem gave good results. Mr. R. G. Hogarth had found repair or advancement of the perineum often made it possible to retain a pessary. Ventrifixation was not altogether satisfactory; in procidentia he thought hysterectomy was the best operation, as it was easy and not dangerous. Dr. R. Alderson had seen excellent results from ventrifixation two or three years after the operation. Silkworm-gut sutures were used and removed at the end of two weeks, while the patient kept her bed from four to six weeks. Mr. Morley Willis pointed out the advantage of an intraperitoneal shortening of the round ligaments, as distinguished from Alexander's operation, and the discussion was continued by Drs. J. Manson, A. Sharp, S. E. Gill, and Miss Sarah Gray. Dr. Michie, in his reply, pointed out that injections sometimes would set up perimetric inflammation, but the cicatricial tissue thus produced would in time stretch. In patients past the child-bearing period he had found ventrifixation very fairly satisfactory; till that period of life there were strong objections to it. Peritoneal adhesions were, however, evanescent. Alexander's operation was an ideal one for retroversion, but not for prolapse. Hysterectomy was unsuitable as removing only a portion of the contents of a hernial sac. Complete removal of the vaginal walls was too severe an operation in proportion to the ailment.

Therapeutical Society.—At a meeting on December 19th, Sir Lauder Brunton in the chair, H. Wippell Gadd, F.C.S., read a paper on the chemistry of violet leaves. Mandelin, he said, had found a glucoside which he called "viola quercitrin"; this split up on hydrolysis into quercetin and glucose. He himself had examined the leaves of the "Princess of Wales" violet thoroughly, but he had been unable to isolate any volatile constituent, or detect either an alkaloid or salicylic acid. He had proved the presence of a glucoside;

this reckoned as viola-quercitrin amounted to 5 per cent. of the weight of the fresh leaves. A fresh infusion was found to extract nine-tenths of the glucoside present in the leaves. Although salicylic acid was found to be absent, the presence of a phenolic body was indicated. The glucoside had not yet been isolated, and other varieties of cultivated violets showed variation in glucosidal strength.

REVIEWS.

PUBLIC HEALTH.

THE *Handbook of Irish Sanitary Law*,[1] by CHARLES L. BIRMINGHAM, is intended to place within the reach of every member of the community, in a collected form, the principal enactments, orders, and regulations in force in Ireland for the safeguarding of the public health. In the introduction, which is brief, the author defines very clearly the distinctions between (1) statutory enactments, (2) by-laws, and (3) regulations. The contents are arranged under thirty-six headings, which include abstracts, original texts, orders and regulations in force in Ireland, extending from the Public Health (Ireland) Act, 1878, to the circular of the Local Government Board concerning closing of schools issued in 1900; the volume contains also an abstract of the laws on the registration of marriages, births, and deaths, an appendix, and an index of thirteen pages. The book will be found distinctly useful, for it supplies a want long recognized by those who have to deal with the administration of the Public Health Acts in Ireland; it will be of special value also to those reading for the public health diplomas conferred by the Universities and the Royal Colleges of Physicians and Surgeons in Ireland. The design of the book is well carried out and the general literary style is good. The pages devoted to the sketch of the history of vaccination afford interesting reading. Perhaps the value of the work would be enhanced if all the sanitary orders were given in extenso, and also if references to statutes were made. The tabular key which Dr. Birmingham has ingeniously constructed (page 177) is of special value in reference to these orders. The section which deals with registration gives in rather less than two pages an abstract of the registration laws, and the appendix gives the characters that should be afforded on the analysis of potable water, good milk, and butter; the composition of the air by weight, and the amount of air space necessary under certain conditions; also the averages and extremes of the incubation periods for twelve infective diseases. The intrinsic merits of Dr. Birmingham's handbook will not be in any way affected by the fact that he is a member of a family which has given to the profession of medicine in Ireland one of its most brilliant and useful members, whose recent death has been a real loss to scientific and educational medicine in Ireland—Professor Ambrose Birmingham. The same spirit is apparent in the work of Dr. Charles Birmingham, who, being the medical officer in charge of a district in the county Mayo extending over 42,000 acres, and containing a population of some 9,000 persons, has yet devoted his energy to producing a work which not only is creditable to his capacity and industry, but also reflects honour on the Poor-law medical service of Ireland, of which he is himself so distinguished a member.

The plan of Dr. PRAUSNITZ's book on characteristic features of hygiene[2] is very similar to that of most English textbooks on hygiene, with the exception that there are no special chapters on either vital statistics or sanitary law. Bacteriology is more fully treated than in English works of similar size and scope. Only a few lines, however, are devoted to the trypanosomata, and no mention is made of the researches of Manson and Ross on malaria. The author believes that protozoa will eventually be found to be the exciting causes of measles, scarlatina, and other diseases whose causative parasite has not yet been discovered. The chapters on building, heating, and lighting of houses are excellent. The author is particularly severe on the speculating builder, and urges increased legislation in order to control his operations. He recommends that streets be built from N.E. to S.W., or N.W. to S.E., so that houses can get sufficient sunlight and heat on both sides. To avoid frequent disturbance of traffic, he recommends the construction of subways under the footpaths for sewer, gas, and water pipes. A full description of various heating stoves is given and their adaptability for private houses and institutions discussed. Open fires are rarely used in Germany for heating rooms. The hygienic value of different clothing fabrics is discussed in detail, and tight boots and corsets receive due condemnation. School hygiene is fully entered into, and minute directions given as to size of type, intervals between lines and letters, thickness and colour of paper in school books. Dr. Prausnitz considers that the habit of writing with sloping characters, the copy-book being on the right-hand side, causes both anisometropia, in which the right eye is usually the stronger, and scoliosis, the curvature usually being towards the left. He recommends a return to the old style of upright handwriting, which was abandoned at the time of the Reformation. He is in favour of the general appointment of school physicians, but considers a proper hygienic training of school teachers even more important. In the description of removal of excreta and house refuse the privy-midden system is not mentioned, presumably not being used in Germany. The tub system is somewhat different from that used in England. A large tub, which is frequently emptied, is placed in a special chamber efficiently ventilated, at or below the ground level, and the various waterclosets, etc., in the house are discharged into it. Unless scrupulous cleanliness and care are observed, this system cannot be recommended. Lieurnur's pneumatic system is not considered a success, but removal of the fluid contents of cesspits by pneumatic suction is employed and recommended. For aërial disinfection of rooms a solution of formalin, combined with ammonia, is recommended. The author states that 2 grams of formalin per cubic metre of space, burnt for seven to eight hours, has killed staphylococci and diphtheria and coli bacilli.

Dr. LUDWIG KAMEN's book on *Infectious Diseases*[3] is written from a purely public health standpoint. The subject is treated under three main headings: (1) General prophylaxis of infectious diseases: (2) disinfection; (3) special prophylaxis of the principal infectious diseases. As might be expected from the fact that the author is an army medical officer, special attention is devoted to prevention of infectious disease in armies. Japanese methods receive particular commendation, especially their plan of maintaining a complete movable disinfecting apparatus at the army head quarters, by which means troops suffering from infectious diseases or coming from infected districts can be readily disinfected. A mine of information is contained in the part on disinfection, which is particularly good, all the newest disinfectants and disinfecting methods being minutely described. With regard to the vexed question of hospital isolation, the author recommends its restriction to cholera, plague, yellow fever, typhus, and small-pox, considering it impossible to apply the principle to scarlet fever and diphtheria, however advisable theoretically. He does not believe that isolation hospitals spread infection, and recommends their erection in suitable places in the centre of towns, on account of the facility of bringing patients in. Notification of consumption is only recommended in cases of death or change of dwelling, so that the houses vacated by the diseased persons can be disinfected. This work is to be published in seven parts, of which four have already appeared. We shall have an opportunity of calling attention to further points of interest in a subsequent review on the completion of the work.

THE STUDY OF DISEASES OF THE KIDNEY.

DR. FRANCIS RATHERY's book on the convoluted tubes of the kidney[4] deals more especially with the epithelium of the tubes under normal and abnormal conditions. It is a record of investigations and experiments, excellently conceived and admirably carried out, which lead to results of the greatest practical importance. The conclusions regarding the normal and pathological characters of the renal epithelium are impor-

[1] *Handbook of Irish Sanitary Law, together with Abstracts of the Various Statutes, Orders, and Regulations Affecting the Administration of Workhouse Infirmaries and Poor-law Dispensary Districts.* By Charles L. Birmingham, M.D., D.P.H., Medical Officer of Health, Westport. (Demy 8vo, pp. 198.) Dublin, Cork, and Belfast: Brown and Nolan. 1905.

[2] *Grundzüge der Hygiene, unter Berücksichtigung der Gesetzgebung des Deutschen Reichs und Osterreichs.* [Characteristic Features of Hygiene, with Reference to the Legislation of the German Empire and Austria.] Bearbeitet von Dr. W. Prausnitz, Professor of Hygiene, University of Graz. Seventh edition. Munich: J. F. Lehmann. 1905. (Demy 8vo, pp. 565; 234 illustrations. M.8.)

[3] *Die Infectionskrankheiten rücksichtlich ihrer Verbreitung, Verhütung, und Bekämpfung.* [Infectious Diseases: their Spread, Prevention, and Control.] Von Oberstabsarzt Dr. Ludwig Kamen. Vienna: Josef Safar. 1905. (Demy 8vo, pp. 256; 60 illustrations. M.1.50 each part.)

[4] *Le Tube Contourné du Rein.* Par Le Docteur Francis Rathery. Paris: G. Steinheil. 1905. (Demy 8vo, pp. 235; 8 coloured plates. Frs. 8.)

tant, but to the practitioner they are of little interest, for, as Dr. Rathery shows, it is practically impossible to obtain the organs before *post-mortem* changes have commenced in them, and the elaborate accounts which have been given of the pathological characters of the epithelium of the convoluted tubes are mainly descriptions of *post-mortem* changes, or of changes due to the preservative reagents employed in the preparation of the sections. On the other hand the conclusions regarding the action of sodium chloride, which has been much discussed as a cause of albuminuria, and those regarding nephrotoxines are of the greatest interest to all clinicians. Dr. Rathery shows that sodium chloride has no direct toxic action upon renal epithelium and only causes alterations when it is deficient or in excess in the fluid in the tubes, and then only by osmotic action; fortunately, however, the renal glomeruli, during health, always pass into the tubes a fluid of regular osmotic tension, whether the amount of sodium chloride in the blood serum is above or below the normal, consequently the integrity of the renal epithelium is maintained. With regard to nephrotoxines, Dr. Rathery shows that absorption of renal substance by the cells of the body of an animal produces in the animal a serum which is nephrotoxic both to itself and to other animals. Hence it follows, and is demonstrable, not only that the serum of an individual suffering from renal disease will produce in another animal destruction of the renal epithelium, but that the serum of an individual suffering from disease of one kidney acts as a renal toxine in the opposite kidney. Dr. Rathery also proves that the serum of a pregnant woman will act as a toxine to the kidneys of the child she is bearing. The book deserves the careful consideration of all those concerned with the treatment of renal cases.

OPHTHALMOLOGY.

The Conjunctiva in Health and Disease,[5] the title of a book that Mr. N. BISHOP HARMAN has brought out, is the record of research work upon which he has been engaged for some time. He has had exceptional opportunities, being one of the oculists appointed by the London County Council to examine the eyes of children attending the schools under its charge, as well as Ophthalmic Surgeon to the Belgrave Hospital for Children. He has certainly made very good use of the abundant material at his command. The book is divided into twenty chapters; the first is historical, and deals chiefly with the great epidemic of Egyptian ophthalmia at the end of the eighteenth century. After this the subject is systematically gone into. It is a pity to disfigure the book with such a hideous diagram as that on page 13; it is there to illustrate the tolerance of the conjunctiva in a case of most extensive lupus: it shows very little, and what it does could just as well have been described in the text without a diagram at all. The author has done a considerable amount of bacteriological work in connexion with the conjunctiva, and the results are carefully given. In some instances there appears to be an undue tendency to find the reason for certain things, and to say that because two things occur together that, therefore, one is dependent upon the other. Thus on page 141 we are told that because follicles on the conjunctiva are more common in girls between the age of 10 and 13, and because also nits in the hair are said to be more common at this age than any other, therefore the lymph follicles depend upon the nits. Again, because want of glasses or uncorrected astigmatism, especially in one eye, produce conjunctival irritation, therefore symptoms such as accompany hay fever are in many instances caused by refractive errors. The book is well got up, and represents an immense amount of work, while at the end there is a bibliography which will be found of the greatest use when referring to the literature of any particular subject.

We are glad to see that already a second edition of *Squint*,[6] by Mr. CLAUD WORTH is required. The book appeared but two years ago, and since then a translation has been published in Germany, and now another edition is called for here. The majority of practitioners probably not fully realize the responsibility of their position when they advise that nothing should be done for a squinting infant until he is 5 or 6 years old. As Mr. Worth rightly insists, an eye by that time will probably have become amblyopic beyond recovery, and the squint which might have been cured easily with glasses when first seen may have become permanent. There is hardly any change to be noted in this edition, except that a few minor alterations have been made, and slight errors corrected. The book is eminently practical; it gives an excellent account of the many muscular errors to which the eyes are subject, and it is certain that if Mr. Worth's advice were universally carried out we should find fewer squints or eyes amblyopic from disuse.

The second edition of *Colour Vision and Colour Blindness*,[7] by Dr. JENNINGS, differs from the first chiefly in the recognition that a lantern test for colour blindness is a necessity. As, however, the first six chapters are almost precisely the same as in the first edition, some curious inconsistencies are to be found. For instance, after having recommended the Holmgren test as the best and most certain of all, he says, a few pages further on:

> During the past year I have had four cases who passed the Holmgren test without difficulty, but who made so many mistakes with the reds and greens of the lanterns as to show that they were unable to distinguish correctly the true colours of signal lights seen at the usual distances.

We are also glad to see that the author recognizes the value of colour names in a test for colour blindness. The portion of the book on the theory of colour blindness is the same as in the first edition, and is very much out of date. We would recommend the author either to acquaint himself with modern views on this subject, or to omit it altogether in a future edition, and to confine himself to the practical side of colour blindness.

MEDICAL AND SURGICAL APPLIANCES.

Combined Forceps and Wound Retractor.—The forceps shown in the engravings have been made to the order of Mr. W. Blair Bell by Messrs. White and Wright, 93, Renshaw Street, Liverpool, for use during any abdominal operation. As the peritoneum is cut through the edges are seized by one, two, or more pairs of forceps on each side of the wound. Mr. Bell says their advantages are that the shanks being at right angles to the blades the former do not get in the way of

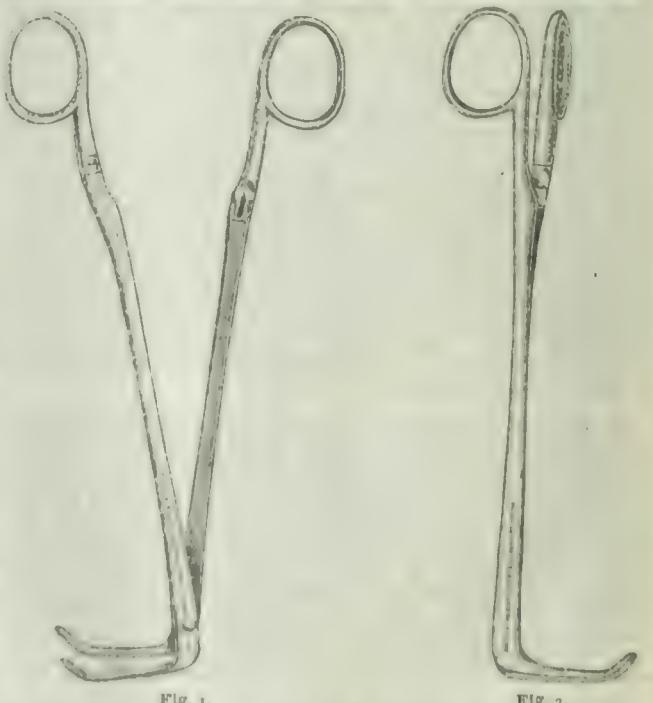


Fig. 1. Fig. 2.

the operator by sticking up or falling across the wound; also they are so shaped as to act as an efficient wound retractor; moreover, as the lower finger-hole can rotate to a right angle with its fellow, the instrument lies flat on the abdominal wall. The forceps are made in two sizes—7 in. long with 1¾ in.

[5] *The Conjunctiva in Health and Disease, being a Record of Some Research Work.* By N. Bishop Harman, M.A., M.B., F.R.C.S. London: Bailliere, Tindall and Cox. 1905. (Demy 8vo., pp. 204, 41 Illustrations. 10s. 6d.)

[6] *Squint: its Cause, Pathology, and Treatment.* By Claud Worth, F.R.C.S. Second Edition. London: John Bale, Sons & Danielsson, Limited. 1905. (Demy 8vo. pp. 247, 43 Illustrations. 6s.)

[7] *Colour Vision and Colour Blindness.* A Practical Manual for Railroad Surgeons. By J. Ellis Jennings, M.D. Second Edition. Philadelphia: F. A. Davis Company. 1905. (Demy, pp. 138. 1 dollar.)

beak, and 6 in. with ¾ in. beak. The latter, Mr. Bell thinks, is the most generally useful. All the joints are of the "take off" variety.

SCHOOL HYGIENE.

County Palatine of Durham.

Dr. Eustace Hill, Medical Officer of Health to the Council of the County Palatine of Durham, has presented for 1904 a report containing 160 pages and a number of tables. Dealing with infant mortality, he points out that 162 out of every 1,000 infants born died during the first year of their life. In non-county boroughs the rate was only 144, but in the rest of the county it averaged 166 in both urban and rural districts. Dr. Eustace Hill, in an appendix, gives a reprint of a presidential address delivered by him to the Northern Branch of the Society of Medical Officers of Health on February 24th, 1905, on the question of infant mortality.

After analysing the birth-rate and death-rate, discussing the causes producing infant mortality and the means calculated to diminish it, Dr. Eustace Hill says:

"The increasing carelessness and deficient sense of responsibility among the younger women of the present day is largely the result of the general influence of our modern school system and of the literature for which schooling has set up a demand. The disinclination of women for domestic service (the proportion of women in domestic service has declined from 14.2 in 1891 to 12.2 in 1901) is attributable to our compulsory education. The laws of health and domestic hygiene are taught in our secondary and other schools to a greater extent than ever before, and the ignorance on the subject is therefore due to indifference rather than to want of opportunity. It is obvious, therefore, that instruction in the subjects should be compulsory in all elementary schools and not be relegated to the optional classes of continuation or secondary schools. Such instruction can, however, only be properly given by teachers who are themselves well grounded in its general principles, and unfortunately only a small proportion of the teachers are so qualified. It is therefore important that every education authority should without delay give facilities for their elementary school teachers obtaining suitable instruction in elementary sanitation and in domestic and school hygiene, so that they may become qualified to impart the necessary information on those subjects to the children attending the elementary schools. Fortunately the importance of such instruction is now recognized by the Board of Education, and only a fortnight ago an important and well-attended conference on school hygiene was held in London, so that there is every hope that in the near future the systematic teaching of hygiene will be a recognized part of the curriculum of our elementary schools.

"To get in touch, however, with the mothers of to-day, and bring to their notice in a practical manner the proper methods of feeding and managing their children, I know of no better means than the appointment of women health visitors. For many years I have advocated the appointment of properly qualified women to visit at the homes of the people, and I am glad to say that similar advice has been given by a large proportion of the medical officers of health in my county. In many of the large towns and in some of the counties such women inspectors have been appointed, and with excellent results.

"In view of the alarming fall in our general birth-rate, it is essential that our high infant mortality-rate should be reduced, and I am convinced that by judicious and systematic teaching of hygiene in the elementary schools, by the employment of women health visitors, and by the judicious weeding out of ignorant and ill-educated midwives, a very large reduction can be effected. The medical profession itself can also do much more good than it has done in the past towards overcoming the ignorance which exists as to infant feeding and management, for I am afraid many medical men bring children into the world without giving any directions for their future welfare."

The following remarks of Dr. Stobo of the Sunderland Rural District are quoted:

"I would suggest the following causes in order of importance:

"1. Improper feeding of infants.

"2. Insanitary surroundings.

"3. Early marriages.

"Year by year I have drawn your Council's attention to the enormous number of parents feeding the very young with all forms of starchy food, or feeding children with milk from dirty bottles. It is not only necessary to see that the children get a wholesome supply of milk, but there is the further difficulty of teaching the parents how to prepare it, and when to give it.

"At the beginning of 1904 your Council issued pamphlets through the agency of the registrars, giving hints to the mothers as to the feeding and management of children. I believe these pamphlets have been productive of much good, and it is to be hoped that your Council will see its way to continue the practice.

"Many of the insanitary conditions which may cause a lowering of the child's vitality may not be always the result of structural defects, but are frequently due to overcrowding and neglecting to ventilate the home. There are many homes in which the windows are never opened from one year's end to another, and as a result the atmosphere in which the child is reared is in a constantly-vitiated condition.

"The education of the people in the feeding and management of children seems to be the great remedy for this evil, but how this has to be accomplished is still a matter of opinion. I believe, however, that the efforts which are being put forth for the accomplishment of this object will be ultimately successful, and the nation must be greatly the gainer, as there is no reason why 50 per cent. of this enormous waste of life should not be saved."

Zymotic Diseases.

Diphtheria.

Under the heading "Diphtheria and Membranous Croup," Dr. Eustace Hill says:

"There is absolutely no doubt that its dissemination is greatly assisted by the aggregation of children in our elementary schools. It frequently happens that an inquiry at a school where cases have occurred among the scholars reveals the fact that sore throat has also been prevalent, and it is probable that such cases of sore throat are not infrequently mild cases of diphtheria and should be treated as such, or at any rate rigidly excluded from school.

"It is well known that the diphtheria organism will live in the throat for several weeks after complete convalescence from the disease. I have no doubt that children who have apparently recovered from diphtheria are frequently allowed to return to school before they are free from infection, and it is very desirable not only that all children who have suffered from diphtheria should be kept from school for at least one month after convalescence, but also that in all districts where diphtheria is at all prevalent there should be a periodical medical inspection of the throats of all school children.

"In several districts antitoxin is supplied free of charge by local authorities for the treatment of diphtheria patients. The value of this remedy is extremely great, and its supply under proper restrictions by all sanitary authorities for the treatment of patients who cannot afford to pay for it is very desirable."

Dr. Hunton, Medical Officer of Health for Sedgefield Rural District, points out that cases of simple sore throat, especially among school children, should not be ignored, as they are frequently mild cases of diphtheria, and may by infection cause a severe attack of that disease in other patients. Dr. Hunton considers the teaching of hygiene in schools important.

The following remarks of Dr. Stobo on the co-operation of the school managers deserve to be quoted: "I have to thank the managers of the various schools for the assistance rendered to your health office by refusing to admit to school within six weeks from the onset of the attack children who had suffered from diphtheria, by demanding a certificate that infected premises had been disinfected, and by excluding from the school children suffering from suspicious symptoms. It is with no small degree of pleasure that I see such evidence of a more harmonious co-operation between the education and health authorities. Whatever defects there may be in the last Education Act, the fact that both health and education are so closely connected in the administration of the Borough and County Councils can only be productive of good so far as both the health and education of the children are concerned. If the Government demands that a child should be educated, the Government should see that the child should run no preventable risks in contracting infectious disease at school."

Measles.

With regard to measles, the medical officer of health is of opinion that school closure has very little effect in stamping out the disease. He writes:

School closure to be effective in the case of measles must be carried out soon after the first case has occurred among the scholars. Owing to the marked infectivity of measles before the eruption occurs and the disease can be diagnosed, the child about to be attacked and attending school would probably infect a varying number of children in the school with whom he had been in contact. If the school is closed for a fortnight within a week from the first case or group of cases occurring, all the children infected by the initial cases will contract the disease while the school is closed, as the incubation period of measles is only about fourteen days. The school can be reopened at the end of the fortnight with the certainty that all children infected from the first cases would be excluded from school, and many outbreaks may in this way be very much limited or entirely stamped out, especially if care be taken by the attendance officers and teachers that no children from infected houses attend the school.

School closure carried out in such a manner is, from a public-health standpoint, the only satisfactory method. In crowded town districts it may not always be effectual, owing to the opportunities the children have of mixing together outside the school; but in rural areas, or in districts where the children attend school from several villages, this method of school closure will have good results, and moreover it may often happen that only a particular class of the school need be closed.

If, however, the closing of a school on account of measles is delayed until the average attendance is materially diminished, the disease will probably by that time have infected all the susceptible children, and school closure will, from the point of view of preventing the spread of infection, be useless.

In the following table the deaths and death-rate from measles for the last five years are given:

	Administrative County.				
	1900.	1901.	1902.	1903.	1904.
Deaths from measles	167	409	319	254	447
Death-rate from measles per 1,000 population	0.20	c.48	0.37	0.32	0.55

Scarlet Fever.

Dr. Andrew Smith, Medical Officer of Health for Whickham, recommends the periodical examination of school children by a competent medical practitioner for the purpose of detecting unrecognized cases of scarlet fever.

Diarrhoea.

And, further on, with regard to diarrhoea:

"I have on many occasions dealt at length with the cause of the epidemic prevalence of diarrhoea during the summer months, and it may be summed up in one word, filth—filth in the house, the food, and the soil. Until we abolish the midden-privy system, insist on the paving with impervious materials of house yards and the soil in proximity to dwelling-houses, and educate our industrial population as to the necessity of domestic cleanliness in the house and with respect to infant's clothing and food, we shall continue to have our infant population decimated by epidemics of preventable diarrhoeal diseases.

"All medical officers of health recognize that the cleanliness of the dwelling is intimately connected with the housing problem. Many houses in this county are so defective and insanitary that they cannot be kept clean and healthy, however willing and painstaking the occupier may be; but it is also unfortunately a fact that a large proportion of our population, however healthy the home structurally, lack the necessary knowledge or willingness to keep it healthy and clean, and this fact must be recognized by all those working to lessen the deplorable mortality of our infant population."

Phthisis and Tuberculosis.

The deaths from phthisis were 861, and the death-rate from phthisis for 1904 was 1.07 per 1,000 population.

From tuberculous diseases other than phthisis there were 746 deaths, and the total death-rate from tuberculosis, therefore, was 2.00 per 1,000 population.

"The system of voluntary notification of phthisis which is in operation in Jarrow and Hebburn has not altogether been a success, for in the former town there were 34 deaths and only 16 notifications, while in Hebburn there were 29 deaths and only 24 notifications. In these districts and in several others in the county the disinfection of dwellings on the death or removal of a consumptive patient is effected wherever possible. The acting medical officer of health of Stockton and the medical officer of health of the Auckland rural district recommend the notification of phthisis, while the medical officer of health of Stanhope states that almost every case in his district can be traced to a previous case.

"In the report for the borough of Hartlepool the connexion between ill-ventilated and overcrowded dwellings and phthisis is pointed out.

"The importance of providing healthy and well-ventilated dwellings for the working classes; of educating the people as to the value of fresh air and sunlight; of the appointment of lady health visitors to practically instruct the people in their homes and in the elementary schools in matters of domestic hygiene; and of sanatorium treatment of patients in the early stages of the disease is referred to in several of the district annual reports, and it is generally recognized that while the mortality from tuberculous diseases in this county has very satisfactorily diminished during the last ten or fifteen years, their prevalence and mortality may be much further reduced."

Elementary Schools.

The medical officer for the county states that "In several of the annual reports reference is made to the value or otherwise of school closure, and as to the importance of co-operation between the education authority and the district sanitary authorities in the prevention of the spread of epidemic disease.

"Now that the administration of the elementary schools is vested in the county council, there should be much less difficulty in securing the co-operation which is so essential between the education authority and the district sanitary authorities, and as a matter of fact during the year the county Education Committee gave their sanction to a proposal that the school attendance officers should be empowered to report all cases of non-notifiable infectious disease among scholars to the medical officer of health of the district in which they occurred.

"The work which has been thrown on the county education authority by the Education Act is enormous, and some time must necessarily elapse before all the required work with respect to the sanitation of school buildings and to school hygiene can be successfully undertaken. Already, however, some good work has been done, and a large number of the elementary schools have been inspected by architects appointed for the purpose, while such questions as the teaching of hygiene and the attendance of children at school under 5 years of age are receiving the careful attention of the Education Committee. Other important questions, such as the medical inspection of scholars, especially those mentally and physically defective, and the disinfection of schools, will also require to be dealt with in the future.

"The training of school teachers in hygiene, and the making of arrangements for the training annually of a certain number of midwives whose services would be subsequently available in the county, also deserve the attention of the Education Committee."

CONTRACT MEDICAL PRACTICE.

Notice as to Districts in which Disputes Exist.

A notice as to places in which disputes exist between members of the medical profession and various organizations for providing contract practice will be found among the advertisements, and medical men who may be thinking of applying for appointments in connexion with clubs or other forms of contract practice are requested to refer to the advertisement on page 75

LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

Members are reminded that the Library and Writing Rooms of the Association are fitted up for the accommodation of the members in commodious apartments, at the office of the Association, 429, Strand. The rooms are open from 10 a.m. to 5 p.m. Members can have their letters addressed to them at the office.

LITERARY NOTES.

According to *Janus*, a painting which purports to be a portrait of Andreas Vesalius has come into the hands of Dr. C. E. Daniels for the Historical Medico-Pharmaceutical Museum at Amsterdam. The portrait, of which nothing was previously known, was bequeathed to the museum by Dr. A. J. A. van Nederhasselt, who died recently at Amsterdam at an advanced age. It has on the back an inscription in Dutch to the following effect: "This original portrait of Dr. Vesalius was offered to us by the heirs of the Burgomaster, Jan Trip, a descendant of the Van Wesel family, A°. 1733." The picture is unsigned, but, according to Dr. A. Bredius, Professor J. Six, Mr. B. W. F. van Riemsdijk and other experts, it is of a date contemporary with Vesalius. But is it a portrait from life of the great anatomist? And who was the painter? Dr. Daniels has discussed these questions in great detail, and arrives at the conclusion that the picture is by John Stephen van Calcar (1499-1546), and that it is from life. He shows that the portrait by Titian in the Pitti Gallery at Florence is not a portrait of Vesalius. Another picture in the Pinakothek at Munich which has been said to be a portrait of Vesalius is the portrait of a sculptor. The picture in the Louvre by van Calcar is certainly not a portrait of Vesalius, for the hair is not curly and the coat of arms is not that of the famous anatomist. The oldest portrait of Vesalius is that reproduced as the frontispiece of the *De Humani Corporis Fabrica* printed at Basel in June, 1542.

The *British Journal of Psychology* for October (issued on December 18th) contains some interesting observations on the senses of the Todas, a small community living in the Nilgri Hills in Southern India, by Dr. W. H. Rivers; a study of rhythm in primitive music by Mr. Charles S. Myers; a discussion of the question, Is "Black" a Sensation? by Mr. James Ward; and a paper on the illusion of the "fluttering heart" and the visual functions of the rods of the retina, by Mr. W. McDougall.

The second number of the *Rhodesia Review*, a copy of which has been sent us, contains an open letter to Dr. Jameson dealing with shareholders' losses, and the "forgotten promise" made by Cecil Rhodes that Rhodesian shareholders' interests would be protected by the examination of mining claims before flotation.

The first volume of the Science Series, entitled the *University of Missouri Studies*, is an excellently illustrated monograph on the topography of the thorax and abdomen, by Peter Potter, now Associate Professor of Anatomy in St. Louis University. The work is a revised and enlarged edition of a thesis presented to the University of Missouri in 1903 for the degree of Master of Arts, and is based on work done in the anatomical laboratory of the University of Missouri in 1901. The object of the work is to add to the few detailed observations upon the inter-relations of the organs as found in a single body. For this purpose a body was studied by the method of sections, with reference to the more important thoracic and abdominal organs and systems; these are described individually, the topography of the part and its relations to surrounding objects being given in each case, and the results compared with the literature of the subject. The book is a record of laborious work which reflects the highest credit on the author.

In the new volume (the fifty-sixth) of the *Transactions of the Pathological Society of London*, just issued under the editorship of Mr. Shattock, several of the papers have, as is now customary in this publication, Latin summaries prefixed to them. As an example we may quote a passage from the summary supplied by Drs. E. M. Corner and J. E. H. Sawyer of a paper entitled "A Research into the heat regulation of the body by means of an investigation of death temperatures":

Oriri potest pyrexia ex duabus causis—(*a*) quod auctus est calor propter actionem centrorum thermogeneticorum quae, in chorda spinali sita, non obediunt centro superiori in cerebro sito; (*b*) quod, propter actionem centri thermolytici debilitatam, minus cito calor dissipatur: namque haec duo centra superiora (nempe centrum thermogeneticum tonicum et centrum thermolyticum) iis toxinis quae morbus ipse in corpore affecto genuit aut debilitantur aut resolvuntur.

Not Cicero; not even Celsus, the classical scholar may say. To which we reply, No, but Latin conveying a clear meaning to all members of the medical profession of whatever nationality who are sufficiently interested in the subject to wish to know what the authors have to say. Latin summaries are also prefixed by Messrs. Shattock and Seligmann to a paper embodying their observations upon the acquirement of secondary sexual characters, indicating the formation of an internal secretion by the testicle; by Mr. Shattock to a description of a prehistoric or predynastic Egyptian calculus; by Dr. S. G. Scott to a report on a case of subacute atrophy of the liver; by Dr. W. Bulloch to an inquiry into the opsonic content of the blood serum in healthy individuals and in patients affected by lupus; by Lieut.-Colonel Leishman to an account of some experiments in connexion with "stimulus"; by Dr. Farquhar Buzzard to an account of some lesions found in cases of myasthenia gravis; by Mr. C. E. Walker to a paper on the nature on the vesicular structures found in malignant growths, and sometimes known as Plimmer's bodies; and by Professors Farmer and Moore and Mr. Walker to a communication on leucocytes in malignant growths. It is to be hoped that the custom of supplying Latin summaries of scientific papers will in time become general.

The prehistoric vesical calculus of which Mr. Shattock gives an account was presented to the Museum of the Royal College of Surgeons of England in 1901 by Professor G. Elliot Smith, of the Cairo Medical School. Mr. Shattock has, notwithstanding the most careful search, failed to find evidence of bilharzial origin. He points out that, antedating as it does by at least three thousand years the Hebrew Exodus (reign of Menephthah, 1320 B.C.), the specimen derives a reflected interest from that event, which is of such immeasurable consequence in the history of mankind. The question has been suggested to him whether the first of the Biblical plagues might with any probability be referred to an epidemic of bilharziosis arising from an infection of the Nile and the drinking of its waters—whether, in fact, the bilharzial haematuria might be taken as an interpretation of the Biblical narrative. A reference to the narrative itself will, however, show the incongruities attaching to such an attempt.

In the *Bulletin de la Société d'Ophtalmologie d'Egypte* (année 1904-5) just received there is an abstract of a communication presented at a meeting held on June 17th, 1905, by Dr. Osborne, of Alexandria, on the crystalline lens of a mummy. In the early days of February, 1902, Dr. Osborne paid a visit to the excavations made at Abousir, near Sakkarah, by Dr. Borchardt, scientific attaché to the German Consulate-General at Cairo. Under the auspices of the German Oriental Society Dr. Borchardt showed Dr. Osborne a mummy dating from the eleventh century before the Christian era which had been found a few days before, and had not been touched by any one till then. In looking at the orbits of the mummy Dr. Osborne observed that the crystalline lens were still *in situ*, and he easily extracted one with a small piece of reed. The specimen which was exhibited by Dr. Osborne is dark brown in colour; it is as hard as wood, and so well preserved that its anterior and posterior surfaces can be distinguished without any difficulty; the latter is much more convex than the other. Dr. Osborne quotes Professor Elliot Smith as saying in a paper which appeared in the *Egyptian Gazette* of May 2nd, 1903, with reference to certain mummies of the Fifth Dynasty:

In some cases the lens of the eye has been preserved entire, thanks in all probability to the fact that the persons had suffered from senile cataract.

With this opinion Dr. Osborne does not agree. He believes the state of the lens, as he found it at Abousir, to be due to a mummification of the structure, and that we are not justified in concluding that in all these cases there was a cataract. It might, he thinks, be possible to judge approximately the age of the person by the size of the lens (physiological senile sclerosis).

Professor Osler, in acknowledgement of the receipt of twelve quarto volumes entitled *Collected Papers of the Graduates of the Johns Hopkins Medical School*, has written a letter which is published in the December number of the *Bulletin of the Johns Hopkins Hospital*. He says that many pleasing incidents have happened in the course of more than thirty years' teaching, but he does not remember ever having been so completely overwhelmed by the character of a gift. That the Johns Hopkins Medical School should, in so short a period as eight years, have been able to accomplish so much is, says Professor Osler, a matter not less of astonishment than of pride. Among the 465 separate contributions an extraordinary range of subjects is dealt with—anatomy, physiology, pathology, bacteriology, hygiene, general medicine, surgery, pharmacology, clinical chemistry, gynaecology, obstetrics, and medical literature. The establishment of the Johns Hopkins Medical School was in the nature of a large experiment in medical education. To ensure success three conditions had to be fulfilled: (1) The students had to possess a thorough training in the sciences

upon which medicine is based, in addition to a general education befitting men who were to be members of a learned profession; (2) well-equipped laboratories had to be organized, in which the sciences of anatomy, physiology, pathology, pharmacology, and physiological chemistry would be taught by men who were investigators as well as teachers; and (3), lastly, a hospital to be to the senior students what the laboratories of anatomy, physiology, etc., were to the juniors—a place in which the phenomena of disease, with all their human interests, should be studied under skilled supervision. These splendid volumes, says Professor Osler, are a striking testimony to the success of an undertaking which has already passed the experimental stage.

The *Philippine Journal of Science* will be published monthly from January 1906, under the auspices of the Bureau of Government Laboratories, Manila. While the new journal will take all science for its province, medicine will occupy a far larger space than any other single subject; and as the Philippines offer an especially rich field for medical research, the hope appears to be justified that this portion of the journal will be of great interest and value.

The *Gazette Medicale du Centre* has made an interesting discovery, to wit, that the method of inoculation was known before Pasteur was heard of. Shocking though this discovery must have been to a patriotic Frenchman, his love of truth, reinforced perhaps by his hatred of the Pasteur Institute, has compelled him to publish Lady Montagne's (*sic*) letter in which she describes inoculation of small-pox as practised in Turkey when she was there in the early part of the eighteenth century. It would be interesting to know how many times Lady Mary Wortley Montagu's famous letter has been published since it was written in 1718; and it would be still more interesting to "feel the bumps" of a person who, in this year of grace, appears to regard that letter as a startling novelty. Still more curious would it be to inquire into the state of mind of a writer in the *New Orleans Medical and Surgical Journal* for December, who has thought it worth while to re-echo his French *confrère's* wonderful discovery on the other side of the Atlantic. Our American friends are fond of saying that we have no humour; perhaps there may be some touch of humour in what looks like disgraceful ignorance too subtle for our obtuse perception.

MEDICAL NEWS.

A COMMITTEE has been formed under the patronage of Prince Bernhard of Saxe-Meiningen for the erection of a memorial of the late Professor von Mikulicz at Breslau.

UNDER the will of the late Dr. A. F. Elliott of California, the University of California will receive £40,000 for the erection of a public hospital.

THE annual dinner of the British Gynaecological Society has been fixed for Wednesday, January 17th, at the Café Monico. The Honorary Secretaries are Dr. S. Jervois Aarons of 14, Stratford Place, W., and Dr. Smallwood Savage.

THE OUT-PATIENT QUESTION IN BERLIN.—The medical practitioners of Berlin have formed an association for the prevention of the abuse of "Poliklinikken" by patients in a position to pay for medical advice.

BALNEOLOGICAL CONGRESS.—A combined meeting of the German and Austrian Balneological Societies will be held at Dresden in March, 1906, under the joint presidency of Professor Oscar Liebreich and Dr. Winternitz. The meeting will open on March 2nd. Communications relative to the Congress should be addressed to the General Secretary, Geheimrat Dr. Brock, 24, Tomasiusstrasse, Berlin, N.W.

DENTAL SURGEONS FOR THE UNITED STATES NAVY.—A Bill has been introduced in Congress providing for the establishment of a corps of dental surgeons attached to the Bureau of Medicine and Surgery of the Navy. The Bill divides the dental corps into three grades—"assistant dental surgeon," "passed assistant dental surgeon," and "dental surgeon," who shall have the same rank, pay, and allowance as officers in corresponding grades of the medical corps.

INTERNATIONAL MEDICAL INSURANCE CONGRESS.—The fourth International Medical Insurance Congress will be held at Berlin from September 11th to 15th, 1906. The programme comprises two sets of questions: (*a*) life insurance, (*b*) accidene insurance. Among the questions to be discussed under tht former of these heads are: The early recognition of a tendency to tuberculosis, especially pulmonary consumption; obesity in relation to insurance; the influence of syphilis on the duration of life; the vaccination clause in insurance forms. Under the head of Accident Insurance the following questions will be discussed: acute aggravation of mental diseases resulting from accidents; the influence of traumatism on latent and pronounced organic disease of the spinal cord and brain; criteria of the aggravation of functional neuroses by accidents. Communications relative to the Congress should be addressed to Dr. Manes, 22, Spichernstrasse, Berlin, W.

SMALL-POX ON THE WITWATERSRAND.—The Medical Officer of Health for Johannesburg, Dr. Charles Porter, has forwarded a copy of his Analysis of the Small-pox Occurrences on the Witwatersrand from May 14th, 1905, to September 9th, 1905. There were 192 cases, 136 white and 56 coloured. Of the white cases, 100 had been vaccinated in infancy, and of these 7 showed one mark; 20, two marks; and 68, three marks; 5 showed four marks. This bears out what has long been contended by many writers, that the number of marks is of little importance as compared with the time since the last vaccination. "In two cases only was it alleged that successful revaccination had taken place, but neither patient bore any visible sign of the operation." No vaccinated coloured person died from small-pox. The total case-mortality or fatality was 16 per cent.—of the vaccinated 6 per cent., of the unvaccinated 44 per cent.

BRITISH GUIANA.—The report on the Blue Book for British Guiana has just been issued by the Colonial Office, and it is worthy of remark that there is in it no foreshadowing of the serious riots that have recently brought the Colony into such unpleasant notoriety. The vital statistics show a population of 301,923, and the males exceed the females in the proportion of 158,933 to 142,990. The birth-rate is steadily decreasing, and from 36.7 in 1900 has sunk to 30.3, while the death-rate is on the increase, and was 28.8 per mille last year. This is for the whole Colony; the death-rate for Georgetown, the capital, reaching the high figure of 44.7. The high rate of infant mortality still continues, and a Commission has been appointed to inquire into the matter. For children under 1 year the mortality per mille was, for the East Indians, 168; for the natives, 230; and for the city of Georgetown, 332. Although there were no epidemics during the year, malarial fever was as usual prevalent throughout the Colony, and caused 17 per cent. of the deaths. Ankylostomiasis was especially common on the sugar estates, but increased measures have been taken to combat it. Both lunatics and lepers are numerous. The average number of patients in the lunatic asylum was 761, and the cost of the upkeep of the institution, exclusive of the salaries of the medical officers, was £9,605. The leper asylum at the end of March of the present year contained 414 inmates, of whom 310 were males and 104 females. Fifty died during the year. The cost of keeping up the asylum was £4,387, not including the medical officer's salary.

BEQUESTS TO MEDICAL CHARITIES.—The late Miss Matilda Mercer, of West Mall, Clifton, whose will has now been proved, left £1,000 each to the Bristol Royal Infirmary and the Bristol General Hospital; £500 to the Bristol Royal Hospital for Sick Children and Women, and £200 each to the Bristol Blind Asylum and the Clifton Dispensary. Subject to the life interest of a sister, she bequeathed, in addition, £4,000 to the Bristol Royal Infirmary, to be applied for the endowment of two beds, one on the surgical side, to be named the "John Mercer" bed, and the other on the medical side, to be called the "Matilda Mercer" bed. A similar award is made in the case of the Bristol General Hospital; while £3,000 is to go to the Queen Victoria Jubilee Convalescent Home, Durdham Down, for the endowment of two beds, to be known as the "Mercer beds." To the Bristol Royal Hospital for Sick Children and Women £1,500 is allotted for the endowment of two beds, to be named the "John Mercer" and "Matilda Mercer" beds, and £1,000 each to the West of England Sanatorium at Weston-super-Mare, the Bristol Eye Hospital, the Orthopaedic Hospital, and the Home for Crippled Children, Bristol. To the Bristol Blind Asylum and to the Clifton Dispensary £500 each is bequeathed subject to the life interest mentioned.

British Medical Journal.

SATURDAY, DECEMBER 30TH, 1905.

"PLATFORM FACTS."

Mr. George Russell, formerly Chairman of the Board of Management of the National Hospital for the Paralysed and Epileptic, has on many occasions shown himself, to speak mildly, unsympathetically disposed towards experimental medicine. In this, of course, we think him grievously mistaken, but we can respect an opponent who is clearly as honest in his belief as he is frank in uttering it. We cannot help thinking, however, that this frankness must make the more impetuous spirits among the antivivisectionists regard him as a somewhat inconvenient ally. In an article entitled "The Faddist," which appeared in the *Manchester Guardian* not long ago, Mr. Russell illustrated his text with the following story: "The Faddist has a single "eye to his fad, and Heaven forbid that I should say he "has a double tongue. But it is undoubtedly true that "the zeal of his Cause sometimes consumes his sense of "accuracy, and that he says and writes a good many "things which will not bear a too close criticism. Among "all the Fads or Causes, there is none which appeals to "me more forcibly than the Antivivisection Movement; "but I was a little aghast when a devoted servant of that "Cause told me that some appalling statements which "had been put into my hands without reference or veri-"fication were 'what we term Platform Facts.'" This new and distinct order of Fact, adds Mr. Russell sorrowfully, "roams at large over the platforms of all the "'Causes.' Exaggeration is their bane."

To us there is nothing new in this; it would, however, be ungrateful on our part not to thank Mr. Russell for teaching us a phrase that may be taken as the general formula of antivivisectionist oratory and literature. It must tend to soften the manners of controversy to be able to discuss a downright lie or an exaggeration framed "with intent to deceive" as a "platform fact."

It will also bring comfort to the souls of many most worthy persons who shudder with natural horror at the recital of the "deliberate cold-blooded cruelties" practised by men who "keep animals alive while they "inflict upon them most atrocious suffering," to learn on such unquestionable authority as that we have quoted, that these things, set in their true light, are nothing but "platform facts." Almost the entire stock-in-trade of the itinerant propagandists of antivivisection consists of such materials. It is a "platform fact" that in 30,346 of the 32,502 experiments recorded in the Inspector's report for 1904 anaesthetics were not used, unless it is explained that of the number nearly all were inoculations or other painless procedures, and in none was any serious operation performed. The illustrated catalogue of instruments used in vivisection, with which the flesh of delicate women is made to creep, is a "platform fact." Those responsible for its circulation know full well that most of the apparatus therein figured is very seldom if ever used in this country, and never without anaesthesia. They are careful, too, not to explain that a similar catalogue of instruments used in human or veterinary surgery would be still more appalling to those who are ignorant of the conditions under which they are employed and who cannot appreciate the reasons for their employment. It is a "platform fact" that operations on the brain are "forms of human vivisection" because the mortality is necessarily high; if such operations were successful in only 1 per cent. of cases, they would be fully justified as affording the only hope of saving a patient otherwise doomed to certain death. It is a "platform fact" that the discovery of the anaesthetic properties of chloroform was not due to experiments of precisely the same kind as those which, in other cases, are denounced as "vivisection"; it is difficult to see how the discovery could have been made in any other way. Lastly, it is a "platform fact" that vivisection is practised in hospitals, and that patients in these institutions are placed "at the service of physiologists."

"Platform facts" are manufactured out of all sorts of raw material—Registrar-General's reports, hospital reports, books, and papers in medical and scientific journals. The antivivisection agitator, like Molière, *prend son bien où il le trouve*, and like that great artist he transforms skilfully as to make it his very own. We have often given illustrations of the process, and need not repeat the exposure here. Antivivisection, as we said on a former occasion, is a crumbling platform, and it was no secret to the initiated that it had to be supported by specially manufactured "facts." But it is interesting to have this stated publicly by a conspicuous champion of antivivisectionism on the authority of a "devoted servant of the Cause."

A PATHOGENIC INFUSORIUM.

In a recent monograph[1] Dr. Richard P. Strong discusses the pathogenic importance of the *Balantidium coli* in man, and has collected a considerable amount of evidence to show that this infusorium is capable of giving rise to a specific diarrhœa which is often persistent and not infrequently serious.

The parasite has an oval body measuring from about 0.07 to 0.1 mm. in length, by 0.05 to 0.07 mm. in breadth. Its anterior end is slightly truncated, and exhibits a short peristome, which is generally funnel-shaped and opens externally near the anterior pole. The peristomal region itself appears to be destitute of cilia, but the left border of the funnel is covered with them, and these adoral cilia are longer and stronger than those found over the general body surface. The posterior end of the parasite is rounded and contains the anus; this structure is at times almost imperceptible, but on careful observation particles of material may be frequently seen in process of extrusion from it. The interior of the organism consists of a finely granular substance in which fat and starch granules may be recognized and occasionally red and white blood corpuscles. The nucleus lies on the ventral surface, either anteriorly or posteriorly, and is usually kidney-shaped. There are generally two contractile vacuoles which vary in position,

[1] *The Clinical and Pathological Significance of Balantidium coli.* Manila Bureau of Government Laboratories. 1904.

though usually the larger one lies near the posterior extremity.

The normal host of the parasite appears to be the hog. In the colon and caecum of this animal it is found very frequently and in great abundance. When human infection occurs it is probable that the parasite not uncommonly obtains admission to its host in an encapsulated state, as the encysted forms, present in dried and broken-up faeces, are liable to be scattered about and may come into contact with food or drinking water. The significant observation has also been made that the disease frequently occurs in people shortly after they have been engaged in the preparation of sausages, or after they have ingested uncooked sausage meat. Dr. Strong has collected from the literature the clinical histories of 117 cases in which the *Balantidium coli* has been found, including 51 cases of Russian and 30 of Swedish origin. From a careful analysis of the clinical data he arrives at the following conclusions: The presence of *Balantidium coli* in the stools is usually associated with diarrhoea in which the faeces are generally liquid, often contain mucus, sometimes undigested food, and frequently blood. The diarrhoea usually persists with great obstinacy until treatment is directed towards the destruction of the parasite. Colic is a frequent symptom, and nausea and vomiting may occur. The abdomen may be swollen and is often painful on pressure, particularly along the course of the large intestine. The colon, on palpation, is often found to be thickened. Tenesmus is common. When the parasite has been present for a long time there is usually general weakness, exhaustion, and emaciation; more or less anaemia is then generally found and oedema of the feet and ankles may appear. The disease must be regarded as rare in children, as only two cases have been reported; 25 per cent. of the patients gave a history of having either associated with pigs or eaten or prepared fresh sausages.

For the treatment of the infection various remedies have been adopted. Some authorities recommend quinine enemata, or quinine enemata preceded by enemata of Ems salt water (15 gr. to 1½ litres of water). Enemata of tannic acid, acetic and tannic acid (50 gr. of acetic acid and 5 gr. of tannic acid to half a gallon of water), and salicylic acid (1 in 1,000) have also been found useful. For administration by the mouth, calomel, naphthalin, and salol have been largely employed. As regards the utility of these measures, Dr. Strong's conclusion is that in cases in which the lesions are not too far advanced and the strength of the patient is such that the local treatment may be continued for a long time, it is possible to free the patient from the parasite. In other words, the prognosis is similar to the prognosis in cases, comparable in severity, of amoebic dysentery.

Whilst the majority of writers on the subject recognize the pathogenic action of this infusorium and consider that it is at least capable of producing chronic diarrhoea and catarrh of the large intestine, there are some who either deny *in toto* its pathogenicity or think that its only capacity for mischief is to sustain or render worse an already existing diarrhoea or intestinal catarrh. There is, however, histological evidence in support of the view that the parasite has a very decided pathogenic action. The organism can be demonstrated not only on the surface of the mucosa, but breaking through the glands, penetrating the submucosa, and finally passing between the muscular coats and reaching the serosa. Moreover, in the blood vessels of all the layers of the intestine large numbers of *Balantidia* have been demonstrated. These observations make it clear that the parasites must cause very considerable irritation in the intestinal tract, and also help to account for the persistence of the diarrhoea and the difficulty of curing it. Dr. Strong, therefore, is not inclined to agree with those who wish to minimize the pathological importance of this parasite; he is disposed to attribute the same significance to its presence in the stools from cases of intestinal disturbance as is attributed to the presence of amoebae in cases of dysentery. Whether the *Balantidium coli* is capable of producing a primary erosion in the intestine has not yet been conclusively demonstrated. But it seems to be established that if such an erosion of the mucosa has already, from any cause, been produced, this parasite is capable of continuing the process and of producing, in conjunction with the bacteria which accompany it, more or less characteristic pathological lesions.

THE RED TAPE OF THE SCOTTISH LICENSING ACT.

WE had occasion in the BRITISH MEDICAL JOURNAL of May 20th, 1905, p. 1111, to comment on the negative answer given by the Lord Advocate to the question whether he would give instructions that any registered medical practitioner should be considered a "medical official" whose certificate would warrant a licence holder in dispensing a dose of spirit during hours when the public-house is legally closed. Since then the occurrence of a case in Kirkcaldy, where the search for the necessary "official" to countersign the prescription occasioned a delay of an hour and a half and was followed by the death of the patient, has given the Scottish Licensed Trade Defence Association the opportunity to approach the Scottish Office. It has got more than a mere negative, for in September the Secretary for Scotland informed the Chief Constable of Fifeshire that in his opinion a sergeant in charge of a station would fall within the words "officer of police." The Trade Association has intimated to the licence holders that in its opinion any constable in charge is an officer of police within the meaning of the Act, and that, provided the licence holder acts on a bona-fide prescription and fulfils the other conditions of the Act, it is prepared to defend him if he is charged with breach of his licence. From all this there are several morals that might be drawn. From the point of view of the practitioner the question of importance is how his emergency order for spirit is to be met. It has to be met. No "official," medical or police, dare refuse to countersign such an order, and the only result of the new conditions is to interpose the needless delay of searching for the signature. On the last occasion we advised practitioners to issue a prescription to a chemist, and if, as we are now advised, the chemists in Scotland do not ordinarily keep a stock of spirit, the local practitioners might inform them that in future it will be necessary to do so. The Scottish Divisions of the British Medical Association might consider whether they would intimate this by circular letter not only to all the chemists but to all the practitioners in their areas.

THE PRESIDENT OF THE LOCAL GOVERNMENT BOARD.

MR. JOHN BURNS made his first public speech since his appointment to be President of the Local Government Board on Wednesday evening, when he opened his election campaign in Battersea. It dealt largely with generalities, the only definite statement being that he was appointing a committee, so that ratepayers and taxpayers should have their accounts presented in such a way that he who ran might read and might have the knowledge which was not now always revealed as well as it should be. The general opinions expressed by Mr. Burns were most commendable; he said that he was determined to occupy himself, by

slow and solid administrative and political work, in those permanent organic changes in society which were better than pauperizing sedatives or indoor or outdoor relief. While helping the poor care must be taken not to endow poverty. There should be sympathy with the weak, but the causes which made them weak must not be stereotyped; men should be helped up, kept up, and encouraged to walk alone; everything should be done to give them municipal aid and political help, but they must not sterilize men's self-reliance, undermine their character, and destroy their capacity to make strong men and citizens. His ideal was fewer workhouses and more homes, smaller charities and higher wages, more pleasure and less drink, smaller cities and larger villages, and, as a result, stronger men and women and healthier children. Means must be found to give greater access to the land and so to prevent the rush of strong and healthy but lowly-paid men from the country to the towns. This, he said, could be done by wise experiment and legislation. Such aspirations are shared by all who have studied the problems of our great cities: the obstacles which have hitherto stood in the way of their realization have been just those legislative and administrative difficulties to which Mr. Burns referred. If he can solve them he will have erected to himself an imperishable monument. The most hopeful part of his speech was perhaps the recognition that the results desired can only be brought about gradually, after thorough and persevering investigation. In reply to a question, Mr. Burns expressed general approval of old-age pensions.

THE WAR ON NOSTRUMS.

At the annual meeting of the New Jersey State Sanitary Association, held on December 8th, Mr. Samuel Hopkins Adams, a journalist who has recently taken a prominent part in exposing what he calls the "great American fraud," delivered an address on proprietary medicines. He stated that Bills are shortly to be introduced into the legislatures of New Jersey and other Eastern States; if passed, these Bills will abolish secret preparations. The Bills contain provisions compelling the makers of proprietary medicines to print upon their labels the composition and ingredients of the article, and also fixing the retail price of the preparation according to the actual worth of the ingredients. These Bills are to be introduced by prominent legislators in each State.

AUTOMOBILES FOR MEDICAL MEN.

An interesting inquiry on the subject of automobiles for medical men has been carried out by a French motor journal called *L'Auto*. By way of trying to determine what sort of automobile vehicle is regarded as best suited to the needs of medical practice it addressed a large number of inquiries to medical men known to use motors for professional purposes. These queries related to the following points: The horse-power desirable, the number of cylinders, speed capacity, number of possible passengers, style of body, and initial cost. In response the journal received 160 replies, and from an analysis of these it concludes that the ideal automotor for medical use should be of six-horse power, possess but one cylinder, be capable of travelling at an average of twenty-nine kilomètres (about seventeen miles) an hour, have a closed body, seats for two persons, space for carrying a box of surgical instruments and accessories protected from dust, and cost £108. Electromobiles and steam cars did not apparently enter into consideration; it is to be noted, too, that the journal, in estimating the horse power desirable, arrived at a conclusion by adding the numbers together and dividing the result by the number of answers received. The same method was adopted with regard to the other points, though how this could be done is not obvious. Nevertheless the result may presumably be taken as the arithmetic mean of 160 opinions, and is sufficiently clear evidence that our French *confrères* are not in favour of high-powered, many-cylindered machines of elaborate workmanship. Neither in France, however, nor in England, is there at present any well-known car at anything like the price named, nor does it seem at all probable that there ever will be.

PERILS OF THE TRENDELENBURG POSITION.

The practice of elevating the pelvis so as to facilitate operations on tumours of the pelvic organs has proved of great service, by allowing the surgeon to see what he is operating upon, while, by causing the intestines to roll away towards the epigastrium, it reduces the dangers of damage or irritation of those viscera from hands, sponges, and instruments. Like most methods in operative surgery, however, it has its disadvantages. The pressure of the intestines on the diaphragm may gravely embarrass the functions of the thoracic organs, and anaesthetics may have been unjustly blamed for complications really induced by elevation of the pelvis. The most definite charge against the Trendelenburg position is that it may be the direct cause of intestinal obstruction. That grave accident, almost as distressing to the operator as is haemorrhage from the ovarian pedicle, may follow any abdominal section performed with the patient in any position. Nevertheless several writers have charged the Trendelenburg position with the guilt of causing intestinal obstruction in their reports of very definite cases. M. Octave Pasteau[1] has recently published an instance of fatal obstruction. The patient was a laundress, aged 45, and M. Pasteau performed a suprapubic operation on the bladder, removing a pedunculated papilloma which had caused haematuria. The pelvis was elevated to an angle of 45 degrees, the anaesthetic used was chloroform. We must here observe that the abdominal viscera and omentum were most probably not exposed, and therefore never seen during the operation. When the abdominal wound was closed the patient was let down into the horizontal position, but more suddenly than was advisable owing to an accident in the mechanism of the operating table. Symptoms of obstruction of the large intestine set in, insidiously as usual. There was little abdominal distension, but the patient died on the night of the fourth day before any sound diagnosis could be made. Although the abdominal wound was quite healthy, septic infection and pseudo-ileus were suspected, but at the necropsy there was no evidence of prejudicial inflammatory reaction to be detected. The cause of death was quite clear. The middle of the transverse colon was drawn down into the pelvis, hence that part of the large intestine formed a letter V. The right limb of the V was extremely distended, whilst the left limb, the descending and sigmoid colon, and the rectum were empty. In the pelvis was the apex of the great omentum, drawn out into a point and held down by several coils of small intestine grouped around it. On careful examination, M. Pasteau found that as he raised the omentum air passed into the obstructed lower portion of the transverse colon. He then examined the posterior surface of the omentum, and discovered an old inflammatory band, which passed from the transverse mesocolon and the adjacent intestine itself to the back of the omentum, a little below the colon. Thus, when the free lower border of the omentum, mixed up with coils of small intestine, was suddenly shaken down into the pelvis when the patient's body was lowered, the middle of the transverse colon was drawn down with it, and as air accumulated in the bowel it increased the obstructive flexure. M. Pasteau shows, after reviewing the literature of the subject, that in other recorded cases the mechanism of obstruction associated with the Trendelenburg position was quite different, volvulus being the lesion discovered at a second operation or after death. In Schauta's case, published thirteen years ago, volvulus of the ileum followed a supravaginal amputation of the cervix, and recurred after a second operation. Heidenhain reports another instance of volvulus of the small intestine after hysterectomy for carcinoma; lastly, Kraske met with the same complication

[1] *Bulletins et Mém. de la Soc. Anat. de Paris*, July, 1905 P. 623.

where the large intestine was the seat of the torsion, in 2 cases very similar to Pasteau's, the operation being superapubic lithotomy.

THE ANALYTIC CHECK ON THE MILK DEALER.

In September milk inspection in Chicago was restricted owing to the disruption of the laboratory of the health department. To what this disruption was due we do not now remember, but the important fact is that the work of milk inspection was reduced fully 60 per cent., and that following on the disruption the number of watered samples increased from 2.07 per cent. in October to 6.1 per cent. in November. Dr. Whalen, the Commissioner of Health, has founded upon this an interesting calculation which may be commended to the attention of British housekeepers. It appears that during November the 20 railroads running into Chicago brought into the city every day over a million quarts of milk and more than 50,000 quarts of cream, for which the citizens of Chicago paid over 85,000 dollars a day. In October, says Dr. Whalen, the housekeepers of Chicago paid only 1,980 dollars a day for water in their milk and cream, but they paid 5,278 dollars a day for the increased adulteration of November; this he calculates amounted to a net loss of 96,280 dollars during a single month, a sum amply sufficient to equip half a dozen laboratories. It is not surprising, therefore, to hear that the laboratory is in a few weeks to be restored to its old efficiency.

THE ANGLO-JAPANESE ALLIANCE.

THE *Sei-I-Kwai Medical Journal*, in its issue of October 31st, gives an account of the graceful hospitality extended to the medical officers of the British fleet by their Japanese brethren on the occasion of the visit of Admiral Noel to Yokohama. On October 18th the medical officers were formally welcomed by the surgeons of the Japanese Navy and Army, the Professors of the Medical College of the Imperial University of Tokyo, and the practitioners of the Japanese metropolis, at the Flower and Moon Garden. The guests were received at the railway station on their arrival from Yokohama, by Dr. Yabe, Surgeon-Inspector of the Imperial Japanese Navy, and Dr. Y. Takaki, Vice-President of the Tokyo Hospital, and driven under their escort to Mukojima where the Gardens are. There they were received "with warm welcome and cheerful applause." Among the entertainments arranged for their delectation were displays of the art of fencing by girls against strong men; the Genroku dance—dating from the era of the Tokugawa dynasty, about 250 years ago; the Anglo-Japanese Alliance dance by Geisha, and athletic sports by the students of the Tokyo Charity Hospital Medical School. After this an address of welcome was delivered by Baron Takaki, Surgeon-General of the Japanese Navy. He said the visit was a great joy to him and to his fellow-countrymen, as it reminded them that the British people had always been their great friends and sympathizers, especially during the recent war, which they were compelled to fight for the preservation of their existence. They well remembered that in the earlier days of their modern navy, Great Britain had greatly assisted them by sending a number of officers to teach them. Their Naval Medical Department also owed much to that of Great Britain. Baron Takaki then gave an interesting sketch of the development of that department. It was established in 1872 when the Tokyo Naval Hospital was also opened. At that time Dr. Wheeler, attaché to the British Legation, now practising in Yokohama, gave them lectures in anatomy at the hospital and treated patients there. His lectures were translated into Japanese and printed: it was one of the best textbooks ever written in Japanese. In 1873 the late Mr. William Anderson went to Japan and took up the task of educating the young medical officers and students, the principal among them being the present Surgeon-Generals Tokesuka, Yamamoto, Kimura and Suzuki, who was Surgeon-General of Admiral Togo's fleet. In 1878 Baron Takaki was sent to England, where he studied at St. Thomas's Hospital. In 1878 Baron Saneyoshi was also sent to England, and afterwards several others did the like. "Every one of them," said Baron Takaki, "has chiefly partaken of establishing the health "and efficiency of our navy to the present state. So you "see from what I have stated here, it is quite obvious that "what we are now is merely the accumulation of your "favours which your country has so freely given to us." Fleet Surgeon George Hewlett, the senior of the medical officers present, said in reply that he had never felt so proud in his life as after hearing Baron Takaki's speech. "We British," he said, "may have taught you something in "the past, but now we have many things to learn from the "Japanese." A banquet followed, at which the health of King Edward was proposed by Baron Saneyoshi, Director-General of the Naval Medical Bureau, and Fleet Surgeon Hewlett proposed that of the Japanese Emperor. The party comprised some 400 Japanese, among whom, in addition to those already named, were Baron Hashimoto, Baron Ikeda, Professor Kitasato, Professor Aoyama, Professor Osawa, Surgeon-General Koike, Surgeon-General Kimura, and Professor Oka. The British officers were Fleet Surgeon George Hewlett, H.M.S. *Bonaventure*; Fleet Surgeon Lawrence Bidwell, H.M.S. *Hogue*; Staff Surgeon Thomas D. Halahan, H.M.S. *Diadem*; Staff Surgeon Michael Smith, H.M.S. *Sutlej*; Staff Surgeon Edmund Cooper, H.M.S. *Astraea*; and Surgeons Edmund Cox, H.M.S. *Diadem*; William Keir and Robert Kennedy, H.M.S. *Andromeda*: Evelyn Townsend, H.M.S. *Hogue*; Edgar Wilkinson, H.M.S. *Astraea*; and George Duncan, H.M.S. *Alacrity*.

SELF-INDUCED ABORTION

CRIMINAL abortion is ever a very serious question, and it is important that the circumstances of every case should be reported clearly in accessible clinical reports. One of the chief points in any case is the detection of the agent, who occasionally proves to be the patient herself. It is not always easy to settle that point. Dr. Schönbek[1] of Brünn, Moravia, admits this uncertainty in a case under his care where the patient was a midwife, yet the injury which was intended to induce abortion seemed of a kind most probably inflicted by another person. A woman aged 35, was admitted into hospital suffering from rigors. She was a midwife living apart from her husband, and was in the third month of pregnancy. She stated that bleeding had set in a few days previously and that she had checked it by packing her vagina with wadding. Vomiting and rigors followed and two doctors saw her, one obtaining her admission into hospital. This history seemed doubtful, and criminal practice was strongly suspected. The patient was very ill, and there was tenderness in the ileo-caecal region without abdominal distension. After dilatation the uterus was emptied of a fetus and placenta, neither abnormal nor decomposed. The uterin cavity was washed out with lysol and carefully explored, yet no lesion could be detected at the time. Three days later the patient was very ill, with symptoms of septic peritonitis, and when the sensorium was just becoming distinctly affected, she volunteered a confession to the effect that two days before the ouset of the rigors she passed a catheter (*sic*) which had been dipped in lysol, into the os externum, and as she was guiding it higher up it slipped out of reach. She died on the day after this confession, and diffuse purulent peritonitis was found *post mortem*. On searching amidst the intestines a broken-off piece of elastic bougie, 5 in. long and 3 mm., or a little over one-tenth of an inch, thick, was discovered a hand's breadth below the liver. The uterus was then examined, and a perforation was detected beginning in the canal of the cervix half an inch above the os externum, and running obliquely upwards, to open on the outer surface of the uterus at the level of the internal os. The vagina was very capacious, as though it had undergone manual dilatation. In spite of careful inquiries it remained uncertain whether the injury was self-

[1] Ein Fall von kriminellen Abortus. *Zentralbl. f. Gynäk.*, No. 49, 1905, p. 1497.

inflicted, even though the patient was a midwife, and her tale seemed plausible. There appeared to be reasons to suspect even the death-bed confession, and Dr. Schönbek could not make sure that the piece of bougie was not broken off the remainder of the instrument during introduction, which would not correspond to the patient's account of the accident. Perhaps, on the other hand, it was at the time a broken fragment, and, if so, it is easy to understand how, being without a handle, it had slipped away from the deceased's fingers, but she said nothing to imply that she had made use of a fragment and not of an entire bougie. In short, it seemed quite possible that the instrument was not introduced by the patient.

THE GOVERNMENT LABORATORIES IN MANILA.

THE most recent publication of the Bureau of Government Laboratories, Manila,[1] contains a very interesting description of the laboratories by Dr. Paul C. Freer. Dr. Freer explains the necessity of such institutions in the tropics, and records how the laboratories originated. After the occupation of the Philippine Islands Commission, the United States Government, by an Act passed in July, 1901, established a Bureau of Government laboratories, and organized a biological and a chemical laboratory. Later a serum laboratory was added, and departments of botany, zoology and entomology, all under the same roof, were created. No expense has been spared in equipping the buildings thoroughly, and in bringing them completely up-to-date. The system of small apartments for scientific work, in place of large general rooms, has been adopted, but since all the laboratories are in one building, opportunity for discussion will not be materially curtailed, although each class of work can be completely separated from all others. Nothing seems to have been neglected in the construction of the laboratories. Ventilation has been attended to, the desk arrangements in the rooms are perfect, splendid animal houses have been erected, the photographer's room is there with photomicrographic apparatus of the latest pattern, and a specially large stock of apparatus and supplies is kept in reserve to prevent any vexatious delays in ordering from Europe or America. When it is added that the catalogue of the library, compiled by the librarian, Miss Mary Polk, shows that it contains every periodical or book of reference bearing on the subjects dealt with in the laboratories, then the advantage of working in such an institution can be imagined. The proper spirit of scientific research is also present. In Dr. Freer's conclusion he states: "One aim of the Bureau from the begin-"ning has been to place itself in a position to attract to it "foreign guests and students who may wish to come to "Manila for the purpose of carrying on research work in "which they are interested. To such investigators the "doors of the laboratories will be open, and the facilities "of the Bureau will be at their disposal." For any one wishing to study tropical problems on the spot here, then, is the place. In tropical English colonies few such properly equipped institutions exist: attempts, it is true, have been made from time to time to start them, but feeble Government support and financial meanness have, as a rule, choked them. It is not possible to give too much praise to the American Government for its energy; the good work already done by workers in Manila is their reward for the establishment of such an institution.

THE FATE OF TRIPLETS.

THIS heading suggests to the minds of all who read it the words "early death." Dr. Kaiser of Dresden, however, has followed up the histories of four cases under his observation where fate was less cruel, although not one of the twelve children was reared at the breast.[2] His report is prefaced by some remarks about the ancient fame of triplets, alluding to the Horatii and Curiatii, whilst he holds that twins are commonplace beings, known only to history and literature as subjects for comedy. This statement is hardly fair to Castor and Pollux, or to Romulus and Remus, who are probably not less historical than were the triplet champions of Rome and Alba Longa. Dr. Kaiser adds that he knows of no famous man who had a twin brother, a statement which perhaps some of our correspondents, twins or otherwise, may show to be inaccurate. Triplets are not so very rare. Ploss made out, according to statistics, that in the middle of the nineteenth century 107 triplet births occurred yearly in Prussia, 120 in France, 125 in Austria, and 130 in Italy. In the first of the four cases followed up by Kaiser, three girls were born on March 23rd, 1878. They were reared with difficulty. Then the mother bore three more single children, her progeny amounting to six, all girls. The triplets when at school were noted for the difficulty they experienced in learning lessons by rote. Two are married and have had children; the third is still a spinster, and works in a factory. According to the photogravure appended to Dr. Kaiser's report, they appear to be healthy, fair-complexioned, young German women. The second set of triplets was born between May 24th and 26th, 1885, first a girl spontaneously, then another by the aid of forceps, and lastly a boy who presented transversely, and only weighed 4½ lb. when delivered. Thus the females, if taken as one, formed with the male child "pigeon twins"; unfortunately the history of placental relations is not clear. All the three children were sickly until puberty; now the boy is a mechanic and the girls in service, and none are in ill-health. The third batch in Dr. Kaiser's report was born on May 10th and 11th, 1903, all spontaneously, the placenta required manual detachment. They are now three very fine boys, according to their portraits. The fourth set of triplets was born on April 4th, 1900; they were all girls. The head of the first presented, and the child was delivered spontaneously. The breech of the second was then defined; delivery was also spontaneous. The presentation was vertex in the third case; the child was expelled, with strong pains, unaided by art. There was but one placenta. The portrait of these triplets aged 1 year makes a very pretty group. A second photograph—their counterfeit presentment when five summers had passed over their heads—represents them as three plump little German girls. Dr. Kaiser has shown that triplets have a better chance of survival after early infancy than is generally believed. As all the twelve individual infants were too weak to take the breast, the fact that all were reared speaks well for the parents, who were all living in relatively humble circumstances.

PUERPERAL SEPSIS AND PRE-EXISTENT SEPSIS.

AT the recent meeting of the German Association of Scientists and Medical Men Professor Freund reported a case of high importance both from an obstetrical and a medico-legal standpoint.[1] A primipara was spontaneously delivered in the Professor's own maternity department. She had all the advantages of good nursing and skilled investigation; it was ascertained that she was the subject of latent phthisis, and the sputum was examined, but no tubercle bacilli were found. On the sixth day of the puerperium the temperature suddenly rose, and never fell till the patient's death on the twenty-eighth day. There were frequent rigors, Aronsen's serum was administered with little or no effect. There appeared at first to be no local lesion, but when the temperature had been high for a week, Freund detected a very painful swelling, the size of an egg, on the lower part of the sacrum. It seemed at the time to be no more than a complication in a bad case of puerperal fever. A careful *post-mortem* examination was made. The conditions discovered

[1] *Department of the Interior, Bureau of Government Laboratories, I. Description of New Buildings.* By Paul C. Freer, M.D., Ph.D. *II. A Catalogue of the Library.* By Mary Polk, Librarian. Manila: Bureau of Public Printing. 1905. (Demy 8vo, pp. 319.)

[2] **Ueber Drillingsschicksal**, *Der Frauenarzt*, October, 1905, p. 458.

[1] "Osteomyelitis in Wochenbett." Report of "77 Versammlung Deutscher Naturforscher und Aerzte in Meran." *Zentralbl. f. Gynäk.*, No. 41, 1905, p. 1238.

were — plugging and phlebitis of the larger veins of the pelvis, old and recent pleurisy, a pulmonary infarct, old pulmonary tubercle, and suppuration of the left sterno-clavicular joint. The peritoneum, let it be noted, as well as the genital tract, was free from evidence of disease. All these conditions discovered after death might have been explained by the hypothesis of ordinary puerperal infection from without, but Freund, suspicious about the absence of primary lesions in the uterus, coupled with the development of an inflammatory swelling over the sacrum, ordered the parts around that bone to be carefully dissected, and also directed that inquiries about the patient's recent health before delivery should be made. The result was instructive. There was a primary osteomyelitic focus between the sacrum and the coccyx, a cavity with walls of broken-down tissue and full of pus. The coccyx itself was bare of periosteum and osteomyelitic foci were diffused over its bony tissue. The patient's husband was able to supply essential evidence: he remembered that she had suffered during the last months of pregnancy from severe pains in the lower sacral region, walking was very painful, and rising from the sitting posture caused much suffering. Thus it was revealed that the patient died from sepsis derived from within, not from without, yet a wrong diagnosis was nearly made, although the patient was in the hands of experts up to her death. Even when the necropsy was made the pathologists nearly came to a false conclusion. The moral is clear: we must always make sure, when a woman in childbed is seized with fever, about the source of infection. In our zeal for seeking for proofs of imperfect sterilization of towels and instruments we may overlook a septic focus in the subject herself developed before delivery.

MEDICAL SENATORS.

The King of Italy has named Professor Pietro Grocco of Florence a Senator of the kingdom. There are now five medical members of the Italian Senate, the others being Professors De Renzi, Cardarelli, Maragliano, and De Giovanni. Professor Grocco, to whom we present our heartiest felicitations, is the son of poor working people in the Pavese district. He graduated at the University of Pavia, and soon afterwards was appointed Assistant to the Professor of Clinical Medicine. Five years later he was appointed Lecturer on Medical Pathology. He was afterwards appointed Professor of Clinical Medicine at Perugia, then at Pisa, and finally at Florence. There he has reorganized the clinic, and made it in point of teaching one of the best in Italy. It was on his initiative that the Antirabic Institute of Florence was founded. He is President of the Society of Hygiene and of the Order of Medical Practitioners. He has contributed to medical literature works on nephritis, on heart disease, and on the liver.

PRIZES OF THE ACADEMIE DE MEDECINE.

At a meeting of the Paris Academy of Medicine held on December 12th the prizes offered to competition last year were awarded. Among the principal of these prizes are those known by the names of François-Joseph Audiffred, the Marquis d'Argenteuil, Barbier, Theodore Herpin, Laborie, Meynot, Adolphe Monbinne, Perron, Lefèvre, Chevillon, Henri Buignet, Mathieu Bourceret, and Capuron. The Audiffred Prize (dividend coupons to the value of £960) is offered for a cure for tuberculosis. The prize was not awarded, but various sums were given by way of encouragement, M. Louis Renon and M. G. Moussu each receiving £80, and M. Plicque £40. The d'Argenteuil Prize, of the value of £272 is offered for the best work on urinary diseases; it was divided between MM. Octave Pasteau, and A. Iselin, of Paris. The Barbier Prize (£80) is given for the best work on diseases looked upon as incurable; it was not awarded, sums of £40 and £20 being given by way of encouragement to Professor H Christiani of Geneva for a work on thyroid grafting, to M. Henri Martel, a veterinarian, for experimental researches on the variability of the anthrax bacillus, and to Dr. P. Remlinger, Director of the Pasteur Institute in Constantinople, for his publications on rabies. The Theodore Herpin Prize, of the value of £120, given for work in medical pathology, was awarded to Dr. O. Crouzon of Paris for an essay on combined scleroses of the spinal cord. The Laborie Prize (£200) for surgery was awarded to M. Félix Lagrange, Professeur Agrégé in the Medical Faculty of Bordeaux, for a treatise on tumours of the eye, the orbit, and its adnexa. The Meynot Prize (£104), which is given for work on the eyes and ears, was awarded to M. Serini, Ophthalmic Chef de Clinique in the Paris Faculty, for a summary of ocular therapeutics. The Perron Prize (£152), for work on the progress of medicine, was divided among MM. Guillemot, J. Hallé, and E. Rist of Paris, who received £80 for their bacteriological and experimental researches on putrid pleurisies; M. René Gautier, who received £36 for a treatise on the functional exploration of the intestine by examination of the faeces; and M. Henri Tissier of Paris, who got £36 for his researches on the normal and morbid flora in the nursling. The Lefèvre Prize (£72) was awarded to Dr. R. Masselon for an essay on melancholia. The Chevillon Prize (£60), for work on cancer, was awarded to M. J. Belot for his treatise on radiotherapy. The Henri Buignet Prize (£60), for work on medical physics and chemistry, was awarded to Dr. Béclère for his publications and researches on medical radiology. The Mathieu Bourceret Prize (£48), for work on the circulation, was awarded to M. Victor Pachon for a series of studies of arterial and cardiac pulsation. The Capuron Prize (£40), which is given for work on obstetrics, was not awarded: a sum of £12 was given, by way of encouragement, to M. A. Rastouil of La Rochelle.

A DECEMBER DROUGHT.

The month of December this year has been marked by a very unusual drought, no rain at all having been recorded at the Camden Square meteorological station in London for over fifteen days. Such a drought has not occurred before in December since 1892, when no rain fell after the fifteenth of the month; in that year the weather at the time was characterized by hard frosts, much bright sunshine, a little fog, and the barometer only slightly above the average. The drought this month has been accompanied by mild, equable, and nearly sunless weather, with dense fogs, and a very high barometer. One evidence of the low rainfall recently experienced is afforded by the difficulties with regard to water which have occurred in various parts in the Midlands, and have reached their climax in Leicester, where one of three reservoirs is empty, and the other two only contain a quarter of their normal quantity. The supply is being supplemented by water raised at the rate of 300,000 gallons a day from a colliery shaft, but this being insufficient 200,000 gallons a day are being pumped from a well sunk in a field adjoining the Belgrave Cemetery within the town. The inhabitants not unnaturally look upon this water—which, however, is said to give good results on analysis—with some suspicion, for the well from which the engine is pumping water direct into the mains is within a few yards of the ground in which dead bodies are being buried.

NEW MEDICAL COLLEGE AT LUCKNOW.

On Tuesday the Prince of Wales laid the foundation-stone of the new medical college at Lucknow, the necessity for which has long been recognized. The native noblemen and gentry of Agra and Oudh have responded generously to the proposal to make the college a memorial of the visit of the Prince and Princess of Wales, and the sum of ten lakhs of rupees has been subscribed. The Prince congratulated the promoters of the scheme on having secured a splendid site, and expressed the pleasure with which he learned that his name was to be associated with an institution which must have a vast influence on the health and happiness of the population.

Scotland.

University of Edinburgh.

Lectureship in Gynaecology.

The University Court, after consultation with the Senatus, has approved of a scheme apportioning the relative duties of the professor of midwifery and the lecturer on gynaecology (to be appointed) respectively with regard to the systematic and clinical teaching, the scheme to be communicated to the managers of the Royal Infirmary.

The late Dr. Matthew, Corstorphine.

There has just been erected in Corstorphine Parish Church, near Edinburgh, as a memorial to the late Dr. Alexander Matthew, a stained-glass window. It has been given by friends and members of the parish as a token of the esteem and affection in which the late doctor was held by all classes. The window represents the Adoration of the Magi.

Edinburgh Royal Infirmary.

Reconstruction of the Out-patient and Accident Department.

In 1903 the managers of the Edinburgh Royal Infirmary appointed a committee to consider the advisability of reconstructing the surgical out-patient and accident department of the institution, which had outgrown existing arrangements. Inquiries were extensively made, and a scheme was drawn up by the clerk of works. That scheme has now been carried out and is seen in the new department in the north-east pavilion of the group next Lauriston Place, and in a small new annexe erected to the west of it. Facing the entrance hall is a waiting-room, while running right and left is a large corridor giving access to eight rooms, in which patients' injuries can be dressed. These rooms are arranged in pairs. One pair is for fractures, a second for "clean cases," a third for septic cases, and the fourth pair is for the work of female students. Everywhere are the most modern appliances for aseptic treatment. Ceilings and walls are covered with white tiles, the floors are of marble slabs; the dressing-rooms are fitted with white porcelain sinks; there are ample means of sterilizing instruments. There are three rooms for the assistant surgeon of the department, the residents, and the nursing sister in charge. From the waiting room a glass corridor leads to a new operating theatre between the two easternmost pavilions. It has seats for over a hundred students, who gain access from the grounds, and there are four anterooms attached. The heating is by hot coils, and the ventilation by electric-driven fans. The cost will be about £6,000, and it is estimated that the working of it will add £300 a year to the ordinary expenditure of the infirmary.

Formerly the six surgeons of the infirmary took the out-patients in daily rotation, but under such a system there was a lack of continuity of treatment. Now the out-patient department is made an independent department under the charge of one of the assistant surgeons who will take duty continuously for a period of four months. He will have three resident surgeons under him who will each have eight hours of duty in the twenty-four. The nursing staff consists of one sister and five nurses, one of whom will be on duty at every hour of the day and night. All the arrangements are of the most up-to-date description for the prompt treatment of surgical cases. The managers are to be congratulated on this new equipment of the out-patient department, a department which till now has scarcely been creditable to a great hospital. There is a casualty ward in a corridor adjoining the new department. It has three rooms, with four beds each. Patients, for example, brought in by the police in a state of collapse will be taken in and detained for observation for twenty-four hours.

The new department was formally opened on December 21st by Lady Cranston, wife of the Lord Provost of Edinburgh. Mr. W. B. Blaikie, Convener of the Committee of the new department, who presided, described the growth of the infirmary from the time the present building was opened in 1880. After Lady Cranston had formally declared the new department open, Professor Annandale moved a vote of thanks to her. The Lord Provost moved a vote of thanks to the Chairman, and referred to his work in connexion with the new department, as well as to the work of his predecessor, Colonel McHardy, and of Colonel Warburton, the medical superintendent.

Post graduate Study at the Glasgow Royal Infirmary.

The provision for post-graduate clinical teaching has hitherto been very unsatisfactory in Glasgow. That there is a distinct demand for such tuition has been amply demonstrated by the success which has attended, during the past few years, numerous courses on ophthalmology. These courses are held during the winter months, and are largely taken advantage of by medical practitioners. A further attempt to organize post-graduate courses on a large scale has been decided upon by the staff of the Royal Infirmary. With the approval of the managers, the following scheme has been adopted: There will be three courses of instruction in the year; one in winter during February and March; the second in spring in the month of May; and the third in the autumn during October and November. Details of the courses will be published shortly, but meantime it may be stated that the winter course will include special instruction in the following subjects: Diseases of the ear, Dr. Kerr Love; diseases of the nose and throat, Dr. John Macintyre; diseases of the skin, Dr. Alex. Morton; diseases of the bladder and kidneys, Dr. David Newman; diseases of women, Dr. Balfour Marshall; clinical medicine, Dr. Lindsay Steven; clinical surgery, Dr. John Barlow; surgical technique, Dr. Macewen; surgical bacteriology, Dr. Paterson; electro-therapeutics, Dr. J. D. Riddell; and bacteriology, Dr. McCrorie. The spring and autumn courses will be on similar lines, and from time to time such other subjects will be introduced as may be found desirable. It is intended to make the teaching as far as possible practical and clinical. There is no doubt that the Royal Infirmary will make an excellent field for post-graduate work. There will be ample clinical material at the disposal of the staff, as, in addition to a very large outdoor department, there are 600 resident patients available.

Population of Glasgow.

In his report to the Health Committee of Glasgow Corporation, Dr. A. K. Chalmers, the Medical Officer of Health, points out that the rate of growth of population has been checked during the past year. Within the municipal area the number of inhabited houses has decreased by 114. This is notable as being the first actual interruption to a period of growth which has been continuous since 1887. Prior to the inclusion of Kinning Park, the resident population in houses within the municipal area was estimated as rather less than it was in 1904. But if those resident in institutions and the harbour population be added, there is a difference of 9 persons in favour of the present year. In other words, but for the increase in the number of persons resident in institutions, the population would have shown an actual decrease in numbers. If the whole area, including the town proper and the surrounding extra-municipal districts, be considered as a whole, the rate of increase has also fallen, but the incidence of the decline is interesting. In the past decade within the municipal area the rate of increase has fallen to barely one-half, while in the marginal extra-municipal areas the rate of increase has almost been maintained at its former standard. Consequently the increase of population is taking place to a large extent in the marginal extra-municipal areas. This centrifugal disposition of the population is probably not unfavourable to the general health of the community, as it leads to a wider distribution of the population and tends to get rid of the evils which result from massing the population, but at the same time it must be remembered that general administration suffers from the fact that the population no longer forms one administrative area. It would be interesting to know how far the outward displacement of population is due to the continued extension of the corporation car system.

Ireland.

The Poor-law Medical Service.

A sworn inquiry was held on December 13th, at Castlerea, by Sir Acheson MacCullagh, Inspector of the Local Government Board, into an application of the Castlerea dispensary medical staff and the medical officer of the workhouse for the introduction of a graded scale of salary, the five medical men concerned being represented by a solicitor. After the clerk of the union had given evidence as to the income and general arrangements of the Union, Dr. Patrick Donnellan, of Castlerea, who is President of the Irish Poor-law Association, gave evidence. In the twenty years that he had held his

appointment as Poor-law medical officer, the population, he said, had greatly decreased, while the percentage of old and feeble had increased, both results being due to the emigration of the young and healthy. He had three dispensaries, one of which was fourteen miles from his house. The charge of the latter had been added to his duties since he accepted his appointment. In addition to attendance at these dispensaries he had to answer calls. He calculated that his salary of £110 did not defray his working expenses. He also received £25 a year as medical officer of health and a small amount from vaccination and registration fees. Of late years the possibilities and value of private practice had greatly decreased, and in any case his official duties left him little time for it. A Poor-law medical officer, he thought, should have a living wage, and be able to keep in touch with recent medical science. Taking the circumstances of the district into consideration, he thought a minimum salary of £120, rising by triennial increments of £10 to £200, would be a reasonable salary. In districts where there was much travelling this should be taken into consideration in fixing the rate. The Connaught Poor-law medical officers were the worst-paid officials in Ireland, and those in Castlerea the worst paid in Connaught. The discontent amongst dispensary officers as to their salaries was everywhere general. In some districts a graded scale had already been introduced, and such a scale as he had mentioned would not mean an addition of more than 1½d. to the Castlerea rates, the extra amount required being only £410. The expenses of living had of late years considerably increased, especially house rent and servants' wages. There was some abuse in the issue of red tickets, but the chief abuse was in the fact that a graded scale of fees for poor people introduced by the Local Government Board in 1898 had not been put into operation.

Dr. J. A. Coen, of Frenchpark, who also gave evidence, stated that his salary just about paid the expenses of his official work and left him no remuneration. All the people in his district were poor, and it was necessary for him to keep two horses.

Dr. Francis G. O'Donohoe (Castleplunket district) said his combined salary of £100 was £10 less than that of his two predecessors. The Board of Guardians desired to raise this pay to the original amount, but the Local Government Board refused its sanction unless he lived at Castleplunket itself. His income from practice in that place from January 1st up to date was £33. Castlerea was as convenient a place from which to work his district as any within its area. Although the population and area of his district was less than that of the others, he considered he was entitled to an equal salary. By living in Castlerea he got private practice which he would not get if he lived in Castleplunket.

Dr. P. C. Walsh (Medical Officer, Castlerea Workhouse) said his salary and extras came to £110 a year. He calculated that after paying house rent, etc., he received £40 for some 500 visits to the workhouse. He was getting less than at another post thirty years ago.

The Chairman of the Board of Guardians gave evidence to the effect that the Board was quite satisfied with its medical officers. The members of the Board were in favour of Clause 6 of the Act of 1902 being repealed, and if that were done he believed they would be in favour of the doctors' application for increases and give at least some effect to it.

Cerebro-spinal Fever.

Surgeon-Colonel Edgar Flinn, Medical Inspector, Local Government Board, has issued a report on the outbreak of cerebro-spinal fever in the Innisboffin and Cleggan dispensary districts of the Clifden Union. In the second week of July, 1905, Dr. Gray, the medical officer, reported that six cases of the disease had occurred in Innisboffin Island, which is 10 miles from the mainland. Colonel Flinn visited the island on July 25th, Sir Acheson MacCullagh having already inspected on July 19th, but being subsequently detained elsewhere by duty. Cases of this disease in epidemic form had not been reported in Ireland since 1900. The symptoms were severe and sudden headache, pain in the back of the neck and cervical region, vomiting in some instances, retention of urine, constipation, deeply-coated tongue, in a few cases very high temperature, in others subnormal temperature and intolerance of light. The limbs were drawn up and fixed on the abdomen. The pain in the head and neck was intense, and in some cases there was delirium. There was no rash observable in any of the cases.

Two cases occurred in the Cleggan district under Dr. MacDonnell's care between April and July; 19 cases were observed in Innisboffin, and of these 4 died; 8 occurred in Cleggan, of which 2 died.

Efforts to trace the source of infection failed. The precautionary measures consisted of disinfection of each dwelling, the closing of the schools, the prevention of communication with the infected houses, and the removal of manure accumulations.

In an appendix is a report on the outbreak in Dublin in 1901. There were 80 cases, of which 38 were between 5 and 20 years of age, 17 between 1 and 5, 12 between 20 and 40, 9 under 1 year, and 4 between 40 and 60. In the present outbreak in Innisboffin all were under 12, with one exception. In Cleggan the oldest was 17 years.

Queen's College, Belfast.

The Better Equipment Fund.

A meeting of the Executive Committee of this fund was held in the College on December 21st. Sir Otto Jaffé occupied the chair. The President of the College, the Reverend Thomas Hamilton, made an official report on the result of the late appeal for £20,000 to meet Sir Donald Currie's offer. The result was that the offer was now secure, and the total fund exceeded £70,000. Professor Redfern, M.D., moved a resolution of most grateful thanks to Sir Donald Currie for his noble and munificent action, which was enthusiastically passed.

Resolutions of thanks were also passed to President Hamilton, to Sir Otto Jaffé, and to the office-bearers of the fund, the graduates, and other friends of the College, and the press for their respective exertions in the interest of the movement.

The President of the College also proposed that the Earl of Shaftesbury, the Right Honourable Thomas Sinclair (who had both rendered great service to the fund), Dr. William Calwell, President of the Ulster Medical Society (in recognition of the earnest labours on behalf of the fund of the medical alumni of the College); Professor Thomas Sinclair, F.R.C.S., the Senior Medical Professor; and Mr. Frederick Shaw be co-opted members of the Committee. This was unanimously passed.

Royal Victoria Hospital, Belfast.

Much regret is felt both by the Board, the medical staff, and the public generally at the prospect of the resignation of the Chairman of the Board of Management, Mr. William Crawford, J.P. It is difficult to say with which body Mr. Crawford is the greater favourite; while fairness and justice itself, he had an intuition into the feelings and claims of the profession not often possessed by laymen. Mr. Crawford did excellent work in the transition from the old hospital to the new; and none but those who actually worked with him and under him know how much of the success was due to him and how many improvements in all departments were silently initiated and completed by him. He has just given £500 to name a bed in perpetuity.

SPECIAL CORRESPONDENCE.

BIRMINGHAM.

Scarlet Fever in Birmingham.—The Coventry and Warwickshire Hospital.

A marked decline in scarlet fever is reported by Dr. Robertson, the Medical Officer of Health for Birmingham. On Saturday, December 16th, only 300 patients suffering from this disease were in the hospital as compared with 323 on the previous Saturday. Since July the total number has never been so low.

The annual meeting of the Coventry and Warwickshire Hospital was held on December 20th in St. Mary's Hall, Coventry. During the past year 995 in-patients and 8,314 out-patients have been treated, involving a great strain on the accommodation of the hospital. The ordinary income has been £4,812, and, although this is an increase of £217, it falls far short of requirements. Of this sum, £2,100 came from the Hospital Saturday Fund during the year. The ordinary expenditure has been £5,368. Only one-third of the money required for the extension scheme has been received, but instructions have been given for extending the Nursing Home. The late Mr. Feeney, who only last year gave £1,000 to the institution, has, on his death only a few days ago, bequeathed another £1,000. The Earl of Craven was elected President in succession to the late Lord Leigh.

CORRESPONDENCE.

A PLEA FOR THE INVESTIGATION OF CATARRH.

SIR,—Dr. Gordon's admirable letter in the BRITISH MEDICAL JOURNAL for December 2nd will have convinced your readers that bacteriologists in this country are seriously investigating the question of catarrh.

My excuse for addressing you is that a research has been carried on at the Stephen Ralli Memorial, Sussex County Hospital, on this very subject. Under the advice and direction of Dr. Bushnell, and with the very kind help of the honorary staff of the hospital, I have been endeavouring to cultivate the organisms found in the nasal cavity and pharynx in a series of cases of acute coryza, and hope to publish the results in due course.

Up to the present the organism most frequently found has been a xerosis-like bacillus, showing segmentation, which has been isolated in most of the cases examined. Its reactions to the various media are being worked out, and it is not unlikely that it may prove to be the organism described by Dr. Edmund Cautley as the *B. coryzae segmentosus*.

The *Micrococcus catarrhalis* has not been observed, and Pfeiffer's bacillus in only a few of the cases. Other organisms noted are streptococci and staphylococci, diplococci (Gram +), diplobacilli, large cocci of irregular size, streptothrix, and some groups of very minute cocci which do not take Gram's stain. A bacillus resembling Hoffmann's bacillus has also been seen in small numbers.

Much clinical and experimental evidence will be required before the diseases grouped under the heading of "Acute Coryza" are classified scientifically.

It will be necessary to determine the relation of the germ-factor to the various predisposing causes, such as cold, fatigue, etc., and the nature of the pathological conditions found in catarrhal subjects will have to be still further elucidated. The question of vasomotor disturbances, hypertrophy of the pharyngeal and faucial tonsils and "relaxed" mucous membranes will have to be discussed, and their relation to the infections determined. It may further be possible to determine the "opsonic index" of patients suffering from catarrh, and to compare it with that of normal persons. And then—possibly a serum!—I am, etc.,

CHAS. H. BENHAM.

Stephen Ralli Memorial, Sussex County Hospital, Brighton, Dec. 5th.

SIR,—The position of the profession as to the etiology and treatment of catarrh is well defined by that eminent humorist Mark Twain. Speaking of a savage medicine man, he says: "He could no more cure a cold than his brethren of Europe or America could."

Now, as one who has a perfect talent, amounting almost to genius, for "catching cold," I have naturally devoted some time and thought to the matter, and have come to these conclusions:

Chill in pure air has nothing whatever to do with it. You may get wet to the skin, sit in through draughts, spend nights in an open boat, you will never get a common cold; bronchitis, rheumatism you may have, but a common catarrhal cold never, without direct bacterial infection. Chill may lower your vitality and make you more susceptible—that is all. Again, you must possess a suitable soil for the growth of the catarrhal micro-organism. This is curiously exemplified in my own family of my wife, myself, and daughter. My wife never catches a cold; my daughter takes after me, and can hardly enter a church or tramcar without developing catarrh.

With regard to treatment, there is none once the micro-organism is lodged in the mucous membrane of the nose or throat. The soft palate always seems to me to be the starting-point of infection.

Prevention is possible, perhaps, by painting or spraying the throat and naso-pharynx with some antiseptic solution such as glyco-thymoline, or perhaps, better still, a 1 in 40 solution of formaline. If this is done directly the curious tickling sensation in the pharynx is felt announcing a fresh infection, the catarrh may be cut short.

Churches are the great source of infection. They are never ventilated, and in a health resort like this visitors and strangers are constantly bringing down fresh supplies of the septic organisms that produce common catarrh and influenza.—I am, etc.,

Boscombe, Hants, Dec. 19th. ARTHUR W. THOMAS, M.D.

THE INFLUENCE OF POSTURE ON THE NORMAL CARDIAC SOUNDS AND ON THE NORMAL CARDIAC DULLNESS.

SIR,—I am glad that so good an observer as Dr. Samways has no quarrel with my facts, but only with part of my explanation. As regards the aorta, the descending portion would certainly act as the long tube of a siphon if the blood could run out of it below as fast as it can rush against the valves above when it closes them. But I think Dr. Samways will not contend that this is likely to be the case. I am afraid I do not quite follow the passage in his letter which reads thus: "The blood vessels form a closed system of full tubes, and the weight of the contents of returning vessels tends to balance the effects of gravity on the contents of outgoing ones." The tubes are not rigid, are elastic, and the capillary system is interposed between arteries and veins. As regards the pulmonary artery, in the erect position the valves are certainly below the blood in the artery itself, in its two main branches, and in the upper parts of the lungs, whilst in the lower parts of the lungs the vessels can no more act as siphon tubes than the aorta, and for the same reason. In the recumbent position, on the other hand, the pulmonary valves are above practically the whole pulmonary circulation.

Professor Rudolf's interesting letter in the BRITISH MEDICAL JOURNAL of December 23rd contains two valuable observations with regard to which I think he does himself less than justice, for neither, so far as my knowledge goes, is generally recognized. The first—that "careful percussion of the absolute dullness shows this to be more extensive in the vertical posture"—is not really identical with my statement which refers to increase of width, but now that he has called attention to it, it is easy to recognize it to be correct. His explanation of the change in dullness is a tempting one; but it has to be remembered that the antero-posterior diameter of the chest lessens when the erect is changed to the recumbent position, as the table published with my paper shows, and that this must tend to neutralize the drop-back of the heart from the anterior chest wall which doubtless occurs at the same time. I am very glad of his corroboration of my findings both as regards the dullness and the sounds.

Professor Rudolf's second observation—that both sounds can in some cases be only heard clearly in the erect position—is new to me and very interesting. But there are a good many cases in which the second sound is louder in the recumbent than in the erect position. I have explained this to myself as due to the diminished antero-posterior diameter of the chest, bringing the valves nearer to the stethoscope, at a point where there is little room for the vessels to fall back. This, however, cannot be the whole explanation, for it is a very curious fact that occasionally in disease not only is the second sound of the pulmonary artery better heard in the recumbent posture, but this sound, though single in the upright position, becomes reduplicated on recumbency.—I am, etc.,

Exeter, Dec. 23rd. W. GORDON.

POST-MORTEM MENINGEAL INFECTIONS.

SIR,—I cannot agree with Dr. Horder that the evidence for regarding the tubercle bacillus as the causal agent of a meningitis is no stronger than that for imputing such a relationship to other microbes which, either singly or in combination, may be found in association with other forms of meningitis. I still contend there is no strict warrant for speaking of these latter microbes as "causal organisms."

In Dr. Horder's letter of November 18th, in reply to my query as to how he would account for the fact to which he testified, that "a subarachnoid exudation *rapidly* becomes the seat of *post-mortem* contaminations of considerable number and variety," he referred to two processes in explanation. One of these alleged processes was "that after death bacteria pass directly through the tissues from these same parts [alimentary canal, etc.] of the body to remote organs."

This assumed process is, as I maintain, a most improbable one, and altogether devoid of proof. When the blood has ceased to circulate, bacteria would have no means of getting rapidly to remote organs.

The other assumed process was described by Dr. Horder in these terms:

"During the act of dying there occurs an agonal invasion of the blood and lymph stream by organisms from the alimentary canal and other situations."

And Dr. Horder referred me to an "excellent paper" by Mr. F. W. White in the *Journal of Experimental Medicine*, vol. iv, as affording warrant for this explanation of the *post-mortem* infection of the meninges above referred to. I have since consulted this paper, and I find that its author can scarcely be quoted in support of Dr. Horder's explanation, seeing that among the conclusions deducible from his investigations F. W. White thus expresses himself (p. 446):

"Agonal invasion by bacteria is a rather uncommon occurrence. . . . We cannot accept the theory that the normal or nearly normal bowel is easily and frequently penetrated by bacteria, or the application of this theory to *post-mortem* findings."

I pointed out Dr. Horder's mistake in supposing that "*sub-mortem* blood cultures have actually proved the fact of agonal invasion," seeing that such cultures might be accounted for either (*a*) by bacteria already in the blood escaping "destruction" during the last hours of life, or (*b*) by reason of the *de novo* origin of bacteria in the blood during those closing hours of life.

Strangely enough, Dr. Horder now says that (*a*) is what he means by "agonal invasion" of the blood, though his language previously employed would rather have led one to suppose that he postulated a quasi-voluntary exodus of bacteria through the walls of the alimentary canal during the closing hours of life—as to the occurrence of which I am so sceptical.

The alternative explanation of the *sub-mortem* cultures, and of the *post-mortem* findings in the meninges—namely, (*b*) the *de novo* origin of the bacteria by heterogenesis, Dr. Horder declines to consider. Still it must be perfectly clear, as he admits, that if such a process actually occurs the validity of his explanations would necessarily be altogether shaken.

As I have said, I believe the kind of evidence on which Dr. Horder relies, and to which he refers me, is not to be compared in cogency to that which I have adduced, in the work previously referred to, in proof of the *de novo* origin of bacteria by heterogenesis.

Hauser, one of Dr. Horder's authorities, is, according to Mr. Butlin, a firm believer in the heterogenetic origin of cancer cells. And a similar view has been independently arrived at by Messrs. Farmer, Moore, and Walker, who say,[1] in reference to their examination of a carcinoma of the rectum: "In this and other cases that we have examined we were irresistibly driven to the conclusion that the growth had not originated from a single cell, or even from a few cells, but *was being evolved by the direct conversion of a great many elements definitely functioning as mucous cells into those of a truly malignant type*."

In a paper recently read before the Royal Society these investigators are similarly positive as to this mode of origin of the cancer cells; and when we are told what the results of inoculation show as to the very specific characters of cancer cells generally, and of their prodigious powers of multiplication, we cannot fail to see the strong analogy between the origin of such cells and that of independent lower organisms by heterogenesis. Speaking of the powers of multiplication possessed by cancer cells, Dr. Bashford[2] has recently said:

> In our own experiments growth has proceeded in some 1,000 mice successively, all of which are now dead, yet the tumour cells themselves are multiplying in other mice as actively as ever, and producing enormous masses of tissue.

Microscopical evidence of precisely the same kind as that which has convinced Hauser, as well as Messrs. Farmer, Moore, and Walker, as to the reality of the heterogenetic origin of cancer cells, has convinced me as to the frequent heterogenetic origin of ciliated infusoria, of amoebae, of flagellate monads, and of bacteria. Mr. Butlin need not, therefore, be so astounded as he professes to be[3] at the thought of the heterogenetic origin of the cancer cells. Their origin in this manner would not by any means prove that such cells are, in the ordinary sense of the term, to be regarded as "protozoa"; and even if it were so, such an "origin of new species of the lowest forms of animals" would not be quite so novel a process as he supposes. Whether, from such a basis of fact, cancer is to be regarded as a "parasitic disease" may fairly be regarded as open to question. The importance, however, of another proof of the *de novo* origin of a contagious disease is great, in face of reigning ultra-contagionist doctrines and their tendency to ignore origins except among the mists of a far-remote past, concerning which nothing can be known.—I am, etc.,

London, Dec. 23rd. H. CHARLTON BASTIAN.

[1] *Path. Trans.*, 1905, p. 379.
[2] BRITISH MEDICAL JOURNAL, December 9th, p. 1510.
[3] Ibid., December 16th, p. 1570.

THE TREATMENT OF TYPHOID FEVER.

SIR,—I am indebted to Dr. A. Campbell Stark for having drawn attention to some doubtful points in the therapeutics of vegetable charcoal not alluded to in my lecture on the Empty-bowel Treatment of Typhoid Fever, as it affords me the welcome opportunity of referring to Dr. Robert B. Wild's instructive Parkin prize essay on Charcoal as a Therapeutic Agent[1] in which may be found important additional references to the literature of the subject. Although the moderate doses in which charcoal was administered did not always avail to render the evacuations absolutely odourless, I have satisfied myself that a considerable degree of deodorization always resulted. As to the alleged inability of charcoal to retain when wetted any of its occluded oxygen, I may quote the conclusion arrived at by Dr. Wild[2] in his comparative experiments on dry and wet charcoal as a deodorizer and oxidizer of organic substances: "That this oxidizing action is thoroughly carried on by wet charcoal is, I believe, shown by my experiments." Lastly, any influence attributable to the calcium carbonate and to the calcium phosphate contained in the vegetable charcoal is probably unimportant, as it may be assumed that the former would disappear during its passage through the stomach, and that the latter, if not completely converted in the stomach into the soluble acid salt, would hardly escape modification on its way down to the large bowel where phosphates occur normally—largely in the form of triple phosphate.—I am, etc.,

London, W., Dec. 23rd. WM. EWART.

SIR,—I must thank Dr. Ewart for his very kindly remark about honouring my name by remembrance in that part of his invaluable paper published in the BRITISH MEDICAL JOURNAL of December 9th, in which he refers to the dieting of typhoid fever patients on all-whey diet.

Since publishing my paper in the *Lancet* of November 2nd, 1901, I have had 55 more cases fed entirely on whey with only 2 deaths, one patient dying within twenty-four hours of admission to Beacon Hill Hospital, the other during my absence from home on my annual holiday.

I hope shortly to publish a *résumé* of these cases, and when I do so shall incorporate with it a list of his cases kindly sent to me by Dr. Gee, who has been a staunch advocate for whey feeding since the publication of my paper in the *Lancet*. As I maintained in that paper, the effect of dieting typhoid fever cases is best judged by results, and lowness of death-rate must be regarded as the best criterion till someone can suggest a better.

The annual death-rate from typhoid fever in the hundred chief towns of England and Wales prior to 1901 was approximately 20 per cent. Eliminating a case of Cuban fever and another who died twenty-four hours after admission to Beacon Hill Hospital, my percentage death-rate for 131 cases is 1.5. I use very few drugs and no cold bath.—I am, etc.,

PRIDEAUX SELBY, M.R.C.S.Eng., L.R.C.P.Lond.

Teynham, Kent, Dec. 26th.

OBSERVATIONS OF THE OPSONIC INDEX OF PATIENTS UNDERGOING SANATORIUM TREATMENT FOR PHTHISIS.

SIR,—I appear to have been singularly unfortunate in my choice of language in the letter which appeared over my signature under the above title on December 16th; for the meaning which I meant to convey has apparently been completely misunderstood. The passage I refer to is as follows:

> It gives us pleasure to join issue with those authors in the following four statements in the case of the fourth with some reservation: 1. . . . 2. . . . 3. . . . 4. . . . There are, however, other views expressed in the article referred to; the grounds upon which such views are based are unfortunately not always stated, and which we believe to be unsound.

[1] Reprint from the *Medical Chronicle*, (John Heywood, London, 1896).
[2] Loc. cit., p. 14.

Dr. Meakin and Dr. Wheeler have taken these words to mean that I assail or differ from the views which they express in the four statements referred to. That being so, the fact that I state "it gives us pleasure" to do so, and refrain from submitting the reasons upon which our action or our views rest, must appear to those writers particularly ungracious. And I do not wonder that under the circumstances they display signs of annoyance.

The meaning which I really meant to convey was that "it gives us pleasure to support, to endorse, to substantiate" the accuracy of the four statements in question.

With regard to the remaining points, I do not think that any good end can be served by prolonging at this stage a discussion of matters which after all are of a highly controversial nature. Under other conditions and at a future time, along with Dr. Stewart, I hope to have the privilege of publishing conclusions which have been arrived at upon these and other aspects of this interesting subject, and to submit the evidence upon which these conclusions rest

Meanwhile, I offer my sincere apology for any annoyance which the employment of an ambiguous term on my part may have caused either Dr. Meakin or Dr. Wheeler.—I am, etc.,

Banchory, Dec. 27th. DAVID LAWSON.

P.S.—It is interesting to note that Dr. Wheeler and Dr. Meakin quote from an article of ours which contains observations supporting the accuracy of some of the four statements above referred to.

THE GENERAL ELECTION AND THE GENERAL MEDICAL COUNCIL.

SIR,—I entirely agree with Dr. Gordon's letter in your last issue.

The Medical Acts Amendment Bill of the Association is the most important measure to bring before the several candidates at the general election. There is no doubt, when we have once obtained a strong, properly-constituted General Medical Council independent of the self-interests of the various universities and corporations and the profession is only entered by one State examination—a condition which exists in every European country, and with our own legal fraternity here—we shall easier obtain any smaller grievances rectified, because we shall approach Parliament as a united body instead of our present heterogeneous character.

Personally, I think we could also assist matters by presenting a signed petition of medical men in the United Kingdom in favour of the Bill.—I am, etc.,

London, Dec. 27th. G. E. HASLIP.

TRADES-UNIONISM IN THE PROFESSION.

SIR,—In recent SUPPLEMENTS there have appeared at least two very interesting and valuable articles describing the Representative Meeting. As my remarks are based on principle and are not personal, I refrain from identifying them more closely.

One writer holding a high position in the profession obviously knew nothing and expected less of the meeting: yet he is compelled to write in glowing terms of the meeting as a whole and of its members individually. This is very gratifying to those who have borne the burden and heat of the day in the long struggle of the past ten or twelve years, which is now bearing fruit in the new constitution.

On one small point, however, our eminent latest recruit must be corrected. He speaks of "trades unionism betraying a narrow commercial rather than a generous professional spirit." This is the old fallacious clap trap. Let him distinctly understand that the general practitioner of to-day, who forms the largest part of the Association, is determined to use the new power which the new constitution has given him to protect himself from sweating, whether charitable or industrial, and to secure a fair day's pay for a fair day's work. Up to this point "trades unionism" is as the breath of his nostrils. When he has gained that irreducible minimum it will be time enough to consider what he can afford to do in the direction of "generous professional spirit."—I am, etc.,

Altrincham, Dec. 7th. T. W. H. GARSTANG.

COURTESY AND CO-OPERATION BETWEEN DIVISIONS OF A BRANCH.

SIR,—Whatever may be going on in other Branches—although I would be delighted if the same thing were aimed at—I should very much like to see all the Divisions of the Lancashire and Cheshire Branch brought into unison with each other. This, to my mind, would be a benefit to each Division, and to the Branch as a whole.

It was a pleasure to see three Representatives of Manchester Divisions at a meeting of the Stockport, Macclesfield, and East Cheshire Division at Stockport only on Thursday last. The previous week, the Honorary Secretary and Representative of the Altrincham Division was present at a supper—really a dinner—of the North Manchester Division. And in the previous week, the Representative of the latter Division dined with the members of the Altrincham Division. Thus five divisions have been more or less in touch with each other, directly or indirectly, namely, Stockport, Altrincham, North and South Manchester, and Salford, within the last three weeks.

All this was so pleasant and profitable that I think it would be well to extend it, and my suggestion is that when a meeting, dinner, or supper is to be held in a Division, complimentary notices or circulars be sent to the Honorary Secretaries and Representatives of all the other Divisions in a Branch with the understanding that either or both would be welcome to attend and speak, but not of course to vote. By this means we should soon have all the Divisions in touch and harmony with each other, that is, of course, if it could be conveniently carried out, and if the meetings did not clash.

At the very least there would be a benefit in all the Divisions seeing what was going on, at first hand, throughout the Branch. The question of cost must not come in at all. The expenses of the visitors must be borne by themselves.

But in attempting to carry out this simple process of sending out circulars we are handicapped by the list not yet having been published of the new officers and councils of each Branch and Division, and yet they were all elected and the names sent in to the head office previous to last July, and although many of us have contended for long that they should be published as early as possible after the annual meeting of the Association.

To make a beginning to carry out my suggestion, if I receive a circular from the Secretary of any Division of this Branch I will do my utmost to attend.

I do not think it necessary to enlarge upon the advantages of Divisions being frequently brought in touch with each other, as they must be obvious to all interested in the organization of the profession through the British Medical Association.—I am, etc.,

Manchester, Dec. 23rd. G. H. BROADBENT.

OBSTETRIC EMERGENCIES AND THE DOCTOR'S FEE.

SIR,—One last letter, and with apologies for asking for so much space. It is all very well for "J. G. C." to say he would insist on the messenger promising to apply to the relieving officer before he started. The messenger might promise and go not. The authority might live miles in another direction; meanwhile the woman might die. Moreover, I much doubt whether responsibility could justly be brought home to the guardians, etc.; and if it could, public bodies have proverbially no conscience. No, the responsibility morally rests with us, and, if technically not, I feel sure our hearts will tell us where it lies if a life is lost by our voluntary refusal to help, and I predict it likewise in the case of "J. G. C." Even if legally and morally we feel no responsibility, I much doubt whether we could sustain the obloquy of the jury's rider. In this connexion I venture to draw attention to a certain passage in Sir Walter Scott's *Black Dwarf*, Chapter XVI, which passage will be found in an essay in *St Bartholomew's Hospital Journal* for December, 1905. I would ask, Why should the relieving officer be more likely to grant an order in the middle of the night than he would if applied to before "the confinement"?

He might, of course, to get rid of the importunate messenger; on the other hand, he might say, "you should have applied before it rests between you and the doctor," and shut his door in high wrath at the disturbance of his slumber. Not only might he, but I have heard of a case where he did, and I have heard of cases where the aforesaid difficulties did occur.

Since my first letter I have been informed of a way out of these difficulties; the guardians let the patient have the fee on loan, and they take steps to recover it. Such a plan is not undignified in them and saves our dignity.

It seems to me there is often great want of tact in our deal-

ings with the Boards; wind did not make the traveller remove his coat, but the warmth of sunshine and geniality.—I am, etc.,

Ilminster, Dec. 23rd. W. H. MAIDLOW.

LIFE ASSURANCE WITHOUT MEDICAL EXAMINATION.

SIR,—Some ten years ago I was in attendance on a patient suffering from amyloid renal disease. The origin was old hip-joint disease. About that time the patient's mother entered her in an assurance company (without examination). They were very poor people, but the mother, by help of her needle, paid the small weekly sum. When the girl died I wrote the usual certificate, but on the mother producing this the company declined to pay, on the ground that she was ailing when insured. Pitying her disappointment, I told the tale to a friend of mine, a solicitor. His kindly intervention had the desired effect. That I did not forget. The incident was costly to the company, as a short time since I saw a case of rapidly progressing cerebral disease in a case accepted by the same company, but in which no symptoms were present at time of examination. Some short time previously the patient's wife was dilatory in completing the assurance. Fortunately (for her) I made her do so at once. The patient died comatose about a fortnight afterwards. *Verb. sap.*—I am, etc.

December 23rd. MEMOR.

SIR,—The letter of "Insurance" in this week's issue appearing under the above title is strangely contradictory, for on the one hand he says he refuses half-guinea fees and on the other apparently seems perfectly willing to carry out medical assurance examinations for half a crown, for how else could one interpret the last sentence of his letter where he says: "Surely any reputable company could pay a humble half-crown for small cases and so protect themselves"?

Whether my interpretations of "Insurance's" letter be correct or not, I know medical men who for this said humble half-crown carry out, or are supposed to carry out, assurance examinations of the most searching nature.

When medical men will accept from well-to-do insurance companies such beggarly remuneration one can aptly apply another portion of "Insurance's" letter to them when he says: "It is too much to expect any combination amongst medical men, but so long as the companies can get the information they want" for the humble half-crown, "so long will. . . . they exploit the profession just as it pleases them."

In my own household my two servants insured themselves in one of these companies, and to my house one day came a medical man, and after the briefest and most cursory of medical examinations filled in the medical examiner's report, answering upwards of seventy questions, for which he received the handsome fee of the "humble half-crown" from the company, not from the servants.

After such ethics a total ignoring of myself by card or note, or even polite word to say that he had called at my house, was only in keeping with such a medical man's conduct, and if I add he held at that time a very high post in the local medical society, one can only say if this is not being exploited, what is it, and answer says insulted!

I enclose a medical examiner's report sheet for you to read, and reproduce if you care to, and I ask you, if I have overstated or put too strongly the case, seeing that it includes quite seventy questions, all of which have to be answered, certified by, and filled in by the medical man for the handsome remuneration of two shillings and sixpence; and pray where does the remuneration for examination of the patient come in? It must be distinctly remembered that the company pays and not the patient, and it is almost incredible to believe that the very medical men who do such slavery are the ones who sit in judgement on their fellow men for taking low fees from clubs, etc. Where is the nobleness of the profession gone to?—I am, etc.,

December 23rd. A DISGUSTED PRACTITIONER.

*** It hardly seems worth while to reproduce the form of report, for every practitioner must be familiar with similar documents, but our correspondent has not exaggerated the number of questions. Among them are questions as to the condition of the urine, which if conscientiously answered might involve a very detailed examination and a considered opinion. Are such forms really filled up with care for half a crown?

SIR,—Since writing to you on the above subject I have received the following interesting communication, which I think speaks for itself. The writer is an agent for one of these companies:

Dear Sir,—Will you please oblige me by sending a duration on deceased, Mrs ——— of ———, as our office have wrote for one and will not pay claim without it, as I told you when I was over to you. Some of the family has her assured for a small some, and I myself has as well, and it has only been in between seven and eight months, so of course the duration wants to be 6 months or less if you can. If you will make it out all right for me so I can get the money I will settle up my bill that I owes you, and I will pay you for writing out the duration. Will you kindly oblige me by return of post.

I am, etc., ———

Needless to say, I did not oblige by return of post, but told him the next time I met him that, as his account had been owing for upwards of two years, if it was not paid in fourteen days I should put it in the hands of a solicitor. I have had four letters from medical men in different parts of the country telling me that they have had the same trouble; one of them, who said I might make what use I liked of his letter, says he never fills in the "duration of illness," and I think, myself, that is wise, as except in cases of acute disease such as pneumonia or diphtheria, it must be more or less guesswork in a large number of cases, and is playing into the hands of these companies; as the lives are accepted by their superintendents or agents I do not see that they have a leg to stand upon in a court of law, as the remedy is in their own hands.

I always tell any one who comes to me that I am only allowed to give a certificate to the registrar.—I am, etc.,

Taunton, Dec. 4th. W. FEATON FISHER.

THE WAR AGAINST QUACKERY.

SIR,—The perusal of a pamphlet giving an account of the annual meeting of the German Society for Combating Quackery induces me to make the suggestion that some such organization should be formed in England (I have never heard of anything of the kind), and by no body can the objects of such an organization be carried out better than by our own British Medical Association, embracing as it does the British Empire. Our existing Standing Committees would hardly be able to bear the strain of further work, and it might be advisable to create a new Standing Committee.

The methods which the German Society proposes to adopt are the distribution of pamphlets, the collection of statistics on the subject and of the advertisements of quacks, and oral instruction by means of lectures. To these I would venture to add the publication of a book giving the analyses of quack remedies, this book to be re-edited every year, and contain such information bearing on quacks and their methods as the Committee have been able to acquire during the course of the year. This would prove a valuable addition to the argumentative armamentarium of the medical man and furnish him with facts which he might find useful; and, secondly, the insertion of articles, written in a common-sense style, by members of the Committee, who would soon possess a special knowledge of the subject, in suitable London and provincial papers. Quackery can only flourish on the ignorance which prevails in all classes on the subject of their own bodies and on the methods of the medical art.—I am, etc.,

Sevenoaks, Dec. 26th. JAMES E. BLOMFIELD, M.A., M.D.Oxon.

A CONCEPTION OF DISEASE.

SIR,—Sir Frederick Treves's racy lecture, in Edinburgh, on immunity as the popular conception of disease, could not, in that particular, have been better justified. But that makes one mindful of the other part—the alleged dominant value and benefit of disease, and not so readily discovered, at least it may be reasonably questioned, with advantage to, or with the convincing consummation of the reciprocity of his ideas, nor even with sufficient tangible support. The heresy and importance of the source of this doctrine requires more than ordinary consideration. I cannot pretend to reach such a master's oratorical power, but I wish to show due concern about the futility of his premisses. The conception was consistently carried through to treatment. Like Napoleon Buonaparte, he deprecated interference with the "vital principle," or on any lines counteracting Nature. But how can it be, except as a contradiction, that this conception reckons disease *an fond* "not deadly, malicious, and noxious," when our whole pursuit of it mingles with the best efforts to

alter and eradicate its ravages and depredations? He said: "A man who swallowed poison should not complain that the poison, or Nature's treatment (*sic*), makes him sick if it saves his life." In a pseudo-historic case the suicide should have repented who went well prepared to the edge of the cliff, provided with poison, a hangman's rope, and a pistol, so as to make no bungling over his job; but the evil chance alone would have to be left out to account for any good to him. Luckily, in this pseudo-historic case the suicide arranged to take the poison, fall over the cliff, hang by his neck, and at the last critical moment shoot himself; concurrently the bullet severed the rope, and the sea beneath him, having duly broken his fall, had the natural effect to make him vomit, and, to his unpremeditated surprise, cast him ashore high and safe, probably more advantageously displeased than pleased. Whatever Nature vouchsafed, the benefit would be rather accidental than the rule. Cancer was not proved non-malignant nor non-vulnerable, only that the supposed benefit of the thymus was suppressed in old age, and it could therefore, although a cause of anything but an advantageous arrangement, be soon put to a convincing test for the cure of the malady.

About twelve years ago, with the purpose of advancing the services of pathology, I took the same, but open, view of the real benefit to the body of this disease process in infection. It was hardly possible to ignore, at that time, the beneficial aspect of disease, considering that the battalions or destroying ranks of phagocytes had been conjured up by Metchnikoff. The honour still belongs to Metchnikoff. Added to this came soon the idea of reaction in pathology and in seral pathology, but objections crept up to both in different ways, and the changes had to be adjusted, till a process has been elaborated which fits many sides, and which I hope to make the subject of a paper. To keep in with the old beneficial effect of disease felt like getting hold of the wrong end of the stick with no manner of righting it. In one sense, A. Russell Wallace may be regarded as lending an authority to this view, but chiefly in its natural effect. Sir Frederick Treves has thought disease must not be taken "as calamitous, profitless, distressful." To Wallace, however, disease presented the necessity of the view that it was most disadvantageous, deadly, destructive, and not saving. He declared that it actually determined his belief in the life-words of "the survival of the fittest" in the descent of man. He perceived a convincing argument in that survivors alone were those not attacked by disease, and only when there was no disease did the survival of the fittest lead to a hardier resistant race. Immunity corroborates that. And I hope to further support it, although on a new basis, and on one to show an antecedent benefit only, and not the gross benefit of damage and disease. Sir Frederick Treves dealt almost exclusively with a single branch of pathology—namely, infection. He thought inflammation, peritonitis being instanced, cured, whereas it too often exhausts and kills. The common cold, also quoted, cannot be "of use" if it leads to bronchitis, or continues into other diseased processes. No attempt was made to develop immunity beyond what we already know. Nothing was told to support the conception that the "much dreaded membrane of diphtheria is the outcome, not of a vicious and purposeless action, but a process which has for its sole intent the arrest of the destroying host." Protective serums protect in diphtheria as in other diseases, but this "membrane" does not protect to any commensurate extent. It simply stays outside the body, useless, to be cut off like débris. There the real, deleterious poisons are manufactured. And in the best antitoxic treatment the supposed beneficial inert fibrin does not become more active and beneficial but less active, and actually dries up as soon as possible, to be at once discharged.

In other directions this beneficial view of disease does not follow the conditions of pathology, but it would be impossible to follow the many discrepancies. Yet where are the benefits of headaches, vestiges, dermoids, intoxications, new growths, the dyscrasias, etc.? But just as I believe Darwin's early conceptions of the mocking of the cryptogamic plants (*Marchantiae*) and the edible fungi (*Cytaria*) brought home the conviction of a natural law to his mind, so, I think, this law of mimicry, as well as a wider view of Dr. Welch's adaptation, extends to pathology, and ought to be accounted for in a conception of pathology equally with any idea of benefit in diseased states. The pearl oyster adapts its protective covering over inequalities not with extraneous sand but with a mimicry of tissue, yet it interferes with more than it benefits the oyster. Decalcified bone, as grafts, will be superseded, not by extraneous bone, but by a mimicry of fibrous tissue, being a convenience but not necessarily a benefit. A broad view of an accidental fracture in disease may also be almost viewed as another law of disease, with the necessary inclusion of it in a conception of pathology or disease. Thus amongst many accidents in disease, organisms and diseases very frequently assume a close relationship with the reacting bone marrow. Again, the accidental recurring relationships of the reactions of infectious inceptions all require to be placed in a conception of pathology, yet their benefit in disease must be antecedent and not after its declaration. My own view of disease will range itself in the latter direction, not as a benefit, but as an expression of the features of pathology, in the light of an end-product and failure; whilst the system as applied to the pre-existing conditions of disease will indicate a definite mode of reaction, recuperation, and success, perhaps lacking the richness, the resources, and flow of language, but it may help to piece together and not destroy the magnificent pathology which the thinkers more than the copyists and scholars of primordial ways were good enough, in past times, to leave for us.—I am, etc.,

Boznor, Dec. 26th. H. Elliot-Brake

UNIVERSITIES AND COLLEGES.

UNIVERSITY OF OXFORD.

The following candidates were approved at the examinations indicated:

First M.B.

Organic Chemistry—H. C. Bazett, J. L. Birley, P. N. Cave, B.A., A. R. Chavasse, N. G. Chavasse, A. W. Donaldson, G. E. Downs, H. E. Gibson, B.A., W. D. Kennedy, B.A., H. G. Morris, W. J. Oliver, C. J. Taylor, G. E. Thornton, B.A., W. E. Waller, R. C. Wingfield.
Materia Medica and Pharmacy—R. F. B. Bowes, B.A., H. M. Mörschell, A. E. Taylor.
Human Anatomy and Human Physiology.—H. G. Butterfield, E. A. Ramsden, P. T. Spencer-Phillips, B. A. W. Stone, B.A.

Second M.B.

Pathology.—H. D. Davis, B.A., R. Evans, M.A., R. C. Jewesbury, B.A., A. S. MacNalty, B.A., W. D. Sturrock, B.A.
Forensic Medicine and Public Health.—G. H.-H. Almond, B.A., H. B. Billups, M.A., D. Davidson, B.A., H. D. Davis, B.A., T. Harris, B.A., H. A. Philpot, B.A., H. R. Ramsbotham, B.A., J. E. Rutherfurd, B.A., W. D. Sturrock, B.A., A. G. J. Thompson, B.A., H. L. Tidy, B.A.
Medicine, Surgery, Midwifery.—H. H. Baker, B.A., L. T. Burra, B.A., H. D. Davis, B.A., J. S. C. Douglas, B.A., C. J. Pinching, B.A., H. C. G. Semon, B.A., H. C. Squires, B.A., W. D. Sturrock, B.A., H. L. Tidy, B.A.

UNIVERSITY OF CAMBRIDGE.

The following candidates have been approved at the examinations indicated:

First M.B.

Chemistry and Physics.—C. K. Bancroft, H. G. Baynes, F. S. Bedale, C. H. B. Booth, A. W. Bourne, H. H. Brown, E. G. S. Cane, R. G. Canti, B.A., F. G. Chandler, K. J. A. Davis, B.A., H. T. Depree, C. Ede, W. G. Emmett, A. G. Evans, A. E. Evans, G. W. B. Garrett, E. M. Grace, L. S. M. Habich, B. C. Haller, B.A., J. B. Hance, J. R. Heath, A. E. Herman, L. C. D. Irvine, G. James, A. C. Johnson, G. G. Johnstone, T. H. Just, H. D. Lander, G. H. S. Letchworth, D. N. Macleod, J. R. Marrack, W. G. Marsden, G. W. Morrice, R. S. Morshead, G. A. Morton, B. A. Playne, H. B. Pope, E. Rayner, E. C. Rayner, A. H. Richardson, W. D. Ross, S. H. Rouquette, A. C. Roxburgh, W. A. Russell, H. B. G. Russell, H. W. Scott, G. B. Sutton, R. H. Vicary, G. T. C. Watt, J. B. A. Wigmore, C. R. Wright.
Elementary Biology.—P. Ballard, C. K. Bancroft, F. S. Bedale, A. W. Bourne, E. G. S. Cane, R. G. Canti, B.A., F. G. Chandler, K. J. A. Davis, B.A., H. T. Depree, W. G. Emmett, A. G. Evans, G. W. B. Garrett, A. Griffith-Williams, B. C. Haller, B.A., T. L. Hardy, J. Harrison, B.A., L. C. D. Irvine, A. C. Johnson, G. G. Johnstone, W. H. Jones, B.A., T. H. Just, C. C. Kerby, M. Maclaren, W. G. Marsden, O. de B. Marsh, G. A. Morton, F. A. Powell, E. Rayner, E. C. Rayner, W. J. Richardson, F. E. W. Rogers, W. D. Ross, S. H. Rouquette, A. C. Roxburgh, W. A. Russell, C. M. Ryley, L. W. K. Scargill, M.A., H. C. S. Starkey, J. Ll. M. Symus, H. A. Williams.

Second M.B.

Human Anatomy and Physiology.—J. W. Adams, G. E. Alderson, D. Allan, B.A., F. R. Armitage, B.A., C. C. H. Binns, H. Bowring, B.A., W. Boys-Stones, B.A., R. D. D. Brownson, B.A., H. T. H. Butt, B.A., F. G. Caley, B.A., W. N. Child, B.A., A. J. Clarr, C. N. Coad, B.A., M. Donaldson, B.A., H. B. Elton, B.A., R. Fisher, H. G. Frean, B.A., H. D. Gillies, B.A., A. H. Habgood, B.A., W. Harmens, B.A., E. H. V. Hodge, B.A., W. C. Hodges, B.A., A. N. Hodges, C. C. Holman, B. Hughes, B.A., H. E. Humphrys, B.A., C. M. Lauderdale, B.A., R. J. B. Leney, C. K. McKerrow, B.A., R. H. Maywood, B.A., R. M. Moore, B.A., H. M. D. Nicoll, A. E. Rayner, B.A., H. G. Rice, F. A. Roper, B.A., E. N. Russell, F. S. Scales, B.A., A. L. H. Smith, H. C. Snell, B.A., H. E. S. Stivon, B.A., L. B. C. Trottor, B.A., R. M. Vick, B.A., C. St. A. Vivian, B.A., J. Walker, B.A., W. E. Wallis, B.A., H. B. Wilson, B.A., P. F. Wilson, B.A., W. B. Wood, B.A., S. Wood, B.A., C. S. E. Wright, B.A.

Third M.B.

Pharmacology and General Pathology.—A. Abrahams, R. R. Armstrong, H. T. Ashby, B.A., A. S. B. Barkart, B.A., B. P. Campbell, B.A., J. R. C. Cauney, B.A., W. J. Carr, B.A., A. E. A. Carver, B.A., S. P. Chan, S. Churchill, B.A., F. Clayton, B.A., R. Cox, B.A., A. H. Crook, B.A., R. Davies Colley, B.A., H. E. T. Dawes, B.A.,

B. Day, B.A., A. T. Densham, B.A., H. Dimock, B.A., G. H. Dunn, B.A., H. B. Ellison, B.A., D. Embleton, B.A., M. F. Emrys-Jones, B.A., N. M. Fergusson, B.A., G. W. Goodhart, B.A., W. B. Grandage, B.A., F. W. W. Griffin, B.A., R. E. V. Hale, B.A., A. Hamilton, B.A., O. Heath, B.A., G. Hoffmann, B.A., W. M. Jeffreys, B.A., N. W. Jenkin, B.A., W. S. Leicester, B.A., J. T. Macnab, B.A., J. Mellanby, M.A., W. H. Orton, B.A., H. B. Owen, B.A., E. E. Paget-Tomlinson, B.A., W. G. Parkinson, B.A., H. Parsons, B.A., R. C. Priest, B.A., R. F. Priestley, B.A., C. E. Redman, B.A., L. W. Sharp, B.A., O. R. Smale, B.A., E. R. Stone, B.A., A. C. Sturdy, R. Svensson, B.A., H. H. Taylor, B.A., F. B. Treves, B.A., R. W. S. Walker, C. E. Whitehead, B.A.

Surgery, Midwifery, and Medicine.—C. Akerman, B.A., E. D. Anderson, B.A., A. D. Brunwin, M.A., M. A. Cassidy, B.A., G. H. U. Corbett, B.A., G. L. Cox, B.A., F. D. Crew, B.A., L. G. Davies, B.A., A. H. Falkner, B.A., J. N. F. Fergusson, B.A., S. Gooding, M.A., H. T. Gray, B.A., S. L. Harke, B.A., W. H. Hastings, B.A., S. A. Henry, B.A., F. S. Hewett, B.A., R. F. V. Hodge, B.A., A. B. Howitt, B.A., C. L. Isaac, B.A., F. A. G. Jeans, M.A., W. D. Keyworth, B.A., J. C. Lawton-Roberts, B.A., C. N. le Brocq, B.A., W. E. Lee, B.A., F. F. Leighton, B.A., C. Lillingston, B.A., G. H. K. Macalister, B.A., A. H. Miller, B.A., W. P. Morgan, M.A., T. M. Neatby, M.A., W. H. Newton, B.A., G. W. de P. Nicholson, M.A., W. H. Orton, B.A., H. B. Owen, B.A., C. H. W. Page, M.A., C. T. Scott, M.A., F. Shingleton-Smith, B.A., G. C. E. Simpson, B.A., J. M. Smith, B.A., R. S. Taylor, B.A., W. P. Williams, B.A.

The following degrees were conferred on December 13th:

M.B.: A. W. Wakefield, Trin.; S. Barradell-Smith, Joh.; W. R. Higgins, Gonv. and Cai.; C. F. Hardie, Queens'.

B.C.: A. W. Wakefield, Trin.; S. Barradell-Smith, Joh.

UNIVERSITY OF LONDON.

M.S. Examination.

THE following candidates have been approved at the above examination: Janet Mary Campbell,* M.D., London (R.F.H.) School of Medicine for Women; R. V. Dolbey, London Hospital; E. W. H. Groves, M.D., B.Sc. (University medal), St. Bartholomew's Hospital; A. M. Webber, Guy's Hospital.

* Obtained the number of marks qualifying for the University Medal.

The following candidates have been approved for the degree of M.B. in the various branches indicated:

Branch I (Medicine).—J. A. Butler, B.S., Guy's Hospital; *H. B. Day, B.S., King's College; A. H. Gerrard (University Medal), University College and Guy's Hospital; G. Hall, University College; G. J. Langley, B.S., St. Thomas's Hospital; E. L. Martin, B.S., St. Bartholomew's Hospital; *E. G. Pringle, St. Bartholomew's Hospital; G. E. O. Williams, B.S., University College.

* Obtained the number of marks qualifying for the University Medal.

Branch II (Pathology).—C. E. Ham, London Hospital.

Branch III (Mental Diseases and Psychology).—Margaret Bernard Dobson, London (R.F.H.) School of Medicine for Women; C. A. Mercier (University Medal), London Hospital.

Branch IV (Midwifery and Diseases of Women).—Olive Claydon, B.S., London (R.F.H.) School of Medicine for Women; Mary Gertrude Edis, B.S., London (R.F.H.) School of Medicine for Women; D. Ellis, B.S., London Hospital; A. M. H. Gray, B.S. (University Medal), University College; A. R. Neligan, St. Bartholomew's Hospital; N. I. Spriggs, Guy's Hospital.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN extraordinary comitia was held at the College on Thursday, December 21st, the PRESIDENT (Sir R. Douglas Powell, Bart.) in the chair.

Announcement.

The PRESIDENT announced that Dr. Sharkey had been appointed Bradshaw Lecturer for the year 1906.

Licence.

The Licence of the College was granted to Owen Alfred Berkeley-Hill, and the issuing on November 8th of a Licence to Ismay Donald Stubbs, whose name was accidentally omitted from the list of those qualified for Licences at the comitia on October 26th last was confirmed.

Communications.

The following communications were received:

1. From the Vicar of Hempstead, Essex, the burial-place of William Harvey, asking the President to assist him in an appeal to the profession for £5,500 to rebuild the church tower. It was resolved that the College contribute 20 guineas towards the object of the appeal.

2. From the Secretary of the Royal College of Surgeons reporting proceedings of the Council of that College on November 9th and December 14th last.

3. From Mr. Charles Aitken, Director of the Whitechapel Art Gallery, asking the loan, for exhibition of the portrait of Dr. William Hunter by Zoffany in possession of the College. This was acceded to.

The Harveian Festival.

On the motion of the TREASURER (Sir Dyce Duckworth) it was resolved: That the date of the Harveian Oration be altered from June 21st to St. Luke's Day (October 18th), and that the Harveian Dinner be held on the evening of that day.

University of Liverpool.

Sir Dyce Duckworth, who retired by rotation, was re-elected a representative of the College on the Court of Governors of the University of Liverpool.

Recognition of Schools.

Reports dated October 23rd and November 20th, were received from the Committee of Management, recommending that St. Edmund School, Canterbury, and Westminster School be added to the list of institutions recognized by the Examining Board in England for instruction in chemistry and physics.

Date of Examination for Membership.

On the motion of the [illegible] resolved that on the occasion of the examination for the membership in April, 1906, the regulation appended to it, [illegible] be suspended. This regulation requires that the examination commence on Tuesday, April 17th, in 1906; but as this would be [illegible] it is proposed that it should begin a week earlier, namely on April 10th.

TRINITY COLLEGE, DUBLIN.

THE following is a list of the present staff at the School of Physic:

Clinical Medicine.—A. R. Parsons, M.D.

Practice of Medicine.—Wallace Beatty, M.D.

Clinical Surgery.—Sir A. Chance, F.R.C.S.I.

Ophthalmology.—Louis Werner, M.B.

Midwifery and Gynaecology.—R. D. Purefoy, M.D.

Mental Diseases.—H. K. Abbott, M.D.

Pathology.—Professor J. Lorrain Smith, M.D.

Institutes of Medicine.—Professor C.S. Sherrington, M.D.

Anatomy.—Professor J. Symington, M.D.

Dental Surgery and Mechanics.—A. W. W. Baker, M.D.; G. W. Yeates, M.B.

Dental Anatomy.—W. G. T. Story, M.B.

Vital Statistics and Public Health Acts.—The Registrar-General for Ireland.

Sanitary Engineering.—W. Kaye Parry, M.A.

The following candidates have been approved at the examinations indicated:

Final in Medicine.—G. E. Nesbitt, H. English, J. W. Burns, R. B. Jackson, J. M. Harold, C. H. M'Comas, H. R. R. Fowler, T. L. de Courcey, A. C. Elliott, C. Kelly, E. D. Atwell, B. Johnson, W. C. MacFetridge, W. I. Thompson, D. M. Corbett, J. B. B. Whelan, E. C. Phelan, H. D. Drennan, T. T. H. Robinson.

D.P.H.—A. M. MacLaughlin, L. F. Smith.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have been approved in the subjects indicated:

Surgery.—J. A. Kilpatrick (Section I), King's College Hospital; E. Lowry (Sections I and II), Royal Free Hospital; T. R. Roberts (Section I), London Hospital; S. Zweiback (Section I), Koenigsberg.

Medicine.—L. C. W. Brigstocke (Section I), Oxford and St. Thomas's Hospital; E. M. Magill (Sections I and II), Royal Free Hospital; S. A. Mahmood, Middlesex Hospital; F. C. H. Powell (Sections I and II), King's College Hospital.

Forensic Medicine.—E. Lowry, Royal Free Hospital; O. P. N. Pearn, Westminster Hospital; F. C. H. Powell, King's College Hospital; A. P. Wright, Glasgow and Liverpool.

Midwifery.—F. H. W. Brewer, St. Bartholomew's Hospital; E. Lowry, Royal Free Hospital.

The diploma of the Society has been granted to Mr. F. C. H. Powell.

OBITUARY.

THOMAS ALBERT CARTER, M.D., F.R.C.P., J.P.

AN old-standing member of the British Medical Association disappears in the person of Dr. Carter, who died on December 14th at Shottery Hall after an illness lasting less than twenty-four hours. An attack of renal colic, complicated by heart failure, was the cause of death.

The deceased, who was born at Henley-on-Thames in 1834, made his first acquaintance with medicine as an apprentice to Mr. Coles, of Woodstock, whence he proceeded to Edinburgh University, whose medical school was then adorned by the reputation of Christison, Syme, Simpson, and Hughes Bennett. To the last of these, in the capacity of Professor of the Institutes of Medicine, he acted as assistant, and on graduation in 1856 his thesis for the degree of M.D. was awarded a gold medal. Dr. Carter's aptitude and taste for research led him to work in the chemical laboratory of Wurtz in Paris and to Berlin. On returning to Edinburgh to take up the post of Resident Physician in the clinical wards of the Royal Infirmary he was elected Senior President of the Royal Medical Society.

As the result of his work in the wards he published a paper on Indican in the Blood and Urine in the *Edinburgh Medical Journal*, 1859. Several other papers embodying original research were read and published about this time; but his chief work was the result of the discovery of the carmine gelatine injection which bears his name, and which by its penetrating nature and freedom from staining the tissues combined all the advantages of a solid opaque and a clear fluid injection. It revealed a direct and hitherto undemonstrated if not unsuspected communication between the capillaries and the lymphatic radicles. It is sometimes forgotten that by this method it is possible to show coming off from the capillaries channels too fine to admit a red blood corpuscle, and which were named for an obvious reason "diaplasmatic" by their discoverer, and by these minute passages Carter was able to inject the lymphatic system of the frog's liver, both from the venous and arterial side, while they could also be demonstrated existing in the cornea and the buccal mucosa beyond the basement membrane.

By a successful injection of the human liver he was enabled to throw a new light on the mechanics of the lymph circulation, and those interested in a wellnigh forgotten chapter in histology may consult the *Proceedings of the Royal Society* for 1864 and the *Journal of Anatomy and Physiology*, 1869. A manual dexterity beyond the ordinary was essential in producing the beautiful sections he so often demonstrated at a time when the easy perfection of the microtome was yet of the future.

After becoming a Member of the Royal College of Physicians in 1859, Dr. Carter settled in Leamington, where he was appointed in quick succession to the staffs of the Warwick Dispensary and the Warneford Hospital.

A steadily increasing practice with much consulting work put, of necessity, an end to original research. He was admitted to the Fellowship of his College in 1874.

Never very robust in health, he determined to retire in 1884, and the last seventeen years of his life were spent at Shottery, near Stratford-on-Avon, surrounded by his garden and the various works of art he delighted to collect. A born connoisseur in all matters of taste and a lover of the beautiful, he would have been as much at home as director of an art museum as in the laboratory or at the bedside. His judgements in all matters, professional or otherwise, were original and unconventional, being founded on an extraordinary power of observation as much as in a true and keen artistic sensibility. Few could have had a better right to be described in the words of the Roman poet—

Nullius addictus jurare in verba magistri.

As a man of wide culture and a genial host he will be missed by many friends.

He is survived by a widow, two daughters, and four sons; of the latter two are members of the Bar, one is settled in practice at Cheltenham, while a fourth has found distinction in the profession of arms.

Deaths in the Profession Abroad.—Among the members of the medical profession in foreign countries who have recently died are Professor Hans Schmaus, Pathologist to the City Hospital, Munich, aged 42; Dr. J. Setchenoff, sometime Professor of Anatomy in the Medical Faculty of the University of Moscow, aged 76; Dr. Gotthold Scholz, a well-known Gynaecologist at Gorlitz, aged 86; Dr. Barabon, Professor of Pathological Anatomy in the Medical Faculty of Nancy; Professor J. A. de Sousa Refoios, of the Medico-Chirurgical School of Lisbon, aged 55; Dr. José Mascaro y Capella, President of the Medical Association of Barcelona; Dr. André Thouvenet, formerly Professor of Physiology in the Medical School of Limoges; Dr. Hermann Rabl-Ruckhard, Lecturer on Anatomy in the University of Berlin, aged 67; Dr. Ambrose Loomis Ranney, a well-known neurologist of New York, aged 57; Dr. F. Hosch, Extraordinary Professor of Ophthalmology in the University of Basel; and Professor Carlo Rosanelli, Lecturer on Pathology in the University of Padua.

PUBLIC HEALTH
AND
POOR-LAW MEDICAL SERVICES.

SMALL-POX AND VACCINATION IN TOGO.

Dr. Kulz (*Archiv für Schiff's und Trop. Hyg.*, June, 1905) has carried out under Government orders a campaign against small-pox in the districts of Atakpame and Sokoda in Togo. He travelled through these districts during a period of about four months, and vaccinated more than 31 800 of the natives. He took with him on his journey a few young native men and instructed them in the art of vaccination, in the after-treatment of those vaccinated, and in the preparation of lymph. Some of the lymph which he himself used he obtained from the coast, but for the most part he prepared the lymph in Togo. Vaccination was successful in from 94 to 100 per cent. of those vaccinated for the first time who had not previously suffered from small-pox. Kulz used the opportunity of his journey to ascertain the death-rate from small-pox in Togo, and the length of the immunity from small-pox given by vaccination. He found out in how many of sixty villages there had been cases of small-pox during the preceding two years, and the number of deaths during that time; the limit of two years was fixed in order that the figures obtained might be more trustworthy. Forty-two out of the sixty villages had been visited by small-pox, and 186 people out of a total population of about 10 000 had died—that is, about 1 per cent. of the population had died yearly from small-pox. In Sokoda Kulz revaccinated 227 natives who had been successfully vaccinated by Schilling sixteen months before, and in 84 out of the 227 cases positive results were obtained, although the pustules which formed were ill-developed. He also revaccinated 62 people who had had an attack of small-pox years before, and who had been successfully vaccinated by Schilling, and in 8 cases vaccination was again successful. Thus, in 37 per cent. of the vaccinated and in 13 per cent. of those protected by a previous attack of small-pox and a previous vaccination the second vaccination took effect. Kulz also vaccinated 4 patients on whom two previous vaccinations, performed two and four years respectively, before the third operation had been successful, and in none of the four cases did he obtain positive results. It would appear from these figures that the duration of the immunity from small-pox given by vaccination is shorter for the negro than the European, but Kulz is inclined to ascribe the short period of immunity to the fact that the negro seldom allows the development of the pustule to run its normal course—the wounds often become infected through dirt, the vesicles are scratched, or native remedies are applied to the arm. The statistics of successful revaccination obtained show the advisability of a general revaccination after two years, while the question of how often vaccination shall be subsequently performed remains still in doubt. As to the manner of vaccination, Kulz used calf lymph in every case himself; but he is of opinion that arm-to-arm vaccination among the natives offers great advantages. In arm-to arm vaccination the material used is fresh and is cleaner than calf lymph; the results are more certain and uniform and the wounds tend to run a milder course than when calf lymph is employed. For practical purposes syphilis and leprosy are the only diseases which are liable to be spread through vaccination, and if the vaccinators be instructed never to vaccinate a negro who is suffering from illness, and to obtain the material for vaccination only from children of about ten years of age, the danger of a spread of infection can be avoided. Kulz summarizes his results as follows: (1) Small-pox is the disease in Togo most fatal to human life; (2) it can be exterminated without very great cost through a general vaccination; (3) as far as possible, native help should be used in carrying out vaccination; (4) the necessary lymph can be obtained in Togo itself; (5) a general revaccination must be undertaken a few years after the first; (6) in the interval all newborn children must be vaccinated.

INSANITARY PROPERTY.

M.O.H.—In condemning insanitary property under Section xxxii of the Housing of the Working Classes Act, 1890, notice had to be served on the owner requiring abatement of the nuisance, which involved more or less statement as to what it was necessary to do. Now, under Section viii of the 1903 Act this notice is dispensed with, and a house may be simply condemned as not reasonably capable of being made fit for human habitation, or in such a state that its occupation should be immediately discontinued.

FEES FOR OPERATIONS ON THE THROAT IN POOR-LAW PRACTICE.

X. Y. Z asks what fees are usually allowed for operations on the tonsils and for removal of adenoids from the pharynx, as 1 guinea only has been sanctioned by his Board of Guardians for this double operation.

**** For the operations performed by our correspondent the guardians are not compelled to pay any fee but if they decide to do so they can then fix the amount subject to the approval of the Local Government Board

ROYAL NAVY AND ARMY MEDICAL SERVICES.

TRANSPORT MEDALS, SOUTH AFRICAN WAR, 1899-1902, AND CHINA WAR, 1900, UNISSUED

The *London Gazette* of December 22nd contains a list of officers to whom Transport Medals remain unissued. Among them are the following Surgeons arranged alphabetically: J. D. Beavis *Cheshire*: F. H. Brennan, *Hawarden Castle*: J. Corbin, *Mombassa*; J. H. Finnie, *Canada*: G. G. Hay, *Jelunga*: C. S. Heap, *Montfort*: W. A. Illingworth, *Manila*; A. W. A. Irwin, *Cheshire*: T. A. Kennedy, *Aurania*: C. M'Donnell, *Winifredian*: A. D. Macpherson, *Orotava*; W. Mcsherry, *Rewa*: C. A. Molony, *Syria*; W. H. Pigeon, *City of Vienna*; J. Prentice, *Montfort*; J. R. Prior, *Austral*; J. A. Pybus; W. T. St. Stephens, *Aurania*; M. G. Sterling, *Assaye*; P. E. E. Tribe, *Britannic*.

SURGERY IN THE ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel, R.A.M.C., writes: Surely "Scalpel" is under some misapprehension. I could name half-a-dozen officers (R.A.M.C.) with whom I am personally acquainted who as surgeons, operative and otherwise, are quite in the first flight, and I do not doubt that there are many more who are unknown to me. The nature of their work is such that they do not come prominently before the public, and therefore an erroneous idea prevails—one amongst many, be it remarked—that the corps does not possess any really good surgeons. I apprehend that "Scalpel" would change his opinion somewhat if I could show him the amount of surgical work done and the results obtained in several hospitals I wot of. Nevertheless, I agree with him that an amalgamation within certain defined limits of R.A.M.C. and I.M.S. is a thing to be hoped for, partly for the reason he advances, but more for other reasons. But when he advises the would-be surgeon under present conditions to select the I.M.S. I say emphatically, No! There are disadvantages that far outweigh the advantages, and as yet there is no evidence of that "revival" which is so apparent in the R.A.M.C., and which bids fair to make it one of the finest medical services in the world, if it has not already done so.

MEDICO-LEGAL AND MEDICO-ETHICAL.

MEDICAL ETIQUETTE.

A, writes that at 9 o'clock one evening a message came to his house to go to see a patient, and the answer given was that he was out, but would be telephoned for and would call on his way home. The patient's family seem to have regarded the time of his return as too indefinite, and sent for Dr. R., who was told that the family were A.'s patients, and that A. had been sent for, but was away for an "indefinite" period. After prescribing for the patient Dr. R. asked if it was wished that he should continue the treatment of the case, and the mother of the patient expressed the opinion that he should be allowed to continue his visits. A. saw the patient at 11.10 the same evening, and learnt this. He then wrote to accuse Dr. R. of a breach of etiquette in asking whether he should continue his attendance when he had been told that A. was the family doctor, and now seeks our opinion.

**** The difficulty in the case arises from the use of the word "indefinite," which under the circumstances would suggest that A. might not return for weeks, yet he visited the patient at 11.10 the same evening. If Dr. R. knew that A. was at home and could attend the case it would have been more conducive to the good feeling which should exist amongst neighbouring practitioners if he had regarded his visit as that of a substitute for A., and had not suggested that he should take over the case. It is desirable to mitigate the fierceness of competition by refusing to take advantage of accidental absences in order to secure patients, and it is to the advantage of every practitioner to follow this rule. So far, however, as the case was stated to us there was no professional relation between R. and A., and therefore no breach of etiquette could arise. What we mean is that if R. had been asked by A. to act as his substitute in his absence, and under these circumstances had been called in, it would have been a breach of etiquette to have asked whether he should continue in attendance, but a medical practitioner who sees a case in the absence of the ordinary medical attendant is not *ipso facto* a substitute.

INCREASE OF SHARE.

B. writes: A. proposes to sell a fourth share of his practice to B., but he does not wish to be bound to part with a greater share unless the practice increases. B. considers it ought to be possible for him to buy half the practice after some years. It is suggested that there should be a clause permitting B. to buy half after a certain time, provided the takings have increased to a certain sum. B. would like to know whether such a clause would be fair, and how much increase ought to be stipulated.

**** It is usual for the purchaser of a small share of a practice to insist on there being a clause giving him the option of buying a larger share, up to one-half, after the lapse of a certain time, and this is not usually made conditional on the practice increasing in value. Such a clause as our correspondent mentions might be arranged by mutual agreement, but no general rule could be laid down as to how much the increase ought to be.

MEDICAL TOWN COUNCILLORS AND FEES.

J. F. asks if a member of a town council, who is also a medical practitioner, can legally take a fee paid by order of the council to any medical practitioner called to see a child suddenly taken ill at one of their schools. If it is illegal, does the same reason prevent him from accepting a fee under the Infectious Disease Notification Acts or for services rendered to the police?

**** It is illegal in the circumstances stated, and where the police are directly controlled by the town council it is doubtful whether a member could legally claim a fee. Under the Infectious Disease Notification Acts there is no doubt that he can legally claim to be paid, as the local authority is under a statutory obligation to pay the fee to every registered medical practitioner who makes the required notification.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS respecting [illegible] should be addressed to the Editor, 3, Agar Street, W.C. [illegible] business letters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., *London*.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone, unless the contrary be stated.*

AUTHORS desiring [illegible] copies of their articles published in the BRITISH MEDICAL JOURNAL [illegible] on receipt of proof [illegible] should authenticate [illegible] answered are requested to look at the Notices to Correspondents [illegible]

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY [illegible]

[illegible] earnestly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not [illegible]

TELEGRAPHIC ADDRESS. The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Editorially, London*. The telegraphic address of the MANAGER of the BRITISH MEDICAL JOURNAL is *Articulate, London*.

TELEPHONE.—(National) EDITOR, 2681, Gerrard. GENERAL SECRETARY AND MANAGER, 2630, Gerrard.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

ARBOR asks whether it is convenient to do circumcision in an adult under cocaine with or without adrenalin.

TABLET asks for advice in the treatment of persistent retching in a young married woman, who is not pregnant and is otherwise in good health.

LUPUS ERYTHEMATOSUS.

R. C. asks for advice as to the treatment of a case of lupus erythematosus in a lady aged 21. Four years ago suspicious spots appeared on the cheeks; they have since spread across the nose. Her father, as a young man, had phthisis; her mother psoriasis. The patient's new skin is dry, especially the skin of her face. The local application of ointments has proved useless. Liquor arsenicalis, 5 minims three times a day, proves beneficial, but under its use the skin gets darkened, and its administration cannot be continued more than three months.

ANSWERS.

EXPERENTIA and the correspondent who sends a copy of an announcement appearing in Sheffield are informed that no notice can be taken of anonymous communications.

RECURRENCE OF RENAL CALCULI.

C. J. R.—We are not aware that any statistics have been compiled relative to the return of calculi after operation. It is generally agreed that return is very rare after operation in the case of uric acid and oxalic acid calculi, and that in the case of phosphatic stones it may in the great majority of cases be avoided by a careful regimen. The matter is discussed by Israël (*Chirurgische Klinik der Nieren Krankheiten*) and *Langenbeck's Archiv*, Bd. lxi, 1900.

TEACHING AND EXAMINATION OF MIDWIVES.

C. W. G. C.—We believe the books chiefly used by those preparing for the examination of the Midwives Board are Herman's *First Lines in Midwifery* and Donald's *Introduction to the Study of Midwifery*. It is difficult to say what is the usual fee charged by the teacher, because it is unfortunately regulated not by the time and trouble given by him but by the pecuniary resources of those who are taught.

THE RELATION OF CATARRH TO ASTHMA.

MR. H. CLAYTON FOX, F.R.C.S.I. (London) writes: In answer to Dr. A. in the BRITISH MEDICAL JOURNAL of December 23rd, I would advise an investigation of the nose, with a view to determine whether there be any source of irritation capable of starting afferent impulses in the asthmatic reflex arc, such as the presence of septal ridges, spurs, hypertrophied turbinated bodies, deflected septums, etc. Should any such exist, they should be dealt with by appropriate methods. If the condition be one of vasomotor rhinitis without any apparent alteration of structure, or a hypertrophic rhinitis, then application of the galvano-cautery, together with the administration of vasomotor steadiers like arsenic, and the topical application of an ichthyol ointment, will probably have the desired effect. It will be needless to refer to the importance of one's attention to alimentation, hygiene, etc.

S. H. writes: Sprays are of little use in catarrh. A lotion must be used and this must reach the nasopharynx, where the bacteria which are the cause begin their operations. I have used with great success (at an early stage) Kreis and Owen's small glass douche and Burroughs and Wellcome's nasopharyngeal tabloids, but almost any lotion composed of a mild alkaline antiseptic does very well.

DR. FITZGERALD ISDELL (London) writes: Carbolic acid will almost certainly abort uncomplicated influenza in the early stages, and I cannot see why it should not avert an attack of catarrh. "D. E. A." might try m½ every two hours] in dec. cinchonae when he feels the catarrh coming on.

P. M. writes: "D. E. A." should go farther back, treating the predisposing condition instead of the so-called proximate cause. If he reduces the diet to 12 oz. of solid food in the four-and-twenty hours, in two meals, he will scarcely fail to relieve both asthma and catarrh. This treatment, though not widely practised, is well enough known to appear every now and then in medical journals.

PSYCHOLOGY FOR THE M.R.C.P. EDIN. EXAMINATION.

PROVINCIAL.—We are informed that the standard required in this subject is high, and any one professing it is expected to have had some considerable practical experience and to be moderately well versed in the more recent German and English literature on the subject. The requirements in the subject of neurology appear to be considerably less exacting.

LETTERS, NOTES, Etc.

THE PROPOSED "HALL" ASSOCIATION: AN APPEAL.

MR. ALBERT HOWELL (Hackney Union Dispensary, Rosebery Place, Dalston, N.E.) writes: With the aid of some of my colleagues in the public service, I am desirous of forming an association of holders of the assistants' certificate of the Society of Apothecaries of London.

I therefore beg to ask you to be good enough to give me your valuable assistance by allowing me to make an appeal in your columns to all who may be interested in the matter, especially to those holding appointments in the public and hospital services.

Several of us have felt for some time past that our interests are greatly imperilled through lack of organization, and we feel that the time is ripe to combine to enable us to protect the undoubted privileges and advantages which we possess.

I may say that I have had a personal interview with Mr. A. M. Upton, clerk to the Society of Apothecaries, who assured me of the sympathy and support of that body. He also promised a very substantial aid by offering, subject to the approval of the Master and Wardens, to place a room at the Society's hall at our disposal in which to meet and discuss the several questions which are now agitating the whole dispensing body.

I therefore earnestly invite all those who may be willing to join such an association to forward to me their names and addresses at their earliest convenience. Should this appeal meet with a satisfactory response I will at once take steps to call a meeting.

Hours of Sleep at Public Schools.

DR. THOMAS DUTTON (London) writes: In the leading article on "The Importance of Longer Hours of Sleep at Public Schools," in the BRITISH MEDICAL JOURNAL of December 2nd, it is stated: "Attention has recently been drawn to the question of the allowance of sleep given to young boys at school." In the article on "Sleep," in *Feeding and Rearing of Children*, published in 1894 (which is not recent), there is more about the subject than in the article mentioned above, or anything said at the Section of School Hygiene of the Congress of the Royal Institute of Public Health. I pointedly drew attention to this in the lay press at the time. I have further alluded to the point in the third edition (now in the press). I have no doubt it has been alluded to long before I wrote on the subject: but being very scrupulous always to mention the author if I quote anything already written, I can faithfully say I had not at the time come across the subject before. In the same year (1894) the *Daily Telegraph* had a leader on the article on "School Hygiene" in the same work.

Treatment of Hernia and Varix.

DR. LAFFAN (Cashel Union Hospital) writes: The two following cases of hernia, which were operated on by a simple method, possess some interest, as they have stood the test, the one for three and the other for four years.

CASE I.—P. S., aged 70, admitted to Cashel Union Hospital on March 7th, 1902, suffering from an enormous left oblique inguinal rupture. He was placed under chloroform on the 14th. A linear incision was made over the rupture. The coverings were dissected down to the sac. This was in turn opened: the contents replaced in the abdomen. The coverings and sac were then cut short to the level of the abdominal ring; these were then screwed to one another and to the margins of that ring. Those constituting the anterior wall of the sac were carefully drawn together, and maintained in position by suture; a pad and bandage were applied, and the patient removed to bed. The stitches gave some trouble, however, but there were no bad symptoms from first to last, and the patient was discharged free from his rupture. In this case no truss would hold it up, and the patient has, at the end of three and a half years, remained free from all traces of his old trouble.

CASE II.—W. C., aged 4, was admitted on March 6th, 1901. He also suffered from left oblique inguinal hernia. Every trial had been given to trusses, but as their failure was patent, he, too, was put under chloroform and a like procedure resorted to. In this case also no bad symptoms supervened, and he was discharged cured on April 18th. He has remained well since. An inspection of the abdomen in both cases exhibits great tightness of all the tissues entering into the canal and rings. The voluminous and lax tissues have given way to a tightness and spareness which seem wholly incompatible with any future return of the affection. The simplicity of this procedure contrasts forcibly with the elaborate and ingenious procedures formerly in vogue. These were oftentimes as ineffective as they were complicated.

CASE III.—W. D., aged 50, labourer, suffering from very enlarged veins of the left thigh and leg, was admitted April 21st, 1902. There were several large ampullae, and I must say that I have not seen a worse case. He was operated on on April 25th, a portion of the internal saphena being excised near the saphena's opening. The progress of the case was uneventful; he was discharged cured on June 5th. The effect on the enlarged veins was surprising; he has remained well since, and continues to discharge the duties of his laborious occupation.

The Revolutionary Car.

ANTIMOTOR writes: A revolution has been wrought in country practice by the advent of the motor car. A few years ago the doctors in this district (a thinly-populated rural one) practised in peace and harmony for a radius of three, four, or five miles from their residence. We had then no opposition from neighbouring men except in very exceptional cases. We were all the best of friends, and there was an unwritten law that we must not under ordinary circumstances go outside our own particular district. We found this worked well for all of us, and we had as big an income with less worry and expense than if we had all striven to capture other men's patients. Now this is all changed. One of our number has purchased a motor, and scours the district within a radius of fifteen or twenty miles, capturing the very best of our patients—namely, those able to pay the extra for mileage. In cases of emergency or night calls these patients of his are apt to call on us for assistance, and, if we refuse, we get a bad name for callousness. We naturally do not care that we should be made a convenience of, and given the night work while another reaps the main harvest in the daytime. Yet what are we to do? This is one phase of the advantages or disadvantages of the motor which I have not seen alluded to before.

Assurance Companies and the Medical Profession.

FROM information with which several fresh correspondents, including Dr. Howard Distin, of Enfield, have supplied us, it would appear that the curious proposal of the Life and Health Assurance Association, Limited, to which we drew attention on November 25th, is being widely circulated. Our correspondents seem to be wisely declining to have anything to do with it.

WRITING on the same general subject, Dr. G. R. Wilson, of Ongar, says that in his experience insurance companies will always pay a guinea fee if the medical men concerned refuse to work for less than that amount, and narrates a case in point.

Ectopia Vesicae.

DR. Q. R. DARLISS (Eardisley) writes: I recently noted the following unusual case of ectopia vesicae in a child which was otherwise fully developed, and was born alive, breech presentation. From an opening above the pubes, the gut protruded, dark red in colour, having a curious swelling on it just outside the opening. The gut measured about 4 in., it was twisted on itself just beyond the swelling; the end was elongated like a long prepuce, and from it meconium oozed. Urine escaped from the opening. On lifting up the gut, a small genital-tubercle was seen. Below was a groove, between the divided scrotum, giving the appearance of labia, but a testicle could be felt in each side. Over the fundament was a swelling with a depression, rather to the right side like an anus, but it was imperforate. The child, which only cried feebly and was not able to suck, only lived for sixty hours. The child's mother was a primipara, aged 26. She and her husband both seemed healthy and there was no family history of deformity.

The Physiological Position During Defaecation.

C. O. R. writes to express a doubt as to the advantage of the physiological or squatting position during defaecation. Although the thighs in this position touch and apparently support the abdominal muscles and press on the inguinal canals, it is perfectly easy to pass a finger right up to the ring on either side. The idea, therefore, that this position is a protection against hernia seems to him fallacious. The attitude throws a great and increasing strain on the patellar ligaments and the condyles of the femurs, and it is difficult to rise from it. If generally adopted he believes there would be many cases of ruptured ligament.

Military Discipline and Hygiene.

THE following story is told on the authority of General Nelson A. Miles: There was a certain colonel, who in the middle of a campaign, was suddenly seized with sanitary enthusiasm. This found vent in an order that all his men were to change their shirts at once. This order was duly carried out, except in the case of one company, where the soldiers were almost in the condition of Falstaff's company who had but a shirt and a half among them. The captain of this company informed the colonel that none of his men could change their shirts, since they had only one apiece. The colonel hesitated a moment, then said firmly: "Orders "must be obeyed. Let the men change shirts with each other."

Monist and Millionaire.

IT is said that Mr. Andrew Carnegie, being eager to add the autograph of Ernst Haeckel, the famous biologist, to his collection, asked a student to procure it for him. In due course he received it in the following form: "Ernest Haeckel gratefully acknowledges the receipt from Andrew Carnegie of a Zumpt microscope for the biological laboratory of the Jena University." The millionaire, with his business instinct, realized that he had met his match in the great apostle of monism, and recognized that the deal was fairly against him. A fine microscope was soon on its way to Jena.

Quack Dog Doctors.

IT would appear that human beings are not the only creatures that suffer from the existence of quackery; and, as regards dogs, the evil is so great that the National Canine League is making a strong endeavour to arouse a public outcry against it. The quacks in question carry on their work, it is stated, under the title of "dog specialists," and, like those of their species who prey upon the ills of the higher animals, are specially numerous in the West End. According to a Fellow of the Royal College of Veterinary Surgeons, who was interviewed by the *Daily Mail*, they are usually dog dealers who have an extensive experience of canine habits but no knowledge whatever of medicine. One of their favourite remedies is a mixture of ground glass and linseed meal, or treacle made into pills. This is a compound which in mediaeval times was occasionally used as a convenient remedy for the ill of having too many enemies, and it is not surprising that even in dogs it often sets up dangerous irritation. It is interesting to learn that valuable dogs are often killed by the administration of widely-advertised medicines containing poisonous drugs as well as by improper treatment at the hands of quacks, and it would be still more interesting to hear that a national human league had arisen to do the same work for men, women, and children that this National Canine League is undertaking for their companions.

ERRATUM.—In the report of the scientific and clinical proceedings of the Birmingham Branch which appeared in the BRITISH MEDICAL JOURNAL of December 23rd, p. 1643, Dr. MacMunn's paper was by inadvertence headed "subacute *Lymphangitis*," instead of "*Lymphaemia*." Dr. MacMunn's name was also misspelt "McMunn." For both these errors we apologize to the author.

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N.B.—It is against the rules of the Post Office to receive letters at *Poste Restante* addressed either in initials or numbers.

British Medical Journal in 1906.

WITH the first number of the new year important improvements will be made in the type and get-up of the BRITISH MEDICAL JOURNAL. The type will be larger and better spaced, the page will be longer, and the columns somewhat narrower. These changes will increase the ease with which the JOURNAL may be read, and will thereby contribute to the comort of readers.

It was announced last week that arrangements had been made to publish during 1906 a large number of Clinical Lectures and Addresses, and a list of some of these was published. Amongst numerous others which there was not then space to mention were the following:

On Acute Bone-disease in Children. By EDMUND OWEN, F.R.C.S., Consulting Surgeon to St. Mary's Hospital and to the Hospital for Sick Children, Great Ormond Street.

On the Association of Tuberculous Adenitis with Primary Tuberculosis of the Tonsil. By HAROLD J. STILES, M.B., C.M., F.R.C.S.Edin., Surgeon, and E. W. SCOTT CARMICHAEL, M.B., C.M., F.R.C.S.Edin., Assistant Surgeon to the Edinburgh Royal Hospital for Sick Children.

On Pancreatic Necrosis, with a Report of Two Cases. By GILBERT BARLING, M.B., F.R.C.S., Professor of Surgery, University of Birmingham.

On Enucleation of the Prostate for Haemorrhage. By Sir WILLIAM THOMSON, C.B., Surgeon, Richmond Hospital, Dublin, Honorary Surgeon to His Majesty the King.

On the Immediate and Remote Results of the High Operation for Varicocele. By EDRED M. CORNER, M.B., B.C.Cantab., F.R.C.S., Surgeon in charge of Out-patients, St. Thomas's Hospital, and Assistant Surgeon, Hospital for Sick Children, Great Ormond Street, and CYRIL A. R. NIXON, M.B.Lond., F.R.C.S., Resident Assistant Surgeon, St. Thomas's Hospital.

On a Case of Intrahepatic Calculi. By HERBERT R. VACHELL, M.D., Physician, Cardiff Infirmary, and W. MITCHELL STEVENS, M.D., M.R.C.P., Assistant Physician and Pathologist, Cardiff Infirmary.

On the Diagnostic Value of X Rays. By J. MACKENZIE DAVIDSON, M.B., C.M.Aberd., Medical Officer in charge, Roentgen Ray Department, Royal London Ophthalmic Hospital and Charing Cross Hospital.

On the Arsenical Treatment of Pernicious Anaemia. By BYROM BRAMWELL, M.D., F.R.C.S., F.R.S.E., Physician, Edinburgh Royal Infirmary.

On the Relation of Angina Pectoris and Allied Conditions to the Arterio-Cardiac Reflex having its Origin in the Abdomen. By WILLIAM RUSSELL, M.D., F.R.C.P.Ed., Assistant Physician to the Royal Infirmary, and Lecturer on Pathology, Medical College for Women, Edinburgh.

On the Behaviour in the Body of Certain Organic and Inorganic Phosphorus Compounds. By F. W. TUNNICLIFFE, M.D.Lond., Professor of Materia Medica and Pharmacology in King's College, London; and Assistant Physician to King's College, Hospital.

On Chemiotaxis. By J. O. WAKELIN BARRATT, M.D., B.S.Lond., Research Scholar of the British Medical Association.

At what Age should a Cleft of the Palate be Closed? By R. W. MURRAY, F.R.C.S., Surgeon, David Lewis Northern Hospital, Liverpool.

On Aural Cases in General Practice. By STEPHEN PAGET, F.R.C.S., Surgeon, West London Hospital; and Surgeon to the Throat and Ear Department, Middlesex Hospital.

On the Indications for Operation in Chronic Suppurative Disease of the Middle Ear. By W. S. SYME, M.D., Assistant Surgeon, Hospital for Diseases of the Ear, Nose, and Throat, Glasgow.

On the Treatment of Diphtheria. By T. BASIL RHODES, M.B., B.S.Durh., Medical Superintendent, Bagnley Sanatorium for Infectious Diseases.

ADDRESSES AT THE ANNUAL MEETING.

THE addresses to be delivered at the Annual Meeting will be published in the BRITISH MEDICAL JOURNAL.

THE PRESIDENTIAL ADDRESS,

By R. A. REEVE, M.D.,
Dean of the Medical Faculty, University of Toronto.

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By Sir JAMES BARR, M.D.,
Physician to the Royal Infirmary, Liverpool.

THE ADDRESS IN SURGERY,

By Sir VICTOR HORSLEY, M.B., F.R.C.S., F.R.S.,
Surgeon to University College Hospital; and the National Hospital for the Paralysed and Epileptic, London.

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Assistant Physician Accoucheur, St. Bartholomew's Hospital, London.

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The principal rules governing the election of a medical practitioner to be a member of the British Medical Association are as follow:

Any registered Medical Practitioner recommended in the United Kingdom by two Members of the Association, or by two Medical Practitioners practising within the district of a Branch, may be elected a Member of the Association, provided he complies with the Regulations, be prescribed by the Rules of the said Branch, shall be eligible as a Member of the Association. The mode and conditions of election to Membership shall from time to time be determined by or in accordance with the by-laws. Every Member, whether one of the existing Members or a subsequently elected Member, shall remain a Member until he ceases to be a Member in accordance with the provisions hereof.

By-law 1.—Every Candidate for Membership of the Association shall apply [illegible] The Association, and the Rules [illegible] Division and Branch to which he may at any time belong, and to pay his subscription for the current year.

By-law [illegible] the area of a Branch shall [illegible] such Branch. Notice of the proposed election shall be sent by the Branch Secretary to the General Secretary of the Association, and to every Member of the Branch Council, and the candidate, if not disqualified by any Regulation of the Association, may be elected a member of the Association by the Branch Council at any meeting thereof held [illegible] or such longer period as the Branch may by its Rules prescribe, after the date of the said Notice. [illegible] Branch may by Special Resolution require that each candidate to be elected to the Association shall receive the certificate from two Members of the Branch [illegible] known officers of the Navy, Army, and Indian Medical Services on the Active List are elected [illegible] the Council as a Branch without approval in [illegible] By-law 5.

By-law 5. [illegible] not included in the [illegible] Application for the General Secretary [illegible] by three Members [illegible] Council, after [illegible] election. Notice of the proposed election shall be sent by the General Secretary to every Member of the Council and the Branch [illegible] Association may be elected a Member of the Association by the Council at any meeting [illegible] held not less than one month after the date of the said notice.

The annual subscription to the BRITISH MEDICAL JOURNAL for non-members is £1 8s. 0d. for the United Kingdom and £1 12s. 6d. for abroad.

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OF

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INDEX TO THE EPITOME FOR VOLUME II, 1905.

The Figures in this Index refer to the Number of the Paragraph, NOT the Page.

A.

Aaser, prophylaxis of diphtheria, 305
Abdomen, bullet wound of, penetrating, 200
——— cysts of. See Cysts
Abdominal extirpation of vaginal cancer, 396
——— hysterectomy for concealed accidental haemorrhage, 154
——— pain, 37
——— wall, desmoid of. See Desmoid
Abortion in general practice, treatment of, 268; spontaneous and traumatic separation of fetal head in, 363
Abrams, Albert, aortic reflexes, 312
Actinomycosis, treatment of, 40; study of, 245
Adler, peritoneal infection in early stage of cancer of cervix, 236
Adolf, F., primary malignant tumour of the spleen, 101
Adone, gastro-intestinal disturbance and purpura rheumatica, 228
Ahlefelder, induction of labour for compression of ureter by gravid uterus, 24
Air, liquid, in treatment of skin lesions, 94
Albu, A., treatment of spastic constipation, 113
Albuminuria, functional, 262
——— of pregnancy, 76
——— and glycosuria of fatigue, 385
Albumosaemia in fevers, 36
Alcohol, pathological effects of, on rabbits, 356
Aliprandi, A., the endocranial circulation, 206
Alypin, a new local anaesthetic, 405
Amaurotic family idiocy, 248
Amoebic dysentery, 176
Amos, B. Sheldon, effect of ligation of one ureter, 101
Anaemia, aplastic, 343
Anaesthesia, local, 116
——— local, in radical cure of inguinal hernia, 330; with stovain, 384
——— medullary (Byers's method in rectal surgery, 347
——— by chloroform, danger of chloroxycarbonic vapour in, 183
Anaesthetic, a new local, 405
Anastomosis, lateral intestinal, modification in technique of, 216
Andérodias, J., vomiting of pregnancy, 187
Anders, James M., statistical study of tetanus, 138
Andrae, hydrotherapeutics and tuberculosis, 243
Aneurysm, arterio-venous, of the subclavian, 240
Aneurysmal varix of the popliteal space, 250
Ankylosis, rheumatic, double resection of elbow for, 184
Ankylostomiasis anaemia, treatment of, 64
Annexitis, uterine. See Uterine
Antiserum, plague, preparation of, 210
Antithyreoidin in Graves's disease, 320
Antitoxin, Behring's, in erysipelas, 272
——— diphtheria, 11, 49
Anus, fissure of, 185
Aortic disease and pericarditis, 311
——— lesions in syphilis, 230
——— reflexes, 312
Aortitis, fibrous, and aortic lesions in syphilis, 230
Aplastic anaemia, 343
Apoplexy, late traumatic, 69
Appendicectomy, cause of thrombosis of the external iliac vein after, 198
Appendicitis, bacteriology of, 178
——— coexistent in the pregnant uterus, 302
——— early treatment of, 155, 220
——— pathological changes in, 22
——— in persons over 50, 34
——— in pregnancy, 58, 302
——— semilateral position in operations for, 214
——— statistics of, 122
——— in trained nurses, 181
——— treatment of, 216
Armand, danger of chloroxycarbonic vapour in anaesthesia by chloroform, 183
Arrested development of internal organs, 253
Arterial suture, 393
——— tension and neurasthenia, 232
——— high, and tobacco intoxication, 373
Arteritis, peripheral obliterating, 147
——— rheumatic, acute, 229
Arterio-sclerosis, 120
Arterio-venous aneurysm of the subclavian, 240
Artery, innominate, ligature of, 182
Ascites, sodium chloride in, 102
Asepsis of the hands, 224
Ashurst, acute flexion in treatment of supracondylar fractures of the humerus, 199
Asthma, 293
——— relation of ethmoidal inflammation to, 121
Aubertin, acute leukaemia, 146
Ayer, James C., serumtherapy in erysipelas, 338
Azoospermia, 376

B.

Bacilli, tubercle, homogenized cultures of, 97; comparison between, derived from various origins, 100
Bacteria, passage of through the intestinal wall, 292
Bacterial serums, therapeutic value of, 406
——— virulence, relation of to immunizing power, 179
Bacteriology of measles, 408
Bacteriuria, 309
Baecker, J., action of quinine on labour pains, 25
Bandi, Spirochaeta pallida in syphilis, 309
Barazzoni, C., tobacco intoxication and high arterial tension, 373
Barie, acute rheumatic arteritis, 229
Barium chloride and barutin, action of, 381
Barlocco, tuberculous infection in frogs, 341
Bartholdy, K., formicin, 403
Bartlett, new method of sterilizing catgut, 5
Barutin and barium chloride, action of, 381
Baths, carbonic acid, physiological action of, 250
——— mud. See Mud
Batigne, treatment of prolapse by myorrhaphy, 91
Batzewitsch, arrested development of internal organs, 253
Begg, chronic cyanosis, with polycythaemia and splenomegaly, 278
Behring's antitoxin in erysipelas, 272
Beitzke, H., infantile infection in tuberculosis, 200
Benzoyl peroxide, 353
Berger, prognosis of Berger's interscapulo-thoracic amputation, 214
Berger's interscapulo-thoracic amputation, 214
Bergmann, E. von, diseases which precede cancer, 370
Berndt, ruptured tubal pregnancy with jaundice, 57
Bertier, danger of chloroxycarbonic vapour in anaesthesia by chloroform, 183
Bevan, treatment of actinomycosis, 40
Biagi, N., ununited fracture resulting from nerve section, 331
Bibrowicz, W., neurasthenia in the working classes, 194
Bier's method of anaesthesia in rectal surgery, 347
Bigart, normal and abnormal utero-vaginal secretions, 74
Bile, reflux of into the stomach after gastro-enterostomy, treatment of, 71
Bill, C. S., *x* rays in inoperable malignant disease of the orbit, 234
Bioferrin, 240
Birth palsy, brachial, 390
Bladder, female urinary, dermoid of, 205
——— intraperitoneal rupture of, 125
Blake, gastro-enterostomy and pyloroplasty, 299
Bland, P. Brooke, chorion-epithelioma malignum, 140
Blastomycosis, systemic, 304
Block, dermoid of female urinary bladder, 205
Blood, effect of iodine injections on, 11
——— study of, in relation to therapeutics, 192
——— in tuberculosis, 159
Blumenfeld, typhoid orchitis, 124
Bodine, John A., local anaesthesia in radical cure of inguinal hernia, 330
Bondi, umbilical hydrocele, 220
Bongiovanni, action of radium in virus of rabies, 157, 369
Bovini, bacteriology of measles, 408
Bourdzynsky, post-mortem Caesarean section: child saved, 308
Bovine infection causing tabes mesenterica, 337
Bovis, R. de, appendicitis in persons over 50, 34
Bowel strangulated in pregnancy by adherent appendix, 42
Boxer, streptococci and pneumococci, 371
Bozzolo, *x*-ray treatment of leukaemia, 45
Brachial biceps, affections of the bursa of, 151
——— birth palsy, 390
Bramwell, Byrom, *x* rays in leukaemia, 77
Brat, action of barium chloride and barutin, 381
Breast, vicarious menstruation from, 28
Broden, A., trypanosomes found in the blood of frogs, 145
Bromides, abuse of in epilepsy, 404
Bruandet, nerve anastomosis, 108
Bruneau, arterio-venous aneurysm of the subclavian, 240
Brüning, H., primary tuberculosis of the mesenteric lymphatic glands in children, 98
Bullet wound of the abdomen and spine, penetrating, 200
Bulling, inhalation of phenyl propiolate of sodium, 306
Bullmore, chronic cyanosis with polycythaemia and splenomegaly, 278
Burckhardt, O., phthisis and pregnancy, 203
Burdzinsky, deciduoma simulating uterine fibroid, 170
Burger, desmoid of abdominal wall in women, 17
Burr, peripheral obliterating arteritis, 147
Bursa of brachial biceps, affections of, 151
Burwinkel, arterio-sclerosis, 120
Burzagli, treatment of insufficiency of milk in women, 334

C.

Cackovic, treatment of reflux of bile into the stomach after gastro-enterostomy, 71
Caesarean section, post mortem, child saved, 308
——— vaginal, in eclampsia, 362
Caffein, endovenous injections of, 70
Calcified fibroids, 28
Calisi, albumosaemia in fevers, 36
Camp, peripheral obliterating arteritis, 147
Campani, treatment of Pott's disease, 38
Cancer in animals, experimental development of, 81
——— of cervix, peritoneal infection in early stage of, 236
——— diseases which precede, 370
——— of ectopic bladder, 205
——— of Fallopian tube, primary, 60, 221
——— gastric, and [illegible] after operation, 375
——— Kelling's reaction in, 13
——— oesophageal, [illegible] in treatment of, 123
——— operative [illegible] of, results of, 345
——— uterine, and [illegible] fibroids, 237
——— of vagina, [illegible] hysterectomy, 316; abdominal [illegible]
——— visceral hyperplasia and, 117. See also chorion epithelioma
Cannon, gastro-enterostomy and pyloroplasty, 299

Caracelli, x rays in treatment of prostatic hypertrophy, 73
Carbon factor in gout, 103
Carbonic acid baths. See Baths
Carcinoma. See Cancer
Cardiac disease, treatment of, 239. See also Heart
Carpus, fracture of scaphoid bone of, and dislocation of semilunar bone, 148
Catarrh, vesical, medicinal treatment of, 287
Catgut, new method of sterilizing, 5
Castelli, E., study of the blood in relation to therapeutics, 102
Castellini, iodogelatin in chlorosis, 275
Cathala, perforation of colon in new-born child, 351
Cattaneo, headache in childhood, 277
Cattin, visceral hypoplasia and cancer, 117
Cellular elements of colostrum and human milk, 204
Ceni, action of Roentgen rays on virus of rabies, 388
Cerebellar localization, 50
Cerebro-spinal meningitis, 160; pathology of, 244
Cerioli, thiocol in pneumonia, 339
Cervix, grape-like sarcoma of, 10
——— hypertrophied, complicating labour, 283
Chaput, results of secondary neurorrhaphy, 72
Chase, fracture of scaphoid bone of the carpus, and dislocation of semilunar bone, 148
Chartier, bowel strangulated in pregnancy by adherent appendix, 42
Childhood, headache in, 277
Children, primary tuberculosis of the mesenteric lymphatic glands in, 98
Chloroform anaesthesia, danger of chloroxycarbonic vapour in, 183
Chlorosis, inhalation of oxygen in, 191; iodogelatin in, 275
Chloroxycarbonic vapour in anaesthesia by chloroform, danger of, 183
Chlumsky, phenol-camphor in surgical practice, 296
Cholecystitis, acute, simulating puerperal sepsis, 152
Cholemia, alterations of the ganglia of the heart in, 193
Chorion-epithelioma malignum, 140
Chronic diseases, treatment of, 132
Churchmann, congenital stricture of the urethra complicating labour, 282
Cipollina, serum treatment of syphilis, 289
Circulation in pregnancy and the puerperium, 186
Cirrhosis, hepatic, treatment of, 30; preascitic oedema in, 295
Clark, W. A., resection of the stomach, 6
—— brachial birth palsy, 390
Classification of cases of phthisis, 110
Clément, myelitis due to tuberculous toxins, 51
Codman, fracture of scaphoid bone of carpus and dislocation of semilunar bone, 148
Coggeshall, H., relation of ethmoidal inflammation to asthma, 121
Collins, Joseph, diagnosis of nervous diseases, 313
Colon, perforation of, in new-born child, 351
Colostrum and human milk, cellular elements of, 204
Constipation, spastic, treatment of, 111
Consumption. See Tuberculosis
Convalescents, serum of. See Serum
Cornu of uterus bicollis, inversion of, 285
Cornual pregnancy. See Pregnancy
Cortantini, treatment of diphtheria, 304
Cosmetic treatment of the skin, 329
Couch, L. B., formic acid in rheumatic conditions, 156
Coughs, of infants, so-called physiological, 328
Councilman, W. T., small-pox, 368
Coutelas, tuberculous rheumatism, 211
Cow's milk, modifications of for infants, 303
Coxa vara, 197
Craniotomy on the living child, is it ever justifiable? 75
Crile, G. W., prevention of shock, 70
Croisier, pelvic inflammation and double uterus, 111
Crouzon, O., late traumatic apoplexy, 69
Cruveilhier, diphtheria antitoxin, 11
Cushion diseases, 88
Cyanosis, chronic, with polycythaemia and splenomegaly, 278
Cyst of mesentery, 89
—— ovarian, vesicular molar pregnancy taken for, 319
Cysts, hydatid, of the abdomen, treatment of, 106
——— ovarian, and diffused melanotic sarcoma of suprarenal (?) origin, 318
——— pancreatic, spurious, 360
Cytotoxins, specificity of, 95
Czerny, prostatectomy, 267

D.

Darier, radium in treatment of rodent ulcer, 274
Deaver, J. B., abdominal pain, 37
Debove, poor man's gout, 279
Deciduoma simulating uterine fibroid, 170
Delbet, operative treatment of facial neuralgia, 265
Delfino, neuromata, 197: primary tumours of serous bursae, 394
Delirium tremens, injection of saline solution in, 78
Demelin, puerperal eclampsia, 332: version and extraction in placenta praevia, 378
De Renzi. See Renzi
Dermatology, radium in, 61; oxygenated water in, 242; isoform in, 367
Dermoid of pelvic connective tissue, 169
——— of female urinary bladder, 205
Desmoid of abdominal wall in women, 27
Determann, early diagnosis and treatment of tabes dorsalis, 17
De Vecchi. See Vecchi
Diabetes, bronzed, 83
——— mellitus, hereditary forms of, 357
——— syphilitic, 195
Diarrhoea, summer, of infants, 67, 134
Diazo-reaction of experimental tuberculosis, 82
Digitalis, prescription of, 223
Diphtheria, sudden death during convalescence from, 88
——— antitoxin, 11; protective vaccination with, 49
——— prophylaxis of, 305
——— toxin, dialyzed, 16
——— treatment of, 324
Diseases which precede cancer, 370
Dock, George, the gastric contents, 135
Dodds, rupture of tubal pregnancy during examination, 172
Doléris, impacted fibroid, concealed pregnancy, 254
Dollinger, results of operative treatment of cancer, 345
Donath, return of knee-jerk in tabes, 294
Dopter, amoebic dysentery, 176
Dreser, iothion, 93
Dreyfus, Georges, treatment of exophthalmic goitre, 352
Dudley, Emilius, surgical treatment of incontinence of urine, 348
Dysentery, amoebic, 176
——— in Hereroland, 263
Dyspnoea, causation of, 158

E.

Eber, A., transmission of human tuberculosis to the calf, 118
Eclampsia, puerperal, 132
——— vaginal Caesarean section in, 362
Ecouvillonage in the puerperium, perils of, 141
Ectopic bladder, cancer of, 38
——— gestation. See Gestation
——— pregnancy. See Pregnancy
Eichhorst, H., the prescription of digitalis, 223
Einhorn, M., radium treatment of oesophageal cancer, 12
Eisendrath, systemic blastomycosis, 374
Elbow, double resection of in rheumatic ankylosis, 184
Electric conductivity of urine, 1
Elephantiasis scroti, 266
Emphysema, mechanical treatment of, 40
Empyroform, 114
Endocarditis, puerperal ulcerative, 171
Endocranial circulation, 206
Endovenous injections of caffein and strychnine, 79
Enzymes in inflammatory exudates, 177
Epilepsy, abuse of bromides in, 404
Erber, Franz, the blood in tuberculosis, 159
Ergot, new active constituent of, 189
Erysipelas, treated with serum of convalescents, 225; Behring's antitoxin in, 272; serumtherapy in, 338
Erythema, infectious, 391
Eserin and puerperal ileus, 315
Ethmoidal inflammation, relation of to asthma, 121
Eucaine, 173
Euler, neuronal, 63
Evolution, spontaneous, 379
Ewart, R. T., venesection, 12
Ewing, typhoid fever, 324
Exercise treatment of tabes. See Tabes
Exophthalmic goitre. See Goitre
Exophthalmos, pulsating, 53

F.

Facial neuralgia, operative treatment of, 265
Falk, spontaneous haematoma of the vulva in pregnancy, 168
Fallopian tube, primary cancer of, 60, 221
——— sterilization of by excision, 269
Fatigue, albuminuria and glycosuria of, 385
Feet, symmetrical gangrene of, due to the pneumococcus, 325
Fellner, L., physiological action of carbonic acid baths, 256
Female urinary bladder, desmoid of, 205
Femoral hernia. See Hernia
Femur, fracture of neck of, 298
Ferrannini, endovenous injections of caffein and strychnine, 79
Ferré, inversion of uterus on sixth day of puerperium, 202
Ferrio, pericarditis and aortic disease, 311
Fetal head, measurement of before birth, 349; spontaneous and traumatic separation of in abortion of, 363
——— rupture of vaginal wound after hysterectomy, 365
Fever, enteric, 324
——— sudden lowering of temperature in, 104
——— perforation in, 211
——— puerperal. See Puerperal
——— typhus, leucocytosis of, 291
Fevers, albumosaemia in, 30
Fibroid, impacted, concealed pregnancy, 254
——— uterine. See Uterine
Fibroids, calcified, 286
Fibroma, calcified ovarian, obstructing labour, 350
Fibrous aortitis. See Aortitis
Fife, tabes mesenterica due to bovine infection, 387
Fissure of anus, 185
——— of long bones, isolated subcutaneous, 346
Fitina, 208
Fleischer, J., infectious erythema, 391
Flick, streptococci and pneumococci, 371
Foerstorling, K., isolated subcutaneous fissure of long bones, 346
Follicular tonsillitis. See Tonsillitis
Fontana, Spirochaeta pallida, 372
Food factor in uricaemia, 310
——— stagnation, 136
——— temperature of, influence of, on the stomach, 271
Foreign bodies in the uterus, 188
Formiate of soda in ocular therapeutics, 383
Formic acid in rheumatic conditions, 156
Formicin, 403
Fornaca, L., treatment of erysipelas with serum of convalescents, 225
Fornaroli, E., the endocranial circulation, 206
Förstorling, semilateral positions in operations for appendicitis, 214
Foster, cerebro spinal meningitis, 160
Fowler, suture of the spinal cord, 395
Fox, Herbert, typhoid agglutination test, 96
Fracassini, L., repair of vesical lesions, 261
Fracture of scaphoid bone of carpus and dislocation of semilunar bone, 148
——— of skull. See Skull
——— ununited, resulting from nerve section, 401
Fractures, supracondylar. See Supracondylar
Freezing in treatment of skin diseases, 130
Frenkel, H. S., exercise treatment of tabes, 144
Friedenwald, J., pathological effects of alcohol on rabbits, 356

Froelich, remote results of bloodless reduction of congenital luxation of the hip, 87
Frogs, trypanosomes found in the blood of, 145; tuberculous infection of, 341
Fry, Henry B., vaginal Caesarean section in eclampsia, 362
Fuld, E., Kelling's reaction in carcinoma, 84
Functional albuminuria, 262
Funis, short, causing lingering labour, 56
Füth, haematometra and haematosalpinx, operation, subsequent gestation, 92; pregnancy in uterus bicornis simulating ectopic gestation, 112

G.

Ganglia of the heart in cholaemia, alterations of, 193
Gangrene of the feet, symmetrical, due to the pneumococcus, 325
Gardini, haematemesis of hysterical origin, 105; pulmonary embolism after radical cure of hernia, 392
Gas in the uterine tissues in puerperal septicaemia, 397
Gastric carcinoma. See Cancer
——— contents, the, 135
——— functions in old age, 240
——— tumours, an acid in the diagnosis of, 196. See also Stomach
——— ulcer. See Ulcer
Gastro-enterostomy, treatment of reflux of bile into the stomach after, 71
——— and pyloroplasty, 299
Gastro-intestinal disturbance and purpura rheumatica, 228
Genital infections, diffusion of, 133
Gestation, ectopic, simulated by pregnancy in uterus bicornis, 112
——— tubal, sac unruptured at term, 255
Gianasso, effect of iodine injections on the blood, 115
Gianni, right-sided pleural effusion, 19
Glands, tuberculous. See Tuberculosis
Gleitsmann, J. W., intratracheal injections, 65
Glycosuria and albuminuria of fatigue, 385
Gminder, perforating gastric ulcer simulating puerperal fever, 43
Gobbi, G., albuminuria and glycosuria of fatigue, 385
Godlewski, arterial tension and neurasthenia, 232
Goggia, tuberculous infection of frogs, 341
Goitre, exophthalmic, treatment of, 35
Gold sutures in the radical treatment of hernia, 233
Goldzieher, W., pathology of trachoma, 355
Gonorrhoea, treatment of, 337
Goude, icterus gravis in children, 85
Gouin, Gabriel, physiological hysteropexy, 300
Gout, the carbon factor in, 103
——— poor man's, 279
——— treatment of, 366
Grape-like sarcoma of the cervix, 10
Graves's disease, antithyreoidin in, 130
Grimsdale, T. R., intraperitoneal rupture of the bladder, 125
Grosse, overlooked rupture of uterus in labour, 90
Grothusen, elephantiasis scroti, 266
Gulli, general paralysis and pregnancy, 401

H.

Haagn, Theodor, hypertrophied cervix complicating labour, 283
Haematemesis of hysterical origin, 105
Haematuria with congenital stricture of the urethra, 282
Haemorrhage, concealed accidental, abdominal hysterectomy for, 154
Haematoma of the vulva, spontaneous in pregnancy, 168
Haematometra and haematosalpinx, operation, subsequent gestation, 92
Hahn, W., delivery of child through central perineal rupture, 26
Haldane, causation of hyperpnoea and dyspnoea, 158
Hall, dermoid of female urinary bladder, 205
Hall, J. N., appendicitis in trained nurses, 181
Hands, asepsis of, 224
Hannes, cornual pregnancy at term, 128
Hantke, pyosalpinx mistaken for movable kidney, 335
Hare, Francis, the carbon factor in gout, 103; food factor in uricaemia, 310
Hartmann, spurious pancreatic cysts, 360
Hawk, influence of copious water drinking, 32
Headache in childhood, 277
Heart, alterations in the ganglia of, in cholaemia, 193
——— and circulation in pregnancy and the puerperium, 181
——— disease and chronic inflammation of the lungs, 213. See also Cardiac
Heidemann, removal of tumour of suprarenal capsule, 400
Heitz, Jean, return of sensation in tabes dorsalis, 18
Helmitol as a urinary antiseptic, 50
Henkel, inversion of cornu of uterus bicollis, 285
Hepatic cirrhosis. See Cirrhosis
Hereroland, dysentery in, 263
Hernia, cure of, 130
——— radical cure of, pulmonary embolism after, 392
——— femoral, radical cure of, 23
——— gold sutures in radical treatment of, 233
——— inguinal, local anaesthesia in radical cure of, 330
——— of stomach, strangulated diaphragmatic, 39
——— strangulated, treatment of, 359
Heuss, comparison between tubercle bacilli derived from various origins, 100
Higier, hyoscine in paralysis agitans, 174
Hildebrandt, local anaesthesia, 116
Hillebrecht, Georg, dysentery in Hereroland, 263
Hip, congenital luxation of, remote results of bloodless reduction of, 87
—— joint disease, early operative treatment of, 251
Hiss, streptococci and pneumococci, 371
Homogenized cultures of tubercle bacilli, 97
Huhner, M., administration of potassium iodide, 62
Human milk. See Milk
——— tuberculosis. See Tuberculosis
Humbert, nerve anastomosis, 108
Humerus, acute flexion in treatment of supracondylar fractures of, 100
Huntingdon, early operative treatment of hip-joint disease, 251
Hutchinson, W., treatment of consumption, 48
Hydatid cysts. See Cysts
Hydrocele, umbilical, 220
Hydronephrosis in pregnancy, 44
Hydrotherapeutics and tuberculosis, 243
Hyoscine in paralysis agitans, 174
Hyperaemia, venous, treatment of, 175
Hyperchlorhydria, 358
Hyperpnoea, causation of, 158
Hypertrophied cervix complicating labour, 283
——— prostate. See Prostate
Hypertrophy (partial) of striated muscles, 297
Hypnotics, the newest, 14
Hypoplasia, visceral, and cancer, 117
Hysterectomy, fetal rupture of vaginal wound after, 365
——— for fibroid without anaesthetics, 59
——— total, cancer of vagina after 316
——— abdominal. See Abdominal
Hysteropexy, physiological, 300

I.

Ibrahim, J., protective vaccination with diphtheria antitoxin, 49
Icterus gravis in children, 85
Idiocy, amaurotic family, 248
Iliac vein, cause of thrombosis of external, after appendicectomy, 108
Immunity treatment of phthisis. See Tuberculosis
Immunizing power, relation of bacterial virulence to, 179
Indigouria, 227
Infant feeding and tuberculosis, 3
Infantile infection in tuberculosis, 200
Infants, summer diarrhoea of. See Diarrhoea
——— modification of cow's milk for, 303; so-called physiological cough of, 328; acute intestinal affections of, 330
Infectious erythema, 391
Inflammatory exudates, enzymes in, 177
Inguinal hernia. See Hernia
Inhalation of oxygen in chlorosis, 191
Innominate artery, ligature of, 182
Intermenstrual pain or "Mittelschmerz," 252
Internal organs, arrested development of, 253
Interscapulo-thoracic amputation, Berger's 314; prognosis of, 18
Interstitial pregnancy. See Pregnancy
Intestinal anastomosis. See Anastomosis
——— affections of infants, acute, 336
——— wall, passage of bacteria through, 202
Intraperitoneal rupture of the bladder, 125
Intratracheal injections, 65
Inversion of cornu of uterus bicollis, 285
Iodide of potassium. See Potassium
Iodine injections, effect of, on the blood, 115
Iodiogelatin, 190; in chlorosis, 275
Iothion, 93
Irwin, streptococci and pneumococci, 371
Isoform in dermatology, 367
Isopral, 13, 321

J.

Jacquean, formiate of soda in ocular therapeutics, 383
Jaksch, R. von, x rays in internal diseases, 2
James, Philip, surgical treatment of pyloric obstruction, 150
Jaundice with ruptured tubal pregnancy, 57
Jeanbrau, Berger's interscapulo-thoracic amputation, 314
Jeannin, perforation of colon in newborn child, 351
Joint stiffness, treatment of, 382
Juliusberg, freezing in treatment of skin diseases, 130

K.

Kamann, fetal rupture of vaginal wound after hysterectomy, 365; puerperal septicaemia, gas in the uterine tissues, 397
Keitler, cancer of ectopic bladder, 380
Kelling's reaction in carcinoma, 84
Kelly, Howard A., treatment of non-malignant stricture of rectum, 377
Kidney, movable, pyosalpinx mistaken for, 335
Kilmer, T. W., pediatrics for the general practitioner, 163
Kinney, A. C., immunity treatment of phthisis, 143
Knauth, clinical experience of pneumococcic serum, 47
Knee, lipoma of the pretibial triangle of, 217
Knee-jerk in tabes, return of, 294
Knoop, foreign bodies in the uterus, 188
Kohn, S., asthma, 293
Kolischer, Gustav, electric conductivity of urine, 1
Kossel, H., comparison between tubercle bacilli derived from various origins, 100
Krebs, puerperal ileus and eserin, 315
Kress, veronalism, 200
Kromayer, cosmetic treatment of the skin, 323
Küster, modification in technique of lateral intestinal anastomoses, 216; sterilization by excision of Fallopian tube, 269

L.

Labour, calcified ovarian fibroma obstructing, 350
——— complicated by hypertrophied cervix, 283
——— induction of for compression of ureter by gravid uterus, 24
——— lingering, from short funis, 56
——— pains, action of quinine on, 25
——— overlooked rupture of uterus in, 90. See also Pregnancy
Lamb, protracted pregnancy, 333
Laparotomy and tuberculous peritonitis, 140
Lataiget, fracture of the base of the skull and lumbar puncture, 21
Lecitogen, 407
Lefèvre, Raoul, inhalation of oxygen in chlorosis, 191
Lenormant, arrest of osseous development and exostoses, 54
Levy, F., lecitogen, 407
Leonard, C. L., Roentgen rays in neuralgia, 129
Leopold, hydronephrosis in pregnancy, 44
Lesse, interstitial pregnancy in stump of tube removed when gravid, 127
Leubuscher, P., neurasthenia in the working classes, 194

Leucocytosis of typhus fever, 291
Leukaemia, x-ray treatment of, 45, 77
——— acute. 146
Leukoplakia and syphilis, 7
Levaditi, cellular elements of colostrum and human milk, 204
Liermberger, O., treatment of ankylostomiasis anaemia, 64
Ligation of one ureter, effect of, 101
Ligature of innominate artery, 182
Linitis, plastic, 52
Lipoma, malignant retroperitoneal, 364
——— of pretibial triangle of the knee, 217
Liquid air. See Air
Liver, independence of the lobes of, 326
Lobes of the liver, independence of, 326
Loeb, M., hereditary form of diabetes mellitus, 357
Loevenhart, A. S., benzoyl peroxide, 353
Love, leucocytosis of typhoid fever, 291
Lovrich, grapelike sarcoma of the cervix, 10
Lubomoudrov, action of saline injections, 354
Luca, administration of quinine, 15
Lucas-Championnière, double resection of elbow for rheumatic ankylosis, 184
Lucaselli, x rays in treatment of prostatic hypertrophy, 73
Lumbar nerves, affection of in the puerperium, 107
——— puncture, and fracture of the base of the skull, 21, 301
Lumbroso, G., traumatic neurosis, 247
Lung, primary congestion of, 180
——— surgery, modern methods for prevention of pneumothorax in, 215
Lungs, chronic inflammation of and heart disease, 213
Lyons, Frederick A., treatment of gonorrhoea, 337

M.

Maass, Th. A., the newest hypnotics, 14
Mabit, treatment of hydatid cysts of the abdomen, 106
MacCallum, tumour of the parathyroid gland, 52
McKee, amaurotic family idiocy, 248
McMurtry, cyst of mesentery, 89
Madlener, hysterectomy for fibroid without anaesthetics, 50
Maes, tubal gestation: sac unruptured at term, 255
Malaria, pernicious, 410
Malatesta, alterations in the ganglia of the heart in cholaemia, 193
Malsbary, tuberculosis and pregnancy, 218
Mann, Dixon, indigouria, 227
Mantel, lingering labour from short funis, 56
Maragliano, Dario, gastric carcinoma and its recurrence after operation, 275
Marchetti, varicose ulcers treated by Scott-Schloy's method, 4
Marcy, H. O., cure of hernia, 130
Maretin, 272
Margain, bronzed diabetes, 81
Marie, Pierre, late traumatic apoplexy, 69
Markovsky, malignant retroperitoneal lipoma, 164
Marriage, risk of tuberculous infection on, 35
Marshall, Balfour, ovarian cysts and diffused melano-sarcoma of suprarenal (?) origin, 118
Martin, arterial suture, 193
Marx, T., is craniotomy on the living child ever justifiable? 72
Massol, anæsin of the hands, 224
Mastri, Behring's antitoxin in diphtheria, 272
Mattirolo, symmetrical gangrene of the feet due to the pneumococcus, 325
Maucaire, operative treatment of puerperal peritonitis, 110
Mayet, experimental development of cancer in animals, 81
Measles, bacteriology of, 408
Measurement of the fetal head before birth, 340
Medicinal treatment of vesical catarrh, 287
Medullary anaesthesia (Bier's method) in rectal surgery, 347
Melano-sarcoma of suprarenal (?) origin and ovarian cysts, 118
Melchior, fibrous aortitis and aortic lesions in syphilis, 220
Meningitis, cerebro spinal. See Cerebro spinal
Menstruation from the breast, vicarious, 28
Menstruation, is it physiological or pathological? 399
——— tubal, 317
Mesentery, cyst of. See Cyst
Meyer, A., eucaine and stovaine, 173
——— Willy, transthoracic resection of the œsophagus under negative air pressure, 55
——— affection of lumbar nerves in puerperium, 109
Mignon, partial hypertrophy of striated muscles, 297
Milk, cows', modification of for infants, 303
——— human, cellular elements of colostrum and, 204
——— in women, insufficiency of, 334
"Mittelschmerz," 252
Moebius, antithyreoidin in Graves's disease, 320
——— F., treatment of abortion in general practice, 268
Mongeri, L., toxic effects of veronal, 257
Moore, James E., splanchnoptosis from a surgical standpoint, 137
Morgan, Arthur C., statistical study of tetanus, 138
Most, surgery of the retropharyngeal glands, 280
Mougeot, strangulated diaphragmatic hernia of stomach, 39
Mouisset, overfeeding in tuberculosis, 402
Mouse, trypanosome in, 409
Mud baths, 31
Mueller, J., influence of temperature of food upon the stomach, 271
Müller, physometra, conservative Caesarean section, 238
Mulot, O. L., sterilization of sea-tangle tents, 222
Muscles, striated, partial hypertrophy of, 297
Myelitis due to tuberculous toxins, 51
Myorrhaphy in treatment of prolapse, 91

N.

Naftalan, 258
Narath, modification of Talma's operation, 281
Nebel, W., bioferrin, 240
Nebesky, calcified ovarian fibroma obstructing labour, 350
Necker, F., isoform in dermatology, 367
Nephritis, surgical treatment of, 201
Nerve anastomosis, 108
——— section, ununited fracture resulting from, 331
Nerves, regeneration of, 66
Nervous disease, diagnosis of, 313
Neugebauer, medullary anaesthesia (Bier's method) in rectal surgery, 347
Neuralgia, facial, operative treatment of, 205
——— Roentgen rays in, 120
Neurasthenia in the working classes, 134
——— and arterial tension, 9
Neuromata, 197
Neuronal, 63
Neurorrhaphy, secondary, results of, 72
Neurosis, traumatic, 247
Nitro-glycerine, tolerance with regard to, 207
Noorden, C. von, treatment of gout, 306
Norris, G. W., tachycardia and phthisis, 327
Norstrom, Gustav, treatment of joint stiffness, 72
Nurses, trained, appendicitis in, 181

O.

Ocular therapeutics, formiate of soda in, 383
Oedema, sodium chloride in, 102
——— prasacitic, in hepatic cirrhosis, 205
Oesophageal cancer. See Cancer
Oesophagus, transthoracic resection of, under negative air pressure, 55
Old age, gastric functions in, 240
Optic, enzymes in inflammatory exudates, 177
Orbit, x rays in inoperable malignant disease of the, 214
Orchitis, typhoid, 104
Ormsby, systemic blastomycosis, 374
Orthmann, primary cancer of Fallopian tube, 72
Osseous development and exostoses, arrest of, 54
Ostheimer, Maurice, prevention of summer diarrhœa, 114
Ovarian cysts. See Cysts
——— fibroma. See Fibroma
Ovariotomy at extremes of life, 41
Oxygen in chlorosis, inhalations of, 191
Oxygenated water in dermatology and urology, 242

P

Pagano, cerebellar localization, 50
Palsy, brachial birth, 390
Pancreatic cysts, spurious, 360
Papanicol, spontaneous and traumatic separation of fetal head in abortion, 363
Paralysis agitans, hyoscine in, 174
——— general, and pregnancy, 401
Parathyroid gland, tumour of. See Tumour
Pease, Herbert D., therapeutic value of bacterial serums, 406
Pediatrics for the general practitioner, 163
Pegram, penetrating bullet wound of the abdomen and spine, 200
Pellegrini, appendicitis statistics, 122
Pelvic connective tissue, prolapse and dermoid of, 169
——— inflammation and double uterus, 111
Pennington, J. R., fissure of anus, 185
Perforation in typhoid fever, 211; of colon in new-born child, 351
Pergola, M., iodiogelatin, 190
Pericarditis and aortic disease, 311
Perineal rupture, central, delivery of child through, 20
Peritoneal injection, acute, 340
Peripheral obliterating arteritis, 147
Peritoneal infection in early days of cancer of cervix, 236
Peritonitis, puerperal. See Puerperal
——— tuberculous. See Tuberculous
Pernicious malaria, 410
Perret, perils of écouvillonage in the puerperium, 141
Perrone, bacteriology of appendicitis, 178
Phenol-camphor in surgical practice, 206
——— propiolate of sodium, inhalation of, 306
Phthisis. See Tuberculosis
Physiological cough of infants, so-called, 328
——— hysteropexy, 300
Physometra, conservative Caesarean section, 238
Pilcher, choice of operation for the removal of hypertrophied prostate, 20
Pini, O., isopral, 13
Piquand, uterine fibroids and uterine cancer, 237; calcified fibroids, 286
Pisek, Godfrey Roger, modifications of cow's milk for infants, 303
Placenta membranacea, complete, 270
——— praevia, version and extraction in, 378
Plague antiserum, preparation of, 210
Plastic linitis, 52
Plenk, pulsating exophthalmos, 53
Pleural effusion, right-sided, 19; sodium chloride in, 102
Pluyette, arterio-venous aneurysm of the subclavian, 240
Pneumococcic serum. See Serum
——— and streptococci, 371
Pneumococcus, symmetrical gangrene of feet due to, 325
Pneumonia, serumtherapy in, 241; water treatment of, 288; thiocol in, 430
Pneumothorax in lung surgery, modern methods for prevention of, 215
Pollis, spirochaeta pallida, 372
Politzer, vicarious menstruation from the breast, 28
——— J., empyroform, 114
Polya, radical cure of femoral hernia, 23
Polycleonus of infective origin, 344
Polycythaemia and splenomegaly with chronic cyanosis, 278
Poor man's gout, 270
Pope, Curran, treatment of chronic diseases, 142
Popliteal space, aneurysmal varix of, 250
Posner, C., medicinal treatment of vesical catarrh, 287; azoospermia, 326
Post-mortem Caesarean section, child saved, 398
Potassium iodide, administration of, 62
Potherat, tuberculous peritonitis and laparotomy, 140
Pottenger, F. M., specific medication in pulmonary tuberculosis, 141
Potts, J. D., cushion diseases, 68
Pott's disease, treatment of, 58

Preascitic oedema in hepatic cirrhosis, 295
Pregnancy, albuminuria of, -
——— appendicitis in, 58
——— bowel strangulated in, by adherent appendix, 42
——— concealed, impacted fibroid, 254
——— cornual, at term, 123
——— ectopic, changes in the uterine mucous membrane during, 284, 301
——— general paralysis and, 401
——— heart and circulation in, 186
——— hydronephrosis in, 44
——— interstitial, in stump of tube removed when gravid, 127
——— and phthisis. See Tuberculosis
——— protracted, 333
——— spontaneous haematoma of the vulva in, 168
——— toxaemia of, 219
——— tubal, ruptured with jaundice, 57; repeated and simultaneous normal, 126; rupture of during examination, 172
——— tuberculosis and, 203, 219
——— in uterus bicornis, simulating ectopic gestation, 111
——— vesicular molar, taken for ovarian cyst, 319
——— vomiting of, 137
——— effect of x-ray examination upon, 8. See also Gestation, Labour
Pregnant uterus. See Uterus
Priestley, causation of hyperpnoea and dyspnoea, 158
Procidentia, senile, 235
Prolapse, treated by myorrhaphy, 91
——— and dermoid of pelvic connective tissue, 160
——— of vesical mucous membranes in the female, 153
Prostate, hypertrophied, choice of operation for removal of, 20; x rays in treatment of, 73
Prostatectomy, 207, 329
Prout, brachial birth palsy, 390
Puchet, surgical treatment of nephritis, 201
Puerperal eclampsia, 332
——— fever, perforating gastric ulcer simulating, 43
——— ileus and eserin, 315
——— peritonitis, operative treatment of, 110
——— sepsis simulated by acute cholecystitis, 152
——— septicaemia, gas in the uterine tissues, 397
——— ulcerative endocarditis, 171
Puerperium, affection of lumbar nerves in, 109; perils of écouvillonage in, 141; inversion of uterus on sixth day of, 202
Pulmonary embolism after radical cure of hernia, 392
——— tuberculosis. See Tuberculosis
Pulsating exophthalmos, 58
Purpura rheumatica, gastro-intestinal disturbance and, 228
——— and tuberculosis, 162
Pusey, W. A., therapeutic uses of x rays, 29
Pyloric obstruction, surgical treatment of, 150
Pyloroplasty and gastro-enterostomy, 200
Pyosalpinx mistaken for movable kidney, 335

Q.

Quénu, injection of saline solution in delirium tremens, 78; cancer of vagina after total hysterectomy, 316; therapeutic value of lumbar puncture in fractures of base of skull, 361
Quinine, administration of, 15
——— action of on labour pains, 23

R.

Rabbits, pathological effects of alcohol on, 356
Rabies, action of radium on virus of, 157, 369; action of Roentgen rays on, 388
Radium in dermatology, 61; in oesophageal cancer, 123; action of on virus of rabies, 157, 369; in rodent ulcer, 274. See also X rays; Roentgen
Raffin, purpura and tuberculosis, 162
Raineri, G., shoulder presentations, 9
Ráskai, Desider, bacteriuria, 309
Rattner, local anaesthesia with stovain, 384
Ravenal, streptococci and pneumococci, 371; tabes mesenterica due to bovine infection, 307
Reclus, Paul, treatment of strangulated hernia, 359
Rectal surgery, medullary anaesthesia in, 347
Rectum, non-malignant stricture of, treatment of, 377
Reed, C. B., case of spontaneous evolution, 379
Renon, L., primary congestion of lung, 180
Renzi, E. de, treatment of cardiac disease, 239; serumtherapy in pneumonia, 241
Retroperitoneal lipoma. See Lipoma
Retropharyngeal glands, surgery of, 280
Reverdin, asepsis of the hands, 224
Rheumatic ankylosis, double resection of elbow for, 134
——— arteritis, acute, 229
——— conditions, formic acid in, 156
Rheumatism, tuberculous, 212
Ricci, Carlo, an acid in the diagnosis of gastric tumours, 106
Riche, changes in the uterine mucous membrane during ectopic pregnancy, 284, 301
Rieffel, affections of the bursa of brachial biceps, 151
Rindfleisch, scirrhus ventriculi diffusus, 342
Rindone, passage of bacteria through the intestinal wall, 292
Risso, serum treatment of syphilis, 289
Rodent ulcer. See Ulcer
Roemer, P. H., dialyzed diphtheria toxin, 16
Roentgen rays in neuralgia, 129; action of on virus of rabies, 388. See also X Rays; Radium
Rollin, primary cancer of Fallopian tube, 221
Rosenberger, Randle C., homogenized cultures of tubercle bacilli, 97
Rosner, intermenstrual pain or "Mittelschmerz," 252
Rossi, aneurysmal varix of the popliteal space, 250
Rostaine, reinfection in hereditary syphilis, 22
Rothschild, chronic inflammation of the lungs and heart disease, 213
Roux, plastic linitis, 52
Rudaux, P., bowel strangulated in pregnancy by adherent appendix, 42; albuminuria of pregnancy, 76
Rupture. See Hernia
Rupture, perineal. See Perineal
Ryerson, E. W., lipoma of the pretibal triangle of knee, 217

S.

Sabotta, E., infant feeding in tuberculosis, 3
Sadger, J., water treatment of pneumonia, 288
Salge, H., acute intestinal affections of infants, 336
Saline injections, action of, 354
——— solution in delirium tremens, injection of, 78
Sarcoma of the cervix, 10. See also Cancer
Sbrocchi, A., treatment of follicular tonsillitis, 322
Schaeffer, complete placenta membranacea, 270
Scaphoid bone, fracture of, 148
Scheffen, repeated tubal and simultaneous normal pregnancy, 120
Schilassi, treatment of hepatic cirrhosis, 30
Schilling, F., gastric ulcer, 386
Schlesinger, A., prostatectomy, 329
Schliep, L., treatment of gout, 360
Schmidt, Louis E., electric conductivity of urine, 1
Schmitz, treatment of appendicitis, 226
Schoemaker, appendicitis in pregnancy, 58
Scholtz, oxygenated water in dermatology and urology, 242
Schouropoff, preparation of plague antiserum, 210
Schröder, vesicular molar pregnancy taken for ovarian cyst, 319
Schultze, Oskar, regeneration of nerves, 90
Scirrhus ventriculi diffusus, 342
Scott, J. Alison, perforation in typhoid fever, 211
Scott Schley's method in varicose ulcers, 4
Sea-tangle tents, sterilization of, 222
Semilunar bone, dislocation of, 148
Senile procidentia, 235
Senn, Nicholas, coxa vara, 107
Septicaemia, puerperal. See Puerperal
Serous bursae, primary tumours of, 394
Serum of convalescents, treatment of erysipelas with, 225
——— pneumococcic, clinical experience of, 47
——— treatment of syphilis, 289
Serums, bacterial, therapeutic value of, 406
——— specific toxic, for the suprarenal capsules, 259
Serumtherapy in pneumonia, 241; in erysipelas, 338
Severino, early diagnosis of tabes, 231
Sheen, ligature of innominate artery, 182
Shock, prevention of, 70
Shoulder presentations, 9
Siegel, small-pox parasites, 260
Silvester, independence of the lobes of the liver, 320
Silvestri, preascitic oedema in hepatic cirrhosis, 295
Simonelli, Spirochaeta pallida in syphilis, 389
Sireday, normal and abnormal utero-vaginal secretions, 74
Skin, cosmetic treatment of, 323
——— diseases, freezing in treatment of, 130
——— lesions treated with liquid air, 94
Skull, fracture of base of, and lumbar puncture, 21, 361
Small-pox, 308
——— parasites, 260
Smith, H. M., pernicious malaria, 410
——— Lee, synesthesia, 204
Soda, formiate of, in ocular therapeutics, 393
Sodium chloride in oedema, ascites and pleural effusion, 102
——— phenyl propiolate of, inhalation of, 306
Southworth, T. S., prevention of summer diarrhoea, 134
Spastic constipation. See Constipation
Spinal cord, suture of, 395
——— tumour of, operation for, 5
Spine, penetrating bullet wound of, 260
Spirochaeta pallida, 372; in syphilis, 389
Splanchnoptosis from a surgical standpoint, 137
Spleen, primary malignant tumours of, 191
Splenomegaly and polycythaemia with chronic cyanosis, 278
Spontaneous evolution, 379
Spratling, W. P., abuse of bromides in epilepsy, 404
Stanton, E. McD., pathological changes in appendicitis, 226
——— W. B., heart and circulation in pregnancy and the puerperium, 186
Steinbuchel, Von, helmitol as a urinary antiseptic, 80; tubal menstruation, 317
Stengel, A., heart and circulation in pregnancy and the puerperium, 186
Stenger, complete obliteration of the uterine cavity, 167
Sterilization by excision of Fallopian tube, 269
——— of sea-tangle tents, 222
Stewart, tolerance in regard to nitroglycerine, 207
Stockton, Charles G., food stagnation, 136
Stomach, hernia of. See Hernia
——— resection of, 6
——— influence of temperature of food on, 271. See also Gastric
Stone, W. S., toxaemia of pregnancy, 219; measurement of the fetal head before birth, 349
Stotzer, E., alypin: a new local anaesthetic, 425
Stovaine, 173; local anaesthesia with, 384
Strangulated hernia. See Hernia
Strassmann, radium in dermatology, 61; one-yolk twins and two-yolk twins, 100; senile procidentia, 235
Streptococci and pneumococci, 371
Stricture of rectum. See Rectum
Strong, relation of bacterial virulence to immunizing power, 179
Strychnine and caffein, endovenous injections of, 70
Subclavian, arterio-venous aneurysm of, 249
Summer diarrhoea. See Diarrhoea
Supracondylar fractures of the humerus, acute flexion in treatment of, 139
Suprarenal capsules, specific serums toxic for, 259

Suprarenal capsules, removal of tumour of, 400
Surgery of the retropharyngeal glands, 280
——— of incontinence of urine, 348
Surgical treatment of nephritis, 201
——— of pyloric obstruction, 150
Surmont, hyperchlorhydria, 358
Suture of the spinal cord, 395
Synesthesia, 264
Syphilis and leukoplakia, 7
——— Spirochaeta pallida in, 389
——— fibrous aortitis and aortic lesions in, 230
——— hereditary, reinfection in, 22
——— serum treatment of, 289
Syphilitic diabetes, 195

T.

Tabes, exercise treatment of, 144
——— early diagnosis of, 231
——— return of knee-jerk in, 294
——— dorsalis, early diagnosis and treatment of, 17; return of deep sensation in, 18
——— mesenterica due to bovine infection, 387
Tachycardia and phthisis, 327
Talma's operation, modification of, 281
Targett, J. H., abdominal hysterectomy for concealed accidental haemorrhage, 154
Tartarini-Gallerani, A., gastric functions in old age, 246
Taute, M., tuberculosis in cold-blooded animals, 99
Taylor, brachial birth palsy, 390
Teissier, functional albuminuria, 262
Temperature of food, influence of on the stomach, 271
Terrieu, sudden death during convalescence from diphtheria, 86
Tetanus, statistical study of, 138
Therapeutics, study of the blood in relation to, 192
Thévenet, Victor, so-called physiological cough of infants, 328
Thigh. See Femur
Thiocol in pneumonia, 339
Thiroux, trypanosome in the mouse, 400
Thom, W., risk of tuberculous infection on marriage, 35
Thoracic duct, wounds of, 164
Thrombosis of the external iliac vein after appendicectomy, cause of, 198
Tillmans, H., treatment of venous hyperaemia, 175
Tissot, sudden lowering of temperature in typhoid fever, 104
Tizzoni, action of radium on virus of rabies, 157, 369
Tobacco intoxication and high arterial tension, 373
Tobler, is menstruation physiological or pathological? 399
Tonsey, Sinclair, effect of x-ray examination upon pregnancy, 8
Tonsillitis, follicular, treatment of, 322
Toxaemia of pregnancy, 219
Trachoma, pathology of, 355
Transthoracic resection of the oesophagus under negative air pressure, 55
Trapenard, leucoplakia and syphilis, 7
Traumatic apoplexy. See Apoplexy
——— neurosis, 247
Trimble, W. B., skin lesions treated with liquid air, 94
Troilet, syphilitic diabetes, 195
Trypanosome in the mouse, 400
Trypanosomes found in the blood of frogs, 145
Tubal gestation. See Gestation
——— menstruation, 317
——— pregnancy. See Pregnancy
Tubercle bacilli. See Bacilli
Tuberculosis, the blood in, 159
——— classification of cases of, 119
——— in cold-blooded animals, 99
——— experimental, diazo-reaction of, 89
——— human, transmission of to the calf, 158
——— hydrotherapeutics and, 77
Tuberculosis, immunity treatment of, 143
——— infant feeding and, 3
——— infantile infection in, 209
——— of mesenteric lymphatic glands in children, 98
——— overfeeding in, 402
——— and pregnancy, 203, 218
——— treatment of, 48
——— pulmonary, specific medication in, 131
——— and tachycardia, 327
Tuberculous endocarditis, 307
——— glands, non-suppurative, treated by x rays, 368
——— infection of frogs, 341
——— infection in marriage, risk of, 35
——— peritonitis and laparotomy, 149
——— and purpura, 102
——— rheumatism, 212
——— toxins causing myelitis, 51
Tuffier, conservative treatment of quiescent uterine annexitis, 142; modern methods for prevention of pneumothorax in lung surgery, 215
Tumour, gastric, an acid in the diagnosis of, 196
——— of the parathyroid gland, 33
——— of the spinal cord, operation for, 165
——— of the spleen, primary malignant, 161
——— of the suprarenal capsule, removal of, 400
Tumours of the serous bursae, primary, 394
Turban's scheme of classification of phthisis, 119
Twins, one-yolk and two-yolk, 166
Typhoid, agglutination test, 96
——— fever. See Fever, enteric
——— orchitis, 124
Typhus fever. See Fever

U.

Ulcer, gastric, 386; simulating puerperal fever, 43
——— rodent, radium in, 274
Ulcers, varicose, treated by Scott-Schley's method, 4
Ulrich, A., maretin, 273
Umbilical hydrocele, 220
Ureter, induction of labour for compression of by gravid uterus, 24; effect of ligation of one, 101
Urethra, chronic stricture of, with haematuria, 282
Uricaemia, food factor in, 310
Urinary antiseptic, helmitol as an, 80
Urine, electric conductivity of, 1
——— surgical treatment of incontinence of, 348
Urology, oxygenated water in, 242
Uterine anexitis, conservative treatment of quiescent, 142
——— cavity, complete obliteration of, 167
——— fibroid, deciduoma simulating, 170
——— and uterine cancer, 237
——— mucous membrane during ectopic pregnancy, changes in, 284, 301
Utero-vaginal secretions, normal and abnormal, 74
Uterus bicollis, inversion of cornu in, 285
— bicornis in pregnancy. See Pregnancy
——— double, and pelvic inflammation, 111
——— foreign bodies in, 188
— inversion of, on sixth day of puerperium, 202
——— pregnant, appendicitis coexistent in rupture of, 302
——— rupture of, overlooked in labour, 98

V.

Vaccination with diphtheria antitoxin, protective, 49
Vagina, cancer of. See Cancer
Vaginal Caesarean section in eclampsia, 369
——— cancer. See Cancer
Vahlen, E., new active constituent of ergot, 1
Valobra, J., polycleinus of infective origin, 344; treatment of non-suppurating tuberculous glands by x rays, 368
Varicose ulcers. See Ulcers
Vautrin, wounds of the thoracic duct, 164
Vecchi, A., gold sutures in the radical treatment of hernia, 233
——— De., tuberculous endocarditis, 307
Veneruso, P., diazo-reaction of experimental tuberculosis, 82
Venesection, 12
Venous hyperaemia, treatment of, 175
Veraldo, F., diffusion of genital infections, 133
Veronal, toxic effects of, 257
Veronalism, 290
Version and extraction in placenta praevia, 378
Vesical catarrh, medicinal treatment of, 287
——— lesions, repair of, 261
——— mucous membranes in female, prolapse of, 153
Vesicular molar pregnancy taken for ovarian cyst, 319
Vida, Levi della, specific serums toxic for the suprarenal capsules, 259
Villar, prolapse of vesical mucous membranes in the female, 153
Vineberg, acute cholecystitis simulating puerperal sepsis, 152; prolapse and dermoid of pelvic connective tissue, 169
Violet, peritoneal infection in early stage of cancer of cervix, 236
Virus of rabies. See Rabies
Visceral hypoplasia and cancer, 117
Volpino, summer diarrhoea of infants, 67
Vomiting of pregnancy, 187
Von Steinbuchel. See Steinbuchel
Vulva, spontaneous haematoma of in pregnancy, 168

W.

Wallich, cellular elements of colostrum and human milk, 204
Wallstein, streptococci and pneumococci, 371
Warbasse, acute peritoneal infection, 340
Warren, J. Collins, operation for tumour of the spinal cord, 165
Wassermann, isopral, 321
Water drinking, influence of copious, 32
——— treatment of pneumonia, 288
Weber, A., tuberculosis in cold-blooded animals, 99; comparison between tubercle bacilli derived from various origins, 100
Weinberg, M., naftalan, 258
Wertheim, abdominal extirpation of vaginal cancer, 396
Westenhoeffer, pathology of cerebro-spinal meningitis, 244
Whitman, fracture of neck of femur, 208
Wiart, tuberculous rheumatism, 212
Wiel, ovariotomy at extremes of life, 41
Winckler, Axel, mud baths, 31
——— puerperal ulcerative endocarditis, 171
Witzel, cause of thrombosis of the external iliac vein after appendicectomy, 198
Wolf, mechanical treatment of emphysema, 46
Woltmann, Harro, specificity of cytotoxins, 95
Women, treatment of insufficiency of milk in, 334
Wounds of the thoracic duct, 164
Wright, J. H., study of actinomycosis, 245

X.

X-ray examination upon pregnancy, effect of, 8
——— treatment of leukaemia, 45, 77
X rays in internal diseases, 9; in treatment of prostatic hypertrophy, 73
——— in inoperable malignant disease of the orbit, 234
——— in treatment of non-suppurating tuberculous glands, 368
——— therapeutic uses of, 80
——— See also Roentgen, Radium

Z.

Zalachos, appendicitis co-existent in the rupture of pregnant uterus, 302
Zamboili, G., sodium chloride in oedema, ascites, and pleural effusion, 102
Zangger, Theodore, early treatment of appendicitis, 155
Zori, A., aplastic anaemia, 113

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AN EPITOME

OF

CURRENT MEDICAL LITERATURE.

MEDICINE.

(1) The Electric Conductivity of Urine.

AT a meeting of the Chicago Urological and Medical Societies (*Med. News*, April 29th) Gustav Kolischer and Louis E. Schmidt read a paper entitled An Attempt to Use the Electric Conductivity of Urine for Clinical Purposes. After referring to the methods of Richter, Caspar, Kummel, Turner, and Lowenhardt in determining the functional capacity of the kidney, the authors stated that they had tried to determine the functional capacity of the kidneys from a new point of view. They tried to make every kidney a standard unto itself. They started from the idea that the vitality and normal and abnormal status of any tissue can best be tested by observing its reactions to certain interferences brought to bear upon it. Starting from the experience that certain stains brought into the circulation would appear at different times and with different intensity in the urine, they investigated whether or not the secreting efficiency of normal and abnormal kidneys might be influenced in a way peculiar to and characteristic of normal and abnormal conditions of the secreting tissue. If that were the case the osmotic concentration of the urine voided before and after staining certainly ought to show marked differences. The results of their investigations so far seem to bear out these theoretical speculations. As the most sensitive test they resorted to the test of electric conductivity, and as a method of staining they selected hypodermic injections of indigo carmine. Urine drawn at the same time separately from either normal kidney in an individual otherwise perfectly healthy might show different electric conductivity. After the stain is brought into the circulation, and after the urine becomes coloured, the urine of normal kidneys always shows a slight decrease of electric conductivity, which resistance will never exceed 9 international ohms. In case urine simultaneously drawn from both normal kidneys shows different electric conductivity before staining, the decrease of conductivity appearing after staining is exactly the same in either specimen. Urine drawn from pathological kidneys would always after staining show a decided increase of electric conductivity. So far the authors believed themselves justified in saying that any increase after staining of electric conductivity beyond 10 international ohms is characteristic of impaired health of the kidney. If this increase stayed inside the limits of 20 ohms this kidney might be considered safe in a surgical sense, that is, it could reasonably be expected to be of sufficient functional capacity to attend to the eliminating process after its fellow had been removed. Any kidney whose urine after staining showed an increase of electric conductivity beyond 20 ohms had to be considered as absolutely unsafe in a surgical sense. If the method of the authors should prove to be trustworthy they have succeeded in determining the fact that there are cases of one-sided nephritis. Judging from their experiments there seemed to be a fair prospect that they would be able to determine in advance by this method whether a given individual would react as to his kidneys favourably or unfavourably to the administration of a general anaesthetic.

(2) X Rays in Internal Diseases.

R. VON JAKSCH has employed *x* rays in his practice as physician in his clinic in Prague for three years, and invites others to form an opinion as to the value of this application in diagnosis and treatment (*Berl. klin. Woch.*, April 3rd and 10th). X rays have secured a definite place in surgery, but the same cannot yet be said of them for medicine. The physician finds certain difficulties in employing the rays in his practice, as he deals with patients who are too ill to be exposed to the rays in a vertical position. One has the choice of depicting the condition on photographic plates or on a fluorescent screen—radiography and radioscopy. The former will be found of greater value than the latter in examining the lungs, while the latter can be of use for the heart, oesophagus, etc. The author finds that for clinical teaching the rays are admirably adapted. He deals fully with certain technical points in connexion with the uses of the apparatus and with the plates or films which he employs. Turning to the illuminating of the thoracic organs, and especially of lungs affected with tuberculous affections, he says that the normal lung does not show any shadows, while tuberculous and other processes give rise to shadows on the *x*-ray picture. The shadow, however, does not demonstrate the nature of the process, as he instances by the demonstration of the apical shadow of a patient who had a tuberculous infiltration of the apex five or six years previously, which had entirely healed up. In another case the diagnosis of tuberculous deposits in the lung was chiefly based on the forms of shadows revealed by the radiograph. The patient died, and *post mortem* it was shown that the shadows were produced by anthracosis and not tuberculosis. On the other hand, von Jaksch shows cases which demonstrate that the rays can render the diagnosis of pulmonary tuberculosis possible earlier than other means. Other cases are quoted to show that the extent and localization of the pulmonary lesions are frequently demonstrated by *x* rays when physical signs can only reveal part of them. Turning to a series of twelve cases of pneumonia, in which he was able to follow the changes which are shown by Roentgographic means. The central parts of the lung show the commencement of resolution considerably before physical signs suggest any such process. The pictures were taken on films, without which it would have been quite impossible to have applied *x* rays to patients in delirium. He adds a number of interesting remarks on the interpretation of the Roentgographs which he has met with in his pneumonia cases. Pleural exudation has given him very clear pictures, but he has had more difficulty in the diagnosis of tumour of the lung and of the neighbouring parts. In some cases the localization was very difficult. Lastly he deals with the changes revealed in asthma and in cardiac disease. If carefully carried out and properly considered, von Jaksch considers that *x* rays deserve a prominent place for the diagnosis but not for the treatment of internal diseases.

(3) Infant Feeding and Tuberculosis.

E. SABOTTA (*Zeit. f. Tuberk. und Heilstatt.*) discusses the effect of the feeding of young children on the later mortality from tuberculosis. The question is not easy to deal with, because so many other factors than the food given in infancy are bound to have influenced the tendency of an adult patient to tuberculosis. In order to obtain cases which have been subject as far as possible to like conditions, except in the matter of feeding in infancy, Sabotta has taken families in which some of the children were breast-fed, and others bottle-fed, and has found in what proportions the two classes have suffered from tuberculosis in later life. The following are his statistics: Of 76 breast-fed children, 62 remained healthy, and 14 (or 18.4 per cent.) later became tuberculous. Of 27 children who received cow's milk in addition to their mother's milk during the first year, 37 remained healthy and 20 (or 35.1 per cent.) became tuberculous. Of 39 children fed on boiled cow's milk, 23 remained healthy, and 16 (or 41 per cent.) became tuberculous. Of 4 children fed on foods such as Nestlé's food, etc., none became tuberculous. It is instructive to combine together the first and last group and the two middle groups. It is then seen that of 80 children who were given a diet free from cow's milk during the first year of life only 14 (or 17.5 per cent.) became tuberculous, while of 96 whose food consisted wholly or in part of cow's milk, 36 (or 37.5 per cent.) became tuberculous. These statistics only deal with a few cases, but they tend to support Behring's theory of the effect of early feeding on the occurrence of tuberculosis in adult life.

SURGERY.

(4) Varicose Ulcers Treated by Scott Schley's Method.

MARCHETTI (*Gazz. degli Osped. e delle Clin.*, May 21st) recapitulates the various more important methods of treatment for ulcers and superficial wounds, and points out that Scott Schley's method is the most logical and the most effectual for out-patient practice. It consists in covering the surface thickly with a layer of finely-powdered boracic acid, and placing over it a sheet of gutta-percha tissue extending for 3 to 5 cm. beyond the margin of the raw area. This is fixed on with bands of strapping, and a gauze dressing is applied over it with a bandage. This application is only changed every five days; frequently it may be left for a week. Marchetti has tried this plan in 25 cases. Every case was first submitted to a thorough disinfection of the wound and the surrounding parts by washing it with hot water and soap, shaving and cleansing it with ether

and alcohol, and subsequently disinfecting it with corrosive sublimate. Having applied the layer of boracic acid, he made an impermeable cover by folding the gutta-percha in four; this he covered with a dressing of sterilized gauze and cotton wool, which he bandaged on firmly, so as to keep the application in place. The interval between one dressing and another was never less than five days. Ten of his cases had ulceration of a septic nature, in 7 it was due to varicose veins, in 4 to tubercle, and in 2 to burns. The time required for healing was appreciably short; in one case, which had a large septic ulcer on the leg, with oedema and much local irritation, treatment was necessary for twenty-seven days: in other cases, fifteen to twenty days was sufficient. In all the patients the aspect of the wound had changed at the second dressing; the margins were flattened and had advanced towards the centre, the granulations were firm and red, the secretion was simply serous or else contained some débris from destroyed granulation tissue. At the third and fourth dressings the surface was covered by a fine skin, except for a small area in the centre; at the fourth and fifth dressings the cure was complete. Such surprising and beneficial effects are certainly due to the bland and antiseptic action of the boracic acid, which diminishes the secretion from the wound, at the same time preventing the formation of luxuriant granulations; healthy granulations, when kept within proper limits, favour the reproduction of skin and the healing of the ulcer. The impermeable layer hinders the formation of crusts under which such wounds are wont to secrete freely. The chief advantage of this method is the comparatively rapid and easy cure obtained, and the saving of time and of dressings to both doctor and patient.

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(5) A New Method of Sterilizing Catgut.

Bartlett (*Zentralbl. f. Chir.*, No. 15, 1905) describes a simple and inexpensive, and, it is held, a very effectual method of sterilizing catgut. (1) The raw material is cut in lengths of about 2 ft., and each of these lengths is twisted round and round to form a ring the circumference of which is about equal to that of a florin. Several of these rings are strung like pearls on one or more lengths of cotton. (2) Each row of catgut rings is subjected at first to a dry heat of 85° C. for one hour, and afterwards for another hour to a heat gradually raised to 105° C. (3) The rings are next placed in fluid paraffin and kept in this until they have become quite transparent. This change in appearance is usually effected within twelve hours. (4) The glass vessel containing the rings of transparent catgut submerged in paraffin oil is now placed on a sand bath and subjected to a temperature at first gradually elevated during one hour to 160° C., and afterwards kept at this point for another hour. (5) The rows of catgut rings are now very carefully transferred by sterilized forceps from the paraffin oil to a solution of 1 part of iodine crystals in 100 parts of methylated spirits, from which they can, after an interval of twenty-four hours, be removed at any time for immediate use.

(6) Resection of the Stomach.

W. A. Clark (*Journ. Amer. Med. Assoc.*, May 20th) reports a case of malignant disease of the stomach involving a large part of the greater curvature and posterior wall, leaving the pyloric and cardiac orifices intact. It was operated on by removing the whole middle section of the organ, leaving only a small portion near each orifice and making an end-to-end anastomosis. A number of enlarged glands were also removed. The patient was fed by enema for a week; after this a gradually enlarged diet was given till the forty-second day, when a small raw steak was allowed. He was discharged from the hospital sixty-seven days after the operation. He reported himself again two and a half months later, suffering only from a small sinus as the result of the operation.

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(7) Leukoplakia and Syphilis.

Trapenard (*Thèse de Paris*, May, 1905) has investigated the relation of leukoplakia buccalis to syphilis, and comes to the conclusion that it is always of syphilitic origin. In the cases he has collected there was evidence of syphilis in all but 8 per cent., and these he thinks may be explained by hereditary, latent, or ignored syphilis. The pathological anatomy, consisting in inflammatory thickening of the corium, with endarteritis and periarteritis, is characteristic of syphilis, but differs in the presence of epithelial globes, which are characteristic of epidermic cancer. The author considers that leukoplakia arises from mucous patches of the mouth, and that the condition is syphilitic in nature, but liable to become cancerous under certain conditions. As regards treatment, he advises injections of gray oil or benzoate of mercury and the local application of caustics, such as acid nitrate of mercury, chromic acid, or chloride of zinc. Specific treatment should be given in all cases, as it may retard the progress of the disease even if it fails to cure it. Fournier, at the International Congress at Paris, 1900, came to the conclusion that 80 per cent. of leukoplakias were due to syphilis, and that this disease was probably ignored in the remainder. He regarded it as a manifestation of parasyphilis and hence not amenable to treatment.

MIDWIFERY AND DISEASES OF WOMEN.

(8) The Effect of X-ray Examination upon Pregnancy.

At a recent meeting of the Section of Obstetrics and Gynaecology of the New York Academy of Medicine (*Med. Record*, May 20th), Sinclair Tousey read a paper in which he discussed what effect, if any, would be produced by exposure to the *x* ray in preventing conception, or in bringing about abortion or stillbirth. As bearing on the subject, he referred to the observations of Tilden Brown to the effect that all of the *x*-ray workers, sixteen in number, who submitted to examination had shown either complete azoospermia, or a degree of oligospermia, or a degree of necrospermia, which depended upon the length of time during which they had been radiologists. He did not know whether this came on gradually or as a sudden climax after some particularly long and intense action of the rays. Tousey said that this condition developed in *x*-ray workers who had never experienced the slightest dermatitis or other visible effects from the *x* ray. He reviewed the literature showing azoospermia to have been produced by the *x* ray, with, in some instances, atrophy of the testis, but without external irritation. An observation of his own which he wished to record was to determine what effect, if any, would be produced by short exposures ordinarily required for *x*-ray pictures. The subject radiographed was a cat belonging to his household, young and strong, which had been the mother of several healthy families. The pictures were taken at a time when she appeared to be "in heat," which was five or six weeks before she showed external evidences of pregnancy, and were continued up to the time when confinement seemed to be momentarily expected; during the last ten days no radiographs were made. The cat was never in the *x*-ray room except during the taking of the pictures. Each picture was taken with the cat lying on her left side upon the photographic plate, held there by his own hands resting upon the cat and equally exposed to the rays. A 12-in. induction coil was used, and usually a heavy anticathode Muller tube, No. 13, but for one picture a 40-centimetre Friedlander water-cooled tube was used. The exposures were designed to be of the same strength and duration as for radiographing human tissues of the same thickness, but owing to the restlessness of the cat it was necessary to cut short some of the exposures. Measured by Holzknecht's chronoradiometer, the total exposure of the nearest part of the cat's body was ½ H., or four and a half minutes for the whole series. Tousey said that 1 H. was one-third of the amount required at a single exposure to produce a visible reaction upon the human face. The result was naturally *nil* so far as the outward and visible appearance of the cat and so far as his own hands were concerned. The pictures were taken on October 6th, 12th, 16th, and 21st, November 18th and 29th (at which time the cat first presented positive external evidence of pregnancy), and December 17th, 1904. Thirteen days after the last radiograph (December 30th, 1904) three large and perfectly-developed kittens were born dead. The cat was not again exposed to the *x* ray, and on March 12th, 1905 (two and a half months after the stillbirth), four large and healthy kittens were born alive, and they are still alive and strong. He said it was very unusual for kittens to be stillborn, and it had never happened before with this cat, and he thought it must have been due to the action of the *x* ray. The conclusions to be drawn were that precautions should always be taken to prevent unnecessary exposure of the ovaries or testes; that where *x*-ray exposure of the reproductive organs was required, as in the treatment of cancer, even the existence of pregnancy might be disregarded, as the full dosage required for a therapeutic effect did not necessarily interfere with the progress of gestation or the viability of the child; that even the small dosage of the *x* ray required

for a radiograph sometimes might destroy the life of the fetus; but there was reason to believe that such exposures, even if required on several different occasions, would not produce even temporary sterility.

(9) Shoulder Presentations.

G. RAINERI (*Giorn. della R. Accad. di Med. di Torino*, January and February, 1905) gives brief accounts of 62 cases of shoulder presentation occurring in the maternity at Turin during sixteen years. He compares these with numerous statistics supplied by other authors, and discusses especially the etiology and treatment of the condition named. His 62 cases form part of a series of 1,699 cases altogether, giving a percentage of 3.7 shoulder presentations—a higher figure than that usually quoted. Probably a process of selection brings the more serious cases to maternity institutions in excessive numbers. Leaving out of account the cases of twins, the right shoulder presented in 34 out of 49 cases, and the dorsum was anterior in 30 out of the 49 cases. Multiparity is regarded as one of the chief causes of the condition, the number of shoulder presentations being greatest amongst women pregnant for the fourth time. The author considers that multiparity acts thus by being a cause of subinvolution and of loss of support by the abdominal walls. In 10 of his cases it is noted that the abdominal walls were pendulous and composed chiefly of skin, with little fat and very little muscle. He quotes the carefully-analysed statistics of Mangiagalli, tending to show that there is not so much difference as some authors have supposed between patients following active professions and those leading a sedentary life. Illegitimate children are apt to present by the shoulder, because unmarried pregnant women continue as long as possible to lace themselves tightly, and thus cause a spherical shape of the uterus which leads to transverse presentations. The cases quoted illustrate the causation of shoulder presentation by deformities of the pelvis, congenital and acquired malformations of the uterus, prematurity, scanty or excessive development, and death of the fetus, and by special insertions of the placenta. In a prolonged argument he justifies his rejection of Vicarelli's view that attachment of the placenta to the fundus uteri is a cause of shoulder presentation. The causation of shoulder presentation, as a result of placenta praevia, is intimately connected with the condition of multiparity, which is a cause of both these complications of labour. With central placenta praevia—a condition even more closely associated with multiparity than is marginal placenta praevia—there is a further increase in the probability of shoulder presentation. Placenta praevia acts partly by filling up the lowest part of the uterus, partly by involving in many cases the prematurity of the fetus. Excess of amniotic liquid acts by favouring the mobility of the fetus. Shoulder presentation may be due to conditions of the umbilical cord, and several rare fetal diseases, for example, tetanus, are also mentioned as causes. The most frequent complications of labour with shoulder presentation are premature rupture of membranes and prolapse of the cord. *Post-partum* haemorrhage and adherent placenta were also noted in some of the cases under review. Leaving out of account cases in which the fetus was dead before the patient came for treatment, the author's cases yield a maternal mortality of about 8 per cent. and a fetal mortality of about 21 per cent. Comparison with figures formerly published shows the very great advantage in the treatment of this condition which has been derived from the introduction of antiseptics. Prematurity and death of the fetus are both favourable prognostic points for the mother. No general prognosis is possible for cases of shoulder presentation. The most obvious and important distinction is into the three classes of cases treated during pregnancy, cases treated during parturition before the membranes have ruptured and the amniotic fluid has drained away. In one case spontaneous cephalic version and in four spontaneous pelvic evolution took place. There was no case of spontaneous cephalic evolution. Cephalic version was performed five times by external manipulation, and podalic version twice by the same means. Embryotomy was necessary five times. In one case it was followed by the death of the mother, whose condition was desperate at the time of her admission. This compares very favourably with the results of Caesarean sections done under similar circumstances. Forty cases were treated by the classical turning operation, subsequent delivery being in every case easy. The author quotes freely the views of other writers on the subject of spontaneous evolution, holding the opinion that when version has become difficult and dangerous spontaneous evolution is not the distant possibility which some have represented it, but offers a fair chance, which should be waited for in favourable cases, and especially when the child is dead. Favourable conditions are a well-formed pelvis, an immature or badly-developed fetus, or one which has been dead for some time, energetic and well-sustained expulsive contractions of the uterus, and a yielding state of the mother's tissues.

(10) Grape-like Sarcoma of the Cervix.

LOVRICH (*Zentralbl. f. Gynäk.*, No. 18, 1905) has published the after-history of a case of this now well-known condition, originally read before a meeting of the Hungarian Medical Association in October, 1903. He then exhibited the uterus which he had just removed entire for sarcoma bothryoides. The patient at the date of the operation was 16 years of age. For six months she remained in good health, then a mass was detected and excised, but within six weeks she died with ascites and secondary deposits in the peritoneum and vagina. Hence she survived the operation just seven months and a half. The deposits in the vagina were found to be typical sarcoma.

THERAPEUTICS.

(11) Diphtheria Antitoxin.

CRUVEILHIER (*Ann. de l'Inst. Pasteur*, April 25th, 1905) adduces experiments to show that the therapeutic value of antidiphtheria serum is partially dependent upon substances other than antitoxin which are present in the serum. He used as his experimental animals guinea-pigs weighing from 300 to 400 grams, and investigated (1) the preventive and (2) the curative efficacy upon these animals of serums possessing different antitoxin values: (1) Prophylactic experiments. On four occasions animals which had previously been inoculated with a 200-unit serum survived infection, whereas the guinea-pigs which had received the same quantity, per body weight, of 500-unit serum succumbed: on two occasions the prophylactic effects of the two serums proved to be equal, and on one occasion the 500-unit serum proved more efficacious than the 200-unit serum. On two occasions a serum of 50 units exerted a prophylactic effect when given in a smaller dose than the 500 unit serum. In all these experiments the same strain of diphtheria bacilli was employed. Two other strains of diphtheria bacilli were found to give more or less similar results. In another experiment a serum of 300 units and a serum of 500 units, both obtained from the same horse, proved to be equal in preventive value. (2) Curative experiments. A particular strain of diphtheria bacilli was inoculated, and ten hours afterwards a dose of one-tenth of a c.cm. of serum was given. On three occasions the serum of 200 units gave better results than the serum of 500 units; on three occasions the results of the two serums were identical; and on one occasion the 500-unit serum proved more efficacious than the 200-unit serum. Other strains of bacilli and other antidiphtheria serums were tested, with the same general result—that the efficacy of the serums was not uniformly proportionate to their antitoxic value.

(12) Venesection.

R. I. EWART (*Med. Chron.*, May, 1905), in a paper dealing with the theoretical aspect of venesection, maintains that, blood being an emulsion, the use of the term "viscosity" to mean a physical constant of the density of blood is quite unjustifiable. The word "viscosity" ought to refer only to the density of homogeneous fluids; "fluidity" ought to be used instead of it where blood is concerned, because that word implies no fixed value for the estimations given. Observations and experiments were made by him with pigs' blood, to determine the relation between the varying degrees of fluidity and passage through capillaries of small bore. The ratios were worked out for a capillary of 0.046 mm. in diameter; in the case of human capillaries with a bore of 0.01 mm. the ratios would be about five times greater. The conclusion arrived at from these observations was that the supply of oxygen is the demarcating factor for the minimum rate of flow consistent with comfort to ourselves. . . . As to the effects of a fall of corpuscles per cubic millimetre, owing to the great adaptability of the heart, a fall of four to five millions is scarcely noticed, unless some pathological cardiac lesion be present, under ordinary conditions of exercise and rest. But a rise in the number of corpuscles may be the immediate cause of an apoplectic attack, especially where there is arterio-sclero-

sis. One result of venesection is a decrease in the number of corpuscles, and a consequent fall in fluidity, because the loss of blood is at once made up by lymph drawn from the tissues. If the number of corpuscles per cm. is above normal, venesection is indicated, withdrawing less blood than would be theoretically desirable. If the number is normal, or below that, venesection would only serve to increase the collapse of the patient and perhaps cause death. In conditions of extreme inflammation, such as pneumonia, the cardiac distress may often be relieved by blood-letting, performed, not as a last resource, but as an early therapeutic measure, and before the heart begins to fail. To sum up, venesection is advisable when there is an excess of corpuscles per cm , as long as the heart is strong enough to replace the loss by lymph drawn from the tissues. Two other conditions are often relieved by a timely venesection. The physical inefficiency of the blood to perform gaseous interchange and the embarrassment of the circulation which obtain in asphyxia, from whatever cause, are nearly always relieved by blood-letting; and in anaesthesia the withdrawal of a few ounces of blood will often greatly facilitate the reception of the anaesthetic.

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(13) Isopral.

O. Pini (*Gazz. degli Osped. e delle Clin.*, May 21st) deals with the action of isopral. It is a white crystalline substance, it has an aromatic odour, and slightly bitter taste, it is soluble in water and has the following formula:

$$CH_3 \\ CCl_3 \rangle CH.OH.$$

It is slightly caustic, and more active and less poisonous than chloral hydrate. It has been found in the blood of animals three to five minutes after administration, and is excreted in the urine accompanied by glycuronic acid. In large doses it seems to paralyse the medulla, the bulb, and the cerebrum successively. Small doses do not affect the heart, but larger ones arrest it in diastole; respiratory paralysis precedes that of the heart. Its caustic action contraindicates its use in cases of gastric ulcer. Muthman and Urstein both report favourably of its efficacy. Pini has used it for fifty patients affected with various forms of mental disease, especially for alcoholics, maniacs, and epileptics; he has tabulated his results, giving also his observations on the pulse and respiration after administration. He concludes that isopral is one of the quickest and safest of hypnotics. In his cases sleep occurred about half an hour after the drug had been taken, but in cases where there was much excitement the action was retarded, and only obtained by giving larger doses. Isopral was most efficacious in the depression of melancholia and the delirium of alcoholism and epilepsy. Besides rapidly inducing a normal and physiological sleep, it exerts a sedative action when there is much agitation without depressing the heart. After using it in myocarditis, he decided that it had a slightly tonic action upon cardiac muscle. The pulse generally became more forcible, and the tracings showed a higher and longer wave. On awakening, the patients did not experience either nausea, vomiting, headache, or any other unpleasant effect, and on examination the urine was found to be normal. No cumulative effect was produced. The dose used varied from ½ gr. to 2 gr.; the drug can be administered in an alcoholic solution or in food or tablets. Pini considers it to be extremely valuable as a sedative and hypnotic in mental disease, and affirms that its use in daily doses causes no disturbance of the renal, respiratory, or cardiac functions.

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(14) The Newest Hypnotics.

Th. A. Maass says that forty years ago there was not a single pure hypnotic known (*Berl. klin. Woch.*, April 3rd, 1905). At that time the drugs in use—among which were alcohol, poppy, and bromides—were more anodynes and sedatives than hypnotics. A true hypnotic must be able to bring the nervous system again into a condition which allows of regular sleep. The definition which he gives of sleep—according to Landois—is that it is a phase of the periodicity of the active and resting condition of the "life organs" (*Seelenorgane*). The hypnotic should diminish the quantity of blood supplied to the brain. The first true hypnotic which we have had is chloral hydrate. Chloral is an example of a hypnotic which acts in doses considerably lower than those of dangerous poisoning. This can be demonstrated by giving two rabbits 0.5 gram and 2 grams of chloral respectively. Both sleep rapidly, but the sleep of the second is sounder and longer than that of the first; but nevertheless on the following day both are lively again. On the other hand, the therapeutic and the toxic doses of chloretone are so near one another that this last-named drug has been discarded as a hypnotic altogether. Since the days when chloral was introduced a very large number of hypnotics have been introduced, and he merely mentions a few by name—urethan, paraldehyde, amylen hydrate, sulphonal, trional, chloral formamide, dormiol, hedonal, and scopolamine. In very recent times three others have been introduced, namely, veronal, isopral, and neuronal. Veronal, a synthetic compound which owes its existence to E. Fischer and Mering, acts mildly, and produces a sleep which is very like that of Nature. It fails when there is much pain. Of the unpleasant side-effects are mentioned the production of rashes and the diuretic action. An advantage of veronal is found in the fact that it acts as an albumin saver. Turning to isopral, he says that the dosage is small and the hypnosis good. It is said to produce undesirable effects on the heart and the gastro-intestinal canal, and even in healthy persons irritates the latter unless taken on a full stomach. It is therefore contraindicated in patients with cardiac or gastric diseases, but is satisfactory in pure nervous cases. Neuronal contains a large proportion of bromide, and is said to act well in conditions of excitement and nervous irritability. The hypnotic action is pure and is added to the sedative action, which is dependent on the bromide. More should, however, be known of its method of action. In spite of the large number of drugs, we have not one hypnotic which Maass regards as ideal. None is suitable for subcutaneous injection, and none is quite free from unpleasant side-effects.

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(15) The Administration of Quinine.

Luca (*Archiv. Ital. de Biol.*, March, 1905) has compared the administration of quinine by the mouth with hypodermic injection. In each case the quantity found in the blood is very small relatively to the amount introduced into the body, and reaches its maximum after about an hour. The parasite of malaria is, however, susceptible to a minute proportion of the drug. When quinine is swallowed more is found in both the blood and urine than when it is injected under the skin. But experience has shown that the latter method of administration is more efficacious in malaria. This is due to the prolonged action of the drug in this case, as it passes continually, though slowly, from the tissue into which it has been injected to the blood.

PATHOLOGY.

(16) Dialyzed Diphtheria Toxin.

Since van Calcar claimed to be able to separate toxin from toxon by means of dialyzing with pressure, P. H. Roemer has considered it necessary to control these results and publishes his account in the *Berl. klin. Woch.* of February 20th, 1905. The apparatus used differs from that used by van Calcar in that the pressure is regulated by water, and is kept constant, while Schleicher-Schuell's dialyzer was employed instead of the membrane stretched over the glass cylinder. The diphtheria toxin was tested and it was found that 0.001 c.cm. killed a guinea-pig of 250 grams weight, and 0.0012 produced paralysis with death later; 0.1 c.cm. together with one antitoxin unit killed in three and a half days. It therefore appears that 1 c.cm. is capable of killing a 250,000-gram guinea-pig, and the toxin was found to be an "equilibrium" poison (*Gleichgift*). First he found that some 30 per cent. of the toxin dialyzed without pressure, by testing the inner fluid. After twenty-four hours dialyzing with 10 cm. water pressure, it was found that 0.0063 killed in four and a half days (guinea-pig of 250 grams), while 0.006 produced paralysis after four weeks in a guinea-pig weighing 330 grams. This refers to the outer fluid twenty-four hours later the outer fluid proved to kill 20,000-gram guinea-pig per c.cm., while about one-half of that dose produced paralysis. The same sort of results were met with in the succeeding days. In comparing his results with those of van Calcar, he criticizes some of the latter's experiments as being unreliable, the testing of his toxin showing clearly that he was not used to working with toxins. In all probability he got his fluids infected with some bacterium which is pathogenic to guinea-pigs. Van Calcar fails to show that in the fluids which produced paralytic symptoms large doses do not contain toxin. Roemer demonstrates that in all samples of his dialyzed poison, both toxin and toxon come through at the same time.

AN EPITOME
OF
CURRENT MEDICAL LITERATURE.

MEDICINE.

(17) The Early Diagnosis and Treatment of Tabes Dorsalis.

EDINGER has framed a theory that a large number of diseases of the nervous system are to be regarded as "using up" diseases (*Aufbrauchkrankheiten*), and lays more stress on the functional disturbances of these diseases than on the toxic and other cause in the production of the diseases. Determann (*Deut. med. Woch.*, April 6th, 1905) deals with tabes dorsalis from this standpoint. He quotes Edinger, who says that a very large number of nervous diseases, from the mildest occupation-neuritis to the complicate muscular atrophies and combined sclerosis, make up one large pathological group, and their intimate relationship can be theoretically proved and demonstrated by means of the intermediate forms. With regard to tabes dorsalis, Edinger says that a man who has had syphilis gradually produces his tabes by work, and, according to the form of work, so one gets this or that symptom. From this it would appear that a poison plus function equals a "using up" disease. Determann, however, finds some difficulty in answering the question as to what is "normal" function and what is excessive function, which latter will lead to disease. His own clinical material has led him to believe that only distinct excess of function can be regarded as causes of such diseases. In the majority of cases, over-exertion of one particular sphere causes the latent tabes to become evident, and in this respect Determann differs from Edinger in limiting the function which can act as a cause of tabes and in ascribing it a less active part. In order to support this modified acceptance of Edinger's views, he supplements the latter's examples by some cases of his own, in which over-function led to the breaking-out of the disease. The importance of realizing this is obvious, since one can make a very early diagnosis, if one bears in mind the possibility of the occurrence of tabes whenever a symptom follows a definite over-exertion of a special type. Given this possibility, one has three indications for the further management of the case: (1) We can attempt to make the damaged or poisoned tissue normal by the removal of the poison; (2) by avoiding not only over-function but even normal function of the affected territory, one may limit the area of affected tissue; and (3) by means of well-balanced exercise and nutrition, one may induce the affected cells to regain their normal functional activity again, and thus to get rid of the disease. The treatment of early tabes, according to the first indication, will be mercury to remove the poison. The author has reason to speak with conviction as to the good which a specific treatment can do in tabes. The second indication calls for rest, according to the early symptoms which manifest themselves. The third requires more careful carrying out. In the first place, one must aim at a better cell nutrition, and this must be directed as far as possible to the affected tissue. This is effected by the carrying out of a hygienic-physical dietetic treatment. As soon as the diagnosis is made, one should revise the mode of life and the calling of the patient. All bodily over-exertions, the necessity of long standing, the exposure to cold, excesses in drinking or in sexual function, and irregular modes of living must be removed. It will be found wise to inquire into the smallest details of the patient's life, and to exclude all habits which may be considered unnecessary. Proper clothing should be insisted on, and particular care and protection should be given to those parts of the body which are the seats of symptoms. Rest out-of-doors is just as essential in tabes as it is in tuberculosis. The exercise should be exactly measured and carefully carried out. Short walks, repeated several times a day, have proved themselves of use in Determann's hands. Lastly, he speaks highly of the uses of hydrotherapeutics and baths combined with massage. The author adds several details as to the modes of applying these general rules in different cases.

(18) The Return of Deep Sensation in Tabes Dorsalis.

JEAN HEITZ (*Arch. Gén. de Méd.*, February 21st) says that in tabes dorsalis the bone sensation is often impaired. Bony anaesthesia is, however, more closely connected with loss of the sense of passive movement, and is sometimes a very early symptom preceding any alteration of cutaneous sensation. Bone sensation often coincides with a loss of muscular sense. It has also been shown that bone anaesthesia is intermittent, and that diagrams taken from year to year may demonstrate considerable alterations not only in the bone but in the muscular and cutaneous sensations. Such improvement may last for some weeks or months, and Heitz has observed it during a course of carbonic acid baths. He records several cases in support of this. The accuracy with which the bone sense may be tested enables careful records to be taken of cases. The method employed by the author is to test the sense of vibration by means of a large tuning-fork giving 128 vibrations per second. The end of this when applied to a bony surface transmits vibrations which are perceptible throughout the bone. In tabetic cases, however, no such vibrations are perceived. The cases quoted are those of patients suffering from well-marked tabes, accompanied by lightning pains, inco-ordination, loss of skin sensation, Romberg's sign, and in some cases loss of sphincter control. The treatment, by means of carbonic baths, was carried out at Royat, the number varying from twenty to twenty-five. The effect of these baths was an improvement in both the superficial and deep sensations, the plantar sense in particular being greatly improved. Analgesia disappeared along the course of several of the nerve trunks, the stereognostic sense and that of position became much more accurate, and the general condition of the patients showed a marked change for the better. The reflexes also became more active. The writer can only offer the hypothetical explanation of the improvement manifested in these cases that the application of baths charged with carbonic dioxide produces a tonic effect upon the myelin sheaths, so that they act more effectually as an exciting medium for the axis cylinders, which are throughout enabled to detect sensations more accurately. It is well known that many other functions, such as the respiratory exchanges, the richness of the haemoglobin, blood pressure, and the number of leucocytes, are all improved during a course of carbonic baths. In the writer's opinion there is no reason why the nervous system should not also be benefited in a similar manner. One of the most practical results of this method of treating tabes is the diminution of ataxy, so that the patient is able to get about with comparative ease. He believes that this is a method of greater value than any other in the treatment of tabes, even exceeding the results which have been obtained by the re-eduction method of Fraenkel, and he is of opinion that carbonic gaseous baths taken regularly in combination with Fraenkel's method will enable a large number of tabetics to continue their avocations.

(19) Right-sided Pleural Effusion.

GIANNI (*Gazz. degli Osped.*, April 2nd, 1905) has observed 50 cases of right-sided pleural effusion, occurring chiefly in cardiopaths (28 were cases of cardio-renal sclerosis, 13 mitral valvular disease, and 9 hepatic cirrhosis). The symptoms and bad prognosis of these cases are sufficiently well known, and the author is chiefly concerned with the pathology. The number of cases shows that right-sided pleural effusion is fairly common in cardiopaths, especially in the later stages of marasmus and asystoly, and that it is not infrequently associated with hepatic cirrhosis. The condition is more frequently met with in the cardio-renal sclerotic cases than in valvular heart lesions, whether mitral or aortic. According to the author's researches in the *post-mortem* room and clinically, the effusion is in the majority of cases inflammatory in nature. In 25 necropsies, the effusion was of mechanical origin in only 5 cases. In 15 of the cases there was not the least doubt as to the inflammatory nature of the attack. Some cases were due to spreading of the perihepatitis, some to the pleurigenic influence of a pulmonary infarct. Whether the azygos vein plays an important part in the causation of some of these pleurisies is a little doubtful. Even where it has become blocked it is not clear that the effusion depends on this, for in some of the author's cases there was distinct evidence of inflammation, and he is inclined to question the value of this observation as a factor in the mechanical causation of right-sided pleural effusion.

SURGERY.

(20) The Choice of Operation for the Removal of the Hypertrophied Prostate.

PILCHER (*Ann. of Surg.*, April, 1905) points out that in operating for prostatic dysuria, the problem to be solved by the surgeon is not only the thorough removal of the obstruction, but the pre-

vention, with this object in view, of mortality and post operative infirmities, by avoiding undue prolongation of manipulation, much loss of blood, and unnecessary and excessive injury to the urethra, bladder, rectum, and ejaculatory ducts. At the present time there are three methods of prostatectomy: (1) suprapubic section; (2) a limited longitudinal incision in the median line of the perineum; and (3) a free transversely curved incision of the perineum, through which the prostate is fully exposed, followed by systematic incision into the substance of the enlarged gland, and subsequent enucleation mainly under the guidance of the eye. In the first two methods the amount of time required in the manipulation, in favourable cases, is distinctly less, and, the author states, it is conceivable that in some cases this indication of quickness of execution may determine the choice. It is acknowledged that cases characterized by massive hypertrophy of the gland are the most favourable for the transvesical method, whilst to those in which the hypertrophy is moderate one or other of the perineal methods is better adapted. Cases suitable for operative treatment, in which there is a marked fibrotic element in the prostatic degeneration, always require, it is asserted, recourse to the most open method of attack possible, but, it is pointed out, a hard, fibrotic prostate in a case in which the use of a general anaesthetic is contraindicated by certain renal or cardiac complications should not be subjected to any form of cutting operation. Under such complex conditions Bottini's method would be found specially useful. In the great majority of cases, however, there will be nothing, in the author's opinion, to prevent the surgeon from resorting to such method of operative treatment as in his judgement will best satisfy all the requirements of an ideal operation. Such ideal operation, it is held, consists in free exposure of the gland by suitable perineal incision. The exposed gland the author argues, should be brought down as far is possible into the superficial parts of the operative field, and the removal of the obstructing masses be carefully and systematically effected under the guidance of the eye. There is surely nothing, the author believes, in the special conditions of prostatic surgery to take the removal of the enlarged gland out of the application of the tenet of operative intervention which demands the adequate exposure of the affected part as the first step of any attack upon it. Statistics are referred to which show that in the method of free transverse perineal incision, with visual control of enucleation, the additional time taken in this operation adds but little, if anything, to its hazards, while it will add very much to the definiteness and certainty of the result. The author concludes his paper with a full and well-illustrated description of his method of transverse perineal prostatectomy, the results of which, he states, have given him the highest satisfaction.

(21) Fracture of the Base of the Skull and Lumbar Puncture.

Lataigt (*Lyon Méd.*, November 27th, 1904) records a case in which signs of commotion and cerebral contusion disappeared rapidly after lumbar puncture. A young man lost consciousness as a result of a fall from a ladder. He was taken to hospital, and on regaining consciousness complained of intense headache round the front and sides of the skull. The only lesion to be observed was a haematoma of the right occipital region. The man lay on his right side, curled up; he could not bear light, and was intensely sensitive to sound and touch. The knee-jerks were exaggerated, but there was no localizing nervous symptom. Any attempt to drink caused immediate vomiting, and change of position was followed by intense dizziness. There was no bleeding from the nose or ears. The constant application of the ice-cap and the use of hypodermic injections of morphine gave very little relief. As the headache remained intense and alimentation was impossible, lumbar puncture was performed two days and a half after the accident. Twenty cubic centimetres of rose-coloured fluid were obtained and found to contain haemoglobin and red blood corpuscles, slightly crenated. The headache was intensified for a few minutes as the result of the operation, but in a quarter of an hour the headache and vertigo had disappeared entirely, and the rate of breathing, which had been thirty to the minute, had become normal. Two hours later the man sat up in bed and ate a good meal of bread, soup and potatoes. On the sixth day after the accident there appeared a violet ecchymosis over the right mastoid process which for the first time localized the fracture of the base. Recovery was rapid and uninterrupted.

(22) Reinfection in Hereditary Syphilis.

Rostaine (*Thèse de Paris*, May, 1905) adopts Gaucher's division of hereditary syphilis into four classes, namely, secondary, tertiary, quaternary (parasyphilis), and quintary (dystrophies). He finds that acquired syphilis may be contracted by the subjects of quaternary and quintary hereditary syphilis in the ordinary way; that the subjects of tertiary hereditary syphilis occasionally contract acquired syphilis, but that this is unknown in the case of secondary hereditary syphilis. The duration of the immunity conferred by hereditary syphilis is not known, but is probably limited to its active state, reinfection becoming possible in proportion to the attenuation of the virus. The author points out the general belief held by the public, and also by many of the medical profession, that hereditary syphilis confers permanent immunity, and quotes a case of Tarnowsky's where a patient refused to take mercury because his father had informed him that he had had syphilis in his youth before marriage.

(23) Radical Cure of Femoral Hernia.

Pólya (*Zentralbl. f. Chir.*, No. 18, 1905) describes a new operation for the radical cure of large femoral hernine, which he has performed with very satisfactory results in two cases. This operation consists in exposure of the upper part of the sartorius, and of complete transverse division of this muscle at the junction of its upper and middle thirds, the upper third being then turned inwards and its lower cut end inserted into the large crural canal and fixed securely there by deep sutures. This displaced portion of muscle is covered by a flap of deep fascia. In a *post-mortem* examination of the seat of operation, in a patient who died after an interval of four weeks, the author found that there was very close adhesion between the muscle and the crural canal and ring. Return of the hernia in consequence of atrophy and yielding of the flap of sartorius is unlikely, the author states, to occur, as the blood vessels and nerves distributed to this muscle enter at its upper third, and so render this portion a very suitable flap for plastic purposes. This operation is regarded as suitable only for cases of femoral hernia in which the sac is very large and the crural opening very wide. For small femoral hernia in which there is but a slight tendency to relapse after an operation for radical cure, a much simpler method would suffice.

MIDWIFERY AND DISEASES OF WOMEN.

(24) Induction of Labour for Compression of Ureter by Gravid Uterus.

Ahlefelder (*Monats. f. Geb. u. Gyn.*, March, 1905) attended a woman, aged 26, at the ninth month of her second pregnancy. During the first, over a year previously, she had an attack of fever and pain in the right loin. Paranephritic abscess was diagnosed and a lumbar incision was made, the capsule of the kidney was laid open, and the organ itself punctured at several points with the knife; no pus escaped, and the wound was closed. On the third day a male child was born spontaneously, but pyaemic symptoms followed with plugging of a vein in the left leg, and, later on, necrosis of a tarsal bone. The patient, however, regained her health, and when Ahlefelder saw her she looked in good condition, but complained of severe pains in the right loin, which was extremely tender to touch. The uterus was normally evolved, as might be expected at the ninth month; the pelvis was free from contraction or obstruction. The temperature rose and the pulse grew very rapid. Labour was induced, and a child 18 in. in height delivered alive. Directly the uterus had delivered itself of its contents the severe lumbar pains began to diminish; profuse perspiration and also fall of pulse and temperature were observed. For four days the right kidney could be felt enlarged, and the amount of urine excreted was normal, as were its contents. Then the patient was placed on her left side, the bladder having been emptied. Almost immediately the kidney began to diminish in size, and the bladder filled again. The urine then drawn off was clear and free from albumen or sugar. Convalescence was afterwards free from complications.

(25) Action of Quinine on Labour Pains.

J. Baccker thinks that it would be a great gain if we could substitute medicamentous action for mechanical interference in certain cases of labour, where the pains are either weak or absent (*Deut. med. Wooh.*, March 16th, 1905).

Ergot and its preparations have a distinct action on the uterine muscle, but this is of a tetanic nature, and rather prevents the expulsion of the fetus than favours it; it has therefore been excluded from the first two stages of labour. For the last ten years he had employed quinine sulphate for the purpose of increasing the pains, and is very well satisfied with his results. In incomplete abortion he gives 7½ gr., and repeats the same dose after fifteen minutes. If the uterine contractions do not become energetic after an hour, he gives a third dose. He has not met with any unpleasant effects of the drug, and although he does not claim that it always acts well he finds that it does so in the majority of cases. Even when there is but little contraction of the uterus, and especially when there is bleeding without pains, he found that quinine sulphate in the above mentioned doses soon obtains energetic contractions. He has no experience of the drug in cases when the labour contractions have not begun at all. He speaks of the action of the drug as a central one.

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(26) Delivery of Child through Central Perineal Rupture.

W. HAHN (*Wien med Presse*, April 9th, 1905) reports a case of this rare occurrence. A primipara, aged 20, was, at 1 a.m., suddenly taken in labour. Before the midwife could reach her from an adjoining room the head presented at the vulva, and a rupture of the perineum between the vulva and anus had occurred. Through this rupture, which rapidly enlarged, the head was delivered, the rest of the child following the same route. Fifteen minutes later the writer found the following condition: The vagina was narrow and showed no signs of recent parturition; the perineal rupture began to the right of and about ¾ in. behind the fourchette, and was directed obliquely backwards towards the anus; the rectum and sphincter ani were intact. On separating the edges of the wound a cavity with ragged edges of the size of a man's fist was disclosed. Owing to the absence of water no immediate attempt to close the wound was made, and the wound was merely packed with iodoform gauze. At 5 p.m. on the following day the edges were refreshed and the wound was closed with a double layer of sutures. There was a rise of temperature on the fifth day, which subsided after a vaginal douche and the removal of three sutures which were causing irritation. At this point the wound healed by granulation.

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(27) Desmoid of Abdominal Wall in Women.

BÜRGER (*Zentralbl. f. Gynäk.*, No. 19, 1905) lays stress upon the fact that in a case of desmoid tumour of the abdominal wall under his own care, the patient was a nullipara aged 20, and the tumour originated in the cicatricial tissue developed after the rupture of an abscess in the parietes of the left side of the abdomen. The patient worked at a printer's office, and was accustomed to press the abdominal walls against the edge of a printing machine; the abscess discharged for three months, then a hard mass developed and grew slowly. In the course of its development an attack correctly diagnosed as appendicitis occurred. Bürger operated, removing an oval, solid tumour of the size of a fist from the parietes; it occupied all the muscular layers, and a process had perforated the parietal peritoneum, adhering freely to omentum and intestine. The vermiform appendix and the uterine appendages were the seat of chronic inflammatory changes. The tumour was made up of fibrous tissue, with some plain muscle, but no sarcomatous tissue could be detected. Bürger noted that Olshausen dwelt on the relation of desmoid growths of the abdominal wall to pregnancy, Herzog having already traced cases to haematoma of the recti developed during gestation. But Schauta has described three cases following surgical and operative—not obstetrical—injuries, whilst in Bürger's case there had neither been pregnancy nor an operation. He likens the tumour which he removed to keloid.

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(28) Vicarious Menstruation from the Breast.

POLLITZER (*Monats. f. Geb. u. Gyn.*, April, 1905) briefly reports the case of a girl, aged 18, who had been subject for two years to severe attacks of sacral pain every three or four weeks, without any show of blood. For almost as long a period, a bloody fluid discharged from the left breast on every occasion when the sacral pains set in. The uterus was 1½ in. long and infantile in type. The patient was carefully observed and it was found that a drachm or two of the bloody fluid escaped daily.

THERAPEUTICS.

(29) Therapeutic Uses of the X Rays.

W. A. PUSEY gives (*Journ. Amer. Med. Assoc.*, May 13th) the results of his later experience with the *x* rays. In some disorders, such as hypertrichosis and lupus erythematosus, the results have not equalled expectations; in some others, such as tuberculous glands and joints and deep sinuses, the results have been variable, though with some marked successes. The value of the *x* rays has been most markedly demonstrated in sycosis, tinea, acne rosacea, lupus vulgaris, blastomycosis, cutaneous carcinomata, and senile keratoses. The value of the *x* rays has also been shown in hyperidrosis, inflammatory, dermatoses, pruritus, naevi, keloid, sarcoma, and as a prophylactic after operation for malignant disease. In some other conditions, abdominal tuberculosis, actinomycosis, mixed tumours of the parotid, there has been apparent benefit from the *x* rays, but Pusey does not feel inclined, from his experience, to make any very positive generalizations. In the deeper-situated cancers, as might be expected, the treatment is less hopeful, though palliation may be hoped for, and some surprisingly good results are reported. In conclusion, Pusey gives his latest experience with pseudo-leukaemia, leukaemia, and goitre. In the former he has repeatedly seen clearing up of the glands, but in the only case he has been able to follow up there have been repeated recurrences. In true leukaemia he has seen like good effects as regards disappearance of the enlarged glands, but generally without any corresponding improvement in the condition of the blood. One remarkably successful apparent cure is reported, the blood examination revealing normal conditions and the patient apparently well. In some small parenchymatous goitres Pusey has seen reduction in size of the tumour, but in most of his cases no benefit was observed. In a paper on the *x*-ray treatment of cancer (ibid., May 6th), E. G. Williams said the microscopic changes in the tissue should be one's guide as to the therapeutic possibilities in the *x*-ray treatment of malignant growths. It is evident, he states, that the elements of the tissues are affected according to their vitality. Dead organic matter is unaffected, and the more active the growth the greater the effect. Next to this is the accessibility of the tissues to the rays. Hence the better results with superficial or skin cancers. That moderately deep tissues can be affected is shown by experience, and the way to reach them without producing necrosis of overlying tissues is to lengthen the distance of the tube and the time of exposure. For deep growths, radical surgical measures should be recommended, as the patient should be given the benefit of the probability rather than the possibility of good results. In such cases, however, operation might be rationally followed by *x* ray treatment to destroy what may remain of the malignant growth. Inoperable cases should be treated by the *x* rays, because remarkable results have been obtained and the most distressing symptom of pain relieved.

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(30) The Treatment of Hepatic Cirrhosis.

SCHILASSI (*Gazz. degli Osped.*, May 7th, 1905) dealing with that class of diseases whose treatment is now almost as much surgical as medical—that is, gastric ulcer—discusses the treatment of hepatic cirrhosis. He first treats of the classification of the various kinds of cirrhosis, and takes an anatomical basis, dividing into that (1) of venous origin: (*a*) monovenous, where the sclerosis starts from the perilobular veins, right or left lobe; (*b*) bivenous starting around the central veins of the lobules as well as the peripheral; (2) of arterio-venous origin; (3) biliary; (4) capsular; and (5) mixed. He then gives cases illustrating these various types. Incidentally he expresses his faith in a true malarial variety of cirrhosis, which, like some other cirrhoses, he believes starts or is originated from the spleen. The treatment of cirrhosis is dietetic (little meat and largely milk diet), medicinal (iodides and calomel), opotherapy (thyroid, hepatic extract), and surgical. In deciding on surgical interference (Talma or modified Talma operation) one has to consider the nature of the cirrhosis, (porto splenic, porto-intestinal, porto-biliary, etc.), the state of the patient, as, for example, hypoazoturia, glycosuria or urobilinuria, which latter may be called the "junction" of the hepatic lesion. Further, one has to consider the state of the kidney, which may be looked upon as a safety valve in

cirrhotics, and last of all the ascites. Roughly speaking, ascites may be due (1) to portal obstruction exclusively, (2) to peritonitis exclusively, (3) to a combination of the two. When a patient suffering from hepatic cirrhosis complains of wandering pains in the belly, has some rise of temperature, effusion in the right pleura, when the liver is painful on pressure after the fluid is removed, and if the fluid is rich in albuminoids, great circumspection should be exercised before surgical treatment is practised. If the ascites is due to portal obstruction alone, laparotomy and a suitable form of Talma operation should be practised as early as possible. If there is any doubt as to whether the effusion may not be due to peritonitis, it is better to wait until the inflammation has become more chronic—for example, in four months' time—as early operation in these cases is liable to make matters worse by aggravating the peritonitis. As to the exact place of implantation of the omentum, the author recommends between the muscles and the peritoneum, as this is the most vascular part. In the uretero-splenomegalic cases it is better to perform an epiploo-splenopexy.

(31) Mud Baths.

Axel Winckler (*Zeit. für diät. und phys. Therapie*, 1905) discusses the therapeutic value of mud baths. He ascribes the value of the baths as due mainly to the effect of the warmth, moisture, and pressure upon the body. At Nenndorf, where he himself practises, the baths are given at temperatures which vary between 33° and 42° C. Baths at from 33° to 36° are described as lukewarm, from 36° to 39° as warm, and from 39° to 42° as hot. The temperature at which the bath is given in each case depends upon the constitution and condition of the patient, as well as upon the disease. The baths may again be divided according to the consistency of the mud, the specific gravity of the different varieties being 1.2, 1.5, and from 1.8 to 2.0 respectively. The question of consistency is of some importance, because the pressure of the mud upon the body gives to a certain extent the effect of massage, which becomes more forcible with increased density. The viscosity of the mud is of little importance, except that where it is low, the heavy particles in the bath tend to sink quickly to the bottom. At Nenndorf the baths of medium and greater consistency are most employed. The maximum temperature for the full bath is 42° C., for the sitz-bath 43° C., for the leg bath 45° C., and for the arm, hand, or foot bath 50° C. A course of baths usually consists of fifteen, but occasionally twenty or even twenty-five are given. A rest of three or four days is necessary between the baths, and a course, therefore, cannot be completed under several weeks. Two courses in the year are sometimes allowed, but only if each course consists of not more than fifteen baths. The time allotted to a bath is from 15 to 50 minutes, and, as a rule, 45 minutes is found to be enough. Full baths when taken at 40° C. should last for only half an hour, and when taken at 42° C. only a quarter of an hour. The patient should always eat before bathing, lest the pressure upon an empty stomach should cause unpleasant symptoms. The bath should only be two-thirds full for emphysematous and asthmatic patients. Cold wet applications should be made to the head while the patient is in the bath. At the end of the bath a hot-water bath at 36° C. is given for the purposes of cleanliness, and this may be followed either by a pack to induce sweating and later by rest in bed, or by cold douching. The importance of the after-sweating is often exaggerated; it does not form an integral part of the treatment, and is, indeed, contraindicated in many diseases. The greater number of the patients treated are rheumatic patients of one sort or another. The prognosis varies greatly in the different forms of rheumatic affection. Fixed muscular rheumatism is of bad prognosis, while wandering muscular pains are easily cured. Chronic monarticular or polyarticular rheumatism is readily cured if it is a result of acute rheumatism and is taken in time, but two courses of baths will usually be needed to effect a cure if the rheumatism has come on gradually and not as a result of acute disease. In cases of rheumatism an increase of the pain is sometimes experienced after a few baths, but it quickly disappears, and its occurrence is of good prognosis. The results of treatment in arthritis deformans are not as good as in rheumatism, but at any rate the disease is often brought to a standstill and the pains are diminished. In gout good results are obtained, and after a course of baths the patient is often free from symptoms for several years. It need scarcely be said that the baths do not form a substitute for dieting in gout. In many gynaecological diseases, as, for example, in uterine and vaginal catarrh, in abnormalities of menstruation, and in perimetritic and parametritic exudates, the bathing often leads to a very speedy removal of the subjective symptoms and often also to the removal of the objective symptoms. Thus the author has seen an extensive exudate, filling almost the whole pelvis, disappear after a single course of baths. Neuralgias are often benefited by the treatment. Sciatica yields to it, as a rule, except when it depends on some spinal lesion or on diabetes. In cases of neuralgia the effect of the treatment often becomes evident only after some weeks or months have elapsed. Tabetic patients are not permanently improved, although they may obtain some temporary relief from the girdle sensation and the shooting pains. Disorders of the venous system, such as varices or the remains of phlebitis, receive great benefit. The baths are useful for several forms of skin disease, as, for instance, in moist eczema and in psoriasis. Cases of pruritus senilis are not improved. It is important to remember the contraindications to the use of mud baths. Among these may be mentioned pregnancy, diseases of the heart, the endocardium and the pericardium, advanced arterio-sclerosis, fever, tendency to haemoptysis, chronic nephritis, severe neurasthenia, and finally old age. Well-compensated valvular disease of the heart forms no contraindication if lukewarm baths of low specific gravity are the only ones employed.

(32) Influence of Copious Water Drinking.

Hawk (*Univ. of Penn. Med. Bulletin*, March, 1905) conducted experiments upon five men in order to investigate the effect of copious water drinking upon the nitrogen, sulphate, and phosphate elimination. Each man was placed on a constant diet for sufficient length of time to produce a condition of approximate nitrogen, sulphur, and phosphorus equilibrium, and then for two days large quantities of water were administered at stated intervals. Following this, the original normal, constant diet was again maintained for a time. By careful collection and examination of the urine and faeces and analysis of the food during the whole of these periods accurate data from which definite conclusions could be drawn as to the income and output of nitrogen, sulphur, and phosphorus were obtainable. It was found that copious water drinking caused an increased excretion of nitrogen and phosphorus by the urine, while the excretion of sulphur was somewhat irregular but tended to run parallel with that of nitrogen. Reviewing the experiments of others upon fasting animals, together with the results of these investigations, the increase in the amount of nitrogen eliminated is due primarily to the washing out of the tissues of the previously-formed urea which has not been removed by the normal processes, and secondarily to the stimulation of proteid catabolism. The increase in the excretion of phosphorus is due to increased cellular activity, and the accompanying catabolism of nucleins, lecithins, and other phosphorus-containing bodies. The largest percentage of water was excreted by the urine on the days of the copious water drinking.

PATHOLOGY.

(33) Tumour of the Parathyroid Gland.

MacCallum (*Johns Hopkins Hosp. Bull.*, March, 1905) records the autopsy of a man, aged 26, upon whom decapsulation of the kidney had been performed two years previously for chronic nephritis, and in whom there was found a capsulated smooth mass separate from and immediately below the lower lobe of the thyroid on the right side. The thyroid and two parathyroids were normal. Advanced chronic diffuse nephritis was the chief lesion, and the patient died in uraemia. Macroscopically the mass presented a uniform opaque whitish-yellow appearance of soft consistence, with a small smooth-walled cavity containing clear fluid. Its blood supply was meagre. Microscopically it closely resembled the normal parathyroid, except that the cells were arranged in solid masses of varying sizes and definite cavities existed, and there was an absence of adipose tissue between the cell-strands. There was no sign of invasive growth, and in the absence of any explanation for a compensatory hypertrophy this was regarded as an adenomatous new growth, though the fact that many so-called adenomata in glandular organs have proved to be evidences of compensatory or regenerative hyperplasia has to be borne in mind.

AN EPITOME

OF

CURRENT MEDICAL LITERATURE.

MEDICINE.

(34) Appendicitis in Persons over Fifty.

R. DE BOYIS (*Sem. Méd.*, May 24th) discusses at length the incidence of appendicitis in persons over 50 years of age. Judging from a large number of integral statistics, patients of 50 years of age and over represent only about 5 per cent. of the cases of appendicitis which are seen by the surgeon. The numbers vary a good deal, seemingly, in the different countries. Men seem to be rather more liable to it than women, but the statistics are far from reliable. The appendix, as old age comes on, undergoes a kind of involution or senile atrophy. Even after 30 years of age the appendix becomes shorter and narrower. In middle-aged and old persons it is much more often empty, too, than in younger ones, whose appendices *post mortem* are seen to contain mucus, muco-pus, faecal accumulation, or other pathological happening. Simple appendicitis is of rare occurrence at all ages; there is, almost always, accompanying inflammation of the neighbouring parts and some local peritonitis. In the majority of recorded cases of gangrenous perityphlitis the patients have been well over middle age, the cases have developed slowly, and the inflammation has remained localized to the iliac fossa. The most noticeable things about the symptomatology of appendicitis in the latter half of life are the rarity of chronic forms of the disease and the slow and insidious development of each case. With regard to fever, among 40 old patients 35 per cent. had a temperature of from 98.6° F. to 100.4° F.; 20 per cent. from 100° F. to 102.2° F.; 20 per cent. from 102.5° F. to 103° F., and 25 per cent. 103° F. to 104.5° F. Most of these cases presented clinically an easily-recognized swelling in the iliac fossa, which reminded one of a new growth there, and in fact some of them were thought to be possibly neoplasms of the caecum or urinary bladder. Senile appendicitis, then, is generally characterized by a hard phlegmonous swelling in the iliac fossa. Peritonitis is the commonest and most serious of the complications of an attack of appendicitis, and it occurs more frequently among women than among men. Other complications are jaundice, acute hepatitis, hepatic abscess, pylephlebitis, pleurisies, and haematemesis. Pulmonary complications are more common after the age of 50 than before it: so are liver troubles. As to the prognosis of senile appendicitis, the prognosis—that is, of cases seen by the surgeon and treated surgically—statistics seem to prove that there is a great difference in severity between juvenile and senile cases, the latter being twice as severe as the former. Out of 455 patients under 51, 117 died, a proportion of 25.7 per cent., while 39 subjects over 51 years of age gave 16 deaths, or about 47 per cent. Most of these deaths were due to pulmonary or peritonitic complications. The differences, such as they are, between the clinical characteristics of juvenile and senile appendicitis are due, probably, to the anatomical and physiological changes indicated above. Foreign bodies are rarely present to set up septic inflammation, and the inflammatory reactions that do take place are slow and mild. Old people who develop appendicitis have generally not had a previous attack of it. This is gathered from statistics which show the relative infrequency of peritonitic adhesions.

(35) Risk of Tuberculous Infection on Marriage.

W. THOM (*Zeit. für Tub. und Heil.*, Bd. vii, Heft 1) discusses the danger in infection which is increased by a healthy person in marriage with a tuberculous one, and believes that this danger is not as great as is commonly supposed. The fear of infection with tuberculosis has probably become too acute, and in this connexion the author quotes Langmann's words as to the danger of the combat with tuberculosis becoming a combat with tuberculous people. Statistics may be quoted to show in what a large proportion of cases people escape contracting phthisis in spite of often-recurring opportunities of infection. Thus at the Brompton Hospital, where 70,000 tuberculous patients were treated in the years between 1846 and 1882, only 1 out of 170 of the doctors showed signs of phthisis while in residence at the hospital, and 6 after leaving it. Of the 100 sisters 1 sickened inside the hospital and 3 after leaving it; of 32 wardmaids none died of phthisis. Again, at the resorts for phthisical patients the number of cases of phthisis among the inhabitants has not been on the increase, and at Davos the proportion of the number of deaths from phthisis to the number of inhabitants has actually diminished, probably as a result of improvement in the conditions of life. No one denies that the opportunities of infection in marriage with a tuberculous patient are very frequent, but other factors will to a great measure determine whether the disease will actually be contracted. The general conditions of married life are more favourable often for men than for women; a man after marriage usually lives a more regular life than before, and is better fed, while the woman runs a risk because of the strain of childbirth. Happiness in marriage may be a factor in increasing the resistance of the organism to disease. Kissing is by some authors held to play a large part in carrying infection. Unless a patient coughs in the act of kissing there is probably little risk of infection, and even if the patient cough, he will, as a rule, only cough out saliva which contains few if any tubercle bacilli. In coitus there is a certain risk, but the comparative rarity of tuberculosis of the external genital organs, and the fact that such tuberculosis, when present, has usually originated higher up in the genital tract, would seem to show that this danger also has been exaggerated. There is no doubt that the sputum of a phthisical patient is a danger to those living in the same house, and the general adoption of some adequate method of disinfection is urgently needed. The different statistics which deal with the risk of infection in marriage point to very different conclusions. Weber reports on 39 phthisical men who married in every instance healthy women. Nine of these men lost from phthisis 18 wives altogether, and one of them lost 4 wives in succession. Many statistics exist as to the frequency with which tuberculosis has attacked both partners in a marriage. Elsässer reports that of 152 married couples where one partner suffered from phthisis, in 60 cases both suffered from it, the wife having been infected from the husband in 33 cases, and the husband from the wife in the remainder. Elsässer's figures are probably not typical—the people involved were poor, and intermarriage amongst the different families was very frequent. Brehmer found that in 12 per cent. of 159 marriages in which one partner was tuberculous, both partners were attacked. Haupt found the same proportion in 260 marriages, and Riffel put the proportion at 10 per cent. in 183 marriages. In all such statistics the difficulty is to know in how many cases tuberculosis has attacked the second partner as a result of infection from the first, and in how many it has occurred independently, or has been present but not recognized before marriage. Jacob and Pannwitz, after a careful study of this point, decided that direct infection has probably occurred in 40 per cent. of the cases. The mean result of Brehmer, Haupt, and Riffel's figures would therefore be that direct infection occurs from the tuberculous to the non-tuberculous partner in a marriage in 4.4 per cent. of cases. The author has scheduled the reports of 402 patients at the Hohenhorneef sanatorium with respect to the presence of tuberculosis in the husband or wife, as the case might be. These patients were for the most part in comfortable circumstances, and phthisis was present amongst them in all stages. In only twelve cases did it seem as much as exceedingly probable that infection had occurred after marriage, that is, in 3 per cent. of the whole. Of these twelve cases the man had been infected in four instances, the woman in seven, while in one case it was doubtful which had first contracted the disease. The figures show that infection in marriage is infrequent, and that in many cases the healthy partner in a marriage remains sound in spite of the closest intercourse with, and countless opportunities of infection from, the tuberculous one.

(36) Albumosaemia in Fevers.

CALISI (*Clin. Mod.*, An. ii, No. 13) has carried out a series of researches with a view to detecting the presence of albumose in the blood in febrile patients. He examined the blood of 39 patients suffering from various febrile diseases, with temperatures (at the time of extraction of blood from the arm) from 37.1° C. to 40.2° C. He also examined the blood of 7 other patients suffering from non-febrile complaints. As the result of these various experiments the author concludes that albumose constantly exists in the blood in febrile patients, and that the amount of albumose present is in direct proportion to the degree of fever; it may also vary with the specific cause of the fever. The disappearance of the albumoses, moreover coincides with the disappearance of the fever. In non-febrile affections albu-

mose, generally speaking, is not present in the blood, and when it does exceptionally occur it is probably a different variety of albumose from that met with in febrile cases.

SURGERY.

(37) Abdominal Pain.

J. B. Deaver (*Journ. Amer. Med. Assoc.*, May 13th) insists on the importance of most careful study of every detail in cases with abdominal pain. The abdominal surgeon must, of all things, shun superficial methods in diagnosis, while at the same time delay in diagnosis must also be studiously avoided. Too early resort to exploratory operation after insufficient examination is also condemned, as is also the too frequent palliative use of opium. The character of the pain, the patient's history, especially as to prior attacks, etc., the age and sex and occupation must all be considered. The location of the pain, especially in relation to nervous distribution, must be studied and the possibilities of referred pain from disorder in distant organs be kept in mind. Another matter of importance in abdominal pain is its diffuse or localized character, whether it is at first diffuse and later becomes local, or vice versa. Illustrations of all these points are given by Deaver. The differential diagnosis is of special importance in abdominal pain, and he here gives the list of the conditions that are most necessary to be distinguished from each other, among them the abdominal referred pain from thoracic disease, perforation, uraemia, hernia, colic, calculi, movable kidney, the visceral crises of nervous disorders and of arterio-sclerosis, ectopic pregnancy, etc., as well as appendicitis. One who closely studies his cases, even if an error is made, will be less to blame than one who jumps to a conclusion or who confessedly makes habitual resort to an operation to discover his patient's ailment. In considering treatment, the cause of the pain must first of all be kept in mind. To remove the cause surgery is not always the only recourse. Deaver is strongly opposed to the use of opium in abdominal pain; only in exceptional cases just before operating for appendicitis and in far advanced cases of malignant disease does he consider it advisable. While other means than surgery, such as rest, position, attention to the condition of the digestive tract, regulation of diet, etc., will suffice in many cases, there are still the severer conditions requiring operation, and here the diagnostic ability of the surgeon comes into play. The reason why the surgeon is called on oftener to operate than to assist in the diagnosis is, Deaver say, this own fault and the result of the fallacious teaching of exploratory incision. Diagnosis should be the forerunner of operation; without a diagnosis operation should only very exceptionally be done. The importance of prompt diagnosis and operation is insisted on, and in some cases, such as probable perforation or abdominal haemorrhage, it may even be advisable before a certain diagnosis is made. Deaver is not a believer in last-resort operations, and even in chronic cases operation should not be left too long untried.

(38) Treatment of Pott's Disease.

Campani (*Rif. Med.*, April 8th, 1905) reports 7 cases of spinal caries occurring chiefly in young adults, and discusses certain points in the treatment. In the first place, he says, one should not take too gloomy a prognosis of these cases, as recovery is more common than is generally supposed. His experience with the Durante treatment (injections of iodine in an iodide solution) and with corrosive sublimate injections was not very satisfactory. On the other hand, he speaks very favourably of hydrotherapeutic treatment, which he is convinced does much good. Where there is much fever, or in cases where absolute immobility is necessary, it is not suitable. In the surgical treatment he prefers aspiration and subsequent flushing with 0.01 per cent. solution of salicylic acid, by means of a specially devised trocar, to a more free opening. The figures for this mode of surgical interference are, he believes, on the whole more encouraging than those of a more drastic nature. In some cases it is not improbable that the abscess may be primary instead of secondary, and here early interference may save subsequent disease of the vertebrae. In the washing out he uses some 4 to 5 litres of the salicylic solution.

(39) Strangulated Diaphragmatic Hernia of Stomach.

Mougeot (*Bull. et Mém. de la Soc. Anat. de Paris*, Nov., 1904) made a necropsy on the body of a lad aged 15, who had suffered for a month from uncontrollable vomiting, and had died with symptoms of acute internal obstruction, no flatus having passed for two days. No diagnosis of the seat of obstruction was made. On opening the thoracic cavity, a globular tumour was seen projecting from the left half of the diaphragm; it had pushed the heart so much to the right that the long axis of that organ lay almost vertically in the median line. The tumour lay anteriorly and posteriorly in relation to the corresponding aspects of the left thorax, the left lung being displaced upwards; its lower border covered the upper third of the tumour. There was a distinct sac consisting of peritoneum and pleura in immediate union, no muscular, tendinous, or fatty tissue lying between them. The neck of the sac lay in the left leaflet of the diaphragm an inch to the left of the oesophageal opening; it was oval in shape, admitting three fingers; its borders were thick, very sharp-edged, and free from any pathological changes in its tissues; in fact it was clearly of congenital, not traumatic, origin. The sac contained a portion of the stomach, which at the *post mortem* examination could not be reduced either by pressure from the thoracic side or by traction from below the diaphragm. After thirty hours' immersion in formol, the hernia could easily be reduced and replaced. The stomach had undergone torsion and other prejudicial changes described in the report.

(40) Treatment of Actinomycosis.

Bevan (*Annals of Surg.*, May, 1905), who reports 6 cases of actinomycosis which he has recently had under observation, states that treatment is of absolute and demonstrated value in this disease. It should consist, in the first place, in the opening of the focus and in drainage, and in the second place in removal by a sharp spoon of the granulation tissue produced by the lesion. The fungi remaining in the tissues should be destroyed by nitrate of silver in stick or solution, or by iodine. The drainage should be maintained by iodoform packing. Iodide of potassium should be used either internally or as a 1 per cent. injection introduced into the tissues surrounding the focus. The drug, it is suggested, may be given in interrupted doses. It may be administered for a week and its use be discontinued then for three to five days. This practice is based on the theory that the spores are more resistant than the adult thread forms, and that when the drug is not given the spores find an opportunity to develop into the adult forms, which are more easily destroyed by the iodide. The *x* rays, it is held, are of distinct value in the treatment of actinomycosis. Some experiments made by the author and two assistants showed that the rays liberate free iodine in solutions of iodide of potash, and he believes that it is fair to conclude that given a patient suffering from actinomycosis, who has been freely dosed with iodide of potassium, the exposure of the local lesion to the *x* rays favours to a considerable degree the liberation of free nascent iodine. The author states that he has obtained apparently striking results from this combination of therapeutical methods.

MIDWIFERY AND DISEASES OF WOMEN.

(41) Ovariotomy at Extremes of Life.

Wiel (*Johns Hopkins Hosp. Bull.*, March, 1905) surveys the frequency of occurrence of ovarian tumours and the results of ovariotomy in patients under 10 and over 70 years of age. He reports a case in a girl aged 5, who fell from a window three and a half years previously, and shortly afterwards complained of pain, severe at first but gradually diminishing, during eighteen months. Two months prior to admission a swelling above the pubes appeared, followed by a white vaginal discharge, which had become blood-stained during the last eight days. A multilocular ovarian cyst and a uterus in antiflexion was diagnosed, and a left salpingo-oöphorectomy was performed. The tumour of the left ovary was about the size of a large cocoanut, and was encapsulated, and contained a large cyst, with several smaller ones, in its walls. Microscopically, this proved to be an adenocarcinoma of the ovary, but the carcinomatous arrangement was only to be found at the advancing edges of the growth. Although malignant, the tumour was extremely localized, and there was no sign of involvement of anything but the ovary and tube. Three months after the operation there was no sign of recurrence. From the study of statistics age appears to be no contraindication to operation, the prognosis being most favourable in the aged. Malignant tumours are more common in the young than in the aged, thus accounting for the greater mortality in the former. Multilocular benign cysts occur most frequently in old people,

while dermoids and sarcomata are the most frequent in the young.

(42) Bowel Strangulated in Pregnancy by Adherent Appendix.

RUDAUX AND CHARTIER (*Comptes Rendus de la Soc. d'Obst. de Gyn. et de Pédiat. de Paris*, March-April, 1905) report that a woman, aged 27, was recently admitted into a hospital in Paris in a moribund condition, dying within a few minutes. The abdomen was extremely distended, the integuments cyanosed, and the mouth and nares stained with a black fluid. A four months' fetus had been expelled about two hours before admission. It transpired that this pregnancy, the patient's third, had continued normally until two days before death, when intense abdominal pain set in without any premonitory signs. Threatened abortion was suspected, but vomiting set in, and the patient grew so exhausted after the expulsion of the fetus that she was sent to the hospital. At the necropsy acute peritonitis, widely diffused, was discovered, and a coil of intestine, the last few inches of the ileum, was seen to be strangulated by a tight circular band. The coil was deep violet in colour and at one point, midway between the limits of strangulation, it had yielded through ulceration and its contents had escaped into the peritoneal cavity. The strangulating band consisted of the vermiform appendix which encircled the intestine and was fixed by an adhesion to the mesentery just at the point where it was continued downwards into the meso-appendix. Rudaux and Chartier rank this case under the head of paragravidic intestinal obstruction, of which Gauchery could only collect 62 cases, out of which none were due to the mechanical cause observed in this case.

(43) Perforating Gastric Ulcer Simulating Puerperal Fever.

GMINDER (*Zentralbl. f. Gynäk.*, No. 15, 1905) attended a woman, aged 23, supposed to be suffering from puerperal fever. She had been delivered a week previously of her second child, unaided except that a midwife was present and twice made an internal examination. She presented all the signs of very severe septic peritonitis, temperature 105°, pulse 160. Vomiting and diarrhoea set in, yet the patient lived on for a fortnight, when acute haemorrhage from the rectum occurred. About 4 pints of fetid old clot were passed, and ten hours later fatal haemorrhage took place. It was naturally believed that sepsis had been caused by the midwife, and that a septic gastric ulcer had developed and given way. At the necropsy two chronic gastric ulcers, one anterior and one posterior, were detected; they adhered to adjacent structures and a big retroperitoneal cavity full of fetid pus had developed. Lastly, secondary perforation of the duodenum from without inwards was detected.

(44) Hydronephrosis in Pregnancy.

LEOPOLD (*Zentralbl. f. Gynäk.*, No. 14, 1905) reports a case where a primipara, aged 28, was attacked by severe pains in the left side during the fifth month of pregnancy. About a month later she came under Leopold's care. A tumour with the physical signs of a cystic kidney or ovary lay to the left of a gravid uterus. The pulse was 100, the temperature over 99°, the urine free from albumen, but with excess of phosphates. No casts were to be found in the deposit. An exploratory incision was made, as the pain tormented the pregnant patient, and a large hydronephrosis was discovered; the sigmoid flexure passed down its capsule. Removal of the kidneys was deemed inadvisable, especially under the circumstances; the cystic kidney was therefore simply tapped, and 5 pints of a dirty-brown fetid fluid came away. The puncture in the wall of the cyst and the corresponding wound in the capsule were carefully closed and the kidney replaced. On the twelfth day premature labour set in, the child and the placenta being expelled spontaneously. Recovery was retarded by suppuration of a suture track in the abdominal wound. Gradually all pain in the left loin passed off, and therefore no further operation was attempted.

THERAPEUTICS.

(45) X-ray Treatment in Leukaemia.

BOZZOLO (*Gazz. degli Osped.*, April 4, 1905) gives his further experience of the above mode of treatment in leukaemia, whether splenic or medullary in type. In the present communication he is chiefly concerned with the effect in cases of relapse, cases which had already improved under *x*-ray treatment, but had slipped back on the cessation of treatment. He is fortunately able to report that even in relapses the *x*-ray applications were able to act promptly and speedily in bringing back the blood to its normal condition and improving the general condition of the patient. It was frequently noted that although the patient appeared quite well in his general health, and the spleen much reduced, yet the blood condition still showed pathological alterations, and in these cases the *x* rays soon reduced the percentage of leucocytes and increased the haemoglobin. The state of the blood in all these cases was liable to considerable fluctuation from time to time. It is not certain as to the exact way in which the *x* rays act in these cases of leukaemia or pseudo-leukaemia, but probably the rays first exercise a specific action on the follicles of the spleen, and later on the bone medulla and splenic pulp tissue. In those cases where up to now the only satisfactory treatment has been removal of the spleen, an alternative treatment is clearly suggested by the application of *x* rays. In medullary leukaemia splenectomy is useless.—Higham Cooper, in referring to a case of leukaemia treated by him with the application of *x* rays (*Med. Electrol. and Radiol.*, March, 1905, p. 68) has collected a number of similar cases from current literature. In his patient, a woman of 29, there was considerable reduction in the size of the spleen after three weeks' treatment. The splenic area and the ends of the long bones were exposed for ten minutes three times a week, using a regulator tube with 4-in. spark gap, and 20 volts 5 ampères on the primary. There was a slight inflammatory reaction, and treatment was discontinued. The leucocytes were reduced from 62 000 to 8,500; the red corpuscles remained about the same in number. The other cases he alludes to are one by Rhode of Copenhagen, in which before treatment the leucocytes were 236,000, the red corpuscles 2,500,000, and the haemoglobin 40 per cent., with the spleen reaching to within an inch of the iliac crest. After a month's treatment the leucocytes were 7,200, the reds 4,000,000, and the haemoglobin 60 per cent. At the end of the second month the leucocytes were 4,000, the haemoglobin 70 per cent., and the spleen of about normal proportions. Of two cases by Hynek only one improved; the leucocytes in this, after five months' treatment, fell from 234,000 to 7,582, and the spleen was greatly reduced in size. He refers to the two cases of Joachim and Kurpjweit, already described in the EPITOME of the BRITISH MEDICAL JOURNAL, March 4th, 1905, p. 36. In a case reported by Wendel the leucocytes fell from 56,000 to 16,000. In two cases by Bryant and Crane the leucocytes fell from 176,000 and 200 000 to 4,500 and 6,400 respectively, and the spleen in each case returned to normal proportions. In a case treated by Steinwand the leucocytes were reduced from 800,000 to 7,894. A favourable result was recorded in one case by Sena and in another by Maixner, a moderately successful one by Aubertin and Beaujard, and an unsuccessful one by Maixner.

(46) The Mechanical Treatment of Emphysema.

WOLF (*Wiener Klinik*, April, 1905) describes the mechanical measures which have been used to aid respiration in emphysema. The conditions to be dealt with are the lessened elasticity of the lung, the weakness of the respiratory muscles, and fixation of the thoracic framework. While a healthy man can exert an expiratory pressure of 100 to 150 mm. of mercury, in emphysema the figure is only 50 to 80 mm. The pressure exerted by the elasticity of a normal lung is about 18 mm. of mercury; hence the loss of this is not sufficient of itself to explain the great diminution of expiratory force, which must, therefore, be due to the other two factors. In the absence of any means of arresting or curing the degenerative changes in the lung tissue, treatment has been directed, first, to helping expiration by pressure on the chest wall during that phase: this may be applied with the hands, or by means of a special instrument, or by letting the patient breathe out into an artificially lowered atmospheric pressure. In these methods inspiration is not affected. Secondly, artificial respiration has been carried out by apparatus devised to help both the inspiratory and the expiratory process. Thirdly, exercises have been used to increase the power of the muscles used in each phase. Fourthly, an elastic shirt or corset has been worn to oppose inspiration while helping expiration. In reviewing these methods the author strongly recommends the last. He uses a vest composed of an elastic tissue, exerting pressure upon the lower part of the chest: by means of buckles the pressure can be varied. The vest is worn day and night. With this instrument the chest is kept in the expiratory position, in which the muscles of inspiration act at

the best advantage. The obstruction to breathing-in is found to have no drawbacks. On the contrary, it is in those cases in which weakness of the inspiratory muscles is marked that the best results are obtained, and the vest can be tightened as the muscles get stronger. The expiratory force and the expansion at each respiration can be shown by measurement to be improved, and the vital capacity may be increased from less than 100 up to 900 c.cm. of air, the normal being about 500. The dyspnœa is lessened and the patient enabled to return to work, provided it be not of too severe a character. The treatment is not suitable when there is almost complete fixation of the chest wall.

(47) Clinical Experience of Pneumococcic Serum.

It has been known for a considerable time that animals who have recovered from an attack of pneumococcus infection are more or less immune toward a fresh infection. Based on this fact, Roemer prepared a pneumococcus serum, for which he used a number of various cocci cultures, and which he gained from a number of different animals. This polyvalent serum could be expected to produce antibodies in the human organism, which would be active against the pneumococcus. Knauth has been impressed with the results which have been obtained in pneumococcic infections of the cornea, and therefore determined to try the effect of the serum on cases of croupous pneumonia (*Deut. med. Woch.*, March 23rd, 1905). He gives the clinical histories of 7 cases treated in this way. In summing up his experience, he says that the serum has proved to be quite harmless and free from danger. There is no inflammatory reaction in the site of injection, and no rash, renal disturbances or other disagreeable side-effects have been noticed. Shortly after the injections the pulse, respiration, fever, and general appearance and condition are favourably influenced. The sputum loses its rusty character, and even in cases when it was pure blood becomes free from blood. The patients become much less ill, and are able to take interest in their surroundings within a very short time. The fever does not stop suddenly, but as a rule there is a lytical fall of temperature unaccompanied by collapse. But little sweating usually takes place as the temperature falls. In all, he is favourably impressed by the results which he obtained by this serum.

(48) The Treatment of Consumption.

W. Hutchinson (*Med. Rec.*, April 29th) says that we have learned by experience that we must practically ignore the bacillus in our treatment of the consumptive, and that we are coming to the same point of view in regard to the lungs. Among the reasons for letting the lungs alone in treatment is the fact that very few remedial measures at our command have any specific action whatever on the lungs, and it is being more and more clearly recognized that consumption is not, properly speaking, a disease of the lungs, but is merely a local (pulmonary) expression of a disease which involves the entire system. We have no tonics or alteratives which will improve the nutrition of the lungs, and even the expectorant drugs have been proved to be lacking in the virtues formerly ascribed to them. Sprays, etc., are ineffectual in reaching the bronchi, and in most cases the so-called pulmonary gymnastics and exercises serve simply to drive the infectious material deeper into the hitherto uninvaded areas of the lungs. The author has already shown that the chest of the consumptive is round instead of flat, and that exercises intended to develop the chest as such do harm instead of good. Bodily exercise of any kind is now believed to be distinctly injurious, and absolute rest is indicated in any case in which the afternoon temperature rises above 100°. Researches by Robin and Binet made over four years ago on the actual gaseous interchange in consumptives have shown that the tuberculous patient consumes a much greater amount of oxygen and gives off more carbon dioxide in proportion to his body weight than the normal individual. In short, it would appear highly probable that the tuberculous patient is to be regarded in the light of one who is pouring nearly half the heat of the fuel which is burned in his body furnace up the chimney, in the form of smoke. That the food which he takes, instead of being assimilated and decomposed by anaërobic processes in the body cells, is burned in the blood and in the lungs. Any means, therefore, which will tend, so to speak, to clog the throat of his chimney and prevent this fatal escape of heat and energy, whether by drugs like creosote, iodoform, cod-liver oil, and arsenic, or by pouring in an enormous quantity of food rich in heat value, will tend to restore the balance of gaseous interchange and enable him to return to the normal.

(49) Protective Vaccination with Diphtheria Antitoxin.

J. Ibrahim (*Deut. med. Woch.*, March 16th, 1905) deals with the protective injections of diphtheria antitoxin against diphtheria. The immunizing action of this antitoxin has been shown since 1903 to be certain, but it has the characteristic that it does not last for much more than about three weeks. In order to test how far this immunity could be put to practical use, the author has carried out a large number of immunization injections on children in hospital, and finds that his results are such that he can draw conclusions from them. He divides his observations into various headings: first, he employed it on the brothers and sisters of patients admitted into hospital suffering from diphtheria. These were injected in their own homes, and he found that in not a single case of an immunized child did an infection take place. Secondly, he injected the children in the ward where diphtheria turned up accidentally. These cases of hospital infection are usually the starting point of small or large epidemics, but in the case of the injected children no further infection took place. Thirdly, he further used it in cases of mixed infection. Here the other children were immunized as soon as it was found necessary to admit a child suffering from diphtheria and measles or diphtheria and scarlatina, into a measles or scarlatinal ward. One patient thus immunized developed diphtheria, while all the others escaped. Then he admitted some children into diphtheria wards, who were not suffering from this disease, and immediately immunized them. In some cases the children were sent to the hospital as being cases of the disease, while in others there was no suspicion of this. He strongly recommends a repetition of the immunizing injections when a child is kept for any length of time in such a ward. In no case did he experience an infection. Wherever a case of diphtheria breaks out in the presence of other children, and especially where there are a number of them, one should carry out the prophylactic injection. This applies for all children under 12 years of age. The dose should be between 250 and 300 antitoxin units, which even infants stand well. His experience tends to show that it may be necessary to repeat the prophylactic injections every fortnight, when measles children are exposed to diphtheria infection, but in other cases every three or four weeks will be found to suffice.

PATHOLOGY.

(50) Cerebellar Localization.

Pagano (*Arch. Ital. de Biol.*, vol. xlii, 1905, p. 139) has endeavoured to establish further details as to the localization of cerebellar functions. His experiments have been conducted upon dogs. The bone is exposed over the area which he wishes to excite, and a small crown is removed by trephining; the dura mater is then pierced by a very fine needle, and from one to two tenths of a cubic centimetre of a 1 per cent. solution of curare are injected; the external wound is then closed as rapidly as possible. The operations are generally performed without an anaesthetic, in order to avoid any complicating factors. When the experiment is ended the exact site of the inoculation is confirmed by *post-mortem* examination. Pagano appears to consider his method of employing curare as a stimulant to be a valuable improvement upon the electrical methods of stimulation which are usually adopted. As the result of his experiments he finds that the cerebellum is not homogeneous in function, but, like other nervous centres, exhibits different modes of activity which are located in definite and distinct situations. It is possible to establish a genuine and specific motor region; some of the centres in this region he has already established, and others are in course of determination. The motor elements are not, it appears, situated on the surface of the organ, as is the case with the cerebrum, but are more deeply placed. Moreover, there are certain areas also capable of definite location, the stimulation of which has as its constant result a psychic exaltation; the region which is particularly characterized by the possession of these psychical functions is the anterior part of the vermis. When this region is stimulated the animal becomes suddenly furious, violently endeavouring to attack real or visionary objects, and exhibiting an aspect of extreme anxiety and terror; sensory excitability is raised, and the slightest stimuli, particularly stimuli to the auditory sense, provoke a violent paroxysm of this delirious condition.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

(51) Myelitis due to Tuberculous Toxins.

NERVOUS complications of pulmonary tuberculosis, especially neuralgias and peripheral neuritis, have been described by many authors. Clément (*Lyon Méd.*, March 12th, 1905) records six cases of tuberculosis, in which the symptoms pointed to lesions of the nerve roots and the spinal cord. More than twenty years ago he saw the combination of pulmonary and spinal-cord involvements for the first time. The patient suffered from early phthisis with haemoptysis, as well as from agonizing lightning pains. Examination showed loss of the patellar reflexes, the Argyll-Robertson pupil, and slight plantar dysaesthesia. The lung trouble had subsided, but the tabetic symptoms are the same as they were 20 years ago, the lightning pains making life almost unbearable, without any sign of onset of the ataxic stage. In four other cases the nerve symptoms and signs were tabetic, the lightning pains being the chief symptom, and loss of reflexes with the Argyll-Robertson and Romberg's sign being found on examination, and in all the tendency of the nerve symptoms has been to remain stationary, and, except in two cases in which death occurred rapidly, the lung trouble had also evolved slowly. In fact, it was easy to overlook the pulmonary tuberculosis at first, since the patients as a rule sought treatment for the pains in the limbs. In the sixth case advanced lesions of the lungs and larynx were associated with symptoms and signs of disseminated sclerosis. Of course this may have been pure coincidence, but Clément believes that the tuberculous toxins produced the patches of sclerosis.

(52) Plastic Linitis.

PLASTIC linitis, or induration of the stomach, is rare, and would seldom be described if all cases of diffuse sarcoma or carcinoma of the gastric walls could be excluded. Roux (*Rev. Méd. de la Suisse Romande*, January 20th, 1905) reports the following case: A coachman, aged 33, was admitted to hospital on June 24th, 1901. He had been in good health until September, 1900, when he began to suffer from gastric distension immediately after food, acid eructations, and a sensation as though the passage of food were obstructed. Appetite was good. A stay in his native country produced great, though temporary, improvement; but on January 15th, 1901, he began to vomit after each meal. If food were retained for any time, it produced a sensation of gastric oppression, which was relieved when vomiting occurred. The returned food was undigested. He became greatly emaciated, though his appetite remained excellent. There was no melaena, haematemesis, or pyrosis. The haemoglobin was 75 per cent., and the red lips contrasted with the pallor of the skin. The abdomen was retracted. It was difficult to palpate the epigastrium on account of rigidity of the recti muscles, especially on the right side. Traube's semilunar space was extremely tympanitic. After a test meal the total acidity of the gastric juice was 4·6 per mille. Free HCl was absent, and there was much lactic acid. On inflation the outlines of the stomach were not visible. A diffuse, inoperable tumour was suspected. Laparotomy was performed on June 26th, 1901. The stomach was small and rigid, and the pyloric portion was grooved by a number of irregularly-placed circular indentations, which resembled those on certain Bologna sausages. It was hard, and appeared to be solid, though a stomach tube could be felt indistinctly to be arrested at about the middle indentation. The superior (cardiac) half of the stomach, though less indurated, was extremely thickened. Total gastrectomy was precluded by the condition of the walls and the numerous adhesions about the cardiac end. Anterior gastro-enterostomy appeared to offer the best chances, and to be the only possible procedure. The peritoneal coat was thin. The muscular coat, however, was more than 1 cm. in thickness at its thinnest part. It was friable, of a colour resembling chamois leather, and traversed by dense whitish strands of connective tissue. In places there were yellow, fatty patches. On opening the mucosa a greenish, bilious fluid, which contained remnants of food and a cherry-stone ingested three or four days previously, escaped. The mucosa was blackish, haemorrhagic, smooth, and friable, and appeared to be superficially ulcerated. The introduction of a finger revealed that the interior of the stomach presented no trace of the circular folds present on the surface. Towards the pylorus the finger completely filled the lumen. Owing to the mobility and looseness of the mucous membrane of the coil of jejunum selected, there was no difficulty in approximating the mucous membranes. The opening, after completion of the sutures, easily admitted two fingers. After the operation there was great collapse, but with the constant hypodermic administration of stimulants, etc., the man rallied. On July 11th the wound had healed, and on August 2nd he was discharged, having gained more than 11lb. He was in good health in the spring of 1904.

(53) Pulsating Exophthalmos.

PULSATING exophthalmos is not common. Plenk (*Wien. med. Presse*, March 5th, 1905) reports a case in which a man was struck on the left side of the head by a piece of timber. There was haemorrhage from the mouth, eyes, nose, and ears, and he laid completely unconscious for a month. On regaining consciousness he was blind and deaf on both sides. Vision and hearing gradually returned on the right side, but on the left he remained completely deaf, and almost blind. There were occasionally diplopia and a noise resembling that of a steam-engine in the left temple. The left eye and upper lid became prominent and formed a tumour of the size of a hen's egg. On stooping this became more marked, and there was great vertigo. He was admitted to hospital in July, 1904. The skull was normal and there were no depressions or scars. The left temporo-maxillary articulation was tender and mastication was possible only on the right side. The left eye was prominent and slightly displaced outwards and downwards, though the globe was rotated inwards. The cornea projected one-fifth of an inch beyond a line joining the upper and lower orbital margins. Movement of the globe was completely absent in an outward direction and greatly restricted internally. The lower lid was normal, and on the same level as the right. There was slight ptosis of the left upper lid. That portion situated above the tarsus was displaced forwards by a soft, compressible, pulsating tumour of the size of a bean, which internally extended upwards to the level of the eyebrow. On either side of this swelling was a dilated vein. The eye could be closed without difficulty. There was visible and palpable pulsation, both of the tumour above the lid and of the globe of the eye. The prominent parts could be reduced into the orbit, but as soon as pressure was relaxed returned to their former size and position. If the left common carotid artery were compressed, the globe returned almost to its normal position, the tumour of the upper lid and the pulsation disappeared and the dilated veins faded. With a stethoscope on the globe a continuous, blowing murmur, which was reinforced at each systole, was heard. The same murmur was audible, though more faintly, over the left temporal and parietal bones. It ceased both subjectively and objectively if the left common carotid were compressed. The left retinal veins were wide and exceedingly tortuous; there was no pulsation in the retinal arteries. The left optic disc was blurred, especially on the inner side. Vision on the right side was normal; on the left fingers could be counted at 2 metres. The thyroid gland was not enlarged: hearing on the right side was normal, but on the left was absent. The upper and anterior quadrant of the membrana tympani was hidden by an exostosis, and the lower anterior quadrant contained a circular cicatrix. Sensibility of the left half of the head, neck, and thorax above the nipple was diminished compared with that of the right side. The patellar reflexes were exaggerated and the corneal diminished. There were mental hebetude and depression. He was treated by digital compression of the left carotid artery, and the exophthalmos decreased slightly. But there was progressive deterioration of vision on the left side, and on September 16th there was bare perception of light. Operation was refused. Thus, the three cardinal symptoms of pulsating exophthalmos (exophthalmos, murmur over the orbit and side of the head, and pulsation of the globe) were present in this case. The cause was evidently a traumatic arterio-venous aneurysm between the internal carotid artery and the cavernous sinus. There had been fracture of the base of the skull. The sixth nerve was injured, but the fourth and seventh nerves escaped. The deafness was probably due to concussion of the labyrinth and the diminished sensation on the left side to a post-traumatic neurosis, as the motor branches of the fifth nerve were normal.

SURGERY.

(54) Arrest of Osseous Development and Exostoses.

Lenormant (*Rev. d'Orthop.*, No. 3, 1905) directs attention to the frequent association of developmental abnormalities—such, for instance, as shortening and curvature of the bones, with both multiple exostoses and multiple chondromata of the skeleton. Considering, in the first place, the instances of bony growths, he states that multiple osteogenic exostoses are, in a very great majority of cases, accompanied by arrests of growth affecting several bones without there being a constant relation between the shortening of any individual bone and the number of exostoses with which it is connected. When this arrest of growth affects a considerable extent of the skeleton, its most frequent manifestations are: A reduced stature, disproportion between the shortened limbs and the normal trunk, and asymmetry in the length of homologous limbs. In cases in which the arrest of growth is more localized the bones that seem to be preferably involved are the ulna and the fibula. In these bones the shortening is, after a time, associated with abnormal bending of the shaft, and with articular lesions. Localization in the ulna, with its consequences—adduction of the hand and luxation of the head of the radius—is very frequent, and may be regarded as the most characteristic type of the association of disturbed growth with multiple osteogenic exostoses. The author's study of cases of multiple chondromata in association with a wide disturbance of osseous development has led him to the conclusions that: (1) Chondromata of bone, especially in the fingers and toes, may be accompanied by arrest of growth not only in the bones affected by the new growths, but also in other bones of the limbs; (2) these disturbances of normal development are as a rule localized in the different bones of the limb which is the seat of the cartilaginous tumours; (3) shortening, either isolated or predominant, of the ulna, occurs quite as frequently in cases of multiple chondromata as in cases of multiple osteogenic exostosis, and leads to similar changes in the relations of the two bones of the forearm, and in the neighbouring joints. In summing up the results of his study of this association of local osseous and cartilaginous new growths with general interference with the normal development of the skeleton, the author states that the latter is not due to rickets. This malady may be a cause of the associated lesions in some rare cases, but then the osseous deformities present a special type which will enable the observer to attribute them to their true cause. Multiple osteogenic exostoses and chondromata are not, it is held, the direct causes of the arrest of growth in different parts of the skeleton. The two lesions are associated, and not dependent the one on the other. They are two different manifestations of the same disturbance of primary development. The common starting point of the exostosis, probably of the chondromata also, is an abnormal and faulty evolution of osteogenesis, resulting at some points in premature ossification or, at least, in a functional defect of the epiphysial cartilage, at other points in an isolation in the midst of new-formed osseous tissue, of cartilaginous islets which in course of time either become exostoses, or proliferate without undergoing any modification of structure, and so form chondromata. In the same number of the *Revue d'Orthopédie* an interesting case is recorded, by permission, of multiple exostoses associated with scoliosis and different forms of arrest of development in the limbs, in which case there was no evident sign of rachitism.

(55) Transthoracic Resection of the Oesophagus under Negative Air Pressure.

Willy Meyer (*Ann. of Surg.*, May, 1905) publishes his personal experience at Breslau of Sauerbruck's method of performing intrathoracic operations under negative air pressure. A detailed description, with illustrations of the German surgeon's box or chamber, will enable English readers to form a clear idea of his apparatus, and of his plan of excluding the injurious effect of pneumothorax in operations on the chest. Von Mikulicz, who has performed experimental operations on dogs with the help of Sauerbruck's chamber, whilst satisfied with the way in which he was able to gain access to the oesophagus in intercostal thoracotomy, was of opinion that the avoidance of pneumothorax does not eliminate all obstacles in the way of success in operating on this canal. The oesophagus, especially its upper part, will not stretch, and hence even simple division and reunion of the cut ends is not easily accomplished. Resection of the lower part of the canal offers much less difficulty, as the cardiac portion, as well as the fundus of the stomach, can be elevated sufficiently to make up for defect caused by the resection. To the author of this paper there does not seem to be any valid reason why the same good results that have been obtained in the dog should not be obtained in the human subject. It is stated, however, that the few resections (three in number) of the oesophagus practised on the human subject within Sauerbruck's chamber at the Breslau Clinic have resulted in death. Sauerbruck has recently perfected the technique of the operation, and described methods of establishing anastomosis between oesophagus and stomach and of resection of the oesophagus which have been successfully practised on dogs and also tried on the human cadaver. The principle demonstrated by Sauerbruck's researches is that rhythmical artificial charging of the lungs with air, corresponding to normal respiration, as has been long done by physiologists, is not necessary to continue respiration with the thoracic cavity opened, but that spontaneous respiration goes on regularly and uninterruptedly, if a pressure difference is maintained between the air entering the bronchial tube and that to which the pleural cavity is exposed. This normal respiration, it is pointed out, will go on without interruption even if the greater part of the thoracic wall be resected. The principal point in connexion with intrathoracic operations at the present time seems, according to Willy Meyer, to be the question as to whether negative or increased air pressure should be employed. Brief reference is made to the different methods of effecting this increased pressure within the air passages and the lung. There are many serious objections to each of these methods, but the author concludes that if any intrathoracic operation could be done as well and as safely on the whole under increased air pressure, this adjunct would seem to deserve the preference from a clinical as well as financial standpoint. At a recent meeting of German physiologists there was an overwhelming majority in favour of negative pressure for intrathoracic operations, on the ground that here the physiological conditions remain undisturbed, while in the increased pressure methods the alveoli of the lungs are necessarily much distended.

MIDWIFERY AND DISEASES OF WOMEN.

(56) Lingering Labour from Short Funis.

Mantel (*Ann. de Gyn. et d'Obst.*, April, 1905) made observations of two labours in one patient where there was delay in the first stage due to relative shortness of the cord. In neither instance was the shortness extreme, but in both another agency involved more shortening. In the first labour the funis measured 11¾ in., but was inserted marginally on the uppermost limits of the placenta. In the second labour the insertion was central, and the placenta was inserted on the fundus; the cord only measured 9¾ in. In both labours the head receded markedly after each pain, and there was total absence of any desire to bear down. The head and body, held back by a short cord, made practically all the shorter by its insertion, remained for long as though suspended in the uterine cavity, only resting on the pelvic floor during contraction and bearing down. To this absence of contact between the pains Mantel attributed the absence of any desire to bear down. In the second labour, where the insertion of the placenta was so high and the cord at the same time absolutely short, there must have been considerable danger of inversion. In neither labour was the cord twisted round the fetus.

(57) Ruptured Tubal Pregnancy with Jaundice.

Berndt (*Monatsschr. f. Geb. u. Gyn.*, February, 1905) operated upon a woman, aged 34, with symptoms of internal haemorrhage about two months after cessation of the period. For five or six weeks she was confined to her bed with frequent vomiting, loss of appetite, steadily-increasing jaundice, and emaciation. She was naturally a sickly subject. Berndt observed that the jaundice was very deep, with bile-stained urine but coloured faeces. On percussion there was dullness and fluctuation in the dependent parts of the abdomen, and there was abnormal deposit in the pelvic cavity, so that the outline of the uterus could not clearly be defined. At the operation nearly three and a half pints of fluid blood were found in the peritoneum and the pelvic cavity was full of old clot. A three months' fetus was found under coils of ileum; it had developed in the left tube. The tubal sac was excised and the wound closed

after the blood and clot had been carefully cleared away. Six days later no trace of the deep jaundice remained, except slight sallowness of the conjunctivae. Half a year after the operation she was in blooming health. Martin, in a discussion as to the cause of jaundice, stated that he had met with a similar complication quite recently. The ectopic pregnancy was of about six weeks' standing. The patient was deeply jaundiced, a typical haematocele could be defined in association with a tumour of the size of a cocoanut. The operation was void of any peculiar difficulties, and by the second day the icterus had disappeared.

(58) Appendicitis in Pregnancy.

SCHOEMAKER (*Zentralbl f. Gynäk.*, No. 19, 1905), in a discussion on this subject before the Netherlands Gynaecological Society, stated that he had attended 150 cases of appendicitis; 80 of these were in female patients and in 2 the patient was pregnant. Both these cases fared badly. The first patient had symptoms of appendicitis in the fifth month; five days after the first attack of pain, as a relapse occurred, Schoemaker operated. He opened a large abscess near the appendix: the patient died of sepsis. The second patient had also been ill for five days before he was called in; her general condition was very bad. He removed a gangrenous appendix; there was a small abscess connected with it. The patient aborted, and then a retro-uterine abscess developed and opened into the rectum. Convalescence was slow. Pompe van Merdervoort twice removed the appendix for habitual abortion. There was difference of opinion about the treatment of appendicitis in pregnant women. Treub held that the fact of pregnancy did not call for operative interference where surgical indications were absent.

(59) Hysterectomy for Fibroid without Anaesthetics.

MADLENER (*Zentralbl f. Gynäk.*, No. 15, 1905) recently exhibited before a medical society two fibroid uteri which had been removed by supravaginal amputation without narcosis. Both patients suffered from advanced heart disease aggravated by the presence of a tumour which caused profuse haemorrhage. One patient was 36 years old and a multipara; the second, 48 years of age, had borne five children. Both begged for the removal of the tumour. The opening of the parietes was conducted under cocaine-adrenalin anaesthesia, but after that stage narcosis could not be maintained. In consequence the operation was very difficult, and there was constant prolapse of coils of intestine. Yet both cases recovered without any bad symptoms, and their health was greatly improved by the removal of the source of exhausting haemorrhage.

(60) Primary Cancer of Fallopian Tube.

ORTHMANN (*Zeit. f. Geb u Gynäk.* vol. xiv, Part 1, 1905), who was the first to describe a case of this disease, has detected a second. The patient was 49 years of age, and had passed her menopause just one year. She consulted the doctor for severe dysuria and obstinate constipation. No note was made of haemorrhages. On palpation a soft tumour of the size of a child's head was detected on the left side of the pelvis; it burst during exploration, and was immediately removed. The peritoneal cavity was full of bloody serous fluid, and a tubo-ovarian cyst, collapsed from rupture, was discovered and removed. The tube was the seat of papillomatous cancer; a few malignant warts had invaded the ovarian part of the cyst. About a year later Orthmann was obliged to perform an exploratory operation, as symptoms of recurrence had appeared. Great masses of malignant growth were found in the pelvis, and cancerous warts were diffused over the visceral and parietal peritoneum and the great omentum. The patient died shortly afterwards. Over 60 cases of primary cancer of the tube have been collected (Zangemeister, *Beit. zur klin. Chir.*, vol. xxxiv, 1902, and Doran, *Journ. Obstet. and Gynec.*, vol. vi, 1904, p. 285).

THERAPEUTICS.

(61) Radium in Dermatology.

STRASSMANN (*Archiv f. Derm. und Syph.*, t. lxxi, p. 419) has studied the clinical and microscopic effects of radium. In all forms of reaction the subjective troubles are slight, and even when ulceration is produced there is rarely pruritus or burning sensations. The author uses 10 mg. of radium bromide applied in several sittings daily. In 2 cases of lichen planus, after three sittings of five minutes daily, an inflammatory redness occurred round the papules. This persisted two weeks, but the eruption did not alter. This treatment was repeated three times, and finally the papules slightly diminished. In 3 cases of lupus erythematosus superficial ulceration was produced, leaving white cicatrices. In 12 cases of naevus 8 were improved or cured by four sittings of five minutes, with intervals of two days. In a case of naevus pilaris pigmentosus the hypertrichosis and naevus were modified favourably, and in the course of the third week the naevus disappeared, leaving a cicatrix. In another case, four sittings of five minutes, with an interval of two days, caused cure without erosion or cicatrix. In a case of acne rosacea, sittings of ten minutes caused superficial erosions in eight days and a cure in four weeks, with a subcutaneous cicatrix hardly visible. In cases of psoriasis the reaction and desquamation disappeared on the seventh day and the eruption in two weeks. In 19 cases of carcinoma in men and women, sittings of ten to twenty minutes were given every four or five days. Reaction ended on the fourteenth day; the ulceration became clean and soft, and the carcinomatous border disappeared, cicatrizing rapidly. In several cases glandular enlargement also subsided; 1 case was aggravated by the radium. In 17 cases of lupus vulgaris, treated by sittings of ten to fifteen minutes every other day, a subcutaneous cicatrix resulted in about seven weeks. In cases of sycosis, ringworm, and favus the results were not satisfactory. Microscopic examinations of the skin subjected to the action of radium showed that the first changes occurred in the blood vessels, and that epithelial reaction was secondary. The lupoid tissue excised three or four weeks after the reaction caused by radium presented the following lesions: Thrombosis of the vessels and proliferation of the internal coat; strings of connective tissue cells; masses of leucocytes around giant cells and encysted lupoid nodules. About five weeks later necrosis of the giant cells and epithelioid cells occurred with gradual absorption of the nodules.—Lassar (*Derm. Zeitschrift*, 1904, p. 407) reports a case of carcinoma of the tongue caused by radium. He uses only one milligram of radium applied daily for half an hour. Treatment should be suspended as soon as redness, swelling, and pigmentation occur, but after the first application the tissue acquires a greater resistance, and the sittings may be longer and more frequent.

(62) The Administration of Potassium Iodide.

M. HUHNER says (*Med Record*, April 1st) that potassium iodide should always be given in solution well diluted, and, if possible, never on an empty stomach. Milk is the best diluent. It is essential to have a perfectly pure preparation, as many of the bad effects ascribed to the drug are due to impurities. Strict attention to cleanliness of the skin by daily baths is necessary to prevent the skin eruptions otherwise caused by the decomposition of the iodine excreted with the perspiration by the fatty acids setting free iodine, which acts as an irritant. It is preferable to prescribe a 50 per cent. solution, of which two drops will equal 1 gr. of the drug, as the 100 per cent. solution is difficult to prepare, and as usually dispensed is under strength. Iodide of potassium is incompatible with alkaloids and the ordinary soluble metallic salts. Small doses may produce symptoms of iodism, while larger doses in the same patient may not have this effect. The drug should never be given in phthisis. Special plans of administration are described for syphilis, locomotor ataxia, chronic endarteritis, chronic endocarditis, asthma, nephritis, lead poisoning, rheumatism, neuralgia, etc., and the best methods of giving the drug to children are also indicated.

(63) Neuronal.

EULER (*Therap. Monatshefte*, April) has tried neuronal upon 40 cases in an asylum for the insane, and finds it less useful than previous publications have suggested. He has administered it in various forms of insanity, both intermittently and for continuous periods. He began with a ½-gr. dose, and found that only a few cases, and these chiefly women, were influenced by it; even for cases of sleeplessness larger doses were required. When excitement was present he gave as much as 3 gr. for a single dose, and 6 gr. for a daily dose. He found that the insolubility of the drug in water and its unpleasant taste were drawbacks. Many cases did not react to the drug at all; if a 2-gr. dose produces no result it is improbable that the patient will respond to an increased dose. Further a number of persons do not tolerate neuronal, which is unfortunate, as the rapidity of its action gives it a distinct advantage over other hypnotics. For instance, an epileptic who suffered from periodical attacks of excitement, during

which he was dangerous, became quiet after being given 2 gr. of neuronal, and slept in a quarter of an hour. In previous attacks the effect of large sedative doses had been delayed for an hour or more. Further, it was found useful as a preventive when he felt the attacks coming on. Several cases of dementia praecox, who, in spite of narcotics, were usually noisy, were given 1½ gr. and 2 gr. of neuronal; in a quarter of an hour they were quiet, and in half an hour they were asleep. Two readily-excited paralytics, after doses of 1 gr., were asleep in ten minutes and in fifteen minutes. The statement that it specially reduces the excitement of paralytics is not confirmed by Euler's investigation, nor did he find that it had any special effect upon epileptics. Indeed he administered 1½ gr. at each meal daily for several days to an epileptic without producing any result, and others who received 4 gr. did not sleep, although they remained quiet at night. He observed no diminution in the number of fits which they had. He points out that women take a smaller dose than men to produce the same effect, and that patients very rapidly become accustomed to it, and it has no further influence upon them. A case of mania took 1½ gr.; for two nights he slept well, on the third he was restless, on the fourth evening he had 2 gr. and slept three hours; on the fifth evening the dose was repeated without result. A case of paranoia took 1 gr. on the first day and slept six hours, on the second day he took 1 gr. and hardly slept for two hours, on the third he had 1½ gr. and slept all night, on the fourth day the same dose gave only broken rest, after the sixth day no further result was obtained. A number of the cases suffered from unpleasant results, five of the number vomited, three complained of nausea, two had diarrhoea, and four suffered from uncertainty of gait. In two cases where neuronal was tried for the relief of pain the result was negative. No cumulative effect was observed.

(64) The Treatment of Ankylostomiasis Anaemia.

O. Liermberger (*Berl. klin. Woch.*, April 10th, 1905) finds that our knowledge of ankylostomiasis, and especially of the therapeutics of the affection, has not advanced during recent times. The problem of attacking the disease where it occurs endemically has not yet been solved. Even the freeing the host of the parasites is by no means satisfactory, since the only active drugs which we possess at present are filix mas and thymol, and neither of these two are sure in their action, nor are they free from danger. He thinks that one does well to regard the affection from a symptomatic point of view, and that if one can influence the anaemia, which plays so important a part in the affection, one may be able to affect cures more readily. He therefore attempted to combat the anaemia in some severe cases by means of levico water. This water is a natural arsenic-iron water, which has a considerable reputation in the southern part of Austria. The cases affected six persons. The father was aged 51, the mother aged 48, one daughter aged 19, and three sons aged 23, 12 and 7½ years. This family went out to Brazil in good health, but after a year they noticed a loss of appetite, loss of strength and increasing paleness. Later the adult members soon found that they were no longer able to work and therefore returned home. Quinine and iron were first prescribed for the anaemia, but with no effect, and then it was found that the cause of the trouble was ankylostoma duodenale. Filix mas was given at the same time as purging with calomel. The 7½-years-old son took 1½ grams on three consecutive days, that is, 4½ grams in all, but two days later he died of increasing cardiac weakness. The 12-years-old son received 2 grams on three days, and suffered from a disturbance of vision, while the 23-years-old son, who took 3 gram doses, did not have any bad effects of the filix mas. The cases then came into Liermberger's treatment. He found the anaemia very severe in all 5 cases; the red cells in the worst case being under 1½ million per c.mm. and the Hb value down to 17 per cent. The changes were typical of chlorotic anaemia changes, the white cells not presenting any peculiarities, and there being no eosinophilia. The stools contained ankylostoma hominis, trichocephalus dispar, and larvae of anguillula intestinalis in each case, while 3 also had ascaris lumbricoides eggs. He did not feel disposed to continue the treatment with filix mas, and therefore sought another vermifuge which should be less dangerous. Having heard favourable accounts of a new preparation called taeniol, he sent for a supply, and in the interval before it arrived he started the anaemia treatment with levico water. The adults had previously taken this water, and as they had not complained of any unpleasant effect, Liermberger gave them four tablespoonfuls a day for the first two weeks, and after that five tablespoonfuls daily. The boy was given three tablespoonfuls. There was a considerable delay in the sending of the taeniol, and the patients, who were extremely ill, were kept on the anaemia treatment from July till October. The effect was extremely satisfactory. The diet of the patients is described as being very poor in iron, and the surroundings very unfavourable. But in spite of this, the blood changes gradually disappeared and the general condition improved steadily. During the course of the illness the eosinophile leucocytes increased considerably, in spite of the improvement in the blood. The author deals with the occurrence of eosinophilia in ankylostomiasis, which he regards as an expression of the direct action of the toxin on the bone medulla. The taeniol did its duty well, and displaced a very large number of worms. The author regards the action of the levico water as having worked wonders in all the cases, and, therefore, claims for it an important place in the treatment of worm parasitic affections in Middle Europe.

(65) Intratracheal Injections.

J. W. Gleitsmann (*Med. Rec.*, March 25th) considers that this method of medication deserves more attention than it has received. Judgement in the selection of cases is necessary, however, and though the method is useful in alleviating the dry cough in the beginning stage of pulmonary tuberculosis, and may at a later stage favourably modify the putrid secretions in this disease, a cure is not to be expected from the procedure *per se*. In bronchiectasis the injections are almost specific, and many, but not all, cases of asthma can be relieved in this way. Intratracheal injections are not to be recommended in acute inflammatory conditions, but they are most efficient in chronic tracheitis and bronchitis, while tracheal syphilis has been cured and fetid pulmonary gangrene has been favourably influenced. The vehicle should be a bland purified oil, to which may be added menthol in the proportion of 1 to 15 per cent., guaiacol and creosote carbonate from 1 to 2 per cent., etc. The laryngeal mirror is essential to the proper introduction of the cannula, which is preferably made of hard rubber and is used in connexion with the Hartmann ear syringe, holding 1 oz.

PATHOLOGY.

(66) The Regeneration of Nerves.

Oskar Schultze (*Verhandl. der physik.-med. Gesellsch. zu Würzburg*, Bd. 37, No. 7, 1905) says that for the explanation of nerve regeneration after injury two alternative theories have to be considered. According to the one, which is based on the doctrine of Wallerian degeneration, regeneration takes place through the development in the peripheral direction of the central portions of the old fibres; the peripheral portions of the severed nerves completely lose their typical elements, and merely serve as the path which is traversed by the newly-forming peripheral extensions of the central fibres. According to the alternate view, the peripheral portion of the severed nerve does not undergo complete disintegration, but plays an essential part in the regenerative process. Schultze is a supporter of the latter view. In the first place he points out, with regard to the preliminary degenerative processes which precede regeneration, it is a mistake to regard these changes as occurring on the peripheral side of the nerve only. On the contrary, this preliminary degeneration proceeds centripetally as well; it extends often to a distance of several centimetres, and in some cases travels right up to the central nerve cell. After the preliminary granular degeneration of the nerve fibrils and the disintegration of the medullary sheath the new formation of nerve fibres commences by the abundant mitotic divisions of the nuclei of Schwann. These fibres, which are at first without a medullary sheath, arise by a process of syncytial formation, which finds its counterpart in the corresponding stage which is observed in the embryonic development of nerve tissue. Regeneration proceeds by means of "the peripheral neuroblasts, the nuclei of which are the so-called nuclei of Schwann." The process of repair is therefore comparable to what takes place in the restoration of epithelium, glandular tissue, or muscle. "A nerve grows and regenerates itself just like a muscle." The theory of neurons must therefore be abandoned.

AN EPITOME
OF
CURRENT MEDICAL LITERATURE.

MEDICINE.

(67) The Summer Diarrhœa of Infants.

VOLPINO (*Arch. p. le Scienze Med.*, vol. xxix, 1905) reviews the work done on the various bacteria that have been already described as the causes of summer diarrhœa in infants; the majority are said to be either bacteria of the B. coli group or paracolon bacilli, or else B. coli communis of unusual virulence. His own work was done upon infants with the acute diarrhœa endemic in Turin during the summer months. Cultures of the bacteria in the faeces were made upon Drigalski's agar medium. In every case he found two bacteria: one the B. coli communis of Escherich, the other morphologically identical with it, which he names the B. enteritidis infantum. In half the cases other bacteria were found as well. B. enteritidis infantum is motile, does not retain the stain by Gram's method, resembles B. typhosus when grown upon agar, does not liquefy gelatine, forms little deposit in and no film on the surface of bouillon, does not produce indol, forms more acid than B. typhosus and less than B. coli in Petruschky's medium, coagulates milk with difficulty or not at all, and forms gas in either glucose or mannite agar. Inoculated into animals, it is much more virulent to them than is B. coli; given by the mouth in man, it produces diarrhœa with the characteristic green fluid motions. It gives an indifferent agglutinating reaction with the serum of infants suffering from acute summer diarrhœa. It may be found occasionally in the faeces of artificially-fed infants that have not got diarrhœa. The author believes it to be a variety of the paracolon bacillus, and thinks it is an etiological factor in the production of summer diarrhœa.

(68) Cushion Diseases.

J. D. POTTS calls attention (*Med. Record*, June 10th) to the harmfulness of soft, warm, cushioned seats, which he considers productive of certain disorders of the perineal region. Through modern custom cushioned chairs, padded with hair or wool, and covered with some impervious material, have come into universal use, and the tubera ischii no longer perform the function for which they were provided. The warmth of the perineal structures in contact with the cushions is increased and the function of the sudoriferous follicles and sebaceous glands is stimulated to greater activity. The inability of the secretions to escape by friction or evaporation must sooner or later result in maceration and exfoliation of the epithelial layer. Since it is a well-known fact that the epithelial layer is the protective one, it may easily be inferred that infection by some one of the ever-present pathogenic bacteria will result as soon as its integrity is broken. Depletion of the blood vessels of the parts while under pressure must be followed by more or less congestion. Deranged nutrition ensues, and the foundation of many disease processes is laid in the injured parts. The author has observed three classes of diseases in which he regards the soft cushions as the chief etiological factor. The first of these has its seat in the integument, or beneath the integument of the perineum and perineal regions, and embraces such diseases as eczema simplex, eczema marginatum, intertrigo, erythema simplex, pruritus ani, and tegumentary and subtegumentary abscesses. The second class has its seat in the mucous membrane and submucous tissue, and embraces such disorders as simple urethritis, simple proctitis, anal ulcers, etc. The third class has its origin in the blood vessels and glands, and includes such diseases as haemorrhoids, papillomata, adenomata, etc. Prophylaxis consists in the use of the old-fashioned hard-bottomed seat or one with a cushion so firm that the tuberosities cannot sink down into it. The treatment of the three forms of cushion diseases indicated is then described in detail.

(69) Late Traumatic Apoplexy.

PIERRE MARIE AND O. CROUZON record a case of late traumatic apoplexy, and point out the importance of the condition from a medico-legal standpoint (*Rev. de Méd.*, May 10th, 1905, p. 368). Reference is made to previously-recorded cases in which apoplexy followed a head injury, after a more or less lengthy interval—twenty days in the case of Bolhinger, seven days in that of Michel, eleven in that of Kob, four in that of Bruns, four weeks in that of Stadelmann, and twenty days in that of Remak. The case recorded by the authors was that of a cabdriver, aged 50, who in a collision was knocked from his cab and stunned. He was, however, able to pick himself up, and actually drove another fare for some distance, but he could not remember later any particulars as to this journey; he thought, for instance, that he had driven two men, but subsequent inquiry elicited the fact that his fare consisted of two women. He went home and complained of headache, which lasted several days, and was accompanied with sleepiness. At the end of five days, having remained in bed the whole of that time, he seemed better, but on waking on the sixth day he was found to have a right hemiplegia, with aphasia, and subsequently albuminuria, almost certainly due to organic kidney disease, was discovered, and eventually evidence of albuminuric retinitis was obtained. The mechanism of production of these late cerebral lesions, it has been generally admitted since the time of Trousseau, is a vascular rupture depending on *commotio cerebri* through the intermediation of a capillary thrombosis and a focus of softening. The authors favour the view of Jastrowitz and Langerhans, who maintain that the injury merely plays the part of an exciting cause in a person predisposed by reason of some vascular weakness, as from alcoholism, or, as in the present case, from Bright's disease. Confirmatory evidence of this position they believe to be afforded by the numerous recorded cases of post-traumatic neurosis in which arteriosclerosis has been found to be present. From the medico-legal standpoint the authors say, whatever be the individual predisposition, the part played by the injury is none the less capital. The medical man called in, to appreciate the respective importance of the different factors of the injury, should not forget that the nervous manifestions slowly supervening after an injury are not always functional, but may be due to an organic lesion seriously affecting the prospect of life, or at least that of resumption of work. The question, however, must be ultimately put, Are the nervous ailments due to the injury alone, or to the injury in conjunction with the bodily predisposition? In the latter case compensation for damages would only take effect in respect of the part played by the injury.

SURGERY.

(70) The Prevention of Shock.

ASSUMING that surgical shock is due to the functional impairment or even exhaustion of the vasomotor centres through afferent impulses set up by trauma, exposure, etc., G. W. Crile, (*Journ. American Medical Assoc.*, June 17th), discusses the means of its prevention, as well as that of haemorrhage, in various surgical procedures. Apart from the impulses mentioned, there are a number of important accessory causes to be reckoned with, he states, including psychic emotions, such as fear, haemorrhage, cold, acute and chronic infections, anaemia, cachexia, etc., and age and sex. One or more of these is met with in every case. In operation on the head he emphasizes the importance of giving particular attention to circulatory conditions, of reducing to a minimum the exposure and manipulation of the meninges and the brain, and of having as complete control of the blood pressure as possible. He has clamped the carotids in 41 cases without unfavourable effects, and thinks it a valuable method of controlling haemorrhage in certain cases, together with the head-up posture and the use of the pneumatic rubber suit. In laryngeal operations the danger of cardiac collapse can be avoided, he says, by previously giving a physiologic dose of atropin or by the local use of cocaine. In minor intrathoracic operations, when there is hampered respiration and seriously impaired circulation, Crile advises local anaesthesia, and if further measures are needed they can be carried out later, after the patient's forces are recruited, under surgical anaesthesia. The supreme importance of the respiratory action on the circulation must be kept in mind, as well as the danger of interfering with the large venous trunks. In abdominal operations shock is in direct ratio to the trauma and exposure. In all time-consuming, exacting technics, he advises, no special contraindication existing, the use of morphine-ether anaesthesia, ether during the abdominal incision and the exploration and development of the operative field, morphine alone with slight or no ether accessory during the technic proper, and ether again in closing the abdominal wound. The region around the diaphragm is much

more shock-producing than the lower abdominal tract, and he cautions the anaesthetizer against being misled by the expiratory moan in these upper abdominal operations and overdoing the anaesthesia. In anaemia, cachexia, and acute infections the available vitality must be most carefully estimated, and methods safely within its limits be adopted. The prevention of shock in operations on the extremities is narrowed down to two or three simple propositions: the minimum loss of blood and the least manipulation and force, and the "blocking" of the nerve trunks by intraneural injections of cocaine or eucaine. Crile summarizes his views as follows: "Every tissue and organ has a more or less individual shock-producing value, and must be individually considered. The amount of shock produced by a given trauma varies according to the amount and special quality of its nerve supply and the number and intensity of the afferent impulses originated by the injury or operation. Cocaine or eucaine may wholly 'block' these shock-producing impulses. When one or more of the accessory causes of shock are present, the highest possible tax is laid on the surgical judgement of the operator. A precise technic offering a minimum of exposure and trauma, grafted on a comprehensive grasp of all the factors entering into the operative consideration, are the ideals for which we must strive."

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(71) Treatment of Reflux of Bile into the Stomach after Gastro-enterostomy.

Cackovic (*Archiv für klin. Chir.*, Bd. 76, Hft. 4), in discussing the causation and treatment of peristent reflux of bile after gastro-enterostomy, refers to two of his cases, one of the anterior, the other of the posterior, operation, in which secondary laparotomy and intestinal anastomosis failed to afford any relief from this distressing result. This experience has led the author to the conclusion that in the operative treatment of bilious vomiting after gastro-enterostomy, caused by the so-called vicious circuit, the surgeon should not direct his attention exclusively to the seat of the anastomosis between the stomach and the intestine, but should also always examine the pylorus, with the object of determining whether the results of his first operation may or may not have been influenced by the condition of this part of the stomach. If the pylorus be found dilated or quite patent, it would be imperatively necessary, the author holds, to occlude the canal, as in no other way could the reflux of bile be arrested. The author sums up as follows his views with regard to the action to be taken by the surgeon in dealing with reflux of bile by secondary laparotomy: (1) To examine the pylorus, and if he finds it patent to close the canal; (2) to examine also the gastro-intestinal opening, and if he makes out clearly, or even suspects, obstruction here, to practise a Y-shaped intestinal anastomosis. This anastomosis, he states, should be established by bringing the two limbs of the intestinal loop together, and by closing one of these limbs by a purse-string suture. The portion to be thus closed should depend on the conditions of the intestinal loop. If both limbs be equally wide and permeable, the pyloric portion should be closed; but if one limb be narrower and less permeable than the other, or be twisted in consequence of its attachment to the stomach, this should be occluded, even though it be on the caecal side of the gastro-intestinal fistula.

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(72) Results of Secondary Neurorrhaphy.

Chaput (*Bull. et Mém. de la Soc. de Chir. de Paris*, No. 18, 1903) asserts that the unfavourable view held by many French surgeons concerning the results of secondary neurorrhaphy is not confirmed by clinical observation and by recent histological research. It has been proved, he states, that immediate reunion of a divided nerve, with rapid restoration of its function, may often be attained after secondary suture. Three cases are published in support of this statement, in one of which complete restoration of the sensibility and the movements of the hand followed in fifteen days suture of a divided ulnar nerve, practised after an interval of fourteen years from the date of injury. The author in each of these operations cut away the whole of the neuroma at the end of the distal segment of the divided nerve, but only a part of the larger bulbous swelling on the proximal segment. The remaining portion of this neuroma and the end of the proximal segment of nerve are then slit for a short distance, and between the two limbs of the fork thus formed the distal end is inserted and fixed by suture. Secondary suture if properly applied is as successful with motor as with sensory nerves, in proof of which the author states that in the case already referred to of divided ulnar nerve, the operation was followed in the course of a few weeks by well-marked enlargement of the atrophied and paralysed interosseous muscles, and by increased vigour and mobility of the hand. These clinical results, it is pointed out, accord with the conclusions derived by Durante and others from histological investigations, that the tissue degeneration immediately following section of a nerve is followed after a time by restoration of the normal and active elements of nerve structure.

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(73) X Rays in the Treatment of Prostatic Hypertrophy.

Caraghelli and Lucaselli (*Gazz. degli Osp.*, January 18th, 1905) report 2 cases of enlarged prostate in men over 60, which were much improved by *x*-ray treatment. The improvement was moreover maintained when the patients were seen a year later. The *modus operandi* was to place the patients in a suitable position, protect the scrotum, penis, and thighs by means of a lead plate, and then apply the rays to the perineum at 20 to 25 cm. distance for about 10 seconds at a time for two and three times a week, then every fortnight. Under this treatment the urine cleared, the flow of urine was improved, and the frequency of micturition lessened. The authors consider it unnecessary to pass the tube up the rectum, as the rays would act equally well when applied externally in the method used by them.

MIDWIFERY AND DISEASES OF WOMEN.

(74) Normal and Abnormal Utero-vaginal Secretions.

Sireday and Bigart (*Comptes Rendus de la Soc. d'Obst. de Gyn. et de Péd. de Paris*, June, 1905) have prepared an important monograph on leucorrhoea and its relation to normal and to gonorrhoeal secretions eliminated from the genital canal. In the common leucorrhoea of anaemic or simply debilitated virgins the appearances and bacteriology of the discharge are definite. The authors distinguished: (1) Numerous vaginal epithelial cells, the protoplasm and nuclei of which stained freely; (2) similar cells with protoplasm which did not stain well and was disintegrating; (3) similar cells with nuclei beginning to break up; (4) a small proportion of lymphocytes which stained well. In discharges associated with genital infections Sireday and Bigart detected: (1) A small proportion of epithelial cells from the vaginal and cervical mucosa; (2) numerous cells from the same two regions in the genital canal with protoplasm and nuclei that stained imperfectly, both being clearly in a state of degeneration; (3) numerous multinucleated cells representing suppurative inflammation in the folds of the vaginal mucosa, and in the cervical glands. The relative bacteriology of the secretions was much less than what might be expected on *a priori* grounds, for in virginal leucorrhoeal discharge cocci and bacteria abound, and these germs were detected invading unbroken cells as well as lying loose amidst the fragments of cells that had broken down, whilst in discharges associated with infection the germs were not so abundant; the gonococcus, on the other hand, was frequently present. Deeper study of the relative bacteriology of the secretions showed that in relatively normal leucorrhoeal discharge bacilli greatly prevailed over cocci, and their development and number were in proportion to the healthiness of the genital canal. In discharge from infections cocci in clusters or chains prevailed in proportion to the severity of the disease, and Sireday and Bigart found that when examining discharge periodically from a case under treatment the appearance of a fair proportion of streptobacilli and other living microbes mixed with the cocci represented a tendency to cure. Lastly, the diagnosis of gonorrhoea was not perfect until the gonococcus is actually detected in the discharges.

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(75) Is Craniotomy on the Living Child ever Justifiable?

I. Marx says (*Medical Record*, June 10th) that this problem resolves itself into a question of the merits of craniotomy *versus* Caesarean section or symphysiotomy, the advocates of the former theory being considered as conservatives and those of the latter being classed among the radicals. Other things being equal, considerations of religion weighing strongly and more often than not absolutely determining the result, Marx always favours the mother as compared to the unknown fetus when asked to allow the mother to suffer an increased risk. His years of active experience

among all classes, in and out of hospitals, have forced upon him the belief that only in rare cases is a Caesarean section upon a woman many hours in labour after manifold efforts to deliver in the presence of a suffering fetus to be considered as more conservative than a skilfully-performed craniotomy. The sphere of craniotomy is limited, but it must and ought to be extended. The positive contraindication to the operation is furnished by absolute contraction of the pelvis either from bone approximation or through obstruction by a tumour mass. The treatment here should be early induction of abortion if the demand is made, or elective Caesarean section at or near term. The absolute and relative indications for perforation are discussed, and the author urges the necessity for greater care on the part of practitioners to prevent the development of conditions which, if neglected early in the labour, may later on lead to complications demanding active intervention. Especially among private cases, the field for perforations and allied operations is widening, and that of Caesarean section is narrowing.

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(76) The Albuminuria of Pregnancy.

P. Rudaux (*Archiv. Gén. de Méd.*, No. 27, 1905) discusses the "albuminuria of pregnancy," meaning by this term only that albuminuria which occurs during the pregnant state and is dependent upon it, which did not exist previously to conception, and which is independent of recognized Bright's disease. Often enough there are no symptoms at all, and the presence of albumen in the urine is only discovered by chance. In other cases there are certain symptoms which suggest the development of renal mischief. The chief of these is oedema, which is to be seen round the malleoli of the ankles at bedtime, and is often very slight. Sometimes, however, there is oedema of the face and eyelids in addition, and there may even be a general anasarca. In extreme cases the labia majora and the abdominal walls are much swollen, and the internal organs also share in the general dropsy. Such dropsical swelling must not be confounded with that which occurs in the same situations sometimes later on in pregnancy, and due to mere mechanical obstruction of the veins by a uterus which is the seat of hydramnios or hydatidiform mole. Other symptoms are digestive troubles, nausea, vomiting, ptyalism, constipation, intense thirst, and jaundice. In many of these cases pruritus is a notable feature, and gives much trouble to the physician as well as to the patient. The examination of the urine of a pregnant woman for albumen is not quite a simple matter. The whole urine passed during twelve hours should be collected, and a specimen of that tested for albumen. The vulva ought to be bathed with hot water and dried with cotton-wool before the patient urinates, so that leucorrhoeic or other discharges may not obscure the issue. In some cases it is better to draw off the water with a catheter. The sample to be examined should be filtered, and too much stress ought not to be laid on the presence of a light precipitate on boiling with a drop of acetic acid. Rudaux continues, giving in detail the methods of testing for albuminuria in the urine. The course of the albuminuria of pregnancy is generally mild. An exclusively milk diet serves to reduce the percentage of albumen and to allay the symptoms. In some cases a little albumen remains, in spite of all treatment, up to the time of the confinement. In exceptional instances the albumen percentage remains stationary, and even increases, up to the time of delivery, after which it rapidly diminishes again. Without medical treatment the prognosis is not good, and several troublesome complications may arise, including acute oedema of the lung, intense headaches, and visual disorders such as amblyopia, and even complete amaurosis. Albuminuria has generally, but not always, existed in persons who develop eclampsia. Other uncommon complications are haemorrhages of various kinds—epistaxis, haemoptysis, cerebral haemorrhages, and placental haemorrhages. Retro-placental haemorrhages with separation of the placenta are, of course, of the most serious import; and throughout the term of pregnancy, by the bedside of a woman who suffers badly from albuminuria, it is wise to keep apparatus and material for transfusion of blood, or serum, or saline solution. The prognosis of such cases as are throughout under medical supervision is not bad, unless the quantity of urine passed becomes very low—less than 1 litre. After the confinement the powers of recuperation are not as great as usual, and the physician must refrain from the use of too much antiseptic lotion, because the powers of elimination also are feeble. As regards the fetus, prognosis should be guarded. It may die or be expelled prematurely at any time. There is scarcely anything new to say about the pathogenesis of the albuminuria of pregnancy. It is probably due to a toxaemia, an auto-intoxication due to the interference in the blood supply of both liver and kidneys by the enlarged uterus. The prophylaxis is straightforward. *Enceinte* women should refrain from eating certain vegetables—asparagus, cabbages, mushrooms, spinach, tomatoes, and truffles; fermented cheeses, alcoholic liquors, and pastry. They should be told to pay special attention to keeping the bowels always freely open. As curative measures Rudaux recommends an exclusively milk diet, rest in bed or on a sofa in a room kept always warm, and daily slight purging of the bowels. If the percentage of albumen does not decrease, the milk diet must be replaced for twenty-four hours at a time by Evian water sweetened with lactose. Pinard says that if in spite of all treatment the albuminuria persists and the quantity of urine is diminished, premature labour will have to be undertaken. Special symptoms require special measures. The oedema will yield to rest and diuretics, uva ursi, and lactose. Dyspnoea may require leeches, cupping, or the inhalation of oxygen. Insomnia may be met with chloralose. During accouchement it is unwise to use poisonous antiseptic lotions, such as corrosive sublimate and carbolic acid. In case of a rupture of the perineum, which is all too likely to occur if the parts are very oedematous, it is better not to stitch it up at once, but to wait until the oedema is gone. After delivery one must be on the alert for post-partum haemorrhages, which are to be treated by massage of the uterus and hot injections. The milk diet must be continued until the disappearance of the albumen from the urine. To avoid mistakes, draw off the urine to be tested by catheter. Albuminuria during pregnancy is not a contraindication of breast feeding after delivery.

THERAPEUTICS.

(77) The X Rays in Leukaemia.

Byrom Bramwell (*Clinical Studies*, vol. iii, p. 393) reports a case of splenomedullary leukaemia, in which great improvement had taken place under the *x*-ray treatment. The case was shown to the Edinburgh Medico-Chirurgical Society. Bramwell said that during the past two or three years a number of cases of leukaemia had been treated by the application of the *x* rays over the spleen, but, so far as he knew, no case had up to the present time been brought before the Society. The patient whom he presented was 28 years of age; she came to the hospital on February 22nd, 1905, complaining of swelling of the abdomen and amenorrhoea. On examination she did not look ill and was not markedly anaemic. The abdomen was occupied by a large hard tumour which extended 2½ in. to the right of the umbilicus, and almost down into the pelvis. The anterior edge of the tumour was sharp, and in it two distinct notches could be felt; it was evidently the spleen. The lymphatic glands were not enlarged. The blood contained an enormous excess of leucocytes, 540,000 per cubic millimetre, the red blood corpuscles numbered 3,800,000, and the haemoglobin equalled 69 per cent.; the differential count showed that 49 per cent. of the white corpuscles were myelocytes. The case was, in short, a typical case of spleno medullary leukaemia. The *x*-ray treatment was commenced on February 28th, and was continued every other day until March 21st, the rays being applied for five minutes over the enlarged spleen. On March 21st the treatment had to be suspended because of irritation and inflammation of the skin over the spleen. On April 11th the *x* ray treatment was resumed and had been continued up to the present time (May 1st, 1905). The result of the treatment had been remarkable improvement: the white blood corpuscles had fallen from 590,000 (the count on the day on which the treatment was commenced) to 28 000 on May 1st; the red blood corpuscles had increased from 3,850,000 to 5,540,000, and the haemoglobin from 68 to 88 per cent. Coincident with this improvement the spleen had decreased very much in size, and the general condition of the patient had also improved. The application of the *x* rays had been followed by a rise in temperature, but by no other unfavourable results except the inflammation of the skin which had been already referred to. Since the patient was shown to the Society the improvement has continued; the spleen has continued to decrease; the menstruation has returned (it had been absent for eleven months).

The patient was discharged from the infirmary on June 20th. On that date the white corpuscles had fallen to the normal number. Bramwell also showed a case of lymphatic leukaemia treated by *x* rays without improvement. In connexion with this case he also related the following details of a case of lymphatic leukaemia which had been treated by the *x* rays. The patient, a boy aged 15, was admitted to the infirmary on February 21st, 1905, suffering from lymphatic leukaemia. The spleen was greatly enlarged; the patient was markedly anaemic; the red blood corpuscles numbered 2,000,000, the white corpuscles 340,000, and the haemoglobin equalled 38 per cent.; the differential count showed that 93 per cent. of the leucocytes were lymphocytes — 69.2 small lymphocytes and 23.8 large lymphocytes. The lymphatic glands were markedly enlarged; large extravasations of blood were present around the orbits, and had been present for nine months before the patient came under observation; marked double optic neuritis with great enlargement of the retinal veins was present. The *x*-ray treatment was commenced on February 27th. As in the former case (of spleno-medullary leukaemia), the treatment was followed by a rise in temperature. The *x* rays were applied every other day over the spleen until March 22nd, when the treatment had to be discontinued because of inflammation and irritation of the skin over the spleen. As the result of the treatment between February 27th and March 22nd, the spleen decreased very much in size; the white blood corpuscles fell from 230 000 (the count on the day on which the treatment was commenced) to 7 800 per cubic millimetre; but, notwithstanding these alterations for the better, the patient's general condition did not improve, and there was no improvement in the condition of the red blood corpuscles—in fact, instead of increasing, they decreased in number. On April 3rd a petechial purpuric rash developed on the legs and arms; on the evening of this day the temperature rose to 103° F. and the pulse to 128, and there was slight bleeding from the gums and profuse bleeding from the nose. On April 7th the red corpuscles had fallen to 660 000 and the haemoglobin to 20 per cent. At this date the white corpuscles numbered 26 000 per cubic millimetre. On April 8th the patient was removed home by his friends. He died on April 15th. A *post-mortem* examination was refused. The result of the *x*-ray treatment, then, in this case, was to produce some elevation of temperature, rapid disappearance of the excess of white corpuscles from the blood, marked diminution in the size of the spleen and lymphatic glands, but absolutely no improvement in the general condition of the patient. Byrom Bramwell emphasized the point that the red corpuscles did not increase in number; in fact, the reverse. The result of the treatment in this case was very important and instructive; it showed that in a case of lymphatic leukaemia the mere disappearance of the white corpuscles from the blood and the diminution in the size of the spleen and lymphatic glands did not necessarily indicate any real improvement. Unless the red blood corpuscles and the haemoglobin at the same time increased, and the general condition of the patient improved, one should not attach much importance to the diminution in the size of the spleen and the diminution in the number of the white corpuscles.

(78) Injection of Saline Solution in Delirium Tremens.

Quénu (*Bull. et Mém. de la Soc. de Chir. de Paris*, No. 18, 1905), in discussing the treatment of post-traumatic delirium in alcoholic subjects, states that the administration of wine or spirits in such cases can do very little good, and may even do harm. He is strongly opposed to the use of opiates or chloral in cases of delirium tremens, as such treatment really consists in adding one poison to another. Holding that the patient is under the influence of poisoning due either to the direct effect of alcohol or, as is more likely, to disturbance of the secretory functions caused by defective nervous action, it would seem more logical, the author suggests, to base the therapeutics of delirium tremens on the principle of eliminating the poisonous products. During the past eight years he has invariably treated his cases of delirium tremens by the subcutaneous injection of saline solution, and his clinical experience of this method has convinced him of its superiority over other plans of treatment. All depressing narcotics, such as opium, morphine, and chloral, should be rejected, and the only addition to the injections of artificial serum should, in cases of cardiac weakness, be an occasional injection of sulphate of strychnine.

(79) Endovenous Injections of Caffein and Strychnine.

Ferrannini (*Rif. Med.*, June 10th, 1905), recognizing the importance of securing as speedy an action as possible in the case of drugs administered to stimulate the vulvar centres in sudden failure, has carried out a series of experiments with caffein and strychnine given endovenously. There is nothing new in the method, for it was tried by Hermann 120 years ago, but with disastrous results at that time. However, in the author's experiments on animals no such disasters occurred, and the effect on the cardiac and respiratory action was immediate and markedly beneficial. Quinine, iron and sublimate have already been given endovenously with success in properly-selected cases. A 1 in 5 solution of benzoate of soda and caffein was injected into the saphena and the results carefully watched. The part of the vein where the injection was made was excised some days later and no appreciable alterations were noticed. Similar experiments were carried out with 1 in 1 per cent. solution of sulphate of strychnine. Grave tetanus set in after doses of 0.00005 gram per kilogram, but below that dose no serious symptoms were observed in dogs.

(80) Helmitol as a Urinary Antiseptic.

Steinbüchel (*Wien. med. Presse*, No. 5, 1905) has examined this substance, which is a combination of hexamethylene tetramine and anhydromethylene citric acid. It is a white crystalline powder, of agreeable acid taste, and soluble in water in the proportion of 7 parts to 100. Its action is due to formic aldehyde set free by decomposition. The dose is 3 to 4 grams a day internally. In acute cystitis the subjective results were good, but the cystitis reappeared if the drug were discontinued. It is more useful in bacteriuria, the results being permanent. The author thinks it would be well to administer helmitol as a prophylactic before cystoscopic examination. The solution, being acid, acts better than urotropin in those cases with neutral or alkaline urine.

PATHOLOGY.

(81) Experimental Development of Cancer in Animals.

Mayet (*Lyon Méd.*, December 11th, 1904) has endeavoured to saturate the tissues of white rats by means of subcutaneous and intraperitoneal injections of the soluble products of human neoplasms. Glycerine was first used as a solvent, but caused haemorrhage, so that a macerated aqueous solution filtered through porcelain was afterwards substituted. In 5 cases definite new growths resulted in the rat. In 2 of these cases the new growth had been introduced into the peritoneum and had been definitely encysted by a false membrane, so that there was no possibility of the new growth which resulted elsewhere being due to a direct graft. In the other 3 cases the clear filtrate alone was injected, and caused either an epithelioma of the kidney or a new growth with serofibrous envelope in the liver. Some 20 other rats showed no definite new growth, but irregular cavernous ulceration of the kidney or cystic transformation of the renal cortex. One epithelioma of the kidney resulted from the injection of the filtrate of a macerated sarcoma of the parietal pleura. Mayet concludes that cancer should not be considered as a morbid process characterized by the morphology of its anatomical elements, that cancer is not a special tissue, but is the way in which the various tissues react to a cause still unknown.

(82) The Diazo-reaction of Experimental Tuberculosis.

P. Veneruso (*Giorn. d. Assoc. Napol. de Medici e Nat.*, No. 3, 1905) inoculated rabbits and guinea-pigs with tuberculous sputum, either subcutem, intraperitoneally, or intravenously. Examining their urine subsequently for the presence of Ehrlich's diazo-reaction, he found that it invariably appeared in the urine some days after the injection, that it was present for a few days, and that it disappeared a short time before the death of the animals injected. He believes that a positive reaction is proof that a fatal infection has taken place in these animals, and supports his own belief that the appearance of the diazo-reaction in the tuberculous human subject makes the prognosis extremely grave, by quoting from a large number of authors who hold the same view.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

(83) Bronzed Diabetes.

MARGAIN has recorded (*Rev. de Médecine*, March 10th, 1905, p. 214) a case of bronzed diabetes with the results of a necropsy. A man, aged 47, was admitted to hospital on September 25th, 1902, for voluminous ascites. Some seven years before he had been under treatment for neuralgic pains in the left leg and left arm, sometimes accompanied by pyrexia and diarrhoea. About eighteen months before admission he first, as it appears, developed ascites and a yellowish tinge of the conjunctiva, and he had at that time attacks of bronchitis and diarrhoea. A few months later anasarca was noticed for the first time. It was only two or three months before admission that excessive thirst and hunger with polyuria and pigmentation of the skin developed. There was nothing of importance in his personal or family history, except that he had been for a long time addicted to alcoholic excess. It was not possible to fix the time of onset of the glycosuria. On admission there was found to be pigmentation of the whole cutaneous surface (not extending to the mucous membrane), especially implicating the thigh, the genitalia, the front of the abdomen, and more particularly the navel, which looked like a black button buried in the abdominal wall. The colour of the pigmentation was a blackish grey with a metallic reflection not unlike the appearance of plumbago. Over the darkest areas there was also slight desquamation. The conjunctivae and the tip of the tongue had a slight icteric tinge. There was marked emaciation. The abdomen was much distended with peritoneal fluid and intestinal flatus. The liver was enlarged to four fingerbreadths below the rib margin, and was hard, smooth, and tender. The spleen was slightly enlarged. The digestive system was otherwise normal. The lungs seemed quite healthy, the heart was slightly enlarged, and the pulse irregular. The knee-jerks were abolished. There was considerable mental depression. Treatment by frequent tapping and the administration of arsenic, iodides, and digitalis with an antidiabetic diet, had apparently no influence on the course of the disease, and the patient died from heart failure on December 9th. At the necropsy there was found great oedema of all the tissues, the lumen of the intestines was greatly enlarged, the organs were more or less deeply pigmented; the liver was enlarged (about 4½ lb in weight), the spleen was a little enlarged (about 10 oz.), the heart hypertrophied, and the pancreas was softened. The suprarenal capsules and lungs were free from tubercle. The urine contained bile as well as a considerable amount of sugar. Masses of free pigment were found in the blood plasma; there was some leucocytosis, with many polymorphonuclear and eosinophilous forms. The ascitic fluid contained sugar and bile. Microscopically the liver showed a marked overgrowth of fibrous tissue; the periphery of the lobules showed much pigment, the epithelium of the bile duct seemed to be desquamated, and was much pigmented. The spleen showed fibrosis and much pigment, chiefly outside the cells. There was sclerosis of the pancreas; some of the islets of Langerhans were preserved, but their cells were crowded with pigment. The heart muscle showed pigmentary degeneration, and the lungs showed pigmentary deposits.

(84) Kelling's Reaction in Carcinoma.

E. FULD (*Berl. klin. Woch.*, May 1st, 1905) deals with the serum reaction which Kelling has introduced for the diagnosis of carcinoma. Without going fully into Kelling's work, he briefly gives the basis of it as follows:—Carcinoma comes into existence from the atypical development of foreign embryonal tissue, which is implanted into a defect of substance of the affected organism. In support of this theory, Kelling states that the carcinoma patient produces a specific precipitin in his serum which acts on his parasite. Fuld has tested the serum on a number of patients, but points out that it is by no means a small matter to have to ask permission of a patient, who has to die soon, to withdraw some blood, or to have to take the blood. In several cases he found that the patients fainted from mental excitement. However, no actual harm was done by the bloodletting. It was not practised on patients who were very nervous or very ill. He adhered strictly to Kelling's directions, only simplifying it in a small way. These modifications refer to the preparation of the tissue extracts made from embryonic tissue. The control serum (taken from persons not suffering from cancer) was, as a rule, supplied by himself. Fuld gives the details of the working of the test, and discusses the *rationale* of adding some disinfectant, and came to the conclusion that, as even thymol produced a turbidity in itself, the test must stand without any such addition. In all he tested sixteen cancer patients' serum; of these, two were not absolutely certain as regards diagnosis, so that he is inclined to disregard them. After one hour in no case was there the least trace of precipitation. In one case the serum of the carcinoma patient gave a distinctly more flocculent precipitation after twenty hours than did the control serum, but the reaction could not be regarded as typically positive. He, however, is willing to allow this one to pass as positive; all the rest were definitely negative. Whether his disappointing results depend on the omission of some important point which Kelling has not described distinctly, or on the failure of the test, he is not inclined to state, but he comes to the conclusion that, as far as he can judge, the reaction is not of value, nor does it support the etiological theory which Kelling has formulated.

(85) Icterus Gravis in Children.

ICTERUS GRAVIS, though rarer in children than in adults, is sufficiently frequent to render its recognition important. Goude has collected a series of cases (*Journ. de Med. et de Chir. Prat.*, April 10th, 1905) showing that the disease as it occurs in children presents certain peculiarities. It is very difficult as a rule to say what is the cause of icterus gravis in children, as the disease occurs in apparently perfect health. There are prodromal gastro-intestinal symptoms which are due to toxic infection. In many instances the coli bacillus appears to be an active agent. Jaundice, nervous phenomena, haemorrhages, and profound depression are the principal characteristics in the child as in the adult. In the early stages, however, there is nothing pointing to the malignant evolution of the process, and simple catarrhal jaundice is usually diagnosed. The longer duration of the increasing symptoms soon indicates a difference, and when the disease has reached a more advanced stage the diagnosis may be easy. It is important to note that in some cases of profound jaundice in children from 2 to 4 years old the symptoms are suggestive of acute meningitis, in others of typhoid fever. As a matter of fact this disease has been confounded with these; but in the case of the first, rapid onset, the absence of premonitory signs, in the second the intense jaundice is too considerable for typhoid. The prognosis is extremely bad.

(86) Sudden Death during Convalescence from Diphtheria.

TERRIEN draws attention to the conditions in which sudden death may occur after diphtheria (*Rev. des Mal. de l'Enfance*, December, 1904). In his opinion sudden death is rare in children who have suffered from diphtheria, as young children under any circumstances rarely die suddenly. Nevertheless, typhoid, severe eczema, and diphtheria are diseases in which it occurs, but of all these the greater number of deaths occur after diphtheria. The writer states that it is difficult to form any idea from the nature of the cases as to whether or not a fatal termination may be expected. He quotes cases treated by serum in which the early and rapid disappearance of membrane warranted the expectation of an uninterrupted recovery, an expectation which is not always realized. One such case: The child seemed well; there was slight velum paralysis. Death occurred suddenly on the eighth day. Usually speaking, cases about to terminate fatally are supposed to present some indication, such as altered rhythm and frequency of the heart's action, vomiting, and depression. The writer particularly warns us against attaching undue importance to the absence of any such signs, as he has met with cases, that just quoted being one, in which no alteration of the heart's action could be detected, and he agrees with Marfan that sudden death may occur during apparently normal convalescence from diphtheria.

SURGERY.

(87) Remote Results of Bloodless Reduction of Congenital Luxation of the Hip.

FROELICH (*Rev. d'Orthop.*, No. 4 1905) publishes the results of his personal observation of 121 instances of congenital luxation of the hip in which he was able to make out after long intervals the degree of actual and abiding success

attained by Lorenz's bloodless method of reduction. The total number of patients treated by this method was 99, 41 being the subjects of bilateral, 58 the subjects of single luxation. The author has been led by his results to the conclusion that the bloodless method of reduction is capable of effecting a radical cure in about 20 per cent. of cases. In from 30 to 60 per cent. of cases the operation can be regarded only as a palliative one, but the amelioration is often so considerable as to be equivalent to a cure. In from 20 to 30 per cent. of cases the result of the treatment was mediocre or quite negative. Whether the treatment by bloodless reduction has been really successful or not cannot, it is stated, be determined until after an interval of one year from the cessation of surgical care, which should be continued over from four to eight months. When relapse occurs it is always produced in the course of the first twelve months and never later. The sooner the treatment is commenced the better are the prospects of a good cure. A second intervention can always be undertaken where the first has failed, and good results may sometimes be obtained in children who have grown a little between the two operations. Careful post-operative treatment is indispensably necessary for the purpose of mobilizing the more or less stiffened joint. A complicated mechanical treatment, however, is unnecessary. During the first year after the reduction, the hip should be submitted daily to massage and passive movement, at first by the surgeon or his assistants and afterwards by the child's parents, who can be readily taught such simple manipulation as is necessary. The child having been turned over on its belly the gluteal region is kneaded and rubbed for ten minutes, and afterwards the surfaces of the thigh and calf are simply rubbed. After the massage, the sacrum being fixed by manual pressure, passive movements of the thigh are practised with the objects of overcoming the tendency to external rotation and of elongating the contracted tendon of the tensor muscle of the fascia lata.

(88) Prognosis of Berger's Interscapulo-thoracic Amputation.

Berger (*Bull. et Mém de la Soc. de Chir. de Paris*, No. 16, 1905) analyses an elaborate report by Jeanbrau and Riche on the duration of life after the interscapulo-thoracic amputation for malignant growths of the shoulder and the upper extremity. This report, based on 188 collected cases, shows that the primary or operative mortality of the operation in question, whilst very low (2.75 per cent.) in cases in which the humerus alone is involved, becomes serious (11.25 per cent.) when the disease has originated in the scapula or the soft parts. In regard to the remote results, it is shown that in cases of sarcoma recurrence followed in 48.38 per cent. of cases in which the humerus was affected, and in 66.66 per cent. of cases in which the scapula or surrounding structures had been the original seats of the disease. Reference is made by Berger to cases of sarcoma of the humerus in which the patients survived for periods of from thirteen to nine years after the operation. The most favourable cases for this amputation are, it is pointed out, those of myeloid sarcoma. An instance is also mentioned of a subject of myxo-sarcoma of the humerus remaining alive and free from recurrence after an interval of seven years. Interscapulo-thoracic amputation is regarded as justifiable in cases of chondroma of the humerus, as local extirpation and conservative surgery in this form of tumour is apt to be followed by frequent recurrences and an unfavourable change in its structural character. In conclusion, Berger states that the facts so carefully collected and arranged by Jeanbrau and Riche confirm his views concerning interscapulo-thoracic amputation, and show that it is an excellent operation of easy and sure execution, attended by but a slight mortality, and giving a fairly large number of durable good results, and, indeed, some actual cures even in cases of malignant disease, thus assuring in a majority of cases, in addition to immediate relief, a survival sufficiently prolonged to afford the patient a really appreciable benefit. The most favourable indication for this operation is presented by malignant tumour of the upper extremity of the humerus when the disease is recognized in good time and promptly submitted to surgical treatment. Under these conditions it is almost absolutely safe, and justifies the expectation of durable success.

MIDWIFERY AND DISEASES OF WOMEN.

(89) Cyst of the Mesentery.

McMurtry (*New York Med. Journ.*, December 31st, 1904) attended a woman, aged 67, who had accidentally noticed a swelling in the left side of her abdomen three months previously; it increased rapidly in size. The patient's last confinement was thirty years before observation; there was no history of pelvic mischief, but digestive disturbances and loss of flesh had troubled her for some time and steadily increased as the tumour developed. The tumour occupied the entire left upper quadrant of the abdomen and reached the liver; there was no connexion between it and the pelvic organs. Fluctuation was distinct and the descending colon overlapped the cyst. An incision was made in the left semilunar line. The tumour proved to be a sero-sanguineous cyst of the mesentery of the colon near the left kidney. The cyst wall was very thin and was enucleated without excessive haemorrhage; the contents consisted of bloody serum and broken-down tissue. There was no pedicle; the left Fallopian tube was attached to the tumour and bled freely when separated. The space left in the mesentery after enucleation was drained. There was no complication during convalescence.

(90) Overlooked Rupture of Uterus in Labour.

Grossig (*Revue de Gynéc. et de Chirurg. Abd.*, May-June, 1905) attended a woman in her second labour. There was no pelvic contraction, and the patient was delivered of a child nearly 9 lb. in weight without any evidence at the time of any complication. Shortly after delivery nausea and vomiting set in, followed by intense dyspnoea, at first taken for asthma. At the end of the second day symptoms of general peritonitis appeared. On exploration of the vagina a laceration was detected; it reached down into the cervix on the right side, and the finger could be passed into the peritoneal cavity. Hysterectomy was at once performed, but the patient died at the end of the operation. The rupture had started in an area of sclerosed tissue representing an old laceration of the cervix, which had taken place in the course of the first labour.

(91) Treatment of Prolapse by Myorrhaphy.

Batigne (*La Gynéc.*, April, 1903) discusses in full the various methods of suture of the levatores ani muscles for the relief of genital prolapse. These methods differ considerably, and experience, particularly of after-histories, is but slight up to the present date. Thus, one recent writer reports but 2 cases. Batigne considers, however, that the immediate results are gratifying, whether the operation be undertaken for bad neglected cases of cystocele or combined with other plastic manœuvres for other varieties of prolapse. Delanglade reports 1 case of myorrhaphy for cystocele, where there was no recurrence eight months after the operation; but in a second case, where this new procedure was undertaken for prolapsus uteri, although the womb still remained at its normal level when the patient was examined eighteen months after the suture of the levatores, it subsequently transpired that the prolapse recurred soon after the examination. Batigne has failed to trace a longer after-history in any other recorded case, and therefore contends that surgery must suspend its judgement about myorrhaphy.

(92) Haematometra and Haematosalpinx Operation: Subsequent Gestation.

Fuchs (*Monats. f. Geb. u. Gyn.*, May, 1905) reports a case of rigid os in a woman aged 23. When she was 13 she suffered from abdominal pains and amenorrhoea. Atresia vaginae with haematocolpos, haematometra and haematosalpinx were present. An operation was performed which proved a complete success, menstruation being established and continuing regular. The patient became pregnant; at labour incisions had to be made in the cervix, and then the child was delivered with forceps.

THERAPEUTICS.

(93) Iothion.

Darier reports (*Berl. klin. Woch.*, June 5th, 1905) on a new iodine preparation, called iothion, which has recently been introduced by the Elberfeld Farbenfabrik. Its chemical formula is $CH_2I-CHOH-CH_2I$. This compound is only suitable for external use. Iodide of potassium is slowly split off from iothion, after having been saponified by the skin. It appears, therefore, that by local application, the affected area receives more iodide than the general organism, an advantage not to be despised. Dreser describes the hypnotic effect of iothion, methyl-sali-

cylate, etc, on frogs and fishes. These experiments indicate that the internal exhibition of iothion is forbidden on account of the nerve toxicity even in small doses. Apart from this objection, the fact that local application to the skin at times produces a little burning sensation and reddening renders it inadvisable to employ it by subcutaneous injection. It has been known for many years that the esters of hydriodic acid when inhaled (as iodine ethyl) rapidly are absorbed and appear as iodine in the urine. Dreser sought to decide whether these esters could be absorbed through the skin, and whether the non-volatile or only the non-volatile compounds could pass through the skin. He therefore applied iodine methyl to the shaven skin of a rabbit's back, taking every precaution to prevent any respiration of the vapour. He found that it was saponified and excreted by the kidneys as iodine. The disadvantage of employing the lower iodine alkalies in practice are obvious, the odour given off by the patient being disagreeable enough to forbid their use. He next turned his attention to iothion. This is of oily consistence, and is scarcely volatile as compared to the methyl iodine. It decomposes at 170°C. It is therefore unlikely that it could penetrate the skin as a vapour, but must be absorbed in solution. He presumes that the solubility of iothion is the same in the lymph of the tissues as in water; in the latter at body temperature it is dissolved as 1.34 in 100. This slight solubility lessens the chance of the circulation of unchanged iothion in the body. Schindler found that a quarter of an hour after rubbing iothion into the skin, washings of the skin gave clear iodine reaction, while after half an hour this was no longer obtained. Dreser points out that this must not be accepted as evidence of the absorption of the drug, since iothion does not give the reaction for iodine with nitrite and sulphuric acid until it has been saponified with alkali. The saponification was probably produced by the presence of some soap containing alkali accidentally, which soap would be used for cleaning the skin before applying the iothion. Dreser found that after giving iothion to cats per os, iodide of alkalies and organic compound of iodine were both excreted in the urine. The latter was in distinct quantities. It appears from his observations that it is wiser to apply small quantities frequently, so that the maximum percentage may be split up. In dealing with cats, he determined that 0.5 gram per kilo body weight was a lethal dose, so that if one presumed that human beings were equally susceptible, and their skin equally pervious as cats, 18 grams of iothion might kill a man weighing 60 kilos. Max Joseph and M. Schwarzschild have employed iothion clinically, and report their results in the *Deut. med. Woch.*, June 15th, 1905. They used ointments containing 25 per cent. and 50 per cent. of iothion in lanoline and vaseline, and rarely pure iothion. As a rule, the patient was told to rub in one teaspoonful daily for five days, and then to wait one or two days before repeating it. Thirty patients were treated with the ointment, and none showed either subjective or objective signs of irritation of the skin other than a slight burning sensation, which did not last for longer than a quarter of an hour, and a slight reddening, which may have been produced by the massage. The presence of iodine in the urine was determined partly by the nitrite test and partly by the indican test. They found that, while considerable variations take place, as a rule the 25 per cent. ointment showed iodine in the urine from two to four hours after rubbing in, which remained for about twenty hours, while after rubbing in the 50 per cent. ointment the iodine appeared a little earlier, and lasted for about forty-eight hours. They give brief accounts of some of the cases for which iothion was applied, including cases of syphilis, tuberculous epididymitis, periostitis, etc. They come to the conclusion that iothion is the preparation *par excellence* for percutaneous application of iodine, and that one must decide from case to case whether iodide of potassium be given by mouth, or iothion percutaneously. The former gives a more rapid effect, but at times the idiosyncrasy against the former may influence one to use the latter, even in severe syphilitic lesions. For gradual application of iodine, iothion appears to be of great value.

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(94) Skin Lesions Treated with Liquid Air. W. B. Trimble points out (*Med. Record*, July 8th) the unsatisfactory nature of the usual treatment of naevi, especially of the hairy-mole variety, and describes the very good results obtained in these cases by the use of liquid air. He believes that there is no doubt of the beneficial effect of liquid air in epithelioma, lupus, and naevus pilosus pigmentosus. In cases of naevus vasculosus there is slight improvement, but insufficient experience as yet prevents a more definite statement. The histories of eleven cases of these affections are given in brief, either cure or great improvement following the application of the liquid air. The fluid was applied by means of a pine or orange-wood stick with a piece of absorbent cotton twisted around the end, and the effect produced depends largely on the degree of pressure exerted in making the application. Light pressure causes a slight reaction and inflammation, all that is needed in some instances (erythematous lupus, for example). Medium pressure will cause a superficial slough; this medium pressure is the kind called for in the hairy mole. Hard pressure will cause a deep slough (sometimes used on an epithelioma). A certain amount of scarring has followed in most cases, but the cosmetic effect has been far superior to the original lesion, and by careful application it may be reduced to a minimum. The liquid acts as a local anaesthetic, and the only sensation produced is one of slight tingling or burning.

PATHOLOGY.

(95) Specificity of Cytotoxins. Harro Woltmann (*Journ. of Exper. Med.*, April, 1905) has investigated experimentally the question of the specificity of the cytotoxins. Geese were used for the production of his toxins, and the material inoculated into them was obtained from sheep: it consisted, in different experiments, of haemolymph glands, defibrinated blood, lymph glands, endothelial cells, liver, kidney, and spleen. The serums of the inoculated geese were subsequently tested upon sheep. Woltmann finds, as the results of his experiments, that the change in the blood are in no instance characteristic, and may be explained by the action on the blood and blood-forming organs of the peritoneal irritation produced by the injection of the toxin. Histologically, certain differences are evident, but these again are of degree and not of kind. For instance, fatty degeneration of the liver was found after injection of hepatotoxin, but in almost every case examined there was slight fatty degeneration, which in the case of splenotoxin the fatty change was much greater than after hepatotoxin. In experiments with all the different cytotoxins almost the same changes were observed. These changes are classified as follows: In the haemolymph glands there were found proliferation in the germ centres and endothelium, large numbers of endothelial phagocytes, and rather marked degenerative changes. In the spleen were noted proliferation in the germ centres and endothelium, and the presence of phagocytes containing blood pigment. In the bone marrow there was proliferation of all the elements. In the kidney slight cloudy swelling; in the liver slight fatty degeneration; all these changes varied merely in degree. All the cytotoxic serums, therefore, are regarded by Woltmann as haemolytic, endotheliolytic, lymphotoxic, myelotoxic, etc. The most severe changes were produced by haemolymphotoxin and splenotoxin. Woltmann's general conclusion is that none of the cytotoxins can be regarded as really specific. He thinks that perhaps the toxic which comes nearest to being specific is nephrotoxin. Marked congestion of the medullary portion of the kidney and pronounced cloudy swelling in the cortex were observed after inoculation with this toxin, and with no other toxin were similar changes of the same severity found. He also notes as a peculiarity of the injection of haemolymphotoxin that there followed a marked increase in the eosinophile cells, whereas after most of the other toxins the number of these cells was found to be diminished. This peculiarity may point to the fact that haemolymph glands play an important part in the production of eosinophile cells.

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(96) The Typhoid Agglutination Test. Herbert Fox (*Univ. Penn. Med. Bull.*, June, 1905) has compared the agglutinating properties of the serum of 94 typhoid fever patients on B. typhosus, B. enteritidis (Gaertner), and B. paratyphosus (A.). Only 12 of these cases showed any agglutination of the paratyphoid organism. Four of these 12 were proved to be true typhoids by blood culture, and the entire 12 gave diagnostic reactions with B. typhosus. In 6 of the cases the two organisms were clumped to the same limit, while in 5 the typhoid bacillus was affected in higher dilutions, and in only 1 case was the reverse true; 82 out of the 94 cases gave a positive reaction with B. enteritidis at some time

or other during their course—19 of these 82 cases were tested more than once, and 14 of th se 19 gave a reaction to the Gaertner bacillus, which appeared before the reaction to B. typhosus was obtainable in higher dilutions. Fox finds that there is a close relationship of the agglutinating bodies of B. typhosus and B. enteritidis, but that agglutination of the latter appears early, and also disappears early, whilst the special clumping body of the former appears somewhat later, and persists for a longer time.

(97) Homogenized Cultures of Tubercle Bacilli.

Randle C. Rosenberger (*Amer. Med.*, April 22nd) found in homogeneous cultures of the human tubercle bacillus, the morphology and microchemical reactions but little different from growths upon blood-serum or upon glycerine-agar. In cultures three months old, the individual elements were very long, 10 microns to 12 microns being an average size. Some were thin, others thick: some stained darkly, the remainder stained very faintly. A number contained small, deeply-stained granules, which slightly exceeded the diameter of the organism itself. As many as eight of these granules were observed in a single element. This filamentous character was quite constant, the threads resembling closely those seen in streptothrices. Rosenberger was unable to demonstrate motility in any of the cultures examined, even in cultures only four or five days old. Brownian movement was evident in nearly all preparations. Five c cm. of the homogenized bouillon culture inoculated into the peritoneal cavity of a guinea-pig produced caseous nodules ranging in size from 5 mm. to 2 mm. Spreads made from these lesions contained numerous beaded, long, acid-fast bacilli.

(98) Primary Tuberculosis of the Mesenteric Lymphatic Glands in Children.

H. Brüning (*Beitr. z. Klinik d. Tuberk.*, Bd. 3, 4 Hft., 1905) found tuberculous lesions present in 44 of the 400 *post-mortem* examinations performed in 1904-5 at the Leipzig Children's Hospital. These obductions were all performed with great care; Heller's method, whereby the intestine and mesentery are removed together, was frequently employed, and is highly recommended by the author. Tuberculous lesions have generally been found in from 20 per cent. to 36 per cent. of the obductions performed on children. He found that the bronchial lymphatic glands were infected in 77 per cent. of the 44 cases, the spleen in 61 per cent., the liver mesenteric glands and lungs in about 55 per cent. each, other organs and glands being less frequently tuberculous. The author argues that the simultaneous infection of several organs or sets of lymphatic glands is characteristic of the tuberculosis of children as distinguished from that of adults, in whom but a single infective focus is commonly found. Primary tuberculosis of the intestinal tract was observed in 8 of the 44 cases, and in 7 of them the bacillus tuberculosis was actually demonstrated *in situ*. Hence, Brüning's figures give more support than those of most authorities to Behring's well-known views as to the frequency of infection through the alimentary tract in tuberculous children.

(99) Tuberculosis in Cold-blooded Animals.

A. Weber and M. Taute (*Tuberk.-Arbeiten a. d. K. Gesundheitsamte*, Berlin, 3 Hft., 1905) review the work already published on this subject and record the results of their own experiments upon it. Chronic and acute lesions, containing acid-fast bacilli have been found in snakes, lizards, tortoises, fish, and frogs; occurring in the lungs, and as miliary deposits scattered throughout the body, and particularly in the liver and spleen. These bacilli have been cultivated on artificial media, growing at temperatures between that of the ice-chest and 37°, the optimum temperature being about 22°. Lizards and frogs injected intraperitoneally with such bacilli died rapidly if kept at ordinary temperatures, but seemed able to survive indefinitely if kept at 35° to 37°. It appears that the bacillus of human tuberculosis has frequently been converted into that of the tuberculosis seen in cold-blooded animals, though much uncertainty will always attach to the results obtained from any particular series of experiments conducted in this direction; the converse change, however, has been effected only once as yet, if at all. The bacilli (of either origin) may often be found to have become generalized throughout the tissues of inoculated animals without causing any symptoms at all. The authors give full details of their own experimental methods. They conclude that the tubercle bacillus of cold-blooded animals is an acid-fast saprophyte. It can frequently be found to be scattered throughout the tissues of such animals without causing them any injury; and it only exceptionally harms them by free growth when the resistance of the animal has been lowered by some local or general diseased process.

(100) Comparison Between the Tubercle Bacilli Derived from Various Origins.

H. Kossel, Weber, and Heuss (*Tuberk.-Arbeiten a. d. K. Gesundheitsamte*, Berlin, 3 Hft., 1905), in the first part of their work, came to the conclusion that the bacillus found in cases of tuberculosis in human subjects was in the great majority of cases different morphologically, culturally, and pathologically from that occurring in bovine tuberculosis. In this, their second communication on the subject, they record the results of a great number of experiments made upon different kinds of animals with tubercle bacilli of very various origins, and draw from them the following conclusions: Two chief types are to be distinguished in the tubercle bacilli infecting warm blooded animals: (1) The bacillus of tuberculosis in fowls, which causes the tuberculous lesions found in those birds, and which cannot be converted into (2) the bacillus of tuberculosis in mammals, which occurs in two types, the human and the bovine. The human type of bacillus cannot be converted into the bovine by passage through rabbits, oxen, or goats. On the other hand, it is only in comparatively few cases that human beings exhibit tuberculous lesions that are due to tubercle bacilli of the bovine type; and as such patients are almost invariably children under 7 years of age, the authors believe it is safe to conclude that the infection arose in such cases through the alimentary canal. They could find no support either for the view that bacilli of the bovine type are more virulent for man than those of the human type, or for the belief that the prolonged growth of bacilli of the bovine type in man is able to convert them into bacilli of the human type. Over 270 references to the literature of the subject are given, and many interesting observations are made in this paper for which no room can be found in the present account.

(101) The Effect of Ligation of One Ureter.

Miss B. Sheldon Amos (*Journ. Path. and Bact.*, April, 1905) finds that the literature of the above experiment is rather contradictory. All are agreed that the kidney thus obstructed undergoes degeneration, but there is a difference of opinion as to whether death is due to poisons derived from the broken-down kidney cells or not, and, if so, as to whether such poisons act selectively on the remaining healthy kidney or generally on the whole body. The author found that in six rabbits and ten guinea-pigs death occurred as a result of ligature of one ureter; the former animals lived on an average fifty-two days, the latter nineteen and a half days. No symptoms appeared at first, but after a few days the animals looked ill, lost appetite, and began to waste, with suppression of urine at last. Two rabbits had definite convulsions and Cheyne Stokes breathing, their general state being very suggestive of uraemia, but in no single instance was there albuminuria or oedema. There was always advanced cellular degeneration in the obstructed kidney, but the signs of toxaemia in the liver and the opposite kidney were unimportant, and the heart was unaffected. The question, therefore, arises as to the actual cause of death; there are four possible explanations. First, it might be due to deficiency of excretory tissue. This, however, is negatived by the fact that nephrectomy fails to kill—a fact which also eliminates the second possibility, that death is due to lack of an internal secretion from the damaged kidney. Thirdly, it is not due, as has been supposed by certain experimenters, to the toxic effects of the products of disintegration of the obstructed kidney, for if one kidney be ablated, and after an interval injected as an emulsion into the animal, no result follows either in the general condition or in that of the remaining kidney. The most probable solution is that which ascribes death to resorption of toxic bodies from the urine pent up in the pelvis of the obstructed kidney into the general circulation, which is a possible occurrence, since blood continues to flow through the kidney in spite of its suspension of function. The experimental condition is in this way analogous with uraemia met with in persons whose ureters are blocked by a new growth even before such obstruction is complete.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

(102) Sodium Chloride in Oedema, Ascites and Pleural Effusion.

G. Zambelli (*Il Morgagni*, May and June, 1905) describes an investigation of the part played by sodium chloride in the production of oedema and of serous effusions. A discussion of the opinions maintained by other writers precedes the consideration of the experimental results obtained in 21 cases of diseases attended by oedema, or by some form of serous effusion. Many of the experiments recorded are of the following type: A man, aged 18, suffering from chronic parenchymatous nephritis with oedema of the lower limbs, was observed for fifteen days, fed on milk, eggs and salt broth, and treated with agurin. He passed about 1,000 c.cm. of urine daily, containing 6 to 7 parts of albumin per 1,000. A daily estimation of the chloride ingested and excreted was then started and carried on for six weeks. For five days 9.9 gr. of sodium chloride were taken daily. Only about three-quarters of that amount was excreted. The albumin was 7 to 9 parts per 1,000, and the oedema was stationary. Then the agurin was stopped, and for twelve days only 5.8 gr. of sodium chloride were taken daily, the diet being confined to 2½ litres of milk, without eggs or broth. During this time the daily excretion of sodium chloride was from 7.3 to 11.9 gr., the body-weight fell, the oedema disappeared, diuresis increased. Then for nine days, the diet being unaltered, except by the addition to the milk of 5 to 10 gr. of common salt, the opposite processes were observed. The urine fell to less than half its former quantity, the body-weight increased, oedema returned, and the elimination of sodium chloride fell to 7 gr. daily. Again the daily ingestion of salt was reduced to the 5.8 gr. contained in the 2½ litres of milk. Diuresis set in, oedema disappeared. About 10 gr. of sodium chloride were excreted daily. The patient became intolerant of the milk diet and equally good results were obtained from a diet of bread and milk with or without theobromine. The author considers that a milk diet is too rich in sodium chloride for some cases of nephritis, and recommends eggs and meat taken without salt. He attaches great importance to the use of diuretics, especially theobromine, which he prefers to agurin and diuretin. In oedema of cardiopathic origin also Zambelli recommends a diet as free as possible from sodium chloride, and finds that in some cases cardiac tonics have little effect until diuresis has been promoted by diuretics, and by a diet approximately free from chlorides. In ascites of hepatic origin the author finds the same retention of chlorides, and recommends diuretics and a chloride-free diet, rather than early and frequent paracentesis. Similar advice is given with regard to peritoneal effusions resulting from tuberculosis, and with regard to the effusions of sero-fibrinous pleurisy. In ascites alone the author notes a tendency to relapse in spite of treatment. The bibliography includes references to 104 earlier writings on this subject.

(103) The Carbon Factor in Gout.

Francis Hare's theory (*Medical Record*, June 17th) is that the retention in the body of carbonaceous material is largely concerned in the causation of the disease. Normally there must be a systematic equilibrium between the carbonization of the blood from the body's carbon intake and its decarbonization, but the author believes that at times this balance may be disturbed and carbonaceous material accumulate in the blood to an ultra-physiological or pathological degree. To this hypothetical state he applies the term "hyperpyraemia," and to the normal state, the term "pyraemia." The exact nature of the hyperpyraemic load is undetermined, but we have a right to suppose that it is carbonaceous, and it certainly is not a hyperglycaemia. The means by which hyperpyraemia may be dispersed are numerous, and include bilious attacks, migraine, gastralgia with anorexia, asthma, major epilepsy, and acute articular gout. Some of these operate through increased expenditure, others through restricting the intake, and their action is called by the author carbonization. In order to prove that acute articular gout depends upon hyperpyraemia, he draws upon evidence obtained by a consideration of the action in gout of such factors as the dietetic treatment, exercise, temperature, fat formation, plumbism, haemorrhage, etc., and he then shows that the paroxysms represent an acarbonizing process. The mechanism of acute articular gout, according to this supposition, involves an interdependence between hyperpyraemia and uricemia through which the kidneys at times become more active in excreting uric acid—that is, the renal disability depending on hyperpyraemia is terminated by acarbonization of the blood. The author summarizes as follows his view of the steps in acute gout: (1) Hyperpyraemia from excess of carbonaceous income or deficiency of carbonaceous expenditure; (2) progressive accumulation of uric acid in the blood: uricaemia; (3) deposition of a portion of the uric acid in a joint; (4) acute arthritis; (5) pyrexia involving increased combustion; (6) acarbonization of the blood; (7) free renal elimination of uric acid retained in the blood; (8) recovery by the blood of its solvent power for uric acid; (9) reabsorption of the extravascular articular deposits of uric acid. Thus the acute gouty paroxysm may be regarded as a "pathological function"—as a conservative reinforcement of inadequate physiological function; and uric acid may be regarded as an essential instrument therein.

(104) Sudden Lowering of Temperature in Typhoid Fever.

In addition to the fall in temperature described by Wunderlich as occurring between the seventh and eleventh days in typhoid fever (and excluding that which accompanies haemorrhage or intestinal perforation), considerable and prolonged lowering of the temperature is sometimes observed, and is of grave prognosis unless recourse be had to appropriate treatment (Tissot, *Thèse de Paris*, 1905). These cases are rare, and their pathology is still obscure. They are characterized by severe nervous symptoms, especially depression. In one case the temperature fell from 100° to 95° F., the patient nearly dying from shock. The normal course of the disease was resumed when the temperature again rose. In some cases the fall does not exceed the limit of normal temperature. The minimum is reached in a few hours, and as the temperature falls the patient becomes cyanosed and cold. A tendency to cyanosis and coldness of the extremities has frequently been noticed from the beginning of the disease. Its appearance denotes asthenia. The respirations are short and frequent, and the voice is feeble. The features are drawn and the eyes sunk. The nose is cold and the cheeks and lips blue. The cardiac signs are feeble, slow, and irregular. The pulse is small in character; the urine is scanty, slightly albuminous; occasionally delirium is present; the abdomen is normal; diarrhoea and vomiting are often met with. This series of signs is frequently complete, and indicates that collapse is imminent and the prognosis grave should the temperature remain low. Observations show that such sudden lowering of temperature coincides with wide general depression, and the alteration of heat production suggests grave disorder of the thermic centre, probably from the presence of toxines in the circulation. The treatment recommended by the writer is to put the patient into a tepid bath and to apply cold water affusion for some minutes every few hours. During the interval he should be enveloped in warm blankets and energetic massage applied.

(105) Haematemesis of Hysterical Origin.

Gardini (*Clinica Moderna*, May 24th) gives an account of a case of severe haematemesis for which gastrotomy was performed, and which was afterwards recognized as being hysterical in origin. The patient, a young woman of 23, had already had different attacks of anaemia, neuralgia, and amenorrhoea; she had also suffered for about six years from gastric symptoms, which led to the diagnosis of gastric ulcer. During a period of more than five months she vomited blood almost daily, and often more than once a day. She experienced a feeling of malaise and distension, as well as vertigo and tinnitus; she also had amenorrhoea. Six months in bed on a strict diet did little good, and subsequently the patient came under Gardini's care. In spite of further prolonged treatment, which included rest in bed, drugs, diet, and for a time rectal feeding only, she had recurrences of haematemesis, and it was considered advisable to operate for gastric ulcer. Several observers have shown that in animals some lesions of the central nervous system result in gastric haemorrhage, and have found this observation confirmed in man. Thus, Füratner points out that gastric haemorrhage in hysterical girls often has a purely nervous origin, and Krueg has seen it occur in general paralysis of the insane. Haematemesis is also encountered as a form of vicarious menstruation, and has a relationship to the menstrual periods,

as well as to emotional and constitutional disturbances, and injury. In these cases the haematemesis replaces the ordinary hysterical attacks, and does not respond readily to the usual curative methods. Laparotomy having been performed, the stomach and pylorus were carefully examined, and as no adhesions and no trace of ulceration could be detected, an incision 10 cm. in length was made in the anterior wall of the viscus and the mucous membrane examined with the finger. It was found to be turgid, hypertrophic, and of a red colour, but there was no apparent cause for haemorrhage. The stomach having been closed with Lembert sutures and the abdominal wound stitched up, the patient made an excellent recovery from the operation. A fortnight afterwards she was able to take some solid food, and fifty days afterwards she left the hospital cured. She has had no further symptoms; she eats ordinary food and digests it perfectly; she has gained in weight. Her menstrual periods were re-established soon after the operation, and she has had no hysterical attacks. It is evident that this was a case of hysterical haematemesis cured by operative interference.

SURGERY.

(106) The Treatment of Hydatid Cysts of the Abdomen

Mabit (*Rev. de Chir.*, No. 5, 1905), dissatisfied with the results of the "marsupialization" operation for hydatid cyst of the liver, in which after free incision of the cyst the cut margins of its wall are attached to the margins of the wound in the abdominal wall, and its cavity is drained, has devised and practised with full success a new method of treating hydatid growths in the cavity of the abdomen. This surgeon—influenced, on the one hand, by the fact that the adventitia of a hydatid cyst is aseptic, and having observed, on the other hand, that after the first three or four days following a "marsupialization" operation the dressing usually remains quite dry, showing that there is no secretion from this membrane, and that any fluid that may be subsequently discharged is due to secondary infection—decided on leaving the membrane quite free in the abdominal cavity after having cut away as much of it as possible, and finally closing the abdominal wound without establishing drainage. The indispensable conditions for the success of this method of radical cure are: that the cyst contain the usual limpid fluid, that the mother cyst be capable of being removed readily and without laceration, and that the adventitia can be easily freed from any caseous deposits adhering to its inner surface—in short, that this membrane be absolutely clean. The cases in which, according to the author, this method is indicated are those of so-called emergent cyst, where a considerable portion of the growth—one-third at least—projects beyond the surface of the affected viscus into the abdominal cavity. In dealing with the objections to this operation the author states that haemorrhage during the after-treatment is usually the result of secondary infection, or may be due to erosion set up by the drainage tube. The inner surface of the adventitia, it is asserted, is quite free from blood vessels. Any secondary discharge of bile is also regarded as the result of septic infection. The probable risk of extension of hydatid disease from contact of the fluid of the cyst with the peritoneum may, it is held, be disregarded. It is very difficult, if not impossible, to prevent during an operation on a hydatid cyst in the abdomen, the flow of a small quantity of its fluid into the peritoneal cavity, and yet hydatid infection of the peritoneum as a result of the operation very rarely occurs. The risk also of septic infection of the peritoneum is regarded as very slight after the author's operation, as in one only of eighteen cases thus treated is there any record of suppuration. In conclusion the author strongly recommends this method, and states that, except in cases of imbedded cyst, and also in cases in which the tumour is very large, it will be found to offer the advantages of simplicity, of rapidity of execution, of freedom from danger, and of assurance against subsequent surgical treatment.

(107) Coxa Vara.

Nicholas Senn (*Journ Amer. Med. Assoc.*, June 10th) says that much confusion still exists in regard to the limitations of the term "coxa vara," understanding by this a disease that has not received the attention it deserves in this country, both from a pathological and an etiological standpoint. He would limit the use of the term to the non-inflammatory, non-traumatic softening of the neck of the femur in young subjects, or would at least call this form coxa vara *vera*, in contradistinction to the somewhat similar deformations caused by traumatic and inflammatory causes. He has lately studied three cases of this affection, one of them of especial interest, because in an adult. The clinical history and the Roentgen test excluded, he thinks, the possibility of a mistaken diagnosis. Little is known of the etiology or pathology of the disease; the possibilities of its being of rachitic nature or due to deficiency or excess of the osteoblasts during the growing period, or even to trophoneurosis, are alluded to. As the disorder appears to be self-limited and spontaneous recovery the rule, few *post-mortem* examinations have been made. As regards diagnosis, if there is complaint by an adolescent of lameness, pain in the hip radiating towards the knee, and on examination the femur is found adducted and rotated outward, the suspicion of coxa vara is well founded, as a similar position of the limb is met with only in fracture of the neck of the femur. The lack of temperature, tenderness, nocturnal twitchings, and the spontaneous cessation, sooner or later, of the acute symptoms, together with other signs, distinguish it from tuberculous coxitis, and in doubtful cases the Roentgen ray will confirm the diagnosis. Arthritis deformans and the type called senile coxitis are not usually hard to differentiate, and it should not be difficult to distinguish coxa vara and traumatic or pathologic epiphyseolitis, with due attention to the clinical history and with careful examination. The only condition that might lead to a wrong diagnosis, Senn says, so far as known to him, is fracture of the neck of the femur without complete functional loss of the limb, a case of which has recently been under his observation. Coxa vara never endangers life, and in some cases there is almost complete recovery. It may, however, cause permanent lameness and great impairment of joint function. The disease is a local one, and general treatment is unimportant, if not useless. If the disorder is, as some think, of rachitic nature, antirachitic medication may be in order, and in cases with hereditary or acquired lues the internal use of potassic iodide should not be neglected. Relief of pain and limitation of the deformity should be the objects of the local treatment, and rest in bed and extension best meet the indications during the acute stage. After cessation of pain the patient should use crutches for several weeks, and have the sole of the shoe on the opposite side raised at least 1 in. to secure auto-extension of the affected leg. In the vast majority of cases this simple expectant treatment will suffice to shorten the acute stage and prevent extreme deformity. Operative treatment is absolutely contraindicated until after the active symptoms have fully subsided. The surgeon should postpone all such until he can assure himself that conservative methods and Nature's efforts have fallen short in restoring usefulness. Before any operation is planned careful x-ray examinations should be made, with photographs showing the different aspects of the joint, front and rear, and the operative method selected accordingly.

(108) Nerve Anastomosis.

Bruandet and Humbert have published the results of experiments on the subject of anastomosis of nerves, with new observations on their structure that have an important bearing on the applicability of the operation (*Arch. Gén. de Méd.*, March 14th, 1905). The axis cylinders of which a nerve branch is built up are not, they find, placed together in the nerve trunk from which the branch springs, but are scattered throughout its thickness. They only run together at the point of separation of the two, or at least for a very short distance, before the division occurs. They made a hemisection of the sciatic nerve in the dog, and found muscular contraction of the same distribution to occur on stimulating the nerve trunk above and below the point of hemisection, and the animal could use the limb in walking. The muscular nerve supply is therefore, they point out, normally more than is essential for movement. They connect these results with the operation of nerve anastomosis for paralysis, pointing out that when, for the relief of facial palsy, the central end of the spinal accessory hypoglossal or glosso-pharyngeal nerve is united with the peripheral end of the facial, there is involved paralysis of the muscles supplied by the nerve which has been divided, and through the central end of which nerve energy is sought to be diverted. Partial division of the nerve trunk is, they maintain, quite sufficient for the purpose, and is not followed by paralysis. Moreover, in paralysis of the muscles supplied by the ulnar nerve the end of the nerve has been button-holed into an incision in the median, but they insist axis cylinders

must be brought into apposition with axis cylinders. It is futile merely to place the cut end of the ulnar nerve in the fibrous supporting framework of the median. What should be done is to detach some of the median fibres from its trunk and unite them with the ulnar fibres, so that, while the ulnar muscles are innervated, the median muscles are not paralysed. The prehensile power of the hand will thus be regained, and that without any re-education of the motor centres, although it may be the strength of the grasp will not be so great as formerly.

MIDWIFERY AND DISEASES OF WOMEN.

(109) Affection of Lumbar Nerves in Puerperium.

Meyer (*Zentralbl. f. Gyn.*, No. 27, 1905) has noted a distinct, transitory, neuropathic condition in 32 out of a series of 680 lying-in women. It sets in from a few hours to a few days after labour, rarely later. The patient first begins to complain of pains and heaviness in one or both lower extremities. Often there is evident paralysis of the psoas and iliacus; more rarely the extensors of the knee are involved. Loss of power in the adductors is rarest of all. There are tender points at the middle of the crural arch where the anterior crural nerve passes on to the thigh; at the internal tuberosity of the tibia (internal saphenous); at the anterior superior spine of the ilium (external cutaneous), and rarely around the region of the obturator foramen (obturator nerve). In about half the cases the disease was bilateral, though its severity was, as a rule, less symmetrical. The average duration of the disease was only a week, the minimum two days, the maximum thirteen days. Relapse occurred in two instances, the entire duration of the symptoms including the interval being twelve days in one and twenty in the other case. The pains may be sharp enough to prevent sleep, but are usually mild, and always tend to disappear before the local tenderness and the motor symptoms pass off. The symptoms nearly always appear after birth, slight pains were noted late in pregnancy in a very few instances, but the more characteristic symptoms did not appear till after delivery. Meyer maintains that this neurosis is not the result of pressure, but is due to auto-infection involving the roots of the nerves in the lumbar portion of the cord. In one case Meyer noted a similar affection of the upper extremity in child-bed. There was pain accompanied by distinct hyperaesthesia of the upper arm, with paralysis of the deltoid and probably of the supraspinatus.

(110) Operative Treatment of Puerperal Peritonitis.

Mauclaire (*Rev. de Gyn. et de Chir. Abd.*, May-June, 1905) has observed 6 recent cases where puerperal peritonitis was treated either by posterior colpotomy or by abdominal section. He concludes that when evidence of peritonitis appears in the course of a case of puerperal septicaemia, it is necessary to ascertain as early as possible, by careful palpation, if there be peritoneal effusion. The early evacuation of fluid by vaginal colpotomy may save the patient, but it has proved quite useless when the septic infection is advanced. When the peritonitis is consecutive to perforation of the uterus in the course of puerperal uterine septicaemia, abdominal section must be at once undertaken, then the pelvis can be thoroughly cleaned and afterwards well drained. Total hysterectomy, so tempting, indeed apparently so sound as a surgical measure, has been shown by experience to be unsatisfactory. The perforation must be closed by suture, except when very recent, and in this complication of the puerperium a posterior colpotomy must always be done first if there be evidence of fluid in Douglas's pouch.

(111) Pelvic Inflammation and Double Uterus.

Croisier (*Comptes Rendus de la Soc. d'Obst. de Gyn. et de Pédiat. de Paris*, March-April, 1905) publishes a case where a woman, aged 24, had puzzling symptoms associated with undoubted evidence of pelvic inflammation. She had been married for two years, and had never been pregnant; she was of intellect so weak that no reliable history of subjective symptoms was possible. The cervix was normal, and seemed continued into a body which filled the right fornix, and rose to a finger's-breadth above the level of the pubes; it appeared to be the body of the uterus deflected to the right. The left fornix was occupied by a soft, tender mass of the size of a Tangerine orange. It was separate from the body on the right, and diagnosis was doubtful. Salpingitis, cyst of the left broad ligament, or fibroma of that fold, all seemed possible. The patient was kept under observation for several months, and it was found that the mass in the left fornix constantly became larger during a monthly period, and subsided when the period ceased. At length an operation was performed, and directly the abdominal cavity was opened it was seen that there was a uterus bicornis unicollis; each cornu was hardly smaller than a single normal uterus. The left Fallopian tube was the seat of old inflammation, as was the corresponding ovary; the tube was as thick as a forefinger, and both tube and ovary were embedded in old adhesions; the left broad ligament was free from any morbid condition. The presence of old salpingitis accounted for the tenderness of the left cornu, or rather of the left tube soldered to the cornu by adhesions. The right appendages were removed as well as the left, since troublesome menorrhagia was present. The patient recovered and did well.

(112) Pregnancy in Uterus Bicornis Simulating Ectopic Gestation.

Füth (*Zentralbl. f. Gyn.*, No. 27, 1905) publishes a case of interest for diagnostic reasons. A woman was delivered at term in September, 1890. In April, 1891, she aborted at the second month. The period reappeared and remained regular for many years. After November 18th, 1900, it ceased. A little show was observed on January 28th and 29th, 1901, without pain. Severe hypogastric pains set in. On February 26th, 1901, Füth found that the body of the uterus appeared to be retroflexed and bent to the right; on its left lay an oval elastic mass of the size of a child's head, very tender and in character like a tubal sac. When the abdominal cavity was laid open the mass was seen to be a structure in all respects like a gravid uterus, and the left appendages sprang from its left side. It was freely movable. On feeling down its right side, deep in the pelvis the body which had been taken for a retroflexed uterus was detected; the right appendages sprang from this body. The sound passed 4½ in. into the tumour when passed into the os externum; the cervix was normal. Thus there was pregnancy in the left cornu of a uterus bicornis unicollis. Labour set in on July 7th, the head presented, the membranes ruptured early, and the left hand prolapsed. On the next day delivery was effected by version, the funis prolapsed and was felt to be pulseless as the right foot was brought down. The dead child was expelled spontaneously a few minutes later. The left cornu underwent normal involution. When examined after convalescence a sound could be passed for about 3¼ in. into the left cornu, but the instrument could not be passed into the opposite horn.

THERAPEUTICS.

(113) The Treatment of Spastic Constipation.

A. Albu says (*Med. Record* July 1st) that while it is true that in most cases of constipation the older view that the condition is due to atony of the intestine holds good, it has of late years been recognized that there is another type of the disease depending upon an exactly opposite state of affairs, in which the gut is in a state of spastic contraction. The proportion of such cases is not small, and the author estimates that at least 25 per cent. of the cases of constipation in women belong to this variety. It is important to recognize it, as the treatment of constipation due to spasm is naturally very different from that of constipation dependent on atony, but the diagnosis is often difficult or impossible. The patients are usually neurasthenic or hysterical individuals, who may exhibit spasm in other regions of the body, such as cardio-spasm, pharyngeal spasm, etc. The intestinal spasm is not continuous and gives rise to sensations that may range merely from a feeling of discomfort to positive colics. The contracted knots of the intestine may be palpable as tender sausage-shaped masses, and rectal examination may reveal a spastic condition of the sphincters. The fæces sometimes assume the characteristic ribbon or lead pencil shape. The treatment comprises the avoidance of all irritation of the intestine, especially massage, and the use of soothing and relaxing measures, such as warm baths, hot applications to the abdomen, warm oil enemas, belladonna, non-irritating, gruel-like diet, and rectal bougies.

(114) Empyroform.

J. Pollitzer (*Die Heilkunde*, April, 1905) has made use of empyroform, a coal-tar

derivative, in the treatment of skin diseases, and strongly recommends it. Empyroform is a condensation product of tar with formaldehyd. It is a greyish-red powder, without the unpleasant odour of tar, insoluble in water, freely soluble in chloroform, acetone and tincture of benzoin. Its action is weaker than that of tar. Owing to the presence of formaldehyd it acts very favourably in lessening subacute hyperaemia with recent infiltration; and it is equal to tar in diminishing skin irritation. It may be used as an ointment, a paste, or as a tincture. The indications for its use are similar to those for the use of tar, and include especially chronic inflammatory, pruriginous and parasitic processes. The author has treated with empyroform many cases of chronic eczema, including the obstinate cases of occupation eczema. In these cases the formation of vesicles and scales soon stopped, the thickened epidermis became soft, and the previously persistent reddening of the skin quickly passed off. Especially marked was the effect upon the itching, and as a result the patient ceased to aggravate the condition by scratching. Empyroform acts well in the terminal stages of acute eczemas, because it does not give rise to any fresh inflammation as tar is in danger of doing. Even in the somewhat acute cases, in which tar preparations are contraindicated, empyroform may be used. In the severe chronic cases of eczema empyroform may not be as useful as tar preparations, but when such preparations have given rise to too strong a reaction empyroform may be substituted for them for a time with advantage. In the form of the tincture empyroform works well for cases of squamous and seborrhoeic scalp eczema. Cases of prurigo and pityriasis rosea have been benefited by the use of the drug, but the results have not been as satisfactory in psoriasis and in dermatomycosis tonsurans circinata.

(115) The Effect of Iodine Injections on the Blood.

GIANASSO (*Rif. Med.*, May 27th, 1905) has treated 20 cases of osseous tuberculosis in children by Duranti's method of injection of an iodide solution of iodine and noted the effect of such treatment on the blood. Careful examination of the blood was made before the treatment was started, and then again after about thirty injections of 1 c.cm. had been given. As regards the iodine treatment itself, all the cases were considerably improved by it and suffered no inconveniences. A marked increase in the number of red corpuscles and in the haemoglobin and globulin index was noted. In 14 out of the 20 cases there was an increase in the white corpuscles. The mononucleated leucocytes (especially the small ones) were increased. This increased leucocytosis would strengthen the phagocytic powers of the cells of the body, and hence increase the resisting power of the organism to the tubercle bacilli.

(116) Local Anaesthesia.

IN summing up the modern methods of local anaesthesia, Hildebrandt (*Berl. klin. Wooh.*, May 18th, 1905) raises the question whether the employment of these in surgical operations has not gone too far, in doing harm to fearful and nervous patients; but on the other hand he fully recognizes the immense advantage, in a large number of cases, in avoiding the dangers of general narcosis. In deciding between general narcosis and local anaesthesia, one must study the patient, and, to a certain extent, the capabilities of the surgeon must also be taken into account. In turning to the various methods of inducing local anaesthesia, he says that Richardson's method of the ether spray has now been replaced by other methods—for example, ethyl chloride. Improvements of this have been introduced in the shape of additions—for example, ethyl chloride with cocaine or eucaine, or in the shape of mixtures of ethyl and methyl chloride — for example, anaestyle, coryl, and anaesthol. But the use of locally-acting anaesthetics has been found to be better than the action of cold, and the introduction of cocaine and its allies marks an epoch in this branch. The dangers of cocaine, especially when injected in concentrated solutions, have caused the surgeon to be cautious in its use; but this danger has been much diminished by the simultaneous employment of extracts of the suprarenal glands. Hildebrandt describes the method introduced by Reclus, who employed 1 per cent. solutions injected into the cutis, and limited the amount of salt injected to 0·19 gram. Schleich's method, however, has completely replaced Reclus's method, at all events in North Germany. Schleich uses cocaine, hydrochlorate of morphine, chloride of sodium, and distilled water, and makes up three solutions. The ordinary solution consists of 0.1 per cent. of cocaine, which he employs for the usual skin anaesthesia; for deeper, less sensitive structures he dilutes this down to 0.01 per cent., while for hyperaesthetic areas he uses 0.2 per cent. solutions. The infiltration takes place by first rendering a small point analgesic with ethyl chloride, then injecting the solution into the skin, forming a wheal, and into the periphery of this, again inserting the needle, and so on, until the whole area of the field of operation is rendered anaesthetic. The deeper layers are treated in the same way; 100 c.cm. of the normal solution can be injected without the least danger, for part of the fluid escapes on the incision being made, while the rest absorbs very slowly. The addition of adrenalin in Schleich's local infiltration is also of great value. The operations especially well suited to this form of local anaesthesia are: the extirpation of benign encapsuled tumours, resection of ribs, typical operations on the abdomen, such as gastrostomy, etc., as long as one has not to search too much inside the peritoneum, as pulling of the mesentery and omentum causes both great pain and much shock. The removal of malignant tumours and operations on inflamed areas are not well adapted for Schleich's anaesthesia. Oberst introduced the method of so-called regional anaesthesia, by which one applies the anaesthetic indirectly. The solution of cocaine is injected into areas surrounding the efferent sensory nerves. The local circulation has to be arrested for this purpose, and thus the method of Oberst is limited to fingers and toes, which can be strangulated by elastic bandages. The objection of the method is that the after-pain is troublesome. Whole hands and feet should not be dealt with in this way. Next he deals with the circular anaesthesia of Hackenbruch; 0.05 gram of cocaine and eucaine in 5 to 10 c.cm. of water are employed. The injections are made completely around the area of operation. Lastly, Braun's method is described. This is a quasi combination of Schleich's and Hackenbruch's methods. In conclusion, he speaks of the substitutes of cocaine. Of these, eucaine has so far gained the foremost place. It has nearly the same analgesic action as cocaine, and is less toxic. Stovain has recently found many friends, and promises to be employed much in future. It is said to be free from all toxic effects.

PATHOLOGY.

(117) Visceral Hypoplasia and Cancer.

SOME observers have noted that the viscera in cancerous patients are small and incompletely developed. Cattin has investigated this subject, and has been able to collect several cases from personal observation and records (*Journ. de Med. et de Chir. Pratiques*, April 10th, 1905) proving the existence of hypoplasia in cancerous patients, irrespective of the organ primarily affected. It has been suggested that the small size of the viscera is due to atrophy rather than a pre-existing hypoplasia. In favour of the latter it has been noticed that the kidneys in a certain number of autopsies were small, without presenting either fibrosis and contraction or diminution of the cortex, but on the other hand showed traces of a fetal lobulation of the surface. Incontestably the strongest argument in support of the hypoplastic theory is furnished by the state of the uterus, which was in many instances infantile in type without there being any evidence of atrophy. In the opinion of the author, there is a connexion between visceral hypoplasia and malignant disease.

(118) The Transmission of Human Tuberculosis to the Calf.

A. EBER (*Beitr. z. Klinik d. Tuberk.*, Bd. 3, 4 Hft., 1905), employing human tuberculous material obtained from obductions made at the Leipzig Children's Hospital, succeeded in exciting a typical bovine tuberculosis in seven non-tuberculous, healthy calves experimentally infected therewith. He states that neither macroscopically nor microscopically could any difference be detected between the lesions determined in the animals by the human bacillus tuberculosus and those formed either in spontaneously-infected calves or in calves experimentally inoculated with the bacilli obtained from undoubted cases of bovine tuberculosis. Full experimental details are given. The author concludes that Koch's statement to the effect that the bacillus of tuberculosis in man is essentially different from the bacillus causing bovine tuberculosis is erroneous.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

(119) Classification of Cases of Phthisis.

At the meeting of the American National Association for the Prevention and Study of Tuberculosis held in Washington in May last, the Committee on Clinical Nomenclature presented a report on Turban's scheme of classification and description of phthisical patients for purposes of comparative statistics. They recommended it for adoption. The following is the scheme, together with an additional one suggested by the Committee (*Med. News*, May 27th): (1) Extent of disease in the lungs. I, II, III (for exact definition see below). (2) How long consumptive. Period to date from the observation of the first clinical symptom—for example, stubborn coughing, haemoptysis, pleurisy, loss of flesh, etc. (3) General condition of the patient. A, X—A = favourable; X = unfavourable. (4) Digestion. B, Y—B = unimpaired; Y = impaired. (5) Pulse The pulse is to be registered every morning and evening, the patient resting. (6) Temperature. F, f, t.n.—F = maxima for the day over 101° F.; f = maxima for the day from 99° to 101° F.; t.n. = normal temperature (mouth). (7) Tubercle bacilli. + O. + = tubercle bacilli present; O = tubercle bacilli absent. (8) Tuberculous complications. Name of the organ suffering from tuberculosis. (9) Other complications. Name of the disease. (10) Result of treatment. (Vide *infra me*) Classification of results of treatment proposed by Committee on Nomenclature: Definition of the extent of disease in lungs, according to Turban: I, Slight lesion extending at most to the volume of one lobe or two half lobes. II, Slight lesion extending further than I, but at most to the volume of two lobes; or severe lesion extending at most to the volume of one lobe. III, All lesions which in extent of the parts affected exceed II. By "slight lesion" we understand disseminated centres of disease which manifest themselves physically by slight dullness, by harsh, feeble, or bronchovesicular breathing, and by râles. By "severe lesion" we mean cases of consolidation and excavation such as betray themselves by marked dullness, by tympanitic sounds, by very feeble bronchovesicular, bronchial, or amphoric breathing, by râles of various kinds. Purely pleuritic dullness, unless marked, is to be left out of account; if it is serious, the pleurisy must be specially mentioned under the head of tuberculous complications. The volume of a single lobe is always regarded as equivalent to the volume of two half lobes, etc. Classification of cases and results of treatment in pulmonary tuberculosis, to be used in connexion with Turban's scheme, as prepared by the Committee: Progressive (unimproved): All essential symptoms and signs unabated or increased. Improved: Constitutional symptoms lessened or entirely absent; physical signs improved or unchanged; cough and expectoration with bacilli usually present. Arrested: Absence of all constitutional symptoms; expectoration and bacilli may or may not be present; physical signs stationary or retrogressive; the foregoing conditions to have existed for at least two months. Apparently cured: All constitutional symptoms and expectoration with bacilli absent for a period of three months; the physical signs to be those of a healed lesion. Cured: All constitutional symptoms and expectoration with bacilli absent for a period of two years under ordinary conditions of life. The disease is to be considered incipient and of favourable prognosis, if there is but slight initial lesion in the form of infiltration limited to the apex or a small part of one lobe; if no tuberculous complications are present, and slight or no constitutional symptoms (particularly including gastric or intestinal disturbances or rapid loss of weight); if there is slight or no elevation of temperature or acceleration of pulse at any time during the twenty-four hours, especially after rest; if the expectoration is usually small in amount or absent, though tubercle bacilli may be present or absent. The disease is to be considered moderately advanced, if there is no marked impairment of function either local or constitutional; if the localized consolidation is moderate in extent with little or no evidence of destruction of tissue; or disseminated fibroid deposits and no serious complications. The disease is considered to be far advanced if there is marked impairment of function, local and constitutional, or if the localized consolidation is intense; or if there are disseminated areas of softening; or serious complications.

(120) Arterio-sclerosis.

BURWINKEL, in investigating the causes of death in 10,000 cases, points out (*Gazz. Med. Lomb.*, July 3rd, 1905) that the percentage of deaths from arterio-sclerosis is 22 per cent.; he does not consider this high rate to be exclusively due to the progress which the art of diagnosis has made, but agrees with other authors that there has been a serious increase in this disease in latter times. He defines sclerosis as any change which causes thickening of the arterial wall, and which tends to produce inflammatory or degenerative changes. Arterio-sclerosis may be a purely local affection, but as a rule it ought to be regarded as the manifestation of a general progressive disease. The cause is generally mechanical or toxic. Distension of the vessel walls, as in plethora, causes a loss of contractility, whereas degeneration of the vessel walls may be due to malnutrition, in which case the specific elements of the wall die and are replaced by connective tissue and calcareous deposits. As the vessels obtain their nourishment directly from the blood passing through them it is necessary that the force of the blood stream should be maintained, and that the blood itself should contain nutritive properties and be free of toxic substances. Retardation of the blood stream and deterioration of the blood are primary causes in the production of arteritis. This disease is frequent in persons belonging to families in which it is already present, or in which such diseases as gout, asthma, diabetes, or emphysema are prevalent. If the diet is unduly abundant the tension in the vessels is raised, if it is unduly rich concentrated albuminoids give the blood a viscosity which causes friction in the vessels and retards its flow. Extractives of meat favour an increase of pressure, and consequently produce spasm of the small vessels. Coffee, tea, alcohol, and tobacco by stimulating the nerves of the vessel walls increase the blood pressure. It is observed that in countries where the use of these stimulants is general arterial disease is very common. The noxious influence of alcohol is very marked when it is taken in large quantities. The chief evil of tobacco lies in the fact that when it is inhaled the blood instead of being oxidized is charged with a deleterious gas. All conditions which hinder the perfect oxidation of the blood, such as asthma, emphysema, thoracic deformities, or adherent pleurae, gradually produce fatty or sclerotic degeneration of the arterial walls. Digestive disturbances also have their influence, either direct or indirect, upon arterio-sclerosis. The quality of the blood is altered by the absorption of intestinal toxins, and the accumulation of gas or faecal material may alter the pressure in the intestinal vessels and make itself felt in the aorta. Syphilis is another cause, and the use of mercury has the same destructive effect upon the red blood corpuscles, and favours the development of arterio-sclerosis in the same way as lead does. Frequent and severe haemorrhages promote fatty degeneration of the intima. Chronic nephritis, diabetes, and gout are often accompanied by this disease, and Romberg explains its frequency in cases of obesity by regarding it as a hypertrophy due to the excessive work which falls upon the circulatory system. He considers that physical effort associated with nervous influences favours the process, but it is notable that among peasants exposed to fatigue—many of whom freely use tobacco and alcohol—there is less arteritis than among the well-to-do of the cities. In women it is not more common among multiparae than among nulliparae, and in them it tends to occur at the time of the menopause. He distinguishes two forms of arterio-sclerosis, one a tonic or plethoric form having its origin in good living, the other an atonic form due to hard work and poor nutrition. The prognosis is always serious, and to be made with caution. Treatment must aim at reducing the blood pressure by suitable dietetic measures, and the accumulation of fat by exercises. Meat should be limited and more milk and vegetables given to diminish the viscosity of the blood. All means to improve the circulation and oxidation of the blood are essential. The drugs which are the most useful are the iodides and digitalis, and hydrotherapeutic and balneario treatment is also valuable.

(121) The Relation of Ethmoidal Inflammation to Asthma.

H. COGGESHALL says (*Med. Rec.*, June 3rd) that asthma is a name given to paroxysmal difficult breathing, and that the disease is an inflammation of the mucous membrane of the ethmoidal cells. An irritation of branches of the

trigeminus or olfactory nerves causes an altered activity in the medulla, that is to say, in the centre of respiration. The result in the bronchial tubes is a vasomotor disturbance or contraction of muscles, or both. Chronic bronchitis, or emphysema, or a dilated right side of the heart, are not asthma. They are sequels to asthma of severity and long standing. Other varied factors are the contributory causes of asthma. Errors of nutrition, errors of diet, gout, obesity, lymphatism, impure air and poor circulation are such causes. To these may be added direct irritants to the nasal mucous membrane, such as various pollens, emanations from animals, dust, smoke, and many others in the cases of the sufferers from periodic asthma. The reasons in favour of this view are expounded, and the author also outlines a plan of treatment directed toward the correction of the chronic inflammation in the ethmoidal cells.

SURGERY.

(122) Appendicitis Statistics.

PELLEGRINI publishes (*Clinica Moderna*, May 31st, 1905) his observations upon 91 cases of appendicitis. In 68 cases the appendix was removed, in 2 resection of the caecum was performed, in 2 the adhesions were broken down, in 6 the abscess cavity was opened and drained, whilst the remaining 13 received medical treatment only. Thirty-nine per cent. of his cases occurred in women. He considers the lesser frequency of appendicitis in the female sex to be due to the efficient vascular anastomosis between the appendix and the neighbouring organs, which tends to prevent congestion and inflammatory affections of the appendix. Further, he thinks that errors of diagnosis are common in women, and that many pelvic suppurations which originate in the appendix are attributed to other sources. The maximum number of cases occurred about the age of 20, at which period, according to Ribbert, the appendix attains its greatest development, and, consequently, its greatest vulnerability. The lymphatic follicles in which, as a rule, the disease is first localized undergo, as age increases, a process of progressive atrophy, and the lumen itself tends to become obliterated. Thirty-nine per cent. of the cases came under observation after the first attack, others after the third or fourth, and a few after from seven to twelve attacks, whilst others were so readily and frequently disposed to slight attacks that it was not possible to ascertain from how many they had suffered. Sixty-one per cent. had experienced two or more attacks; 26 per cent. had suffered from intestinal disturbances which were distinctly related to the onset of the first or recurring attacks. The causes included traumatism, typhoid, tonsillitis, scarlatina, and gout; 27 per cent. of the cases had signs of tuberculosis; in 5 of them the disease was active, although in only 2 could the appendicular lesion be considered tuberculous. Several patients had more or less severe symptoms of intestinal obstruction, either mechanical or paralytic in character. In one case a band caused occlusion of the caecum, in another the omentum was adherent to the appendix and caused downward displacement of the colon. In most cases where the omentum was adherent to the appendix it was readily detached, but in 13 it was necessary to resect a portion of it. Although in most cases appendectomy was performed some time after the inflammatory attack, small abscesses were found in 10 cases, even after an interval of a month or six weeks from the last rise of temperature. All his cases recovered by first intention except 2, in which drainage was employed; in 7 cases there were lesions of the intestinal wall occurring either before or during the operation; in one case three days after the removal of the appendix symptoms of intestinal perforation became evident, and on reopening the wound it was found that the pressure of a glass drainage tube upon the already damaged wall of the caecum had perforated it. Resection of the caecum was necessary in 2 cases, since, owing to chronic appendicitis, there was a large mass in the region of the caecum which caused obstruction. Another complication of appendicitis is jaundice. A typical case occurred in a boy who had three attacks of appendicular pain, each time accompanied by jaundice; 68 per cent. of the cases were catarrhal or suppurative, 22 per cent. perforated, 10 per cent. showed a more or less diffuse necrosis, only 9 contained foreign bodies, such as seeds, calculi, etc. As a rule it was observed that the follicles were hypertrophied, and the epithelial lining thickened, tending to obliterate the lumen of the appendix. In some cases an infiltration of leucocytes surrounded the follicles, in others there were small abscesses in the follicular substance, or else the follicles had been destroyed. The epithelial lining was generally absent, and the superior layers of the mucous membrane degenerated. The glands were compressed or choked by the infiltration of the tissues, and often they were destroyed altogether. The submucosa was also infiltrated, and at times contained small abscesses. The fibres of the muscular coat showed degeneration and pericellular infiltration, especially marked round the vessels. The meso-appendix was affected in most cases, the vessels being injected and the glands inflamed; frequently the mesentery was adherent to the appendix, and the infiltration was then haemorrhagic. As regards the nature of the infection, 2 cases were tuberculous, 1 was due to actinomycosis, the others to the bacillus coli communis, the staphylococcus or streptococcus, while several were sterile; it was noticed that in those latter the lumen of the appendix was obliterated, so that it did not communicate with the caecum. Out of 91 cases 4 terminated fatally, or 4.39 per cent. He considers the ideal moment for surgical interference to be the first or second day, and that the prognosis depends greatly upon the date of such interference.

(123) Radium Treatment of Oesophageal Cancer.

MAX EINHORN, New York (*Jour. Amer. Med. Assoc.*, July 1st), describes a method of treating cancer of the oesophagus with radium and gives its results. He introduces the radium vial enclosed in a hard rubber capsule which is screwed on to the end of a flexible rubber tube enclosing a stylet to guide it, which is removed when the stricture is reached. The capsule is allowed to remain in contact with the stricture from half an hour to an hour, according to the needs of the case. The instrument is easily cleaned and disinfected, and can be employed also in gastric cancer. No mechanical force was employed in the seven cases in which he has used it—so mechanical dilatation may be excluded—but the results have been very satisfactory. Einhorn believes that in the methodic application of radium we have a means of favourably indicating the course and seat of the disease and retarding its progress, even if at present we are not able entirely to remove it. He believes the method has a future and deserves thorough and more extensive trial in this hitherto intractable condition.

(124) Typhoid Orchitis.

BLUMENFELD has been able to collect 69 observations of orchitis occurring as a complication or sequel of typhoid fever (*Journ. de Med. et de Chir. Pratiques*, April 10th, 1905), from which he draws the following conclusions: Orchitis generally appears during convalescence, less frequently in the active course of the disease. It is characterized by a rapid rise of temperature, pain in the scrotum, occasional vomiting, which is apparently reflex. Pain is sometimes insidious, but usually increases rapidly, being situated in the neighbourhood of the epididymis and vas. It may radiate into the loins and the inguinal regions, intercostal spaces and the thighs, both in front and behind. The erect posture or movement of any kind is painful. Examination reveals the presence of swelling on one side, as typhoid orchitis is always unilateral, an important distinction from that met with in gonorrhoea. Orchitis ends in resolution or by suppuration (29 out of 69 cases), occasionally by atrophy, which is the least common. The duration varies from twelve to eighteen days, exclusive of suppurating cases. The treatment consists in sedatives and local protection.

MIDWIFERY AND DISEASES OF WOMEN.

(125) Intraperitoneal Rupture of the Bladder.

T. R. GRIMSDALE (*Journ. of Obst. and Gyn.*, May, 1905) describes a case of rupture of the bladder occurring during labour in a primiparous woman. When the patient was first seen by the doctor in attendance at the labour the os was the size of a threepenny bit. On the next day the os had increased to the size of a shilling. Two days later the doctor was again summoned, and found the os fully dilated, but the anterior lip of the cervix down. The woman was easily delivered by forceps. When asked as to the passage of urine, the patient stated that she had passed none for two days before delivery; the nurse, however, said that some had "run away during the pains." After delivery the abdomen was found to be rather prominent, and

on percussion the note over the lower part was tympanitic. The patient was seen again on the next morning and was then collapsed. She had vomited material like coffee grounds frequently during the night. The abdomen was swelled, and its appearance suggested that distension of the bladder was present. A catheter was passed and ten ounces of fluid looking like beef tea were drawn off. When Grimsdale first saw the patient she looked pale and anxious, the pulse was 160, respirations were 36 and were almost entirely thoracic. The abdomen moved very little on respiration: it was distended, being especially prominent between the umbilicus and the pubes, and there was dulness over this area. The percussion note above the umbilicus was tympanitic, and in the flanks was dull. On percussing one flank a thrill could be felt on the other. The catheter, which had been left in position in the bladder, was at this time drawing off clear urine. The diagnosis was of rupture of the bladder. The patient was removed to the infirmary, and the abdomen opened. A large quantity of blood-stained fluid gushed out on incision of the peritoneum, and when the peritoneal surface of the bladder was exposed a hole was found large enough to admit a pair of closed Spencer Wells forceps. This hole was surrounded by bruised tissue, and through the hole urine was escaping into the peritoneal cavity. The bruised tissue was cut out of the bladder wall, the hole was sewn up, the peritoneal cavity was cleaned, and the abdominal wound was finally entirely closed. The patient recovered uneventfully. The points of special interest in the case are: (1) The rarity of the accident; (2) the fact that perforation must have occurred during the first stage of labour; (3) the unirritating effect of the urine upon the peritoneum, which was not inflamed.

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(126) Repeated Tubal and Simultaneous Normal Pregnancy.

Scheffen (*Monats. f. Geb. u. Gyn.*, April, 1905) was consulted by a patient who had two years previously undergone an operation for ectopic gestation in the right Fallopian tube. The period had been absent for seven days and gestation in the left tube was diagnosed. Within a few days tubal abortion occurred. At the end of four weeks, after the cessation of the tubal pregnancy, the left tube was removed and then the uterus was found to be gravid. Abortion took place on the twelfth day, otherwise convalescence was uneventful. As the right tube and ovary were absent it was clear that the ovum which had developed in the uterus and that which had become implanted in the tube arose both from the same—namely, the left—ovary. When this case was discussed before a society the question of the removal of a sound Fallopian tube when a tubal sac on the opposite side was amputated being raised, it seemed, according to most of the speakers, that such a course was not justifiable. There was a much greater probability that normal uterine pregnancy would follow than that the opposite tube would become the seat of a future pregnancy. Over 45 instances of uterine pregnancies after the removal of a tubal sac were known. Noll stated that he once removed a left tube and ovary and also the right ovary, which appeared cystic, leaving a little piece of healthy ovarian tissue, on to which he sewed the peritoneum. A year and a half later the patient gave birth to a healthy child.

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(127) Interstitial Pregnancy in Stump of Tube removed when Gravid

Lesse (*Zentralbl. f Gyn.*, No. 18, 1905) operated for ruptured tubal gestation, amputating the right tube, which bore the sac. Six months later the patient became pregnant again, the sac ultimately ruptured, but the signs of internal haemorrhage were not marked for awhile. At length a tumour was definable, reaching to the umbilicus; intestine lay in front. The uterus, mistaken apparently for the tumour, was dilated and explored; its cavity was empty. Abdominal section was performed, and ruptured interstitial pregnancy at the right cornu was discovered. The right ovary, which had been saved at the first operation, was found to be normal, but the corpus luteum lay in the left ovary. The fetus had escaped from the sac and lay under the liver. The uterus was removed; it was noted that the position of the interstitial sac showed that the stump of the right tube in which it had developed may have become patulous, so that external migration had occurred, an ovum from the left ovary entering the canal of the stump. Internal migration of an ovum from the left side was far less probable. The patient in this case recovered from the operation. Bröse, in a discussion, believed that it was advisable in cases of tubal gestation to cut a small wedge-shaped piece out of the cornu of the uterus, thereby insuring the extirpation of the tube. Schauta practised this method when removing a pyosalpinx.

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(128) Cornual Pregnancy at Term.

Hannes (*Monats. f. Geb. u. Gyn.*, March 1st, 1905) recently operated on a patient in this condition. She was 24 years old and had borne one child about a year previously at term and it lived. The second pregnancy was soon complicated by hyperemesis and great debility. In the fourth month violent abdominal pains set in suddenly, lasting for three days. No attacks of syncope occurred. Thenceforth there were occasional sacral and hypogastric pains, which increased to the ninth month, whilst the abdominal swelling at last diminished a little. At term it reached about a handbreadth above the umbilicus. The fetal head could be felt towards the left at the level of the iliac space; spongy placental tissue could be distinguished on vaginal exploration anterior to the cervix. The uterus was retroverted. On opening the fetal sac a child was found covered in parts with vernix caseosa and relatively fresh. The placenta was then set free: it was loosely attached, except at a point close to the right round ligament, which was greatly hypertrophied. The adhesion was very vascular and secured as a pedicle. The sac was separated with ease at some points, with difficulty at others, and the abdominal wound was closed. The fetus was a male, weighing 6 lb., and measuring 20 in. in length. The patient made a good recovery. The right appendages sprang from the outer aspect of the sac, and as the right round ligament also sprang from its outer aspect, it was clear that the pregnancy had developed in a rudimentary right cornu.

THERAPEUTICS.

(129) The Roentgen Ray in Neuralgia.

C. L. Leonard (*Amer. Med.*, July 8th) reports the x-ray cases which indicate what may be accomplished under favourable conditions for the relief of intolerable neuralgic pain. The cases are not to be taken as a definite measure of an agent with which a measured dose can be applied to accomplish the same result. Each patient and his or her disease, modified by the reaction of the Roentgen ray, must form the individual basis for treatment in each case. So far no generalizations can be made, nor can definite results be promised. They depend upon the reaction of the patient and the adaptation to each case of the quality of ray necessary to it. Leonard reports as apparently cured cases of tic douloureux, chronic migraine, and facial neuralgia. These were chronic cases, and had remained free from pain from one to two years after treatment. In one or two cases palliative results alone were observed. He concluded that although these few cases are possibly too few and of too short standing from which to deduce any valuable conclusions, they at least demonstrate that in certain conditions of intolerable pain this agent can relieve and produce apparent cures that persist for a considerable length of time. Although it cannot be stated definitely which particular classes of cases will be benefited, there is at least a prospect of temporary relief for all, and a probability that a further development of technique will increase the number of cases in which permanent results can be secured. Neuralgias are not the only painful conditions that can be relieved by this agent, for articular pain, as seen in gout and rheumatism, even after deformity and stiffening has taken place, can in many cases be permanently relieved, while the pain can certainly be decreased.

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(130) Freezing in the Treatment of Skin Diseases.

Juliusberg (*Berl. klin. Woch.*, March 6th, 1905) has used liquid carbonic acid for this purpose. Its action is rapid and intense; at the end of half a minute it produces marked anaemia, followed after a few minutes by hyperaemia and serous exudation. In twelve hours there is inflammatory redness, and small superficial blisters form. These changes disappear after a few days. More intense freezing will produce ulcers. Therapeutically, liquid carbonic acid has several advantages over a mixture of the chlorides of ethyl and methyl. The author uses it three times in three to four weeks. For acne several applications with warm alcoholic dressings in the intervals have given excellent results. Psoriasis and lupus are made worse by this treat-

ment. For lupus vulgaris two or three sittings a month are sufficient; the freezing is performed energetically to cauterize the tissue; severe pain is often occasioned. It is above all with lupus erythematosus that the method is successful. Juliusberg relates 9 cases.

(131) Specific Medication in Pulmonary Tuberculosis.

F. M. Pottenger (*Zeit. für Tuber. und Heilstätt*, December, 1904), in considering the specific treatment of tuberculosis, would distinguish between a pure tuberculosis and consumption. The clinical symptoms of a pure tuberculosis are slight, and "the theme of every paper dealing with the treatment of tuberculosis should be that tuberculosis is a curable disease, the most curable of all chronic maladies." In consumption necrosis of the lung tissue takes place, other germs gain entrance, and the well-known symptoms of cough, expectoration, fever, chills, sweats, loss of appetite, and emaciation are present. This is the condition difficult to cure. The specific remedies against tuberculosis are of two classes—those which aim at active and those which aim at passive immunization. To the former class belong tuberculin, purified tuberculin, tuberculin R., antiphthisin, tuberculocidin, and watery extract of tubercle bacilli; to the latter class belong the various serums such as that of Maragliano in Italy. The arguments for the employment of these substances are: (1) That all recent study and experiment show them to be based on scientific principles; (2) when used in cases of visible tuberculous areas, such as those found in the nose, pharynx, etc., intractable conditions yield in a much greater proportion of cases than where they are not used; (3) in suitable cases of pulmonary tuberculosis healing takes place more surely and quickly than where they are not used; (4) relapses are much less common when specific medication has been employed. The author has collected statistics as to the results of treatment in 1,100 cases of incipient pulmonary tuberculosis, and these bear out the third of the statements made above. Of 589 patients treated with culture products 496, or 84.2 per cent., were apparently cured, while of 611 treated by ordinary hygienic measures only 391, or 64 per cent., were cured. In using specific remedies it is necessary to understand their limitations. In the first place tuberculin and the allied substances have no influence on germs other than the tubercle bacilli and they are therefore of comparatively little use where mixed infection is present. Again, when active immunization is attempted, the cells of the organism are stimulated to react and produce substances antagonistic to the toxic material introduced. This process is a tax upon the organism, and for this reason tuberculin and the allied substances are not useful in the later stages of the disease when the serums can be employed to greater advantage. Lastly, while using the specific remedies, no other treatment of recognized worth should be neglected. The fact is apt to be lost sight of and to bring tuberculin treatment into disrepute. Mixed infection is no longer to be considered as a hopeless complication. Streptolytic serum can now be used against the streptococci found in association with a tuberculous infection, and if given in sufficient doses and for an adequate length of time will eliminate the streptococci from the system.

(132) The Treatment of Chronic Diseases.

Curran Pope (*Amer. Med.*, April 1st) says the chronically diseased are the opprobrium of medicine, and the long list of failures from medicinal treatment alone have caused physician and patient to turn to the more unusual methods of treatment found in sanatoriums. Careful diagnosis, analyses of the blood, urine, gastric juice, etc., is essential before a line of treatment is mapped out which consists of hydrotherapy, electric currents of all kinds, massage and vibration, exercise and gymnastics, hygiene and diet, rest, freedom from worry and work, control and individual influence together with certain medicinal remedies, all of which are arranged in a general schedule adapted to the patient's needs and individual necessities. Pope touches upon the advantages of these resources over mere hygienic and medicinal measures usually adopted by the family physician and gives his reasons why these treatments possess many advantages. He says it is regrettable that cases are allowed to run on until the time required for recovery is much lengthened. The field outlined is applicable not alone to the so-called functional and nutritional diseases, but is specially applicable to organic diseases of the spine, spinal cord, heart, and kidney.

PATHOLOGY.

(133) The Diffusion of Genital Infections.

F. Veraldo (*Archiv. per le Sci. Med.*, No. 3, 1904) describes experiments carried out chiefly on rabbits to determine the effects of inoculating the uterus with micro-organisms, and especially with the tubercle bacillus. Previous observers have pointed out the importance of inflammatory and other lesions in connexion with the tuberculous infection of the female genitals, and some authors have stated that most such infections take place simultaneously with the inoculation of gonorrhœa or of hard or soft chancre. The rabbit was chosen for these experiments as being very unlikely to suffer from accidental tuberculosis. Strains of human and bovine tubercle bacilli of proved virulence were used, a crust from a glycerinated agar solution being diluted with water and a small portion introduced into one cornu of the uterus with a catheter. In other cases this cultivation was mixed with sterilized charcoal powder, or was applied on a strip of sterilized gauze sewn into the uterus previously exposed by laparotomy. Cases in which the laparotomy proved fatal, and 2 cases in which an overdose of bacilli led to speedy death, have been rejected. In 14 rabbits the experiment was made immediately after parturition: 2 were killed on the twentieth day. One showed characteristic tuberculous nodules on the pleural surfaces without any affection of the uterus; the other showed no lesion visible with the naked eye, but the mucosa and the muscular wall of the uterus presented infiltration of leucocytes and some giant cells containing many tubercle bacilli and particles of the powdered charcoal. The periuterine lymphatic glands also showed tubercle bacilli. The other 11 rabbits were killed from thirty to sixty days after infection. In the 3 cases where bacilli alone had been placed in the uterus without gauze or charcoal there was no uterine disease but always pulmonary tuberculosis. In the 8 cases where some solid body had been left in the uterus there was a specific metritis with caseous inflammation of the periuterine glands, sometimes tuberculosis of other organs—always of the lungs. The pulmonary tuberculosis was of a miliary form, localized especially on the pleural surface of the lungs, and particularly in the superior lobes. In two of the more advanced cases the upper two-thirds of the lungs were much altered. The peribronchial glands were only slightly enlarged. Similar results—specific metritis with apical pulmonary tuberculosis—were obtained in the case of 3 gravid rabbits artificially infected with tubercle bacilli in the uterus. Six normal rabbits were treated—4 with bacilli alone, 2 with bacilli and charcoal powder. Of these, one escaped altogether, and the rest showed a local tuberculosis, complicated in one case only by tuberculosis of the lungs. Incidentally, these experiments show that the apical localization of pulmonary tuberculosis raises no presumption in favour of its aërogenous origin. Similar operations were performed on rabbits immediately after parturition with a broth culture of Friedländer's diplococcus. The diplococcus alone, or with charcoal powder, produced little or no effect; with gauze fixed in the uterus it led to a virulent septicæmia, followed by death in two or three days, though only a small quantity of the culture was used—barely enough to have caused death if injected into the peritoneal cavity. The author concludes that (1) the tuberculous virus introduced into the uterus of a rabbit may cause specific metritis with diffusion of the organism; (2) the diffusion of the bacilli happens more easily when the rabbit is in a pregnant or puerperal state; (3) the infection is transmitted almost constantly to the lungs, sometimes causing general miliary tuberculosis, at other times pulmonary tuberculosis limited to the superior lobes; (4) from the puerperal uterus of the rabbit the tubercle bacillus may be carried to the lungs without leaving any trace of its presence in the genital organs; (5) the virus is probably diffused by the blood stream; (6) the puerperal uterus, with its large absorbing surface, is a suitable place for the invasion of the germs of infectious diseases, whose virulence may be exalted in passing through it; (7) foreign bodies in the puerperal uterus, if aseptic, lead to a simple interstitial inflammatory process, if infected, they maintain their infection in the uterus and facilitate its diffusion to the organism.

AN EPITOME
OF
CURRENT MEDICAL LITERATURE.

MEDICINE.

(134) The Prevention of Summer Diarrhoea. T. S. Southworth (*Med. Rec.*, July 29th) says that a large part of the responsibility for the great infant mortality which recurs each summer rests on the medical profession, who have failed in their duty in anticipating such trouble by suitable prophylactic measures. These should date from the very birth of the child, and one of the most important is to urge breast nursing in place of bottle feeding. Over 90 per cent. of the deaths from gastro-intestinal disturbances occur in bottle-fed infants, and it is safe to assert that the surest protection against the death of an infant from summer diarrhoea lies in normal breast feeding. If the secretion of milk is scanty, it should be used for part of the feedings at least, and every effort should be made to encourage the flow. Much has already been accomplished in the way of educating the masses regarding the value of pure milk, but there is still a great deal to be done in this direction. Even after uncontaminated milk has been secured, however, it must be properly modified and kept cold, carelessness in the latter respect being sufficient to defeat the best intentions of the physician. Errors in weaning, neglect of apparently mild attacks of diarrhoea, and the common diagnosis of teething, which is used as an excuse for almost any evidence of bodily derangement, are factors that must be combated. The sucking nipple is another distributor of infection that must be abolished. The physician's day's work, even if he sees a child but once, is to seek out and correct errors in nutrition, to combat popular misapprehensions, to further the use of clean milk, to warn the mother that at the very beginning of loose movements in summer she should stop the use of cow's milk in any form, clear out the bowels with castor oil, give water or cereal gruels only, and send promptly for the physician, since delay is so often fatal. Only through such personal, painstaking instruction of the masses can the desired end be accomplished.

In a paper read at the recent annual meeting of the American Medical Association (*Med. News*, July 22nd), Maurice Ostheimer explained the prevalence of diarrhoea in summer by the action of the heat, which reduced infantile resistance and promoted the multiplication of bacteria in milk. After outlining the general care of the infant during this period, the necessity of open air, cool clothes, cleanliness, properly-cared-for milk, and proper intervals of feeding, he suggested instruction in the schools, especially the high schools, of matters relating to infant hygiene, and also proposed that the milk commissioners now present in several cities, should be increased in number. He expresses the idea that a model dairy, under the city government, and a milk modifying plant which would sell to the poor at cost should be established in every city. He condemned wholesale pasteurizing, as the number of bacteria in milk actually increase under this treatment; he pointed out that home pasteurizing did not have this effect.

(135) The Gastric Contents. In the Section on Medicine at the annual meeting of the American Medical Association recently held at Portland, George Dock read a paper on the methods, value, and limitations of the knowledge of the gastric contents (*Med. Rec.*, July 29th). He believed that instrumental and laboratory examinations with reference to the stomach were unduly neglected in practice, and many failed to make such examinations because they thought the passage of the stomach tube was difficult. In his experience this was not so. Training and practical experience were necessary for its success. He said the absence of hydrochloric acid in cancer was frequent, but cancer might be present with hydrochloric acid preserved for a long time, and even in excess of the normal amount. But such exceptions and contradictions occurred in all branches of diagnosis, and they should teach us to discover other details. He said he could cite a number of cases in which there was not an excessive secretion by hydrochloric acid in gastric ulcer. Single or a few examinations were misleading. The value of estimations of hydrochloric acid he believed to be greatest in the functional diseases of the stomach, or rather cases in which the stomach functions were altered, without gross organic disease primarily in that organ, though there might be functional or organic diseases in other organs that might have a part in the production of the gastric anomaly. Often it occurred with no gastric symptoms, or with trifling ones, but with distant symptoms. In functional diseases the greatest help was often derived from frequent estimations of hydrochloric acid under various kinds of dietetic and other treatment. There was still room for further investigation in the methods of gastric chemical examination. Günsberg's reagent he used largely. To determine the amount of hydrochloric acid dimethyl-amidoazo-benzole was most satisfactory. For the total acidity the phenolphthalein reaction was used. Test for the combined hydrochloric acid was not necessary as a rule. Of abnormal or pathological acids, lactic was the only one requiring chemical tests, for acetic acid or butyric acid often occurred in large quantities, and could be detected by the odour. The determination of pepsin was not necessary in ordinary work, since it was rarely absent when hydrochloric acid was present in sufficient quantities. The digestive functions could easily be shown by the biuret test.

(136) Food Stagnation. In the Section on Medicine at the recent annual meeting of the American Medical Association (*Med. Record* July 29th) Charles G. Stockton read a paper on food stagnation from all causes. He said food stagnation was one of the most important of the gastric disturbances. The local symptoms were distress and sense of weight, sometimes pain, together with eructations of gas, regurgitation of the stomach contents, and often vomiting. Constitutionally there were usually found evidences of autointoxication and starvation. He divided the cases into two classes: First, those in which stagnation resulted from depression of the motor functions of the stomach, without the presence of any actual obstruction; secondly, those in which there was actual obstruction to the overflow of stomach contents, regardless of the kinetic energy of the gastric walls. After considering the causes of these two classes of cases, he said the diagnosis was not difficult, and that the condition might be suspected when patients complained of eructations of food taken a long time previously. It could be demonstrated only by the use of the stomach tube. The motor power might be assisted by certain mechanical measures, especially by skilful massage over the region of the stomach, by trunk rotation and flexion, and by the alternate hot and cold douche over the epigastrium, and by external and internal faradization. Benefit undoubtedly followed the use of the simple carminatives, bitter infusions, and, temporarily, the diffusible stimulants. Failure or success depended more upon general management of the patient, upon proper rest, exercise, recreation, diet, mental state, etc., than upon the mere local treatment of the stomach. In cases of motor insufficiency depending upon spasm of the pylorus from over-irritability of tissue, whether from hyperchlorhydria, hyperaesthesia, or simple erosion of the pyloric mucosa, surgery should not be considered. The proper treatment consisted in lowering the acidity of the gastric secretions, soothing the gastric mucosa, and the selection of an unstimulating, liquid or very soft diet, which was free from all irritating particles. Lavage, followed by soothing lavements of the mucous membrane, was of great assistance. He emphasized the fact that a stomach on which the gastro-enterostomy had been performed was by no manner of means as good as a normal stomach. But if an ulcer continued to give trouble, if pain and spasm frequently occurred, he recommended pyloroplasty, if the ulcer could be safely excised, otherwise gastroenterostomy. In benign hypertrophy of the pylorus, without ulcer, he advised operation, preferably pyloroplasty.

SURGERY.

(137) Splanchnoptosis from a Surgical Standpoint. At the recent annual meeting of the American Medical Association, James E. Moore read a paper, in which he said (*Med. News*, July 22nd) there was a great confusion in the use of terms that applied to ptosis of the abdominal organs, splanchnoptosis being probably the best general term. Glénard, in 1885, gave the first good description of this condition, and claimed that splanchnoptosis included all of the abdominal organs, and that it never occurred without serious digestive troubles. The causes of splanchnoptosis were not well understood. The symptoms varied according to the organ or organs most affected, but in a general way they were

those of neurasthenia. A patient suffering from this train of symptoms should never be pronounced dyspeptic, hysteric, or neurasthenic, and be sent away with a prescription without having a most careful physical examination made. Hepatoptosis was much more frequent than had heretofore been believed, and when the liver was prolapsed all the other organs must come with it because of their anatomical relations. Glénard said that splanchnoptosis was incurable, but he recommended medical treatment and the abdominal binder only. The fact that operations for ptosis of the various organs could be done almost without mortality gave us no licence to operate indiscriminately, but it entitled these sufferers to the help of surgery. When a patient came in consultation with this array of symptoms some one of the organs should not be picked out, but a thorough diagnosis and a complete operation should be made. The relative frequency and importance of ptosis of the various organs depended upon the observer's viewpoint. When the physician, the neurologist the gynaecologist, and the surgeon gained the same viewpoint all would be in a position to accomplish the most good. Surgery should not be recommended in these cases until intelligent medical treatment had failed but the latter having failed it was the surgeon's duty to operate. Surgery could not be offered as a panacea, because there was a possibility that neurasthenia might continue after all mechanical defects had been repaired. Past failures were largely due to incomplete operations. The shortening of suspensory ligaments alone was liable to result in failure, because they were surely not intended by nature to bear the weight of these organs. Attention must be given to the support from below. It was still a moot point whether a prolapsed organ or neurasthenia, when found together, was the primary condition, because each of these conditions might exist without the other, but the cure of the prolapse would often cure the nervous condition. Any operation in which a direct attachment of the stomach was made to the abdominal wall was bad surgery. The application of the gastrohepatic and gastrosplenic omentum was theoretically good, but the frail tissues might not hold. After a failure from this cause Moore made an anastomosis between the prolapsed colon and the sigmoid, which resulted in a complete cure. Gastroenterostomy was the best operation for a dilated stomach when dilatation was not due to atony. Recent experiences had taught that hepatopexy was a safe and satisfactory operation. A number of mattress sutures of chromic catgut or kangaroo tendon were passed from below upward through the liver about 1½ in. from its margin, then through a good bite of the soft parts underneath the costal cartilages, then downward through the liver again, so that the knots could be tied below when the liver is held in place. All sutures should be passed before any were tied. These were undesirable patients because of their extremely stormy convalescence, but the immediate prognosis was good, and, while experience as to end results was too limited to draw definite conclusions from, it was so far sufficiently encouraging to justify the belief that one might be able in future to restore to health and usefulness many who had heretofore been condemned to hopeless invalidism.

(138) A Statistical Study of Tetanus.

At the recent annual meeting of the American Medical Association (*Med. News*, July 22nd), James M. Anders and Arthur C. Morgan, of Philadelphia, read a preliminary report on this subject. They studied the literature from 1850 to 1904, covering the reports of cases found in the *Index Catalogue* of the Library of the Surgeon-General, in Washington, from 1850 to 1892, and the *Index Medicus* from 1892 to 1904 inclusive, or 949 cases, with a report of 252 original cases collected by themselves from direct correspondence with hundreds of observers all over the country, giving a total of 1,201 cases. These collective investigations afforded convincing proof that in every case of the disease the tetanus bacillus was introduced into the body through a lesion of the skin. Their observations concerning the distribution and prevalence of tetanus in the United States gave rather misleading results; hence they adduced tabulated reports from the census statistics of the United States extending over a period of thirty years. The figures showed the appalling mortality from tetanus of the newborn. Their statistics showed that while Fourth of July tetanus was vastly on the increase, in general the disease had been on the decrease as compared with the population. They found out that there was a strip of land, extending from the village of Oceanic, New Jersey, on the east, to the west of Red Bank, on the west, the said strip being about 1 mile wide and 5 miles long, where tetanus was strongly endemic. The incidence of the disease was influenced by the seasons, and while Fourth of July was on the increase, independently of this fact the statement held true that tetanus was more prevalent in the hotter as compared with the colder months of the year. The cases were tabulated with reference to the age; the disease was most frequent in the young, or before the 25th year. Males made up 79.3 per cent. of 981 cases in which the sex was noted. A table of the infection areas showed that the extremities, notably the hands and feet, were the most common sites of infection. There was evidence to show that tetanus was directly transmissible. In their tabulated cases several interesting clinical features were brought to light. In one case the trismus was so great that the teeth were crushed down to their roots, and in another the spinal processes of the vertebrae were fractured by the severity of the convulsions. Leucocytosis was noted in one instance, and it was thought that this symptom might be more common than is generally supposed. In one case the patient had a temperature of 1° F. every day during the period of incubation, and the writers suggested the importance of recording the temperature in suspicious cases, in order to determine whether there was any connexion between a slight febrile movement and tetanus. In three cases the first symptom noticed was pain referred to the diaphragm; in another the diagnosis of hydrophobia was maintained for several days. In nearly all cases in which serum was injected cutaneous rashes, more especially urticaria and erythema, were noted. Their studies indicated the high diagnostic importance of the constancy of the tonic contractions in tetanus, since in other conditions, which simulate this disease, as hysteria, uraemia, and strychnine poisoning, the contractions are intermittent. It was observed that the cases showing a short incubation period gave a high mortality-rate, while those that developed late (for example, after the fifteenth day) gave a much lower death-rate. With reference to the treatment, there was uniform agreement that the immediate radical treatment of all wounds, followed by the local use of the dried serum, and this in turn by prophylactic injections of the antitoxin, preferably subcutaneously, was the best known method of treatment. Finally, in fully-developed cases of tetanus, antitoxin does not have any appreciable beneficial effect.

(139) The Cure of Hernia.

At the recent annual meeting of the American Medical Association (*Med. News*, July 22nd) H. O. Marcy read a paper in which he traced the history of the modern operation for the cure of hernia from its beginning, giving his own experiences of the use of the buried animal suture for the reconstruction of the inguinal canal through the abdominal wall, restoring it to its normal obliquity. This it was not possible to carry into effect without the use of buried sutures. As Lister's first American pupil Marcy had been taught the use of the buried animal ligature, as recommended by this great master for the occlusion of the arteries both in continuity and in amputations. It was but a logical sequence to broaden the use of the animal ligature and apply it to the reconstruction of divided structures. This was the inception of the buried animal suture, and had its first application for the cure of hernia in 1870. Since 1882, when he used the kangaroo tendon suture, he had used this surgical material exclusively. Although not universally adopted, the kangaroo tendon suture was, he believed, for many reasons considered the best. The cause of inguinal hernia in the male was more commonly found in the lack of the developmental processes of infantile life. Here not seldom the structures about the internal ring were defective, permitting a direct intra-abdominal pressure resulting in hernia. The cure was found in the restoration of these parts to their normal condition. There are many modifications of the operation of minor character, the results of which are excellent, but the fundamental physiological basis of the operation must ever remain.

MIDWIFERY AND DISEASES OF WOMEN.

(140) Chorion-epithelioma Malignum.

P. Brooke Bland (*Journ. Amer. Med. Assoc.*, June 10th), taking as a text the report of a case successfully treated, reviews the literature of this form of malignant growth at considerable length. Marchand's views as to the

chorionic, fetal, or ovular origin of chorion-epithelioma, he states, appear to be accepted by most authorities at the present day, though there are still a few that oppose them. The tumour, as a rule, occurs after pregnancy, abortion, or hydatidiform mole; indeed, it is said that nearly half of the cases of the last-named condition have been followed by chorion epithelioma. It usually occurs in the uterine cavity, but has occurred elsewhere in the body, once having been found in the heart, the uterus remaining free. Its tendency to metastasis is particularly notable; this is due to the increased vascularity of the pelvic organs in consequence of the pregnancy, the blood carrying the chorionic elements throughout the body. The characteristic histologic feature of the growth is the presence of large decidual cells, chorionic villi, with their characteristic structure, with proliferation of Langhans's layer of cells and syncytium. The cells have special tendency to modification. It is of importance, therefore, in curetting for diagnostic purposes, to make sure that the specimens taken are from the active, non-degenerated portion of the tumour in contact with the uterine wall. Another characteristic of the growth is that there is no hard inflammatory base, as in carcinoma; the destructive process is not thus limited by any such defensive reaction. The neoplastic cells infiltrate directly into the surrounding tissues. In this connexion, attention is called to certain other tumours containing chorio-matous cells, the teratomata, and to Schlagenhaufer's opinion that a large proportion of the deciduomata occurring in the uterus and elsewhere should be regarded as teratomata, and due to the inclusion of an ovum. The various theories of the etiology of these growths that have been offered are reviewed, but no positive opinion is expressed, though the author appears to think that some of the facts may possibly be best explained by the hypothesis suggested by the side-chain theory of syncytiolysing antibodies, the failure of which makes possible the occurrence of these tumours. While malignancy is the rule, and the prognosis is bad, in some cases recovery takes place even after curettement, and even spontaneous healing has been reported. Metastases also may disappear after removal of the primary focus, and these phenomena are possibly explained by Ehrlich's side-chain theory. The chief clinical symptoms are bleeding, not controllable by ordinary methods, later pain of a crampy boring character in the lower portion of the abdomen, anaemia, and wasting, and as the disease advances all these symptoms become more pronounced with marked malignant cachexia. The uterus is somewhat enlarged, and the tumour is almost invariably situated in the fundal portion and posterior wall of the uterus; it may be firm at first, but later becomes soft and friable; in the latest stages only a scooped-out sloughing ulcer will be found. With due attention to the clinical history and physical signs, and finally with microscopic examination, the diagnosis should generally be easily made. As already said, the prognosis is grave, and the usual only recourse is as prompt removal of the tumour as is possible. In cases of hydatid mole, however, precautionary measures should be taken. After a molar labour the uterus should be thoroughly cleaned out and packed, in order to induce contraction of its muscles and to restore its normal consistence and thickness. Bonnaire and Findley also advise swabbing with creosote or zinc chloride, and, after an interval of from ten or fifteen days, curetting. If metrorrhagia then persists, malignant inoculation should be considered probable and the organ removed.

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(141) Perils of Ecouvillonage in the Puerperium.

PERRET (*L'Obstét.*, March, 1905), in reporting a series of labours in Tarnier's clinic, relates a case of fatal peritonitis due to an awkward mistake made when the curette was used in the puerperium. Bouchacourt delivered a primipara, employing Tarnier's forceps as the labour was lingering. Severe flooding followed, and a few hours later the vagina was examined. The perineum was intact, but a laceration about 1½ in. in length was found in the vaginal wall posteriorly. A continuous suture was applied. In the course of the first week septic symptoms appeared, and on the seventh day, as the lochia were fetid and the uterus large and soft, the assistant resident medical officer employed the curette, with, it appeared, every precaution. Then he proceeded to use the écouvillon to swab the uterine cavity. Unfortunately he seized both lips of the cervix with the volsella, meaning to fix the anterior only, and pushed the swab into what he suspected must be a second uterine canal. No fragments came away on the swab. Then the parts were examined, and it was seen that the instrument had passed under the suture into the vaginal wound. The anterior lip of the os uteri was determined and seized with the volsella; then the uterine cavity was swabbed. General septic peritonitis followed, ending fatally ten days later. Douglas's pouch was found full of pus; it communicated by a circular orifice a little to the left of the middle line, with the vagina at the posterior fornix. The explanation of this condition was evident.

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(142) Conservative Treatment of Quiescent Uterine Annexitis.

TUFFIER (*Bull et Mém de la Soc. de Chir. de Paris* No. 20. 1905) argues that in certain cases of old pelvic suppuration due to uterine annexitis it may be found practicable to substitute for complete utero-annexial castration simple removal of the suppurating or infective Fallopian tubes. His clinical experience of the results of such conservative treatment in 32 cases of old annexitis has led this surgeon to the conclusion that when the affected tube is quite closed and free from firm and extensive adhesions, when its morbid contents are not causing any active irritation, and when the ovary is not atrophied and the uterus but slightly enlarged, retention of the two last-mentioned organs will in properly selected instances be found justifiable. He would exclude from the list of suitable cases those of suppuration and atrophy of the ovary with enlargement and suppuration of the uterus which would undoubtedly indicate complete removal of the diseased organs. The conservative method of treatment proposed by the author is, he points out, in accordance with the characteristic tendency of modern surgery to retain diseased organs provided the removal of the disease in which they are involved can be assured without their sacrifice. The first case in which this method was tried was one of a young woman suffering from double annexitis, who expressed a strong desire that in the surgical treatment of this condition the uterine organs should if possible be preserved, and that menstruation should not be suppressed. The author found bilateral pyosalpinx with but slight adhesions of the tubes. The affected tubes were removed intact, the actual cautery was applied to the uterine orifices, and both ovaries, one of which was slightly sclerosed, were retained. The patient, who made a good recovery, menstruated regularly soon after the completion of convalescence, and, after a time, had complete relief from abdominal pain. The good results attained from conservative treatment in this case led Tuffier to apply it to other patients, and to study its indications and limits. The paper contains a discussion of probable objections to retention of the diseased uterus and ovaries, and an analysis of the results of this modified and conservative treatment in 32 cases. One of these patients died soon after the operation from septicaemia, and in another suffering from tuberculous pyosalpinx, it was subsequently found necessary to perform hysterectomy. In the remaining cases, although the immediate results were not good, and convalescence was much retarded, all the patients, so far as could be made out by subsequent inquiry, derived very much benefit from the operation with regard to both relief from pain and regularity of menstruation. The author describes at full length the technique of his operation, insisting on as essential conditions of success, careful and perfect haemostasis, and on the integrity of the lower pelvic cavity before closure of the external abdominal wound.

THERAPEUTICS.

(143) Immunity Treatment of Phthisis.

A. C. KINNEY (*Zeit für Tub. und Heilstatt.*, Bd. VII, Heft 1) records the cure of a bad case of phthisis by the immunity treatment. The patient was a boy 15 years of age, whose weight when he was first seen was 37 lb. below the standard. The patient had been subject to attacks of spitting of blood since childhood, and for the last few months had been bringing up blood each day. He had been subject to chronic diarrhoea all his life, and this complaint had been somewhat more troublesome for a year. There was shortness of breath and pain in the thorax; the temperature, as taken before treatment was begun, did not rise above 99° F.; the pulse was 106 per minute. For some weeks the patient had been confined to bed, and his state altogether was such that the author does not believe he would

have been admitted to any sanatorium. Three injections of von Ruch's No. 1 watery extract of tubercle bacilli were made at intervals of three days; on the first occasion 0.2 c.cm., on the second 0.4 c.cm., on the third 1 c.cm. of the extract was given. A reaction followed the third injection, and the temperature rose on one day to 101.2° F. After the reaction the injections were discontinued for seven weeks, and at the end of this time 0.3 c.cm. only was given; five weeks later 0.1 c.cm. of antiphthisin was injected, and nearly a month later 0.5 c.cm. of von Ruch's extract. With the exception of a few doses of bismuth and some guaiacol given when the patient was almost well, no treatment other than that described was tried. At the end of five months' treatment the patient had gained 17 lb. in weight, his cough had disappeared, and the expectoration, which from the beginning of the time had been gradually diminishing, had totally disappeared. The diarrhoea, night sweats, and spitting of blood stopped within two weeks of the first injection. Examination of the chest showed that the cavity walls had contracted and rales could no longer be detected. The patient was kept under observation for two years, during which time he remained well, and was able to do hard physical work. The author calls attention to three points which were in the patient's favour: (1) He was young; (2) he suffered from no other complicating disease nor other infection, and (3) he was a total abstainer. Kinney has now used the immunity treatment for seven years. He first tried the plan of giving gradually-increasing daily doses and met with some success, but the severity of reaction was such that the doses were gradually lessened and the intervals of time between the injections increased; with this change of method the results became more and more satisfactory. The conclusions at which the author arrives are that: (1) There is no treatment at all comparable for effectiveness with the immune treatment in cases of uncomplicated tuberculosis. (2) The toxins should be given with very great caution by a physician skilled in serum and toxin therapy as well as in the art of diagnosis. (3) The doses of toxins as heretofore used and the frequency of the doses should both be greatly reduced in order to obtain the best results.

(111) The Exercise Treatment of Tabes.

In describing the essence of the treatment of tabes dorsalis by exercise, H. S. Frenkel is guided by the fact that the subject belongs just as much to the general practitioner as it does to the nerve specialist (*Berl. klin. Woch.*, June 5th, 1905). The importance of a correct understanding of this form of treatment lies in the recognition that a [illegible] is contrary to the patient's welfare, and forms a real danger for him. He instances an example of this in a case in which the power which a certain patient retained of walking was [illegible] and the [illegible] of the arms, etc., were lost [illegible] of [illegible] practitioner. The [illegible]

444 D

this disease is directed toward one symptom, namely, the disturbance of co-ordination. The muscular power is not disturbed in tabes, but the harmonious working together of a number of muscles, in order to carry out a distinct movement, is affected. Every complex motion must be learned by an individual. A child has to learn each co-ordinate movement, must learn to stand and walk, to hold a particular object in its hand, to turn itself in bed, etc. The loss of these acquired co-ordinations gives us the picture of ataxy. In determining the kind, the degree and the extent of the ataxy, we must examine the patient in the prone position, sitting, and standing, as well as during walking. It is best to determine such disturbances by directing the patient to attempt to carry out a number of movements which a healthy person can carry out with ease. For example, the ordinary knee "hook" experiment is to be used while the patient is lying in bed. But one must not assume perfect power of co-ordination because he can carry this out: one should direct him to place the hook on to the middle of the leg at the edge of the tibia, which in some cases cannot be carried out. In dealing superficially with the co-ordination of walking, one must not forget that the movements of the trunk are of paramount importance. In making a step with the left leg, one has to move the body towards the right side. This body movement must be exactly measured, and is a very important one in the complicated mechanism of locomotion. The author describes as one of the earliest signs of disturbance of co-ordination, that the patient walks with very small steps, and with stiff knees, as long as he is not supported by a stick, or some other means. This is known as the pseudo-spastic walk of the tabes patient. He further gives more details of the disturbances with which one has to deal. In broaching the question of the treatment, he explains that this does not improve the affection of sensation, which is the cause of the loss of co-ordination. But one can teach the adult with lost power of minute sensation to move co-ordinately, just as one teaches the child with perfect sensation to walk and move naturally. In order to direct the patient in a proper direction it is primarily necessary that the physician should possess a detailed knowledge of the components of the movements affected. It is useless for the physician to tell the patient who cannot get out of his chair "Try to stand up." The first attention must be paid to the position of the trunk, and little by little one can teach the patient to carry out the lost movement if one corrects the individual factors of the disturbance. One must be careful in not driving the exercises too far, and in watching the pulse, which often quickens after two or three minutes, but falls to the normal rate on resting. As a rule, he finds that the exercises should not be carried out more than twice a day, and for not longer than five to fifteen minutes. For severe cases two or three minutes may be taken as the limit. A very important question is to determine what improvement one may expect in each individual case. The author goes so far as to say that some improvement is never wanting, and that even in the worst cases, after six or twelve months, he has obtained satisfactory results. Patients who could not walk at all have learned to walk alone after this time. When pain is a marked symptom the patients frequently become addicted to alcohol or to morphine, and in these cases one is not likely to do much good. In totally blind patients, on the other hand, he has convinced himself one can achieve better results than one would imagine. In conclusion, he finds that the actual prognosis of the disease is improved by this treatment, as the factor which acts severely against the patient suffering from uncomplicated lumbar tabes is that the want of the possibility of exercise leads to a rapidly progressive atony of the abdominal and intestinal muscles and to cystitis. This is avoided by treating patients by exercise, and he has also found that other severe complications become rare among those treated in this way.

PATHOLOGY.

(145) Trypanosomes Found in the Blood of Frogs.

A. Broden (*Archiv für Schiffs und Propeh Hygiene*, Bd. IX, Heft 1) has made examination of the blood of frogs obtained from the neighbourhood of Lusamboand found that out of 20 frogs the blood of 18 contained different forms of the trypanosoma sanguinis or rotatorum, and the blood of 6 contained a few examples of a large trypanosome identical with that recently described by Dutton and Todd under the name of trypanosoma mega. The general characteristics of the trypansoma sanguinis were practically the same as those described by Laveran, except that in this case the size was slightly less, the length not in any case exceeding 30 μ, and being in several not so great; the length to the level of the nucleus was never greater than from 10 to 11 μ. In addition to this variety there was a large trypanosome similar to that described by Laveran as the "forme plate." This form was distinguished by its size and by the numerous folds of the vibratile membrane. The author also observed a somewhat abnormal form in which the protoplasmic body formed a large rounded or oval mass, with a vibratile membrane sometimes very small and situated at the side of the parasitic body, sometimes larger and surrounding it. Another trypanosome seen in one case was remarkable for its small size and active movements, and more nearly resembled the pathogenic trypanosomes. The author has also examined 20 negroes with trypanosomiasis in order to discover what intestinal parasites were present. The ascaris lumbricoides and the ankylostoma duodenale were present in every case, the trichocephalus dispar in 14, the oxyuris vermicularis in 12, and the anguillula intestinales in 2. The 4 patients infected with the bilharzia duodenale suffered from diarrhoea and passed blood in the stools; none of the other parasites appeared to cause serious symptoms. For purposes of control the stools of 10 negroes not infected with trypanosomiasis were also examined. The ascaris lumbricoides was present in the stools of 7, the ankylostoma duodenale of 5, and the trichocephalus dispar of 2.

AN EPITOME
OF
CURRENT MEDICAL LITERATURE.

MEDICINE.

(146) Acute Leukaemia.

AUBERTIN (*Sem. Méd.*, No. 24, 1905) maintains the myelogenous origin (as opposed to the lymphatic origin) of acute leukaemia. The disease is characterized clinically by anginal pain at the outset, and by headache, haemorrhages, and a rapid and febrile course. The chief changes in the blood are an enormous increase in the number of leucocytes and myelocytes, and the presence of the large mononuclear non-granular cells described by Fraenkel. Following Ehrlich, most writers have divided cases of leukaemia into "myelogenous" and "lymphatic" cases. Gilbert and Weil insist that, though acute leukaemia apparently belongs to the lymphatic type, it is probably really "myelocytic;" and Aubertin contends that the myelogenous character of the disease is clearly proved. A negative clinical argument in favour of the bone-marrow (myelogenous) origin of the acute form is the slightness, or even the absence, of splenic enlargement in these cases. The part played by the spleen seems to be purely a passive one. A positive clinical argument is the presence of pain in the bones, and tenderness to pressure with the finger over superficial bony points. Occasionally there is a swelling of the medulla of a bone, raising the periosteum, and forming a node visible to the naked eye. On examining the blood microscopically, it is found that there is in all these cases an enormous increase in the number of the colourless corpuscles. There are even cases on record in which the number of leucocytes has exceeded that of the red discs. In all recent observations granular myelocytes and nucleated red corpuscles have been found also. The neutrophilic myelocytes have been most abundant. They exist in the proportion of 0.5 to 1 to 100 leucocytes. Parkes Weber found 2.5 per cent., and Kelly 3 per cent. Pfaunkuch mentions 10 per cent. of myelocytes. Mast cells, polynuclear cells with coarse granules, so numerous in ordinary cases of spleno-medullary leukaemia, are much less numerous in the acute disease. As to nucleated red blood corpuscles, they occur in the proportion of 1 or 2 per cent. of white corpuscles. In the exceptional case of M. Melland there were 104,000 leucocytes, and 26,000 nucleated red discs in a cubic millimetre. These latter are usually normoblasts, but transitional forms and real megaloblasts are also to be seen. In face of these facts it is difficult to see how it is possible to uphold the theory of the lymphatic origin of acute leukaemia. In all ordinary cases of leukaemia *post-mortem* examinations are unsatisfactory. One finds enlarged spleens, lymphoid tumours, and hyperplasia of the bone-marrow, and it is difficult to say in which organ the changes began. In an acute leukaemia, which is fatal in a few weeks, one might hope that pathological examination would give the key to the solution of the problem. But the changes in the whole haematopoietic system occur so rapidly that one rarely gets the desired opportunity. Nevertheless, in very acute cases, it can be shown *post mortem* that the lesions are most marked in the bone-marrow, less in the spleen, and still less in the lymphatic glands. Certain authors report that in very acute cases indeed they found only a lymphoid proliferation in the bone-marrow, and nothing at all pathological in spleen or glands. In the autopsy of a patient who has died of a fairly acute attack of leukaemia, we generally find in the spleen there are changes quite different to those which we observe in cases of chronic leukaemia. In the latter the whole spleen seems to be transformed into one huge Malpighian corpuscle. In acute leukaemia, on the other hand, the pulp is chiefly affected, the Malpighian corpuscles are recognizable, the general structure of the organ is preserved, and the pulp is full of mononuclear non-granular cells, of which the nuclei are clear and the protoplasm basophilous. But whereas in the spleen and lymphatic glands these changes are not really well marked, except in subacute cases, the changes in the bone marrow are intense. In the cases of Kelly, Weber, and Reed, the marrow of the femoral diaphyses was quite transformed into red pulp; the fat globules had completely disappeared; the tissue was congested and even haemorrhagic. There was an extreme cellular proliferation of the one element—the mononuclear cell with the clear nucleus and the more or less basophilous protoplasm, which was found also in the spleen and glands. But in the marrow these cells seemed to be in a state of active proliferation, which, according to Kelly, was not the case in the spleen or glands. The granular mononucleated cells were much fewer in number. The polynuclear cells were still less abundant, but there were many transitional forms between lymphocyte and myelocyte. It seems that in most cases of acute leukaemia the quantitative (disappearance of fat) and qualitative (lymphatic) changes in the bone marrow are well marked, and that the changes in spleen and glands are often so slight as to be passed over by even skilled histologists. Aubertin holds that this mononuclear non-granular proliferating cell is not a leucocyte of the "lymphoid series" which has strayed into the marrow or pulp, and remains there to proliferate and conserve its original type, mainly because the presence of transitional forms makes that theory unlikely. The researches of Pappenheim, Grawitz and Wolff show that probably each of the blood elements is originally derived from a mononuclear non-granular cell with basophilous protoplasm, born chiefly in the red marrow of bones and in the spleen, but to a less degree in the lymphatic glands. This mother-cell gives birth to myelocytes and probably to the red nucleated corpuscles as well. In acute leukaemia the process of blood elaboration is too hasty and precocious, and hence the presence of the various cells found and of the many transitional forms. The cause of the proliferation of the cells referred to above is probably an infective one. The characteristics of an acute leukaemia suggest an acute septicaemic infection, and, as a matter of fact, Weil and Holst have found the streptococcus in the blood in all the viscera and in the red marrow. Gilbert and Weil, without enough evidence, consider that this septicaemic poisoning is only secondary. Holst, quoting a very acute case indeed of leukaemia, reports that the septicaemic inflammation was so acute that he found pure pus instead of bone marrow in the cancellous tissue of the sternum. The wherefore of the leucocytic invasion of the blood in such cases escapes us at present. The marrow of the bones, for some reason or other, responds to the acute septicaemic infection by a hasty and disordered proliferation of imperfectly-differentiated elements.

(147) Peripheral Obliterating Arteritis.

BURR AND CAMP (*Amer. Journ. of Med. Sciences*, June, 1905) record two cases of peripheral obliterating arteritis causing respectively triplegia following hemiplegia and paraplegia, without sufficient accompanying cerebro-spinal lesions to account for all the symptoms. In the first case, of a man, aged 78, with right-sided hemiplegia, there was loss of power in the left leg also, though at the necropsy the cord showed only the degeneration associated with right-sided hemiplegia, and no lesion in the brain or cord was discovered to account for the condition of palsy in the left leg. The second case was that of a man aged 68, with loss of power in both legs, which were flexed on the thighs, and the thighs on the abdomen, with marked muscular rigidity. The right knee-jerk was slight, and the left absent. Death was caused by rupture of an intercostal artery; and muscular atrophy, degeneration of the peripheral nerves, and considerable general arterial sclerosis were found *post mortem*, the right posterior tibial artery being almost occluded, while the left was completely closed by an organized thrombus. The changes in the spinal cord were insufficient, and not of a nature to have caused paralysis in the legs, and the changes in the muscles and peripheral nerves had resulted from the vascular disease, the case being one of senile paraplegia caused by an obliterating arteritis. In the first case a *post-mortem* examination of the blood vessels, nerves, and muscles of the legs could not be made, but, since during life the palpable peripheral arteries were much thickened, as in the second case, it is reasonable to infer that in this case also the condition of the left leg was due to peripheral arterial disease, since the cord lesions were insufficient to account for this portion of the paralysis.

SURGERY.

(148) Fracture of Scaphoid Bone of the Carpus and Dislocation of Semilunar Bone.

CODMAN AND CHASE (*Ann. of Surg.*, Nos. 3 and 6, 1905) draw the attention of surgeons to a more systematic observation and to more exact methods of diagnosis and treatment of carpal injuries than is shown to exist by the present literature of the subject. The use of the *x* ray in the diagnosis of these injuries has shown that in many obstinate cases of supposed sprain of the wrist the injury

really consists in fracture or dislocation of one or more carpal bones. The author's conclusions—which are founded on cases they have seen and treated—favour the frequent adoption of radical treatment, as many of the injuries dealt with conservatively did not recover so quickly or so completely as those on which they had operated. The following are some of the important points that are summarized at the end of this paper. Sprains of the wrist which do not promptly recover are in many instances fractures or dislocations of the carpal bones, the large majority of such carpal injuries being either simple fracture of the scaphoid or forward dislocation of the semilunar bone, the two forms of injury being frequently combined. Simple fracture can, as a rule, be clearly made out even without the application of the *x* ray, by the association of the following data: (*a*) the history of a fall on the extended hand; (*b*) localized swelling in the radial half of the wrist; (*c*) acute tenderness in the anatomical snuff-box when the hand is adducted; (*d*) limitation of extension by muscular spasm, the overcoming of which by force causes pain. A broken scaphoid, it is stated, has little power of repair, and is apparently capable of but slight callus formation, in such instances the original symptoms of the injury often persist for years with but slightly-abated intensity. In cases of fracture of the scaphoid the fragments may unite if motion of the wrist be prevented during the first four weeks after the injury, but if there be no union by this time it is unlikely to occur. Excision of the proximal half of a fractured scaphoid bone gives, the authors state, a somewhat better result than conservative treatment. An incision on the dorsum of the wrist to the outer side of the tendons of the common extensor of the fingers affords an easy access to the proximal half of the scaphoid. Dislocation of the semilunar bone which, like fracture of the scaphoid, is, in most instances, readily recognizable, may be reduced with good result even after the fifth week by hyperextension followed by hyperflexion over the thumbs of an assistant held firmly in the flexure of the wrist over the level of the displaced bone. Irreducible dislocation demands excision of the semilunar, and the whole or a portion of the scaphoid if there be a complicating fracture of the latter.

(149) Tuberculous Peritonitis and Laparotomy.

POTHERAT (*Bull. et Mém. de la Soc. de Chir. de Paris*, No. 23, 1905) publishes two cases of chronic peritonitis, the tuberculous nature of which was proved beyond doubt by the presence of bacilli, the subjects of which—one aged 40, the other 15 years—remained cured after an interval in each instance of nearly four years. The treatment in both these cases consisted in: Median laparotomy, evacuation of the ascitic fluid, cleansing of the granulated peritoneum by aseptic compresses, and, finally, by complete closure of the wound in the anterior abdominal wall, without flushing of the peritoneal cavity and without drainage. The author is opposed to drainage in cases of this kind, as such practice, he believes, is likely to result in infection of the external wound, indicated by a granulating fistula and tuberculous ulceration slowly involving the adjacent surface of the abdominal wall. These cases, it is acknowledged, throw no light on the question how laparotomy acts in cases of tuberculous peritonitis. Until this can be made clear, it remains the duty of the surgeon to register the results of operative intervention in cases of tuberculous peritonitis, and to show that this simple, easy, and harmless method of treatment may in such cases effect a sure and prolonged, if not a permanent, relief.

(150) Surgical Treatment of Pyloric Obstruction.

PHILIP JAMES, in a paper read before the New Zealand Branch of the British Medical Association in February 28th, 1905 (reprinted from the *New Zealand Medical Journal*), drew particular attention to a point in the technique of gastro-jejunostomy, to which he attached importance. He thought that the tendency to the formation of the "vicious circle" could be avoided by selecting a position on the jejunum for the anastomosis at some distance from its commencement. He was in the habit of passing the jejunum through his fingers until he reached what he called the returning coil, the axis of whose current was in the same direction as that of the stomach. By selecting this point he thought that the chances of kinking were very much diminished.

(151) Affections of the Bursa of Brachial Biceps.

RIEFFEL (*Bull. et Mém. de la Soc. de Chir. de Paris*, No. 21, 1905) reports a case of hygroma of the bursa under the radial tendon of the biceps, which he treated by excision of the sac. Cases of this kind, he finds, are either very rare or have been overlooked or ignored by reason of their insignificance, and no mention, it is stated, is made in classical works on surgery of affections of this constant and well-known bursal sac. Bicipital bursitis, he asserts, presents special diagnostic characters. In addition to pain localized at the insertion of the biceps tendon at a point about a fingerbreadth below the bend of the elbow, there are certain modifications of the movements of the affected limb which can be readily explained by anatomical and physiological data. These modifications consist in: (1) Pain and difficulty in the patient's attempt to effect a combined movement of flexion and supination of the forearm; in (2) a slight limitation of extension, the complete performance of which is prevented by the swelling in front of the elbow; and finally and more particularly in (3) a restriction of pronation. A simple hygroma is a deep-seated swelling, and when it is small or surrounded by much fat the surgeon will experience some difficulty in exposing it. This difficulty may be found a serious inconvenience in a case of acute suppuration of the sac, as pus when discharged from its interior has no tendency to make its way towards the surface of the limb, but spreads between the flexor muscles and sets up extensive and severe phlegmonous inflammation. The bicipital bursa, it is stated, may be the seat of any affection to which structures of this kind are liable. Cases have been observed of gummatous infiltration and of gouty deposit in this sac, and an instance is mentioned in which the bursa had been converted into a fibro-lipomatous growth of the size of a pigeon's egg. In conclusion the author points out that not every deep-seated cystic growth in the front of the elbow is formed by hygroma of the bicipital bursa. The larger but much less constant cubito-radial bursa, placed between the insertion of the biceps tendon on one side and by the tendon of the brachialis anticus and the coronoid origin of the flexor sublimis on the other side, may also be distended by effused fluid and form a distinct tumour. Enlargement of this sac may be readily distinguished from bicipital hygroma by its situation over the ulna and behind the large blood vessels, and by the maintained freedom of supination and pronation.

MIDWIFERY AND DISEASES OF WOMEN.

(152) Acute Cholecystitis simulating Puerperal Sepsis.

VINEBERG (*Amer. Journ. Obstet.*, March, 1905) brings forward cases supporting Schauta's teaching that pregnancy and the puerperium favour the formation of gall stones, a teaching also upheld by clinical evidence published by Potocki and others. Vineberg's first patient was 31, and was delivered of her fifth child under surroundings which her own doctor recognized as insanitary. The labour was normal, and all went well until the ninth day, when an attack of abdominal pain with high temperature and pulse occurred, without nausea or vomiting. The genito-urinary tract was found on examination to be normal, but there was tenderness, pain, and rigidity in the right hypochondrium. There was no jaundice, and the patient had never noted any previous appearance of that symptom, but remembered frequent attacks of crampy pain about the epigastrium. Cholecystitis was evident, an operation was performed, and purulent bile with small stones were removed from the gall bladder, which was drained. The fistula closed in about six weeks. The temperature fell on the third day after the operation. Vineberg's second patient was a primipara, aged 20; manual detachment of the placenta had to be performed, but no bad symptoms appeared until the tenth day. Then acute pain in the left iliac region occurred with a rigor and fever. The pain spread over the whole abdomen within a few hours, and became most intense in the right half. Tenderness and resistance in the right hypochondrium were detected, whilst the uterus, vagina, and vulva showed no septic lesions. No jaundice was observed, and there was no history of any previous attack of cholecystitis. Vineberg operated, and found the gall bladder distended by a thick, dark fluid containing a little pus and numerous small stones; a drainage tube was applied, and the track closed a few weeks later after the escape of a small calculus. Convalescence was protracted by rheumatic pains in both legs.

(153) Prolapse of Vesical Mucous Membrane in the Female.

VILLAR (*Arch. Prov. de Chir.*, No. 6, 1905) reports a case he has recently observed of prolapse of the mucous membrane of the bladder through the urethra in a woman aged 37. This very rare condition he regards as the result of undue laxity of the vesical mucous membrane which glides readily over the subjacent coats of the bladder, and which with increasing disturbance of micturition is protruded through the dilatable female urethra. The prolapsed mucous membrane forms at the upper part of the vulva a soft globular tumour, with a ruddy and often bleeding surface, and, unlike a prolapse of the urethral mucous membrane, presenting no central orifice. This tumour can be readily and quickly reduced by the finger, which in some instances passes easily into the bladder through the unduly dilated urethra. The appearance of the tumour in instances of prolapse of the vesical mucous membrane is usually preceded over a period of months or even years by dysuria, gradually increasing in intensity, and extending at times to complete retention, and by pains in the loins. In the early stages of the affection and before the appearance of an external tumour the diagnosis is very difficult if not impossible, and there remains for a time much doubt as to whether the patient be suffering from vesical, renal, or uterine disease. On the appearance of the prolapse the nature of the cases should at once become evident. The tumour is soft and depressible, and quite unlike a firm polypus; a probe can be readily passed between its surface and the surface of the urethra and meatus, and it does not present, like a prolapse of the urethral mucous membrane, a depressed orifice in its centre. In complete hernia of the bladder through the urethra the protrusion is larger, much firmer, and often presents the two ureteral orifices. The rational treatment of prolapse of the vesical mucous membrane consists, the author states, in removal of the growth by the knife after ligature of its base. This should if possible be done through the urethra after dilatation; but in the case reported in this paper, as the tumour was very large and its attached portion inaccessible on working through the dilated urethra, suprapubic cystotomy was practised. The results of the operation have, it is stated, been excellent. The lumbar pains have ceased; micturition has become quite normal, and the patient has increased in weight and regained her former state of good health and vigour.

(154) Abdominal Hysterectomy for Concealed Accidental Haemorrhage.

J. H. TARGETT (*Journ. of Obstet. and Gyn.*, May, 1905) describes a case of concealed accidental haemorrhage of the grave type. The patient was a multipara, aged 34, who had suffered from *ante-partum* haemorrhage at two previous gestations. The history of the case before admission into hospital was that the patient had been seized with severe pain in the abdomen on the morning of admission and had quickly become sick and faint; she was at this time about six months pregnant. When seen by a medical man she was faint and in great pain; the os uteri was found to admit two fingers, and there had been some external haemorrhage. The treatment adopted was to administer opium, to rupture the membranes and bring a leg down into the cervix. During the afternoon the patient again became pulseless, and, the vagina having been plugged, she was removed into hospital. Targett first saw the patient at 6 p.m. on this day. She then looked blanched, the pulse was 140 and was soft and compressible, the uterus was tense, hard and somewhat tender, and reached up to the ensiform cartilage, the os uteri admitted one finger alongside the leg of the fetus, but the edge of the cervix felt tight and undilatable; those who had seen the case earlier in the afternoon were of opinion that the uterus had become larger during the interval. In deciding upon the mode of treatment four points were specially considered: (1) That internal bleeding was still going on; (2) that it would be difficult to empty the large-sized uterus rapidly through a small and rigid cervix; (3) that enlargement of the cervix by incision might cause dangerous haemorrhage; (4) that there was considerable risk of *post-partum* haemorrhage from an inactive uterus after delivery. Under these circumstances abdominal hysterectomy was decided upon and successfully performed. The patient made a slow recovery. During the first week the temperature was irregularly raised, but did not go higher than 101°; the pulse fell slowly from 140 to 110, and the face remained extremely pale. On the eighth day some pus was found in the urine, perhaps as a result of the bursting of a small parametric abscess in front of the cervix. Later on the patient developed thrombosis in both legs, but she finally made a good recovery. Caesarean section in this case might have given good results, but any treatment which left the uterus *in situ* laid the patient open not only to the risk of *post-partum* haemorrhage but also to a grave danger of sepsis, as a result of the manipulations which had been performed before the patient was sent to hospital. The author is disposed to think that the case would have been a suitable one for the performance of vaginal Caesarean section.

THERAPEUTICS.

(155) Early Treatment of Appendicitis.

THEODOR ZANGGER (*Zeit. für Diat. und Phys. Ther.*, March, 1905) deals with the early treatment of appendicitis. He does not discuss the differential diagnosis of the complaint, except to call attention to the fact, which has been emphasized of late by English workers, that in appendicitis an area of superficial hyperalgia is often present in the form of a zone 10 to 12 cm. in width, which stretches from the third lumbar vertebra round the right side of the abdomen to the middle line. According to Mansell Moullin, the disappearance of this zone of hyperaesthesia signifies the onset of gangrene. Zangger is strongly of opinion that the bowel should be emptied daily by means of enemata in cases of appendicitis. After the use of an enema, the temperature often falls, and the pain is lessened, while on theoretical grounds it is of importance that masses of faecal matter should not be left in the neighbourhood of a diseased appendix. He uses cold injections, and sometimes adds to the water from one to two teaspoonfuls of glycerine or half a teaspoonful of common salt. Although such treatment is not the recognized one, many authors can be quoted in support of it. Thus Russal in his earlier years often gave saline aperients in appendicitis, and had no deaths. Robin always recommends that the bowels should be opened; Quinke uses enemata at the beginning of not too acute attacks of appendicitis, while Bourget obtains good results by the use of enemas combined with the administration first of castor oil, and later of the saline aperients. The objection to enemata in appendicitis is theoretical rather than practical, and at the present time, when no one hesitates to secure an action of the bowels two or three days after a resection of the intestine, the reason why the same course should not be followed in appendicitis is difficult to follow. The author's treatment may be summed up under the five heads: (1) Evacuation of the contents of the intestine; (2) the application of evaporating lotions to the abdomen; (3) rest; (4) morphine very sparingly administered; (5) immediate operation in the urgent cases, and operation during the quiescent stage for the remainder of the cases.

(156) Formic Acid in Rheumatic Conditions.

L. B. COUCH formulates (*Med. Rec.*, June 24th) the following conclusions in regard to the nature of rheumatism: (1) All rheumatism, acute or chronic, muscular or arthritic, is due to self-generated systemic poison. (2) It is not bacterial. (3) It is chemical. (4) It is an acid and a suboxidation product. (5) It is not uric acid. (6) Uric acid is a product of, not the cause of, rheumatic conditions. (7) It is produced by starchy indigestion alone. (8) It is produced by fermentation. (9) It is produced by a carbonic acid gas generated in the bowels, and is due to drinking at meals and washing the food into the stomach without proper mastication and mixing with the proper ferments designed to digest such foods. He was led to study the action of formic acid in the treatment of rheumatic disorders by the experience of a farmer who was cured of the disease after being stung by bees. The remedy was found of the greatest value, and the histories are given of several cases in which remarkable results were obtained. The author's directions for using the formic acid are, in part, as follows: (1) Always cleanse the parts thoroughly before injecting formic acid solution. (2) Never use a stronger solution than 3 per cent., and a 2½ per cent. solution is better. (3) Never use it without using 5 to 8 drops of a 1 per cent. solution of cocaine, or other local anaesthetic as a preliminary. (4) Always choose exterior or outer parts for exhibiting the remedy and inject it just beneath the skin. (5) Never use more than 8 drops in any place of either cocaine 1 per cent. solution or of the formic acid solution. (6) If larger doses of formic acid are used, hard, painful lumps are formed which are slow of

absorption and painful ; whereas if smaller doses are used no destruction of tissue results. (7) The author makes the injections not less than 2 in. apart, and he has never used more than thirty injections at a time, and it is far better to use only twelve and repeat the following day in another place. Injections may be given every day, or every other day, till all the pain has ceased.

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(157) The Action of Radium on the Virus of Rabies.

Tizzoni and Bongioranni (*Rif. Med.*, May 6th, 1905) have carried out their experiments on rabbits, using a fixed and powerful virus sufficient to kill all the control animals. Two sets of experiments were carried out, one *in vitro*, and the other in the rabbit. In the first set the radium rays were directed for a fixed period on a 1 per cent. solution of rabies virus in sterilized water. In the second the rays were made to converge for one hour a day, for a period of eight days, on the eye of the animal into which some of the same rabies water had been injected, either in the eye or subdurally. In some cases the treatment was begun at the same time as the virus was injected, in other cases one or more hours after the disease had declared itself. In the first set of experiments the radium was found to possess a very rapid decomposing action on the virus, which after a short time was rendered quite innocuous when injected intraocularly. If the action had been insufficient (only an hour) still some effect was produced in attenuating the power of the virus, as the animals died at a much longer interval, and then with symptoms of marasmus rather than rabies. Further experiments are being made to see if a reliable vaccine can be procured in this manner. Equally satisfactory results were obtained in the living animal when the rays were used contemporaneously with the injection of the virus for an hour a day for eight consecutive days. If used an hour after injection, cure could be relied upon, but if twenty-four hours had elapsed between the injection and the use of the rays, the treatment was of no avail. It does not appear to be necessary to use the rays at the place of injection, as equally good results follow from application at a distance. The authors offer no hypothesis as to how the rays act, unless possibly by their disinfecting and depoisoning action on the nervous system.

PATHOLOGY.

(158) The Causation of Hyperpnoea and Dyspnoea.

Ever since the control of the respiratory movements was shown by Flourens to be vested in a centre in the medulla, the means by which this centre is called upon to exert, or to cease to exert, its activity has been a matter of discussion and of experiment. It is known that the respiratory movements are controlled partly through nerves and partly through the stimulation of the venous blood. The precise part which is played by different factors is, however, doubtful. Four chief ways have been considered by which the medullary cells may be stimulated, either by a deficiency of oxygen, or an excess of carbon dioxide, or by other products of metabolism circulating in the blood, or by impulses set up in the lungs themselves and conducted to the centre by the vagus nerve. Haldane and Priestley (*Journ. of Physiol.*, May 9th, 1905), in an important paper, describe a careful series of experiments upon this question: in every case the subject of observation was man himself. The results of the investigation are of great importance to the understanding of the causes of physiological and pathological dyspnoea. The authors point out that the term "hyperpnoea" and not "dyspnoea" should be used for conditions of deep breathing without respiratory distress. Haldane and Lorrain Smith had previously shown that hyperpnoea could be due to an excess of carbon dioxide, and was similar to that of muscular exertion; it can also be produced by a deficiency of oxygen. In the experiments of the present paper, samples of the alveolar air were obtained by a simple method and analysed; the carbon dioxide pressure in the arterial blood, and therefore in the respiratory centre, will vary with that in the alveoli of the lung. The experiments show that, under normal conditions, the alveolar air of any normal given individual contains a constant percentage of carbon dioxide; with increased pressure such as that at the bottom of the Dolcoath mine in Cornwall (2,240 feet below sea level), or in a compressed air chamber, the percentage was less, but the partial pressure of the carbon dioxide in the alveoli worked out to the same figure. Conversely, at the top of Ben Nevis, the percentage was greater, but the partial pressure again comes to nearly the same as on level ground or in the mine. The oxygen pressure varied much. Further, the frequency of respiration, provided it be not excessive, does not affect the percentage of carbon dioxide in the alveoli; for if the breathing be quicker it is also shallower; also with shallow breathing the "dead space" air which fills the respiratory passages only and not the lungs, bears a larger proportion to the whole than in deep breathing. These facts indicate that since, under such varying conditions, the partial pressure of carbon dioxide in the alveoli is found constant, this is the most important factor in the control of the respiratory movements. The direct experiment to test this was then performed. Carbon dioxide was inspired, the capacity and rapidity of respiration being accurately measured by means of suitable apparatus. The respiratory centre was found to be extraordinarily sensitive to even a slight increase, such as 0.2 per cent. of an atmosphere, in the carbon dioxide in the alveoli, responding at once by hyperpnoea, in which the depth of the respiration is much more increased than the rate; this is the most economical way of improving the ventilation of the lungs, which may be trebled without any rise in rate. With muscular work the ventilation is increased in exactly the degree required to discharge from the blood the extra carbon dioxide produced. If the proportion of oxygen breathed be lessened there is little or no effect; the centre is indifferent until the percentage falls to about 13 per cent. of an atmosphere when distress occurs; this is near the pressure at which haemoglobin ceases to be saturated with oxygen, and corresponds to a barometric pressure of 472 mm. of mercury, or a height of about 12,000 ft. If the oxygen be lessened very gradually unconsciousness may supervene without any hyperpnoea. In the cessation of respiration known as apnoea the carbon dioxide in the alveoli of the lungs is lowered, and true apnoea is not produced if an atmosphere with only a little less of this gas than is normally in the alveoli be breathed. The general conclusion is that the regulation of the alveolar ventilation in breathing depends under normal conditions exclusively on the carbon dioxide pressure in the respiratory centre. Under abnormal conditions hyperpnoea is due to want of oxygen, but not unless the proportion falls to the low figure above quoted, 13 per cent. of an atmosphere. This may occur in mountain climbing, balloon journeys, in mines when fire damp is mixed with the air, and in poisoning by carbon monoxide. If not sufficient oxygen be supplied, the carbon dioxide in the blood also falls. Oxygen hyperpnoea is accompanied by symptoms of a distinctly pathological kind, such as dizziness, loss of muscular power, disturbances of sensation, nausea, headache, and psychical symptoms. In cases of disease with failure of the circulation this oxygen hyperpnoea is often present; this has the effect of keeping down the proportion of carbon dioxide in the blood, but that fluid does not flow quickly enough through the lungs to be properly oxygenated. In circulatory cyanosis dyspnoea is therefore not so marked as in cyanosis produced by hindrances to respiration, where the discharge of carbon dioxide is obstructed and the respiratory movements stimulated by that substance.

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(159) The Blood in Tuberculosis, etc.

Franz Erben, in a monograph published by Braumuller of Vienna, has estimated the various constituents of the blood in tuberculosis and some other diseases. In tuberculosis the haemoglobin, serum albumin, and globulin are slightly diminished. Neutral fat and cholesterine are also decreased. The chlorides—sodium, potassium, and magnesia—are all decreased. Calcium, however, shows an increased percentage. This latter fact is of great interest from the standpoint of the previously-ascertained increased excretion of calcium in tuberculosis. The toxins of the tubercle bacilli appear to first prejudice the formation of the albumins and later to act upon the erythrocytes. The plasma is at first almost normal, but oligoplasma and hydraemia may follow later. Anaemia sometimes occurs in the early stages, and arises from a decreased activity of the bone-marrow. In carcinoma of the stomach, the plasma, chlorides, and a calcium are all increased, the ash, albumins, haemoglobin, iron, erythrocytes being decreased. In diabetes the blood shows an increase in the extractives and in calcium, the potassium being decreased. A full bibliography is appended to each section of the work.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

(160) Cerebro-Spinal Meningitis.

Foster (*Amer. Journ. of Med. Sciences*, June, 1905) gives notes from the study of thirty cases of cerebro-spinal meningitis admitted to the New York Hospital during the epidemic in that city in the first six months of last year. Of these, 60 per cent. were males and 40 per cent. females, and the majority of cases were under 20 years of age (40 per cent. under 10, and 36 per cent. in the second decade of life). Although the modes of onset presented great diversity, the usual history was that the patient, while in apparent health, was suddenly seized with severe occipital headache and vomiting, followed in a few hours by rapidly-increasing delirium. Convulsions occurred more frequently in children than in adults, and in the former the initial headache appeared to be less marked, and the symptoms were apt at first to be regarded as gastro-intestinal. The headache, retraction of the head, and the tenderness over the cervical vertebrae, were generally relieved by lumbar puncture, thus pointing to an apparent relation to the amount of cerebro-spinal fluid. Pyrexia was very variable and irregular, the most favourable prognosis accompanying a temperature ranging between 101° and 104°, hyperpyrexia pointing to an overwhelming intoxication, and a low fever being evidence of a poor reaction, and generally indicative of a lengthy illness. The pulse rate was relatively slow, and though full and strong in character at first, became weak and irregular later. Purpuric eruptions were noted in six cases only, and extensive herpes in five, the pustules of which contained no organisms. The blood showed a leucocytosis more marked in children than in adults, with an increased percentage of polymorphonuclear neutrophiles. No prognostic deductions can be made from the leucocyte count, as in pneumonia. The meningococcus was found in all the cases in the cerebro-spinal fluid from lumbar puncture, and the character of the fluid varied from milky turbidity to thick yellow pus. Though its character appeared to have no prognostic value, pus was usually found early in cases presenting high fever and noisy delirium. Disturbance of function of the nerves of the eye was common, the motor nerves being affected in 30 per cent. of the cases, and optic neuritis was noted in 3 cases. Though often exaggerated at the onset of the disease, the knee-jerks later were always absent. Kernig's sign, though absent in young children, was only absent in 3 of the adult cases, and this sign in connexion with the headache may often afford the earliest clue to the nature of the disease. Of complications, direct extension of the inflammation to the eye was noted in 3 cases; cardio-vascular changes in 5 cases; lobar pneumonia in 2 cases; inflammation of joints in 3 cases. The mortality was 60.3 per cent. as compared with 50 per cent. in other reported epidemics. Treatment consisted in preventing self-injury and the preservation of strength. Opium, bromides, and chloral may be useful to quell delirium, but should not be persisted in if ineffectual. Lumbar puncture, repeated frequently if necessary, appeared to have a distinct therapeutic value by lessening delirium, alleviating headache, and restoring consciousness in semicomatose conditions. From observations in one case where a solution of collargol was injected into the subarachnoid space in the lumbar region twelve hours before death, and found *post mortem* in the ventricles of the brain, it would appear that the diffusion was sufficient to warrant the trial of local medication, but the practical utility has not been proved in the few cases where it has been undertaken.

(161) Primary Malignant Tumours of the Spleen.

F. Adolph (*Berliner Klinik*, April, 1905) details a case of splenic lymphosarcoma running a rapidly fatal course of about eight months in a woman of 43, and characterized by much abdominal pain, the formation of numerous adhesions between the greatly-enlarged spleen and the neighbouring viscera, and the occurrence of many metastatic deposits in the lymphatic glands. Moderate anaemia was present, but no leucocytosis; splenectomy was attempted, but without success, and the fragment of splenic tissue removed for purposes of diagnosis did not permit a definite conclusion as to the nature of growth to be arrived at *intra vitam*. Adolph discusses at some length 19 recorded cases of primary sarcoma of the spleen. In 6 of these the diagnosis was made during life, and splenectomy was performed, with good result in 3 cases; the spleen was removed in 4 other cases, but the records of these are inadequate. He follows Grohé and also Borst in classifying lymphosarcomata under two heads: (1) Generalized lymphosarcomatosis with no definite primary growth, and (2) lymphosarcoma primary in the spleen or in a lymphatic gland and giving rise to metastatic deposits in other lymphatic glands.

(162) Purpura and Tuberculosis.

It is now known that purpura is not infrequent in tuberculosis. Raffin has collected a series of observations (*Thèse de Bordeaux*, 1905) with reference to this question. There are four different groups of tuberculous purpura: (1) Premonitory purpura, (2) purpura of acute tuberculosis, (3) cachexial purpura, (4) chronic purpura. The first is rare, but sufficient cases have now been collected to show that purpura may precede other manifestations of tubercle, in this resembling albuminuria and dyspepsia. In the second group purpura appears as a complication of acute tuberculosis: haemorrhage may also occur from other mucous surfaces, as the nose, intestine, bladder, and stomach, but epistaxis may be the only form of mucous haemorrhage. These cases may end fatally. The third group contains cases of advanced tuberculosis. Haemorrhages into the skin occur in any situations and in varying degrees of severity. There are oedema and other signs of cachexia. Lastly, purpura has been noticed in cases of chronic tuberculosis without any apparent change in the condition of the patient otherwise. Purpura may occur once or there may be several attacks at intervals of months or years. The eruption may last a week and disappear completely. The writer has collected nine observations of chronic purpura in which the eruption recurred at very short intervals and extending over long periods. It is generally in slightly progressive cases of tuberculosis that chronic purpura has been observed. The writer also refers to cases of purpura recurring for several months, which finally developed tuberculosis. In conclusion, he expresses the opinion that tuberculosis should be suspected and carefully sought for in cases of purpura, especially if recurrent, in which there is no obvious cause.

(163) Pediatrics for the General Practitioner.

T. W. Kilmer (*Med. Record*, August 19th) gives a number of suggestions intended to help the general practitioner in his management of the children who necessarily form a large proportion of his practice. In dealing with children it is essential to gain their respect, their confidence, and their obedience, and to do this tact is required. Children should not be deceived by being told that something is not going to hurt when it is, for in this way their confidence is irremediably lost. In examining an infant or young child it should always be undressed, and if asleep, it should be studied a while before being roused. A child's chest cannot be auscultated without the use of a stethoscope, because the average adult ear would cover almost an entire lung of an infant. Sputum is obtained from babies by introducing a catheter, 21 F., into the oesophagus, as the act of gagging forces the sputum which is in the oesophagus into or on the catheter. The landmarks of an infant's chest are quite different from those of an adult's, and it is impossible to locate the apex beat without the use of the stethoscope. The throat and ears should always be examined when called to a sick baby. Adenoids should never be operated without an anesthetic, for the nervous shock more than counterbalances the risk of the anesthetic. A simple and practical system of milk modification that can easily be remembered is described, and a blank report is reproduced on which the mother is supposed to record the infant's progress.

SURGERY.

(164) Wounds of the Thoracic Duct.

Vautrin (*Rev. de Chir.*, No. 7, 1905) in an original memoir on wounds, especially those inflicted by accident in the course of a surgical operation of the thoracic duct in the neck, discusses at some length the prognosis and treatment of a variety of injury, which in consequence of the frequent performance at the present day of deep and extensive dissection for the removal of cervical tumours and diseased cervical glands, claims consideration as a subject of much practical importance. The author

points out that this can no longer be regarded as a rare injury, and he holds, in opposition to most of those who have written on the subject, that it is not invariably a slight lesion, and one that can be readily dealt with by surgical treatment. Attention is directed in the first place to certain anatomical points which it is suggested the surgeon should bear in mind in order that he may clearly comprehend the various phenomena observed after a wound of the terminal portion of the thoracic duct, this being the common reservoir of all the lymphatics of the infradiaphragmatic part of the body and receiving nearly all the lymph from the left half of the trunk above the diaphragm, constitutes a large canal through which passes almost all the lymph contained in the body. When this portion of the duct is not broken up into branches and the collateral vessels are small, its terminal portion discharges into the large venous trunks on the left side of the neck a full stream of lymph which amounts in the course of twenty-four hours to several pints. On the other hand, when the thoracic duct is divided into numerous secondary trunks or communicates in the chest with the azygos and other veins by a rich network of collaterals its terminal portion in the neck is considerably diminished and reduced to almost negligible proportions. The former of these conditions, the author asserts, is met with much less frequently than that in which the lymph reaches the subclavian vein through several branches. In the latter condition a wound of one of the small terminal vessels in the neck would be a relatively minor and insignificant lesion, as most of the lymph would flow through the intact collaterals. If a wound of a large and single duct be not closed by ligature, compression, or fibrinous coagulation, the injury will result in a discharge of lymph from the wound, which usually becomes perceptible on the second day. The amount of the discharge varies in different cases. When the wounded duct is deprived of collateral vessels and most of the lymph flows through it, several pints may be poured into the dressings in the course of twenty-four hours. The loss of so much lymph must, the author points out, have grave results. The patient soon becomes feeble and emaciated, suffers from intermittent headache, and is unable even to sit up in bed without becoming faint and exhausted. The general impairment is indicated also by tachycardia and diminished secretion of urine. Young subjects unless enfeebled by cancer or tuberculosis suffer much less than those of advanced age. In the exceptional instances of the persistence of an abundant discharge of lymph over fifteen days, death usually occurs as the result of adynamia. A case is reported in this paper, in which a woman, aged 49, died on the thirty-third day after an accidental wound of the thoracic duct during the removal of some cancerous glands from the supraclavicular region on the left side. In the majority of instances, however, a wound of the cervical portion of the duct presents a much less sombre prognosis. Direct ligature of the wounded duct is regarded by the author as the sole rational method of treatment when the injury is recognized at once in the course of the operation. Direct occlusion by ligature of the duct on the afferent side of the wound is always indicated, except in cases in which the nature of the lesion has escaped notice at the time of its infliction, and is first revealed after an interval of some two or three days after the operation by a discharge of lymph into the dressings. Such cases it would be necessary to treat by compression, applied either to the outer surface of the wound or, as has been found preferable, by packing the depth of the wound and bringing the dressing in direct contact with the orifice in the duct. Compression, the author holds, is a simple and very useful though not always reliable method, and possesses the advantage of increasing the intravascular pressure, and thus of favouring the expansion of collateral channels. Should it fail it would be necessary to practise secondary ligature. This resource is likely to prove successful if the wounded duct be freely exposed, and the ligature be carefully and not too tightly applied. In some cases, however, particularly in those in which the wound has been inflicted during an operation for the removal of malignant or tuberculous disease, the walls of the injured portion of the thoracic duct will be found degenerated and much softened, so that they are apt to give way under the pressure of the ligature. In such cases, if the discharge of lymph from the wound be profuse and persistent, and the general health of the patient be seriously disturbed, it might be found advisable, the author suggests, to have recourse to the difficult and risky operation of exposing and securing the duct in the retrosternal region far away from the seat of injury.

(165) Operation for Tumour of the Spinal Cord.

J. COLLINS WARREN (*Amer. Med.*, August 26th) reports three cases of localized tumours of the spinal cord in which removal completely relieved the symptoms, and a third case in which operation was only palliated, but was followed by marked improvement. In Case 1, a woman of 50 had complained for fifteen months of increasing attacks of pain widely distributed over the left side and upper abdomen. For six months before the operation she had had increasing difficulty with the movements of the left foot, impairment of sensation on that side, incontinence, and exaggeration of the deep reflexes. Laminectomy was performed, and a fibroma removed from the pia the size of an olive at the level of the ninth dorsal vertebra. Recovery was complete but slow, some symptoms persisting for six years, but she has been practically well for one year. In Case 2, a woman of 27 had suffered from pain in the lower left side for two years. For six months before operation she had had some impairment of motion in the left foot, and for a few days before seeking advice had been unable to walk. There was loss of sensation over both legs, paralysis and marked increase of the reflexes. At operation a tumour three-fourths of an inch in diameter was found at the level of the eighth dorsal vertebra, and was removed, proving to be a psammoma. Recovery was rapid, and the patient was well six months after operation. In Case 3, a man, 49 years, had shown symptoms of disease of the cord for twenty-five years, and for sixteen years had been paralysed below the waist as regards motion, sensation, and the control of the sphincters. Fourteen years previously laminectomy had been done with some relief. The second operation, in January, 1898, was done on account of symptoms of rapidly progressive general paralysis. Fragments of an intramedullary tumour (endothelioma) were removed, and the canal drained for two weeks. Improvement was rapid and for the past two years the patient has been able to work.

MIDWIFERY AND DISEASES OF WOMEN.

(166) One-Yolk Twins and Two-Yolk Twins.

STRASSMANN (*Zeitschr. f. Geb. u. Gyn.*, vol. liii, 1905, Part 3), in a monograph on twin pregnancy and double monsters, noted that there is no relation between the twins and the mother's family history in one-yolk twin pregnancy—that is to say, the condition is not hereditary, as seems to be the case with two-yolk pregnancies. The average of size and weight in a one-yolk twin is low, even when it is free from deformity; it seems ill-nourished from the earliest stage of its development, and the common placenta does not favour nutrition. In a series of two-yolk pregnancies, the age of the mother ranges from 26 to 35 in 68 per cent., whilst about 62 per cent. of the mothers in one-yolk pregnancies come within the same range of years. The death of one twin before birth is three times more frequent in one-yolk pregnancies, for the twin is exposed to special as well as to ordinary dangers in intrauterine life. Strassmann considers that the facts of gemellar pregnancy tend to show that woman is in a state of transition from multiparity to uniparity.

(167) Complete Obliteration of Uterine Cavity.

STENGER (*Dissertation*, Groningen, 1904) examined a woman, aged 32, who complained of complete amenorrhœa ever since her last labour, six years previously. That labour was spontaneous, there was trifling rise of temperature at first, but haemorrhages set in during the third week, and was treated by means which were not clearly explained by the patient. The curette was most probably used, and possibly caustics as well. The uterine cavity was found to be completely obliterated without any enlargement of the body; the sound passed for about 1 in. into the cervical canal. Stenger collected 10 similar cases of complete obliteration of the uterine cavity and 42 where the canal of the cervix or part only of the cavum uteri proper was obliterated. The cause was always cicatrization following the use of caustics, or severe infective inflammation.

(168) Spontaneous Haematoma of the Vulva in Pregnancy.

FALK (*Zentralbl. f. Gynäk.*, No. 14, 1905) reports the spontaneous development of haematoma in a primipara during the seventh month of pregnancy. The

patient was 24 years of age. One night she was seized with intense pain in the external parts and noticed a very decided swelling in the left labium majus. The pain radiated down the left leg so that walking was impossible. The patient was kept at rest in hospital, but just a fortnight after the first attack a second occurred, a painful swelling developing in the right labium. Ice compresses were applied and steps taken to keep the affected part absolutely at rest, but the swelling did not diminish. Falk dissected out the thrombosed veins from the haematoma which was the cause of the swelling on both sides. They each formed a mass as big as a pigeon's egg. The main point of interest in this case was the absence of any history of local injury; the spontaneous development of the second haematoma when the patient was under observation in hospital was instructive.

(169) Prolapse and Dermoid of Pelvic Connective Tissue.

VINEBERG (*Amer. Journ. of Obstet.*, February, 1905) removed a dermoid cyst from a woman, aged 35, who consulted him for a complete prolapse, rectocele and cystocele, one year subsequent to an instrumental delivery. Behind the wall of the prolapsed rectum an elastic tumour could be felt extending to the left, the nature of the growth was diagnosed but nothing more was done after the puerperium except repair of the uterine prolapse including the cystocele. The year having elapsed, when the patient came under Vineberg's care the rectocele, which had not been repaired, was larger whilst the tumour was double its previous size. Removal of the dermoid through the vaginal wall proved impracticable, but it was successfully enucleated through an incision extending from the coccyx to the anal margin. Lastly, the rectocele was repaired.

(170) Decidnoma simulating Uterine Fibroid.

BURDZINSKY (*Monatsschr. f. Geb. u. Gyn.*, June, 1905) explored a uterus and found that it was beset with firm bodies, whilst its cavity was distended with clot. The curette brought away tissue which showed all the characters of syncytioma; in consequence the uterus was removed on April 23rd. By May 8th a metastatic body was detected in one labium. Fenomenoff discussed Burdzinsky's case. He noted that the gynaecologist was very liable to overlook a chorion-epithelioma when first he met with an instance of that disease. This occurred in his own experience; he mistook some malignant tissue for fragments of a vesicular mole; but he recognized his second case at once. Burdzinsky correctly diagnosed his case, as he examined the scrapings, which even at a glance were unlike fragments of membrane representing an abortion.

(171) Puerperal Ulcerative Endocarditis.

WINKLER (*Zentralbl. f. Gyn.*, No. 26, 1905) observed this grave complication in a primipara, aged 23. On January 10th, she was spontaneously delivered of a living child and its placenta. On the fourteenth day the temperature rose to 104°, several joints became swollen and a cutaneous eruption appeared on the face. On February 7th inunction was prescribed for symptoms of syphilis. The temperature curves indicated pyaemia, the uterus had undergone perfect involution, the body was anteflexed, the appendages and parametria remained free from evidences of inflammation, whilst cicatrices of specific ulcers were detected on the external parts. A systolic murmur was audible on auscultation, and there was cyanosis. Alarming symptoms of collapse occurred on March 3rd; on the next day the temperature rose to 104° again, with a rigor, followed by death. The heart was carefully examined, a clot was found adherent to the wall of the right auricle and overhanging the tricuspid valve, whilst a funnel-shaped depression was discovered in the wall of the left ventricle just under the junction of the right and middle semilunar valves. This depression marked an ulceration which had extended through the ventricular septum and passed upwards, opening into the right auricle under the clot above described. No thrombi or emboli, or foci of infection in the lungs were detected. Destructive inflammation had occurred in one digito-metacarpal joint, and in the right ankle joint. The uterus was free from disease. Thus the ventricular septum had become perforated by an ulcer, the result of endocarditis caused by puerperal septicaemia.

(172) Rupture of Tubal Pregnancy during Examination.

DODDS (*Amer. Journ. Obstet.*, April, 1905) attended a patient, aged 27, with characteristic symptoms of extrauterine pregnancy in the second month. She refused operation; the pelvic swelling grew larger, and a month later the patient was anaesthetized. The tumour was cystic and perfectly movable. Dodds's assistant palpated the tumour, and whilst doing so it vanished. As the diagnosis had been questioned in consultation the patient was permitted to come out of the anaesthetic until signs of shock and haemorrhage appeared. Then the abdomen was opened and found full of blood, in which a large fetus floated. Pregnancy had developed in the right tube and the sac had ruptured. The placenta was removed with much difficulty on account of adhesions. The peritoneal cavity was flushed with salt solution and drained for twenty-four hours. The patient made a good recovery.

THERAPEUTICS.

(173) Eucaine and Stovaine.

A. MEYER (*Therap. Monat.*, May, 1905) has employed B. eucaine and stovaine as substitutes for cocaine in work upon the nose, throat, and ear. Both eucaine and stovaine are less dangerous than is cocaine, the poisonness of eucaine being about one-fourth and of stovaine one-third and one-half that of cocaine. Both can be boiled without undergoing decomposition. Neither possesses the vaso-constrictor action of cocaine, and, indeed, the application of stovaine leads to some dilatation of the vessels. Meyer has used cocaine in 30 cases, usually in operations upon the nose. The operations included cauterization, removal of hypertrophied tissue and of polypi, breaking up of crests of the nasal septum, etc. Where anaemia of the parts was needed, a preliminary application of a 1 per cent. of adrenalin was made, and was found to both deepen and lengthen the duration of anaesthesia. Under eucaine operations on the soft parts were absolutely painless; where division of bone was undertaken, the anaesthesia was not absolutely satisfactory, and was less so than under cocaine. For operations on the septum the method of infiltration anaesthesia was employed with good results; in all but two cases eucaine by this method was as satisfactory as cocaine. The author has used stovaine in 38 cases, 30 of them being nasal cases, for which a 5 per cent. solution of stovaine was found to be equal in its effects to a 10 per cent. solution of cocaine. As a local anaesthetic for the larynx stovaine gave fair results. After the application of a tampon first soaked in a 20 per cent. solution, and then dipped in powdered stovaine, good anaesthesia was obtained, and curetting of tuberculous granulation tissue could be carried out. In one case granulations at the base of a wound after a radical operation upon the middle ear were scraped, and no pain was felt. The author has never seen any appearances of poisoning after stovaine, and the sensation after its application is less unpleasant than after the application of cocaine.

(174) Hyoscine in Paralysis Agitans.

HIGIER (*Neurolog. Centralbl.*, May 16th, 1905, p. 434) records favourable results with hyoscine in paralysis agitans, intractable chorea and various neuroses. He gave it with good results in over fifty cases of paralysis agitans in doses of 0.2 to 0.3 mgr., either in pill or in solution. In these doses it was given for a whole year, and one patient took it in alternation with duboisin for seven years. When given in pill before the mid-day meal a feeling of languor and sleepiness came on after the meal, with dryness of the throat followed by sleep lasting about an hour and succeeded by a quiescent stage of three or four hours' duration, in which the patients were quite free from tremor. A persistent lessening of the tremor was the rule. Occasional intolerance was observed with quickening of the pulse and respiration (to 40 per minute), dimness of vision, and the appearance of hyaline casts in the urine. The prolonged use of the drug in the cases in which it was tolerated produced no ill effects. In three cases of intractable chorea (one a case of chorea gravidarum) in which the administration of arsenic, bromides, salicylates, chloral, and morphine had been without effect, 1-mg. doses of hyoscine daily the violent movements were reduced in the course of a week. In certain cases of senile pruritus he found it of value in doses of 0.3 to 0.5 mg. daily, but in some cases at least its administration was combined with that of small quantities of antipyrin. In severe cases of hyperchlorhydria, if atropine failed hyoscine was also unsuccessful. Good results were obtained with the drug in spasmodic asthma, other narcotic drugs given during the attack proving ineffectual. During the attack

he administered large doses (up to 0·25 and 0·5 cg.), subcutaneously conjoined with caffein with very great relief, and during the interparoxysmal stage he gave it persistently for weeks in minute doses. He also observed good results in the treatment of morphinism, but unsatisfactory in alcoholism and recurrent mania. But in acute mania its hypodermic injection resulted in eight or nine hours' sleep being obtained with a consequent improvement in the general mental state. In such cases he considers that heroic doses of hyoscine should only be given where other drugs had been tried and had failed.

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(175) Treatment by Venous Hyperaemia.

H. Tillmanns discusses the method of venous hyperaemia as applied in the treatment of various conditions (*Deut. med. Woch.*, Jan. 26th, 1905). Although Bier is the pioneer of this form of treatment as it is practised to-day, the suggestion was made years ago by Ambroise Paré, and later others employed similar means. Tillmanns confines himself to Bier's methods, which vary according to the situation and kind of disease. In general terms, it consists in applying several turns of a Martin's bandage or of a webbed elastic bandage above the situation which one wishes to render hyperaemic. This must only be adjusted tight enough to compress the veins. In order to prevent undue pressure, it is as well to apply the bandage over a layer of gauze or wool, and when it is necessary to apply it often, then it is wise to change the line of compression. When applied to an arm one first sees the subcutaneous veins of the hand and forearm swell up, the forearm becomes blue, and the hand bright red, with white patches; later the oedematous swelling increases, but the skin temperature is not changed. If applied tightly the bandage causes extreme hyperaemia, with considerable pain; the arm becomes heavy, the skin cold, and haemorrhages occurring into the tissue cause a speckled staining. The temperature may then sink by 2° or 3° Centigrade. In all degrees of hyperaemia the blood in part is driven more through the vessels of the medulla of the bones. Tillmanns says that all extreme hyperaemia is dangerous, and must not be employed in practice. As concerns the difference of situation, the upper extremity is easier than the lower for Bier's hyperaemia. The hip joint has, so far, not lent itself to this form of treatment. He gives the details of applying the bandages to special parts. When the method is correctly applied there are no risks, there is no discomfort, and any untoward occurrence following the application denotes an incorrect application. In connexion with Bier's hyperaemia, one can apply Junod's suction apparatus with good effect. Bier speaks of this combination as "mixed hyperaemia." Turning to the conditions which are favourable for this treatment, he mentions in the first place tuberculous joints. If an abscess is present it must be opened, and a few days later one applies the hyperaemia. The applications should be short at first, but daily. Severe tuberculosis with amyloid disease and pulmonary tuberculosis must be taken as contraindications for the application. The same may be said of joints which have assumed a bad position, and which are best treated by resection. For joints with effusion, injections of iodoform glycerine should be employed, and at a later date the hyperaemia will be found useful. Other forms of tuberculosis are but little suited for this treatment. Acute and subacute inflammations of joints, and especially gonorrhoeal inflammations, yield to this method well. The hyperaemia must be thorough, and it will be found to act in diminishing the pain early. In all cases careful active and passive exercises should be also carried out. Rheumatic arthritis also is adapted for the treatment. Good results are further obtainable in chronic stiffness of joints after trauma. In all cases where it is desired to apply a powerful resorbing influence the hyperaemia will be found to work well. In acute inflammatory conditions of the soft parts it does rather harm than good, and should not be tried. In neuralgias and other painful conditions, however, the sedative effect is very valuable. Tillmanns gives many details of interest in his original paper.

PATHOLOGY.

(176) Amoebic Dysentery.

Dopter (*Ann. de l'Inst. Past.*, July 25th, 1905) after making a histological study of early lesions in amoebic dysentery, finds himself in disagreement with the view that the amoebae make their first appearance in the submucosa. On the contrary, he finds that they are demonstrable, first in the mucosa, and that they make their way along the interglandular connective tissue beneath the surface epithelium. From this point of penetration the amoebae invade the glands by penetrating the basal membrane of their epithelium. Following the connective tissue route, they arrive at the depth of the mucosa and then, after a period of delay, penetrate the muscularis mucosae and so arrive at the submucous tissue. The first pathological effect of the presence of amoebae is an inflammatory reaction, which soon gives place to the necrotic process which is typical of their pathogenicity.

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(177) Enzymes in Inflammatory Exudates.

Opie (*Journ. of Exper. Med.*, June, 1905, p. 316) finds that the serum of an inflammatory exudate has the power of inhibiting the action of proteolytic ferments contained in the leucocytes. This power is possessed by the blood serum, and passes from the blood into the exudate. In the later stages of inflammation some diminution of this antienzymotic action is noted. The antibody contained in the serum is destroyed by a temperature of 75° C. The proteolytic ferments of the leucocytes act both in an acid and in an alkaline medium, but are more efficient in the latter. The antienzymotic action of the serum is favoured by an alkaline reaction, but is completely lost in an acid medium.

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(178) Bacteriology of Appendicitis.

Perrone (*Ann. de l'Inst. Pasteur*, June 25th, 1905, p. 367) has made a bacteriological examination of 14 cases of appendicitis, taking his material, with aseptic precautions, from the interior of the appendix immediately after it had been been removed by operation. In one case the appendix was found to be sterile; in each of the red from one to five distinct species of bacteria were found. Perrone lays great stress on the presence of anaërobic organisms which often occur in much greater numbers than aërobic varieties, and considers that studies of the bacteriology of appendicitis in which anaërobic cultures were not made cannot be regarded as possessing much scientific value. Anaërobic organisms, in his opinion, play an important part in the pathogenesis of the disease, and he is not inclined to agree with those who believe the colon bacillus to be the causative agent.

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(179) Relation of Bacterial Virulence to Immunizing Power.

Strong (*Journ. of Exper. Med.*, June, 1905, p. 229) has investigated this question with particular reference to two strains of cholera vibrios, which possessed marked differences in virulence. The pathogenicity of these strains was carefully standardized, with the result that one was found to be fifteen times as virulent as the other. Strong found that the virulent cholera spirillum possessed a greater number of bacteriolytic and agglutinable haptophore groups than the avirulent, or that these groups were endowed with a greater avidity for unicceptors and amboceptors. He regards the number or the avidity of the bacteriolytic receptors possessed by a bacterium as being directly proportionate to its virulence. The agglutinable receptors, however, do not follow this law—that is, the agglutinable haptophore groups are not necessarily present in the same proportion as the bactericidal ones. While the energy of growth is a very important factor in relation to virulence, there are other phenomena which also require consideration. The virulent organism possesses a greater number of toxic haptophore groups than the avirulent. The binding power of the free receptors of the organisms for bacteriolytic amboceptors *in vitro* is proportional to the bactericidal immunity produced in animals by each, and the latter is in turn proportional to the virulence of the organisms from which the receptors were extracted. The binding power *in vitro* of the dead micro-organisms of different virulence for bacteriolytic amboceptors is not in proportion to their toxicity. The bactericidal immunity obtained by means of the inoculation with the dead organisms of different virulence, or their extracts obtained by autolytic digestion, is proportional to the virulence of the living strains of the bacteria employed. With the living organisms, while the bactericidal immunity obtained from the inoculation of animals with the virulent organism is greater than that produced with the avirulent, such immunity is not in direct proportion to the virulence of the bacteria introduced. Strong reserves for future experimental work the decision of the question as to how far these conclusions are valid for other cholera strains or for micro-organisms in general.

AN EPITOME
OF
CURRENT MEDICAL LITERATURE.

MEDICINE.

(180) Primary Congestion of Lung.

L. RÉNON (*Journ. des Praticiens*, No. 24, 1905) gives a succinct description, from a clinical standpoint, of the varieties of primary congestion of the lung. There are, he says, seven distinct types of primary pulmonary congestion: First, the type described by Woillez. Cases of this type begin abruptly, with slight rise of temperature, considerable dyspnoea, rapid pulse, and friction sounds in the submammary region. There is expectoration of a yellowish froth and a watery albuminous fluid closely resembling a thin solution of gum arabic. The physical signs are vocal fremitus, normal or slightly diminished; slight dullness on percussion: on auscultation, one finds a variable area over which can be heard soft blowing sounds, both with inspiration and expiration, while at the margin of that area are coarse moist crepitations. The duration is short; the crisis, with sudden fall of temperature, occurs on the fourth or fifth day, and is signalized by the passage of a large quantity of urine. The physical signs persist for some days after the relief of the distress and dyspnoea. Moist râles take the place of the soft blowing sounds. The recovery is complete by the tenth day. Diagnosis is easy—real pneumonia lasts longer, the symptoms are the more severe and the physical signs less variable: the sputum of pneumonia is more characteristic, rusty, and adheres to the spittoon; and the fever is altogether higher. Second type, catarrhal congestion (Dupré, Grasset, Dieulafoy). All the thoracic structures except the heart are more or less involved, and especially the parenchyma of the lung, the bronchi, the intercostal muscles, and the pleura. Its onset is sudden, with fever and pleural friction. On auscultation friction sound, sibilant and mucous bubbling râles can be readily distinguished. There is dyspnoea, cough, and much pain all over the thorax continually present, but exaggerated by movement in bed and during the act of coughing. This type of pulmonary congestion is practically that of Woillez, with local pleurisy and muscular congestion superadded. The crisis takes place on the fourth to the sixth day. The disease resembles broncho-pneumonia, but the physical signs of the latter are more localized. Third type: Pleuro pulmonary congestion (Potain, Serraud). The duration of these cases is longer than that of either of the foregoing, and the pleural trouble takes much longer to resolve than the pulmonary congestion. The diagnosis is not easy. One finds a general indefinite dullness to percussion, a diminution of vocal fremitus, and, on auscultation, bronchophony. The expectoration shows definitely the presence of a slight pneumonia, and is slightly purulent. There is, later on, a little collection of fluid which persists until about the fifteenth day of illness, when it rapidly diminishes daily. Pneumococci are generally to be found in the sputum. Fourth: Spleno-pneumonia (Grancher, Queyrat). All the coarse signs suggestive of pleurisy with effusion are present, but no fluid can be withdrawn by an exploratory puncture. The dullness is not quite complete, however; the vocal fremitus is not quite abolished; there is bronchophony and even oegophony; at the end of an attack of coughing one can detect a few fine râles all over the dull area. There is no displacement of viscera, and when the affection is on the left side there is no dullness in the semilunar space of Traube. Fifth: Sudden pulmonary congestion (Weill). Paroxysmal congestion of lung. This type includes three distinct subvarieties: (*a*) An intense congestion following on a heat stroke or on exposure to sharp cold, especially among alcoholic patients. There are severe dyspnoea, haemoptysis, and fine râles all over the chest; and death is very likely to ensue. (*b*) Paroxysmal attacks of slight pulmonary congestion recurring about once a month. (*c*) "Bronchoplegic" form (Huchard). A form of acute oedema of the lung of sudden onset. The bronchioles are paralyzed and the patient is suffocated by the retention of a large quantity of serous effusion into the alveoli. Sixth: Pulmonary congestion without expectoration (Louis Rénon). This is a massive pulmonary congestion like that described by Grancher. There is violent dyspnoea and the usual auscultatory signs of acute pneumonia. But there is no expectoration throughout the illness. Seventh: Primary prolonged pulmonary congestion (Rénon) chronic pulmonary congestion (Bouchut). Some cases of this type have lasted as long as 114 days. The fever is persistent and the emaciation extreme. Bacteriological examination reveals the presence of pneumococci in the sputum. The disease resembles broncho-pneumonia of the pseudo-lobar type of Rosenthal in some particulars, but there are none of the intestinal symptoms or bacteria characteristics of the latter. In all cases of pulmonary congestion, if we adopt exploratory puncture, we shall probably arrive at a better understanding of the physical signs. The treatment of these primary congestions of the lung is not difficult. It is good practice to try and limit the inflammatory process by local counter-irritation or by local dry-cupping daily. Another plan is to anoint the seat of the mischief externally with a salicylic pomade thus prepared: Methyl salicylat. ℥j grs. xv, menthol 4 grains, vaseline or other excipient ℥ijss. Later on Dover's powder in doses of two grains night and morning may be useful. When the fever is very high 2 to 5 grains of aspirin, repeated, will do good service. Sometimes puncture at the seat of congestion seems to have a healing effect, and in some cases the puncture made with an aseptic needle for diagnostic purposes has seemed to determine the crisis of the affection.

(181) Appendicitis in Trained Nurses.

J. N. HALL, Denver, Col (*Journ Amer. Med. Assoc.*, July 1st), remarks on the frequent occurrence of appendicitis in the trained nurses at the Denver City and County Hospital, where he is a member of the medical staff. Excluding mild non-operative cases, he has records of 18 patients operated on among the pupils of five Denver training schools, the total number of nurses during the time under consideration being 296. Thus, 6·08 per cent. were operated on, while a considerable additional number had mild attacks of the disease; 13 were operated on at the beginning of an attack, and 5 were interval operations. The average age of the patient was 23½ years, the average duration of training at the time of operation was about fourteen months. Every patient recovered with a practically perfect result. While he can only theorize as to the causes of this frequency, he suggests the unaccustomed requirements in many cases of standing and walking, constipation and trauma from action of the psoas muscle in working in the stooping position so often necessitated in the nurse's occupation, as worthy of consideration. The greatest single factor, however, he thinks, is the prompt recognition of the condition, leading to an early and successful operation. If all cases could be managed as well he believes the mortality of appendicitis could be practically wiped out.

SURGERY.

(182) Ligature of Innominate Artery.

SHEEN of Cardiff (*Ann. of Surg.*, July, 1905) publishes a case of ligature of the innominate artery in which, after subsequent ligature of the second part of the subclavian the patient made a good recovery. The patient, a man aged 46 years, had an aneurysm of the second and third parts of the right subclavian artery. The innominate and right common carotid arteries were tied at the same operation. Pulsation ceased in the aneurysm, but was found to have returned on the following day. After an interval of forty-nine days after the first operation an unsuccessful attempt was made to tie the innominate. A fortnight later the second part of the subclavian was tied close up to the aneurysm. Recovery took place with consolidation of the aneurysm, and the patient was quite well when last seen, between eight and nine months after the first operation. The author gives the results of a comprehensive study of the literature of ligature of the innominate, an operation which in spite of its previous high mortality is one, he believes, which under modern surgical conditions is likely to have a safe and useful future. The number of cases in which the innominate has been approached by operation with a view to its obliteration is 43. In the 36 cases in which ligature was accomplished 28 patients died and 8 recovered, the mortality being 78 per cent. This carefully prepared and instructive paper is concluded with the following summary: (1) In properly selected cases ligature of the innominate is a reasonably safe and undoubtedly useful operation; (2) suitable cases are those in which the aneurysm is of a circumscribed globular character. Unsuitable cases are those in which the aneurysm is what is commonly called fusiform, but is often nothing more than part of a general arterial dilatation, and in which there are marked signs of general arterial sclerosis with accompanying

visceral disease; (3) the maintenance of asepsis is a main factor in obtaining a successful result; (4) the incision should be central with horizontal and vertical divisions of the manubrium, if necessary; (5) the carotid should be treated as well as the innominate; (6) silk is the best ligature material; (7) some amount of injury to the inner coats is probably necessary to ensure occlusion, but with aseptic conditions such injury does not matter; (8) two ligatures should, if possible, be placed round the vessel, the first turn of the proximal ligature being held tight, so as to keep back the blood while the distal ligature is completely tied; (9) the use of a drainage tube is inadvisable: (10) as study of the recorded cases shows that next to sepsis some cerebral lesion has been the most frequent cause of death after operation, it would be well for future operators to consider the advisability of tying the carotid about a fortnight before the innominate; (11) "Valsalvian" methods of treatment immediately prior to operation are inadvisable.

(183) Danger of Chloroxycarbonic Vapour in Anaesthesia by Chloroform.

Armand and Bertier (*Rev. de Chir.*, No. 7, 1905) give the following summary at the end of a paper in which they discuss the data, both clinical and experimental, relating to the dangers of the administration of chloroform vapour in a room lighted by gas. (1) The combustion of illuminating gas in a closed room pervaded by the vapour of chloroform or of any anaesthetic mixture containing chloroform produces poisonous gases which, when abundant, are rapidly fatal to animals—mammals and birds. (2) These poisonous vapours reveal their presence by white fumes, which excite painful irritation of the mucous membranes, especially those of the respiratory passages, and thus give the surgeon and his assistants much trouble by causing an annoying cough. This result, which is simply an inconvenience when the mixture of the fumes with the air is not a very strong one, becomes a serious danger when the room is small and not well ventilated. In the anaesthetized patient and in animals subjected to these toxic fumes serious symptoms occur without any premonitory signs, and systemic poisoning may be produced without attention having been directed to the danger by any alarming indications of cyanosis and respiratory syncope. (3) The poisonous agent is not carbonic oxide but chloroxycarbonic acid or phosgenic gas; it acts on the blood by virtue of its specific toxicity, and not by decomposition into hydrochloric acid and carbon monoxide. (4) The operating room, the authors hold, should, if possible, be kept quite free from exposed flames, whether illuminating or heating, whose products of combustion are not discharged externally. The risks described in this paper may, it is pointed out, be prevented by electrical illumination of the operating room, and, in any case, by a strict exclusion of Bunsen's burners. If the use of gas be compulsory, the lights should be placed near the ceiling and the room be well ventilated. If these precautions be impossible, it would be advisable, the authors state, to substitute ether for chloroform. The danger of inflammability in using ether may be readily prevented, and certainly it is less serious than poisoning by gaseous fumes. It is very probable, in the authors' opinion, that some chloroformic accidents, which could not be accounted for on the side of the patient by any organic lesion, might have been caused by gaseous poisoning, the occurrence of which, it is held, has not been sufficiently regarded, but which claims, however, the serious consideration of surgeons.

(184) Double Resection of Elbow for Rheumatic Ankylosis.

Lucas-Championnière (*Bull. et Mém. de la Soc. de Chir. de Paris*, No. 23, 1905) reports a case in which resection of the left elbow was followed after an interval of two years by a similar operation on the same joint on the right side. This double resection was performed on a female, aged 33 years, at the time of the first operation, who for many years had been the subject of ankylosis of both elbows, due to chronic rheumatism. Although since the first operation, which was performed in 1897, the patient has almost constantly suffered from rheumatic attacks, and from pain in other joints and in the spine, the results of the operative treatment of the ankylosed elbows have, it is stated, been very satisfactory. Notwithstanding the pain and stiffness in other joints, the patient has been able to make free and good use of both forearms; and although the general rheumatic condition has increased in severity, the false joints established by the double resection have remained sound, and free from any tendency to renewed ankylosis. Radiographs of the elbows taken in this case show that, notwithstanding the excellent results of surgical treatment with regard to the movements and functions of the upper limbs, the normal form of the articular surfaces of the bones of the arm and forearm has not been restored. Osseous nodules may, it is stated, be developed around the ends of the bones after resection of the elbow, but there is no restoration of the trochlea and olecranon in their natural conditions. The recorded instances of restoration of the normal form of articular extremities of bones after subperiosteal resection are regarded by M. Lucas-Championnière as the results of errors of interpretation.

(185) Fissure of the Anus.

J. R. Pennington says (*Med. Rec.*, June 10th) that the textbooks offer no explanation of the fact why fissure of the anus is most frequently found at or near the posterior commissure, and why, although it occurs at the anterior commissure in men in only 1 per cent. of the cases, in women it is found in this situation eight times as often. He analyses the support to the anal canal afforded by the levator ani and sphincter muscles, and reaches the conclusion that the posterior commissure is less well reinforced than the anterior, and that in women the anterior commissure is structurally weaker than it is in men. The tear naturally takes place at the weakest points in the muscular cylinder surrounding the anal canal. The dorsal surface receives the least support, the anterior the next, while the sides receive the greatest. Experimentally, with and without anaesthesia, a conical anal dilator, when forced into the anal canal, tears the dorsal surface first and almost universally, the anterior occasionally, and the sides rarely. From the foregoing it will be seen that the sequential points of muscular weakness, experimental tears, and location of fissure correspond.

MIDWIFERY AND DISEASES OF WOMEN.

(186) Heart and Circulation in Pregnancy and the Puerperium.

A. Stengel and W. B. Stanton (*Univ. Penn. Med. Bull.*, September, 1904) discuss the effects of pregnancy and labour upon the heart and circulation. According to many authors the work of the heart is increased during pregnancy as a result of (1) an increase in the number and size of the vascular channels, (2) an increase in the total quantity of blood, (3) a rise of abdominal pressure due to the growing uterus, (4) the insufficient expansion of the thorax and the compression of the lungs. It is possible that the first of these causes leads to a certain addition to the work of the heart, although the effect upon the heart of new vascular channels depends upon the relation of increased width of the channels and the increased number, and cannot be readily estimated. Causes 3 and 4 also tend in the direction of increased work. Cause No. 2 may be neglected, for not only is the existence of a true plethora wholly supposititious; but supposing it to exist, it is still probable that the amount of circulatory blood remains practically normal during pregnancy. Taking all the conditions into consideration, it would seem that the increase in the work of the heart during pregnancy, if such an increase takes place, is inconsiderable, and the fact that many women with poorly compensated valvular lesion pass through pregnancy with no further loss of compensation almost establishes the contention that any additional labour imposed on the heart is comparatively slight. After reviewing different investigations as to the weight of the heart and the thickness of its walls, the authors are of opinion that these figures tend to disprove the existence of any considerable hypertrophy during pregnancy, while the physical examination of cases has led such authorities as Dureziez and Gerhardt to diametrically opposite conclusions. The present authors' studies of the heart and circulation during and after pregnancy were purely clinical, and were carried out on 70 patients—namely, 39 primiparae, 21 multiparae, and 10 patients, primiparae and multiparae, who suffered before pregnancy from some renal or cardiac complication. Of the first class in 22 cases the upper border was at the second rib when examined before labour, and reached only to the third rib after labour, and in 27 cases the apex moved down from the third or fourth interspace before labour to the fourth or fifth interspace after labour. In only 7 cases was there no murmur heard on auscultation throughout the period. The murmurs, with one exception, were systolic in time and were heard sometimes only before labour, sometimes

only after labour, and in 15 instances both before and after labour. Amongst the multiparae the upper border of the heart and the position of the apex beat remained unchanged by labour in a larger proportion of cases than amongst primiparae. The condition of the abdominal muscles also led to differences between multiparae and primiparae, for where the recti muscles were widely separated the displacement of the diaphragm, and therefore of the heart, was less before labour, but after labour the displacement of the apex downwards tended to be greater. In many of the cases there was distension of the conus arteriosus and the root of the pulmonary artery, as shown by an increase of dullness on percussion to the left in the second and third interspaces and by distinct pulsation in the same area, there being at the same time no evidence of retraction of the lung. The position of the right border of the heart was on the average too far towards the right. Estimations of the blood pressure were made by different methods. According to the Riva-Rocci method the pressure in the case of 18 primiparae averaged 123⅗ mm. before labour and 122⅗ after labour; the highest pressure observed before and after labour was the same; the lowest pressure before labour was 96 mm., and after labour was 103 mm. For 15 multiparae the average pressure was 122⅗ before labour and 121⅗ after labour, the highest pressure was 163 mm. before and 140 mm. after labour, and the lowest pressure 91 before and 100 after. Taking Gumprecht's and Henslin's figures as a basis, the average blood pressure was within normal limits; and in two cases where the pressure was especially high the abdominal muscles were found to be unusually tense after delivery, and the intra-abdominal tension may have been high. The 10 abnormal cases included 1 of nephritis with hydramnion, 1 of uraemia, 5 of mitral regurgitation, and 2 of cardiac dilatation. These ten patients passed successfully through labour, and returned to their homes in good condition. The authors' conclusions are that there is not during pregnancy any hypertrophy of the left ventricle nor any special increase in its work, the increase of dullness to the left being due to the displacement of the heart in an upward and outward direction by the diaphragm. There is in many cases distension of the conus arteriosus and the root of the pulmonary artery and dilatation of the right ventricle to a moderate degree. There is no material increase of blood pressure before or after labour.

(187) Vomiting of Pregnancy.

J. Andérodias (*Journ. d'Obst. de Gyn. et de Péd. Prat.*, April 20th, 1905) describes a grave case of vomiting during pregnancy. The patient was a primipara, aged 20 years, who had been married about two months before she became pregnant. As a child she had suffered from measles and scarlet fever; menstruation had begun at the age of 14, and had always been irregular and the loss scanty. At 19 years there had been a temporary attack of albuminuria. At the beginning of pregnancy the patient suffered from frequent pains in the stomach, from thirst, and from slight albuminuria, accompanied by oedema of the left leg; palpitations, which she had been subject to since she began to menstruate, became more marked; she suffered also from obstinate constipation. In spite of these symptoms the woman's general health remained fairly satisfactory until the middle of the third month of pregnancy, when she had a mild attack of typhoid fever. For some days the disease ran a normal course, but vomiting then suddenly set in, at a time when active fetal movements were felt. Although the fever ran a benign course, the attacks of vomiting continued and became more frequent until the end of pregnancy. At the end of the fifth month the patient's temperature began to rise slightly, and at the end of the sixth month the evening temperature was as high as 40° C. At about this time some uterine pains were felt, and the cervix uteri was almost completely taken up. When Andérodias was called in to see the patient, in the sixth month of the pregnancy, he found that she was emaciated, her skin looked yellow, the tongue and lips were dry. The patient spoke with difficulty, and had troubles of sight and hearing; her temperature was 40° C., and her pulse of 130 was feeble and irregular. The patient had begun to suffer from attacks of syncope, and one of these occurred after the examination. It was decided to end the pregnancy, and on the next day manual dilatation of the os by Bonnaire's method was performed, and the child delivered by forceps. The whole operation was finished in fifteen minutes. The child lived for twelve hours. After the operation the patient had three attacks of syncope, but she recovered under treatment by injections of ether, caffeine, and of serum. Improvement quickly set in, and on the day after the operation the fever had disappeared, the pulse dropped to 100, and the vomiting had lessened. The patient made a satisfactory recovery, and has remained in good health. An interesting point about this case is the late onset of the vomiting. Both the late onset and the severity of this symptom may perhaps be explained if the vomiting be looked upon as the result of the typhoid fever acting upon the digestive tract, which had already shown signs of disturbance since the beginning of the pregnancy.

(188) Foreign Bodies in the Uterus.

Knoop (*Zentralbl. f. Gynäk.*, No. 19, 1905) finds that 95 cases of foreign bodies in the uterus have been collected by Neugebauer and Odefey up to 1902. He adds 2 more cases under his own observation. A woman, aged 57, ten years past her menopause, was suspected to be suffering from cancer of the body of the uterus. For about a fortnight she had been subject to a purulent, fetid discharge, which soon became sanious; there were also pains in the left iliac fossa. The os uteri showed little sign of disease, but a brown fetid fluid issued from it freely. The uterus was displaced backwards, of moderate bulk, and hardly tender. The curette was applied, and it was felt to touch a metallic substance, which proved to be a rusty hair-pin, about two and a quarter inches long. As it was already broken in two, its extraction was easy. The endometrium, much atrophied, was scraped and the uterine cavity washed out with chlorine water. Within a few days all morbid symptoms had disappeared. The hair-pin had certainly lain in the uterus for a long while; the patient declared that six years ago she had some discharge, and employed a hair-pin with paper twisted round its blunt end to wipe the discharge away. On one occasion the hair-pin slipped and she could not find it. The second patient was a primipara, aged 19. She was in labour; the breech presented, and the midwife believed that there was a large sacral tumour. There had been profuse purulent discharge since the beginning of pregnancy. Knoop found the cervix completely expanded and the membranes unruptured. About an inch and a half above the os a mass as big as a walnut was detected; it was easily drawn down into the vagina and extracted, and was found to be a fetid mass of paper rolled up tightly into a ball. The patient admitted that she had been in the custom of introducing pellets of newspaper into the vagina to prevent impregnation, and on one occasion before the beginning of this pregnancy had been unable to extract the pellet. The midwife must have managed to push the pellet, extracted during the labour, into the cervix when taking a pain. The labour continued to a normal conclusion, and the puerperium was free from fever. In respect to the first case, Knoop notes Lewers's observation where a hair-pin, introduced to produce abortion, was not detected even by the sound, until the *x*-rays were employed. The second case was the second instance only where the presence in the uterus of a foreign body of some bulk was not detected until labour. The first instance of this condition was reported by Czarnecki; it appears that a small tin box was passed into the uterus, yet pregnancy occurred, and continued to term in spite of the presence of the foreign body.

THERAPEUTICS.

(189) A New Active Constituent of Ergot.

E. Vahlen has isolated a new active component of ergot of rye which differs from the hitherto known substances separated from the ergot in several respects (*Deut. med. Woch.*, August 10th, 1905). He sketches the development of the science of isolating the active principles of plants, and then turns his attention to the special case of ergot. The action of powdered ergot was first described by Prescott in 1813, who points out that its power of accelerating a labour is gained by giving a decoction of the powder in water. The drug soon found its way into the European Pharmacopoeias, and later the toxicological effect of the substance was closely studied, although it had been long recognized. Two distinct forms of ergotism were recognized—the gangrenous and the convulsive. In 1884 Kobert discovered that ergot contained sphacelinic acid, a substance which produces gangrene, and cornutine, which produces convulsions, but it has been shown that neither of these substances are chemically single bodies. Vahlen now reports that he has isolated

a substance which does not produce either gangrene or convulsions, and which, in distinction to the two named constituents, is soluble in water. He calls the substance clavin. He argues that the ecbolic action of ergot of rye is due to a substance which used to be extracted from the powdered ergot by water, and therefore must be soluble in water. It need not have the action of the other constituents of ergot, and need not give rise to either of the two poisonous effects. He claims that clavin is a chemically pure substance. When the substance is dissolved in water, and the solution evaporated, one obtains microcrystalline powder, while from a hot, concentrated solution in alcohol, prismatic crystals of from 7 to 8 mm. length separate out. Its empirical formula is $C_{11}H_{22}N_2O_4$. So far it has been found impossible to form salts. When applied by intravenous injection in dogs and cats, even in large quantities, it has proved itself a harmless body. The direct action on the uterus of pregnant animals could be closely studied, and was found to be very energetic. These laboratory experiments appeared to justify therapeutic experiments on human beings. This has been carried out in four cases with positive results by Bumm, and in two cases by Vahlen. He employed the substance in 2 per cent. solutions, and exhibited it by subcutaneous injection in doses of 0.01 and 0.02 gram (=*circa* ⅙ to ⅓ gr.) These cases show the power of inducing uterine contractions in labours, in which the pains have become feeble and seldom. The author considers that the drug is absolutely free from any local irritating action, and can therefore be given without hesitation subcutaneously. He finds it is wise to prepare the solutions fresh, in order to ensure full activity of the substance, although he has found that prolonged boiling, and the addition of various reagents, fail to decompose it in solution.

(190) Iodiogelatin.

M. PERGOLA (*Riv. Crit. di Clin. Med.*, May and June, 1905) after recapitulating the properties of other substitutes for potassium iodide, and deciding that none of them can really take its place, describes his own observations of the effect of administering iodiogelatin to patients suffering from primary or secondary syphilis. Six cases were selected. No other drug had been administered before this treatment was begun or was used while the observations lasted. The body weight, the haemoglobin value of the blood, the red and white corpuscles, and the different varieties of white corpuscles were estimated throughout the treatment. The results were checked by a preliminary examination of the blood in each case to discover the exact characteristics of the blood in primary and secondary syphilis. In all the untreated cases he found white and red corpuscles present in numbers well within normal limits; there was some defect of haemoglobin, and the proportions of the different kinds of white corpuscles were abnormal. The lymphocytes and neutrophiles were diminished in number, whilst the eosinophiles and large mononuclears were increased. After the administration of iodiogelatin he always found the haemoglobin increased. The red corpuscles usually at first increased and afterwards diminished in number, remaining, however, between normal limits from first to last. The effects of iodiogelatin administered to normal non syphilitic persons were: (1) Progressive increase of haemoglobin; (2) diminution of red corpuscles, except in cases of slight anaemia, in which the red corpuscles increased; (3) little or no change in the white corpuscles. Pergola states that this action on the corpuscles resembles the action of potassium iodide. The effect of syphilis on the organism is shown in the changes above referred to, and also in diminished resistance of the red corpuscles. The effect of hypodermic administration of iodiogelatin to syphilitic patients is said to have been: (1) Progressive increase of haemoglobin, lasting for some time after the cessation of treatment; (2) increase of erythrocytes during the first fifteen to twenty days and subsequent diminution; (3) gradual increase of haemoglobin value up to a point a little above normal; (4) diminution of leucocytes, especially the neutrophiles, with the appearance of eosinophilia and mononucleosis; (5) increase of body weight; (6) disappearance of syphilitic symptoms without symptoms of iodism. Finally, the author states that when potassium iodide cannot be tolerated iodiogelatin is at present the best substitute.

(191) Inhalation of Oxygen in Chlorosis.

RAOUL LEFÈVRE (*Thèse de Lyon*, 1905) has collected a series of cases of chlorosis in which favourable results were obtained by the administration of oxygen for a fortnight to two months. Appetite increased, breathlessness disappeared, cardiac murmurs ceased to be heard, menstruation reappeared, and the patient's general condition changed from listlessness to energy. The red corpuscles increased in number and the haemoglobin in amount. It is, however, to be noted that the good effects of oxygen may not be permanent. The writer is of opinion that the value of the treatment consists in bringing the patient up to a certain improved level; ordinary treatment can then be relied upon for complete cure. It is principally of value in cases of chlorosis manifesting severe gastric disturbance, and who are intolerant of iron, that initial treatment with oxygen is valuable. There are no contraindications, and the method which the writer has found of most use is that described by Kraft—inhaling by one nostril the other being closed, and exhaling through the mouth.

(192) The Study of the Blood in Relation to Therapeutics.

E. CASTELLI (*Med. Record*, August 19th) expresses the view that the "future of medicine belongs to haematology," and says that he believes that hypodermic and intravenous medication must finally replace internal treatment. While at present we do not know enough about haematology for diagnostic purposes, we do know enough to make practical application of our knowledge to therapeutics. The blood and lymph are the bearers and transmitters of any infectious element, and the localization of the infectious element in a special organ or region of the body is a simple process of metastasis. The microbes, or toxins, are transported by the blood vessels into such regions of the body as offer conditions most suitable for the accomplishment of their reactive processes, just as in a similar manner cancer cells are transported to those parts of the body wherein may be reproduced the malignant growths from which they themselves originated. If the therapeutic agent should follow the same route as that followed by the infective element, its action, general and local, would take effect at such points as presented a necessity for its action. Thus we may confide to the blood our curative agent, but its exact nature and form of administration are still to be worked out.

PATHOLOGY.

(193) Alterations in the Ganglia of the Heart in Cholemia.

MALATESTA has made a series of observations on the cardiac ganglia of rabbits in whom he had produced biliary obstruction by means of ligaturing the ductus choledochus (*Arch. de Med. Ex.*, July, 1905). Four out of these rabbits died within four days, presenting general intense jaundice. The cardiac ganglia were examined, the method of staining employed being that of Nissl Lehnossek. Examination of the nerve cells showed several normal, and others, which reacted differently to the stain, taking up the colour more intensely and diffusely, owing to the achromatic substance of the cells absorbing the dye instead of remaining white, as it should. The achromatic substance of the perinuclear and central portions did not show much alteration, but at the periphery of the cell there seemed to be less concentration of chromatin, which gives a ring-like appearance in the healthy cell. In consequence, the outline of the cell appeared less definite, and the nucleus presented a more diffused coloration than normal. These changes were more striking in the case of a rabbit which lived for 13 days. The peripheral achromatic zone had completely disappeared, rendering the margin of the cell difficult to define. Vacuolation could be detected in the perinuclear zone and the nucleus showed irregular staining. In the sixth rabbit, which lived for twenty-three days, similar changes were present. Very few cells having any resemblance to the normal could be discovered, and vacuolation was more marked. The nucleus presented a greater degree of disintegration. Summed up, therefore, the changes produced in the cardiac ganglia in jaundice may be described as involving the ganglia from the periphery inwards, vacuolation of the protoplasm and homogeneization of the nucleus. The writer states that it is difficult to say whether these changes are in any way related to the bradycardia of jaundice. In his opinion there is no connexion, as similar changes may be found in nerve ganglia which have not been subject to biliary absorption and have been discovered in cases where some other toxin was present.

AN EPITOME
OF
CURRENT MEDICAL LITERATURE.

MEDICINE.

(194) Neurasthenia in the Working Classes. SINCE Beard described the condition known as neurasthenia in 1880, much has been done to separate this disease from others of similar natures. That this is necessary is shown by the statistics dealing with the enormous increase of nervous diseases during the past ten years. P. Leubuscher and W. Bibrowicz have had special opportunities of observing neurasthenia in the working classes, and report on their experience in the *Deut. med. Woch.* of May 25th, 1905. Of the causes of this disease, they mention influenza, dyspepsia, alcoholic abuse, not only in the subjects themselves but also in their progeny, and the method of life and work of to-day. The widespread distribution of the disease can be in part explained, as far as the working classes are concerned by the altered conditions of the working population, but the increase may be in part only apparent, since this class receives much more exact medical care than formerly. The existence of clubs and insurance societies favours the early recognition of the condition, since the working man is willing to make small complaints as long as he does not have to pay directly for the medical advice. Since 1894, the sanatorium for chronic diseases belonging to the Provincial Insurance Society of Berlin has admitted over 1,560 male patients suffering from neurasthenia. This material serves as the basis of the author's observations. Of these patients, 15.75 per cent. were printers (type-setters), 9.45 per cent. were carpenters, 5 per cent. were blacksmiths, and 1.9 per cent. were mechanics. These figures would show a very high percentage of carpenters and joiners, but as this occupation embraces a very large number of the insured (5 per cent. against 1 per cent. of printers) the percentage does not appear quite so high. Wherever one meets with workmen whose intellectual striving is in advance of their opportunities, who gain little for their intellectual selves in their occupations, but attempt to educate themselves above their sphere of life, there one may find neurasthenia. As far as age is concerned, they found that 71 per cent. of the patients were between 26 and 45 years, while 82 per cent. were between 21 and 45 years. In turning their attention to the question of heredity, they point out that as they were mostly obliged to rely on the patient's own account, their figure may be too low. They found that 21.5 per cent. showed a hereditary taint. In 5.7 per cent. there was a history of alcoholic excess, in 0.7 per cent. of tobacco excess, and in 2 per cent. of lead poisoning. In 1.6 per cent. sexual causes were admitted. This number is not of great value, since the patients were for the greater part married men, and they could not determine in how many cases coitus interruptus was the damaging cause. Of bodily diseases, etc., as causes, they found influenza in 4.2 per cent., while "traumatic neuroses" in 2.8 per cent. The form of neurasthenia is classified as follows: Cerebral neurasthenia, 31.6 per cent.; cerebro-spinal neurasthenia, 48.3 per cent.; spinal neurasthenia, 9.4 per cent; nervous dyspepsia, 6.2 per cent; and neurasthenia cordis, 4.2 per cent. The patients were treated by modern methods, hydrotherapeutics, electrotherapeutics, massage, and exercises and the healthy surroundings of the sanatorium. By these means they succeeded in obtaining the following results: 60.7 per cent. were discharged as fit for full amount of work; 37 per cent. as fit for a fair amount of work, and 2.3 per cent. as unfit for work. In conclusion they plead for the foundations of more sanatoriums for nervous patients of the working classes.

(195) Syphilitic Diabetes. IT has been thought that diabetes is sometimes due to syphilis, but it is only within recent times that sufficiently reliable cases have been observed. Trollet (*Thèse de Paris*, 1905) has collected all the known facts with reference to this question, and has come to the conclusion that syphilis may be considered as a relatively frequent cause of glycosuria. Syphilitic glycosuria may appear in the secondary period, but more frequently in the tertiary. During the secondary stage, transitory glycosuria may be observed, which subsequently becomes diabetes. When appearing in the third stage three forms are described: (1) Cases characterized by various cerebral symptoms in patients from 20 to 40 years of age, and within the first four years of infection; (2) diabetes accompanied by pancreatic lesions, which develops rapidly and progresses to a fatal termination; lastly, diabetes may appear in persons 35 to 50 years of age, and fifteen to twenty years after infection. There are neither cerebral nor pancreatic symptoms. The case runs a slow and benign course. It is difficult to regard the latter as altogether dependent on syphilis, but it is noteworthy that a certain number of them improve considerably on antisyphilitic treatment, and sugar may completely disappear from the urine. Sugar has been noted in some cases of hereditary syphilis, and under the influence of mercurial treatment has disappeared. In view of the frequent occurrence of pancreatic lesions in congenital syphilis, the question of the dependence of glycosuria on them may be raised. Lastly, those cases of conjugal diabetes not infrequently occur in couples who are both syphilitic. The writer suggests that so-called cases of contagious diabetes may be explained by syphilis.

(196) An Acid in the Diagnosis of Gastric Tumours. CARLO RICCI (*La Clin. Mod.*, May 17th, 1905) has been successful in his use of the apparatus invented by Professors Landi and Queirolo for examining the extent of the stomach in tumours of that organ. He claims that this method gives an accurate conception of the limits of the stomach, that it is an aid to the diagnosis of gastric tumours, and that, further, it tends to make the diagnosis of tumours in connexion with it or in the neighbourhood of that organ clear. The apparatus which he uses to define the limits of the stomach is an ordinary oesophageal sound; at the lower end a small, very soft rubber bladder is fixed to the sound by a silk ligature. To the upper end a bifurcated tube is attached, from each branch of which a small tube is fastened. One of these tubes is in connexion with a Marey's tambour, the other with an air pump. The bladder should be wrapped closely round the tube and the sound passed with the usual precautions. The bladder is then moderately distended by means of the air pump. Percussion in the region of the stomach will now cause vibrations, which are transmitted to Marey's tambour, and are registered by the writing pen. He obtained a good result in the case of a patient with an abdominal tumour of a month's duration. The patient had had no previous illnesses, but there was a history of some burns on the hand, and the treatment adopted by himself had been to submit them to a dog to lick. A large mass could be felt to the right side of the intercostal arch and directed towards the epigastrium; the liver margin was not palpable, nor was that organ enlarged; the tumour was elastic and diagnosed as cystic. There was no functional disturbance, and nothing to indicate a malignant growth. In order to demonstrate the connexion of the mass with the stomach, he defined its limits with his apparatus, and found them increased. In the vertical direction the stomach reached the umbilicus. Towards the right side the area appeared to be diminished by the presence of the tumour, and the vibrations of the pen were less marked in that direction. He diagnosed a hydatid cyst, adherent to the stomach—probably at the pyloric or prepyloric region. When the operation was performed it was found that the patient had a hydatid cyst of the right lobe of the liver adherent to the prepyloric portion of the stomach, and by its weight and pressure causing the prolapse of the stomach. Ricci considers this apparatus an invaluable assistance to diagnosis.

SURGERY.

(197) Neuromata. DELFINO (*Archiv. di Ortoped.*, An. 22, N. 2) records 6 cases and discusses the subject fully. The cases illustrate the fact that neuromata are more common in the upper limbs than in the lower (out of 135 cases 63 per cent. were in connexion with the brachial plexus). The first symptom to attract attention is pain, beginning as slight tingling and passing later to severe neuralgia in nerve area affected. Besides the pain felt in the peripheral distribution of the nerve there is pain in the neoplasm itself, especially when this starts in the centre of the nerve, dissociating its fibres. In some cases the pain is merely due to compression or stretching, but in others a certain amount of neuritis may be set up. The size of a tumour is not necessarily indicated by pain, as some very large neuromata have given rise to a minimum of pain. Some authors have tried to correlate the pain with the vascular development of the tumour, but this cannot be universally true. Motor affec-

tions are rare, which is rather against a theory of neuritis, as in that condition motor affections of the nerves are common. Differential diagnosis is not easy, the electrical reactions may help, but often operation is the only certain means of making a diagnosis. The duration is fairly long on the whole; out of 61 cases 28 lasted from a few months to five years, 14 six to ten years, and 19 more than ten years. Where the tumour proves to be sarcomatous, complete removal seems to show that the degree of malignity in these cases, as reckoned by recurrence, is not great. The nerves themselves seem to offer strong resistance to the spread of the neoplasm, and rarely become infiltrated; usually the fibres are merely pushed aside. None of the author's cases showed any trace of nervous elements in the new growths themselves; they were all either fibroma or sarcoma. As regards treatment the author advises enucleation as the most suitable method in the majority of cases, and only recommends incision of the nerve when the tumour is so small that immediate suture of the severed nerve can be practised, or when the nerve is of such small importance that its section is of no great consequence, or again where enucleation is impossible owing to adhesions or very rapid growth of the tumour.

(198) Cause of Thrombosis of the External Iliac Vein After Appendicectomy.

Witzel (*Zentralbl. f. Chir.*, No. 28, 1905) discusses the question why, as is generally known amongst practical surgeons, thrombosis of the external iliac vein occasionally occurs after an apparently aseptic operation for the removal of the appendix. The explanations that have been given of this annoying, and, it may be, life-threatening result are regarded as unsatisfactory by the author, whose personal experience of three recent instances of this kind have led him to the conclusion that the thrombosis is first developed, not in the caecal roots of the portal vein, but in the epigastric vessels in the anterior abdominal wall, after simultaneous ligature of the arterial and venous trunks on the right side practised for the arrest of bleeding in the course of the operation. In the majority of such cases, it is held, the consequent thrombosis is overlooked, as it is slight and limited to the right side, but occasionally it extends to the epigastric veins on the left side and onwards to the left external iliac vein. If this be the correct explanation the surgeon, in opening the abdominal cavity, should carefully endeavour to avoid exposing the epigastric vessels. The external wound of a vertical one should be made well outside the sheath of the rectus and not be directed inwards at its lower part, and if made parallel to Poupart's ligament should not extend too far inwards. If any of the epigastric vessels be wounded only the bleeding branch should be ligatured and not a thick cord of both arterial and venous trunks.

(199) Acute Flexion in the Treatment of Supracondylar Fractures of the Humerus.

Ashhurst (*Amer. Journ. of Med. Sci.*, June, 1905) records a case of supracondylar fracture of the humerus in a girl aged 9, which was treated by bandaging the arm and forearm together in a position of acute flexion, the wrist being slung close to the patient's neck. Skiagraphs eighteen hours and four days after the injury showed respectively the original posterior displacement and upward tilting of the lower fragment and the reduction effected by acute flexion. By this treatment the coronoid process of the ulna locks against the lower end of the upper fragment, and thus prevents the backward displacement of the lower fragment. The considerable swelling of soft parts which follows the injury does not contraindicate the position of acute flexion, provided that care is taken to see that the radial pulse does not become obliterated thereby. It is claimed that ankylosis is much less likely to ensue from this method, and that children very soon acquire complete extension afterwards from the nature of their games and exercises. In adults, however, if the deformity can be overcome and reduction maintained with the elbow at right angles, it is best to adopt this method, since with them it may not be as easy as with children to obtain complete extension after acute flexion, though the author has never seen any difficulty arising in this respect in adults in whom this latter mode of treatment has been carried out.

(200) Penetrating Bullet Wound of the Abdomen and Spine.

Pegram (*Ann. of Surg.*, July, 1905) reports a remarkable case of penetrating gunshot wound of the abdomen involving the spleen, stomach, spinal column, and cord. The patient, a woman aged 20, was successfully treated by laparotomy and suture of the wounds in the stomach, and, subsequently, by laminectomy and removal of the bullet from the spinal cord. The wound of entrance made at close range with a 32-calibre revolver, was on the left side of the trunk over the eighth rib in the anterior axillary line. The abdomen was tender on palpation. There was no dullness in the flanks, but marked rigidity of the abdominal muscles was noted. There was complete motor paralysis with hyperaesthesia of both lower extremities. On lateral laparotomy the abdominal cavity was found full of fresh and clotted blood. The bullet, it could be made out, had passed through the lower border of the spleen, the mesocolon dividing a branch of the splenic artery and in and out of the posterior surface of the greater curvature of the stomach. No opening could be found in the spinal column. The bleeding vessel in the mesocolon was tied with catgut, and the openings in the stomach wall were closed by a purse-string suture over which was placed a row of Lembert sutures. The wound in the spleen was left alone. Nineteen days after this operation, the presence of the bullet in the spinal canal on the level of the body of the first lumbar vertebra having been revealed by the *x* rays, laminectomy was performed with the hope that the removal of the foreign body might be followed by the relief of distressing pains in the lower limbs. The bullet was found under the lamina of the twelfth dorsal vertebra in the right posterior quadrant of the spinal cord, which must have been traversed by the projectile, and was much lacerated. The patient slowly improved after the second operation, and at the end of the second month began to gain in weight and to move the previously paralysed muscles. She was much relieved also from painful and distressing symptoms of paralysis of the bladder. About four months after the second operation she was able to take a few steps alone and without any support, and after a further interval of two months she could walk alone, and had gained almost complete control over her vesical sphincter. The author believes that the patient may look for a disappearance of almost all motor and sensory disturbance.

(201) Surgical Treatment of Nephritis.

Puchet (*Revue pratique des Mal. des Organes Genito-Urinaires*, March, 1905) regards decapsulation of both kidneys indicated in cases of chronic nephritis in which signs of renal insufficiency, headache, visual troubles, etc., persist after dieting has been tried. He considers that half the cases of Bright's disease would benefit by the operation. Nephritic haematuria should be treated by incision of the kidney and excision of the capsule, after which haematuria is said to cease and the condition to improve. Uraemia should also be treated by decapsulation of the more healthy kidney. By this means arterial tension is diminished and diuresis established. Patients with dilated heart and low arterial tension are not suitable for operation.

MIDWIFERY AND DISEASES OF WOMEN.

(202) Inversion of Uterus on Sixth Day of Puerperium.

Ferré (*L'Obstétrique*, March, 1905) of Pau notes that this accident, though conspicuous, is really very rare. In the register of the maternity of Pau, beginning in 1822, not a single case is recorded excepting one under Ferré's recent observation, and he draws attention to the fact that only 1 case of puerperal inversion was noted in the first 190,800 labours in the Rotunda Hospital, Dublin. The patient in Ferré's own case was a sickly unmarried housemaid, aged 24. In the seventh month she was admitted into the maternity for vomiting and albuminuria, treated by milky diet. At about term the patient was delivered by the forceps of a female child, 8½ lb. in weight; she was unable to suckle it. There was a considerable loss of blood for several days. On the evening of the sixth day, when she was passing a motion in a closet, the inversion occurred without any pain, but when she was put in bed dyspnoea set in. Reduction could not be effected; on the next day, when the general condition was very unsatisfactory, with evidence of sepsis, vaginal hysterectomy was performed, but the cervix was not removed. On the seventh day after the operation right hemiplegia occurred, but the patient lived six days longer. The stump of the pedicle was sloughy. The peritoneal cavity showed no signs of inflammation, but there was septic meningitis. Ferré insists that the cause of the inversion, as in most other recorded cases, was not clear. Expressing placenta, flabbiness oft he uterus, general debility

and wretchedness, intrauterine injections, ergotine were all factors in this case, but they are common to thousands of labours amidst which this complication is so markedly rare. Hence explanations usually involve the *post hoc* fallacy.

(203) Phthisis and Pregnancy.

O. Burckhardt again opens the discussion of the effect of pregnancy on tuberculosis of the lung, and what methods one should adopt when the two conditions exist side by side (*Deut. med. Wach.*, June 15th, 1905). His experience is gained from cases which have been treated in high altitudes. He discusses fully the question of how one can expect the patient to stand such severe interference as induction of abortion with its almost necessarily accompanying severe loss of blood, and compares such an interruption of the pregnancy with the method of treating the tuberculous lesions carefully in sanatoriums or the like at a high altitude during the whole course of pregnancy and for some time after the birth. After having detailed the histories of some cases he comes to the following conclusions: (1) Pregnancy does not exercise *eo ipso* an unfavourable influence on the course of a tuberculosis of the lungs: cases do well at times in high altitudes. (2) Cases of progressive phthisis can become stationary during the course of a pregnancy, and the prognosis is then favourable. (3) Abortion does not benefit the lung condition; on the other hand, it may do much harm. (4) Artificial abortion must therefore be limited as far as possible, and the indications which he feels inclined to give for it are (*a*) the severest degrees of phthisis, and (*b*) when hyperemesis gravidarum exists. (5) At the birth emotional excitement and bleeding must be reduced to the lowest measure possible (at times artificial delivery, care for satisfactory involution of the uterus, chloroform); suckling must be forbidden. (6) The treatment of the phthisis in high altitudes must be continued for from four to six months after the delivery, even in mild cases with favourable prognosis, in order to avoid late disturbances.

(204) The Cellular Elements of Colostrum and Human Milk.

Wallich and Levaditi (*Ann. de l'Inst. Pasteur*, May, 1905) publish the results of a research undertaken to determine the actual source of the colostrum corpuscles present in human milk, whether from leucocytes or from epithelium. They examined milk and microscopic sections of breasts in various stages of activity, and performed several experiments on animals. As a result they are able to form various conclusions, which lead off with a confirmation of the fact already known that various cellular elements appear in the milk, differing according to circumstances. Leucocytes, especially polymorphonuclears, appear when lactation is stopped, probably exercising a resorptive function. Colostrum corpuscles are especially noticeable where lactation is slowed down, while in the milk of a fully-secreting breast cellular débris in the form of "crescent bodies" are found. Though, however, the presence of leucocytes in human milk was clearly established, examination of the milk alone did not suffice to determine whether colostrum corpuscles are derived from them or from epithelial elements. The examination of sections of breasts of women dead immediately before or after delivery, and of newly-born infants' breasts, was accordingly undertaken with the result that on the one hand leucocytes were observed around and within secreting acini apparently converting themselves into colostrum corpuscles by the ingestion of droplets of milk, while on the other hand there was a close identity of form between colostrum corpuscles and the secreting epithelial cells. Believing, therefore, that the leucocytic origin of the colostrum corpuscles was proved while the epithelial origin was also probable, the authors employed an ingenious experiment in order to examine the latter point. The serum of animals which have been inoculated with milk has been shown by Von Dungern and others to contain a substance specifically toxic to epithelium: the authors found that such a serum invariably agglutinated a part of the cellular elements of the colostrum, while a normal serum had no such effect. This confirms the supposition that the colostrum corpuscles are in part derived from epithelium. To further establish the origin of the other part from leucocytes, it was shown that milk injected into the peritoneal cavity of animals was taken up by peritoneal macrophages, forming cells exactly like colostrum corpuscles.

(205) Dermoid of Female Urinary Bladder.

Block and Hall (*Amer. Journ. of Med. Sciences*, April, 1905) record the case of a female, aged 18, who for five years had noticed painless urinary frequency. For the last year irregular frequent periods of intense dysuria occurred, relieved by the expulsion of a small calculus. There was no haematuria at any time. The calculi were pyriform, or curved, and from the apex protruded a hair with a terminal investing root sheath. Cystoscopically, the mucosa was found to be congested and chronically inflamed, with a good-sized phosphatic stone lying in the trigone, and three smaller ones, each containing a hair, about which clustered slender concretions similar to those passed per urethram. Some distance from the right ureteral opening a tumour existed. In order to remove the larger stone intact a suprapubic cystotomy was performed and the tumour excised. This was about the size of half a very small raspberry, and from its mucous surface seven or eight protruding hairs were visible. Recovery was uneventful and complete. Microscopically, the growth proved to be a typical dermoid. The diagnosis of hysterical perversion as a causative factor was negatived from the first by the formation of the calculi and the protruding root sheath of the hairs.

THERAPEUTICS.

(206) The Endocranial Circulation.

A. Alifrandi and E. Fornaroli (*Gazz. Med. Ital.*, April, 1905) describe experiments showing by graphic methods the effect of different forms of treatment on the arterial endocranial circulation of a healthy man. After a consideration of earlier work in the same field, and of the peculiarities of the cerebral pulse, they describe the method adopted. The patient, 35 years of age, suffered an accident necessitating the removal of a part of his skull 12 cm. long and 5 c.m. broad, extending backwards and downwards in an elliptical shape in the left fronto-parietal region. The soft parts over this area were usually slightly depressed when he stood, sat, or reclined with his head raised, but became flat or convex outwards when he lay down full length or with his head hanging down. An air chamber was attached by guttapercha to the scalp along the edge of this area of deficient bone, and the oscillations of the air pressure in the chamber were recorded by Marey's drum, whilst plethysmographic observations were made on the forearm. Tracings were first taken for half or a quarter of an hour. Then the drug in question was administered, and then tracings were taken again for from one to three hours. All the observations were made in the afternoon, as far as possible at the same hour. The patient had a ward to himself, and every precaution was taken to avoid disturbing influences. The authors did not pay much attention to the connexion between sleep and the endocranial circulation, because they considered that Mosso had covered the whole ground, but they noticed accidentally, and repeatedly confirmed the observation, that when the patient went to sleep in the course of an observation the pulsations had a greater amplitude and the tracings of the separate pulsations took a distinctly tricuspid form—a sign of diminished tonicity in the cerebral vessels. The effect of olfactory sensations on the circulation was tested with ether, alcohol, eucalyptus, and other substances. In every case the stimulation produced pulsations of greater amplitude and of a katadicrotic rather than a tricuspidal form. This observation justifies the old practice of treating fainting with smelling-salts. The result can only be produced by an increase of blood in the cerebrum, with a simultaneous increase in the tonicity of the cerebral vessels, the effect of a simultaneous stimulation of the cardiac and vasomotor centres. The effect of cold applications to the head was studied to explain the success of the common treatment of febrile headache by ice-bags. The prolonged application of ice-bags and evaporating lotions to the head produced pulsations of a typically tricuspidal shape. The tracings at first katadicrotic, changed gradually into the tricuspidal form during the hour and a half after the application was begun. The authors therefore consider that cold applications to the scalp diminish the tonicity of the endocranial arteries, and that the successful treatment of headache by ice-bags to the head depends on some other cause than the effect of the application on the endocranial circulation. Numerous observations were made on the effect of alcohol taken in a single dose of from 30 gr. to 120 gr. well diluted. The results obtained were constant. A first phase of vaso-constriction began almost at once, and was very quickly succeeded by a phase of vaso-dilatation, which began sooner and lasted longer as the magnitude of the dose increased, being followed by a third phase of vaso-

constriction. Simultaneous tracings from the forearm showed that during the first phase the peripheral vascular system was practically unaffected, while during the second and third phases there was a considerable fall of vascular tone. Special importance attaches to the effect of tobacco on the circulation, in view of the fact that recent authors attribute to it many cases of arterio-sclerosis and angina pectoris. The patient had been in the habit of smoking and chewing tobacco, but had abandoned the practice. Comparative tracings from the brain and forearm taken before, five minutes after, and half an hour after chewing a piece of tobacco, showed a very prompt and persistent change in the character of the pulse, especially the cerebral pulse, the pulsations becoming much less ample, losing their tricuspidal shape and becoming typically katadicrotic. The experiments thus support the views with regard to tobacco referred to above, and show also that the effect is due to some ingredient very quickly absorbed and slowly excreted. Citrate of caffeine was administered in a cup of coffee and it was found that the cerebral pulse quickly showed signs of increased tension while the pulsations of the forearm became more ample without marked change of character. The hypodermic injection of 1 cgm. of hydrochloride of morphine was followed by results which arrange themselves into three distinct periods: a brief period of increase of vascular tone, another brief phase characterized by great waves of dilatation showing loss of equilibrium of the vascular walls, and a period of stable vaso-dilatation lasting probably as long as the morphine sleep. Similar, but not equally well-marked, modifications of the forearm pulse were noted at the same time. The fluid extract of veratrum viride was found to have on the cerebral vessels a vasodilator action similar to and exceeding that exercised on the peripheral arteries.

(207) Tolerance with Regard to Nitro-glycerine.

STEWART (*Journ. Amer. Med. Assoc.*, May 27th, 1905) states that a tolerance to nitro-glycerine is often too readily acquired. He describes a case in which 20 minims of pure nitro-glycerine were taken daily without the occurrence of any headache; slight transient flushing of the face was produced, but no marked effect upon the arterial tension, as shown by the sphygmograph. A dose of 5 gr. of pure nitro-glycerine was administered in the presence of witnesses so that there was no mistake as to the amount. He advises that when it is required to use the drug for a considerable time for its effects upon blood pressure, it is best to so proportion the dose that the intervals are comparatively short—not fewer than four times daily. The amount, though sufficient to produce some subjective or objective effects, should never be more than just enough to cause the slightest feeling of fullness in the head or to slightly quicken the pulse-rate. Unless unusual susceptibility exists, if enough be always taken to produce a more marked immediate result, tolerance is soon acquired and a quantity reached which is impracticable of administration. When a rather rapid increase seems necessary, another important point is temporarily to discontinue the drug for two or more days at intervals of two or three weeks. On its resumption a smaller dose should be given. Nitro-glycerine has no action in chronic nephritis apart from its effects on vascular tension, and it is only indicated when the blood pressure is markedly high and ill consequences are feared. But cerebral haemorrhage and sclerotic valvular disease are more or less remote effects, and less to be dreaded than the more immediate results from undue lowering of vascular tone. A moderate amount of tension is actually conservative, and those cases of chronic nephritis in which the blood pressure is persistently low from the onset are of much more gravity than the usual variety with raised tone; and when arterio-capillary resistance shows a tendency to fail voluntarily, scanty urine with more marked albuminuria and dropsy may be expected. It is better to lower arterial tension by attention to the diet and by occasional mercurial purges and salines than to give nitro-glycerine indiscriminately.

(208) Fitina.

FITINA (*Gaz. med. Lomb.*, July 10th, 1905) is an organic compound of phosphorus; it has been isolated from the seeds of vegetables in which it abounds by Posternak. Its therapeutical value has been investigated by Giacoso and Maestro, who consider that the phosphorus in fitina is readily assimilated by the body. Advantageous results have been obtained from its use in all cases where the phosphorus of the body was deficient in quantity. It is specially valuable in neurasthenia, hysteria, and diabetes, when the nervous functions are lowered; it is also excellent in cases of rachitis, when the digestive apparatus is unable to elaborate organic phosphates from the food.

PATHOLOGY.

(209) Infantile Infection in Tuberculosis.

ALTHOUGH it is now more or less generally accepted that the theories brought forward by von Behring that the most common cause of phthisis is through the milk given to infants has been refuted, H. Beitzke considers that it is necessary to bring forward actual experimental or other tangible proof to decide for or against such a theory (*Berl. klin. Woch.*, January 9th, 1905). Naegeli found that while between 90 and 100 per cent. of adults showed signs of tuberculous disease or its residues on the *post-mortem* table, only 20 per cent. of children were found to be so marked. Behring, however, considers that tuberculosis may have infected an infant without producing any lesions, and that the bacilli gain an entrance into the blood, and then are only demonstrated by an over-susceptibility to tuberculin. Realizing that it was useless to study for histological changes caused by tuberculosis in infants, Beitzke found that the best way to attack the question would be to examine the blood for tubercle bacilli. The tuberculin test did not come into consideration, as he was dealing with *post-mortem* material. As it is supposed that the infection takes place from the intestinal tract, the bacilli would find their way into the veins, and, therefore, the most likely place to find them would be in the blood taken from the right ventricle. It was therefore sought for as follows: The pericardium was opened and a portion of the heart wall was burned by means of a red-hot knife. At this place a syringe was inserted and the fluid blood was aspirated from the ventricle. Great care was exercised to prevent any accidental contamination. The blood (usually about 1 to 3 c.cm.) was then injected either intraperiteoneally or subcutaneously into guinea-pigs. Jousset's inoscopy was resorted to in cases where the blood had already clotted. First testing in cases of pathologically confirmed tuberculosis, he found that animal experiment revealed tubercle bacillus in each case from the blood, while inoscopy only showed it once. In all he dealt with 138 children, who had died from various diseases. Forty of these were tuberculous—that is, showed pathological lesions. A number of the others could not be used, as the blood was not fluid, and for other reasons. He therefore put aside 48 test cases. One of these cases gave a doubtful result, as the guinea-pig died spontaneously in four weeks, and although there were many submiliary nodules in the liver and spleen, the site of injection and the corresponding lymphatic glands were absolutely free from tuberculosis. In not a single case of the remaining 47 was there the least ground for supporing a theory of a tuberculous blood infection. Neither by inoscopy nor by animal experiment was tuberculosis shown to exist. That the methods used to day may not be sufficiently keen to detect small quantities of bacilli in blood cannot be raised as an objection, as Behring says that the infantile infection is very common, and these negative results were almost without exception. At all events, no mere theory can stand without some facts to stand on, and these results must be placed against the theory, and certainly must weaken its position.

(210) The Preparation of Plague Antiserum.

SCHOUROUPOFF (*Arch des Sciences Biologiques*, St. Petersburg, T. xi, No. 3, p. 196, 1905) finds that after the intravenous injection of plague bacilli into horses the presence of the organisms is demonstrable during the first ten hours, provided that sufficiently large quantities of blood (20 c.cm.) are taken for testing. In the bacilli recovered from the horse there is no diminution of virulence. In view of these facts, the inoculated horse ought to be considered dangerous, as a possible source of plague dissemination during the first twenty-four hours. The author also finds that the defibrinated blood of the horse is toxic for guinea-pigs. To obtain a serum of therapeutic value, the horse ought to be bled when the reaction is over, as indicated by observations of the temperature, the general health, and the weight of the animal. During the process of immunization risks of the death of the animal will be minimized if particular attention is paid to hygienic conditions, including regular exercise and the abundant supply of nourishing food.

AN EPITOME
OF
CURRENT MEDICAL LITERATURE.

MEDICINE.

(211) Perforation in Typhoid Fever.

J. Alison Scott (*University of Pennsylvania Medical Bulletin*, May, 1905) has studied 50 cases of enteric fever in which either operation or autopsy verified the presence of a perforation (including 1 case of ruptured mesenteric gland and 4 of perforated typhoid ulcer of the appendix). According to his figures, as well as those of other American, English, and Colonial writers, one out of every three fatalities in enteric fever is due to perforation. Most of the patients were young males; a large proportion of the perforations occurred in the second and third weeks of the illness, which was more often than not a severe attack. The hole was usually small, single, and situated in the ileum, especially in the last 12 in. The commonest micro-organism in the peritoneal exudates was B. coli communis. Three-quarters of the patients had some kind or degree of pain; in half of the total number pain was sudden and severe in onset, gradually limiting itself to a special area. Tenderness and rigidity are usually present, except that a slack atonic abdominal wall may fail to become firm and hard even under the reflex stimulus of sudden peritoneal irritation. Distension is not an early symptom, and obliteration of the liver dullness is not to be relied on as a guide to diagnosis. Haemorrhage and chill have been described by various writers as common accompaniments of perforation, but Scott is unable to confirm either observation. The most important variation of temperature was a fall through 4° or 5° to normal or subnormal, occupying eight or twelve hours; the temperature should therefore be taken hourly when perforation is suspected. Leucocytosis may sometimes be found, and confirms a diagnosis of perforation; but the absolute value of the blood-count is small. There are many possibilities of error in the diagnosis; pleurisy, pneumonia, cholecystitis, and iliac thrombosis should especially be borne in mind and excluded if possible. Operation is called for in every case as soon as the diagnosis is made, closure of the perforation and drainage being all that is required. Thirty-nine of Scott's cases were submitted to operation with 12 recoveries; the 11 cases not surgically treated all ended fatally.

(212) Tuberculous Rheumatism.

Wiart and Coutelas contribute an article on tuberculous rheumatism (*Rev. de la Tuberculose*, February, 1905). According to them arthralgia is the most frequent manifestation of tuberculous rheumatism, and must be distinguished from neuralgia and neuritis. Pain is not confined to the interior of the articulations, but, as in all pseudo-rheumatic conditions, the periarticular tissues participate in the lesion, sometimes to a very marked degree, so that the attention of the observer is altogether centred on the soft structures. No joints are immune, nevertheless the larger, as the hip, shoulder, knee, and elbow, are more frequently affected. The temporo-maxillary and vertebral articulations may be the first attacked, sometimes long before any others are involved. Pain may appear in a similar manner in advanced cases of tuberculosis and in those who show very little evidence of infection. It is frequently quite separate from any tuberculous lesion, and only the patient's previous history may give the keynote to the lesion. Pain may appear without any apparent cause, even during repose, but usually there is a history of some unusual or severe movement. Pain has been divided into three groups—muscular, bony, and articular. The first is rarely spontaneous and requires to be carefully sought for by palpation of the muscular masses. Without there being any common seat of election the biceps, triceps, pectoral, and calf muscles are the most frequently affected. Pain affecting bones is most usually observed at the lower extremity of the femur. The tibia, the olecranon, and the clavicles are sometimes affected, but more rarely. The pain is a dull deep ache, and may only appear on palpation, pressure, or percussion, or when the patient moves the affected limb. Less frequently it is spontaneous. The pain may be worse at night. Articular pain is very frequent, and often indefinite in character; it is less marked during rest, but aggravated by movement. Pressure, such as forcing the opposed articular surfaces together, is sufficient to elicit pain. In children, errors of diagnosis are frequent, and it is important not to confound tuberculous arthralgia or myalgia with growing pains so-called, or those pains which appear in the limbs of anaemic patients. Tuberculous pain may also be confounded with mild cases of osteomyelitis. A careful examination into the patient's personal and family history is therefore important. Gonorrhoea is one of those diseases that cause arthralgia as well as pain in other structures. It is necessary to guard against any mistake in diagnosis between it and tuberculous rheumatism. Gonorrhoeal rheumatism, however, has a predilection for certain situations, as the heel. It is worst in the morning and improves after exercise. None of these characters being pathognomonic, every fact bearing on the case must be weighed on its merits. Difficulty also arises in distinguishing between tuberculous arthropathy and the osteo-articular manifestations of secondary syphilis, especially those which occur early or late. Articular and bony pains, when due to syphilis, are worst at night and, as Fournier pointed out, are aggravated by rest and diminished by exercise. The joint is worst when the patient wakes. In tuberculous cases nocturnal pain is slight or absent. It is treatment which furnishes the key to the situation. There are cases of extreme difficulty of diagnosis, where tuberculosis and syphilis or gonorrhoea are combined. In congenital syphilis arthritis is rarely the only manifestation of the disease, and diagnosis is easier. Rachitis, osteomalacia, lesions of the spinal cord, and neoplasms sometimes give rise to difficulty. It is suggested by the writers that tuberculosis may possibly account for those cases of indefinite pain appearing in the lower extremities shortly after parturition. These are some of the manifestations of tuberculous rheumatism, and the writers therefore emphasize the importance of bearing it in mind when dealing with cases of ill defined joint and limb pain which do not respond to ordinary antirheumatic treatment.

(213) Chronic Inflammation of the Lungs and Heart Disease.

Rothschild (*Berl. klin. Woch.*, xlii, No. 13, March 27th) discusses the immunity to tuberculosis in mitral stenosis. Congestion of the lung seems to act in a similar way to Bier's passive hyperaemia in preventing the development of secondary tuberculosis. Mitral stenosis may supervene in cases in which phthisis is already established, the conditions then favour the healing of the tuberculous lesion. Kryger found only 10 cases out of 1,100 necropsies on tuberculous bodies with evidences of a heart lesion, but he found 59 cases of healed or arrested tubercle in bodies with marked heart lesions. Cardiac disease seems to favour the development of pulmonary affections other than tubercle. Rothschild has observed 5 cases showing affections of the myocardium or pericardium, the pleura and lower lobes of the lung; in each site a chronic fibrous process, resulting from a primary inflammation of the connective tissues. The primary disturbance is usually pleurisy, and generally on the right side. This is followed by induration of the lower lobe of the lung: the spread of the process to the pericardium is shown by the presence of arrhythmia. The patients keep in comparatively good health in spite of recurring attacks of pericarditis, pleurisy, or slight haemorrhages. Tuberculosis was excluded in each case by repeated examinations of the sputa.

SURGERY.

(214) Semi-lateral Position in Operations for Appendicitis.

Försterling (*Zentralbl. f. Chir.*, No. 30, 1905) reports that for a long time Professor Schlange of Hanover, in operating in cases of both acute and quiescent appendicitis, has modified the usual position of the patient on the table, with the result of facilitating to a considerable extent a free exposure of the seat of the disease. The body is turned over towards the left side, the right side being raised by about 4 or 6 in. so that a line drawn from one antero-superior spine of the ilium to the other forms with the surface of the table an angle of from 30 to 35 degrees. This modification has been very useful in cases of acute appendicitis in which there is not much suppuration and the intestines around the inflamed caecum are not firmly adherent. In such cases the intestines, which are usually much distended and project through the external wound, fall backwards towards the left side of the abdominal cavity and can be readily kept controlled by gauze pads and retractors. The appendix, especially when attached to the posterior surface or the lower extremity of the caecum, can then, it is stated, be exposed with surprising readiness. The semi-lateral position has been found advantageous also in cases of appendectomy performed in a

quiet interval, but is certainly less useful in operations performed for the exposure of a large and circumscribed perityphlitic abscess.

(215) Modern Methods for the Prevention of Pneumothorax in Lung Surgery.

TUFFIER (*Bull. et Mém. de la Soc. de Chir. de Paris*, 24, 1905), in a report on a case communicated by Anlepas, of pneumotomy for bronchial dilatation, points out the great advantages during the performance of operations of this kind of preventing pneumothorax, which, independently of its immediate dangers, gives rise to the serious inconveniences of exposure of the wound to septic infection, and, in cases in which adhesions are absent, of rendering the union in the lung less accessible by reason of pulmonary collapse. A full and lucid description is given of the mechanical methods of preventing pneumothorax that have been recently devised. The pneumatic chamber of Sauerbruch, as is now well known, enables the surgeon to open the pleural cavity under a pressure less than that of the air within the lungs, so that when the pleural cavity is opened the lung does not collapse. The difference of pressure is obtained by rarefying the air within a large glass chamber enclosing the operator and his assistants and the patient, whose head lies outside the chamber, so that he can inspire the free external air. This apparatus, Tuffier holds, is cumbersome and complicated, and has, moreover, the disadvantage of rendering difficult any communication between the surgeon who is shut up in the chamber and the anæsthetist who is at work outside. On the other hand, Brauer has devised an apparatus for increasing the intrapulmonary pressure whilst the pleura is exposed to the normal atmospheric pressure, the result being the same as in Sauerbruch's method, as the lung does not collapse when exposed by opening the pleural cavity. In this method the face of the patient, after anæsthesia has been established, is enclosed within a glass case the air of which can be readily condensed by mechanical means. Tuffier reports favourably on this method, which he has applied with satisfactory results in 2 cases of transpleural resection of the œsophagus and in 1 case of thoracoplasty. In none of these patients, whose respiration and circulation the author watched with much anxiety during the operations, was any trouble caused by the use of Brauer's apparatus. If with the application of this method during an operation within the thoracic cavity more room be required, the intrapulmonary pressure can at any time be reduced and the lung be made to retract to the desired extent. Whilst acknowledging, on the one hand, that the mechanism of the methods of Sauerbruch and Brauer are very complicated, and, on the other, that practical surgery ought to be simple, Tuffier points out that when the surgeon has to guard against important complications, and to diminish as far as possible the danger of formidable operations, he should endeavour to carry out what is best for the interest of his patient, notwithstanding the complexity of the instruments which he finds are necessary to effect the object in view.

(216) Modification in Technique of Lateral Intestinal Anastomosis.

KÜSTER (*Zentralbl. f. Chir.*, No. 33, 1905) describes a method of applying Murphy's button in lateral intestinal anastomoses which, as he has been convinced by frequent experience, tends to shorten and simplify the operation without impairing its safety. In a case of resection, before the ends of the two portions of divided intestine are closed by sutures, the half of a Murphy's button is slipped into the lumen of each and retained at some little distance from the cut extremity of the intestine by an assistant. The two open ends of the intestine having been closed by a double row of sutures, the surgeon presses the central column of each half of the button against the intestinal wall and causes it to protrude through a very small incision made over it from without inwards. The two portions are then brought together in the usual way, and, unless the intestinal opening be too large, without any application of sutures. Much time is thus gained, and the risks due to faecal effusion are abolished or considerably reduced.

(217) Lipoma of the Pretibial Triangle of the Knee.

E. W. RYERSON (*Journ. Amer. Med. Assoc.*, July 1st) describes this condition, which is an overgrowth of the adipose pad behind the patellar ligament, due to traumatisms, etc., and causing sometimes serious interference with flexion and extension of the joint. It is diagnosed from capsular effusion by its non-extension above the middle of the patella and lack of fluctuation and floating of the patella; from tuberculous joint disease by lack of spasm of the hamstring muscles, which is always present in tuberculosis; from villous proliferation of the lower border of the capsule, by the absence of the peculiar feeling of the villi and by the limits of the growth. A chronic bursitis of the small bursa under the insertion of the patellar ligament offers the greatest difficulties in diagnosis of any condition unless fluctuation can be clearly elicited. The condition is more common than is generally believed; its growth is slow, the disability being gradually developed in the course of five or six years. The radical operation is safe and simple, consisting of an incision 2 in. long, just on the outer side of the patellar ligament, carried down through the strong fascia lata expansion, the so-called patellar ligament. The fatty mass bulges out of the wound and is seized with strong artery forceps, and twisted out bit by bit, twisting being better than excision, as it avoids annoying haemorrhage. The whole space can be reached by the finger and forceps, and no incision need be made on the inner side of the tendon. With the incision on the outer side of the tendon there will be no tendency to the condition known as "slipping patella," which practically always occurs outward. After the fat has been removed and bleeding arrested, the fascia is carefully sewed up with chromicized catgut in a separate layer and the skin sewed with a subcuticular stitch of silkworm gut or wire. No drainage should be used, a sterile gauze dressing covered by a thick pad of non absorbent cotton is applied. A long posterior splint is applied and is kept on for ten days to allow the fascia to unite firmly, though the patient may be allowed to walk two days after the operation. In all Ryerson's cases the results have been perfectly satisfactory. He has had no experience with treatment by strapping, iodine injections, etc., which at best are uncertain.

MIDWIFERY AND DISEASES OF WOMEN.

(218) Tuberculosis and Pregnancy.

MALSBARY (*Amer. Journ. Obstet.*, July, 1905) has collected a large number of clinical and pathological records of this grave complication. The theory that tuberculosis is especially liable to occur during pregnancy may be based on inaccurate reasoning, the disease being more frequently routed from a latent state by pregnancy or first recognized during gestation. On the other hand the seclusion of pregnant patients, a practice which Malsbary condemns, may place them under conditions that predispose to tuberculosis especially through close association with tuberculous patients. Pregnant tuberculous women require suitable exercise in the open air and sunlight and protection from conditions that predispose to secondary infection. The gravity of tuberculosis is increased in pregnancy, especially during the puerperium. Malsbary finds that the highest maternal mortality is in primiparae. Haemoptysis does not occur with especial frequency at the time of parturition. Pregnant women bear the tuberculin treatment remarkably well, whilst suralimentation, so valuable in tuberculosis under other conditions, may be detrimental during pregnancy owing to the strain imposed on the kidneys. Hyperemesis requires especial attention, but interruption of pregnancy is a serious step when the patient is tuberculous and usually not beneficial as far as pulmonary phthisis is concerned. Tuberculosis, however, is not a contraindication to induction of labour when demanded for other reasons; labour should be induced early or not at all in miliary and laryngeal tuberculosis. Tuberculosis seems to increase the sexual appetite and actually to predispose to pregnancy. In genito-urinary tuberculosis we should observe the axiom that a diseased member is best treated by rest. Marriage of the tuberculous is usually undesirable, but individuals who have shown no symptoms of any form of tuberculous disease for two years or more should not be deterred from marrying. Breaking off an engagement may do greater harm than marriage. Tuberculous women should not nurse children.

(219) The Toxaemia of Pregnancy.

W. S. STONE (*Med. Record*, August 19th) expresses the belief that the vomiting of pregnancy is a manifestation of toxaemia, the lesions of which are primarily an acute degeneration of the liver, amounting to necrosis and destruction of liver cells in the severe cases, and presenting lesions in many of the fatal cases essentially those of acute yellow atrophy. The metabolism is imperfectly carried out as a result of

these lesions, and various unoxidized compounds are formed in place of urea, which in themselves are more or less poisonous. In support of this view he describes in brief 7 cases in which very careful urinary analyses were made. These are divided into two groups, the first including 4 cases of pernicious vomiting of pregnancy, and the second 3 cases of the pre-eclamptic type. In almost every instance leucin, tyrosin, and indican were found in the urine, and the author regards the presence of the latter constituent as a very important danger signal. He cautions against attempts to treat the pernicious vomiting of pregnancy on the assumption that it is of hysterical or reflex origin, and states that the mental symptoms dependent on the derangement of hepatic functions must not be disregarded. He continues by saying that while the majority of cases of pernicious vomiting of pregnancy present lesions that are different from those of eclampsia, yet he has clinical and pathological evidence that they are closely related. Symptoms of either group present themselves practically without urinary changes, as determined by the ordinary clinical tests. The persistent presence at any period of pregnancy of even a trace of albumin, especially if accompanied by casts, and a persistent increase of indican demand a more complete examination of the urine, which seems to be best accomplished by a determination of the total nitrogen and its partition. He recommends that the test for indican be included in the ordinary clinical tests, because it seems that, whatever the basic cause of the toxæmia may be, errors of diet and intestinal intoxication are one of the important contributing factors.

(220) Umbilical Hydrocele.

BONDI (*Monatschr. f. Geb. u. Gyn.*, June, 1905) applies this term to a cystic tumour which he observed in a woman aged 62. For two years she had noticed increasing prominence of the navel, and at the same time the entire abdomen steadily increased in size. Bondi diagnosed ovarian cyst, and could define a tumour about 2 in. in diameter under the integuments of the umbilicus, which were pigmented. The tumour was tense and elastic, distinctly fluctuating and tender on touch. It was quite irreducible, and no structure like the neck of a hernial sac could be made out. The ovarian tumour, which had a twisted pedicle, was removed without difficulty; there was about a pint of fluid in the peritoneum. The torsion accounted for the slight abdominal pain to which the patient had been subject; it was also recorded that she was naturally constipated. Bondi had already removed the umbilical tumour when making the abdominal incision; it was a cystic growth distinctly connected with the peritoneum by a thin pedicle. Beyond the prominence of the umbilicus, this cyst had not given rise to any symptoms, the cause of the abdominal pain being due to the torsion of the ovarian growth. The author describes the pathological appearances of the umbilical cyst at full length, and concludes that it was clearly of peritoneal origin, and hence simulated a "hydrocele" such as is seen in inguinal hernia. He considers that Hoffmann's case of cyst of the umbilicus was of the same class, and not of urachal origin; Roser and Walz also report similar cysts undoubtedly originating in the peritoneum. This cyst is congenital, and must be distinguished from an old hernial sac cut off from communication with the peritoneal cavity by closure of its neck.

(221) Primary Cancer of Fallopian Tube.

ROLLIN (*Ann. de Gyn. et d'Obst.*, July, 1905) observed bilateral primary epithelioma of the tubes in a woman aged 46, with no history of cancer in her family. One child was born sixteen years before the operation on the morbid growths, and there was a history of metritis and salpingo-oöphoritis four years after her only pregnancy. For about a year the patient suffered from dull hypogastric pains, accompanied by very free discharge of tea-coloured fluid, watery and odourless. The periods were regular and a little less free than before the illness, but paroxysms of sharp pain occurred during the catamenia. Micturition was painful. A tender swelling rose three fingerbreadths above the right groin, and descended into the pelvis; on vaginal exploration a second swelling was detected in the left fornix. The uterus was anteverted and fixed. Riche removed the two tumours, with the uterus and ovaries. The right was a dilated Fallopian tube of the size of an orange; the left was the opposite tube, distinctly smaller. Both contained chocolate-coloured fluid, and cauliflower masses of epithelial cancer sprang from the walls of the tubes. The ovaries were absolutely healthy. The patient recovered from the operation, and was discharged from hospital at the end of January, 1905.

(222) Sterilization of Sea-tangle Tents.

O. L. MULOT (*Med. Rec.*, August 19th) advises soaking sea-tangle tents for seventy-two hours in tincture of iodine, and then immersing them in 95 per cent. alcohol, to remove the surplus iodine. Another method is to boil the tents and then dry them in sterile test tubes for a few days in an oven or hot-air chamber, which will cause them to shrink to their original size. Or the two methods may be combined, first boiling and shrinking them, and then soaking in iodine. The author believes that the tents furnish the most desirable means of dilating the cervix in some cases, and when prepared in this way their use is free from danger.

THERAPEUTICS.

(223) The Prescription of Digitalis.

H. EICHHORST chooses as the subject of a discourse, "the indications and method of the digitalis therapy" (*Deut. med Woch.*, January 2nd, 1905), because he believes that when properly used, much can be done by means of the foxglove. He states that the full action of digitalis is well exemplified in 4 cases, which he has treated very recently, and in which he set his whole hopes on the drug. One of the patients was suffering from uncompensated mitral disease, complicated by cyanosis, dyspnœa, œdema, ascites and hydrothorax and partial anuria. After three days, the quantity of urine increased from 300 c.cm. to 5 000 c.cm. in twenty-four hours, the irregular and rapid heart beat gave place to a beat of 84 in the minute, and lost all its irregularity and intermittence, while the dropsy became very markedly less during the same period of time. The second patient had aortic regurgitation, and showed all the signs of want of compensation. Here again the drug worked completely and rapidly. The third and fourth cases were those of hypertrophy and dilatation of the heart depending on arterio-sclerosis, and sero-fibrinous pericarditis following acute rheumatism respectively. In both the alarming and distressing symptoms were quickly removed, and the cardiac action regulated. He regards digitalis as the best cardiac tonic which we possess, and gives as the indication for its use weakness of the cardiac muscle. Disease of the valves and of the muscle itself are the most common causes of weakness of the muscle, but affections of the pericardium, of the coronary arteries and of the aorta are also not rare causes. With regard to valvular diseases, he finds that it is a mistake to limit the use of digitalis to mitral disease, but says that when the weakness of the cardiac muscle follows aortic disease the drug is just as much in place and will answer just as well as when it follows mitral disease. Another large class of pathological conditions which may lead to weakness of the heart muscle is included in the chronic diseases of the respiratory organs. Disease of the kidneys may also produce this condition, as may also infectious illness, general weakness, certain poisons, or even psychical excitement. Digitalis acts on the weakened heart muscle slowly and permanently, and therefore is not of use in fainting conditions or reflex conditions, when the more evanescent stimulants should be employed. He does not believe that digitalis acts at all on the cardiac nerves. It has been claimed for foxglove that it has a specific action in pneumonia, uræmia, and other conditions, but Eichhorst does not accept this. The full action of digitalis, in his opinion, is obtained by using the leaves and not by infusions, tinctures, or other extract preparations. He usually prescribes 0·1 gram of the powdered leaf (about 1½ gr.) together with 1 gram of diuretin and 0·3 gram of sugar. One such powder is taken three times a day. The only other digitalis preparation, which he mentions as having given him fairly good results, is Cloëtta's digalen. The dialysate of digitalis has disappointed him. He has had very little experience of the digitalis glucoside, but as he has used it, he does not like it nearly as well as his powder. He finds that if one wishes to use digitalis usefully one must not be afraid of employing full doses. Too much, however, should be avoided, but it is better to err on the side of a little too much than a little too little. As a rule, he gives the powder three times a day for ten days, but here the individual characteristics of the patient must decide. He even goes so far as to employ a "chronic" digitalis therapy in certain cases, mostly using two or one powder daily in accordance with the symptoms. This may be continued for many weeks. The unpleasant actions of

digitalis are much less frequent after his powder than after the other digitalis preparations. In warning, he cites cases in which digitalis failed to produce the desired result during the first administration, but acted when the treatment was begun for a second or even third time. He finds it better not to give digitalis as soon as the patient is under treatment. First he puts him to bed, and the rest and milk diet is kept up from one to three days. If the symptoms do not disappear by themselves then he orders his powder. One should be prepared for a certain erratic action of digitalis to show itself at times. It is therefore wise not to be in a hurry to give up the attempt of treating by its means if it apparently fails at first.

(224) Asepsis of the Hands.

REVERDIN AND MASSOL (*Revue Méd. de la Suisse Romande*, January 20th, 1905) have undertaken a series of experiments which show that asepsis of the hands can never be absolutely realized, no matter how much care is used. They show that mechanical scrubbing with a sterilized brush and hot water in a sterilized basin is the best method. The best antiseptics are hermophenyl 50 per per cent., and water oxygenated to 12 volumes; these do not damage the skin, but they require thirty minutes' prolonged application. Contrary to the general opinion, the authors demonstrate that sweat does not infect the hands. When the number of germs is increased after sweating it is due to insufficient cleansing of the hands. Hyperidrosic hands after cleansing attain a higher degree of purity than dry hands, because the latter are more or less squamous, and the squames retain the microbes. On hands which are constantly kept clean the microbial flora varies with the nature of the contacts. The more energetic the washing, the more is the bacterial flora simplified, till finally nothing is left but the polymorphous coccus of Cedercrentz, the habitual parasite of the skin.

(225) Treatment of Erysipelas with Serum of Convalescents.

L. FORNACA (*Il Policlin.*, July, 1905) finds that widely-varying opinions are held as to the efficacy of antistreptococcic serums, whether monovalent or polyvalent. Hence the desirability of trying further serum treatment, if possible resting on a more certain basis. Hüber and Blumenthal treated cases of scarlatina, measles, pneumonia, and erysipelas with an artificial serum prepared by dissolving antitoxins from the serum of convalescents in a physiological serum containing 10 per cent. of chloroform, and filtering through the Berkefeld-Nordmeyer apparatus. The results were good, but not remarkable, in measles, and were negative in 9 cases of erysipelas and 1 case of puerperal septic pyæmia. Scholz and Pfeiffer treated 9 children with scarlatina with serum from convalescents, and obtained negative results. Lenhartz and Ehrlich very successfully treated 2 cases of streptococcic infection, 1 of otitis media, and 1 of septicæmia after abortion, with human serum. A severe epidemic of erysipelas in Turin gave the author an opportunity of obtaining serum from convalescents, and injecting it almost immediately into other cases, and comparing the results with those obtained by ordinary treatment. The epidemic was severe. For the most part cases treated by local applications and by general measures directly adapted to sustaining the strength of the patient, lasted usually from nine to fifteen days, with high temperature and serious illness. Nine cases were selected for serum treatment, severe cases under observation in the clinic for twenty-four hours without showing any sign of improvement. In each case the process was localized in the face. The serum was taken from some of the worst of the remaining cases (once from a patient already treated by serumtherapy), being removed from the arm on the second or third day of convalescence, and kept in ice for the short time before use. Strict antiseptic precautions were employed. The date of injection varied from the third to the eleventh day of the illness, the number of injections from one to three, the amount injected at one time from 10 c.cm. to 50 c.cm., and the total amount from 20 c.cm. to 90 c.cm. The nine cases are reported in some detail, and their temperature charts are reproduced. The effect of injection was usually seen in a fall of temperature, which sometimes quickly became normal, in the return of appetite, and of a feeling of well-being, and the rapid disappearance of headache. It affected the general condition of the patient, both objective and subjective, but not the local erysipelatous condition. In at least seven out of his nine cases Fornaca considers that he obtained positive results. He also investigated the action of the blood serum of convalescents from erysipelas on streptococci cultivated in one case from a patient with erysipelas, and in another from a sore throat. He concludes that the serum has no bactericidal effect on the streptococcus, but diminishes its virulence, more especially in the case of the streptococcus cultivated from a patient with erysipelas. The blood was examined for streptococci in 15 cases and they were found four times. Albuminuria was found in one-third of all the cases, and with albuminuria streptococci were present in the urine. The author attaches no prognostic importance to the finding of albumen. Six cases are recorded in which blood serum was removed from the patient and re-injected a day or two later into the same patient after being heated to 55° C. This process had the same effect on the general condition as the injection of serum from convalescents. Experiments are reported showing the production of leucocytosis by the injection of blood serum taken either from convalescents or from patients still suffering from erysipelas.

(226) The Treatment of Appendicitis.

SCHMITZ (*Berl. Klin.*, May, 1905) in a review of the present-day teaching as to the treatment of appendicitis, says that the variety of opinion which exists is due to the fact that in so many cases the clinical condition does not correspond in severity to the pathological lesion. With the same degree of local disease the severity of the symptoms and the danger to life may be exceedingly different. The writer deals with 116 papers, representing Continental opinion. He sums up definitely against the expectant method of treatment. This should only be followed in cases which are slight and acute, and can be kept immediately under skilled observation. All other acute cases should be surgically treated within forty-eight hours. Now that the abdomen can be opened with almost entire freedom from risk, the danger of this proceeding is considerably less than that of allowing the disease to take its course. Operation between the attacks is recommended when these are slight and recurrent, and also in the chronic form where the symptoms fail to entirely disappear after the patient has suffered from an attack. Drainage by means of the rectum or vagina is recommended for abscesses in the pouch of Douglas. The author does not speak favourably of flushing the peritoneal cavity when peritonitis has become general.

PATHOLOGY.

(227) Indigouria.

BUT rarely do indoxyl combinations appear in the urine in quantity sufficient to produce the spontaneous appearance of indigo. Dixon Mann (*Med. Chron.*, 1905, p. 361) describes the case of a girl, aged 18, in whom catarrhal and ulcerous conditions of the intestines, with diarrhœa, were accompanied by great excess of indoxyl products. The urine was acid, specific gravity 1020 to 1026, dark in colour, and frequently deposited urates. These urates carried down amorphous particles of indigo blue which were visible with the microscope. Extraction with chloroform yielded a blue solution which gave the spectrum of indigo blue. The residue left after evaporation of the chloroform, when heated, volatilized in the form of a reddish-purple vapour, which deposited microscopic crystals of indigo blue. The addition of hydrochloric acid, without any oxidizing agent, was sufficient to produce a deposit of flakes of indigo blue. The daily amounts of indoxyl combinations were determined on three occasions:

Indigo-blue.		Phenol.
1. 41.2 mg.	...	0.0470 gram.
2. 47.0 ,,	...	0.0826 ,,
3. 53.1 ,,	...	0.2110 ,,

In (2) and (3) spontaneous deposit of indigo-blue occurred. When the urine was allowed to stand in an open vessel for a day or two it deepened in colour to a brownish-black, and the surface acquired a blue iridescent appearance. The deepening in colour was due to the development of oxidation products of pyrocatechin. Melanogen was absent. A small amount of diacetic acid was present. Glycuronic acid was also present in considerable quantities. The ether-sulphuric acid ranged from 0.3 to 0.7 gram during the twenty-four hours. The preformed sulphuric acid was much diminished—0.9 to 1.2 gram. The case tends to support the view that glycuronic acid acts as an antitoxic agent by combining with the excess of aromatic bodies formed in the course of bacterial aloine putrefaction, and thus renders them inert.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

(228) Gastro-Intestinal Disturbance and Purpura Rheumatica.

Many authors have noted the frequent co existence of gastro-intestinal disturbance and purpura, especially so-called purpura rheumatica. Adone has reopened the question of a possible connexion between these conditions (*Thèse de Bordeaux*, 1905). He believes that in the absence of other recognized causes of purpura a gastro-intestinal infection is accountable. Gastro-intestinal symptoms have an important bearing on the diagnosis and prognosis, for in some cases they are so severe that the clinician is apt to make the mistake of overlooking any others, and errors of diagnosis have been made—as obstruction, intussusception, and appendicitis, and cases are not wanting in which abdominal section has been performed with a view to relieving some such lesion. From the point of view of prognosis, severe gastro-intestinal symptoms may be expected in all cases of purpura rheumatica; fetid diarrhoea, severe vomiting, at first bilious afterwards mucous or even faecal, low temperature, small rapid pulse, and dyspnoea are sufficient to show severity of the cases. Under such circumstances prognosis must be guarded. The obvious treatment is intestinal antisepsis, giving a small amount of food, clearing the intestine as thoroughly as possible, and supporting the patient's strength.

(229) Acute Rheumatic Arteritis.

Barie (*Presse Méd.*, March 25th, 1905) says acute rheumatic arteritis attacks most frequently the aorta, to a less degree the peripheral and coronary arteries, and possibly the visceral arteries. Rheumatic aortitis is well known, but the peripheral form has been seldom recorded. Barie describes a case in which the brachial artery was affected; cases have been described affecting the carotid (Fajole), the axillary (Legroux, Teissier). It usually shows itself towards the end of an attack of rheumatic fever by pain localized to the course of the artery, which is tender on pressure. The pain does not commence suddenly, but is preceded by a feeling of engorgement and heaviness in the affected limb, accompanied by loss of power. On examination the pulsations of the artery are seen to be exaggerated, the vessel being more resistant to pressure, and less elastic. Sometimes the artery is more or less dilated. The limb is swollen, and feels cold. After a short time the exaggeration of the pulsations is followed by diminution. The attack is not accompanied by fever, and in the mild forms disappears towards the end of the second week. A more severe form is accompanied by intermittent fever, the artery becomes obliterated, and is felt as a hard, tender cord, and the radial pulse disappears. The limb becomes pale, cold, and discoloured, with complete loss of tactile sensation and intense pain. In some cases there is a tendency for the process to spread to other arteries, and death ensues from cerebral lesions. No case of gangrene has been recorded from rheumatic arteritis. Sometimes the affection becomes chronic, and results in arterio-sclerosis. Autopsies on these cases are rare, but the state of the arteries probably resembles those described by Cornil, Ranvier, and Brault in other acute infections of the arteries. The arterial inflammation is often complicated with pericarditis, and when the coronary arteries are affected there are profound changes in the myocardium, which may cause sudden death from acute dilatation of the heart.

(230) Fibrous Aortitis and Aortic Lesions in Syphilis.

Melchior (Copenhagen Thesis, 1904: *Arch Gen. de Méd*, May 16th, 1905) insists that fibrous aortitis should be distinguished from ordinary endarteritis deformans, and should occupy a place of its own in the classification of arterio-sclerosis. It is distinguished by inflammatory processes in the middle and external coats of the aorta, and in the vasa vasorum, which have a tendency to spread to the internal coat. The lesion is of the nature of a chronic interstitial infiltration, which is not due to the cicatrization of gummatous tissue. It is especially found in the ascending and transverse arch, the periphery escaping; atheroma has the opposite distribution. Fibrous aortitis tends to invade the vessel wall for a greater extent than does atheroma, which localizes itself around the openings of the arterial branches. Degenerations, such as calcification, may follow fibrous aortitis, and do not exclude its diagnosis. According to the author, it is always due to syphilitic infection. The diminution of elasticity in the arterial walls results in diffuse dilatations, while external gummatous arteritis leads to the formation of aneurysms. This explains the frequency of fibrous arteritis and the rarity of aneurysms in general paralytics, in whom the lesions due to gummata are rare.

(231) The Early Diagnosis of Tabes.

Severino (*Rif. Med*, April 29th, 1905), recognizing the great importance of early diagnosis in tabes, with the possibility of prompt treatment, draws attention to two signs in addition to those commonly looked for in this disease. These are, first, the condition of the Achilles tendon reflex; and, secondly, the examination of the cerebro spinal fluid by lumbar puncture. With regard to the first, he says it is lost at quite an early stage in the disease. The best method of testing this reflex is to have the patient kneeling with the feet hanging over the bed or chair. If lumbar puncture is practised, it is probable that if tabes is present there will be an excess of leucocytes in the cerebro-spinal fluid, especially the small lymphocytes. This, of course, might be due to any chronic inflammatory process in the cerebro spinal tract, and is not necessarily evidence of the specific process which causes the symptoms of tabes dorsalis; but, if other signs and symptoms of tabes are present, it is of considerable help in the differential diagnosis as opposed, for example, to a mere neurosis. The author discusses the other more generally known aids to diagnosis, and also reports a case where the two particular signs on which he lays chief stress proved serviceable in establishing an early diagnosis of the disease in question.

(232) Arterial Tension and Neurasthenia.

Godlewski (*Progrès Med*, July, 1905) lays stress on the interest and importance of a careful study of the arterial tension in neurasthenia, helping the observer to separate the various forms of the malady as well as giving valuable indications as to treatment. In more than a quarter of all cases of neurasthenia the tension is above normal. Many such are the "fifty-year-old neurasthenics" of Huchard, with various toxaemic symptoms which together with the high tension are to be attributed to saturation of the blood by nitrogenous katabolites either by reason of their excessive formation through muscular or mental exertion, or because of renal insufficiency. In such cases a milk and vegetable diet is very beneficial. The neurasthenia that makes its appearance after the acute infection is also accompanied in many instances by an abnormally high arterial tension. On the contrary, those neurasthenics who are strongly predisposed by their heredity to neuropathic disorders frequently display a lowering of the arterial blood pressure. In either case, treatment should be directed to restoring the arterial tension to normal, imitating the improvement in symptoms noted when the blood pressure spontaneously finds the normal level from either extreme. Godlewski even went so far as to say that a sense of well-being can only exist in the presence of a normal arterial tension.

SURGERY.

(233) Gold Sutures in the Radical Treatment of Hernia.

A. Vecchi (*Il Moryagni*, July and August, 1905) discusses the different materials from which sutures can be made, with especial reference to gold wire and to hernia. He describes his own experiments on the antiseptic properties of gold, and the methods employed and the results obtained by Tansini in the radical treatment of hernia. Recent statistics show that modern methods of operation still leave 4 or 5 per cent. of cases of suppuration after hernia operations. Most of these, whether the suppuration is immediate or late, are cases of stitch abscess, and the question naturally arises whether the best material for sutures has yet come into use. Catgut is difficult to sterilize, especially as it is so weak that it is necessary to use strands of considerable thickness. A thick suture, moreover, lacerates the tissues, and may cause abscess, though itself sterile. The author also states that it is impossible to foretell how soon catgut will be absorbed and how soon firm union will be obtained. Silk is a better material, and can be really sterilized, but it sometimes leads to necrosis of tissue and subsequent suppuration after everything seems healed. Removable sutures allow

access from outside to the depths of the wound, and may cause widespread deep suppuration. The so called autoplastic suture composed of fibres from the tendon of the external oblique muscle, or from the parietal peritoneum supplies an aseptic material which is already organized and has given good results in the hands of its inventor. Of metallic sutures, silver alone has hitherto been much used. For use in cases of hernia silver wire must be thick, and it is therefore in danger of injuring the tissues. Mixed silver and catgut sutures have been employed, and unite the inconveniences inseparable from the use of these substances. The modern use of gold sutures in the treatment of hernia Vecchi ascribes to Tansini. Other methods of operation have, however, been in more or less continuous use since the thirteenth century, employing gold wire in less scientific ways. The earliest operation of this sort consisted in surrounding the neck of the sac with a gold wire which included the vas deferens and the spermatic vessels, and then tightening the constriction. Too much pressure caused castration, and too little involved the failure of the operation. The author also describes other operations now superseded. The advantages of gold wire depend to a great extent on the fact that it can be drawn out very fine while retaining great flexibility and sufficient strength. Gold resists all chemical agents, being proof against the common acids and alkalies. It can be heated to 1000° without undergoing alteration, and lends itself readily both to mechanical and chemical disinfection. It is a substratum unsuitable for the life of micro-organisms, inhibits their development, and possesses a bactericidal power. Credé's silver treatment of wounds was founded upon a bactericidal power which gold has in common with silver, though not so strongly. This is shown by Miller's work in connexion with the mouth, by Vincent's experiments detailed in his paper On the Microbes existing on the Surface of Pieces of Money, and by the author's own experiments. Vecchi immersed numerous fragments of gold wire in sterile broth at a temperature of 37°, and treated the broth at intervals of twelve hours with cultivations of various micro-organisms—for example, staphylococcus aureus, bacillus pyocyaneus, and diphtheria bacillus. At first these cultures grew rapidly, but after a few days fresh implantations did not grow. Control experiments showed that this inhibitory action was stronger in the case of silver or copper wire than with gold. Further experiments with pieces of wire embedded in agar plates showed that colonies grew in the agar almost up to the wire, but left a very narrow sterile zone. The inhibition must therefore be exercised by some chemical product dissolved in and diffused through the broth, but incapable of diffusion through the agar plate. Another series of experiments consisted in inoculating one ear of a rabbit with staphylococci from a case of phlegmonous suppuration of the forearm, by means of a loop of silk, and inoculating the other ear with the same pus by means of a loop of gold wire, the loop in each case being left in the wound. In both the rabbits thus treated the ear with the silk loop quickly suppurated, but the gold wire was encysted after slight and transient inflammation. A minute calculation of the amount and cost of the gold used in hernia operations is made to show that it is cheaper to use gold wire than catgut. Tansini uses wire of diameter 0·3 mm. for deep sutures and for tying the neck of the sac, 0.2 mm. for superficial sutures and for suturing the sac itself. He attaches great importance to keeping the hands of his assistants away from the wound, and with this object he has invented a special set of hernia instruments. This includes a self-acting heavy hook for the spermatic cord, two retractors with heavy curved handles for the margins of the wound, and a long-handled spatula to depress the bottom of the wound and to protect the tissues from the needle after it has transfixed the muscular stratum. Before adopting gold wire and the other instruments just mentioned Tansini used to have about 5 per cent. of hernia cases followed by suppuration. Since then he has had a continuous series of 300 cases, including only one case of suppuration—a slight case in private practice under circumstances which sufficiently explain the course it took. The author adds a few similar but smaller figures from the practice of other surgeons.

(234) The X Ray in Inoperable Malignant Disease of the Orbit.

C. S. Bill (*Med. Record*, June 24th) says that while malignant disease of the orbit which has apparently not originated in or involved the adjacent sinuses should be extirpated by the knife as soon as possible, the consensus of opinion seems now to be that when the neighbouring sinuses are involved a complete removal of the growth is impossible, a recurrence of the growth is certain to appear, and with each repetition of the operation the return of the disease is hastened, and the life of the patient is by just so much shortened. On the other hand, in view of what we actually know of the action of the *x* rays, it would seem not only wise, but our duty, after such operation by the knife as may be necessary, to expose the parts a certain number of times to the *x* rays, in order, if possible, to destroy isolated cells, or aggregations of cells, in the neighbouring parts which cannot be reached by the knife. It is stated on good authority that there has been a marked diminution in the death-rate following operations on patients so treated. The author's experience, based on his own cases, has satisfied him that the *x* rays are of value in removing the pain so constantly complained of, and he therefore believes that the treatment is to be recommended in inoperable cases because it relieves much of the patients' suffering, and thus may prolong their lives. It would seem that the more recent and superficial a malignant growth is the more rapid and favourable are the results from *x*-ray treatment, but it takes time to prove the ultimate good results. The author presents the detailed reports of 10 cases from his own private practice, in which the *x*-ray treatment was employed after excision by the knife. Of these 10 cases 2 were very much improved, if not apparently cured; and of these two, one was an epithelioma and the other a carcinoma. The remaining 8 cases, in which no demonstrable effect was produced by the *x* rays, were all sarcomata. In all but one of these the pain was more or less effectually relieved. No untoward results of the action of the rays were observed in any of the cases.

MIDWIFERY AND DISEASES OF WOMEN.

(235) Senile Procidentia.

Strassmann (*Zentralbl. f. Gynäk.*, No. 28, 1905) reports two operations for prolapse of the pelvic viscera in aged women. He has discarded total extirpation of the uterus in old subjects except when a tumour complicates the downward displacement, and no longer practices ventrifixation, nor Alexander's operation, except when there is intestinal hernia, nor Freund-Wertheim's procedure. The right supports for the pelvic organs are thick layers of connective tissue. He operated upon a woman, aged 80, subject to prolapse for forty years. The vagina was completely inverted, the uterus being between the thighs. The bladder could not be emptied, and surgical kidney was suspected. The patient had recovered a year previously from an attack of pneumonia following influenza. Strassmann operated on the patient, who was under the influence of morphine, no anaesthetic being inhaled. Colporrhaphy and high vagino vesical fixation was performed. A thick septum was made between the bladder and vagina and between the vagina and rectum. The operation succeeded, and the urinary symptoms disappeared. The patient was able to stand on the tenth day, and she was exhibited a year later at a society in good health; the local condition was quite satisfactory. The second patient was operated upon at the age of 65. There was total prolapse of the pelvic viscera, senile kyphosis, and displacement of the coccyx backwards; descent of the rectum was very marked. The cautery was applied to the rectal mucosa, the anal ring being narrowed by a row of sunken silver sutures. Colporrhaphy and cystorrhaphy, with perineorrhaphy and vesico-fixation of the uterus were performed. It was the most unfavourable type of prolapse for operation, but the result was very good; the patient could get up on the second week, and the local condition two years later was quite satisfactory. After the reading of Strassmann's paper, there was some discussion on the advantages and disadvantages of removal of the uterus in senile procidentia. Mackenrodt agreed with Strassmann that removal of the uterus was not a good operation in senile procidentia. There could be no rule as to the right procedure when the displacement occurred in sexual life.

(236) Peritoneal Infection in Early Stage of Cancer of Cervix.

Violet and Adler (*Ann. de Gyn. et d'Obst.*, July, 1905) report an instance of cancer of the cervix where the local disease was but little advanced and the uterus movable, so that the case was held as "clinically operable." Abdominal section was performed and then it was discovered that removal of the

uterus would be useless. The patient was 43, whose parents both lived to be aged, nor had any other relative been subject to cancer; she herself had enjoyed good health all her life. She had borne four children, the last confinement occurred nine years before her illness, which began with menorrhagia soon associated with intermenstrual haemorrhages and fetid leucorrhoea. Defaecation and coitus caused haemorrhage. There was dull pains in the loins and hips. Cachexia was entirely absent. The patient was examined nine months after the symptoms first appeared. There was a typical friable cancerous ulcer on the cervix, the uterus was movable and its body of normal measurement, the fornices were free. The cervix was curretted and cauterized, then the abdominal cavity was opened. A metastatic deposit superficially as broad as the palm of a man's hand was found in the subserous connective tissue of the lower part of the parietal peritoneum extending to the bladder, and on the peritoneum itself, a little to the left of the middle line, were two isolated masses each as big as a small cherry. All these deposits were found on microscopic examination to be cancerous. Removal of the uterus was out of the question. The patient recovered from the operation.

(237) Uterine Fibroids and Uterine Cancer.

Piquand (*Ann de Gyn. et d'Obst.*, July, 1905) admits that the development of an epithelioma in a uterine fibromyoma is rare, yet he has succeeded in collecting 45 reliable reports of that complication. As a rule, the pathology of the case is clear, the malignant growth being a secondary epithelioma derived from a primary focus anatomically near the fibroid, that is to say, in the uterine mucosa in the great majority of cases. Exceptionally, the primary cancer may be in the ovary. Two or three instances have been published where cancerous elements have been conveyed from a primary cancer of a distant part (breast, Bender; lung, Schopter) through the lymphatics into the interior of a fibromyoma. Piquand declares that there remains 24 cases where the cancer of the fibroid was primary. The malignant disease arose from epithelial elements, either embryonic relics of the Wolffian or Müllerian canals or from involutions of the epithelium of the uterine mucosa, which find their way between the fibres of the fibromyoma, become independent of the parent mucous membrane, and then multiply their elements irregularly. This proliferation was observed in a very active condition in a fibroid 4 lb. in weight examined by Leguen and Marien. This tumour was of very irregular consistence, as hard as a rock in parts, elastic, soft, or fluctuating in others.

(238) Physometra: Conservative Caesarean Section.

Müller (*Zentralbl f. Gynäk.*, No. 29, 1905) advised a rachitic dwarf to undergo Caesarean section before labour. She refused, but went to another physician who examined her repeatedly. Labour pains set in shortly afterwards, the membranes rupturing very early. The patient at once placed herself under Müller's care, but there was great delay in finding a conveyance, and she was so ill when she arrived at the nursing home that Müller, knowing that Caesarean section was urgently demanded, made no examination but operated directly the patient was disinfected. The uterus was easily drawn out of the abominal wound: it contained fetid gas and a large macerated fetus. There were several green stains on the inner wall of the uterus; after the removal of the placenta Müller rubbed the uterine cavity, the outside of the uterus and the wound in its walls with gauze soaked in almost pure alcohol. The green deposit on certain points on the inner wall was brushed off; the alcohol checked the haemorrhage very well. The uterine wound was closed with three layers of interrupted catgut sutures. The uterine cavity was drained with gauze soaked in alcohol lying partly in the vagina; Müller also fixed the peritoneum above and around the uterine wound to the serous coat of the uterus with catgut, draining the lower angle of the abdominal wound. Much fetid discharge, and on one occasion a drachm of pus came away from the uterine cavity during convalescence. Six months later extreme involution of the uterus was detected, possibly the result of the free application of alcohol. Müller has repeatedly employed alcohol to check haemorrhage and excite contractions during a Caesarean section.

THERAPEUTICS.

(239) Treatment of Cardiac Disease.

E. de Renzi publishes a clinical lecture which he delivered on the modern treatment of cardiac disease in the *Berl. klin Woch.* of March 13th, 1905. After making a few remarks on the frequency of cases of latent cardiac disease, and pointing out the necessity of careful examination of all organs in every patient under the practitioner's care, he deals with the subject of exact diagnosis. The anatomical seat of the lesion must first be made out, and this requires careful inspection, palpation, and auscultation, and then one must determine the functional condition of the heart. The prognosis depends more on a correct interpretation of this than in the anatomical diagnosis. One must determine the degree of compensation. Renzi describes the mechanism of this condition, and proceeds to state that the compensation of a heart disease is not produced by the hypertrophy, but that increased cardiac activity is the factor which renders it possible for the difficulties to be overcome, and only as a secondary consequence of the overwork of the muscle does hypertrophy take place. Every symptom must be carefully regarded with the view of discovering how far the heart is capable of doing ordinary and extraordinary work. In dealing with treatment, he distinguishes a prophylactic and a direct treatment. With regard to the first, he earnestly recommends that every disease which produces cardiac disease be avoided or energetically treated. Rheumatism is the most important of these, and fortunately we have an excellent method of combating it; it is therefore not only necessary to give salicylate of sodium early, but also in sufficient doses. This is from 6 to 8 grams (from 72½ to 123⅜ gr.) daily. One may at times meet with intoxication from these doses, but the danger of such an intoxication is by far less than that of an incurable heart disease, and it should not be given in smaller doses. Another point in the prophylactic treatment is that gout and corpulency should be treated with the view of preventing later cardiac disturbance. Of the direct treatment he has more to say. This will vary according to whether compensation is present or absent. In the first instance, he limits the treatment to the direction of a good hygienic method of life. Digitalis and like drugs must be studiously avoided, as it is always useless when there is compensation and sometimes directly harmful. But when the compensation is disturbed, then the cardiac tonics are in place, and of these digitalis stands first. He warns that this drug has a cumulative action and therefore that it is wiser to gradually lessen the dose. It is unfortunate that one cannot rely on the action of digitalis, as the activity of the drug varies very considerably. Of all the preparations which have been brought out Chlcëtta's digalen appears to be the most constant. Exercise is a sovereign remedy for heart diseases. In spite of the fact that many years ago exercise has been recommended, but few have carried out the treatment, and only in recent years has a reaction taken place. Exercise should be employed not only for compensated but especially for uncompensated cases. Although the cardiac muscle is not a voluntary muscle, it follows the usual rule that increased activity will produce improved development. In order to avoid fatigue of a muscle, it is necessary to train the muscle, and one finds that the carrying out of rest only leads to atrophy. One can train the cardiac muscle just as one can train an arm or leg muscle, and the result of such a training is just as marked if it does progress a little more slowly. The chief method of treating cardiac disease by exercise is known under the name of Oertel's treatment. This method of treatment is so well known that it does not require any special description. Renzi makes a further reference to Swedish gymnastics, which can be beneficially carried out for heart disease. In conclusion, he formulates the following: Heart disease is best treated by exercise as pulmonary consumption is best treated by open air.

(240) Bioferrin.

W. Nebel thinks that bioferrin occupies an important place among the organic iron compounds (*Deut. med. Woch.*, June 15th, 1905). He states that it has a pleasant, slightly aromatic bitter taste, and it is therefore mostly liked by children. He has watched the effect on six babies, measuring the haemoglobin values. In each case this was low at the beginning of the treatment, and rose rapidly and completely. In 4 cases it rose to 95 per cent. or 100 per cent from 70 to 80 per cent. While the children were taking the bioferrin, some of the preparation was found unchanged in the faeces. The dose given was 5 grams twice daily. In some cases he only gave half this quantity, and observed that while it did its work well, only a little haemoglobin was found in

the stools. The babies were all anaemic, extremely pale, but on estimating the quantity of haemoglobin, one was surprised to find as much as 70 per cent. or higher. The author adds a few words on the anaemias of infants.

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(241) Serumtherapy in Pneumonia.

DE RENZI (*Rif. Med.*, May 13th, 1905) reports two cases of pneumonia treated successfully by Pane's serum, and discusses the subject generally. His experience with serumtherapy in pneumonia has been most encouraging, particularly when the injections are given in the early stage of the disease. The patient says he feels better almost immediately after the first injection, and is obviously improved in his general condition. The local signs do not alter much; these pursue the ordinary course. The temperature comes down quickly in response to the injection, but defervescence in cases treated by serumtherapy takes place by lysis and not by crisis. Observations on blood pressure show that the serum treatment has a tonic effect, for after injection either no lowering of blood pressure takes place, or it is very temporary in character, whereas in cases treated in the usual way the lowered blood pressure after an attack of pneumonia may last from twelve to fifteen days. The author is decidedly of opinion that the cases treated in his clinic by serumtherapy have done better than those not so treated; and if treatment could have been started earlier, the results would probably have been better still. The maximum dose of the serum given by him in twenty-four hours was 40 c.cm. of the N_2 serum, in two doses of 20 c.cm. each.

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(242) Oxygenated Water in Dermatology and Urology.

SCHOLTZ (*Archiv. f. Derm. und Syph.*, t. xxi) has used 30 per cent. oxygenated water in the following affections: (1) Ulcerative processes of the skin, especially when gangrenous; (2) ulcerative stomatitis, especially when purulent and ulcerative. In these cases a mouth-wash of 2 or 3 per cent. is used, and the strong solution painted on the gums daily: (3) suppurating buboes and gangrenous or serpiginous forms of soft chancre; (4) buccal leucoplasia, when the solution is painted on either alone or with nitrate of silver; (5) comedones, acne, syphilides, and other pigmentary conditions have sometimes given good results; (6) in several forms of cystitis an injection of 1 to 3 per cent. of the solution was used. In chronic gonorrhœa and post-gonorrheal urethritis injections of a ½ to 1 per cent. solution generally combined with nitrate of silver, 1 in 1,000 to 1 in 4 000, gave good results. The injections lasted one to five minutes, and from 150 to 600 c.cm. of the solution were used.

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(243) Hydrotherapeutics and Tuberculosis.

ANDRIAE (*Zeit. f Tub. u. Heil Statt.* Bd. vi, Heft 5) recommends hydrotherapeutic measures in phthisis. Such measures may be employed either as a treatment of the disease itself, of symptoms of the disease, of any complicating disorder, or for the purpose of hardening the body, and increasing its power of resistance. The use of the Priessnitz compress is perhaps the most common form of water treatment "for phthisis" and its symptoms, such as, for instance, the pain of pleurisy. A handkerchief and a flannel bandage of suitable size are the only appliances necessary for the compress. Where the skin is anaemic and sensitive, these compresses may not be well borne, but in such cases all that is necessary is a preliminary stimulation of the skin by vigorous dry massage, or rubbing with spirit. In some of the Berlin institutions these compresses are given to each patient each night for months, but the author is doubtful of the advisability of such a course, because of the danger of interfering with sleep, and of causing erythema of the skin. Wet packs are found to be useful in dealing with transitory rises of temperature, and with night sweats. Phthisical patients often suffer from cold feet, and the Priessnitz compress, followed by foot baths or douches, is a good treatment of this complaint. The hardening of the body as a whole is very necessary, and if it can be accomplished is the best protection against catarrhal complaints in phthisis. A simple but effective method of accomplishing this end is to get the patient to rub himself down every day with cold water. Cold douches are also of great service. The author would, however, advise that the utmost caution be observed in giving douches to patients who have suffered from severe haemorrhage lest hyperaemia of the lungs should be set up and further haemorrhage ensue. If given at all, the water should not be quite cold, or, at any rate, not be so at the beginning of the douche, and still more important is it that the douche should be of short duration only. Where haemorrhage is slight, douches carefully given may be the best treatment of the symptom, and Dettweiler has given 100 000 cold douches and has never seen haemorrhage to result or a previous haemorrhage to recur. The douche should not be employed in cases of haemorrhage in which aneurysm, arteriosclerosis, or nephritis is present. Douches are of great service, in that they give a sense of general well-being to the patient and increase his appetite and his power of assimilation of food; they act upon the heart also and strengthen and slow down the pulse. Cold douches on the abdominal wall, following massage, give good results in cases of chronic constipation. Massage and douching tend also to cause tissue substances circulating in the blood to be excreted in the urine, and in this way influence the temperature and the strength of the organism. Warm baths should perhaps have been mentioned earlier in the list of therapeutic agencies. In the case of some sanatorium patients they are the means of washing away the dirt accumulations of many years, of opening the pores, and of preparing the skin for further treatment. In giving baths two precautions need to be observed: (1) That the bath-rooms should be well ventilated and the windows open into fresh air, and (2) that the temperature of the baths should be registered outside the bath-room, so that the patients should not either intentionally or otherwise take too hot baths.

PATHOLOGY.

(244) Pathology of Cerebro-spinal Meningitis.

WESTENHOEFFER deals at some length with the pathological anatomy and methods of infection in cerebro-spinal meningitis, giving considerable details of his *post-mortem* examinations (*Berl. klin. Woch*, June 12th, 1905). He finds that the infection gains an entrance through the posterior nares, and especially through the adenoid tissue in this situation. He considers that the meningeal inflammation is produced by lymphogenous paths and is always basilar. This inflammation is a sign of a disturbance of the cavity of the cranium just as affections of the mucosae are the signs of disturbance of the cavities of the nose. It is very rare for the inflammation of the meninges to develop by continuity from an implication of the ethmoid cells, if this ever takes place. He points out that the disease is essentially a disease of children, and that it mostly attacks those of a so-called lymphatic constitution. The infection takes place by inhalation. The modes of dealing with the disease are obviously from the hygienic side of the question. In speaking of the microbe of the disease, he is inclined to believe that although the meningococcus Weichselbaum-Jaeger and other micrococci are frequently found, we probably have not yet found the actual causal organism of the disease.

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(245) A Study of Actinomycosis.

J. H. WRIGHT (*Publications of the Massachusetts General Hospital*, vol. i, No. 1, May, 1905) has isolated in pure culture branching filamentous organisms from 13 cases of actinomycosis in man and from 2 cases in cattle. These organisms he regards as all belonging to the same species, since the differences among the various strains are no greater than among various strains of tubercle or diphtheria bacilli. Of the usual culture media, agar and bouillon are the only two which are suitable, and incubation is necessary, little or no growth being obtained at room temperature. The organism is essentially anaërobic and does not form spores. The colonies obtained in cultures are similar in character to the colonies found in the lesions of actinomycosis. If the colonies are immersed in animal fluids, such as blood serum and serous pleuritic fluid, the filaments in immediate contact with the fluid may, under certain unknown conditions, become invested with a layer of hyaline eosin-staining material of varying thickness, and the filament may then disappear. Thus structures are produced which seem to be identical with the characteristic "clubs" found in the tissues. Between actinomyces from the human and bovine cases, Wright has found no difference which justifies their classification as separate species. He regards the so-called spores, cocci, and bacilli described by various writers in the granules of actinomyces obtained directly from the lesions as being either degeneration and disintegration products of the filaments of the specific organism, or else real micrococci and bacilli growing in symbiosis with it.

AN EPITOME
OF
CURRENT MEDICAL LITERATURE.

MEDICINE.

(246) The Gastric Functions in Old Age.

A. Tartarini-Gallerani (*Bull. delle Sci. Med.*, February, 1905) states that the only researches on this subject hitherto published are those of Kiärgaard and Seidelin. The former examined four persons of over 50 years of age, the latter examined a series of persons over 50 years of age, especially to test Kiärgaard's statement that in such cases there was a constant defect of hydrochloric acid. Tartarini-Gallerani's researches have a wider scope, involving not only hydrochloric acid, but lactic acid, sugar, pepsin, and steapsin, and the condition of the motor functions of the stomach. The subjects selected—twelve in number—were all more than 70 years old, healthy, well nourished, free from digestive disturbances, and without any history of such disturbances. The author states that he found it very difficult to get such subjects to permit the repeated use of the oesophageal tube. The size of the stomach was determined when empty, and also after insufflation with Frerichs's mixture, and the gastric motility was tested with the Leube-Riegel food and with iodipin. All authors seem to agree that in normal subjects the iodine reaction can be obtained from saliva within forty-five minutes of the administration of iodipin. An Ewald-Boas test breakfast was given to each patient on two successive mornings, and an hour later the residue was extracted and examined. The free hydrochloric acid was tested qualitatively by Congo's and Gunzburg's tests, and quantitatively either by the method of Mintz or of Mörner. In cases of absence of free hydrochloric acid, the "deficit" was calculated. The lipolytic ferment present in each stomach-washing was estimated by Wolhard and Städe's method, which is described in detail. Each case is described separately, and the author tabulates more than 300 results obtained. These support the following conclusions: 1. In old age the hydrochloric acid secretion may be normal; more often it is diminished, but not abolished. In sixteen observations out of twenty-four there was no free hydrochloric acid. 2. Pepsin and steapsin are always found, but in very variable quantities. Sometimes they attain to the highest figures recorded in such determinations, while the quantity of free hydrochloric acid is not more than normal, so that there is evidently no direct proportional relation between the different secretive functions. 3. In old age the motor activity of the stomach is usually languid; it is apt to be near the extreme limit of what can be considered normal. Thus, after the administration of iodipin, iodine appeared in the saliva before the end of an hour in two cases only, while in several cases it could not be detected till near the expiration of an hour and a half. The contents of the stomach an hour after the test breakfast are usually from 100 to 150 c.cm., and 200 c.cm. is certainly abnormal. Amongst these old people the contents varied from 108 to 246 c.cm., and many of the amounts observed were above 150 c.cm. There was nothing noteworthy about the appearance of the gastric contents.

(247) Traumatic Neurosis.

G. Lumbroso (*Clin. Moderna*, vol. xi, Nos. 10 and 11) classifies traumatic neurosis between hysteria and neurasthenia on the one hand, and hypochondriasis and melancholia on the other. It is a specific disease, due to physical and psychical trauma in various proportions. Lumbroso lays stress upon the association of neurotic symptoms with symptoms of psychical change or exhaustion here; the actual physical trauma may be severe, slight, or even *nil*: traumatic neurosis having been known to follow upon violent emotional upset (fear, apprehension, etc.). The patients are apt to simulate a great variety of signs and symptoms, and much skill is often needed to detect imposture or exaggeration, particularly in the cases of alleged paralyses or pareses, and of the vague painful sensations so often complained of. In the latter case, the author attaches great importance to the results of Mannkoff's method of examination, in which steady pressure is made upon the painful area: if there really is pain felt, the pulse will increase in frequency. Where the lesions are unilateral, the author has often found the temperature to be a degree or more lower upon the injured than it is upon the sound side. The myasthenic reaction of Flora, in which the affected muscles are unable to respond by tetanus to prolonged faradic stimulation, and only slowly recover the ability to be tetanized again, is also recommended as a reliable sign of traumatic neurosis.

(248) Amaurotic Family Idiocy.

In the *Amer. Jour. Med. Sci.*, January, 1905, are four papers representing different points of view of a case of this rare condition. McKee describes the clinical features. The patient, a boy of a year old when first seen, was more or less under observation till his death from bronchopneumonia at 2½. His family, though poor, presented no other similar case, and he was not of Hebrew descent, as many of these patients are. He was backward in almost every way, being unable to support his head, and never learning to talk. Both eyes were blind, and all the limbs spastic, with vermicular movements of the fingers. He was rachitic, and suffered often from bronchitis. Buchanan reports on the condition of the fundi: The discs were atrophic, with a very definite pigment-margin, and around the fovea centralis was a white zone, oval in shape, fading into normal retina at its periphery. These macular changes, which are characteristic of the condition, are attributed by Shumway and Buchanan, in a third paper dealing with the microscopical state of the eyes, to degeneration of the ganglion cells of the retina, which are swollen and stain very badly, Nissl bodies being entirely absent. The cells themselves had to a considerable extent disappeared, and the retina as a whole was wasted and adherent to the choroid. In the optic nerve and chiasma a large proportion of the fibres was atrophic. Certain other investigators have attributed the appearance of the macula to oedema of the retina, and supported this theory by microscopical findings. Shumway and Buchanan, however, consider that these findings were to be ascribed to imperfect methods of fixing, and believe that the cellular changes are due to an essential failure of vitality—the "abiotrophy" of Gowers. Lastly, Spiller gives a detailed account of the microscopical condition of the central nervous system, which may be summarized as universal degeneration of the nerve cells of a nature similar to that already noted as occurring in the ganglion cells of the retina, with a much less marked degeneration of the efferent fibres. The widespread dissolution of nerve cells causing the changes described above he considers characteristic of amaurotic family idiocy. To each paper is appended a good index of the literature.

SURGERY.

(249) Arterio-venous Aneurysm of the Subclavian.

Pluyette and Bruneau (*Rev. de Chir.*, No. 7, 1905) publish a case of arterio-venous aneurysm of the third portion of the subclavian on the right side caused by a ball from a revolver, and add the results of a study of 19 recorded instances of this very rare traumatic affection. The aneurysm followed in 9 cases a punctured or incised wound, in 8 a gunshot wound, and in the remaining 2 a simple fracture of the clavicle. It has been observed with almost equal frequency on the right and left sides of the neck, and in a very large proportion of instances involved the artery in the posterior triangle. The clearest and most constant sign is a thrill or vibratory murmur over the seat of injury. A pulsatile tumour is usually small and less evident in this than in arterio-venous aneurysm in other regions. A bellows-sound, increased during the cardiac systole, is associated with the thrill. Both thrill and bellows-sound diminish in intensity and extent as the aneurysm becomes more circumscribed. Venous dilatation, not only in the upper extremity but also in the neck and on the front of the thorax, although noted in less than half of the collected cases, is, according to the authors, a constant sign. The radial pulse on the affected side is usually small and feeble, and in some few instances was found to be quite suppressed. Occasionally the two radial pulses are not synchronous. Nervous disturbances, consisting of impairment and in some cases of complete loss of both motility and sensibility in the upper limb, play an important part in the clinical history of arterio-venous aneurysm of the subclavian vessels. Such disturbances, it is stated, are as a rule due rather to compression or partial laceration of branches of the plexus than to complete section of the plexus itself. The authors are opposed to operative intervention for the radical treatment of arterio-venous aneurysm of the subclavian, and point out that such an attempt, except in cases of

serious haemorrhage or of a tendency to rupture of the sac, would be rendered very difficult by the deep situation of the swelling, by the displacement of the artery and vein due to an extensive effusion of blood or the formation of a vascular tumour, and by the subsequent weakening of the upper limb if it be found necessary in the course of the operation for removing part of the clavicle. The chief immediate dangers of the operation are excessive haemorrhage and the entry of air into a large vein. It is held to be both a logical and prudent conclusion that radical cure deliberately proposed and practised as a method of choice ought to be rejected on account of its dangers. Such conclusion is supported by statistical data, as the mortality in 7 cases in which the operation was performed was 8.33 per cent., whilst in the 12 cases treated without operation only 1 was fatal. Of the 4 patients who survived operative treatment, 2, it is asserted, suffered from functional impotence of the upper limb, and the other 2 were very soon lost sight of after convalescence.

(250) Aneurysmal Varix of the Popliteal Space.

ROSSI reports a case of aneurysmal varix occurring in connexion with the popliteal artery. He points out the rarity of such a condition as compared with popliteal aneurysm (*Gaz. med. Lom.*, July 10th, 1905). The wound had been made with a knife, it was in the popliteal region, situated a little below the line of the articulation, extending transversely from the outer side to the middle line. It had been closed with two sutures, there was much swelling in the neighbourhood of the incision, and the leg was swollen, oedematous, and discoloured. The patient experienced a feeling of tension and weight with inability to move the foot; these symptoms augmented, and in a few days a definite pulsating tumour with systolic murmur and thrill could be felt. Flexion of the knee-joint was limited, as was plantar flexion of the foot, there was anaesthesia along the outer margin of the foot and hyperaesthesia of the plantar surface of the foot and toes, and of the postero-external area of the leg. The reaction of degeneration was obtained. At the operation the internal popliteal nerve was found to have been divided and to have receded; the popliteal vein was greatly enlarged and communicated by a large aperture with the artery. Complete extirpation of the aneurysmal varix was resorted to, after which the nerve was joined by the method of Letievan, and with careful post-operative treatment the collateral circulation was established, innervation restored, and the patient made an excellent recovery. In this case it was remarkable that the aneurysm should have developed so rapidly, in seven days from the injury. In many cases Rossi has known eight or ten years to ensue between the injury and the diagnosis of an aneurysm, and the interval has been known to extend to twenty-six or thirty years.

(251) Early Operative Treatment of Hip-joint Disease.

HUNTINGDON (*Amer. Journ. Med. Sci.*, July, 1905) reports two cases of early operation for hip-joint disease in which he devised the following method for relieving tension and removing infected tissue without interference with the joint capsule, thereby establishing a cure without permanent fixation or joint destruction. Through a trephine opening of $\frac{1}{2}$ in. diameter on the outer aspect of the thigh at the lower border of the great trochanter, the neck of the femur is tunnelled to a depth of from 2 in. to $2\frac{1}{2}$ in. with a small bone curette. At this depth the epiphysial cartilage separating the head from the neck is reached, and if the focal lesion is found to be external to the cartilage, deeper curetting will be unnecessary. Interference with the cartilage should be avoided if possible, but if lesions exist in the head of the bone they may be reached and drained through a small opening through the cartilage. Thus foci either on the proximal or distal side of the epiphysial cartilage may be obliterated and drained via the subtrochanteric route. The cases treated illustrate the value of operation early in the disease, and in the second case reported this was undertaken on the fifth day after the first intimation of illness. Previous to this the patient, a boy, aged 11, had been regarded as remarkably robust. In both cases the symptoms were abated by drainage and relief of tension, although in the second case, at the first operation, the original focus was not discovered, but required a further opening through the epiphysial cartilage to enable the pus to escape. A plaster dressing was applied for the first six weeks and after the second operation traction was applied for a time. At the end of nine months the patient's limb was almost inappreciably altered either in contour, relationship, length or function. The result in the first case of a delicate boy, aged 16, was not so ideal, since the disease was more advanced and the neck of the femur contained a large abscess cavity which would eventually have involved the joint and had probably already involved the epiphysial cartilage, since shortening resulted. Evacuation of the pus gave immediate relief from fever, pain, and tenderness, and in a month the patient was moving about on crutches. Shortly after he reported no pain, excellent general health, and ability to walk without a stick. Whether this procedure can be successfully adopted in very young subjects remains to be seen.

MIDWIFERY AND DISEASES OF WOMEN.

(252) Intermenstrual Pain or "Mittelschmerz."

ROSNER, of Cracow (*La Gynéc.*, June, 1905), has studied some cases under his own care, and collected the literature of the subject referring to all the monographs on this disorder except to that prepared by Malcolm Storer (*Boston Med. and Surg. Journ.*, April 17th, 1900). Rosner denies that there are no objective symptoms associated with intermenstrual pain, and on the other hand maintains that the pain is not a mere symptom of chronic inflammation of the appendages, pelvic peritoneum, or parametrium. Twelve patients were under his care, and in only one could he fail to find any disease of the genital tract, whilst in ten the uterus was distinctly enlarged. Yet, on analysing the ten (rejecting two cases of apparently normal or only slightly enlarged uterus, lest some morbid condition might have been overlooked), in not one was there any history of abortion, puerperal mischief, or gonorrhoea; no new growths of the ovary existed in any case. On the strength of the positive evidence of enlarged uterus, and the negative evidence as to the inflammatory complications so striking in these ten cases, Rosner feels bound to support Richelot, who ascribes intermenstrual pain to a diffuse hyperaemia and hypertrophy of the uterus of non-inflammatory nature. He notes that Halliday Croom and Addinsell have described cases of this disorder associated with uterine fibroids, an essentially non-inflammatory condition. Rosner rejects the Addinsell-Giles theory that intermenstrual pain is set up by contractions of the Fallopian tube, but believes that varicosity of the pelvic veins is a factor in causing the pain. Such was at least the case in one of his own patients, but she was a multipara, aged 34, and he adds that she was the subject of varicose veins in the lower extremities. Lastly, Rosner denies the theory that the pain is due to abnormal intermenstrual circulation. There is no evidence that such a condition exists in this complaint, nor any reason to believe that an extra or abnormal circulation is of necessity painful. Treatment of intermenstrual pain is unsatisfactory. Drugs are not of uniform benefit, the curette and the dilator are not clearly indicated, whilst hysterectomy and removal of the ovaries are hardly justifiable. Rosner claims the best results from systematic firm packing of the vagina, the "columnization" of Auvard, practised when the intermenstrual pains have commenced; or, better still, when they are due. He admits that this method is empirical, whether it supports veins or has some influence on nerves being uncertain. He intends to try elevation of the pelvis after Pincus's method in future cases.

(253) Arrested Development of Internal Organs.

BATZEWITSCH (*Monats. f. Geb. u. Gynäk.*, June, 1905) demonstrated before a Russian medical society a case of completely successful operative treatment of this condition. Atresia vaginae was complete, and it was important to bear in mind that no uterus nor appendages could be detected on palpation through the rectum. The vulva was very carefully inspected, and then a minute semitransparent spot was discovered between the labia minora. It represented the introitus, and proved dilatable. At length a Hegar dilator could be introduced, and after a time the largest size was used. The vagina after dilatation measured $3\frac{1}{2}$ in., the uterus could be plainly defined through it, and proved to be well-developed, and at length menstruation set in. There was some discussion about the cause of arrested development in this case. Batzewitsch considered that it was a congenital condition, but von Ott was of opinion that, as in the majority of

cases of atresia, the closure of the vagina was really due to gonorrheal infection in infancy. Menstruation was the best indication for operation, and the menstrual blood in a haematocolpos was a guide to the opening and direction of the genital canal; but in this instance there was only a little mucus in the contracted vagina. Yet the mucus caused the semitransparency which indicated the introitus and led to the successful treatment of the case. The vaginal walls were suspiciously thick: in congenital malformation they are thin and ill-developed.

(254) Impacted Fibroid: Concealed Pregnancy.

Doléris (*La Gynécologie*, June, 1905) operated on a single woman, aged 33, a nullipara, subject to a large fibroid. Dysuria and other local symptoms set in rather suddenly, the periods continuing regular. A large mass blocked the pelvis; the cervix was displaced upwards so much that it could not be clearly defined. No vomiting nor changes in the breasts, beyond slight enlargement, were noted before the operation. The mass in the pelvis could not be pushed up—an operation was performed in consequence. There was some difficulty in getting out the pelvic tumour; it was firmly impacted in the pelvis and encapsuled in the folds of the left broad ligament, whence it was enucleated. The bladder was drawn very high up above the pubes. Hysterectomy was performed. On examining the parts removed, a cystic projection of the size of a large pear proved on being laid open to be the body of the uterus; it contained a normal fetus 2½ in. in length. Until it was discovered pregnancy had been entirely overlooked. It appeared difficult to understand how impregnation could have been effected, as the lower part of the tumour had blocked the pelvis and displaced the cervix upwards for many months. The child, had the pregnancy continued, could never have been delivered through the vagina.

(255) Tubal Gestation: Sac Unruptured at Term.

Maes (*Journ. des Sc. Méd. de Lille*, March 11th, 1905) reports a case where he believes that a tubal pregnancy proceeded to term without rupture of the sac or extrusion of the ovum, with subsequent grafting of its appendages on structures in the peritoneal cavity. The patient was 25 years old, married when 19, and twice pregnant. After irregularity of the catamenia, symptoms of localized peritonitis set in; the abdomen then began to swell. At the end of six months from the acute symptoms, which occurred apparently about the third month, the patient felt abdominal pains like as in labour, fetal movements ceased entirely, and nothing could be felt like part of a fetus or its membranes in the vagina. Six weeks later abdominal section was performed. A large fetal cyst was exposed; it was laid open and a fetus was extracted, with a very bloodless placenta; there was practically no haemorrhage. The sac was partly excised, the rest was marsupialized and drained; the patient recovered. Histological examination of the excised portion of the cyst wall showed that it was a tubal and not a peritoneal sac.

THERAPEUTICS.

(256) The Physiological Action of Carbonic Acid Baths.

L. Fellner writes in the *Berl. klin. Woch.*, June 12th, 1905, on the subject of carbonic acid baths. He states that in recent times the method of action of the gas in the bath has been more exactly watched, and that, on the one hand, one finds a support of the theory that there is a resorption of CO_2 indicated by an increase of this gas in the breath without any alteration of the quantity of oxygen; and, on the other hand, the type of the stimulus on the skin has been more closely studied. The thermic indifference point of carbonic acid gas lies much lower than that of the air, and if one takes a bath of 28° C. (that is, 82.4° F.) the water feels cold, but the CO_2 gas bubbles, which separate themselves from the water, exercise a warm stimulation. The two stimuli do not alternate, but exist side by side at numerous different points. CO_2 acts both on the sensory and the motor nerves in the skin. The subjective and objective appearances of such a bath are as follow: After a few minutes one feels a tingling and a peculiar sense of warmth. This sensation increases to one of actual heat, and is most intensely felt in the perineum and around the genitals. These localizations soon break out into a sweat. The skin becomes reddened, and this may last for some time after the end of the bath. Haemorrhoids generally swell and may bleed profusely. Sexual desires are enhanced. Metrorrhagia sometimes follows a CO_2 bath, and menstruation may appear even when amenorrhoea has existed before. The pulse first loses from four to six beats in the minute, and later quickens, so that after being in the bath for from three-quarters to one hour, the pulse has gained some four to eight beats. When the bath lasts longer than half an hour, the respiration quickens up to eight additional breaths. Feelings of congestion in the head with sweating take place. In conclusion he gives the following as a list of diseases which may be treated by the carbon dioxide bath. Those of the nervous system, anaesthesia, hyperaesthesia, neuralgia, and peripheral paralysis of rheumatic, traumatic, and toxic nature. Next functional disturbances of the sexual organs, amenorrhoea, dysmenorrhoea, impotence, and absence of desire. As contraindications he mentions tendency to bleeding, chronic cardiac disease, and chronic lung diseases, and irritability of the respiratory passages.

(257) Toxic Effects of Veronal.

L. Mongeri (*Semaine Méd.*, May 24th) reports cases which illustrate certain toxic effects of veronal (di-ethyl-malonyl-urea) used as a hypnotic, and generally considered safe. He tried it first in about 0.46 gram doses on patients in lunatic asylums, and came to the conclusion that it was a thoroughly reliable and satisfactory hypnotic, producing neither circulatory nor gastro-intestinal disturbances. He considered as unimportant or not traceable to the use of the drug the few instances of vomiting and headache which were reported in the asylum. Later he tried it as a soporific in the case of sane people among his private patients; and although the results were as a rule highly satisfactory, in a few notable instances marked toxic effects were observed. The first case reported the occurrence of cardiac palpitations and feelings of oppression soon after taking the dose. When sleep supervened it was harassed by terrifying dreams, especially dreams of being strangled by strange persons. These distressing symptoms were clearly attributable to the veronal, because they only occurred every other night, when veronal had been taken, and happened no more when the patient gave up taking the drug. Another patient, almost at once after taking the dose, experienced flushing of the face and vertigo; and no sooner had she dozed off than terrible dreams began and frightened her so much that she resisted sleep, and used means to keep herself awake rather than sleep in such discomfort. In the case of a mad woman, doses of 0.75 gram were given for a few nights, and were followed by calm and satisfactory sleep, and much mental improvement. The dose was then reduced, but sleeplessness returned. Doses of 0.5 gram were then administered, but this time the drug failed of its usual effects, and produced instead headaches and terrifying hallucinations. The pulse-rate was considerably increased. In all these cases, and in other similar ones, there was, in addition, some albuminuria, and the passage of blood in the stools. Mongeri concludes that veronal ought to be administered always with great caution, in small doses, and that especial care ought to be taken in cases of renal insufficiency. Some of the toxic effects may have been due to chemical impurities.

(258) Naftalan.

M. Weinberg (*Die Heilkunde*, April, 1905) has employed naftalan with success in the treatment of a variety of skin diseases. Naftalan is obtained in the form of a paste; it is neutral, almost without smell, and may be kept for years without spoiling; it is insoluble in ether, benzoin, chloroform, etc., and has a high melting-point above the body temperature. As applied to the skin and to mucous membranes naftalan is a mild, non-irritating preparation, which relieves itching; applied to wounds and to ulcers it is antiseptic and deodorizing; it lessens pain and aids resorption and the formation of granulations. It may be smeared thickly over the affected part, or may be applied spread on linen. It is easily absorbed by the skin and by wound surfaces, and thus acts both on the superficial, and, to a less degree, on the deeper tissues. The use of naftalan was introduced by Rosenbaum in 1896 for the treatment of acute and chronic eczema, pityriasis, seborrhoea capillitii, acne rosacea, and burns. It is found to be useful also in erysipelas and in pain

of rheumatic or gouty origin. Weinberg has used it widely, and gives notes of 15 of his cases, 8 of them cases of eczema. The youngest patient was a child 3 months old with extensive eczema of the nates and thighs, which did not yield to ordinary treatment. Under naftalan improvement set in in two days; the redness began to diminish and the scabs to come off. Complete healing was secured in ten days. Another case was that of a woman with infiltrated eczema of both hands, which caused severe pain and intense irritation. Relief of the symptoms began to be felt after twenty-four hours when naftalan was applied, and recovery followed in ten days. Another case of inveterate eczema of both hands yielded to treatment in three weeks, and the patient, a washerwoman, was able to begin work again. The relief of irritation afforded by naftalan was exemplified in a case of pruritus ani and pruriginous eczema of the scrotum and genital folds, when the patient was confined to bed because of the severity of the symptoms. Naftalan was applied in the form of suppositories and as an ointment, with the result that there was considerable improvement in twenty-four hours, and in a week the patient was able to return to work. Other cases, in addition to those of eczema, are described. In one a child of a year old suffered from a scald, the burns being of all three grades of severity. Under naftatan the pain was quickly relieved, the burns of the first and second degree healed up, and the necrotic tissue sloughed off quickly without any foul smell; scarring followed after fourteen days. Amongst other cases which gave favourable results were cases of impetigo contagiosa, ulcera cruris, epididymitis, and a case of scabies.

PATHOLOGY.

(259) Specific Serums Toxic for the Suprarenal Capsules.

LEVI DELLA VIDA (*Lo Sperimentale*, October, 1904) describes experiments designed to clear up the theory of the respective functions of the cortex and medulla of the suprarenal capsules. Embryologists for the most part make these parts of the capsule practically separate organs, but they are not absolutely unanimous. The method of Levi della Vida is to find a serum to injure one part or the other of the capsule and to study the alterations thus produced in the organism. He refers to numerous experiments of the same sort recently carried out by other observers on different organs. Preparing extracts and emulsions of the cortex and of the medullary substance of the guinea-pig and injecting them into the peritoneal cavity or the muscles of eighteen ducks and four dogs, and afterwards treating guinea-pigs with serum from these animals so prepared, he found that: (1) The suprarenal extracts from the guinea-pig are well tolerated by both ducks and dogs, exercising usually a feeble haemolytic power which in special conditions (as in young animals) may be so considerable as to cause death. (2) There is no doubt of the specificity of action *in vitro* of the cytolytic serums of animals prepared respectively with cortical and medullary substance of suprarenal capsules. (3) The cytolytic serums lose their action when heated to 55° C. (4) The cytotoxic action *in vivo* of serum of animals prepared with medullary substance is constant. (5) The action of the medullary cytotoxic serum is manifested only after a variable time, and not in direct proportion with the quantity of serum inoculated. (6) The specific alterations of the medullary substance are usually microscopic, and consist in atrophic alterations of the medullary substance and retrogressive alterations both of the rows of cells of which the medullary substance is composed and of the connective tissue elements bounding them. (7) If the death of the animal occurs quickly, besides alterations of the medullary substance there are usually retrogressive alterations of the cortical substance, determined apparently by secondary circulatory disturbances of the cortical substance, which show themselves by a notable dilatation of all the capillaries which ramify between the rows of cells. (8) The serum of the animals prepared as described, besides its specific cytotoxic action demonstrable *in vivo* and its cytolytic action demonstrable *in vitro*, exercises also a distinctly haemolytic action not due simply to the blood contained in the emulsion of capsular substance. (9) The author has thus proved the existence of two separate specific serums, one toxic for the cortical substance, the other for the medullary, and the different actions of the two serums furnish an additional illustration of the separate individualities of the cortical and medullary substances respectively, and of the absolute prevalence of the medullary substance over the cortical in the function of the suprarenal capsule. The medullary substance has a physiological action which is always seen in the normal organism, and which is exercised on the tone of the unstriated muscle fibres, and in the first place on the vessels, so that on the destruction of the medullary substance there follows in all the organs a manifest vascular dilatation. The author suggests that in disease the cortical substance enters into an exaggerated activity to destroy or neutralize, either *in situ* or by means of a secretion, the harmful substances introduced into the body, and that in health some similar but slight action constantly occurs, directed against the toxic products of ordinary metabolism or of muscular fatigue.

(260) Small-pox Parasites.

SIEGEL (*Abhandlungen der Königl. Preuss. Akademie der Wissenschaften*, Berlin, 1905) endeavours to throw further light on the question whether the appearances, generally known as the Guarnieri bodies, which are regarded as specific of the lesions of variola and vaccinia, are degeneration products or genuine parasites. With this object he has devoted his attention to an improvement in the technique of staining. He recommends the use of a 1 in 1,000 solution of the Azur II of Giemsa and a 1 in 15,000 solution of eosin. These are to be mixed in the proportion of 7 parts of the eosin to 1 of the azur solution. The preparations are to be left in this mixture for two hours, and then, after washing in distilled water and quick passage through absolute alcohol, to be cleared in xylol and mounted in Canada balsam. Even by this method staining appears to be difficult and to require considerable practice. He has, however, obtained preparations which satisfy him that the Guarnieri bodies are genuine parasites, and are to be classed as a new group of sporozoa. The parasites are extremely small, can only be identified with the highest powers of the microscope, and, Siegel asserts, can be made to pass through a Chamberland filter. This last assertion he bases on microscopic examination and animal experiment. Siegel finds in foot-and-mouth disease a parasite which is very similar to the parasite of small-pox, and is also regarded by him as belonging to the sporozoa. For the experimental investigation of both parasites the rabbit is the most suitable animal to inoculate. The most important distinction between the two organisms is that the sporozoon of small-pox sporulates in the protoplasma of the epidermal cells, whilst the sporozoon of foot-and-mouth disease sporulates in their nuclei.

(261) Repair of Vesical Lesions.

L. FRACASSINI (*Il Policlin.*, March, 1905) describes experiments made on fifty-four rabbits to determine the nature of the processes of repair after ordinary lesions of the bladder by examination of the tissues at different times after the infliction of the injury. The lesions selected were puncture, suture after incision, ligature, cauterization, scraping, and torsion of the mucosa. He finds that: (1) If a puncture be made with a very fine needle, repair is too prompt to allow of any study of the process. (2) If a rather larger needle of 3 mm. diameter be used, complete cure takes about ten days, but the function of the bladder is not interfered with, and the histological changes are slight. (3) Simple catgut suture with the cut edges in contact gives the best results. (4) Lembert's suture is in danger of leaving a muscular spur unprovided with epithelium, and therefore liable to necrosis followed by urinary infiltration. (5) In cases of accidental ligature of part of the bladder, if the ligature be not too tight, it may become encapsuled in the vesical wall. (6) If the ligature be very tight, it may slowly migrate to the interior of the bladder, leading to the formation of calculus. (7) The bladder is singularly tolerant of cauterization and scraping, if these acts be performed with a certain delicacy and do not go too deep. (8) Scraping is followed by a complete *restitutio ad integrum* of the epithelium about the beginning of the second week, the exact duration of the process of repair varying according to the extent of the abraded surface. (9) After compression or torsion of the epithelium alone, repair takes place after fifteen days. (10) If the operation lead to the necrosis of the muscular tissue as well as the epithelium, an extensive new formation of connective tissue repairs the loss of substance completely after thirty days.

AN EPITOME

OF

CURRENT MEDICAL LITERATURE.

MEDICINE.

(262) Functional Albuminuria.

Teissier, in writing (*Rev. de Méd.*, April 10th, 1905, p. 233) of the classification and pathological significance of orthostatic albuminuria, remarks that most cases of albuminuria of renal origin tend to become exaggerated by remaining for a long time in the erect attitude. He has found that prolonged standing is more influential in causing albumin to collect in the urine than prolonged walking. He traces three successive stages in the incidence of postural albuminuria: (1) Sudden anaemia of the glomeruli of the kidney induced in two ways—on assuming the erect attitude, by a reflex spasm of the glomerular arterioles, and by a dilatation of the peripheral blood vessels; (2) a reactionary flow of blood into the renal cortex; and (3) an excessive filtration of substances in solution, including the albumin of the liquor sanguinis, owing to the kidney being exceptionally permeable from incomplete development. He explains the tendency of functional albuminuria to disappear spontaneously to a modification of the third factor in the complete functional development of the kidney in the course of years. In regard to treatment, he maintains that it is an error to subject the patient to the rigid system adopted in case of nephritis; he has, indeed, seen the amount of albumin increase when the subject has been put on an exclusively milk diet. He argues for what may be called the open-air cure with exercise tending to relieve arterial pressure, and at the same time a generous dietary, including red meat. Fish, too, which he considers especially harmful in nephritis, he believes to be very useful in functional albuminuria. Small doses of bromide he recommends to counteract the nervous instability; and he advises not only that the patient should go to bed early and remain late, but also that he should lie down from 12 to 2 p.m. In diagnosis he differentiates three different forms: (1) True orthostatic albuminuria occurring in subjects with vascular aplasia, a small heart, low arterial pressure, weight below normal, with no previous infection that could be assigned as causal, an immediate influence on assuming the erect posture, sometimes excessive serum-albuminuria appearing in a quarter of an hour after rising, its diminution on sitting, and its disappearance on lying down, concomitant nervous phenomena, partial cyanosis of extremities, chilblains, catarrh of the genital and vesical mucous membranes, molecular diuresis above the normal, phloridzin glycosuria, generally positive, pure serum albuminuria or mucin and nucleo-albumin also, no tube casts, phosphates sometimes in excess, no increase in urea excretion; (2) mixed orthostatic albuminuria occurring in subjects with a healthy appearance, a normal heart, slightly-raised blood pressure, existence of previous infection or even an infective nephritis, a less rapid influence of the erect position, albuminuria usually appearing between 10 and 11 a.m., often no nervous manifestations, or merely headache and palpitation; a relatively restrained kidney permeability, phloridzin glycosuria sometimes negative, total molecular diuresis lessened; usually a seroglobulinuria, sometimes diminution of chlorides and phosphates. (3) Associated orthostatic albuminuria, cases in which this is combined with symptoms of visceral disease, dilatation of the stomach, visceral ptoses, etc. In these cases the treatment of the associated condition has a marked influence for good on the albuminuria.

(263) Dysentery in Hereroland.

Georg Hillebrecht (*Arch. für Schiffs und Tropen-Hyg.*, September, 1905), an army surgeon, has made special investigations as to the symptoms, causes, spread, and treatment of a form of dysentery, epidemics of which are common among the German soldiers in South-West Africa. He has arrived at the following conclusions: (1) The form of dysentery in question seems to be endemic in Hereroland. (2) It was first met with in epidemic form in the German army in 1904, when it attacked troops passing through districts recently vacated by the Hereros. (3) The water in the invaded regions is infected, but the infective material quickly disappears if the water is not used. (4) The bacillus of the disease has not yet been demonstrated, but it does not appear to be either an amoeba or the Kruse-Shiga bacillus. (5) Infection in man takes place for the most part through drinking infected water. (6) The disease spreads from man to man within a regiment either directly or indirectly; indirect infection probably occurs through flies, and not through dust. (7) This particular form of dysentery has not been previously specially described. Its initial symptoms are indistinguishable from those of other forms, but it is differentiated from them by the favourable course which it runs. (8) It seldom, perhaps never, becomes chronic. (9) Abscess of the liver has not been known to follow the disease. Chronic diarrhoea, in which the stools are free from blood and mucus is a common sequela. (10) Sporadic cases of a severer form of dysentery may perhaps occur in combination with the typical Hereroland dysentery, but this is at least doubtful. (11) The treatment consists for the most part of putting the patient on a fluid diet, and administering calomel and opiates. (12) Hospital treatment is, as a rule, unnecessary. (13) Treatment of the chronic diarrhoea which follows the dysentery is almost altogether dietetic in character. A mild unirritating diet is not well borne, and the best results are obtained by putting the patient on a mixed diet which resembles as nearly as possible his diet in ordinary life. (14) Prophylactic measures include the boiling of water, isolation of the sick, destruction of infective material, and frequent change of camping ground. The prevention of the disease has a practical as well as a scientific interest, for it may at any particular time be so prevalent as to materially alter the readiness for action of large bodies of troops.

(264) Synesthesia.

Lee Smith (*Johns Hopkins Bulletin*, July, 1905) says the phenomena of this condition are known as "secondary or associated sensations," by which are meant constant and involuntary subjective impressions associated with actual perceptions. They are found in many persons to a limited degree, but cases showing numerous and well-marked features are exceptional. Not a few individuals experience a shivering sensation at the squeak of a pencil, or at the sound produced by the tearing of linen. Others have their teeth set on edge when the filing of a saw is heard. Such sensations are spoken of as sound feeling. Colour hearing or sound seeing is rarer. It is the constant and involuntary visualization of colour with some definite sound. The colour sensations remain constant in the same individual but vary in different individuals. For example, the sound of the vowel *a* is red to one, blue to another, and black to a third. The deeper vowel sounds usually suggest the shades, and the higher vowel tones the tints of colours. Again, the kind of sound giving rise to colour sensations varies for different individuals. In one case colour sensations are produced by the vowel sounds, in another by the tones of a speaker's voice, while many associate musical tones, the days, numbers, months, seasons, odours, taste, and touch with corresponding colour sensations. Some people when reading rapidly can detect misspelled words by the wrong colour impressions received. When light instead of colour is associated with sound, we have what is known as photism; when a colour, or some definite image suggests a sound we have phonism. Colour hearing may prove annoying and confusing. The inevitable colour sensations associated with tones destroy in the minds of some subjects the strains of music, and the incessant play of colours seen while reading or writing is most irritating to others. A more common type is known as the number form. It is characterized by the visualization of serial numbers, dates, important events, etc., as occupying definite geometric positions in space. Such a condition opens up a wide range for the formation of mental diagrams, which are so far-reaching that to the average mind they are as inconceivable as space itself. They are usually circular, spiral, or wave-like in shape, and are peculiar to the impressions of the possessor. The author describes a synesthetic family, consisting of a father and all his children—three daughters and two sons—showing various combinations of these phenomena. The colour sensations were dissimilar, and those formed in early youth were more intense than those acquired later in life. All tended to fade in time. The mental diagrams of number form remained unaltered and served as useful aids to memory. All the cases were intellectually above the average, and were sane, healthy, and happy. Synesthetic children should not be punished by teachers or teased by their playmates when they refer in all sincerity to their associated sensations.

SURGERY.

(265) Operative Treatment of Facial Neuralgia.

Delbet (*Bull. et Mém. de la Soc. de Chir. de Paris*, No. 27, 1905) is of opinion that resection of the superior ganglion of the cervical sympathetic for obstinate facial neuralgia has not received the attention it deserves. The results of 3 cases published in this paper have convinced the author that the method of treatment in question, which was first practised by Jaboulay, is not only justifiable but also promises good results. The first impression that such operation in its application to facial neuralgia is irrational, will be modified by consideration of the anatomical fact that the trifacial amongst nerves, the vagus being excepted, has the most numerous and intimate connexions with the sympathetic. It has been proved by both clinical and experimental observation that resection of the superior cervical ganglion results in degeneration of the filaments which it gives off, and also in modifications in the cord and the bulb at the level of the origins of the fifth pair. The suspicion that such extensive modifications may lead to other and serious results, in association with the relief of pain has not, the author asserts, been confirmed by his clinical experience. Of the three patients whose cases are here recorded one remained much relieved after a period of two years and ten months from the date of operation. The subject of the second case remained completely cured ten months after the operation, and the third patient reported after an internal of nine months that he remained well and suffered but very slightly from occasional attacks of pain. An analysis of 20 recorded cases of facial neuralgia treated by Jaboulay's operation indicate, the author thinks, that this method, though not perfect, is decidedly very encouraging. Though less sure and less complete than resection of the Gasserian ganglion, it is absolutely harmless. The latter operation with a mortality of from 15 to 20 per cent. is regarded as being probably the most serious one in modern surgical practice. Whilst acknowledging that in the treatment of facial neuralgia any attempt to obtain cure or even relief is justified by the terrible nature of the affliction, the author holds that the perfect safety of sympathicectomy and the favourable record of its results should lead the surgeon to make a trial of this operation before deciding on resection of the Gasserian ganglion. The author points out that though the results in regard both to efficacy and duration of resection of peripheral branches of the fifth nerve may be as good as those of sympathicectomy, the latter operation possesses some decided advantages: it leaves no disfigurement and an almost invisible scar. In resection of the trifacial branches, on the other hand, the scar is often conspicuous and unsightly. The anæsthesia caused by operations of this kind may be troublesome, and a certain degree of facial paresis may occur as a result of division of branches of the facial nerve. The persistent myosis following sympathicectomy does not disturb vision or impair the aspect of the eye. The uncertainty of sympathicectomy and the occasional imperfection of its results are attributed to the difficulties of the operation. It is necessary, the author holds, to remove the whole of the ganglion. Facial neuralgia may be regarded as a common symptom of a group of lesions varying very much in their localization and their nature, on some of which the cervical ganglion has greater influence than on others. There can be no doubt, the author states, that the good effects of resection of the sympathetic ganglion are observed sooner and are much more marked in recent than in long-standing neuralgia. It is anticipated that the operation will be attended with much more satisfactory results if in future it be practised as soon as it has become evident that medical treatment is useless.

(266) Elephantiasis Scroti.

Grothusen (*Archiv f. Schiffs und Trop.-Hyg.*, Bd. ix, Heft 3) has operated upon 3 cases of elephantiasis scroti in the space of three months. The first patient was 56 years of age; the duration of the illness before operation was three years. The incision made was that of Werner. Double castration was performed on account of obliteration of the vas deferens and of hydrocele. On the right side an omental hernia was present, and the Barker-Bassini herniotomy operation was performed. The scrotum was amputated; the penis remained uncovered. The wound healed by first intention, but the patient was confined to bed for six weeks on account of the herniotomy. In the second case an inguinal hernia was present on the right side, and herniotomy was necessary; there was, in addition, a double hydrocele. On the left side a radical operation was performed; on the right castration, because of atrophy of the vas. The scrotum was amputated, the weight of the tumour being 10½ kg. Healing took place by first intention except for slight suppuration round some of the stitches. The third case was complicated by a urinary fistula, and by the presence of phosphatic stones in the scrotum; the corpus cavernosum, penis, and the prostate were necrotic and thickened, and the prostate was fixed to Douglas's pouch by adhesions; the urethra was impermeable. A drain was passed through the prostate into the bladder; castration was performed on both sides in order to effect the reduction of the prostate, and the scrotum was amputated. Unfortunately Grothusen left the place before this patient had fully recovered.

(267) Prostatectomy.

Czerny (*Zentralbl. f. Chir.*, No. 30, 1905), in a paper read at the last meeting of the Deutschen Gesellschaft für Chirurgie, stated that prostatectomy had not received in Germany the recognition to which, as it is based on the anatomical work of German surgeons and is likely to maintain its position as an efficient method of treatment, it may fairly lay claim. At the present day prostatectomy, it is pointed out, is certainly indicated in cases of prostatic hypertrophy in which catheterism is difficult, and life is rendered intolerable by local pain, the formation of urinary calculi and cystitis. In such cases the modern surgeon is led to decide not between prostatectomy and catheterism, but between the former and Bottini's operation. This method, in the author's opinion, is indicated only in clearly-defined cases of a relatively small prostate with a well-marked middle lobe. In experienced hands one-third of such cases may be cured and another third considerably relieved by Bottini's operation, which is not followed by fistula, and does not impair for so long a time as prostatectomy the functions of the bladder. The latter operation is probably attended by a higher mortality, but insures greater freedom of micturition. Whether the perineal or the transvesical method of prostatectomy is to be preferred is still open to question. Probably each method has its special indications. The perineal method favours a more effectual drainage of the bladder and for this reason may be selected in cases of cystitis. The resulting fistulae are slight and transient, and the action of the bladder is not more disturbed by this than by the transvesical method. The mortality of this method seems to be somewhat higher than that of perineal prostatectomy. Of 15 cases of perineal prostatectomy practised by the author, in 2 of which the gland was affected by malignant disease, two were fatal, 6 were completely cured, and the remaining 7 were, with regard to removal of urinary obstruction and to freedom from pain, considerably relieved. In 4 of the last-mentioned cases the patients were troubled by persistent incontinence and open perineal fistula.

MIDWIFERY AND DISEASES OF WOMEN.

(268) Treatment of Abortion in General Practice.

F. Morbius deals with the treatment of abortion in general practice, leaving the theoretical discussion of the mechanism, etc., untouched. (*Therap. Monat.*, September, 1905.) While he holds that the most rational and physiological method of treatment is the expectant treatment, he considers that this is only safe for the patient if she is in hospital, and that such an expectant treatment as one would carry out must be fraught with danger if the patient is not continuously watched by trained medical practitioners. The bleeding may come on quite suddenly and profusely, and before the doctor can be with his patient it may be too late. The question to decide is how best to empty the uterus completely and rapidly. This must be done with the least danger and with the greatest possible protection to the patient. All instrumental methods are to be avoided. This applies equally to the curette, the abortion forceps, and all other instruments. He then proceeds to describe the method which he believes to be the safest to follow. When the os and the cervix are patulous to the finger, he immediately clears out the uterus digitally. When two or more fingers can be passed into the organ, the procedure is easy. If only one finger can be passed, the operation may be found extremely difficult, and then it is better to plug, and two or three days later the whole ovum may be found just behind the plugging.

As a rule, however, the difficulty does not lie so much in the detaching of the placenta as in the emptying of the detached portions from the uterus. This can be secured by washing the cavity well out by a powerful irrigation, care being taken to avoid bringing air into the uterus. The finger should not be removed from the uterus until everything has been detached from the wall of the organ. If this is impossible, much care must be taken to disinfect the finger again before reinserting it. As soon as the uterus has been emptied the organ contracts powerfully. This may be taken as a guide as to when all has been removed. If the water returns clear on irrigating one may be sure that the organ is empty. When the os is scarcely or not at all dilated, one should plug the cervical canal, and, if possible, the uterine cavity. Vaginal plugging has disadvantages. It may induce pains, and the bleeding may soak through the packing. The only disadvantage of packing the uterus is the risk of sepsis, and this must be overcome by employing well-prepared iodoform gauze and care in the plugging. The necessary instruments are: Two vulsella, a medium-sized Sims's speculum, an irrigation tube, a long pair of plugging forceps (Dührssen's), and a catheter. The gauze should be kept in a special box, which can be held between the knees while one is plugging. For the cavity he uses gauze of 3 cm. (a little over 1 in.) in breadth, while for the cervix the breadth is 5 cm. (about 2 in.). The plugging may be left for forty-eight hours, and the temperature carefully watched. In conclusion, he speaks of the uses of dilators, which he does not recommend as a routine treatment.

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(269) Sterilization by Excision of Fallopian Tube.

KÜSTNER (*Zentralbl. f. Gynäk.*, No. 25, 1905) reported at a recent meeting of the Breslau Gynaecological Society two cases where pregnancy occurred after the Fallopian tubes had been partially resected and the peritoneum sewn over the proximal tubal stump. In each case the resection was performed in the course of a vaginal fixation of the uterus undertaken for the relief of retroversion and retroflexion; strong adhesions had to be broken down through an anterior colpotomy wound before the uterus could by brought forwards. Küstner admitted that sterilization by excision of the tubes was in practice difficult to effect. Not only must the entire tube be removed on both sides, but a deep, wedge-shaped piece of each uterine cornu including the interstitial part of the tubal canal must be removed, and the wound in the uterine wall must be carefully closed. Excision carried out in this thorough manner requires the exposure of the parts by an abdominal incision. Ludwig Fraenkel found that neither partial nor complete excision of both tubes ensured against pregnancy, as a metroperitoneal fistula might develop and prove sufficient to transmit ova and spermatozoa. Asch rejected the complete excision operation of Küstner; he divided the tube at a little distance from the cornu and sank it into the folds of the broad ligament, which are loose and free, whilst the peritoneum of the uterus is firmly adherent. He did not trouble about the abdominal end of the tube, as the principle of these sterilizing operations is to cut off the uterine from the peritoneal cavity. There was some discussion as to whether vaginal fixation necessarily demanded surgical measures to ensure sterilization. Schiller held that excision of the tubes alone guaranteed the success of the operation, whilst Baumm maintained that it was quite unnecessary, as when vaginal fixation was properly performed it had no prejudicial effect on subsequent pregnancies. Biermer agreed with Schiller, and considered that pregnancy after vaginal fixation endangered the life of the patient as well as the success of the operation. Courant found no difficulty in excising tubes through a vaginal incision. Küstner did not deny that such was the rule, but in his own two cases, where there was subsequent pregnancy, he found great difficulty in getting at the tubes owing to the relative immobility of the uterus.

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(270) Complete Placenta Membranacea.

SCHAEFFER (*Monats. f. Geb. u. Gynäk.*, June, 1905) demonstrated before a medical society a specimen of a chorion entirely covered with villi, so that there was no true placenta, the entire chorion constituting that organ. The patient was a very delicate young woman, subject to chronic metritis and dysmenorrhoea. She bled through the course of every one of her numerous pregnancies, which were nearly all premature or abortions. Two or three of the children survived for about a year, dying ultimately of athrepsia. At the eighth month of her last pregnancy but one labour set in with much haemorrhage, and a membrane beset with villi presented. The os was dilated, the membranes broken through, and the head, which lay high in the pelvis, was brought down, the fetus being at the same time expressed; after this, Seller's method. The child lived for a few days. Bleeding continued after delivery; the membranes were carefully expressed and extracted; then it was found that no true placenta existed. The membranes were covered externally with villi diffused over the entire surface; no relatively firm portion, such as is seen in placenta multiplex, could be detected. The patient became pregnant once more, and took to her bed at the third month, as haemorrhages set in whenever she got up. Labour occurred at term, and the child was alive and promised to do well.

THERAPEUTICS.

(271) Influence of the Temperature of Food upon the Stomach.

J. MUELLER (*Zeit. f. Diät. und Phys. Therap.*, Bd. viii, Heft 11) has attempted by means of a series of experiments to find to what extent the stomach secretions, its motility, and power of resorption are affected by the temperature of food. As ordinarily taken the temperature of food may be considered to vary between 5° and 50° to 60° C. The effect of cold and hot drinks respectively upon the intestinal tract has been up to the present time a matter of clinical rather than of experimental knowledge, and, roughly speaking, it may be taken that cold drinks have a sedative and sometimes a paralysing effect upon the stomach, but increase intestinal peristalsis, while hot drinks exert an exactly opposite influence in either region. To test to what extent an assimilation of the temperature of food to that of the body takes place in the stomach, 500 c.cm. of fluid were administered repeatedly to each of two healthy young men, in some experiments at a temperature of 5° C., in others at 50° C. In each experiment portions of the fluid were removed from the stomach by means of an oesophageal tube, at measured intervals of time, and the temperature of the fluid removed was taken. The two following are typical examples: In the first case 500 c.cm. of tea at 50° C. was given. The temperature of the fluid removed was found after three minutes to have fallen to 41.5°, after six minutes to 40°, and after nine minutes to 38°. Again, 500 c.cm. of tea at 5° C. were given, and the temperature in this case had risen after three minutes to 23.5°, after six minutes to 30°, and after nine minutes to 32.5°. It is thus seen that the temperature of the ingested fluid is brought nearer to that of the body very rapidly during the first few minutes, and more slowly later on. Moreover, the process of assimilation of temperature takes less time in the case of hot than of cold drinks, and the passing over into the intestine of cold fluid in large amounts probably explains the symptoms of diarrhoea, etc., which sometimes follow the drinking of cold fluids. The next experiments were undertaken with the object of discovering the effect on the peristalsis of the stomach of fluid at 5° C., 50° C., and 38° C. respectively. It was found that in every case fluid at 38° C. was more quickly expelled from the stomach than was either the hot or the cold fluid. Thus, of 500 c.cm. of milk after fifteen minutes, 78 c.cm. were found to have been expelled from the stomach when given at a temperature of 5° C., 102 c.cm. when given at 50° C. and 212 c.cm. at 38° C. The retention in the stomach for a longer time of fluid at either extreme of temperature serves as a protection for the intestine. The experiment on the effect of the temperature of food upon the amount of acid secreted by the stomach was unsatisfactory. If time were allowed for the secretion of acid in any quantity, the temperature of the fluid administered would have so nearly approached that of the body as to deprive the experiment of value. Experiments in the different amounts of sugar left in the stomach at given times after a solution of sugar at different temperatures had been administered, showed that the amount was least when the temperature of the solution was the same as that of the body. In one case in which 400 c.cm. of sugar solution was given at 5° C., it was found that after five minutes 455 c.cm. of fluid could be removed from the stomach, and it is thus seen that the rapid change of temperature of fluid taken into the stomach at a low temperature is in certain cases due partly to the active secretion which is called forth in the glands of the stomach as a result of cold. The conclusions at which the author arrives are (1) that the stomach

in man has to a high degree the power of influencing the temperature of ingested material in such a way as to assimilate it to that of the body. This change of temperature is effected not only by the withdrawal of heat from or giving of heat to the vessels of the neighbouring tissues, but also by the action of the secretions of the stomach. (2) The stomach is emptied more rapidly when the fluid taken is at the temperature of the body. Cold drinks which contain alcohol cause active secretion by the stomach, while water alone has no such effect.

(272) Behring's Antitoxin in Erysipelas.

MASTRI (*Rif. Med.*, September 16th, 1905) has treated with success 3 cases of fairly severe erysipelas by means of injections of Behring's antitoxin. In the first case the erysipelas affected the face and was secondary to influenza. An injection of 1,000 units gave very rapid relief to the symptoms. Of the 3 cases treated by the author, one was aged 35, another 60, and the third 13 years old. The relief which followed injections of the Behring serum in these cases was so marked that the author strongly recommends further trial of this mode of treatment.

(273) Maretin.

A. ULRICH (*Die Heilkunde*, May, 1905) reports on the action of the recently-introduced antipyretic maretin. Maretin, a carbamic acid-m-tolylhydracid, is a derivative of phenylhydracin, in which a tolylhydracin is in firm combination, a fact which perhaps explains the reason why maretin does not exert the same harmful effect upon the blood as phenylhydracin. Maretin is obtained as a white crystalline powder without taste or smell. It is soluble in cold water to about 1 per cent., in boiling water to 2 per cent., in alcohol to 1 per cent.; it is insoluble in ether. Barjansky, in 1904, reported upon ten cases in which maretin had been used, 154 doses having been given in all. He arrived at the conclusion that maretin invariably reduced fever, and that it gave rise to no unpleasant side-effects either in single doses or after longer use. Fränkel has given maretin in 25 cases of tuberculosis, and in only six did its antipyretic action fail; it appeared to cause slight sweating. Elkan and Henrich have also used maretin in cases of phthisis with similar results. The present author has treated with maretin cases of phthisis and of pleurisy, a case of erysipelas combined with pleurisy and endocarditis, a case of pyopneumothorax, and cases of rheumatism. He has found the drug to be effective, but, except in the cases of rheumatism, to possess no special advantages over the ordinary antipyretics. Like these it gave rise to some sweating as the temperature fell, and in isolated cases a certain amount of cyanosis was observed. In the cases of rheumatism the effect of maretin was strikingly good. In both cases aspirin was given at first, but had no influence either on the temperature or on the pain. Maretin was next tried, with the result that the pain was relieved, and the temperature fell in one case to 37.5° C. on the first morning, and on the second to 37.6° C. W. Sobernheim has reported on 7 cases of acute rheumatism in which maretin clearly exerted an antirheumatic as well as an antipyretic action, and from his own results and those of Sobernheim Ulrich concludes that maretin has a specific effect upon acute rheumatism. No side effects of maretin, such as sweating or cyanosis, have been observed in cases of rheumatism. The author advises that the initial dose should be 0.25 gram once a day, which may be increased up to 0.3 gram on the second or third day, and finally to 0.5 gram.

(274) Radium in the Treatment of Rodent Ulcer.

DARIER (*Rev. de Thérap.*, September 15th, 1905) reports a case of rodent ulcer beginning in the ala of the nose, recurring after early removal, and spreading by way of the inner canthus to the lids, which continued to grow in spite of cauterization and other therapeutic measures. He feared lest it should take on a more malignant nature and burrow deeply into the lachrymal apparatus. The patient refused to permit a second operation, so Darier decided to use radium without much expectation of success. Five milligrams of radium sulphate were used in daily exposures of half an hour for each part of the diseased surface. In less than three weeks the growth had disappeared, leaving hardly a trace behind. When Darier reported the case a month had passed without recurrence. He quoted another case of his own similar in nature and result to the above, and gave a brief summary of other recently reported cases. Many of the failures may, he thinks, be ascribed to faulty methods of application by which a large proportion of the radioactivity is wasted, as well as to the use of "impure" radium. The activity of the sample to be used can readily be tested on the operator's forearm by noting how many daily applications are needed to produce the characteristic redness.

(275) Iodogelatin in Chlorosis.

CASTELLINI (*Gaz. degli Osped.*, October 1st, 1905) reports 10 cases of chlorosis successfully treated by him with iodogelatin (Sclav). Under this treatment there was a marked improvement in all the objective and subjective symptoms and in the haemoglobinic index. The drug was well borne in cases where the stomach proved intolerant to the ordinary iron preparations. It was further found of value as a finishing treatment after a hypodermic treatment had been discontinued. The author's cases remained well after they were cured, and from his experience in these cases and some further trial he believes iodogelatin is well worth trying wherever iron does not succeed, or even in its place.

PATHOLOGY.

(276) Pathological Changes in Appendicitis.

E. MACD. STANTON (*Jour. Amer. Med. Assoc.*, June 10th) has studied the pathological changes in the peritoneum in 185 cases of appendicitis, and of the appendix in 188 cases, all occurring in the Albany Hospital during the last six years, the notes and sections of which are on file in the Bender Laboratory. The relations existing between the character of the lesions and the stage of the disease were particularly studied in all. The histologic changes in appendices removed during the first few days of the disease were essentially similar, and consisted in a severe diffuse inflammation, accompanied by focal areas of haemorrhage and necrosis. These latter may increase in extent during the first few days, and give rise to macroscopic areas of gangrene, or they may remain microscopic, and be quickly repaired. The various anatomic varieties, gangrenous, perforative and ulcerative, are due to the extent and distribution of these necroses. Evidences of repair are seen as early as the third day, and the process is distinctly reparative in non-gangrenous cases by the fifth day. Even in cases with macroscopic evidences of gangrene, unless a later acute process is engrafted on the original one, the repair processes predominate by the sixth or seventh day. Evidence of recurrence was observed in 10 or 15 per cent. of the cases after the first week. Repair is rapid during the second week of the attack; fibroblasts, new-formed blood vessels, and lymphocytes forming the principal features of the picture. The rapidity of repair depends largely on the amount of damage done and on the presence or absence of a periappendical exudate. By the end of the second week, in most cases, repair is so complete that new connective tissue may be the only evidence of previous inflammation, but in cases with extensive exudates signs of active organization of the exudate itself are still in evidence. After the second week, except in cases with extensive periappendical lesions, the histologic changes are seen chiefly in the more fibrous nature of the new connective tissue, which is still recognizable. In cases operated on a month or more after an acute attack 78 per cent. were cases of chronic interstitial or obliterative appendicitis, frequently accompanied with adhesions. In 6 per cent. the appendices were apparently normal, and in 16 per cent. the changes were confined to the mucosa. In no instance were the changes confined to the mucosa in the cases examined during the first ten days of the attack. In this series of cases purulent fluid was found outside of the appendix in 51 per cent. of the patients operated on from the third to the tenth days. After the tenth day the number of cases with abscesses steadily decreased, while the number of those with adhesions and without pus rose correspondingly. This, Stanton thinks, was due to the less extensive peritoneal involvement in most of these late operated cases rather than to resolution by absorption. In a number of cases, however, the massive adhesions indicated the prior existence of extensive periappendical exudate. After the third day the exudates on the peritoneal surface contain highly vascular granulation tissue, and he thinks it probable that the high operative mortality between the third and tenth days may be in part due to absorption from the denuded granulating surfaces as well as to the extent of the peritonitis and the bad general condition of the patients.

AN EPITOME

OF

CURRENT MEDICAL LITERATURE.

MEDICINE.

(277) Headache in Childhood.

CATTANEO (*Clin. Mod.*, September 13th, 1905) points out the frequency with which headaches occur in children under 5 years of age, as well as in quite young infants. He considers it to be more frequent among upper-class children, and maintains that the cause of headache is not sufficiently investigated, as it is a symptom of many organic and functional diseases. Acute headache, accompanied by a rise of temperature, is usually a prodromal symptom, indicating the onset of infectious or toxic diseases. In tuberculous meningitis the intensity of the pain is disproportionate to the amount of fever; it is more constant than intense, and does not vary with change of position, but there is a desire for rest and quiet. An acute headache not accompanied by vomiting excludes meningitis; when accompanied by an irregular and slow pulse it indicates meningitis. Chronic headache, which may continue for three or four months, has many causes. He considers rapid growth an important one. It is frequently met with in boys about 9 to 11 years who are growing fast; it is generally frontal and occurs in the morning; it is accentuated by work and improves with rest. Such children often complain of vague pains, commonly in the knees; he has seen them suffer from epiphysitis and from cardiac hypertrophy; they are always nervous. Rest and tonics should cure these headaches; they generally tend to disappear when growth ceases. Excessive fatigue, either physical or mental, will produce headache in children; it is usually found among schoolchildren, and is quite as frequent in slow and backward ones, to whom mental work is an effort, as it is among the more clever. Among other causes he notes defective vision, especially errors of refraction, naso-pharyngeal obstruction, otitis, and carious teeth. Children of all ages suffer from anaemia with its characteristic symptoms and headache. Auto-intoxication is a very common cause; it arises generally in the gastro-intestinal tract, and may be due to disease or constipation or to the presence of parasites. In such cases careful regulation of the diet and bowels will give a favourable result. After infectious fevers, an unsuspected nephritis may be the true source of both anaemia and headache, the pain may be the forerunner of an attack of uraemia. External causes of intoxication should not be overlooked; they include drugs, and the poisoning by lead or carbonic acid gas. Malaria tends to show itself only by periodical attacks of headache without fever. It is neuralgic in character and usually supraorbital: it may be accompanied by a rigor and an enlarged spleen. He finds that hemicrania is not infrequent in young children, and is often associated with other rheumatic affections. Finally, he deals with organic cerebral lesions, cerebral tumours, and syphilis, which are always accompanied by characteristic symptoms.

(278) Chronic Cyanosis with Polycythaemia and Splenomegaly.

BEGG AND BULLMORE (*Edin. Med. Journ.*, May, 1905) report a case of this condition occurring in a lady of 47, who had a strong tuberculous inheritance through both parents. Since infancy she had suffered from attacks of vertigo, nausea, and vomiting, which of recent years had become less frequent as a result of treatment. Various other symptoms were present, including frequent epistaxis and a turbidity of the afternoon urine. Several months before coming under the authors' care she found a small lump projecting from beneath the left costal border; at the same time wasting, languor, and cyanosis began to be apparent, and she suffered from a right brachial neuritis. The abdominal swelling steadily grew to such an extent that it caused discomfort; it was found to consist of a uniform enlargement of the spleen reaching 2 in. below the level of the umbilicus. Cyanosis was marked, but heart and lungs were normal. The urine was heavily loaded with urates in the afternoon, but contained no other abnormal constituent. The pulse tension was on the high side, and the blood contained 6,850,000 red corpuscles per c.mm.; these varied in size, shape, and staining reactions, and the specific gravity of the blood was about 1052. Under treatment by mercurial inunction and full doses of quinine by the mouth the spleen diminished in size and the general symptoms abated considerably.

(279) Poor Man's Gout.

DEBOVE (*Journ. des Prat.*, Sept. 9th, 1905) reports 37 cases of undoubted gout in the Hospital Beaujon, all in cabdrivers. One of these men has been extremely temperate all his life and has always disliked meat; but he has a very gouty inheritance. He is now 50, and has been gouty since he was 32, with about three attacks of gout every year. At the present time he has hardly a joint which is not gouty; hands and feet are deformed and ankylosed. There are very large tophi at elbows and ankles. The calf and thigh muscles are notably atrophied. The arteries are atheromatous, the heart has a loud murmur. The urine is not albuminous but there is polyuria. In this case, as in all similar cases of chronic gout, colchicum is of no use; 1 to 2 grams of sodium salicylate per diem relieve the patient very much. Alkaline medicines improve the condition of the urine. Benzoate of soda is especially useful. Small doses of iodide of potassium have a good effect also, improving the circulatory condition and the tophi. Lemon-juice drinks are excellent for these patients. Some of them take the juice of as many as forty lemons a day. Raw meat and uncooked fruits are also useful.

SURGERY.

(280) Surgery of the Retropharyngeal Glands.

MOST (*Zentralbl. f. Chir.*, No. 30, 1905) refers to the presence in the retropharyngeal space of lymph glands which occasionally become the starting points of inflammatory and suppurative mischief. These glands—one or two in number on either side—are disposed symmetrically on the bucco-pharyngeal fascia near the angle formed by the posterior and lateral surfaces of the pharynx. They are to be found on the inner side of the internal carotid close to the vessel, and not far from its entry into the carotid foramen. These glands, the author holds, claim some consideration from the practical surgeon. Although in cases of secondary glandular swelling in the neck much of the lymph from the original seat of infection passes directly to other cervical glands, and the retropharyngeal glands sometimes disappear with the advance of age, it is advisable, he argues, in operations for removal of the cervical glands, especially in cases of malignant disease of the pharynx, to pay attention to the latter glandular structures, and if they be found in a suspicious condition, to attempt to remove them. The author reports two cases in which he removed caseating retropharyngeal glands with good results. The operation from his experience is not one that presents any very great difficulty, but the depth of the wound and the close proximity of the internal carotid, it is pointed out, demand much care, and indicate the necessity of a very cautious blunt dissection. It is suggested that the situation of the common carotid be well defined in the pulmonary stage of the operation, so that this vessel may be readily compressed, either to effect temporary arrest of the pulsatile movements of the internal carotid, or to control any serious haemorrhage that might occur in the subsequent stages.

(281) A Modification of Talma's Operation.

NARATH (*Zentralbl. f. Chir.*, No. 32, 1905) holds that although the last word on this operation has not yet been spoken, there can be no doubt that the artificial production of a free anastomosis between branches of the portal vein and branches of the superficial veins of the trunk has in many cases given good results. Whilst it remains uncertain whether this operation exerts any favourable influence on the morbid process in the liver, it is a sure fact that it is often followed sooner or later by disappearance of ascites and by relief of other troubles, to such an extent that the patient again feels quite well and able to work. There are several methods, it is stated, of effecting union between the omentum and the anterior abdominal wall. As the subject of the operation is usually in a bad condition, it is necessary in most cases to select as simple a method as possible, and one that can be practised quickly and, it may be, without the use of a general anaesthetic. The author advocates a method by which the selected portion of great omentum is placed and secured in a pouch artificially formed in the subcutaneous cellular tissue of the abdominal wall. The peritoneal cavity having been opened by a short median incision just above the umbilicus and the ascitic fluid removed, a conical portion of the great omentum from 4 in. to 6 in. in length and about 2 in. in thickness at its base, is brought through the wound. Care should be taken that the

selected portion of omentum is situated well below the transverse colon, and also that it includes several large blood vessels. The base or proximal portion, which should not be tightly compressed by the wound in the linea alba, is secured by means of fine sutures to the cut edges of the parietal peritoneum. The subcutaneous cellular tissue on the left side of the wound is now opened up by blunt dissection and a large pouch thus formed, the long axis of which is directed to the left. Into this subcutaneous pouch is placed the free portion of the omental cone, and, finally, the incision in the abdominal wall is hermetically closed by sutures. This operation is usually followed by transient oedema of the integument in front of the abdomen, the result of leakage of ascitic fluid, and after an interval of about eight days the seat of the wound will be surrounded by a broad zone of distended veins. The newly-established flow of venous blood is carried on through (1) the superficial epigastric vein in the direction of the internal saphena and the femoral vein; (2) the thoracico-epigastric vein in the direction of the lateral thoracic and axillary veins; and (3) one or more small venous branches which pass upwards over the sternum and the costal cartilages. The author is convinced that this is a very efficient method of performing Talma's operation, and he accounts for the decided success he has obtained from it by the fact that the displaced portion of omentum is brought into contact with numerous superficial veins which after anastomosing with the omental vessels carry the blood rapidly and by a multiplicity of paths to the superior and inferior venae cavae. Stress is laid on the importance of making a short incision in the abdominal wall, and of stitching the proximal portion of the displaced cone of omentum to the peritoneal edges of the wound. If the incision be too long and the omental cone be left quite free at its base, there would be a risk of intestinal prolapse.

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(284) Congenital Stricture of the Urethra, with Haematuria.

Churchmann describes a case of this rare condition in the *Johns Hopkins Bulletin*, July, 1905. Cases presenting urethral stricture in which a positive diagnosis of its congenital nature can be made must always be only a small proportion of those cases in which such a diagnosis seems probable, for with a stricture in a patient past puberty we must have also a perfectly negative urine examination before post-inflammatory or post-traumatic stricture can be excluded. If the urine shows signs of a previous urethritis, that urethritis cannot be excluded as the cause of the stricture. For these and other reasons the condition must be rare. The patient reported was a boy, 13 years old, who complained of pain in the left side after urination and the passage of blood clots with the urine. The family history and his own past history were negative. All previous genito-urinary trouble was emphatically denied. The onset of the illness occurred suddenly four days before admission, up to which time he had had no urinary symptoms. It was attributed to muscular strain, and the first symptom was a sudden uncontrollable desire to micturate. This was followed, when urination occurred, by severe urethral burning, and the urine passed was seen to contain clots of blood. Pain in the left side, about over the ureter, was present during the passage of the clots, and also subsequently. These attacks were repeated every time the patient passed water during the next four days. At times blood was absent and the pain was less. His genitalia were normal, except for a small meatus about the size of a pinhead. There was slight tenderness over the bladder, and particularly over the course of the left ureter. No blood could be found in the urine on admission, but the case was thought to be one of disease (tuberculous or calculous) of the left ureter or kidney. Examination for tubercle bacilli and an *x*-ray photograph proved negative. On the fourth visit the patient was taken suddenly ill with nausea and vomiting, pain, and the passage of bloody urine. Examination of the urethra showed two distinct points of narrowing: one about $\frac{1}{2}$ in. behind the meatus, and running $\frac{1}{2}$ in. back; the other in the bulbo-membranous urethra. Severe burning pain was caused when the tip of the instrument reached the prostatic urethra. A diagnosis of stricture was made, and the patient was put on urotropin, and dilatation advised. Dilatation was slow, but the symptoms disappeared with the first sounding. There is abundant clinical evidence to show that bleeding may occur from the veru montanum, and every time the sound passed over this region there was severe and burning pain. The clinical features were just those that we should expect if the colliculus seminalis were enlarged and inflamed. Such an enlargement is one of the forms of congenital stricture described in the literature. The case is interesting because the symptoms obscured the diagnosis, and suggested renal or ureteral disease, and it suggests that another item must be added to the long list of causes of haematuria.

MIDWIFERY AND DISEASES OF WOMEN.

(283) Hypertrophied Cervix Complicating Labour.

Theodor Haagn (*Zentralbl. f. Gynäk.*, September 2nd, 1905) describes a case in which a hypertrophied cervix interfered with delivery. The patient was a woman 34 years of age, a primipara; menstruation had become established at the age of 13 and had been regular every month until the occurrence of pregnancy. In the year after menstruation began the patient had first noticed the prolapse which became evident after any prolonged exertion; but disappeared on sitting or lying down. Before her marriage the exposed part, according to her account, was about half a finger's length! At the end of the third month of pregnancy it no longer went back spontaneously, but could still be replaced. The woman was examined during the tenth month of pregnancy, when a bluish-red swelling 9 to 10 cm. in length, and 5 cm. in thickness projected from the vulva and proved to be a hypertrophied cervix. Both anterior and posterior vaginal walls were inverted and there was a cystocele. The duration of labour was from 8 o'clock on one night to a quarter to 10 o'clock on the next night; the pains were strong throughout. At 8 o'clock in the morning the general condition was good, the pulse 96, temperature 38·5° C. At 4 o'clock in the afternoon, the external os admitted two fingers, the cervix was still 2 to 3 cm. in length, and the small fontanelle could be felt to the right and in front; the pains were felt every five minutes. At half past 8 o'clock at night vomiting set in, the temperature was 39° C., pulse 105. At 9 o'clock a further examination was made. The internal os was dilated, the external os was the size of a 5-kroner piece, and was thick and unyielding. The patient was now anaesthetized and the cervix split with scissors in the middle line in front to a distance of 2 to 3 cm. from the external os. The scissors were guided by the finger in order to avoid injury to the bladder. Delivery was then easily accomplished with forceps, and the placenta came away spontaneously after half an hour. The cervical wound was reunited by means of three stitches and the uterus douched with a 2 per cent. solution of lysol. An hour after delivery the temperature fell to 37° C. The puerperium was normal. The striking point about the history in this case was the early onset of the prolapse, and there can be no doubt that the hypertrophy of the cervix was the primary lesion, to which the inversion of the vaginal wall was secondary. The chief danger to the mother lay in her increased liability to infection, and to minimize this risk the prolapse was replaced at the beginning of labour. The rise of temperature to 39° C. was an indication for speedy delivery.

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(284) Changes in the Uterine Mucous Membrane during Ectopic Pregnancy.

Riche (*L'Echo Méd. du Nord*, September 3rd, 1905) shows from the literature that during ectopic gestation the uterine mucosa undergoes changes very similar to those occurring in normal intrauterine pregnancy, becoming thickened and divisible into layers, two or three, according to the fancy of the observer; these changes are more marked the nearer the ectopic ovum is to the uterine end of the tube and the more advanced the pregnancy. Following this brief summary he gives an account of two cases recently investigated by himself. In the first, a tubal pregnancy which had advanced to about the fifth week, the uterine mucosa was thickened, and microscopically differed from normal mucosa in its more irregular texture and in possessing fewer glands. It consisted of two layers, a superficial compact one and a deeper loose one, and was freely vascularized; in places there was a third still deeper layer of almost normal mucous membrane with dilated glands. In the second case there were no data as to the stage of the ectopic gestation; the changes in the mucous membrane of the uterus were not decidual, but rather those of a chronic interstitial inflammation. Riche tells of other similar cases; he thinks the endometritis preceded impregnation and prevented the usual decidual formation. The importance of the first

case lies in the fact that observations of the uterine changes in early stages of ectopic pregnancy are scanty; it shows that at quite a short time after conception the uterine mucosa is thickened and differentiated into a thin, compact surface layer and a deeper, loose, oedematous layer, while capillaries develop to an extent sufficient to vascularize the hyperplastic tissue. The clinical value of such observations as these consists of the help they afford in identifying the membrane discharged in cases of extrauterine gestation as distinguished from those of abortion and those of membranous dysmenorrhoea.

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(285) Inversion of Cornu of Uterus Bicollis.

HENKEL (*Zentralbl. f. Gyn.*, No. 24, 1905) reports that a woman, aged 18, came under his care for a supposed polypus. About a year and a half previously she had been delivered spontaneously, the doctor aided the expulsion by gentle pressure yet inversion ensued. Henkel defined a polypous body about an inch and a half in length and over half an inch broad. It lay in the vagina and projected from the os uteri; at first it seemed to be a normal uterus inverted, but on examination under chloroform the sound could be passed into a cavity nearly three and a half inches long, as though there were a uterus bent sharply to the right. Then it seemed as though the tumour in the vagina were a polypus after all, but on cutting it away the peritoneal cavity was opened and the left Fallopian tube detected in the hollow inner side of the supposed polypus. As there was trouble about haemorrhage the tumour, that is to say the left uterine cornu, was removed thoroughly by opening up the left vaginal fornix somewhat anteriorly, and the defect in the uterus was closed with interrupted catgut sutures. The anomaly was clearly of the class uterus bicornis unicollis.

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(286) Calcified Fibroids.

PIQUAND (*Ann. de Gyn. et d'Obst.*, June, 1905) has drawn up a report based upon the records of 175 cases of calcification of uterine fibroid where the condition was revealed by clinical symptoms; 111 were not submitted to surgical treatment; of these the reports are complete in 38 cases only, and in 19 out of the 38 death clearly due to the calcified fibroid was reported. The 64 cases where surgical operations were undertaken form a more uniform group; 12 deaths occurred in this species, a mortality of 18 per cent. This operation series is tabulated by Piquand. In analysing the mortality he notes that in 5 cases where death followed operation the surgical procedure was performed for complications already threatening life, such as intestinal obstruction, uraemia from pressure on the ureter, or, as in Delore's case, rupture of the bladder and peritonitis. Hence Piquand rates the true mortality of operations on uncomplicated calcified fibroids at 12 per cent., or 7 in 59 operations. In reality it is now much lower, as some of the cases occurred before strict asepsis was understood. Subtotal abdominal hysterectomy is the best method for the surgical treatment of these cases. In 48 out of the series of 64 abdominal section was performed, myomectomy 6 with 1 death, panhysterectomy 18 with 6 deaths, and subtotal hysterectomy 22 with 2 deaths; but in one of the two the patient was cachectic from long-standing haemorrhages, and in the other uraemia from pressure on the ureters was present. Vaginal hysterectomy was performed in 5 cases, with 2 deaths where grave complications were present. It is an unsuitable method for large fibroids, as calcified tumours cannot readily be extracted piecemeal. Lastly, in 11 cases, all followed by recovery, the calcified fibroid was simply delivered through the vagina, as is often effected in the case of sloughing growths.

THERAPEUTICS.

(287) Medicinal Treatment of Vesical Catarrh.

C. POSNER relates his experiences in the treatment of catarrh of the bladder, especially dealing with the internal treatment (*Berl. klin. Woch.*, January 9th, 1905). He points out that for the general practitioner the internal treatment is of great importance, inasmuch as not only many of them neither have had the necessary practice to apply local treatment nor do they possess the necessary instruments, and further, in all acute inflammations of the bladder, and especially in gonorrhoeic inflammations, the condition undoubtedly heals up much more readily if the organ is left undisturbed, and the treatment carried out by means of the diet and by medication per os. With regard to the diet, while there appears to be concord that this should be bland, consisting chiefly of milk, and avoiding all spiced foods, acids, and other meats save white meats, difference of opinion is freely expressed as to whether all alcohol should be forbidden, and even as to which of the mineral waters have a beneficial influence. Posner does not employ mineral waters in acute cases at all, while in subacute cystitis he uses such mild waters as Fachinger and the like, and in chronic cases he reserves his Wildungen water. If the last named increases the alkalescence of the urine, however, he prefers to do without it. In turning his attention to the actual medicinal treatment, he prefaces his remarks by saying that every catarrh of the bladder must be recognized as the product of an infection of some sort or another. Since the bacteria in the bladder are the actual cause of the disturbance, the action of an antiseptic which can act in this organ is obviously the best form of treatment. Urotropin has been shown to be split up into formaldehyde in the body and to be excreted by the urine as this substance, so that a direct disinfection can be exercised by its means. Practical results confirm the theory of the action of this drug. In some cases, however, urotropin has failed to give the desired result, and some investigators have attempted to find a substitute which would have more certain results in all cases. Posner thinks that the failure need not be ascribed to the failure of the drug, but to the variety and resistance of some of the causal micro-organisms of cystitis. He states that urotropin is of no use in tuberculous cystitis, and also in gonorrhoeal cystitis. In both these affections urotropin will only act successfully in dealing with a mixed infection. Salicine and salol have unpleasant side-effects, and boracic acid has a too weak action. The balsams, too, affect the stomach and other organs unpleasantly, but at times act favourably on gonorrhoeic cystitis. Turpentine has a favourable action, which is due to its anticatarrhal properties, and frequently acts well if combined with urotropin. Helmitol was introduced in order to be used instead of urotropin, but Posner's experience goes to show that the action is precisely the same only the price is much higher. Bad effects have been reported from helmitol. Hetralin is another new substitute for urotropin. Here again he has not found any advantage over urotropin, and especially has not been able to observe the anticatarrhal action which others claim for it. Griserin, a new preparation which is vaunted as an internal disinfectant, was also tried; but while slight subjective improvement was noted in a few cases, the turbidity of the urine was never reduced in the least; and, besides, the drug produced severe diarrhoea. He therefore comes to the conclusion that the best forms of treatment at the present time may be generally stated to be: the balsams for the acute gonorrhoeic cystitis and for some of the chronic cases, while for coli and staphylococcal infections urotropin will be found reliable. Tuberculous affections cannot be influenced by these or any other known drugs.

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(288) Water Treatment of Pneumonia.

J. SADGER (*Zeit. für Diät. und Phys. Therap.*, Aug. and Sept., 1905) advocates the water treatment of croupous pneumonia. The treatment should be begun in the first twenty-four hours or at latest during the second day. The best method is that recommended by Priesznitz. Quickly-changed wet packs are first given in order to lessen the fever and start perspiration; three such packs of ten minutes' duration each are usually sufficient. The packs are followed by a luke warm sitz-bath at from 20° C. to 16° C., and this again by cold compresses applied every two hours. The sitz bath should last for at least half an hour, and may last for from three-quarters of an hour to one hour; while the patient is in the bath, two, or, still better, three, people should be employed in massaging the whole body, more especially the feet. Probably the best time for bringing the bath to an end is when the temperature in the axilla as tested by the doctor's hand is not higher than that of the rest of the body. The method especially recommended by Priesnitz of a short cold bath followed by a longer lukewarm one is an excellent one, but it can seldom be carried out in a private house. When wet packs are given the feet should receive special attention: if they are cold and blue they should be rubbed until warmth returns, and if this measure does not succeed, the wet application should be pushed back above the ankles and heat applied to the feet. To prevent symptoms of collapse in the bath strong friction is applied to the feet, and ice-cold water poured over the head and

neck of the patient at intervals during the bath; this measure is of special importance in cases in which cerebral symptoms predominate. The treatment sounds to be severe, but the patient quickly feels relief, and therefore, willingly undergoes it. The sitz-bath, as thus applied, not only brings down the temperature but also induces free vomiting and in this way has a favourable effect on any pathological exudate. The use of alcohol before and after the bath has been advocated and may, perhaps, be necessary when an absolutely cold bath is given, but with the lukewarm bath adequate stimulus is supplied by the massage of the feet and the douching with ice-cold water. Alcohol should, however, always be given to patients who have been heavy drinkers. If the hydratic measures be not tried until forty-eight hours have elapsed from the beginning of an illness, it is hopeless to expect to cut short the duration of the attack. The treatment varies with the condition of the patient. The sitz-bath is contraindicated if, after a preliminary rubbing down of the body, the skin shows an areolar cyanotic injection and the periphery is cold while the temperature keeps high. Milder measures are then employed until the danger of collapse is tided over, when the sitz-bath may be given as before and repeated whenever the temperature is above 39° C. in the axilla. For debilitated patients and infants special precautions are needed. Thus, for old people, the temperature of the bath should never be lower than 22° C., and may be as high as 25° C.; the bath should not last longer than from five to ten minutes; strong friction should be applied to the feet, cold water be poured over the head and neck both at the beginning and end of the bath, and alcohol be administered before and after it. The water treatment is indispensable for the so-called cerebral pneumonias of children.

(289) The Serum Treatment of Syphilis.

Risso and Cipollina (*Ann. d. Ist. Maragliano*, vol. i, pp. 219 to 236) employed the immune serum derived from dogs or asses treated by injections of the blood of patients exhibiting secondary syphilitic lesions. They have treated other patients suffering from secondary and tertiary syphilitic eruptions or with gummata by a series of from 20 to 50 subcutaneous or intramuscular injections of from ½ to 5 c.cm. of such anti-syphilitic serums, the injections being given on successive or alternate days. They conclude that (1) careful and prolonged treatment is needed to obtain good results from the serotherapy of syphilis; (2) the dose of serum should be small at first, and increased gradually to the point where it tends to produce local irritation: (3) secondary, tertiary, and early parasyphilitic lesions, can be treated effectively by the anti-syphilitic serum.

(290) Veronalism.

Kress reports a typical case of veronalism, and discusses the whole subject (*Therap. Monats.*, September, 1905). He finds that veronal has many disadvantages, and quotes numerous authors who have met with unpleasant or dangerous action of this drug. Among the symptoms which it has produced are sickness and delirium, rash, giddiness, headaches, sweating, collapse, motor restlessness, orthotonos and tetanic twitchings, cumulative action and prolonged sleeplessness, comatose condition; while death following Cheyne Stokes breathing, loss of reflexes, and blood in the stools, which were passed involuntarily, was met with once. The cumulative action appears to have been met with by many clinicians, and has given rise to much difficulty. Kress's case was as follows: The patient was a female of 23 years. She was under treatment for extreme hysterical symptoms, of which lassitude, palpitation, globus hystericus, depressed thought, hysterical pathos, crying, intended disfigurement, lying, and disturbed sleep. The last-named symptoms led him to prescribe veronal, in doses of 0·5 gram. Sleep followed. The patient could not be treated away from home, on account of private reasons. The same effect followed the dose given on the second evening, and after the third dose the patient remained sleepy, was sick, lost her appetite, and her gait became unsteady during the following day. The drug was then not given for one day, and 0.03 gram was next given. The patient secretly, however, returned to the half-gram doses. After eight days she refused to get out of bed. Later, she was not seen by Kress for a long time. In November, 1904, he was again called to the patient, and found that she had got much worse. There was excitability, motor restlessness, and mild delirium. She was incapable of walking or standing without assistance. There was further considerable tremor of the fingers and increased reflexes. Shortly after she was seized with clonic convulsions, passed into the epileptic state, and died. On inquiry he found out that the patient had been taking secretly increasing doses of veronal daily. Starting with ½ gram she increased this to 1 gram and later to 2 grams. The case was, therefore, one of veronal abuse with desire for increasing doses. Although he is not in a position to prove that the fatal termination of the case was due to veronalism, he is strongly suspicious that such was really the case. Any way, the condition at the end was not that of an acute intoxication, but rather that of the result of prolonged chronic poisoning. Perhaps future observation may clear up this strange behaviour of the drug. He feels justified in warning others to be careful in prescribing veronal and to be content with the smallest dose which will act sufficiently.

PATHOLOGY.

(291) The Leucocytosis of Typhus Fever.

Lowe (*Journ. of Path. and Bact.*, April, 1905) records an extended series of observations on this subject, which he made during the occurrence of a limited epidemic of typhus fever in Glasgow in the autumn of 1902. In the first few cases the observations were limited in their range owing to the fact that the patients were admitted to hospital only after the disease was well advanced; but in the later cases the patients had been removed to hospital on the first appearance of symptoms, and it was therefore possible to conduct observations upon the blood from the first day of illness until the termination of the attack. Details are given of 26 cases, comprising 9 which proved fatal and 17 which recovered. The average leucocytosis of the total number of cases was found to be 24,000 per c.mm., whilst the maximum estimate in the fresh blood made in the different cases varied between 8,000 and 54,000. In the greater number of the fatal cases leucocytosis was present, though it usually manifested itself in a marked degree only after the appearance of the rash. As a general rule, in these cases, the leucocytosis increased to a maximum at or just before the crisis, and declined afterwards, if death did not supervene immediately. In none of the fatal cases were eosinophile corpuscles found at any time. The number of red cells in all the fatal cases was higher than is usual in normal blood. In the cases which recovered, there was a gradual increase in the number of leucocytes, from the beginning of the disease onwards, more marked after the appearance of the rash, until the maximum was reached by a rapid rise either a day or two before, or coincidently with, the crisis. After the crisis a sudden fall occurred, and the leucocytosis gradually declined during convalescence until the normal was reached. With the supervention of inflammatory phenomena during convalescence the leucocytosis in some cases exhibited a secondary rise, which, however, never became even approximately as high as the rise which occurred at the crisis. As contrasted with the fatal cases, there was never a complete absence of eosinophile cells in the non-fatal cases. These cells were not constant as regards the time of their appearance: in some cases they were found only after the crisis, but in the majority they were marked from the first count onwards. In all the cases, both fatal and non-fatal, the leucocytosis was mainly due to an increase in the polymorphonuclear leucocytes; these cells frequently numbered from 80 to 90 per cent. of all the white cells present, and in one or two instances amounted to 93 per cent. In the non-fatal cases there was also a limited increase of the large mononuclear cells, which generally became more pronounced after the crisis and disappeared after the early period of convalescence.

(292) The Passage of Bacteria through the Intestinal Wall.

Rindone (*Rif. Med.*, vol. xxi, No. 18), in a series of experiments upon dogs and rabbits, comes to the conclusions that (1) bacteria cannot pass from the intestinal lumen to the peritoneal cavity unless the wall of the intestine is either necrotic or considerably disorganized; (2) the bacteria pass through more freely when this necrosis is due to strangulation of the gut than when it is the result of mechanical or chemical injury; (3) they cannot pass through the wall when either the serous or the muscular coat alone is destroyed. But he finds that grave lesions of the mucous coat enable bacteria to reach either the mesenteric glands or the circulating blood.

AN EPITOME
OF
CURRENT MEDICAL LITERATURE.

MEDICINE.

(293) Asthma.

S. Kohn (*Med. Record*, August 26th, 1905) says asthma has no distinctive pathology, and the lesions that actually cause it have not as yet been discovered, but the essential cause of the disease, that which constitutes an individual an asthmatic, is probably some organic lesion of the nerve centres of the medulla, though this has not yet been demonstrated. The mooted point of the nasal origin of asthma is considered at length, and in this connexion the author says that although the views of causation, especially as regards the nose, are very divergent, the fact which stands out distinctly, in all that has been written, is that peripheral or central irritations, be they in the nose, throat, bronchi, skin, viscera, or in the circulatory media, or in the brain itself, in certain individuals of a neurotic temperament produce a characteristic, distressing, periodic dyspnoea which is *sui generis;* it is unlike the dyspnoea of destructive lung disease; it is entirely different from cardiac or uraemic dyspnoea; it is well defined and unmistakable in the suddenness of onset of the paroxysm, the seeming gravity of respiratory insufficiency that makes those about the patient fear that death is imminent, and in the more or less rapid return to a normal condition. It is the consensus of opinion that this uniformity entitles asthma to be considered as a disease and not as a symptom. The writer has been able to find the record of only three autopsies on asthmatics, and in none of these was anything characteristic discovered. Thus far no change in the nerve centres has been discovered to which the disease can be positively attributed; we are consequently driven to the hypothesis that there must be a molecular change in the nervous centres or a periodic disturbance in their vascular supply, and that, as stated, the asthmatic attack, like that of urticaria, migraine, or epilepsy, is the culmination of a series of irritations transmitted to the nerve centres, which finally result in the explosion which, in this case, is the asthmatic paroxysm. The matter of treatment is also discussed at length, and the author says that of the list of drugs recommended he has had most success with potassium iodide. He doubts the universal utility of operative work in the nose, and says that there must be internal treatment directed to the underlying cause in the brain, respiratory and vasomotor centres. Every asthmatic should have his nose examined and treated, if necessary, but it must be borne in mind that the asthmatic is such, not because of some abnormality in his nose, bronchi, or in some other organ, but because, at bottom, there is a derangement of his entire nervous system and an irritable condition of his nerve centres, with explosions in the domain of the vagus nerve. In conclusion, he speaks highly of the value of institutional treatment for asthma, and urges the establishment of sanatoriums for this purpose.

(294) Return of Knee-Jerk in Tabes.

The usual opinion is that in tabes dorsalis the knee-jerk never reappears with the single exception of its return after the onset of a hemiplegia, but Donath (*Neurologisches Centralblatt*, June 16th, 1905, p. 546) has described its gradual return in a case in which there was no hemiplegia. The patient was a man aged 33, from whose case the occurrence of lues could not be excluded, who had lightning pains, Argyll Robertson pupil, abolition of convergence reflex on left side, left-sided ptosis, diminished sensibility to pain in lower limbs, absent knee and Achilles jerks, tardy micturition, some loss of sexual power. About two years later the knee and Achilles jerks were found to be present though weak, and five months after they were still present. The author refers to a case of tabes recorded by Berger in 1880 in which marked improvement in all the symptoms occurred, with disappearance of the analgesia and return of the knee-jerk on one side. The reappearance of the patellar reflexes Donath considers to be analogous with the intermittent pupillary paralysis described by Eichhorst and Treupel, with the case recorded by Villantoure, in which Argyll Robertson pupil was only present during the occurrence of gastric crises, or the presence of Argyll Robertson pupil during the course of certain infectious diseases. In Donath's case the pupillary changes were not constant; in one pupil the reaction to convergence and accommodation, which had been lost, returned in a slight degree. He refers to similar pupillary variability in cases of general paralysis of the insane observed by himself and recorded by others. The explanation of the return of the knee-jerk in hemiplegic cases is given as a removal of inhibitory influences acting on the reflex centre; in the slowly-returning reflex in Donath's case it is ascribed to the improvement in a reparable lesion of the spinal reflex centre itself.

(295) Preascitic Oedema in Hepatic Cirrhosis.

Silwestri (*Rif. Med.*, October 7th, 1905) says that oedema of the lower extremities and scrotum as an early symptom in hepatic cirrhosis is probably more common than is generally recognized; in his experience he would put it as high as 75 per cent. of the cases. Others say it is rare. Possibly one explanation of the difference is in the class of patients, hospital patients coming at a much later stage of the disease than in private cases. The particular variety of oedema to which the author alludes is an early symptom, and must be distinguished from that due to cardiac failure. In all the cases of preascitic oedema there was no evidence of failing heart. The author discusses fully the various theories adduced to explain the oedema. He is unable to accept dilatation of the inferior vena cava as a constant cause, for, even if present—which is by no means a constant occurrence—it would not act as an efficient obstacle to the venous flow. The chief cause for him is the condition of the liver itself, which, by impeding the venous blood flow, causes it to be diverted by various anastomotic channels—the gastric veins anastomosing with the oesophageal, the haemorrhoidal with the hypogastric, etc.—and eventually to raise the blood pressure in the common iliac and inferior vena cava veins.

SURGERY.

(296) Phenol-Camphor in Surgical Practice.

Chlumsky (*Zentralbl. f. Chir.*, No. 33) brings under the notice of surgeons a simple application which he has found very useful in the treatment of infected wounds, boils and carbuncles, and cutaneous erysipelas. This consists of pure carbolic acid and camphor. A mixture of these agents in equal parts forms an oily fluid which, when applied either to intact skin or to an open wound or ulcer, does not as a rule irritate or cause any pain. This mixture is readily soluble in alcohol but is not taken up by water. It remains fluid at ordinary temperatures, and when kept in a well-corked bottle will remain fresh and active for an apparently indefinite time. The efficiency of this mixture is accounted for by the rapid volatilization of the camphor, leaving a very small proportion of the carbolic acid quite free to act on the infective germs. The excess of carbolic acid is too slight to cause any corrosive action. In a case of erysipelas the affected skin is besmeared with this preparation from two to five times in the day, and, if the eruption be spread over a large surface, is afterwards covered by wadding dipped in the same solution. This treatment, it is asserted, results in speedy improvement, the redness disappearing at once, and the surface of the skin presenting, after slight exfoliation, a normal appearance on the second or third day. Chronic suppurating wounds take on a very healthy action when packed with gauze impregnated with phenol-camphor. The secretion rapidly diminishes and becomes thin and clear, the open surface becomes cleaner, and the cavity contracts. The author has used this agent with good results in cases of tuberculous fistulae and also of lymphangitis. As the combination of carbolic acid and camphor in equal proportions may, when applied to an exceptionally sensitive skin, cause some irritation, the author now uses a combination of 30 parts of pure carbolic acid, 60 parts of camphor, and 10 parts of absolute alcohol. The addition of the last agent converts the oily agent into a clear solution which is more stable and absolutely free from risk.

(297) Partial Hypertrophy of Striated Muscles.

Mignon (*Bull. et Mém. de la Soc. de Chir. de Paris*, No. 26, 1905) describes what he regards as a rare and unrecognized affection of voluntary muscle, which is likely to give rise to some difficulty in diagnosis. This affection, which he has been led by its most prominent characters to designate as partial hypertrophy of striated muscle, presents an analogy in the muscular system to diffuse lipoma in adipose tissue. It occurs most frequently in the muscles of the calf, and has also been observed

by the author in the masseter. The affected muscle, when relaxed, shows no signs of a lesion beyond a scarcely appreciable increase of volume, but in a state of contracture presents a distinct ovoid tumour, the long axis of which takes the same direction as the muscular fibres, at the expense of which it is developed. Its size varies from that of a pigeon's to that of a hen's egg. Its consistence is that of a mass of contracted muscle, and, like such mass, it gives a false impression of fluctuation. It forms an integral portion of the affected muscle, has no distinct margin, and elevates the skin, which can be readily glided over its surface, presenting all the signs of an intramuscular new growth or an abscess. When the muscle is again relieved the swelling at once disappears and leaves no appreciable signs of its existence. This lesion is slightly painful, and the trouble it causes usually leads the patient to apply for medical advice. In the case of partial hypertrophy of the masseter the chief cause of complaint was the consequent deformity of the face. An instance is reported in which a tumour of this kind situated in the soleus muscle of the left calf was resected by the author. This tumour on subsequent histological examination was found to be composed of absolutely normal muscular structure. The pathology of this partial hypertrophy of muscle is obscure. The author suggests that through the influence of some unknown cause some groups of fibres of the affected muscle may be developed to a greater extent than others. This idea is rendered feasible by the situation of the partial hypertrophy and the conditions of its first appearance. The lesion is usually met with in young subjects who have taken very active exercise, and in whom the muscles of the calf have been strained by much walking, and is situated near the periosteal insertion of the muscular fibres. The author does not take into consideration a possible traumatic origin of this condition, but in the course of the discussion of his paper it was held by some speakers that the swelling is probably due rather to partial rupture of the affected muscle or to laceration of its fibrous sheath.

(298) Fracture of the Neck of the Femur.

WHITMAN (*Amer. Journ. Med. Sci.*, July, 1905) describes a treatment for fracture of the neck of the femur which is designed to improve functional results by the immediate reduction of the deformity, and by affording an effective protection during the period of repair. Objecting to the accepted teaching that because non-union is usual after complete fracture it is unwise to attempt to reduce the deformity of an impacted or incomplete fracture, he urges that restoration of function, and not merely union, should be the standard aimed at. By a series of diagrams he proves that by forcible abduction the deformity can be reduced or lessened with a reasonable prospect of complete union. Under an anæsthetic the patient's trunk is placed upon a box about 7 in. high from the table, while the pelvis rests upon the sacral support of the Lorenz model. The extended lower limbs are held by assistants, and that on the fractured side is gently abducted until abnormal resistance is encountered, and then, under traction, while the hands of the operator support the joint, the abduction is further slowly continued to the normal limit (about 45°). To prevent tilting up of the pelvis the sound limb is similarly simultaneously abducted, and serves as a guide to the angle at which its fellow should be fixed. If the fracture is complete the same method is employed to appose the fragments. In intracapsular fractures, by first flexing the thigh the outward rotation may be corrected and the shortening overcome by direct traction, the abduction being proceeded with while pressure upon the trochanter is being exerted downwards and inwards. Any tendency for the thigh to sink below the normal level may be counteracted by pressure forwards while the plaster bandage is being applied. This latter should be in the form of a spica which embraces the whole pelvis, but it need not extend below the calf provided that it is closely moulded about the patella and condyles of the femur. Traction may be needed as an additional safeguard against displacement. By the above method the greater part of the back can be inspected, and the patient may be placed in a semi-reclining posture, or lifted and turned from side to side, without pain or danger of displacement. Should this treatment fail to procure union, it has the advantage of leaving the parts in the most favourable condition for an open operation.

(299) Gastro-enterostomy and Pyloroplasty.

CANNON AND BLAKE (*Report of Research Work in the Division of Surgery of the Medical School of Harvard University, 1904 5*, May, 1905) discuss the comparative advantages of gastro-enterostomy and pyloroplasty as methods of obviating non-malignant pyloric stenosis. In this discussion evidence is brought forward from clinical sources, from recent physiological investigation, and from experimental study on animals by means of the Roentgen rays. The position of the opening between the stomach and the small intestine in gastro-enterostomy, whether it be anterior or posterior, has not, in the opinion of the authors, the importance generally ascribed to it. With simple gastro-enterostomy and an open pylorus the circulation of the food from stomach to intestine and back to stomach again cannot be prevented. This circulation can be rendered less probable by a combination of gastro-enterostomy and lateral intestinal anastomosis, although even in such case it is still possible by direct forward peristalsis. As, according to results of physiological experiments, peristalsis occurs only at the pyloric end of the stomach, as intragastric pressure is much greater at the pylorus than elsewhere in the stomach, and as the food becomes more fluid as it approaches the pyloric end, the gastric contents are forced into the intestine through the pylorus rather than through the artificial opening when both ways are offered. The authors hold that in gastro-enterostomy the opening between stomach and intestine should be large, and as near the pylorus as possible, that the vicious circulation of food be rendered less probable by avoidance of overeating, and that, so far as possible, kinks be obviated by attaching a narrow band of the distal gut to the stomach for several centimetres beyond the opening; the gut is thus prevented from forming a sharp turn within a distance in which peristalsis is not effective. The probability of a circulation of the food whenever the pylorus is patent, the non-mixture of the food with the digestive and neutralizing fluids in the duodenum, and the ever-threatening danger from intestinal kinks, render, the authors think, gastro-enterostomy the reverse of an ideal operation. These evils, it is argued, may be avoided by practising pyloroplasty, which is here regarded as a much more rationally defensible operation than gastro-enterostomy in cases of pyloric obstruction.

MIDWIFERY AND DISEASES OF WOMEN.

(300) Physiological Hysteropexy.

GABRIEL GOUIN (*Le Gynécologie*, August, 1905) considers the merits of the operation of hysteroplexy from the obstetrical point of view. There are two main operative methods of dealing with retroversion of the uterus. The first that of fixing the uterus by its base or anterior surface directly either to the anterior wall of the uterus or of the vagina; the second that of raising the uterus indirectly by shortening the round ligaments—the so called "physiological hysteropexy." The disadvantages of the direct method are that by it the mobility of the uterus is destroyed and the plexus of nerves on the anterior surface of the uterus are exposed to pressure. The statistics of obstetrical results after direct hysteropexy are not encouraging. Thus, in 54 labours which went on to term, Mitlander reports 4 forceps cases, 2 Cæsarean sections, 4 versions, and 1 transverse presentation; and again in 74 pregnancies, 6 abortions, 3 premature confinements, 1 death, 3 trunk presentations, 1 ear and 1 breech presentation. According to Lucien there are three ways in which pregnancy can proceed to term after abdominal hysteropexy: (1) by giving way of the adhesions formed; (2) by stretching of the adhesions; (3) by abnormal development of the parts of the uterus which have not become fixed as a result of the operation. A good example of the occurrence of normal labour after the giving way of adhesions is that of a case of Gottschalk's, in which hysteropexy had been performed on a multiparous woman on account of retroversion. After the operation the woman had two abortions, one at two months and the second at three months. The adhesions were then broken down under chloroform, the woman again became pregnant, and this time went to term. There is obviously great danger of return of retroversion if the adhesions give way. During the course of pregnancy after hysteropexy the patient often suffers from considerable pain, and is liable to *ante-partum* haemorrhage. Should the pregnancy go on to term the special dangers are of uterine inertia, premature rupture of the membranes, abnormal presentations, deviation of the neck of the uterus, obstruc-

tion of the passage by the hypertrophied anterior wall of the uterus, rupture of the uterus, and finally *post-partum* haemorrhage. Better results are obtained by the fixation of the isthmus of the uterus to the abdominal wall, partly because the isthmus is that part of the uterus which takes least share in the changes due to pregnancy, and partly because the base and borders of the uterus are left free. Even after this form of hysteropexy, however, the presenting part is high up at the beginning of labour, engagement is tardy, and abnormal presentations are very frequent. Fixation of the uterus to the vaginal mucous membrane gives even worse obstetrical results than the operation already considered, while if the fixation be very low—although the obstetrical results are not so disastrous—the patient is very liable to a return of the retroversion. Altogether it may be said that vaginal hysteropexy should not be performed on any woman who may become a mother. Indirect or "physiological hysteropexy" stands on a very different footing. The round ligaments are shortened by drawing them up through the inguinal canal, fixing them there, and cutting off the superfluous parts, and in this way the uterus is brought back to its original position of anteversion, and the factors which tend to keep it in position again come into play. The obstetrical results of the operation are excellent. The uterus retains its normal mobility and rises during pregnancy to almost the normal height in the abdomen. Lucien records 18 pregnancies after this operation, of which 17 went on to normal delivery at term, and 1 aborted from some special cause. Doléris's statistics, after 104 operations, are that 14 women became pregnant, 13 had normal labours, while the 14th was delivered at seven months of a dead macerated syphilitic fetus. The involution of the uterus after labour is in some cases slower than normal, but is complete. Return of retroversion is rare, and can only take place (1) when the round ligaments have not been resected to sufficient length and the pathological processes which led to their lengthening and atrophy have persisted, or (2) when the fixation of the ligaments to the inguinal columns has been incomplete. The ligaments cannot, however, be looked upon as cords of indefinite strength, and the treatment of coexisting pathological conditions cannot be neglected. The great drawback of the operation is that it is not applicable to cases in which the uterus is fixed by adhesions, or in which there is disease of the adnexa. Various abdominal operations have been devised for shortening the round ligaments, but in most of them the method is to shorten the parietal part of the ligament, and leave its weak insertion untouched. Doléris's operation by transfixion gives to the shortened ligaments a firm insertion, and the obstetrical results from it have been excellent. Ten cases of pregnancy after Doléris's operation have been reported; in each case the patient was normally delivered at term, and after delivery involution of the uterus was regular and rapid, but the organ remained a little high.

(301) Changes in the Uterine Mucous Membrane during Ectopic Pregnancy.

Riche (*Echo Méd. du Nord*, September 3rd, 1905) shows from a review of the literature that in ectopic much as in intrauterine pregnancy the uterine mucosa is thickened and divisible into layers (two or three, according to the fancy of the observer); the nearer the ectopic ovum is situated to the uterine end of the tube, and the more advanced the pregnancy, the more definite are these changes. Following this brief review, Riche gives an account of two cases recently investigated by him. The first case was one of extrauterine gestation which had advanced to about the fourth week. The following changes in the uterine mucosa were noted: (1) the appearance of a thin, firm, superficial layer of cells; (2) the formation of a deeper layer, loose and oedematous in texture, responsible for most of the thickening of the mucous membrane of the uterus; (3) the early development of subepithelial capillaries. Such observations are clinically important in giving information as to the microscopical appearances of the membranes discharged in ectopic pregnancy, which differ from those of abortion in lacking traces of placenta such as are generally found in the remnants of an intrauterine ovum. M. Riche's second case, also one of early tubal gestation, the uterine mucous membrane showed signs of chronic interstitial inflammation but none of decidual reaction; probably the endometritis was present before impregnation occurred, and prevented the usual changes in the uterine mucosa.

(302) Appendicitis co-existent in the Rupture of the Pregnant Uterus.

Zalachos (*Progrès Méd.*, August 12th, 1905) records 2 cases of the above remarkable coincidence. In the first instance, where there was, further, a twin pregnancy, surgical intervention was unhappily forestalled by fatal internal haemorrhage. The second terminated successfully after laparotomy, in which the appendix and the uterine contents were removed, though Zalachos does not say how he dealt with the uterus itself. In his conclusions, however, he declares strongly in favour of early and rapid operation for uterine rupture with or without appendicitis by the abdominal route. Panhysterectomy should be practised when there is time, otherwise ablation of the body only is better from the point of view of quickness. In both his cases uterine rupture was the result of injury.

THERAPEUTICS.

(303) Modifications of Cow's Milk for Infants.

Godfrey Roger Pisek (*Med. Record*, September 9th, 1905) classifies the principles involved in the methods of feeding now in vogue, so as to show the effect of the use of these methods. Infants develop new functions during the suckling period, and change in form and function until the weaning period, after which growth is principally in size. The teeth in the child are absent, and the stomach is not like that of the adult. The digestive tract is developing and changing in functions, yet the milk remains practically the same in composition throughout lactation. Hence the stomach as it develops changes the milk so as to make it suitable for its altered form and function. The digestive secretions change the milk, producing curds, and so supplying the solid constituents that are necessary to accustom the stomach to digestion of solids. A large factor in feeding is the gradual changing of diet. The proteids of colostrum are soluble. This is gradually displaced by proteids in the form of casein combined with calcium, which forms curds. The first secretion of the stomach is rennet ferment, which produces paracasein, a compound unaffected by pepsin. A small amount of acid secreted will produce free paracasein curd, which is digestible by pepsin. This is denser than the curd produced by rennet. More acid causes the free paracasein to combine with the acid and form chloride of paracasein, digestible by pepsin. Thus the stomach may produce three solid compounds with casein of milk, having different forms and digestive properties, depending on the strength of the secretions. The author divides the methods of infant feeding into seven groups. The first group contains all methods that affect the quantitative composition of milk—dilution, with fat and sugar addition and whey and cream mixtures. To ensure proper growth and development the infant needs as much tissue and energy foods as are found in human milk. The energy foods in cow's milk are in the same quantities as in human milk, but the tissue foods are in larger amounts. To reduce the quantity of proteids the milk is diluted, and to bring the energy and fat foods up to normal sugar and fat must be added, otherwise the proteid must supply the energy. If this is not done the infant fails to gain in weight and strength as it should. If the amount of sugar is too great, as in condensed milk, the excess of energy food is converted into fat, and the child gains in weight; it is supposed to be growing, but in reality it is being stunted and deprived of its natural rights, for proteids are needed for true growth, as well as mineral salts for the bones. Whey feeding, with casein removed, can be used only temporarily, as it supplies no solid matter for the stomach to act on. The second group includes methods that inhibit rennet action and formation of curds by the use of alkalies. The normal reaction of mother's milk has been found to be acid. The alkalies prevent the formation of curd in the presence of soluble lime salts. The alkali is always in excess of the amount necessary to neutralize acidity. The effect of any alkali prevents the rennet action, and retards the action of the gastric secretions. Group 3 includes methods that retard rennet action and neutralize the acid of the gastric juice. Here basic compounds are formed with the casein, and all gastric digestion is prevented. Enough alkali is used to neutralize sour milk. Group 4 consists of methods which precipitate casein by acids. If sufficient acid is present it combines with the free casein and produces an insoluble precipitate like that of sour milk. Group 5 includes methods that profoundly alter the character of the

milk—peptonizing, adding citrate and oxalate of ammonium, potassium, or sodium. They all prevent formation of rennet curds; the milk remains fluid. Group 6 contains the methods that indirectly alter milk—sterilizing, pasteurizing, boiling, etc. They prevent the action of the rennet ferment, or render it slower than normal. In Group 7 are placed the methods that alter the curds mechanically, as by addition of cereal gruels. The gelatinized starch of the gruel makes the curd of the milk softer and more easily digested.

(304) The Treatment of Diphtheria.

CORTANTINI (*Gazz degli Osped.*, October 3rd, 1905) speaks very well of the Sclavo-Bandi serum in the treatment of diphtheria. Whilst the Behring serum is purely antitoxic, the Sclavo-Bandi serum is antibactericidal as well as antitoxic. After this serum the Loeffler bacilli acquire an increased chemiotaxic activity, whereby many phagocytes are attracted and the bacilli become enclosed in the phagocytes and finally digested. In mild cases of diphtheria of a purely local character the author says it is sufficient to paint or spray the parts locally with the serum, at the same time being on the look-out for graver symptoms when it is advisable to inject the serum. In all cases of moderate severity he would practise injections. In severe cases, in addition to local and hypodermic treatment, he advises endovenous injections of serum or intralaryngeal or intratracheal instillations. The serum is rapidly absorbed in the trachea. If tracheotomy is required considerable benefit may be gained by smearing the cannula with a mixture of serum and balsam of tolu. Both as a prophylactic and as a preventive of further infection it is well to go on using local treatment for some time after the general symptoms have improved.

(305) Prophylaxis of Diphtheria.

AASER (*Berl. klin. Woch.*, September, 1905) says that means of prevention of infection of diphtheria were not adopted in Norway until 1860. The disease was first recognized as an infectious one by the laity in the Forties, and a few years later the medical profession were informed of the fact by Reymert. The means adopted at first were isolation and disinfection of rooms, etc. With regard to the latter, he cites evidence to show how useless room disinfection is to destroy the infective material, and then turns his attention to the question of isolation. He introduced the forced isolation of all persons in whose fauces diphtheria bacilli were found after a careful mass examination. This, however proved to be futile, for not only did it not have the desired effect of diminishing the number of cases of clinical diphtheria, but it certainly had a bad influence on the isolated healthy persons. He then turns his attention to the preventive injections of Behring's serum. He regrets that this means is employed so little, and cites a number of examples which show the efficacy of the procedure. His experience teaches him that it is wise to inject from 300 to 400 units as a routine dose. When a case of diphtheria breaks out in a school or in hospital, all the other children or patients should be protected without loss of time. It must be remembered that the protection only lasts for a short time, so that it may be necessary to repeat the injection after the lapse of some three or four weeks. The results which he and others have obtained by following these means illustrate that this is the only satisfactory prophylaxis against diphtheria known up to the present.

(306) Inhalation of Phenyl Propiolate of Sodium.

BULLING speaks of his experience, which now extends over a number of cases of pulmonary and laryngeal tuberculosis, of the effect of inhalations of the phenyl propiolate of sodium (*Münch. med. Woch.*, No. 8, 1905) Since his previous publication he has treated 50 fresh cases by this means, and divides them into the following classes (according to Turban): First stage 7 cases, second stage 38 cases, and third stage 5 cases, while 5 of the second stage showed ulcerative tuberculosis of the larynx as well as the lung disease. Three mild cases (with good prognoses from the first) were treated for six weeks, and after the end of the seventh week, all the signs and symptoms of disease had disappeared, save a little prolonged expiration. Two further cases, also, of the first stage did equally well after eleven and nine weeks' treatment respectively. The remaining 2 cases improved very markedly after six weeks' treatment, and were discharged with the advice to continue the inhalations. The cases in the second stage were treated for from six to ten weeks. The subjective symptoms always diminished, and the appetite improved and the weight increased. Objectively, Bulling found that in some the night sweats ceased, the signs of catarrh disappeared in a few cases, and in 5 the tubercle bacilli which had been present in the sputum also disappeared. But the other physical signs persisted. In 4 cases the ulceration of the larynx healed up, the speech became much clearer, and all pain was removed. In some cases the fever proved obstinate, but after some time (for example, six weeks) the temperature became normal. In the 5 cases in the third stage, only some subjective improvement was noted. The author speaks of the specific action of the phenyl propiolate of sodium. He appends the history of another case, which improved under unfavourable circumstances. The idea that the action, especially as seen in the larynx, is one of a bactericidal nature seems to the author to be probable.

PATHOLOGY.

(307) Tuberculous Endocarditis.

DR. VECCHI (*Rif. Med.*, April 22nd, 1905) has made a series of experiments on rabbits with reference to tuberculous endocarditis. In the first series he produced a lesion of the endocardium centres by sounding through the carotid or by injecting some inert powder (charcoal) into the auricular veins, and then injecting a culture of tubercle into the circulation. In the second series tubercle was injected into the anterior chamber of the eye, and some sixty days later (when the eye lesions were well marked) a lesion of the endocardium was produced via the carotid, and the animal killed four to eleven days after. Endocarditis followed in each series of experiments; in the first series a few sparse tubercle bacilli could be found in the thrombi; in the second series no bacilli were found. The author believes that in each case the bacilli were probably brought there secondarily, and that these cases of so-called tuberculous endocarditis are really a form of simple endocarditis set up by the irritation of the bacterial toxin, which acts merely as an irritant, and not specifically. He compares the pathological condition seen in tuberculous endocarditis to the nodules that may be seen in the cornea after the injection of tubercle culture into the anterior chamber.

(308) Small-pox.

W. T. COUNCILMAN (*Amer. Med.*, October 21st, 1905) gives the result of an investigation of small-pox, undertaken by members of the Pathological Department of Harvard. It is believed that the organism which constitutes the virus of vaccinia and small-pox is the same; that in vaccinia it undergoes a definite cycle of development, resulting in a structure, the gemmules arising from simple growth and segmentation; that in small-pox a further and more complicated cycle of development, in which probably sexual forms occur, is added to the vaccine cycle. It is only in man and in the monkey that the conditions are favourable to the development of the cycle which constitutes small-pox. The intranuclear parasites are as characteristic for small-pox as are the cytoplasmic forms for vaccinia. They are found in both variola inoculata and in variola vera. The spores which arise from the multiplication of the intranuclear bodies constitute the contagion of small-pox, which is capable of air transmission. This introduced into a susceptible animal develops the typic disease, small-pox, both cycles of the organism taking place in the lesions. In the non-susceptible animal, such as the calf or rabbit, only the single, and probably asexual cycle is developed constituting vaccine. The work, which is nearing its temporary conclusion, has left the fundamental questions relating to the disease unanswered. These relate to: (1) The parasite and its complete life-cycle; (2) the relationship between vaccinia, variola inoculata, and variola vera; (3) the mode of infection in variola vera; (4) the mode of production of the exanthem; (5) the immunity, its mode of production, and the relationship between the natural and the acquired immunity.

(309) Bacteriuria.

DESIDER RÁSKAI (*Wiener Klinik*, Jahrgang xxxi, Heft 8, August, 1905) summarizes the literature on this subject and divides the cases into three classes: (1) Where there are no concomitant manifestations (essential bacteriuria); (2) bacteriuria accompanied by local or general symptoms; (3) bacteriuria following as a sequel on local or general disease. The details of the article are carefully put together, but do not appear to contain much which is new.

AN EPITOME
OF
CURRENT MEDICAL LITERATURE.

MEDICINE.

(310) The Food Factor in Uricaemia.

FRANCIS HARE (*Med. Record*, September 2nd, 1905) believes that in acute articular gout there is primarily a condition of over-saturation of the blood with unoxidized carbonaceous material which he calls hyperpyraemia. This is supposed to involve progressively-increasing uricaemia through the inadequate renal secretion of uric acid which is associated with the hyperpyraemia. The acute attack of gout is accompanied by high fever, which involves an increased combustion in the nitrogenous tissues, and relieves the hyperpyraemia, while the dispersion of the hyperpyraemia in turn terminates the renal disability, and permits free excretion of uric acid, and in this way a temporary restoration to approximately normal conditions is secured. He therefore terms acute articular gout a recurrent acarbonizing process dependent on and adapted to disperse hyperpyraemia and secondary uricaemia, and says that it is in the strict sense of the term a conservative pathological function. The various heterogeneous dyspeptic, bilious, nervous, etc., symptoms usually associated with gout are all dependent on hyperpyraemia, and not directly on the uricaemia or the arthritic attack. He analyses the conditions, such as diet, exercise, pyrexia, neuroses, etc., which induce pyraemia or uraemia variations. His conclusion is that there seems little doubt that uric acid excretion depends directly upon the introduction of uric acid forming material, and inversely upon the degree of pyraemia. There will thus be at least a double column of variations in the excretion of uric acid. But, since on a mixed diet the introduction of uric acid material is for the most part approximately concurrent with the increase of pyraemia due to meals, it follows that the resulting opposite variations in uric acid excretion will overlap and tend to obscure each other. The argument for the twofold causation of uricaemia and uric acid excretion seems appropriately clinched by the following two pertinent observations: (1) The delayed excretion of uric acid, which in the gouty follows the ingestion of uric acid forming material; (2) the uniformity of uric acid excretion during starvation.

(311) Pericarditis and Aortic Disease.

FERRIO (*Gazz. degli Osped.*, September 24th, 1905) draws attention to the well-known anatomical relation of the pericardium to the large vessels at the base of the heart, and raises the question how far it is probable that inflammation should pass by direct contiguity from one to the other. When aortic endocarditis and pericarditis coexist, it is usual to suppose that both are due to the same general cause. But the author believes it possible that the one may be secondary to the other, and he records the histories of 5 cases which give some clinical support to his view. In the first case, pericarditis existed, and when this began to clear up the symptoms and signs of aortic insufficiency began to develop. Out of 603 cases of cardiac disease of which the author has notes, this case convinced him most clearly of the mechanical extension of an inflammation of the pericardium to the endocardium of the aortic valves. He reports 4 others, and thinks that if such cases are looked for, a good deal more evidence in support of the extension of inflammation from endocardium to pericardium, and vice versa, may be found.

(312) The Aortic Reflexes.

ALBERT ABRAMS (*Med. Record*, September 16th, 1905) considers the aortic reflexes of great importance in medical diagnosis. To get these reflexes, apply the palm of one hand closely to the spinous processes, while the other clenched fist is used as a percussion hammer, using sharp, vigorous blows. For the reflex of dilatation, concuss the spinous processes of the eighth, ninth, tenth, eleventh, and twelfth dorsal vertebrae. Then quickly percuss the region of the thoracic aorta, and the course of that vessel will be easily defined. This is a curved line beginning at the right sternal line in the middle of the first intercostal space, and ending at the point of insertion of the first rib to the sternum. The highest point is about 5 cm. from the anterior thoracic wall, and the beginning 2 cm. from it. Concussion of the seventh cervical vertebra causes aortic dullness to evanesce at once, as a result of the counter reflex of aortic contraction. The aortic reflexes are fairly constant but variable in duration.

(313) Diagnosis of Nervous Diseases.

JOSEPH COLLINS (*Med. Record*, September 16th, 1905) comments on the difficulties experienced by the general practitioner in the diagnosis of nervous diseases, and says in this connexion that the reason why nervous diseases are considered to be a strange country by the general practitioner, is (1) because there is an inherited conviction that such diseases are extremely obscure; (2) because there is an acquired conviction that in order to unravel the intricacies of such diseases, a comprehensive knowledge of the anatomy and physiology of the nervous system is required; and finally, because many physicians do not take the trouble to acquaint themselves with the simple methods of testing for the existence of nervous disease. He explains that this is a mistaken standpoint and shows that nervous diseases, if approached with the same care that is necessary for the study of other affections, are no more difficult or obscure than most medical problems. Any medical man who will free himself from his preconceived ideas of the difficulties of the subject will have no more difficulty in dealing satisfactorily with nervous diseases than he has with any other disease in the province of internal medicine. The diagnosis of the commoner and more important nervous maladies is analysed at length for each condition, and illustrative cases are cited.

SURGERY.

(314) Berger's Interscapulo Thoracic Amputation.

JEANBRAU (*Rev. de Chir.*, No. 8, 1905), in the first of a series of three articles on the interscapulo-thoracic amputation, publishes a case of extensive osteosarcoma of the left humerus in a woman aged 41, who survived the operation in comfort during one year. This case, the author states, affords an additional proof that Berger's operation is capable of prolonging life to an unexpected degree, even when applied to a malignant growth far advanced in its evolution. Notwithstanding the extent of the disease, and the bad general condition of the patient in this case, the formidable operation was not followed by shock. The author claims as an important advantage of the interscapulo-thoracic amputation the diminished risk of disturbance and displacement, in the course of the operation, of the malignant thrombosis blocking the veins between the tumour and the root of the affected limb. As the subclavian vessels are ligatured before the thrombosed veins are disturbed there is much less danger of neoplasic embolism. A radical cure in Jeanbrau's case was rendered hopeless by the presence of secondary growths in the lungs at the time of the operation. Such a complication need not, it is held, be regarded as an absolute contraindication of Berger's operation, which is not a difficult or dangerous procedure, and is likely to afford, though only for a time, much comfort and relief. In the second article Jeanbrau and Riche, who have collected 125 cases, give the following summary of the results of the interscapulo-thoracic amputation for malignant disease when not preceded by resection of the scapula or by exarticulation at the shoulder. The operative mortality, which before 1887 was 29.16 per cent., has with increased observance of aseptic details and a general adoption of the method devised and recently modified by Berger, fallen to 7.84 per cent. Indeed, if omission be made of cases in which the operation in itself was not the cause of death the rate of mortality may now be put down as 5 per cent., or even a little lower than this. The average duration of life after the operation is three years, which, it is pointed out, is a result far better than any that might have been expected, consideration being taken of the facts that this mutilating procedure is seldom accepted by the patient until a very advanced period of the evolution of the malignant growth, and that the amputation is often practised under most unfavourable conditions in regard to the patient's general health. The authors hold that cure is possible, in proof of which conclusion they refer to twenty instances of survival for periods exceeding five years. Cases are mentioned in which patients are still living and free from relapse after respective intervals from the date of operation of ten, thirteen, sixteen, twenty and twenty-six years. To these articles on interscapulo-thoracic amputation is added one by Berger, who reports three recent cases in which he practised a modification to which he attaches great importance, and which, it is believed, will be found to simplify very much the preliminary

stage of the operation. Instead of resecting the middle third of the clavicle he divides this bone near its middle where it is most prominent, and, after having denuded the internal fragment, removes the whole of this by twisting it on its long axis and tearing through the ligaments of the sterno-clavicular joint. The projecting end of the external fragment is cut away, and the subclavian artery and vein are then freely exposed and rendered easily accessible. In considering the mortality of this operation Berger finds from the statistics of Jeanbrau and Riche that the death-rate is influenced very much by the situation of the disease, the percentage in cases of malignant growth and chondroma being 2.75 when the tumour is seated in the head of the humerus, and 23 80 when the scapula is primarily involved. The remote results in regard to survival and freedom from recurrence are also much more satisfactory in the first class of cases. Interscapulo-thoracic amputation, it is held, finds its chief indication in malignant disease of the head of the humerus, and should almost invariably be practised in such cases without loss of time. For small growths presenting a slight degree of malignancy, such as myeloid tumours, myxomata, and especially chondromata, local extirpation or resection of the head of the bone may be adopted, but only when the surgeon has assured himself by direct investigation of the relatively benign nature of the disease. Berger's operation is indicated in large and rapidly-growing chondroma, and in such cases has given very good results. Malignant disease of the scapula or of the soft parts of the axilla does not justify this amputation except in cases in which preservation of the upper limb is incompatible with thorough extirpation of the tumour. In giving the results of his own experience of this operation Berger states that he has practised it on six occasions—four times for tumours of the head of the humerus (two chondromata, one myxoma, one sarcoma); in one case for sarcoma of the scapula, and in the remaining case for sarcomatous disease of the axilla. In one of these cases, that of sarcoma of the scapula, death was the direct result of the operation. The subject of sarcoma of the humerus succumbed to a very rapid generalization of the disease. In the case of chondroma of the humerus, the patient has survived over fifteen years, and at the date of the publication of this paper was in good health and leading an active life. The result of the operation in the instance of myxoma of the humerus has also been very good, as the patient is living and in good health after an interval of nine years. In the two remaining cases (chondroma of the humerus and sarcoma in the axilla) there has not been a sufficient lapse of time to permit of any definite conclusions regarding the result of the surgical treatment.

MIDWIFERY AND DISEASES OF WOMEN.

(315) Puerperal Ileus and Eserin.

Krebs (*Monats. f. Geb. u. Gyn.*, May, 1905) was consulted about an elderly woman three and a half days after the normal delivery of her fifth child. There had been frequent vomiting in the last month of pregnancy; since delivery no flatus had passed, even after the administration of castor oil and enemata. On the third day constant vomiting, with rise of temperature to 100°, but the pulse remained at 72. The facial appearance was not unfavourable, the abdomen was irregularly distended, without any evidence of hernia, tumour, or retroflexion. Ileus, paralytic or mechanical, was diagnosed. No air came away when the rectal tube was inserted. Krebs injected $\frac{1}{100}$ gram of eserin salicylate subcutaneously, and after half an hour strong peristaltic movements were observed, flatus passed within two hours, and then there were repeated stools. The patient recovered, and the eserin did not produce any disagreeable symptoms. In a discussion upon this case, Biermer maintained that washing out of the stomach and high enemata would probably have produced the same effect in Krebs's case, which in Biermer's opinion was not an instance of paralytic ileus, a condition where eserin was contraindicated. Schiller had repeatedly employed eserin salicylate, but found that it was uncertain in its action. No doubt it was handy, whilst washing out of the stomach and high enemata could not always be carried out. Like others, he had never had the opportunity of testing it on a case of true uncomplicated ileus.

(316) Cancer of Vagina after Total Hysterectomy.

Quénu (*Rev. de Gyn. et de Chir. Abdom.*, Sept.-Oct., 1905) related recently before a medical society a case of epithelial degeneration of a vaginal cicatrix four and a half years after total hysterectomy for diseased appendages. There was much discussion after the report was read on the relative value of total and subtotal hysterectomy. Quénu maintained that his case proved how the longer, more dangerous, yet thorough operation did not guarantee against cancerous degeneration even when the diseased organ removed had been quite free from cancer. The stump of a non-cancerous uterus might become the seat of a malignant growth, but so might the vaginal scar when no stump was left. Richelot defended total hysterectomy, and declared that 24 cases of cancerous degeneration of the cervix after subtotal hysterectomy had been collected. Faure was of the opposite opinion. He had just performed panhysterectomy for fibroid in a case where the cervix seemed unhealthy. Haemostasis in the region of the cervix during its excision took up more time than would be sufficient to do a subtotal hysterectomy from its earliest to its latest steps. There could be no fixed rule about the two operations, and he and his colleagues had returned to the subtotal method save where the cervix was suspicious. Poirier agreed with Faure, as the chance of cancerous degeneration of the stump was much less than the certain risks incurred in the course of a total hysterectomy. Haemostasis of the vaginal wound made in detaching the cervix was always long and difficult.

(317) Tubal Menstruation.

Von Steinbüchel (*Zentralbl. f. Gynäk.*, No. 42, 1905) reports that he observed this phenomenon after a vaginal extirpation of the uterus. Dark menstrual blood issued regularly from the left extremity of the vaginal cicatrix, proceeding from the stump of the left tube. The molimen was marked, and the interval between the periods was a little under four weeks. The tubes were removed on account of local pain, but no pathological changes were detected in them, nor were there signs of any local condition which might account for the haemorrhage. Von Steinbüchel concluded: (1) That there was no such thing as a normal tubal menstruation analogous to the periodical changes in the endometrium; (2) that the normal tube shares in the local congestion associated with menstruation and circulation, so that haemorrhages and irregular casting of epithelium from the tubal mucosa occur even in health; (3) that this sharing of local congestion may under pathological conditions amount to a true regular haemorrhage from the tube which accompanies but is not identical with menstruation; (4) that when the uterus is absent a true tubal menstruation replaces the normal uterine phenomenon, taking place in the more or less diseased tubes; (5) that exceptionally, as in the above case, the healthy tube may discharge the functions of menstruation after removal of the uterus.

(318) Ovarian Cysts and Diffused Melano-sarcoma of Suprarenal (?) Origin.

Balfour Marshall (*Jour. of Obst. and Gyn. of Brit. Empire*, September, 1905) relates a case of a woman admitted into hospital with a double ovarian tumour associated with grave constitutional symptoms. She was 30 years old, and had been ill for eight months; after attacks of epigastric pain there was much nausea, vomiting, emaciation, and ultimately severe sweatings and frequent micturition. Abdominal swelling began a few weeks before admission, by which time it had attained the size of a six months pregnancy. The tongue was dry and furred, the pulse 112, the lower extremities slightly oedematous. One tense ovoid cyst could be defined, though after death it was found that both ovaries were affected, one cyst overlapping the other in such a manner as to make them apparently one tumour. It was clear that the general condition could not be accounted for by the tumour. The stools were fetid, but not of the typhoid fever type. The urine, after standing for some time exposed to the air, acquired a dark-brown colour as in some cases of carbolic-acid poisoning. On the sixth day the patient died. There was a cyst of both ovaries, which, as well as the uterus, abdominal and thoracic viscera, was studded with countless melano-sarcomatous tumours. The left suprarenal capsule was transformed into a melanotic mass about the size of a Tangerine orange, probably, in Balfour Marshall's opinion, the origin of the melanosis. The external surface of the body was entirely free from any growth or pigmented spot.

(319) Vesicular Molar Pregnancy taken for Ovarian Cyst.

Schröder of Bonn (*Monats. f. Geb. u. Gyn.*, September, 1905) reports a remarkable error in diagnosis. A woman, aged

49, noticed sudden enlargement of the abdomen; she had borne eight children, all the pregnancies were normal. The period seemed to be regular, it occurred a fortnight before the swelling began and was followed within a week by slight haemorrhage. The swelling was examined two weeks after it was first noted, it was tense and movable and extended upwards to the umbilicus. It could not be defined as entirely separate from the uterus but appeared to dip into Douglas's pouch behind that organ. The cervix lay high, just behind the symphysis. Malignant ovarian tumour adherent to the uterus was diagnosed. When the abdomen was opened it became clear that the tumour was a uterus enlarged up to the standard of the fifth month of pregnancy; it was abnormally soft and vascular. No fetus could be defined through its walls. Supravaginal amputation was performed. Then the cause of the error became clear: there was a distinct pouching of the uterine walls fitting into Douglas's pouch. The uterine cavity was occupied by a vesicular mole which was invading the walls in the usual manner. The right ovary was in a complete state of atrophy, the left contained a few cysts, but they had not yet been examined microscopically in order to determine if they were of corpus luteum origin. In a discussion on Schröder's case some cases of error in diagnosis of myoma and ovarian cyst during labour were related.

THERAPEUTICS.

(320) Antithyreoidin in Graves's Disease.

According to Moebius, exophthalmic goitre is produced by the poisonous effect of the pathologically-functionating thyroid gland on the organism, and the rational therapy of this condition would be to neutralize the toxic secretion. After some experimentation, it was found that the serum of sheep which had been deprived of its thyroid contained a body which was capable of neutralizing the toxic secretion. H. Hempel (*Münch. med. Woch.*, No. 1, 1905) relates his experience with this antithyreoidin serum. The patient was a female of 55 years. She had suffered from palpitation for about a year. Sweating had been noticed for about six weeks, and for about four weeks she noticed a swelling of the neck, which developed suddenly. The symptoms on examination were nervousness, tremor of the fingers, marked exophthalmos, great enlargement of the thyroid gland, pulsation seen all over the left side; pulse high tension, between 120 and 140; later the action of the heart became extremely wild (delirium cordis). Every three days she was given 5 grams of antithyreoidin serum by the mouth. The patient was treated in the out-patient department, so that the existing deleterious effects of her home life could not be excluded. The serum was given without any addition of wine or other demulcent, as has been suggested by Moebius. After about six weeks the treatment was interrupted, when she had taken 90grams of serum in sixteen doses. She stated that the palpitation left her soon after the commencement of the treatment, and that the nervousness had diminished considerably. It was found that the size of the neck had much diminished, the measurement being 2 cm. less than previously, the exophthalmos had gone back, and the patient stated that she no longer felt the pressure in her eyes. The pulse beat was about 96, and had become quite regular. Generally the patient had improved so much that the author feels convinced that no other method of treatment could have achieved the same result. He gives some further details as to the general condition of the patient, comparing it with her previous condition. K. Thienger also deals in the same journal on the same subject. He first recounts the line of thought and experiment which led to the preparation of Moebius's serum, and then passes on to an account of the treatment of 4 cases of Graves's disease in his clinic. Three of the patients were women and one was a man. They received 5 c.cm. of the serum every second day in a sweet wine, and no other medication whatsoever was employed save a little bromide in one case. Of the three female cases the result of the treatment is summed up as follows: The general condition was much improved, the weight was increased, the frequency of the pulse was diminished, while the goitre did not show any diminution in size or softening. The amount of serum used in these cases was relatively small. The effect in the case of the man was, however, very striking. The case was a very acute one, setting in suddenly, as in the case of an infective illness, and following a rapid course. Five days before admission the first signs of the illness were seen, and four days after admission he presented high fever and all the signs of the effects of the poison of Graves's disease. The goitre, the rate of pulse, and other signs all improved a few days after the beginning of the treatment. The author appends a detailed account of this case, which shows clearly the remarkable disappearance of the signs and symptoms of a very severe case of the disease. While he does not suggest that the serum can be correctly judged from these four cases, he considers that the favourable results gained by almost all observers justifies a very wide trial in this disease. His cases show plainly that it is not a panacea for all cases, but that it worked exceptionally well in the one case is not to be denied.

(321) Isopral.

Wassermann (*Berl. klin. Woch.*, September 11, 1905) has tested the hypnotic action of isopral on the patients of Siemerling's psychiatric and nerve clinic. Isopral is very volatile and decomposes readily in air, and its solutions soon lose their activity. It is therefore necessary to use the tablet form, which is enclosed in air-tight glass tubes. The price of isopral, made up in this way, is 35 pf. (about 4d.) for 1 gram. The drug possesses a burning, unpleasant taste, and produces paraesthesia of short duration when placed on the tongue. As a rule he gave the drug in solution or in cachets after meals. No unpleasant side-effects were noted. The dose given varied between 0.5 and 2.5 grams (circa 7½ to 37½ gr.). The patients who received doses were suffering from dementia paralytica and senilis, paranoia, katatonia, melancholia, delirium tremens, tabes, and hysteria, and as far as possible the dose was given when it was fairly certain that without a sedative the patients would be restless. For simple sleeplessness without excitation 0.5 to 1 gram generally induced satisfactory sleep. One hysterical patient, who generally slept well after ½ gram of veronal, did not respond to the same dose of isopral. For excited patients, 0.5 gram failed persistently, while 2.5 grams did not always have the desired effect. It must, however, be pointed out that 1 gram of veronal, 2 grams of trionaˋ, 8 grams of paraldehyde, and 2.5 grams of chloral hydrate also at times failed to quiet the patient; 1 and 2 grams of isopral gave good results in some bad cases. He only tried the external application of the drug on one patient, and the result was not quite clear. The only side-effects which he has been able to notice are prolonged drowsiness and a persisting taste of the preparation in the mouth. Headache and pains in the abdomen were complained of a few times, but whether the isopral caused these symptoms or not could not be decided. In conclusion he finds that isopral is a little less active than veronal when given in the same doses, but its action is at least as good as that of trional. It is therefore a drug which one should be glad to use at times, in the place of the older preparations.

(322) The Treatment of Follicular Tonsillitis.

A. Sbrocchi (*Clin. Mod.*, No. 33, 1905), after describing the symptoms and course of follicular tonsillitis, considers in great detail the numerous forms of treatment hitherto in general use. He believes that all of them completely fail both in limiting the extension of the disease and in diminishing the sufferings of the patient. Any improvement which follows their use he ascribes to the natural, though not invariable, tendency of the disease to spontaneous cure. As an alternative, he proposes a remedy which has been occasionally mentioned by other writers, but hardly ever with the complete confidence to which its superiority to all other forms of treatment entitles it. This treatment consists in the systematic painting of the tonsil with a 1 in 1,000 solution of perchloride of mercury. At each sitting each tonsil should three times be painted in turn all over with the solution on a cotton-wool sponge fastened to the end of a penholder. At the first sitting a patient and gentle attempt should be made to remove all secretion from the tonsil both in front and behind, but without wounding the mucous membrane. The soft palate and uvula should also be touched with the solution. The sittings should be repeated at intervals of three or four hours. If the treatment has been thoroughly carried out, with the help of good illumination, depression of the tongue, and appropriate phonation to enable the whole surface to be reached, even a single painting will be followed in the course of a few hours by a decided fall of temperature and a great improvement in the patient's condition, and the morbid process will come to an end after three or four paintings at the outside. No other treatment, internal or external, is necessary or desirable.

Where four paintings fail to effect a cure, Sbrocchi considers the fact proof of a diphtheritic infection, and proceeds at once to the injection of antidiphtheritic serum. His corrosive sublimate treatment is entirely ineffectual as against diphtheria, both the more usual form of diphtheria and also that which sometimes simulates a follicular tonsillitis.

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(323) Cosmetic Treatment of the Skin.

KROMAYER considers that, since the practitioner has not regarded the cosmetic care of the skin as coming into the scope of his treatment, lay persons and quacks have seized this field; but the whole subject depends on scientific knowledge, and he is attempting to save it from the stigma of charlatanism (*Die Heilkunde*, September, 1905). The object of the cosmetic care of the skin is to make the skin beautiful and to keep it so. The characteristics of a beautiful skin are: (1) The skin must be smooth, soft, pliable, and of a dull gloss; (2) the colour must be a dull white or yellowish-brown; (3) impurities of the skin, such as anomalies of pigment, growths, anomalies of the sebaceous glands, abnormal growth of hair, should be absent. The character of the normal skin, as given under (1), depends on the formation of a normal horny layer of the epidermis. This is normally a thin, transparent, elastic, and very resistant membrane, and contains both water and fat. The character is altered if its water or fat contents are altered, the elasticity and pliability disappears, and, the horny epithelial cells being cast off, the skin assumes a rough, hard texture. In order to retain the normal characteristics of the skin, one should wash as little as possible in water and soap. For the purpose of cleaning, a mixture of fat and water is best, and milk can be taken as a type of such a mixture. Certain fatty seeds yield a similar decoction which can be used—for example, almond oatmeal. Oils and cream or yolk of egg are capable of cleaning dirty skin. Kromayer points out that in order to keep the skin well it should be protected from rough stimuli, but that one must naturally vary the method and rigor of the treatment according to the patient. Dealing with the use of powder, he refuses the idea that this does harm by blocking up the pores, but inasmuch as it produces a layer of material which excludes air and light, the habitual use cannot be recommended. Soft massaging with fat keeps the skin soft and elastic. No drugs should be added to the fat. Dealing with the second point, he points out that the colour of the normal skin depends on the transparency of the epidermis and cutis and on the fat contents of the subcutaneous tissue. Since the nature of the subcutaneous tissue must depend on the general body condition, the colour of the skin must in some degree depend on a general good health. Red cheeks are produced by exposure to light, air and changes of temperature, but this implies a good skin circulation. Redness elsewhere on the face (nose or forehead) is regarded as abnormal and disfiguring. Here one must distinguish between hyperaemia and venectasis. The former can be dealt with by local applications, such as sulphur preparations (ichthyol, thiol, thiogemin, etc.) while the latter can only be dealt with surgically. The third condition for a normal skin, the absence of the impurities, requires more energetic measures to attain. Of the anomalies of pigment are represented as a type by freckles. Growths which commonly spoil the complexion are pigmented and unpigmented naevi, warts and the like. All these can only be dealt with surgically, either by the knife, scissors, actual cautery or electrolysis. Kromayer has introduced a method of removing these defects without leaving a visible scar. This method is produced by using a rotating cylindrical knife of small size, the exact pattern varying according to the nature of the anomaly of the skin. The same means are of use for anomalies of the sebaceous glands and for superfluous hairs. He deals fully with these rotating knives, which he calls "punches" (*Stanzen*). He claims for the method that the small cylindrical piece of skin which is punched out produces so small a defect that there is practically no wound within a few hours of the operation, and that the scar is so small later that it escapes observation. He has previously dealt with the removal of hairs by his epilation "punches" and the treatment of acne elsewhere.

PATHOLOGY.

(324) Typhoid Fever.

EWING (*Proceedings of the Pathological Society of Philadelphia*, New Series, vol. viii, No. 3, 1905), in discussing the clinical pathology of typhoid fever, points out that when the stage has arrived where the multiplication of the bacilli is inhibited and the bacterial cells are dissolved a considerable danger arises to the organism from the endotoxins which these dissolved cells set free. Whilst some of these toxic substances may be neutralized by antibodies, there are many others which exercise an injurious effect on tissue cells, and cannot be neutralized in this way, but must be disposed of by other metabolic processes in the body, in which oxidation probably plays a prominent part. Neither the virulence nor the variety of the bacilli wholly accounts for the clinical differences in the course of the disease, nor does this course exhibit any uniform relation to the bactericidal power of the blood; relapses occur when the blood is strongly bactericidal, and recovery may follow when this property is relatively deficient. Moreover, the reaction in the host is very much more extensive and complex than can be accounted for by the direct action of the bacteria and their products. There is an extensive loss of body weight, with enormous excretion of urea, nitrogen, and excessive demands on the oxidation capacity of the organism. The intense degenerative changes in the viscera lead to necroses in the liver, kidneys, and lymphoid organs, and are apparently always attended by the presence in the blood of toxic products of nitrogenous metabolism and diminished alkalescence, and with the occurrence of leucin, tyrosin, and various aromatic acids in the urine. These degenerative changes, while initiated by the non-specific bacterial proteids, possess certain self-perpetuating tendencies, owing to the fact that many of the derivatives of both bacterial and tissue cells exert a cumulative action, and fail to produce antibodies and immunity.

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(325) Symmetrical Gangrene of the Feet due to the Pneumococcus.

MATTIROLO (*Giorn. d. R. Accad. d. Torino*, June, 1905) describes the case of a miner suffering from ankylostomiasis who was attacked by bronchopneumonia. The diplococcus pneumoniae was present in his sputum, and was twice isolated in cultures taken from his circulating blood stream. Five or six days after the onset of the bronchopneumonia all the toes of both his feet became cyanotic and oedematous, black, and finally gangrenous; there was little pain. The gangrene was limited to the toes, which fell off or were removed during the next two and a half months, leaving an ulcerated surface that healed by granulation. The bronchopneumonia cleared up in a month; the patient died of pulmonary phthisis four months later. No obduction was made. At no time did the heart show any signs of endocarditis; but the author points out that embolism of the arteries of the toes cannot be summarily dismissed, since Berther has described cases exactly similar to this where recent acute endocarditis was found *post mortem*. He himself believes that this case is one of acute pneumococcal endarteritis and thrombosis of the dorsalis pedis and external plantar arteries, due to stagnation of the circulation in the feet at a time when the blood contained living and virulent diplococci.

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(326) Independence of the Lobes of the Liver.

SILVESTER (*Gazz. degli Osped.*, May 7th, 1905) has carried out a series of experiments on dogs and rabbits with reference to the physiological and anatomical independence of the lobes of the liver. By injecting slowly small quantities of China ink into the mesenteric vein, or into the splenic, it was found that in the second case the emboli were confined to the left lobe of the liver, and in the first, to the right. The author further estimated the amount of glucose in each half of the liver in various conditions, as to food, fasting, etc. Taking the sugar as an index of the amount of glycogen contained in the liver, he found that in fasting animals the glycogen was not uniformly distributed throughout the liver, but varied not only from lobe to lobe, but in different parts of the same lobe. The differences between the two lobes, however, were only small; this applied also to the different phases of digestion. In the first half of digestion (gastric) there was a slight prevalence of sugar in the left lobe of the liver, and in the second phase (pancreatic) this prevalence was more marked in the right lobe. There appears also to be a close relation between the left lobe of the liver and the spleen, for in the cirrhosis of Laennec it is the left lobe which is first and chiefly affected.

AN EPITOME
OF
CURRENT MEDICAL LITERATURE.

MEDICINE.

(327) Tachycardia and Phthisis.

G. W. Norris (*Zeit. für Tub. und Heil.*, July, 1905) deals with the causes, the effect upon prognosis, and the treatment of tachycardia in pulmonary tuberculosis. Tachycardia may result from stimulation of the sympathetic or depression of the pneumogastric nerves or from an increase in the irritability of the cardiac ganglia or muscle fibres. Clinically, perhaps, the most common cause of the condition in the early stages of phthisis is toxaemia which probably acts upon the heart in something the same way as muscle fatigue stuffs. Another cause of tachycardia is enlargement of glands: enlarged peribronchial or peritracheal glands may press upon the pneumogastric, bronchial glands may compress the aorta, or a spread of inflammation from tuberculous glands may give rise to an indurative or adhesive pericarditis, pleuritis, mediastinitis or neuritis, and thus cause tachycardia. Neuritis is a frequent complication of phthisis and tachycardia may follow neuritis of the pneumogastric. Among other causes in different cases may be mentioned, anaemia, nephritis, causes referable to the gastro-intestinal tract, the neurasthenic temperament, or in the later stages myocardial changes. No instance of tachycardia occurred among 87 cases of phthisis complicated by valvular lesions reported from the Phipps Institute. The connexion between phthisis, and exophthalmic goître, and thyroidism is of interest. The author describes cases in which the diseases co-exist, and he is inclined in certain cases of phthisis to ascribe the rapid pulse-rate to the existence of hyperthyroidism, a condition to which enlarged tuberculous glands may give rise either by irritation of the cervical or sympathetic nerves, or by inducing thyroidal hyperaemia as a result of pressure obstruction of the veins of the gland and vessels of the neck. The tendency to extreme obesity shown by some patients after recovery from phthisis might on such a hypothesis be the result of a sclerosis of the thyroid gland. Although a somewhat quick pulse is common in phthisis, the author reserves the term tachycardia for cases in which the pulse-rate is 130 and upwards. Some idea of the frequency of the condition may be gained from a consideration of the reports on 1,261 cases of phthisis examined or treated during a year at the Phipps Institute. In 185 of these cases the pulse-rate was over 120 at the first inspection, and in 120 cases was over 130. In one early case of phthisis a pulse-rate of 198 was recorded. In 62 cases the rate was between 130 and 140, and in 44 between 140 and 150. Indeed, tachycardia occurs so frequently in cases of early phthisis that its presence is of considerable value for purposes of diagnosis. In some cases the rapid pulse-rate may be persistent, but more often there is a state of cardiac irritability, and temporary tachycardia follows on any mild stimulus. In the majority of cases the presence of tachycardia makes the prognosis in phthisis more doubtful, although the importance of the symptom varies with the cause, and the cause is not always easy of determination. In the 120 cases quoted above, in which tachycardia was present as a complication of phthisis, 21 per cent. of those in the early stage died, 28 per cent. became worse, 7 per cent. were unimproved, 21 per cent. gained with slowing of the pulse, and 21 per cent. gained in spite of tachycardia. These figures go to show that cases complicated by rapid cardiac action run a more severe course than ordinary cases, and examples given by the author bear out this view. The treatment of the condition depends upon the cause. Absolute rest, both physical and mental, should be enjoined, and the patients told to suppress unnecessary coughing. The diet should be concentrated and given in small quantities at frequent intervals; large quantities of fluid are inadvisable. Local applications may be made to the skin to further the shrinking of enlarged glands. Distinct benefit sometimes follows the application of icebags over the precordium. Electricity may be applied to the neck when there is perverted functionation of the pneumogastric. Sanatoriums at high altitudes are unsuitable for these cases, and even altitudes of from 1,000 to 1,200 ft. sometimes seem to do harm.

(328) The So-called Physiological Cough of Infants.

Victor Thévenet (*Lyon Méd.*, August 27th, 1905) has investigated the cough which often occurs in healthy infants immediately after feeding. He finds that it is of much more frequent occurrence with suckling than with artificial feeding. It is practically unknown in crèches. It is a reflex but not a convulsive phenomenon. It is observed as a rule in well-nourished, healthy-looking infants who are steadily gaining weight. From inquiries made from mothers and nurses, it would seem to occur first on the second or third day after birth and to last for twelve months. It is more frequent after the first feeding of the day than after the later ones. In children who are partly breast-fed and partly bottle-fed, it often happens that the cough comes on after the breast and not after the bottle. The cough is associated in many cases with regurgitation of the milk or with actual vomiting of casein; it is found here, as a rule, that the cough succeeds the regurgitation or vomiting and is a sign that these have stopped until after the next meal. In a child who has suffered from the reflex cough, any serious digestive disturbance or general illness causing malaise or loss of weight is associated with cessation of the cough. An improvement in health is often heralded by the return of the cough. Thévenet concludes that the cough should be regarded as a sign of relative surcharge of the stomach. It may be looked upon as a favourable indication, but this indication is only a relative one. Its precise significance is the same, only less in degree, as that of the regurgitation which is equally often observed in infants who look quite healthy, but whose feeding is really too abundant or ill-regulated. It indicates that the alimentation is at least sufficient, and that the limit of digestive capacity has been attained. The explanation of the cough is that it is probably an abortive regurgitation, indicating that the stomach will no longer empty itself by the cardiac opening, but has decided on pyloric evacuation; of this the cough is probably not only the signal, but also an auxiliary.

SURGERY.

(329) Prostatectomy.

A. Schlesinger reports from Israel's clinic on the experience made with the operation of prostatectomy (*Deut. med. Woch.*, October 12th, 1905). First, he deals with the selection of cases. At present it seems as if one was in a period when the indications for the operation are becoming more and more extended, and it will not be long before one can advise operation for all cases of severe symptoms due to hypertrophy, provided that no definite contraindications exist. The technique has improved greatly lately, and no one nowadays will advise the Bottini operation, which is uncertain and not free from danger. In all the newer operation was carried out thirteen times, and in dealing with these cases he wishes to exclude one in which a previous attempt to remove the prostate by another surgeon having failed, the conditions for operation were considerably altered and the technique rendered much more difficult. Age does not form a contraindication, and one of the patients was 80 years of age. Neither does infection of the bladder; nearly all the patients had severe cystitis. Pyelitis should not be regarded as an absolute contraindication against the operation, but the experience which they made in one case was not very promising. Nevertheless, the condition of the patient was considerably improved by the operation, the incontinence of urine disappeared, and the urine was only slightly turbid when he was discharged from hospital. Neglecting to wash his bladder out regularly was followed by an increase of the signs of cystitis and pyelitis, and the patient died three months after the operation of his renal trouble. With regard to other complications—such as arterio-sclerosis, granular kidney, and emphysema with bronchitis—one need not regard them as definite reasons against operating, but one will always avoid it unless the condition of the patient renders a desperate attempt to improve matters imperative. Next he deals with the operation itself. Partial removal of the organ should be avoided. In 3 of the cases partial removal was carried out: in 1 case the whole could not be removed because of the results of a previous attempt to remove the prostate by means of Bottini's operation, as mentioned above. The result was that the patient felt well, and the cystitis nearly disappeared, but he had to pass a catheter three times a day. In the second case a piece of the right lobe of the size of a cherry was left, and the result was quite satisfactory. The third case was an exceptional one. The

prostate gland was removed according to Rydigier, piecemeal through the perineum, but the portion attached to the urethra was left; no drainage was carried out. The result was perfect functional recovery. In spite of an occasional favourable result of the partial operation, the complete removal is certainly to be preferred. In choosing whether to operate through the perineum or suprapubically, he decides in favour of the latter because it is technically easier, and because one cannot always reach enlarged middle lobes from the perineum, while they can be dealt with readily from the suprapubic incision. The urethra, as far as the pars prostatica is concerned, is generally removed, but it can be conserved in some cases. He states that the removal of large prostates is easier than of small ones, and goes as far as to believe that the difficulties of the operation diminish in proportion to the increase of size of the gland. If the condition of the bladder is satisfactory, the suprapubic wound should be closed and a permanent catheter is applied to drain the bladder per urethram. The after-treatment is also important. Rest in bed is especially necessary, and in old patients must be continued as long as the permanent catheter is *in situ*. His results are as follows: one patient was suffering from diabetes, and although the sugar had disappeared from the urine at the time of the operation, it reappeared a week later, and gangrene and finally coma ended the scene. Another patient died after three months, as stated already. A third patient was lost sight of, but one and a half years ago he heard that he still suffered from incontinence. Two other cases were complicated with calculus in the bladder. Two are still under treatment, but are doing well. Of the three partially removed, two did exceedingly well, and of the rest four were freed from all symptoms. The urine has cleared up completely and is passed normally at regular intervals, catheterization is not necessary, and there is no retention.

(330) Local Anaesthesia in the Radical Cure of Inguinal Hernia.

JOHN A. BODINE has operated on 284 patients, with 300 hernias, under local anaesthesia, without a death or a suppurating wound (*Med. Rec.*, October 21st, 1905). By means of Schleich's infiltration the amount of cocaine is reduced to a minimum and limited to a small area, producing acute local anaemia, effectually retaining the fluid in one spot. Cocainization of a sensory nerve trunk, abolishing pain sensation in the region supplied by it, renders it possible to operate for hernia by its use. The operative area is superficial, and the region restricted by the anatomy of the parts. In strangulated hernia local anaesthesia does not increase the shock, while general anaesthesia is often too great a load to be borne. The local anaesthetic permits of the application of hot towels to a possibly gangrenous intestine for some time, in order to determine whether it will react. The operation does not give rise to the danger of injury to the nerve fibres. The danger to a line of deep sutures from vomiting is done away with. There is no danger of cocaine poisoning with the small dose necessary —that is, $\frac{1}{5}$ gr. injected intermittently throughout an hour. Morphine given after the operation would act as an antidote were poisoning possible. The operation is more thorough because of the absence of haste and the lack of need to save the patient pain. There are no evidences of pain during the operation. The cocaine solution should be made fresh. The solution is one-fifth of 1 per cent. for infiltration of skin and nerve trunks, and for subdermic infiltration half this strength is used. The line of skin incision should be infiltrated throughout its extent sufficiently tightly to maintain the local anaesthesia for an hour. The aponeurosis of the external oblique requires no infiltration. It should be incised over the situation of the underlying ring; the ilio inguinal nerve will be exposed by retracting the flaps, and its trunk is then cocainized by a few drops of the solution. The incision may be carried painlessly into the external ring, and the flaps reflected to expose Poupart's ligament and the conjoined tendon. The ilio-hypogastric, if found, may now be cocainized. The margins of the internal ring are infiltrated. A line of infiltration along the long axis of hernial protrusion permits a clear cut through the hernial sac and coverings. The neck of the sac is infiltrated, dissected away from the underlying cord, ligated, and amputated. The genito-crural nerve is cocainized. The sac is dissected away from the cord and the operation completed. Operation on the female is easier than on the male.

(331) Ununited Fracture resulting from Nerve Section.

N. BIAGI (*Il Policlin.*, August, 1905), who states that he has already published a work to show that in the absence of nerve influence fractures unite in a normal manner and time, now describes further experiments undertaken as a result of criticisms on his earlier work. He selected the white mouse as the subject of experiment on account of its high osteogenetic power. Forty mice were treated by fracture of the tibia and subsequent section of the sciatic nerve, or of the sciatic and crural. After this the whole leg was placed in a protective apparatus, which was renewed if necessary. Twenty-two of the animals were afterwards carefully examined at times varying from the sixth to the 135th day after operation. In no case was real bony union obtained. For the most part there was an excess of callus, chiefly of a fibrous type, and after the sixtieth day this began to be absorbed. Further experiments were made on six dormice during the period of hibernation. On one side the bone was broken and the sciatic nerve divided; on the other side the fracture was made, but the nerves were left intact. Both legs were put up in a protective apparatus. The animals were examined after periods ranging up to twenty-two days. In every case it was found that on the side with uninjured nerves bony union had occurred, whether the fracture were simple or comminuted, and whether the fragments were in good or bad position. On the other side there was bony union in three cases, and in the other three there were signs that ossification was slowly invading the fibrous or fibro-cartilaginous callus. On the whole, the author concludes that the integrity of the nervous system has a very great value in the repair of fractures, but that the results obtained by experiment depend very much on the kind of animals employed, and even on the peculiarities of different animals of the same breed.

MIDWIFERY AND DISEASES OF WOMEN.

(332) Puerperal Eclampsia.

DEMELIN (*Journ. des Praticiens*, October 24th) gives his views on the proper treatment of puerperal eclampsia. If ever the teaching *primum non nocere* deserved to be obeyed, it is surely in connexion with puerperal eclampsia. All therapeutic treatment ought to be founded, of course, on definite pathological knowledge; in this case we have no such knowledge; we can only call eclampsia one of the toxaemias of pregnancy, and act accordingly. The method of active purgation has been found to be unsatisfactory. When albuminuria is present in a pregnant woman, the ordinary prophylactic treatment by milk diet and frequent purgation should be undertaken. This lowers arterial tension and perhaps carries off some of the toxins by the bowel or removes one of the sources of reflex irritation in the shape of hard faeces. The treatment of the actual convulsions ought to be the same as that of epileptic fits—that is to say, one should take care lest the patient damage herself by the violence of the convulsions, and should loosen all her clothing, and make her lie down. A rapid succession of convulsions is very apt to lead to a fatal result, so that it is necessary to check or limit the number as far as possible. From the moment of the appearance of convulsions, he recommends a diet of Evian water only, a litre in the twenty-four hours, to which milk may be added only as soon as all tremor has ceased; a daily clyster, in addition to a small drop of croton oil in 15 grams of castor oil by the mouth; venesection, and withdrawal of from 400 to 500 grams of blood; and two baths in the twenty-four hours. Between the baths the patient is to be warmly wrapped in flannel and surrounded by hot water-bottles, while a near window is to be opened. Demelin employs neither chloroform, nor chloral, nor morphine, nor veratrum, because all these drugs have a special action on the liver and kidneys, which are in eclampsia already overtaxed; and, in his opinion, these drugs have been responsible for the production of jaundice in some of these cases. The obstetrical treatment of eclampsia is important. One must remember not only that a toxaemic patient is always very susceptible to septic poisoning, but also that she is unusually susceptible to the effects of slight absorption of poisonous antiseptics, such as carbolic acid and corrosive sublimate. Potassium permanganate, hot water, and boric acid should be used instead of the mercurials. The patient being already in labour, the general principle is to accelerate it; but this is often quite unnecessary, as the second stage proceeds in an almost tumultuous manner, with great risk to

the perineum. Occasionally the question arises as to whether it would not be desirable to induce premature labour as a curative measure. If the eclampsia is really severe, it is perhaps generally desirable to empty the uterus; recovery sometimes takes place, and the kidneys assume their functions again in a very short time. Delivery may be effected in one of three ways: (1) By the introduction of a sound or catheter inserted between the uterine wall and the membranes; (2) by Caesarean section; (3) by rapid artificial dilatation of the cervix with the fingers or with a special dilator. Demelin condemns the first method as old-fashioned and unsatisfactory, because eclamptic patients are generally primiparae. Caesarean section is not to be recommended, the mortality of the cases on record being as high as 50 per cent. The third and only remaining method is not free from difficulties and dangers. There are risks of tearing the cervix, of spasmodic hour-glass contraction of the uterus, and of septic infection. Theoretically, the emptying of the uterus will involve a lowering of blood pressure and a relief for the kidneys; but we must remember that there are also *post-partum* eclampsias, which are very apt to be fatal. Out of 160 cases of eclampsia collected by Demelin, 26 per cent. died after spontaneous delivery of the fetus, 25 per cent. after extraction with forceps through a naturally-dilated os, and 44 per cent. after delivery through an artificially-dilated cervix. The average mortality among mothers with eclampsia which has not been obstetrically treated is from 20 to 25 per cent. Thus there seems very little to be gained from obstetrical treatment, and the only safe teaching is *primum non nocere*.

(333) Protracted Pregnancy.

LAMB (*Journ. Amer. Med. Assoc.*, September 30th, 1905) watched closely a case of extremely long pregnancy. The patient was 46 years of age, and had borne nine children, the youngest was 5 years old, whilst she had never miscarried. The period was becoming irregular, the patient always vomited during the first three months of pregnancy and had calculated her previous confinements with great accuracy. Lamb noted that the beginning of her last menstruation was on June 5th, 1904, and labour did not occur until 339 days after that date. Vomiting set in on June 29th, the last intercourse was on July 1st, when her husband left her, believing, as she herself did, that she was pregnant. By the beginning of March, 1905, the vomiting had ceased, fetal movements had been first noted in the middle of the previous October. In April, the patient grew anxious about the delay of labour. On May 9th, 1905, Lamb gave quinine in 5 gr. doses every four hours and pains set in after the fourth dose. The fetal heart was then beating; the hour was 12.15 a.m., May 10th. The third stage terminated at 4.30 a.m., without haemorrhage or laceration. The child was a bulky, anencephalous monster, of male sex, 22½ in. long, and 10 lb. in weight; it was born dead. The placenta weighed 1½ lb., the cord was 36 in. long; both were normal in every respect. The puerperium was uneventful. Lamb believed that the peculiar condition and shape of the malformed head, which prevented engagement and suitable pressure on the os externum, was the most probable explanation of the delay of labour. Uterine atony caused by age, and repeated gestation, may have played a share in protracting pregnancy.

(334) The Treatment of Insufficiency of Milk in Women.

BURZAGLI (*Gazz. degli Osped.*, September 24th, 1905), after a good deal of somewhat rhetorical condemnation of the mothers who might but will not nurse their infants, proceeds to deal with those who would but cannot owing to various causes. Setting aside definite physical causes in the nipples or breasts, he discusses pure deficiency of secretion in breasts which otherwise appear healthy. Of the numerous galactogogues in vogue none seem to have any reliable action. Hearing that veterinary surgeons were in the habit of increasing the lacteal secretion in animals by means of aniseed given internally as well as used externally, the author tried this drug in the case of two healthy women whose milk became so poor and scanty that after trying various remedies in vain they had recourse to goats' milk for their children. After six days' treatment with a 2.5 per cent. infusion of aniseed taken internally (about a litre a day), and applied externally as a fomentation, the milk gradually came back, and the mothers were able to go on suckling their children. Two cases do not prove much, but coupled with the larger experience of veterinary surgeons the author thinks it well worth further trial.

(335) Pyosalpinx Mistaken for Movable Kidney.

HANTKE (*Zentralbl. f. Gynäk.*, No. 32, 1905) recently reported before a medical society a case where a patient had a tumour entirely abdominal, and so freely movable that it could be pushed up as high as the ribs. Movable kidney was diagnosed. At the operation it was found that the tumour was a pyosalpinx closely connected with the great omentum, and drawn entirely above the pelvic brim; indeed, there were no pelvic adhesions.

THERAPEUTICS.

(336) Acute Intestinal Affections of Infants.

H. SALGE gives briefly a summary of the present views of the therapy and prognosis of the more important intestinal disturbances of infants (*Berl. klin. Woch.*, August 28th, 1905). Practically, these disturbances may be divided into (1) those produced by the diet as such without the intervention of a foreign agent; and (2) those which are produced by bacteria. The first group represent the most important cases. In its simplest form, one recognizes a dyspepsia, which is due to the want of proportion between the digestive powers of the stomach and intestines and the quantity of food introduced. The fault in quantity may be that the actual quantity at each meal is too much, or that the pauses between the meals are too short; or, as is mostly the case, both of these factors combined. The immediate result of this overfeeding is that there is a chemical alteration of the contents of the alimentary canal, and, as is always the case when the chemical characters of the contents are altered, a change takes place in the bacterial flora. The pathologically altered gastric and intestinal contents irritate the mucous membrane of the canal, and vomiting and diarrhoeic stools are the consequence. The dyspepsia is, therefore, a pathological condition of the intestinal contents, which is not associated with any changes in the wall of the gut, and which does not affect in general the condition of the child apart from the effects of insufficient nutrition. Prophylactically, therefore, one should avoid the occurrence of this form by avoiding overfeeding, and at the same time by paying attention to the quality of the food. The treatment consists in allowing the infant to starve for twenty-four hours. It should be given a weak infusion of black "Russian" tea, sweetened by saccharin and not by sugar. This will be found to be absolutely free from all danger. If the day's hunger does not suffice to remove all symptoms one can have recourse to the favourite calomel, which is given in doses of from ⅛ gr. to ¼ gr. repeated three times at two-hourly intervals. When the stomach and intestines have been freed from their pathological contents it is wise not to return to milk at once, but to employ a diet which does not undergo changes so easily as milk. Such a diet is represented by the various forms of starch, and Salge is of opinion that while infants do not digest starchy foods as well as adults it is quite erroneous to assume that they cannot deal with such foods at all. If the infant is very young, naturally it must be fed exclusively by the breast, but if it is found necessary to give such an infant carbohydrates Soxhlet's nutrient sugar in 5 per cent. solution is to be recommended. This preparation consists of malt and dextrin, and is completely soluble. As far as older infants are concerned, he does not recognize the necessity of the so-called children's foods, but prefers oatmeal or cornflour, if pure. In three days one should secure a semi-solid dark-brown stool, and then one may carefully recommence the milk diet. It sometimes occurs that the disposition to vomiting and loss of appetite remains, and this must be regarded as a complication. It is then necessary to test the motor function of the stomach, which is easily done. The infant receives a meal corresponding to its age and weight, and after three hours evacuates the gastric contents, which are examined for undigested food and for free hydrochloric acid by means of Congo paper. If the stomach is not empty and does not contain free acid, it should be washed out, which is easy in infants. The best solution for washing out is a 1 per cent. solution of Carlsbad salts. In obstinate cases, pepsin and HCl, or a mixture containing 1 gram of liq. strychnini, 2 grams of the fluid extract of condurango, and 10 grams of tincture of rhubarb, of which 5 drops are given three times a day, a quarter of an hour before meals. Next he deals with infantile enteric catarrh. This is generally a sequela of the dyspepsia. The severe symptoms set in suddenly after those of the milder illness have

lasted for some time. The stools are thin or quite watery, and seldom exceed four to six in twenty-four hours. They are intensely acid and rapidly produce an intertrigo. The general health soon suffers. The child looks ill, the expression is anxious, the eyes sink in, and wasting with its concomitants follow. The respiration is not usually increased in rate, but becomes deep, difficult, and often sighing. The pulse is small and often irregular. Next the sensorium is affected. There may be very high fever in previously robust children, but in weaklings it is frequently not present. This condition depends on a marked alteration of the intestinal wall, and the prognosis depends on the state of the heart. If one succeeds in checking the collapse which threatens the little one's life, as a rule one can steer the case through to a favourable termination. The best means against the collapse is camphor given hypodermically. The dose at first may be 0.1 to 0.2 gram, and later half the dose repeated every two hours. Only very small quantities of tea may be given by the mouth, and the deficiency of water in the body can be rectified by saline solutions injected subcutaneously twice a day in quantities of 150 c.cm. The fever should be combated by packing the child in cold wet cloths or blankets. The child must on no account be given fat foods as soon as the collapse is overcome. This applies also to mother's milk. In clinics which possess wet nurses, the best food is mother's milk which has had its fat abstracted. Failing this, one can give beside tea, very small quantities of mother's milk, drawn off, and given in a teaspoon. If no suckling woman is at hand, it is best to keep the child for about three days on tea, and then to go on with thin barley water or other starch decoction. In some cases the author has had good results by giving good full milk, which has been warmed to 40° C. and treated with pegnin, but he strongly advises the use of twice as much pegnin as is given in the directions on the bottle. Infantile cholera is nothing other than severe enteric catarrh, and the foregoing therefore applies to this also.

(337) Treatment of Gonorrhœa.

FREDERICK A. LYONS reports (*Med. Rec.*, November 4th, 1905) a series of 400 cases of acute gonorrhœa treated by the quick curative method during the last ten years, in 384 of which—that is, 95 per cent. of them—the disease was cured in six days, and in about 80 per cent. in twenty-four hours. This method was published by him ten years ago, and consists of injections into the urethra of 1½ drachms of solution of silver nitrate, at first in 4 per cent. strength, later in 2 per cent. and 1 per cent. strength. In most cases a single injection was sufficient. It produced little pain, and after it the gonococci had disappeared from the secretion. If they were still found, the injection was repeated. When not cured by three injections, the treatment was not continued. The method depends for its effect on the fact that early in the disease the gonococci lie entirely upon the outer layer of epithelial cells, multiplying on them, destroying their vitality, and causing them to exfoliate. At this stage the microscope shows many gonococci on the epithelial cells. There follows congestion, afflux of serum, exfoliation of all the epithelium until the subepithelial tissue is laid bare. There will now be in the discharge few epithelial cells and many pus cells. At this time the gonococci penetrate the connective tissue. As long as there appear under the microscope epithelial cells studded with gonococci so long are the germs within reach of the germicide, and the case is amenable to quick treatment. The exfoliation of the epithelium caused by the silver nitrate only quickens the exfoliation produced by the disease and destroys the gonococci, and does no harm.

(338) Serumtherapy in Erysipelas.

JAMES C. AYER, who some time ago published his observations on a series of 15 cases of erysipelas treated by antistreptococcus serum, reports (*Med. Rec.*, August 26th, 1905) the results obtained by the same treatment in 33 additional cases. Three of the patients died in this last series; the average duration of the disease was 6.8 days, as against 7.6 days in the previous series. In the first series of 79 cases treated by the older methods, the average duration was 9.4 days. The author says that this shortening of the average duration of the disease by 2.6 days about expresses the value of this form of treatment. The general amelioration of all the subjective symptoms following its employment is also in its favour, as is the apparent beneficial effect on the febrile form of albuminuria, which is present in such a considerable percentage of the cases.

(339) Thiocol in Pneumonia.

CERIOLI (*Gazz. degli Osped.*, July 2nd, 1905) speaks favourably of his experience of thiocol in the treatment of pneumonia (lobar). He briefly reports 9 cases so treated, and refers to 20 or 30 others similarly treated. The maximum doses was 25 grams in thirty hours, but usually about 10 to 15 grams per diem are sufficient for an adult, given in gram doses every one or two hours. Speaking generally, no bad effects followed; in one case, however, some rather troublesome diarrhœa set in, which may have been due to the drug. So far as its special effect on the pneumonia is concerned, the chief results observed were a diminution and thickening of the excretion and the fall of temperature. The sputum lost its rusty colour, and the flushed character of the face also disappeared, indicating that thiocol has a decongestive action. It does not appear to act as a germicide.

PATHOLOGY.

(340) Acute Peritoneal Infection.

WARBASSE (*Amer. Journ. of Med. Sci.*, July, 1905) considers that the high mortality in acute peritonitis is due rather to results of inflammation in the structures beneath the peritoneum than to the surface manifestations of that membrane, and that septic absorption from the peritoneal cavity has but little to do with the symptoms of peritonitis, the disease being fatal on account of its complications, which induce a condition of intestinal obstruction. The muscular wall of the bowel becomes paralysed early in the disease owing to its infiltration with the products of inflammation which, by mechanical pressure and toxic effects, deprive the muscles and nerves of their power to function. The pressure of gas within a segment of bowel so paralysed causes it to rise from among the other coils of intestine to the highest point, and repeated peristalsis of the healthy bowel is unable to propel any contents past this distended and paralysed loop. Paralysis of the bowel in such cases gives rise clinically to the same symptoms as intestinal obstruction. By its inflammation the whole texture of the peritoneum becomes changed, and the author doubts whether septic absorption from pus in the peritoneum is much greater than that from a simple abscess elsewhere. He holds that, even in the worst cases, where the disease is rapid and the peritoneum intensely inflamed, an extensive paralysis of the intestine rapidly develops, and death results essentially from intestinal obstruction, with but little fluid in the peritoneal cavity. In puerperal peritonitis the patient often dies before there is any development of intestinal paralysis, but in such cases of profound septic intoxication he holds that the peritonitis is not the chief factor, often having scarcely developed, but that the involvement of the uterus and lymphatics of the broad ligament and pelvic spaces by a streptococcus of great virulence is the primary cause. Apart from pathological considerations, the author considers that from clinical symptoms also the ordinary fatal case of acute peritoneal infection is shown to belong to the intestinal obstruction group.

(341) Tuberculous Infection of Frogs.

FOLLOWING up the discovery of tuberculosis in cold-blooded vertebrates made by Sibley in 1889, Barlocco and Goggia (*Ann. d. Ist. Maragliano*, vol. i, pp. 193-218) have investigated the infection of frogs with tuberculous material derived from mammals, and find that the tubercle bacilli obtained directly from man are more virulent for the frog than any others. Such bacilli appear to multiply in frogs kept at a temperature of 15° to 20°, and also become more and more virulent to them when passed on through a series of such animals, but less virulent to homœothermic vertebrates. This loss of virulence, however, is very far from being complete, and such bacilli are not sufficiently avirulent to be fitted for the active immunization of mammals against tuberculosis. A review of the literature bearing upon this subject is appended to the paper.

(342) Scirrhus Ventriculi Diffusus.

RINDFLEISCH (*Verhandl. der physikalisch-medicinischen Gesellschaft zu Würzburg*, N.F. Bd. 37, No. 8, 1905) describes in elaborate detail the morbid anatomy and histology of a case of the above condition. The point to which he wished to call particular attention is that the cancerous process set in simultaneously over the whole of the stomach, and is therefore to be contrasted with the more usual form of carcinoma, which originates from a single focus.

AN EPITOME
OF
CURRENT MEDICAL LITERATURE.

MEDICINE.

(343) Aplastic Anaemia.

A. Zeri (*Il Policlin.*, July, 1905) reviews the literature of aplastic anaemia from the time when Ehrlich described his first case up till now, and adds a very complete account, verified by *post-mortem* examination, of a recent case and some notes on another. The disease usually shows the symptoms of a progressive pernicious anaemia following repeated haemorrhages, but there are no signs of power of regeneration of blood by the medulla of the bones, and histological examination of the blood gives different results from those usual in pernicious anaemia; there are no haematoblasts, the white corpuscles are diminished in number, and show an excess of lymphocytes; the medulla of the long bones is yellow, showing none of the transformation to red usually found in severe anaemia. Bettmann's experiments on animals seem to show that medullary aplasia may be determined by the intensity of the cause of anaemia and not by its specificity. Zeri's case is that of a porter, 46 years of age, with nothing noteworthy in his family history, somewhat addicted to alcoholic excess, not syphilitic, who suffered from malaria at the age of 21, and from some acute infection, probably influenza, at the age of 28. In early life he frequently suffered from epistaxis, later from bleeding haemorrhoids. Eight months before death he began to suffer from an intense anaemia, which gradually advanced. His skin was of a pale yellowish colour, he had great prostration, headache, palpitation, increase of cardiac dullness, systolic murmurs at base and apex, a venous hum audible over the neck, and numerous peripapillary retinal haemorrhages. Examination of the blood showed 1,423,200 red corpuscles, 2,700 white, and 38 per cent. of the normal haemoglobin. Twelve weeks later the red corpuscles had fallen to 481,000, and the white risen to 3,200, the haemoglobin being 18 per cent. The leucocyte count showed an increase in the mononuclears, 33 per cent. lymphocytes, 10 per cent. medium or large mononuclears, and 57 per cent. polynuclears or transition forms; and at the second count, four days before death, 43 per cent. lymphocytes, 15 per cent. larger mononuclears, and 42 per cent. polynuclears and transition forms. Examination of red corpuscles showed slight poikilocytosis, but there were no nucleated red corpuscles, either normoblasts or megaloblasts. Death was by gradual aggravation of the conditions of anaemia without special complications. A few days before death delirium, drowsiness, aphasia, and paraphasia were noted, and finally coma lasting for twelve hours. At the necropsy, in addition to severe universal anaemia, there were found fatty degeneration of the myocardium and hypoplasia of the aorta. There was no transformation of yellow into red medulla in the long bones. The costal medulla contained chiefly lymphocytes, with a well-marked scarcity of granulocytes. Thus the autopsy quite bore out the clinical diagnosis, and the case may well take its place with the not very large number of cases previously described. The name aplastic anaemia represents a clinical entity with a sufficiently definite anatomical basis. The author argues in favour of its classification with the essential anaemias, and not with the class of chronic simple anaemias in which Lazarus and others would place it.

(344) Polyclonus of Infective Origin.

J. Valobra (*Il Morgagni*, December, 1904) describes two cases of muscular twitching, and deduces from them and from the records of other more or less similar cases the theory that there exists a form of polyclonus of infective origin which develops in subjects predisposed by heredity or acquired degeneration, as the result of the action of microbic poisons. He states that this form of polyclonus is closely allied to chorea and to other forms of myoclonus. He ascribes the whole group of diseases to an altered functional condition of the cerebral cortex in the Rolandic area causing functional changes in the motor cells of the anterior cornua of the spinal cord, or in a few cases to a primary condition of spinal disease not dependent on any cerebral change. The first case was a boy of 14. He was of low intelligence and had little control of the bladder. He was admitted to hospital for tonsillitis, and treated there for rheumatism also. He suffered from mitral regurgitation. His reflexes were normal, his pupils a little dilated. Careful examination soon after admission showed nothing of interest in the muscular system. Six weeks after admission, his rheumatism having improved very little, it was noted for the first time that his muscles were undergoing a series of clonic twitchings. These twitches were not symmetrical, seldom caused movement of any joint, and occurred in groups. The deltoid, triceps, biceps, pectoralis major and adductors of the thigh were the principal muscles concerned. The muscles of the forearm were rarely affected. The reflexes, special senses, and common sensibility were normal. The head was unsymmetrical. The large nerve trunks were tender on pressure. The muscular symptoms lasted to the end of his stay in hospital and for another ten weeks, making four months altogether. They then to a very great extent gradually disappeared. The second patient was the younger sister of the first, and was aged 11 years. Like him she showed signs of defective development of the nervous system. She was dirty and immodest. Her head was symmetrical, her reflexes normal. She also showed muscular twitchings, but of a rather more varied character. Under observation for seven months, her general health improved, but her muscular and nervous characteristics remained unchanged. In a long series of paragraphs Valobra distinguishes the characteristics of his cases from those of a more or less similar nature described by other physicians. He finds that they more nearly resemble the multiple paramyoclonus of Friedreich than any other type, but must be considered always as due to the preceding infectious disease. He compares them with a canine disorder described by Verheyen and Triboulet, and attributed by both of them to preceding infection. Courmont has succeeded in preparing from *Staphylococcus pyogenes* soluble products which, when injected into rabbits and dogs, caused an exaggerated excitability of the nervous system, showing itself in muscular spasms and choreiform movements.

SURGERY.

(345) The Results of the Operative Treatment of Cancer.

Doellinger has made an exhaustive inquiry into the fate of cancer patients who were operated on by him during the past four years in the surgical university clinic at Buda-Pesth, and details the mass results in the *Deut. med. Woch.* of September 14th, 1905. The total number of patients was 220, but only 175 could be traced, so that there is uncertainty about the fate of the remaining 51. As a rule the following classes are withdrawn from statistics: 1. Deaths from the results of the operation, for example, sepsis, pneumonia, etc. This is not reasonable, for although cancer does not kill these patients directly, their lives were lost in the course of the only hopeful treatment of the disease, and an ideal surgery does not exist which has no operation deaths. It is therefore necessary to include these into the statistics as failures. 2. Those patients who die later of some internal acute disease. Against excluding these from the statistics, he urges that the large majority of these persons really die of internal metastases, which are erroneously supposed to be acute inflammatory processes. A few patients may die of independent internal conditions, but the error will be less if one adds the cases as probable cancer deaths than if one excludes the cases altogether. 3. Those which cannot be traced when the inquiry is being made. It is extremely probable that of these disappeared patients at least as high a percentage has died as that of the traced cases. In all probability, however, the percentage may be much higher, and thus the exclusion of these cases may yield a lower mortality than actually takes place. It is, however, not possible to include them, and therefore it must be borne in mind that the figures obtained err on a too low mortality. The conclusions based on the results of operation are summed up as follows: (1) Thorough removal of the growth is the only treatment which can offer the cancer patient a chance of cure. (2) The tumour must be removed as early as possible, and therefore all patients suffering from cancer are to be operated on as soon after admission as possible, independent of what other cases may be awaiting operation. (3) No attention is paid to cosmetic results; the tumour must be removed with a good margin of quite healthy tissue, only taking the life of the patient into account. (4) All the regional lymphatic glands are removed with the growth, whether enlarged or not. Turning to

the actual results, he relates the fate of 150 patients who were operated on three or more years ago. Of these 8·66 per cent. died in connexion with the operation or the wound, 2.68 per cent. of intercurrent diseases, 47·33 per cent. showed recurrences, and 41 33 per cent. remained free from recurrence. Of 62 patients with five years' interval, 3.22 per cent. died of the operation or its effects, 54 per cent. showed recurrence, and 41.93 per cent. remained free. Of 33 patients who were operated on more than once, 32 per cent. remained free from recurrence for three years and 38.99 per cent. for five years. Adding these cases together, 40 per cent. remained free from recurrence for three years and 41.25 per cent. for five years. The early cases, however, were operated on by a less complete method than the later cases, so that this may account for the small difference between the frequency of recurrence after three and after five years. The results will be even better if one operates on more early cases, so that one may look hopefully into the future.

(346) Isolated Subcutaneous Fissure of Long Bones.

K. FOERSTERLING writes about the fissures which occur in long bones, and which can only be detected by means of Roentgen rays (*Deut. med. Woch.*, October 12th, 1905). He thinks that the occurrence of these fissures is by no means uncommon. He gives the clinical accounts of two typical cases. The first was that of a boy of 7 years, who had hurt himself by a heavy mattress falling on his right leg. He complained of pain at once and could not walk. There was some swelling of the leg at the junction of the middle and lower thirds, but no changes of the tibia could be found. It was thought that on testing for abnormal movement of the bone a slight spring-like bending could be made out. The child refused to even attempt to put the leg to the ground. The Roentgograph showed an isolated subcutaneous fissure placed obliquely in the lower third of the shaft of the tibia, measuring about 3 cm. The healing took place smoothly in four weeks, and no callus was formed. The second case was that of a 2-years-old boy who fell down some stairs. Five days later the parents brought the child to the hospital because he still complained of pain and would not walk. In the lower part of the middle third of the left tibia a swelling as one finds in a simple contusion was noted. There was not the least abnormal movement of the bone, nor were any other signs of a damaged bone to be found. The examination appeared to be very painful, and therefore a Roentgograph was made. The picture from the anterior aspect showed an incomplete fissure running obliquely downwards and outwards. In fourteen days complete healing had taken place. By fissure the author means an incomplete, oblique, longitudinal, or spiral fracture, with neither dislocation of the fractured ends nor an appreciable separation between them. The occurrence of such fissures has long been recognized, but only when the parts were brought to view at an operation or at the *post-mortem* examination. They then generally were complications of more serious fractures. He points out that, while the trauma producing this condition need not be severe, the signs are those of a simple contusion, but the limb is wholly incapacitated. Care must be exercised with regard to forcible examination for abnormal movement, as it is quite easy to convert the fissure into a fracture. The diagnosis can only be certainly made with the aid of *x* rays, and it must be borne in mind that radioscopy is not sufficient. Radiographs should be made from two aspects, as the fissures are not always recognized from one view. The prognosis is good, and, following rest, the functional activity of the limb is not impaired after healing.

(347) Medullary Anaesthesia (Bier's Method) in Rectal Surgery.

NEUGEBAUER (*Zentralbl. f. Chir.*, No. 44, 1905) publishes the results of his experience of subarachnoid injection of solution of cocaine in seventy-nine operations on the rectum and anus. It is stated that in many cases the anus becomes widely dilated and very patent after the injection, so that the lower third of the rectum is exposed to visual exploration. In other cases, although the paralysis of the sphincter is not so well marked, two fingers can be readily passed into the gut, and internal haemorrhoids can be freely exposed. Inspection of the rectum and surgical operations above the sphincter are much facilitated by the paresis of this muscle resulting from lumbar injection of cocaine, which method, therefore, in the author's opinion, is preferable to all other anaesthetic methods, whether local or general, in operations on the rectum. A case is referred to in which spinal injection proved very useful in the precise diagnosis of a bleeding internal haemorrhoid, after laparotomy had been suggested for the removal of a supposed intestinal tumour. The author, in concluding, states that he has quite recently observed three instances of spontaneous reduction of strangulated hernia after intraspinal injection of cocaine.

MIDWIFERY AND DISEASES OF WOMEN.

(348) Surgical Treatment of Incontinence of Urine.

EMILIUS DUDLEY (*Amer. Journ. Obstet.*, September, 1905) considers that none of the operations designed for the relief of incontinence of urine in the female had proved satisfactory. Injection of paraffin should be prohibited, as it involved danger of pulmonary embolism. Massage and electricity seldom gave permanent results. Torsion of the urethra might be followed by sloughing. Albarran and others drew the urethra forwards and fixed it in its new position. The last type of operation seemed the most surgical. Dudley practised a variety of this procedure. A horseshoe-shaped piece of tissue was dissected off rather deeply between the clitoris and meatus, and prolonged to both sides of the entire length of the urethra. Then that canal, thus set free, was drawn up forwards to a point near the clitoris and secured there by means of two sutures; lastly the lateral prolongations of the denuded surface were closed. The sagging urethra was thus placed in a favourable position. The application of the sutures drew the urethra forward, straightening out urethrocele and overcoming the sacculation at the neck of the bladder, where residual urine was apt to collect. Perineorrhaphy was usually needed to relieve relaxation of the posterior vaginal outlet, and there was also cystocele in most cases for which a plastic operation was needed. Dudley had performed the above-described operation for drawing the urethra forwards five times; in the first four relief from incontinence was immediate, but the after-histories of all five were, he owned, too short to be of value.

(349) Measurement of Fetal Head before Birth.

W. S. STONE (*Med. Rec.*, November 4th, 1905) describes his method of measuring the fetal head through the abdominal walls. The patient is placed in the ordinary dorsal position for an abdominal examination, and the examiner, standing by the side and placing the lower end of the patient's body, first carefully palpates and makes out the position of the head. If it is already engaged in the pelvis it will not be practicable to measure it, but in such cases it naturally is unnecessary. The occipital and frontal poles are then grasped between the two hands, and an assistant places from below the ends of the pelvimeter between the terminal phalanges of the middle and ring fingers of the examiner, pushing them firmly inward, as the examiner directs. It is essential that the ends of the pelvimeter go between these fingers, because in palpation one naturally places the middle or longest finger nearest the two poles from which the measurements are to be taken. If placed in front of the middle finger, the pelvimeter will slide forward and the measurement will be inaccurate. An assistant or nurse is necessary in order to obtain the best results, and that the examiner's fingers may be entirely free to accurately locate the fetal parts. A table is given showing the results obtained before and after delivery in 41 cases measured in this way. In 28 instances the *post-partum* measurement of the occipito-frontal diameter agreed exactly with the measurements made through the abdominal walls before labour; in 11 there was an error of 0.25 cm.; in 2 of 0.50 cm. In another table the average amount to be deducted from each occipito-frontal diameter in order to obtain the biparietal diameter is given. The method is said to be of the greatest utility in determining the nature of the obstetric operation to be practised, and also in determining early in pregnancy whether or not to wait for full term.

(350) Calcified Ovarian Fibroma Obstructing Labour.

NEHRSKY (*Zentralbl. f. Gynäk.*, No. 41, 1905) writes of a woman, aged 27, from whom he removed a completely calcified fibroma of the ovary in the sixth month of her second pregnancy. Two years previously her first labour was obstructed by the tumour, which was taken for a bony growth developed from the pelvis. The forceps and turning proved failures,

and delivery was effected by craniotomy. Nebesky, examining the pelvis during the second pregnancy, found a hard tumour wedged in between the uterus and the promontory of the sacrum. He made an abdominal incision, drew the gravid uterus forward, and removed the tumour without difficulty. It was of the size of a goose's egg. The patient was delivered spontaneously at term.

(351) Perforation of Colon in New-born Child.

Jeannin and Cathala (*L'Obstétrique*, 1905) report that a sickly child, born apparently dead, was placed in a couveuse and died on the next day, after frequent attacks of cyanosis, without being put to the breast. The peritoneum was found full of greenish fluid with black masses in it. A perforation was detected in the ascending colon close to the point where it was continued as the transverse portion. Below the perforation the canal of the gut was narrow, permeable, and filled with a soft, white material consisting of cast epithelial cells. Above the perforation the intestines contained meconium. There was induration in the coats of the colon around the perforation. Some of the coils of intestine adhered. The cause of the perforation could not be precisely defined.

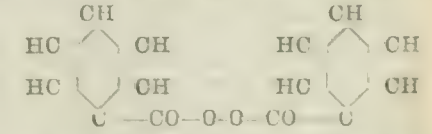
THERAPEUTICS.

(352) Treatment of Exophthalmic Goitre.

Georges Dreyfus (*Zentralbl. f. d. ges. Therap.*, August, 1905) reviews the later developments of the treatment of Basedow's disease. There has been no great advance in the merely medicinal forms of treatment. The use of iodine internally has fallen into general disfavour and many authors consider it to be harmful even for external use. The cases benefited by it probably belong to the secondary form of the disease in which the enlargement of the thyroid precedes by a long time the other symptoms. Kocher's treatment by phosphates has been successful in some cases, but many cases have been recorded, especially latterly, in which no benefit at all has been obtained. Two cases are described in which considerable improvement followed the administration of ovarian tablets and in one of these, in which the improvement was very rapid, an apparently permanent cure was obtained. The two lines upon which the treatment has been developed are organotherapy and surgical treatment. The relative merits of the two systems are difficult to decide upon because the cases have often not been watched for long enough to ensure the permanence of improvement. This has been especially noticeable in the 47 cases described as treated by organotherapy. In a few cases the period of observation has been one of days only, in most of weeks, and in the rarest instances of several months, while for a disease which is chronic and liable to periods of quiescence or remission, a recovery cannot be held to be permanent unless it has lasted for as long as two years. There are several forms of organotherapy. The administration of the milk of goats upon which thyroidectomy has been previously performed has been tried in only 10 cases and from external causes is not likely to come into general use. More or less marked improvement was recorded in each of the 10 cases and in one of them permanent recovery was said to have resulted. Subcutaneous injections of antithyroid serum have not been satisfactory; the therapeutic effect is uncertain and there is a great tendency to the development of such local complications as abscess and erythema. For practical purposes there remain, therefore, for consideration the administration by mouth of antithyroid serum as by Christen's blood tablets or of rodagen, a powder prepared from the milk of goats after thyroidectomy. There can be no doubt that either of these preparations does in the majority of the cases affect the symptoms of the disease and on the whole the serum seems to act better than rodagen. In a few cases unpleasant side-effects have followed the use of the serum given in medium doses, and it is therefore best to begin with a small dose, 0·5 c.cm., and to increase it gradually. The effect of organotherapy is manifested as a rule in an improvement in the general condition, and in the size and consistency of the thyroid gland; the effect on the exophthalmos, the eye symptoms, the tremor, etc., is uncertain, although often good. The heart condition is more seldom benefited, perhaps because, in many cases, organic heart disease is already present. Both the serum and rodagen are contraindicated where there is advanced disease of the heart muscle. The frequency of relapse when the treatment is discontinued is very marked. Operations on the thyroid gland in Basedow's disease have become more and more frequent during the last twenty-five years. A distinction has been drawn between the primary and secondary forms of the disease with respect to the advisability of operation, but in 127 cases reported in the recent literature, the author has not found any considerable difference of result in the two classes. Compression of the trachea by the enlarged thyroid is an obvious indication for operation. Other suitable cases are those of acute intoxication, even where the thyroid is still not markedly enlarged, and according to Glanenach, any cases in which there is a sudden increase in the severity of the symptoms, especially in the exophthalmos, to such a degree as to endanger the cornea. It is doubtful whether excessive tachycardia is an indication for operation, because of the danger of the heart muscle being already seriously damaged. Amongst the different operations performed are excision in part or whole of the gland, ligature of the vessels, a combination of partial excision and ligature, and enucleation of cysts, etc. The dangers of the operation are well known, and may be divided into the dangers of the operation itself, including the danger from the excessive haemorrhage which is liable to occur, dangers from the anaesthetic, and dangers from the unpleasant, but happily usually transitory, post-operative symptoms which develop in three-quarters of the cases. Some authors always use chloroform, and have had no accidents. All the authorities agree that the effect of operation upon the pulse is good; the pulse-rate falls, the pulse improves in quality, and palpitation is no longer felt. The general condition also improves very soon after operation. The effect upon other single symptoms is less certain, although it is often seen; the degree of exophthalmos often lessens rapidly at first, but then remains almost stationary, and sometimes this symptom may persist to some extent for months, if not permanently; the other eye symptoms improve quickly independently of the exophthalmos. The re establishment of menstruation is important from the point of view of prognosis, because unless the function becomes re-established the patient is very liable to relapse. One hundred and twenty-seven recent cases of operation have been collected from the reports of different operators. Complete recovery followed operation in 75·7 per cent. of the cases, great improvement in 10 per cent., slight improvement in 2·4 per cent., no improvement in 4 per cent. and death in 7·9 per cent. The fatal cases included 3 of collapse, 1 of shock, the patient having been moribund on admission; 2 of haemorrhage, 1 of embolism, and 1 of pneumonia. When it is remembered that only severe cases were operated upon, and that in all but two of the cases the period of observation after operation was longer than one year, and in some cases longer than four years, the author does not believe that results so favourable can be reported from any other method of treatment. The view that the symptoms of Basedow's disease depend on some abnormality of the sympathetic has led in some instances to corresponding operative measures. The chief effect of operations on the sympathetic in the neck has been upon the exophthalmos, and this effect seems to be more constantly produced than in operations upon the thyroid.

(353) Benzoyl Peroxide.

Benzoyl peroxide has certain likeness to oxydase, in that when added to guaiacum tincture the blue colour is produced, but when a small trace of prussic acid is present this action is prevented. A. S. Loevenhart (*Therap. Monats.*, August, 1905) deals with this substance. Its formula is:



Its method of manufacture is as follows: Commercial peroxide of sodium (100 g.) is treated in the equivalent quantity of chloride of benzoyl (180 g.) in water at 4° C. The product is filtered off and recrystallized in hot alcohol. Benzoyl peroxide is a stable, odourless, and non-volatile substance, existing in the form of white prisms, melting at 103.5° C. It is only slightly soluble in water, but is more readily soluble in alcohol and in olive oil. Animal experiment and clinical observation show that it has no irritating action, but the only local effect is a mild anaesthetic one. It is non-poisonous when introduced into the

peritoneal cavity of a dog, and 70 c.cm. of a saturated solution can also be introduced into a vein of a dog without any ill effect. The antiseptic action was tested by applying crystals on agar plates which had been thickly inoculated with various micro-organisms. The growths were much inhibited, but the bacteria were not killed. Clinical uses of the benzoyl peroxide are for gangrenous wounds and varicose ulcers of the legs. In both cases in a number of instances the pain rapidly disappeared and healing soon set in. In certain skin diseases excellent results were also obtained. Taenia, sycosis, etc., yielded to its action after other methods of treatment had failed.

(354) The Action of Saline Injections.

LUBOMONDROV (*Ann. de l'Inst. Pasteur*, September 25th, 1905) has tested the prophylactic and therapeutic action of saline injections upon guinea-pigs which were treated with intraperitoneal inoculations of typhoid and cholera organisms. The saline solution employed consisted of 0.5 per cent. NaCl and 1 per cent. Na_2SO_4 dissolved in distilled water. The solutions were injected sometimes intraperitoneally and sometimes subcutaneously. The author found that they contributed to the development within the organism, particularly in the peritoneum, of a leucocytosis and a phagocytosis, which retarded the development of the virus and in some cases destroyed it. These saline injections contributed, therefore, to the prolongation of life, and in some cases enabled the animals to survive the infection. Prophylactic injection, administered twenty-four hours before the virus was inoculated, enabled guinea-pigs to resist a dose from two to three times as large as that which proved fatal to the controls.

PATHOLOGY.

(355) The Pathology of Trachoma.

W. GOLDZIEHER delivers himself on the pathology of trachoma, which has been the subject of so much conjecture during several years (*Berl. klin. Woch.*, October 9th, 1905). He says that twice in the history of medicine the French army has been responsible for the introduction of scourges, which have up to the present day defied all attempts to stamp out. The first occasion was in 1499, when the army of Louis VIII entered victorious into Naples after a siege of short duration and spread the disease of syphilis, with murderous consequences to the civilized world. The second occasion was when Napoleon Bonaparte was victorious at the renowned battle of the Pyramids in 1798, and when a dreadful epidemic of an eye disease broke out among the troops and rendered a large proportion of the victors unfit for service. This epidemic then attacked the English troops, and soon spread over Europe into almost every country. This was the beginning of trachoma, and both in the case of this disease, and in the case of syphilis, the medical world was totally unprepared to cope with the epidemics, and a considerable time elapsed before the beginnings of a pathology and of a rational treatment were present. In spite of the development of pathology during recent years, the special pathology of trachoma has not been made out with clearness. It is, first of all, necessary to define the disease sharply, and this the author does in the following terms: By trachoma we understand an infectious, eminently chronic affection of the conjunctiva, having as an anatomical basis a diffuse lymphoid overgrowth, which at first infiltrates the superficial layers, and later attacks the deeper regions of the conjunctival tract and tends to fibrous metamorphosis. The infectivity of the affection is present in the secretion of the conjunctiva, and only when this, in sufficiently virulent condition, is brought into contact with a healthy conjunctiva does the disease spread. There can be no infection without secretion. So far no one has been able to discover the specific causal micro-organism of trachoma. The germs which have been found in the secretion are either ordinary saprophytic organisms or more often micro-organisms of other forms of conjunctival infections. Thus the gonococcus, Koch-Weeks bacillus, and the pneumococcus have been frequently met with. Bacteriologists regard these as mixed infections. Raehlmann has found by means of the ultra-microscope a very minute microbe, but until a pure culture and inoculation experiments have proved to the contrary, one must refuse to accept it as the cause of trachoma, on the grounds of the filter experiments, carried out with porcelain filters, which are impermeable to ordinary bacteria, and which keep back the infectious material of the trachoma secretion, while particles of the size of Raehlmann's bacteria could easily pass through the filter. Since bacteriology does not up to the present throw light on the pathology of this affection, the author turns to the historical consideration of the disease. The disease had previously to the outbreak in Napoleon's army been known in the East, and the first great epidemics, up to the Thirties of the nineteenth century, had the clinical characters of acute gonorrhoeic blenorrhoea. Most ophthalmic surgeons agree that the disease began as a very acute blenorrhoea, and gradually was spread as a blenorrhoea in a chronic stage. Thus the beginning was a blenorrhoea of the acutest type and gonorrhoeal in origin, while what we now recognize as trachoma is the chronic process which has developed out of this condition. Against trachoma being actually a gonorrhoeic process, Greeff denies the existence of a chronic gonorrhoeal conjunctivitis. Axenfeld also takes this view. The author argues against this, and calls forth evidence to show that in cases of undoubted gonorrhoeal conjunctivitis, true granules, such as one sees in trachoma, appear on the other eye, while the first eye affected shows acute changes. He then comes to the conclusion that, without wishing to make general statements of a far-reaching kind, one meets with forms of chronic infectious eye inflammations which undoubtedly arise from acute blenorrhoea and which are not distinguishable from trachoma. The rest of his paper deals with the pathological-anatomical changes found in trachoma, which are given at some length. In spite of the interesting nature of this part of the communication, we are compelled to refer the interested reader to the original article, on account of the want of space.

(356) Pathological Effects of Alcohol on Rabbits.

J. FRIEDENWALD (*Journ. Amer. Med. Assoc.*, September 9th, 1905) publishes the results of a study of the effects of alcohol on rabbits. One hundred and twenty rabbits were utilized, and the observations extended over a period of several years. The smallest weekly dose was 20 c.cm., the largest 50 c.cm. The animal that lived longest consumed over 10 litres of absolute alcohol, another consumed over 18 litres of whisky. There was a marked difference in the susceptibility of different animals, some dying after a few doses, others surviving for years. Young and small rabbits and pregnant females seemed most susceptible. The animals usually gained somewhat in weight at first; this was followed by a stationary period, and then a rapid fall preceding death. During intoxication the temperature fell 1 to 1.5°. The blood examinations showed a fall to half the normal in the percentage of haemoglobin, but no marked change in blood cells till just before death. The gastric free hydrochloric acid decreased under the influence of the alcohol, and in some cases albumin and casts were found in the urine; in some cases in which these were not found the autopsy revealed kidney lesions. Alcohol evidently has a marked tendency to produce abortion in rabbits. Out of a series of 38 pregnant rabbits, 20 died of septicaemia following abortion, and the organism of rabbit septicaemia was found in all, though they had been thoroughly isolated from one another. Of the rest, 9 had constant abortions, none coming to full term; 3 had normal deliveries, but the young all died a few days after birth. Complete autopsies were made in all cases. The lesions found were fatty degeneration of the heart muscle, which was lacking in animals killed after cessation of the use of alcohol, showing that it was not a permanent condition; fatty lesions of the liver and kidneys were also observed in some cases and occasionally liver cell necrosis, singly or in groups. The experiments failed to produce satisfactorily genuine hepatic cirrhosis, though the liver was found more or less cirrhotic in a few instances. Fatty degeneration of the kidney tubules, thickening of the vessels, and atrophy of the glomeruli were noted in a number of cases; in others no changes were observed. Evidences of gastric ulcerative processes were seen in a few instances; congestion was more common. The intestines were usually normal. The testicles frequently showed a diffuse fine deposition of fatty granules in the epithelium of the tubes and interstitial cells. The most notable change in the brain was atrophy of the cortical cells, which was apparently quite marked.

AN EPITOME
OF
CURRENT MEDICAL LITERATURE.

MEDICINE.

(357) Hereditary form of Diabetes Mellitus. In Naunyn's and von Noorden's statistics the hereditary factor can be traced in the pathogenesis of diabetes in more than 20 per cent. of all cases, though some authorities place the percentage as low as 4½ and others as high as 50. M. Loeb (*Zentralbl. f. inn. Med.*, August 12th, 1905) is convinced not only that heredity plays an important part, but that the cases in which it can be traced are distinct as regards etiology, symptoms, course, complications, and prognosis—that is, that there is a hereditary variety of diabetes. (1) Etiology: (*a*) Females in hereditary cases are affected as frequently as, or even more frequently than, males. In diabetes generally males are affected about thrice as frequently as females. In Frankfort, where hereditary diabetes is exceedingly common, the diabetes death-rate is about the same for males and females; in one year more females than males succumbed. In a family tree, constructed by von Noorden, there were 8 cases of diabetes in females and only 5 in males; and in a diabetic family the writer found 8 cases in females and 4 in males. The statistics of Weidenbaum, based on 1,000 cases of diabetes, point in the same direction. (*b*) As regards race, the hereditary form of diabetes is especially frequent in Jews. Wallach showed that in a period of twelve years the proportion of deaths from diabetes was six times greater among Jews than Gentiles. The greater frequency of the hereditary form among Jews probably accounts for the whole of the excess. (*c*) The hereditary form of diabetes seldom occurs in youth and usually appears between 50 and 60. The writer has seen it only twice in young people—once in a woman aged 23 and once in a boy of 10 whose aunt had died of diabetes at 30. Von Noorden knew of a family in which a slight case of diabetes occurred; in the second generation three female members were attacked in middle age by a rapidly fatal form of diabetes, and in the third generation two children fell victims to the disease. (*d*) As regards constitution, the hereditary form almost always attacks well-nourished previously healthy subjects. Frequently, and especially in women, there is a tendency to obesity, though the diabetes of obese subjects is not necessarily hereditary. Many of these patients are "nervous," or suffer from paralysis agitans, hysteria, or mental disease. (2) Course: In hereditary diabetes the onset is often insidious. Sugar may recur at varying intervals in the urine, usually in small, though sometimes in large, amounts. The general health at this early stage is not affected. The duration of the disease cannot readily be estimated, as it often exists for years before the onset of general symptoms. Usually it runs a chronic and benign course, so that if the patients are docile and escape intercurrent diseases, they may attain a good age. Acetone is seldom excreted until shortly before death. (3) The symptoms are those of a mild form of diabetes, and are readily controlled by diet. They recur after errors of diet or excitement, and may eventually persist. Arteriosclerosis, as evidenced by thickening of the radial artery, high blood pressure, and hypertrophy of the left ventricle, or, in more advanced cases, by asthmatic and anginal attacks, cerebral haemorrhage, and albuminuria, usually occurs early in hereditary diabetes. Pulmonary tuberculosis, so common in diabetes generally, is practically unknown in the hereditary form. (4) Complications: The dangers which threaten patients with the hereditary form of diabetes are chiefly those of intercurrent diseases (influenza, pneumonia, erysipelas, arteriosclerosis and its results—gangrene, thrombosis, and cardiac failure). In only 2 of 16 fatal cases was death directly attributable to diabetes. (5) The morbid anatomy of hereditary diabetes is unknown. It is not of pancreatic origin, as cases in which the pancreas is diseased usually run a rapid course, and are fatal in less than two years. The nervous system is probably at fault.

(358) Hyperchlorhydria. Hyperchlorhydria, according to Surmont (*L'Echo Méd. du Nord*, September 3rd, 1905), is frequently associated with other gastro-intestinal and nervous disorders, so that it is often impossible to say whether it is primary or secondary to the concomitant conditions. He is able to differentiate several clinical varieties. First, there is the hyperchlorhydric crisis, characterized by abdominal pain some time after meals with or without pyrosis and vomiting; sometimes there is diarrhoea instead of vomiting. Secondly, there is a latent form, in which the paroxysms are very infrequent or entirely absent, the condition being, so to speak, accidentally revealed by an examination of the gastric contents. It is to be noted that hyperchlorhydria may be continuous or periodic. Thirdly, hypersecretion will sooner or later be established along with the excess of hydrochloric acid. Finally, there is the syndrome of Reichmann (hyperchlorhydria with hypersecretion and stasis of gastric contents), which often indicates obstruction of the pylorus. The treatment is minutely described, especially the diet; spices, condiments, fatty foods, alcohol, game, most fruits and vegetables are forbidden, and meat extracts are not recommended. The best diet is an albuminous one, consisting of milk, custard, lean meat (beef, mutton, and horse being especially mentioned), chicken, toasted bread, and plain water; vegetables are best taken as soups. Meals should at first be frequent and small, the number being gradually reduced; a good rest is advisable after each. For those of excitable temperament, warm hydrotherapy is recommended, while hot compresses are valuable for the relief of abdominal pain. With regard to drugs, bitters before and acids after meals should not be given, the indiscriminate use of bicarbonate of soda is harmful, and belladonna has proved disappointing. Calcium carbonate after meals is recommended, with magnesia if there be constipation. The depression so often met with in this condition may be combated by phosphate lemonade. Permanent hypersecretion indicates the use of some table water—Brides, Carlsbad, and Vichy being the best. Where there is gastric stasis, gastro-enterostomy should be thought of; solid food is to be stopped, and bismuth may be of value, taken in the form of a milk, first thing in the morning.

SURGERY.

(359) Treatment of Strangulated Hernia. Paul Reclus (*Journ. des Praticiens*, No. 36, 1905) discusses the treatment of strangulated hernia. He describes the risks and actual dangers of the old treatment by taxis which, in the days of pre-aseptic surgery, was invariably attempted. If forced taxis failed as a last resource, an operation was done, and the bowel was then found to be oedematous, inflamed, and perhaps actually in a condition of gangrene. There are nowadays only two indications for the method of simple taxis—old age, especially with diabetes or advanced albuminuria, when the smallest operative interference is fraught with grave risks of collapse, or of coma; and a septic *milieu*, without antiseptics, clean scalpel, or dressings. Even then one can always have hot water, and can boil such instruments and dressings as may be at hand. He mentions briefly the proper method of performing simple taxis—the best position of the patient, the hot fomentations, the gentle, gradual pressure by the finger and thumb in the right direction, and the desirability of chloroformization. The process should not last more than ten or fifteen minutes, and should only be undertaken when the case is seen early. In the immense majority of cases taxis should not be attempted, and an operation should be undertaken at once. Local anaesthesia is quite sufficient: cocaine, or better still, stovaine, should be used. There is no occasion for ether or chloroform, which both add to the ever-present grave risk of pulmonary complications. The incision made over the neck of the hernial protrusion, one sees the hernia as a sort of perihernial lipoma. This is to be incised, or even "decapsulated," and there then appears a pyriform tumour, which is the hernia itself in its sac. If one cannot feel quite sure that what one sees is the hernial sac, it probably is not. When actually reached it is easily recognizable, for a few drops of yellowish serum ooze out, and then one sees the gut itself, polished, pink, and like a clean shining bag. On opening the sac care must be taken to drain away the fluid it contains, lest it swamp the field of operation, and perhaps infect the tissues with the *Bacillus coli* which is generally present. The knuckle of intestine (or epiploon) is then under the surgeon's eye. The epiploon, if present, should be ligatured and divided. Generally, however, it is not present in the field of operation. It is often desirable at this stage to enlarge the original incision, in order to get a good view of the neck of the hernia. Surgeons used to insert a

hernia bistoury then, on the flat, along the index finger, and cut through the constricting band with it as it was withdrawn. Nowadays one cuts down on to the constriction through aponeurosis, muscle, and sac, until there is ample room for the return of the entire hernia. In the case of an umbilical rupture this proceeding is very simple and straightforward; there are no important organs that might be wounded in the neighbourhood. In the case of a crural hernia greater delicacy of handling is necessary. Even the femoral vein has been sometimes accidentally opened. In the case of inguinal hernias the epigastric artery is occasionally met with. When the hernia is freed it is to be closely examined, especially at the point where it was constricted. A deeply-congested patch, almost violet in colour, may be found there. If not ulcerated the hernia is to be returned into the abdominal cavity. It is rare to meet with ulceration nowadays in these cases because the mischief is seen and dealt with so early. A very limited ulceration should be surrounded by a double series of Lembert sutures. A large area of ulceration makes it necessary to fix the gut at the level of the incision and to make an artificial anus, unless the surgeon is capable of doing at once and on the spot a circular enterorrhaphy. Sometimes either epiploon or gut is adherent. The adhesions must be divided and bleeding vessels twisted. This procedure is not always easy, and one must beware of making a "false reduction" of the rupture. The finger of the surgeon should follow the gut back into the abdominal cavity, to make sure that it is easy and comfortable. The greatest care must now be taken lest the gut be pricked while the surgeon is tying up the pedicle and making it impossible for the hernia to escape again. If the patient is young and in good condition, and if the parts are healthy and not inflamed, the wound may now be sutured up, and no drainage is necessary. His hernia is then radically cured. The principle of this radical cure is the same, whatever the position of the hernia. One aims at arranging some muscular fibres across the opening in such a way as to preclude the possibility of a future rupture. In umbilical hernia the recti muscles are used, and in the inguinal cases the "conjoined tendon" of the transversus and obliquus muscles.

(360) Spurious Pancreatic Cysts.

Hartmann (*Revue de Gyn. et de Chir. Abdom.*, September-October, 1905) reports a case of cyst of the transverse mesocolon simulating pancreatic tumour. The patient was a woman aged 36. A month before her admission into hospital she had been seized with vomiting, hiccough, epigastric pain, diarrhœa, and a slight rise of temperature. These symptoms abated and a swelling could be felt in the right hypochondrium. It was bulky, and lay on the right below the liver. When an abdominal incision was made, a round fluctuating tumour was detected; the great omentum covered it in front. It lay under the greater curvature of the stomach towards the right and above the transverse colon. On puncture 1½ pints of fluid came away. The walls of the cyst were ⅛ in thick. They were fixed to the musculo-aponeurotic layer of the abdominal wound, and the cyst was drained. The tumour was either of the lymphatic or serous type. Hartmann was under the impression that the cyst was pancreatic until he detected its relations. He suspected that many so-called "pancreatic" cysts had been misinterpreted as to their origin. Potherat related another case of a cyst which lay in the left hypochondrium. He closely inspected its relations whilst enucleating it, and felt sure that it had not originated from the pancreas.

(361) Therapeutic Value of Lumbar Puncture in Fractures of Base of Skull.

Quénu (*Bull. et Mém. de la Soc. de Chir. de Paris*, No. 30, 1905) publishes clinical evidence in support of the view first stated by Tuffier that lumbar puncture has a decided therapeutical as well as diagnostic value in cases of fracture of the base of the cranium. Allusion is made to 7 cases of this injury which were systematically treated with good results by repeated lumbar puncture, and a full record is given of an instance of fracture in the posterior fossa, in which after a succession of eight lumbar punctures the patient was discharged six weeks after the receipt of injury quite cured and able to resume his occupation. Special reference is made to this case, not only by reason of the particular gravity of fracture involving the cranial base, but also because the good therapeutical results of lumbar puncture in relieving coma were renewed after each operation. The author, whilst recognizing the fact that the prognosis of fractured base has of late years been rendered much less unfavourable by the practice of vigorous cleansing by antiseptic methods of the cavities contiguous to the injured bone, holds that the good results obtained in severe successive cases of this injury may be attributed, in part at least, to lumbar puncture. The good results he has gained from the practice of this method is attributed, in the first place, to relief of intracranial tension resulting from effusion of blood and hypersecretion of cerebro-spinal fluid; and in the second place, to the removal of toxic elements formed by the effused blood, which act injuriously on the nerve centres. Tuffier, in his remarks on this paper, stated that Quénu's views on the toxicity of effused blood, and of its action on the central ganglia, deserved full consideration. The abundant presence of blood in extracranial effusion often coincides with the very slow and so-called cerebral pulse of head injuries. The results of lumbar puncture in cranial surgery have, Tuffier asserts, indicated the possible occurrence of a spontaneous cure of suppurating meningo-encephalitis of traumatic origin.

MIDWIFERY AND DISEASES OF WOMEN.

(362) Vaginal Cæsarean Section in Eclampsia.

The hastening of labour by deep incisions into the cervix was first performed by Acconchi in 1895, and afterwards practised by Dührssen. It is specially indicated, according to its advocates, in bad cases of eclampsia, when prompt evacuation of the uterus is imperative. Whatever these advocates may advance in its favour, it is a procedure only to be practised by experts. Henry B. Fry (*Amer. Journ Obstet.*, September, 1905, p. 429), of Washington, maintains that it allows of its object being gained very speedily, for within ten minutes the uterus can be emptied. Twenty to thirty minutes should be sufficient for the closure of the wound by suture. There is but little traumatism, and the clean surgical wound unites easily. Other processes, such as manual dilatation or steel dilators, leave lacerated surfaces, whilst abdominal Cæsarean section on a subject in peril from eclampsia involves many risks. In eclampsia the loss of blood resulting from the vaginal operation is beneficial, and the patient is returned to bed in the best condition to overcome toxæmia. Few operators have done more than one or two vaginal Cæsarean sections, hence experience may make the operation easier even than it has proved to be up to the present date. Such are Fry's arguments in favour of this procedure. He reports his own case. The patient was in the sixth month of her second pregnancy. There was anasarca, and the patient was troubled with headache, nausea, epigastric pain, and dimness of vision. These symptoms had existed for about three weeks. The urine solidified when tested with nitric acid. Immediate emptying of the uterus being necessary, Dr. Fry, finding milder means futile, dissected the cervix of the bladder and then bisected the anterior lip of the cervix, prolonging the incision through the os internum till it was about 4 in. in length. The hand was introduced, the uterine opening dilated, podalic version performed, and the infant delivered. The placenta came away naturally and a hot intrauterine douche was administered. The cervical incision was then united with catgut, and a gauze drain placed between the cervix and bladder. The infant was extracted seven minutes after the beginning of the incision, and the entire operation was completed within twenty minutes. The infant lived about six hours. The patient fared very well, all the toxæmic symptoms subsided, and in three days the urine was free from albumen, but the albuminuric retinitis persisted for time. Fry adds that urine escaped from the vagina, so that a small vesico-vaginal fistula had to be closed. The dissection of the bladder from the cervix is a procedure requiring dexterity and practice, and, therefore, vaginal Cæsarean section is an operation not likely to be practised to a very wide extent by practitioners.

(363) Spontaneous and Traumatic Separation of Fœtal Head in Abortions.

Papanicol (*Monats. f. Geb. u. Gyn.*, September, 1905) reports two cases where the fœtal head was separated and retained in abortion occurring about the middle of pregnancy. The first patient was 25, and had borne one child; becoming pregnant again, she aborted at the fourth month without assistance; the fœtal head was separated and remained in the uterine cavity. On the second day the patient was admitted into hospital, and, whilst preparations were being made

for the extraction of the head, it was expelled by a uterine contraction. The second patient, a primipara, miscarried at the fifth month, the feet presenting. The midwife performed extraction with such force that the head was torn off and retained. The uterus contracted very firmly on it, so that the finger could only be passed into its cavity with great difficulty. The fetal skull was perforated by means of a sound, and the opening widened until the cranial bones and brain could be removed by means of the finger. Then a second fetus was discovered, lying transversely; it was removed by turning. On the next day the placenta was removed manually. There was slight rise of temperature during the first two days, but afterwards the puerperium was satisfactory.

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(361) Malignant Retroperitoneal Lipoma.

MARKOVSKY (*Ann. de Gyn. et d'Obstét.*, August, 1905) reports a case of sarcomatous fibrolipoma, where, as is frequently the case, removal by operation proved fatal. The patient was 45 years of age, and had noticed abdominal enlargement for three years; she complained of lancinating pains in the right inferior extremity, constipation, frequent desire to make water, dysmenorrhœa, and emaciation. She had borne five children, the last (age not stated) was delivered prematurely during an attack of some kind of fever. The abdominal enlargement continued almost stationary for two years and predominated on the right side; then it took on rapid growth and distended the left side of the abdomen, which measured over 40 in. in circumference. The integuments were tense and shiny with dilated veins. The tumour could be defined on palpation as a painless, fixed, lobulated mass. The three lobes were of different consistence, but all solid, and there was resonance in front at certain points; the pelvic organs lay distinct from the tumour. Ott operated and was compelled to resect the ascending colon and cæcum and to remove the right kidney, which was normal, but intimately connected with one of the three lobes. The tumour weighed 53½ lb. The enucleation was very difficult, owing to the friability of the tissues, but there was not much haemorrhage. The shock was severe, and, in spite of all precautions and measures to revive the patient, she died half an hour after the operation.

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(365) Fetal Rupture of Vaginal Wound after Hysterectomy.

KAMANN (*Monats. f. Geb. u. Gyn.*, May, 1905) removed the uterus from a woman aged 36. She had undergone an operation eleven years previously for vaginal prolapse, it had recurred and the elongated cervix uteri protruded from the vagina whilst the uterus bore a fibroid. When that organ was removed the peritoneum was not systematically closed, but the stumps of the appendages were fixed by suture to the angles of the vaginal wound and then sewn together, and the ends of the catgut threads uniting the vesical peritoneum to the anterior vaginal wall were tied to the ends of the threads uniting the posterior vaginal wall to the peritoneum of Douglas's pouch. The vaginal walls were also made narrow by plastic measures. Fifty-six days later, convalescence having been quite satisfactory, the vaginal wound yielded when the patient was at her employment as a laundress, and nearly five feet of small intestine with omentum protruded. The gut and omentum were carefully cleaned and replaced, and the ruptured vaginal wound closed. But acute peritonitis set in, an entero-vaginal fistula developed and the patient died three weeks after the reduction of the rupture. Suppurative peritonitis was detected at the necropsy. The closure of the peritoneum brought about indirectly by the means above given had resulted in an incomplete, weak cicatrix which had yielded during exertion.

THERAPEUTICS.

(366) Treatment of Gout.

C. VON NOORDEN AND L. SCHLIEP (*Berl. klin. Woch.*, October 9th, 1905) attempt to establish a rational individualizing dietetic treatment of gout in place of the old schematic empirical treatment. They consider that a knowledge of the endogenous and exogenous uric acid has smoothed the way for a better understanding of the conditions accompanying this disease and the recognition that the production of uric acid may be kept at its minimum by giving a diet which is free from purin bodies. The fact that at times the gouty patient retains considerable quantities of uric acid is of importance in this study. The cause of the uric acid retention is not to be found in the kidney, but is probably due to peculiar pathological combination of uric acid in the organism which renders the excretion difficult. It is uncertain in what relation the retained uric acid stands to the gouty processes, and especially to the gouty attack, but it appears that the older views are more acceptable now than they seemed to be a short time ago. If one keeps a gouty patient for a long time on a diet which allows of a complete elimination of the endogenous as well as the exogenous uric acid, and then adds a large quantity of purin-containing foods, an attack of gout frequently takes place within a few days. The urine during this time contains only small quantities of uric acid. They have for the past two years examined gout patients with a view of determining their limits of tolerance. First, they gave a purin-free diet, and determined the value of the endogenous uric acid. They then gave 200 grams of beef (weighed raw) on two consecutive days. This represents 0·24 gram purin; 50 per cent. of this disappears in the organism, partly due to faulty absorption and partly to oxidation, while the other 50 per cent. should appear in the urine as uric acid or purin derivatives. During the two days, therefore, they expected to find 0·24 gram purin bases, or 0·72 gram uric acid, over and above the uric acid excreted as endogenous material. Normally, the excretion may be completed in the two experiment days, or it may be continued and completed during the following one or two days. In the case of the gouty, matters, however, are different. As a rule, the excretion during the two experiment days is but little altered from the previous excretion, and the elimination is spread over a long period and is far less complete than in the case of the normal individual. One learns whether the gouty patient is capable of dealing with the 400 grams of beef, and in rare cases, in which this quantity is tolerated, there is no reason why the patient may not be given this amount. If, on the other hand, the patient cannot deal with this quantity, the amount of meat given is lessened until the amount is reached which, reckoned as purin bases, can be fully eliminated. They give an example of a trial of this kind, in which the patient was found not to be able to cope with 400 grams of meat, but with 200 grams the uric acid excreted corresponded to the normal amount. The patient was found to be able to take this quantity daily with impunity. They propose dealing fully with this subject in a later publication.

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(367) Isoform in Dermatology.

ISOFORM has the chemical composition of para-iodo-anisol, and owes its powerful antiseptic properties to its oxidation power, and not to its anisol group nor to its iodine contents. According to some researches, after the substance has been primarily split up into iodo-anisol and iod-anisol it undergoes a further reduction on the surfaces of wounds into methyl alcohol and acts as a caustic, destroying tissue. Notwithstanding this view, it is claimed for isoform that it is powerfully antiseptic, non-irritant, and non-poisonous. F. Necker, therefore, thought it necessary to test the action. The powder, which has a pleasant anise-like odour, is not prepared pure, on account of its explosive tendencies at high temperatures, but is used mixed with equal parts of phosphate of calcium, making a non-explosive mixture, or as a paste with equal weight of glycerine. It has further been prepared for dressings in 3 per cent., 5 per cent., and 10 per cent. strengths (*Deut. med. Woch.*, September 21st, 1905). The preparations were employed on 150 patients. First he mentions a number of cases of minor surgical conditions, such as carbuncle, boils, ulcer of the leg phimosis after operation, etc. These cases were treated with 3 or 5 per cent. gauze or with the powder, according to the amount of secretion of the wound. The wounds in all cases cleaned up very rapidly, and the deodorizing effect was noticeable. A series of 60 cases of venereal ulcers in males was next treated; 45 of these were ordinary multiple ulcers. The 50 per cent. powder was applied by Necker himself every second day, while in the interval the patient bathed the ulcer in permanganate of potassium solution, and applied a mixture of the powder much diluted in phosphate of calcium. As a rule, a slight sensation of burning which lasted only for a short time, was felt, and only one patient complained of actual pain. The large majority of the cases healed up readily and well with this form of treatment. Mostly a few applications sufficed to produce healthy granulations, and the cases which had resisted the application of pure carbolic acid, as well as dermatol and

iodoform, yielded to isoform. The healing occupied between six days and five weeks. He does not think that the escharotic action of the powder increases the occurrence of bubo, as some other caustics do. On the other hand, he does not regard the preparation as non-irritating. Isoform gauze produced an extensive dermatitis under his observations. The other cases in which isoform was used include pityriasis versicolor, which yielded to two or three applications, and herpes tonsurans faciei, and corporis totius, which were markedly improved by it. Trichomycosis pallmelina axilla was healed by the powder. Some cases of old-standing, non-parasitic sycosis did well with a combined treatment, but no improvement could be noticed in two obstinate cases of psoriasis. Lastly, he deals with the employment of isoform in gonorrhoeic affections. In acute gonorrhoea 3 cases treated early were cured in ten, fourteen, and twenty-one days respectively, but the rest of the acute, subacute, and chronic cases did not show any tendency to improve with isoform treatment. Three cases of post-gonorrhoeal urethritis did well with half per cent. emulsions of isoform, as did some cases of cystitis. He regards isoform as non-poisonous, but not non-irritant.

(368) The Treatment of Non-Suppurating Tuberculous Glands by X Rays.

VALOBRA (*Giorn. d. R. Accad. d. Med. d. Torino*, June, 1905), following the lead of Bishop (1902) and Williams (1903), has treated three cases of swollen non-suppurating tuberculous glands in the neck with *x* rays, and has obtained marked improvement in each. From 10 to 20 exposures of 15 minutes each were made in each case, the skin over the glands being 12 in. distant from the anti-cathode; an induction coil taking 3 amperes at 80 volts, and giving an 18 in. spark, was employed, with a mercury interrupter. The skin and tissues surrounding the glands were protected from the action of the *x* rays by a leaden or aluminium plate. The inflamed glands diminished much in size, while the leucocytosis, present in each case before the treatment was begun, disappeared.

(369) Radium in the Treatment of Rabies.

TIZZONI AND BONGIOVANNI (*Gazz. degli Osped.*, October 22nd, 1905) give an account of their latest work on the above question. They recapitulate the results previously obtained, and in the present paper show, as far as they are able, how radium acts in this disease. In the first place, in endeavouring to find an explanation of the absence of any of the bad effects of radium after the long exposures used in the treatment of rabies, they conclude that this immunity is owing to the exclusion of the radium emanations to which the skin lesions are due. And, as a corollary to this, it follows that the good effects on the disease are due to the radium rays and not to the emanations. They next tried to find out which of the three rays (α, β, and γ) were the most effectual; and although it was not possible to feel that each ray was absolutely excluded, yet practically one could fairly well exclude the α rays by interposing an aluminium shield of $\frac{1}{10}$ mm., and the α and β rays by a powerful magnet. It was then found that the γ rays were practically quite ineffectual in the destruction of the rabies virus previously injected into the animal. Of the α and β rays, the more effectual are the β or cathodal rays, the α rays playing only a secondary part. Further experiments with substances emitting only one kind of rays—for example, polonium—remain to be tried. As regards the maximum time for treatment after injection, the authors found that in rabbits treatment could be successful even as late as five days after injection, and when the animal had shown signs of rabies for twenty-four hours. As to dosage, the minimum dose where the injection and treatment were contemporaneous was eight hours of a 100,000 u. r. radium. If applied three days and a half after infection the minimum dose of a radium of the same potency was eighteen hours. For man, the minimum dose applied in a similar fashion would be a radium of 5,000,000 u. r. potency.

PATHOLOGY.

(370) Diseases which Precede Cancer.

E. VON BERGMANN publishes a clinical lecture on some cases which frequently precede carcinoma. Turning to the question of scars, he finds that the cicatrix following extensive burns often forms a suitable site for the later development of a cancer (*Berl. klin. Woch.*, July 24th, 1905). He cites the case of a woman, who presented the largest carcinoma which he has ever seen in the site of the very extensive scar produced in childhood by a bad burn. He next deals with Paget's disease. *En passant*, he remarks that this condition is not so common as one generally supposes. He saw 7 or 8 in about 1,000 breast cases. The breast itself may become cancerous years after the nipple is affected, and when it is one always finds healthy tissue lying between the eczema of the nipple and areola and the affected mammary gland. Next he speaks of the carcinoma which attacks those affected with the acne of paraffin workers, and in close association with this he mentions sweep's soot cancer and tar cancer. Less well recognized are those cases where psoriasis of the tongue and of the mucosa of the cheek are followed by carcinoma. He does not accept the view that these cases have any connexion with syphilis. In several cases the patches remained unchanged for many years, but occasionally there may be the development of a papilloma or of a carcinoma. He quotes a case of this kind. Lupus and xeroderma pigmentosa, too, may prepare the way for cancer. Lastly, he speaks of birth marks. He says that primary carcinoma does not arise without the pre-existence of some changes of the skin, scars, fistulae, abscess or ulceration, eczema, seborrhoea, warts, or naevi as far as the extremities are concerned. The pigmented naevi more frequently are the seats of sarcoma than carcinoma, but the latter does occur. These pigmented naevi are always associated with a thickening of the sheaths of the cutaneous nerves and with this with small fibromata. This increase of new connective tissue appears to be the danger to the patient. He illustrates his remarks on this subject by the recitation of an interesting case.

(371) Streptococci and Pneumococci.

BOXER (*Verhand. Deut. Path. Gesellsch. in Meran.*, September, 1905) points out that when streptococci are cultivated on blood agar plates at 45° C., they cause a recognizable transparency of the medium; whereas the *Diplococci pneumoniae* produce an intense yellow coloration of the medium. Some streptococci he obtained from cases of scarlet fever did not, however, yield these characteristic reactions. Fraenkel found that on Schottmüller's blood agar the streptococcus of scarlet fever did not present any differences from the *Streptococcus pyogenes*. On Drigalski's medium he found marked differences between the appearances of *Streptococcus vir.*, the pneumococcus and the *Streptococcus mucosus*. — P. H. Hiss (*Jour. Exper. Med.*, 1905, p. 317) finds that the differences in these organisms may be demonstrated by cultivation in an alkaline serum medium (practically the well-known medium of Lorrain Smith). In such a medium the pneumococci slowly produce acid, while the streptococci do not. Hence this medium is coagulated by the acid which the pneumococci produce. Inulin media may also be employed for the same purpose.—Flick, Ravenal and Irwin (*Med. News*, 1905, p. 492) have found the pneumococci present in a large number of cases of epidemic pulmonary haemorrhage in tuberculosis, and indict this organism as the principal factor in haemoptysis.—M. Wallstein (*Jour. of Exp. Med.*, 1905, p. 390) has demonstrated the presence of the pneumococcus in 67 out of 100 cases of bronchopneumonia she examined. The 67 cases consisted of 25 primary and 42 secondary pneumonias. The pneumococcus was present in pure culture in 42 per cent. of the primary cases, and in 15 per cent. of the secondary cases. Pleurisy occurred in 51 per cent. of the 67 cases, and consisted of an acute fibrinous exudate in 22 instances, of an acute purulent exudate in 4 instances, and of a fibrino-purulent one in 8 instances. In 45 per cent. of these cases the bronchopneumonic patches were coalescent, and thus were pseudo-lobar in distribution. In these the pneumococcus was present in the majority of cases. In the focalized cases the pnemococcus was found in 56 per cent. only.

(372) Spirochaete Pallida.

POLLIS AND FONTANA (*Gazz. degli Osped.*, September 10th, 1905) report the presence of the above parasite in the pustules of a man suffering from syphilitic acne. The subject had contracted syphilis about four months previously, and in addition to the acne suffered from typical condylomata of the scrotum. The *Spirochaete pallida* was detected in each of these lesions. After mercurial treatment the parasites disappeared. The authors have examined nineteen syphilitics, but were only able to detect the parasite in 8 cases.

AN EPITOME

OF

CURRENT MEDICAL LITERATURE.

MEDICINE.

(390) Brachial Birth Palsy.

CLARK, TAYLOR AND PROUT (*Amer. Jour. Med Sciences*, October, 1905) have published a short but very complete essay on this condition with numerous photographs of cases. They conclude that: (1) The cause of the laceration type of birth palsy is tension on the nerve-trunks, which first ruptures the nerve sheath and then the nerve fibres. The prevention of this serious lesion of the cervical nerve trunks rests with the obstetrician, who should not overstretch the child's neck in the process of delivery. (2) The persistence of the palsy is clearly explained by the pathological findings: (*a*) rupture of the perineural sheath with haemorrhage into its substance, resulting in the formation of haematomata or haematomatous infiltration into the neighbouring tissues, and (*b*) the cicatricial contraction following organization of the blod clot and repair of the rent in the perineural sheath. The connective tissue thus formed indents and presses on the nerve bundles, strangulating them and preventing regeneration of the nerve fibres. In some instances the same result is accomplished by the turning inward of the perineural sheath upon the nerve bundles. (3) The nature of the lesion in all cases demands excision of the damaged areas and suture of the divided ends as soon as it is proven that spontaneous repair will not take place. The plan of treatment is then the same as that for peripheral nerve injuries elsewhere. (4) In all cases such treatment as will prevent contractures and deformities, and maintain muscle tone in the paralysed limb, should be systematically used until either spontaneous recovery occurs or operation is done. Traumatic neuritis is a contraindication to active treatment. It is obvious that the above measures should be continued after operation. (5) The proper time for surgical interference is not yet definitely fixed. It appears, however, to be much later than two or three months after birth, as advised in Kennedy's report of Suture of the Brachial Plexus in Birth Paralysis of the Upper Extremity (BRITISH MEDICAL JOURNAL, vol. i, 1903). At the present time one year would seem to be a reasonable delay before operation. (6) The authors feel bound to admit that sufficient time has not elapsed in the majority of cases in their series of operations for judging of final results. In 2 out of 7 original cases published by the authors there was sufficient improvement in the nutrition, range of motion, and muscle power in the paralysed limb to demonstrate the value of operative measures. In those two cases the operation was performed eight and ten years respectively after the injury, and yet regeneration and return of function were taking place.

(391) Infectious Erythema.

CASES have recently been repeatedly described which, though more or less resembling German measles, are etiologically and clinically distinct. For these the name "infectious or epidemic" erythema has been proposed. The disease appears in epidemics in families and schools, usually after or during an outbreak of morbilli. The age incidence is usually between 4 and 12 years. The general health is little, if at all, disturbed, and the eruption is usually the only symptom. It first appears on the face as intense redness, and slight swelling of the cheeks, which contrast vividly with the pallor of the naso-labial furrows and the chin. Sometimes there may be red patches, or circles, and isolated large bluish-red spots on the forehead and aural region, which resemble those which now appear on the limbs. The trunk is least involved, and may be entirely spared. The eruption usually persists on the limbs for six to twelve days. The incubation period is from six to fourteen days. Children may return to school as soon as the erythema has faded from the face. J. Fleischer (*Wien. med. Woch.*, October 14th, 1905) has recently seen 9 cases in one family. On May 9th an eruption appeared in a girl aged 7. On the limbs were closely-packed bright or bluish-red, slightly raised, and in places confluent spots. The body was free, except for a few patches on the abdomen. The face was characteristic. There was no sign of coryza, and the pharynx was normal. The temperature was 100.7° F., and the pulse 90. There was no albuminuria. The temperature became normal within about twenty-four hours, but the eruption persisted for five days, after which time no trace of it remained except slight branny desquamation of the face. At intervals of between eight and fourteen days the eight brothers and sisters, ranging in age between 2 and 16, were similarly attacked. In some the eruption was as marked on the trunk as on the limbs, and in two the facial appearance was not typical. In 2 cases, six and ten days respectively after the disappearance of the eruption, a relapse occurred, and ran a course exactly resembling the first attack. There were no glandular enlargements, and no symptoms of involvement of internal organs. All the children except the youngest had previously had measles and German measles. In German measles the eruption on the face is similar to that on the body and limbs, and the lymphatic glands behind the sterno-mastoid are enlarged. Scarlet fever was excluded by the normal appearance of the pharynx, and the absence of peeling and of complications. No other cases occurred in the neighbourhood.

SURGERY.

(392) Pulmonary Embolism after Radical Cure of Hernia.

GARDINI (*Clin. Mod.*, August 25th, 1905) describes three cases in which, after recovery from an operation for the cure of hernia, pulmonary symptoms were observed. All three were healthy men, and in each case Bassini's method was adopted. The first case made a good recovery; he was discharged on the eleventh day; death occurred in the cab which was conveying him home, and was due to pulmonary embolism. The second patient, whilst walking about on the fifteenth day, was seized with syncope; he had all the symptoms of pulmonary infarct; pressure over the course of the femoral artery elicited pain; he developed a definite phlegmasia, but made a good recovery. The third patient developed symptoms of embolism on the eleventh day; the local condition revealed nothing; he ultimately recovered. It has been suggested that such thrombi are due to an infective phlebitis, but Professor Banti has demonstrated after extensive research that they are often aseptic; further, the patients as a rule recover without any pulmonary complications such as might be expected were the emboli septic. On the other hand, Widal maintains that phlebitis always has a septic origin, and that aseptic traumatism of a vein would not cause a true phlebitis. Where there is a pre-existing endophlebitis operative trauma is sufficient to produce a thrombus. L'Azan considers that trauma is the real cause of thrombosis. The immobility of the hip and the pressure applied to the part also favour its production. Stori investigated 3 000 cases operated upon for hernia, of which 8 died of embolism. He considers trauma to be the cause, and suggests that in passing the sutures the wall of the vein may be disturbed or injured. The thrombus begins at the level of the operation, and extends upwards or downwards. Banti attributes the thrombosis to the condition of the internal lining of the vessel. A case of femoral thrombosis has been recorded due to digital pressure exercised during an operation. In marasmic patients dilatation has appeared to be the cause of thrombus. Dr. Gardini points out the rarity of this complication, only 3 cases occurring in 2,000 operations; all three cases were left-sided inguinal hernias, and the thrombus did not occur until ten or twelve days after the operation, which is much earlier than in emboli after fractures. He thinks that probably a mechanical cause produces the endophlebitis, such as traction upon the vein by the stitches passed through Poupart's ligament. It is remarkable that it is a more frequent accident in the cure of inguinal hernia than in the cure of femoral hernia.

(393) Arterial Suture.

MARTIN (*Annals of Surgery*, October, 1905) has recently reported to the Philadelphia Surgical Society a case of a wound about 2 cm. in length, through the anterior wall of the femoral artery at the junction of the middle and lower thirds of the left thigh of a man, aged 23. This wound was closed by six fine sutures. The patient made an uninterrupted convalescence, pulsation being detected in the popliteal artery on the following day. In his comments on this case, the author states that, in closing a wound in a large artery by sutures, no effort should be made to avoid including the intima, though the inclusion of this coat in the suture does not add materially to the strength of the union. The risk of thrombosis, it is stated, is in direct proportion to the

amount of damage done to the intima; hence the artery should be handled gently, and with the least possible mechanical interference compatible with efficient application of the suture. Though over two dozen clinical cases of suture of a large artery are on record, no case of secondary aneurysm has yet been reported after such treatment. There are, the author points out, comparatively few arteries to which such a procedure as suture is applicable. In all the smaller vessels complete ligature would be the method of choice. When the carotid artery is wounded an attempt at suture is clearly indicated, as the complete closure of this vessel by ligature is so often followed by secondary cerebral degeneration. The common femoral is also a vessel which, in the author's opinion, should be sutured, though even in the case of this artery, providing the vein remains intact, the danger of gangrene is comparatively slight. It is suggested that suture or invagination of the renal artery, or of the superior mesenteric, might be found feasible, or, in the latter case, even the implantation of the divided end of the vessel into the aorta. The possibility of closing a wound of an artery also suggests for consideration the desirability of opening the occluded vessel in a case of threatened embolic gangrene.

(394) Primary Tumours of Serous Bursae.

DELFINO (*Kif. Med.*, September 16th, 1905) points out that many bursal tumours are wrongly classified as primary, when they are really secondary to a previous bursitis, still there remains a certain number of cases where the growth is clearly primary, and the author has been able to collect 30 such cases in addition to one carefully reported by him. Most of the tumours were in the prepatellar bursa (11), the others were fairly equally distributed amongst the other bursae. In the author's case, a large myxo-fibro-lipoma had developed in the semimembranous bursa, reaching nearly half way up the thigh. The growth was removed without much difficulty, and showed no signs of return. As a rule, only one bursa is affected, but occasionally there may be growths in more than one: for example, Duret had a case where five bursae were affected (endotheliomata) at the same time. The tumours may develop in sound bursae as well as in those which have been previously damaged. The consistency of the tumour naturally varies with their nature (fibroma, sarcoma, etc.). When the growth is extra-articular there is usually no alteration in the freedom of movement of the joint. There is a photograph of the author's case, and full bibliography of the subject.

(395) Suture of the Spinal Cord.

FOWLER (*Annals of Surgery*, October, 1905) reports a case of suture of the spinal cord following a gunshot injury involving complete severance of the structure. The operation was performed on a man aged 18 years ten days after he had been shot in the back from a 0·38-calibre revolver at a distance of about ten yards. This injury was immediately followed by paralysis of the lower extremities. An incision 6 in. in length was made over the spines of the vertebrae, the middle of the incision being over the eleventh dorsal spine. The laminae of the tenth and two following vertebrae were removed by the chisel. The bullet, embedded in blood clot, was found between the severed ends of the cord. A very narrow strip of dura mater, about one-eighth of an inch in width, remained intact. After removal of the bullet and blood clot the ends of the cord were brought together and fixed by three fine sutures of chromicized catgut. The results in this case have not been so favourable as those of a previous instance of suture of a divided cord recorded by Stewart and Harte. Whilst the subsequent condition of the patient in this latter case pointed to the possibility of regeneration of the cord following a destructive lesion, very little, if any, improvement has been observed in the author's patient. It is stated that twenty-six months after the injury voluntary motion is practically lost below the waist, and sensation is abolished over this area except down the outer side of the right thigh, where some sensation is present over a patch of skin about 5 in. in length. It is pointed out that in the case reported by Stewart and Harte the operation was performed three hours after the injury, while in the present case there was an interval of ten days. The prolonged separation of the divided ends of the cord and the prolonged presence of the foreign body had in his case, the author suggests, a probable influence in preventing a complete regeneration of the cord, provided that regeneration does actually occur.

MIDWIFERY AND DISEASES OF WOMEN.

(396) Abdominal Extirpation of Vaginal Cancer.

WERTHEIM (*Zentralbl. f. Gynäk.*, No. 40, 1905) recently exhibited before a medical society a series of preparations illustrating 11 cases of removal of the cancerous vagina for primary or secondary disease. When the entire vagina has to be removed, it is best after the upper part of the genital tract has been set free to dissect the vagina from below upwards after setting free its attachments to the introitus; in this way the lower part of the canal is saved from all contact with cancerous elements. In 2 out of the 11 cases vesico-vaginal fistula developed as a result of secondary necrosis of the posterior wall of the bladder; this grave sequel has, however, also followed extirpation of the vagina by the perineal and also by the sacral method. In 1 of the 2 cases the fistula closed spontaneously within a few weeks, in the second a plastic operation was necessary. In a third case a ureteral fistula developed in the same manner, the operator was meditating either implantation of the ureter into the bladder or removal of the kidney; but this case was quite recent. In the 11 cases recurrence had occurred in only 2, and in 1 of the 2 not until two years after the operation, in the other six months after extirpation of the vagina. There was immunity from recurrence for five years in 2 cases, for four years in 2, and for three years in 1. The remaining 4 cases free from any sign of secondary disease were recent. In none of the series were cancerous glands discovered; in 7 there was no glandular change of any kind, in 4 a few were swollen though not apparently cancerous.

(397) Puerperal Septicaemia: Gas in the Uterine Tissues.

KAMANN (*Monats. f. Geb. u. Gyn.*, May, 1905) reports an example of fatal sepsis, where gas was found, not in the uterine cavity (physometra), but in the uterine tissues. The patient was a 5-para, with contracted pelvis, delivered by turning and extraction, in the course of which manœuvres incomplete rupture of the uterus occurred. On the third day signs of septicaemia appeared, and death occurred on the eighth. The uterus was found with walls from $2\frac{3}{4}$ in. to 3 in. in thickness. To a certain extent the thickening was due to oedematous infiltration and to collections of pus in lymph sinuses, but it was mainly accounted for by the development of air in the infected tissues. Long chains of streptococci were the only germs which could be detected, no gas-producing microbes being found.

(398) Post-mortem Caesarean Section: Child Saved.

BOURDZYNSKY (*Journ. d'Obstét. et de Gyn. Russe*, 1904) reports a successful case of *post-mortem* Caesarean section. The patient was a married woman, aged 19, tall, robust, and in good health down to the end of the eighth month of her first pregnancy. When applying at the office of a lying-in hospital she had a fit; after admission she grew worse and had five convulsions; the urine was highly albuminous. Coma set in, and the patient died early on the morning of the third day after admission. Whilst alive in the hospital no labour pains occurred; the pelvis was of good dimensions, and the presentation was left occipito-anterior. After death, the fetal movements being plainly palpable, the abdominal parietes were opened, and then an incision was made in the uterine walls. The fetus was delivered by the feet, in a deeply asphyxiated condition, fifteen minutes after the death of the mother. It took a quarter of an hour to revive; then a great quantity of fluid escaped from its nares and mouth, and it breathed well and cried. It was a female $4\frac{3}{4}$ lb. in weight and $17\frac{1}{2}$ in. in length, and it was successfully reared in a *couveuse*. When this report was published it was 53 days old and in good condition; its weight was a little under 7 lb.

(399) Is Menstruation Physiological or Pathological?

TOBLER (*Monats. f. Geb. u. Gyn.*, July, 1905) has during the past two years studied the menstrual histories of 1020 women, with a view to ascertain as precisely as possible the influence of the catamenia on the female economy. As is the case with most previous observers, Tobler finds that in the great majority of women at the present day menstruation is associated with distinct deterioration of the general health and diminution of functional energy. In 26 per cent. local pain, general malaise, and psychoses coexist; in larger proportions come those where general weak health, or else some psychosis, or else

local pain, is alone experienced at the period. In 16 per cent. none of these symptoms are present, and Tobler makes a separate group of 3.3 per cent. where the mind and functions are stronger during the period. In about 3.6 per cent., constituting yet another class, this increase of strength during the presence of the catamenia is associated with distinct disturbances in the intervals. Tobler considers that the familiar disturbances during menstruation are pathological, but that the process itself is physiological. Deterioration of constitution and unhealthy habits and surroundings cause the increase of tissue change, which is part of the process, to result in toxic products prejudicial to the system, whilst, normally, products favourable to the economy should be evolved.

(400) Removal of Tumour of Suprarenal Capsule.

HEIDEMANN (*Monats. f. Geb. u. Gyn.*, September, 1905) reports the removal of a tuberculous tumour of the suprarenal capsule of the size of a child's head. About 24 cases were collected by Wendel and published in 1904, but it was not always clear how far they were malignant or innocent. Heidemann's patient was a lady, aged 52, who had suffered from a steadily-increasing debility, emaciation, and nervous depression. She had previously been very robust. A tumour in the right loin was visible on inspection; it was freely movable forwards. The urine was albuminous, and the albumen, it was reported, proceeded from both kidneys. Abdominal nephrectomy was performed, the operator preferring it to a lumbar operation when a renal or suprarenal tumour has to be removed. It was not possible to save the right kidney. The tumour was reported to be a typical adrenal "struma." The patient recovered and steadily improved in general health until she regained her former strength. Heidemann lays stress on the absence of any kind of discoloration of the skin and of any haemorrhagic tendency, whether before, during, or after the operation, yet the tumour was of the type seen in Addison's disease, and when it was removed the constitutional symptoms disappeared. The albuminuria also passed away, but in a discussion on this case some doubt was expressed as to whether the left kidney was the seat of nephritis or any other disease which is associated with albuminuria.

(401) General Paralysis and Pregnancy.

GULLI (*Rassegna d'Ostetr. e Ginec.*, June, 1905) observes that the coincidence of gestation and general paralysis is very rare. He has observed a case where the patient was a four-para, 40 years of age, alcoholic, but without any symptom of syphilis. The first signs of the mental disease appeared at the beginning of the pregnancy, megalomania, ataxy, and the Argyll-Robertson symptom became marked. The eighth month of pregnancy had been reached when Gulli examined the patient. He immediately induced labour by means of the douche and dilator. A sickly but not malformed infant was delivered and reared. After delivery the mother's mental condition improved, but the pupil symptom persisted, and permanent cure seemed highly improbable. Gulli considers that general paralysis, like polyneuritis, is aggravated by gestation, the auto-intoxication of pregnancy acting unfavourably on the nervous system. On that account the pregnancy should always be uninterrupted.

THERAPEUTICS.

(402) Overfeeding in Tuberculosis

IN a paper read before the Paris Congress of Tuberculosis, Mouisset protested against overfeeding of the tuberculous (*Lyon Méd.*, October 29th, 1905). Brehmer and Detweiler have defined the essential treatment of tuberculosis as consisting of (1) free air, (2) rest, (3) feeding. This generally-accepted formula contains no excuse for advising a patient to eat as much as possible. The consumption of 28 eggs daily or 800 grams of raw meat, which have been recorded, by disturbing digestion and overloading the system with nitrogenous matter, have caused an intoxication and helped the progress of the tuberculous lesion. It is recognized now that the amelioration of the malady is not to be judged solely by the increase of weight of the patient, but that this sign should be controlled by the examination of the urine, by the temperature, and above all by auscultation. Mouisset found among the immediate results of overfeeding sometimes true hyperchlorhydria, more often hyperacidity due to the secondary fermentation. Associated with the gastric symptoms, or occasionally without them, a diarrhœa *ab ingestis* was of frequent occurrence, and often presented all the signs of muco-membranous colitis. Other direct results were neurasthenia, albuminuria, and cutaneous eruptions, such as acne, eczema, urticaria, and furunculosis. The remote effects of persistent and prolonged overfeeding were due to increase of tension in the blood vessels. Congestive patches in the lungs with diffuse bronchitis, and in several cases haemoptysis were observed. The haemoptysis was not necessarily due to an ulcerative process, but acted as epistaxis or the bleeding of haemorrhoids to relieve a plethoric condition. Mouisset concluded that three generous meals a day were sufficient as a general rule, that the amount of nitrogenous food should be limited, and that if raw meat or eggs were given, they should replace cooked meat and not be an addition to the number of meals.

(403) Formicin.

FORMICIN has been introduced into surgical practice as a substitution for iodoform glycerine, and is chiefly employed in the conservative treatment of joint and tuberculous affections. K. Bartholdy reports on its clinical uses (*Deut. med. Woch.*, October 5th, 1905). The preparation is a formaldehyde acetamide, takes the form of a thick syrupy fluid, of a yellowish colour, having a faint acid-like odour and a bitter taste. Its specific gravity is 1.13 to 1.15. It is miscible in all proportions with water and alcohol, but is insoluble in ether. When warmed to body temperature and higher it dissociates and liberates formaldehyde. Metallic instruments are not attacked by formicin, although they are affected by other formaldehyde preparations in aqueous solution. The substance can be given in doses of 3 grams a day for weeks without producing any deleterious effects. The excretion of formaldehyde can be demonstrated by adding to the urine an equal quantity of a 1 per cent. aqueous phloroglucin solution and some potash solution, when after a short time a transitory reddish-brown coloration appears. For injection into soft parts, joints, abscesses, etc., he uses a 5 per cent. solution in water, and finds that this can be carried out with an ordinary syringe, with a fine needle, so that it has a mechanical advantage over iodoform glycerine, which necessitates the use of big needles. The injections do not cause any pain, and even susceptible patients only complain of a little burning sensation, which only comes on a short time after the injection, and does not last long. In all he has employed it in tuberculous affections of joints and soft parts eighty-two times, and in non-tuberculous affections twenty-one times. The results obtained in the tuberculous cases were as good as those which he would have expected with iodoform glycerine. In some cases, however, the injection treatment did not succeed in preventing the progress of the disease, and a radical operation had eventually to be performed. On the other hand, some cases gave surprisingly good functional results. The non-tuberculous cases included a number of chronic rheumatic joints with effusion, and all save two were successfully treated by formicin. The injections, together with the usual anti-syphilitic treatment, led to complete cure in a case of congenital syphilitic joint, and in one of a tabetic joint the pain lessened markedly under the injections. For cystitis he used a 2 per cent. solution, and remarks that the fluid must not be too warm, and experienced that the turbidity of the urine clears up within eight or ten days. The offensive smell ceases almost at once. He has found a 2 per cent. solution also of use for disinfecting and deodorizing empyema, etc., and for cleaning up offensive ulcers of the leg. For surface disinfection he uses a 1 per cent. solution on gauze (for example, before aseptic operations), allowing the application to remain *in situ* for twelve hours. This proved of value, and the wounds remained clean. When stronger solutions are left for a long time in contact with the skin, tanning takes place.

(404) The Abuse of Bromides in Epilepsy.

WM. P. SPRATLING says (*Med. Rec.*, September 2nd 1905) that years ago he became convinced that the bromides as generally administered did vastly more harm in the treatment of epilepsy than they did good, and his ten years experience at Sonyea in the treatment of nearly 2 000 cases has strengthened that conviction. The bromides do not always do harm, and they have a limited range of usefulness in their power of suppressing epileptic convulsions, but the author has never seen a case cured by the bromides alone. He has never given the bromide of potassium to an epileptic, and says that the cases must be care

fully selected for the use of the other salts. At the Craig Colony the average dose of the drug is 15 gr. a day, 5 gr. at a time. The author has analysed twenty-seven patent nostrums for epilepsy, and has found that the basis of all of them was bromide of potassium. If recoveries occur under the use of the drug, it is in spite of it and not on account of it. When used, the bromides must be prescribed with the greatest caution, and it is rarely necessary to push them to the point of producing acne. Their disadvantages are many, and it is preferable to use other harmless depressants in their stead, and to treat the individual instead of one of the symptoms of his disease.

(405) Alypin, a New Local Anaesthetic.

SUBSTITUTION preparations for cocaine, which should have all the advantages but none of the disadvantages of the latter, have been sought for for several years. The chief disadvantages of cocaine are its general toxicity and its side-effects, including the production of disturbing mydriasis and paralysis of accommodation and ischaemia, which is said to act detrimentally on the trophic processes of the tissues. The fact that some individuals have an extremely low resistance towards cocaine makes its employment on a large scale an actual danger. Further, cocaine cannot be sterilized by boiling. None of the substitutions which have hitherto been introduced have succeeded in fulfilling these requirements. E. Stotzer (*Deut. med. Woch.*, September 7th, 1905) has studied the effect of alypin and gives his experience. After he had convinced himself that this new preparation is less toxic for animals, he applied it for local anaesthesia, employing Schleich's infiltration method. Comparing the action with those of cocaine and β eucaine under similar conditions, he found that from the subjective point of view β eucaine is the least pleasant mode, as it causes a sensation of burning, which is not the case with alypin. The anaesthesia was a good one, and he found it suitable for surgical interference. It acts just as well as the same strength solutions of cocaine, and has all the advantages and none of the disadvantages of the latter. It can be sterilized by boiling and is therefore safer on this account. It does not affect the psychical condition of the patient, either by producing excitability or giddiness. Lastly, he points out that alypin is cheaper than cocaine.

(406) Therapeutic Value of Bacterial Serums.

HERBERT D. PEASE (*Amer. Med.*, September 16th, 1905) reviews some of the recently-published statements of the clinical results obtained by the use of the various antistreptococcic serums in streptococcus infections, scarlet fever, rheumatism, and small-pox, and the antipneumococcic, antityphoid, antidysenteric, antityphoid, antiplague, and antianthrax serums in their respective diseases. He calls attention to the variability in the reports of different writers on their results from the use of these serums, and the necessity for taking the personal equation into consideration in passing judgement upon such reports. He concludes that it is evident that in no one of the diseases considered has there yet been demonstrated an entirely satisfactory serum-therapy. However, he thinks sufficient beneficial results have been obtained with some of the streptococcic, dysenteric, plague, and anthrax antiserums to warrant at least some hope of better results when our knowledge of these infections and their etiologic agents has become materially increased.

(407) Lecitogen.

F. LEVY says (*Berl. klin. Woch.*, September 25th, 1905) the good results obtained in secondary anaemias with lecithin and bromine and with lecithin-perdynamin have attracted much attention. To determine whether the preparations of lecithin with nutrient material would prove as useful as the lecithin medicaments, Levy turned his attention to lecitogen, a combination of lecithin and cocoa, which contains 22.14 per cent. nitrogenous material, 24 82 per cent. fats, 0 94 per cent. lecithin, and 8 25 per cent. starch. The powder is pleasant to taste and is taken in milk or water. The daily quantity consumed is three to four teaspoonfuls. Levy undertook a number of examinations of the metabolism of patients treated with this preparation, comparing the period without the lecitogen, a period with it, and a third period without together. A few febrile patients were also treated with the preparation, and a control of the blood count was kept. In general he noticed that a marked increase of the urinary excretion of phosphoric acid followed the taking of lecitogen, while the nitrogen output was scarcely affected. The number of the red blood corpuscles and the percentage of haemoglobin increased considerably. His investigations led him to confirm the opinion of others that lecithin is valuable in the treatment of secondary anaemias and further that the nutrient preparations containing about 1 per cent. of lecithin may be well employed therapeutically.

PATHOLOGY.

(408) Bacteriology of Measles.

BORINI (*Rif. Med.*, June 24th, 1905) has carried out a series of experiments with reference to the bacteriology of measles. He examined the blood, bronchial and conjunctival secretions of several children (3 to 10 years of age) affected with measles. Except in two cases (when it was examined before the eruption appeared) the blood was taken when the disease was at its height, and put straight into a thermostator else used to make cultures on broth, etc. Direct examination of the blood never gave any definite result, but in the cultures, after thirty-six hours, a small slender bacillus, non-resistant to Gram stain and not easily stained with aniline dyes, could be detected, usually grouped in twos. The organism in question did not develop in gelatine. In glycerinated agar and defibrinated blood it formed punctiform, transparent, greyish-white colonies. It did not coagulate milk, nor give rise to CO_2 or indol. The bacillus kept badly, as after two or three transplantations the cultures remained negative. The author is unable to identify this bacillus with any previously described; on the whole it resembles that described by Czajkowski more than any other. When cultures were injected into the trachea, pleura, or peritoneum, the animals died in three to six days with signs of pneumonia and tracheal injection or with pleural effusion. In dogs, after endopleural injection, nasal and conjunctival catarrh was noticed in one case. Filtered cultures were non-pathogenic. While the author does not go so far as to say this is the specific bacillus of measles, he believes it is worthy of future investigation.

(409) A Trypanosome in the Mouse.

THIROUX (*Ann. de. l'Inst. Pasteur*, September 25th, 1905), working in the town of St. Louis (Senegal), has found in the blood of the mouse a trypanosome which he considers very similar to the organism discovered in the blood of mice by Dutton and Todd during their researches in Senegambia. He therefore proposes to give it, provisionally, the name of *Trypanosoma duttoni*. The parasite observed by Thiroux is peculiar to the mouse but appears to be inoculable upon all species of mice. It has a strong resemblance, both morphologically and in cultural characters, to the *Trypanosoma lewisi*, but is distinguishable from the latter by the facts that (1) *T. lewisi* is not inoculable upon the mouse and (2) *T. duttoni* is not inoculable upon the rat. *T. duttoni* does not appear to be very common in the mice of Senegal, as Thiroux only found it once in an examination of thirty-three animals. He succeeded in cultivating it on the medium recommended by Novy and MacNeal. The blood of animals which have overcome the infection have not been found to exhibit any agglutinating properties, either towards this parasite or towards the *T. lewisi*.

(410) Pernicious Malaria.

H. M. SMITH (*Amer. Med.*, October 7th, 1905) reports the finding in the blood of 119 cases of malaria at the First Reserve Hospital, Manila, a parasite so peculiar and distinct from any previously described as to render it probable that this form is a distinct type of the parasite of pernicious malaria. The parasites are small hyaline discs of an oval spindle form, non-pigmented and lying in the protoplasm of the red blood corpuscles. They have a very sharply defined outline, are highly refractive, and in the centre of each form is a small round dot of haemoglobin. Their short diameters vary from one-fifth to one-tenth the diameter of the red blood corpuscle, their long diameters being about twice as great. On account of their spindle shape he designates them "spindle forms." They have no amoeboid motion, but move by revolving on their long axis and by swinging around on their short axis, using one end as a fixed point. This motion is the most peculiar characteristic of the parasite. They stain with great difficulty and then only the periphery to a slight extent. No development of any nature has been observed in these parasites, and no forms besides these "spindle forms" were ever discovered in the blood before death or in the blood and organs after death in the 4 fatal cases.

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MEDICAL BILLS IN PARLIAMENT

PROCEEDINGS OF THE GENERAL MEDICAL COUNCIL

Etc.

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CONTENTS.

	Page
THE SCIENTIFIC GRANTS COMMITTEE OF THE BRITISH MEDICAL ASSOCIATION:	
REPORTS OF PROGRESS OF RESEARCHES:	
Physiology.—Action of Lymphatic Extract	1
" Adrenalin	2
" Chemical Stability of Tissues	2
" Chemistry of Haematin	2
" Nitrogen Metabolism	2
" Metabolism: Cheyne-Stokes Respiration	2
" Innervation of the Gall Bladder	2
" Development of the Ovaries	3
Neurology.—Cerebral Localization	3
" Course of Efferent Fibres from the Cortex	3
" The Optic Thalamus	3
" The Antero-lateral Ascending Cerebellar Tract	3
" The Spinal Ganglia	4
" Regeneration of Nerves	4
Ophthalmology.—The Intraocular Fluids	4
" Influence of Light on the Developing Retina	4
Pathology.—Chemiotaxis	4
" Influence of Diphtheria Antitoxin on Nerve and Muscle	5
" Bacteria of the Human Alimentary Canal	5
" Paths of Infection in Tuberculosis	6
" Gout	6
Pharmacology.—Action of Expectorant Drugs on Cilia	6
" Action of Yeast Cells	6
" Influence of Drugs on Cardiac Metabolism	7
" Influence of Oxalic Acid on Metabolism	8
Grants Returned	8
BRITISH MEDICAL ASSOCIATION: SEVENTY-THIRD ANNUAL MEETING.—GENERAL ARRANGEMENTS	8
NOTIFICATION FOR ANNUAL MEETING	13
LIST OF LODGINGS AT LEICESTER	14
MAP OF LEICESTER	17
MEETINGS OF BRANCHES AND DIVISIONS:	
Bath and Bristol Branch: Trowbridge Division	18
Birmingham Branch: Dudley Division	18
Connaught and South Ulster Branch	18
Glasgow and West of Scotland Branch: Glasgow Eastern Division	18
" " " Lanarkshire Division	18
East Anglian Branch: South Essex Division	18
" " South Suffolk Division	18
" " West Norfolk Division	18
Edinburgh Branch	19
" " North-East Edinburgh Division	19
Lancashire and Cheshire Branch: Liverpool (Southern) Division	19
" " Manchester (North) Division	19
Malta and Mediterranean Branch	19
Metropolitan Counties Branch: Marylebone Division	19
" " " St. Pancras Division	20
" " Stratford Division	20
Midland Branch: Lincoln Division	20
North of England Branch: South Shields Division	20
North Wales Branch: Denbigh and Flint Division	20
" " South Carnarvon and Merioneth Division	20
Oxford and Reading Branch: Oxford Division	21
South-Eastern Branch	21
" " Guildford Division	25
" " Hastings Division	25
" " Isle of Thanet Division	25
" " Maidstone Division	25
South-Eastern of Ireland Branch	25
South-Western Branch	26
Shropshire and Mid-Wales Branch	26
Ulster Branch	27
" " Belfast Division	27
" " Cavan and Monaghan Division	27
ASSOCIATION NOTICES.—COUNCIL MEETING.—BRANCH AND DIVISION MEETINGS TO BE HELD	27
SPECIAL RAILWAY ARRANGEMENTS	28
MEDICAL AND DENTAL PRACTICE BY COMPANIES:	
COMPANIES MEDICAL PRACTICE BILL	28
DENTAL COMPANIES BILL	29
NAVAL AND MILITARY APPOINTMENTS	29
VITAL STATISTICS	30
VACANCIES AND APPOINTMENTS	31
BIRTHS, MARRIAGES, AND DEATHS	31
DIARY OF THE WEEK	31
CALENDAR	32

SCIENTIFIC GRANTS COMMITTEE

OF THE

British Medical Association.

REPORTS ON PROGRESS OF RESEARCHES.

THE Scientific Grants Committee has received the following reports from the Research Scholars and the recipients of grants upon the investigations carried out by them:

PHYSIOLOGY.

ACTION OF LYMPHATIC EXTRACT.

Dr. T. GILLMAN MOORHEAD: The object for which the grant was given was to investigate the physiological and pathological effects of the injection into animals of extracts of lymphatic tissues. The work was at first carried on in pursuance of that which has been already published in the BRITISH MEDICAL JOURNAL for September 10th, 1904, and a series of blood-pressure experiments was first performed as follows:

1. A (sterile) saline solution extract was made of 24 grams of fresh human thymus glands obtained from healthy stillborn fetuses after precipitation by absolute alcohol. This extract may be designated a saline solution extract of the alcoholic residue of human thymus. Its injection intravenously into rabbits (four experiments) caused only a very slight and temporary fall in blood pressure as determined in the carotid artery, caused a temporary cessation of respiration, and increased the force of the individual heart beats, causing also some irregularity of cardiac action.

2. A similar extract prepared from 30 grams of lymphatic glands obtained fresh *post mortem* from a case of Hodgkin's disease caused in rabbits after an interval of about thirty seconds a slight fall in blood pressure followed by a gradual rise to normal. It had no effect on the respiration or cardiac action (three experiments).

3. A similar extract prepared from the fresh thymus of lambs caused a temporary cessation of respiration, but had no effect on blood pressure or cardiac action (two experiments).

4. A solution of the substances extracted by alcohol from human thymus was dissolved in normal saline. This, when injected into rabbits (four experiments), caused (α) a slight immediate fall of blood pressure followed by a rapid rise to normal; (β) some irregularity with increased force of heart beats; (γ) temporary cessation of respiration.

These results, which he thinks may be regarded as practically negative, confirm his previous conclusion that lymphatic glands in cases of chronic lymphatic leukaemia contain some specific substance which has a marked depressor action. This conclusion is also borne out by the fact that prolonged injection of the saline solution of the human thymus into rabbits did not produce any results.

Owing to lack of a further supply of glands from cases of leukaemia, he next determined to endeavour to obtain anti-lymphatic serums; and, as Flexner and his pupils had previously worked with lymphotoxic serums obtained from lymphatic glands exclusively, he determined to work with the thymus gland. This work is still in progress, and has, so far, only yielded negative results. The method adopted was as follows:—The thymus gland was removed immediately after

death from young guinea-pigs, was pounded up in a sterile mortar and emulsified with normal saline solution. The emulsion was then strained through coarse muslin and injected intraperitoneally into rabbits. Three rabbits in all were treated in this way, the following being the records:

R. 7, t. received between October 6th, 1904, and December 13th, 1904, the thymus gland of twenty guinea-pigs; it was bled on December 17th, 1904. The serum thus obtained did not produce any agglutination, either microscopical or macroscopical, of emulsified guinea-pig thymus gland. When injected intraperitoneally into guinea-pigs it caused a temporary leucocytosis up to 29,000 per c.m., the neutrophile cells largely predominating. On killing the guinea-pigs no microscopical or macroscopical change was found in the thymus gland, lymph glands, spleen, or marrow, and their peritoneal fluid was sterile.

R. 4, t. received the thymus of 23 guinea-pigs between July 26th, 1904, and September 30th, 1904. The blood of this rabbit was frequently examined during this period, but did not show any abnormal change. The rabbit was bled on October 2nd, 1904, and its serum was found to have no agglutinating action on emulsified guinea-pig thymus. Four c.cm. serum were injected into g.p. S, and the animal was killed next day. *Post mortem:* Thymus normal; marrow normal; spleen small; Malpighian corpuscles very small; lymph glands small; one or two contained small haemorrhages. Eight c.cm. serum were injected into g.p. Z, and this animal was found dead on the next day. *Post mortem:* Thymus normal; lymph glands somewhat congested, one or two containing small haemorrhages; spleen small; marrow somewhat congested, but no evident cellular change.

R. 6, t. received the thymus of 9 guinea-pigs between July 1st and August 25th, 1904. The serum obtained on August 27th had (1) no agglutinating action on emulsified thymus of guinea-pigs; (2) no effect on the leucocytes of a guinea-pig, as examined in a warm stage; (3) 5 c.cm. injected into g.p. X caused death within twenty-four hours, but *post mortem* no change in the lymph glands, thymus, spleen, or marrow could be detected; 5 c.cm. injected on two successive days into g.p. Y caused no leucocytosis, and did not cause any alteration in the normal relative numbers of the white cells. This guinea-pig was killed two days after the second injection. *Post mortem:* thymus, spleen, and marrow normal; lymph glands normal, except that one or two contained small haemorrhages. There was some blood-stained peritoneal exudate, which, however, was quite sterile.

Some similar experiments carried out with the lamb's thymus gland also gave negative results.

The only conclusion that can be arrived at so far is that the rabbit is not capable of producing thymotoxins for the guinea-pig. He has accordingly during the last two months been engaged in trying to "immunize" a goose against guinea-pigs' thymus, and guinea-pigs against rabbits' thymus. As these experiments are not yet concluded, they need not be further referred to.

Adrenalin.

Mr. T. R. Elliott, M.A.: The action of adrenalin has been examined in respect of (1) its stimulant, (2) its toxic properties. Stimulation was studied in many tissues of various vertebrates and the law established that the reaction, whether motor or inhibitor, of any plain muscle to adrenalin is identical with that provoked by electrical excitation of the sympathetic (or thoracico-lumbar visceral) nerves supplying that muscle. The place at which stimulation occurs is the myoneural junction. By this peculiar reaction to adrenalin it is proved that the junction of every sympathetic postganglionic axon with plain muscle, whether it subserve contraction or inhibition, differs biochemically from those of all the other efferent nerves, whether of visceral or skeletal muscle, in the vertebrate. A paper detailing these experiments is in the press.

The experiments dealing with the actual function of adrenalin and of the suprarenal glands are only in the beginning. In a communication to the Physiological Society the argument by which they are prompted has been outlined.

Chemical Stability of Tissues.

Mr. S. B. Schryver, D.Sc.—In previous papers[1] it has been shown that the rate of autolysis of the liver during the first twenty-four hours after death is a function of the state of nutrition of the animal at the time of death. This experimental fact suggested a new method for investigating metabolism. In the case of thyroid feeding there is an increased nitrogenous output, to which corresponds an increased liver autolysis (second paper quoted above), lasting during the first eight days of thyroid administration. These experiments have suggested that tissue stability is the resultant of chemical mass action of three different sets of bodies, namely: (1) the tissues themselves, (2) the autolytic enzymes or zymogens, (3) the metabolites or bodies prepared from metabolites. Work is now being directed to the investigation, therefore, of the influence of metabolites of various descriptions on the rate of autolysis. It is also intended to complete some work which has been in progress for some time on the influence of functional activity on autolysis. From these investigations it is hoped that results may be obtained which will throw light on the chemical dynamics of nutritional and functional activity. Preliminary investigations have also been carried out on the action of the cytotoxins on autolysis.

[1] *Journ. Physiol.*, July, 1904, and February, 1905.

Chemistry of Haematin.

Dr. J. A. Milroy begs to make the following statement regarding his research upon the Products of the Distillation of Haematin with Zinc Dust. The following substances have been isolated: (1) A pigment closely resembling haematoporphyrin, but probably still more nearly allied to phylloporphyrin; (2) a pigment resembling urobilin in its spectroscopic characters; (3) a colourless, volatile precursor of the urobilinoid pigment, which gives the reactions for pyrrol, and which on exposure to the air slowly becomes converted into a pigment resembling urobilin: the latter change is greatly hastened by the addition of dilute mineral acid and by heat; (4) ammonia is formed probably as a product of the decomposition of the pyrrol derivative; (5) an unsaturated hydrocarbon, which reduces potassium permanganate both in acid and in alkaline solution, and also forms a compound with bromine, is also obtained. Probably the formation of this substance is due to the further reduction of the pyrrol derivative, the other product of the decomposition being ammonia. He hopes shortly to complete the work by the purification and analysis of these derivatives. On account of the smallness of the yield obtained from haematin it is difficult to separate the substances in sufficient quantity for elementary analysis.

Nitrogen Metabolism.

Dr. W. G. Little: The following subjects have been worked up and ready for publication:

1. Urea Estimation.
2. Influence of Inorganic Salts in Relation to the Solubility of Uric Acid and the Biurates.
3. The Nitrogen Output in a Vegetarian (quantitatively estimated) for two periods of fourteen consecutive days each.
4. The Effect of Grouping Biurates, that is, of multiform base as affecting the solubility of uric acid in urine.

Metabolism: Cheyne-Stokes Respiration.

Dr. Pembrey reports as follows: The research (in conjunction with Dr. E. I. Spriggs) on the Influence of Fasting and Feeding upon the Respiratory and Nitrogenous Exchange, has been finished and published in the *Journal of Physiology*, 1904, vol. xxxi, p. 320.

The research upon Cheyne-Stokes respiration has been continued, and a preliminary communication, Observations upon Cheyne-Stokes Respiration, has been published in conjunction with Mr. R. W. Allen, in the *Proceedings* of the Physiological Society, January 21st, 1905.

The research upon diabetes has been continued, and (in conjunction with Dr. Beddard and Dr. E. I. Spriggs) a preliminary communication on the Quantity and Pressure of Carbon-Dioxide in Venous Blood and in Alveolar Air in Cases of Diabetes and Diabetic Coma, has been published in the *Proceedings* of the Physiological Society, June 18th, 1904.

Innervation of the Gall Bladder.

Mr. H. H. Dale, B.C.Cantab.: In conjunction with Dr. F. A. Bainbridge an investigation has been made into the Nervous Mechanism Controlling the Gall Bladder. The results, which will shortly be published, indicate that the local mechanism is probably concerned in the reaction of the gall bladder to distension, etc., the bladder, when separated from the central nervous system, carrying out rhythmic contractions, and maintaining considerable tone. Rhythm and tone are inhibited by stimulation of the splanchnic nerves, augmented by stimulation of the vagi. The innervation of the gall bladder is, therefore, in their experience, which con-

tradicts that of previous observers, of a type very similar to that of the small intestine.

DEVELOPMENT OF THE OVARIES.

Miss LANE-CLAYPON (Research Scholar):

1. Investigations to ascertain the Origin of the Interstitial Cells of the Ovary in the Rabbit, and the changes undergone by them, during each pregnancy, this last in special relation to the formation of "primordial" ova. This work is nearly completed, and has been carried out alone under Professor Starling.

2. Experiments to Produce Artificial Growth of the Mammary Glands in Virgin Rabbits, by means of the injection of extracts of fetuses, placentae, etc. Also experiments to ascertain the Effect on the Mammary Glands of the Pregnant Rabbit, at different stages of pregnancy, produced by the removal of the uterus and its contents. These have all been carried out under and in conjunction with Professor Starling.

3. A few experiments have been carried out with a view to ascertaining the ferments present in the placenta of the rabbit.

NEUROLOGY.

CEREBRAL LOCALISATION.

Professor C. S. SHERRINGTON, F.R.S., reports that the sum kindly allowed him by the Committee and the Association has been this year expended in contributing to the purchase of two more anthropoid apes, namely, a chimpanzee and a gorilla. On these his observations have been carried on, following the same lines as before; but certain new points of interest have arisen in pursuing them. Among these may be briefly mentioned the following:

It is found that by cold compresses applied to the scalp it is possible to quickly and considerably lower the temperature of the cortex of the underlying brain. In this way its functional activity can be affected from without. The observations he has at present made only on the so-called "motor regions" of the cortex—that is to say, by cold compresses applied to the fronto-parietal region of the scalp. He finds that stimulation within a certain limited area of the cortex inhibits the knee-jerk of the opposite lower limb. This area he has experimentally delimited in some detail. The extent of the cortical area which in the frontal region excites movements of the eyeballs when stimulated by faradism, etc., he has delimited further than he had delimited it before, and in doing so better evidence of its extent, especially upward, has been obtained with some increase of its area.

COURSE OF EFFERENT FIBRES FROM THE CORTEX.

Dr. T. G. BRODIE, F.R.S., has conducted some experiments (in conjunction with Dr. F. W. MOTT, F.R.S.) upon the course and ultimate destination of the efferent fibres from those parts of the cortex which on excitation cause conjugate deviation of the eyeballs. The histological examination of the material they have collected is not yet complete, so that they are unable at the present time to give any extended account of their results. They will, however, send a record of their results as soon as they are in a position to do so.

THE OPTIC THALAMUS.

Dr. GUSTAV MANN reports, in reference to the grant for a Reconstruction of the Thalamus, that he has so far made a series of sections through the brains of rabbits in different planes, and has also made very full series of photographs of the brains of the monkey, rabbit, and bat, all these being in continuation of the results submitted to the British Medical Association at the Oxford meeting. He has found great difficulty in mapping out the nuclei of the fillet at the base of the thalamus proper, as the results he has obtained by fixing brains in different fluids gave him discordant results as regards the proportionality between the different nuclei. In some brains one set of nuclei is bigger than a second set, while the reverse holds good for the next brains. He attributes this want of agreement to different elements, cells, medullated and non-medullated areas, not being brought out with the same sharpness by different fixing methods. He has made three reconstructions of the rabbit's thalamus which, as far as the basal nuclei are concerned, agree so little that he has remelted the wax to convert it again into plates. The model he has now in hand is based simply on the cell elements, no attempt being made to apportion the white matter amongst the different nuclei, and this model he hopes to exhibit during the next Annual Meeting. He acknowledges the great help Mr. A. S. MacNalty, B.A., has been to him, both in making the wax plates and in tracing the outlines of the nuclei.

THE ANTERO-LATERAL ASCENDING CEREBELLAR TRACT.

Dr. R. VEITCH CLARKE[1]: The work, of which an account is given in the following report, was undertaken with a view of determining if the cells of origin of the antero-lateral ascending cerebellar tract in the cord were situated in Clarke's vesicular column. The reason for the adoption of this work is to be found mainly in Schäfer's suggestion that chromatolysis of Clarke's cells follows upon injury of the ventral cerebellar fibres, and in a paper published in *Brain* some years ago by Mott, in which he describes the effect produced by section of fibres arising from Clarke's cells, and does not mention any degeneration in Gowers's tract. Degeneration was also the method employed in the following experiments, but it was produced by actual destruction of the cells of Clarke's column.

Operation.—Every precaution was taken throughout against the possible production of sepsis. The only fluid allowed to come in contact with the wound was sterilized normal saline. The dura mater was exposed in the lower dorsal region for about 2 cm. This was incised mesially and an incision made in the posterior white column on one side midway between the posterior median fissure and the posterior nerve roots. Next either (*a*) the base of this incision was cauterized with a fine dental electro-cautery at a dull-red heat; or (*b*) the cells of Clarke's column were torn from their connexions by running the point of a v. Graefe's knife twice along the base of the incision. The wound in the cord was about $\frac{3}{4}$ cm. long. The whole wound was sewn up and dressed with collodion and wool. The animals were killed about a fortnight after operation. Appended are short notes of each experiment:

Cat 1.—Cautery employed in operation. Animal recovered well. Hind limbs paresed, but no motor paralysis. Killed on tenth day. Degenerated fibres present in both dorsal and ventral ascending cerebellar tracts on same side as lesion. No degeneration on other side of cord. Degenerated fibres could be traced into cerebellum.

Cat 2.—Cautery employed. In this case no paresis whatever was developed until about the seventh or eighth day, when a slight degree of paresis came on gradually in the hind limbs and continued till animal was killed. The site of operation was healthy and firmly healed. Degeneration is present in both ascending spino-cerebellar tracts on both sides of the cord but is more marked on the same side as the lesion.

Dog.—Cautery employed. Not even the slightest paresis was present in this case at any time. Animal was able to run about within one and a half hours of the operation. Complete union of the parts was found *post mortem*. The lesion was on the right side. Degeneration was present on both sides, but only very slightly on the left and that was confined to the direct cerebellar tract. On the right the degenerated fibres occurred in both dorsal and ventral ascending cerebellar tracts.

Cat 3.—Cautery not used, v. Graefe's knife employed to disintegrate Clarke's column. Animal kept very well, but had somewhat marked paresis of hind limbs.

Post Mortem.—Wound firmly healed, but a considerable amount of organized exudate found on dorsal aspect of cord at site of operation. Degeneration present in both ascending cerebellar tracts on both sides of cord and equally marked on the two sides.

Cat 4.—V. Graefe's knife used as above. No cautery. Animal recovered well. Slight paresis of hind legs at first, but that passed off in three or four days, and for the remaining eleven days the cat could walk about normally. Degeneration present in both cerebellar ascending tracts, and on both sides equally.

Post Mortem.—Appearances as in Cat 3.

General Remarks.—In all the above experiments the degenerated fibres of the dorsal cerebellar tract were observed to pass into a more peripheral position as they were followed upwards until they were closely apposed to the margin of the dorsal part of the lateral column, thus agreeing with the description of the laminated arrangement of these fibres recently given by Sherrington. The degenerated fibres in each tract followed their ordinary course to the cerebellum.

The occurrence of degeneration on both sides is, in his opinion, to be ascribed partly to the injury produced at the time of operation and to interference with blood supply and partly to the non-septic inflammatory reaction following on the injury. The unilateral degeneration found in the first experiment and the greater degeneration found in Cases II

[1] This Report should have been included in the Report for 1904, but was received too late.

and III on the same side as the lesion, seem to indicate that with less drastic operative interference more definite results may be obtained. Such he hopes to obtain in further experiments. At present, from the above results, one can only tentatively say that the cells of origin of the fibres of Gowers's tract lie in the posterior region of the spinal grey matter, and are probably altogether on the same side as the fibres derived from them.

The Spinal Ganglia.

Dr. Warrington reports that Observations on the Spinal Ganglia, in conjunction with Dr. F. Griffith, a preliminary account of which was read at the Oxford meeting of the Association, have been extended and the results published in the autumn number of *Brain*, 1904. Various specimens of pathological interest have been and are now being examined, including syringomyelia, disseminated sclerosis, toxic bulbar paralysis, etc. Some of these, it is hoped, will be of sufficient interest to be published.

Regeneration of Nerves.

Mr. Arthur Edmunds reports on Regeneration of Nerves. The experiments hitherto performed by Dr. Mott, Dr. Halliburton, and himself on this question lend no support to the idea that the essential portions of regenerated nerve fibres are of peripheral origin. They regard the activity of the neurilemmal cells which occurs in the peripheral portions of a divided nerve as nutritional and preparatory rather than formative. In cases where union with the central end is effectively prevented there is no trace of real regeneration. When regeneration occurs after union with the central end and the new nerve is again cut, Wallerian degeneration occurs in the peripheral end only, which shows that the growth of the new fibres had started from the central end towards the periphery.

Another point investigated has been to determine the influence of stimulus on regeneration. The normal stimuli passing to the anterior cornual cells *viâ* the posterior roots and from the brain have been removed by appropriate operations, but regeneration occurs equally rapidly as in control experiments. The paths which still remain open (commissural and association tracts) therefore appear to be sufficient to maintain the activity of the anterior horn cells for the purposes of regeneration, although insufficient to induce those cells to send effective impulses along their axons.

Experiments are at present in progress to determine the changes which occur when pieces of fresh nerve are transplanted in new situations.

OPHTHALMOLOGY.

The Intraocular Fluids.

Mr. E. E. Henderson: The research on which, in company with Professor Starling, he has been engaged during the last year is only partially complete. In their previous paper on the subject, published last year in the *Journal of Physiology*, they dealt with Some of the Problems of the Intraocular Circulation and their Connexion with the Intraocular Pressure. In their present research they have made some endeavour to trace the laws that govern the physiology of the secretion of the intraocular fluids. The experiments fall under three main headings: (1) Direct measurement of the rate of secretion, by collecting the secretion, weighing it, and estimating the solids (coagulation being prevented by leech extract). This was done also under artificially-raised blood pressure. The results here seemed to show that the secretion was a direct function of the blood pressure. (2) The rate of filtration of normal salt solution and of albuminous fluids, such as serum, was estimated in the dead eye in a similar manner to that of Priestley-Smith and Leber. In these experiments they found that filling the living eye with an albuminous liquid did not raise the pressure during the time of observation, but that in the dead eye the rate of filtration was only about one half that of salt. (3) These experiments were based on some of Niesnamoff's, in which he endeavoured to determine a filtration coefficient for the eye, and incidentally claimed to have a means of estimating the capillary pressure in the eye. By artificially raising pressure in the living eye fluid can be driven in; the rate to a certain extent depending on the pressure, but not acting in their experience in the same regular progression as Niesnamoff found. On now killing the animal and measuring the rate of filtration when no secretion can be going in, Niesnamoff claimed that the point at which the two rates were equal would be the measure of the pressure required to stop secretion, and therefore would render it possible to determine the capillary pressure. As in his experiments, which do not appear to have been very numerous, he did not take account of the state of the blood pressure or of that of the pupil, they have thought it worth while to reinvestigate the subject. So far as they have at present gone, they do not find any such regular mathematical propositions as he obtained. Incidentally they have noted that although the intraocular pressure with a contracted and a dilated pupil is practically the same, the rates of filtration at artificially-raised pressures are greater with the contracted than with the dilated pupil. But on this point their results are not yet conclusive. Should this be really correct it may have some bearing on the action of eserine in acute glaucoma. They hope to have a paper ready on the subject before the end of the summer; but the conditions of experiment are somewhat arduous and they have to face a considerable number of failures.

Influence of Light on the Developing Retina.

Dr. T. H. Milroy reports that his research upon the Influence of Different forms of Light upon the Developing Retina up to the present has been mainly directed to the question of the response to light of the pigment cells of the retina at different stages of development.

The method of investigation which was adopted was as follows. Hen's eggs were incubated in the dark, and also in bright white light or in bright-coloured light. Those eggs which had been incubated in the dark were opened with the necessary precautions to avoid admission of light, and the embryos were removed and placed in the fixing solution. The same procedure was adopted with the eggs which had been exposed to light, except that during and after the opening of the shell the embryo was exposed to the direct influence of light, this being maintained for at least fifteen minutes. The eyes were examined at all stages of development.

It would be impossible to refer in this place to the various developmental changes in the retina, but the following points, which are of interest, may be briefly referred to: The pigment cells do not show the characteristic response to light until the rod-and-cone layer begins to show differentiation into cylindrical and conical elements. If the eye of the chick developed and fixed in the dark be examined at any period up to about the twelfth day the pigment cells are seen forming a layer in which the pigment is mainly gathered in the bases of the cells. There are no signs of pigment-holding protrusions from the cells.

The only difference with regard to the pigment cells in the eye of the chick at the same stage of development and after exposure to light is that the pigment spicules are more loosely arranged in the bodies of the cells. There are, however, no true pigment protrusions.

At a somewhat later stage (fifteenth day), when the development of the rod-and-cone layer has progressed so far as to show a differentiation into small cylindrical or conical elements, the eye exposed to the light shows distinct differences from one kept in the dark. At this stage the pigment cells respond to light by sending out pigment-holding processes which pass between the elements in the rod-cone layer. In the dark eye the pigment spicules do not leave the cell body. The pigment cells also respond to light at this or a slightly later stage, even when light does not fall upon the eye examined, but only upon the other eye. This indirect response is never so well marked as the direct one. At later stages of development the cones shorten as they do in the fully-developed retina.

The point of special interest is, however, that the pigment cells do not respond to light before the rods and cones show beginning differentiation, although the cells contain fully-developed pigment granules. Work is at present being done on other points connected with developmental changes in the retina.

PATHOLOGY.

Chemiotaxis.

Dr. J. O. Wakelin Barratt (Research Scholar) has carried out a research upon Chemiotaxis. In continuation of his investigation carried out in the previous year, the nature of the action of weak solutions of acids and alkalies upon the living protoplasm of paramoecium has been further studied: (1) by means of determination of the conductivity of such solutions at varying intervals after the addition of the paramoecia; and (2) by measurements carried out with palladium-hydrogen and calomel electrodes. In this way it has been possible to show that living protoplasm enters into a chemical reaction with acid and alkali. Next the relation

of the chemiotaxis of paramoecia to acids and alkalies has been reinvestigated, and a study of the chemiotaxis of wandering cells has been commenced and in part completed. The latter work has been carried out in Professor Gruber's laboratory in München.

The preliminary research upon the lethal concentration of acids in respect of paramoecium, which was referred to in his report last year, has been completed, and in continuation of the line of inquiry entered upon a further investigation has been carried out of the nature of the action of acids and alkalies upon living protoplasm, for the elucidation of which physical chemical methods of research have been chiefly employed. The results of these inquiries have been communicated to the BRITISH MEDICAL JOURNAL, and in fuller detail to the *Zeitschr. f. allg. Physiol.*, while in addition a note upon lethal concentration has been published in the *Proc. Roy. Soc.* Aided by the above work, the chemiotaxis of paramoecia has been further studied, particularly in respect of concentration of the acid and alkaline solutions employed, and a preliminary account communicated to the *Zeitschr. f. allg. Physiol.* As a prelude to a further study of the nature of chemiotactic action, an investigation has been carried out jointly by Professor A. Coehn and himself upon the galvanotaxis of paramoecium from the physico-chemical standpoint (ibid., Bd. 5, S. 1).

Attention has also been given to the chemiotaxis of leucocytes, and to the allied subject of phagocytosis. This part of his research, which has been carried out in Professor Gruber's laboratory in the Hygienisches Institut, München, is in part completed, and will shortly be made the subject of a communication to the BRITISH MEDICAL JOURNAL.

INFLUENCE OF DIPHTHERIA ANTITOXIN ON NERVE AND MUSCLE.

Dr. S. H. BOWN has carried out an Investigation of the Results of the Injection of Diphtheria Toxin on the Central and Peripheral Nervous System and the Cardiac and Voluntary Muscles of Rabbits. Four rabbits were injected with varying doses (in three cases repeated doses) of diphtheria broth of fourteen days' growth, and killed within eight days.

Specimens from all parts of the central nervous system were stained by Nissl's method, and degeneration in early stages was found in all four rabbits. The degeneration affected the cells of the anterior cornua of the spinal cord, being more marked in the lumbar region, and diminishing as the higher parts of the cord were reached. A considerable number of cells in the medulla were also affected. There was no degeneration of the cerebrum or cerebellum, the only cells affected being those of the lower segment of the motor tract. The main features in the changes observed were swelling of the cell, early chromatolysis, and in some cases eccentricity of the nucleus and disappearance of the processes of the cell. The spinal ganglia were not affected.

The peripheral nerves were stained in Müller's fluid followed by Marchi's fluid, and showed no degeneration whatever. The nerves examined were the vagus and one each from the brachial and lumbar plexus.

The cardiac muscle, stained in the same way, showed intense fatty degeneration of the fibres.

The voluntary muscles, also stained in the same way, showed no degeneration at all.

One healthy rabbit was killed and examined in the same way as a control.

By the kind permission of Dr. Sidney Martin, F.R.S., this investigation was carried out in the Pathological Laboratory of University College, London.

He is anxious to repeat these observations on the monkey, and would prefer not to have his report published until afterwards.

BACTERIA OF THE HUMAN ALIMENTARY CANAL.

Dr. JOHN T. HEWETSON (Research Scholar) has continued his investigation on the Bacteria of the Human Alimentary Canal (and of the inflammatory processes arising therefrom) throughout the year with a view to ascertaining the relative sterility of the different parts of the human alimentary tract. Whenever organisms have been found, the degree of their pathogenicity has been tested by inoculation experiments. Careful examinations have been made of inflammatory collections arising from different parts of the intestinal tract. Some of his conclusions have already been published in an abstract of his work in the BRITISH MEDICAL JOURNAL of November 26th, 1904. As far as opportunity would permit he has made examinations of the alimentary contents whilst the intestinal tract was opened during operations, so that his results are free from those fallacies common to such technique as the stomach tube. In all he has made examinations of 52 different stomachs, and has found 28 of them to be sterile after fasting. In the same way the contents of the jejunum have been examined in 45 cases, and in 23 of them no growths have been obtained. Wherever ulceration has existed, the degree of sterility has been diminished, and especially so in malignant ulceration. Whenever films have been made of sterile stomach or jejunal contents dead bacteria have almost invariably been found. The organisms that have been grown from the stomach and jejunum include bacillus coli, staphylococcus pyogenes, streptococcus pyogenes, diplococci, micrococcus tetragens, and many other non-pathogenic germs. Although all the organisms so grown from the stomach and jejunum have been injected intraperitoneally into rats and guinea-pigs, they have not in any single instance produced death. It is tolerably certain, therefore, that, even when the gastric and upper intestinal juices do not kill outright the organisms present, they modify in a very profound degree their pathogenic properties.

The degree of sterility and pathogenicity of organisms present in the ileum, appendix, and colon make a striking contrast to those found in the upper part of the alimentary tract. The contents of the ileum were examined in 6 cases, those of the colon in 8, and of the appendix in 50. Unless the appendix is stenosed and shut off from the colon, its contents practically always give a growth of bacteria similar to those found in the colon and ileum. Of these organisms the bacillus coli forms about 85 per cent. of the whole, existing either alone or mixed with staphylococci, streptococci, diplococci, or some form of non-pathogenic organism. The pathogenic organisms found in the lower alimentary tract invariably cause death on inoculation. The contents of the distal chambers of stenosed appendices are sterile in something like 44 per cent. The biliary passages are rarely sterile after attacks of biliary colic, or where gall stones are present. Out of 24 cases, 22 gave a growth of bacteria and 2 were sterile. Four healthy gall bladders, opened with the anticipation of finding gall stones, were sterile. He has not been able to make a sufficient number of inoculation experiments on bacteria found in the biliary passages to warrant his speaking with any certainty of the general degree of their pathogenicity. If organisms of known pathogenicity are introduced into fresh human bile, little or no change takes place in their virulence.

The meconium of newly-born infants delivered under strictly aseptic precautions, as, for instance, by Caesarean section, has been carefully examined, and it is found to be absolutely sterile, and to remain sterile for something like twenty-four hours. Bacillus coli and other organisms appear in the meconium on the second day of life, but do not, as a rule, prove pathogenic to rats until the third day of extra-uterine life. As the buttocks of one infant had been covered by aseptic dressings, it is almost certain that the organisms reached the meconium via the mouth and stomach.

Three cases of tetany accompanied by gastric dilatation came under observation. Stomach washings were obtained by means of a boiled stomach tube and forthwith examined. In two of them the washings were sterile, and one gave a growth of bacillus coli and torula alba; 5 c.cm. of each washing was injected into the peritoneum of rats. In one of the sterile washings the animal died ten days after inoculation from intestinal obstruction due to kinking of the ileum, no bacterial infection of the peritoneum having taken place. The other sterile washing produced a severe peritonitis, with death in ten hours; the peritoneal fluid, however, at death was quite sterile. The third washing, containing bacillus coli, caused death in twelve hours, and the peritoneal cavity gave a rich growth of the same organism. In none of the cases were there any symptoms of spasm in any of the animals injected.

These cases and his examination of the peritoneal contents in twelve cases of perforated gastric ulcer lead him to the view that a virulent peritonitis can be induced by the gastric juice alone, of a chemical or fermentative nature, without the presence of bacteria. In the early hours of perforating lesions of the stomach it is the gastric juice which induces the intense abdominal symptoms, and only at a later date does the peritoneal cavity become fouled by organisms. Most of the bacteria found in the peritoneal cavity even in

the later stages of perforating gastric ulcer are in his experience non-pathogenic.

He has been permitted to examine the stools of three typical cases of sporadic dysentery. The predominating organism in all three cases presented characters identical with those of bacillus sporogenes enteritidis. A few colonies of streptococcus pyogenes and staphylococcus pyogenes aureus existed on the growths of two of the cases. After lightly curetting the rectal mucous membrane of rats this bacillary growth was injected into the lumen of the gut through the anal canal without producing any pathogenic result. When injected intraperitoneally the bacillus caused a rapidly-fatal peritonitis.

Other cases bearing upon his subject have been investigated, including over fifty cases of suppurating appendicitis, cases of strangulated hernia, parotitis, and of simple colitis. Special attention has been paid to the detection of anaërobic organisms in the whole course of his research, the details of which will be furnished in due course.

Paths of Infection in Tuberculosis.

Dr. Henry Stokes reports: Path of Infection in Rabbits Fed on Tuberculous Material.—Rabbits No. I, II, III, IV, and V: February 6th, 1905. Tuberculin test negative. From February 10th to March 8th fed all rabbits on tuberculous sputum, tuberculous milk, etc. February 10th. Tuberculin test negative. March 11th to March 18th. Fed on tuberculous material. April 28th. No. I died suddenly. *Post-mortem* examination of organs revealed no tuberculous lesion. The chief obstacle seems to be the difficulty of getting the animals infected. Whether the previous injection of tuberculin could be the cause of this is a point worth considering.

Gout.

Dr. I. Walker Hall: Several cases of gout have been investigated in regard to the output of amino-acids. These include some cases under the care of Professor Minkowski of Köln, which, through his courtesy, were placed at my disposal. Considerable evidence has been accumulated bearing upon the amounts of amino-acids in normal urines, upon the amounts of amino-acids in gouty urines, and upon the changes in the excretion consequent upon alterations of diet, habits, and administered substances. The methods employed require much time for completion, and thus the results so far obtained are inadequate as regards forming any conclusions. The investigations are being continued, and will form the subject of a later communication. It may, however, be provisionally stated that when amino-acids are administered to healthy and to gouty patients they are rapidly and almost entirely excreted. Concurrently, investigations are being made upon the etiology of cystic kidneys.

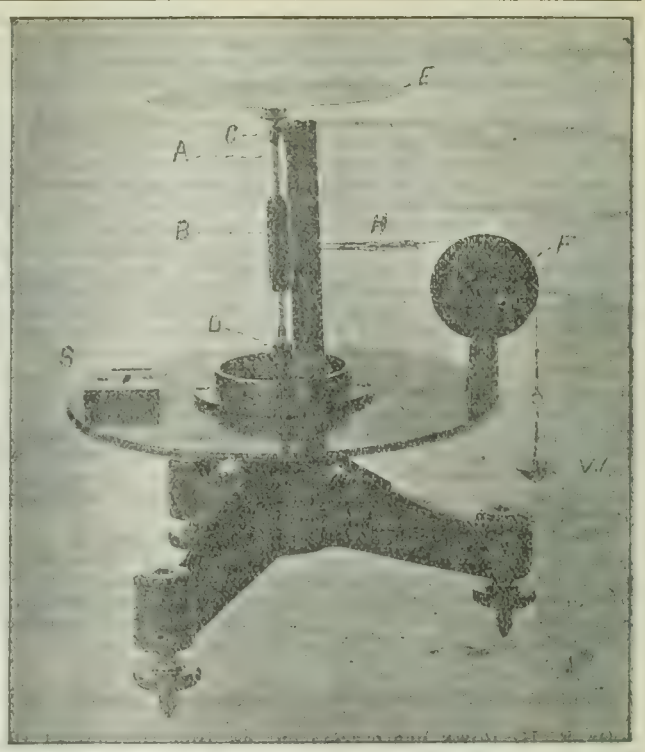
PHARMACOLOGY.

Action of Expectorant Drugs on Cilia.

Dr. W. E. Dixon: His research has so far been directed to the investigation of the action of drugs on cilia. For this purpose a special instrument has been devised. This, the cilioscribe, consists essentially of an upright spindle free to revolve about a vertical axis; the spindle carries a small drum above and is supported upon suitable bearings below. The membrane is wrapped round the spindle with the ciliated surface inwards and in contact with it, and, being fixed, ciliary activity causes the spindle to revolve, and with it the drum upon which the time increments are recorded. The spindle (A) is a German silver rod, preferably covered with gold; it is supported below by the central bearing (D) and above by the lateral V-shaped bearing (C). To its middle third an ebonite cylinder (B) is fixed. The lower bearing consists of a small agate cup protected from falling liquids by a bell cap which is removable. The lateral bearing above is knife-edged and composed of agate, the spindle terminates above in a boss carrying the detachable aluminium plate or drum (E).

The ciliated membrane is supported by an anchor (H) having four hooks, one for each corner of the rectangular strip of membrane. The hooks serve to attach the loop of membrane by a thread passing over a pulley (F) to a freely hanging weight (W). The pull of (W) thus keeps the spindle in contact with the lateral bearing.

The pharynx and oesophagus of the frog afford the most suitable membrane, but a number of experiments have also been performed on the cat and rabbit. A full account of the instrument will shortly appear in the *Journal of Physiology*.



The action of various drugs is now being investigated in this laboratory.

Action of Yeast Cells.

Dr. Walter Malden has carried out a research upon the Action of Yeast. During the last few years yeast has been considerably used as a therapeutic agent, and is being employed as a remedy in many different diseases, either applied locally, taken internally, or injected subcutaneously. The present investigation has been undertaken mainly to test the results said to occur when injected subcutaneously. De Backer[1] and Manders[2] claim for yeast a remarkable therapeutic rôle; they maintain that when the cells are grown in cultures with pathogenic micro-organisms they exercise bactericidal and phagocytic powers over these organisms. The same observers also assert that they have seen bacilli and cocci ingested by the yeast cells, and that the latter, when injected subcutaneously, can live in the body for several days, and while circulating in the blood stream or living in the tissues exercise their bactericidal and phagocytic powers. Presta and Tarnella[3] maintain that their experiments on rabbits prove that cultures of living yeast, when injected subcutaneously, have a distinctly beneficial effect in streptococcus and staphylococcus infections; they have also employed it clinically, giving it by the mouth in infectious diseases supposed to be due to cocci, and claim that the results are satisfactory and corroborate their experimental work.

Dr. Malden has employed for his experiments the saccharomyces cerevisiae, which was the species of yeast made use of by these observers. It was grown in beer wort, washed in distilled water, and stored in 10 per cent. saccharose solution. When a specimen of this was mixed with an equal quantity of a culture of bacillus coli communis in broth, and the mixture incubated at 37° C., both organisms grew and multiplied freely for several days, but gradually ceased to do so as the amount of alcohol produced by the yeast increased. When examined microscopically no bacilli could ever be observed within the yeast cells, though numerous specimens were carefully examined. Occasionally a bacillus could be seen lying on or under a cell, but never within it. The same result followed when staphylococcus albus was used instead of B. coli. After growing together for about a week dark granules developed in many of the cells, which looked like ingested cocci; but that they were not was proved by the

[1] De Backer, *The Therapeutics of Ferments.*
[2] Manders, *Ferment Treatment of Cancer and Tuberculosis.*
[3] Presta and Tarnella, *Gaceta de Med. y Cirurg.*, Barcelona, 1901, No. 6; 1902, Nos. 6, 7, 8, and 9.

fact that precisely similar granules could be found in yeast cells grown without any admixture of cocci; they were clearly products of degeneration, which when stained had the appearance of cocci. He found that when living yeast cells tinged with methyl-violet were injected into the femoral vein of a pithed frog, and the web of the foot focussed under the microscope, the cells circulated in the blood stream for several hours, but as the circulation slowed down they formed small masses blocking the vessels under observation. When injected subcutaneously into the thigh of a frog no yeast cells appeared in the circulation even after the lapse of twenty-four hours. The web was frequently examined during this period, and had any yeast cells been present they must certainly have been observed.

A fully-grown rabbit was injected intravenously with 2 c.cm. of a living yeast culture containing about 4,000,000 cells per c.mm., late one afternoon. On the following morning the animal was dead, having apparently died in the night. The autopsy showed that extensive intravascular clotting of the blood, most marked in the pulmonary vessels, was the cause of death; that it was not due to yeast embolism was proved by the fact that the animal did not die immediately, but lived for several hours after the injection. The probable explanation is that the walls of the yeast cells were gradually disintegrated by the ferments of the living tissues liberating the nucleo-albumen; one well-known effect of this is to produce intravascular clotting. This experiment proved that intravenous injection of yeast is dangerous to the life of the animal subjected to it.

Subcutaneous injections give rise to no untoward effects provided the yeast cultures are pure; rabbits and guinea-pigs only show a slight swelling at the site of puncture, which disappears in from forty-eight to seventy-two hours. In one of his experiments large abscesses developed after injection, which proved fatal to two of the animals experimented on; this result, however, he found was due to the culture employed having become contaminated with extraneous organisms, and not to the yeast itself. No effect on the blood pressure was produced by the subcutaneous injection of yeast, but the blood of the rabbit experimented on clotted with great rapidity.

The effect of subcutaneous injections on the blood was to produce an immediate leucopenia during the first hour after injection, rapidly followed by a leucocytosis, which continued to augment for five or six hours. The leucocyte count rose from 8,500 per c.mm. at the time of injection to 23,500 per c.mm. at the end of this time. A gradual diminution in the numbers then began, but after twenty-four hours the leucocytes were still up to 13,000 per c.mm. A differential count made at the same time showed that the increase was due to a true leucocytosis, the polymorphonuclear cells alone showing any increase (from 50 per cent. to 80 per cent.), the other elements showing a relative decrease in numbers.

A guinea-pig was given a subcutaneous injection of yeast every two or three days for eighteen days, during which time its leucocyte count went up from 8,560 per c.mm. to 20,240 per c.mm., and its weight increased from 340 grams to 410 grams. This showed that, in addition to a considerable leucocytosis, the effect of the yeast was to cause the animal to put on weight unusually fast. Precisely similar results followed when the yeast was killed by raising the temperature of the culture to 58° C. for half an hour on six successive days; thus proving that the effect produced was not due to the enzymes or any products of fermentation, but to some substance or substances contained in the cell itself. The action of subcutaneous injection was tried on guinea-pigs infected with staphylococcus albus. Of the five animals experimented on, four which had the yeast treatment recovered after the abscess caused by the organism had discharged and cicatrized, while the fifth, which had no treatment, died on the fifth day with multiple abscesses on the abdomen and in the groins. This showed that yeast possessed some curative action.

In infections with streptococcus pyogenes similar results were obtained, but not in such a marked degree when the organism was injected intravenously as when given subcutaneously. The virulence of the streptococcus was raised by growing it alternately in the bodies of rabbits and in serum broth for twelve generations; by this time it was sufficiently high to kill a rabbit in six hours after intravenous injection of 0.5 c.cm. of a twenty-four hours' culture in serum broth. Two rabbits were given intravenously 0.05 c.cm. of this culture, and one of them was treated with yeast. The control animal died of acute streptococcus septicaemia on the third day, and the other twenty-four hours later. The virulence of the organism was evidently too high to expect any remedy to show a beneficial action: it was accordingly lowered by making three subcultures on successive days. From this subculture eight rabbits were injected intravenously with 0.5 c.cm. each. Four were given subcutaneous injections of yeast, and four were kept as controls. Two of the animals treated with yeast and all four of the controls died of streptococcus septicaemia between the third and the fourteenth day, while two of those treated with yeast survived, and eventually completely recovered.

Subcutaneous injection of streptococcus into the tissue of the ear was tried with four rabbits, two of them being treated with yeast and two being kept as controls. All four animals developed erysipelas which did not spread beyond the infected ear. This gradually subsided, but the two controls died on the twenty-third and thirty-second days after injection, one from ulcerative endocarditis and the other from subacute septicaemia. The rabbits treated with yeast slowly got better and eventually recovered. In infection with tubercle bacilli the effect of yeast injections was to prolong the lives of guinea-pigs thus treated for periods of five to seven weeks longer than the control animals. His experiments show that the subcutaneous injection of yeast, either living or killed, enables guinea-pigs and rabbits infected with staphylococcus albus, streptococcus pyogenes, and tubercle, either to recover or to live longer than animals not so treated. The method of action of the yeast when thus injected seems to be due to the liberation of the nucleo-albumin contained in the cell after the disintegration of the cell wall by the fluids of the body. The effect of this substance when present in the blood or tissues is to stimulate to unusual activity the cells of the organism generally, thus causing a large increase in the output of those antiseptic and antibactericidal bodies which are normally present in the blood serum and by this means enabling the animal suffering from a bacterial invasion to overcome it and recover from it.

Conclusions.

1. Living yeast does not possess any directly bactericidal or phagocytic properties, nor does it, when injected subcutaneously, pass unaltered into the circulation, but is quickly disintegrated and absorbed.

2. When injected intravenously it causes intravascular clotting of the blood, and is therefore an unsafe substance to use in this manner.

3. Subcutaneous injections of pure cultures of living yeast can be made in animals without producing any ill-effects except the formation of a slight swelling at the point of puncture which rapidly disappears.

4. Killed yeast produces exactly the same effect as living.

5. The immediate effect of subcutaneous injections is to produce a leucopenia rapidly followed by a leucocytosis.

6. The effect of subcutaneous injections of yeast on animals infected with streptococcus pyogenes, staphylococcus albus, and tubercle, is in some cases to cause a recovery of the animals and in others to prolong their lives.

7. The effects produced by the injections of yeast are probably due to the liberation of the nucleo-albumen contained in the cell which acts as a powerful stimulant to the cells of the body generally, and causes a large increase in the antiseptic and antibactericidal substances normally present in the blood serum.

His thanks are due to the British Medical Association for providing the funds for this research, and to Professor Woodhead for allowing him the use of a room in his laboratory.

INFLUENCE OF DRUGS ON CARDIAC METABOLISM.

Dr. A. E. RUSSELL: The object of the research has been to study the metabolism of the heart as evidenced by its blood gas exchange under varying experimental conditions, such as the administration of drugs, etc. For this purpose it is necessary to isolate and artificially perfuse the heart. Cats and dogs have been used. The animal is anaesthetized and bled and the blood defibrinated by whipping. All the veins entering the heart are ligatured and a cannula is tied into the aorta on the cardiac side of a ligature round the arch. The defibrinated blood is placed in a glass receiver. Oxygen is allowed to bubble through the blood from a cylinder and raises the pressure in the receiver to any desired level; the pressure is controlled by a mercury valve. The glass receiver is contained in a bath of warm water. The blood from the receiver passes along a rubber tube and is filtered through glass wool before passing into the cannula above mentioned.

It closes the aortic valves and perfuses the heart via the coronary arteries. The efferent blood is forced from the right side of the heart by the ventricular contraction into the pulmonary artery into which a cannula is tied, whence it passes into a small receiver. From this receiver the venous blood is forced by a small pump acting automatically back again into the large main glass receiver, is reoxygenated and so circulates round and round. A graphic record is taken of the cardiac contraction by a thread fixed into the apex of the left ventricle and in connexion with a lever. Specimens of the arterial blood are taken from the tube leading to the aortic cannula, and of the venous blood from the tube leading from the pulmonary artery. The gases contained are estimated by means of the blood gas apparatus devised by Barcroft and Haldane. Large numbers of such analyses have been done, but owing to the difficulty experienced in obtaining an absolutely uniform rate of contraction over a period of time sufficient to make observations on the blood gases, it is not at present possible to make definite statements as to any changes produced by the additions of drugs to the circulating fluid.

Greater uniformity of contraction is produced by perfusion with various saline fluids, but these are useless for the purpose of the present research. Further experiments and modifications of the method are under consideration.

Influence of Oxalic Acid on Metabolism.

Dr. James Scott has performed a number of experiments on dogs and rabbits by injecting subcutaneously sublethal and lethal doses of potassium oxalate and studying the alterations in metabolism produced. In many cases abscesses were formed at the seat of inoculations; and although changes in metabolism were found, it was difficult to say accurately how much was due to the abscess and how much to the actions of potassium oxalate. In some cases the animals died. In some of the cases marked changes in metabolism were produced, in which there was no abscess formed. It is highly probable that the abscesses were due to the necrotic action of the drug, because every antiseptic precaution was observed. He now proposes that he should continue his investigations by giving the same substance or some other form of oxalic acid by the mouth. He has selected a number of the experiments and written out the details, and can submit them to the Committee if desired, though he has not yet drawn any conclusions.

Grants Returned.

Dr. R. Murray Leslie returned his grant, having been unable to carry out his investigation on account of illness. He adds however that the clinical and pathological part of his investigation he has well in hand, and hopes before the end of the present year to have an opportunity of publishing some of his results in the Journal of the Association and so supplement his first report submitted last year.

Dr. A. S. Grünbaum has returned his grant, as owing to his removal to the Leeds University he found he had not the accommodation necessary for his research.

British Medical Association.

SEVENTY-THIRD ANNUAL MEETING.

GENERAL ARRANGEMENTS.

The seventy-third annual meeting of the British Medical Association will be held at Leicester on Monday, Tuesday, Wednesday, Thursday, and Friday, July 24th, 25th, 26th, 27th, and 28th, 1905.

President: William Collier, M.D., F.R.C.P.Lond., Physician, Radcliffe Infirmary, Oxford, and Litchfield Lecturer in Medicine, University of Oxford.

President-elect: George C. Franklin, F.R.C.S., Honorary Surgeon, Leicester Infirmary.

Chairman of Representative Meetings: Sir Victor Horsley, F.R.S.

Chairman of Council: Andrew Clark, D.Sc., F.R.C.S.

Treasurer: Edward Markham Sherritt, M.D., F.R.C.P.

An Address in Medicine will be delivered by Henry Maudsley, LL.D., M.D., F.R.C.P.

An Address in Surgery will be delivered by Charles John Bond, F.R.C.S.

A popular lecture will be delivered by Professor William Stirling, D.Sc., M.D., F.R.S.E.

SECTIONS.

The annual meeting at Leicester will comprise 12 Sections as shown in the subjoined list. The Sections will meet on Wednesday, Thursday, and Friday, July 26th, 27th, and 28th, from 10 a.m. to 1 p.m.

The President, Vice-Presidents, and Secretaries of each Section constitute a Committee of Reference for that Section.

Papers read are the property of the British Medical Association, and cannot be published elsewhere than in the British Medical Journal *without special permission.*

No paper must exceed 15 minutes in reading, and no subsequent speech 10 minutes.

Medicine.

Technical Schools—Room 2.

President: Frank M. Pope, M.D., F.R.C.P., Leicester.
Vice-Presidents: Reginald Pratt, M.D., M.R.C.P., Leicester; Robert William Philip, M.D., F.R.C.P.Edin., Edinburgh; William Bramwell Ransom, M.D., F.R.C.P., Nottingham.
Honorary Secretaries: Bertrand Dawson, M.D., B.Sc., F.R.C.P., 32, Wimpole Street, Cavendish Square, W.; William Mitchell Stevens, M.D., M.R.C.P., 21, St. Andrew's Crescent, Cardiff; Frank Harwood Jacob, M.D., M.R.C.P., 28, Regent Street, Nottingham.

The following subjects have been selected for special discussion in this section:

A. The treatment of sleeplessness and pain;

B. The pathology, diagnosis, and treatment of various forms of acute meningitis;

C. The diagnosis and treatment of cardiac degeneration apart from valvular disease.

Discussion A. will be opened on July 26th by Sir Lauder Brunton, M.D., F.R.S., in an address of which the following is a summary:

It is not very easy to give a correct and complete definition of sleep so as to differentiate it entirely from the conditions of coma, delirium, active dreaming, and somnambulism. It may be roughly said to be insensible to ordinary external stimuli, when these are not too severe. It depends partly on the condition of the brain cells and partly upon the circulation. The brain cells may be kept active and sleep prevented by stimulants to the brain itself, such as psychical impressions, worry, anxiety, eagerness, and anticipation, very pleasurable or very painful. Pain has probably a double action, increasing both the cerebral cells and the circulation through the brain. Excessive heat or cold to the surface may have a similar action, as well as distension of the stomach or intestines by flatulence, or irritation by excessive acidity in the stomach or irritant substances in the intestine. Both the circulation and the nerve cells may be influenced by leucomaines formed in the body or taken from without, such as the active principles of tea or coffee. The circulation may be stimulated by over-action of the heart through heat, excitement, drugs—such as tobacco—or by high tension in cases of gout. Rigidity of the arteries leading to the brain may also lead to sleeplessness, and the treatment of sleeplessness consists in the removal of the cause, if possible, or in counteracting the abnormal condition either of the brain cells or the circulation. The sensation of pain has its own seat in the cerebrum, but it is usually excited by peripheral irritation affecting nerve ends, nerve trunks, or the spinal cord. There are many varieties of pain—burning, shooting, stabbing, grinding, gnawing, etc. The causes of pain may be peripheral or central. The sensibility to pain varies greatly in different people, and in the same person at different times. The treatment of pain consists in removing irritation or lessening sensibility in nerves, spinal cord, or cerebral centre, and the methods of doing this are numerous, and include mental impression, mechanical removal of irritation, neutralization of chemical irritants, alteration in nerves and nerve centres by drugs, massage, vibration, and electricity.

Sir Lauder Brunton will be followed by Professor Cushny, Dr. Huchard of Paris, Sir William Broadbent, and Dr. Hale White in the order stated. After this the discussion will be thrown open.

Discussion B. will be opened on July 27th by Dr. Howard Tooth, M.D., F.R.C.P., of whose address the following is an abstract:

During the last year, 45 cases of meningitis of various forms have been under observation at St. Bartholomew's Hospital. These form the basis of the opening remarks.

Variety.	Recovered.		Died.		Total.	
	M.	F.	M.	F.	M.	F.
Tuberculous	0	0	13	9	13	9
Post-basic	4	2	5	0	9	2
Pneumococcic	0	0	0	2	0	2
Streptococcic	0	0	3	0	3	0
Purulent, undetermined.	1	0	3	3	4	3

Such factors as may be considered of importance in differential diagnosis will be briefly considered; and among others the following:

1. Earliest symptoms of onset.
2. Duration.
3. Mental symptoms.
4. Eyes.—Optic neuritis: Common in tubercle; less so in other forms. Earliest appearance of optic neuritis.
5. Squint. Mostly internal; very common; often transitory; almost invariable in posterior basic form.
6. Other forms of paralysis.
7. Tonic muscular spasm. Head retraction. Opisthotonos. Rigidity of limbs (Kernig's sign), almost invariable in posterior basic, less so in the other forms. Cerebellar irritation its most probable cause. Hypertonicity of cerebral origin (for example, in spastic diplegia) contrasted with cerebellar. The variability of the reflexes in cerebellar.
8. Fever, general remarks on types of. Relation of pulse and respiration to fever. Tendency to progressive acceleration of pulse and respiration, irrespective of temperature.
9. Lumbar puncture.

Prognosis.—Most favourable in posterior basic cases as a whole. Of eleven cases, six recovered. The chance of recovery seems to be greater the older the patient.

Tuberculous and pneumococcic forms invariably fatal.

The mortality would appear to depend on the generalization of the inflammatory process; this tendency is least in posterior basic cases.

Morbid Anatomy.

Treatment.—Drugs. Value of Mercury. Operative. Trephining of skull and spinal column. Lumbar puncture.

Dr. TOOTH will be followed by Dr. HORDER, Dr. OSLER, and Dr. MONTAGUE MURRAY in the order indicated, after which the discussion will be thrown open.

Discussion C. will be opened on July 28th by Dr. J. DRESCHFELD, M.D., F.R.C.P., of Manchester, in an address based on the following headings:

1. Acute myocarditis, especially in connexion with typhoid, diphtheria, pneumonia, influenza.
2. Chronic myocarditis.
3. Myocardial affections in connexion with chronic infectious diseases (syphilis, malaria, tuberculosis).
4. Cardiac insufficiency due to chronic intoxication. (*a*) Exogenous toxins (alcohol, tobacco, lead). (*b*) Endogenous toxins (Bright's disease, diabetes, gout, Graves's disease, cancer, cachexia).
5. Myomalacia due to arterio-sclerosis.
6. Heart muscle failure in chronic lung affections.
7. Heart-strain due to excessive muscular exercise.
8. Fatty heart.
9. Senile heart.

Dr. DRESCHFELD will be followed by Dr. G. H. GIBSON, Dr. W. HERRINGHAM, Sir WILLIAM BROADBENT, and Dr. A. FOXWELL in the order stated. The discussion will then be thrown open.

It is requested by the Committee of the Section that members wishing to take part in these discussions will communicate in the case of discussion A. with Dr. Bertrand Dawson, in the case of discussion C. with Dr. W. Mitchell Stevens, in the case of discussion B. with Dr. Frank H. Jacob at the addresses already given.

SURGERY.

Technical Schools—Room T.

President: Sir CHARLES BENT BALL, M.Ch., F.R.C.S., Dublin. *Vice-Presidents:* CLAUDE DOUGLAS, F.R.C.S., Leicester; HENRY JOHN BLAKESLEY, F.R.C.S., Leicester; JAMES HENDERSON NICOLL, M.B., C.M., Glasgow. *Honorary Secretaries:* PERCY FURNIVALL, F.R.C.S., 28, Weymouth Street, W.; CECIL EDWARD MARRIOTT, M.C., F.R.C.S., 11, Welford Road, Leicester.

In this Section special discussions have been arranged on the two following subjects: (1) The Surgical Treatment of Non-malignant Diseases of the Stomach. Opener, Mr. B. G. A. Moynihan, M.S., F.R.C.S. (2) The Treatment of Malignant Disease of the Rectum. Opener, Sir Charles Ball, M.Ch., F.R.C.S. Arrangements have been made for showing lantern slides to illustrate subjects under discussion. The Secretaries will be pleased to receive as soon as possible any paper which it is proposed to submit to the Section, and also to hear from any one who desires to take part in the discussions mentioned.

The following papers have been accepted by the Committee of Reference for this Section:

FENWICK, E. Hurry. Life history of a Left-sided Ureteritis peculiar to the Female.

BERRY, J. Sixty Cases of Cleft Palate Treated by Operation.

TUBBY, H. Spinal Osteomyelitis.

FREYER, P. J. Total Enucleation of the Prostate: A Review of 200 Cases.

THOMAS, J. Lynn. Immediate crossing of Facial Nerve to the Spinal Accessory Nerve in a Case of Removal of a large Parotid Tumour.

SHEEN, W. A Case of Ligature of the Innominate Artery.

BIDWELL, L. A. A Case of Angio-Sarcoma of Omentum.

CAMMIDGE, P. J. Observations on the Faeces in Biliary Obstruction and Pancreatic Disease.

LEEDHAM-GREEN, C. Some Further Experiments on the Sterilization of the Skin.

MALCOLM, J. D. Two Cases of Partial Sloughing of the Vermiform Appendix.

CHILDE, C. P. An Unusual Condition of the Large Intestine associated with Carcinoma in Two Sisters.

JONES, Robert. The Treatment of Recurrent Dislocation of the Shoulder and Displacement of the Patella.

ATKINS, T. G. (1) After-histories of 20 Cases of Gastro-jejunostomy—reported at the Oxford meeting—for Non-malignant Conditions of the Stomach. (2) Short Notes on a Case of Acute Gangrenous Appendicitis, illustrated with specimen and drawing.

STATE MEDICINE.

Technical Schools—Room 7.

President: PHILIP BOOBBYER, M.D., Nottingham. *Vice-Presidents:* NINIAN MCINTIRE FALKINER, M.D., Dublin; JOHN HERBERT HAWKINS MANLEY, M.D., D.P.H., West Bromwich; THOMAS ROBINSON, M.R.C.S., D.P.H., Leicester. *Honorary Secretaries:* WM. WILLIAMS, M.D., D.P.H., County Health Department, 9, The Parade, Cardiff; CHAS. KILLICK MILLARD, M.D., D.Sc., Town Hall, Leicester.

It is desired in this Section to arrange for papers and discussions on questions relating to Public Health and Forensic Medicine.

The following have been suggested:

Infants' Milk Dépôts.
The Working of the Midwives Act.
The Training of Midwives.
Elementary Education and the Teaching of Hygiene.
The Provision of Sanatoriums for Consumptives.
Small-pox and Vagrancy.
Sewer Ventilation.
The Influence of Alcohol on the Public Health.
The Formation of a National Water Board.
Isolation Hospitals.
The Etiology and Prevention of Epidemic Diarrhœa.
The *Rôle* of Shellfish in the Spread of Typhoid Fever.
River Water as a Source of Municipal Water Supply.
Ankylostomiasis.

Papers on other subjects coming within the scope of the Section are also invited.

A joint discussion with the Laryngological Section has been arranged for July 28th, on "What is Notifiable Diphtheria?" to be opened by Dr. P. Watson Williams.

INDUSTRIAL HYGIENE AND DISEASES OF OCCUPATION.

Technical Schools—Room 8.

President: HY. WM. LANGLEY BROWNE, M.D., West Bromwich. *Vice-Presidents:* ALEXANDER CAMPBELL, M.D., Dundee; JOHN COLLEY SMYTH BURKITT, M.D., D.P.H., Leicester; THOMAS MORISON LEGGE, M.D., London. *Honorary Secretaries:* CLEMENT FREDERICK BRYAN, M.R.C.S., 44, Humberstone Road, Leicester; THOMAS WATTS, M.D., 34, Church Street, Hyde.

The following discussions have been arranged in this Section:

July 26th.—Physical Deterioration, its Causes and Extent. Opener, Dr. Dawson Williams. Dr. William Hall and others will take part.

July 27th.—Anthrax. Opener, Dr. J. W. Bell, of Bradford. Dr. Legge and Mr. L. Stratton will follow.

July 28th.—Accident and Poisoning Reports. Opener, Dr. Dearden.

The Honorary Secretaries will be glad to know at as early a date as possible from any one who desires to contribute a paper, or to take part in any of the discussions.

Laryngology, Otology and Rhinology.

Technical Schools—Room O.

President: Frederick William Bennett, M.D., Leicester. *Vice-Presidents:* William Arthur Carline, M.D., Lincoln; John Middlemass Hunt, M.B., Liverpool. *Honorary Secretaries:* Alex Lewis MacLeod, M.B., 89, Hinckley Road, Leicester; Chas. Herbert Fagge, M.S., F.R.C.S., 22, St. Thomas's Street, London Bridge, S.E.

The following subjects have been selected for special discussion:

1. Wednesday, July 26th.—The Lines of Treatment in Preventing Acute Middle-Ear Suppuration from becoming Chronic.

2. Thursday, July 27th.—The Treatment of Tuberculous Disease of the Larynx.

3. Friday, July 28th.—What is Notifiable Diphtheria?

Members are invited to contribute any preparations, specimens or drawings, or any instruments or apparatus pertaining to the work of the Section, and which may have been designed by themselves, in order that the Committee of the Section may make arrangements to form a special exhibit of such objects.

Those who desire to take part in the discussions or to read papers, or who are ready to send any object for exhibition, are requested to communicate with the Secretaries at an early date.

No paper will be finally accepted until it has been approved by the Committee of the Section. Papers will not be "taken as read," and none will be accepted in excess of the number which it is calculated it will be possible to read in the time at the disposal of the Section.

Communications relating to papers and discussions should be sent to the second secretary named above, and those relating to the exhibition of preparations, instruments, etc., to Dr. Bennett, 25, London Road, Leicester.

Navy, Army and Ambulance.

Technical Schools—Room H.

President: Surgeon-Lieutenant-Colonel Henry Walter Kiallmark, M.R.C.S., London. *Vice-Presidents:* Surgeon-Lieutenant-Colonel Robert Bradshaw Smith, V.D., L.R.C.P., Hinckley; Lieutenant-Colonel Edmond Monkhouse Wilson, C.B., C.M.G., D.S.O., S. Farnboro'; Fleet Surgeon Alexander J. J. Johnston, R.N., Haslar. *Honorary Secretaries:* Fleet Surgeon Edward James Biden, R.N. (Ret.), 29, Osborne Road, Southsea; Captain Wm. Pemberton Peake, M.R.C.S., R.A.M.C.(Vols.), 21, Oxford Street, Leicester; Captain Edwin Charles Montgomery-Smith, R.A.M.C.(Vols.), 36, Abbey Road, St. John's Wood, N.W.

The Committee of this Section has received promises of the following papers:

1. Red Cross Organization, with special reference to Preparation for War in Times of Peace. By Sir John Furley, C.B., Knight of Justice of the Order of St. John of Jerusalem in England.

2. The Collection and Distribution of Wounded in a Modern Cruiser Engagement, from Observations Made in Chemulpo, February 9th, 1904. By Staff Surgeon J. Austin, R.N.

3. Remarks on the Head Dress of Certain Ratings in H.M. Navy. By Fleet Surgeon E. Biden, R.N.

4. The Hygiene of Modern Battleships. By Staff Surgeon Francis Clayton, R.N.

5. (*a*) First Aid to the Injured on a Modern Battleship in Action; (*b*) Some Dynamical and Hydrodynamical Effects of the Modern Small-bore Bullet. By Fleet Surgeon Charles Marsh Beadnell, R.N.

6. Care of Soldiers' Feet. By Brigade-Surgeon-Colonel P. B. Giles.

7. Also on the Care of Soldiers' Feet. By Major G. S. Crawford.

8. On Suggested Alterations in Stretcher Drill. By Major J. De Zouch Marshall.

9. On the Feeding of the Soldier in Active Service. By Surgeon-Lieutenant-Colonel G. F. Robinson, Scots Guards.

10. Causation, Varieties, and Treatment of Dysentery on Active Service. By Major Faichnie.

11. A Paper Bearing on the Relations between the Civil Authorities and Ambulance Associations. By Lieutenant-Colonel H. J. Barnes.

Obstetrics and Gynaecology.

Technical Schools—Room 3.

President: Herbert Ritchie Spencer, M.D., F.R.C.P. London. *Vice-Presidents:* Henry Meadows, M.B., Leicester; Professor Henry Corby, M.D., Cork: Francis Richard Cassidi, M.D., Derby. *Honorary Secretaries:* Montague Wm. Williams, M.R.C.S., 45, London Road, Leicester; Miss Louisa Garrett Anderson, M.D., 114A, Harley Street, W.

The following subjects have been selected for special discussion:

A. The Diagnosis and Treatment of Cancer of the Uterus.

B. The Treatment of Albuminuria and Eclampsia occurring in Pregnancy.

Discussion A. will be opened on July 26th by Professor Wertheim of Vienna; the following is a summary of his address:

In the matter of diagnosis the importance of early recognition—if necessary by curetting and microscopic examination—is insisted on. With regard to treatment the following conclusions are drawn: (1) It is established that the results to be obtained by the so-called extended operation (Wertheim's abdominal hysterectomy) considerably surpass the results of vaginal extirpation of the uterus. This is shown not only on theoretical grounds from consideration of the pathology of uterine carcinoma, but also practically on the one hand, because many cases have been operated on with the best results by the abdomen which were inoperable by the vagina; on the other hand, by a comparison of the late results with those of vaginal hysterectomy. Professor Wertheim will give his late results up to five years after operation. (2) The cause of the greater result lies chiefly in the fact that, in addition to clean operating, none of the surrounding tissues is taken away by the abdominal operation. (3) The extirpation of the cancerous regional lymph glands appears to be of relatively small value. Most of the cases in which the glands were extirpated have recurred. Yet the author has seen such cases free from recurrence for more than three years. Extirpation of the glands cannot yet be condemned: a definite judgement on its value can only be given in the future. (4) With regard to the mortality of the abdominal operation, simplicity of technique and shortened anaesthesia are important. The author's mortality-rate has fallen latterly to 10 per cent., many of the cases being very advanced with bad hearts and vessels, and with wasting. (5) In quite early cases of carcinoma of the cervix the author has during the past year again employed vaginal hysterectomy, usually with freeing of the ureters in order to remove more of the parametric tissue without injuring the ureters. In the moderately advanced, advanced, and especially for the far advanced cases, that is, for the great majority of cases, only the abdominal operation can be considered. In carcinoma of the body, vaginal hysterectomy is the treatment when possible.

Professor Wertheim will be followed by Drs. Robert Bell, John Campbell, McCann, Frederick Edge, Skene Keith, Munro Kerr, Lewers, Cuthbert Lockyer, Ewen Maclean, Inglis Parsons, Smyly, Herbert Snow, Arthur Wallace, Thomas Wilson, Miss Aldrich-Blake, Mrs. Scharlieb, and Professor Howard A. Kelly, the guest of the Section.

Discussion B. will be opened on July 28th by Dr. Robert Boxall, M.D., F.R.C.P., in an address of which the following is an abstract: The intimate association between the presence of albumen in the urine of pregnant women and the occurrence of eclampsia is pointed out. The death returns show that renal disease and eclampsia occurring in association with pregnancy and childbirth are important factors in maintaining the death-rate from accidents of childbirth. A table is given of the registered births and of the deaths from puerperal convulsions in England and Wales, Scotland, Ireland, and London for each year since 1880. The death-rate for each division of the kingdom and for London has been estimated in relation to the number of confinements, and is presented in the form of a chart. The treatment of eclampsia is considered under two heads—prophylactic and remedial. It is remarked that the treatment of albuminuria during pregnancy—or rather the treatment of the pre-eclamptic condition, of which albuminuria is the main expression—constitutes the prophylaxis of eclampsia. This treatment practically resolves itself into the prescription of a milk diet and the maintenance of free

purgation, free urination, and free perspiration. The eclamptic condition may usually be remedied (1) by increasing the action of the eliminating organs—bowels and skin—and by reinstating the action of the kidneys, assisted in some instances by blood-letting and saline injections; (2) by sedatives—chloroform, chloral, morphine; and, finally, if these means fail to produce improvement, (3) by diminishing the intra-abdominal and intrauterine tension, rupturing the membranes, and emptying the uterus if necessary. The operative measures best adapted to the purpose under various conditions are discussed, and the importance of effecting delivery, when labour has once begun, expeditiously, but with as little disturbance as possible to the patient, is insisted on.

Dr. Boxall will be followed by Drs. John Campbell, Eden, Munro Kerr, Lewers, Ewen Maclean, Inglis Parsons, Smyly, Thomas Wilson, and Professor Tweedy.

The Committee of Reference for the Section has accepted the following papers and communications:

CAMPBELL, Dr. John. The Influence of the Presence of Pus in the Female Urethra upon the Prognosis in Obstetrical and Gynaecological Cases.

CAMERON, Dr. S. J. A Lantern-slide Demonstration illustrating Degenerations in and Complications of Fibroids.

CORBY, Professor Henry. Fibroid Tumour of Ovary Removed from a Hermaphrodite, with specimen.

MACLEAN, Dr. Ewen J. Elephantiasis of Vulva, with specimen.

PARSONS, Dr. J. Inglis. Operation for Prolapse of Uterus.

TWEEDY, Professor. High-limit of Pulse and Temperature Throughout the Normal Puerperium.

WILSON, Dr. Thomas. Two Cases of Vaginal Caesarean Section in the Last Month of Pregnancy.

Gynaecological Section of the Pathological Museum.—Members interested in this part of the work of the Section are referred to the account given under the heading of the Annual Pathological Museum.

OPHTHALMOLOGY.

Technical Schools—Room 6.

President: GEORGE ANDREAS BERRY, F.R.C.S.Edin., Edinburgh. *Vice-Presidents:* WM. MARDON BEAUMONT, M.R.C.S., Bath; EDWIN COLLIER GREEN, M.R.C.S., Derby. *Honorary Secretaries:* ROBT. WALLACE WESLEY HENRY, M.D., 6, Market Street, Leicester; JOHN HERBERT PARSONS, F.R.C.S., 27, Wimpole Street, Cavendish Square, W.

The following subjects have been selected for special discussion in this Section:

A. Intraocular Tuberculosis: its Etiology, Diagnosis, Prognosis, and Treatment. Opener, Walter H. H. Jessop, M.B., F.R.C.S.

B. Capsular Complications after Cataract Extraction. Opener, E. Treacher Collins, F.R.C.S.

Discussion B. will be introduced by Mr. E. TREACHER COLLINS in an address of which the following is an abstract:

The capsular complications after cataract extraction are divided into:

I. Those resulting from adhesion of the capsule to the extraction scar.

II. Those resulting from opacity occurring in connexion with the capsule.

Class I is again divided into:

(*a*) An entanglement of a portion of the anterior capsule between the lips of the wound.

(*b*) Agglutination of the capsule to the back of the wound by inflammatory exudate.

Delayed union of the wound and irido-cyclitis is shown to be a common accompaniment of the former, and glaucoma, apart from iritis, may result from the latter. How these complications may be avoided and what can be done to remedy them when they give rise to trouble is discussed.

Class II is subdivided under the following headings:

(*a*) Retained lens substance.

(*b*) Wrinkling of anterior capsule and new growth of cells lining it.

(*c*) Adventitious fibrous tissue.

Finally, the results of opening the lens capsule by lacerating it with a cystotome and by removal of a portion of it with the capsule forceps are compared as regards the number of subsequent needlings required, the number of cases in which vitreous is lost and the amount of vision which is ultimately obtained.

Papers from those who have had practical experience of the use of Finsen, X Rays, and Radium in ophthalmic work will be specially welcomed, but, of course, it is not intended to exclude papers on other subjects. The Secretaries will also be glad to have exhibits (pathological, instrumental, etc.), and special arrangements for their care will be made by the Museum Subcommittee.

The Secretaries will be glad to hear as early as possible from any one who desires to read a paper, or to take part in the discussions mentioned.

PSYCHOLOGICAL MEDICINE.

Technical Schools—Room N.

President: ALEXANDER REID URQUHART, M.D., Perth. *Vice-Presidents:* ROTHSAY CHARLES STEWART, M.R.C.S., Leicester; THEOPHILUS BULKELEY HYSLOP, M.D., London. *Honorary Secretaries:* ARTHUR MOLYNEUX JACKSON, M.B., Nottingham County Asylum, Radcliffe-on-Trent; JOHN WIGMORE HIGGINSON, M.R.C.S., Hayes Park Asylum, Hayes.

The following discussions have been arranged by the Committee of Reference:

Wednesday, July 26th.—Clinical Study of the Heredity of Insanity. Opener, Dr. Alexander Reid Urquhart.

Thursday, July 27th.—Occupation and Environment as Causative Factors of Insanity. Opener, Dr. Theophilus Bulkeley Hyslop.

Friday, July 28th.—The Prognosis in Mental Disorders. Opener, Dr. Robert Jones of Claybury.

The time remaining after the discussion each morning will be devoted to the reading of such papers as may have been selected by the Committee of Reference.

The Secretaries will be glad to hear as soon as possible from any one who desires to read a paper or to take part in the discussions mentioned.

PATHOLOGY.

Technical Schools—Room S.

President: FREDERICK WALKER MOTT, M.D., F.R.C.P., F.R.S., London. *Vice-Presidents:* THEODORE SHENNAN, M.D., Edinburgh; Professor ARTHUR HAMILTON WHITE, L.R.C.P.I., Dublin. *Honorary Secretaries:* JOHN WILLIAM H. EYRE, M.D., Guy's Hospital, S.E.; THOMAS VILLIERS CROSBY, M.D., 91, St. Peter's Road, Leicester.

The following are the present arrangements in this Section:

On July 26th, the President of the Section, Dr. Mott, F.R.S., will open a discussion upon The Relationship of Heredity to Disease, in which the following gentlemen will take part: Dr. Archdall Reid, Dr. Aldren Turner, and Mr. Charles Bond.

On July 27th there will be a discussion on The Defences (Chemical, Physical, and Biological) of the Organism Against the Invasion of Bacteria and their Products. Professors C. J. Martin and A. Wright, Drs. Ritchie, Bulloch, and Boycott are expected to speak.

On July 28th various communications on subjects other than those above-mentioned will be received and discussed.

The Secretaries will be glad to hear as soon as possible from any one who desires to take part in the discussions or contribute a paper.

DENTAL SURGERY.

Technical Schools—Room I.

President: MORTON ALFRED SMALE, M.R.C.S., L.D.S., London. *Vice-Presidents:* EDWARD LLOYD-WILLIAMS, M.R.C.S., L.R.C.P., L.D.S., London; FRANCIS JOHN LANKESTER, M.R.C.S., L.D.S., Leicester; *Honorary Secretaries:* WM. ARMSTON VICE, M.B., L.D.S., 19, Belvoir Street, Leicester; JOSEPH GEORGE TURNER, F.R.C.S., L.D.S., 12, George Street, Hanover Square, W.

The work of this Section will be carried out on Wednesday, July 26th, and Thursday, July 27th. The first day will be devoted to a discussion on Toothache, Neuralgia, and Remote Affections of Dental Origin. Openers: Dr. Risien Russell, M.D., F.R.C.P., and Mr. J. Howard Mummery, M.R.C.S., L.D.S.

On the second day a number of papers will be read; abstracts of some of them are given below:

The Influence of the Arrangement of the Teeth in their Normal Arches on Development.—Dr. E. A. BOGUE, New York, will point out that the first permanent molars are the keystones of the dental arches. If these are erupted too far forwards either bunching or protrusion of the anterior permanent teeth must take place. If such irregularity can be detected early, preventive measures should be undertaken in the way of broadening the dental arches, even if only the temporary teeth are as yet in place. If this be done early the growth of the maxilla, nasal septum, and facial bones generally will be promoted and the tendency to lymphoid hypertrophy of the mucous membrane of the turbinate bones avoided. Judged by the level of the Eustachian opening the hard palate grows downwards, the sutures of the facial and head bones do not ossify till adult life, and examination of aboriginal skulls shows that where the upper teeth are irregular there also the

maxilla, palate bones, vomer, etc., partake of the irregularity, while a good dental arch is accompanied by well-formed sinuses, septum, etc. He arrives at the conclusion that enlargement of the dental arches promotes the growth of the bones adjoining and superior to those arches, and has a large influence on their normal development.

The Teeth as a Test of Age.—Mr. Sidney Spokes, M.R.C.S., L.R.C.P., L.D.S., will give the results of the examination of the mouth of over 1,000 boys between 12 and 14, in whom the age was accurately known, arranged with a view to determine the period of eruption of the second permanent molar tooth and of the other permanent teeth appearing during this time.

Dental Diseases in Horses.—Mr. J. F. Colyer, M.R.C.S., L.R.C.P., L.D.S., finds, as a result of examination of the mouths of a large number of London omnibus horses, that progressive caries of the alveolar bone of the jaws (pyorrhoea alveolaris) is very common. Pieces of hay forced down between the tooth and the gum, or fixed between the teeth, form a very common starting-point. The author finds all stages up to practical disablement of the masticatory apparatus. *Post-mortem* specimens will be shown.

Necrosis of the Jaw.—Dr. Astley V. Clarke will relate the symptoms and treatment of an unusual case of necrosis of the jaw and will discuss the best method of treatment, with special reference to the question whether the implicated teeth should be removed early, or whether it should be left to Nature to get rid of them.

Vegetarianism and its Effect upon the Teeth.—Mr. J. F. Rymer holds that it is possible to rear healthy children with sound teeth on vegetarian diet. The mother may be a vegetarian during gestation. The diet would be very cheap and attack the root of the problem of the teeth of the masses. Instances will be given to show that vegetarianism is quite as compatible with clean teeth as meat feeding. No hard-and-fast adherence to vegetarianism is insisted on.

Lantern Demonstration.—Mr. Douglas Gabell, M.R.C.S., L.R.C.P., L.D.S., will give a lantern demonstration including sections of odontomes, developmental errors of tooth tissues, *post-mortem* canals in human teeth, enamel nodules, and polypus of the pulp covered with epithelioma.

The Secretaries will be glad to hear as early as possible from any one who desires to take part in the discussions or to read a paper on any subject connected with the work of the Section.

Tropical Diseases.

Technical Schools—Room B.

President: Rubert Wm. Boyce, M.B., F.R.S., Liverpool. *Vice-Presidents:* Andrew Duncan, M.D., London; Fleming Mant Sandwith, M.D., F.R.C.P., London. *Honorary Secretaries:* George Aylwin Clarkson, F.R.C.S., 173, London Road, Leicester; John M. Hendrie Macleod, M.D., 11, Harley Street, W.

The following subjects have been selected for special discussion in this Section:

Wednesday, July 26th.—Tick Fever.

Thursday, July 27th.—Sprue and Hill Diarrhoea.

Friday, July 28th.—Tropical Diseases of the Skin.

The following is a list of the gentlemen who up to the present have expressed their desire to take part in the discussions or to contribute papers: Dr. H. E. Annett, Professor Rubert Boyce, Dr. Anton Breinl, Mr. James Cantlie, S. R. Christophers, M.B., I.M.S., Dr. Andrew Duncan, Sir Patrick Manson, Dr. W. T. Prout, Professor Ronald Ross, Dr. L. W. Sambon, Dr. F. M. Sandwith, Dr. J. W. W. Stephens, Dr. Wolferstan Thomas, Dr. T. L. Todd.

The Secretaries will be glad to hear as soon as possible from any others, and to receive pathological specimens, drawings, photographs, and microscopic preparations for exhibition at the meeting.

THE PATHOLOGICAL MUSEUM.

The many promises of photographs, specimens, and other matters relating to pathology indicate that the Pathological Museum will contain much to interest the members of the Association.

The aim of the Committee has been to make the museum an adjunct to the work of the Sections as well as a collection of interesting pathological material. In accordance with this aim the museum will be arranged in conformity with the Sections, and this grouping of material will be clearly indicated both in the museum and in the catalogue, so that members will have no difficulty in finding individual specimens or series of specimens that they wish to investigate.

It is impossible at this date to give a full account of the exhibits that have been promised, but it is expected that the portion of the museum devoted to the Section of Medicine will be well filled, and a special feature will be the exceptional number and variety of neurological exhibits.

Gynaecological Section.—Arrangements are being made for the reception of some 300 specimens, drawings, colour photographs, photomicrographs, and microscopical preparations. Many of the specimens are of very great and a few of unique interest. Curators of hospital museums throughout the country have been unsparingly generous in lending their treasures, and important contributions are expected, among other places, from Edinburgh and Glasgow. Newcastle, Liverpool, Birmingham, and London. From London alone promises have been received from twelve of the principal hospitals to send the best gynaecological specimens which they possess in illustration of the subjects selected for study, so that it may be confidently stated that members will be offered an unusually good opportunity of seeing interesting preparations and of comparing the different methods in vogue for mounting and preserving specimens. The exhibits will, as far as possible, be grouped in series showing the various pathological conditions—namely, malignant disease of the uterus (sarcoma and chorion-epithelioma, as well as carcinoma), extrauterine gestation, adenomyoma of the uterus, and degenerative changes in fibroids. London exhibits are to be packed and taken to Leicester by Messrs. Baird and Tatlock, 14, Cross Street, Hatton Garden, E.C. Specimens from other places should reach Leicester by July 18th, and they should be addressed to Gynaecological Section, Pathological Museum, care of Dr. Robert Sevestre, Technical Schools, Leicester. Offers of specimens for this part of the museum (together with an intimation that accepted specimens have been sent to Leicester) should be addressed to the London Hon. Secretary of Section of Obstetrics and Gynaecology, Miss Garrett Anderson, M.D., 114A, Harley Street, from whom all information about gynaecological specimens can be obtained.

The museum is situated in an excellent position in the centre of the Technical Schools where the Sectional meetings are to be held, and the good lighting will ensure the exhibits being seen to the best advantage.

The work of the organization of the museum will be greatly facilitated by members who propose to send specimens giving notice as soon as possible, if they have not already done so, as the Committee wish to avoid all sources of disappointment.

The Honorary Local Secretaries are:

Astley V. Clarke, M.D.,
37, London Road, Leicester.
Felix Bolton Carter, M.S.,
99, London Road, Leicester.

Programme of Proceedings.

Monday.

8 p.m.—Annual General Meeting followed by Representative Meeting.

Tuesday.

9 a.m.—Meeting of 1905-1906 Council.
10 a.m.—Representative Meeting.
2 p.m.—Adjourned General Meeting, followed by Representative Meeting.
5 p.m.—Church Service at St. Martin's Church.
At the same time a Roman Catholic Service at Holy Cross Church: Preacher, the Rev. H. Reader, M.A.
6 p.m.—Meeting of Division and Branch Secretaries.
8.30 p.m.—President's Address. Reception of Distinguished Guests. Presentation of Stewart Prize. Presentation of the Association Gold Medal of Merit to Sir Constantine Holman, M.D.

Wednesday.

9 a.m.—Council Meeting.
10 a.m. to 1 p.m.—Sectional Meetings.
2 p.m.—Address in Medicine. Adjourned General Meeting followed by Representative Meeting.

Thursday.

9 a.m.—Meeting of Council.
10 a.m. to 1 p.m.—Sectional Meetings.
2 p.m.—Address in Surgery.
3.30 p.m.—Representative Meeting (if business not already concluded).
7.30 p.m.—Annual Dinner of the Association.

Friday.

9 a.m.—Meeting of Council.
10 a.m. to 1 p.m.—Sectional Meetings.
2 p.m.—Meetings of Divisions and Branch Secretaries.
8 p.m.—Popular Lecture.

To be Stamped with a Penny Stamp and Posted.

BRITISH MEDICAL ASSOCIATION.

SEVENTY-THIRD ANNUAL MEETING.

JULY 24th, 25th, 26th, 27th, and 28th, 1905.

Members of the British Medical Association who intend to visit LEICESTER during the Annual Meeting will greatly facilitate the labours of the Local Committee if they will fill up the following form and forward it by post as addressed on the other side. This will eventually be sent to the General Secretary of the Association, who will then send a certificate to enable members to obtain Railway Tickets at reduced fares.

MEMBERS DESIRING ACCOMMODATION ARE REFERRED TO NEXT PAGES.

The Forms are intended for the use of Members of the British Medical Association exclusively.

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*It is my intention to be present at the ANNUAL MEETING in LEICESTER and I expect to be accompanied by** .....

Name .....

Address .....

* Here indicate whether accompanied by a lady, as separate vouchers are required to enable Members to obtain Railway Tickets at reduced fares.

It is my intention to be present at the ANNUAL DINNER of the Association on Thursday Evening, July 27th, and I herewith enclose Cheque (or P.O.O.).†

Signature .....

† DINNER TICKET, with Wine inclusive, £1 1s. DINNER TICKET without Wine, but inclusive of Aerated Waters, 15s.

Cheques and Postal Orders should be made payable to F. BOLTON CARTER, Esq., F.R.C.S., and enclosed in an envelope, together with this form, directed as on the reverse.

Early application for Tickets is requested by the Committee, to enable them to provide accommodation and allot seats.

SEVENTY-THIRD ANNUAL MEETING, LEICESTER, July 24th, 25th, 26th, 27th, and 28th, 1905.

LIST OF HOTELS AND LODGINGS, WITH SCALE OF CHARGES.

CENTRAL.

Name and Address.	Accommodation for	Charges. Bed and Breakfast.	Luncheon.	Dinner.	Full Board per Day.	Notes.
London Road.						
106 Mrs. Gillespie	2	3/6	1/6	2/6	6/6	
159 Mrs. Johnson	2	4/-	1/6	2/6	8/-	
165 Miss Akerman	12	3/6	1/-	2/-	6/6	
169A 'Clovelly,' Mrs. Leam	8	3/6	1/-	2/6	6/6	
New Walk.						
9 Mrs. Hawkins	3	2/6	1/6	2/6	6/6	
15 Mrs. Barnes	4					
17 Mrs. Bodycott	2					
24 Mrs. Windley	2	3/-				Meals by arrangement.
26 Mrs. Roche	2	3/-	1/-	2/6	6/6	Charges moderate.
27 Mrs. Huband	2					
28 Mrs. Neilson	2	3/-	1/3	2/6	6/6	
31 Mrs. Finney	2					
35 Mrs. Blades	2	3/6	1/-	2/6	7/-	
37 Mrs. Moore	2					Charges moderate.
38 Mrs. Mills	2	4/-				Other meals by arrangement.
43 Mrs. Phillips	2					
46 Mrs. Andrew ...	2					
94 'Bridgemount' Mrs. Garner	3	6/-				Other meals by arrangement.

CENTRAL—*Continued.*

Name and Address.	Accommodation for	Charges. Bed and Breakfast.	Luncheon.	Dinner.	Full Board per Day.	Notes.
Princess Road.						
'Craven House,' Mrs. Wilshere	4	4/-	1/6	2/6	8/-	Boarding house.
3 Mrs. Spell	[illegible]	4/-	1/6	2/-	7/6	
11 Mrs. Bloxom	2	2/6	1/-	2/-	5/6	
17 Mrs. Bates	2					Terms moderate.
25 Miss E. Walker ...	3	5/-				Inclusive terms by arrangement.
33 Mrs. Aldridge	2	3/6	1/6	2/6	7/6	
57 Mrs. Abbott	3					
65 Miss Gilbershaw ...	5	4/-	2/6	5/-	10/-	
The Crescent.						
Mrs. Cockshaw	5					Terms on enquiry.
The Newarke.						
49 Mrs. Carrington ...	4					Terms moderate.
Lincoln Street.						
15 Mrs. Colton	2	3/6				
21 Mrs. Maxfield	3	3/6				Other meals by arrangement.
Regent Road.						
40 Mrs. Manton	5					
46 Mrs. Moore	2	3/6	1/-	3/-	7/6	

Penny Stamp.

F. BOLTON CARTER, Esq., F.R.C.S.,
22, London Road,
LEICESTER.

LIST OF HOTELS AND LODGINGS, WITH SCALE OF CHARGES—*Continued.*

Name and Address.	Accommodation for	Charges. Bed and Breakfast.	Luncheon.	Dinner.	Full Board per Day.	Notes.
CENTRAL—*Continued.*						
Saxe-Coburg Street.						
12 Mrs. Porter	2	3/6				
16 Mrs. Haley	3	3/6				
24 Mrs. Allwood	2					
29 Mrs. Wren	2					
38 Mrs. Breward	7					Terms moderate.
58 Mrs. Thomas	4	4/-	1/6	2/6	8/-	
Upper Tichborne St.						
1 Miss Leary	7	4/-	1/-	2/6	7/-	
Lower Tichborne St.						
6 Mrs. Crotts	2	4/-			7/-	
17 Miss Limber	4					
Granville Road.						
5 Miss Fox	12	6/-	2/-	3/-	12/-	Boarding House, Private Sitting Rooms.
College Street.						
27 Mrs. Harrison	3	3/-	1/3	2/6	6/6	
35 Mrs. Hart	3	3/-				
29 Mrs. Innes	5	3/6				
'Holmwood,' Mrs. Newberry	2					
King Street.						
48 Mrs. Harrison	4	3/6	1/6	2/6	7/-	
81 Mrs. Armitage	4					
Upper King Street.						
1 Mrs. Johnson	1					
13 Mrs. Watson	2	2/6	1/-	2/-	6/6	
19 Mrs. Estlin	2	4/-	1/6	2/6	7/6	
23 Mrs. Lund	2					Terms moderate.
Museum Square.						
1 Mrs. Skerritt	2	4/-				Other meals by arrangement.
High Cross Street.						
142 Miss Bramley	3	3/-				
Hobart Street.						
16 Mrs. Wright	2				5/-	
Crescent Street.						
1 Mrs. Goode	3					
Victoria Road.						
13 Mrs. Carock	5	1/6	3/-	9/-	4/6	Reduction to party
Lower Hastings Street.						
10 Mrs. Adamson	2					Moderate.
37 Mrs. Baxter	4					
West Street.						
49 Miss J. Smith	3					Moderate.
Newtown Street.						
36 Mrs. Kirby	2					
Pelham Street.						
2 Mrs. Herbert	2	2/6				
Horsefair Street.						
27 Mrs. Ashford	12	3/6				Double beds.
HIGHFIELDS DISTRICT. (10 mins. walk. 1d. tram fare)						
Highfield Street.						
17 Mrs. Gilbert	2					
26 Mrs. Storey	4	4/-				
35 Mrs. Bulme	2					
42 Miss Oldroyd	2	4/-	1/6	2/6	7/6	
St. Peter's Road.						
19 Mrs. Frisby	6	3/-				
46A Mrs. Richards	4	3/-				
102 Mr. Hewitt	2	3/-				

Name and Address.	Accommodation for	Charges. Bed and Breakfast.	Luncheon.	Dinner.	Full Board per Day.	Notes.
HIGHFIELDS DISTRICT—*Continued.* (10 mins. walk. 1d. tram fare)						
Evington Road.						
3 Mrs. Bakewell	6	3/6				Other meals by arrangement.
8 Mrs. Lamb	5	3/6				
Mecklenburg Street.						
5 Mrs. Green	4	4/-	1/6	2/6	7/6	
23 Mrs. Eaton	2					
Laurel Road.						
75 Mrs. Hartshorn	2	3/-				
Sparkenhoe Street.						
'Rockleigh,' Mrs. Walter	4	3/6				
53 Marcetta House, Mrs. Shaw	6	3/6				
66 Mrs. Blewitt	3	4/6				
Chaucer Street.						
28 Mrs. Upton	4					
Mill Hill Lane.						
24 Mrs. Sharpe	2					Moderate terms.
St. Stephen's Road.						
47 Mrs. A. M. Knight	3	5/- 8/- for two				
Melbourne Road.						
76 Mrs. Haylock	3	5/-				
WEST END DISTRICT. (15 mins. walk, 1d. tram.)						
Glenfield Avenue.						
2 Mrs. Ward	4	4/-				Double beds.
3 H. J. Tedd	4	3/9				Double beds.
15 Mrs. Hincks	4	4/-				Double beds.
22 Mrs. Voyce	2	3/6				
29 Mrs. Gentle	2					
Fosse Road.						
Mrs. John Smith.	3	7/-				
56 Salisbury House, Mrs. Pluskett	10					Terms mod. Single or double beds.
358 Fosse Road N., Mrs. Widdowson	2					
Narborough Road.						
'Ashwood,' Winchester Avenue, Miss Spell	3	3/6				
Hinckley Road.						
209 W. J. Cooper	3	6/-				
Church Avenue.						
3 Mrs. Baker	2					Double beds.
9 Mrs. Shaw	2					
Dane Hill Road.						
37 Mrs. Cue	4	3/6				Double beds.
Stretton Road.						
24 Miss Dingley	4				8/-	Double beds.
14 Mrs. Basford	3				7/-	
STONEYGATE DISTRICT. (20 minutes' walk, 1d. tram).						
Clarendon Park Road.						
Mrs. Lawrence	2					
Holbrook Road.						
Mrs. Taylor, Heathfield	2					
Mrs. Shaw, Gayton Villa	2					

It will be seen from the foregoing list that Lodging House Accommodation in Leicester is limited. It will, however, be supplemented by the private hospitality which has been proffered by many residents in the town and neighbourhood. Any member of the Association who intends to visit the meeting, and is unable to secure rooms, should communicate with the Secretary of the Local Committee.

NOTICES.

This List of Hotels and Lodgings has been prepared for the convenience of visitors, who should communicate with them **directly and not through the Local Committee.**

Where possible the charges for bed and breakfast and other meals are quoted, but visitors are requested to arrange their own terms.

The majority of the houses in the list are situated within half a mile radius of the Reception Rooms, and are all within easy reach of the Electric Tram Service.

PRINCIPAL HOTELS.

LEICESTER.—

		Accommodation for
*BELL HOTEL	Humberstone Gate	60
GEORGE HOTEL	Belgrave Gate	32
*GRAND HOTEL	Granby Street	120
GRANVILLE HOTEL	Belvoir Street	16
*ROYAL HOTEL	Horsefair Street	40
STAG AND PHEASANT	Humberstone Gate	30
WELLINGTON	Granby Street	40
WHITE HART	Haymarket	25
WYVERN HOTEL (Temperance)	London Road	70

** Luncheon is provided at these Hotels at a charge of 2s. 6d. per head.* *All these Hotels are centrally situated.*

LOUGHBOROUGH (12 miles).—Frequent Midland and Great Central Trains until 11.22 p.m.

KING'S HEAD HOTEL. | **BULL'S HEAD HOTEL.** | **GREAT CENTRAL HOTEL.**

MARKET HARBOROUGH (16 miles).—Frequent Midland Trains until 11.56 p.m.

THE ANGEL HOTEL and THE THREE SWANS.

MELTON MOWBRAY (15 miles).—Midland and Great Northern Trains until 8.35 p.m.

THE BELL HOTEL. | **THE HARBOROUGH HOTEL.** | **THE GEORGE HOTEL.**

DERBY and NOTTINGHAM.—With ample Hotel Accommodation are within easy reach. Frequent Trains until a late hour.

CLUBS.—Arrangements will be made whereby a limited number of Members attending the Meeting may become Honorary Members of the Leicester Clubs.

The Clubs at which meals are provided are:—

THE COUNTY CLUB, Bishop Street. | THE CONSTITUTIONAL CLUB, Pocklington's Walk.
THE LEICESTERSHIRE CLUB, Welford Place. | THE LIBERAL CLUB, Bishop Street.

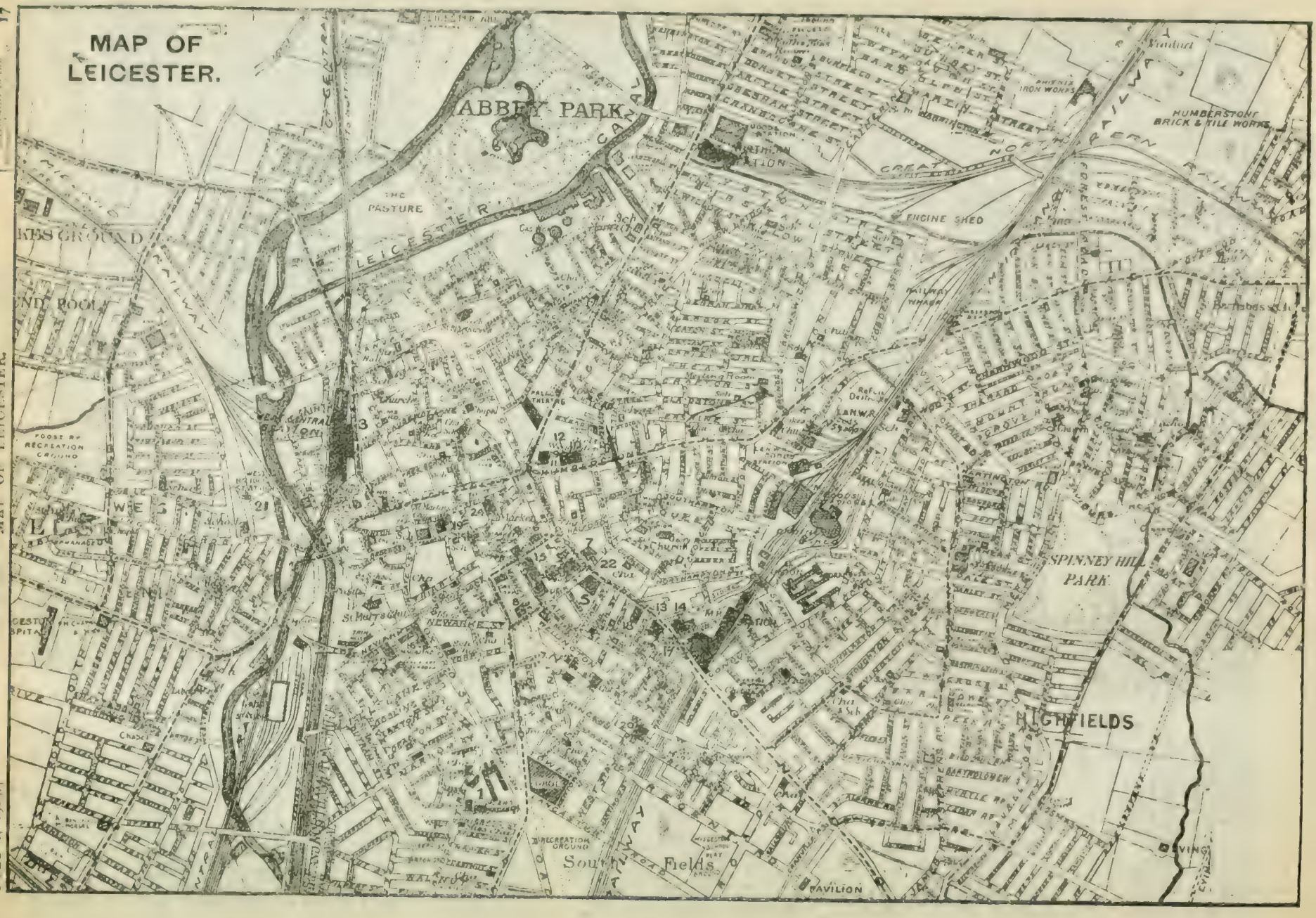
Applications should be made at the Reception Rooms.

MOTOR GARAGE.—Accommodation for Motor Cars can be provided at:—

		Fees.	
	Accommodation for	Washing car.	Per day.
Pans, 63, Friar Lane	30 cars	2/6	1/-
Hamshaw's, Humberstone Gate	9	2/6	2/-
Humber, Granby Street	A large number	2/6	2/-
Clyde, London Road	A large number	2/6	2/-
Lilleys, Welford Place	3	...	...

KEY TO MAP OF LEICESTER *(ON OPPOSITE PAGE).*

1 Infirmary and Children's Hospital.
2 Mid. Station (for Mid. and L. and N. W. Rlys).
3 Great Central Station.
4 Great Northern Station.
5 Grand Hotel.
6 Royal Hotel.
7 Wellington Hotel
8 Granville Hotel.
9 George Hotel
10 Bell Hotel.
11 White Hart Hotel.
12 Stag and Pheasant Hotel.
13 Victoria Hotel.
14 Wyvern Temperance Hotel.
15 Municipal Buildings.
16 DRILL HALL, Exhibition of Foods, Drugs, Motors, etc.
17 Y. M. CHRISTIAN ASSOCIATION, Reception Room, General and Representative Meetings.
18 TEMPERANCE HALL, Addresses in Medicine and Surgery.
19 ST. MARTIN'S CHURCH, Annual Service.
20 Museum and Art Gallery.
21 West Bridge Station.
22 General Post Office.
23 TECHNICAL AND ARTS SCHOOLS, Section Meetings.
24 OPERA HOUSE, President's Address, Popular Lecture.


MAP OF LEICESTER.
ABBEY PARK
THE PASTURE
LEICESTER
GREAT NORTHERN RAILWAY
ENGINE SHED
HUMBERSTONE BRICK & TILE WORKS
SPINNEY HILL PARK
HIGHFIELDS
NEWARKE ST
St Mary's Chu
Southfields
PAVILION
RECREATION GROUND

Meetings of Branches and Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* Journal.]

BATH AND BRISTOL BRANCH:

Trowbridge Division.

The annual meeting was held at Trowbridge on May 30th.

Report of Executive Committee.—The annual report of the Executive Committee of the Division was read and approved.

Election of Officers.—The following were elected officers for the ensuing year:—*Chairman:* T. H. Haydon. *Vice-Chairman:* J. I. Bowes. *Representatives on Branch Council:* J. Pearse, C. E. S. Flemming, and J. Tubb-Thomas. *Elected Members of the Executive Committee:* C. R. Wood, T. W. Locket, and G. S. A. Waylen. *Honorary Secretary and Treasurer:* J. Tubb-Thomas, The Halve, Trowbridge.

Matters Referred to Division.—The meeting discussed various matters referred to the Division. It was decided to discuss the question of fees by education authorities at the next meeting.

BIRMINGHAM BRANCH:

Dudley Division.

A meeting of this Division was held at Dudley Town Hall on June 22nd, at 5 p.m.

School Certificates.—It was resolved to write letters to the Worcestershire County Council and the Dudley Education Committee, asking for payment of fees, in all cases, for signing certificates of illness in all cases of non-attendance at school, when asked for by the Education Committees.

Election of Officers.—The following officers were elected for the ensuing year:—*Chairman:* Dr. Taylor. *Vice-Chairman:* Dr. D'Arcy Ellis. *Honorary Secretary and Treasurer:* Mr. M. A. Messiter.

The Chairman and Honorary Secretary were elected members of the Branch Council.

CONNAUGHT AND SOUTH ULSTER BRANCH.

A meeting of this Branch was held in Clones on June 19th, Dr. W. Henry in the chair.

Confirmation of Minutes.—The minutes of the previous meeting were read and signed.

Representatives at Annual Meeting.—It was proposed by Dr. Tierney, seconded by Dr. Moorhead, and resolved that Dr. Elliott, of Smithborough, co. Monaghan, be elected Representative for the annual meeting.

GLASGOW AND WEST OF SCOTLAND BRANCH:

Glasgow Eastern Division.

The annual meeting of this Division took place in the Religious Institution Rooms, 200, Buchanan Street, Glasgow, on June 14th. The Vice-Chairman (Dr. W. L. Muir) presided.

Confirmation of Minutes.—The minutes of the last meeting (April 19th) were read, approved, and signed.

Matter Referred to Divisions contained in Supplements from March 4th to May 13th were considered. The Secretary read the recommendations of the Executive Committee, which had fully discussed these matters at several sittings, and these were accepted generally by the Division.

Annual Representative Meeting.—The Secretary was instructed to inform the Representative to the Representative Meeting at Leicester as to the various decisions, indicating which motions were to be opposed and which to be approved of. In all matters not specially decided upon the Representative was left to use his own judgement.

Local Association Libraries and Amalgamation with Local Scientific Societies.—This matter was informally debated, but no decision was arrived at. Dr. Service gave notice of motion on the subject for next general meeting.

Election of Office-bearers.—The following office-bearers were elected for 1905-6:—*Chairman:* Mr. W. L. Muir. *Vice-Chairman:* R. Service, M.D. *Honorary Secretary and Treasurer:* John Patrick, M.B. *Representative for Representative Meeting:* Mr. W. L. Muir. *Representatives on Branch Council:* Miller Semple, M.B.; John Patrick, M.B. *Executive Committee:* W. B. Armstrong, M.B.; M. Black, M.D.; Wm. Bryce, M.D.; P. S. Buchanan, M.B.; A. Creighton, M.D.; Wm. Findlay, M.D.; H. C. Marr, M.D.; R. Scott, M.B.; Wm. Whitelaw, M.D.

Lanarkshire Division.

A meeting of this Division was held on January 27th, in the Royal Hotel, Hamilton, Dr. Bruce Goff (Bothwell) in the chair.

Confirmation of Minutes.—The minutes of the last meeting having been read and approved of, were signed by the Chairman.

Statement of Accounts.—The Secretary submitted a statement of accounts showing an expenditure of £5 3s. 10d. The amount received from the Branch Secretary was £5 3s. 6d. There was thus a debit balance of 4d., which the Secretary was instructed to recover from the Branch Secretary.

Means of Increasing Membership.—The best means of increasing the membership of the Division was then discussed, when it was determined that every member should personally approach all his medical friends in his neighbourhood, and place before them the benefits of membership and urge them to become members. The Secretary was also instructed to get 200 circulars, setting forth the aims and objects of the Association, and to have these posted to non-members resident in the Division.

Matters Referred to Divisions.—The following matters were discussed: Contract medical practice; consultation between medical witnesses; the supply of information to coroners by practitioners; the reorganization of the Local Government Board; the Medical Acts Amendment Bill. The resolutions of the Division have been communicated to the Medico-Political Committee.

EAST ANGLIAN BRANCH:

South Essex Division.

The annual meeting of this Division was held at the Council Chamber, Southend-on-Sea, on June 2nd, at 4.0 p.m., Dr. A. Clough Waters, Chairman of the Division, presiding.

Confirmation of Minutes.—The minutes of the general meeting of May 20th, 1904, were read and confirmed.

Election of Officers.—The following were unanimously elected office-bearers for the ensuing year: *Chairman:* Dr. F. Silva Jones. *Vice-Chairman:* Dr. F. D. Grayson. *Honorary Secretary:* Dr. Bluck. *Representative on Branch Council:* Dr. Bluck. *Executive Committee:* Drs. Forge, Raper, Pershouse, Forsyth, C. Smith, Nash, and Smellie.

Cases and specimens were shown by Drs. Walker, Carpenter, Bridger, and Bluck.

Address.—Dr. Geo. Carpenter gave an address on The Practical Aspects of Bimanual Examination in Pelvic and Abdominal Affections of Children.

Vote of Thanks.—The meeting was closed by a vote of thanks to Dr. Carpenter for his address.

South Suffolk Division.

The annual meeting of this Division was held at the Crown and Anchor Hotel, Ipswich, on Thursday, June 8th.

Election of Officers.—The following officers were elected:—*Chairman:* Mr. R. W. Brogden. *Vice-Chairman:* Dr. Howard Henry. *Secretary and Treasurer:* Dr. Gutch. *Representatives on Branch Council:* Dr. Havell, Mr. G. S. Elliston. *Executive Committee:* Drs. W. A. Elliston, Eades, Gibb, Havell, J. Staddon, and Captain Cotton. *Representative in Representative Meetings (with the West Suffolk Division):* Dr. S. Holden.

Annual Representative Meeting.—The business of the Annual Representative Meeting was considered.

West Norfolk Division.

The annual meeting of this Division was held in the commodious grounds of the Chairman, Sir Alan Reeve Manby, East Rudham, on Friday, June 23rd, at 3 p.m.

Garden Party.—Long distances and long intervals between trains caused the proceedings to be somewhat hurried. Sir Alan and Lady Manby afterwards entertained the members to a garden party.

Joint Meeting of Norwich and West Norfolk Divisions.—During the garden party at 4.30 p.m. the joint meeting of the Norwich and West Norfolk Divisions was held for the purpose of electing a Representative for the constituency formed by these Divisions.

EDINBURGH BRANCH.

THE annual meeting of this Branch was held in the Hall of the Royal College of Physicians, 9, Queen Street, on Friday, June 16th, at 4.30 p.m.

Introduction of New President.—The retiring President, Dr. CHARLES E. UNDERHILL, called upon his successor, Dr. ALLAN JAMIESON, to take the chair. A cordial vote of thanks to the retiring President was proposed by Dr. PLAYFAIR.

Confirmation of Minutes.—The minutes of the previous meeting were read and approved.

Election of Officers.—The election of office-bearers was then proceeded with. The following gentlemen, having been duly nominated, were declared elected:—*President-elect:* John Chiene, C.B. *Vice-Presidents:* Alexander Ballantyne and Andrew Balfour. *Treasurer:* James Ritchie. *Secretaries:* Norman Walker and A. Logan Turner.

Treasurer's Report.—The Treasurer's report was read and approved.

Proposed Précis.—The following motion, proposed by Dr. HADDON, was considered:

> That a précis of the cases exhibited at the Clinical Meeting of the Branch, giving full details, especially as to treatment, be sent to the members along with the circular calling the meeting.

The motion was seconded by Dr. ELDER. Drs. UNDERHILL, LOGAN TURNER, ANDREW BALFOUR, NORMAN WALKER, CAVERHILL, PLAYFAIR, and BLAIR took part in the discussion. An amendment was moved by Dr. BALFOUR and seconded by Dr. UNDERHILL that the motion should not be accepted. After further discussion Dr. PLAYFAIR moved, and Dr. CAVERHILL seconded, that the motion by Dr. Haddon should be referred to the Council of the Branch for further consideration. This was agreed to by the meeting.

Vote of Thanks to Honorary Secretaries.—Dr. DEWAR moved a vote of thanks to the two Secretaries for their work in connexion with the annual clinical meeting.

NORTH-EAST EDINBURGH DIVISION.

THE annual meeting of the Division was held in the Royal College of Physicians on Tuesday, June 20th, at 8.15 p.m. Dr. JAMES CARMICHAEL, Vice-Chairman, presided.

Confirmation of Minutes.—The minutes of the last meeting were read and approved.

Secretary's Statement.—The Secretary gave a statement of his work during the past year.

Vacancies among Officers.—The Model Rule suggested by the Organization Committee was adopted.

Alteration of Rules.—The following alterations were carried: The Executive Committee was reduced from seven to six, with a quorum of three; and the four years' possible consecutive election of a member of the Executive Committee and of the Representative on the Branch Council were reduced to three years.

Election of Office Bearers.—The following were elected for the ensuing year:—*Chairman:* Dr. James Carmichael. *Vice-Chairman:* Dr. W. Leslie McKenzie. *Secretary and Treasurer:* Dr. G. Keppie Paterson. *Representative to Representative Meeting:* The Chairman. *Representative on Branch Council:* The Secretary. *Executive Committee:* Dr. W. A. J. Alexander, Dr. Andrew Balfour, Dr. G. Fyfe, Dr. J. Cormick Smith, Dr. H. L. Calder, Dr. G. M. Johnston.

School Board Certificates.—The memorandum from the Medico-Political Committee was read, and the meeting instructed the Secretary to send a reply to each member of the Division.

Matters Referred to Divisions.—The death registration law and the subject of medical defence were discussed, and the Representative noted the opinion of the meeting. On other matters it was agreed to give the Representative power to vote at his discretion.

Votes of Thanks to Chairman.—A vote of thanks to the Chairman closed the proceedings.

LANCASHIRE AND CHESHIRE BRANCH:
LIVERPOOL (SOUTHERN) DIVISION.

THE annual meeting of this Division was held on June 20th at the Medical Institution, Liverpool, Dr. STEEVES in the chair.

Confirmation of Minutes.—The minutes of last meeting were read and confirmed.

Installation of New Chairman.—Dr. Westby was elected Chairman, and now took the chair.

Vote of Thanks to Retiring Chairman.—A vote of thanks was passed to Dr. Steeves, the retiring Chairman.

Election of Officers.—The other officers and members of the Executive Committee were re-elected.

Alterations of Rules.—Certain small alterations in the rules of the Division were made.

Annual Representative Meeting.—Dr. Westby was elected as the Representative of the Division at the Annual Representative Meeting. The agenda of the Annual Representative Meeting was considered and the Divisional Representative was instructed what line to take on several important matters.

MANCHESTER (NORTH) DIVISION.

A METING of this Division was held on June 22nd at the Palatine Hotel, Manchester, Dr. BODDY in the chair.

Report of Council.—The report of Council was considered. Certain amendments were carried, and particulars have been sent to the General Secretary.

Communication from Norwich Division.—A communication from the Norwich Division was discussed and the representative instructed to vote at his own discretion in the matter.

Annual Representative Meeting.—The agenda of the Annual Representative Meeting was considered and instructions given to the Representative accordingly.

Ethical Rules.—The Bradford Division Ethical Rules were, on the proposition of Dr. BROADBENT, seconded by Dr. PALANQUE, provisionally adopted, with the following addition:

> That, in the event of a member who holds a contract appointment at a lower rate than that fixed by the Division applying for increased payment, the Secretary of the Division shall notify all neighbouring practitioners, and they shall not apply for the appointment if declared vacant for that reason.

School Certificates.—The circular *re* school certificates was considered and the Secretary instructed to write to the Medico-Ethical Association stating that this Division considers the fee for certificates given to the education authority in this connexion should be 2s. 6d., and asking them to consider the matter.

Manchester and Salford Provident Dispensaries.—Dr. WARDMAN proposed, Dr. HARGREAVES seconded, and it was carried unanimously, that the following resolution be put on the agenda for the next meeting, all members being in the meantime duly notified:

> That, as the Central Ethical Committee has decided that it is inconsistent with membership of the British Medical Association to hold appointments in connexion with the provident dispensaries of Manchester and Salford as at present conducted, this Division shall consider what action is to be taken with regard to its own members in the matter.

MALTA AND MEDITERRANEAN BRANCH.

THE annual general meeting of this Branch was held on May 20th.

Election of Officers and Members of Council.—The following officer-bearers were elected for the ensuing year. *President:* Deputy Inspector-General R. Bentham, R.N. *Vice-President:* Professor C. Mifsud, M.D. *Secretary and Treasurer:* Jos. S. Galizia, M.D., etc. *Members:* Lieut.-Colonel R. P. Samut, C.G.M.O., Major W. L. Gray, R.A.M.C., Professor S. Cassar, M.D., Staff-Surgeon R. T. Gilmour, R.N.

Representative of Branch.—Dr. C. Mattei was elected to represent this Branch in Representative Meetings.

METROPOLITAN COUNTIES BRANCH:
MARYLEBONE DIVISION.

THE annual meeting of this Division was held on June 9th at the Medical Society's Rooms, Chandos Street, Mr. ANDREW CLARK in the chair.

Election of Officers.—The following were elected officers for the ensuing year:—*Chairman:* Dr. Radcliffe Crocker. *Vice-Chairman:* Mr. E. Clarke. *Secretary and Treasurer:* Dr. Comyns Berkeley. *Representative at Representative Meetings:* Sir Victor Horsley. *Representatives on Branch Council:* Dr. Hugh Woods, Dr. Dutton, Dr. H. R. Waller, Dr. L. Williams, Mr. Armour, Dr. Hawthorne.

Annual Representative Meeting.—The following resolutions were passed:

> That our Representative be instructed to endorse the notice of the Norwich Division, to alter Article 27 at the Leicester meeting; that the meeting approves of the principle of the State registration of nurses.
>
> That on all other matters discussed at the Leicester meeting, the Representatives of this Division be given a free hand.

Votes of Thanks.—Votes of thanks were passed to the Chairman and Secretary for their services during the past year.

ST. PANCRAS DIVISION.

A MEETING of this Division was held on June 22nd, by the invitation of Dr. Chilcott, at the St. Pancras Northern Infirmary at Dartmouth Park Hill, N. Dr. FRANCIS J. BUCKELL, the Chairman, presided.

Visit to the Infirmary.—The MEDICAL SUPERINTENDENT showed several interesting cases and conducted the members over the infirmary.

Medical Defence.—Dr. BUCKELL explained the present position of the Medical Defence controversy, and Dr. WALTER SMITH, the Representative, gave an account of the several proposals for amending the scheme. After discussion it was resolved *nem. con.*:

That this Division approves of the present scheme for individual and collective Medical Defence, and instructs its Representative to vote in its favour, but disapproves of any increase in the annual subscription of members of the Association.

Matters Referred to Divisions.—The reports on death certification, coroners' law amendment, on the abuse of drugs, on the repeated dispensing of prescriptions, on the payment of medical men called in to assist midwives, and on ambulance work were considered, and the conclusions of the Division have been communicated to the Medico-Political Committee.

Vote of Thanks.—Dr. Kelynack received a vote of thanks for having entertained a party of members on a visit to the Northwoods Consumption Hospital.

STRATFORD DIVISION.

THE annual general meeting of this Division was held on Thursday, June 15th, at the Alexandra Hotel, Stratford, E., Dr. GROGONO, in the chair.

Election of Officers.—After the discussion of several matters referred to the Division the annual election of office-bearers took place, with the following result:—*Chairman:* Dr. C. J. Stocker. *Vice-Chairman:* Dr. W. A. Grogono. *Honorary Secretary:* Dr. P. J. S. Nicoll. *Representative on Branch Council:* Dr. Stocker. *Representative at Annual Meeting:* Dr. Percy Rose. *Committee:* Drs. Beadles, Best, Black, Corner, Dale, Frederick, Hay, and Parker. A vote of thanks to the retiring Chairman terminated the proceedings.

METROPOLITAN COUNTIES BRANCH.—A correction: The names of the four Representatives on the Branch Council should read: Drs. Dauber, Ewart, Haslip, and Sibley; not Durham, as published on p. 355 of the SUPPLEMENT of June 24th.

MIDLAND BRANCH:

LINCOLN DIVISION.

THE annual meeting of this Division was held at the Lincoln General Dispensary, on April 29th.

Election of Officers.—The following members were elected to the posts named: Dr. C. Harrison re-elected Representative on the Branch Council; Dr. W. H. B. Brook, Mr. Ellis, Dr. Levinson, re-elected to form the Divisional Council; Dr. Genney elected Representative for the Representative Meeting; Dr. Genney elected Chairman; Dr. Green elected Vice-Chairman; Dr. Chater elected Honorary Secretary and Treasurer.

Proposed Reunion of Divisions.—It was decided to ask the Boston and Spalding and Stamford Divisions if they will reunite with the Lincoln Division to form one unit.

Matters Referred to Divisions.—The question of the National Deposit Friendly Society was deferred to be considered at a future meeting. With regard to ambulance work it was resolved that:

(*a*) (*b*) and (*c*) (see circular issued to Divisions) should not be treated as matters of philanthropy, and that fees in each instance should be £1 1s. an hour and travelling expenses.

The question of advertising in connexion with hydropathic establishments was left to the discretion of the Representative for the Representative Meeting. The Secretary was instructed to bring before local members of Parliament the Public Health and Revaccination Bills (British Medical Association). The question of payment of medical practitioners called in to assist midwives was postponed owing to lack of time.

NORTH OF ENGLAND BRANCH:

SOUTH SHIELDS DIVISION.

A MEETING of this Division was held in the Ingham Infirmary on June 9th, Dr. CRISP (Chairman) presiding.

Matters Referred to Divisions.—The questions of the National Deposit Friendly Society, the advertisement of the names of medical officers of hydropathic institutions, death registration, and the amendment of the coroners' law were considered, and the resolutions passed in regard to these matters have been communicated to the Medico-Political Committee.

NORTH WALES BRANCH:

DENBIGH AND FLINT DIVISION.

THE annual meeting of the Division was held on May 26th at Ruthin, Dr. J. MEDWYN HUGHES, Chairman, presiding.

Confirmation of Minutes.—The minutes of the previous meeting were read and approved.

Branch Representative on Central Council.—The nomination of Dr. W. Jones-Morris, the present Branch Representative on the Central Council of the Association, was unanimously approved of.

Election of Officers.—The following were elected: *Chairman*, Dr. E. Moss; *Vice-Chairman*, Dr. Lloyd, St. Asaph; *Honorary Secretary*, Mr. E. D. Evans; *Representatives on Branch Council*, Dr. J. E. H. Davies and Dr. B. J. E. Wright. *Other Members of Executive Committee:* Drs. J. C. Davies, Richard Evans, A. Eyton Lloyd and Richard Owen.

Executive Committee's Annual Report.—The report dealt with matters referred to the Divisions and the notices of motion which appeared in the BRITISH MEDICAL JOURNAL SUPPLEMENT of May 13th. Several subjects have already been discussed at meetings of the Division, resolutions were passed thereon, and these have been reported to the Medical Secretary of the Association in due course. The Committee suggested the course the Representative of the Division shall take respecting certain questions, and recommended that with regard to the remainder he be permitted to exercise his own judgement when the subjects come up for discussion in the Annual Representative Meetings at Leicester. The report was unanimously adopted.

Address.—At the conclusion of the business part of the meeting an address on Some Broad Principles of Diagnosis and Treatment of Stomach Diseases was delivered by Professor ROBERT SAUNDBY. In the course of his address, which was extremely interesting and instructive, Professor Saundby discussed the causes of dyspepsia and laid emphasis on the importance of diagnosing the conditions giving rise to dilatation of the stomach. The diagnosis of the atonic and obstructive forms of dilatation was dealt with in a practical manner. The importance of prolonged rest in the treatment of the condition when due to atony was pointed out, and the value of early surgical measures in dealing with the obstructive form—illustrations of the successful results of which were placed before the meeting—was strongly advocated. At the termination of the address appreciative remarks were made by the CHAIRMAN, and on the motion of Dr. DAVID EDWARDS, seconded by Dr. EYTON LLOYD, Professor Saundby was accorded a hearty vote of thanks for his helpful address.

SOUTH CARNARVON AND MERIONETH DIVISION.

THE annual meeting of the Division was held at the Golden Lion Hotel, Dolgelly, on Wednesday, May 31st, Dr. RICHARD JONES, D.P.H., in the chair.

Vote of Sympathy.—A vote of sympathy with Dr. Samuel Griffith in his recent affliction was unanimously passed.

Election of Officers.—H. P. Rowlands, M.D. (Towyn), was unanimously elected Chairman for 1905-6, and Mr. O. Wynn Griffith (Pwllheli) Vice-Chairman; Mr. W. Jones Morris was re-elected Secretary; the Chairman-elect, Dr. H. P. Rowlands, Representative of the Division at the Representative Meeting; Messrs. H. Gladstone Jones (Criccieth), Evan Williams (Bala), and W. R. Williams (Machynlleth) Representatives on the Branch Council; Drs. Richard Jones and J. O. Williams (Barmouth) Representatives on the Division Executive Committee.

Representative on Council of the Association.—Mr. Jones Morris was unanimously nominated by the Division for election as the Representative of the Branch on the Central Council. This being the only nomination by the other Divisions of the Branch and the Shropshire Branch, which is grouped with North Wales, he is returned the Representative of the North Wales and Shropshire (Grouped) Branches on the Central Council of the Association for the twenty-first year.

Report of Executive Committee. The annual report of the Executive Committee was presented, and contained reference to the death of two prominent members of the profession and of the Division DRS. D. R. Jones of Corwen and Arthur Hughes of Barmouth and to the number of members, being the same as last year two members of the Association having taken up their residence in the Division, two new members were

elected, and the Committee regretted that the General Secretary had to strike off the names of two members for non-payment of subscriptions for two years. The meetings of the Division were fairly well attended, the average attendance being fifteen. The Committee strongly urge the members to improve in this respect, although in the meetings one aspect has been more prominent, namely, that every member takes part in the discussions. The subjects on which the Division has been approached by the Central Committees for their decision have been discussed and replies sent. The CHAIRMAN, supplementing the report, gave a brief account of the more important matters that had been considered by the Medico-Political Committee, and more especially the Local Government Board Bill of the Association and the Medical Acts Amendment Bill; it was unanimously adopted, and a hearty vote of thanks accorded to the Chairman for his services as Representative of the Division at the Oxford meeting of the Representative Meeting.

Annual Representative Meeting.—The agenda of the Leicester meeting was considered, and it was resolved that the Representative have power to act as he thinks best in the light of the discussion on the various resolutions generally, but that Notices of Motion 1, 2 4, and 5 be opposed, 3 be supported, and also the amendments proposed by the Central Council, it being considered that any drastic change in the working of the Association and its Committees under the new constitution would be premature till more experience is gained.

Discussion.—Dr. HUGH JONES opened a discussion on the treatment of pneumonia, in which he gave a summary of over twenty years' experience as an apprentice in the country, as a resident under Sir William T. Gairdner, and as a country practitioner, and his highly-interesting remarks gave rise to a general discussion, which was taken part in by nearly all the members present, concluding with some very acceptable criticisms and opinions by Dr. HILL ABRAM, Physician to the Liverpool Royal Infirmary.

Papers.—Interesting papers were read by Messrs. W. THELWALL THOMAS, F.R.C.S., RUSHTON PARKER, F.R.C.S., and EDGAR STEVENSON, F.R.C.S.

Luncheon and Tea.—Prior to the meeting the members lunched together, and afterwards were entertained to afternoon tea at Caerffynon by Dr. and Mrs. Hugh Jones. It was the unanimous opinion that the meeting was one of the most profitable and enjoyable among the many of that description that the North Wales Branch lay claim to.

OXFORD AND READING BRANCH:

OXFORD DIVISION.

The annual meeting of this Division was held at Fairford on Friday, June 16th. Several members were prevented at the last moment from attending. A meeting of the Divisional Council was held before luncheon. The members lunched together at the Bull Hotel, and afterwards the following business was transacted.

Report of Council.—The SECRETARY read the minutes of the last meeting, and the Council's report of the work done in the Division during the past session. This was adopted.

Election of Officers.—The following officers were then elected:—*Chairman:* Dr. Bloxsome. *Chairman-elect:* Dr. Collier. *Vice-Chairmen:* Dr. Innes Griffin and Mr. Drew. *Secretary and Treasurer:* Dr. Duigan. *Divisional Representative:* Dr. Duigan. *Six other Members of Council:* Dr. Taylor, Dr. E. Mallam, Surgeon-Captain Hall, Mr. Parker, Dr. Cruikshank, Mr. Counsel.

Financial Report.—The SECRETARY read the financial report, which was adopted.

Alteration of By-laws.—It was unanimously agreed to support the proposal of the Bradford Division, which appears in the Agenda of the Representative Meeting, to alter By-law 2, so that the Division shall have power to elect its own members.

Matters Referred to Divisions.—Finally, the Memoranda proposed by the Association *re* (1) the Public Health Bill, and (2) the Reorganization of the Local Government Board, were laid before the meeting, and the Divisional Council was empowered to bring these matters before Parliamentary candidates at a suitable time and opportunity. The business proceedings then terminated.

SOUTH-EASTERN BRANCH:

ANNUAL MEETING.

ON Wednesday, June 21st, the sixty-first annual meeting of the South-Eastern Group (which comprises Surrey, Sussex, and Kent) was held at Canterbury. Dr. WHITEHEAD REID (President) occupied the chair.

The gathering was a record one in every way. The weather was gloriously fine, the attendance exceeded all previous numbers, whilst the excursions which had been arranged were of an exceedingly pleasurable character.

Dr. A. R. Henchley, the Honorary Divisional Secretary for the Canterbury and Faversham Division, was entirely responsible for all the arrangements, and a great deal of the success of the visit must be attributed to him.

Election of Officers.—The following officers were elected for the current year:—*President elect:* Dr. Hetley, of Norwood. *Vice-Presidents*, 1905-6: Mr. Ewart, of Eastbourne; Mr. Wacher, of Canterbury. *Vice-Presidents*, 1906-7: Dr. Whitehead Reid, of Canterbury; Dr. F. G. Swayne, of Norwood. *Honorary Secretary and Treasurer:* Dr. H. M. Stewart. Dr. Galton, Dr. Tyson, and Mr. Jenner Verrall were elected as Representatives of the Branch on the Council of the Association.

Previous Visits to Canterbury.—It is interesting to note that in 1861 the members of the British Medical Association visited Canterbury, when Dr. Alfred Lochée was President, and Sir Charles Hastings President of the Council. The membership of the Association throughout the kingdom at that date was about 2,150, while at the present time it is nearly 20,000. The members of the South-Eastern Branch last visited Canterbury twenty years ago, when the late Mr. George Rigden was chairman. The membership of the Branch at that time was about 200, whereas now it numbers 1,500.

Luncheon.—The visitors, after their arrival in Canterbury, were entertained to lunch at the Royal Fountain Hotel, by the President, the company comprising: The Rev. Sub-Warden of St. Augustine's College, Sir Constantine Holman, Colonel S. J. Thompson, C.I.E., I.M.S., Colonel Johnston, R.A.M.C., Surgeon Gittings, R.N., the Deputy Mayor of Canterbury, the City Surveyor of Canterbury, Drs. Chaning Pearce, Prentice, Pittock, Le Riche, Moorhead, Baird, A. L. Jones, Preston, J. Hackney, Vernon, Hayward, Gavey, Hetley, Tilbury, Fox, Randall, Davis, Etheridge, Lawson, Topham, McKay, Burton, Benson, Eastes, Colgate, Robson, Evers, Everett, Howard, Knaggs, Faro, Westron, Martin Henry, Verrall, Hewitt, Tyson, Dodd, Douglas, Hayman, Worthington, Heaton, Read, Gosse, Willock, Bowles, Bremner, Frank, Sidney, and Harold Wacher, Sworn, Starling, Halstead, Raven, Annis, Hoar, Larking, Hugo, Street, Fallwasser, Batterham, Smith, Redfern, Howland, Allen, Walker, Alexander, Parsons, Adeney, Joyce, Lavers, B. Rigden, Clapton, Phillips, Jay, Aldridge, Boodle, Henchley, T. R. Adams, C. Vise, S. Parsons Smith, F. Coke, Frank Fraser, H. M. Raven, C. B. Gittings, and J. W. T. Gilpin.

The Mayor of Canterbury, who was regrettably absent, kindly placed the Guildhall at the disposal of the Association for the holding of the annual meeting, which took place subsequent to the luncheon. Dr. WHITEHEAD REID presided over a fairly large meeting.

Presidential Address.—The Presidential address was as follows:—Gentlemen, first let me thank you for the honour you have conferred upon me by electing me your President. I have often wondered when a person finds himself in the position in which I am now placed how far it is due to the unrecognized merits of others, or how much it is brought about by the slackness and want of public spirit in some who ought better to support our Association. I have myself derived so much benefit from belonging to our British Medical Association that I must say I find it difficult to understand the hesitation some men seem to have in joining it. Our noble profession ranks high above all others—let the utter sacredness of the healing art never be forgotten—the only one at all approaching it is the priesthood. But look at the dissensions of different religious sects and see how necessary it is to have an association like ours to bind its members together. General practice is such an individual matter that we are only too apt to get overwhelmed with the personal vanities. To meet one another and get out of ourselves is a healthy form of recreation. In this ancient and loyal metropolitical City, under the shadow of our noble cathedral, medicine, religion, and education walk hand in hand and take sweet counsel together. It pleases us to welcome here our brethren from Surrey, Sussex, and Kent, to show them how good a place this is, how fair a city, and how we dwell together in unity. Education is one of the strong points of this corner of Kent; our County Council spends more money than any other in England on it. We have all grades of schools. Our King's School provides one of the best and cheapest classical educations to be had, and the Simon Langton Schools excel in

science. But I have no wish to boast. Though England once held pre-eminence in matters of education, I fear it is not so now. The wealth of our colleges has diminished. Cambridge's appeal for help is passing almost unrecognized, and measured by contemporary European and American standards neither Oxford nor Cambridge would be reckoned among first-class universities at the present time. The chief subject of education should be a knowledge of Nature as set forth in the sciences which are spoken of as physics. Other countries are overtaking us, such as the United States and our North American Colonies. Let our legislators and teachers read the report of the Mosely Education Commission to the United States; it will show them what can and what ought to be done. The national interest in education has aided and maintained the prosperity of the American race. The State is more munificent there than here for such purposes; the public bodies grudge no money spent on education. Thus for their industrial concerns they secure the most highly-educated men for their employment, and so succeed and advance. Now, probably medical education, carried on chiefly, mark you, by private means and efforts, not State-endowed, is a form of the highest in this land at the present day. The public knows little of the curriculum in the schools attached to our large hospitals, or they would subscribe more handsomely; for we cannot be accused of making a selfish or illiberal use of our knowledge. Surely no form of higher education can claim a stronger title to public support. Our curriculum is at once the most arduous and most highly systematized form of education that exists in this country. But we are hampered by not being able to devote our whole time to research. Original research requires State aid; its professors should be well paid and kept independent of want. Until we encourage scientific work more thoroughly our nation can scarcely be expected to hold its own with others that are rapidly advancing. As to our British Medical Association, it seems to me there arises a demand in the Branches, which grows with the increasing complexity of the Divisions, for some regulating, co-ordinating, and harmonizing mechanism whereby the activities of the separate parts shall be combined most advantageously for the common good of the profession; to effect that union of action among the different members as shall manifest most economically the life of the individual, and most completely bring the general practitioner into relation with his surroundings. Our time has been so taken up lately with medico-political matters—very right and proper in their way—that I fear the good clinical meetings of the former districts, where cases were read and discussed *con amore*, have suffered in consequence. What the busy money-earning general practitioner wants is a few "straight tips" from the failures and successes of others, a few specimens and cases to look at that he does not usually come across in his daily routine—something to counteract the monotony of his hourly thankless drudgery. "Work and service" I feel we want to make our meetings more interesting and more useful to "the street doctor," if I may be pardoned for using Mr. Chamberlain's notorious Brummagem epithet: then we should get more men to join. If our noble Association condescended to collect "bad debts," then no doubt they would all join. We are still learning, and every one, in however humble a sphere, has some knowledge to impart, or some different way of looking at a subject to suggest. Even the youngest of us, just fresh from the schools, will find the benefit of listening to matured experience, and learn that it is possible to fail; and the elders among us, who have lost our conceit, are anxious to hear the newest things, to digest and assimilate them in patience at home. It strikes me that we require a little more "vital activity." We have a few "ferments" in our constitution, but these enzymes, it must never be forgotten, are capable of a reversible action. We want a little more progressive and harmonious interaction of these "excitable bodies," these ions in the fire! To liberate our activities these electrically-charged atoms, these anions and cations, require often the substitution of one for another. Advance—that is, muscular contraction and protoplasmic motion—are probably only thus likely to be produced. The integrations and disintegrations which liberate our energy, and by transformation produce good muscular work, nerve force, and secretory function, the fundamental manifestations of our existence, depend on the inseparable union of function and nutrition. We seem to have plenty of "functions," but our nutrition is at fault, and it is not until the essential factor of nutrition is involved that any serious deterioration in function can really be said to occur. Far be it from me to suggest any prejudicial modification of our "ferment activity;" this would only irretrievably lead to malnutrition. But I consider we want more pabulum and of a better kind; and this pabulum must not be misapplied. You will agree with me, gentlemen, that nutrition, in its fullest sense, is life itself. As I presume we are now in a state more or less of disintegration, attending our transition from an inactive to an active state, the more do I think we need cohesion. Let us acquire more oxygen, more outside help, for our restitution; then to "the ferments" we may look for the ability to take part in the various changes which should follow our oxidation and oxygenation. This predisposing cause of functional activity is to be sought in the attraction of all self-respecting general practitioners to our ranks. Medical vitality should be the outcome of the reaction between bioplasm, represented by the British Medical Association, and its environment, the medical profession. We are at present in a state of potential energy, but we want a little more kinetic force developed to succeed. It is the foodstuffs brought by the outsiders that must maintain our integrity and render possible our continued activity, and this nutrition we must be careful about. More money might be spent in making our meetings more attractive. Hygiene and temperance are the watchwords of the time, but they are dull subjects unless well illustrated. We must maintain a nitrogenous equilibrium, so to speak, by seeing that our ferments only build up and break down our proteids as circumstances require. With that caution, gentlemen, let me finally return to our beloved city. I would that our Medical Officer of Health had been your President, for then in terms of the highest felicity, such as he is well accustomed to use, you would have learnt that for last year our death-rate was 15.4 per 1,000, well below the average 16.3 for England and Wales; that Canterbury provides the only sound teetotal drink, and the best of its kind in the kingdom; that for elderly rich and retiring individuals who wish to exist beyond their allotted span we provide, with an unparalleled measure of success, a religiously soothing, unexciting climate and existence, free from contentious strife, presided over by a cathedral body, with a noble and self-sufficient corporation, with a water vascular system, illuminated by gas and electricity and inhibited by a sanatorium, a lunatic asylum, a poor-house, a county hospital, a gaol, and an ever-watchful coroner. What more can human flesh desire? I will detain you no longer, for our good Dean has promised to personally conduct us over his Cathedral, and the weavers, the waterworks, the hospital, the sanatorium, the asylum, and the irrigation works all claim your attention, as well as St. Augustine's Missionary College and the ruins of St. Pancras.

Report of Council.—The report of the Council on the affairs of the Branch were submitted and approved by the meeting.

Divisional Secretaries.—Mr. J. H. EWART moved a resolution:

> That Honorary Secretaries of Divisions should be *ex-officio* members of the Branch Council.

An additional resolution was moved:

> That the travelling expenses of Honorary Divisional Secretaries as *ex-officio* members of the Branch Council should be paid, but not that of the directly-elected members of the Branch Council.

This was opposed by Mr. FRANK WACHER, Dr. LARKING, and Dr. HOAR. The resolution was withdrawn, and the original motion was carried by a large majority, only seven voting against.

Proposed Division of Branch.—During the discussion on the report Dr. LARKING, of Folkestone, moved a resolution that the South-Eastern Branch should be divided diagonally from London down to the South. This matter, it will be remembered, was discussed at the Branch meeting at Eastbourne last year, and the Branch Secretary was directed to obtain the opinion of the various Divisions on the matter, and he reported that nine were against and six in favour. Dr. PARSONS, Dr. VERRALL, and several others spoke against the motion, and no action was taken in the matter.

Votes of Thanks to Retiring Officers.—The proceedings concluded with votes of thanks to Mr. Ewart, the retiring President, and the other officers.

Excursions.—At the conclusion of the meeting in the Guildhall, the members of the Association formed themselves into parties, and excursions were made to the Cathedral, St. Augustine's College, St. Martin's Church, Borough Asylum, sewage farm and sanatorium. During the day some of the members inspected the Canterbury Weavers' establishment, and were also shown over the Kent and Canterbury Hospital by Mr. Z. Prentice. The Dean of Canterbury very kindly conducted the party round the Cathedral, of which the President

(Dr. Whitehead Reid) was in charge. Mr. Frank Wacher was in charge of the sanatorium party, and Dr. Henchley of those who visited the asylum. The last party drove first of all to St. Martin's Church, but, unfortunately, the discussion at the Guildhall had lasted so long that the Rev. E. L. Ridge, the Rector, had found it necessary to leave a few minutes before their arrival in order to fulfil an engagement in London. The Sacristan, however, took the party round the ancient building and pointed out the various objects of interest. The party, after completing their inspection of the church, drove up to the asylum, which is pleasantly situated at the top of St. Thomas's Hill. Here they were received by the Chairman of the Asylum Committee (Alderman Hart), Councillors Godden, Hammond, and the Superintendent of the institution (Dr. Norman Lavers). Having been formally welcomed by Alderman Hart, the party proceeded on to the lawn, where light refreshments were provided. They afterwards made a tour of the asylum buildings under the conductorship of Dr. Lavers. The general appearance of the various departments and their appointments was satisfactorily commented upon by the visitors. It was mentioned that the present accommodation at the asylum was equal to from 150 to 160 patients, and that there are now 155 patients there. The administrative accommodation is equal to dealing with 450 patients and an extension of the wards will no doubt be necessary, and will have to be undertaken before long, in order to bring down the cost per head of maintenance. Leaving the asylum, those who had visited that institution joined the party who were on a tour of inspection at St. Augustine's College, great interest being taken in the excavations which are now being carried on at the College. The party which visited the irrigation works were received by Alderman Gentry and other members of the Council. The City Council have just spent nearly £30,000 improving the sewerage system, and also at the sewage disposal works electric motor pumps are now used for raising the sewage to the elevated detritus and septic tanks, in addition to the downward land filtration.

Dinner.—A dinner was held at the Royal Fountain Hotel in the evening, the PRESIDENT (Dr. Reid) presiding over a large company, which included, in addition to those at the luncheon, Dr. Wace, the Dean of Canterbury. An excellent repast was served, and at its conclusion a brief toast list was submitted. After the loyal toasts had been given from the chair, Dr. PARSONS, of Dover, proposed the toast of "The British Medical Association," and prefaced his remarks by explaining that he was called upon somewhat unexpectedly, owing to the absence of their ex-President (Mr. Ewart), who had been obliged to depart early. It was a curious thing, he said, that in the course of a long life he had had to return thanks for the British Medical Association a good many times, but it had never fallen to his lot to propose the British Medical Association, and it was very remarkable that that toast should have been put into the hands of one who was supposed to represent, with several of his friends whom they would recognize at that table, the old British Medical Association—the old-fashioned Medical Association—which had given rise, in the needs of modern times and the exigencies of modern life, to the development of a new British Medical Association, or rather to a new page of the British Medical Association. In looking back upon the past, all he could say was that if the new development of the Association could show at the end of fifty years as good a result as the old original foundation could show, then he must admit that it really and truly would have fulfilled its mission and would be entitled to the gratitude of all their sons who followed in their fathers' footsteps. Of course, in looking back he could not refrain from saying looking at the quality and the characters of the men who founded this Association, and who carried it on until it arrived at its present position—that these men represented something not only of what was best in their profession, but of what was best in humanity. These men undertook to form that Association for the benefit and advancement of medical science. They did all that they did without any reward—nay more, they paid all the expenses of forming the Association, and they paid their travelling expenses to London, Birmingham, and other places, to carry on the work of the Association. Although, perhaps, they may not be thought to have been up with the times, they certainly did good and valuable work, of which the present generation were now reaping the benefit. He was Secretary of that Branch of the Association for about twenty-two years, and he remembered that his great ambition then was to bring the membership of at that time (226) up to 500, for he thought Kent, Surrey and Sussex ought to muster 500 good and true men. Well, he was able to say that, before he gave up office, they were more than 500, and now at the present time he was glad to say that they had upwards of 1,200 members in that South-Eastern Branch. He thought that looked well. The success of the Branch all depended upon men like his friend at the head of the table the President. He was delighted to see him there, because he was one of the district Secretaries when he (Dr. Parsons) was Secretary of the Branch, and he could truly say that a more efficient Secretary he never had. He did his work with a great deal of energy, and they generally had very good meetings at Canterbury. He could only say, in concluding, that if the secretaries of the Divisions, and the secretaries of the various organizations, worked as well as the secretaries and presidents did in the past in developing the resources of the profession, he had no doubt that in fifty years' time the Association would number every medical man within their ranks. The proposer of the toast coupled with it the name of the Secretary of the Branch (Dr. Stewart). Dr. STEWART thanked the company for the enthusiastic way in which they had received that toast, and humorously observed at the outset of his remarks that it would be a great help if the Central Office were to supply set speeches for any one who, like himself, was responding to that toast for the first time. Then, he said, they could have sat down to their smokes in the sure knowledge that nothing would be said that was out of place or unexpected. That toast, however, was such an old friend that he did not suppose that they expected him to say anything particularly new or startling. With regard to the old friends who were present that day, besides the pleasure of hearing familiar voices and seeing familiar faces, he thought one thing which gave greater pleasure than any other was to see the evidence of continued strength and vitality and vigour. He must say that he was pleased to note this feature in the speech of the proposer of that toast, because he confessed that there had been times when his faith in the vitality of the British Medical Association had sunk to rather a low ebb. Still, in his saner moments—which, he hoped, perhaps, were rather more numerous than the others—he had been convinced as much as ever that this Association was a great power—a power to do good not only to themselves, but to the public, whose welfare it was their firm aim and constant endeavour to promote. How was it, then, that they did not get more members? How was it that not more than 50 per cent. of medical men were members of that Association? No doubt there were many factors at work, but if faults were to be found he thought they must look for the faults amongst themselves. There were some things, he thought, which struck one more essentially in the new constitution, and one of them seemed to be that they, as ordinary members, were rather too much inclined to rely upon the central organization. From what he could gather—and of course it was part of his duty to hear a certain amount of complaints—he found that in some cases men rather felt that more ought to be done for them from the central office in London. Well, he thought they must get rid of that impression; they must do the work themselves. They would be helped from London, but they must work themselves. If he might venture to allude for a moment to those higher powers, he thought perhaps the fare provided was sometimes too strong for the digestion. If they wished to teach a child geography, a very sound plan was to teach it in respect of the neighbourhood of its own particular village, then its own county and country, and so on. He thought men would be more interested in the larger subjects which they were told to discuss if they were first of all interested in some of those questions which touched themselves more closely. The speaker made reference to a custom in vogue among the shepherds of the Lake country where the boundaries were somewhat imperfectly marked out—of meeting together at certain times and handing over the strayed sheep to their owners. He was not going to propose, he said, that medical men should meet and hand over their erring patients. That he did not think was quite practicable, but the point he wished to draw attention to rather was that the effect on the characters of those shepherds was much more permanent and more far-reaching than merely the idea of giving back something because they might get something in return. It seemed that those men led useful, honest, upright lives simply because their interests were first of all drawn to their neighbours, and then from that into wider interest in bigger things. So it seemed to him that something like that might be done in the Association. The younger generation of medical practitioners were sometimes told that their diagnosis was

excellent but that they were lamentably ignorant of treatment. He supposed he would get into trouble if he suggested a diagnosis without some form of treatment. He had tried in his own immediate neighbourhood to prescribe a form of treatment which could be helpful. It was simply to get men to meet men, who were not by any means necessarily members of the Association, and to interest them in the small topics of their neighbourhood. One found very soon that they began to ask questions about other subjects, and one was able to tell them that all those questions were attracting attention elsewhere, and had already been discussed in the British Medical Association. It seemed to be news to them, rather interesting news, so they began to think it worth while to join the Association and hear about those things. This seemed to him to be the way to get their interest rather than by sending down a large number of subjects which had to be discussed by men who could not, or would not, take an interest in them. He hoped that in this way they would attract more men into the Association, and he did not think it was too much to look forward to the time when they should number not only the vast majority of medical practitioners, but that those members would by their strength be able to speak with a voice which would be heard all over the kingdom. Mr. Frank Wacher proposed "Our Guests," and said that he thought the toast might have been called "The Church and State," because the Church was represented by the head of the great Cathedral Church of Canterbury, the Dean of Canterbury, and the State was represented by the Deputy Mayor of Canterbury. The Dean of Canterbury, as they knew, had not been in Canterbury for very many years, but during his residence there he had by his urbanity of manner, by his businesslike qualities, by taking the chair at various meetings for the good of the city, endeared himself to, and made himself respected by, the citizens of Canterbury. The name of Dean Wace would, he was sure, be handed down to posterity as the prime mover in the carrying out of the restoration of that great tower—Bell Harry Tower—with its four lovely pinnacles, which were fast falling into decay. He believed the Dean had collected £8 000 towards the restoration of the tower in a very short time. This was only half the money, but he (Mr. Wacher) hoped, as this was a monument which they could not afford to allow to fall into decay, that he would soon get the remainder of the funds needed for the restoration. The proposer mentioned that the Dean took the greatest interest in the medical faculty, having a son in the profession, whilst he had himself been chairman, he believed, of the King's College Hospital, and also had been instrumental in collecting large sums for various London hospitals and charities. He had taken the greatest interest in their hospital at Canterbury, for not only was he Chairman of the Board of Management, but he was Chairman of the Hospital Committee, and devoted a large amount of time and interest to that charity, much to its benefit. In respect to the Mayor of Canterbury, he was sure they one and all regretted his absence that day. He knew that nothing would have given Sir George Collard greater pleasure than to be present at that gathering, but he was laid on a bed of sickness. He had ten times been Mayor of Canterbury, and during those years he had initiated, and with his Council had carried out, many sanitary improvements for treating infectious diseases, and in promoting schemes for the health and good of the citizens. He was afraid that in carrying out those schemes for the health of the citizens his own health had suffered. Mr. Wacher also paid a tribute to the Deputy-Mayor (Alderman Gentry), who was present, characterizing him as a public-spirited man, and as one who had done a great deal of good for the city. The proposer coupled with the toast the names of Dean Wace and Alderman Gentry. The Dean said he wished, first of all, to return thanks for the very kind manner in which they had received that toast, so generously proposed by Mr. Frank Wacher. He could assure them that there were very few occasions which could give him greater pleasure than to find himself joining with a company of doctors like the British Medical Association, for his life had been associated with the medical profession in perhaps an unusual degree. It was not merely that he had a son whom he was proud to say was in the satisfactory position at Winchester of being attached to the local hospital, but more than that, when he first came to London as a curate—he was sorry to say nearly forty-five years ago—his best friends, and friends who had been truest to him all through life, were two medical men, namely, Mr. Frank Anstey and Dr. Buzzard. Then, he had the privilege of being elected chairman of King's College Hospital for ten years running, and being very intimately associated with the whole of the medical work in it. After that, some years ago, he was asked to take up the chairmanship of the National Hospital for the Paralysed and Epileptic, as it emerged out of the controversy which had been going on respecting it. Now he had the privilege of being chairman of the Kent and Canterbury Hospital. He esteemed it to have been a great advantage to have been very closely associated with their profession from the earliest years of his life. The gratitude which he owed to the friendliness and the general influence of medical men was greater than he could possibly acknowledge. He had always been made to feel by that long association that there was a deeper connexion between the medical profession and his own profession than was always appreciated. He was deeply convinced himself that they were intimately and indissolubly connected by their very roots, for, although one developed in the way of cure for the body, and the other developed in the way of cure for the soul, it was the same idea and the same ideal which was animating both. They both of them kept alive in the world—he hoped that in his profession, at all events, they contributed very largely to the work—that grand idea, not always sufficiently appreciated in its broadest sense, of salvation, that was to say, of making whole that which had become diseased and injured. It was one of the grandest ideas—he was not sure it was not the greatest and most important idea in the whole range of human thought. He did not know anything which illustrated this more than the striking fact that the word salvation did not exist in the Latin language until the Christian religion had been established. They had the words servation, conservation, and preservation, but the rooted idea of restoring that which was diseased and making it whole again—that was an idea which, doubtless, existed as the medical profession existed, but it did not come out in the full consciousness of mankind until brought home to it by the profession and religion, which he represented there among them. In that way he thought that their two professions were helping one another, and ought always to help one another, to keep that grand ideal before mankind. He thought he would have the sympathy of all medical men there when he said that for the salvation of human beings—the making of them whole in body and soul—it was imperative that their two professions should work together. They all knew those magnificent lines of Shakespeare's:

> Can'st thou not minister to a mind diseased,
> Pluck from the memory a rooted sorrow,
> Raze out the written troubles of the brain?

They knew that in the medical profession, with their knowledge of the constitution of the brain, they could, by mere physical means, co-operate with them (the clergy) to that end to an extent not dreamt of when Shakespeare wrote those lines. He felt that they would all allow that in the great strain and struggle of life there were many occasions in which those particular influences, which it was their function to yield, could co-operate in restoring mental health. Without the due co-operation of both that result could not be produced. For reasons like that he felt that there could be nothing more important for the welfare of the community than that their profession and his should stand side by side and work hand in glove for all the things which could concern the welfare of the community. He was thankful if, in fulfilling one of the greatest duties of his life, he was able to contribute towards that result. He could assure them that anything which he could do to promote the interests of their profession and Association he would do with all his heart. Alderman Gentry, whose name was also coupled with the toast, said his duty was to express on behalf of his chief, Sir George Collard, his profound regret that he found himself unable to be with them that day. He was looking forward to the visit of that Association to Canterbury with more than passing pleasure and satisfaction, and he was very delighted a short time since to learn that they had seen fit to choose their ancient city for its annual session. And more particularly he was sure that his Worship was disappointed in not being with them that day in order to do honour to two most prominent citizens—Dr. Reid, their President, and Mr. Frank Wacher, their Vice-President. The great value of such associations as theirs was, of course, considerably better known to them than to him, but it appeared to him that whilst the Dean had claimed a very strong affinity to the medical profession, municipal bodies and cor-

porations could also claim without egotism, but with considerable pride, that they had a mission to fulfil which ran somewhat on the same lines as theirs. He might say it was their ambition in Canterbury to do everything they could, as a corporation, to stimulate sanitary reforms and improvements along the lines in which the medical profession were so very willingly and generously able to assist them. That day the members of the Association had had an opportunity of seeing some of the institutions and some of the work which had been taken in hand in the city during, more particularly, the last few years. They had spent, considering the size of the city, almost huge sums of money in order to make Canterbury what he claimed it was to-day—but what perhaps could not be claimed for it a few years ago—one of the most sanitary cities in the United Kingdom; and this in spite of the natural geographical disadvantages under which Canterbury laboured. He wished to express the hope that the visit of the Branch had been as satisfactory to the members as it had been to the citizens of Canterbury to know that they had been there. In concluding, Alderman Gentry paid a tribute to the great amount of good work which was done by voluntary effort on the part of the medical profession in Canterbury. Mr. T. J. VERRALL submitted "The President," and alluded to the excellent address which he had given them earlier in the day. There was a sparkling humour about it that he (Mr. Verrall), not being Canterbury-born did not know whether it was scattered broadcast for the benefit of his fellow-citizens every day, or for their great delight and satisfaction retained solely for the meeting that day. However that might be, and whatever his fellow-citizens might know of it, to them—who remembered him of old—it was reminiscent of the past. The man Dr. Reid to-day was the man whom they would have expected him to be. In concluding, the proposer of the toast wished the President long life and happiness to follow in his father's footsteps. The PRESIDENT, in responding, referred to the very great kindness he had received from members of the medical profession during his recently rather severe illness. It was, indeed, a great pleasure to him to see so many members of the Association at the meeting that day, and he was sure it was an argument in favour of keeping their old Divisions as they always had been, and not dividing them up into smaller groups. They liked to see men from a distance and to sit there and hear new ideas put in a pleasant way. He thought it would be a thousand pities if they broke up into smaller Divisions still. Dr. Reid gave the toast of "The Honorary Divisional Secretary," and spoke in high terms of the energy Dr. Henchley had displayed in order to ensure the success of the visit of the Branch to Canterbury. Dr. HENCHLEY, in responding, remarked that he had been informed that the attendance that day had been a record one. The success of the meeting was due to the popularity of the Chairman, the attractive nature of the city, and the fact that they had the interest and assistance of the Dean, the Rev. R. J. E. Boggis. The toast-list concluded with "The Health of the Rev. R. J. E. Boggis," proposed by Mr. FRANK WACHER, the SUB-WARDEN of St. Augustine's College suitably responding.

GUILDFORD DIVISION.

THE annual meeting of this Division was held on Tuesday, June 20th, at the Lion Hotel, Guildford, Dr. A. ARTHUR NAPPER in the chair.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Election of Officers.—The following were elected:—*Chairman:* Dr. J. P. A. Gabb. *Vice Chairman:* Dr. A. Hope Walker. *Honorary Secretary and Treasurer:* Dr. E. J. Smyth. *Representative at Representative Meetings:* Dr. A. Hope Walker. *Representative on Branch Council:* Dr. E. J. Smyth. *Executive Committee:* Drs. de Jersey, Fisher, Kendall, Levick, Minchin, Morshead, Napper, Sloman, R. Thorne-Thorne, Weaver, and Winstanley.

HASTINGS DIVISION.

THE annual meeting of this Division was held at the Hastings Hospital on Thursday, June 15th, at 4 30 p.m., Dr. ALLFREY, Chairman, presiding.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Election of Officers.—The following officers were elected for the ensuing year:—*Chairman:* Dr. Batterham. *Vice-President:* Dr. E. W. Skinner. *Honorary Secretary:* Dr. G. Vickerman Hewland, M.D. (4, Eversfield Place, St. Leonards-on-Sea). *Representative for Representative Meeting:* Dr. Muir Smith. *Representative on Branch Council:* E. Kay-Smith. *Executive Committee:* Dr. Allfrey, Dr. Murdoch, Mr. Paget, Mr. E. R. Mansell, Dr. Bagshawe.

Proposed Conjoint Meeting.—The Honorary Secretary was asked to write to the Honorary Secretary of the Tunbridge Wells Division saying that the members of the Hastings Division would like to meet members of Tunbridge Wells at Tunbridge Wells in October if it could be arranged.

Tea.—Tea was provided by the Chairman.

ISLE OF THANET DIVISION.

THE annual meeting of this Division was held at Birchington on June 13th, Dr. H. G. HARRIS in the chair.

Confirmation of Minutes.—The minutes of the last ordinary meeting and the last clinical meeting were read, confirmed, and signed.

School Certificates.—Letters were read from the clerks of the educational authorities of Ramsgate and Margate. A discussion followed on the question of signing school certificates. This was postponed for further consideration. A letter was also read from the Norwich Division.

Election of Officers.—It was decided that Dr. Biddle should be asked to take the chair at the next meeting, to be held at Broadstairs in September. Drs. Halstead, Sutcliffe, Street, and Watts were re-elected members of the Executive Committee. Mr. Hugh Raven was re-elected Honorary Secretary and Treasurer and Representative of the Division on the South-Eastern Branch Council.

Annual Report of Executive Committee.—The annual report of the Executive Committee was taken as read and adopted, together with the financial statement for the year.

Annual Representative Meeting.—The HONORARY SECRETARY reported that Dr. Gosse had been elected Representative of the Division, with Canterbury and Faversham Divisions. The agenda of the Representative Meeting was next discussed and the following conclusions arrived at: (i) The alteration of Article XXVII as proposed was approved; (ii) the alteration of By-law 2 with regard to the election of members was approved; (iii) the memorandum of the Furness Division with regard to the Midwives Act was approved, as was the motion of the Salford Division; (iv) the motion of the Walthamstow Division on the question of the consideration of the position of consultants was strongly approved; (v) the opinion of the members was much in disfavour of the Association taking up medical defence, medical agency, or starting a medical benevolent fund, as was moved by the Wandsworth, West Manchester, and Blackburn Divisions; (vi) the rest of the agenda was considered, and it was left to the Representative to use his own judgement in voting upon it.

Matters Referred to Division.—The Memorandum of the Medico-Political Committee with regard to the National Deposit Friendly Society was brought up for reconsideration, some correspondence having been circulated to the members on the subject. The recommendations of the Medico-Political Committee (see SUPPLEMENT, January 14th, 1905) were approved *nem. con.*

Votes of Thanks.—A vote of thanks was passed to Dr. Harris for taking the chair at the meeting and for his hospitality, and to the Honorary Secretary for his services during the past two years.

MAIDSTONE DIVISION.

THE annual meeting of this Division was held on June 15th.

Election of Officers.—The following officers were elected for the ensuing year:—*Chairman:* Thomas Joyce, M.D. *Vice-Chairman:* E. Ground, M.D. *Honorary Secretary and Treasurer:* J. A. Gibb, M.B., Knightrider House, Maidstone. *Representative on Branch Council:* A. T. Falwasser. *Representative at Representative Meetings:* W. Douglas, M.D. *Executive Committee:* F. T. Travers, M.B., G. M. Tuke, G. H. Mapleton, M.B., C. Pye Oliver, M.D.

SOUTH EASTERN OF IRELAND BRANCH.

AN ordinary meeting of the Branch was held in the Town Hall, Clonmel, on Wednesday, June 7th, at 12 o'clock.

Installation of New President.—Dr. D. WYNNE, on taking the chair, thanked the meeting for the honour conferred on him by their electing him their President, remarked on the paucity of attendance, and suggested that scientific discussions and matters of clinical interest should in future form a more prominent feature at meetings of the Branch.

Confirmation of Minutes.—The minutes of the previous meeting were read, approved, and signed.

Correspondence.—Letters of apology were read from

Drs. Walshe, Carey, and Hewetson. On the latter no specific action was taken as it was deemed rather indefinite. Dr. WALSHE urged the adoption of an Irish Committee on Scottish lines.

Discussions.—The following questions formed the subject of impromptu discussions: Dysentery and the best method of tapping the bladder. All present freely joined in the discussions.

Resolutions.—It was proposed by Dr. CREAN and seconded by Dr. O'BRIEN:

That papers and cases of scientific and clinical interest should be read and discussed at all future meetings of the Branch.

It was proposed by Dr. LAFFAN and seconded by Dr. RIORDAN:

That the attention of the Council of the British Medical Association be called to the alleged existence of bribery at a recent medical election in the county of Tipperary.

These resolutions were carried *nem con.* The Honorary Secretary was instructed to forward copies to the Council of the British Medical Association and to the Local Government Board, Ireland.

Vote of Thanks.—The proceedings terminated by Dr. QUIRKE proposing and Dr. WYNNE seconding a vote of thanks to the Mayor and Corporation of Clonmel for their kindness in allowing the use of the Town Hall for the occasion. This was carried unanimously.

Luncheon.—The members then adjourned to the Ormonde Hotel where a *recherché* lunch awaited their arrival, and a very social and pleasant afternoon was passed.—Dr. QUIRKE returned thanks for the hospitality shown to members who had come from a distance.

SOUTH-WESTERN BRANCH.

THE sixty-sixth annual meeting of this Branch was held at the Athenaeum, Plymouth, on June 15th, previous to which members were hospitably entertained at luncheon by the President-elect, Geo. Jackson, F.R.C.S., J.P. Dr. R. H. CLAY was in the chair.

Confirmation of Minutes.—The minutes of the last annual meeting were read and confirmed.

Obituary: The late Dr. Alexander.—Before resigning the chair to the President-elect, Dr. CLAY spoke in feeling terms of the great loss sustained by the Branch in the untimely death of the President of the Branch on April 2nd, and moved the following vote of sympathy with the deceased President's relatives.

The members of the South-Western Branch of the British Medical Association, at their annual meeting at Plymouth, June 15th, desire to place on record their high appreciation of the character of the late Dr. Alexander and their sense of the loss they have sustained by his unexpected and lamented death; and to assure his widow and children that his fellow-members accord to them their heart-felt sympathy in the great sorrow which has befallen them.

This was passed unanimously and in silence, each member standing in his place to signify his assent.

President's Address.—Mr. GEORGE JACKSON (the President-elect) then took the chair, and delivered his inaugural address. After thanking the members for the honour conferred, he welcomed the visitors to Plymouth, and mentioned that Sir Victor Horsley had promised to address a meeting of the Branch. That great Association owed its origin to Sir Charles Hastings, a descendant of the family of the celebrated Warren Hastings. In 1828, Sir C. Hastings started the *Midland Medical and Surgical Report*, which led indirectly to the foundation of the Provincial Medical and Surgical Association. In that Association's report Hastings drew attention to the necessity of a society which should bind the profession together for mutual aid and support, and eventually, on July 19th, 1832, he called a meeting at Worcester. It was attended by fifty members of the profession, and the venerable Dr. Johnston, of Birmingham, was elected the first President. The objects of the Association were the advancement of medical science by the collection of useful information, by original essays, and reports of hospital and similar institutions, and by investigations into the causes of diseases generally. Also the maintenance of the honour and respectability of the profession. Sir Charles on that occasion made an important speech, referring to the backwardness at that time of English medical knowledge. He was joint-secretary with Mr. Shepperd from the date of the institution in 1832 to 1834, when he was appointed permanent president and treasurer. The Association gradually grew, and in 1847 [illegible] principles were adopted notably, the uniformity of the primary qualification, to be tested by examinations, equal rights for every member of the profession to practise throughout Her Majesty's dominions, and the adoption of a representative system. The first two had been firmly established; the third still left much to be desired. In 1856 the change of name to the British Medical Association took place. As years went by the number of members increased by leaps and bounds, until now 55 per cent. of the profession belonged to it, there being about 19,000 members. That was a striking advance from 1871, when at the meeting at Plymouth held that year the membership was given as 4,403. Despite the figures, however, there was considerable apathy among the profession, but he hoped it was diminishing. It was a great pity that the bulk of the profession did not take more interest in its general welfare. Those anxious to do what they could would feel greater enthusiasm if they were backed up more by the bulk of the profession. Dr. Jackson gave several examples of the good work done by the Association. Referring to the question of the registration of nurses, he said a Select Committee of the House of Commons was dealing with the subject, and they had heard a good deal of evidence on both sides. He was in favour of it, as medical men would then have some guarantee of the qualifications of the nurse and her character. It would remove the incompetent, and sometimes drunken, nurses. It was said by opponents of the idea that nurses would then usurp the place of the medical man, but his experience was that the better-trained nurses were less likely to do so than the ignorant ones. In conclusion, the speaker dealt with the education of the student, and expressed the opinion that no student should be allowed to present himself for examination until he had passed his class examinations and had a satisfactory report from his teacher generally.

Votes of Thanks.—Dr. POWELL proposed, and Dr. DEAS seconded, a hearty vote of thanks to Mr. Jackson for his able and interesting address, which was carried with acclamation. On the proposal of Mr. R. F. STEPHENS, a vote of thanks was accorded to Dr. Clay for his taking over the duties of President at a critical period.

Report of Branch Council.—The report of the Branch Council was then read by the HONORARY SECRETARY and was received and adopted.

Election of Officers.—Mr. E. J. Domville and Dr. E. L. Fox were declared elective members of Council, Dr. P. M. Deas having signified his inability to stand again for election. A hearty vote of thanks was accorded to Dr. Deas for the great services he had rendered the Association and Branch during the twenty-one years he had represented the Branch on the Central Council. Mr. G. Young Eales was re-elected Honorary Secretary and Treasurer.

Visits of Inspection.—After the meeting many of the members journeyed to Plympton, where they were shown over the historically-interesting mansion, Plympton House, by Dr. Turner and entertained at tea.

Annual Dinner.—Twenty-three members and guests dined together in the evening, the PRESIDENT, Mr. G. Jackson, in the chair.

Excursion.—On Friday, June 16th, about fifty members and lady friends accepted the kind invitation of the Plymouth and Devonport Divisional members to a luncheon and excursion by steamer to the Breakwater and from thence up the Hamoaze to the ancient and historically-interesting manor house, "Cotehele," which was visited by the kind permission of the Right Hon. the Earl of Mount Edgcumbe, who kindly provided tea for the party.

SHROPSHIRE AND MID-WALES BRANCH.

THE Spring meeting of this Branch was held at the Salop Infirmary on Tuesday, May 13th, the President, Dr. EDWARD CURETON, in the chair.

Confirmation of Minutes.—The minutes of the last meeting were next read and confirmed.

The late Sir William Mitchell Banks.—A letter was read from Lady Banks acknowledging a vote of sympathy passed by the Branch on the death of the late Sir W. Mitchell Banks.

Election of Officers.—On the proposition of the PRESIDENT, seconded by the HONORARY SECRETARY, Dr. Charles Gwynn, of Whitchurch, was unanimously chosen President of the Branch. The other officers of the Branch were duly elected as follows: [illegible] *President*: Dr. Edward Cureton. *Representative on Representative Meeting*: Dr. H. Willoughby Gardner. *Honorary Secretary and Treasurer*: Mr. Harold H. B. MacLeod. *Council of Branch*: Dr. E. Cureton, Mr. A. Jackson, Dr. Gardner,

Dr. C. Gwynn, Dr. Bowen-Davies, Dr. Pigott. Dr. Tredinnick, Mr. Russ Wood, Dr. Keyworth, Dr. McCarthy, Dr. Law Webb, Mr. MacLeod, and Dr. Paeker. *Branch Representative upon the Council of the Association (conjointly with the North Wales Branch:* Mr. W. Jones Morris, Portmadoc.

Annual Report.—The annual report was then read. The following is the text: Your Committee have met three times during the year, there having been one ordinary and two special meetings, the latter on November 22nd, 1904, and May 2nd, 1905. It was felt that a strong desire existed amongst the members of the old Branch that the old name and status of "Shropshire and Mid-Wales" should be revived, and it is with great satisfaction that we announce that this is accomplished. We observe with pleasure that the Branch numbers 122 members, and that the attendance at meetings is satisfactory, being 36.7 for spring meetings and 29.5 for annual meetings (during last four years). The funds of the new Branch are in a satisfactory position, and your attention is invited to the accompanying financial statement. The report was approved.

Financial Statement.—The following financial statement for 1904 was presented:—Your Council beg to submit the following financial statement for approval. During the past year of our amalgamation with the North Wales Branch our secretary received less money from the Branch Secretary than he had expected on the 4s. per member ratio, but on inquiries being made it was evident that the full sum was not available. Since regaining our individual existence as a Branch our Secretary has received from head quarters the sum of £12 4s., which corresponds to the annual subscription of 61 members; we may thus look forward to receiving a further £12 4s. during the present year, as our members are exactly 122. All the accounts for the year have been paid, and we have a credit balance of £14 5s. At the bank our credit balance shows the satisfactory figure of £20 10s. 1d. Under these circumstances your Council propose that a subscription of three guineas be given to the Royal Medical Benevolent College, and also a subscription of three guineas to the Royal Medical Benevolent Fund, as was formerly the custom of this Branch. The financial statement was approved.

Matters Referred to Divisions.—The meeting discussed the following matters: Information to coroners, ambulance work (*vide* SUPPLEMENT to the BRITISH MEDICAL JOURNAL, February 4th). The resolutions passed have been communicated to the Medico-Political Committee.

Tea.—By the kind invitation of the President members partook of tea at the infirmary after the meeting.

ULSTER BRANCH.

THE twenty-seventh annual meeting of this Branch was held in the Great Northern Hotel, Warrenpoint, on Saturday, June 17th, the PRESIDENT (Professor Lindsay, F.R.C.P.) in the chair.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Apology for Non-attendance.—An apology for non-attendance was read from Professor Byers.

Report of Council.—The report of Council was presented by the HONORARY SECRETARY (Dr. Cecil Shaw). It stated that the following had been elected members: Professor Symmers, Dr. T. Carnwath, Dr. A. Gardner Robb, Dr. George Waugh, Dr. P. T. Crymble, Dr. W. M. Burnside, and Dr. Wm. Mair, all of Belfast; and Dr. S. H. Robinson, of Londonderry. The annual report was read by the HONORARY SECRETARY, and stated that there had been a falling-off of about twenty in the membership during the past year, chiefly due to the removal of a number of younger members to other Branches. There were four general meetings during the year—three in Belfast and one in Derry. Five meetings of Council were held, at which the attendance was as follows: Dr. Agnew (Lurgan) 2, Lieutenant-Colonel Allison (Portrush) 1, Dr. S. B. Boyd (Ballymoney) 0, Dr. H. J. Boyd (Hillsbro') 4, Dr. Brownrigg (Moira) 1, Dr. John Campbell (Belfast) 0, Dr. Cooke (Derry) 2, Dr. J. Craig (Derry) 0, Dr. J. A. Craig (Belfast) 0, Dr. Darling (Lurgan) 5, Dr. Donnan (Holywood) 0, Dr. Fullerton (Belfast) 4, Dr. Lawless (Armagh) 3, Dr. Lindsay (Belfast) 5, Dr. Martin (Portrush) 1, Dr. McLaughlin (Derry) 2, Dr. Mitchell (Belfast) 4, Dr. St. George (Lisburn) 2, Dr. Cecil Shaw (Belfast) 5, Sir William Whitla (Belfast) 0, Dr. S. B. Allison (Killaloo) 0, Dr. Calwell (Belfast) 4, Professor Byers (Belfast) 2, Dr. Taylor (Tandragee) 1. At the meetings of the Central Council and Committees of Council the attendance of the Branch Representatives was: Professor Byers, present 3, absent 6; Dr. Cecil Shaw, present 10, absent 1. It was moved by Dr. CALWELL, seconded by Dr. MCCULLAGH, and passed, that the report be received, printed, and circulated.

Financial Statement.—The HONORARY TREASURER (Dr. Darling) presented a statement of the balance to the credit of the Branch, and of sundry payments to be made.

Election of Office-Bearers.—The following were elected office-bearers for 1905-6.—*President:* Dr. Leonard Kidd, Enniskillen. *Honorary Treasurer:* Dr. Singleton Darling, Lurgan. *Honorary Secretary:* Dr. Cecil Shaw, Belfast. *Representatives of the Branch (together with the Connaught Branch) on the Central Council:* Professor Byers and Dr. Cecil Shaw. *Representatives of the Branch on the Irish Committee:* Professor Byers, Dr. Cecil Shaw, Dr. Darling, and Dr. Cooke (Derry).

Visit to Rostrevor Sanatorium.—At the conclusion of the meeting the members lunched together in the Great Northern Hotel, and afterwards drove out to the Rostrevor Sanatorium, where they were entertained by Dr. and Mrs. Howard Sinclair, and shown all the interesting features of the place and the methods of treatment. Before leaving a hearty vote of thanks was accorded to their host and hostess by the members, on the motion of Professor SINCLAIR, seconded by Dr. JOHN CAMPBELL.

BELFAST DIVISION.

THE annual meeting of this Division was held in the Medical Institute on June 14th.

Matters Referred to Divisions.—The subject of death registrations and coroners' law was brought before the meeting. It was agreed, however, that as the Act does not apply to Ireland, discussion of its contents would be unnecessary. The report on the legal position of medical men in respect of school certificates was read and discussed. It was agreed to circulate the report to the members of the Division.

Election of Office-Bearers.—The following office-bearers were elected for the ensuing year:—*Chairman:* Dr. Gaussen. *Secretary:* Mr. Craig. *Representative:* Dr. Mitchell. *Executive Committee:* Drs. Boyd, Calwell, Fullerton, Houston, Lindsay, Shaw, Reid, St. George.

CAVAN AND MONAGHAN DIVISION.

THE first meeting of this Division was held in Clones on June 5th.

Election of Officers.—The following were elected for the ensuing year:—*Chairman:* Dr. William Henry. *Honorary Secretary:* Dr. T. H. Moorhead.

Proposed Combined Meeting.—It was resolved:

That the Honorary Secretary is hereby authorized to call a meeting of the members resident in the Connaught Branch and those resident in the Cavan and Monaghan, Tyrone, and Fermanagh Divisions of the Ulster Branch in Clones on such a date and at such hour as he may find most convenient for the attendance of members.

☞ *To ensure the insertion of notices in this column they must be received at the Central Offices of the Association not later than the first post on Tuesday.*

Association Notices.

COUNCIL MEETING.

A MEETING of the Council will be held at 10 o'clock in the forenoon of Wednesday, July 5th, in the Board Room of the Metropolitan Asylums Board, by kind permission of the Board. The offices of the Metropolitan Asylums Board are situate on the Victoria Embankment at the corner of Carmelite Street, and near Blackfriars Bridge.

June 8th, 1905. GUY ELLISTON, *General Secretary.*

LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

MEMBERS are reminded that the Library and Writing Rooms of the Association are fitted up for the accommodation of the members in commodious apartments, at the office of the Association, 429, Strand. The rooms are open from 10 a.m. to 5 p.m. Members can have their letters addressed to them at the office.

BRANCH AND DIVISION MEETINGS TO BE HELD.

BIRMINGHAM BRANCH: CENTRAL DIVISION.—A special general meeting will be held at the Medical Institute on Wednesday, July 19th, at 3 30 p.m. Business: (1) An address by Mr. J Smith Whitaker, the Medical Secretary of the Association, on Ways in which the British Medical Association is to-day Maintaining the Honour and Interests of the Medical Profession. All medical practitioners in the area of the Birmingham Branch are cordially invited to attend. (2) The consideration of the adoption of certain ethical rules by the Division. Copies of the rules will be sent to each member of the Division.—E. D. KIRBY, Honorary Secretary.

DORSET AND WEST HANTS BRANCH.—The summer meeting will be held at Sturminster Newton, on Wednesday, July 19th. Members desiring to read papers or show cases should notify the Honorary Secretary by July 10th.—H. WATTS PARKINSON, Honorary Secretary, Wimborne Minster.

EDINBURGH BRANCH.—The summer meeting will be held in the Carnegie Library, Hawick, on Saturday, July 1st, at 12 5 p m. Trains from Waverley 10 30 a m., 2.35, and 4 25 p m. Dr. Haddon will show a patient with left hemiplegia of long standing which has improved under dietetic treatment. After lunch there will be a motor drive (tickets 5s.) and a golf match. Dinner in the Tower Hotel at 6 30 p.m. (tickets 5s.) Members who intend to be present are requested to send in their post cards without further delay.—NORMAN WALKER, 7, Manor Place, Edinburgh, A. LOGAN TURNER, 27, Walker Street, Edinburgh, Honorary Secretaries.

GLASGOW AND WEST OF SCOTLAND BRANCH.—As only the necessary two nominations—namely, the present Representatives—have been sent in, Dr Bruce Goff and Dr. James Hamilton are therefore hereby elected Representatives of the Branch on the Central Council for the years 1905-6. —JAS. H. NICOLL, Honorary Secretary.

METROPOLITAN COUNTIES BRANCH: HAMPSTEAD DIVISION.—The annual meeting of this Division will be held on Friday, July 14th, at 5 p m., at St. Peter's Hall, Belsize Square. Agenda: (1) Minutes. (2) Letters. (3) Election of Chairman, Vice-Chairman, Secretary, and Assistant Secretary. (4) Proposal to alter Divisional Rule 9 (Dr. Ford Anderson). (5) Election of other members of Committee. (6) To receive annual report of Committee. (7) To instruct the Representative to the Representative Meeting. (8) To consider certain ethical rules suggested by the Bradford Division, and Model Rule Z. (9) To receive report of Subcommittee on proposed Divisional dinner. (10) A resolution to oppose the Bill for the Protection of Dogs (Mr. Humphreys). (11) Other business.—R. A. YELD, M.D., Hampstead, Honorary Secretary.

MUNSTER BRANCH.—Notice of Election. Nominations for an elective member for the Central Council of the British Medical Association, signed by not less than three members, must reach me on or before July 15th.—PHILIP GEORGE LEE, Honorary Secretary, 26, St. Patrick's Hill, Cork.

NORTH OF ENGLAND BRANCH: NEWCASTLE-UPON-TYNE DIVISION.—This Division purposes holding an all-day scientific meeting on Thursday, July 6th, to commence at 10 a.m. At the Royal Infirmary there will be demonstrations in the wards and operating theatres, an exhibition of clinical cases, and a temporary pathological museum. Demonstrations will also be held in the College of Medicine. All medical men in Northumberland and the adjoining counties will be heartily welcome. Complete programmes will shortly be drawn up, and will be sent to all members of the North of England Branch.—R P. RANKEN LYLE, Honorary Secretary.

NORTH WALES BRANCH.—The annual meeting of this Branch will be held at the White Lion Hotel, Bala, on Thursday, July 6th, at 2 p m. After the usual formal Branch business, the President (Dr. E. O. Price) will deliver his address, and papers will be read by Drs. Herbert and Hill Abram, Messrs. Rushton Parker, F.R.C.S., W. Thomas, and Jones Morris.—W. JONES MORRIS, Is-y-Coed, Portmadoc, H. JONES ROBERTS, Llywenarth, Pen-y-groes, Carnarvonshire, Honorary Secretaries.

OXFORD AND READING BRANCH.—The annual meeting of this Branch will be held at the Radcliffe Infirmary, Oxford, on Thursday, July 20th, at 4.15 p.m. Annual dinner, Exeter College, at 7 p.m.—W. T. FREEMAN, Honorary Secretary, 30, Portland Place, London Road, Reading.

SOUTH-EASTERN OF IRELAND BRANCH.—An ordinary meeting of this Branch will be held at the Club House, Carlow, at 5.30 p m., on July 5th.—J. C. QUIRKE, Piltown, Honorary Secretary.

SPECIAL RAILWAY ARRANGEMENTS.

To members and their friends attending the annual meeting at Leicester the railway companies of the United Kingdom will grant return tickets, on payment at the time of booking, at a single fare and a quarter. To secure this concession each passenger must produce a special voucher, and these may be obtained on application to the General Secretary, 429, Strand, London, W.C. The reduced fares will be available from July 21st to August 1st, both dates inclusive.

Those members desiring to travel to the places where they reside during the meeting of the Association may obtain return tickets at a single fare and a quarter (minimum charge 1s.) on production of cards of membership, from Leicester to any station not more than fifty miles distant to which through bookings are in operation available to return on the same or following day.

MEDICAL AND DENTAL PRACTICE BY COMPANIES.

THE two following Bills—the first to prohibit joint stock companies from acting as physicians, surgeons, or medical practitioners, and the second to prohibit joint stock companies from carrying on practice as dentists except by means of duly qualified persons—were introduced into the House of Commons by Sir John Batty Tuke, M.P. for the Universities of Edinburgh and St. Andrews, on June 26th.

COMPANIES MEDICAL PRACTICE BILL.

MEMORANDUM.

THE object of this Bill is to prohibit persons, who are not by examination and registration legally qualified to practise Medicine and Surgery, from carrying on business as Medical Practitioners by means of companies formed under the Joint Stock Companies Acts.

The Medical Acts of 1858 to 1886 provide, in effect, that persons who are legally qualified, by having passed prescribed qualifying examinations, and being registered in the *Medical Register*, can lawfully practise Medicine, Surgery, and Midwifery throughout the United Kingdom and His Majesty's Dominions elsewhere; and the Acts impose disabilities on persons who carry on medical practice without being duly qualified, and penalties on any unqualified person who falsely assumes the designation of a legally-qualified Medical Practitioner.

Recently it has been ascertained that unqualified persons have had recourse to the machinery established by the Companies Acts, to enable them to carry on medical practice by forming companies for that purpose, and that companies so formed have been and are carrying on medical practice on a very large scale, especially among the poorer classes.

The following are examples of such Medical Companies taken from the Register of Joint Stock Companies:

The Doctor Bland Company, Limited, registered on the 22nd April, 1899, the objects of which are stated to be to carry on or practise the profession or business of Medical Doctors, Physicians, Surgeons, Apothecaries. . . . Capital, £1,000; the seven subscribers to it include six persons having no medical qualification whatever.

J. Waters and Sons, Limited, incorporated for the objects, amongst others, of carrying on the business of Physicians and Surgeons, with a capital of £8,000; none of the subscribers to it are persons holding any medical or even pharmaceutical qualification.

The formation of these companies is a fraud upon the public, for whose protection the Medical Acts were passed, and is an abuse of the powers conferred by the Companies Acts. The provisions of the existing law have been found to be insufficient to put a stop to what is a very grave public mischief, inasmuch as the enactments which prohibit certain branches of medical practice by unqualified persons apply only to individuals, and not to Joint Stock Companies, which, legally, are corporate bodies; and the General Medical Council, established under the Medical Acts, which has had the question under its consideration, is of opinion that legislation on the subject is urgently needed for the protection of the public. It has been possible under the existing law for a Medical Practitioner, whose name has by direction of the General Medical Council been erased from the *Medical Register* for misconduct, to evade the consequences of the Council's judgement by forming a company under cover of which the practitioner has continued to practise. This Bill has the support of the Council.

The effect of the Bill is to make it unlawful for a company formed under the Companies Acts (which includes a joint stock company, or a company limited by guarantee) to practise as, or carry on the business or profession of a Physician, Surgeon, or Medical Practitioner. The Bill applies to existing companies, but does not apply to companies formed to carry on business as Dentists or Pharmaceutical Chemists.

Nothing in the Bill will prevent a limited liability company from carrying on convalescent homes, hydropathic establishments, and other institutions the primary object of which is not the conduct of Medical practice, or interfere with friendly and other societies, established for affording mutual relief in sickness and old age.

A BILL TO

Prohibit Joint Stock Companies from acting as Physicians, Surgeons, or Medical Practitioners.

BE it enacted by the King's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows :

1. *Companies not to practise or act as Physicians, Surgeons, or Medical Practitioners.*—(1) It shall be unlawful for a company, directly or indirectly, to practise as, or carry on the profession or business of a physician, surgeon, or medical practitioner, and if any company contravenes this enactment it shall be liable, on summary conviction, to a fine not exceeding five pounds for every day during which the contravention happens. (2) This section shall apply to every company, whether formed and incorporated before or after the passing of this Act.

2. *Interpretation.*—In this Act the expression "company" means a company formed and incorporated under the Companies Acts 1862 to 1900, or any of such Acts.

3. *Short Title.*—This Act may be cited as "The Prohibition of Medical Practice by Companies Act, 1905."

DENTAL COMPANIES BILL.

MEMORANDUM.

THE mischief which by this Bill it is sought to prevent is the carrying on of dental practice by unqualified persons by means of limited companies, formed under the Joint Stock Companies Acts.

It is notorious that companies formed by persons who have no qualifications entitling them under the Dentists Act, 1878, to practise dentistry and dental surgery, carry on dental practice, and instances have occurred in which unqualified persons who have been convicted under the Dentists Act have evaded that Act by forming a Company to carry on dental practice. The wholesome provisions of the Dentists Act, 1878, for the protection of the public against unqualified and ignorant practitioners, are thus systematically evaded.

The effect of this Bill, if passed into law, will be that in the future it will be unlawful for a company to practise dentistry and dental surgery, except by means of managers, assistants, and persons duly qualified to practise dentistry and dental surgery by registration under the Dentists Act, 1878.

The Bill applies only to the carrying on by companies of dental practice. It does not apply to the carrying on of the purely mechanical portion of a dentist's business, such as the manufacture, sale, and repair of mechanical appliances. The Bill applies to existing as well as future companies, and to companies limited by guarantee as well as to ordinary joint stock companies.

A BILL TO

Prohibit Joint Stock Companies from carrying on practice as Dentists except by means of duly qualified persons.

BE it enacted by the King's Most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows :—

1. *Companies not to practise dentistry except as provided in the Act.*—Subject to the provisions of this Act :—

(1) It shall be unlawful for a company to carry on the business or use the description of dentist, or dental surgeon, or dental practitioner, unless the business is carried on wholly by managers, assistants, or persons, each of whom is a duly registered dentist, and unless the name of each such duly registered dentist is posted in a conspicuous place outside the premises in which the business of the company is carried on.

(2) Anything which would be an offence under the Dentists Act, 1878, if committed by an individual, shall be an offence if committed by a company.

(3) This section shall apply to every company, whether formed and incorporated before or after the passing of this Act.

2. *Interpretation.*—In this Act

"Company" means a company formed and incorporated under the Companies Acts, 1862 to 1900, or any of such Acts.

"Duly registered dentist" means a dentist, or dental surgeon or practitioner, registered in the *Dentists' Register* under the Dentists Act, 1878.

Expressions relating to dentistry and dental surgery have the same meaning and effect as the same expressions have in the Dentists Act, 1878.

3. *Short Title.*—This Act may be cited as the Dental Companies (Restrictions of Practice) Act, 1905.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been made at the Admiralty :—GEORGE LEY, Staff Surgeon, and CHARLES M. WOODS, Surgeon, to the *Juno*, on recommissioning, June 27th ; HERBERT L. PENNY, Staff Surgeon, to the *Argonaut*, on recommissioning, June 27th ; WALTER B. MAURICE, Staff Surgeon, to the *Egmont*, additional, for the *Maine*, June 20th (this appointment has since been cancelled) : JOHN S DUDDING, Surgeon, to Haslar, to assist in instruction of surgeons on entry, undated ; ALGERNON C. BEAN, Surgeon, to the *Egmont*, additional, for the *Maine*, June 22nd ; PERCIVAL T. NICHOLLS, Surgeon, to the *Thetis*, on recommissioning, undated ; DOUGLAS D. TURNER, Surgeon, to the *Pembroke*, for disposal, June 24th.

ARMY MEDICAL STAFF.

SURGEON-GENERAL W. L. GUBBINS, M.B., M.V.O., has been selected to succeed Surgeon-General W. F. Burnett as Principal Medical Officer of the Eastern Command in India.

Surgeon-General W. F. BURNETT is placed on retired pay, June 21st. He was appointed Assistant Surgeon, March 31st, 1866 ; Surgeon, March 1st, 1873 ; Surgeon-Major, March 31st, 1878 ; Brigade Surgeon, October 6th, 1892 ; Surgeon-Colonel, July 6th, 1896 ; and Surgeon General, June 1st, 1901. His war record includes :—The Zulu war, in 1879 (medal with clasp) : the Afghan war of 1878-80 (medal) ; and the Soudan Expedition, in 1884-5 (medal with clasp, and Khedive's bronze star).

ROYAL ARMY MEDICAL CORPS.

COLONEL J. G. MACNEECE has been appointed Principal Medical Officer at Malta, succeeding Colonel W. O. Wolseley, deceased.

Major W. W. O. BEVERIDGE, M.B., D.S.O., has been appointed Medical Officer at the Royal Army Clothing Factory, London.

Majors A. O. FITZGERALD, F. D. ELDERTON, and R. I. POWER are placed on retired pay, May 30th. Their commissions, which are simultaneous, are dated : Surgeon, May 30th, 1885 ; Surgeon-Major, May 30th, 1897. Their war records are as follow:—Major Fitzgerald : Burmese Expedition, 1885-7 (medal with clasp) ; South African war, 1899-1900, including relief of Ladysmith, actions at Spion Kop, Vaal Krantz, and Pieter's Hill, and operations on the Tugela Heights, in Natal, and in Cape Colony (mentioned in dispatches, Queen's medal with three clasps). Major Elderton : Burmese Expedition, 1886-7 (medal with clasp) ; South African war, 1899-1902, including operations in Cape Colony and Orange River Colony (Queen's medal with two clasps and King's medal with two clasps). Major Power : South African war, 1900-2, including operations in the Orange Free State, the Transvaal, Cape Colony, and on the Zululand Frontier (Queen's medal with three clasps and King's medal with two clasps).

ARMY MEDICAL RESERVE.

LIEUTENANT J. S. WARRACK, M.D., Royal Army Medical Corps (Volunteers), to be Surgeon-Lieutenant, June 24th.

Surgeon-Major E. T. CROUCH to be Surgeon-Lieutenant-Colonel, June 20th.

Surgeon-Captain H. DICKIE, M.B., to be Surgeon-Major, June 17th.

INDIAN MEDICAL SERVICE

LIEUTENANT-COLONEL C. H. BEATSON, Bengal Establishment, has been appointed Principal Medical Officer, Derajat and Bannu Brigades, vice Lieutenant-Colonel G. J. Kellie, vacated

Lieutenant-Colonel J. M'CLOGHRY, Bombay Establishment, has been appointed Principal Medical Officer, Kurrachee Brigade

Major D. G. MARSHALL, Bengal Establishment, who was placed on half-pay Sept. 25th, 1904, is permitted to retire from the service from June 24th. He was appointed Surgeon-Captain March 31st, 1888, and was made Major March 31st, 1900. He served in the operations on the North-East Frontier of Burma in 1891-2 (medal with clasp) ; with the Isazai Expedition in 1892 : in the campaign on the North-West Frontier of India in 1897-8, with the Tochin Force (medal with clasp) ; and at the relief of Pekin in 1900 (medal with clasp).

Lieutenant-Colonel R. MACRAE, M.B., Bengal Establishment, is promoted to be Colonel, February 12th. He entered as Assistant Surgeon, March 31st, 1875, and became Surgeon-Lieutenant-Colonel, March 31st, 1894. He was in the Afghan war of 1878-80 (medal with clasp).

Lieutenant-Colonel R. D. MURRAY, M.B., is also promoted to be Colonel, March 20th. His commissions are dated the same as Colonel Macrae's. Colonel Murray served in the Burmese campaign in 1886-7, was mentioned in dispatches, and received a medal with clasp.

ROYAL ARMY MEDICAL CORPS (MILITIA).

LIEUTENANT (Honorary Lieutenant in the Army) H. J. L. BULLEN, Welsh and Midland Command, Lichfield Company, to be Captain, February 26th.

The promotion to be Captain of Lieutenant (Honorary Lieutenant in the Army) S. T. BEGGS, Irish Command, No. 3 Belfast Company, bears date June 19th, 1904, and not as stated in the *London Gazette* of January 3rd.

ROYAL GARRISON ARTILLERY (VOLUNTEERS).

SURGEON-CAPTAIN T. E. STUART, 1st Suffolk and Harwich, to be Surgeon-Major, November 26th, 1904.

Surgeon-Captain J. SOUTTER, 2nd East Riding of Yorkshire, to be Surgeon-Major, June 24th.

VOLUNTEER RIFLES.

SURGEON-CAPTAIN H. G. FALKNER, 1st Volunteer Battalion the East Yorkshire Regiment, is borne as supernumerary whilst attached to the Yorkshire Volunteer Infantry Brigade Bearer Company, June 24th.

Surgeon-Captain J. G. ANDREW, M.B., 1st Lanarkshire Regiment, resigns his commission, June 24th.

Surgeon-Major W. H. PACKER, M.D., 1st Volunteer Battalion the King's (Shropshire Light Infantry), is granted the honorary rank of Surgeon Lieutenant-Colonel, June 24th.

Surgeon-Lieutenant E. H. GERVIS, 17th (North) Middlesex Regiment, to be Surgeon-Captain, June 24th.

Mr. CHARLES A. SPOONER to be Surgeon-Lieutenant in the 16th Middlesex (London Irish) Regiment, June 5th.

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

LIEUTENANT-COLONEL W. COATES, Northern Command, Manchester Companies, is granted the honorary rank of Colonel, June 7th.

Lieutenant J. M. ROGERS-TILLSTONE, Eastern Command, Maidstone Companies, to be Captain, April 12th.

Surgeon-Lieutenant P. MITCHELL, M.D., from the 5th (Deeside Highland) Volunteer Battalion the Gordon Highlanders, to be Lieutenant in the Aberdeen Companies, Scottish Command, June 10th.

Lieutenant (Surgeon-Lieutenant, Army Medical Reserve) J. T. K. THOMSON, Scottish Command, Glasgow Companies, resigns his commission, June 10th.

Mr. THOMAS DONOVAN to be Lieutenant in the South Wales Border Bearer Company, June 12th.

CHANGES OF STATION.

THE following changes of station amongst the officers of the Royal Army Medical Corps have been officially reported to have taken place during last month:

		FROM		TO
Surg.-Gen.	R. H. Quill, M.B.	... ...	Dover	... Netley.
Colonel	W. E. Saunders, C.B.	... ...	Naini Tal	... Mussoorie.
,,	G. D. W. Leake	... ...	Lucknow	... Naini Tal.
,,	H. J. W. Barrow	... ...	Ambala	... Kasauli.
,,	J. I. Routh	... ...	—	Bombay.
,,	H. R. Whitehead	... ...	—	Secunderabad.
,,	O. E. P. Lloyd, V.C.	... ...	Ootacamund	... Dover.
Lieut.-Col.	W. J. Baker	... ...	Calcutta	... Shoeburyness.
,,	R. H. S. Sawyer, M.B.	... ...	—	Wynberg.
,,	E. J. E. Risk	... ...	Holywood	... Belfast.
,,	C. W. Thicle, M.B.	... ...	Warrington	... N'castle-o-Tyn.
,,	F. J. Lambkin	... ...	Poona	... London Dist.
,,	H. O. Trevor	... ...	Longmoor	... Aldershot.
,,	W. W. Pike, D.S.O.	... ...	—	Mandalay.
,,	J. D. T. Reckitt	... ...	—	Multan.
,,	E. H. L. Lynden-Bell, M.B.	...	Dinapore	... Fyzabad.
,,	C. E. Faunce	... ...	—	Colaba.
,,	H. J. Wyatt	... ...	Dublin	... Curragh.
,,	T. B. Winter	... ...	Portsmouth	... Devonport.
,,	R. S. F. Henderson, M.B.	...	Deesa	... Kamptee.
,,	H. A. Haines, M.D.	...	Jullundur	... Dalhousie.
,,	C. W. Johnson, M.B.	...	Cawnpore	... Darjeeling.
,,	A. T. I. Lilly	... ...	Neemuch	... Eastern Comd.
,,	C. C. Reilly	... ...	Sialkot	... Murree.
,,	S. E. Duncan	... ...	Lebong	... SouthrnComd.
,,	R. Caldwell	... ...	Meerut	... Cawnpore.
Major	W. T. Swan, M.B.	... ...	—	Jullundur.
,,	J. M. F. Shine, M.D.	... ...	Dublin	... Cahir.
,,	J. H. Curtis	... ...	,,	... KilworthCamp
,,	J. H. Daly	... ...	,,	... Queenstown.
,,	H. D. Rowan, M.B.	... ...	—	Mian Mir.
,,	C. H. Melville, M.B.	... ...	Wellington	... Simla.
,,	F. W. G. Hall, M.B.	... ...	—	Dinapore.
,,	H. M. Adamson, M.B.	... ...	Bareilly	... Shahjehanpur.
,,	J. J. O'Donnell, M.B.	... ...	Leeds	... York.
,,	C. H. Burtchaell, M.B.	... ...	South Africa	... Dublin.
,,	J. Fallon	... ...	Ambala	... Dagshai.
,,	D. M. O'Callaghan	... ...	Colchester	... Norwich.
,,	G. Bent	... ...	—	Lucknow.
,,	J. S. Edye	... ...	—	Meerut.
,,	W. S. Dowman	... ...	Rawal Pindi	... Allahabad.
,,	B. H. Scott	... ...	Birr	... Murree.
,,	H. St. G. S. Hore	... ...	Belfast	... Dublin.
,,	L. G. Browne	... ...	Calcutta	... FermoyCamp.
,,	J. C. Morgan	... ...	Lucknow	... Lebong.
,,	B. J. Inniss	... ...	Chatham	... Fyzabad.
,,	T. B. Beach	... ...	Meerut	... Shoeburyness.
,,	L. Way	... ...	—	Landour.
,,	G. A. T. Bray	... ...	—	Meerut.
,,	J. D. Ferguson, D.S.O.	... ...	Cork	... Aldershot.
,,	J. W. Jennings, D.S.O.	... ...	—	Lucknow.
,,	J. C. Connor, M.B.	... ...	Portsmouth	... Perham D'n Cp
,,	A. Pearse	... ...	—	Chester.
,,	E. J. Wade-Brown	... ...	Gosport	... London Dist.
,,	F. W. Begbie	... ...	Ceylon	... —
,,	C. W. Duggan, M.B.	... ...	—	Lucknow.
,,	E. M. Morphew	... ...	East. Com'd.	... Colchester.
,,	J. F. M. Kelly, M.B.	... ...	Ambala	... Dublin.
,,	J. D. Alexander, M.B.	... ...	Dublin	... Birr.
,,	R. C. Lewis	... ...	Ranikhet	... Chaubuttia.
,,	E. H. Condon, M.B.	... ...	Ambala	... Subathu.
,,	G. S. Mansfield, M.B.	... ...	London Dist.	... Bermuda.
,,	J. B. Anderson	... ...	—	Meerut.
Captain	A. E. Mayne, M.B.	... ...	Malta	... Crete.
,,	John J. Lucas, M.B.	... ...	Woolwich	... S. Africa.
,,	W. B. Harrison, M.B.	... ...	Aldershot	... R.A.M. Coll.
,,	G. T. F. Maurice	... ...	—	Bareilly.
,,	E. T. F. Burrell, M.D.	... ...	Rawal Pindi	... Murree.
,,	C. H. Degnan	... ...	Cawnpore	... Neemuch.
,,	P. M'Keogh, M.B.	... ...	Deesa	... Deesa Camp.
,,	H. L. W. Norrington	... ...	Bareilly	... South. Com'd.

		FROM		TO
Captain	F. S. Penny, M.B.	... ...	Lucknow	... Cawnpore.
,,	H. G. Martin	... ...	Cork	... Fermoy.
,,	J. G. Berne	... ...	Purandhar	... Nowgong.
,,	J. D. G. Macpherson, M.B.	...	Portsmouth	... W'dmill H'l.Cp.
,,	S. de C. O'Grady, M.B.	...	Dublin	... Limerick.
,,	M. M. Lowsley	... ...	Devonport	... Parkhouse Cp.
,,	G. B. Carter, M.B.	... ...	Bellary	... Bangalore.
,,	R. S. H. Fuhr, D.S.O.	... ...	Sialkot	... Murree.
,,	S. O. Hall	... ...	—	S. Thomas' Mt.
,,	A. E. Weld	... ...	Devonport	... W. Down C'mp.
,,	J. W. Leake	... ...	Bermuda	... East. Com'd.
,,	G. M. Goldsmith, M.B.	...	Londonderry	... Belfast.
,,	R. H. Lloyd	... ...	Chester	... Trawsfynydd.
,,	H. K. Palmer	... ...	Fermoy	... Waterford.
,,	F. Ashe	... ...	Wynberg	... Dover.
,,	V. J. Crawford	... ...	Dublin	... Cork.
,,	G. G. Delap, D.S.O.	... ...	Poona	... London Dist.
,,	J. J. W. Prescott, D.S.O.	...	Devonport	... Wedgnock Pk.
,,	E. E. Ellery	... ...	Portsmouth	... Tidworth.
,,	T. C. Mackenzie, D.S.O.	...	—	London Dist.
,,	J. H. R. Bond	... ...	Portsmouth	... Tidworth.
,,	J. Matthews	... ...	Aldershot	... Deep Cut.
,,	E. W. Siberry	... ...	Dublin	... Cork.
,,	A. M. MacLaughlin, M.B.	...	Belfast	... Ballynarry Cp.
,,	A. H. Safford	... ...	Ranikhet	... Shahjehanpur.
,,	C. S. Cato	... ...	Chester	... Newport.
,,	W. C. Croly	... ...	Cawnpore	... Cannanore.
,,	W. J. P. Adye-Curran	...	—	Limerick.
,,	C. H. Straton	... ...	Landour	... Meerut.
,,	G. Carroll	... ...	Sitapur	... Chakrata.
,,	G. J. Houghton	... ...	Calcutta	... Dum Dum.
,,	J. M. Cuthbert, M.B.	...	Agra	... Ranikhet.
,,	C. H. Furnivall	... ...	Quetta	... Aden.
,,	F. G. Fitzgerald	... ...	Dublin	... Curragh.
,,	C. H. Carr, M.D.	... ...	Hyderabad	... Quetta.
,,	A. C. Adderley	... ...	Secunderabad	... Wellington.
,,	J. Tobin	... ...	Indore	... Mhow.
,,	A. R. Grenwood	... ...	—	Secunderabad.
,,	B. F. Ellery	... ...	Allahabad	... Landour.
,,	W. J. Waters	... ...	Chakrata	... Meerut.
,,	J. H. Brunskill, M.B.	...	—	Secunderabad.
,,	C. D. Myles, M.B.	... ...	Jhamsi	... Jubbulpore.
,,	H. A. Davidson, M.B.	...	S. Thomas' Mt.	... Bangalore.
,,	E. W. Powell	... ...	Cork	... Queenstown.
,,	A. J. W. Wells	... ...	Poonamallee	... Maymyo.
,,	F. E. Rowan-Robinson, M.B.	...	Aden	... Belgaum.
,,	J. S. Bostock, M.B.	... ...	Malta	... Crete.
,,	J. B. Clarke, M.B.	... ...	Meerut	... Agra.
,,	A. J. Williamson, M.B.	...	Quetta	... Hyderabad.
,,	C. G. Thomson	... ...	Dublin	... BallykinlerCp.
Lieutenant	W. F. Tyndale, M.B., C.M.G.		Allahabad	... Dinapore.
,,	J. McKenzie, M.B.	... ...	Calcutta	... Lebong.
,,	A. H. Hayes	... ...	Peshawar	... Ambala.
,,	C. A. J. A. Balck, M.B.	...	Ambala	... Rawal Pindi.
,,	A. E. B. Wood, M.B.	...	Lucknow	... Allahabad.
,,	B. H. V. Dunbar, M.D.	...	Poona	... Purandhar.
,,	H. T. Stack, M.B.	...	Lucknow	... Naini Tal.
,,	J. E. Powell	... ...	Bareilly	... Ranikhet.
,,	W. E. Dunkerton	... ...	Curragh	... Dublin.
,,	M. C. Wetherell, M.B.	...	Canterbury	... Rawal Pindi.
,,	R. T. Collins	... ...	—	Roorkee.
,,	T. J. Wright	... ...	—	Wellington.
,,	J. Fairbairn, M.B.	... ...	—	Colaba.
,,	A. S. Arthur, M.B.	... ...	Madras	... Peshawar.
,,	A. L. Otway, M.B.	... ...	Mhow	... Nasirabad.
,,	W. F. H. Vaughan	... ...	—	Bellary.
,,	W. Wiley, M.B.	... ...	—	Bangalore.
,,	M. D. Ahern	... ...	—	Feroxepore.
,,	R. J. Cahill, M.B.	... ...	—	Peshawar.
,,	G. S. C. Hayes	... ...	—	Rawal Pindi.

Lieutenants L. V. Thurston, A. W. Gater, and J. P. Lynch, who were appointed on probation July 30th, 1904, are stationed at Woolwich.

Lieutenant-Colonel H. Scott, M.B., retired pay, has been transferred from Great Yarmouth to London.

The undermentioned Majors on retired pay have been placed in medical charge of troops at the stations specified: C. J. Holmes, M.D., Warrington; J. D. Moir, M.B., Great Yarmouth; R. J. McCormack, M.D., Omagh; G. M. Dobson, M.B., Lincoln.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

IN seventy-six of the largest English towns, including London, 9,660 births and 3,827 deaths were registered during the week ending Saturday last, June 24th. The annual rate of mortality in these towns, which had been 14.7, 13.3, and 13.4 per 1,000 in the three preceding weeks, further declined to 13.2 per 1,000 in the week. The rates in the several towns ranged from 6.7 in Walthamstow, 6.8 in Hornsey and in Handsworth (Staffs.), 7.4 in Croydon, 7.6 in Tottenham, 7.8 in Kings Norton, 8.4 in Willesden, and 8.6 in Southampton, to 18.1 in Sunderland, 18.4 in Ipswich, 18.5 in Burnley and in Tynemouth, 20.1 in Preston, and 24.7 in Oldham. In London the rate of mortality was 11.7 per 1,000, while it averaged 11.6 per 1,000 in the seventy-five other large towns. The death-rate from the principal infectious diseases in the seventy-six towns averaged 1.2 per 1,000; in London this death-rate was equal to 1.1 per 1,000; while among the seventy-five other large towns the rates ranged upwards to 2.5 in Bootle, 2.7 in Walthamstow, 2.8 in Northampton, 3.0 in Sheffield, 3.4 in Sunderland, 3.5 in Coventry, and 3.8 in West Bromwich. Measles caused a death-rate of 1.7 in Northampton, in Smethwick, and in Barrow-in-Furness, 1.8 in Sheffield, 2.0 in Sunderland, 2.8 in Coventry, and 3.1 in West Bromwich; scarlet fever of 1.7 in Bootle; diphtheria of 1.1 in Middlesbrough, 1.3 in East Ham, and 1.4 in South Shields; whooping-cough of 1.1 in Oldham and 1.3 in Walthamstow; and diarrhœa of 1.2 in Wigan and in Blackburn, and 1.6 in Hanley. The mortality from

"fever" showed no marked excess in any of the large towns. No fatal case of small-pox was registered either in London or in any of the large provincial towns. The number of small-pox cases in the Metropolitan Asylums Hospitals on Saturday last, June 24th, was 6, against 9, 9, and 7 on the three preceding Saturdays; one new case was admitted during the week, against 1, 3, and 3 in the three preceding weeks. The number of scarlet fever patients remaining under treatment in these hospitals and in the London Fever Hospital, which had been 2,268, 2,285, and 2,356 at the end of the three preceding weeks, had further risen to 2,427 at the end of last week; 325 new cases were admitted during the week, against 235, 191, and 189 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS.

DURING the week ending Saturday last, June 24th, 1,027 births and 508 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had been 16.9, 16.4, and 15.7 per 1,000 in the three preceding weeks, further fell to 15.1 per 1,000 last week, but was 2.1 per 1,000 above the mean rate during the same period in the seventy-six large English towns. Among these Scotch towns the death-rates ranged from 9.6 in Leith and 11.8 in Aberdeen, to 16.8 in Perth and 18.6 in Greenock. The death-rate from the principal infectious diseases averaged 1.8 per 1,000 in these towns, the highest rates being recorded in Glasgow and Perth. The 255 deaths registered in Glasgow included 12 which were referred to measles, 2 to scarlet fever, 2 to diphtheria, 11 to whooping-cough, and 8 to diarrhoea. Four fatal cases of measles, 3 of whooping-cough, and 3 of diarrhoea were recorded in Edinburgh; 3 of whooping-cough in Dundee; 3 of diarrhoea in Aberdeen; 2 of "fever" (including 1 case of typhus) in Greenock; and 2 of measles in Perth.

HEALTH OF IRISH TOWNS.

DURING the week ending Saturday, June 17th, 484 births and 320 deaths were registered in six of the principal Irish towns against 561 births and 317 deaths in the preceding period. The mean annual death-rate in these towns, which had been 18.3, 17.4, and 17.5 per 1,000 in the three preceding weeks, fell to 16.9 per 1,000 in the week under consideration, this figure being 3.5 per 1,000 higher than the mean annual rate in the seventy-six English towns for the corresponding period. The figures ranged from 6.8 in Limerick and 9.0 in Londonderry to 20.5 in Cork and 27.3 in Waterford. The zymotic death-rate during the same period and in the same six Irish towns averaged 1.8 per 1,000, or 1.2 per 1,000 higher than during the preceding period, the highest figure (7.8) being recorded in Waterford, while Cork, Limerick, and Londonderry registered no death under this heading at all. Throughout the island there were 14 deaths from measles, 9 of these occurring in Belfast. To whooping-cough 5 deaths were ascribed, and 3 to diphtheria. In Belfast there were 5 deaths from enteric fever. From small-pox and scarlet fever no deaths were anywhere recorded.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

ABERGAVENNY: MONMOUTHSHIRE ASYLUM.—Senior Assistant Medical Officer. Salary, £250 per annum.

BATH: ROYAL MINERAL WATER HOSPITAL.—Resident Medical Officer. Salary, £100 per annum.

BOURNEMOUTH: ROYAL VICTORIA HOSPITAL.—House-Surgeon. Salary, £100 per annum.

BRIGHTON: ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN. House-Surgeon.—Salary, £80 per annum.

CAIRO: SCHOOL OF MEDICINE.—(1) Assistant to the Professor of Anatomy. (2) Assistant to the Professor of Pathology. Salary, £E320 per annum each.

CAMBERWELL PARISH INFIRMARY.—Assistant Medical Officer. Salary, £110, rising to £120 per annum.

CHARING CROSS HOSPITAL.—Assistant Surgeon.

CHESTER CITY AND BOROUGH.—Medical Officer of Health. Salary, £500 per annum.

DERBY: DERBYSHIRE ROYAL INFIRMARY.—Assistant House-Surgeon. Salary, £30 for six months.

GATESHEAD DISPENSARY.—Assistant Medical Officer.—Salary, £160 per annum.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Assistant Physician.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—House-Surgeon. Salary, £20 for six months.

LEEDS UNIVERSITY.—Demonstrator of Bacteriology. Salary, £150 per annum.

LIVERPOOL DISPENSARIES.—Assistant Surgeon. Salary, £100 per annum.

MARGATE: ROYAL SEA-BATHING HOSPITAL.—Honorary Medical Officer for Electrical Department.

METROPOLITAN ASYLUMS BOARD.—Third Assistant Medical Officer at the Leavesden Asylum, Watford. Salary, £150, rising to £170 per annum.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney Road, E.—(1) Assistant Surgeon. (2) Assistant Physician.

NORTH RIDING OF YORKSHIRE LUNATIC ASYLUM, Clifton, York.—Medical Superintendent. Salary, £600 per annum.

NOTTS COUNTY ASYLUM, Radcliffe-on-Trent.—Assistant Medical Officer. Salary, £130, rising to £150 per annum.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone Road, N.W.—Assistant Resident Medical Officer. Salary at the rate of £50 per annum.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City Road, E.C.—Assistant Physician.

SINGAPORE MUNICIPALITY.—Second Assistant Health Officer. Salary, £400, rising to £500 per annum.

STAFFORD: COUNTY ASYLUM.—*Locum Tenens* for about two months. Terms, 4 guineas per week.

ST. PETER'S HOSPITAL FOR STONE, Etc., Henrietta Street, W.C.—Junior House Surgeon. Salary at the rate of £50 per annum.

WINCHESTER: ROYAL HANTS COUNTY HOSPITAL.—House-Physician. Salary, £65, rising to £75 per annum.

APPOINTMENTS.

CHARLES, J. R., M.A., M.D.Cantab., M.R.C.P., Assistant Physician, the Royal Infirmary, Bristol.

COW, D. V., B.A., B.C.Cantab., Clinical Assistant to the Chelsea Hospital for Women.

HONEYWILL, S., L.R.C.P.Edin., M.R.C.S.Eng., District Medical Officer of the Cosford Union.

HORTON, Captain J. H., M.R.C.S., L.R.C.P., I.M.S., Clinical Assistant to the Chelsea Hospital for Women.

MCMILLAN, J., M.B., Ch.B.Glasg., Medical Officer for the Shotts District, co. Lanark.

MASON, A., M.R.C.S., L.R.C.P., District Medical Officer of the Eastry Union.

ROBINSON, Wm., M.D., M.S., F.R.C.S., Honorary Surgeon to the Sunderland Infirmary, vice Dr. James Murphy, deceased.

SCOTT, T. Graham, L.R.C.P., Third Anaesthetist, Great Ormond Street Hospital for Sick Children.

SMALL, J. D., L.R.C.S.Edin., L.S.A., Senior Medical Officer to Southern Nigeria.

TURNER, S. Duke, M.D., B.S., D.P.H., Medical Officer to the Post Office and Board of Education for Purley and District.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 5s. 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to ensure insertion in the current issue.

BIRTHS.

BARENDT.—On June 25th, at 65, Rodney Street, Liverpool, W., the wife of Frank H. Barendt, M.D.Lond., F.R.C.S.Eng., of a son.

EDGE.—On June 17th, at 54, Darlington Street, Wolverhampton, the wife of Frederick Edge, M.D., F.R.C.S., M.R.C.P., of a daughter.

LAWSON.—On June 24th, at 12, Harley Street, Cavendish Square, W., the wife of Arnold Lawson, F.R.C.S., of a son.

TURNER.—On June 25th, at Westbury, Purley, Surrey, the wife of S. Duke Turner, M.D., B.S., D.P.H., of a daughter.

DIARY FOR NEXT WEEK.

WEDNESDAY.

OBSTETRICAL SOCIETY OF LONDON, 20, Hanover Square, W., 8 p.m.—Short communications—Mrs. Scharlieb: A Case of Uterine Tumour with (?) Sarcoma or Endothelioma; Mr. Targett and Mr. Hicks: Malignant Embryoma of Ovary. Specimens will also be shown by various members.

THURSDAY.

NORTH-EAST LONDON CLINICAL SOCIETY, Tottenham Hospital, 4 p.m.—Annual general meeting.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone Road, N.W., 3 p.m.—Pregnancy and Fibroids.

FRIDAY.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM, Chandos Street, Cavendish Square, W.—8 p.m., Card specimens. 8.30, Papers—Mr. C. Worth: Hereditary Influence in Myopia. Mr. M. S. Mayou: Tubercle of the Iris. Mr. Simeon Snell: (1) Case of Sympathetic Ophthalmia. (2) Cases of Sympathetic Ophthalmitis arising after Enucleation. (3) An instance of Glioma in more than one member of the same family. Mr. Cruise: Microphthalmos. Mr. Nettleship: (1) Note on the Prognosis in Chronic Serpiginous Ulcer (Mooren's Ulcer) of the Cornea. (2) Sequel to a case of Oxycephaly or "Tower Skull," published in 1887, by E. Nettleship. The annual general meeting will follow on the conclusion of the other proceedings.

POST-GRADUATE COURSES AND LECTURES.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week at 4 p.m. each day:—Monday, Skin; Tuesday, Medical; Wednesday, Surgical; Thursday, Surgical; Friday, Eye. Lectures at 5.15 p.m. each day will be given as follows: Monday, The Treatment of Pruritus and Allied Conditions affecting the Vulva; Tuesday, Constipation in Infancy and Childhood: Wednesday, Cancer of the Stomach; Thursday, Errors of Digestion in Relation to Disease.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Tottenham Hospital, N. Tuesday, 4.30 p.m., Loss of Hair: its Causes and Treatment.

WEST LONDON POST-GRADUATE COLLEGE, West London Hospital, Hammersmith Road, W.—The following lectures and demonstrations [illegible] each day: Monday, Infection, Immunity; Tuesday, Arterio-sclerosis; Wednesday, Practical Medicine; Thursday, Practical Surgery; Friday, Tropical [illegible]

CALENDAR OF THE ASSOCIATION.

Month.	Day of Week.	Meetings to be Held.
July	2...Sunday..	
,,	3...MONDAY ...	Division Returns of Representatives and Branch Returns for Council this day week. Last day for electing Representatives of Divisions for Representative Meeting.
,,	4...TUESDAY ...	LONDON: Hospitals Committee, 4 p.m.
,,	5...WEDNESDAY	LONDON: Central Council. 10 a.m. South-Eastern of Ireland Branch, Club House, Carlow, 5.30 p.m.
,,	6...THURSDAY..	Newcastle-on-Tyne Division, *North of England Branch*, Royal Infirmary and College of Medicine, 10 a.m. North Wales Branch. Annual Meeting, White Lion Hotel, Bala, 2 p.m.
,,	7...FRIDAY ...	
,,	8...SATURDAY...	
,,	9...Sunday..	
,,	10...MONDAY ...	Last day for Division Secretaries to send General Secretary returns of election of Representatives. Refer to Notice of June 1st as to forwarding returns of Election of Branch Representatives.
,,	11...TUESDAY ...	
,,	12...WEDNESDAY	Last day for Branch Representatives to nominate Candidates for Co-option to the Council.
,,	13...THURSDAY...	LONDON: Medico-Political Committee, 2.30 p.m.
,,	14...FRIDAY ...	LONDON: Ethical Committee, 2 p.m. Hampstead Division, *Metropolitan Counties Branch*, Annual Meeting, St. Peter's Hall, Belsize Square, 5 p.m.
,,	15...SATURDAY ...	
,,	16...Sunday..	
,,	17...MONDAY ...	
,,	18...TUESDAY ...	
,,	19...WEDNESDAY	Central Division, *Birmingham Branch*, Medical Institute, 3.30. Dorset and West Hants Branch, Sturminster Newton.
,,	20...THURSDAY...	City Division, *Metropolitan Counties Branch*, Great Eastern Hotel, Liverpool Street, E.C. 4 p.m. Oxford and Reading Branch, Annual Meeting, Radcliffe Infirmary, Oxford, 4.15; Annual Dinner, Exeter College, 7 p.m.
,,	21...FRIDAY ...	
,,	22...SATURDAY...	
,,	23..Sunday..	
,,	24...MONDAY ...	2 p.m., General Meeting, to be followed by Representative Meeting.
,,	25...TUESDAY ...	Council Meeting. Adjourned General Meeting, to be followed by Representative Meeting.
,,	26..WEDNESDAY	Ditto.
,,	27...THURSDAY...	Ditto.
,,	28...FRIDAY ...	
,,	29...SATURDAY...	
,,	30...Sunday..	
,,	31...MONDAY ...	

Month.	Day of Week.	Meetings to be Held.
August	1...TUESDAY ...	
,,	2...WEDNESDAY	
,,	3...THURSDAY...	
,,	4...FRIDAY ...	
,,	5...SATURDAY...	
,,	6...Sunday..	
,,	7...MONDAY ...	*Bank Holiday.*
,,	8...TUESDAY ...	
,,	9...WEDNESDAY	
,,	10...THURSDAY...	
,,	11...FRIDAY ...	
,,	12...SATURDAY...	
,,	13...Sunday..	
,,	14...MONDAY ...	
,,	15...TUESDAY ...	
,,	16...WEDNESDAY	
,,	17...THURSDAY...	
,,	18...FRIDAY ...	
,,	19...SATURDAY...	
,,	20...Sunday..	
,,	21...MONDAY ...	
,,	22...TUESDAY ...	
,,	23...WEDNESDAY	
,,	24...THURSDAY...	
,,	25...FRIDAY ...	
,,	26...SATURDAY...	
,,	27...Sunday..	
,,	28...MONDAY ...	
,,	29...TUESDAY ...	
,,	30...WEDNESDAY	
,,	31...THURSDAY...	
Sept.	1...FRIDAY ...	
,,	2...SATURDAY...	
,,	3...Sunday..	
,,	4...MONDAY ...	
,,	5...TUESDAY ...	
,,	6...WEDNESDAY	
,,	7...THURSDAY...	
,,	8...FRIDAY ...	
,,	9...SATURDAY...	
,,	10...Sunday..	
,,	11...MONDAY ...	
,,	12...TUESDAY ...	
,,	13...WEDNESDAY	

ANNUAL MEETING.

The seventy-third annual meeting of the Association will be held at Leicester on July 24th, 25th, 26th, 27th, and 28th. The Honorary Local Secretaries are Dr. Astley V. Clarke, 37, London Road, Leicester, and Mr. F. Bolton Carter, M.S., 99, London Road, Leicester: the Honorary Secretary of the Pathological Museum is Dr. Robert Sevestre, 119, London Road, Leicester.

The Annual General Meeting for business will begin at 2 p.m. on Monday, July 24th, and the first session of the Annual Representative Meeting will be held immediately afterwards. The first meetings of the Sections will begin at 10 a.m. on Wednesday, July 26th.

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, JULY 8TH, 1905.

CONTENTS.

	Page
BRITISH MEDICAL ASSOCIATION: SEVENTY-THIRD ANNUAL MEETING.—GENERAL ARRANGEMENTS	33
SUPPLEMENTARY LIST OF LODGINGS AT LEICESTER	38
MEETINGS OF BRANCHES AND DIVISIONS:	
Birmingham Branch: Coventry Division	39
" " West Bromwich Division	39
Cape of Good Hope—Eastern Province Branch	39
Edinburgh Branch	39
" " North-West Division	40
Glasgow and West of Scotland Branch: Renfrewshire Division	40
Gloucestershire Branch	40
Metropolitan Counties Branch	40
" " " Kensington Division	41
New South Wales Branch	41
Northern Counties of Scotland Branch	42
Perthshire Branch	42
South-Eastern Branch: Brighton Division	42
" " Tunbridge Wells Division	42
Southern Branch	42
South Midland Branch	42
" " Aylesbury Division	43
" " Northants Division	43
South Wales and Monmouthshire Branch	3
" " " " Monmouthshire Division	43
" " " " North Glamorgan and Brecknock Division	44
" " " " South-West Wales Division	44
" " " " Swansea Division	44
Worcestershire and Herefordshire Branch	44
" " " " Worcester Division	45
Yorkshire Branch	45
" Scarborough Division	45
ASSOCIATION NOTICES.—BRANCH AND DIVISION MEETINGS TO BE HELD	45
CENTRAL MIDWIVES BOARD	45
NAVAL AND MILITARY APPOINTMENTS	46
VITAL STATISTICS	46
VACANCIES AND APPOINTMENTS	46
BIRTHS, MARRIAGES, AND DEATHS	47
DIARY OF THE WEEK	47
BOOKS, ETC., RECEIVED	47
CALENDAR	48

British Medical Association.

LEICESTER, 1905.

SEVENTY-THIRD ANNUAL MEETING.

GENERAL ARRANGEMENTS.

THE seventy-third annual meeting of the British Medical Association will be held at Leicester on Monday, Tuesday, Wednesday, Thursday, and Friday, July 24th, 25th, 26th, 27th, and 28th, 1905.

President: WILLIAM COLLIER, M.D., F.R.C.P.Lond., Physician, Radcliffe Infirmary, Oxford, and Litchfield Lecturer in Medicine, University of Oxford.

President-elect: GEORGE C. FRANKLIN, F.R.C.S., Honorary Surgeon, Leicester Infirmary.

Chairman of Representative Meetings: Sir VICTOR HORSLEY, F.R.S.

Chairman of Council: ANDREW CLARK, D.Sc., F.R.C.S.

Treasurer: EDWARD MARKHAM SKERRITT, M.D., F.R.C.P.

An Address in Medicine will be delivered by HENRY MAUDSLEY, LL.D., M.D., F.R.C.P.

An Address in Surgery will be delivered by CHARLES JOHN BOND, F.R.C.S.

A popular lecture will be delivered by Professor WILLIAM STIRLING, D.Sc., M.D., F.R.S.E.

SECTIONS.

The annual meeting at Leicester will comprise 12 Sections as shown in the subjoined list. The Sections will meet on Wednesday, Thursday, and Friday, July 26th, 27th, and 28th, from 10 a.m. to 1 p.m.

The President, Vice-Presidents, and Secretaries of each Section constitute a Committee of Reference for that Section

Papers read are the property of the British Medical Association, and cannot be published elsewhere than in the BRITISH MEDICAL JOURNAL *without special permission.*

No paper must exceed 15 minutes in reading, and no subsequent speech 10 minutes.

MEDICINE.

Technical Schools—Room 2.

President: FRANK M. POPE, M.D., F.R.C.P., Leicester. *Vice-Presidents:* REGINALD PRATT, M.D., M.R.C.P., Leicester; ROBERT WILLIAM PHILIP, M.D., F.R.C.P.Edin., Edinburgh; WILLIAM BRAMWELL RANSOM, M.D., F.R.C.P., Nottingham. *Honorary Secretaries:* BERTRAND DAWSON, M.D., B.Sc., F.R.C.P., 32, Wimpole Street, Cavendish Square, W.; WILLIAM MITCHELL STEVENS, M.D., M.R.C.P., 21, St. Andrew's Crescent, Cardiff; FRANK HARWOOD JACOB, M.D., M.R.C.P., 28, Regent Street, Nottingham.

The following subjects have been selected for special discussion in this Section:

A. The treatment of sleeplessness and pain;

B. The pathology, diagnosis, and treatment of various forms of acute meningitis;

C. The diagnosis and treatment of cardiac degeneration apart from valvular disease.

Discussion A. will be opened on July 26th by Sir LAUDER BRUNTON, M.D., F.R.S., in an address of which a summary was published on July 1st (SUPPLEMENT, p. 8).

Sir LAUDER BRUNTON will be followed by Professor CUSHNY, Dr. HUCHARD of Paris, Sir WILLIAM BROADBENT, and Dr. HALE WHITE in the order stated. After this the discussion will be thrown open.

Discussion B. will be opened on July 27th by Dr. HOWARD TOOTH, M.D., F.R.C.P. An abstract of his address was published on July 1st (SUPPLEMENT, pp. 8, 9).

Dr. TOOTH will be followed by Dr. HORDER, Dr. OSLER, and Dr. MONTAGUE MURRAY in the order indicated, after which the discussion will be thrown open.

Discussion C will be opened on July 28th by Dr. J. DRESCHFELD, M.D., F.R.C.P., of Manchester, in an address of which an account was published on July 1st (SUPPLEMENT, p. 9).

Dr. DRESCHFELD will be followed by Dr. G. H. GIBSON, Dr. W. HERRINGHAM, Sir WILLIAM BROADBENT, and Dr. A. FOXWELL in the order stated. The discussion will then be thrown open.

It is requested by the Committee of the Section that members wishing to take part in these discussions will communicate in the case of discussion A. with Dr. Bertrand Dawson, in the case of discussion C. with Dr. W. Mitchell Stevens, in the case of discussion B. with Dr. Frank H. Jacob at the addresses already given.

SURGERY.

Technical Schools—Room 7.

President: Sir CHARLES BENT BALL, M.Ch., F.R.C.S., Dublin. *Vice-Presidents:* CLAUDE DOUGLAS, F.R.C.S., Leicester; HENRY JOHN BLAKESLEY, F.R.C.S., Leicester; JAMES HENDERSON NICOLL, M.B., C.M., Glasgow. *Honorary Secretaries:* PERCY

Furnivall, F.R.C.S., 28, Weymouth Street, W.; Cecil Edward Marriott, M.C., F.R.C.S., 11, Welford Road, Leicester.

The following subjects have been selected for special discussions:

A. The Surgical Treatment of Non-malignant Diseases of the Stomach.

B. The Treatment of Malignant Disease of the Rectum.

Discussion A. will be opened on July 26th by Mr. B. G. A. Moynihan, M.S.Lond., F.R.C.S. He will be followed by Messrs. C. Mansell-Moullin, F. S. Eve, Bruce Clarke, F. C. Wallis, F. F. Burghard, C. B. Keetley, J. Lynn Thomas, L. A. Bidwell, E. Deanesly, T. G. Atkins, Dr. R. Saundby, and Drs. Hartmann and Tuffier, both of Paris.

Discussion B. will be opened on July 27th by Sir Charles Ball, M.Ch., F.R.C.S., who will be followed by Messrs. Harrison Cripps, F. Swinford Edwards, F. C. Wallis, F. F. Burghard, J. Jackson Clarke, J. Lynn Thomas, Charles Ryall, E. Stanmore Bishop, E. Deanesly, W. L. Woollcombe, C. P. Childe, T. G. Atkins, and Dr. Hartmann of Paris.

The following is a list of the papers which up to the present have been accepted by the Committee of Reference for this Section:

Fenwick, E. Hurry. Life-history of a Left-sided Ureteritis peculiar to the Female.

Berry, J. Sixty Cases of Cleft Palate Treated by Operation.

Tubby, H. Spinal Osteomyelitis.

Freyer, P. J. Total Enucleation of the Prostate: A Review of 200 Cases.

Thomas, J. Lynn. Immediate Crossing of Facial Nerve to the Spinal Accessory Nerve in a Case of Removal of a large Parotid Tumour.

Sheen, W. A Case of Ligature of the Innominate Artery.

Bidwell, L. A. A Case of Angio-Sarcoma of Omentum.

Cammidge, P. J. Observations on the Faeces in Biliary Obstruction and Pancreatic Disease.

Leedham Green, C. Some Further Experiments on the Sterilization of the Skin.

Malcolm, J. D. Two Cases of Partial Sloughing of the Vermiform Appendix.

Childe, C. P. An Unusual Condition of the Large Intestine associated with Carcinoma in Two Sisters.

Jones, Robert. The Treatment of Recurrent Dislocation of the Shoulder and Displacement of the Patella.

Atkins, T. G. (1) After-histories of 20 Cases of Gastro-jejunostomy—reported at the Oxford meeting—for Non-malignant Conditions of the Stomach. (2) Short Notes on a Case of Acute Gangrenous Appendicitis, illustrated with specimen and drawing.

Arrangements have been made for showing lantern slides to illustrate subjects under discussion. The Secretaries will be pleased to receive as soon as possible any paper which it is proposed to submit to the Section, and also to hear from any one who desires to take part in the discussions mentioned.

State Medicine.

Technical Schools—Room 7.

President: Philip Boobbyer, M.D., Nottingham. *Vice-Presidents:* Ninian McIntire Falkiner, M.D., Dublin; John Herbert Hawkins Manley, M.D., D.P.H., West Bromwich; Thomas Robinson, M.R.C.S., D.P.H., Leicester. *Honorary Secretaries:* Wm. Williams, M.D., D.P.H., County Health Department, 9, The Parade, Cardiff; Chas. Killick Millard, M.D., D.Sc., Town Hall, Leicester.

It is desired in this Section to arrange for papers and discussions on questions relating to Public Health and Forensic Medicine.

The following have been suggested:

Infants' Milk Dépôts.
The Working of the Midwives Act.
The Training of Midwives.
Elementary Education and the Teaching of Hygiene.
The Provision of Sanatoriums for Consumptives.
Small-pox and Vagrancy.
Sewer Ventilation.
The Influence of Alcohol on the Public Health.
The Formation of a National Water Board.
Isolation Hospitals.
The Etiology and Prevention of Epidemic Diarrhœa.
The Rôle of Shellfish in the Spread of Typhoid Fever.
River Water as a Source of Municipal Water Supply.
Ankylostomiasis.

Papers on other subjects coming within the scope of the Section are also invited.

A joint discussion with the Laryngological Section has been arranged for July 28th, on "What is Notifiable Diphtheria?" to be opened by Dr. P. Watson Williams.

Industrial Hygiene and Diseases of Occupation.

Technical Schools—Room 8.

President: Hy. Wm. Langley Browne, M.D., West Bromwich. *Vice-Presidents:* Alexander Campbell, M.D., Dundee; John Colley Smyth Burkitt, M.D., D.P.H., Leicester; Thomas Morison Legge, M.D., London. *Honorary Secretaries:* Clement Frederick Bryan, M.R.C.S., 44, Humberstone Road, Leicester; Thomas Watts, M.D., 34, Church Street, Hyde.

The following discussions have been arranged in this Section:

A. Physical Deterioration, its Causes and Extent.

B. Anthrax.

C. Accident and Poisoning Reports.

Discussion A. will be opened on July 26th by Dr. Dawson Williams in an address of which the following is an abstract:

The value of the allegations continuously made as to the physical deterioration in the population is briefly discussed. Reference is made to the nature of the evidence as to the existence of unfitness in infancy, at school age, and in adolescence, and the causation are considered under the heads of: (1) Hereditary influence; (2) conditions affecting the mother during pregnancy and lactation; (3) conditions affecting the child and youth, including the effect of underfeeding, child labour, and methods of education. The need for further systematic inquiry is pointed out.

Dr. Dawson Williams will be followed by Dr. William Hall, after which the discussion will be thrown open.

Discussion B. will be opened on July 27th by Dr. J.W. Bell, of Bradford, in an address divided into the following headings:

Historical account of anthrax in Great Britain; increase in number of cases in animals during recent years; Sources of infection foreign products, home products, impregnated pastures, untraceable; Prevention; precautionary regulations; Workmen's Compensation Act, notification; Treatment; excision; serum.

Dr. Bell will be followed by Dr. Legge and Mr. L. Stretton, after which the discussion will be thrown open.

Discussion C. will be opened on July 28th by Dr. W. F. Dearden in an address of which the following is an abstract:

The legislative provisions for the prevention of factory accidents and their investigation by a qualified surgeon are reviewed historically. The duties of certifying surgeons as regards investigations and the excellent results of the same are discussed. A comparison of the regulations in other countries with those of England is made. It is shown that the system in Holland proves that a medical investigation established for preventive reasons can be satisfactorily combined with an investigation for compensation purposes. Directions in which the system existing in England may be improved are indicated. The function of the certifying surgeon in investigating cases of anthrax and metal poisoning, such as occur in certain trade processes is described, and the excellence of the results from a preventive point of view made prominent.

The Honorary Secretaries will be glad to know at as early a date as possible from any one who desires to contribute a paper, or to take part in any of the discussions.

Laryngology, Otology and Rhinology.

Technical Schools—Room 9.

President: Frederick William Bennett, M.D., Leicester. *Vice-Presidents:* William Arthur Carline, M.D., Lincoln; John Middlemass Hunt, M.B., Liverpool. *Honorary Secretaries:* Alex Lewis MacLeod, M.B., 89, Hinckley Road, Leicester; Chas. Herbert Fagge, M.S., F.R.C.S., 22, St. Thomas's Street, London Bridge, S.E.

The following subjects have been selected for special discussion:

A. The Lines of Treatment in Preventing Acute Middle-Ear Suppuration from becoming Chronic.

B. The Treatment of Tuberculous Disease of the Larynx.

C. The Infectivity and Notification of Diphtheria, with Special Reference to Latent Forms of the Disease.

Discussion A. will be introduced on July 26th by Dr. William Milligan, of Manchester, and Dr. Ernest Waggett. The address of the former will be divided into the following headings:

1. The relation of certain causative and predisposing factors to the chronicity of septic middle-ear disease.

2. The rôle played by certain general and local conditions

which predispose to the persistence of purulent inflammation of the middle ear.

3. The relative value of early surgical interference as opposed to early medical treatment.

Discussion B. will be introduced on July 27th by Dr. JOBSON HORNE and Dr. S. HABERSHON. Of the address of the latter the following is a synopsis:

I. Historical: The early views as to the nature of tuberculous laryngitis, Galen, Morgagni, Petit, Laennec; the corrosive theory of Louis, Andral; the erosion views of Rheiner, Trousseau, Heinze (Leipzig), Mackenzie, Schrötter, Schnitzler (of Vienna). II. Early Laryngeal Tuberculosis: Is it primary or secondary? Causation. The influence of occupation. The nearer the lungs, the greater the prevalence of ulceration (tuberculous) in the air passages. Two forms of early laryngeal tuberculosis—the anaemic larynx, the catarrhal larynx: (*a*) Lymphatic invasion; (*b*) the influence of catarrh of larynx in determining the tuberculous invasion. The situation of early lesions is dependent on the nature of the epithelium and epidermal structure. Early invasion only in parts of the larynx covered with squamous epithelium, and provided with papillae. The ciliated epithelium is protective. III. Treatment of Early Laryngeal Tuberculosis. IV. Ulcerative Stages: The various forms: (*a*) The treatment of early and superficial ulceration: (*b*) advanced ulceration. General treatment. Relief of symptoms. Pain due to ulceration of epiglottis, soft palate etc. Pain due to perichondritis of cartilaginous structures. Paralysis or immobility of laryngeal structure. Salivation. V. General Conditions with Regard to Pulmonary Tuberculosis Complicated by Laryngeal Symptoms: The influence of open-air treatment. The importance of rest of the larynx (silence).

Discussion C. will be carried on conjointly with the Section of State Medicine, and will be opened on July 28th by Dr. WATSON WILLIAMS and Dr. DAVID DAVIES, both of Bristol. The following is a summary of Dr. WILLIAMS's address:

Diphtheria, like other infective diseases, occurs clinically in varying degrees of severity, from the slightest departure from normal health, with no characteristic local lesion, to the typical manifestations of acute virulent infection with or without characteristic local lesions. There is no correspondence in the severity of clinical symptoms and virulence of the infection, or in the virulence and morphological type of diphtheria micro-organism. The existence of diphtheritic micro-organisms in the nose or throat of a normal person who has not recently contracted or suffered from clinical diphtheria does not, *per se*, constitute notifiable diphtheria or necessitate isolation, except in schools or aggregations of children. Hoffmann's bacillus is a non-pathogenic micro-organism, unproductive of clinical symptoms, and its presence in the nose and throat does not justify isolation.

Dr. DAVIES in his address will describe the methods adopted in the city of Bristol during the invasion of virulent diphtheria (1900-4). There, the finding of Klebs-Loeffler bacillus in the absence of clinical symptoms is generally held to warrant notification, with the concurrence of the medical attendant. Technically, such contacts are not suffering from diphtheria, they are only carrying it; so notification cannot be enforced. The view adopted for practical purposes in regard to these "suspicious" forms is that, where they are found during the prevalence of diphtheria in virulent form, in close association with undoubted cases of diphtheria—that is, among close "contacts" at home or in school—they are potential sources of infection, probably not in every case, but in a sufficient number of cases to make it essential not to neglect them. In these cases, whether notified or not, school attendance is inhibited: but these cases are not generally admitted to hospital, but in exceptional circumstances have been, and have taken no harm. They are not treated as coming within Section CXXVI of the Public Health Act. Local treatment is considered to be suitable, and is secured either through the medical attendant, or, more commonly, in working-class districts, by establishing an out-patient surgery, in charge of a trained nurse under the supervision of an assistant medical officer of health. Here "suspicious" cases are carefully syringed and sprayed in nose or throat or ears as often as may be necessary; periodical assays of their condition being made bacteriologically.

The following is a list of the papers which up to the present have been accepted by the Committee of Reference:

GRAY, Dr. A. A. (Glasgow). The Pathological Conditions found in a Case of an Individual who had suffered from Deafness during Life.

BARWELL, Dr. Harold (London). On the Choice of the Method of Treatment in Cases of Tuberculous Laryngitis, with a Plea for the Routine Inspection of the Throats of Consumptive Patients.

SYME, Dr. (Glasgow). The Demonstration of a Pair of Forceps for Operations on the Maxillary Antrum

In addition to those above-mentioned, the following gentlemen have notified their intention of taking part in the work of the Section: Dr. E. DEANESLY (Wolverhampton), Dr. HUGH E. JONES (Liverpool), Mr. ATWOOD THORNE (London), Mr. MARK HOVELL (London), Dr. R. LAKE (London), and Dr. GRIFFITH WILKIN (Paignton).

Members are invited to contribute any preparations, specimens or drawings, or any instruments or apparatus pertaining to the work of the Section, and which may have been designed by themselves, in order that the Committee of the Section may make arrangements to form a special exhibit of such objects.

Those who desire to take part in the discussions or to read papers, or who are ready to send any object for exhibition, are requested to communicate with the Secretaries at an early date.

No paper will be finally accepted until it has been approved by the Committee of the Section. Papers will not be "taken as read," and none will be accepted in excess of the number which it is calculated it will be possible to read in the time at the disposal of the Section.

Communications relating to papers and discussions should be sent to Mr. C. H. Fagge at the address given above, and those relating to the exhibition of preparations, instruments, etc., to Dr. Bennett, 25, London Road, Leicester.

NAVY, ARMY AND AMBULANCE.

Technical Schools—Room H.

President: Surgeon-Lieutenant-Colonel HENRY WALTER KIALLMARK, M.R.C.S., London. *Vice-Presidents:* Surgeon-Lieutenant-Colonel ROBERT BRADSHAW SMITH, V.D., L.R.C.P., Hinckley; Lieutenant-Colonel EDMOND MONKHOUSE WILSON, C.B., C.M.G., D.S.O., S. Farnboro'; Fleet Surgeon ALEXANDER J. J. JOHNSTON, R.N., Haslar. *Honorary Secretaries:* Fleet Surgeon EDWARD JAMES BIDEN, R.N. (Ret.), 29, Osborne Road, Southsea; Captain WM. PEMBERTON PEAKE, M.R.C.S., R.A.M.C.(Vols.), 21, Oxford Street, Leicester; Captain EDWIN CHARLES MONTGOMERY-SMITH, R.A.M.C.(Vols.), 36, Abbey Road, St. John's Wood, N.W.

The Committee of this Section has received promises of the following papers:

1. Red Cross Organization, with special reference to Preparation for War in Times of Peace. By Sir John Furley, C.B., Knight of Justice of the Order of St. John of Jerusalem in England.

2. The Collection and Distribution of Wounded in a Modern Cruiser Engagement, from Observations Made in Chemulpo, February 9th, 1904. By Staff Surgeon J. Austin, R.N.

3. Remarks on the Head Dress of Certain Ratings in H.M. Navy. By Fleet Surgeon E. Biden, R.N.

4. The Hygiene of Modern Battleships. By Staff Surgeon Francis Clayton, R.N.

5. (*a*) First Aid to the Injured on a Modern Battleship in Action; (*b*) Some Dynamical and Hydrodynamical Effects of the Modern Small-bore Bullet. By Fleet Surgeon Charles Marsh Beadnell, R.N.

6. Care of Soldiers' Feet. By Brigade-Surgeon-Colonel P. B. Giles.

7. Also on the Care of Soldiers' Feet. By Major G. S. Crawford.

8. On Suggested Alterations in Stretcher Drill. By Major J. De Zouch Marshall.

9. On the Feeding of the Soldier in Active Service. By Surgeon-Lieutenant-Colonel G. F. Robinson, Scots Guards.

10. Causation, Varieties, and Treatment of Dysentery on Active Service. By Major Faichnie.

11. A Paper Bearing on the Relations between the Civil Authorities and Ambulance Associations. By Lieutenant-Colonel H. J. Barnes.

OBSTETRICS AND GYNAECOLOGY.

Technical Schools—Room S.

President: HERBERT RITCHIE SPENCER, M.D., F.R.C.P. London. *Vice-Presidents:* HENRY MEADOWS, M.B., Leicester; Professor HENRY CORBY, M.D., Cork; FRANCIS RICHARD CASSIDI, M.D., Derby. *Honorary Secretaries:* MONTAGUE WM. WILLIAMS, M.R.C.S., 45, London Road, Leicester; Miss LOUISA GARRETT ANDERSON, M.D., 114A, Harley Street, W.

The following subjects have been selected for special discussion:

A. The Diagnosis and Treatment of Cancer of the Uterus.

B. The Treatment of Albuminuria and Eclampsia occurring in Pregnancy.

Discussion A. will be opened on July 26th by Professor WERTHEIM of Vienna; a summary of his address was published on July 1st (SUPPLEMENT, p. 10).

He will be followed by Drs. Robert Bell, John Campbell, McCann, Frederick Edge, Skene Keith, Munro Kerr, Lewers, Cuthbert Lockyer, Ewen Maclean, Inglis Parsons, Smyly, Herbert Snow, Arthur Wallace, Thomas Wilson, Miss Aldrich-Blake, Mrs. Scharlieb, and Professor Howard A. Kelly, the guest of the Section.

Discussion B. will be opened on July 28th by Dr. ROBERT BOXALL, M.D., F.R.C.P., in an address of which an abstract was published on July 1st (SUPPLEMENT, p. 10).

He will be followed by Drs. John Campbell, Eden, Munro Kerr, Lewers, Ewen Maclean, Inglis Parsons, Smyly, Thomas Wilson, and Professor Tweedy.

The following is a list of the papers and communications which the Committee of Reference for the Section has accepted up to the present:

CAMPBELL, Dr. John. The Influence of the Presence of Pus in the Female Urethra upon the Prognosis in Obstetrical and Gynaecological Cases.

CAMERON, Dr. S. J. A Lantern-slide Demonstration illustrating Degenerations in and Complications of Fibroids.

CORBY, Professor Henry. Fibroid Tumour of Ovary Removed from a Hermaphrodite, with specimen.

MACLEAN, Dr. Ewen J. Elephantiasis of Vulva, with specimen.

PARSONS, Dr. J. Inglis. Operation for Prolapse of Uterus.

TWEEDY, Professor. High-limit of Pulse and Temperature Throughout the Normal Puerperium.

WILSON, Dr. Thomas. Two Cases of Vaginal Caesarean Section in the Last Month of Pregnancy.

Gynaecological Section of the Pathological Museum.—Members interested in this part of the work of the Section are referred to the account given under the heading of the Annual Pathological Museum.

OPHTHALMOLOGY.

Technical Schools—Room 6.

President: GEORGE ANDREAS BERRY, F.R.C.S.Edin., Edinburgh. *Vice-Presidents:* WM. MARDON BEAUMONT, M.R.C.S., Bath; EDWIN COLLIER GREEN, M.R.C.S., Derby. *Honorary Secretaries:* ROBT. WALLACE WESLEY HENRY, M.D., 6, Market Street, Leicester; JOHN HERBERT PARSONS, F.R.C.S., 27, Wimpole Street, Cavendish Square, W.

The following subjects have been selected for special discussion in this Section:

A. Intraocular Tuberculosis; its Etiology, Diagnosis, Prognosis, and Treatment. Opener, WALTER H. H. JESSOP, M.B., F.R.C.S.

B. Capsular Complications after Cataract Extraction.

Discussion B. will be introduced by Mr. E. TREACHER COLLINS in an address of which an abstract was published on July 1st (SUPPLEMENT, p. 11).

Papers from those who have had practical experience of the use of Finsen, *X* Rays, and Radium in ophthalmic work will be specially welcomed, but, of course, it is not intended to exclude papers on other subjects. The Secretaries will also be glad to have exhibits (pathological, instrumental, etc.), and special arrangements for their care will be made by the Museum Subcommittee.

The Secretaries will be glad to hear as early as possible from any one who desires to read a paper, or to take part in the discussions mentioned.

PSYCHOLOGICAL MEDICINE.

Technical Schools—Room N.

President: ALEXANDER REID URQUHART, M.D., Perth. *Vice-Presidents:* ROTHSAY CHARLES STEWART, M.R.C.S., Leicester; THEOPHILUS BULKELEY HYSLOP, M.D., London. *Honorary Secretaries:* ARTHUR MOLYNEUX JACKSON, M.B., Nottingham County Asylum, Radcliffe-on-Trent; JOHN WIGMORE HIGGINSON, M.R.C.S., Hayes Park Asylum, Hayes.

The following discussions have been arranged by the Committee of Reference:

A. Clinical Study of the Heredity of Insanity.

B. Occupation and Environment as Causative Factors of Insanity.

C. The Prognosis in Mental Disorders.

Discussion A. will be opened on July 26th by Dr. A. REID URQUHART.

Discussion B. will be opened on July 27th by Dr. T. BULKELEY HYSLOP.

Discussion C. will be opened on July 28th by Dr. ROBERT JONES of Claybury.

The time remaining after the discussion each morning will be devoted to the reading of such papers as may have been selected by the Committee of Reference.

The Secretaries will be glad to hear as soon as possible from any one who desires to read a paper or to take part in the discussions mentioned.

PATHOLOGY.

Technical Schools—Room 8.

President: FREDERICK WALKER MOTT, M.D., F.R.C.P., F.R.S., London. *Vice-Presidents:* THEODORE SHENNAN, M.D., Edinburgh; Professor ARTHUR HAMILTON WHITE, L.R.C.P.I., Dublin. *Honorary Secretaries:* JOHN WILLIAM H. EYRE, M.D., Guy's Hospital, S.E.; THOMAS VILLIERS CROSBY, M.D., 91, St. Peter's Road, Leicester.

The following subjects have been selected for special discussion in this Section:

A. The Relationship of Heredity to Disease.

B. The Defences (Chemical, Physical, and Biological) of the Organism Against the Invasion of Bacteria and their Products.

Discussion A. will be introduced on July 26th by the President of the Section, Dr. F. W. MOTT, F.R.S., in an address, of which the following in a synopsis:

1. "Like begets like," or much more often "like begets a tendency to like." The importance of heredity in relation to disease can only be estimated by carefully-collected comparative statistics,

2. Inherited specific vitality and durability of the tissues, longevity, and presenility.

3. Hereditary transmission of defective durability of special tissues—for example, idiopathic muscular atrophy, hereditary ataxy.

4. Inherited morphological defects of blastogenic origin—for example, Daltonism, haemophilia, polydactylism.

5. Inherited tendencies to defective metabolism—for example, gout, diabetes, cystinuria.

6. Inherited tendencies to neurosis and psychosis. The exact form in which the instability or neuronic deficiency may manifest itself is largely dependent upon the complexus of factors constituting stress of social environment, and the critical periods of development and decay.

7. Influence on the germinal plasm of prolonged and profound bio-chemical alterations in their nutritional environment—for example, intoxication, auto-intoxication, and intoxications of specific micro-organisms. Elimination of the weakly and unfit by disease, and constant tendency to revert to the normal average.

8. Can two healthy stocks under stress of social environment, combined with chronic poisoning by toxins, produce *ab initio* a neuropathic diathesis, or is it due to the development of a latent inherent defect in more remote ancestors?

9. Are maternal morbid tendencies transmitted especially to the males, and paternal to the females?

10. Is the slow increase of constitutional immunity, and the securing of a better social environment for the masses, the only means which should be available for the prevention of social degeneracy; or should some other means be adopted, such as (1) encouraging the reproduction of the fit, by setting forth the national importance of eugenics and obtaining its general intellectual acceptance; (2) limiting more effectually the reproduction of the unfit; (3) preventive measures against the spread of alcoholism, syphilis, and tuberculosis.

11. Statistics based upon experiences gained as pathologist to the London County Asylums are given, and will be illustrated by lantern slides.

Dr. Mott will be followed by Dr. ARCHDALL REID, Dr. ALDREN TURNER, Mr. CHARLES BOND, and Mr. E. SCHUSTER (Oxford), after which the discussion will be thrown open.

Discussion B. will take place on July 27th.

The following is a list of the papers which up to the present have been accepted by the Committee of Reference for the Section:

WRIGHT, Dr. Hamilton. The Etiology and Pathology of Beri-beri.

MAY, Dr. W. Page. A Case of Cerebral Hemiatrophy.

BAINBRIDGE, Dr. F. A. Pathology of Miner's Paralysis.

WHITE, Dr. A. Hamilton. Paratyphoid Infection.

DUMMOCK, Dr. A. F., and BRANSOM, Mr. F. W. (*a*) A Rapid and Simple Process for the Estimation of Uric Acid; (*b*) A Clinical Method for the Estimation of Chlorides in Urine (with demonstration).

ABRAHAMS, Mr. B. L. Morbid Anatomy and Histology of Various Forms of Chronic Joint Disease (lantern demonstration).

EYRE, Dr. J. W. H., and FLASHMAN, Dr. J. F. Diphtheroid Organisms in the Throats of the Insane.

The Secretaries will be glad to hear as soon as possible from

any one who desires to take part in the discussions or contribute a paper.

DENTAL SURGERY.

Technical Schools—Room I.

President: MORTON ALFRED SMALE, M.R.C.S., L.D.S., London. *Vice-Presidents:* EDWARD LLOYD-WILLIAMS, M.R.C.S., L.R.C.P., L.D.S., London; FRANCIS JOHN LANKESTER, M.R.C.S., L.D.S., Leicester; *Honorary Secretaries:* WM. ARMSTON VICE, M.B., L.D.S., 19, Belvoir Street, Leicester; JOSEPH GEORGE TURNER, F.R.C.S., L.D.S., 12, George Street, Hanover Square, W.

The work of this Section will be carried out on July 26th, July 27th, and July 28th. The first two days will be devoted to a discussion on Toothache, Neuralgia, and Remote Affections of Dental Origin. Openers: Dr. Risien Russell, M.D., F.R.C.P., and Mr. J. Howard Mummery, M.R.C.S., L.D.S.

The following is a list of the papers and communications which up to the present have been accepted by the Committee of Reference for the Section, abstracts of which were published on July 1st (SUPPLEMENT, p. 11):

BOGUE, Dr. E. A. (New York). The Influence of the Arrangement of the Teeth in their Normal Arches on Development.
SPOKES, Mr. Sydney. The Teeth as a Test of Age.
COLYER, Mr. J. F. Dental Diseases in Horses.
CLARKE, Dr. Astley V. Necrosis of the Jaw.
RYMER, Mr. J. F. Vegetarianism and its Effect upon the Teeth.
GABELL, Mr. Douglas. Lantern Demonstration.

The Secretaries will be glad to hear as early as possible from any one who desires to take part in the discussions or to read a paper on any subject connected with the work of the Section.

TROPICAL DISEASES.

Technical Schools—Room B.

President: RUBERT WM. BOYCE, M.B., F.R.S., Liverpool. *Vice-Presidents:* ANDREW DUNCAN, M.D., London; FLEMING MANT SANDWITH, M.D., F.R.C.P., London. *Honorary Secretaries:* GEORGE AYLWIN CLARKSON, F.R.C.S., 173, London Road, Leicester; JOHN M. HENDRIE MACLEOD, M.D., 11, Harley Street, W.

The following subjects have been selected for special discussion in this Section:

A. Tick Fever.
B. Sprue and Hill Diarrhoea.
C. Tropical Diseases of the Skin.

The following is a list of the gentlemen who up to the present have expressed their desire to take part in the discussions or to contribute papers: Dr. H. E. Annett, Professor Rubert Boyce, Dr. Anton Breinl, Mr. James Cantlie, S. R. Christophers, M.B., I.M.S., Dr. Andrew Duncan, Sir Patrick Manson, Dr. W. T. Prout, Professor Ronald Ross, Dr. L. W. Sambon, Dr. F. M. Sandwith, Dr. J. W. W. Stephens, Dr. Wolferstan Thomas, Dr. T. L. Todd.

The Secretaries will be glad to hear as soon as possible from any others, and to receive pathological specimens, drawings, photographs, and microscopic preparations for exhibition at the meeting.

THE PATHOLOGICAL MUSEUM.

THE many promises of photographs, specimens, and other matters relating to pathology indicate that the Pathological Museum will contain much to interest the members of the Association.

The aim of the Committee has been to make the museum an adjunct to the work of the Sections as well as a collection of interesting pathological material. In accordance with this aim the museum will be arranged in conformity with the Sections, and this grouping of material will be clearly indicated both in the museum and in the catalogue, so that members will have no difficulty in finding individual specimens or series of specimens that they wish to investigate.

It is impossible at this date to give a full account of the exhibits that have been promised, but it is expected that the portion of the museum devoted to the Section of Medicine will be well filled, and a special feature will be the exceptional number and variety of neurological exhibits.

Gynaecological Section—Arrangements are being made for the reception of some 300 specimens, drawings, colour photographs, photomicrographs, and microscopical preparations. Many of the specimens are of very great and a few of unique interest. Curators of hospital museums throughout the country have been unsparingly generous in lending their treasures, and important contributions are expected, among other places, from Edinburgh and Glasgow, Newcastle, Liverpool, Birmingham, and London. From London alone promises have been received from twelve of the principal hospitals to send the best gynaecological specimens which they possess in illustration of the subjects selected for study, so that it may be confidently stated that members will be offered an unusually good opportunity of seeing interesting preparations and of comparing the different methods in vogue for mounting and preserving specimens. The exhibits will, as far as possible, be grouped in series showing the various pathological conditions—namely, malignant disease of the uterus (sarcoma and chorion-epithelioma, as well as carcinoma), extrauterine gestation, adenomyoma of the uterus, and degenerative changes in fibroids. London exhibits are to be packed and taken to Leicester by Messrs. Baird and Tatlock, 14, Cross Street, Hatton Garden, E.C. Specimens from other places should reach Leicester by July 18th, and they should be addressed to Gynaecological Section, Pathological Museum, care of Dr. Robert Sevestre, Technical Schools, Leicester. Offers of specimens for this part of the museum (together with an intimation that accepted specimens have been sent to Leicester) should be addressed to the London Hon. Secretary of Section of Obstetrics and Gynaecology, Miss Garrett Anderson, M.D., 114A, Harley Street, from whom all information about gynaecological specimens can be obtained.

The museum is situated in an excellent position in the centre of the Technical Schools where the Sectional meetings are to be held, and the good lighting will ensure the exhibits being seen to the best advantage.

The work of the organization of the museum will be greatly facilitated by members who propose to send specimens giving notice as soon as possible, if they have not already done so, as the Committee wish to avoid all sources of disappointment.

The Honorary Local Secretaries are:

ASTLEY V. CLARKE, M.D.,
37, London Road, Leicester.
FELIX BOLTON CARTER, M.S.,
99, London Road, Leicester.

SPECIAL RAILWAY ARRANGEMENTS.

To members and their friends attending the annual meeting at Leicester the railway companies of the United Kingdom will grant return tickets, on payment at the time of booking, at a single fare and a quarter. To secure this concession each passenger must produce a special voucher, and these may be obtained on application to the General Secretary, 429, Strand, London, W.C. The reduced fares will be available from July 21st to August 1st, both dates inclusive.

Those members desiring to travel to the places where they reside during the meeting of the Association may obtain return tickets at a single fare and a quarter (minimum charge 1s.) on production of cards of membership, from Leicester to any station not more than fifty miles distant to which through bookings are in operation available to return on the same or following day.

LOCAL ENTERTAINMENTS, ETC.

INVITATIONS for receptions, garden parties, excursions, etc., will be obtained by members at the ticket counter in the reception-room at the Y.M.C.A. Buildings, London Road. Members are especially requested to examine the list of entertainments, and to apply only for those they intend to use. By kind permission of the G.O.C.R.A. and officers R.G.A., the Band of the Royal Artillery, Portsmouth (under the direction of Mr. George Miller, L.R.A.M.), will play at various entertainments during the week.

WEDNESDAY, JULY 26TH.

3.40 to 6.30 p.m.—A Garden Party will be given by the Chairman of the Leicester Infirmary (Alderman Edward Wood) and Mrs. Wood, in the grounds of the Leicester Infirmary. The Band of the Royal Artillery will play.

8.30 to 11.30 p.m.—A Reception and Entertainments will be given by the President (Dr. Frank Pope) and members of the Midland Branch, at the Museum Buildings.

THURSDAY, JULY 27TH.

8 a.m.—Annual Breakfast given by the National Temperance League in the Temperance Hall.

3.30 to 6.30 p.m.—A Garden Party given by the President (R. C. Stewart, Esq., M.R.C.S.), and members of the Leicester Medical Society, in the grounds of the County Asylum.

4 to 6.30 p.m.—A Garden Party will be given by Mr. Maurice Levy, M.P., and Mrs. Levy at Humberstone Hall.

7.30 p.m.—Annual Dinner in the Assembly Rooms.

9.15 p.m.—Entertainment given by the Ladies' Committee in the King's Hall, Grand Hotel.

FRIDAY, JULY 28TH.

2.45 to 7 p.m.—A Garden Party given by Mr. Samuel Faire, J.P., and Mrs. Faire at Glenfield Frith. The band of the Royal Artillery will play during the afternoon.

8 to 11 p.m.—The Mayor and Mayoress of Leicester (Mr. and Mrs. Stephen Hilton) will give an Evening Fête in the Abbey Park, Leicester. The band of the Royal Artillery will play.

8 p.m.—Popular Lecture in the Royal Opera House by Professor Wm. Stirling, M.D., F.R.S.E., on Rest and Fatigue.

INSPECTION OF FACTORIES, ETC.

Mr. S. Perkins Pick, F.R.I.B.A., has kindly offered to show parties the architectural remains of old Leicester on Thursday morning and Friday afternoon; and Mr. W. J. Freer, F.S.A., will conduct a party to see the antiquities of Leicester on Saturday morning.

The following factories will be open for inspection at hours which will be announced in the *Daily Journal*: Messrs. Cooper, Corah, and Sons, hosiery manufacturers; the Co-operative Wholesale Society's boot factory; Messrs. Fielding and Johnson, worsted spinners; the Gas and Electric Light Works; Messrs. J. Richardson and Co., manufacturing chemists.

PROGRAMME OF PROCEEDINGS.

MONDAY.

2 p.m.—Annual General Meeting followed by Representative Meeting.

TUESDAY.

9 a.m.—Meeting of 1905-1906 Council.
10 a.m.—Representative Meeting.
2 p.m.—Adjourned General Meeting, followed by Representative Meeting.
5 p.m.—Church Service at St. Martin's Church.
At the same time a Roman Catholic Service at Holy Cross Church: Preacher, the Rev. H. Reader, M.A.
6 p.m.—Meeting of Division and Branch Secretaries.
8.30 p.m.—President's Address. Reception of Distinguished Guests. Presentation of the Association Gold Medal of Merit to Sir Constantine Holman, M.D., and Mr. Andrew Clark, D.Sc., F.R.C.S. Presentation of Stewart Prize.

WEDNESDAY.

9 a.m.—Council Meeting.
10 a.m. to 1 p.m.—Sectional Meetings.
2 p.m.—Address in Medicine. Adjourned General Meeting, followed by Representative Meeting.

THURSDAY.

9 a.m.—Meeting of Council.
10 a.m. to 1 p.m.—Sectional Meetings.
2 p.m.—Address in Surgery.
3.30 p.m.—Representative Meeting (if business not already concluded).
7.30 p.m.—Annual Dinner of the Association.

FRIDAY.

9 a.m.—Meeting of Council.
10 a.m. to 1 p.m.—Sectional Meetings.
2 p.m.—Meetings of Divisions and Branch Secretaries.
8 p.m.—Popular Lecture.

Supplementary List of Lodgings available for Members of the Association.

TERMS ON APPLICATION.

Name and Address.	Accommodation for
CENTRAL.	
Regent Road.	
28 Mrs. Salt	2
83 Miss Adams	2
Lower Hastings Street.	
22 Mrs. Haines	2
Morledge Street.	
17 Mrs. Clements	2
London Road.	
The County Hotel (Temperance), Mrs. Foxon	10 or 12
King Street.	
38 Mrs. Harrison	6
HIGHFIELDS DISTRICT (10 minutes' walk. 1d. tram)	
Highfield Street.	
6 Miss Lee	2
Upper Tichborne Street.	
7 Mrs. Swainston	2
28 Mrs. Millhouse	2
St. Peter's Road.	
57 Miss Burkitt	2
77 Miss Barton	2
93 Mrs. Norris	2
Melbourne Road.	
53 Mrs. [illegible]	2
120 [illegible]	2
[illegible]	2
182 Mrs. Brittain	2
190 Mrs. Day	2
More Road.	
148 Mrs. Riddell	2

Name and Address.	Accommodation for
HIGHFIELDS DISTRICT—*Continued.*	
St. Stephen's Road.	
7 Mrs. Salmon	2
9 Mrs. Weaver	2
13 Mrs. Knight	2
Evington Road.	
111 Mrs. Jolly	2
180 Miss Heafield	2
St. Saviour's Road.	
Mrs. Peach	2
90 Mrs. Bell	2
Sutherland Street.	
16 Mrs. Poynor	2
St. James' Road.	
16 Miss Kirtin	2
"Wingfield" (corner Tennyson St.)	2
Park Vale Road.	
16 Mrs. Fletcher	2
17 Mrs. Millington	2
Chaucer Street.	
23 Mrs. Neam	2
Laurel Road.	
2 Mrs. Wood	2
HUMBERSTONE ROAD DISTRICT (1d. tram)	
Humberstone Road.	
202 Mrs. Fawcett	2
Uppingham Road.	
60 Miss Spurgeley	2

Name and Address.	Accommodation for
CLARENDON PARK DISTRICT (1d. tram).	
Clarendon Park Road.	
91 Mrs. Brooks	2
96 Mrs. Walker	2
111 Mrs. Waterman	2
Howard Road.	
41 Mrs. Horn	2
BELGRAVE DISTRICT (1d. tram).	
Loughborough Road.	
41 Miss Barker	2
WEST END DISTRICT (1d. tram).	
Fosse Road.	
34 Mrs. Brown	2
101 Mrs. Coleman	2
Sykefield Avenue, Westcotes Drive.	
23 Mrs. J. W. Ellis	2
Briton Street.	
11 Mrs. Cave	2
STONEYGATE DISTRICT (1d. tram).	
Sandown Road.	
17 Mrs. Brigham	2
Avenue Road.	
Fern Bank, Mrs. Foster	2

For Previous List see Supplement, July 1st, pp. 14-15.

Meetings of Branches and Divisions.

[The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the JOURNAL.*]*

BIRMINGHAM BRANCH:

COVENTRY DIVISION.

A SPECIAL meeting of this Division was held on April 5th, at the Coventry and Warwickshire Hospital, Dr. C. DAVIDSON in the chair.

Apologies for Non-Attendance.—Apologies for non-attendance were received from Drs. Webb Fowler and Milner Moore.

Rickets and its Treatment.—Mr. W. EDWARD BENNETT read a paper on rickets and its treatment. He laid special stress on the hygienic and dietetic aspect of the disease. He showed a card used in his hospital practice, bearing six rules, as under: (1) Fresh air and sunshine each day and all day; never to sleep in room with all windows closed. (2) Warm clothing; combinations to be made and worn according to pattern. (3) Food: Milk with barley water or lime water; occasionally vegetable broth or fresh meat juice. (4) Medicine: Cod liver oil and maltine. (5) Splints, when necessary, to be worn continuously. (6) Absolute cleanliness. In regard to the surgical treatment of deformities, he rarely operated before the age of 3½ to 4 years, as he found that the majority of the cases of genu valgum and genu varum tended to spontaneous cure if the child were kept off the feet for twelve months by means of side splints long enough to reach 3 in. below the sole, and only removed for washing purposes. For the treatment of rachitic spine a double Thomas's splint, with headpiece or board cut to the shape of the child and then properly padded, might be used. Upon this the child lay for from twelve to eighteen months. The paper was illustrated by numerous photographs and specimens.—Drs. HAWLEY, SNELL, BROWN, CALLAGHAN, HADLEY, KENDRICK, ORTON, WEBSTER, FENTON, and COLLINGTON took part in the discussion.

Juvenile Friendly Societies.—The Committee reported that they had received a deputation from the Coventry United Juvenile Friendly Societies, and set forth the views of the deputation, which desired an exception to be made in favour of the Juvenile Societies with regard to the rule fixing the minimum charge per member per year for medical attendance at 4s. The following resolution was thereupon unanimously adopted:

> That the Division cannot see its way to make the Juvenile Friendly Societies an exception to the 4s. rule.

Matters Referred to Divisions.—The report of the Medico-Political Committee on Ambulance Work was then considered and resolutions thereon passed, copies of which have been forwarded to the Medical Secretary. The SECRETARY detailed some of the principal features of the report of the Medico-Political Committee on Death Registration and Amendment of Coroners' Law.

WEST BROMWICH DIVISION.

THE annual meeting of this DIVISION was held in the Board Room of the District Hospital on Wednesday, June 28th, at 3.45 p.m., Mr. S. T. D. WESTON in the chair.

Confirmation of Minutes.—The minutes of the last annual meeting were read, confirmed, and signed by the Chairman.

Election of Officers.—The following officers were elected for the following year: *Chairman:* Dr. W. H. Stephen. *Vice-Chairman:* T. Sansome. *Honorary Secretary:* Dr. H. B. W. Plummer, 54, Birmingham Road, West Bromwich. *Representatives on Branch Council:* Dr. H. Manley, Dr. H. B. W. Plummer. *Representative for Representative Meeting at Leicester:* Dr. A. Croll. *Executive Committee:* Dr. A. Croll, Dr. W. Garman, Dr. H. P. Motteram, Dr. H. Shillito, Dr. W. D. Urquhart, Mr. S. T. D. Weston.

Report of Executive Committee.—The Report of the Executive Committee was then read, received, and entered on the minutes.

Annual Representative Meeting.—The agenda for Representative Meeting at Leicester was carefully gone through and explained by Drs. MANLEY and LANGLEY BROWNE and instructions given to the Representative as to what to support or oppose.

Matters Referred to Divisions.—The report on death registration and amendment of coroners' law was fully considered and approved.

School Certificates, etc.—The report of the legal position of medical men in reference to school certificates and a letter from the Midland Employers' Association *re* Workmen's Compensation Bill were also considered, but no action was taken in regard to either.

Letters from Lancashire Branch and Norwich Division.—Letters were read from the Lancashire Branch and the Norwich Division asking for support to their notices of motion. It was regretted that this could not be complied with.

Vote of Thanks.—A unanimous vote of thanks was passed to the Board of Management of the District Hospital for so kindly allowing the use of the Board Room for the Divisional meetings.

CAPE OF GOOD HOPE—EASTERN PROVINCE BRANCH.

AN ordinary general meeting of this Branch was held at Steinman's Hotel, Grahamstown, on May 12th.

Confirmation of Minutes.—The minutes of the meeting held on March 10th were read and confirmed.

Letters.—Letters from Dr Darley Hartley were read: (1) On the advertisement of the Medical Credit Reform Association, which was recorded with thanks. (2) On proposed South African Medical Guild, an ethical, benevolent, and medico-political scheme; this was referred to the Branch Council with power to act (and by them rejected at a meeting on May 19th).

Proposed East London Division.—A letter from Dr. C. J. Hill-Aitken was read announcing that East London had decided to apply for the formation of a Division. It was resolved to support the formation of a Division bounded by the west border of Peddie, Victoria East, Stockenstrom, and Queenstown fiscal divisions, and by north border of Glen Grey and border of Tembuland, including all Transkeian territories.

Representative on Central Council.—There being one nomination only to the Central Council, it was resolved to ask Dr. Francis John Parson, Consulting Medical Officer for Cape Colony, to act for this Branch in conjunction with the Western Branch.

Medical Congress.—It was resolved that the Medical Congress be invited to meet at Grahamstown in 1906.

Insanity in South Africa.—Dr. GREENLEES read a paper entitled Statistics of Insanity in the Grahamstown Asylum, showing by fifteen years' experience that insanity was actually on the increase in South Africa, whilst among male whites 1 in 3 cases of insanity was due to alcoholism. It was resolved to place the Prime Minister in possession of these deductions from statistics, to urge the adoption of legislation in the direction of prohibition and the compulsory teaching of temperance principles in elementary schools.

Grahamstown Bacteriological Institute.—It was resolved to request the Government to continue the useful work of the Bacteriological Institute at Grahamstown, both this institution and the Analytical Laboratory being threatened by measures of retrenchment.

EDINBURGH BRANCH.

THE summer meeting of this Branch was held in the Carnegie Library Hall, Hawick, on July 1st, at 12.15 noon, the hall having been kindly placed at the disposal of the Branch by the Provost.

Confirmation of Minutes.—The minutes of the previous meeting were approved.

The late Dr. Brydon.—The PRESIDENT moved that the Branch send a letter of condolence to Mrs. Brydon and the family of the late Dr. Brydon, Hawick, who had been for the long period of forty-seven years connected with the Border District, and who had been nearly all that time a member of the Association.

Cases.—Dr. MACDONALD (Hawick) showed a case of appendicitis, on which he had operated on May 8th; the wound was healed, and the patient was to be discharged from hospital in a few days. The patient was first seen about a week after the commencement of illness. Temperature 103° F.; fullness and fluctuations in the right iliac fossa. He was a strong, healthy ploughman, who lived in a cottage about four miles from Hawick, and immediate operation was indicated. This could not be satisfactorily done in his home, and the question arose

how to move him to hospital with least danger of disturbing the abscess, and it was decided that it would be best to place him in a long ambulance basket, used in the Hawick Poorhouse, in a motor-car. This was done, and it proved most satisfactory. Operation was performed next day, wound stuffed with iodoform gauze, soaked in iodoform emulsion. A large quantity of thick fetid pus was evacuated, but no appendix was seen, but a small stercolith was found. The case made an uneventful recovery, and was only shown to demonstrate the use of a motor-car to move a patient in the country who was in a critical condition.—Dr. Hamilton (Hawick) showed a case of a patient, 68 years of age, who had been severely injured by being caught between the buffers of a goods train. The lesions consisted of fracture of left clavicle in two places: A T-shaped fracture of the scapula, and fracture of four ribs. The treatment consisted of rest in the recumbent position, with a firm pillow between the shoulders, and sand bags from the armpits to the loins. Recovery was complete, and the shoulder-joint movement was almost perfect. Dr. Hamilton also showed a patient with a very largely dilated heart, and pointed out the value of strychnine as a tonic in such cases.—Dr. Lorraine showed a case of Addison's disease of twenty-four years standing, and a case of myxoedema in a woman, who was quite well when pregnant, but between her pregnancies became myxoedematous.

Excursions.—After luncheon the members became divided. The largest number elected to go for a run on motor-cars kindly lent by gentlemen in the district through a part of the "Scott" country, which is considered the most picturesque and varied in the South of Scotland. Tea was partaken of at Canonbie, after which the party returned to Hawick in time for dinner.

Golf Match.—Another section took part in an interesting golf match over the Vertish hill.

Visit to Hospitals.—A third section visited the hospitals and Hornshole, famous in Border lore.

Dinner.—A dinner was held in the Tower Hotel, the President, Dr. Allan Jamieson, presiding over a large company. He was supported on the right by the Chairman of the School Board and the Chairman of the Parish Council; on the left by the parish minister, the Rev. David Cathels, and Lieutenant-Colonel Moffat. Dr. Duddingston Wilson, Edinburgh, and Dr. Cullen, St. Boswells, acted as croupiers. The toast of "The Association" was proposed most eloquently and elegantly by the Rev. David Cathels. After dinner, the members returned home by the late mail, the North British Railway Company arranging for special stops for their convenience.

North-West Division.

The annual meeting of the Division was held in the hall of the Royal College of Physicians on Wednesday, June 28th, at 4.15 p.m., Mr. James W. B. Hodsdon (Chairman) presiding.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Election of Officers.—After votes of thanks to the retiring officials the following officers were elected:—*Chairman:* Dr. T. F. S. Caverhill. *Vice-Chairman:* Mr. Hodsdon. *Honorary Secretary and Treasurer:* Mr. A. Dingwall Fordyce. The six elected members of the Executive Committee were continued in office.

Election of Two Representatives of the Division to the Branch Council.—Mr. Hodsdon and Dr. Harvey Littlejohn were re-elected.

Election of the Representative of the Division at Representative Meetings of the Association.—Dr. T. F. S. Caverhill.

Hospital Abuse.—Dr. Caverhill made a statement regarding the subject. He was authorized to prepare and print a further statement for a subsequent meeting of the Division.

Matters Referred to Divisions.—The questions of consultation between medical witnesses, ambulance work, and the abuse of drugs were discussed. The resolutions passed by the Division have been communicated to the Medico-Political Committee.

Annual Representative Meeting.—Dr. Norman Walker moved, and Dr. Lamond Lackie seconded, the following motion, which was agreed to:

> That the Representative to the Annual Meeting be instructed to vote against the proposals to amend the standing orders as submitted by the Dundee Divisions.

On all other questions the Representative was instructed to use his own judgement.

Glasgow and West of Scotland Branch: Renfrewshire Division.

The annual meeting of this Division was held in the Bute Arms Hotel, Rothesay, on May 23rd. Dr. A. C. Munro, Chairman, presided.

Confirmation of Minutes.—The minutes of the previous annual meeting and special meeting held in March were read and confirmed.

Election of Officers.—The Chairman (Dr. Munro), and the Vice-Chairman (Dr. Cook), were re-elected; Dr. J. Donald Holmes was elected Representative in the Representative Meeting; the Honorary Secretary, Dr. Penman, was re elected, as also the Representatives on the Branch Council, Dr. Cook and Dr. Penman. The other members of the Executive Committee elected were Drs. Gibb, Marshall, Parker, Stevens, and Stewart.

Report of Executive Committee.—The report of the Executive Committee was read and approved.

Annual Representative Meeting.—The business to be brought up at the Representative Meeting was next considered.

Matters Referred to Divisions.—The Medical Acts Amendment Bill, the National Deposit Friendly Society, the Advertising of Hydropathic Doctors, the Public Health Bill, the Local Government Bill, and Vaccination Bill were considered. The resolutions passed have been communicated to the Medico-Political Committee.

Gloucestershire Branch.

A general meeting of the Branch was held at the General Hospital, Cheltenham, on Thursday, April 20th, Mr. Firmin Cuthbert, the President, in the chair.

The Voyage of the "Discovery."—Dr. E. A. Wilson, late M.O. of the Antarctic exploring ship *Discovery*, read a paper on Some of the Medical Aspects of the Voyage of the *Discovery*, which is published in full in this week's Journal (p. 77). Ladies were admitted to the exhibition of lantern slides depicting various scenes of the voyage, whilst one of Dr. Wilson's water-colour sketches was on view in the tea-room.

Vote of Thanks to Dr. Wilson.—On the proposition of the President, seconded by the Honorary Secretary, a vote of thanks to Dr. Wilson for his instructive and interesting paper was carried with acclamation.

Thirty-five members and ladies afterwards set down to supper at Soyer's, and a very pleasant evening was drawn to a close.

Metropolitan Counties Branch.

The annual meeting of the Branch was held at 6 p.m. on Wednesday, June 28th, at the Trocadero, Dr. Radcliffe Crocker in the chair.

Confirmation of Minutes.—The minutes of the last Branch meeting were read and confirmed.

Appeal to the Chair.—Mr. Vinrace asked for a ruling of the Chairman as to the propriety of his case being brought before the meeting. The Chairman ruled that Mr. Vinrace was out of order.

Election of Officers.—Dr. Crocker then declared the following officers elected for the year 1905-6:—*President-elect* Hugh R. Ker. *Vice-Presidents:* H. Radcliffe Crocker, M. G. Biggs, G. Walker, W. Wynn Westcott. *Treasurer:* H. B. Robinson. *Honorary Secretaries:* Fred. J. Smith, Ernest Clarke.

Representatives on Central Council.—The President then read the report of the Scrutineers appointed by the Council to supervise the election of Representatives of the Branch on the General Council of the Association; this was signed by Drs. Fred. Wallace, Armit, Dutton, and Haslip, and was as follows: *Elected:* Andrew Clark, 809 votes; G. Rowell, 638 votes; G. Eastes, 570 votes; Ford Anderson, 553 votes; H. B. Robinson, 454 votes. *Unsuccessful:* P. Rose, 407 votes; E. R. Fothergill, 399 votes; K. Sibley, 361 votes; M. Greenwood, 332 votes. On this report, Dr. J. F. Smith stated that he had drawn up a table showing the nature and number of the Divisional voting, and proposed that the same should be made available for the Divisions by printing or otherwise multiplying. This was carried *nem. con.*

Introduction of the President.—Dr. Crocker then thanked the Branch for the kindness it had extended to him during his year of office. He then vacated the chair and introduced Mr. Andrew Clark as his successor.

Votes of Thanks to Retiring Officers.—Dr. Wynn Westcott proposed and Dr. Ewart seconded a vote of thanks to Dr. Crocker for his work as President. This was carried by acclamation; and Dr. Crocker replied.—

Dr. G. WALKER proposed and Lieutenant-Colonel DRAKE-BROCKMAN seconded a vote of thanks to the retiring Vice-President and to the other officers and Council of the Branch; this was carried unanimously.

President's Address.—The new PRESIDENT then read his address on "The British Medical Association and the Advancement of Science," which is published in the BRITISH MEDICAL JOURNAL for July 1st, 1905.

Mr. GEORGE EASTES proposed and Dr. E. W. GOODALL seconded a vote of thanks to the President for his address; this was carried by acclamation unanimously, on the putting of Mr. EASTES. The PRESIDENT replied.

Resolution.—Mr. VINRACE asked the meaning of a resolution:

> That in the opinion of the Branch Council, the justice of the case will be met by the offender making a suitable apology to the members of the Division generally.

Dinner.—Subsequent to the general meeting the members and their friends, with the official guests of the Branch, dined together, under the chairmanship of Mr. ANDREW CLARK, to a total number exceeding 70. The official guests of the Branch were: Mr. Compton Rickett, M.P., Sir J. Batty Tuke, M.P., Dr. Hutchinson, M.P., Surgeon-General Keogh, C.B., Dr. Griffiths, Past-President of the Association, Mr. Franklin, President-elect; Dr. Collier, President of the Association, and Mr. Guy Elliston, General Secretary. After dinner the CHAIRMAN proposed the usual loyal toasts, and then Dr. HUTCHINSON proposed "The Imperial Forces," remarking incidentally that he would like to see fifty doctors in the House of Commons as an Imperial force. Surgeon-General KEOGH responded, and kindly attributed to the British Medical Association the responsibility for all recent improvements in the Army Medical Department. Dr. R. CROCKER then proposed "The Houses of Parliament," a toast which was responded to by Sir J. BATTY TUKE, M.P., and Mr. J. COMPTON RICKETT, M.P., the latter gentleman continuing with his speech, and proposing "The British Medical Association," which he said was much better than increasing the medical members in the House of Commons. THE PRESIDENT (Dr. Collier) responded to the toast, referring to the address of Mr. Clark, to which the members had just listened. In a speech frequently interrupted by cheers, Dr. T. D. GRIFFITHS then proposed "The Metropolitan Counties Branch," which was felicitously replied to by the CHAIRMAN. Dr. FORD ANDERSON, one of the Representatives of the Branch on the General Council, then in very earnest tones and words proposed "The Divisions," the backbone, he said, of the Association, and this with a word of criticism, of praise, or blame for each, was responded to by Dr. FOTHERGILL, the energetic Representative of the Wandsworth Division. The toasts of "Our Guests," responded to by Mr. FRANKLIN, President-elect; "Our Chairman," and "Our Secretaries" brought an extremely pleasant meeting to a close at a late hour.

KENSINGTON DIVISION.

THE annual meeting of this Division was held at the Kensington Town Hall, High Street, Kensington, on June 27th at 5 p.m.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Report of Executive Committee.—The annual report of the Executive Committee was received, accepted, and ordered to be entered on the minutes. It was stated that the number of the members and the average attendances remained about the same as last year. Papers were read by Professor Waller, Dr. Dockrell, and Mr. Edmund Owen. The members of the staff of the St. John's Hospital for Diseases of the Skin kindly showed cases at a meeting held at the hospital. The following subjects connected with the Association were brought before the members during the year: Midwives Bill, Interim Report on Contract Practice, Consultations of Medical Witnesses in Legal Cases, Medical Men at Inquests, the Report on the Organization of the Local Government Board, Abuse of Drugs, National Deposit Friendly Society, Medical Acts Amendment Bill, Revaccination Bill, Public Health Act, Coroners Bill. Matters of interest during the year: French colleagues then visiting London were invited to the meeting held at the Physiological Laboratory of the University of London. A dinner was held at the Royal Palace Hotel, Kensington, on May 18th, which forty-seven members and their friends attended. A very successful and pleasant meeting resulted, and the Committee considers that such social gatherings are likely to be beneficial to the Association. The Chairman of the Division (Mr. George Eastes) was elected on the Central Council.

Election of Officers.—The following officers were elected by ballot for 1905-6:—*Chairman:* W. H. Lamb, M.B.Lond. *Vice-Chairman:* E. C. Barnes. *Secretary and Treasurer:* Charles Buttar, M.D. *Four Elected Members on Branch Council:* G. Eastes, M.B.; W. H. Lamb, M.B.; G. Crawford Thomson, M.D., Honorary Secretary. *Seven Members of Executive Committee:* G. Crichton, M.D.; E. Reginald Morton; H. Campbell Pope, M.D.; J. Brindley James; J. Rice Oxley, M.D.; Walter Rigden, M.D.; T. Sutton Townsend. *Representative of Division in Representative Meetings of the Association:* Charles Buttar, M.D.

Annual Representative Meeting.—The CHAIRMAN went carefully through the different matters to be brought before the Representative Meeting and instructions were given to the newly-elected Representative.

Parliamentary Action.—The following resolutions proposed by the CHAIRMAN were carried unanimously:

> That with a view to well-timed and combined action in Parliament, it is desirable that notice be published beforehand in a prominent position in the BRITISH MEDICAL JOURNAL (especially during the Session) of all Bills or proposals about to come before either House of Parliament which concern the health of the community or the professional interests of members of the medical profession, that the Divisions and Branches of the British Medical Association may be able to communicate their views thereon to their various Representatives in the House of Commons or to take other action thereon.
>
> That this resolution be forwarded to the Central Council of the Association.

Vote of Thanks to Retiring Officers.—A cordial vote of thanks was passed to the Chairman and retiring Honorary Secretary for their services.

NEW SOUTH WALES BRANCH.

THE annual meeting of this Branch was held at the Royal Society Room, Sydney, on Friday, March 31st, Dr. A. MACCORMICK, President, in the chair.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

New Members.—The PRESIDENT announced the election of the following members: Dr. T. S. Davies, Leichhardt; Dr. A. Robertson, Gilbert Islands; Dr. C. Shellshear, Burwood; Dr. F. G. Griffiths, Gundagai; Dr. G. R. C. Clarke, Wahroonga; Dr. A. Scott, Dapto; Dr. A. W. Hawthorne, Carcoar; Dr. A. Davidson, Callan Park.

Report of Council and Balance-sheets.—The report of the Council and balance-sheets were taken as read. Dr. CRAGO, Honorary Treasurer, explained the balance-sheets and moved the adoption of the report and balance-sheets. Seconded by Dr. BEESTON and carried.

President's Address.—The PRESIDENT (Dr. MacCormick) read his address. Dr. SCOT SKIRVING moved a vote of thanks to Dr. MacCormick for his address. Dr. CHISHOLM seconded the resolution, which was carried by acclamation.

Election of Officers.—The following were elected the office-bearers and councillors for the ensuing year:—*President:* Dr. J. L. Beeston. *Vice-President:* Dr. F. A. Pockley. *Councillors:* Drs. Crago, Hankins, Rennie, Abbott, Brady, MacCormick, Worrall, Maitland, Hinder, J. A. Dick, Jamieson, and Jarvie Hood. *Auditors:* Drs. F. W. Hall and F. J. Sawkins. Professor Wilson and Dr. Taylor Young were elected Representatives of the Branch to the Annual Meeting of the Home Association.

Dr. BEESTON thanked the members for having elected him President.

THE regular monthly meeting of the Branch was held at the Royal Society's Rooms, Sydney, on Friday, May 26th, Dr. J. L. BEESTON, President, in the chair.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Mutual Life Association of New York.—Dr. CHARLES MACLAURIN asked the following question: "What authority has the Mutual Life Association of New York for saying that it was the only society approved of by this Association?"—The HONORARY SECRETARY stated that the Mutual Life Association of New York was the only society with which there had been any negotiations in the matter of the Widows and Orphans Fund. If any member preferred insuring in any other society offering similar advantages there was nothing to prevent his doing so.

Cases.—Dr. G. E. RENNIE exhibited two patients: (1) Lesion

of spinal accessory nerve; (2) congenital defect of sternomastoid. Dr. FLYNN made some remarks and Dr. RENNIE replied.

Papers.—Dr. HINDER read a paper on internal derangement of the knee-joint. A discussion ensued in which Drs. MAITLAND and FIASCHI took part. Dr. HINDER replied.—Dr. CHARLES MACLAURIN read a paper on a case of accidental hanging. Drs. PALMER and HANKINS discussed the paper, and Dr. CHARLES MACLAURIN replied.

Specimen.—Dr. WORRALL exhibited a specimen of appendix with diverticula.

NORTHERN COUNTIES OF SCOTLAND BRANCH.

THE annual meeting of this Branch was held at the Northern Infirmary, Inverness, on Saturday, June 17th, Dr. ALLAN (Evanton) in the chair.

Apologies for Absence.—Apologies for inability to attend were received from Drs. Pender Smith (Dingwall), Sellar (Aberlour), Macdonald (Inverness), and others.

Confirmation of Minutes.—The minutes of the previous meeting were read and approved.

Office-bearers.—The following office-bearers were elected for 1905-6:—*President:* Dr. Selanders. *President-elect:* Dr. Kennedy. *Vice-Presidents:* Drs. Murray and Allan. *Representative in Representative Meetings of the Association:* Dr. J. Munro Moir. *Members of Council:* Drs. Sutter, F. M. Mackenzie, Adam, Forsyth, Asher, and Gillies. *Honorary Secretary and Treasurer:* Dr. J. Munro Moir.

Autumn Meeting.—It was resolved to hold the autumn meeting of the Branch at Dingwall about the middle of October, when it was hoped members would endeavour to contribute papers.

Next Annual Meeting.—It was resolved to hold the next annual meeting at Tain.

Matters Referred to Divisions.—The questions of medical defence, medical officers to hydropathic institutions, and ambulance work were considered, and the resolutions passed have been communicated to the Medico-Political Committee.

Luncheon.—The members afterwards lunched in the Palace Hotel, twenty-five being present, the Provost of Inverness, Rev. Gavin Lang, and Mr. J. Leslie Fraser being present as guests. In the afternoon several members enjoyed a very pleasant motor-car run to Glen Urquhart.

PERTHSHIRE BRANCH.

THE summer meeting of this Branch was held in the Station Hotel, Perth, on Friday, June 16th, at 1.15 p.m., Dr. LOWE, President, in the chair.

Confirmation of Minutes.—The minutes of last meetings were read, approved, and signed by the President.

Representative at Annual Meeting.—Dr. TAYLOR proposed and Dr. STIRLING seconded that Dr. Trotter represent the Branch at the annual meeting at Leicester. This was unanimously agreed to.

Report and Proposals of Division Representative.—After discussion the report and proposals of the Division Representative were referred to the Council for consideration and report—proposed by Dr. STIRLING, Dr. BORROWMAN seconding.

Vote of Thanks to President.—This being all the business, the meeting closed with thanks to the President for presiding.

Golf Match.—Thereafter the members entertained golfing members from Dundee Branch to lunch in the hotel, and later proceeded to Moncrieffe Island, where, by the courtesy of the King James VI Golf Club, the annual golf match took place. The result was as follows:

Dundee.	Holes.	Perth.	Holes.
Dr. T. Mitchell	0	Dr. Alcock	2
Dr. Neave	1	Dr. Lyell	0
Dr. Jamieson	2	Dr. Govan	0
Dr. P. Campbell	0	Dr. Temple	1
Dr. Gowans	0	Dr. Stirling	1
Dr. Womyss	0	Dr. Burnett	1
Dr. Traill	0	Dr. Paton	1
Dr. Thornton	2	Dr. Liddell	0
Dr. Duncan	0	Mr. Bulst	1
Dr. Young	0	Dr. Taylor	1

Dundee 4 matches, Perth 6 matches; Perthshire winning by 2 matches.

SOUTH-EASTERN BRANCH:
BRIGHTON DIVISION.

THE annual meeting of this Division was held on June 28th.

Representatives and Executive Committee.—The following gentlemen were respectively elected Representative and Deputy Representative for the annual meeting at Leicester: *Representative:* W. J. Stephens. *Deputy Representative:* Ryding Marsh, M.D.

At the same meeting it was decided to increase the number of ordinary members on the Executive Committee from three to six. The full list is as follows:—*Chairman:* T. Jenner Verrall. *Vice-Chairman:* A. J. Martineau. *Honorary Secretary and Treasurer:* Ryding Marsh, M.D. *Representative for Representative Meeting:* W. J. Stephens. *Deputy Representative for Representative Meeting:* Ryding Marsh, M.D. *Representatives on Branch Council:* W. A. Hollis, M.D., Ryding Marsh, M.D. *Executive Committee:* C. H. Benham, M.D., G. V. Benson, W. A. Bowring, V. T. Greenyer, H. E. Haynes, F. Robson, M.D.

TUNBRIDGE WELLS DIVISION.

THE annual meeting of this Division was held at the General Hospital, Tunbridge Wells on June 14th, Dr. WALLIS (Groombridge) in the chair.

Confirmation of Minutes.—The minutes of the last annual meeting were read and confirmed.

Election of Officers.—The following officers for the Division were elected: *Chairman,* Mr. F. Manser; *Vice-Chairman,* Mr. B. Rix; *Executive Committee:* Drs. Guthrie, Davies, Laird-Cox, and Aylward; *Representative on Branch Council,* Dr. Adeney, J.P.; *Representative to Representative Meeting,* Mr. C. Lammiman; *Honorary Secretary,* Dr. E. A. Starling.

Annual Report.—The annual report of the Executive Committee was presented, adopted, and ordered to be printed and sent to all members of the Division and also to non-members in the area of the Division.

Vacancies among Officers.—The new model Rule on "Vacancies among Officers" was adopted.

Conjoint Meetings.—It was decided to arrange for conjoint meetings with neighbouring Divisions during the next session, as well as scientific meetings of the Division.

SOUTH-EASTERN BRANCH.—In the report of the annual meeting of the South-Eastern Branch which appeared in the SUPPLEMENT of July 1st, it was stated that Dr. A. R. Henchley, Honorary Secretary of the Canterbury and Faversham Division, was entirely responsible for "all the arrangements." Dr. Henchley requests us to state that the words should read "the *local* arrangements."

SOUTHERN BRANCH.

THE thirty-second annual meeting was held on June 28th, at the Council Chamber, Salisbury, under the Presidency of Dr. BULLAR.

Letters of Apology.—Letters regretting inability to attend were read from Drs. Roberts Thomson, Parkinson, Ross, and Briscoe.

Epsom College.—Upon the question of making the usual donation to Epsom College a letter was read from the General Secretary, explaining that the Solicitor to the Association had advised that such payments are inconsistent with the existing Memorandum of Association. Whereupon it was moved by Dr. ROBERTSON, seconded by Dr. EMMETT, and resolved:

> That this meeting hopes the Central Council will endeavour, as speedily as possible, to obtain for Branches the requisite authority to make payments out of their funds to charitable institutions if thought desirable.

A collection was made in the room for Epsom College amounting to £6 10s. 0d.

Vote of Thanks to Retiring President.—Dr. Bullar resigned the chair to Mr. Willcox. A hearty vote of thanks was accorded to Dr. Bullar for his services during the past year.

New President's Address.—Mr. WILLCOX delivered a very able and interesting address, for which he received the thanks of the meeting.

Luncheon and Garden Party.—The members were entertained at luncheon before the meeting by Mr. Willcox. After the meeting they paid a visit to Langford Castle by permission of the Earl of Radnor, and attended a garden party at Laverstock.

SOUTH MIDLAND BRANCH.

THE fiftieth annual meeting of the Branch was held at St. Albans Town Hall on Thursday, June 22nd.

Luncheon. Previous to the meeting the President-elect, Dr. LETSOMIE, entertained the members to a sumptuous luncheon, at which the Mayor and the Dean of St. Albans were present. The meeting commenced at 2.30 with Dr. KENNISH in the chair.

Confirmation of Minutes. The minutes of the autumna meeting were read and confirmed.

New Member.—The PRESIDENT announced the election by Branch Council of Mr. N. Macfadyean of Letchworth.

Installation of New President.—The chair was then taken by Dr. LIPSCOMB, the President for the year, who delivered a most interesting address on the origin and development of the British Medical Association, and dwelt upon the many advantages accruing to its members.

Albuminuria of Adolescents.—Dr. CLEMENT DUKES read an able and very instructive paper on the albuminuria of adolescents, which, he stated, often after many years' duration ended in complete recovery in all cases. There was no necessity to stop these patients' education, and they were first-class lives from the point of view of insurance.

Aspirin in the Treatment of Rheumatism.—Dr. BOYS, of St. Albans, read a paper on some cases of rheumatism treated successfully with aspirin, quoting some instances in which the disease had apparently been abated by this treatment.

Specimens.—Dr. SAVORY (Bedford) showed the following specimens: Congenital cystic kidneys, hydronephrotic kidney with internal laceration, prostate removed by Freyer's operation, extrauterine gestation, urine from case of myelopathic albumosuria, with tests.

Visit to Abbey.—The Dean of St. Albans kindly conducted the members around the Abbey at 4 o'clock.

AYLESBURY DIVISION.

A MEETING of this Division was held in the Board-room of the Royal Bucks Hospital at 2.30 p.m. on Tuesday, June 20th, Dr. BAKER in the chair.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Apologies for Absence.—Apologies for absence were read from Drs. Easte and Giles.

Election of Officers.—Dr. Baker was elected Chairman for the ensuing year and Dr. Eagles Vice-Chairman. The Honorary Secretary was re-elected. Dr. Turner was elected Representative for Representative Meeting. Drs. Kerr, Morrison, Kennish, Deyns, and Wickham were elected to serve on the Executive Committee. Drs. Buxton, Deyns, and Harvey were elected to serve as Representatives on the Branch Council.

Proposed Alteration of Area.—An alteration of area was then proposed, owing to the difficulty of cross-country journeys and the long distance some members have to travel. It was proposed that Amersham, Aylesbury, Brill, Great Missenden, Haddenham, Waddesden, and Whitchurch should remain in the Aylesbury Division, and that Buckingham, Fenny Stratford, Bletchley, Newport Pagnell, Olney, Winslow, and Steeple Claydon, with Stony Stratford and Wolverton, should be transferred to the Northampton Division; also that Tring and Gerrard's Cross should go to Watford. This suggestion was put to the meeting and carried by 8 votes to 2.

Expression of Sympathy.—The meeting expressed much sympathy with Dr. Hooper in his serious illness and hope for his speedy recovery.

NORTHANTS DIVISION.

A MEETING of this Division was held at Northampton Hospital on Tuesday, June 27th, at 3.30, under the chairmanship of Dr. CLEMENT DUKES.

Election of Officers.—The following officers were elected:—*Chairman:* Dr. Clement Dukes. *Vice-Chairman:* Mr. Henry Cropley. *Representative:* Mr. C. J. Evans (Northampton). *Executive Committee and Representatives on Branch Council:* Dr. Hichens, Mr. Nash, Mr. Linnell, Mr. Baxter. *Honorary Secretary:* Re-elected.

Matters Referred to Division.—The interim report on contract practice and the question of giving information to coroners were discussed. The resolutions passed have been communicated to the Medico-Political Committee.

Expenses of Representative.—It was resolved:

That the Representative should be paid all out-of-pocket expenses incurred in attending meetings, etc., and that he be *ex officio* a member of Branch Council.

Next Meeting.—It was resolved:

That the next meeting be held at Rugby, the date to be fixed by Chairman.

SOUTH WALES AND MONMOUTHSHIRE BRANCH.

THE annual meeting of this Branch was held on June 8th at the Medical Society's Rooms, Cardiff, Mr. O. E. B. MARSH, President, in the chair.

Confirmation of Minutes.—The minutes of the previous annual meeting were read and confirmed.

Report of Council and Financial Statement.—The meeting adoped the report of Council and the Honorary Treasurer's financial statement for the year.

Standing Orders.—The following Standing Orders for the conduct of Branch meetings, having been approved by the Council, were adopted:

1. That the number of items in the agenda of a general meeting of the Branch shall be such as may reasonably be expected to fall within a time limit of two and a half hours.

2. That unless otherwise arranged by the Council, or by the author, precedence shall be given in the agenda of the next subsequent meeting to postponed papers and communications.

3. That not more than fifteen minutes shall be allowed for the reading of a paper, and that five minutes shall be the limit for subsequent speeches and for short communications, such as the record of cases, etc.

4. That authors of papers and communications to Branch meetings who are desirous of their contributions being recorded in the BRITISH MEDICAL JOURNAL must supply an abstract to the Senior Secretary immediately after the meeting.

Representatives on Central Council.—Pearson R. Cresswell, C.B., and J. Lyon Thomas, C.B., were elected unopposed.

Election of Officers.—The following were elected officers of the Branch for the ensuing year:—*President-elect:* Evan Naunton Davies, Penygraig, Rhondda Valley. *Hon. Secretaries:* Frank G. Thomas, M.B., Swansea; W. Mitchell Stevens, M.D., Cardiff. *Hon. Treasurer:* Evan Jones, Aberdare.

Installation of New President.—The new President, Dr. W. WILLIAMS (Cardiff), was then installed, and after thanking the members for the great honour they had done him in electing him as their President, moved a hearty vote of thanks to the retiring President, Mr. O. E. B. Marsh. This was seconded by Dr. W. J. GREER (Newport) and carried with acclamation.

President's Address.—The PRESIDENT then read his address, on "The Administration of the Midwives Act, 1902." Mr. MARSH (Newport) proposed and Dr. E. J. MACLEAN (Cardiff) seconded a vote of thanks to the President, and this was carried unanimously.

Annual Dinner.—The annual dinner was held at the Park Hotel at 7 p.m., the PRESIDENT in the chair and thirty-eight members present.

MONMOUTHSHIRE DIVISION.

THE annual meeting of this Division was held in the Newport and County Hospital on Friday, May 26th, at 3.15, Dr. G. A. BROWN, Chairman, presiding.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Vote of Thanks to Retiring Chairman.—Dr. GLENDINNING was voted to the chair. A vote of thanks was passed to Dr. Brown for his services as the Chairman of the Division during the past year.

Election of Officers.—The following officers were elected:—*Chairman:* Dr. Glendinning. *Vice-Chairman:* Dr. Mason. *Honorary Secretary:* W. J. Greer. *Representative:* Dr. W. D. Steel. *Representatives on the Branch Council:* Drs. Brown, Gamble, and Paton. *Ordinary Members of Executive Committee:* Drs. Howard Jones, E. M. Griffiths, T. M. Thomas, and C. B. Gratte.

Future Meetings.—It was decided to hold the meetings quarterly, as before. The annual meeting to be held on the last Friday in May at Newport. A meeting to be held at Pontypool on the first Friday of September. The other meetings on the last Fridays of November and February at Newport and Abergavenny respectively.

Annual Representative Meeting.—The business of the Representative Meeting was then considered and instructions given to the Representative.

Proposed Formation of a New Area of the Division.—The question of the formation of a Western Valleys Area of the Division was postponed until more definite information could be obtained from members residing in the area.

Matters Referred to Divisions.—The matters referred from the Central Council were considered, and the memorandum on the present legal position with respect to medical certificates of the unfitness of children to attend school was read. The memorandum in relation to ambulance work was considered, and it was agreed that if employers of labour organized ambulance classes, they should be expected to pay the medical man who gave instruction. The fee for the ordinary course of instruction in these cases should be £5 5s.; for ambulance examinations, £2 2s.; for judging in ambulance competitions, £2 2s.

Ebbw Vale Dispute.—As regards the Ebbw Vale dispute, a vote of thanks was passed to Mr. Smith Whitaker for the invaluable services he had rendered to the Division in this

matter; and votes of thanks were also passed to the selected candidates, Dr. Lowman, Dr. Hadley, Dr. Ryce, and Dr. Simpson, for the great and loyal services which these gentlemen have rendered to their professional brethren in this district in refusing to accept appointments unless the terms were such as could be made agreeable to the local profession. The meeting gave power to the Executive Committee of the Division to act further in this dispute, and to co-opt as many additional members of the Branch as may be required.

Vote of Thanks.—A vote of thanks was passed to the directors of the Newport and County Hospital for their kindness in allowing the members to use their Board-room during the year.

North Glamorgan and Brecknock Division.

The annual meeting of this Division was held at Pontypridd on Thursday, May 25th, at 3 30 p.m.

Confirmation of Minutes.—The minutes of previous ordinary meeting were read and confirmed.

Election of Officers.—The following were elected officers for ensuing year:—*Chairman:* T. W. Parry. *Vice-Chairman:* J. S. Lyttle, M.D. *Secretary:* Evan N. Davies. *Representatives of the Division on the Branch Council:* Drs. Ward, B. M. Lewis, D. N. Morgan. *Executive Committee:* Drs. R. C. Joyce, W. E. Thomas, C. E. Cochrane, C. J. Weichert, R. W. Jones, Ll. Jones, Rhys, Biddle, Finney. *Representative of the Division in the Representative Meetings of the Association:* W. E. Thomas, M.D.

The Report of Executive Committee.—The annual report of the Executive Committee was received and adopted.

Annual Representative Meeting.—The consideration of the business of the Annual Representative Meeting was postponed.

Matters Referred to Divisions.—The following matters referred to the Division were considered: Contract practice; report on reorganization of Local Government Board; the payment of medical practitioners called in to assist midwives; consultation of medical witnesses in legal cases; the report on information supplied to coroners by medical practitioners. The Hon. Secretary read the report of the Subcommittee appointed at the previous meeting to consider these matters, and the resolutions arrived at by the Division have been communicated to the Medico-Political Committee.

Vote of Thanks to retiring Chairman.—The meeting concluded with a hearty vote of thanks to the retiring chairman, Dr. W. E. Thomas, for the efficient manner in which he had discharged the duties of his office during the past year.

South-West Wales Division.

The annual meeting of this Division was held at Carmarthen on May 30th.

Election of Officers.—The following officers were elected:—*Chairman:* Dr. Owen Williams. *Vice-Chairman:* Dr. E. Goodall, F.R.C.P. *Representative at Annual Meeting:* Dr. D. J. Williams. *Members of Branch Council:* Dr. D. J. Williams, Dr. D. R. Price, Dr. Owen Williams. *Executive and Ethical Committee:* Dr. Cooke, Dr. E. R. Williams, Dr. D. Phillips, Dr. R. Hopkin, Dr. R. G. Price, Dr. J. H. Sanders, Dr. J. Ll. Davies, Dr. J. Powell, Dr. Hughes.

Swansea Division.

The annual meeting of this Division was held at the General Hospital, Swansea, on Wednesday, May 31st, at 3 p.m. Dr. Ebenezer Davies in the chair.

Confirmation of Minutes. The minutes of the last meeting were read and signed by the Chairman as correct.

Election of Officers.—The following were elected:—*Chairman:* H. A. Latimer, M.D. *Vice-Chairman:* Dr. A. Davies, M.D. (re-elected). *Honorary Secretary:* A. Hanson (re-elected). *Three Representatives on Branch Council:* W. T. Brook, E. le C. Lancaster, M.D., F. J. de C. Veale, M.B. *Representative in Representative Meetings of the Association:* H. A. Latimer, M.D. (re-elected). *Six Members of Executive:* Rhys Davies, M.D., F. G. Thomas, M.B., J. A. Rawlings, Ll. Lewis, T. D. Griffiths, M.D., R. C. Elsworth, M.D.

Vote of Thanks to Past Chairman. On taking the chair, Dr. Latimer moved a vote of thanks to Dr. T. D. Griffiths for his services in the chair for the past two years. This was unanimously carried.

Ethical Committee.—It was resolved that it was not advisable to re-elect an Ethical Committee, inasmuch as the Executive had power to act as such if necessary.

Report of Executive Committee.—The report, which had been printed and circulated to all the members, was taken as read and adopted. The following is the text of the report: The number of members on December 31st, 1903, was 83. During the year 1 new member has been elected, 2 became members by change of residence, 1 member has been lost through death, and 1 ceased to reside in the Division; the net membership, therefore, at the end of the year is 84.

Finance.—The expenses of the Division have been rather more than usual, this being due to the outlay in connexion with the Library.

Balance Sheet, 1904.

Cr.	£ s. d.	Dr.	£ s. d.	£ s. d.
Amount received from Branch Council	14 1 6	Printing		3 19 6
		Postage		2 10 8
		Library—		
		Packing cases ...	1 2 0	
		Carriage of books...	1 4 4	
		Bookcase	5 0 0	
		Librarian	0 5 0	
				7 11 4
	14 1 6			14 1 6

Meetings.—During the year one special and six ordinary meetings were held. Medico-political, ethical, or kindred matters were taken at all of them. Scientific material was discussed and papers read at two. Mr. Smith Whitaker, the Medical Secretary of the Association, was present at the meeting in September, and gave a valuable address on Colliery and Contract Practice. The average attendance of members has been 14. Your Executive have held eight meetings during the year. Average attendance, 6. Beyond the usual routine business, the two principal matters dealt with were the amalgamation of the Swansea and District Practitioners' Association with the Division, and the establishment of a library. The first of these required some addition to the ethical rules already adopted by the Division. A subcommittee was therefore appointed to take steps to facilitate amalgamation and draft rules, which, after some slight modification by the Executive and the Division, have been adopted by the Division, with the sanction of the Ethical Committee and Council of the British Medical Association.

The Library.—The Division has been fortunate enough to obtain a grant of some 350 duplicate or surplus volumes from the Library of the Association in London. Thanks to the courtesy of the Staff and House Committee of the General Hospital, these books will for the present be kept in the staff room at the Hospital. A subcommittee has catalogued the books and drafted rules for the Library. A copy of the catalogue is now forwarded to every member of the Division, and the Executive hope that the Library will be of use, and that members will avail themselves of it. Should any member wish to present any suitable books to the Library, the Executive will be glad to accept them. The Executive recommended the election of an Ethical Committee by the Division. This was done at the annual meeting. It has not, however, been necessary to call any meeting of the Committee since its election.

Rule Z.—The Honorary Secretary explained the origin and purport of this rule and moved its adoption. This was seconded by Mr. Brook and unanimously carried.

Matters Referred to Division.—The report of the Medico-Political Committee on death registration and coroners' law was discussed, and the meeting expressed its opinion on certain points for the guidance of the Representative at the Annual Representative Meeting.

Annual Representative Meeting.—It was resolved that, excepting those matters which had been discussed by the Division and on which it had expressed its opinion, the business of the annual meeting should be left to the Representative to vote at his discretion.

Worcestershire and Herefordshire Branch.

The annual meeting was held at the house of Mr. M. A. Wood, Ledbury, on June 22nd.

Election of Officers.—Mr. T. P. Gostling, Worcester, was elected President for the ensuing year; Mr. Miles A. Wood, Ledbury, President-elect; Dr. G. W. Crowe, Honorary Secretary. The Executive Committees of the two Divisions were elected Council of the Branch. *Joint Representative of the Two Divisions:* Dr. H. E. Dixey, Malvern.

Communications.—Mr. Gostling read a paper on the Motor Car in Medical Practice, and several members gave their experiences. Dr. Crowe read notes of a case of acute

diabetes where a gastric ulcer had become attached to the pancreas.

WORCESTER DIVISION.

THE annual meeting of this Division was held on June 10th at the Worcester Infirmary.

Election of Officers.—The following officers were elected for the ensuing year: *President*, Mr. W. Moore, Stourport; *President-elect*, Dr. Charles East, Malvern; *Honorary Secretary and Treasurer*, Dr. G. W. Crowe; *Executive Committee*, re-elected. Dr. Collens of Hereford and Dr. H. E. Dixey of Malvern, having been nominated for the post of Joint Representative of the two Divisions, it was decided that the election take place at the Annual Meeting of the Branch on June 22nd.

Report of Council.—The annual report of the Council was discussed and approved of.

Matters Referred to Divisions.—The reports on the Coroners Bill and the Midwives Act were considered. The resolutions of the Division on these matters have been communicated to the Medico-Political Committee.

YORKSHIRE BRANCH.

THE annual meeting of this Branch was held at Harrogate on Wednesday, June 28th. Dr. WRIGHT (Leeds) in the chair.

New Members.—The following were elected members of the Association: Drs. and Messrs. Allan, Beatton, Carroll, Dunlop, Greaves, Johnston, Johns, Phillips, Mason, and Wade.

Next Annual Meeting.—It was decided to hold the next annual meeting at Bradford.

Election of Officers.—The following officers were elected:—*President:* Dr. Black (Harrogate); *President-elect:* Dr. Mossop (Bradford); *Honorary Secretary and Treasurer:* Dr. Bronner; *Representatives on Central Council:* Dr. Burgess (Sheffield) and Dr. Goyder (Bradford).

Vote of Thanks to Retiring President.—On the proposition of Dr. GOYDER, seconded by Dr. CHURTON, a vote of thanks was passed to Dr. Wright for his able services as President during the year. He was elected a permanent Vice-President.

General Medical Council and Illegal Practices.—On the motion of Dr. GIBSON, seconded by Dr. SWANSON, the following resolution was passed:

> That the General Medical Council should be empowered to protect the registered medical practitioner, as well as the public, against persons illegally practising for gain, to the serious detriment of the public and injury to the profession.

Introduction of New President.—Dr. WRIGHT introduced the new President, Dr. BLACK, who gave a most interesting address on the waters and baths of Harrogate.

Papers.—Dr. BAIN (Harrogate) read a paper on an experimental contribution to the treatment of gall-stones, which was discussed by Drs GOYDER and CHURTON and Mr. MOYNIHAN; Dr. BERTRAM WATSON (Harrogate) read notes on a case for diagnosis; and Dr. BATESON (Bradford) read a short paper on personal identification by means of finger-print impressions, with illustrations.

Dinner.—The annual dinner took place at 6.30 at the Hôtel Majestic, when about forty members and friends were present. A large number of the members were most hospitably entertained by Dr. Black at luncheon and dinner.

SCARBOROUGH DIVISION.

THE annual meeting of this Division was held on June 29th at the Scarborough Hospital at 4.30 p.m., Dr. SALTER in the chair.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Report of Executive Committee.—The Executive Committee reported that three meetings were held during the past year, the average attendance being 13.3.

Financial Report.—The financial report showed a balance in hand of 15s. 2d. It was suggested that four meetings should be held during the next year, two in the evening and two in the afternoon. This report and suggestion were then adopted.

Election of Officers.—The following officers were elected for the ensuing year:—*Chairman:* Dr. Salter. *Vice-Chairman:* Dr. Hunt. *Honorary Secretary:* Dr. Giles, Filey Road, Scarborough. *Representative on Branch Council:* Dr. Giles. *Executive Committee:* Drs. Duff, Foley, Forman, Godfrey, Handcock, Hope, Murray, and Thompson.

Library.—It was decided that the circulating Medical Library in connexion with the Division be replaced by a permanent collection of books obtained by purchase and loan.

Parliamentary Bills.—A letter from the Organizing Secretary referring to the Public Health, Local Government Board, and Revaccination Bills was read.

Central Council and Representation of Division.—It was resolved that this Division strongly approve of the suggestion of the East Anglian Branch that the Central Council should have power to grant independent representation to certain Divisions with less than fifty members.

Vote of Thanks to Officers.—The meeting terminated with a vote of thanks to the officers for the past year.

☞ *To ensure the insertion of notices in this column they must be received at the Central Offices of the Association not later than the first post on Tuesday.*

Association Notices.

LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

MEMBERS are reminded that the Library and Writing Rooms of the Association are fitted up for the accommodation of the members in commodious apartments, at the office of the Association, 429, Strand. The rooms are open from 10 a.m. to 5 p.m. Members can have their letters addressed to them at the office.

BRANCH AND DIVISION MEETINGS TO BE HELD.

BIRMINGHAM BRANCH: CENTRAL DIVISION.—A special general meeting will be held at the Medical Institute on Wednesday, July 10th, at 3.30 p.m. Business: (1) An address by Mr. J. Smith Whitaker, the Medical Secretary of the Association, on Ways in which the British Medical Association is to-day Maintaining the Honour and Interests of the Medical Profession. All medical practitioners in the area of the Birmingham Branch are cordially invited to attend. (2) The consideration of the adoption of certain ethical rules by the Division. Copies of the rules will be sent to each member of the Division.—E. D. KIBBY, Honorary Secretary.

DORSET AND WEST HANTS BRANCH.—The summer meeting will be held at Sturminster Newton, on Wednesday, July 19th. Members desiring to read papers or show cases should notify the Honorary Secretary by July 10th.—H. WATTS PARKINSON, Honorary Secretary, Wimborne Minster.

METROPOLITAN COUNTIES BRANCH: HAMPSTEAD DIVISION.—The annual meeting of this Division will be held on Friday, July 14th at 5 p.m., at St. Peter's Hall, Belsize Square. Agenda: (1) Minutes. (2) Letters. (3) Election of Chairman, Vice-Chairman, Secretary, and Assistant Secretary. (4) Proposal to alter Divisional Rule 9 (Dr. Ford Anderson). (5) Election of other members of Committee. (6) To receive annual report of Committee. (7) To instruct the Representative to the Representative Meeting. (8) To consider certain ethical rules suggested by the Bradford Division, and Model Rule Z. (9) To receive report of Subcommittee on proposed Divisional dinner. (10) A resolution to oppose the Bill for the Protection of Dogs (Mr. Humphreys). (11) Other business.—R. A. YELD, M.D., Hampstead, Honorary Secretary.

MUNSTER BRANCH.—Notice of Election. Nominations for an elective member for the Central Council of the British Medical Association, signed by not less than three members, must reach me on or before July 15th.—PHILIP GEORGE LEE, Honorary Secretary, 26, St. Patrick's Hill, Cork.

OXFORD AND READING BRANCH.—The annual meeting of this Branch will be held at the Radcliffe Infirmary, Oxford on Thursday, July 20th, at 4.15 p.m. Annual dinner, Exeter College, at 7 p.m.—W. T. FERRMAN, Honorary Secretary, 30, Portland Place, London Road, Reading.

SOUTH-EASTERN BRANCH: BRIGHTON DIVISION.—A meeting will be held at the Dispensary, 113, Queen's Road, Brighton, at 4.30 p.m., on the fourth Wednesday in October (25th), and November (22nd). Members wishing to read papers or show cases at the meetings are requested to give at least a fortnight's notice to the Honorary Secretary, RYDING MARSH, M.D., 49, Sackville Road, Hove.

CENTRAL MIDWIVES BOARD.

A MEETING of the Central Midwives Board was held on June 29th at 6, Suffolk Street, Pall Mall, with Dr. F. H. CHAMPNEYS in the chair.

Examinations.

A memorial to the Chairman of the Board from the Committee of the Queen Victoria Jubilee Institute for Nurses, protesting against the recent decision of the Central Midwives Board to hold four examinations in the year instead of three and asking the Board to reconsider its decision, was received. A memorial to the same effect was received from the Executive

Committee of the Association for Promoting the Training and Supply of Midwives, and a letter to the same effect was read from the Warden and Matron of the Salvation Army Maternity Hospital. After some discussion, it was decided that a conference would be held on July 29th to discuss the question of examinations with the bodies concerned.

The Training of Midwives.

A letter was received from the West Riding Sanitary Committee enclosing a copy of a resolution passed by that body concerning the training of midwives, recommending that before candidates received practical training in midwifery they should receive proper theoretical instruction. The Board directed the Secretary to acknowledge the receipt of the letter.

Institutions for Training Midwives.

The Board received a report from the Standing Committee in which it was recommended that the application from the Walton Workhouse of the West Derby Union to be approved as a training school should not be granted, whereupon Mr. E. PARKER YOUNG moved that the Board should grant the application. His contention was that the institution fulfilled the requirements of the Board, and it would be an act of injustice not to approve of institutions like that one. It would be a great loss to the country if workhouses such as the Walton Workhouse were not recognized, for by refusing such applications candidates for the midwifery examination were forced to travel considerable distances for the purpose of attending lectures. It was finally decided that the application from the Walton Workhouse should be granted.

Naval and Military Appointments.

ROYAL HOSPITAL, CHELSEA.

FIELD-MARSHALL SIR G. S. WHITE, V.C., G.C.B., O.M., G.C.S.I., G.C.M.G., G.C.I.E., G.C.V.O., to be Governor, vice Field-Marshal Sir H. W. Norman, deceased, June 17th.

ROYAL NAVY MEDICAL SERVICE.

FLEET-SURGEON F. A. JEANS has been promoted to be Deputy Inspector-General, May 27th. Appointed Surgeon, September 29th, 1877, he was made Staff Surgeon, September 29th, 1880, and Fleet Surgeon, May 21st, 1894. He was Surgeon of the *Coquette* during the Egyptian war in 1882, receiving a medal and Khedive's bronze star, and during the operations at Suakin in 1884-5, a clasp being added to his medal.

The following appointments have been made at the Admiralty: PATRICK B. HANDYSIDE, Fleet Surgeon, to Chatham Hospital, July 10th; SIDNEY T. REID, Staff Surgeon, and ADRIEN A. FORRESTER, M.B., Surgeon, to Chatham Hospital, June 27th; JOHN C. DURSTON, Staff Surgeon, to the *Flora*, on completing, July 12th; ROBERT J. MACKROWN, M.B., Staff Surgeon, to the *Vivid*, undated; PATRICK W. MACVEAN, M.B., Surgeon, to the *Niobe*, July 13th; HENRY W. HELL, Surgeon, to the *Pathfinder*, on commissioning; JOHN H. JONES, Surgeon, to the *Pyramus*, on recommissioning, July 11th; WILLIAM M. KEITH, Surgeon, to the *Eclipse*, on recommissioning, July 10th; GEORGE D. TWIGG, Fleet Surgeon, to the *Victory*, July 17th; WILLIAM L. HAWKINS, Surgeon, lent to the *Speedy*, June 30th.

ROYAL ARMY MEDICAL CORPS.

THE Christian names of Lieutenant JOHN MAURICE BISDEE RAHILLY, M.B., are as now described, and not as stated in the *Gazette* of February 17th.

INDIAN MEDICAL SERVICE.

LIEUTENANT-COLONEL J. MCCLOCHRY, Bombay Establishment, is granted the temporary rank of Colonel whilst officiating as Principal Medical Officer, Kurrachee Brigade, from May 24th.

The promotion to be Lieutenant-Colonels of Majors F. J. DRURY, M.B., H. J. DYSON, F.R.C.S., F. A. ROOKUS, D.S.O., and E. R. W. C. CARROLL, Bengal Establishment, which has been already announced in the BRITISH MEDICAL JOURNAL, has received the approval of the King.

The retirement from the service of Surgeon-General G. W. R. HAY, M.D. (Bombay), Colonel C. H. JOURDEY, M.B., F.R.C.S. (Bengal), and Lieutenant-Colonel A. J. SUTCLIFFE (Madras) which has been already notified in the BRITISH MEDICAL JOURNAL, has also received the approval of his Majesty.

The retirement from the service, from the dates specified, of the undermentioned officers is also announced: Lieutenant-Colonel G. S. A. RANKING, M.D. (Bengal), May 30th; Lieutenant-Colonel G. T. THOMAS (Madras), June 26th; Lieutenant-Colonel GOLAKNATH GOSWAMIE VAID (Bengal), May 18th; and Lieutenant-Colonel UPENDRA NATH MUKERJI, M.B. (Bengal), February 17th.

VOLUNTEER RIFLES.

[illegible] (Surgeon-Captain, Army Medical Reserve) C. R. [illegible], M.D., 1st Volunteer Battalion the Gloucestershire Regiment, to be Surgeon-Captain, July 1st.

Surgeon-Lieutenant W. RITCHIE, M.B., 4th (Glasgow Highland) Volunteer Battalion the Highland Light Infantry, to be Surgeon-Captain, July 4th.

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

Mr. ALASTAIR MACGREGOR, to be Lieutenant in the Leicester and Lincoln Bearer Company, July 5th.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

IN seventy-six of the largest English towns, including London, 3,496 births and 3,793 deaths were registered during the week ending Saturday last, July 1st. The annual rate of mortality in these towns, which had been 13.5, 13.4, and 13.0 per 1,000 in the three preceding weeks, further fell to 12.7 per 1,000 last week. The rates in the several towns ranged from 6.8 in Willesden, in Hornsey, in Leyton, and in Handsworth (Staffs.), 7.2 in East Ham, 7.5 in Kings Norton, and 7.6 in West Ham and in Walthamstow, to 17.5 in Stockport and in Tynemouth, 17.6 in Blackburn, 18.1 in Wigan, 19.1 in Merthyr Tydfil, 20.0 in Middlesbrough, 21.2 in Sunderland, 23.1 in West Bromwich, and 23.9 in Stockton-on-Tees. In London the rate of mortality was 12.0 per 1,000, while it averaged 13.0 per 1,000 in the seventy-five large provincial towns. The death-rate from the principal infectious diseases in the seventy-six towns averaged 1.2 per 1,000; in London this death-rate was equal to 1.1 per 1,000; while among the seventy-five other large towns the rates ranged upwards to 3.1 in Warrington, 3.2 in Sheffield and in Middlesbrough, 5.0 in Bootle, 5.5 in Sunderland, and 8.5 in West Bromwich. Measles caused a death-rate of 1.7 in Sheffield, 2.3 in Warrington, 2.6 in Barrow-in-Furness, 4.1 in Sunderland, and 6.2 in West Bromwich; scarlet fever of 1.7 in Bootle; whooping-cough of 1.5 in Oldham, 1.6 in Middlesbrough, and 2.3 in Preston; and diarrhoea of 1.3 in Rhondda and 2.5 in Bootle. The mortality from diphtheria and from enteric fever showed no marked excess in any of the large towns. One death from small-pox was registered in London, but none in any of the seventy-five large provincial towns. The number of small-pox cases remaining under treatment in the Metropolitan Asylums Hospitals, which had been 9, 7, and 6 on the three preceding Saturdays, had further fallen to 4 on Saturday last, July 1st; one new case was admitted during the week, against 3, 3, and 1 in the three preceding weeks. The number of scarlet-fever cases in these hospitals and in the London Fever Hospital at the end of the week was 2,473, against 2,285, 2,356, and 2,427 at the end of the three preceding weeks; 334 new cases were admitted during the week, against 269, 292, and 325 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS.

DURING the week ending Saturday last, July 1st, 1,024 births and 555 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had been 16.4, 15.7, and 15.1 per 1,000 in the three preceding weeks, rose again to 16.5 per 1,000 last week, and was 3.8 per 1,000 above the mean rate during the same period in the seventy-six large English towns. The rates in the eight Scotch towns ranged from 12.2 in Perth and 14.7 in Edinburgh and in Leith to 18.2 in Glasgow and 19.3 in Greenock. The death-rate from the principal infectious diseases in these towns averaged 1.9 per 1,000, the highest rates being recorded in Greenock and Perth. The 282 deaths registered in Glasgow included 10 which were referred to measles, 22 to whooping-cough, and 8 to diarrhoea. Five fatal cases of measles and 5 of whooping-cough were recorded in Edinburgh; 2 of diarrhoea in Dundee; 2 of diarrhoea in Leith; 2 of whooping-cough and 2 of "fever" in Greenock; and 2 of measles in Perth.

HEALTH OF IRISH TOWNS.

DURING the week ending Saturday, June 24th, 585 births and 284 deaths were registered in six of the principal Irish towns against 484 births and 320 deaths in the preceding period. The mean annual death-rate of these towns, which had been 17.4, 17.5, and 16.9 per 1,000 in the three preceding weeks, rose to 18.2 per 1,000 in the week under notice, this figure being 5.2 per 1,000 higher than the mean annual rate in the seventy-six English towns for the corresponding period. The figures ranged from 12.0 in Belfast and 16.4 in Cork to 20.5 in Limerick and 22.3 in Londonderry. The zymotic death-rate during the same period and in the same six Irish towns averaged [illegible] per 1,000, or 1.2 per 1,000 lower than during the preceding period, the highest figure (1.9) being recorded in Belfast, while Cork, Limerick, and Waterford registered no deaths under this heading at all. From measles 10 deaths were registered in all, 5 of them being in Belfast. From scarlet fever 2 (both in Belfast), from diphtheria 2, and from enteric 7. From small pox and typhus no deaths were anywhere recorded.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

AYR COUNTY HOSPITAL.—Resident House-Surgeon. Salary, £70 per annum.

BRIGHTON: ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN.—House-Surgeon. Salary, £80 per annum.

CAIRO: SCHOOL OF MEDICINE.—(1) Assistant to the Professor of Anatomy. (2) Assistant to the Professor of Pathology. Salary, £120 per annum each.

CANTERBURY: KENT AND CANTERBURY HOSPITAL.—Honorary Physician.

CERTIFYING FACTORY SURGEON.—The Chief Inspector of Factories announces a vacancy in the office of Certifying Factory Surgeon at Wimbledon, co. Surrey.

CHARING CROSS HOSPITAL.—Assistant Surgeon.

DERRY: DERBYSHIRE ROYAL INFIRMARY.—Assistant House-Surgeon. Salary, £30 for six months.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton: Resident Medical Officer. Salary, [illegible] per annum.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—(1) House-Surgeon. (2) House-Physician. (3) Assistant Casualty Medical Officer. Salary, £50 for six months each.

MANCHESTER: VICTORIA UNIVERSITY.—Junior Demonstrator in Physiology. Stipend £100, rising to £150 per annum.

NOTTS COUNTY ASYLUM, Radcliffe-on-Trent.—Assistant Medical Officer. Salary, £130, rising to £150 per annum.

SETTLEMENT OF WOMEN WORKERS, Canning Town.—Assistant Medical Officer for Dispensary.

APPOINTMENTS.

BARCLAY, W. B., L.R.C.P. and S.Edin., Certifying Factory Surgeon for the Aldershot District, co. Hants.

BEASLEY, H. C., L.R.C.P. and S.Irel., District Medical Officer of the Christchurch Union.

DAVENPORT, J. A., M.B. Ch.B.Vict., House Physician, Salford Royal Hospital.

DODD, J., M.D., M.Ch.R.U.I., Medical Officer to the Leicester Parish Infirmary.

FIELD, E. A., M.R.C.S.Eng., District Medical Officer of the Blackburn Union.

FITZSIMONS, J. B., M.D.R.U.I., District Medical Officer of St. Thomas's Union.

HAWORTH, H. D., M.B., Ch.B.Vict., Senior House Surgeon, Salford Royal Hospital.

HOPE, C. M., M.B., District Medical Officer of the Drayton Union.

JOHNSON, Alice Vowe, F.R.C.S., D.P.H., Local Assistant Medical Officer to the Education Board of the London County Council.

JOLLYE, E. W., M.R.C.S.Eng., L.S.A., Certifying Factory Surgeon for the Donington District, co. Lincoln.

JONES, John, L.R.C.P.Edin., L.F.P.S.Glasg., Certifying Factory Surgeon for the Dolgelly District, co. Merioneth.

LEDINGHAM, J. C. G., M.A., B.Sc., M.B.Aberd., Assistant Bacteriologist, Serum Department, Lister Institute, Elstree.

MCNEIGHT, W. R. P., M.D., B.S.Dub., District Medical Officer of the Dunmow Union.

PATON, G. Perry, M.D., M.S.Lond., Examiner in Anatomy to the Society of Apothecaries.

ROY, S. C., M.B., M.S.Edin., Resident Assistant Medical Officer to the Leicester Parish Infirmary.

SEARLE, G. P., L.R.C.P.Lond., M.R.C.S., District Medical Officer of the Dore Union.

STANSFIELD, W., M.R.C.S., L.R.C.P.Lond., Junior House Surgeon, Salford Royal Hospital.

SYMES, J. O., M.D.Lond., Physician to Clifton College.

THOMPSON, G. A., L.R.C.P., and S.Edin., District Medical Officer of the Blackburn Union.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to ensure insertion in the current issue.

BIRTH.

ROBINSON.—On June 20th, at 1, Marine Terrace, Waterloo, Liverpool, the wife of G. Burton Robinson, M.B., M.R.C.S., L.R.C.P., of a daughter.

MARRIAGE.

BURDON-COOPER—MACLAURIN-MONTEATH.—July 4th, at Clapham, John Burdon-Cooper, M.D., B.S., B.Sc.Durh., F.C.S., of Bournemouth, formerly Newcastle-on-Tyne, to Teresa MacLaurin-Monteath, third daughter of the late Alexander MacLaurin-Monteath, C.S.I., H.M.'s Indian Civil Service, of the Broich and Duchally, Perthshire.

DIARY FOR NEXT WEEK.

TUESDAY.

SOCIETY FOR THE STUDY OF INEBRIETY, 11, Chandos Street, Cavendish Square, W., 4 p.m.—Discussion on the Psychology of the Inebriate, to be opened by Dr. Claye Shaw.

WEDNESDAY.

DERMATOLOGICAL SOCIETY OF LONDON, Medical Society's Rooms, 11, Chandos Street, 5.15 p.m.—Cases and specimens.

THERAPEUTICAL SOCIETY.—Meeting at the Botanical Gardens to view the medicinal and other plants.

THURSDAY.

BRITISH GYNAECOLOGICAL SOCIETY, 20, Hanover Square, W., 8 p.m.—Dr. Charles Maunsell: (1) A Case of Endothelioma Uteri, illustrated by drawings and photomicrographs; (2) an Improved Method of Ventrifixation of the Uterus, illustrated. Dr. H. Macnaughton-Jones: (1) Note on Cylin as a Post-Operative Antiseptic; (2) Note on a Case of Post-operative Parotitis; (3) Note on a Case of Urethral Cyst.

POST-GRADUATE COURSES AND LECTURES.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week at 4 p.m. each day:—Monday, Skin; Tuesday, Medical; Wednesday, Surgical; Thursday, Surgical; Friday, Eye. Lectures at 5.15 p.m. each day will be given as follows: Monday, Some Recent Methods of Diagnosis in Urinary Surgery; Tuesday, The Therapeutics of some Common Ailments; Wednesday, Cancer of the Stomach; Thursday, Errors of Digestion in Relation to Disease.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Out-patient Department, 7, Fitzroy Square, W., Thursday, 5 p.m.—The Diagnosis of Tuberculous Laryngitis in its Early Stage.

WEST LONDON POST-GRADUATE COLLEGE, West London Hospital, Hammersmith Road, W.—The following lectures and demonstrations have been arranged for next week, at 5 p.m. each day: Monday, Gynaecology; Tuesday, Cerebral Haemorrhage; Wednesday, Prognosis in Mental Disease; Thursday, Practical Surgery; Friday, Diagnosis of Lesions of the Spinal Cord.

BOOKS, ETC., RECEIVED.

Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India. (New series). No. 16: The Specificity of Antivenomous Sera, with special reference to a Serum prepared with the Venom of Daboia Russellii. By Captain George Lamb, I.M.S. Calcutta: Office of Superintendent of Government Printing, India. 1905. Annas 6, or 7d.

Les Epidémies et les Maladies Contagieuses au XXe Siècle. Conférences données à l'Institut des hautes études de l'Université nouvelle de Bruxelles. Par la Dr. Jules Félix. Gand: Société Co-opérative Volksdrukkerij; and Paris: Vigot Frères. 1905. Fr. 3.50.

The Care and Management of Delicate Children. By Dr. Percy Lewis. London: Cassell and Co., Limited. 1905. 3s. 6d.

The Seaside and Inland A B C Holiday Guide to all Health and Pleasure Resorts and Places of Interest in the United Kingdom. London: The Wentworth Publishing Co. 1905. 1s.

Bakteriologische Untersuchungen über Hände-Desinfektion und ihre Endergebnisse für die Praxis. Von Dr. med. O. Sarwey. Berlin: August Hirschwald. 1905. M. 2.40.

Les Tumeurs de l'Encéphale, Manifestations et Chirurgie. Par le Dr. H. Duret. Paris: Félix Alcan. 1905. Fr. 20.

Nouveau Traité de Médecine et de Thérapeutique. Publié en fascicules sous la direction de MM. P. Brouardel et A. Gilbert. IX, Grippe, Coqueluche, Oreillons, Diphtérie. Par MM. A. Netter, Hudelo, Grancher, Boulloche, et Babonneix. Paris: J. B. Baillière et Fils. 1905. Fr. 3.50.

Antitoxische Prozesse. Von Dr. C. Levaditi. Jena: Gustav Fischer. 1905. M. 2.80.

An Atlas of Illustrations of Clinical Medicine, Surgery, and Pathology, compiled for the New Sydenham Society. Fasciculus XXII or XIV of new series. Leucoderma, Plates A to H. Myxoderma, Plates I to J. Miscellaneous, Plates K to O. Eruptions caused by Drugs, Plates CXLIII and CXLIV. London: The New Sydenham Society. 1905. 10s. 6d.

Transactions of the American Pediatric Society. Sixteenth Session. Held at Detroit, Mich., May 30th, 31st, and June 1st, 1904. Edited by Tinnaeus Edford la Fétra, M.D. Volume XVI. Reprinted from Archives of Pediatrics 1904-5. New York: A. G. Sherwood and Co.

The Practice of Ventilation: A Paper read at the 1905 Meeting of the Institution of Heating and Ventilating Engineers and before the Manchester Society of Architects, by Mr. J. D. Sutcliffe. Manchester: Sutcliffe Ventilating and Drying Co., Limited.

A Textbook of Obstetrics. By Adam H. Wright. New York and London: D. Appleton and Co. 1905. 18s.

Infectious Diseases. Edited by J. C. Wilson, A.M., M.D. Authorized translation from "Die Deutsche Klinik." Edited by Julius L. Salinger, M.D. New York and London: D. Appleton and Co. 1905. 25s.

Veröffentlichungen des Deutschen Vereins für Versicherungs-Wissenschaft. Herausgegeben von Dr. Phil. et jur. Alfred Manes. Heft v. (Ausgegeben Mai, 1905). Die Impfklausein in den Weltpolicen der Lebensversicherungs-Gesellschaften von. Dr. Med. Ludwig Pfeiffer. Berlin: Ernst Siegfried Mittler und Sohn. 1905.

Report of Committee on Standard Methods of Water Analysis to the Laboratory Section of the American Public Health Association. Presented at the Havana Meeting, January 9th, 1905. Reprinted from the Journal of Infectious Diseases Supplement, No. 1, May, 1905. Chicago: American Public Health Association. 1905.

Entwurf einer Relationspathologie. Von G. Ricker. Jena: Gustav Fischer. 1905. M. 1.80.

Electrical Methods in the Treatment of Affections of the Stomach and Intestines. By George Herschell, M.D.Lond. London: A. Seigle. 1905. 3s. 6d.

Ambidexterity. By Sir Samuel Wilks, Bart., M.D., LL.D., F.R.S. A Lecture delivered before the Hampstead Scientific Society, on May 12th, 1905. London: Sydney C. Mayle. 1905. 3d.

Spirals. By Sir Samuel Wilks, Bart., M.D., LL.D., F.R.S. A Lecture delivered before the Hampstead Scientific Society, on April 14th, 1905. London: Sydney C. Mayle. 1905. 6d.

Garden Cities in Theory and Practice; being an amplification of a paper on the Potentialities of Applied Science in a Garden City, read before Section F of the British Association. By A. R. Sennett. Vols. I and II. London: Bemrose and Sons, Ltd. 1905. 21s.

Carcinoma of the Rectum; its Diagnosis and Treatment. By F. Swinford Edwards, F.R.C.S. London: Baillière, Tindall and Cox. 1905. 2s. 6d.

Observations on the Filarial Embryos found in the General Circulation of the Equidae and Bovidae, and their Probable Pathological Significance. By Alfred Lingard, M.B., M.S., D.P.H. Fasciculus I.—Bursati. London: Adlard and Son. 1905. 2s. 6d.

Consigli Pratici di Dietetica Generale specialmente indicati nella cura delle Acque della saluti. Per il Prof. Dott. Giacomo Lumbroso. Livorno: Tipografia della *Gazzetta Livornese*. 1905.

Rhyl. Edited by George W. May. London: The Health Resorts Association. 1905. Free on application to Town Clerk.

*** In forwarding books the publishers are requested to state the selling price.

CALENDAR OF THE ASSOCIATION.

Month.	Day of Week.	Meetings to be Held.
July	9...Sunday..	
,,	10...Monday ...	Last day for Division Secretaries to send General Secretary returns of election of Representatives. Refer to Notice of June 1st as to forwarding returns of Election of Branch Representatives.
,,	11...Tuesday ...	
,,	12...Wednesday	Last day for Branch Representatives to nominate Candidates for Co-option to the Council.
,,	13...Thursday...	London: Medico-Political Committee, 2.30 p.m.
,,	14...Friday ...	London: Election Returns Committee, 10 a.m. London: Ethical Committee, 2 p.m. Hampstead Division, *Metropolitan Counties Branch*, Annual Meeting, St. Peter's Hall, Belsize Square, 5 p.m.
,,	15...Saturday ...	
,,	16...Sunday..	
,,	17...Monday ...	
,,	18...Tuesday ...	
,,	19...Wednesday	Central Division, *Birmingham Branch*, Medical Institute, 3.30. Dorset and West Hants Branch, Sturminster Newton.
,,	20...Thursday...	City Division, *Metropolitan Counties Branch*, Great Eastern Hotel, Liverpool Street, E.C. 4 p.m. Oxford and Reading Branch, Annual Meeting, Radcliffe Infirmary, Oxford, 4.15; Annual Dinner, Exeter College, 7 p.m.
,,	21...Friday ...	
,,	22...Saturday...	
,,	23..Sunday..	
,,	24...Monday ...	2 p.m., General Meeting, to be followed by Representative Meeting.
,,	25...Tuesday ...	Council Meeting Adjourned General Meeting, to be followed by Representative Meeting.
,,	26...Wednesday	Ditto.
,,	27...Thursday...	Ditto.
	28..Friday ...	
,,	29...Saturday...	
,,	30...Sunday..	
,,	31...Monday ...	
August	1...Tuesday ...	
,,	2...Wednesday	Altrincham Division, *Lancashire and Cheshire Branch*, Visit to Baguley Sanatorium (General Infectious Diseases).
,,	3...Thursday...	
,,	4...Friday ...	
,,	5...Saturday...	
August	6...Sunday..	
,,	7...Monday ...	*Bank Holiday.*
,,	8..Tuesday ...	
,,	9..Wednesday	
,,	10..Thursday...	
,,	11...Friday ...	
,,	12...Saturday...	
,,	13...Sunday..	
,,	14..Monday ...	
,,	15...Tuesday ...	
,,	16..Wednesday	Altrincham Division, *Lancashire and Cheshire Branch*, Visit to Crossley Sanatorium, Delamere (Phthisis).
,,	17...Thursday...	
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,,	19..Tuesday ...	
,,	Wednesday	Altrincham Division, *Lancashire and Cheshire Branch*, Quarterly Meeting (probably) at Knutsford.

ANNUAL MEETING.

The seventy-third annual meeting of the Association will be held at Leicester on July 24th, 25th, 26th, 27th, and 28th. The Honorary Local Secretaries are Dr. Astley V. Clarke, 37, London Road, Leicester, and Mr. F. Bolton Carter, M.S., 99, London Road, Leicester: the Honorary Secretary of the Pathological Museum is Dr. Robert Sevestre, 119, London Road, Leicester.

The Annual General Meeting for business will begin at 2 p.m. on Monday, July 24th, and the first session of the Annual Representative Meeting will be held immediately afterwards. The first meetings of the Sections will begin at 10 a.m. on Wednesday, July 26th.

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, JULY 15TH, 1905.

CONTENTS.

	Page
BRITISH MEDICAL ASSOCIATION: PROPOSAL TO APPLY FOR A ROYAL CHARTER	49
PROCEEDINGS OF COUNCIL	50
PROCEEDINGS OF STANDING COMMITTEES:	
MEDICO-POLITICAL COMMITTEE	53
ETHICAL COMMITTEE	58
HOSPITALS COMMITTEE	60
SCIENTIFIC GRANTS COMMITTEE	61
ORGANIZATION COMMITTEE	62
COLONIAL COMMITTEE	62
PUBLIC HEALTH COMMITTEE	63
JOURNAL AND FINANCE COMMITTEE	64
PREMISES AND LIBRARY COMMITTEE	64
NOTIFICATION FOR ANNUAL MEETING	65
LIST OF LODGINGS AT LEICESTER	66
SUPPLEMENTARY LIST OF LODGINGS AT LEICESTER	69
BRITISH MEDICAL ASSOCIATION: SEVENTY-THIRD ANNUAL MEETING.—GENERAL ARRANGEMENTS	69
MEETINGS OF BRANCHES AND DIVISIONS:	
North of England Branch	75
,, ,, Gateshead Division	77
Lancashire and Cheshire Branch: Liverpool Central Division	77
Metropolitan Counties Branch: Ealing Division	77
South-Eastern Branch: Dover Division	77
ASSOCIATION NOTICES.—BRANCH AND DIVISION MEETINGS TO BE HELD	78
NAVAL AND MILITARY APPOINTMENTS	78
VITAL STATISTICS	78
VACANCIES AND APPOINTMENTS	79
BIRTHS, MARRIAGES, AND DEATHS	79
DIARY OF THE WEEK	79
BOOKS, ETC., RECEIVED	79
CALENDAR	80

British Medical Association,

PROPOSAL TO APPLY FOR A ROYAL CHARTER.

A MEETING of the Committee of officers on the proposed alteration of Memorandum of Association was held on June 2nd, when there were present: Mr. ANDREW CLARK (Chairman of Council) in the chair, Dr. William Collier (President), Mr. G. C. Franklin (President-elect), Sir Victor Horsley, F.R.S. (Chairman of Representative Meetings), Dr. E. Markham Skerritt (Treasurer), Dr. Langley Browne, the General Secretary, the Medical Secretary, and Mr. W. E. Hempson (Solicitor).

The Committee proceeded to the consideration of Mr. Beaufort Palmer's opinion relative to the proposed alteration of the Memorandum of Association referred to it by the Council at its meeting on May 17th. The Committee resolved to present a report to the Council, and requested the Chairman of Council to endeavour to ascertain what prospects there would be of the Association being granted a Royal Charter.

The Committee met again on Monday, June 19th, when there were present: Mr. ANDREW CLARK (Chairman of Council) in the chair, Mr. G. C. Franklin (President-Elect), Sir Victor Horsley, F.R.S. (Chairman of Representative Meetings), Dr. E. Markham Skerritt (Treasurer), and Mr. W. E. Hempson (Solicitor).

The CHAIRMAN OF COUNCIL reported that in accordance with the instructions of the last meeting he had made inquiries which led him to believe that, provided there was no opposition, the Association had a good prospect of obtaining a Royal Charter.

On the motion of Sir VICTOR HORSLEY, seconded by the PRESIDENT-ELECT, the Chairman of Council was thanked for obtaining this valuable information, and was asked to frame a report to the Council to the effect that the Representative Meeting should be asked to authorize the Council to take steps to apply for a Royal Charter. The following is the report prepared by direction of the Council for submission to the Annual Representative Meeting at Leicester:

REPORT.

ALTERATION OF THE MEMORANDUM OF ASSOCIATION.

In accordance with the following Resolution of the Representative Meeting, the Council referred the matter to the Committee of Officers of the Association, etc.

Resolved: That the Council of the Association be instructed forthwith to take the steps necessary to obtain the alterations in the Memorandum of Association contained in the Birmingham resolutions, subject to such modifications as are required to harmonize them with the present articles, submitting the same for adoption by Extraordinary General Meeting in their amended form as a special resolution before application to the High Court, if legally advised necessary.

A rider was moved to add:

And that power shall also be taken to enable the Association or any Branch thereof to make grants to any benevolent or provident institution connected with the profession.

Thereupon a further rider was moved:

That power be taken to provide for the entertainment of guests of the Association or of any Branch or Division thereof.

The Committee has given full consideration to the subject, have twice taken Counsels' (Mr. Beaufort Palmer and Mr. Fischer Williams) opinion, and have twice had interviews with Counsel.

The first point dealt with was the original proposition raised by the Representative Meeting, namely, the carrying out of the Birmingham Resolutions.

From the opinions of Mr. W. E. Hempson, Solicitor to the Association, and Mr. Fischer Williams, it was evident that the Birmingham Resolutions had not the legal effect they were supposed to bear, and further, that should alteration of the Memorandum of Association on the lines of the Birmingham Resolutions be sanctioned by the High Court there would still be difficulties and restrictions in carrying out such objects as any application of the funds to benevolent purposes, the promotion of the candidature of any medical man for a seat in the House of Commons, the entertainment of guests of the Association, and other objects which the Association desired to undertake.

Counsel, in fact, stated on the question of forming benevolent funds, or giving benevolent assistance to members of the Association or their dependents, that while the Association remained under the Companies Acts the High Court would have no power to alter the Memorandum to allow of such allocation of the funds, even if the Court in its discretion approved the proposal.

Further, while Mr. Beaufort Palmer considered that the other important items of the proposed alteration could be obtained through the High Court, that is, under the Companies Acts, Mr. Fischer Williams saw considerable impediments in the way of further extension of the objects of the Association by such a method.

In the interview with Mr. Beaufort Palmer, Counsel suggested that before taking any steps in regard to the alteration of the objects clause under the Companies Acts it might be wise to consider the desirability of applying for a Royal Charter, the Association being one of great magnitude and with interests in all parts of the world.

Counsel further indicated that the advantages of a Charter are considerable since the Association would then be free from the troublesome restrictions due to personal interpretations of clauses of the Companies Acts, its powers would become much wider and comprehensive and the procedure of obtaining such development of the usefulness of the Association was much less costly by charter than by the High Court.

In particular the Association would be free for all practical purposes from the trammelling rules of the High Court in regard to what is *ultra vires*. So that as the Association further developed, its operations could be extended without seeking additional powers through the expensive method of moving in the High Courts. The Committee thereupon instituted an enquiry as to the likelihood of the Association being granted a Royal Charter. Information obtained on this point was so encouraging that the Council adopted *nemine contradicente* the conclusion of the Committee that the Representative Meeting should be recommended to authorize an application being made to the Privy Council praying His Majesty to grant a Royal Charter, and that pending the decision of His Majesty no further steps should be taken to move the Courts for an alteration of the Memorandum.

RECOMMENDATION.

The Council recommends that the Representative Meeting should issue the necessary authority for application on behalf of the Association to be made to the Privy Council praying His Majesty to grant a Royal Charter of Incorporation to the Association.

ANDREW CLARK, Chairman.

ASSOCIATION INTELLIGENCE.

PROCEEDINGS OF COUNCIL.

At a meeting of the Council held, by kind permission of the Metropolitan Asylums Board, London, in their Board Room, on Wednesday, July 5th, 1905, at 10 o'clock in the forenoon.

Present:

Mr. Andrew Clark, D.Sc., Chairman of Council, in the Chair.
Dr. William Collier, President.
Mr. G. C. Franklin, F.R.C.S., President-elect.
Dr. T. Drysdale Griffiths, D.Sc.Oxon., Past-President.
Sir Victor Horsley, F.R.S., Chairman of Representative Meetings.
Dr. E. Markham Skerritt, Treasurer.

Dr. John Ford Anderson, London.
Dr. E. G. Barnes, Eye.
Dr. M. Beverley, Norwich.
Dr. J. Brassey Brierley, Manchester.
Dr. H. Langley Browne, West Bromwich.
Dr. R. C. Buist, Dundee.
Dr. W. A. Carline, Lincoln.
Dr. James Craig, Dublin.
Mr. Pearson R. Cresswell, C.B., Dowlais.
Dr. H. Radcliffe Crocker, London.
Lieutenant-Colonel E. F. Drake-Brockman, I.M.S. (ret.), F.R.C.S. (South Indian and Madras Branch), London.
Professor David W. Finlay, M.D., LL.D., Aberdeen.
Mr. C. E. S. Flemming, Bradford-on-Avon.
Dr. F. Rowland Fothergill, London.
Dr. H. A. Francis (Brisbane and Queensland Branch), London.
Dr. J. H. Galton, London.
Dr. Joseph J. Giusani, Cork.
Dr. Bruce Goff, Lanarkshire.
Dr. D. Goyder, Bradford.
Dr. Major Greenwood, London.
Dr. J. Groves, Isle of Wight.
Dr. James Hamilton, Glasgow.
Dr. J. H. Hunter, South Shields.
Mr. R. H. Kinsey, Bedford.
Dr. C. H. Milburn, Hull.
Dr. C. D. G. Morier (South Australian Branch), London.
Mr. W. Jones Morris, Portmadoc.
Professor J. T. J. Morrison, M.B., Birmingham.
Dr. Charles James Morton, Walthamstow.
Dr. J. Murray, Inverness.
Mr. D. A. O'Sullivan, London.
Mr. Edmund Owen, F.R.C.S., London.
Mr. C. H. W. Parkinson, Wimborne Minster.
Dr. F. M. Pope, Leicester.
Dr. Edwin Rayner, Stockport.
Dr. J. Maxwell Ross, Dumfries.
Professor R. Saundby, M.D., LL.D., Birmingham.
Dr. Cecil E. Shaw, Belfast.
Professor W. R. Smith, M.D. (Malta and Mediterranean Branch), London.
Mr. W. D. Spanton, Hanley.
Dr. F. O. Stedman (Hong Kong Branch), Goring-on-Thames.
Fleet-Surgeon J. Lloyd Thomas, R.N. (Representative of the Royal Navy Medical Service), Portsmouth.
Mr. John Lynn Thomas, C.B., Cardiff.
Dr. W. J. Tyson, Folkestone.

The minutes of the last meeting having been printed and circulated, and no objections received, were taken as read, and signed as correct.

Read letters of apology for non-attendance from: Dr. James Barr, Dr. D. Burgess, Professor J. W. Byers, M.D., Dr. E. J. Cave, Dr. P. Maury Deas, Dr. G. Bagot Ferguson, Dr. R. McKenzie Johnston, Sir Francis Lovell, K.C.M.G., Dr. C. W. Marriott, Mr. T. Jenner Verrall, and Dr. Norman Walker.

Moved by the Chairman, seconded by Dr. J. H. Hunter, and

Resolved: That the Council regrets to learn, and desires to place on record, the loss it has sustained by the death of Dr. James Murphy, one of the Representatives of the North of England Branch on this Council. Dr. Murphy became a member of the Parliamentary Bills Committee in 1893, and a member of the Council in 1899.

Resolved: That this Council desires to congratulate Sir Philip Sydney Jones, M.D., at one time a Representative of the Sydney and New South Wales Branch, on receiving the honour of knighthood at the hands of His Majesty the King.

The Chairman of Council then vacated the chair, which was taken by the President.

Moved by Mr. Edmund Owen, seconded by the Past-President, and supported by Mr. W. Jones Morris, Dr. Beverley, Dr. Craig, and Dr. Buist, and unanimously

Resolved: That the Gold Medal of Merit of the Association be awarded to Mr. Andrew Clark, D.Sc., F.R.C.S., on account of special services rendered by him to the British Medical Association.

The Chairman of Council then re-entered the room, and resumed the chair.

Resolved: That permission be granted to the New Sydenham Society, the United Kingdom Police Surgeons' Association, Irish Medical Schools' and Graduates' Association, National Temperance League, and the Continental Anglo-American Medical Society to hold meetings during the Annual Meeting at Leicester.

The PRESIDENT-ELECT reported that a Roman Catholic Service would be held at Holy Cross Church simultaneously with the Service arranged at St. Martin's Church.

Moved by Dr. BRASSEY BRIERLEY, seconded by Sir VICTOR HORSLEY, and

Resolved: That academic dress be not worn at the Church services.

The Council having been informed that it was the desire of the Executive Committee at Leicester that academic dress should not be worn, it was

Moved by the PRESIDENT, seconded by Dr. LANGLEY BROWNE, and

Resolved: That a notice be inserted in the BRITISH MEDICAL JOURNAL stating that academic dress is not expected to be worn at any of the functions at Leicester.

Read letter from the Honorary Secretary of the Monmouthshire Division, which was ordered to be entered on the minutes.

Read following communication from the Board of Trade, which was ordered to be entered on the minutes:

June 7th, 1905.

Sir,—Since the hearing of objections on May 5th, a request has been received by the Board of Trade from the promoters of the proposed Incorporated Society for Promoting the Higher Education and Training of Nurses, that the consideration of their application by the Board of Trade should be deferred until the Bills now before Parliament for the registration of nurses have been disposed of.

The consideration of the application will accordingly stand over.

I am, etc., G. S. BARNES.

The CHAIRMAN OF COUNCIL reported in reference to an offer by the Midland Branch of a badge to be worn by the President for the time being, that he had communicated with the Home Office asking for His Majesty's consent, and the following is a copy of the reply received:

Whitehall,
May 26th, 1905.

Sir,—I am directed by the Secretary of State to acquaint you that he has laid before the King your application for permission to make use of a badge intended to be worn by the President of the British Medical Association, in which the Royal Arms are incorporated, but that as the Association does not bear the title, "Royal," His Majesty is unable to approve the use of the Royal Arms and Colonial Emblems in the badge.—I am, etc.,

HENRY CUNYNGHAME.

Moved by the CHAIRMAN OF COUNCIL, and

Resolved: That this Council learns that His Majesty has been unable to approve the design for a badge of office to be worn by the President, and while thanking the Midland Branch for its generous offer the Council, under the circumstances, is bound to decline the same.

Resolved: That the Stewart Prize be awarded to William Henry Power, C.B., F.R.C.S., F.R.S., and that the thanks of the Council be given to Dr. McVail, Dr. Whitelegge, and the Chairman of Council, for acting as adjudicators.

Read communication from Sir Lauder Brunton relative to the British Medical Association being represented on any Committee formed for the organization of the proposed Congress on school hygiene to be held in 1907.

Moved by Sir VICTOR HORSLEY, seconded by Dr. LANGLEY BROWNE, and

Resolved: That representatives be appointed but that their selection be deferred until the October meeting of the Council.

Read communication from the Colonial Secretary regarding the proposal of the Association to establish a scholarship in tropical medicine:

Downing Street.
20th June, 1905.

Sir,—I am directed by Mr. Secretary Lyttelton to acknowledge the receipt of your letter of the 8th instant, in which you notify the decision of the Council of the British Medical Association to vote a sum of £200 towards the establishment of a scholarship in tropical medicine on condition that a contribution of an equal amount is made by His Majesty's Government. I am to request you to convey to your Council an expression of Mr. Lyttelton's appreciation of the interest shown by the British Medical Association in this matter, and to state that he will carefully consider the subject of your letter to which a further reply will be returned in due course.—I am, etc., C. P. LUCAS.

Resolved: That the matter be deferred pending receipt of the further reply from the Colonial Office.

Resolved: That the minutes of the Premises and Library Committee be received.

Resolved: That the accounts for the quarter be received, and the Treasurer be empowered to pay them.

Resolved: That the minutes of the Public Health Committee be received.

Moved by Dr. LANGLEY BROWNE, seconded by Mr. O'SULLIVAN, and

Resolved: That Recommendation V be amended to read as follows:—That the Royal Sanitary Institute be informed, with reference to their circular of May 22nd, concerning the qualification of Inspectors of Midwives, that the Association disapproves of the appointment of any persons as Inspectors of Midwives, except registered medical practitioners, and that this opinion be also communicated to the Central Midwives Board.

In reference to Minute 41 (*e*)—"That a form of certificate should be prescribed"—an amendment was moved by Dr. BUIST, seconded by Dr. POPE, and

Resolved: That the words "by the Local Government Board" be added.

Finally it was moved by Dr. LANGLEY BROWNE, seconded by Mr. SPANTON, and

Resolved: That Minute 41 (*c*) be referred back for redrafting.

Moved by Mr. JONES MORRIS, seconded by Dr. BRASSEY BRIERLEY, and

Resolved: That Minute 41 (*a*) be referred back.

After further discussion, it was moved by Dr. FOTHERGILL, seconded by Mr. LYNN THOMAS, and

Resolved: That the whole of Minute 41 be referred back.

Resolved: That the minutes of the Public Health Committee as amended be adopted.

Resolved: That the minutes of the Journal and Finance Committee be received.

In reference to the recommendation that the reports of the Proceedings of Council should not contain the names of the proposers and seconders,

An amendment was moved by Dr. MILBURN, seconded by Dr. BEVERLEY, and

Resolved: That the reports of the Proceedings of Council should, in addition to the actual resolutions, contain the names of proposers and seconders.

Resolved: That no official recognition be given to the proposed meeting of the British Electro-Therapeutic Society at the Leicester meeting.

Resolved: That the Norwich Division be requested to direct its application to the Branch Council.

Resolved: That the Treasurer be empowered to pay a sum not exceeding £50 for the cost of the preparation of the Report on Contract Practice.

Resolved: That the accounts for the quarter ending June 17th last, amounting to £9,620 16s. 10d., be received and approved, and the Treasurer be empowered to pay those remaining unpaid, amounting to £2,433 0s. 8d.

Resolved: That the minutes of the Journal and Finance Committee as amended be adopted.

Resolved: That the minutes of the Committee of Officers of the Association on the proposed alteration of the Memorandum of Association be received.

The CHAIRMAN submitted a report as to the proposed alteration of the Memorandum of Association.

Resolved: That the report be received, and that it be an instruction to the Chairman of the Representative Meetings and the Chairman of Council to amplify the same in the direction of indicating the advantages a Royal Charter would confer upon the Association. (This Report is published on p. 49.)

Moved by Mr. JONES MORRIS, seconded by Professor SAUNDBY, and

Resolved: That the statements of case, as submitted to Mr. Fischer Williams and Mr. Beaufort Palmer, together with their respective opinions, be submitted to the Representative Meeting.

Resolved: That the Report of the Committee as amended be adopted.

Resolved: That the minutes of the Superannuation Committee be received.

Moved by Dr. LANGLEY BROWNE, seconded by Sir VICTOR HORSLEY, and

Resolved: That the report of the actuary on the proposed Superannuation Scheme for the clerical staff be approved and recommended to the Annual Representative Meeting for adoption.

Resolved: That the minutes of the Medico-Political Committee be received.

Resolved: That no immediate action is advisable in regard to the question of fees paid to medical witnesses, but that the Council continue to watch the subject with a view to

action when sufficient evidence of the operation of the Home Secretary's Order shall be available.

Resolved: That the Council take steps to make it known that the Association will be greatly assisted in dealing with the matter if medical practitioners concerned in cases which illustrate the operation of the Home Secretary's Order will communicate the facts to the Medical Secretary.

Resolved: That in reference to payment to medical practitioners called to emergency cases by the police, in the opinion of the Council the facts ascertained as a result of the inquiries which have been addressed to the Police Authorities throughout the United Kingdom do not indicate any grievance calling for action by the Association, but that in a few places there appears to be reason for action and the Council recommends that the Association should render such support to the Divisions concerned as may be required if they desire to move in the matter.

Resolved: That the draft memorial to the Home Secretary on indecent advertisements, etc., be approved and forwarded.

Resolved: That a copy of the memorial be forwarded to the London County Council, with a request that the Council take action in the same direction.

The Council approved of the recommendation of the Committee as to taking Counsel's opinion on the working of the Truck Act and of the Companies Act in reference to colliery and other contract practice appointments.

Resolved: That the Council considers that the report of the Departmental Committee on vaccination fees should receive the general approval of the Association, but recommends certain points for special consideration. (See Medico-Political Committee, p. 56.)

Resolved: That the report on contract practice be completed in the manner proposed, and the necessary expenditure incurred.

Resolved: That the Council arrange for a joint deputation from the Association and from the Medico-Psychological Association to the Commission on Lunacy with regard to the disability of certain medical practitioners for Lunacy appointments, and such other matters, if any, as may be agreed upon.

Resolved: That the Council approach the Royal Commission on the Feeble minded with reference to the question of alcoholism and drug habits.

Resolved: That having regard to the circumstances concerning a transfer agent, the advertisements of the said agent be not inserted in the Journal.

Resolved: That the Council arrange for the appointment of a Special Committee to consider the legislative aspects of the prevention and treatment of alcoholism and drug habits.

Resolved: That the minutes of the Ethical Committee be received.

Resolved: That the recommendations of the Ethical Committee be approved. (See Ethical Committee, p. 58.)

Moved by Dr. Cecil Shaw, seconded by Dr. Craig, and

Resolved: That the attention of the Council of the British Medical Association having been drawn to the attitude of the Central Midwives Board to the Belfast Maternity Hospitals, the Council requests the Central Midwives Board to reconsider the question, so that nurses trained in these institutions prior to March 31st, 1905, and who present certificates of having passed the examination at the end of their practical training, shall be placed in the same position as nurses trained under similar conditions in the Dublin Maternity Hospitals, and in the Lying-in Hospitals in Cork and Limerick, and who, up to March 31st, 1905, have been placed on the roll of certified midwives.

Resolved: That the minutes of the Scientific Grants Committee be received.

Resolved: That Mr. Major Greenwood, jun., Dr. Herbert E. Roaf, and Mr. John Anderson Craw be appointed Research Scholars.

Resolved: That Mr. H. de Reimer Morgan be appointed to the Ernest Hart Memorial Scholarship.

Resolved: That the following amounts be voted: Renewed Grants, £155; New Grants, £198. Total of Grants, £353.

Resolved: That the annual report of the Scientific Grants Committee be received and approved (see p. 61).

Resolved: That the minutes of the Hospitals Committee be received.

In reference to the following:

That every qualified practitioner, willing to act, in the district served by the cottage hospital, be a member of the medical staff,

An amendment was moved by Dr. Galton, seconded by Dr. Langley Browne:

That the Council do disagree with this recommendation

The amendment, having been put from the chair, was declared to be lost.

Whereupon an amendment was moved by Dr. Rayner, seconded by Mr. Kinsey,

That the recommendation be referred back to the Hospitals Committee.

The amendment, having been put from the chair, was declared to be lost.

Whereupon an amendment was moved by Dr. Edgar Barnes, seconded by Mr. Parkinson,

That the recommendation be amended to read as follows:

That as a general rule it is advisable that every registered practitioner willing to act in the district served by the cottage hospital be a member of the medical staff.

The amendment, having been put from the chair, was declared to be carried.

On being put as a substantive motion, a further amendment was moved by Mr. Spanton, seconded by Dr. Hamilton:

That the words "be a member of the medical staff" be deleted, and the words "shall have the privilege of attending his own patients in the hospital" substituted therefor.

The amendment having been put from the chair was declared to be carried. On being put as a substantive motion it was

Resolved: That as a general rule it is advisable that every registered practitioner willing to act in the district served by the cottage hospital shall have the privilege of attending his own patients in the hospital.

In reference to recommendation (2):

(2) That except in cases of emergency, cottage hospitals be only open to persons who, not being in receipt of parochial relief, are at the same time unable to secure adequate treatment at home,

An amendment was moved by Mr. Parkinson, seconded by Mr. Flemming,

That recommendation 2 be referred back to the Hospital Committee.

The amendment having been put from the Chair the same was declared to be lost.

Recommendation 2 was then put and agreed to.

Resolved: That all persons admitted to cottage hospitals contribute where possible towards their maintenance.

Resolved: That a certificate signed by a medical practitioner within the area be a sufficient recommendation for admission.

Resolved: That the following principles be approved with respect to Public Nursing Homes and Pay Wards:

(1) That it is desirable that Public Nursing Homes should be established for patients who, being ineligible for the voluntary hospitals, are yet unable to pay the charges usually made in Private Nursing Homes.

(2) That Pay Wards should not be established in connexion with General Hospitals.

Resolved: That the management of Public Nursing Homes should be vested in a Public Committee in which the medical profession is adequately represented.

In reference to the following recommendation as to the management of Public Nursing Homes:

That no patient should be admitted to a pay ward or pay bed without first producing a certificate of fitness for admission from a medical practitioner, who should whenever possible be the patient's usual medical attendant. If the signatory be not the patient's usual medical attendant, an explanation of the fact should be appended to the certificate.

An amendment was moved by Dr. Hamilton, seconded by Dr. Rayner,

That the words "to a pay ward or pay bed" be deleted.

The amendment, having been put from the Chair, was declared to be carried.

Resolved: That it shall be open to a patient to select any registered medical practitioner as his attendant.

Resolved: That when the payment made by a patient is insufficient to cover the entire cost of maintenance, or when any question arises as to reduction or remission of fees for professional services, a statement of the financial circumstances necessitating such consideration shall be signed by the patient or near relative, countersigned by the usual medical attendant or some other responsible householder, and submitted to the Committee.

Resolved: That the minutes of the Hospitals Committee as amended be adopted.

Resolved: That the minutes of the Organization Committee be received.

Resolved: That the Council authorize the Treasurer to refund to the Treasurer of the Ulster Branch, out of the moneys lying to the credit of the Connaught Branch, the cost of circularizing the members of the Connaught Branch in connexion with the nomination and election of Joint Representatives of the two Branches on the Central Council.

Resolved: That in the circumstances the Council accepts the return of the election of a separate Representative for the Ceylon Branch, but that it be pointed out for the future guidance of the Branch that Representatives on the Central Council take up office as from the time of the annual meeting of the Association.

Resolved: That the grouping of Colonial Branches be made at the January meeting of Council, that notice thereof be issued forthwith after such meeting of Council, and that the Colonial Branches be asked not to elect Representatives to the Central Council until they have received the intimation of their grouping.

Resolved: That the returns to the Central Council made by Colonial Branches for 1905 6 before receipt of information as to the grouping be accepted.

Resolved: That the Rules submitted by the Wandsworth Division regarding (1) Selection of candidates for election as Branch Officials and Branch Representatives on the Central Council; (2) Division Officers and members of the Division Executive Committee; and (3) the Division Ethical Committee be approved.

Resolved: That alterations of the Rules submitted by the Birmingham Branch and the Coventry and Liverpool (Northern) Divisions be approved.

Resolved: That the adoption of the Model Rule as to Casual Vacancies by the Tunbridge Wells and South Edinburgh Divisions be approved.

Moved by Dr. CRAIG, seconded by Dr. CECIL SHAW, and

Resolved: That it be an instruction to the Organisation Committee to take steps to have the Connaught Branch organized.

Resolved: That the minutes of the Committee of Chairmen of Committees, Officers, and Co-opted Members be received.

On consideration of the Recommendation that Article XLV remain as at present, except that the word "Annual" be deleted where it occurs in connexion with the Representative Meeting, an amendment was moved by Dr. BUIST, seconded by Mr. PARKINSON, that the following Draft Article be adopted in substitution of Article XLV:

TRAVELLING EXPENSES.

The first class travelling expenses within the United Kingdom of Members of Council and Representatives of Divisions attending the Representative Meetings shall be paid out of the general funds of the Association. Attendance of Representatives of Divisions for this purpose shall be construed to mean attendance at each daily Session of the Annual Representative Meeting, and at each daily Session of the Annual General Meeting, when business described under the head (A) is being transacted, unless the Council shall be satisfied that a good cause existed for absence from any particular Session or Sessions. Members attending Meetings of Council or of Committees of the Association shall be paid by the Association such travelling or other expenses incidental thereto as may from time to time be prescribed by the By-laws.

The amendment having been put from the Chair, was declared to be lost.

The recommendation on being put to the meeting as a substantive motion was carried.

Resolved: That the minutes of the Colonial Committee be received.

Resolved: That the Colonial Secretary be thanked for forwarding a copy of the dispatch from the Governor of the Straits Settlements, together with a copy of Ordinance No. IX of 1905, entitled "An Ordinance to Provide for the Registration of Medical Practitioners in the Colony." Further, that the Colonial Secretary be informed that the British Medical Association is pleased to learn that His Majesty will be advised to grant his Royal assent to this Ordinance, the British Medical Association believing that such an Ordinance will tend to guard the general public of the Straits Settlements against the danger of unqualified and unskilled practice.

Resolved: That the Malaya Branch be congratulated on the success of their efforts in obtaining an Ordinance to provide for the registration of medical practitioners in the colony.

Resolved: That the eight candidates whose names appear on the circular convening the meeting be and they are hereby elected members of the British Medical Association.

Moved by the CHAIRMAN OF COUNCIL, and

Resolved: That it be recommended to the Annual General Meeting that Dr. William Collier be elected a Vice-President of the Association for his distinguished services as President of the Association during the past year.

Resolved: That it be recommended to the Annual General Meeting that Dr. E. Markham Skerritt be elected a Vice-President of the Association in recognition of the valuable services he has rendered as Treasurer during the past three years.

Moved by Professor SAUNDBY, seconded by Dr. RAYNER, and

Resolved: That the Council regrets it is unable to appoint Delegates to attend the forthcoming Congress of the Royal Institute of Public Health.

The General Secretary reported receipt of a Requisition from three constituencies—namely, Dundee, Gateshead, and Stirling Divisions, calling for a Special Representative Meeting to consider certain proposals from the Dundee Branch and published in the SUPPLEMENT of June 17th, p. 339.

Moved by Dr. BUIST, seconded by Mr. KINSEY, and

Resolved: That the consideration of the Requisitions from the Dundee, Gateshead, and Stirling Divisions be postponed until the October meeting of Council.

Moved by the PRESIDENT, seconded by Dr. GROVES, and

Resolved: That the Council approves of the aims of the National League of Physical Education and Improvement, and will be glad to render it their assistance, if possible, on hearing what the Executive of the League wish the Association to do.

Moved by Dr. CROCKER, seconded by Mr. O'SULLIVAN, and

Resolved: That the Chairman of Council request Dr. Leonard Williams to convey the thanks of the Council to Dr. Carron de la Carrière, and to express their regret that they are unable to accept his kind offer, and to inform him that they will be pleased to insert a notice of the proposed tour in the JOURNAL.

The Council, having completed its business, rose at 4.30 o'clock.

Proceedings of Standing Committees.

MEDICO-POLITICAL COMMITTEE.

A MEETING of the Medico-Political Committee was held at the office of the Association on May 16th, when there were present: Dr. R. C. Buist in the chair. Dr. Major Greenwood, Mr. T. Garrett Horder, Dr. J. A. Macdonald, Mr. M. A. Messiter, Mr. E. H. T. Nash, Mr. D. A. O'Sullivan, and Mr. C. H. Watts Parkinson. Dr. J. Ford Anderson attended at the request of the Chairman.

APOLOGIES FOR ABSENCE.

Letters of apology for non-attendance were read from the President, the Chairman of Representative Meetings, the Chairman of Council, the Treasurer, Mr. George Jackson, Dr. L. Kidd, and Mr. Jones Morris.

MEDICAL REPRESENTATION IN PARLIAMENT.

A communication was read from the chairman of the Unionist Association of a county constituency inquiring whether the British Medical Association would be prepared to subscribe to the election expenses of a local parliamentary candidate who was a medical man, and it was resolved that the applicant be informed that the assistance requested is outside the present regulations and powers of the Association.

THE ALIENS BILL.

With reference to the previous recommendation of the Committee approved by the Council, that trachoma should be scheduled as a contagious disease under the Bill, the Medical Secretary reported communications with representatives of the South Wales and Monmouthshire Branch.

The Chairman called attention to the fact that there was no schedule to the Bill as introduced into Parliament this year; that the Bill provided for the exclusion by an immigration officer and medical inspector of persons who owing to infirmity appeared likely to become a detriment to the public; that a

right of appeal to an Immigration Board was accorded; and that the Home Secretary was given power to make rules for the guidance of the Board. It was resolved that steps be taken to provide that among the statutory powers given to the Home Secretary should be the scheduling of diseases.

Payment of Medical Men called in under the Midwives Act.

The following draft memorial to the Privy Council prepared by a subcommittee in pursuance of the directions of the Committee was presented:—

(Draft) Memorial to be submitted to the Lord President of His Majesty's Privy Council concerning the present position of Members of the Medical Profession when called by Midwives to their assistance in pursuance of the requirements of the Midwives Act, 1902.

The British Medical Association begs leave most respectively to bring to the attention of the Lord President of the Privy Council, as the body appointed by Parliament to control the administration of the Midwives Act, the following considerations with respect to the position in which registered medical practitioners have been placed as the result of certain provisions of that Act:

Under Section 3 of the Act the Midwives Board is appointed, and the duties and powers of the Board are prescribed, among these being:—

Under Subclause 1 (*e*) of the Section to frame Rules regulating, supervising, and restricting within due limits the practice of Midwives.

Under Subclause 1 (*f*) to frame Rules deciding the conditions under which midwives may be suspended from practice. And under Subsection 5 to decide upon the removal from the Roll of the name of any midwife for disobeying the rules and regulations from time to time laid down under this Act by the Central Midwives Board, or for other misconduct, and also to decide upon the restoration to the Roll of the name of any midwife so removed.

The Board has accordingly framed Rules under Section 3, and these Rules have been approved by the Privy Council, and have thereby become valid in accordance with the provisions of the Act.

Among the Rules so approved is Rule 17, which provides that in certain specified circumstances a midwife must decline to attend alone, and must advise that a registered medical practitioner must be sent for.

It results from the operation of these Rules that medical practitioners are called upon frequently to give assistance to midwives in cases which from their nature are, as a rule, cases of urgency, and in which, therefore, there is no time either for inquiry as to the ability of the patient to pay for the services thus rendered or for obtaining from a relieving officer an order for relief under the Poor Law. It would appear, moreover, that if such provision were made under the Poor Law, in the present state of the law, only the Poor-law Medical Officer for the district could be summoned, whereas the exigencies of the case may require that the nearest medical practitioner should be summoned, or it may be thought proper that, if time permits, patients in such cases should be allowed to select their own medical attendants for the purpose.

The British Medical Association having given careful consideration to the matter, would most respectfully suggest for the consideration of the Privy Council that public provision of some kind should be made to remove the difficulties at present existing, and the Association would suggest that such provision should be made subject to the following conditions;

1. Inasmuch as the calling in of a registered medical practitioner in cases of the kind under notice is not at the discretion of the patient, but is required of the midwife under virtually a statutory regulation, public provision should be made to guarantee that the medical practitioner so called in will, in the first instance, be remunerated by some local public authority.
2. The public authority should have power to recover the fees so paid from those patients who on inquiry are found to be able to pay.
3. The payment should be made through the County Council, or the local supervising authority, in preference to the Poor-law authority.
4. In each district a list should be prepared of all medical practitioners who are willing to undertake the duty, and a copy of this list should be supplied to each midwife practising in the district.
5. It should be left to the patient to call in either the nearest practitioner or some other selected by her, through whatever authority the payment is made.
6. Where a registered medical practitioner is called in in case of emergency the fee paid should be not less than 2 guineas.

It was resolved that the draft memorial be referred for the consideration of the Annual Representative Meeting before any action is taken.

The Midwives Act.

A communication from a Branch Council, reporting, for the information of the Committee, action taken with respect to a proposal that the nurses employed by a county nursing association should be released from the present obligation to act under the supervision of medical practitioners, was directed to be filed for future reference.

Payment of Medical Witnesses and of Practitioners called to Emergency Cases by the Police.

The following reports of the subcommittee appointed to investigate and report on these subjects were received, and the recommendations adopted.

SUBCOMMITTEE (B) ON THE PAYMENT OF MEDICAL WITNESSES AND OF PRACTITIONERS CALLED TO EMERGENCY CASES BY THE POLICE.

Reports and Recommendations, May 3rd, 1905.

I. *Fees paid to Medical Witnesses.*

The Subcommittee reports: That no immediate action is advisable, but that the Committee is recommended to continue to watch the subject, with a view to action when sufficient evidence of the operation of the Home Secretary's Order shall be available.

The Subcommittee recommends the Committee to take steps to make it known that the Association will be greatly assisted, in dealing with the matter, if medical practitioners concerned in cases which illustrate the operation of the Home Secretary's Order will communicate statements of the facts to the Medical Secretary.

II. *Payment of Medical Practitioners called to Emergency Cases by the Police.*

The Subcommittee reports: That in the opinion of the Subcommittee the facts ascertained as a result of the inquiries which have been addressed to the police authorities throughout the United Kingdom (*see below*) do not indicate any grievance calling for action by the Association, but that in a few places there appears to be reason for action, and the Association should render such support to the Divisions concerned as may be required if they desire to move in the matter.

REPORT ON REPLIES TO INQUIRIES ADDRESSED TO POLICE AUTHORITIES AS TO THEIR RULES AND PRACTICE IN THE MATTER OF SUMMONING MEDICAL PRACTITIONERS, OTHER THAN POLICE SURGEONS, TO ATTEND EMERGENCY CASES.

I.—England and Scotland.

Inquiries were sent to the police authorities of the sixty-five English towns of a population of 50,000 or more, and to the authorities of the twenty-one Scottish towns of a population of 25,000 or more. Up to May, 1905, 68 of these authorities had replied.

(a) *As to Fees.*

Thirty-nine state that they hold themselves responsible in such cases for any reasonable fee charged by the doctor. This fee is stated to vary from 3s. 6d. to 10s. 6d., or more, according to circumstances.

Twenty-one have a fixed scale of fees which they pay to doctors in such cases. These vary from 2s. 6d., 3s. 6d., or 5s., for a day call, to 7s. 6d., 10s., or (in two cases) 10s. 6d. for a night call.

Four police authorities state that all work of the kind is done by one or other of their police surgeons or deputy police surgeons, or sent to hospital.

Four police authorities state that they do not hold themselves accountable for such fees.

(b) *As to Conditions of Payment.*

With two exceptions all the sixty police authorities who

may in such circumstances summon a doctor other than a police surgeon, and who hold themselves responsible for his fee, make it a condition, as regards the payment of the fee by them, that the doctor has been actually summoned to attend *by the police*.

II. IRELAND.

The inquiries made have elicited the information that the whole of Ireland, with the exception of Dublin City, is policed by the Royal Irish Constabulary. With the exception of Dublin City, the rules and practice of the Irish police in the matter of summoning medical practitioners, other than police surgeons, to attend emergency cases are those contained in the Regulations of the Royal Irish Constabulary. The rules and practice of the Dublin police authorities are similar.

(a) *As to Fees in Ireland.*

If the services (on a "visiting ticket," obtained from the relieving officer) of a dispensary doctor are not available, and some other medical practitioner has to be called, the constabulary hold themselves responsible for the fee (£1 1s.; if detained more than three hours, £2 2s.).

The City of Dublin Police hold themselves responsible for "the ordinary fee."

(b) *As to Conditions of Payment in Ireland.*

If the patient is in a position to pay, he does so. Failing his so doing, the Royal Irish Constabulary and City of Dublin Police, respectively, hold themselves for the doctor's fee as above.

The Regulations both of the Royal Irish Constabulary and of the City of Dublin Police make it a condition, as regards the payment of the fee by them, that the doctor has been actually summoned to attend *by the police*.

INDECENT ADVERTISEMENTS.

The report of the Subcommittee appointed to consider the amendment of the Indecent Advertisements Act was presented.

The report was approved, and the recommendations of the Subcommittee adopted by the Committee, as follows :—

(1) That the draft memorial to the Home Secretary, as amended by the Subcommittee be approved and forwarded :
(2) That the London Council for the Promotion of Public Morality be informed of the action which is being taken, and that a copy of the memorial be sent to them, and they be asked to take similar action concurrently with the Association :
(3) That a Subcommittee be appointed by the Committee to watch and take such action as may be deemed advisable in co-operation with the London Council for the Promotion of Public Morality, and that the latter Council be informed of the appointment of this Subcommittee :
(4) That a copy of the Memorial be forwarded to the London County Council, with a request that the Council take action in the same direction.

The Memorial is as follows :—

The British Medical Association desires to call the attention of the Home Secretary to the necessity of amending the Indecent Advertisements Act of 1889 by adding provisions which shall bring within its scope advertisements of an indecent nature that appear in the public press, and also certain advertisements, objectionable as regards subject matter, and the exposure to public view of certain appliances, to which the Act at present appears not to apply.

As the law stands advertisements can be printed with impunity in the public press which, if contained in handbills generally distributed, or if exhibited by posters, would render their authors liable to the penalties named in the Act; and there is apparently no provision against the injury to public morals which results from advertisements relating to means for the prevention of conception or the interruption of pregnancy, nor from the exposure in shop windows of appliances devised for these purposes.

In the course of their professional duties, medical men become familiar with the evils which arise through advertisements of the character alluded to in this memorandum, and on their behalf the Association has to express the opinion that as much harm is done to the community by such advertisements as by those which the Act at present prohibits.

If the Home Secretary shall be of opinion that the law should be altered in the directions proposed by the Association, the Association recognizes that the Home Office would be the most competent to decide the exact form in which such alterations should be made, but it appears convenient to suggest the following specific amendments of the present Act in order to indicate the precise nature of the reforms which the Association thinks desirable :

(*a*) In Clause 3, in line 9 of the Clause, after the word "shop," insert the words "or whosoever shall print or cause to be printed, or shall publish or cause to be published, in any newspaper or printed publication."
(*b*) In Clause 3, line 9, after the word "matter," insert the words "or exhibit to public view in the window of any house or shop any appliance for improper purposes."
(*c*) In Clause 5, line 3 of the Clause, after the word "intercourse," insert "or relating to the sale of drugs, medicines or appliances for improper purposes such as procuring abortion, or promoting miscarriage, or preventing conception, or which, by suggestion, shall imply that such drugs, medicines, or appliances can be used for such purposes."

PROVIDENT DISPENSARIES AND PUBLIC MEDICAL SERVICES.

Dr. MACDONALD reported that, as requested by the Committee, he had attended the meeting of the Hospitals Committee on April 27th when the subject of provident dispensaries had been considered, had explained to the Hospitals Committee that the Medico-Political Committee were dealing with such aspects of provident dispensaries as affected the question of contract practice; and had asked the Hospitals Committee not to formulate any proposals which might be prejudicial to the institution of public medical services.

The Hospitals Committee had, in consequence, postponed dealing with the subject of provident dispensaries until the Medico-Political Committee had completed its investigations and reported as to a public medical service. Dr. Macdonald's report was approved, and it was resolved that a subcommittee be appointed consisting of the Chairman, Mr. Garrett Horder, Dr. Macdonald, Mr. Nash, Dr. Beverley, Dr. Ford Anderson, and Dr. Lauriston E. Shaw, to consider the subject of provident dispensaries and public medical services and to report thereon; the Subcommittee were empowered to add to their number.

THE EBBW VALE COLLIERY DISPUTE.

A further report regarding the Ebbw Vale Colliery dispute was presented by the Medical Secretary and approved.

The MEDICAL SECRETARY reported, first, as to a meeting which he had attended at Ebbw Vale on April 22nd, of the medical officers of the Ebbw Vale Doctors' Fund and private practitioners in the district, with representatives of the Monmouthshire Division and South Wales Branch Executives; and, secondly, a conference of a deputation appointment by that meeting with the committee of the doctors' fund; also correspondence with the secretary of the committee of the fund with the honorary secretary of the Monmouthshire Division and with candidates for the appointment, as the result of which it appeared that four candidates had met the committee of the fund and had declined to enter the service of the committee, except upon such terms as might be approved by the British Medical Association.

The Committee expressed its gratification at the attitude of the candidates and satisfaction with the conduct of the matter by the Medical Secretary, and authorized further action.

ABERAMAN DISPUTE.

A report as to action taken in the matter of a dispute at Aberaman with respect to the introduction of the new doctor's scheme was also received and approved.

It was resolved :

That the Council be recommended, as a matter of urgency, to take Counsel's opinion as to the working of the Truck Act and of the Companies Act in reference to colliery and other contract practice appointments.

ACTION AS TO A POOR-LAW AND PUBLIC VACCINATOR'S APPOINTMENT.

A report was submitted of action taken through the Oxford Division in the matter of an appointment of Poor-Law Medical Officer and Public Vaccinator, which had resulted in the reappointment on his own terms of the member who had applied for assistance. The report was approved.

CONTRACT PRACTICE.

A report was presented on the replies of Divisions to date to the propositions contained in the Committee's interim report published in the SUPPLEMENT of November 26th, 1904,

and referred to Divisions by instruction of the Annual Representative Meeting. It was resolved:

That it be remitted to the Chairman and Medical Secretary to prepare the report on the replies for the Annual Representative Meeting.

MEDICAL ACTS AMENDMENT BILL AND CHEMISTS.

The Committee considered the opinion of the solicitor with regard to a saving clause proposed by the Pharmaceutical Society in favour of chemists and druggists, and the following clause suggested by the solicitor was approved:

Nothing in this Act shall affect or modify the provisions of the Pharmacy Acts, 1852 to 1898, or render illegal any act or thing authorized by the said Acts to be done by any person in connexion with pharmacy.

It was resolved that the clause be transmitted to the Pharmaceutical Society.

CASE OF AN UNREGISTERED PRACTITIONER.

Received report of the solicitor on the case of an unregistered person describing himself as a "registered American surgeon," who had circulated cards of an offensive nature. It was resolved:

That the report of the solicitor be approved, and that in view of the proposed departure from the country of the person in question, no further action be taken in the meantime.

HABITUAL USE OF INTOXICATING DRUGS.

On consideration of a communication from the Past-President of the Association, it was decided that the question of legislation with respect to the habitual use of intoxicating drugs should be considered in conjunction with the subject of incipient insanity.

QUESTIONS BEFORE PARLIAMENT.

The Chairman reported that all the Parliamentary matters in which the medical profession was concerned were postponed with the exception of the Aliens and Education (Scotland) Bills, which were in Committee.

ANNUAL REPORT OF THE COMMITTEE FOR THE ANNUAL REPRESENTATIVE MEETING.

The Committee considered a draft of the annual report of the Committee for the Annual Representative Meeting, prepared by the Chairman and the Medical Secretary, and it was resolved that the draft be approved, and that it be left to the Chairman and Medical Secretary to complete the report.

CORONER FOR SOUTH-WEST LONDON.

The Medical Secretary reported as to the present position of affairs in this matter.

Another meeting of the Committee was held on June 7th, when there were present: Dr. R. C. BUIST in the chair, Dr. W. Collier (President of the Association), Mr. Andrew Clark (Chairman of Council), Dr. Major Greenwood, Mr. T. Garrett Horder, Dr. J. A. Macdonald, Mr. Jones Morris, Mr. E. H. T. Nash, Mr. D. A. O'Sullivan, and Mr. C. H. Watts Parkinson.

APOLOGIES FOR ABSENCE.

Letters of apology for non-attendance were read from the Chairman of Representative Meetings, the Treasurer, Mr. G. Jackson, and Dr. L. Kidd.

VOTE OF CONDOLENCE.

A resolution expressing the regret of the Committee at the death of Dr. Murphy, of Sunderland, was carried.

CORONER FOR SOUTH-WEST LONDON.

The MEDICAL SECRETARY reported on the position of this matter up to date.

CASE OF AN UNREGISTERED PRACTITIONER.

With reference to a case brought before the notice of the Ethical Committee of alleged advertising by a registered medical practitioner, it was reported that on investigation it was found that the person in question was an unregistered practitioner who had been prosecuted by various medical societies in different parts of the country. In two of the instances the Medical Defence Union had been concerned, and by the courtesy of the Union the Association had been furnished with copies of the documents. The Medical Secretary and Solicitor were instructed to take such action as was possible in the case, and to report in due course.

DEPARTMENTAL COMMITTEE'S REPORT ON VACCINATION EXPENSES.

The report of the Subcommittee appointed to consider this matter was presented, and the CHAIRMAN of the Public Health Committee stated that the report of the Subcommittee had been considered by the Public Health Committee, which had approved the recommendation subject to certain emendations. The Committee concurred in the recommendations of the Public Health Committee.

SUBCOMMITTEE ON LUNACY, ETC., LAW.

The Subcommittee appointed to consider this question presented an interim report, consideration of which was postponed until the next meeting.

PROVIDENT DISPENSARIES AND PUBLIC MEDICAL SERVICES.

The Subcommittee appointed to consider this question reported:

(1) That they have met and carefully considered the matters referred to them.

(2) That they are not yet in a position to report finally, but propose to meet again in time for their report to be circulated to the Committee at its next meeting.

(3) That inasmuch as the Hospitals Committee meet on June 22nd, the Subcommittee ask leave to communicate their report for the information of the Hospitals Committee.

The Subcommittee was authorized to communicate its report to the Hospitals Committee for the information of that Committee.

Arising out of the report of the Subcommittee, the CHAIRMAN reported that a letter from the Honorary Secretary of the Central Birmingham Division had been read to the Subcommittee, and that the Subcommittee felt that the matter was one in the first place for local action which could better be suggested by the Committee. The Medical Secretary was instructed to write to the Honorary Secretary of that Division suggesting the advisability of a conference between the Division and the Medical Secretary.

CONTRACT PRACTICE.

A letter was read from the Manchester Medical Guild asking that a resolution as to Contract Practice be inserted in the JOURNAL and also brought before the Medico-Political Committee. It was resolved that the resolution of the Manchester Medical Guild be sent to the Manchester Divisions with an inquiry whether they desired to express any opinion thereon or would defer doing so until the report of the Medico-Political Committee shortly to be issued on the facts ascertained in the inquiry on contract practice is available.

It was recommended that the resolution be not published in the JOURNAL in the meantime.

The CHAIRMAN reported as to the preparation of the report on contract practice which was to be presented to the Annual Representative Meeting, and it was resolved that the report be completed in the manner proposed and the necessary expenditure incurred.

EBBW VALE COLLIERY DISPUTE.

The MEDICAL SECRETARY reported on the further progress of this matter, and his report was approved.

NURSES' REGISTRATION.

The MEDICAL SECRETARY reported that Sir Victor Horsley and Dr. Langley Browne had given evidence before the Select Committee of the House of Commons on Nurses' Registration. Also that in consequence of evidence subsequently given on behalf of the Incorporated Medical Practitioners' Association tending to depreciate the representative character of the British Medical Association, the Medical Secretary had tendered evidence as to the nature and composition of the Representative Meeting of the Association, and the circumstances in which the resolution as to nurses' registration had been adopted.

The Committee met again on June 28th, when there were present: Dr. R. C. BUIST, in the Chair, Sir Victor Horsley, F.R.S. (Chairman of Representative Meetings), Dr. Major Greenwood, Mr. T. Garrett Horder, Dr. J. A. Macdonald, Mr. W. Jones Morris, Mr. E. H. T. Nash, Mr. C. H. Watts Parkinson.

APOLOGIES FOR ABSENCE.

Letters of apology for non-attendance were read from the President, the Treasurer, Mr. G. Jackson, Dr. L. Kidd, and Mr. D. A. O'Sullivan.

PHARMACY BILL.

A letter from the Joint Committee of the Glasgow Divisions relating to the Pharmacy Bill was read, and it was resolved that as the Bill has been withdrawn the letter be noted for consideration if the Bill be introduced.

PAYMENT OF MEDICAL PRACTITIONERS CALLED TO EMERGENCY CASES BY THE POLICE.

A letter was read from the Honorary Secretary of the Ayrshire Division regarding the payment of medical men summoned in emergency cases by the police in Ayr and Kilmarnock. It was resolved:

That the Division be recommended to take local action, and that such advice and support as the Committee can give be afforded.

PROVIDENT DISPENSARIES AND PUBLIC MEDICAL SERVICES.

Reports of the Subcommittee on provident dispensaries and public medical services were considered, together with suggestions communicated by the Hospitals Committee as the result of their consideration of the report on provident dispensaries.

Certain emendations having been made, the reports were adopted for inclusion in the report on contract practice.

THE TREATMENT AND DETENTION OF PERSONS SUFFERING FROM INCIPIENT INSANITY, INEBRIETY, OR DRUG HABITS.

The following recommendations of the Subcommittee appointed to consider this subject were approved:

Lunacy Bill (Attorney-General's Bill).

1. That while recognizing the importance of the Government's proposal for the treatment of cases of unconfirmed mental disease, the Subcommittee is of opinion that the present Bill is inadequate for the purpose.
2. That provisions should be made for the treatment of such cases in reception houses.
3. That statutory provision should be made for the superannuation of the asylum staffs.
4. That the provision for increase in the number of Medical Commissioners is inadequate.
5. That provision should be made for the removal of the temporary disqualification, during a period of one or more years preceding the date of appointment, of certain medical practitioners for appointments as Commissioners or Chancery Visitors.

Lunacy Acts Amendment (London) (No. 2) Bill (Sir John B. Tuke's Bill).

That the Bill be approved.

Deputation to Lunacy Commissioners.

That it be recommended that the Association should join the Medico-Psychological Association in appointing a deputation to confer with the Lunacy Commissioners as regards the temporary disqualification of certain medical men for Lunacy Commissionerships, and any other points on which the two Associations may be agreed.

Alcoholism, Morphinism, Cocainism, and other Drug Habits.

1. That this Subcommittee considers that the habitual taking of drugs in excess is a habit sufficiently allied to habitual drunkenness to render it desirable that the two subjects should be considered together.
2. Any legislation made to apply to habitual drunkards should be made applicable to takers of drugs.
3. That further legislation is needed to obtain more ready and efficient control over habitual drunkards (including drug-takers).
4. That the readiest way to influence Parliament would be to approach, at an early date, the Royal Commission on the Feeble-minded, and to state to them facts known to members of the Association.
5. That the Medico Political Committee be recommended to take into consideration the whole question of the laws relating to alcoholism, its prevention and treatment, with a view to their amendment.

It was resolved:

That the Council be recommended to arrange for a joint deputation from the Association and from the Medico-Psychological Association to the Commission on Lunacy with regard to the disability of certain medical practitioners for lunacy appointments, and such other matters, if any, as may be agreed upon.

That the Council be recommended to approach the Royal Commission on the Feeble-minded with reference to the question of alcoholism and drug habits.

That the Council be recommended to arrange for the appointment of a Special Committee to consider the legislative aspects of the prevention and treatment of alcoholism and drug habits.

EBBW VALE COLLIERY DISPUTE.

The MEDICAL SECRETARY reported further proceedings in this matter since the last meeting of the Committee. The action of the Medical Secretary was approved, and any further visits by the Medical Secretary that may be required authorized.

CLUB DISPUTES.

The MEDICAL SECRETARY reported also on a club dispute at Portsmouth, and on the arrangements for meetings to be held arising out of the instructions of the Committee relating to to the Birmingham General Dispensary. The report was approved.

CONTRACT PRACTICE.

On consideration of the Draft Report on Contract Practice, it was resolved that the preparation of the conclusions and recommendations be postponed until the next meeting of the Committee, and the Chairman, the Chairman of Representative Meetings, and Dr. J. A. Macdonald were appointed a Subcommittee to formulate conclusions and recommendations on contract practice for the consideration of the Committee.

Correspondence with a medical agent was considered, and it was resolved that the Council be recommended to refuse to insert in the BRITISH MEDICAL JOURNAL any further advertisements by the agent in question.

ACCIDENTS (MINES AND FACTORIES) BILL.

The MEDICAL SECRETARY reported the result of a deputation to Mr. Cochrane, Parliamentary Under-Secretary for the Home Office, and it was resolved that the Committee saw no reason for the Association to withdraw its opposition to the Bill.

PUBLIC HEALTH BILL.

The CHAIRMAN of the Public Health Committee reported that Dr. Hutchinson had continued to put down the Public Health Bill for second reading, but there was now no prospect of this being read this session. Mr. Parkinson also reported that he had been accorded an interview with the President of the Local Government Board, and had subsequently written to the President asking him to receive a deputation from the British Medical Association, with a view to laying before him the grounds on which the Association would ask the Government to take up the Bill. That Mr. Balfour had replied that the Government could not take up at this period of the session a private member's bill that has not reached a more advanced position than that reached by the Public Health Bill; that he was in sympathy with the Bill, though details would doubtless require consideration by the Government, and that he would be prepared to receive a deputation from the Association in the autumn if desirable. That in response to an inquiry Mr. Gerald Balfour's Private Secretary had since informed the Medical Secretary that probably November would be the most convenient time to Mr. Balfour for the Association to renew its application.

ALIENS BILL.

The following letter was directed to be transmitted to the Home Secretary:

Sir,—The Council of the British Medical Association has instructed me most respectfully to bring under your notice the desirability of some provision in the Aliens Bill which shall secure uniformity of practice at the different ports, with respect to the diseases, sufferers from which are to be deemed undesirable immigrants.

For this purpose the British Medical Association would suggest for your consideration that power might, with advantage, be taken under Clause 2 of the Bill for the Secretary of State to lay down rules on this subject for the guidance of Immigrant Boards among the rules which he is empowered by that section to lay down.

The British Medical Association would also suggest that if rules of the kind are made, Trachoma should be included among the diseases, sufferers from which should be excluded as undesirable immigrants.

I am, Sir,
Your obedient Servant,

Medical Secretary.

REPRESENTATION OF THE MEDICAL PROFESSION IN PARLIAMENT.

The CHAIRMAN presented certain suggestions for the possible assistance of medical candidates for Parliament, pending the carrying out of the scheme already approved by the Council. It was resolved that no recommendation be made.

CORONERS' INQUESTS.

A letter suggesting the attendance of an inspector appointed

by the Association at every coroner's inquiry was read, and it was decided that the suggestion in its present form was impracticable.

Bribing at a Medical Election.

A resolution from the South-Eastern of Ireland Branch on this subject was read, and it was resolved that the information given was insufficient as a basis for action.

Midwives Board and Irish Hospitals.

Communications were read respecting the attitude of the Midwives Board to the Belfast Maternity Hospital and the Belfast Union Maternity Hospital, and it was resolved:

That the Committee, while fully sympathizing with the communications, regret that they are not in a position to recommend any effective action by the Association in the matter.

ETHICAL COMMITTEE.

A meeting of the Ethical Committee was held at the office of the Association on June 16th, when there were present: Professor Saundby (Chairman) in the chair, Mr. Andrew Clark (Chairman of Council), Mr. H. A. Ballance, Mr. G. H. Broadbent, Dr. G. B. Ferguson, Dr. Bruce Goff, Dr. E. Jepson, Mr. W. D. Spanton.

Apologies for Absence.

Letters of apology for non-attendance were read from the President of the Association, Dr. A. G. Bateman, Dr. W. A. Elliston, and Mr. D. A. O'Sullivan.

Professional Secrecy and Employment of Auditors.

The Committee approved the following reply given to a practitioner who sought advice respecting obligations of professional secrecy as affecting the employment by medical practitioners of accountants:

That it is not the universal practice in medical partnerships to employ auditors, but the reasons for non-employment are not ethical.

So far as known, exception has not been taken, on the ground of the obligation of professional secrecy, to the employment of a professional auditor or accountant. Medical practitioners, like members of other professions who are entrusted with confidences, must frequently employ other persons to carry out various details of their work, such as secretaries, clerks, or book-keepers, and may also find it necessary to call in professional people to assist them. Such persons must become aware of some of the confidential information entrusted to their employers. Secondly, an accountant or auditor would only have access, in ordinary circumstances, to books of account, and would not require to refer to those books which contain the specially-confidential information in the possession of a medical practitioner.

If there were special reasons for preventing an accountant from becoming acquainted with facts concerning patients, the course suggested by the correspondent might be adopted, namely, to use numbers instead of names to indicate the patients in the books.

British Electro-Therapeutic Society.

A communication was considered from the British Electro-Therapeutic Society objecting to a letter written on behalf of the Committee in reply to a practitioner who desired advice as to taking charge of a so-called department of electricity in a public exhibition, and giving a short demonstration daily. The Society considered that the letter suggested that treatment of disease by electrical methods could be efficiently given by a layman.

The Committee directed that it should be pointed out to the Society that the letter had been misunderstood; it had no reference to treatment, but only to a demonstration to the public in an exhibition.

Advertisements not Affecting Medical Practice.

Correspondence between a member of Council and the Chairman of the Committee respecting a previous finding of the Committee as to the names of medical men being advertised in connexion with a high school for girls was considered. The Committee approved the following statement by the Chairman:

Many members of the medical profession appear to extend their notions of advertising far beyond anything that is reasonable, and would in their zeal prohibit medical men from allowing their names and qualifications to appear in any prominent position. The principle to be observed is that no one should advertise or canvass, or tout "for practice," or in the words of the General Medical Council, "for the purpose of procuring patients," and apart from direct advertising, it may be said that the advertising of medical books in the lay press, the contribution of articles on medical subjects to lay newspapers, and the delivery of lectures to lay audiences on the treatment of disease may fairly come within the class of things prohibited; but a medical practitioner may take part in public work, may be a director or on the governing body of any company or corporation not formed for the treatment of disease for profit, without giving just cause for complaint of the appearance of his name in the newspapers.

Hydropathic Advertisements.

To a member who asked advice as to publication of his name in the prospectus of a hydropathic establishment a copy of the report of the Committee which was circulated to the Divisions had been forwarded, whereupon the member wrote that he would not allow his name to appear in any prospectus or advertisement. The Committee approved the action taken.

Circulars of Friendly Societies.

A communication was considered from the Honorary Secretary of a Division forwarding copies of circulars issued in connexion with two local Friendly Societies. In one case a doctor's name was mentioned, and, as a result of a letter written on behalf of the Committee, the medical practitioner concerned had obtained a written expression of regret from the chairman of the society; there was no formal undertaking, however, not again to issue the circular. The Committee resolved that no further action be taken unless a fresh complaint was received.

In the second case the name of the doctor was not given in the circular, and no action had been taken pending consideration of the case by the Committee. It was resolved that consideration of the matter be deferred, and the Medical Secretary was instructed to inquire if the advertising were systematic, whether placards were issued, and how the handbills were distributed.

Proposed Expulsion.

On consideration of the following resolution of the Metropolitan Counties Branch, received shortly before the Committee Meeting, "That this Branch Council is of opinion that Mr. ——— should be expelled from the Association," the Chairman pointed out that under the regulations, such a case must be inquired into by the Committee before being considered by the Council, and fourteen days' notice must be given to the member concerned.

It was resolved that a special meeting of the Committee be held on Friday, July 14th, at 2 p.m., for the consideration of this case, and any other business; that the solicitor and the member be invited to attend, and that due notice be sent to the member; the solicitor being consulted as to all steps taken.

Trade and Other Advertisements.

The Medical Secretary's report as to trade advertisements brought under notice since the last meeting of the Committee was received and approved.

Newspaper Notices.

The Medical Secretary's report as to newspaper notices of medical men which had been dealt with since the last meeting of the Committee was also received and approved.

Advertisement of a Club.

The case was considered of a practitioner who had inserted an advertisement in a newspaper informing the public that he had formed a medical and surgical club, and giving the hours when intending members could be seen, and the lines on which the club would be run. His attention having been called to the fact, he had replied admitting that he had been ill-advised in inserting such an advertisement, and expressing great regret therefor. The Committee decided to accept the assurance of regret, but to point out that such advertisement was highly improper.

Advertisement of Change of Address.

The case was also considered of a practitioner who had inserted a notice in a newspaper stating that he was removing, and giving his surgery hours. On his attention being drawn to the matter, he stated that he had inserted the advertisement because his present address was some distance from his old one, and that owing to his not taking the address of surgery patients, he was obliged to put the notice in the paper to inform them of the change. The Committee considered that the reasons given were insufficient, and expressed disapproval of such action.

Division Rules.

Rules submitted by the Tyneside Division, identical with those submitted by the Blythe Division considered by the Committee at its last meeting, were considered, and it was

resolved that the Council be recommended to approve the following rule:

No member of this Division shall enter into an agreement with any person or persons, other than members of the medical profession, which shall contain restrictions on the right of such member to practise in the Division after the termination of any appointment held or to be held by such member.

It was also resolved that as to the remaining rules the same reply be given.

The Council was recommended to approve the adoption of Model Rule Z by the Swansea Division.

Communications from a Division.

The Committee considered four resolutions of a Division, the first requesting the Committee to pronounce sentence in a case upon which the Committee, at the request of the Division, had expressed an opinion as to the conduct of the practitioner concerned; by the second resolution it was desired that the opinion of the Committee should be communicated to a non-medical gentleman who was interested in the matter; the third resolution expressed the opinion of the Division that in all cases of expulsion of a member from the Association that member's name should be published at least twice in the BRITISH MEDICAL JOURNAL; in the fourth resolution the Division requested an expression of opinion by the Central Council in the case of an assistant who had set up in opposition to his former principal.

With respect to the first resolution, the Committee pointed out that the course to be taken by the Division in accordance with the regulations of the Association was to bring the matter before the Branch Council; in reply to the second resolution the Committee instructed the Medical Secretary to take such action as the solicitor might approve in the direction indicated: with regard to the third resolution the Committee resolved that the Division be informed that the course suggested could only be taken if definitely so provided in the regulations of the Association which at present was not the case: with regard to the fourth resolution the Committee expressed the following opinion which they recommended the Council to approve:

That the Committee is still of opinion that the mere fact of an assistant setting up in opposition to his former principal does not in itself constitute an ethical offence; that to prove such an offence, in the absence of any legal bond, it would be necessary to produce satisfactory evidence that the alleged offender had entered into some kind of written or verbal undertaking which, though not enforcible at law, was binding in honour, and that in the statement of the case furnished by the Isle of Wight Division there was no evidence given of the existence of such an undertaking in the present instance.

Intervention of an Outside Medical Society.

The Committee considered correspondence with the Secretary of a Medical Society, who desired to make representations on behalf of a member of the society who was also a member of the Association in a case which was to be considered by the Ethical Committee. By instruction of the Chairman a reply had been given that any defence submitted by the gentleman in question would receive most careful consideration, but the intervention of third parties in inquiries by the Association into the conduct of its members was not provided for by the Regulations.

The Committee approved of the reply sent.

Alleged Interference with Patient of Another Practitioner.

On consideration of a case referred by a Colonial Branch with reference to an operation by a consulting surgeon (B.) on a patient upon which a colleague (A.) had just previously been requested to operate, it was resolved that B. should have communicated directly with A. before deciding to accept the case.

Association with Company for Treatment of Inebriety.

Concerning two medical practitioners associating themselves with a limited company formed to carry on a special treatment for inebriety, and allowing their names to appear on the prospectus, it was resolved:

That the medical men in question be asked whether the treatment, which this Company is formed for carrying out, is not secret: and pointing out that unless the details of treatment are made known to the profession, medical practitioners ought not to accept appointments under the Company ostensibly for the purpose of carrying out the Company's special treatment.

Induction of Abortion.

The Committee recommended that no action be taken by the Council in the matter of a petition from a member concerning advice given with respect to the induction of abortion in puerperal insanity.

Canvassing by Cards.

In reference to a case of alleged canvassing by circulation of cards, the Medical Secretary and Solicitor were instructed to make preliminary inquiries and report to the Committee.

Dispute as to Clubs.

On consideration of further correspondence with reference to a contract practice dispute in Lincolnshire, it was resolved that the following paragraph in a letter written by the Medical Secretary be approved as expressing the opinion of the Committee in the matter, and that the complainant be so informed:

The Association has never yet said, and I doubt whether the Central Ethical Committee would feel justified in saying, that a member of the Association is entitled, without consulting his neighbours, or the Division or any other body representative of the Association, to demand of a club whatever rate he may think proper, and then call upon those whom he had not previously consulted to support him in enforcing such rates upon the club.

Interference of School Medical Officer with Patient of Private Practitioner.

Correspondence was considered between a private practitioner and a medical officer to a local education authority, with respect to the latter examining a child who was a patient of the former. The private practitioner having drawn the attention of the medical officer to the matter, received a reply giving an explanation of the facts.

The Committee concurred in the view that the medical officer should have communicated with the child's medical attendant, but considered that his letter of explanation should have been accepted as a sufficient apology for his mistake.

Hospital Advertisements.

The Committee received the reply of the Hospitals Committee to its communication drawing attention to certain newspaper advertisements of special hospitals in London. The reply was to the effect that in the opinion of the Hospitals Committee the advertisements in question were objectionable, but the Hospitals Committee considered that the matter was one in which action could more conveniently be dealt with by the Ethical Committee. The Committee resolved:

That a letter should be addressed to the Senior Surgeon or Senior Physician of each hospital so advertising, pointing out the undesirability of such advertisements, and that it be left to the Chairman and Medical Secretary to draw up such a letter.

Advertisements containing Certificates of a Medical Society.

The Committee considered a resolution of the Public Health Committee drawing attention to advertisements containing certificates purporting to be given by a society composed of medical practitioners, and intimating that the Public Health Committee disapproved of such advertising.

It was resolved that the attention of the members of the council of the society in question be drawn to the advertisements which are being issued.

Amendment of Model Rules of Ethical Procedure.

The Committee approved the following amended draft of Rules 1, 2, and 3 of the model rules of ethical procedure, namely:

Rule 1. Questions which the Division is asked to consider affecting the professional conduct of members of the Division shall be investigated in the first instance by the Executive Committee of the Division, or by an Ethical Committee appointed annually in General Meeting of the Division, of which Committee the President or Chairman and Secretary for the time being shall be *ex officio* members. (Based on former Rule 2.)

Rule 2. In any case submitted for the consideration of the Division by a member who considers that he has been personally aggrieved by what he alleges to be the unprofessional conduct of another member, the Committee shall not proceed to investigate the complaint until satisfied that the complainant has either personally or by letter, or through the intermediary of some suitable person, afforded the member against whom he makes complaint a reasonable opportunity of explanation. (Based on former Rules 1 and 2.)

Rule 3. In any case not falling within the provision of Rule 2 the Committee shall, before proceeding to investigate the matter, instruct

the Honorary Secretary to communicate to any member respecting whose professional conduct questions appear to the Committee to arise for consideration, a statement of the questions so arising. (New Rule, dealing with a class of cases formerly included within the scope of Rule 1.)

Warning Notices in Journal.

Communications were considered from the New Zealand Branch and the Pretoria Medical Society, asking for the insertion of warning notices in the Journal.

The Chairman reported that he had authorized the insertion of the notice with respect to Pretoria, though the application did not come from a Division of the Association, as the circumstances appeared to him to justify making an exception.

The Medical Secretary drew attention to the difficulty arising in dealing with such cases under the present regulations as to the warning notice, owing to the distance of the Branches concerned. Under the present regulations it was his duty to communicate every month with the Secretary of the Division on whose instance the notice was originally inserted, asking whether it was to be continued, and the notice could not be continued unless authority was received. In the case of Colonial Branches, such a monthly communication by letter would be impracticable. It was resolved that the Committee recommend that when a notice is inserted the Secretary shall cable every two months if the warning notice is to be continued, and that a convenient code be arranged for the purpose.

Lectures on Medical Ethics to Students.

The following draft, prepared by the Chairman, of memorial to medical schools was approved for submission to the Council:

Memorial to Universities and Medical Schools asking that a Course of Lectures or an Address on Medical Ethics should form part of the Medical Curriculum.

The Council of the British Medical Association having been impressed by the complaints from all sides of the want of knowledge of those rules of conduct which should guide the professional behaviour of medical practitioners, desires to submit for your consideration the question of arranging for the delivery annually to medical students of a short course of lectures on Medical Ethics, in which their attention should be drawn to the importance of this subject and to the principles upon which its rules are founded.

Position of General Practitioners at Operations.

Considered: Further communication from the Council of the Birmingham and District General Practitioners' Union with respect to the position of general practitioners in connexion with operations performed by consulting surgeons, pointing out that the Committee had not answered the following part of a previous communication:

> . . . That the Council of the Union cannot admit that when calling in a consultant, either surgical or medical, the general practitioner in charge of the case divests himself of all further responsibility.

It was resolved that the Committee quite agreed with the statement, and had not suggested anything in conflict therewith.

Resolutions on the same subject adopted by the Medical Guild of Manchester were referred to the Manchester Divisions for consideration.

Decisions as to Questions Affecting Contract Practice.

The Committee considered a summary of the decisions of the Committee on Ethical questions affecting contract practice requested for incorporation as an appendix to the report on contract practice which the Medico-Political Committee was about to lay before the Representative Meeting, and certain emendations having been made the report was approved.

HOSPITALS COMMITTEE.

A meeting of the Hospitals Committee was held at the office of the Association on Thursday, June 22nd, when there were present: Dr. M. Beverley (Chairman) in the chair, Dr. William Collier (President of the Association), Mr. Andrew Clark (Chairman of Council), Dr. J. Ford Anderson, Dr. J. Brassey Brierley, Dr. E. Lawrence Fox, Dr. John R. Hamilton, Mr. Edmund Owen, Dr. Lauriston E. Shaw, and Mr. E. F. White.

Apologies for Absence.

Letters of apology for non-attendance were read from Dr. Kingston Fowler, Dr. E. B. Hastings, Mr. T. Garrett Horder, Dr. F. M. Pope, and Dr. Norman Walker.

Cottage Hospitals.

The resolutions adopted at the last meeting of the Committee with respect to cottage hospitals were first taken into consideration, and the following recommendations to the Council were adopted:

1. That every qualified practitioner, willing to act, in the district served by the cottage hospital, be a member of the medical staff.
2. That except in cases of emergency, cottage hospitals be only open to persons who, not being in receipt of parochial relief, are at the same time unable to secure adequate treatment at home.
3. That all persons admitted to cottage hospitals contribute where possible towards their maintenance.
4. That a certificate signed by a medical practitioner within the area be a sufficient recommendation for admission.

Pay Wards.

The Committee considered further its report to the Council on the resolutions adopted with respect to pay wards, and the following recommendations were adopted:

1. That it is desirable that public nursing homes should be established for patients who, being ineligible for the voluntary hospitals, are yet unable to pay the charges usually made in private nursing homes.
2. That pay wards should not be established in connexion with general hospitals.
3. As to management of public nursing homes:
   - (i) That the management should be vested in a public committee in which the medical profession is adequately represented.
   - (ii) That no patient should be admitted to a pay ward or pay bed without first producing a certificate of fitness for admission from a medical practitioner, who should, whenever possible, be the patient's usual medical attendant. If the signatory be not the patient's usual medical attendant, an explanation of the fact should be appended to the certificate.
   - (iii) That it shall be open to a patient to select any registered medical practitioner as his attendant.
   - (iv) That when the payment made by a patient is insufficient to cover the entire cost of maintenance, or when any question arises as to reduction or remission of fees for professional services, a statement of the financial circumstances necessitating such consideration shall be signed by the patient or near relative, countersigned by the usual medical attendant or some other responsible householder, and submitted to the Committee.

Provident Dispensaries.

With respect to provident dispensaries, the Committee had before them the recommendations of the Subcommittee appointed by the Medico-Political Committee to consider the subject, which the Medico-Political Committee had authorized the Sub-Committee to lay before the Hospitals Committee for their information (the recommendations not having as yet been considered by the former Committee).

The Committee, having agreed upon certain amendments as desirable, resolved:

That the changes suggested by the Hospitals Committee be reported for the information of the Medico-Political Committee.

It was also resolved:

That the Medical-Political Committee be thanked for authorizing the report to be laid before the Hospitals Committee, and that the Hospitals Committee express its appreciation of the valuable work of the Subcommittee in drawing up the proposals as to Provident Dispensaries.

Conference with Lay Representatives.

The consideration of the most convenient date for a meeting with the lay representatives was deferred until the next meeting. It was decided that this should be held on July 4th.

SCIENTIFIC GRANTS COMMITTEE.

June 20th.

A MEETING of the Scientific Grants Committee was held on June 20th, when there were present: Mr. ANDREW CLARK (Chairman of Council) in the chair, Mr. C. A. Ballance, Dr. E. J. Cave, Mr. H. Betham Robinson, Dr. J. Maxwell Ross, Professor E. H. Starling, F.R.S.

APOLOGIES FOR ABSENCE.

Letters of apology for non-attendance were read from the President, the Treasurer, Dr. Barr, Dr. D. Burgess, Dr. T. Arthur Helme, Dr. McKenzie Johnston, and Professor White.

PROPOSED SCHOLARSHIP IN TROPICAL MEDICINE.

The following resolutions were reported as having been passed by the Council, but their consideration was deferred until the next meeting:

1. That the Council recommend to the Scientific Grants Committee that they should consider the question of supplying or aiding in the purchase of the necessary literature for individual scientific researches with a view to the formation of a special Library for research.

2. That the Council make a grant of £200 towards the establishment of a Research Scholarship in Tropical Medicine, provided that the Government will contribute at least an equal amount from the Imperial Exchequer.

Arising out of 2 the Chairman of Council reported that he had transmitted this resolution to the Colonial Secretary on the suggestion of the Secretary to the Chancellor of the Exchequer.

RESEARCH SCHOLARSHIPS.

The Committee then proceeded to the consideration of the applications for research scholarships, and resolved to recommend the Council to make the following appointments:

Mr. Major Greenwood, jun., M.R.C.S., L.R.C.P. (London), for a research into the effects of variations of the barometric pressure in man with special reference to caisson disease and mountain sickness.

Mr. Herbert E. Roaf, M.B., Liverpool, for researches in physiological and pathological chemistry.

Mr. John Anderson Craw, Lister Institute of Preventive Medicine, Elstree, Herts, for a research on the physical chemistry of agglutination and the toxin-antitoxin reaction.

For the Ernest Hart Memorial Scholarship the Committee recommended Mr. H. de Riemer Morgan, M.A., M.R.C.S., L.R.C.P., D.P.H. London, for a research into the etiology of infantile diarrhœa.

GRANTS.

The Committee resolved to recommend that the grants to Dr. S. H. Bown, Dr. T. Gregor Brodie, Dr. W. E. Dixon, Mr. Arthur Edmunds, Dr. E. E. Henderson, Dr. Walter Malden, Dr. Gustav Mann, Dr. T. G. Moorhead, Dr. C. S. Sherrington, and Dr. W. B. Warrington should be renewed.

The Committee further recommended that the following new grants be made:

	£	s.	d.
BAINBRIDGE, F. A., M.D., Gordon Laboratory, Guy's Hospital, S.E.—1. The effects upon the liver of ligaturing the hepatic artery or portal vein, with especial reference to the pathology of fatty degeneration. 2. An investigation of the ligature of one ureter upon the secretory functions of the kidney and upon the production of renal cytotoxins	10	0	0
BENTLEY, CHARLES A., M.B., D.P.H., Borjulie, Tezpar, Assam.—1. Pathology and mode of infection by the Leishman-Donovan body—in cases of kala-azar. 2. Manner of infection by larvæ of ankylostoma duodenale ...	15	0	0
CUSHNY, ARTHUR R., M.D. Aberd., University College, Gower Street, London. Examination of the effects of drugs and poisons on the uterus of animals	10	0	0
DUDGEON, LEONARD S., M.R.C.S., Director of the Clinical Laboratory and Bacteriologist to St. Thomas's Hospital, S.E.—Peritoneal infections only. The nature of the phagocytes in the early stages of experimental phagocytosis. The reaction of the blood and bone marrow in these early stages	8	0	0
EVE, FRANK C., M.D. Cantab., M.R.C.P. Lond., 14, Albion Street, Hull. (*a*) Clinical instrument to measure the pressure of cerebro-spinal fluid; (*b*) clinical instrument to measure the total quantity of blood in a patient ...	5	0	0
Carried Forward £48	0	0	

	£	s.	d.
Brought Forward	48	0	0
EYRE, JOHN, M.D., F.R.S.E., Bacteriological Laboratories, Guy's Hospital, S.E.—Continuation of my researches into (*a*) the etiology of pneumonia and pneumonic processes; (*b*) etiology of Malta fever and life-history of M. melitensis	20	0	0
HAMILL, J. MOLYNEUX, M.R.C.S., L.R.C.P., 14, South Parade, Chiswick.—Conditions of activity of pancreatic juice. The mechanism of the prevention of auto-digestion of the intestinal mucous membrane	15	0	0
HARMAN, N. BISHOP, M.B., F.R.C.S., 34, Queen Anne Street, W.—The determination of the nuclei of origin of the nerve supply to the facial musculature. 1. The differentiation of bulbar paralyses. 2. The morphological position of the orbicularis palpebrarum	5	0	0
HAYNES, G. S., M.B. Cantab., Pharmacological Laboratory, Cambridge.—An investigation of the comparative action of the various preparations of digitalis, strophanthus, and squill on the mammalian heart	5	0	0
MARTIN, CHARLES J., M.D., D.Sc., F.R.S., Dir. Lister Inst., late Prof. of Physiol., Univ. of Melbourne (on behalf of Basil Kilvington, M.D., M.S., Univ. of Melbourne).—Further experiments upon nerve crossing and anastomosis with a view to the surgical treatment of infantile paralysis and other isolated nerve degenerations ...	10	0	0
MONSARRAT, K. W., M.B., F.R.C.S., 11, Rodney Street, Liverpool.—1. Continuation of researches already reported to the Committee as enclosed reprint, particularly in regard to a further investigation of the growths produced in animals by inoculation. 2. An investigation of certain growths in mice which are being carried through transplantations	5	0	0
NABARRO, DAVID, M.D., Assist. Prof. of Pathology, University College, London; 4, Albemarle Mansions, Heath Drive, Hampstead, N.W.—Investigation of butter and butter substitutes for the presence or absence of the B. tuberculosis	15	0	0
ORR, DAVID, M.D., County Asylum, Prestwich, Manchester.—To determine: The starting point and course of lesions in the posterior columns and in the intramedullary part of the anterior root fibres. These investigations should help us to determine the early changes in tabetic and other chronic processes. In some cases laminectomy will be performed with section of roots; in other cases only inoculation experiments	15	0	0
PRICE-JONES, CECIL, M.B. Lond., 7, Claremont Road, Surbiton.—Comparative cytology of the blood: with view to determining the value, if any, of blood examinations in the prognosis of disease	5	0	0
ROWS, R. G., M.D., County Asylum, Lancaster.—In this investigation by laminectomy and section of roots in some cases and by inoculation experiments in others, I hope to determine the starting-point and course of lesions in the posterior columns, and of the intramedullary portion of the anterior root fibres. These researches should help to determine the early changes in tabetic and other chronic processes	15	0	0
SHATTOCK, S. G., F.R.C.S. (with Dr. C. G. Seligmann), Royal College of Surgeons, Lincoln's Inn Fields.—Effects of double ovariotomy in calf upon the growth of pelvis. Effects of castration combined with adrenalectomy; and of adrenalysin in rabbits	15	0	0
THIELE, FRANCIS HUGO, M.D., M.R.C.P., Pathologist, University College Hospital, Gower Street, W.C.—1. The investigation of the influence of the cerebellum and basal ganglia on the cardiac, respiratory, and visceral functions, also the experimental investigation of motor tracts from the basal ganglia. (Part of this is being done now, and will soon be completed.) 2. To investigate the effect on the arteries and heart of (*a*) repeated elevations of blood pressure by injection of drugs to see if hypertrophy of muscular coats of the arteries does occur, etc.; (*b*) drugs known in man to cause arterial degeneration; (*c*) toxines of infectious diseases, to note effects on endothelium, to see if proliferation occurs, and note effects on large vessels	15	0	0
THOMPSON, W. H., M.D., F.R.C.S., Physiological Department, Trinity College, Dublin.—The effects of anæsthetics on renal activity	10	0	0
	£198	0	0

The following is a statement of the total amounts recommended to be voted by the Council:

	£	s.	d.
Total amount of renewed grants	155	0	0
Total amount of new grants	198	0	0
	£353	0	0
Total of grants	353	0	0
Total of research scholarships	600	0	0
	£953	0	0

ANNUAL REPORT.

The annual report of the Committee was then considered and adopted and ordered to be placed before the next meeting of the Council.

The reports received from research scholars and recipients of grants on the work done during the past year was published in the SUPPLEMENT to the JOURNAL of July 1st.

ORGANIZATION COMMITTEE.

A MEETING of the Organization Committee was held at the office of the Association on June 27th, when there were present: Mr. T. JENNER VERRALL, in the chair; Mr. Andrew Clark (Chairman of Council); Mr. H. A. Ballance, Dr. James Hamilton, Professor J. T. J. Morrison, Dr. Edwin Rayner.

APOLOGIES FOR ABSENCE.

Letters of apology for non-attendance were read from the President and Professor A. H. White.

GROUPING OF COLONIAL BRANCHES.

The MEDICAL SECRETARY reported an interview which he had had with the Secretary of the Ceylon Branch concerning the representation of that Branch on the Central Council. He stated that for the purposes of representation on the Central Council the Branch had been grouped for the year 1905-6 with the South India and Madras Branch, but the notice informing the Branch of the grouping had not reached Colombo until after the Branch had elected a separate representative to the Central Council. It was resolved to report the fact to the Council, and to recommend that under these circumstances the return be accepted, but that it be pointed out for the guidance of Branches that representatives on the Central Council take up office as from the time of the annual meeting of the Association. It was also resolved:

That it be recommended that the grouping of Colonial Branches be made at the January meetings of Council, that notice thereof be issued forthwith after such meetings of Council, and that the Colonial Branches be asked not to elect Representatives to the Central Council until they have received the intimation of their grouping.

MEDICAL SECRETARY'S VISITS.

The Medical Secretary's report as to visits paid to Divisions, etc., was approved.

RULES OF DIVISIONS.

Amendments of rules and new rules adopted by the Wandsworth, Coventry, Liverpool (Northern), Tunbridge Wells, and South Edinburgh Divisions were considered, and their approval by the Council recommended.

ALTERATION OF BOUNDARIES.

Some suggestions as to alterations of boundaries proposed by certain Divisions were considered and postponed until further information was obtained.

DIVISION AND BRANCH INCOME AND EXPENDITURE.

The Committee considered the following instruction of the Council:

That the Council instruct the Organization Committee to investigate and report on the working of the present system of Division and Branch income and expenditure.

It was resolved that the Branch Treasurers be asked for information as to the methods adopted by the Branches with regard to making capitation grants to Divisions, and requiring repayment of unexhausted balances; and the Chairman and Medical Secretary were instructed to draw up a circular of inquiry to Honorary Secretaries of Branches and Divisions.

PROPOSAL REGARDING ADVISORY SECRETARIES.

The following proposal, referred by the Council to the Committee, was considered:

That the Division work would be more efficiently done, and the membership of the Association increased if Secretaries were appointed in various centres, and have supervision of a group of Divisions to help the present Division Secretaries to carry on their local work, and that such Advisory Secretaries should each receive an honorarium of at least £50 a year, and that the Organization Committee be instructed to arrange a suitable division of areas for the purpose,

and further consideration postponed until full information had been obtained with regard to Division and Branch expenditure.

The Committee considered the following resolution of the Council:

That the Organization Committee shall advise the Council on the Articles, By-laws, and Standing Orders,

and it was resolved to accept the instruction as a standing reference to the Committee.

PROPOSED NEW BRANCH AND DIVISION.

The Committee considered a communication from medical practitioners at Regina, Assiniboia, Canada, referred by the Chairman of Council to the Committee, in which they expressed the desire that a Branch of the Association should be formed there. It was resolved:

That the Committee are prepared to recommend the formation of a Branch at Regina, provided that a definition of boundaries be supplied, and that existing Branches, if any, affected be consulted.

The consideration of a communication from the Honorary Secretary of the Cape of Good Hope, Eastern Provinces Branch, with regard to the projected formation of a a Division at East London was deferred until a definite proposal was received from those desiring the formation of such a Division.

COLONIAL COMMITTEE.

A MEETING of the Colonial Committee was held at the office of the Association on June 26th, when there were present: Mr. EDMUND OWEN (Chairman) in the chair, Mr. Andrew Clark (Chairman of Council), Lieut.-Col. E. F. Drake-Brockman, I.M.S. (retired), Dr. J. Groves, Dr. C. G. D. Morier, Professor W. R. Smith, M.D., Dr. G. E. Twynam, together with the following Colonial Members at present in England: Mr. Donald Armour, representing Canada; Dr. R. Fox-Symons, representing South Africa; Dr. H. A. Francis, representing Queensland; Dr. F. O. Stedman, representing Hong Kong; Dr. A. J. Chalmers, representing Ceylon.

APPOINTMENT TO A COLONIAL LUNATIC ASYLUM.

The GENERAL SECRETARY reported the receipt of a communication from the Malta Branch concerning a Government notice No. 102, of May 4th, 1905, whereby an English military medical man had been appointed to the Board of the lunatic asylum for the examination of English patients. The consideration of the matter was postponed in order that further information might be obtained from the Colonial Office, as well as a copy of the Government notice No. 102, of May 4th, 1905.

MEDICAL REGISTRATION IN AUSTRALIA.

The CHAIRMAN reported, in reference to the minutes of the Committee of May 11th, 1904, to the effect that it was expedient that only those medical qualifications which were available for registration in Great Britain and Ireland should be registrable in Australia: that the Colonial Secretary had addressed a dispatch to the Governments of the States of Australia, and had forwarded the replies received to the Association.

Queensland.

The Lieutenant-Governor of Queensland informed the Colonial Secretary that the Queensland Medical Board, to whom the matter was referred, favoured the suggestion of the British Medical Association, but thought the proposal impracticable as the State law now stood. The Board would draft a Bill correcting the defects of the existing Act.

Tasmania.

The Premier of Tasmania transmitted the following resolution from the Medical Section of the Royal Society of Tasmania:

That in the opinion of the Medical Section of the Royal Society of Tasmania it is expedient that only those medical qualifications which are available for registration in Great Britain and Ireland be registrable in Tasmania.

Adelaide, South Australia.

The Governor of South Australia in a dispatch to the Colonial Secretary stated that he had brought the matter before the Medical Board of South Australia, and that that Board had stated that under the existing laws of the State of South Australia with regard to the registration of medical practitioners, the Board was unable to carry out the intention of the resolution of the British Medical Association. The Governor added that the ministers had requested him to obtain for their information copies of the Acts or Regulations containing the qualifications required for the registration of medical practitioners in the United Kingdom and Ireland.

The reply from the South Australian Medical Board transmitted by the Governor, stated that the Board was in sympathy with the Council of the British Medical Association, but felt itself powerless to take action in the matter, being prevented

by the Act under which the Board acted. The letter from the Medical Board concluded as follows: "The Board feel that they have next to no power to work in the interests of the community and the medical profession, and would be glad to see the Act so framed as to permit of this being done and also to carry out the wishes now referred to by the Right Honourable the Secretary of State for the Colonies, in the resolution of the British Medical Association 'that it is expedient that only those medical qualifications which are available for registration in Great Britain and Ireland be registered in Australia.'"

A Subcommittee, consisting of Mr. Donald Armour, Dr. Morier, and Dr. Twynam was appointed to consider the foregoing communications from the Colonial Office with a view to preparing certain questions concerning the compulsory registration of medical practitioners in the Colonies.

MEDICAL REGISTRATION IN CEYLON.

In reference to the minute of the Committee of November 24th, 1904, instructing the General Secretary to communicate with the Colonial Office, pointing out the objection to Clause 2 (2) (*b*) of the Draft Ordinance:

(*b*) In the case of a person claiming to be qualified otherwise than under the said Acts, a certificate of the Council of the Ceylon Medical College, that such person is entitled to be registered under this Ordinance.

and to suggest that the Ceylon Council might be pleased to eliminate it from the Ordinance,

The CHAIRMAN reported the receipt of the following communication from the Colonial Office:

Downing Street,
22nd December, 1904.

Sir,—I am directed by Mr. Secretary Lyttelton to acknowledge the receipt of your letter of the 29th ultimo stating that, in the opinion of the Colonial Committee of the British Medical Association, Clause 2, Subsection 2 (*b*) of the draft Ordinance for the registration of medical practitioners in Ceylon should be eliminated from the Ordinance.

2. In reply, I am to inform you that after careful consideration the Secretary of State regrets that he does not feel justified in inviting the Ceylon Government to entertain the suggeston of the Colonial Committee.

3. He has, however, suggested to the Governor of Ceylon that provision should be made in the Ordinance that certificates should not be granted to persons claiming to be registered under a degree or diploma granted in a foreign country unless that country allows persons to practise who are entitled to be registered and to practise in Ceylon.

I am, Sir,
Your obedient servant,
H. BERTRAM COX.

The General Secretary,
British Medical Association.

Dr. CHALMERS, at the request of the CHAIRMAN, explained that it was the wish of the Ceylon Branch that the clause should stand part of the Ordinance, and the Committee decided to take no further action.

COLONIAL MEDICAL LEGISLATION.

The GENERAL SECRETARY reported that, in accordance with the instruction of the Committee directing him to obtain copies of the medical Bills for Queensland, New South Wales, and the Straits Settlements and information from the Colonial Office of any medical legislation now under consideration of the Colonial Governments, he had communicated with the Colonial Branches concerned, and had received replies. The Queensland Branch stated that the Medical Registration Act of 1867 was ancient and impracticable; Bills amending it had been submitted, but had not become law. The New South Wales Branch forwarded copies of the Medical Acts, No. 33, 1900; No. 26, 1898; and No. 70, 1900. A copy of the Bill for the Registration of Medical Practitioners in the Straits Settlements had been received through the Colonial Office.

The particulars obtained and Acts regarding Colonial medical legislation were referred to a special subcommittee.

STRAITS SETTLEMENTS.

The GENERAL SECRETARY reported certain correspondence relative to the Bill now before the Legislature of the Straits Settlements, and that the Honorary Secretary of the Malaya Branch had stated that the Bill for the Registration of Medical Practitioners in the Straits Settlements had the approval of the Branch, and that the Branch had petitioned the Government that the Bill should pass into law. A resolution was adopted thanking the Colonial Secretary for forwarding a copy of the measure, and directing him to be informed that the British Medical Association was pleased to learn that His Majesty would be advised to assent to the Ordinance, the Association believing that it would tend to guard the general public in the Straits Settlements against the danger of unqualified and unskilled practice.

It was also resolved:

That the Malaya Branch be congratulated on the success of their efforts in obtaining an Ordinance to provide for the Registration of Medical Practitioners in the Colony.

COLONIAL HONORARY MEMBERS.

The question of the appointment of Colonial honorary members of the Association was raised by Dr. Chalmers, who promised to send a formal communication to the Council on the subject on his return to Ceylon.

PUBLIC HEALTH COMMITTEE.

A MEETING of the Public Health Committee was held at the office of the Association on May 24th, when there were present: Mr. C. H. WATTS PARKINSON (Chairman) in the chair, Mr. Andrew Clark (Chairman of Council), Mr. Herbert Jones, Dr. J. Herbert H. Manley, Dr. F. C. Martley, Dr. John C. McVail, Dr. T. G. Nasmyth.

APOLOGIES FOR ABSENCE.

Letters of apology for non-attendance were read from the President and Dr. Roberts Thomson.

ACTION AS TO A POOR-LAW AND PUBLIC VACCINATOR'S APPOINTMENT.

Correspondence was read relative to a case of a member who had sought the assistance of the Association with respect to his dismissal from an appointment as public vaccinator, he having resigned the corresponding Poor-law appointment because the guardians refused to pay an adequate salary.[1]

WARNING NOTICES IN THE JOURNAL.

The CHAIRMAN reported that on behalf of the Committee he had supported the recommendation of the Ethical Committee that warning notices be inserted in the advertisement columns of the JOURNAL with respect to appointments under the Poor Law and sanitary authorities under the same regulations as had been prescribed by the Council concerning contract practice appointments, and that the Council had approved of the suggestion. The Committee expressed its approval of the action of the Chairman.

DISMISSAL OF A MEDICAL OFFICER OF HEALTH.

Correspondence with reference to the matter of the dismissal of a medical officer from the medical officership of a district hitherto belonging to a combination was read, and the Committee expressed its regret that it was unable at present to recommend any central action in the case. It was further resolved that the two Divisions concerned be asked to consider the matter, and that it be suggested that they appoint a joint committee to investigate the case and report to the Public Health Committee, and also to take any immediate action which the joint committee or Divisions might think advisable.

VACCINATION EXPENSES COMMITTEE.

The report presented by the Subcommittee appointed to consider the report on vaccination expenses of the Departmental Committee of the Local Government Board was considered, and after emendation was adopted as the report of the Committee.

ONE-MARK VACCINATION.

Arising out of the recent correspondence on this subject published in the JOURNAL, the Committee resolved:

That the attention of the Medico-Political Committee and Local Government Board be directed to the correspondence regarding one-mark vaccination, with an intimation that the Public Health Committee, whilst deploring that this cannot be prevented, believes that the system proposed in the previous resolution would tend to remedy the evil.

PUBLIC HEALTH BILLS.

The consideration of a new clause for insertion in the Public Health Bill promoted by the Association suggested by the Incorporated Association of Municipal and County Engineers was postponed for further information.

It was resolved that certain questions with regard to the appointment of medical officers of health should be asked in the House of Commons.

[1] See Medico-Political Committee Minutes of May 16th, p. 53.

The consideration of the Public Health Bill introduced by Sir A. Hickman into the House of Commons was postponed.

Education (Scotland) Bill.

It was resolved:

That the Committee concurs with the amendments proposed by the Scottish Society of Medical Officers of Health and by the Scottish Committee of the Association, and recommends that every effort be made to carry these amendments into effect.

Tuberculosis (Animals) Compensation Bill.

The Committee recommended that no action be taken with regard to this measure.

Aliens Bill.

It was resolved:

That it be recommended that the Secretary of State shall have power to make, and from time to time to vary, a schedule of diseases to be included in the rules for Immigration Boards, and that in this schedule trachoma be included.

Organization of the School Hygiene Congress.

The Chairman reported on the resolution of the Council with reference to co-operation by the Association in organizing the School Hygiene Congress, and it was resolved:

That the Chairman of Council be requested to communicate with the Chairman of the Executive Committee of the proposed Congress, asking that the Association be afforded an opportunity of being represented on the Committee.

The Institute of Hygiene.

Certain advertisements containing certificates purporting to be given by the Institute of Hygiene were considered and it was resolved:

That the matter be referred to the Ethical Committee with an intimation that the Public Health Committee disapprove of such advertising, and that in the meantime the advertisements be brought to the notice of the members of Council of the Institute of Hygiene.

The Qualification of Inspectors of Midwives.

The following communication issued by the Royal Sanitary Institute was considered:

The Royal Sanitary Institute,
Margaret Street, London, W.,
May 22nd, 1905.

Dear Sir,—Under the Midwives Act a large number of midwives are applying for registration, and in many places Inspectors of Midwives are being appointed.

It is felt that in addition to their qualifications for their special duties, midwives, and more especially Inspectors of Midwives, should have a knowledge of household sanitation, and the evils arising from insanitary conditions, and how such conditions, when they exist, can be remedied.

In many instances those applying for the office of Inspector of Midwives have obtained the certificate of competency granted by the Royal Sanitary Institute as Inspectors of Nuisances, and this has been recognized as a useful qualification for the purpose referred to.

If you have issued any statement regarding this knowledge, or recognized this certificate as a qualification, I should be much obliged if you would kindly let me know.

Yours faithfully,
(Signed) E. White Wallis,
Secretary.

It was resolved:

That it be recommended that the Sanitary Institute be informed that the Association disapproves of the appointment of lay persons as Inspectors of Midwives, except under the direct supervision of registered medical practitioners, and that this opinion be also communicated to the Central Midwives Board.

JOURNAL AND FINANCE COMMITTEE.

A meeting of the Journal and Finance Committee was held on June 28th, when there were present: Mr. Andrew Clark, D.Sc. (Chairman of Council) in the chair; Dr. William Collier (President); Sir Victor Horsley, F.R.S. (Chairman of Representative Meetings); Dr. E. Markham Skerritt (Treasurer); Mr. R. H. Kinsey, Mr. W. Jones Morris, Mr. C. H. W. Parkinson, and Mr. T. Jenner Verrall.

Apologies for Absence.

Letters of apology for non-attendance were read from the President-elect (Mr. G. C. Franklin), Dr. Groves, Dr. Norman Walker, Dr. Barr, Dr. Brassey Brierley, Professor Saundby, and Dr. Edgar Barnes.

Annual Reports of Branches.

The Committee considered the resolution adopted by the Council on May 17th,[1] expressing the opinion that it was desirable that before the annual reports received from the Branches of the Association are submitted to the Council they should be considered in detail by the Organization and Finance Committees and be presented to the Council with reports by the Chairmen of those Committees. The Committee resolved to carry out the proposal after the reception of the Branch reports in future years.

The Journal.

The Editor reported that the publication of a weekly Supplement to the Journal had been continued, and that the average number of its pages during April, May, and the first three weeks in June (12 weeks in all) had been 18 7 as compared with 15.7 for the second quarter of 1904. During the 25 weeks ending June 17th, 1905, the weekly average number of pages had been 13 4, comparing with an average of 10.8 in the 26 weeks ending June 25th, 1904.

The Editor reported that he had received from the Honorary Secretary of a Branch a request for the publication of reports of the proceedings of Branch Councils, and submitted a memorandum. The Committee having considered the matter expressed their regret that the expense and space which it would necessarily involve precluded the Committee from recommending the Council to adopt the proposal.

Advertisements of Proprietary Preparations.

A memorandum by the Manager with reference to advertisements of proprietary preparations was considered, and referred to a subcommittee consisting of Dr. Collier, Mr. Andrew Clark, Dr. Markham Skerritt, Dr. Edgar Barnes, and Mr. Kinsey.

Report on Contract Practice.

The Committee recommended the payment of a sum not exceeding £50 in respect of the cost of the preparation of the Report of the Medico-Political Committee on Contract Practice.

Agents' Advertisements.

The Committee, having considered a resolution of the Medico-Political Committee, resolved to recommend the Council to instruct the Manager to refuse the insertion of advertisements from a certain agent until he had shown himself prepared to conform to the requirements of the Association.

Finance.

The accounts for the quarter ending June 17th were received and approved, and the Treasurer was empowered to pay those remaining outstanding.

PREMISES AND LIBRARY COMMITTEE.

A meeting of the Premises and Library Committee was held at the office of the Association on June 29th, when there were present: Mr. Andrew Clark (Chairman of Council), in the chair; Dr. T. D. Griffiths (Past-President); Dr. E. Markham Skerritt (Treasurer); and Dr. H. Radcliffe Crocker.

Apologies for Absence.

Letters of apology for non-attendance were read from Dr. Edgar Barnes and Dr. Bruce Goff.

Librarian's Report.

The Librarian reported that there had been 1,300 attendances during April, May, and June, and that over 140 *Thèses de Paris* for the present session had been received, as well as reports of medical officers of health for more than 200 localities. The Committee directed that certain books, the purchase of which had been suggested by members, should be obtained.

Accounts.

The accounts for the quarter were received and recommended for payment.

LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

Members are reminded that the Library and Writing Rooms of the Association are fitted up for the accommodation of the members in commodious apartments, at the office of the Association, 429, Strand. The rooms are open from 10 a.m. to 5 p.m. Members can have their letters addressed to them at the office.

[1] Supplement to the British Medical Journal, May 17th, 1905, p. 278.

To be Stamped with a Penny Stamp and Posted.

BRITISH MEDICAL ASSOCIATION.

SEVENTY-THIRD ANNUAL MEETING.

JULY 24th, 25th, 26th, 27th, and 28th, 1905.

Members of the British Medical Association who intend to visit LEICESTER during the Annual Meeting will greatly facilitate the labours of the Local Committee if they will fill up the following form and forward it by post as addressed on the other side. This will eventually be sent to the General Secretary of the Association, who will then send a certificate to enable members to obtain Railway Tickets at reduced fares.

MEMBERS DESIRING ACCOMMODATION ARE REFERRED TO NEXT PAGES.

The Forms are intended for the use of Members of the British Medical Association exclusively.

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*It is my intention to be present at the ANNUAL MEETING in LEICESTER and I expect to be accompanied by** .....

Name .....

Address .....

* Here indicate whether accompanied by a lady, as separate vouchers are required to enable Members to obtain Railway Tickets at reduced fares.

It is my intention to be present at the ANNUAL DINNER of the Association on Thursday Evening, July 27th, and I herewith enclose Cheque (or P.O.O.).†

Signature .....

† DINNER TICKET, with Wine inclusive, £1 1s. DINNER TICKET without Wine, but inclusive of Aerated Waters, 15s.

Cheques and Postal Orders should be made payable to F. BOLTON CARTER, Esq., F.R.C.S., and enclosed in an envelope, together with this form, directed as on the reverse.

Early application for Tickets is requested by the Committee, to enable them to provide accommodation and allot seats.

SEVENTY-THIRD ANNUAL MEETING, LEICESTER, July 24th, 25th, 26th, 27th, and 28th, 1905.

LIST OF HOTELS AND LODGINGS, WITH SCALE OF CHARGES.

Name and Address.	Accommodation for	Charges. Bed and Breakfast.	Luncheon.	Dinner.	Full Board per Day.	Notes.
CENTRAL.						
London Road.						
106 Mrs. Gillespie	2	3/6	1/6	2/6	6/6	
159 Mrs. Johnson	2	4/-	1/6	2/6	8/-	
165 Miss Akerman	12	3/6	1/-	2/-	6/6	
169A 'Clovelly,' Mrs. Leam	8	3/6	1/-	2/6	6/6	
New Walk.						
9 Mrs. Hawkins	3	2/6	1/6	2/6	6/6	
15 Mrs. Barnes	4					
17 Mrs. Bodycott	2					
24 Mrs. Windley	2	3/-				Meals by arrange- [ment.
26 Mrs. Roche	2	3/-	1/-	2/6	6/6	
27 Mrs. Huband	2					Charges moderate.
28 Mrs. Neilson	2	3/-	1/3	2/6	6/6	
31 Mrs. Finney	2					
35 Mrs. Blades	2	3/6	1/-	2/6	7/-	
37 Mrs. Moore	2					Charges moderate.
38 Mrs. Mills	2	4/-				Other meals by [arrangement.
43 Mrs. Phillips	2					
46 Mrs. Andrew	2					
94 'Bridgemount' Mrs Garner	3	6/-				Other meals by [arrangement.

Name and Address.	Accommodation for	Charges. Bed and Breakfast.	Luncheon.	Dinner.	Full Board per Day.	Notes.
CENTRAL—*Continued.*						
Princess Road.						
'Craven House,' Mrs. Wilshere	4	4/-	1/6	2/6	8/-	Boarding house.
3 Mrs. Spell	8	4/-	1/6	2/-	7/6	
11 Mrs. Bloxom	2	2/6	1/-	2/-	5/6	
17 Mrs. Bates	2					Terms moderate.
25 Miss R. Walker	3	5/-				Inclusive terms by [arrangement.
33 Mrs. Aldridge	2	3/6	1/6	2/6	7/6	
57 Mrs. Abbott	3					
65 Miss Gilbershaw ...	5	4/-	2/6	5/-	10/-	
The Crescent.						
Mrs. Cockshaw	5					Terms on enquiry.
The Newarke.						
49 Mrs. Carrington ...	4					Terms moderate.
Lincoln Street.						
15 Mrs. Colton	2	3/6				
21 Mrs. Maxfield	3	3/6				Other meals by ar- [rangement.
Regent Road.						
40 Mrs. Manton	5					
46 Mrs. Moore	2	3/6	1/-	3/-	7/6	

Penny Stamp.

F. BOLTON CARTER, Esq., F.R.C.S.,
99, London Road,
LEICESTER.

LIST OF HOTELS AND LODGINGS, WITH SCALE OF CHARGES—*Continued.*

Name and Address.	Accommodation for	Charges. Bed and Breakfast.	Luncheon.	Dinner.	Full Board per Day.	Notes.
CENTRAL—*Continued.*						
Saxe-Coburg Street.						
12 Mrs. Porter	2	3/6				
16 Mrs. Haley	3	3/6				
24 Mrs. Allwood	2					
29 Mrs. Wren	2					
38 Mrs. Breward	7					Terms moderate.
58 Mrs. Thomas	4	4/-	1/6	2/6	8/-	
Upper Tichborne St.						
1 Miss Leary	7	4/-	1/-	2/6	7/-	
Lower Tichborne St.						
6 Mrs. Crofts	2	4/-			7/-	
17 Miss Limber	4					
Granville Road.						
5 Miss Fox	12	6/-	2/-	3/-	12/-	Boarding House, [Private Sitting [Rooms.
College Street.						
27 Mrs. Harrison	3	3/-	1/3	2/6	6/6	
35 Mrs. Hart	3	3/-				
29 Mrs. Innes	5	3/6				
'Holmwood,' Mrs. Newberry	2					
King Street.						
48 Mrs. Harrison	4	3/6	1/6	2/6	7/-	
81 Mrs. Armitage	4					
Upper King Street.						
1 Mrs. Johnson	1					
13 Mrs. Watson	2	2/6	1/-	2/-	6/6	
19 Mrs. Estlin	2	4/-	1/6	2/6	7/6	
23 Mrs. Lund	2					Terms moderate.
Museum Square.						
1 Mrs. Skerritt	2	4/-				Other meals by [arrangement.
High Cross Street.						
142 Miss Bramley	3	3/-				
Hobart Street.						
16 Mrs. Wright	2				5/-	
Crescent Street.						
1 Mrs. Goode	3					
Victoria Road.						
13 Mrs. Carock	5	1/6	3/-	9/-	4/6	Reduction to party
Lower Hastings Street.						
10 Mrs. Adamson	2					Moderate.
37 Mrs. Baxter	4					
West Street.						
49 Miss J. Smith	3					Moderate.
Newtown Street.						
38 Mrs. Kirby	2					
Pelham Street.						
2 Mrs. Herbert	2	2/6				
Horsefair Street.						
27 Mrs. Ashford	12	3/6				Double beds.
HIGHFIELDS DISTRICT. (10 mins. walk. 1d. tram fare)						
Highfield Street.						
17 Mrs. Gilbert	2					
26 Mrs. Storey	4	4/-				
35 Mrs. Hulme	2					
42 Miss Oldroyd	2	4/-	1/6	2/6	7/6	
St. Peter's Road.						
19 Mrs. Frisby	6	3/-				
48A Mrs. Richards	4	3/-				
102 Mr. Hewitt	2	5/-				

Name and Address.	Accommodation for	Charges. Bed and Breakfast.	Luncheon.	Dinner.	Full Board per Day.	Notes.
HIGHFIELDS DISTRICT—*Continued* (10 mins. walk. 1d. tram fare).						
Evington Road.						
3 Mrs. Bakewell	6	3/6				Other meals by [arrangement.
8 Mrs. Lamb	5	3/6				
Mecklenburg Street.						
5 Mrs. Green	4	4/-	1/6	2/6	7/6	
23 Mrs. Eaton	2					
Laurel Road.						
75 Mrs. Hartshorn	2	3/-				
Sparkenhoe Street.						
'Rockleigh,' Mrs. Walter	4	3/6				
53 Marcetta House, Mrs. Shaw	6	3/6				
66 Mrs. Blewitt	3	4/6				
Chaucer Street.						
28 Mrs. Upton	1					
Mill Hill Lane.						
24 Mrs. Sharpe	2					Moderate terms.
St. Stephen's Road.						
47 Mrs. A. M Knight	3	5/- 8/- for two				
Melbourne Road.						
76 Mrs. Haylock	3	5/-				
WEST END DISTRICT. (15 mins. walk, 1d. tram.)						
Glenfield Avenue.						
2 Mrs. Ward	4	4/-				Double beds.
3 H. J. Todd	4	3/9				Double beds.
15 Mrs. Hincks	4	4/-				Double beds.
22 Mrs. Vovce	2	3/6				
29 Mrs. Gentle	2					
Fosse Road.						
Mrs. John Smith.	3	7/-				
56 Salisbury House, Mrs. Pluskett	10					Terms mod. Single [or double beds.
358 Fosse Road N., Mrs. Widdowson	2					
Narborough Road.						
'Ashwood,' Winchester Avenue, Miss Spell	3	3/6				
Hinckley Road.						
209 W. J. Cooper	3	6/-				
Church Avenue.						
3 Mrs. Baker	2					Double beds.
9 Mrs. Shaw	2					
Danes Hill Road.						
37 Mrs. Cue	4	3/6				Double beds.
Stretton Road.						
24 Miss Dingley	4				8/-	
14 Mrs. Basford	3				7/-	Double beds.
STONEYGATE DISTRICT. (20 minutes' walk, 1d. tram).						
Clarendon Park Road.						
Mrs. Lawrence	2					
Holbrook Road.						
Mrs. Taylor, Heathfield	2					
Mrs. Shaw, Gayton Villa	2					

It will be seen from the foregoing list that Lodging House Accommodation in Leicester is limited. It will, however, be supplemented by the private hospitality which has been proffered by many residents in the town and neighbourhood. Any member of the Association who intends to visit the meeting, and is unable to secure rooms, should communicate with the Secretary of the Local Committee.

NOTICES.

This List of Hotels and Lodgings has been prepared for the convenience of visitors, who should communicate with them **directly and not through the Local Committee.**

Where possible the charges for bed and breakfast and other meals are quoted, but visitors are requested to arrange their own terms.

The majority of the houses in the list are situated within half a mile radius of the Reception Rooms, and are all within easy reach of the Electric Tram Service.

PRINCIPAL HOTELS.

LEICESTER.—

		Accommodation for
*BELL HOTEL	Humberstone Gate	60
GEORGE HOTEL	Belgrave Gate	32
*GRAND HOTEL	Granby Street	120
GRANVILLE HOTEL	Belvoir Street	16
*ROYAL HOTEL	Horsefair Street	40
STAG AND PHEASANT	Humberstone Gate	30
WELLINGTON	Granby Street	40
WHITE HART	Haymarket	25
WYVERN HOTEL (Temperance)	London Road	70

* *Luncheon is provided at these Hotels at a charge of 2s. 6d. per head.* *All these Hotels are centrally situated.*

LOUGHBOROUGH (12 miles).—Frequent Midland and Great Central Trains until 11.22 p.m.

KING'S HEAD HOTEL. | BULL'S HEAD HOTEL. | GREAT CENTRAL HOTEL.

MARKET HARBOROUGH (16 miles).—Frequent Midland Trains until 11.56 p.m.

THE ANGEL HOTEL and THE THREE SWANS.

MELTON MOWBRAY (15 miles).—Midland and Great Northern Trains until 8.35 p.m.

THE BELL HOTEL. | THE HARBOROUGH HOTEL. | THE GEORGE HOTEL.

DERBY and **NOTTINGHAM.**—With ample Hotel Accommodation are within easy reach. Frequent Trains until a late hour.

CLUBS.—Arrangements will be made whereby a limited number of Members attending the Meeting may become Honorary Members of the Leicester Clubs.

The Clubs at which meals are provided are:—

THE COUNTY CLUB, Bishop Street. | THE CONSTITUTIONAL CLUB, Pocklington's Walk.
THE LEICESTERSHIRE CLUB, Welford Place. | THE LIBERAL CLUB, Bishop Street.

Applications should be made at the Reception Rooms.

MOTOR GARAGE. Accommodation for Motor Cars can be provided at:—

		Fees.	
	Accommodation for	Washing car.	Per day.
Pass, 63, Friar Lane	30 cars	2/6	1/-
Hamshaw's, Humberstone Gate	9	2/6	2/-
Humber, Granby Street	A large number	2/6	2/-
Clyde, London Road	A large number	2/6	2/-
Lilleys, Welford Place	3	...	...

Supplementary List of Lodgings available for Members of the Association

TERMS ON APPLICATION.

Name and Address.	Accommodation for
CENTRAL.	
Regent Road.	
28 Mrs. Salt	2
83 Miss Adams	2
Lower Hastings Street.	
22 Mrs. Haines	2
Morledge Street.	
17 Mrs. Clements	3
London Road.	
The County Hotel (Temperance). Mrs. Foxon	10 or 12
King Street.	
38 Mrs. Harrison	6
HIGHFIELDS DISTRICT (10 minutes' walk, 1d. car).	
Highfield Street.	
36 Miss Lee	2
Upper Tichborne Street.	
7 Mrs. Swainston	2
28 Mrs. Millhouse	2
St. Peter's Road.	
57 Miss Purkitt	2
77 Miss Barten	2
68 Mrs. Norris	2
Melbourne Road.	
53 Mrs. Crane	2
150 Mrs. Hall	2
162 Mrs. Jakeway	2
182 Mrs. Brown	2
186 Mrs. Day	2
Mere Road.	
148 Mrs. Riddett	2

Name and Address.	Accommodation for
HIGHFIELDS DISTRICT—*Continued.*	
St. Stephen's Road.	
7 Mrs. Salmon	2
9 Mrs. Weaver	2
13 Mrs. Knight	2
Evington Road.	
141 Mrs. Jolly	2
180 Miss Heafield	2
St. Saviour's Road.	
Mrs. Peach	2
99 Mrs. Bell	2
Sutherland Street.	
14 Mrs. Poynor	2
St. James' Road.	
16 Miss Kirtin	2
"Wingfield" (corner Tennyson St.)	2
Park Vale Road.	
15 Mrs. Fletcher	2
17 Mrs. Millington	2
Chaucer Street.	
23 Mrs. Neam	2
Laurel Road.	
2 Mrs. Ward	2
HUMBERSTONE ROAD DISTRICT (1d. tram).	
Humberstone Road.	
292 Mrs. Fawcett	2
Uppingham Road.	
60 Miss Spreckley	2

Name and Address.	Accommodation for
CLARENDON PARK DISTRICT (1d. tram).	
Clarendon Park Road.	
91 Mrs. Brooks	2
96 Mrs. Walker	2
111 Mrs. Waterman	2
Howard Road.	
41 Mrs. Horn	2
BELGRAVE DISTRICT (1d. tram).	
Loughborough Road.	
41 Miss Barker	2
WEST END DISTRICT (1d. tram).	
Fosse Road.	
34 Mrs. Brown	3
101 Mrs. Coleman	2
Sykefield Avenue, Westcotes Drive.	
21 Mrs. J. W. Ellis	2
Briton Street.	
11 Mrs. Cave	2
STONEYGATE DISTRICT (1d. tram).	
Sandown Road.	
17 Mrs. Brigham	2
Avenue Road.	
Fern Bank, Mrs. Foster	2

British Medical Association.

LEICESTER, 1905.

SEVENTY-THIRD ANNUAL MEETING.

GENERAL ARRANGEMENTS.

THE seventy-third annual meeting of the British Medical Association will be held at Leicester on Monday, Tuesday, Wednesday, Thursday, and Friday, July 24th, 25th, 26th, 27th, and 28th, 1905.

President: WILLIAM COLLIER, M.D., F.R.C.P.Lond., Physician, Radcliffe Infirmary, Oxford, and Litchfield Lecturer in Medicine, University of Oxford.

President-elect: GEORGE C. FRANKLIN, F.R.C.S., Honorary Surgeon, Leicester Infirmary.

Chairman of Representative Meetings: Sir VICTOR HORSLEY, F.R.S.

Chairman of Council: ANDREW CLARK, D.Sc., F.R.C.S.

Treasurer: EDWARD MARKHAM SKERRITT, M.D., F.R.C.P.

An Address in Medicine will be delivered by HENRY MAUDSLEY, LL.D., M.D., F.R.C.P.

An Address in Surgery will be delivered by CHARLES JOHN BOND, F.R.C.S.

A popular lecture will be delivered by Professor WILLIAM STIRLING, D.Sc., M.D., F.R.S.E.

SECTIONS.

The annual meeting at Leicester will comprise 12 Sections as shown in the subjoined list. The Sections will meet on Wednesday, Thursday, and Friday, July 26th, 27th, and 28th, from 10 a.m. to 1 p.m.

The President, Vice-Presidents, and Secretaries of each Section constitute a Committee of Reference for that Section.

Papers read are the property of the British Medical Association, and cannot be published elsewhere than in the BRITISH MEDICAL JOURNAL *without special permission.*

No paper must exceed 15 minutes in reading, and no subsequent speech 10 minutes.

MEDICINE.

Technical Schools—Room 2.

President: FRANK M. POPE, M.D., F.R.C.P., Leicester. *Vice-Presidents:* REGINALD PRATT, M.D., M.R.C.P., Leicester; ROBERT WILLIAM PHILIP, M.D., F.R.C.P.Edin., Edinburgh; WILLIAM BRAMWELL RANSOM, M.D., F.R.C.P., Nottingham. *Honorary Secretaries:* BERTRAND DAWSON, M.D., B.Sc., F.R.C.P., 32, Wimpole Street, Cavendish Square, W.; WILLIAM MITCHELL STEVENS, M.D., M.R.C.P., 21, St. Andrew's Crescent, Cardiff; FRANK HARWOOD JACOB, M.D., M.R.C.P., 28, Regent Street, Nottingham.

The following subjects have been selected for special discussion in this Section:

A. The treatment of sleeplessness and pain;

B. The pathology, diagnosis, and treatment of various forms of acute meningitis;

C. The diagnosis and treatment of cardiac degeneration apart from valvular disease.

Discussion A. will be opened on July 26th by Sir LAUDER BRUNTON, M.D., F.R.S., in an address of which a summary was published on July 1st (SUPPLEMENT, p. 8).

Sir LAUDER BRUNTON will be followed by Professor CUSHNY, Sir WILLIAM BROADBENT, and Dr. HALE WHITE in the order stated. After this the discussion will be thrown open.

Discussion B. will be opened on July 27th by Dr. HOWARD TOOTH, M.D., F.R.C.P. An abstract of his address was published on July 1st (SUPPLEMENT, pp. 8, 9).

Dr. TOOTH will be followed by Dr. HORDER, Dr. OSLER, and Dr. MONTAGUE MURRAY in the order indicated, after which the discussion will be thrown open.

Discussion C. will be opened on July 28th by Dr. J. Dreschfeld, M.D., F.R.C.P., of Manchester, in an address of which an account was published on July 1st (Supplement, p. 9).

Dr. Dreschfeld will be followed by Dr. G. H. Gibson, Dr. W. Herringham, Sir William Broadbent, and Dr. A. Foxwell in the order stated. The discussion will then be thrown open.

The following is a list of the six papers which have been accepted by the Committee of Reference. They will be read in the order placed, two being taken each morning when the formal discussion for the day has been closed.

Hadley, W., M.D., F.R.C.P. Diagnosis of the Varieties of Pleural Effusions.

Ransom, W. B., M.D., F.R.C.P. The Influence of Posture on Breath Sounds.

Raw, Nathan, M.D., F.R.C.S., M.R.C.P. Human and Bovine Tuberculosis, with special reference to Bovine Infection in Children.

Poynton, F. J., M.D., F.R.C.P. The Employment of Citrate of Soda in Infant Milk Feeding.

Dawson, Bertrand, M.D., F.R.C.P. Diagnosis of Gastric Ulcer.

Davidson, Dr. Mackenzie. The Diagnostic Value of *X* Rays.

It is requested by the Committee of the Section that members wishing to take part in these discussions will communicate in the case of discussion A. with Dr. Bertrand Dawson, in the case of discussion C. with Dr. W. Mitchell Stevens, in the case of discussion B. with Dr. Frank H. Jacob at the addresses already given.

Surgery.

Technical Schools—Room T.

President: Sir Charles Bent Ball, M.Ch., F.R.C.S., Dublin. *Vice-Presidents:* Claude Douglas, F.R.C.S., Leicester; Henry John Blakesley, F.R.C.S., Leicester; James Henderson Nicoll, M.B., C.M., Glasgow. *Honorary Secretaries:* Percy Furnivall, F.R.C.S., 28, Weymouth Street, W.; Cecil Edward Marriott, M.C., F.R.C.S., 11, Welford Road, Leicester.

The following subjects have been selected for special discussions:

A. The Surgical Treatment of Non-malignant Diseases of the Stomach.

B. The Treatment of Malignant Disease of the Rectum.

Discussion A. will be opened on July 26th by Mr. B. G. A. Moynihan, M.S.Lond., F.R.C.S. He will be followed by Messrs. C. Mansell-Moullin, F. S. Eve, Bruce Clarke, F. C. Wallis, F. F. Burghard, C. B. Keetley, J. Lynn Thomas, L. A. Bidwell, E. Deanesly, T. G. Atkins, Dr. R. Saundby, and Drs. Hartmann and Tuffier, both of Paris.

Discussion B. will be opened on July 27th by Sir Charles Ball, M.Ch., F.R.C.S., who will be followed by Messrs. Harrison Cripps, F. Swinford Edwards, F. C. Wallis, F. F. Burghard, J. Jackson Clarke, J. Lynn Thomas, Charles Ryall, E. Stanmore Bishop, E. Deanesly, W. L. Woollcombe, C. P. Childe, T. G. Atkins, and Dr. Hartmann of Paris.

The following is a list of the papers which up to the present have been received by the Committee of Reference for this Section:

Fenwick, E. Hurry. Life-history of a Left-sided Ureteritis peculiar to the Female.

Berry, J. Sixty Cases of Cleft Palate Treated by Operation.

Tubby, H. Spinal Osteomyelitis.

Freyer, P. J. Total Enucleation of the Prostate: A Review of 200 Cases.

Thomas, J. Lynn. Immediate Crossing of Facial Nerve to the Spinal Accessory Nerve in a Case of Removal of a large Parotid Tumour.

Sheen, W. A Case of Ligature of the Innominate Artery.

Bidwell, L. A. A Case of Angio-Sarcoma of Omentum.

Cammidge, P. J. Observations on the Faeces in Biliary Obstruction and Pancreatic Disease.

Leedham Green, C. Some Further Experiments on the Sterilization of the Skin.

Malcolm, J. D. Two Cases of Partial Sloughing of the Vermiform Appendix.

Childe, C. P. An Unusual Condition of the Large Intestine associated with Carcinoma in Two Sisters.

Jones, Robert. The Treatment of Recurrent Dislocation of the Shoulder and Displacement of the Patella.

Atkins, T. G. (1) After-histories of 20 Cases of Gastro-jejunostomy reported at the Oxford meeting for Non-malignant Conditions of the Stomach. (2) Short Notes on a Case of Acute Gangrenous Appendicitis, illustrated with specimen and drawing.

Arrangements have been made for showing lantern slides to illustrate subjects under discussion. The Secretaries will be pleased to receive as soon as possible any paper which it is proposed to submit to the Section, and also to hear from any one who desires to take part in the discussions mentioned.

State Medicine.

Technical Schools—Room 7.

President: Philip Boobbyer, M.D., Nottingham. *Vice-Presidents:* Ninian McIntire Falkiner, M.D., Dublin; John Herbert Hawkins Manley, M.D., D.P.H., West Bromwich; Thomas Robinson, M.R.C.S., D.P.H., Leicester. *Honorary Secretaries:* Wm. Williams, M.D., D.P.H., County Health Department, 9, The Parade, Cardiff; Chas. Killick Millard, M.D., D.Sc., Town Hall, Leicester.

The following subjects have been selected for special discussion:

A. Hospital Isolation for Infectious Disease.

B. Sanatoriums for the Poorer Consumptives.

C. Infants Milk Dépôts.

D. What is Notifiable Diphtheria?

Discussion A. will be opened by George Wilson, M.A., M.D., D.P.H., LL.D., F.R.S.Edin., who will be followed by Drs. Whiteside Hume, J. E. O'Connor, F. H. Waddy, and others.

Discussion B. will be opened by L. A. Weatherly, M.D.

Discussion C. will be opened by Bailie W. F. Anderson (Convener of the Health Committee, Glasgow), who will be followed by Drs. Nathan Straus (New York), Dufours, (Fécamp), J. E. Sandilands, and J. J. Buchan.

Discussion D. will be carried on in conjunction with the Section of Laryngology, and will be opened by P. Watson Williams, M.D., who will be followed by David S. Davies, M.D.

The following is a list of the papers which have been accepted by the Committee of Reference:

Rentoul, Dr. R. R. Physical Degeneration.

Kaye, Dr. J. R., M.B., D.P.H. The Working of the Midwives Act.

Kelynack, Dr. T. N. Alcohol in Relation to National Vitality.

Magennis, Dr. E. Physical Deterioration in the Schoolroom.

Kenwood, Professor H. R. Elementary Education and the Teaching of Hygiene.

Nash, Dr. J. T. C. Shellfish and Typhoid Fever.

Industrial Hygiene and Diseases of Occupation.

Technical Schools—Room 8.

President: Hy. Wm. Langley Browne, M.D., West Bromwich. *Vice-Presidents:* Alexander Campbell, M.D., Dundee; John Colley Smyth Burkitt, M.D., D.P.H., Leicester; Thomas Morison Legge, M.D., London. *Honorary Secretaries:* Clement Frederick Bryan, M.R.C.S., 44, Humberstone Road, Leicester; Thomas Watts, M.D., 34, Church Street, Hyde.

The following discussions have been arranged in this Section:

A. Physical Deterioration, its Causes and Extent.

B. Anthrax.

C. Accident and Poisoning Reports.

Discussion A. will be opened on July 26th by Dr. Dawson Williams in an address of which an abstract was published on July 8th (Supplement, page 34).

Dr. Dawson Williams will be followed by Dr. William Hall, after which the discussion will be thrown open.

Discussion B. will be opened on July 27th by Dr. J. W. Bell, of Bradford, in an address the headings of which were published on July 8th (Supplement, page 34).

Dr. Bell will be followed by Dr. Legge and Mr. L. Stretton, after which the discussion will be thrown open.

Discussion C. will be opened on July 28th by Dr. W. F. Dearden in an address of which an abstract was published on July 8th (Supplement, page 34).

The Honorary Secretaries will be glad to know at as early a date as possible from any one who desires to contribute a paper, or to take part in any of the discussions.

Laryngology, Otology and Rhinology.

Technical Schools—Room O.

President: Frederick William Bennett, M.D., Leicester. *Vice-Presidents:* William Arthur Carline, M.D., Lincoln; John Middlemass Hunt, M.B., Liverpool. *Honorary Secretaries:* Alex Lewis MacLeod, M.B., 89, Hinckley Road, Leicester; Chas. Herbert Fagge, M.S., F.R.C.S., 22, St. Thomas's Street, London Bridge, S.E.

The following subjects have been selected for special discussion:

A. The Lines of Treatment in Preventing Acute Middle-Ear Suppuration from becoming Chronic.

B. The Treatment of Tuberculous Disease of the Larynx.

C. The Infectivity and Notification of Diphtheria, with Special Reference to Latent Forms of the Disease.

Discussion A. will be introduced on July 26th by Dr.

WILLIAM MILLIGAN, of Manchester, and Dr. ERNEST WAGGETT. A synopsis of the address of the former was published on July 8th (SUPPLEMENT, page 34). Mr. Ernest Waggett's paper will be based on the following headings:—In certain acute cases definite pathological conditions are present which prevent natural resolution: Description and Classification of these Conditions, pathological and clinical; Treatment must not be indiscriminate: Success depends upon the early recognition of these conditions and their speedy removal. Description of Methods of Treatment—(1) Routine, (2) Special. Results immediate and ultimate.

Discussion B. will be introduced on July 27th by Dr. JOBSON HORNE and Dr. S. HABERSHON. Of the address of the latter a synopsis appeared on July 1st (SUPPLEMENT, page 35). The following is a synopsis of Dr. Jobson Horne's address:—After referring to the scope of the subject, the paper briefly reviews the present state of the treatment. It then pauses to consider certain principles upon which the treatment, both therapeutic and surgical, should be based. These principles have been deduced from investigations conducted under the auspices of the British Medical Association by Dr. Jobson Horne. The technique and the limitations of the surgical treatment are dealt with in detail. The treatment of so-called primary tuberculosis of the larynx is referred to, and that of the disease in connexion with pregnancy also receives consideration. The paper will be illustrated with macroscopic and microscopic preparations, and instruments used in carrying out the treatment. A lantern demonstration will be given of the preparations upon which the argument of the paper is based.

Discussion C. will be carried on conjointly with the Section of State Medicine, and will be opened on July 28th by Dr. WATSON WILLIAMS and Dr. DAVID DAVIES, both of Bristol. Summaries of these addresses were published on July 8th (SUPPLEMENT, page 35).

The following is a list of the papers which up to the present have been accepted by the Committee of Reference:

GRAY, Dr. A. A. (Glasgow). The Pathological Conditions found in a Case of an Individual who had suffered from Deafness during Life.

BARWELL, Dr. Harold (London). On the Choice of the Method of Treatment in Cases of Tuberculous Laryngitis, with a Plea for the Routine Inspection of the Throats of Consumptive Patients.

SYME, Dr. (Glasgow). The Demonstration of a Pair of Forceps for Operations on the Maxillary Antrum.

In addition to those above-mentioned, the following gentlemen have notified their intention of taking part in the work of the Section: Dr. E. DEANESLY (Wolverhampton), Dr. HUGH E. JONES (Liverpool), Mr. ATWOOD THORNE (London), Mr. MARK HOVELL (London), Dr. R. LAKE (London), and Dr. GRIFFITH WILKIN (Paignton).

Members are invited to contribute any preparations, specimens or drawings, or any instruments or apparatus pertaining to the work of the Section, and which may have been designed by themselves, in order that the Committee of the Section may make arrangements to form a special exhibit of such objects.

Those who desire to take part in the discussions or to read papers, or who are ready to send any object for exhibition, are requested to communicate with the Secretaries at an early date.

No paper will be finally accepted until it has been approved by the Committee of the Section. Papers will not be "taken as read," and none will be accepted in excess of the number which it is calculated it will be possible to read in the time at the disposal of the Section.

Communications relating to papers and discussions should be sent to Mr. C. H. Fagge at the address given above, and those relating to the exhibition of preparations, instruments, etc., to Dr. Bennett, 25, London Road, Leicester.

NAVY, ARMY AND AMBULANCE.

Technical Schools—Room H.

President: Surgeon-Lieutenant-Colonel HENRY WALTER KIALLMARK, M.R.C.S., London. *Vice-Presidents:* Surgeon-Lieutenant-Colonel ROBERT BRADSHAW SMITH, V.D., L.R.C.P., Hinckley; Lieutenant-Colonel EDMOND MONKHOUSE WILSON, C.B., C.M.G., D.S.O., S. Farnboro'; Fleet Surgeon ALEXANDER J. J. JOHNSTON, R.N., Haslar. *Honorary Secretaries:* Fleet Surgeon EDWARD JAMES BIDEN, R.N. (Ret.), 29, Osborne Road, Southsea; Captain WM. PEMBERTON PEAKE, M.R.C.S., R.A.M.C.(Vols.), 21, Oxford Street, Leicester; Captain EDWIN CHARLES MONTGOMERY-SMITH, R.A.M.C.(Vols.), 36, Abbey Road, St. John's Wood, N.W.

The following is a list of the papers which have been accepted for perusal and discussion in this Section:

BEADNELL, Fleet Surgeon Charles Marsh, R.N. On the Disposal of our Wounded in a Naval War.

AUSTIN, Fleet Surgeon Thos., R.N. The Collection and Distribution of Wounded in a Modern Cruiser Engagement, from Observations made in Chemulpo, February 9th, 1904.

BEADNELL, Fleet Surgeon Charles Marsh, R.N. Some Dynamical and Hydrodynamical Effects of the Modern Small-bore Bullet.

BIDEN, Fleet Surgeon E. J., R.N. Remarks on the Head Dress of Certain Ratings in H.M. Navy.

FAICHNIE, Major, R.A.M.C. Causation, Varieties, and Treatment of Dysentery on Active Service.

JENKINS, E. Lynn, M.B., B.S. Causation, Varieties, and Treatment of Dysentery on Active Service.

ROBINSON, Surgeon-Lieutenant-Colonel G. S., Scots Guards. On the Feeding of the Soldier in Active Service.

CRAWFORD, Major G. S., R.A.M.C. On the Care of Soldiers' Feet.

GILES, Surgeon-Colonel P. B. Care of Soldiers' Feet.

FURLEY, Sir John, C.B. Red Cross Organization, with Special Reference to Preparation for War in Times of Peace.

BARNES, Lieutenant-Colonel H. J., Secretary, St. Andrews Ambulance Association. A Paper bearing on the Relations between the Civil Authorities and Ambulance Associations.

MARSHALL, Major J. J. de Z., R.A.M.C. (Vols.). First Aid Treatment of Fractured Thigh in Military and Civil Practice.

OBSTETRICS AND GYNAECOLOGY.

Technical Schools—Room 3.

President: HERBERT RITCHIE SPENCER, M.D., F.R.C.P. London. *Vice-Presidents:* HENRY MEADOWS, M.B., Leicester; Professor HENRY CORBY, M.D., Cork; FRANCIS RICHARD CASSIDI, M.D., Derby. *Honorary Secretaries:* MONTAGUE WM. WILLIAMS, M.R.C.S., 45, London Road, Leicester; Miss LOUISA GARRETT ANDERSON, M.D., 114A, Harley Street, W.

The following subjects have been selected for special discussion:

A. The Diagnosis and Treatment of Cancer of the Uterus.

B. The Treatment of Albuminuria and Eclampsia occurring in Pregnancy.

Discussion A. will be opened on July 26th by Professor WERTHEIM of Vienna; a summary of his address was published on July 1st (SUPPLEMENT, p. 10).

He will be followed by Drs. Robert Bell, John Campbell, McCann, Frederick Edge, Skene Keith, Munro Kerr, Lewers, Cuthbert Lockyer, Ewen Maclean, Inglis Parsons, Smyly, Herbert Snow, Arthur Wallace, Thomas Wilson, Miss Aldrich-Blake, Mrs. Scharlieb, and Professor Howard A. Kelly, the guest of the Section.

Discussion B. will be opened on July 28th by Dr. ROBERT BOXALL, M.D., F.R.C.P., in an address of which an abstract was published on July 1st (SUPPLEMENT, p. 10).

He will be followed by Drs. John Campbell, Eden, Munro Kerr, Lewers, Ewen Maclean, Inglis Parsons, Smyly, Thomas Wilson, and Professor Tweedy.

The following is a list of the papers and communications which the Committee of Reference for the Section has accepted up to the present:

CAMPBELL, Dr. John. The Influence of the Presence of Pus in the Female Urethra upon the Prognosis in Obstetrical and Gynaecological Cases.

CAMERON, Dr. S. J. A Lantern-slide Demonstration illustrating Degenerations in and Complications of Fibroids.

CORBY, Professor Henry. Fibroid Tumour of Ovary Removed from a Hermaphrodite, with specimen.

MACLEAN, Dr. Ewen J. Elephantiasis of Vulva, with specimen.

PARSONS, Dr. J. Inglis. Operation for Prolapse of Uterus.

TWEEDY, Professor. High-limit of Pulse and Temperature Throughout the Normal Puerperium.

WILSON, Dr. Thomas. Two Cases of Vaginal Caesarean Section in the Last Month of Pregnancy.

Gynaecological Section of the Pathological Museum.—Members interested in this part of the work of the Section are referred to the account given under the heading of the Annual Pathological Museum.

OPHTHALMOLOGY.

Technical Schools—Room 6.

President: GEORGE ANDREAS BERRY, F.R.C.S.Edin., Edinburgh. *Vice-Presidents:* WM. MARDON BEAUMONT, M.R.C.S., Bath; EDWIN COLLIER GREEN, M.R.C.S., Derby. *Honorary Secretaries:* ROBT. WALLACE WESLEY HENRY, M.D., 6, Market Street, Leicester; JOHN HERBERT PARSONS, F.R.C.S., 27, Wimpole Street, Cavendish Square, W.

The following subjects have been selected for special discussion in this Section:

A. Intraocular Tuberculosis; its Etiology, Diagnosis, Prognosis, and Treatment.

B. Capsular Complications after Cataract Extraction.

Discussion A. will be introduced by Mr. WALTER H. H.

JESSOP, M.B., F.R.C.S., in an address of which the following is a syllabus:

Tuberculous affections of the uveal tract and retina are considered as to their etiology, diagnosis, prognosis. Choroid—(1) Miliary tuberculosis: (2) chronic tuberculous inflammation. Ciliary Body; Iris; Retina. Treatment—Operative procedures; tuberculins; hygiene. The subject chosen being so large, the following points are suggested as being those on which information is specially desired:

1. Relative frequency of primary intraocular tuberculosis.

2. How often is tuberculous choroiditis met with in acute miliary tuberculosis?

3. What is the value of tuberculins (*a*) as an aid to diagnosis? (*b*) as treatment?

4. What is the danger of dissemination as a result of excision in intraocular tuberculosis?

5. In tuberculous affections limited to the choroid, is there little tendency to changes in pigmentation, or scarring of the retina or choroid, and are vitreous opacities seldom present?

The following gentlemen have expressed their desire to take part in one or other of the discussions: Professor HAAS, Mr. BEAUMONT, Dr. WALTON BROWNE, Sir ANDERSON CRITCHETT, Mr. HILL GRIFFITH, Dr. GROSSMANN, Dr. LITTLE, Mr. DEVEREUX MARSHALL, Mr. MALCOLM MCHARDY, Mr. MYDDELTON-GAVEY, Mr. BRONNER, Mr. DRAKE BROCKMAN, and Dr. SHAW.

Discussion B. will be introduced by Mr. E. TREACHER COLLINS in an address of which an abstract was published on July 1st (SUPPLEMENT, p. 11).

The following is a list of the papers which have been accepted by the Committee of Reference:

BENSON, Dr. A. H. Evolution in Blepharoplasty.
BERRY, Dr. G. A. A New Test for Visual Acuteness.
COATES, Mr. G. Title uncommunicated.
GROSSMANN, Dr. Karl. (1) Absence of Dilatator of Iris. (2) Conical Cornea and Hot-air Cautery. (3) Lepra Ophthalmica.
HARMAN, Mr. Bishop. (1) Results of Electrical Treatment of Trachoma at Middlesex Hospital. (2) False Hay-fever.
HENDERSON, Mr. E. E. Action of Eserine in Animals.
HERN, Dr. J. Some Observations on the Effect of the Presence of Adenoids in the Naso-Pharynx on Some Eye Affections.
SHAW, Dr. Cecil. Short Account of a Case of Amblyopia, apparently Toxic, following Influenza.
BRONNER, Mr. Notes on a Case of Slight Myopia in which distressing Local and General Symptoms were relieved by the use of glasses which were much too strong.

Papers from those who have had practical experience of the use of Finsen, X Rays, and Radium in ophthalmic work will be specially welcomed, but, of course, it is not intended to exclude papers on other subjects. The Secretaries will also be glad to have exhibits (pathological, instrumental, etc.), and special arrangements for their care will be made by the Museum Subcommittee.

The Secretaries will be glad to hear as early as possible from any one who desires to read a paper, or to take part in the discussions mentioned.

PSYCHOLOGICAL MEDICINE.

Technical Schools—Room N.

President: ALEXANDER REID URQUHART, M.D., Perth. *Vice-Presidents:* ROTHSAY CHARLES STEWART, M.R.C.S., Leicester; THEOPHILUS BULKELEY HYSLOP, M.D., London. *Honorary Secretaries:* ARTHUR MOLYNEUX JACKSON, M.B., Nottingham County Asylum, Radcliffe-on-Trent; JOHN WIGMORE HIGGINSON, M.R.C.S., Hayes Park Asylum, Hayes.

The following discussions have been arranged by the Committee of Reference:

A. Clinical Study of the Heredity of Insanity.

B. Occupation and Environment as Causative Factors of Insanity.

C. The Prognosis in Mental Disorders.

Discussion A. will be opened on July 26th by Dr. A. REID URQUHART.

Discussion B. will be opened on July 27th by Dr. T. BULKELEY HYSLOP.

Discussion C. will be opened on July 28th by Dr. ROBERT JONES of Claybury.

The time remaining after the discussion each morning will be devoted to the reading of such papers as may have been selected by the Committee of Reference.

The Secretaries will be glad to hear as soon as possible from any one who desires to read a paper or to take part in the discussions mentioned.

The following papers have been accepted by the Committee of Reference:

BAUGH, Dr. L. Confusional Insanity.
POTTS, Dr. W. A. Mental Defects in Children.
SCHOFIELD, Dr. A. T. The Extension of Psychology in Medicine.

PATHOLOGY.

Technical Schools—Room S.

President: FREDERICK WALKER MOTT, M.D., F.R.C.P., F.R.S., London. *Vice-Presidents:* THEODORE SHENNAN, M.D., Edinburgh; Professor ARTHUR HAMILTON WHITE, L.R.C.P.I., Dublin. *Honorary Secretaries:* JOHN WILLIAM H. EYRE, M.D., Guy's Hospital, S.E.; THOMAS VILLIERS CROSBY, M.D., 91, St. Peter's Road, Leicester.

The following subject has been selected for special discussion in this Section:

The Relationship of Heredity to Disease.

The discussion will be introduced on July 26th by the President of the Section, Dr. F. W. MOTT, F.R.S., in an address, of which a synopsis was published on July 8th (SUPPLEMENT, page 36).

Dr. Mott will be followed by Dr. ARCHDALL REID, Dr. ALDREN TURNER, Mr. CHARLES BOND, and Mr. E. SCHUSTER (Oxford), after which the discussion will be thrown open.

Discussion B. will take place on July 27th.

The following is a list of the papers which up to the present have been accepted by the Committee of Reference for the Section:

WRIGHT, Dr. Hamilton. The Etiology and Pathology of Beri-beri.
MAY, Dr. W. Page. A Case of Cerebral Hemiatrophy.
BAINBRIDGE, Dr. F. A. Pathology of Miner's Paralysis.
WHITE, Dr. A. Hamilton. Paratyphoid Infection.
DIMMOCK, Dr. A. F., and BRANSOM, Mr. F. W. (*a*) A Rapid and Simple Process for the Estimation of Uric Acid; (*b*) A Clinical Method for the Estimation of Chlorides in Urine (with demonstration).
ABRAHAMS, Mr. B. L. Morbid Anatomy and Histology of Various Forms of Chronic Joint Disease (lantern demonstration).
EYRE, Dr. J. W. H., and FLASHMAN, Dr. J. F. Diphtheroid Organisms in the Throats of the Insane.
GILCHRIST, A. W., M.D. A Method of Demonstrating Individual Metabolism by the Investigation of Pulmonary Expiration (with demonstration).
BUSHNELL, F., M.D. Carcinoma of Stomach.

The Secretaries will be glad to hear as soon as possible from any one who desires to take part in the discussions or contribute a paper.

DENTAL SURGERY.

Technical Schools—Room I.

President: MORTON ALFRED SMALE, M.R.C.S., L.D.S., London. *Vice-Presidents:* EDWARD LLOYD-WILLIAMS, M.R.C.S., L.R.C.P., L.D.S., London; FRANCIS JOHN LANKESTER, M.R.C.S., L.D.S., Leicester; *Honorary Secretaries:* WM. ARMSTON VICE, M.B., L.D.S., 19, Belvoir Street, Leicester; JOSEPH GEORGE TURNER, F.R.C.S., L.D.S., 12, George Street, Hanover Square, W.

The proceedings of this Section will be opened on Wednesday, July 27th, at 10 a.m., by Mr. Alfred Smale, President of the Section, in a short introductory address.

A discussion on Toothache, Neuralgia, and Remote Affections of Dental Origin will then begin, the task of initiating it being undertaken by Dr. Risien Russell and Mr. J. H. Mummery in its general relations; by Mr. W. Lang in relation to the eyes; by Dr. Urban Pritchard in connexion with the nose, throat, and ears, and by Drs. Leonard Guthrie and E. Cautley in relation to children. A note on the subject in the latter relation by Dr. Robert Hutchinson will be read by the Secretary, as also one by Sir Victor Horsley in connexion with neuralgia of the fifth nerve.

The discussion will then be taken up by Messrs. A. S. Underwood, H. Baldwin, K. W. Goadby, W. R. Ackland, J. McK. Ackland, Sydney Spokes, W. A. Maggs, W. Hern, E. Lloyd-Williams, W. A. Barrett, M. Hopson, C. A. Wallis, H. A. T. Fairbank, J. G. Turner, and J. E. Constant, and will be continued on Thursday, July 27th.

On Friday, July 28th, the following papers will be read and discussed:

GABELL, Mr. Douglas. Some Pathological Conditions in Teeth, with lantern demonstration.
CLARKE, Mr. Astley V. An Unusual Case of Necrosis of the Jaw.
BOGUE, Dr. E. A. (New York). The Influence of the Arrangement of the Teeth into their Normal Arches on Development.
SPOKES, Mr. Sydney. The Teeth as a Test of Age; a Note on Eruption.
COLYER, Mr. J. F. A Note on Dental Diseases in the Horse.
GOADBY, Mr. K. W. Preliminary Note on a Vaccine Treatment of Pyorrhœa Alveolaris.
RYMER, Mr. J. F. Vegetarianism and its Effects upon the Teeth.

The Secretaries will be glad to hear as early as possible from any one who desires to take part in the discussions or to read a paper on any subject connected with the work of the Section.

TROPICAL DISEASES.

Technical Schools—Room B.

President: RUBERT WM. BOYCE, M.B., F.R.S., Liverpool. *Vice-Presidents:* ANDREW DUNCAN, M.D., London; FLEMING MANT SANDWITH, M.D., F.R.C.P., London. *Honorary Secretaries:* GEORGE AYLWIN CLARKSON, F.R.C.S., 173, London Road, Leicester; JOHN M. HENDRIE MACLEOD, M.D., 11, Harley Street, W.

The following subjects have been selected for special discussion in this Section:

A. Tick Fever.

B. Sprue and Hill Diarrhoea.

C. Tropical Diseases of the Skin.

The following is a list of the gentlemen who up to the present have expressed their desire to take part in the discussions or to contribute papers: Dr. H. E. Annett, Professor Rubert Boyce, Dr. Anton Breinl, Mr. James Cantlie, S. R. Christophers, M.B., I.M.S., Dr. Andrew Duncan, Sir Patrick Manson, Dr. W. T. Prout, Professor Ronald Ross, Dr. L. W. Sambon, Dr. F. M. Sandwith, Dr. J. W. W. Stephens, Dr. Wolferstan Thomas, Dr. T. L. Todd.

The Secretaries will be glad to hear as soon as possible from any others, and to receive pathological specimens, drawings, photographs, and microscopic preparations for exhibition at the meeting.

THE PATHOLOGICAL MUSEUM.

THE many promises of photographs, specimens, and other matters relating to pathology indicate that the Pathological Museum will contain much to interest the members of the Association.

The aim of the Committee has been to make the museum an adjunct to the work of the Sections as well as a collection of interesting pathological material. In accordance with this aim the museum will be arranged in conformity with the Sections, and this grouping of material will be clearly indicated both in the museum and in the catalogue, so that members will have no difficulty in finding individual specimens or series of specimens that they wish to investigate.

It is impossible at this date to give a full account of the exhibits that have been promised, but it is expected that the portion of the museum devoted to the Section of Medicine will be well filled, and a special feature will be the exceptional number and variety of neurological exhibits.

Gynaecological Section.—Arrangements are being made for the reception of some 300 specimens, drawings, colour photographs, photomicrographs, and microscopical preparations. Many of the specimens are of very great and a few of unique interest. Curators of hospital museums throughout the country have been unsparingly generous in lending their treasures, and important contributions are expected, among other places, from Edinburgh and Glasgow. Newcastle, Liverpool, Birmingham, and London. From London alone promises have been received from twelve of the principal hospitals to send the best gynaecological specimens which they possess in illustration of the subjects selected for study, so that it may be confidently stated that members will be offered an unusually good opportunity of seeing interesting preparations and of comparing the different methods in vogue for mounting and preserving specimens. The exhibits will, as far as possible, be grouped in series showing the various pathological conditions—namely, malignant disease of the uterus (sarcoma and chorion-epithelioma, as well as carcinoma), extrauterine gestation, adenomyoma of the uterus, and degenerative changes in fibroids. London exhibits are to be packed and taken to Leicester by Messrs. Baird and Tatlock, 14, Cross Street, Hatton Garden, E.C. Specimens from other places should reach Leicester by July 18th, and they should be addressed to Gynaecological Section, Pathological Museum, care of Dr. Robert Sevestre, Technical Schools, Leicester. Offers of specimens for this part of the museum (together with an intimation that accepted specimens have been sent to Leicester) should be addressed to the London Hon. Secretary of Section of Obstetrics and Gynaecology, Miss Garrett Anderson, M.D., 114A, Harley Street, from whom all information about gynaecological specimens can be obtained.

The museum is situated in an excellent position in the centre of the Technical Schools where the Sectional meetings are to be held, and the good lighting will ensure the exhibits being seen to the best advantage.

The work of the organization of the museum will be greatly facilitated by members who propose to send specimens giving notice as soon as possible, if they have not already done so, as the Committee wish to avoid all sources of disappointment.

The Honorary Local Secretaries are:

ASTLEY V. CLARKE, M.D.,
37, London Road, Leicester.

FELIX BOLTON CARTER, M.S.,
99, London Road, Leicester.

SPECIAL RAILWAY ARRANGEMENTS.

To members and their friends attending the annual meeting at Leicester the railway companies of the United Kingdom will grant return tickets, on payment at the time of booking, at a single fare and a quarter. To secure this concession each passenger must produce a special voucher, and these may be obtained on application to the General Secretary, 429, Strand, London, W.C. The reduced fares will be available from July 21st to August 1st, both dates inclusive.

Those members desiring to travel to the places where they reside during the meeting of the Association may obtain return tickets at a single fare and a quarter (minimum charge 1s.) on production of cards of membership, from Leicester to any station not more than fifty miles distant to which through bookings are in operation available to return on the same or following day.

Dr. Samuel Bagley, representative of the Manchester (South) Division of the Lancashire and Cheshire Branch, requests us to announce that a good corridor train will leave Central Station, Manchester, every day at 11.25 a.m. for Leicester, Great Central Railway, arriving at 1.44, calling at Guide Bridge a few minutes later. Refreshment car attached; many members have already agreed to travel by it on Monday, July 24th.

GOLF.

Any member of the Association who wishes to play golf during the annual meeting at Leicester is requested to send his name and address and the name of his golf club to Mr. Percy Stafford (Honorary Secretary of the Leicestershire Golf Club), Leicester, in order that he may be made a member of the club for the week, to comply with the Act of Parliament necessitating registration as such.

A match, which it is hoped may have an international character, will be played on Friday, July 28th, if sufficient names are received. Members residing in England who wish to take part in the match are requested to send their names to Dr. W. Dutton, 58, Loughborough Road, Leicester: and those residing in Scotland, Wales, Ireland, or the Colonies to Dr. Norman Walker, Manor Place, Edinburgh.

LOCAL ENTERTAINMENTS, ETC.

INVITATIONS for receptions, garden parties, excursions, etc., will be obtained by members at the ticket counter in the reception-room at the Y.M.C.A. Buildings, London Road. Members are especially requested to examine the list of entertainments, and to apply only for those they intend to use. Applications must be made on or before noon on Thursday, July 27th.

By kind permission of the G.O.C.R.A. and officers R.G.A., the Band of the Royal Artillery, Portsmouth (under the direction of Mr. George Miller, L.R.A.M.), will play at various entertainments during the week.

WEDNESDAY, JULY 26TH.

3.40 to 6.30 p.m.—A Garden Party will be given by the Chairman of the Leicester Infirmary (Alderman Edward Wood) and Mrs. Wood, in the grounds of the Leicester Infirmary. The Band of the Royal Artillery will play.

8.30 to 11.30 p.m.—A Reception and Entertainments will be given by the President (Dr. Frank Pope) and members of the Midland Branch, at the Museum Buildings.

THURSDAY, JULY 27TH.

8 a.m.—Annual Breakfast given by the National Temperance League in the Temperance Hall.

3.30 to 6.30 p.m.—A Garden Party given by the President (R. C. Stewart, Esq., M.R.C.S.), and members of the Leicester Medical Society, in the grounds of the County Asylum.

4 to 6.30 p.m.—A Garden Party will be given by Mr. Maurice Levy, M.P., and Mrs. Levy at Humberstone Hall.

7.30 p.m.—Annual Dinner in the Assembly Rooms.

9.15 p.m.—Entertainment given by the Ladies' Committee in the King's Hall, Grand Hotel.

Friday, July 28th.

2.45 to 7 p.m.—A Garden Party given by Mr. Samuel Faire, J.P., and Mrs. Faire at Glenfield Frith. The band of the Royal Artillery will play during the afternoon.

8 to 11 p.m.—The Mayor and Mayoress of Leicester (Mr. and Mrs. Stephen Hilton) will give an Evening Fête in the Abbey Park, Leicester. The band of the Royal Artillery will play.

8 p.m.—Popular Lecture in the Royal Opera House by Professor Wm. Stirling, M.D., F.R.S.E., on Rest and Fatigue.

Inspection of Factories, etc.

Mr. S. Perkins Pick, F.R.I.B.A., has kindly offered to show parties the architectural remains of old Leicester on Thursday morning and Friday afternoon; and Mr. W. J. Freer, F.S.A., will conduct a party to see the antiquities of Leicester on Saturday morning.

The following factories will be open for inspection at hours which will be announced in the *Daily Journal*: Messrs. Cooper, Corah, and Sons, hosiery manufacturers; the Co-operative Wholesale Society's boot factory; Messrs. Fielding and Johnson, worsted spinners; the Gas and Electric Light Works; Messrs. J. Richardson and Co., manufacturing chemists.

LONGER EXCURSIONS.

Excursion to Belvoir Castle.

Friday, July 28th.

The Duke of Rutland has invited a party of sixty to visit Belvoir Castle; the party will leave Leicester at 12.40 and arrive at Stathern Station at 1.40 p.m. on Friday, July 28th. They will then drive through the woods, a distance of six miles to Belvoir Castle, which stands in a picturesque situation on the summit of an artificial mound thrown up on a spur of the Leicestershire Wolds by Robert de Todenei, to whom the district was granted by William the Conqueror. Belvoir, which was a royal garrison in the Civil War, suffered greatly from subsequent neglect. The work of rebuilding commenced in 1800 under the direction of Wyatt, but was interrupted by a fire in 1816; it was subsequently resumed on a still larger scale, and the castle is now a castellated building occupying a very fine situation on the summit of an isolated hill overgrown with beautiful timber. Extensive views of great beauty are obtained over the counties of Leicester, Nottingham, and Lincoln. The castle contains numerous art treasures, including an important gallery of pictures. The members will be entertained at tea at the castle, and will leave at 5.30, reaching Leicester at 7.25 p.m. If the applications received are in excess of the number (60) to which the excursion is limited names will be balloted for.



Excursion to Buxton.

Saturday, July 29th.

An excursion to Buxton and the Peak of Derbyshire has been arranged for Saturday, July 29th. A special train will leave Leicester at 9 a.m., arriving at Buxton at 10.52. The party will be conducted over the mineral baths and pump-room, and the various methods of applying the water will be demonstrated. The baths are in two separate buildings: in one the water is used at the natural temperature—82° F., and the other at higher temperatures. Both sets of baths are fitted with hydraulic douches, ascending, descending, and wave douches, the needle baths, vapour baths, and the Buxton douche and massage bath; there is also a swimming bath 30 ft. long, under which is the main source. Adjacent to the pump-room is a pump for the supply of water to the public, to whom the right of using the water free is secured by Act of Parliament.

After the baths a visit will be paid to the Devonshire Hospital, which contains about 300 beds, and possesses a special set of baths, where more than 3,000 persons are treated annually. There is a small annexe to the hospital for accident cases, in the operating room of which is the table recently presented by the King.

Members will then visit the gardens, and will be entertained at lunch either at the Palace Hotel at 12.30 or the St. Anne's Hotel at 1.45, according to the way in which they intend to spend the rest of the day.

The Buxton and High Peak Golf Club, possessing an 18-hole course, will place its links at the disposal of members who give in their names to Dr. C. W. Buckley, 1, Hardwick Mount, Buxton, not later than the first post on Thursday, July 27th.

Conveyances will be provided for drives to the "Cat and Fiddle," the highest licensed house in England, returning via Axe Edge, and to Goyt Valley, a distance of eighteen miles through the moorland and valley scenery. Should at least twenty-five members in each case express their desire on or before Thursday noon, the following excursions can be made:

(1) *To Haddon Hall and Chatsworth*, leaving Buxton at 1.40.

(2) *To Matlock*, leaving Buxton at the same hour.

(3) *To Castleton*, leaving Buxton at 1.35.

In the case of all these excursions members will on their return be able to join through trains going north or south. Those who desire to remain in Buxton during the afternoon will be able to inspect the various institutions of the town devoted to therapeutic methods, including Swedish exercise, Nauheim baths and movements, and electrical treatment of various sorts.

The excursion is limited to 300, and should applications for tickets exceed this number, the names will be balloted for. It is requested that members should state at the time they give in their names which subexcursions from Buxton they wish to join.

Bequests to Medical Charities.—Katharine, Countess of Stamford and Warrington, whose will has now been proved, left £200 each to the Queen's and General Hospitals, Birmingham; £500 to the Leicester Infirmary in aid of the Children's Hospital; and £100 to Corbett's Hospital, Stourbridge. The late Sir John Willox of Liverpool, whose will has now been proved, left £10,000 to the Liverpool Sanatorium for Consumption, Delamere Forest, to be used at the absolute discretion of the Committee, and to be known as the "Willox Endowment Fund"; £10,000 to the Liverpool Royal Infirmary; £10,000 to the Royal Southern Hospital; and £10,000 to the Stanley Hospital, Liverpool.

Meetings of Branches and Divisions.

[The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the JOURNAL.*]*

NORTH OF ENGLAND BRANCH.

THE annual meeting of this Branch was held at the Zetland Hotel, Saltburn, on June 21st. Previous to the meeting about thirty members partook of light refreshments provided by the members of the Cleveland Division. The President, Dr. J. DRUMMOND, took the chair, and the following Divisions were represented in the attendance: Newcastle, Tyneside, Gateshead, South Shields, Sunderland, Hartlepools, Stockton, and Cleveland.

Election of Representatives on Central Council.—Dr. Cox announced that the late Dr. Murphy and Dr. J. H. Hunter, the retiring representatives, had been the only nominations and had been elected. Dr. Murphy, however, had died on the day of his election, and the vacancy had been duly announced through the JOURNAL. (Dr. A. T. Wear, of Newcastle-on-Tyne, is the only member nominated and is hereby declared elected to fill the vacancy.)

Report of Branch Council.—The report stated that 57 members had been elected since the last annual meeting. The official numbers, however, only showed a net increase of 25, which indicated that a serious leakage was continually going on. There is a constant and unavoidable fluctuation owing to deaths and removals, but a considerable number lapse every year mainly owing to indolence in the payment of subscriptions. The total membership was 629, as against 604 last year. Of these Northumberland claimed 260 out of a total of 420 practitioners—a percentage of 61; Durham, 311 out of 562, or about 55 per cent.: and Cleveland, 58 out of 73, or nearly 80 per cent. These numbers were probably only approximate, but they were the best that could be compiled out of the *Medical Directory*. It was significant, and anything but satisfactory to note, that compared with last year the figures for Northumberland and Durham showed a slight decline in the ratio of members to practitioners. The Council pointed out to earnest members, and particularly to Secretaries of Divisions, that, although their ratio was probably as good as any of the larger Branches of the Association, they were still far from the ideal they had set before themselves—namely, to make it impossible for any reputable practitioner to remain out of membership. During the year the members of the Association resident in the Richmond and Northallerton Division of the Yorkshire Branch petitioned the Council of the Association to be attached to the Darlington Division of this Branch for their greater convenience. This was done. The usual three meetings had been held. In addition to the successful and very well attended meeting at South Shields, which was memorable for its handsome hospitality, very fair meetings had been held at Darlington and Morpeth, and the work done at both these latter was quite up to the average. The work of the Council had been heavy, and had necessitated the holding of five meetings; at Newcastle (twice), Durham, Morpeth, and Sunderland. These meetings had been very well attended by members from all parts, who represented their Divisions often at great inconvenience. The chief matter occupying their attention had been the negotiations with the County of Durham Medical Union, with a view to its absorption in the Branch on similar terms to those accepted by the Northumberland and Newcastle Medical Association. Reference was made in last year's report to a letter which had been written to the various Education Committees in the Branch area, asking for payment for certificates given to children unable to attend school. It was pointed out that these certificates were not wanted by the parent for his satisfaction, but for that of the Committee: that the certificates were demanded with a view to bettering the attendance, and saving the money of the ratepayers by earning increased national grants, so that on these and other grounds it seemed to them just that, if the certificates were wanted for a public purpose, they should be paid for by public money. The principle had been conceded by at least three local Education Committees—Newcastle, Berwick, and West Hartlepool—who would in future pay for all certificates asked for by their attendance officers. In other places the subject was still under consideration. Every Division might obtain the same advantage if a little energy and determination were put into the matter. In October last the Council called together all the Secretaries of Divisions with a view to consultation on matters of organization, with such success that it had been resolved to continue these meetings at stated intervals. Owing to the frequent use of the library and staff room of the infirmary by the Branch, Branch Council, Northumberland Committee, and Newcastle Division, it was thought proper to make a contribution to the funds of the institution of £2 2s., and it was proposed to make this annually. The Ethical Committee has met only once since its formation, when it censured the action of a member of the Association, who came into the Morpeth Division and accepted an appointment on conditions which had previously been condemned by local professional opinion. He had previously been warned not to accept the appointment. The action of the Committee was approved by the Central Ethical Committee of the Association, to whom the matter had been reported, but as the member in question had since left the district, it was not thought desirable to carry the matter further. The Northumberland Committee had proved itself perfectly capable of carrying on the work entrusted to it last year. It was the opinion, both of members of the Committee and of its Secretary, that the co-operation of the Divisions would render its operation even more effective than those of the Association whose place it had taken. The work of the Committee continued to be of the greatest importance to those members engaged in contract work, and particularly to the colliery surgeon, for the question of the standard rate of payment to the latter was by no means settled yet. Several meetings had taken place recently between a subcommittee of the Northumberland Committee and a Committee of the miners, with the result of showing that the latter were determined not to accept the present rate without a struggle. Under the circumstances, the Council suggested to a special meeting of the Branch the formation of a Branch emergency or defence fund, as further financial resources were absolutely essential if this work was to be done thoroughly. The result of this meeting would be known in time for some action to be taken by the annual meeting. The statement which follows is from January to December, 1904. It had been customary to present a statement up to the end of May, but, as one must be presented to the Central Council at the beginning of each year, the Branch Council thought much confusion and trouble would be saved by making the one balance serve. This statement has already been audited.

Financial Statement.

Income.	£	s.	d.	Expenditure.	£	s.	d.
Brought forward	92	19	4	Grants to Divisions	33	2	6
Remitted from General Secretary (members' subscriptions at 4s. each)	115	1	6	Allowance towards Expenses of Representatives on Central Council ...	14	18	9
				Printing and duplicating ...	19	12	11
				Medical directories (2 years)	1	2	0
				Train fares of Divisional Secretaries to Secretaries' meeting	2	6	10
				Mr. Garforth Drury's salary (half-year)	12	10	0
				Clerical assistance	2	6	10
				Typewriter repairs	1	1	0
				Train and cab fares of President and Hon. Secretary to reorganize Darlington Division	0	15	5
				Hire of rooms	0	10	0
				Postage and stationery ...	24	5	9
				Total expenditure	112	11	2
				Balance in hand	95	9	8
Total	£208	0	10	Total	£208	0	10

The Secretarial duties were becoming increasingly onerous, and Dr. Cox, who had served for over three years, had announced his intention to resign. With a view of giving ample time for the introduction of his successor he would not resign until the annual meeting of 1906. After careful consideration it was thought that in future the Branch should have two honorary secretaries, who could share the work between them. The Council recommended, therefore, that the rules of the Branch should be altered to this effect, and it also suggested as the second Secretary Dr. J. H. Hunter, of South Shields. Dr. Hunter had had a great deal of experience in

the work of the Association, having acted for two years as one of its Representatives on the Central Council, and having also sat on important committees of the Association. Dr. Hunter had consented to act if elected. The Council deeply regretted to report the death of Dr. Murphy, one of its best-known and most popular members. For many years he rarely missed a meeting of Branch or Branch Council, and, indeed, no meeting seemed quite complete without him. He was an active member of the Branch since 1875, and became President in 1892, representative on the old Parliamentary Bills Committee in 1893, and one of our representatives on the Council of the Association in 1899. The latter office he held to the day of his death. He attended the last meeting of Council in London on May 16th, and was returned for another year of office on the very day he died. Dr. Murphy was one of those rare members who did not lose his interest in the Branch after passing through the chair, and his loss would be deeply felt.

Addition to Rules.—Dr. Cox moved the alteration of Rule 4 in such a manner that the Branch could, if so desired, appoint two or more honorary secretaries.—The President seconded, and in doing so made allusion to the forthcoming resignation of Dr. Cox and to the value of his services to the Branch. —The new rule was carried unanimously.—The President moved the adoption of the following new rule:

> The Branch Council at its first meeting after the annual meeting of the Branch shall appoint a Committee, to be called the Durham Committee, whose duties shall be similar to those performed by the Northumberland Committee and which shall in the same way be responsible to the Branch Council.

He said that the intention of this rule was the formation of a Committee which should do for Durham and North Yorks. what is at present being done by the Northumberland Committee for that county. As the subject had so recently been before the Branch, where it received almost unanimous approval, he did not think it necessary to say more.—Dr. A. E. Morison seconded, and the rule was passed unanimously.—Dr. Ranken Lyle moved that all secretaries of Divisions be *ex-officio* members of the Northumberland or Durham Committee as the case might be. He pointed out the necessity of this if the Division secretaries were to be kept *au fait* with what was going on.—Dr. Smith (Ryton) seconded, the President supported, and the new rule was unanimously carried.

Report of Representative on Central Council.—Dr. Cox read a report from Dr. Hunter, who was unable to be present, dealing with his work on the Central Council of the Association. Dr. Hunter was thanked for his services and for the report.

The late Dr. Murphy.—The President moved:

> That this meeting of the North of England Branch wishes to place on record its great loss in the death of Dr. James Murphy, who was one of its most faithful officers and supporters.

Dr. Todd (Sunderland) seconded, mentioning that the Sunderland Division were considering the raising of some memorial to Dr. Murphy.

The motion was carried, all present rising.

Election of Officers.—Dr. T. Beattie, of Newcastle, was nominated as President-elect by the President (on behalf of the Branch Council), who spoke of Dr. Beattie's many services to the Branch, both as member, secretary, and representative on the Central Council. Dr. Wear and Dr. Lyle seconded and supported, the latter pointing out that Dr. Beattie was nominated in the first place to the Branch Council by the Division to which he belonged. The motion was carried with applause; and Dr. Beattie briefly thanked the meeting.—Dr. Cox was re-elected Honorary Secretary and Dr. J. H. Hunter was appointed Co-Secretary.

Members of Branch Council.—The following were elected as the three selected by the Annual Meeting: Drs. Smith (Ryton); A. E. Morison (West Hartlepool); and R. S. Peart (North Shields). Dr. Drummond then left the chair after briefly referring to his year of office. He referred particularly to the absorption of the County of Durham Medical Union and the formation of the Branch Defence Fund as being matters of great importance in which he was glad to have had a share.

Installation of New President.—Dr. Fulton (Eston) then took the chair and moved a vote of thanks to the retiring President.—Dr. Cox seconded, and said that the Branch had been most fortunate in its President. He referred to the most handsome hospitality dispensed by Dr. Drummond at the last annual meeting, and to the fact that the ex-President had never missed a meeting during his year of office.—The motion was carried with applause, and Dr. Drummond replied.

President's Address.—The President read an address on Immunity, for which he was thanked, on the motion of Dr. Beattie, seconded by Dr. D. F. Todd, and the address was ordered to be printed and circulated amongst the members of the Branch. An abstract of the address will be published.

Excursions, etc.—The members then dispersed in search of pleasure, for which excellent arrangements had been made by the President and Dr. Howell, Secretary of the Cleveland Division. Some members went into the Saltburn Gardens, where tea was provided by the Saltburn medical men, and a band played. A party went, by special invitation, to Skelton Castle, where tea was provided by the kindness of Mr. J. L. Wharton, M.P. During the afternoon some of the visitors were shown over the Saltburn Brine Baths. As the day was fine the whole event proved most enjoyable. At 6.30 dinner was held, and about thirty sat down under the chairmanship of the President. In addition to members several guests of the President were present, including the two local coroners, Messrs. Richardson and Cochrane. The President had also very kindly invited every Chairman and Secretary of Division in the Branch, an invitation to which a good number responded. The whole day was voted by every one to be a great success, and the President, Dr. Howell, and the Cleveland Division are to be congratulated on their excellent arrangements and kindly hospitality.

A special meeting of this Branch was held on June 14th, at the Royal Infirmary, Newcastle-on-Tyne, to discuss the proposal of the Branch Council in reference to the absorption in the Branch of the County of Durham Medical Union, and also the proposal to inaugurate a Special Branch Emergency or Defence Fund. The President, Dr. J. Drummond, took the chair.

Apologies for Non-Attendance.—Apologies were received from the President-elect, who wrote cordially supporting the proposals, and from Dr. J. H. Hunter.

Proposed Absorption of County Durham Medical Union.—The President formally moved the acceptance of the Branch Council's scheme for the absorption of the Durham Union. This scheme provides for the dissolution of the Union and the taking over of its work and responsibilities by the Branch, the work being carried out by a Committee to be called the Durham Committee, aided by the present Secretaries of the Union, Messrs. Graham and Shepherd, who are to be engaged by the Branch at the salary of £52 10s. per annum.—Dr. J. L. Speirs moved that the whole report be referred back for further consideration. He thought the matter was being rushed, and that the Branch should have further opportunities for deliberation. As a member of a Division, he objected to be put under the jurisdiction of any committee formed of members who were not elected by the Division, and he also thought the whole thing far too expensive.—Dr. F. S. Leech seconded formally.—The President said he did not think it was fair to talk of the matter being rushed. The proposed amalgamation had been talked of ever since the new constitution of the Association had given them a free hand in undertaking matters of this kind, and a special meeting of the Branch had specifically empowered the Council to try to effect this amalgamation. As a matter of fact, an amalgamation had been effected under almost exactly similar circumstances last year with the Northumberland and Newcastle Medical Association, and the arrangement had acted admirably. As to the financial aspect, they certainly would be sailing near the wind, but the consolidation of medical organization was so important that, in his opinion, and in that of the Branch Council, this work must be tackled at almost any cost.—Dr. Jepson, President of the Durham Union, thought the matter should not be postponed. On their side also they had members who doubted the wisdom of allowing the Union to be absorbed, but he was sure that, generally speaking, the Branch and the Union desired it. He was sure that the result would be for the benefit of the profession, as at present there was a good deal of overlapping, and the result was that some of the Divisions of the Branch were doing very little.—Dr. Cromie, as a member of the old Northumberland and Newcastle Association, spoke of the beneficial effects of the absorption of that Association into the Branch. Dr. Cox supported the amalgamation. As Treasurer he quite realized the seriousness of the financial outlook, but he believed that this scheme was for the benefit of the Branch, and he had no doubt the money would be forthcoming. About twenty new members of the Association would be found by the Union, and about 150 of the members of the Union had promised an

annual subscription of 5s. in order to cover any financial discrepancy. If they were beginning *de novo* the Branch Council would probably never have suggested the employment of solicitors as paid secretaries, but this was a compromise, and must be undertaken as part of the bargain with the Union. In answer to a question as to the powers of the Durham Committee he said that the Divisions were, under the constitution of the British Medical Association, self-governing units, and the Committee could have no real "jurisdiction" or power over them. The whole thing depended on cordial co-operation.—The original motion was passed with two dissentients.

Emergency Fund.—Dr. CROMIE moved the adoption of this report, which recommended the establishment of a Branch fund which should cover all extraordinary expenses in connexion with the protection of members loyally carrying out the rules and resolutions of the Branch. The Council in suggesting such a fund had in its mind more particularly the desirability of having at its disposal money on which it could draw if it ever became necessary to fight the battle of fair terms for contract practice, either colliery or other. This battle had already been fought as regards colliery work in both Northumberland and Durham, but there was no saying when it might break out again, and we must be prepared. The scheme allowed not only for an annual subscription of 5s. per annum but for special donations and subscriptions from those members who were largely engaged in contract work, and who would gain, therefore, very largely from the operations of such a fund.—Dr. JEPSON seconded.—A discussion took place on the details, in which Drs. CHAS. MARTIN WEAR, COX, the PRESIDENT, and others took part. Eventually the report was passed with the exception that its name was altered to that of "Branch Defence Fund." This decision was taken *nem. con.*

GATESHEAD DIVISION.

THE annual meeting of this Division was held on June 6th, Dr. J. L. SPEIRS (Chairman) presiding.

Election of Officers.—Dr. Kimpster was unanimously elected Chairman for the ensuing year.

Representatives on the Branch Council.—Drs. Mearns, Blacklock, and Speirs were appointed.

Honorary Secretary.—Dr. Cox was re-elected. No appointment was made to the office of Assistant Secretary which Dr. Smith resigned.

Vote of Thanks to Retiring Chairman.—Dr. MEARNS moved and Dr. NEWCOMBE seconded a vote of thanks to Dr. Speirs, which he suitably acknowledged.

Report of Executive Committee.—The report stated that during the past year seven ordinary meetings of the Division had been called. Six were held, but the last had to be abandoned as a quorum was not forthcoming, for the third time in the history of their organization, which dated back now nearly nine years. The Committee pointed out that the average attendance, which was only twelve out of the membership of forty-two, was hardly creditable to them as a body, and it was somewhat remarkable that the worst attenders are amongst those members who had derived most benefit from the existence of the organization. An interesting experiment was tried this year, namely, the holding of meetings for scientific purposes. Two such were held, both being of great interest to those attending, but the second one was very moderately attended. It would be for the Division to decide whether these meetings are to be continued. The work of the Division has been chiefly the consideration of important matters sent down from headquarters and dealing with medical politics and organization. It was the regular consideration of matters affecting the profession by meetings such as theirs, held all over the country, which formed the policy of the profession, and would eventually take away the stigma they had always laboured under of being a disorganized profession not knowing its own mind. The annual dinner was held this year in Newcastle, after many years of vain attempts to combine local patriotism and a good dinner. The dinner was this year undoubtedly the most successful they had ever held. The Executive Committee was compelled, in the latter part of last year, to write to the press in reference to a general and unfounded charge made against the profession in connexion with vaccination. The author of the charges discreetly retired from the field. Quite recently the Division had approached the town Council as to the necessity of providing a public horse ambulance, and the Education Committee as to payment for certificates for sick school children. The former point was still under consideration, and the reply of the Education Committee would be submitted to the annual meeting. In conclusion the Committee recommended to the annual meeting the rules which had been adopted by the Bradford Division of the Yorkshire Branch and others, and would in their opinion be of use to them. At present their rules were not sufficiently explicit as to the binding effect of resolutions passed by the Division, and an unscrupulous member, or one removing into the Division from another might quibble as to his being bound by resolutions of the Division. It was thought very desirable to obviate any trouble of this kind, and they recommended the Bradford rules to the earnest consideration of the Division.

New Ethical Rules.—On the recommendation of the Executive the so-called Bradford Ethical Rules were unanimously adopted after discussion. The Honorary Secretary was asked to bring up in October all the previous resolutions of the Division in order that they might be made binding under the new rules.

Letter from the Education Committee.—This was read, and showed that the Committee was willing to pay for medical certificates when poverty could be shown. Discussion took place, in which it became obvious that this did not meet with the approval of the Division. Dr. ROBINSON moved that a deputation be sent to the Education Committee to point out that what was required was that no attendance officer should ask for a medical certificate until he had exhausted all his other methods of ascertaining the bona-fide nature of an excuse for non-attendance at school, and that all such certificates asked for officially should be paid for. Dr. MCKAY seconded, and it was passed unanimously. The Chairman, Ex-Chairman and Honorary Secretary were appointed as deputation.

LANCASHIRE AND CHESHIRE BRANCH:

LIVERPOOL CENTRAL DIVISION.

THE annual meeting of this Division took place on June 21st.

Election of Officers.—Dr. T. Drake Leigh was unanimously elected Chairman for the ensuing year. Dr. Frank H. Barendt Secretary, and Dr. A. Gordon Gullan, Divisional Representative at the Representatives' Meeting to be held in Leicester. The retiring members of the Executive Committee according to Divisional Rule 9 were Dr. E. E. Glynn and Mr. G. P. Newbolt. Dr. C. J. Macalister and Dr. Hubert Armstrong were elected to the vacancies, Dr. Barendt and Mr. S. P. Newbolt were chosen as representatives on the Branch Council.

Matters Referred to Division.—The various matters in the SUPPLEMENT, May 13th, having been discussed on several previous occasions by the Executive Committee, were finally brought before the Division meeting. It was unanimously resolved that Dr. A. Gordon Gullan be instructed in accordance with the decisions of the meeting, by the Secretary, for the forthcoming meeting of the British Medical Association.

Annual Report.—The annual report on the condition of the Division, the membership of which is 65, presented to the meeting by the Executive Committee, was ordered to be printed and sent to the members.

Votes of Thanks.—A vote of thanks was passed to the past Chairman (Dr. Macalister), and the Secretary was cordially thanked for the services he had rendered to the Division.

METROPOLITAN COUNTIES BRANCH:

EALING DIVISION.

AT the annual meeting of this Division the following office-bearers were elected:—*Chairman:* F. C. Dodsworth, Chiswick. *Vice-Chairman:* J. D. Windle, M.D., Southall. *Representative at Representative Meeting:* B. Boyd Joll, M.B., Ealing. *Representatives on Branch Council:* S. Aird Jolly, Acton; R. P. Cockburn, M.D., Ealing. *Joint Secretaries:* F. W. Lyle, M.D., 97, Gordon Road, Ealing; R. P. Cockburn, M.D., 64, The Avenue, Ealing. *Executive Committee* (in addition to the above office-bearers): F. E. Fenton, F.R.C.S.E., Ealing; E. J. Parrott, Hayes, Middlesex; A. L. Scott, Ealing; W. H. Walter, M.D., Brentford.

SOUTH-EASTERN BRANCH:

DOVER DIVISION.

THE annual meeting of this Division was held at 8.30 p.m. at the Grand Hotel, Dover, on June 28th, Dr. PARSONS in the chair.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Annual Report.—The annual report was read and adopted.

Election of Officers.—Dr. Wood proposed that Dr. C. Parsons be elected Chairman. Dr. Murphy seconded, and he was elected unanimously. *Vice-Chairman:* Dr. Robinson, M.O.H. (Proposed by Dr. Howden, seconded by Dr. Ord.) *Member of Executive Committee:* Dr. Parsons proposed that Dr. Wood be elected an extra member of the Executive. Dr. Ord seconded, and Division passed unanimously. *Member of Executive Committee Resident in Deal or Sandwich:* Dr. Roberts was re-elected. *Representative of Division on Branch Council:* Dr. F. A. Osborn. *Honorary Secretary and Treasurer:* Proposed by Dr. Parsons and seconded by Dr. Howden that the Honorary Secretary be re-elected. *Representative of Division at Representative Meeting:* Dr. Larking (elected at the Folkestone meeting).

Public Dispensaries and the Out-patient Departments of Hospitals.—Dr. Howden opened a discussion on this subject with a most interesting paper, and was followed by Dr. Wood, Dr. Dodd, Dr. Parsons, and Dr. Tyson (Folkestone). It was decided to adjourn the discussion till the next meeting, when all medical practitioners in the area will be invited.

☞ *To ensure the insertion of notices in this column they must be received at the Central Offices of the Association not later than the first post on Tuesday.*

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

Birmingham Branch: Central Division.—A special general meeting will be held at the Medical Institute on Wednesday, July 19th, at 3.30 p.m. Business: (1) An address by Mr. J. Smith Whitaker, the Medical Secretary of the Association, on Ways in which the British Medical Association is to-day Maintaining the Honour and Interests of the Medical Profession. All medical practitioners in the area of the Birmingham Branch are cordially invited to attend. (2) The consideration of the adoption of certain ethical rules by the Division. Copies of the rules will be sent to each member of the Division.—E. D. Kirby, Honorary Secretary.

Dorset and West Hants Branch.—The summer meeting will be held at Sturminster Newton, on Wednesday, July 19th. Members desiring to read papers or show cases should notify the Honorary Secretary by July 10th.—H. Watts Parkinson, Honorary Secretary, Wimborne Minster.

Metropolitan Counties Branch: City Division.—A general meeting will be held on Thursday, July 20th, at 4 p.m., in the Lincolnshire Room of the Great Eastern Hotel, Liverpool Street, E.C. The chief items on the agenda paper are: (1) The notices of motion for Representative Meeting; (2) annual reports of Council and Committees; (3) superannuation scheme for office clerical staff.—E. W. Goodall, Honorary Secretary.

Munster Branch.—Notice of Election. Nominations for an elective member for the Central Council of the British Medical Association, signed by not less than three members, must reach me on or before July 15th.—Philip George Lee, Honorary Secretary, 26, St. Patrick's Hill, Cork.

Oxford and Reading Branch.—The annual meeting of this Branch will be held at the Radcliffe Infirmary, Oxford, on Thursday, July 20th, at 4.15 p.m. Annual dinner, Exeter College, at 7 p.m.—W. T. Freeman, Honorary Secretary, 30, Portland Place, London Road, Reading.

South-Eastern Branch: Brighton Division.—A meeting will be held at the Dispensary, 113, Queen's Road, Brighton, at 4.30 p.m., on the fourth Wednesday in October (25th), and November (22nd). Members wishing to read papers or show cases at the meetings are requested to give at least a fortnight's notice to the Honorary Secretary, Ryding Marsh, M.D., 49, Sackville Road Hove.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

The following appointments have been made at the Admiralty: Charles M. Bradnell, Fleet Surgeon, and Arthur R. Schofield, M.B., Surgeon, to the *New Zealand*, on completing, July 11th; Frederick W. Parker, Staff Surgeon, to the *Sapphire*, additional, for the *Sapphire II.*, July 7th; Christian B. Fairbank, Surgeon, to Gibraltar Hospital and for the Dockyard and Naval Extension Works, July 7th.

ROYAL ARMY MEDICAL CORPS.

Captain S. M[illegible] resigns his commission, July 12th. He was appointed Lieutenant [illegible], 1899, and made Captain, January 29th, 1904. He served in the South African war in 1901-2, being present at operations in Cape Colony.

Lieutenant H. St. M. Carter, M.D., from the Seconded List, to be Lieutenant, July 2nd.

ARMY MEDICAL RESERVE.

Surgeon-Major J. P. Massingham to be Surgeon-Lieutenant-Colonel, June 27th.

INDIAN MEDICAL SERVICE.

Lieutenant-Colonel C. H. Beatson, Bengal Establishment, Principal Medical Officer Derajat Brigades, is appointed Principal Medical Officer Kohat Brigade, *vice* Colonel J. T. B. Bookey, C.B., whose tenure has expired.

THE MILITIA.

The following announcement is substituted for that which appeared in the *London Gazette* of May 30th, 1905: Surgeon-Lieutenant-Colonel D. Curme, 3rd Battalion the Dorsetshire Regiment, retires under the conditions of Paragraph 55, Militia Regulations, retaining his rank and uniform, May 27th.

ROYAL GARRISON ARTILLERY (VOLUNTEERS).

Surgeon-Lieutenants P. N. Vellacott, M.B., 2nd Hampshire Regiment, and J. Hurley, 1st Monmouthshire Regiment, resign their commissions, July 12th.

ROYAL ENGINEERS (VOLUNTEERS).

Surgeon-Lieutenant E. G. Stocker, 1st Devonshire and Somersetshire Regiment, to be Surgeon-Captain, July 12th.

Surgeon-Captain T. S. Adair, M.B., 1st West Riding of Yorkshire (Sheffield) Regiment, to be Surgeon-Major, July 12th.

VOLUNTEER RIFLES.

Mr. Charles L. Isaac to be Surgeon-Lieutenant in the 3rd Glamorgan Regiment, July 12th.

Surgeon-Lieutenant C. W. Marshall, M.B., 1st (Renfrewshire) Volunteer Battalion Princess Louise's (Argyll and Sutherland Highlanders), to be Surgeon-Captain, July 12th.

THE MOTOR VOLUNTEER CORPS.

Charles Buttar, M.D., to be Surgeon-Lieutenant, June 19th.

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

Major J. J. de Z. Marshall, East Surrey Bearer Company, is granted the honorary rank of Lieutenant-Colonel, July 12th.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

In seventy-six of the largest English towns, including London, 9,005 births and 3,484 deaths were registered during the week ending Saturday last, July 8th. The annual rate of mortality in these towns, which had been 13.4, 12.9, and 12.7 per 1,000 in the three preceding weeks, further declined last week to 11.6 per 1,000. The rates in the several towns ranged from 3.9 in Bournemouth, 4.5 in Northampton, 5.0 in Wallasey, 5.8 in Tottenham, 5.9 in East Ham, 6.7 in Cardiff, and 6.8 in Hornsey, to 16.0 in Newcastle-on-Tyne, 16.4 in Sunderland, 17.4 in Liverpool and in Bootle, 17.7 in Merthyr Tydfil, 18.3 in Warrington, and 18.5 in Tynemouth. In London the rate of mortality was 11.2 per 1,000, while it averaged 11.8 per 1,000 in the seventy-five other large towns. The death-rate from the principal infectious diseases averaged 1.3 per 1,000 in the seventy-six towns; in London this death-rate was equal to 1.1 per 1,000; while among the seventy-five other large towns the rates ranged upwards to 2.0 in St. Helens and in Salford, 3.1 in West Bromwich and in Warrington, 3.8 in Sunderland and in Rhondda, 4.2 in Wolverhampton, and 4.3 in Barrow-in-Furness. Measles caused a death-rate of 1.5 in Willesden, in Bristol and in Warrington, 1.7 in Sunderland, 2.6 in Wolverhampton and in Barrow-in-Furness, 3.1 in West Bromwich; whooping-cough of 1.2 in West Ham; and diarrhœa of 1.4 in Merthyr Tydfil, 1.5 in Warrington, 1.6 in Liverpool, 1.7 in St. Helens, and 2.1 in Rhondda. The mortality from scarlet fever, from diphtheria, and from enteric fever showed no marked excess in any of the large towns. No fatal case of small-pox was registered last week either in London or in any of the large provincial towns. The Metropolitan Asylums Hospitals contained 5 small-pox patients on Saturday last, the 8th inst., against 7, 6, and 4 on the three preceding Saturdays: 2 new cases were admitted during the week, against 3, 1, and 1 in the three preceding weeks. The number of scarlet-fever cases in these hospitals and in the London Fever Hospital, which had been 2,356, 2,427, and 2,473 at the end of the three preceding weeks, had further risen to 2,499 at the end of last week: 354 new cases were admitted during the week, against 292, 325, and 334 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS.

During the week ending Saturday last, July 8th, 970 births and 494 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had been 15.7, 16.1, and 16.5 per 1,000 in the three preceding weeks, declined again to 14.7 per 1,000 last week, but was 3.1 per 1,000 above the mean rate during the same period in the seventy-six large English towns. The rates in the eight Scotch towns ranged from 7.6 in Perth and 8.9 in Leith to 15.7 in Glasgow and 17.1 in Paisley. The death-rate from the principal infectious diseases averaged 1.7 per 1,000 in these towns, the highest rates being recorded in Edinburgh and Paisley. The 244 deaths registered in Glasgow included 9 which were referred to measles, 14 to whooping-cough, and 6 to diarrhœa. Four fatal cases of measles, 8 of whooping-cough, and 1 of diarrhœa were recorded in Edinburgh; 3 of diarrhœa in Aberdeen; and 1 of whooping-cough in Paisley.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, July 1st, 641 births and 288 deaths were registered in six of the principal Irish towns, as against 585 births and 284 deaths in the preceding period. The annual death rate in these towns, which had been 17.5, 16.0, and 18.2 per 1,000 in the three preceding weeks, fell to 16.4 per 1,000 in the week under notice, this figure being 3.7 per 1,000

higher than the mean annual rate in the English towns for the corresponding period. The figures ranged from 12.3 in Limerick and 14.0 in Dublin to 17.8 in Cork and 18.6 in Limerick. The zymotic death-rate during the same period and in the same six Irish towns averaged 0.6 per 1,000, or the same as during the preceding period, the highest figure (1.5) being registered in Belfast, while Cork, Limerick, and Waterford recorded no deaths under this heading at all. There were only 6 deaths from measles throughout the country, 2 from whooping-cough, 2 from diphtheria, and 4 from enteric. No deaths were anywhere ascribed to small-pox or typhus.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

BIRMINGHAM GENERAL HOSPITAL.—House-Surgeon. Salary at the rate of £50 per annum.

CANTERBURY: KENT AND CANTERBURY HOSPITAL.—Honorary Physician.

CERTIFYING FACTORY SURGEON.—The Chief Inspector of Factories announces a vacancy in the office of Certifying Factory Surgeon at Wimbledon, co. Surrey.

CHELSEA HOSPITAL FOR WOMEN, Fulham Road, S.W.—Clinical Assistant.

DORCHESTER: DORSET COUNTY HOSPITAL.—House-Surgeon. Salary, £100 per annum.

HAMMERSMITH INFIRMARY AND WORKHOUSE.—Infirmary Medical Superintendent and Workhouse Medical Officer. Combined salary, £300, rising to £350 per annum.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident Medical officer. Salary, £200 per annum.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—(1) House-Physician. (2) Assistant Casualty Medical Officer. Salary, £20 for six months each.

HOSPITAL FOR WOMEN, Soho Square, W.—Registrar. Honorarium 25 guineas for 12 months.

LEICESTER EDUCATION COMMITTEE.—Medical Officer. Remuneration, £400, rising to £450 per annum.

LISCARD: WALLASEY DISPENSARY AND VICTORIA CENTRAL HOSPITAL.—House Surgeon. Salary, £100 per annum.

LIVERPOOL: EYE AND EAR INFIRMARY.—House-Surgeon. Salary, £80 per annum.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—House-Surgeon. Salary, £80 per annum.

MANCHESTER: VICTORIA UNIVERSITY.—Junior Demonstrator in Physiology. Stipend £100, rising to £150 per annum.

NORTH-WEST LONDON HOSPITAL, Kentish Town Road, N.W.—Second Honorary Anaesthetist.

SHEFFIELD: CHILDREN'S HOSPITAL.—House-Surgeon for the East End Branch. Salary, £70 per annum.

SINGAPORE MUNICIPALITY.—Second Assistant Health Officer. Salary, £400, rising to £450 per annum.

SOUTHAMPTON: ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—Junior House-Surgeon. Salary, £60 per annum.

VICTORIA HOSPITAL FOR CHILDREN, Tite Street, S.W.—House-Physician. Honorarium, £25 for six months.

WESTON-SUPER-MARE HOSPITAL.—House-Surgeon. Salary, £100 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces vacancies in the office of Certifying Factory Surgeons at Stalybridge, co. Cheshire, and Bracknell, co. Berks.

APPOINTMENTS.

BURNET, R. W., M.D.Aberd., F.R.C.P.Lond., Consulting Physician to the Great Northern Central Hospital.

GULLAND, G. Lovell, M.D., F.R.C.P.E., Physician to the Chalmers Hospital, Edinburgh, *vice* Claud Muirhead, M.D., F.R.C.P.E.

HEWKLEY, F., M.B., Honorary Physician to the St. Pancras and Northern Dispensary.

LEEBODY, H. A., M.B., C.M.Edin., Consulting Medical Officer to the Convalescent Home of the Royal Infirmary of Edinburgh, *vice* Dr. Alexander Matthew, deceased.

MERCER, T. U., M.B., Ch.B.Vict., Medical Officer of Health to the Whiston Rural District.

OLIVER, W., M.B., B.S.Durh., Certifying Factory Surgeon for the Coxhoe District, co. Durham.

PINNIGER, A. E., M.R.C.S., L.R.C.P., First Resident Assistant Medical Officer at the Islington Parish Infirmary.

RICHARDSON, A. G., M.B., C.M.Edin., Certifying Factory Surgeon for the Rhayader District, co. Radnor.

RICHMOND, G. E., M.D., B.Sc.Lond., D.P.H.Camb., Resident Medical Officer of the Rotherhithe Tunnel Works of the London County Council.

SYMES-THOMPSON, H. E., M.D.Camb., M.R.C.P., Physician with charge of Out-patients to the Great Northern Central Hospital.

WATERHOUSE, Rupert, M.D.Lond., M.R.C.S.Eng., Pathologist and Curator of the Museum at the Royal United Hospital, Bath.

WYER, Otho F., M.D.Glas., Consulting Physician to the Warneford Hospital, Leamington.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to ensure insertion in the current issue.

BIRTH.

EASTERBROOK.—At Arnprior, Gorebridge, Midlothian, on the 6th inst., the wife of Alex. M. Easterbrook, M.B., C.M. of a son.

MARRIAGES.

SLOAN—HUNTER.—At Woodbank Mansion Hotel, Dumfries, on the 20th ult., by the Rev. T. D. McIlvean, Caerlaverock, assisted by the Rev. J. O. Stafford, Mochrum, George Duncan Sloan, M.B., Ch.B.Edin., Port William, to Sybella Leonore, second daughter of David Hunter, Esq., Sherrington, Caerlaverock.

WARREN—BUCHANAN-DUNLOP.—On July 6th, at Christ Church, Reading, Alfred Castle Warren, M.R.C.S., L.R.C.P., of 13, Campden Hill Square, Kensington, to Sabina (Ina), eldest daughter of Lieutenant-Colonel H. D. Buchanan-Dunlop, R.A., retired, of Whitley Rise, Reading.

WOODCOCK—LECOMBER.—On the 10th inst., at Stretford, by the Rev. Canon Rowntree, M.A., Harold B. Woodcock, M.B., eldest son of the late Sam Woodcock, M.D., J.P., to Florence, younger daughter of W. W. Lecomber, all of Old Trafford, Manchester.

DEATHS.

NARIMAN.—At Nasik, on April 24th, Kaikhoshro Sorabji Nariman, L.R.C.S., L.M.Edin., L.S.A.Lond., L.M.Bombay, Lieutenant-Colonel I.M.S., aged 53 years.

SMITH.—On July 5th, at Orleans House, Regent's Park Road, N.W., Cyrus Walter Smith, L.R.C.P.Lond., M.R.C.S., the beloved and only surviving son of Walter Smith, M.D., M.R.C.P.Edin., and of Susan Smith, of the above address, aged 32 years. Interred at Nunhead Cemetery on Monday, 10th inst.

DIARY FOR NEXT WEEK.

WEDNESDAY.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN, 11, Chandos Street, Cavendish Square, W., 5.30 p.m.—Annual General Meeting. Report of Council and Election of Office-Bearers.

POST-GRADUATE COURSES AND LECTURES.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week at 4 p.m. each day:—Monday, Skin; Tuesday, Medical; Wednesday, Surgical; Thursday, Surgical. Lectures at 5.15 p.m. each day will be given as follows: Monday, Atrophic Rhinitis; Tuesday, Observations on Diet; Wednesday, Abdominal Surgery; Thursday, Neoplasms of the Rectum and Anus.

WEST LONDON POST-GRADUATE COLLEGE, West London Hospital, Hammersmith Road, W.—The following lectures and demonstrations have been arranged for next week, at 5 p.m. each day: Monday, Immunity; Tuesday, Plaster of Paris Splints; Wednesday, Diseases of the Conjunctiva and Their Treatment; Thursday, Practical Surgery; Friday, Plaster of Paris Splints.

BOOKS, ETC., RECEIVED.

The Royal Medical and Chirurgical Society of London Centenary. 1805-1905. Written at the request of the President and Council by Norman Moore, M.D., F.R.C.P., and Stephen Paget, F.R.C.S. Aberdeen: The University Press. 1905.

Boxhill. Edited by George W. May. London: The Health Resorts Association. 1905. Free on application to Town Clerk.

Southend and Westcliff-on-Sea. Edited by George W. May. London: The Health Resorts Association. 1905. Free on application to Town Clerk.

Malvern. Edited by George W. May. London: The Health Resorts Association. 1905. Free on application to Town Clerk.

The Rational Treatment of Running Ears. By F. Faulder White, F.R.C.S.Eng. First edition. London: Iliffe and Sons, Ltd. 1905. 5s.

Essentials of the Diseases of the Ear, arranged in the form of Questions and Answers. By E. B. Gleason, S.B., M.D. Third edition. London: Henry Kimpton. 1905. 4s.

Indigestion Clearly Explained, Treated, and Dieted. (With Special Remarks on Corpulency, Gout, and Constipation.) By Thomas Dutton, M.D.Univ. Durh. Sixth edition. London: Henry Kimpton. 1905. 1s. 6d.

A Textbook of the Practice of Medicine. By Hobart Amory Hare, M.D., B.Sc. London: Henry Kimpton. 1905. 21s.

Les Cardiopathies Artérielles et la Cure d'Evian. Par le Dr. P. Bergouignan. Paris: G. Steinheil. 1905. Fr.3.50.

Gynäkologische Diagnostik. Von Dr. Max Henkel. Berlin: S. Karger; and London: Williams and Norgate. 1905. 6s. 6d.

Die Krankheiten des Verdauungskanals. (Oesophagus, Magen, Darm.) Von Dr. Paul Cohnheim. Berlin: S. Karger, and London: Williams and Norgate. 1905. 5s. 9d.

Allgemeine pathologisch-anatomische Diagnostik. Von Dr. R. Oestrich. Berlin: S. Karger; and London: Williams and Norgate. 1905. 6s.

The Child's Diet. By G. Sadler Curgenven, M.R.C.S., L.R.C.P. London: H. K. Lewis. 1905. 1s. 6d.

"*" In forwarding books the publishers are requested to state the selling price.

CALENDAR OF THE ASSOCIATION.

Month.	Day of Week.	Meetings to be Held.
July	16...Sunday..	
,,	17...MONDAY ...	
,,	18...TUESDAY ...	
,,	19...WEDNESDAY	Central Division, *Birmingham Branch*, Medical Institute, 3.30. Dorset and West Hants Branch, Sturminster Newton.
,,	20...THURSDAY...	City Division, *Metropolitan Counties Branch*, Lincolnshire Room, Great Eastern Hotel, Liverpool Street, E.C., 4 p.m. Oxford and Reading Branch, Annual Meeting, Radcliffe Infirmary, Oxford, 4.15; Annual Dinner, Exeter College, 7 p.m.
,,	21...FRIDAY ...	
,,	22...SATURDAY...	
,,	23...Sunday..	
	ANNUAL GENERAL MEETING OF THE ASSOCIATION AT LEICESTER.	
,,	24...MONDAY ...	2 p.m.—Annual General Meeting, followed by Representative Meeting, Association Hall, Y.M.C.A.
,,	25...TUESDAY ...	9 a.m.—Meeting of 1905-1906 Council, Clifton Room, Y.M.C.A. 10 a.m.—Representative Meeting, Association Hall, Y.M.C.A. 2 p.m.—Adjourned General Meeting, followed by Representative Meeting. 5 p.m.—Church Service at St. Martin's Church: Preacher: the Bishop of Birmingham. At the same time a Roman Catholic Service at Holy Cross Church: Preacher, the Rev. H. Reader, M.A. 6 p.m.—Meeting of Division and Branch Secretaries in Y.M.C.A. 8.30 p.m.—President's Address. Reception of Distinguished Guests. Presentation of the Association's Gold Medal of Merit to Sir Constantine Holman, M.D., and to Mr. Andrew Clark, D.Sc., F.R.C.S. Presentation of Stewart Prize to Mr. W. H. Power, C.B., F.R.S. Royal Opera House, Silver Street.
,,	26...WEDNESDAY	9 a.m.—Meeting of Council, Y.M.C.A. 10 a.m. to 1 p.m.—Sectional Meetings, Technical Schools. 2 p.m.—Address in Medicine, Temperance Hall, followed by Adjourned General Meeting, and Representative Meeting, Y.M.C.A. 3.40 to 6.30 p.m.—Garden Party given by the Chairman of the Leicester Infirmary (Alderman Edward Wood) and Mrs. Wood, in the grounds of the Leicester Infirmary. The Band of the Royal Artillery will play. 8.30 to 11.30 p.m.—Reception and Entertainment given by the President (Dr. Frank Pope) and members of the Midland Branch at the Museum Buildings.
,,	27...THURSDAY...	8 a.m.—Annual Breakfast given by the National Temperance League in the Temperance Hall. 9 a.m.—Meeting of Council, Y.M.C.A. 10 a.m. to 1 p.m.—Sectional Meetings, Technical Schools. 2 p.m.—Address in Surgery, Temperance Hall. 3.30 p.m.—Representative Meeting (if business not already concluded) 3.30 to 6.30 p.m.—Garden Party given by the President (R. C. Stewart, Esq., M.R.C.S.) and members of the Leicester Medical Society, in the grounds of the County Asylum. 4 to 6.30 p.m.—Garden Party given by Mr. Maurice Levy, M.P., and Mrs. Levy at Humberstone Hall. 7.30 p.m.—Annual Dinner of the Association in the Assembly Rooms. 9.15 p.m.—Entertainment given by the Ladies' Committee in the King's Hall, Grand Hotel.
July	28...FRIDAY ...	9 a.m.—Meeting of Council, Y.M.C.A. 10 a.m. to 1 p.m.—Sectional Meetings, Technical Schools. 12.40 p.m.—Excursion to Belvoir Castle (limited to 60, see p. 74). 2.45 to 7 p.m.—Garden Party given by Mr. Samuel Faire, J.P., and Mrs. Faire at Glenfield Frith. The band of the Royal Artillery will play during the afternoon. 8 to 11 p.m.—The Mayor and Mayoress of Leicester (Mr. and Mrs. Stephen Hilton) will give an Evening Fête in the Abbey Park, Leicester. The band of the Royal Artillery will play. 8 p.m.—Popular Lecture in the Royal Opera House by Professor Wm. Stirling, M.D., F.R.S.E., on Rest and Fatigue.
,,	29...SATURDAY...	9 a.m.—Excursion to Buxton (limited to 300, see p. 74).
,,	30...Sunday..	
,,	31...MONDAY ...	
August	1...TUESDAY ...	
	2...WEDNESDAY	Altrincham Division, *Lancashire and Cheshire Branch*, Visit to Baguley Sanatorium (General Infectious Diseases).
,,	3...THURSDAY...	
,,	4...FRIDAY ...	
,,	5...SATURDAY...	
,,	6...Sunday..	
,,	7...MONDAY ...	*Bank Holiday.*
,,	8...TUESDAY ...	
,,	9...WEDNESDAY	
,,	10...THURSDAY...	
,,	11...FRIDAY ...	
,,	12...SATURDAY...	
,,	13...Sunday..	
,,	14...MONDAY ...	
,,	15...TUESDAY ...	
,,	16...WEDNESDAY	Altrincham Division, *Lancashire and Cheshire Branch*. Visit to Crossley Sanatorium, Delamere (Phthisis).
,,	17...THURSDAY...	
,,	18...FRIDAY ...	
,,	19...SATURDAY...	
,,	20...Sunday..	
,,	21...MONDAY ...	
,,	22...TUESDAY ...	
,,	23...WEDNESDAY	
,,	24...THURSDAY...	
,,	25...FRIDAY ...	
,,	26...SATURDAY...	
,,	27...Sunday..	
,,	28...MONDAY ...	
,,	29...TUESDAY ...	
,,	30...WEDNESDAY	
,,	31...THURSDAY...	

ANNUAL MEETING.

The seventy-third annual meeting of the Association will be held at Leicester on July 24th, 25th, 26th, 27th, and 28th. *The Honorary Local Secretaries are Dr. Astley V. Clarke, 57, London Road, Leicester, and Mr. F. Bolton Carter, M.S., 99, London Road, Leicester: the Honorary Secretary of the Pathological Museum is Dr. Robert Saundby, 119, London Road, Leicester.*

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[SUPPLEMENT TO THE BRITISH ...]

AN INVESTIGATION

INTO THE

ECONOMIC CONDITIONS OF CONTRACT MEDICAL PRACTICE

IN THE UNITED KINGDOM.

REPORT BY THE MEDICO-POLITICAL COMMITTEE OF THE BRITISH MEDICAL ASSOCIATION.

Made Pursuant to the Instruction of the Annual Representative Meeting at Swansea, 1903.

CONTENTS.

		Page
	PART I.—INTRODUCTORY.	
CHAPTER 1.	—Method of Investigation	1
CHAPTER 2.	—The Subject of Investigation ...	2
	PART II.—CONTRACT PRACTICE IN GENERAL.	
CHAPTER 3.	—The Parties to the Contract	3
CHAPTER 4.	—The Beneficiaries under the Contract	4
CHAPTER 5.	—The Contract	10
CHAPTER 6.	—The Services Rendered	11
CHAPTER 7.	—Remuneration	12
	PART III.—FORMS OF CONTRACT PRACTICE.	
CHAPTER 8.	—Friendly Societies and Kindred Organizations ...	16
	(*a*) Permanent Friendly Societies	16
	(*b*) Dividing Societies	17
	(*c*) Friendly Societies' Institutes	18
CHAPTER 9.	—Works Clubs	18
CHAPTER 10.	—Medical Aid Societies	20
CHAPTER 11.	—Provident Dispensaries	20
CHAPTER 12.	—Private Clubs	21
CHAPTER 13.	—Public Medical Services	23
	PART IV.—REFORM.	
CHAPTER 14.	—The Effects of Contract Practice	23
CHAPTER 15.	—The Reforms Indicated	25
CHAPTER 16.	—Organization for Reform	27
	PART V.	Page
CHAPTER 17.	—Conclusions and Recommendations	28
	SPECIAL REPORT ON PROVIDENT DISPENSARIES	30
	SPECIAL REPORT ON PUBLIC MEDICAL SERVICES	32
	APPENDICES.	
A.	—The Forms of Inquiry Issued to Individual Practitioners ...	33
B.	—Statistical Abstracts of Information Contained in Replies of Individual Practitioners	35
C.	—I. Expressions of Opinion by Practitioners Engaged in Contract Practice	38
	II. Expressions of Opinion by Practitioners *Not* Engaged in Contract Practice	56
	III. Information as to Wage Limits or Equivalent Provisions..	62
D.	—An Analysis of the Provisions Contained in the Rules of Organizations which Affect the Medical Profession ...	66
E.	—Reports on Conditions of Contract Practice, and Action taken by Local Medical Societies with a view to Reform in Various Districts	81
F.	—Opinions of the Divisions on the Proposals Contained in the Interim Report on Contract Practice	91
G.	—The Ethical Aspects of Contract Practice	95

PART I.—INTRODUCTORY.

CHAPTER 1.—METHOD OF INVESTIGATION.

THE Medico-Political Committee reports to the Annual Representative Meeting the results of the investigation carried out in accordance with the following instruction of the Annual Representative Meeting at Swansea in July, 1903:

> "That it be an instruction to the Medico-Political Committee to investigate the economic conditions of contract practice, as carried on in various ways in this country; to report thereon to the next Annual Representative Meeting, and to present an interim report to the Council on any points which appear to call for action during the year."

INQUIRIES ADDRESSED TO INDIVIDUAL PRACTITIONERS.

On consideration of this instruction it appeared to the Committee that the basis of such an investigation must be to elicit from those medical practitioners who are themselves engaged in contract medical practice of various kinds, such information, based upon their personal experience, as they might be prepared to furnish, including statements of fact, expressions of opinion, and suggestions for the improvement of contract practice.

Issue of Questions.

The three sets of questions, relating respectively to "Individual," "Family," and "Private" Clubs, which will be found in Appendix A, were prepared for this purpose. As it was thought more convenient, if possible, to restrict the circulation of these forms to those actually engaged in contract practice, the assistance of the Divisions of the Association was sought for the purpose of discriminating those to whom the inquiries should be addressed, and the Honorary Secretary of each Division was requested to issue the forms with a covering letter, which is also printed in Appendix A.

In the case of the larger Divisions, the information was not available on which to make the suggested distinction, and in these, therefore, the documents were issued to all practitioners.

A preliminary report on the results of the inquiry up to June 24th, 1904, was presented to the Annual Representative Meeting at Oxford. Since that time a number of Divisions which had not previously circulated the forms have done so, and replies are still being received. The Committee, however, considering that the Representative Meeting will desire now to have the results of the inquiry, has decided to report without waiting for further replies. The analyses now presented are based upon the replies received up to June 2nd, 1905.

The Replies.

A general summary of the results is given here for convenience.

The forms of inquiry have been issued to about 12 000 practitioners in all, and the circulation has resulted in the return

of 1,548 replies (up to June 2nd, 1905). Of these, 692 are from practitioners who state that they are not engaged in any form of contract practice. Many such practitioners, however, are able to offer valuable opinions and suggestions, based either upon their previous personal experience or upon their observations of the contract system in the practice of their neighbours.

Eight hundred and fifty-six replies have been received from practitioners engaged in contract practice, many of which contain very full and detailed answers to all the questions, and bear evidence of the expenditure of much time and labour. It is not possible to give the exact number of appointments to which the replies relate, as in many cases respondents have given on one form answers which apply to several clubs, the exact number not being stated. The total number of appointments concerned is, however, upwards of 2,300.

The Medico-Political Committee would at once, at the commencement of this report, place on record its deep sense of the indebtedness of the Association to those medical practitioners who, by the trouble they have taken in affording information as to facts within their own knowledge and as to the conclusions to which their experience has led them with respect to the effects of contract medical practice upon the profession and the reforms which are necessary, have done so much to give to the present inquiry whatever value it may possess as a means of improving the condition of the profession with respect to contract practice.

In most cases the information is supplied without comment upon the inquiry itself. A comparatively large number of practitioners, however, express sympathy with the objects of the inquiry, some show distrust of its utility, while one or two respondents appear to regard it as an unjustifiable and impertinent inquisition.

It is worthy of note (and is a sufficient answer to the last-mentioned criticism of the inquiry) that such a question as No. 11 (referring to the amount of work per head under contracts), has in some cases been answered with an amount of detail which could only have been obtained by a careful search through already well-kept books. Much more information has been obtained under this head than was anticipated when the questions were framed. Mention should be made also of the fact that Question 12, as to fees in private practice, has been very generally answered.

On the whole, respondents have answered fully the questions relating to number of members, age and sex distribution, term of contract, distribution of work among medical officers, rates of payment, private fees, and the necessity of increased rates and a wage limit. The information as to duties defined by the contract, extra services, amount of work done per member, age of society, average age of members, and duplicate membership has been less full, and, as regards some of these matters, appears occasionally to have been based upon estimates and conjecture rather than accurate knowledge. Many respondents have furnished copies of the printed rules of various organizations with which they are connected.

The materials derived from these sources have been collected in Appendices B, C, and D.

Appendix B contains statistical abstracts of the information derived from the replies which is capable of representation in this form.

Appendix C contains a collection of expressions of opinion which do not lend themselves to numerical analysis. Of the majority of these only abstracts or extracts are given, but in some cases it has been thought advisable to publish the opinions in full.

Appendix D contains a tabular analysis of the provisions affecting the medical profession embodied in the various rules of which copies have been furnished.

Other Sources of Information.

Apart from the inquiries addressed to individual practitioners the Committee has sought information, or has availed itself of information already obtained, in the following ways:

(*a*) Reports of various local medical societies, including Divisions and Branches of the British Medical Association which have from time to time investigated the conditions of contract practice in their respective districts.

(*b*) As the result of the information derived from various sources the Medico-Political Committee was enabled in 1904 to formulate for the consideration of the Annual Representative Meeting at Oxford six propositions with respect to Contract Practice, and the meeting ordered these to be circulated for submission to the Divisions, adding a supplementary proposition concerning the distribution of the medical work of Friendly Societies among all the practitioners of a district.

These seven propositions were accordingly circulated in November, 1904, and an analysis of the opinions expressed by the Divisions in reference thereto is contained in Appendix F, and has been utilized in the preparation of the present report.

(*c*) Information collected by the Medical Secretary of the Association in visits which, in the ordinary course of his work, he has paid to various Divisions of the Association, particularly those which he has been directed to visit in accordance with the following instruction of the Annual Representative Meeting:

> "That the Medico-Political Committee should, as far as possible, place the services of the Organising (Medical) Secretary at the disposal of any Division which may make application to the Committee that he should act on its behalf in negotiations with outside bodies, or in the adjustment of differences among medical men in connexion with contract practice."

The most important information under this head is that obtained with respect to the conditions of the appointment of colliery surgeons in South Wales, especially in the Glamorganshire and West Monmouth coal fields, upon which a special report will be found in Appendix E.

(*d*) At the request of the Committee short historical accounts of the action taken locally by the medical profession in various districts for the reform of Contract Practice have been furnished by individual medical practitioners who were in a position to furnish such accounts, and valuable information, particularly with respect to the most effective forms of united action for dealing with such matters, will be found in these reports, which are also given in Appendix E.

(*e*) A report by the Central Ethical Committee on the ethical aspects of contract medical practice as exhibited in the various matters dealt with by the Committee is printed in Appendix G.

Chapter 2.—THE SUBJECT OF INVESTIGATION.

Meaning of the Term "Contract Medical Practice"—Analysis of the Contract—Matters to be Considered.

Meaning of "Contract Medical Practice."

In its widest interpretation the term "contract medical practice" may be held to include any kind of arrangement by which medical practitioners contract with individuals or bodies of the public to render professional services upon conditions, as to remuneration and otherwise, specified in the contract. As thus defined, however, the term would in strictness include the contracts for attendance at fixed annual rates which are entered into by some medical practitioners as a matter of purely private arrangement with individual patients. It would also include the contracts under which medical practitioners are employed by the State, or by Municipal and other public authorities, as in the Poor-law Medical Service, the Postal Medical Service, and other services of a like character.

Private Arrangements and Public Services Excluded.

None of these arrangements fall within the scope of contract medical practice as commonly understood, and, without discussing the theoretical correctness of such a limitation, the Committee has considered it practically convenient for the purpose of the present inquiry. As regards the private contracts mentioned they are not so numerous or of such a character as to have any material effect on the interests of other members of the profession than those directly concerned. As regards State and Municipal Services, it must be admitted that, both in their economic effects upon the profession, and in the nature of the action by the profession which is necessary to remove abuses, they present a close analogy to the forms of contract practice which are considered in the present report. Nevertheless, these services are so sharply defined by the fact that the employer is a public authority, that they can more conveniently be made the subject of separate consideration, and of separate action by the profession when required.

Analysis of the Contract.

In every form of organization which demands consideration in the present inquiry the subject under review is essentially a contract, or what purports to be a contract, between medical practitioners on the one part, and individual members

or bodies of the public on the other part, for the rendering of certain services (namely, medical attendance and allied services) for specified persons, in return for a certain remuneration. The parties to the contract, as regards the public, may or may not be the persons (or directly representative of the persons) entitled to medical attendance. The contract usually contains conditions which limit the nature and extent of the services rendered, and thus affect the actual value to the medical practitioner of the remuneration which he receives.

Matters to be Considered.

Thus there arise for consideration in respect of every form of contract practice:

1. The parties to the contract.
2. The form of the contract, including the mode of its inception and termination.
3. The definition of the persons entitled to attendance under the contract, termed for convenience the beneficiaries.
4. The services to be rendered under the contract.
5. The remuneration under the contract, including both the actual sums agreed to be paid and the yield therefrom to the practitioner, in proportion to the services rendered.
6. The effect of the contract system on the economic position and on the general status of the medical profession.

The organizations in connexion with which medical attendance under contract is being provided in this country at the present time differ widely in character, but the points of resemblance and difference can all be considered with reference to the heads of the foregoing analysis, and a comprehensive view of the subject thus obtained. Such an examination is made in Part II of the report, each chapter of which includes the matters arising for consideration under a single head of the analysis, with respect to every form of contract practice upon which the inquiry has yielded definite information.

In Part III of the Report the same materials are examined from a different standpoint. The inquiry shows that the various forms of Contract Practice at present in operation may conveniently be classified under a few types—namely, Friendly Societies and kindred bodies, Works Clubs, Medical Aid Societies, Provident Dispensaries, Public Medical Services, and Private Clubs. These differ generically in their relation to the profession, and each therefore is conveniently made the subject of a separate chapter, in which the features of that special type of organization are examined as regards objects and constitution, beneficiaries, and other heads of the general analysis, including its effects on the profession.

Part IV of the Report is devoted to the subject of reform. The review of existing conditions of Contract Medical Practice, contained in Parts II and III of the Report, indicates those features which, in the opinion of many practitioners, are prejudicial to the medical profession and to efficiency of the services of the profession to the community, and a summary of these is furnished in Chapter 14. An examination of various reforms which have been proposed is made in Chapter 15, while in Chapter 16 are considered the kinds of action by the profession which have been taken in various districts, and those which have been proposed, with a view to reform.

Part V contains the conclusions and recommendations of the Medico-Political Committee.

PART II.—CONTRACT PRACTICE IN GENERAL.

CHAPTER 3.—THE PARTIES TO THE CONTRACT.

THE parties to the contract are medical practitioners on the one part, and individuals or bodies of the public on the other part. The differences between the various forms of contract practice depend largely upon the degree of organization of the parties to the contract, on the one side and on the other, and upon the objects with which such organizations are formed.

In considering the economic effects of the system it is clear that differences in the degree of organization must influence the possibilities of pressure exercised by one party or the other through the power of collective as against individual bargaining.

ORGANIZATIONS MANAGED BY THE MEDICAL PROFESSION.

Private Clubs.

From this point of view the simplest case for consideration is that of the so-called "Private Club," where an individual medical practitioner organizes a service in which he provides medical attendance for those who desire to join and whom he consents to admit.

The practitioner who organizes the "Club" lays down the rules as to admission and terms, and the entire control is in his hands, with the important qualification that he is frequently in competition with other medical practitioners, and the conditions laid down in the rules of his club have to be framed under this pressure. Hence arise, also, certain features of Private Clubs to which exception is taken.

Public Medical Services.

In the Public Medical Services which have sprung up within the last ten years a number of practitioners arrange to attend members of the public, of certain defined classes, upon terms specified in the rules of the service.

One essential provision of such a service is that the medical practitioners entering into the arrangement shall be all those in the district who desire to take part in its work in accordance with the conditions thereof. Another is that in some way the rules of the service shall be subject to the approval of some organized local body representative of the medical profession as a whole, and not simply of the acting staff of the service. The objects of such organizations are to provide such contract medical attendance as may be deemed necessary to meet the legitimate requirements of the poorer sections of the community, upon terms approved by the general body of the profession. The pressure due to competition which affects prejudicially the Private Club is thus eliminated.

ORGANIZATIONS MANAGED BY NON-MEDICAL PERSONS OR BODIES.

In Private Clubs and Public Medical Services such organization as exists among the parties to the contract is on the medical side. In the other forms of contract practice the organization is provided on the part of the public. In reviewing these, two important facts as regards their object and constitution need to be carefully noted, namely, (*a*) that such organizations have not always come into existence primarily for the purpose of providing medical attendance, and (*b*) that, in some instances, the body which takes part in the contract is not representative of the beneficiaries. Differences in these respects will be found to have an important effect on the relation of such organizations to the medical profession, and are, therefore, usefully taken as marks of distinction between the principal types of organization.

Works Clubs.

The Works Clubs furnish a convenient starting-point for the consideration of such organizations, because, while devoted, primarily at least, to the provision of medical benefits alone, they vary widely in constitution and administration and exemplify every type in this respect. In these clubs a number of persons engaged in the same employment, taking advantage of a special provision of the Truck Act, sanction a deduction from their wages for the purpose of providing medical attendance and medicine, for themselves alone or for themselves and their families. In some instances the employer himself nominates a "works" doctor; in others each workman is free to nominate any medical practitioner in the district as the person to whom the "stoppage" is to be paid, and no other organization exists beyond the arrangement with the employer to give effect to this agreement; such arrangements closely resemble Private Clubs in constitution, the medical attendant being, practically if not legally, in direct relation with his patients, without interference from any organized non-medical body.

In other cases mass meetings are held for the election of doctors, and as the next step in organization, a committee is appointed to watch the interests of the workmen and investigate complaints, but without administrative powers. In a further elaboration of the organization, arrangements are made for the committee to receive the contributions of the men through the employers, and disburse the same, paying in some instances for drugs and dispensing, and handing the balance to the medical practitioner or medical practitioners employed. In the furthest development of this system medical practitioners have been appointed at fixed salaries, their house-rent, rates, and taxes being paid and other allowances made, central dispensaries conducted, and hospitals built and managed. In some instances such committees have offered to provide medical attendance and benefits of an allied nature for members of the outside public.

It will be seen that throughout the evolution of such a system it remains governed by the primary fact that the funds by which it is (originally, at least) maintained are derived from deductions made from wages for a purpose clearly defined by law, namely, for the provision of medical

Comparative Table of Objects and Constitution of Typical Organization.

Type of Organization.	Objects.	Constitution.	Administration.
Friendly Societies ...	The provision of various benefits, including usually, but not always, medical attendance and medicine for the members, and sometimes for their families	Self-governing societies. Sometimes purely local, sometimes national. The national societies have local branches of various degrees of independence	By general meetings and committees of the local branches, subject in national societies to general rules.
Friendly Societies' Institute	Provision of medical attendance for members of group of combined Friendly Societies (and families)	Affiliation of Friendly Societies for this special purpose	By a committee of delegates of the combined societies.
Works Clubs	Provision of medical attendance (and medicine) for workmen in one employment, and, as a rule, their families. Collateral objects of a kindred nature sometimes added—for example, provision of hospitals	Constituted under the Truck Act, and resting primarily on a contract with the employer, who may (*a*) himself nominate a doctor; or (*b*) allow each workman to name his own doctor; or (*c*) allow the general body of workmen to elect one or more doctors; or (*d*) leave everything to a committee of the workmen	In the arrangements (*a*), (*b*), (*c*), the conditions are usually not formally laid down, but are left to a general understanding, and are often vague. In arrangements under (*d*) the control is with the committee, and rules are more definite.
Medical Aid Societies	Provision of medical attendance and medicine for those who make certain periodical payments	Organized by non-medical persons or bodies, who are entirely distinct from the beneficiaries	Managed by the non-medical organizers.
Provident Dispensaries	Provision of medical attendance and medicine for those who make certain periodical payments (restricted sometimes to certain classes by provisions in the nature of a wage limit)	Organized as semi-public institutions, having usually subscribers who do not derive any benefit, but share in the management	Managed by Committees representing some or all of the following: (*a*) The beneficiaries, (*b*) the non-benefiting subscribers, (*c*) the medical staff.
Public Medical Services	Provision of medical attendance and medicine for those who make certain periodical payments (restricted usually to certain classes by a wage limit or some equivalent provision)	Organized and controlled by the general body of the profession in a district, and membership of the staff open to all members of the profession who desire to act	Managed by Committees representing the staff and the local profession.
Private Clubs	Provision of medical attendance and medicine for those who make certain periodical payments (usually restricted by rule or by the doctor's power of exclusion)	Organized by individual practitioners	Managed by the organizers.

attendance and medicine for those persons (and their dependents) from whose wages the deductions are made. This governing fact differentiates such an organization fundamentally from Friendly and similar benefit societies, on the one hand, in which the provision of medical attendance is only one among many benefits offered, and not even an essential object of the organization, and from a Provident Dispensary or Medical Aid Society, on the other hand, in which the party entering into the contract, as representing the public, is partially or entirely distinct from and independent of the beneficiaries.

Provident Dispensaries.

Provident Dispensaries may conveniently be considered next, inasmuch as in these, as in the Works Clubs, the provision of medical aid is a fundamental and not merely a collateral, subsidiary, or non-essential object, and because in the Provident Dispensary the beneficiaries have usually some share in the government of the service.

Provident Dispensaries appear to have been established originally as public charities having the object of providing medical attendance for those members of the community who, while not qualified or desiring to receive medical relief under the Poor Law, are believed, nevertheless, to be unable to pay the full cost of the medical attendance which they require. In accordance with this charitable, or partially charitable, origin, representatives of the general public, other than the beneficiaries, usually form a considerable proportion of the governing body. As regards the medical parties to the contract, these are usually several, and in some instances it is open practically to every medical practitioner in the district for which the Dispensary provides to act upon the staff.

Medical Aid Societies.

Medical Aid Societies are bodies formed essentially for the provision of medical attendance, but have not the partly charitable character of Provident Dispensaries, and have as a rule no provision for the representation of the beneficiaries in the government of the society. Many of them are in fact merely bodies trading in medical attendance, either for the purpose of direct profit, or more commonly with the ulterior object of attracting custom for other purposes to the bodies by which their formation is promoted. Thus many Medical Aid Societies have been formed by and closely allied in their working with industrial insurance companies, and the medical aid has been a bait to attract insurers. The management is in the absolute control of the non-medical organizers, and the relation to the profession is correspondingly unsatisfactory.

Medical Aid Societies usually employ only one or two practitioners in each district.

Friendly Societies.

Though, as has been stated, the provision of medical aid is not the primary, or even a necessary object of Friendly and other sick benefit societies, nevertheless they compose the most widely distributed and perhaps the most numerous group of organizations connected with contract medical practice. The objects of Friendly Societies are, primarily, the insurance of working men, earning weekly wages, against certain misfortunes by which, without such insurance, they may be completely crippled—namely, sickness, loss of employment, and loss of tools. By sickness, the working man suffers from temporary cessation of income as well as from the extra expense, including that for medical attendance, which illness causes. Friendly Societies are, in fact, mutual assurance societies, in which the system of providing medical attendance has grown up as a natural development of the objects for which they were originally formed.

With them are conveniently considered, as similar in their relation to the medical profession, certain Trades' Unions which provide medical aid as a collateral benefit, and some organizations of workmen engaged in particular industries, such as railways, which are exactly analogous to the Friendly Societies in every respect, except in being restricted to those engaged in a particular occupation.

As regards administration, all Friendly Societies are essentially self-governing, but certain differences in the machinery through which the control is exercised require mention as affecting the relation of these societies to their medical officers. Where there is a national organization the general rules of the Order may restrict the freedom of the local bodies in contracting with their medical officers. Thus certain certificates for admission and in sickness are always required, and arrangements must be made for obtaining these, even when medical attendance is not provided, as in the Hearts of Oak Society and in various Friendly Societies in mining districts; or where, as in some societies, payment "to the doctor" is optional. It is sometimes stated by members of Friendly Societies that any arrangement in the nature of a wage limit is inconsistent with the rules of the Order, but an examination of the regulations of the principal societies has not revealed any specific provision having this effect.

On the other hand, definitions of duties (apart from certification), rates of remuneration, and arrangements as to election and term of notice, appear to be always matters for local determination.

Friendly Societies' Institutes.

In many towns the Friendly Societies have combined for the provision of medical aid, and appointed committees of delegates, to whom the entire organization and management of this part of their work is entrusted. Such committees usually organize central dispensaries and appoint medical officers at fixed salaries, who are required to devote their whole time to the duties of the service.

Table.

The table on p. 4 exhibits in a concise form the distinctive features, as regards objects and constitution, of the principal types of contract practice organization.

DISTINCTIVE EFFECTS OF DIFFERENT TYPES OF ORGANIZATION UPON THE PROFESSION.

Friendly Societies: Objects other than Provision of Medical Aid.

From the table it will be seen that the Friendly Societies are distinguished from other forms of contract practice by the fact, to which attention has already been drawn, that the provision of medical attendance is not their primary object. This fact has been a prominent obstacle to the introduction of a wage limit in Friendly Societies, and is the reason why the "abuse of clubs" is perhaps more prevalent and more difficult to deal with in the Friendly Societies than in other types of organization. The argument on behalf of the Friendly Societies is (*a*) that they will not permit the medical profession to dictate who shall and who shall not be admitted to the ordinary membership of their societies, which, they point out, do not exist merely for the provision of medical attendance, and (*b*) that they cannot constitutionally exclude any member of their society from any benefit which the society offers.

As regards the statement (*b*), however, the information obtained in the course of inquiry shows that in many districts the Friendly Societies do not provide medical attendance, or that it is optional with their members to "pay to the doctor." Again, in those districts where several or all the practitioners in a district act for the Friendly Societies, and each member of any society is free to select any doctor, the doctors sometimes obtain a reciprocal right of refusing to attend any individual patient.

An examination of the constitution of Friendly Societies appears to suggest, therefore, that an extension of the distinction between medical and other benefits, which is already in some degree recognized by the societies, would open the way to a solution of the wage-limit problem.

The Friendly Societies' Institutes have set an example of separate organization for the medical as distinguished from the other benefits of other Friendly Societies, and the transformation of a Friendly Societies' Institute into a Public Medical Service would, as a mere question of organization, be a simple operation, assuming the consent of both parties to be assumed.

Medical Aid Societies: Objects Commercial.

Medical Aid Societies (in the sense in which the term is used in this Report) are distinguished from other contract practice organizations by the intervention of persons independent both of the beneficiaries and the medical profession, the object of these third parties being purely commercial in character. The intrusion of this commercial element accounts probably for the objectionable methods adopted by these societies, which have brought them into such special disrepute in the medical profession.

Government by Non-medical Committees.

Another distinctive feature of the constitution of contract practice organizations which requires note as specially affecting the relation of such organizations to the medical profession is that of government by committees, observed in the case of the Friendly Societies' Institutes, some Works' and Mines' organizations, and Provident Dispensaries.

It is apparent from a comparison of the practical working of different kinds of organization that, even where committees are directly representative of the beneficiaries, difficulties arise which may be attributed to:

(*a*) The want of direct relation between medical practitioners and those whom they are engaged to attend.

(*b*) The ignorance of non-medical committees concerning the conditions which are essential to efficiency of a medical service.

(*c*) The pressure on individual members of the profession due to collective bargaining by the organization, intensified when the organization acts through a committee.

DISTRIBUTION OF CONTRACT WORK.

A feature of the organization of contract practice, which, from the constitutional point of view, is simply a question of administration, but from the practical point of view is of the highest importance as affecting the relation of such organizations to the medical profession, is the distribution of the medical work among several medical officers.

Different Systems.

The possible arrangements may be considered as falling under three heads:

(*a*) A single organization employs a single medical practitioner or firm.

(*b*) An organization or a group of organizations employs several practitioners, affording their members a choice of doctor.

(*c*) The medical officership of such an organization or group is thrown open to every medical practitioner in the district who desires to act and is willing to conform to the conditions of the service.

Effects upon the Profession.

The relative effects of these systems upon the medical profession may be briefly summarized as follows:

In the case of appointment of a single doctor he is assured of a definite income so long as he retains the appointment, and an examination of the replies of correspondents shows that this is one of the principal inducements to medical practitioners to accept club appointments.

On the other hand, the fear of losing a fixed income, sometimes of relatively large amount, affects the independence of a practitioner; by the nature of his office he is bound to attend every member of the club whether he enjoys his confidence or not, and a member of the club must employ the club doctor for the time being or lose the benefit of his club payment as regards medical attendance; the medical officer cannot discontinue attendance on members of the club without losing the whole connexion, and this operates prejudicially, both in compelling him to attend persons with whom he may have had serious differences, and also in

making it difficult for him to reduce his contract practice when he might otherwise be disposed to do so. As a result of the close identification of the medical officer with the organization, what from the standpoint of the club are legitimate efforts to extend its membership become a cause of friction between the medical officer and his fellow practitioners, whose patients are transferred to him, not on account of his own merits, but through the attractions of the organization with which he is identified; in some instances the club advertises itself or canvasses in ways which are injurious to other practitioners, and for which the profession is obliged to hold the medical officer responsible. In the competition between medical practitioners the prospect of obtaining an entire club appears sometimes to induce practitioners to descend to unworthy practices of which they would not otherwise be guilty.

The evils above stated are in some degree lessened by the employment of several medical officers, among whom the patients have a choice, but are only completely removed by throwing the work open to all practitioners of a district. Experience shows that this arrangement is good for the patients, who enjoy the same liberty of choice of doctor as in private practice, good for the individual medical officers, who secure an independence in their relation to their patients analogous to that of private practice, and good for the medical profession as a whole, by doing away with the abuses due to competition for these appointments.

Arrangements Existing in Different Kinds of Organization.

Comparing the different forms of contract practice organizations with reference to the distribution of medical work, the examination of the materials resulting from the inquiry shows that the custom among Friendly Societies is that a single medical officer is appointed to do the whole work for each club or lodge. In some cases, however, a staff is appointed, the most noteworthy instance of this which has been reported being that of the Birmingham District of the National Independent Order of Oddfellows. The staff of this Branch must not exceed more than ten surgeons or firms, and these are elected at the annual district meeting. The different lodges of the Branch decide upon the amount per member which shall be paid to the surgeon. Each member of each lodge in the district has the privilege of selecting a surgeon from the staff, and the Secretary supplies each surgeon with a list of the names of the members upon whom he must attend. In case a member selects a surgeon whose charges are higher than the amount granted by the lodge, the extra amount required must be paid by the member in quarterly instalments in advance.

The system of dividing the medical work of Friendly Societies among all practitioners of a district and giving each member the power of choice has become more common in recent years; 211 cases in which this system exists have been reported, and many practitioners express approval of the arrangement.

Friendly Societies' Institutes usually employ one or a small number of surgeons giving their whole time to the work, and the independence of the practitioner, and with it the efficiency of the medical service, appear to be reduced to a minimum.

In Works and Colliery Clubs it is not uncommon for a workman to be free to choose his own doctor from among those practising in the district, but single doctor appointments appear to be the more numerous.

Where schemes are in operation under the management of Committees, a staff of medical officers at fixed salaries is employed, if the number of persons to be attended is sufficient to require the engagement of several practitioners. In at least one case, however, this does not afford the workman a choice of doctor, as the whole area is divided into districts, and one medical officer, with or without an assistant, is assigned to each district.

In Medical Aid Societies it is the rule to employ only one or two doctors, and the commercial spirit of the service accentuates the evils of the system.

In Provident Dispensaries a staff of doctors is frequently engaged among whom the members are free to choose. Sometimes the choice is limited by the assignment of doctors to districts. There are instances in which the medical officership is open to all practitioners in the district.

In Private Clubs, by the nature of the case, the service is restricted to a single medical officer or a firm, and though the independence of the medical officer is not affected to the same extent as in [illegible], nevertheless, in districts in which there are several medical practitioners, competition induces several of the evils connected with the single-doctor system.

It is an essential feature of the Public Medical Service that the staff should consist of all those members of the profession in the district who are willing to act, and that patients should be able to exercise a perfectly free choice among them.

The following expressions of opinion relate to the advantages of choice of doctor:

2239. "It would be more satisfactory if there was a common medical fund, and every member of a society was to pay 5s. a year into it, and choose the doctor whom he wished to attend him in case of sickness, each doctor to be supplied with a list of those members who wish him, and the doctor to be paid 5s. for every name on his list. There would then be no doctor to a club or society, and the doctor would have the satisfaction of attending the members—not because the member was in the club and they had to have the club doctor, but because the member wished to have that doctor to attend him."

1950. "I would suggest that after a fair and uniform rate has been arranged each member of the club should have the privilege of choosing his own doctor, having previously intimated to the Secretary of his club the name of the doctor whom he prefers, and having, of course, obtained the consent of the medical man."

2245. "If the profession at large could arrange some form of charge, contract or otherwise, so that the real poor male and female who are above the Poor Law, but not able to pay our low fees, could get medical help it would be a good thing; but each patient should have some choice of medical attendant, and the present type of Friendly Society man should pay for his medical attendance, as he can well afford to do so in most cases."

2481. "I am strongly in favour of Professor Horsley's town dispensary scheme, which disallows 'one man' club practice altogether, and in which all resident members of the British Medical Association could participate. The patients choose their own doctor."

3523. "If some arrangement could be made amongst all the local practitioners whereby there might be one system of club practice, collected by official collectors, the people to say beforehand which of the doctors they wished to attend them and their families, and not to be allowed to change without due notice (to be arranged and agreed upon by the practitioners themselves), and a strict age and wage limit, with certain diseases omitted, provided for, the status of club practice might be raised. I am afraid our own petty professional jealousies would always make such an arrangement difficult."

3513. "I should, personally, prefer that there should be no monopoly by practitioners in the attendance on clubs, but that the members should be free to employ any medical man they desired, who would act for the regulation rates."

Many respondents suggest also that contract work divided among all the practitioners in the district should be paid for by fee per attendance.

CHAPTER 4. THE BENEFICIARIES UNDER THE CONTRACT.

IN any consideration of the position of the medical profession in relation to contract medical practice, it is clearly of the greatest importance to ascertain what persons are, and what persons should be, admitted to the benefit of such contracts.

Not only must the amount of work to be done by the medical practitioner depend upon the condition of health at admission of those whom he is to attend, upon their age, and in some degree also upon sex, but the economic position of those who benefit by the service is a matter of great importance.

In the present chapter the composition of the classes who benefit is examined with reference to each of these points; economic position, being first considered, as having given rise to most discussion.

ECONOMIC POSITION OF THE BENEFICIARIES.

Classes for Whom the Benefits are Intended.

By different persons contract practice is stated to be necessary in this country to meet the legitimate requirements of either or both of the following classes of the community, namely:

(*a*) Those who while not desiring, or not qualified to receive, medical relief under the Poor Law, are unable to pay to the medical practitioner the ordinary fees charged to the

working classes in the districts in which they reside. For these the contract system provides a means whereby they are enabled to pay, and the medical practitioner is ensured that he will receive, such proportion of the cost of medical attendance as the persons in question can afford.

(*b*) Those who can afford to pay the full cost (as measured by ordinary working-class fees) of medical attendance and medicine, provided that they are enabled to do this by a system of small weekly payments, but cannot pay large amounts at one time.

On either of these definitions it will be perceived that the system is designed especially to provide for the wage-earning classes, and the evidence collected as to remuneration shows that the actual payments which are at present being made in every form of contract practice organization correspond to this conception of the class whose needs it exists to meet. In the present chapter an inquiry is made as to the extent to which this conception is borne out by the examination of the actual economic condition of the beneficiaries of existing contract practice organizations, so far as their position can be ascertained by the information collected in the course of the inquiry.

Classes Actually Admitted to Benefit.

In the case of certain organizations the economic position of the beneficiaries is defined by the constitution. For instance, in Works Clubs (as defined for the purpose of this report) the beneficiaries are restricted to the persons from whose wages or salaries deductions are made under the Truck Act, and their economic position is defined to a certain extent by their occupation, though in some districts men who earn incomes considerably above that of the average artisan share the benefits of such clubs.

Where the system of paying subscriptions to the medical aid fund by means of a poundage deducted from the wages is in vogue, the fact that those receiving higher wages pay more for their medical attendance removes the necessity for a wage limit in the opinion of those who hold that contract practice is not intrinsically objectionable.

In Private Clubs, either by specific provisions in the Rules, or by the power of exclusion naturally possessed by the doctor, the benefits are restricted to those whom he considers suitable, and these as a rule belong to the wage-earning classes.

In Provident Dispensaries and Public Medical Services some provision, such as a wage limit, for admission is usually made in the rules, and this is often fixed at such an amount as to restrict the beneficiaries largely to class (*a*) of the classes defined at the commencement of this chapter. In other cases power is reserved to a committee to exclude persons of a class for which the service is not intended.

In those organizations, such as the Friendly Societies, which offer several kinds of benefits (of which medical attendance is one) for all who are willing to enter, subject to the conditions as to character and health imposed by the rules of the organization, the benefits offered, apart from medical attendance, are of such a nature as chiefly to attract the wage-earning classes, and the medical profession undoubtedly originally entered into special arrangements for attendance on members of clubs on the supposition that only members of those classes would, in fact, claim to be attended under such arrangements.

It is probable that the great bulk of the members of the registered Friendly Societies are, in fact, drawn from those of the working classes who follow regular occupations, together with a considerable number of small shopkeepers. There are numerous indications, however, in the returns that other classes avail themselves of the privilege of membership, and especially of medical benefits. The smaller and unregistered Friendly Societies, and especially the Dividing Societies, while they provide mainly for a somewhat similar class, cater rather more than the large Permanent Societies for those who are less regularly employed.

On the whole, therefore, the evidence tends to the conclusion that the majority of those who benefit by contract practice belong to one of the two classes stated at the commencement of this section.

Admission of Unsuitable Persons.

On the other hand, there is evidence that in various districts a considerable number of persons are taking advantage of the arrangements who are in a better social position than those for whom the service was intended.

Two distinct effects of this abuse of clubs demand consideration. In the first place, medical fees in ordinary practice are adjusted according to the economic position of the persons attended. Rates in contract practice, on the other hand, have been fixed on the supposition that the persons to be attended are those who otherwise would pay ordinary working-class fees (as will be shown in the chapter on remuneration, the rates are in fact often below what they should be even on this supposition). Therefore, if persons who would ordinarily pay higher fees than those charged to the working classes are to be admitted to medical attendance under contracts at all, it should be at a proportionately higher contract rate, and some provision will be necessary to prevent persons who should pay a given rate from taking advantage of a lower one.

Secondly, in the opinion of many practitioners, contract medical practice is intrinsically injurious to the interest of the public and the profession alike, and its acceptance by the medical profession can only be justified on the ground that it is necessary to meet the requirements of the wage-earning classes, or of a certain portion of those classes.

On this view, contract practice should be entirely confined to the classes who are recognized as needing such a provision, and persons in a better economic position should be absolutely excluded.

Extent of the Abuse.

Many respondents complain that there are, particularly in the Friendly Societies, members in receipt of the medical benefits who are perfectly well able to pay, and who, in the opinion of respondents, ought to pay ordinary private fees. It may be said, without hesitation, that this grievance is more prominent, and in one form or another more often referred to, than any other of which information has been obtained. The following passages are typical of many which appear on the returns :

2326 Nearly all the tradespeople in this town are members of the Foresters or Independent Order of Rechabites. Practically they only join for medical benefits, as if they can possibly manage it they do not go on the club, as it does not pay them to be absent from shops even if not able to do much in the way of work. I cannot refuse them, as the other medical men will not refuse then, and they were members of the clubs when I came here.

2378 The great fight I had, especially with the Foresters, was about admitting farmers and tradesmen, shopkeepers, publicans, etc., who obtained medical attendance for 5s. per annum, but did not care to "trouble the club," that is, to draw 10s. or 12s. a week, but considered that they ought to get medical attendance for the same price as one of their labourers, and generally fussed more and thought they ought to have more attention shown them than the poorer members. One farmer was in the club eighteen years, but never paid in to the doctors' fund until he found he had got heart disease; then he had two years' heavy attendance for 5s. a year.

2386 Quite recently I attended a member who was far too proud to call on his club during an illness and obtain his sick pay, but he had no compunction in receiving the medical attendance gratis. I sent him in an account which he promptly refused to pay.

2824 It is an abuse that many men of superior position and means, well able to pay a doctor's fees, are members of clubs. But when they first joined they may, of course, have had slender means, and later naturally expected to reap the benefit of their premiums.

2930 I have one man among my club patients who made a profit of £30,000 on a public-house and who owns acres of houses in this district.

Another man is architect and surveyor, with an income of about £300 per annum.

2970 There are, of course, a large number of members in these various clubs who have no right to be attended "on the cheap."

Here are one or two examples:

A saddler who has private means—employs two men in his shop and farms 150 acres.

Several publicans—keepers of village inns.

A railway officer, whose income must be £150 or more.

A number of small farmers, who farm 50 to 200 acres.

Blacksmiths, jewellers, and other tradesmen.

3262 I have held club appointments for twelve years, and my chief grievance is that I am frequently called to attend members whose financial position should put them

above claiming a club doctor's services, and, moreover, when unpleasantness occurs, it is invariably caused by such a member who can calmly lay up while sweating the doctor.

3170 In the best Friendly Societies, such as the Manchester Unity, Hearts of Oak, and Foresters, the members now include almost every class—farmers, veterinary surgeons, schoolmasters, shopkeepers, etc. (as well as labourers and artisans), who join for the medical attendance advantages, and as such men never will be excluded from joining, as their presence gives the club a better status, their proportion for the doctor ought to be double that of the working man.

2201 I have a farmer, as an instance, worth £12,000 (twelve thousand pounds), and only paying me 2s. 6d. a year, and having to go over four miles to see him.

Wage Limit.

The Necessity of a Wage Limit.

The writers of most of the above and similar extracts hold the opinion that if a wage limit were imposed and enforced, the conditions of Contract Practice would be materially improved without any hardship to the classes who ought to benefit from it.

This opinion is shared by a very large proportion of respondents, as is shown by the following analysis of replies to the two questions relating to the advisability of a wage limit which were included upon the forms. These were:

"Do you consider that a wage limit should be fixed in Contract Practice?"

"If so, of what amount?"

The first question was answered by 674 respondents. Of these 542 express the opinion that a wage limit should be enforced, 77 express approval of the imposition of the wage limit, but regard it as impracticable, while there are 55 who are definitely opposed. Among those who are in favour of the wage limit there are 354, who, in answer to the second question, specify the amount at which, in their opinion, it should be fixed. In 35 cases this amount is 20s. or less, in 134 cases 20s. to 30s., in 126 cases 30s. to 40s., and in 29 cases over 40s. In this summary are included only the replies from those practitioners actually engaged in contract practice. Thus, of 856 practitioners engaged in contract practice 619 are in favour of the imposition of the wage limit if possible, while only 55 are opposed to it.

Such a collection of opinions is evidence, not only of the desire for a certain remedy, but of the belief that a serious evil exists for which the remedy is required.

Existence of Wage Limits.

For the purpose of ascertaining to what extent arrangements, such as the provision of a wage limit, at present prevail, the following question was included in the forms:—

"Have you the power to refuse to attend under your contract persons whom you consider to be, on the ground of means, unsuitable for medical benefits?"

This question was answered in the affirmative in 131 cases in connexion with clubs which were either Friendly Societies or of the same type.

Many of the answers, however, were vague, and as exact information on this important point is much to be desired, a letter was written to each of the practitioners concerned, asking the following specific questions:

1. Is your right to exclude persons unsuitable in respect of means obtained through a rule or resolution of the club of which you are medical officer? If so, can you forward me a copy of the rule or resolution in question?
2. Have you any kind of written agreement conferring on you this power? If so, can you forward me a copy of the agreement?
3. Is the right peculiar to yourself or enjoyed by other club doctors in the district?
4. If the right is peculiar to yourself, in what way did you obtain it? Or, if it is a common arrangement in the district, can you inform me how the arrangement was arrived at?

Many of the replies showed that the original question had been misunderstood, but a sufficient number remained to show that there are Friendly Societies in which the principle is recognized, as regards, at all events, the power to refuse to admit candidates on the ground of means. In one instance (a small Dividing Society), this power is given by a rule of the Society. In another (a Lodge of Oddfellows), general powers are given by a resolution of the Society to the medical officer, and confirmed by a written agreement. In two other instances written agreements have been made on the point. In eight cases the right of the medical officer rests upon a verbal arrangement between him and the Secretary or other officials of the club.

In twelve cases the foundation of the arrangement is still less stable, and can best be defined by saying that there is a mutual understanding between the officer and the members that the medical officer shall have power to reject those whom he thinks on the grounds of means unfit for admission.

In some of these cases even the term "mutual understanding" may be too strong, and the actual position is that the medical officer would reject candidates if he thought fit, and the Society would probably not dispute his action.

There is no evidence in the replies of a case in which a definite wage limit has been fixed by a branch or lodge of any of the great Friendly Societies.

Extracts taken from some of the replies are printed in Appendix C, p. 38, and furnish important evidence in several respects. First, they rebut the argument sometimes put forward on behalf of Friendly Societies that the recognition of a wage limit for medical benefits is constitutionally impossible; secondly, they show on comparison that two practices tend to facilitate the discrimination of those members who should from those who should not be admitted to medical benefits under contract—namely, (*a*) making subscription for the medical benefit optional (which is perfectly in accordance with the constitution of Friendly Societies); and (*b*) distributing the work among a number of doctors; thirdly, these replies indicate that where such arrangements now exist they are due either to the exceptionally favourable environment or independence of character of individual practitioners, or to united action by the profession in the district.

Necessity of Contract Practice.

With the question of the economic position of those who at present are obtaining medical attendance by contract under any of the systems reviewed in this report, may conveniently be considered the question of the necessity to the community of such provisions.

In the Interim Report on Contract Practice the Medico-Political Committee formulated for the information of the Divisions the following propositions:

> That it is inevitable in present conditions that there should be in some parts of the United Kingdom some system of contract medical service of the poor.

Of the 69 Divisions who have replied upon the subject, 63 express unqualified approval, and 5 agree subject to special definitions of the term "the poor." Only 1 Division is of opinion that contract practice is not necessary.

There is therefore on this subject a greater degree of unanimity among the Divisions than on any other of the propositions submitted by the Committee, except that as to the necessity of medical representation in the management.

On examining the replies, contained in Appendix C, of respondents to the inquiries addressed to individual practitioners, it will be found that though there are many objections to various abuses connected with contract practice, very few suggest that contract practice could be absolutely abolished.

In considering the subject, however, mention must be made of a distinction pointed out by some respondents, to which attention will again be drawn in the chapter relating to remuneration namely, that the necessity may be admitted of some organization for enabling certain sections of the community to provide medical attendance by insurance by payment of weekly premiums, without implying that medical practitioners should themselves enter into contracts to provide attendance on these terms.

In the consideration of remuneration reference will be made to the system in which, out of a fund created by the premiums of the beneficiaries, the medical attendant is paid fees for work actually done.

This qualification must be kept in mind throughout the more detailed examination of the question of necessity of contract practice which follows.

On examination of the different systems of contract practice dealt with in Part III of the report the following facts will be noted:

First, that in certain parts of the country the industrial population obtains its medical attendance almost exclusively through the form of practice known as Works Clubs. These provide for the medical attendance not only of the wage-earners but of all their dependents.

Again, in the large towns certain classes, usually defined by a wage limit or some equivalent provision, obtain medical

attendance through Provident Dispensaries, Public Medical Services, and Private Clubs. (Medical Aid Societies a few years ago provided in some degree for a similar class, but appear to be ceasing to play any important part in the provision of medical attendance.)

There is evidence that some of those who obtain medical attendance in this way are so poor that probably they could not afford to pay premiums yielding to the doctor an amount equivalent to that which he would receive if paid by fees for actual attendance at the ordinary working-class rate of the district.

It is pointed out that in some Provident Dispensaries the underlying conception is that of a two-fold charity—a charity by members of the medical profession in accepting only partial remuneration for the work they do, and a charity by the honorary members or other non-benefiting subscribers.

The information collected in the inquiry would appear to show that the only question arising as to the reform of this kind of contract practice is that of placing what is essentially a charity by the profession under medical control.

In rural districts, also, where a single practitioner may be the sole medical attendant of the entire population (including those receiving attendance through the Poor Law), clubs are regarded as a means of obtaining some payment from the thrifty but very poor.

Even for a section of the community who are above the "poverty line," many experienced medical practitioners are of opinion that some kind of system is necessary whereby the wage-earning classes may insure by weekly premiums against the cost of medical attendance.

It is with respect to this class, however, that the greatest divergences exist between the opinions of respondents as to the necessity of Contract Practice. Some appear to think that even to the more needy it is not a real advantage, and others, again, that those who, from their inability to pay ordinary doctors' bills, might be expected to require the benefits of medical attendance at contract rates, are not, in fact, largely represented on the membership roll of clubs or similar organizations.

One respondent, for example, says: "I see no justification for contract practice as understood by Friendly Societies. It does not help the man with small irregular wages—that is, the real poor, as such men cannot afford to join a society."

Another says: "For the last ten years I have refused to have anything to do whatever with Friendly Society clubs or Provident Associations; they are a great detriment to the medical profession and in no way benefit the sick poor."

Information from other sources shows that there are large manufacturing towns which contain great numbers of those for whom contract practice is supposed to be necessary, but in which no clubs providing medical attendance at contract rates are to be found. It does not appear that in such towns the working classes are at any serious disadvantage. They cannot, it is true, pay large accounts for medical attendance at one time, but a system of payment by instalments, regularly collected, appears to meet their requirements.

Nevertheless, a large number of respondents express the opinion that contract practice is absolutely necessary. Some state that it is necessary in manufacturing towns, and apparently think that in villages or rural districts the necessity is absent or not so great. Others, again, lay great stress on the necessity for contract practice in villages and agricultural districts, and appear to think that the better-paid inhabitants of the towns can very well do without it.

1960 In a manufacturing town it is absolutely necessary to have sick clubs and medical officers paid at contract rates or we should have to work for nothing and keep a clerk to keep our books, for the overdue accounts would be enormous.

2245 I see no justification for contract practice as understood by Friendly Societies.

It does not help the man with small irregular wages—that is, the real poor, as such men cannot afford to join a society.

It only benefits men in receipt of regular and fairly good wages, who are just the men who do not need this help, and who also boast—wrongly, I often think—of their temperate habits. If their sickness is as trifling as they say, why do they bother about getting medical aid?

To my mind people are right to club together in various ways to get pecuniary aid in sickness, but medical attendance is quite a different thing.

2668 In a town like this it would be difficult to do without contracts with Friendly Societies, and in increasing fees we must be careful to avoid driving the societies into medical aid associations (one of which already exists here) till it is made *infamous in a professional respect* to act as medical officer to such associations.

2674 To a country practitioner, and especially one who has a Poor-law appointment, I consider that a private club is *absolutely necessary*, and he can by this club do much more good, and stop pauperization, than by any other means I know.

2711 I think the system of club practice the only method for mining districts.

3246 The Friendly Societies, in my opinion, are doing a splendid work, and when the medical officer gives reasonable attention to the members are very desirable appointments. By far the larger part of the work is done at home; 75 per cent. of the cases give little trouble; infectious cases are taken care of by the M.A.B. The general hospitals are available where nursing is required, and incidentally the problem of old-age pensions is solved, as far as solution is possible, by these admirable organizations. They are worthy of all support by the medical profession.

3491 In my opinion there ought not to be any contract medical work except in those districts too far from a hospital; because if the patient cannot pay, and the medical man is not willing to give his services free, I think those are the cases who ought to seek hospital treatment and no others.

3304 Within proper limits, I think it is necessary in a district like this to have some form of club practice. There are some people who will not pay bills, and those parties must be checkmated.

2660 My own impression is that club practice is not at all a necessity, excepting in certain rural districts.

On careful examination of all the available evidence, the conclusion would appear to be that stated in the interim report on contract practice of the Medico Political Committee, namely, that it is inevitable in present conditions that there should be in some parts of the United Kingdom some system of contract medical service of the poor.

Sex and Age of Beneficiaries.

The question of admission of women and children to medical attendance under contracts has given rise to difficulties in connexion with some forms of contract practice organizations, especially the Friendly Societies. Therefore in considering who are and who should be the beneficiaries, such information as the returns afford must be given with respect to the actual sex and age distribution among the beneficiaries, and with respect to the special terms upon which special classes should be admitted, if at all.

In the examination of this question, distinction must be drawn between two groups of contract practice organizations, those, namely, in which the contract is for attendance upon an individual, and those in which the contract is for attendance upon a family, or, as in the Works Clubs, upon a group of families, namely, all the wage earners in some particular employment and their dependents.

In the second group, which may be described generically as "Family Clubs," the admission of women and children is a fundamental principle of the contract, and all the conditions, as to terms of remuneration and otherwise, must be deemed to have been adjusted with reference to this fact.

The sex and age distribution naturally corresponds to that of the population to which the beneficiaries belong.

With respect to this group of organizations, therefore, no serious question, apart from remuneration, appears, from the returns, to arise.

Where, however, the contract is for attendance upon individuals (as in Friendly Societies, Medical Aid Societies, and usually in Provident Dispensaries, Public Medical Services, and Private Clubs) many members of the profession are of opinion that women and children should not be admitted, or only upon special terms.

The question has arisen particularly in connexion with Friendly Societies, and the view that only adult males should be accepted for attendance on contract terms must be taken to relate specially to the section of the population who usually join these societies.

The reasons are probably connected with the history of Friendly Societies, and are discussed in Chapter 8, which deals specially with those organizations. For the present purpose they may be briefly stated as being that in their origin Friendly Societies were naturally composed of adult

males only, since the object was the insurance of the family against the risks of loss of employment of the wage earner from sickness or other causes. Contracts by medical practitioners for attendance on Friendly Societies were originally framed on the supposition that adult males only were to be attended; the introduction thus obtained, leading to private practice among the families of club members, was an inducement to accept clubs upon terms which would not otherwise have been accepted; in recent times women and children have been admitted to clubs, but many women are not wage earners, and therefore are not subject to the same economic constraints as those who are wage earners, and it is believed that, for this or other reasons, the women who obtain medical attendance through Friendly Societies require much more work from the club doctors than do the men; children, again, are, of course, not wage earners, and, moreover, the Friendly Societies have attempted to obtain medical attendance for their juvenile members at reduced rates, regardless of the amount of medical attendance required.

In other contract practice organizations than Friendly Societies, in which the contract is for attendance upon individuals, women and children have usually been admitted, and possibly the fact that the men are often members of Friendly Societies, and obtain their medical attendance in that way, has led to the admission to Provident Dispensaries, Public Medical Services, and Private Clubs of an excessive proportion of women and children.

As regards the actual sex and age distribution of the beneficiaries in organizations in which the contract is per individual, the following information is afforded by the inquiry:

Though it appears from the returns that the benefit of medical attendance at contract rates is in some form available for persons of both sexes and all ages, from birth onwards, yet of the replies relating to clubs, other than private clubs, in which the payment is per individual, the greater proportion either specify or leave it to be inferred that the membership is composed entirely of male adults. The number of clubs apparently composed entirely of male adults, of which returns are supplied, is 1,265; there are, in addition, 404 which include male juveniles; 86 which include males, females, and juveniles; and 38 which include females only or females and juveniles without adult males.

Among the Private Clubs the proportion in which persons of both sexes and all ages are admitted is much higher, for of 253 clubs of which particulars have been given 34 only are confined to adult males; 9 admit adult males and juveniles; 3 admit females only; and 207 admit adults and juveniles of both sexes.

No precise information has been obtained showing whether and to what extent the admission of female and juvenile members to ordinary clubs is a growing practice, but there is no doubt that the proportion of separate female and juvenile courts or lodges is increasing.

Among non-private clubs each year of age from birth to 12 years is recognized by some organization mentioned in the returns as appropriate for the commencement of club membership, while in addition the ages of 1 month, 3 months, 6 months, and 9 months occur each in one instance. The favourite ages seem to be birth, 1 year, and 6 years, for among the 297 clubs of which particulars have been received, 31 admit members from birth, 59 at 1 year, and 45 at 6 years of age.

On dividing the clubs into two classes according as the lowest age of entry is below or above 5 years, it is found that there are 153 in the former and 144 in the latter class.

Among Private Clubs the inferior age limit at entry is, as a rule, much lower, for among 182 returns in which a definite statement is made there are mentioned 165 clubs into which members are admitted from birth, 10 in which the limit is 1 year or under, 5 in which the limit is 2 years, and 1 each at 3 years and 5 years respectively. Thus among Private Clubs it appears that practically all which admit juvenile members do so at a lower age than 5 years.

As regards a superior age limit for admission, in Friendly Societies and Works Clubs this is automatically provided; in Friendly Societies by the fact that they will not admit members after a certain age, and in Works Clubs by the difficulty of securing employment.

In certain Public Medical Services and some Private Clubs special provision has been made in the rules with respect to the admission of aged persons.

Conditions of Admission with Respect to Health of Candidates.

Candidates for membership of the ordinary Friendly Societies are obliged in almost all cases to pass a medical examination and to obtain a certificate stating that they are in good health at the time of joining. It occasionally happens, however, that members suffering from chronic disease may be transferred from one court or lodge to another, and thus the medical officer may be compelled to attend persons who are not in a sound state of health at the time at which they first come on to his list.

The same rule applies to Friendly Societies' Institutes.

In some Friendly Societies there is a regulation that candidates for membership must not be of a quarrelsome disposition, the assurance of the nominator being accepted as to this condition of mental health.

In Works Clubs the members consist primarily of those who follow specified occupations, and hence the condition at entrance must be such as is compatible with those occupations. In Works Clubs in which the contract includes attendance upon the families of the workers it does not appear that any provision is made to secure that these should be in a condition of sound health on joining.

The membership of Medical Aid Societies is, as a rule, restricted to those who have insured their lives with the Industrial Insurance Company, which organizes the society. Hence, provision is made automatically for the exclusion of those who are not in sound health. In cases where the amount of insurance is small members appear to be admitted without medical examination, and simply at the discretion of the agent.

In Provident Dispensaries the health of candidates must, as a rule, be good at the time of admission, and approved by the medical officer. In most cases however, an extra payment, varying from 2s. 6d. to 15s., will secure attendance upon such as are sick at the time of admission.

In Public Medical Services sound health as certified by a medical officer is a universal condition of admission.

In Private Clubs medical examination is almost universally required, and only those in sound health are admitted. In a few cases a small additional payment or entrance fee secures the admission of candidates who are in need of immediate attendance.

Chapter 5.—THE CONTRACT.

In this chapter are described those features of the mode of appointment of the medical officers of contract practice organizations which do not relate to the definition of the duties to be performed or the remuneration given. These often differ widely in organizations of the same type.

The principal matters which require consideration are: (*a*) The body making the appointment, (*b*) the conditions of eligibility, (*c*) the tenure of office, (*d*) the form of contract.

The Body Making the Appointment.

As regards this, four systems may be distinguished: (i) That it shall be open to any member of a society to select a medical practitioner practising in the district who is willing to act upon the terms, (ii) appointment by a vote of the general body of beneficiaries, (iii) appointment by a committee, (iv) appointment by some person independent of the beneficiaries, for example, employers of labour in the case of Works Clubs, and the organizers of Medical Aid Societies.

System (i), though existing in some Friendly Societies and Work Clubs, as explained in Chapter 3, is relatively very infrequent. It must be noted, however, that in some cases of appointment by the general body of members or by committees the entire body of the practitioners in the district have received definite appointment, which has the same practical result as system (i), though theoretically distinguishable as regards the constitution of the service. (The relative effects upon medical practitioners of the system of appointing one or a few medical officers to a service, as compared with the system of throwing the medical officership open to the majority of or all the practitioners practising in the district, are considered in Chapter 3, page 5.)

In Friendly Societies, apart from those which join in forming Institutes, the system of appointment is invariably by vote of the general body of members, and in a large number of Works Clubs appointment is made in this way.

Election by committees naturally prevails in those organizations which are so controlled—namely, Friendly Societies' Institutes, Provident Dispensaries, and some Works Clubs.

Conditions of Eligibility.

As regards conditions of eligibility (*i.e.*, conditions laid down in rules, restricting the choice of the appointing body) in many

Friendly Societies, it is the custom to require a medical officer appointed to be already, or to become, an honorary or benefit member of the Society. The only other condition usually specified in the rules of societies is that he should be a registered medical practitioner, and sometimes it is added that he must reside within a certain district.

In connexion with Works and Colliery Clubs, conditions are often laid down by the employers with respect to the employment of surgeons, who may specify that only a particular surgeon shall be employed. In Public Medical Services it is frequently a condition that a medical officer of the service shall be a member of some local medical society or shall conform to rules laid down by the society (in addition to those directly relating to the service).

TENURE OF OFFICE.

In many appointments to Friendly Societies and Works Clubs, the tenure is absolutely at the discretion of the appointing body; in other cases it is defined by rules. Three systems of tenure may be distinguished: (*a*) That the appointment shall be held at the pleasure of the appointing body, that is to say, that a change may be made at any time without notice; (*b*) appointments for fixed periods, usually annual, but often for periods of two to five years; (*c*) appointments subject to a specified term of notice.

The system (*a*) is much the most common among Friendly Societies, and is also not unusual in Works Clubs.

The system (*b*) of appointment for fixed periods is also not uncommon among the two groups of organizations named; the appointment to a Dividing Society of the ordinary type is naturally an annual appointment. Appointments (*c*) subject to a prescribed notice are made by some Friendly Societies and well-organized Works Clubs, and are the rule in Medical Aid Societies and Provident Dispensaries. In the case of Public Medical Services, the only conditions of tenure are identical with the conditions of becoming a medical officer, namely, residence within the district and conformity to the rules, including membership of a medical society where this is required. In such Services there is a provision by which a medical officer may give notice to discontinue attending a particular member or members, and also a provision by which individuals may be excluded from the benefits of the service.

As will readily be understood, even by those who have not studied the contract systems, the effects of the arrangements described under (*a*) are very unsatisfactory as regards the medical profession wherever advantage is taken of the power which such an arrangement gives to the appointing body, and the fact that such an arrangement should be permitted to exist can only be regarded as one more of many examples of the very loose and unsatisfactory way in which contracts for medical attendance have been made.

The effects of the system of annual appointment are frequently as prejudicial to medical officers as those of the system of tenure at the discretion of the appointing body; among the reports furnished to the Committee by individual practitioners, there can be no doubt, upon a study of the replies, that, as would be anticipated *a priori*, the most satisfactory system of tenure is that in which a fixed notice for termination of the contract is required.

FORMS OF CONTRACT.

Actual written contracts between medical officers and contract organizations are exceptional. A large number of replies to the inquiries of the Committee indicate that the respondents have only the vaguest idea of the nature and terms of their contracts. Where any definite arrangement can be said to exist it is a verbal acceptance, or written acceptance, by the medical officer of his appointment on terms which are understood or stated to be those defined in the Rules.

The only formal contracts of which examples have been furnished are the agreements drawn up by the Friendly Societies' Medical Alliance and agreements with certain clubs.

Many Friendly Societies' Institutes require their medical officers to enter into bonds not to practise in the district after leaving their employment.

CHAPTER 6.—THE SERVICES RENDERED.

Services Rendered Under the Contract.

IN the analysis of the Contract in Chapter 2 it is pointed out that the services to be rendered include, in addition to medical attendance, "allied services," and that the contract usually contains conditions which limit the nature and extent of the services rendered, and thus affect the actual value to the medical practitioner of the remuneration he receives.

It will thus be seen that in the present chapter, in which the services given under such contracts are considered, the matters requiring investigation are the definition of the term medical attendance, and the limitations thus arising, and the nature and extent of the "allied services" for which provision is made.

By the term medical attendance is commonly understood ordinary attendance in illness not requiring surgical operations, and excluding also confinements and illness immediately arising therefrom. As the custom in different forms of contract practice varies, it is convenient to distinguish "ordinary" services from "special" services, and to consider under the latter head all those duties which are in some forms of contract practice made the subject of special arrangements. The term ordinary medical attendance would thus be deemed to cover all medical services not specifically mentioned under the head of "special" services, and the differences in different forms of contract will be explained by a statement in respect of each kind of special service, as to whether it is in any given form included under ordinary attendance, or is made the subject of special arrangement, or is excluded entirely from the scope of the contract.

(*a*) *Surgical Work.*

In the medical aid departments of the Friendly Societies the "ordinary" duties which are usually required include "medical attendance and medicine," without any reference to surgical work. In some rare instances surgical operations, attendance upon fractures and dislocations, and severe accidents are specifically excluded from the contract, and the fees chargeable are matters of private arrangement. In most cases there is no sharp line drawn between the medical attendance which the contract provides for and surgical attendance which is excluded. This looseness of definition occasionally leads to difficulties, as minor surgical work is almost always demanded by the beneficiaries at contract rates, while the medical officer frequently considers it outside the scope of his ordinary duties. One respondent complains that his club members regard no case as a surgical case unless a bone is broken.

In Works Clubs, of course, surgical work, and frequently surgical operations, form part, in some cases a great part, of the ordinary contract work: in Private Clubs they are, almost without exception, definitely excluded from the contract.

(*b*) *Obstetric Work.*

In Friendly Societies and similar clubs obstetric work as a rule is not mentioned in the contract, and, therefore, is subject to private arrangement. In Works and Colliery Clubs a reduced fee is often prescribed by the terms of the contract, and in some cases the work is done at the ordinary contract rates without any special fee. In Private Clubs it is usually a matter either of special arrangement or a reduced fee is charged. It seldom enters into the ordinary contract.

(*c*) *Vaccination.*

In a few family clubs vaccination forms part of the ordinary contract, but generally it is a service entirely subject to private arrangement.

(*d*) *Radius.*

The distance from a club's head quarters to which the medical officer's radius of contract practice extends is almost invariably specified in the rules of Friendly Societies. The most common radius is three miles, but both five and two miles are frequently specified. Many respondents, whose radius of work extends to five miles, complain of the distance and consider that an extra fee should be payable by members living at a greater distance than three miles; others express the opinion that in towns a radius even of three miles is too great.

The arrangements made with reference to those living outside the radius may take either of the following forms: first, such members may pay for medical benefits to a nearer lodge, and have the services of the medical officer of that lodge; secondly, they may be permitted not to pay for medical benefits, medical attendance being left to private arrangement; thirdly, the annual subscription may be increased, or a small payment per visit for mileage may be charged; fourthly, they may be required to pay for medical benefits, although it is impossible for them to have the services of the club medical officer, except by calling upon him. Of these, the first two systems are by far the most common.

In Works Clubs the difficulty of distance is overcome in the case of appointments of single medical officers by friendly arrangement among practitioners, and where a number of

practitioners are on one staff they are often assigned to districts.

Limit of radius of operation is very rarely prescribed in connexion with Private Clubs and, in fact, is hardly necessary as the medical officer can decline all candidates outside the radius of his ordinary rounds.

(e) Special Fees for Night Work or Special Visits.

No distinction is made, as a rule, between visits such as these and ordinary visits in the case of clubs connected with Friendly Societies. Indeed, the rule is often made that sick members must be visited within two hours after the medical officer receives notice, quite irrespective, apparently, either of the time of day, of the distance, or of the urgency of the case. This rule, if strictly enforced, must often be a source of inconvenience and irritation to the surgeon without any substantial benefit accruing to the members.

In connexion with Private Clubs the rules bearing on this point are frequently very stringent. As a rule requests for visits must be left at the surgery before 10 a.m. (in one case as early as 9 a.m.). Failing this it is stated that a visit will not be paid until the following day, unless a special fee be paid. An extra charge is usually made for night visits.

(f) Supply of Instruments, etc.

In ordinary Friendly Society work the supply of medical appliances is seldom mentioned in the contract, and the provision of special apparatus, medicinal foods, cod-liver oil, and the like is a matter of private arrangement. There is, however, a notable exception in the case of most of the Temperance Friendly Societies, in which intoxicating liquors, if ordered, must be dispensed and labelled exactly as ordinary medicines, and supplied at the expense of the medical officer.

The contract sometimes provides that the doctor shall supply medicine, but that this shall not include leeches, linseed meal, or cod-liver oil.

(g) Certificates.

In almost all cases in which a medical examination is required before a candidate can become a member of the club a certificate as to his fitness must be supplied by the medical officer. It is, however, quite exceptional to find that any payment is prescribed either for the examination or for the certificate. Many respondents express the opinion that a fee should be chargeable for these certificates in every case. As to other certificates which have to be provided for the use of the club officials there is no case reported in which payment is made in ordinary circumstances, and the signing of certificates of fitness or unfitness for work is usually specified in the rules as one of the ordinary duties of the medical officer. In a few cases special reports on the condition of chronic invalids are required and paid for at specified rates. It is sometimes even laid down that members who are under the care of medical practitioners other than the one who acts for the club must provide a certificate of unfitness to attend work from the club's own medical officer before they can receive sick pay—an arrangement tending to produce friction between the medical men concerned.

Certificates of unfitness for work given for other clubs, for education authorities, and for the use of employers, are usually not mentioned in the contract. Probably payment for these could legally be enforced, and the question as to whether they shall be paid for or not is usually settled according to the attitude taken up by the medical practitioner.

There is very little difference between the various kinds of contract practice organization in their action with regard to certificates. In the case of Private Clubs, since the certificate for fitness for admission is given purely in the interests of the medical practitioner, it is hardly to be expected that it should be paid for. In one or two instances an entrance fee is charged, which is still payable and covers the examination in cases in which the candidate is rejected.

Chapter 7.—Remuneration.

(a) General Review of the Information Available.

The information on which this chapter is based is derived mainly from the materials contained in the replies of individual practitioners to the inquiry of the Committee, and from those rules of organizations which deal definitely with the subject.

In Provident Dispensaries, Public Medical Services, Private Clubs, and Medical Aid Societies, the rate of payment is usually definitely stated in the rules. In Friendly Societies and Works Clubs it is not infrequently left to be decided by an *ad hoc* arrangement with the doctor, and such arrangements do not appear in all cases to be made in writing.

As regards the information available in the replies of practitioners, the question referring to rates of payment has been on the whole the most fully answered of all those which were comprised in the forms issued to individual practitioners. Information, which is in most cases complete, has been received under this head concerning upwards of 2,100 appointments in which payment is at a fixed annual rate per individual or per family. Particulars have also been furnished of a number of appointments in which the medical officer is paid by salary, and of cases in which the payments are based upon the work done.

The tables given in Appendix B exhibit the wide differences which prevail even where the same services are required and where the attendance is upon male adults only. There are, for example, a few clubs in which the value of the medical officer's services, supply of medicine included, are assessed at so low a figure as 1s. 6d. per annum, and on the other hand a few highly favoured practitioners receive as much as 8s. 8d. or even 10s. per annum for attendance on adult males only. Systems of payment also differ widely. For instance, colliery appointments in which single and married members alike are rated on the same scale, the single men paying as much for themselves alone as the married men pay for a whole family, are not readily comparable with ordinary Friendly Society or similar appointments.

To assist in arriving at a clear view of this complex subject, it is convenient to analyse the different systems of payment.

Analysis of Systems of Payment in Contract Practice.

A preliminary distinction will simplify the analysis.

Though in the majority of cases the premium paid by the beneficiary (after in certain instances some deductions) is paid to the medical officer, there are many cases in which the premiums are pooled, and the medical officers remunerated on some other basis. Thus the system of payment by the beneficiaries and the system of payment to the doctor must be separately considered.

Systems of Payment by Beneficiaries.

As regards beneficiaries, the essence of all contract practice is the principle of insurance of the beneficiary against the cost of medical attendance, and the difference in the various systems of payment by the beneficiaries is in the extent to which the insurance is made collective.

In the simplest form a fixed periodic amount, the premium, is paid by, or in respect of, each individual who is to be entitled to attendance under the contract. A transition is afforded by the cases in which a reduction is made in the premium charged where members of the same family, or those beyond a certain number, are admitted without payment.

In the next stage, the "family clubs," the family, irrespective of the number of its members, is taken as the unit for which the premium is paid.

Next in development is the collective insurance of a group of families, as seen in many Works Clubs. A fixed amount is deducted from the wages of each wage earner, whether married or single, and medical attendance is provided for all contributories and those dependent upon them. Such collective provision of medical services is perhaps most fully developed in the South Wales collieries, in which the payment is not a fixed rate per wage earner, but is a certain amount per pound of the wages earned, and thus those who earn high wages help to contribute to the provision of medical attendance of those who are less successful.

Systems of Payment of the Medical Officer.

As stated at the commencement of the analysis, the commonest system is, as might perhaps be expected, that the doctor is paid on the same principle as the beneficiary pays, namely, by a fixed sum per unit (whether individual, family, or wage-earner) per week or other fixed period. This is the prevailing system in all forms of contract practice except the Friendly Societies' Institutes.

Usually a deduction is made for costs of administration, including collection. Thus in Friendly Societies the payments for the doctor are frequently paid into the "management fund," and the common practice is for the member to pay one penny per week while the doctor receives 4s. per annum. In Works Clubs, a percentage deduction is sometimes made by the employer to cover clerical expenses. In Medical Aid

Societies, a deduction is invariably made, being sometimes as high as 20 per cent. In Provident Dispensaries and Public Medical Services the contributions of the beneficiaries are paid into a common fund, from which, after various expenses are met (including sometimes payments to reserve or other capital funds), the balance is periodically divided among the medical officers in proportion to the number of beneficiaries who are on the list of each. It will be seen that this system, though having some analogy to those next to be considered, nevertheless falls in the group at present under review, inasmuch as the payment to the doctor is proportional to the number of beneficiaries who are entitled to his attendance.

Fixed Salaries.

In certain services the medical officer is paid a fixed salary irrespective of the number of patients whom he is under contract to attend. This is the rule in Friendly Societies' Alliances, and has been adopted by some Medical Aid Societies, Works Clubs, and Provident Dispensaries. The advantage to the individual doctor is in the fixity of income; the disadvantage in the fact that such systems frequently result in his being called upon to do an excessive amount of work.

Payment by Fee.

The third system is that the contributions of the beneficiaries are pooled, and out of the funds the medical officer is paid fees for work actually done, as in private practice.

This system has been adopted by a few local Friendly Societies, and, in a modified form, is well known in connexion with the National Deposit Friendly Society.

In some instances it is left to each medical practitioner to charge the patient his own fees, the Society being under contract, however, only to pay an agreed rate, and the difference (if any) being made up by the patient. Inasmuch as there is no wage limit for admission to these societies, the danger to the profession is that pressure may be exercised to induce practitioners to agree to restrict their charges to the rates laid down by the Society, which may be inadequate.

This system, though not widely prevalent, is important in its bearings on the subject of reform, many members of the profession holding that the general adoption of the system would relieve the profession from most of the evils of contract practice.

RATES OF PAYMENT.

The rates actually paid are most conveniently considered in connexion with each of the contract systems separately.

Rates per Week per Individual, Non-private Clubs.

The most detailed information available in the replies of individual practitioners to the questions of the Committee relates to the rates paid in clubs where the premium is per individual, and where the medical officer is paid on the same principle.

The most commonly-adopted rates for adult males in individual non-private clubs are between 4s. and 5s. per annum, for of 1,641 cases in which the rate is stated, 864 come into this class. The great majority of these are either 4s. exactly or 4s. 4d., and in a large number of clubs in which the average yearly payment per member was estimated it proved to be 4s. 1d. These two rates are, no doubt, chosen on account of the convenience of collecting 1d. per week from members; the lower rate of 4s. is then accounted for by the deduction of 4d. per annum from the subscription for the management fund.

In the same number of appointments there were found 386 at rates of 5s. and upwards, while there were 256 between 3s. and 4s., and 135 below 3s.

It will thus be seen that among 1,641 clubs, selected at random, there are 76.5 per cent. in which rates below 5s. per annum are paid for attendance on adult males, and only 23.5 per cent. in which 5s. or more is paid.

The rate for adult females in clubs, in which the charge is made per individual, is almost uniformly the same as that charged for adult males; there are, however, a few instances in which a higher or a lower rate is demanded.

The figures relating to the rates for juveniles are to a certain extent incomplete, for in many returns, although it is stated or implied that juvenile members are admitted to the clubs concerned, one rate only is mentioned. In most of these cases it appears evident that juveniles are charged at the same rate as adults, but still there is a remnant of doubtful cases. Among 432 clubs into which juveniles are admitted, the juvenile rate appears to be the same as those of adults in 307 instances and lower in 123 instances. Among the 123 cases in which the juvenile rate is lower, it is more than half the adult rate in 67 cases, exactly half in 47 cases, and less than half in 9 cases. With an adult rate of 4s. per annum the juvenile rate is commonly either 3s. or 2s. With an adult rate of 5s. the juvenile rate is very commonly 2s. 6d. There is one case in which the adult rate is 7s. and the juvenile rate only 2s.

Private Clubs.

Among Private Clubs higher rates appear to prevail, nominally at least, than in the case of non-private clubs. Among 154 private clubs in which an adult male rate is specified, the rate is from 2s. to 3s. in 3 cases, from 3s. to 4s. in 3 cases, from 4s. to 5s. in 66 cases, and 5s. or over in 82 cases. It will thus be seen that in 53.3 per cent. of the private clubs examined the adult male rate is 5s. or over, as compared with only 23 5 per cent. in non-private clubs. It must, however, be borne in mind, in instituting a comparison, that in private clubs a commission of from 10 even to 25 per cent. has in most cases to be paid to the collector.

Family and Collective Premiums.

As regards systems of collective premiums, the arrangements in the Northumberland and Durham coalfield area and in South Wales respectively may be taken as typical of the two varieties mentioned in the analysis of this system of payment.

In Northumberland and Durham the rate now paid is 9d. a fortnight, which is deducted usually by the employers from the wages of every wage earner in accordance with the special provision contained in Clause 23 of the Truck Act, and covers attendance on families.

Until 1899 the rate in this district was 6d. per fortnight, but through united action of the local profession it was raised to the rate at which it now stands.

This system is also the common one in works, as distinguished from mines, throughout the country, including South Wales.

In the collieries of Glamorganshire and West Monmouthshire the system (*b*), which is peculiar to this district, is almost universal—namely, that an agreed amount in the pound is deducted from the wages of every wage earner, and including in some cases salaried officials, in the employment of the colliery. Where iron and steel works exist in connexion with collieries, as in many districts of Glamorganshire and Monmouthshire, this poundage system applies to the iron and steel workers as well as to the colliers, but in the metal works from Swansea westward the payment is of a fixed weekly amount.

The poundage is 3d. in Glamorganshire and in the eastern valleys of Monmouthshire, but in the western valleys of Monmouthshire it is usually 2d. In one or two cases a sliding scale has been adopted.

Fixed Salaries.

Under the system of payment by fixed salaries the remuneration to the medical officer varies from amounts as low as £100 a year for assistants, or for principals who are allowed private practice, to £700 a year for the principal officers of some of the South Wales colliery schemes. In estimating the remuneration of the medical officer under these systems, regard must be had to the fact that the practitioner has no liability for drugs, surgical appliances, etc., and also to the various payments in kind which he receives.

Attention must also be paid to the question of the number of persons whom the medical officer is under contract to attend. For comparison of these systems with those already described, it is necessary therefore, if possible, to investigate the balance sheets of the organizations and find to what extent the money which is paid by the beneficiaries primarily for medical aid is being diverted to other purposes. The discussion of the degree of exploitation of the profession by the organizations arising in this way will be found in Section III, in the discussion of the organizations in connexion with which the system exists.

RATES FOR SPECIAL SERVICES.

The rates above described are for "ordinary" medical attendance and medicine. The rates fixed in the rules of many Contract Practice organizations are merely defined as being for medical attendance and medicine, and no explicit definition of these is made, particularly among the Friendly Societies, which is regulated by tacit understandings between the medical attendants and the clubs.

On the other hand, in Private Clubs, Public Medical Services, Provident Dispensaries, Friendly Societies' Institutes and Alliances, and Medical Aid Societies, rates for extra services are frequently specified.

Midwifery.

Where any provision is made in the rules of Friendly Societies as regards midwifery, the rates specified are usually 10s. 6d. or 15s., and 10s. 6d. is the prevalent rate among South Wales collieries, where, however, it must be remembered that the wives of the wage earners are already being paid for, as regards ordinary sickness, under the contract.

In Provident Dispensaries it is usual to provide that members shall be attended in confinement at a fixed rate specified, which is usually 15s. or 1 guinea. (Provision is often made for the payment of a part of this fee out of some special fund of the institution.)

Vaccination.

Vaccination is usually not included in the contract, and often no mention is made.

Certificates.

Certificates of health on admission are occasionally paid for under the rules, the fee being usually a shilling.

Certificates not relating to the work of the service are not usually provided for in the rules of Friendly Societies and Works Clubs, but medical officers are in practice often compelled to furnish these gratuitously. Sometimes special provision is made that certificates of sickness not relating to the organization by which the medical officer is employed shall be the subject of separate payment. The fee charged is usually a shilling, but the Hearts of Oak pay 2s. 6d. for certificates given for its own purposes, by whomsoever they may be given. In juvenile clubs school certificates are often demanded gratuitously. In Public Medical Services and Private Clubs special provision is usually made as to certificates. In Provident Dispensaries they are often expected to be given gratuitously.

The Yield to the Doctor in Relation to Work Generally.

In view of the fact that many medical men hold the opinion that all the disadvantages of contract practice can be measured in terms of pounds, shillings, and pence, and would be adequately met if a sufficiently high rate were paid, it is important to ascertain if possible what remuneration the ordinary contract rates yield to the medical attendant for the work actually done by him, and thus institute a comparison with the remuneration afforded by ordinary private practice among the same classes of the community. It is very difficult, however, to obtain reliable particulars which are sufficiently precise for the purpose or derived from a wide enough area to be safely taken as representative.

Information of some value is afforded by the balance sheets of Friendly Societies which have been forwarded by some respondents, and from which the following particulars have been extracted:

(1) Number of weeks' sick pay during the year, 172.
Surgeon's salary, £18 10s. 0d.
Surgeon's pay for each week's sickness, 2s. 2d.

(2) Number of weeks' sick pay during the year, 916.
Surgeon's salaries, £145 2s. 0d.
Surgeon's pay for each week's sickness, 3s. 2d.

(3) Number of weeks' sick pay during the year, 699.
Surgeon's salary, £27 18s. 0d.
In this case 284 weeks' full pay was included.
Surgeon's pay for each week's sickness, 10d.

(4) Number of weeks' sick pay during the year, 627.
Surgeon's salary, £46 18. 3d.
Surgeon's pay for each week's sickness, 1s. 6d.

(5) Number of weeks' sick pay during the year, 421.
Surgeon's salary, £45 4s. 0d.
Surgeon's pay for each week's sickness, 2s. 2d.

In the above cases, taken entirely at random, the medical officer's pay for one week's charge of a sick member who is on the funds of the society varies from 10d. to 3s. 2d. In many instances, no doubt, the amount of attendance required would be but slight, as many of the members are on half-pay only. In the third instance given, however, the 284 weeks of full pay, presumably also of acute illness, would certainly entail a great deal of close attendance on the part of the medical officer.

In considering such returns, it must be remembered that the attendance upon members who are unable to work and are in receipt of sick pay is only a part of the surgeon's work. There are in addition the trivial cases, illnesses which do not incapacitate from work, but which bring members to the surgery at very frequent intervals, and which in the opinion of some respondents cause the larger proportion of their work.

Considering next the information which can be derived from the direct answers of respondents to the questions put by the Committee, the basis of calculation is found in the answers to Question 11, relating to the attendance given and medicine supplied per member per annum. Those returns only have been made use of in which an exact numerical estimate was given or a verbal estimate in such terms as to be capable of comparison with those given in figures. The number of clubs of which particulars were given which appeared sufficiently accurate for the purpose was 269, and the number of club members belonging to them was just over 40,000. In order to reduce the mass of information contained in these replies to a condition of uniformity, an attendance, that is to say, either a visit or consultation with or without medicine, has been taken as the unit. In cases where the number of supplies of medicine has been in excess of the sum of visits and consultations, it has been assumed that each supply of medicine necessitated an attendance. It is believed that the number of attendances has been, if anything, underestimated, as visits or consultations which have not coincided with supplies of medicine have not been taken into account.

Table Showing Yield per Attendance.

Rate of Subscription per Member per Annum.	Members.	Aggregate Subscriptions per Annum (in shillings).	Aggregate Attendances per Annum.	Average Subscription per Member per Annum.	Average Attendances per Member per Annum.	Average Fee per Attendance.
				s. d.		
2s. to 3s. ...	9,630	23,025	34,622	2 4½	3.59	7.95
3s. to 4s. ...	9,311	30,124	34,237	3 3	3.67	10.55
4s. to 5s. ...	17,741	72,462	79,198	4 1	4.46	10.98
5s. upwards ...	4,211	22,848	19,348	5 5	5.43	13.36
	40,893	148,459	167,405	3 7½	4.10	10.60

The above table shows the results obtained by these calculations. It will be seen that on this basis the average fee per attendance is almost exactly 10½d., and that each club member has on the average been attended four times during the year, the average annual subscription which members have paid being 3s. 7½d. It will be noticed that the average fee per attendance increases less rapidly in going from class to class than the rate of subscription, and it would appear that those club members who pay higher rates of subscription are not proportionately more profitable to the medical practitioner. The table relates only to clubs providing attendance for adult males, as the number of instances available for female and juvenile clubs is not sufficiently large to form a basis of a reliable estimate.

Many respondents have not been able to give even an approximate numerical estimate of the amount of work done by them for their club patients. Several of these have, however, given verbal descriptions of a more or less vague character, which may be tabulated as follows:

Amount of Work Described.

1. Trifling, little, very little, etc. ... ... 107 cases.
2. Fair, moderate, about the same as private practice, etc. ... ... 70 ,,
3. Very heavy, excessive, much more than in private practice, etc. ... ... 67 ,,

To test the interpretation to be placed on these replies, the answers of the same respondents have been analysed with respect to the question whether they considered the rates they were receiving too low:

In Class 1 satisfied with pay ... ... 22 cases.
,, ,, dissatisfied with pay ... ... 41 ,,
In Class 2 satisfied with pay ... ... 9 ,,
,, ,, dissatisfied with pay ... ... 20 ,,
In Class 3 satisfied with pay ... ... 4 ,,
,, ,, dissatisfied with pay ... ... 33 ,,

The first table of replies appears to suggest that on the whole the respondents who have contributed to it do not find their club work a very heavy burden; but no clue is given to the standard of comparison made use of in describing the work as "very little," "fair," etc. That the use of these terms is not necessarily intended to suggest a comparison with the amount of remuneration received is shown by the fact, indicated in the second table, that of 107

respondents who have used the terms "very little," etc., in describing their work, two-thirds of those who answered the further question as to whether they are satisfied with their rates of pay, answered in the negative. The same proportion is found among those who describe their work as fair, average, moderate, etc. Among those who apply terms such as "very heavy," "extensive," etc., to their work, there are 33 dissatisfied with their pay out of 37 who make a statement on the point.

Several respondents have given elaborate calculations as to the comparative remuneration of their contract and other work. These are so instructive as to deserve a more detailed examination than is afforded by their inclusion in the table given above. The great differences in yield shown in these instances are not very easy to explain, especially as some of them include returns extending over long periods of time, and therefore more uniformity might perhaps be expected. Probably differences in the social standing of club members and differences in locality, as well as accidental variations, have been factors in this result. No doubt the differing experiences of practitioners as to the profitable or non-profitable character of contract work account to some extent for the difficulty which is found sometimes in securing united action.

The compiler of the following table appears to be well contented with his remuneration. The fees of 2s. per visit and 9d. per consultation which appear as his average in work done under contract are of course somewhat less than he would charge in ordinary practice, but he appears to think that his freedom from bad debts in contract work gives an adequate compensation for this difference:

3277.

"*Three quarters: March to Dec., 1899* (averaged for a year).	*Three quarters (actual figures).*
Estimated No. of members for year ... 861	No. of members 646
Estimated No. of visits per member per year 0 44	No. of visits with or without medicine 286
Estimated No. of consultations per member per year 0.7	No. of consultations with or without medicine ... 440
"*Ten quarters: Jan., 1902, to June, 1904* (averaged for a year).	*Ten quarters (actual figures).*
Average No. of members for year ... 786	No. of members ... 1,965
Average No. of visits per member per year 0.165	No. of visits 325
Average No. of consultations per member per year ... 0. 78	No. of consultations ... 1,552

"*For 8 quarters, 4th to 11th both inclusive*, I have, unfortunately, no separate statistics as to visits and consultations, but I have estimated the proportions from my very accurate figures for the past 10 quarters. It works out at *806 visits and 1,466 consultations for the 8 quarters for 1,813 members.*

"*For 21 quarters*, then, I have dealt with *4,424 members*, and have received *4,424 shillings.*

"I have paid *917 visits* and held *3,458 consultations.*

"This works out at *2 shillings per visit* with or without medicine, and *nearly 9 pence per consultation* with or without medicine.

"*There have been no bad debts.*

"*Note.*—Members were admitted without examination."

The compiler of the following statement does not appear to be so well contented, and in view of the figures given below it is not surprising to learn that he has practically given up contract work:

3283. "I have carefully studied the question now for twelve years. From 1893 to 1896 I had 600 (nearly) club members under my care, paying me 2s. 6d. per head. On the average of those years each member required 5 attendances at the home or at my surgery—that is, 6d. per attendance, including medicine. During these years I kept count of the visits and surgery consultations in my *whole* practice of £600 per annum gross average income. I allowed one bottle of medicine to each visit or surgery consultation: none of the work entailed visits beyond a two-mile radius from my house. Midwifery, 30 cases per annum at 21s. In these years I found the cost to me was 1s. 1d. per attendance. My drug and bottle bill was one-sixth of total practice expenses. In those days I kept dispenser, horse and trap, and groom. I therefore *lost* 6d. at least on each *club* attendance."

Another respondent presents the situation in a slightly different form. In interpreting his contribution, which is given below, it will be noted that the visiting fee referred to is only 1s. 6d., and the consultation fee 1s. His contract work in the better club left him more than £18 to the bad when compared with the private practice fee.

It is not surprising to find that this respondent welcomes the action of the British Medical Association in its investigation of contract practice.

Visits, 275;	equals in ordinary fees, £20 12s. 6d.
Consultations, 300;	" " " £15 0s. 0d.
Medicine	£2 14s. 6d.
Cash received, £19 13s. 6d.	Loss on contract, £18 13s. 6d.
Visits, 12;	equals in ordinary fees, £0 15s. 0d.
Consultations, 19;	" " " £0 19s. 0d.
Medicine	£0 2s. 8½d.
Cash received, £4 5s. 0d.	Profit on contract, £2 8s. 6d.

The following carefully-compiled return from a practice in an industrial and manufacturing town in the north of England is a good example of contract practice which shows a somewhat higher rate of remuneration than the average:

3490. "I have kept figures very carefully as to aggregate work for six years and I state them here. I have not in this statement kept separate the visits, consultations and medicine, as my object in keeping the figures was to compare rate of payment with that obtained for private patients of the same class. With the latter the payment is 2s. 6d. per visit or consultation with or without medicine. In the figures given below I include visits, consultations and the examination of candidates.

Date.	Amount received. £ s. d.	Attendances.
1899	19 3 0	337
1900	20 1 6	325
1901	22 14 6	231
1902	24 3 0	450
1903	30 19 6	319
1904	30 19 6	260
	148 1 0	1,922

"This equals 1s. 6½d. per attendance.

"From this I would make a deduction of 1 penny to allow for probable errors in record due to forgetfulness of self or locum."

The above table is based on the experience of a club numbering 177 members. The subscription per member for the first three years is 3s., and the second three years 3s. 6d. The following table from the same respondent is based on the experience of a club of 90 members each paying a subscription of 3s. 6d.

Year.	Amount Received. £ s. d.	Attendance.
1899	10 1 0	121
1900	12 13 9	200
1901	13 17 9	165
1902	13 16 6	149
1903	15 15 0	297
1904	15 12 6	173
	81 16 6	1,105

"This equals 1s. 5¼d. per attendance, from which 1 penny should be deducted for possible error as before."

Another respondent contributes the following statement relating to a club of 735 members (adult males and juveniles of both sexes). The adults paid 3s. and the juveniles paid 1s. 6d. per annum:

	Visits.	Medicines.	Sick Certificates.
February	110	214	101
March	138	213	141
April	145	214	139
Total	393	[illegible]	381

"With this there were about 30 minor operations, about 400 consultations at the surgery, and 70 examinations for entrance.

"*I was paid for that quarter £22 10s.* This is equivalent to a payment of almost exactly 4d. for each ordinary attendance, the operations and examinations being counted as given free."

Comparison with Private Fees.

Some practitioners, as in the case quoted above, have given figures making comparison between their pay for contract

work and their private fees. Although the question relating to private fees has been on the whole fully answered, a comparison which has been attempted between club rates and private fees in the same districts has been found unreliable. There is considerable doubt in many instances as to whether the fee charged for a visit does or does not include medicine. In addition to this possible source of error there is one which is probably greater, namely, that the returns from ordinary private practice in different localities depend as much upon the number of bad debts as upon the actual amount of the fees charged. It is, of course, quite impossible to make any estimate—even an approximate one—of local variations in the loss from this source.

Duplicate Membership.

It is convenient to consider in connexion with remuneration a matter which has been the subject of dispute in some districts, namely, "duplicate membership."

It is often alleged by officials of clubs and other similar organizations that although the rates paid per head to the doctor for medical attendance appear low, yet his actual receipts in proportion to the number of club members is greater than would appear at first sight, because a large proportion of club members belong to more than one organization, and consequently pay more than one annual fee for medical attendance.

A special endeavour was made to obtain precise information upon this point, but it was found that only a very small proportion of respondents were able to say how many of their club members belonged to more than one society, and in cases where the information was given respondents were not able to give the further information as to whether the members belonging to more than one society paid more than one contribution for medical aid. There are many societies in which the contributions for medical aid are voluntary, and in these cases a member belonging to two clubs would pay only one subscription; hence there is no economic advantage to the doctor arising from this duplicate membership. The arrangement may, indeed, be a serious disadvantage to the medical practitioner in the following way: A member belonging to two or three clubs may in some cases be drawing a larger weekly sum as sick pay than he would be drawing as wages while at work. In such a case there is a distinct temptation to him to prolong his convalescence unduly if ill, to make the most of trivial ailments, or actually to feign illness; the doctor either has to give unnecessary attendance or there is thrown upon him the onus of first discovering, and then proving to the satisfaction of the club, that the man is malingering.

3079. "In many cases a man may be in two or three clubs; consequently he is receiving as much or more when on the sick list than when at work. I do not see how this abuse is to be mitigated, except by dropping contract practice altogether."

It is also said that receiving pay under the Compensation Act in conjunction with sick pay from one or more clubs tempts men to prolong their illnesses unduly.

2710. "The Compensation Act has added another burden. Club members who are injured will, no matter what the injury, remain a fortnight under medical care. If the injury is anyway serious they prolong, so that their employers are forced to give them a lump sum to get them off theirs and the doctor's hands. Club members when in two or three clubs get, say, 20s. a week and half their wages in addition, with a prospect, if they can only prolong or feign to prolong them for a lengthened period, a lump sum. During all this period they are on the club doctor's list for attendance and treatment."

In many cases where duplicate membership of clubs exists, especially in the case of members of works clubs who belong to Friendly Societies, the fee payable to the Friendly Societies' medical officer is a merely nominal one to cover certificates, or he receives a small annual bonus.

2127. "All the workmen, with few exceptions, belong to clubs, some to two or three—such as Oddfellows, Foresters, Hearts of Oak, West of England, etc.—which give me an honorarium (2 to 5 guineas, according to size) at the end of the year for extra services in examining candidates for entrance, etc. The Hearts of Oak pay 2s. for each examination."

2239. "Most of the members in this district are in two clubs, and pay the doctor's fee for both; they therefore pay 6s. a year for their doctors."

2796. "In my case nearly all the men pay me in addition 13s. per year at their works, which of course includes families, and in my case 2s. 6d. more if in a second society. Still there are many who escape with 2s. 6d. per year, and take very much more out of me. I do not blame the societies; we have only ourselves to thank for it."

2913. "In my society there are 380 on the books, but nearly half are either living out of the district or contribute to two doctors."

2944. A practitioner who considers as the result of a strict account that he has made a profit on one of his clubs, finishes his statement by saying that "many members were in other clubs as well as in the club referred to."

In the Lancashire and Cheshire coalfield many of the miners are members of the Lancashire and Cheshire Miners' Permanent Relief Society. In this Society members as a rule pay 2s. 6d. weekly to cover attendance upon accidents which happen while at work. In many branches of the society a further payment of 3s. per week covers attendance in ordinary sickness, and hence in their case no advantage accrues to the medical officer from duplicate membership.

In some instances, however, miners belong to both the old and the new permanent societies, and are entitled in case of accidents received at work to attendance from the surgeons of each of these organizations. In some of such cases, where one surgeon is more popular than the other, he will do most of the actual work, while the less popular surgeon will have little work in connexion with the club other than that of signing certificates.

Where members belong to the Miners' Relief Association, and to a Friendly Society in addition, they will of course only pay to the Association for accidents, and the only benefit from the duplicate membership which the medical officer of the Friendly Society receives is that he is relieved from attendance upon such club members in the case of accidents which happen while at work.

PART III.—FORM OF CONTRACT PRACTICE.

Chapter 8.—FRIENDLY SOCIETIES AND KINDRED ORGANIZATIONS.

A. Permanent Friendly Societies.

Friendly Societies are self-governing organizations for the provision of certain benefits for their members. The benefits offered by the principal Friendly Societies include in different districts some or all of the following: (*a*) payment of certain amounts during sickness; (*b*) payment of certain small amounts at death, for purpose of burial; (*c*) medical attendance during illness; (*d*) compensation for loss of tools; (*e*) allowance for travelling in search of employment. Of these, (*c*) is in some districts optional, or not furnished by the Friendly Society.

One Friendly Society, the Liverpool Victoria Legal, chiefly provides life insurance, and is more analogous in its methods and objects to industrial insurance companies, such as the Prudential, the Refuge, and the London and Manchester, than to such typical Friendly Societies as the Oddfellows, Foresters, Rechabites or Rational.

Membership of Friendly Societies is obtained by election, usually through a local Branch, health and good character being the chief conditions of eligibility. As regards health, the condition is, as a rule, that the intending member shall be certified as suitable for admission in this respect by a registered medical practitioner. In a majority of cases the registered medical practitioner must be a duly-appointed officer of the Society or of the particular Branch (court or lodge) through which admission is sought. In many cases, however, the certificate of any registered medical practitioner is accepted.

The certificate of a registered medical practitioner is also required as a condition of payment of sick benefit. As a rule, the certificate must be that of a duly-appointed medical officer of the Court or Lodge through which the payment of sick benefit is to be made. In many instances the certificate of a medical officer of some other branch of the same society is accepted under certain conditions, and in some instances the certificate may be of any registered medical practitioner.

The principle of accepting the certificate of any registered practitioner, which is exceptional in other societies, is the rule in the Hearts of Oak, which does not provide medical aid.

As regards constitution and systems of government, a distinction may be made between the centralized societies, such as the Hearts of Oak and Rational, which are governed by a central committee, and the affiliated societies, including the Oddfellows, Foresters, Rechabites, and many others, in which the local branches have a greater degree of independence

Even the affiliated societies are subject to general rules formulated by an annual conference of delegates, and to the control, in certain respects defined by the rules, of a central executive or directorate. Of the principal matters which affect the medical profession, the terms of appointment and remuneration of medical officers are at the discretion of the branches—courts or lodges—though the remuneration is to some extent affected by the general rules of the order relating to the management fund, out of which the medical officers are in many instances paid. On the other hand, the question of possible exclusion of certain members from medical benefits—which affects the practicability of any arrangement in the nature of a wage limit—could be effected by general rules of the order.

The local government of Friendly Societies is usually in the hands of general meetings of the branches, though in some instances powers are vested in Committees. Inasmuch as Friendly Societies, like other voluntary organizations, experience a disinclination of the large majority of members to attend meetings and take part in administrative work, government by general meeting means government by the small minority of active members. Hence the apparent anomaly that, in some disputes between Friendly Societies and their medical officers, the ruptures which have occurred have been contrary to the wishes of a majority of the members affected, and that after the rupture such members have preferred to become private patients of the medical officers dismissed from the service of the club, rather than avail themselves of the medical attendance by the new medical officer for which they have to continue paying to the club.

Sex and Age of Club Members and other Beneficiaries.

Originally the membership of Friendly Societies was confined to adult males, the object being to provide against the heavy burden of sickness of the wage earner through cessation of the income derived from his earnings, and increased expenditure—in respect of medical attendance and otherwise—caused by his illness. The burial benefits, however, have always included payment of a certain sum on the death of the wife of a member. In recent years—partly, perhaps, through the increasing employment of women—women have been admitted as members of Friendly Societies. Both from the general social point of view and also as regards the effect of such arrangements on the medical profession, a distinction may be drawn between the admission to Friendly Societies of women who are themselves wage earners, and the admission of the wives of members or of other women who are partially or completely dependent upon the earnings of others. From the general social point of view there is obviously not the same economic constraint upon undue claims upon the funds for sickness of women who are not wage earners as of those who are. As affecting the medical profession, there is consequently a proportionally excessive requirement of medical attendance in the case of the non-wage earners.

Recent years have witnessed also the formation of a considerable number of juvenile courts, and with respect to these the same observations apply as to women who are not wage earners, and perhaps with even greater force. In both these classes there is a tendency for the medical benefit to be the principal object of entry to the society.

As a rule the benefits of Friendly Societies are confined to the actual members, but in recent years arrangements have grown up for the provision of medical attendance for the wives and families of members.

Without entering into any consideration of the general question whether arrangements for the provision of medical aid apart from other benefits are or are not desirable from the point of view of the medical profession, attention may be drawn at this point to the great difference which has been produced in the position of medical officers of Friendly Societies by the widening of the scope of their operations above described, inasmuch as the formerly reasonable expectation that the medical officership of a Friendly Society might furnish to a medical practitioner an introduction to a valuable working-class connexion for private practice has now to a great extent disappeared. At present there is a tendency for Friendly Societies to include the whole of the portion of the community for which they cater within the scope of their contract practice, and there is reason to connect historically much of the friction which in recent years has occurred between Friendly Societies and the medical practitioner with this change. In this connexion reference should be made to the statements made in Chapter 3, as regards the amount of attendance required by women and children under contract as compared with adult males).

Employment of Medical Officers of Friendly Societies.

As already stated, medical officers are usually engaged by the local branches of Friendly Societies. The appointment is made as a rule in a general meeting of the branch, court, or lodge; in some instances competition for the appointment is invited. In certain districts a number of medical officers are appointed to one court or lodge, or to a combination of courts or lodges, and in some instances it is thrown open to any medical practitioner in the district who is willing to act. Where a number of medical officers are employed it is usually open to each member of the court or group of courts to choose his own doctor, but in some cases the medical officers are assigned to stated districts. The groups of branches employing medical men in this way must be carefully distinguished from the Friendly Societies' Alliances, or Institutes organized solely for the provision of medical aid, which are described in Section C of this chapter.

It is often a condition of appointment of a medical officer that he shall become an honorary or benefit member of the order.

Tenure of Office.

The tenure of office in Friendly Societies varies very widely, and three systems may be distinguished: (*a*) appointment at the pleasure of the court, which means that a change may be made at any time without notice, (*b*) appointments for fixed periods, usually annually but often for periods of two to five years, (*c*) appointments subject to a specified term of notice.

Form of Contract.

As a rule there is no signed contract; the arrangement is made by a resolution of the branch or other body having the power of appointment, and is understood to be upon the conditions defined in the rules of the branch. In some cases special arrangements are made by correspondence.

Definitions of Duties.

As will be gathered from the foregoing paragraphs, such definitions, where they may be said to exist, are usually contained in the rules of the branch.

B. DIVIDING SOCIETIES.

Among the Friendly Societies from which reports have been received are included about 300 dividend or dividing societies. These societies are known in different parts of the country by such names as yearly societies, breaking societies, tontines, slate clubs, and cock-and-hen clubs, while many of the small local Friendly Societies, known as mutual provident societies, mutual aid societies, and the like, also work on the dividing principle—that is to say, no surplus funds of any magnitude are accumulated. The funds of the society are divided among the members, usually at yearly intervals, but in some cases at irregular periods. Societies of this class represent the very early stage in the evolution of the Friendly Society, and some of them appear to be so loosely organized that there is very little to distinguish them from the "whip-round" in works, or from the "friendly lead" on the behalf of a deceased companion. Generally speaking, it may be said that the organization of the Dividing Societies bears to that of the permanent Friendly Societies much the same relation that the economy of the wild bee bears to that of the hive bee. Persons following employments which, although well paid, are irregular, and persons whose occupation takes them frequently from place to place, find the organization of the Dividing Society more to their liking than that of the permanent Friendly Societies, no doubt feeling that in their subscriptions to the permanent society they would to a large extent be accumulating surplus funds solely for the benefit of others. This is, no doubt, the reason that such societies are especially popular among dock labourers, sailors, and in seaport towns generally. But in inland towns and villages there are many small societies of this class whose members also belong to the larger and permanent Friendly Societies.

It is worthy of note that only three returns have been received from Scotland which appear to relate to Dividing Societies. In many cases there no medical officer is appointed, and the Society confines its functions to giving "sick pay" to its members.

Though most of the smaller societies of this class are unregistered, there are several large registered Dividing Societies, and at least one has a central management, and a number of lodges scattered throughout the country. This society—the

Royal Hearts of Oak Dividing Friendly Society—makes a special appeal in its prospectus to seafaring men and to men whose occupation takes them from one locality to another. It appoints no medical officers. The arrangements between the parties to the contract in most smaller societies of this class appear to be of a very informal nature. In many slate clubs held at public-houses the landlord is probably the only official, and a club is governed more by tradition than by written law. In societies connected with churches, chapels, Pleasant Sunday Afternoon associations, etc., the rules are printed and elaborate, and the society is often registered, and the contract with the medical officer is more formal.

Beneficiaries.

The beneficiaries in many cases consist simply of the habitual patrons of the public-house where the club is held or of workers at a given dock, wharf, or other centre. By this fact their social position is settled automatically. In connexion with churches and chapels the benefits are commonly reserved to those members of the congregation who belong to the working classes, without, however, the imposition of any specific wage limit.

The services to be rendered consist in most cases of general medical and surgical attendance, but it will be understood from what has been said previously that all rules, including those relating to services, are usually ill-defined.

The rates usually vary according to prevailing rates of Friendly Societies in the district, but it occasionally happens that there are two or more slate clubs in the same village at different rates, corresponding, perhaps, to some slight social difference in their members.

One important economic feature of the arrangement is that a member's connexion with the club is not so secure as in the case of the permanent societies. It appears that a member who develops a chronic illness or for other reason threatens to be a charge on the funds of the society may in some cases be rejected at the next annual election of members, and that in others, though all members have a right to rejoin after the annual division of surplus funds, a single lapse of payment of subscription may suffice permanently to sever connexion with the society. In point of view of remuneration and its relation to work done this feature is, of course, favourable to the medical officer, but must press hardly on the members.

Effect on the Medical Profession.

It will be gathered from the description of Dividing Societies that in their relations to the medical profession they closely resemble the Friendly Societies.

In at least one large town these societies have taken a lead in a dispute with the medical profession as to rates, which has resulted in the formation of an Institute by the societies, and a Public Medical Service by the profession.

As a rule, however, the less stable economic principles of the Dividing Societies make concerted action between a number of such societies less probable than among the permanent organizations.

C. Friendly Societies' Institutes.

Objects and Constitution.

In various parts of the country, especially in large towns, the Friendly Societies have formed combinations for the provision of medical and allied benefits for their members, known as Medical Alliances, Medical Institutes, or Medical Aid Associations.* Many of the institutions thus founded appear to have been modelled on Provident Dispensaries, though as a rule they differ in the mode of employment of medical officers.

Particulars of five such institutions are included in the returns from individual practitioners, and information as to others has been obtained from other sources.

Certain principles of constitution and management of these bodies flow naturally from their origin; thus the rules take their authority from an agreement among the societies entering the combination, and the detailed administration is usually entrusted to a Committee of delegates from the societies.

Beneficiaries.

The beneficiaries are usually the members of the combined societies with their families, and the payments to the institute are frequently made through the various societies.

There is no wage limit or other provision for the exclusion of persons who can afford to pay ordinary medical fees.

Contracts with Medical Officers.

In their contracts with medical practitioners, these bodies are usually much more precise than the majority of contract practice organizations, partly perhaps owing to the activity of the wide "Alliance" shortly to be described.

The contract between the society and the medical practitioner is in all cases fully expressed in writing, and the duties, term of appointment, and scale of pay clearly laid down. A definite period of notice to terminate an engagement (usually three months) is prescribed. The duties usually include general medical and surgical attendance, but not dispensing or supply of medicines. Confinements and vaccinations are often included in the contract at specified rates; 10s. 6d. and 1s. respectively in one instance. In one case the duties prescribed to the medical officer include one which is surely somewhat unusual, namely, to see that the waiting-room fires are lit in winter by 8 a.m. The course of action required from him in case the fire should not be lit is not defined.

Remuneration.

Payment is usually by fixed salary, but sometimes by rate per head of persons entitled to attendance. In most cases other allowances in addition to drugs—for example, rent and rates, horse hire, etc.—are made to the medical officer. The work required from the medical officer to these bodies is sometimes very heavy in proportion to the remuneration. In one case the medical officer gave over 13 000 attendances in the year for the payment of £275—that is to say, he received about 5d. for each attendance.

The position generally of the medical officers of these institutions appears to be in many cases less satisfactory than that of the practitioners connected with any other form of contract practice, except perhaps the Medical Aid Societies. The medical officer has no independence in the practice of his profession, being absolutely under the control of a Committee who have little or no knowledge of the conditions necessary for efficiency of a medical service.

In many towns the Institutes have been founded as the result of disputes between clubs and private practitioners regarding remuneration, wage limits, or other questions of difficulty, and the medical officers by the mere fact of accepting the appointment place themselves in a position of hostility to, and therefore of isolation from, the other practitioners of the district.

This fact, the arduous work, and frequently inadequate remuneration, and the entire sacrifice of independence, probably account for the frequent changes of medical officers, and the unsatisfactory character, professionally and otherwise, of some who accept such appointments.

Seventy of these institutions are affiliated to a body called "The Friendly Societies' Medical Alliance," and certain extracts from the annual report of this body suggest the relations which prevail between the affiliated societies and their medical officers.

The report commences with a congratulatory statement that the changes in the medical staff of the institutions have not been large during the year, and that the medical men stay a longer time than previously; the length of service which has been attained is not stated, however, and the reasons of the changes which have taken place are not alluded to. The report goes on to state that information, sometimes of a lengthy nature, has been received from an indefinite number of towns where the Affiliated Associations have had "troubles" with the medical faculty; and it is further reported that the duties of the committee are most difficult and delicate, sometimes delightful, at others most distasteful. Incidental references to black lists of medical men, to requests to resign, and so forth, make up the remainder of the report. In the general body of the report occurs the following statement, which is surely worthy of reproduction: "The medical practitioners throughout the country recognize that we have their, as well as our own, welfare at heart."

Chapter 9.—Works Clubs.

Works Clubs differ from all other forms of contract practice in being constituted under a special provision of an Act of Parliament.

Under the Truck Act of 1831 contracts between employers of labour and those employed by them were made invalid except in those cases which were specifically excepted, among these being the provision of medical attendance and medicine.

The following is a copy of the Section in question:—

> "*That nothing herein contained shall extend or be construed*
> "*to extend to prevent any Employer of any Artificer or*
> "*Agent of any such Employer, from supplying or*

*These Friendly Societies' Medical Aid Associations are not to be confused with the Medical Aid Societies described in Chapter 10.

"*contracting to supply to any such Artificer any* "*medicine or medical attendance* or any fuel, or any "materials, tools, or implements to be by such "Artificer employed in his trade or occupation, if such "Artificers be employed in mining, or any hay, corn, or "other provender to be consumed by any Horse or "other beast of burden employed by any such Artificer "in his trade and occupation; nor from demising to "any Artificer workman or labourer in any of the trades "or occupations enumerated in this Act the whole or "any part of any tenement at any rent to be thereon "reserved, nor from supplying or contracting to supply "to any such Artificer any victuals dressed or prepared "under the roof of any such Employer, and there con- "sumed by any such Artificer, *nor from making or* "*contracting to make any stoppage or deduction* "*from the wages of any such Artificer*, for or in respect "of any such rent or *for or in respect of any such medicine* "*or medical attendance:* or for or in respect of such fuel, "materials, tools, implements, hay, corn, or provender, "or of any such victuals dressed and prepared under "the roof of any such Employer or for or in respect of "any money advanced to such Artificer for any such "purpose as aforesaid *Provided always that such* "*stoppage or deduction* shall not exceed the real and "true value of such fuel, materials, tools, implements, "hay, corn, and provender and *shall not be in any case* "*made from the wages of such Artificer unless the agree-* "*ment or contract for such stoppage or deduction shall be in* "*writing and signed by such Artificer.*"

Taking advantage of this provision workmen in various industrial establishments, mines, and collieries throughout the country have entered into contracts with their employers for the deduction of a certain amount regularly from their wages for the provision of medical attendance and medicine for themselves and in many cases also for their families.

The following is a copy of a form of agreement used for this purpose:

Copy of Book No. 2. *Item 6.*

THE MONMOUTHSHIRE AND SOUTH WALES COAL-OWNERS' ASSOCIATION.

TO THE OWNERS OF THE ..... COLLIERY AND TO ANY PERSON CARRYING ON THE SAME OR ANY SECTION OR PART THEREOF.

WHEREAS I the undersigned have this day been employed as a workman by you or one of you at the said Colliery. Now I hereby authorize and require you or either of you to deduct from time to time out of the wages earned by me while so employed all payments which shall from time to time be made by you or either of you for me upon my request in respect of medicine and medical attendance, fuel, tools, or material supplied to me by you or either of you, and such an amount as is necessary for the payment of the wages of the check-weigher, and also rents in respect of any tenement occupied by me as tenant to you or either of you.

Signature of Workman.	Attesting Witness to Signature.	Date of Signature.

The arrangements made in various parts of the country to carry out these objects, by the employment of medical practitioners, and in other respects, differ widely in different districts, and sometimes in different works and collieries in the same district.

Historically, the earliest arrangement, and in some respects the simplest, is that in which the employer of labour himself engages a medical practitioner to attend the workmen whom he employs.

More usually, at the present time, the selection of a medical attendant is left to the workmen themselves. In certain instances it is left to each workman to nominate any practitioner in the district, and the money stopped from each workman's wages is paid to the practitioner nominated by him.

In other cases, again, the general body of workmen or miners engaged at a particular works or mine, or of those working in a particular district, choose their medical attendant for the time being in a general meeting, and the engagement may be terminated again by a general meeting.

In any of the foregoing cases committees are frequently appointed by the workmen or miners to watch their interests with respect to the medical attendance which they obtain under the contract.

In certain districts these committees have been appointed to receive the money deducted from the wages of the workmen and to manage the medical services, employing medical practitioners, maintaining central dispensaries, and in some cases providing hospitals out of the funds thus received.

Such systems of management are regarded with disfavour by the profession for reasons which can be more readily explained when other matters affecting the constitution of Works Clubs have been discussed.

Beneficiaries.

The economic position of the beneficiaries in Works Clubs is in most cases clearly defined by the constitution of the organization, but in schemes managed by committees of the kind last described in the preceding section there has been a tendency in recent years to throw the benefits open to all sections of the public in the district. This tendency has been resisted by the profession, in the main successfully.

In most colliery districts the families of the wage earners are all included in the contract. This is not the case, however, in the Lancashire and Cheshire mines and in many of the Works Clubs connected with isolated districts in various parts of the country, the benefits in these being confined to the workmen. It would appear, on the whole, that where Works Clubs are the predominating form of contract practice organization in a district, families are usually included. Where, on the other hand, Works Clubs only provide for a small portion of the community, the predominating contract practice organizations being Friendly Societies, the Works Clubs are similar to these in character, and provide only for individuals.

Terms of Contract.

The terms of the Contract and the duties of medical officers in Works Clubs are usually loosely defined, the exception being the appointments under Committees, where definite rules are often laid down.

Remuneration.

As regards remuneration, the medical officer receives the payments of the beneficiaries, subject in some cases to a reduction for cost of collection. In some instances, particularly where Committees are appointed, the medical officers receive fixed salaries, and the contract with them does not include the provision of medicines.

In the South Wales poundage system the contributions of the workmen who earn high wages help to make up for the deficiency from the payments of the others. Remuneration in most districts has recently been raised from 2d. to 3d. in the £, the medical officers finding that the former rate was unremunerative. Similarly in the coalfields of Northumberland and Durham, from the activity of the Northumberland Medical Association and the Durham Medical Union, and from the efforts of the Midland Medical Union in the coalfields of Derbyshire and Nottinghamshire, the rate has been raised from 6d. to 9d. per fortnight. In some instances more or less prolonged contests with the miners have been necessary to achieve this object, and the attainment of it has been delayed in one or two instances by the importation of outside practitioners. Both in South Wales, and the North of England, however, experience has, in some degree, convinced the miners that the medical practitioners who are prepared to act in opposition to the general body of the profession are not always desirable officers as regards their character and professional skill.

Effects of Works Clubs upon the Medical Profession.

The relations of medical practitioners to Works Clubs vary greatly in different districts, being in some instances of the most harmonious description, while in other cases grave and prolonged disputes have arisen.

One distinctive feature of Works Clubs—namely, the direct control by the beneficiaries themselves over the management—tends to friendly relationships and the ready adjustment of differences. On the other hand, those engaged in the industries in which Works Clubs commonly exist are already highly organized for their mutual assistance in other matters, and when a dispute does arise it is often taken up vehemently.

Differences between the profession and the workers have chiefly been on questions of remuneration, but in South Wales another important question has arisen—namely, the extension of the system of funds managed by Committees who employ medical officers at salaries. This has not been found conducive to the efficiency of the service, and the local profession are united in opposing the formation of new "Funds." The mistakes made by the managing Committees through their ignorance of the conditions of efficiency in a medical service have had the effect, in some instances, of preventing medical practitioners from remaining long in the employment of such Committees, and the loss of independence of the practitioner is also a serious drawback.

Chapter 10.—MEDICAL AID SOCIETIES.

In different districts organizations of very various types are designated "Medical Aid Societies" or "Medical Aid Associations." Some of these appear to be small Friendly Societies or Provident Dispensaries. One at least belongs to the group named in this report, "Public Medical Services."

For clearness of classification the term "Medical Aid Society" is used throughout this report exclusively as the designation of the type of organization which has brought the name into disrepute in the medical profession. That is an organization promoted by certain non-medical persons, not like Friendly Societies and Works Clubs for the benefit of members and their dependents, nor like the "honorary members" of Provident Dispensaries who themselves contribute to a charity for the assistance of the poor, but as a commercial speculation for the direct or indirect profit of the promoters. An example of indirect profit is furnished by the commonest Medical Aid Societies, those, namely, which have been organized by certain Industrial Insurance Companies as a means of attracting insurers.

In the present inquiry, the reports received relating to Medical Aid Associations have been very few, the total only reaching twenty.

Probably a few years ago, before the Great Yarmouth case, a large number of replies under this head would have been received, and it is significant that of the respondents who send returns relating to Medical Aid Associations one states that no new members are being taken, another that the medical aid work is fast dying out, and a third that he is about to resign his appointment.

Constitution and Management.

The constitution and administration of these "Societies" are naturally simple, being sufficiently explained by the statement that they are governed by the non-medical promoters, neither the beneficiaries nor the medical officers having any voice in the matter, except that which the former obtain as customers who must be satisfied, and the latter as servants who must be induced to serve.

Beneficiaries.

The beneficiaries consist of all those patients whom the energetic canvassers of the society can persuade to join, irrespective of age, sex, or social position, and it has been shown that much indiscriminate canvassing for members has, in the past at least, gone on.

Appointment of Medical Officers.

The contract between the Medical Officer and the Society is in most cases definite and clearly expressed. A copy of the agreement clause of one such society follows:

"And I also agree, for the undermentioned consideration, to give and supply at all times, when required, attendance, advice and medicine, to the best of my judgement, to one and all of the members of the said company that become my patients, when called upon to do so, and once a week (if required) to sign a declaration or certificate of illness, provided by the company. The sum of 1s. per member per quarter to be paid by the company for all members whose names appear upon the list to be supplied in advance every quarter from the chief office of the company, be they few or many; should no list be supplied, no attendance to be given. Members to provide their own bottles or be charged by me for them."

The services required and the remuneration given are exemplified in the above agreement. In some cases 2s. only is paid for juveniles, who are admitted from early infancy.

The above clause seems to show that the medical officer is in a very unsatisfactory position as regards the termination of the contract, since, unless there is some other clause in the agreement bearing on the point, he must be liable to dismissal without notice. Most respondents state, however, that the agreement is subject to three months' notice.

Effect on the Profession.

The experience of the profession with respect to the Medical Aid Societies a few years ago, when they were in active operation, was exceedingly unfavourable; these organizations illustrating every abuse connected with contract practice, especially the underselling of other practitioners and canvassing. The latter abuse was clearly proved in the Great Yarmouth case, the decision of which is shown by the replies of respondents to have done much to check the activity of Medical Aid Societies.

These Societies have rendered one service to the profession, namely, that the necessity for counteracting or supplanting their work has been the cause of the formation of some of the most successful Public Medical Services.

Chapter 11.—PROVIDENT DISPENSARIES.

Objects.

Provident Dispensaries are institutions which in the majority of cases have been founded by charitable persons for the assistance of the poor, the recognized object being to enable certain sections of the community to make provision for part or all of the cost of medical attendance upon themselves and their families by a system of weekly or monthly payments.

Membership.

An examination of the history of Provident Dispensaries shows that the benefits were originally intended for those whose means were insufficient to enable them to pay the full cost of ordinary medical attendance, and frequently these institutions have so-called "honorary members"—that is, persons who subscribe to the funds of the institution, but do not share the benefits.

In the course of time, however, advantage has been taken of the benefits of Provident Dispensaries by persons who are quite able to pay for medical attendance by the ordinary working class or even higher fees, and this has led to disputes with the profession in certain towns.

Constitution.

Provident Dispensaries are constituted under rules which are capable of being modified by the beneficiaries and non-benefiting subscribers.

Usually the institution owns a building or buildings for its work, at which patients are seen (only the more serious cases being visited at home) and medicines dispensed. The cost of drugs and dispensing is usually borne by the institution as a separate charge from the payment of medical officers, who are engaged to give attendance only.

Management.

Provident Dispensaries are governed by Committees, in which some or all of the following are represented:

(*a*) The beneficiaries.
(*b*) The non-benefiting subscribers.
(*c*) The medical staff.

In some Provident Dispensaries members of the medical staff are only allowed to be members of the Committee when they are also subscribers to the funds of the Institution (for example, Leicester).

Terms of Appointment.

In Provident Dispensaries the Medical Officers are as a rule appointed by the Committee, more than one is usually appointed, and in at least one instance (Lichfield) it is open to all medical practitioners in the district to act on the staff.

A definite term of notice to end the engagement is usually prescribed in the rules, and no contract exists beyond the acceptance by the medical officer of his appointment on the terms defined in the rules.

Definition of Duties.

The duties of the medical officers are usually defined in respect of ordinary duties, including visiting, and, in many cases, attending patients at the building provided by the Institution. In many cases certain services are specifically excepted from those required under the head of ordinary attendance. This is specially the case as regards midwifery, which is usually provided for by a separate payment.

Remuneration.

The remuneration of the medical officers is usually a percentage of the payments made by the beneficiaries; in the

Manchester and Salford Dispensaries the percentage is lowest, namely, 50 per cent. In Coventry it is 62 per cent., with a provision that the share of each medical officer shall not be more than £400 per annum. In other cases it is provided that the surplus of the payments of the provident members, after payment of the working expenses of the Institution, shall be divided among the medical officers in proportion to the number of patients who have placed themselves upon the list of each medical officer for the period in question.

Effect on the Profession.

With respect to the effect of Provident Dispensaries upon the medical profession, the complaints which have been made from different districts show the existence of the following abuses:

(*a*) Admission of persons who can afford to pay ordinary fees.

(*b*) Selection by the Committee of individual practitioners to act on the staff of the dispensary, with the result that such practitioners are in many cases advertised by the dispensary to the disadvantage of their fellow practitioners. This is particularly injurious to other practitioners when, from the absence, or want of enforcement, of a wage limit, the dispensary admits persons who previously had been employing practitioners not on the staff of the dispensary and paying them ordinary fees.

In many cases the representation of the medical staff on the committee of management is entirely inadequate, which makes it more difficult to prevent abuses, such as the non-enforcement of the wage limit, and canvassing and advertising by the Dispensary.

In at least one case, where an old and originally purely charitable Dispensary has been converted into a Provident Dispensary, the staff is employed at fixed salaries, and it is alleged that, inasmuch as no wage limit is enforced, the institution is systematically underselling the general practitioners of the district.

The reforms that have been suggested (apart from the proposals of the Medico-Political Committee) in connexion with Provident Dispensaries are: Increase of the medical staff to include all practitioners in the district who desire to act; increase of medical representation in the management; provision of wage limits, where not already in existence, and due enforcement of such wage limits as exist; prohibition of canvassing and advertising; and that a larger proportion of the payments of provident members should go to medical officers; in other words, that less should be absorbed in expenses of management and in buildings.

CHAPTER 12.—PRIVATE CLUBS.

It will be seen from Appendix B that particulars have been received relating to 253 Private Clubs. These are scattered through England in slightly varying proportions, ranging from one-tenth to one-sixth of the total returns in the different areas which have been considered. In Ireland the proportion is much lower; this may be a result of the Irish dispensary system, which perhaps takes the place of Private Clubs, or may be accidental, and due to the relatively small number of returns from Ireland.

The ethical rather than the economic aspect of Private Clubs calls forth an expression of opinion from respondents, and widely diverse ideas are held on this subject. One respondent considers the holding of Private Clubs as infamous conduct; another, that the Private Club is both ethically and economically the best form of contract practice.

Constitution.

Since the medical practitioner in a Private Club usually settles by direct negotiation with the beneficiaries, the form of the contract, its details, and the method by which it should be carried into effect, it follows that there will always be a strong personal element in force, which to some extent may override the natural advantages or disadvantages which may be connected with this form of practice, and which may determine whether a club shall or shall not be conducted on ethical lines.

This direct contact between the medical practitioner and his club members in their negotiations is the leading feature of the Private Club System, and is a feature found nowhere else in contract practice work, except in the case of the Public Medical Services and some Works Clubs. Indeed, in small villages with only one practice, the Private Club is, in effect, a Public Medical Service reduced to its simplest terms.

Many expressions of approval bestowed upon Private Clubs are reserved for application to these cases—that is, village practices—the opinion of the respondent with regard to similar clubs in more populous areas being withheld or adverse.

Form of Contract.

The form of the contract in Private Clubs consists usually either of a series of printed rules by which the club member must be guided, or there is merely the verbal arrangement between the parties. Of the 253 clubs of which particulars have been furnished, it is stated in 187 instances that printed rules are supplied, and 25 sets of copies of such rules have been returned with the forms. An analysis of the contents of these appears in Appendix D.

Mode of Inception.

In theory, the mode of inception of the contract is that a person desirous of taking advantage of it calls at the house of the medical practitioner and requests to join the club; upon an inquiry into his means and state of health, with, perhaps, a medical examination, the medical practitioner accepts or rejects him as the case may be. The fact, however, that in many cases a collector is employed, who may serve as the means of introducing new members, renders this arrangement open to objection, particularly when the collector is paid by commission on the amount collected. Severe remarks on the subject are made by many respondents, for example:

Canvassing.

3399 "In this town 'the penny a week' club is the curse of the medical profession. In order to start such a club I understand that the following is the *modus operandi:* Obtain an energetic canvasser, who will go from house to house collecting pennies. If at any house the people refuse to become a member of your 'penny a week,' the canvasser must keep on calling until they do. The canvasser gets as a reward for his faithful services 25 per cent. of his takings. I believe canvassers have been known to take the lot. If the cost of the club should interest the British Medical Association I shall be pleased to answer any questions concerning them."

Termination of Contract.

As to the termination of the contract the practitioner in many cases reserves the right to discontinue his services at his own discretion by giving one month's notice, while the beneficiaries may, of course, terminate it at any time, simply by ceasing to pay their subscription. The rule is almost universally made that if subscriptions (which are payable in advance) fall into arrears, the contract automatically comes to an end, the amount of arrears varies from one week to three months.

In some cases a lapsed member may be readmitted simply by paying the instalments which are due. In others arrears have to be paid and the member is out of benefit for a prescribed period, in others again a fine is payable before reinstatement can take place.

Beneficiaries.

It is frequently stated in the rules that the benefits of the club are reserved for labourers, members of the working classes, persons of small means with or without their families (but the families usually are included) and similar persons. In many cases a definite wage limit is fixed, which generally varies from twenty to thirty-five shillings per week. In most cases persons of both sexes and all ages are admitted as members. In some, though juveniles are admitted, an inferior limit of age is prescribed below which they cannot enter. In one case, newly-born infants must be entered within three months or in default an entrance fee is charged. As has been indicated above, a condition of good health on admission is usually required, in some cases this is simply stated in the rules, but in others a medical examination is required, for which a fee is occasionally charged.

Definition of Duties.

The services to be rendered under the contract are usually defined as ordinary medical attendance, and there is in most cases a special rule excluding certain services, such as confinement, vaccination, surgical operations, fractures and other severe accidents, and dental work. Very frequently it is specified that work of this class will be done at reduced rates; sometimes the fees are stated which will be required; while in other cases no arrangement is made.

Remuneration.

An indication of the fees which are charged in private clubs is given in Appendix B (page 34), where it will be seen that on the whole they are higher than in the case of Friendly Societies and other similar organizations. From these fees, however, there must, in most cases, be deducted the collector's commission, which is sometimes so low as 5 per cent., but in other cases reaches 25 per cent., and in one instance which is recorded the collector received as his share 25 per cent. of the weekly payments, together with the whole of the first week's subscriptions.

Yield in Relation to Work.

The returns afford very little information with respect to the work done by the practitioner, and it is impossible to form any idea of the yield per attendance in clubs of this kind. In many instances practitioners state that the work is very light or gives little trouble. It will, however, be readily understood that the fact that all the arrangements, including choice of fees and selection of candidates, are in the hands of the practitioner may either cause this to be actually the case or so bias his opinion as to lead him to believe that it is so.

Since the members of Private Clubs join for the sake of the medical benefits only, and not for other advantages, such as the good-fellowship of a Friendly Society, the benefits of sickness insurance, and the like, it is reasonable to suppose that there will be a temptation to them to take every opportunity of securing a return for the money paid in subscriptions. An instance of this was given in the British Medical Journal some time ago in the case of the servant who assured her mistress that she got her "whacks" out of the club whether she was ill or not. Several practitioners who hold clubs make complaint on this point.

3323. "I find that very often the members, at any rate many of them, expect to be visited and treated for every trifling ailment, for which were they not in a club they would not think of applying for advice or medicine.

"That the existence of the private club, many of those well able to pay a bill are anxious to join if possible, they either pretend, or do not care to consider, the difference in their respective positions. Those who are members are in most cases in better circumstances now than they were when the club was first started, and very many of them are generous enough to acknowledge this."

Other practitioners think that the increased power of selection of candidates given to them by the private club system renders their work on the whole more remunerative.

Effects on the Profession.

The essential difference between private and other clubs is of course in the fact that no organized body acts as a medium between the practitioner and the beneficiaries. The advantages of this arrangement have already been dwelt upon, and are sufficiently indicated in the following extracts:

2710. "The family club run by the doctor himself is a necessity. He can be dismissed at a moment's notice very often from a Friendly Society. The individual member of his own club, if he has a complaint to make, does it personally. The doctor is free from the supervision, and, as I have found, the impertinence of the committee of the Friendly Society. The patients in a family club look up to him personally. In the Friendly Society club he is very often treated as a servant. The smallest infringement of their rules means a complaint and a visit from the committee. The doctor of a family can make his own terms as to charge and radius."

2674. "To a country practitioner, and especially one who has a Poor-law appointment, I consider that a private club is absolutely necessary, and he can by this club do much more good, and stop pauperization, than by any other means I know."

"In my opinion the most satisfactory form of contract practice is the private club: one can accept those who really cannot pay full fees, and can refuse those who can afford to pay properly, and there is no committee to trouble one."

There is, however, in all cases where competition in practice exists, a very serious drawback to this arrangement. The practitioner holding a club must of necessity have some form of contract with the club members. As a rule, as has been seen already, this contract takes the form of printed rules. It is necessary, for purposes of convenience, that either on the printed rules, or on the card of membership, or on both, the name of the practitioner, together with his address and hours of attendance, must be printed. In fact the general arrangement is that subscription cards and rules form one document. Such cards or copies of rules cannot fail to be regarded by neighbouring practitioners as a form of advertisement; and it must be admitted that in many cases, in addition to the rules and details of payment, there is on the card some phrase which can legitimately be interpreted as an attraction to outsiders to become members of the club.

An essential feature of a private club is that some advantage is offered over and above those pertaining to the ordinary system of payment by fees. It is almost a matter of necessity that club cards should pass from hand to hand, or should be seen by neighbours in the houses of club members, and thus, without any direct canvassing, the card itself serves to call attention to the fact that Dr. A., for example, attends patients upon more acceptable terms than his neighbour Dr. B. When Dr. B. finds that his working-class practice is thus being encroached upon through the superior attractions of Dr. A.'s private club, it is not an unnatural consequence that he also should institute a private club, whose terms or the services rendered are even more attractive.

In cases in which a collector is employed the temptations to carry on advertising and canvassing are more marked still. There is a distinct inducement to a collector who is paid by commission to canvass for new members, and however strongly the medical officer of the club may urge upon him that his duty is that of collection merely and not to gain new members, it is very doubtful whether in the majority of cases this will have much effect. The acquisition of each new member implies an increase in the salary of the collector and is likely to be a consideration, and of much more weight than the verbal directions of his chief.

The example already given, as to the *modus operandi* of starting a private club, indicates the attitude of certain members of the profession towards the collector who is paid by commission. Other respondents express similar views. As for example:

2569. 'Private clubs only become detrimental to the profession when the collector is allowed to canvass for new members and to put on the club people at least able to pay a moderate fee."

"We agreed not to admit any more members to our private clubs for these reasons:

"1. That it is only the thrifty persons who would in the ordinary way pay their bills who would join a private club.

"2. The bad payers will not join a club.

"3 That women are, as a rule, always ailing, and when they belong to a club are sending for the doctor or for medicine all the year round.

"4. This also applies to the children.

"5. That we were satisfied private clubs did not pay.

"6. That it is unprofessional to carry on a private club.

"There is only one point in favour of a private club, and I think that it must be the reason that private clubs were started here, and that is because if any of the labouring people in this district do not care to pay for a doctor they can have an order for the parish doctor, either 'on loan' or 'gratis,' as the case may be, and I have never heard of a person having an order 'on loan' being asked by the guardians to pay."

3355. "In this district private family clubs are in the hands of a collector, whom I have known to canvass for members.

"Also two classes of people enter: (1) That respectable class (?) who, for reasons of thrift and economy, desire to get professional attendance at cheap and reduced rates; (2) those whom from experience discover that they or their family are more or less chronic invalids, and require constant attention.

"The class for whom it is alleged it is intended (those who will not pay their bills) either do not join or do not pay their subscription."

2213. "Private clubs appear to me to be the most satisfactory of all forms of contract practice. The management is entirely in the hands of the medical man; he can exclude those he does not care to attend; he is his own master, and not a slave to a lay committee.

"Considering the increase of our services and the better condition of the working classes, I am of opinion that the rates for contract practice should be increased to:

"Males (country), 6s.; females and children (country), 7s.
"Males (town), 5s.; " " (town), 6s."

2301. "I decline to take women at any price, and insist upon juveniles paying the same as adults.

"Private clubs are most undesirable and attendance on them should be considered infamous conduct."

CHAPTER 13.—PUBLIC MEDICAL SERVICES.

Meaning of the Term.

THE term "Public Medical Service" has been applied in certain districts to organizations for providing medical attendance and medicine for certain sections of the community, in which the Service is under the entire control of the medical profession. In other districts Services of exactly the same general type have been established under the title of "Provident Medical Associations"; but the generic designation of "Public Medical Service" is preferable, as avoiding confusion with organizations under lay control.

The Public Medical Services at present in operation in this country have all been established in comparatively recent years and therefore the origin and objects of formation are well known. The Coventry Medical Service was formed chiefly as a means of combating the abuses of the Coventry Provident Dispensary. Other Medical Services were formed chiefly to counteract the Medical Aid Societies, the operations of which were assuming large proportions in many towns, until the decision of the Great Yarmouth case by the General Medical Council brought home to the medical officers of these Societies the danger which they ran of having their names removed from the Medical Register on account of the canvassing and advertising involved.

Constitution.

It is in accordance with the fundamental constitution of Public Medical Services that, though the administration may be placed in the hands of a Committee elected from among the active staff of the service, some form of control is always reserved to the general body of local practitioners, or some organized body representative of the local profession. For example, at Norwich one of the Rules of the Service is as follows:

> "XXXI. No new law shall be adopted and no existing law shall be altered or rescinded except with the approval of the Norwich Division of the British Medical Association.

In some instances the Public Medical Service appears to have constituted itself as an Association, which enters into a contract with each patient. In other cases the form of constitution is rather that of a society which defines the regulations under which a number of medical practitioners have agreed to attend patients, the actual contract for attendance being between the individual practitioner and his patients. There is reason to believe that, from a legal point of view, the latter arrangement is much to be preferred to the former.

Admission of Beneficiaries: Economic Conditions.

The benefits of Public Medical Services are restricted to persons who are believed to be unable to pay the usual medical charges. A wage limit is provided in almost every case, with power to the Committee of Management to deal exceptionally with special cases. Upon comparison of the wage limit in Public Medical Services with that in Provident Dispensaries, it will be seen that the Public Medical Service is intended to provide for a section of the community at least as straitened in circumstances as those provided for by the Provident Dispensaries.

Admission: Sex and Age, and Health.

Persons of both sexes and all ages are usually admitted, and the condition of admission as regards health is usually that the applicant must be certified by the medical officer of the Service. In some cases provision is made for an extra fee being paid by persons who are not in good health at the time of admission, and in some cases an extra charge is made if treatment is required within one month after admission. The rates are usually the ordinary Contract Practice rates, namely, 1*d.* per week for adults, and half this amount for children. At Eastbourne, the rate is 2*d.* for adults and 1*d.* for children; at Coventry, 1*d.*, and at Southampton 1½*d.*, without respect to age.

Staff: Distribution of Work.

As a rule, membership of the staff of a Public Medical Service is open to every registered medical practitioner in the district, or, at least, to every practitioner who is a member of the specified local body representative of the Profession. For example, at Norwich it is open to every member of the Norwich Division of the British Medical Association, and at Hartlepool it is open to every member of the Hartlepools Medical Society. At Eastbourne, it is open to those who conform to certain regulations, and at Coventry, to medical men approved by two-thirds of the Committee of Management, provided that they have not commenced practice without an introduction, or, otherwise, that they have been in practice in the city for at least twelve months.

Choice of Doctor.

Each patient is free to choose his own medical attendant, except that, at Norwich, the medical officer has the right to refuse to attend any individual patient.

Remuneration.

Usually the remuneration of the medical officers is provided by dividing among them periodically the net balance after payment of working expenses, the distribution being made in proportion to the number of members on the list of each officer.

Effect on the Medical Profession.

Upon comparison of the constitution of Public Medical Services with those of other forms of contract practice it will be seen that they are free from all the objections urged against the other forms.

PART IV.—REFORM.

CHAPTER 14.—THE EFFECTS OF CONTRACT PRACTICE.

THE object of the present chapter is to facilitate the consideration of the reforms required in Contract Medical Practice by taking a general survey of the effects of existing systems. These are to be regarded, first, in relation to the individual practitioners engaged in such practice; secondly, as affecting other practitioners and the profession generally; and, thirdly, in the results upon the medical service of the portion of the community which is concerned.

EFFECTS ON INDIVIDUAL PRACTITIONERS.

In the detailed examination of Contract Practice contained in Parts II and III of the Report attention has already been drawn to the following matters in respect of which such practice affects prejudicially the medical men who take part in it.

Remuneration Inadequate.

The remuneration is in the majority of cases inadequate to the services rendered. This is shown by comparison of the amount received per attendance with ordinary working-class fees in private practice—by the fact that the majority of respondents state that in their view the rates are inadequate (Appendix B)—and by the replies of the Divisions of the Association upon the proposition submitted by the Medico-Political Committee.

Some Rates Absolutely Unremunerative.

In some cases the rates are such as could only be justified on the supposition that those to be attended were unable to pay, even under an insurance system, the cost of medical attendance in ordinary working-class fees, and therefore that they were fitting recipients of charity from the profession.

At Most Correspond to Working class Fees.

In few cases, if any, are rates paid which yield more per attendance than working-class fees.

Wage-limit Provisions Non-existent or Ineffective.

On the other hand, in some kinds of Contract Practice, no provision is made for exclusion from the benefits of persons whose means are such that they ought not to be admitted; and where such provisions nominally exist, as in the case of many Provident Dispensaries, they are not properly enforced.

As a result, the beneficiaries in many cases include persons who can afford to pay even more than working-class fees.

Admission of Women and Children to Organizations from which they were Formerly Excluded.

In those forms of Contract Practice, specially the Friendly Societies, in which contracts were originally entered into by medical practitioners on the understanding that adult males only were included, the opportunity of obtaining family practice being, therefore, an inducement to accept appointment at a low rate, this collateral compensation is being destroyed by the inclusion of women and children.

Rates for Women and Children Specially Inadequate.

The women in such cases are often found to require more attendance than men, though only the same rate is paid; while for children the rates paid are often much lower than for adult males, though at least as much attendance is required.

Insufficient Provision for Special Services.

The remuneration in respect of services rendered is diminished in many cases by loose or onerous definitions of the

attendance to be provided at the ordinary rates, as a result of which the medical practitioner is required to discharge, without extra remuneration, duties for which special payment should be provided.

Unsatisfactory Systems of Tenure.

The conditions with respect to termination of contracts are often such as lead to injustice to the medical attendant.

Results of Non-Medical Management.

In those cases particularly in which organizations are managed by persons not directly concerned, or by committees often only partially representative of the beneficiaries, ignorance or indifference to the conditions of efficient medical service leads to other conditions besides those already named, which are oppressive to the medical attendants.

Not only Material Conditions Affected.

The effects on the medical practitioner engaged in Contract Practice of the conditions so far enumerated, relate for the most part to his material well-being. In considering however, the broad question whether it is to the advantage of an individual practitioner to engage in Contract Practice, as at present conducted, other and more remote results must be considered, affecting his professional character and reputation, and his relationship to his professional brethren.

Effect on Character and Efficiency.

In the first place it is frequently contended, and respondents in the present inquiry have given emphatic expression to the opinion, that even on the most remunerative terms such practice induces in the medical practitioner habits of hasty and careless diagnosis, and of routine, perfunctory and ineffective treatment, and that these in time pervade all his practice; that he becomes professionally demoralised, and the status and reputation, both of himself and the medical profession, suffer in consequence.

The following quotation exemplifies this :

3230 I hold the system of contract medical practice to be demoralizing alike to practitioner and patient. The success of all medical treatment is based on an exchange of the best which each has to give, and my experience is that the world is slowly learning that human life is too sacred a matter to be bartered at the rate of 2s. 6d., or even 10s., per annum for attendance and medicine. All such practice, to my mind, favours a method of slipshod and inaccurate diagnosis—or a Micawber-like policy of waiting on something to turn up; moreover, the contract medical practitioner floods the general hospital with cases which he lacks the enthusiasm to follow up, or grudges the extra cost which such cases entail. I may say, in conclusion, that I have repeatedly refused tempting offers of such practice, and my private practice seems to have correspondingly increased by adopting such an attitude. (Town : North England.)

In estimating the value of this extreme opinion, it is perhaps not unnecessary to point out that Contract Practice has to be compared, not with any ideal condition, but with the only existing alternative—namely, private practice as ordinarily conducted on the fee system, and that in this sphere also some of the evils above stated are not unknown. Moreover, the replies, given in Appendix C, of many respondents show an earnest conviction that contract practice is not merely necessary but desirable, and it must be admitted that throughout the country a considerable number of practitioners of high reputation are engaged in such practice, to the apparently complete satisfaction of their patients. This difference in experience suggests, at all events, that allowance must be made for differences of personal character and environment, and that possibly some of the injurious results which are suggested as being inherent in the principle of contract practice are in fact due to special features of organization and management.

When, however, every such allowance has been made, the impression finally produced by a careful study of the materials collected in the present inquiry must be, that the system of rendering medical services under contract is attended by grave dangers to the character and efficiency of the medical practitioner concerned.

Injury to Reputation.

Closely connected with the effects of Contract Practice on the professional character of the practitioner are the effects on his reputation among his patients and the public generally. It is somewhat remarkable that many respondents who mention these results appear not to have noted the relation between them, namely, that the contract system first gives rise to hasty and inferior work, this deterioration in its turn injuring the practitioner's reputation. A kindred factor is the lowness of remuneration, which, in the opinion of many respondents, leads the club patient, perhaps with justice, to think cheaply of what is so cheaply bought. The competition between medical practitioners in certain districts for club appointments and the unworthy efforts made in some instances to obtain these, have also contributed to lower the status of "club doctors" even among those who employ them.

The replies in Appendix C contain many examples of the underselling and canvassing which naturally lead club members and officials to consider that they are bestowing important patronage when appointing medical officers at rates of 2s. 6d. to 4s. a year.

The result of these various influences is the disrespectful treatment of which some respondents complain, but which they appear unable to avoid by resignation of their appointments.

Inducements to Take Up Contract Practice.

In view of the many objections to Contract Practice which have been stated, it is important to consider briefly what are the inducements which lead medical practitioners to engage in it. Those commonly stated are (*a*) the assurance of a certain definite income, as against those uncertainties of ordinary practice which arise from bad debts and the changing of patients from one practitioner to another; (*b*) that club appointments afford, particularly to a young man, an opportunity of becoming known, and thus lead to private practice; (*c*) the competition of those already engaged in Contract Practice which attracts private patients from those not so engaged, and thus compels them, they consider, to take it up in self-defence.

It is specially to be noted that, of these reasons, only that of the avoidance of bad debts remains valid when considering whether Contract Practice is advantageous not merely to individuals but to practitioners generally. The other reasons relate entirely to the competition between practitioners, and (*c*) disappears, even as affecting the individual, when there is a local agreement in the profession.

Effects on the Profession.

The question of the effect of Contract Practice on the relationships of medical practitioners engaged in it to their professional brethren is most conveniently considered as part of the general question of the effects of such practice upon the profession—effects which result directly from the special forms of competition which the contract system introduces.

Results of Differences in Organization.

In considering this matter, a factor of the first importance is that to which reference is made in Chapter III, in the commencement of the examination of Contract Practice as it exists, the factor, namely, of the relative development of organization of the profession, and of the non-medical parties to the contracts, respectively. Where the non-medical parties, particularly those possessing a certain degree of organization, as in the case of Friendly Societies and of those forms of Contract Practice which are under the control of committees, appoint only one or two medical officers, or any number which is small in comparison with the total number of practitioners in the district, the usual economic effects are seen of collective as against individual bargaining.

The Non-Medical Organization and the Individual Practitioner.

Individual practitioners are led to accept appointments by the inducements already mentioned—the assurance of a definite income, the prospect of extending private practice through the introduction afforded by the club, or the fear that if they do not take such appointments others will do so, and will thus draw away from them their private patients. In these circumstances the organization is able to enforce terms which are intrinsically unremunerative or otherwise onerous to the profession.

Underselling and Canvassing.

The results of this pressure as affecting the internal relations of the profession may be summarized under (*a*) underselling, (*b*) canvassing and advertising. It is unnecessary to dwell at length upon these evils, which are copiously illustrated in the statements contained in Appendix C. It is sufficient to point out that both are directly connected with the system under which appointments to contract practice organizations are held by individual practitioners, underselling

resulting from the competition for such appointments, and the effect of canvassing upon the profession being due to the identification of the medical officer with the organization which canvasses.

EFFECTS ON THE COMMUNITY.

The effects of Contract Practice on the quality of the medical service provided have to a great extent been already considered, and may therefore be very briefly summarized.

Inefficiency of Service.

In the first place, so far as the contract system has the inherent tendency, ascribed to it by some, to injure the professional capacity of the practitioners concerned, or so far as particular forms of organization of Contract Practice may have this effect, the community obviously suffers a direct loss which may not be compensated for by any pecuniary saving through lowness of rates.

Loss of Choice of Doctor.

Secondly, in the case of the employment of one or relatively few practitioners by an organization, the beneficiaries suffer through being deprived of the choice of medical attendant.

Results of Loss of Independence of Practitioner.

Thirdly, those organizations which are conducted in ways that are injurious to the independence and self-respect of the medical attendant naturally tend to find in their service chiefly those who are deficient in these qualities, and if others enter they abandon the service at the first opportunity. Therefore, the beneficiaries suffer from inferiority or frequent change in their medical attendants. This particularly applies to those organizations which are established in direct opposition to the general opinion of the profession.

The realization of these truths by those of the public who are concerned may become a factor in favour of reform, and there is reason for believing that such an awakening is already taking place.

CHAPTER 15.—THE REFORMS INDICATED.

OUGHT CONTRACT PRACTICE TO BE ABOLISHED?

UPON the threshold of the consideration of the reforms required in Contract Practice there is presented for attention the opinion which is strongly held by many who have carefully studied the subject, namely, that Contract Medical Practice is fundamentally wrong in principle; that its effects—however and by whomsoever it is managed, whatever classes are included, and whatever remuneration the medical practitioner receives—are essentially bad as regards both the medical attendant and his patients; and that, therefore, no reform, short of the entire abolition of the system, can be of real and lasting benefit either to the medical profession or the community.

Such views rest principally upon such observations of the results of the contract system as have been mentioned in the previous chapter with respect to its effects upon the character and reputation of the practitioners concerned. Even though the observations in question be partial, and the conclusions which it is sought to base upon them extreme, there can be no doubt from the results of the present inquiry that contract medical practice is fraught with difficulties and dangers for the profession and the community, which call either for the abolition of the system or for the provision of safeguards against its admitted evils. The decision between these alternatives must be determined by considerations as to the practical necessity of the system.

If contract practice is held to be necessary, that is to say, to correspond to requirements of the community so important as to outweigh the risk of the dangers referred to, it becomes the duty of the medical profession to devise and apply such reforms in the administration and conditions of contract practice as shall, so far as practicable, obviate those dangers.

If, on the other hand, the needs of the community can be met without contract medical practice, the question of reform becomes greatly simplified.

Necessity of Contract Practice.

In Chapter IV of the Report reasons are stated which confirm the opinion arrived at by the Committee in its Interim Report, namely, that in certain districts under existing conditions certain classes of the community require some provision whereby they may insure by small premiums against the cost of medical attendance. The considerations which lead to this conclusion can hardly be set aside, even by the most strenuous opponents of the contract practice system.

Meaning of "Abolition."

It has, however, been pointed out in the same chapter that the necessity may be admitted of some organization for enabling certain sections of the community to provide medical attendance through insurance by weekly premiums, without implying that medical practitioners should themselves enter into contracts to provide attendance on these terms.

If the conclusion above stated as to the necessity of such insurance in certain cases be admitted, the consideration of the "abolition of contract practice" is resolved into an examination of the practicability of effecting the suggested severance of these insurances from any corresponding system of contract by medical practitioners to attend. The replies quoted in Appendix C show that a large number of respondents believe this to be practicable, and that in this way, in their view, the recognized needs of the public may be met, while the medical profession and their patients will be delivered from all the evils of the contract practice system.

ALTERNATIVE SYSTEMS OF REFORM.

Thus proposals for the reform of Contract Practice may be said to fall under two principal heads: (*a*) That insurance of patients against the cost of medical attendance shall be so provided that individual medical practitioners do not require to undertake the insurance; (*b*) that contracts by medical practitioners shall be continued with such safeguards as the profession may devise against acknowledged abuses.

NON-MEDICAL INSURANCE.

As regards proposal (*a*), certain existing organizations base upon this principle their system of provision of medical attendance, the National Deposit Friendly Society being well known; but as the replies of respondents indicate that, while strongly approving the principle, they do not approve this particular application, it is on the whole convenient to commence by an abstract consideration of the general idea.

Third Party Required to Manage the Insurance.

Inasmuch as the payments of the beneficiaries are not to be received in the same form by the medical attendant, clearly there is need for the intervention of some third party, who shall, on the one hand, receive the contributions of the beneficiaries, and, on the other hand, pay the fees for medical attendance in accordance with whatever rules may be agreed upon.

Checks against Unnecessary Attendance.

One of the most important matters requiring provision in the rules is a safeguard against unnecessary medical attendance. The beneficiary not being required to pay the bill may, as in ordinary Contract Practice, demand attendance in excess of the requirements of his case, and some check against this tendency must clearly be provided.

In the National Deposit Friendly Society this check is provided by the deposit system. All contributions are divided into two portions, of which part is paid into the insurance funds of the Society and part into a deposit account standing in the name of the member. When the member becomes entitled to benefits, these are paid partly out of the insurance fund and partly out of the deposit account, and when the deposit account is exhausted benefits can no longer be claimed.

Definition of Fees Payable.

It is clear, also, that some definition must be provided by those who administer such funds, as to the scale of fees upon which the allowances made to insurers in respect of medical attendance will be based.

No Contract with the Practitioner Required.

It does not follow, however, that the medical practitioner shall be paid by his patient upon the same scale, and still less is it necessary for such an organization to enter itself into contracts with members of the medical profession. The essence of the contract entered into by the insuring body is that the insurer shall receive certain payments in respect of the happening of a certain contingency, namely the requirement of medical attendance, and the work of the organization, so far as medical attendance is concerned, is completed when this obligation has been duly discharged.

In Practice Contracts Virtually Made.

If this principle were consistently carried out, such a system would result in the entire abolition of contract

medical practice, in the sense of obligations by medical practitioners to non-medical organizations; but experience shows that in actual operation medical practitioners are drawn into arrangements having the effect of contracts, and leading to some of the familiar difficulties of contract practice—namely, the discrimination between medical practitioners by non-medical organizations, and the consequent imposition of unsatisfactory conditions of practice.

Proposed Organization by the Profession.

To avoid this result suggestions have been made that such a fund might be administered by the medical profession through some local or national organized body, but others doubt the practicability of the organization and management of any extensive scheme of insurance of this character under direct medical control. In any district in which the conditions exist which make a public medical service practicable it might be possible to adjust the remuneration of the medical officers of the service upon the principle of payment for work done, but for the purpose of the present report it is sufficient to say that no scheme of the kind is known to be in actual operation.

All existing schemes are under non-medical control and management, and the only one of which definite rules have been furnished by respondents is that of the National Deposit Friendly Society.

National Deposit Friendly Society.

Objects.—Arrangements with Medical Officers.

This Society provides various benefits, including medical attendance. Though the Society's rules at one time referred to "medical officers," these Rules have been altered, and any member is free to employ any medical practitioner.

Theoretical Freedom of the Practitioner as to Fees.

Theoretically, the medical practitioner is not under any contract with the Society; he may charge to each patient the fees which he considers suitable to the case, the patient recovering from the Society the allowance due to him under the rules; and this condition of matters obtains in many districts, chiefly however those in which the profession has refused to enter into any direct relation with the Society, or to recognize it as intervening between them and their patients.

In Practice, Attempts to Impose the Society's Scale.

In other districts, on the other hand, medical practitioners have been asked by agents of the Society if they will consent to attend members at the rates specified in the rules, and the wording of the rule, "charges authorized to be made by medical practitioners" (instead of "charges allowed to members in respect of medical attendance"), indicates the tendency to constrain medical practitioners to restrict their charges to those prescribed by the rules of the Society.

Fees Unsatisfactory, and no Wage Limit.

The schedule of fees laid down in the rules is unsatisfactory in construction, and difficulties also arise owing to the absence of any wage limit.

It has been suggested that the rule of the Society, whereby members who contract for greater benefits are allowed medical fees on a higher scale, prevents injustice under this head, but as there is no obligation on members of good pecuniary position to insure on the scale suitable to their means, this provision is also inadequate for the purpose. Moreover, in districts where the profession is not united, individual practitioners may be induced to undertake the work of the Society's members on unsatisfactory conditions, for the same reasons which bring this about in ordinary contract practice.

The Objection to the Society.

Those who object to the Society do so on the grounds concisely stated in the following opinion:

2344 I have been searching for information as to the National Deposit Friendly Society. I cannot help thinking that under its present rules it does not deserve the support of the profession, and that it introduces principles which are bad.

I doubt if in the long run it is well for either party that any one should intervene between doctor and patient, but the encouragement of thrift and insurance against illness are most desirable, provided that such intervention does not occur.

Dangers to be Avoided.

It would appear, therefore, that though certain principles adopted by this Society suggest a means whereby Contract Practice might be abolished, in its present working it presents the features of an organization under non-medical control taking advantage in some districts of the want of union among medical practitioners to impose unsatisfactory conditions upon them. The Medico-Political Committee had already occasion to deal with this subject in a special report on the National Deposit Friendly Society, and the principles then formulated may be applied to all organizations of this type, namely, that practitioners should not contract to attend at the rates laid down by non-medical organizations of this kind, and should not allow themselves to be discriminated from other practitioners as specially acting for such societies.

Non-Medical Insurance

Not at Present a Generally Applicable Substitute for Contract Practice.

While the system just examined apparently offers the advantages, which some respondents have emphasized, of a non-medical provision for the working man's need of insurance against the cost of medical attendance, and of remuneration of the medical attendant according to work actually done, the prospect must be regarded as remote of such a system (duly safeguarded against the abuses to which attention has been drawn) replacing throughout the country the widely-prevalent contract system.

(*b*) Reform of Ordinary Contract Practice.

For the discussion of practicable reform, therefore, it must be assumed that in some districts at least it will continue for the present to be practically necessary that medical practitioners should contract to render medical attendance for periodic payments (or at fixed salaries), and the object must be to devise remedies for the recognized evils of the various methods by which such provision is at present made.

General Causes of Abuses and Reforms Thereby Indicated.

A careful examination of the evils of contract practice as summarized in Chapter 14 suggests that though special action may be suitable for the remedying of some special abuses, certain general causes underlie the difficulties of the profession in this matter, and the statement of these will indicate the main lines upon which reform must proceed. The most important of these is the one to which allusion has repeatedly been made, namely, the power of the organized non-medical bodies in contracting with the individual medical practitioner, and if the predominating influence of this condition be admitted, it is evident that the foundation of reform must be an effort to place the profession on an equality with the non-medical body as regards organization.

Distribution of Work Among All Practitioners.

One important step in this direction is the adoption of the principle of distribution of Contract Work among all practitioners of a district, the effects of which are explained in Chapter 3 pp. 5 and 6.

This change alone will, in the opinion of many respondents, lead to the abatement or removal of several of the evils at present associated with Contract Medical Practice, which arise from the connexion of individual practitioners with individual contract practice organizations.

Uniformity of Conditions and Hence no Underselling.

Such distribution of work must obviously be attended by uniformity in the rate paid to each practitioner, and in the conditions under which the work is undertaken. In other words, underselling in connexion with contract appointments is at once removed, together with the competition for appointments which has had such injurious results.

Abolition of Canvassing on Behalf of Practitioners.

Again, the individual practitioner, being no longer identified with any particular organization, is not implicated in any canvassing or advertising, which the organization may desire to carry on for the furtherance of its other legitimate objects, apart from the provision of medical attendance.

Improves Other Conditions Indirectly.

The adoption of the principle will not directly affect the actual rate of remuneration or other conditions of appointment, beyond making them uniform as regards all practitioners concerned, but the fact that distinctions between individual practitioners are thus made impracticable, in itself removes the main causes which have prevented improvement in these matters.

An important effect of throwing open contract practice to all practitioners, and affording each patient a choice of doctors,

is the increased independence of the practitioner and improvement of his relations with his patients, inasmuch as they are no longer compelled to employ him, when not retaining their confidence.

Local Agreement.

Such an arrangement will usually be followed, if it has not been preceded by, some local agreement among the profession as to terms and conditions of contract practice generally, and agreements of this kind are essential, as a rule, for success in reform. The consideration, however, of the mode of affecting such agreements belongs rather to the next chapter of the Report.

Brief mention remains to be made of the special remedies which have been proposed for certain special difficulties.

Reforms Directly Affecting Remuneration.

In addition to the proposal that medical practitioners should be paid by fee instead of by premium, which has already been discussed, and proposals as to simple increase of remuneration, which will be separately considered, two sets of suggestions call for mention, each directed to improving the actual yield to the practitioner by preventing unnecessary work. The first is that a small charge should be made for medicines; the second that a separate charge should be made (*a*) for the first attendance in any year, or (*b*) for night visits and visits required out of ordinary hours, or (*c*) (small charges) for every attendance.

Increase of Remuneration.

Many respondents appear to hold the view that almost all the disadvantages of Contract Practice can be expressed in terms of remuneration, and can be removed by raising this to a suitable amount; 393 practitioners have stated the rates (for individual clubs) which they consider necessary, and these may be summarized as follows:

4s. or below	31
5s.	145
4s. to 6s.	52
6s.	78
8s.	22
10s.	23
Other amounts between 5s. and 10s. ...	29
12s.	5
Over 12s.	3
Number of practitioners who are satisfied with the rates they receive at present ...	165
Number of those who consider that the rates paid by clubs in the neighbourhood are too low	43

Rates a Local Question.

In view of the disparity of opinions as to rates, and of the special local considerations by which the suitability of a given rate must be determined, the exact amount would appear to be essentially a question for local decision by the profession.

Beneficiaries: Economic Position.

The remedies proposed in this matter are discussed in Chapter IV, under the head of wage limits. Such provisions exist in some forms of Contract Practice, and in these the only reform required is to enforce the existing rules; in other words, it is not a question of devising but of applying the remedy.

The greatest difficulty in this matter arises in connexion with the Friendly Societies, through the fact that they exist for other objects besides the provision of medical benefits. As has been pointed out, however, the difficulty is already solved in some cases by the provision that subscription by members for medical attendance shall be optional, and no reason is apparent to forbid the extension of this principle to all Friendly Societies, except the present unwillingness of the Societies.

It is believed by some that a general power vested in the medical officer of refusing to admit to his contract persons whom he may deem unsuitable as regards financial position is preferable to a prescribed wage limit. This, however, would appear to be a matter purely for local determination by the profession.

Beneficiaries: Sex and Age.

Though some respondents object to the inclusion of women and children, especially in Friendly Societies, the general opinion would appear to be that the question is largely one of remuneration, and therefore suitable for local decision on the grounds above stated.

Forms of Contract and Definitions of Duties.

Many of the difficulties experienced by medical practitioners in these matters would appear, so far as the replies in this inquiry afford an indication, to be due, in part at least, to omissions or negligence by themselves; and the remedy—for some at least of the disadvantages from which those engaged in contract practice suffer in this connexion—lies in their own hands, namely, by insisting upon greater precision in their contracts.

In those matters as to which disputes have arisen, specially the requirements as to certificates, and the attempt to include under ordinary attendance various special services, it would appear that local agreement in the profession is usually capable of effecting a satisfactory adjustment, since the contract organizations will not usually consider these matters of sufficient importance to merit a conflict with the united profession.

CHAPTER 16.—ORGANIZATION FOR REFORM.

1. PAST ACTION.

THE replies of respondents include accounts of various efforts which have been made for the reform of contract practice, either by individual action, by the informal co-operation of a few practitioners, or by organized local medical societies.

Individual Action.

Where individual practitioners have succeeded in effecting reforms, it will be found to have been due to special conditions of character or circumstances which enabled them to take up a strong position. Some instances will be found in the concluding section of Appendix C relative to the wage limit.

Concerted Action apart from Societies.

The accounts of local action contained in the replies do not afford, as a rule, very cheerful reading. The composite picture left in the mind after considering a number of them is somewhat as follows:

The medical men in a district united and asked the clubs for a uniform rate of 4s. per member; but with one or two exceptions the clubs refused to pay more than 2s. 6d. The clubs thereupon advertised, and had no difficulty in importing a practitioner to continue the work at the old rate or even less. Sometimes the practitioner who has accepted the appointment at the lower rate has been a local man, and in some cases even one of those who had at first taken part in the movement for reform.

There are exceptions where the whole body of practitioners has stood firm and obtained the required concessions, and in one or two instances the imported practitioner after seeing the state of the case has retired. Some practitioners attribute the success of their efforts to the fact that they had been conciliatory and temperate in their attitude towards the clubs and had expressed their requirements not as demands but as requests made in a friendly spirit. (The replies 2306, 2409, 2438, 2492, 2719, 2871, 2929, 2974, 3095, and 3526 in Appendix C afford illustrations.)

In cases where after a dispute the clubs have obtained an apparent advantage and have imported a man on their own terms, respondents sometimes allege that their position has nevertheless improved, and that their loss of club appointments has been fully compensated by a gain in private practice. (An example is given in reply 2033 in Appendix C.)

Action through Societies.

In Appendix E is contained an account of action taken in various parts of the country through local societies. Other familar cases of such action have been at Cork, Eastbourne, Folkestone, Hartlepool, Kidderminster, Rotherham, and Southampton, in several of which towns successful local medical societies have been formed with the primary object of abating the evils of special forms of Contract Practice, as of Medical Aid Societies in Eastbourne, Folkestone, and several other places, of Friendly Societies, as at Cork, or of Dividing Societies, as at Southampton.

On comparing the records of such action, a similarity of principle is observed, with local diversities of method.

Such organizations usually begin with some kind of pledge or agreement among the local practitioners. The advantages of definite organization being appreciated, a Society is formed and the agreement is translated into a rule of the Society.

The organizations which such societies have endeavoured to reform have been of every kind organized under non-medical control, including Friendly Societies, Works Clubs, Medical Aid Societies, and Provident Dispensaries. Of these, Medical Aid Societies of the canvassing type have been attacked by formation of Public Medical Services, and the difficulties of the societies in getting medical officers in view of the condemnation of canvassing by the General Medical Council has assisted materially to check the abuse.

The action of the Northumberland Medical Association, Durham Medical Union, Midland Medical Union, and certain local societies in South Wales has been successful in increasing by 50 per cent. the general remuneration in colliery appointments. The work of the two Societies first mentioned has now been taken over by the North of England Branch of the Association.

Friendly Societies and Provident Dispensaries have up to the present proved on the whole less amenable to reform, though as regards the former attempts at increasing the remuneration have often been successful.

When local Medical Societies have failed to achieve their objects, two causes appear to have operated: (1) particularly in large centres, the difficulty of obtaining complete local union; (2) the difficulty of preventing the importation of practitioners from outside the area, to accept appointments which local practitioners have vacated.

In the opinion of some, these difficulties in the past have been due to the want of authority of the purely local society, and some of the reports in Appendix E indicate that, in the opinion of some of those who have been most actively connected with the work of such societies, the Divisions of the British Medical Association will, by virtue of their affiliation to that body, be able to carry on the work of reform of Contract Practice with much greater prospects of success than the purely local societies could do.

2. Proposals for Future Action.

In Appendix C will be found several suggestions as to organization for future reform. Among these are proposals for legislation, which can hardly be considered within practical range, and proposals for action through the General Medical Council.

The General Medical Council.

The latter suggestions show that some respondents do not appreciate the position of the General Medical Council as a body constituted by Acts of Parliament for definite purposes defined in the Acts; that its disciplinary powers have to be exercised in accordance with this position; that it has no power to lay down general laws of conduct, but can only decide on the merits of actual cases; that as regards contract practice the Council has always confined its interference to cases of canvassing and advertising; and that, in the opinion of many who have given attention to the matter, the Council might be deemed by Parliament to have outstepped its province if it dealt with cases, say, of underselling in connexion with contract practice.

Action through Voluntary Organizations: Local and Central.

The methods of reform of Contract Practice (apart from the prevention of canvassing and advertising) which are open to the profession would appear, therefore, to be confined to action by the voluntary organizations of the profession, locally and centrally. The examination of the reforms necessary has indicated that as regards many of them action must be primarily local, the foundation being local union of the profession, and this being best obtained through some organized society. On the other hand, the considerations derived from the records of local action indicate the importance of central support, such as the British Medical Association can give to its Divisions.

Advantages of Action through the Divisions.

It is convenient to state here briefly certain advantages which the Divisions possess in dealing with matters of this kind.

It must first be noted that Divisions are constituted to act as local medical societies, and their constitution can be adapted in various ways to meet the special requirements of each district.

Adoption of Local Agreements.

The basis of action for the reform of Contract Practice by the profession has been shown to be local agreement, and the Divisions can bring about such agreement in the following ways:

1. By endeavouring to bring into their membership all local practitioners;
2. By adopting rules and resolutions having the effect of agreements; and
3. By the influence which through their agreement among themselves they are able to exercise even upon those members of the profession who are not members of the British Medical Association.

Rules and Resolutions.

With respect to the adoption of Rules and Resolutions by Divisions for the purpose of giving effect to local agreements attention may be drawn to the information contained in the Report by the Ethical Committee of the Association which constitutes Appendix G to the Report.

It will be seen that the policy of the Central Council has been to recommend Divisions to confine their Rules (which under the regulations of the Association must be definitely approved by the Central Council) to provisions of a very general kind, particularly such provisions as may make resolutions of the Division passed under certain conditions binding upon the members, and may prescribe conditions requisite to make such resolutions binding.

Details of local agreements as to rates and other matters are, in the opinion of the Council, more suitable for incorporation in resolutions which do not require submission to the Council, but may yet be binding if adopted in conformity with the Rules of the Division.

Advantage through Affiliation to the Association.

By the regulations of the Association (*a*) every member of the Association is a member of the Division and Branch in which he resides, and (*b*) while a member of the Division is bound by its rules, and resolutions binding under the rules. Hence if a member of the Association takes up his residence within the area of a Division, he at once becomes bound by the rules of that Division.

Definite recommendations as to procedure for the reform of Contract Practice are contained in the next chapter.

PART V.

Chapter 17.—CONCLUSIONS AND RECOMMENDATIONS.

Conclusions.

In the opinion of the Medico-Political Committee, the following are the main conclusions established by the facts elicited in the inquiry:

1. There are districts in which it appears to be necessary, under present conditions, that certain classes of the community should be enabled to provide for the cost of medical attendance and expenses directly related thereto by some system of small periodic payments.

2. In the systems whereby such provision is at present being made, two principal methods of remuneration of the medical attendant may be distinguished, and these differ in some respects in their effects upon the medical profession. These are:

   (*a*) The medical practitioner, in consideration of contracting to give such medical services as may be required by any or all of certain specified individuals, receives all or a specified part of the periodic payments made by or in respect of those individuals.

   (*b*) The medical practitioner, in consideration of medical services actually rendered, is paid fees according to a specified schedule or scale out of a fund created by the periodic payments of those concerned.

The system (*a*) has been long established and is widely prevalent; (*b*) is recent and exceptional.

3. Under the first system, where a definite organization exists, the administration is usually under non-medical control.

4. Under the first system the rate of remuneration of the medical officer is, in the majority of cases, inadequate, even when measured by current rates of fees in working-class practice.

5. Under the first system the relation of the medical attendant to his patient tends to become unsatisfactory.

6. Under the second system the administration of the insurance is in all existing cases in the hands of non-medical organizations.

7. Under the second system the governing bodies fix scales of allowances for medical attendance, and these, though intended to be partial or minimal, are apt to become the maximal remuneration received by the profession.

8. Under both systems there is a tendency to admit persons

who are able to pay for medical attendance by fees, and thus to violate the fundamental understanding upon which the medical profession have entered into such contracts.

9. Under both systems there is a tendency for the medical attendant to be brought into unsatisfactory relations with other members of the profession.

10. The cause of the above evils is the advantage which non-medical organizations are able to take of the competition between individual medical practitioners.

11. Where separate appointments or private clubs are held by individual medical practitioners, the competition is accentuated, and the power of non-medical organizations to impose unsatisfactory conditions upon the medical profession increased.

12. Conversely, where participation in contract practice has been thrown open to all medical practitioners in a district, the position of the profession as a whole has been improved.

13. Other measures which have improved the position of the profession in certain districts are the following:

Representation of the medical profession in the management,

The adoption of wage limits or equivalent provisions,

Definition of special services and provision for payment therefor, and

Increase of remuneration for ordinary attendance.

14. Those reforms which have been obtained have been effected by co-operation among members of the medical profession locally and generally.

15. Such co-operation, except in self-contained districts in which there are few practitioners, has been brought about through the agency of organized local bodies representative of the profession.

16 Where the efforts of such local societies have failed to obtain the reforms attempted, such failure has been largely due to the want of their organic relation with an organized body representative of the profession throughout the country.

17 There is evidence that since the reorganization of the British Medical Association this difficulty has already, in some instances, been overcome by the action of the Divisions as local medical societies organically connected with a national organization of the profession.

RECOMMENDATIONS.

1. That the conditions upon which the medical practitioners in any district undertake contract practice should be prescribed by arrangement among themselves.

2. That the control of the profession over the conditions of contract practice can only be effectually exercised under the conditions of a Public Medical Service, namely:

(*a*) That the general control be in the hands of some organized local body representative of the profession, such as a Division of the British Medical Association.

(*b*) That it be open to every practitioner in the district to take part in the work, should he desire to do so, and conform to the regulations of the profession.

(*c*) That the details of administration be under the direct control of a purely medical committee representing both those who do and those who do not take part in contract work.

3. That whenever, in the opinion of the local medical profession, the immediate institution of a Public Medical Service is for any reason impracticable, the three main principles above stated should be carried into effect as far as possible. That is to say:

(*a*) That, with regard to the conditions upon which they will accept contract practice, the medical practitioners of each district should collectively and individually enter into an agreement, in which the following matters are specifically prescribed:

(i) Rates of remuneration.

(ii) Conditions of admission to attendance under contracts, including provisions with respect to the economic position, age, and health of candidates.

(iii) Definitions of the services to be rendered under the contract.

(iv) Where appointments are made by non-medical bodies—the forms of contract, tenure of office, and representation of the medical profession in the management of the medical service.

(*b*) That practitioners should cease to hold separate appointments or to carry on private clubs, and the principle of distribution of contract practice among all practitioners in the district who desire to participate should be carried into effect.

(*c*) That organized forms of contract practice at present under the control of non-medical committees should gradually be brought under direct medical control.

4. That agreements among local members of the profession with respect to contract practice should be effected through the agency of organized local bodies representative of the profession, the rules of which should make the agreements binding upon the members.

5. That the professional organizations referred to should in each case be a Division of the British Medical Association.

6. That to render professional co operation as complete as possible the Divisions should endeavour to secure the inclusion of every practitioner in their membership, and should make their decisions binding by adopting rules such as have been suggested by the Ethical Committee. (See Appendix G.)

7. That the Divisions be urged to establish a Public Medical Service in every area in which Contract Practice is believed by them to be necessary.

Preparation of the Report.

The Medico-Political Committee in concluding this report desire specially to acknowledge the valuable services of the Medical Secretary, Mr. J. Smith Whitaker, in the preparation of the text, and of Dr. Leonard Youatt in making the careful analyses on which it is based.

R. C. BUIST,

Chairman of the Medico-Political Committee.

SPECIAL REPORT ON PROVIDENT DISPENSARIES.

(A) Fundamental Principles affecting the Relation of such Dispensaries to the Medical Profession.

(1) *Object of Provident Dispensaries.*

The recognized object of Provident Dispensaries is to enable certain sections of the community to make provision for part or all of the cost of medical attendance upon themselves and their families by a system of weekly or monthly payments.

(2) *Benefits Included.*

The medical benefits of Provident Dispensaries may include medical attendance at any surgery provided by the Dispensary or by the medical officer, attendance at the patients' homes when necessary, supply of medicines, and medical and surgical appliances, as defined by the local rules.

(3) *Persons Suitable for Admission.*

The medical benefits of Provident Dispensaries should be confined to those whose means are such that they are unable to pay the full cost of ordinary medical attendance.

(4) *Staff.*

Inasmuch as the system of Provident Dispensaries is a form of Contract Practice, it should be a fundamental principle of their constitution that every medical practitioner in the district for which the Dispensary provides, who wishes so to act, should be a medical officer of the Dispensary, provided that he conforms to the rules thereof.

(5) *Local Medical Control.*

(A) The local practitioners should in all cases prescribe the conditions upon which they will render services through the Provident Dispensary, as regards:

(i) Representation of the Profession in the management;

(ii) Definition by wage limit or otherwise, of the class to be admitted;

(iii) The amount to be paid by each member to the medical officer attending him, as determined by—

(*a*) The contributions of members to the funds; and

(*b*) The proportion of such contributions paid to the medical staff;

(iv) The system of the distribution of the work among members of the Profession;

(v) The [scope of the] duties of the Medical Staff.

(B) Inasmuch as the constitution and management of Provident Dispensaries are a matter of concern not only to the medical staffs of such institutions but to the general body of the Profession in the district, the Profession as a whole in each district has a right to be consulted, and this should be done through organized local bodies, such as the Divisions of the British Medical Association.

(B) Scheme of Rules of Provident Dispensaries Suggested for Adoption by Divisions of the Association, or by other Organized Local Bodies representative of the Medical Profession.

(1) *Admission of Provident Members—Ordinary.*

(*a*) That provision be made in the Rules, by wage limit or otherwise, for the admission to the benefits of the Dispensary of such persons only as are suitable, in respect of means, for admission.

(*b*) That if such provision be by wage limit, provision be made for suitable modification in respect of number in a family, and other special circumstances of individual cases.

(2) *Admission of Provident Members—Friendly Societies.*

That members of Friendly Societies be admitted under the same Rules as other members.

(3) *Subscriptions to the Funds from other than Beneficiaries.*

That, where local circumstances render it desirable, provision may be made for subscription to the Funds by persons who do not share the benefits.

(4) *Committee of Management.*

That the Committee of Management, upon which the members of the medical profession should be a clear majority, should include:

(*a*) Representatives—

(i) elected annually by and from the medical staff,

(ii) of the local medical profession elected by some organized body, such as a Division of the British Medical Association, and

(iii) of the managing body of any allied hospital.

(*b*) Representatives annually elected by and from the provident members.

(*c*) Representatives annually elected by subscribers who do not participate in the benefits.

(*d*) The honorary secretary, treasurer, and other officers elected in such manner as the Rules of the Dispensary may prescribe.

(5) *Medical Staff: Appointment.*

That all registered medical practitioners resident within the area of operation of a Provident Dispensary shall be eligible for appointment to the staff in accordance with Clause (6) of the Fundamental Principles.

(6) *Medical Staff: Distribution of Work.*

That it be open to each Provident member to select the member of the staff by whom he or she desires to be attended, provided—

(*a*) That a change of medical attendant shall take place only at such fixed periods, or upon such conditions, as may be prescribed by Rules approved by the staff.

(*b*) That it shall be open to each medical officer to limit the number of members of the Dispensary whom he will consent to attend, or to decline to attend any individual member.

(7) *Duties of Medical Staff.*

That the duties of the medical staff in respect of attendance on the Provident members be defined in the Rules of the Dispensary.

(8) *Payments of Provident Members.*

That the payments of Provident members, including special payments, if any, for cards, medicines, fines, or other matters, be fixed by the Rules of the Dispensary.

(9) *Contributions—Special Services.*

(*a*) That obstetric services be paid for separately and in advance in all cases, in accordance with provisions defined in the Rules.

(*b*) That such provision as local circumstances render necessary be made with respect to other special services.

(10) *Division of Payments among Medical Officers.*

That the entire surplus of the payments of the Provident members, after payment of necessary working expenses, including drugs and dispensing—if the Dispensary supplies medicines—shall be divided periodically among the medical staff, in proportion to the number of members on their respective lists.

(11) *Capital Charges.*

That no payment be made from Provident members' ordinary contributions in respect of buildings or other capital charges of a like nature.

(12) *Canvassing and Advertising.*

That the Rules should contain provisions against personal canvassing for members and against advertising of individual medical practitioners.

(13) *Collections of Payments.*

All payments of Provident members shall be made at an office provided for the purpose, and visiting collectors shall not be employed.

(14) *Relation of Provident Dispensaries to one another.*

(*a*) That the area in which each Provident Dispensary operates shall be defined.

(*b*) That provision be made for transference of members from one Provident Dispensary to another.

(15) *Approval of Rules of Dispensaries by Medical Staff.*

That the Rules defining the conditions of service of the medical staff be not altered, except with the approval of a two-thirds majority in a meeting of the medical staff, after fourteen days' notice of the proposed alteration shall have been given to every member thereof.

(16) *Approval of Rules by Local Medical Profession.*

That the Rules affecting—

(*a*) The amount of payments of Provident members (other than those, if any, for capital charges);

(*b*) The eligibility of medical practitioners for appointment to the staff;

(*c*) The conditions of dismissal of members of the staff;

(*d*) The definition of persons entitled to become Provident members; and

(*e*) The representation of the medical staff and medical profession in the management,

be not altered except with the approval of some organized body locally representative of the profession, such as a Division of the British Medical Association.

SPECIAL REPORT ON PUBLIC MEDICAL SERVICES.

RECOMMENDATIONS OF THE MEDICO-POLITICAL COMMITTEE.

A) Fundamental Principles Affecting the Relation of such Services to the Medical Profession.

(1) *Object of Public Medical Services.*

The recognized object of Public Medical Services is to enable certain sections of the community to make provision by a system of weekly or monthly payments for part or all of the cost of medical attendance upon themselves and their families by means of an organization under the sole control of the medical profession.

(2) *Benefits Included.*

The medical benefits of Public Medical Services may include medical attendance at any surgery provided for the Service or by the medical officer, attendance at the patients' homes when necessary, supply of medicines, and medical and surgical appliances, as defined by the local rules.

(3) *Persons Suitable for Admission.*

The medical benefits of each Public Medical Service should be confined to those who are deemed suitable by the local profession for admission.

(4) *Staff.*

It should be a fundamental principle of the constitution that every medical practitioner in the district for which the Service provides, who wishes so to act, should be a medical officer of the Service, provided that he conforms to the rules thereof, and provided that, if not introduced as the successor or partner of a practitioner in the district, he shall have been resident at least six months in the district.

Inasmuch as the constitution and management of Public Medical Services are a matter of concern not only to the active staffs of such institutions, but to the general body of the Profession in the district, the Rules should be made subject to the approval of some organized local body representative of the profession, such as a Division of the British Medical Association.

(B) Scheme of Rules of Public Medical Services suggested for adoption by Divisions of the Association, or by other Organized Local Bodies representative of the Medical Profession.

(1) *Admission to Benefits—Ordinary.*

(*a*) That provision be made in the rules, by wage limit or otherwise, for the admission to the benefits of the Service of such persons only as are suitable, in respect of means, for admission.

(*b*) That, if such provision be by wage limit, provision be made for suitable modification in respect of number in a family, and other special circumstances of individual cases.

(*c*) That members of Friendly Societies be admitted under the same rules as other members.

(2) *Management.*

That the Committee of Management should include:

(*a*) Representatives elected annually by and from the Medical Staff.

(*b*) Representatives of the local medical profession elected annually by some organized local body, such as a Division of the British Medical Association.

(*c*) Medical Representatives of local allied hospitals.

(3) *Medical Staff: Appointment.*

That all registered medical practitioners resident within the area of operation of the Service shall be eligible for appointment to the staff in accordance with Clause (5) of the Fundamental Principles.

(4) *Medical Staff: Distribution of Work.*

That it be open, to each patient entitled to benefit, to select the member of the staff by whom he or she desires to be attended, provided:

(*a*) That change of Medical Attendant shall take place only at such fixed periods, or upon such conditions, as may be prescribed by Rules approved by the staff.

(*b*) That it shall be open to each Medical Officer to limit the number of patients of the Service whom he will consent to attend or to decline to attend any individual patient.

(5) *Duties of Medical Staff.*

That the duties of the staff in respect of medical attendance be defined in the Rules of the Service.

(6) *Payments of Patients.*

(*a*) That the payments of patients, including special payments, if any, for cards, medicines, fines, or other matters, be fixed by the Rules of the Service.

(*b*) That no lower rate be charged for children than for adults, subject to a special provision for families above a certain number.

(*c*) That patients admitted when over 50 years of age be subject to an extra charge.

(7) *Payments—Special Services.*

That such provisions as local circumstances render necessary be made with respect to payment for midwifery, and other special services.

(8) *Payments—(a) Distribution among Medical Officers.*

That the entire surplus of the payments of patients after payment of necessary working expenses, if the Service supplies medicines, shall be divided periodically among the Medical Staff, in proportion to the number of members on their respective lists.

(9) *Canvassing and Advertising.*

That the Rules should contain provisions against personal canvassing for members and against advertising of individual Medical Practitioners.

(10) *Relation of Public Medical Services to one another.*

That provision be made in the Rules for transference of patients from one Public Medical Service to another.

(11) *Approval of Rules by the Local Medical Profession.*

That the Rules affecting

(*a*) The amount of payments of patients;

(*b*) The eligibility of medical practitioners for appointment to the staff;

(*c*) The conditions of dismissal of members of the staff;

(*d*) The definition of persons entitled to become patients; and

(*e*) The representation of the Medical Staff and local Profession in the management

be not altered except with the approval of some organized body locally representative of the Profession, such as a Division of the British Medical Association.

APPENDICES.

A.—THE FORMS OF INQUIRY ISSUED TO INDIVIDUAL PRACTITIONERS.*

BRITISH MEDICAL ASSOCIATION.

_____ *Division.*

_____ 1904

DEAR SIR,—The British Medical Association, realizing the great importance to the medical profession of the question of contract practice, and the necessity of basing any attempt to deal with the abuses of such practice upon a careful investigation of the economic facts, is undertaking such an investigation through the machinery of its Divisons.

As Secretary of the _____ Division, I have, therefore, been desired to communicate to you the enclosed forms in the hope that you will, in the interests of the profession, assist in the investigation by anwering to the best of your ability the inquiries made.

You will observe that each of the enclosed forms is intended to be filled up with reference to one club or other appointment only. If you hold more than one such appointment, will you kindly apply to me on the form annexed for as many forms as you require?

After filling up the forms, please forward them in the enclosed envelope to the Medical Secretary of the British Medical Association, by whom your replies will be regarded as absolutely confidential, and will in no circumstances be published, being used solely for the purpose of compiling statistics.

I am,
Yours faithfully,

_____
Honorary Secretary.

To _____ Division,
Dr. _____ BRITISH MEDICAL ASSOCIATION.

INVESTIGATION OF CONTRACT PRACTICE.

(A) CLUBS PROVIDING ATTENDANCE FOR MEMBERS ONLY.

I. (*a*) Do you hold any appointment as Medical Officer to a Friendly Society, Provident Association, or Club?
(*b*) Have you a Private Club?
(*For a Private Club, please use the special Form* C.)

II. If you hold an appointment or appointments, please give the following particulars as far as you can:
1. (*a*) Names of all *Societies for which you act.
(If you hold more than one appointment, please give the answers to the following questions on a separate form for each appointment.)
(*For a Family Club, use Form* B).
(*b*) Name of *Society to which the replies given on this form relate.
2. Does it belong to any general Order, or is it purely local?
3. Number of members of the *Society to which you are Medical Officer.
4. Rate per annum paid by members to the Society for medical benefits.
5. Rate per annum per member paid by Society to Medical Officer.
6. Definition of duties of Medical Officer in rules of *Society.
(*Please send a printed copy, if available.*)
7. Rates for extra services, such as midwifery, vaccination, operations, etc.
8. Notice prescribed for termination of contract.
9. Have you the power to refuse to attend under your contract persons whom you consider to be, on the ground of means, unsuitable for medical benefits?
10. Are you the only Medical Officer to the *Society?
If not, by what regulations is the work distributed, and for how many members are you personally responsible?
11. What is your experience of the amount of medical attendance required per member per annum:
(*a*) Visits;
(*b*) Consultations at surgery;
(*c*) Medicine?
12. What are your regular fees for attendance on the same class of patients in private practice:
(*a*) Visits;
(*b*) Consultations at surgery;
(*c*) Medicine (if supplied, and charged for separately)?
13. How old is the Society?
14. (*a*) What is the average age of the present adult members?
(*b*) If there are "juvenile" members, (i) what is the earliest age at which they are admitted, and (ii) at what age do they cease to be counted as such?
15. Can you ascertain how many of the members are members of more than one Friendly Society, or other organization for providing contract medical attendance?
16. Can you estimate the proportion of members who, for the above or other reasons, do not employ the club doctor?

III. 1. Do you consider that (*a*) the rates paid by any Society to which you are Medical Officer, or (*b*) the current rates paid by Friendly Societies and similar institutions in the district, are too low?
If so, what rates would you consider suitable?
2. Do you consider that a wage limit should be fixed in contract practice?
If so, of what amount?
3. Do you consider that the relations of Medical Officers to Friendly Societies or similar institutions in the district require readjustment in any other respect?

IV. Please give any other information or add any remarks that you may desire.

(B) FAMILY CLUBS.

I. (*a*) Do you hold any appointment as Medical Officer to a Friendly Society, Provident Association, or Club?
(*b*) Have you a Private Club?
(*For a Private Club, please use special Form* C.)

II. If you hold an appointment, or appointments please give the following particulars as far as you can:
1. (*a*) Names of all *Societies for which you act.
(If you hold more than one appointment, please give the answers to the following questions on a separate form for each appointment.)
(*For a Non-Family Club use Form* A.)
(*b*) Name of *Society to which the replies given on this form relate.

* By "Society" is meant each individual Club, etc.: for instance, in the case of general Orders, such as the Oddfellows or Foresters, each "Lodge" or "Court."

* The Committee, finding that publication of extracts from some replies would be advantageous, sought and obtained leave to publish these. (See Appendix C, p. 38.)

2. Does it belong to any general Order, or is it purely local?
3. (*a*) Number of members of the *Society to which you are medical officer; (*b*) number of persons whom you are under contract to attend.
4. Rate per annum paid by members to the Society for medical benefits. (If the rate varies at all in relation to the number in family please give details.)
5. Rate per annum per member paid by Society to medical officer. (Please give details of variations in rate, if any, as desired under Question 4.)
6. Definition of duties of medical officer in rules of *Society.
7. Rates for extra services, such as midwifery, vaccination, operations, etc.
8. Notice prescribed for termination of contract.
9. Have you the power to refuse to attend under your contract persons whom you consider to be, on the ground of means, unsuitable for medical benefits of this kind?
10. Are you the only Medical Officer to the *Society? If not, by what regulations is the work distributed, and for how many members are you personally responsible?
11. What is your experience of the total amount of medical attendance given per annum under your contract:
    (*a*) Visits;
    (*b*) Consultations at surgery;
    (*c*) Medicine?
12. What are your regular fees for attendance on the same class of patients in private practice:
    (*a*) Visits;
    (*b*) Consultations at surgery;
    (*c*) Medicine (if supplied, and charged for separately)?
13. How old is the Society?
14. (*a*) What is the average age of the adults entitled to attendance?
    (*b*) If the rate for children differs from that for adults, at what age does the adult rate become chargeable?
    (*c*) Is there any limit of age below which children are not admitted?
15. Can you ascertain how many of the members are members of more than one Friendly Society, or other organization for providing contract medical attendance?
16. Can you estimate the proportion of those who, for the above or other reasons, do not employ the club doctor?

III. 1. Do you consider that (*a*) the rates paid by any Society to which you are Medical Officer, or (*b*) the current rates paid by Friendly Societies and similar institutions in the district, are too low? If so, what rates would you consider suitable?

2. Do you consider that a wage limit should be fixed in contract practice? If so, of what amount?
3. Do you consider that the relations of Medical Officers to Friendly Societies or similar institutions in the district require readjustment in any other respect?

IV. Please give any other information or add any remarks that you desire.

(C) PRIVATE CLUBS.

I. 1. Do you hold any appointment as Medical Officer to any Friendly Society, Provident Association, or Club (other than the Private Club to which your answers on this form relate)?
2. If so, please give the names of all Societies of which you are Medical Officer.

II. With reference to your Private Club, please give the following particulars as far as you can:
1. Number of members.
2. Does the subscription cover attendance on members only or on their families also?
3. Rate paid to you per annum per member.
   If the rate covers families of members, and if there is any variation according to the number in family, please give details.
4. Rates (if any specified) for extra services, such as midwifery, vaccination, operations, etc.
5. (*a*) What is the average age of the adults in your club?
   (*b*) If the rate for children differs from that for adults, at what age does the adult rate become chargeable?
   (*c*) Do you make a rule not to admit children below a specified age, and if so, what is the age specified?
6. Have you any rules prescribing other conditions of the contract besides rates? If so, please state the same, or inclose a copy.
7. Do you adopt any general principle, or definite rule, with respect to excluding from your club persons whom you consider it undesirable to admit, on the ground that they can afford to pay ordinary fees?
8. What is your experience of the amount of medical attendance required per member per annum:
   (*a*) Visits;
   (*b*) Consultations at surgery;
   (*c*) Medicine?
9. What are your regular fees for attendance on the same class of patients in private practice:
   (*a*) Visits;
   (*b*) Consultations at surgery;
   (*c*) Medicine (if supplied, and charged for separately)?
10. How long has the club been carried on?
11. Are the subscriptions paid to you direct, or do you employ a collector?
    If you have a collector, is he paid by commission?

III. 1. What are the reasons which in your opinion make it profitable to you to conduct such a club in connexion with your practice?
   (For example, to meet the competition of Friendly Societies or similar organizations? to meet the competition of other practitioners, who have private clubs? to obtain payment from patients who might not pay bills? or, to extend your professional connexion?)
2. Do you think it desirable, in the interests of the profession, that there should be a local agreement among the practitioners in your district not to carry on such clubs?
   Would you be a party to such an agreement?

IV. Please give any other information or add any remarks that you desire.

B.—STATISTICAL ABSTRACTS OF INFORMATION CONTAINED IN REPLIES OF INDIVIDUAL PRACTITIONERS.

GENERAL SUMMARY OF REPLIES RECEIVED.

Total replies received	1,548
From practitioners engaged in Contract Practice	856
From practitioners not engaged in Contract Practice	692
Number of appointments upwards of	2,300
Number of clubs providing attendance for members only	1,793
Number of Family clubs	177
Number of Private clubs	253
Branches of the National Deposit Friendly Society	34

Friendly Societies and Similar Clubs.

Number of clubs which admit adult males only	1,265
,, ,, ,, juveniles but not females	404
,, ,, ,, females but not juveniles	38
,, ,, ,, females and juveniles	89

Private Clubs.

Number of clubs which admit adult males only	34
,, ,, ,, ,, and juveniles	9
,, ,, ,, females only	3
,, ,, ,, all ages and both sexes	207

RATES.

FRIENDLY SOCIETIES AND SIMILAR CLUBS.

Per Adult Male Member per Annum.	Cases.	Per cent.
2s. and under 3s.	135	8.25
3s. ,, 4s.	256	15.60
4s. ,, 5s.	864	52.64
5s. and upwards	386	23 51
	1,641	100.00

5s. and over	23 50 per cent.
Less than 5s.	76.50 ,,
	100.00
4s. and over	76.15 ,,
Less than 4s.	23 85 ,,
	100.00

Rates in Similar Clubs which admit Juveniles.

Juvenile rate same as adult or not stated	307
,, ,, lower	123
Juveniles only	2
	432
Juvenile rate more than half adult rate	67
,, ,, half adult rate	47
,, ,, less than adult rate	9
	123

Table Showing Yield per Attendance.

Rate of Subscription per Member per Annum.	Members.	Aggregate Subscriptions per Annum on which Rate is Based.	Aggregate Attendances per Annum.	Average Subscription per Member per Annum.	Average Attendances per Member per Annum.	Average Fee per Attendance.
				s. d.		
2s. to 3s.	9,630	23,025	34,622	2 4½	3.59	7.95
3s. to 4s.	9,311	30,124	34,237	3 3	3.67	10.55
4s. to 5s.	17,741	72,462	79,198	4 1	4.40	10.98
5s. upwards	4,211	22,848	19,348	5 5	5 43	13.36
	40,893	148,459	167,405	3 7⅝	4.10	10.60

WORKS CLUBS.*

Northern Counties.

Collieries	15			
Works	8			
Individual and family rates	9			
Individual rates only	6	Highest 4s. 0d.	Lowest 2s. 6d.	
Family rates only	7	,, 16s. 0d.	,, 8s. 0d.	
Doubtful	1			
Individual and family rates		Family ,, 21s. 8d.	,, 8s. 8d.	
		Individual ,, 13s. 0d.	,, 4s. 0d.	

Midland Counties.

Collieries	4			
Works	1			
Individual and family rates	1	Rate 9s. 0d.	Family 8s. 0d.	Single
Family rates only	1	,, 8s. 8d.	,,	
Individual rates only	2	,, 10s. 0d.	,, 6s. 6d.	
Fixed Salary	1			

Southern and South-Western Counties.

Collieries	1	
Works	5	
Individual and Family rates	3	1 at 1s. per month married, 9d. single. 1 at 12s. per year family, single man 6s. 1 at 9s. ,, ,, ,, ,, 6s.
Individual rates only	1	at 4s. 4d.
Family rates only	2	1 at 4s. 2d., 1 at 12s.

Scotland.

Collieries	5	at 13s. family, 6s. 6d. boys.
	8	at 13s. family.
	2	at 12s. family.
	1	at 6s. 6d. married man. 4s. 4d. wife. 2s. 2d. child.
Works	1	at 2s. 9d. per member.
Unclassed or incomplete	7	

North Wales.

Quarries,	4.	1 at 4s. per member. 1 at 8s. 8d. per member or 15s. 2d. per family. 2 at 12s. per family.
Collieries,	2.	1 at 6s. 3d. per member. 1 at 8s. 8d. per family or 2d. in £1.
Works,	5.	6s. 6d. to 10s. 10d. per family.

South Wales.

Works, by poundage	3	1 at 2d. 1 at 3d. 1 salary to medical officer.
By subscriptions for family	8	1 at 10s.; single man 8s. 8d. 3 at 12s. 4 at 13s.
Collieries, by poundage	9	2 at 2d. and 2½d. in £. 7 at 3d.
,, by subscriptions	1	1 at 13s. per family.
,, not stated	1	
Quarries	1	12s. per family.

PRIVATE CLUB RATES.

An adult male-rate was specified in 154 cases. These are:

	Cases.
2s. to 3s.	3
3s. to 4s.	3
4s. to 5s.	66
5s. and over	82

*The rates in Works Clubs differ so widely that it has been found impracticable to give a useful general summary.

Local Variations in Rates of Agricultural Wages.*

From the Eighth Annual Abstract of Labour Statistics.

	s. d.		s. d.		s. d.
Northern Counties	18 6	to	20 9	average about	19 3
Midland Counties	14 8	,,	19 11	,,	17 2
Eastern Counties	14 5	,,	17 9	,,	15 8
Southern and South-Western Counties ...	14 9	,,	19 10	,,	16 6
Wales	14 9	,,	19 7	,,	16 6

Local Variations in Rates in Friendly Societies and Similar Clubs.

Northern Counties.

Rates per Member per Annum.	Cases.	Per cent.
6s. and upwards	5 ...	1.33
5s. ,, ...	27 ...	7.20
4s. ,, ...	201 ...	53.60
3s. ,, ...	88 ...	23.47
2s. ,, ...	54 ...	14.40
(Miscellaneous, etc., 14.)		
	375 ...	100.00

In 8 cases a separate rate is charged for sickness and for accidents.

In 2 cases the rate is for sickness only and excludes accidents.

5s. and over	8.53 per cent.
Less than 5s.	91.47 ,,
	100.00
4s. and over	52.10 per cent.
Less than 4s.	37.90 ,,
	100.00

Midland Counties.

Rates per Member per Annum.	Cases.	Per cent.
6s. and upwards	8 ...	3.02
5s. ,, ...	24 ...	9.06
4s. ,, ...	161 ...	60.75
3s. ,, ...	60 ...	22.64
2s. ,, ...	12 ...	4.53
(Miscellaneous, 2)		
	265 ...	100.00

5s. and over	12.08 per cent.
Less than 5s.	87.92 ,,
	100.00
4s. and over	72.83 per cent.
Less than 4s.	27.17 ,,
	100.00

Eastern Counties.

Rates per Member per Annum.	Cases.	Per cent.
6s. and upwards ...	18 ...	9.32
5s. ,, ...	74 ...	38.34
4s. ,, ...	92 ...	47.67
3s. ,, ...	7 ...	3.63
2s. ,, ...	2 ...	1.04
(Miscellaneous, 14.)		
	193 ...	100.00

5s. and over ...	47.66 per cent.
Less than 5s. ...	52.34 ,,
	100.00
4s. and over ...	95.33 per cent.
Less than 4s. ...	4.67 ,,
	100.00

Southern and South-Western Counties (including Monmouth).

Rates per Member per Annum.	Cases.	Per cent.
6s. and upwards	31 ...	6.79
5s. ,, ...	172 ...	37.47
4s. ,, ...	238 ...	51.85
3s. ,, ...	17 ...	3.67
2s. ,, ...	1 ...	0.22
(Miscellaneous, 22.)	459 ...	100.00

5s. and over ...	44.30 per cent.
Less than 5s. ...	55.70 ,,
	100.00
4s. and over ...	96.10 per cent.
Less than 4s. ...	3.90 ,,
	100.00

London.

Rates per Member per Annum.	Cases.	Per cent.
6s. and upwards	5 ...	4.68
5s. ,, ...	7 ...	6.54
4s. ,, ...	95 ...	88.78
3s. ,, ...	0 ...	0
2s. ,, ...	0 ...	0
	107 ...	100.00

5s. and over ...	11.22 per cent.
Less than 5s. ...	88.78 ,,
	100.00
4s. and over ...	100.00 per cent.
Less than 4s. ...	0.00 ,,
	100.00

Duplicate Membership of Clubs.

(i) *Summary of Replies Stated Numerically.*

No members belonging to other clubs	74
No. of ,, ,, ,, ,, Less than 25 per cent.	86
,, ,, ,, ,, 25 per cent. to 50 per cent. ...	42
,, ,, ,, ,, 50 per cent. or more	50

(ii) *Summary of Replies Stated Verbally.*

"Very few" members belong to more than one club ...	219
"Many," "a good many," or "most"	90

Proportion Employing the Club Doctor.

All	133
75 per cent.	61
50 to 75 per cent.	34
50 per cent. or less	17

Conditions of Contract other than those affecting Rates.

(a) Notice to Terminate Contract.

"No agreement"	251
"At the pleasure of the court"	98
Three months or less	474
Six months	183
From six to twelve months	30
Annual appointment	126
Three years' agreement	3
Five years' agreement	3
Life appointment	1

(b) Wage Limit.

Number of appointments in which practitioners concerned state that they have power to exclude candidates for membership whom they consider to be, on the ground of means, unsuitable for medical benefits 131

(c) Individual Choice of Medical Attendant.

Number of appointments in which the members of the society have the privilege of choosing their own medical attendant 211

* This information is inserted to facilitate comparison of local variations in rates of club subscriptions with variations of wages in the same districts.

(d) INFERIOR AGE LIMIT.

(In Friendly Societies and Similar Clubs which admit Juveniles.)

Admitted from birth	31
Admitted at one month	1
,, ,, three months	1
,, ,, six months	1
,, ,, nine months	1
,, ,, one year	59
,, ,, two years	9
,, ,, three years	24
,, ,, four years	26
,, ,, five years	31
,, ,, six years	45
,, ,, seven years	18
,, ,, eight years	12
,, ,, nine years	1
,, ,, ten years	15
,, ,, eleven years	1
,, ,, twelve or any working age	21
	297

PRIVATE CLUBS.

Number of clubs in which medical attendance is provided for all ages and both sexes	207
Number of these in which an inclusive family fee is charged, or a reduced fee to members of a family above a specified number	104

INFERIOR AGE LIMIT IN PRIVATE CLUBS.

From birth	165
One year or less	10
Two years	5
Three years	1
Five years	1

WAGE LIMIT (PRIVATE CLUBS).

In 187 cases out of 230 in which the question is answered there is either a definite wage limit prescribed, or some other means is adopted in order to exclude persons who are able to pay ordinary fees.

COLLECTION OF SUBSCRIPTIONS.

Paid direct to the medical officer	129
To a collector	87
,, paid by commission	66
Unanswered	37

ANALYSIS OF SUGGESTIONS AS TO REFORM.

Club Rates.

Number of practitioners who consider that the rates they receive at present are inadequate	458
Number of practitioners who state the amounts to which rates should, in their opinion, be raised	393

These suggestions may be summarized as follows:

4s. or below	31
5s.	145
4s. to 6s.	52
6s.	78
8s.	22
10s.	23
Other amounts between 5s. and 10s.	29
12s.	5
Over 12s.	4
Number of practitioners who are satisfied with the rates they receive at present	165
Number of these who consider that the rates paid by clubs in neighbourhood are too low	43

Wage Limit.

Number of practitioners who consider that a wage limit should be imposed	542
Number of these who specify amounts at which it should be fixed	324
Number of practitioners who express general approval of a wage limit, but regard its imposition as impracticable	77
Number of practitioners definitely opposed to the imposition of a wage limit	55
The specific wage limits are as follows:	
20s. and under	35
30s. and under	131
40s. and under	120
Over 40s.	29

Local Agreement not to Carry on Private Clubs.

"Do you think it desirable, in the interests of the profession, that there should be a local agreement among the practitioners in your district not to carry on such clubs?"

"Would you be a party to such an agreement?"

Number of practitioners who reply to both questions in affirmative	63
Number of practitioners who, though convinced that such an agreement was undesirable, were willing to take part if it met with local approval	30
Number of practitioners who neither thought such an agreement desirable nor were they willing to take part in it if made	65
Number of practitioners who thought such a local arrangement undesirable, but gave no indication as to what their course of action would be if it were made	18
Number of practitioners who were doubtful as to the desirability of the course, but expressed their willingness to take part in it	8
Number of practitioners who left the question unanswered	61

C.—(I) EXPRESSIONS OF OPINION BY PRACTITIONERS ENGAGED IN CONTRACT PRACTICE. (II) EXPRESSIONS OF OPINION BY PRACTITIONERS *NOT* ENGAGED IN CONTRACT PRACTICE.

[*For the reasons explained in the footnote on p. 33, the following letter has been addressed to all practitioners (whose names were known) whose opinions on the general question of Contract Practice, as expressed in their original replies to the Committee's inquiries, it was desired to quote, and those opinions are now published—(I) and (II) below—whose authors have given permission*]:

British Medical Association,
Medico-Political Committee,
Medical Secretary's Office,
(2 encls.) 429, Strand, W.C.
July 7th, 1905.

Dear Sir,

Contract Practice Inquiry.

The Medico-Political Committee of the Association have decided now to close their investigation into contract practice and issue their report, having afforded ample time for all those who may desire to do so to reply to the inquiries issued in March, 1904.

On consideration of the replies to those inquiries it appears to the Committee that many of the suggestions and opinions expressed by correspondents are of such value as a guide to the actual opinion of the profession on various aspects of this important subject, that it would add materially to the usefulness of their forthcoming report to the profession if the Committee were permitted to quote the actual words in which such opinions and suggestions are stated.

The Committee, however, is bound by an undertaking given in the covering letter which the Honorary Secretaries of Divisions were requested to send out with the forms of questions, namely, that the replies would be used for the purpose solely of compiling statistics, and would not in any case be published.

The intention of this undertaking was that correspondents might feel assured that any private information which they might feel prepared to give for the purpose of assisting the Committee, but not for publication, would be regarded as strictly confidential.

On the other hand, provided that the quotations are so made as to give no indication of the identity of the writers, it appears to the Committee that probably the majority of correspondents would have no objection to the publication of many of their opinions and suggestions.

I am therefore instructed to ask whether you will consent to the publication of the quotation from your reply, of which I enclose a proof.

If you approve will you kindly initial and return this slip, for which purpose I enclose a stamped, addressed envelope. I am, yours faithfully,

J. Smith Whitaker,
Medical Secretary.

(I) EXPRESSIONS OF OPINION BY PRACTITIONERS ENGAGED IN CONTRACT PRACTICE.

1901 (Abstract) Profession suffers more in this district from abuse of hospitals than from abuse of club system. (Town: South East Lancashire.)

1913 (Abstract) Suggests National Deposit system should be adopted throughout. Says, "I consider the practice of binding one's self to any individual, or body of individuals, to attend him or them professionally for a specified time during a specified time on the chance that he or they shall not require one's services, and so taking money for nothing, is only a gamble, and degrading to the man who does it." (Village: Kent.)

1916 Poor-law work much worse paid than other contract practice, the wealthy public bodies taking advantage of the necessities of young medical men. As public medical officer my salary was £23 per annum. For that sum I paid 1,300 visits, supplied 600 bottles of medicine, and gave 140 consultations in my surgery. (Town: North Derbyshire.)

1922 The only clubs I have, if they can be called clubs, are about fourteen in a private club, the remains of a large club I took over 27 years ago and which I allowed gradually to die out. These fourteen pay some of them £1 1s. 0d., some 10s. 6d. per year, these pay also £1 1s. 0d. for midwifery and 2s. 6d. for vaccination, and all accidents and fractures are paid for at the usual rate, dental extraction, which by the way I never do, is supposed to be also extra. I have also about twenty Rechabites who pay the usual fee annually, their wives and families are extra, and pay the usual fee—5s. visit and medicine. I have a very fair country practice, and this I have been able to put together, in spite of other men "taking in" men some of them with £200 a year. I do not think this is due to any extra skill on my part, but simply because I have had the patience to wait and half starve at first, rather than take unworthy fees; this has, as it always does, brought its reward. It is perfectly necessary for the working man to have clubs, but it is generally the practitioners' own fault that they work for so little, and until pressure is brought to bear by the British Medical Association on a certain class of practitioners, and it is made penal in some way or other on the members of the Association to meet such men, no amount of statistics or anything else will have any effect. It is only a question of time that all registered medical practitioners must join the Association, and then, and not until then, will the class of men who endeavour in every way to undersell their brethren be brought to book, and a noble profession be put into that social position that it ought to have.

1925 (Abstract) Society should have medical fund, but pay the doctors for actual work done, and allow choice of doctor. One or two local clubs do this, and find it no more expensive than keeping special doctor. (Town: South-East Lancashire)

1936 (Abstract) Takes family clubs in order to keep adult males. (Town: Monmouthshire.)

1945 (Abstract) No medical man should undertake contract practice under 6s. per member. Something ought to be

done to suppress the "underselling" which is so common. Several instances in district where a medical man has taken a club at 2s. 6d. per member per annum where the medical officer was receiving 3s. 6d. Weary of seeing that this subject is to be discussed at several meetings and nothing more comes of it.

(Village: North Wales.)

1955 The Industrial Co-operative Society here has under consideration the formation of a club or society. We have all agreed not to accept appointment until the matter has been brought before and sanctioned by the members of our medical society.

(The medical society was successful in preventing the formation of this club.) (Town: Lancs.)

1959 I am senior medical man in K.; and have been surgeon to the Foresters for nineteen years. Our relations have been amicable during all that time, although on more than one occasion I have met the members in conference and discussed with them the abuses of their system. Had I not from the very beginning resolved to attend these men as carefully as those in my private practice, there would have been disputes innumerable, and long ere this I would have ceased to be their medical officer.

There is an adult court called Court F, with 162 adults; and a juvenile court with about forty juveniles, all boys; members alone are entitled to medical benefit; not their families. The medical officer receives from each adult member 2s. 2d. per member per annum; and from each juvenile 1s. 1d. per annum.

These sums do not include medicine. The two courts pay the chemist themselves.

There is no extra fee for extra services such as surgery or dentistry. The appointment is renewable annually, and terminable by one month's notice on either side.

The medical officer has no power to decline attendance on any member on account of means. He has declined to do so on account of intoxication of members, venereal diseases, etc., brought on by misconduct. He is the sole medical officer; but frequent attempts have been made to divide the work among all the practitioners. This would give each doctor about £3 per annum.

The average number of visits and consultations amounts to about 600 interviews and visits per annum.

Although there is but one medical officer, yet several members are insured in one or two additional Societies for weekly sick aliment.

All the members do not call in the medical officer when sick. About thirty call in other doctors who have never given a trial to the Society doctor.

All the members also do not call in the Society doctor for their wives and families. In fact, many seem to consider it better form to call in any doctor but the Society doctor. It gives them tone.

The above-mentioned rates are absurdly low. They were formerly a little better, but when the funds were low the doctor was asked, and consented to take the above-mentioned sums. This allowed the funds to recuperate; and now when the court is more than solvent, the members apply the surplus to a bonus fund for themselves and have not raised the fee of the doctor even to its former rate, though this was pointed out to the members.

The minimum ought to be at least 4s. 4d. per member, adult and juvenile.

Among the members are:

A master clothier owning property, master bootmaker, newspaper proprietor, master blacksmith, mill foremen owning their homes, master confectioner, master painter employing forty men; master plumber owning a great deal of property, master laundryman owning property, Town Councillor, two master saddlers owning property, master grocer owning property, master timber merchant owning steam sawmills, etc., master wine merchant, master chemist, master baker, master painter, organist, accountant, master barber, insurance superintendent, and a whole host of foremen and superintendents in the mills, etc.

All of these are not ashamed to claim full attendance from the doctor for every trifling ailment.

One of them had a lad ill for five years with spinal caries. He had from the doctor over 1,500 visits for 1s. 1d. per annum; and yet the lad's father was one of the strongest opponents to the doctor in the Society.

There has never been the least accusation or charge of remissness on the part of the doctor from any member during all that time.

Remuneration:

The doctor receives annually from the adult court about £12 14s. after deducting his own dues of £1 7s. as an ordinary member, and from the juvenile court about £2 6s. per annum.

These are the entire emoluments from the court, and the fact of his being court doctor does not seem to bring in any additional family practice.

From his interviews with the Committee, the members are well prepared for radical changes respecting their medical officer and his payment.

The General Medical Council ought to fix the emoluments, the wage limit, etc., making obedience compulsory.

The doctor has, when necessary, to visit any sick members 3 miles distant from the town for the above rates of pay.

All the members are, without exception, well-to-do, and all can afford to pay a much higher rate.

1960 (Abstract) In a manufacturing town it is absolutely necessary to have sick clubs and medical officers paid at contract rates, or we should have to work for nothing and keep a clerk to keep our books, for the over-due accounts would be enormous. Town: Leicestershire.)

1963 Would not be a party to doing away with clubs for the working classes. (Small town: Somerset.)

1971 I have had experience of Friendly Societies' work for a period of thirty years, and as the result of that experience I make the following remarks:

Persons are allowed to join Friendly Societies whose position in life warrants their paying the ordinary fees of medical men. I would qualify this by stating that many persons join the societies not entirely for the benefits to be derived, but because they are induced by their friends to belong to a society in which these friends are more or less interested. As a rule, the meetings of Friendly Societies are held at public-houses, and the landlord of the house is very often the treasurer of the society. He is naturally keenly interested in increasing the membership, and he induces all sorts of people to become members. My experience proves that the better the class of members the more attention they require at the hands of the doctor. I would suggest that as in many instances there is a system of shareholding that is, that a man receives when sick an amount according to the number of shares he holds in the society the medical officers should be paid *pro rata*. For example, in the society of which I am one of the medical officers the members are, roughly, divided into three classes—namely, those holding one, two, or three shares in the funds. Those holding one share obtain 10s. a week during sickness; those holding two shares, 20s. a week; and those holding three shares, 30s. a week. Now, it must be manifest that a man who could afford to pay a sufficient sum to ensure 30s. a week during sickness should pay more than one penny per week for doctor's attendance.

Speaking generally, I think that the attention of the Friendly Societies should be called to the inadequate remuneration of the medical officers in the case of a large number of their members, and to the fact that a great number of members are admitted who are not really working men. Publicans and their friends are admitted members without question, and such persons are, from the nature of their occupation, more liable to sickness than the ordinary working man.

I may point out that a new departure has been made in the district with regard to certain clubs. Whereas formerly one medical officer was considered sufficient for attendance on the members, it is now thought that the club would be benefited by having several medical officers. And in one instance this change was made, not by the general body of members, but by the management committee. (Town: S. Wales.)

1976 (Abstract) This club adopted the National Deposit system, which worked admirably for some time. Dishonest agent made away with money and falsified accounts, entirely exhausting members' private funds. Only re-

source was to adopt the ordinary contract system, which respondent has accepted under protest.
(Town: Isle of Wight.)

1932 (Abstract) Question of relationship of club doctor to other practitioners has some importance. Heard of many cases where a club doctor attending a club patient has asked for the care of the rest of the family, and some cases where patients have been bullied into accepting the services of the club doctor against their wishes.
(Town: West Yorkshire.)

1936 (Abstract) Club members who come to my house are sometimes tipsy and insolent. Sometimes they insult the servant girl and terrify my family. . . . Yet I dare not complain. . . . My wife and family have been driven out of my own house by drunken members, and forced to seek the protection of neighbours; and because my next-door neighbour cleared the noisy club members out somewhat roughly, I was asked to resign by the majority of the club. However hard and faithfully the club doctor may work, he cannot gain the sympathy of his patients as in private practice. Club patients are far more exacting than private patients, and are seldom friendly in feeling towards the doctor.

In my opinion, if there be no sympathy between doctor and patient, all treatment is useless (as a general rule).

The club doctor is unable to get rid of objectionable members, however outrageous their conduct may be. In my own case, a few disorderly club patients have made my life a burden. (London.)

2011 Either (1) a smaller annual payment with an addition of a small charge for each prescription dispensed—say 1d. or 2d.;

Or (2) the annual contributions of members of the societies to be made into an insurance fund, out of which the doctor should be paid the usual fees for visits as to private patients of the same class. In the first case the individual members would find it to their interest to diminish the unnecessary work, and in the latter the clubs would themselves find the same to their interests; but unless uniformly enforced by the head quarters of all Orders either would be impracticable. (Country Town.)

2012 (Abstract) Family clubs should not be taken at all, or else all members of lodge should be compelled to pay for family. At present only those with sickly families join. (Town: S. Wales.)

2027 Thinks forms too elaborate.

2049 Considering the impossibility of the British Medical or any other Association enforcing the adoption of any tariff it might determine upon—as the law at present stands—the only hope of any amelioration of the position of club doctors is to be looked for in an amicable arrangement between the British Medical Association and the heads of the Friendly Societies.
(Town: Channel Islands.)

2061 (Abstract) Wage limit would be well if practicable. Better plan would be to limit contract practice to houses below a valuation of £25 per annum, but even then this would be hard on old members who had saved a little money. (Village: South Wales.)

2102 (Abstract) Considers that contracts for medical attendance should be independent of Orders and Clubs formed for other purposes; should be controlled or managed by the medical men of the district. (Town: Kent.)

2105 (Abstract) Suggests that all clubs should be pooled, members to choose own medical man, latter to be paid according to number of attendances. (Has seen the system in successful operation elsewhere.)
(Village: North Lancashire.)

2111 Large practice among middle and working classes. Ten times better than dozens of clubs.
(Town: Monmouth.)

2116 (Abstract) Thinks clubs necessary in agricultural districts. No member should be allowed to receive benefits from his combined clubs of a larger amount than his usual weekly wage. (Village: Suffolk.)

2125 I consider the whole of contract practice should be absolutely abolished, because the whole of decent medical work being an individual and purely personal matter, its value cannot be assessed like the market price of tea or any other trade commodity.

If to meet the large societies it should be considered necessary to continue contract practice, a wage limit should be fixed—say, £2 a week and under in married men—bachelors not to be taken.

A gentleman's position in regard to any of the Societies is, I think, unnatural and impolitic; but if he starts as he means to go on it is bearable, that is, remains master of his department (personally have done so for four years).

All medical men in any one self-contained district ought to have an agreement as to local minimum rate to be charged, and also as to wage limit. The minimum (absolute) to be fixed by the British Medical Association, which, by the way, I am pleased to see is beginning to move in practical "to-day" matters.
(Town: South-West Wales.)

2127 I do not attend members of clubs, as such, in the ordinary way—all the workmen in this district, the company's in particular, paying 3d. in the £ out of their earnings, deducted at the company's office, into a doctor's fund, which is managed by a committee of themselves, which meets once a quarter, and pays all expenses; my assistants (two and a dispenser) and I are paid fixed salaries. I pay them (assistants) monthly, and dispenser weekly, and other small, extra bills, etc., during the quarter, and the committee refund the money, together with my salary, when they meet. My salary is £700 a year, with house, free of rates and taxes, except income tax, and servant's dog-cart, etc., which I pay, and coal. They pay all surgery expenses, rent, caretaker, etc. I order all drugs, instruments, appliances, etc., required, and hand in the bills, which they pay. I advised the men to put by £1,000 to provide for strikes, when there would be no stoppages, and they have done so, and the surplus increased to nearly £2,000, out of which they have built an excellent cottage hospital of nine beds, with every convenience, for accidents or operations. This system works well and pleasantly. Outside workmen and small tradesmen who cannot pay private fees pay 1s. or more a month into the fund, which is collected by the secretary. Private patients, of whom there are few, have to get their medicine from a druggist, and are charged by me for visits and consultations only; the fees being 2s. 6d. to 5s. for ordinary visits within a mile.

Several neighbouring districts have in the last year or two adopted this system.

I may add that the medical department here used to be managed by the company, but owing to complaints as to the management the men took it out of their hands. The men made the work easier for me by giving me a dispenser (one of the qualified assistants had to do it up to then), and soon added £100 a year to my salary.

The assistants are entirely under my control.

All the workmen with few exceptions belong to clubs, some to two or three—such as Oddfellows, Foresters, Hearts of Oak, West of England, etc.—which give me an honorarium (2 to 5 guineas, according to size) at the end of the year for extra services in examining candidates for entrance, etc. The Hearts of Oak pay 2s. for each examination. All these men are entitled to attendance, and their families, through paying into the doctor's fund. They also have a sick fund, for which more money is stopped.

They used to pay 10s. for confinements, but are now attended, when necessary, for nothing, the difference having been added to the salaries on the understanding that we do not attend unless sent for by the midwife in case of difficulty or something wrong. Anything wrong with the mother or child afterwards is attended to in the usual way.

The men subscribe to ..... Infirmary, to which eye (cataracts, etc.) and gynaecological cases are sent. Ordinary operations—enucleations, hernia, lithotomy, amputations, tumours, etc.—have always been done by me, in the people's own houses, without extra payment, and they do well; amputations as a rule, out, healed, in a fortnight. (District: South Wales.)

2128 I think that women and children ought not to be attended by yearly contract by any member of the British Medical Association. In towns women and children might be attended at a fixed rate weekly when ill. A medical man near here takes clubs for women at 4s. a year and comes a distance of four miles. How can it be done?

I think members of the British Medical Association should be protected against "outsiders."
(Town: Notts.)

2137 This club is run without the slightest trouble. The profit is about *nil*, but it is useful in a practice such as I hold, for the reason that I find it to be difficult to refuse attendance on undesirable patients. I say to such, "You must join my club or get a parish order."
(Town: Sussex.)

2148 (Abstract) On the whole, clubs pay in poor districts. Medical men get very little for their services. I make perhaps 5,000 visits, drive about 4,000 miles, a year, parish included. Keep two horses. Spend £50 in drugs, and average £450 gross takings; about £200 from contract practice. There cannot be much in it either way.
(Town: Hants.)

2151 Until quite recently the medical officer was bound to attend members living within a radius of five miles. We have now got this radius reduced to three miles (which is still excessive), and a charge of 1s. per mile is to be made for special visits to members living beyond the three-mile radius. (Village: Cornwall.)

2154 Any member may employ what surgeon he likes, and after six months from initiation may have 7½d. per quarter refunded from the lodge, his surgeon to certify weekly (when ill) as to progress, etc.; and the lodge or general officers may require such a member to submit himself to the lodge surgeon's examination (this, I conclude, without the doctor getting any benefit whatsoever).

My Druids' fees are about £37 of this list. Since all my clubs pay 4s. per annum I do not distinguish them, but lump all together.

	Transactions (whether certificates, operation, medicine, etc.).	Cash received (including extra certificate fees).	Average transactions.
1901	416 ...	40 12 8 ...	1 11¼
1902	629 ...	41 19 5½ ...	1 4¼
1903	535 ...	47 9 10 ...	1 9½

After first week of illness I charge members 6d. for every certificate required (for other clubs, etc.), excepting of course, those for my own club. Also 1d. for each bottle; above figures include such charges.

Rates are too low. Should be 5s. per annum for adults and juveniles. No person under 10 to be admitted to medical benefits. Some clubs, etc., range from 1s. 6d. per annum; 4s. round here is maximum, and that with a 3-mile radius from lodge, not from surgeon's residence.

No females to be admitted to medical benefit, and no person unless previously vaccinated.

Also, before initiation an examination fee of at least 1s. should be paid, whether subject be fit or otherwise; at present there is no fee, and if unfit we do not get any subsequent benefit; we also incur applicant's ill-feeling, which does our private work no good; this is apt to render such examination a farce, and pretty well all are apt to be admitted.

That if we are called in by officials to examine a non-paying member, a private fee be paid.

Distance limited to 2 miles from doctor's house or an extra fee be charged.

Operations and fractures, etc., be allowed as extras; also extras allowed for serumtherapy, oxygen, etc.

If possible to work it, there should be a wage limit of £2 per week.

That all members of any medical contract be allowed to choose their own surgeon, that such clubs, etc., issue in advance to the various doctors a quarterly list containing names to which he has to attend. That such members can only transfer quarterly. And that doctors be entitled to a quarter's notice from club, with reasons given. That no complaints be heard relating to doctor without his being given a chance of attending meeting, and answering if he so desires.

That in all clubs a preliminary medical examination of an applicant be made compulsory.

That no honorary membership be expected, or presents from doctor, which often amount to terrible bribery and corruption.

2169 (Abstract) Members should all have their own medical man to attend them (privately), the account being forwarded for payment by the club treasurer.
(Town: Yorks.)

2176 (Abstract) Patient for two years and half under my care for malignant disease, who had a bottle of medicine (sixteen doses) nearly every day. My pay for that was 4s. per annum. (Village: South Wales.)

2183 This is all utter bosh—and a stupid waste of funds which might be employed for medical defence.
(Town: Lancashire.)

2185 (Abstract) Never had anything but the most cordial relations with any of my clubs. (London, S.E.)

2191 (Abstract) Since juvenile members are just as frequently ill as adults (if not more so), and require as much attention, we see no reason why medical officers should not be paid the same amount for them as for adult members. No child should be admitted under 3 years old. No one that is in the debt of the medical officer for previous medical attendance should be admitted to the club. Sometimes a patient will run up a long account and then come to be allowed to join a club, thereby obliging the medical officer to continue attending him despite the debt. (Isle of Wight).

2196 On the whole I consider my position with regard to my clubs satisfactory. I find my members reasonable, respectful, and sometimes even grateful. I unhesitatingly condemn the entire club system, as it exists at present, as unsatisfactory both for the patients and the medical man, but would strongly deprecate any interference with it until some better scheme for universal application has been devised. Up to the present I fail to see that a practicable one has even been suggested. I believe contract practice in some form in a district like mine to be absolutely necessary. (Town: Suffolk).

2201 (Abstract) I have a farmer, as an instance, worth £12 000 (twelve thousand pounds) and only paying me 2s. 6d. a year, I having to go over four miles to see him.
(Village: Wales).

2213 Private clubs appear to me to be the most satisfactory of all forms of contract practice. The management is entirely in the hands of the medical man; he can exclude those he does not care to attend; he is his own master, and not a slave to a lay committee. Considering the increased value of our services, and the better condition of the working classes, I am of opinion that the rates for contract practice should be increased to: males, country, 6s., town, 5s.; females and children, country, 7s., town, 6s. (Town: Midlands).

2230 Most of the members in this district are in two clubs, and pay the doctor's fee for both; they therefore pay 6s. a year for their doctors.

It would be more satisfactory if there were a common medical fund, and every member of a society were to pay 5s. a year into it, and choose the doctor in the district whom he wished to attend him in case of sickness, each doctor to be supplied with a list of those members who wish him, and the doctor to be paid 5s. for every name on his list. There would then be no doctor to a certain club or society, and the doctor would have the satisfaction of attending to the members, not because the member was in the club and they had to have the club doctor, but because the member wished that doctor to attend him.
(Town: Yorks.)

2240 If you enforce a wage limit, it is not much of an inducement to prosperity, and many members who are now in good circumstances were poor when they joined the club. Here all the well-to-do tradespeople are members, including butchers, grocers, publicans, insurance agents, estate stewards, and even a manager of a fishery. I regard this question of contract practice as one of the most important affecting medical men, and hope that something will be done. . . . . No doubt a lot of time and expense must take place over this question, but would it not be possible to find some medical man who could devote his whole time and talents to fighting this contract fiend for the benefit of his less prosperous brethren? (Village: Hampshire.)

2245 I do not think that any single medical man should be expected to take the contract to look after collections of individuals in sickness when he has no power of regulating their mode of life to keep them healthy, for much of their sickness is brought on by indiscretion in diet, etc.

It is a form of insurance where the medical man has all the risk and no power to safeguard himself like companies do in other forms of insurance.

I see no justification for contract practice as understood by Friendly Societies.

It does not help the man with small, irregular wages,

that is, the real poor, as they cannot afford to join a society. It only benefits men in receipt of regular and fairly good wages, who are just the men who do not need this help and who also boast wrongly, I often think, of their temperate habits. If their sickness is as trifling as they say, why do they bother about getting medical aid?

To my mind people are right to club together in various ways to get pecuniary aid in sickness, but medical attendance is quite a different thing. If the profession at large could arrange some form of charge, contract or otherwise, so that the real poor, male and female, who are above the Poor Law but not able to pay our low fees could get medical help, it would be a good thing, but each patient should have some choice of medical attendant, and the present type of Friendly Society man should pay for his medical attendance, as he can well afford to do so in most cases. (Town: S.E. Lancs.)

2265 (Abstract) Members are frequently impudent because you are the "club doctor." Consultations are never extra, and they dismiss you from attendance with scant ceremony, and are always talking behind your back, and you receive more injury than advantage in this way, as they influence private patients against you, and you lose caste. I have regretted I ever took a club, and should be better off if I had had nothing to do with them. (Town: Lancashire.)

2275 I have already voluntarily resigned two appointments—namely, the Poor-law appointment here and the..... Company's Workmen (living in this district), as they were so poorly paid. It would be hopeless to try to improve upon the present poundage of 3d. without combination; one cannot make sure of retaining the 3d., but I could not afford to carry on the work at less, and, indeed, at 3d. it is cutting it fine. (Town: Wales.)

2299 Most men are nowadays insured against accidents, and in some cases draw large sums of money, but still expect the club medical man to fill all certificates and to attend as club work. I have known of men drawing from £250 to £260 and still go on the club for all they require. (Town: Devonshire.)

2300 Members of Friendly Societies and men who pay a works doctor should form medical clubs to be managed by themselves; into this each member should pay, and when ill engage any doctor he likes—as a private patient, the doctor's bill to be paid out of the medical fund. The clubs might have their own drug store and dispenser, the doctor to prescribe only, at a fixed fee. (Town: South Wales.)

2301 Would prefer a separate contract for the supply of drugs. (Town: North Wales.)

2306 In this district the "orthodox" medical men are strongly united, and have demanded and obtained a uniform payment of 5s. per member per annum for *all* male members. (Town: Yorkshire.)

2307 I should like a reply postcard sent to every member of the British Medical Association, to be filled up with an answer to this question: "Will you agree to a minimum of 6s. per annum per member for all clubs, if each member of the British Medical Association will do the same," or some question like that. Only "Yes" or "No" is wanted. (Village: Shropshire.)

2308 (Abstract) I have been in practice for sixteen years and have long been convinced that something should be done by the profession or State to stop this sweating; there ought to be some strong bond of unity to prevent such disgraceful work. I trust some permanent good will result from this investigation. (Town: Staffs.)

2318 Medical men should not compete one against the other for these clubs. For instance, I had an opponent who was willing to attend member's wife and family for 4s. a year. I refused. And the only remedy would be, in my opinion, for medical men to form a union. (Village: North Wales.)

2320 Nearly all the tradespeople in this town are members of the Foresters or Independent Order of Rechabites. Practically they only join for medical benefits, as if they can possibly manage it they do not go on the club, as it does not pay them to be absent from shops, even if not able to do much in the way of work. I cannot refuse them, as the other medical men will not refuse them, and they were members of the clubs when I came here. (Town: Devonshire.)

2310 (Abstract) The medical officer is treated as if the members were conferring a favour on him by joining his list, whereas any conscientious practitioner can satisfy himself that clubs are a monetary loss. We are often treated with disrespect, which is laughed at by the club committee if reported. I have had members come to my surgery intoxicated. The rules relating to members under treatment are not enforced by club, and "sick" (?) members are frequently seen enjoying themselves in inns, etc. (Town: Staffs.)

2333 Wage limit should be £2 per week. Best abolish all contract practice, as they have done in the neighbouring town of K., a purely working-man's town, under the able guidance of Dr. X., whose answers please see. There the profession have stood shoulder to shoulder, and for some years have successfully resisted all attempts to establish club and medical aid practice of various kinds. At our meetings here I strove in vain to get the profession to adopt the.....tactics, but in vain. There went up a whine as to what the poor people would do without their club doctor. I pointed out that the majority of them spend five or six times more for milk or tobacco, and many twelve times more on beer without hesitation, and have the impudence to offer a doctor ¾d. per week for medical advice and medicine. (Town: Lancs.)

2336 (Abstract) The remuneration (7s. 6d.) per family seems small, but a large proportion of the members never call me in during illnesses; many of the members, probably one-third, are unmarried, and several of the better-off families pay for my services as if they were private patients.

The members are always agreeable to conform to my regulations as to time of sending messages, other than urgent ones, and to any other reasonable regulations. (Dublin.)

2354 My Society and I get on well enough, and if all members of societies behaved to their medical men as mine do to me there would be no friction. If they gave me any trouble I would resign at once. (Town: Scotland.)

2357 I think the above conditions would be satisfactory for male members. Juveniles ought to pay more than adults, as they are more liable to sickness. I think the relations of the medical officers with their societies in this neighbourhood are generally satisfactory. (Town: Derbyshire.)

2360 (Abstract) It is unreasonable that medical officers should not be paid an examination fee for new members joining a sick Friendly Society; for example, the Midland Railway Friendly Society pays no fee for examination on entry to sick club. The member may be rejected on the score of ill health, and yet the examiner gets no fee. (Town: Yorkshire.)

2371 The present state of things is always giving rise to friction, and I only trust the British Medical Association will put the matter on a fair basis. (Town: Cornwall.)

2378 The great fight I had, especially with the Foresters, was about admitting farmers and tradesmen, shop-keepers, publicans, etc., who obtained medical attendance for 5s. per annum, but did not care to "trouble the club," that is, to draw 10s. or 12s. a week, but considered that they ought to get medical attendance for the same price as one of their labourers, and generally fussed more and thought they ought to have more attention shown them than the poorer members. One farmer was in the club eighteen years, but never paid into the doctor's fund until he found he had got heart disease, then he had two years' heavy attendance for 5s. a year.

For some reason the Foresters' Club was organized and governed by a strong Radical element, so much so that several Conservative members had to leave. They appointed me fifteen years ago, and I held the club for one year, when on the question of attending farmers who were members I was thrown out by a clique who wished to appoint a medical neighbour who moved into my district, and to get work was willing to take any one and anything to try and oust me, as a newcomer. He had to resign, as he left the district several years ago, and I was re-elected by an overwhelming majority. But in the meantime the principle of attending farmers had become established, and several members have employed another doctor for their families, as I refused to attend them as club patients as being men of property. (My nearest opposition is about 5 miles.) (Town.)

2379 The prevalence of contract practice without any wage limit makes it difficult to get reasonable fees

in middle and lower class practice. The provident dispensary with its collectors dominates the situation. Even midwives practise in connexion with it, but I do not know on what conditions. It is said to have about 60,000 members. (Town.)

2382 I should be pleased to give up my Lodge unless rates were raised to 5s. per annum and wage limit fixed. I should like to see similar clubs abolished, including this. (Town: North Lancashire.)

2385 (Abstract) Four shillings is an unfair rate of remuneration, even in the case of properly-selected young adult members, who are not likely to be ill often, or to remain ill long. In their case, the sum for annual attendance should be at least 10s. It must be remembered that the present rates were fixed early in the last century. Then the medical profession had not such advantages to offer as now—for example, anaesthetics, antiseptic treatment, the use of antitoxins, etc. Then, not as now, the workmen were poor, oppressed, crowded into a few industries whence they gained a precarious livelihood. Then there were no railways, no great industrial enterprises, and the rates fixed by the medical profession of those days, and which have never been revised, partook rather of the nature of an act of charity than an actual remuneration for services given.

Now the whole conditions have altered. It is no longer the medical man that is the dispenser of charity, but rather the workmen, highly prosperous, to the medical man. For many years it has been the Friendly Society who has dictated, and the medical man who has had to accept terms. This is still, in large degree, the case, although the medical man has to give to the member of a Friendly Society vastly more than he did fifty years ago. (North of England.)

2386 (Abstract) Quite recently I attended a member who was far too proud to call on his club during an illness and obtain his sick pay, but he had no compunction in receiving the medical attendance gratis. I sent him in an account, which he promptly refused to pay. (Town: North Suffolk.)

2387 (Abstract).....Provident Medical Aid Society almost a charity. Returns small, but enables deserving poor to receive attendance without being pauperized. Enables practitioners to refuse attendance on people who obviously will be unable to pay bills. Insist on such people joining Society before attending them. (Town: Staffs.)

2390 (Abstract) I decline to take women at any price, and insist upon juveniles paying the same as adults.

"Private clubs" are most undesirable, and attendance on them should be considered "infamous conduct." (Town: Wilts.)

2397 There is much to be said for medical insurance among weekly wage earners; but the scale of payment is considerably too low for professional services and medicines, and should be checked by the imposition of a small fee for every visit and consultation and medicine, to avoid superfluous calls upon a medical man's services. Night calls, special day visits, and consultations out of surgery hours, should be extras, in the same way that midwifery, operations, anaesthetics, vaccination, tooth extraction, and all certificates are, or should be, extras. (Village: South Wales.)

2399 (Abstract) Two practitioners in the neighbourhood wrote tendering lower prices, which were in each case declined by both clubs without referring the matter to us. (Town: Kent.)

2409 The medical men in this district combined, and the clubs we have pay us 5s. per annum per member. The other clubs formed a medical aid association and imported two blacklegs at about ½d. (halfpenny) per week per member, including women and juveniles.

I should like to see them swamped and it made impossible for medical men to take these cutting associations. (Town: Yorkshire.)

2414 I have held repeated conversations with the leaders of different societies, and find them all prepared to give a "rise" in subscription. Diphtheria antitoxic treatment is what appealed to them best as an example of how expenses of treatment have increased.

It is to be hoped that this investigation will lead to combined action, and not merely used as "statistical results." (Town: South Wales.)

2418 (Abstract) I believe that nothing can better our condition short of a limit below which it will be considered by the General Medical Council "infamous conduct in a professional respect" for any man to give his services either for family, or private clubs, or to Friendly Societies. There is one medical man in this district who would "take on my clubs" for even less than I get, if they consented. (Town: Notts.)

2425 If there were better combination amongst medical men, many if not all the above improvements would take place. Women and children's clubs should be entirely done away with, as they lead to "sweating" medical men, especially in this district, where the fee is 2s. per annum. (Town: North Lancs.)

2438 (Abstract) Practically we have no friction with the Society, and our relations are quite pleasant and friendly. Some years ago my colleague and I sent a joint communication to the Lodge, pointing out that our remuneration was rather small—at that time it was by a lump sum which worked out at rather less than 2s. per member. The Lodge promptly replied by raising it to 2s. 6d. per member. The 2s. 6d. is for attendance *only*. The patient pays for his medicines otherwise. (Town: North Scotland.)

2446 (Abstract) This medical aid business is a necessary evil; *infra dig.* on my part to do the work; the work is hard for the amount paid, but it helps to pay the rent, and if I gave it up, somebody else would take it on. (Town: Cornwall.)

2453 I consider that the members should pay into their Club funds, and the doctor should be paid for work done from those funds, on a scale of charges fixed by the Club. Any doctor who agrees to accept this scale of fees should be eligible to be employed, but there should be no definite appointment. (Town: Worc.)

2454 (Abstract) If any dispute arises between myself and my committee, I find that the noisiest advocates of medical reform are the most eager in trying to get inside me in their good graces.

I attend no women or children as club patients, except for accidents, or unless they work as "pit-brow lasses," when I attend about forty to fifty for both accident and sickness. (Town: Lancs.)

2466 I believe there should be a wage limit for club or contract patients. In this colliery district every one pays fortnightly to some doctor or other except the tradespeople, clergy, and professional men, and colliery or works managers and foremen. It would be difficult to fix a wage limit here. One can only separate into classes—for example, (1) miners; (2) foremen and managers; (3) tradesmen.

Some miners' families in this district (say four adult workers in the family) have an income of from £10 to £15 fortnightly, and yet only pay 9d. per fortnight like the single householder. It is optional for the former to pay more than 9d., sometimes a son may pay an additional fortnightly subscription (but this is not usual), yet being miners, you could not ask them to be private patients. Hence in this class a wage limit would hardly work.

In the colliery districts in county Durham, "club" or "subscription practice" has prevailed, almost exclusively, for fifty years at least—in some districts longer. I am not aware that in any colliery district in this county any other form of practice obtains. In some places the rates paid are somewhat different from those I have given: 6d. per fortnight is still the general all-round rate in a few districts (family and single subscribers paying the same). In a few districts (Consett) every workman pays a subscription to the doctor (adults 6d., non-adults 3d. per fortnight). Usually, however, in other districts only the head of the house pays, or occasionally the eldest son in addition.

The miner has become so used to paying his fortnightly subscription to the doctor at the pay-week end that he would take badly with private practice. He has a horror of doctor's bills. I am almost convinced that private practice would be a failure among miners. There would be no getting one's bills paid; and as there is a considerable floating population among them (say 10 to 15 per cent.) the loss in bad debts from this cause alone would be considerable.

A change to private work would doubtless give the doctor less visiting, but the gross receipts would also seriously decline. Much more money would be spent

in the chemist's in "self-doctoring" than is the case at present.

From a fifteen years' experience of colliery practice I have no hesitation in stating that the club or subscription method of payment (at the present rate of 9d. per fortnight per household) is the best for the miner and best for the miners' doctor. I am perfectly satisfied with it, and would strongly resist any change of system, so long, at any rate, as the present scale of subscriptions obtains. The fortnightly payments insure the doctor a steady cash income (which he can count on year in and year out), a freedom from bad debts, etc., and though frequently he is hard pressed with work—for example, in winter, or during epidemics, yet during the summer months he is comparatively easy wrought, while his fortnightly income continues the same.

The advantages to his clientèle, who are principally of the working class and not blessed with much medical knowledge, is worthy of mention, and I believe saves them much worry and anxiety. The doctor is also benefited and his work lessened by being called promptly in times of sickness, and by every effort he makes to prevent disease among his clientèle, or to instruct them how to deal with the many minor complaints which form the bulk of his daily work.

2473 As "unity is strength" therein lies our great weakness, and we shall never get any real reform unless all doctors in every district unite in these Club matters—then everything would be easy. (Town: Leicestershire.)

2484 I think the really effective way to get rid of the abuse of Club practice is to have it made penal for medical men to engage in such practice, such enactment, of course, not to apply to present holders of such appointments. (Town: North Scotland.)

2487 As I am of opinion that medical men should not dispense except in rural districts where no druggists are available, I think it would be well for Clubs to pay their own dispenser. An additional levy of 4d. to 6d. a quarter per member might be made for medicine, and could be paid directly to the chemist who dispenses the drugs, or to the doctors who make up their own medicines.

There is too much tendency for medical men to degenerate into mere mixers of drugs, and this I would endeavour to counteract. (N. Liverpool.)

2481 I am strongly in favour of Professor Horsley's town dispensary scheme, which disallows "one man" Club practice altogether, and in which all resident members of the British Medical Association could participate. The patients choose their own doctor. (Town: Kent.)

2485 There are fortunately very few Friendly Societies in this district. In my club the number of members is so small that I am paid £2 per quarter, because they think that is the smallest amount I ought to have. I stipulated that the 2s. 6d. per head paid to me should not include accidents and surgical cases; this was verbally agreed upon, but at any time I may be brought face to face with a long surgical case and have the unpleasantness of deciding whether I shall attend it and charge the patient privately. I think the smallest fee one ought to have is 4s. per head, to include sickness and accident.

Some years ago the railway men near here decided to have a club and asked me to be medical officer. They offered 2s. 6d. a head. I told them I would consider. I then got all the medicals here to agree to stand out for 4s. This was done, but another medical just outside the district accepted it at 2s. 6d., and somehow it got out that I was the mover of the 4s. idea, and I lost considerably amongst those men, in fact I have never got a good footing with them since.

2492 (Abstract) The four doctors in ..... united last year and requested all the sick clubs to pay a 4s. rate, and twelve months' notice was given through the secretary of the ..... Medical Guild. All the clubs refused except the Rechabites, and united to bring a doctor in to do the work at the 2s. 6d. rate. This man they got by advertising. (Town: Lancs.)

2507 In town I would reduce the three-mile limit of attendance; three miles in a large town takes more time than the same distance in country. (Town: Scotland.)

2517 (Abstract) I am convinced that the fault lies with the medical men, as, if they unanimously asked for a better rate, the clubs would give it; but when so many medical men canvass and do everything in their power to get these appointments, the club members are under the impression their appointment must be a very valuable one, and become quite arrogant in consequence. (Town: Yorkshire.)

2519 (Abstract) My salary from my various societies is almost a quarter of my total income, and I should like to say that I feel sure the work done in connexion with the societies is nothing like a quarter of my total work. (Town: Devonshire.)

2542 (Abstract) I am of opinion that a club of some character is absolutely indispensable in this district, but I am totally opposed to private medical clubs, and I think that no special man should be appointed for a Friendly Society, but so long as a man was willing to act, the members should have the opportunity of going to whatever medical man they liked, etc.

I would be a party to any agreement which was considered by the local men to be necessary for the general welfare or to improve the status of general practitioners. (Essex.)

2543 I am well satisfied with my Society, as my Committee uphold me in every respect. I am very careful in admitting members, consequently I get very few "chronic cases." I know of many instances where medical officers are slack in admitting members, consequently they give much trouble afterwards.

The majority of my members are bona fide working men, and when they are ill I treat them as private patients and get them well as soon as possible, and it pays me well. (Town: Kent.)

2547 The sole reason why medical men nowadays take to do with Friendly Societies is to feed their private practice. It gives a newcomer and a young man a start and an introduction to families.

So that the expenses practically eat up most of the profit, but yet for above reasons they are eagerly sought after. I speak from eighteen years' experience. (Renfrewshire.)

2552 I hold the appointment of medical attendent to the workmen of a quarry (about 500). Married men pay 3½d. per week, and 10s. 6d. extra for midwifery, attendance, and medicine supplied to all the family up to 15 years of age. Single men pay 2d. per week.

I consider the pay inadequate; married men should pay at least 4½d. per week, and single men should pay 3d. per week.

I believe that club patients pay about one-fourth of what private patients pay in my district for work done to them and medicine supplied.

I have applied for an advance of one penny per week, but was refused on the ground that other medical men were willing to give their service cheaper. And so long as we are unfaithful to each other, this sweating system will last.

2555 1. (*a*) The rates are better than most districts, owing to the local doctors combining and our district not being sufficiently populous to start a Medical Aid. At ..... where the doctors tried to raise rates, a Medical Aid was at once started, and they had no difficulty in obtaining a medical officer; 8s. would probably be a remunerative rate. A four-mile radius means long journeys, but I am parish doctor for similar area, and the two offices work together. I prefer the parish work, which is the better paid of the two.

2. Very difficult to carry out, but we certainly have a few members who could well afford to pay ordinary fees.

3. No, not specially in this district; we get on affably.

In thinly-populated districts, if medical men would only combine and drop mutual jealousies, fee might often be raised. In more populous districts there is always the fear of societies combining and engaging a medical man to attend them only, and this is easily done on an income of about £300, which is much better than dispensary practice in Ireland or Poor-law in Scotland. (Village: Oxon.)

2569 (Abstract) We agreed not to admit any more members to our private clubs for these reasons:

(i) That it is only the thrifty persons who would in the ordinary way pay their bills who join a private club.

(ii) The bad payers will not join a club.

(iii) That women are, as a rule, always ailing, and when they belong to a club are sending for the doctor or for medicine all the year round.

(iv) This also applies to children.

(v) That we were satisfied private clubs did not pay.
(vi) That it is unprofessional to carry on a private club.
(Town: Kent.)

2571 A few years ago I was asked to say if I would attend female members, and at what rate. I replied that I would have nothing to do with them, and, as far as I know, I have lost one family in consequence.

A similar form to this was sent to my partner, but of course his replies were similar to mine.

2573 The National Deposit Friendly Society pay the doctor every month—and there are no bad debts. You do not feel that you are being imposed upon by the members—the more that come the merrier!—and there are no disputes and a feeling which many club members have that they are not "taking it out of the doctor" enough if they are not poorly and getting bottles of medicine!
(Town: Lincolnshire.)

2575 (Abstract) It should be distinctly understood that special work such as "eyes" should not be included in the rates. I have had complaints of patients whom I have referred to specialists or Eye and Ear Hospital.
(Town: Yorkshire.)

2601 (1) 2s. 6d. to be paid on examination to see if candidate is a fit subject to join the Society.
(2) No country members to obtain advice unless they pay a fee.
(3) No dentistry work allowed by medical man.
(4) Night visits to be paid double fee.
(5) Only those residing within 3 miles to receive club doctor's attendance.
(6) If consultations required with another medical man at club patient's request, he to pay the club doctor's consultation fee. (Town: South Scotland.)

2603 Contract work as it is should be abolished, and, instead, these lodges should pay a medical man an annual fee of so much a head, in consideration of which the doctor should attend when necessary and charge for every attendance, but only a very small fee. This would abolish a vast amount of unnecessary work.
(Town: East Yorks.)

2614 (Abstract) Generally speaking, my relations with the club are, and have always been, of the most pleasant kind. I consider I am quite fairly paid for an average year's work. I have no doubt whatever that if I should request an increase I could get it. I should be inclined to resent any interference by the British Medical Association or any other body between me and my clients.
(Town: North Lancs.)

2615 The Society I am medical officer to were asked by a rival practitioner to transfer their work to him for an average price of 1s. 6d. per head per annum. They remained steadfast to me, hence I promised to support them, and on this account I have been obliged to relinquish my membership of the ..... Guild, which drew up a rule barring out females and juveniles from contract practice.
(Town: Lancs.)

2622 I believe that if the rate and wage limit were to be fixed by the Local Branch of the British Medical Association, it would be in the interests of the profession.
(Town: Hants.)

2627 In my opinion, there is too much "touting" for club work by certain practitioners. One medical man here does club work at 2s. 6d. per annum, and would even go lower still if the club wished it, rather than lose it.
(Town: Lancs.)

2633 (Abstract) I have only to add that I have carefully studied the club question at rates such as they were paying down here—4s. 4d. per member per annum, to include everything, visits, day and night, drugs, dressings, choloroform operations, etc.—and have come to the conclusion that the club members are people as a rule to pass by on the other side, and give to their doctor many kicks but few ha'pence.

My partner and self held nearly two-thirds of all clubs in the place. We all gave up our clubs in this town, and I can safely say we are (that is, my partner and self) much better off than when we held them. They were run at a great loss, and gave much more trouble than private patients. Many of our old club members are now private patients and pay 3s. 6d. per visit. (Town.)

2636 The reason why the club doctor is treated to the scant courtesy and contempt complained of by one of your members in the JOURNAL a few weeks back, is this: They will not realize that a man may have quite as big a pain, or cough, be he a club man or a private patient, and should have exactly the same care. Instead of that, what happens? The cheapest stock mixtures are put up, the grossest carelessness is shown in diagnosis, and they are treated in the surgery with the scantest ceremony. If the medicos consider that they cannot do justice to the club-men at the figure, then I consider it is a disgrace to take on the work. There is one point I would like to draw attention to in most club rules—that is about the surgical dressings; I have had a little trouble with my club over that point. I said I could not supply gauze, splints, bandages, and possibly wooden legs at 4s. I would willingly put them on for them and would charge them cost price; nor would I draw teeth on the contract, as the mess of cleaning the cuspidore, etc., did not pay me. I charge 1s. (Town: Cheshire.)

2642 (Abstract) I believe the burden of practitioners would be enormously lightened, and the treatment of patients decidedly improved, if club doctors prescribed only (the great majority cannot afford a dispenser) and the patients obtained their medicines at their own cost at any druggist's. The honour and dignity of the profession would then be saved from the fate which is awaiting, if it has, alas! not already overtaken it. (Liverpool.)

2666 In a town like this it would be difficult to do without contracts with Friendly Societies, and in increasing fees we must be careful to avoid driving the Societies into Medical Aid Associations (one of which already exists here) till it is made infamous in a professional respect to act as medical officer to such associations.
(Town: Lancs.)

2667 (Abstract) At the same time, if medical men in private practice refuse to take club work it would with the present state of medical organization encourage the "medical aid societies." (Town: Yorkshire.)

2674 To a country practitioner, and especially one who has a Poor-law appointment, I consider that a private club is absolutely necessary, and he can by this club do much more good, and stop pauperization, than by any other means I know.

I shall be willing to give practical experience and details of this if you consider it necessary.
(Town: Hunts.)

2678 The unfortunate difficulty is the want of professional honour amongst medical men in applying for any club at any rate when a neighbouring medico resigns it in the hopes of obtaining more reasonable fees for his work.

Men in the town will go out miles into the country for 1d. a week, hoping to pick up some chance practice at the country practitioner's expense. Such practice is not confined to the small fry. (Somerset.)

2683 Combined action for limiting the hours of labour of the general practitioner is very desirable. Only urgent cases should be seen Sundays and public holidays, and after or before ordinary working hours, for club patients especially. (Liverpool.)

2689 I am of opinion that a minimum rate should be fixed for contract practice by the Medical Council, and that no medical man should be permitted to accept less.
(Liverpool.)

2690 (Abstract) This district has a certain population of extremely poor people with large families. A large amount of beer-drinking goes on which nothing influences. A well-organized club is a blessing to such, and does not lower professional standing.

Such clubs are open to grave abuse. There should be an agreement as to rules between practitioners of a district. (Town: Cambs.)

2691 In answer to this important investigation I prefer to reply in my own way.

I am, and ever have been since starting practice, doctor to three clubs of working men belonging to the Orders registered under the Friendly Societies Acts. I have no private clubs and no connexion with so-called "Medical Aid Societies."

I get on fairly well with my clubs and have a strong feeling that all working men should join those great Friendly Societies as being an insurance in days of sickness. Moreover, it is the fairest way for the doctor, who simply insures the men and takes his risk. Many men are never sick, some often so. The doctor takes his risk. Above all, when a man has a long illness the doctor either gets nothing, or too small a fee, or if he be a hard-hearted, cold-blooded man extorts from poor

persons money which ought to be spent on food, wine, or change of air. Therefore, I approve of clubs in every way.

But the remuneration is too small. To fix a minimum is impossible. Local circumstances, distance from patients, whether or not medicine is supplied, whether or not there is much surgery requiring lint, carbolic oil, dressings, etc., etc., all those conditions vary so much that it is impossible to fix a minimum sum.

Moreover, a wage limit is absurd. A millionaire has a right in every way to join a club for, say, 2s. or 2s. 6d. per annum. I think him mean to do so, but he is simply standing on his rights.

Seeing, therefore, that no minimum can be fixed, and that all men have a right to join clubs, my view is that a conference between the representatives of the great Friendly Societies (Foresters, Oddfellows, Gardeners, Shepherds, etc.) with accredited leaders of our profession would result in good.

Speaking generally, and subject to the above statements, I am of opinion that a working man who pays 1d. per week, or in round numbers 5s. per annum for attendance and medicine for himself, is equitably treated.

In all collieries (or, at least, all I know of) the usual thing is 6d. per fortnight for man, wife, and family (exclusive of midwifery and teeth extraction); this seems to work tolerably well.

2711 I think the system of club practice the only method for mining districts, but think that the subscription should be raised 50 per cent., that is, 9d. per fortnight instead of 6d. per fortnight as at present here.

(Town: Durham.)

2719 I think it most desirable a better understanding and combination should exist amongst medical men; if that could be done, the whole club question could be readily settled. Better remuneration, exclusion of men whose financial condition should make them ineligible for membership, etc. The concessions we have got here have only been come to after a deliberate stand on my part, supported most loyally by my neighbours. A new medical man was imported, but, seeing the situation, disappeared.

(Town: Herefordshire.)

2780 I think in cases like mine, where a man is endeavouring to raise club fees, any medical man who steps in and undercuts ought to be made guilty of infamous conduct in a professional sense and struck off the rolls.

(Country: Lancs.)

2795 Work could be very much lessened if each member had to pay 2s. 6d. or some smaller sum to his lodge upon first consulting or calling in the doctor. This would avoid the "dropping in for a bottle," "thought I'd call as I was passing," state of affairs.

(Town: Yorkshire.)

2796 In my case nearly all the men pay me in addition 13s. per year at their works, which, of course, includes families, and in my case 2s. 6d. more if in a second Society. Still, there are many who escape with 2s. 6d. per year, and take very much more out of me. I don't blame the societies, we have only ourselves to thank for it. (Town: Scotland.)

2801 I think that for the sake of the poorer classes, "breaking clubs" should be abolished; that Friendly Societies should pay a small fee for the examination of candidates, but that they should have nothing else to do with the profession, except receive any certificates required (for which they should pay). In my opinion the most satisfactory form of contract practice is the private club; one can accept those who really cannot pay full fees, and can refuse those who can afford to pay properly, and there is no committee to trouble one.

(Town: West Somerset.)

807 I have three colliery clubs with probably 250 to 300 men. Heads of families pay 8d. per fortnight, sons over 18 years of age 4d. per fortnight. The money is kept off the wages bill at the various colliery offices. Confinements (where members have been paying in at least for nine months) 10s., otherwise 15s. or 30s.

There is no compulsion as to members joining the club, and I retain the right of refusing to have a workman enter, or rejecting him afterwards for any reason I may think right and proper.

The contract is individually, not collectively, between the members and myself. A movement was made by the members of the Miners' Union two years ago to get this arrangement altered, and a new medical man was introduced, but he only remained three months, the majority of the men at that time paying to both of us.

Shilling for tooth extraction is supposed to be paid, but it is as often omitted as paid. The same may be said with regard to the signing of certificates, which is fixed at 6d., but seldom paid. I daresay, I have myself to blame for that in a great measure.

Operations, except minor ones, generally go to an infirmary. Attendance on accidents and injuries sustained by men at work is paid for by the employers. The contract can be terminated by either side by a fortnight's notice.

There are several Friendly Societies represented in this neighbourhood, besides local sick clubs, but medical attendance is not provided for by any of them in this locality. I do not think there is any further information which I could give you that could be helpful in the investigation, and as you will see I have not replied categorically to the questions, as they hardly apply in my case.

(Town: Northumberland.)

2818 Ten practitioners kept during 1903 (a year of little sickness) a register of attendances on club patients.

The total amount received in fees was £1,077.

The vast majority of fees paid was 4s. 4d. per annum, others paid 5s. and a few 6s.

No particulars were ascertained of the exact number of members, their ages, etc. They were probably about 5,000.

During the year 5,051 visits were made, and 13,717 consultations and "repeat medicines."

If the total (£1,077) is halved, and one-half taken for visits and the other for consultations, etc., it works out at 2s. 1d. per visit and 9¾d. per consultation.

Taking visits and consultations as a total, the fee received was 1s. 1¾d. each.

As this year was free from epidemics and characterized as a very slack one for doctors, we can rely on giving each member at least one visit and three consultations per annum on ordinary years. Calculating this at ordinary fees, it equals 10s. per annum.

I therefore think the least annual fee should be 7s. 6d. or 8s. per member.

The full report of the Committee was published in the British Medical Journal in 1903, or latter part of 1902.

There is a very variable feeling in the local profession on the club question. Many are unwilling to give up clubs because they fear others will take them. The greatest obstacle to any progress is the monopoly of those who have the present appointments. They have a large number of members and do the work very perfunctorily, and cannot yet be got to realize that they would earn more by attending them properly as private patients.

2824 I consider that a fixed scale of charges similar to the above or to that of the National Deposit Friendly Society is much preferable to the contract system. A member can then go to what medical man he likes (as most medical men will undertake the duties); he is likely to get more careful treatment; and, further, no particular medical man has a monopoly. It is an abuse that many men of superior position and means, well able to pay a doctor's fees, are members of clubs; but when they first joined they may, of course, have had slender means, and later, naturally expect to reap the benefit of their premiums. (Town: Surrey.)

2819 I think that the most satisfactory solution of the club difficulty has been reached by the National Deposit Friendly Society. The Society pays the doctor according to a scale, a certain sum for every visit, etc., and the better-class club patient who pays contributions for a higher sum per week in case of illness also pays a higher contribution for doctor. (Town: Worcester.)

2883 (Abstract) I also refuse to admit the children of men who owed me for past medical attendance.

Clubs are, I believe, often composed of men who owe the medical men money and enter with the idea of getting medical attendance for a few shillings per annum while still owing as many pounds.

The medical officer, in my opinion, ought always to have the right of refusing to attend in these circumstances.

(Town: Hants.)

2867 Owing to the fact that in two cases, viz., ... and ....., the Lodge Meeting is 4½ and 4 miles distant from my house, and that the rules of the Societies say that a medical officer is to attend any member who sends for him at a distance of 3 miles from such club-house, I have occasionally to attend 7 miles for a fee of less than 1d. per week.

The rule which says that no member who is injured when drunk shall receive any benefit is systematically broken, and unfortunately it does not pay to enforce payment for attendance through the county court.

(Town: Stafford.)

2871 Only one Club (Rechabites), to which the four practitioners were appointed and commenced duty on January 1st, 1904, at 4s. per head. This was the outcome of fighting the battle of Clubs here—and the several societies combined and engaged a stranger at the old price, 2s. 6d.

(Town: Lancs.)

2873 An experience of over 42 years has convinced me that ordinary wage earners of 12s. a week should pay 4s. yearly.

A sliding scale should be adopted up to earners of £2 a week, who should pay 10s. yearly.

No person with an income of £200 a year or upwards should be allowed to contract for medical attendance, except on altogether different terms.

That a small charge should be made for calls after 7 p.m. and a 5s. charge for calls from 10 p.m. to 8 a.m.

N.B.—My gross receipts from all Clubs amount to £50 17s. 8d., and my total income from practice, including Poor Law, is over £800, yet I believe that, excluding midwifery, I had more night calls from Club patients than from all my other patients, and the majority of those calls happen after 11 p.m., when the public-houses close, and are mostly unnecessary.

2876 In my own clubs and similar ones, the medical officer is (from my own experience) liable to be imposed upon and cheated. The members are of two classes—assurance members with or without medical attendance. I have had cases call upon me when only assurance members. I began by pointing out their mistake on the first consultation; they as a rule did not return when they found I made a charge. Now I do not enlighten them, but attend for the illness, then in due course I send my bill, which has always been paid. Many of such members have told me that they have received professional attendance and medicine free from their previous medical officer. I may say this has been confined to the juvenile or cadet section. A parent will bring a child, present its contribution card, and inform one that it is a "cadet." The "insurance card" and that for medical attendance are alike, so that at a glance one cannot tell without examining it carefully what amount of contribution is paid.

On my appointment, the secretary told me I was entitled to charge for assurance members only. It is the member who tries to impose on the medical officer.

As regards Question 7 *re* "married women," I was asked a few months ago by my club to take married women. I consulted our local Medico-Ethical Society. I objected to take them, and asked our Society to protect me by asking the members not to accept my club if they gave me notice to resign and advertised for another man who would accept them. The result was the following "urgency resolution" was passed:—"That no member of the ..... Medico-Ethical Society shall contract to attend a Club the membership of which included married women." The above was confirmed recently at the annual meeting of the Society.

(Town: Lancashire.)

2879 (Abstract) The anxiety of young medical men to obtain work and the lack of *esprit de corps* between the mural and extramural members of the profession have given the working man a swollen idea of the value of his club, though he never disguises his real opinion of the club doctor in overlooking his existence when seeking professional attendance privately for other members of his family. My candid experience is that it paid me to lose my clubs. Contract medical work is unsatisfactory under almost any circumstances, and the duty of the British Medical Association is undoubtedly to make it only possible by fixing a universal standard of remuneration which will impress the contracting parties on both sides as a genuine and serious matter of business.

(Town: Scotland.)

2880 One member of the above club recently made a contract for work amounting to £10,000 to be executed in twelve months.

I have had to attend him for 4s. a year. (Liverpool.)

2885 1. I consider all the fees too low. In my own case some of the workmen are earning from £1 to £3 weekly. The scale of subscriptions ought to be:

Wages, 20s. a week.—1s. a month medical fund.

,,	25s.	,,	1s. 3d.	..	..	..
,,	30s.	,,	1s. 6d.	..	..	..
,,	35s.	,,	1s. 9d.	..	..	..
,,	40s.	,,	2s. 0d.	..	..	..

And so on; 3d. per month additional for every additional 5s. a week additional wages.

3. Yes. Especially the gross injustice of the medical officer having to attend the "office staff" and some members of the management for nothing (as in my own case) in consideration of the cashier's few hours' annual work in deducting the amounts towards the medical fund from the workmen's wages! (Village: Glos.)

2888 (Abstract) In my opinion contract work cannot be abolished, but the present system is wholly unsatisfactory.

Either there should be a payment for work done on the lines of the National Deposit Society, or the rate of payment should be accurately worked out to correspond with the average sickness. I believe that sick pay averages about 1.7 weeks per member; to this there must be added the enormous amount of surgery work not included under sick pay. (Town: Wilts.)

2896 In the event of an outside practitioner being in attendance on a Society patient, the Society surgeon should not be compelled to visit that patient and sign certificates, and in these circumstances the certificates of the doctor in attendance should be accepted for all purposes of sick benefit or otherwise. (Town: Scotland.)

2898 I should like a scale of fees to be fixed throughout the kingdom. (Town: Yorkshire.)

2902 In this Society we have a high rate of illness. Last year over 41 per cent. were ill and off work more than three days. Many more consult us who are not off work, and also get medicine. *Vide* table, page 13 of the enclosed pamphlet. The illness in 1897 was as high as 58.15 per cent.—that, is of those who were ill more than three days.

I have to examine annually from 160 to 180 of the men, as there are many changes. That is why we got the 5s. fee. It originally was 4s. 4d. (Town: Scotland.)

2909 Think it is high time something was done to improve or do away with club practice. (Town: Yorkshire.)

2910 (Abstract) A sick club which would work on proper lines, to my thinking, would be one where the members contribute any given sum, and were allowed to send for the patient's own doctor when desired, the Society paying his bill at ordinary rates.

There is one trade accident club in the town (at the .....) run on these lines. Patients get their own doctor, and his bill is paid by the Society. The men themselves impose a wage limit (note this) We all find it satisfactory. (Town: Lancs.)

2913 I certainly think 3s. per annum very little remuneration. no fee for entrance examination and no extra for fractures. In my Society, however, there are 380 on the books, but nearly half are either living out of the district or contribute to two doctors. (Town: Yorkshire.)

2924 (Abstract) With reference to III (3) an attempt was made at the beginning of this year to bring in another man and oust me by a certain clique in the club; and accusations of neglect and so forth were trumped up. I called a special meeting of the club and had it out, with the result that the promoters were censured, and the resolution passed at a previous packed meeting, which I found had been irregularly summoned, was quashed, and finally a vote of confidence in the club surgeon was unanimously passed, even the malcontents voting.

I am convinced that the medical profession, if the individual members only realized it, have it in their power to compel the Friendly and other Societies to offer proper remuneration for their services.

(Town: Essex.)

2928 I consider the Oddfellows and such Societies are a serious menace to the medical profession at large, the membership of these societies is rapidly increasing, and they consist largely of the well-to do tradespeople who could well afford to pay proper fees; it is impossible to work

them except at a considerable loss, yet in country places one is compelled to do so. Protection in some form is greatly needed. (Village: North Lancs.)

2930 (Abstract) I charge 1s. extra to club patients for a visit if they send after 11.30 in the morning and 2s. 6d. if they send after 10 p.m.

I will not take women, nor boys under 7. I take juveniles—7 to 16—because if they are much trouble I will not pass them into the adult lodge; it is a guide as to future possibilities.

I have one man among my club patients who made a profit of £30,000 on a public-house, and who owns acres of houses in this district.

Another man is architect and surveyor, with an income of about £300 per annum.

Another is a jeweller in a good business.

These men value their doctor at 1d. per week, not the price of a decent cigarette, numbers of which they consume daily.

2939 (Abstract) The rule for alcoholic stimulants is an irritating one.

That for "sending" medicine is an absolute dead letter here, as is also the "two-hour" limit for attendance at the receipt of message.

(Town: Northamptonshire.)

2944 I may mention that I was, before I came here, the medical officer to a.....club with a varying membership of 750, for which I was paid at the rate of 4s. for every member on the books during the year. I kept a strict account of the work done for three consecutive years (one year comprising a very bad epidemic of influenza, about 1890), and averaging the attendance for those three years I was well in pocket, the influenza year about balancing itself. Many members were in other clubs as well as in the club referred to.

(Town: Stafford.)

2947 Owing to competition, short-sighted policy, and a want of friendly understanding between the medical men in ....., the fees paid into the medical clubs, of which there are an immense number, are ridiculously low, for example:

Workmen employed at.....pay weekly about 35 per cent., or 2d. Women's and children's club pay ½d., 25 per cent. of which goes to collector. I have no doubt a large number of Messrs.....'s workmen make from £2 to £4 a week. To show the multiplicity of clubs, I came across a family which through its various members was connected with eight doctors' clubs, and to show the value at which club doctors are held, when the only member of the family not in a club took ill, none of the club doctors were called in, but a private one. Imagine if the whole family had been rendered *hors de combat* simultaneously—and if the nine doctors had called at the same time!

I think signs of reaction are evident, and the medical men are pulling more together under the new conditions of the British Medical Association.

(Town: Lancs.)

2957 More definite rules should be drawn up defining the duties, etc., of the medical officer more clearly, and special rates should be allowed for exceptional cases, both medical as well as surgical.

(Town: South Wales.)

2960 In large towns and cities, so long as there are no restrictions on the class of individuals admitted to the medical benefits of Friendly Societies, there should be no organized attempt to increase the remuneration paid to the medical officers. Until there is a wage limit, or rent limit, the lowness of the remuneration of medical officers is the only safeguard which private practice has in competition with contract practice. Especially is this the case in the city, where there are a large number of men in circumstances above that of the working-class portion of the community who are members of Friendly Societies.

These men believe that for 2s. 6d. or 3s. a year a medical man cannot give them the attention they require, and as £1 or £2 in an odd year now and then is of no moment to them they employ a private practitioner. This should be encouraged, and if it is not done directly by means of a wage or rent limit, then let it be done indirectly by keeping down the remuneration of the medical officer by competition among medical men themselves. There is no great hardship in this to medical officers of societies in large cities. There are many young men eager for these appointments at any figure (many attend children for 2s. per annum), because of the introduction they give to family practice—a point which ought to be remembered when considering the question of remuneration. In small working-class communities, where there are only a few medical men, and where practically every adult male is a member of a society, it would be quite right and just to divide the societies among the medical men and obtain as high remuneration as possible. But in cities you can get no real combination among medical men—they will always compete with each other for these appointments, no matter what the remuneration may be, and I therefore think that the Association should keep in view the interests of private practice by remembering that the less a Friendly Society pays its medical officer the less will its members take advantage of his services and will in preference employ a private practitioner.

(Town: Scotland.)

2968 I consider the arrangements of the National Deposit Friendly Society with the surgeon much more satisfactory than any other Friendly Society with which I am acquainted, although the fees are too low in most cases and require revision. (Town: Cambridge.)

2970 (Abstract) There are, of course, a large number of members in these various clubs who have no right to be attended "on the cheap."

Here are one or two examples:—

A saddler who has private means—employs two men in his shop and farms 150 acres.

Several publicans—keepers of village inns.

A relieving officer—whose income must be £150 or more.

A number of small farmers—who farm 50 to 200 acres.

Blacksmiths, jeweller, and other small tradesmen.

(Town.)

2972 Medical men should bind themselves strongly together on the Club question and raise the Club fees to a proper professional status, with more definite terms for operations, night visits, etc., and strong and united pressure should be brought to bear on the status of members admitted for medical attendance.

(Town: North Lancs.)

2974 All the Societies here except the Hearts of Oak Society are held by one medical man.

Last year all the medical men gave notice to the different Societies that they could not further do the work at 2s. 6d. per head and struck for 4s. per head. The Societies held out and have got an outside medical man to come to the town and do the work at their terms. He has still got the Societies except the one I mentioned.

(Town: Lancs.)

2980 I am willing to co-operate with the rest of the profession for better terms. I would refuse these Societies here if my neighbours would not undersell me, but if I struck for better terms at least two of my neighbours would take them on.

(Town: Scotland.)

2986 I am strongly of opinion that if there were a combination of the medical men in this town the rates could be raised. The Society for which I act tried having a doctor for themselves, paying him £150 and midwifery fees, but it was not a success. There was a talk of the various Societies, of which there are too many here, combining and having, as they call it, a Club doctor, but so far I hear of nothing at present.

(Town: North Cumberland.)

2989 I am convinced that if we could only get unity amongst the medical men in this district we could demand a fee per member of 5s. and get it.

This is one of the most useful Clubs that can be, for it saves the honest poor from being paupers so far as medical aid is concerned and brings in to the country practitioner many a pound he would otherwise never get.

(Village: Somerset.)

2991 It is the 1 per cent. of the members that is never off the doorstep with "a cold," "the wind," "a gumboil," etc., that makes the Club work irritating; they are fellows who would not bother the doctor if they had to pay 3d.

each attendance, but seem rather to think that for each quarterly contribution of one shilling they must get *each quarter* all they possibly can. (Town: Cheshire.)

3008 The great drawback in this district is the prevalence of family Clubs connected with the pits (won't have one) in which the medical men attend the whole family for all cases of sickness and accident for 2d. per week per family, *not per head*—an abominable price.
(Village: W. Riding, Yorks.)

3017 There are some members of the ironworks Club who are earning from £250 to £350 per annum.
If any attempt were made to exclude these from the benefits of the Club I should lose the lot.
Some of these well-paid officials will occasionally see a consultant, and they have the impudence to bring their prescriptions to be dispensed by me.
(North of England.)

3023 (Abstract) How can I regard these Societies with a friendly eye? It is impossible. They are large sweating societies so far as I am concerned. It may possibly be different in towns, but in the country all members of Friendly Societies are the recipients of charity (whatever their leaders may say to the contrary), and the members when *very* ill know and feel it, as they generally say: "Doctor, if there is anything extra to pay, etc., I hope you will spare no expense"—that is to say, you may neglect others, but don't neglect me. Daily neglect is unavoidable, however.
There is only one real difficulty I can think of, and that is to guard against unnecessary visits being made.
This could, I think, be easily done—by some small extra payment say, "twopence" for every visit after a certain number in the year. This would act as a check, because in my experience most of my patients are very careful of their pence—and I am convinced that if they had even to pay a penny for every bottle of medicine I should have much less to do.
I was talking recently to a friend, a very distinguished man, a Privy Councillor, on the subject, and he said there ought to be no difficulty in getting the Insurance Societies to insure people against doctors' accounts (for of course, a fixed scale of fees).
I feel absolutely certain that the status of the general practitioner would be immensely increased by being paid for work done—and I am at a loss to understand why the National Deposit Friendly Society is so run down. If the fees are too small, then increase them. The system is undoubtedly correct.

3045 Clubs could be run on the lines of the National Deposit.
(Town: Kent.)

3053 I consider that even at 4s. per annum I am much better paid for the amount of work I have to do for these clubs than I am paid by the Guardians for attendance on the paupers. My parish district is also much more extensive than my club district, and the work is more irksome in every way. I consider reform in parish doctor's pay more pressing than reform in club work.
(Village: Essex.)

3068 (Abstract) Number of members ill during the year, 42.
Number of days' illness, 1,500.
Average sickness for the year, 8 days 11 hours.
(Town: Wiltshire.)

3071 That the British Medical Association Medico-Political Committee should draw up model rules and regulations, etc., as to rates of pay, etc., and supply them to medical men on application at a reasonable charge.
(Town: Leicestershire.)

3075 About two years ago the medical men here requested the clubs to pay 4s. per member adults, 2s. juveniles, instead of 3s. and 3s. 6d. adults, and 1s. 6d., 1s., and 6d. (!) juveniles, which they were then paying. The clubs refused and formed a medical aid society of their own, and succeeded in getting two qualified men to attend them. (Town: Durham.)

3079 In many cases a man may be in two or three clubs, consequently he is receiving as much or more when on the sick list than when at work. I do not see how this abuse is to be mitigated except by dropping contract practice altogether. (Town: Yorks.)

3085 I think everything depends on unity on the part of the profession; united we can dictate our own terms for contract practice; and as I believe there will never be voluntary unity, I think the only practical way of dealing with the matter is for the General Medical Council to draw up laws binding the profession to only take contract (club) work at a fixed rate; making it "infamous conduct," etc., and punishable as such, to violate the law.
(Village: Norfolk.)

3090 The question of wage limit as to amount is a difficult one; young men as apprentices join a society, then when they get on in the world can you turn them out? I find several members who have got on well refuse to be attended for the club, but not all. Men in business and employing others should not be attended as club patients.
(Town: Norfolk.)

3092 (Abstract) I consider that every member should pay 6s. per annum, and that instead of fixing a wage limit there should be a sliding scale in which tradesmen who can well afford to pay more, and who are too numerous in the various Friendly Societies, should be made to pay according to rental. (Town: Gloucestershire.)

3103 There is this about clubs: one has no responsibility as to finance or management; the members wish to deal fairly; they have their own methods of doing business, are fully aware that other doctors will act if one resigns.
Altogether, I seldom have cause to complain.
(Town: Middlesex.)

3108 My general impressions of club practice are these, namely:
That according to the number of patients it is surprising how few visits to their houses one gets. Most of the work is during consulting hours at the house. The patients for what they pay do not expect too much. That in serious diseases, such as pneumonia, etc., the patient is generally removed to hospital. Most of the patients belong to two or more societies. The greatest evil I know are juveniles. Instead of paying the ridiculously small sum of 2s. per member per annum, it ought to be at least 6s.
I certainly think that night visits should be charged extra, although it is surprising how few night visits one gets from clubs.
I think also that messages sent after 10 o'clock a.m. should be charged extra. Club patients are supposed to send by 10 a.m., but this rule is frequently transgressed.
(Town.)

3115 When I asked for an increased rate I was met by the statement that a neighbouring practitioner had recently applied for the club, offering to do the work for the same rate or even less.
I fear I must give it as my opinion that our chief foes are those of our own household. (London.)

3122 I consider Friendly Societies most useful organizations, which, to a great extent, supply what, in my opinion, is a want, viz., old-age pensions. If a medical officer keeps his place with members and office-bearers, and is careful to admit none but healthy applicants, my experience is that the duties are very light and friendly relations are easily maintained, expecially as healthy members mean increase in funds. (Town: Scotland.)

3146 I have stated my objection to a wage limit—that whilst it is in theory correct, yet that it is impracticable by reason of the opposition of the more powerful clubs, members.
and the impossibility of applying it in consequence of the difficulty of determining the incomes of club
The remedy, to my mind, lies in the system of the National Deposit Friendly Society, which provides:—
1. A graduated payment to medical men, in accordance with the amount of sick benefit insured for.
2. Payment to medical men in proportion to the amount of work done, instead of a fixed annual payment.
Another remedy lies in such an increase in the club rate of payment as will make club practice yield a living wage to the medical practitioner.
That such a rate is possible is shown by the following considerations: That in England and Wales (excluding London) there are 27,991,302 inhabitants and 17,608 medical practitioners, or 1 in 1,549 inhabitants (the reason for excluding London is the large number of specialists and consultants there).
Similar rates prevail for individual provincial towns, for example:—

Birmingham	has 1 in 1,352	inhabitants.
Manchester and Salford	have 1 in 1,580	,,
Ipswich	has 1 in 1,850	,,
Sheffield	has 1 in 1,929	,,
Bradford	has 1 in 1,943	,,
Norwich	has 1 in 1,995	,,

Taking, therefore, 1 in 1,600 as representing the proportion of medical men in general practice to inhabitants—and the above figures (inasmuch as no allowance is made for consultants and specialists) show that it is more probably 1 in 1,700 or 1 in 1,800—we arrive at the following conclusions that a rate per head for each man, woman, and child of

4s.	would give	£320	per annum	to each	medical man.
5s.	,,	£400	,,	,,	,,
6s.	,,	£480	,,	,,	,,
7s.	,,	£560	,,	,,	,,
8s.	,,	£640	,,	,,	,,
9s.	,,	£720	,,	,,	,,
10s.	,,	£800	,,	,,	,,

On these figures is formed my opinion that a gradual levelling up of club rates would meet the requirements of the Association, though I think the National Deposit Friendly Society's plan the better alternative, but this involves the rearrangement of the entire club system.

(Town: South Suffolk.)

3151 I consider it an important condition that members and their families should pay a little for drugs supplied to them.

It often prevents the medical attendant from being sent for for trifles, and their medicine is not wasted as when they get it free. I am certain if I supplied drugs without charging for them I would have nearly double the amount of work to do. (Town: Scotland.)

3220 1. Members should not be in benefit as regards medical attendance until the expiration of six months.

2. Chronic cases are put on reduced pay, but the doctor has more work and nothing extra; some extra allowance should be made for such cases.

3. The answer to question II (*a*) and (*b*) is based on three months' careful statistics, and the average age is very high in that lodge. (Town: Durham.)

3221 (Abstract) Though assenting to III (2), I am not sure that it is desirable to attempt the suppression of such (private) clubs, as I believe the attempt would either fail or result in a large increase of the members of the Friendly Societies' clubs which, with the loose combination of the medical profession, it would be impossible to suppress. (Town: Lancs.)

3225 (Abstract) I consider that the system of contract medical practice is greatly abused. It should be confined to working men only—or if women and children are admitted the rates should be much higher.

(Town: Yorkshire.)

3226 (Abstract) I do not consider club practice does so much harm as the numerous 6d. dispensaries.

As to the wage limit, I do not think there is much abuse of clubs from that cause in this neighbourhood, although there is some. (Liverpool.)

3231 Either of two arrangements in actual work in this district would be more satisfactory both to the members and the medical officer, if generally adopted, than that of having the latter to supply medicine.

In one case, that of a large club whose members are widely scattered over the city and suburbs, the club arranges with several chemists to supply at a reduction of one-third of the current prices. In the other, a more local and smaller one, the club pays a chemist a fixed sum—one-third of that it pays its medical officer—per member per annum for the supply of medicine.

(Dublin.)

3246 The Friendly Societies, in my opinion, are doing a splendid work, and when the medical officer gives reasonable attention to the members, are very desirable appointments. By far the larger part of the work is done at home; 75 per cent. of the cases give little trouble; infectious cases are taken care of by the Metropolitan Asylums Board. The general hospitals are available where nursing is required, and incidentally the problem of old-age pensions is solved, as far as solution is possible, by these admirable organizations. They are worthy of all support by the medical profession.

This is a Society typical of many others in the district, so-called "Slate Clubs," mostly in connexion with chapels of various denominations. So far as medical relations go, they do not differ from the Registered Societies, but, for the members, they are very risky organizations indeed. If a member is often ill he is simply not re-elected at the annual meeting, and, as the surplus funds are divided up every December, it is easy to see that no reserve fund is possible, and in old age, when sickness naturally increases, the Society collapses and the members find themselves with no sick pay, and that, too, at a period of life when no other Society will accept them (usually 45 years is the limit).

This system looks fairer, but is much the same as ordinary society work. (London, W.)

3262 (Abstract) I have held club appointments for twelve years, and my chief grievance is that I am frequently called to attend members whose financial positions should put them above claiming a club doctor's services, and, moreover, when unpleasantness occurs it is invariably caused by such a member, who can calmly lay up while sweating the doctor. (London, E.C.)

3275 (Abstract) I consider that there is no chance of increasing the rate paid to medical officers of Societies in this district, as there are medical men willing to accept 2s. 6d. per annum for adults.

Then the 3-mile limit, within which the members may require the attendance of the lodge surgeon, is too great. A radius of 1½ miles is quite far enough. In practice, however, I find that members living at the extreme limit do not often employ the lodge surgeon.

(Town: Scotland.)

3277 (Abstract)

Three quarters: March to Dec., 1899 (averaged for a year).		*Three quarters* (actual figures).	
Estimated No. of members for year	861	No. of members ...	646
Estimated No. of visits per member per annum...	44	No. of visits with or without medicine ...	286
Estimated No. of consultations per member per annum	7	No. of consultations...	440
Ten quarters: Jan., 1902, to June, 1904 (averaged for year).		*Ten quarters* (actual figures).	
Average No. of members for year	786	No. of members ...	1,965
Average No. of visits per member per year ...	165	No. of visits	325
Average No. of consultations per member per year	78	No. of consultations...	1,552

For eight quarters, fourth to eleventh, both inclusive, I have unfortunately no separate statistics as to visits and consultations, but I have estimated the proportions from my very accurate figures for the past ten quarters. It works out at 306 visits and 1,466 consultations for the eight quarters for 1,813 members.

For twenty-one quarters, then, I have dealt with 4,424 members and have received 4,424s.

I have paid 919 visits and held 3,458 consultations.

This works out at 2s. per visit with or without medicine, and nearly 9d. per consultation with or without medicine.

There have been no bad debts.

Members were admitted without examination.

(Town: Middlesex.)

3283 I have carefully studied the question now for twelve years. From 1893 to 1896 I had 600 (nearly) club members under my care, paying me 2s. 6d. per head. On the average of those years each member required five attendances at the house or at my surgery—that is, 6d. per attendance including medicine. During these years I kept count of the visits and surgery consultations in my whole practice of £600 per annum gross average income. I allowed one bottle of medicine to each visit or surgery consultation; none of the work entailed visits beyond a 2-mile radius from my house. Midwifery, thirty cases per annum at 21s. In these years I found the cost to me was 1s. 1d. per attendance. My drug and bottle bill was one-sixth of total practice expenses. In those days I kept dispenser, horse and trap, and groom. I therefore lost 6d. at least on each club attendance. On this rate 5s. per head per annum would barely pay expenses. Putting 1s. per attendance as a reasonable profit for the medical attendant, a payment of 10s. per annum is required. But as quite half the attendance in contract practice are trivialities, I think 5s. per head per annum will afford a proper remuneration if trivialities can be excluded. Now, contract practice is another name for

bondage to both parties. The medical man is bound to attend any patient in the contract, and the patients are bound to go to a certain doctor if they are to benefit by their payments. No figures on a large scale are available either from

1. Medical men to show the actual cost of attendance.

2. The patients to show the amount of treatment required.

Sick payments are no guide, as they do not include the large proportion of trivialities.

A conclusion can only be attained by collective investigation, preferably by medical men themselves, as to the cost of work done.

For the future I am firmly determined to accept no form of contract work at any price. I am sure that the only satisfactory solution of the question will be found in the free recognition of the rottenness and injustice of the present system to both parties concerned.

I believe that in the National Deposit Friendly Society may be found the germs of a satisfactory and workable scheme. Medical practitioners in certain districts ought to combine and formulate tariffs for ordinary attendances and services, very much on the scales given in *Whitaker's Almanack*, p. 441. Then those who so desire should also combine and insure themselves against the payment of such charges, just as they would against death, sickness, fire, hailstorms or other disaster, adjusting their premiums to the amount of benefit they may desire. For example, a man who desires to insure against "medical attendances," charged at 2s. 6d. each, pays such and such a premium. For double that premium he may be insured against 5s. attendances, if a well-to-do man. The amount of the premium charged is a matter for the settlement of the insuring corporation and need not concern the medical man at all. Insuring Bodies, viz., Companies, Friendly Societies, and such-like, have, with actuarial aid, made a very exact calculation of necessary rates for deaths and other disasters in life. They then prolong their investigations and insure all classes of the public, adult male and female and children, against the risk of "doctors' bills." It is already done by some Insurance Companies, and the National Deposit Friendly Society go in the same direction. For the furtherance of such a scheme as I suggest, I am prepared to devote the same energy as I have seven years ago to the abolition of the "Club Contract System" here in ..... To the revival of any system of contract work or medical slavery I should oppose all the powers I possess. My advice is, "Avoid contract work as you would the d——l." (Town: Cheshire.)

3309 (Abstract) "National Deposit Society." You will get numerous reports no doubt of this Society.

(*a*) I do not think that 1s. 6d. for consultation at surgery with medicine is enough; it should not be less than 2s. 6d.

(*b*) Shilling charge for interval visits—this is absurd—you only attend interval visits in serious cases—they should be at least 2s. 6d.

(*c*) The Society's scale of charges for operations is not precise enough, and I do not think this Branch is satisfactory. (Town: Notts.)

3316 (Abstract) In my opinion, the great source of trouble over Clubs is the internecine discord in the profession, some men being always found to accept any post, however poorly paid (save the mark), in the hope that it may:

(1) Freeze some one else out.

(2) Lead to lucrative business.

(Village: Cambridge.)

3319 A member joins the Club, and does not get into benefit for some months, although the medical man has to attend him at once if necessary. (Village: Yorks.)

3323 I find that very often the members, at any rate many of them, expect to be treated and visited for every trifling ailment, for which, were they not in a Club, they would not think of applying for advice and medicine.

That since the existence of the Private Club, many of those well able to pay a bill are anxious to join if possible, they either pretend, or don't seem to consider, the difference in their respective position. Those who are members are in most cases in better circumstances now than they were when the Club was first started, and very many of them are generous enough to acknowledge this.

(Village: Devon.)

3327 The only obstacle in the way of the profession getting proper treatment in the club or contract system is its own want of unanimity. Dr. Blank, round the corner, is always willing to "undercut" in club work as in vaccination—for example, one mark for 6d. In my opinion both could be beat and immediately stopped by being created penal offences; until this is done these clubs can dictate and obtain their own terms in [illegible] cases out of 100.

(Town: Staffs.)

3329 I sincerely hope that the whole villainous system of contract medical practice may be abolished, and think the ideal system to be that every man, woman, and child in the kingdom should be entitled to insure against sickness by joining any society at suitable payments according to position, but the medical man to be kept out of it and to attend the patient at his ordinary or suitably-arranged rates, and then to send in his bill for work actually done to the society. Any medical man to be available to the patient who cares to accept the rates offered by the society.

(Town: Derbyshire.)

3330 In case of dressings or operations being required it would be a convenience if the medical officer could have an arrangement with the club to pay him satisfactorily an extra amount for these, instead of the patient having to go to a hospital.

Three miles is perhaps rather far to visit patients under the present system of pay.

The plan of making the fee 6s. a year for members earning under 35s. a week, and a sliding scale for members earning between 35s. and 45s. might meet the case.

On examination of candidates for the lodge, the medical officer should be paid for each examination by the candidate, say 2s. 6d. to 5s. for each examination.

(Town: Oxford.)

3333 The club fees are too low. Several thriving club men have told me in very plain words that they cannot understand why doctors put up with it. I know a man who has boasted to me more than once that he is doing a very "smart" thing in getting his medical attendance for a 1d. a week. This man is a very flourishing tradesman. . . . . 4s. a year is bad enough for visiting those near, but those who live about three miles off get their medical attendance for the same rate; that is, I often have to go three miles each way to see club patients. It is mere charity—only, if I do charity, I prefer not to do it under obligation.

I do not think our profession will earn the respect due to them from uneducated people till an adequate fee is exacted for services rendered. Club patients are very exacting and frequently ungrateful. (On the other hand, of course the best of them are very nice. These are usually those who are paying about what they can and ought to pay. For myself, I enjoy going to see such as these—even for next-to-nothing in fees.) As an instance, a well-dressed, prosperous man, who is in charge of the electric lighting of a big private house, pays a 1d. a week. He lives in the country, owns a bicycle, rent is small: is well-dressed. A 1d. a week! it's scandalous. I admitted him to my club, because he would have "gone elsewhere," where he would not have been refused.

Fees.—The fees of club patients, paid to the medical officer through the club officials, are too low. None of my clubs pays more than 4s. a year per member.

The usual rate of wages for labourers about these parts is 12s. to 15s. a week. Having taken some trouble to find out, I can say that 15s. down here is quite equivalent to 25s. in big towns. The cottagers get their cottages cheap, and have a garden to each cottage and grow vegetables, etc. They live well, as I have ample means of seeing. Very many of them spend more than 6d. a night in the public-houses, and they often pretend they cannot afford to get in a doctor for their children. . . . I know of two clubs—not mine—in this place (Shepherds and Foresters) which pay 5s. per member.

Midwifery Fees for Club Patients and others.—Whether club patients or not, the usual fee about here is £1 1s. This is generally paid quickly, and is regarded as a sort of debt of honour, but those who do not pay are not made to, so far as I know. The clubs ought to see that such fees are paid: also such women as pretend to belong to clubs (when they do not belong) ought to be "dropped on" by the club officials.

Vaccination.—Many quite well-to-do patients (club and otherwise) get the vaccination done by the parish medical

officer. People who can easily afford to pay 5s. are constantly getting it done at the public expense. For myself, I object to pay for the vaccination of people who can well afford to pay but won't. A very well-to-do man lately said to me (when I told him that his child—my patient—ought to be vaccinated) that he did not see the good of paying 5s. when he could get it done for nothing. This is, I believe, quite usual about here. I do not think that any one who has an income over a certain figure ought to be vaccinated for nothing at the public expense. The public vaccinator ought to be obliged to pay such fees himself if he vaccinates people for nothing who can be proved to be able to pay.

Club Management.—Clubs generally, I believe, can "give notice" to the medical officer to leave whenever they like. They ought to be obliged to give "so many" months' notice, and the doctor, too, mutually.

"*Mischief-making.*"—Sometimes one man (as in a case I know) stirs up a row in a club. One man I know of was the only one dissatisfied—or rather his wife (not a member) it was—and he had not the decency to turn up even. We ought to be able to put forth our hands on such with effect.

Thrift.—Very many club members are unthrifty to a degree. They throw away good coal in their dust boxes daily. In many other matters it is the same. Yet they say they cannot pay even their pennies for bottles, and let their womenkind and children get ill rather than pay the doctor. Of course, this is no new tale.

The medical officers of the clubs ought to have the main direction of the club affairs in so far as concerns the medical aspect.

Club patients ought to be obliged to pay for teeth extraction; also for all operations.

Lately I was the sole medical officer to the local branch of the ..... Quite unexpectedly I heard that another doctor in the place had consented to act as well. I received no notice of this whatever. When I wrote to the general secretary, he said that it was the usual custom of the club to have more than one doctor in one place (this is true). When I called on the doctor referred to, he simply refused to see the matter in my light; he seems to regard himself as merely the servant of the club. I hold that the doctors ought to be officials. In this matter I have information privately that, of thirty-four members, all except four are still my patients. All the club members were called on and asked one by one. The doctor referred to is an "old" man, about 67. The general secretary explains all this by saying that it was for the good of the club.

As to what sum clubs ought to pay per member to the doctor, a club man said to me that a man earning £50 a year ought to pay at least 12s. a year for the doctor. The man gets £1 1s. a week. I think that this is a pretty fair rate of pay per member. For higher rates of wages the doctor's fees ought to increase proportionately. Above £100 a year workmen ought to pay 2s. 6d. a visit. £50 a year = 1,000 shillings; 10s. per year per member only = $\frac{1}{100}$th part of the man's wages.

3335 (Abstract) In this district private family clubs are in the hands of a collector whom I have known to canvass for members.

Also two classes of people enter: (1) that respectable class(?) who for reasons of thrift and economy desire to get professional attendance at cheap and reduced rates; (2) those who from experience discover that they or their family are more or less chronic invalids, and require constant attention.

The class for whom it is alleged it is intended (those who will not pay bills), either do not join, or do not pay their subscription. (Town: Yorks.)

3350 Club work is very unsatisfactory in every way—If there is an epidemic such as influenza it does not pay, and the doctor is looked upon as a paid servant to be called at any time, and that is what he is. Juveniles up to 16 are admitted at half the rate of adults, and, in some cases, women also, but an examination is required before juveniles become adult members. One thing to be said in favour of clubs, you obtain members of the family as patients, especially obstetric work, but the whole club system is nothing but sweating in every sense of the word.

Why do we practitioners take clubs? Because we are having very hard times. What are the causes? Prescribing chemists, herbalists, large quack companies, midwives, vaccination officers, etc.

Remedy: Protection. Publicans, cab owners, and pedlars are protected. Why not doctors?

(Town: Essex.)

3352 (Abstract) The contract question is big and difficult, and, so far as registered societies are concerned, I see no remedy, so long as they have the power by Act of Parliament to appoint their own surgeons, according to rules as now registered and approved.

If an Act of Parliament can be passed fixing contract fees, or better still if the General Medical Council can acquire the power to draw up a code of rules to guide the conduct of all which shall have the force of law, some good may follow. In that case it might be possible to make it illegal to accept appointments direct from Friendly Societies, by the creation of a Board of Control through whom all appointments should be made, registered, or altered. The present procedure to remedy evils by test cases of infamous conduct, and by vague pronouncements many years after the evils have become common or almost universal, is highly unsatisfactory.

(Town: Staffs.)

3386 Would suggest that a radius of 2 miles be substituted and entrance and examinations be paid for.

(Town: Warwickshire.)

3389 Family clubs here mean purely private and voluntary members of families. I say voluntary advisedly, for, alas! some few years since there was much touting in this district on behalf of a few medical men who acquired the services of collectors or agents with smooth, boastful tongues, who exploited the doctors for whom they were collecting for their own pecuniary gain. Our local medical society put an end to this in a great measure. We do not hear so much of it now.

A family of three or upwards pays 6d. per week, and this is brought to the doctor's home, or is collected at patient's house. Where one or two persons in a family pay, the rate is 2d. per week per member.

There is no contract; they continue as long as it suits them and then desist paying. It used to be a common practice here for one collector to represent two or three doctors, so when a family or member got tired or dissatisfied with his doctor and wanted to refuse payments the agent told him he could have his choice of one of the other doctors, and so the agent secured his fees in any case. The agents' or collectors' commission was 25 per cent. of collections, and if he introduced new cases he had the first four payments himself, and, to show the curious constitution of the affair, while these four payments were being made the patients were not in benefit unless the whole four weeks' payments were made at once, when the doctor's duties began. Dignified, is it not? That existed up to within two years ago, and the payments were 4d. per week for a family and 1d. per week per single member. The family had no limit; it may be three or four, or it may extend to eight children, with the parents thrown in.

One of the largest club doctors in ..... gave 30 per cent. to collectors, but no whole payments for themselves. I don't know whether he gives it yet. Probably. He has thousands of family members, I believe.

If out of clubs, such people are charged for visits: 1s. to 1s. 6d. a visit; medicine and advice at surgery, 1s. to 1s. 6d.; midwifery, 10s. 6d.; vaccination, 1s. 6d. to 2s. 6d.

Note.—As the family clubs, as understood here, do not lend themselves to the questions here set down for answers, I have taken the liberty of giving a short account of their character and constitution, which is, as you perceive, very much a rule-of-thumb kind of constitution. No wonder our profession is not greatly honoured here. Alas! there are a few doctors among us who spoil our attempts at unity. (Town: Staffs.)

3120 I consider all club rates are too low, but we all have to compete with so-called charities and sixpenny dispensaries.

Further, unless the other matters are gone into, it will be next to useless to reform the club rates, for, as I have stated above, men will drive away their patients, and their future conditions will be worse than their present state. (Town: Warwickshire.)

3121 Since the State imposes on parents and guardians certain statutory obligations, and practically on all heads of

households, the ultimate relationship between medical men and patients will have to be regarded from that of the public policy. Even if we were strong enough to dictate our own terms we would not be allowed to do so; the privileges granted by registration would be held to demand more from us than qualifications alone.

With certain classes contract practice is both desirable and advantageous to both parties: the problem seems to lie in making it fair to both.

As long as the General Medical Council is practically staffed by consultants so long will no attempt be made to diminish the present undue competition by limiting entries at the schools, a procedure that might easily be vetoed by the State, or by the better plan of a higher standard of arts and professional knowledge, fluctuating this according to annual waste of register. It pays the consultants, the examiners, not to limit the number of candidates. Since either of the above schemes would take years to produce an effect something more immediate in incidence is required; the plan or plans to take into consideration the fact that in every locality men will be found or obtained ultimately who will not fall into line with the rest. The only means seemingly available at this moment are of the nature of penalties imposed by the Medical Council, they acting within the powers conferred upon them. The unprofessional conduct clause is the only one they can act under immediately, and that must be with a wide and a wise discretion, since it is not meant to further any extreme action on behalf of medical men against the community. For example, the public policy would never allow of contract practice being forbidden; there will always also be men desirous of it under fair terms.

What constitutes fair terms can only be found out by investigation; when determined on, and the public convinced that they are fair to the other side, it will be time enough to ask the Council to consider the application of the unprofessional clause. With a general and universal application of the clause, the clubs violating the new rules would either have to dissolve or accede; in the latter case the present holders of office would nearly all find themselves retained in office as against new or untried men.

As far as I can judge, the rate of a penny a week for healthy men seems to give a fair start-point to work from where such men come under new rules if they become chronics or infirm from old age. The rate for family subscriptions might with advantage run like this. So much for husband and wife, a fixed rate for one to three children, formed on the average of two, a higher rate for from three to six, on the average of five; and also a higher rate beyond that. Weaklings, infirm people, chronics, and seniles to pay to cover each time they receive medicine. Wherever possible, clubs and societies to be thrown open to all practitioners willing to undertake the work, people having a right of choice once a year. I do not see how a wage limit can be enforced as to the large Friendly Societies. Hospitals should also be made to act honestly, to only attend the absolutely indigent, the cases that can only be best treated there, accidents and emergencies; a proper system should be evolved whereby people beyond the indigent class would provide for home attendance, those who were unable to afford a consultant regarding the hospital staff as consultants on the recommendation of their ordinary attendant.

Much is often heard as to the rudeness of, and amount of attendance required by, contract cases in the great number of such cases I regard it as the fault of the doctor that such complaints exist. Once a doctor is known to be one who scrupulously observes his part of the contract he can safely "sit upon" the unreasonable few, but a man must gain that repute first. Such a minority would never gain a superfluity of friends, the doctor should possess many. Medical aid associations came largely into existence upon the neglect or differential treatment accorded to the club patient, except they were officials; some twenty years ago my experience was that such conduct was the rule by the club doctor.

Also, if a medical man live as a mere commercialist, the consideration of pecuniary profit and the avoidance of giving offence being his first principles, he cannot blame patients if they treat him as a tradesman; the professional man is one who lives on a higher standard, and the difference demanding respect has to be made clear and patent by his attitude and conduct. A medical man who is a gentleman will always receive from all reasonable people the respect due to one; if he is a trader at heart he may expect it, but it will not come to him.

(London.)

3422 (Abstract) If clubs were done away with the people would go to the hospital where they are generally received with open arms, or to the chemist and very often to quacks.

(Village: West Yorks.)

3425 This club appointment was resigned by another medical practitioner, not because he objected altogether to contract practice, but because this paid him less than those he retained. It was offered to me—a needy beginner—and naturally enough I accepted it.

My own opinion is that contract work will not be agreeable to the doctor until his remuneration is based on work actually done—the more work the more pay—the pay of course coming from club funds and not from the unfortunate sick members. (Town: Warwickshire.)

3428 The local Medical Society resolved to get rid of the private club system, and most men agreed to disband their private clubs.

Shortly afterwards we started a dispensary, people paying their weekly subscriptions into a central office; unfortunately, many of the doctors were very lukewarm about it, and after twelve months we agreed to shut up the office and receive the payments at our respective surgeries. Of course, several men did not come in line with us, and now several who were with us have reverted to a condition of barbarism, employing collectors paid by commission.

Formerly the arrangement was that each member paid 1d. per week (or a family 4d); this was collected by an agent (usually also employed as an insurance agent), who admitted members as he pleased, and was paid a commission of 25 per cent. and received a bonus of the first six weeks' payments. Of course he touted.

That this system is being revived here is past all doubt. Many of us feel that the most pressing of all medical reforms is the total abolition of the private collecting (touting) club. The results of the cheap and nasty variety of club practice are obvious to all who like to look for them. "Club mixture," club patients undiagnosed and treated by rule of thumb—(for example, lumps in groins not looked at, and simply poulticed, though the lump is a strangulated hernia, typhoids allowed to walk about for want of time to diagnose, and so on).

This cheap private club work is a growing evil, and is not to be compared with Friendly Society work, for all members of a Friendly Society have to pass a medical examination before entry. Private doctors' clubs are, I am sure, a menace to the community, for, in order that they may be made to pay, the number must be so large as to forbid proper attention. (Town: Staffs.)

3444 I think the regulations for contract practice approved by the Birmingham and District General Medical Practitioners' Union are a useful guide to the conditions we should aim at. (Town: Warwickshire.)

3445 The rates are the same as were fixed fifty years ago, when money had a different relative value.

(Town: Warwickshire.)

3470 In the best Friendly Societies, such as the Manchester Unity, Hearts of Oak, and Foresters, the members now include almost every class—farmers, veterinary surgeons, schoolmasters, shopkeepers, etc. (as well as labourers and artisans), who join for the medical attendance advantages: and as such men never will be excluded from joining, as their presence gives the club a better status, their proportion for the doctor ought to be double that of the working man.

When clubs were first started medical men gave their services at a small figure, 3s. to 4s., on the understanding that they would have the wives and children as private patients; nowadays nearly all the children are in juvenile clubs at 2s. 6d. per annum, while the wives, if not in a club, choose a different medical man (their own doctor as they call it), and for all those reasons the time has come for a revision of medical rates. (Village: Norfolk.)

3471 This club, known as the ——— Medical Aid Society, is run by some twenty or more medical attendants, who share working expenses and take their share of profits pro rata, and govern the working of the club.

(Town: Surrey.)

3490 On the basis of the figures I have collected I think that

the sum of 5s. already recommended by the A.R.M. would just about bring in what the present rate for private practice (minus a deduction for bad debts) brings in from same class.

I think the contract principle should be abolished, except in so far as making an allowance for prompt payment and no bad debts. For instance, if all the Friendly Societies pooled the sum of 5s. per man per annum, I believe they could get any medical man to attend, and pay him, say, 2s. per attendance. The 2s. would be a fair thing, I consider, seeing that all fears of bad debts would be gone, and that there would be much less book-keeping. On the other hand, seeing that the medical man would be paid for each attendance, the feeling of, "Oh, here's another clubber," so well known to every contract practice doctor, would be abolished, with much comfort to the doctor and great benefit to the patient. The great objection, it seems to me, is that very large bills might be run up by doctors, sometimes unnecessarily. The lodges at present trust their doctors to deal fairly with them, and they would just have to go on trusting them. There would be this difference: that a man feeling he is decently dealt with can be trusted better than the underpaid and sweated servant. I should like to see the British Medical Association meet the heads of the Friendly Societies, and talk the whole matter over. These men must know the grave objections to the present system, and we should show them a better.

Have kept figures very carefully as to aggregate work for six years, and I state them here. I have not in this statement kept separate the visits, consultations, and medicine, as my object in keeping the figures was to compare rate of payment with that obtained for private patients of same class. With the latter the payment is 2s. 6d. per visit or consultation, with or without medicine. In the figures given below I include visits, consultations, and examinations of candidates.

	Amount Received. £ s. d.	Attendances.
1889 ...	19 3 0	 337
1900 ...	20 1 6	 325
1901 ...	22 14 6	 231
1902 ...	24 3 0	 450
1903 ...	30 19 6	 319
1904 ...	30 19 6	 260
	148 1 0	1,922 = 1s. 6¼d. per attendance.

On examination of six consecutive months, I find the visits are to the indoor work as 1 is to 2¼. From this I would make a deduction of 1d. to allow for probable omissions in record due to forgetfulness of self or *locum*.

3496 The rates paid to me are about an average. They are much too low; 4s. would be fair. The difficulty is that a large number belong to pit societies, of which they are compulsory members; consequently some have to pay twice for the same doctor. This is specially the case with the Rechabites of ....., an outlying district of ....., of which I am not doctor; it was the case with those of ....., and is the case with other benefit societies there.

I think there should be no contract practice, but that doctors should be paid out of a society fund—perhaps a combination of society funds—at ordinary rates, patients being allowed to select their own doctor. This applies specially to ordinary Friendly Societies like the Foresters, Rechabites, etc.; much less so to "pit" societies.

From the Rechabites (the figures are for 1904) I should have received for attendance, if paid at the low rate usual here in private practice (and including medicine supplied at cost price), £38 7s. The cash received represented a loss of nearly 50 per cent. This is a low figure.

I applied for a 3s. rate, on the score of not being properly paid, some two years ago. It was refused, on the ground that the rate was the same as that paid by other societies here, and that if the higher rate were given it would keep down the membership. I am very glad the British Medical Association has taken up the matter, as I was prevented from raising the question for all the societies here by what happened at ..... miles distant. There the doctors asked for 4s., but owing to a mistake in tactics lost their chance, and a "blackleg" doctor from the outside responded to the societies' advertisement and became doctor for all the societies. The same would happen here. (Scotland.)

3497 I find I am not quite paid for my work for the lodge estimating it at ordinary rates, but I voluntarily attend all just as I do paying patients. I believe, even at 3s. a head, I could make my lodge pay if I were to be more chary of my attendance. (Town: Scotland.)

3500 We (doctors) in.....made a joint demand for an increase from 2s. 6d. to 3s. per member (including medicine) fully two years ago; our demands were refused and a Friendly Societies' Council was formed under which all the Societies in the town (thirteen) were amalgamated.

They advertised for a doctor and got numerous applications and had not the slightest difficulty in getting a medical officer, and we were hopelessly defeated, and have since been reduced to the condition of helpless paralytics. Further, this man has evidently no difficulty in getting consultants from.....and other practitioners from a neighbouring town to consult with him without any one being able to say "what doest thou?" I have, in fact, come to question the propriety of encouraging medical men to fight this question, as it is merely handing over appointments to a new man. Here is a very marked want of backbone in the medical profession itself.

It seems to me that any reform is absolutely impossible in face of these facts.

I resigned my appointment entirely in the interests of the profession, and find that that profession can do nothing for itself. (Scotland.)

3503 (Abstract) Medicine, surgical attendance, operations if need be, dressings, and signing certificates regarding sickness attendance—all for 2s. 6d. per annum per member of Friendly Societies! It ought to be declared infamous, and yet we were all doing it up to about two years ago. Since throwing off the yoke we have had some ups and downs, one of the latest being the recognition of the fact that our local Honorary Secretary consults with the medical man who took our place.

3513 While admitting that our club rates are better than those obtained in some parts of the country, the fact remains that they are entirely unremunerative on account of the heaviness of the necessary expenses connected with that branch of our practice. These clubs were originally started merely for strictly local purposes, and the members lived in or close to the town of ....., so that patients could be attended easily and inexpensively. Moreover, the drugs, etc., etc., supplied, were, until comparatively recently, far cheaper than many in constant use now, for example, salicylates, iodides, etc. As to this last point, it might be said that only the cheaper drugs, etc., ought to be used; but we find it practically impossible to draw any such line with regard to treatment, and any attempt to do so creates much dissatisfaction. If there were a general hospital in the town, many of the severer (and therefore to us more expensive) cases from the neighbourhood would probably be treated in it; but as there is no hospital nearer than .....—with which there is no direct railway communication—these patients have to be attended by us at their own homes. As regards the area covered by our work, our surgery is roughly the centre of a circle of about five miles radius, less in some directions, more in others. As this district is—for a country district—rather thickly populated by the working and poorer classes, we are obliged to visit patients in unusually large numbers at their own homes, scattered all over the country, the expenditure in horseflesh, etc., being consequently very great. While not desiring in any way to shirk our legitimate share of medical charity-work, we, in fact, find the burden rather too heavy to bear under present terms and modern conditions.

I annex a statement (A) showing the clubs connected with this practice, and the general nature of the terms under which the work is done.

The first club started in connexion with the practice was "The Surgery Club," to which adults pay 6s. a year, and children 2s. The latter sum is very small, but it is difficult to raise the rate, as there may be several children in one family, and even 2s. per annum for each may press heavily on the parents, and they, if unable to pay at all, might apply to the Poor-law Guardians, and obtain medical attendance free.

Having our own surgery club paying at the rate of 6s. a year for adults, we feel we ought to accept this amount for the present as our standard payment, but that it should be accepted only subject to certain definite restrictions. Our intention, then, is to propose to all the clubs under our care:

1. A uniform payment throughout all the clubs of 6s. per annum for adults and 2s. per annum for children, with an additional mileage payment of 6d. per mile or fraction of a mile for every visit to a patient at a distance beyond a radius of three miles from our surgery. (The Oddfellows' Club already allows such a mileage charge.) As an alternative to the mileage charge, we might suggest that adults living outside the three-miles limit should pay 9s. per annum subscription, and children 4s.

2. The above rates of subscription are for ordinary medical attendance and medicines—medicines only, patients bringing their own bottles, jars, etc.—and do not include:

(*a*) Anaesthetics (gas, somnoform, chloroform, ether, etc.), or operations requiring their use.
(*b*) Fractures or dislocations. (These are not strictly included in the Oddfellows' agreement, but have, in fact, been treated gratis for many years now.)
(*c*) Syringing ears, vaccination, midwifery.
(*d*) The supply of any special apparatus—for example, trusses, pessaries, elastic bandages, catheters, etc.—for patients' private use.
(*e*) Use of *x* rays.
(*f*) Pathological investigations, other than simple testing of urine for presence of albumen or sugar.

All the above are extra matters, to be paid for separately as may be agreed upon.

3. Also, the above rates only cover cases in which application for attendance at the patient's residence is made to the doctors between 9 a.m. and 6 p.m. If medical attendance is required between 6 p.m. and 9 a.m., it must be paid for at the rate of 1s. per mile or fraction of a mile measured from the surgery.

4. The secretary of each club shall send to each of the members a printed notice informing him clearly as to the rules agreed upon with reference to medical attendance.

As elsewhere, some members of these clubs are well-to-do persons who ought not to claim medical attendance through them; but until some concerted action on the question is taken by the whole profession, it is not easy to interfere with such people beyond calling attention to their position. I should add that several men who used to claim club attendance now pay us quite reasonable fees through the National Deposit Friendly Society, which is working admirably here, and, so far as this district is concerned, in no way deserves the ban of the Association.

One obstacle in the way of any attempt to make the clubs increase their payments is the low rate at which the Poor-law medical officers are remunerated. The clubs can always refer to the Poor-law scale as their justification. I am medical officer of a Poor-law district, and in the enclosure (B) you will find a statement showing roughly the work done during one year—taken at random. I may say that the annual salary is £90, which, being compared with the number of attendances, works out at about $7\frac{1}{5}$ pence per interview (whether at my surgery or at the patient's house), out of which $7\frac{1}{5}$ pence, I have to pay for drugs, dressings, horseflesh, etc.

The question of the pay of Poor-law medical officers, however, is at present under the consideration of the Local Government Board, who, it is to be hoped, will act reasonably in the matter; and I refer to the subject here merely because it really has an important bearing on and connexion with the rates paid by the clubs for medical attendance.

Statement as to Clubs.

Subscription Per Annum.	Name of Society.	
Adults, 4s. .. Juveniles ..	Oddfellows (males only)	[illegible]
Adults, 4s. ... Juveniles ..	Oddfellows (males only)	Chiefly local, but some outlying.
Adults, 4s. .. Juveniles ..	Foresters (males only)	Half over two miles away, some five miles, scattered generally.
Adults, 4s. .. Juveniles ..	Foresters (males only)	All two or three miles from surgery
Adults, 4s. .. Juveniles ..	Rechabites (male and female)	Local.
Sliding scale according to income, 2s to 6s., etc.	Parish Medical Club (male and female)	Local.
Adults, 6s. .. Children, 2s. ...	Surgery Medical Club (male and female) (nearly 1,000 members)	Half local, the rest scattered from two to five miles, etc.
Adults, 6s. ...	Carpenters and Joiners (males only)	Local.
Adults, 8s. 6d., less income tax	Post Office (male and female, Government Contract) In this instance we supply bottles as well as medicines, and attend fractures, etc. As regards other clubs, patients are expected to supply their own bottles, and we also attend fractures, though not bound to do so.	Three-fourths local, some outlying as far as five miles.

N.B.—Confinements are in every case paid for separately.

3517 (Abstract) Family clubs only become detrimental to the profession when the collector is allowed to canvass for new members and to put on the club people well able to pay at least a moderate fee. (Town: Durham.)

3520 After thirty-six years' practice, I am very strongly of opinion that, in the interests of the profession as well as of the public, contract medical work should be strictly limited to attendence on adult male members. (Town: Norfolk.)

3523 The great drawback to any adjustment of relations between medical officers and Friendly Societies is the keenness with which we individually are ready to take Friendly Societies from each other. Unfortunately it is a too common occurrence for one doctor to stir up any latent feeling of hostility existing in some members towards the doctor of the lodge, and to use it for the furtherance of his own possible election to the post of medical officer to the lodge in question.

If some arrangement could be made amongst all the local practitioners whereby there might be one system of club practice collected by official collectors, the people to say beforehand which of the doctors they wished to attend them and their families, and not to be allowed to change without due notice (to be arranged and agreed upon by the practitioners themselves), and a strict age and wage limit, with certain diseases omitted (syphilis and gonorrhoea), provided for, the status of club practice might be raised. I am afraid our own petty professional jealousies would always make such an arrangement difficult. (Town: Durham.)

3526 As shown, we have improved our position since the formation of a local "Practitioners' Society" and subsequent local Division, and with combination and discretion in approaching the members (so as to avoid a "strike") with a view to getting better terms, no doubt we can obtain what we consider just and reasonable. (Town: Durham.)

3533 (Abstract) I should personally prefer that there should be no monopoly by practitioners in the attendance on clubs, but that the members should be free to employ any medical man they desired who would act for the regulation rates.

The medical staff should be represented on the managing board. (North of England.)

3546 (Abstract) I am the only registered medical practitioner in..... who absolutely refuses to engage in contract practice.

Your attempt to glean information in the manner you are doing will be futile.

You are only asking for a series of lying statements from the various members—anyhow, that is what you will get.

3548 (Abstract) For the last ten years I have refused to have anything to do whatever with Friendly Society clubs, or provident associations.

They are a great detriment to the medical profession, and in no way benefit the sick poor. (Town: Lancs.)

3550 I have been engaged in club practice for forty-five years, and at times have had upwards of 1,000 club patients on my books. My terms have been uniformly 4s. per member per annum, with a few juveniles at half fees. I have had no female members.

On the whole my relations have been friendly, and when friction has arisen it has usually been due to competition from members of the medical profession.

I think, however, that I have the following reasonable grounds of complaint:

1. I have had to attend as club patients people who were well able to pay ordinary fees.

2. I have had to go long distances (6 miles) without extra remuneration.

3. The rule (which generally existed) to the effect that members seeking medical advice should bring their club cards with them was almost uniformly broken, and I am convinced that at times non-members received advice and medicine as if they were members.

4. Instead of the attendance on male adult club members serving as an introduction to paid attendance on the rest of the family, I found I often had special difficulty in collecting accounts from the families of club members.

Suggestions.—

1. There are great difficulties in the way of the imposition of a wage limit, but I think something of the following nature might be adopted.

(The great objection to a wage limit is, of course, in its application to members who have joined early in life, and afterwards have prospered.)

Members coming within the wage limit might be admitted and entitled to attendance at club rates either up to a fixed age or for a term of years, say ten, in spite of any increase in their income. At the end of the term the wage limit should again come into force.

2. Extra fees should be paid for long distance journeys. (Town: Lancs.)

3551 (Abstract) I have had these clubs for twenty years, and I attribute my small amount of work done to extreme care in examining candidates for admission, and to the hospitals taking most of accidents off my hands. (Town: Lancs.)

(II) EXPRESSIONS OF OPINION BY PRACTITIONERS *NOT* ENGAGED IN CONTRACT PRACTICE.

3124 (Abstract) I hope that the Association may be able to introduce some method of regulation, if not abolition, for, from my observations during twenty years in Lancashire, I am convinced that the ordinary club practice has a most damaging effect upon the profession:

1. By leading medical men to stoop to ungentlemanly methods in order to secure the appointments.

2. By allowing the club officials and members to despise their doctor for resorting to these methods.

Many a doctor begins by underselling the club doctor and currying favour with the club officials, but, as soon as he has supplanted the medical officer, he is himself in turn beaten down in his fees, or threatened with a lower quotation from yet another doctor.

This trading and bargaining has done more to lower the profession in the eyes of public than anything else, I believe. (London, E.C.)

3137 (Abstract) It seems to me hopeless to look for any "local agreement among the practitioners" in cities and large towns as to meeting the real demands of the poorer classes.

The establishment of public dispensaries for every parish, with the appointment by rotation of medical officers, offers the best solution of the difficulty, I think.

The initiation of this should come from the laity. (London, N.)

3187 (Abstract) From my experience of it, I consider that contract practice is very unsatisfactory to the medical profession, both to those who hold appointments and to those who do not. When higher rates are paid, as in New Zealand, a better class of medical men take the appointments, and a class of members is attracted to the club that they (the clubs) were not originally intended for.

I believe that the interests of the profession as a whole will be served best by leaving the clubs and the individual medical men to make their own arrangements. The ordinary laws of supply and demand will ensure that the clubs get what, and only what, they pay for. (Town: Scotland.)

3189 (Abstract) As regards fixing a wage limit—this would be most desirable if it could be arranged—but I am afraid many practitioners would object, on the ground that any interference at the present time would probably result in the breaking up of medical appointments, as both masters and men are now well aware that medical fees cannot be deducted from the latter's wages (legally) without his consent. A little disturbance would give rise to a protest on the part of the men, many of whom do not appreciate the principle of insuring medical attendance in this way, if they do not happen to require the services of the doctor. Having no doctor they would then have to seek private attendance, and would or could not pay the bill.

Local medical men are not slow to realize this, and prefer to accept the *status quo* lest a worse evil come upon them. (Village: S. Wales.)

3191 (Abstract) I regret the almost impossibility of any attempt to deal with the abuses which exist, also in many private practices in regard to fees charged, especially in London. (London, W.)

3194 (Abstract) Club and contract practice, I consider, strains very much the professional and social relations of the practitioners in this district. (Town: Staffs.)

3210 (Abstract) The only club I know that could be worked with satisfaction or profit I consider the National Deposit Friendly Society, but the entrance fee of 1s. should be 2s. 6d., and the alternate day visits should be more than 1s., and there should be provision for testing eyes, attendance to ear, nose, and throat, or other special treatments.

I am not a believer in clubs, and think for those who cannot pay 1s. or 1s. 6d. at surgery there ought to be an efficient staff of "parish medical men" paid for each individual case, or else private practitioners authorized to send in accounts for same to guardians, but tickets to be signed by relieving officer. (London, N.W.)

3216 (Abstract) Medical men in their greed to keep men out of their districts, and to grab all they can get, are alone responsible for this state of affairs. Our profession is badly organized. (London, N.E.)

3230 (*a*) I hold it demoralizing alike to practitioner and patient the system of contract medical practice. The success of all medical treatment is based on an exchange of the best which each has to give, and my experience is that the world is slowly learning that human life is too sacred a matter to be bartered at the rate of 2s. 6d., or even 10s., per annum for attendance and medicine. All such practice, to my mind, favours a method of slipshod and inaccurate diagnosis—or a Micawber-like policy of waiting on something to turn up; moreover, the contract medical practitioner floods the general hospital with cases which he lacks the enthusiasm to follow up, or grudges the extra cost which such cases entail. I may say, in conclusion, that I have repeatedly refused tempting offers of such practice, and my private practice seems to have correspondingly increased by adopting such an attitude.

3378 I have had no Clubs of any kind for many years, but at one time I had the Union Provident Sick Society of..... It paid 2s. 6d. per annum per member. I kept an account for six months, and counting a consultation at surgery a visit, and also mixtures as separate items, I found it paid me at the rate of 3½d. an item. I did not consider it worth the trouble. One frequently did not get their families as private patients, because in the majority of cases the wives and children were in other Clubs. (Birmingham.)

3382 (Abstract) I have always refused to undertake any Club practice whatever, either as medical officer to a Friendly Society, Provident Association or Club, or Private

Clubs, which I consider absolutely *infra dig.* for a medical man, and no benefit for patients.
(Town: W. Birmingham.)

3419 (Abstract) I am in sympathy with the movement, as I consider it is for the good of the profession at large, and am willing to become a member of your Association starting this month. (Birmingham.)

3369 (Abstract) The only satisfactory plan with this class of patient is cash on the spot, and if they will not pay or cannot, any one can have them, as for the humbug of Clubs, and a cheek of Club patients, I would sooner starve.
(Town: Staffs.)

3399 In this town the "penny a week" Club is the curse of the medical profession.

In order to start such a Club I understand that the following is the *modus operandi*:—

Obtain an energetic canvasser who will go from house to house collecting pennies; if at any house the people refuse to become a member of your "penny-a-week," the canvasser must keep on calling until they do.

The canvasser gets as a reward for his faithful services, 25 per cent. of his takings. I believe canvassers have been known to take the lot.

If this sort of Club should interest the British Medical Association, I shall be very pleased to answer any questions concerning them.

I am quite in sympathy with the action of the British Medical Association, but consider they are setting themselves an exceedingly difficult, if not an impossible, task.
(Town: Staffs.)

3451 (Abstract) I have had considerable experience of Club practice while acting as *locum tenens*, and consider the medical practitioner who does such work degrades himself.

The medical man who cannot get legitimate work should be compelled to resort to some other occupation.
(London, S.W.)

3460 Hold no appointments whatever nor any clubs. Attend a few people in the "National Deposit Society."

Believe clubs to be quite unnecessary and "private" clubs iniquitous.

Have seen such bad results from "lightning" diagnosis, that I would, if possible, prevent any one from professing to attend people for such a sum as 1d. per week. (Town: Surrey.)

3489 (Abstract) In all cases of injury the doctor and club are one. Doctor cannot see much the matter, and dubs the injured down as lazy, scheming and pretentious, when the man may not be able to turn in bed. For the sake of £ s. d., these doctors will do anything to please the company whom they serve. In many cases, the practitioners are so poorly paid, that one individual club would give no return for the doctor's work.
(Town: Lanarkshire.)

3512 (Abstract) To my mind, there are two ways of settling the matter: 1st. Let the doctor and the patients (as it's six of one and half a dozen of the other) who have made the clubs lie in the beds they have made. 2nd. Do away with the clubs altogether. I am only four years in practice and in that time I have refused three. (Town: Ireland.)

1950 I would suggest that after a fair and uniform rate has been arranged, each member of a club should have the privilege of choosing his own doctor, having previously intimated to the secretary of his club the name of the doctor whom he prefers, and having, of course, obtained the consent of the medical man. (Town: North Cumberland.)

1952 (Abstract) I abandoned all clubs, etc., more than fifteen years ago for three chief reasons:

1. They were abused—that is, tradesmen who were wealthier than I was belonged to them and exploited my services.

2. They wasted my time, especially in writing and signing forms and certificates for very trifling matters, so I determined (and have experienced) that I could do much better without them.

3. In my opinion it is beneath the dignity of the medical profession to do any work for clubs as at present conducted, especially in view of the modern development of "juvenile" branches.
(Town: Devonshire.)

1918 I resigned my connexion with these Friendly Societies about seven years ago, feeling that the amount paid, 2s. 3d. per annum, was quite inadequate for the work done. Moreover, I felt that many of the members were well able to pay the usual fees—2s. to 2s. 6d. per visit. Most of them earning good wages, 35s. to 50s. per week. Not a few of them having their own dwelling houses, some being in business as grocers, hairdressers, tailors, ironmongers, master plumbers, master masons, magistrates of the town, J.P., and not a few paying income tax, and, on death, legacy duty.

I thus cut the painter, believing that no self-respecting medical gentleman ought to sacrifice his life for such terms, nor condone such abuse of medicine and surgery.

I have not regretted the step, as my income has not suffered much. Most of my old patients, who were in these societies send for me when they are really ill and requiring proper medical attention. Many of them have said that they wonder medical gentlemen work on such terms, but they say, so long as the profession does it, so long will the workman take full benefit of it; and I think they are not far wrong, for, indeed, I am now, after much experience, fully persuaded that we, as a profession are, thank God, essentially philanthropic to suffering humanity, but commercially we are mostly, what the late Thomas Carlyle stigmatized the people of these isles, fools. (Town: West Scotland.)

2028 Your local secretary has forwarded me forms *re* Contract and Club Practice, and I am pleased to see that you are making such inquiries. In this district where the men are chiefly miners, quarrymen and agricultural labourers, the rate of wage received is nearly double that of the County of Cheshire, and yet nearly all the practitioners stoop to accept private family clubs, at 3d. a week, to include attendance on father, mother and family, provide medicines, surgical dressings, ointments, certificates for any number of sick clubs, examine candidates for these clubs free, and attend midwifery cases for half a guinea each.

The colliers form similar clubs, and the money is stopped by the colliery managers, and paid to the doctor by their clerk, a charge of 2½ per cent. commission being paid by the doctor.

I hold no family clubs or colliery appointments, although I have frequently been asked to form clubs, but am the Medical Officer to the Workhouse, Public Vaccinator and Medical Officer for No. *x* District A Union, and a private practitioner.

I was asked recently by the Z Colliery and part of V Colliery to form a Club, as the medical attendant was leaving and they wished me to take them over.

A ballot at the pit was taken to see if they were in favour of having one surgeon for the whole colliery. The result was 232 for one surgeon, 26 against, 4 spoiled papers. The delegates approached me and I drafted the following rules for their consideration, which I enclose, but it is needless to say that I did not get the post, as they went off to X and soon found a firm who were willing to accept on the terms named above.

So long as the members of the profession are willing and do accept these ridiculously small fees, I am afraid little good can be done by the Association. The small towns in this district are simply one mass of clubs.

The number of practitioners to the population is not too many, but no new man would have any chance of making a living owing to these cheap fees.

Rules Referred to.

MEDICAL OFFICER FOR Z COLLIERY.

1. Medical attendance on those residing outside the district will be arranged for.

2. Illnesses due to intemperance or vice not attended under this contract.

3. No school certificates granted.

4. Certificates of illness, etc., for clubs to be charged for.

5. Dental extractions not included, but will be charged for at 1s. per tooth.

6. Confinements:—No case attended unless previously engaged, and a card received from me, which must be sent with messenger when called to the confinement. Fee for ordinary cases, one guinea, which must be paid at the time.

7. In cases requiring the administration of chloroform, a fee of not less than half a guinea to be charged.

8. Patients to provide clean medicine bottles, not soda water, whisky or beer bottles, otherwise a charge of one penny will be made for each bottle.

9. No medicine dispensed on Sundays except to patients visited that day.

10. No Sunday duty except in very urgent cases.

11. Patients requiring to be visited at their own homes must send their messages to the surgery before 10.30 a.m. (except in urgent cases) otherwise a charge will be made for the first visit.

12. No child over 14 years of age attended under this contract unless employed at the colliery and subscribing.

13. No messages taken from neighbours' houses.

14. Cases where a bone-setter has been consulted, not attended.

15. Committee of five to receive complaints.

16. No person admitted who is not actually employed at Z Colliery.

17. Monthly list of all workers employed at the colliery, and if possible where residing. The company are to pay the fees by cheque monthly.

18. The doctor to pay the company's clerk 2½ per cent. commission on the fees.

19. A copy of these rules, which will be strictly enforced, to be posted at Z Colliery.

20. A charge of 3d. per week for all workpeople employed at Z Colliery to be deducted by the company's clerk and paid to the doctor.

21. A month's notice on either side.

2040 The medical profession is too divided at present, and a law ought to be passed at head quarters, wherever they may be in the future, that no medical man must take a club under certain defined rates and never any club which takes in the women and children.

I do not know what I may have to do in the future, but as I am situated at present, I would sooner starve than have anything to do with a club.

By this I mean that the blacklegs of our profession ought to be made to obey laws—why should we not take a leaf out of the lawyers' book?—and as things are at present, the public think that we are made of money. I may here remark that any laws passed should prevent medical men from taking small fees from the insurance companies, which daily are beating us down and will in future override us more and more unless prevented.

This prevention must come from some head central body, or else nothing will prevent half-starved shabby top-hatted and seedy-black-coated medical men from taking small fees from insurance companies, if for no other reason, their chief and very important reason, viz., to clothe and feed their helpless bairns: of course doctors will be better-off in the end by such laws.

(Town: South Wales.)

2050 (Abstract) In my opinion, clubs are very desirable for a young man commencing practice; after a few years I think such practice should be discontinued—that is my opinion and practice. I found them of great service to me in 1880 for a few years. Such being my opinion I do not see how I could be a party to the discouragement of club practice. (London, S.E.)

2060 Fifteen years ago I held office as medical attendant to a Branch of the United Patriots. I kept accurate account of the work done for twelve months.

I found that the pay worked out to between 1s. 7½d. and 1s. 7¾d. per visit or consultation at my house. This included journeys up to three miles from my house.

I decided this did not pay, so resigned my office, and have carefully avoided all contract work since.

I have urged at meetings, in the Journal and privately, that all medical officers of clubs should keep an accurate account of all club work, and see what it pays at the end of a year's working.

I am persuaded that if a large percentage of medical officers of clubs would do this and publish their results, an improvement in the pay would at once follow.

(Town: Wilts.)

2080 (Abstract) Anything less than 3s. 6d. per head per annum, in my opinion, tends to fill hospital and dispensary outpatient departments with large numbers of dissatisfied members of clubs, etc. (Town: Yorkshire.)

2087 I am not in favour of contract practice at all. Where people are so poor that they cannot pay large bills, the doctor does not as a rule insist upon it, nor in my experience is he very exacting towards such people, while, on the other hand, by contract practice the doctor is defrauded of his legitimate rights in numberless instances, by people who are able but are not willing to pay what might be considered market value for benefits received. In making these remarks I am thinking of a large contract practice with which I had some connexion in Co. Durham ten years ago. (Town: Lancs.)

2089 This is all no use and a waste of time; legislation is the only remedy. Something to prevent the large and wealthy employers of labour from giving dispensary tickets to their men, for their wives and children, as well as themselves, being doctored for nothing. It is of no use putting our grievances in the medical press, which is not seen by the public. What we want is a good ventilation in the lay press and a strike throughout the profession. Why should we not strike? Other industries do so, and frequently gain their ends.

If the Medical Council have not powers, why don't they apply to Parliament for powers. The Medical Council is the greatest fraud we ever had to endure as a body; we require protection against the chemist and druggist who has a private door with surgery or sick-room upon it, the latter a very artful dodge, and doctor, in towns like this, about two-thirds of the people, nearly all the middle and lower classes, who are able to go to their shops and pay a shilling, which we should be very glad of.

Give us some protection against ....., the owner of the ....., who advertises all the rogues' wares, including the quack physic, at a high rate, and which, owing to the gullibility of the public, they, the advertisers, can well afford to pay. Our greatest enemy is what is wrongly called the "poor man": he is pampered and spoiled, has a post-office banking account, gets doctored gratis at the dispensary, and pays no one he can defraud; the so-called "poor man" is a thief nine times out of ten, in the receipt of 20s. to 60s. a week. There is too much misapplied philanthropy altogether; our present day "poor man" is better off than a curate, clerk, and many medical men; there is no discrimination, common men are put into authority in clubs and use their powers frequently in an abominable manner over the poor doctor. I resigned two clubs and my practice, because these blackguards insisted that I should sign certificates for members of the clubs who were being attended by "quacks" who, they insultingly said, knew as much as I did. I could write books upon the matter, but it is all no good, we want combination in the profession and a strike.

Call a monster meeting in London of medical men and let us strike, strike the men off the *Medical Register* who accept 6d., 1s., or anything less than 2s. 6d. for advice and medicine. I never knew my father accept less, sixty years ago, when I was his assistant at £30 a year, and the agricultural labourer's wage was 9s. a week; he was an honest man then, and had not been spoilt and pampered by the duchesses and countesses who head these philanthropic functions.

Send a poor man, earning £2 a week, a bill for doctoring his child or wife, and he will go round the place, and not only not pay the bill, but do all he can to ruin you with his lies in the eyes of others, and especially your best patients. I'm full up against him. He ..... only pays when he is compelled.

"The dispensaries are the curse of most towns."

Every man should contribute, by tax, so much, an equitable tax, towards the hospitals, which ought to be administered by the State and not left to private bounty. There is a great waste of money and energy in the present system.

At present we practically provide everything for this "poor man," educate his children, etc., etc. I never see an appeal to the public purse upon behalf of the starving doctor; the curate, yes, but not the poor doctor.

It would be an interesting appeal and experiment. No, we suffer silently and give our health and strength in the service of an ungrateful public, who will take all they can get gratis.

2095 I have no club or contract practice now. I, however, had over thirteen years' experience of it amongst the colliers in Durham. The work was simply slavery, and the position of the medical man a most degrading one. "We pay for you, and you must come," was a frequent way of getting a message. I reckoned that the work ran to about 4d. a visit with medicine included. The pay was then 6d. a fortnight from the wages of the head of the house, and

for that all the family, including grown-up sons and even in some cases adult lodgers, had to be attended. Things are rather better now than when I left seven years ago. Still I condemn contract practice as being degrading to the practitioner, and in most cases grossly unfair to the patients themselves. It was impossible to give serious cases the attention or medicine they required, the people, too, knowing that they had nothing extra to pay, called on the doctor to visit them for the most trivial complaints, and never studied his convenience either by day or by night. Club rates are too low, and all contract practice should be confined strictly to the very poor who would not pay otherwise, say to cases where the gross earnings are under £1 a week. Even with the poorest patients the doctor has more freedom and self-respect if the bill is collected in small instalments.

(Town: Lancs.)

2145 I have steadily refused clubs, quarries, or Friendly Societies, as I consider the remuneration paid for them degrading.

Recently another medical man has come here, who began by starting a private club, at the rate of 1s. a month per family. He also takes other clubs here at the same rate—another, and I suppose legalized, form of underselling.

The people who are on these clubs can well afford to pay much more in most cases.

Some of them come to me afterwards, and I tell them I can give them my opinion, but my fee is a guinea. They send for me in some cases for confinements, and pay 1½ guineas, 2 guineas, and even up to 4 or 5 guineas in one case—a troublesome one—and 7 guineas in another. (The club fee is 10s. 6d.) I think the standard of fees adopted by some members of the profession is disgraceful. A working man is paid better, and I hope something will be done by the British Medical Association—certainly as regards their own members.

I pay the railway porter 1s. for bringing up a parcel to the house, he pays his doctor 1s. a month for his family and himself.

The profession has itself to blame. We take an oath or affirmation to uphold the honour and dignity of the profession and our colleges, and yet some are to be found who accept 1s. per month per family to be at the beck and call of any one.

2177 The subscriptions of nearly all clubs are far too low.

All funds should be held by the club, and out of these each medical man should be paid a fair fee (to be recorded on a paper held by each patient) for every visit, consultation, or bottle of medicine. One year the club would be out of pocket, another would save.

Each club member to be allowed to go to any medical man he liked.

By these means medical men would gradually discontinue debasing and undignified competition for clubs, and would learn that they could get an honest wage for honest work; could increase their practice by skill and attention; and would rise in public esteem instead of being sweated and looked down upon as "the club doctor."

(Town: Carnarvonshire.)

2314 I have been searching for information as to the National Deposit Friendly Society. I cannot help thinking that under its present rules it does not deserve the support of the profession, and that it introduces principles which are bad.

I doubt if in the long run it is well for either party that any one should intervene between doctor and patient, but the encouragement of thrift and insurance against illness are most desirable, provided that such intervention does not occur.

(Town: Kent.)

2388 I have never taken clubs. The general impression amongst the working classes here is that club doctors are an inferior grade of practitioners. The club practitioners in this district get 2s. 6d. per member per annum. The result is careless slovenly work and a bad name. I believe much better work would be done if club system could be made remunerative or abolished altogether, and both the medicals and the public gain thereby. The difficulty in the way will be the unsuccessful members of the profession. There is always the possibility of a time coming when a man will do anything to live.

2405 The only satisfactory solution of the whole problem is one which makes the club and not the doctor insure the patient against his medical bill. (Town: Cornwall.)

2515 (Abstract) I think myself that every practitioner should have a medical club free from lay control, composed of those who, although not able to pay usual fees, yet wish to avoid being pauperized.

I think club practice can only be considered in its relation to that bane of every working-class practice, viz., bad debts. There never would be any club practice sanctioned by medical men were it not to insure themselves against bad debts. The unfortunate hand-to-mouth class of working men from whom bad debts mostly come are those who, after they have been ill and out of work, as a natural consequence, for any length of time from a few weeks, are practically bankrupt, perhaps they would pay if they were able, but with impaired health and debts accumulated during their illness they cannot, whereas if they had been members of a club the medical man would have received from the 95 per cent. of the club who are working sufficient to pay for the 5 per cent. who are ill (the percentage may be a little more or less according to the kind of club), and this payment is continued whether the members are well or ill, without the necessity of book-keeping or making out of accounts or of putting in an appearance at the county courts when required. The British Medical Association will deserve well of the profession if they can remedy some of the abuses which have been shown to exist in connexion with contract practice.

(Town: Lancs.)

2518 (Abstract) I cannot help feeling that many members of the British Medical Association may somewhat resent this inquiry, and I much doubt whether many will take the trouble to fill in all these details. I hope I may be mistaken in this respect. (Town: Berkshire.)

2552 The rates for the National Friendly Society, whose members now and then come to me, are too low to leave any margin of profit in small country places where the numbers of patients are very restricted. It is preposterous to ask a man to accept 1s. for an intermediate visit on a severe case up to 2 miles from his house. I have just received £2 for a troublesome and lengthy operation on a cut tendon, for dressings and several visits. The National Deposit Friendly Society say that even that fee is in excess of their rates.

2563 There is at the present time a vacancy to a burial club caused by the resignation of the medical officers, because they asked for more remuneration for their services.

The remuneration is at the rate of about 10d. per head per annum.

The profession in this town have all signed a letter which is to be published in to-morrow's BRITISH MEDICAL JOURNAL and *Lancet*, urging intending applicants for the post to consider what they are taking up, and that, if they do so, they are doing it in direct opposition to the unanimous opinion of the profession in the town.

In my opinion it is undesirable to admit to clubs in general, except on a strict wage limit, and under no less fee than 4s 4d. per head per annum for male, and double that scale for women and children.

(Town: Cheshire.)

2711 I think clubs should be made illegal; that their place should be taken by medical officers appointed by the municipal or county authorities, and that such officers should be paid by those requiring such attendance by an annual voluntary rate; that such municipal doctor should not attend persons much above the working class (in income); that as far as possible he should be paid on somewhat the scale of a medical officer of health; that his work should be controlled by a small office, and it should be liable to inspection, etc., at any time. This is, I believe, the only way in which working people on moderate wages can be attended by a well-educated medical man at a moderate fee and by modern scientific methods. I am writing without prejudice, as I have never needed to have anything to do with clubs. (Town: Cambs.)

2869 (Abstract) I have been struck with the insadequacy of the fees paid to the medical men practising here who do contract practice, and have gone fully into the question with a large number of them, and have been attempting to get that necessary cohesion amongst them which is essential for reconstruction of the basis of agreement between them and the members of the clubs (Friendly Societies and private and family clubs). Up to the present I have been

enabled to get a bare majority of the doctors practising in the town to agree to meet together and discuss the matter, but have strong hopes of ultimately getting all to combine. I am writing this fully to you as I have always considered it a purely local action in dealing with contract, circumstances differing in each individual district. In my former practice in Lancashire clubs were unknown, though it was a manufacturing district; attempts were made by the Oddfellows to introduce club practice, but on my instigation a meeting of all those practising in the district was held, and united action taken to make the terms prohibitive, and this succeeded. My own impression is that club practice is not at all a necessity, excepting in certain rural districts.

2662 (Abstract) The only fair way to manage clubs is for the doctor's account for professional services to be sent to the club, and that every member should have whatever doctor he chose to attend him, the club paying the account at a certain rate agreed upon.

I may add that I find it distinctly advantageous to my practice, which consists mainly in attending the families of small shopkeepers and working men, not to be connected with any club.

If I may put it so, it is a distinct "advertisement" to me to have refused to allow my name to be used as an applicant for club appointment.

It is such a common thing to hear it said about any doctor that "he is my club doctor, but I do not care to see him because he does not give me sufficient attention," that it should make any doctor reluctant to hold club appointments. (Town: Lancs.)

2702 (Abstract) Payment should be for work done, according to a special scale devised for this class of practice. Fees according to such a scale might be fixed at, say, a third lower than those for private patients belonging to the same class of people—an account showing number of visits, consultations at surgery, and prescribing (this word is preferable to the word "medicine" as doing away with the objectionable idea that a medical man is paid for the actual drugs used) to be furnished to the Friendly Society or club at stated times, who should make payment accordingly to the medical officer. All contract work by the medical profession is derogatory, and in the case of Friendly Societies and Clubs particularly so—as introducing the commercial element and the consequent process of "cutting out" and "cutting down," respectively. Even the midwifery fee should be abolished, and a suitable fee charged for attendance at the labour itself (varying according to time detained and difficulty of case), each visit subsequently being charged the usual fee for each class of patient. In most cases now fixed at a guinea, the initial fee charged, and the number of visits subsequently made could be arranged so that there would be practically no increase on the present contract rate, whilst difficult cases would get a remuneration proportionate to work required and done.

(Town: Cheshire.)

2789 The only contract practice I have is a Poor-law appointment where I am paid a fixed annual salary for professional attendance, and my own price for medicine and surgical appliances extra. ..... is a small thriving town in the centre of a rich purely agricultural district, and where there is full employment for every able-bodied man and woman, indeed there is a scarcity of workers. For the really necessitous poor the Poor-law authorities provide most liberally a medical officer to attend and supply medicines, and who can order any luxury he chooses. We have also a district fully-qualified nurse who attends any cases the medical men, clergy, or ladies of the Nursing Committee ask her to give her services to. The nurse is supplied with a bicycle, and can on wet days take a hire from one of the hotels to any case in the country when she wishes to go. The nurse also is empowered to prepare or take nourishing foods to cases where she thinks it necessary, and this all gratis to the patients. In the year 1896 the number of individuals who were club members was 508, and they have increased enormously since that time, indeed there is hardly a householder in this small town who is not a member, including solicitors, clergymen, bankers, wealthy landed and household proprietors, merchants, etc. The country districts used to be strictly private practice, but I am ashamed to say that contract practi ing there, even to well-to-do farmers. T here are the following, namely, the Oddfellows, Foresters, Mechanics, and Rechabites, the latter having a juvenile branch for young people between the ages of 5 and 15 years. The annual payment per member for professional attendance and medicine is 2s. 6d. for the town members, and no doubt it will be a little more for country members. Dr..... is the medical officer for the first three lodges mentioned, and Dr..... is medical officer to the Rechabites and its juvenile branch. Both of them are members of the British Medical Association, and I do not give these details out of any jealousy or personal spite towards them, as I am on good terms with both of them. I have been approached several times by other Friendly Societies, but I have promptly refused them, as I had no desire to add to the existing condition of practice here, and I made my two colleagues aware of this. I am a thorough believer in these Societies, and would join one or other of them to-day, if I was not insured in other ways, *but why should the medical profession have any official connexion with them?* It is simply lamentable the condition of chaos into which general medical practice is drifting, when men worth £10,000 belonging to this town can get medical attendance and medicine for twelve months for the sum of 2s. 6d., a fee that the barber would scorn to come round the corner and shave one for. And this all due to want of combination and loyalty of the profession to each other. It is humiliating to read the treatment the club doctors received at the hands of their employers, as impartially given by a special commissioner of the *Lancet* some years ago. There is no body of men who could be more powerful in safeguarding their own interests, and keeping up the status of the profession than medical men, but I do not know of any body of men so helpless, and it is no wonder that intelligent laymen should look upon a number of us with contempt. Look how railway men, tramcar men, and miners can combine in a constitutional manner, to better their position regarding wages and hours of labour, and these men have not had the advantage of a university education. In speaking of the profession I do not include the consultant class, as they knew how to be loyal to each other when an attempt was made to foist a half-guinea consultant on the inhabitants of.....some years ago, and this even where some of the most influential men in .....were at the half-guinea man's back. This single instance shows the power of the profession when an attempt is made to lower its status. I believe there are many excellent men who hold club appointments, and who would be only too glad to give them up, if it were not for their "friend" across the street jumping at it if they did so. In my opinion the teachers in our universities and medical schools are largely to blame for this degrading contract work, at least, in the University of ..... where I was taught, not one word of warning or advice was given to us on the conduct of medical practice, and the avoidance of club work. I feel convinced that if our teachers were to warn their students, when they are at such an impressionable age, that contract practice would soon be swept away. It is a great pleasure to me that the leaders of the British Medical Association are taking a practical interest in this question, as I feel they have the power to banish club practice altogether. I have been a member of the Medical Defence Union for twelve or fourteen years, but I have filled up the "form" sent to me by the British Medical Association to become a member of their Defence Association if they adopt their scheme. I shall not, however, sever my connexion with the Medical Defence Union as I am grateful for the collective defence they have undertaken; for example, in the..... case, which they brought to a successful issue, every general practitioner is under obligation, so until the British Medical Association undertakes collective defence also, I shall not grudge 10s. per annum to the Medical Defence Union for the collective defence they do. At a meeting of the.....Division of the..... .....Branch on 21st inst., I proposed that the British Medical Association was the proper body to undertake medical defence, but my motion was defeated; but, in my opinion, it is only a question of time until the British Medical Association undertakes both individual and collective defence, and I quite understand how it is only undertaking individual defence in the meantime.

I consider the interest the Council of the Association is taking in this contract work will have a powerful effect, and I only trust you will make it unprofessional conduct for one of your members to be officially connected with any Friendly Society. The only contract work in my opinion (outside a Poor-law or Government appointment) should be confined to coalminers or other miners and quarrymen where the remuneration is reasonable and only confined to the individual miner or quarryman. There you can count upon a distinct wage limit, without any abuse. Of course, I attend here a considerable number of men who are members of a society, but this seems foolish as they have to pay me ordinary professional fees, and they can have their club doctor for nothing. I mean, of course, by "nothing" what they pay him annually whether they have him or not. Of course, a club doctor has a tremendous pull over a man who will not condescend to that work, by the introduction he gets to their wives and families. I would, however, scorn to have a practice made up of individuals who had no choice in the matter, but were bound to come to me whether they liked or not, at least, if they went elsewhere they would have to pay another doctor over and above what they were paying to me. I enclose a cutting from our local paper, where you will see an advertisement by the Rechabite Society here:

INDEPENDENT ORDER OF RECHABITES.

"The Queen's Jubilee Tent" of this, the oldest, largest, and wealthiest Temperance Association in the world,

MEETS EVERY IN .

Benefits from 2s. 6d. to 20s. per week, including medical aid; and from £5 to £30 in case of death.

Age for Entry, from 16 to 50.

"The Hope of Tent," for Juveniles (both boys and girls) meets as above. Age for Entry, 5 to 15.

Payment, 1d. per week. Benefits, 2s. 6d. per week and medical aid.

For further information apply, etc.

Surely this is sailing very near the wind. I will only answer one question in this Form C III (2). Most emphatically I would be a party to such an agreement, and I only wish you would help me to do so.

2817 We have no private clubs.

Important Note.—We consider "private clubs" as institutions that are degrading to the medical profession, and consider that the British Medical Association should take steps to have them abolished. Many medical practitioners, we believe, raise, or are associated with, such clubs, and collectors are appointed who go from house to house collecting or begging for weekly subscriptions.

(Suburb: London.)

2841 I do not hold any appointment as medical officer to a Friendly Society, Provident Association, or Club. Nor do I believe that it is a position that a medical man who has the interest of his profession at heart can hold. I have been frequently offered the post by Glasgow lodges of Foresters, Gardeners, Shepherds, etc., but, I have firmly refused to accept the position, giving my reasons for doing so.

In my opinion these Societies cruelly exploit the poor Medicos who are unfortunate enough to act as their "officers."

To liberate our brethren (who in many cases would be glad to throw up the Societies, if others could not be found to take their places) from the slavery of the clubs, and improve the status and income of the profession as a whole, I sincerely hope that the present inquiry may lead the Medical Council to declare the acceptance of contract practice infamous conduct from a professional point of view. (Glasgow.)

2852 (Abstract) About fourteen years ago I held a Society, which paid me the usual rate, viz., 3s. per member. I gave them the same medicines exactly as if they had been private patients, and visited at least as assiduously. In one quarter the cab-hires to one member alone were more than the sum paid for the entire quarter's work. I relinquished the Society, fully convinced on this and other grounds that no such organization could ever pay, if the work were done honestly and the best of drugs were supplied. I have never regretted the step. Ever since then I have refused to allow my name to be brought forward as an applicant for surgeon to any club.

(Town: Scotland.)

2887 I did hold an appointment for three months about two years ago, and resigned at the end of the first quarter. The name was the ..... Tontine; the salary 3s. per member per annum. I had to visit within three hours of a call, and sign a sheet to prove my visit. After deducting my bare tram-car fares, my exact remuneration for each case, whether seen at the house or a visit (and they were mostly visits, though I have now no record of them), with medicine, was 4d. (fourpence). I accordingly resigned. (Town: Lancs.)

2903 (Abstract) Individual members have confided to me that they would be willing to contribute twice the present sums towards medical attendance, or even as much as 10s. per annum, if they could rely on being looked after properly by the club doctor. (Town: Glam.)

2925 Rates are most assuredly too low. Not less than 5s. per annum per member, and for such a sum the maximum amount of attendance might very reasonably be limited—say by a total period of time, as in most sickness and accident insurance benefits.

Wage limit, 30s. per week. Where there are more than two children the wage limit might reasonably be reduced by 5s. per week for each extra child until able to earn at least that sum per week.

While I am not prepared to allege that, for a certain class of the public, contract practice does not remain necessary, I am equally certain that the contract is very much abused by the public. Personally, I am decidedly averse to contract practice in any shape, and would prefer to visit the poor or the working classes for a very moderate fee per visit (say, 2s. 6d. or 2s.) with even some reduction for long attendance, rather than undertake a contract which I could not hope to fulfil with satisfaction to my patients or myself. My view is that persons who cannot afford 2s., or in special cases 1s. 6d., per visit or consultation are fit subjects for charitable treatment. From a full knowledge of the poor classes in Glasgow—acquired in connexion with hospital and free dispensary work—I feel sure that a very large proportion of those who avail themselves of the contract doctor could afford to pay a moderate fee for each attendance.

In my own experience the members of "Societies" who have most respect for themselves and the doctor, do not avail themselves of the services of the "Society doctor" much—beyond asking him to certify them as proper recipients of sickness pay.

I have never taken clubs. I have been approached by a "Tent" of Rechabites, and was offered 2s. 6d. (which I was told might be raised to 2s. 9d.) per annum per member—to include medical attendance and medicine gratis.

I wrote them that the Order, which calls itself "Ancient and Independent," might be ancient, but that, if the terms which they offered me were customary among them, they were far from independent, and were rather parasitic upon the medical profession.

(Glasgow.)

2940 (Abstract) I think the general system of clubs, so far as known to me, is utterly unsatisfactory: (*a*) Giving work at absurdly unremunerative fees; (*b*) tending in some cases to cause individual carelessness on the part of the club doctor; and (*c*) hurtful to the respect due to the profession and to its individual members. As regards the second of these points, it may be instanced by the fact of a doctor telling me that his wife frequently dispensed mixtures of peppermint water with cochineal, or of chloroform water with cardamoms, when he was out, or was too tired or too lazy to trouble about the case. As for the effect on the club members, I have been told by a patient that he could have gone to his club doctor, but that he (the patient) did not think he could get much for 9d. per quarter, and that he preferred to pay me a fee and

get his medicine from a druggist. Further, I have frequently been asked to visit a patient, and have then learned that, as it was "only the club doctor" who was in attendance, the patient thought I would have no objection to visit another man's patient. Similar instances could be quoted easily, all tending in the same direction.

2952 I hold no appointment to any Friendly Society, Provident Association, or club, nor have I now, nor at any time have had, a private club.

I did hold an appointment to a Friendly Society (Rechabite), but gave it up as the committee desired to institute a juvenile branch. I absolutely refused to have anything to do with a juvenile branch on any terms whatever. I understand that, after meeting with some difficulty, the committee got another man who took the appointment.

I have always held that the rates paid in .....—3s. per annum for attendance and medicine—were much too low, and I have again and again told members of such Societies that the rates paid by them are grossly unfair and constitute a sweating system.

I would be glad to hear that members of the profession over the country had agreed on a minimum rate of 6s. per annum, and refused to accept a less amount.

(Town: Scotland.)

3000 (Abstract) I have always felt, as a medical man, that my services are worth more than 1d. or 2d. a week to any one, and, if the interesting people are too poor to pay the fees I charge, I would sooner attend them for nothing; it is my strong and unalterable opinion that all contract practice is derogatory and undignified, and contrary to the best interests of the profession.

(Town: Surrey.)

3042 (Abstract) The great objection I have is that members who have joined years ago and have risen to good position still claim the doctor's services for the 4s. per annum. For instance, an ex-mayor of ....., who was a major of Volunteers and a well-known estate agent, with a beautiful house of rental not less than £75, called me in. Another, a farmer with thirty cows and large farm.

(Town.)

3051 (Abstract) I gave up all my clubs, because our local Medical Society decided that 5s. per annum should be paid. A more astute practitioner obtained them at the old price, 2s. 6d., and has since died full of age and money. I have never had the slightest reason to regret my action.

The moral is:

Unless the profession is true to itself in this matter there is little use in individual men sacrificing themselves or running the risk of lowering their balance at their bankers or in their cash-box, to the benefit of other men. I lost over £50 per annum at a time when I could not afford it. (Town: Yorks.)

(III) INFORMATION AS TO WAGE LIMITS OR EQUIVALENT PROVISION.

As the replies to the inquiry on this subject left certain points in obscurity, further inquiries were addressed to those respondents who indicated that they had been able to obtain some arrangement of this kind.

These supplementary questions were as follows:

1. Is your right to exclude persons unsuitable in respect of means obtained through a rule or resolution of the club of which you are medical officer? If so, can you forward me a copy of the rule or resolution in question?

2. Have you any kind of written agreement conferring on you this power? If so, can you forward me a copy of the agreement?

3. Is the right peculiar to yourself or enjoyed by other club doctors in the district?

4. If the right is peculiar to yourself, in what way did you obtain it? Or, if it is a common arrangement in the district, can you inform me how the arrangement was arrived at?

Extracts are given below from those replies which gave evidence of some actual arrangement, or custom, or definite exclusion:

4663 My answer to enclosed requires modification. I have only on two occasions, I think, objected to attend persons on account of their means, and probably their withdrawal at once was voluntary, as I have no knowledge of any actual rule of club forbidding them to join on that account. (London, S.W.)

4670 I have no rules or regulations from the clubs, or any agreement whatever. I do not know anything of the other doctor's arrangements here. When a candidate comes to me for admission I always inquire what he is and his residence. Should I think his circumstances too good, I should communicate that fact to the secretary of the club, and the probabilities are he would not be admitted. I have never had to do such a thing, as my club members are nearly all labourers averaging about 30s. a week. They constantly come to be readmitted, in consequence of work being slack, when they get out of benefit. Now and again it happens that a man rises in the world and does not like to throw up his club, but under those circumstances I should attend him. (London, N.)

4671 (1) The rule was purely a verbal agreement with local secretary, but always held to so far. (2) No. (3) I cannot say. I am sorry I cannot help you further. The club was started about four years ago, and the secretary came to me. I told them I would take it on certain conditions, of which the above was one. (Norfolk.)

4672 (1) My attitude in regard to people of means, as club members, is of my own making. There is no rule or resolution of clubs on the point. (2) I have no written agreement of any kind with any of my clubs. (3) I do not know if my neighbours exercise a prerogative in this matter, though I do not doubt they would expect something extra in case of prolonged illness or frequent visits. This is usually readily agreed to by the patient, without referring to the Club Committee. (4) It is not a matter that has been arranged with the clubs. Each case is dealt with as it arises. Up to now I have had no difficulty, the patients being usually anxious to pay something more than the club subscription. I believe in my report I said that the cases of this kind were very few in my district, as nearly all the club members are very poor. (Cambridgeshire.)

4674 Our united practice consists of districts in the ..... Union—in all eighteen parishes—and when my present partner joined me—over thirty years back—we decided that we would be servants but not slaves to the general public, and we have always loyally worked together. We have no opponent resident in either district. About a dozen practitioners come in from outside to pick up a few shillings, and occasionally a branch surgery is started by one of them, but has always come to nothing. I am absolutely, and my partner to a somewhat less extent, master of the situation. I admit that the conditions are unusual, but if every practitioner would act as we have done the profession would stand at a higher level.

4675 I obtained the power of declining to attend new members of unsuitable pecuniary position in the following manner: When the local clubs united to form an institute they rejected the applications of the medical officers for increase of pay, etc., and refused to recognize a wage-limit. This particular club, being desirous of retaining my services, requested a conference with me, which resulted in my terms being acceded to, the right to reject unsuitable candidates in point of opulency being one of them. The plan has worked well, and I have only once or twice found it necessary to exercise the right of rejection, which, as a matter of fact, I prefer to the wage-limit so much objected to by the clubs. I must therefore answer your points 1 and 2 in the negative. (3) As far as I know, the right is not enjoyed by any other club doctor in this district. (4) Is answered by the above explanation. (Norfolk.)

4691 No doubt I am peculiarly situated; my house is six miles from any other doctor. I am afraid I forget my exact replies to your questions, but believe they referred to one or two clubs that are away from competition and were newly started a few years ago, and I made the stipulations when I entered into arrangements with them. I did this in the hope of extending to others and also inducing my neighbours to adopt something similar. I think my replies were short, but indicated what I was doing, and it would be an advantage if extended. Quite possibly my position is more independent than usual, even where there is little competition. (Dorsetshire.)

4695 When some 7 years ago the clubs in ..... dismissed the various surgeons to the lodges and formed a medical institute with a surgeon of their own, the club with which I am professionally connected instructed their secretary to write to me a letter accepting my terms and retaining me on those terms as the surgeon to the lodge.

My terms were:—

1. Subscription to remain as before, 4s. per member per annum.

The surgeon to have the discretion of refusing a candidate on financial grounds as well as health (this rule not to be retrospective).

2. The letter giving the assent of the club to this rule I unfortunately cannot find.

3. Three other doctors, I believe, have the same discretionary powers, which I presume were arrived at by agreement between the clubs and their respective surgeons. (Norfolk.)

4696 (1) Some years since the club members were not satisfied with their medical attendant, with the result that some of them asked the other doctors in the town to attend them as club patients. Hence, no doctor has the monopoly of any particular club, and when a new member wishes to join he goes to the doctor he wishes to attend him and asks to be examined and placed on his list. Therefore, if the doctor considers the proposed member unsuitable either financially or otherwise he can decline to receive him on his list.

If a member is dissatisfied with his medical attendant he gives notice that he wishes to take his name off that doctor's list, and can then ask one of the other doctors to attend him.

(2) I have no agreement of any sort.

(3 and 4) We all claim the right to decline to attend any particular individual.

If a patient has the right to select his club doctor surely the doctor should have the right to select his club patients. (Huntingdonshire.)

4699 I cannot remember stating in my replies to the questions *re* "contract practice" that I could refuse to attend any case on the plea that the means of the patient did not entitle him to the benefits of a "club," after the patient had once joined the medical branch of any slate club.

As I, however, see the members who join that section of the club before they join, I have always considered that I had the option of refusing such the medical benefits of membership. I have never yet had occasion to test this however.

The slate clubs which look upon me as their medical officer are small (30 to 40 members each), and there exists no set of rules defining my duties or those of the members, except that they must attend when possible at my surgery, and at the regular hours, bringing their own bottles.

They certainly are run in an informal and friendly way, and I do not remember ever having given any promise to attend members of the clubs except verbally to their representatives.

I am sorry not to be able to give you any more precise information on the subject of your inquiries.

I have never had any friction with any members of the clubs save in one case where a secretary absconded with money due to me and to others. (Sussex.)

4701 For my own part I have been accustomed for more than thirty years, during which I have held contract practice, to use some discretion in this matter, but *not* as of right; and I have found the secretaries of clubs—such, for example, as the Foresters—amenable to reason in cases of well-to-do members. (Carnarvonshire.)

4703 I am medical officer for three clubs, first a private club for men, women and children; second, the Juvenile Oddfellows, and third, the district branch of the Loyal Caledonian Corks.

For the first club I only admit persons who are in sound health and whom I know to be unable to afford to pay for long illness. They are nearly all labourers and their wives and children, and if anyone asked me to admit them into the club who could afford to pay I should decline to do so.

With regard to the Juvenile Oddfellows and Loyal Caledonian Corks, before members are admitted they have to be medically examined by me, and although I can find no written rule regarding the financial standing of members it was understood when I was asked to become medical officer for both these clubs that it was only for working men and their sons, and during the fifteen or sixteen years I have attended the Juvenile Oddfellows they have never brought me up a boy to pass into the club who was not quite eligible as regards his parents' position. I have attended the "Corks" since its formation here, and we have the same unwritten understanding. If either of the clubs were to bring up a candidate for admission whom I considered unsuitable I should at once inform the committee that the club was not intended for such persons, and if they persisted in doing so I should at once tell them to appoint another medical officer. I could not make a hard and fast line as regards the wages a man is earning, because I thought a married man, with five or six children, earning say 25s. a week was worse off than a single man earning 16s. a week. So that all I can say is that our mutual understanding seems to have worked very well up to the present.

4704 I have given up my private club and find I can do better without it. Those who were in all come to me and pay 2s. 6d. for consultation and medicine now, and 4s. for visit and medicine. The two clubs I have I informed the secretary that if any new members-elect came to me and I considered their means were above average Friendly Society man's lot I should refuse them without giving any reason. This they agreed to, but I have not had to exercise this right so far.

I consider 30s. with not more than two or three children and 35s. with more—the limit.

Unfortunately, I fear I am the only one here who considers a wage limit.

4706 1. The club asked me to be medical officer. I replied in writing that I would, provided I had the power to refuse unsuitable persons in respect to means. They accepted verbally, so I have no document to show. This has gone on about six years, but I am resigning this month. I believe the Minerva Society of Birmingham have such a clause in their rules.

2. No.

3. Not usually.

4. Simply because I would not act as their medical officer without it. Another works club I am officer to has no such rule, but in it there has been no abuse. (Birmingham.)

4707 I will answer your questions seriatim:

1. No.

2. No.

3. To myself, I believe.

4. I have no rule, resolution, or agreement with any of the Friendly Societies to which I am surgeon. Some years ago I found there were two large flourishing tradesmen in one of my clubs, so I informed the secretary that I should exercise the same privilege of accepting or declining members on my list as the members themselves have of being on or off my list. The names were removed, and I am not troubled with it now. Of course, I gave the secretary verbally three-months' notice that I should decline to accept these men as club patients after that date. I fear the other medical men here have not taken any decided stand in the matter. (Yorkshire.)

4708 1. The club in question was very small, and I no longer act as M.O. to it. With me contract work is "taboo." The right to exclude unsuitable persons was obtained by my saying I would not continue to hold the appointment unless I had such right. I specified to the club committee certain persons, members, whom I flatly refused

to attend at 4s. per annum. There is no club rule bearing on the question.

2. I had a written stamped agreement between myself and the club; but as I have now given up the club, I destroyed it. The club is now without an M.O., and is content so to be.

3. My right was, I believe, unique.

4. I obtained the concession in 1896, when we had a very brisk club battle here. The club knew they could get no local man to supplant me, and all attempts to introduce "outsiders" failed.

There are very few clubs now in ——, but I fear that the agreement of ten years ago is now being forgotten. I heard of a "cabman's club" being taken on by a "very leading firm of practitioners" in the town. This was probably done in a moment of thoughtlessness, and certainly not with an idea of underselling, and the club is *a very small one*.

I am much in sympathy with the Wandsworth proposal for a uniform system of "contract work"—namely, none; and I think the treatment vouchsafed to the National Deposit Society quite uncalled for, and very premature and unwise. Their system contains the germ that will prove the solution of the question—namely, "insurance against loss by doctors' bills." (Cheshire.)

4709 I think an answer to question 4 covers the ground of your inquiry. I have always, before accepting a Friendly Society appointment, insisted that I should have the right of examining new members and accepting or rejecting them for other reasons than health alone. Still, I do not think this quite satisfactory, as the arrangement is verbal only and I have no near opposition to contend with. (Warwickshire.)

4710 Answers: No. 1, No; No. 2, No; No. 3, cannot say; No. 4, I believe it has always been the custom in this practice. Only on one occasion has a person been sent to me; him I refused to attend, and he was at once withdrawn. The secretary called to express regret for sending him. I have little or no difficulty with my clubs. Most of the members agree that the pay is much too little, and in some cases I have been feed. There is one great cause of complaint, and that is cheap insurances; by that I mean that men are brought to be examined as if for a club, when really it is only to find out if they are sound for the purpose of insurance, and so do the doctor out of a fee. (Devonshire.)

4712 Perhaps my statement was too general. It is simply that we have before now declined to attend when patients in a comfortable position have expected the same attention as a good private patient. (Staffordshire.)

4713 I enclose a copy of the rules of the Hearts of Oak Benefit Society Medical Agency, which, I think, will answer your questions. It is quite a small club, and the power of declining to attend persons whom I consider unsuitable in respect of means is given me by the first rule. (Nottinghamshire.)

4719 Possibly my reply to your inquiry was misleading.

All I meant was that when a man presented himself for examination for a club whom I considered in better circumstances, I could, and did, decline to admit to this club at 4s. per annum. In the five clubs that I have I never have any trouble in this matter, or any other. Having been here twenty years, I know their position in life and their ability to pay a proper fee.

In the very few cases where patients improve in circumstances I refuse to attend them as club patients, and they understand. (Middlesex.)

4786 Many years ago, when the idea of a Foresters' Court was mooted for this small town, several of the better-class shopkeepers, solicitors, master tradesmen, and the like, were willing to enroll, with the view and more for the purpose of encouraging the movement as an example to the wage-earning class, whose benefit was the direct aim. It being pointed out, and these persons not expecting or intended to receive benefit as financial members, were placed as honorary members, and they and the Court quite recognize that they receive no medical benefits from me as Court surgeon. Other members occasionally and voluntarily pay their medicine bill and relieve me of this.

I am not aware of any written agreement other than the general rules of "the Foresters' Court."

The same principle was carried out in a benefit society in a village where I practised formerly. Most of the villagers joined the society, paying annual subscriptions, etc., but many of them, the better-to-do, paid me, optionally, for medical attendance received, at usual rates. (Roxburghshire.)

4767 1. When the club was first formed about fifteen years ago I stipulated that certain men should not be allowed to join it. They paid me 1s. a calendar month each for member and family up to 14 years of age, as in quarry districts; but I gave this club up, as involving too much time and worry, about two years ago.

2. No; I had no written agreement.

(Merionethshire.)

4722 I have pleasure in replying to your queries regarding the conditions under which I accepted a club here in my practice, and in enclosing you a copy of these conditions.

1. My right to exclude from medical treatment as club patients persons unsuitable in respect of means is by a condition made on my acceptance of office.

2. There is no written or stamped agreement.

3. I do not know and cannot say if this right is peculiar to myself. I have no further experience in club work.

4. See conditions of acceptance:

[COPY.]

Proposed Tontine Club.

Dear Sir,—In reply to your personal application to me to undertake the medical officership of the above benefit society, I am willing to do so subject to the undermentioned conditions:

I. That I am not balloted for against any other medical gentleman or otherwise elected by a competition.

II. That the annual capitation fee for attendance (professional) and medicine be not less than 5s. a year per member, in the proportion of 3s. 6d. to the medical officer and 1s. 6d. to the chemist for dispensing medicines and such-like requirements.

III. That the wage limit of members, other than honorary, do not exceed thirty shillings (£1 10s.) a week.

IV. That all candidates for admission into the society be examined on behalf of the society, and a fee of (say) 2s. be paid by the society for the consequent certificate.

V. That consultation fees, as for administration of chloroform, or for assistance at operations, shall be paid by the society.

VI. That the area in which patients (members) are to be visited at their homes be defined and coloured upon a map, the area being previously agreed upon.

VII. That all printed matters, certificate forms, prescription papers, etc., be provided by the society.

VIII. That the professional fees be subject to revision after the first year if found necessary and practicable.

I understand that a medical neighbour, living about two miles from quarries, draws 1s. a month from quarry club men, and that this 1s. is stopped from the men's wages, in the pay office, monthly. This shows that even the working classes will pay what is asked if left to themselves. It is the professional under-bid which lowers the price of club practice. (North Wales.)

4727 In reply to your letter of June 15th I have to answer to

No. 1.—No.
" 2.—No.
" 3.—Peculiar to myself.
" 4.—Extended reply given below as follows:

A short history of the club in question will probably give the best answer to Question 4. It was established ten years ago, shortly after I settled in this place. I examined all candidates myself, receiving a fee of 1s. for those whom I passed. I was very strict in this examination, and rejected freely. The club has never been a large one, and has never been very troublesome to me. When I accepted the office of medical attendant I did so on the strict understanding that I would not be called on to attend to any one suffering from drink or venereal disease, except as a private patient, I have no agreement ratifying this.

Some years after its establishment, the club became very lax in its payments, at one time being three quarters in arrear. I accordingly wrote the secretary, drawing his attention to the fact, and informing him that in future payments must be made regularly, that I should supply no drugs, as I had done heretofore, and that I should not in future accept any one as a club patient whom I had not myself passed, *i.e.*, that members of the same Order coming into the neighbourhood should not be put on my list without my consent.

My reason for inserting this last condition was that a publican, belonging to a club in another place, and who boasted of an income of £500 a year, had got his name added to my list and gave me a good deal of trouble. I also wished to prevent myself being saddled with aged members from other clubs.

The club through their treasurer accepted the above conditions verbally. I have no agreement with them on these points, but I shall certainly stick to my position.

I may add that I have had a large experience of club practice in Manchester where I formerly practised.

Had I refused to accept the position of medical officer when it was proposed to establish such a club the proposal would have fallen through.

4741 I hope the following will help to make clear the points you ask about: 1 and 2. No; there is no rule or resolution on the subject; but I made the arrangement with the club verbally when I took it over from my predecessor. By doing so I lost one club—the "Foresters"—for some years as a neighbouring practitioner was ready to do so, and came to reside about two miles from here, and tried to use this as a means of getting work in my district. However, when he left the club came back to me.

3. The only other club doctor in this neighbourhood who has fought the clubs is Dr. P. of K——, who made quite a revolution in his district. Most probably you will see a further report of it in his answers. This, as far as I know, is the only case in our neighbourhood. But almost all the clubs admit well to-do members as benefit members, who don't care to draw the 10s. or 12s. a week when ill, but think the doctor well paid at 5s. per annum for attending them. These are often the most influential members of the club, and are generally managers on account of their better business capacity and position.

The chief rule that Dr. P. of K—— made when here was not the income of the member, but he took as the test "employers of labour," as opposed to "wage earners," or those who merely worked for themselves. Amongst the farmers, there are so many grades that it was the easiest way to differentiate. (Herefordshire.)

4768 1. I should decline to take any club in which I did not have the right to exclude persons unsuitable in respect of means. I declined a club on this ground recently.

2. I have no written agreement of any kind with any club, but before I agree to act as medical officer to a club I always stipulate that any new members are to see me personally before being admitted for sick benefit, and I give them a written certificate to take to the club secretary intimating that I approve them as suitable. If unsuitable, I refuse them.

3. If asked to take a new club, I always make careful inquiry to satisfy myself that all the members are really of the poorer class, and decline the club unless I am satisfied.

4. If I find a person whose means appear too good for attendance on club terms in any club of mine I simply write to the Secretary and intimate to him that I cannot attend this person on behalf of the club. The wage limit I adopt is 30s. per week. I only take people who receive less than this as club patients.

5. I regret that I am unable to say if other doctors in the district reserve to themselves the same privilege; I fear it is not always so.

6. I obtain the "right," if right it is, by making my own terms entirely when offered a club; the key to the whole position is to make one's own terms in the beginning, and if the club does not accept them, to firmly decline any further negotiations.

4901 On inquiry I find that I have no contract with any of my clubs, and that no rules or resolutions confer upon me the right of excluding members from medical benefits on account of means.

Years ago I told the secretaries of my clubs that I should exercise the right if I thought fit, and they take a sensible view—my view, that is—of the question.

I have only once refused to attend, or, rather, brought a case to the knowledge of the secretary, and the member at once agreed to my terms, so the question was not really raised. This was in a M.O. Foresters' Club.

The secretaries of the clubs agree that I have the right to refuse to admit a candidate to medical benefit on account of means—by custom, I imagine—but I doubt if I could refuse to attend a member who was already admitted. My clubs are, thank God! very friendly affairs, and I am quite sure I could get a rule or resolution passed if I thought fit to raise the question, which at present I do not.

The answers to the four questions are therefore:

1. Neither.
2. No.
3. Doubtful.
4. By tacit acquiescence.

4918 1. No.

2. No.

3. I do not know.

4. I have not had much experience of clubs, the one in which I have treated one member as a private patient is a ..... Club. The only member I have seen fit to treat in this way was the landlord of the public house where the club meets. He came to me, and though I knew he was a member I sent him in an account, and he has paid part of it and promised the rest. I did not consult him about it. I should do the same again. I have passed all the members into the club, and I think there are only two whom I should treat in this way.

D.—AN ANALYSIS OF THE PROVISIONS CONTAINED IN THE RULES OF ORGANIZATIONS WHICH AFFECT THE MEDICAL PROFESSION,

INCLUDING

(1) OBJECTS AND CONSTITUTION; (2) TERMS OF EMPLOYMENT OF MEDICAL OFFICERS.

I. PERMANENT FRIENDLY SOCIETIES (CENTRAL). II. SICK BENEFIT SOCIETIES CONNECTED WITH SPECIAL OCCUPATIONS.
III. LOCAL FRIENDLY SOCIETIES. IV. DIVIDING SOCIETIES. V. FRIENDLY SOCIETIES' INSTITUTES.
VI. PROVIDENT DISPENSARIES. VII. PRIVATE CLUBS. VIII. PUBLIC MEDICAL SERVICES.

I.—*Permanent Friendly Societies (Central).*

I. Constitution.				II. Terms of Employment of Medical Officers.									
				1. Conditions of Appointment.				2. Definition of Duties.			3. Remuneration.		4. Conditions of Admission to Medical Benefit.
Name of Society.	Objects.	Constitution and Administration.	Honorary Members.	(a) Election.	(b) Distribution of Work.	(c) Tenure.	(d) Form of Contract.	(a) Ordinary Services.	(b) Special Services.	Services not Included.	(a) Ordinary Services.	(b) Special Services.	
ODDFELLOWS.													
"Loyal Caldicot Castle" Lodge (Chepstow District)	Funeral insurance; sick relief; medical attendance; assisting members in distress	Unlimited number of members		Appointed by majority of members present at a summoned meeting of Lodge	Single officer	Pleasure of Lodge	Rules	Examine all candidates; attend sick members, and provide proper and sufficient medicines			5s. per member		Residence within 5 miles of Lodge.
"Loyal Beacon Lodge, No. 686	Funeral insurance; sick relief; medical attendance	"		Elected by majority of members of a summoned meeting	Single officer	6 months' notice of discharge	Rules	Examine all candidates; certificate of candidates' state of health; attend those who are ill; supply all necessary medicines, and give sick-pay certificates			Salary paid out of sick fund		Residence within 2 miles of Lodge
"Thistle of Scotland" Lodge, Branch No. 101	Same as above	"		Appointed by general body of Society	Single officer	Pleasure of Lodge	Rules	Attend all sick candidates; give certificate of each member's incapacity to follow general occupation			2s. per member		Residence within 2 miles of Monialve.
"Nil Desperandum" Lodge, Branch No. 86	"	Same as above over 16 years of age		Elected by Lodge	Single officer	Pleasure of Lodge	Rules	Examine all candidates; attend sick members, and provide proper and sufficient medical and surgical attendance. Visit if member unable to come to surgery			Such sums as may be decided by the Lodge, payable half-yearly		Residence within 3 miles of Lodge house.
Loyal Lord Hinchingbrooke" Lodge, No. 2558	"	Unlimited number of members	Any person above the age of 18 on an entrance fee of 10s. 6d. and an annual fee of not less than 5s.	Elected by majority of members present at summoned meeting of Lodge	Single officer	Pleasure of Lodge	Rules	Examine candidates; attend sick members, and provide proper and sufficient medicines			4s. 6d. per member		Residence within 3 miles from Lodge.
Harston				Duly-registered surgeon appointed by majority of votes of members at summoned meeting of Lodge	Single officer	Mutual agreement of surgeon and the Lodge	Rules	Examine and report on all candidates for admission; attend all sick members, and provide with proper and sufficient medicines. Visit if member unable to attend surgery			4s. per member from the Management Fund, paid half yearly		4 miles from Lodge.

Lodge Loyal Spensley (M.U.)				Qualified medical practitioner, appointed by a majority of votes of members at a summoned meeting	Single officer	Pleasure of Lodge	Rules	Examine candidates and sign certificates; attend sick members and provide proper and sufficient medicine		4s. per member	3 miles from Lodge.
Widows and Orphans Refuge Lodge				Qualified medical practitioner, appointed by majority of votes of members at summoned meeting of Lodge	Single officer	Pleasure of Court	Rules	Examine all candidates; sign certificates; attend sick members		6s. per member, paid half-yearly	Residence within 3 miles from Lodge.
Tonbridge Lodge				Duly qualified medical practitioner, appointed at a summoned meeting of Lodge	Single officer	Pleasure of Lodge	Rules	Examine candidates, attend sick members, and provide proper and sufficient medicines and surgical attendances		Such sum as shall be determined, paid quarterly	Residence within 3 miles of the Grosvenor Bridge.
Loyal Stoke Newington Lodge (M.U.)				Qualified medical practitioner, appointed by majority of votes of members at summoned meeting	Single officer	Pleasure of Lodge	Rules	Examine all candidates, sign certificates, attend sick members, and provide proper and sufficient medicine		4s. per member	3 miles of Lodge.
Loyal "Heart of Oak" Lodge (Hale District, M.U.)	(1) Funeral insurance; (2) sick relief; (3) Medical attendance; (4) relief in distress; (5) contribute to central fund	Unlimited number of members		Appointed by majority of votes of members at a summoned meeting	Single officer	Pleasure of Lodge	Rules	Examine all candidates, attend sick members, and provide proper and sufficient medicine		Such sum as general meeting may deem adequate per member	Residence within 3 miles of Lodge house.
Birmingham District	Same as above, except last	Persons over 16			Several, choice by members						
Plymouth District (Juvenile)	Same as "Heart of Oak"	Unlimited number of persons		Surgeon, appointed in each Agency	Single officer		Rules	Examine all candidates; attend and provide medicine for members		2s. per member	Residence within 3 miles of Lodge.
"The Municipal Lodge"	Same as above	Unlimited number of members between 16 and 45 years of age	Any person of the age of 18, on payment of entrance fee of 10s. 6d. and annual subscription of not less than 10s. 6d.	Elected by Lodge	Single officer	Pleasure of Lodge	Rules	Examine all candidates, attend members, and provide proper and sufficient medical and surgical attendance. Visit ill member unable to come to surgery		Salary paid half yearly out of sick and funeral funds	Residence within 3 miles of Lodge.
"Loyal Helmsburgh Lodge" (M.U.)	Same as above	Unlimited number of members	Any person on payment of 10s. 6d.	Surgeon elected at a summoned meeting	Single wage-factor; members may choose own surgeon, other than Lodge surgeon	Elected annually	Rules	Examine new members; give certificates; attend sick members		2s. 6d. by new member in the event of his falling sick during first six months. Paid half-yearly from the management fund, such sum per annum as may be agreed upon	Residence within 3 miles of Lodge.
				Appointed by a majority of votes of members present at a summoned Committee of Lodge	Single officer	Pleasure of Lodge	Rules	Attend all sick, lame, or otherwise afflicted members, and provide medicine, examine all candidates		Such sum per annum as a majority of members think proper, payable half-yearly	3 miles from Lodge.
Prince of Wales Lodge, Juvenile Friendly Society (M.U.)	Funeral insurance, sick relief, medical attendance, endowment to members on leaving Society	Same as above		Qualified surgeon	Single officer	Pleasure of Lodge	Rules	Examine all candidates and give certificates; attend all members, and provide proper and sufficient medicine	Paid extra for leeches, trusses, cupping, and splints in case of fracture	Paid quarterly	
"Winchester Juvenile Oddfellows" Friendly Society	Same as above	Same as above									

I.—*Permanent Friendly Societies (Central)—continued.*

Name of Society	I. Constitution.			II. Terms of Employment of Medical Officers.									
				1. Conditions of Appointment.				2. Definition of Duties.			3. Remuneration.		4. Conditions of Admission to Medical Benefit.
	Objects.	Constitution and Administration.	Honorary Members.	(a) Election.	(b) Distribution of Work.	(c) Tenure.	(d) Form of Contract.	(a) Ordinary Services.	(b) Special Services.	Services not Included.	(a) Ordinary Services.	(b) Special Services.	
ANCIENT ORDER OF FORESTERS:													
Court Chorlton No. 7955	Funeral insurance; sick relief; medical attendance; assisting members in distress	Unlimited number of members		Registered practitioner elected by Court	Single officer	During pleasure of Court	Rules	Examined all candidates, attend such members, their wives and families, and provide with proper and sufficient medicines during sickness. Visit if member unable to come to surgery			Male adult, 3s.; wives of members, 3s. 6d.; members' children under 13, 3s.; over 13, 3s. 6d. Per member, 4s.	Midwifery, 10s. 6d.	Residence within 3 miles of parish church; contribution optional.
Court "Cobden," No. 4276	Same as above	Same as above	Any person at the age of 21 years by paying 10s. 6d.	Election by Court; to be a member	One surgeon	Annual appointment	Rules	Examine all candidates, attend sick members, and provide with proper and sufficient medicine during their affliction. Visit if member unable to come to surgery					Residence within 3 miles of court house
Court "Star of Suffolk"	Same as above	Same as above	Any person at the age of 18 years by paying 10s. 6d.	Registered practitioner elected by Court	Several surgeons; members select doctor, giving 6 months' written notice when a change is desired	At pleasure of Court	Rules	No definition in rules			No definition in rules.		
Court "Marquis of Lansdowne"	Same as above	Same as above		Registered practitioner elected by Court	Several surgeons; may be changed half-yearly by a written notice to Secretary	No provision	Rules	Examine all candidates for admission, furnish certificates, attend sick members, provide with proper and sufficient medicines, and perform any surgical operations that may be necessary			Per member, 3s.		Residence within 2 miles of court.
Court "Victoria Royal"	Same as above	Same as above	Any person at the age of 18 years by paying 10s. 6d.	Member appointed by Court	Single surgeon	Annually appointed	Rules	Examine all candidates, attend sick members, sign sick pay certificates provided to sick members as to condition once in 14 days, and provide proper and sufficient medicines			Adult male, 3s.; females, 4s.; probationary, 2s. (beyond 3 miles pay 1s. per mile for extra distance)		3-mile radius.
Court "Industry," No. 4464	Same as above	Same as above		Registered practitioner elected by Court	Single surgeon	At pleasure of Court	Rules	Examine all candidates, attend sick members, and provide proper and sufficient medicine. Visit if member not able to come to surgery			4s. per member		Residence within 4 miles of court house
Court "Neidpath," No. 5949	Same as above	Same as above		Registered practitioner elected by Court	Single surgeon	At pleasure of Court	Rules	Examine and give certificates to candidates, keep register of members on sick pay. Visit if members unable to come to surgery. Visit member employing another doctor		Court shall pay for medicines ordered for members by surgeon			Residence within 3 miles of the court room.
Court "Loya Bangor," No. 2936	Same as above	Same as above	Any person above the age of 21 years by paying a fee of 10s. 6d.	Benefit or honorary member, appointed by Court	Single surgeon	At pleasure of Court (special meeting)	Rules	Examine all candidates, and duly certify as to their constitution, state of health, etc. Supply proper and sufficient medicine. Sign visiting form once a week			2s. 6d. per member		Residence within 3-mile radius
Court "Arts and Sciences"	Funeral insurance; sick relief; medical attendance; assisting members in distress	An unlimited number of members	Any person at the age of 21 years and upwards by paying 10s. 6d. and an annual subscription of 5s	Registered practitioner elected by Court	Single surgeon	At pleasure of Court	Rules	Examine all candidates, attend sick members, and provide proper and necessary medicine and surgical assistance. Give certificates			3s. 6d. per member		Residence within 3 miles of court.

Court "Hickman," No. 964	Same as above	Same as above		"	"	"	"	Examine all candidates, attend sick members, and provide proper and sufficient medicine	4s. per member	Residence within 3 miles of court house
Court "Rose of England"	Same as above	Same as above	Any person at the age of 18 years by paying 10s. 6d.	Honorary or benefit members elected by Court	Two surgeons	At pleasure of Court	Rules	Examine all candidates, attend sick members, and provide proper and sufficient medical and surgical attendance. Visit member if unable to come to surgery	Member above 6 months' standing, 2s.; under 6 months' standing, 1s.	Residence within 3 miles of the court.
Court "Jed Forest"	Same as above	Same as above	Same as above	Registered practitioner elected by Court.	Single surgeon	At pleasure of Court	Rules	Examine all candidates, attend sick members, and provide proper and sufficient surgical and medical attendance. Visit member if unable to come to surgery	3s. per member	Residence within 3 miles of court house.

Name of Society.	Objects.	Constitution and Administration.	Honorary Members.	(a) Election	(b) Distribution of Work.	(c) Tenure	(d) Form of Contract	(a) Ordinary Services.	(b) Special Services	Services not Included.	(a) Ordinary Services	(b) Special Services.	
SHEPHERDS													
Rob Roy Lodge (Dumbarton District)	(1) Funeral insurance; (2) sickness relief; (3) medical attendance; (4) contribute such sum per annum to the central fund as may be determined	Unlimited number of members, who shall appoint their own officers and trustees, and generally conduct the business of the branch	Any respectable person above 18 years may be admitted by paying 10s. 6d. and 5s per annum	Duly qualified-medical practitioner appointed by Lodge	One or more	Pleasure of Lodge	Rules	Examine all candidates, sign certificates, visit all sick members, and provide proper and sufficient medicine; furnish certificates to sick members			Sum agreed upon		Three miles of Lodge house.
Vine Lodge (Essex District)	(1) Funeral insurance; (2) sickness relief; (3) medical attendance	Honorary members, benefit members, 5 elective officers, 4 non-elective officers, 3 trustees and a Committee of Management	Above 21 years										
"W. E. Gladstone" Lodge				Same as above. Must be or become an honorary or financial member	Single officer	Pleasure of Lodge, 3 months' notice on either side		Examine as above; visit and prescribe for every sick or injured member and provide proper and sufficient medical and surgical treatment and medicines; visit if member unable to come to surgery; visit club member once a week if member attended by other practitioner		Make out weekly certificates for all members under treatment whose illness is of more than 3 or more days duration. Member suffering from an infectious disease, he shall pay the sick ailment instead of the Sick Steward	"		Three miles from Lodge room.
DRUIDS.													
"Star in the West" Lodge (Taunton and West Somerset District)	(1) Funeral insurance; (2) sick relief; (3) medical attendance; (4) assist members in distress; (5) contribute such sum as may be required to a central Fund	Consist of unlimited number of members, who shall appoint their own officers and trustees and generally conduct the business of the Lodge	Persons admitted after 21 years on payment of not less than 10s. 6d. as entrance fee, and 5s per annum, and be entitled to all rights and privileges	Elected by Lodge	Single officer		Rules	Examine all candidates. Attend all members			5s. per member. Members over 3 miles pay surgeon 1s. 6d per mile after first 3 miles, mileage charged one way		3 miles from Lodge.
"Earl of Carrick" Lodge (Glasgow District)	Same as above	Same as above. Members not to be under 16 years of age	Persons may be admitted at any age after 21 years on payment of 21s. May not take elective office, but may take degrees, and shall have no claim on the funds of Lodge, District, or Order	Same as above (must become an honorary member)	Same as above	Pleasure of Lodge, 3 months' notice either side	"	Examine as above. Attend all members. Give certificates. Visit members once a week though attended by other practitioner			2s. 6d per member		"

I.—*Permanent Friendly Societies (Central)—continued.*

I Constitution.				II. Terms of Employment of Medical Officers.									
				1. Conditions of Appointment.				2. Definition of Duties.			3. Remuneration		4 Conditions of Admission to Medical Benefit
Name of Society.	Objects.	Constitution and Administration.	Honorary Members.	(a) Election.	(b) Distribution of Work.	(c) Tenure.	(d) Form of Contract.	(a) Ordinary Services.	(b) Special Services	Services not Included	(a) Ordinary Services.	(b) Special Services.	
RECHABITES													
Glasgow District	(1) Funeral insurance: (2) sick pay: (3) medical attendance: (4) temporary assistance for members in distress: (5) payment of necessary expenses of management and contributions to central fund	Consist of unlimited number of members over 15 and not above 50 years of age, who have signed and adhere to the declaration of principles of Order and have signed the pledge	Any person over 16 years of age may be admitted an honorary member upon payment of 2s. 6d when proposed, and 4s. yearly. May hold office, but not entitled to sick or funeral benefits	Duly-qualified medical practitioner appointed by majority of summoned meeting of Tent	Single officer	Pleasure of Tent.	Rules	Examine all candidates. Attend sick members, provide and send proper and sufficient medicine. Intoxicating liquors, if supplied, to be labelled as other medicines. Sign certificates of members attended by other men		Shall make special reports on candidates or members who may be afflicted with any confirmed disease or infirmity	Sum agreed upon	?	Three miles from Tent-room.
Mizpah Tent, Lancashire & Yorkshire District	Same as above	Same as above	Same as above. Female honorary members to contribute one-half of above rates	Duly-qualified medical practitioner appointed by Tent	,,	,,	,,	Examine as above. Attendance as above, but within 2 hours Intoxicating liquors, if supplied, to be labelled as other medicines, and Tent Secretary to be notified of supply of same. Sign certificates of members attended by other men (Note.—Surgeon to be supplied with list of members for medical aid each quarter; if list not supplied surgeon's engagement shall be considered to have terminated.)		Same	,,	?	,,
Anchor of Hope Tent, Southampton and West Hants District	,,	Consist of unlimited number of members over 15 and under 45, who have signed and adhere to the declaration	Same as above except that no age is stated	Same as above	Two or more if necessary	,,	,,	Examine as above. Attendance as above. Intoxicating liquors, if supplied, to be labelled as other medicines, and Tent Secretary notified of supply of same	Operations paid for by members	Same as above			,,
"Jersey" Tent: Berks., Bucks, and Oxon. District	,,	Same as above, except that no age is given	Any person over 16 years of age may be admitted an honorary member upon payment of 2s. 6d when proposed and 4s. yearly. May hold office, but not entitled to sick or funeral benefits. Female honorary members to contribute one-half of above rates	,,	Single officer	,,	,,	Examine as above. Attendance as above. Intoxicating liquors as above. Sign certificates of members attended by other men	Same as above	,,	,,	?	,,
Willowfield Tent Belfast District	,,	Consist of unlimited number of members over 15, who have signed and adhere to declaration and have signed the pledge	Same as above, but no female rate mentioned	,,	,,	,,	,,	Examine as above. Attendance as above. Intoxicating liquors as above. Sign certificates of members attended by other men		,,	,,	?	,,
"Sid" Tent, Exeter District	,,	Same as above	Same as above	,,	,,	,,	,,	Examine as above. Attendance as above, but within 2 hours. Intoxicating liquors as above. Sign certificates of members attended by other men		,,	,,	?	,,

	I. Constitution.			II. Terms of Employment of Medical Officers.								
				1. Conditions of Appointment.				2. Definitions of Duties.			3. Remuneration		4. Conditions of Admission to Medical Benefit.
Name of Society.	Objects.	Constitution and Administration.	Honorary Members	(a) Election	(b) Distribution of Work.	(c) Tenure.	(d) Form of Contract.	(a) Ordinary Services.	(b) Special Services	Services not Included	(a) Ordinary Services	(b) Special Services	
Free Gardener Hanley First (Juvenile) Lodge				Elected by Lodge	Single officer	Pleasure of Lodge, one month's notice either side	Rules	Examine all candidates over 9 years of age and sign certificates. Attend all members and provide proper and sufficient medicine. Sign certificate of members attended by other men, and visit such members at least once a week			6d. per member		3 miles from Lodge house
St. Clement's Lodge	(1) Funeral insurance; (2) sick pay; (3) medical attendance; (4) relief in distressed circumstances	Unlimited number of members and Committee of Management	Any person over 18 years, on payment of not less than one guinea, may not vote or hold office and have no claim on the funds of the Lodge or Order	Number of Lodge	,,		,,	Examine all candidates, attend sick members and provide proper and sufficient medical and surgical attendance. Keep register of all sick members			Sum agreed upon		3 miles from Lodge room.
"Honeysuckle" Lodge, Kirkcaldy District	Same as above	Members over 18 and under 45	Any person above 18 years, on payment of at least 10s., may not have privilege of voting	Elected by Lodge. Must be member, either honorary or financial	,,	Pleasure of Lodge, 3 months' notice on either side	,,	Examine as above. Attendance as above			Sum agreed upon		2 miles from Lodge house.
Rose of Balloch myle Lodge, Ayr District	Same as above	Unlimited number of members and shall be governed by a Committee of Management	Any person not less than 16 years, no privilege to vote					Sign certificates					

	I. Constitution.			II. Terms of Employment of Medical Officers.								
				1. Conditions of Appointment.				2. Definition of Duties.			3. Remuneration.		4. Conditions of Admission to Medical Benefit.
Name of Society	Objects.	Constitution and Administration.	Honorary Members.	(a) Election.	(b) Distribution of Work.	(c) Tenure.	(d) Form of Contract	(a) Ordinary Services.	(b) Special Services.	Services not included	(a) Ordinary Services.	(b) Special service.	
ONS OF TEM PERANCE				Elected by meeting	Single officer	Pleasure of Division		Examine all quarterly candidates. Furnished with list of members entitled to medical treatment whom he shall attend and furnish with proper medicine. If intoxicating liquors are furnished, to be labelled as other medicine			Such sum as agreed upon		miles from Division-room
—				Elected by meeting	Single officer	Pleasure of Division		Same as above			Such sum as agreed upon		miles from Division-room
—	(1) Funeral insurance (2) Sick relief (3) Temporary assistance	Unlimited number of members above the age of 1 year, who are abstainers and have taken the pledge		Qualified practitioner elected by meeting	Single officer			Same as above					

II.—*Sick Benefit Societies Connected with Special Occupations.*

	I. Constitution.			II. Terms of Employment of Medical Officers.								
				1. Conditions of Appointment.				2. Definition of Duties.			3. Remuneration.		4. Conditions of Admission to Medical Benefit.
Name of Society.	Objects.	Constitution and Administration.	Honorary Members.	(a) Election.	(b) Distribution of Work.	(c) Tenure.	(d) Form of Contract.	(a) Ordinary Services.	(b) Special Services	Services not Included.	(a) Ordinary Services.	(b) Special Services.	
Mechanics				Committee of Management shall be either a benefit or honorary member of Lodge	Two or more	Pleasure of Lodge	Rules	Examine all candidates, sign certificates, attend all members whose names are on list supplied by Lodge Secretary, and furnish proper and sufficient medical aid and medicine		Make special report upon condition of any member afflicted with confirmed disease or infirmity	Sum agreed upon		Every member, wife or child, eligible for medical aid on payment of such additional periodical contribution as may be agreed upon between Lodge and Medical Officer.
Mechanics				Chosen by Lodge	Several	Pleasure of Lodge	Rules	Examine all candidates, visit sick members at least once a week, and may be required to forward to lodge monthly a report containing names of members under his care at date of each report			Fee for examination to be paid by candidate		
United Boilermakers Glasgow				Elected by meeting	One	Yearly	Rules	Attend all sick members, sign certificates list of members in benefit supplied to surgeon at beginning of each quarter			2s. or 4s. per member		

	I. Constitution.			II. Terms of Employment of Medical Officers.								
				1. Conditions of Appointment.				2. Definition of Duties.			3. Remuneration.		4. Conditions of Admission to Medical Benefit.
Name of Society	Objects.	Constitution and Administration.	Honorary Members.	(a) Election.	(b) Distribution of Work.	(c) Tenure.	(d) Form of Contract	(a) Ordinary Services.	(b) Special Services.	Services not Included	(a) Ordinary Services.	(b) Special Services	
Midland Railway Friendly Society	(1) Relief and maintenance during sickness; (2) medical attendance; (3) old age allowances; (4) funeral insurance	In all persons over 14, employed by railway		Appointed by Managing Committee	Appointed for districts			Attend members surgical and medical, provide proper and sufficient medicines Examine candidates.			Such sum as agreed upon		
Great Western Railway Provident Society	Relief in sickness, medical attendance, and funeral insurance	Unlimited number of members over 18 and not exceeding 30 years		Appointed	,,	5 years' appointment		Attend members, give medical and surgical aid			4s. per annum paid yearly		Two miles from some station in district.
Sudbrook Great Western Railway Workmen's Sick and Benefit Society	Sick relief	Unlimited number of members						Medical attendance on member, wife, and children up to 15 years of age			13s. per member		

III.—*Local Friendly Societies.*

	I. Constitution.			II. Terms of Employment of Medical Officers.									
				1. Conditions of Appointment.				2. Definition of Duties.			3. Remuneration.		4. Conditions of Admission to Medical Benefit.
Name of Society.	Objects.	Constitution and Administration.	Honorary Members.	(*a*) Election.	(*b*) Distribution of Work.	(*c*) Tenure.	(*d*) Form of Contract.	(*a*) Ordinary Services.	(*b*) Special Services	Services not Included.	(*a*) Ordinary Services.	(*b*) Special Services.	
Hampshire and General Friendly Society	(1) A weekly sum in sickness; (2) weekly pension in old age; (3) sum payable at death; (4) sum payable at end of term of years as endowment; (5) relief in distress	Benefit and honorary members	Honorary members contribute not less than £5 by donation or 5s. yearly subscription	Honorary consulting physician, appointed by Central Body				Examine and report upon all proposals, medical certificates, and other matters					
Kempston Friendly Society	(1) Funeral insurance; (2) sick relief; (3) medical attendance	Unlimited number of persons of both sexes over 1 year of age	Any person over 21 years, on payment of subscription of 10s. or upwards annually, may serve in any office and entitled to vote	Elected	Single officer	Pleasure of Committee		Examine all candidates, attend sick members, and provide proper and sufficient medicines					
King Protestant Benefit Society (Liverpool)	Same as above	Unlimited number of persons, who must be Protestants		Qualified physician or surgeon, appointed by meeting	,,			Examine all candidates. Attend sick members within 3 hours after receiving notice. Sign sick notes and certificates. Dispense all things necessary to cure members (leeches excepted)			Such sum as agreed upon		Residence within 3 miles of Society's room
Stowey Friendly Society (Nether Stowey, Somersetshire)	,,	Honorary and benefit members	Pay certain sum. May not receive any benefit or relief		,,			Attend members and provide medicine			4s. per member		5 miles of club room
Benefit Society of the Hundreds of Loddon and Clavering	,,	Unlimited number of persons over 10 years of age	Any person giving a donation of £5 or annual subscription of 5s., not entitled to any benefit		One or more for each district			Examine candidates. Supply medical and surgical aid, etc. Visit once a week sick members on list. Sign certificates		Trusses, elastic stockings, not expected to be provided by surgeon	Not exceeding 6s. per member		
Union Friendly Society (Rocester)	,,	Persons over 1 year of age	Persons over 16 years on payment of annual contribution of 5s., no claim on fund nor fill any office	Qualified medical practitioner	Single officer	Pleasure of Society		Examine candidates. Sign certificates. Provide proper and sufficient medical and surgical aid and medicines			Such sum as agreed upon paid yearly		3 miles of registered office

IV.—*Dividing Societies.*

I. Constitution.				II. Terms of Employment of Medical Officers.									
				1. Conditions of Appointment.				2. Definition of Duties.			3. Remuneration.		4. Conditions of Admission to Medical Benefit.
Name of Society.	Objects.	Constitution and Administration.	Honorary Members.	(a) Election.	(b) Distribution of Work.	(c) Tenure.	(d) Form of Contract.	(a) Ordinary Services.	(b) Special Services.	Services not Included	(a) Ordinary Services.	(b) Special Services.	
TONTINE SOCIETY													
Edge Hill Congregational Church P.S.A. Brotherhood, Tontine Society	1) Funeral insurance, 2) medical attendance and medicine; (3) sick relief	Unlimited number of members, who must be members of the P.S.A., over 15 years and under 45 years of age at entry		Duly-qualified physicians or surgeons	One or more	Yearly (?)		Examine all candidates. Attend members and supply proper medicine. Cases of emergency must attend within three hours. Sign certificates			4s. per member		Attend those members not residing in Cheshire and within 3 miles of society's registered office.
Humanity and District Dividend Society	Benefit of those who may become sick or unable to follow their employment and for the encouragement of moral and prudential habits and the relief of the industrious poor in time of sickness	Society to commence in June and continue the following June	Subscriptions to go to reserve fund					Sign certificates			3s. per member		
St. Paul's Parochial Benefit Society	Provision in cases of sickness or death	Members must be Protestants	Persons not ordinary members appointed to any office to which there is no emolument, and shall be entitled to vote	Duly-qualified doctor	One			Attend members and provide medicine			Sum agreed upon		Residence within 2 miles of church.
North Liverpool P.S.A. Tontine Society	Funeral insurance, sick relief, medical attendance, and medicine	Unlimited number of members between 15 and 45 years of age, and must be Protestants		Member of R.C.S. and a Licentiate of Apothecaries' Company	"			Examine candidates. Attend and supply members with proper medicine at least two hours after message	Confinements		3s. per member	1 guinea allowed by Society per member for special cases	
Chatsworth Road Tabernacle Slate Club N.E.	Sick relief, funeral insurance, and annual division of surplus funds	Unlimited number of members		Appointed annually	"			Examine candidates. Attend and supply members with medicine			4s. per member		Residence within 2 miles of Chatsworth Road Tabernacle.
All Saints, Hatcham Park, Slate Club	Sick benefits	Any person residing within a mile of All Saints Church, over 15 and not exceeding 45 years eligible			"			Examine. Sign certificates			"		
Shipping Federation, Shipworkers' Annual Sick Benefit Club	Sick benefit, and in death or accidents		On payment of a year's subscription of £1 7s.; exclude from sick benefit		"			Attendance, advice, and medicine on members. Sign certificates. Keep list of sick members			Such salary as agreed upon		

V.—*Friendly Societies' Institutes.*

I. Constitution.				II. Terms of Employment of Medical Officers.								
				1. Conditions of Appointment.				2. Definition of Duties.			3. Remuneration.		4. Conditions of Admission to Medical Benefit.
Name of Society.	Objects.	Constitution and Administration.	Honorary Members.	(*a*) Election.	(*b*) Distribution of Work.	(*c*) Tenure.	(*d*) Form of Contract	(*a*) Ordinary Services.	(*b*) Special Services.	Services not Included.	(*a*) Ordinary Services	(*b*) Special Services.	
York Friendly Societies' Medical Association	(1) Sick relief: (2) medical attendance; (3) suitable place for medical officer and necessary surgical appliances, committee, waiting and consulting rooms	Unlimited number of members over 16 years of age belonging to various registered Friendly Societies contributing to funds of association and widows and orphans above 16 years of age of such members		Appointed by Committee of Management; medical officers must sign agreement for the proper discharge of their duties	Several			Attend at dispensary on week-days at certain hours. Examine all candidates and grant certificates. Prescribe and give medical treatment Visit when necessary	Vaccination; attend midwifery, subject to rules		Salary	Confinements 10s. 6d. Vaccination infants free Members and other persons entitled vaccinated at charge of 1s.	Residence within 3 miles of Parliament Street, York
Derby Amalgamated Friendly Societies' Medical Association	Same as above	Unlimited number of members belonging to Lodges of the Society within borough of Derby and wives and children residing within a radius of 2 miles of Market Place		Same as above	,,			Same as above	Vaccination; attend midwifery	Dispensing not included, also drug supply	,,	Confinements 10s. 6d. Vaccination 1s.	Residence within 3 miles of Derby Market Place Dispensary patients within 2 miles of same
Leeds Friendly Societies' Medical Association	Medical attendance on members and families and supply of best medicines	Unlimited number of members		Appointed by General Committee; sign agreement not to commence private practice within a radius of 3 miles of surgeries for 3 years after leaving Association	,,			Attend members. Examine candidates. Furnish statistical report to each quarterly meeting. See that fires are made in waiting rooms in winter months by 8 a.m. Attend at surgery at certain hours	Midwifery	Drugs supplied by Association	,,	Midwifery 10s. 6d.	Residence within 3 miles of surgery.
Exeter Friendly Societies' Medical Association	Same as above	Same as above		Appointed by General Committee	,,			Attend dispensary at certain hours Attend members and prescribe proper and sufficient medicines. Visit those unable to attend dispensary. Examine candidates. Report to quarterly meeting	Midwifery and vaccination	Same as above	,,	Midwifery 10s. 6d. Vaccination 1s.	Residence within boundaries of third milestones around city of Exeter.

VI.—*Provident Dispensaries.*

Provident Dispensaries	(A) Objects, and Benefits Provided.	(B) Conditions of Admission.			(C) Contributions.	
		Weekly Wage Limit.	Health.	Other Conditions, if any.	(i) Ordinary Benefit (per week).	(ii) Special.
I. BATTERSEA	To supply medical attendance and medicine	50s.	—	Sick on admission, 3s. 6d or 5s extra (adults), 1s. 9d. or 2s. 6d. extra (juveniles)	Adults, 1d. and 2d.; reduction for juveniles and families	Midwifery fee, 10s. to 25s.
II. BECKENHAM	To provide medical attendance	35s.	Approved by M.O Higher rate if over 50 years	—	Adult 1½d.; reductions for juveniles and families	1d. for medicine to M.O.; 12s. 6d. towards midwifery fee.
III. BRIGHTON, HOVE AND PRESTON	To provide, on provident and self-assisting principles, medical attendance, advice, and medicine during illness	Unable to pay in ordinary manner	Had small-pox or vaccinated	Not in receipt of Poor-law relief	Adult 1d.; reduction for juveniles	Governors' Fund, which goes to pay expenses.
IV. COVENTRY	To provide efficient medical advice, attendance, and medicine during illness	40s.	—	Sick on admission 10s extra	Adult 1d.	Midwifery Fund; vaccination 2s 6d.; 21s. midwifery fee.
V. EALING COTTAGE HOSPITAL & PROVIDENT DISPENSARY	Do., do.	Working classes	—	Do. 2s. 6d., and no Poor-law cases	Adult 1d.; reduction for families	10s. 6d. towards fee.
VI. EAST DULWICH	Do., do.	30s.	—	Sick on admission 5s extra	Adult 2d.; reduction for juveniles and families	21s. midwifery fee; vaccination 1s. and 2s. 6d.; antitoxin 2s. 6d; operations, fractures, and dislocations 5s. to 10s.; general anaesthetic 5s.
VII. LEICESTER AND LEICESTERSHIRE	To provide attendance and medicine	Working people unable to pay in ordinary manner	Approved by M.O.	Sick on admission 10s extra	Adult 1d.; reduction for juveniles and families	Midwifery fee 15s. (total).
VIII. LICHFIELD	To enable the benefit members, resident in Lichfield, or within three miles from Guildhall, to claim on easy terms, at all times, medical attendance, medicines, etc., in cases of sickness or accident	15s. single; 26s married with families	Approved by M.O	Sick on admission 5s. extra	1d.	Midwifery fee 21s.
IX. MANCHESTER AND SALFORD	To provide medical relief for the working classes of Manchester and Salford	Approved artisans and others	—	Sick on admission 5s extra	1d; reduction for families	1d. for medicine; midwifery fee 15s. (total); 1s. extra to M.O. sometimes in "sudden" cases.
X. WALWORTH BRANCH of METROPOLITAN PROVIDENT MEDICAL ASSOCIATION	Objects of Association are: (1) To provide, by means of small periodical payments, efficient medical treatment and medicine for those of the working classes who cannot pay ordinary fees; (2) to co-operate with hospitals to relieve latter, and also to refer to them necessitous or instructive cases	25s.	Good	Sick admitted on special terms	1d.; reduction for juveniles and families	1d. for medicine (up to 3d. a week).
XI. ST THOMAS (EXETER)	To provide attendance and medicine	25s.	Good and approved by M.O.	Wives and children of members of certain Friendly Societies	1d.	—
XII. SALISBURY AND SOUTH WILTS.	To enable the artisan and labouring classes, by small periodical payments, to insure medical attendance and medicine	Working classes	Approved by M.O.	Sick on admission, 10s. to 15s. extra	Adults 1d. and 1½d.; reductions for juveniles and families	10s. to 15s. towards midwifery fee.
XIII. SIDMOUTH DISPENSARY	To provide attendance, medicine, and free vaccination for people unable to pay a medical man adequately	30s.	—	Sick on admission 5s. extra	Ditto, ditto	Midwifery fee, 12s. 6d. (beyond 1 mile 15s.).
XIV. TUNBRIDGE WELLS AND RUSTHALL	To enable persons living in or near the borough or parish of Rusthall to secure for themselves and their families medical advice and medicine during illness	35s.	—	Not in receipt of Poor-law relief	Adults 1½d.; reductions for juveniles and families	Midwifery fee, 21s.
XV. VAUXHALL AND DISTRICT	To enable members to ensure for themselves efficient medical advice and medicines during illness	—	Good	—	1d. per member; reduction for large families	Midwivery fee 10s. 6d. 1st confinement 21s.
XVI. WINCHESTER	To provide medical attendance for persons whose income is proved to Committee to be insufficient to pay the usual charges; no shopkeepers admitted nor servants earning more than £10 per annum	—	Good	Approved by Committee and M.O.; not in receipt of Poor-law relief	Adults 1½d.; reduction for families	—

(D) Medical Staff.

Provident Dispensaries.	System of Payment of.	Mode of Selection of.	Distribution of Work Among.	Duties of.	Rules as to Dismissal of.
I. BATTERSEA	Balance of total payments divided among M.O.'s	By Committee	Pat'ent's choice of district M.O.'s	Attend their patients	M.O.'s appointed annually.
II. BECKENHAM...	86 per cent. of general fund in 1902	—	Do.	—	—
III. BRIGHTON, HOVE, AND PRESTON	Benefit payments divided according to members entered under each	Registered, resident	Do.	Attend his patients and attend meetings if requested	Three months' notice.
IV. COVENTRY	62 per cent. of general fund; share of each not to be more than £400	Registered	Do.	Prescribe, visit, keep register, and manage dispensing department	—
V. EALING COTTAGE HOSPITAL AND PROVIDENT DISPENSARY	All benefit payments go to M.O.'s	—	Do.	Attendance	—
VI. EAST DULWICH	80 per cent. of benefit payments goes to M.O.'s	Qualified, resident; unconnected with any other dispensary	Do.	Prescribe, visit, keep register, and manage dispensary	Three months' notice.
VII LEICESTER AND LEICESTERSHIRE	1s. 9d. or more per provident member	Registered	Do.	—	Do.
VIII LICHFIELD	Benefit payments divided amongst M.O.'s; also balance of other income	All registered practitioners within three miles willing to act	Do.	Medical and surgical attendance, and ordinary medicine. Not obliged to attend particular cases, but must notify refusal at once	Do.
IX. MANCHESTER AND SALFORD	70 per cent. of ordinary benefit payments goes to M.O.'s	By Committee, with approval of Council	Do., and no M.O. to have more than 1,500 families on his list	Prescribe at dispensary and visit	Do.
X. WALWORTH (BRANCH OF METROPOLITAN PROVIDENT MEDICAL ASSOCIATION	A fixed proportion of benefit payments; also possible share of any annual net surplus	Registered	Patient's choice of district M.O.'s	Attendance at dispensary morning and evening, visit, keep register, and give statistics	Do.
XI. ST. THOMAS, EXETER	—	One M.O. - namely, the M.O. of certain Friendly Societies	—	Attend, prescribe, give medicine	—
XII SALISBURY AND SOUTH WILTS.	Benefit payments divided among M.O.'s according to wards held	Qualified, resident, and approved by Committee	Patient's choice of district M.O.'s	Attend their patients	Three months' notice.
XIII. SIDMOUTH DISPENSARY ..	—	—	Patient's choice	—	—
XIV. TUNBRIDGE WELLS AND RUSTHALL	Total of provident and honorary members' subscriptions after expenses are paid is divided among M.O.'s	Registered and bona-fide practising in district	Do.	One at least attends at dispensary daily and ordinary attendance	—
XV. VAUXHALL AND DISTRICT ..	—	Only one M.O.	—	—	—
XVI. WINCHESTER	Benefit payments divided among M.O.'s	Three is the permanent number Filling of vacancies rests with Committee	Do.	Medical and surgical attendance	—

Provident Dispensaries.	(E) Honorary Members.	(F) Medical Representation in Management. (1) Rule.	(2) Actual Proportion.
I. BATTERSEA	Admitted	All the M.O.'s	36 per cent.
II. BECKENHAM	About forty	Do.	—
III. BRIGHTON, HOVE AND PRESTON	Admitted	Honorary M.O.'s	—
IV. COVENTRY	Do.	All the M.O.'s	—
V. EALING COTTAGE HOSPITAL AND PROVIDENT DISPENSARY	Do.	Do.	43 per cent.
VI. EAST DULWICH	Do.	Six	24 per cent.
VII. LEICESTER AND LEICESTERSHIRE	Do.	Six (who must, however, contribute at least 10s. per annum)	—
VIII. LICHFIELD	Do.	All the M.O.'s	A large proportion.
IX. MANCHESTER AND SALFORD	Do.	Not less than two of the M.O.'s	A small proportion.
X. WALWORTH (BRANCH OF METROPOLITAN MEDICAL ASSOCIATION	Do.	All the (four) Branch M.O.'s	Less than 40 per cent.
XI. ST. THOMAS, EXETER	Apparently no provision	—	—
XII. SALISBURY AND SOUTH WILTS.	Admitted	M.O.'s may attend meetings, but have no vote	—
XIII. SIDMOUTH DISPENSARY	Do.	—	—
XIV. TUNBRIDGE WELLS AND RUSTHALL	Do.	All the M.O.'s	21 per cent.
XV. VAUXHALL AND DISTRICT	—	—	—
XVI. WINCHESTER	Admitted	All the (three) M.O.'s	[illegible] per cent.

No.	Object.	Wage limit, etc.	Payments.	Services.	Arrears.	Extra Services.	Hours.	Distance.	Supplies.	Health on Joining.
1	To enable work[illegible]	Mechanics labourers and other workmen unable to provide advice and medicine in time of sickness	Quarterly in advance; 3s. 6d. each man, woman, and children dependent; 1s. 6d. single woman, 3d. each child to 15 years	Exclude midwifery, surgical operations, fractures, dislocations, severe injuries, attendance on domestic servants in service	3 months arrears; exclude for further 3 months	Fees not specified	9-10 a.m.; messages before 9 a.m.	Not specified	Own bottles or pay	No benefit for first 3 months.
2	Not specified	Not specified	1s. 1 month, family up to 14 years	Not specified	If subscription not paid monthly excluded from benefit.	Midwifery 15s. to 21s. cash; engagement must be made 3 months in advance. Vaccination 2s. 6d cash	9.30-10.30; 7-8	Moderate distance; specified terms if beyond	,,	Good health.
3	[illegible]	21s.	1s. entrance, 1½d. week	Exclude surgical operations, midwifery	Arrears exclude from benefit	As 1	9-9.45; 2-2.30; messages before 10	Not specified	,,	Not specified.
4	Intended for working classes of limited means	After 3s. increased subscription	Weekly or monthly in advance	Exclude surgical and dental operations, accidents, confinements vaccinations, and certificates	4 weeks exclude	,,	9-10; 6-7	,,	,,	Sound health, 1 month probation; 7s. 6d. for immediate attendance.
5	Not specified	Not specified	1d. weekly collection	Exclude operations, surgical and dental work, confinement and 1 month after	,, ,,	Night and late day visits extra	10-11; 6-8	,,	,,	Benefit 1 month after entrance.
6	To enable work[illegible]	Nil	1½d. week or 6d. month	Exclude midwifery, vaccination, surgical operations and disease due to misconduct	Arrears exclude	Not specified	9-11; 6-8; messages before 11	,,	,,	Good health, under 50.
7	Not specified	Not specified	2s. 6d quarterly in advance	Not specified	,, ,,	,,	9 10; 10 for messages	,,	,,	Sound health.
8	[illegible]	Working men, women and children. 35s.	Quarterly in advance; 5s. per member per annum	Medical attendance and medicine	14 days exclude; fine of 6d. re-admits	Reduced fee for midwifery and accidents of a special character	Surgery hours	,,	,,	Medical examination fee 6d.
9	Not specified	Only people who can[illegible] not afford to pay	Payments made quarterly, in advance. 1s. 6d. persons above 14 years, 1s persons below 14 years	Exclude confinements, fractures, surgical operations, extraction of teeth, diseases due to mal-conduct. If members unable to come to surgery, visited in own houses	1 month arrears exclude from benefit of club	Fees not specified	9 10 a.m., 6-7 p.m.	,,	Own bottles	Not specified.
10	Same as above	Not specified	Quarterly subscription paid in advance of £1 1s. by each family; boys in employment to pay extra	Attendance and medicine. Exclude confinements and cod-liver oil	If subscription not paid regularly, forfeit attendance and medicine	Not specified	9-10.30 a.m., 6-7.30 p.m. Sunday, urgent cases only	,,	,,	Person wishing to become a member, and having sickness in house at time, to pay an entrance fee of 10s., which will entitle him to one month's attendance and medicine.
11	,, ,,	,,	9d. a fortnight	Attendance and medicine for each member and family, excepting adult sons (18 years) who are working	Same as 9	Confinements, 15s., anaesthetics, 10s. 6d., vaccinations, 2s 6d., tooth extraction, 1s., fractures and surgical operations, according to circumstances of case	9-10 a.m., 5-6.30 p.m. Messages before 10 a.m.	,,	,,	Six payments before entitled to attendance.
12	,, ,,	,,	Monthly subscription, paid in advance, of 1s by each family; boys under 18 and working to pay 6d. a month	Attendance and medicine, except cod-liver oil and confinements	1 month's arrears forfeit attendance and medicine for that month	Confinements, 10s. 6d.	9 - 10.30 a.m., 6-7.30 p.m.	,,	,,	Any person wishing to become a member, and having sickness in house at time, to pay entrance fee of 5s., which will entitle him to the month's attendance.

13	"	"	Only residents in village	1d. weekly	Not specified	3 weeks' arrears no longer entitled to benefit but on paying up arrears allowed entrance again	Not specified	8.30-9.30 a.m.	"	"	Sound health.
14	"	"	Families whose pecuniary circumstances necessitate easy way of providing for sickness	Not stated	Medical and surgical attendance, and medicine, confinements, surgical instruments and appliances extra	If in arrears family out of benefit	"	Before 10 a.m., after 6 p.m., messages before 10	"	"	
15	"	"	Not specified	Entrance fees 2d., subscription 1d. weekly in advance	Attendance and medicine Exclude surgical operations, accidents, confinements	1 month's arrears excludo from benefits	"	9, 10.30 a.m.; 6, 7.30 p.m., Sundays excepted. Message received after 10; visit charged 2s. that day. Visits between 10 p.m. and 8 a.m., 3s. 6d., payable at time.	"	"	Sound health.
16	Not specified.		Only persons who cannot afford to pay	Man or woman, 1s. 6d. per quarter; child under 14, 1s. per quarter; families with more than 4 children (mother included), 5s. per quarter	Fractures, dislocations, confinements, miscarriages, teeth extraction, extra	In arrears, not entitled to attendance, and fined 2d. a month. If three months in arrears, struck off list. Whole family must join or the rate of payment increased	"	10 a.m.; messages before 11 a.m.		Not stated	Good health.
17	"	"	Not specified	Man, wife, and family, 3s. 6d a quarter; single member, 1s. 6d. a quarter, in advance (members not paying in advance and on certain dates will be fined 1s. on paying next subscription); children over 14 years either as separate members or private patients	Midwifery, fractures, extra		"	Before 9 a.m.; visits in homes after 9 a.m., charged for the first visit (except accidents or illness)		Own bottles, bandages, and trusses	Not specified.
18	"	"	Only persons who cannot afford to pay; domestic servants not usually eligible	1s a quarter above 14 years 6d. a quarter under 14 years; 6d fine if payments not made on certain days	Exclude confinements, fractures, surgical operations, or extraction of teeth	In arrears, not attended	"	2 and 3 p.m.; messages at surgery between 9 and 9.30 a.m.		Own bottles	
19	"	"	Not specified	Member, 1d. a week; family of 9, 7d a week; family of 8 6d. a week; family of 7, 5d a week; member selected out of family, 2d a week	Vaccination extra; confinements not attended by doctor; forfeit attendance for following month; teeth extracted gratis	Six weeks' arrears, cease to be member	Vaccination, 1s. 6d.	9 and 10.30 a.m.; 6 and 7.30 p.m., Sunday 8 p.m., messages before 10			
20	"	"	" "	Subscriptions paid in advance, quarterly, half yearly, or yearly	Patients too ill to attend surgery visited in own homes			9 and 10.30 and 7 and 8 p.m., urgent cases only on Sunday		Own bottles	
21	"	"	" "	Not specified	Exclude confinements, vaccination, teeth extraction, broken bones, dislocations, surgical cases, and special journeys in cases of emergency	If in arrears, not entitled to attendance	Not specified	9 to 10 a.m., 6 to 7 p.m.; messages before 10		Own bottles	
22	"	"	Persons over 4s weekly children, families of manufacturers, tradesmen earning over 30s a week not admitted			If in arrears, no benefit		Before 10 a.m.; messages before 10	Not beyond district governed by Urban District Council		Good health, sound constitution; no benefit for 6 weeks.
23	"	"	Not specified	3d a fortnight, family including parent and children to 16 years; above 16 years, 3d a fortnight; entrance fee 1s.	Extra surgical operations	Three payments in arrears do not receive advice or medicine until arrears are paid	Surgical operations charged extra	Surgery hours messages before 10 a.m.; Sunday, urgent cases only		Own bottles	Two payments before receiving benefits.
24	"	"	Not specified	1s a quarter per member in advance on certain days			Before 10 a.m.		Own bottles		
25	"	"	Only persons who cannot afford to pay	1s annually for adults earning less than 10s a week 3s 6d in addition for every 10s above that sum; 3s for children under 14, to be paid quarterly in advance			At three surgeries at 8.30 a.m., 10 a.m., and 9 a.m. respectively		Own bottles		

Name.	Objects and Benefits Provided.	Conditions of Admission.			Contributions.		Medical Staff.		
		Weekly Wage Limit.	Health.	Other Conditions (if any).	Ordinary Benefit (per Week).	Special.	System of Payment of.	Mode of Selection of.	Distribution of work among.
1. The Public Medical Service Coventry	"To provide efficient medical attendance, at a small weekly payment, for members of families resident in Coventry and Stoke, whose average annual income does not exceed 3os. per week"	30s.	Good (or entrance fee of 10s. 6d.)	10s. 6d. entrance fee if over 60 years of age, results of misconduct excepted	1d.	Over sixty years, 10s. 6d.; 1l1 on admission, 10s. 6d. Cards charged for.	Profits divided quarterly as shall be decided by Committee of Management	On proposition of member—that is, medical officer—and two-thirds majority of Committee of Management Medical man commencing practice in Coventry without an introduction shall not be eligible for election to the service during his first year of residence in the city	Choice of patient.
2. Eastbourne Provident Medical Association	"To enable those persons within the Borough of Eastbourne who cannot pay for medical attendance at the usual charges to secure for themselves and their families the advantages of medical attendance, advice, and medicine during illness"	20s. (single persons) 35s. (families)	Good, ascertained by medical officer, otherwise extra fee	Not Poor-law; results of misconduct excepted	2d. (adults); 1d. (children under 14). Reduction for families whose incomes do not exceed 25s.	Confinement fee, 15s. (prepayable). Premature same rate. Proviso regarding confinements, fractures, dislocations, and major surgical operations, £1 to £5 scale.	Receipts, minus working expenses divisible among acting medical staff, proportionately to number of members on their lists	Any registered resident practitioner (not practising as a homœopath), subject to approval of Committee. Medical officers must have no private clubs unless at higher rates. Medical officers must have no professional intercourse with a medical aid society, etc., which canvasses in the interests of individual medical men, or which sweats medical officers	Choice of patient.
3. Hartlepools Public Medical Service	To provide medical attendance (and medicine?)	30s.; but each case on merits	Good, ascertained by medical officer	5s. entrance fee if over 60; no benefit included during confinements, or one month after. Results of misconduct excepted	1d. (adults); ½d. (children under 14); whole family subscription not to exceed 6d.	Lowest confinement fee, 15s. Surgical operations requiring anaesthetic charged extra.	"His proportion of the funds" payable quarterly to each medical officer	Any members of the Hartlepools Medical Society desirous of acting	Choice of patient.
4. Kidderminster Public Medical Club	To provide treatment and medicine	40s.	Good	Benefit begins after a month's payment has been received. Results of misconduct excepted	1d. (18 per quarter)	Consultations, 5s. The members of the Kidderminster Medical Society accept a fee of 10s. 6d with the officers of their club.	Not stated	Not stated	Choice of patient.
5. Norwich Public Medical Service	"To enable those persons within the City and Suburbs of Norwich, who cannot pay for medical attendance at the usual charges, to secure for themselves and their families medical attendance, advice, and medicine during illness, with the advantage of a selection of their medical attendant"	25s. (single) 30s (families): but each case on merits	Good: treatment required during first month after admission 5s extra	Visiting fee charged if message not received before 10 a.m. Results of misconduct excepted	1d.; family subscription not to exceed 6d. New members above 60 years, 2d per week. Admission fee 6d. (family or individual)	Lowest confinement fee, 21s.; miscarriage, 10s. 6d Fractures, dislocations, operations, vaccination, and operative dentistry are extras.	After working expenses and reserve deducted, balance divisible quarterly among acting medical officers according to members on their lists	Such members of the Norwich Division of the British Medical Association as are willing to act	Choice of patient, but each member of acting medical staff has the right to refuse to receive on his list any individual
6. Southampton Provident Medical Association	"To provide medical attendance and medicines for persons unable to pay the ordinary medical fees"		Good, ascertained by medical officer	Benefit ceases if more than a fortnight's arrears; membership ceases if four weeks' arrears, then extra 1s payable to rejoin. Results of misconduct excepted	1½d. (in advance)	Midwifery, vaccination, fractures, etc., are extras.	On deduction of working expenses and a sufficient reserve, money divisible among medical officers in proportion to number of patients on their lists	Any registered medical man (not practising homoeopathy) who will join	Choice of patient.
7. Taunton Provident Medical Association	"To enable such persons within the Borough of Taunton as cannot pay for medical attendance at the usual rates to secure for themselves and families the advantages of medical attendance and medicine during illness"	20s. (single) 25s. (families)	Good, and for one month after	Messages before 10 and 1 a.m.: subscriptions in advance	1d. (adults); ½d. (children)	Membership card 2d.	Not stated	Not stated	Choice of patient.

E.—REPORTS ON CONDITIONS OF CONTRACT PRACTICE, AND ACTION TAKEN BY LOCAL MEDICAL SOCIETIES WITH A VIEW TO REFORM, IN VARIOUS DISTRICTS.

ABERDARE DISTRICT.

ABOUT four years ago the medical men of the Aberdare Valley met to discuss the question of raising the poundage at the collieries from 2d. to 3d. in the pound. The colliery doctors invited the private practitioners and those holding club appointments, and it was agreed that an increase in the poundage for colliers should be demanded, also that for clubs their fees for midwifery should be raised from 10s. to £1 1s. and attendance on families from 10s. per annum to 20s., and those families who paid a guinea to £2 2s.

After a great many meetings the colliers yielded: by this union amongst medical men all of us profited to the extent of 50 per cent.

In the district of Aberaman about eight months ago the members organized a fund to form the appointments in that district, and four medical men were found who accepted the positions. The rules, regulations, and low salaries were such as to constitute a gross piece of sweating and exploiting the labour of the medical officer.

With the invaluable aid of the South Wales and Monmouthshire Branch, the local practitioners combined, and the whole thing is crumbling to pieces, if not already defunct.

Two medical men resigned as soon as the position of affairs was explained.

The colliers now can see what a serious position they are in, inasmuch as no member of the Branch will meet any one of their staff in consultation. I venture to say that the status of medical men has gone up 50 per cent. since this combination and union amongst us.

EVAN JONES, Aberdare,
Member of Council, South Wales and Monmouthshire Branch.

BIRMINGHAM.

THE first attempt to organize the profession in Birmingham with the idea of improving the conditions and terms of contract practice took place in 1867, when a strong Medical Committee was formed, and supported by prominent laymen, to deal with the matter. Every local practitioner was pledged to take no contract work unless the rate of pay was raised to 5s. per head per annum, and the taking of the pledge was practically universal. The rates for contract work previously existing varied from 2s. 6d. to 3s. 6d. per annum, with a decided predominance of the former figure, rates which obviously justified the effort. The Friendly Societies, however, resisted, and by offering to two practitioners a combination of the clubs at the previous rates, found the weak spot in the Medical Union; their terms were accepted by these practitioners, with the result that every one else who held contract appointments signified his intention of taking them at the old rates.

Several more or less isolated efforts were made by the medical staffs of various societies since that time to improve their position. The *modus operandi* was usually a round robin, signed by all the members of the staff, asking for better pay, and this was occasionally successful, but if refused by the clubs petitioned it was found that no further action could be taken, and the matter dropped.

In 1899, however, the local profession was deeply stirred by the action of the Hospital Saturday Committee and Mr. Arthur Chamberlain, who proposed to give to the working classes the benefits of the advice of a universal consultant at the cheap rate of 10s. 6d. per consultation. The local consultants at once united together, under the leadership of Professor Saundby, to oppose such obvious injury to their livelihood, while the general practitioners, who resented the imposition of an unknown consultant upon them, through his appointment as consulting medical officer to their clubs, were equally determined in their opposition to the scheme, the more so as it was flagrantly advertised by pamphlets reflecting on their professional capabilities.

The consultants, it was felt, were able to take care of themselves, as was soon made apparent by the utter failure of the attempt, but the practitioners had no organization to fight for them. Thus was founded the Birmingham and District General Medical Practitioners' Union, a body which still exists, and which has done much useful work for its members. The first object of the Union is "To provide an effective organization for the purpose of dealing with all matters affecting the interests of general practitioners." Hence, naturally, one of the subjects it has had to deal with has been "contract practice." It was felt, however, that the Union could not apply to the clubs at once for an improved rate of pay, but that some reasons must be adduced to justify the demand. Accordingly all the members of the Union who had clubs were asked to keep statistics for the year 1902, detailing the amount paid per head, the number of consultations, visits, and medicines, etc., and to report to the Executive Committee. Many did so, and the report was adopted and published in the *Midland Medical Journal* (the organ of the Union) in May, 1903. Briefly summarized, the conclusions of the Committee were as follows: Taking as a standard the average rate of pay charged in private practice locally to patients of a similar standing, that is, 2s. 6d. per visit, and 1s. 6d. per consultation or mixture, it was found that the payments made by the clubs only realized 65 per cent. of the total, and, therefore, that an increase of 50 per cent. was justified on the rates of club pay. The average rate paid by the clubs whose statistics had been taken was 3s. 4d., and therefore 5s. should be the figure that should be paid. As 1902, however, was an exceptionally healthy year, 6s. was the amount the Committee recommended should be asked. It was, however, soon found that this recommendation could not be enforced; the Union did not feel strong enough to fight the clubs *en bloc* on the matter, feeling that outside men would soon be imported who would take the appointments at the old rate, and the last state would be worse than the first. Accordingly, the Council of the Union were only able to pass the following resolution: "Clubs should not be accepted at a lower rate than 4s. per head per annum," with the qualifying addition to the code (which was throughout permissive in character, *i.e.*, the word "should" was used instead of "shall"). "This code is intended as a guidance in the formation of future contracts, but need not necessarily apply to existing contracts." The full code is printed in the *Midland Medical Journal* for August, 1904. The result hitherto has been practically *nil*, speaking generally, for the Union, though in certain of the "wards" of the Union where every practitioner without exception was a member the code has been carried out in its entirety.

The lessons to be learned from these attempts, it seems to me, are that no organization, however perfect, which is only local, can effectively deal with the important object of improving contract rates and conditions, and that the only hope of amelioration lies in the British Medical Association, which can prevent practitioners from outside districts coming in to thwart the efforts at improvement made by local Divisions. The Birmingham and District General Medical Practitioners' Union is an unregistered body, which cannot enforce its rules upon its members, but the British Medical Association has in many of its Divisions passed rules referring to professional conduct in relation to contract practice and appointments, which have been approved by the Ethical Committee and Council of the Association, and which have already in several districts achieved all the success which could be desired.

E. D. KIRBY, Honorary Secretary,
Central Division, Birmingham Branch, British Medical Association; Vice-President, Birmingham and District General Medical Practitioners' Union.

COVENTRY.

Although I, personally, from time to time, during the last thirty years have fought against the abuses of the Coventry Provident Dispensary, it was not until 1892 that any organized attempt was made to deal with them, and if possible bring about some measures of reform.

In that year a meeting of all the medical men in Coventry was called to discuss the question of a wage limit in connexion with the Provident Dispensary and certain clubs, when it was resolved that some measure of reform should be adopted, taking the form of the establishment of a wage limit, and a committee was formed.

Another meeting was held shortly afterwards to receive the report of the committee, when a note was read from a member of the dispensary staff, stating that his colleagues had unanimously resolved to take no part in the matter.

After a good deal of correspondence and negotiation, however, all the members of the profession, except two, met again in March, 1893, and it was agreed that a deputation should lay before the Provident Dispensary Committee the following resolutions which indicated the wishes of the profession:

1. That a wage limit of £2 income weekly, per family, should be established.
2. That the existing rule respecting consultations should be altered in order to give the dispensary staff the same freedom that they enjoy in private practice.
3. That each child should be charged 1d. per week.

The deputation was received and listened to, and then bowed out without comment.

About this time a Public Medical Service was formed, to which any medical man practising in Coventry might belong; the management of it was entirely in the hands of the profession, the fees were a penny a week for each individual, and there was a fixed wage limit of 30s. A collector was employed, necessarily, and therein lay the difficulty of controlling abuse, but I am told that he has the strictest orders not to canvass.

Some three years ago a meeting was held in St. Mary's Hall, at which the Provident Dispensary Staff was not represented, under the presidency of Mr. Langley Browne, for the purpose of fixing a tariff for clubs and Friendly Societies, and all who were present agreed to a minimum of 4s. per head per annum.

Since the new constitution of the British Medical Association came into action, and with it the creation of the Coventry Division, there has been greater unanimity amongst the members of the profession, and almost all practitioners interested in contract practice have come into line as regards a minimum fee of 4s. per head. The various clubs and Friendly Societies have been notified of this decision, and, with the exception of the juvenile branches, have for the most part accepted the terms.

The results, so far as one can at present judge, have been satisfactory, and the objects of the agitation attained.

The profession seems to have at last grasped the idea that union is strength, is acting upon it, and its position locally is distinctly improved.

At the last meeting of the Division a resolution was proposed and carried by a large majority (there being only two dissentients), "That no member of the Division should apply for the post of medical officer to a club or Friendly Society."

The above I believe to be a correct and "impartial" history of the action taken by the profession here during the last 14 years.

J. Milner Moore.

CLUB PRACTICE IN DUNDEE.

There are in Dundee some thirty clubs or courts connected with the various Friendly Societies. In 1895 the question of club practice was brought before the Branch as the outcome of several complaints by members and the receipt of a letter from the Northern Counties of Scotland Branch. At that time in most cases the rate of payment for medical attendance, with medicine, was 2s. 6d. a year per member, with, in some instances, a fee of 1s. for the entrance examination. After full discussion, a series of resolutions as to minimum fees was adopted. These were then placed before a conference of the Branch with the representatives of the Friendly Societies, and afterwards referred to the clubs individually. In the meantime the members of the profession, whether members of the Association or not, were asked to sign an agreement that in the event of a dispute between a club and its medical officer about the new minimum scale they would not accept the appointment. This was almost universally signed. The issue was that in the course of a year all the clubs, with one exception, were paying the new rates. In this exceptional case the medical officer resigned, and, unfortunately, one of the men who had signed the agreement accepted the post. His appointment lasted about two years, when it was determined, for apparently personal reasons, and the club appointed a new officer at the revised rates. Here, as elsewhere, the junior members of the profession were proved to be absolutely loyal. The minimum rates at present in force are: Entrance examination, 1s.; medical attendance without medicine, 2s. 6d.; and with medicine, 3s.

No medical aid association has succeeded in getting a footing. There is very little complaint as to persons financially unsuitable taking advantage of the club system.

R. C. Buist.

COUNTY OF DURHAM MEDICAL UNION.

(Report kindly supplied by the President and Secretaries of the Union.)

The above Union was founded in December, 1898.

The officers consisted of a President, Vice-President, a Council of twenty-two members (representing the various districts in the County of Durham), and Secretaries and Solicitors.

Dr. E. Jepson, of Durham, was the first president, and, in the seventh year of the Union's existence, is still president.

The objects of the Union were (*inter alia*):

(*a*) To protect the interests of members of the Union in every respect, but more particularly from unfair competition, and from any attempts that might be made to induce or compel medical practitioners to accept insufficient remuneration for professional services.

(*b*) To establish and maintain minimum rates of payment for medical contract work in relation to miners, and all classes of workmen, members of Friendly Societies, sick and other clubs, lodges, insurance and other companies and societies.

As soon as possible Local Committees were formed in districts where there were any existing Local Association of Medical Practitioners, or groups of practitioners, with full authority to direct and control their own local affairs, subject to all questions of special importance being referred to the Union and governed by the rules thereof, such local Committees being allowed by the Union reasonable expenses for carrying on the work of the Union.

Each local Committee had a chairman and an honorary secretary.

Later on, when a number of these local Committees had been established, a rule was passed empowering them to recommend one or more members for election on the Council of the Union, and so obtaining thereby a thoroughly representative Council.

The colliery workers were the first to be approached for an increase of remuneration, the maximum fortnightly payment then being 6d.

It was resolved to raise the subscription from 6d. to 9d., and notices, setting out fully the reasons for requesting the increase, were sent to the Secretaries of all the Miners' Lodges in the county.

Many of the collieries acceded to the request at once, but others, led by a few agitators among the men, absolutely refused.

It therefore became evident that local organization was necessary, and in any district where it was desired to raise the subscription from the workers at the collieries a meeting of the local Committee was held, attended by the President and Secretaries of the Union, and formal request for an increased rate of pay was drawn up, setting out reasons for the application, and, where possible, this notice was signed by all the medical practitioners of the district acting in unison.

This notice was generally printed when complete and distributed in the district.

In the event of the request being refused, the medical men declined to attend the patients so refusing.

In some instances the result of this action was to cause the miners to advertise for another medical man of their own.

The Union then inserted counter-advertisements in the newspapers and medical journals, warning outsiders to seek information from the Secretaries before accepting one of these appointments, and it was found that all medical men of any repute invariably did so, and, on hearing the circumstances, withdrew their application.

However, in some isolated cases outsiders were obtained by the miners, but they generally were of such a type that they did not remain very long.

They were, of course, ostracized, both socially and professionally, by the other man in the particular district, and also could not obtain the help of consultants who knew the circumstances.

The result of this uniform action on the part of the doctors was generally most satisfactory, and a great many doctors in the county at the present time have increased their incomes by 50 per cent., although there are also others who have lost heavily by their loyalty, but are continually regaining their patients at the increased remuneration.

If opposition did arise to prevent the carrying out or the obtaining of all that was requested, it was often of a weak and unreasonable nature, and in some cases disappeared.

In some cases, when thought desirable, deputations of miners were met by deputations from the Union to discuss the reasonableness of the demand, but in the majority of cases no great benefit accrued from them owing to the obstinacy of the miners' representatives.

Friendly Society lodges and members of Family Clubs in the towns were also approached in a similar manner by the respective Local Committees.

In one or two of the towns the Lodges formed a Friendly Societies' Medical Association, with a salaried medical man, but in the end they did not flourish.

In some of the towns, and also in some of the country districts, the midwifery fee has been fixed at a minimum of 15s.

In some districts it has not been feasible to raise all the fees, owing to special circumstances, etc., but it is only a question of time before the desired result is attained.

The fact of there being a Union of medical men has produced a good effect in the minds of the industrial classes, who are so thoroughly conversant with Trade Unions; and also the fact of the Union having the services of an old-established firm of solicitors as paid Secretaries added much strength to the Union.

EAST KENT.

REPORT OF COMMITTEE APPOINTED BY THE EAST KENT DISTRICT OF THE SOUTH-EASTERN BRANCH OF THE BRITISH MEDICAL ASSOCIATION, "TO INVESTIGATE THE CONDITIONS UNDER WHICH CONTRACT PRACTICE IS CARRIED ON IN THIS DISTRICT."

130 out of about 200 medical men practising in East Kent replied to the list of questions sent out by this Committee, and a large amount of useful information has been collected.

Of the 70 medical men who ignored our Circular, a certain number, having no Contract Practice, doubtless thought it useless to take any part in the matter. We believe that these form at least half of those from whom we received no reply. Others may, in the press of work, have overlooked it, whilst a few, from suspicious or pessimistic frames of mind, have neglected to assist us.

We congratulate ourselves on having obtained the opinions of those who form the largest and most influential part of the profession, and we feel confident that, if the conclusions at which we have arrived were adopted by the majority, the minority would follow in due course.

There is at present no generally-accepted code on the subject of Contract Practice, so that many practitioners are at a loss to know whether they are doing right or wrong. There is a hazy notion that there are limits beyond which the General Medical Council may take action, but no definite rules. We hope that the conclusions we have adopted will be accepted and acted upon by all medical men in the district and regarded as a standard as to the methods of conducting Contract Practice.

On classifying the answers sent to the circulars, we found that 73 medical men took Contract Practice in some form or other, and that 36 did not. The circulars or letters in the remainder gave such indefinite information that we have omitted them from our consideration.

Friendly Societies.—We find that 55 out of the 73 hold Friendly Society appointments, but that only 14 attend women belonging to Friendly Societies. The fees vary from 4s. to 10s. per annum.

In 30 practices	the fees is	4s. 0d. or 4s. 4d.	per annum.
,, 19	,,	5s. 0d.	per annum.
,, 10	,,	6s. 0d.	,,
,, 2	,,	7s. 0d.	,,
,, 2	,,	8s. 0d.	,,
,, 2	,,	10s. 0d.	,,

The Juveniles belonging to Friendly Societies pay a fee of 2s., 3s. 6d., or 4s. per year. It is a curious fact that, in some districts, a medical man receives different fees from various clubs, thus attending some at a lower fee than others.

Private Clubs.—These exist in connexion with 41 out of the 71 practices. The fees are:

In 11	practices,	4s. 4d.	per annum.
,, 10	,,	6s. 0d.	,,
,, 6	,,	5s. 0d.	,,
,, 4	,,	6s. 6d.	,,
,, 3	,,	7s. 0d.	,,
,, 2	,,	10s. 0d.	,,

In the remainder, 8s. 0d., 12s. 6d., and 15s. 2d. per annum.

In a few cases, the wife and family are charged 1s. a month. The Collector's commission, however, has in many cases to be deducted from these amounts.

Women and children are admitted in these private clubs.

There are a few instances in which private clubs are carried on in connexion with the Premier Medical Aid, the London and Manchester Assurance, and the Victoria Legal Societies.

Estimate per Visit, etc.—It appears that medical men seldom keep any record of Contract work, as in two practices only are estimates given. In one practice with Club fees at 6s. a year, it worked out at 1s. 2d. per attendance, and in the other, at 4s. a year, the sum of 1s. 9¾d. is given. It is very necessary to keep accurate records of the amount of work done, and the Committee earnestly hope that the registers sent out to over 50 practices will be accurately kept, and the result sent to the Secretary at the end of the year; mere surmises are of no use, and if any general rise of Contract fees is to be attempted, it is absolutely necessary to be able to *prove* that present fees are inadequate.

The fact that in the two cases mentioned, the one with the higher fees gave the lowest remuneration for actual work done, would seem to show that the records have been irregularly kept.

Collectors.—These are employed in 17 out of the 41 private clubs. In the remaining, the fees are paid at the medical man's house.

Organization.—All are favourable to local combination.

Opinion of Contract Practice.—Taking the 130 who responded as a whole, we find:—

76 are against Contract Practice as at present carried on.
35 express no definite opinion.
19 believe Contract Practice beneficial to the Profession.

With regard to the *Wage Limit*:—

35 approve of it.
28 believe it impracticable.

Many suggestions are made, some very good and some quite impracticable. We have taken advantage of these in drawing up our conclusions.

CONCLUSIONS.

The Committee is of opinion that, speaking generally, Contract Practice should be discouraged as being detrimental to the interests of the profession, but, as its abolition at present would be impossible, we offer the following suggestions to improve the conditions under which it is carried on.

1. (*a*) That in Friendly Societies, men only should be taken in the Contract. Women (especially married women) should not be accepted.

(*b*) The medical officer should have absolute discretion as to whom he admits to the Contract. No medical officer should accept any member who has been refused by another medical officer on the grounds that he is able to pay for ordinary attendance.

(*c*) A uniform fee should be charged to all the clubs in the locality.

(*d*) The minimum fee should be 6s. per annum for members living within two miles (by road) of the doctor's house, and members living beyond this distance should pay for each visit an extra fee of 1s. a mile (or part of a mile) for any distance over the two miles.

(*e*) We consider that the custom of appointing one or more medical men as sole medical officers to the clubs in the locality is one that ought to be abolished. It has doubtless arisen from the conviction that club practice is only profitable when the number of members is large, but with a rise in the fees paid by each member, this consideration becomes of less importance. We think that every member of a Friendly Society should have, as is the case at Faversham, the option of choosing his medical man, from such as are willing to accept Contract Practice, at the beginning of each year, or some other convenient period. The Friendly Societies might be the more willing to raise their fees if it gave their members the option of selecting their medical attendant, and the present medical officers to the Friendly Societies would gain,

inasmuch as, although they might possibly have less members to attend, the increase in fee per member would safeguard them from pecuniary loss.

2. Whilst holding the opinion that Contract work which includes women and children is unremunerative and detrimental to the profession, we recognize that there are many people who are unable or unwilling to pay ordinary medical fees. To avoid bad debts and to diminish the clerical work of a practice, it is of advantage to have a local dispensary or Provident Medical Club. This should be managed by the medical men of the locality as a Committee. The Eastbourne Provident Medical Association is an excellent example of this, and a good model to go upon. No lay control should be encouraged, and the medical men should be the sole judges as to who should be admitted. The fees should be on a slightly higher scale than those of the Friendly Societies. Where such a dispensary or Provident Medical Club exists, no medical man should be connected with any so-called private club, but every medical man practising in the locality should, if he wishes, be on the staff of the dispensary or Provident Medical Club.

3. With regard to collectors, we think they should not be employed either for Provident Dispensaries or Private Clubs, but that a Secretary should be appointed to receive the weekly or monthly subscriptions at his office. The objections to collectors are that they are always open to a suspicion of canvassing and are apt to encourage Contract work to increase their commission, and that they are often prejudiced in favour of one or more medical men.

4. With regard to the National Deposit Friendly Society, we consider the general principles are on the right basis, but that some of the fees, especially the 1s. for intermediate visits, and the mileage fee of 6d. beyond two miles, are absurdly low. We recommend that members of this Society (who are often able to pay ordinary fees) should be asked to pay the excess over and above the scheduled fees out of their own pockets. This recognizes the principle that both Society and patient should bear a share of the cost of medical attendance.

5. We suggest that an abstract of this Report, if adopted, be sent to the British Medical Journal and the *Lancet*, and that a copy be sent to each member of the General Medical Council, and to every medical man practising in East Kent.

We regard it of great importance also that the Council of the British Medical Association be asked to consider the question of drawing up, printing and circulating a code of ethics for Contract Practice, and of appointing officials to visit and advise, when requested, localities desirous of adopting combined action as to Contract Practice.

We also think that as a very small proportion of young medical men have, since the abolition of the apprenticeship system, any opportunity of becoming acquainted with the customs and ethics of general medical practice, it is most desirable that the British Medical Association should furnish every newly-qualified man with a copy of such code.

GREAT YARMOUTH.

The Work of a Local Medical Society.

(Abstracted from an address delivered at the annual meeting of the East Anglian Branch, July 10th, 1902, by William E. Wyllys, L.R.C.P., L.R.C.S.Edin., President of the Branch. See British Medical Journal, July 26th, 1902, page 236.)

The immediate cause of the formation of the Yarmouth Practitioners' Association was the necessity of dealing with that terrible bugbear of the profession—contract medical practice. It was becoming abundantly clear that without organized combination we as a profession were perfectly helpless in the hands of large and powerful bodies of the public.

The larger Friendly Societies, here as elsewhere, had gradually assumed a dictatorial and aggressive attitude towards those practitioners holding their appointments, and, having already from time to time added to the work and worry already inadequately remunerated under the old régime, now sought to make matters still worse by insisting on including in the duties of the club doctor the attendance, at altogether inadequate rates of payment, on the wives and families of the members. Failing the acceptance of this scheme by the club surgeons, they were threatened with dismissal from their posts, in several instances after twenty or twenty-five years' service; and a medical institute was to be formed, officered by medical men imported by and restricted to the service of the Amalgamated Friendly Societies.

Early in 1896 a meeting of the profession was called by several representative practitioners, which was so well responded to that almost every doctor practising in the borough attended. Just at this time the Incorporated Medical Practitioners' Association had issued to the profession at large a circular letter, calling attention to the advantages of such a union as we were already contemplating, though in some difficulty how best to achieve, and the movement thus originated resulted in the establishment of the Great Yarmouth District Committee, which commenced by enrolling, with one exception, every practitioner in Great Yarmouth. Our first president was the late Mr. T. H. Moxon, a man of high standing and great personal influence and popularity with his *confrères*, who, entering into the movement *con amore*, and bringing to bear his experience, tact, and judgement, and a large capacity for work, contributed very largely to the successful establishment of the Society.

The consideration of the threatened rupture with the Friendly Societies was the first important business which the newly-formed Union was called upon to transact. A circular letter was addressed to all the benefit societies operating in the borough, courteously pointing out the many grievances under which club surgeons were labouring, such as the introduction of juvenile members, of medical aid societies for wives and girls, and the growing practice of the admission to medical benefit of men and women in good social and financial positions, many of whom avowedly joined for the sole purpose of obtaining the services of the medical officer at the low rate of payment which he accepts from the working classes. The Committee drew up a code of terms at which it was agreed to attend club members in the future, and which thus dealt with the vexed question of a "wage limit."

> The surgeon to be free to use his discretion as to the admission to medical benefit of any candidate or member whose means are obviously ample enough to enable him to pay with ease ordinary medical charges.

A conference of delegates of the Friendly Societies with the medical men of the borough was requested, but the clubs refused to entertain the proposals made, and entirely ignored the invitation to meet the medical men in conference to endeavour amicably to adjust differences.

The Yarmouth clubs now dismissed their medical officers and devoted themselves to the formation of the medical institute. Had our profession been united this institute would never have been established, for no qualified men would have been found willing to lend themselves to such a scheme, and to assist in defeating their medical brethren in a matter involving the vital interests of the profession; but in its inorganized and feeble condition, men were without much apparent difficulty procured for the posts of institute medical officers.

In accepting these appointments they were knowingly cutting themselves off from all intercourse with their professional neighbours, and it is not surprising that in January, 1897, a resolution was agreed to by the District Committee:

> That this District Committee of the I. M. P. A. holds that those medical men who accept the posts of surgeons to the Great Yarmouth Friendly Societies' Institute (considering the circumstances under which it was established) are acting in contravention of the rules and ethics of the profession, and therefore no member can meet such surgeons in consultation, or hold any professional intercourse with them.

This resolution has been strictly adhered to with the one exception of urgency. In cases of real urgency the members of our Society meet the institute surgeons in consultation, but no fee is accepted, and the circumstance is at once reported to our Secretary in writing, and the facts brought before the next ordinary meeting, and entered in the minutes.

Judging from the number of medical officers who have come and gone since its commencement, the institute service has not proved an unmixed delight to those gentlemen who sacrificed their professional prestige to accept the proferred posts! The senior surgeon, however, retained office till the beginning of the present year, when owing, I believe, to an innovation of management involving a decrease of salary, this veteran at length tendered his resignation, and, taking with him one of the institute clubs, commenced practice in the borough. One other club has also since seceded, and returned to its old medical adviser; and one not infrequently hears rumours of others desirous of adopting the same course.

In December, 1896, a subcommittee was appointed to consider the question of the establishment of a provident dis-

pensary. This Committee, having gone thoroughly into the question, ultimately reported that in their opinion it was inexpedient at that time to proceed to the formation of a provident dispensary, and the matter was therefore postponed for future consideration. Later on the Committee drafted a pooling scheme, called the "Friendly Societies' Medical Service," which embodies several novel features in respect to contract work, and is designed to meet the requirements of clubs finding it impracticable to remain connected with the institute. The main features in the new scheme are: (1) Instead of individual surgeons holding club appointments, and every member of a club being obliged to be attended by the one club surgeon, each patient shall have the right to choose his doctor from amongst the members of the Association. (2) The entire management of the service would be in the hands of the staff and a paid secretary whom they would appoint. The contributions of members would be 5s. per annum for each adult, and 4s. per annum for each juvenile, to be paid quarterly in advance by the secretaries of club to the secretary of the service.

It would be open for any member to change his doctor on giving due notice to that effect, and each surgeon would have a right to decline to take on his list any member whom he preferred not to attend. This scheme in the meantime remains in abeyance, but, so far as our Society is concerned, is ripe for discussion in a conference between the representatives of the Friendly Societies and the medical men if, and as soon as, any overtures in this direction may be received from that section of the public.

Overtures having been received by some of our members to induce them to accept office with the "National Deposit Friendly Society" the matter was brought up for discussion, when it was resolved:

> That in the opinion of this Society the rules of the National Deposit Friendly Society as they stand would tend to lower the status and fees of medical practitioners, and therefore it is not desirable that the medical profession should formally recognize this Friendly Society unless rules are added providing some guarantee in the nature of a wage limit, with power to the medical officers in each district to enforce the same;

and it was therefore agreed that it would be contrary to the rules of our District Committee for any member to act as medical officer to this Society so long as it had no proper wage limit. As a result the National Deposit Friendly Society has failed to obtain a footing in this borough.

The District Committee next turned its attention to the question of Medical Aid Societies, with special regard to the pernicious system of indiscriminate canvassing inseparable from the methods by which these societies are worked. In furtherance of this object the Yarmouth practitioners addressed a memorial to all the licensing bodies of the United Kingdom setting forth the abuses which had grown up in connexion with the systems of medical aid, especially by certain Industrial Life Assurance Companies and other lay associations. The principal abuses referred to were thus summarized:

(*a*) The admission of persons not needing such assistance to medical benefits intended primarily for the relief of the poorer classes.

(*b*) The admission of women and children to these benefits at entirely inadequate rates of payment for the medical officer.

(*c*) Specially in the case of industrial assurance and similar societies a system of indiscriminate canvassing, whereby the private patients of other medical men are solicited—directly for the company, indirectly for its medical officer.

(*d*) The conduct of medical practice by lay organizations purely as a commercial speculation, this being most flagrant where, as in some cases, the medical officer receives a fixed salary; and beyond this amount the fees accruing from his work are appropriated as the profits of his non-medical employers.

The memorial proceeded to recite how one of our members, who had previously held such an appointment, had resigned it; but in the absence of any declaration as to these appointments by the General Medical Council, or by the bodies granting medical qualifications, the Company readily found and appointed a substitute and so defeated the efforts of the memorialists to remedy this abuse. The memorial further submitted that canvassing by lay bodies on behalf of medical men employed by them was contrary to the first principles underlying proper professional relations, and that appointments depending on such canvassing ought not to be permitted to be held by registered medical practitioners.

The memorial concluded by submitting the following questions to the consideration of the licensing bodies:

(*a*) Is the holding of appointments such as are herein described compatible with the conditions under which your degree or diploma is granted and held?

(*b*) If the holding of such appointments by your graduates or diplomates does not contravene the existing regulations, does not your Council consider that in the interests of the medical profession and of the public by-laws forbidding such practice should be adopted?

(*c*) Is not your Senate or Council of opinion that for a medical man to hold such appointments should be declared by the General Medical Council to be conduct "infamous in a professional respect," and if so will your Council instruct its representative on the General Medical Council to support such a declaration?

A copy of this memorial was also sent to every local Medical Society in the kingdom that we were able to discover, with a letter expressing the hope that each local Society might see the desirability of co-operation and the adoption of measures calculated to bring the abuses complained of forcibly to the notice of the licensing and governing bodies. A copy was also forwarded to the editors of the leading medical journals for publication.

In November, 1897, a member of our Association attended a meeting of the Society of Members of the Royal College of Surgeons of England, and spoke in support of a resolution *in re* Medical Aid Associations, and later on two other of our members attended before the Committee of the General Medical Council for conference with representatives of the Friendly Societies, and in conjunction with two of our Norwich *confrères* gave evidence in respect of the working of Medical Aid Associations in Norwich and Great Yarmouth.

In 1899 the one outstanding member of the profession in private practice here resigned all his medical aid appointments, and, having given up his private medical club, ultimately joined our Society, and from that time it has included all the private practitioners in Great Yarmouth.

In connexion with the canvassing question, the subject of private medical clubs occupied the attention of the Society. These organizations were criticized as being undignified and undesirable, likely to cause friction in relation to the patients of family attendants and to foster a system of canvassing, without which, in some form or another, clubs of this kind cannot exist, and it was agreed that no member of our Association should in future form or carry on a private medical club.

In February, 1900 the Society turned its attention to the Liverpool Victoria Legal Friendly Society, which, in conjunction with the National Medical Aid Company, had imported a medical man in the place of their late surgeon, who, as I previously mentioned, had resigned his medical aid appointments and joined our Association. We resolved to take immediate steps to gather such evidence as was possible in the matter of the medical officership of the Liverpool Victoria Society, and, if evidence of canvassing could be established, that the conduct of the medical officer should be laid before the General Medical Council, as being the only course open to us to put a stop, once and for all, to the system of touting and advertising by which these and kindred societies maintained their existence.

Having obtained the valuable assistance of the Medical Defence Union, we went to work, and with infinite pains and trouble were at length able to procure undoubted evidence of canvassing on the part of the touts in the employ of the Liverpool Victoria Friendly Society. Statutory declarations were obtained substantiating the charges made, and we anticipated that the case would come before the General Medical Council in May, 1901. However, from some unexplained cause and to our infinite disappointment, the hearing was postponed till the following November. In that month the case came on for hearing. Two of our members attended to give evidence in support of their statutory declarations or to submit themselves to cross-examination in the box if called on to do so. The insurance societies had secured the services of eminent counsel—Mr. Lawson Walton, K.C., M.P., and Mr. Charles Mathews—while we were represented by Dr. Bateman, the Secretary of the Medical Defence Union. The case, which was most admirably conducted by Dr. Bateman, occupied the whole of one day and half of the next, and terminated entirely in our favour.

In delivering the verdict of the Council the President remarked that they came to the conclusion that the facts alleged against him had been proved to the satisfaction of the Council. In order to give defendant an opportunity of reconsidering his position, the further consideration of the charge was postponed till the following session, when he would have to appear and satisfy the Council of his conduct in the interval.

In May the defendant again appeared before the General Medical Council, when he informed them that his connexion with the Society had been entirely and completed severed since Lady Day last, and he expressed his regret, and promised that in future he would have no connexion in any way whatever with Medical Aid Societies. Under these circumstances the Council decided to proceed no further with the charge proved against him. The British Medical Journal of June 7th, commenting on this case, remarks:

The action taken in November has had the desired result, not only in this particular instance, but in many other parts of the country. The Council is to be very much congratulated upon the strong stand which it made in this test case; and it is to be hoped that the full significance of the course it has taken will be appreciated by the members of the medical profession, and also by the Medical Aid Societies.

The full import of this award becomes the more apparent when it is remembered that the General Medical Council had (and has) no power to issue an edict that those holding medical aid appointments will be held guilty of unprofessinal conduct; and it was only by adjudicating upon a case brought up for decision, and so establishing a precedence, that the penalizing powers of the Council could be brought into play.

As a result of the Yarmouth case a precedent has been established, and a fatal blow administered to those Medical Aid Societies which owe their existence to a system of touting and canvassing; for medical men will now know what to expect from the General Medical Council, and will carefully abstain in the future from associating themselves with these organizations, which as a consequence will die out.

[Report Referred to Above.]

RULES AS TO CLUBS AND POOLING.

Report of a Subcommittee of the Great Yarmouth District Committee of the Incorporated Medical Practitioners' Association.

The Subcommittee appointed on November 20th, 1901, to consider the rules relating to contract practice, and report thereon to the District Committee, as the result of a careful consideration of the matters referred unanimously recommend as follows:

I.—*Rules as to Contract Practice.*

That the existing regulations of the District Committee relating to clubs, 4 (*a*) (*b*) (*c*) and (*d*) be rescinded, and that the following rules be substituted therefor.

(*a*) That the rules relating to clubs be deemed to apply to males only, and that females be not attended at contract rates as members of Friendly Societies.

(*b*) That the term "juvenile" be taken to mean boys over the age of 5, and that children under that age be not accepted at contract rates.

(*c*) That the rate be 5s. per head per annum for adults, and 4s. for juveniles.

(*d*) That in all arrangements with clubs or other bodies for attendance at contract rates the right of the surgeon be reserved to decline to attend at such rates persons whom he considers unsuitable in respect of financial position; but that in such arrangements such provision should be made as the District Committee may approve, to prevent hardship resulting from the retrospective application of this rule.

II.—"*Pooling*" *Clubs.*

As to the system of "pooling" clubs, we have no evidence of such a system being in operation elsewhere.

The Public Medical Services in Eastbourne, Weston-super-Mare, and elsewhere appear to have been instituted rather for the purpose of combating contract practice of the kind associated with the National Medical Aid and similar Societies. The fact that such a principle has not yet been applied to contract medical work of the ordinary Friendly Societies is not, however, in our opinion a sufficient reason to prevent the application of the principle to this work in Yarmouth. On the contrary, for the reasons stated at the conclusion of our report, we are agreed in recommending

Scheme Proposed.

That a Medical Service be established to be called the "Great Yarmouth Friendly Societies' Medical Service."

That the benefits of the service be reserved for (*a*) male members of clubs who are in full membership at the time when their respective clubs become connected with the service, and (*b*) healthy males suitable in respect of financial position who join clubs already connected with the service.

That the staff be composed of members of the Great Yarmouth District Committee of the I.M.P.A., and that in starting the service every member of the District Committee be a member of the staff.

That the general management of the service be vested in a Committee consisting of the President of the District Committee for the time being, and four other members elected annually by the District Committee.

That an Honorary Treasurer be appointed annually by the Committee of the Service from among their number whose duties shall be to receive all moneys due to the service, and to pay all outgoings.

That a paid secretary be appointed by the Committee, whose duties shall be to keep the register of members and the accounts of the service in such form as the Committee may prescribe, to issue tickets for medical examination of candidates and cards of membership, to issue notices of meetings in connexion with the service, to attend Committee meetings and take minutes, to attend at his house, which shall be the recognized central office of the service, at such hours as the Committee may appoint for the purposes of the service, to perform such other duties in connexion with the service as the Committee may require.

That the secretary be paid an annual salary of such amount as the Committee may fix, with the sanction of the staff.

That attendance by the staff, apart from visiting, be given at their respective surgeries.

That each member of the staff act, according to a fixed rotation, as an examiner of persons desiring admission to the service.

That there be a Board of three medical referees, appointed half yearly by the staff, to decide appeals by candidates for admission rejected by the examiner on medical grounds.

That there be a Joint Committee, composed of five members chosen by the Friendly Societies connected with the service and three members chosen by the District Committee, whose duties shall be:

(*a*) To decide appeals by candidates for admission rejected on the ground of unfitness in respect of financial position.

(*b*) To investigate charges of neglect, and other complaints, by individual patients, or by clubs, against members of the staff.

(*c*) To investigate complaints by members of the staff against patients for breach of rules or other improper conduct.

That a candidate for admission make application, in the first instance, to the Secretary of the service, who shall provide him with a ticket, to be presented to the medical examiner acting on the day when the candidate desires to be examined, no candidate to be examined except on production of such ticket.

That the examiner investigate the candidate's fitness for admission in respect of (*a*) health, (*b*) financial position, and that a candidate rejected on either ground have a right of appeal to the medical referees or the Joint Committee, as the case may be, whose decision is to be final.

That a person having been approved as suitable by a medical examiner (or after appeal, if any), and duly elected a member of a club connected with the service, shall thereupon receive a card of membership of the service, and be entitled to the benefits of the service, subject to the rules.

That a member of the service, however admitted, shall forfeit his membership upon (*a*) ceasing to be a member of a club connected with the service; (*b*) failing to keep up his payment to the service; (*c*) being found by the Joint Committee to have broken the rules, or otherwise been guilty of conduct disqualifying him for membership.

That each member on admission to the service be permitted to select any member of the staff as his medical attendant, subject to the consent of the surgeon chosen and to there being a vacancy on such surgeon's list.

That each member be allowed, on giving at least one month's notice, to change his medical attendant on January 1st of any year, subject to the consent of the member of the staff to whom he desires to be transferred and to there being a vacancy on such surgeon's list.

That each member of the staff be free to decline to attend any individual person as a member of the service either at the time when such person desires to come on his list or at the end of any year by giving one month's notice.

That each member of the staff be free, subject to the consent of the Committee, to decline to attend more than a specified number of members of the service.

(Details follow of a proposed system of keeping the Register by means of cards.)

Each member of the staff to be furnished with a list annually of those members whom he undertakes to attend, such list to be sent in by the surgeon to the Secretary quarterly, to be checked with the Register.

Each Club Secretary to furnish the Secretary of the Service annually with a list of the members of the club who are members of the service, such list to be brought up to date quarterly by the Club Secretary and checked by the Secretary of the Service.

The accounts would be:

(*a*) Receipts from Clubs: Each Club Secretary to pay to the Treasurer, quarterly in advance, 1s. 3d. for each adult and 1s. for each juvenile on the club list, as brought up to date and checked by the Secretary.

(*b*) Outgoings: The Treasurer to pay during the quarter such expenses as may be ordered by the Committee, to set aside such amount for reserve as may be decided by the staff, and to divide the balance of money in his hands quarterly among the staff in proportion to the number of members on the list of each as checked by the secretary, each adult being counted as one, and each juvenile as four-fifths.

We suggest that the commencing salary of the secretary should be not less than £20 per annum, and that it might rise to about £50 if the service proved popular. The increase of salary should be given by the Committee when they consider the increase of work calls for it. No commission should be given.

Other expenses—stationery and printing chiefly—we expect to be not more than £5 per annum at the outset, and to increase with increasing membership to not more than £10. We anticipate that the net payment to the surgeon would average not less than 4s. per head per annum all round.

Reasons for Recommending.

We are convinced that a system of "pooling" clubs on the above lines would be practicable, acceptable to the Friendly Societies, and more conducive to the interests of the medical profession than the ordinary system of club practice.

The chief difficulty experienced by some members of the subcommittee in attempting "pooling" was as to its being practicable, and for this reason we have gone carefully into matters of detail in working, as above set forth. As a result we think "pooling" can be carried out simply and without much interference with the present routine of club practice so far as club members and secretaries are concerned.

To the club patient the free choice of medical attendant, within limits as wide as those of private practice, would be, we believe, a great attraction, entirely outweighing the disadvantage of an increase in rate. If this were so, the clubs must also benefit as organizations, inasmuch as the establishment of a popular medical service, open only to members of Friendly Societies, would tend to increase their membership.

Against this must be set, of course, the dislike of the governing class in clubs to any system likely to diminish such control over club surgeons as they enjoyed under the old system. But this argument only applies so long as members of the District Committee consent generally to accept the surgeoncies of separate clubs. If the members of the District Committee decide in future not to accept clubs except on the pooling principle, the Friendly Societies, in rejecting pooling, would be confined to the alternatives of the Medical Institute, or the practitioners excluded from the District Committee, and would, we believe, prefer pooling.

The system appears to us more beneficial to the medical professon than the ordinary system, on account of the general increase of independence resulting to the practitioner. He would enjoy greater freedom in excluding ineligible persons without incurring individual odium; he would be free to decline to attend persons whom he preferred not to attend; and the knowledge that the bond between surgeon and patient was voluntary on both sides must obviously be beneficial to the surgeon in all his relations with patients; lastly, the surgeon will have greater facility in restricting or increasing his contract work as his inclination or interests may direct.

A question arises whether those members of the District Committee who already hold clubs would suffer pecuniary loss in case those clubs should eventually elect to take part in the pooling. We see no reason for thinking that such surgeons would lose by such change; it is at least as probable that they would profit thereby.

For the profession as a whole the advantage would be the greater control obtained over contract practice and the possibility of preparing the way for the ultimate abolition of such practice, or its transformation into a system of payment by fees, the burden of insurance being thrown off the profession and upon the Friendly Societies.

We therefore recommend that the principle of pooling clubs be approved by the District Committee, and be carried into effect whenever three-fourths of those voting in a general meeting consider the time opportune for so doing. We recommend that any club hereafter taken by any member of the District Committee be taken with the express understanding that it shall be "pooled" whenever the District Committee puts such system into effect.

MANCHESTER MEDICAL GUILD.

THE Medical Guild was formed in Manchester in the year 1895, its object being the maintenance of the honour and interests of the medical profession.

Though the Guild has its home in Manchester membership is not confined to practitioners in that district, and though the work of the Guild has been largely directed to improving the conditions of medical practice in Manchester it has also dealt with problems of great importance affecting the profession throughout the country.

As an instance may be mentioned the convening of the conference of representatives of local medical societies throughout the country held in Manchester in May, 1900, the decisions of which had a great influence upon the subsequent reorganization of the British Medical Association.

In the present memorandum the work of the Guild with reference to contract medical practice is alone considered.

In 1899 the Guild formulated a club pledge in the following terms:

> "That the minimum fee for club practice be 4s. per member per annum: that this only refers to adult males. We, the undersigned, pledge ourselves not to take any new club on any less terms, and in the event of any practitioner making an effort to raise his club terms to the above status we pledge ourselves not to compete against him nor to accept any club of which he may have been the medical officer on any terms without his consent, provided that no attempt be made to alter the conditions of club practice in any district without the sanction of the the Medical Guild, nor without the fairly unanimous wish of the practitioners in such district."

A copy of this pledge was sent to every practitoner in Manchester and Salford, and in some districts it was signed by every practitioner, while in other districts 80 to 90 per cent. of the practitioners signed. The effect of this action has been to greatly improve the remuneration of medical practitioners from clubs in the district.

In 1901 the Guild arranged a conference with the Friendly Societies of the district, which agreed that the club pledge as given above was reasonable and fair, but to be operative must be accepted by all the practitioners of the district. This unanimity has not yet been obtained, and any lack of success in improving contract practice is to be attributed solely to the apathy of the local profession.

J. H. TAYLOR,
Honorary Secretary, The Medical Guild.

MIDDLESBORO'.

IN 1900 in Middlesboro' there was a meeting of the local general practitioners to consider what steps should be taken to resist the action of the Friendly Societies, who were proposing to take in females into their lodges and were already taking in juveniles and asking doctors to attend them at 1s. 6d., 2s., and 2s. 6d. per head per annum.

The Medical Society was formed on broad lines, so that every medical man in the town could join, and on the distinct understanding that its actions should not be retrospective. All the medical men in the town joined. We passed resolutions fixing 4s. per head per annum for all Friendly Society lodge appointments vacant after date of meeting. Agreed not to attend females unless an income limit was fixed. We fixed the rate for juveniles at 3s. per head.

The result has been, first, that medical men have asked and obtained 4s. from their Friendly Societies. This year, however, some of the Friendly Societies have combined and formed an association, and have engaged a medical man of their own to attend them and also their wives and families.

As regards Medical Aid Societies, we unanimously decided to give up all such work, and the men holding such appointments agreed to give them up. This was done, with the result that an outside medical man was introduced, canvass on his behalf was proved, and we memorialized the General Medical Council. The medical man was cited to appear, but left the town shortly before the date of his trial, and the case was withdrawn. There has been no medical aid work since.

With respect to family club work. Here we have a great deal of this sort of work. We have a uniform scale of fees and uniform laws and collecting card.

In addition there are Works Clubs. Some of these are compulsory, every man having 1d. or 2d. a week stopped off his wages for the doctor, and some are voluntary, the employers agreeing to collect weekly payments from any workmen who might wish to pay to the doctor. In connexion with the works, too, the choice of paying for the family as well as for the man himself is optional.

In answer to (*a*), I should say our position is very much better than before our Union. It remains to be seen what action the Friendly Societies' Association will take. Our members stick well together, and with one or two exceptions are very loyal. We are on quite good terms with Friendly and all other Societies, and many of our members hold prominent public positions.

R. E. Howell,
Hon. Sec., Cleveland Division.

MIDLAND MEDICAL UNION.

President: G. Godfrey Macdonald, Esq., M.D., C.C., Crich.
Vice-President: R. G. Allen, Esq., M.R.C.S., Belper.

Albion Chambers, King Street,
Nottingham, June 20th.

The form of organization adopted in this neighbourhood is that of a union or association for the protection of the practitioners who join it against unfair competition and from attempts to induce practitioners to accept unreasonable remuneration in respect of contract work. I enclose a copy of the rules and report for the year ending December, 1904.

The kind of action taken has been by deputation to the club or society in question as a first step. At Skegby, near Mansfield, serious trouble arose upon the resignation of Dr. Rainsbury by reason of the refusal of the local colliery club to increase confinement fees from 10s. to £1 1s., and new surgeons have been imported. I believe I am right in stating that the other local practitioners do not associate with them, although they have no complaint against them in other respects.

Pledges have been sought for by the practitioners interested from their professional brethren, and in Chesterfield, after all other efforts had failed and a "medical aid" was established, it has been found that these pledges have been well observed.

Warning advertisements have been inserted in the professional journals, intending applicants being referred to me, and several inquiries resulting.

I regret that I am not able to report much success in our fight against the clubs, but some disputes have been settled amicably between the members and misunderstandings removed by the matters in difference being brought before the Council or the Branch of the district in question. The general effect has been to make for unity of action and the promotion of good feeling. At the annual dinner of the Union, held on May 14th at Chesterfield, Dr. Cheesewright of Rotherham stated that the local practitioners banded together for the purpose of raising club fees, and each pledged himself that he would support the rest, with the result that the increase demanded was granted.

In Nottingham it is generally understood that no new club is to be accepted at less than 4s., and at the present time a movement is on foot in one district (I am attending a meeting to-night) to discuss the question of raising the fees paid by certain old clubs (3s. to 4s.).

George S. O'Rorke, Secretary.

NORTHUMBERLAND.

In 1900 the Northumberland Medical Association was formed and within a few months the Newcastle Medical Ethical Society amalgamated, forming the Northumberland and Newcastle Medical Association. The affairs were regulated by meetings of the whole Association, which from time to time appointed special committees to deal with matters which arose.

Nominally, the work was carried on by a Council, but until the feeling and sympathy of the profession was consolidated it was considered better to keep all members in constant touch by inviting them frequently to meetings. Those who most regularly attended consequently became an informal council, reinforced on each occasion by members from localities affected by each particular agenda. The Council proper met seldom, and the main duty of each member of Council was to watch his own district and report matters of interest by letter. The work between meetings was carried out by a lay secretary in constant conference with the President.

In 1904 the Northumberland and Newcastle Medical Association transferred its work to the British Medical Association. The Branch appointed a Northumberland Committee to carry on the work hitherto carried on by the Northumberland and Newcastle Medical Association, and furnished funds to enable retention of the lay secretary.

The principal points to which the action of the profession was directed were:

1. The raising of contract fees in mining districts.
2. The fixing of a minimum rate for new Friendly Societies' payments and that of old societies changing officers.
3. The reduction of female lodges by lapse, and preventing acceptance of new lodges.
4. The abolition of lay control and opposition to Aid Societies.
5. The organization of the profession to carry these points.

All demands and notices to lodges and societies were sent by the Association and not by medical men individually. Negotiations and conferences with lay Committees by letters or meetings were conducted by officials or Committees, and not by medical men individually. Doctors interviewed by patients were instructed to reply that they were in the hands of the Association, and were prepared individually to meet patients' wishes so far as the Rules of the Association permitted.

Members were required at the outset to give pledges in writing. Non-members in sympathy were asked for undertakings in writing not to oppose.

Cautionary notices in medical and lay press were frequently inserted, especially when any objectionable appointment was vacant. Individual letters were sent to any known intending applicant.

Offenders were asked to desist by letter. If any difficulty was experienced, the offender was asked to meet a Committee. If the result were unsatisfactory, he was reported to a Judicial Committee, who took evidence, heard the offender in reply, if present, and committed their finding to writing. This was conveyed to offender, and, if against him, his name was placed on a black list and sent to members. He was ostracized.

The results, on the whole, have been very satisfactory. Contract fees raised in mining districts in all save one or two isolated instances. Many Friendly Society lodges raised. Members of the profession, so far, have worked fairly well together and remain on good terms with patients.

A difficulty has been lack of emergency funds to assist individuals temporarily suffering loss of practice.

Special efforts were made to secure assistance of consultants, and these were successful.

Rutherford Morison,
President, Northumberland Committee.

SOUTH WALES AND MONMOUTHSHIRE.

(Report by the Medical Secretary).

In the industrial districts of South Wales and Monmouthshire nearly all forms of Contract Practice organization are in operation, including, in the large towns, Provident Dispensaries and Private Clubs, Works Clubs in the mining and other specially industrial districts, and Friendly Societies in all parts.

The Provident Dispensaries, Private Clubs, and Medical Aid Societies present no distinctive features calling for mention in this report.

Of the Friendly Societies it is to be noticed that in the mining districts they usually do not provide medical attend-

ance for those who are miners, as this is sufficiently furnished by the Works Clubs, the only duties of the medical profession in connexion with such Friendly Societies being that of signing certificates for admission and sick benefit.

The distinctive feature of Contract Practice in South Wales is the organization and management of the Works Clubs, particularly those connected with collieries.

The system of remuneration adopted in the collieries of South Wales and Monmouthshire district does not appear to prevail in any other part of the United Kingdom. It is that the deductions made from wages under the Truck Act are not a fixed weekly amount, but proportional to wages earned. The deduction is always expressed as a "poundage," 2d., 2½d., or 3d., as the case may be, in the pound.

It will be observed that this system exhibits the most complete development of the collective provision for medical necessities which exists in Works Clubs. An income-tax is levied on the aggregate income of the industrial community, each head of a family paying in proportion, not to his requirements, but to his means, and from the fund thus created provision is made for the medical necessities of every member of the community.

It is of interest to note that the principle is stated to have been originally suggested by a medical practitioner—Dr. Davies of the Rhondda Valley—(whose son was the first recipient of the Gold Medal of the Association, and whose grandson is the present Honorary Secretary of the North Glamorgan Division).

The poundage system of payment is as a rule confined to the specially coal-producing districts of South Wales and Monmouth, fixed weekly rates being the rule in the metal works of the Swansea district, and thence westward.

The rate at present paid is usually 3d. in the pound, except in the Western Valleys of Monmouthshire and in a few isolated collieries further west, where the rate is 2d.

The Ebbw Vale Coal and Iron Company's employés pay on a sliding scale as follows:

(Extract from the Rules of the "Ebbw Vale Workmen's Doctors' Fund.")

Contributions to Fund.

"8. All persons employed by the Ebbw Vale Steel, Iron, and Coal Company, Limited, at Ebbw Vale, Victoria, Waun Lwyd, Marine, Graig Faw, and Sirhowy shall contribute to the fund each pay-day according to the following scale on all their earnings:

Scale of Contributions.

On all earnings up to 20s., 2d. will be charged; above 20s., according to following scale:

	Earnings.					Contributions.	
	s.	d.		s.	d.	s.	d.
On	20	1	to	28	0	0	3
,,	28	1	,,	36	0	0	4
,,	36	1	,,	44	0	0	5
,,	44	1	,,	52	0	0	6
,,	52	1	,,	60	0	0	7
,,	60	1	,,	68	0	0	8
,,	68	1	,,	76	0	0	9
,,	76	1	,,	84	0	0	10
,,	84	1	,,	92	0	0	11
,,	92	1	,,	100	0	1	0
,,	100	1	,,	108	0	1	1
,,	108	1	,,	116	0	1	2
,,	116	1	,,	124	0	1	3
,,	124	1	,,	132	0	1	4
,,	132	1	,,	140	0	1	5

The Committee may, if they see necessary at any time, alter the above scale so as to meet the requirements of the current expenditure."

It will be noted that the poundage in these cases is deducted from the earnings not only of the wage earners, but also of the salaried officials in the colliery.

The prevalent rate until a few years ago was 2d. in the pound, but the same economic causes which have compelled medical practitioners throughout the country during the last ten or fifteen years to revise their arrrangements with respect to contract practice, in order to bring it into accordance with the changed conditions of the times, have led the colliery surgeons to seek an increase of remuneration.

This has been done in some districts through the action of local medical societies brought into existence for the purpose. Thus the Eastern Valleys Medical Association has succeeded in increasing the remuneration in the Eastern Valleys of Monmouthshire to 3d. which previously had only been paid at Cwmbran. Similarly in the Rhondda Valley and in the Aberdare district the poundage has been raised to 3d. by the united action of the local profession. In Aberdare[1] certain improvements were effected at the same time in the conditions of work of medical officers of Friendly Societies.

As already stated, the poundage of 2d. is still accepted in a few collieries, but it is desired to raise it to the general level at the first opportunity.

The principal difficulties between the profession and the coal miners at present, however, relate to the operation of certain so-called "Schemes," administered under the management of Miners' Committees, these schemes having been found unsatisfactory by the medical profession.

The original introduction of such a scheme appears to be within living memory, the first being said to be that commenced by the workmen of the Rhymney Coal, Iron, and Steel Company. The present principal medical officer under the scheme, Dr. T. Hall Redwood, had at that time been acting as medical officer to the works, having succeeded his father in the appointment, and took part in the settlement of the constitution of the scheme.

Up to that date the administration of the Fund had been entirely in the hands of the Company, resembling in this respect the other ironworks at the heads of the West Monmouthshire and North-East Glamorgan Valleys. As the collieries in these districts became of importance, not merely for feeding the iron industry, but for the sale of coal, a change took place in the arrangements as to medical attendance, which passed from the control of the companies to the control of the colliers.

At Rhymney the principle of the scheme was the continuation of the system, already adopted by the company, of paying the medical officer a fixed salary, which salary, however, was increased forthwith by the workmen on taking over the scheme.

The Workmen's Committee, in fact, took over the fund as "a going concern," continuing to provide drugs, etc., as had been done by the company. In course of time this scheme has been imitated in other districts, notably at Blaenavon, Ebbw Vale, and Tredegar. The most elaborate development of the system has been at Ebbw Vale, where a somewhat extensive area has been mapped out into districts, each having a principal medical officer, with, in some cases, one or more assistants. It is provided under the rules that each medical officer shall practise only in his own district, so that if the beneficiaries move from one district to another they are compelled to change their medical attendants.

The experience now gained by the profession of the working of these schemes has not been favourable, the principal objections being:

1. The provision of hospital and other expenditure out of the poundage, which is believed not to fall within the contemplation of the Truck Act, and which is obtained by reduction of medical remuneration.

2. That the system of fixed salaries is not accompanied by any provision in the nature of a guarantee fund for assuring the payment of such salaries in cases of strikes, lock-outs, short time, or other contingencies which may cause a temporary cessation or diminution of wages, and therefore of the poundage.

(In the prevalent system, under which the poundage is paid direct to the medical practitioner, there is an inducement to him to settle for life in a district, and when, for any reason, the poundage ceases, such practitioners are so identified with the life of the district that they continue to attend the miners and their families, though their own income has for the time being ceased. Practitioners employed at fixed salaries have not the same inducement to identify themselves with the district, and therefore cannot be expected to give attendance in the circumstances described unless their salaries are paid.)

3. In various ways the independence and dignity of the medical officers are believed to suffer under the schemes in question, and this also tends to diminish the efficiency of the service.

On such grounds the South Wales Branch of the Association and its constituent Divisions have decided to use all their influence in opposing the introduction of schemes of the kind in districts where they do not at present exist, and to make the utmost endeavours to remove the more objectionable features from those schemes which are in existence.

Already action taken by the Cardiff Division, with the

[1] A short account of the action taken by the profession in the Aberdare district, kindly contributed by Dr. Evan Jones, will be found on p. 81.

support of the Branch, has been successful in preventing the adoption of a scheme under unsatisfactory conditions at Abergwynfi, while the North Glamorgan Division has checked the development of a similar organization at Aberaman.

The Monmouthshire Division, also in conjunction with the Branch, has been successful in inducing the Committee of Management of the Ebbw Vale Workmen's Doctors' Fund to consider the changes desired by the local profession in the conditions of appointment of the medical officers of that fund, and negotiations are now in progress. As a result of the action taken, with the support of the Central Executive of the Association, candidates for the vacant post of hospital surgeon at a salary of £500 a year (with drugs, etc., provided), have declined to take up the appointment until the regulations of the Fund have been altered to satisfy the requirements of the British Medical Association.

The Branch Council, having regard to the importance of the questions of contract practice now presenting themselves for consideration by the Branch and its Divisions, has decided to appoint a Contract Practice Committee to watch such disputes, and render such assistance to Divisions as may be required.

In all the cases dealt with by the Divisions and Branch Council, the special Ethical Rules, as to contract practice and other appointments, which have been adopted by the South Wales Divisions have been found helpful.

In Swansea a Medical Practitioners' Association was formed three years ago, and was successful in improving the conditions of local Contract Practice, which include Friendly Societies as well as Works Clubs. The Practitioners' Association has now merged its identity in the Swansea Division of the British Medical Association, but no occasion has arisen up to the present for action by the Division since this change took place.

WESTON-SUPER-MARE.

The "Provident Medical Association" was started about seven years ago in order to suppress a local Medical Aid Society.

As far as I know, no negotiations have taken place with the Friendly Societies. Members of the "Provident Medical Association" declined to meet Medical Aid officers, and agreed not to undersell each other with regard to clubs; offenders could be expelled from the Provident Medical Association: no warning notices were sent to outsiders.

The Medical Aid at once collapsed, as the Provident Medical Association took on its Secretary as collector. The Provident Medical Association has had a good effect on the local union of the profession; the position of the profession locally in its relation to the community I should describe as satisfactory.

H. Stanley Ballance.

F.—OPINIONS OF THE DIVISIONS ON THE PROPOSALS CONTAINED IN THE INTERIM REPORT ON CONTRACT PRACTICE.

(I.) INTERIM REPORT ON CONTRACT PRACTICE.

(Presented to the Annual Representative Meeting at Oxford.)

THE Medico-Political Committee has given careful consideration at several meetings to the matters arising out of the following instruction of the Annual Representative Meeting of 1903:

That it be an instruction to the Medico-Political Committee to investigate the economic conditions of contract practice, as carried on in various ways in this country, to report thereon to the next Annual Representative Meeting, and to present an interim report to the Council on any points which appear to call for action during the year.

It has appeared to the Committee necessary that the investigation which it was instructed to make into the economic conditions of contract practice should be conducted in two principal branches, namely:—

(*a*) By addressing direct inquiries to those Medical Practitioners who are actually engaged in such practices;

(*b*) By collating the information derived from the reports of various medical societies which have given special consideration to the subject, and from the reports of the Secretary of the Committee on the conditions found in various Divisions which he has been called upon to visit.

For the purpose of the inquiries under Head (*a*), the Committee has formulated a series of questions, of which copies are appended to this report, and which, with the sanction of the Council, and by the kind assistance of the Honorary Secretaries of Divisions, are being distributed through the agency of the Divisions to individual Medical Practitioners.

From the information obtained under Head (*b*), the Committee has been enabled to arrive at the conclusion that, while on certain aspects of contract practice any definite pronouncement by the Association must be deferred until the results are ascertained of the inquiries addressed to individual practitioners, there are other aspects on which opinion has already ripened sufficiently for certain propositions of an axiomatic character to be formulated at the present stage for consideration by the Divisions.

These propositions are as follows:

(1) That it is inevitable in present conditions that there should be in some parts of the United Kingdom some system of contract medical service of the poor.

(2) That where the department of contract practice relates wholly to medical work, it is essential that medical men should be adequately represented on the management.

(3) That it should be a fundamental principle of the constitution of all such departments, that every medical practitioner in the district for which the service provides, who wishes so to act, should be a medical officer of the service, provided that he conforms to the rules of the service.

(4) That, in present conditions, the lowest fee to be fixed in any district, as the minimum to be paid to each medical officer annually for each individual whom he is under contract to attend, should be 5s., subject to such composition fee, if any, as may be locally determined upon in the case of families having more than three children.

(5) That Children under the age of 5 should not be admitted under contracts at minimal rates, except in the case of the family composition fees included in Clause (4).

(6) That in all such contracts the right be reserved to each medical officer to decline to attend as a member of such service any person whom he may consider to be unfit for membership in respect of financial position, but that such provision should be made as the governing body of the service may approve to prevent hardship resulting from the retrospective application of this rule.

(7) The rates above specified are not intended to apply to night visits, obstetric cases, operations, or serious accidents, by the term "serious accident" being meant an accident which causes incapacitation for more than a week.

(II.) ABSTRACT OF REPLIES OF DIVISIONS UPON THE PROPOSITIONS CONTAINED IN THE MEDICO-POLITICAL COMMITTEE'S INTERIM REPORT ON CONTRACT PRACTICE, REFERRED TO THE DIVISIONS BY INSTRUCTION OF THE ANNUAL REPRESENTATIVE MEETING OF 1904.

UP to the date of the preparation of this report (May 16th, 1905), 76 Divisions had replied to some or all of the propositions. The replies are as follows:

ON PROPOSITION (1), NAMELY:

"*Necessity of Contract Practice.*

That it is inevitable in present conditions that there should be in some parts of the United Kingdom some system of contract medical service of the poor."

69 *Replies.*

63 Divisions
express unqualified approval.

2 Divisions
approve the proposition, provided the words "of the poor" be omitted.

1 Division
approves the proposition, provided the word "poor" is suitably defined.

1 Division
approves the proposition, provided the word "poor" be defined to include those earning less than 25s. a week.

1 Division
approves the proposition, provided the words "of the poor" be altered to read "for those unable to pay ordinary medical fees."

1 Division
is of opinion that Contract Practice is not necessary.

On Proposition (2), namely:

"*Medical Control.*

That where the department of Contract Practice relates wholly to medical work, it is essential that medical men should be adequately represented on the management."

69 *Replies.*

63 Divisions
express unqualified approval.

2 Divisions
express unqualified disapproval.

1 Division
approves, provided the words "the medical staff" be substituted for "medical men."

1 Division
approves, provided the words "or in part" be interpolated after the word "wholly."

1 Division
approves, provided the word "adequately" is suitably defined.

1 Division
disapproves the proposition as being impracticable.

On Proposition (3), namely:

"*Distribution of Work.*

That it should be a fundamental principle of the constitution of all such departments, that every medical practitioner in the district for which the service provides, who wishes so to act, should be a medical officer of the service, provided that he conforms to the rules of the service."

69 *Replies.*

57 Divisions
express unqualified approval.

9 Divisions
express unqualified disapproval. (1 of these mentions that it approves of the way in which Contract Practice is allotted at present—namely, by ballot by the members of the Societies.)

1 Division
approves, provided the proposition be altered to begin; "That it should be a fundamental principle, that where a Public Contract Medical Service exists, every medical practitioner . . . ." etc.

1 Division
disapproves the proposition, as tending to encourage Contract Practice.

1 Division
disapproves the proposition as impracticable.

On Proposition (3a), namely:

"*Friendly Societies: Choice of Medical Attendant.*

That the individual members of Friendly Societies be entitled to choose the medical man by whom they desire to be attended."

64 *Replies.*

49 Divisions
express unqualified approval.

6 Divisions
express unqualified disapproval.

2 Divisions
approve, provided the members be not allowed to change their medical attendant more than once a year.

1 Division
approves, if the proposition be modified to read: "That in the event of a Friendly Society Medical Club joining such a service, the individual members of such Club shall be entitled to choose the medical man by whom they desire to be attended."

1 Division
approves, on condition that present holders of such Societies be not interfered with.

1 Division
approves if by "individual" be understood "adult male."

1 Division
approves provided "medical officer of the service" be substituted for "medical man."

1 Division
disapproves of the proposition, as tending to encourage Contract Practice.

1 Division
disapproves of the proposition as being unworkable.

1 Division
disapproves of the proposition on the ground that choice of medical attendant is "incompatible where stipulation is made for a fixed fee."

On Proposition (4), namely:

"*Minimum Rate.*

That, in present conditions, the lowest fee to be fixed in any district, as the minimum to be paid to each medical officer annually for each individual whom he is under contract to attend, should be 5s., subject to such composition fee, if any, as may be locally determined upon in the case of families having more than three children."

67 *Replies.*

51 Divisions
express unqualified approval.

4 Divisions
advocate a minimum of 6s.

3 Divisions
speak of a minimum of 4s. (One of these Divisions mentions that this is the rate in force in the local Public Medical Service, for children and adults alike, and that at present the Division does not see its way to alter it.)

3 Divisions
approve of the proposition subject to there being no composition fees.

1 Division
approves subject to the local Division concerned determining the composition fee.

1 Division
approves provided that the composition fee refers to children only.

1 Division
advocates a minimum fee of 8s. 8d.

1 Division
adds, at the end of the proposition, the words, "under the age of 16."

1 Division
disapproves the proposition as not being applicable to all forms of contract work, for example, family clubs.

1 Division
disapproves the proposition as not differentiating sufficiently between Friendly Societies and Clubs.

On Proposition (5), namely:

"*Exclusion of Infants.*

That children under the age of 5 should not be admitted

under contracts at minimal rates, except in the case of the family composition fees included in Clause (4)."

66 *Replies.*

53 Divisions
state unqualified approval.

3 Divisions
state unqualified disapproval.

1 Division
states, as above, that a rate of 4s. is accepted for young and old in its local Public Medical Service.

1 Division prefers to read "under the age of 10."

1 Division prefers to read "under the age of 14."

1 Division
advocates that children under the age of 5 be not admitted at minimal rates.

1 Division
advocates that such children be not admitted under contract rates at all.

1 Division
advocates that children under the age of 14 be not admitted under contract rates at all.

1 Division
considers that children under the age of 5 should not be admitted at minimal rates under contracts with Friendly Societies.

1 Division
would admit children of any age at the minimal rates.

1 Division
disapproves of the proposition as not differentiating sufficiently between Friendly Societies and Clubs.

1 Division
considers the proposition unnecessary "if each child admitted at 5s."

On Proposition (6), namely:

"*Provision against Abuse.*

That in all such contracts the right be reserved to each medical officer to decline to attend as a member of such service any person whom he may consider to be unfit for membership in respect of financial position, but that such provision should be made as the governing body of the service may approve to prevent hardship resulting from the retrospective application of this rule."

66 *Replies.*

46 Divisions
state unqualified approval.

11 Divisions
approve the principle with various modifications as to detail.

3 Divisions
disapprove of any retrospective clause.

2 Divisions
disapprove the proposition as impracticable.

1 Division
rejects the proposition, pending the decision of a wage limit.

1 Division
approves it, provided the right of choice is made reciprocal.

1 Division
rejects the proposition as unnecessary.

1 Division
rejects it as placing the medical officer in an awkward position.

On Proposition (7), namely:

"*Special Services.*

The rates above specified are not intended to apply to night visits, obstetric cases, operations, or serious accidents, by the term 'serious accident' being meant an accident which causes incapacitation for more than a week."

65 *Replies.*

43 Divisions
state unqualified approval.

22 Divisions
approve conditionally to various alterations being made (*see below*).

Alterations Referred to.

6 Divisions
would omit "night visits."

1 Division
requires a definition of "night" in hours.

1 Division
would omit "obstetric cases."

1 Division
would omit "operations."

2 Divisions
would specify, under "operations," only those requiring an anaesthetic.

1 Division
would specifically limit "operations," so as to exclude trivialities.

5 Divisions
would omit "serious accidents."

5 Divisions
would omit definition of "serious accidents."

1 Division
requires a better definition of "serious accidents."

1 Division
approves, provided the proposition does not apply to accident clubs.

4 Divisions
would lengthen the time of incapacitation necessary to constitute a "serious accident": of these 1 mentions "a fortnight" and 2 "a month."

2 Divisions
would insert "consultations."

1 Division
would insert "special visits."

1 Division
would insert "venereal diseases."

1 Division
would insert "notifiable infectious diseases."

1 Division
would insert "anaesthetics."

1 Division
would insert special mention of "fractures."

Other Opinions Expressed by the Divisions.

5 Divisions have passed resolutions to take no action in the meantime, or not to consider the Report.

1 Division, while generally approving the propositions, states that the subject is too complex to be summed up in these 7 propositions, and that the Association is not in a position to make its proposals effective without the loyal co-operation of every medical practitioner.

1 Division states that the proposals should be applicable only to those cases where medical men combine to form a public medical service, but that as far as possible all new clubs should be formed on the model suggested by the proposals.

1 Division states: "Contract practice is necessary for the working classes under present conditions. There should be a wage limit. The minimum fee should not be less than 5s. per member. The reforms contained in the propositions are advisable and much to be desired, but it is impossible to carry them out without the co-operation of the whole profession."

1 Division states: "That the best way of securing the reforms contemplated in sections (2), (3), and (3A) would be by forming all the practitioners in the district for which the service provides, who may be willing to take service under the organization, be it club, Friendly Society, or provident dispensary, into a medical board, empowered to deal with medical matters, and acting under the lay board much as the medical board of a hospital acts under the lay board. Such a medical board should have power to make representations to the lay board as to financial suitability of the beneficiaries of the club or dispensary."

1 Division mentions that the members of the British Medical Association resident in the Division area have drawn up an agreement regulating Contract Practice, which they anticipate will be signed by all practitioners in the district.

1 Division has resolved: "That it is desirable, should any such service be organized, that the management of Contract Practice be carried out by the respective Divisions."

And 1 Division resolved: "That this Division is of opinion that all contract medical work should be based upon payment of a fixed sum for separate items—that is, visits paid or medicines, etc., given. The amount for the various items to be agreed upon for a term between the contracting parties."

G.—THE ETHICAL ASPECTS OF CONTRACT PRACTICE.

ABSTRACT OF THE PRINCIPLES WHICH HAVE BEEN FORMULATED BY THE ETHICAL COMMITTEE, EITHER AS GENERAL RULES OR IN APPLICATION TO INDIVIDUAL CASES, AND APPROVED BY THE COUNCIL AND REPRESENTATIVE MEETING OF THE ASSOCIATION, FROM OCTOBER, 1902, TO JUNE, 1905, INCLUSIVE.

(The resolutions of the Committee from October, 1904, onwards have not yet been before the Representative Meeting.)

THE questions affecting Contract Practice of various kinds which have been brought under the notice of the Ethical Committee of the Association may be considered as falling under two principal heads: (1) canvassing and advertising; (2) the obligation resting upon practitioners to co-operate with their fellow practitioners in improving the conditions of Contract Practice locally, as regards rates and other conditions.

To make clear the action recommended by the Committee in respect of these it is convenient first to explain the distinction which the Committee has found it necessary to draw between those matters which can best be dealt with by decisions of the Central Council or Representative Meeting, on behalf of the Association as a whole, and those matters which, in the opinion of the Committee, should be left to be decided locally by Rules and Resolutions of the Divisions.

With respect to canvassing and advertising the Committee has been of opinion that the objections of the profession to such practices are independent of local conditions, and that, therefore, these are matters which should be dealt with by the Association as a whole.

As regards the second group of questions, the Council, on the advice of the Committee, has laid down the broad principle that members of the Association should loyally co-operate in any action for the improvement of the conditions of Contract Practice which may be agreed upon by a sufficient majority of those locally concerned, that is to say, of all members of the local medical profession, the effects of Contract Practice not being confined to those actually engaged in it.

The details of the reforms necessary, on the other hand, are matters which as a rule must be determined locally, and the Council, on the advice of the Committee, has approved Rules which enable Divisions to deal with these matters as occasion arises without reference on points of detail to the central organization of the Association. (See Rules A to D below.)

CANVASSING AND ADVERTISING.

The Committee has been guided by the general rule that medical practitioners employed by lay organizations must be held accountable to the profession for due care being taken that the medical practice in connexion with those organizations shall be conducted in conformity with the principles of medical ethics.

The individual cases which have come before the Committee may be classified as follows:

1. Handbills containing the names of medical officers. In all cases the medical officers have been called upon to insist on the withdrawal of such handbills.

2. Handbills issued by Friendly and other Societies for the purpose of obtaining members. Where these handbills related to the general work of such an organization as a Friendly Society, of which medical attendance is not the only benefit, and where no name of a medical officer was given, the Committee has advised that objection can only be taken by the profession if these handbills are circulated in such a way as to affect neighbouring practitioners.

3. Newspaper advertisements have been dealt with on the same principles as handbills.

4. Complaints received with respect to Provident Dispensaries have indicated that the benefits of some of these Institutions are brought to the notice of the community in a way which interferes improperly with the private practice of medical practitioners who are not on the staff of the Dispensaries; and the Council of the Association, on the recommendation of the Committee, has declared it inconsistent with membership of the Association for medical men to act on the staff of Dispensaries which permit this abuse.

5. The Committee has approved the following Rule which has been adopted by several Divisions:

Canvassing.—No member shall canvass or knowingly allow others to canvass on his behalf for patients.

N.B.—Experience shows that the employment of persons paid by commission to collect for Medical Aid Societies and Clubs frequently results in canvassing, and medical practitioners who act as Medical Officers to Societies or Clubs which employ collectors, paid by commission, and medical practitioners who themselves employ collectors so paid, in connexion with private clubs, are reminded that they thereby incur the danger of being deemed to have violated this rule.

6. In a case in which a private club for providing medical attendance upon miners was being organized by medical practitioners in a district, on the principle that it was to be open to every practitioner who desired to act upon the staff, the Committee advised that canvassers ought not to be employed in connexion with such a Club, and laid down as a general rule that private canvassers ought in no circumstances to be employed by medical practitioners alone or in combination.

7. The Committee has advised that prizes ought in no circumstances to be offered by medical practitioners to those members of a Club, of which such medical practitioners are officers, who bring in the largest number of new members in a given time.

ACTION WITH REFERENCE TO RATES AND CONDITIONS OF CONTRACT PRACTICE (APART FROM CANVASSING AND ADVERTISING).

Rules and Resolutions of Divisions.

Rules of Divisions have from time to time been submitted for the approval of the Central Council, in which it was laid down that the members of a Division should only accept club and similar appointments at specified rates, or upon specified conditions. The Council, on the recommendation of the Committee, has declined to approve Rules in this form, and has advised those Divisions which desire to deal with these questions to pass resolutions of a more general kind which would enable them to settle such matters by a resolution of the Division. Such resolutions would be binding upon their members by virtue of the Rules, and the adoption, amendment, or rescission of each resolution would not need to be submitted for the approval of the Central Council.

After such Rules had been adopted in certain districts, including Ashton-under-Lyne, Gateshead, and Norwich, the following Rules, based upon those already so approved, were drafted for, and by request of, the Bradford Division, and having been approved by the Central Council as Rules of that Division, have subsequently been adopted by several other Divisions with the approval of the Council:

"BRADFORD RULES."

(A) *Regulation of Terms of Appointments.*—No member of the Division shall accept, or, after due notice from the Division as provided in Rule (*D*) herein, shall continue to hold, any appointment as Club Surgeon, or other ap-

pointment to attend professionally at contract rates, or any public appointment, at a lower rate or upon other conditions than may for the time being be prescribed, with reference to appointments of the kind, by a resolution of the Division duly adopted in accordance with the rules thereof.

(*B*) *Adoption of Resolutions to apply throughout the Division Area.*—A resolution of the Division to prescribe rates, fees, or conditions of medical practice, whether under appointments or otherwise, to apply throughout the area of the Division, shall be deemed to have been duly adopted if passed by a three-fourths majority of those present and voting in an Ordinary, Annual, or Special Meeting of the Division, provided that, prior to such meeting, at least fourteen days' notice of the terms of such resolution shall have been given to every member of the Division.

(*C*) *Adoption of Resolutions to apply only to part of the Division.*—A resolution of the Division of the same nature as is defined by Rule (*B*), but to apply only within a specified part of the area of the Division, shall be deemed to have been duly adopted if passed by a simple majority in any meeting of the Division, provided that at least five-sixths of the members of the Division residing within the said specified part of the Division area shall have previously signified in writing their approval of the said resolution, and that notice thereof shall have been sent not less than seven days before the said meeting to every member of the Division.

(*D*) *Appointments under Existing Contracts.*—In any case in which a resolution of the Division, duly adopted under Rule (*B*) or (*C*), shall affect any appointment or appointments held under existing contract, the Secretary of the Division shall forthwith notify each member holding such an appointment of the adoption of such resolution, and shall on behalf of the Division request such member to take steps to terminate such contract at the earliest date which the terms thereof permit. If, on the expiration of one month from such notification by the Secretary, a member so notified shall satisfy the Ethical Committee that he has complied with the request of the Division, Rule (*A*) shall not be deemed to apply until after the expiration of the period of notice required under the contract. If a member, notified by the Secretary as aforesaid, shall fail to satisfy the Ethical Committee as to his compliance with the request of the Division, or, after having duly given notice to terminate his appointment, he shall upon the expiration of such notice continue to hold the appointment without sanction from the Division, the Ethical Committee shall report the circumstances to a Special Meeting of the Division to decide whether the said member shall be deemed to have broken Rule (*A*).

(*E*) *Notice to Branch Council as to Unprofessional Conduct of Members.*—If any member of the Division shall be deemed by the Division to have acted in contravention of any Rule of the Division as to professional conduct, or to have been otherwise guilty of conduct detrimental to the honour and interests of the profession, or calculated to bring the profession into disrepute, the Branch Council shall be asked, on behalf of the Division, duly to bring before the Council of the Association the question of the expulsion of the said member.

(*F*) *Refusal of Professional Recognition.*—No member of the Division shall, except in circumstances of great urgency, meet in consultation, or hold any professional relations with, a medical practitioner who shall have been declared by resolution of the Division, if a member, to have broken the Rules of the Division as to professional conduct, or, if not a member, to have acted, after due notice as herein provided, in contravention of the said Rules, or who, whether a member of the Division or not, shall have been declared by the Division to be deemed guilty of conduct detrimental to the honour and interests of the profession, or calculated to bring the profession into disrepute. "Due notice" to a non-member for the purpose of this Rule shall be construed to mean one month's notice of any resolution adopted in pursuance of Rule (*B*) or (*C*).

(*G*) *Consultation in Case of Urgency.*—If in circumstances of great urgency a member of the Division shall meet professionally a medical practitioner whom, under Rule (*F*), he could not meet except in such circumstances, he shall at once report the fact, with an explanation of the said circumstances, to the Secretary, who shall forthwith report the whole matter to the Ethical Committee of the Division.

If the Ethical Committee shall in any instance not be satisfied that the circumstances were of such ugency as to justify such action, it shall be the duty of the Committee to inquire further into the matter, and to report to the Division whether, in the opinion of the Committee, Rule (*F*) has or has not been broken by the member concerned.

Practical Working of Rules.

The effect of these Rules is:—

(1) Rule (*A*) makes resolutions of the Division binding upon the members of the Division, provided that such Resolutions are adopted in the manner prescribed in the Rules.

(2) Rules (*B*) and (*C*) are intended to secure that such resolutions shall not take effect unless due notice has been given, and unless they have been approved by a sufficient majority of those locally concerned.

(3) Rule (*D*) provides that in the case of a resolution which affects existing appointments, the holders of such appointments shall have, *in addition to the notice of the resolution which they would receive, under Rule* (*B*) *or* (*C*), *before it was adopted*, a further notice to enable them to make arrangements with respect to the appointments which they hold.

(4) Rule (*E*) makes provision for the consideration, in conformity with the regulations of the Association, of any breach of the Rules by a member of the Association.

The collective effect of the foregoing Rules (*A*) to (*E*) in practice is that a resolution of the Division is binding, not only on those who are already members of the Division, but upon any member of the Association who may contemplate accepting an appointment within the area of the Division; inasmuch as, *by becoming resident within the Division area, he becomes a member of the Division, and therefore bound by its Rules and by those resolutions which are binding under the Rules.*

Rule (*F*) provides a means whereby the Division may mark its disapproval of the action of members of the profession, whether members of the Association or not, who act in opposition to the interests of the profession, provided, (*a*) that such practitioners shall have reasonable notice of any resolution adopted by the Division, and (*b*) that exception shall be made for cases of urgency.

Rule (*G*) is intended to prevent the abuse of the exception.

Special Cases Considered.

(a) Conformity with Local Agreements.

The following special cases have received consideration:

1. That a member of the Association entering a district in which there is local agreement among the profession with respect to contract practice (apart from any rules of the local Division of the Association) should conform to the local agreement.

2. That a member of the Association accepting an appointment in a Division other than that in which he resides should conform as regards that appointment to the rules of the Division in the area of which the appointment is situated.

(b) Forbidding Agreements not to Practise, Entered into with Lay Persons.

3. A special Rule submitted by two Divisions, has been approved, as follows:

"No member of this Division shall enter into an agreement with any person or persons, other than members of the medical profession, which shall contain restrictions on the right of such member to practise in the Division after the termination of any appointment held or to be held by such member."

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

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CONTENTS.

	Page
BRITISH MEDICAL ASSOCIATION: SEVENTY-THIRD ANNUAL MEETING.—GENERAL ARRANGEMENTS	81
MEETINGS OF BRANCHES AND DIVISIONS:	
Yorkshire Branch: Bradford Division	90
,, ,, Sheffield Division	90
Lancashire and Cheshire Branch	91
Birmingham Branch: Coventry Division	92
Glasgow and West of Scotland Branch: Lanarkshire Division ...	93
North Lancashire and South Westmorland Branch	93
South-Eastern of Ireland Branch	93
Staffordshire Branch: South Staffordshire Division	93
Ulster Branch: Derry Division	93
ASSOCIATION NOTICES.—BRANCH AND DIVISION MEETINGS TO BE HELD	93
ANNUAL REPRESENTATIVE MEETING.—List of Representatives returned for the Annual Representative Meeting to be held at Leicester on July 24th, 1905	94
NAVAL AND MILITARY APPOINTMENTS	95
VITAL STATISTICS...	95
VACANCIES AND APPOINTMENTS	95
BIRTHS, MARRIAGES, AND DEATHS	95
CALENDAR	96

British Medical Association.

LEICESTER, 1905.

SEVENTY-THIRD ANNUAL MEETING.

GENERAL ARRANGEMENTS.

THE seventy-third annual meeting of the British Medical Association will be held at Leicester on Monday, Tuesday, Wednesday, Thursday, and Friday, July 24th, 25th, 26th, 27th, and 28th, 1905.

President: WILLIAM COLLIER, M.D., F.R.C.P.Lond., Physician, Radcliffe Infirmary, Oxford, and Litchfield Lecturer in Medicine, University of Oxford.

President-elect: GEORGE C. FRANKLIN, F.R.C.S., Honorary Surgeon, Leicester Infirmary.

Chairman of Representative Meetings: Sir VICTOR HORSLEY, F.R.S.

Chairman of Council: ANDREW CLARK, D.Sc., F.R.C.S.

Treasurer: EDWARD MARKHAM SKERRITT, M.D., F.R.C.P.

An Address in Medicine will be delivered by HENRY MAUDSLEY, LL.D., M.D., F.R.C.P.

An Address in Surgery will be delivered by CHARLES JOHN BOND, F.R.C.S.

A popular lecture will be delivered by Professor WILLIAM STIRLING, D.Sc., M.D., F.R.S.E.

SECTIONS.

The annual meeting at Leicester will comprise 12 Sections as shown in the subjoined list. The Sections will meet on Wednesday, Thursday, and Friday, July 26th, 27th, and 28th, from 10 a.m. to 1 p.m.

The President, Vice-Presidents, and Secretaries of each Section constitute a Committee of Reference for that Section.

Papers read are the property of the British Medical Association, and cannot be published elsewhere than in the BRITISH MEDICAL JOURNAL *without special permission.*

No paper must exceed 15 minutes in reading, and no subsequent speech 10 minutes.

MEDICINE.

Technical Schools—Room 2.

President: FRANK M. POPE, M.D., F.R.C.P., Leicester.
Vice-Presidents: REGINALD PRATT, M.D., M.R.C.P., Leicester; ROBERT WILLIAM PHILIP, M.D., F.R.C.P.Edin., Edinburgh; WILLIAM BRAMWELL RANSOM, M.D., F.R.C.P., Nottingham.
Honorary Secretaries: BERTRAND DAWSON, M.D., B.Sc., F.R.C.P., 32, Wimpole Street, Cavendish Square, W.; WILLIAM MITCHELL STEVENS, M.D., M.R.C.P., 21, St. Andrew's Crescent, Cardiff; FRANK HARWOOD JACOB, M.D., M.R.C.P., 28, Regent Street, Nottingham.

The following subjects have been selected for special discussion in this Section:

A. The treatment of sleeplessness and pain;

B. The pathology, diagnosis, and treatment of various forms of acute meningitis:

C. The diagnosis and treatment of cardiac degeneration apart from valvular disease.

Discussion A. will be opened on July 26th by Sir LAUDER BRUNTON, M.D., F.R.S., in an address of which a summary was published on July 1st (SUPPLEMENT, p. 8).

Sir LAUDER BRUNTON will be followed by Professor CUSHNY, Sir WILLIAM BROADBENT, and Dr. HALE WHITE in the order stated. After this the discussion will be thrown open.

Discussion B. will be opened on July 27th by Dr. HOWARD TOOTH, M.D., F.R.C.P. An abstract of his address was published on July 1st (SUPPLEMENT, pp. 8, 9).

Dr. TOOTH will be followed by Dr. HORDER, Professor OSLER, and Dr. MONTAGUE MURRAY in the order indicated, after which the discussion will be thrown open.

Discussion C. will be opened on July 28th by Dr. J. DRESCHFELD, M.D., F.R.C.P., of Manchester, in an address of which an account was published on July 1st (SUPPLEMENT, p. 9).

Dr. DRESCHFELD will be followed by Dr. G. H. GIBSON, Dr. W. HERRINGHAM, Sir WILLIAM BROADBENT, and Dr. A. FOXWELL in the order stated. The discussion will then be thrown open.

The following is a list of the six papers which have been accepted by the Committee of Reference. They will be read in the order placed, two being taken each morning when the formal discussion for the day has been closed.

HADLEY, W. Diagnosis of the Varieties of Pleural Effusions.
RANSOM, W. B. The Influence of Posture on Breath Sounds.
RAW, Nathan. Human and Bovine Tuberculosis, with special reference to Bovine Infection in Children.
POYNTON, F. J. The Employment of Citrate of Soda in Infant Milk Feeding.
DAWSON, Bertrand. Diagnosis of Gastric Ulcer.
DAVIDSON, Mackenzie. The Diagnostic Value of X Rays.

It is requested by the Committee of the Section that

members wishing to take part in these discussions will communicate in the case of discussion A. with Dr. Bertrand Dawson, in the case of discussion C. with Dr. W. Mitchell Stevens, in the case of discussion B. with Dr. Frank H. Jacob.

Surgery.

Technical Schools—Room T.

President: Sir Charles Bent Ball, M.Ch., F.R.C.S., Dublin. *Vice-Presidents:* Claude Douglas, F.R.C.S., Leicester; Henry John Blakesley, F.R.C.S., Leicester; James Henderson Nicoll, M.B., C.M., Glasgow. *Honorary Secretaries:* Percy Furnivall, F.R.C.S., 28, Weymouth Street, W.; Cecil Edward Marriott, M.C., F.R.C.S., 11, Welford Road, Leicester.

The following subjects have been selected for special discussions:

A. The Surgical Treatment of Non-malignant Diseases of the Stomach.

B. The Treatment of Malignant Disease of the Rectum.

Discussion A. will be opened on July 26th by Mr. B. G. A. Moynihan, M.S.Lond., F.R.C.S., in an address in which the subject is dealt with under the following heads:

1. Perforating ulcer (acute, subacute, chronic).
2. Ulcer, with serious haemorrhage.
3. Chronic ulcer of the stomach and duodenum.
4. Hour-glass stomach.

1. *Perforating Ulcer.*—(*a*) *Acute.* In acute perforating ulcer operation should be performed as early as possible; as soon, in fact, as a diagnosis is made. The relative significance of the various symptoms is discussed, and emphasis laid upon the significance of an unalterable rigidity of the muscles of the abdominal wall, a rigidity that is not lessened materially by even morphine or chloroform. The points in need of discussion in this connexion are those concerned with: (1) The excision of the ulcer; (2) the desirability or necessity of flushing of the peritoneal cavity, and of drainage. In early cases both are unnecessary; in later cases both may be needed.

(*b*) *Subacute.* In subacute perforation there is much outpouring of lymph, and a secure protection of the general peritoneum is afforded thereby. Free fluid is always found in the peritoneum; it is clear and it is sterile. In treating such a case the ulcer may be exposed, and excised or closed by suture; but when the ulcer lies near the pylorus, it may be allowed to remain undisturbed, and gastro enterostomy may be performed.

(*c*) *Chronic.*—Perigastric abscess; subphrenic abscess. Treatment concerns itself solely with the opening of the abscess and its efficient drainage. The ulcer may be ignored. In some cases a gastric fistula results, but this almost always closes spontaneously.

2. *Ulcer with Haemorrhage.*—The various types of bleeding in gastric ulcer are discussed, and the opinion expressed that recurrence of the haemorrhage in increasing quantities or at lessening intervals is the main indication for surgical interference. The methods of treatment are direct and indirect. If possible, the bleeding point should be directly secured by ligature of the vessel, excision, or infolding of the ulcer, cautery, etc., but if, for one or more of many reasons, these are impossible, the indirect treatment of the haemorrhage, that is, the performance of gastro-enterostomy, may, by causing an emptying of the stomach, lessen or check the haemorrhage. The combination of gastro-enterostomy with gastrostomy or jejunostomy may, at times, be necessary.

3. *Chronic Ulcer.*—The surgical indication to be met in many cases is gastric stasis. This can be overcome by gastro-enterostomy. When the ulcer lies at or near the pylorus, and there is a dilated and hypertrophied stomach, the operation of gastro-enterostomy gives a perfect result. If the ulcer be in the body of the stomach, say on the lesser curvature, and adhesions to liver or pancreas are present, the operation of gastro-enterostomy affords almost complete relief, but pain and a dragging sensation sometimes remain. Therefore adhesions should be separated or the ulcer infolded or excised. If the ulcer is on the duodenum, it should be excised, or the pylorus should be closed on its proximal side.

In early cases, and in the majority treated now, the ulcers are multiple, and therefore excision of the ulcers was impossible. If cases are seen in the future at an earlier stage when only one ulcer is present (multiple ulcers being probably due to auto-infection), the ulcer should be excised. If the ulcer be single and at the pylorus, excision and Finney's operation should be performed. The question will have to be decided by our future experience as to whether, in these early cases, excision with the subsequent performance of Finney's operation, or excision with closure of the pylorus by suture, and the performance of gastro-enterostomy, will be the better. The excision of the ulcer-bearing area by Rodman's operation is sometimes necessary, but the severity of the operation is out of proportion to the severity of the disease.

The fact must not be lost sight of that most cases of cancer of the stomach give a history of chronic ulcer, and that the area affected by the disease is the same in three-fourths of the cases. The desirability of lessening the functional activity of this portion of the stomach—the pyloric antrum—has therefore to be considered.

4. *Hour-glass Stomach.*—A chronic ulcer situated anywhere in the body of the stomach may, by its contraction, cause the hour-glass deformity. The disease is not so infrequent as has been supposed. He has operated upon 19 simple cases. The fact of the multiplicity of ulcers of the stomach and duodenum, to which he has constantly drawn attention, is nowhere illustrated more forcibly, for there is frequently a narrowing also at the pylorus from ulcer. Two pouches are formed—cardiac and pyloric—and both have to be drained. Double operations are, therefore, necessary in many cases.

Mr. Moynihan will be followed by Messrs. C. Mansell-Moullin, F. S. Eve, Bruce Clarke, F. C. Wallis, F. F. Burghard, C. B. Keetley, J. Lynn Thomas, L. A. Bidwell, E. Deanesly, T. G. Atkins, R. Saundby, J. M. T. Finney, Baltimore, R. Morrison, A. R. Anderson, F. C. Wallis, G. Barling, Sinclair White, J. Lynn Thomas, K. Dalziel, J. Ward Cousins, A. B. Mitchell, W. F. Brooks, and Drs. Hartmann and Tuffier, both of Paris.

Discussion B. will be opened on July 27th by Sir Charles Ball, M.Ch., F.R.C.S., who will be followed by Messrs. Harrison Cripps, F. Swinford Edwards, F. C. Wallis, F. F. Burghard, J. Jackson Clarke, J. Lynn Thomas, Charles Ryall, E. Stanmore Bishop, E. Deanesly, W. L. Woollcombe, C. P. Childe, T. G. Atkins, J. Chiene, Sinclair White, A. B. Mitchell, and Dr. Hartmann of Paris.

The following is a list of the papers which up to the present have been received by the Committee of Reference for this Section:

Fenwick, E. Hurry. **Life history of a Left-sided Ureteritis peculiar to the Female.**
Berry, J. **Sixty Cases of Cleft Palate Treated by Operation.**
Tubby, H. Spinal Osteomyelitis.
Freyer, P. J. **Total Enucleation of the Prostate: A Review of 200 Cases.**
Thomas, J. Lynn. **Immediate Crossing of Facial Nerve to the Spinal Accessory Nerve in a Case of Removal of a large Parotid Tumour.**
Sheen, W. **A Case of Ligature of the Innominate Artery.**
Bidwell, L. A. **A Case of Angio-Sarcoma of Omentum.**
Cammidge, P. J. **Observations on the Faeces in Biliary Obstruction and Pancreatic Disease.**
Leedham Green, C. **Some Further Experiments on the Sterilization of the Skin.**
Malcolm, J. D. **Two Cases of Partial Sloughing of the Vermiform Appendix.**
Childe, C. P. **An Unusual Condition of the Large Intestine associated with Carcinoma in Two Sisters.**
Jones, Robert. **The Treatment of Recurrent Dislocation of the Shoulder and Displacement of the Patella.**
Atkins, T. G. (1) After-histories of 20 Cases of Gastro-jejunostomy—reported at the Oxford meeting—for Non-malignant Conditions of the Stomach. (2) Short Notes on a Case of Acute Gangrenous Appendicitis, illustrated with specimen and drawing.
Newman, D. (1) New Method of Operation on Prolapse of the Rectum. (2) Apparatus for Draining Kidney after Nephrotomy. (3) Cystoscopy in the Diagnosis of Vesical Calculus.
White, Sinclair. Gastro-pyloro-duodenostomy.
Handley, Sampson. Lantern Demonstration of Epigastric Invasion of Abdomen in Breast Cancer.
Walker, J. W. Thomson. Note on a Specimen of Bladder and Urethra Removed Two Years after Prostatectomy.
Keetley, C. B. Appendicostomy.
Bucknall, R. Malignant Disease of the Rectum.
Morrison, R. Treatment of Faecal Fistula.
Wheeler, W. I. de C. The Talma-Morrison Operation.
Clarke, Jackson. A Note on Congenital Dislocation of the Hip Joint, and its Modern Treatment.
Mummery, P. Lockhart. The Diagnosis of Lesions in the Upper Rectum and Sigmoid Flexure.
Mitchell, A. B. Treatment of Fractured Femur, with Demonstration of Gordon's Splint.

Arrangements have been made for showing lantern slides to illustrate subjects under discussion. The Secretaries

will be pleased to hear from any one who desires to take part in the discussions mentioned.

STATE MEDICINE.

Technical Schools—Room 7.

President: PHILIP BOOBBYER, M.D., Nottingham. *Vice-Presidents:* NINIAN MCINTIRE FALKINER, M.D., Dublin; JOHN HERBERT HAWKINS MANLEY, M.D., D.P.H., West Bromwich; THOMAS ROBINSON, M.R.C.S., D.P.H., Leicester. *Honorary Secretaries:* WM. WILLIAMS, M.D., D.P.H., County Health Department, 9, The Parade, Cardiff; CHAS. KILLICK MILLARD, M.D., D.Sc., Town Hall, Leicester.

The following subjects have been selected for special discussion:

A. Hospital Isolation for Infectious Disease.
B. Sanatoriums for the Poorer Consumptives.
C. Infants Milk Dépôts.
D. What is Notifiable Diphtheria?

Discussion A. will be opened by GEORGE WILSON, M.A., M.D., D.P.H., LL.D., F.R.S.Edin., in an address, of which the following is an abstract:

Chiefly intended for the protection of the public, and only indirectly for the benefit of the patient. Diseases for which accommodation is usually provided in modern, well-equipped hospitals. For small urban and rural districts adequate hospital accommodation can only be obtained at a reasonable cost by forming large hospital districts. For this purpose county councils should have power to issue joint as well as separate orders, and should contribute to structural and establishment charges. Numbers of beds required for population exclusive of provision for small-pox, 2 beds per 3,000 population ample, with emergency tents. Regulations of Local Government Board with respect to hospital accommodation for small-pox cases increases difficulty of the question enormously. Risks of aërial convexion greatly over-rated. No reason why separate blocks, if properly isolated, should not be used for small-pox cases on same site as hospital for other cases of infectious disease, if site large enough. If vaccination and revaccination were universally acceded to or enforced, small-pox hospitals could be dispensed with as in Germany. Where vaccination largely neglected, hospital isolation and segregation of contracts may, as in Leicester and other towns, often prove effectual in suppressing limited outbreaks, but without vaccination and revaccination there is always imminent risk of an outbreak passing beyond control. Leicester method fraught with danger, the plan of compensating contacts and paying them a fee if they consent to be vaccinated should be legalized.

Apart from small-pox, hospital accommodation has been almost entirely utilized for scarlet fever cases. Early hopes of value of hospital isolation in suppression of scarlet fever not realized. Within the last twenty-five years mortality from the disease has become enormously reduced in the proportion of about 6 to 1. Disease far less fatal than either measles or whooping-cough. Statistics: Change in type largely due to improved sanitary condition of schools, and especially of outside offices, and also to improved condition of the home and its surroundings. Owing to changed type of the disease many slight cases escape notice altogether, so that hospital isolation is rendered comparatively valueless.

Suggestion—that severe cases with high temperature, well-marked rash, and pronounced throat symptoms should be notified as *scarlet fever*, and mild cases as *scarlatina*. Only former cases should be entitled to removal to hospital, and latter cases only on payment, and when there is ample accommodation. Hitherto, in districts provided with hospitals, patients with very few exceptions have been admitted free of charge, and the advantages are so appreciated that many parents look to removal to hospital as their right, while if the patients are club patients, dispensary patients, or pauper patients, medical attendants naturally recommend removal, hence useless expense, and constant risk of overcrowding wards.

In rural districts, too, the principal inhabitants of some villages are so nervous on the occurrence of any outbreak that they press for the removal of all cases. Each parish, therefore, should pay for the maintenance charges of its own patients.

Slight cases much less infectious than cases with throat complications. Infection conveyed by throat, sores in nose or ears, not by desquamating skin. If a ward is overcrowded, or contains several severe cases, slight cases after admission often develop serious symptoms. Single or small separate wards should be provided for severe cases. This would minimize risk of return cases.

Comparative statistics, Mid-Warwickshire Combined District submitted to show that districts without hospital accommodation have a lower attack or incidence rate than districts provided with such accommodation, and the mortality-rate is about equal. In districts without hospitals more than half the cases notified are single cases: this also applies to districts with hospitals when prevalence of scarlet fever, as sometimes happens, outstrips hospital accommodation. Exceptional cases in all districts for which hospital accommodation is desirable. If school age were raised to 5 years there would be much less prevalence of scarlet fever, and also of diphtheria, whooping-cough, and measles.

In respect to diphtheria, only severe cases should be admitted free of charge. If all that is claimed for serum treatment and preventive inoculation can stand the test of rigid and impartial investigation, hospital accommodation for diphtheria cases should seldom be required, and then mainly for operative interference. Numerous cases of slight sore-throat now notified as diphtheria which would not have been regarded as diphtheria in former days. Hence the fallacy of the fatality statistics of the disease. The death-rate per 1,000 of the population not lowered.

Enteric or typhoid fever cases can, with proper precautions, be admitted into general hospitals, but in a well-equipped isolation hospital accommodation in small wards should be provided. With steady advance in sanitation, enteric fever should become as rare as ague.

Whenever there is a serious outbreak of scarlet fever, diphtheria or typhoid fever from a common origin, such as tainted milk or polluted water supply, no reasonable amount of hospital accommodation can cope with the outbreak. In rural districts provided with hospitals, school closure is as necessary for prevention of spread of scarlet fever or diphtheria as in districts without such accommodation.

Hospital isolation as a preventive check, more especially in respect to scarlet fever, is practically valueless. In villages and scattered rural districts, the needs of hospital isolation, even for exceptional cases, could be greatly lessened, and at a much cheaper rate, if sanitary authorities were empowered to provide nursing, and to pay compensation when the bread-winner is debarred from following his or her usual employment.

The time has arrived for the institution of a full inquiry into the whole question, and a presentation should be made to the Local Government Board soliciting them to institute such inquiry.

He will be followed by THOS. WHITESIDE HIME, J. E. O'CONNOR, F. H. WADDY, and others.

Discussion B. will be opened by L. A. WEATHERLY, M.D., who will be followed by R. SHINGLETON SMITH, N. D. BARDSWELL, T. N. KELYNACK, J. L. SALMOND, NATHAN RAW, W. B. RANSOM, R. W. PHILLIP, and C. REINHARDT.

Discussion C. will be opened by Bailie W. F. ANDERSON (Convener of the Health Committee, Glasgow), who will be followed by Drs. NATHAN STRAUS (New York), DUFOURS, (Fécamp), J. E. SANDILANDS, and J. J. BUCHAN.

Discussion D. will be carried on in conjunction with the Section of Laryngology, and will be opened by P. WATSON WILLIAMS, M.D., who will be followed by DAVID S. DAVIES, M.D.

The following is a list of the papers which have been accepted by the Committee of Reference:

RENTOUL, R. R. The Proposed Sterilization of Certain Degenerates.
KAYE, J. R. The Working of the Midwives Act.
KELYNACK, T. N. Alcohol in Relation to National Vitality.
MAGENNIS, E. Physical Deterioration in the Schoolroom.
KENWOOD, Professor H. R. Elementary Education and the Teaching of Hygiene.
NASH, J. T. C. Shellfish and Typhoid Fever.

INDUSTRIAL HYGIENE AND DISEASES OF OCCUPATION.

Technical Schools—Room 8.

President: HY. WM. LANGLEY BROWNE, M.D., West Bromwich. *Vice-Presidents:* ALEXANDER CAMPBELL, M.D., Dundee; JOHN COLLEY SMYTH BURRITT, M.D., D.P.H., Leicester; THOMAS MORISON LEGGE, M.D., London. *Honorary Secretaries:* CLEMENT FREDERICK BRYAN, M.R.C.S., 44, Humberstone Road, Leicester; THOMAS WATTS, M.D., 34, Church Street, Hyde.

The following discussions have been arranged in this Section:

A. Physical Deterioration, its Causes and Extent.
B. Anthrax.

C. Accident and Poisoning Reports.

Discussion A. will be opened on July 26th by Dr. DAWSON WILLIAMS in an address of which an abstract was published on July 8th (SUPPLEMENT, page 34).

Dr. Dawson Williams will be followed by Dr. WILLIAM HALL, Professor R. J. ANDERSON, and Dr. R. H. SCANES SPICER, after which the discussion will be thrown open.

Discussion B. will be opened on July 27th by Dr. J.W. BELL, of Bradford, in an address the headings of which were published on July 8th (SUPPLEMENT, page 34).

Dr. Bell will be followed by Dr. LEGGE and Mr. L. STRETTON, after which the discussion will be thrown open.

Discussion C. will be opened on July 28th by Dr. W. F. DEARDEN in an address of which an abstract was published on July 8th (SUPPLEMENT, page 34).

The following is a list of the papers which have been accepted:

HALL, William. The Influence of Environment upon Physical Development.
STRACHAN, John. School Life as a Cause of Physical Deterioration.
MUTHU, Chowry. Poverty in Relation to Disease and Degeneration.
DUNCAN, Cecil. Steam Disinfection of Horsehair.
GOADBY, Kenneth W. Condition of Blood in Plumbism.

LARYNGOLOGY, OTOLOGY AND RHINOLOGY.

Technical Schools—Room O.

President: FREDERICK WILLIAM BENNETT, M.D., Leicester. *Vice-Presidents:* WILLIAM ARTHUR CARLINE, M.D., Lincoln; JOHN MIDDLEMASS HUNT, M.B., Liverpool. *Honorary Secretaries:* ALEX LEWIS MACLEOD, M.B., 89, Hinckley Road, Leicester; CHAS. HERBERT FAGGE, M.S., F.R.C.S., 22, St. Thomas's Street, London Bridge, S.E.

The following subjects have been selected for special discussion:

A. The Lines of Treatment in Preventing Acute Middle-Ear Suppuration from becoming Chronic.

B. The Treatment of Tuberculous Disease of the Larynx.

C. The Infectivity and Notification of Diphtheria, with Special Reference to Latent Forms of the Disease.

Discussion A. will be introduced on July 26th by Dr. WILLIAM MILLIGAN, of Manchester, and Dr. ERNEST WAGGETT. A synopsis of the address of the former was published on July 8th (SUPPLEMENT, page 34). The headings of Mr. Ernest Waggett's paper were published on July 15th (SUPPLEMENT, page 71).

Discussion B. will be introduced on July 27th by Dr. JOBSON HORNE and Dr. S. HABERSHON. Of the address of the latter a synopsis appeared on July 8th (SUPPLEMENT, page 35). A synopsis of Dr. Jobson Horne's address was published on July 15th (SUPPLEMENT, page 71).

Discussion C. will be carried on conjointly with the Section of State Medicine, and will be opened on July 28th by Dr. WATSON WILLIAMS and Dr. DAVID DAVIES, both of Bristol. Summaries of these addresses were published on July 8th (SUPPLEMENT, page 35).

The following is a list of the papers which up to the present have been accepted by the Committee of Reference:

GRAY, A. A. (Glasgow). The Pathological Conditions found in a Case of an Individual who had suffered from Deafness during Life.
BARWELL, Harold (London). On the Choice of the Method of Treatment in Cases of Tuberculous Laryngitis, with a Plea for the Routine Inspection of the Throats of Consumptive Patients.
SYME (Glasgow). The Demonstration of a Pair of Forceps for Operations on the Maxillary Antrum.
MURTHWAITE, H. (Newcastle). Submucous Resection of the Nasal Septum.
PEGLER, L. H. A Note on the Comparative Value of the Mouro and Fenster Resection Types of Operations for Deflection of the Nasal Septum.
TILLEY, H. (London). The Symptoms, Diagnosis, and Treatment of Chronic Suppuration in the Sphenoidal Sinus.
PERMEWAN, D. (Liverpool). A Fibro-Lipoma Removed from the Pharynx.
OUSTON, T. G. (Newcastle). The Lines of Treatment in Preventing Acute Middle Ear Suppuration from Becoming Chronic.

In addition to those above-mentioned, the following gentlemen have notified their intention of taking part in the work of the Section: Messrs. E. DEANESLY (Wolverhampton), HUGH E. JONES (Liverpool), ATWOOD THORNE (London), MARK HOVELL (London), R. LAKE (London), GRIFFITH WILKIN (Paignton), MAYO COLLIER (London), STCLAIR THOMSON (London), N. C. HARING (Manchester), W. S. SYME (Glasgow), GEO. JACKSON (Plymouth), and SCANES SPICER (London).

NAVY, ARMY AND AMBULANCE.

Technical Schools—Room H.

President: Surgeon-Lieutenant-Colonel HENRY WALTER KIALLMARK, M.R.C.S., London. *Vice-Presidents:* Surgeon-Lieutenant-Colonel ROBERT BRADSHAW SMITH, V.D., L.R.C.P., Hinckley; Lieutenant-Colonel EDMOND MONKHOUSE WILSON, C.B., C.M.G., D.S.O., S. Farnboro'; Fleet Surgeon ALEXANDER J. J. JOHNSTON, R.N., Haslar. *Honorary Secretaries:* Fleet Surgeon EDWARD JAMES BIDEN, R.N. (Ret.), 29, Osborne Road, Southsea; Captain WM. PEMBERTON PEAKE, M.R.C.S., R.A.M.C.(Vols.), 21, Oxford Street, Leicester; Captain EDWIN CHARLES MONTGOMERY-SMITH, R.A.M.C.(Vols.), 36, Abbey Road, St. John's Wood, N.W.

The following is a list of the papers which have been accepted for perusal and discussion in this Section:

BEADNELL, Fleet Surgeon Charles Marsh, R.N. On the Disposal of our Wounded in a Naval War.
AUSTIN, Fleet Surgeon Thos., R.N. The Collection and Distribution of Wounded in a Modern Cruiser Engagement, from Observations made in Chemulpo, February 9th, 1904.
BEADNELL, Fleet Surgeon Charles Marsh, R.N. Some Dynamical and Hydrodynamical Effects of the Modern Small-bore Bullet.
BIDEN, Fleet Surgeon E. J., R.N. Remarks on the Head Dress of Certain Ratings in H.M. Navy.
FAICHNIE, Major, R.A.M.C. Causation, Varieties, and Treatment of Dysentery on Active Service.
JENKINS, E. Lynn, M.B., B.S. Causation, Varieties, and Treatment of Dysentery on Active Service.
ROBINSON, Surgeon-Lieutenant-Colonel G. S., Scots Guards. On the Feeding of the Soldier in Active Service.
CRAWFORD, Major G. S., R.A.M.C. On the Care of Soldiers' Feet.
GILES, Surgeon-Colonel P. B. Care of Soldiers' Feet.
FURLEY, Sir John, C.B. Red Cross Organization, with Special Reference to Preparation for War in Times of Peace.
BARNES, Lieutenant-Colonel H. J., Secretary, St. Andrews Ambulance Association. A Paper bearing on the Relations between the Civil Authorities and Ambulance Associations.
MARSHALL, Major J. J. de Z., R.A.M.C.(Vols.). First Aid Treatment of Fractured Thigh in Military and Civil Practice.

OBSTETRICS AND GYNAECOLOGY.

Technical Schools—Room 3.

President: HERBERT RITCHIE SPENCER, M.D., F.R.C.P. London. *Vice-Presidents:* HENRY MEADOWS, M.B., Leicester; Professor HENRY CORBY, M.D., Cork; FRANCIS RICHARD CASSIDI, M.D., Derby. *Honorary Secretaries:* MONTAGUE WM. WILLIAMS, M.R.C.S., 45, London Road, Leicester; Miss LOUISA GARRETT ANDERSON, M.D., 114A, Harley Street, W.

The following subjects have been selected for special discussion:

A. The Diagnosis and Treatment of Cancer of the Uterus.

B. The Treatment of Albuminuria and Eclampsia occurring in Pregnancy.

Discussion A. will be opened on July 26th by Professor WERTHEIM of Vienna; a summary of his address was published on July 1st (SUPPLEMENT, p. 10).

He will be followed by Messrs. Robert Bell, John Campbell, McCann, Frederick Edge, Skene Keith, Munro Kerr, Lewers, Cuthbert Lockyer, Ewen Maclean, Inglis Parsons, H. Briggs, Harrison Cripps, Forbes Ross, Herbert Snow, Arthur Wallace, Thomas Wilson, Miss Aldrich-Blake, Mrs. Stanley Boyd, Mrs. Scharlieb, Sir W. J. Smyly, and Professor Howard A. Kelly, the guest of the Section.

Discussion B. will be opened on July 28th by Dr. ROBERT BOXALL, M.D., F.R.C.P., in an address of which an abstract was published on July 1st (SUPPLEMENT, p. 10).

He will be followed by Messrs. John Campbell, Eden, Munro Kerr, Lewers, Ewen Maclean, Inglis Parsons, Forbes Ross, Fothergill, Purslow, Smyly, Thomas Wilson, and Professor Tweedy.

The following is a list of the papers and communications which the Committee of Reference for the Section has accepted up to the present:

CAMPBELL, John. The Influence of the Presence of Pus in the Female Urethra upon the Prognosis in Obstetrical and Gynaecological Cases.
CAMERON, S. J. A Lantern-slide Demonstration illustrating Degenerations in and Complications of Fibroids.
CORBY, Professor Henry. Fibroid Tumour of Ovary Removed from a Hermaphrodite, with specimen.
MACLEAN, Ewen J. Elephantiasis of Vulva, with specimen.
PARSONS, J. Inglis. Operation for Prolapse of Uterus.
TWEEDY, Professor. High-limit of Pulse and Temperature Throughout the Normal Puerperium.
WILSON, Thomas. Two Cases of Vaginal Caesarean Section in the Last Month of Pregnancy.

Gynaecological Section of the Pathological Museum.—Members interested in this part of the work of the Section are referred to the account given under the heading of the Annual Pathological Museum.

OPHTHALMOLOGY.

Technical Schools—Room 6.

President: GEORGE ANDREAS BERRY, F.R.C.S.Edin., Edinburgh. *Vice-Presidents:* WM. MARDON BEAUMONT, M.R.C.S., Bath; EDWIN COLLIER GREEN, M.R.C.S., Derby. *Honorary Secretaries:* ROBT. WALLACE WESLEY HENRY, M.D., 6, Market Street, Leicester; JOHN HERBERT PARSONS, F.R.C.S., 27, Wimpole Street, Cavendish Square, W.

The following subjects have been selected for special discussion in this Section:

A. Intraocular Tuberculosis; its Etiology, Diagnosis, Prognosis, and Treatment.

B. Capsular Complications after Cataract Extraction.

Discussion A. will be introduced on Thursday, July 27th, by Mr. WALTER H. H. JESSOP, M.B., F.R.C.S., in an address of which a syllabus was published on July 15th (SUPPLEMENT, page 72).

Discussion B. will be introduced on Friday, July 28th, by Mr. E. TREACHER COLLINS in an address of which an abstract was published on July 1st (SUPPLEMENT, p. 11).

The following gentlemen have expressed their desire to take part in one or other of the discussions: Messrs. BEAUMONT, WALTON BROWNE, HILL GRIFFITH, GROSSMANN, LITTLE, DEVEREUX MARSHALL, MALCOLM MCHARDY, MYDDELTON-GAVEY, BRONNER, DRAKE-BROCKMAN, SHAW, Professor HAAS, and Sir A. CRITCHETT.

The following is a list of the papers which have been accepted by the Committee of Reference. They will be read on July 26th, and after the discussion on the two following days.

BENSON, A. H. Evolution in Blepharoplasty.
BERRY, G. A. A New Test for Visual Acuteness.
COATES, G. Title uncommunicated.
GROSSMANN, Karl. (1) Absence of Dilatator of Iris. (2) Conical Cornea and Hot-air Cautery. (3) Lepra Ophthalmica.
HARMAN, Bishop. (1) Results of Electrical Treatment of Trachoma at Middlesex Hospital. (2) False Hay-fever.
HENDERSON, E. E. Action of Eserine in Animals.
HERN, J. Some Observations on the Effect of the Presence of Adenoids in the Naso-Pharynx on Some Eye Affections.
SHAW, Cecil. Short Account of a Case of Amblyopia, apparently Toxic, following Influenza.
BRONNER. Notes on a Case of Slight Myopia in which distressing Local and General Symptoms were relieved by the use of glasses which were much too strong.
MILLER, Victor. Short Notes on two cases of High Myopia in Young Children.
HESS, Professor. Demonstration of (1) Drawings regarding Pigment Migration in Cephalopods Eyes; (2) Apparatus for Hemiopic Pupil Reaction.

PSYCHOLOGICAL MEDICINE.

Technical Schools—Room N.

President: ALEXANDER REID URQUHART, M.D., Perth. *Vice-Presidents:* ROTHSAY CHARLES STEWART, M.R.C.S., Leicester; THEOPHILUS BULKELEY HYSLOP, M.D., London. *Honorary Secretaries:* ARTHUR MOLYNEUX JACKSON, M.B., Nottingham County Asylum, Radcliffe-on-Trent; JOHN WIGMORE HIGGINSON, M.R.C.S., Hayes Park Asylum, Hayes.

The following discussions have been arranged by the Committee of Reference:

A. Clinical Study of the Heredity of Insanity.

B. Occupation and Environment as Causative Factors of Insanity.

C. The Prognosis in Mental Disorders.

Discussion A. will be opened on July 26th by Dr. A. REID URQUHART.

Discussion B. will be opened on July 27th by Dr. T. BULKELEY HYSLOP.

Discussion C. will be opened on July 28th by Dr. ROBERT JONES of Claybury.

The time remaining after the discussion each morning will be devoted to the reading of such papers as may have been selected by the Committee of Reference.

The following papers have been accepted by the Committee of Reference:

BAUGH, L. Confusional Insanity.
POTTS, W. A. Mental Defects in Children.
SCHOFIELD, A. T. The Extension of Psychology in Medicine.

PATHOLOGY.

Technical Schools—Room S.

President: FREDERICK WALKER MOTT, M.D., F.R.C.P., F.R.S., London. *Vice-Presidents:* THEODORE SHENNAN, M.D., Edinburgh; Professor ARTHUR HAMILTON WHITE, L.R.C.P.I., Dublin. *Honorary Secretaries:* JOHN WILLIAM H. EYRE, M.D., Guy's Hospital, S.E.; THOMAS VILLIERS CROSBY, M.D., 91, St. Peter's Road, Leicester.

The following subject has been selected for special discussion in this Section:

The Relationship of Heredity to Disease.

The discussion will be introduced on July 26th by the President of the Section, Dr. F. W. MOTT, F.R.S., in an address of which a synopsis was published on July 8th (SUPPLEMENT, page 36).

Dr. Mott will be followed by Dr. ARCHDALL REID, Dr. ALDREN TURNER, Mr. CHARLES BOND, and Mr. E. SCHUSTER (Oxford), after which the discussion will be thrown open.

Discussion B. will take place on July 27th.

The following is a list of the papers which up to the present have been accepted by the Committee of Reference for the Section:

WRIGHT, Hamilton. The Etiology and Pathology of Beri-beri.
MAY, W. Page. A Case of Cerebral Hemiatrophy.
BAINBRIDGE, F. A. Pathology of Miner's Paralysis.
WHITE, A. Hamilton. Paratyphoid Infection.
DIMMOCK, A. F., and BRANSOM, Mr. F. W. (*a*) A Rapid and Simple Process for the Estimation of Uric Acid; (*b*) A Clinical Method for the Estimation of Chlorides in Urine (with demonstration).
ABRAHAMS, B. L. Morbid Anatomy and Histology of Various Forms of Chronic Joint Disease (lantern demonstration).
EYRE, J. W. H., and FLASHMAN, J. F. Diphtheroid Organisms in the Throats of the Insane.
GILCHRIST, A. W. A Method of Demonstrating Individual Metabolism by the Investigation of Pulmonary Expiration (with demonstration).
BUSHNELL, F. Carcinoma of Stomach.
GRUNBAUM, A., and CATTLEY, R. The Mitoses occurring in the Graafian Follicles.

DENTAL SURGERY.

Technical Schools—Room I.

President: MORTON ALFRED SMALE, M.R.C.S., L.D.S., London. *Vice-Presidents:* EDWARD LLOYD-WILLIAMS, M.R.C.S., L.R.C.P., L.D.S., London; FRANCIS JOHN LANKESTER, M.R.C.S., L.D.S., Leicester; *Honorary Secretaries:* WM. ARMISTON VICE, M.B., L.D.S., 19, Belvoir Street, Leicester; JOSEPH GEORGE TURNER, F.R.C.S., L.D.S., 12, George Street, Hanover Square, W.

The proceedings of this Section will be opened on Wednesday, July 26th, at 10 a.m., by Mr. Morton Smale, President of the Section, in a short introductory address.

A discussion on Toothache, Neuralgia, and Remote Affections of Dental Origin will then begin, the task of initiating it being undertaken by Dr. Risien Russell and Mr. J. H. Mummery in its general relations; by Mr. W. Lang in relation to the eyes; by Dr. Urban Pritchard in connexion with the nose, throat, and ears: and by Drs. Leonard Guthrie and E. Cautley in relation to children. A note on the subject in the latter relation by Dr. Robert Hutchison will be read by the Secretary, as also one by Sir Victor Horsley in connexion with neuralgia of the fifth nerve.

The following account of his paper has been supplied by Mr. Mummery:

Toothache.—Not a disease in itself, but a symptom, distinguished from neuralgia, in which the pain is not referred to the tooth. Toothache and neuralgia are often concurrent. Causes of toothache are:

1. *Diseased conditions of the tooth pulp*, due to:
(*a*) Irritation and exposure from caries or erosion.
(*b*) Secondary deposits in the pulp, as pulp stones.
(*c*) Localized suppuration of the pulp.
(*d*) Direct traumatism—exposure by fracture or operation.
(*e*) Irritation from fillings causing hyperaemia and inflammation.
(*f*) Polypus of the pulp.
2. *Diseases of the cementum and dental periosteum.*
(*a*) Exostosis (cementosis).
(*b*) Periostitis, due to direct injury or septic extension from the pulp.
(*c*) Alveolar abscess.
(*d*) Necrosis of the root.
(*e*) Pin-point absorption of the cementum.
3. *Difficult eruption and malposition*, as from impacted wisdom teeth.

Neuralgia.—Pain in the course or area of distribution of a nerve, which like toothache is not a disease *per se*, but a symptom due to some lesion frequently obscure and often connected with the teeth.

Certain definite areas are often the seat of neuralgic pain and, according to Dr. Head, the several teeth exhibit distinct pain localizations, the area affected indicating the special tooth involved.

Neuralgia dependent upon the teeth is held by Trousseau and other observers to be accompanied by tenderness over the first two cervical vertebrae. Neuralgic pain of a severe nature may occur in edentulous jaws, in the wasted alveoli of the teeth.

Calcareous deposits and calcareous degeneration of nerves are described by Weal as secondarily due to neuralgia from teeth. According to Tomes (*Dental Surgery*), the immediate relief of a true neuralgic attack, which often occurs after the extraction of a tooth or the destruction of a tooth pulp by arsenic, would seem to indicate that all the phenomena of neuralgia are possible without central or other degenerative change, or that this degenerative change is not sufficient to produce the neuralgia after the peripheral cause has been removed. All diseased conditions of the teeth may be the cause of neuralgia, the most frequent cause being morbid conditions of the pulp.

Neuralgia is sometimes due to the presence of inflamed or necrosed stumps of teeth and is frequently cured by their removal.

Neuralgia due to dental disease may be either confined to the course and area of distribution of the fifth nerve or may be of a reflex character and referred to almost any part of the body.

A sense of weight and difficulty of raising the arm from the side, with loss of the power of grasp, is not very infrequently found as a reflex manifestation accompanying severe toothache in lower molars, and also pain in the forearm of a neuralgic character.

The principal reflex affections from teeth are:

(1) Convulsions and reflex cough from teething.
(2) Epilepsy.
(3) Hysteria and epileptiform convulsions due to the difficult irruption of wisdom teeth.
(4) Chorea.
(5) Uterine pain and leucorrhoea.
(6) Affections of the ear.
(7) Affections of the eye and the muscles connected with the eye.
(8) Reflex affections of the nose (cases doubtful).
(9) Cardiac irregularity (recorded by Sir D. Powell).
(10) Trismus.
(11) Spasm of the sterno-mastoid.
(12) Facial paralysis and spasm of the facial muscles.
(13) Blanching of the hair in a certain limited area.

Oral sepsis having been dealt with at the last meeting of the Section, it is not proposed to dwell at length on this part of the subject.

Remote Affections of Dental Origin caused by the Extension of Diseased Conditions.

Suppurative and other affections caused by the multiplication and diffusion of bacteria and of the poisons produced by them.

The absorption of poisonous products from alveolar abscess and the extension of the bacteria into the tissues and the circulation.

The accumulation of bacteria in an inflamed or gangrenous pulp, as well as in a dental abscess within the alveolus, may serve as a focus of infection for the whole body.

Septicaemia and pyaemia have often resulted from these conditions of the dental organs.

Of the diseases caused by extension, the most important are:

Osteitis.
Osteomyelitis.
Necrosis.

Fistula, opening sometimes on the neck and breast. Many cases are recorded in which such fistulae were caused by an abscess of the pulp confined beneath a filling or by an impacted wisdom tooth.

Meningitis and *abscess of the brain* have been known to result from diseased teeth, the pus penetrating through the foramina at the base of the skull, the antrum and the cribriform plate of the ethmoid, or by the orbit (more especially in connexion with lower molar teeth).

Diseases of the Antrum.—Suppuration from the extension of an alveolar abscess, or the irritation produced by diseased roots in the floor of the antrum.

Trismus.—Caused frequently by impacted wisdom teeth, suppuration around the roots of the teeth generally leading to this condition.

Pyorrhoea Alveolaris.—Much attention has been drawn of late years to remote affections caused by this condition—symptoms resembling those of carcinoma of the stomach, expectoration suggesting lung disease (bronchitis, abscess, etc.). No special organism of pyorrhoea has been separated, but the disease appears to be caused by many different organisms found in great abundance in the pockets formed around the loosened teeth. Remote effects from pyorrhoea are probably produced by absorption of the poisons of the bacteria as well as by the ingestion of the bacteria themselves (Goadby).

Organisms have been separated from the pockets in cases of pyorrhoea which in one case produced joint abscesses, and in another intramuscular abscesses in guinea-pigs on inoculation (Galippe).

Endocarditis has also been recorded by Galippe as the result of infection by the streptococcus from the mouth.

Septicaemia and pyaemia have frequently followed severe dental abscess and operations on the teeth.

Chronic inflammation of the lymphatic glands due to toxins or ptomaine infection from dead pulps.

Angina Ludovici and Oedema of the Glottis.—Many cases recorded as the result of dental disease and operations.

Tongue Diseases.—Chronic superficial glossitis, leucoma, ichthiosis, papillomata, and epithelioma, as a result of the irritation caused by diseased and fractured teeth.

Pernicious Anaemia (Dr. William Hunter).

Gastritis resulting from foci of infection in the mouth.

Toxic neuritis and appendicitis have in some instances apparently been caused by diseased teeth.

Parotitis simulating mumps.

Remote disturbances, such as headache, dyspepsia, and generally lowered condition of health due to painless septic roots, the removal of the roots having a most marked and immediate remedial effect.

Loss of the power of lactation in the mother has been recorded as due to diseased teeth, the flow of milk being re-established on their removal.

Remote and fatal effects from operations in the mouth, such as extraction, etc.

The discussion will then be taken up by Messrs. A. S. Underwood, H. Baldwin, K. W. Goadby, W. R. Ackland, J. McK. Ackland, Sydney Spokes, W. A. Maggs, W. Hern, E. Lloyd-Williams, W. A. Barrett, M. Hopson, C. A. Wallis, H. A. T. Fairbank, J. G. Turner, F. J. Bennett, and T. E. Constant, and will be continued on Thursday, July 27th.

On Friday, July 28th, the following papers will be read and discussed:

Gabell, Douglas. Some Pathological Conditions in Teeth, with lantern demonstration.
Clarke, Astley V. An Unusual Case of Necrosis of the Jaw.
Bogue, E. A. (New York). The Influence of the Arrangement of the Teeth into their Normal Arches on Development.
Spokes, Sydney. The Teeth as a Test of Age; a Note on Eruption.
Colyer, J. F. A Note on Dental Diseases in the Horse.
Goadby, K. W. Preliminary Note on a Vaccine Treatment of Pyorrhoea Alveolaris.
Rymer, J. F. Vegetarianism and its Effects upon the Teeth.

Tropical Diseases.

Technical Schools—Room B.

President: Rubert Wm. Boyce, M.B., F.R.S., Liverpool. *Vice-Presidents:* Andrew Duncan, M.D., London; Fleming Mant Sandwith, M.D., F.R.C.P., London. *Honorary Secretaries:* George Aylwin Clarkson, F.R.C.S., 173, London Road, Leicester; John M. Hendrie Macleod, M.D., 11, Harley Street, W.

The following subjects have been selected for special discussion in this Section:

A. Tick Fever.
B. Tropical Diseases of the Skin.
C. Sprue and Hill Diarrhoea.

Discussion A. will be opened on July 26th by Major Ross.

Discussion B. will be opened on July 27th by Dr. J. M. H. Macleod in an address of which the following is an abstract:

A. The limitations of our knowledge of tropical skin diseases at the present time and their reasons.

B. References to the unsolved problems in the etiology and pathology of the more common tropical and subtropical diseases of the skin, cognizance being taken of certain cosmopolitan diseases which affect the skin in temperate zones also, but which undergo modification in the tropics as the result of differences in climate, temperature, race, etc. The diseases referred to are arranged in the following provisional classification:

1.—*Parasitic Diseases*, due to:
(*a*) Bacteria—leprosy, tuberculosis.
(*b*) Streptotricheae—mycetoma or madura foot.

(*c*) Blastomycetes—blastomycetic dermatitis.
(*d*) Hyphomycetes—ringworm, tinea umbricata, pinta, etc.
(*e*) Animal parasites:
1. Acarida—scabies (craw-craw).
2. Insecta—pulex penetrans (jigger).
3. Vermes—elephantiasis (filaria?), pani-ghao (ankylostomiasis).

II.—*Diseases in which there is a strong evidence of a parasitic origin but in which specific micro-organisms have not yet been established:*
(*a*) Probably due to:
1. Cocci—Oriental sore, veld sore, and pemphigus contagiosus.
2. Bacilli—phagedaenic ulcer of warm countries.
(*b*) Type of micro organism unsettled—yaws, veruga peruana, syphilis, ulcerating granuloma of the pudenda.

III.—*Diseases in which micro organisms are generally present but are probably secondary factors in the evolution of the disease*—for example, prickly heat, dysidrosis.

IV.—*Non-parasitic affections due to toxins and unknown causes*—ainhum, vitilego, pellagra, aerodynia.

Discussion C will be opened on July 28th by Mr. James Cantlie, while Dr. Andrew Duncan will deal with Hill Diarrhoea.

The following is a list of the gentlemen who up to the present have expressed their desire to take part in the discussions or to contribute papers: Messrs. H. E. Annett, Anton Breinl, James Cantlie, S. R. Christophers, I.M.S., Andrew Duncan, W. T. Prout, L. W. Sambon, F. M. Sandwith, J. W. Stephens, Wolferstan Thomas, T. L. Todd, Professors Ronald Ross and Rubert Boyce, and Sir Patrick Manson.

The following is a list of the papers which up to the present have been accepted by the Committee of Reference:

CLARKE, J. Tertius. The Causation of Beri-beri.
FINK, G. H. The Mosquito Malarial Theory and Malarial Prophylaxis.
GRAHAM, D. M. Guinea-worm Infection.
GRAY, St. George. Method of Taking Quinine in the Prophylaxis of Malaria.
GROSSMANN, Karl. Leprosy, with demonstration of coloured slides.
HEARSEY, H. Malarial Fever in British Central Africa.
JEANSELME, Professor. Plan or Yaws.
MANSON, Sir Patrick. Two Cases of Kala-azar: a Suggestion.
NEWSTEAD, R. On the Structural Characters and Metamorphoses of Pathogenic Ticks.
PERNET, George. Involvement of the Scalp in Leprosy.
SAMBON, L. W. Pellagra.
SANDWITH, F. M. Pinta.
SMITH, P. W. Bassett. Bruhl's Disease, with special reference to the Blood Changes and Connexion with the Leishmann-Donovan Bodies.
STEPHENS, J. W., and CHRISTOPHERS, S. R. A Peculiar Echistosomum Egg.
TODD, T. L., and the late J. E. DUTTON. The Nature of Human Tick Fever on the Congo.

The following gentlemen have contributed for exhibition drawings, microscopical specimens, photographs, etc: Drs. Radcliffe-Crocker, F. M. Sandwith, J. Galloway, and J. M. H. Macleod.

THE PATHOLOGICAL MUSEUM.

THE Pathological Museum of the Annual Meeting of the Association is being collected and arranged in a large room on the first floor of the Technical Schools, where all the Sectional meetings are to be held.

The exhibits, which have been gathered together from all parts, consist not only of bottle specimens and microscopical preparations, but comprise also paintings, photographs, and radiographs; in fact, all the methods whereby pathological material can be illustrated are represented.

The specimens are being arranged in divisions corresponding to the Sections, and over each division is placed a large placard stating the Section represented. They commence at the right of the door, and each will be accompanied by a card of description.

The Museum numbers, which are in red on the specimens and on the cards, will correspond with the numbers in the catalogue. As far as possible a sequential arrangement has been followed.

Gynaecology.

The gynaecological exhibits are placed to the right of the door in the large compartment, of which there are three in the Museum. The specimens naturally fall into five groups according to the conditions they illustrate, and they are catalogued on this basis.

I. *Miscellaneous.*

This group contains beautiful examples of ovarian and tubal conditions.

II. *Malignant Disease of the Uterus.*

It was thought that while isolated cases of hysterectomy by different surgeons would not be valuable, series of cases by a few surgeons would be interesting. Such series are contributed by Dr. Lewers, who sends six specimens including two cases of chorion-epithelioma: Dr. Cuthbert Lockyer, who sends seventeen cases of vaginal hysterectomy; and Miss Aldrich-Blake, who sends fourteen consecutive cases of abdominal hysterectomy. Dr. Lazarus-Barlow, from the cancer research laboratories at the Middlesex Hospital, sends microscopic slides from a pelvic growth and its metastases. In all the slides two entirely distinct forms of growth are shown, the tubular type of adeno-carcinoma being intimately mixed with foci of squamous cell carcinoma. It is a beautiful example of double primary malignant growth originating probably as a proliferating cystadenoma of the ovary and epithelioma of the cervix. A comparison of these slides with a case shown by Dr. Herbert Spencer of combined sarcoma and carcinoma of the uterus should prove interesting. Other sections which will attract admiration are those prepared by Mr. Lenthal Cheatle by means of the microtome which he devised himself for cutting large surfaces. He exhibits six slides, one being an antero-posterior section of an entire uterus with interstitial fibroids and cancer of the cervix. The museum will be specially rich in good examples of chorion-epithelioma, contributed by Dr. Herbert Spencer, Dr. Handfield Jones, and others. Miss Toms sends a section of the very rare condition of primary chorion-epithelioma of the vagina, and from the Royal Free Hospital has been received a vesicular mole associated with lutein cysts of both ovaries and an enlarged uterus, which was probably the seat of early chorion-epithelioma, the four specimens together forming an unusually complete pathological picture.

III. *Extrauterine Gestation.*

Dr. Comyns Berkeley and Dr. Victor Bonney exhibit ten slides and drawings selected from the serial sections of early pregnant tubes, which formed the basis of their recent communication to the *Journal of Obstetrics and Gynaecology*. Their exhibit may be regarded as the key to the understanding of the other specimens in this group. Unfortunately, no example of ovarian pregnancy has been received, but Dr. Catharine van Tussenbroek, of Amsterdam, is kindly sending drawings, and possibly a section of her case of ovarian pregnancy which excited discussion at a previous meeting of the Association.

IV. *Degeneration of Fibroids.*

The fourth group of specimens comprises a complete series illustrating degenerative changes in fibroids, namely, congestion, oedema, necrobiosis, gangrene, mucoid calcareous and sarcomatous degenerations. The numbers run from 301—upwards. Dr. S. J. Cameron (Glasgow) will show lantern slides illustrating complications and degenerations of fibromyomata, and Miss Debenham contributes a series of tricolour photomicrographs prepared by the Sanger-Shepherd process.

The last group of specimens is naturally a small one. The numbers run from 401—upwards. The specimens and drawings illustrate the rare condition of adenomyoma of the uterus, and they are lent by Dr. Walter Tate, Dr. Herbert Spencer, Dr. S. J. Cameron, Dr. Handfield-Jones, Dr. Herbert Williamson, and Dr. Thomas Wilson, of Birmingham.

The Museum Committee are indebted for the gynaecological exhibits to twelve of the London hospitals, and to surgeons from many of the principal towns in England, Scotland, Wales, and Ireland; for the provincial specimens they are specially indebted to Dr. Thomas Wilson (Birmingham), Mr. G. G. Turner (Newcastle), Dr. Maclean (Cardiff), Dr. S. J. Cameron and Dr. Munro Kerr (Glasgow), and Dr. Haultain (Edinburgh).

Arrangements will be made for a demonstrator to be in the museum every afternoon from 2 to 4 p.m. in order to help members to find gynaecological specimens which they wish to see without loss of time.

General Pathology.

In the Sectional Division of Pathology there is much of interest, and the Museum Committee have been fortunate in obtaining the assistance of Mr. C. C. Hurst, of Burbage, who will lend a large collection of specimens of animals and plants illustrating Mendel's law of heredity. It may be called to mind that Mendel (Abbot of Brünn) discovered his law in 1865 by experimenting with races of garden peas, but it was

not until 1900 that his work became generally known. Since then many experimenters have followed up the work in various kinds of plants and animals, and the specimens of peas, sweet peas, orchids, poultry, and rabbits exhibited were obtained by the exhibitor in his experiments. Mr. Hurst has kindly consented to give a demonstration of his specimens, and it is certain that this will form a valuable adjunct to the discussion on heredity in the Section of Pathology.

A series of photographs will be shown by Mr. C. J. Bond illustrating various hitherto undecided points in the uterine and ovarian physiology and pathology of rabbits. The chief subjects illustrated are:

1. The occurrence under certain conditions of compensatory hypertrophy in the remaining ovary after the removal of one ovary some months earlier.

2. The negative effect of hysterectomy on ovarian function, and of the removal of one uterine cornu on the ovary of the same side.

3. The experimental production of abdominal pregnancy or later abdominal abortion in rabbits through a utero-peritoneal fistula.

4. The effect of removal of the ovaries (complete oöphorectomy) in causing atrophy of the uterus and vagina and mammary glands, while a ligatured portion of the uterine cornu still becomes hydrometric.

5. Transplanation of one ovary in one or two stages usually ends in atrophy of the transplanted ovary, and under these circumstances the remaining ovary undergoes compensatory hypertrophy with increased functional activity of ovary and uterine cornu, as shown by increased number of fetuses (eleven) in the cornu at a subsequent pregnancy.

6. Transplanted portions of the uterine cornu in rabbits undergo atrophic changes, and at the same time undergo distension with saline fluid, that is, become hydrometric. Several photographs also illustrate the association of retained uterine secretion, with a polypoid condition of the endometrium due to adenomatous overgrowth at the (?) sites of abortive implantation of fertilized ova. Several photographs also illustrate the restoration of the continuity of the canal of the uterus after double ligature with catgut.

Six photographs, from two cases of twin fetuses, illustrate the association of distension of one amniotic sac (hydramnios) with a condition of increased urinary pressure, and early hydronephrosis in the fetus enclosed in the hydramniotic amnion, and a normal condition of bladder and ureters in the other fetus enclosed in the normal amnion.

Certain points in the pathology of omental and chylous mesenteric cysts are also demonstrated in a series of five photographs.

Medical Section.

In the sectional division of Medicine, which is particularly rich in neurological exhibits, a group of specimens illustrating various forms of meningitis are to be seen. Dr. Pope, of Leicester, is showing examples of pneumococcal meningitis, and Dr. W. J. Horder (London) streptococcal and other forms. These specimens will give increased interest to the discussion on forms of acute meningitis. Of other neurological exhibits, mention may be made of a collection coming from several members of the honorary staff of the National Hospital, Queen Square, London. Dr. Mott has kindly consented to give a special demonstration on the specimens he is bringing, due notice of which will be given in the daily journal and in the Museum. Dr. Jacob, of Nottingham, is contributing many interesting specimens, especially one group illustrating lesions produced by various infective processes in animals. Another series in this division will be five examples of aneurysm of the left ventricle, sent by Dr. Bolam of Newcastle-on-Tyne.

The collection of Dr. Carnegie Dickson, of the University of Edinburgh, consists of sections of bone which show various conditions of the marrow in different diseases. The subject is one in which comparatively little work has been done, and the specimens will be regarded with attention.

Through the kindness of M. Roux, of the Pasteur Institute, Paris, members will have the opportunity of examining a microscopic slide, showing the spirochaete of syphilis. Another microscopic slide must not be omitted—it shows the bacillus leprae—and this, with a culture tube of the same bacillus, has been sent from Rangoon by Captain Rost, I.M.S.

Army and Navy Section.

Fleet Surgeon C. Marsh Beadnell, R.N., is exhibting a collection of different kinds of bullets, and the effects they have produced on the skulls of Filipinos. These illustrations will enhance the value of his paper on the effects of bullet wounds. Mr. E. Lynn Jenkins, of Hinckley, has gathered together a collection of bullets and other relics from South Africa.

Drawings, Photographs, and Radiographs.

Photographs and radiographs, too numerous to individualize, have been lent. Of paintings and drawings there is a good collection. Among others, Mr. Jonathan Hutchinson has promised some from his Museum, and Dr. Brimacombe has forwarded some paintings of macroscopic and microscopic appearances of the skin in various diseases. These paintings are very beautiful, and are bound to attract the attention they deserve.

Laryngology and Otology.

Among the exhibits in the Section of Laryngology and Otology two series will be noticeable. Dr. Albert Gray, of Glasgow, has promised to bring a very valuable collection of the membranous labyrinth in man and in animals. Dr. Smurthwaite, of Newcastle, has promised to place in the museum a series of oil paintings representing morbid conditions of the larynx.

Section of Psychology.

In the Section of Psychology a great number of photographs collected by Dr. Shaw, of Liverpool, will illustrate various facial aspects in mental conditions; and Dr. R. Stewart, of the County Asylum, Leicester, is sending gross lesions of the brain.

Surgical Pathology.

In the Section of Surgery, Mr. W. Sampson Handley, of the Middlesex Hospital Cancer Research Laboratories, is showing a series of drawings and photographs showing how breast cancer may invade the abdomen in a relatively early stage by direct infiltration of the abdominal wall; and a series of microscopic preparations well illustrating the permeation theory of cancerous dissemination (for a fuller account reference may be made to the Hunterian Lectures of this year).

Mr. F. L. A. Greaves, of Derby, has sent a considerable number of macroscopic specimens of his own and of his friends, which illustrate matters of surgical importance.

In giving a description of the Museum, nothing short of a full catalogue would be adequate, but enough has been said to show that there is much of interest in it.

The Honorary Local Secretaries are:

Astley V. Clarke, M.D.,
37, London Road, Leicester.
Felix Bolton Carter, M.S.,
99, London Road, Leicester.

SPECIAL RAILWAY ARRANGEMENTS.

To members and their friends attending the annual meeting at Leicester the railway companies of the United Kingdom will grant return tickets, on payment at the time of booking, at a single fare and a quarter. To secure this concession each passenger must produce a special voucher, and these may be obtained on application to the General Secretary, 429, Strand, London, W.C. The reduced fares will be available from July 21st to August 1st, both dates inclusive.

Those members desiring to travel to the places where they reside during the meeting of the Association may obtain return tickets at a single fare and a quarter (minimum charge 1s.) on production of cards of membership, from Leicester to any station not more than fifty miles distant to which through bookings are in operation available to return on the same or following day.

Dr. Samuel Bagley, representative of the Manchester (South) Division of the Lancashire and Cheshire Branch, requests us to announce that a good corridor train will leave Central Station, Manchester, every day at 11.25 a.m. for Leicester, Great Central Railway, arriving at 1.44, calling at Guide Bridge a few minutes later. Refreshment car attached; many members have already agreed to travel by it on Monday, July 24th.

The particulars as to the special trains to be run by the Great Central Railway from London to Leicester on the days on which the Sections meet will be found under the head of the Week.

Golf.

Any member of the Association who wishes to play golf during the annual meeting at Leicester is requested to send his name and address and the name of his golf club to

Mr. Percy Stafford (Honorary Secretary of the Leicestershire Golf Club), Leicester, in order that he may be made a member of the club for the week, to comply with the Act of Parliament necessitating registration as such.

A match, which it is hoped may have an international character, will be played on Friday, July 28th, if sufficient names are received. Members residing in England who wish to take part in the match are requested to send their names to Dr. W. Dutton, 58, Loughborough Road, Leicester; and those residing in Scotland, Wales, Ireland, or the Colonies to Dr. Norman Walker, Manor Place, Edinburgh.

INSPECTION OF FACTORIES, ETC.

Mr. S. Perkins Pick, F.R.I.B.A., has kindly offered to show parties the architectural remains of old Leicester on Thursday morning and Friday afternoon; and Mr. W. J. Freer, F.S.A., will conduct a party to see the antiquities of Leicester on Saturday morning.

The following factories will be open for inspection at hours which will be announced in the *Daily Journal*: Messrs. Cooper, Corah, and Sons, hosiery manufacturers; the Co-operative Wholesale Society's boot factory; Messrs. Fielding and Johnson, worsted spinners; the Gas and Electric Light Works; Messrs. J. Richardson and Co., manufacturing chemists.

LONGER EXCURSIONS.

EXCURSION TO BELVOIR CASTLE.

Friday, July 28th.

THE Duke of Rutland has invited a party of sixty to visit Belvoir Castle; the party will leave Leicester at 12.40 and arrive at Stathern Station at 1.40 p.m. on Friday, July 28th. They will then drive through the woods, a distance of six miles to Belvoir Castle, which stands in a picturesque situation on the summit of an artificial mound thrown up on a spur of the Leicestershire Wolds by Robert de Todenei, to whom the district was granted by William the Conqueror. Belvoir, which was a royal garrison in the Civil War, suffered greatly from subsequent neglect. The work of rebuilding commenced in 1800 under the direction of Wyatt, but was interrupted by a fire in 1816; it was subsequently resumed on a still larger scale, and the castle is now a castellated building occupying a very fine situation on the summit of an isolated hill overgrown with beautiful timber. Extensive views of great beauty are obtained over the counties of Leicester, Nottingham, and Lincoln. The castle contains numerous art treasures, including an important gallery of pictures. The members will be entertained at tea at the castle, and will leave at 5.30, reaching Leicester at 7.25 p.m. If the applications received are in excess of the number (60) to which the excursion is limited names will be balloted for.



EXCURSION TO BUXTON.

Saturday, July 29th.

An excursion to Buxton and the Peak of Derbyshire has been arranged for Saturday, July 29th. A special train will leave Leicester at 9 a.m., arriving at Buxton at 10 52. The party will be conducted over the mineral baths and pump-room, and the various methods of applying the water will be demonstrated. The baths are in two separate buildings: in one the water is used at the natural temperature—82° F., and the other at higher temperatures. Both sets of baths are fitted with hydraulic douches, ascending, descending, and wave douches, the needle baths, vapour baths, and the Buxton douche and massage bath; there is also a swimming bath 30 ft. long, under which is the main source. Adjacent to the pump-room is a pump for the supply of water to the public, to whom the right of using the water free is secured by Act of Parliament.

After the baths a visit will be paid to the Devonshire Hospital, which contains about 300 beds, and possesses a special set of baths, where more than 3,000 persons are treated annually. There is a small annexe to the hospital for accident cases, in the operating room of which is the table recently presented by the King.

Members will then visit the gardens, and will be entertained at lunch either at the Palace Hotel at 12.30 or the St. Anne's Hotel at 1.45, according to the way in which they intend to spend the rest of the day.

The Buxton and High Peak Golf Club, possessing an 18-hole course, will place its links at the disposal of members who give in their names to Dr. C. W. Buckley, 1, Hardwick Mount, Buxton, not later than the first post on Thursday, July 27th.

Conveyances will be provided for drives to the "Cat and Fiddle," the highest licensed house in England, returning via Axe Edge, and to Goyt Valley, a distance of eighteen miles through the moorland and valley scenery. Should at least twenty-five members in each case express their desire on or before Thursday noon, the following excursions can be made:

(1) *To Haddon Hall and Chatsworth*, leaving Buxton at 1.40.

(2) *To Matlock*, leaving Buxton at the same hour.

(3) *To Castleton*, leaving Buxton at 1 35.

In the case of all these excursions members will on their return be able to join through trains going north or south. Those who desire to remain in Buxton during the afternoon will be able to inspect the various institutions of the town devoted to therapeutic methods, including Swedish exercise, Nauheim baths and movements, and electrical treatment of various sorts.

The excursion is limited to 300, and should applications for tickets exceed this number, the names will be balloted for. It is requested that members should state at the time they give in their names which subexcursions from Buxton they wish to join.

LOCAL ENTERTAINMENTS, ETC.

INVITATIONS for receptions, garden parties, excursions, etc., will be obtained by members at the ticket counter in the reception-room at the Y.M.C.A. Buildings, London Road. Members are especially requested to examine the list of entertainments, and to apply only for those they intend to use. Applications must be made on or before noon on Thursday, July 27th.

By kind permission of the G.O.C.R.A. and officers R.G.A., the Band of the Royal Artillery, Portsmouth (under the direction of Mr. George Miller, L.R.A.M.), will play at various entertainments during the week.

Meetings of Branches and Divisions.

[The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the Journal.*]*

YORKSHIRE BRANCH:

Bradford Division.

The annual meeting of this Division was held at the Eye and Ear Hospital, Bradford, on Tuesday, June 27th, at 8 30 p.m., Dr. Mossop presiding.

Confirmation of Minutes.—The minutes of the last meeting were read and adopted.

Election of Officers.—The following were elected the officers for the ensuing year:—*Chairman:* Dr. William Mitchell. *Vice-Chairman:* Mr. Basil Hall. *Honorary Secretaries:* Dr. J. Metcalfe and Dr. A. Little (*Treasurer*). *Representative for Representative Meeting:* Mr. W. H. Horrocks. *Representatives on Yorkshire Branch Council:* Drs. Bampton, Little, Mitchell, and Mossop. *Executive Committee:* Drs. and Messrs. Althorp, Berry, Bronner, Campbell, Clow, Craig, Crowley, Eames, Hall, Hunter, Mercer, Mossop, Oliver, Peck, Shaw, Sykes, Tunstall, and Waugh. *Ethical Committee:* Drs. and Messrs. Althorp, Horrocks, Johnston, Little, Manknell, Metcalfe, Mitchell, Shackleton, and H. E. Taylor.

Report of Executive Committee.—The following report was submitted by the Executive Committee: Your Committee has much pleasure in submitting its second annual report on the work of the Division for the past year. Since the last Annual Meeting a great deal of work has been done by the committees and general meetings of the Division. Seven general meetings have been held, to one of which all the members of the profession in the Bradford Division were invited, and another, devoted entirely to the exhibition of pathological specimens, and papers dealing with pathological subjects, held in conjunction with the Bradford Medico-Chirurgical Society; four meetings of the Executive Committee, one of the Ethical Committee, and five Subcommittee meetings connected with the question of the amalgamation of the Bradford medical societies have also been held. Your Committee regrets that at most of the meetings the attendance of members is not nearly so great as it ought to be. The apathy of members of the profession to their own interests is notorious. But there have been special reasons for a bad attendance at meetings during the past year. It will be in the recollection of members that in the last annual report it was stated that your Committee were anxious to see a fusion of the local medical societies take place under the aegis of the British Medical Association. It was thought that the interests of the profession and the public would be promoted by a unification of all medical effort under one common denominator. Your Committee is very glad to be able to report that the members of one at least of the local medical societies have also adopted this view. At a meeting of the Bradford and West Riding Medico-Ethical Union held on May 10th a resolution was adopted in favour of amalgamation. It was determined to hand over all the books and records of the Society to the officers of the local Division, and the funds in hand are to be forwarded to the Divisional Treasurer to be used for any special local medico-ethical or medico-political purposes. The adoption of this resolution has been a source of great gratification to your Committee. It will enable the Bradford Division to speak with an authority and power in all local ethical questions which it would not have been able to do under other circumstances. But the uncertainty which this question of amalgamation engendered in connexion with local meetings has undoubtedly reacted on the attendance of members. It is hoped that next session a great change will take place, and that with a concentration of work and an identity of interests the meetings will show a record attendance. It is unnecessary to enumerate all the subjects discussed by the Bradford Division during the past year. The decisions adopted have been printed in the Supplement to the Journal, and your Committee would urge on members the importance of carefully reading and preserving for future reference this record of the work done for the general body of the profession. The resolutions of the Division are carried by the Representative to the Annual Representative Meeting, and if supported by the majority of the Representatives of the other Divisions of the country are adopted by the Association. It is thus apparent what a serious individual responsibility rests on each member, and what an influence every vote has on the general policy of the Association. The Bradford Division itself is this year through its Representative proposing three resolutions to the Annual Representative Meeting. One is in favour of a "Supplementary Grants Fund," so as to allow special grants to be given by the Council to Divisions which show peculiar activity in regard to scientific work; a second is in connexion with a suggested improvement in keeping the *Medical Register;* and a third in favour of the election of members, when desired by the larger Divisions, being in their own hands, instead of those of the Branch. The amount of scientific work done during the past year has not been great. This was due to an arrangement which was entered into with the Bradford Medico-Chirurgical Society at the beginning of the session, in order to aid the cause of amalgamation. It was hoped that by this means fusion of the two societies would take place. But as this has not been adopted by the Medico-Chirurgical Society, the Division will be free during the next session to carry on as much good scientific work as is desired. The membership of the Division at the present moment stands at 162. At the time of the last annual report it was 156. It is considered probable that there will be a considerable influx of new members during the coming session. Already several names have been submitted for this purpose. The financial position is very satisfactory. The Yorkshire Branch allowed the Division the same capitation grant as last year, namely, 3s. per member. Your Committee cannot do less than express its great sense of the obligation which it owes to the Chairman of the Division (Dr. Mossop) for the ability and urbanity with which he has conducted the affairs of the Division during the past year. On the motion of Dr. Bronner, seconded by Dr. Horrocks, the report was unanimously received and adopted. Dr. Horrocks remarked that he much regretted to see that in many Divisions the Representative at the Representative Meeting was left to vote on most of the subjects as he pleased, and the Divisions had not given the matters any consideration. This was contrary to the spirit of the constitution of the Association and most undesirable. He was glad to think that the Bradford Division had carefully considered every subject and had given its Representative definite instructions as to how he was to vote.

Vote of Thanks to Honorary Secretaries.—Dr. Bronner then said that he thought the meeting should not neglect to pass a vote of thanks to the Honorary Secretaries—Drs. Metcalfe and Little—for the remarkably energetic way in which they had carried out their duties during the past year. The work was very arduous and required a great deal of time and attention from the Secretaries. This was seconded by Dr. Horrocks, and carried unanimously. The Honorary Secretaries thanked the meeting for the vote.

Rule X.—Dr. Metcalfe proposed and Dr. Campbell seconded the adoption of this rule. Dr. Parkinson proposed and Dr. Clow seconded an amendment to the effect that a subcommittee of the executive should attempt to draw up a better rule than the one submitted. The amendment was lost, and the rule was then adopted.

Annual Meeting of Association in 1907.—Dr. Metcalfe then proposed his resolution standing on the agenda suggesting that the Division should call a meeting of the local profession to consider the question of inviting the Association to hold its annual general meeting in Bradford in 1907. Dr. Oliver seconded. After some discussion Dr. Eurich proposed some verbal alterations in the resolution, which were accepted by the proposer, and the resolution was then unanimously adopted.

The meeting then terminated.

Sheffield Division.

The annual meeting of this Division was held on May 16th at the Medical School.

Annual Report.—The annual report was read and adopted.

Confirmation of Minutes.—The minutes of the last meeting were read and passed.

Resignation of Chairman and Hon. Sec.—Dr. Cocking resigned the post of chairman; Dr. Wilkinson resigned the secretaryship, and sent a letter regretting his inability to attend the meeting. Votes of thanks to Dr. Cocking and Dr. Wilkinson for the work they had done were passed unanimously.

Election of Officers.—The following officers were elected:—*Chairman:* Dr. Cheesewright. *Vice-Chairman:* Dr. J. H. Brown. *Secretary:* Mr. A. C. Turner. *Representatives on Branch*

Councils: Dr. Garrard, Dr. Sinclair White, and Dr. Pye-Smith. *Executive Committee:* Drs. Dyson, Cheesewright, Garrard, Duncan Burgess, A. Gordon, J. H. Brown, Lyth, A. J. Hall, R. Favell, Johnston, G. Wilkinson. *Representative at Representative Meetings:* Mr. A. C. Turner.

Matters Referred to Divisions.—In regard to the Public Health Bill, the following resolution, proposed by Dr. C. PORTER, seconded by Dr. SINCLAIR WHITE, was carried unanimously:

That this Division is in favour of the Public Health Bill.

In regard to the Bill for the Amendment of the Law relating to Death Registration and Coroners, the following resolution, proposed by Dr. W. S. PORTER, seconded by Dr. GORDON, was carried unanimously:

That this Division is in favour of it.

In regard to the Medical Acts Amendment Bill, the following resolution, proposed by Dr. CHEESEWRIGHT, seconded by Dr. S. WHITE, was carried with one dissentient:

That this Division is in favour of it.

The Revaccination Bill and Reorganization of the Local Government Board Bill were both deferred for future consideration.

LANCASHIRE AND CHESHIRE BRANCH.

THE sixty-ninth annual meeting of this Branch was held in the new Medical Buildings of the University of Liverpool on Wednesday, June 28th. At twelve o'clock the members were received by the President, Dr. J. M. H. Martin (Blackburn) and the President-elect, Dr. James Barr (Liverpool), and were afterwards entertained at luncheon, kindly provided by the President-elect and members of the Liverpool Divisions.

Introduction of New President.—The general meeting commenced at 1.30 p.m. The chair was taken by the retiring PRESIDENT (Dr. Martin), who introduced as his successor Dr. James Barr.

Confirmation of Minutes.—The minutes of the last annual and intermediate meetings were confirmed.

Report of Council.—This report was read as follows: The Council of the Lancashire and Cheshire Branch has much pleasure in presenting its report for 1904-5 to the members of the Branch. Your Council has held five meetings during the year, and has kept a watchful eye on all matters appertaining to the welfare of this Branch and of the profession generally. In addition to the annual meeting held in Blackburn, one intermediate general meeting of the Branch has been held in Manchester, at which interesting clinical demonstrations were given, the meeting being attended by over 150 members. It having been found impossible to carry on the Crewe Division satisfactorily as a separate Division, your Council has recommended that in accordance with the wishes of the members, that Division shall be divided and incorporated with the Chester and Stockport Divisions. Your Council regrets that the Isle of Man Division has not yet been organized. At the instigation of your representatives, the Central Council of the Association has proposed that the By-laws of the Association shall be so amended as to give to the Branch Councils absolute control over the expenditure of the annual capitation grants. At the request of the Ethical Committee of the Association, your Council has made an exhaustive inquiry into the provident dispensaries of Manchester and Salford, and has issued an elaborate report to the Council of the Association, which is now engaged in investigating the whole question on a broad and general basis. The Hospitals Committee, which was appointed on the suggestion of one of your representatives, has held numerous meetings, in which two of your representatives have taken an active interest, and has decided to extend its inquiries so as to include the provident dispensary questions and Poor-law service in relation to hospitals and to private practice. The present membership of the Branch is 1,624. Your Council sincerely deplores the removal by death of the following members of the Branch: Dr. Alex. Davidson, Liverpool; Dr. J. Prytherch, Liverpool; Dr. H. Briggs, Southport; Robert Hartley, Pemberton; Dr. G. W. Beattie, Failsworth; R. J. Dearden, Manchester; Mrs. Agnes Coghill, Liverpool; A. E. Vaughan, Crewe; Sir William Mitchell Banks, M.D., Liverpool; J. Ruxton, Blackpool; Dr. J. A. Lightbourne, Preston; I. Harthan, Didsbury; H. Williams, Liverpool; A. Handyside, Earlestown; W. A. Stewart, Oldham; Dr. T. D. Foreman, Denton, Manchester; J. Mackenzie, M.B., Pendleton; Dr. E. Adam, Liverpool. Dr. Davidson and Sir W. M. Banks were former Presidents of the Branch. Financially the Branch is in a satisfactory position, the balance at the end of the year 1904 being £675 2s. 5d.

Financial Statement.—The statement of accounts as at December 31st, 1904, was as follows:

Receipts.	£	s.	d.
1904.			
Balance in Bank from 1903	521	18	1
Interest, *less* Commission	8	1	0
Received from Mr. Guy Elliston:			
Arrears of subscriptions, 1902 £0 16 6			
Arrears of subscriptions, 1903 12 14 6			
Capitation grant for 1904, received up to December 31st, 1904 ... 309 12 0			
	322	13	0
	£852	12	9

Disbursements.	£	s.	d.
1904.			
Printing and printer's postages	43	14	7
Stationery, etc.	4	5	0
Grants to Divisions	83	10	0
Central Council's Representatives' expenses ...	31	10	0
Hon. Secretary's postages and telegrams ...	3	16	9
Hon. Secretary's travelling expenses	2	17	6
Meetings of Council	0	5	0
Manchester meeting ...	3	3	0
Clerk's work	5	18	0
Medical Directory	0	10	6
Balance in Bank	675	2	5
	£	12	9

Audited and found correct, May 28th, 1905.
FREDC. H. WESTMACOTT, HON. AUDITOR.
T. ARTHUR HELME, HON. SECRETARY.

On the motion of Dr. BOWDEN (Warrington), seconded by Dr. DAVIES (Liverpool), it was resolved:

That the report of Council and the financial statement be adopted.

Election of Officers.—The PRESIDENT announced that the following officers were duly elected in accordance with the laws of the Branch:—*President:* James Barr, M.D. (Liverpool). *President-elect:* Percy Howard Day (Stalmine). *Vice-Presidents:* G. C. Walker, M.D. (Southport); T. E. Hayward, F.R.C.S. (St. Helens). *Honorary Secretary and Treasurer:* T. Arthur Helme, M.D. (Manchester).

Election of Representative in the Council of the Association.—The result of the voting of the election of four Representatives of the Branch in the Council of the Association was declared as follows: T. Arthur Helme, 597; J. Brassey Brierley, 394; Edwin Rayner, 378; T. R. Bradshaw, 322; Karl Grossmann, 208; R. R. Rentoul, 208; G. H. Broadbent, 197. The PRESIDENT declared that Drs. Helme, Brierley, Rayner, and Bradshaw were duly elected in accordance with the laws of the Association and Branch.

Election of Representatives of Divisions in the Council of the Branch.—The HONORARY SECRETARY announced that he had received notices of the election of the following members of Council:

MEMBERS OF COUNCIL:	
ALTRINCHAM	C. J. Renshaw, M.D. F. Cox, M.D.
ASHTON	Mr. W. H. Hughes, sen.
BIRKENHEAD	Mr. H. Laird Pearson. W. C. Milroy, M.D.
BLACKBURN	John W. Wells, M.D. G. T. Gifford, M.D.
BLACKPOOL	Mr. P. H. Day.
BOLTON	(*No return*).
BURNLEY	Mr. J. M. Ferguson.
BURY	J. B. Kerr, M.B.
CHESTER	Mr. F. M. Granger. H. W. King, M.D.
GLOSSOP	(*No return*).
ISLE OF MAN	(*No return*).
LEIGH	Mr. H. S. Hall.
LIVERPOOL, BOOTLE	W. J. Fleetwood, M.D. Mr. T. M. Wills.
,, CENTRAL	G. P. Newbolt, M.B. F. H. Barendt, M.D.
,, NORTHERN ...	Mr. A. W. German.
,, SOUTHERN ...	Mr. J. N. Cregeen. J. C. M. Givon, M.D.
,, WESTERN	K. Grossmann, M.D. Mr. F. C. Larkin.
MANCHESTER, CENTRAL ...	Mr. W. G. Booth. W. Milligan, M.D.
,, NORTH ...	H. W. Boddy, M.D. Mr. G. H. Broadbent.
,, SALFORD ...	Mr. R. H. Wolstenholme. J. H. Taylor, M.B.
,, SOUTH ...	E. Vipont Brown, M.D. W. E. Sawers Scott, M.D.
,, WEST	J. Brassey Brierley, M.D. J. Skardon Prowse, M.B.
OLDHAM	Mr. T. Fort. G. J. Robertson, M.D.
PRESTON	A. C. Rayner, M.D.
ROCHDALE	Mr. C. W. Thorp.
ST. HELENS	T. E. Hayward, M.B.
SOUTHPORT	R. Harris, M.B. G. C. Walker, M.B.
STOCKPORT	(*No return.*)
WARRINGTON	(*No return.*)
WIGAN	Mr. E. H. Monks.

Appointment of Auditors.—Mr. F. Westmacott and Dr. Prowse (Manchester) were appointed auditors.

Vote of Thanks to Retiring President.—It was proposed by Dr. R. C. Brown (Preston), seconded by Dr. Walker (Southport), and resolved with acclamation that a very hearty vote of thanks be accorded to the retiring President for his conduct of the chair during the past twelve months. Dr. Martin replied.

Vote of Thanks to Office-Bearers.—It was proposed by Mr. Colin Campbell, seconded by Dr. Bagley, and resolved that a very hearty vote of thanks be accorded to the Office-Bearers, Representatives, Members of Council, and Auditors. Dr. Bradshaw and the Honorary Secretary replied.

Next Annual Meeting.—It was resolved that the Annual Meeting of 1906 be held in Blackpool.

Alteration of Rules.—It was proposed from the Chair and resolved that the following alterations shall be made:

Rule 6 shall be so altered as to read:

The number of members of the Branch Council annually elected by the several Divisions shall be as follows:

Every Division of 60 members, or over 60, shall annually elect two members, and every Division of less than 60 members shall annually elect one Member, *the actual numbers for the purpose of this election being those published in the official list of Members of the Association corrected up to April 30th of the current year.* Such members shall be elected in the manner prescribed by the rules of the respective Divisions *and shall take office immediately after the annual meeting of the Branch.*

The Branch Council shall have power each year to add to its own number members in the proportion of one for every complete ten representative members elected to serve on the Branch Council for that year. Each such co-opted member shall vacate such office at the close of the last meeting of the Council for the year, but shall be eligible for re-election.

The following additional words to Rule 3: "*And co-opted members, if any.*" (Those words printed in italics are the additions.)

President's Address.—The President read his inaugural address on Alcohol as a Therapeutic Agent, which has been published in the British Medical Journal. It was proposed by Dr. Martin, seconded by Dr. D. A. O'Sullivan (London) and resolved: "That a very hearty vote of thanks be accorded to the President for his address," to which Dr. Barr replied.

Communications.—The following communications were read:—Dr. T. R. Glynn: Some rare accidents of hysteria. Dr. T. R. Bradshaw and Mr. R. A. Bickersteth: A case of suppurative pericarditis. Dr. K. Grossmann: Congenital anophthalmos.

Exhibits.—

Exhibition of Patients.

Dr. Barendt: Skin diseases.

Mr. T. H. Bickerton: Exophthalmos in a child, chancre of conjunctiva, ophthalmoscopic cases.

Dr. E. E. Glynn: Exophthalmos (male).

Dr. Gullan: Paralysis agitans, locomotor ataxia (female), cerebellar tumour, myxoedema (2 cases).

Dr. Grossmann: Subconjunctival venous angioma, retinitis proliferans, ophthalmoscopic cases.

Dr. Stopford Taylor: Skin diseases.

Dr. W. B. Warrington: A case of familial osteo-arthritis of the vertebral column.

Dr. K. Grossmann: Two cases of congenital anophthalmos with coloboma cyst; a case of microcornea and iris coloboma; a case of megalocornea; a case of subconjunctival varicose angioma; a case of retinitis proliferans.

Dr. Stopford Taylor: A case of congenital syphilis destroying the features; a case of epithelioma developing on lupus vulgaris; follicular lupus involving the regions usually occupied by adenoma sebaceum; rodent ulcer on inner canthus of eye, cured by application of radium; congenital hairy mole under treatment by *x* rays; two cases of ringworm treated by *x* rays.

Dr. John Hay: A case of brachycardia.

Exhibition of Drawings, Specimens, Etc.

Dr. W. Blair Bell: Specimens in jelly.

Mr. T. H. Bickerton: Drawings and photographs of ophthalmoscopic cases.

Dr. T. R. Bradshaw: Rare urinary deposit.

Dr. T. R. Bradshaw and Dr. E. E. Glynn: Lymphatic leucocythaemia.

Dr. R. J. M. Buchanan: Drawings, photographs, specimens.

Dr. W. T. Cleoo: Urine containing unknown colouring matter; cerebellar abscess in ear disease.

Dr. T. R. Glynn: Specimens of diseases of lung and pleura; rare specimens from University Pathological Museum.

Dr. K. Grossmann: Photographs and slides; an original Helmholtz ophthalmoscope; hot air cautery.

Dr. C. T. Holland: Radiographs.

Mr. C. G. Lee: Photographs and pathological specimen.

Dr. J. R. Logan: An ancient chloroform inhaler.

Mr. G. P. Newbolt: Drawings, photographs, and specimens.

Dr. N. Raw: Specimens showing tuberculosis of lungs.

Dr. J. Shaw: Photographs of diseased hemispheres and of insane patients.

Professor C. S. Sherrington: Drawings and photographs illustrating cerebral localization.

Dr. J. W. W. Stephens: Specimens illustrating tropical pathology and parasitology.

Dr. A. Stookes: Hermaphrodism.

Dr. G. Stopford Taylor: Photographs of cutaneous diseases; demonstration of Finsen-Reyn lamp for treatment of lupus.

Mr. W. T. Thomas: Photographs and specimens of calculi.

Dr. T. B. Grimsdale: Ovarian pregnancy; uterine fibroid and pregnancy.

Dr. Reed: Congenital cardiac defect.

Dr. Oram: A pair of leaden shields designed for the *x*-ray treatment of ringworm of the scalp.

Exhibition of Drugs.—There was also an exhibition of drugs, instruments, etc.

Tea and Excursion.—At 4 o'clock tea was provided by the President and members of the Liverpool Division, after which a number of members went to New Brighton Tower Gardens.

Dinner.—At 6 o'clock about fifty members sat down to dinner at the New Brighton Tower Restaurant. The President (Dr. Barr) presided, and after the usual loyal toasts had been given, "The Lancashire and Cheshire Branch" was proposed by Dr. D. A. O'Sullivan (London), and responded to by the President. "The University of Liverpool" was proposed by Dr. R. C. Brown (Preston), and responded to by Professor Rushton Parker. On the proposition of the President a very hearty vote of thanks was accorded to the authorities of the University for their kindness in allowing the University buildings to be used for the meeting, and this was acknowledged by Professor Moore, Dean of the Medical Faculty of the University of Liverpool.

BIRMINGHAM BRANCH:

Coventry Division.

The annual meeting of this Division was held at the Coventry and Warwickshire Hospital on June 6th, Dr. Webb-Fowler in the chair.

Election of Officers.—The following officers for the ensuing year were unanimously elected:—*Chairman:* Dr. C. Davidson. *Vice-Chairman:* Dr. Pickup. *Representative on Branch Council:* Dr. Milner Moore. *Secretary and Treasurer:* Dr. Snell. *Executive Committee:* Drs. Harman Brown, Collington, J. Orton, Fenton, Hadley, and Webb-Fowler.

Report of Executive Committee.—The adoption of the report of the Executive Committee was moved by the Chairman, seconded by Dr. Milner Moore, and carried unanimously.

Alteration of Rule.—The alteration of Rule 11 of the Division by the substitution of "December" for "January" as a month in which an ordinary meeting of the Division shall take place was moved by the Chairman, seconded by Dr. Milner Moore, and carried unanimously.

The Division and Friendly Societies.—The Chairman proposed and the Secretary seconded the following resolution, of which fourteen days' notice had been given to all members, to which the succeeding rider was subsequently added:

That in future no member of the profession in the area of the Division shall apply for a medical officership of a Friendly Society.

Rider:

That an intimation of the foregoing resolution should be made by the Secretary to each Friendly Society when this course was requested by the medical officer of that Society.

In the course of the discussion which followed it was made clear that this resolution was not directed against the holding or accepting of such appointments, but against the growing practice in the district of Friendly Societies inviting applications from several medical men when they only desired to appoint one medical officer. The discussion was joined in by Drs. Hadley, J. Orton, McGlashan, Milner Moore, Faulder White, Soden, Brown, etc. On being put to the meeting the resolution was carried 22 voting for it and 1 against.

Public Health Bill.—The Chairman proposed and the Secretary seconded the following resolution:

That the Division authorize the Committee to take any steps which may appear desirable to forward the passing of the Public Health Bill.

This was carried unanimously.

Vote of Thanks.—A vote of thanks to the Committee of the Coventry and Warwickshire Hospital for their kindness in

allowing the use of the hospital Board-room for the meetings of the Division was carried unanimously.

GLASGOW AND WEST OF SCOTLAND BRANCH: LANARKSHIRE DIVISION.

A MEETING of this Division was held in the Royal Hotel, Hamilton, on Friday, June 30th, Dr. BRUCE GOFF, Bothwell, in the chair.

Election of Officers.—The following officers were elected: *Chairman:* Dr. Bruce Goff. *Vice-Chairman:* Dr. Millar. *Honorary Secretary:* Dr. Livingstone Loudon. *Representative to Annual Representative Meeting:* Dr. Bruce Goff. *Representatives to Branch Council:* Dr. Millar, Dr. Loudon. *Members of Council (Executive Committee):* Dr. Crawford, Dr. N. T. Kerr, Dr. McPhail, Dr. Kirkland, Dr. Lindsay, Dr. Bruce Goff, Dr. Millar.

NORTH LANCASHIRE AND SOUTH WESTMORLAND BRANCH.

THE third annual meeting was held at the Institute, Bowness-on-Windermere, on June 28th, Dr. A. W. COLLINS, President, and afterwards the new PRESIDENT (Dr. J. Mason) in the chair.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Report of Branch Council.—The report of the Branch Council was received.

Election of Officers.—The SECRETARY announced that the following would constitute the Branch Council for the following year:—*President:* J. Mason, M.D. (Windermere). *President-elect:* W. Hall, M.D. (Lancaster). *Vice-President:* A. J. Cross, M.B. (Dalton-in-Furness). *Honorary Treasurer:* W. D. Barrow, M.B. (Lancaster). *Honorary Secretary:* A. S. Barling, 2, Queen Square, Lancaster. *Representative on Council of Association:* J. Maxwell Ross, M.B. (Dumfries). *Branch Council:* W. D. Chapman, A. W. Collins, J. A. Gibson, H. F. Oldham, P. F. Sturridge, A. E. Thompson.

Excursion.—After the meeting the members were taken for a cruise on the lake and entertained to tea at the Ferry Hotel by the members resident in the district.

SOUTH-EASTERN OF IRELAND BRANCH.

AN ordinary meeting of this Branch was held in the Club House, Carlow, on July 5th, J. DARLEY WYNNE, M.B., President, in the chair.

Apology for Non-attendance.—A telegram was received from Dr. Quirke, Honorary Secretary, to say that he had missed the train at Kilkenny. A letter of apology was read from Dr. James.

Minutes.—It was proposed by Dr. CAREY and seconded by Dr. RYAN,

> That the consideration of the minutes be deferred to the next meeting owing to the absence of the Honorary Secretary and the minute book.

Carried unanimously.

Annual Representative Meeting.—It was proposed by Dr. WALSHE, and seconded by Dr. FARMER,

> That it be an instruction to our Representative at annual meeting at Leicester to move the resolution for the appointment of an Irish Committee, and in case the Ulster Branch press their amendment with regard to the composition of the Irish Committee, it be an instruction to our Representative to accept this amendment.

Carried *nem. con.*

Representative on Central Council.—Dr. Denis Walshe was elected by a considerable majority.

Discussion.—An interesting discussion took place between the members on scarlatina and influenza, as to their difficulty of diagnosis in many cases, and also of a double infected case of scarlatina and diphtheria, the two diseases running concurrently.

Vote of Thanks.—A vote of thanks to the Chairman brought the proceedings to a close.

STAFFORDSHIRE BRANCH: SOUTH STAFFORDSHIRE DIVISION.

AN ordinary meeting of this Division was held on Thursday, June 29th, at 4.30 p.m. Dr. DEANESLY in the chair.

Apology for Non-attendance.—A telegram was read from Mr. Harthill regretting his inability to attend owing to illness.

Representative at Annual Meeting.—The HON. SECRETARY announced that he would be unable to undertake the office of representative, etc., which owing to no one else being available, he accepted at the last meeting under protest. He, therefore, offered his resignation, which was accepted. Owing to the difficulty of obtaining the consent of members to act as representative, etc., he had circularized all the members asking them to express their consent, or otherwise, to be nominated for the office. Only two affirmative replies were received. Dr. Badger was then nominated for the office, and his election was proposed, seconded, and carried unanimously. It was also agreed that Dr. Harthill be requested to act as deputy representative.

Matters referred to Divisions.—The meeting then considered the questions submitted to the Divisions by the Medico-Political Committee upon:

I. Registration of deaths and disposal of dead bodies.
II. Registration of stillbirths and disposal of the bodies.
III. The (redrafted) Coroners Bill.

The meeting unanimously agreed to all the provisions.

Workmen's Compensation Amendment Bill.—The meeting was asked to express an opinion upon certain criticisms of the Workmen's Compensation Amendment Bill of 1905 published in pamphlet form by the Midland Employers' Mutual Association. It was resolved that

> The Division does not approve of the clause in the Workmen's Compensation Amendment Bill restricting the right of insurance companies or employers of requiring medical examination of injured workmen at such intervals as they think fit.

ULSTER BRANCH: DERRY DIVISION.

A MEETING of this Division was held in the Guildhall, Londonderry, on July 5th.

Election of Officers.—The following officers were elected for 1905-6:—*Chairman:* Dr. W. B. Hunter. *Vice-Chairman:* Dr. Fras. McLaughlin. *Members of Branch Council:* Dr. Thos. MacLaughlin, Dr. Jas. Craig. *Members of Council:* Drs. Bernard, Hetherington, Rankin, Thos. MacLaughlin, Fras. McLaughlin, Cuningham, J. Craig. *Honorary Secretary:* Dr. J. Galway Cooke, County Infirmary, Derry. *Representative for Representative Meeting (with Ballymoney Division):* Dr. J. C. Woodside, Ballycastle.

Irish Committee.—A motion was passed approving of formation of Irish Committee on same lines as the Scottish Committee.

Statement of Accounts.—The statement of accounts of the Division was approved of.

☞ *To ensure the insertion of notices in this column they must be received at the Central Offices of the Association not later than the first post on Tuesday.*

Association Notices.

LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

MEMBERS are reminded that the Library and Writing Rooms of the Association are fitted up for the accommodation of the members in commodious apartments, at the office of the Association, 429, Strand. The rooms are open from 10 a.m. to 5 p.m. Members can have their letters addressed to them at the office.

BRANCH AND DIVISION MEETINGS TO BE HELD.

SOUTH-EASTERN BRANCH: BRIGHTON DIVISION.—A meeting will be held at the Dispensary, 112, Queen's Road, Brighton, at 4.30 p.m., on the fourth Wednesday in October (25th), and November (22nd). Members wishing to read papers or show cases at the meetings are requested to give at least a fortnight's notice to the Honorary Secretary, RYDING MARSH, M.D., 49 Sackville Road, Hove.

ANNUAL REPRESENTATIVE MEETING.

LIST OF REPRESENTATIVES RETURNED FOR THE ANNUAL REPRESENTATIVE MEETING TO BE HELD AT LEICESTER ON JULY 24TH, 1905.

The total number of Representatives returned is 147.

Branch.	Division.	Representative.
ABERDEEN	Aberdeen	Dr. Geo. Rose.
	Orkney	
	Shetland	
BATH AND BRISTOL	Bath	Dr. J. Pearse.
	Trowbridge	
	Bristol	Dr. Hedley Hill.
BIRMINGHAM	Bromsgrove	A. Freer, Esq.
	Dudley	
	Central Birmingham	Dr. Thomas Wilson.
	Coventry	Dr. Milner Moore.
	Nuneaton and Tamworth	
	Warwick and Leamington	
	West Bromwich	Dr. Andrew Croll.
BORDER COUNTIES	North Cumberland	Dr. F. R. Hill.
	West Cumberland	
	Scottish	Dr. G. R. Livingston.
CAMBRIDGE AND HUNTINGDON		Henry Stear, Esq.
CONNAUGHT	Mid Connaught	J. T. Elliott, Esq.
	North Connaught	
	South Connaught	
	Enniskillen	
	Monaghan and Cavan	
	Omagh	
DORSET AND WEST HANTS	Bournemouth	Dr. Wm. Johnson Smyth.
	West Dorset	Dr. J. Comyns Leach.
DUNDEE		Dr. A. P. Low.
EAST ANGLIAN	North-East Essex	R. C. Atthill, Esq.
	Mid Essex	No return.
	South Essex	
	Norwich	
	West Norfolk	H. A. Ballance, Esq., M.S.
	Mid Norfolk	Dr. J. T. Skrimshire.
	East Norfolk	Dr. H. Blake.
	North Suffolk	
	West Suffolk	Dr. J. S. Holden.
	South Suffolk	
EAST YORKS AND NORTH LINCOLN	East Yorks	Dr. James McNidder.
	North Lincoln	
EDINBURGH	The Lothians	Dr. H. S. Ballantyne.
	North-East Edinburgh	Dr. Jas. Carmichael.
	North-West Edinburgh	Dr. T. F. S. Caverhill.
	South-Eastern Counties	Dr. W. Blair.
	South Edinburgh	Dr. G. W. S. Paterson.
FIFE		Dr. John Aitken.
GLASGOW AND WEST OF SCOTLAND	Ayrshire	J. Rankin, Esq.
	Dumbarton and Argyllshire	No return
	Glasgow Central	Dr. J. Grant Andrew.
	Glasgow Eastern	W. L. Muir, Esq.
	Glasgow North-West	Dr. H. Whitehouse.
	Glasgow Southern	Dr. John Stewart.
	Lanarkshire	Dr. Bruce Goff.
	Renfrewshire	Dr. J. D. Holmes.
GLOUCESTERSHIRE		C. F. Cuthbert, Esq.
LANCASHIRE AND CHESHIRE	Altrincham	T. W. H. Garstang, Esq.
	Ashton-under-Lyne	W. H. Hughes, Esq.
	Glossop	
	Birkenhead	Dr. J. Lambert.
	Blackburn	Dr. R. C. Holt.
	Burnley	
	Blackpool	Dr. F. J. H. Coutts.
	Isle of Man	
	Bolton	No return.
	Bury	
	Rochdale	
	Chester	Dr. John Duff.
	Crewe	
	Leigh	
	Wigan	Dr. F. E. Wynne.
	Liverpool (Bootle)	Joseph Walker, Esq.
	Liverpool (Central)	Dr. A. Gordon Gullan.
	Liverpool (Northern)	Dr. James Shaw.
	Liverpool (Southern)	G. Westby, Esq.
	Liverpool (Western)	Dr. K. A. Grossmann.
	Manchester (Central)	W. O. Booth, Esq.
	Manchester (North)	Dr. G. H. Broadbent.
	Manchester (Salford)	R. H. Wolstenholme.
	Manchester (South)	S. Rogley, Esq.
	Manchester (West)	Dr. J. Brassey Brierley.
	Oldham	T. Fawcett, Esq.
	Preston	Dr. J. E. Garner.
	St. Helens	No Return
	Warrington	
	Southport	Dr. Stanley A. Gill.
	Stockport, Macclesfield, and East Cheshire	W. B. Housman, Esq.
LEINSTER	Dublin	Dr. F. C. Martley.
	East Leinster	Dr. J. Wallace Boyce.
	Mid Leinster	
	North Leinster	A. Finnegan, Esq.
	North-West Leinster	
	South-East Leinster	
METROPOLITAN COUNTIES	Central	D. A. O'Sullivan, Esq.
	City	F. Wallace, Esq.
	Ealing	Dr. R. B. Jolly.
	Watford	
	Hampstead	H. W. Armit, Esq.
	Kensington	Dr. C. Buttar.
	Lambeth	Dr. R. Eden.
	Marylebone	Sir Victor Horsley, F.R.S.
	Richmond	Dr. R. L. Langdon-Down.
	St. Pancras	Dr. Walter Smith.
	Stratford	Percy Rose, Esq.
	Tottenham	Dr. J. R. Fuller.
	Walthamstow	Dr. C. J. Morton.
	Wandsworth	Dr. L. S. McManus.
	Westminster	Dr. W. Ewart.
MIDLAND	Boston and Spalding	Dr. P. S. Gosney.
	Lincoln	
	Stamford	
	Derby	W. St. A. St. John, Esq.
	Leicester	Dr. R. Seventre.
	Nottingham	Dr. W. T. Rowe.
MUNSTER	North Munster	Dr. R. H. Townsend.
	South Munster	
	West Munster	
NORTH OF ENGLAND	Bishop Auckland	No return
	Durham	
	Blyth	
	Morpeth	Dr. R. Laing.
	North Northumberland	
	Gateshead	Dr. R. E. Howell.
	Chester-le-Street	
	Consett	Dr. Alfred Cox.
	Gateshead	
	Darlington	Dr. G. Victor Miller.
	Hartlepool	
	Stockton	
	Hexham	Dr. A. T. Wear.
	Newcastle-on-Tyne	
	South Shields	Dr. J. H. Hunter.
	Tyneside	
	Sunderland	D. F. Todd, Esq.
NORTHERN COUNTIES OF SCOTLAND		Dr. J. M. Moir.
NORTH LANCASHIRE AND SOUTH WESTMORLAND	Furness	P. E. Daniel, Esq.
	Kendal	
	Lancaster	Dr. H. F. Oldham.
NORTH WALES	Denbigh and Flint	E. D. Evans, Esq.
	North Carnarvon and Anglesea	Dr. Emyr Owen Price.
	South Carnarvon and Merioneth	Dr. H. P. Rowlands.
OXFORD AND READING	Maidenhead	J. H. Walters, Esq.
	Reading	
	Oxford	Dr. W. Duigan.
PERTHSHIRE		Dr. A. Trotter.
SHROPSHIRE AND MID-WALES	Shropshire, Montgomeryshire, and Radnorshire	Dr. H. W. Gardner.
SOUTH-EASTERN	Ashford	Dr. A. E. Larking.
	Dover	
	Folkestone	
	Brighton	W. J. Stephens, Esq.
	Bromley	No return.
	Sevenoaks	
	Chichester and Worthing	Dr. F. Hinds.
	Horsham	
	Croydon	Dr. J. J. Macan.
	Dartford	C. T. W. Hirsch, Esq.
	Guildford	A. Hope Walker, Esq.
	Hastings	Dr. W. Muir Smith.
	Eastbourne	
	Isle of Thanet	Dr. W. Gosse.
	Canterbury and Faversham	
	Maidstone	Dr. W. Douglas.
	Rochester and Chatham	
	Norwood	John Rand, Esq.
	Reigate	E. Bromet, Esq.
	Tunbridge Wells	C. Lammiman, Esq.
SOUTH-EASTERN OF IRELAND	Carlow	Dr. Thomas Laffan.
	Kilkenny	
	Waterford	
SOUTHERN	Isle of Wight	Dr. R. Robertson.
	Portsmouth	John Ward Cousins, Esq.
	Salisbury	C. R. Straton, Esq.
	Southampton	Dr. A. A. MacKeith.
	Guernsey and Alderney	
	Jersey	
	Winchester	David Browne, Esq.
SOUTH MIDLAND	Aylesbury	Dr. E. O. Turner.
	Bedford and Herts	Dr. R. H. Coombs.
	Northamptonshire	C. J. Evans, Esq.
SOUTH WALES AND MONMOUTHSHIRE	Cardiff	Dr. J. Tatham Thompson.
	Monmouth	Dr. W. D. Steel.
	North Glamorgan and Brecknock	Dr. W. E. Thomas.
	South-West Wales	D. J. Williams, Esq., F.R.C.S.
	Swansea	Dr. H. A. Latimer
SOUTH-WESTERN	Devonport	Dr. William Hammond.
	Exeter	Dr. John Miller.
	Barnstaple	
	Torquay	Dr. W. Odell.
	Plymouth	G. Jackson, Esq.
	Truro	W. Whitworth, Esq.
STAFFORDSHIRE	Mid Staffordshire	Dr. F. N. Cookson.
	North Staffordshire	J. Clare, Esq.
	South Staffordshire	Dr. W. S. Badger.
STIRLING		Dr. J. Strachan.
ULSTER	Ballymoney, North Antrim, and South Derry	J. C. Woodside, Esq.
	Derry	
	Belfast	Dr. A. R. Mitchell.
	Enniskillen	J. T. Elliott, Esq.
	Monaghan and Cavan	United with Connaught. (See Connaught Branch.)
	Omagh	
	Portadown and West Down	Dr. J. S. Darling.
		Dr. J. A. Macdonald.
WEST SOMERSET		Dr. H. E. Dixey.
WORCESTERSHIRE AND HEREFORDSHIRE	Hereford	
	Worcester	
YORKSHIRE	Bradford	Dr. W. H. Horrocks.
	Halifax	No return.
	Huddersfield	
	Harrogate	Dr. H. L. Daggett.
	Leeds	Dr. James Allen.
	Sheffield	A. C. Turner, Esq.
	Wakefield and Doncaster	No return.
	York	Dr. G. L. Swanson.
	Scarborough	
COLONIAL	Barbados	Dr. John Hutson.
	Brisbane and Queensland	Dr. John F. Nall.
	Colombo and Ceylon	Dr. J. H. Ebell.
	Hong Kong	Dr. J. M. Atkinson.
	Malta and Mediterranean	C. Mallet, Esq.
	Natal	Captain J. Booth-Clarkson.
	South Australia	Dr. W. A. Giles.
	Sydney and New South Wales	Dr. H. C. Taylor Young.
DEPUTIES.		
GLASGOW AND WEST OF SCOTLAND	Glasgow, North-West	Thos. Richmond, Esq., vice Dr. H. Whitehouse.
EDINBURGH	The Lothians	Dr. John Henderson, vice Dr. H. S. Ballantyne.
LANCASHIRE AND CHESHIRE	Manchester West	Dr. J. S. Prowse, vice Dr. J. Brassey Brierley.
	Southport	Dr. F. J. Bardon, vice Dr. Stanley A. Gill.
METROPOLITAN COUNTIES	Walthamstow	Dr. St. C. B. Shadwell, vice Dr. C. J. Morton.
NORTH OF ENGLAND	Cleveland	Dr. J. W. Edwards, vice Dr. R. E. Howell.
NORTH WALES	South Carnarvon and Merioneth	Dr. Samuel Griffith, vice Dr. H. P. Rowlands.
SOUTH-EASTERN	Ashford, Dover, and Folkestone	Dr. P. V. Dodd, vice Dr. A. E. Larking.
	Brighton	Dr. G. R. Marsh, vice W. J. Stephens, Esq.
STAFFORDSHIRE	Cleveland	Dr. W. G. Lowe, vice Dr. F. N. Cookson.
YORKSHIRE	Harrogate	Dr. E. Solly, vice Dr. H. L. Daggett.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

FLEET SURGEON A. S. NANCE has been placed on the retired list at his own request, July 8th. He was appointed Surgeon August 21st, 1884, and Fleet Surgeon twelve years thereafter.

Deputy Inspector-General G. JACKSON has been awarded the Greenwich Hospital Pension of £100 a year, vacant by the death of Inspector-General A. Turnbull.

THE following appointments have been made at the Admiralty: EDWARD B. PICKTHORN, Fleet Surgeon, to the *Isis*, July 12th; BEAUCHAMP F. PARISH, Staff Surgeon, to the *Ariadne*, on recommissioning, undated; THOMAS W. MYLES, Surgeon, to the *Flora*, on completing; GEORGE H FOOTT, Fleet Surgeon, and ALFRED A. CHANCELLOR, Surgeon, to the *Venerable*, on recommissioning, August 1st; CHARLES G. MATTHEW, Fleet Surgeon, to the *Resolution*, on recommissioning, August 1st; CHARLES STRIKLAND, Fleet Surgeon, to the *Amphitrite*, on recommissioning; JAMES W. O. UNDERHILL, M.B., Fleet Surgeon, to the *Hindustan*, on commissioning, July 12th; ALEXANDER MACLEAN, M B, Staff Surgeon, to the *Sappho*, August 1st.

ROYAL ARMY MEDICAL CORPS.

MAJOR J. D. FERGUSON, D.S.O, has been appointed Second in Command and Instructor, and Captain J. D. G. MACPHERSON, M.B., to command the A Company and Assistant Instructor, at the Aldershot Depôt and Training School.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

IN seventy-six of the largest English towns, including London, 8,196 births and 3,860 deaths were registered during the week ending Saturday last, July 15th. The annual rate of mortality in these towns, which had been 12·9, 12·7, and 11·6 per 1,000 in the three preceding weeks, rose again last week to 12·9 per 1,000. The rates in the several towns ranged from 3·7 in Hornsey, 4·5 in King's Norton, 5·0 in Burton-on-Trent, 7·2 in Walthamstow, 7·4 in Reading, 7·6 in Handsworth (Staffs.), 7·7 in Southampton, and 8·0 in Great Yarmouth, to 18·2 in Barrow-in-Furness, 18·4 in Merthyr Tydfil, 18·5 in Salford, 18·6 in Stockport, 19·1 in Bootle, 20·5 in Burnley and in Sunderland, and 23·1 in West Bromwich. In London the rate of mortality was 11·7 per 1,000, while it averaged 13·4 per 1,000 in the seventy-five other large towns. The death-rate from the principal infectious diseases averaged 1·6 per 1,000 in the seventy-six towns; in London this death-rate was equal to 1·3 per 1,000, while among the seventy-five other large towns the rates ranged upwards to 3·2 in Stockport and in Middlesbrough, 3·3 in Rhondda, 4·2 in Wolverhampton, 4·3 in Barrow-in-Furness, 4·6 in West Bromwich, 5·0 in Bootle, 5·1 in Aston Manor, and 5·4 in Birkenhead. Measles caused a death-rate of 1·7 in Bristol and in Sunderland, 2·6 in Barrow-in-Furness, and 3·1 in West Bromwich; scarlet fever of 1·2 in Blackburn and 1·4 in Devonport; diphtheria of 1·7 in Barrow-in-Furness; whooping-cough of 1·2 in Hornsey, 1·3 in Walthamstow and in Aston Manor, and 1·5 in West Hartlepool; "fever" of 1·4 in Devonport; and diarrhœa of 2·1 in Liverpool and in Middlesbrough, 2·2 in Norwich, 2·5 in Rhondda, 2·6 in Aston Manor, 3·2 in Stockport, 4·2 in Bootle, and 4·5 in Birkenhead. No fatal case of small-pox was registered last week in any of the seventy-six towns. The Metropolitan Asylums Hospitals contained 4 small-pox patients on Saturday last, July 15th, against 6, 4, and 5 on the three preceding Saturdays: 2 new cases were admitted during the week, against 1, 1, and 2 in the three preceding weeks. The number of scarlet fever cases in these hospitals and in the London Fever Hospital, which had been 2,427, 2,473, and 2,499 at the end of the three preceding weeks, had further risen to 2,520 at the end of last week; 356 new cases were admitted during the week, against 325, 334, and 354 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS.

DURING the week ending Saturday last, July 15th, 988 births and 581 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had been 15·1, 16·5, and 14·7 per 1,000 in the three preceding weeks, further declined to 14·3 per 1,000 last week, but was 1·4 per 1,000 above the mean rate during the same period in the seventy-six large English towns. Among these Scotch towns the death-rates ranged from 10·2 in Leith and 11·5 in Aberdeen to 22·9 in Perth and 29·7 in Greenock. The death-rate from the principal infectious diseases averaged 1·6 per 1,000, the highest rates being recorded in Greenock and Perth. The 221 deaths registered in Glasgow included 11 which were referred to measles, 15 to whooping-cough, and 2 to diarrhœa. Six fatal cases of measles and 4 of whooping-cough were recorded in Edinburgh, 2 of whooping-cough in Dundee and in Aberdeen, 3 of diarrhœa in Leith, and 3 of "fever" in Greenock.

HEALTH OF IRISH TOWNS.

DURING the week ending Saturday, July 8th, 488 births and 303 deaths were registered in six of the principal Irish towns, as against 641 births and 388 deaths in the preceding period. The mean annual death-rate in these towns, which had been 16·9, 18·2, and 16·4 per 1,000 in the three preceding weeks, fell to 13·6 per 1,000 in the week under notice, this figure being 2·0 per 1,000 higher than the mean annual rate in the seventy-six English towns for the corresponding period. The figures ranged from 10·0 in Limerick and 13·6 in Waterford, to 16·0 in Dublin and 18·9 in Belfast. The zymotic death-rate during the same period and in the same six Irish towns averaged 1·4 per 1,000, or 0·8 per 1,000 higher than during the preceding period, the highest figure (2·5) being recorded in Londonderry, while Cork registered no deaths under this heading at all. From measles only 5 deaths were registered in all, 3 of them being in Belfast. From scarlet fever 3 deaths occurred. From diphtheria, enteric, small-pox, and typhus no deaths were anywhere recorded. On the other hand, 15 deaths were ascribed to diarrhœal diseases, 9 being in Belfast and 6 in Dublin.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

BATH ROYAL UNITED HOSPITAL.—Resident Medical Officer. Salary, £100 per annum.

BIRKENHEAD BOROUGH HOSPITAL.—Senior House-Surgeon.

CANTERBURY: KENT AND CANTERBURY HOSPITAL.—Honorary Physician.

CARLISLE NON-PROVIDENT DISPENSARY.—Resident Medical Officer. Salary, £150 per annum.

GROCERS' COMPANY.—Two Scholarships in Sanitary Science, each of £300 a year.

HULL ROYAL INFIRMARY.—Casualty House-Surgeon. Salary, £50 per annum.

KENSINGTON UNION.—Senior Assistant Resident Medical Officer for the Workhouse and Infirmary. Salary, £80 per annum.

LEEDS UNIVERSITY.—Demonstrator of Bacteriology. Salary, £150 per annum.

LISCARD: WALLASEY DISPENSARY AND VICTORIA CENTRAL HOSPITAL.—House Surgeon. Salary, £100 per annum.

MACCLESFIELD: CHESHIRE COUNTY ASYLUM.—Junior Assistant Medical Officer. Salary, £140, rising to £160 per annum.

MANCHESTER: VICTORIA UNIVERSITY.—Junior Demonstrator in Physiology. Stipend £100, rising to £150 per annum.

METROPOLITAN ASYLUMS BOARD.—Male Assistant Medical Officers at the Fever and Small-pox Hospitals. Salary, £180, rising to £240 per annum.

MIDDLESEX HOSPITAL, W.—Emden Research Scholarship for Cancer Investigation. Value £100.

ROXBURGH DISTRICT ASYLUM, MELROSE.—Assistant Medical Officer. Salary, £140 per annum.

SHEFFIELD: CHILDREN'S HOSPITAL.—House-Surgeon for the East End Branch. Salary, £70 per annum.

VENTNOR: ROYAL NATIONAL HOSPITAL FOR CONSUMPTION.—Senior Resident Medical Officer. Salary, £200 per annum.

WESTON-SUPER-MARE HOSPITAL.—House-Surgeon. Salary, £100 per annum.

WEST RIDING OF YORKSHIRE.—County Medical Officer. Salary, £250, rising to £400 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces vacancies in the office of Certifying Factory Surgeons at Leadhills, co Lanark; Wanlockhead, co. Dumfries; Wallasey, co. Chester; Helston, co. Cornwall.

APPOINTMENTS.

BADCOCK, A. L., M.B., B.S Lond., District Medical Officer of the Brighton Union.

BALL, John Bramley, L.D.S.R.C.S.Eng., Dental House-Surgeon to Guy's Hospital.

BELL, W. Blair, M.B., B.S Lond., M.R.C.S.Eng., Assistant Gynæcological Surgeon to the Royal Infirmary, Liverpool.

BULLEID, Edgar E., M.D., Clinical Assistant to the Chelsea Hospital for Women.

BURN, T. W., L.R.C.P., M.R.C.S., Medical Officer to the Cambridge Parish Workhouse.

CARLYON, T. B., M.R.C.S.Eng., L.S.A., District Medical Officer of the Rugby Union.

COLLINS, J. C., M.B., Ch.B.Dub., Medical Superintendent of the Northern Wairoa Hospital at Aratapu, New Zealand.

CRUMP, J. A., M.R.C.S., L.R.C.P.Lond., Medical Officer of Health, Borough of Welshpool.

DANIEL, Peter L., F.R.C.S., Assistant Surgeon to Charing Cross Hospital.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 5s. 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to ensure insertion in the current issue.

BIRTHS.

BARNES.—At Finbar House, Tottenham, N., on the 8th inst., the wife of J. A. Percival Barnes, M.R.C.S Eng., L.R.C.P., of a son.

NISBET.—On July 9th, at The Laurels, Newton Abbot, Devon, the wife of A. T. Nisbet, M.D., of a son.

MARRIAGES.

PARSONS—HART-SMITH.—On July 3rd, at St. Luke's Church, Chelsea, by the Rev. W. A. Thomas assisted by the Rev. T. N. Hart-Smith Pearse, Allan Chilcott Parsons, M.R.C.S Eng., L.R.C.P Lond., of the W. A. Medical Staff, eldest son of the late Frederick James Parsons, M.R.C.S.Eng., of Portland, Dorset, to Agnes Mynfroda, youngest daughter of the Rev. W. Hart-Smith, of Launceston, Cornwall, late Rector St. Peter's, Bedford.

WILLIAMS-JONES—COTTON.—On July 8th, Ernest Williams-Jones, L.R.C.P Lond., M.R.C.S Eng., M.B.Lond., of Aldridge, near Walsall, to Ellen Isabel, daughter of J. C. Cotton, Esq., of Arthurley, near Wolverhampton.

CALENDAR OF THE ASSOCIATION.

Month.	Day of Week.	Meetings to be Held.
July	23 ..Sunday..	
	ANNUAL GENERAL MEETING OF THE ASSOCIATION AT LEICESTER.	
,,	24...MONDAY ...	2 p.m.—Annual General Meeting, followed by Representative Meeting, Association Hall, Y.M.C.A.
,,	25...TUESDAY ...	9 a.m.—Meeting of 1905-1906 Council, Clifton Room, Y.M.C.A. 10 a.m.—Representative Meeting, Association Hall, Y.M.C.A. 2 p.m.—Adjourned General Meeting, followed by Representative Meeting. 5 p.m.—Church Service at St. Martin's Church: Preacher: the Bishop of Birmingham. At the same time a Roman Catholic Service at Holy Cross Church: Preacher, the Rev. H. Reader, M.A. 6 p.m.—Meeting of Division and Branch Secretaries in Y.M.C.A. 8.30 p.m.—President's Address. Reception of Distinguished Guests. Presentation of the Association's Gold Medal of Merit to Sir Constantine Holman, M.D., and to Mr. Andrew Clark, D.Sc., F.R.C.S. Presentation of Stewart Prize to Mr. W. H. Power, C.B., F.R.S. Royal Opera House, Silver Street.
,,	26...WEDNESDAY	9 a.m.—Meeting of Council, Y.M.C.A. 10 a.m. to 1 p.m.—Sectional Meetings, Technical Schools. 2 p.m.—Address in Medicine, Temperance Hall, followed by Adjourned General Meeting, and Representative Meeting, Y.M.C.A. 3.40 to 6.30 p.m.—Garden Party given by the Chairman of the Leicester Infirmary (Alderman Edward Wood) and Mrs. Wood, in the grounds of the Leicester Infirmary. The Band of the Royal Artillery will play. 8.30 to 11.30 p.m.—Reception and Entertainment given by the President (Dr. Frank Pope) and members of the Midland Branch at the Museum Buildings.
,,	27...THURSDAY...	8 a.m.—Annual Breakfast given by the National Temperance League in the Temperance Hall. 9 a.m.—Meeting of Council, Y.M.C.A. 10 a.m. to 1 p.m.—Sectional Meetings, Technical Schools. 2 p.m.—Address in Surgery, Temperance Hall. 3.30 p.m.—Representative Meeting (if business not already concluded). 3.30 to 6.30 p.m.—Garden Party given by the President (R. C. Stewart, Esq., M.R.C.S.) and members of the Leicester Medical Society, in the grounds of the County Asylum. 4 to 6.30 p.m.—Garden Party given by Mr. Maurice Levy, M.P., and Mrs. Levy at Humberstone Hall. 7.30 p.m.—Annual Dinner of the Association in the Assembly Rooms. 9.15 p.m.—Entertainment given by the Ladies' Committee in the King's Hall, Grand Hotel.
,,	28...FRIDAY ...	9 a.m.—Meeting of Council, Y.M.C.A. 10 a.m. to 1 p.m.—Sectional Meetings, Technical Schools. 12.40 p.m.—Excursion to Belvoir Castle (limited to 60, see p. 74). 2.45 to 7 p.m.—Garden Party given by Mr. Samuel Faire, J.P., and Mrs. Faire at Glenfield Frith. The band of the Royal Artillery will play during the afternoon. 8 to 11 p.m.—The Mayor and Mayoress of Leicester (Mr. and Mrs. Stephen Hilton) will give an Evening Fête in the Abbey Park, Leicester. The band of the Royal Artillery will play. 8 p.m. Popular Lecture in the Royal Opera House by Professor Wm. Stirling, M.D., F.R.S.E., on Rest and Fatigue.
,,	29...SATURDAY...	9 a.m.—Excursion to Buxton (limited to 300, see p. 74).
July	30...Sunday..	
,,	31...MONDAY ...	
August	1...TUESDAY ...	
,,	2...WEDNESDAY	Altrincham Division, *Lancashire and Cheshire Branch*, Visit to Baguley Sanatorium (General Infectious Diseases).
,,	3...THURSDAY...	
,,	4...FRIDAY ...	
,,	5 ..SATURDAY...	
,,	6...Sunday..	
,,	7...MONDAY ...	*Bank Holiday.*
,,	8...TUESDAY ...	
,,	9...WEDNESDAY	
,,	10 ..THURSDAY...	
,,	11...FRIDAY ...	
,,	12...SATURDAY...	
,,	13...Sunday..	
,,	14...MONDAY ...	
,,	15...TUESDAY ...	
,,	16...WEDNESDAY	Altrincham Division, *Lancashire and Cheshire Branch*. Visit to Crossley Sanatorium, Delamere (Phthisis).
,,	17...THURSDAY...	
,,	18...FRIDAY ...	
,,	19...SATURDAY...	
,,	20...Sunday..	
,,	21...MONDAY ...	
,,	22...TUESDAY ...	
,,	23 ..WEDNESDAY	
,,	24...THURSDAY...	
,,	25...FRIDAY ...	
,,	26...SATURDAY...	
,,	27...Sunday..	
,,	28...MONDAY ...	
,,	29...TUESDAY ...	
,,	30...WEDNESDAY	
,,	31...THURSDAY...	
Sept.	1...FRIDAY ...	
,,	2...SATURDAY...	
,,	3...Sunday..	
,,	4...MONDAY ...	
,,	5...TUESDAY ...	
,,	6...WEDNESDAY	
,,	7...THURSDAY...	
,,	8...FRIDAY ...	
,,	9...SATURDAY...	

ANNUAL MEETING.

The seventy-third annual meeting of the Association will be held at Leicester on July 24th, 25th, 26th, 27th, and 28th. The Honorary Local Secretaries are Dr. Astley V. Clarke, 37, London Road, Leicester, and Mr. F. Bolton Carter, M.S., 99, London Road, Leicester: the Honorary Secretary of the Pathological Museum is Dr. Robert Sevestre, 119, London Road, Leicester.

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, AUGUST 5TH, 1905.

CONTENTS.

	Page.
MATTERS REFERRED TO DIVISIONS—CONTRACT PRACTICE ...	129
SEVENTY-THIRD ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION AT LEICESTER:	
ANNUAL REPRESENTATIVE MEETING:	
Adjourned Representative Meeting	130
Hour of Meeting	130
Expenses of Officers of Divisions or Branches attending Conference...	130
Expenses of Representatives	130
Mode of Election of Chairman of Representative Meeting ...	131
Proposal to Appoint Deputy Chairman	131
Matters Referred to Divisions	131
Work of Medico-Political and other Standing Committees ...	131
Delegates to Public Boards	131
Meetings of Council	131
Election of Representatives on Council	132
Reports of Proceedings of Council	132
Supply of "Supplements" to Secretaries	132
Election of Members	132
Scheme for Affiliation of Medical Societies	133
Arrangements to Facilitate Representation	133
Grants to Divisions	133
Form of Annual Financial Statement	134
Circulation of "Supplements"	134
Separate Issue of Report of Annual Meeting	135
Central Office: Designation	136
Position of Medical Secretary	136
Midwives Act...	137
Annual Representative Meeting, 1906	138
Payment of Medical Practitioners called in to Assist Midwives—Scale of Minimum Fees	139
Attendance of Members of Committees at the Representative Meeting	139
Work of Medical Secretary's Department...	140
Ballot for Committees...	140
Registration of Nurses	140
Trachoma	141
Local Provident Medical Services	141
Scheme for Attendance on Lower and Lower-Middle Class ...	141
The Inaction of the Government in Respect of the Coroner for South-West London	141
Pathologists in Coroners' Courts	142
The "Medical Register"	143
Canvassing and Advertising in Connexion with Contract Practice	143
Position of Consultants	143
Dual Hospital Appointments	143
A Proposed Out-patient Department	144
Financial Business	144
Proposed Separation of Annual and Representative Meetings	145
Medical Defence	145
Medical Agency	145
Deputy Chairman	146
Adjourned Representative Meeting	146
Confirmation of Minutes	146
Vote of Thanks to Sir Victor Horsley	146
Vote of Thanks to Committees and their Chairmen ...	146
Report on the Procedure of the Coroner for South-West London and the Inaction of the Government in Relation Thereto—By Sir VICTOR HORSLEY, F.R.S.	146
ANNUAL GENERAL MEETING:	
Adjourned General Meeting:	148
Presentation of Gold Badge to President	148
Foreign and Colonial Guests	148
Presentation of Gold Medals	148
Stewart Prize...	149
President's Address	149
Vote of Thanks to the Mayor	149
Adjourned General Meeting	149
Annual Meeting of 1906	149
Address in Medicine	149
Adjourned General Meeting:	150
The Address in Surgery	150
ANNUAL DINNER	150
THE ANNUAL EXHIBITION OF FOODS, DRUGS, INSTRUMENTS, BOOKS, AND SANITARY APPLIANCES.—FIRST NOTICE	152
Instruments and Appliances	153
ENTERTAINMENTS AND EXCURSIONS	156
REPORT FROM THE SELECT COMMITTEE ON REGISTRATION OF NURSES	157
VITAL STATISTICS...	158
NAVAL AND MILITARY APPOINTMENTS	158
VACANCIES AND APPOINTMENTS	160
BIRTHS, MARRIAGES, AND DEATHS	160
CALENDAR	160

☞ *SPECIAL NOTICE TO MEMBERS.* ☜

Every member is requested to preserve this Supplement, which contains a matter specially referred to Divisions, and also the Special Supplement issued with the Journal of July 22nd, containing the full Report of the Medico-Political Committee on Contract Practice, until the subject has been discussed by the Division to which he belongs.

BY ORDER.

MATTERS REFERRED TO DIVISIONS.

CONTRACT PRACTICE.

ON Monday, July 24th, the Annual Representative Meeting adopted the following resolution:

> That each Division be recommended to hold a meeting at an early date to consider the report of the Medico-Political Committee on Contract Practice, and that provision should be made that each of the recommendations of the Committee be discussed separately, and the opinions thereupon reported to the Medical Secretary.

This report was published as a special SUPPLEMENT to the JOURNAL of July 22nd, 1905, and the recommendations of the Committee will be found on p. 29.

The Representative Meeting likewise referred the report on Provident Dispensaries to the Divisions for consideration. This report formed a part of the report by the Medico-Political Committee on Contract Practice, published as a special SUPPLEMENT to the JOURNAL of July 22nd, 1905, and will be found at p. 30.

The Representative Meeting also referred the report on Public Medical Services, which will be found at p. 32 of the same SUPPLEMENT, to the Divisions.

The following are the recommendations of the Committee:

RECOMMENDATIONS OF THE MEDICO-POLITICAL COMMITTEE.

1. That the conditions upon which the medical practitioners in any district undertake contract practice should be prescribed by arrangement among themselves.

2. That the control of the profession over the conditions of contract practice can only be effectually exercised under the conditions of a Public Medical Service, namely:

(*a*) That the general control be in the hands of some organized local body representative of the profession, such as a Division of the British Medical Association.

(*b*) That it be open to every practitioner in the district to take part in the work, should he desire to do so, and conform to the regulations of the profession.

(*c*) That the details of administration be under the direct control of a purely medical committee representing both those who do and those who do not take part in contract work.

3. That whenever, in the opinion of the local medical profession, the immediate institution of a Public Medical Service is for any reason impracticable, the three main principles above stated should be carried into effect as far as possible. That is to say:

(*a*) That, with regard to the conditions upon which they will accept contract practice, the medical practitioners of each district should collectively and individually enter into an agreement, in which the following matters are specifically prescribed:

(i) Rates of remuneration.

(ii) Conditions of admission to attendance under contracts, including provisions with respect to the economic position, age, and health of candidates.

(iii) Definitions of the services to be rendered under the contract.

(iv) Where appointments are made by non-medical bodies—the forms of contract, tenure of office, and representation of the medical profession in the management of the medical service.

(*b*) That practitioners should cease to hold separate appointments or to carry on private clubs, and the principle of distribution of contract practice among all practitioners in the district who desire to participate should be carried into effect.

(*c*) That organized forms of contract practice at present under the control of non-medical committees should gradually be brought under direct medical control.

4. That agreements among local members of the profession with respect to contract practice should be effected through the agency of organized local bodies representative of the profession, the rules of which should make the agreements binding upon the members.

5. That the professional organizations referred to should in each case be a Division of the British Medical Association.

6. That to render professional co-operation as complete as possible the Divisions should endeavour to secure the inclusion of every practitioner in their membership, and should make their decisions binding by adopting rules such as have been suggested by the Ethical Committee. (See Appendix G.)

7. That the Divisions be urged to establish a Public Medical Service in every area in which Contract Practice is believed by them to be necessary.

With reference to the above the Representative Meeting adopted the following resolution:

That on the subject of Contract Practice the policy of the Association shall be to improve the existing state of Contract Practice by means of wage and class limits, adequate remuneration of Medical Officers and their representation on the Governing Bodies, the choice of medical attendants by the beneficiaries, and ultimately the introduction of a system of payment for work actually done.

*** In view of this reference of the report of the Medico-Political Committee on Contract Practice to the Divisions, it is hoped that all members will preserve the special Supplement to the Journal of July 22nd containing the report in question.

LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

Members are reminded that the Library and Writing Rooms of the Association are fitted up for the accommodation of the members in commodious apartments, at the office of the Association, 429, Strand. The rooms are open from 10 a.m. to 5 p.m. Members can have their letters addressed to them at the office.

SEVENTY-THIRD ANNUAL MEETING

OF THE

British Medical Association.

LEICESTER, 1905.

ANNUAL REPRESENTATIVE MEETING.

Adjourned Representative Meeting, Wednesday, July 26th.

On Wednesday, July 26th, the Adjourned Annual Representative Meeting was resumed.

The minutes of the previous day were confirmed.

Hour of Meeting.

Mr. Ballance (Norwich and West Norfolk Divisions) asked the sense of the meeting as regards assembling that morning at 10 o'clock, it being the same time as the Sectional Meetings. He thought it undesirable that the Representative Meeting should be at the same time as the Sectional Meetings. He was aware the Representative Meeting was the most important meeting, but if reasonable facilities could be arranged for the Representatives to attend the Sectional Meetings he thought it should be done, if possible. They might meet at 3 30, as originally arranged, and they could, by suspending the Standing Orders, go on to 7.30 or later if wished. He moved that a vote be taken as to whether the meeting should adjourn at once to enable members to attend the Sectional Meetings and come back later on and sit as late as necessary.

The motion having been seconded, the Chairman said, in answer to Dr. Cox's inquiry as to whether any member of the Representative Meeting engaged at the Sections would be excused, said it could not be done, and refused Dr. Owen's request for a vote by card.

On the motion being put it was declared lost.

Dr. Douglas (Maidstone and Rochester and Chatham Divisions) asked the Chairman to take a resolution that in future an endeavour should earnestly be made to avoid clashing with the Sections.

The Chairman said he would not take any resolution of that kind. The conduct of the business of that meeting had been arranged that year purposely to try to avoid clashing with the Sections. For that reason it had begun at 2 o'clock on Monday. He was willing to receive, as he did last year, a deputation, or suggestions from any members as to how the difficulty could be avoided. But it was not in his hands, and the feeling last year was so strongly expressed in several Divisions against what was called hurrying the business at the end of the meeting, that he must leave the matter in their hands and decline any responsibility on the point.

Expenses of Officers of Divisions or Branches Attending Conferences.

Dr. Karl Grossmann (Liverpool Western Division) moved, in accordance with notice, that expenses be paid to officers of Divisions or Branches attending a conference of such officers at the Annual Meeting only if such a conference is authorized by the Council of the Association.

There being no opposition to the motion, it was declared carried.

The Chairman said that an amendment was proposed by the Wandsworth Division to leave out the proviso as to the conference being at the Annual Meeting. This was important, because the resolution carried on the previous day only involved conferences at the Annual Meeting.

Dr. McManus (Wandsworth Division) was instructed to say that there might be conferences at other times and places than the General Meeting, and it was to enable secretaries to be paid while attending those conferences that it was proposed to leave out these words.

The Chairman put the resolution to the meeting, and it was carried.

Expenses of Representatives.

Mr. Wallace (Metropolitan City Division) moved to alter Article XLV, so as to permit payment of expenses to Representatives attending special as well as Annual Representative Meetings.[1]

The motion was carried.

[1] See Supplement, British Medical Journal, April 1st, 1905.

Mode of Election of Chairman of Representative Meeting.

Dr. McManus (Wandsworth Division) said he hoped the meeting would accept the following motion as non-contentious:

> That the Representative Meeting do elect biennially a Chairman-elect for two years, who shall become Chairman during the third and fourth years, and Vice-Chairman during the fifth and sixth years, when he shall be ineligible for election for two years,

with the rider:

> He shall only be required to be a Representative of a Division while holding the office of Chairman.

Dr. Rose (Stratford Division) thought both the Chairman-elect, the Chairman, and the Vice-Chairman must be all Representatives at the time. They could not decide more than twelve months ahead.

Mr. Armit (Hampstead Division) opposed, and on the Chairman putting the vote he declared the resolution lost.

Proposal to Appoint Deputy Chairman.

Dr. Walter Smith (St. Pancras Division) said last year the meeting expressed the opinion that a Deputy Chairman of the meeting should be appointed.

The Chairman pointed out that it was for the meeting to do that; it had not done so yet. He thought the plain course would be to move that a Deputy Chairman be now elected.

Dr. Walter Smith moved that a Deputy Chairman be elected at that meeting, in accordance with the resolution passed the year previous.

The Chairman thought it was non-contentious, and asked the meeting to vote. Members would be only ratifying what they did last year.

Dr. Odell (Torquay Division) thought it seemed rather a pity to spring the matter upon the meeting at the moment. He agreed with Dr. Smith's proposition, but it seemed to him that members ought to come prepared to nominate some gentleman or gentlemen. There might be some not there whom they would like to nominate.

The Chairman was quite willing to take a vote later in the day.

Matters Referred to Divisions.

It was resolved that matters referred to the Divisions should be sent not later than October 31st.

Work of Medico-Political and other Standing Committees.

Dr. Gosse (Isle of Thanet, Faversham, and Canterbury Divisions) moved the following resolution on behalf of the Isle of Thanet Division:

> That the Isle of Thanet Division of the British Medical Association, while cordially appreciating the work of the Medico-Political and other Standing Committees of the Association, would respectfully urge upon the Representative Meeting the advisability of limiting the number of questions brought before the Association for consideration, as it is impossible for all the Divisions to give sufficient time to the adequate discussion of so many important subjects at the same time.

Dr. Gosse said that some of the matters before the Divisions during the past year were repetitions of what had been before the Divisions the year before. One point that had particularly impressed him was that they had never discussed the Medical Acts Amendment Bill. This occasioned in his own Division an adjourned meeting, and certain suggestions which he personally did not approve of were sent up to the Committee. He therefore thought that this motion was worthy of the serious consideration of the meeting. He appreciated very much the work of the executive in facilitating the business during the last year, and in epitomizing the work for secretaries, but would it not be possible for the separate Committees to send down the items that they had under consideration, so that the Divisions would be able to take them *seriatim* as the matters were received? He thought that one medico-political question was quite enough at each meeting.

Dr. Laffan moved the previous question.

The Chairman said he was waiting for Dr. Gosse to submit a specific plan to the meeting as to what the executive should do or this meeting should do.

Dr. Gosse said he had no instructions on that matter.

The Chairman said in that case he should hardly have allowed so long a speech, because it was not quite practicable, but as the resolution had been properly and constitutionally moved a vote must be taken upon it.

The resolution was lost.

Delegates to Public Boards.

Dr. McManus moved, on behalf of the Wandsworth Division:

> That in all cases where the British Medical Association is given by Act of Parliament or otherwise a representative position on any permanent Board or Council, the selection of the representative or representatives shall rest ultimately with the Representatives' Meeting.

There were two Bills at present before the House of Commons with reference to nurses, and it was of the utmost importance to the general practitioners that they should be adequately represented on any Board that might be appointed, and it was felt that this meeting of Representatives was the proper body to make the appointment to the Board.

The Chairman drew attention also to the following resolution, standing in the name of the Wandsworth Division (Metropolitan Counties Branch):

> That it be an instruction to the Central Council to prepare a scheme suitable for meeting all such contingencies, and to submit it to the Divisions for consideration before March 31st, 1906.

Dr. Walter Smith (St. Pancras Division) moved to insert the words "Council of the Association," in place of the words "Representatives' Meeting." Many things arose during the year when the Representative Meeting was not sitting, and he thought that matters such as this should be in the hands of the Council, and it should be left to them to appoint a Representative for such purpose, as the Representative Meeting might not meet for some months.

Dr. Laffan said there was something in what Dr. Walter Smith said about the Representatives only meeting once a year, and he moved to add the words "That the matter shall be dealt with by the Council in the case of the Representatives not meeting.

The Chairman suggested the words "when the appointment does not admit of delay."

Dr. McManus (Wandsworth Division) accepted that.

The resolution was ultimately agreed to in the following form:

> That in all cases where the British Medical Association is given by Act of Parliament or otherwise a representative position on any permanent Board or Council, and the appointment admits of delay, the selection of the representative or representatives shall rest ultimately with the Representative Meeting.

Dr. Walter Smith (St. Pancras Division) said "the Council" did not come in at all.

The Chairman said the Council, being the executive of the Association, could only make appointments when the Representative Meeting was not called.

Dr. McManus (Wandsworth Division), in moving the second resolution, said that it was a necessary corollary of the previous resolution.

The Chairman said the only question was whether from an administrative point of view the resolution was absolutely necessary.

Dr. McManus (Wandsworth Division) said the object was to strengthen the hands of the Council.

Meetings of Council.

Dr. Prowse moved, on behalf of the Manchester (West) Division:

> That this meeting is of opinion that the Association would be benefited by more frequent Council meetings, to be held alternately in London and the provinces; and that the Articles and By-laws should be so altered that this resolution be carried into effect forthwith.

He said that his Division felt that under present conditions members of the Association were not able to follow with sufficient interest the proceedings of the Council. They also felt that, owing to the changed constitution of the Association, more frequent meetings would be necessary, and that it would be a hardship on many members of the Council who resided at a distance from London to have to travel frequently to and from the metropolis. The chief objection to such a rearrangement would be, probably, the expense; but that already amounted to almost £100 per meeting of the Council, and it was not likely to be added to greatly by any alteration of the kind proposed.

The Chairman said that the Council had that morning decided to meet six times a year instead of four. The second part of the motion was really unnecessary, because the Council could meet when and where it liked, but the first part would be a very important resolution to send from the meeting to the Council.

Dr. Todd (Sunderland Division) opposed the motion.

Dr. D. Browne (Winchester Division) and Dr. Wolstenholme (Salford Division) supported the motion.

Dr. Macdonald (West Somerset Branch) opposed it.

The motion was lost.

Election of Representatives on Council.

Dr. Broadbent (Manchester, North Division) moved:

That the Representative Meeting be given power to elect not less than four nor more than six members of the Central Council.

He said that the meetings were getting to be more and more important, and the work was being done more carefully and more deliberately, and therefore he thought that the Representative Meeting ought to have at least four and not more than six Representatives on the Council.

Dr. Walter Smith (St. Pancras Division) asked whether the Representatives were to be additional members of the Council.

The Chairman said it was evidently intended that they should be additional, but of course the meaning of the resolution was that it would go, if passed, as an instruction to the Council, so that the principle would be embodied in any new draft for the winding up of the Association or for the Charter.

Dr. Latimer (Swansea Division), in supporting the motion, said that he thought that they ought to know more of what went on in the Council than they did at present.

The Chairman said that this was a very important question. It was part of the co-ordination of the work of the Association. At present the meeting only had important points brought before it through the Chair, and that was very undesirable, because it brought upon the Chair a responsibility which the occupant of it ought not to have. It was perfectly true that by the constitution members of the Council should be present at the Representative Meetings and take part in them, but still they were not members of the meeting.

Dr. Smyth (Bournemouth Division) and Dr. Todd (Sunderland Division) supported the resolution, which was put and carried.

Reports of Proceedings of Council.

Dr. Wolstenholme proposed, on behalf of the Salford Division:

That the proceedings of the Central Council ought to be published in as much detail as those of the Annual Representative Meeting, in order to stimulate interest in its doings.

He said that the reports of the proceedings of the Council were merely statements that such-and-such a resolution was proposed and carried. His Division would like to have more than that. At present Divisions had no means of knowing whether their instructions had been carried out.

Dr. D. Browne (Winchester Division) strongly objected to the motion. It was impossible to get through the mass of printing that was sent to members at present; more was not desirable.

Dr. Beverley said that his objection to the motion was that it would increase the length of the meetings, because the more speeches were reported the longer they became. The proceedings were too long at present. The Council sat sometimes from 10 to 6, and if all the speeches were reported it would be a question of an all-night sitting.

Dr. Cox (Gateshead, Consett, and Chester-le-Street Divisions) supported the motion; a more uninteresting document than the reports of the Council Meetings could not be found. The business transacted was of such great importance that members were entitled to something more than a mere statement that a report had come from such-and-such a Committee and been adopted.

The motion was also supported by Dr. Broadbent.

It was then put to the meeting and lost.

Supply of "Supplements" to Secretaries.

Dr. Caverhill (North-West Edinburgh Division) proposed that the Supplements be bound and sent to the Secretaries of Divisions.

Dr. Thomas Wilson (Birmingham, Central Division) suggested that a bound copy be sent to the Representatives as well.

Dr. Caverhill (North-West Edinburgh Division) said he would accept Dr. Wilson's addition.

Mr. Verrall thought it advisable to specify the date, and the Chairman said it should be December, the end of the official year.

Dr. Rose (Stratford Division) proposed to add the words "such volumes to be the property of the Division." It would prevent misunderstanding.

Dr. Broadbent and Dr. C. J. Morton (Walthamstow Division) thought that if the volumes were sent in June and December it would be convenient.

Dr. Caverhill (North-West Edinburgh Division), having accepted the foregoing amendments, the Chairman put the resolution:

That the Supplements be bound and sent down twice annually to the Secretaries and Representatives of Divisions, and that such volumes remain the property of the Divisions,

which was carried.

Election of Members.

Dr. Horrocks moved, on behalf of the Bradford Division (Yorkshire Branch):

That it is desirable to so alter By-law 2 that the Council of the Association shall, on the application of any Division with over fifty members, relegate the power of election of members to that Division; but that right of appeal to the Council shall be reserved to candidates for membership rejected by the Division.

The object of the resolution was to enable the larger Divisions, with the consent of the Council, to elect members of the Association. In the present method of election it was considered that personal prejudice was more likely to affect the election of members than would be the case in an open meeting of the Division, the name of the nominated members having appeared in the agenda. The best men fitted to conduct the election were a man's fellow-practitioners who knew about him in the Division. It was said that there were some Divisions so scattered that it was impossible for them to elect members, but the resolution was permissive. Another point urged was that personal bias might enter into a Divisional election, and members might be unfairly treated. That objection was not insuperable, because names of nominated members would be printed on the agenda, and if there was any feeling for or against them their friends would attend as well as their opponents, and both would have a fair hearing in open meeting. As a further protection the rejected member was given the right to appeal. When the resolution came before the Division first it was proposed that the appeal should be to the Branch Council, but it was urged that the Branch Council was a small body, and some of the members objecting to the candidate might follow him up to the Branch Council, and he would have no right of reply. It seemed to the Division that if the rejected member wished it, he should have the right of appeal to the Central Council, who could inquire into the rights and wrongs of the case, and might have power to elect him if it thought the candidate had been unfairly treated.

The Chairman observed that this was an extremely important resolution, involving a new question of principle, which had been postponed from the previous meeting.

Dr. Cox (Gateshead, Consett, and Chester-le-Street Divisions) said he opposed this on the instruction of his Division last year, and he opposed it again this, also upon the instruction of his Division and in accordance with the general consensus of opinion of the North of England Branch. The experience of his Division was that Branch Councils were a very important part of the system, and their effect in co-ordinating the business of the Association had been most healthy. His Division objected to the Divisions having the power to elect—in the first place because it was found from the records of attendances that even the largest Divisions had very small attendances, and it was thought that to have a man's name coming up for election at a meeting of perhaps four, five, six, eight, or ten men living in the same town as himself, who might easily be biassed by small personal petty jealousy, was not a proper thing. It made a business relation which ought to be conducted as impartially as possible open to considerable abuse.

Dr. Todd (Sunderland Division) said he was directed to oppose the resolution. At the present moment they were striving to increase the membership of the British Medical Association, and this, he thought, would be one of the worst ways of doing it. It was true an appeal was given to the Council, but in all probability no man having been rejected would take the trouble to come to any Council. The Branches had power to reject a man if he was not eligible, and he thought it would be a great pity to carry such a resolution.

Dr. Swanson (York and Scarborough Divisions) said as a member of the Council of the Yorkshire Branch and a former President of the Branch he could not allow what Dr. Horrocks had stated to pass without contradiction. As a matter of fact, the attendance of the Council of the Yorkshire Branch was almost invariably exceedingly good. As to the question of

the care exercised in the selection of members by the Yorkshire Branch, he would like to point out that they had from the beginning taken exception to the arrangements for the election of members, and had been to some extent instrumental in getting power to secure that the nominations of candidates should be supported by more than one person. There was more probability of the election of a candidate being carefully considered on its merits by a large body like the Branch than by a small body like the Division. Though his own Division numbered 50 members, it was very rarely that there was an attendance of more than 5 or 6.

Dr. Larking (Ashford, Dover, and Folkestone Divisions) felt very strongly that a member ought to be elected by men who lived in the same locality and knew him. Every qualified man ought to have the opportunity of coming into the Association. He did not believe that there were certain Divisions where the jealousy would be so great that any one would be rejected. The Branch Council might reject a candidate because nothing was known about him. It was very much better to be quite certain that something was known about the candidate. Further, the knowledge of the fact that so-and-so's election was coming up in the Division stimulated the attendance at the meeting.

Mr. Westley (Liverpool, Southern Division) opposed the resolution for one or two reasons. He agreed that every registered practitioner should be considered suitable for election unless something definite were found against him by the Council. If a man were admitted and found not to conduct himself as he ought, there were rules providing for his expulsion. He thought the meeting should decide whether the voting should be by card or otherwise.

Dr. Wolstenholme (Salford Division) asked whether the provision for appealing to the Council meeting meant the Branch Council.

The Chairman replied that that point would come up for consideration always.

Dr. Broadbent (Manchester, North Division) supported the resolution. As the Branch Council was made up of only one or two from each Division, a candidate's character and position would be far more accurately estimated in his own Division, even if there were only five or six in attendance, than in the Branch Council, where there would be only one Representative from his Division.

Dr. Carmichael said that the meetings of the Edinburgh Branch Council were very much better attended than the meetings of the Divisions, and he was strongly in favour of things remaining as they were, because the Branch Council might fairly be said to represent the Divisions. In the Edinburgh Branch Council, when names came up for election, most careful inquiry was made, and the opportunity was taken of knowing the opinion of the Divisions. In large medical centres like Edinburgh, or London, Manchester, Liverpool, or Birmingham, matters were somewhat different from what took place in smaller provincial towns, because he believed he was right in saying that a great number of the candidates—he would not say the majority, but certainly a large number—were men who were not already settled in practice. One of the first things that men just qualified desired to do was to become members of the British Medical Association, and therefore those men had no connexion with the Divisions, and were not known. Therefore in large medical centres he thought election by Divisions would be absurd. In smaller districts the men were better known, and the members of the Divisions were in a better position to judge, but he certainly thought the Branch Council was the body that ought to elect, because it had power to get information from the Divisions.

Dr. Ewart (Westminster Division) thought it rather invidious to suspect the Divisions of partiality, particularly in a matter so important as this, and therefore from that point of view he would be very glad indeed to recommend that this power should be widened. He would be rather in favour of the Division nominating and the election being ratified by the Branch.

Dr. E. O. Price (North Carnarvon and Anglesea Division) said if this were only a question of the Division electing the candidate he should be in favour of it, but it involved the larger question of policy, and the Branch Council seemed to be the more proper body to stand midway, as it were, between the Division and the Association, and he would therefore be in favour of matters being left as they were.

A motion having been made that the question be now put, the Chairman called upon Dr. Horrocks to reply.

Dr. Horrocks said this was a matter of opinion, and strong opinions had been expressed one way and another. He would call Dr. Cox's attention to the fact that the resolution was permissive. He strongly objected to the suggestion that the Branch would be better able to judge of the qualifications of a candidate than those who worked alongside him in the Division. Some speakers had said that they would support the measure if the matter was referred to the Branch Council instead of to the Central Council.

The Chairman said Dr. Horrocks need not dwell upon that, because the question of appeal came up later.

Dr. Milner Moore (Coventry, Nuneaton and Tamworth, and Warwick and Leamington Divisions) moved that the vote be taken by card, but the proposition not having been supported by 20 members rising, the vote was taken by a show of hands, 45 voting for the resolution and 56 against.

The motion was therefore lost.

Scheme for Affiliation of Medical Societies.

Dr. P. Rose (Stratford Division) moved, with a view to furthering the organization of the medical profession, that the Council be asked to consider the advisability of providing a scheme for the affiliation of local medical societies with the British Medical Association.

The motion was carried without discussion.

Arrangements to Facilitate Representation.

Dr. Holt moved, on behalf of the Blackburn Division (Lancashire and Cheshire Branch):

> That in the case of any Representative or member of Council or Committee being summoned to a meeting at head quarters, the Secretary of the Division shall notify the fact to all members of the Division practising in the same district, three clear days beforehand, on forms specially supplied for this purpose, in order that the members may be prepared to watch the interests of their Representative during his absence.

The resolution was carried without a division, and the Chairman observed that it would be for each Division to carry it out in the way that seemed best under local circumstances.

Grants to Divisions.

Dr. Horrocks, on behalf of the Bradford Division, moved:

> That in the opinion of the Representative Meeting it is desirable that the Council should transfer annually from the central funds such amount as the Council shall deem expedient, having due regard to the expenditure necessary to carry out other objects of the Association, to a special fund to be designated "The Supplementary Grants Fund," and that out of such fund grants be made from time to time to such Divisions and of such amounts as the Council may think proper having regard to the evidences of work done, and to the amount of local subscription for any purpose for which a supplementary grant may be given, the Council to be advised by the Organization Committee as to the distribution of the amount available; and that the Council be instructed at the first opportunity to bring before the Representative Meeting such alterations of the By-laws as may be necessary to give effect to this resolution.

Whereupon an amendment was moved by Mr. Ballance (Norwich):

> That the first part of the resolution, down to the words "Division of such amounts," be omitted, and the following substituted:
>
> That in the opinion of the Representative Meeting it is desirable that the Council, having made due provision for the expenditure necessary to carry out other objects of the Association, should have power to make from time to time grants from the central funds to such Divisions and of such amounts.

Dr. Horrocks, with the leave of the meeting, accepted the amendment. He said that from time to time pious opinions were expressed to the effect that Divisions should aid scientific work. Two years ago the President of the Association had said at Swansea that the Divisions ought to take an interest in scientific work and associate themselves with the local medical societies. What was now wanted was that money should be provided with which to buy such things as books and microscopes. The Divisions which had shown themselves to be energetic had a right, because they made a larger return to the British Medical Association, to have a larger grant from the Association, and in that way the central body would encourage scientific work in the Division.

Mr. Ballance (Norwich and West Norfolk Divisions) said that it must be evident that the capitation grant of 4s. was quite inadequate. Members looked rather suspiciously upon microscopes, but he was quite sure that the Organization Committee would exercise very careful supervision over any applications which came from Divisions for special grants.

Dr. Ewart (Westminster Division) supported the motion, because the idea contained in it was a progressive one.

Dr. Hunter (South Shields and Tyneside Divisions) pro-

posed that the word "Branches" should be substituted for the word "Divisions."

Dr. Cox (Gateshead, Consett, and Chester-le-Street Divisions) suggested that the motion should read "Branches or Divisions."

Dr. Hunter agreed to this suggestion.

The amendment was also accepted by Dr. Horrocks, and agreed to by the meeting.

Dr. O'Sullivan (Chelsea Division) said he took it that the motion was a sort of over-riding of what the Representative Meeting had determined on the day before as to interfering with the autonomy of the Branches in the matter of distributing their funds. If the motion were carried, pet Divisions and pet Representatives of Divisions on the Council would be urging the claims of their Divisions perpetually. He would be the last man to object to money being given for proper purposes.

The Chairman, in answering a question by Dr. Holt (Blackburn and Burnley Divisions), said that the Council was the acting financial executive of the Association, and, therefore, the giving of the money would be in the power of the Council, and the Council, of course, would have to be satisfied, generally speaking, as to the object.

Dr. Holt (Blackburn and Burnley Divisions) supported the resolution.

The Chairman said that he had had put into his hands an amendment moved by Mr. Armit (Hampstead) and seconded by Dr. Miller (Exeter and Barnstaple Divisions) to the effect that the resolution should be limited to scientific work.

Dr. Caverhill (North-West Edinburgh Division) asked what was the meaning of the words "and to the amount of local subscriptions for any purpose."

The Chairman said he took it that that again was a matter of detail which would come up for discussion in the Council. That was certainly what was intended by the resolution. As regarded what the resolution meant, he took it that the words would cover subscriptions by any individual or any body.

Dr. Ewart (Westminster Division) was in favour of scientific work under the auspices of the Association, and in favour of any measure tending in that direction, but at the same time he should not be in favour of supporting the proposal of Mr. Armit, because there were various ways of being useful to the Association and there ought not to be any partiality to one way or to another. The enormous importance of the work which had already been done outside science should be recognized.

Mr. H. W. Armit (Hampstead Division) said in reply that the money in the hands of the Branches to be distributed to the Divisions was quite sufficient in the majority of cases, whereas scientific work in this country was absolutely without any provision at all. He thought the proposed grants should be limited to scientific work.

The amendment was lost.

The Chairman then read an amendment by Dr. O'Sullivan Chelsea Division) as follows:

> That the applications for money by Divisions be in the first place made to the Branch Councils, and, if approved by them, forwarded with remarks thereon for the consideration of the Council.

Dr. Caverhill (North-West Edinburgh Division) seconded the amendment.

Dr. O'Sullivan (Chelsea Division) would not repeat his remarks, but said he felt very strongly on the financial interference which this resolution was likely to produce. He did not think any man wishing for the success of the Association would deny any reasonable grant to the Branches for scientific purposes, but there were outside purposes for which it would be injudicious to give grants. He did not see why the Council might not be as well able to judge as a Branch Council.

Dr. Caverhill (North-West Edinburgh Division) seconded the amendment.

Dr. Moore (Coventry, Nuneaton and Tamworth, and Warwick and Leamington Divisions) desired to point out that in the general amendment by Mr. Ballance the word "Branches" was inserted. Were they taking away from the Branches the privilege they had of distributing the money? The Division might go to the Branch and yet not get the due amount of expenses paid. That was the difficulty they were in, and that was why the Council should have the power.

The Chairman said that the amendment certainly placed the discretionary power entirely in the hands of the Branch Council.

Mr. Ballance (Norwich and West Norfolk Division) opposed on the ground that it interfered with the autonomy of the Division; he thought the Division should have the power to apply direct to the Council. He did not mind the application going through the Branch Council if it were bound to hand it on to the Central Council, but he did not think the Branch Council ought to have an opportunity of vetoing the Division's application.

Dr. Moore (Coventry Division) said that difficulty could be met by the application being passed on with the remarks thereon.

The Chairman said he understood that Dr. O'Sullivan made a request to the meeting that he should be allowed to withdraw the words "requiring the approval of the the Branch Council," and he asked the meeting if that were its pleasure.

The meeting signified its assent to that course.

The Chairman then said that the amendment would read:

> That the applications for money by the Divisions be in the first place made to the Branch Councils, and forwarded by them with remarks thereon for the consideration of the Council.

The motion was carried on a show of hands.

The Chairman preferred to treat it as a rider to the original resolution. They then came back to the original resolution, which stood as he had first read it, with Mr. Ballance's amendment, which had been accepted by Dr. Horrocks.

Dr. Horrocks, in reply, wished to explain that the supplementary grant had nothing to do with the fund kept by the Branches. It was a separate fund entirely, and only asked for when it was required, which was very occasionally.

The Chairman then read the resolution, and, after putting it to the meeting, declared it carried.

Form of Annual Financial Statement.[2]

Dr. McManus moved, on behalf of the Wandsworth Division:

> That the Finance Committee is requested, when preparing the annual accounts of the Association, also to prepare a statement containing the same details but on the lines of a rate demand note.

He thought that it was non-contentious, and would appeal to every man with business instincts. It was evident that there should be a sort of analysis of the way the money was spent. It was done by all Boards of Guardians, County Councils, and so on throughout the kingdom.

On a show of hands the resolution was carried.

Circulation of "Supplements."

Dr. McManus moved, on behalf of the Wandsworth Division:

> That the Supplement of the Journal, containing as it does the private business of the members, be, if possible, not issued with the Journal otherwise than to members.

He said that events in the South-west of London had shown the advisability of this.

Resolved: That the motion be referred to the Journal and Finance Committee for consideration and report.

Dr. Wilson (Birmingham Central Division) said he was instructed to oppose. It would be difficult to particularize, the Journal being issued to members and non-members. Further, any outsider could get a Supplement from a member.

The Chairman said that there might be particular difficulties unknown to them in the work of the office in regard to discriminating, but he thought if Dr. McManus accepted the words "if possible" it would give some latitude to the office, and meet the objection.

Dr. McManus (Wandsworth Division) said he accepted that.

Dr. Wynne (Leigh and Wigan Divisions) supported the resolution, and stated that a collection of recent Supplements was found in the house of a miner.

Mr. Straton (Salisbury Division) suggested that the Journals be not sold.

The Chairman said all the points were really included in the words "if possible." They wanted the opinion of the Representative Meeting. The idea was that it was not desirable to issue Supplements in that way. If they accepted the resolution with the words "if possible," he thought it would meet the point.

Mr. Ballance (Norwich and West Norfolk Divisions) moved

[2] See Supplement, April 1st, p. 129.

that it should go with the expression of opinion to that effect.

Dr. Ewart (Westminster Division) seconded.

The Chairman put the resolution with the addition to the meeting, when it was duly carried.

Separate Issue of Report of Annual Meeting.

Dr. A. P. Low (Dundee Branch) moved the following resolution on behalf of the Dundee District Branch:

> That for facility of reference, and to relieve the space of the British Medical Journal, the Journal Committee consider the advisability of publishing the proceedings of the annual meetings separately as transactions.

Dr. Low said that the motion was perhaps really in the interests of the ordinary general medical practitioners, who formed the great majority of the Association. It was all very well for men in large towns, where they had plenty of literature, to say it did not matter to them whether the Journal was very interesting one week or not, but to a man in the country or in some manufacturing towns it was often as bad as being in the country from the point of view of having time to spare; every issue of the Journal should be interesting and to the point, so that a man found something to help him in his daily work. He ought not to open a Journal one week, look over it and say, "That is not for me," and next week, perhaps, not open the Journal at all. As to the means by which the proposal of the resolution might be carried out, the transactions might either be published separately in one volume or combined with the *Year Book*. He did not wish to specify the means by which they were to be published, but the Journal for a couple of months or so should not fail to contain the short papers which were so valuable to the general practitioner. An article on lumbago by a very distinguished man had recently been published, and that was the sort of thing that interested the general practitioner, but it was really of no interest to have the immunity theory discussed at great length. Pathologists did not concur in the discussion at all, and there were many different views. Last year the papers in the Section of Pathology and the Section of Tropical Diseases were published in successive weeks. There was a large balance every year of something like £5,000, and he thought this balance could not be spent better than by improving the Journal, which with many members was the only bond with the British Medical Association. He did not refer to lazy members who had it in their power to attend Association meetings but did not. The publication of the proceedings would be a good advertisement, and membership would increase amongst the very class not touched at the present time.

Dr. Coombs (Bedford and Herts Division) said the opinion of his Division was that the publication of the proceedings would improve the position of the Association as a scientific body, and place them alongside the purely scientific societies. Another important point set out in the resolutions was that the facility of reference would be decidedly increased.

The Chairman thought a little explanation was due. He understood the resolution to mean that the proceedings of the Annual Meeting should be published separately as well as in the Journal, but Dr. Low wished to move apparently that they should not appear in the Journal at all.

Dr. Low said that was his intention.

Dr. Walter Smith (St. Pancras Division) said he was instructed to oppose this resolution on two or three grounds. In the first place, he did not consider the publication of the proceedings would be of much use, being already published in the Journal, and in the second place, having in view the enormous expense that would be involved, the publication would not be worth the money. If it was proposed to publish the whole of the Annual Meeting *in extenso* it seemed to him that the present plan was very much the best, by which the Editor of the Journal could pick out those matters which were really worth printing *in extenso*, while extracts were given of those which were not of such eminent value. It would seem to be impossible to publish the whole proceedings unless there were abstracts of everything, which would make the publication of very little use. Experience showed that very often transactions were simply put upon the shelf; they were another volume for the bookshelf, and that was all their use for a very large number of men. He thought it would not be worth the enormous expense, and before committing themselves to it some estimate of the probable cost should be obtained.

In reply to a question, the Chairman said that he was not in a position to state how much the publication would cost.

The discussion was adjourned for the attendance of the Editor, who was temporarily absent.

Subsequently the Chairman said the Editor was now present, and he had explained to him the terms of Dr. Low's resolution.

Dr. Caverhill (North-West Edinburgh Division) was instructed by his Division to oppose the proposal of the Dundee Branch on the ground of the enormous expense, and further that the matter was entirely an office question, which ought to be settled by the Editor of the Journal. He would like to point out to Dr. Low that his remarks had been entirely devoted to the question of the Sectional Meetings, but his resolution covered the work of the Representative Meeting as well, and it seemed to him (the speaker) that the question might be divided in some way, and he thought there was a good deal to say for the publication of the report of the proceedings of the Representative Meeting in book form. His Division were absolutely opposed to instructing the Association to publish the transactions of the Sectional Meetings in any way except that which the Editor of the Journal thought best in the interests of the paper.

The Editor of the British Medical Journal (Dr. Dawson Williams) understood the resolution to apply principally to Sectional proceedings. So far as the resolution might be proposed with the idea of obtaining publication of the proceedings of the Sections earlier, he did not think that it would be, on the average, a success. Of course, theoretically, everybody who read a paper in a Section handed it in to the secretary of the Section there and then, but, as a matter of practice, he did not always do so. Then, of course, the reports from the reporters of the Journal in the various Sections had to be obtained. That took some time. Then the whole had to be subedited, put into type, and had to be made up into pages. It must then be machined, bound, and finally circulated through the post. All that took a considerable time, and, judging from what happened with regard to other scientific congresses, he did not think it at all likely a volume of transactions could be published before Christmas. Then it must be remembered that if the Journal was to go on in the ordinary way it would be necessary to have special editorial assistance for dealing with the transactions. It would be necessary to have special assistants for putting that into order, subediting it, and seeing through the press. He would like to point out that from that point of view the proposal would involve, as had been said, a very serious expense. He was not able to express any opinion as to the total amount of expense, but it would be very considerable indeed. That would be a matter, he presumed, on which a report would have to be made by the Council or the Journal and Finance Committee. What he wanted to put to the meeting was—would it be an advantage to the Association and to the Journal to be deprived of matter which came to it from the Annual Meeting? As everybody who had had any experience of the meetings knew, a great deal of trouble was taken by the officers of the Sections to get representative subjects selected, and to get men who were particularly competent to deal with them to speak upon them. In his view, the matter which came to the Journal from the Sections during the course of the autumn was exceedingly valuable matter. It was often novel matter. In other instances it was in a way a summary of work which had been done during the past year. For instance, last year there was the discussion upon Immunity. It was an exceedingly difficult subject to understand, and it was instructive to have the present position of the subject presented to the Association by men working at it. Therefore, as the Editor of the Journal, he would ask the Representatives to consider very carefully whether to exclude the Sectional matter from the Journal would not be to do the Journal, as a property and as a medium for distributing information throughout the Association, a considerable injury. His definite opinion was that it would not be to the advantage of the Journal to deprive it of matter which came to it from the Sections of the Annual Meeting.

Dr. A. E. Larking (Ashford [illegible] Divisions) remarked that [illegible] with the question of interests of the [illegible] doubt how the readers, many persons had papers in the Sections was because the papers would appear before the whole profession during the course of the next few months.

Dr. H. F. Oldham (Lancaster Division) asked what number

of copies of the British Medical Journal were sold outside those distributed to the members of the Association.

Dr. Dawson Williams (the Editor) replied that the membership of the Association was nearly 20,000 and the circulation about 22,500.

Dr. Oldham felt that this matter was one of considerable importance to their Association and their Journal. Of course the question was to a large extent a matter of office work—as to whether it could be done or not; but if it were assumed that it could be done, then he thought that the position taken up by the Dundee District Branch was correct. If they wanted the meetings to be regarded as scientific meetings and the papers in the Sections to be regarded as truly scientific, they should publish them in a form in which they would come readily into the hands of people who did not and could not attend the meetings. If the proceedings of Sections were not published in any other form except in the Journal, the information could be got only in weekly batches, and outsiders who were not members of the Association would not subscribe to the British Medical Journal merely for the purpose of obtaining reports of the transactions of the Annual Meeting. Therefore he thought it would be to the benefit of the meeting, as a scientific meeting, if those transactions were published in a separate volume. Again, he thought that the Journal itself would benefit by it. There was no doubt after the Annual Meeting that the Journal was somewhat overweighted by reports of Sections, and it lost during those months its place as a medical journal in competition with other medical journals before the public. That interfered with its circulation among men who were not members of their Association. He had every confidence (as he thought the meeting had) in their Editor. He felt sure if they could relieve their Editor of the incubus of reporting the annual meetings as he had been freed from other trammels by the Supplement, he would produce a Journal quite as interesting and as attractive as any other medical journal issued in this country. That was what they wanted to aim at, and he did not want to hear it said that there was nothing in the British Medical Journal except political matter or scientific articles that nobody cared to read. He heard expressions of dissent with regard to that, but people had said it. Continuing, he said that they ought as an Association, in order to proselytize and get more members into their Association, let their Journal be as attractive as any other medical journal that was produced. For the foregoing reasons he supported the resolution.

Dr. Laffan said that they lived largely on the advertisements in the Journal, because they constituted the bulk of their income. The Editor had stated to the meeting his opinion that the proposal of the Dundee Branch would injure the Journal and render it less attractive and less useful. In face of that fact, he would accept the Editor's view and vote against the change.

Dr. Munro Moir (Northern Counties of Scotland Division) spoke in the interest of busy practitioners, more especially in such outlying districts as the North of Scotland, who had not the opportunity of going to medical centres and getting practical experience of scientific papers. The men he had instanced had not the time nor the inclination to study abstruse matters dealing with pathology, physiology, or the like, with which for several weeks after the meeting the Journal was full. What they looked for in the Journal, and hoped to get, were papers which at other times of the year appeared from month to month and week to week on subjects of importance to them. He supported the motion.

Dr. W. Odell (Torquay Division) opposed on the very ground put forward by the last speaker. It seemed that of 20,000 members of the Association only, at the most, 1,500 or 1,200, or perhaps 1,000, could attend the meeting. All the other 19,000 men wanted to know what was going on at the Annual Meeting, and the only way in which they could know it was through the Journal. It might be, perhaps, that some of the discussions in the Sections were too learned for men like himself, but still he put up with that.

Dr. Radcliffe Crocker (Treasurer) thought they must look upon the motion from two points of view. First, from the business point and the point of cost, and, secondly, whether it was really expedient and advisable in the interests of the Journal and themselves as a scientific body. The question of expense, of course, would be best determined by the Journal and Finance Committee, and when the Editor and the office had been able to get up facts in regard to the matters the Journal and Finance Committee would be able to consider it. He suggested, if the meeting were of opinion this motion should be carried in principle, it should be referred to the Journal and Finance Committee to see how far it was practicable. Some of the speakers had said that pure science was not interesting and useful to the general practitioner. That was not the way in which to look at it. The pure science of to-day was the practical science of to-morrow. Take the subject of immunity. It was very difficult; but when it came to its application to various diseases it was very important for every practitioner that he should know the principles and elements of the subject. They must not, therefore, look upon each subject as it appeared in the Journal and say that was not of use to them. It might be of use to them very soon, and therefore they must look at it from that point of view. The Editor had also told them that he did not think it would be really in the interests of the Journal to exclude the matter altogether.

Mr. Ballance (Norwich and West Norfolk Divisions) pointed out that it was, in the Editor's opinion, not advisable to separate the annual reports from the Journal.

Dr. Low (Dundee Division), in replying, deprecated the idea that the proceedings of Sections would be placed on a shelf and that no more would be seen of them. He suggested that the proceedings of the Sections should be in a separate volume with a distinctive cover, so that if a man remembered a certain subject being discussed in a particular year he could turn to it at once. From the point of view of getting at matters that had been discussed, he thought that an advisable change. A good deal had been said about the enormous expense, but they had in recent years published a weekly Supplement, of which the expense must be considerable, without any trouble, and that morning they had decided that Secretaries of Branches were to have their Supplements bound and sent to them, though the Secretaries could easily collect them themselves in the course of the year and have them bound for a shilling or two. That expense had also been passed without trouble, though it no doubt would be considerable. Another point was that the Editor and the Treasurer and men who lived in big towns and in London, did not appreciate the value of this proposal from a general practitioner's point of view. In many cases the British Medical Journal was the only medical journal the general practitioner could take. Except in big towns, he could not have the advantage of going to a library and seeing the papers. There were perhaps also many struggling practitioners who could not afford to spend money on separate journals, and he did not see why the British Medical Journal, the journal of the biggest medical association in the world, should not be the best scientific and practical journal in the world. With their £5,000 the cost of publication was of absolutely no importance.

The resolution was negatived, and the Chairman ruled that the following motion by the Blackburn Division was consequential on the foregoing, and therefore must be withdrawn:

> That it be an instruction to the Finance and Journal Committee to publish the report of the Annual Meeting in the form of transactions in the annual *Year Book*, which shall be published on September 1st every year, the medical year to be reckoned from one Annual Meeting to the next.

Central Office: Designation.

The following resolution, standing in the name of the Blackburn Division (Lancashire and Cheshire Branch)—

> That the head quarters be known as the office of the "British Medical Association," not of the British Medical Journal

—was carried without discussion.

Position of Medical Secretary.

Dr. Thompson moved, on behalf of the Cardiff Division:

> 1. That the Representative Meeting notes with satisfaction the action of the Council in transferring to the Medical Secretary's department the secretarial work of the Representative Meeting, and of the Public Health, Hospitals, and Naval and Military Committees, thus giving effect more fully than before to the principle that the secretarial work of the Association, except in matters purely of business and finance, should be discharged by a medical man.
> 2. The Representative Meeting further expresses the opinion that the office of the Medical Secretary should have equal recognition in the regulations of the Association, and as regards the conditions under which it is held, with those of the Editor and General Secretary; and requests the Council to take into early consideration the measures necessary to carry out this resolution.

It was, he said, the wish of the Division he represented to show in some way their appreciation of the excellent services rendered by the Medical Secretary at the time he came down

to explain the model rules. It was largely owing to his guidance that, in a time of difficulty and doubt, they would be able to meet the delicate questions involved in problems continually confronting medical men. His Division had an increasing feeling of the value of the services of the Medical Secretary. His powers of labour and capacity of explaining what had appeared to them an incomprehensible mass of rules and details were in themselves valuable, but the grasp he showed of local details after a very short visit, and his tact in managing the affairs of the Divisions and Branches, had impressed upon the members the fact that they had in their Medical Secretary one whom in time of difficulty or doubt any Division or Branch could approach with the certainty of meeting with a courteous and lucid answer. It was felt that something should be done to bring about through this meeting of Representatives some acknowledgement of his valuable services. Indirectly through his work in South Wales more members had been added to the Divisions than by almost any other agency. He had enabled them to bring home both to members of the Association and to practitioners outside the fact of the existence of a working Association to which medical men could appeal if unfairly treated, and which worked for the benefit of the individual as well as of the profession as a whole. He wished it to be understood that he was not speaking in any partisan way, nor with any thought of making light of the services of the General Secretary or any other official—he wished to avoid anything of that kind—but his Division felt that the services of the Medical Secretary had been such that if his position on the permanent staff of the Association could be improved it was their wish that it might be done through this meeting.

Dr. Wolstenholme (Salford Division) asked what was meant by the resolution. Did it mean, for instance, the raising of the Medical Secretary's salary from £600 to £1,000 a year?

The Chairman said that was the point he wished to touch upon. He would ask the meeting to vote the resolution without discussion. It had been purposely left open, as it involved matters of detail which were for the consideration of the executive body which had to do with the appointment of these officers. The meeting had already approved of the proposals of the Council for altering the Articles and By-laws so as to take from the Editor and the General Secretary their quasi-privileged position, and, as the Articles and By-laws would stand, the officials had equal recognition.

Dr. Larking (Ashford, Dover, and Folkestone Divisions) moved the previous question, on the ground that the resolution was invidious.

Mr. O'Sullivan (Chelsea Division) expressed the opinion that, leave having been given to a member to introduce a complimentary resolution, members should be allowed to speak in support of it.

Dr. Larking did not think it advisable to vote upon it.

The Chairman said he would be sorry if any one seconded the previous question, because the effect of its appearance on the minutes would be a most severe censure.

The meeting having declined to hear speeches in support, the resolution was carried.

Dr. Ewart (Westminster Division) supposed it would be recorded that there was no discussion.

The Chairman said he would make an entry to that effect upon the minutes with pleasure.

Dr. MacKeith (Southampton, Guernsey and Alderney, and Jersey Divisions) asked if the Medical Secretary's name or his office would be inserted in Article XXXVI of the Memorandum.

The Chairman answered in the negative. The reference to all the officers would be omitted.

Midwives Act.

The next business on the agenda paper was the consideration of the following resolutions, of which notice had been given by the Furness Division:

That, in any steps which may be taken to amend the Midwives Act, the following considerations should receive attention at the hands of the Medico-Political Committee:

(*a*) That as no adequate provision is made for excluding ignorant women, the most fruitful causes of septic infection, up to the year 1910; and that, as no adequate provision is made to ascertain that those put on the *Register* have any skill whatever, these should not be placed upon the same *Register* as those later ones who have presumably had some training, or, at any rate, have passed an examination.

(*b*) That the constitution of the Central Midwives Board is open to criticism, as not having a sufficient number of general practitioners.

(*c*) That the provision for enforcing the rules regulating the practice of midwives is not adequate.

(*d*) That control over drugs should be withheld from those who have not passed an examination.

(*e*) That, at present, the Act implies that medical men are compelled to attend upon summons by a midwife, and it is desirable that the public should know that this is not the case, and that a medical man is justified in refusing to attend cases of septic poisoning in the interests of the public as long as adequate provision is not made for the exclusion of the class of women referred to in Paragraph 1.

At the suggestion of the Chairman, Paragraph (*a*) was accepted on behalf of the Medico-Political Committee by the Chairman of that Committee.

Dr. F. E. Daniel (Furness and Kendal Divisions) then moved Paragraph (*b*).

Dr. Buist offered to accept all the paragraphs of the resolution—(*a*) to (*e*)—for the consideration of the Medico-Political Committee; but

The Chairman said that they were so important that he thought they should also come amongst the resolutions which were resolutions of the Representative Meeting, as representing the British Medical Association. They were of importance in addition to their instructive value.

Mr. J. Ward Cousins (Portsmouth Division) said that some of the statements were contrary to the Act as it now stood.

The Chairman said he was aware of that, but they were being taken as the view of the Representative Meeting of what a more perfect Act would be.

Paragraphs (*b*) and (*c*) were then carried.

Dr. Daniel (Furness and Kendal Divisions) moved Paragraph (*d*), which he said was intended to apply to such active drugs as opium.

The Chairman said the General Medical Council had had this matter under consideration, and had acted exactly as had the Furness Division, passing a resolution on the subject. It was quite impossible to define as had been suggested.

Dr. Broadbent (Manchester, North Division) called attention to the words "who have not passed an examination," which he considered unnecessary.

Mr. Ward Cousins (Portsmouth Division) said the Midwives Board had hedged this question of drugs by a very carefully drawn up resolution to the effect that every dose administered should be stated by the midwife in her report, the time of the administration, and the purpose for which the drug was administered.

Dr. Muir (Glasgow, Eastern Division) said that it was in the power of any person to administer drugs either to themselves or to anybody else, so long as they did not administer the drugs contained in the schedule of poisons to the Pharmacy Act. They could not, therefore, prevent midwives from administering the ordinary drugs which could be purchased at a druggist's shop by any person, and administered to any other person.

The resolution was carried.

The Chairman ruled that Paragraph (*e*) which had been emended should be taken in two parts:

(1) That at present the Act implies that medical men are compelled to attend upon summons by a midwife, and it is desirable that the public should know that this is not the case.

(2) A notice correcting the wrong impression should be put in the public press and sent to all midwives to clear up the question and also to act as a deterrent to women who readily risk their lives in the hands of ignorant midwives.

Dr. Daniel moved (1), which was carried.

The Chairman suggested, with regard to the remaining part of the motion, that Dr. Daniel should alter the wording a little, so that the concluding words should run "women admitted upon the Roll without examination" or "without training."

Dr. Caverhill (North-West Edinburgh Division) moved to omit (2).

The proposal was accepted by Mr. Daniel and agreed to by the meeting.

Dr. Walter Smith (St. Pancras Division) asked whether the Medico-Political Committee had taken any steps in the direction of providing a list of those medical men who were willing to attend under the Midwives Act.

The Chairman of the Committee (Dr. Buist) replied that the preparation of any such list must be entirely a local matter.

Dr. T. Fawsitt (Oldham Division) moved:

That this meeting instruct the Medico-Political Committee to represent to the Midwives Board that when a registered midwife is engaged to attend a woman in her labour, it shall be her duty to see that the patient makes arrangement with a medical practitioner to the effect that in the event of the labour becoming abnormal he will attend, and also that the midwife shall enter into her engagement book the name of the medical practitioner selected. Failure to comply with this rule, or for the midwife to advise or recommend that any particular practitioner be selected, shall be a misdemeanour.

Dr. MacKeith (Southampton, Guernsey and Alderney, and Jersey Divisions) supported the motion because he thought that every woman should make arrangements with a doctor to attend her if and when required. If the Midwives Board would issue an instruction in these terms to midwives the Association would get practically all that was wanted.

A Representative said that so far from a recommendation of this kind assisting in the working of the Midwives Act, it would kill it. A woman would engage a midwife and find out her fee, and then she would be instructed to go and see a doctor as well. The doctor would probably say, "If there is nothing the matter I will charge you a certain fee; if it is abnormal I shall charge you a double fee." Therefore the woman in all probability would not employ a midwife at all.

Dr. Blake (East Norfolk and North Suffolk Divisions) opposed the motion.

A Representative said that in all trades and in all professions there was a system of tipping, a system really of bribery, and the present motion would lead, if passed, to this, or the medical man stooping to the position of bribing the midwife to recommend cases to him. The whole difficulty in connexion with contract practice was that medical men had to deal with someone who stood between them and their patients. The motion was putting midwives into the position of intermediaries between doctors and their patients.

On the motion of Mr. Armit it was agreed that the question be now put.

The motion was accordingly put to the meeting and lost.

Dr. Wolstenholme then moved, on behalf of the Salford Division:

That, inasmuch as the only legislation existing (according to a communication from the Local Government Board to the Manchester Medical Guild) which enables local authorities to pay fees to medical men when summoned under the Midwives Act to assist midwives is permissive in character, the Government be requested to take the necessary steps for amending the Midwives Act by introducing a section, or otherwise, ordering local authorities to pay such fees, and further that such fees ought to be fixed according to the present Poor-law scale.

He said that the great deficiency in the present Act was that although medical men were almost forced to attend midwives, there was no provision for the payment of fees. Liverpool was prepared to pay a fee, and so was Manchester. But his Division thought that the payment of fees should be made compulsory, and suggested that the fees should be on the present Local Government Board scale—£1 for an ordinary and £2 for a difficult case.

Dr. Morton (Walthamstow Division) said that his Division had instructed him as Secretary to write to the Local Government Board about the matter. The answer was that, as far as the Local Government Board knew, the county councils had no power whatever to pay those fees.

Dr. Wolstenholme (Salford Division) said that the letter received by the Manchester Medical Guild from the Local Government Board stated that the Board would give permission to any local authority which applied. The answer was perfectly clear.

The Chairman said that it was quite clear that diametrically opposite answers had been received from the Local Government Board. Therefore the business could not be proceeded with, and he suggested that the matter should be remitted to the Medico-Political Committee.

The suggestion was accepted by Dr. Wolstenholme and adopted by the meeting.

The discussion of the part of the motion having reference to fees was postponed until printed copies of the scale of fees proposed by the Stratford Division could be placed in the hands of the Representatives.

Later in the day these copies were distributed, and the Chairman invited Dr. Rose to speak first, as it was his Division which constructed this valuable schedule of fees.

Dr. Rose (Stratford Division) said the scale followed the list of the conditions enumerated by the Midwives Board as a kind of guide to the condition in which the midwives should see that a medical practitioner was sent for. No value was attached at present to those services by a public body. The scale had been considered by many Divisions, approved by 14. The Norwich Division had suggested certain modifications of the scale which, in his opinion, were very useful indeed. The schedule was divided into three parts, referring respectively to conditions arising before labour, during labour, or after the labour had terminated. With regard to a case in which a medical practitioner was summoned before labour, it appeared to his Division that the pregnant woman had tried to make other arrangements either through the Poor Law or otherwise, and therefore it would be sufficient to provide for a single visit and giving advice and getting out of the case. If more than this had to be done, the Norwich Division suggested a higher charge.

At the suggestion of the Chairman, Dr. Rose moved:

That in the opinion of this meeting such fees ought to be fixed according to the scale issued by the Stratford Division.

The accompanying table (p. 139) shows the scale of minimum fees proposed by the Stratford Division and the modifications proposed by the Norwich Division.

Dr. Browne (Winchester Division) seconded the resolution.

Mr. Ballance asked that Dr. Rose should describe his scheme in detail.

The Chairman said it was really a question of amounts, and he did not think the meeting could discuss amounts. There was a question of "after-visits."

Mr. Ballance said he understood Dr. Rose had some suggestions upon that.

The Chairman said it seemed to him that there was a difference in local practice. He thought that question could be left to the Divisions when the matter was remitted to them, as would be necessary.

Dr. Latimer said he was instructed by the Swansea Division to support the Stratford scheme, with certain modifications. They considered that the midwifery fee should be in all cases at least a guinea.

Dr. Rose accepted that suggestion.

Dr. Latimer said that his Division thought also that a guinea for repairing a rupture of the perineum was too little.

Dr. Morton questioned whether the meeting need discuss these details.

Dr. Wolstenholme said it was not a question of whether more would be received under the Stratford scale than under the Poor-law scale, but a question of public policy. In Liverpool, where the authorities were paying a fee for the assistance of midwives, the fee was a guinea. Although in some cases a practitioner had applied for less and in other cases for more than a guinea, the Liverpool Corporation had decided, on grounds of expediency and simplicity of accounts, that the fee should always be one and the same.

The amendment in favour of the Stratford scale was carried by a large majority; and the Chairman proceeded to put it as a substantive resolution, with the addition of the words, "and that the resolution be remitted to the Medico-Political Committee for consideration and report to the Divisions."

The resolution was adopted.

Mr. Ballance said that the Medico-Political Committee had suggested to the Norwich Division that it was desirable that the scale of fees should be arranged under fewer headings, and he agreed that it was very desirable that a uniform and smaller scale should be adopted.

Dr. Gosse supported.

The Chairman said that his recollection was very clear that when this schedule was put before the Committee a kind of general paralysis seized the members. However, the document was still before the Committee, and would necessarily be considered by the Committee when this resolution was brought before it.

Annual Representative Meeting, 1906.

Mr. Armit (Hampstead Division) asked the Chairman where the Representative Meeting for the next year would be held.

The Chairman said that when the Annual Meeting was held in Montreal the business of the Association was conducted at a meeting in London. He was quite ready to take the sense of the meeting on the point.

Manchester, Liverpool, London, Edinburgh, and Toronto were then successively proposed. The numbers voting for each place were counted, but finally, upon a show of hands,

Payment of Medical Practitioners Called to Assist Midwives.

Scale of Minimum Fees.

	Proposed by the Stratford Division.	Proposed by the Norwich Division.
(*a*) In the case of a pregnant woman: (1) Where she (the midwife) suspects a deformed pelvis; (2) where there is loss of blood: and (3) where the pregnancy presents any other unusual features (as, for example, excessive sickness, persistent headache, dimness of vision, puffiness of face and hands, difficulty in emptying the bladder, incontinence of urine, large varicose veins, rupture), or where it is complicated by fever or any other serious condition	Opinion and advice: day call, 3s. 6d.; night call, 7s. 6d.	Opinion and advice: day call, 3s. 6d.; night call, 7s. 6d. Operative interference, £2 2s.
(*b*) In the case of a woman in labour: (1) In all presentations other than the uncomplicated vertex or breech	£2	£2 2s.
In all cases of breech presentation in primiparae ...	£1 10s.	£2 2s.
In all cases of flooding and convulsions	£2	£2 2s.
Also whenever there appears to be insufficient room for the child to pass, or when a tumour is felt in any part of the mother's passages	£2	£2 2s.
(2) If the midwife, when the cervix has become dilated, is unable to make out the presentation	Opinion and advice: day call, 3s. 6d.; night call, 7s. 6d.	Visit and advice: day call, 3s. 6d.; night call, 7s. 6d.
(3) If there is loss of blood in excess of what is natural, at whatever time of the labour it may occur	Up to £2	Visit and advice: day call, 3s. 6d.; night call, 7s. 6d. Operative interference, £2 2s.
(4) If an hour after the birth of the child the placenta has not been expelled and cannot be expressed (that is, pressed out), even if no bleeding has occurred	Manual removal, 10s. 6d., in addition to the day or night fee of 3s. 6d. or 7s. 6d. Instrumental, £2	£1 1s.
(5) In cases of rupture of the perineum or other serious injuries of the soft parts	Operation £1 1s., in addition to the day or night fee of 3s. 6d. or 7s. 6d.	£1 1s.
(*c*) In the case of lying-in women and in the case of newly-born children. Whenever after delivery the progress of the woman or child is not satisfactory, but in all events upon the occurrence of the subjoined conditions in:		
I. The mother: (1) Abdominal swelling and signs of insufficient contraction of the uterus	Day, 3s. 6d.; night, 7s. 6d.	Visit and advice: day call, 3s. 6d. night call, 7s. 6d.
(2) Foul-smelling discharges	£2	£1 1s.
(3) Secondary *post-partum* haemorrhage	£1 1s.	£1 1s.
(4) Rigor	£2	£1 1s.
(5) Rise of temperature above 100.4° F., with quickening of the pulse for more than 24 hours	£2	£1 1s.
(6) Unusual swelling of the breasts, with local tenderness or pain	Day, 3s. 6d.; night, 7s. 6d. Operations and dressings, £1 1s. in addition	Visit and advice: day call, 3s. 6d.; night call, 7s. 6d. Operative interference and dressings, £1 1s.
II. The child: (1) Injuries received during birth; (2) obvious malformations or deformities, not inconsistent with continued existence; (3) concealed malformations, incapacity to suck or to take nourishment; (4) inflammation to even the slightest degree of the eyes, eyelids, and ears; (5) syphilitic appearance of the skin in certain parts; (6) illness or feebleness arising from prematurity; (7) malignant jaundice (icterus neonatorum); (8) inflammation about the umbilicus (septic infection of the cord)	Opinion and advice: day, 3s. 6d.; night, 7s. 6d.	Visit and advice: day call, 3s. 6d.; night call, 7s. 6d.
(*d*) In all cases of the death of a woman during pregnancy, labour, or lying-in	Inspection: day, 3s. 6d.; night, 7s. 6d.	Inspection, day call, 3s. 6d.; night call, 7s. 6d.
Anaesthetist (if required), not being the assistant or employer of the medical man attending, to be paid according to the time detained	30 minutes and under, 10s. 6d.; over 30 minutes, £1	Fee for consultant, anaesthetist, or assistant if required, £1 1s.
	In country districts mileage to the nearest available medical man to be taken into account	In country districts mileage to be charged for
		Abdominal section, £10 10s.
		The fees of 1 and 2 guineas mentioned above [illegible] subsequent visits, which will be charged for at the rate of 3s. 6d. per day visit and 7s. 6d. per night visit

there was practically a unanimous vote in favour of the Representative Meeting being held in London.

After some discussion it was agreed that the Representative Meeting should begin at 10 a.m. on the Tuesday in the last complete week in July.

Attendance of Members of Committees at the Representative Meeting.

Dr. Oldham (Lancaster Division) said that on the Medico-Political Committee and on the Ethical Committee of last year there were certain gentlemen appointed by the Representative Meeting who had not been at the present meeting at all. Apparently they had not been returned as Representatives of their Divisions. Was it not possible in some way to provide that members of these Standing Committees should be members of the meeting the following year, whether they were Representatives or not?

The **Chairman** said that the question raised two points.

The first was whether such gentlemen should be present and take part in discussions; the second point was whether they should be present and take part in the discussions and exercise voting power. He took it that the second was not meant by Dr. Oldham.

Dr. Oldham said that that was not meant by him.

The Chairman said that Dr. Oldham wished to put the members of the Committees on the same footing as members of the Council. He could not say without inquiry whether what was suggested was contrary to the by-laws. He would inquire into the matter, and it would be competent to move a resolution on the point later.

Subsequently the Chairman said that the Solicitor had handed him Article XXVI, whereby he saw that the proposal was unfortunately impossible. The wording of the Article was: "No member of the Association who is not a Representative of a Division, or group of Divisions, or a member of the Council, shall be entitled to take part in any Representative Meeting." That was quite distinct.

Work of Medical Secretary's Department.

Dr. Broadbent proposed, on behalf of the North Manchester Division:

> That the Medical Secretary be instructed to provide in the Supplement to the British Medical Journal a weekly record of those matters in connexion with the current work of his department which are likely to be specially interesting or useful to the members of the Association generally.

He had no doubt that that would be accepted generally.

The Chairman pointed out that before they could add to the duties of an officer the officer must be heard on the subject.

Dr. Broadbent (Manchester, North Division) said under the circumstances he would propose the motion as it stood.

The Chairman then called upon the Medical Secretary to explain to the meeting his position in regard to the new duties which were detailed in the resolution.

The Medical Secretary (Dr. Whitaker) said the principal difficulties he foresaw in carrying out the resolution were two: first, that the resolution spoke of the current work of the department, which he took particularly to refer to the work of the Medico-Political and Ethical Committees. With regard to a great deal of the work, those Committees had to wait for their actions to be approved by the Central Council before they could be published in the British Medical Journal. Therefore there would be an irregularity in the proposed weekly records. In some weeks there would be very little, not because the work was not being done, but because it had not reached the stage at which it could with propriety be published in the British Medical Journal. The second difficulty he foresaw was that of selection. Dr. Broadbent, who had done him the honour to call upon him and discuss the matter with him some time ago, thought these weekly records would be helpful, because some members could not find time to read through the Supplements, or found a difficulty in picking out the matters in which they were particularly interested. Each member of the Association was interested in some different matters, and it appeared to him very difficult to decide what were the matters of the current work which would be interesting to the general body. That was one of the reasons, as he took it, that they had an expert Editor, specially qualified to know and follow the interests of the Association, and to know the matters likely to interest the Association; it was one of the Editor's difficult duties to judge from week to week what were the most interesting matters to insert in the Journal.

The Chairman said the meeting had heard the explanation of the Medical Secretary, and asked Dr. Broadbent if he had anything else to say.

Dr. Broadbent also wanted Dr. Whitaker to give the names of the places he visited where there were disputes. He thought it was well that the Representatives present should know that Dr. Whitaker was always pleased to go to any Division and give an address or to attend any inquiry that was being held.

The Chairman said that that was a standing order that the Representatives had passed at Swansea, but he had no doubt that the Medico-Political Committee would do whatever could be done in the direction mentioned by Dr. Broadbent.

Dr. Walter Smith (St. Pancras Division) opposed the proposition on the ground that any such matter would be published in the Journal before it came before the Committee. It was like the case of a public body admitting the press to its committee meetings. If the proposal were carried the result would be given broadcast to the laity before it was sanctioned by the body who ought to sanction it. Moreover, it would considerably increase the work of the Medical Secretary, who had too much to do at the present time.

At the suggestion of the Chairman, Dr. Broadbent withdrew the motion, and the Chairman observed that the meeting gave leave with acclamation.

Ballot for Committees.

Dr. R. H. Coombs (Bedford and Herts Division) called attention to the method of distributing and collecting the ballot papers for the election of Representatives on the Standing Committees. He thought it irregular, and hoped that on future occasions it would be done in a more systematic manner. He asked the Chairman whether he did not think it desirable to appoint scrutineers for this occasion, which was very important, so that there might be no risk of duplicate voting.

The Chairman said it was customary in many bodies of this kind to distribute voting papers to the meeting; that method had been followed, and he did not think that it was irregular. A time had been named for the collection of the papers which were now in the ballot-box. The next step was to count the votes, and it was his duty now, before the votes were counted, to put it to the meeting whether scrutineers should be appointed from the body of the meeting, or whether, as he should suggest, the Medical Secretary and the General Secretary should count the votes. As regards the risk of duplicate voting, he would point out that the voting sheet which the members had received was labelled with the Committee for which the vote was given, and the member's name was at the bottom of it. Duplicate voting, therefore, was impossible. His successor, he had no doubt, would be very grateful for any suggestions as to the way in which the method of voting for Committees could be improved. He proposed from the chair that the Secretaries should count the votes, and this was carried.

Registration of Nurses.

The Chairman said the next matter was extremely important, since it involved a proposal to rescind a resolution passed at Oxford. The resolution in question was this: "That this meeting approves of the principle of the registration of nurses." It would be remembered that that motion was moved by Dr Langley Browne and carried *nem. con.* In the motion of the Altrincham Division now before the meeting—

> That Resolution 66 of the Annual Representative Meeting at Oxford be rescinded: and that the question of the State registration of nurses be referred to the Divisions

—two points were involved, the first being that a previous resolution be rescinded; and, secondly, that the question of State registration of nurses be referred to the Divisions. There was evidence to show that the Altrincham Division never received the documents issued to the Divisions in June, 1904, and the question of their having been posted was being inquired into in London. The question was before the Divisions now, and the Divisions, if they were interested in it, ought to be considering it, even although the details of the Bills must be hung up until the Report of the Select Committee of the House of Commons was issued.*

Dr. Garstang (Altrincham Division) asked the Chairman to explain how he meant that the question was before the Divisions at the present moment.

The Chairman said that the question was sent down to the Divisions in June, 1904, but the Divisions had never reported to the Medico-Political Committee upon it. It was still open to the Divisions to consider the details of the whole question governed by the vote on the principle passed by the Representative Meeting in 1904. But as all questions of detail must depend upon the views which were acceptable to the Divisions, the subject was still worthy of discussion by them, and ought to be reported upon to the Committee.

Dr. Garstang (Altrincham Division) said he was much obliged for the information, but he was afraid that the subject-matter of this question would have been entirely lost sight of by all the Divisions, and the Committee's reports were based upon the circular which which was issued in June, 1904. With regard to the remark that two principles were involved, he would like to put himself right with the meeting at once, and to say that his Division had no wish to obstruct or to quarrel with a legally arrived at decision either of the Representative Meeting or of the Divisions or by the Council, and the only reason that his Division had put down the

* The report has since been published, and will be found printed in full at p. 157 of this Supplement.

proposal to rescind that resolution was because they were under the impression that unless that resolution were temporarily got out of the way, they would be unable to reopen the question. If the Chairman should rule that he could proceed with the second half of the resolution he was quite willing to drop the first half. That was a matter for the Chairman to settle.

The CHAIRMAN said that certainly the second part of the question could be moved, and he would take a resolution of this sort: "That the subject of State registration of nurses be referred to the Divisions for their consideration."

Dr. WOLSTENHOLME (Salford Division) asked if it was not the fact that the Oxford meeting passed the resolution, and that Representatives went before the Committee to state that the British Medical Association was in favour of the principle of State registration. Could the question be reopened now?

The CHAIRMAN said he did not think that Dr. Wolstenholme had heard what fell from Dr. Garstang, who had said he was ready to withdraw the first part of his resolution if he might move the second part.

Dr. WOLSTENHOLME asked if it had not been already represented that the British Medical Association was in favour of the principle.

The CHAIRMAN said that he was ordered by the meeting to support the principle, and if Dr. Garstang withdrew the first part of his resolution, there would be no contradiction in his having reported as instructed by the meeting. Dr. Garstang wished the second part of the resolution altered, and he should rule that he was perfectly at liberty to ask to have it altered.

Dr. GARSTANG (Altrincham Division) repeated that his Division did not wish to quarrel with the decision of the Representative Meeting. They did not wish at this moment and in this place, and he had no instructions to reopen the question of the advisability of State registration of nurses. He was going to leave that point entirely out of his argument. His appeal to the meeting was based upon the fact that his Division believed, rightly or wrongly, that the subject had not been adequately considered by the Divisions. Since the document of June, 1904, was issued, most elaborate reports on various subjects had been sent down from the head office to the Divisions for their consideration; their replies had been tabulated, and he believed the system had worked well. At all events, the meeting had that day, and on the previous day, passed several reports based upon inquiries conducted in that way. It was an unfortunate fact that his Division did not receive a copy of the circular of June, 1904, and therefore did not know that the circular had been issued; that knowledge modified the position to a certain extent, but he still maintained that, even assuming the circular was properly issued to the whole of the rest of the Divisions last year, it was only some six weeks before the Annual Meeting, and many Divisions, including his own, had held their meetings before that date; it was, therefore, impossible for them to consider the circular and instruct their Representatives in time for last year's Annual Meeting. That was a simple statement of the fact upon which he based this request. He was not going to ask for a vote on the principle of registration. He was only asking that the whole question might be remitted for further consideration to the Divisions in such shape as the Chairman and the officers of the Association might consider proper. All he wanted was further answers from the Divisions. He assumed that the present decision had been arrived at unanimously.

The CHAIRMAN said it was not unanimous, but *nem. con.* Two members made speeches criticizing it.

Dr. GARSTANG said he accepted the correction, which was one of degree only, and he need not waste any time over that matter. He had expressed really the whole of the wish of his Division. It was nothing more than a wish, and it was simply an appeal to the sense of fair play, which he had never yet seen made in vain to the meeting. His Division considered that the question had not been fully considered. They might be right or they might be wrong. If they were wrong the Representative Meeting would sit on them, but if the Representative Meeting sat on them on this occasion it would not prevent the Division from jumping up again next year; if they were beaten they would take it thoroughly in good part.

The CHAIRMAN said that the matter was non-contentious. It was of vital importance to the public and to the medical profession, and the Divisions, if they had not considered it, ought to do so.

The motion was then carried.

The CHAIRMAN said that as a corollary to the last resolution, he would take Dr. Gill's resolution. It was merely an expression of opinion. It was that registration of nurses should include midwifery nurses, who should have three years' training, of which one at least should be in a lying-in hospital.

The motion was carried.

TRACHOMA.

The CHAIRMAN said that the Cardiff Division had given notice of the following motion:

> That the Representative Meeting is of opinion that the community is exposed to a grave danger by the entrance into and detention in this country of aliens suffering from trachoma, and urges the Council to take steps towards having the disease scheduled as "a loathsome and contagious disease" in the Alien Immigration Bill or other legislative measure.

He would, however, point out to Dr. Daniel that the meeting had already approved of the reference, and in fact the Medico-Political Committee had already taken action on the subject. Therefore the meeting could pass to the next business.

LOCAL PROVIDENT MEDICAL SERVICES.

This was a notice of motion by the Southern Branch:

> That this meeting of the Southern Branch considers that the British Medical Association should afford all possible facilities to towns and districts for starting and carrying on local provident medical services embracing all forms of club practice: that an official from the head office should be sent, whenever desired, to co-operate with local medical men in the inauguration of such services, and that model rules and regulations for their working should be drafted by the Medical Secretary and supplied from the head office on request.

It was really a motion respecting the general principles of co-operation in club practice, and he ventured to suggest to Mr. Straton that he should withdraw it in view of the fact that the whole subject was referred to the Divisions for consideration and report.

Mr. STRATON (Salisbury Division) accepted the suggestion.

SCHEME FOR ATTENDANCE ON LOWER AND LOWER-MIDDLE CLASS.

The CHAIRMAN said the same remark applied to the following motion, standing in the name of the Wandsworth Division:

> In view of the fact that this Association is considering the question of medical contract practice and also hospital reform, this meeting of Representatives is of the opinion that some scheme might be evolved under the control of the Central Office, and worked through the Division Committees, that would provide for those of the lower and lower-middle classes who do not need hospital treatment, medical treatment in their own homes, upon terms which would be satisfactory both to the members of the Association and their patients, and that could eventually embrace the whole of the United Kingdom.

Dr. McMANUS (Wandsworth Division) said that after the expression of opinion by the Chairman he was prepared to withdraw the motion; and the CHAIRMAN said that in consequence the next notice of motion dropped out:

> This meeting therefore decides to appoint a Committee of six (geographically representative) who shall, with six others to be appointed by the Central Council, investigate the matter, and report to the Divisions not later than March 31st, 1906.

THE INACTION OF THE GOVERNMENT IN RESPECT OF THE CORONER FOR SOUTH WEST LONDON.

The CHAIRMAN said that, owing to the importance of the subject, he would now ask the meeting to consider the following motion, proposed by Captain Booth-Clarkson and seconded by Dr. McManus:

> That this Representative Meeting strongly protests against the conduct of the Prime Minister in ignoring the communications of the British Medical Association in reference to the inaction of the Lord Chancellor in refusing to pronounce judgement on the evidence placed before him by the Association showing the grave danger to the public safety by the procedure of the Coroner for South-West London.

Captain BOOTH-CLARKSON (Natal Branch) was exceedingly sorry that a resolution of this nature had fallen to him, more especially as for over twenty years he had been a member of one of the most important Conservative clubs in England, that of Liverpool. He had always gone with the Conservative party, but it was really now a very serious question with him whether he should not resign from that party, because he did not see that in a matter like this they could pass over what

undoubtedly was very much like a slight. There might be a satisfactory explanation forthcoming, but there had been ample time for that. As far as he was personally concerned, he felt very much as Lord Palmerston did once when he burst in upon his colleagues in Downing Street and said, "If you fellows are going to put up with this, I am damned if I do." It seemed to him that if the resolution was passed at all it would be best to pass it unanimously, because it would not be desirable to have part of the British Medical Association in favour of the resolution and the other half saying that they did not mind where they were kicked and how often they were kicked. This was an occasion on which they should forget whether they were Whigs or Tories, and remember that they were medical men and members of the British Medical Association.

The Chairman, in answering a question by Dr. McManus, said that the Lord Chancellor was the only justiciary who had any control over coroners, and he was the only court, therefore, of judicial appeal on the subject of coroners. The Association had laid before the Lord Chancellor evidence of danger to the public, by word of mouth, by a deputation, and on two separate occasions by printed documents of great length and great detail. It was his duty, therefore, to exercise the right which he alone possessed of pronouncing judgement, and the Association was entitled on its part to claim that judgement should be delivered. The judge having failed in his duty, the only constitutional course was to go to the head of the Government, the Prime Minister, and that was the reason for the resolution.

Dr. McManus said that this was not by any means a political move on his part any more than it was on the part of Captain Booth-Clarkson, because he could say that he was a congenital Conservative. He had much pleasure in seconding the motion.

Dr. F. E. Daniel (Furness and Kendal Divisions) proposed an amendment, which he hoped Captain Booth-Clarkson would accept, to substitute the word "action" for "conduct."

The Chairman said it was really inaction, and their attitude arose from the Prime Minister not taking any action.

Dr. O'Sullivan (Chelsea Division) considered, as the Chairman read it, that it was a positive statement.

Dr. Lauran said the suggestion he would throw out was that a resolution of that description, however just in itself, was inconvenient to the individual proposing it, and suggested that the resolution should go as being carried by acclamation, without proposer or seconder. He thought the Association, whose position had to be vindicated, ought to take the responsibility of the resolution. The resolution could be put as being carried by acclamation.

The Chairman said that meant putting it from the chair.

Dr. Ewart (Westminster Division) moved that the word "conduct" be omitted and some such words as "failure of the Prime Minister to reply" be substituted. Nothing would be gained by introducing a word which was a little offensive.

The Chairman said he understood the proposition was that the first paragraph should be "That this Representative Meeting strongly protests against the failure of the Prime Minister to reply to the communications of the British Medical Association."

Dr. Wynne (Leigh and Wigan Divisions) seconded.

Dr. Odell (Torquay Division) asked if it was perfectly clear that Mr. Balfour had received the communications and acted in a discourteous manner. He had known Mr. Balfour ever since he was first elected, and he was sure that he was the last man in the world to act knowingly with discourtesy.

Dr. Caverhill (North-West Edinburgh Division) asked the dates of the letters written to Mr. Balfour; he was a neighbour of Mr. Balfour and knew him, and had hoped before the end of the meeting to have been able to state to the Association that what had happened was due to the action of some under official, and not of the Prime Minister himself. Therefore he should like to know the dates on which those letters were written to Mr. Balfour, and if the latter of them was registered.

The Chairman said they had not the register of letters issued from the Medical Secretary's office there, it being in London; but he remembered very well the issuing of the first letter. That was the result of a conference with the South-West London Society, and that letter was written in July, 1904; and the second letter, drawing attention to the fact that the first had not been acknowledged, was sent at the end of 1904 or the beginning of 1905. The meeting had nothing to do with the question whether the letters were intercepted by an official. All that could be done was to send the letters. The meeting was now, he thought, in a position to approve or disapprove Dr. Ewart's amendment.

Dr. Douglas (Maidstone Division) inquired, so that the meeting might be perfectly clear, whether a reply had not been received from the Lord Chancellor to the effect that he did not see, under the circumstances, that he could take any action.

The Chairman replied that the last letter received from the Lord Chancellor was merely a postponing letter saying that he saw difficulties in the way, and that he was still considering the matter. It was in the document before the meeting. By reference to the appendix to the minutes it would be seen that the last letter addressed to the Lord Chancellor was on January 5th, 1905, six months ago; no reply had yet been received to that letter. The point remained that no reply was received in the first instance from the Lord Chancellor for eleven months. After the first letter was sent to Mr. Balfour, within one week a reply was received from the Lord Chancellor, but Mr. Balfour had never acknowledged the letter to him. It was felt by the conference that whatever had gone on in the background between the two statesmen—of which nothing was known—it was not becoming that a letter from the Association should remain unacknowledged, and therefore the second letter was sent to Mr. Balfour, the date of which was somewhere about the end of 1904; to that no reply had been received. Let them look at the matter dispassionately, because, after all, this was a question of the conduct of the Government and ordinary justice in the country which affected everybody. He thought that this resolution was essentially a competent resolution. He had to put before the meeting the amendment moved by Dr. Ewart, which, as amended, was to substitute the word "omission" for "conduct," and the words "to reply" for the words "in ignoring."

On the motion being put 55 voted for and 49 against, and the Chairman accordingly declared it carried.

Dr. O'Sullivan (Chelsea Division) said that he thought that such an important public body as the British Medical Association should demand courteous treatment from any gentleman in the United Kingdom, no matter how highly placed he might be. He supported the resolution.

The Chairman said that he hoped there would be a unanimous vote on the resolution, as representing the views of the Association:

> That this Representative Meeting strongly protests against the omission of the Prime Minister to reply to the communications of the British Medical Association, with reference to the inaction of the Lord Chancellor in refusing to pronounce judgement on the evidence placed by the British Medical Association before him, showing grave danger to the public safety entailed by the procedure of the Coroner for South-West London.

The resolution was put and carried *nem. con.*

[An account of the steps taken by the Chairman of the Representative Meeting in bringing the above resolution to the notice of the Prime Minister will be found in the report by Sir Victor Horsley at page 146.]

Pathologists in Coroners' Courts.

The Chairman then said that Dr. McManus wished to draw attention to the following request submitted by the Wandsworth Division to the Ethical Committee:

> That the Ethical Committee of the Association are hereby requested to take into their consideration the ethical position of members who are willing to act as pathologists and toxicologists in Coroners' Courts at a fee authorized for *post-mortem* examinations made by general practitioners and not intended to meet those cases requiring specially-skilled examinations and evidence.

On this the Ethical Committee reported to the Council, which had adopted the following resolution:

> That the Council disapproves of the action of specially-skilled pathologists who have agreed to make *post-mortem* examinations and to give evidence at special inquest cases for the ordinary fee of two guineas.

In connexion with what had passed in the Ethical Committee and in the Council, Dr. McManus would then move:

> That it be an instruction to the Medico-Political Committee to arrange a conference with the Medical Boards of the London teaching hospitals and the pathologists now on the list of the London County Council with a view to securing the withdrawal of the list.

The resolution was seconded by Dr. Ewart.

Dr. McManus said that with regard to this particular matter, he was speaking not merely as a Representative of Wandsworth only, but in the direct interests of the general practitioners of the South-West of London—that was to say, Putney, Southfields, Earlsfield, Battersea, Wandsworth, and the great city of Westminster, comprising something more than a million inhabitants. He was speaking indirectly, also, in the interest of every general practitioner in the United Kingdom. He might say that the resolution had been framed very carefully, with a view of treating those special pathologists with every courtesy and consideration, and giving them ample opportunity, if they felt that they were taken by surprise and did not realize or understand the true facts of the situation, to alter their position. He wished to disclaim any personal feeling with regard to the coroner himself. But he had treated them in a most autocratic and offensive way. His methods had been extremely narrow-minded and bigoted. But he felt that, after all, the coroner was a layman, who was entitled to look at the matter from a layman's point of view. But with regard to the special pathologists, the matter was different. The coroner had stated in the presence of the speaker, in answer to his questions in open court, that he did not consider that general practitioners in South-West London were men fit to make a *post-mortem* examination. That statement could not be accepted as authoritative from any layman. But when so-called special pathologists tumbled over each other to accept the post of special pathologists at ordinary fees, that gave some colour to the coroner's statement that the general practitioners of the district were not fit to perform any *post-mortem* examinations, and thus grave injury was inflicted upon them. The profession in South-West London was not opposed to the principle of special pathologists. All that was asked was that they should be men of repute, leaders of pathology, teachers in some well-known school or great hospital, and that they should be called in only in cases in which a doubt or difficulty had arisen or where their honour was implicated. The fact, so far as Battersea was concerned, was that over 90 per cent. of the examinations were made by one special pathologist who at the time when he was selected by the coroner as pathologist was not attached to any hospital, but was simply a general practitioner himself practising in North London. The coroner had gone further than that. The Public Health Committee of the Battersea Borough Council passed a resolution inviting all medical men to make their *post-mortem* examinations in the new *post-mortem* rooms, built at a cost of some £5,000, and second to none in London. The coroner had instructed the mortuary keeper not to admit any medical man to that mortuary while his own pathologist was making a *post-mortem* examination, and said that if any medical man so entered he would commit him for contempt of court. That meant that if the friends of a patient he (Dr. McManus) had attended impugned his conduct in any way he would not have an opportunity of witnessing the examination and verifying the statement of the pathologist. Was it too much to ask the so-called special pathologists, the majority of whom were gentlemen, public-school men, and men of honour, to abandon this indefensible position which they were taking up?

Dr. Ewart seconded the resolution. The Westminster Division had discussed the question and fully approved the point brought out so clearly by Dr. McManus, that they could not as a medical association do otherwise than wish that the highest skill should be made available when necessary. A protest must also be made against the orders of the coroner excluding the responsible party in any particular case from the *post-mortem* examination.

Dr. Esler (Lambeth Division), as a near neighbour of the Wandsworth Division, supported the resolution, which did not, however, affect his side of the border.

The resolution was adopted.

Dr. F. C. Marsley (Dublin Division) observed that several of the special pathologists were members of the Association, and asked whether the Association had ever made any representations to them in regard to this matter.

The Chairman said he believed that some of them had had representations made to them, but not by the Association as a whole.

Dr. McManus said this resolution of the Council had been communicated to them all; some of them had replied, some had not, and one of them who was not a member of the Association practically told them that he would not.

The Chairman said the resolution was communicated, but an answer was not asked for.

Dr. Latimer thought the matter should be dealt with in the strongest way possible.

The Chairman said that was another point altogether. It was quite open for any Division to move in the matter, and in reply to a further question from Dr. Latimer said that the matter would be left to the Divisions.

The "Medical Register."

Dr. Horrocks (Bradford Division) moved:

> That the present state of the official *Medical Register* is unsatisfactory, as it is open to considerable error, and that steps be taken to remedy this defect.

The Chairman suggested that this was a matter of detail, as to which the Medico-Political Committee would use their discretion. It was a question of the utmost importance, and the best and most efficient way of getting to work upon it was to instruct the Medico-Political Committee to take the necessary steps.

Dr. Horrocks said that was what he had meant to convey.

The Chairman said he would put the resolution in this way:

> That the present state of the official *Medical Register* is unsatisfactory, as it is open to considerable error, and that the Medico-Political Committee be instructed to take such steps as would lead to this defect being remedied.

The resolution was adopted.

Canvassing and Advertising in Connexion with Contract Practice.

The Chairman suggested that the following resolution upon this question, standing in the name of the Salford Division, might also be passed without discussion:

> That it shall be inconsistent with membership of the Association for any medical practitioner to be associated with any institution providing medical attendance on contract or provident principles which employs official canvassing either privately or collectively or any other method of advertising for the purpose of obtaining members.

The matter was really covered by the decision of the General Medical Council in regard to the question of canvassing in connexion with medical aid societies.

The resolution was adopted.

Position of Consultants.

Dr. Morton (Walthamstow Division) moved:

> That the Ethical Committee be requested to consider the relative ethical position of consultants and the medical practitioner in attendance, to each other and to the patients, and report.

The Chairman said that the relations between the Bar and solicitors had been long ago properly considered and settled, and this matter ought to have been properly dealt with long ago by the medical profession also.

The motion was carried.

Dual Hospital Appointments.

Dr. Prowse moved, on behalf of the Manchester (West) Division:

> That the interests of the public and the profession equally demand that dual hospital appointments of a similar character shall not be held by any one physician or surgeon.

Mr. Armit asked what was the meaning of the word "dual."

Dr. Prowse said that the resolution referred to the case of one medical man holding an appointment of a similar nature in two different hospitals in the same town.

The Chairman asked, for his own information, whether the motion would apply to his own case, because he was a surgeon to a general hospital, University College Hospital, and also surgeon to a special hospital, the National Hospital in Queen's Square.

Dr. Walter Smith said that he was instructed to oppose the motion, because it was absolutely impracticable.

Dr. Ewart (Westminster Division), as a matter of principle, thought that it would be a great pity if the Association were to do anything in the direction of infringing the personal rights of individuals and of institutions.

Dr. Odell (Torquay) opposed the motion, because it was perfectly impracticable and also wrong.

It was then moved and seconded and carried that the motion be now put.

The motion was accordingly put and lost

A Proposed Out-patient Department.

Dr. F. E. Wynne (Leigh and Wigan Divisions) then moved:

That whereas an infirmary is being established in Leigh, and the Infirmary Committee have, after hearing the views of the medical men in the District and in open opposition to their unanimously-expressed opinion, decided to provide an out-patient department, although no necessity has been shown to exist for such, we hereby, in Representative Meeting assembled, strongly assert that no member of our profession should take any appointment under this Committee, either Surgeon or Physician, Resident Medical or Surgical Officer, or Honorary Medical or Surgical Officer, until the Infirmary Committee make such an arrangement as will agree with the wishes of the local medical men as expressed through the Leigh Division of the British Medical Association.

The motion was carried unanimously.

Mr. Armit (Hampstead Division) proposed:

That in the opinion of this meeting there should be no out-patient departments in hospitals except for consultations and casualties, and that this opinion especially applies to hospitals whose staff are general practitioners.

He meant that patients applying for relief in the out-patient department should be seen once and then referred back to the sources from which they came. Those sources were the general practitioner, the club doctor, or the Poor-law officer. The only exception would be if the case were one which demanded admission as a suitable case, either for the purpose of treatment or for the purpose of teaching. He should prefer to make the motion apply chiefly to those hospitals that had no teaching classes attached to them, but which were chiefly hospitals staffed by general practitioners.

Dr. Cox (Gateshead, Consett, and Chester-le-Street Divisions), on a point of order, asked whether the meeting was not discussing a new principle which had never been before the Divisions.

The Chairman ruled that the meeting was in order, because the motion arose out of a motion which had been on the paper and submitted to the Divisions.

Dr. McManus (Wandsworth Division) said that he was a governor of a hospital which was a case in point, the Bolingbroke Hospital at Wandsworth Common. That hospital had a surgical side and a medical side, a pathological side, a throat and ear department and an ophthalmic department, and had gone on the rule of working wholly with the general practitioners in the neighbourhood. Every question with reference to the staffing of the hospital had been submitted first to the South-West London Medical Society and to the Wandsworth Division of the British Medical Association, and whatever suggestions those bodies had made had been adopted. In the case of an ordinary accident a person was given a card, and he had to take that card to his family doctor and have it signed or he would not be seen a second time. He had great pleasure in seconding the motion.

Dr. Ewart (Westminster Division) said that the Belgrave Hospital for Children, in Kennington, London, was working under a certain extent on the same lines as described by Dr. McManus, and was receiving out-patients only on the recommendation of the general practitioners of the district.

Dr. Morton (Walthamstow Division) said that he could mention another instance—the Walthamstow Hospital—which did not receive a patient unless he produced a card signed by his doctor stating that the case was suitable. He would also like to ask whether "consultation" included medicine.

The Chairman said it was an important detail but one upon which he was not qualified to give an answer. He had received three amendments, really all of the same kind, to Mr. Armit's resolution. He would take Dr. Cox's first; it was seconded by Dr. Wear, and was:

That it is inadvisable that this meeting should pass a resolution on the general principle of hospital out patients' departments before the principle has been submitted to the Divisions, and this meeting hereby decides that the question be remitted to the Divisions.

He thought the meeting was ready to take a vote on that point.

Dr. Wolstenholme (Salford Division) supported the amendment, which, on being put, was carried by a large majority.

Dr. Buist suggested, as a matter of procedure, that it would be better to send it through the Hospitals Committee.

The Chairman, having taken the opinion of the meeting as to whether the resolution should be remitted through the Hospitals Committee to the Divisions, declared that it was agreed. He then put the motion as a substantive resolution as altered, namely, that the words be added, "That the question be remitted through the Hospitals Committee to the Divisions."

On a show of hands the substantive resolution was declared carried.

The Chairman said he had received two motions in respect of the resolution passed as to the Leigh Hospital which he had taken the liberty to alter. It was stated—a circumstance of which he had not hitherto been aware—that one of the chief sources of what were known in the outside world as blacklegs was the medical schools. He was not aware that a newly-qualified practitioner was the person these lay bodies were approaching. Dr. MacKeith informed him that was so, and therefore wished the resolution to be put to the meeting:

That it be an instruction to the Medico-Political Committee to remit the foregoing resolution to the Deans of all the medical schools for their information, and to request that they take steps to dissuade practitioners from applying for appointment to the Leigh Hospital.

This was seconded by Dr. Gosse, put to the meeting, and carried.

The Chairman said the other resolution was moved by Dr. Hunter and seconded by Dr. Todd:

That the Infirmary Committee at Leigh be informed of the unanimous decision of the Representative Meeting against the establishment of an out-patient department in opposition to the wishes of the Leigh Division of the British Medical Association.

The resolution, on being put, was carried.

Financial Business.

The Chairman said they had now to consider two references to the Council upon this subject, one affirming a principle and the other providing the machinery for carrying it into effect. The first was:

That it be an instruction to the Council, in drafting the new regulations in connexion with the application for a charter, to provide for the transference of all financial business from the General to the Representative Meeting of the Association.

It would be recognized that this involved an alteration of the present constitution. When the new constitution was being framed it was framed in view of the fact that the Association was under the Companies Act, and that of necessity the financial business could only be transacted by a General Meeting of the Association. Under a charter the situation would be entirely changed.

Dr. Gosse (Isle of Thanet Division) said it must be obvious that the Annual General Meeting was becoming more or less a farce, or at all events unnecessary. The discussion of financial details may be very much better undertaken by the Representative Meeting rather than by a haphazard general meeting.

Dr. Douglas (Maidstone Division) said that it was the almost universal custom in associations that every subscriber should have an opportunity to have his say with regard to financial matters because the authorities were dealing with his money, and therefore it seemed to him that it would be better not to make this change.

Dr. Odell (Torquay Division) supported Dr. Douglas's view.

The Chairman pointed out that even under the circumstances proposed it could not be said that a member would have no say, because all members would have their say in their Division and their Representative could express their views.

Dr. Douglas (Maidstone Division) said he understood there was usually a direct say in matters of finance.

The Chairman said that might be so, but an absolute statement could not be made that there would be no say under the plan now proposed.

The Chairman then put the resolution, when 45 members voted for it and 37 against.

The resolution was therefore carried.

The Chairman said the next resolution was as follows:

That it be an instruction to the Council, in drafting new regulations in connexion with the application for a charter, to provide for the constitution of a Finance Committee separate from the Committee which deals with the Journal.

With the permission of Dr. Cox he would insert the words "if necessary" after constitution.

Dr. Cox (Gateshead, Consett, and Chester-le-Street Divisions) thought the words "if necessary" ought not to be inserted; it should be a distinct instruction that the Representative Meeting thought it necessary to have a separate Finance Committee.

The Chairman was in favour of the insertion of the words "if necessary," because he hoped and believed there would be no reference in the charter to detailed instructions as to the formation of committees.

Dr. Buist pointed out that the redrafting of the whole of the regulations in regard to this application was referred to. There was not only the charter but also the supplemental regulations of the Association would require redrafting.

The Chairman said their difficulty was that they were not yet informed as to what had to go into the charter or what had to go into regulations and by-laws. If the statement as to this Committee was to be put in, the resolution must stand. If it was not, the resolution would simply not be acted upon. He suggested to the meeting that they should pass it, as he did not see that it could do any harm.

Dr. Buist said it would only be introduced into the charter if necessary, but in another case it might be a substantive instruction to introduce it into the by-laws or regulations that might follow the charter. As he understood Dr. Cox, he meant that the instruction of the Finance Committee for that purpose alone was absolutely essential, and if the words "if necessary" were introduced it still gave the Council discretion.

In reply to questions by Mr. Ward Cousins (Portsmouth Division) the Chairman said that the question of separate Finance and Journal Committees had been before the Council.

The Chairman of the Organization Committee (Mr. Verrall) thought the words "if necessary" should be inserted. It might be that they would not have to put details of committees into the application for a charter.

The Chairman thought the wording was so general that it would give the Council power to leave details out if they were not necessary.

The resolution was finally carried in the form given above.

Proposed Separation of Annual and Representative Meetings.

The Chairman said the next resolution was also very important. In the present Articles the Representative Meeting and the Annual Meeting were bound up closely together. It was moved by Dr. Howell, and seconded by Dr. Todd:

> That in the opinion of the meeting the Representative Meeting should be separated from the Annual Meeting of the Association.

A general resolution of that kind was quite open for discussion, especially as it would come as an expression of opinion from the meeting to the Council for guidance in drafting new regulations.

Dr. Howell (Cleveland Division) said he moved the resolution on the strength of the resolution moved by Mr. Ballance asking that the Standing Orders might be suspended so that members of this meeting might attend the Sectional Meetings. He also moved it because the matter had been considered very carefully by his Division. The question was whether it was advisable that the members of the Representative Meeting should at the time when the scientific part of the Association was going on be absolutely debarred from attending the Sectional Meetings. It had come to be a difficult matter to get some Representatives to attend at all. One member had absolutely refused to come as a Representative on being told that it would be impossible for him to attend some of the Sectional Meetings, and that possibly he might be able to attend none. He did not know whether the meeting might think that, seeing that next year the Representative Meeting would be separated from the scientific meetings, it was advisable to press the matter now, but he would like to take the opinion of the meeting as an indication of how members felt upon the subject.

Dr. Walter Smith (St. Pancras Division) hoped that he would be in order in moving as an amendment that the matter be adjourned till next year, when they would have experience of the meetings being separated.

The Chairman did not think he could accept that, because the Council would no doubt be glad to have an expression of opinion on the subject.

Dr. Todd (Sunderland) said his reason for seconding the motion was that every year the work of the Representative Meeting was growing. He knew of several members who would have liked to go to the Sectional Meetings, and some Representatives had even deserted the meeting, for which, if charged with the offence, he thought they would be found not guilty, because it was too bad that a man who was devoted to the scientific as well as the political aspect of the Association should have to give up the scientific.

Dr. Mitchell moved as an amendment that the Representative Meeting do not sit at the time the Sections are in progress. He had no objection to giving up a garden party or some excursion. There was nothing to prevent the Representative Meeting sitting until Saturday if its work was not done.

Dr. Douglas supported the proposal.

After some further discussion, during which it was agreed that the Standing Order to adjourn at half-past 6 should be suspended, the original motion was put to the meeting and lost.

Medical Defence.

The Chairman then said that the next block of resolutions was those relating to Medical Defence. As a matter of fact, the whole subject of Medical Defence was hung up by the question of the alteration of the constitution. But Dr. W. Smith and Mr. G. Jackson thought that the Medical Defence Committee should be reappointed for the purpose of watching the whole question of Medical Defence.

Dr. W. Smith (St. Pancras Division) moved and Dr. Kinsey (Bedford Division) seconded:

> That, with the exception of those members who have not attended half the meetings during the year, the Medical Defence Committee be reappointed, for the purpose of watching the whole question of Medical Defence.

The motion was carried by 50 votes to 43.

Dr. A. Croll (West Bromwich Division) moved:

> That in the opinion of this meeting it is not advisable for the British Medical Association to undertake Medical Defence in competition with the existing Defence Societies.

The motion was seconded.

Dr. J. Brassey Brierley (Manchester, West Division) trusted that the Association would not be frightened out of its undertaking.

Mr. Todd (Sunderland Division) moved and Mr. Armit (Hampstead Division) seconded that the question be put.

The motion was agreed to and the question was put accordingly.

The motion was carried, 50 being in favour and 43 against.

The Chairman said that the remaining block of resolutions, those relating to the Medical Benevolent Fund, namely:

> (*a*) That in the opinion of this Representatives' Meeting it is desirable that this Association should have some fund from which assistance could be given to widows, children, and others formerly dependent on deceased members of the Association.
>
> (*b*) That this fund should be formed from grants made from the funds of the Association, grants from Branch funds, and gifts and legacies from individuals.
>
> (*c*) That the Memorandum of Association, Articles and By-laws be altered, where necessary, to allow of the above being carried out.
>
> (*d*) That this meeting do elect six who, with an equal number elected by the Central Council, shall prepare a scheme for such a fund, and submit it to the members by March 31st, 1906.
>
> *By the Manchester (West) Division (Lancashire and Cheshire Branch):*
>
> That this meeting considers that the establishment of a benevolent fund for the benefit of the widows and children of members of the Association is urgently needed; and that for this purpose a subscription of 2s. 6d. per annum should be levied on each member, and an additional sum of £2,000 per annum should be set aside out of the income of the Association.
>
> *By the Blackburn Division (Lancashire and Cheshire Branch):*
>
> (*a*) That in the opinion of this meeting it is desirable that a department of the British Medical Association be formed for carrying out a benevolent and provident scheme for the benefit of the members of the Association.
>
> (*b*) That the funds for these purposes be set aside from the annual income, and that, if necessary, the annual subscription be increased to such sum as be necessary to efficiently carry out the work.
>
> (*c*) That this meeting do appoint a Committee to formulate a scheme for carrying this into effect, and to obtain, if necessary, the advice of a competent actuary, and to report to the Divisions not later than May 1st, 1906.
>
> (*d*) That the Memorandum of Association, Articles, and By-laws be so altered as to allow this to be carried out.

must of necessity stand out owing to the question being wholly bound up with that of the charter.

Medical Agency.

The Chairman thought that the following motion in the name of the Wandsworth Division must drop also:

> That in the opinion of this Representatives' Meeting it is desirable that this Association should have as soon as possible a properly-equipped medical agency department for the use of its members.

Deputy Chairman.

The following nominations respectively were duly moved and seconded for the office of Deputy Chairman of Representative Meetings: Dr. H. A. Latimer (Swansea), Dr. J. A. Macdonald (West Somerset), Dr. H. F. Oldham (Lancaster), and Dr. R. H. Wolstenholme (Salford).

Dr. Odell (Torquay Division) inquired whether, as a matter of necessity, the Deputy Chairman elected this year would be the Chairman next year, to which the Chairman replied in the negative, and further said the voting would be by ballot.

The Chairman then announced that it would be necessary to have a meeting next day to confirm the minutes. It was impossible to have the prints before 11 a.m., and he suggested an adjournment till 1 o'clock. Under those circumstances it would save time to postpone the announcement of the result of the ballot for Deputy Chairman until then.

Dr. Price Owen (Carnarvon Division) asked if it might not be necessary to have a second ballot, because they would like to know that the Vice-Chairman, whoever he might be, had been elected by a distinct majority.

The Chairman replied that a simple majority was enough, and that would avoid the difficulties of a second ballot.

The voting papers having been handed in, the meeting adjourned.

Adjourned Representative Meeting, July 27th.—Final Session.

Confirmation of Minutes.

During the correction of the minutes, Dr. Walter Smith (St. Pancras) pointed out that the resolution which had been sent up by his Division for two years, "That the Association should adopt the principles of Medical Defence without any increase of subscription," had been omitted from the minutes, and there had been no opportunity of discussing it.

The Chairman said it should be inserted in the minutes with the statement, "That the Chairman ruled that the resolution be postponed pending the application for a charter."

The minutes, as amended, were then agreed to.

Vote of Thanks to Sir Victor Horsley.

Dr. Macdonald (West Somerset Branch) took the opportunity to thank the meeting for having elected him Deputy Chairman. As Deputy Chairman he then asked Sir Victor Horsley to vacate the chair, and called on Dr. Latimer.

Dr. Latimer (Swansea Division) said it had been his good or bad fortune for a great many years past to take part in a good many deliberative assemblies in which he had seen a variety of chairmen—good, bad and indifferent. In casting a mental picture of the qualities of a chairman he would say that a bad chairman was one who interfered with a debate, who did not grasp the gist of an argument, and did things which cumbered the progress of the business. If he might reverse the picture: a good chairman was a man fully conversant with the business before a meeting, who had the rare quality of possessing a hand of steel concealed by a glove of silk, who was patient, courteous, and gave full liberty within the proper rules of debate, and who, by conducting the proceedings in such a way, left the chair at the termination of his period of office, having earned the regard, and indeed, more than that, the warm admiration of all over whom he had presided. (Applause.) By the way in which his remarks were received he was sure that they had fitted the cap to Sir Victor Horsley. This was the third session in which he (Dr. Latimer) had been privileged to take part in the proceedings of the Representative Meeting, and he had never met a chairman who had all those qualities in such a full measure and to such an extent as Sir Victor Horsley. It had been said "What would they do when Sir Victor Horsley went?" If he might conclude with an appeal to him, it would be this: that if he could possibly see his way clear to continue to preside over their proceedings it would be an act which would be more than welcome to them, and would be taken as a concession on his part to the strong desire and the warmly-expressed feeling of the meeting. He proposed that a warm and hearty vote of thanks be given to Sir Victor Horsley for his conduct in the chair.

Mr. Jones Morris (member of Council for North Wales Branch) seconded the motion. He congratulated Dr. Macdonald on his election as Deputy Chairman, and he assured the meeting that they had only conferred honour where honour was due. It was a great pleasure to him to second the vote of thanks to Sir Victor Horsley, as there was no more able chairman to be found. He was patient to a degree; he was courteous, and had listened to every one with the dignity with which every Representative expected to be listened to. There was not a stronger man in the Association, and every member of the Association, as well as of the Representative Meeting, should render him their most sincere thanks for the excellent and efficient way in which he had presided over the meeting.

The Deputy Chairman then put the motion, which was carried with acclamation.

Sir Victor Horsley said he had thanked the meeting before for having done him the honour of putting him in the chair of the first really parliamentary institution of the British Medical Association, and that amount of honour to an individual he thought ample. (No, no.) Not only that, but to any one who had the real interest of the Association at heart the thought that must be uppermost in his mind was that which dominated the mind of the Constitution Committee four years ago, namely, How could the work of the Association, and the interests of the members of the medical profession, find the readiest echo throughout the whole of the Empire? The opinion of every one then was, as he was sure it was now, that all positions of this kind should be held as often as possible by different individuals; that the chair should be passed by as many men as possible. Under those circumstances, as he explained at Oxford last year, this occasion was the last on which he could possibly have the pleasure of presiding over their discussions.

Vote of Thanks to Committees and their Chairmen.

Dr. Douglas (Maidstone Division) thought that considering the amount of work which their proceedings entailed on the Medico-Political Committee and the Ethical Committee and the Chairmen of those Committees, as those Committees were partially appointed by that meeting, it should thank them for the enormous amount of labour that they had expended on behalf of the Representative Meeting and the members of the Association generally. He accordingly proposed a hearty vote of thanks to them for the work which they had done for the Association.

The motion was at once agreed to, and Sir Victor Horsley said it should be entered on the minutes.

The proceedings then terminated.

Report

ON THE

PROCEDURE OF THE CORONER FOR SOUTH-WEST LONDON AND THE INACTION OF THE GOVERNMENT IN RELATION THERETO.

By Sir VICTOR HORSLEY, F.R.S.,

Chairman of Representative Meetings.

The Association, in co-operation with other medical societies, over two years ago, on May 11th, and later on July 27th, 1903, laid before the Lord Chancellor, as the statutory authority regarding coroners, evidence, both oral and by printed papers, that Mr. Troutbeck, the coroner for South-West London, conducted the procedure of his court in a manner which, in the opinion of the Association and the other Medical Societies, was calculated to lead juries to return erroneous verdicts as to the true cause of death, and had also treated the medical practitioners in the district in a manner diametrically opposed to the interests of the community and the most elementary principles of equity and justice.

Although the Association addressed on July 27th, 1903, to the Lord Chancellor a printed document in which Mr. Troutbeck's written reply to the charges of the Association was systematically traversed and shown to be incorrect in every particular; and although the Association furnished the Lord Chancellor with additional documentary evidence on May 17th, 1904, and January 5th, 1905, and reminded him of the matter on July 1st, 1904, and January 5th, 1905, no judgement has yet been delivered by him on the case thus exhaustively laid before him.

In consequence of the public injury resulting from the inaction of the Lord Chancellor, the Association addressed the following letter to Mr. Balfour, as First Lord of the Treasury, setting forth the facts of the case, and asking to be heard by a deputation:

The Offices of the British Medical Association,
429, Strand, W.C.,
July 25th, 1904.

Sir,—On behalf of the British Medical Association, the Medical Defence Union, the London and Counties Medical Protection Society, and the South-West London Medical

Society, we are instructed most respectfully to request that the First Lord of the Treasury, as head of His Majesty's Government, will take into his most careful consideration the matters set forth in the print enclosed herewith. Concerning these matters the societies named, as representing the medical profession of the United Kingdom, have made repeated applications to the Lord Chancellor, the Officer of State whose duty it is to deal with such matters, and they would, with all deference, submit that they have been denied justice through the inattention of his lordship thereto.

The Medical Societies by whom we are instructed would most respectfully submit that the statements which they have laid before the Lord Chancellor, in respect of the action of Mr. Troutbeck, the coroner for South-West London, involve issues of great moment, as touching the public interest in the following respects:

1. That the procedure adopted by Mr. Troutbeck, in restricting the medical evidence submitted to the jury in inquests held by him to that obtained by the *post-mortem* examination of the body of the deceased by a medical practitioner who has no other knowledge of the facts of each case, is insufficient to enable the jury to present a true finding of the cause of death.

2. That the procedure of Mr. Troutbeck is challenged by the Medical Societies as being contrary to law, that they have high legal authority for the view thus taken by them, that Mr. Troutbeck takes an opposite view of the interpretation of the law, and that the issue thus raised is one which in the public interest should be decided by the proper authority—namely, the Lord Chancellor.

If the view presented by the Medical Societies be correct, it is expedient in the public interest that it should be enforced.

If the view presented by the Medical Societies be incorrect, it is expedient in the public interest that this should be judicially determined, and if the present requirements of the law, as thus decided, should be deemed to be prejudicial to the ascertainment of the true cause of death, occasion will then be afforded for considering in what way the law may best be altered by legislation and brought into accordance with the present requirements of a civilized community.

3. That, even if Mr. Troutbeck's procedure should be held to be in strict accordance with the letter of the law, he has misused the discretion reposed in him as a coroner and has strained the law, by habitually employing, as a pathological expert, a medical practitioner who had no special qualification for such employment, and also by adopting informal and irregular methods of seeking information from medical practitioners, and of summoning them to attend inquests held by him.

4. That in his capacity as Coroner, Mr. Troutbeck has in an unjudicial, arbitrary, and unjust manner withheld from medical practitioners concerned in cases which have come before him, proper opportunities of attending to give evidence, and, nevertheless, has in their absence commented unfavourably upon their professional conduct, and has invited juries to include, as riders to their verdicts, unfavourable comments upon the action of medical practitioners who have not been heard in their own defence.

The Medical Societies named would with all deference submit to the First Lord of the Treasury that, having regard to the gravity of the issues which they have submitted for the decision of the Lord Chancellor, and upon which, after the lapse of twelve months, he has given no reply, the First Lord of the Treasury would consider whether it is within his province, as head of His Majesty's Government, to direct the attention of the Lord Chancellor to the matter, and the Medical Societies would also ask that the First Lord of the Treasury would be pleased to permit them to lay their case before him by means of a deputation.

We are, Sir, your obedient Servants,

(Signed) ANDREW CLARK,
Chairman of Joint Committee representing the British Medical Association, the South-West London Medical Society, the Medical Defence Union, Limited, and the London and Counties Medical Protection Society, Limited.

(Signed) J. SMITH WHITAKER,
Secretary of Committee.

The Right Honourable A. J. Balfour, M.P.,
First Lord of the Treasury,
10, Downing Street, S.W.

To this letter no reply or acknowledgement was received by the Association.

The letter of reminder addressed to the Lord Chancellor on July 1st, 1904, was as follows:

The Offices of the British Medical Association,
429, Strand, W.C., July 1st, 1904.

My Lord,—With respect to the matters affecting Mr. Troutbeck, the Coroner for South-West London, which we have had the honour on three occasions to bring to the notice of your Lordship, we are instructed to inform your Lordship that as the Annual Meeting of the British Medical Association, one of the parties interested in this case, will take place at the end of this month, it is desired to publish at an early date the facts and evidence which have been submitted by us to your Lordship in order that they may be before the Association prior to the meeting.

With a view to such publication we are instructed to inquire whether we may expect any further communication from your Lordship.

We are,
Your Lordship's most humble, obedient Servants,
ANDREW CLARK,
Chairman of Joint Committee representing the British Medical Association, the South-West London Medical Society, the Medical Defence Union, Limited, and the London and Counties Medical Protection Society, Limited.
J. SMITH WHITAKER,
Secretary of Committee.

To the Right Honourable the Lord Chancellor.

To this the following reply, dated July 29th, was received:

House of Lords, S.W.,
29th July, 1904.

Sir,—With reference to the letter of the 1st inst., signed by yourself and Mr. Smith Whitaker, and previous communications, the Lord Chancellor has not found it possible to give time for a minute examination of all the facts and arguments which have been placed before him in the controversy. Though his Lordship's present impression is not in favour of the Coroner's practice, his Lordship does not as yet see that there is such a case as would found the exercise of the only jurisdiction which he possesses, namely, to remove a Coroner for misconduct in his office.

I am, Sir,
Your obedient Servant,
(Signed) K. MUIR MACKENZIE.

Andrew Clark, Esq., F.R.C.S.

As this letter stated that the Lord Chancellor had not then had time for a minute examination of the facts and arguments placed before him in May and July, 1903, the Association six months later—on January 5th, 1905—again approached the Lord Chancellor and asked for judgement.

The Lord Chancellor, however, has never replied to nor acknowledged this request. Finally, a second letter was addressed by the Association on March 6th, 1905, to Mr. Balfour asking for attention to the letter of the Association of the previous year, but no reply nor acknowledgement was received to this communication.

On these facts being reported to the Representative Meeting at Leicester on July 26th, 1905, the following resolution was passed *nem. con.*:

"That this Representative Meeting strongly protests against the omission of the Prime Minister to reply to the communications of the British Medical Association with reference to the inaction of the Lord Chancellor in refusing to pronounce judgement on the evidence placed by the British Medical Association before him, showing the grave danger to the public safety entailed by the procedure of the Coroner for South-West London."

On July 28th the Chairman of the Representative Meeting called upon Mr. Sandars, Senior Private Secretary to the Prime Minister, and in Mr. Sandars's absence had an interview with Mr. Ramsay, one of the Private Secretaries. The Chairman handed in the resolution of the Representative Meeting for transmission to Mr. Balfour.

On July 29th the Chairman of the Representative Meeting received the following letter:

[Copy] 10, Downing Street,
Whitehall, S.W.,
28th July, 1905.

First Lord of the Treasury.

Dear Sir,—In answer to your telegram I fear I have nothing to add to the explanation offered to you by Mr. Ramsay this afternoon.

I am desired by Mr. Balfour to say that he regrets to hear that the British Medical Association failed to receive the acknowledgement of their letter in which they addressed to him some observations upon the action of the Lord Chancellor in a matter concerning the Coroner for S.W. London.

Mr. Balfour, however, can only point out that as the subject appears to be one which exclusively concerns the Lord Chancellor it is quite impossible for him to give any directions with regard to it.

Yours faithfully,
(Sgd.) J. S. Sandars.

To Sir Victor Horsley.

To this letter the following acknowledgement was sent by the Chairman of the Representative Meeting:

25, Cavendish Square, W.,
July 29th, 1905.

Dear Sir,—I beg to acknowledge the receipt of your letter of yesterday's date, and note Mr. Balfour's regret that no reply was sent to the communications addressed to him by the British Medical Association of July 25th, 1904, and March 6th, 1905.

As I do not observe in your letter any reference to the request made in the earlier of those communications, that the First Lord of the Treasury would permit the British Medical Association to lay their case before him by means of a deputation, I presume that Mr. Balfour was, and is, unable to accede to that request.

I regret to note further that Mr. Balfour cannot see his way to take the action desired by the Association respecting the denial of justice caused by the Lord Chancellor withholding his judgement on the matter of the Coroner for South-West London.

As the result of my transmission to the Prime Minister of the recent resolution of the Representative Meeting must now be reported to the Association, I propose to publish your letter received this morning, and particularly as I understand it constitutes the official reply of Mr. Balfour to the previous communications of the Association.

Yours faithfully,
(Signed) Victor Horsley,
Chairman of the Representative Meeting of the British Medical Association.

To J. S. Sandars, Esq.

ANNUAL GENERAL MEETING.

Adjourned General Meeting, Tuesday, July 25th.

On Tuesday evening, July 25th, the Annual General Meeting was continued in the Opera House, Silver Street, Leicester. The President occupied the chair, and he was supported on the platform by the Mayor of Leicester (Councillor Hilton) and the Bishop of Peterborough. The theatre was crowded, and the stage was filled with many well-known and distinguished gentlemen, among whom were Sir William Broadbent, Sir Chas. Ball, Sir Victor Horsley, Sir Constantine Holman, Sir James Sawyer, Professor Clifford Allbutt, Professor Osler, Mr. Langley Browne (Chairman of Council) Dr. Radcliffe Crocker (Treasurer) Mr. Andrew Clark, Dr. Beverley, Dr. Griffiths, and Dr. Groves, and the members of all the local and Executive Committees.

The President called upon the Mayor to address the meeting.

The Mayor, who on rising was well received, said he had very great pleasure, on behalf of the inhabitants of the town, in giving a very hearty welcome to the British Medical Association, and especially to the gentlemen who had come from a great distance to honour the town with their presence. This, he believed, was their first visit to the ancient and important borough of Leicester, but that was not Leicester's fault; indeed, the inhabitants thought the visit had been too long delayed. The Association was initiated at Worcester, and was at first a Midland organization. Though it had since developed into a national society, they in the Midlands looked upon it with peculiar interest. Sir Charles Hastings, the founder, was a prominent Worcestershire man, and his son was the founder of the British Association for the Advancement of Science, which Association they expected would visit Leicester two years hence. The British Medical Association had met in many towns and cities, but he thought they would not have visited a town where they had received a more hearty welcome than Leicester was prepared to give. They regretted that they were not in possession of a large central town hall, but such accommodation as they had had been willingly placed at their disposal. The ancient borough, which many years ago was a city, was of a progressive character. There were many of them who remembered when its population was only one-fourth of what it was at the present time. Its rapid growth was due to its commercial enterprise and industrial activity, and although in many respects it might not be as interesting a city as Oxford, which it was their pleasure to visit last year, yet its inhabitants were proud of its history and prosperity. It must be of interest to the members of the medical profession to learn that the death-rate of the town usually ranked among the lowest, and last year was lowest but two amongst the large and important towns of the country. This to a large extent was due to the unwearying efforts of the medical men of the town and the efficiency of the Sanitary Committee, upon which they always had the services of several medical men. Some had said that they were anti-medical and almost anti-everything else in Leicester. He must confess that they possessed an independence of thought and fearlessness of expression which at times had subjected them to much criticism, but the existence of their hospitals and infirmary—which was mainly kept going by the contributions of the working men of the town—the existence of these institutions demonstrated their keen desire to relieve suffering and prolong the lives of their fellow-citizens and others. In welcoming them to Leicester the community rejoiced in the rapid and continuous advance in the science of surgery and medicine, and sincerely hoped that the deliberations of the Association would be conducive to their best interests and usefulness and to the community they so willingly and unselfishly served. His last words must be of congratulation to Mr. Franklin, Senior Surgeon of the Leicester Infirmary. His name was well known and honoured in the town; he had served in past years as a member of the Corporation; and they had all rejoiced that he had been honoured by election to the presidency of the British Medical Association. In the name of the town it was his (the Mayor's) pleasure to give to the members of the British Medical Association a warm and hearty welcome.

Presentation of Gold Badge to President.

Dr. V. Astley Clarke then pinned on to the President's breast a gold badge which had been presented to him by the members of the Midland Branch, and expressed the hope that he might have good health during his year of office.

Foreign and Colonial Guests.

Dr. Clarke then, upon the request of the President, announced the names of the following distinguished guests, who, in turn, were welcomed by the President and the Chairman of the Council; Professor Hartmann, Paris; Professor Howard Kelly, Baltimore; Professor Wertheim, Vienna; Professor Carl Hess, Würzburg; Dr. Camac, New York; Dr. Bogue, New York; Dr. L. A. Thomas, Ohio; Dr. Charles Reilly, Toronto; Dr. Bresney Reilly, Toronto; Dr. John Hutson, Barbados; Dr. Cyril Phillips, Barbados; Dr. J. H. Ebell, Colombo and Ceylon Branch; Professor J. T. Wilson and Dr. H. C. Taylor-Young, Sydney and New South Wales; Dr. Alex. Francis, Dr. J. M. Hall, and Dr. F. W. E. Hare, Brisbane and Queensland Branch; Dr. F. O. Stedman, Hong Kong; Dr. T. C. Mugliston, Malay Branch; Captain J. Booth-Clarkson and Dr. Austin Robinson, Natal Branch; Dr. W. Giles and Dr. T. K. Hamilton, South Australian Branch; Lieutenant-Colonel Maitland and Lieutenant-Colonel Sturmer, South India and Madras Branch; Professor Cameron, Toronto. Dr. Clarke also announced that Dr. Finney of Baltimore had registered.

Presentation of Gold Medals.

The President stated that his first duty as President was a very pleasant and delightful one, and that was to present Sir Constantine Holman with the Gold Medal of the Association. He would like to inform his large and distinguished audience of the wonderfully active and philanthropic life Sir Constantine Holman had led since he entered the profession nearly sixty years ago. Early in his professional life, after leaving Guy's Hospital, he was Secretary of the Surrey Medical Benevolent Society, and his interest in that Society has never flagged; he was now its President. He joined early, also, the British Benevolent Fund, of which he was the Vice-President, and his name would ever be remembered for his life-long work in connexion with Epsom College, of which he was now the Treasurer; he was appointed to that very important office in 1887, and he was also one of its Vice-Presidents. By his own personal efforts on behalf of Epsom College he had in recent

years collected over £7,000. In 1852 he joined the British Medical Association, and for half a century he had worked hard to further its interests in every way. He had held many offices, including that of Treasurer, to which he was elected in 1887. It might be most truly said that throughout his life Sir Constantine Holman had worked for the benefit and welfare of others, especially those whose lives had not always fallen in pleasant places. When it became known a little while ago that Dr. Constantine Holman, by a mark of Royal favour, had become Sir Constantine Holman, the members of the Association felt it was an honour not only worthily bestowed but richly deserved. He then handed the Gold Medal to Sir Constantine Holman.

Sir Constantine Holman (who was greeted with applause) said he hoped those present would forgive him if he could not find words adequate to express all that he felt that night. He was one of those old-fashioned things—an apprentice; and during his apprenticeship he was brought up to believe that want existed in his profession, and that his duty was, if he was going to succeed himself, to put his shoulder to the wheel to help those who needed it. His apprenticeship was to the Surrey and Medical Benevolent Society, and it was in that way that he first became connected with Epsom College. He was one of those living at the present moment who had an active contact with John Propert at the time he initiated the great idea of Epsom College, and ever since then he had taken the warmest interest in that College. For twenty-seven years he had been on the governing body, and for eighteen years he had been treasurer. To be treasurer of a large institution of that description was no easy thing, and it involved an enormous amount of thought and responsibility. Speaking of the Association, he said the old South-Eastern Branch first sent him to represent it on the Council. He had been connected with the Association for more than fifty-two years, and in his early days took an active part in promoting reform of the Poor Law and the medical services of the army and navy. He had also worked for the passage of the Medical Act (1886), for which the profession was under a debt of gratitude to the late Dr. Waters of Chester. But what gave him the keenest pleasure was the recollection of the part which he played, under the late Dr. A. P. Stewart, in giving impetus to State Medicine. He was delighted to say that the same ideas that permeated the minds of men in those days were now being taken up by younger men. As to the Gold Medal, the fact that he should at his time of life receive such a mark of respect and confidence was intensely comforting and pleasing to him. He could not expect to live many years, but he assured them that the pleasure of that night would always remain with him to the latest hour of his existence. He would like to add that it gave him great pleasure to find himself associated with his old friend Mr. Andrew Clark, who had, to his knowledge, done exceedingly good work for the Association.

The President next presented the Gold Medal of the British Medical Association to Mr. Andrew Clark. In doing so he stated that Mr. Andrew Clark had for nearly a quarter of a century taken the greatest possible interest in the Association, and he had held responsible positions one after the other during that time. He undertook the duties of Treasurer in 1899, and after three years was appointed Chairman of Council. That appointment he had recently resigned, but he thought he was not saying too much when he said that he had filled that post with considerable ability and unfailing courtesy, so much so that the Council had decided to confer upon him the most valuable honour they could namely, their Gold Medal of Merit. He sincerely hoped, and he was sure it was the wish of all the members, that Mr. Andrew Clark's health might be preserved for many years, and that he might, although not in office, continue to give his advice upon any important questions that came before the Association.

Mr. Andrew Clark, who was received with great cheering, assured them that he felt very much the honour which had been conferred upon him. He was extremely surprised when he was given to understand that he was to be the recipient of it. What he had done for the Association had been a great pleasure during the last twenty-five years. He had not taken an active part so long as that, but during the years in which he had taken an active part in the Association it was a great pleasure to him, and he had been particularly gratified to see the progress the Association had made during the last few years since the new constitution was established. The membership of the Association had very much increased, and he hoped that in a very short time there would be very few medical men in the British dominions who were not members of the British Medical Association. In conclusion, he begged to thank the President of the Council for the way it had recognized the small things he had done for the Association.

Stewart Prize.

The President regretted the absence of Mr. W. H. Power that evening, because he had a prize to present to him, and that was the Stewart Prize. That was a prize which was awarded to distinguished men of the profession, and Mr. Power really was one of these.

President's Address.

The President then delivered his address, which was received with great applause. It was published in the British Medical Journal of July 29th, p. 221.

Sir William Broadbent moved:

> That the best thanks of the British Medical Association be given to George Cooper Franklin, F.R.C.S., for his interesting presidential address upon the occasion of the seventy-third annual meeting of the Association.

He proceeded to say that he was compelled to pay a warm compliment to the President for his very interesting address, but in consequence of the resolution having only just been put into his hands, he had to follow it with such attention that he was not able to collect his own thoughts. The oldest inhabitant of Leicester would be able to learn from the address something about Leicester, but he doubted whether the medical profession generally were aware that Gulston and Cheselden were from Leicester. What had been said by the President was marked with a great deal of wisdom, and he thought it was a pity that the President was not a member of the General Medical Council, so that they might carry out the ideas which he had put before the meeting. He agreed with him in what he had said about specialism.

Professor Clifford Allbutt seconded the vote of thanks and congratulated the President on his eloquent address.

The President made a suitable reply.

Vote of Thanks to the Mayor.

It was then moved by the President, seconded by Dr. Langley Browne, and carried:

> That the best thanks of the British Medical Association be given to His Worship the Mayor of Leicester for the warm welcome he had extended to the Association.

The Mayor replied.

Adjourned General Meeting, July 26th.

The adjourned general meeting of the Association was held in the Temperance Hall, Leicester, on Wednesday, July 26th, Mr. G. C. Franklin, President, in the chair.

Annual Meeting of 1906.

The President announced that the Council had received an invitation from the Toronto (Canada) Branch of the Association to hold its next annual meeting at Toronto, and had resolved:

> That the invitation of the Toronto Branch of the British Medical Association to hold its seventy-fourth annual meeting at Toronto be accepted.

The resolution was put and adopted.

Professor Cameron (Toronto) expressed his thanks for the acceptance of the invitation.

The President proposed, and it was agreed, that the election of President-elect, subject to the nomination of the Toronto Branch, be left in the hands of the Council.

Dr. Langley Browne (Chairman of Council) expressed the hope that as many members as possible would avail themselves of the invitation.

Address in Medicine.

Dr. Henry Maudsley then delivered the Address in Medicine, which was published in the last issue of the Journal. At its conclusion there was much applause.

Dr. Radcliffe Crocker, as an old pupil of Dr. Maudsley, had peculiar pleasure in proposing:

> That the best thanks of the British Medical Association be given to Henry Maudsley, Esq., M.D., LL.D., F.R.C.P., for his able and interesting Address in Medicine.

There had been in the past many addresses which were extremely instructive, many interesting, but few which were amusing. They would all agree that they very rarely had one which combined those qualities in such a high degree as the

remarkable address to which they had just listened. There had been people who from time to time had wished addresses to fall into desuetude, but addresses such as they had just heard justified their continuance.

Dr. Pope (Leicester) felt it a great honour to be asked to second the motion. The style, elegance, research knowledge, and humour they could all discern, but there was one word alone that could characterize the address, and that was it was eminently wise. It was not too much to say that long after men had ceased to think of the meeting at Leicester they would still read Dr. Maudsley's address.

Sir Victor Horsley, as another old pupil of Dr. Maudsley's, had pleasure in supporting the resolution. He hoped it would come before the people at large, and through the medium of the press that, no doubt, would be accomplished. He joined with those present that day for this intellectual treat, and in congratulating the Association on an address in which the principle which actuated, or should actuate, medical practitioners could be carried to the people, not merely on questions of public health, but on the equally great, if not far greater, questions of public morality.

The motion was then put and carried with acclamation.

Dr. Maudsley expressed his thanks for the manner in which the address had been received, and for the sympathetic attention which had enabled him to deliver it.

Adjourned General Meeting, July 27th.

The Address in Surgery.

The Address in Surgery was given by Mr. Charles John Bond, F.R.C.S., in the Temperance Hall, Leicester, on Thursday, July 27th.

The President, who occupied the chair, said that it was a matter of sincere satisfaction to him, as President of the British Medical Association, that the Address in Surgery should be given by a Leicester surgeon, his very distinguished friend and colleague, Mr. Charles John Bond.

Mr. Bond then delivered the address published in the last issue of the Journal. At its conclusion,

Professor Cameron (Toronto) proposed that the best thanks of the meeting be given to Mr. Charles John Bond, F.R.C.S., for his able and interesting Address in Surgery. That the choice of the Council of the Association was eminently wise was attested to by the fact that on the previous day the members of the Association had a most delightful opportunity of discovering that the metropolitan physician had not lost the cunning of his pen, and the address which they had just heard from a provincial surgeon was one which every one must have listened to with the greatest attention and the highest appreciation.

Mr. Stanley Boyd had the greatest pleasure in seconding the vote of thanks. He had had the pleasure of knowing Mr. Bond for many years. No one who had known him and watched him during his student years, and saw the earnestness of his work, and had listened to him in the debates in which he had taken part, could have failed to recognize the probability of the scientific success which he commanded, or the power of work which he possessed. He, therefore, was not in the least surprised at the choice of the Council in asking Mr. Bond to deliver this address. He was particularly struck with the amount of thought and careful and brilliant observation which it contained. He thought they should all bear in mind the closing sentence of the address, in which Mr. Bond invited each to do what he could towards building up the great whole.

Sir Victor Horsley, in supporting the resolution, said that it seemed to be his agreeable fate to be called upon to support very agreeable resolutions, and on this occasion he was particularly pleased to be able to do so, because Mr. Bond was a lifelong friend. When he saw that they had present most of Mr. Bond's fellow-students, and when he remembered that while Mr. Bond was taking and pocketing the gold medals they were struggling after the silver ones, he congratulated the Association very much on having appointed him as the most worthy man to deliver the Address in Surgery. In delivering that address he summed up the problem that he set himself to answer in the one reference to Lord Lister. He would like to take this opportunity of pointing out, as he thought Mr. Bond himself was going to do, that they not only owed to that great man the enormous addition to the life value of this country with which they were all familiar, but they owed to him an enormous saving in physical pain which was almost parallel to that obtained by the discovery of anæsthetics. When Mr. Bond and he were fellow-students it was a common event for the operation of the removal of the breast to take six or seven weeks to heal, with a considerable amount of suffering and anguish to the unfortunate person operated upon; whereas now healing of a wound of that description took only a few days, and a great deal of suffering was thereby abolished. What could be said of one operation was true of other operations in surgery to which the immortal principles of Lord Lister could be applied. He joined in appreciating the really magnificent address that they had heard that afternoon.

The President, before putting the motion to the meeting, said that in Leicester they were exceedingly proud of Mr. Bond. He could say without exaggeration that Mr. Bond since he had been in Leicester had made himself a friend to every one in his profession, and the position he had attained was one which in his judgement he most thoroughly deserved. The President then put the resolution to the meeting, which was carried with acclamation.

Mr. Bond, in reply, said that he was deeply touched by the kind way in which his address had been received, and also by the very kind words raised by the eminent gentlemen who had spoken. Should any one present think he had been talking of facts which could not be substantiated, or that he had been telling them some fairy tale, he might say that on the following morning in the Pathological Museum he would demonstrate some of the materials on which the statements he had made were based, and would feel honoured if any members interested in the matter would be present then.

ANNUAL DINNER.

The seventy-third annual dinner of the Association was held in the Assembly Rooms, Leicester, on Thursday, July 27th. The chair was occupied by Mr. G. Cooper Franklin, the President. Seated at the head table, among others, were: The High Sheriff (Mr. Thomas Everard), the Mayor of Leicester (Councillor Hilton), Mr. C. Buszard, K.C., His Honour Judge Wightman Wood, the Bishop of Nottingham (the Right Reverend Dr. Brindle, D.S.O.), Sir Constantine Holman, the Chairman of Council (Dr. Langley Browne), Surgeon-General Spencer, Sir James Grant, K.C.M.G., Professor Hartmann, Archdeacon Stocks, Canon Sanders, Sir James Sawyer, Professor Wertheim, Professor Howard Kelly, Dr. Pope, Mr. Andrew Clark, the General Secretary, and others. There were present altogether about 300 guests.

The Chairman proposed the toast of

The King.

He said his most gracious Majesty King Edward VII was a patron of the British Medical Association; he was also a Fellow of the Royal College of Physicians and a Fellow of the Royal College of Surgeons, and he was also a very hearty advocate of our hospitals throughout the United Kingdom.

The toast was received with enthusiasm, the audience singing "God Save the King."

The Queen, the Prince and Princess of Wales, and the Rest of the Royal Family.

The Chairman in proposing this toast said no words were needed from him, because it was well known that the Queen and the rest of the Royal Family showed an interest in their profession which was unbounded. They had always taken the greatest interest in the hospital work of the country, and therefore it was most becoming that they should drink their health.

The toast was then drunk, the audience singing "God Bless the Prince of Wales."

The Imperial Forces.

The Right Reverend the Lord Bishop of Nottingham, in proposing this toast, did not know what claim he had to propose that toast except that for the last fifty years he had followed the career of the British navy. He remembered seeing the last ship that was built of wood, which was then thought to be the finest piece of machinery that ever went out of a dockyard, but she would not last five minutes now against a one-ton gun. He also saw the two first ironclads which were sent from England, and now he looked upon the British navy of to-day as the mightiest engine that human ingenuity and knowledge had ever forged. He was brought to say this because, although it had been forged in might, it had been forged not for defiance to the world but for defence, and in that consisted the magnificent power of the British

navy. As to the army, although he did not know much about it, yet he had seen something of it, and he could honestly say that what he had seen came quite up to what our soldiers had done in times gone by. He could remember, in the Crimean war, the stately march of the Guards up the heights of Alma, and it was thought, and the correspondents of war wrote, that nothing finer had ever been seen than the men who scaled those heights; but he had also seen men go over the trenches at Tel-el-Kebir in just the same way. He had read of the charge of Cardigan's Light Brigade at Balaclava, but he had seen the 21st Lancers only a few years ago dash against a mass of spears and two-handled swords, and ride right through the enemy, although they lost one-third of their number. Therefore he could say, both in regard to the infantry and the cavalry, that our men of to-day were just as good as their forefathers. (Applause.)

The toast was well received, the audience singing "Rule Britannia."

Fleet Surgeon JOHN LLOYD THOMAS, R.N., replied on behalf of the navy; and Surgeon-General L. R. SPENCER, C.B., M.D., Indian Medical Service, who also responded to the toast, said he had seen a great deal in the last thirty-eight years of the Indian Medical Service, and during that time it had been immensely improved, and he thought that their thanks were due to the JOURNAL for what it had done on their behalf.

The British Medical Association.

Mr. M. C. BUSZARD, K.C., Recorder of Leicester, proposed the toast of "The British Medical Association." He said he felt highly honoured when the invitation was sent to him to be present at the dinner that night, and he felt still more highly honoured when he was requested to propose the toast of the evening. But if he had received the last invitation first the probability would have been that he would not have been present at the banquet, because he felt very deeply the great responsibility that was imposed upon him. In the first place—although, perhaps, they might think this was a recommendation—he knew very little about the subject of the toast. The only reason he could imagine why he had been asked to propose this toast was that he belonged to a profession which was in a way equally necessary to the public as their own: he had the misfortune to be a lawyer. They had the good fortune to be medical men, and he thought that they might be perfectly certain that the British public would employ neither unless they were obliged. He considered that the medical profession had a considerable advantage over his. Wise men and fools alike were equally bound to employ the medical profession, but it was generally only the foolish part of the people who employed his profession. However, he was afraid he was wandering from the point, and the toast was that of the British Medical Association. His only connexion with the profession was that when he was a very small boy he remembered that his father, who was a member of this Association, used to receive in those days a weekly newspaper which he (the speaker) used occasionally to see. He believed that the Association was founded from very small beginnings. He believed it originated somewhere near the town of Worcester, and that Sir Charles Hastings was the man who, with a few others, formed the Association. He had been informed by their Secretary that when the Association first started there were 140 members. Since those days it had grown into a powerful body, and grown, he ventured to think, not only for the good of the profession but for the good of the public also. He had been told that it numbered at the present something like 20,000 members. It had a very sufficient income. They all liked that. He could not but think that the Association had done great service to the public as well as to the profession. A great work of the Association consisted in its Branch meetings, and it did an immense amount of service to the medical men of a locality, because it enabled them to increase their knowledge by comparing their own knowledge with that of their fellows, and meetings like the present did a good deal to do away with disagreeableness in the practice of the profession and also professional jealousy. Those who belonged to his profession were very much thrown together, but medical men, especially medical men in the country, for whom this Association was formed, were thrown very much on their own responsibility and saw very little of the members of their profession, except those who happened to live in the next town, and therefore the meetings of the various Branches conferred incalculable benefit upon the members and upon the public too. Then the Association had a most admirable JOURNAL. It had grown as the Association had grown, and he believed now that while their income to some extent depended upon it, it had become one of the most important, if not the most important, medical papers, not only in England, but in the world. On behalf of the town and on behalf of the county, which was represented there that night by the highest officers—the Mayor of the borough and the High Sheriff of the county—he gave them a most hearty welcome to the town and county of Leicester. He was very glad to find that they did not entirely expend their energies upon the reading of papers in the Sections or in the contemplation of the terrible instruments he had seen at the Exhibition, and he was glad to see that they were taking advantage of their visit to enjoy the beauties of the neighbourhood; and he was only expressing the desire of the county and the town when he said that he trusted that the visit of the British Medical Association to the town had been a pleasant one. He had great pleasure in coupling with this toast the name of Dr. Langley Browne, the Chairman of Council. He had not the pleasure of Dr. Browne's personal acquaintance, but he understood that Dr. Browne had accepted the Chairmanship of their Council, and he trusted that the Association would flourish under his auspices. In regard to their President that night, it had been a good many years since he had had a rough and tumble with him, but he had had him in the witness-box on more than one occasion and they had spent a few lively minutes together.

The toast was drunk with much enthusiasm.

The CHAIRMAN OF COUNCIL, in replying, thanked Mr. Buszard for the way in which he had proposed the toast, and also those present for the kind way in which they had received it. He thought it might be of interest if he told those present something about the constitution of the British Medical Association. It was an Association of nearly 20,000 members. Most of them knew what doctors were, at any rate, in their private capacity. They had been described as people who poured drugs of which they knew little into bodies of which they knew less. The medical profession had to look to questions of public health, and it had great influence in bringing forward all those very great questions connected with the health of the community. As the Association grew it became more and more difficult to know what the views of the profession really were upon certain great and important matters; so, two years ago, after a great deal of thought and care by many wise men, it was decided to alter the constitution of the Association. Consequently the Association was divided up, so that now every part of the United Kingdom was represented in the Association in the shape of Divisions and Branches. The Divisions and the Branches together did most of the local work. In addition to that, the Divisions selected some one every year to be what was called their Representative, whom they sent up to the Representative Meeting to discuss all great and important matters. In addition to that, the Branches also elected to the Central Council some one who by reason of his ability and special knowledge was sent to the Council in London, and had to give effect to and carry out the many proposals that came before them. So there was no part of the United Kingdom where the voices of the medical men could not be heard on any special point, and the Executive were always ready to take the point up and inquire into it. They were often subjected to a great deal of criticism, and he could not say that that criticism was not useful in its way; but sometimes when they were criticized it was rather hard upon them, because it was difficult to know upon what motives they had formed their opinion. He was certain that the Association generally and all its Branches and Executives had one great quality, and that was the determination to work, not for their own glorification—because there were few prizes and no emoluments—but to work for the good of the profession as a whole, and also to further the better health of the people generally. That was their great object, and he believed that object had to a certain extent been attained. Another object, of course, was the advancement of science, and that was very largely brought about by the meeting together every year of men in sections, who talked things over. Before sitting down the Chairman said he should like to refer to the really splendid arrangements which had been made for the Association by the local secretaries. In every way the arrangements that had been made for their comfort were most creditable, and they had contributed very much to the success of the meeting. After the work of the meeting was done there came the other side of the question, and they had received unbounded hospitality at the hands of the Mayor and Mayoress, the President and his wife (Mr. and Mrs. Franklin), and many others, and he

did not think there was a single member of the Association present who would go away without feeling that everything had been done to make the meeting a success, and he, speaking personally, could say that it had been a great success in every way.

The Mayor and Corporation of Leicester.

Dr. Pope said that he had been the principal intermediary between the Association and the Corporation with regard to the present meeting. The Corporation had met him in every possible way and had treated him with the greatest possible kindness. They had placed all the buildings of the Corporation at their disposal, and had done everything they could to render the meeting a success. He could say without hesitation that the credit of any success which that meeting might obtain was almost entirely due to the Corporation of Leicester. Leicester had been very well served by its officials. The speaker then went on to refer to numerous officials who had served the Corporation in the past and paid them a high compliment. What he had said about the Corporation officials applied in a very much increased ratio to the Mayor. The Mayor had been kindness itself, and he was pleased of the opportunity of stating this. He had, therefore, much pleasure in proposing this toast and coupled with it the name of the Mayor.

The toast was well received, the audience singing "For he's a jolly good fellow."

The Mayor, in reply, said he was extremely obliged on behalf of the members of the Corporation and himself for the enthusiastic way in which the toast had been received, and he begged to thank them for the same. They had done him that night one of the highest honours that was possible. They had placed him by the side of a Lord Bishop, and his health had been drunk by a Pope. The event they were celebrating that week in Leicester was the event of the year, and there would be no other event of so great importance to the town during his year of office as the visit of the British Medical Association. He should be able to look back in years to come with very great delight to the week when the Association for the first time visited Leicester. He sincerely hoped that every Representative who had attended the meetings would be able to look back with pleasure upon his visit to their town. Possibly there was no class of men that was held in greater veneration (unless it were the ministers) than the doctors. They required a doctor at their entrance into this mortal life; they required his services many times as they journeyed through life; and they required his services when they came to the end of life. He believed they were devoted to a very great and honourable pursuit, and he questioned whether there were any men that knew more of the inner life of the people of the towns, cities, and villages of our country than the medical men who entered into the homes of the people. The medical men gave them advice which was most valuable. He concluded by saying that the hope had been expressed by many of his friends—and he shared that hope—that the Association would at no distant date again visit the town. (Loud applause.)

The President and Members of the Local Committee.

The Venerable Archdeacon of Leicester (Archdeacon Stocks) proposed this toast. He said that at that late hour of the night brevity was not merely the soul of wit but was an absolute necessity. Were it not so, he might be tempted to indulge in personal reminiscences, and to tell them that the last time on which he was brought into contact with the Association was in 1868 or 1869 in Oxford, when he was introduced to many members of the Association by his tutor, who was a member of the Association, and afterwards the son-in-law of one of the most distinguished members of their profession, Sir James Paget. He recalled the great advance that had been made in the great profession to which they devoted themselves in their different capacities during those thirty-five years, and how deeply the laity were indebted to them for the advance in the science and practice of medicine and surgery. Referring to the President, he said that the President's name was one which was highly honoured in Leicester, and upon that name the President himself had conferred additional honour by his life and his professional career. He could not forget, in speaking of that name, one who for many years influenced in quiet and silent ways all that was best and all that tended to progress in the life of Leicester; one who, if he were alive now, would no doubt have been present that evening and would have listened to all that had been said with that quiet and deep enjoyment which he had in all that was healthy, all that was good, and all that tended to the advancement of his fellow-citizens—he referred to the President's father. He could not forget, either, that the name of their President was not unknown in the realms of English literature, for it was an honoured relative of Mr. Franklin's father who was privileged to witness the dawn of the genius of George Eliot, and to treasure, even to the latest years of life, some of the signs given by that genius in early days. As to the Local Committee, they had been chosen on the good old principle that if you want any good work done you must go to busy people and ask them to do it. He was sure they would agree with him in saying that the Local Committee had devoted themselves heart and soul to making the visit of the Association a success. He had much pleasure in coupling with this toast the name of the President.

The toast was received enthusiastically, the audience singing "For he's a jolly good fellow."

The President thanked them most heartily for the very kind reception which they had given to his name that night. The work that had been done had been done by the Local Committee, all of whom had worked as hard as they could, and had done their level best. They had many guests present that night, and some had gone to other entertainments, but he would like to mention that they had really a number of distinguished gentlemen from all parts of the world who had been present at the meeting this week. He then mentioned the names of Professor Hess, Professor Hartmann, Professor Wertheim (Vienna), Dr. Schelling, Professor Howard Kelly, and others. He then called upon Professor Kelly.

Professor Kelly, on behalf of the guests, thanked the Association very heartily for the great kindness and hospitality which they had received. He had never met with so much hospitality and kindness in such a short time as he had experienced since landing in this country from America. They were closely tied to the people of this country, not by cousinship any longer, but by real ties of brotherhood. He also thanked them on behalf of those who came from other countries, such as France, Germany, and Austria, and elsewhere. He was sure that just such meetings as these, and just such kindness as they had received, was the only solution of the peace problem, and by the grasp of the hand the heart went with it.

Sir James Grant (Canada) also returned his warmest thanks to the British Medical Association for the kind invitation he had received to be present that evening. It was nearly forty years ago since he first had the pleasure of attending a meeting of the British Medical Association. He came from the Dominion of Canada, and if his profession on the other side of the Atlantic occupied a high and distinguished position, it was largely attributable to the fact that the knowledge they had acquired had sprung from those at the height of the vast scientific institution of medicine on this side of the Atlantic.

The proceedings then terminated, the audience singing the National Anthem.

The Annual Exhibition
of
FOODS, DRUGS, INSTRUMENTS, BOOKS, AND SANITARY APPLIANCES.

[First Notice.]

By no means the least advantage of the Annual Meeting is the opportunity which it affords for collecting together all the latest products which are of interest and importance to medical practitioners in their daily work. Written advertisements are useful so far as they go, and serve their purpose by reminding medical men of the progress daily taking place in the manufacturing arts which so ably minister to medicine. When, however, it comes to the actual selection of a new instrument, or to adopting a new remedy or a new food, there is nothing so satisfactory as examining the article itself, and the advantage is all the greater if its claims can be examined *de visu* side by side with those of rival products of similar purpose. It is the facility thus afforded by the Annual Exhibition which makes it a desirable addition to the Annual Meeting, and the one which was opened last week seemed calculated to be particularly satisfactory from the standpoint both of the viewer and of the viewed. The arrangements made were of a

business-like character, and the site happily chosen. It was so near to the Technical Schools in which the Sectional Meetings were held that it was easy for every one to run across between times. The idea, too, of having a luncheon and tea department within the exhibition buildings also met with general approval and was well carried out. The exhibits comfortably filled two large buildings, one being the Drill Hall of the town, and the other a large wood and canvas marquee, which in a brief space of time had been made to grow in the Drill Hall square and cover the major portion of it. Between the two there was ample room to allow of the numerous exhibits being displayed to proper advantage, and to prevent confusion and loss of time on the part of those who were in search of some particular instrument, apparatus, food, pharmaceutical product, or hospital appliance of which they have seen a notice in written advertisements. The field of industry covered by the exhibits as a whole was exceedingly broad: practically all the great houses whose enterprises in any way touch the field of medicine and of medical men's requirements were represented; and it was impossible even for one who is habitually in daily touch with instrument shops and laboratories to stroll through the two buildings without picking up some fresh ideas. The gamut was run from medicine shelves to motor cars, and from babies' bottles to baths, each extreme representing a new method of meeting an old need. In between came countless new instruments for new operations and improved appliances for old ones; new foods to meet the calls of chemico-physical pathology; an arsenal of weapons for modern electro-therapeutics; the synthetic products of the scientific chemist and old pharmaceutical friends in a fresh and more attractive guise. There was thus something to attract and interest every man, whatever his line of practice.

Instruments and Appliances.

D. T. Bostel (71 and 73, Ebury Street, S.W.). Two new forms of natural seats for w.c.'s were shown by this firm, in addition to various patterns of what is known as "The Bostel Fire." The former aim at securing the relative elevation and separation of the thighs, which has been described as the true physiological position during action of the bowels, by raising the front of the seat in an abrupt curve. There was also shown the Bostel Patent Hydraulic Drain-Joiner and Cleaner. This is a remarkably clever invention, which we had an opportunity of examining in operation a short time ago. In the course of a very few minutes it repaired with Portland cement a break in a 4-in. drain pipe, and rendered not only this absolutely watertight, but in addition also the unstopped joints of the remaining pipes. Its value is that its use necessitates no upturning of soil or disturbance of surface. The mechanism is very simple, and the power, which is applied by a thin flexible pipe, can be carried to any length, with the result that the pressure can be regulated precisely at what ever distance from the opening it is desired to apply it. It can be used for either cementing drains when newly laid or simultaneously to test and repair those which are already in use. It is undoubtedly an appliance of value, and it seems probable that if builders and others make use of it the machine will often be found useful in sanitary work.

Harry W. Cox, Limited (1A, Rosebery Avenue, Clerkenwell, E.C., late of Cursitor Street, Chancery Lane). This firm had upon view numerous specimens of the forms of *x*-ray and high-frequency apparatus for which it is well known. They are the actual manufacturers, and guarantee all their



Fig. 1.

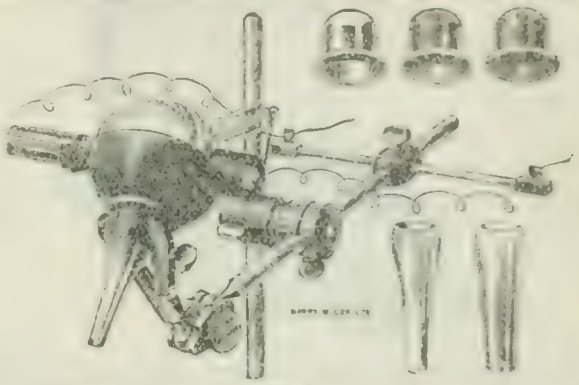


Fig. 2.

coils against breaking down. Out of the appliances shown we select for illustration a convenient form of tube-holder

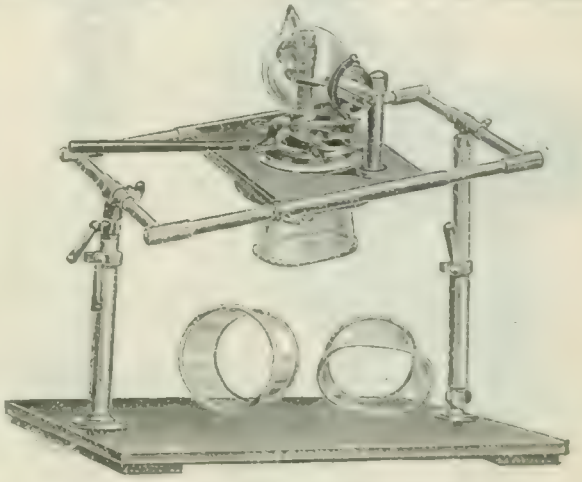


Fig. 3.

(Fig. 1); some very practical *x*-ray shields (Fig. 2); and some diaphragms and compressors (Fig. 3).

Croydon and Co., Limited (55, Wigmore Street, London). This firm makes a speciality of the manufacture of all kinds of catheters, bougies, and appliances for the sterilization of bladder instruments. Amongst the articles shown was Marshall's Shadowgraph Ureteric Bougie, the use and value of which were described by Mr. Hurry Fenwick in a paper on radioscopy and renal disease in the British Medical Journal for June 17th. Amongst the catheters shown, one which seemed to be particularly ingenious was a Coudée catheter combining the advantages of silk and india-rubber. The stem was made of silk gum, and therefore fairly stiff; while the point, being made of india-rubber, remained exceedingly flexible.

Down Brothers, Limited (St. Thomas's Street, Borough, London, S.E.). The two stands of this firm required for complete examination at least a whole morning. Perhaps the first thing to attract notice was a "first-aid" box (Fig. 4) for carrying on a motor car, as made for His Majesty King Edward VII. The necessity of such an addition to the equipment of the motor car was probably suggested by the accident to the Duke of Connaught. Its contents are arranged in a series of compartments in the order in which they should be used in any case of accident, these being numbered to correspond with the printed directions pasted on the lid. The outfit is of a thoroughly practical character. Of instruments proper there were numbers of an attractive kind. They included a patent surgical hand motor (Fig. 5), with the numerous accessories in the way of saws and burs which may be used with it; it is a very practical and well-made piece of machinery. The aluminium plates and nails introduced by Mr. Watson

Cheyne for the treatment of ununited fracture, the bolts and nuts of Mr. Cuthbert Wallace for the same purpose, and the

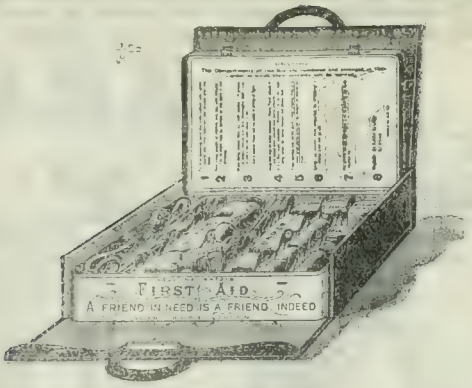


Fig. 4.

staples and punch of Dujarier were also on view. We show here (Fig. 6) the automatic retractor designed by Mr. Lace of Bath, which dispenses with the services of an assistant

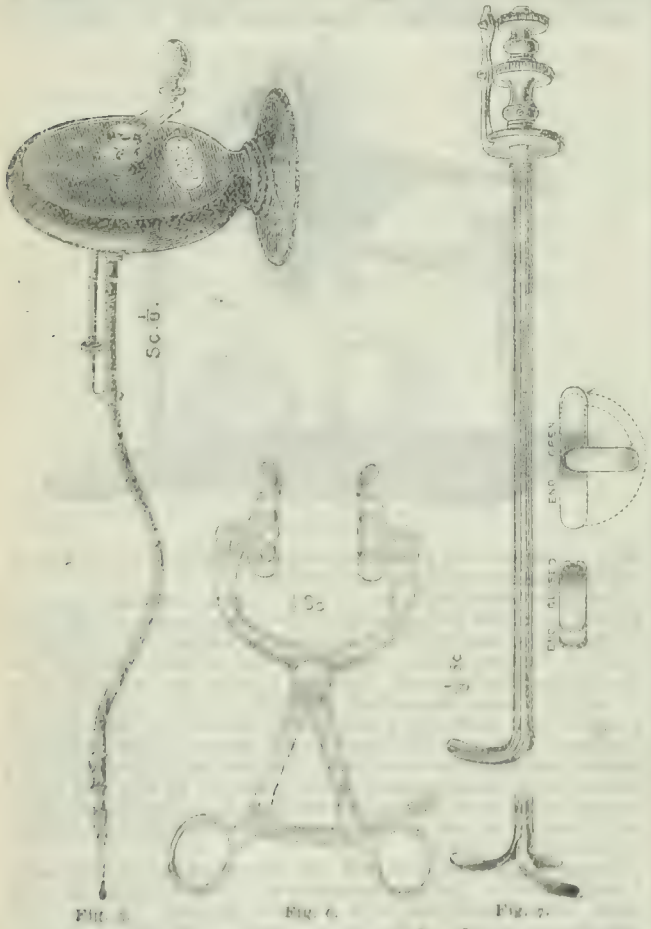


Fig. 5. Fig. 6. Fig. 7.

and is likely to be popular. Among the clamps were some for appendicectomy by Dr. Corner and Dr. Kelly of Baltimore, while those for the stomach which are used by Mr. Mayo Robson were also to be seen. Amongst the newer prostatectomy instruments shown was the retractor of Dr. Leguen (Fig. 7). We have not space to do full justice to the exhibits of this firm, as they were exceedingly numerous, nor can we attempt to illustrate the various forms of aseptic furniture which were shown. The firm has a great reputation for this class of work, and naturally exhibited it in great variety. The array included operation tables, instrument cabinets, dressing trolleys, lockers, screens, and commodes, all built with the view of absolute cleanliness and durability being ensured.

O. A. HOFFMEYER, Limited (21, Woodstock Street, Oxford Street, W.). This firm of orthopaedic and surgical instrument makers exhibited a model fitted with their appliances made on the Hessing system for fractured leg and tuberculous knee and hip, with elastic traction and steel-bar traction, which are so made as to enable the

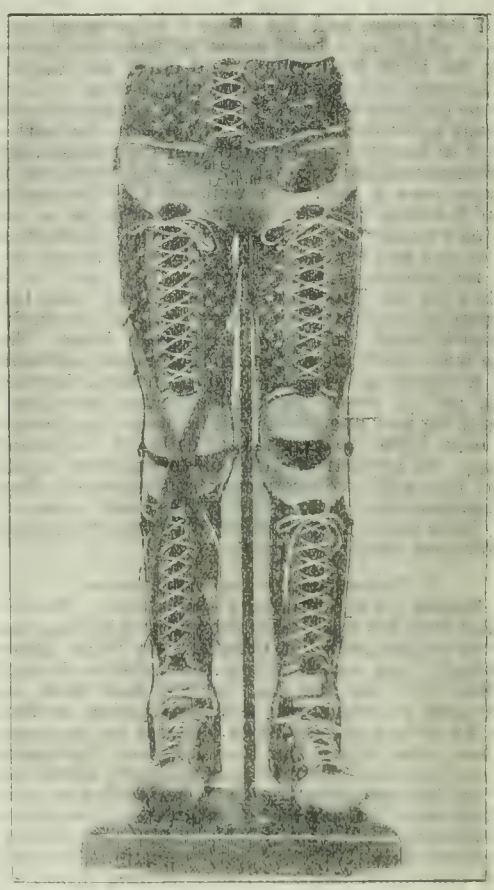


Fig. 8.

patients to walk about while repair takes place. The left leg of the figure was also fitted so as to show the extension exercised on the knee and hip-joint by the appliance. It has been used with success, we understand, at the London, St. Thomas's, and Guy's, and several other hospitals in the metropolis. In addition to its use in the treatment of recent fractures, it has been found, it is stated, specially useful in ununited fractures of long standing, as well as in the treatment of cases of tuberculous joint disease. There were also on view a neat leather corset with torsion flap for scoliosis, a leather corset with elastic head extension, a steel support for kyphosis, and several other instruments.

Messrs. T. HOLLAND AND SON (40, South Audley Street, W.). The chief novelty that T. Holland and Son had to show this year was a form of support for flat-foot. In shape it follows the lines of the well-known instep arch sock, but there are important differences. The new support, called the "pezplanus" instep arch support, instead of having longitudinal springs the whole length of the waist of the foot, has two springs which have their free ends in the centre of



Fig. 9.

the arch of the foot where they overlap, and are kept in place by two transverse springs covering them on the upper and

under side. While greater elasticity and consequent comfort to the wearer is thus gained, they are very light and exceedingly strong. The other novelty is a useful combination of the bunion splint with the support for flat-foot. The shapes of the "natural" boots and shoes made by the firm have been somewhat improved since last year.

Newton and Co (3, Fleet Street, London). Many medical electrical appliances were shown by this firm, amongst them being a complete set of everything necessary for ordinary hospital work, which has been made for St. John's Hospital, Leicester Square, London. Wright's high-tension resonance transformer for *x*-ray or high-frequency work was also exhibited (Fig. 10). This instrument dispenses with the need

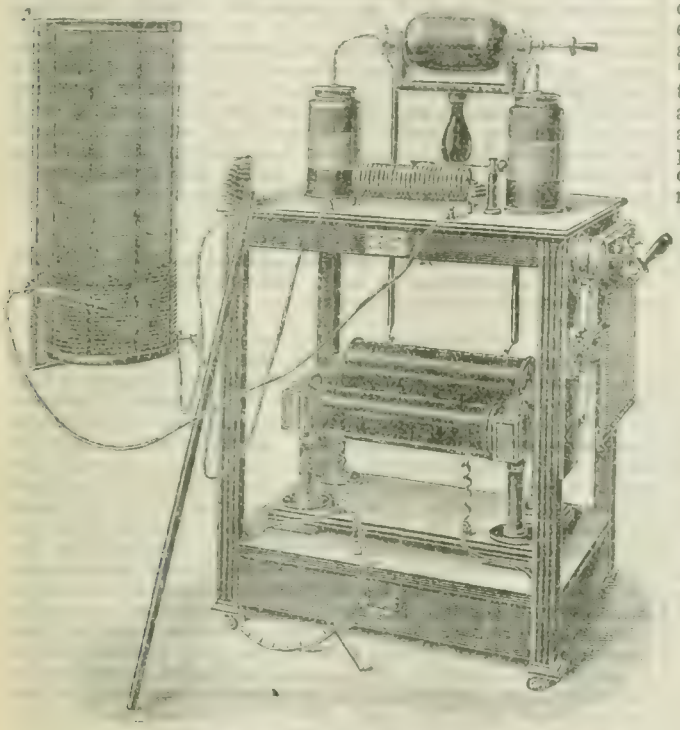


Fig. 10.

for an interrupter, as it connects direct to the alternating current mains. It is perhaps the simplest apparatus for this



Fig. 11.

purpose yet constructed, since all that is needed is to switch on the current, and the *x*-ray or high-frequency apparatus is instantly in working order. It is of English manufacture throughout, and was connected during the exhibition with the town main. The instrument as figured in the cut is fitted up for high-frequency applications; with the large resonator shown on the left effluves 8 to 9 in. long are easily obtained. Wright's revolving stereoscope can be fitted to it in order to obtain images on the fluorescent screen in stereoscopic relief. The faradic alternator (see Fig. 11) designed by Dr. R. Morton, of the London Hospital, was also on view. It is intended to take the place of the usual shocking coil, and consists of a revolving commutator, giving alternations of high periodicity. It is considered to be far less painful to the patient, and to be easier to control than the usual faradic coil, while the current can be more easily measured. Other machines for electrical therapeutics were Morton and Wright's rectifier and mercury break, and several sizes and patterns of the "Apps-Newton" induction coils, and several *x*-ray shields of the London Hospital pattern. Optical science lantern apparatus were also shown in sundry forms. Conspicuous among them was a large revolving triple electric lantern and projection microscope as supplied to the Royal Society and other bodies. It is fitted with three fronts, the whole revolving on its base, so that any front can be brought into

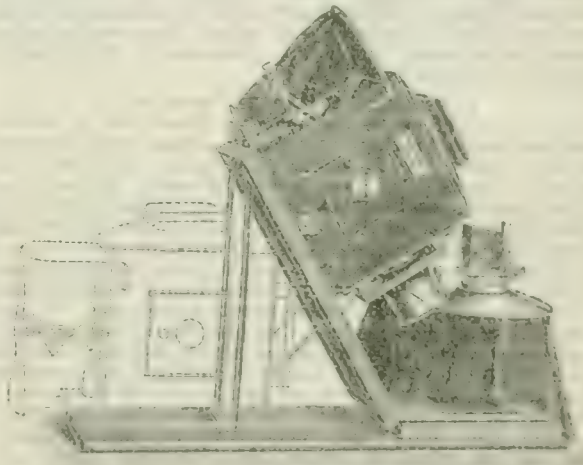


Fig. 12.

line at will. Their "Transpaque" lantern (Fig. 12) can be used for the projection of either slides or opaque objects.

G. H. Zeal (82, Turnmill Street, London, E.C.). Among the numerous thermometers shown by this firm was one which is a distinct improvement even on the "Aseptic" thermometer brought out by the same firm last year. Being entirely encased in thin glass it can be washed in any strong antiseptic without danger of the index being destroyed, although it differs little in appearance from an ordinary thermometer. It is made to register in 1 minute, 1½, 2 or 3 minutes with either magnifying or non-magnifying index

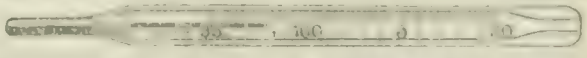


Fig. 13.

(Fig. 13), and is really very much neater in appearance than the engraving represents it to be. Other attractive forms were the "Repello," one which can be rapidly set simply by slightly compressing the flattened end. Still another was one with a guide to the eye in focussing the index quickly

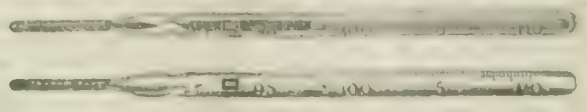


Fig. 14.

(Fig. 14). This guide can also be applied to the "Aseptic" and the "Repello" forms. It is a contrivance of decided utility.

(To be Continued.)

ENTERTAINMENTS AND EXCURSIONS.

Wednesday, July 26th.

The Garden Party at the Infirmary.

The social event of Wednesday afternoon and the first formal entertainment of the meeting was a garden party at the Leicester Infirmary. The host and hostess on this occasion were the Chairman of the Infirmary, Mr. Alderman Edward Wood, and Mrs. Wood, and considerably over 1,000 guests responded to their call. Soon after four o'clock, while many people were still on their way, there was a storm of almost tropical violence, but fortunately it lasted too short a time materially to interfere with the great success of the entertainment. The general scene was one of much animation; an excellent band, that of the Portsmouth Division of the Royal Garrison Artillery, helped to keep things going, and the needs of the inner man were not forgotten. Two enormous tents had been erected in the grounds, and were well provided with refreshments of every kind. Special provision was made for smokers in a third tent, and in this numbers of members spent most of the afternoon exchanging their views on points which had arisen either in the course of the Sectional discussions or at the Representative Meetings, under the soothing influence of their host's cigars. A great many others took the opportunity of exploring the infirmary wards, where there was much of interest to be seen, under the guidance of the honorary medical and surgical staff.

The Reception at the Museum.

About nine o'clock in the evening there was a general move from hotels, lodgings, and private houses to the Museum buildings, where the President (Dr. Frank Pope) and the members of the Midland Branch were at home. Museums, as has been found out elsewhere, notably at Oxford and at the Centenary Festival of the Royal Medical and Chirurgical Society, are particularly satisfactory *locales* for assemblies of this character, and Leicester Museum proved no exception. The rain, which had stopped for some hours, recommenced not long after the majority of the guests had arrived. It prevented full use being made of the prettily-lighted grounds, but otherwise made little difference, merely serving to fill the various halls of the building more completely. In these there was no lack of entertainment, as in addition to the normal attractions of the rooms, the "Follies" had been imported, and gave two long and very amusing performances; while in an upstairs room Mr. Harrison Hill gave a series of half-hour musical sketches of a humorous character. In the grounds there were a couple of refreshment tents well within earshot of the Artillery Band, which played some eight pieces during the evening of a kind suitable to the occasion. In spite of the rain these tents seemed in no way neglected. The programme distributed was sufficiently original to deserve special mention. On the front cover were displayed the arms of the four cities of the Midland Branch—Lincoln, Leicester, Nottingham, and Derby—and on the back an outline map of the area neatly conceived in the spirit of the cartographers of ancient times but of greater accuracy.

Thursday, July 27th.

Thursday was socially a very busy day, as, in addition to the annual dinner, there were two garden parties in the afternoon, and the ladies' reception in the evening.

The County Asylum.

Of the two garden parties, the one was given by the President (Mr. Rothesay C. Stewart) and members of the Leicester Medical Society in the grounds of the County Asylum, the guests numbering some 500. These, in addition to being able to listen to the Artillery Band and watch an excellent cricket match, were given an opportunity for visiting some of the wards and offices of the asylum, the inmates of which expressed their delight at the presence of the visitors. The weather was fortunately fine, and the grounds, which are furnished with numerous well-arranged flower beds and specimen trees, looked very gay and bright. The Superintendent of the Asylum, who is also President of the Medical Society, is to be congratulated on all the arrangements made for an enjoyable afternoon. We noticed in particular that the serving of the refreshments was admirably carried out by a staff of nurses and attendants.

Humberstone Hall.

For the pleasure of the second garden party, the Association was indebted to Mr. Maurice Levy, M.P., and Mrs. Levy. They received their guests at their beautiful residence, Humberstone Hall, a little way out of the town, and those present enjoyed themselves thoroughly. The grounds of the Hall are very beautiful, and the trees and avenues singularly fine. The *pièce de résistance* in the way of entertainment was a comedy, *The Duchess of Bayswater & Co.*, which took place in the open air and was excellently played by a party of amateurs.

Entertainment by the Ladies' Committee.

In the evening the Ladies' Committee entertained a numerous party of guests at the King's Hall, in the Grand Hotel, which was tastefully decorated for the occasion. The duty of receiving the guests naturally fell upon Mrs. Franklin, who was kept busily engaged in consequence of many important visitors having been detained at the annual dinner and arriving late. An excellent programme of music was rendered by the Magdalen Quartette and Victoria Band, the glee singing and the Irish songs, together with the duets, receiving unstinted applause, and the quartettes also earning great praise from an appreciative and critical audience. Great pains and trouble must have been bestowed on this function, and Mrs. Franklin and the other ladies who took charge of matters are to be congratulated on its great success.

Friday, July 28th.

On Friday, in addition to an expedition to Belvoir Castle, there was a garden party in the afternoon and an open-air fête in the evening at Abbey Park.

Excursion to Belvoir Castle.

The expedition to Belvoir Castle was at the invitation of the Duke of Rutland, and sixty members and ladies took part in it. They were accompanied by Dr. R. C. Stewart, Chairman of the Excursions Subcommittee, and all the arrangements were most admirably thought out. Carriages were in waiting at Stathern Station, and the party were driven through the woods a distance of six miles to the foot of the hill on which Belvoir Castle stands. There they were met by Dr. Shipman of Grantham and Dr. Macdonald of Woolsthorpe, by whom they were conducted through the grounds. On reaching the gardens some of the party made a detour to visit the kennels, while others went to the herbaceous gardens and were afterwards shown through the castle, which contains a valuable library and a remarkable collection of pictures, including the famous portrait of Henry VIII by Holbein, a fine Dürer, a Rembrandt, and several paintings by Sir Joshua Reynolds and Gainsborough. Afterwards the party were entertained at tea as guests of the Duke, and were then driven to Redmile Station, from which they took train to Leicester.

Glenfield Frith.

A garden party was given in the grounds of Glenfield Frith by Mr. Samuel Faire, J.P., and Mrs. Faire, and was a great success. In addition to the ordinary attractions of such a party in the way of agreeable conversation, tea, light refreshments, and a military band, D'Amato's Neapolitan Singers gave two excellent performances, each consisting of eight songs, mandoline and other pieces intermixed. The final attraction was a comedy in one act called *The Fair Equestrienne*. Its caste of three performers acquitted itself much to the satisfaction of the audience.

The Evening Fête.

The evening fête was given at the Abbey Park by Mr. Stephen Hilton, the Mayor of Leicester. The number of guests was very large and the whole affair was of an exceptionally brilliant character. The park is large, and all its walks were mapped out with fairy lights and lanterns. They were obviously so numerous as to raise curiosity as to their exact number and as to how they could all have been lighted. We were told that there were over 40,000 of them and that 250 men had been necessary to get them all lighted in time. The evening, too, was itself of an ideal character for an out-door entertainment, being pleasantly warm and free from wind. The band of the Portsmouth Division of the Royal Garrison Artillery performed in one part of the park and the Victoria Band in another. In addition to these some Lazzoni singers and dancers gave an attractive performance of music and dance on a raised platform. There were two large refreshment marquees, which formed a general centre and rendezvous, and the evening terminated with a firework display. Many of the pieces elicited applause, and when finally there suddenly appeared on the screen, "The Mayor wishes success to the British Medical Association," the assembly broke into cheers.

It will be seen that the social proceedings at Leicester were numerous and excellent, and it is right to add that the arrangements made in respect of all of them, in addition to being of a most business-like character, exhibited the most thoughtful consideration for the convenience of the visitors. In all cases arrangements were made with the tramway authorities to lay on a special service of tramcars running at short intervals; it was thus possible to get to and from the entertainments without the slightest trouble.

Saturday, July 29th.

EXCURSION TO BUXTON.

On Saturday 110 members wound up the week by paying a visit to Buxton, travelling by special train leaving the Midland Station at Leicester at 9 o'clock in the morning and arriving at Buxton shortly after 11. Here the visitors were met by Mr. A. Brown, Chairman of the Reception Committee, who, together with the Vice-Chairman, Mr. F. Drewry, and the Honorary Secretary, Dr. C. W. Buckley, welcomed the party. The visitors were divided into groups, and were started off without undue delay to visit the Buxton baths, under the guidance of Drs. W. Armstrong, R. Bishop, J. Braithwaite, J. J. Cox, T. B. Flint, J. M. K. Grover, G. T. Gunn, J. E. Harburn, C. W. Jones, G. Lorimer, H. Shipton, J. E. Sutton, and G. H. Thompson. After inspecting the baths, which proved well worthy of a visit, a move was made to the Devonshire Hospital, where the arrangements and disposition of the wards were subjected to a critical and appreciative review.

A certain proportion of the visitors then proceeded to the Palace Hotel, where what was called a lunch, but what was really a banquet, was served at 12.30, the chair being taken by Mr. H. A. Hubbersty, J.P. The Bishop of Salisbury having said grace, the visitors, with appetites sharpened by the Buxton air, enjoyed the repast, and after the toast of "The King" had been proposed by the Chairman, and duly honoured, Dr. W. Armstrong proposed the toast of "The Guests," which was suitably responded to by Dr. D. Griffiths. Dr. Brassey Brierley also said a few words to thank the hosts of the occasion for the generous hospitality that had been accorded to the visitors.

The remaining portion of the members visiting Buxton lunched at the St. Ann's Hotel. The afternoon was spent in various ways according to the wishes and tastes of the visitors; some went to Castleton, others to Chatsworth and Haddon and to Matlock; there were some who preferred to drive up the Goyt Valley and a few went for a drive to the "Cat and Fiddle," returning by Axe Edge, enjoying in the course of this outing the splendid moorland scenery for which Buxton is so celebrated. Some, too, passed the afternoon in the Buxton Gardens, where a band rendered an artistic programme of music. The sewage works, including the new bacterial beds, were open to inspection, and the various institutions in the town for accessory methods of treatment were to be seen containing apparatus for electrical treatment of all kinds, Nauheim treatment for diseases of the heart and the different methods of therapeutic gymnastics. A few of the visitors ascended the hills to the district known as Fairfields, in a conveyance thoughtfully provided by Dr. Buckley, to indulge in a game of golf on the celebrated links which lie 1,200 feet above the level of the sea. The Buxton Golf Club welcomed these medical golfers to their comfortable pavilion, and started them off on a round of eighteen holes under the guidance of most experienced caddies. Rain had fallen shortly before these gentlemen commenced playing, but the afternoon turned out fine and breezy, and the famous links were seen to the best advantage. Wherever the visitors went, far or near, the care and foresight of the Reception Committee had provided for their comfort, and tea and refreshments of all kinds were served at suitable times at whatever places the visitors happened to be. From all points of the compass the party collected about 7 o'clock at the Buxton railway station, from whence the special train started on the return journey, taking up at various stations the different groups that had visited the outlying places of interest. The Reception Committee of Buxton must be congratulated on the signal success of such a varied and complicated programme. Those who went to Chatsworth had the advantage of the able ciceronage of Dr. Wrench, who is intimately acquainted with the varied contents of the great mansion.

GOLF MATCH.

Throughout the whole week the Leicestershire Golf Club kindly placed their links at the disposal of the members of the British Medical Association, and on Friday, July 28th, entertained twenty-eight players to lunch at the golf-house. These players were composed of two teams, fourteen for England and fourteen for the "Rest." The term "Rest" included players from Scotland, Ireland, Wales, and the Colonies. At the conclusion of lunch Dr. J. Playfair, President of the Royal College of Physicians of Edinburgh, rose and said a few words to voice the general feeling of all that some expression of thanks was due to the Leicestershire Golf Club for the splendid hospitality with which they had entertained the members of the Association. Dr. Pope was loudly applauded when he rose in support, and then the President of the Leicestershire Golf Club, Mr. B. W. Russell, said a few graceful words of acknowledgement. The match between England and the "Rest" was keenly contested, and resulted in a victory for England by 8 matches to 4. The following are the scores:

England v. "Rest."

F. Bolton Carter	1	F. Todd	0
Nathan Raw	0	George Rose	0
T. J. Verrall	1	Chalmers Watson	0
J. Thompson	0	M. Moore	1
A. Eddowes	0	R. R. Young	1
J. H. Mummery	1	H. A. Latimer	0
K. W. Goadby	0	Ewen McClean	1
W. Dutton	0	C. Pattison	1
Boyd Joll	1	C. R. Salisbury	0
R. Lamb	1	N. Walker	0
T. G. Ouston	0	H. Taylor Young	0
L. E. Creasy	1	J. Playfair	0
J. F. Colyer	1	Sinclair White	0
T. Brown	1	T. Shennan	0
	8		4

REPORT FROM THE SELECT COMMITTEE ON REGISTRATION OF NURSES.*

(Ordered by the House of Commons to be printed, July 25th, 1905.)

THE Select Committee appointed to consider the expediency of providing for the registration of nurses have agreed to the following report:

1. The Select Committee on the Registration of Nurses was appointed in June, 1904, and was re-appointed during the present session of Parliament.

2. Your Committee have examined thirty-four witnesses, among whom are included members of the medical profession, matrons of hospitals, superintendents of nursing institutions, nurses whose experience has been gained abroad, as well as nurses who carry on their occupation in this country, a representative of the male nurses, representatives of various institutions and public bodies, including the Civil Service, besides ladies and gentlemen who are not professionally employed, but who have given much time and work to the management of hospitals and asylums, and to the study of nursing questions both in the centres of population and in the rural districts.

3. Amidst many divergent views met with in this evidence, there is a general opinion in favour of some change in the conditions under which nursing is carried on.

4. Your Committee have observed this tendency in the evidence of the medical profession, and in that of the nurses themselves.

5. The evidence shows that a considerable improvement has taken place of late, both in the class of persons who undertake nursing and in the conditions under which they obtain their training and carry on their occupation.

6. It has been asserted in some quarters that registration is rendered requisite by reason of the amount of illegality, immorality, and scandal which at present continues undiscovered and unchecked. It is contended that registration would be an efficient instrument against these scandals, and would safeguard the public. In the judgement of your Committee, while registration might prove a means towards checking some abuses, no evidence which has been brought forward substantiates a general charge of moral delinquency.

7. On the other hand, there is a general concurrence of opinion that in the interests of the nurses and of the public further improvement is both desirable and practicable; and your Committee consider that the desire for co-ordination

* To be [illegible] Wyman and Sons, Ltd., [illegible] Abingdon Street, [illegible] E. Ponsonby, 116, Grafton Street, Dublin. Price 1d.

of the various training schools, although not universal, is widespread.

8. Upon the question of what changes in the conditions of nursing are desirable strong opinions are held and vigorous expression has been given to them.

9. In these circumstances unanimity could not be looked for.

10. The principal suggestions laid before the Committee are:

(*a*) Registration of individual nurses.
(*b*) Registration of training schools for nurses.
(*c*) Licensing of nursing homes, institutions, and societies which supply or employ nurses.

11. Your Committee are agreed that it is desirable that a Register of Nurses should be kept by a central body appointed by the State, and that, while it is not desirable to prohibit unregistered persons from nursing for gain, no person should be entitled to assume the designation of "registered nurse" whose name is not upon the Register.

12. They recommend that this central body should be set up by Act of Parliament, and that its constitution should be defined in the Act, as was done in the case of the Central Midwives Board.

13. The central body should consist of matrons, nurses, and representatives of the medical profession, of training schools for nurses, and of the public.

14. Your Committee consider it desirable that the number of representatives should be kept within reasonable limits. They suggest eleven as a convenient number, and recommend that it should never exceed fifteen.

15. Your Committee recommend that the central body should admit to the Register of Nurses such nurses as have had a training at a recognized training school for nurses for a period to be determined by such body, and have satisfied their training school, whose certificate they must hold, stating that they are equipped with the knowledge and experience requisite for nursing, and that they are of good character.

16. They also recommend that the central body should decide what constitutes a recognized training school for nurses, taking into consideration the number of beds, the accommodation for probationers, the facilities afforded for learning, and the general standard and conduct of the examination; for this purpose the central body should have the power of inspection. Your Committee further recommend that the examination be held at and by the training school.

17. For the purpose of defraying the expenses of the central body a small registration fee should be charged. Your Committee consider that this fee should not exceed one guinea.

18. Your Committee have heard a large amount of evidence on the subject of the necessary period of training at a school. The great bulk of this evidence points to three years as the requisite period of training. They are themselves impressed with the advisability of such a period, but they recognize that a stereotyped rule might operate unfortunately. They therefore recommend that the minimum period should not be fixed by Act of Parliament, but should be left to the discretion of the central body.

19. There should be an annual publication of the Register of Nurses. For this purpose the central body should make provision for striking off the Register the names of those nurses who have died or who have ceased nursing, and also of those nurses who, in the opinion of the central body, have been guilty of serious misconduct in the discharge of their duty, or of moral delinquency.

20. With regard to existing nurses, your Committee are of opinion that those who can produce evidence satisfactory to the central body, both as regards efficiency and character, should be placed upon the Register on payment of the registration fee.

21. The Committee are of opinion that it should be the duty of the central body, at a date not later than four years after the passing of any Act for the registration of nurses, to submit a report to the Privy Council on the advisability of instituting a separate Register of Nurses whose training is of a lower standard than that laid down for "registered nurses."

22. The claims for registration of mental or asylum nurses have been laid before your Committee. They are of opinion that a separate Register of "Registered Asylum Nurses" should be kept by the central body, to which should be admitted the names of nurses who have served for not less than three years (in not more than two asylums), and have received the certificate of the Medico-Psychological Association, and can produce satisfactory certificates of good character.

23. An analogous but separate question has come before your Committee, namely, the treatment of nursing homes and institutions. Nursing homes are deemed to include all homes and places conducted for profit where patients are taken in for treatment. By nursing institutions are meant those societies or bodies which supply nurses to the public.

24. The evidence laid before your Committee has led them to consider the licensing of such homes and institutions to be highly desirable. The licence should be issued by the county or county borough authority in whose area the home or institution is situated, and no such home or institution should receive the licence unless it is conducted in conformity with requirements to be laid down by that authority.

25. The county or county borough authority should be empowered to draft regulations to be approved by the Local Government Board, and to appoint inspectors who should have the right of entry and inspection.

26. It should be a condition of such licence that when a nurse employed in a nursing home or sent out by a nursing institution is not a "registered nurse," the fact shall be definitely stated.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

In seventy-six of the largest English towns, including London, 8,609 births and 4,490 deaths were registered during the week ending Saturday last, July 29th. The annual rate of mortality in these towns, which had been 11.6, 12.9, and 13.4 per 1,000 in the three preceding weeks, further rose last week to 15.0 per 1,000. The rates in the several towns ranged from 3.0 in Burton-on-Trent, 4.2 in Willesden, 4.5 in Kings Norton, 5.9 in Ipswich and in Handsworth (Staffs.), 6.2 in Hastings, 6.3 in Walthamstow, 6.4 in Croydon, and 6.7 in Tottenham, to 20.5 in Salford, 21.7 in Stockport, 22.1 in Manchester, 22.3 in Rochdale, 22.6 in Hanley and in Sheffield, 23.7 in Liverpool, 24.0 in Merthyr Tydfil, 24.6 in Rhondda, and 30.7 in Bootle. In London the death-rate was 14.3 per 1,000; while it averaged 15.3 in the seventy-five other large towns. The death-rate from the principal infectious diseases averaged 3.7 per 1,000 in the seventy-six towns; in London this death-rate was equal to 2.9 per 1,000, while among the seventy-five other large towns the rates ranged upwards to 6.1 in Barrow-in-Furness, 7.1 in Rhondda, 7.7 in Aston Manor, 8.3 in West Ham, 9.1 in Liverpool, 9.2 in Merthyr Tydfil, 9.5 in Sheffield, 10.1 in Stockport, and 24.9 in Bootle. Measles caused a death-rate of 1.6 in Wolverhampton, 1.7 in Sunderland, and 4.3 in Barrow-in-Furness; scarlet fever of 1.7 in Bootle; diphtheria of 1.7 in Barrow-in-Furness; fever of 1.4 in Devonport; and diarrhœa of 5.4 in Birkenhead and in Rhondda, 6.4 in Aston Manor, 6.7 in West Ham, 8.0 in Stockport, 8.1 in Liverpool, 8.9 in Sheffield, 9.2 in Merthyr Tydfil, and 21.6 in Bootle. The mortality from whooping-cough showed no marked excess in any of the large towns. One fatal case of small-pox was registered last week in Derby, but none in any other of the large towns. The Metropolitan Asylums hospitals contained 3 small-pox patients on Saturday last, July 29th, against 5, 4, and 3 on the three preceding Saturdays; no new case was admitted during the week, against 2, 2, and none in the three preceding weeks. The number of scarlet fever cases remaining under treatment in these hospitals and in the London Fever Hospital, which had been 2,499, 2,520, and 2,485 at the end of the three preceding weeks, had risen again to 2,550 at the end of last week; 352 new cases were admitted during the week, against 354, 356, and 304 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS.

During the week ending Saturday last, July 29th, 933 births and 513 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had been 14.7, 14.3, and 15.2 per 1,000 in the three preceding weeks, further rose last week to 15.3 per 1,000, and was 0.3 per 1,000 above the mean rate during the same period in the seventy-six large English towns. Among these Scotch towns the death-rates ranged from 10.9 in Leith and 11.2 in Aberdeen to 19.1 in Dundee and 21.3 in Perth. The death-rates from the principal infectious diseases in these towns averaged 2.0 per 1,000, the highest rates being recorded in Paisley and Perth. The 223 deaths registered in Glasgow included 5 which were referred to measles, 4 to whooping-cough, and 20 to diarrhœa. Four fatal cases of diphtheria, 2 of whooping-cough, and 6 of diarrhœa were recorded in Edinburgh; 2 of whooping-cough and 6 of diarrhœa in Dundee; 2 of whooping-cough in Aberdeen; 5 of diarrhœa in Paisley; 2 of whooping-cough in Greenock; and 4 of measles and 2 of whooping-cough in Perth.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

The following appointments have been made at the Admiralty: Francis H. A. Clayton, Staff Surgeon, to the *Victory*, additional, lent to the *Brilliant*, July 31st; William E. Ormsby, M.B., Surgeon, to the *Victory*, additional, July 19th; Walter G. Edwards, Surgeon, to the *Victory*, additional, undated; Alfred H. Jeremy, M.B., Staff Surgeon, to the *Fox*, July 27th; Francis H. A. Clayton, M.D., Staff Surgeon, to the *Satellite*, July 27th; Daniel J. P. M'Nally, Fleet Surgeon, and Norman B. V. Jacob, Surgeon, to the *Jupiter*, on commissioning, August 15th; Frederick A. Brick, Fleet Surgeon, to the *Revenge*, on recommissioning, undated; Charles H. J. Robinson, Staff Surgeon, to the *Hampshire*, on

recommissioning, undated; HARRY SPICER, Staff Surgeon, to the *Gladiator*, on recommissioning, August 14th: ALOYSIUS F. FLEMING, Surgeon, to the *Hindustan*, August 22nd; WILLIAM L. HAWKINS, Surgeon, to the *Speedy*, July 27th; PAUL H. M STAR, Staff Surgeon, to the *Roxburgh*, on commissioning; THOMAS W. PHILIP, M B., Staff Surgeon, to the *Nelson*, on the *Roxburgh* commissioning; FREDERICK F. MAHON, Surgeon, to the *Excellent*, on the *Roxburgh* commissioning; CYRIL SHEPHERD, Surgeon, to the *Pioneer*, on the *Roxburgh* commissioning; REGINALD WATERFIELD, Surgeon, to the *Colossus*, on the *Roxburgh* commissioning: BRITON S. ROBSON, M.B., Surgeon, to the *Skipjack*, July 18th.

The notice appearing in the *London Gazette* of July 4th, relative to the promotion of Fleet Surgeon F. A. JEANS to the rank of Deputy Inspector-General, is hereby cancelled.

Fleet Surgeon W. R. WHITE, M B., C.B., has been placed on the retired list, with the rank of Deputy Inspector-General, July 17th. He was appointed Surgeon, September 30th, 1871: Staff Surgeon, September 30th, 1883; and Fleet Surgeon, October 2nd, 1888.

ROYAL ARMY MEDICAL CORPS.

THE undermentioned Majors are promoted to be Lieutenant-Colonels, from May 30th: Brevet Lieutenant-Colonel S. HICKSON, M.B., H. J. FLETCHER, M.B., E. DAVIS, S. POWELL, M.D., F. W. C. JONES, M B., J. MEEK, M D., A. E. MORRIS, M.D., R. E. MOLESWORTH, C. L. JOSLING, W. T. SWAN, M.B., R. L. R. MACLEOD, M.B., G. G. ADAMS, J. M. F. SHINE, M.D., W. B. DAY, M.B., C. T. BLACKWELL, M.D., N. C. FERGUSON, M.B., C.M.G., S. R. WELLS, M. L. HEARN, R. H. HALL, M.D., R. G. HANLEY, M.B., G. CREE, S. C. PHILSON, J. M. NICOLLS, M.B., F. W. H. D. HARRIS, J. H. CURTIS. Their previous commissions are dated: Surgeon, May 30th, 1885; Surgeon-Major, May 30th, 1897. Their war records are as follow: Lieutenant-Colonel Hickson—operations in South Africa, 1896-7 (mentioned in dispatches, medal with clasp); South African war, 1899-1901 (mentioned in dispatches, brevet of Lieutenant-Colonel, Queen's medal with two clasps, King's medal with two clasps) Lieutenant-Colonel Fletcher—Miranzai expedition, 1891 (medal with clasp); South African war, 1900-2 (Queen's medal with four clasps, King's medal with two clasps). Lieutenant-Colonel Davis—South African war, 1899-1902, including relief of Ladysmith and actions at Spion Kop, Vaal Kranz, and Pieter's Hill (Queen's medal with three clasps, King's medal with two clasps). Lieutenant-Colonel Jones—Burmese expedition, 1886-8 (mentioned in dispatches, medal with two clasps); Nile expedition, 1896 (British and Khedive's medals): South African war, 1899-1902, including defence of Ladysmith and numerous actions in Natal and the Transvaal (mentioned in dispatches, Queen's medal with three clasps, King's medal with two clasps). Lieutenant-Colonel Meek—Sikkim expedition, 1888 (medal with clasp): employed in China in 1900 with the hospital ship *Maine* (medal); South African war, 1900-2, with the *Maine* (mentioned in dispatches, Queen's medal with three clasps). Lieutenant-Colonel Molesworth—South African war, 1899-1900 (Queen's medal with two clasps). Lieutenant-Colonel Josling—West Africa, 1893-4 (mentioned in dispatches, medal with clasp): Ashanti expedition, 1895-6 (star): South African war, 1900-2 (King's medal with two clasps). Lieutenant-Colonel Swan—Chitral Relief Force, 1895 (medal with clasps); campaign on the North-West Frontier of India, 1897-8 (clasp): South African war, 1900-2 (Queen's medal with three clasps, King's medal with two clasps). Lieutenant-Colonel Shine—Burmese expedition, 1886-7 (medal with clasp); South African war, 1899-1902 (Queen's medal with three clasps, King's medal with two clasps). Lieutenant Colonel Day—South African war, 1900-2 (Queen's medal with three clasps, King's medal with two clasps). Lieutenant-Colonel Blackwell—Burmese expeditions, 1885-9 (medal with two clasps); campaign on the North-West Frontier of India, 1897-8 (medal with clasp); South African war, 1901-2 (Queen's medal with clasp). Lieutenant-Colonel Ferguson—South Africa, 1896 (medal); South African war, 1899-1902, including numerous actions (mentioned in dispatches, Queen's medal with six clasps, King's medal with two clasps, and appointed C.M.G.). Lieutenant-Colonel Wells—Hazara expedition, 1891 (medal with clasp); campaign on the North-West Frontier of India, 1897-8 (medal with two clasps); South African war, 1899-1902, including relief of Ladysmith and actions at Spion Kop, Vaal Kranz, etc (Queen's medal with four clasps, King's medal with two clasps). Lieutenant-Colonel Hearn—Burmese expedition, 1885-7 (medal with clasp); Chin-Lushai expedition, 1889-90 (clasp); South African war, 1900-2 (Queen's medal with three clasps, King's medal with two clasps). Lieutenant-Colonel Hall—South African war, 1899-1902, including relief of Ladysmith and actions at Spion Kop, Vaal Kranz, etc. (several times mentioned in dispatches, Queen's medal with five clasps, King's medal with two clasps, and appointed D.S.O.) Lieutenant-Colonel Hanley—Chitral Relief Force, 1895 (medal with clasp); South African war, 1899-1902 (Queen's medal with four clasps, King's medal with two clasps). Lieutenant-Colonel Philson—Burmese expedition, 1891-2. Lieutenant-Colonel Nicolls—South African war, 1901-2 (Queen's medal with five clasps). Lieutenant-Colonel Harris—South African war, 1899-1902 (Queen's medal with two clasps, King's medal with two clasps). Lieutenant-Colonel Curtis—South African war, 1899-1902, including relief of Ladysmith and numerous actions (Queen's medal with clasps, King's medal with two clasps).

Lieutenant-Colonel F. W. H. D. HARRIS retires on retired pay, July 19th. He was appointed Surgeon, May 30th, 1885; Surgeon-Major, May 30th, 1897; and Lieutenant-Colonel, May 30th, 1905. He was in the South African war in 1899-1902, receiving the Queen's medal with two clasps and the King's medal with two clasps.

Lieutenant R. G. ANDERSON, who was appointed on probation January 30th, 1904, is confirmed in that rank.

The undermentioned Lieutenants, appointed on probation January 31st, 1905, are confirmed in that rank:—C. P. THOMSON, M.D.; R. J. B. BUCHANAN, G. B. F. CHURCHILL, G. S. WALLACE, M.B.; W. S. NEALOR, R. G. MEREDITH, M.B.; F. E. ROBERTS, A. A. MCKNIGHT, M.B.; T. H. GIBBON, M.D.; J. E. HOAR, E. B. BOOTH, M.D.; W. PARSONS, C. D. M. HOLBROOKE, E. G. R. LITHGOW, P. POWER, M.B.; J. S. PASCOE, C. W. O'BRIEN, G. G. TABUTEAU, R. E. HUMFREY, W. G. MAYDON, M.B.

Colonel W. E. WEBB, M.D., retires on retired pay, July 22nd. He was appointed Surgeon, September 30th, 1873: Surgeon-Major, September 30th, 1885; Brigade-Surgeon, September 2nd, 1890: and Colonel, May 23rd, 1902. He was in the Egyptian war of 1882, including the battle of Tel-el-Kebir (medal with clasp, and Khedive's bronze star), and in the Nile expedition in 1884-5 (clasp).

Lieutenant J. WADDELL, M.B., from half-pay, to be Lieutenant, June 23rd. He was placed on half-pay, June 19th, 1901. He is now promoted to be Captain, from June 23rd, 1905.

Lieutenant H. W. LONG, M B., is promoted to be Captain, May 19th. He was appointed Lieutenant, June 27th, 1901.

ARMY MEDICAL RESERVE.

SURGEON-CAPTAIN J. T. K. THOMSON, having resigned his commission in the Volunteers, ceases to belong to the Army Medical Reserve, July 19th

Surgeon Major W. J. HARNETT and Surgeon-Captain H. P. JOB, having resigned their commissions in the Volunteers, cease to belong to the Army Medical Reserve, July 29th.

ROYAL ARMY MEDICAL CORPS (MILITIA).

SUPERNUMERARY LIEUTENANT (Honorary Lieutenant in the Army) W. H. G. H. BEST, to be Captain, and to remain seconded, April 30th.

Supernumerary Lieutenant (Honorary Lieutenant in the Army) H. FOX, M.B., to be Captain, and to remain seconded, May 28th.

CHANNEL ISLANDS MILITIA.

SURGEON-MAJOR A. B. VOISIN, 3rd, or South, Battalion Royal Jersey Light Infantry, resigns his commission, June 17th.

VOLUNTEER RIFLES.

SURGEON-LIEUTENANT H. J. TAYLOR, 2nd Volunteer Battalion the Loyal North Lancashire Regiment, to be Surgeon-Captain, July 15th.

Surgeon-Captain H. DUTCH, 4th Volunteer Battalion the Royal Fusiliers (City of London Regiment), to be Surgeon-Major, July 22nd.

Surgeon-Major R. T. C. ROBERTSON, M.B., 2nd Volunteer Battalion the Cameronians (Scottish Rifles), to be Surgeon-Lieutenant-Colonel, July 22nd.

LAWRENCE C. V. HARDWICKE to be Surgeon-Lieutenant in the 1st Volunteer Battalion the Prince of Wales's (North Staffordshire Regiment), July 22nd.

Surgeon-Captain C. R. LAWRIE, 1st Volunteer Battalion the Duke of Cornwall's Light Infantry, to be Surgeon-Major, July 26th.

Mr. WILLIAM MARLEY-CASS, late Lieutenant, to be Surgeon-Lieutenant in the 3rd (Cumberland) Volunteer Battalion the Border Regiment, July 26th.

CHANGES OF STATION.

THE following changes of station amongst the officers of the Royal Army Medical Corps have been officially reported to have taken place during June:

		FROM	TO
Colonel	P. M. Ellis	Curragh	Dublin.
,,	J. G. MacNeece	Dublin	Malta.
Lieut.-Col.	L. E. Anderson	London Dist.	Aldershot.
,,	W. Dugdale	Wynberg	Potchefstroom.
,,	R. Porter, M.B.	Pretoria	Bloemfontein.
,,	K. E. R. Morse	Newcast.-on-T.	Bengal
,,	R. H. S. Sawyer, M.B.	Wynberg	Pretoria.
,,	H. W. Hubbard	Aldershot	London Dist.
,,	E. J. E. Risk	Belfast	South Africa.
,,	M. Dundon, M.D.	Devonport	Exeter.
,,	S. Westcott, C.M.G.	Shoeburyness.	York
,,	H. S. McGill	Simla	Curragh.
,,	G. E. Moffet, M.B.	Perth	Shorncliffe
,,	A. T. I. Lilly	Eastern Comd.	Canterbury
,,	S. E. Duncan	SouthrnComd.	Birmingham.
,,	R. Caldwell	Cawnpore	Leeds.
Major	J. H. Curtis	Kilworth Cmp.	Ballincollig.
,,	A. P. H. Griffiths	Birmingham	Fort Tregantle.
,,	A. Hosie, M.B.	Portsmouth	London.
,,	R. H. Penton, D.S.O.	,,	Gosport.
,,	L. E. A. Salmon	Devonport	Bodmin.
,,	R. J. Copeland, M.B.	Portsmouth	Gosport
,,	W. W. O. Beveridge, M.B., D.S.O.	London Dist.	R.A.C. Factry.
,,	T. J. Lenehan, M.B.	Middleburg	Potchefstro'm.
,,	E. M. Morphew	Colchester	Hartford.
,,	J. F. M. Kelly, M.B.	Dublin	Kilworth.
,,	D. J. Collins, M.B.	,,	S. Africa.
Captain	A. H. Waring	Gosport	Windm'll-Hl.C.
,,	H. L. W. Norrington	SouthrnComd.	Fort Tregantle.
,,	J. D. G. Macpherson, M.B.	Windm'll-Hl.C.	Aldershot.
,,	G. J. S. Archer, M.B.	Dublin	Dunfee.
,,	M. H. G. Fell	R.A.M. Coll.	Aldershot.
,,	T. C. Lauder, M.B.	Cork	Kinsale.
,,	L. Humphry	Dublin	Ormonde C'p.
,,	R. A. Cunningham, M.B.	Edinburgh	Glencorse.
,,	E. E. Ellery	Tidworth	Bulford.
,,	J. I. W. Morris	Dublin	Belfast.
,,	L. N. LLoyd, D.S.O.	Portsmouth	Churn Camp.
,,	H. M. Morton, M.B.	Edinburgh	Leith.
,,	E. W. Sibcrry	Cork	Curragh.
,,	A. F. Carlyon	Devonport	Shorncliffe.
,,	R. L. Argles	Tidworth	Bulford.
,,	P. H. Henderson, M.B.	Ahmednagar	Aden.
,,	F. H. Hardy	Alton	Bordon
Lieutenant	T. S. Coates, M.B.	Colaba	Poona.
,,	N. E. Dunkerton	Dublin	S. Africa.
,,	E. C. Whitehead, M.B.	Aldershot	
,,	P. Dwyer, M.B.	Curragh	Dublin.
,,	G. A. D. Harvey	,, ,,	Clonmel C'p.
,,	H. W. Russell, M.B.		
,,	N. Low	Aldershot	Dublin.
,,	A. N. Fraser, M.B.		Malta.
,,	K. A. C. Doig		Aldershot.
,,	H. O. M. Beadnell	Curragh	Glen Imaal
,,	C. R. Millar	Aldershot	Dublin.

Lieutenant-Colonel J. A. Shaw, M.D., retired pay, has relinquished the [illegible].

Lieutenant-Colonel J. H. Reynolds, M.B., V.C., retired pay, has relinquished the medical charge of the Royal Army Clothing Factory.

Colonel W. A. Parker, retired pay, has been transferred from London to Penally.

Lieutenant Colonel T. A. Dixon, M.D., retired pay, has been placed in medical charge of troops at Maidstone.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

ALDERSHOT URBAN DISTRICT COUNCIL.—Medical Officer of Health and Superintendent of Isolation Hospital. Salary, £300 per annum.

BIRKENHEAD BOROUGH HOSPITAL.—Senior and Junior Resident House-Surgeons. Salaries, £100 and £80 respectively.

BOURNEMOUTH: ROYAL NATIONAL SANATORIUM. — Resident Medical Officer. Salary £10 a month.

BOURNEMOUTH: ROYAL VICTORIA HOSPITAL.—House-Surgeon. Salary, £100 per annum.

BURY INFIRMARY.—Senior House-Surgeon. Salary, £110 per annum.

DOUGLAS, ISLE OF MAN: NOBLE'S ISLE OF MAN HOSPITAL AND DISPENSARY.—Resident House-Surgeon. Salary, £90 per annum.

DUBLIN: ROYAL COLLEGE OF SURGEONS OF IRELAND.—Senior Demonstrator of Anatomy in the Medical School. Stipend, £100 per annum.

EXETER CITY ASYLUM.—Assistant Medical Officer. Salary, £150 per annum.

KENSINGTON UNION.—Second Assistant Resident Medical Officer for the Workhouse and Infirmary. Salary, £80 per annum.

MERTHYR TYDFIL URBAN DISTRICT COUNCIL.—Medical Officer of Health and Superintendent of the Isolation Hospitals. Salary, £400, rising to £500 per annum.

SHREWSBURY: SALOP INFIRMARY.—House-Surgeon. Salary, £100 per annum.

SOUTHAMPTON: ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House Physician. Salary, £100 per annum.

APPOINTMENTS.

BARCLAY, W. B., L.R.C.P. and S.Edin., Medical Officer of Health, Borough of Weymouth.

BOND, Frank F., M.R.C.S., L.R.C.P., Medical Officer to the Trowbridge and District Joint Isolation Hospital.

BROWN, A. P., L.R.C.P. & S.Edin., District Medical Officer of the Bellingham Union.

COLLIER, H. W., M.B., B.S., Clinical Assistant to the Chelsea Hospital for Women.

CURL, Sydney W., M.D Cantab., M.R.C.P.Lond., an Arris and Gale Lecturer at the Royal College of Surgeons of England.

FRAMPTON, Trevethan, F.R.C.P., M.R.C.S., Clinical Assistant to the Chelsea Hospital.

HALLIWELL, T. O., M.R.C.S., L.R.C.P., Medical Officer of Health, Borough of Dewsbury.

WESTERMAN, Arthur, M.D.Aberd., Medical Officer to the City of London and East London Dispensary.

YOUNG, Robert Arthur, M.D., B.Sc.Lond., F.R.C.P., Assistant Physician to the Hospital for Consumption and Diseases of the Chest, Brompton.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to ensure insertion in the current issue.

BIRTH.

ROBINSON.—On July 27th, at 1, Rue d'Aguesseau, Paris, the wife of Leonard Robinson, M.D.Edin., M.D.Paris, of a daughter.

MARRIAGES.

CAIRNS—FARMER.—On July 27th, at St. Augustine's, Edgbaston, Birmingham, by the Venerable Archdeacon of Birmingham, Lawson Miller Cairns, M.B., C.M.Edin., of Huddersfield, youngest son of the late James Cairns and Mrs. Cairns, Bridge End, Langholm, Scotland, to Alice May, youngest daughter of the late Thomas Hutton Farmer, of Nottingham.

HOPE SIMPSON—NOBLE.—On July 27th, at Toxteth Congregational Church, Liverpool, by the Rev. R. Wardlaw Thompson and the Rev. R. Herbert Sewell, B.A., Adam Pearson, M.R.C.S., L.R.C.P., son of John Hope Simpson, to Laura Agnes, daughter of Robert Noble.

LAMBERT—PADDON.—On July 27th, at St. Luke's, Woodside, by Rev. J. Jessop Teague, M.A., Vicar, Ernest Charles Lambert, M.D., M.R.C.S., etc., of 23, North Street, Wandsworth, to Katie Gertrude, daughter of the late James Paddon and Mrs. Paddon, of Sharpenhoe, South Norwood.

DEATHS.

GRANT.—At 26, Dundas Street, Edinburgh, on July 27th, Louisa Elizabeth, widow of the late James Dundas Grant, Advocate, and mother of J. Dundas Grant, Leonard Grant, C. Graham Grant, and Hope Grant, London.

MAPLETON.—At Joppa, near Edinburgh, on the 29th ult., Lieutenant-Colonel Reginald William Mapleton, late Royal Army Medical Corps, eldest son of the late Very Reverend the Dean of Argyll and the Isles, aged 54.

CALENDAR OF THE ASSOCIATION.

Month.	Day of Week.	Meetings to be Held.
August	6...Sunday..	
"	7...MONDAY ...	*Bank Holiday.*
"	8...TUESDAY ...	
"	9...WEDNESDAY	
"	10...THURSDAY...	
	11...FRIDAY ...	
	12...SATURDAY...	
	13...Sunday..	
"	14...MONDAY ...	
"	15...TUESDAY ...	
"	16...WEDNESDAY	Altrincham Division, *Lancashire and Cheshire Branch*, Visit to Crossley Sanatorium, Delamere (Phthisis).
"	17...THURSDAY...	
"	18...FRIDAY ...	
"	19...SATURDAY...	
"	20 Sunday..	
"	21...MONDAY ...	
"	22...TUESDAY ...	
"	23...WEDNESDAY	
"	24...THURSDAY...	
"	25...FRIDAY ...	
"	26...SATURDAY...	

Month.	Day of Week.	Meetings to be Held.
August	27...Sunday..	
"	28...MONDAY ...	
"	29...TUESDAY ...	
"	30...WEDNESDAY	
"	31...THURSDAY...	
Sept.	1...FRIDAY ...	
"	2...SATURDAY...	
"	3...Sunday..	
"	4...MONDAY ...	
"	5...TUESDAY ...	
"	6...WEDNESDAY	
"	7...THURSDAY	
"	8...FRIDAY ...	
"	9...SATURDAY...	
"	10 . Sunday..	
"	11...MONDAY ...	
"	12...TUESDAY ...	
"	13...WEDNESDAY	
"	14...THURSDAY...	
"	15...FRIDAY ...	
"	16...SATURDAY...	
"	17...Sunday..	
"	18...MONDAY ...	
"	19...TUESDAY ...	
"	20 .WEDNESDAY	Altrincham Division, *Lancashire and Cheshire Branch*, Quarterly Meeting (probably) at Knutsford.

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

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CONTENTS.

	Page
PROCEEDINGS OF COUNCIL	161
THE ANNUAL EXHIBITION OF FOODS, DRUGS, INSTRUMENTS, BOOKS, AND SANITARY APPLIANCES.—SECOND NOTICE	164
Instruments and Appliances	164
Foods and Specialities	167
Drugs and Preparations	168
MEMBERS ELECTED DURING THE JUNE QUARTER	169
MEETINGS OF BRANCHES AND DIVISIONS	
Dorset and West Hants Branch	170
Lancashire and Cheshire Branch: Altrincham Division ...	170
Metropolitan Counties Branch: Hampstead Division	170
South-Eastern Branch: Chichester and Worthing Division ...	171
ASSOCIATION NOTICES.—Branch and Division Meetings to be held	171
NAVAL AND MILITARY APPOINTMENTS	171
VITAL STATISTICS	172
VACANCIES AND APPOINTMENTS	174
BIRTHS, MARRIAGES, AND DEATHS	175
DIARY FOR NEXT WEEK	175
BOOKS, ETC., RECEIVED	175
CALENDAR	176

ASSOCIATION INTELLIGENCE.

PROCEEDINGS OF COUNCIL.

At a meeting of the Council held in the Clifton Rooms of the Y.M.C.A., London Road, Leicester, on Tuesday, July 25th, 1905.

Present:

Mr. ANDREW CLARK, D.Sc., Chairman of Council, in the Chair; afterwards Dr. H. W. LANGLEY BROWNE.
Mr. G. C. FRANKLIN, F.R.C.S., President.
Dr. WILLIAM COLLIER, Past-President.
Sir VICTOR HORSLEY, F.R.S., Chairman of Representative Meetings.
Dr. E. MARKHAM SKERRITT, Treasurer.

Dr. JOHN FORD ANDERSON, London.
Dr. MICHAEL BEVERLEY, Norwich.
Dr. T. R. BRADSHAW, Liverpool.
Dr. R. COCHRANE BUIST, Dundee.
Dr. W. A. CARLINE, Lincoln.
Dr. JAMES CRAIG, Dublin.
Mr. PEARSON R. CHESSWELL, C.B., Dowlais.
Mr. E. J. DOMVILLE, Exeter.
Mr. GEORGE EASTES, London.
Dr. JOHN H. GALTON, Upper Norwood.
Dr. BRUCE GOFF, Bothwell.
Dr. DAVID GOYDER, Bradford.
Dr. T. D. GRIFFITHS, Swansea.
Dr. J. GROVES, Carisbrooke.
Dr. JAMES HAMILTON, Glasgow.
Dr. T. ARTHUR HELME, Manchester.
Dr. J. H. HUNTER, South Shields.
Mr. R. H. KINSEY, Bedford.
Mr. W. JONES MORRIS, Portmadoc.
Professor J. T. J. MORRISON, Birmingham.
Dr. J. MURRAY, Inverness.
Mr. C. H. W. PARKINSON, Wimborne Minster.
Dr. F. M. POPE, Leicester.
Dr. EDWIN RAYNER, Stockport.
Mr. H. BETHAM ROBINSON, M.S., London.
Dr. CECIL E. SHAW, Belfast.
Dr. F. O. STEDMAN (Hong Kong Branch), Goring-on-Thames.
Mr. C. R. STRATON, Salisbury.
Mr. JOHN LYNN THOMAS, C.B., Cardiff.
Mr. H. G. THOMASZ (Colombo, Ceylon Branch), London.
Mr. T. JENNER VERRALL, Brighton.
Dr. NORMAN WALKER, Edinburgh.
Dr. DENIS WALSHE Grenfell.

The minutes of the last meeting having been printed and circulated were taken as read and signed as correct.

Read letters of apology for non-attendance from Dr. Edgar Barnes, Dr. J. Brassey Brierley, Dr. McKenzie Johnston, Dr. Milburn, Dr. Maxwell Ross, and Mr. George Rowell.

The CHAIRMAN OF COUNCIL reported that the number of Representative Members returned to the Council was sixty, and therefore, under By-law 31, the Council was entitled to co-opt six members.

A ballot having been taken, Professor William Osler, F.R.S., Mr. Edmund Owen, and Professor R. Saundby were declared elected as co-opted members of the Council for the ensuing twelve months.

Moved by Mr. JONES MORRIS, seconded by Dr. GOYDER, and

Resolved: That a vote of thanks be given to the retiring members of Council for their past services.

Resolved: That the Standing Orders be affirmed and be declared the Standing Orders of the Council for the ensuing year.

The returns of the election of Representatives of Branches on the Council were reported:

Aberdeen Branch.—Professor David W. Finlay, M.D., LL.D., 2, Queen's Terrace, Aberdeen. *Barbados Branch.*—Dr. C. G. Gooding, 67, Brockley Road, S.E. *Bath and Bristol Branch.*—Dr. E. Markham Skerritt, Bristol. *Bermuda Branch.*—(No return.) *Birmingham Branch.*—Dr. H. W. Langley Browne, West Bromwich; Professor J. T. J. Morrison, 3, Great Charles Street, Birmingham. *Bombay Branch.*—(No return.) *Border Counties Branch and North Lancashire and Westmorland Branch (United).*—Dr. J. Maxwell Ross, County Buildings, Dumfries (see also North Lancashire and South Westmorland). *Brisbane and Queensland Branch.*—Dr. H. A. Francis, 2, Henrietta Street, Cavendish Square, W. *British Guiana Branch.*—(No return.) *Burmah Branch.*—

Major C. Duer, I.M.S., c.o. National Bank of India, Threadneedle Street, E.C. *Cambridge and Huntingdon Branch and East York and North Lincoln Branch (United).*—Dr. C. H. Milburn, 158, Anlaby Road, Hull (see also East York and North Lincoln). *Cape of Good Hope Eastern Provinces Branch.*—(No return.) *Cape of Good Hope Western Provinces Branch.*—(No return.) *Colombo, Ceylon Branch.*—Dr. H. George Thomasz, c.o. Crown Agents to the Colonies, Whitehall, S.W. *Connaught Branch and Ulster Branch (United).*—Professor J. W. Byers, M.D., Lower Crescent, Belfast (see also Ulster); Dr. Cecil E. Shaw, College Square East, Belfast. *Dorset and West Hants Branch and West Somerset Branch (United).*—Mr. C. H. Watts Parkinson, Wimborne Minster (see also West Somerset). *Dundee Branch, Perth Branch and Stirling Branch (United).*—Dr. R. Cochrane Buist, 166, Nethergate, Dundee (see also Perth and Stirling). *East Anglian Branch.*—Dr. Edgar George Barnes, Eye, Suffolk; Dr. M. Beverley, 54, Prince of Wales Road, Norwich. *East York and North Lincoln Branch and Cambridge and Huntingdon Branch (United).*—Dr. C. H. Milburn, 158, Anlaby Road, Hull (see also Cambridge and Huntingdon). *Edinburgh Branch and Fife Branch (United).*—Dr. Robert McKenzie Johnston, 2, Drumsheugh Gardens, Edinburgh (see also Fife); Dr. Norman Walker, 7, Manor Place, Edinburgh (see also Fife). *Fife Branch and Edinburgh Branch (United).*—Dr. Robert McKenzie Johnston, 2, Drumsheugh Gardens, Edinburgh (see also Edinburgh); Dr. Norman Walker, 7, Manor Place, Edinburgh (see also Edinburgh). *Glasgow and West of Scotland Branch.*—Dr. Bruce Goff, The Lindens, Bothwell, Lanarkshire; Dr. James Hamilton, 1, Royal Crescent, Crosshill, Glasgow. *Gloucestershire Branch and Worcestershire and Herefordshire Branch (United).*—Dr. G. W. Crowe, 43, Foregate Street, Worcester (see also Worcester and Hereford). *Griqualand West Branch.*—(No return.) *Halifax, Nova Scotia Branch.*—(No return.) *Hong Kong and China Branch.*—Dr. F. O. Stedman, St. Mary's, Manor Road, Goring-on-Thames. *Jamaica Branch.* — Mr. D. J. Williams. *Lancashire and Cheshire Branch.*—Dr. T. R. Bradshaw, 51, Rodney Street, Liverpool; Dr. J. Brassey Brierley, Alma House, Old Trafford, Manchester; Dr. T. Arthur Helme, "Mayfield," Victoria Park, Manchester; Dr. Edwin Rayner, 19, Teviot Dale, Stockport. *Leeward Islands Branch.*—(No return.) *Leinster Branch and South-Eastern of Ireland Branch (United).*—Dr. James Craig, 18, Merrion Square, Dublin (see also South-Eastern of Ireland); Dr. Denis Walshe, Bellevue, Graigue, co. Kilkenny (see also South-Eastern of Ireland). *Malaya Branch.*—Dr. T. C. Mugliston, Chief M.O., Northern Settlements, Penang. *Malta and Mediterranean Branch.*—Professor W. R. Smith, M.D., F.R.S.E., 74, Great Russell Street, W.C. *Melbourne and Victoria Branch.*—(No return). *Metropolitan Counties Branch.*—Dr. John Ford Anderson, 41, Belsize Park, N.W.; Mr. Andrew Clark, D.Sc., F.R.C.S., 72, Harley Street, W.; Mr. George Eastes, M.B., 35, Gloucester Terrace, Hyde Park, W.; Mr. H. Betham Robinson, M.S., 1, Upper Wimpole Street, W.; Mr. George Rowell, F.R.C.S., 6, Cavendish Place, W. *Midland Branch.*—Dr. W. A. Carline, Lincoln; Dr. F. M. Pope, 4, Prebend Street, Leicester. *Montreal Branch.*—(No return.) *Munster Branch.*—Dr. J. J. Giusani, St. Patrick's Hill, Cork. *Natal Branch.*—(No return.) *New Zealand Branch.* — (No return.) *North of England Branch.* — Dr. J. H. Hunter, Havelock Street, South Shields; Dr. Arthur T. Wear, 1, Wentworth Place, Newcastle-on-Tyne. *Northern Counties of Scotland Branch.*—Dr. James Murray, 6, Ardross Terrace, Inverness. *North Lancashire and South Westmorland Branch and Border Counties Branch (United).*—Dr. J. Maxwell Ross, County Buildings, Dumfries (see also Border Counties). *North Wales and Shropshire and Mid Wales Branch (United).*—Mr. W. Jones Morris, Portmadoc. *Oxford and Reading Branch.*—Dr. C. W. Marriott, Aubrey House, Bath Road, Reading. *Perth Branch, Dundee Branch, and Stirling Branch (United).*—Dr. R. Cochrane Buist, 166, Nethergate, Dundee (see also Dundee and Stirling). *Shropshire and Mid-Wales Branch and North Wales (United).*—Mr. W. Jones Morris, Portmadoc. *South Australian Branch.*—Dr. C. G. D. Morier, 1, Hamilton Terrace, St. John's Wood, N.W. *South-Eastern Branch.*—Dr. J. H. Galton, Chunam, Sylvan Road, Upper Norwood, S.E.; Dr. W. J. Tyson, 10, Langhorne Gardens, Folkestone; Mr. T. Jenner Verrall, 67, Montpelier Road, Brighton. *South-Eastern of Ireland Branch and Leinster Branch (United).*—Dr. James Craig, 18, Merrion Square, Dublin (see also Leinster); Dr. Denis Walshe, Bellevue, Graigue, co. Kilkenny (see also Leinster). *Southern Branch.*—Dr. J. Groves, Carisbrooke, Isle of Wight; Dr. Charles Robert Scanlan, L.R.C.S., West Lodge, Wilton, Salisbury. *South Midland Branch.*—(No return.) *South Wales and* [illegible] Bedford. *South Wales and* [illegible] Cresswell, C.B., Dowlais; [illegible] Windsor Place, Cardiff. [illegible] Domville, Northernhay House, [illegible] Fox, 9, Osborne Place, Plymouth. [illegible] Spanton, Chatterley House, Hanley. *Ireland Branch,* [illegible] *and Perth Branch (United).*—Dr. R. Cochrane Buist, 166, [illegible] Dundee (see also Dundee and Perth). [illegible] Dr. C. J. Martin, Lister Institute [illegible], Dr. G. E. Twynam, 11, Glothlow [illegible] *Toronto Branch.*—(No return.) [illegible] *and Connaught* [illegible], Lower Crescent, Belfast [illegible], *Western* [illegible] *Dorset and* [illegible], Wimborne [illegible] Road, Sheffield; Dr. D. [illegible]

The 7 candidates whose names appeared on the notice convening the meeting were duly elected members of the British Medical Association.

Resolved: That the Council approve of the alteration of Rules of the Lancashire and Cheshire Branch submitted by the Chairman of the Organization Committee.

Resolved: That Fleet Surgeon J. Lloyd Thomas, R.N., be elected a Representative of the Royal Navy Medical Service in accordance with By-law 22. That the election of Representatives of the Army Medical Service and the Indian Medical Service be postponed until the October Council.

The CHAIRMAN OF COUNCIL reported that his term of office having expired, it was necessary, under Article XXXVII., to elect a new Chairman.

Moved by Dr. NORMAN WALKER, seconded by Dr. CRAIG, and

Resolved: That Dr. H. W. Langley Browne be elected Chairman of Council for the ensuing three years.

Mr. ANDREW CLARK, the retiring Chairman of Council, then inducted Dr. H. W. Langley Browne to the chair, and handed him the Chairman of Council's key of the seal of the Association.

Dr. Langley Browne having taken the chair, it was

Moved by Dr. GALTON, seconded by Dr. GROVES, and unanimously

Resolved: That the cordial thanks of the Association be given to Mr. Andrew Clark for the able way in which he has presided over the Council during the past three years, and for his great attention to the affairs of the Association.

Resolved: That the consideration of the minutes of the Ethical Committee be postponed until to-morrow.

AT a meeting of the Council held in the Clifton Rooms of the Y.M.C.A., London Road, Leicester, on Wednesday, July 26th, 1905.

Present:

Dr. H. W. LANGLEY BROWNE, Chairman of Council, in the Chair.
Mr. GEO. C. FRANKLIN, President.
Dr. WILLIAM COLLIER, Past-President.
Sir VICTOR HORSLEY, F.R.S., Chairman of Representative Meetings.
Dr. H. RADCLIFFE CROCKER, Treasurer.

Dr. JOHN FORD ANDERSON, London.	Dr. FRANK M. POPE, Leicester.
Dr. EDGAR G. BARNES, Eye.	Dr. EDWIN RAYNER, Stockport.
Dr. M. BEVERLEY, Norwich.	Mr. H. BETHAM ROBINSON, M.S., London.
Dr. T. R. BRADSHAW, Liverpool.	Professor ROBERT SAUNDBY, M.D., Birmingham.
Dr. R. COCHRANE BUIST, Dundee.	Dr. CECIL E. SHAW, Belfast.
Dr. W. A. CARLINE, Lincoln.	Dr. E. MARKHAM SKERRITT, Bristol.
Mr. ANDREW CLARK, D.Sc., London.	Professor W. R. SMITH, M.D. (Malta and Mediterranean Branch), London
Dr. JAMES CRAIG, Dublin.	
Mr. PEARSON R. CRESSWELL, C.B., Dowlais.	Mr. W. D. SPANTON, Hanley.
Mr. E. J. DOMVILLE, Exeter.	Dr. F. O. STEDMAN (Hong Kong Branch), London.
Mr. GEORGE EASTES, London.	Mr. C. R. STRATON, Salisbury.
Dr. JOHN H. GALTON, Upper Norwood.	Fleet Surgeon J. LLOYD THOMAS, R.N., Portsmouth.
Dr. BRUCE GOFF, Bothwell.	Mr. JOHN LYNN THOMAS, C.B., Cardiff.
Dr. D. GOYDER, Bradford.	Mr. H. G. THOMASZ (Colombo, Ceylon Branch), London.
Dr. J. GROVES, Carisbrooke.	Dr. W. J. TYSON, Folkestone.
Dr. JAMES HAMILTON, Glasgow.	Mr. T. JENNER VERRALL, Brighton.
Dr. T. ARTHUR HELME, Manchester.	Dr. NORMAN WALKER, Edinburgh.
Dr. J. H. HUNTER, South Shields.	Dr. DENIS WALSHE, Graigue.
Mr. R. H. KINSEY, Bedford.	Dr. A. T. WEAR, Newcastle-on-Tyne.
Mr. W. JONES MORRIS, Portmadoc.	
Professor J. T. J. MORRISON, Birmingham.	
Dr. JAMES MURRAY, Inverness.	
Mr. C. H. WATTS PARKINSON, Wimborne.	

The minutes of the last meeting having been printed in the *Daily Journal* were taken as read and ordered to be signed as correct.

Resolved: That the fixed meetings of the Council for the ensuing twelve months be held at 2 o'clock on the following dates:—

1905—October 18th	1906—March 14th
,, December 13th	,, April 18th
1906—January 17th	,, July 4th,

and that the quarterly accounts be presented at the October, January, April, and July Meetings.

The minutes of the Ethical Committee of July 14th, 1905, deferred from the previous day, were then considered.

The following resolution, arising out of the minutes of the Ethical Committee, was carried:

That a member having been afforded an opportunity of tendering the apology which has been required of him by the Branch of which he is a member, pursuant to the Rules of the Branch, and having refused to do so, his action in so refusing to conform to the

Regulations of the Association is, in the opinion of the Council, detrimental to the honour and interests of the medical profession within the meaning of Article XLIII, and the Council do adopt the recommendation of the Branch in question by expelling the said member from the Association, in pursuance of Article XLIV.

Moved by Dr. Groves, seconded by Dr. Tyson, and

Resolved: That the remaining business arising out of the Ethical minutes be postponed until to-morrow.

Resolved: That it be recommended to the General Meeting that the Annual General Meeting in 1906 be held in Toronto, Canada, and that the election of the President-elect for the 1906 meeting be deferred until the October meeting of Council.

The Chairman reported receipt of invitation to hold the Annual Meeting in 1907 in Bradford.

Resolved: That the Council approves of a meeting of the Branch and Division Secretaries being held on Thursday, at 5 p.m.

At a meeting of the Council held in the Clifton Rooms of the Y.M.C.A., London Road, Leicester, on Thursday, July 27th, 1905.

Present:

Dr. H. W. Langley Browne, Chairman of Council, in the Chair.
Mr. George C. Franklin, President.
Sir Victor Horsley, F.R.S., Chairman of Representative Meetings.
Dr. H. Radcliffe Crocker, Treasurer.

Dr. John Ford Anderson, London.
Dr. E. G. Barnes, Eye.
Dr. M. Beverley, Norwich.
Dr. J. Brassey Brierley, Old Trafford.
Dr. R. Cochrane Buist, Dundee.
Professor J. W. Byers, M.D., Belfast.
Dr. W. A. Carline, Lincoln.
Mr. Andrew Clark, D.Sc., London.
Dr. James Craig, Dublin.
Mr. Pearson R. Cresswell, C.B., Dowlais.
Mr. E. J. Domville, Exeter.
Mr. George Eastes, London.
Dr. John H. Galton, Upper Norwood.
Dr. Bruce Goff, Bothwell.
Dr. D. Goyder, Bradford.
Dr. Joseph Groves, Carisbrooke.
Dr. James Hamilton, Glasgow.
Dr. James H. Hunter, South Shields.
Mr. R. H. Kinsey, Bedford.
Dr. W. Jones Morris, Portmadoc.
Professor J. T. J. Morrison, Birmingham.
Dr. J. Murray, Inverness.
Mr. C. H. W. Parkinson, Wimborne Minster.
Dr. Frank M. Pope, Leicester.
Dr. Edwin Rayner, Stockport.
Mr. H. Betham Robinson, M.S., London.
Professor Robert Saundby, M.D., Birmingham.
Dr. Cecil E. Shaw, Belfast.
Dr. E. Markham Skerritt, Bristol.
Professor W. R. Smith, M.D. (Malta and Mediterranean Branch), London.
Mr. W. D. Spanton, Hanley.
Dr. F. O. Stedman (Hong Kong Branch), Goring-on-Thames.
Mr. C. R. Straton, Salisbury.
Fleet Surgeon J. Lloyd Thomas, R.N., Portsmouth.
Mr. John Lynn Thomas, C.B., Cardiff.
Mr. H. G. Thomasz (Colombo, Ceylon Branch), London.
Dr. W. J. Tyson, Folkestone.
Mr. T. Jenner Verrall, Brighton.
Dr. Norman Walker, Edinburgh.
Dr. Denis Walshe, Graigue.
Dr. A. T. Wear, Newcastle-on-Tyne.

The minutes of the previous day having been printed in the *Daily Journal* were taken as read and ordered to be signed as correct.

Read letters of apology for non-attendance from the Past-President, and Mr. Edmund Owen.

Upon the further consideration of the minutes of the Ethical Committee of July 14th, 1905, it was

Resolved: That the Council cannot see its way to adopt the course suggested in the following resolution of the Southern Branch, but desires to record its willingness to give advice in such cases:

Resolution of the Southern Branch.

That it be a recommendation to the Council of the Association that, as the Central Ethical Committee has to decide ultimately in ethical matters dealt with by Divisions and Branches, it is desirable that they should also recommend the penalties when these are incurred—having due regard to recommendations from Divisions or Branches in favour of any particular course if such recommendations are made.

Resolved: That Mr. Andrew Clark be instructed to inform His Majesty's Government that the British Medical Association cannot allocate any of its funds towards the support of any teaching appointment in a university or medical school.

Resolved: That the Chloroform Committee be reappointed, with the addition of Professor C. J. Martin, F.R.S., and Mr. George Rowell, F.R.C.S.

Resolved: That the Therapeutic Committee be reappointed.

The Chairman of Council announced that the Election Returns Committee had prepared nominations for the election of members to the various Committees in accordance with the following instructions of the Council:

That the Election Returns Committee be instructed to prepare list of nominations for the following Committees: (1) Journal and Finance; (2) Premises and Library; (3) Public Health; (4) Colonial; (5) Naval and Military; (6) Medico-Political; (7) Ethical; (8) Organization; (9) Arrangements; (10) Hospitals; (11) Science.

and asked the members to record their votes.

At a meeting of the Council held in the Clifton Rooms of the Y.M.C.A., London Road, Leicester, on Friday, July 28th, 1905.

Present:

Dr. H. W. Langley Browne, Chairman of Council, in the Chair.
Mr. George C. Franklin, President.
Sir Victor Horsley, F.R.S., Chairman of Representative Meetings.

Dr. John Ford Anderson, London.
Dr. E. G. Barnes, Eye.
Dr. T. R. Bradshaw, Liverpool.
Dr. R. Cochrane Buist, Dundee.
Professor J. W. Byers, M.D., Belfast.
Dr. W. A. Carline, Lincoln.
Mr. Andrew Clark, D.Sc., London.
Dr. James Craig, Dublin.
Mr. Pearson R. Cresswell, C.B., Dowlais.
Mr. E. J. Domville, Exeter.
Dr. John H. Galton, Upper Norwood.
Dr. Bruce Goff, Bothwell.
Dr. David Goyder, Bradford.
Dr. Joseph Groves, Carisbrooke.
Dr. James Hamilton, Glasgow.
Dr. James Hunter, South Shields.
Mr. R. H. Kinsey, Bedford.
Mr. W. Jones Morris, Portmadoc.
Dr. Edwin Rayner, Stockport.
Dr. Cecil E. Shaw, [illegible]
Professor W. R. Smith, M.D. (Malta and Mediterranean Branch), London.
Dr. F. O. Stedman (Hong Kong Branch) [illegible]
Mr. C. R. S[illegible]
Mr. J. Lynn Thomas, C.B., Cardiff.
Mr. H. G. Thomasz (Colombo, Ceylon Branch), London.
Mr. T. Jenner Verrall, Brighton.
Dr. Norman Walker, Edinburgh.
Dr. Denis Walshe, Kilkenny.

Read letters of apology for non-attendance from Dr. Beverley and Mr. George Eastes.

The minutes of the last meeting having been printed in the *Daily Journal* were taken as read and ordered to be signed as correct.

Read resolution passed in the Section of Obstetrics and Gynaecology:—

That it is desirable that a standard of puerperal morbidity be fixed for use in maternity hospitals, and that the Council be requested to arrange for a Special Committee to investigate the matter.

Moved by Dr. Buist, seconded by Sir Victor Horsley, and

Resolved: That the resolution be referred to the Science Committee.

The Chairman reported that the following Committees had been elected:

ARRANGEMENTS COMMITTEE.

President ... ... } *Ex officio.*
Chairman of Council ... }

The Treasurer, London — Galton, Dr. J. H., Upper Norwood
Byers, Professor J. W., Belfast — Hamilton, Dr. James, Glasgow
Eastes, Mr. George, London — Thomas, Mr. J. Lynn, C.B., Cardiff
And six other members to be nominated by the Toronto Executive.

COLONIAL COMMITTEE.

President ... ... } *Ex officio.*
Chairman of Council ... }

Owen, Mr. Edmund, London — Straton, Mr. C. R., Salisbury
And five members to be appointed by the Colonial Representatives on the Council.

ETHICAL COMMITTEE.

President ... ... } *Ex officio.*
Chairman of Council ... }

Anderson, Dr. J. Ford, London — Kinsey, Mr. R. H., Bedford
Crowe, Dr. G. W., Worcester — Spanton, Mr. W. D., Hanley
Goff, Dr. Bruce, Bothwell

Elected by the Representative Meeting:

Ballance, Mr. H. A., M.S., Norwich — Jepson, Dr. E., Durham
Bateman, Dr. A. G., London — Langdon-Down, Dr. R. L., London
Broadbent, Mr. G. H., Manchester

HOSPITALS COMMITTEE.

President ... ... } *Ex officio.*
Chairman of Council ... }

Anderson, Dr. J. Ford, London — Hamilton, Dr. J. B., Hawick
Beverley, Dr. M., Norwich — Hastings, Dr. E. B., London
Brierley, Dr. J. Brassey, Old Trafford — Owen, Mr. Edmund, London
Pope, Dr. F. M., Leicester
Collier, Dr. W., Oxford — Shaw, Dr. Lauriston E., London
Fox, Dr. E. L., Plymouth — White, Mr. E. F., London

JOURNAL AND FINANCE COMMITTEE.

President ... ... } *Ex officio.*
Chairman of Council ... }

The Treasurer, London — Kinsey, Mr. R. H., Bedford
Barnes, Dr. Edgar, Eye — Morris, Mr. W. Jones, Portmadoc
Carline, Dr. W. A., Lincoln — Parkinson, Mr. C. H. W., Wimborne
Clark, Mr. Andrew, London
Galton, Dr. J. H., Upper Norwood — Rayner, Dr. E., Stockport
[illegible] — Skerritt, Dr. E. Markham, Bristol
Horsley, Sir Victor, F.R.S., London (Chairman of Representative Meetings) — Verrall, Mr. T. Jenner, Brighton

MEDICO-POLITICAL COMMITTEE.

PRESIDENT ... ...
CHAIRMAN OF REPRESENTATIVE MEETINGS ... ... } *Ex officio.*
CHAIRMAN OF COUNCIL ...
The TREASURER ... ...

BUIST, Dr. R. C., Dundee
HUNTER, Dr. J. H., S. Shields
MORRIS, Mr. W. JONES, Portmadoc
PARKINSON, Mr. C. H. W., Wimborne
SHAW, Dr. CECIL E., Belfast
STRATON, Mr. C. R., Salisbury

Elected by the Representative Meeting:

ARMIT, Mr. H. W., Wembley
JACKSON, Mr. GEORGE, Plymouth
LATIMER, Dr. H. A., Swansea
MACDONALD, Dr. J. A., Taunton
MCMANUS, Dr. L. S., Wandsworth
OLDHAM, Dr. W. F., Morecambe

ORGANIZATION COMMITTEE.

PRESIDENT ... ...
CHAIRMAN OF COUNCIL ... } *Ex officio.*

BALLANCE, Mr. H. A., Norwich
CLARK, Mr. ANDREW, London
COX, Dr. ALFRED, Gateshead
MORRISON, Professor, J. T. J., Birmingham
RAYNER, Dr. EDWIN, Stockport
VERRALL, Mr. T. JENNER, Brighton
WHITE, Professor A. H., Dublin

PREMISES AND LIBRARY COMMITTEE.

PRESIDENT ... ...
CHAIRMAN OF COUNCIL ... } *Ex officio.*

The TREASURER, London
BARNES, Dr. EDGAR, Eye
CLARK, Mr. ANDREW, London
GALTON, Dr. J. H., Upper Norwood
GOFF, Dr. BRUCE, Bothwell
JOHNSTON, Dr. R. MCKENZIE, Edinburgh
SKERRITT, Dr. E. MARKHAM, Bristol

PUBLIC HEALTH COMMITTEE.

PRESIDENT ... ...
CHAIRMAN OF COUNCIL ... } *Ex officio.*

GROVES, Dr. J., Carisbrooke
JONES, Mr. HERBERT, Hereford
MANLEY, Dr. HERBERT, West Bromwich
MARTLEY, Dr. F. C., Dublin
NASMYTH, Dr. T. G., Fife
PARKINSON, Mr. C. H. WATTS, Wimborne
ROSS, Dr. J. MAXWELL, Dumfries

SCIENCE COMMITTEE.

PRESIDENT ... ...
CHAIRMAN OF COUNCIL ... } *Ex officio.*

The TREASURER, London
BARR, Dr. J., Liverpool
BUIST, Dr. R. C. Dundee
CLARK, Mr. ANDREW, London
COLLIER, Dr. WILLIAM, Oxford
MORRISON, Professor, J. T. J., Birmingham
OSLER, Professor, F.R.S., Oxford
POPE, Dr. F. M., Leicester
ROBINSON, Mr. H. B., London
SHAW, Dr. CECIL E., Belfast
TYSON, Dr. W. J., Folkestone
WALKER, Dr. NORMAN, Edinburgh

NAVAL AND MILITARY COMMITTEE.

PRESIDENT ... ...
CHAIRMAN OF COUNCIL ... } *Ex officio.*

CURME, Surg.-Lieut.-Col. DECIMUS, Blandford
DUER, Major C., I.M.S., Burmah (now in London)
ELLISTON, Surg.-Col. G. S., V.D., Ipswich
EVATT, Surg.-Gen. G. J. H., C.B., London
THOMAS, Fleet Surg. J. LLOYD, R.N., Portsmouth

and the Representatives of the Army Medical Service and the Indian Medical Service.

Resolved: That the thanks of the Council be accorded to Dr. Edgar Barnes, Dr. T. R. Bradshaw, Mr. George Eastes, and Dr. James Hamilton for having acted as scrutineers of the voting papers.

Dr. Rayner gave notice that at the October meeting of the Council he would draw attention to the desirability in future of the Chairman of Council holding office until the end of the Annual Meeting instead of being elected as at present at the first meeting of the Council.

Moved by Dr. BUIST, seconded by Mr. JONES MORRIS, and

Resolved: That the Chairman be instructed in consultation with the Chairman of Representative Meetings to refer all matters arising out of the minutes of the Representative Meeting to the appropriate Standing Committees.

VOTES OF THANKS.

Moved by the CHAIRMAN OF COUNCIL seconded by Mr. VERRALL, that the best thanks of the British Medical Association be given:

To his Worship the Mayor and Corporation for the assistance rendered during the Seventy-third Annual Meeting.

To his Worship the Mayor and Mayoress of Leicester (Mr. and Mrs. Stephen Hilton) for their evening fete in the Abbey Park.

To the Vicar of St. Martin's (Canon Saunders, LL.D.), and Bishop of Peterborough, for the arrangement of the annual service in St. Martin's Church.

To the Right. Rev. the Bishop of Birmingham for his appropriate sermon.

To the Rev. H. Reader, M.A., for permission to hold the Roman Catholic service.

To Dr. Astley V. Clarke and Mr. Bolton Carter, M.S., the Honorary Local Secretaries, for their unselfish labours in working for the success of the Leicester meeting.

To the Chairmen and Secretaries of the various local Committees for their excellent work, which has resulted in so enjoyable a meeting.

To Mrs. Franklin, the Honorary Secretaries, and ladies of the Executive Committee for the excellent arrangements made for the comfort of ladies accompanying members.

To Colonel Harvey and Officers of the Volunteer Battalion and the County Authorities for the use of the Drill Hall and Barrack Yard for the holding of the Annual Exhibition of Foods and Drugs.

To the President (Dr. Frank Pope) and members of the Midland Branch for their reception and entertainment at the Museum Buildings.

To Alderman Edward Wood and Mrs. Wood for their garden party given in the grounds of the Leicester Infirmary.

To the President (R. C. Stewart, Esq., M.R.C.S.) and members of the Leicester Medical Society for their garden party in the grounds of the County Asylum.

To Mr. Maurice Levy, M.P., and Mrs. Levy for their garden party at Humberstone Hall.

To Mr. Samuel Faire, J.P., and Mrs. Faire for their garden party at Glenfield Frith.

To all those local firms who have been good enough to allow members to visit their premises.

To Mr. S. Perkins Pick, F.R.I.B.A., for kindly showing the members and their friends the architectural remains of Old Leicester.

To Mr. W. J. Freer, F.S.A., for showing members interesting antiquities of Leicester.

To His Grace the Duke of Rutland for allowing members of the Association to visit Belvoir Castle.

To the Chairman and Secretaries of the Pathological Museum, for collecting and arranging such an excellent collection of exhibits, of remarkable value and interest.

To the Distinguished Visitors, for their presence and the additional interest created by their various communications made to the Sections during their visit.

To the President and Local Executive for their generous hospitality to those members of the Association who have come from the Colonial Branches.

To Professor William Stirling, M.D., D.Sc., F.R.S.E., for his excellent popular address.

To the Honorary and Resident Staff of the Leicester Infirmary for so kindly being in attendance to show the members over the hospital.

To the Committees of the various Clubs in the town, who have so kindly made members of the Association honorary members during the week of the meeting.

To the President and members of the Leicester Golf Club for kindly allowing members the full use of the Club during the week of the meeting.

Moved by the CHAIRMAN OF COUNCIL, seconded by Mr. JENNER VERRALL, and unanimously resolved:

That the warmest thanks of the Association be accorded to Mr. George C. Franklin, F.R.C.S., for the able and courteous manner he has presided over the seventy-third annual meeting of the British Medical Association. The Council desires to place on record its high appreciation of his devoted efforts to secure the comfort of the large influx of members and their friends to the town.

The Annual Exhibition
OF
FOODS, DRUGS, INSTRUMENTS, BOOKS, AND SANITARY APPLIANCES.

[Second Notice.]

INSTRUMENTS AND APPLIANCES.

ALBERT BROWN (3, Bowling Green Street, Leicester) showed a large selection of surgical instruments and appliances, among which we observed a number of quite recent patterns; many of them were very well turned out, and the majority of them were of a practical and useful character.

The DOWSING RADIANT HEAT COMPANY, Limited (24, Budge Row, E.C.). This firm makes two kinds of apparatus. One of these is never sold outright, but is supplied on hire to medical men, while there are also a number of establishments in various parts of the country at which the treatment provided by it is given under medical orders. Its basis is the application of radiant heat and light to chronic diseases such as rheumatism, gout, sprains, and stiff joints. The other apparatus of the company is the Solarium, or electric sun bath. It is a form of electric-light cabinet, and is sold for use at home.

ELLIS AND CO. (21, South Molton Street, London). This firm showed "Solaro," a fabric of which we gave an account on January 7th, 1905, at p. 25. It is intended for clothing in tropical climates or in warm weather anywhere; as we then said, we are inclined to regard it as a successful attempt to solve a difficult problem. The tissue is of wool and in the colouring of the weft and warp ingenious use has been made of the heat values of different colours. It is manufactured on

distinctly scientific principles and a testimony to its value has been given both by Sir Patrick Manson and by Mr. James Cantlie. Although cool and very light it is sufficiently dense to withstand a smart fall of rain. It can be used for clothing of any character.

George Gale and Sons, Limited (Dominion Works, Birmingham). "Lawson Tait" beds in all forms, as made by this firm and the Whitfield Bedsteads, Limited, are to be found in too many hospitals to require a special description. There were also shown various forms of aseptic hospital furniture, such as ward lockers and ward cupboards. The beds shown included the asylum spring bed which has been supplied to the asylums of the London County Council, and an adjustable invalid bed which can be worked by quite a weak nurse even with a very heavy patient; it has been supplied to two of the wards of the New Victoria Hospital, Belfast.

Philip Harris and Co. (Birmingham). This firm of pharmaceutical chemists and surgery furnishers showed the "Perfectum" Surgery Cabinet, which is certainly very well arranged. The counter space, which is ample, is covered with plate glass, and can thus be kept spotlessly clean. The shelves rest upon ingeniously-contrived movable studs, and can be arranged at any height desired, according to the size of bottles which are kept, while the wings are carefully constructed to prevent bottles from falling. The firm also showed a number of pharmaceutical specialities, amongst which was a bactericidal soap called Steromnia. For its virtues it depends upon the contained biniodide of mercury; it lathers excellently in water. Ehrendorfer's pencils were also shown; they are of iodoform, and intended for introduc-

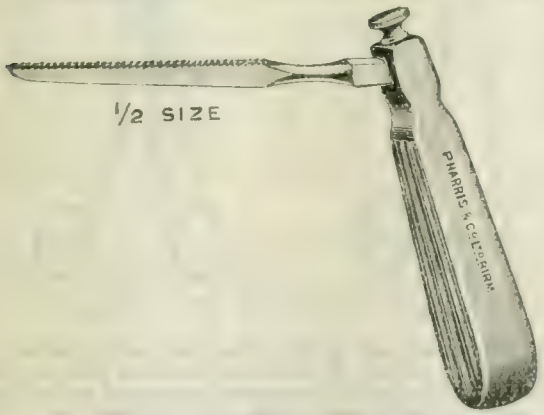


Fig. 1.

tion into the uterus either after formal operations or such procedures as the removal of a retained placenta. Among the instruments made by this firm is the nasal saw here shown (Fig. 1). It is intended for cutting in an upward direction in cases of projections from the nasal septum causing obstruction. The blade is without lateral flexibility, yet sufficiently narrow for nasal work. The edge is cross-cut, the cutting-points being set towards the operator. Dr. Wilfred Glegg, of Birmingham, to whose specification it has been made, finds that it produces at each stroke a deeper incision than can be obtained with ordinary saws.

C. M. Holmquist (57, Edgware Road, W.). This firm of electrical engineers showed a powerful but easily-controlled and adapted form of electric vibrator. It is an instrument which on firm application over muscles or organs produces curious vibrations of the same sort as those caused by vibratory massage, but capable of being prolonged for any period. The firm also exhibited electric baths for local application to the shoulder or individual limbs, and a well made and very comfortable Semi-Reclining light bath.

Mayer and Meltzer (71, Great Portland Street, London). Prominent among the exhibits of this firm was an electrical examination lamp on both floor and table standards. Upwards of 600 of them, it is stated, are in use now in Great Britain, and the latest pattern is illustrated in Figs. 2 and 3. As will be gathered, it can be used with its stand or held in the hand and the light thrown in the direction desired. It is fitted with a Nernst light, and is intended more especially for laryngologists and aurists when a very bright white light is required. The selection of instruments shown was large, and among them we picked out as of especial interest at the moment a set of well-made trocars, designed by Dr. J. S. Collier for lumbar puncture; a number of instruments for opening the ethmoidal and allied cells, and some laryngeal and epiglottis punches, designed by Mr. R. Lake for treat-

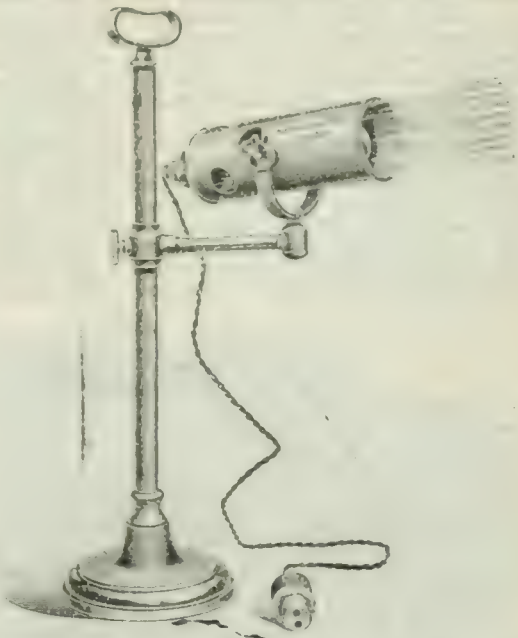


Fig. 2.

ment of tuberculosis of the larynx, were also shown. Another decidedly useful appliance shown was one for midwifery work. The point of it is that in the horizontal position it forms an

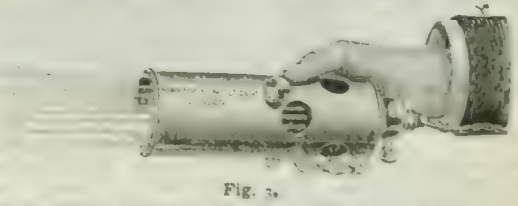


Fig. 3.

efficient sterilizer, capable of taking the largest instruments, and when vertical acts as a douche for intrauterine or vaginal irrigation. The instrument was designed by Dr. Salisbury

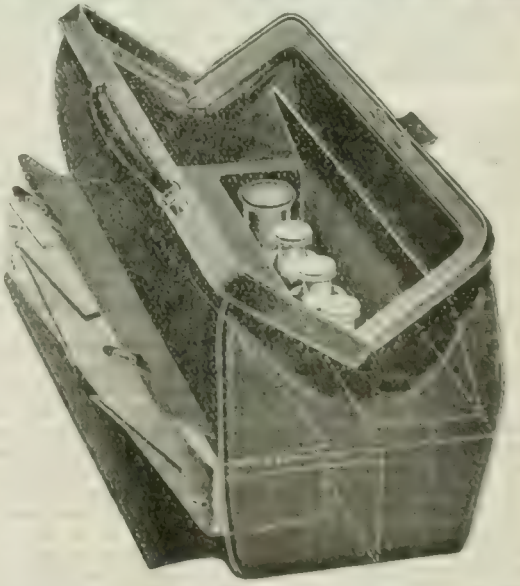


Fig. 4.

Sharpe, and a special bag (Fig. 4) has been made to contain it and the bottles and anything else which may be required. The transfusion apparatus designed by Drs.

Burford and Johnson was also shown; it is very compact, and everything necessary for subcutaneous or intravenous transfusion is provided. Other interesting points of the Mayer and Meltzer stand were photographs of the various operation theatres, including those of University College Hospital, North-Eastern Hospital for Children, Brompton Hospital for Consumption, which the firm has fitted up with furniture of original design. This was all built at the firm's factory, where the processes of manufacture can be examined by any medical man interested.

THE MEDICAL SUPPLY ASSOCIATION (228, Gray's Inn Road, London, W.C.). This firm showed, amongst other things, a new French pattern of operating table, and a portable stretcher for field or hospital service, but its principal exhibits were the Gaiffe-D'Arsonval machine, which is already well known; the Gaiffe-Trouchot apparatus for causing purposive muscular contractions; and finally the Gaiffe auto-motor mercury jet interrupter. This is the latest

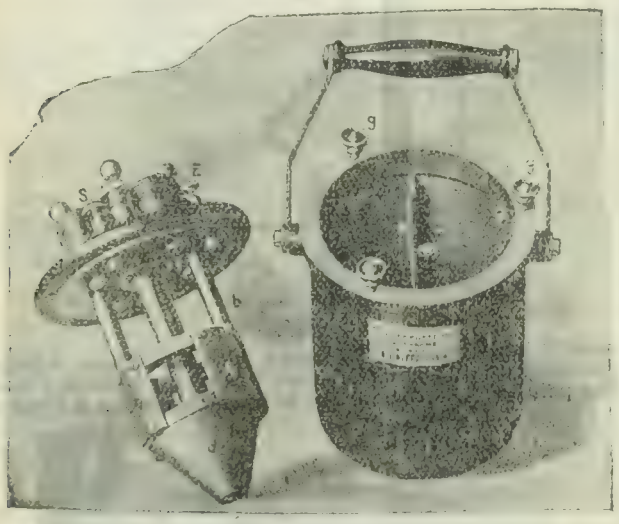


Fig. 5.

type of turbine interrupter, and dispenses with the need of an independent driving motor; brushes and bands are also rendered superfluous, and the interrupter works either on high or low voltage, interruption being effected by the intermittent contact of a revolving jet of mercury against four stationary copper teeth. The whole apparatus resembles a bucket and is very portable; we show it here taken apart (Fig. 5). The interruption affects the current both for the motor and the interrupter itself. The machines at this stall were connected with the town main and at work throughout the week.

THE SEAMLESS RUBBER COMPANY, 4, Snow Hill, E.C.). This American firm showed numerous cushions, ice caps in ten varieties, some sterilized tubing, breast pumps in three varieties, crutch tips, and enemas in sixty-four varieties. The gloves for use during operating and *post-mortem* work appeared to be well made. The former were sufficiently thin not to interfere materially with the sense of touch, and yet appeared to be strong. Among the cushions, one which seemed to be likely to be specially useful under certain circumstances formed a kind of vaginal douching tray for use either on the operating table or with a patient in bed.

SMITH AND WADE. A Multinebuliser or compressed-air outfit was the most interesting exhibit of this firm. It can be utilized in a variety of ways: for vaporizing fluid in treatment of the air passages, for gradually inflating the middle ear, and for stimulating the tympanum by rapid vibrations. A convenient couch known as the "Allison" was also shown; it can be used if need be as an operating table.

JOHN WEISS AND SONS, Limited (London and Manchester). This firm had upon view a large selection of instruments of the most modern type, among which were Mr. Hurry Fenwick's new forceps for the removal of growths from the female bladder through a caisson, and also some kidney clamp forceps, as used by the same surgeon. The former, both with biting and fenestrated points, are here shown (Figs. 6 and 7); Mr. Lynn Thomas's tourniquet forceps, in two sizes (Fig. 10), for the thigh and arm, were likewise shown, as also his prostatic and pelvic floor elevator; of the latter a description was published on July 15th. Mr. Bishop Harman's new ophthalmoscope also attracted attention, as it possesses several entirely novel points, and is most ingeniously contrived. When the driving-wheel is turned in either direction all the whole number of 70 consecutive dioptres pass beneath the sight-hole. The range for concave lenses is from 39 to 1 dioptres, and for convex lenses from 30 to 1 dioptres, while there is, of course, a blank in the proper place in the series. Despite this great range there are only fifteen actual glass lenses in the instrument. The mirror arrangement is also new, being a combina-

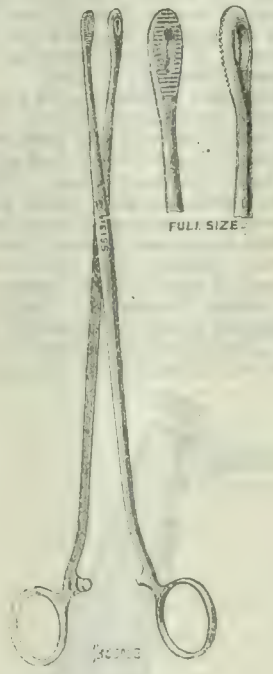


Fig. 6.

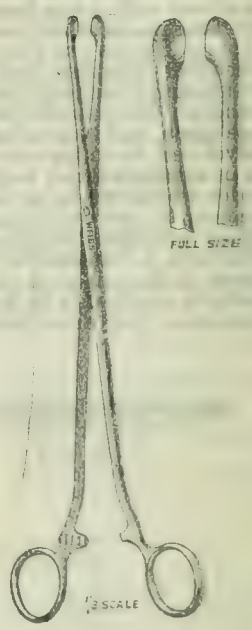


Fig. 7.

tion of the rotary mirror, the reversible double mirror, and Loring's tilting mirror. The plain and concave mirrors, placed back to back, are capable of universal movement, and available for direct or indirect examination or for retinoscopy. All are so hung that it would be difficult for any of them to be accidentally broken. The handle of the instrument so folds that a case is not an absolutely necessity. A pupillometer and a scotometer are also provided. In spite of its great complete-

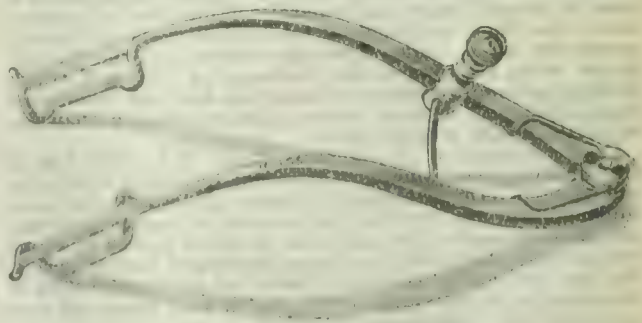


Fig. 8.

ness the instrument when folded up is smaller than most others, and weighs with its case less than 2½ oz. Fig. 9 shows its general appearance. Another new eye appliance shown was the eye speculum of Dr. Richard Williams, of Liverpool. It is so devised as to provide quite as much space for operative procedures as others, while at the same time it keeps the eyelashes themselves well out of reach of the keratome during its use. Many otherwise good speculums fail in the latter respect. (Fig. 8). Among other attractive instruments were Mr. Arbuthnot-

Lane's bone-holding forceps in two sizes, his bone elevator and retractor, Mr. Lockwood's intestinal clamp, Mr. Claud

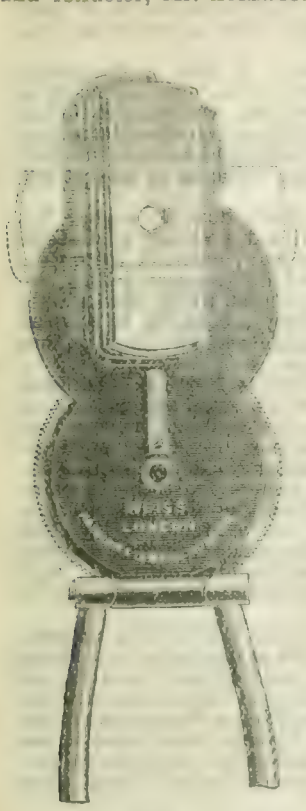


Fig. 9.

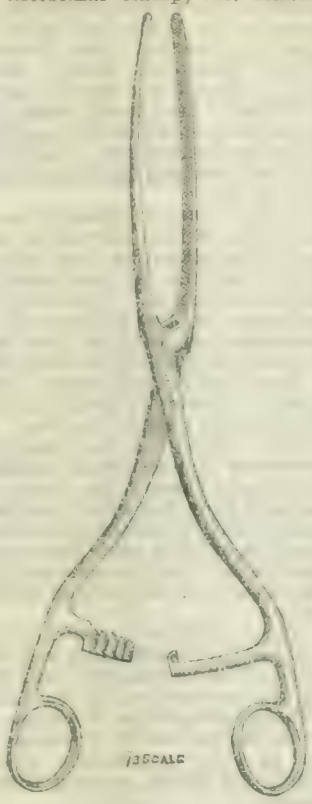


Fig. 10.

Worth's ophthalmic needle-holder and advancement forceps, and Sarel's trachoma forceps.

W. Watson and Sons, opticians to H.M. Government (313, High Holborn, London). This firm showed a variety of

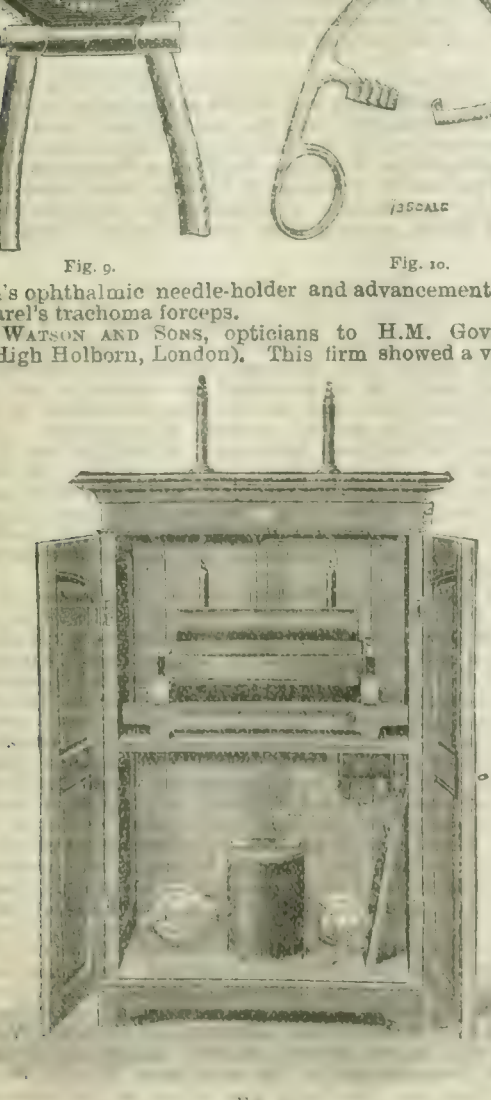


Fig. 11.

electro-therapeutical appliances and surgical instruments, and, in addition, a large number of the microscopes for which it has long been favourably known. The principal feature of the exhibit, however, was a new high-tension transformer which requires no induction coil or primary interrupter, and can be regulated to suit any size of *x*-ray tube or any degree of vacuum. We show it here in the neat little table or wall cupboard in which it is recommended that the transformer and connected apparatus should be kept. It is stated that the amperage and voltage of the primary circuit and milliamperage in the *x*-ray tube can all be precisely measured and recorded—a fact which must obviously be useful in securing identity of results under different circumstances. We show also an engraving of the Argus microscope, a well-made machine of a simple character which this firm has put upon the market at a popular price.

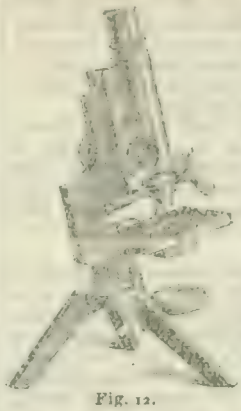


Fig. 12.

R. H. Woodland (38, Commercial Road, Eastbourne). The exhibit of this firm consisted of the "Eastbourne" improved invalid chair in three qualities. It is intended for wheeling up or down stairs. It is claimed for it that it is peculiarly suitable for patients who are nervous or for whom any jolting is bad and also for use in houses in which there are no servants capable of carrying a heavy patient up and down stairs in an ordinary chair. It appeared to us that these claims were justified and that the prices of the chairs were very reasonable.

Foods and Specialities.

The Apollinaris Company (4, Stratford Place, Oxford Street). This firm showed Apenta water, Apollinaris, Johannis Water, Johannis Lithia, and Johannis Potash. The first two are natural waters which are too well known to require description. The third, likewise, is a natural water, which, it is stated, can be taken with advantage in cases of dyspepsia, gout, and rheumatism. The two last—Johannis Lithia and Johannis Potash—are in a sense artificial waters, inasmuch as that the potash and lithia which they respectively contain are added in definite proportion in order to meet the needs of cases in which the salts are indicated.

The Aylesbury Dairy Company, Limited (St. Petersburg Place, Bayswater). In addition to the various forms of humanized milk, peptonized milk, sterilized milk and cream, and modified milk, for which this company has already obtained popularity, two new preparations were shown. One of these was Humanoid milk; it is a concentrated preparation which on dilution with an adequate amount of water is found to have a chemical constitution resembling that of mother's milk. The second new preparation was Pollyta, which is a solid milk food intended for administration to infants when they have been weaned; both are of a useful character.

The Borough of Leamington Royal Spa took the opportunity of showing photographs of its public gardens, parks, and of its Royal Pump Room and bathing establishment. Statistics were also shown with respect to the climate and health of the resident population of this famous old inland watering place; it is now provided with everything which is most modern in the way of baths.

Bovril, Limited (Old Street, E.C.). Bovril was shown by this company in numerous forms—ordinary bovril, infant bovril, bovril stannoids, bovril lozenges, bovril chocolate. In all of these it is well known, and in most of them it is popular and of proved utility. A number of special ration cartridges and emergency rations for the use of travellers and expeditions also found a place in the exhibit.

Broomfield and Co (83, Upper Thames Street, E.C.). "Albene," which was shown by this firm, is guaranteed to contain no animal fats whatever, but to be a pure vegetable product, free from water, salt, or any admixture. It certainly has neither colour, taste, nor smell. It appears to be equally suitable either for domestic purposes, such as cooking fish or making pastry, or as a basis for ointment. For the former purpose it is, according to Dr. Granville Sharpe, far superior either to lard or margarine. The firm has obtained eighteen medals and a special prize for it at the Dutch Bakers' Exhibition.

Callard and Co. (74, Regent Street, W.). The preparation of starchless and sugarless foods is the special care of this

firm, and it had plenty of them for examination. The exhibit included starchless cakes and a variety of sugarless jellies and sugarless beverages, some of which are comparatively new, or, at all events, less well known than most of the preparations of the firm. Such of the jams as were tasted seemed to preserve in a singular degree the true flavour of the fruit of which they are made, and were very palatable.

The Cellular Clothing Company (72 and 73, Fore Street, E.C.). The Aertex Cellular clothing, in a great variety of shapes and makes, was to be seen on the stall of this company. The principles upon which it is constructed are undoubtedly perfectly scientific and practical, and our own experience goes to show that the fabric is light and comfortable to wear, as well as being durable.

Feltoe and Smith (25, Augustus Street, Regents Park, W.). This firm showed its well-known "Specialité" lime juice cordial, lemon squash and lemon-squash crystals. The latter is a particularly convenient kind of product, as the contents of one bottle of the crystals, sold at a very low price, will make six or eight quarts of good lemonade. The strong point of the lime-juice cordial is that it is free from any musty flavour.

Friedrichshall Water (the London office, 10 and 12, Milton Street, E.C.). Friedrichshall, which was shown, was about the earliest of the foreign mineral waters to obtain popularity in England. It depends for its action upon the sulphates of magnesium and sodium and the chlorides of the same metals. It was a favourite water with the late Sir Henry Thompson and also with Professor Virchow, both of whom stated that they used it themselves with great advantage.

Ingram and Royle, Limited (26, Upper Thames Street, London). This firm is agent for the majority of table and other mineral waters, and had upon view specimens of a large number of them. Amongst these were Celestin, Grande-grille, Hôpital, and Carlsbad waters, while precipitated salts from the Carlsbad "Sprudel Spring" were also shown. Other waters exhibited were the Contrexéville, Evian, "Cachat," Wildungen, and George Victor. The Wildungen "Helenen" water is useful, it is believed, in cases of uric acid diathesis in an initial stage. In addition to foreign waters, several of English origin were shown. Amongst these were Cheltenham water and the well-known Salutaris, for both of which the firm is general agent.

Keen, Robinson, and Co., Limited (Denmark Street, St. George's-in-the-East, London, E.). The exhibit of this firm consisted of barley meals and oat meals and preparations of mustard for medicinal purposes. Both Robinson's Patent Barley and Robinson's Patent Groats have now been on the market for considerably over half a century, and have held their own, in spite of younger dietetic rivals. The former is excellent as a diluent of milk or in the preparation of barley water, and the latter makes a nutritious gruel, which is suitable for babies after dentition is fairly advanced, and for nursing mothers and old people. Colman's Mustard Leaves are of comparatively recent introduction, and may take the place of those of foreign manufacture. Mustard oil, which was also shown, might with advantage be used more freely in domestic medicine.

Mellin's Dietetic Preparations. Mellin's Food for Infants and Invalids is too well known to require much description. It is a brownish granular powder prepared from cereal grains, in which the starch is made soluble by the action of a diastase. "Lacto," another useful preparation of the firm, is intended for temporary employment when fresh cow's milk fails, or for some reason has fallen under suspicion. The firm's new feeding-bottle was also shown. It is circular in cross-section, and thus can easily be kept clean; another useful feature which it possesses is that the approximate quantities of food which a child should take at each meal are clearly shown by markings on the external surface.

Henri Nestlé (48, Cannon Street, E.C.). There is probably no one who is not favourably acquainted with the tinned milks, sweetened and unsweetened, of this firm, as also with its chocolates. Less well known hitherto has been the "Milo" food, which was also shown; it is intended for the use either of infants or of invalids, and may be expected to become popular.

J. Reynolds and Co. (Albert Flour Mills, Gloucester). This firm showed some Gold Medal Wheat Meal brown bread which is made from Reynolds's pure digested wheat meal. It is warranted to contain no chemical or malt or any other foreign substance.

Alexander Riddle and Co. (36-38, Commercial Street, London, E.). Stower's lime-juice cordial and clarified lemon squash were the exhibits of this firm. They are both well known, their special feature being that in the course of their manufacture the refined lump sugar used is converted by a special process into pure glucose.

The Shredded Wheat Company (6 and 8, Eastcheap, E.C.). Shredded wheat in various forms, and especially as "Triscuit," has already become popular. On this occasion an interesting model of the machinery by which shredded wheat is produced was shown. A favourable report on shredded wheat preparations was published in our columns of August 3rd, 1901, p. 277.

G. Van Abbott (Baden Place, Crosby Row, Borough, S.E.). This firm of food specialists exhibited a variety of diabetic and other attractive food preparations; amongst them were gluten biscuits, almond bread and flour, soups, jellies, and glycerine jujubes. "Euthenia" biscuits, which were shown, are a new product of this firm. They are stated to have an admixture of meat in their composition, and should thus possess considerable nutritive value.

The Veda Food Company, Limited (34, North Bridge, Edinburgh). "Veda" is the name given to a bread and an oat food prepared by a special method. It is considered to be a food which, although in the form of ordinary bread and porridge, is as easy of digestion as special invalid food, and to be comparatively cheap. The bread is understood to be prepared entirely from fine wheat flour without the addition of either malted barley or extract of malt. The oat food, on the other hand, is entirely made from oats, and when made into porridge can scarcely be distinguished from ordinary oatmeal. Both the bread and the biscuits shown were decidedly pleasant in taste.

Virol, Limited (152-166, Old Street, E.C.). This preparation, which is sufficiently well known to most people, is stated to constitute a complete food for children and invalids, and its use is considered to be indicated in tuberculous disease, rickets, and gastric troubles. Dr. Robert Hutchison, in his book on *Food and the Principles of Dietetics*, stated that it was an agreeable preparation of considerable nutritive value—testimony which, coming from such a quarter, must carry weight.

Drugs and Preparations.

Angier Chemical Company, Limited (32, Snow Hill, E.C.). The exhibit of this firm consisted chiefly of "Angier's Emulsion." This is an emulsion of petroleum with hypophosphites which has attained considerable popularity. Each fluid ounce of it is stated to contain 33 per cent. of purified petroleum, 9 gr. of the hypophosphites of lime and soda, and a certain amount of glycerine. These constituents are very well emulsified, as can be seen if the preparation is examined under the microscope. It mixes readily with water, and has no objectionable flavour or smell. The firm also prepares throat tablets; their basis is again petroleum, and they contain, it is stated, no opium or other narcotic. They are recommended for use in any form of throat irritation.

Armour and Co. (46, Holborn, E.C.). Prominent on the stand of this firm was a very complete series of organic extracts in powder and tablet form; there were altogether some fifteen of them. Peptonizing and pancreating preparations were also present in great variety, some being lactated, while several preparations of suprarenalin, including triturate, powders and a solution, were shown, which have already become popular. The Suprarenalin solution is so prepared that each thousand parts contain one of suprarenalin powder. Among the various beef preparations for which the firm is well known was included Vigorol, a semi-solid extract specially intended for the rapid preparation of hot or cold bouillon. It has already attained considerable popularity.

H. M. Kirby and Co. Purgen, Glyceeols and tablets of compressed drugs were a feature of this firm's exhibit. Purgen is a very mild aperient, said to be specially useful during pregnancy and in cases of chronic kidney disease; it is prepared in tablets of three strengths, which are known as Infant purgen, Adult purgen, and Strong purgen. Sal Mineralis is another preparation of an aperient character, which is composed of the sulphates of soda, magnesia, and potash, and is considered to be a convenient substitute for Carlsbad, Vichy, and other well-known mineral waters. Among the pleasant antiseptic preparations to be seen were Kirby's Family Toilet Powder and Eucalyptusine, which is a perfume containing a large percentage of eucalyptol.

(To be Continued.)

MEMBERS ELECTED DURING THE JUNE QUARTER.

BY THE COUNCIL ON JULY 5TH, 1905.

Andersen, Robert Brodie, M.D.Manitoba, L.R.C.P.&S. Edin., 816, Main Street, Winnipeg, Manitoba
Bradley, Richard James, M.B., Ch.B Edin., Capt. I.M.S.
Jukes, Andrew, L.R.C.P.Ed. M.R.C.S.L., L.M., Kotgarh, Simla
Lynch, John Patrick, L.R.C.P.& S.I., Lieut. R.A.M.C.
Metheny, David Gregg, L.R.C.P. & S.Ed. L.F.P.S.Glasg., 2131, Spruce Street, Philadelphia, Penn., U.S.A.
Pailthorpe, Mary Elizabeth, M.B., B.S.Lond. Victoria Hospital, Benares
Whitwam, Leonard Sykes, M.B., Ch.B.Vict. Univ., M.B. Ch.B Liverpool Univ., Surg. R.N.
Wainwright, Charles Sharman, L.R.C.S.I., L.K.&Q.C.P.I. Fleet Surg. R.N.

BY BRANCH COUNCILS.

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Meetings of Branches and Divisions.

[The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the JOURNAL.*]*

DORSET AND WEST HANTS BRANCH.

THE summer meeting of this Branch was held at the White Hart Hotel, Sturminster Newton, on Wednesday, July 19th, Dr. E. HYLA GREVES, President, in the chair.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

The late Dr. Lush.—The PRESIDENT read a letter from MRS. Lush thanking the members for their expression of sympathy with her in her bereavement.—The HONORARY SECRETARY proposed, Dr. SNOW seconded, and it was unanimously resolved:

That the sum of 10 guineas be voted out of the Branch funds to "The Lush Memorial Fund."

New Members.—Dr. W. Caswell Spooner, of Blandford, and Dr. John Bradford, of Sturminster Newton, were elected members of the Association.

Autumn Meeting.—Dr. SNOW proposed, and Dr. LEACH seconded:

That the autumn meeting be held at Bournemouth, or Herrison, and the matter be left in the hands of the President to arrange.

Communications.—Dr. FIELDING, Vice-President, read an interesting paper on croupous pneumonia. A discussion followed in which the PRESIDENT, Drs. SNOW, WHITTINGDALE, ATTWOOD, BEAVER, and SANDERSON WELLS took part; and Dr. FIELDING replied.—Dr. ATTWOOD BEAVER read notes of a case of melanotic sarcoma.—Dr. LEACH showed some interesting cases at the New Workhouse Infirmary.

Garden Party.—The members and ladies accompanying them were kindly entertained at a garden party at The Lindens by Dr. and Mrs. Comyns Leach.

LANCASHIRE AND CHESHIRE BRANCH:

ALTRINCHAM DIVISION.

THE eleventh general meeting of this Division was held at the Brooklands Hotel on Thursday, March 30th. Dr. LUCKMAN presided.

Confirmation of Minutes.—The minutes of the last meeting were confirmed.

Meetings of Committee.—Reports of two meetings of the Committee were read and adopted.

Annual Representative Meeting.—Several notices of motion for the Annual Representative Meeting at Leicester were formally approved, and the Honorary Secretary instructed to forward them.

Report on Expenditure.—The Committee's report on the expenditure necessary to carry on the work of the Division was approved and adopted.

Matters Referred to Divisions.—The recommendations of the Medico-Political Committee as to the abuse of drugs were approved.

Ambulance Work.—It was resolved that this should be considered entirely on a business footing, and not as a matter of philanthropy. Other matters remitted to the Divisions for consideration were discussed, and instructions given to the Representative.

The annual (twelfth general) meeting was held at the Board Room of the Altrincham Hospital on Thursday, June 22nd. Dr. JOYNSON, and afterwards Dr. LUCKMAN, presided. There was a large attendance.

Confirmation of Minutes.—The minutes of the last meeting were confirmed.

Election of Officers.—The officers were unanimously appointed as follows:—*Chairman:* Dr. Luckman. *Vice-Chairman:* Dr. Cooper. *Honorary Secretary and Treasurer, also Representative:* Dr. Garstang. *Members of Branch Council:* Drs. C. J. Renshaw and F. Cox. *Other Members of Executive Committee:* Drs. W. Owen Jones, Maclaren, G. H. Smith, Mellard, C. W. Jones, and C. A. K. Renshaw.

Votes of Thanks.—Votes of thanks were accorded to the outgoing officers and Committee, especially to Dr. Joynson, the retiring Chairman.

Reports of Committee.—The annual report of the Committee was adopted. The report of the Committee meeting of May 31st was approved.

Discussion.—Dr. COOPER read an excellent paper on the prevention of puerperal fever in private practice, which was discussed by several members, and a vote of thanks given to Dr. Cooper.

Fees for Life Assurance.—On behalf of Dr. C. W. Jones, who was absent, the HONORARY SECRETARY introduced a discussion on half-crown fees for life assurance examinations. It was resolved that the matter be laid before the Medico-Political Committee. Several other interesting papers were unavoidably postponed.

The thirteenth general meeting was held at the Baguley Sanatorium on Wednesday, August 2nd. Dr. LUCKMAN presided.

Address.—Dr. T. BASIL RHODES delivered an important address on diphtheria, which was followed by a discussion.

Votes of Thanks.—The CHAIRMAN proposed a vote of thanks to Dr. Rhodes, and also to the Chairman of the Hospital Committee of the Manchester Corporation, which was carried by acclamation.

Visit to Sanatorium.—Inspection was then made of such parts of the sanatorium as could be visited.

METROPOLITAN COUNTIES BRANCH:

HAMPSTEAD DIVISION.

THE third annual meeting of this Division was held on Friday, July 14th, at 5 p.m., at St. Peter's Hall, Belsize Square, Dr. HEATH STRANGE in the chair.

Confirmation of Minutes.—The minutes of the previous meeting having been printed and circulated were taken as read.

Apology for Non-attendance.—A letter was received from Mr. Wellington, expressing regret for inability to be present.

Election of Officers.—Dr. OPPENHEIMER proposed and Mr. ARMIT seconded the election of Mr. Humphreys as Chairman. Mr. CUNNINGTON explained that the Vice Chairman, Dr. Hall, who should in due course have become Chairman, had recently resigned owing to a disagreement with the Committee. There was reason to hope, however, that circumstances which had occurred since then had removed the cause of disagreement. He therefore proposed:

That the position of Dr. Hall be reconsidered, and his name substituted for that of Mr. Humphreys.

Mr. ARMIT pointed out that Dr. Hall would only consent to election on certain conditions. The election of a Chairman must be unconditional. Mr. Cunnington's proposal, being seconded by Mr. HUMPHREYS, was then put to the vote and lost. The meeting therefore unanimously elected Mr. F. R. Humphreys as Chairman. Dr. Hall was then elected Vice-Chairman for a second year; Dr. Yeld, Secretary; and Mr. Armit, co-Secretary. A proposal to increase the number of ordinary members of Committee was withdrawn by Dr. Ford Anderson. Dr. Pidcock was elected to fill a vacancy, and the rest of the Committee were elected *en bloc*.

Vote of Thanks to Retiring Chairman.—A cordial vote of thanks was passed to Dr. Strange for his valuable services to the Division as Chairman during the 1904-5 session. Dr. STRANGE, in reply, drew attention to the great help he had received from Mr. Armit, the Assistant Secretary, during the absence of the Secretary through illness.

Annual Report.—The CHAIRMAN then called upon the Secretary to read the annual report, which was read and approved. Dr. Strange then vacated the chair in favour of Mr. Humphreys.

Annual Representative Meeting.—Mr. ARMIT (Representative) drew attention to the question of a Royal Charter, and a discussion took place. Mr. HUMPHREYS and Mr. ARMIT strongly opposed, while Dr. ANDERSON raised certain points in favour of it. Dr. ANDERSON proposed, and Dr. OPPENHEIMER seconded:

That our Representative be instructed to support an amendment that the matter be referred back to the Council, and that a further legal opinion be taken (the name of Mr. Montague Mackenzie being mentioned as legal adviser).

Carried. The SECRETARY read a letter from the Norwich Division requesting support for a proposal to alter Article XXVII, and the Representative was instructed to act as he thought fit in the matter.

Divisional Dinner.—Dr. OPPENHEIMER recommended that a dinner should be held at the Great Central Hotel (price 7s. 6d.,

exclusive of wine) some time in October, November, or December, 1905. Seconded by Dr. ANDERSON, and carried.

Bradford Ethical Rules and Model Rule X.—Mr. HUMPHREYS drew attention to these rules, and expressed approval of them. Dr. OPPENHEIMER pointed out that the Committee had not had time to consider them, and moved that they should be referred back to the Committee for further consideration. The motion was seconded by Mr. CUNNINGTON, and carried.

Dog Protection Act.—Mr. HUMPHREYS pointed out that this was an antivivisection measure, and moved:

> That the Bill for the Protection of Dogs be opposed, and that the members of Parliament in the Division be urged to do so from their seats in the House.

The motion was seconded by Mr. ARMIT, and carried unanimously. Mr. HUMPHREYS further proposed that a vote of thanks to Sir John Tuke should be passed by the meeting for his valuable services in opposing this Bill. This was seconded by Mr. CUNNINGTON, and carried unanimously. The Honorary Secretary was directed to forward copies of these resolutions to Mr. Milvain, Mr. Cox, and Sir John Tuke.

SOUTH-EASTERN BRANCH:
CHICHESTER AND WORTHING DIVISION.

THE annual meeting of this Division was held at the Infirmary, Worthing, on June 13th; Mr. W S. SIMPSON (Worthing) presided.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Next Meeting.—It was decided to hold the next scientific meeting at Worthing.

Election of Officers.—The following officers were elected:—*Chairman:* Mr. W. S. Simpson. *Vice-Chairman:* Mr. E. H. Buckell. *Representative:* Dr. F. Hinds. *Representative on Branch Council:* H. Elliot-Blake. *Secretary:* Dr. Morris (Bognor). *Executive Committee:* Dr. Hinds. Dr. Eustace. Dr. Barford.

Matters Referred to Divisions.—The following matters were discussed: The National Deposit Friendly Society; the report on death registration and amendment of Coroners' Law; the Coroners Bill; the Medical Acts Amendment Bill; and the Public Health Bill. The resolutions passed by the Division have been communicated to the Medico-Political Committee.

☞ *To ensure the insertion of notices in this column they must be received at the Central Offices of the Association not later than the first post on Tuesday.*

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

SOUTH-EASTERN BRANCH: BRIGHTON DIVISION.—A meeting will be held at the Dispensary, 113, Queen's Road, Brighton, at 4.30 p.m., on the fourth Wednesday in October (25th), and November (22nd). Members wishing to read papers or show cases at the meetings are requested to give at least a fortnight's notice to the Honorary Secretary, RYDING MARSH, M.D., 49, Sackville Road, Hove.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

FLEET SURGEON A. J. J. JOHNSTON has been promoted to be Deputy Inspector General, May 27th. He entered the service as Surgeon, March 30th, 1878; became Staff-Surgeon, March 30th, 1890; and Fleet Surgeon, November 16th, 1894.

The following appointments have been made at the Admiralty: ALEXANDER F. HARPER, Fleet Surgeon, and ALOYSIUS F. FLEMING, Surgeon, to the *Dominion*, on commissioning, August 15th; CYRIL J. MANSFIELD, M.D., Fleet Surgeon, to the *Racer*, additional, for Osborne College, August 15th; HENRY F. ILIEWICZ, Fleet Surgeon, to the Royal Naval Engineer College at Devonport, August 15th (since cancelled); RICHARD E. BIDDULPH, M.B., Fleet Surgeon, to the *Jessy*, August 15th; FREDERICK J. BURNS, Fleet Surgeon, to the *Bacchante*, on recommissioning, August 15th; ROBERT HILL, Staff Surgeon, to the *Renown*, August 15th; SAMUEL CONNER, M.B., Staff Surgeon, to the *Cormorant*, additional, for Gibraltar Hospital, August 1st; ALEXANDER B. MARSH, Surgeon, to the *Hindustan*, on completing, August 22nd; EDWARD H. DE COURTMACSHERRY, Fleet Surgeon, to the Royal Naval Engineer College, Keyham, August 15th; HENRY F. ILIEWICZ, Fleet Surgeon, to the *Powerful*, August 15th; JEROME BARRY, Fleet Surgeon, to the *Centurion*, on recommissioning, undated; GRAHAM E. KENNEDY, Fleet Surgeon, to the *Royal Oak*, on recommissioning, undated; ALFRED J. PICKTHORN, Fleet Surgeon, to the *Ocean*, on recommissioning, undated; WALTER P. DYER and CHARLES R. S[illegible] geons, to the *President*, for three months' study at West London Hospital, August 1st; BERNARD LEY, Surgeon, to the *President*, for three months' course of hospital study, August 3rd.

ROYAL NAVAL VOLUNTEER RESERVE.

WILLIAM E. HARKER, M.D., has been appointed a surgeon, August 3rd.

ROYAL ARMY MEDICAL CORPS.

CAPTAIN C. M. FLEURY is promoted to be Major, July 29th. He was appointed Surgeon-Lieutenant, January 29th, 1894, and made Surgeon-Captain, January 29th, 1897.

ARMY MEDICAL RESERVE.

SURGEON-LIEUTENANT-COLONEL W. L. STEWART, M.D., and Surgeon-Captain W. A. GRIFFITHS, having resigned their commissions in the Volunteers, cease to belong to the Army Medical Reserve, August 2nd.

Surgeon-Lieutenant-Colonel D. E. FLINN, F.R.C.S.I., having resigned his commission in the Volunteers, ceases to belong to the Army Medical Reserve, August 5th.

Surgeon-Major A. B. WADE, M.B., to be Surgeon-Lieutenant-Colonel, July 29th.

INDIAN MEDICAL SERVICE.

COLONEL J. P. GREANY, M.D., Bombay Establishment, is confirmed in the appointment of Surgeon General with the Government of Bombay, from June 20th, vice Surgeon-General W. McConaghy, M.D.

Colonel T. E. L. BATE, C.I.E., Bengal Establishment, Inspector-General of Prisons, Punjab, is appointed Inspector General of Civil Hospitals, Punjab, from July 12th.

Lieutenant-Colonel J. M'CLOGHRY, Bombay Establishment, is promoted to be Colonel, from June 20th. He was appointed Assistant-Surgeon, March 31st, 1875, and made Brigade-Surgeon-Lieutenant-Colonel, June 24th, 1899. He has the medal for the Afghan war of 1878-80. He has been confirmed in the appointment of Principal Medical Officer, Kurrachee Brigade.

Colonel J. MCCONAGHEY, M.D., Bengal Establishment, Inspector of Civil Hospitals, Punjab, is permitted to retire from the service, from July 12th. He was appointed Assistant Surgeon, March 30th, 1872, and became Colonel, JULY 16th, 1902. He has no war record in the Army Lists.

Lieutenant-Colonel G. S. A. RANKING, M.D., Bengal Establishment, also retires from the service, from May 30th. He entered as Assistant Surgeon, March 31st, 1875, and was made Brigade-Surgeon-Lieutenant-Colonel, March 31st, 1895.

Lieutenant-Colonel G. F. THOMAS, Madras Establishment, retires from the service, from June 26th. He entered as Assistant Surgeon, March 31st, 1875, and became Brigade-Surgeon-Lieutenant-Colonel, May 12th, 1900.

Lieutenant-Colonel P. F. O'CONNOR, M.D., C.B., Bengal Establishment, also retires, from July 13th. He was appointed Assistant Surgeon, March 31st, 1875, and Brigade-Surgeon-Lieutenant-Colonel, March 31st, 1895. His war record embraces: The Afghan war, 1878-80, including the battle of Ahmed Khel, and actions of Urzoo and Patkao Shano (mentioned in dispatches, medal with clasp); the Egyptian Expedition, 1882, including the battle of Tel-el-Kebir (medal with clasp, bronze star); the Burmese Expedition, 1886-7 (mentioned in dispatches, medal with clasp); Chitral Relief Force, 1895 (mentioned in dispatches, medal with clasp); North-West Frontier of India campaign, 1897-8 (mentioned in dispatches, clasp); and China, 1900 (medal).

The retirement is also announced of Lieutenant-Colonel J. CROSTS, M.D., Bengal Establishment, from July 15th. His first commission dates from March 31st, 1877; that of Surgeon-Lieutenant-Colonel from March 31st, 1897. He was in the Afghan war of 1878-80, receiving a medal.

Major G. T. MOULD, Bengal Establishment, likewise retires, from July 28th. He joined as Surgeon-Captain, March 31st, 1888, and was made Major, March 31st, 1900. He served with the Manipore expedition in 1901 (medal with clasp); in the North-West Frontier of India campaign, 1897-8 (medal with clasp); and in the China war, 1900 (medal).

IMPERIAL YEOMANRY.

SURGEON-LIEUTENANT G. F. M. CLARKE, the City of London (Rough Riders) Regiment, resigns his commission, July 3rd.

Mr. ROBERT M. MCQUEEN to be Surgeon-Lieutenant in the City of London (Rough Riders) Regiment, July 3rd.

The announcement of the appointment to a Surgeon-Lieutenancy in the South Nottinghamshire Hussars of WILLIAM T. ROWS, M.D., which appeared in the *London Gazette* of June 6th, bears date May 22nd, and not as therein stated.

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

MR. HUBERT C. PHILLIPS to be Lieutenant in the London Companies, London District, July 16th.

Lieutenant J. NAYLOR, Transport Officer, Woolwich Companies, Eastern Command, resigns his commission, April 15th.

MR. ALEXANDER D. SHARP to be Lieutenant in the Leeds Companies, Northern Command, July 26th.

Lieutenant W. J. REID, Sherwood Foresters Bearer Company, to be Captain, July 26th.

Major (Surgeon Major Army Medical Reserve) S. S. HOYLAND, Harwich Bearer Company, is granted the honorary rank of Lieutenant-Colonel, July 22nd.

VOLUNTEER RIFLES.

Mr. HERBERT M. SYLVESTER to be [illegible] Lieutenant in the 1st Volunteer Battalion the Suffolk Regiment, August 1st.

Surgeon-Captain J. W. BONE, M.B., [illegible] Volunteer Battalion the Bedfordshire Regiment, resigns [illegible] August 1st.

Mr. RICHARD W. BRIMA[illegible] to be Surgeon-Lieutenant in the 3rd Volunteer [illegible] Regiment, August 1st.

Surgeon-Lieutenant [illegible] Volunteer Battalion the Welsh Regiment, [illegible]

Surgeon-Major G. M. EDMOND, M.D., 1st Volunteer Battalion the Gordon Highlanders, resigns his commission, August 1st.

Acting-Surgeon R. W. Branthwaite, Cadet Corps (Civil Service), attached to the Prince of Wales's Own 12th Middlesex (Civil Service) Volunteer Rifle Corps, to be Surgeon-Lieutenant in the 12th Middlesex (Prince of Wales's Own, Civil Service), and to be borne as Supernumerary to the Establishment, July 31st.

Surgeon-Captain F. C. Wallis, M.B., 14th Middlesex (Inns of Court), resigns his commission, July 17th.

Mr. Henry W. Burroughes to be Surgeon-Lieutenant in the 14th Middlesex (Inns of Court), July 17th.

ROYAL ENGINEERS (VOLUNTEERS).

Surgeon-Lieutenant T. H. Chittenden, M.D., 1st Middlesex Regiment, to be Surgeon-Captain, June 26th.

ROYAL GARRISON ARTILLERY (VOLUNTEERS).

Surgeon-Lieutenant R. C. Robertson, 1st Ayrshire and Galloway Regiment, resigns his commission, July 15th.

Surgeon-Captain H. R. Jones, M.D., 2nd Lancashire Regiment, resigns his commission, retaining his rank and uniform, July 15th.

Supernumerary Surgeon-Captain (Honorary Captain in the Army) J. C. G. Macnab, M.B., 1st Fifeshire, is absorbed into the establishment, July 22nd.

Mr. Edward E. Brown to be Surgeon-Lieutenant in the Highland Regiment, July 2nd.

Surgeon-Major J. P. Massingham, 1st Shropshire and Staffordshire, is granted the honorary rank of Surgeon-Lieutenant-Colonel, July 22nd.

Mr. Bernard Hudson to be Surgeon-Lieutenant in the 3rd Kent (Royal Arsenal), July 8th.

VOLUNTEER OFFICERS' DECORATION.

This decoration has been conferred upon the following, among other officers: Surgeon-Lieutenant-Colonel H. W. Roberts, 2nd Volunteer Battalion the Queen's Own (Royal West Kent Regiment); Surgeon-Lieutenant-Colonel W. Sneddon, M.D., 1st Volunteer Battalion the Royal Scots Fusiliers; Surgeon-Major J. MacLachlan, M.B., 3rd (Dumfries) Volunteer Battalion the King's Own Scottish Borderers; Surgeon-Lieutenant-Colonel J. Adam, M.D., 1st (Ross Highland) Volunteer Battalion the Seaforth Highlanders; Surgeon-Major A. Macphee, M.D., 5th (Glasgow Highland) Volunteer Battalion the Highland Light Infantry; Surgeon-Major T. M. Dawson, 1st Lancashire Royal Garrison Artillery (Volunteers); Surgeon-Lieutenant-Colonel A. A. Watson, 2nd Volunteer Battalion East Lancashire Regiment.

Vital Statistics.

EPIDEMIC MORTALITY IN LONDON.

[Specially Contributed to the British Medical Journal.]

The accompanying diagram shows the prevalence of the principal epidemic diseases during the second, or spring, quarter of the year. The fluctuations of each disease and its relative fatality compared with that in the corresponding periods of recent years can thus be readily seen.

Small-pox.—Five fatal cases of small-pox were registered in London last quarter, against 5, none, and 5 in the three preceding quarters; of these 5 deaths, 3 belonged to Lewisham, and 1 each to Hackney and Shoreditch. The Metropolitan Asylums Hospitals contained 4 small-pox patients at the end of last quarter, against 3, 17, and 20 at the end of the three preceding quarters; 32 new cases were admitted during the quarter, against 39, 23, and 36 in the three preceding quarters.

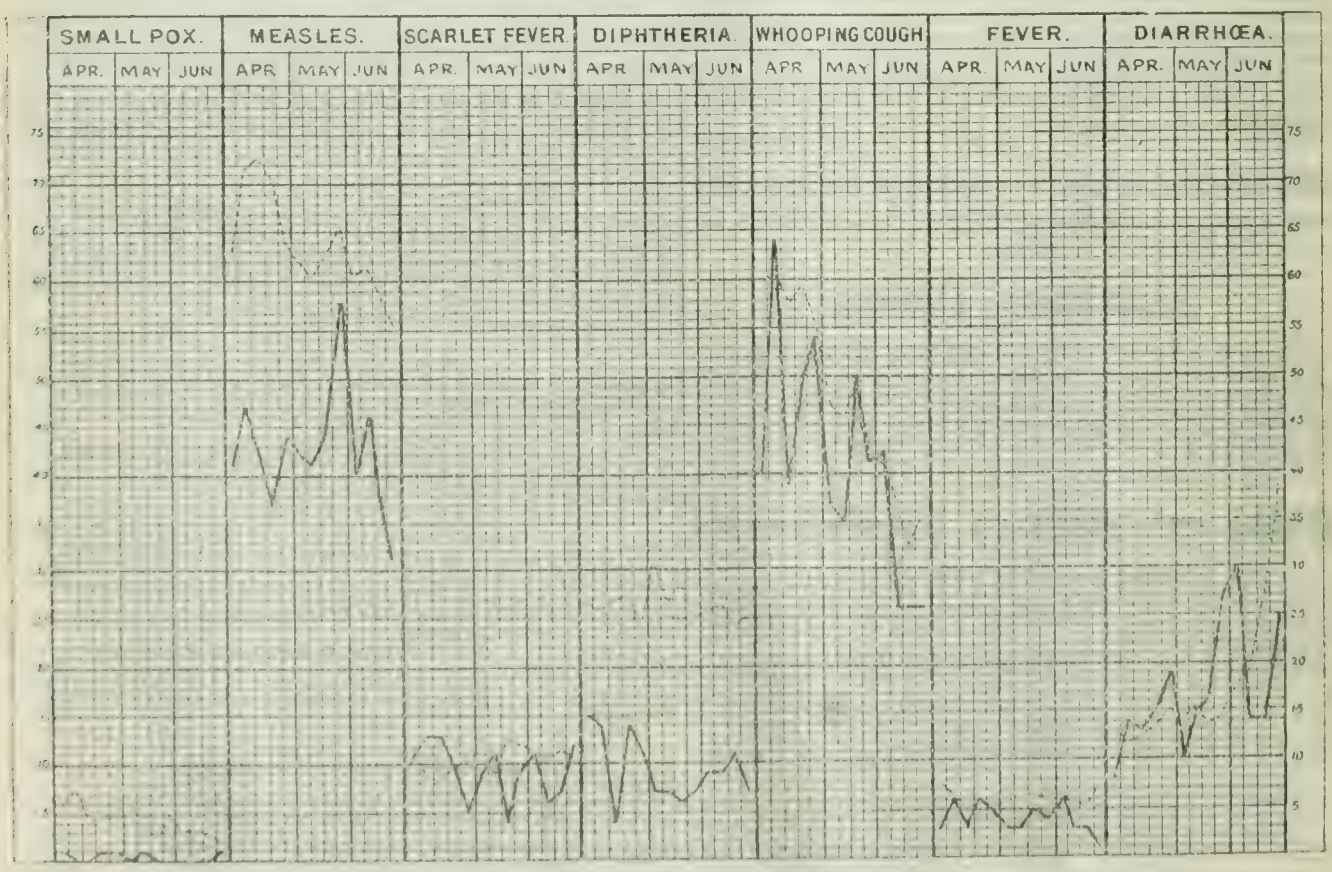
Measles.—The deaths from measles, which had been 370, 289, and 354 in the three preceding quarters, further rose last quarter to 551, but were 278 below the average number in the corresponding periods of the ten preceding years. Among the various metropolitan boroughs this disease was proportionally most fatal in Paddington, Fulham, Shoreditch, Poplar, and Battersea.

Scarlet Fever.—The fatal cases of this disease, which had been 81, 87, and 134 in the three preceding quarters, declined again last quarter to 119, and were 17 below the corrected average number. Scarlet fever showed the highest proportional mortality last quarter in St. Pancras, Finsbury, Shoreditch, Poplar, Wandsworth, and Camberwell. The number of scarlet fever cases in the Metropolitan Asylums Hospitals, which had been 2,127, 2,349, and 1,997 at the end of the three preceding quarters, had risen again to 2,444 at the end of last quarter; 3,778 new cases were admitted during the quarter, against 3,278, 3,610, and 3,122 in the three preceding quarters.

Diphtheria.—The deaths referred to diphtheria in London, which had been 150, 208, and 162 in the three preceding quarters, further declined last quarter to 121, and were 223 below the average number in the corresponding periods of the ten preceding years. Among the various metropolitan boroughs this disease was proportionally most fatal in Hammersmith, Finsbury, Shoreditch, Bethnal Green, Stepney, Southwark, and Greenwich. The number of diphtheria patients in the Metropolitan Asylums Hospitals, which had been 871, 800, and 788 at the end of the three preceding quarters, had further declined to 715 at the end of last quarter; 1,219 new cases were admitted during the quarter, against 1,614, 1,566, and 1,425 in the three preceding quarters.

Whooping-cough.—The fatal cases of this disease, which had been 240, 156, and 436 in the three preceding quarters, further rose last quarter to 530, but were 93 below the average in the corresponding quarters of the

Deaths from Epidemic Diseases in London during the Second Quarter of 1905.



Note.—The black lines show the *recorded* number of deaths from each disease during each week of the quarter. The dotted lines show the *average* number of deaths in the corresponding weeks of the ten preceding years 1895-1904.

ten preceding years. Among the various metropolitan boroughs whooping-cough was proportionally most fatal in Hammersmith, Fulham, Islington, Shoreditch, Poplar, and Southwark.

"*Fever.*"—Under this heading are included deaths from typhus, from enteric fever, and from ill-defined pyrexia. The deaths referred to these different forms of "fever," which had been 90, 111, and 51 in the three preceding quarters, were again 51 last quarter, and were 29 below the corrected average number. One death from ill-defined pyrexia was recorded during the quarter under notice, but not any from typhus. The highest death-rates from "fever" were recorded in Fulham, Chelsea, Hampstead, Bethnal Green, and Woolwich. The Metropolitan Asylums Hospitals contained 78 enteric fever patients at the end of last quarter, against 237, 159, and 68 at the end of the three preceding quarters; 150 new cases were admitted during the quarter, against 383, 315, and 173 in the three preceding quarters.

Diarrhœa.—The 220 deaths from diarrhœa in London last quarter were slightly below the average number in the corresponding periods of the ten preceding years. Among the various metropolitan boroughs this disease was proportionally most fatal in Fulham, Hackney, Holborn, Bethnal Green, Stepney, and Poplar.

In conclusion, it may be stated that the 1,507 deaths in London attributed to these principal epidemic diseases during the quarter ending June last were more than 30 per cent. below the corrected average number in the corresponding quarters of the ten preceding years. The lowest death-rates from these diseases last quarter were recorded in Chelsea, the City of Westminster, Hampstead, the City of London, Lambeth, Deptford, and Woolwich; and the highest rates in Paddington, Fulham, Shoreditch, Bethnal Green, Poplar, and Battersea.

VITAL STATISTICS OF LONDON DURING THE SECOND QUARTER OF 1905.

[Specially Reported for the British Medical Journal.]

In the accompanying table will be found summarized the vital statistics of the metropolitan boroughs and of the City of London, based upon the Registrar-General's returns for the second, or spring, quarter of the year. The mortality figures in the table relate to the deaths of persons actually belonging to the various boroughs, and are the result of a complete system of distribution of the deaths in public institutions among the several boroughs in which the deceased persons had previously resided.

The 31,583 births registered in London during the three months under notice were equal to an annual rate of 27.0 per 1,000 of the population, estimated at 4,684,794 persons in the middle of the year; in the corresponding quarters of the three preceding years the rates had been 27.7, 29.0, and 28.1 per 1,000 respectively, the average rate in the second quarters of the ten years 1895-1904 being 29.2 per 1,000. The birth-rate last quarter ranged from 14.7 in the City of London, 16.7 in the City of Westminster, 17.2 in Hampstead, 19.2 in Kensington, and 21.3 in Chelsea and in Stoke Newington, to 32.1 in Bermondsey, 32.9 in Bethnal Green, 33.2 in Shoreditch, 33.6 in Finsbury, and 36.5 in Stepney.

The 16,075 deaths of persons belonging to London registered last quarter were equal to an annual rate of 13.8 per 1,000, against 15.7, 14.2, and 14.3 per 1,000 in the three preceding second quarters; in the corresponding periods of the ten preceding years the mean rate was 15.8 per 1,000. The death-rates last quarter in the various boroughs ranged from 7.9 in Hampstead, 10.5 in Wandsworth, 10.6 in Lewisham, 11.5 in Greenwich, and 12.1 in Deptford, to 16.3 in Southwark, 16.5 in Poplar, 16.6 in the City of London, 17.0 in Bethnal Green, 17.2 in Finsbury, and 18.6 in Shoreditch.

During last quarter 1,575 deaths were referred to the principal infectious diseases; of these, 5 resulted from small-pox, 549 from measles, 119 from scarlet fever, 117 from diphtheria, 521 from whooping-cough, 47 from enteric fever, 1 from ill-defined pyrexia, and 216 from diarrhœa. These 1,575 deaths were equal to an annual rate of 1.34 per 1,000, against an average rate of 1.95 in the corresponding quarters of the ten preceding years. The lowest death-rates last quarter from these infectious diseases were 0.18 in the City of London, 0.54 in Woolwich, 0.57 in Deptford, 0.65 in Chelsea, 0.66 in the City of Westminster, 0.73 in Hampstead, and 0.75 in Lambeth; the highest rates were 1.82 in Bethnal Green, 1.85 in Paddington, 2.17 in Fulham, 2.52 in Poplar and in Battersea, and 2.71 in Shoreditch. Of the 5 fatal cases of small-pox, 3 belonged to Lewisham, and 1 each to Hackney and Shoreditch. The greatest proportional mortality from measles occurred in Paddington, Fulham, Shoreditch, Poplar, and Battersea; from scarlet fever in St. Pancras, Finsbury, Shoreditch, Poplar, Wandsworth and Camberwell; from diphtheria in Hammersmith, Finsbury, Shoreditch, Bethnal Green, Stepney, Southwark, and Greenwich; from whooping-cough in Hammersmith, Fulham, Islington, Shoreditch, Poplar, and Southwark; from "fever" in Fulham, Chelsea, Hampstead, Bethnal Green, and Woolwich; and from diarrhœa in Fulham, Hackney, Holborn, Bethnal Green, Stepney, and Poplar.

During the three months under notice 1,554 deaths from phthisis were registered, equal to an annual rate of 1.33 per 1,000; the rates in the corresponding quarters of the three preceeding years were 1.52, 1.47, and 1.57 per 1,000 respectively. Among the various metropolitan boroughs the lowest death-rates from phthisis last quarter were recorded in Paddington, Hampstead, Hackney, Wandsworth, Camberwell, and Lewisham; and the highest rates in Holborn, Finsbury, the City of London, Bethnal Green, Poplar, and Southwark.

Infant mortality, measured by the proportion of deaths among children under 1 year of age to registered births, was equal to 103 per 1,000 last quarter, against 110, 102, and 107 in the three preceding second quarters; the mean rate in the corresponding periods of the ten preceding years was 118 per 1,000. The lowest rates of infant mortality were recorded last month in Hampstead, St. Marylebone, Stoke Newington, Wandsworth, Lewisham, and Woolwich; and the highest rates in Paddington, Kensington, Hammersmith, the City of London, Shoreditch, and Poplar.

THE REGISTRAR-GENERAL'S QUARTERLY RETURN.

[Specially Reported for the British Medical Journal.]

The Registrar-General has just issued his return relating to the births and deaths in the second quarter of this year, and to the marriages during the three months ending March last. The marriage-rate during that period was equal to 10.7 per 1,000 of the population, and was 0.6 per 1,000 below the average rate in the corresponding quarters of the ten preceding years.

The births registered in England and Wales during the quarter ending June last numbered 236,767, and were equal to an annual rate of 27.8 per 1,000 of the population, estimated by the Registrar-General to be 34,152,977 persons in the middle of the year. In the second quarters of the ten preceding years the birth-rate had averaged 29.4 per 1,000. The birth-rate last quarter ranged in the several counties from 21.3 in Sussex, 21.8 in Cornwall, 22.0 in Herefordshire, 23.1 in Bedfordshire, 23.4 in Oxfordshire,

Analysis of the Vital Statistics of the Metropolitan Boroughs and of the City of London after Distribution of Deaths occurring in Public Institutions during the Second Quarter of 1905.

Boroughs.	Estimated Population middle of 1905.	Births.	Deaths.	Annual Rate per 1,000 Living. Births.	Deaths.	Principal Infectious Diseases.	Deaths from Principal Infectious Diseases.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-Cough.	Typhus.	Enteric Fever.	Simple and Ill-defined Fever.	Diarrhœa.	Phthisis.	Deaths of Children under 1 year of age to 1,000 Births.
COUNTY OF LONDON	4,684,794	31,583	16,075	27.0	13.8	1.34	1,575	5	549	119	117	521	—	47	1	216	1,554	103
Paddington	147,935	835	498	22.6	13.5	1.85	68	—	39	1	2	20	—	1	—	5	33	127
Kensington	180,683	861	617	19.2	13.7	1.48	66	—	18	6	3	25	—	3	—	11	45	124
Hammersmith ...	119,037	746	395	25.1	13.3	1.48	44	—	8	1	5	27	—	1	—	2	32	130
Fulham	157,210	1,227	570	31.3	14.5	2.17	85	—	31	4	3	26	—	3	—	18	46	109
Chelsea	74,496	396	239	21.3	12.9	0.65	12	—	1	—	2	7	—	2	—	—	24	109
City of Westminster ...	175,606	730	534	16.7	12.2	0.66	29	—	5	3	—	10	—	1	—	10	64	97
St. Marylebone ...	129,453	1,007	495	31.2	15.3	1.42	46	—	25	4	—	10	—	1	—	6	45	79
Hampstead	88,142	377	173	17.2	7.9	0.73	16	—	1	2	2	8	—	2	—	1	15	61
St. Pancras	236,183	1,373	804	23.3	13.7	1.17	69	—	25	9	9	18	—	—	—	8	80	97
Islington	342,994	2,226	1,177	26.0	13.8	1.11	94	—	17	7	5	53	—	3	—	11	81	112
Stoke Newington ...	52,828	281	166	21.3	12.6	1.31	17	—	8	1	1	6	—	—	—	1	16	78
Hackney	228,479	1,458	729	25.8	12.8	1.76	100	1	41	5	4	30	—	4	—	15	52	93
Holborn	56,481	410	224	20.1	15.9	1.42	20	—	7	2	1	6	—	—	—	4	32	93
Finsbury	98,207	822	422	33.6	17.2	1.71	42	—	15	6	5	11	—	—	—	5	48	111
City of London	22,425	82	93	14.7	16.6	0.18	1	—	—	—	—	—	—	—	—	1	11	146
Shoreditch	116,565	965	540	33.2	18.6	2.71	70	1	23	7	5	36	—	1	—	6	52	136
Bethnal Green	130,401	1,068	554	32.9	17.0	1.82	59	—	21	4	9	13	—	2	1	9	75	117
Stepney	305,466	2,782	1,203	36.5	15.8	1.73	132	—	51	11	12	31	—	4	—	23	131	113
Poplar	170,280	1,364	701	30.7	16.5	2.52	107	—	44	7	6	27	—	2	—	21	77	127
Southwark	208,528	1,559	849	30.0	16.3	1.31	68	—	10	4	6	31	—	3	—	11	116	109
Bermondsey	129,006	1,023	569	32.1	15.8	1.18	38	—	18	2	4	7	—	—	—	7	57	118
Lambeth	313,045	2,163	1,028	27.7	13.2	0.75	59	—	8	4	5	29	—	2	—	11	113	95
Battersea	177,532	1,222	617	27.6	13.9	2.52	111	—	52	2	4	16	—	2	—	—	51	103
Wandsworth	265,392	1,713	695	25.9	10.5	0.86	56	—	3	10	4	31	—	1	—	7	57	75
Camberwell	271,240	1,727	826	25.5	12.2	1.05	71	—	52	11	5	18	—	2	—	6	63	98
Deptford	114,495	768	345	26.9	12.1	0.57	16	—	9	1	—	6	—	1	—	4	35	86
Greenwich	103,493	648	266	25.1	11.5	0.89	23	—	7	1	1	3	—	1	—	5	28	88
Lewisham	144,420	900	380	25.2	10.6	0.85	30	3	5	2	2	14	—	2	—	2	25	66
Woolwich	125,372	882	396	28.2	12.7	0.54	17	—	2	2	4	2	—	3	—	4	50	70

and 23.5 in Devonshire and Somersetshire, to 31 9 in Staffordshire, 32.4 in Carmarthenshire, 32 6 in Northumberland, 34 9 in Durham, 35 2 in Glamorganshire, and 35 8 in Monmouthshire. In seventy-six of the largest English towns, including London, the birth-rate last quarter averaged 28.5 per 1,000, being 0 7 per 1,000 in excess of the general English birth-rate. In London the rate was 27.0 per 1,000, while it averaged 29.2 per 1,000 in the seventy-five other large towns, and ranged from 17.3 in Bournemouth, 17 0 in Hastings, 19.0 in Hornsey, 20.2 in Halifax, 21 3 in Northampton, and 21.7 in Bury and in Bradford, to 34 7 in Sunderland, 35 0 in Middlesbrough and in Tynemouth, 35.2 in St Helens, and 38.6 in Rhondda.

The births registered in England and Wales during the quarter under notice exceeded the deaths by 113,726; this represents the natural increase of the population during that period. From returns issued by the Board of Trade it appears that 134,745 emigrants embarked during the three months, for places outside Europe, from the various ports of the United Kingdom at which emigration officers are stationed. Of these 134,745 emigrants, 51,356 were English, 13,515 were Scottish, and 16,972 were Irish, while 52,902 others were of foreign nationality. Compared with the averages in the corresponding quarters of the three preceding years, the proportion of emigrants in the population of the several ports of the United Kingdom showed an increase of 17 1 per cent English and of 31.1 per cent. Scottish, while the Irish emigrants decreased 5 2 per cent.

During the second quarter of the year the deaths of 123 041 persons were registered, equal to an annual rate of 14.4 per 1,000 persons living; this rate was 1 8 per 1,000 below the mean rate in the corresponding periods of the ten preceding years, and was below the rate in the second quarter of any other year on record. The lowest county death-rates last quarter were 11.3 in Middlesex, 11 5 in Essex, 11.6 in Surrey, 11 8 in Bedfordshire, and 11 9 in Hertfordshire and Buckinghamshire: the highest rates were 16 3 in the North Riding of Yorkshire, 16 6 in Monmouthshire and in Carmarthenshire, 16.7 in Glamorganshire, and 19 2 in Denbighshire. In seventy-six of the largest English towns, with an aggregate population of more than fifteen and a half millions, the mean rate of mortality was 14.7 per 1,000; in 141 smaller towns containing in the aggregate about four and three-quarter million persons, the death-rate was 13.6 per 1,000; while in the remaining, and chiefly rural, parts of England and Wales, the rate was 14 5 per 1,000. In London the death-rate was 14.3 per 1,000, while it averaged 14 9 per 1,000 in the seventy-five other large towns, and ranged from 7.1 in Hornsey, 8 4 in Leyton, 8 7 in King's Norton, 9.4 in Handsworth (Staffs), 9.8 in Willesden, and 9 9 in East Ham, to 18.5 in West Bromwich and in Wigan, 19 5 in Oldham, 20.0 in Tynemouth, 21.4 in Middlesbrough, and 22.4 in Merthyr Tydfil.

The 123,041 deaths from all causes in England and Wales last quarter included 10,194 which were referred to the principal infectious diseases: of these, 3,894 were attributed to measles, 2,509 to whooping-cough, 1,189 to diarrhœa, 1,096 to diphtheria, 856 to scarlet fever, 618 to "fever" (principally enteric), and 32 to small-pox. The rate of mortality from measles exceeded the average, while that from each of the other principal infectious diseases showed a decline. Of the 32 fatal cases of small-pox, 5 belonged to London, 4 to Southampton, and 3 to Bradford.

The rate of infant mortality, measured by the proportion of deaths among children under 1 year of age to registered births, was equal to 106 per 1,000, against an average rate of 121 per 1,000 in the corresponding quarters of the ten preceding years. In the several counties the rates of infant mortality ranged from 63 in Hertfordshire, 69 in Dorsetshire, 70 in Wiltshire, 71 in Surrey, and 76 in Herefordshire, to 119 in Monmouthshire, 120 in Lancashire and in Durham, 122 in Staffordshire, 127 in Derbyshire, and 129 in Glamorganshire. In the seventy-six large towns the mean rate was 112 per 1,000; in London the proportion was equal to 105 per 1,000, while it averaged 115 in the seventy-five other large towns, and ranged from 55 in Hornsey, 68 in Leyton, 71 in Handsworth (Staffs), 76 in Burton-on-Trent, and 78 in Croydon and in Brighton, to 146 in Tynemouth, 148 in Oldham, 150 in Halifax and in Rhondda, 161 in Merthyr Tydfil, and 162 in Hanley.

The mortality in England and Wales during the three months under notice among persons aged between 1 and 60 years was equal to an annual rate of 7 6 per 1,000 of the population estimated to be living at this group of ages, and was 0 9 per 1,000 below the rate in the ten preceding second quarters. In the seventy-six large towns the death rate at this group of ages averaged 8 2 per 1,000; in London this death-rate was 8.1 per 1,000, while among the seventy-five other large towns the rates ranged from 3 4 in Hornsey, 3 5 in King's Norton, 4.2 in Leyton, 4.5 in Handsworth (Staffs), 5.3 in Willesden, and 5 6 in East Ham, to 11.1 in Sunderland, 11.3 in Tynemouth, 11 6 in West Bromwich, 12 5 in Oldham, 13.7 in Middlesbrough, and 13 8 in Merthyr Tydfil.

Among persons aged 60 years and upwards the death-rate last quarter was equal to 61.7 per 1,000 of the estimated population at this age-period, being 3.3 per 1,000 lower than the average. In London the rate was 61 7 per 1,000, while among the seventy-five other large towns it ranged from 42.1 in Leyton, 47 3 in Hornsey, 47.8 in Walsall, and 50.7 in Willesden, to 80.6 in Middlesbrough, 80.7 in Preston, 81 9 in Wigan, 82.3 in Huddersfield, and 83 8 in Rochdale.

The mean temperature of the air during last quarter differed but slightly from the average. The rainfall measured in London during the quarter amounted to 7 2 in., being 1.8 in., or 33 per cent., in excess of the average. The duration of bright sunshine in London was 487 hours, which was almost identical with the average amount.

HEALTH OF ENGLISH TOWNS.

IN seventy-six of the largest English towns, including London, 8,719 births and 5,630 deaths were registered during the week ending Saturday last, August 5th. The annual rate of mortality which had been 12.0, 13.4 and 15 0 per 1,000 in the three preceding weeks, further rose last week to 17 0 per 1,000. The rates in the several towns ranged from 6.0 in King's Norton, 7 4 in Hornsey and in Reading 7 6 in Handsworth (Staffs), 7.0 in Bournemouth, 9 0 in Walthamstow, in Northampton, and in Great Yarmouth, 9 2 in Croydon, and 9 6 in Leyton, to 22 8 in West Ham, 22 9 in Warrington, 23.2 in St. Helens, 23 5 in Wigan, 23 7 in Grimsby, 24 1 in Bootle, 24.3 in Tynemouth, 24 4 in Stockport, 26 9 in West Bromwich, 28 4 in Sheffield, and 62 2 in Rhondda. Of the deaths in Rhondda, 70 were due to the colliery explosion at Wattstown. Excluding these deaths, the rate would have been 20.2. In London the death rate was 15 6 per 1,000; while it averaged 17 6 in the seventy-five other large towns. The death-rate from the principal infectious diseases averaged 5 0 per 1,000 in the seventy-six towns; in London this death-rate was equal to 4 2 per 1,000, while among the seventy-five other large towns the rates ranged upwards to 9.0 in Birkenhead, 9.2 in Liverpool, 11 6 in Bootle, 12.0 in Wigan, 13.1 in West Ham, 13 8 in Grimsby, 14 9 in Sheffield, and 15.4 in Rhondda. Measles caused a death-rate of 5.2 in Barrow-in-Furness; scarlet fever of 1.2 in Blackburn; whooping-cough of 1.3 in Rhondda, 1.5 in Oldham, and 1 6 in West Ham; and diarrhœa of 7.6 in Liverpool, 8.1 in Birkenhead, 11.8 in West Ham, 11 6 in Bootle, 12 0 in Wigan, 12 9 in Rhondda, 13.0 in Grimsby, and 14.2 in Sheffield. The mortality from diphtheria and from "fever" showed no marked excess in any of the large towns. One fatal case of small-pox was registered last week in Birmingham, but none in any other of the large towns. The Metropolitan Asylums hospitals contained 2 small-pox patients on Saturday last, August 5th, against 4, 3, and 3 on the three preceding Saturdays; 3 new cases were admitted during the week, against 2, none, and none in the three preceding weeks. The number of scarlet fever cases remaining under treatment in these hospitals and in the London Fever Hospital, which had been 2,520, 2,485, and 2,550 at the end of the three preceding weeks, had risen again to 2,632 at the end of last week; 356 new cases were admitted during the week, against 356, 304, and 352 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS.

DURING the week ending Saturday last, August 5th, 025 births and 496 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had been 14 3, 15.2, and 15.3 per 1,000 in the three preceding weeks, fell last week to 14 8 per 1,000, and was 2.2 per 1,000 below the mean rate during the same period in the seventy-six large English towns. Among these Scotch towns the death-rates ranged from 8.7 in Aberdeen, and 10 2 in Leith, to 16.8 in Perth, and 18.3 in Paisley. The death-rates from the principal infectious diseases in these towns averaged 2.8 per 1,000, the highest rates being recorded in Greenock and Glasgow. The 244 deaths registered in Glasgow included 10 which were referred to measles, 2 to diphtheria, 4 to whooping-cough, and 26 to diarrhœa. Two fatal cases of measles, 5 of whooping cough and 9 of diarrhœa were recorded in Edinburgh; 2 of whooping-cough and 2 of diarrhœa in Dundee; 3 of diarrhœa in Paisley; 4 of diarrhœa in Leith; and 3 of diarrhœa in Greenock.

HEALTH OF IRISH TOWNS.

DURING the week ending Saturday, July 15th, 484 births and 338 deaths were registered in six of the principal Irish towns, against 488 births and 303 deaths in the preceding period. The mean annual death-rate in these towns, which had been 18.2, 16.4, and 13.6 per 1 000 in the three preceding weeks, rose to 18.3 per 1,000 in the week under notice, this figure being 5 4 per 1 000 higher than the mean annual rate in the seventy-six English towns for the corresponding period. The figures ranged from 8.7 in Londonderry to 23.4 in Waterford. The zymotic death-rate during the same period and in the same six Irish towns averaged 2.7 per 1,000, the highest figure—2.7—being registered in Limerick, while Waterford registered no deaths under this heading at all. The deaths from diarrhœal diseases numbered 29 in all, being about equally divided between Dublin and Belfast.

During the week ending Saturday, July 22nd, 539 births and 330 deaths were registered in six of the principal Irish towns, against 484 births and 338 deaths in the preceding period. The mean annual death-rate in these towns, which had been 16.4, 13.6, and 18.3 per 1,000 in the three preceding weeks, fell to 14 8 per 1,000 in the week under notice, this figure being 1 4 per 1,000 higher than the mean annual rate in the seventy-six English towns for the corresponding period. The figures ranged from 0 6 in Cork, and 9.9 in Londonderry, to 20 1 in Dublin, and 20.0 in Belfast. The zymotic death-rate during the same period, and in the same six Irish towns, averaged 1 8 per 1,000, or 0.1 higher than during the preceding week, the highest figure—3.0—being registered in Belfast, while Cork and Limerick registered no deaths under this heading at all. The total deaths from diarrhœal diseases equalled 25

During the week ending Saturday, July 29th, 549 births and 362 deaths were registered in six of the principal Irish towns, against 539 births and 330 deaths in the preceding period. The mean annual death-rate in these towns, which had been 13.6, 18.3, and 14.8 per 1,000 in the three preceding weeks, rose to 17.9 per 1 000 in the week under notice, this figure being 2.0 per 1,000 higher than the mean annual rate in the seventy-six English towns for the corresponding period. The figures ranged from 12.4 in Londonderry and 13 6 in Waterford, to 20.8 in Dublin and 22.0 in Belfast. The zymotic death-rate during the same period and in the same six Irish towns averaged 2.6 per 1,000, or 0.8 per 1,000 higher than during the preceding period, the highest figure—5.8—being registered in Belfast, while Limerick recorded no deaths under this heading at all. The deaths from diarrhœal diseases reached 58 throughout the country.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

BIRMINGHAM GENERAL HOSPITAL.—Two House-Physicians. Salary at the rate of £50 per annum each.

BOURNEMOUTH: ROYAL VICTORIA HOSPITAL.—House-Surgeon. Salary, £100 per annum.

BRADFORD ROYAL INFIRMARY.—House-Surgeon. Salary, £100 per annum.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL AND DISPENSARY. Junior House-Surgeon. Salary at the rate of £50 per annum.

DOUGLAS: NOBLE'S ISLE OF MAN HOSPITAL AND DISPENSARY.—Resident House-Surgeon. Salary, £90 per annum.

EXETER CITY ASYLUM.—Assistant Medical Officer. Salary, £150 per annum.

GUILDFORD: ROYAL SURREY COUNTY HOSPITAL.—(1) House-Surgeon. (2) Assistant House-Surgeon. Salary, £110 and £50 per annum respectively.

LIVERPOOL CITY INFECTIOUS DISEASES HOSPITALS.—Assistant Resident Medical Officer. Salary, £120 per annum.

LIVERPOOL EYE AND EAR INFIRMARY.—House-Surgeon. Salary, £80 per annum.

MANCHESTER CHILDREN'S HOSPITAL, Pendlebury.—Junior Resident Medical Officer for six months, eligible for election as Senior. Salary at the rate of £80 and £100 per annum respectively.

MERTHYR TYDFIL URBAN DISTRICT COUNCIL.—Medical Officer of Health and Superintendent of the Isolation Hospitals. Salary, £400, rising to £500 per annum.

NEWCASTLE-UPON-TYNE: UNIVERSITY OF DURHAM COLLEGE OF MEDICINE.—Lecturer on Medical Jurisprudence.

SOUTHAMPTON: ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House Physician. Salary, £100 per annum.

ST. PETER'S HOSPITAL FOR STONE, Henrietta Street, W.C.—Junior House-Surgeon. Salary at the rate of £50 per annum.

TYNEMOUTH COUNTY BOROUGH.—Medical Officer of Health. Salary, £310, rising to £400 per annum.

YORK CITY LUNATIC ASYLUM.—Resident Medical Officer. Salary, £400 per annum.

APPOINTMENTS.

BARKER, L. E. H. R., M.R.C.S., L.R.C.P., District Medical Officer of the Kington Union.

BELEY, G., M.R.C.S., M.R.C.P.Lond., Resident Assistant Medical Officer of the Ecclesall Bierlow Union Workhouse.

BLUMFELD, J., M.D., B.A., B.C.Cantab., Honorary Anaesthetist to St. Mary's Hospital, Paddington, W.

BONNEY, Victor, M.S., M.D., B.Sc.Lond., F.R.C.S., M.R.C.P., Emden Research Scholar to the Cancer Investigation Department of the Middlesex Hospital.

COOMBS, Carey, M.D., B.S.Lond., Physician to Out-patients, Children's Hospital, Bristol.

CRAWFORD, J. D., M.D., District Medical Officer of the Dartford Union.

EASON, H. L., M.D., M.S.Lond., Assistant Ophthalmic Surgeon to Guy's Hospital.

ECKERSLEY, Major Edward Arthur, M.B., C.M., Clinical Assistant to the Hospital for Diseases of the Skin, Blackfriars.

ELLIS, F. W., M.B., Resident Assistant Medical Officer, Southwark Union Infirmary.

EVANS, Thomas, M.D., Clinical Assistant to the Hospital for Diseases of the Skin, Blackfriars.

FARQUHARSON, C. H. C., L.R.C.P. and S.Edin., District Medical Officer at Portmaria, Jamaica, vice J. A. L. Calder, M.B., C.M.Edin.

FLEMING, W. L. R., M.R.C.S., L.R.C.P.Lond., District Medical Officer of the Guildford Union.

FORBES, J. Graham, M.D.Cantab., M.R.C.P., Assistant Physician to the Royal Hospital for Diseases of the Chest, City Road, E.C.

GOLDIE, E. M., M.D.Edin., Visiting Surgeon to the Royal Merchant Seamen's Orphanage, Snaresbrook.

HANCOCK, W. J., M.R.C.S., L.R.C.P.Lond., Certifying Factory Surgeon for the Stalybridge District, Co. Chester, and Medical Officer of Health, Stalybridge Town Council.

HATFIELD, J. R., L.R.C.P. and S.Edin., District Medical Officer of the Newton Abbot Union.

HENDRY, A., M.B., Ch.B.Aberd., Resident Assistant Medical Officer, West Derby Union Infirmary.

HILL, Miss E., M.B., B.S., Assistant Medical Officer, Parish of St. Pancras.

HILL, R. A. L., M.R.C.S., L.R.C.P.Lond., Certifying Factory Surgeon for the Wimbledon District.

HOBBS, A. R., M.R.C.S., L.R.C.P., Second Resident Assistant Medical Officer of the Paddington Parish Infirmary and Workhouse.

LAPAGE, C. P., M.D.Vict., Medical Officer to the Out-patients' Department of the Manchester Children's Hospital.

LAURIE, Henry, M.B.Melb., Honorary Assistant Physician at the Alfred Hospital, Victoria.

MACCORMAC, W. L., M.B., B.S.Vict., Resident Assistant Medical Officer, Wandsworth Union Infirmary.

MCGAVIN, Lawrie, F.R.C.S.Eng., Surgeon in charge of In-patients on the Staff of the Dreadnought Hospital, Greenwich.

MACKENZIE, J. C., L.R.C.P. and S.Edin., District Medical Officer, Cleobury Mortimer Union.

MASON, A., M.R.C.S., L.R.C.P., Medical Officer of Health, Borough of Deal.

MAURICE, W. B., M.R.C.S., L.R.C.P., Clinical Assistant to the Chelsea Hospital for Women.

MAYNARD, F. P., Major, I.M.S., M.B.Durh., F.R.C.S., Ophthalmic Surgeon and Professor of Ophthalmic Surgery to the Medical College, Calcutta.

MORGAN, Thomas Howard, F.R.C.S.Edin., Honorary Assistant Surgeon to the Hospital, Brisbane, Queensland.

MORETON, Joseph, M.B., Medical Officer of the New Northwich, Winsford, and Middlewich Joint Isolation Hospital.

OLIVER, W., M.B., B.S., District Medical Officer of the Durham Union.

PARRY, L. D., L.R.C.S., L.M.Edin., Government Medical Officer and Vaccinator at Picton, N.S.W., vice Dr. G. Read, resigned.

RICE, R., M.R.C.S.Eng., L.S.A., Medical Officer of Health, Wantage Rural District.

ROBERTS, E., M.R.C.S., L.R.C.P., District Medical Officer of the Camberwell Parish.

ROBINSON, Frank, M.D., D.P.H., Deputy Medical Officer of Health for the City of Westminster.

ROBINSON, W., L.R.C.P. and S., Clinical Assistant, Chelsea Hospital for Women.

RODERICK, H. Buckley, M.D., B.C.Cantab., Clinical Assistant to the Chelsea Hospital for Women.

ROSSER, J. S., M.D.Glasg., D.P.H., District and Workhouse Medical Officer of the Llandovery Union.

SATCHWELL, Hubert J., F.R.C.S.I., L.R.C.P.I., Medical Officer and Public Vaccinator to Fullerton District, Boston Union.

SWAINSON, J. M. G., F.R.C.S., Assistant Surgeon to the North-Eastern Hospital for Children, Hackney Road.

TAYLOR, M. R., M.R.C.S., L.R.C.P., Medical Officer of Health, Borough of Helston.

THOMAS, Albert E., M.B., B.Ch.Oxford, D.P.H., Medical Officer of Health for Chester, vice G. A. Kenyon, L.R.C.P.Lond., M.R.C.S.

THOMAS, D. J., M.R.C.S., L.R.C.P., D.P.H., District Medical Officer of the Merthyr Tydfil Union.

THOMAS, L. Kirkby, M.R.C.S. and L.R.C.P.Lond., Anaesthetist to the Birmingham and Midland Hospital for Women.

TYLECOTE, Frank Edward, M.D.Vict., Medical Registrar to the Manchester Royal Infirmary.

WELLBY, S., M.D., B.Ch.Oxon., District Medical Officer of the Petersfield Union.

WILLIAMS, Arnold Winkelried, M.B., C.M., D.P.H., R.C.P.S., Clinical Assistant to the Hospital for Diseases of the Skin, Blackfriars.

WOOLNOUGH, Robert E., M.B., C.M., Senior Medical Officer at the Coast Hospital, Sydney, N.S.W., vice Dr. W. Stevens, resigned.

YOCATT, Leonard, M.B., Ch.B.Vict., D.P.H., Certifying Factory Surgeon for the Prescott District, co. Lancaster.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 2s. 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to ensure insertion in the current issue.

BIRTHS

HOWLETT.—On July 9th, at 16, Springfield Road, Kingston-on-Thames, the wife of Bernard F. Howlett, M.R.C.S., L.R.C.P., of a daughter.

LEGGE.—On the 6th August, at 18, Cheyne Row, Chelsea, the wife of Thomas M. Legge, M.D., of a son.

SEALE.—On July 5th, at Oakfield, Ceres, C.C., the wife of E. A. Seale, M.D., of a daughter.

DEATH.

GROSVENOR.—On July 28th, at Arnside, Westmorland, Frederic Ingram Grosvenor, B.A.Cantab., M.R.C.S. and L.R.C.P., late Captain (Medical Department) S.A.C., aged 33 years, youngest son of Frederic Grosvenor, nephew and adopted son of Dr. and Mrs. Alfred Odarin Grosvenor, of the Tower, Priory Road, West Hampstead.

DIARY FOR NEXT WEEK.

POST-GRADUATE COURSES AND LECTURES.

WEST LONDON POST-GRADUATE COLLEGE, West London Hospital, Hammersmith Road, W.—The following are the arrangements for next week: Monday, 3 p.m., Medical Cases; Tuesday, 5 p.m., Surgical Treatment of Ascites; Wednesday, 5 p.m., Tobacco Amblyopia; Thursday, 4 p.m., Surgical Cases; Friday, 5 p.m., Common Symptoms of Throat, Nose, and Ear Diseases.

BOOKS, ETC., RECEIVED.

Handbuch der gerichtlichen Medizin. Herausgegeben von Dr. A. Schmidtmann. Unter mitwirkung von Drs. A. Haberda, Kockel, Wachholz, Puppe, Ziemke, Ungar und Siemerling. Neunte Auflage des Casper-Liman'schen Handbuches. Erster Band. Berlin: August Hirschwald. 1905. M.24.

Carnations, Picotees, and Pinks. Second and revised edition. By H. W. Weguelin, F.R.H.S. London: W. H. and L. Collingridge. 1905. 2s. 6d.

Le Celluloïde en Orthopédie. Par le Dr. L. de Melier de Labarthe. Paris: Vigot Frères. 1905. Fr.6.50

L'Evaluation des Incapacités Permanentes basées sur la Physiologie des Fonctions ouvrières des diverses parties du corps. Par [illegible] emy. Rapport présenté au Congrès Médical International des Accidents du travail, Liége 1905. Bruxelles: Imprimerie Scientifique Maison Sovereyns; and Paris: Vigot Frères. 1905. Fr. 1.50.

The Victoria University 1905. Dissertation on the Relative Time of Infection of the Lungs and Bronchial Glands in Guinea-pigs Inoculated with Tubercular Material. Submitted for the degree of M.D. by Harry William Russell, M.B., R.A.M.C., Ch.B.Vict. London and Manchester: Sherratt and Hughes. 1905.

On Educational Reform, School Museums, and the Feeding of School Children. A lecture delivered in Clifford's Inn, January, 1905. By Jonathan Hutchinson, M.D., F.R.S. London: John Bale, Sons and Danielsson, Ltd.

A Contribution to the Pathology of the Endometrium. By Jessie M. M[illegible]gor, L.R.C.P.&S., M.D. Edinburgh and London: William Green and Sons. 1905.

Ueber Lebensprognosen. Von Dr. E. Moritz. 2-te Auflage. St. Petersburg: K. Rieker. 1905.

Massage im Dienste der Kosmetik. Von Professor Dr. J. Zabludowski. Berlin: August Hirschwald. 1905. M.1.

The Medical Profession. By M. Foster Reaney, M.B.Lond., M.R.C.S., L.R.C.P., D.P.H.Lond., I.M.S. The Carmichael Prize Essay for 1904. Dublin: Browne and Nolan, Ltd. 1905. 3s.

Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India. Snake Venoms in Relation to Haemolysis. By Captain George Lamb, M.D., I.M.S. New series, No. 17. Calcutta: Office of the Superintendent of Government Printing. 1905. Annas 6, or 7d.

How to Manage a Baby. By Mrs. Frank Stephens. Introduction by W. Collingridge, M.A., M.D., D.P.H., M.O.H. City of London. London: Horace Marshall and Son, Ltd. 1d.

A Manual of Veterinary Hygiene. By Colonel F. Smith, C.M.G. Third edition. London: Baillière, Tindall and Cox. 1905. 15s.

Lowestoft: Queen of the East Coast. Lowestoft: Regatta and Town Advertising Committee. Free on application to Town Clerk.

Falmouth. Edited by George W. May. London: The Health Resorts Association. 1905 Free on application to Town Clerk.

Die palpablen Gebilde des normalen menschlichen Körpers und derin Methodische Palpation. Von Dr. Toby Cohn. I. Teil: Obere Extremität. Berlin: S. Karger, and London: Williams and Norgate. 1905. 5s. 9d.

Résumé of Medical and Pharmaceutical Topics Since the Publication of Squire's Pocket Companion to the British Pharmacopoeia, with a list of Specialities. London: Squire and Sons. 1905.

The Holidays, 1905, Where to Stay and What to See. London: Walter Hill. 1s.

Golden Rules of Psychiatry. By James Shaw, M.D.Qu.Univ.Irel. "Golden Rules" Series No. V. Third Edition. Bristol: John Wright and Co.

A Laboratory Guide in Bacteriology. By Paul G. Heinemann, Sc.B. Chicago: University Press. 1905. 1.50 dol.

Conseil Sanitaire, Maritime et Quarantenaire d'Egypte. Pèlerinage au Hedjaz. Rapport sur l'Aller et le Retour du Pèlerinage de l'année 1905. Présenté par le Dr. Zachariadis Bey. Alexandrie: V. Pinasson. 1905.

Conseil Sanitaire Maritime et Quarantenaire d'Egypte. Campement de Tor. Retour du Pèlerinage de l'année 1905. Alexandrie: V. Pinasson. 1905.

Les Actualités Médicales. Technique de l'Exploration du Tube Digestif. Par le Dr. René Gaultier. Paris: J. B. Baillière et Fils. 1905. Fr. 1.50.

The Edinburgh Stereoscopic Atlas of Anatomy. Edited by David Waterston, M.A., M.D., F.R.C.S.E., F.R.S.E. Section II. Edinburgh: T. C. and E. C. Jack. 1905. £1 5s.

The Surgical Assistant. By Walter M. Brickner, B.S., M.D. New York: The International Journal of Surgery Co. 1905. 2 co dol.

The Medical History of John Evelyn, D.C.L., F.R.S., and of His Time (1620-1706) By Leonard Guthrie, M.A., M.D.Oxon., F.R.C.P.Lond. London: The Medical Magazine Association. 1905.

Tea and the Effects of Tea Drinking. By W. Scott Tebb, M.A., M.D.Cantab., D.P.H. London: T. Cornell and Sons.

La Chirurgie enseignée par la Stéréoscopie. Guide des opérations Courantes. I Cure Radicale de la Hernie Inguinale. Par Dr. P. Camescasse et Dr. R. Lehman. Paris: J. B. Baillière et Fils. 1906.

Hastings and St. Leonards-on-Sea. Edited by George W. May. London: The Health Resorts Association. 1905.

Harwich and Dovercourt. Edited by George W. May. London: The Health Resorts Association. 1905.

Die Therapie der Magen- und Darmerkrankungen. Von Dr. Carl Wegele. Dritte gänzlich umgearbeitete Auflage. Jena: Gustav Fischer. 1905. M.8.

The Income-Tax Problem: The Chancellor's Promise and Its Sequel in the Report of the Income-Tax Committee. By A. M. Scarff, F.S.A.A. London: Simpkin, Marshall, Hamilton, Kent, and Co., Ltd. 6d.

Atlas der menschlichen Blutzellen. Von Dr. Artur Pappenheim. Erste Lieferung. Tafel I-XII. Jena: Gustav Fischer. 1905. M.16.

Die Nebenhöhlen der Nase. Von Professor Dr. A. Onodi. Wien: Alfred Hölder. 1905.

Crystal Gazing: Its History and Practice, with a Discussion of the Evidence for Telepathic Scrying. With an Introduction by Andrew Lang, M.A., LL.D. By Northcote W. Thomas, M.A. London: Alexander Moring, Ltd. 1905. 3s. 6d.

Thought Transference: A Critical Review of the Evidence for Telepathy, with a Record of New Experiments 1902-3. By Northcote W. Thomas, M.A. London: Alexander Moring, Ltd. 1905. 3s. 6d.

Die chirurgische Behandlung der Hämorrhoiden. Von Dr. Paul Schlacht. Zweite Auflage. Königsberg: Gräfe und Unzer. 1904. M.2.

On the Hours of Sleep at Public Schools; A Paper read before the Medical Officers of Schools Association on May 11th, 1905, by T. D. Acland, M.A., M.D.Oxon., F.R.C.P. London: J. and A. Churchill. 1905. 1s.

An Atlas of Illustrations of Clinical Medicine, Surgery, and Pathology, compiled for the New Sydenham Society (a continuation of the "Atlas of Pathology"), chiefly from original sources. Fasciculus xxiii. Being xv of The Clinical Atlas. Drug Eruptions, plates cxlv to cliv. London: The New Sydenham Society. 1905. 10s. 6d.

Dispensing Made Easy. By Wm. G. Sutherland, M.B.Aberd. Second edition. Bristol: John Wright and Co. 1905. 3s. 6d.

Natural Science in Hygiene; or, the Life History of the Non-Bacterial Parasites Affecting Man. By James Rodger Watson, M.A., B.Sc., M.D.Edin. Bristol: John Wright and Co. 1905. 1s. 6d.

Addresses and other Papers. By William Williams Keen, M.D., LL.D., F.R.C.S. (Hon.). Philadelphia and London: W. B. Saunders and Co. 1905. 17s. 6d.

A System of Physiologic Therepeutics. Edited by Solomon Solis Cohen, A.M., M.D. Volume xi. London: Rebman, Ltd. 1905. 12s. 6d. 11 vols., £6 6s.

*** In forwarding books the publishers are requested to state the selling price.

CALENDAR OF THE ASSOCIATION.

Month.	Day of Week.	Meetings to be Held.
August	13...Sunday..	
,,	14...Monday ...	
,,	15...Tuesday ...	
	16...Wednesday	Altrincham Division, *Lancashire and Cheshire Branch*. Visit to Crossley Sanatorium, Delamere (Phthisis).
,,	17...Thursday...	
,,	18...Friday ...	
,,	19...Saturday...	
,,	20...Sunday..	
,,	21...Monday ...	
,,	22...Tuesday ...	
,,	23...Wednesday	
,,	24...Thursday...	
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,,	26...Saturday...	
	27..Sunday..	
,,	28...Monday ...	
,,	29...Tuesday ...	
,,	30...Wednesday	
,,	31...Thursday...	
Sept.	1...Friday ...	
,,	2...Saturday...	
,,	3...Sunday..	
,,	4...Monday ...	
,,	5...Tuesday ...	
,,	6...Wednesday	
,,	7...Thursday	
,,	8..Friday ...	
,,	9..Saturday...	
,,	10..Sunday..	
,,	11...Monday ...	
,,	12...Tuesday ...	
,,	13..Wednesday	
,,	14...Thursday...	
,,	15...Friday ...	
,,	16..Saturday...	
,,	17..Sunday..	
,,	18..Monday ...	
,,	19...Tuesday ...	
,,	20..Wednesday	Altrincham Division, *Lancashire and Cheshire Branch*, Quarterly Meeting at Knutsford.
,,	21...Thursday...	
,,	22..Friday ...	
,,	23..Saturday...	

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of Middlesex.

SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, AUGUST 19TH, 1905.

CONTENTS.

	Page
MEETINGS OF BRANCHES AND DIVISIONS	
Malta and Mediterranean Branch	177
THE ANNUAL EXHIBITION OF FOODS, DRUGS, INSTRUMENTS, BOOKS, AND SANITARY APPLIANCES.—THIRD NOTICE	179
Drugs and Preparations	179
ASSOCIATION NOTICES.—Branch and Division Meetings to be held	181
VITAL STATISTICS	181
NAVAL AND MILITARY APPOINTMENTS	183
VACANCIES AND APPOINTMENTS	183
DIARY FOR NEXT WEEK	184
BIRTHS, MARRIAGES, AND DEATHS ...	184
BOOKS, ETC., RECEIVED	184
CALENDAR	184

Meetings of Branches and Divisions.

[The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the JOURNAL.*]*

MALTA AND MEDITERRANEAN BRANCH.

THE first meeting of the 17th session (1905-6) was held in the Committee Room of the Malta Society of Arts, on June 12th, 1905, at 4 p.m., Professor C. MIFSUD, Vice-President, in the chair.

Confirmation of Minutes.—The minutes of the previous sitting were read and confirmed.

Vote of Sympathy.—Before proceeding with the order of the day Professor CASSAR said: I rise to propose a vote of condolence to Mrs. Wolseley, the widow of Colonel Wolseley, R.A.M.C., the President of this Branch up to a few days ago, whose unexpected death after such a short illness came as a shock to us all. I need not call to your mind how, in the short time he lived amongst us, he had endeared himself with all who came in contact with him. His untimely death has cast a gloom on all of us, and I propose that a letter be sent to Mrs. Wolseley expressing our grief, and our deep sympathy with her in her bereavement; and that this vote of condolence be registered in the minutes of the Branch. Professor GRECH seconded.

The proposal was passed unanimously.

Correspondence.—The SECRETARY next read the correspondence, namely, a letter from Deputy Inspector-General R. Bentham, R.N., dated May 24th, accepting the Presidency of this Branch, and a letter from the same gentleman, dated June 1st, resigning the Presidency.

Election of President.—In view of the vacancy on the Branch Council created by the resignation of Deputy Inspector-General Bentham, Dr. GALIZIA proposed that Lieutenant-Colonel Manché, who has been connected with the Branch for seventeen years, be elected President. Dr. G. F. INGLOTT seconded. Lieutenant-Colonel Manché was unanimously elected President of the Branch. Professor MIFSUD then vacated the chair, which was occupied by the new President.

President's Ruling.—Lieutenant Colonel RHODES, addressing the President, then said: I rise to a point of order. The next subject on the agenda paper is one which no naval, military, or civil official of the Crown can discuss, and I bring to your notice that if the subject be discussed, it cannot be by the Malta Branch of the British Medical Association, but only by some members of it. I therefore ask your ruling as to whether or no the subject can be brought forward.

After an animated discussion the President ruled:

"That in whatever might be before a meeting for discussion, every member is to use his own judgement and to act solely on his individual responsibility; that when due notice of a motion is sent to all the members of the Branch, according to the rules of the Branch, the decision of the majority at the discussion expresses the opinion of the Branch, and that any regulations which debar a section of the members from taking part in any proceedings, are by no means binding on the rest."

Lieut.-Col Rhodes, Staff Surgeon Shaw, Capt. Kennedy, and Capt. Bromsbury then withdrew.

Dr. Debono's Resolution.—Dr. Debono, in moving his resolution, said: I believe this is the first time since the establishment of this Branch in 1887 that a question affecting the honour of the medical profession has come up for discussion here, but I feel it my duty to interrupt this creditable record, by bringing before you a subject of the most vital importance to the medical profession at large, and to the local members in particular, and much as I regret being obliged to treat on a question of medical ethics, I am pleased to say that I have not to speak in order to criticize the conduct of any medical man, but only for the purpose of defending from external attack one of the most sacred principles of our profession, the pivot of all our relations with the public and the essential quality of our honour.

On May 4th last a public notice appeared in the Government Gazette, whereby Major Lawson, a professional gentlemen belonging to the R.A.M.C., was appointed to the board of the Government Lunatic Asylum. This appointment caused considerable surprise among the population, and especially among the local medical men, inasmuch as the inmates of the Government Lunatic Asylum, as everybody knows, are, with exceedingly few exceptions, Maltese, and the appointment on the Board of a gentleman who cannot speak the Maltese language was looked upon as an absurdity and as an inconsistency, the more so when it is remembered that all the other members of the Board are equally conversant with the English and the Maltese languages.

The surprise, however, and the universal astonishment were converted into universal indignation when it leaked out that Major Lawson was to take part in the meetings of the Board only in the extremely rare instances when an Englishman was to be examined. This fact alters the bearings of the whole question. What at first appeared to be only ridiculous now assumed the form of a premeditated insult to the local medical profession, as there can only be one construction put on the matter, and that is, that the gentlemen on the Board were not deemed fit to be trusted with the case of an Englishman.

Now this gives rise to a dilemma there is no getting away from. Either the professional abilities of the gentlemen on the Board are not considered to be up to the mark, or else the members of the Board are suspected of being so biassed against an Englishman as to need a check on their proceedings in the shape of a military medical officer, who is solely appointed to the Board in order to watch that any Englishman is not harshly or unjustly treated.

If the extra member was appointed to the Board because the professional attainments of the other members were not esteemed sufficient to warrant the Government to entrust them with the care of lunatics, why were they appointed in the first instance, and why were their appointments not cancelled subsequently? Further, why is the new member to appear on the Board only when the case of an Englishman is under consideration? He should have been required to attend at every meeting, because it is inhuman to entrust the care of lunatics to incompetent physicians. It is therefore evident that the new member was not appointed on account of any incompetence of the Board as constituted before his addition.

There only remains, therefore, the other alternative, which is, that the Board are not to be trusted to treat an Englishman with the same care, fairness, and benevolence as they would a Maltese, or a patient of any other nationality. This is a most grievous aspersion on the honour of the medical profession, and it is the reason that has impelled me to bring my resolution before this meeting

It is the pride of the medical profession that in no time and in no country has it ever made any distinction of religion or nationality in the recipients of its ministrations. Our profession is not only cosmopolitan, but it is essentially humane. We have before us a suffering brother: what need have we to inquire the land of his birth or to note the colour of his eyes and hair? I appeal to our colleagues of both services, but I will not ask them whether they would consider themselves insulted in case it were doubted, if, in the event of war, they would treat wounded friends and foes alike. I know what their answer would be.

Now, if the humanity and the impartiality of our profession continue to characterize it even on the field of battle, when so much might be expected to occur to dim the judgement and to warp all the better feelings, it is inconceivable that in the calmness of civil practice, and in addition, among fellow subjects of the same Empire, such monstrous unfairness, inhumanity, and ill-will should be entertained, and, consequently, the appointment of the medical officer referred to constitutes a most smarting insult, which is the more galling because it is undeserved.

It is a matter for congratulation that twelve prominent members of the local medical profession should have come forward as they have done by addressing the letter, copy of which is before you, to His Excellency the Governor, in order to protest against the inconsiderate treatment the members of the Board of the lunatic asylum have received, and it is our duty to support the signatories of that letter by every means in our power. It is our duty, if further stress be needed on this point, because it is not only the members of the Board that are insulted, not only the local medical profession, but the profession universally.

The cardinal point of our dealings with our patients is the confidence they repose in us. Without it the exercise of our profession would be an impossibility, and any attempt—such as the one under consideration—from whatever quarter proceeding, to diminish that confidence and trust, should be met on our part by the most strenuous protests, which I am confident we are determined to carry to the utmost limits permitted by the law.

Belonging as we do to the British Medical Association, I do not think we could find a better defender of the honour of the medical profession than the Association itself, and I have formulated my resolution accordingly, trusting that the Council of the Association will appreciate the gravity of the slur cast on the medical profession and take the necessary steps for obtaining redress.

I have purposely refrained from touching on the political consequences of the Government notice of May 4th, which tends to foment odious distinctions in the same Colony between fellow-subjects of two noble and generous races—the Anglo-Saxon and the Latin—racial distinctions which are exceedingly to be regretted, as they might have far-reaching effects, and which will doubtless engage the attention of other assemblies; but I have limited myself to discussing the purely medico-ethical bearings of the notice in question, which are sufficiently grave and vital to warrant our most serious consideration.

It remains only for me to emphasize that, whatever might be the result of the step I propose taking, no reflection is intended to be cast on our gallant colleague Major Lawson, whose absence from this meeting I very much regret, as we would have had an opportunity of testifying to our personal regard for him in his presence. I now beg to propose my resolution.

Dr. Debono read his resolution.

Dr. R. Busuttil, in seconding, spoke in support of the resolution.

In view of the number of Government officials present at the meeting, Dr. Debono asked and obtained leave to divide his resolution into two parts. Dr. Debono proposed:

> That this Branch endorses the letter addressed by some members of the local medical profession to His Excellency the Governor on May 15th, 1905, and that a copy of the said letter and all other necessary information be sent to the British Medical Association in London for support.

Dr. R. Busuttil seconded.

The resolution was carried unanimously.

Dr. Debono then proposed:

> That this Branch endorses the letter addressed by some members of the local medical profession to His Excellency the Governor on May 15th, 1905, and that a copy of the said letter and all other necessary information be sent to the British Medical Association in London for publication.

Dr. R. Busuttil seconded.

All the Government officials present, being subject to Colonial regulations, left their seats, and did not participate in the voting.

The President and the Secretary remained seated by virtue of their office.

The resolution was carried unanimously.

It was decided to send a copy of these minutes to the General Secretary to be laid before the Council of the Association.

The following is a copy of the letter referred to in Dr. Debono's resolutions:

Valletta, Malta,
15th May, 1905.

To His Excellency
The Governor of Malta and its Dependencies,

Sir,—We, the undersigned Maltese Medical practitioners attached to the University, the Central Civil Hospital, and the Lunatic Asylum, beg

most respectfully to approach Your Excellency with reference to Government Notice No 102 of the 4th May, 1905, whereby an English Military Medical man has been appointed to the Board of the Lunatic Asylum for the examination of English patients, and we earnestly request Your Excellency to allow us to express our profound regret at the introduction of such an innovation, both as members of the Medical Profession and as loyal subjects to His Majesty the King.

As members of the Medical Profession, we need hardly point out to Your Excellency that we cannot help feeling deeply wounded by what might be interpreted as a token of distrust in the sense of fairness and justice of the present members of the Board of the Lunatic Asylum and of the local profession at large, inasmuch as it would appear that doubts are entertained whether a fellow-subject born in Great Britain who might come before the said Board would meet with the same equity and benevolence as one born in a part of Greater Britain.

Proud as we are of forming part of an honourable and liberal profession which in its ministration never distinguishes creeds or races, but is solely guided by impulses of humanity in the relief of suffering, we, Sir, respectfully beg to enter a protest against the slur cast on us.

As the King's loyal subjects, we sincerely deplore the accentuation of racial distinction which in this instance has been carried out between fellow subjects born out of Malta and subjects born in these Islands, an accentuation which has always been deplored by Englishmen and Maltese alike, and which every loyal subject should do his best to do away with.

Trusting that Your Excellency will accept these remarks as prompted by our duty to our Profession and as entirely devoid of personal reflections on the gentleman mentioned in the Notice above referred to, a gentleman whom we all esteem as a distinguished member of our Profession and who is a personal friend of some of the undersigned.

We have the honour to be,
Sir,
Your Excellency's
most obedient servants,

(Signed)

F. Sceberras, M.D., Senior Member of the Medical Council of the University, member of the Medical Board and of the Council of Health.

F. Debono, M.D., Professor of Medical Jurisprudence, member of the General Council of the University, member of the Medical Board, of the Council of Health and of the Board of the Lunatic Asylum.

C. Mifsud, M.D., Professor of Medicine, Senior Physician to the Civil Hospital, Visiting Physician to the Lunatic Asylum, member of the General Council of the University, of the Council of Health, of the Medical Board, and of the Board of the Lunatic Asylum.

G. Tabone Engerer, M.D., Consulting Surgeon to the Civil Hospital, Visiting Physician and Surgeon to the British Seamen's Hospital, member of the Board of the Lunatic Asylum.

L. Manche, M.D., late Surgeon Lieut.-Colonel Royal Malta Artillery, Lecturer of Ophthalmology at the University, and Ophthalmologist to the Civil Hospital.

C. Samut, M.D., Professor of Anatomy, Pathologist to the Civil Hospital, member of the General Council of the University.

S. Grech, M.D., Fellow Obstetrical Society, Professor of Midwifery and Gynecology, Accoucheur and Gynecologist to the Civil Hospital, member of the Medical Board.

S. Cassar, M.D., Professor of Surgery, Senior Surgeon to the Civil Hospital, member of the Medical Board.

J. S. Galizia, M.D., M.R.C.S., etc., Junior Surgeon to the Civil Hospital.

V. Micallef, M.D., Professor of Materia Medica and Therapeutics.

I. Psaila, M.D., member of the Council of the University, Examiner in Medicine, and member of the Medical Board.

Portelli Carbone, M.D., Junior Physician to the Civil Hospital.

[By way of supplement to the above report, we take the following from the Parliamentary report published in the *Times* on August 12th:

In the House of Commons, Mr. Lyttelton, replying to Mr. Crooks as to what action, if any, he proposed to take upon the protest of the medical men of Malta upon the appointment of Major Lawson by His Excellency the Governor to supervise the Malta Lunacy Board's medical officers in dealing with English patients only; and whether, with the view of adding to the good feeling of His Majesty's loyal Maltese subjects, he would consider the advisability of making Major Lawson a member of the Maltese Lunacy Board rather than a casual supervisor, said: The hon. member's suggestion has been carried out, and Major Lawson has already been appointed a regular member of the Board of the Malta Lunatic Asylum. The duties of the Board are to meet once a week at the lunatic asylum, to discharge inmates when cured, and to testify to the insanity of those admitted during the preceding week. It was never at any time intended that Major Lawson should in any sense supervise the medical officers of the Board, or to cast any reflection whatever on the manner in which the Board has performed its duties.]

CAPE OF GOOD HOPE—EASTERN PROVINCE BRANCH.

An ordinary meeting of this Branch was held at Grahamstown Asylum on July 14th, at 8 p.m.

Confirmation of Minutes.—The minutes of the meeting of May 12th were read and confirmed.

Proposed East London Division.—Notification was received of an application to the Central Council to constitute East London Division with boundaries as agreed upon.

Proposed South African Guild.—A letter was read from Dr. C. E. Jones Phillipson recounting the discussion at the Medical Congress on the proposed South African Medical Guild. The Congress, as a whole, was averse to the scheme.

Representative on Central Council.—Colonel Bruce, F.R.S., of the Tropical School of Medicine, was elected as Representative on the Central Council, Dr. Passon having decided not to act.

Vote of Thanks to Retiring President.—A vote of thanks was passed to the President, Dr. J. M. Coutts, for his services in the chair, with regret at his retirement.

Communications.—Dr. R. C. Mullins showed a Cape Police trooper, 6 ft. high and 39 in. round the chest, whose thoracic and abdominal viscera were transposed. Dr. J. Coury of Fort Beaufort Asylum, sent two specimens with clinical notes: (1) Double aneurysm of left ventricle: (2) dysenteric ulceration of small intestine. Dr. T. D. Greenlees showed by lantern light a series of photomicrographs by Dr. Ford Robertson of Edinburgh. The subject was brain tissues, normal and pathological. The meeting passed a cordial vote of thanks to Dr. Ford Robertson.

The Annual Exhibition
OF
FOODS, DRUGS, INSTRUMENTS, BOOKS, AND SANITARY APPLIANCES.

[*Third Notice.*]

Drugs and Preparations.

Andrus and Andrus (46, Holborn Viaduct, E.C.). The principal exhibits of this firm were Formolyptol, Hemaboloids, and Kola-Cardinette. The former is a combination of formaldehyde, aceto-boro glyceride, and the active constituents of a number of balsams. It is a pleasant germicide, stated to be absolutely non-toxic. Hemaboloids are, we understand, a combination of various iron-bearing nucleo-proteids of the vegetable kingdom, reinforced by beef peptones, bone-marrow extract, and nuclein. They are also prepared with arsenic and strychnine. Kola-cardinette consists of kola and coca, to which cinchona, nux vomica, and cereal phosphates have been added. It is a palatable preparation described by the firm as representing "the four best tonics with a firm backbone," the latter being provided by the cereal phosphates introduced.

Arthur and Co. (Ogle Street, London, W.). This firm of manufacturing, analytical, and consulting chemists made a special feature of Bromaurum, which is claimed to act as a direct nerve tonic and to have a remarkable power of subduing the pain both of nerve disorders and of chronic rheumatism. Some antiseptic handkerchiefs for the use of tuberculous patients, and Tanno Pumilio also attracted attention. The latter has the formula $C_{76}H_{52}$, and is a remedy for a variety of skin irritations, especially those due to profuse perspiration or exposure to the sun.

George Back and Co. (13 Devonshire Square, E.C.). The stall of this firm was devoted to the display of the "G B." Diabetes Whisky, of which samples will be sent to medical men on application.

The Bayer Co., Limited (19, St. Dunstan's Hill, London, E.C.). This firm, which is well known for its synthetic products, had an attractive array of new and recent drugs. Many of those shown, although really young in years, have already become familiar. There were two or three, however, which were quite new. Among these was Jothion. This is stated to

contain about 80 per cent. of iodine, and to be readily absorbed by the skin, and when thus administered in doses of ½ to 1 drachm a day to have none of the disadvantages of the internal exhibition of iodine. Its use is considered to be indicated in all forms of chronic inflammation, and, generally speaking, for those purposes for which potassium iodide is commonly administered. Isopral was also shown; this is a substitute for chloral hydrate, and is believed to possess no toxic qualities. A third new drug was Metakalin. It is an antiseptic for external use, and belongs to the creosol group, but differs from the majority of its relatives in the fact that it can be prepared in readily soluble 15-gr. tablets and in cartridges of 2½ drachms.

BRAND AND CO (11, Stanhope Street, Mayfair, W.). The well-known specialities for invalids prepared by this firm were shown in great variety. One with which we were less acquainted than the others was Beef Broth; it is a fluid beef which can be taken as a jelly or diluted with water. It contains, we are informed, both the fibrous and extractive constituents, and is sent out in 8 oz. tins. It is certainly a very pleasant product, and should prove useful for the rapid preparation of beef tea.

BURGOYNE, BURBIDGES, AND CO. (12-16, Coleman Street, E.C.). This firm are sole agents for the Chemische Fabrik von Heyden, whose preparations—Creosotal and Durotal—both found a place on the stand. The former is a creosote carbonate. The latter is a guaiacol carbonate, which is inodorous and tasteless; it is recommended for use in pulmonary tuberculosis and as an intestinal antiseptic in enteric fever. Unguentum Credé, another preparation shown, is an ointment of soluble metallic silver in a convenient form. Xeroform was also exhibited; it is considered to be a good substitute for iodoform, and is stated to be non-poisonous and unirritating. Novargan was shown in tablets; it is a silver preparation especially recommended for use in the treatment of gonorrhoea. For ordinary injections it is used in a 0·5 to 1 per cent. solution, while in cases which it is hoped may abort a 15 per cent. solution is instilled. An ointment recommended by Neisser as an antisyphilitic was also on view, named Unguentum Heyden. It is prepared from Calomelol or Colloidal Calomel, which is stated to be less toxic than ordinary mercury subchloride.

CADBURY AND CO. This firm had upon view an attractive array of its various preparations, of which the "Cadbury's Cocoa" is too well known to require description, having long ago achieved popularity. The Milk Chocolate which the firm prepares is perhaps less familiar; it is made, we understand, of cocoa, sugar, and full cream milk, and is certainly a pleasant preparation.

J. DEFRIES AND SONS (Houndsditch, London, E.). A model of the well-known Equifex disinfector was at work on the stall of this firm. Its advantages are probably well known to our readers, since it has long been on the market. Pasteur filters and a new drain tester were also on view, as likewise a model of a steam pasteuriser for milk, which has been made for the Borough of Lambeth; Pokes and Barnes's Purifier for the continuous purification and cooling of milk in hospitals and similar institutions was also shown; it is well designed.

A. DE ST. DALMAS AND CO. (Leicester). St. Dalmas Plaster and Strapping is by this time well and favourably known, and was to be seen on the firm's stall in many varieties, such as hospital strapping, "National" Rubber Adhesive Plaster and "National" Mustard Plaster. The "Leicester" Perfect Plaster of Paris bandages have the gypsum well incorporated in their meshes and thus can be carried about without loss to their utility. For the "Varico" bandage it is claimed that it is lighter than a stocking and also cooler. It can be adjusted to any required pressure and retains its position.

FAIRCHILD BROTHERS AND FOSTER (Snow Hill Buildings, London, E.C.). The Fairchild digestive products in tabloid form have long been familiar to medical men as issued by Messrs. Burroughs, Wellcome, and Co. They are now to be issued under the term of "Pepules," and the latter can be procured containing either pepsine or zymine, or compounds of these with drugs. Other well-known products of this firm shown were Peptogenic Milk Powder for making fresh humanized milk at home, and Panopepton, which is a combination of wheat flour in soluble condition with the nutritive parts of lean beef in a pleasant form. Another prominent exhibit was Lecithin, which is regarded as a nerve food. It is derived from yolk of egg, but unlike native lecithin, it is free from proteid. In its natural form lecithin is not pleasant to take, but as prepared by Messrs. Fairchild its disagreeable properties seem to have been successfully disguised. The firm does not consider it possible to administer this product with advantage otherwise than in a liquid form, and hence does not issue it in tabloids or coated pills.

FOODS, Limited (Stockport). The exhibit of this firm was Moseley's Food, which when prepared according to instructions produces an appetizing dish of a pleasant flavour. An analysis supplied showed it to contain 14·78 of proteids and 69·09 of carbohydrates, about one-third of the latter being soluble. In addition it contains, it would appear, some 2 per cent. of fat and 1·72 per cent. of mineral matter, the latter being chiefly phosphates. It is easy to prepare, and has attained considerable popularity. The way in which it is manufactured seems to break up starch granules thoroughly and to reduce bran to fine particles.

HARROGATE CORPORATION. This popular inland health resort was represented by a stall at which were to be seen views and photographs of the town and neighbourhood, samples of its mineral waters and a model of the ingenious bath known as "The Harrogate Combination Bath."

C. J. HEWLETT AND SON (35-42, Charlotte Street, E.C.). This firm of wholesale and export druggists and surgical instrument makers had upon view a variety of the special preparations which have long been associated with its name, such as Mist. Pepsine co. c. Bismutho, Mist. Daminae co., Mist. Hepatica conc. Newer preparations were Mist. Terpin Heroin co. and Somnigen. The latter is a dialysed solution of the bromides of the alkaloids of opium; it is free from the nauseous taste of laudanum, and is said not to produce any unpleasant after-effects. A variety of Unna's pastes were also shown, as well as a special hot-water bath designed to facilitate the application of these pastes in skin diseases. Room was also found for a number of antiseptic preparations and wound dressings, and, amongst other, Antithermogen, which is considered to be an excellent substitute for poultices, and to possess hygroscopic and anodyne properties. Creosalgen, a registered preparation of the firm, is an alkaline solution of the chief constituents of cresylic acid. It is freely soluble in water, and forms a milk-white solution. In the surgical form it is stated to be effective in a solution of 1 in 1,000. It is also combined with a lanoline base to form an antiseptic jelly for gynaecological use, and for this purpose it is put up in collapsible tubes of convenient size. The Lin. Betulae co. shown seemed a specially pleasant preparation; while it was easy to imagine that Antithermogen, a clay silicate preparation intended as a substitute for poultices, would prove useful.

M. HOFF (29 New Bridge Street, E.C.). Ironol was the feature of this firm's exhibit. It is a very palatable iron tonic, consisting, we were informed, of organic salts of iron; it does not blacken the teeth, and can be taken in mineral water or lemonade. The liquid malt extract already sufficiently well known as "Hoff's" was also shown.

HORLICK'S MALTED MILK CO. (34, Farringdon Road, London, E.C.). The Malted Milk of this firm has now been favourably known for a good many years. In its essence it is a combination in about equal proportion of the solid constituents of cow's milk and extracts of wheat and barley malt. Two new ways in which it can be taken were shown at the stall devoted to it. One of these was in the shape of malted milk biscuits and the other as "The Ideal Luncheon" by using it with a cream-soda fountain. In the latter form it proved an exceedingly pleasant drink, and may be expected to be popular in establishments where soda-fountains are to be found.

T. HOWARD LLOYD AND CO. (Leicester) This firm of manufacturing chemists made a special feature of tablets and Soluletts for the ready preparation of various antiseptic and other solutions, including mineral waters; also of many soluble-coated pills and of Inklets, which are compressed ink tablets for the preparation of ink in a variety of colours. The firm manufactures, amongst other things, Anodyne Colloid, Styptic Colloid, and standardized Liquor Secalis Ammoniata, and a great variety of concentrated solutions and standardized tinctures for dispensing purposes. Among the inklets, those called "Fountain Inklets" seemed specially useful; one of them is sufficient, with a little water, to recharge a fountain pen. The Occules were also attractive; they are little gelatine capsules containing just enough of some approved ointment for ophthalmic use for one application, the latter being made by pricking the capsule and squeezing out the contents at the desired spot.

JEYES'S SANITARY COMPOUNDS COMPANY (64 Cannon Street, E.C.). The stall of this firm was mainly devoted to Cyllin and the various preparations which are based upon it. It is

one of the more recent disinfectants, and has been produced from certain members of a new series of oxidized hydrocarbons. It is guaranteed to be at least ten times less toxic than carbolic acid, and to have carbolic acid coefficients ranging from 10 to 30. It has been mentioned with approval in the course of several papers which have been published in the British Medical Journal within recent months, and seems likely to take a leading position among disinfectants, since it is one of scientifically-proved merit.

The Liverpool Lint Company (Mark Street Mills, Liverpool). In addition to flax and cotton lints, cotton wools of all qualities, gauze, bandages, and splint paddings, this firm showed "Impermiette" in three thicknesses. It is intended, according to its thickness, for use either as waterproof bed-sheeting, as a substitute for jaconette, or in place of oil silk. It is stated that it may be washed in boiling soap and water, and is not injured either by chloroform or 5 per cent. carbolic acid. It appears to be well suited to its various purposes.

The Maltine Manufacturing Company, Limited (Hart Street, Bloomsbury, W.C.). This firm showed both its own varied products and those of Messrs. Carnrick and Co. Both firms are very well known for their dietetic preparations. Maltine was to be seen in a great number of different combinations, such as Maltine with Easton Syrup, with "Chemical Food," with Hypophosphites, and with Iron. Of Maltine with Cod-liver Oil we long ago expressed a very favourable opinion, while Carnrick's Liquid Peptonoids and the Beef Peptonoids, as a dry powder, are both popular, being palatable and well borne even by a very delicate stomach.

Newton, Chambers and Co., Limited (The Laboratories, Thorncliff, near Sheffield). The exhibit of this firm was constituted by Izal in various forms. It is a disinfectant which was enormously used in South Africa during the war, and which is greatly favoured by numerous public bodies. It is non-corrosive and is said to be non poisonous. It was shown in the three forms in which it is commonly used: Ordinary, Medical, and Veterinary. There were specimens also of the way in which it has been applied to the production of soaps and toilet preparations, nearly all of which have gained considerable popularity.

Oppenheimer, Son and Co., Ltd. (170, Queen Victoria St.). Among the latest pharmaceutical products of their laboratories shown by Messrs. Oppenheimer, Son, and Co. were aseptules of ergole. renaglandin and anaesthetic renaglandin. Aseptules are hermetically-sealed glass tubes. drawn out to a neck at which they may be easily broken without any danger of splintering, and as each contains a sufficient quantity of carefully-sterilized preparation for one application their utility is very considerable. Ergole is a preparation of ergot of rye, which is believed to be three times the strength of the official preparation. and free from inert or irritating constituents. The renaglandin and anaesthetic renaglandin aseptules each contain 3 gr. of renaglandin, which, we are informed, is equal to 1 in 1,000 of the active principles of the suprarenal gland; to the anaesthetic renaglandin 5 per cent. of eucaine lactate has been added. Many new formulae were shown in the familiar bipalatinoid and palatinoid form, among which might be mentioned bipalatinoids containing one Blaud's pill, with 2 and 3 gr. respectively of absolute haemoglobin, and palatinoids of methyl salicylate, laxoin mucin et sodae bicarb. and metramine. Laxoin, a specially purified form of dihydroxyphthalophenone has been before the profession for some time in 2 gr. palatinoids and ½ ¾, 1, 1½, 2 and 5 gr. cocoids; the new palatinoids are respectively 1, 4, and 5 gr. Mucin et sodae bicarb. āā gr. 2; Mucin is indicated, it is considered, in gastric ulcer, and this palatinoid forms a suitable means for its administration in an unaltered condition. Metramine, a purified form of well-known urinary antiseptic, hexamethylenetetramine, was presented in two palatinoids, one containing 5 gr. of the pure salt, and the other 4 gr. with methylene blue, 1 gr. copaiba and santal oils. To the firm's list of liquors there were two additions—liq. strophanthi, a standardized liquor prepared from the seeds of strophanthus kombé only, and by methods which appear to be in accordance with the original recommendations of Sir Thomas Fraser. One new Neboline compound deserves notice. It. like the palatinoid above referred to, contains mucin for administration in cases of physiological deficiency of mucoid secretion in the respiratory and upper part of the alimentary tract.

Parke, Davis, and Co. (11, Queen Victoria Street, E.C.). Of the two stands occupied by the exhibits of this firm, one was given up to biological products, such as Takamine, and various serums and pharmaceutical preparations. Among the latter was Endrenine, a new local anaesthetic and haemostatic, which, it is stated, has already gained approval at the hands of many surgeons, dentists, and veterinary medical officers. Mosquera food products were also shown; in this the nutritive constituents of beef are rendered soluble by a ferment stated to be derived from pineapple juice. Brometone and Laxative Lithia were also shown. The former has much the same action as ordinary bromides, but is stated to cause no sort of nausea or gastric irritation. The latter is a useful form of diuretic and antacid containing potash. On their other stand Messrs. Parke, Davis, and Co had a number of lantern slides and medicine chests. Among the former were several series illustrating biological and pharmacological processes used in the preparation of vaccines and in explanation of the physiological testing of drugs. Tracings were shown also of the effect on the heart and blood pressure of certain special preparations of the firms, such as adrenalin, chloretonone, and digitoxin. The medicine chests included a useful form of Antidote Emergency Case for the use of practitioners.

Perrier. This French Table Water was introduced into England about a year ago, and has already gained considerable popularity. The source at which it is bottled is near Nimes, in the South of France. The spring itself is situated in an open plain, and a long while ago earned for itself the title of "Les Bouillens," on account of the constant bubbling up of carbonic acid gas. In addition to an unusually large quantity of carbonic acid, the water contains an amount of alkaline carbonates. It is undoubtedly a pleasant table water.

☞ *To ensure the insertion of notices in this column they must be received at the Central Offices of the Association not later than the first post on Tuesday.*

Association Notices.

LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

The Library will be closed from Thursday, August 24th, till Thursday, August 31st, for the purpose of cleaning.

BRANCH AND DIVISION MEETINGS TO BE HELD.

Metropolitan Counties Branch.—The Hon. Secretaries have received (on August 8th) a requisition signed by ten members of the Branch Council for a special meeting of the Council [see Rule 8 (i)]. A meeting of the Branch Council will therefore be held at 420, Strand, at five o'clock on Friday, August 18th. Business: To decide what steps it is desirable should be taken in view of the fact that the London County Council are proposing this autumn to get powers in their next General Purposes Bill to pay, in the first instance, medical practitioners called in by midwives, under the Midwives Act, 1902.—F. J. Smith, M.D., and Ernest Clarke, F.R.C.S., Hon. Secretaries.

South-Eastern Branch: Brighton Division.—A meeting will be held at the Dispensary, 113, Queen's Road, Brighton, at 4.30 p.m., on the fourth Wednesday in October (25th), and November (22nd). Members wishing to read papers or show cases at the meetings are requested to give at least a fortnight's notice to the Honorary Secretary, Ryding Marsh, M.D., 49, Sackville Road, Hove.

Vital Statistics.

ENGLISH URBAN MORTALITY IN THE SECOND QUARTER OF 1905.

[Specially Reported for the British Medical Journal.]

The vital statistics of the seventy-six large towns dealt with in the Registrar-General's weekly returns are summarized in the accompanying table. During the three months ending June last, 111,006 births were registered in these towns, equal to an annual rate of 28.5 per 1,000 of the population, estimated at 15,609,377 persons in the middle of the year; in the corresponding quarter of the preceding year the rate had been 29.5 per 1,000. In London the birth-rate last quarter was 27.0 per 1,000, while it averaged 30.2 per 1,000 in the seventy-five other large towns, among which the rates ranged from 17.3 in Bournemouth, 17.0 in Hastings, 19.0 in Hornsey, 20.2 in Halifax, 21.3 in Northampton, and 21.7 in Bury and in Bradford, to 34.7 in Sunderland, 35.0 in Middlesbrough and in Tynemouth, 35.2 in St. Helens, 38.2 in Merthyr Tydfil, and 38.6 in Rhondda.

During the quarter under notice 57,159 deaths were registered in these towns, corresponding to an annual rate of 14.7 per 1,000 living, against a rate of 15.3 per 1,000 in the second quarter of last year. In London the rate mortality was 14.3 per 1,000; in the seventy-five other large towns it averaged 14.9 per 1,000, and ranged from 7.1 in Hornsey, 8.4 in Leyton, 8.7 in Kings Norton, 9.4 in Handsworth (Staffs.), 9.8 in Willesden, and 9.9 in East Ham to 18.3 in Sunderland, 18.5 in West Bromwich and in Wigan, 19.5 in Oldham, 20.0 in Tynemouth, 21.4 in Middlesbrough, and 22.4 in Merthyr Tydfil.

The 57,159 deaths from all causes in the seventy-six towns last quarter included 5,512 which referred to the principal infectious diseases; of these, 18 resulted from small-pox, 2,188 from measles, 435 from scarlet fever, 501

Analysis of the Vital Statistics of Seventy-Six of the Largest English Towns during the Second Quarter of 1905.

Towns.	Estimated Population middle of 1905.	Births	Deaths.	Annual Rate per 1,000 Living. Births.	Deaths.	Principal Infectious Diseases.	Deaths from Principal Infectious Diseases.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-Cough.	Fever.	Diarrhœa.	Deaths of Children under one year of age to 1,000 Births.	Rate per cent. of Uncertified Deaths.
76 Towns	15,609,377	111,006	57,159	28.5	14.7	1.41	5,512	18	2,188	435	501	1,430	269	671	112	1.1
75 Provincial Towns	10,924,583	79,423	40,449	29.2	14.9	1.44	3,915	13	1,637	316	380	900	218	451	115	1.5
London	4,684,794	31 583	16,710	27.0	14.3	1.35	1,597	5	551	119	121	530	51	220	105	0.2
Croydon	147,704	959	444	26.0	12.1	0.62	23	—	2	4	2	11	—	4	78	—
Willesden	138,080	1,043	339	30.3	9.8	1.20	41	—	9	1	2	23	2	4	81	0.6
Hornsey	84,070	399	149	19.0	7.1	0.58	12	—	4	1	4	2	—	1	55	—
Tottenham	116,232	839	363	30.7	12.5	1.34	39	—	—	2	3	32	—	2	93	—
West Ham	294,997	2,312	897	31.4	12.2	1.71	126	—	21	6	15	65	5	14	108	0.1
East Ham	123,381	947	304	30.8	9.9	1.34	41	—	5	2	8	22	4	—	83	0.3
Leyton	114,555	800	241	28.0	8.4	0.68	19	—	4	1	2	7	3	2	68	1.2
Walthamstow	116,297	801	316	27.6	10.9	1.65	48	—	29	3	2	10	—	4	104	0.3
Hastings	66,820	298	217	17.9	13.0	0.90	15	—	—	—	1	12	—	2	134	0.9
Brighton	127,183	707	413	24 8	13.0	0.28	9	—	1	—	1	6	1	—	78	0.5
Portsmouth	201,975	1,310	727	27.6	14 4	1.75	88	—	50	2	12	14	6	4	96	1.7
Bournemouth	66,168	286	218	17.3	13.2	0.36	6	—	—	—	4	—	—	2	87	0.5
Southampton	114,897	699	400	24.4	14.0	2.05	59	4	37	3	5	2	2	6	127	—
Reading	77,674	488	250	25 2	12.9	1.49	29	—	16	2	3	4	1	3	111	2.0
Northampton	92,441	491	285	21.3	12.4	0.06	22	—	11	2	3	5	—	1	106	2.1
Ipswich	70,802	522	249	29.6	14.1	1.07	19	—	3	2	3	9	2	—	111	0.4
Great Yarmouth	52,353	367	175	28.1	13.4	0.16	2	—	—	—	—	—	1	1	98	—
Norwich	116,741	797	401	27.4	13.8	0.59	17	—	—	—	9	—	2	6	93	1.0
Plymouth	116,000	784	434	27.1	15.0	0.87	25	—	—	10	5	2	2	6	101	—
Devonport	76,864	566	253	29.5	13.2	0.89	17	—	4	2	1	4	3	3	94	—
Bristol	358,515	2,483	1,224	27.8	13.7	1.08	97	—	51	4	7	28	2	5	106	0.2
Hanley	64,667	548	270	34.0	16.8	2.66	43	—	1	2	8	23	2	7	162	1.9
Burton-on-Trent	52,424	315	132	24 1	10.1	0.16	2	—	1	—	1	—	—	—	76	1.5
Wolverhampton	99,456	745	325	30.0	13.1	0.84	21	—	4	1	1	—	2	13	93	0.6
Walsall	92,998	726	293	31.3	12 6	0.39	9	—	—	1	2	—	2	4	114	0.3
Handsworth	61,721	367	144	23.8	9.4	0.51	8	—	2	1	2	—	2	1	71	0.7
West Bromwich	67,823	540	313	31.9	18.5	6.15	104	—	87	4	2	1	3	7	144	1.3
Birmingham	542,959	3,938	2,132	29.1	15.7	1.21	163	—	69	16	21	28	6	23	135	3.5
Kings Norton	69,630	479	151	27.6	8.7	0.41	7	—	3	1	1	1	1	—	81	0.7
Smethwick	62,605	518	235	33.2	15.1	3.58	56	—	37	1	—	15	2	1	116	3.4
Aston Manor	81,320	558	231	27.5	11.4	1.15	23	—	7	2	2	7	1	4	99	1.7
Coventry	75,134	571	266	30.5	15.3	3.26	61	—	52	—	2	—	4	3	104	2.1
Leicester	228,132	1,566	688	26.5	12.1	0.43	25	—	7	7	3	4	1	3	112	1.9
Grimsby	68,153	531	425	31.3	13.2	0.83	14	—	1	—	1	3	3	6	119	2.7
Nottingham	251,671	1,650	919	26.3	14.6	1.26	79	1	38	5	4	10	5	16	122	0.7
Derby	122,207	782	420	25.7	13.8	1.58	48	1	29	2	2	7	2	5	130	—
Stockport	98,320	663	357	27.3	14.6	1.18	29	—	7	1	1	15	2	3	118	—
Birkenhead	116,035	954	450	33.0	15.6	1.20	35	—	20	3	6	1	2	3	101	—
Wallasey	62,460	407	189	27.4	12.1	0.63	10	—	—	1	3	—	1	5	94	1.1
Liverpool	730,143	6,198	3,220	34.1	17.7	1.42	260	—	91	48	23	39	18	41	119	3.8
Bootle	62,758	511	233	32.7	14.9	1.09	17	—	2	7	4	1	—	3	123	3.0
St. Helens	89,843	789	379	35.2	16.9	2.14	48	—	21	5	6	8	1	7	114	5.0
Wigan	86,581	736	399	34.1	18.5	2.05	44	—	28	4	1	5	2	4	135	0.5
Warrington	68,301	574	292	33.7	17.1	3.42	58	—	50	2	—	—	3	3	132	4.5
Bolton	178,111	1,124	588	25.3	13.2	1.35	59	—	46	—	3	2	2	6	129	0.5
Bury	58,594	317	224	21.7	15.3	0.49	7	—	1	1	2	—	1	2	114	0.4
Manchester	631,185	4,723	2,659	30.0	16.9	1.70	267	—	100	13	26	82	14	32	128	1.5
Salford	231,524	1,820	932	31.5	16.1	1.93	111	—	38	14	24	13	10	12	110	0.4
Oldham	140,225	864	680	24.7	19 5	3.01	105	2	42	15	3	24	4	15	148	—
Rochdale	86,390	508	318	23.6	14.8	0.42	9	—	1	2	3	1	2	—	93	3.1
Burnley	101,682	718	376	28.3	14.8	0.96	24	—	2	7	3	4	3	5	131	0.8
Blackburn	133,067	852	513	25.7	15.5	1.26	42	—	1	18	5	4	5	9	101	3.5
Preston	115,721	829	474	28 7	16 4	1.27	37	1	—	—	3	24	1	8	128	2.7
Barrow-in-Furness	60,306	471	191	31.3	12.7	1.52	23	—	9	2	—	8	2	2	102	2.1
Huddersfield	94,888	604	393	25 5	16.6	0.80	19	—	2	2	3	3	5	4	81	—
Halifax	108,419	547	394	20.2	14.6	0.85	23	—	—	2	4	12	1	4	150	0.8
Bradford	286,709	1,555	1,178	21.7	15.1	1.21	86	3	4	14	14	38	3	10	109	1.2
Leeds	456,787	3,215	1,666	28.2	14 6	0.56	64	—	8	5	6	26	11	8	115	0.2
Sheffield	440,414	3,384	1,917	30.8	17.5	3.61	395	—	274	24	15	45	11	26	144	2.5
Rotherham	59,794	482	181	32.3	12.1	1.01	15	—	—	2	2	5	1	5	93	4 4
York	82,362	570	283	27.8	13.8	0.59	12	—	3	2	2	4	—	1	114	—
Hull	258,127	1,980	975	30.8	15.2	1.47	94	—	14	10	14	41	6	10	121	0.8
Middlesbrough	98,369	8 8	526	35.0	21.4	3.05	75	—	32	2	6	24	2	9	142	1.1
Stockton-on-Tees	52,425	391	218	29.9	16.7	1.91	25	—	19	1	2	—	1	2	115	1.4
West Hartlepool	71,313	537	224	30.2	12.6	1.69	30	—	12	2	9	3	2	2	110	1.3
Sunderland	152,761	1,220	696	34.7	18.3	2.24	80	—	50	—	5	20	6	8	132	2.6
South Shields	100,360	879	441	32.2	16.2	1.54	42	1	6	1	8	17	4	5	122	5.0
Gateshead	120,620	998	417	33.2	13.9	0.80	24	—	11	3	2	4	1	3	114	7.4
Newcastle-on-Tyne	264,511	2,167	1,047	32.9	15.9	0.89	58	—	14	2	11	19	3	9	105	0.4
Tynemouth	53,595	467	267	35.0	20.0	1.56	21	—	—	—	2	17	1	1	146	—
Newport (Mon.)	72,880	573	248	31 5	13.7	1.67	30	—	21	1	2	3	1	2	94	0.4
Cardiff	180,054	1,309	508	29 2	13 4	1.47	66	—	34	7	6	12	4	8	108	—
Rhondda	124,688	1,504	547	38.6	17.6	1.76	55	—	25	1	3	16	2	8	150	0.2
Merthyr Tydfil	73,848	703	412	38 2	22.4	4.29	79	—	63	3	2	3	0	2	161	0.5
Swansea	96,384	734	374	30.5	15.6	0.45	11	—	2	4	2	—	2	1	97	1.1

from diphtheria, 1,430 from whooping-cough, 260 from "fever" (principally enteric), and 671 from diarrhœa. The death rate from these diseases, which had been 1·73 per 1,000 in the second quarter of last year, declined to 1·41 per 1,000 during the quarter under notice. In London the death rate from the principal infectious diseases was equal to 1·35 per 1,000, while it averaged 1·44 per 1,000 in the seventy-five other large towns, among which the rates ranged from 0·16 in Great Yarmouth and in Burton-on-Trent, 0·28 in Brighton, 0·36 in Bournemouth, 0·39 in Walsall, 0·41 in King's Norton, and 0·42 in Rochdale, to 3·01 in Oldham, 3·65 in Middlesbrough, 3·26 in Coventry, 3·42 in Warrington, 3·58 in Smethwick, 3·61 in Sheffield, 4·29 in Merthyr Tydfil, and 6·15 in West Bromwich. The 18 fatal cases of small-pox registered last quarter included 5 that belonged to London, 4 to Southampton, 3 to Bradford, and 2 to Oldham. The 2,188 deaths from measles were equal to an annual rate of 0·56 per 1,000; in London the death-rate from this disease was 0·47 per 1,000, while it averaged 0·60 in the seventy-five other large towns, and was highest in West Bromwich, Smethwick, Coventry, Warrington, Sheffield, and Merthyr Tydfil. The 435 fatal cases of scarlet fever were equal to an annual rate of 0·11 per 1,000; in London the scarlet fever death-rate was 0·10 per 1,000, while among the seventy-five other large towns the highest rates from this disease were recorded in Plymouth, West Bromwich, Liverpool, Bootle, Salford, Oldham, Burnley and Blackburn. The 501 deaths from diphtheria corresponded to an annual rate of 0·13 per 1,000; in London the death-rate from this disease was 0·10 per 1,000, while it averaged 0·14 in the seventy-five other large towns among which diphtheria was proportionately most fatal in East Ham, Norwich, Hanley, Bootle, St. Helens, Salford, West Hartlepool, and South Shields. The 1,430 fatal cases of whooping-cough were equal to an annual rate of 0·37 per 1,000; in London the rate of mortality from whooping-cough was 0·45 per 1,000, while it averaged 0·33 among the seventy-five large provincial towns, among which the highest death-rates from this disease were recorded in Tottenham, West Ham, Hanley, Smethwick, Preston, Middlesbrough, and Tynemouth. The 269 deaths referred to different forms of "fever" were equal to an annual rate of 0·07 per 1,000; in London the "fever" death-rate was only 0·04, while it averaged 0·08 in the seventy-five other large towns, and was highest in Devonport, West Bromwich, Coventry, Grimsby, Warrington, Salford, Huddersfield, and Merthyr Tydfil. The 671 fatal cases of diarrhœa corresponded to an annual rate of 0·17 per 1,000; in London the death-rate from this disease was 0·19 per 1,000; while among the seventy-five large provincial towns diarrhœa was proportionately most fatal in Hanley, Wolverhampton, West Bromwich, Grimsby, Oldham, Rotherham, and Middlesbrough.

Infant mortality, measured by the proportion of deaths among children under 1 year of age to registered births, was equal to 112 per 1,000 last quarter, against 120 in the corresponding quarter of the preceding year; in London the rate of infant mortality was 105 per 1,000, while it averaged 115 in the seventy-five other large towns, and ranged from 55 in Hornsey, 68 in Leyton, 71 in Handsworth (Staffs.), 76 in Burton-on-Trent, and 78 in Croydon and in Brighton, to 146 in Tynemouth, 148 in Oldham, 150 in Halifax and in Rhondda, 161 in Merthyr Tydfil, and 162 in Hanley.

The causes of 648, or 1·1 per cent., of the deaths registered in the seventy-six towns last quarter were not certified, either by a registered practitioner or by a coroner. All the causes of death were duly certified in Croydon, Hornsey, Tottenham, Southampton, Great Yarmouth, Plymouth, Devonport, Derby, Stockport, Birkenhead, Oldham, Huddersfield, York, Tynemouth, and Cardiff; while the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, St. Helens, Warrington, Blackburn, Rotherham, South Shields, and Gateshead.

HEALTH OF ENGLISH TOWNS.

In seventy-six of the largest English towns including London, 7,643 births and 5,226 deaths were registered during the week ending Saturday last, August 12th. The annual rate of mortality, which had been 13·4, 15·0, and 17·0 in the three preceding weeks, further rose last week to 17·5 per 1,000. The rates in the several towns ranged from 5·0 in Hornsey, 6·6 in Ipswich, 6·7 in King's Norton, 8·1 in Croydon, 8·5 in Walthamstow, 8·7 in Rotherham, 9·5 in West Hartlepool and in Gateshead, and 9·6 in Halifax, to 23·0 in Grimsby, 23·4 in Hanley, 23·5 in East Ham, 23·7 in Norwich, 24·4 in Warrington, 24·7 in Birkenhead, 25·5 in Sheffield, 25·8 in Bootle, 26·1 in Merthyr Tydfil, 28·3 in Wigan, and 38·4 in Rhondda. Of the deaths in Rhondda 39 were due to the colliery explosion at Wattstown. Excluding these deaths the rate would have been 22·1. In London the death-rate was 17·3 per 1,000; while it averaged 17·5 in the seventy-five other large towns. The death rate from the principal infectious diseases averaged 5·4 per 1,000 in the seventy-six towns; in London this death-rate was equal to 5·1 per 1,000, while among the seventy-five other large towns the rates ranged upwards to 9·0 in Walsall and in Birkenhead, 9·8 in Norwich, 9·9 in Grimsby, 11·4 in Sheffield, 11·6 in Bootle, 13·2 in Wigan, and 15·7 in West Ham. Measles caused a death-rate of 1·0 in Sunderland, 1·1 in Swansea, 1·4 in Merthyr Tydfil, and 3·5 in Barrow-in-Furness; whooping-cough of 1·1 in Middlesbrough, and 1·6 in Hanley; and diarrhœa of 8·3 in Hull and in Rhondda, 8·4 in Walsall, 8·5 in Birkenhead, 8·9 in Norwich, 9·2 in Grimsby, 10·0 in Bootle, 10·1 in Sheffield, 13·2 in Wigan and 14·1 in West Ham. The mortality from scarlet fever, from diphtheria and from "fever" showed no marked excess in any of the large towns. No death from small pox was registered last week in any of the seventy-six towns. The Metropolitan Asylums hospitals contained no small-pox patients on Saturday last, August 12th. The number of scarlet fever cases remaining under treatment in these hospitals and in the London Fever Hospital which had been 2,485, 2,550, and 2,632 at the end of the three preceding weeks, further rose to 2,670 at the end of last week; 355 new cases were admitted during the week, against 304, 352, and 366 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS.

During the week ending Saturday last, August 12th, 934 births and 463 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had been 15·2, 15·3, and 14·8 per 1,000 in the three preceding weeks, further fell last week to 13·8 per 1,000, and was 3·7 below the mean-rate during the same period in the seventy-six large English towns. Among these Scotch towns the death-rates ranged from 10·8 in Dundee, 11·5 in Aberdeen, and 11·6 in Paisley, to 16·6 in Leith and 17·8 in Greenock. The death-rates from the principal infectious diseases in these towns averaged 2·0 per 1,000, the highest rates being recorded in Glasgow, Greenock, and Perth. The 219 deaths registered in Glasgow included 5 which were referred to measles, 5 to whooping-cough, and 34 to diarrhœa. Two fatal cases of whooping-cough and 2 of diarrhœa were recorded in Edinburgh; 2 of measles in Perth; and 2 of diarrhœa in Dundee, Leith and Greenock.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, August 5th, 559 births and 361 deaths were registered in six of the principal Irish towns as against 549 births and 362 deaths in the preceding period. The mean annual death-rate in these towns, which had been 18·3, 14·8, and 17·9 per 1,000 in three preceding weeks, fell to 17·6 per 1,000 in the week under notice, this figure being 0·6 per 1,000 higher than the mean annual rate in the English towns for the corresponding period. The figures ranged from 13·6 in Waterford, and 15·8 in Cork to 21·2 in Dublin and 22·1 in Belfast. The zymotic death-rate during the same period and in the same six Irish towns averaged 3·6 per 1,000, or 1·0 per 1,000 higher than during the preceding period, the highest figure, 6·7, being recorded in Belfast. The deaths from diarrhœal diseases rose to 76, of which 36 occurred in Belfast and 25 in Dublin.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

Surgeon A. X. Lavertine is promoted to be Staff-Surgeon, from May 15th, 1903; his first commission being dated May 15th, 1895.

Surgeon J. C. Rowan, M.B., is also promoted to be Staff Surgeon, from November 12th, 1903; his first commission is dated November 12th, 1895.

Surgeons W. R. Center, M.B., and W. M. Keith, M.B., who joined as Surgeons, May 13th, 1896, are to be Staff Surgeons from May 15th, 1904.

Surgeons A. R. H. Skey, M.B., and F. H. Nimmo, to be Staff Surgeons, November 10th, 1904; their Surgeon's commission bears date November 10th, 1896.

Surgeon W. H. Ormonde Garde also is made Staff Surgeon, from May 25th, 1905. He was appointed Surgeon May 25th, 1897.

The following appointments have been made at the Admiralty: Joseph Crowley, Fleet Surgeon, to the *President*, for three months' course of hospital study, August 10th; Malcolm Cameron, Surgeon, to Chatham Hospital, August 7th; Harold F. D. Stephens, Fleet Surgeon, to Haslar Hospital, August 15th; Daniel J. P. M'Nabb, Fleet Surgeon, to the *Egmont*, for the *Mainc* (his appointment to the *Jupiter* being cancelled); Jean D. Hughes, Fleet Surgeon, to the *Jupiter*, August 15th; John Andrews, Fleet Surgeon, to the *President*, for three months' study at West London Hospital, August 15th; John Lowney, Fleet Surgeon, to the *Blenheim*, August 15th; George G. Borrett, Staff Surgeon, to the *Hermes*, August 15th; Norman I. Smith, Staff Surgeon, to the *Dido*, August 15th.

ROYAL ARMY MEDICAL CORPS.

Colonel W. S. Pratt, M.B., who is serving at Mhow, Bombay, has been appointed an Honorary Surgeon to the Viceroy of India.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

BATH: ROYAL UNITED HOSPITAL.—House Surgeon. Salary, £80 per annum.

BRADFORD ROYAL INFIRMARY.—House-Surgeon. Salary, £100 per annum.

BRIGHTON THROAT AND EAR HOSPITAL.—Non-resident House Surgeon. Salary, £75 per annum. Appointment for six months.

CAIRO: KASR-EL-AINY HOSPITAL.—Resident Medical Officer. Salary, £250 Egyptian per annum.

CARDIFF INFIRMARY.—Assistant House Surgeon. Salary, £60 per annum.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL AND DISPENSARY.—Junior House-Surgeon. Salary at the rate of £50 per annum.

COLCHESTER: ESSEX AND COLCHESTER GENERAL HOSPITAL.—House Surgeon. Salary, £100 per annum.

COVENTRY AND WARWICKSHIRE HOSPITAL.—Junior House Surgeon. Salary, £60 per annum. Appointment for six months.

DOUGLAS: NOBLE'S ISLE OF MAN HOSPITAL AND DISPENSARY.—Resident House-Surgeon. Salary, £90 per annum.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.—House Surgeon. Honorarium of £25.

DUDLEY: GUEST HOSPITAL.—Senior Resident Medical Officer. Salary, £100 per annum.

GLASGOW EYE INFIRMARY.—Resident Assistant House Surgeon. Salary, £75 per annum.

HOSPITAL FOR EPILEPSY AND PARALYSIS, Maida Vale, W.—Resident Medical Officer. Salary, £50 per annum. Appointment for six months.

LIVERPOOL CITY INFECTIOUS DISEASES HOSPITALS.—Assistant Resident Medical Officer. Salary, £120 per annum.

LIVERPOOL EYE AND EAR INFIRMARY.—House-Surgeon. Salary, £80 per annum.

MAIDSTONE: KENT COUNTY OPHTHALMIC HOSPITAL.—House Surgeon. Salary, £100 per annum.

MANCHESTER CHILDREN'S HOSPITAL, Pendlebury.—Junior Resident Medical Officer for six months, eligible for election as Senior. Salary at the rate of £80 and £100 per annum respectively.

OXFORD: RADCLIFFE INFIRMARY.—House Physician. Salary, £80 per annum. Junior House Surgeon. Salary, £40 per annum. Appointments for six months.

PARISH OF ST. MARYLEBONE.—District Medical Officer. Salary, £90 per annum.

SINGAPORE, STRAITS SETTLEMENTS.—Assistant Municipal Health Officer. Salary, £400 to £450 per annum.

STOCKPORT INFIRMARY.—Junior Assistant House Surgeon. Salary, £40 per annum.

ST. PETER'S HOSPITAL FOR STONE, Henrietta Street, W.C.—Junior House-Surgeon. Salary at the rate of £50 per annum.

TYNEMOUTH COUNTY BOROUGH.—Medical Officer of Health. Salary, £300, rising to £400 per annum.

WALLINGFORD: BERKSHIRE ASYLUM.—Second Assistant Medical Officer. Salary, £140 per annum.

WEST HAM AND EAST LONDON HOSPITAL, Stratford, E.—Junior House Surgeon. Salary, £75 per annum.

WEST LONDON HOSPITAL, Hammersmith Road, W.—Two House Physicians and three House Surgeons.

YORK CITY LUNATIC ASYLUM.—Resident Medical Officer. Salary, £400 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces vacancies in the office of Certifying Factory Surgeons at Stirling; Aldershot; Wallasey, County Chester; Waterford; Deal.

APPOINTMENTS.

ACTON, H. W., M.R.C.S., L.R.C.P.Eng., Clinical Assistant to the Chelsea Hospital for Women.

ANDERSON, W. J., L.R.C.P. and S.Edin., Certifying Factory Surgeon for the Helstone District, County Cornwall.

BROWN, JOHN, M.D., D.P.H.Vict., reappointed Medical Officer of Health, Borough of Bacup; also Physician to the Sourhall Isolation Hospital.

CUNLIFFE, Thomas Varley, M.D., B.S.Lond., M.R.C.S., L.R.C.P., Assistant Surgeon to the Oldham Infirmary.

FIELDEN, E., M.B., B.S.Durh., Certifying Factory Surgeon for the Bracknell District, County Berks.

REES, W. H., M.B., F.R.C.S., Registrar to the Bolingbroke Hospital.

DIARY FOR NEXT WEEK.

POST-GRADUATE COURSES AND LECTURES.

WEST LONDON POST-GRADUATE COLLEGE, West London Hospital, Hammersmith Road, W.—The following are the arrangements for next week: Monday, 3 p.m., Surgical Cases; Tuesday, 5 p.m., on Gynaecology; Wednesday, 4.15 p.m., Medical Cases; Thursday, 5 p.m., Tonsilitis and its Treatment; Friday, 5 p.m., Surgical Cases.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 8s. 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to ensure insertion in the current issue.

BIRTHS.

BASAN.—On August 12th, at 330, Roman Road, N. Bow, to the wife of Conrad Basan, M.D.Brux., L.S.A.Lond., a son.

BRUCE-PAYNE.—On August 1st, at Melville, Shepherdswell, the wife of Edw. M. Bruce-Payne, M.R.C.S., L.R.C.P., of a son.

FALKNER.—On August 6th, 1905, at No. 67, Wodehouse Terrace, North Circular Road, Dublin, the wife of Captain Percy Hope Falkner, R.A.M.C., of a daughter.

WILL.—On August 3rd, at 4, Columbia Road, London, N.E., to Dr. and Mrs. H. Chisholm Will—a son.

DEATH.

OGLE.—On August 8th, at the Vicarage, Highgate, John William Ogle, M.D.Oxon., F.R.C.P. London, of 96, Gloucester Place, Portman Square, London, Consulting Physician to St. George's Hospital, aged 81 years.

BOOKS, ETC., RECEIVED.

Reports of the Commission Appointed by the Admiralty, the War Office, and the Civil Government of Malta, for the Investigation of Mediterranean Fever, under the Supervision of an Advisory Committee of the Royal Society. Part III. London: Harrison and Sons. 1905. 2s 6d.

The Decline and Fall of the British Empire. Appointed for use in the National Schools of Japan, Tokio, 2005. Oxford: Alder and Co.; and London: Simpkin Marshall, Hamilton, Kent and Co. 1905. 6d.

A Manual of Clinical Chemistry, Microscopy, and Bacteriology. By Dr M. Klopstock and Dr. A. Kowarsky. Translated by T. Wright, M.D. London: Rebman, Limited. 1905. 8s.

Disorders of Metabolism and Nutrition. Part VI.: Drink Restriction (Thirst Cures) Particularly in Obesity. By Dr. C. Von Noorden and Dr. H. Salamon. Bristol: John Wright and Co. 1905. 3s.

Traité de Pathologie Interne. Par G. Lemoine. Tomes I et II. Paris: Vigot Frères. 1905. Fr.16.

International Clinics. Edited by A. O. J. Kelly, A.M., M.D. Vol. II. Philadelphia and London: J. B. Lippincott Co. 1905.

CALENDAR OF THE ASSOCIATION

Month.	Day of Week.	Meetings to be Held.
August	18...FRIDAY ...	Metropolitan Counties Branch, Branch Council meeting, 429, Strand, W.C., 5 p.m.
,,	19...SATURDAY...	
	20...Sunday..	
,,	21...MONDAY ...	
,,	22...TUESDAY ...	
,,	23...WEDNESDAY	
,,	24...THURSDAY...	
,,	25...FRIDAY ...	
,,	26...SATURDAY...	
	27...Sunday..	
,,	28...MONDAY	
,,	29...TUESDAY ...	
,,	30...WEDNESDAY	
,,	31...THURSDAY...	
Sept.	1...FRIDAY ...	
,,	2...SATURDAY...	
,,	3...Sunday..	
,,	4...MONDAY ...	
,,	5...TUESDAY ...	
,,	6...WEDNESDAY	
,,	7...THURSDAY	
,,	8...FRIDAY ...	
,,	9...SATURDAY...	
Sept.	10...Sunday..	
,,	11...MONDAY ...	
,,	12...TUESDAY ...	
,,	13...WEDNESDAY	
,,	14...THURSDAY...	
,,	15...FRIDAY ...	
,,	16...SATURDAY...	
,,	17...Sunday..	
,,	18...MONDAY ...	
,,	19...TUESDAY ...	
,,	20...WEDNESDAY	Altrincham Division, *Lancashire and Cheshire Branch*, Quarterly Meeting at Knutsford.
,,	21...THURSDAY...	
,,	22...FRIDAY ...	
,,	23...SATURDAY...	
,,	24...Sunday..	
,,	25...MONDAY ...	
,,	26...TUESDAY ...	
,,	27...WEDNESDAY	
,,	28...THURSDAY...	Wandsworth Division, *Metropolitan Counties Branch*, Wandsworth Town Hall, 9 p.m.
,,	29...FRIDAY ...	
,,	30...SATURDAY...	

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, AUGUST 26TH, 1905.

CONTENTS.

	Page
MEETINGS OF BRANCHES AND DIVISIONS	
Lancashire and Cheshire Branch: Altrincham Division	185
South-Western Branch: Truro Division	185
THE ANNUAL EXHIBITION OF FOODS, DRUGS, INSTRUMENTS, BOOKS, AND SANITARY APPLIANCES.—CONCLUDING NOTICE	185
Books	185
Instruments and Appliances	186
Drugs and Preparations	188
ASSOCIATION NOTICES.—Branch and Division Meetings to be Held	189
BRITISH MEDICAL ASSOCIATION LIBRARY	189
NAVAL AND MILITARY APPOINTMENTS	190
VITAL STATISTICS	191
VACANCIES AND APPOINTMENTS	191
DIARY FOR NEXT WEEK	192
BIRTHS, MARRIAGES, AND DEATHS	192
CALENDAR	192

Meetings of Branches and Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* JOURNAL.]

LANCASHIRE AND CHESHIRE BRANCH:

ALTRINCHAM DIVISION.

THE fourteenth general meeting was held at the Crossley Sanatorium, Delamere, on Wednesday, August 16th. There was a good attendance, and many of the members were accompanied by ladies.

The sanatorium was shown to the visitors in considerable detail, and with great courtesy, by Dr. Knowles Renshaw and Dr. D. Lloyd-Smith, who afterwards also provided light refreshments. The Honorary Secretary, who arranged the details of the journey, wishes to express the thanks of all the visitors to those two gentlemen for a most enjoyable, interesting, and instructional afternoon.

SOUTH-WESTERN BRANCH:

TRURO DIVISION.

THE annual meeting of this Division was held at the Council Chamber, Penryn (by kind permission of his Worship the Mayor), on June 8th.

Re-election of Officers.—The retiring officers were all re-elected.

Demonstration.—After the business meeting was over members adjourned to Dr. Gregor's house, where he gave them a practical demonstration on electro-therapeutics (including *x* rays, high frequency current, etc.), with illustrative cases, also photographs and water-colour drawings. Some remarkable cures of rodent ulcer, lupus and chronic urticaria, were shown; also a case of inoperable carcinoma of the breast which was showing great improvement under the treatment. After the demonstration, Mrs. Gregor very kindly entertained the members present at tea.

Next Meeting.—The next meeting (a clinical one) will be held at the Royal Cornwall Infirmary, Truro, on Thursday, September 28th.

The Annual Exhibition

OF

FOODS, DRUGS, INSTRUMENTS, BOOKS, AND SANITARY APPLIANCES.

[*Concluding Notice.*]

BOOKS.

H. K. LEWIS (136, Gower Street, London, W.C., Medical Publisher and Bookseller). Mr. Lewis had an attractive exhibit of the medical publications for which he is responsible, and it was difficult to select books which required particular notice. Special attention seemed, however, to be invited by the Practical Series, which now numbers seventeen volumes. Among the more recent additions to this shown was a fourth edition of Lewis Jones's *Medical Electricity*, a sixth edition of Lewers's practical textbook of *Diseases of Women*, and a fourth edition of Ashley Barratt's *Dental Surgery for Medical Practitioners and Students of Medicine*. Many of the New Sydenham Society's publications with which Mr. Lewis is charged were also shown. They included the recent fasciculi of *An Atlas of Clinical Medicine, Surgery, and Pathology, designed to form a Guide to Clinical Diagnosis*. Among the other works were Professor William Osler's *Aequanimitas*, which recently formed the basis of a leading article in the BRITISH MEDICAL JOURNAL; a second edition of Shuttleworth's *Mentally-deficient Children and their Training*; a second edition of Calvert's *Practical Pharmacy and Prescribing for Students of Medicine*; an eleventh edition of George Gould's *Medical Dictionary*. A third edition of Radcliffe Crocker's *Diseases of the Skin*, in two volumes, with 76 plates and 112 illustrations, and a new and very practical form of haematological chart were also shown, as well as some blood-pressure charts and a variety of case-books, diet charts, and diagrams of the chest and abdomen. Three new little pamphlets which also require notice are Martindale's *Synopsis of the Principal Changes in the U.S.A. Pharmacopoeia*; *Motor Points* by Hughes Bennett; and Curgenven's *Child's Diet*.

W. B. SAUNDERS AND CO. (9, Henrietta Street, London, W.C.). This firm of medical book publishers had upon view

a good array both of recent and standard medical works, among which the special publication of the firm, Saunders's *Medical Hand Atlases*, held a prominent place. This series now numbers twenty-three volumes, each of which consists of an atlas and an epitome dealing with some particular branch of medicine or surgery. The atlas part is made up of excellent coloured pictures, and the epitome in each case gives a comprehensive account of the matters considered. The volumes as they have appeared have each of them received favourable notice in our columns, and are undoubtedly calculated to be of great use both to practitioners and students. In addition, there were open for examination on the stall a large number of other works, and especially translations of authors who originally made their name either in America or on the Continent. Amongst these was an English edition of Nothnagel's *Practice of Medicine*; a translation of Lichtenstern and Mannaberg on *Influenza, Dengue, and Malarial Diseases*, edited with additions by Ross and A. Grünbaum; Curschman on *Typhoid and Typhus*, edited with additions by Professor William Osler; the new topographic *Anatomy*, by Schultze and Stewart; Kelly and Hudson on *The Appendix*, a very complete and finely illustrated work; and Ashton's *Practice of Gynaecology*, which is specially designed to meet the needs of those in general practice. Among the new works of English origin were Moynihan on *Gall Stones*, and Rolleston on *The Liver*.

Instruments and Appliances.

Allen and Hanburys (49, Wigmore Street, W.). The exhibit of this firm, in addition to general theatre furniture, included an operation table in phosphor bronze, exactly like the one which was recently supplied by Messrs Allen and Hanbury to King Edward VII, for presentation to the Devonshire Hospital, Buxton (Fig. 1); another of German silver, as made



Fig. 1.

for St. Thomas's Hospital, and a tilting or Swing Pattern operating table. The chief advantage of each of these is the simplicity with which the Trendelenburg position can be obtained, and the great ease with which the angle of the head and foot rests can be altered and automatically fixed at any point. Another useful table shown was the "Lynn Thomas" portable operating table; for a portable table it is singularly rigid, and in other respects also a satisfactory piece of apparatus. Of the aseptic furniture the anaesthetist table seemed specially well designed. In addition to the firm's patent aseptic corners, it has a broad band of German silver instead of a mere rail. Various new patterns of surgical instruments were also exhibited, among these being Eve's Cerebrospinal Manometer, with which it is possible to withdraw fluid, and at the same time to record the pressure within the cerebrospinal canal; it is here shown (Fig. 2). Stack's very handy dressing sterilizer, which was also shown last

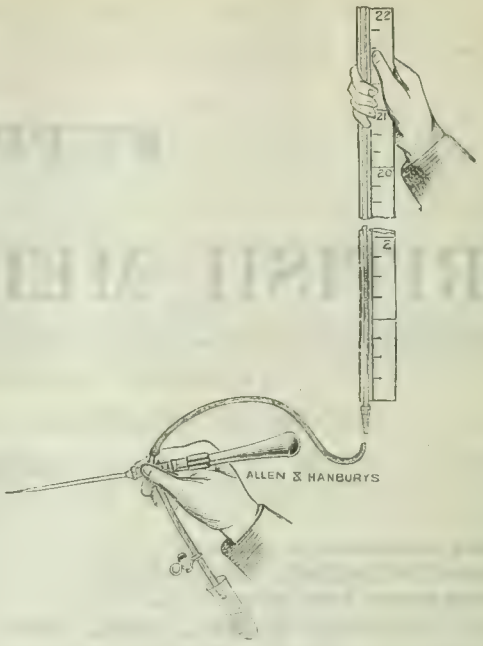


Fig. 2.

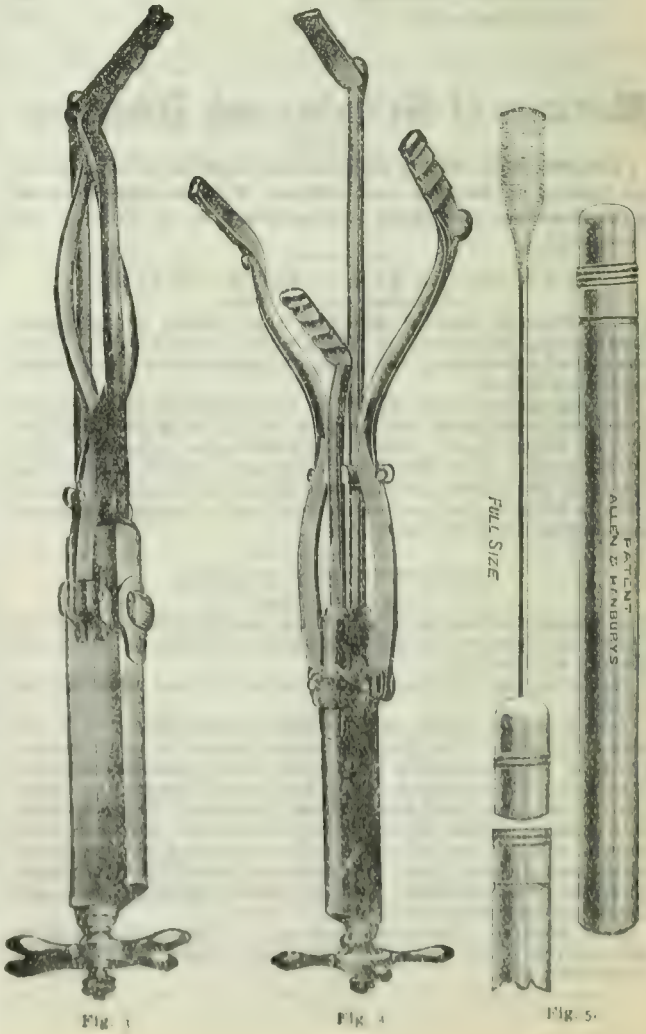


Fig. 3. Fig. 4. Fig. 5.

year; a useful ambulance case, and Lane's new model needle holder. The neat aseptic dressing tray for the consulting room table, which we recently described, was to be seen; as also Herschell's douche for treatment of constipation by olive oil injection, a pocket urine test case suggested by Dr. A. E. Russell, and a midwives' outfit made in accordance with the regulations laid down by the new Midwives Board. It is a very complete outfit, and seems likely to be popular among those for whom it is intended. Seigneux's cervix dilator was also on view (Figs. 3 and 4); it is a modification of Bozzi's dilator, the latter being improved by the introduction of a pelvic curve and an arrangement which makes it easy to take the instrument apart when dilatation is complete; it can also be used as a two, three, or four-bladed dilator as desired. Young's prostatic forceps for removal of the prostate in the suprapubic operation, Segond's enucleator for prostate, an instrument much used in France, which is supposed to take the place of the finger-nail for peeling off the prostate, Arbuthnot Lane's bone-nibbling forceps, Killian's set of instruments for his frontal sinus operation, and models illustrating the various stages of the operation, were also among objects which attracted attention. Finally, a pocket swab-holder may be mentioned (Fig. 5). It is a very handy little appliance, of nominal cost, for taking specimens from cases of suspected diphtheria and dispatching them by post for examination.

Arnold and Sons (West Smithfield). There was a great deal to be seen on the two stands devoted to the products of

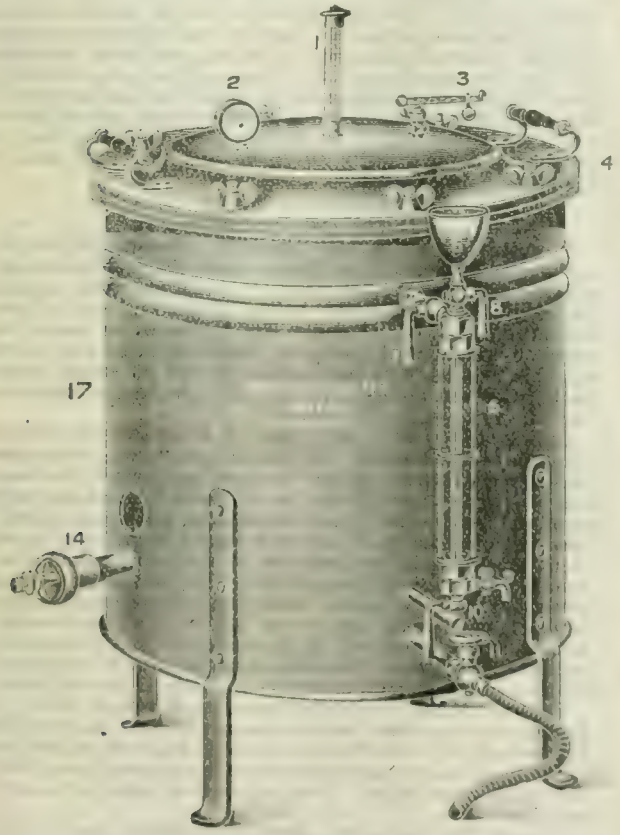


Fig. 6.

this well-known firm of instrument manufacturers. Amongst them we specially noticed a very useful combination of instruments for the examination of the ear, eye, and nose, and the treatment of phimosis by dilatation. The large number of retractors on view included those of Victor Horsley, Billroth, Czerny, and Raymond Johnson. Among the forceps, those for the ear designed by Mr. Cumberbatch seemed to have a specially good angle and to be capable of graduated and regular dilatation. Another attractive appliance shown was the sterilizing kettle which Mr. Bruce Clarke demonstrated at Oxford last year. He was led to design it because he found upon trial that very few of the smaller sterilizers on the market were capable of standing any steam pressure. In addition to other good qualities, it has the special advantage that the contents of the kettle can be kept sterile for an unlimited period, since they are protected in



Fig. 7.

the kettle by a layer of cotton-wool. We show it here (Figs. 6 and 7), together with an engraving of one of the kettles. The ordinary machine contains seven of the latter.

The Holborn Surgical Instrument Co., Limited (Thavies Inn, Holborn Circus, E.C.). This firm devoted one of its stalls to the various instruments of which it is the maker and the other to the aseptic furniture, sterilizers, operating tables, and sick-room requisites which it also manufactures. Among the former was a good form of hypodermic syringe for producing local analgesia. It was designed by Mr. A. E. Barker, and described by him in the British Medical Journal on December 24th, 1904. A good set of rectal dilators made for Mr. Lockhart Mummery also attracted attention, as, in addition to other good points they seemed to be admirably light. Among the many Schimmelbusch and other sterilizers which the firm makes that which is called the Holborn High-Pressure Steam Sterilizer was prominent. It works at 15 lb. pressure, dries its own contents, and is stated to be as effective as, and much cheaper than, those which work with constant or occasional vacuum. The firm also makes a useful kind of portable operating table, likewise known as the "Holborn."

Isaac Chorlton and Co. (Upper Thames Street, E.C.). At this firm's stall were to be seen a large variety of bedstead appliances and bedsteads for various special purposes. Among the latter was the "Wetherby" bed; this is a patent fold-up bed which has been supplied to several workhouses. The patent Dual-Bottom bedstead has a double frame, the lower of which can be dropped to introduce a bed-pan or to make up the bedding without disturbing the patient. Another useful mechanical bedstead shown was Peter's patent "Turnover"; it is intended to facilitate the moving of helpless patients. Of more ordinary beds, the well known "Delamere" spring bedstead was on view, as also one which has been adopted at St. Mary's Hospital, Manchester, as the most suitable for maternity cases. It is fitted with Chorlton's Patent Corners. A number of well contrived self-elevators and back-rests were also shown, and in addition "Lloyd-Smith's" sanatorium chair, which has been supplied recently to a number of sanatoriums.

The Longford Wire Company (Warrington). Several well-made bedsteads with wire mattresses exhibited by this firm attracted attention, among them being the "Carlton C." bedstead with a self lifter fitted with a galvanized mesh mattress and specially designed for use as an accident or emergency bed. A good form of epileptic bedstead fitted with Woods's patent mattress was also shown, as well as a "Woods's patent ambulance trolley."

Lynch and Co., Limited (Silver Street, Falcon Square, E.C.). This firm of instrument makers presented for inspection a great number of appliances in the way of electrical batteries, enemas, inhalers, trusses, thermometers, and sterilizers, etc., Of the latter the combined instrument and catheter sterilizer seemed likely to be specially useful. It is ingeniously arranged, and the catheters which have been sterilized in it can be stored singly but still sterile and ready for instant use whenever required. The firm also showed catgut pre-

pared by an autoclave process, which is the invention of M. Triolet, formerly a pupil of the Pasteur Institute and an interne of the Paris hospitals. By a very clever arrangement the catgut is sterilized by steam and yet kept anhydrous until the process is complete; it thus, while capable, we were informed, of standing any bacteriological test, remains, as could be seen, very flexible and strong.

S. Maw, Son, and Sons (7-12, Aldersgate Street, London, E.C.). The two stalls of this firm of instrument makers displayed a very large assortment of modern instruments and appliances of all kinds. It comprised general operation instruments in sets, large and small, midwifery implements in cases, an assortment of the firm's guaranteed antiseptic and sterile dressings, various patterns of stethoscopes, including the stethonoscope; an antiseptic bandaging block, ward and theatre furniture in various metals, and an excellent display of instruments for various special operations. Among the latter were ear forceps by Mr. Cumberbatch, Mr. Stuart Low's Kelvolin Vaporizer, Mr. McIlraith's Insufflator, Mr. Heath's Snare, some special forms of catheters used by Mr. Herring, and made so as to withstand boiling, and the same surgeon's special sterilizer for gum-elastic catheters, in which the instrument is sterilized by boiling, and at the same time lubricated with a sterile oil.

Slack and Brownlow (Gorton, near Manchester). This firm manufactures the "Brownlow" Germ Filter, which was shown in various forms. It is an apparatus depending on the same general principles as those of the "Pasteur," "Chamberland," and "Berkefeld." It is to be obtained as a "service" filter, as a "pantry" filter, and as a table filter ("the Million"). In a further form it is portable and adapted for the use of travellers in countries where the water from the streams and rivers encountered must be used.

John and Joseph Taunton, Limited (Belgrave Works, Birmingham). This firm had upon view a large number of "Di-ag-na" beds for various purposes. Among these were one pattern which has been adopted for use at the Glasgow Western Infirmary, in surgical wards; and another which was originally made for the Leeds Corporation; it is known as the New Seacroft, and has lately been supplied to several hospitals in the North. Of beds for special purposes the "anti-sagging spring mattress" bedstead made for the Birmingham City Council for use at the Hollymoor Lunatic Asylum may be mentioned, as also that for the treatment of fractures which has been supplied to the Oldham Infirmary.

James Woolley, Sons, and Co., Limited (Victoria Bridge, Manchester). The stalls devoted to the products of this firm of manufacturing pharmacists contained a very complex assortment. Among other things was an array of cachet and capsules, all of which we were informed are hand-made so as to insure accuracy of dosage and constant flexibility. Among the drugs we picked out Liquor Thymol Alkalinus, an alkaline deodorizing solution for use as a mouth wash or nasal douche; and Malto-Haemoglobin, a compound of fluid malt extract, with haemoglobin and a non-astringent preparation of iron. The variety of high-pressure and other steam dressings sterilizers shown included the firm's new 1905 model, which is a finely-finished apparatus sterilizing at 255° F., leaving the dressings dry; and also the Rochester Combination Sterilizer, one which has obtained favour in the United States. Among the many recently-introduced surgical appliances open to examination was the "Fotoret," an electrical appliance for simplifying the examination of the nose and throat. It has been made at the suggestion of Dr. Eugene Yonge, of Manchester, and is here shown. Dr. Yonge considers that it overcomes the difficulty encountered of making a satisfactory examination of the throat and nose, since the light once turned on is automatically focussed on the region to be examined without requiring any further attention on the part of the examiner. The current for the lamp can be drawn from the ordinary town supply by a simple and inexpensive form of lamp resistance, which is supplied with the apparatus. The shields or eye-tubes by which the examiner's eyes are protected can be removed if desired.

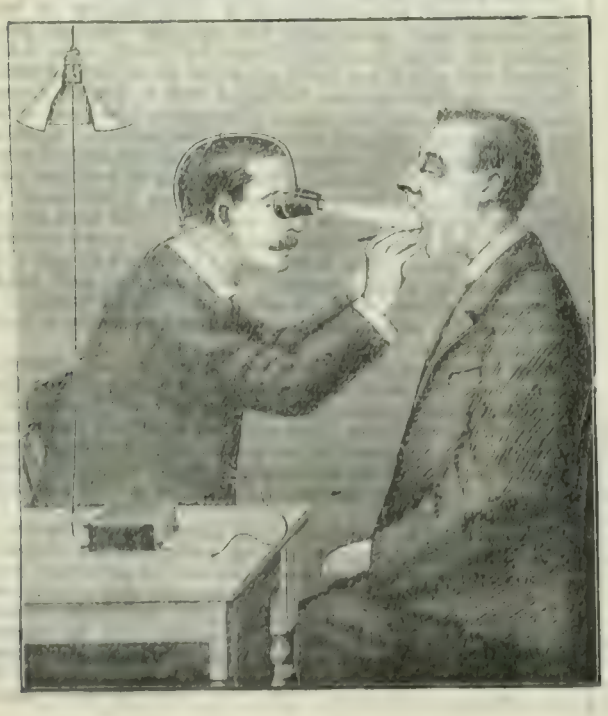


Fig. 8.

Young's Patent Hygienic Bin Company (72, Mark Lane, London, E.C.). This firm showed a large variety of patent bins for various purposes. They are made of galvanized steel without internal corners or crevices, and with or without carriages for wheeling about. Some of them are intended for the storage of chemicals or foods; others for coal or dust bins, and some were for use in wards and elsewhere as receptacles for soiled dressings, etc. It appeared to us that they were capable of being readily cleansed, and that they were well designed in other respects.

Drugs and Preparations.

Buxton Urban District Council. Chromographs of the scenery of Buxton and neighbourhood, charts illustrating the climate and health statistics of the town, and explaining the use of the baths and waters of Buxton, were shown by the authorities of Buxton. The baths, when visited by a number of medical men on Saturday after the meeting, appeared to be very well arranged, but it seems that the authorities are not even yet satisfied and intend to introduce several improvements.

Charles H. Phillips Chemical Company (14, Henrietta Street, Covent Garden). Milk of magnesia was the feature of this firm's exhibit. It has no smell and very little taste; it can be taken either by itself or be given in combination with vegetable anticathartics, carminatives, antispasmodics. On infants and children it acts as a laxative, while in the treatment of adults it is stated to be a reliable vehicle for the administration of iodides and bromides, and other salts which are apt to produce gastric irritation. As it contains no carbonate there would appear to be no liability towards the formation of concretions. It is considered that it forms a good substitute for lime water in cases in which the use of an alkaline of the general character of the latter is indicated.

Pioneer Milk Sugar Company (24, Minories, E.C.). This firm devotes itself to the manufacture of Milk Sugar which is guaranteed to be free from acidity. It is put upon the market in the hope that it may be used for the preparation of humanized milk in the home. It is supplied in tins of 1 lb. and 3 lb. weight.

Pocock Brothers (235, Southwark Bridge Road, S.E.). A new form of Whiteley's Home Exerciser, in which the hooks cannot detach during use, was shown by this firm. Its particular exhibit, however, was a padded room for asylums, provided with an aluminium gutter, a protected door-hinge, and a self-shutting door bolt. It is a model with which the firm won a silver medal at the Sanitary Institute Congress at Glasgow, and seemed to be very well contrived altogether.

Ronuk, Limited (Portslade, Brighton). Sanitary floor polishes, special stains, and special floor-polishing brushes were shown by this firm. They are all called "Ronuk," and by many people are highly esteemed. Specimens were to be seen of various kinds of wood stained by the preparation of this firm, which contracts for the first preparation and maintenance of all kinds of wood flooring. It has just received an order to take in hand the flooring of the new workhouse infirmary at Eddington.

The Sanitary Wood-Wool Co., Limited (26, Thavies Inn, E.C.). This firm, which is the sole manufacturer of Hartmann's wood-wool preparations, showed a useful and efficient form of dressing in the shape of a layer of Hartmann's patent wood-wool wadding between two sheets of sublimate gauze. It is antiseptic and very absorbent, and can be cut to any size desired. Hygienic towelettes and the Guinea Complete Outfit for accouchement were also on view, together with Wood-wool Antiseptic Vaccination Pads, Wood-wool Sponges, Infant Napkins of the same material, and several varieties of Hartmann's catgut. The latter, which is strong, soft, and smooth, can be obtained either raw in hanks of twenty-five lengths, or on glass rollers in bottles prepared in juniper oil either carbolized or sublimated and preserved in absolute alcohol. A new sterilized form was also shown in glass tubes in sizes running from 00 to 6. These are sold in little metal cases and are of a convenient size for carrying in the waistcoat pocket if desired.

Vittel Waters.—Vittel is a hydrothermal establishment in the Vosges, about five hours distant from Paris. It is, we understand, a well-laid-out health resort containing some ten or twelve hotels, pump and bath rooms, while amusements in the shape of golf links, etc., are to be found in the neighbourhood. It has several "sources," the waters of two of which—"Grande Source" and "Source Salée"—are bottled and exported. "Grande Source" is a mild alkaline, bicarbonated, sulphated water, and its use is considered to be indicated in cases of the uric acid diathesis. During the last five years the consumption of this water both locally by the visitors and abroad as bottled, has it would appear, enormously increased. The "Source Salée" is recommended for flatulence, dyspepsia, and for other ailments of the alimentary canal. Both these waters are pleasant to drink.

Wyley's, Limited, (Coventry). This firm of manufacturing chemists, in addition to drugs and preparations, showed a dispensing cabinet especially intended for use at a branch surgery. It closes up easily and appears to be very complete. Among the drugs "Heroin" compounds were prominent, as also non-alcoholic tinctures prepared with a glycerine basis: they are stated to possess the full therapeutic activity of tinctures prepared according to the formula of the *British Pharmacopoeia*. "Tropels" are a comparatively new speciality of the firm. They are pellets of various drugs which readily break down into definite quantities of powder for the preparation of various solutions. An excellent assortment of pessaries, suppositories, and liquors also attracted attention.

Conclusion.

In addition to the exhibits of which some description has now been given, a number of automobiles and other carriage builders took the opportunity of exhibiting such of their products as are specially suited to the needs of medical practice. Naturally it was a small show as motor exhibitions go, but it must have been of convenience to members, since a good many cars seem to have been purchased by them. A brief note of some of the machines which were to be seen is appended. Finally, it may be mentioned that Messrs. John Richardson and Co. were among the Leicester manufacturers who threw open their premises to members. They received during the week a good many parties, and took great pains to explain everything of interest in the processes by which their extracts, tinctures, and tablets are produced.

Messrs. J. Parr and Co., of Leicester, who are the agents of Messrs. De Dion, showed three of this firm's cars. They require no description, as they have been mentioned frequently in the Journal in connexion with their repeated success at the reliability trials of the Automobile Club of Great Britain and Ireland. Several cars were shown by Humber, Limited (Beeston, Notts, and Coventry), amongst them being a Beeston Humber Touring car with a Roi de Belge body, a Beeston Humber Light car for two persons, the Coventry Humber Light car for four persons, and one of the same name fitted up as a three-seated landaulette. All these cars were fitted with four cylinders, but were nevertheless low-priced. Multiple cylinders, of course, add a good deal to the pleasure of car driving, but they are expensive, and few firms find it possible to include them in low-priced cars. Messrs. T. H. Wathes and Co., Limited (High Street, Leicester), who also have an establishment at Rugby, showed the Oldsmobile Motor Cars, which are already well known to many medical men, the Bradbury Motor Cycle and a variety of the motor accessories which the firm stocks for the benefit of the motorists in the Midlands. The Anglian Motor Car Company (78, Brompton Road, S.W.) showed a two-cylinder light car with three seats, from 8 to 10 h.p., and of a kind suitable to the requirements of medical practice. A motor bicycle made by the firm was also shown, and in addition an Anglian tricar with a patent two-speed gear. Two specimens of the Ford car, both of 10 h.p., were shown by the Central Motor Car Company (117, Long Acre, W.C.). They differed, however, in that one was fitted as an ordinary covered *coupé* for two persons, while the other had four seats and a Cape-cart hood. A 15 h.p. Doctors' Landaulette was the principal exhibit of the Ryknield Engineering Company (Burton-on-Trent); it had three cylinders and is well finished. A 12-horse motor with two cylinders was also shown; in spite of their name the cars of this firm are, we were informed, of English manufacture throughout. Ordinary carriages and motor cars were shown by S. J. Lilley, Carriage and Motor Designer (Leicester), who makes a speciality of the building of motor bodies to customers' own *chassis*. Among the ordinary carriages the Medical Brougham seemed specially attractive. MacNeil, Hutchison, and Co. (Manchester) showed the Cottereau car. Two of the machines were of 8 h.p., the one having a single and the other a double cylinder. A larger pattern with three cylinders was also shown.

☞ *To ensure the insertion of notices in this column they must be received at the Central Offices of the Association not later than the first post on Tuesday.*

Association Notices.

LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

The Library will be closed from Thursday, August 24th, till Thursday, August 31st, for the purpose of cleaning.

BRANCH AND DIVISION MEETINGS TO BE HELD.

South-Eastern Branch: Brighton Division.—A meeting will be held at the Dispensary, 113, Queen's Road, Brighton, at 4.30 p.m., on the fourth Wednesday in October (25th), and November (22nd). Members wishing to read papers or show cases at the meetings are requested to give at least a fortnight's notice to the Honorary Secretary, Ryding Marsh, M.D., 49, Sackville Road, Hove.

South-Western Branch: Truro Division.—A clinical meeting of this Division will be held at the Royal Cornwall Infirmary, Truro, on Thursday, September 28th.—Mark R. Taylor, Honorary Secretary.

BRITISH MEDICAL ASSOCIATION LIBRARY.

List of Books, etc. Presented.

Presented by the Authors:
- Dukes, C. Health at School. 4th edition. 1905.
- French, H. Medical Laboratory Methods and Tests. 1904.
- Leitwich, R. W. Index of Symptoms. 5th edition. 1904.
- Stephens and Christophers. Practical Study of Malaria. 2nd edition. 1905.
- Whitman, R. Treatise on Orthopaedic Surgery. 2nd edition. 1904.

Presented by Fleet Surgeon Corrie, R.N.:
- Le Congrès Français de Climatothérapie et d'Hygiène Urbaine. 1904.
- St Bartholomew's Hospital Reports. Vol. 40. 1904.

Presented by Sir Constantine Holman, M.D.:
- Bennett, W. H. The Ethics of Operations in Surgery. 1903.
- Butlin, H. T. Cancer of the Scrotum in Chimney Sweeps and Others. 1892.
- Wells, Sir Spencer. Abdominal Tumours. 1885.
- Wilks, S. Lectures on the Specific Fevers and on Diseases of the Chest.
- New Sydenham Society's Atlas of Clinical Medicine and Surgery. Fasc. 1-12.

Presented by E. Muirhead Little, Esq., F.R.C.S.:
- Bouvier. Maladies Chroniques de l'Appareil Locomoteur. 1858. Texte et Planches.
- Delpech. De l'Orthomorphie par Rapport à l'Espèce Humaine. Texte et Planches. 1828.
- Duval Fils. De la Fausse Ankylose du Genou. 1864.
- Gordon, Surgeon-General C. A. Medical Reports of the Chinese Customs Service. 1871-82. 1884.
- Guérin. La Méthode Souscutanée. 1844.
- Humbert et Jacquier. Traité des Difformités du Système Osseux. 4 Vols., and Atlas. 1838.
- And other volumes, duplicates.

Presented by the Medical Officer to the Local Government Board:
Reports on:
- Sanitary Administration in Halstead Rural District. 1905.
- Sanitary Administration in Wrexham Rural District. 1905.

Reports by:
- Dr. Buchanan. On Sanitary Circumstances at Sheerness. 1905.
- Dr. Farrar. On Enteric Fever at Denaby Main. 1905.
- Dr. Farrar. On Sanitary Condition of Durham Rural District. 1905

Dr. Fletcher. On the Prevalence of Infectious Disease at Nantyglo and Blaina. 1905.
Dr. Fletcher. On Sanitary Circumstances at Pewsey Rural District. 1905.

Presented by JOHNSON SMITH, Esq., F.R.C.S.:
American Surgical Association. Transactions. Vols. 4, 5, 6, 7.
Bergmann. Krankheiten des Kopfes.
Bigelow. Fracture and Dislocation of the Hip. 1869.
Bullin. Malignant Disease of the Larynx.
Clinical Society of London. Transactions. Vols. 7-23.
Esmarch. Handbuch der Kriegschirurgie. 1877.
Guillemain. Opérations Nouvelles en Chirurgie. 1895.
Hamilton. Dislocations and Fractures. 1884
Lejars. Chirurgie d'Urgence. 1901.
Lockwood Hernia. 1889
Medico-Chirurgical Society. Transactions. Vols. 56 85.
Pathological Society's Transactions. Vols. 21-54.
Riddell. Manual of Ambulance. 1894.
Simon, G. Chirurgie der Niereu. 1876
Terrier et Péraire. L'Opération du Trépan. 1895.

Presented by the EDITOR of the BRITISH MEDICAL JOURNAL:
Barrett, C. R. B. History of the Society of Apothecaries 1905.
Bennett, Sir William. Recurrent Effusion into the Knee joint. 1905
Bickham, W. S. Textbook of Operative Surgery. 2nd edition. 1904.
Collie and Wightman. First Aid. 1904.
Contet. Les Méthodes de Re-Education en Thérapeutique.
Davis, E. P. Obstetric and Gynaecologic Nursing. 1904.
De Fursac. Manual of Psychiatry, transl. Rosanoff. 1905.
Dorland. Pocket Medical Dictionary. 1903.
Durck. Atlas and Epitome of General Pathologic Histology. 1904.
Foster and Haldane. Investigations of Mine Air. 1905.
Gumprecht, F. Die Technik der Speziellen Therapie. 3 Aufl. 1903.
Haab. Atlas of the External Diseases of the Eye. 1903.
Hirst, B. C. Textbook of the Diseases of Women. 1903.
Holmes. Appendicitis. 1904.
Kocher, Th. Chirurgische Operationslehre. 4 Aufl. 1902.
Metcalf. Theory of Organic Evolution. 1904.
Mitchell. Laughing, Dreaming, Blushing. 1905.
Moorhead. Surface Anatomy. 1905.
Pearson, Murray, and others. Special Report on the Diseases of Cattle (United States Department of Agriculture). 1904.
Porritt, N. Religion and Health. 1905.
Récamier. Traitement du Cancer Utérin Inopérable. 1905.
Robson, A. W. M. Cancer and its Treatment (The Bradshaw Lecture). 1905.
Roger, G. H. Infectious Diseases. Translated by M. S. Gabriel. 1905.
Senn, N. A Nurse's Guide. 1905.
Sobotta. Atlas der Deskriptiven Anatomie des Menschen. II Abtei. 1904.
Sonnenburg, E. Pathologie und Therapie der Perityphlitis. 5 Aufl. 1905.
Stewart and Cuff. Practical Nursing. New edition. 1904.
Thorndike, E. L. Educational Psychology. 1903.
Tuttle, J. P. Treatise on Diseases of the Anus, Rectum, and Pelvic Colon. 1903.
Uhlenhuth. Das biologische Verfahrung zur Erkennung und Unterscheidung von Menschen und Tierblut. 1905.
Walsham, Hugh. The Channels of Infection in Tuberculosis. 1904.
Wanklyn and Cooper. Sewage Analysis. 1905.
Wilcox, R. W. Manual of Fever Nursing. 1904.
Zabludowski, J. Technique du Massage. 1904.

Calendars, Reports and Transactions have been received from the following bodies:
American Climatological Association. Transactions. Vol. 20. 1904.
——— Pediatric Society. Transactions. Vol. 16. 1904.
Archives of the Middlesex Hospital. Vol 5. 1905.
Army Medical Department Report. Vol 45. 1903.
Association of American Physicians. Transactions. Vol. 19. 1904.
Cremation Society of England. Proceedings. 1905.
Dermatological Society of Great Britain and Ireland. Transactions. Vol. 10. 1903-4.
Edinburgh Royal College of Physicians. Laboratory Reports. Vol. 9. 1905
Edinburgh University Calendar. 1905-6.
Epidemiological Society of London. Transactions. Vol. 23. 1904.
H.M. Chief Inspector of Factories Report. Part I. 1904.
Johns Hopkins Hospital Reports. Vol 12. 1905.
Laryngological Society of London. Proceedings. 1903.
Lister Institute of Preventive Medicine. Collected Papers. Vol. 1. 1905
Melbourne University Calendar. 1905.
New Hampshire State Board of Health. Reports. 1901-4.
New Sydenham Society's Atlas
Ohio State Board of Health. Report 18 1903-4.
Philadelphia College of Physicians. Transactions 26. 1904.
Report on Anaemia in Porto Rico. 1904.
United States Department of Agriculture. Reports of the Bureau of Animal Industry, 18, 19 1901-3
University College, London. Physiological Laboratory Reports. Collected Papers. Vol. 13. 1905.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

FLEET SURGEON H. R. OSBORNE has been placed on the retired list at his own request, August 17th. He was appointed Surgeon, August 21st, 1884, and Fleet Surgeon, August 21st, 1900. Whilst Surgeon of the *Conquest* he served in the Naval Brigade under Vice-Admiral Fremantle in the expedition against the Sultan of Vitu, East Africa in 1890; he was mentioned in dispatches, and received a medal with clasp.

The following appointments have been made at the Admiralty: ERNEST J. FINCH, Staff Surgeon to the *Ocean* on recommissioning, August 17th (the appointment of Fleet Surgeon Pickthorn being cancelled); MORRIS C. LANGFORD, Staff Surgeon, and CECIL R. RICKARD, Surgeon, to the *President*, additional, for three months' course at West London Hospital, Staff Surgeon Langford's appointment to date August 21st, Surgeon Rickard's August 19th.

ROYAL ARMY MEDICAL CORPS.

COLONEL (TEMPORARY SURGEON-GENERAL) W. F. STEVENSON, M.B., C.B., K.H.S., is placed on retired pay, August 1st. He entered the service as Assistant-Surgeon, March 31st, 1866; became Surgeon, March 1st, 1873; Surgeon-Major, March 31st, 1878; Brigade-Surgeon, August 3rd, 1892; and Surgeon-Colonel, July 6th, 1896. In the South African war in 1899-1901 he was Principal Medical Officer on the lines of communication and afterwards Principal Medical Officer at Head Quarters (graded as Surgeon-General); he was present in operations in the Orange Free State, and the Transvaal, including the actions at Paardeberg, Poplar Grove, Driefontein, Pretoria, and Belfast; he was mentioned in dispatches, nominated C.B., and granted the Queen's medal with five clasps. He was appointed Professor of Clinical and Military Surgery at the Medical Staff College, August 10th, 1892, and Honorary Surgeon to the King, September 14th, 1904.

Major J. H. BRANNIGAN is placed on retired pay, August 1st. He was appointed Surgeon, August 1st, 1885, and Surgeon-Major, August 1st, 1897. He served with the Zhob Valley Expedition in 1890; in the campaign on the North West Frontier of India in 1897-8 with the Mohmand Field Force (medal with clasp); and in the South African war in 1899-1902, including the relief of Ladysmith, and several subsequent engagements; he was slightly wounded at the battle of Colenso (Queen's medal with four clasps, and King's medal with two clasps).

Majors B. A. MATURIN and A. P. H. GRIFFITHS are also placed on retired pay, August 1st. Their commissions were simultaneous with those of Major Brannigan.

Major H. B. BAYLOR also is placed on retired pay, August 1st. He was appointed Surgeon-Captain, August 1st, 1885, and Surgeon-Major, May 18th, 1898. He was in the Nile expedition in 1898 (British and Khedive's medals), and in the South African war in 1900-2, including operations in the Orange Free State, the Transvaal and Cape Colony (Queen's medal with three clasps and King's medal with two clasps).

Major W. S. BOLES, M.B., is likewise placed on retired pay, August 1st. He dated as Surgeon from August 1st, 1885; as Surgeon Major, from April 5th, 1899

Major C. G. SPENCER, M.B., has been appointed Professor of Military Surgery at the Medical Staff College, in succession to Surgeon-General Stevenson.

Lieutenant-Colonel T. B. MOFFITT, who is serving in Bengal, is granted the temporary rank of Colonel whilst officiating as Principal Medical Officer of a district, from April 19th.

Colonel W. S. PRATT, M.B., Principal Medical Officer 5th (Mhow) Division, has been appointed Honorary Surgeon to the Governor-General of India.

INDIAN MEDICAL SERVICE.

LIEUTENANT-COLONEL G. J. KELLIE, Bengal Establishment, has been appointed Principal Medical Officer of the Derajat-Bannu Brigade.

Colonel J. M'CLOGHRY, Bombay Establishment, Principal Medical Officer Kurrachee Brigade, is transferred to the Quetta Division, *vice* Colonel T. S. Weir, whose tenure has expired.

Lieutenant-Colonel H. B. BRIGGS, M.B., Bombay Establishment, has been appointed Principal Medical Officer, Kurrachee Brigade, vice Lieutenant-Colonel J. M'Cloghry.

Lieutenant-Colonel J. H. T. WALSH, Bengal Establishment, is permitted to retire from the service, from July 21st. Entering the department as Surgeon, April 1st, 1884, he was made Lieutenant-Colonel, April 1st, 1904. He was with the Burmese Expedition in 1885-7, receiving a medal with clasp.

Lieutenant-Colonel C. H. BEATSON, Bengal Establishment, is appointed Principal Medical Officer, Kohat Brigade.

CHANGES OF STATION.

THE following changes of station amongst the officers of the Royal Army Medical Corps have been officially reported to have taken place during July:

		FROM	TO
Colonel	R. M. Blennerhassett, C.M.G. ...	Rawal Pindi ...	Murree.
Lieut.-Col.	T. J. R. Lucas, M.B., C.B. ...	Egypt	Aldershot.
,,	R. E. R. Morse	Newc'stle-on-T.	Cawnpore.
,,	M. Dundon, M.D.	Exeter	Devonport.
,,	F. P. Nichols, M.B.	Barbadoes ...	Eastern Comd.
,,	E. H. L. Lynden-Bell, M.B. ...	Fyzabad ...	Lucknow.
Major	H. D. Rowan, M.B	Mian Mir ...	Dalhousie.
,,	H. A. Cummins, M.D., C.M.G. ...	Rawal Pindi ...	Bara Gala.
,,	J. J. Russell, M.B	,, ...	Kuldana.
,,	W. S. Dowman	Allahabad ...	Cawnpore.
,,	L. E. A. Salmon	Bodmin ...	Exeter.
,,	A. J. Luther	Delhi	Landour.
,,	W. Hallaran, M.B.	Ferozepore ...	Mian Mir.
,,	W. T. Mould	Fatehgurh ...	Delhi.
,,	J. C. Connor, M.B.	Perham Down	Portsmouth.
,,	C. Dalton	Rawal Pindi ...	Gharial.
,,	W. G. Beyts	Ambala ...	Solon.
,,	E. M. Morphew	Hertford ...	Colchester.
,,	T. M'Dermott, M.B.	Calcutta ...	Cawnpore.
,,	A. G. Thompson, M.B.	—	Chester.
Captain	K. M. Cameron, M.B.	Ambala ...	Kasauli.
,,	W. Tibbits, M.B.	Barrackpore ...	Calcutta.
,,	A. E. Milner	Secunderabad	Quetta.
,,	F. E. Gunter, M.B.	R.A.M.Coll. ...	York
,,	P. J. Probyn, D.S.O.	,, ...	London Dist.
,,	A. H. Waring	W'ndmll.-Hl.C.	Perham Down.
,,	A. H. Morris	Woolwich ...	W. Africa.
,,	R. E. G. Phillips	—	R.A.M.Coll.
,,	H. L. W. Norrington	Devonport ...	Westdown Cp.
,,	W. H. S. Nickerson, M.B., V.C. ...	R.A.M.Coll. ...	Bulford.
,,	E. T. Inkson, V.C.	,, ...	Woolwich.
,,	B. Watts	York	R.A.M.Coll.
,,	W. P. Gwynn	Devonport ...	,,
,,	N. H. Ross, M.B	Canterbury ...	Shorncliffe.
,,	C. J. O'Gorman, D.S.O.	R.A.M.Coll. ...	Broadwater C.
,,	G. B. Crisp	,, ...	Netley.
,,	R. Selby, M.B.	Woolwich ...	R.A.M.Coll.

		FROM	TO
Captain	S. O. Hall	St. Th'm's's Mt.	Poonamallee.
,,	A. E. Weld	Westdown Cp.	Devonport.
,,	A. E. Tuorp	R.A.M.Coll.	,,
,,	J. Cowan, M.B.	Netley	R.A.M.Coll.
,,	L. E. L. Parker	R.A.M.Coll.	Woolwich.
,,	J. G. Gilt	Aldershot	R.A.M.Coll.
,,	W. S. Winkfield	R.A.M.Coll.	Devonport.
,,	J. W. Leake	Eastern Comd.	R.A.M.Coll.
,,	J. W. H. Houghton, M.B.	R.A.M.Coll.	London Dist.
,,	G. M. Goldsmith, M.B.	Belfast	Dublin.
,,	R. H. Lloyd	Trawsfynydd	R.A.M.Coll.
,,	J. M. Sloan, M.B., D.S.O.	Edinburgh	,,
,,	G. J. A. Ormsby, M.D.	Dublin	,,
,,	H. D. Packer	Cork	,,
,,	H. K. Palmer	Waterford	,,
,,	F. J. Palmer	R.A.M.Coll.	Edinburgh.
,,	W. A. Woodside	,,	York.
,,	H. Simson	Pretoria	Barberton.
,,	W. R. Blackwell	R.A.M.Coll.	Dublin.
,,	A. Chopping	Windsor	R.A.M.Coll.
,,	S. G. Butler	Devonport	,,
,,	E. E. Ellery	Bulford	Fargo Camp.
,,	O. W. A. Elsner	R.A.M.Coll.	Cork.
,,	J. I. W. Morris	Belfast	Armagh.
,,	H. S. Anderson	R.A.M.Coll.	Belfast.
,,	L. N. LLord, D.S.O.	Churn Camp	Portsmouth.
,,	T. C. MacKenzie, D.S.O.	London Dist.	R.A.M.Coll.
,,	E. P. Connolly	R.A.M.Coll.	Belfast
,,	F. S. Irvine, M.B.	Aldershot	Longmoor.
,,	M. H. Babington	R.A.M.Coll.	Aldershot.
,,	H. H. Norman	,,	Cork.
,,	H. S. Rooh	,,	Aldershot.
,,	F. Harvey	,,	,,
,,	J. Matthews	Deep Cut	R.A.M.Coll.
,,	B. F. Wingate	Aldershot	,,
,,	H. C. R. Hime, M.B.	R.A.M.Coll.	Aldershot.
,,	J. A. Hartigan, M.B.	Peshawar	Cherat.
,,	C. R. Evans	Khandalla	Colaba.
,,	J. Powell, M.B.	Rawal Pindi	Thobba.
,,	R. L. Argles	Bulford	R.A.M.Coll.
,,	F. S. Walker	Fort Lahore	Ferozepore.
,,	G. J. Houghton	Dum Dum	Darjeeling.
,,	J. H. Robinson	Rawal Pindi	Kalabagh.
,,	F. G. FitzGerald	Curragh	R.A.M.Coll.
,,	F. H. Hardy	Bordon	,,
,,	P. S. Lelean	Aldershot	,,
,,	H. I. M'Grigor, M.B.	Woolwich	,,
,,	E. W. Powell	Queenstown	,,
,,	T. F. Ritchie, M.B.	Ferozepore	Changla Gali.
,,	H. Rogers, M.B.	Mian Mir	Dalhousie.
,,	W. Davis	Meerut	Calcutta.
,,	J. Waddell, M.B.	Half Pay	Belfast.
Lieutenant	P. Davidson, M.B., D.S.O.	Rawal Pindi	Ghora Dhaka.
,,	C. A. J. A. Balck, M.B.	,,	Lower Topa.
,,	S. M. W. Meadows	Mian Mir	Murree
,,	H. G. S. Webb	Peshawar	Upper Topa.
,,	W. D. C. Kelly, M.B.	Sialkot	Rawal Pindi.
,,	J. M. M. Crawford	Mian Mir	Dalhousie.
,,	C. Bramhall	Aden	Quetta.
,,	B. G. Patch	Ambala	Dagshai.
,,	D. D. Paton, M.B.	Netley	Egypt.
,,	A. C. Osburn	Meerut	Agra
,,	A. S. Arthur, M.B.	Peshawar	Cherat.
,,	R. R. Lewis	—	Bellary.
,,	C. H. Turner	Aldershot	Woolwich.
,,	F. H. Noke, M.B.	—	St Thos.'s Mnt.
,,	R. B. Hole, M.B.	Mhow	Indore.
,,	J. A. Turnbull	Rawal Pindi	Ghora Dhaka.
,,	W. H. Hills, M.B.	Netley	Edale Camp.
,,	H. T. Wilson	,,	W'ndm'll-Hl.C.
,,	E. J. H. Luxmoore	,,	Chester.
,,	H. C. Sidgwick, M.B.	Aldershot	Ewshot Camp.
,,	M. Sinclair, M.B.	,,	Edinburgh.
,,	G. R. Painton	,,	Woolwich.
,,	R. H. L. Cordner	,,	,,
,,	P. A. Jones	Netley	Bulford.
,,	G. H. Richard	,,	,,
,,	J. St A. Maughan	,,	Stoneleigh Pk.

Lieutenant R. G. Anderson, appointed on probation January 30th, 1904, is stationed at Aldershot.

The undermentioned Lieutenants, appointed on probation January 31st, 1905, are posted to the stations specified: C. P. Thomson, M.D., G. B. F. Churchill, W. S. Nealor, F. E. Roberts, J. E. Hoar, and E. G. R. Lithgow, to Aldershot; R. J. B. Buchanan, R. G. Meredith, M.B., A. A. M'Neight, M.B., T. H. Gibbon, M.D., P. Power, M.B., and G. G. Tabuteau, to the Curragh, G. S. Wallace, M.B., E. B. Booth, M.D., W. Parsons, C. D. M. Holbrooke, J. S. Pascoe, C. W. O'Brien, R. E. Humfrey, and W. G. Maydon, M.B., to Netley; R. P. Nash and G. Ormrod, M.B., to Woolwich.

Lieutenant-Colonel E. M. Wilson, C.B., C.M.G., D.S.O., retired pay, is transferred from the Military Prison, Aldershot, to the Record Office, Aldershot.

Lieutenant-Colonel F. W. H. D. Harris, retired pay, is continued in the medical charge of troops at Bodmin.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

In seventy-six of the largest English towns, including London, 9,111 births and 5,195 deaths were registered during the week ending Saturday last, August 19th. The annual rate of mortality in these towns, which had been 15.0, 17.0 and 17.5 per 1,000 in the three preceding weeks, declined to 17.4 per 1,000 last week. The rates in the several towns ranged from 6.2 in Hornsey, 7.0 in Hastings, 7.6 in Handsworth (Staffs.), 7.9 in Northampton, 8.2 in King's Norton, and 8.7 in Reading, to 23.2 in Sunderland, 23.7 in Grimsby, 23.8 in Hull, 23.9 in Manchester, 24.2 in Hanley, 25.9 in Wigan, 27.2 in Tynemouth, and 27.3 in St. Helens. In London the rate of mortality was 17.0 per 1,000, while it averaged 17.5 per 1,000 in the seventy-five other large towns. The death-rate from the principal infectious diseases averaged 5.3 per 1,000 in the seventy-six towns; in London this death-rate was 5.2 per 1,000, while among the seventy-five other large towns the rates ranged upwards to 8.4 in Walsall and in Sheffield, 12.0 in Rhondda, 10.2 in Wigan, 10.9 in Hull, 11.8 in East Ham, 12.4 in West Ham, and 13.8 in Grimsby. Measles caused a death-rate of 1.6 in Wolverhampton and 2.6 in Barrow-in-Furness; scarlet fever of 1.2 in Blackburn and 1.7 in Bootle; and diarrhoea of 7.6 in Norwich and in Warrington, 7.7 in Aston Manor and in Sheffield, 7.8 in Walsall, 8.3 in Rhondda, 9.0 in Wigan, 9.7 in East Ham, 10.3 in Hull, 11.3 in West Ham, and 12.2 in Grimsby. The mortality from diphtheria, from whooping-cough, and from "fever" showed no marked excess in any of the large towns. No fatal case of small-pox was registered either in London or in any of the large provincial towns, and no small-pox patients remained under treatment on Saturday last, August 19th, in the Metropolitan Asylums Hospitals. The number of scarlet fever cases in these hospitals and in the London Fever Hospital, which had been 2,550, 2,632, and 2,670 at the end of the three preceding weeks, had further risen to 2,735 at the end of last week; 361 new cases were admitted during the week, against 352, 366, and 355 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS.

During the week ending Saturday last, August 19th, 929 births and 505 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had been 15.3, 14.8, and 13.8 per 1,000 in the three preceding weeks, rose again to 15.1 per 1,000 last week, but was 2.3 per 1,000 below the mean-rate during the same period in the seventy-six large English towns. The rates in the eight Scotch towns ranged from 10.9 in Aberdeen and 13.3 in Edinburgh to 16.6 in Leith and 25.6 in Paisley. The death-rate from the principal infectious diseases averaged 2.2 per 1,000, the highest rates being recorded in Paisley and Perth. The 242 deaths registered in Glasgow included 3 from measles, 5 from whooping-cough, 3 from "fever," and 28 from diarrhoea. Two fatal cases of measles, 5 of whooping-cough, and 3 of diarrhoea were recorded in Edinburgh; 2 of whooping-cough in Dundee; 6 of diarrhoea in Aberdeen; 3 of whooping-cough and 4 of diarrhoea in Paisley; and 2 of diarrhoea in Leith.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, August 12th, 533 births and 342 deaths were registered in six of the principal Irish towns, as against 559 births and 361 deaths in the preceding period. The annual death-rate in these towns, which had been 14.8, 17.9, and 17.6 per 1,000 in the three preceding weeks, rose to 19.2 per 1,000 in the week under notice, this figure being 1.7 per 1,000 higher than the mean annual rate in the seventy-six English towns for the corresponding period. The figures ranged from 16.1 in Londonderry and 18.9 in Belfast to 19.7 in Dublin and 21.9 in Cork. The zymotic death-rate during the same period and in the same six Irish towns averaged 3.6 per 1,000, or the same as during the preceding period, the highest figure, 5.8, being recorded in Waterford, while Limerick registered no deaths under this heading at all. The deaths from diarrhoeal diseases rose to 63.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

BATH: ROYAL UNITED HOSPITAL.—House Surgeon. Salary, £80 per annum.

BIRMINGHAM LYING-IN CHARITY.—Honorary District Surgeons.

BOLINGBROKE HOSPITAL, Wandsworth Common, S.W.—Assistant Medical Officer. Appointment for six months. Salary at the rate of £75 per annum.

BRIGHTON THROAT AND EAR HOSPITAL.—Non-resident House Surgeon. Salary, £75 per annum. Appointment for six months.

BRISTOL EYE HOSPITAL.—House-Surgeon. Salary, £80 per annum.

CAIRO: KASR-EL-AINY HOSPITAL.—Resident Medical Officer. Salary, £250 Egyptian per annum.

CAMBRIDGE: ADDENBROOKE HOSPITAL.—Assistant House-Surgeon. Appointment for six months. Salary at the rate of £30 per annum.

COVENTRY AND WARWICKSHIRE HOSPITAL.—Junior House Surgeon. Salary, £60 per annum. Appointment for six months.

DOUGLAS: NOBLE'S ISLE OF MAN HOSPITAL AND DISPENSARY.—Resident House-Surgeon. Salary, £90 per annum.

DUDLEY: GUEST HOSPITAL.—Senior Resident Medical Officer. Salary, £100 per annum.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.—House Surgeon. Honorarium of £25.

HAMPSTEAD GENERAL HOSPITAL.—Resident Medical Officer.

HOSPITAL FOR EPILEPSY AND PARALYSIS, Maida Vale, W.—Resident Medical Officer. Salary, £50 per annum. Appointment for six months.

LIVERPOOL: HANLEY HOSPITAL.—House-Surgeon. Salary, £60 per annum.

MANCHESTER CHILDREN'S HOSPITAL, Pendlebury.—(1) Physician. (2) Surgeon. (3) Junior Resident Medical Officer for six months, eligible for election as Senior. (1) and (2) Honorarium of £100 each per annum. Salary (3) at the rate of £80 and £100 per annum respectively.

NEWCASTLE-ON-TYNE: HOSPITAL FOR SICK CHILDREN.—Resident Medical Officer. Salary, £100 per annum.

OXFORD: RADCLIFFE INFIRMARY.—House Physician. Salary, £80 per annum. Junior House Surgeon. Salary, £40 per annum. Appointments for six months.

PARISH OF ST. MARYLEBONE.—District Medical Officer. Salary, £90 per annum.

SHEFFIELD ROYAL HOSPITAL.—Assistant House-Physician. Salary, £50 per annum.

SINGAPORE, STRAITS SETTLEMENTS.—Assistant Municipal Health Officer. Salary, £400 to £450 per annum.

STOCKPORT INFIRMARY.—Junior Assistant House Surgeon. Salary, £40 per annum.

TYNEMOUTH COUNTY BOROUGH.—Medical Officer of Health. Salary, £300, rising to £400 per annum.

WEST LONDON HOSPITAL, Hammersmith Road, W.—Two House Physicians and three House Surgeons.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—(1) House-Physician. (2) Assistant House-Surgeon. Appointments for six months. Honorarium at the rate of £75 per annum each.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces vacancies in the office of Certifying Factory Surgeon at Stirling; Aldershot; Wallasey, County Chester; Waterford; Deal; Wisbech.

APPOINTMENTS.

CHAMBERS, John Miles, M.R.C.S., L.R.C.P., District Medical Officer to the Petersfield Union.

DE JONG, Edward Meyer, M.R.C.S., L.S.A., District Medical Officer to the Bucklow Union.

ETCHES, Charles Guy, L.R.C.P. and S. Edin., L.F.P.S. Glasg., District Medical Officer to the Easingwold Union.

GEMMILL, William, M.B., Ch.B. Glasg., Medical Officer to Carlisle Dispensary.

KELTY, W., M.B., C.M. Aberdeen, Clinical Assistant to the Chelsea Hospital for Women.

PARROTT, Thomas Godfrey, M.D. Durh., L.R.C.P. Lond., M.R.C.S. Eng., Medical Officer of Health of the Aylesbury Urban District.

RICHMOND, James Robert Marr, L.S.A., edical Officer of Health of the West Penrith Rural District.

ROLSTON, JOHN R., M.R.C.S. Eng., Honorary Consulting Ophthalmic Surgeon to the Cottage Hospital, Liskeard, and also to the Royal Dockyard Female Orphanage Asylum, Devonport.

WARD, BERNARD J., F.R.C.S. Eng., House Surgeon to St. Peter's Hospital for Stone and Urinary Diseases, Henrietta Street, W.C.

DIARY FOR NEXT WEEK.

POST-GRADUATE COURSES AND LECTURES.

WEST LONDON POST-GRADUATE COLLEGE, West London Hospital, Hammersmith Road, W.—The following are the arrangements for next week: Monday, 5 p.m., Medical Cases; Tuesday, 5 p.m., Common Symptoms of Throat, Nose, and Ear Diseases; Wednesday, 5 p.m., Aphasia; Thursday, 4 p.m., Surgical Cases; Friday, Cases of Skin Disease.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to ensure insertion in the current issue.

BIRTHS.

AINSCOW.—On August 9th, at 224, Manchester Road, Ince, near Wigan, the wife of James Ainscow, M.R.C.S., L.R.C.P., of a daughter.

FITZ-GERALD.—On the 13th inst., at the Eglinton Asylum, Cork, the wife of J. J. Fitz Gerald, M.D. Brux., L.R.C.P.I. (Lucia Strangman, L.R.C.P. and S.I.), of a daughter.

SWINDELLS.—On August 14th, at Hessle, East Yorks, the wife of S. Wallis Swindells, M.B., of a son.

MARRIAGES.

REID—HOPWOOD.—At Holy Trinity, Bournemouth, on August 15th, by Rev. J. Martin, M.A., George Alexander Reid, M.D., F.R.C.S.E., Bournemouth, to Muriel, only daughter of Deputy-Surg.-Gen. Hopwood, of Coylton, Bournemouth.

WROUGHTON—STENHOUSE.—On the 23rd August, at St. Mathew's Church, Redhill, by the Ven. Archdeacon Daniel, Arthur Oliver Bird Wroughton, Capt. R.A.M.C., youngest son of Colonel W. N. Wroughton, Indian Army, Bedford, to Roberta Stenhouse Stenhouse, second daughter of Major-General Stenhouse, Highfield Lodge, Redhill.

DEATH.

HARRISON.—On the 19th inst., at Brough, Westmorland, Jonathan Atkinson Harrison, M.D., J.P., of Hazelwood, Haslingden, Lancashire.

CALENDAR OF THE ASSOCIATION.

Month.	Day of Week.	Meetings to be Held.
August	27...Sunday..	
..	28...MONDAY	
..	29...TUESDAY ...	
..	30...WEDNESDAY	
..	31...THURSDAY ...	
Sept.	1...FRIDAY ...	
..	2...SATURDAY ...	
..	3...Sunday..	
..	4...MONDAY ...	
..	5...TUESDAY ...	
..	6...WEDNESDAY	
..	7...THURSDAY	
..	8...FRIDAY ...	
..	9...SATURDAY ...	
..	10..Sunday..	
..	11...MONDAY ...	
..	12...TUESDAY ...	
..	13...WEDNESDAY	
..	14...THURSDAY...	
..	15...FRIDAY ...	
..	16...SATURDAY...	
Sept.	17...Sunday..	
..	18..MONDAY ...	
..	19...TUESDAY ...	
..	20...WEDNESDAY	Altrincham Division, *Lancashire and Cheshire Branch*, Quarterly Meeting at Knutsford.
..	21...THURSDAY...	
..	22...FRIDAY ...	
..	23..SATURDAY ...	
..	24 Sunday..	
..	25..MONDAY ...	
..	26...TUESDAY ...	
..	27...WEDNESDAY	
..	28..THURSDAY..	Truro Division, *South-Western Branch*, Clinical Meeting at the Royal Cornwall Infirmary, Truro. Wandsworth Division, *Metropolitan Counties Branch*, Wandsworth Town Hall, 8 p.m.
..	29..FRIDAY ...	
..	30..SATURDAY...	
October	1...Sunday..	
..	2...MONDAY ...	
..	3...TUESDAY ...	
..	4...WEDNESDAY	LONDON: Medico-Political Committee, 3 p.m.
..	5...THURSDAY...	LONDON: Hospitals Committee, 2 p.m.
..	6..FRIDAY ...	LONDON: Ethical Committee, 2 p.m.
..	7...SATURDAY...	

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, SEPTEMBER 9TH, 1905.

CONTENTS.

	Page.
MEETINGS OF BRANCHES AND DIVISIONS:	
Border Counties Branch	197
South Wales and Monmouthshire Branch: Monmouth Division ...	197
New South Wales Branch	198
ASSOCIATION NOTICES—Branch and Division Meetings to be Held	198
NAVAL AND MILITARY APPOINTMENTS	198
VITAL STATISTICS...	199
VACANCIES AND APPOINTMENTS	199
BIRTHS, MARRIAGES, AND DEATHS	200
DIARY OF THE WEEK	200
BOOKS, ETC., RECEIVED	200
CALENDAR	200

Meetings of Branches and Divisions.

[The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the JOURNAL.*]*

BORDER COUNTIES BRANCH.

THE thirty-eighth annual meeting of this Branch was held in the County Hotel, Carlisle, on June 16th, immediately after the members had partaken of a sumptuous luncheon at the invitation of the President-elect, Sir James Crichton-Browne. Dr. HENRY BARNES, President, was in the chair, and about thirty members were present.

Minutes.—The minutes of the last meeting having been read, approved, and signed by the President, the meeting confirmed the action of its Council in issuing a circular to all the practitioners in Cumberland asking their opinion upon the working of the Midwives Act in relation to the Cumberland Nursing Association, and reappointed the following gentlemen to be their representatives upon the General Committee of that body: Drs. C. W. Graham, J. Arnott, G. J. Muriel, M. Ogilvy-Ramsay.

Resolution.—The following resolution, which was embodied in the Council's report which was circulated amongst the members, was then put to the meeting by the President and carried—namely: "That the Secretary of each Division of the Branch shall be *ex officio* a member of the Branch Council."

Branch Council.—In accordance with Branch Rule No. 3, the following were elected to the Branch Council for the ensuing year: J. S. Bell, D. S. Doughty, W. Murdoch, G. J. Muriel, M. Ogilvy-Ramsay, C. H. Powers; the officers of the Council being as follows: *President:* Sir James Crichton-Browne, M.D., LL.D., etc.; *Vice-President:* Henry Barnes, M.D., LL.D.; *President-elect:* J. E. Bowser, M.B., C.M.; *Representative to the Central Council:* J. Maxwell Ross, M.B. *Secretary and Treasurer:* Francis R. Hill, M.B., C.M. The Representatives from the Divisions to the Council are—Scottish Division: Dr. F. H. Clarke, Dr. G. D. Logan. North Cumberland Division: Dr. C. W. Graham, Dr. C. W. Donald. West Cumberland Division: Dr. J. W. Crerar. The following are the Secretaries of the Divisions: Scottish Division: Dr. G. R. Livingston. North Cumberland Division: Dr. Norman Maclaren. West Cumberland Division: Dr. G. B. Muriel.

SOUTH WALES AND MONMOUTHSHIRE BRANCH: MONMOUTH DIVISION.

THE quarterly meeting of this Division was held in the Pontypool Hospital on Friday, September 1st, at 3.30, Dr. GLENDINNING in the chair. The members present were Drs. Mason, Haslett, D. J. Jones, Coulter, J. McGinn, Hamilton, O'Keefe, Gamble, Mulligan, G. A. Brown, Frost, Marsh, Burns, W. D. Steel, Greer.

Confirmation of Minutes.—The minutes of the previous meeting at Newport were read and confirmed. Expressions of regret for inability to attend were received from Drs. Bowen, Reidy, Elworthy, Redwood.

Resolutions.—Reports on the disputes at Ebbw Vale and Abertysswg were considered, and the following resolution was proposed by Dr. STEEL and seconded by Dr. MULLIGAN, and carried unanimously:

> That the members of the Monmouthshire Division hereby reaffirm their previously-expressed opinion that the conduct of colliery and other such practices as carried on by committees of workmen is not in the best interests of the public or the profession.

Notice of Motion.—That in the opinion of the Monmouthshire Division of the British Medical Association it is detrimental to the honour and interests of the medical profession

for any medical man to accept any appointment under the Abertyssswg Workmen's Doctors' Fund as at present conducted.

Rearrangement of Division.—The resolution of members and other practitioners of Bargoed and District in favour of inclusion in the Monmouthshire Division was received; also an application from practitioners in Brynmawr and Crickhowell in favour of inclusion. It was proposed by Dr. MULLIGAN and seconded by Dr. GAMBLE:

> That this Division considers that it would be advantageous to the work of the Association for Crickhowell, Brynmawr, and the whole of the Rhymney Valley as far as and including Maescymmer, to be included in the Monmouthshire Division, and that the Honorary Secretary be instructed to bring the matter at once before the Organization Committee.

This was carried unanimously.

Contract Practice.—The recommendations of the Medico-Political Committee on Contract Practice were adopted on the motion of Dr. MCGINN, seconded by Dr. HAMILTON.

Leigh Infirmary.—It was proposed by Dr. MULLIGAN, seconded by Dr. O'KEEFE, and carried:

> That the Monmouthshire Division is of opinion that no member of the profession should take any appointment under the Leigh Infirmary Committee until the Committee makes such arrangements as will agree with the wishes of the local medical men as expressed through the Leigh Division of the British Medical Association.

Life Assurance Fees.—The report of the Norwich Division upon fees for medical examinations for life assurance was read.

Coroner for South-West London.—The following resolution was proposed by Dr. W. D. STEEL, seconded by Dr. MARSH, and carried unanimously:

> That the Monmouthshire Division of the British Medical Association, on behalf of the members of the medical profession in the County of Monmouth, hereby places on record its earnest protest against the attitude of indifference to the opinion of the medical profession adopted by His Majesty's present Government, and specially indicated by the failure of the Lord Chancellor to give judgement in the case submitted to him by the British Medical Association concerning the procedure of the coroner for South-West London, and the omission of the Prime Minister for twelve months to reply to the formal communications of the Association in reference thereto.

The Honorary Secretary was given instructions as to where this resolution was to be sent.

Exhibit.—Dr. MULLIGAN showed a case of infantile paralysis treated by nerve crossing and a case of supernumerary digits.—Dr. D. J. JONES showed a case of operation for acute gangrenous appendicitis and a case of complicated fracture of the pelvis.

Suggestion.—Dr. W. D. STEEL suggested that it would be of great advantage to the Division if the members in the various districts of the Division constituted themselves into areas of the Division and held meetings to consider matters of local interest, and also to consider the various matters referred from the Central Committees, so as to be prepared with carefully-formed opinions on these subjects.—The suggestion was cordially approved.

Tea.—Tea was very kindly provided for the visitors at the hospital.

SYDNEY AND NEW SOUTH WALES BRANCH.

THE regular monthly meeting of the Branch was held at the Royal Society's room on Friday, June 30th, Dr. F. A. POCKLEY Vice-President in the chair. There were present 57 members and a visitor, Dr. Braithwaite.

Elections.—The minutes of the previous meeting having been read and confirmed, the election of the following new members was announced: Dr. H. R. Letcher, Cobar; Dr. P. H. Boyden, H.M.S. *Prometheus*; Dr. H. F. Alsop Mosman. The following were nominated for election: Dr. E. Neumann, Wilcannia; Dr. S. A. Smith, Killara; Dr. W. H. Laug, Corowa; Dr. V. Benjafield; Dr. J. Costelloe, Hillgrove.

Exhibits.—Dr. FIASCHI exhibited (1) a foreign body extracted from bladder, (2) right arm of a man, 65 years old, amputated at the shoulder-joint. Dr. MACINTYRE SINCLAIR read a paper on some cases of arrested pulmonary tuberculosis from the King's Tableland Sanatorium; 18 patients were exhibited and examined by the members. Sir PHILIP SYDNEY JONES and Dr. CAMAC WILKINSON made some remarks on the paper and cases, and Dr. SINCLAIR replied.

☞ *To ensure the insertion of notices in this column they must be received at the Central Offices of the Association not later than the first post on Tuesday.*

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

DUNDEE BRANCH.—An ordinary meeting of the Branch will be held in the Students' Union, Dundee, on Thursday, September 21st, at 4 p.m. Business: Discussion of Report on Contract Medical Practice.—R. C. BUIST, A. P. LOW, Honorary Secretaries.

EAST ANGLIAN BRANCH.—The autumn meeting of the East Anglian Branch will be held at Colchester on Thursday, September 28th. Members wishing to show cases or specimens, or read papers, should communicate with the General Secretary of the Branch as soon as possible. An invitation has been accepted by the East Anglian Branch to partake of the hospitality of the Cambridge and Huntingdon Branch at Cambridge on October 5th.—B. H. NICHOLSON, General Secretary of Branch, Colchester.

NORTH OF ENGLAND BRANCH.—A meeting of the Branch Council will be held on Thursday, September 14th, at 3.30 p.m.—ALFRED COX, Honorary Secretary.

SOUTH-EASTERN BRANCH: BRIGHTON DIVISION.—A meeting will be held at the Dispensary, 113, Queen's Road, Brighton, at 4.30 p.m., on the fourth Wednesday in October (25th), and November (22nd). Members wishing to read papers or show cases at the meetings are requested to give at least a fortnight's notice to the Honorary Secretary, RYDING MARSH, M.D., 49, Sackville Road, Hove.

SOUTH-EASTERN BRANCH: FOLKESTONE DIVISION.—A meeting will be held at the Victoria Hospital, Folkestone, at 2 o'clock, on Tuesday, October 17th. Members wishing to read papers are requested to give at least a fortnight's notice to the Honorary Secretary, P. VERNON DODD, M.D., 14, Manor Road, Folkestone.

SOUTH-WESTERN BRANCH: TRURO DIVISION.—A clinical meeting of this Division will be held at the Royal Cornwall Infirmary, Truro, on Thursday, September 28th.—MARK R. TAYLOR, Honorary Secretary.

BATH AND BRISTOL BRANCH: TROWBRIDGE DIVISION.—A meeting of the Division will be held at the Town Hall, Marlborough, on October 28th, at 3.15 p.m., when C. J. Cullingworth, M.D., F.R.C.P., will deliver an address, entitled, Oliver Wendell Holmes and the Contagiousness of Puerperal Fever.—J. TUBB-THOMAS, D.P.H., Honorary Secretary, Trowbridge, Wilts.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been made at the Admiralty: WILLIAM B. MACLEOD, M.B., Staff Surgeon, to the *Hermione*, on recommissioning, September 1st; WILLIAM M. KEITH, M.B., to the *Acolus*, on recommissioning; ROBERT D. JAMESON, Staff Surgeon, to the *Eclipse*, on recommissioning, September 1st; GEORGE R. MACMAHON, M.B., Staff Surgeon, and ROBERT R. FASSON and WALTER G. M. ANDERSON, Surgeons, to the *Leander*, for duty with torpedo boat destroyers, on recommissioning, September 1st; ALFRED WOOLLCOMBE, Surgeon, to the *Psyche* September 5th; JOHN G. PEEBLES, M.B., Surgeon, to the *Pandora*, September 5th; JOHN ST. J. MURPHY, Surgeon, to the *Eclipse*, September 7th; WILLIAM P. WALKER, M.B., Surgeon, to the *Racer*, for Osborne College, September 13th; ROBERT S. BERNARD, Staff Surgeon, to the *Calypso*, September 10th; BRYAN PICK, Surgeon, to the *Terrible*, September 7th; ALEXANDER C. D. NEWPORT, Surgeon, to the *Victory*, additional for disposal, September 7th.

ROYAL ARMY MEDICAL CORPS.

EXCHANGE.

The charge for inserting notices respecting Exchanges in the Army Medical Department is 3s. 6d., which should be forwarded in stamps or post-office order with the notice, not later than Wednesday morning, in order to ensure insertion in the current issue.

CAPTAIN R.A.M.C., 5 years' service tour expired with I.M.S. officer.—Apply "Volvulus," c.o. of *Pioneer*, Allahabad.

LIEUTENANT D. D. PATON, M.B., resigns his commission, September 2nd. He joined the department as Lieutenant, August 31st, 1903.

Lieutenant-Colonel D. WARDROP, M.B., who is serving in the Punjab, has been appointed to officiate as Principal Medical Officer, Lucknow Division, *vice* Colonel G. D. N. Leake, granted sick leave out of India.

INDIAN MEDICAL SERVICE.

COLONEL J. T. B. BOORER, C.B., Bengal Establishment, retires from the service, from June 16th last. He was appointed Assistant Surgeon, March 30th, 1872, and became Colonel, May 2nd, 1900. His war record includes: The Jowaki Expedition, 1877-8 (medal with clasp); the Mashood Waizeree Expedition, 1881; the Burmese campaign, 1886-7 (mentioned in dispatches, two clasps); the Hazara Expedition, 1888 (mentioned in dispatches, clasp); the second Miranzai Expedition, 1891 (mentioned in dispatches, clasp); the Waziristan Expedition, 1894-5 (mentioned in dispatches, clasp); the North-West Frontier of India campaign, 1897 (mentioned in dispatches, medal with clasp); the China war, 1900, as Principal Medical Officer (medal with clasp, and nominated C.B.); and the operations against the Darwesh Khel Waziris, on the North-West Frontier of India, in 1903.

Lieutenant-Colonel C. H. BEATSON, Bengal Establishment, is promoted to be Colonel, from June 16th. He entered as Assistant Surgeon, September 30th, 1876, and was made Surgeon-Lieutenant-Colonel, September 30th, 1896. He served with the Manipore Expedition in 1891, was mentioned in dispatches, and received a medal with clasp.

Lieutenant-Colonel H. B. BRIGGS, M.B., Bombay Establishment, is also promoted to be Colonel, dated July 10th. He was appointed Assistant Surgeon, September 30th, 1878, and Lieutenant-Colonel, September 30th, 1898. He was with the Burmese Expedition in 1885-7 (medal with clasp), and with the Tirah Expeditionary Force, in the North-West Frontier of India campaign, in 1897 (mentioned in disoatches, medal with clasp).

The undermentioned officers, appointed Lieutenants July 26th, 1902, are promoted to be Captains from July 26th: F. A. F BARNARDO, M.B., J. M'PHERSON, M.B., G. D. FRANKLIN, M.B., C. A. GOURLAY, M.B., W. C. ROSS, M.B., R. A. LLOYD, M.B., J. C. G. KINHARDT, E. A. WALKER M.B., L. COOK, M.B., L. B. SCOTT, M.B., G. I. DAVYS, M.B., H. HALLILAY, M.B., G. C. I. ROBERTSON, M.B., A. J. V. BETTS, M.B., F. E. WILSON, M.B., W. S. PATTON, M.B., W. L. TRAFFORD, M.B., N. W MACKWORTH, M.B., H. ROSS, M.B., J. FORREST, M.B., H. CROSSLE, M.D., L. HIRSCH, L. RUNDALL, M.B., E. C. C. MAUNSELL, M.B., H. E. J. BATTY, J. W. ILLIUS, D. S. A. O'KEEFE, M.B., J. P. CAMERON.

IMPERIAL YEOMANRY.

SURGEON-LIEUTENANT J. WILSON, M.D., Pembroke Regiment, to be Surgeon-Captain, September 2nd.

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

CAPTAIN E. T. INKSON, V.C., Royal Army Medical Corps, has been appointed Adjutant of the Woolwich Companies, *vice* Major T. P. Jones, Royal Army Medical Corps.

Lieutenant A. E. L. WEAR, M.D., Leeds Companies, Northern Command, to be Captain, June 23rd.

ROYAL GARRISON ARTILLERY (VOLUNTEERS).

SURGEON-LIEUTENANT O. EATON, 1st Devonshire, to be Surgeon-Captain, August 23rd.

Surgeon-Lieutenant W. O. BEDDARD, 1st Norfolk, to be Surgeon-Captain, August 16th.

Surgeon-Captain and Honorary Surgeon-Major (Honorary Captain in the Army) A. THORNE, M.B., 2nd Middlesex, to be Surgeon Major, August 14th.

VOLUNTEER RIFLES.

SURGEON-LIEUTENANT J. S. S. PERKINS, 1st (Exeter and South Devon), Volunteer Battalion the Devonshire Regiment, to be Surgeon-Captain, September 2nd.

Surgeon-Captain J. R. I. RAYWOOD, 5th Volunteer Battalion the South Wales Borderers, resigns his commission, September 2nd.

Surgeon-Captain W. A. ATKINSON, M.D., 1st Surrey (South London), to be Surgeon-Major, September 2nd.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

IN seventy-six of the largest English towns, including London, 8,352 births and 5,189 deaths were registered during the week ending Saturday last, September 2nd. The annual rate of mortality in these towns, which had been 17.5 17.4, and 17.3 per 1,000 in the three preceding weeks, was again 17.3 per 1,000 last week. The rates in the several towns ranged from 4.3 in Hornsey, 8.0 in Burton-on-Trent, 8.2 in King's Norton, 8.4 in Handsworth (Staffs), 9.2 in West Bromwich, 10.0 in Smethwick, 10.1 in Reading, and 11.8 in Bournemouth, to 21.4 in Bury, 21.6 in Salford, 22.1 in Preston, 22.4 in Liverpool, 22.6 in Manchester, 25.2 in Grimsby, 25.8 in Hanley, and 26.6 in Sunderland. In London the rate of mortality was 17.2 per 1,000, while it averaged 17.4 per 1,000 in the seventy-five other large towns. The death-rate from the principal infectious diseases in the seventy-six towns averaged 4.8 per 1,000; in London this death-rate was equal to 4.4 per 1,000, while among the seventy-five large provincial towns the rates ranged upwards to 7.3 in Hanley, in Wolverhampton, and in Hull, 8.0 in Bury, 8.1 in Ipswich, 8.4 in Burnley and in York, 8.5 in Sunderland, 9.0 in Wigan, 9.5 in Walsall, 10.4 in Preston, and 16.1 in Grimsby. Measles caused a death-rate of 1.6 in Swansea and 2.1 in Merthyr Tydfil; whooping-cough of 1.5 in West Hartlepool; and diarrhoea of 6.5 in Hull, 6.8 in Wolverhampton, 7.2 in Burnley and in Sunderland, 7.3 in Hanley, 7.4 in Ipswich, 7.6 in York, 7.8 in Wigan, 8.0 in Bury, 9.5 in Walsall, 10.4 in Preston, and 16.1 in Grimsby. The mortality from scarlet fever, from diphtheria, and from enteric fever showed no marked excess in any of the large towns. No fatal case of small-pox was registered last week either in London or in any of the large provincial towns, and no small-pox patients remained under treatment on Saturday last, September 2nd, in any of the Metropolitan Asylums Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of last week was 2,873, against 2,670, 2,735, and 2,762, at the end of the three preceding weeks: 427 new cases were admitted during the week, against 355, 361, and 313 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS.

DURING the week ending Saturday last, September 2nd, 836 births and 496 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns which had been 13.8, 15.1, and 14.0 per 1,000 in the three preceding weeks, rose again to 14.8 per 1,000 last week, but was 2.5 per 1,000 below the mean-rate during the same period in the seventy-six large English towns. Among these Scotch towns the death-rates ranged from 10.2 in Leith and 11.2 in Aberdeen to 15.7 in Glasgow and 17.2 in Dundee. The death-rate from the principal infectious diseases averaged 2.9 per 1,000 in these towns, the highest rates being recorded in Glasgow and Dundee. The 244 deaths registered in Glasgow included 6 which were referred to measles, 3 to diphtheria, 8 to whooping-cough, 3 to "fever," and 34 to diarrhoea. Two fatal cases of diphtheria and 11 of diarrhoea were recorded in Edinburgh; 10 of diarrhoea in Dundee, 5 in Aberdeen, and 2 in Greenock.

HEALTH OF IRISH TOWNS.

DURING the week ending Saturday, September 2nd, 533 births and 311 deaths were registered in six of the principal Irish towns, as against 437 births and 334 deaths in the preceding period. The annual death-rate in these towns, which had been 19.2, 20.6, and 16.4 per 1,000 in the three preceding weeks, rose to 18.4 per 1,000 in the week under notice, this figure being 1.1 per 1,000 higher than the mean annual rate in the seventy-six English towns for the corresponding period. The figures ranged from 12.3 in Limerick and 15.3 in Belfast to 22.0 in Dublin and 22.6 in Londonderry. The zymotic death-rate during the same period and in the same six Irish towns averaged 2.8 per 1,000, or 0.5 per 1,000 higher than during the preceding period, the highest figure—3.9—being recorded in Waterford. The deaths from diarrhoeal diseases showed a considerable fall, Dublin accounting for 19 or about a half of them.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

BIRMINGHAM GENERAL DISPENSARY.—Resident Surgeon. Salary, £150 per annum.

BRIGHTON, HOVE, AND PRESTON DISPENSARY.—House-Surgeon. Salary, £160 per annum.

BRIGHTON THROAT AND EAR HOSPITAL.—Non-resident House-Surgeon. Salary, £75 per annum. Appointment for six months.

DARLINGTON HOSPITAL AND DISPENSARY.—House Surgeon. Salary, £120 per annum.

DUBLIN UNIVERSITY.—Senior Demonstrator of Physiology. Salary, £175 per annum.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway, N.—(1) Senior House-Surgeon, (2) Senior House Physican, (3) Two Junior House-Surgeons, (4) Junior House-Physician. Salary, for (1) and (2) at the rate of £60 per annum, and £30 per annum for (3) and (4).

HEREFORDSHIRE GENERAL HOSPITAL.—House-Surgeon. Salary £100 per annum.

LEEDS CITY INFECTIOUS HOSPITAL AND SANATORIUM.—Resident Medical Officer. Salary, £150 per annum.

LIVERPOOL: DAVID LEWIS NORTHERN HOSPITAL.—House-Surgeon. Salary at the rate of £60 per annum.

LIVERPOOL: FAZAKERLEY HOSPITAL FOR INFECTIOUS DISEASES.—Medical Superintendent. Salary, £400, rising to £600 per annum.

LIVERPOOL INFIRMARY FOR CHILDREN.—Assistant House-Surgeon. Appointment for six months. Salary, £30 for the period.

LONDON TEMPERANCE HOSPITAL, Hampstead Road, N.W.—Assistant Resident Medical Officer. Appointment for six months. Honorarium at the rate of 50 guineas per annum.

LONDON THROAT HOSPITAL, Great Portland Street, W.—House-Surgeon, non-resident. Salary at the rate of £50 per annum.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Assistant Medical Officer for the Crossley Sanatorium. Salary, £50 per annum.

MELBOURNE UNIVERSITY.—Professor of Anatomy. Salary, £900 per annum.

METROPOLITAN HOSPITAL, Kingsland Road, N.E.—(1) Assistant Physician, (2) House Physician, (3) House-Surgeon, (4) Assistant House-Physician, (5) Assistant House-Surgeon, (6) Anaesthetist. Salary for (2) and (3) at the rate of £40 per annum, and for (4) and (5) £20 per annum, (6) honorarium 25 guineas.

NORTHAMPTON GENERAL HOSPITAL.—Assistant House-Surgeon. Salary, £50 per annum.

ROCHDALE INFIRMARY.—House-Surgeon. Salary, £100 per annum.

ROYAL DENTAL HOSPITAL AND LONDON SCHOOL OF DENTAL SURGERY, Leicester Square, W.C.—(1) Lecturer on Dental Surgery and Pathology, (2) Morning House-Anaesthetist; honorarium, £50 per annum.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City Road, E.C.—House-Physician. Salary at the rate of £60 per annum.

ROYAL LONDON OPHTHALMIC HOSPITAL, City Road, E.C.—Senior House-Surgeon. Salary at the rate of £100 per annum.

TAUNTON ISOLATION HOSPITAL.—Medical Superintendent.

TOTTENHAM HOSPITAL.—Honorary Anaesthetist.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces vacancies in the office of Certifying Factory Surgeons at Chirnside, co. Berwick, and Lymm, co. Chester.

APPOINTMENTS.

DOWNES, Harold, M.B., M.Ch., L.R.C.P. [illegible], Resident Medical Officer to the Victoria Hospital for Consumption, Bournemouth.

GREAVES, F. W. M., M.B., Ch.B.Vict., Assistant Medical Officer, Leeds Union Infirmary.

GREENWOOD, T. Parker, M.D., B.Sc., Assistant Medical Officer at the County Asylum, Radcliffe, Notts.

HANCOCK, W. J., M.R.C.S., L.R.C.P., District Medical Officer, Ashton-under-Lyne Union.

KEMP, Frederick W., M.B., Ch.B.Durh., M.R.C.S., L.R.C.P., Junior House-Surgeon, Radcliffe Infirmary, Oxford.

KNOWLES, T., M.D.Edin., Certifying Factory Surgeon for the Gargrave District, co. York.

LECKY, H. C., B.M., B.Ch.Oxon., House-Physician, Radcliffe Infirmary, Oxford.

LEE, S. H., M.B., District Medical Officer, Kingston Union (Surrey).

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 2s. 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to ensure insertion in the current issue

BIRTH.

PHILLIPS.—On August 25th, at Cairo, the wife of Llewelyn Powell Phillips, M.A., M.D., B.C., F.R.C.S., M.R.C.P., of a daughter.

MARRIAGES.

DRUITT—RADCLIFFE.—On August 29th, at Holy Trinity, Cowick, Yorks, by the Rev. F. Bishop, Torquay, assisted by the Rev. C. H. Druitt, of St. Bride's, Manchester, Arthur Edward, M.R.C.S., etc., second son of the late Rev. W. Druitt, of Stockbridge, Hants, to Mary Jane, second daughter of James Radcliffe, Esq., Cowick (late of Leeds), and late Night Sister, Soho Hospital for Women, Soho Square, London, W.C.

MORISON—SIMONSEN.—September 5th, 1905, at Greenside Parish Church, Rutherford Morison, 14, Saville Row, Newcastle-on-Tyne, to Lull Simonsen, Mandal, Norway.

SPRIGGS—WATSON.—On August 31st, at the Parish Church, Foxton, Leicestershire, Edmund Ivens Spriggs, M.D., F.R.C.P., son of the late Joseph Spriggs, of Foxton, to Alice Mary, younger daughter of Thomas S. Watson, Esq., of Foxton.

DEATHS.

MARKHAM-SKERRITT.—September 2nd, at Ivor House, Durdham Park, Clifton, Bristol, after a very brief illness, Madeline Dorothy, only daughter of E. and M. D Markham Skerritt, aged 24 years.

MCCONAGHY.—On September 3rd, 1905, at 5, Granville Place, Portman Square, W., Surgeon-General William McConaghy, M.D., Indian Medical Service.

DIARY FOR NEXT WEEK.

POST-GRADUATE COURSES AND LECTURES.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week at 4 p.m. each day: Tuesday, Medical; Wednesday, Surgical; Thursday, Surgical; Friday, Ear.

WEST LONDON POST-GRADUATE COLLEGE, West London Hospital, Hammersmith Road, W.—The following are the arrangements for next week: Monday, 2 p.m., Skiagraphy; Tuesday, 10 a.m., Anaesthetics; Wednesday, 3 p.m., Intestinal Anastomoses; Thursday, 2 p.m., Skiagraphy; Friday, 10 a.m., Anaesthetics; 4.30 p.m., Intestinal Surgery.

BOOKS, ETC., RECEIVED.

Practical Physiology. By A. P. Beddard, M.A., M.D.; J. S. Edkins, M.A., M.B.; Leonard Hill, M.B., F.R.S.; J. J. R. McLeod, M.B.; and M. S. Pembrey, M.A., M.D. Second Edition. London: Edward Arnold. 1905. 12s. 6d.

The Brassworkers of Berlin and of Birmingham: A Comparison. Joint Report of R. H. Best, W. J. Davis, and C. Perks. London: P. S. King and Son. 1905. 1s.

Simple Lessons on Health for the Use of the Young. By Sir Michael Foster, K.C.B., M.P., etc. London: Macmillan and Co., Limited. 1905. 1s.

Leather for Libraries. By E. Wyndham Hulme, J. Gordon Parker, A. Seymour Jones, Cyril Davenport, and F. J. Williamson. London: The Library Supply Co. 1905. 1s. 6d.

Clinical Studies: A Quarterly Journal of Clinical Medicine. By Byrom Bramwell, M.D., F.R.C.P.E., F.R.S.E. Vol. III. Edinburgh: R. and R. Clark, Limited. 1905.

The Bodie Book. By Walford Bodie, F.R.M.S., M.R.S.A., etc. London: The Caxton Press, Limited. 1905. 2s. 6d.

Statistical Tables of the Patients under Treatment in the Wards of St. Bartholomew's Hospital during 1904. By the Medical Registrars (P. Horton-Smith Hartley, M.D.Cantab., F.R.C.P., and T. J. Horder, M.D.) and the Surgical Registrar (G. E. Gask, F.R.C.S.). London: Charles Skipper and East. 1905.

Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India. New Series, No. 18. Haemogregaria Gerbilli. By Lieut. S. R. Christophers, M.B., I.M.S. Calcutta: Office of the Superintendent of Government Printing. 1905. 10 annas or 1s.

Bettws-y-Coed as a Health Resort. By a Member of the Medical Profession. Oswestry: Woodall, Minshall, Thomas and Co. 6d.

Guy's Hospital Nursing Guide; Handbook of Nurses' League and Register of Nurses Trained at Guy's Hospital. 1905. Third issue. London: Ash and Co., Limited. 1s. 6d.

Transactions of the Royal Academy of Medicine in Ireland. Vol. XXIII. Edited by James Craig, M.D., F.R.C.P.I. Dublin: John Falconer. 1905.

Hudens Sygdomme og deres Behandling. Af C. Rasch. Tredielevering. Kbenhavn: Gyldendalske Boghandel. 1905. Kr. 6.

Cattle Tuberculosis; a Practical Guide to the Agriculturist and Inspector. By Harold Sessions, F.R.C.V.S., F.H.A.S., F.R.G.S. Second Edition. London: Baillière, Tindall, and Cox. 1905. 3s.

*** In forwarding books the publishers are requested to state the selling price.

CALENDAR OF THE ASSOCIATION

Month.	Day of Week.	Meetings to be Held.
Sept.	10	Sunday.
..	11	MONDAY.
..	12	TUESDAY. Warrington Division, *Lancashire and Cheshire Branch.*
.	13	WEDNESDAY.
..	14	THURSDAY. North of England Branch, Branch Council, 3.30 p.m.
.	15	FRIDAY.
.	16	SATURDAY.
	17	Sunday.
	18	MONDAY.
..	19	TUESDAY.
..	20	WEDNESDAY. Altrincham Division, *Lancashire and Cheshire Branch*, Quarterly Meeting at Knutsford.
..	21	THURSDAY. Dundee Branch, Ordinary Meeting, Students' Union, Dundee, 4 p.m.
..	22	FRIDAY.
..	23	SATURDAY.
..	24	Sunday.
..	25	MONDAY.
	26	TUESDAY.
..	27	WEDNESDAY.
..	28	THURSDAY. East Anglian Branch, Colchester. Truro Division, *South-Western Branch*, Clinical Meeting at the Royal Cornwall Infirmary, Truro. Wandsworth Division, *Metropolitan Counties Branch*, Wandsworth Town Hall, 9 p.m.
..	29	FRIDAY.
..	30	SATURDAY.

Month.	Day of Week.	Meetings to be Held.
October	1	Sunday.
.	2	MONDAY.
.	3	TUESDAY.
.	4	WEDNESDAY. LONDON: Medico-Political Committee, 3 p.m.
..	5	THURSDAY. LONDON: Hospitals Committee, 2 p.m. Cambridge and Huntingdon Branch, Combined Meeting with East Anglian Branch, Cambridge.
..	6	FRIDAY. LONDON: Ethical Committee, 2 p.m.
..	7	SATURDAY.
..	8	Sunday.
..	9	MONDAY.
..	10	TUESDAY. LONDON: Organization Committee, 10.30 a.m.
..	11	WEDNESDAY.
..	12	THURSDAY.
..	13	FRIDAY.
..	14	SATURDAY.
.	15	Sunday.
..	16	MONDAY.
.	17	TUESDAY. Folkestone Division, *South-Eastern Branch* Victoria Hospital, Folkestone, 2 p.m.
..	18	WEDNESDAY. Central Council, 10 a.m.
..	19	THURSDAY.
..	20	FRIDAY.
..	21	SATURDAY.
.	22	Sunday.
..	23	MONDAY.
..	24	TUESDAY.

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

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CONTENTS.

	Page.		Page.
ASSOCIATION NOTICES—Branch and Division Meetings to be Held	201	BIRTHS, MARRIAGES, AND DEATHS	204
LIBRARY OF THE BRITISH MEDICAL ASSOCIATION	201	DIARY OF THE WEEK	204
NAVAL AND MILITARY APPOINTMENTS	202	BOOKS, ETC., RECEIVED	204
VITAL STATISTICS...	203	CALENDAR	204
VACANCIES AND APPOINTMENTS	203		

☞ *To ensure the insertion of notices in this column they must be received at the Central Offices of the Association not later than the first post on Tuesday.*

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

BATH AND BRISTOL BRANCH: TROWBRIDGE DIVISION.—A meeting of the Division will be held at the Town Hall, Marlborough, on October 28th, at 3.15 p.m., when C. J. Cullingworth, M.D., F.R.C.P., will deliver an address, entitled, Oliver Wendell Holmes and the Contagiousness of Puerperal Fever.—J. TUBB-THOMAS, D.P.H., Honorary Secretary, Trowbridge, Wilts.

BIRMINGHAM BRANCH: COVENTRY DIVISION.—The annual dinner of this Division will be held at the Masonic Buildings, Little Park Street, Coventry, on Tuesday, October 3rd, at 7.30 p.m. The President of the Branch, Sir Thomas Chavasse, has accepted an invitation to attend. It is open to members to introduce either medical men or dentists as guests. Tickets (including wine) 12s. 6d. each.—E. H. SNELL, Honorary Secretary.

DUNDEE BRANCH.—An ordinary meeting of the Branch will be held in the Students' Union, Dundee, on Thursday, September 21st, at 4 p.m. Business: Discussion of Report on Contract Medical Practice.—R. C. BUIST, A. P. LOW, Honorary Secretaries.

EAST ANGLIAN BRANCH.—The autumn meeting of the East Anglian Branch will be held at Colchester on Thursday, September 28th. Members wishing to show cases or specimens, or read papers, should communicate with the General Secretary of the Branch as soon as possible. An invitation has been accepted by the East Anglian Branch to partake of the hospitality of the Cambridge and Huntingdon Branch at Cambridge on October 5th.—B. H. NICHOLSON, General Secretary of Branch, Colchester.

LANCASHIRE AND CHESHIRE BRANCH: ALTRINCHAM DIVISION.—The next meeting will be held in the Town Hall, Knutsford, on Wednesday, September 20th, at 4.30 p.m. (Small Committee Room, side entrance opposite tower end of Parish Church). Agenda: (1) Minutes of annual meeting of June 22nd and of special meetings of August 2nd and 16th. (2) Subject to permission from the Bucklow Board of Guardians, visit to the Workhouse Hospital, conducted by Dr. G. H. Smith, who will show one or two cases. (3) On return to the Town Hall, Report of Committee (minutes of meeting of August 23rd). (4) Report of the Representative at the annual meeting at Leicester (SUPPLEMENTS of July 29th and August 5th). (5) Contract practice (Special SUPPLEMENT of July 22nd). (6) State registration of nurses. (7) School certificates. (8) Correspondence, and any other business. The following papers will be read and discussed, according to time and opportunity:—Dr. C. J. Renshaw Epilepsy. Dr. Melland: The Sanatorium Treatment of Phthisis. Dr. Garstang: The Midwives Act, 1902. All members are requested to inform the Honorary Secretary (by post-card) as early as possible whether they can be present or not.—T. W. H. GARSTANG, Honorary Secretary, Edge Mount, Altrincham.

SOUTH-EASTERN BRANCH: BRIGHTON DIVISION.—A meeting will be held at the Dispensary, 113, Queen's Road, Brighton, at 4.30 p.m. on the fourth Wednesday in October (25th), and November (22nd). Members wishing to read papers or show cases at the meetings are requested to give at least a fortnight's notice to the Honorary Secretary, RYDING MANSH, M.D., ... Sackville Road, Hove.

SOUTH-EASTERN BRANCH: CROYDON DIVISION.—The [illegible] meeting will be held at the Cock Hotel, Sutton, on Thursday, [illegible] at 4.30 p.m. Dr. W. Gripper (Wallington) in the chair. [illegible] exclusive of wine. All members of the S[illegible] to attend and to introduce professional friends. [illegible] would be much obliged if members would [illegible] whether they intend to be present at the meeting [illegible] are likely to remain to dinner. By so doing they will facilitate the arrangements and promote the success of the meeting. Agenda: Minutes of previous meeting. (2) To elect a Chairman for the next meeting. (3) Report of Direct Representative at the [illegible] meeting. (4) Communications from Wandsworth Division. [illegible] The following papers will be read:—Mr. F. Swinford [illegible] the More Common Affections of the Rectum and their Treatment; Mr. E. C. Clarke: Eye Strain from a Medical Point of View. Any additional item that may arise will be notified [illegible] the BRITISH MEDICAL JOURNAL. Members desiring [illegible] reading notes of cases are requested [illegible] Secretary on or before October 5th.—E. H. WILLOCK, Honorary Secretary, 113, London Road, Croydon.

SOUTH-EASTERN BRANCH: FOLKESTONE DIVISION. A meeting will be held at the Victoria [illegible] Tuesday, October 17th. Members wishing to read papers [illegible] at least a fortnight's notice to the Honorary Secretary, P. VERNON DODD, M.D., 14, Manor Road, Folkestone.

SOUTH-WESTERN BRANCH: TRURO DIVISION.—A clinical meeting of this Division will be held at the Royal Cornwall Infirmary, Truro, on Thursday, September [illegible] MARK E. TAYLOR, Honorary Secretary.

BRITISH MEDICAL ASSOCIATION LIBRARY.

BOOKS NEEDED TO COMPLETE SERIES.

The Librarian will be glad to receive [illegible] the following volumes, which are needed to complete [illegible]

American Climatological [illegible]. Vols. 1, 4, 5, 6.
——— Dermatological Association Transactions. Vols. 5, 7, 8, and 11.
——— Journal of the Medical Sciences. New series, vols. 4, 5, 1842-3; vols. 14, 15, [illegible]30; Vol. 33, 1857; Vol. 45, 1864-5; Vol. 50; or any [illegible]
——— Journal of Ophthalmology. Vols. [illegible]
——— Laryngological Association. Transactions. Vols. 1 6, 8 9.

American Medical Association. Transactions, 1-28, 30, 31.
——— Otological Society. Transactions. Vol. 3, part 2, 1883.
——— Public Health Association. Transactions. Any vols.
Analyst. Vols. 1-24.
Archiv für Dermatologie und Syphilis. Prior to 1874, 1892, and 1893.
Annals of Surgery. Vols. 11, 13-16 and 26 27.
Archives Générales de Médecine. 1831-9 inclusive; 1846-55 inclusive; 1857-64 inclusive; 1871.
——— of Ophthalmology. Vols. 1-3, 6, 7, 14-21.
——— of Otology. Vols. 1-7, and 20-22.
——— of Pediatrics. Vols. 1-11.
Asylum Journal of Mental Science. Vol. 1, 1854.
Bentley and Trimen. Atlas of Medicinal Plants.
British Journal of Dermatology. Vol. 2, part 3.
British Laryngological and Rhinological Association. 1900-1-2.
Caledonian Medical Journal. Vol. 1 prior to 1894.
Carmichael Essays. Laffan, 1879. Rivington, 1879.
Centralblatt für Augenheilkunde. Hirschberg. All prior to 1891, Index to 1891.
——— für Bakteriologie. Bound volumes prior to 1899.
——— für klinische Medicin. 1880-3; all 1888, 1891, No. 26; 1892. No. 17.
——— für medicinischen Wissenschaften. Vols. 1-19.
Congrès Français de Chirurgie. Transactions 1, 2, 3, 6, and 10.
——— Internat. d'Obstétrique et de Gynécologie. 3, Amsterdam, 1899.
Connecticut State Board of Health Report. Vol. xi. 1887 8.
Dermatological Congress. Vienna, 1892, Paris, 1900, and Berlin, 1904.
Dublin Quarterly Journal of the Medical Sciences. Vols. 1, 10, 17, 20, 28, and 35-40.
Edinburgh Obstetrical Society. Transactions. Vol. 5.
Gale. Surgery. 1563.
Glasgow Medical Journal. 1833-68.
——— Pathological Society. Transactions. Vols. 1 and 2.
Guy's Hospital Gazette. Nos. 1 and 5, 1872; and 1881-1886 inclusive.
Hunterian Transactions containing 76th Report.
Indian Medical Gazette. 1866-84.
International Congress of Hygiene. Congresses 1 to 6 and 10 to 12.
——— Ophthalmological Congress. Transactions of 5th, New York, 1876.
Johns Hopkins Hospital Bulletin. Vols. 1-10.
Journal of Laryngology. Vols. 1-9.
Lancet, August 23rd, 1851.
Neurologisches Centralblatt. Nos. 23, 1904, and 5, 10, 11, 12, 1905.
Ophthalmic Review, January, 1882.
Pediatrics, prior to 1902.
Pollatschek. Therapeutische Leistungen des Jahres. 1894, 1895, 1900.
Provincial Medical and Surgical Journal. March to September, 1841.
Recueil d'Ophtalmologie. 1891. Jan.-June; 1892, December.
Registrar-General's Decennial Report, 1871-80.
Revue Générale d'Ophtalmologie. Prior to 1888, and 1891-2.
St. Bartholomew's Hospital Gazette. Vols. 1-6.
St. George's Hospital Gazette, 1-7.
St. Mary's Hospital Gazette, 1-5.
Sel-i-Kwai Medical Journal. Vols. 1-11.
Semaine Médicale. Prior to 1890, and title and index to year 1892.
South African Medical Journal. February, April, 1895. And titles for vols. 3 and 4.
Turner (D.). Art of Surgery. Vol. 2. 1725.
University College Hospital Reports. Before 1877 and 1892-3.
Virchow's Archiv. Any vols. prior to 151.
Wiener klinische Wochenschrift. Titles 1892 and 1888. No. 2, 1903, and No. 1, 1904.
Ziemssen's Cyclopædia. Supplem. vol.

Applications for duplicates from Branches or Divisions forming libraries may be addressed to the Librarian, 429, Strand.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

SURGEON W. C. B. SMITH has been appointed to the *Lancaster*, September 11th.

Mr. JOHN O'DONAGHUE, civil practitioner, has been appointed Surgeon and Agent at Baldoyle, September 11th.

ROYAL ARMY MEDICAL CORPS.

EXCHANGE.

The charge for inserting notices respecting Exchanges in the Army Medical Department is 3s. 6d., which should be forwarded in stamps or post-office order with the notice, not later than Wednesday morning, in order to ensure insertion in the current issue.

CAPTAIN R.A.M.C., 5 years' service tour expired with I.M.S. officer. Apply "Volvulus," c.o. of *Pioneer*, Allahabad.

THE undermentioned gentlemen are appointed Lieutenants on probation July 31st: J. A. ANDERSON, M.B., C. G. BROWNE, H. C. SOERGEL, H. H. A. EMERSON, M.B., W. BYRON M.B., R. P. LEWIS, G. E. FERGUSON, J. H. GRAHAM, M.B., C. E. W. S. FANCOURT, M.B., T. SCATCHARD, R. A. BRYDEN, A. E. S. IRVINE, T. B. MORIARTY, A. M. ROSE, M.B., E. L. MOSS, E. C. ANTHONISZ, G. H. REES, M.B., V. H. SYMONS, W. J. WESTON, M. J. CROMIE, P. FARRANT, A. E. F. HASTINGS, G. W. W. WARE, M.B., M. B. H. RITCHIE, M.B., J. S. DURRE, W. M'CONAGHY, M.B., F. C. SAMPSON, M.B., C. F. WHITE, M.B., C. J. WYATT, M.B., W. C. NESMO, E. T. POTTS, M.D., M. KEANE, A. D. O'CARROLL, M.B., R. S. SMYTH, M.D., A. J. ARCH, T. S. BLACKWELL, H. E. PRIESTLEY, A. C. VIDAL, P. J. MAHEFF, H. STEWART, M.B.

The undermentioned Lieutenants are seconded, July 31st: C. G. BROWNE, P. FARRANT, C. J. WYATT, M.B., R. S. SMYTH, M.D.

Lieutenant-Colonel A. [illegible] C. SCANLAN retires on retired pay, September 6th. He was appointed Surgeon, January 31st, 1886; Surgeon-Major, January 31st, 1897; and Lieutenant-Colonel, January 31st, 1905.

Lieutenant-Colonel D. WARDROP, M.B., is granted the temporary rank of Colonel whilst officiating as Principal Medical Officer of a division in India.

Major J. W. COCKERILL retires, receiving a gratuity, September 13th. He joined as Surgeon-Captain, February 5th, 1887, and was promoted to be Major, February 5th, 1899. He served in the Burmese campaign in 1891 (medal with clasp), in Sierra Leone in 1898-9 with the Mendiland Expedition, and afterwards with the Karene Expedition (medal with clasp), and in the South African war in 1900-2, including operations in the Orange River Colony and in Cape Colony (Queen's medal with two clasps, King's medal with two clasps).

Lieutenant W. C. RIVERS is placed on temporary half-pay on account of ill-health, August 27th.

ROYAL ARMY MEDICAL COLLEGE.

LIEUTENANT-COLONEL R. J. S. SIMPSON, M.B., C.M.G., is gazetted Professor of Military Medicine, vice Lieutenant-Colonel K. M'Leod, Indian Medical Service, retired pay, who has vacated that appointment, August 22nd.

ARMY MEDICAL RESERVE.

SURGEON-LIEUTENANT-COLONEL E. L. FREER, having resigned his commission in the Volunteers, ceases to belong to the Army Medical Reserve, September 6th.

Surgeon-Captain F. H. GERVIS, 17th Middlesex Volunteer Rifle Corps, to be Surgeon-Captain, September 9th.

Surgeon-Major F. W. GIBBON to be Surgeon-Lieutenant-Colonel, August 31st.

INDIAN MEDICAL SERVICE.

THE Director-General of the Indian Medical Service is, while holding that office, to be allowed the status and relative rank of a Lieutenant-General in the Army, so as to place him on an equality with the Director-General of the Army Medical Service.

Captain P. P. KILKELLY, M.B., Bombay Establishment, is promoted to be Major, July 20th. He entered the department as Surgeon-Lieutenant, July 29th, 1893, and was made Surgeon-Captain, July 29th, 1896. He served with the Dongola expedition in 1896 (British and Khedive's medals); in the expedition against the Ogaden Somalis, British East Africa, in 1898 (medal with clasp, and 4th class of the Brilliant Star of Zanzibar); and in the China war in 1900 (medal with clasp).

COLONIAL CONTINGENTS.

THE undermentioned Captains, Medical Officers of their respective regiments, are granted the temporary rank of Captain in the Army, from the dates specified, whilst serving in South Africa, as follow: W. F. HOPKINS, 1st Victorian Contingent (since deceased), November 27th, 1899: J. DE B. GRIFFITHS, 3rd Victorian (or Bushmen's) Contingent, April 12th, 1900: A. H. STURDEE, 4th Victorian Contingent (Australian Imperial Regiment), April 2nd, 1900; H. R. NOLAN, 2nd Queensland Mounted Infantry, February 24th, 1900; A. T. DUKA, 3rd Queensland Mounted Infantry, April 3rd, 1900: H. J. HUTCHENS, 5th Queensland Imperial Bushmen, February 1st, 1901: E. R. ROW, 6th Queensland Imperial Bushmen, March 14th, 1901: J. T. TOLL, 1st Contingent, South Australian Infantry, November 27th, 1899; G. F. M'WILLIAMS, 1st Western Australian Contingent, November 27th, 1899; J. M. Y. STEWART, 2nd Western Australian Contingent, February 24th, 1900; F. J. INGOLDBY, 3rd Western Australian Contingent, April 2nd, 1900: W. GIBSON, 4th Western Australian Contingent, March 13th, 1900; J. I. FLINN, 6th Western Australian Contingent, January 11th, 1901; F. B. REID, 6th Western Australian Contingent, March 7th, 1901.

Majors A. HONMAN, Medical Officer 2nd Contingent (Victorian Mounted Rifles), and W. B. NISBET, Medical Officer 4th Queensland Imperial Bushmen, are granted the temporary rank of Major in the Army whilst serving in South Africa, the former dated February 6th, 1900, the latter April 19th, 1900.

The undermentioned Lieutenants, Medical Officers in their respective Regiments, are granted the temporary rank of Lieutenant in the Army, from the dates specified, whilst serving in South Africa: F. C. DOUGLAS, 3rd Contingent South Australian Bushmen, April 5th, 1900; H. A. PALMER (since deceased), 5th Contingent (Victorian Mounted Rifles), February 5th, 1901; J. H. PATTERSON, 5th Contingent (Victorian Mounted Rifles), January 11th, 1901; C. MATTEI, 2nd Tasmanian Contingent, January 31st, 1901.

IMPERIAL YEOMANRY.

SURGEON-LIEUTENANT C. J. SYMONDS, M.D., the King's Colonials, to be Surgeon-Captain, August 4th.

Surgeon-Lieutenant G. THOMSON, M.B., Nottinghamshire (Sherwood Rangers), to be Surgeon-Captain, September 13th.

ROYAL GARRISON ARTILLERY (VOLUNTEERS).

SURGEON-MAJOR AND HONORARY SURGEON-LIEUTENANT-COLONEL J. P. MASSINGHAM, 1st Shropshire and Staffordshire, to be Surgeon-Lieutenant-Colonel, September 13th.

VOLUNTEER RIFLES.

HENRY C. NICHOLLS to be Surgeon-Lieutenant in the 4th Volunteer Battalion the Royal Fusiliers (City of London Regiment), September 13th. He is borne as supernumerary whilst doing duty with the Bearer Company of the 1st London Volunteer Infantry Brigade, September 13th.

Surgeon-Captain C. VISE, M.D., 1st Volunteer Battalion the Queen's Own (Royal West Kent Regiment), to be Surgeon-Major, September 13th.

VOLUNTEER OFFICERS' DECORATION.

THE Volunteer Officers' Decoration has been conferred upon the following officers: Major and Honorary Lieutenant-Colonel S. S. HOWLAND, Harwich Bearer Company, Royal Army Medical Corps (Volunteers); Major and Honorary Lieutenant-Colonel J. J. DE Z. MARSHALL, East Surrey Bearer Company, Royal Army Medical Corps (Volunteers); Lieutenant-Colonel and Honorary Colonel W. COATES, C.B., Northern Command Royal Army Medical Corps (Volunteers), Manchester Companies; Supernumerary Surgeon Captain H. W. KING, M.D., 2nd (Earl of Chester's) Volunteer Battalion the Cheshire Regiment (Brigade Surgeon Lieutenant-Colonel, Senior Medical Officer Cheshire Volunteer Infantry Brigade).

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

IN seventy-six of the largest English towns, including London, 8,216 births and 4,807 deaths were registered during the week ending Saturday last, September 9th. The annual rate of mortality in these towns, which had been 17.3 per 1,000 in each of the three preceding weeks, decreased to 16.1 per 1,000 last week. The rates in the several towns ranged from 6.7 in King's Norton, 7.6 in Handsworth (Staffs.), 8.2 in Halifax, 9.3 in Hornsey, 9.5 in Croydon, 9.9 in Walthamstow, and 10.4 in Barrow-in-Furness, to 21.1 in Wigan, 21.2 in Stockport, 21.6 in Preston, 21.9 in Norwich, 22.3 in Salford, 24.0 in Merthyr Tydfil, and 24.6 in Burnley. In London the rate of mortality was 15.9 per 1,000, while it averaged 16.1 per 1,000 in the seventy-five provincial towns. The death-rate from the principal infectious diseases averaged 3.6 per 1,000 in the seventy-six towns: in London this death-rate was equal to 3.1 per 1,000, while among the seventy-five other large towns the rates ranged upwards to 6.6 in Wigan, 6.9 in Grimsby, 7.1 in Bury, 7.3 in Wolverhampton, 8.6 in Salford, 10.4 in Preston, and 10.8 in Burnley. Measles caused a death-rate of 1.3 in Rhondda and 2.6 in Barrow-in-Furness; whooping-cough of 1.2 in Rochdale, and 1.4 in Leyton; "fever" of 1.7 in Bootle: and diarrhoea of 5.0 in Bolton and in Manchester, 5.2 in Rotherham, 6.6 in Wigan, 7.1 in Bury, 7.3 in Wolverhampton, 7.7 in Salford, 8.7 in Burnley, and 9.5 in Preston. The mortality from scarlet fever and from diphtheria showed no marked excess in any of the large towns. No fatal case of small-pox was registered last week in any of these towns, and no small-pox patients remained under treatment on Saturday last, September 9th, in the Metropolitan Asylums Hospitals. The number of scarlet fever cases in these hospitals and in the London Fever Hospital, which had been 2,735, 2,762, and 2,873 at the end of the three preceding weeks, had further risen to 2,982 at the end of last week: 443 new cases were admitted during the week, against 361, 343, and 427 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS.

DURING the week ending Saturday last, September 9th, 893 births and 469 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had been 15.1, 14.0, and 14.8 per 1,000 in the three preceding weeks, declined again to 14.0 per 1,000 last week, and was 2.1 per 1,000 below the rate during the same period in the seventy-six large English towns. Among these Scotch towns the death-rates ranged from 10.4 in Greenock and 12.1 in Aberdeen to 14.6 in Paisley and 17.5 in Dundee. The death-rate from the principal infectious diseases averaged 2.1 per 1,000 in these towns, the highest rates being recorded in Glasgow, Edinburgh, and Paisley. The 220 deaths registered in Glasgow included 6 which were referred to measles, 3 to diphtheria, 5 to whooping-cough, 5 to "fever," and 17 to diarrhoea. Three fatal cases of whooping-cough and 8 of diarrhoea were recorded in Edinburgh: 7 from diarrhoea in Aberdeen, 4 in Paisley, and 3 in Dundee.

HEALTH OF IRISH TOWNS.

DURING the week ending Saturday, September 9th, 573 births and 300 deaths were registered in six of the principal Irish towns as against 533 births and 331 deaths in the preceding period. The annual death-rate in these towns, which had been 20.6, 16.4, and 18.1 per 1,000 in the three preceding weeks, fell to 16.6 per 1,000 in the week under notice, this figure being 0.5 per 1,000 lower than the mean annual rate in the seventy-six English towns for the corresponding period. The figures ranged from 10.0 in Limerick, and 15.8 in Belfast to 17.5 in Waterford, and 18.4 in Dublin. The zymotic death-rate during the same period and in the same six Irish towns averaged 0.9 per 1,000, or 1.0 per 1,000 lower than during the preceding period, the highest figure—2.3—being recorded in Dublin, while Londonderry, Limerick, and Waterford registered no deaths under this heading at all. No deaths were anywhere recorded from small-pox, measles, scarlet fever, typhus, or whooping-cough, while the deaths from diarrhoeal diseases remained at about the same figure as during the previous week. Out of the 33, 12 occurred in Dublin and 10 in Belfast.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

BRIGHTON THROAT AND EAR HOSPITAL.—Non-resident House-Surgeon. Salary, £75 per annum. Appointment for six months.

BRISTOL EYE HOSPITAL.—House-Surgeon. Salary, £80 per annum.

CORPORATION OF SHEFFIELD.—Second Assistant Medical Officer to the Fever Hospital. Salary, £130 per annum.

CROYDON GENERAL HOSPITAL.—Senior and Junior House-Surgeons. Salary, £105 and £60 per annum respectively.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—Eight Qualified Clinical Assistants.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway, N.—(1) Senior House-Surgeon, (2) Senior House-Physician, (3) Two Junior House-Surgeons, (4) Junior House-Physician. Salary, for (1) and (2) at the rate of £60 per annum, and £30 per annum for (3) and (4).

HEREFORDSHIRE GENERAL HOSPITAL.—House-Surgeon. Salary, £100 per annum.

ITALIAN HOSPITAL, Queen Square, W.C.—Honorary Anaesthetist.

LEYTON, WALTHAMSTOW, AND WANSTEAD CHILDREN'S AND GENERAL HOSPITAL.—House-Surgeon. Salary, £100 per annum.

LIVERPOOL: DAVID LEWIS NORTHERN HOSPITAL.—House-Surgeon. Salary at the rate of £60 per annum.

LIVERPOOL: FAZAKERLEY HOSPITAL FOR INFECTIOUS DISEASES.—Medical Superintendent. Salary, £400, rising to £600 per annum.

LONDON THROAT HOSPITAL, Great Portland Street, W.—House-Surgeon, non-resident. Salary at the rate of £50 per annum.

MAIDSTONE: KENT COUNTY OPHTHALMIC HOSPITAL.—House-Surgeon. Salary, £100 per annum.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Assistant Medical Officer for the Crossley Sanatorium. Salary, £50 per annum.

NEW HOSPITAL FOR WOMEN, Euston Road, N.W.—Two Female Clinical Assistants in the Out-patient Department.

NORTHAMPTON GENERAL HOSPITAL.—Assistant House-Surgeon. Salary, £50 per annum.

READING: ROYAL BERKSHIRE HOSPITAL. (1) House-Physician. (2) House-Surgeon. (3) Assistant House-Surgeon. Salary at the rate of £80 per annum for (1) and (2) and £60 per annum for (3).

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—Examiner in Dental Surgery.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City Road, E.C.—House-Physician. Salary at the rate of £60 per annum.

ROYAL LONDON OPHTHALMIC HOSPITAL, City Road, E.C.—Senior House-Surgeon. Salary at the rate of £100 per annum.

SALISBURY GENERAL INFIRMARY.—(1) House-Surgeon. (2) Assistant House-Surgeon. Salary, £100 and £50 per annum respectively.

TAUNTON: TAUNTON AND SOMERSET HOSPITAL.—Resident Assistant House-Surgeon. Salary at the rate of £50 per annum.

WATERFORD COUNTY AND CITY INFIRMARY.—House-Surgeon. Salary, £100 per annum.

WESTERN GENERAL DISPENSARY, Marylebone Road, N.W.—Honorary Anaesthetist.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House-Surgeon. Salary, £100 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces a vacancy in the office of Certifying Factory Surgeon at Spennymoor, co. Durham.

APPOINTMENTS.

AUBREY, T., M.B., M.R.C.S., District Medical Officer of the Warmley Outrelief Union.

BARKER, Frederick, M.R.C.S.Eng., L.R.C.P.Lond., Resident Medical Officer, Hospital for Epilepsy and Paralysis, Maida Vale

BEATTIE, J., L.R.C.P., L.R.C.S., District Medical Officer of the Auckland Union.

CROSSLEY, Leonard, M.D Edin., Senior Resident Medical Officer to the Royal National Hospital for Consumption, Ventnor, Isle of Wight.

DE JONG, E. M., M.R.C.S., L.S.A., Medical Officer of Health, Lynm Urban District.

DREW, J., M.D.Glasg., Certifying Factory Surgeon for the Stirling District, co. Stirling.

DUNCAN, Alexander, M.B.Glasg., D.P.H.Camb., Medical Officer of Health, Merthyr Urban District.

FIELDEN, E., M.B., B.S.Durh., District and Workhouse Medical Officer of the Easthampstead Union.

FRASER, Miss C., M.B., Resident Assistant Medical Officer at the Workhouse and for the Cottage Homes of the Aston Union.

HEPBURN, F. C., M.R.C.S., L.R.C.P., District Medical Officer of the Sedgefield Union.

JONES, A. W. L., M.R.C.S., L.R.C.P., District Medical Officer of the Penzance Union.

LIPROT, A. B., L.R.C.P Edin., M.R.C.S., District Medical Officer of the Droitwich Union.

MCDERMID, Peter, M.B., Ch.B., Junior Physician, Lancashire County Asylum, Winwick.

MCGAVIN, Lawrie, F.R.C.S.Eng., Consulting Surgeon to the Convent of the Assumption, Kensington Square, W.

NORWOOD, W. L., L.R.C.P.and S.Edin., L.F.P.S Glasg., Certifying Factory Surgeon for the Bellanagh District, co. Cavan.

PRICE, Frederick W., M.B., M.R.C.P., Medical Registrar of Westminster Hospital.

PRING, C. H., L.S.A., District Medical Officer of the Southwark Union.

REDWOOD, R. V. de A., M.R.C.S., L.R.C.P., District Medical Officer of the Bedwellty Union.

RICHMOND, J. R. M., L.S.A., Medical Officer of Health, West Penwith Rural District.

ROUTLEY, E. W., M.R.C.S., L.R.C.P.Lond., Certifying Factory Surgeon for the Aldershot District, Hants.

SLATER, B. H., M.B., F.R.C.S., Senior Resident Medical Officer, Bradford Union Workhouse.

ST. THOMAS'S HOSPITAL.—The following gentlemen have been selected as House Officers from September 9th, 1905:

Casualty Officers: (Senior) E. W. Parry, M.R.C.S., L.R.C.P.; (Junior) R. A. Risch, M.R.C.S., L.R.C.P.

Resident House-Physicians: G. J. Langley, M.B., B.S.Lond.; C. L. Morgan, M.B., B.S.Lond., M.R.C.S., L.R.C.P.

House-Physicians to Out-patients: W. O. Meek, M.R.C.S., L.R.C.P.; F. M. Bulley, M.A.Cantab., M.R.C.S., L.R.C.P.

Resident House-Surgeons: L. E. C. Norbury, M.B., B.S.Lond., M.R.C.S., L.R.C.P.; D. K. Coutts, M.B., B.S.Lond., M.R.C.S., L.R.C.P.; J. H. Bloisoe, M.B., B.S.Lond., M.R.C.S., L.R.C.P.; R. J. C. Thompson, M.R.C.S., L.R.C.P.

House-Surgeons to Out-patients: H. T. Gray, B.A.Cantab., M.R.C.S., L.R.C.P.; A. W. Hooker, M.B., B.S.Lond., M.R.C.S., L.R.C.P.; J. H. Drew, M.B., B.S.Lond., M.R.C.S., L.R.C.P.; H. Falk, B.A.Cantab., M.B., B.C., M.R.C.S., L.R.C.P.

Obstetric House-Physicians: (Senior) E. E. Mossop, M.B., B.S.Lond., M.R.C.S., L.R.C.P.; (Junior) J. W. Wyatt, M.R.C.S., L.R.C.P.

Ophthalmic House-Surgeons: (Senior) F. R. E. Wright, M.B.Lond., M.R.C.S., L.R.C.P., D.P.H.; (Junior) C. R. B. Eyre, M.R.C.S., L.R.C.P.

Special Departments: (Throat) R. H. Cotton, M.R.C.S., L.R.C.P.; (Skin) W. C. A. Ward, M.R.C.S., L.R.C.P.; (Ear) H. S. Sington, M.R.C.S., L.R.C.P.

Several other gentlemen received an extension of their appointments.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to ensure insertion in the current issue.

BIRTHS

ALLISON.—On September 6th, at The Shola, Portrush, the wife of Lieutenant-Colonel H. Allison, M.D., I.M.S. (retired), of a son.

BLICK.—On July 10th, at Broome, Western Australia, the wife of Graham Blick, J.P., D.M.O., of a son.

HOWE.—On September 5th, at 208, Highbury Road, Bulwell, Nottingham, the wife of Charles W. Howe, M.B., D.P.H., of a son.

MADDEN.—On August 28th, at Cairo, the wife of Dr. F. C. Madden, of a son (stillborn).

WALKER.—On Sunday, September 10th, at Oakwood Grange, Roundhay, Leeds, the wife of H. Secker Walker, M.Sc., F.R.C.S., of a daughter.

MARRIAGES.

HARMAN—CHAMBERLAIN.—On September 5th, at the Church of The Messiah, Birmingham, N. Bishop Harman, F.R.C.S., of Harley Street, London, to Katherine Chamberlain, M.B., third daughter of Arthur Chamberlain, Esq., of Moor Green Hall, Birmingham.

JONES—ROBERTS.—On September 7th, at Clifton Parish Church, by the Rev. G. R. Browne, Rector of Iron Acton, Bristol, assisted by the Rev. S. Boyton Smith, Dr. T. O. Jones, of Ruthin, Denbighshire, to Helen Mary, eldest daughter of William Roberts, 17, Victoria Square, Clifton, Bristol.

SIMPSON—PETERS.—On September 6th, at Tyldesley, Lancashire, by the Rev. A. Gray, assisted by the Rev. Henry Montgomery, M.A., Belfast, John Edward Simpson, M.B., The Old Chestnuts, Hornsey, London, N., son of John Simpson, M.D., Pakenham Place, Belfast, to Annie Edith, daughter of Ralph Peters, Esq., The Lingards, Astley.

SPEIRS—ROGER.—On September 6th, at the Parish Church, Egglescliffe, by the Rev. Canon Lowe, Vicar of Haltwhistle, assisted by the Rev. A. T. Dingle, Hugh Meredith Speirs, M.D., Diss, Norfolk, second son of W. R. Speirs, M.B., Haltwhistle, to Helen Mary Agnes, eldest daughter of Robert Roger, J.P., of Wootton Cottage, Egglescliffe.

DIARY FOR NEXT WEEK.

POST-GRADUATE COURSES AND LECTURES.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week at 4 p.m. each day: Monday, Skin; Tuesday, Medical; Wednesday, Surgical; Thursday, Surgical; Friday, Throat.

BOOKS, ETC., RECEIVED.

Smoke Abatement. By William Nicholson. London: Charles Griffin and Co., Limited. 1905. 6s.

Clinical Diagnosis: The Bacteriological, Chemical, and Microscopical Evidences of Disease. By Rudolf v. Jaksch, M.D. Fifth English Edition. Edited by Archibald E. Garrod, M.A., M.D., F.R.C.P. London: Charles Griffin and Co., Limited. 1905. 24s.

Pharmacopoeia and Formulary of the Royal Dental Hospital of London. London: John Bale, Sons and Danielsson, Limited. 1905. 1s. 6d.

Department of the Interior Bureau of Government Laboratories. I. Description of New Buildings. By Paul C. Freer, M.D., Ph.D. II. A Catalogue of the Library. By Mary Polk. No. 22. 1905. Manila: Bureau of Public Printing. 1905.

Department of the Interior Bureau of Government Laboratories. I. Birds from the Islands of Romblon, Sibuyan, and Cresta de Gallo. II. Further Notes on Birds from Ticao, Cuyo, Culion, Calayan, Lubang, and Luzon. By Richard C. McGregor. No. 25. May, 1905. Manila: Bureau of Public Printing. 1905.

The Treatment of Fractures, with Notes upon a Few Common Dislocations. By Charles Locke Scudder, M.D. Fifth Edition. Philadelphia and London: W. B. Saunders and Co. 1905. 21s.

Diseases of the Kidneys and of the Spleen; Haemorrhagic Diseases. By Dr. H. Senator and Dr. M. Litten. Edited by James B. Herrick, M.D. (*Nothnagel's Practice*.) Authorized translation from the German edited by Alfred Stengel, M.D. Philadelphia and London: W. B. Saunders and Co. 1905. 21s.

Reports of the Commission appointed by the Admiralty, the War Office, and the Civil Government of Malta for the Investigation of Mediterranean Fever, under the Supervision of an Advisory Committee of the Royal Society. Part III. London: Harrison and Sons. 1905. 2s. 6d.

*** In forwarding books the publishers are requested to state the selling price.

CALENDAR OF THE ASSOCIATION.

Month.	Day of Week.	Meetings to be Held.
Sept.	17 ..Sunday..	
,,	18 ..MONDAY ...	
,,	19...TUESDAY ...	
,,	20...WEDNESDAY	LONDON: Subcommittees: Lead Poisoning, 2 30 p.m. Vaccination Expenses, 4 p.m. Altrincham Division, *Lancashire and Cheshire Branch*, Quarterly Meeting, Town Hall, Knutsford, 4.30 p.m.
,,	21...THURSDAY..	Dundee Branch, Ordinary Meeting, Students' Union, Dundee, 4 p.m.
,,	22...FRIDAY ...	
,,	23...SATURDAY ...	
,,	24...Sunday..	
,,	25...MONDAY ...	
,,	26...TUESDAY ...	
,,	27...WEDNESDAY	
,,	28...THURSDAY	East Anglian Branch, Colchester. Truro Division, *South-Western Branch*, Clinical Meeting at the Royal Cornwall Infirmary, Truro. Wandsworth Division, *Metropolitan Counties Branch*, Wandsworth Town Hall, 9 p.m.
,,	29...FRIDAY ...	
,,	30...SATURDAY...	
October	1...Sunday..	
,,	2...MONDAY ...	
,,	3...TUESDAY ...	LONDON: Public Health Committee.
,,	4...WEDNESDAY	LONDON: Medico-Political Committee, 3 p.m.
,,	5...THURSDAY..	LONDON: Hospitals Committee, 2 p.m. Cambridge and Huntingdon Branch, Combined meeting with East Anglian Branch, Cambridge.
,,	6...FRIDAY ...	LONDON: Ethical Committee, 2 p.m.
,,	7...SATURDAY...	

Month.	Day of Week.	Meetings to be Held.
October	8...Sunday..	
,,	9...MONDAY ...	
,,	10...TUESDAY ...	LONDON: Organization Committee, 10.30 a.m.
,,	11...WEDNESDAY	
,,	12...THURSDAY...	
,,	13 ..FRIDAY ...	
,,	14 ..SATURDAY...	
,,	15 ..Sunday..	
,,	16 ..MONDAY ...	
,,	17 ..TUESDAY ..	Folkestone Division, *South-Eastern Branch*, Victoria Hospital, Folkestone, 2 p.m.
,,	18 ..WEDNESDAY	Central Council, 2 p.m.
,,	19 ..THURSDAY...	Croydon Division, *South-Eastern Branch*, Cock Hotel, Sutton, 4 p.m.
,,	20 ..FRIDAY ...	
,,	21 ..SATURDAY...	
,,	22 ..Sunday..	
,,	23 ..MONDAY ...	
,,	24 ..TUESDAY ...	
,,	25...WEDNESDAY	Brighton Division, *South-Eastern Branch*, Dispensary, 113, Queen's Road, Brighton, 4.30 p.m.
,,	26 ..THURSDAY..	Wandsworth Division, *Metropolitan Counties Branch*, Clapham Common, 9 p.m.
,,	27 ..FRIDAY ...	
,,	28 ..SATURDAY..	Trowbridge Division, *Bath and Bristol Branch*, Town Hall, Market Place, Trowbridge, 3.15 p.m.
,,	29 ..Sunday..	
,,	30...MONDAY ...	
,,	31...TUESDAY ..	Warrington Division, *Lancashire and Cheshire Branch*.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of Middlesex.

SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, SEPTEMBER 23RD, 1905.

CONTENTS.

	Page.		Page.
MEETINGS OF BRANCHES AND DIVISIONS: Sydney and New South Wales Branch	205	DIARY OF THE WEEK	207
ASSOCIATION NOTICES—Branch and Division Meetings to be Held	205	BIRTHS, MARRIAGES, AND DEATHS	208
NAVAL AND MILITARY APPOINTMENTS	206	BOOKS, ETC., RECEIVED	208
VITAL STATISTICS...	206	CALENDAR	208
VACANCIES AND APPOINTMENTS	207		

Meetings of Branches and Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* JOURNAL.]

SYDNEY AND NEW SOUTH WALES BRANCH.

THE regular monthly meeting of this Branch was held at the Chamber of Commerce, Newcastle, on Friday evening, July 28th, at 8.30, Dr. BEESTON, President, in the chair, and there were thirty-one members present.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Apology for Absence.—A letter of apology for his inability to attend was received from Dr. Hinder.

New Members.—The election was announced of the following members: Dr. A. Neumann, Wilcannia; Dr. S. A. Smith, Killara; Dr. W. H. Lang, Corowa; Dr. V. Benjafield, Lambton; Dr. John Costelloe, Hillgrove; Dr. R. W. Crooke, Gunnedah.

Nomination for Election.—Dr. A. E. Finckh, Sydney Hospital.

Resolution.—Dr. G. E. RENNIE proposed that Sir Philip Sydney Jones be congratulated upon the honour of knighthood which had been conferred upon him. This was carried by acclamation.

Cases.—Dr. EAMES exhibited a case of pseudoglioma and explained the case. Dr. POCKLEY made some remarks upon the case.—Dr. RENNIE read a paper on some points in the treatment of chronic nerve disease. Dr. JAMES DICK asked a question as to a certain class of cases, and Dr. RENNIE explained.—Dr. MAITLAND read some notes on cases of: (1) hour-glass stomach; (2) Whitehead's operation on the knee joint; (3) unusual cases of appendicitis—(*a*) simulating gall stones, (*b*) simulating renal calculus, (*c*) strangulated hernia; (4) patent thyroglossal duct; (5) operation for irreducible dislocation of shoulder joint.—Drs. BEESTON, BOWKER, DOYLE, and BRADY discussed the cases, and Dr. MAITLAND replied.—Dr. BOWKER exhibited a pathological specimen—appendix.

☞ *To ensure the insertion of notices in this column they must be received at the Central Offices of the Association not later than the first post on Tuesday.*

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

BATH AND BRISTOL BRANCH: TROWBRIDGE DIVISION.—A meeting of the Division will be held at the Town Hall, Market Lavington, on October [illegible], at 3.15 p.m., when C. J. Cullingworth, M.D., F.R.C.P., will deliver an address, entitled, Oliver Wendell Holmes and the Contagiousness of Puerperal Fever.—J. TUBB-THOMAS, D.P.H., Honorary Secretary, Trowbridge, Wilts.

BIRMINGHAM BRANCH: COVENTRY DIVISION.—The annual dinner of this Division will be held at the Masonic Buildings, Little Park Street, Coventry, on Tuesday, October 3rd, at 7.30 p.m. The President of the Branch, Sir Thomas Chavasse, has accepted an invitation to attend. It is open to members to introduce either medical men or dentists as guests. Tickets (including wines) 7s. 6d. each.—E. H. SNELL, Honorary Secretary.

EAST ANGLIAN BRANCH.—The autumn meeting of the East Anglian Branch will be held at Colchester on Thursday, September 28th. Members will be glad to show cases, specimens, or read papers, and to communicate with the General Secretary of the Branch as soon as possible. An invitation has been received by the East Anglian Branch to participate in the hospitality of the Cambridge and Huntingdon Branch at [illegible] on October 5th.—B. H. NICHOLSON, General Secretary of Branch, Colchester.

EDINBURGH BRANCH: SOUTH-EASTERN COUNTIES DIVISION.—The autumn meeting of this Division will be held in the King's Arms Hotel, Melrose, on the afternoon of Tuesday, October 5th, at 3 o'clock.—W. HALL CALVERT, Honorary Secretary, Melrose.

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.—A clinical meeting of this Division will be held on Thursday, October 19th, at 5 p.m., at St. Bartholomew's Hospital, E.C.—E. W. GOODALL, Honorary Secretary, The Eastern Hospital, Homerton, N.E.

METROPOLITAN COUNTIES BRANCH: WANDSWORTH DIVISION.—An ordinary meeting will be held at the Town Hall, Wandsworth, on [illegible], September 28th, at 9 p.m. Agenda: (1) Minutes. (2) Communications. (3) Questions. (4) Suggestions with reference to [illegible]. (5) Report of representative on the Representative Board, with resolutions based on same. (6) Other business.—E. ROTHERHILL, M.B., Honorary Secretary, Torquay House, Southfields, S.W.

NORTH WALES BRANCH: DENBIGH AND FLINT DIVISION.—The next meeting of this Division will be held at Rhyl on Friday, September 29th.—E. D. EVANS, Honorary Secretary, Bodairlan, Wrexham.

South-Eastern Branch: Brighton Division.—A meeting will be held at the Dispensary, 113, Queen's Road, Brighton, at 4 30 p.m., on the fourth Wednesday in October (25th), and November (22nd) Members wishing to read papers or show cases at the meetings are requested to give at least a fortnight's notice to the Honorary Secretary, Ryding Marsh, M.D., 49, Sackville Road, Hove.

South-Eastern Branch: Croydon Division.—The next meeting will be held at the Cock Hotel, Sutton, on Thursday, October 19th, at 4 p.m., Dr W Grinner (Wallington) in the chair. Dinner at 6 p.m.; charge 5s., exclusive of wine. All members of the South-Eastern Branch are entitled to attend and to introduce professional friends. The Honorary Secretary would be much obliged if members would kindly inform him by post-card whether they intend to be present at the meeting if possible and if they are likely to remain to dinner. By so doing they will materially facilitate arrangements and promote the success of the meeting. Agenda: (1) Minutes of previous meeting. (2) To elect a Chairman to the next meeting (3) Report of Direct Representative at the Annual Meeting. (4) Communications from Wandsworth Division. (5) Other business. The following papers will be read:—Mr. F. Swinford Edwards: Some of the More Common Affections of the Rectum and their Treatment. Mr. E. C Clarke: Eye-Strain from a Medical Point of View. Any additional item that may arise will be notified in a subsequent issue of the British Medical Journal. Members desirous of exhibiting or reading notes of cases are requested to communicate with the Honorary Secretary on or before October 5th.—E. H. Willock, Honorary Secretary, 113, London Road, Croydon.

South-Eastern Branch: Folkestone Division.—A meeting will be held at the Victoria Hospital, Folkestone, at 2 o'clock, on Tuesday, October 17th. Members wishing to read papers are requested to give at least a fortnight's notice to the Honorary Secretary, P. Vernon Dodd, M.D., 14, Manor Road, Folkestone.

South-Eastern Branch: Isle of Thanet Division.—The next meeting of this Division will be held at the Grand Hotel, Broadstairs, on Tuesday, September 26th, at 4 15 p.m., Mr. H. G. Biddle in the chair. Tea will be served at 4 p.m. Agenda: Further consideration as to the question of signing school certificates in Thanet. Dr. F. J Poynton, M.D., F.R.C.P. (University College and Great Ormond Street Hospitals): Some practical observations upon Meningitis. Dr. William Gosse (Representative of the Division) will report on the meeting of Representatives held at Leicester. All members of the South-Eastern Branch are invited to attend these meetings and to introduce professional friends, but will not be entitled to vote on Divisional questions.—Hugh M. Raven, Honorary Divisional Secretary, Barfield House, Broadstairs.

South-Western Branch; Barnstaple Division.—A regular meeting will be held at the Bideford Hospital on Wednesday, September 27th, at 2 30 p.m. Members wishing to contribute papers or exhibit cases are requested to communicate with the Honorary secretary before Monday, September 25th. The meeting will be preceded by a lunch at the Kingsley Hotel, High Street, at 2s. 6d. per head. Members who intend to be present will kindly notify the same to the Chairman, Dr. Toye, Bideford, on or before Saturday, September 23rd.—F. W. Kendle, Honorary Secretary, South Molton.

South-Western Branch Truro Division.—A clinical meeting of this Division will be held at the Royal Cornwall Infirmary, Truro, on Thursday, September 28th.—Mark R. Taylor, Honorary Secretary.

Ulster Branch.—A meeting of Council will be held in the Medical Institute, College Square North, Belfast, on Wednesday, September 27th, at 1 p.m. Business: (1) Minutes. (2) To pass accounts. (3) To arrange for next general meeting. (4) Any other business. Members of Council are reminded that this, being a meeting of Council held apart from a general meeting, those attending it will receive first-class return fares. At the next meeting of Council the following will be proposed as members: Dr Robert E Hadden (Portadown). Dr. Alex. Jamison (Belfast). Dr. William Shaw (Larne).—Cecil Shaw, M.D., Honorary Secretary, 18, College Square East, Belfast.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

Surgeon E. A. Evans has been transferred to the list of volunteers for service in the event of war or emergency, September 12th.

The following appointments have been made at the Admiralty: Thomas T. Jeans, M.B., Staff Surgeon, to the *President*, additional, for three months' course of study at West London Hospital, September 18th; Alfred J. Pickthorn, Fleet Surgeon, and Percy M. Rivaz, M.B., Surgeon, to the *Otway*, October 3rd; Robert H. Atkins, Surgeon, to the *Pembroke*, additional, September 14th; Alexander K. Smith-Shand, Surgeon, to the *Wild Bee*, additional, September 14th, and lent to Yarmouth Hospital, October 2nd; William R. Center, M.B., Staff Surgeon, and James M'Cutcheon, M.B., Surgeon, to the *Cumberlan*, October 3rd; Henry C. Adam and Charles R. Worthington, Surgeons, to the *Powerful*, October 3rd; Robert W. B. Hall, Surgeon, to Haslar, October 3rd; Edward R. D. Fasken, Staff Surgeon, to the *Hood*, September 30th; James M. Rogers, Staff Surgeon, and Ernest S. Reid, M.B., Surgeon, to the *President*, additional, for survey of Stores at Deptford, September 30th.

ROYAL ARMY MEDICAL CORPS

Captain H. H. Scott, M.B., resigns his commission, September 16th. His commissions are dated: Lieutenant, January 29th, 1901; Captain, January 29th, 1904. He was in the South African war in 1901-2, including operations in the Transvaal, Orange River Colony, and Cape Colony, and received the Queen's medal with five clasps.

The Christian name of Lieutenant-Quartermaster G. Browne is as now described, and not as stated in the notification placing him on the Seconded List in the *Gazette* of September 5th.

Lieutenant-Colonel S. F. Freyer has been selected to succeed Lieutenant-Colonel G. H. S Ivest as officer in charge of the Surgical Division at the Royal Victoria Hospital, Netley.

Exchange.

The charge for inserting notices respecting Exchanges in the Army Medical Department is 3s. 6d., which should be forwarded in stamps or post-office order with the notice, not later than Wednesday morning, in order to ensure insertion in the current issue.

Captain R.A.M.C., 5 years' service tour expired with I.M.S. officer.—Apply "Volvulus," c.o. of *Pioneer*, Allahabad.

INDIAN MEDICAL SERVICE.

The undermentioned lieutenants, appointed on probations, having completed a course of instruction at the Medical Staff College, and being reported duly qualified are admitted to the Indian Medical Service, from February 1st:—Western Command: A. F. Hamilton, W. H. Boalth, J Cunningham, H. Falk, C. J Coppinger Eastern Command: A. D. White, M F. Reaney, H. C. Buckley. Northern Command: R. K. White, N. M. Wilson, J. S. O'Neill, M. R. C. MacWatters, G. A. Soltau, W. H. Hamilton

Colonel W. G. King, M.B., C.I.E., Madras Establishment, Sanitary Commissioner of Madras, has been appointed to officiate as Inspector-General of Civil Hospitals, Burmah.

ROYAL GARRISON ARTILLERY (VOLUNTEERS).

Surgeon-Lieutenant G. H. Grimoldby, 1st Lincolnshire, resigns his commission, September 16th.

CHANGES OF STATION.

The following changes of station amongst the officers of the Royal Army Medical Corps have been officially reported to have taken place during August:

	FROM	TO
Surg. Gen. W. L. Gubbins, M.B., C.B., M.V.O.	W. Com., India	E. Com., India.
Lieut.-Col. D. Wardrop, M.B.	Rawal Pindi	Naini Tal.
" F. A. B. Daly, M.B., C.B.	Standerton	York
" R. P. Bond	Potchefstroom	Aldershot.
" G G Adams	Nowgong	Mussoorie.
" S. R. Wills	Mariaburg	Dublin.
Major H. Cocks, M.B.	Bangalore	Madras.
" A Kennedy	Poona	Belgaum.
" J. S. Edye	Meerut	Muttra.
" A. E. Smithson, M.B.	Middleburg	Chester.
" G. W. Tate M.B.	Barberton	Dublin.
" C. G. Spencer, M.B.	Curragh	R.A.M. Coll.
Captain W. Tibbits	Calcutta	Barrackpore.
" J. Grech	Dinapore	Meerut.
" M. Swabey	Newcastle	W. Africa.
" F. S. Penny, M.B.	Cawnpore	Allahabad.
" A L Scott	Pretoria	Aldershot.
" N. J. C. Rutherford, M.B.	Capetown	London Dist.
" L. Humphry	Orann're C'mp	Curragh.
" H. Simson	Barberton	London Dist.
" O W. A Elsner	Cork	Limerick.
" E. W. Siberry	Kilkenny	Clonmel.
" A. M. MacLaughlin, M.B.	Ballynarry C'p	Dundalk.
" J. F Martin, M.B.	Attock	Lower Topa.
" E G Ford, M.B.	Malta	Crete.
" E Bennett	Bloemfontein	S. Command.
" R. C. Wilson	Egypt	Cyprus.
" J. Waddell, M.B.	Belfast	S. Africa.
Lieutenant C. A. J. A. Balck, M.B.	Lower Topa	Attock.
" R. Storrs	Ambala	Subathu
" J. B. Meldon	Wellington	Malapuram.
" H. B. Kelly, M.B.	Malapuram	Bangalore.
" T. E Harty	Delut	Calcutta.
" M. C. Wetherell	Rawal Pindi	Campbellpore.
" R. T Collins	Roorkee	Karlana.
" P. C. T. Davy, M.B.	Aldershot	W. Africa.
" G. A D. Harvey	Clonaslee C'mp	Curragh.
" E. J. H Luxmoore	Chester	East Com'd.
" R. G. Meredith, M.B.	Curragh	Dublin.
" T. H. Gibbon, M.D	"	"

Lieutenant-Colonel L. Haywood, M.B., retired pay, has been transferred from Scarborough to Aldershot Military Prison.

Vital Statistics.

HEALTH OF ENGLISH TOWNS

In seventy-six of the largest English towns, including London, 8,466 births and 4,570 deaths were registered during the week ending Saturday last, September 16th. The annual rate of mortality in these towns, which had been 17 1, 17 3, and 16 1 per 1,000 in the three preceding weeks, further declined last week to 14 3 per 1,000. The rates in the several towns ranged from 5 6 in Hornsey, 6 2 in Coventry, 6 8 in Handsworth (Staffs.), 7 0 in Walsall, 7 7 in Aston Manor, 7 8 in Rotherham, 8 1 in Reading, and 8 9 in East Ham, to 20 5 in Sunderland, 21 2 in Stockport and in Oldham, 21 7 in Middlesbrough, 22 9 in Stockton-on-Tees and in Gateshead, and 24 9 in Great Yarmouth. In London the rate of mortality was 13 6 per 1,000, while it averaged 13 7 per 1,000 in the seventy-five other large towns. The death-rate from the principal infectious diseases averaged 2 7 per 1,000 in the seventy-six towns; in London this rate was equal to 2 5 per 1,000, while among the seventy-five other large towns the rates ranged upwards to 6 5 in Great Yarmouth, 5 in Hawarden, Rhyl, and Preston, 4 7 in Wolverhampton, 4 6 in Wigan, 4 1 in Sunderland, and 4 0 in Gateshead. Measles caused a death-rate of 1 7 in Barrow-in-Furness, scarlet fever of 1 4 in Birkenhead and 1 2 in Bootle; diphtheria of 1 4 in Gateshead; "fever" of 2 4 in Wigan; and diarrhœa of 4 6 in Great Yarmouth, 4 1 in Preston, 4 0 in Wolverhampton, Smethwick, and Stockton-on-Tees, 3 6 in Warrington, 3 5 in Sunderland, 3 3 in Burnley,

and 6·5 in Gateshead. The mortality from whooping-cough showed no marked excess in any of the large towns. No fatal case of small-pox was registered last week either in London or in any of the large provincial towns, and no small pox patients remained under treatment in the Metropolitan Asylums Hospitals on Saturday last, September 16th. The number of scarlet-fever patients in these hospitals and in the London Fever Hospital which had been 2,762, 2,873, and 2,982 at the end of the three preceding weeks, had further risen to 3,150 at the end of last week: 460 new cases were admitted during the week, against 343, 427, and 443 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS.

During the week ending Saturday last, September 16th, 872 births and 503 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had been 14·0, 14·8, and 15·8 per 1,000 in the three preceding weeks, rose again to 15·0 per 1,000 last week, and was 0·7 per 1,000 above the mean rate during the same period in the seventy-six large English towns. The rates in the eight Scotch towns ranged from 10·7 in Perth, and 11·0 in Paisley, to 15·6 in Greenock and 16·6 in Glasgow and in Leith. The death-rate from the principal infectious diseases averaged 2·1 per 1,000 in these towns, the highest rates being recorded in Glasgow, Paisley, and Leith. The 258 deaths registered in Glasgow included 2 which were referred to measles, 2 to scarlet fever, 7 to diphtheria, 4 to whooping-cough, 4 to "fever" (including 2 cases of typhus), and 10 to diarrhœa. Two fatal cases of diphtheria, 2 of whooping-cough, 2 of "fever," and 4 of diarrhœa were recorded in Edinburgh; 2 of diphtheria, 1 of typhus, and 2 of diarrhœa in Dundee; 3 of diarrhœa in Aberdeen and in Leith; and 2 of whooping-cough in Greenock.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, September 16th, 522 births and 304 deaths were registered in six of the principal Irish towns, as against 573 births and 300 deaths in the preceding period. The annual death-rate in these towns, which had been 16·4, 18·1, and 16·6 per 1,000 in the three preceding weeks, rose to 19·3 per 1,000 in the week under notice, this figure being 5·0 per 1,000 higher than the mean annual rate in the seventy-six English towns for the corresponding period. The figures ranged from 16·2 in Dublin and 15·6 in Belfast to 21·4 in Waterford and 23·2 in Limerick. The zymotic death-rate during the same period and in the same six Irish towns averaged 1·7 per 1,000, or 0·8 per 1,000 higher than during the preceding period, the highest figure—2·5—being recorded alike in Belfast and in Londonderry, while Cork registered no deaths under this heading at all. Deaths from diarrhœal diseases fell to 28, of which 10 occurred in Dublin and 11 in Belfast.

Vacancies and Appointments.

The list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

ABERDEEN ROYAL INFIRMARY.—Assistant Surgeon.

BEDFORD COUNTY HOSPITAL.—House-Physician. Salary, £60 per annum.

BRIGHTON THROAT AND EAR HOSPITAL, Church Street. Non-resident House-Surgeon. Salary at the rate of £75 per annum.

BRISTOL EYE HOSPITAL, Lower Maudlin Street.—House-Surgeon. Salary, £80 per annum.

BRIGHTON THROAT AND EAR HOSPITAL.—Non-resident House-Surgeon. Salary, £75 per annum. Appointment for six months.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—(1) Two House Physicians. Salary at the rate of £30 per annum each. (2) Pathologist. Salary, 100 guineas per annum.

CROYDON GENERAL HOSPITAL.—Senior and Junior House-Surgeons. Salary £105 and £60 per annum respectively.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—Eight Qualified Clinical Assistants.

FARRINGDON GENERAL DISPENSARY, 17, Bartlett's Buildings, E.C.—Resident Medical Officer. Salary, £120 per annum.

HEREFORDSHIRE GENERAL HOSPITAL.—House-Surgeon. Salary, £100 per annum.

HOSPITAL FOR WOMEN, Soho Square, W.—(1) House-Physician. Salary, £30 for six months. (2) Clinical Assistants.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.—House-Surgeon. Salary, £120, rising to £150 per annum.

LANCASHIRE COUNTY ASYLUM, Winwick.—Assistant Medical Officer. Salary £150, rising to £250 per annum.

LEICESTER BOROUGH ISOLATION HOSPITAL.—Resident Medical Officer. Salary, £120 per annum.

LEYTON, WALTHAMSTOW, AND WANSTEAD CHILDREN'S AND GENERAL HOSPITAL.—House-Surgeon. Salary, £100 per annum.

LIVERPOOL: FAZAKERLEY HOSPITAL FOR INFECTIOUS DISEASES.—Medical Superintendent. Salary, £400, rising to £600 per annum.

LONDON HOSPITAL, Whitechapel, E.—Physician.

LONDON THROAT HOSPITAL, Great Portland Street, W.—Third Honorary Anæsthetist.

MANCHESTER ROYAL INFIRMARY.—Resident Surgical Officer. Salary, £150 per annum.

MANCHESTER SOUTHERN AND MATERNITY HOSPITAL. Resident House-surgeon. Honorarium at the rate of £60 per annum.

NORTHAMPTON GENERAL HOSPITAL.—Assistant House-Surgeon. Salary, £50 per annum.

NORWICH: NORFOLK AND NORWICH HOSPITAL.—Honorary Assistant Physician.

ROYAL EYE HOSPITAL, Southwark, S.E.—House-Surgeon. Salary, £52 10s. per annum.

ROYAL LONDON OPHTHALMIC HOSPITAL, City Road, E.C.—Senior House-Surgeon. Salary at the rate of £100 per annum.

SALISBURY GENERAL INFIRMARY.—(1) House-Surgeon. (2) Assistant House Surgeon. Salary, £100 and £50 per annum respectively.

SEAMEN'S HOSPITAL SOCIETY.—(1) House-Physician. (2) House-Surgeon. (3) Junior Resident Medical Officer. (4) Senior House-Surgeon. (5) House-Surgeon (1), (2), and (3) are at the Dreadnought Hospital, and (4) and (5) at the Branch Hospital, Royal Victoria and Albert Docks.

SOUTHPORT INFIRMARY.—Resident Junior House and Visiting Surgeon. Salary at the rate of £70 per annum.

STOKE-UPON-TRENT: NORTH STAFFORDSHIRE INFIRMARY AND EYE HOSPITAL, Hartshill.—Senior House-Surgeon. Salary, £100 per annum.

THROAT HOSPITAL, Golden Square, W.—House-Surgeon. Salary, £50 per annum.

VICTORIA HOSPITAL FOR CHILDREN, Tite Street, S.W.—House-Surgeon. Honorarium, £25 for six months.

WATERFORD COUNTY AND CITY INFIRMARY.—House-Surgeon. Salary, £100 per annum.

WESTERN GENERAL DISPENSARY, Marylebone Road, N.W.—Honorary Anæsthetist.

WEST HAM UNION.—Assistant Medical Officer for the Workhouse and School. Salary, combined, £150 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House-Surgeon. Salary, £100 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces a vacancy in the office of Certifying Factory Surgeon at Crowborough, co. Sussex.

APPOINTMENTS.

ANDERSON, J. F., L.R.C.P., Health Officer for the United Shire of Newham, Victoria, vice J. Rosenthal, M.B., resigned.

BREBNER, C. S., M.D., Medical Officer of Health, Widnes Town Council.

CROOKE, R. W., L.R.C.P. and S.Edin., L.F.P.S.Glasg., Government Medical Officer and Vaccinator at Gunnedah, N.S.W., vice Dr. H. E. Lee, resigned.

D'ARCY, Constance, M.B., Ch.M.Syd., Resident Medical Officer, Royal Hospital for Women, Sydney, N.S.W.

EVANS, R. D., M.R.C.S., L.R.C.P.Lond., Medical Officer of Health for the Llandilo Urban District.

GIBSON, Hugh C., M.B., C.M.Edin., Medical Officer for Parish of Walls, Orkney.

HINDLE, F. J., L.R.C.P.Edin., L.F.P.S.Glasg., Medical Officer of Health for the Borough of Haslingden.

JOHNSON, E. A., M.R.C.S., Honorary Assistant Physician, Adelaide Hospital, South Australia.

MORRIS, J. N., M.B., Health Officer for the Shire of Violet Town, Victoria, vice C. J. Sadelberg, M.B., resigned.

MUIR, William, M.B., C.M.Glasg., Medical Officer to the Post Office in Davidsons Mains District.

O'MEEHAN, P., L.D.S., Honorary Consulting Dental Surgeon, St. John's Hospital, Limerick.

PAUL, G. F., M.D.Brux., M.R.C.S., L.R.C.P.Lond., Government Medical Officer and Vaccinator at Cobar, N.S.W., vice Dr. W. C. Robinson, resigned.

PETER, A. G., M.B., B.S.Aberd., Junior Assistant Medical Officer at the St. Pancras Infirmary, Dartmouth Park Hill.

RINDER, A. W., M.R.C.P., Health Officer for the Borough of Tarnagulla and Shire of Bet Bet, Victoria.

TAYLOR, Thos. S., M.A., B.C.Camb., Medical Officer of the No. 5 District of the Hailsham Union.

THOMSON, M. Barclay, M.B., Health Officer for the Shire of Dandenong, Victoria.

TUBLE, J. E., L.R.C.P.Lond., District Medical Officer of the Stow Union.

TODD, C. E., M.D., Honorary Assistant Surgeon, Adelaide Hospital, South Australia.

WATSON, T. G., F.R.C.S., Honorary Assistant Gynæcologist, Adelaide Hospital, South Australia.

WILD, C. H., L.R.C.P., M.R.C.S.Eng., Medical Officer and Public Vaccinator for the Prescot District of the Prescot Union, vice E. H. Hall, M.D.St.And., resigned.

DIARY FOR NEXT WEEK.

POST-GRADUATE COURSES AND LECTURES.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week at 4 p.m. each day: Monday, Skin; Tuesday, Medical; Wednesday, Surgical; Thursday, Surgical; Friday, Eye.

WEST LONDON POST-GRADUATE COLLEGE, West London Hospital, Hammersmith Road, W.—The following are the arrangements for next week: Monday, 2 p.m., Skiagraphy; Tuesday, 10 a.m., Anæsthetics; 5 p.m., Skin Diseases; Wednesday, 3 p.m., Intestinal Anastomoses; Thursday, 2 p.m., Skiagraphy; Friday, 10 a.m., Anæsthetics; 3 p.m., Skin Diseases; 4.30 p.m., Intestinal Surgery.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to ensure insertion in the current issue.

BIRTHS

HIGHET.—At Bangkok, Siam, on August 11th, the wife of Dr. H. Campbell Highet, Principal Medical Officer, Local Government, Siam, of a son.

SENIOR.—On September 15th, at Thames Ditton, the wife of A. Senior, M.B.Cantab., D.P.H., of a daughter.

WAKEHAM.—On September 14th, at Redcliffe, 714, Harrow Road, London, W., the wife of C. Henry Wakeham, M.R.C.S., L.R.C.P.Lond., of a daughter.

MARRIAGES.

AUSTIN—MCFARLANE.—On September 7th, at Southwark Cathedral, London, by the Rev. Kenneth Clarke, Vicar of Lingfield, Neville Henry Austin, M.R.C.S., L.R.C.P., younger son of Sydney C. Austin, Esq., M.R.C.S., etc., of Lingfield, to Annie, second daughter of Major Andrew McFarlane (late Naval Ordnance and Army Ordnance Departments) of Lewisham.

CUMMING—TRAILL.—At Mather's Hotel, Dundee, on September 14th, by the Rev. Thomas Kirk, Haymark, U.F. Church, Edinburgh (uncle of the bride), Robert Cumming, M.B., Ch.B., Dundee, to Jeannie Hamilton Traill, L.R.C.P. and S.E., daughter of the Rev. John Traill, Jaipur India. At home, 3, Easson's Angle, Dundee, October 19th and 20th.

HARRIS-LISTON—RUSTELL.—On September 18th, at St. Michael's, Teignmouth, by the Vicar, the Rev. James Veysey, M.A., Llewellyn Harris-Liston, M.D., of Middleton St. George Hall, co. Durham, to Ellen Rustell, of Digbys, Exeter.

HEDLEY—HORNUNG.—On September 6th, at St. Hilda's, Middlesbrough, by the Rev. W. J. Constable, of Uppingham, assisted by the Rev. J. T. Lister, Curate in charge, Edward Williams Hedley, M.D., of 56, Hans Place, S.W., eldest son of John Hedley, M.D., J.P., of Cleveland Lodge, Middlesbrough, to Winifred Agnes Gillott, elder daughter of Theodore Hornung, Southfield Villas, Middlesbrough. At home October 24th, 25th, and 26th, 1905.

KEELING—WOOD.—On September 16th, at West Dulwich, Hugh Nevill Keeling, M.R.C.S., L.R.C.P., of 26, Bagdale, Whitby, third son of the Rev. W. B. Keeling, to Caroline Mary, fourth daughter of Daniel Wood, of West Norwood.

TAYLOR—STANSFELD.—On September 12th, at Wrangthorne Church, Leeds, by the Rev. R. V. Taylor, B.A., Rector of Melbecks, Richmond, Yorks (uncle of the bridegroom), Frank Edward Taylor, M.Sc., M.A., M.B., F.R.C.S., M.R.C.P., of 11, Bentinck Street, Cavendish Square, W., to Phoebe, eldest daughter of the late William Edward Stansfeld, and of Mrs Stansfeld, of Ash Grove, Leeds.

DEATHS.

HALL.—On September 10th, at 40, Victoria Street, Sheffield, John Hall, M.R.C.S., L.S.A., in his 78th year.

STALKARTT.—On September 11th, at Kallana, Chakrata, India, Major Harold Arthur Stalkartt, M.B., C.M.Edin., Royal Army Medical Corps. (By cable.)

BOOKS, Etc., RECEIVED.

Kimpton's Students' Essentials. Essentials of Medical Electricity. By Edward Reginald Morton, M.D., C.M., D.P.H. London: Henry Kimpton. 1905.

Ministry of Public Instruction. Records of the Egyptian Government School of Medicine. Volume III. Edited by the Director. Cairo: National Printing Department. 1905.

Essentials of Human Physiology. By D. Noël Paton, M.D., B.Sc., F.R.C.P.Ed. Second Edition. Edinburgh and London: William Green and Sons. 1905.

Guide to Finger Print Identification. By Henry Faulds, L.F.P.S. Hanley: Wood, Mitchell and Co., Limited. 1905. 5s.

A Plea for the More Energetic Treatment of the Insane. By Charles Williams, L.R.C.P., L.R.C.S., L.S.A. London: Henry J. Glaisher. 1905. 1s. 6d.

Pannell's Reference Book for Home and Office. London: The Granville Press, Limited. 1905. 6s. 6d.

Handbook of Irish Sanitary Law. By Charles L. Birmingham, M.D., D.P.H. Dublin, Cork and Belfast. 1905.

Feridas e rupturas traumaticas do coraçao (cardiorrhaphia). A proposito de tres casos pessoaes de cardiorrhaphia. Por Francisco Soares Branco Gentil. Lisboa: Imorensa de Libanio da Silva. 1905.

Sobre o tratamento cirurgico do mal de Bright pela nephrocapsectomia. Operaçao de Edebohls. Por Francisco Soares Branco Gentil. Thése de Concurso. Lisboa: Imprensa de Libanio da Silva. 1904.

Select Methods in Food Analysis. By Henry Leffmann, A.M., M.D., Ph.D., and William Beam, A.M., M.D., F.I.C. Second Edition. London: Rebman, Limited. 1905. 11s.

*** In forwarding books the publishers are requested to state the selling price.

CALENDAR OF THE ASSOCIATION.

Month.	Day of Week.	Meetings to be Held.
Sept.	24...Sunday..	
,,	25...MONDAY ...	
,,	26...TUESDAY ..	Isle of Thanet Division, *South-Eastern Branch*, Grand Hotel, Broadstairs, 4.15 p.m.
,,	27...WEDNESDAY	Barnstaple Division, *South-Western Branch*, Bideford Hospital, 2.30 p.m. Ulster Branch, Council Meeting, Medical Institute, College Square North, Belfast, 1 p.m.
,,	28...THURSDAY .	East Anglian Branch, Colchester. Truro Division, *South-Western Branch*, Clinical Meeting at the Royal Cornwall Infirmary, Truro. Wandsworth Division, *Metropolitan Counties Branch*, Wandsworth Town Hall, 9 p.m.
,,	29...FRIDAY ...	Denbigh and Flint Division, *North Wales Branch*, Rhyl.
,,	30...SATURDAY...	GLASGOW: Scottish Committee.
October	1...Sunday..	
,,	2...MONDAY ...	
,,	3...TUESDAY ..	LONDON: Public Health Committee, 3.15 p.m. Coventry Division, *Birmingham Branch*, Annual Dinner, Masonic Buildings, Little Park Street, Coventry, 7.30 p.m.
,,	4...WEDNESDAY	LONDON: Medico-Political Committee, 2 p.m.
,,	5...THURSDAY...	LONDON: Hospitals Committee, 2 p.m. Cambridge and Huntingdon Branch, Combined Meeting with East Anglian Branch, Cambridge.
,,	6...FRIDAY ...	LONDON: Ethical Committee, 2 p.m. South-Eastern Counties Division, *Edinburgh Branch*, King's Arms Hotel, Melrose, 3 p.m.
,,	7...SATURDAY...	

Month.	Day of Week.	Meetings to be Held.
October	8...Sunday..	
,,	9...MONDAY ...	
,,	10...TUESDAY ...	LONDON: Organization Committee, 10.30 a.m.
,,	11...WEDNESDAY	,, Journal and Finance Committee, 2.15 p.m.
,,	12...THURSDAY...	
,,	13...FRIDAY ...	
,,	14...SATURDAY...	DUBLIN: Irish Committee, First Meeting.
,,	15...Sunday..	
,,	16...MONDAY ...	
,,	17...TUESDAY ...	Folkestone Division, *South-Eastern Branch*, Victoria Hospital, Folkestone, 2 p.m.
,,	18...WEDNESDAY	Central Council, 2 p.m.
,,	19...THURSDAY...	City Division, *Metropolitan Counties Branch* Clinical Meeting, St. Bartholomew's Hospital, 5 p.m. Croydon Division, *South-Eastern Branch*, Cock Hotel, Sutton, 4 p.m.
,,	20...FRIDAY ...	
,,	21...SATURDAY...	
,,	22...Sunday..	
,,	23...MONDAY ...	
,,	24...TUESDAY ...	
,,	25...WEDNESDAY	Brighton Division, *South-Eastern Branch*, Dispensary, 113, Queen's Road, Brighton, 4.30 p.m.
,,	26...THURSDAY...	Wandsworth Division, *Metropolitan Counties Branch*, Clapham Junction, 9 p.m.
,,	27...FRIDAY ...	
,,	28...SATURDAY...	Trowbridge Division, *Bath and Bristol Branch*, Town Hall, Marlborough, 3.15 p.m.
,,	29...Sunday..	
,,	30...MONDAY ...	
,,	31...TUESDAY ...	Warrington Division, *Lancashire and Cheshire Branch*.

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, SEPTEMBER 30TH, 1905.

CONTENTS.

	Page.
MATTERS REFERRED TO DIVISIONS:	
Co-ordination of the Scientific Work of the Association, its Branches and Divisions: Recommendations of the Science Co-ordination Committee	209
MEETINGS OF BRANCHES AND DIVISIONS:	
Dundee Branch	210
Lancashire and Cheshire Branch: Altrincham Division ...	210
ASSOCIATION NOTICES—Branch and Division Meetings to be Held	210
THE MEDICAL PROFESSION AND PARLIAMENTARY CANDIDATES...	211
AN ADDRESS ON THE REORGANIZATION OF THE BRITISH MEDICAL ASSOCIATION. By William Calwell, M.A., M.D.	213
NAVAL AND MILITARY APPOINTMENTS	214
VITAL STATISTICS...	214
VACANCIES AND APPOINTMENTS	214
BIRTHS, MARRIAGES, AND DEATHS	215
DIARY OF THE WEEK	215
BOOKS, ETC., RECEIVED	215
CALENDAR	216

SPECIAL NOTICE TO MEMBERS.

Every member is requested to preserve this "Supplement," which contains a matter specially referred to Divisions, until the subject has been discussed by the Division to which he belongs.

BY ORDER.

MATTERS REFERRED TO DIVISIONS.

CO-ORDINATION OF THE SCIENTIFIC WORK OF THE ASSOCIATION, ITS BRANCHES AND DIVISIONS.

Annual Representative Meeting at Leicester.

THE Annual Representative Meeting at Leicester resolved (Minute 44) that the Report of the Science Co-ordination Committee (printed in the SUPPLEMENT for March 18th, 1905) be approved, and be referred to the Divisions for their consideration.

In pursuance of this instruction the Report is now being referred to the Divisions and is here reprinted for convenience, having regard to the lapse of time since it appeared in the SUPPLEMENT.

RECOMMENDATIONS OF THE SCIENCE CO-ORDINATION COMMITTEE.

A. THE SCIENTIFIC WORK OF THE DIVISIONS AND BRANCHES.

That it is desirable to encourage the formation of Division Libraries. That to facilitate exchange of duplicate books the Librarian at the Head Office in London should keep a list of duplicates so far as possible in Division and other Medical Libraries.

In the Divisions the Hospitals will form natural centres. Experience shows that the forms of meeting most attractive are—

(*a*) Clinical demonstrations, with very succinct commentary, of cases where the important features can be demonstrated, and

(*b*) Occasional addresses by teachers and those actively engaged in research.

Longer accounts of cases with interesting history would still form the programme of ordinary meetings.

The suggestion has been made that Divisions which desire it may form Sections for Clinical and Pathological work with or without additional voluntary subscription. Further information is needed as to the desires of the Divisions.

B. SECTIONAL WORK AT THE ANNUAL MEETING.

This might be brought more into contact with the research work and the collective investigations of both the preceding and succeeding years, summing up the work of the [illegible] year and suggesting some of the problems for further research or investigation.

The attention of Division Secretaries should be called to the subjects of discussion at the Annual Meeting, and it is suggested that members bring before their Divisions as many cases as possible illustrating these subjects.

It is also suggested to the officers of Sections that problems arising in course of discussion be suggested to the Divisions as subjects for further consideration.

C. Special Research Library.

That it is desirable to form a Lending Library for Research by duplicating the leading special periodicals.

The Committee recommend to the Scientific Grants Committee that they should consider the question of supplying or aiding in the purchase of the necessary literature for individual scientific researches with a view to the formation of a special Library for research.

D. Relation of the Association to other Scientific Societies.

This question needs consideration in both its general and local aspects: How far can the Branches and Divisions work with other local societies, and under what circumstances should they be amalgamated? Further information is necessary before any recommendations can be made.

Meetings of Branches and Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* Journal.]

DUNDEE BRANCH.

An ordinary meeting of this Branch was held in the Students' Union, Dundee, on September 21st, at 4 o'clock, Dr. Rogers in the chair.

Confirmation of Minutes.—The minutes of last meeting were read, approved, and signed.

Representative Meeting.—It was intimated that the Council had deferred consideration of the requisition for a Special Representative Meeting until the October meeting, and it was resolved to withdraw the requisition. The Representative reported on the business done at the Representative Meeting held at Leicester.

Special Reports.—The report on Contract Medical Practice was considered. The recommendations made in the report were discussed *seriatim* and were approved of. The special reports on Provident Dispensaries and Public Medical Services were generally approved of.

LANCASHIRE AND CHESHIRE BRANCH:

Altrincham Division.

A quarterly meeting was held at Knutsford on September 20th, at 4 30 p m., Dr. Luckman (Chairman) presiding.

Minutes.—The minutes of the last meeting were read and signed as correct.

Workhouse.—By kind permission of the Bucklow Board of Guardians the members were shown over the Workhouse Hospital. A case of congenital dilatation of the colon (probably unique) in a girl of 14 years was examined; also a case of malignant disease of the bladder in a male, on whom the suprapubic operation had been performed; and a case of rodent ulcer in a female.

Committee.—The Committee's report was received and approved.

The Leicester Meeting.—A lengthy report was submitted by the Representative, and the points in which the Division is most interested were discussed at length. Dr. Garstang was cordially thanked for his work at Leicester and for his able report. It was resolved to send up again for the next year's meeting the resolution (giving a right of appeal from Branch Council to Central Council) which was not discussed at Leicester, owing to the Chairman's ruling that it became out of order when a cognate resolution by the Coventry Division was defeated.

Paper.—Dr O J. Renshaw then read a paper on epilepsy, and an interesting discussion followed, in which most of the members took part.

The meeting did not terminate till 7 o'clock, after which fourteen members and two guests dined together.

☞ *To ensure the insertion of notices in this column they must be received at the Central Offices of the Association not later than the first post on Tuesday.*

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

Aberdeen Branch.—The annual meeting of the Aberdeen Branch will be held in the Grand Hotel, Aberdeen, on Saturday, October 21st, at 1.15 p.m.—J. F. Christie, 7, Alford Place, Aberdeen, Honorary Secretary.

Bath and Bristol Branch: Trowbridge Division.—A meeting of the Division will be held at the Town Hall, Marlborough, on October 28th, at 3.15 p.m., when C. J Cullingworth, M.D., F.R.C.P., will deliver an address, entitled, Oliver Wendell Holmes and the Contagiousness of Puerperal Fever.—J. Tubb-Thomas, D.P.H., Honorary Secretary, Trowbridge, Wilts.

Birmingham Branch: Coventry Division.—The annual dinner of this Division will be held at the Masonic Buildings, Little Park Street, Coventry, on Tuesday, October 3rd, at 7 30 p m. The President of the Branch, Sir Thomas Chavasse, has accepted an invitation to attend. It is open to members to introduce either medical men or dentists as guests. Tickets (including wine) 12s. 6d. each.—E. H. Snell, Honorary Secretary.

Border Counties Branch: Scottish Division.—A meeting of the above Division will be held at Newton Stewart on Friday, October 6th, in the Galloway Arms Hotel, at 5 p m. Committee meeting at 4 45 p.m.—George R. Livingston, Secretary.

Cambridge and Huntingdon Branch.—A meeting will be held on Thursday, October 5th, in the New Medical Schools, Cambridge, at 2.30 p.m. The meeting will be preceded by lunch in Downing College Hall at 1.30 p m (tickets 7s 6d. inclusive). As the members of the East Anglian Branch have accepted an invitation to be present at the lunch and meeting, it is hoped that members of the Branch will make an effort to be present.—F. E. Apthorpe Webb, Honorary Secretary, Grafton House, Cambridge.

Edinburgh Branch: South-Eastern Counties Division.—The autumn meeting of this Division will be held in the King's Arms Hotel, Melrose, on the afternoon of Friday, October 6th, at 3 o'clock.—W. Hall Calvert, Honorary Secretary, Melrose.

Metropolitan Counties Branch: City Division.—A clinical meeting of this Division will be held on Thursday, October 19th, at 5 p m., at St. Bartholomew's Hospital, E.C.—E. W. Goodall, Honorary Secretary, The Eastern Hospital, Homerton, N.E.

Northern Counties of Scotland Branch.—The autumn meeting of the Branch will be held at Dingwall on Friday, October 13th, at 4 p.m. Further particulars will be sent each member by circular.—J. Munro Moir, Honorary Secretary, 4, Ardross Terrace, Inverness.

North of England Branch.—The next meeting will be held at Durham on Friday, October 13th. Members willing to show cases or specimens, or read papers, are requested to inform either of the Branch Secretaries as soon as possible.—Alfred Cox, J. H. Hunter, Honorary Secretaries.

Shropshire and Mid-Wales Branch.—The annual general meeting of the Branch will be held at the Salop Infirmary on Tuesday, October 31st, at 3 p.m. Members who wish to show patients or specimens, or read papers, will please communicate with me not later than Tuesday, October 17th.—Harold H B. MacLeod, Honorary Secretary, Clive House, Shrewsbury.

Southern Branch.—This is to give notice that candidates for the office of Representative on the Central Council of the Association should send me their names, each nominated by three electors, on or before October 20th next.—H. J. Manning, Laverstock House, Salisbury, Honorary Secretary.

South-Eastern Branch: Brighton Division.—A meeting will be held at the Dispensary, 113, Queen's Road, Brighton, at 4.30 p.m., on the fourth Wednesday in October (25th), and November (22nd) Members wishing to read papers or show cases at the meetings are requested to give at least a fortnight's notice to the Honorary Secretary, Ryding Marsh, M.D., 49, Sackville Road, Hove.

South-Eastern Branch: Croydon Division.—The next meeting will be held at the Cock Hotel, Sutton, on Thursday, October 19th, at 4 p.m., Dr. W. Gripper (Wallington) in the chair. Dinner at 6 p.m.; charge 5s., exclusive of wine. All members of the South-Eastern Branch are entitled to attend and to introduce professional friends. The Honorary Secretary would be much obliged if members would kindly inform him by post-card whether they intend to be present at the meeting if possible, and if they are likely to remain to dinner. By so doing they will materially facilitate arrangements and promote the success of the meeting. Agenda: (1) Minutes of previous meeting. (2) To elect a Chairman to the next meeting (3) Report of Direct Representative at the Annual Meeting. (4) Communications from Wandsworth Division. (5) Other business. The following papers will be read:—Mr. F. Swinford Edwards: Some of the More Common Affections of the Rectum and their Treatment. Mr. E. C Clarke: Eye Strain from a Medical Point of View. Any additional item that may arise will be notified in a subsequent issue of the British Medical Journal. Members desirous of exhibiting or reading notes of cases are requested to communicate with the Honorary Secretary on or before October 5th.—E. H. Willcox, Honorary Secretary, 113, London Road, Croydon.

South-Eastern Branch: Folkestone Division.—A meeting will be held at the Victoria Hospital, Folkestone, at 2 o'clock on Tuesday, October 17th. Members wishing to read papers are requested to give at least a fortnight's notice to the Honorary Secretary, P. Vernon Dodd M.D., 14, Manor Road, Folkestone.

South Eastern Branch: Guildford Division.—The next meeting of this Division will be held at the Royal Surrey County Hospital, Guildford on Friday, October 27th, at 4.30 p.m. Dinner at 6.30 p.m. at the Lion Hotel Charge 6s., exclusive of wine Agenda: (1) Minutes of previous meeting. (2) Contract practice (special Supplement of July 22nd). (3) Other business. Dr Herbert Tilley will give an address on The Diagnosis and Treatment of some of the more Common Diseases of the Nose and Throat. Members desirous of reading papers or showing cases are requested to give at least a fortnight's notice to the Honorary Secretary, who will be glad to hear from any members who intend to be present, and if they are likely to remain to dinner. All members of the South-Eastern Branch are entitled to attend and to introduce professional friends.—E. J. Smyth, Honorary Secretary, Maythorne, Epsom Road, Guildford.

South-Eastern of Ireland Branch.—An ordinary meeting of this Branch will be held at the Victoria Hotel, Kilkenny, on October 4th, at 12 noon. Agenda: To read minutes, etc., and to receive Dr. Laffan's report.—J Quirke, Honorary Secretary, Piltown.

THE MEDICAL PROFESSION AND PARLIAMENTARY CANDIDATES.

In view of the impending by-election at Hampstead, representatives of the Hampstead Division of the British Medical Association had interviews with the two candidates, Mr. J. S. Fletcher, J.P., Conservative candidate, and Mr. G. F. Rowe, Radical candidate.

The deputation consisted of Mr. F. R. Humphreys (Chairman of the Division) Dr. Ford Anderson (Member of the Central Council). Mr. H. W. Armit (Member of the Medico-Political Committee), Dr. R. A. Yeld (Secretary of Division) and Dr. Pare (Member of the Division).

Mr. Humphreys explained briefly the position and the work of the Association, and said that the legislation in the promotion of which the Association was interested was of great public as well as medical importance.

I. *The Medical Acts Amendment Bill.*

Dr. Ford Anderson pointed out that the chief aims of the Bill which had been before the Association for two years and had been approved by the Divisions and the Representative Meeting, and was to be introduced into the House of Commons, were as follows:

1. Reform of the General Medical Council, which was the Parliament of the profession. Its members would number 46, of whom 25—that is, a clear majority—would be Direct Representatives elected according to the medical population (17 from England, 3 from Scotland, 2 from Ireland, and 3 dental). There would be 13 members from the universities, 5 Crown members, and 3 Corporation members (1 for combined English colleges, 1 for Scotch, and 1 for Irish colleges).

2. For the sake of economy and efficiency the Branch Councils would be consolidated with the Central Council, their work being done by committees of the Council.

3. The one-portal system was a very important feature of the Bill. By this was meant that a State final examination would be the one portal of admission to the *Medical Register*. No student could register without passing the State examination. After passing it he would be entitled to call himself "Doctor," if he wished to be so styled. After passing it he could, if he wished, enter for examinations of a higher character at universities but the State examination would have to be taken first. Registration after qualification would have to be renewed annually and a fee of £1 1s. a year paid to prevent fraud (personation).

4. The disciplinary powers of the Council would be extended so that penalties of a minor character could be inflicted—for example, suspension from the *Register* for a time. At present expulsion was the only penalty. Powers over students would be extended. Every student would be registered and watched over by the Council throughout his curriculum. Disreputable and dilettante students could thus be weeded out.

5. Habitual practice of medicine for gain would be restricted to qualified registered persons and quack medical companies would be suppressed.

6. Dr. Pare added some remarks on the dental clauses of the Medical Acts Amendment Bill. At the present time there were three classes of persons practising dentistry habitually for gain:—(1) Those whose names appear on the *Dental Register* kept by the General Medical Council. All these hold a dental diploma except those registered persons who were in practice before 1878. (2) Individuals who by the co-operation of their relations and friends, male or female, have formed themselves into "limited companies." These have received no regular instruction in dentistry, but are able to take advantage of the loopholes in the Companies Act and to call themselves dentists and practise dentistry. (3) The third class consists of those who carefully avoid the title of "dentist," but, by the use of such terms as "tooth and crown" or "English and American artificial tooth manufacturers," convey to the public the idea that they are qualified to practise dentistry. The reform sought for was "that the names of all persons habitually practising dentistry for gain must appear in the *Dental Register*." This would not prevent the casual drawing of a tooth on emergency. The present Act now in force deals with the title only, and is abused as aforementioned. A grace of eight or nine years would be given to those unregistered persons actually in practice at the present time under the new Act proposed. The plan was similar to that of the Midwives Act.

Both candidates expressed approval as laymen. They considered that the Bill was a carefully-considered scheme of internal reform of which medical men were best qualified to judge.

II. *The Public Health Bill.*

Mr. Armit urged the necessity for appointing medical officers of health permanently or for long periods. They should only be removable subject to the approval of the Local Government Board. At present gross injustice might be done by local authorities in removing a medical officer of health who had given offence in the rightful performance of his duties in the public interest. In future it was proposed that every medical officer of health should hold a health qualification, even if he only presided over a small area. At present only a population above 50 000 called for the D.P.H. Further, the title of Inspector of Nuisances should be abolished, and that of Sanitary Inspector alone used. Such sanitary inspectors should be qualified for the post. Finally, he pointed out that the workhouse master could only be removed subject to an appeal to the Local Government Board, so that it would not be an innovation to apply the same plan to the medical officer of health.

Mr. Fletcher approved. Mr. Rowe thought there would be great trouble with local authorities.

Mr. Armit replied that this was a matter of public interest, and local authorities must be compelled to do what was right. Mr. Rowe acquiesced.

III. *Death Registration and Coroners Act.*

Mr. Humphreys drew attention to the fact that burial can, under the present law, be conducted without definite medical certificate. A dead body can be buried anywhere provided there be no public nuisance created. The present system renders our statistics of the causes of death untrustworthy. It is possible for quacks to give certificates of death which are accepted by the registrar (See British Medical Journal Supplement, May 2nd, 1903). Reform was urgently needed in the public interest. The Death Registration Act would ensure:

1. That no body could be buried except by order of the registrar. That this order could only be given after production of (*a*) a certificate of the cause of death, (*b*) a certificate of the fact of death. The duration of attendance and date of last visit must be entered on the certificate. The certificates must be signed by a medical man and should be sent by him direct to the registrar.

2. That a special medical officer (similar to the Procurator-Fiscal in Scotland) should be appointed to each district, whose duty should be to inspect dead bodies on the order of the coroner, and to make *post mortem* examinations when so directed in conjunction with the medical man last in attendance on the case. It was most important that evidence given before coroners should be twofold:

(*a*) Clinical—that is, evidence of practitioner who last saw patient.

(*b*) Pathological.

The latter might require expert knowledge or not, according to the nature of the case; but the former should in all cases be given by the medical man who last saw the patient.

3. No medical man should be compelled to make the difficult and costly analysis of the stomach contents for the ordinary fee of £2 2s. When such was required a special fee should be paid, and, if necessary, an expert employed. All

medical men should be paid at a rate per case per diem for inquests, not per inquest, as at present. All certificates to registrars and reports to coroners should be paid for.

4. All stillbirths to be registered on a medical certificate.

Finally, Mr. Humphreys stated that the Coroners' Society was sympathetic with this Bill. That part of the Bill which dealt with death registration was mainly founded on the recommendations of a Select Committee of the House of Commons in 1893.

The Act would not interfere with cremation, except to increase precautions, and would tend to prevent premature burial, if such ever occurred.

Both candidates approved heartily of reforms in this respect. Mr. Fletcher asked what effect it might have on cremation. Mr. Humphreys replied that it would only increase precautions already taken. Mr. Rowe asked if premature burial would be thus prevented. Mr. Humphreys replied that the Bill would decidedly tend to decrease the risk of premature burial (if any).

IV. *Revaccination Bill.*

Dr. Yeld said that this Bill was designed to prevent epidemic small-pox, which had proved a serious expense to the nation. It was admitted that a single vaccination in babyhood might not, after a lapse of many years, prevent the disease being contracted, though it modified its severity. Revaccination was therefore necessary at school age (age of 12 in the Bill). If revaccination were made compulsory the disease could be stamped out as it had been in Germany. Germany was practically free from small-pox, although her geographical position made her more subject to the accidental introduction of the disease than England.

Mr. Armit, speaking with special knowledge of Germany, confirmed the statement as to the freedom of that country from small-pox. Germany had had compulsory revaccination for all children at school age for many years, and conscripts were vaccinated a third time. The statistics showed that females in Germany who were vaccinated twice only were practically as free from small-pox as the thrice-vaccinated males. In Germany our half-hearted vaccination measures were laughed at. Revaccination would make the supply of lymph by the Government more constant and plentiful.

Dr. Yeld added that the Conscience Clause was not interfered with in this Bill. The Act made no provision for the supply of Government lymph to all practitioners, but this was a point of considerable importance. It was not fair that the general practitioner should have to depend on lymph inferior to that supplied to public vaccinators.

Mr. Fletcher approved. He thought the German statistics should carry great weight with the House of Commons. It would be a difficult Bill to pass.

Mr. Rowe disapproved. Though not against vaccination, he objected to its being compulsory.

V. *Bill for the Reorganization of the Local Government Board.*

Dr. Ford Anderson explained that this Bill proposed that the Local Government Board should become the Central Department of Health. At present it was really only a Committee of the Privy Council with a fictitious Board which never meets. The President of the Local Government Board ought to have the status and emoluments of a Secretary of State and his department should rank as a State Department. It has been said that the matters dealt with by the Local Government Board are not of sufficient importance to be dealt with by a State Department. The medical profession differed altogether from such a view. They held that public health is a matter of high policy. Were not such questions as water supply, housing of the poor, prevention of physical degeneration, prevention of epidemics obviously matters of national importance? The public health laws must be properly organized, should be under the control of one department instead of three (Local Government Board, Privy Council, Home Office), as at present. The President of the Local Government Board must be a Cabinet Minister, and there should be a Vice President and Parliamentary Secretary, as in the case of the Admiralty. The Board must be genuine, and there must be experts on it, appointed by the Crown:

(*a*) A medical man skilled in public health.
(*b*) A lawyer.
(*c*) A civil engineer.
(*d*) A Poor-law expert.

The reformed department would take over from the Privy Council the administration of the Medical Acts Amendment Bill, the Dentists Act, the Midwives Act, and the Pharmacy Act; and from the Home Office the administration of the Food and Drugs Adulteration Act and the Factories Act. It was admitted on all hands that the Local Government Board as at present constituted was defied by local authorities and constantly overworked. In Scotland it was better organized, and there were two professional men on the Board. At present there was a general want of co-ordination, both central and local. A Royal Commission should be appointed to make a thorough inquiry into the whole matter.

Both candidates approved of the scheme, and thought the need for a Royal Commission was a real one.

Mr. Fletcher agreed that the Local Government Board was overworked and had insufficient powers in dealing with local authorities.

VI. *Lunacy Law Amendment.*

Mr. Humphreys said that at present there was no Bill drafted by the Association on this subject, but there were two Bills in existence in which the reforms required were contained. The present law is a lawyer's law, framed for the protection of the sane and chronic insane.

1. What the profession in England needed were more facilities for treating incipient cases of lunacy temporarily and without certification. The reform desired was similar to that introduced into the Scottish Act by Sir John Batty Tuke (Clause 13 Scottish Act 1866). This would give medical men the opportunity of treating cases of early insanity as cases of disease, and the results of treatment would be much better. At present cases in the incipient stage were sent among chronic cases, with results disastrous to the former. The proposed law is practically only an extension of the existing urgency certificate from seven days to six months, with the additional advantage that the Commissioners know of the case, though there is no formal certification. Sir John Batty Tuke had shown that the Scotch plan had worked admirably in Scotland for forty years, during which time there had been no suspicion of abuse.

2. Provision should also be made for the treatment of incipient insanity among paupers. In Glasgow this was carried out most successfully. Sir John Tuke, writing in the Spring Number of *Brain* 1905 reported most favourably on the Glasgow Hospital for the Treatment of Incipient Lunacy among Paupers. Cases were treated there in an early stage without formal certification and without any special appliances such as padded rooms, etc. "The hospital provided for the poor early curative treatment which elsewhere could only be vouchsafed to the rich." In Germany each of the twenty universities possesses a similar institution. All the alleged mentally unsound pass through these hospitals, and are either treated to a termination without report to the State, or passed on to an asylum. There was a similar provision in Austria, Italy, and the United States. Statistics showed that in Glasgow 155 out of 260 cases (59·6 per cent.) recovered, whereas of the new cases for the year in the whole of Scotland only 39.7 per cent. recovered. In England and Wales 7 per cent. less recovered than for all Scotland. In Ireland 5 per cent. less. Provision for pauper lunatics is made in the Bill introduced by Sir John Batty Tuke; and the Government legal adviser has introduced a Bill which brings in the clause in the Scottish Act already referred to.

Both candidates approved.

Mr. Fletcher referred to the valuable work done in this connexion by the Holloway Home, Virginia Water, of which he was a member of Committee.

This brought the interview to an end in both instances, and the deputation then withdrew, after thanking the candidates for their courtesy and the great interest they had taken in the subjects discussed. Statistical pamphlets dealing with vaccination were subsequently forwarded to them.

LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

Members are reminded that the Library and Writing Rooms of the Association are fitted up for the accommodation of the members in commodious apartments, at the office of the Association, 429, Strand. The rooms are open from 10 a.m. to 5 p.m. Members can have their letters addressed to them at the office.

An Address

ON THE

REORGANIZATION OF THE BRITISH MEDICAL ASSOCIATION.

By WILLIAM CALWELL, M.A., M.D.,

Chairman of the Belfast Division; President of the Ulster Medical Society; Physician, Royal Victoria Hospital, Belfast.

I DESIRE in these few introductory remarks to remind you once more of the origin of Divisions in the British Medical Association, and of the use for which they were intended. For long it had been felt incongruous that the annual meetings of the members held during the annual meeting of the Association should be the only means whereby the whole body of members could express any opinion on any subject; these meetings were sometimes fairly well attended, sometimes very sparsely. Important resolutions affecting nearly 20 000 medical men were passed, amended, or negatived in meetings of perhaps not more than forty. The Council—the real ruling body—to whom these resolutions were referred, contained a number of past Presidents of the Association as *ex officio* members; these gentlemen were often men who had retired from practice, and were felt to be somewhat out of touch and sympathy with the general mass of the profession. At any rate, the resolutions by the annual meetings were read considered, and too often marked "read" by the Council.

Accordingly, in the evolution of things, in 1902 reorganization was carried, which is embodied in the Rules and By-laws of the Association of to-day. The two chief amendments in the organization were the formation of Divisions and the formation of the body known as the Representative Body. The general lines of the reorganization were most carefully thought out; they are most democratic, and have as models in some particulars the constitutions of the United States of America and of the Federal Cantons of Switzerland.

Divisions.

Each Division is to number at least 50 members if possible, but no actual limitation is put upon the number; a Division may consist of 2 or of 2 000. The only law of boundary is to be the convenience of members; railway facilities and facilities of travelling generally are the guiding principles. A dozen members may find it convenient to meet in some little country village; they can do so. Three or four hundred in a large town agree to keep together; they can do so also; it lies entirely with the members themselves how they clump.

Each Division now has become a constituency for the Medical Parliament of the Association, and sends a Representative to the meetings of this parliament, called the annual meeting of the Representative Body; each Representative in these meetings possesses voting power according to the number he represents. If a vote be taken on any motion a show of hands is called for, but if there be any doubt as to the real decision of the show of hands the value of the hand is taken by means of a card on which he writes the number he represents; it may be 50 100 500 according to the number of members in the Division; two Divisions separately of less than 50 each, but together of more than 50, must join in selecting a Representative; this is to prevent the undue multiplication of Representatives and the number of the Representative Body exceeding 300 in all. The travelling expenses of each Representative to the meeting are paid by the Association, and it would be an undue tax on the resources of the Association to have any larger number, with no compensatory advantages. The business of the annual Representative Meeting is defined in Article XXXI of the Association; and the autonomy of the Divisions in Rule 10. The Council remains the chief ruling body; its constitution is slightly changed, and it is now bound to take cognizance of the resolutions of the Representative Body, while it was not previously bound to take cognizance of the resolutions of the annual meeting of the Association, where out of 18,000 or so members perhaps 40 turned up.

Let us see now how an individual member can make himself heard by the profession, and bring to their ears his reasons why some new law should be made, some old law abrogated, some professional grievance remedied. A member in the wilds of Donegal, or in the industrial centres of Lancashire, studies the question, say, of medical education and becomes convinced of the necessity for some change. He writes to the secretary of his Division, informing him of a resolution he will bring before its next meeting. At that meeting the resolution is approved of, and it is ordered to be sent to the clerk of the Representative Meeting, and the subject is put down on the agenda paper of that meeting; it is published in the JOURNAL; the Division Representative is instructed to support the resolution. The Representative Meeting are impressed with the resolution, approve of it, and order it to be sent to the Council and to become a law, or an expression of opinion, of the Association. The Council can now do one of two things. It may either approve of the resolution and act on it, or may order a Referendum within seven days. It cannot mark it "read"; if it does nothing the resolution becomes the law or opinion of the Association. If the Council calls for a Referendum (Article XXXV) the question is published in the JOURNAL and is sent to the secretary of each Division, with a request that he will put it before a meeting of its members and return the result of their voting, which will enable the Council to judge in how far the resolution embodies the deliberate opinion of all the members.

I have omitted wearying and confusing you with details, but you will see that we have here a well thought-out democratic scheme; and you will notice that for administrative purposes the Division is the unit, not the Branch. It fell to my lot to formulate the scheme for Ulster, and I cannot help remarking on the complete public apathy of so many professional brethren, who yet do not hesitate to complain in private, and of the peculiar knack of misinterpretation—misinterpretation of motive, and of word and deed—that some unhappily possess. However, the organization is there ready to hand, and costing men nothing to work out. The Derry, the North-East or Ballymoney, the Belfast, the Portadown Divisions of the Ulster Branch are all organized and ready to take their part in public professional life.

It rests entirely with the members themselves of what use they will make of it.

Local Societies.

Let us now consider for one moment the organizations in Belfast. We have:

1. The Ulster Medical Society.
2. The Ulster Branch of the British Medical Association and the Belfast Division.
3. The Irish Medical Association.
4. The Royal Medical Benevolent Fund.
5. Two Defence Associations.

The total subscriptions amount to £5 19s. 6d. Suppose, now, all these organizations were wiped away, what would be the most economical method of obtaining the same advantages?

First, I would propose but one broad Association, and palpably the British Medical Association is the one to be selected. The organization of the British Medical Association could be worked to cover the administrative work of all other societies. I see no reason why the "Defence" and "Medical Benevolent" should not be at once engrafted. They would become simply departments of the Association; of the whole Association as in "Defence"; of the Ulster Branch as in the "Medical Benevolent." I can see no reason why the Irish Medical Association should not be amalgamated on the termination of the present praiseworthy fight for the Poor-law Dispensary Service. It is not good policy to "swap horses while crossing the stream." The Ulster Medical Society is a more difficult problem. It possesses property; it is an old-established society, and has to pay regard to the annals and traditions of the past. However, these institutions should be for the benefit and good of the profession as a whole; they are made for the profession, and not the profession for them; and time will show whether an amalgamation between the Ulster Medical Society and the Belfast Division might not make for that object. I feel confident that for what we now pay—£5 19s. 6d.—we could obtain fully equal advantages for £4, certainly for £4 10s. The Ulster Branch and the Divisions have all balances to their credit; as they increase we shall probably find some doubtfully beneficial way of expending them; whereas they should be used for the administrative work of other Societies, which would then become departments of one main Association.

I have shown, or tried to show, one small economy. I shall simply offer as possibilities other suggestions.

There does not seem any reason why a sickness and annuity department should not be started. It can be run by companies at a profit; why should not we ourselves get the profit? The same holds with life assurance; huge profits are made by these companies, and one of their chief expenses is the initial

commission and that of branch offices. Why should not we share the profits here also? there would be no commission and no Branch office outlay. The success of the BRITISH MEDICAL JOURNAL should teach us a lesson; it roughly brings in £5 000 yearly profits, which has enabled the Association to pay off some £36 000 of a mortgage on the Strand premises of which we now stand possessed. I am speaking from memory; I have not a balance-sheet at hand.

I bring these matters before you as proper subject for initiatory discussion in Divisions. One does not want to rush into huge enterprises; but the profession should seriously consider how they can economize their administrative expenses, and how by legitimate combination, union and enterprise, they may obtain the greatest benefit for themselves. We have a means in our Divisions and in our Representative Body for discussing such matters of the greatest moment and bringing them to a successful issue. Let us avoid trivialities and unnecessary warmth; and always remember that any enterprise which unduly subserves the object of a few—not necessarily a clique—and not of the profession as a whole, should be ruthlessly cut out of our programme.

Naval and Military Appointments.

ROYAL ARMY MEDICAL CORPS.

EXCHANGE.

The charge for inserting notices respecting Exchanges in the Army Medical Department is 3s. 6d., which should be forwarded in stamps or post-office order with the notice, not later than Wednesday morning, in order to ensure insertion in the current issue.

CAPTAIN R.A.M.C., 5 years' service tour expired with I.M.S. officer.—Apply "Volvulus," c/o of *Pioneer*, Allahabad.

Captain R.A.M.C. (eight years' service) is willing to exchange to South Africa for whole tour instead of India. Address 43, Grand Hotel, Naini Tal, India.

Surgeon-Lieutenant-Colonel W. R. CROOKE-LAWLESS, Coldstream Guards, has been appointed on the staff of Lord Minto, the new Viceroy of India, and will leave Marseilles with his Lordship on October 20th by the P. and O. steamer *Macedonia*.

ROYAL NAVY MEDICAL SERVICE.

STAFF SURGEON A. T. WYSARD has been placed on the retired list, September 14th. He was appointed Surgeon, May 13th, 1896, and promoted to be Staff Surgeon, May 13th, 1904.

The following appointments have been made at the Admiralty: JOHN C. ROWAN, M.B., staff surgeon, to the *Patrol*, September 20th; JAMES R. A. CLARE HILL, Surgeon, to the *Vernon*, for the *Niger*, September 20th; ARCHIBALD D. SPALDING, Surgeon, to the *Queen*, September 20th; JOHN P. H. GREENSHIELDS, M.D., Surgeon, to the *Salt*, September 19th; EDWARD C. SAWDY, Surgeon, to the *Hague*, September 19th; WALTER G. EDWARDS, Surgeon, to the *Kinsha*, September 19th; WILLIAM H. P. PEARD and PERCY F. ELLIS, Surgeons, to Plymouth Hospital, September 20th; EDWARD T. BERTON, Surgeon, to the *Montagu*, September 19th; WILLIAM JACKSON, M.B., staff surgeon, to the *President*, additional, for hospital service, September 25th; EVAN ST. M. NEPEAN, Fleet Surgeon, to the *Briton*, for the drill season, September 22nd; HAROLD P. JONES, Staff Surgeon, to the *Victory*, September 21st.

Fleet Surgeon H. E. SOUTH is placed on the retired list at his own request, September 22nd. He entered the service as Surgeon, February 16th, 1885, and was made Fleet Surgeon, February 16th, 1901.

Fleet Surgeon W. M. LORY is also placed on the retired list at his own request, with the rank of Deputy Inspector-General, September 23rd. His commissions were thus dated: Surgeon, March 31st, 1880; Staff Surgeon, March 31st, 1892; Fleet Surgeon, March 31st, 1901. He was Surgeon of the *Alexandra* during the Egyptian war of 1882, and received the Egyptian medal and Khedive's bronze star.

ARMY MEDICAL RESERVE.

SURGEON-LIEUTENANT H. MERCITT, Middlesex Imperial Yeomanry, to be Surgeon-Lieutenant, September 27th.

ROYAL ARMY MEDICAL COLLEGE.

LIEUTENANT-COLONEL A. M. DAVIES has been appointed Professor of Hygiene at the Royal Army Medical College, vice Lieutenant-Colonel R. H. Firth, who has completed five years' service in that position.

INDIAN MEDICAL SERVICE.

LIEUTENANT-COLONEL R. R. H. WHITWELL, M.B., Bengal Establishment, is permitted to retire from the service. He entered as Surgeon, [illegible] date March 31st, 1886; as Lieutenant-Colonel, March 31st, 1900. He has no war record in the Army Lists.

IMPERIAL YEOMANRY.

SURGEON-LIEUTENANT-COLONEL F. F. S. CARE HILL, Lothians and Peebles, is granted the honorary rank of Surgeon-Colonel, September 27th; he resigns his commission, retaining his rank and uniform, from the same date.

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

CAPTAIN F. B. THOMPSON, Welsh Border Bearer Company, is granted the honorary rank of Major, September 27th.

ROYAL GARRISON ARTILLERY (VOLUNTEERS).

SURGEON-LIEUTENANT-COLONEL A. H. ROBINSON, M.D., 3rd Kent (Royal Arsenal), is granted the honorary rank of Surgeon-Colonel, September 27th.

Mr. ALEXANDER R. TWEEDIE to be Surgeon-Lieutenant in the 3rd Kent (Royal Arsenal), September 27th.

Surgeon-Major W. R. SEWELL, M.D., 1st Renfrew and Dumbarton, to be Surgeon-Lieutenant-Colonel, September 27th.

ROYAL ENGINEERS (VOLUNTEERS).

SURGEON-LIEUTENANT W. H. GALLOWAY 2nd West Riding of Yorkshire (Leeds), to be Surgeon-Captain, September 27th.

VOLUNTEER RIFLES.

SUPERNUMERARY SURGEON-CAPTAIN J. H. STACY, commanding the Norfolk Volunteer Infantry Brigade Bearer Company, to be Surgeon-Major, and to remain supernumerary, August 19th.

Surgeon-Major J. MACLACHLAN, M.B., 3rd (Dumfries) Volunteer Battalion, the King's Own Scottish Borderers, to be Surgeon-Lieutenant-Colonel, September 27th.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

IN seventy-six of the largest English towns, including London, 8,147 births and 4,124 deaths were registered during the week ending Saturday last, September 23rd. The annual rate of mortality in these towns, which had been 17.3, 16.1, and 14.3 per 1,000 in the three preceding weeks, further declined to 13.8 per 1,000 last week. The rates in the several towns ranged from 4.2 in Handsworth (Staffs.), 6.8 in Hornsey, 7.0 in Burton-on-Trent, 7.1 in Bournemouth, 7.3 in West Hartlepool, 7.5 in Kings Norton, 7.7 in Leyton, and 7.8 in Rotherham, to 17.2 in Liverpool, 17.3 in Bolton, 17.4 in Leicester, 17.5 in Tynemouth, 19.0 in Gateshead, 19.1 in Stockport, 19.3 in Wigan, 19.8 in Merthyr Tydfil, 20.1 in Middlesbrough, and 22.6 in Burnley. In London the rate of mortality was 13.3 per 1,000, while it averaged 14.0 per 1,000 in the seventy-five other large towns. The death-rate from the principal infectious diseases averaged 2.2 per 1,000 in the seventy-six towns; in London this death-rate was equal to 1.7 per 1,000, while among the seventy-five large provincial towns the rates ranged upwards to 4.6 in West Bromwich and in Warrington, 5.0 in Preston, 5.1 in Burnley, 5.4 in Wigan, 5.5 in Sunderland, 5.6 in Merthyr Tydfil, and 6.9 in Middlesbrough. Measles caused a death-rate of 1.7 in Barrow-in-Furness; whooping-cough of 1.2 in Rochdale and 1.5 in Ipswich; "fever" of 1.2 in Wigan; and diarrhœa of 3.6 in Bury, 4.1 in Preston, 4.2 in Wigan, 4.4 in Bolton, 4.6 in West Bromwich, 4.8 in Sunderland, 4.9 in Merthyr Tydfil, 5.1 in Burnley, and 5.8 in Middlesbrough. The mortality from scarlet fever and from diphtheria showed no marked excess in any of the large towns. No fatal case of small-pox was registered last week either in London or in any of the large provincial towns; and no small-pox patients remained in the Metropolitan Asylums Hospitals at the end of the week. The number of scarlet-fever patients in these hospitals and in the London Fever Hospital, which had been 2,873, 2,982, and 3,150 at the end of the three preceding weeks, had further risen to 3,424 at the end of last week; 546 new cases were admitted during the week, against 427, 443, and 460 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS.

DURING the week ending Saturday last, September 23rd, 846 births and 453 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had been 14.8, 14.0, and 15.0 per 1,000 in the three preceding weeks, declined again to 13.5 per 1,000 last week, and was 0.3 per 1,000 below the mean rate during the same period in the seventy-six large English towns. Among these Scotch towns the death-rates ranged from 9.0 in Leith and 10.0 in Aberdeen, to 11.6 in Dundee and 16.8 in Perth. The death-rate from the principal infectious diseases averaged 1.8 per 1,000, the highest rates being recorded in Glasgow and Paisley. The 221 deaths registered in Glasgow included 2 which were referred to measles, 2 to scarlet fever, 3 to diphtheria, 5 to whooping-cough, and 25 to diarrhœa. Three fatal cases of "fever" and 5 of diarrhœa occurred in Edinburgh; and 3 of diarrhœa in Dundee and in Aberdeen.

HEALTH OF IRISH TOWNS.

DURING the week ending Saturday, September 23rd, 512 births and 274 deaths were registered in six of the principal Irish towns, as against 522 births and 304 deaths in the preceding period. The annual death-rate in these towns, which had been 18.1, 16.6, and 19.3 per 1,000 in the three preceding weeks, rose to 19.4 per 1,000 in the week under notice, this figure being 5.6 per 1,000 higher than the mean annual rate in the seventy-six large English towns for the corresponding period. The figures ranged from 13.7 in Limerick and 17.3 in Belfast, to 21.1 in Londonderry, and 21.4 in Waterford. The zymotic death-rate during the same period, and in the same six Irish towns, averaged 2.2 per 1,000, or 0.5 higher than during the preceding period, the highest figure, 5.0, being recorded in Londonderry, while Waterford registered no deaths under this heading at all. No deaths from small-pox, measles, scarlet fever, or typhus were recorded in any of the twenty-two principal urban districts of Ireland, and the deaths from diarrhœal diseases fell to 22.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

ABERDEEN ROYAL INFIRMARY.—Assistant Surgeon.

BRADFORD CORPORATION WATERWORKS.—Resident Doctor. Salary £200 per annum.

BRIGHTON THROAT AND EAR HOSPITAL. Non-resident House-Surgeon. Salary £75 per annum. Appointment for six months.

CAMBRIDGE: ADDENBROOKE'S HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £30 per annum.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—(1) Two House Physicians. Salary at the rate of £30 per annum each. (2) Pathologist. Salary, 100 guineas per annum.

CORNWALL COUNTY ASYLUM, Bodmin.—Junior Assistant Medical Officer. Salary, £135, rising to £155 per annum.

DUDLEY: GUEST HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £40 per annum.

HOSPITAL FOR WOMEN, Soho Square, W.—(1) House-Physician. Salary, £30 for six months.

HUDDERSFIELD INFIRMARY.—Junior House-Surgeon. Salary, £50 per annum.

FARRINGDON GENERAL DISPENSARY, 17, Bartlett's Buildings, E.C.—Resident Medical Officer. Salary, £120 per annum.

KENT COUNTY ASYLUM, Barming Heath, Maidstone.—Fourth Assistant Medical Officer. Salary to commence £175 per annum.

LANARK: BELLEFIELD CONSUMPTIVE SANATORIUM.—Resident Physician. Salary to commence £100 per annum.

LEITH HOSPITAL.—Assistant Opthalmic Surgeon.

LONDON HOSPITAL, Whitechapel, E.—Physician.

LONDON LOCK HOSPITAL.—House-Surgeon to the Male Hospital, Soho. Salary, £80 per annum.

LOUGHBOROUGH AND DISTRICT GENERAL HOSPITAL AND DISPENSARY.—Resident House-Surgeon. Salary, £80 per annum.

MACCLESFIELD: CHESHIRE COUNTY ASYLUM.—Second Assistant Medical Officer. Salary, £175, rising to £200 per annum.

MIDDLESEX COUNTY ASYLUM, Napsbury, St. Albans.—Fourth Assistant Medical Officer. Salary £160 per annum.

MANCHESTER ROYAL INFIRMARY.—Resident Surgical Officer. Salary, £150 per annum.

RAINHILL: COUNTY ASYLUM.—Assistant Medical Officer. Salary, £150 per annum, rising to £250, with further increase to £350 on promotion.

ROYAL DENTAL HOSPITAL, Leicester Square, W.C.—Morning House Anaesthetist. Honorarium £50 per annum.

ROYAL EYE HOSPITAL, Southwark, S.E.—House-Surgeon. Salary, £52 10s. per annum.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone Road, N.W.—Clinical Assistants.

SEAMEN'S HOSPITAL SOCIETY.—(1) House-Physician. (2) House-Surgeon. (3) Junior Resident Medical Officer. (4) Senior House-Surgeon. (5) House-Surgeon. (1), (2), and (3) are at the Dreadnought Hospital, and (4) and (5) at the Branch Hospital, Royal Victoria and Albert Docks.

STOCKPORT UNION.—Resident Assistant Medical Officer to the Steepling Hill Hospital. Salary, £130, rising to £150 per annum.

STOKE-UPON-TRENT: NORTH STAFFORDSHIRE INFIRMARY AND EYE HOSPITAL, Hartshill.—Senior House-Surgeon. Salary, £100 per annum.

THROAT HOSPITAL, Golden Square, W.—House-Surgeon. Salary, £50 per annum.

WISBECH: NORTH CAMBRIDGESHIRE HOSPITAL.—Male Resident Medical Officer. Salary, £100 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House-Surgeon. Salary, £100 per annum.

YORK DISPENSARY.—Resident Medical Officer. Salary, £120 per annum.

APPOINTMENTS.

BATTLE, Charles J., M.R.C.S., L.R.C.P., District Surgeon for the Division of the Lower Tugela, Natal.

COCKELL, E. Seaton, M.R.C.S., L.S.A., Medical Officer and Public Vaccinator for the Greatham District of the West Hartlepool Union.

COLLUM, Rowland W., L.R.C.P.Lond., M.R.C.S.Eng., Anaesthetist to St. Mary's Hospital, Paddington.

DAVIS, Henry, M.R.C.S.Eng., Senior Honorary Anaesthetist to St. Mary's Hospital, Paddington.

DISHINGTON, Thos. T. M., M.B., Outdoor House-Surgeon, Glasgow Maternity Hospital.

GRIMWADE, A. S., L.R.C.P., Health Officer for the Shire of Meredith, Victoria, vice W. A. H. Barrett, L.R.C.P., resigned.

HOPKINS, Charles Leighton, B.A., M.B., B.C.Camb., Medical Superintendent of the York City Lunatic Asylum.

HOSKING, John E. F., M.R.C.S., L.R.C.P., Government Medical Officer and Vaccinator at Deniliquin, N.S.W., vice Dr. E. A. Graham, resigned.

LAWES, C. H. E., M.B., Ch.M.Syd., Honorary Medical Officer, Marrickville County Hospital, N.S.W.

MACVIE, S., M.B., C.M.Edin., Certifying Factory Surgeon for the Chirnside District, co. Berwick.

PAIRMAN, James C., M.A., M.B., Indoor House-Surgeon, Glasgow Maternity Hospital.

PATRICK, Howard Henderson, M.B., Outdoor House-Surgeon, Glasgow Maternity Hospital.

PAUL, G. F., M.D., M.R.C.S., Government Medical Officer and Vaccinator at Cobar, N.S.W., vice Dr. W. C. Robinson, resigned.

PERKINS, Richard, M.B., Ch.M.Syd., Honorary Medical Officer, Marrickville Cottage Hospital, N.S.W.

ROANTREE, J., M.B., B.Ch., R.U.I., Certifying Factory Surgeon for the Newbridge District, co. Kildare.

ROBINSON, W. T. G., M.D., Medical Officer of Health, Poole Rural District.

STEVENSON, Howard, B.A., M.B., B.Ch., F.R.C.S., Honorary Visiting Surgeon to the Women's Department of the Ulster Hospital, vice J. St. Clair Boyd, M.D., M.Ch., R.U.I., resigned.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 2s. 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to ensure insertion in the current issue.

BIRTHS.

BAWTREE.—On September 15th, at the Lodge, Maldon, Essex, the wife of Frank Bawtree, M.R.C.S., L.R.C.P., of a son.

BROWN.—On September 2nd, at the Hermitage, Alipur, Calcutta, the wife of Major E. Harold Brown, M.D., M.R.C.P., I.M.S., of a son.

DYER.—On September 23rd, at Scarsdale, Cleckheaton, the wife of Charles Harold Dyer, M.D.Aberd., of a son.

EDWARDS.—On September 14th, at "Chilchester," London Lane, Bromley, Kent, the wife of John M. Edwards, M.R.C.S., L.R.C.P., of a son.

JACKSON.—On September 21st, at Radcliffe-on-Trent, the wife of Arthur M. Jackson, M.D.Oxon., Medical Superintendent of Notts County Asylum, of a daughter.

MURRAY.—On September 24th, at Apsley, Stockport, the wife of Robert A. Murray, M.D., of a son.

WARING.—On September 22nd, 1905, at Fort Rowner, Gosport, to the wife of Captain A. H. Waring, R.A.M.C. (*née* Salmond)—a son.

MARRIAGE.

KUNHARDT—BOTT.—September 26th, at St. Luke's Church, Cheltenham, by the Rev. H. E. Noot, Vicar, assisted by the Rev. W. Burnside, Captain John Conrad Gie Kunhardt, I.M.S., elder son of the late F. H. Kunhardt and Mrs. Kunhardt, of Ealing, to Norah Sophia Mildred Bott, second daughter of the late John H. Bott and Mrs. Bott, of Cheltenham.

DEATHS.

BEAMAN.—On September 8th, at his residence, Chaseley, Hesketh Park, Southport, in his 77th year, Edward Henry Beaman, M.R.C.S.Eng., L.S.A., Co-licensee of Haydock Lodge Private Asylum, and Retired Surgeon-Major, Lancashire Hussars Yeomanry.

MACGEAGH.—On September 24th, at Lausanne, Switzerland, William Macgeagh, of The Park, Royston, Hertfordshire.

DIARY FOR NEXT WEEK.

WEDNESDAY.

OBSTETRICAL SOCIETY OF LONDON, 20, Hanover Square, W., 8 p.m.—Short Communications.—Surgeon-Captain J. C. Holdich-Leicester: A Case of Ectopic Gestation which apparently Ruptured Twice. Mr. H. J. Paterson: A Case of Extra-uterine Fetation. Specimens:—Dr. Galabin: (1) Ovarian Dermoid, with so minute a Pedicle that no Ligature was required; (2) Tubal Abortion caused by Bimanual Examination. Paper.—Dr. Herbert R. Spencer: A Case of Carcino-sarcoma Uteri.

POST-GRADUATE COURSES AND LECTURES.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week at 4 p.m. each day: Monday, Skin; Tuesday, Medical: Wednesday, Surgical: Thursday, Surgical; Friday, Eye. Lectures at 5.15 p.m. each day will be given as follows: Monday, Some Chips from a Surgical Workshop; Tuesday, Jaundice, its Meaning; Wednesday, Dangerous Delusions; Thursday, Surgical Diseases of Children.

WEST LONDON POST-GRADUATE COLLEGE, West London Hospital, Hammersmith Road, W.—The following are the arrangements for next week: Tuesday, 10 a.m., Anaesthetics; 4.30 p.m., Skin Diseases; Wednesday, 3 p.m., Intestinal Surgery; Friday, 10 a.m., Anaesthetics; 3.30 p.m., Skin Diseases; 4.30 p.m., Intestinal Anastomoses.

BOOKS, ETC., RECEIVED.

Radiotherapy in Skin Disease. By Dr. J. Belot. Preface by Dr. L. Brocq. Translated by W. Deane Butcher, M.R.C.S., from 2nd French edition. London: Rebman, Ltd.; and New York: Rebman Co. 1905. 17s.

Immunity in Infective Diseases. By Elie Metchnikoff. Translated from the French by Francis G. Binnie. Cambridge: University Press. 1905. 18s.

A First Reader in Health and Temperance. By W. Taylor. London: Church of England Temperance Society. 1905. 1s. 6d.

The Use of Alcohol in Youth and its Results in our Public Schools. By Dr. Clement Dukes. London: Church of England Temperance Society. 1d.

Hygiene and Temperance in Secondary Schools. An Address by Mrs. [illegible] London: Church of England Temperance Society. 1d.

The Historical Syllabus (1905-6). Six lessons forming the authorized course of instruction for the children of Bands of Hope under 16 years of age. By the Rev. G. B. Charles, B.A. London: Church of England Temperance Society. 4d.

The Needs of Man: A Book of Suggestions. By W. Winslow Hall, M.D. London: Swan, Sonnenschein and Co., Ltd. 1905. 3s. 6d.

Indigestion: The [illegible] and Treatment [illegible] of the Functional Derangements of the Stomach. By George Horsnell, M.D.Lond. Third edition. London: Henry J. Glaisher. 1905. 5s.

*** In forwarding books the publishers are requested to state the selling price.

CALENDAR OF THE ASSOCIATION.

Month.	Day of Week.	Meetings to be Held.
Sept.	30 ..SATURDAY...	GLASGOW: Scottish Committee.
Oct.	1.. Sunday .	
..	2 MONDAY ...	
..	3.. TUESDAY ...	LONDON: Premises and Library Committee, 2.30 p.m. LONDON: Public Health Committee. 3.15 p.m. Coventry Division, *Birmingham Branch*, Annual Dinner, Masonic Buildings, Little Park Street, Coventry, 7.30 p.m.
..	4. WEDNESDAY	LONDON: Science Committee, 11 a.m. .. Medico-Political Committee. 2 p.m South-Eastern of Ireland Branch, Victoria Hotel, Kilkenny, 12 noon.
..	5.. THURSDAY...	LONDON: Hospitals Committee, 2 p.m. Cambridge and Huntingdon Branch, Combined Meeting with East Anglian Branch. New Medical Schools, Cambridge, 2.30 p.m.; Lunch, Downing College Hall, 1.30 p.m.
..	6 FRIDAY ...	LONDON: Ethical Committee. 2 p.m .. Arrangements Committee, 2.30 p.m. Scottish Division, *Border Counties Branch*, Galloway Arms Hotel, Newton Stewart, 5 p.m.; Committee Meeting 4.45 p.m. South-Eastern Counties Division, *Edinburgh Branch*, King's Arms Hotel, Melrose, 3 p.m.
..	7.. SATURDAY...	
..	8. Sunday..	
..	9.. MONDAY ...	
..	10 ..TUESDAY ...	LONDON: Organization Committee, 10.30 a.m.
..	11...WEDNESDAY	.. Journal and Finance Committee, 2.15 p.m.
..	12..THURSDAY...	
..	13...FRIDAY ..	Northern Counties of Scotland Branch, Dingwall, 4 p.m. North of England Branch, Durham.
..	14...SATURDAY ..	DUBLIN: Irish Committee, First Meeting.
..	15...Sunday..	
..	16...MONDAY ...	
..	17...TUESDAY ...	Folkestone Division, *South-Eastern Branch*, Victoria Hospital, Folkestone, 2 p.m.
..	18...WEDNESDAY	Central Council, 2 p.m.
..	19 ..THURSDAY...	City Division, *Metropolitan Counties Branch*, Clinical Meeting St. Bartholomew's Hospital, 5 p.m Croydon Division, *South-Eastern Branch*, Cock Hotel, Sutton, 4 p.m.
	20..FRIDAY ...	
	21...SATURDAY...	Aberdeen Branch. Annual Meeting, Grand Hotel, Aberdeen, 1.15 p.m.
..	22.. Sunday..	
..	23...MONDAY ..	
..	24 ..TUESDAY ..	
..	25 ..WEDNESDAY	Brighton Division, *South-Eastern Branch*, Dispensary, 113, Queen's Road, Brighton, 4.30 p.m.
..	26..THURSDAY..	Wandsworth Division, *Metropolitan Counties Branch*, Clapham Junction, 9 p.m.
	27...FRIDAY ...	Guildford Division, *South-Eastern Branch*, Royal Surrey County Hospital Guildford, 4.30 p.m.; Dinner, Lion Hotel, 6.30 p.m.
..	28.. SATURDAY...	Trowbridge Division, *Bath and Bristol Branch*, Town Hall, Marlborough, 3.15 p.m
..	29. Sunday..	
	30...MONDAY ...	
..	31...TUESDAY ...	Shropshire and Mid-Wales Branch, Annual Meeting, Salop Infirmary, 3 p.m. Warrington Division, *Lancashire and Cheshire Branch*.

Month.	Day of Week.	Meetings to be Held.
Nov.	1...WEDNESDAY	
..	2...THURSDAY...	
..	3...FRIDAY ...	
..	4...SATURDAY ...	
..	.. Sunday..	
..	6...MONDAY ...	
..	7 ..TUESDAY ...	
..	8...WEDNESDAY	
..	9...THURSDAY...	
..	10...FRIDAY ...	
..	11...SATURDAY...	
..	12.. Sunday..	
..	13...MONDAY ...	
..	14...TUESDAY ...	
..	15...WEDNESDAY	
..	16...THURSDAY...	
..	17 ...FRIDAY	
..	18...SATURDAY...	
..	19...Sunday..	
..	20...MONDAY ...	
..	21...TUESDAY ...	
..	22 ..WEDNESDAY	Brighton Division, *South-Eastern Branch*, Dispensary, 113, Queen's Road, Brighton, 4.30 p.m.
,	23...THURSDAY...	Wandsworth Division, *Metropolitan Counties Branch*, Worple Hall, Wimbledon, 9 p.m.
..	24...FRIDAY ...	
..	25.. SATURDAY...	
..	26 . Sunday..	
..	27...MONDAY ...	
..	28...TUESDAY ...	
..	29...WEDNESDAY	
..	30...THURSDAY...	
Dec.	1...FRIDAY ...	
..	2...SATURDAY...	
..	3 .. Sunday..	
..	4...MONDAY ...	
..	5...TUESDAY ...	
..	6...WEDNESDAY	
..	7...THURSDAY ...	Altrincham Division, *Lancashire and Cheshire Branch*, Quarterly Meeting, Altrincham.
..	8...FRIDAY ...	
..	9...SATURDAY...	
..	10..Sunday..	
..	11...MONDAY ...	
..	12...TUESDAY ...	
..	13...WEDNESDAY	Central Council, 2 p.m.
..	14...THURSDAY...	Wandsworth Division, *Metropolitan Counties Branch*, Clapham Junction, 9 p.m.
..	15...FRIDAY ...	
..	16 .SATURDAY...	

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL

LONDON: SATURDAY, OCTOBER 7TH, 1905.

CONTENTS.

	Page.
MATTERS REFERRED TO DIVISIONS:	
MEDICO-POLITICAL COMMITTEE.—Selection by the British Medical Association of Candidates for Election as Direct Representatives on the General Medical Council	217
MEETINGS OF BRANCHES AND DIVISIONS:	
Cape of Good Hope, Eastern Province Branch...	219
East Anglian Branch	219
Metropolitan Counties Branch: Wandsworth Division	240
South-Eastern Branch: Isle of Thanet Division	240
South Wales and Monmouthshire Branch: Swansea Division ...	220
ASSOCIATION NOTICES—Branch and Division Meetings to be Held	220
LIBRARY OF THE BRITISH MEDICAL ASSOCIATION ...	221
NAVAL AND MILITARY APPOINTMENTS	221
VITAL STATISTICS...	222
VACANCIES AND APPOINTMENTS	222
BIRTHS, MARRIAGES, AND DEATHS	223
DIARY OF THE WEEK	223
BOOKS, ETC., RECEIVED	223
CALENDAR	224

SPECIAL NOTICE TO MEMBERS.

Every member is requested to preserve this "Supplement," which contains a matter specially referred to Divisions, until the subject has been discussed by the Division to which he belongs.

BY ORDER.

MATTERS REFERRED TO DIVISIONS.

British Medical Association.

MEDICO-POLITICAL COMMITTEE.

SELECTION BY THE BRITISH MEDICAL ASSOCIATION OF CANDIDATES FOR ELECTION AS DIRECT REPRESENTATIVES ON THE GENERAL MEDICAL COUNCIL.

[The following scheme for the above purpose was approved by the Annual Representative Meeting at Oxford, 1904.]

1.—On or before October 1st, 1905, the Medico-Political Committee shall cause to be circulated a notice to every Division in England and Wales advising the Division of the fact that an election of Direct Representatives on the General Medical Council for England and Wales will in the ordinary course take place in November, 1906, and requesting that the matter be taken into consideration, and that the Committee be informed not later than March 31st, 1906, of the names of any person or two persons, legally qualified for election, whom the Division may deem suitable to be nominated on behalf of and supported by the Association, and who shall have signed the declaration appended hereto.

2.—The Committee shall cause a list to be prepared of those persons, legally qualified for election, who shall have been named by Divisions in the manner provided in Clause 1. The said list shall be printed in the BRITISH MEDICAL JOURNAL at the same time as the Notices of Motion for the Annual Representative Meeting, and each constituency shall be requested to adopt such resolutions as may enable its Representative at the ensuing Annual Representative Meeting to give effect to the wishes of the constituency in a vote taken in the manner hereinafter prescribed.

3.—At the time of the Annual Representative Meeting a Special Meeting of Representatives of Divisions in England and Wales shall be convened, to select from the list of nominees of Divisions two persons for nomination as candidates. Voting shall be by show of hands. The two Candidates who receive the greatest number of votes shall be deemed to be the Candidates selected for support by the Association.

4.—The Medico-Political Committee shall arrange that the persons so selected shall be duly nominated, on behalf of the Association, as Candidates for the office of Direct Representatives on the General Medical Council, and every effort shall be made by the Executive of the Association to secure the election of the said Candidates.

DECLARATION BY CANDIDATES.

I, the undersigned, hereby consent that my name be submitted to the Divisions of the Association as willing, if duly elected, to be nominated on behalf of the Association as a Candidate at the election in 1906 of Direct Representatives on the General Medical Council for England and Wales. I agree that, if not selected for nomination by the Association, I will not allow myself to be nominated as a candidate in opposition to any Candidate so selected.

I agree, further, that if nominated by the Association and elected as a Direct Representative on the General Medical Council, I will, in my capacity as such Representative, endeavour in every way in my power to give effect to the wishes and opinions of the British Medical Association as lawfully declared for the time being by the bodies constitutionally authorised to declare such wish and opinions.

Signed.....

Qualifications .....

Address .....

In pursuance of the above instruction of the Representative Meeting, the following letter has been addressed to the Honorary Secretaries of Divisions in England and Wales:

Dear Sir,—I am instructed to remind you that the Annual epresentative Meeting at Oxford approved a scheme (copy enclosed) for the selection of candidates as above stated.

In accordance with the first paragraph of the scheme I am instructed hereby to give you notice that an election of Direct Representatives for England and Wales will take place in November, 1906.

Two vacancies arise through the expiration of the period for which Mr. George Brown and Mr. George Jackson were elected, and Sir Victor Horsley has intimated that, as he does not intend again to be a candidate, he will retire at the same time, in order to save the profession the inconvenience, and the Council the expense, of a separate election.

There will, therefore, be three vacancies to be filled in November, 1906, and if your Division desires to nominate any member or two members of the profession as suitable to receive the support of the British Medical Association in their candidature, will you please notify me not later than March 31st, 1906, in order that the names of all those who have been duly nominated may be included in the list to be submitted to the Annual Representative Meeting?

I enclose a form of declaration for signature by candidates nominated. Will you please return this declaration, duly signed, with any nomination or nominations that your Division may make?

I am, yours faithfully,
J. SMITH WHITAKER,
Medical Secretary.

THE RELATIONS OF THE MEDICAL PROFESSION TO AMBULANCE WORK.

THE FOLLOWING MEMORANDUM WAS SUBMITTED BY THE MEDICO-POLITICAL COMMITTEE TO THE DIVISIONS IN FEBRUARY, 1905.

UNTIL a few years ago the services of medical practitioners in the work of the Ambulance Association were clearly a matter of philanthropy. No honorarium was paid to lecturers, and the examiners received an honorarium which was an acknowledgement but not remuneration for the work done beyond actual instruction. The services of the medical profession were recognized by the conferring of Honorary Life Membership of the St. John Ambulance Association, and in other similar ways.

Within the past few years, owing to the recognition of ambulance work as a subject of technical education, and its consequent claim to participate in local grants, the medical instructors are now in some cases paid a fee for their services. Recently, also, the establishment of ambulance brigades and shield competitions has materially altered the demands of the ambulance services upon the medical profession. Ambulance work has, however, never lost its character of being, in part at least, a philanthropic service by the medical profession. The value to employers of ambulance knowledge in the employés, and the financial responsibility of employers for accidents to workmen, are now greatly extended.

The time seems opportune for a decision by the profession as to (1) how far the ambulance work of the profession should remain philanthropic, and (2) how far it should now be dealt with as a matter of business. The Medico-Political Committee, therefore, thinks it well to refer the whole matter for the consideration of the Divisions, with a view to its decision by the Representative Meeting at Leicester.

QUESTIONS SUBMITTED TO THE DIVISIONS IN FEBRUARY, 1905.

Each Division is asked to answer these specific questions:

(1) Which (if any) of the following services—
(*a*) Ambulance Instruction,
(*b*) Ambulance Examinations,
(*c*) Judging in Ambulance Competitions,
should be treated as a matter of philanthropy?

(2) What arrangement as to fees and other matters would be suitable in each district for those services which the Division considers should be treated as a matter of business?

ABSTRACT OF THE REPLIES OF DIVISIONS TO THE INQUIRIES OF THE COMMITTEE.

45 Divisions replied to the inquiries of the Committee on this subject up to the date of the preparation of the report to the Representative Meeting (April, 1905).

(1) In reply to Question (1), namely:
Which (if any) of the following services—
(*a*) Ambulance Instruction,
(*b*) Ambulance Examinations,
(*c*) Judging in Ambulance Competitions,
should be treated as a matter of philanthropy?:—

As regards (*a*)—
33 Divisions considered that it should be treated as a matter of business,
4 Divisions held that it should be treated in some or all cases as a matter of philanthropy.

As regards (*b*)
33 Divisions considered that it should be treated as a matter of business, and
1 Division that Education Committees should be required to pay the Examiners.

As regards (*c*)
30 Divisions considered that it should be treated as a matter of business,
4 as a matter of philanthropy, and
2 that each case should be dealt with on its merits by the individual practitioner.

In addition to the foregoing replies, dealing with (*a*), (*b*), (*c*) severally, 6 Divisions gave general answers to question (1), to the effect that the matter should be left to individual practitioners, or that it should be gratuitous, except in the case of classes where pupils pay fees, and classes arranged by employers of labour or corporations.

(2) With regard to Question (2), namely:

What arrangement as to fees and other matters would be suitable in each district for those services which the Division considers should be treated as a matter of business?

the replies varied very widely:—

5 Divisions held

that it should be left to individuals to fix their own fees,

2 Divisions

that fees should be fixed according to District or Division, and

2 Divisions

approved the St. John Ambulance scale.

Of those Divisions which named specific amounts—

(*a*) *For Lectures:*

		£	s.	d.	
2 Divisions	suggested	0	10	6	per lecture.
1 Division	,,	0	15	0	,, ,,
10 Divisions	,,	1	1	0	,, ,,
1 Division	,,	3	3	0	per course.*
5 Divisions	,,	5	5	0	,, ,,
1 Division	,,	8	8	0	,, ,,

(*b*) *For Examinations:*

The fees suggested varied from a minimum of 1 guinea to a minimum of 3 guineas.

In some cases it was suggested that the fee should be 1 or 2 guineas and expenses.

One Division suggested an extra charge if the class examined were over 30.

(*c*) *For Judging:*

Very few suggestions were made: 1 guinea, 1 guinea per hour, and 3 guineas, were the amounts named by some Divisions.

The above Report is now reported to the Divisions for their information, in accordance with the Resolution of the Annual Representative Meeting, 1905, at Leicester, viz.:

"*Resolved: That the Medico-Political Committee's report on 'The Relations of the Medical Profession to Ambulance Work' be approved, and reported to the Divisions for their information*" (Minute 107).

The result of the whole discussion is thus to show that the Divisions individually and the Representative Meeting are of opinion that the Ambulance Work of the profession should be treated as a matter of business.

Each Division may now decide for its own area when and what steps should be taken to give effect to this opinion.

* The number of lectures constituting a course being specified by 1 Division as 5, by 1 Division as 6, the others unspecified.

Meetings of Branches and Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* JOURNAL.]

CAPE OF GOOD HOPE, EASTERN PROVINCE BRANCH.

An ordinary meeting of this Branch was held at Steminam Hotel, Grahamstown, on Friday, September 8th.

Confirmation of Minutes.—The minutes of the meeting held on July 14th were read and confirmed.

Proposed Medical Guild for South Africa.—Dr. C. E. JONES-PHILLIPSON of Port Alfred gave a short summary of the discussion on a medical guild for South Africa at the Maritzburg Medical Congress.

The Branch and the Proposed East London Division.—Read a letter from Mr. J. Smith Whitaker on the constitutional relations of the Branch with the proposed East London Division. It was resolved:

That the Council of the Eastern Province Branch and Grahamstown Division be requested to present at the annual meeting a draft of separate rules for the Branch and Division respectively, suitable to the new conditions arising out of the formation of the East London Division.

Nomination of Office-bearers.—In terms of a resolution of December 14th, 1904, nominations for office bearers were called for:—*President-elect:* Dr. C. E. Jones-Phillipson (Port Alfred), Dr. R. C. Mullins (Grahamstown); *Secretary-Treasurer:* Dr. Dr. E. G. D. Drury (Grahamstown); *Council:* Drs. J. B. Greathead (Grahamstown), T. W. Greenlees (Grahamstown), G. E. FitzGerald (Grahamstown), C. J. Hill Aitken (East London), R. Watson (Aliwal North), H. T. Batchelor (Queenstown), J. C. Young (Riebrek East), Temple Smyth (Peddie), C. Porter Mathew (Port Elizabeth), H. M. Chute (King Williamstown), J. Mackinnon (Somerset East). The Secretary was directed to circulate these names with a request for further nominations, and a ballot, on the notice convening the next meeting.

Public Health Bill.—It was resolved:

That this Branch of the British Medical Association respectfully requests that it be given the opportunity of reviewing the proposed new Health Act before it is submitted to Parliament: and that this resolution be forwarded to the Hon. the Colonial Secretary.

Paper.—Dr. C. E. JONES-PHILLIPSON then read a paper on the pathology of the thyroid gland, which was confined to the special condition of exophthalmic goitre, and entered with considerable practical detail into the treatment by Von Merck's antithyroid serum made for Dr. Moebius. It is hoped that the paper will appear in the *South African Medical Record*.

EAST ANGLIAN BRANCH.

The autumn meeting of this Branch was held at the Cups Hotel, Colchester, on Thursday, September 28th.

New Members.—The Council meeting was held before luncheon, when the following were elected as members: Mary C. Bell, M.B., B.S.Lond., Norwich; L. A. Baiss, M.R.C.S., L.R.C.P., Lowestoft; J. G. Gordon-Munn, M.D., Heigham, Norwich; H. C. Haig, M.B., B.S.Lond., Colchester; F. D. Nicholson, M.B., B.C.Cantab., Framlingham.

Spring Meeting.—It was decided to hold the spring meeting at King's Lynn.

Annual Meeting.—The annual meeting was held at two o'clock, Dr. BARTON (Norwich), President, in the chair. Mr. J. D. MALCOLM (Samaritan Free Hospital) read a paper on shock. Dr. SIDNEY CUM (Physician to the Essex and Colchester Hospital) read a paper on precordial murmurs. Major FREEMAN, R.A.M.C., showed some microscopic specimens, including trypanosomes.

METROPOLITAN COUNTIES BRANCH:
Wandsworth Division.

An ordinary meeting was held on Thursday, September 28th, at the Wandsworth Town Hall, Hugh Ker, F.R.C.S.Edin., in the chair.

Confirmation of Minutes.—The minutes of the last meeting in June were read and confirmed.

Resolutions from Lancashire and Cheshire Branch.—Resolutions from the Lancashire and Cheshire Branch were read and referred to the Committee on Contract Practice.

London County Council and Midwives.—The report on the proposed action of the London County Council with reference to midwives, prepared by the Branch Council, was considered, and it was resolved to arrange for an interview at once by deputation with those members of the London County Council representing the area of the Division, the deputation to consist of the Chairman, Honorary Secretary, Drs. Biggs, McManus, and Williams.

Proposed Annual Dinner.—The question of the annual dinner of the Division was considered, when it was resolved to obtain the views and suggestions of the members by issuing reply-paid postcards containing certain queries, the Executive Committee being empowered to act at once in accordance with the replies.

Representation of South London on Central Council.—The subject of the inadequate representation of South London on the Central Council was referred to a Special Committee to thoroughly investigate and report.

Annual Representative Meeting.—Dr. McManus read his report on the Representative Meeting at Leicester, which was received and approved.

Matters Referred to Division.—Various small Committees were then elected, each composed of members of the Executive Committee and ordinary members, to consider and report at certain dates on the several matters that would be referred to the Division for discussion.

Information to Coroners.—It was resolved to print on agendas at stated intervals during the coming session the resolution of last May, whereby the members decided to decline to give any informal information to the coroner or his officer.

Registered Midwives in Area of Division.—It was resolved to print on the agenda issued in January in each year the names and addresses of all registered midwives practising in the area of the Division.

Votes of Thanks.—The meeting concluded with hearty votes of thanks to Dr. McManus and the Chairman.

SOUTH-EASTERN BRANCH:
Isle of Thanet Division.

The twelfth meeting of this Division was held at the Grand Hotel, Broadstairs, on Tuesday, September 26th, Mr. H. G. Biddle in the chair.

Confirmation of Minutes.—The minutes of the last meeting held at Birchington were read and confirmed.

Postponement of Meeting.—A letter was read from the Honorary Secretary of the Folkestone Division saying that the proposed meeting of the Old East Kent District was postponed till October 17th.

School Certificates.—With regard to the question of signing school certificates in Thanet, the Honorary Secretary read to the meeting the information which had been obtained from the educational authorities by the Executive Committee, and also the regulations for the payment for certificates issued by the Kent Educational Committee. Dr. Watts, having read a summary of the action taken by the Division in the matter of school certificates, proposed the following resolution, which was seconded by Dr. Powell, and carried unanimously:

> That the members of the Isle of Thanet Division of the British Medical Association be desired in the Secretary's next circular to decline to furnish school certificates to the Kent Educational Authority for a fee less than half a crown.

Paper.—Dr. F. J. Poynton read a paper entitled, Some Practical Observations upon Meningitis. The paper was discussed and Dr. Poynton gave a demonstration of pathological specimens bearing on the paper.

Annual Representative Meeting.—Dr. Gosse (representative of the Division) gave a report of the matters which came before the meeting of representatives held at Leicester in July, 1905. He dealt with the questions of the obtaining of a Royal Charter for the Association, contract practice, and other medico-political questions.

Next Meeting.—It was decided to ask Dr. Treves to take the chair at the next clinical meeting to be held at Margate.

SOUTH WALES AND MONMOUTHSHIRE BRANCH:
Swansea Division.

The list of Members of the Executive of the Swansea Division of the South Wales and Monmouthshire Branch, which was published in the report of the Division (Supplement, July 8th, 1905, p. 44) was not quite correct; the name of Dr. J. Arnallt Jones should have appeared therein.

To ensure the insertion of notices in this column they must be received at the Central Offices of the Association not later than the first post on Tuesday.

Association Notices.

COUNCIL MEETING.

A Meeting of the Council will be held at 2 o'clock in the afternoon of Wednesday, October 18th, in the Board Room of the Metropolitan Asylums Board, by kind permission of the Board. The offices of the Metropolitan Asylums Board are situate on the Victoria Embankment at the corner of Carmelite Street, and near Blackfriars Bridge.

October 7th, 1905. Guy Elliston, *General Secretary*.

BRANCH AND DIVISION MEETINGS TO BE HELD.

Aberdeen Branch.—The annual meeting of the Aberdeen Branch will be held in the Grand Hotel, Aberdeen, on Saturday, October 21st, at 1.15 p.m.—J. F. Chrisfie, 7, Alford Place, Aberdeen, Honorary Secretary.

Bath and Bristol Branch: Trowbridge Division.—A meeting of the Division will be held at the Town Hall, Marlborough, on October 28th, at 3.15 p.m., when C. J. Cullingworth, M.D., F.R.C.P., will deliver an address, entitled, Oliver Wendell Holmes and the Contagiousness of Puerperal Fever.—J. Tubb-Thomas, D.P.H., Honorary Secretary, Trowbridge, Wilts.

Border Counties Branch.—The next meeting of the Branch will be held at the Infirmary, Dumfries, on Friday, October 20th. The President, Sir J. Crichton-Browne, will take the chair. Communications have been promised by Drs. Kerr, Livingstone, and Law, Dumfries; Dr. Bird, Carlisle; and Dr. Goodchild, Threlkeld. Members desirous of reading papers, show specimens or cases should communicate with F. R. Hill, Honorary Secretary, Warwick Road, Carlisle.

Dorset and West Hants Branch.—A meeting will be held at Herrison, Dorchester, by kind invitation of Dr. P. W. Macdonald, on Wednesday, October 25th, at 2 o'clock. Business: To elect Branch officers for the ensuing year, etc. Members who may have special business to bring before the meeting should communicate with the Honorary Secretary, C. H. Watts Parkinson, Wimborne Minster.

Metropolitan Counties Branch: City Division.—A clinical meeting of this Division will be held on Thursday, October 19th, at 5 p.m., at St. Bartholomew's Hospital, E.C.—E. W. Goodall, Honorary Secretary, The Eastern Hospital, Homerton, N.E.

Metropolitan Branch: Wandsworth Division.—An ordinary meeting will be held at the Alexandra Hotel, Clapham Common, on Thursday, October 26th, at 8.45 p.m. Agenda: (1) Minutes. (2) Correspondence. (3) Questions. (4) Paper by James Morrison, F.R.C.P., on the treatment of the third stage of labour and during the early days of the lying-in. (5) Other business. E. Rowland Fothergill, M.B., Honorary Secretary, Torquay House, Southfields, S.W.

Northern Counties of Scotland Branch.—The autumn meeting of the Branch will be held at Dingwall on Friday, October 13th, at 4 p.m. Further particulars will be sent each member by circular.—J. Munro Moir, Honorary Secretary, 4, Ardross Terrace, Inverness.

North Lancashire and South Westmorland Branch.—A meeting of the Branch will be held on Wednesday, October 25th, in Lancaster, when Mr. Stephen Paget will deliver an address on aural cases in general practice. Members willing to show cases or specimens are requested to send details to A. S. Barling, Honorary Secretary.

North of England Branch.—The next meeting will be held at Durham on Friday, October 13th. Members willing to show cases or specimens, or read papers, are requested to inform one of the Branch Secretaries as soon as possible.—Alfred Cox, J. H. Hunter, Honorary Secretaries.

Shropshire and Mid-Wales Branch.—The annual general meeting of the Branch will be held at the Salop Infirmary on Tuesday, October 31st, at 3 p.m. Members who wish to show patients or specimens, or read papers, will please communicate with me not later than Tuesday, October 17th.—Harold H. B. MacLeod, Honorary Secretary, Clive House, Shrewsbury.

Southern Branch.—This is to give notice that candidates for the office of Representative on the Central Council of the Association should send me their names, each nominated by three electors, on or before October 20th next.—H. J. Manning, Lavender Dock House, Salisbury, Honorary Secretary.

SOUTH-EASTERN BRANCH: ASHFORD DIVISION.—The next meeting will be held at 3.30 p.m. on Wednesday, October 11th, at the house of the Chairman, Mr. C. M. Atkinson. Agenda: Correspondence and preliminary business. Dr. W. J. Tyson of Folkestone will read a paper entitled Some medical subjects not usually written upon. The Chairman invites those present to tea after the meeting.—CLAUDE M. VERNON, Divisional Secretary.

SOUTH-EASTERN BRANCH: BRIGHTON DIVISION.—A meeting will be held at the Dispensary, 113, Queen's Road, Brighton, at 4.30 p.m., on the fourth Wednesday in October (25th), and November (22nd). Members wishing to read papers or show cases at the meetings are requested to give at least a fortnight's notice to the Honorary Secretary, RYDING MARSH, M.D., 49, Sackville Road, Hove.

SOUTH-EASTERN BRANCH: CANTERBURY AND FAVERSHAM DIVISION.—The next meeting will be held at Sheerness on October 12th. Members and friends meet at main entrance of Dockyard at 3.30. The Captain Superintendent has kindly arranged for an officer to show members and their friends over the Dockyard; afterwards the Fleet Surgeon will conduct them round the Hospital. Surgeon Gittings will kindly provide tea at his house, after which Dr. Gosse will read his report of the Representative Meeting, and Surgeon Gittings, R.N., will show some malaria-carrying species of mosquitos caught at Sheerness.—A. R. HENCHLEY, Honorary Secretary and Treasurer, 1, London Road, Canterbury.

SOUTH-EASTERN BRANCH: CROYDON DIVISION.—The next meeting will be held at the Cock Hotel, Sutton, on Thursday, October 19th, at 4 p.m., Dr. W. Gripper (Wallington) in the chair. Dinner at 6 p.m.; charge 5s., exclusive of wine. All members of the South-Eastern Branch are entitled to attend and to introduce professional friends. The Honorary Secretary would be much obliged if members would kindly inform him by post-card whether they intend to be present at the meeting if possible, and if they are likely to remain to dinner. By so doing they will materially facilitate arrangements and promote the success of the meeting. Agenda: (1) Minutes of previous meeting. (2) To elect a Chairman to the next meeting. (3) Report of Direct Representative at the Annual Meeting. (4) Communications from Wandsworth Division. (5) Other business. The following papers will be read:—Mr. F. Swinford Edwards: Some of the More Common Affections of the Rectum and their Treatment. Mr. E. C. Clarke: Eye Strain from a Medical Point of View. Any additional item that may arise will be notified in a subsequent issue of the BRITISH MEDICAL JOURNAL. Members desirous of exhibiting or reading notes of cases are requested to communicate with the Honorary Secretary on or before October 5th.—E. H. WILLOCK, Honorary Secretary, 113, London Road, Croydon.

SOUTH-EASTERN BRANCH: FOLKESTONE DIVISION.—A meeting will be held at the Victoria Hospital, Folkestone, at 2 o'clock, on Tuesday, October 17th. Members wishing to read papers are requested to give at least a fortnight's notice to the Honorary Secretary, P. VERNON DODD, M.D., 14, Manor Road, Folkestone.

SOUTH EASTERN BRANCH: GUILDFORD DIVISION.—The next meeting of this Division will be held at the Royal Surrey County Hospital, Guildford, on Friday, October 27th, at 4.30 p.m. Dinner at 6.30 p.m. at the Lion Hotel. Charge 6s., exclusive of wine. Agenda: (1) Minutes of previous meeting. (2) Contract practice (special SUPPLEMENT of July 22nd). (3) Other business. Dr. Herbert Tilley will give an address on The Diagnosis and Treatment of some of the more Common Diseases of the Nose and Throat. Members desirous of reading papers or showing cases are requested to give at least a fortnight's notice to the Honorary Secretary, who will be glad to hear from any members who intend to be present, and if they are likely to remain to dinner. All members of the South-Eastern Branch are entitled to attend and to introduce professional friends.—E. J. SMYTH, Honorary Secretary, Maythorne, Epsom Road, Guildford.

ULSTER BRANCH.—The autumn meeting of the Branch will be held in the Medical Institute, Belfast, on Wednesday, October 25th, at 4 p.m. Members having papers to read or cases to show are requested to send particulars as soon as possible.—CECIL E. SHAW, M.D., Honorary Secretary, 18, College Square East, Belfast.

BRITISH MEDICAL ASSOCIATION LIBRARY.

BOOKS NEEDED TO COMPLETE SERIES:

The Librarian will be glad to receive any of the following volumes, which are needed to complete series in the Library:

American Climatological Transactions. Vols. 1, 4, 5, 6
——— Dermatological Association Transactions. Vols. 5, 7, 8, and 11.
——— Journal of the Medical Sciences. New series, vols. 4, 5. 1842-3; vols. 14, 15, 1847-8; vols. 18-30. 1850; vol. 33, 1857; vol. 46, 1864-5; vol. 59; or any parts of these vols.
——— Journal of Ophthalmology. Vols. 1-9
——— Laryngological Association. Transactions. Vols. 1-6, 8-e.
American Medical Association. Transactions 1-28, 30, 31.
——— Otological Society. Transactions. Vol. 3, part 2, 1883.
——— Public Health Association. Transactions. Any vols.
Analyst. Vols. 1-24.
Archiv für Dermatologie und Syphilis. Prior to 1874, 1892, and 1893.
Annals of Surgery. Vols. 11, 13-16 and 26-27.
Archives Générales de Médecine. 1831-9 inclusive; 1846-55 inclusive 1857-64 inclusive; 1871.
——— of Ophthalmology. Vols. 1-3, 6, 7, 14-21.
——— of Otology. Vols. 1-7, and 20-22.
——— of Pediatrics. Vols. 1-11.
Asylum Journal of Mental Science. Vol. 1, 1854.
Bentley and Trimen. Atlas of Medicinal Plants.
British Journal of Dermatology. Vol. 2, part 3.
British Laryngological and Rhinological Association. 1900-1-2.
Caledonian Medical Journal. Vol. 1 prior to 1894
Carmichael Essays. Laffan, 1879. Rivington, 1879.
Centralblatt für Augenheilkunde. Hirschberg. All prior to 1891, Index to 1891.
Centralblatt für Bakteriologie. Bound volumes prior to 1890.
——— für klinische Medicin. 1882-3; all 1883, 1891, No. 26; 1892, No. 17
——— für medicinischen Wissenschaften. Vols. 1-19
Congrès Français de Chirurgie. Transactions 1, 2, 3, 6, and 10.
——— Internat. d'Obstétrique et de Gynécologie. 3, Amsterdam, 1899.
Connecticut State Board of Health Report. Vol. xi. 1887-8.
Dermatological Congress. Vienna, 1892, Paris, 1900, and Berlin, 1904.
Dublin Quarterly Journal of the Medical Sciences. Vols. 1, 10, 17, 20, 28, and 35-40.
Edinburgh Obstetrical Society. Transactions. Vol. 5.
Glasgow Medical Journal. 1833-68.
——— Pathological Society. Transactions. Vols. 1 and 2.
Guy's Hospital Gazette. Nos. 1 and 5, 1872; and 1881-1886 inclusive.
Hunterian Transactions containing 46th Report.
Indian Medical Gazette. 1866-84.
International Congress of Hygiene. Congresses 1 to 6 and 10 to 12.
——— Ophthalmological Congress. Transactions of 5th, New York, 1876.
Johns Hopkins Hospital Bulletin. Vols. 1-16.
Journal of Laryngology. Vols. 1-9.
Lancet, August 23rd, 1851
Neurologisches Centralblatt. Nos. 21 [illegible] 4, and 5, 1 [illegible] 11, 12, [illegible]
Ophthalmic Review, January, 1882.
Pediatrics, prior to 1902.
Pollatschek. Therapeutische Leistungen des Jahres. 1894, 1895, 1900.
Provincial Medical and Surgical Journal. March to September, 1841.
Recueil d'Ophtalmologie. 1891, Jan.-June; 1892, December.
Registrar General's Decennial Report, 1871-80.
Revue Générale d'Ophtalmologie. Prior to 1888, and 1891-2.
St. Bartholomew's Hospital Gazette. Vols. 1-6.
St. George's Hospital Gazette, 1-7.
St. Mary's Hospital Gazette, 1-5.
Sei-i-Kwai Medical Journal. Vols. 1-11
Semaine Médicale. Prior to 1890, and title and index to year 1892.
South African Medical Journal. February, April, 1895. And titles for vols. 3 and 4.
University College Hospital Reports. Before 1877 and 1892-3.
Virchow's Archiv. Any vols. prior to 151.
Wiener klinische Wochenschrift. Titles 1892 and 1888. No. 2, 1903, and No. 1, 1904.
Ziemssen's Cyclopaedia. Supplem. vol.
Gale. Surgery. 1563.
Turner (D.). Art of Surgery. Vol. 2. 1725

Applications for duplicates from Branches or Divisions forming libraries may be addressed to the Librarian, 429, Strand.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

FLEET-SURGEON W. H. PATTERSON has been placed on the retired list, with the rank of Deputy-Inspector-General, September 26th. He was appointed Surgeon, March 30th, 1874; Staff Surgeon, March 30th, 1886; and Fleet Surgeon, December 7th, 1890.

The following appointments have been made at the Admiralty: CHARLES W. SHARPLES, Fleet Surgeon, to the *Unicorn*, September 28th; JOHN JENKINS, Fleet Surgeon, to the *St. Vincent*, September 28th; ALASTAIR F. MACKAY, Surgeon, to the *Dwarf*, September 28th; HENRY L. CROCKER, Fleet Surgeon, and LLEWELLYN LINDOP, Surgeon, to the *Ganges*, for Shotley Barracks, October 2nd; ROBERT H. ATKINS, M.B., Surgeon, to the *Ganges* and for the *Caroline*, October 2nd; ALFRED T. GAILLETON, M.B., Surgeon, to the *Ganges*, additional, for dental duties, October 2nd; FREDERICK D. LUMLEY, Staff Surgeon, to the *President*, for study at the West London Hospital, October 2nd; FRANCIS A. JEANS, Fleet Surgeon, to the *Daedalus*, October 3rd; WILLIAM H. NORMAN, Fleet Surgeon, to the Royal Marine Artillery, Eastney, October 3rd.

ROYAL ARMY MEDICAL CORPS.

EXCHANGE.

The charge for inserting notices respecting Exchanges in the Army Medical Department is 5s. 6d., which should be remitted in stamps or post office order with the notice, not later than [illegible] for insertion in the current issue.

Captain, six years' service, home, tour expired, beginning of this year, is willing to exchange to India.—Address No. 5,048, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C.

COLONEL C. H. SWAYNE, D.S.O., is placed on retired pay, September 18th. He entered the service as Assistant Surgeon March 30th, 1870; became Surgeon, March 1st, 1875; Surgeon-Major, October 15th, 1890; Brigade Surgeon, July 24th, 1897; and Colonel, November 5th, 1902. He served with the Nile Expedition in 1884-5 in charge of Dongola Field Hospital (medal with clasp, and Khedive's bronze star), in the Burmese campaign in 1885-6 (medal with two clasps); and with the Tirah Expeditionary Force, on the North West Frontier of India, in 1897-8 (mentioned in dispatches, medal with two clasps, and nominated D.S.O.).

Lieutenant-Colonel T. B. MOFFITT retires on retired pay October 4th. He was appointed Surgeon, March 6th, 1880; Surgeon-Major, March 6th, 1892; and Lieutenant-Colonel, March 6th, 1900. He was with the Chitral Relief Force in 1895.

The undermentioned tour-expired officers are detailed to embark for England during the season 1905-6: First transport *Assaye*, October 6th, from Bombay—Captain E. T. F. BIRRELL, M.B., Northern Command. Captains A. L. A. WEBB and J. G. CHARLTON, Western Command. Second transport *Sicilia*, October 21st from Bombay—Major G. G. ADAMS, Captains M. P. CORFARY, J. B. CAULEY, Eastern Command. Third transport *Plassy*, November 4th, from Bombay—Major F. J. MORGAN, Captains H. P. W. PARROW and J. A. HAYTIGAN, M.D., Northern Command: Captain

A. H. SAFFORD, Eastern Command. Fourth transport *Ionian*, November 24th, from Karachi—Lieutenant-Colonel C. W. JOHNSON, M.B., and Captain G. CARROLL, Eastern Command; Captain P. S. O'REILLY, Western Command; Captain W. L. BENNETT, M.B., Northern Command. Fifth transport *Assaye*, December 9th, from Bombay—Major J. HENNESSY, M.B., and Captain F. M. PARRY, M.B., Western Command; Captains W. L. BAKER and B. R. DINNIS, M.B., Secunderabad Division. Sixth transport *Sicilia*, December 30th, from Karachi—Lieutenant-Colonel R. KIRKPATRICK, M.B., C.M.G., and Captain F. W. COTTON, Northern Command; Captains W. BENNETT, M.B., and F. M'LENNAN, M.B., Eastern Command. Seventh transport *Plassy*, January 20th, 1906, from Bombay—Major W. C. POOLE, M.B., Western Command; Captains A. E. HAMERTON, D.S.O., and A. F. WESTON, Northern Command; Captain J. M. CUTHBERT, M.B., Eastern Command. Eighth transport *Ionian*, January 26th, from Bombay—Lieutenant-Colonel D. WARDROP, M.B., and Captain E. P. SEWELL, M.B., Northern Command; Captain C. H. STRATON, Eastern Command. Ninth transport *Assaye*, February 14th, from Bombay—Lieutenant-Colonel S. TOWNSEND, M.D., Captains F. P. LAUDER and A. C. ADDERLEY, Secunderabad Division. Tenth transport *Sicilia*, March 7th, from Karachi—Major A. R. ALDRIDGE, M.B., Eastern Command; Captains L. WOOD and J. POWELL, M.B., Northern Command. Eleventh transport *Plassy*, March 16th, from Bombay—Lieutenant-Colonel T. DALY, Secunderabad Division; Captains A. D. WARING, M.B., C. H. FURNIVALL, and J. TOBIN, Western Command. Twelfth transport *Ionian*, March 30th, from Bombay—Major C. R. ELLIOTT, M.D., Western Command; Captain W. B. FRY, Northern Command; Captains C. R. L. RONAYNE, M.B., and R. F. ELLERY, Eastern Command.

INDIAN MEDICAL SERVICE.

LIEUTENANT-COLONEL W. G. H. HENDERSON, Bombay Establishment, is granted the temporary rank of Colonel while officiating as Principal Medical Officer, Aden Brigade, from August 4th.

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

MAJOR J. P. RIDDELL, M.B., Scottish Command, R.A.M.C. (Volunteers). Aberdeen Companies, has been nominated a member of the 4th class of the Royal Victorian Order, on the occasion of the review by the King of the Scottish Volunteer Forces at Edinburgh.

VOLUNTEER OFFICERS' DECORATION.

THE date of the award of the Volunteer Officers' Decoration to Major and Honorary Lieutenant-Colonel J. J. DE Z. MARSHALL, East Surrey Bearer Company, R.A.M.C. (Volunteers), should be August 1st, and not as stated in the *Gazette* of September 12th.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

IN seventy-six of the largest English towns, including London, 7,651 births and 4,182 deaths were registered during the week ending Saturday last, September 30th. The annual rate of mortality in these towns, which had been 16.1, 14.3, and 13.8 per 1,000 in the three preceding weeks, rose last week to 14.0 per 1,000. The rates in the several towns ranged from 6.3 in Bournemouth, 6.7 in Wallasey, 7.5 in Kings Norton, 7.6 in Coventry, 7.7 in West Bromwich, 8.2 in York, 9.0 in Burton-on-Trent, and 9.1 in Leyton, to Southampton, and in South Shields, to 18.4 in Plymouth, 18.9 in Swansea, 19.2 in St. Helens, 20.1 in Middlesbrough, 20.2 in Walsall, 20.8 in Bootle, 21.0 in Wolverhampton, and 25.3 in Tynemouth. In London the rate of mortality was 13.9 per 1,000, while it averaged 14.0 per 1,000 in the seventy-five other large towns. The death-rate from the principal infectious diseases in the seventy-six towns averaged 2.0 per 1,000; in London this death-rate was equal to 1.9 per 1,000, while among the seventy-five other large towns the rates ranged upwards to 3.6 in Wigan, 3.7 in Wolverhampton, 3.9 in West Ham, 4.1 in Preston, 4.2 in Middlesbrough, 4.3 in Swansea, 5.1 in Burnley, and 6.1 in Warrington. Measles caused a death-rate of 2.2 in Swansea; scarlet fever of 1.7 in Bootle, whooping-cough of 1.5; "fever" of 1.8 in Wigan; and diarrhœa of 2.5 in West Ham, 2.6 in Willesden, 2.8 in Walsall, 3.1 in Sunderland, 3.7 in Middlesbrough, and 4.6 in Warrington and in Burnley. The mortality from diphtheria showed no marked excess in any of the large towns. No fatal case of small-pox was registered in any of the seventy-six towns last week, and no cases of this disease remained under treatment in the Metropolitan Asylums Hospitals on Saturday last, September 30th. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of last week was 3,591, against 2,982, 3,150, and 3,424 at the end of the three preceding weeks; 509 new cases were admitted during the week, against 443, 469, and 546 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS.

DURING the week ending Saturday last, September 30th, 864 births and 487 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had been 14.0, 15.0, and 13.5 per 1,000 in the three preceding weeks, rose again to 14.5 per 1,000 last week, and was 0.5 per 1,000 above the mean rate during the same period in the seventy-six large English towns. Among these Scotch towns the death-rates ranged from 9.1 in Perth and 10.4 in Paisley to 16.5 in Glasgow and 17.8 in Greenock. The death-rate from the principal infectious diseases averaged 1.7 per 1,000 in these towns, the highest rates being recorded in Dundee and Paisley. The 256 deaths registered in Glasgow included 1 which were referred to measles, 3 to diphtheria, 2 to whooping-cough, and 20 to diarrhœa. Two fatal cases of diphtheria and 2 of diarrhœa were recorded in Edinburgh, 7 of diarrhœa in Dundee, and 1 in Paisley.

HEALTH OF IRISH TOWNS.

DURING the week ending Saturday, September 30th, 630 births and 341 deaths were registered in 21 of the principal Irish towns, as against 619 births and 274 deaths in the preceding period. The annual death-rate in these towns, which had been 16.6, 19.3, and 19.4 per 1,000 in the three preceding weeks, rose to 19.6 per 1,000 in the week under notice, this figure being 5.6 per 1,000 higher than the mean annual rate in the seventy-six English towns for the corresponding period. The figures ranged from 12.3 in Limerick, and 15.8 in Belfast, to 22.6 in Cork, and 24.8 in Londonderry. The zymotic death-rate during the same period, and in the same six Irish towns, averaged 2.8 per 1,000, or 0.4 per 1,000 higher than during the preceding period, the highest figure, 5.0, being recorded in Londonderry. From typhus fever 1 death was registered in Cork, and 1 from diphtheria in Limerick. No deaths were anywhere recorded from small pox, measles, or scarlet fever.

Vacancies and Appointments.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

VACANCIES.

BRADFORD CORPORATION WATERWORKS.—Resident Doctor. Salary, £200 per annum.

BRIGHTON THROAT AND EAR HOSPITAL.—Non-resident House-Surgeon. Salary, £75 per annum. Appointment for six months.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—Assistant House Surgeon. Salary, at the rate of £50 per annum.

CARMARTHEN JOINT COUNTIES ASYLUM.—Second Assistant Medical Officer. Salary, £150 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces a vacancy in the office of Certifying Factory Surgeon at Royton, co. Lancaster.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL AND DISPENSARY.—Senior House Physician and Surgeon. Salary, £120 per annum.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—(1) Two House-Physicians. Salary at the rate of £30 per annum each. (2) Pathologist. Salary, 100 guineas per annum.

CORNWALL COUNTY ASYLUM, Bodmin.—Junior Assistant Medical Officer. Salary, £135, rising to £155 per annum.

DUDLEY: GUEST HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £40 per annum.

EAST LONDON HOSPITAL FOR WOMEN, Shadwell, E.—Assistant Physician.

EDINBURGH HOSPITAL AND DISPENSARY FOR WOMEN AND CHILDREN.—Resident Medical Officer.

HAMPSTEAD BOROUGH.—Medical Officer of Health. Salary, commencing at £600 per annum.

HAMPSTEAD GENERAL HOSPITAL.—Two Honorary Assistant Medical Officers.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House Physicians. Honorarium, £25 for six months.

HOSPITAL FOR WOMEN, Soho Square, W.—(1) House-Physician. Salary, £30 for six months.

HULL CITY AND DISTRICT LUNATIC ASYLUM.—Second Assistant Medical Officer. Salary, £150 per annum.

KENT COUNTY ASYLUM, Barming Heath, Maidstone.—Fourth Assistant Medical Officer. Salary to commence £175 per annum.

LANARK: BELLEFIELD CONSUMPTIVE SANATORIUM.—Resident Physician. Salary to commence £100 per annum.

LEAMINGTON: WARNEFORD HOSPITAL.—House Surgeon. Salary, £100 per annum.

LEEDS HOSPITAL FOR WOMEN AND CHILDREN.—(1) Resident House Surgeon. Salary, at the rate of £80 per annum. (2) Resident Clinical Assistant.

LINCOLN COUNTY HOSPITAL.—Junior Male House Surgeon. Honorarium, £25 for each period of six months.

LINCOLN LUNATIC HOSPITAL, The Lawn.—Assistant Medical Officer. Salary, £100 per annum.

LONDON HOSPITAL, Whitechapel, E.—Assistant Physician.

LOUGHBOROUGH AND DISTRICT GENERAL HOSPITAL AND DISPENSARY.—Resident House-Surgeon. Salary, £80 per annum.

MANCHESTER ROYAL INFIRMARY AND DISPENSARY.—Fourth Honorary Assistant Surgeon.

MARGATE ROYAL SEA-BATHING HOSPITAL.—Resident Surgeon, as Junior and Senior, for six months each. Salary at the rate £80 and £120 per annum respectively.

METROPOLITAN HOSPITAL, Kingsland Road, N.E.—Assistant Physician.

MIDDLESEX HOSPITAL, W.—Assistant Surgeon.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead.—Assistant Physician.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—Junior Assistant Medical Officer. Salary, £70 per annum.

NORTHAMPTON GENERAL HOSPITAL.—Honorary Assistant Physician to Out-patient.

ROYAL FREE HOSPITAL, Gray's Inn Road.—(1) Second Anæsthetist. (2) House Physician. (3) Casualty House Surgeon. (4) Dental Surgeon. (5) Female House Physician. (6) Female House Surgeon. (7) Assistant Anæsthetist.

ROYAL LONDON OPHTHALMIC HOSPITAL, City Road, E.C.—Assistant Surgeon.

STOCKPORT UNION.—Resident Assistant Medical Officer to the Stepping Hill Hospital. Salary, £110, rising to £150 per annum.

ST. THOMAS'S HOSPITAL.—Assistant Surgeon.

WESTMINSTER GENERAL DISPENSARY, Soho.—Resident Medical Officer. Salary, £120 per annum.

WEST RIDING ASYLUM, Wadsley.—Fifth Assistant Medical Officer. Salary, £140, rising to £160 per annum.

APPOINTMENTS.

CARDEW, H. J., M.R.C.S., L.R.C.P., M.A.Cantab., Senior House Surgeon to the Royal South Hants and Southampton Hospital, Southampton.

CORNISH, Charles Vivian, M.R.C.S., L.R.C.P., Resident Medical Officer to the Hampstead General Hospital, N.W.

DE JONG, E. M., M.R.C.S., L.S.A., Certifying Factory Surgeon for the Lymm District, co Chester.

HAWORTH, S. R., M.D., B.S.[rel.], District Surgeon at Van Rhynsdorp, Cape Colony, vice Dr. G. W. Young, resigned.

HAYDON, Gerald E. T., L.S.A., Health Officer for Portland Shire East Riding, Victoria, vice A. G. Meares, L.R.C.P., resigned.

HORTON, William H., M.B., Health Officer for the Port of Kaipara, New Zealand, vice Dr Purchas, resigned.

LEICESTER, J. C. Holdich, M.D., B.S., B.Sc.Lond., F.R.C.S.Eng., Captain, I.M.S., First Surgeon to the Presidency General Hospital, Calcutta.

LEWIS, J. King, M.R.C.S., L.S.A., Certifying Factory Surgeon for the Westbury District, co. Salop.

LEWIS, W. Collins, M.R.C.S., L.R.C.P., Medical Officer of Health for the Borough of Denbigh.

MCCLINTOCK, S. A., M.B., B.S.Edin., House Surgeon to the Singapore General Hospital.

OWEN, A. D., M.R.C.S., L.R.C.P.Lond., Medical Officer to Post-office, Hampton and Hampton Hill.

SMITH, J. Salmon, M.R.C.S., L.R.C.P., Medical Officer of the Colony of Lagos.

STANG, Thomas, L.R.C.P., Health Officer for the Shire of Creswick, Victoria, vice W. Pitcher, L.R.C.P., resigned.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 2s. 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to insure insertion in the current issue.

BIRTHS.

ROWE.—On the 19th Sept., at 260, Woodborough Road, Nottingham, the wife of W. T. Rowe, M.D., B.S Lond., of a son.

TURNER.—On September 4th, at Nagercoil, the wife of Percy B. Turner, M.B., B.S., D.P.H., Medical Officer, the Salvation Army Hospital and Training School, Nagercoil, Travancore, India, of a son.

MARRIAGE.

HICKEY—FLEMING.—On September 25th, at St. Vincent's, Altrincham, by the Rev. Father Ryder, Walter Hickley, M.B., of Berkley Lodge, Altrincham, to Nora Adelaide, youngest daughter of the late John Henderson Fleming, J.P., of Warrington.

DIARY FOR NEXT WEEK.

MONDAY.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square, W., 8 p.m.—General Meeting. 8.30 p.m. Introductory address by the incoming President, Sir Lauder Brunton, and paper by Dr. StClair Thomson: The Cerebral and Ophthalmic Complications of Sphenoidal Sinusitis: a contribution based on two cases with *post-mortem* examinations.

TUESDAY.

MEDICO-LEGAL SOCIETY, 22, Albemarle Street, W., 8 p.m.—Annual General Meeting, 8.30 p.m. Dr. J. G. Garson: Finger-print Evidence.

SOCIETY FOR THE STUDY OF INEBRIETY, 20, Hanover Square, W., 8.30 p.m.—Norman Kerr Memorial Lecture, by Professor Crothers, M.D.

THURSDAY.

BRITISH GYNAECOLOGICAL SOCIETY, 20, Hanover Square, W., 8 p.m.—Dr. Bedford Fenwick: A remarkable case of Pulmonary Embolism. Dr. Frederick Edge: Two specimens of Fibromyoma of the Uterus. Dr. Bedford Fenwick: Four Years' Hospital Abdominal Surgery.

FRIDAY.

CLINICAL SOCIETY OF LONDON, 20, Hanover Square, W., 8.30 p.m.—Dr. David Newman: A Demonstration of the Cystoscopic Appearances in Renal Disease. Paper: Mr. Edred M. Corner: A Case of Tuberculosis in a Diverticulum of the Bladder found in an Inguinal Hernia.

INCORPORATED SOCIETY OF MEDICAL OFFICERS OF HEALTH, 1, Upper Montague Street, Russell Square, 5 p.m.—Annual meeting: Induction of Sir Shirley F. Murphy as President.

POST-GRADUATE COURSES AND LECTURES.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week at 4 p.m. each day: Monday, Skin: Tuesday, Medical: Wednesday, Surgical: Thursday, Surgical: Friday, Ear. Lectures at 5.15 p.m. each day will be given as follows: Monday, Laryngeal Ulcerations and Infiltrations: Tuesday, The Irregular Heart: Wednesday, Senile Insanities: Thursday, The Therapeutics of some Common Ailments.

MOUNT VERNON HOSPITAL, Central Out-patient Department, 7, Fitzroy Square, W., Thursday, at 5 p.m.—Introductory Lecture by Dr. Harry Campbell: The Enlargement of the Chest in Pulmonary Disease.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C., Tuesday and Friday, 3.30 p.m.—Cerebral Localization.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone Road, N.W., 3 p.m.—Pregnancy and Abdomino-Pelvic Tumour: Diagnosis and Treatment.

WEST LONDON POST-GRADUATE COLLEGE, West London Hospital, Hammersmith Road, W.—The following are the arrangements for next week: Wednesday, 5 p.m., Opening Address of Winter Session by the President of the Royal College of Surgeons: Thursday, 3 p.m., Classification of Insanity at Hanwell Lunatic Asylum: Friday, 5 p.m., The Dwelling-house and its Surroundings.

BOOKS, ETC., RECEIVED.

Einfache und sichere identifizierung des Typhusbazillus. Von Dr. Hans Bolt. Jena: Gustav Fischer. 1905. M. 1.

Allgemeine Fieberlehre. Von Dr. Eduard Aronsohn. Berlin: August Hirschwald. 1906. M. 5

Grundriss der Semiotik des Harns. Von Dr. St. Serkowski. Berlin: S. Karger; and London: Williams and Norgate. 1905. 1s. 6d.

Zur krönleinschen Operation. Von Dr. Josef Helbron. Berlin: S. Karger; and London: Williams and Norgate. 1905. 3s. 6d.

Les Traitements des Entérites. Par le Dr. Maurice Jousset. Paris: J. B. Bailliere et Fils. 1906. Fr. 1.50.

The Apsley Cookery Book, containing 448 Recipes for the Uric-acid-free Diet. By Mrs. John J. Webster and Mrs. F. W. Jessop. London: J. and A. Churchill. 1905. 3s. 6d.

Acute Contagious Diseases. By William M. Welch, M.D., and J. F. Schamberg, A.B., M.D. London: Henry Kingston. 1905. 25s.

Twenty-eighth Annual Report of the Board of Health of the State of New Jersey, and Report of the Bureau of Vital Statistics, 1904. Paterson, N.J.: News Printing Co. 1905.

Appendicitis. By John B. Deaver, M.D. Third edition. London: Rebman, Limited. 1905. 30s.

Enlargement of the Prostate. By John B. Deaver, M.D., assisted by Astly Paston Cooper Ashhurst, M.D. London: Rebman, Ltd. 1905. 30s.

Untersuchungen über Kakao. Von Professor Dr. F. Hueppe. Berlin: August Hirschwald. 1905.

A Junior Course of Practical Zoology. By the late A. Milnes Marshall, M.D., D.Sc., M.A., F.R.S., and the late C. Herbert Hurst, Ph.D. Sixth Edition, revised by F. W. Gamble, D.Sc. London: Smith, Elder, and Co. 1905. 10s. 6d.

A World without a Child. By Coulson Kernahan. London: Hodder and Stoughton. 1905. 1s.

A Manual of Surgery. By William Rose, M.B., B.S Lond., F.R.C.S., and Albert Carless, M.S Lond., F.R.C.S. Sixth Edition. London: Bailliere, Tindall, and Cox. 1905. 21s. Flexible leather, 25s.

The Principles and Practice of Medicine. By William Osler, M.D. Sixth Edition. London: Sidney Appleton, and New York: D. Appleton and Co. 1905. 21s.

Hygiene and Public Health. By B. Arthur Whitelegge, C.B., M.D., B.Sc. Lond., F.R.C.P., D.P.H., and George Newman, M.D., D.P.H., F.R.S.E. New Edition. London: Cassell and Co. 1905. 7s. 6d.

A Manual of Chemistry, Inorganic and Organic. By Arthur P. Luff, M.D., B.Sc Lond., F.R.C.P., F.I.C., and Frederic James M. Page, B.Sc.Lond., F.I.C. Third Edition. London: Cassell and Co. 1905. 7s. 6d.

Interview between Sir George Anderson Critchett, F.R.C.S.Edin. (the King's Oculist), Mr. Herbert J. Batten, and Mr. William E. Whiteside, relating to Diseases of the Eye and the Treatment thereof prevailing among Registered Medical Practitioners. Second Edition. London: W. E. Whiteside. 6d.

The Model Kitchen. By Lucy H. Yates. London: Longmans, Green, and Co. 1905. 2s.

Des Indications des Interventions Chirurgicales dans les maladies Internes. Par le Professeur Dr Hermann Schlesinger. Traduction française par les Docteurs L. Lichtwitz et J. Subrazès. Troisième partie. Paris: Vigot Frères. 1905. Fr. 4

Le Poignet et les Accidents du Travail. Par le Docteur Destot. Paris: Vigot Frères. 1905. Fr. 2

Ambulance Examination Questions: being a Catechism on Warwick and Tunstall's First-aid to the Injured and Sick. By D. M. Macdonald, M.B. Bristol: John Wright and Co. 1905. 6d.

Clinical Methods. By Robert Hutchison, M.D., F.R.C.P., and Harry Rainy, M.A., F.R.C.P.Ed., F.R.S.E. Third Edition. London: Cassell and Co. 1905. 10s. 6d.

Medical and Surgical Report of Bellevue and Allied Hospitals in the City of New York. Volume I. 1904. Edited by Alexander Lambert, M.D. (Chairman), W. K. Draper, M.D., B. Farquar Curtis, M.D., and George Woolsey, M.D.

Southern Cross Series. Health Reader. With chapters on Elementary School Hygiene. By J. S. C. Elkington, M.D., D.P.H. New Zealand, Melbourne, and London: Whitcombe and Tombs, Ltd. 1s. 6d.

*** In forwarding books the publishers are requested to state the selling price.

CALENDAR OF THE ASSOCIATION.

Month.	Day of Week.	Meetings to be Held.
Oct.	8...Sunday..	
,,	9...MONDAY ...	
,	10...TUESDAY ...	LONDON: Organization Committee, 10.30 a.m.
,,	11...WEDNESDAY	LONDON: Journal and Finance Committee, 2.15 p.m. Ashford Division, *South-Eastern Branch*, Swanton House, Ashford, 3.30 p.m.
,,	12...THURSDAY...	Canterbury and Faversham Division, *South-Eastern Branch*, Dockyard, Sheerness, 3.30 p.m. Metropolitan Counties Branch, Council Meeting, 5 p.m.
,,	13...FRIDAY ...	Northern Counties of Scotland Branch, Dingwall, 4 p.m. North of England Branch, Durham.
,,	14...SATURDAY ...	DUBLIN: Irish Committee, First Meeting, 1 p.m.
,	15...Sunday..	
,,	16...MONDAY ...	
,,	17...TUESDAY ...	Folkestone Division, *South-Eastern Branch*, Victoria Hospital, Folkestone, 2 p.m.
,,	18...WEDNESDAY	Central Council, 2 p.m.
,,	19...THURSDAY...	City Division, *Metropolitan Counties Branch*, Clinical Meeting, St. Bartholomew's Hospital, 5 p.m. Croydon Division, *South-Eastern Branch*, Cock Hotel, Sutton, 4 p.m. Leigh Division, *Lancashire and Cheshire Branch*, Annual Dinner, Co-operative Rooms, Leigh, 8.15 p.m.
	20...FRIDAY ...	LONDON: Colonial Committee, 2 p.m. Border Counties Branch, Infirmary, Dumfries.
,,	21...SATURDAY...	Aberdeen Branch, Annual Meeting, Grand Hotel, Aberdeen, 1.15 p.m.
,,	22...Sunday..	
,,	23...MONDAY ...	
	24...TUESDAY ...	
,,	25...WEDNESDAY	Brighton Division, *South Eastern Branch*, Dispensary, 113, Queen's Road, Brighton, 4.30 p.m. Dorset and West Hants Branch, Herrison, Dorchester, 2 p.m. North Lancashire and South Westmorland Branch, Lancaster. Ulster Branch, Medical Institute, Belfast, 4 p.m.
,,	26...THURSDAY...	Wandsworth Division, *Metropolitan Counties Branch*, Alexandra Hotel, Clapham Common, 8.45 p.m.
,	27...FRIDAY ...	Guildford Division, *South-Eastern Branch*, Royal Surrey County Hospital, Guildford, 4.30 p.m.; Dinner, Lion Hotel, 6.30 p.m.
,,	28...SATURDAY...	Trowbridge Division, *Bath and Bristol Branch*, Town Hall, Marlborough, 3.15 p.m.
,,	29...Sunday..	
,,	30...MONDAY ...	
,,	31...TUESDAY ...	Shropshire and Mid-Wales Branch, Annual Meeting, Salop Infirmary, 3 p.m. Warrington Division, *Lancashire and Cheshire Branch*.
Nov	1...WEDNESDAY	
	2...THURSDAY...	Wandsworth Division, *Metropolitan Counties Branch*, Bolingbroke Hospital, 4 p.m.
,	3...FRIDAY ...	
,,	4...SATURDAY ...	

Month.	Day of Week.	Meetings to be Held.
Nov.	5...Sunday..	
,,	6...MONDAY ...	
,,	7...TUESDAY ...	
,,	8...WEDNESDAY	
,,	9...THURSDAY...	
,,	10...FRIDAY ...	
,,	11...SATURDAY ..	
,,	12...Sunday..	
	13...MONDAY ...	
,,	14...TUESDAY ...	
,,	15...WEDNESDAY	
,,	16...THURSDAY...	
,,	17...FRIDAY	
,,	18...SATURDAY...	
,,	19...Sunday..	
,,	20...MONDAY ...	
,,	21...TUESDAY ...	
,,	22...WEDNESDAY	Brighton Division, *South-Eastern Branch*. Dispensary, 113, Queen's Road, Brighton, 4.30 p.m.
,,	23...THURSDAY...	Wandsworth Division, *Metropolitan Counties Branch*, Worple Hall, Wimbledon, 8.45 p.m.
,,	24...FRIDAY ...	
,,	25...SATURDAY...	
,,	26...Sunday .	
,,	27...MONDAY ...	
,,	28...TUESDAY ...	
,,	29...WEDNESDAY	
,,	30...THURSDAY...	
Dec.	1...FRIDAY ...	
,,	2...SATURDAY ..	
,,	3...Sunday..	
,,	4...MONDAY ...	
,,	5...TUESDAY ...	
,,	6...WEDNESDAY	
,,	7...THURSDAY ..	Altrincham Division, *Lancashire and Cheshire Branch*, Quarterly Meeting, Altrincham.
,,	8...FRIDAY ...	
,,	9...SATURDAY...	
,,	10...Sunday .	
,,	11...MONDAY ...	
,,	12...TUESDAY ...	
,,	13...WEDNESDAY	Central Council, 2 p.m.
,,	14...THURSDAY...	Wandsworth Division, *Metropolitan Counties Branch*, Battersea Town Hall, 8.45 p.m.
,,	15...FRIDAY ...	
,,	16..SATURDAY ...	
,,	17...Sunday..	
,,	18...MONDAY ...	
,,	19..TUESDAY ...	

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, OCTOBER 14TH, 1905.

CONTENTS.

	Page.
MEETINGS OF BRANCHES AND DIVISIONS: Border Counties Branch: Scottish Division	225
ASSOCIATION NOTICES.—Council Meeting.—Branch and Division Meetings to be Held	225
VITAL STATISTICS...	227
VACANCIES AND APPOINTMENTS	227
BIRTHS, MARRIAGES, AND DEATHS	227
DIARY OF THE WEEK	227
CALENDAR	228

Meetings of Branches and Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* JOURNAL.]

BORDER COUNTIES BRANCH: SCOTTISH DIVISION.

A MEETING of this Division was held in the Galloway Arms Hotel, Newton-Stewart, on Friday, October 6th, Dr. SMITH (Creetown) in the chair.

Papers.—Dr. SMITH read a paper on direct infection in pneumonia. An interesting discussion followed, in which all the members present took part.—Dr. MCKIE (Glenluce) read a paper on a case of pneumothorax.—Dr. LIVINGSTON read notes on two cases of pulmonary embolism occurring during the puerperium.

Proposed Division Library and Relation of Division to Association.—The SECRETARY read a letter from Dr. Maxwell Ross, who was unable to attend the meeting himself, asking the meeting to consider two questions which, had he been present, he would have raised, namely: (1) Question of the formation of a Division library. After some discussion on the subject it was decided to postpone further consideration until the Secretary was able to procure further information regarding the working of libraries in other Divisions. (2) The relation of the Division to the Association. Dr. Ross explained in his letter that the Secretary of the Branch usually resides in Carlisle, and has only an indirect interest in Scottish affairs. That it is therefore anomalous that he should be a member of the Scottish Committee, and Dr. Ross suggested the Division should take steps to have the by-law governing the appointment of the Committee altered so as to make the Secretary of the Scottish Division take the place of the Secretary of the Branch. Dr. Ross further pointed out that when his term of office is over as Representative Councillor his successor will in all probability be an English practitioner, so that unless the change advocated be made two English practitioners will be on the Scottish Committee, and their interest in purely Scottish matters will naturally be very little. It was unanimously agreed that the change advocated by Dr. Maxwell Ross is advisable, and the Secretary was instructed to take steps to bring the wishes of the Division in this matter to the notice of the proper authorities.

Dinner.—The members afterwards dined together in the Galloway Arms Hotel.

☞ *To ensure the insertion of notices in this column they must be received at the Central Offices of the Association not later than the first post on Tuesday.*

Association Notices.

COUNCIL MEETING.

A MEETING of the Council will be held at 2 o'clock in the afternoon of Wednesday, October 18th, in the Board Room of the Metropolitan Asylums Board, by kind permission of the Board. The offices of the Metropolitan Asylums Board are situate on the Victoria Embankment at the corner of Carmelite Street, and near Blackfriars Bridge.

October 7th, 1905. GUY ELLISTON, *General Secretary.*

BRANCH AND DIVISION MEETINGS TO BE HELD.

ABERDEEN BRANCH.—The annual meeting of the Aberdeen Branch will be held in the Grand Hotel, Aberdeen, on Saturday, October 21st, at 1.15 p.m.—Business: (1) Minutes [illegible] Treasurer's report. (2) Election of office-bearers [illegible] Secretary for ensuing year. (3) Selection of place for next summer meeting. After the meeting members will lunch together in the hotel.—J. F. CHRISTIE, 7, Alford Place, Aberdeen; T. FRAZER, 51, Elmbank Terrace, Aberdeen, Honorary Secretaries.

BATH AND BRISTOL BRANCH: TROWBRIDGE DIVISION.—A meeting of the Division will be held at the Town Hall, Marlborough, on October 18th, at 3.15 p.m., when C. Collingwood, M.D., F.R.C.P., will deliver an address, entitled, Oliver Wendell Holmes and the Contagiousness of Puerperal Fever.—J. TUBB-THOMAS, D.P.H., Honorary Secretary, Trowbridge, Wilts.

BIRMINGHAM BRANCH: COVENTRY DIVISION.—The next meeting of this Division will be held on Tuesday, November 7th, at 8.30 p.m., at the Coventry and Warwickshire Hospital. Agenda: (1) Report of Committee on Friendly Societies. (2) Dr. Bateman, of the Medical Defence Union, will give an address on Medical Defence and the Laws relating to the Medical Profession.—E. H. SNELL, Honorary Secretary, Knighton House, Coventry.

BORDER COUNTIES BRANCH.—The next meeting of the Branch will be held at the Infirmary, Dumfries, on Friday, October 20th. The President, Sir J. Crichton-Browne, will take the chair. Communications have been promised by Drs. Kerr, Livingstone, and Law, Dumfries; Dr. Bird, Carlisle; and Dr. Goodchild, Threlkeld. Members desirous of reading papers, show specimens or cases should communicate with F. R. HILL, Honorary Secretary, Warwick Road, Carlisle.

SOUTH WALES AND MONMOUTHSHIRE BRANCH: CARDIFF DIVISION.—The first general meeting of the session 1905-6 will be held at the rooms of the Cardiff Medical Society, 131, Queen Street, on Thursday, October 19th, at 3.15 o'clock. The agenda will include the Chairman's (Charles Vachell, M.D.) address, a resolution *re* the Coroner for South-West London, and papers by Mr. W. Sheen, M.S., Dr. D. R. Paterson, and Mr. Russell Thomas. Tea will be provided, and members are asked to bring medical friends to the meeting.—EWEN J. MACLEAN, M.D., Honorary Secretary, 12, Park Place, Cardiff.

DORSET AND WEST HANTS BRANCH.—A meeting will be held at Herrison, Dorchester, by kind invitation of Dr. P. W. Macdonald, on Wednesday, October 25th, at 2 o'clock. Business: To elect Branch officers for the ensuing year, etc. Members who may have special business to bring before the meeting should communicate with the Honorary Secretary, C. H. WATTS PARKINSON, Wimborne Minster.

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.—A clinical meeting of this Division will be held on Thursday, October 19th, at 5 p.m., at St. Bartholomew's Hospital, E.C.—E. W. GOODALL, Honorary Secretary, The Eastern Hospital, Homerton, N.E.

METROPOLITAN COUNTIES BRANCH: HAMPSTEAD DIVISION.—A meeting of this Division will be held on Friday, October 13th, at 9 p.m., at the Hampstead Conservatoire, Swiss Cottage, N.W.—R. A. YELD, M.D., Honorary Secretary, 29, Platt's Lane, Hampstead.

METROPOLITAN COUNTIES BRANCH: KENSINGTON DIVISION.—An ordinary meeting will be held at the Kensington Infirmary, Marloes Road, Kensington, W., on Wednesday, October 25th, at 5 p.m. Clinical cases will be shown by Dr. H. P. Potter and Dr. Basil Cook.—Dr. CHAS. BUTTAR, Honorary Secretary, 10, Kensington Gardens Square, W.

METROPOLITAN COUNTIES BRANCH: ST. PANCRAS AND ISLINGTON DIVISION.—An ordinary meeting will be held at the Temperance Hospital, Hampstead Road, on Friday, October 20th, at 4 p.m.; tea will be provided. Dr. Francis J. Buckell, the Chairman of the Division, will preside. Agenda: To confirm the minutes of the meeting held on June 22nd. The Chairman will deliver an address. Dr. Walter Smith, Vice-Chairman, will report on the Representative Meeting held at Leicester. Dr. Ford Anderson will open a discussion on the ethical aspects of the hospital question. Such other business as may be brought before an ordinary meeting. Executive Committee at 4 p.m. if required.—WM. WYNN WESTCOTT, M.B., Honorary Secretary, 3, 6, Camden Road, N.

METROPOLITAN BRANCH: WANDSWORTH DIVISION.—An ordinary meeting will be held at the Alexandra Hotel, Clapham Common, on Thursday, October 26th, at 8.45 p.m. Agenda: (1) Minutes. (2) Correspondence. (3) Questions. (4) Paper by James Morrison, F.R.C.P., on the treatment of the third stage of labour and during the early days of the lying-in. (5) Other business.—E. ROWLAND FOTHERGILL, M.B., Honorary Secretary, Torquay House, Southfields, S.W.

NORTH LANCASHIRE AND SOUTH WESTMORLAND BRANCH.—A meeting of the Branch will be held on Wednesday, October 25th, in Lancaster, when Mr. Stephen Paget will deliver an address on aural cases in general practice. Members willing to show cases or specimens are requested to send details to A. S. BARLING, Honorary Secretary.

SHROPSHIRE AND MID-WALES BRANCH.—The annual general meeting of the Branch will be held at the Salop Infirmary on Tuesday, October 31st, at 3 p.m. Members who wish to show patients or specimens, or read papers, will please communicate with me not later than Tuesday, October 17th.—HAROLD H. B. MACLEOD, Honorary Secretary, Clive House, Shrewsbury.

SOUTHERN BRANCH.—This is to give notice that candidates for the office of Representative on the Central Council of the Association should send me their names, each nominated by three electors, on or before October 20th next.—H. J. MANNING, Laverstock House, Salisbury, Honorary Secretary.

SOUTH-EASTERN BRANCH: BRIGHTON DIVISION.—A meeting will be held at the Dispensary, 113, Queen's Road, Brighton, at 4.30 p.m., on the fourth Wednesday in October (25th), and November (22nd). Members wishing to read papers or show cases at the meetings are requested to give at least a fortnight's notice to the Honorary Secretary, RYDING MANN, M.D., 49, Sackville Road, Hove.

SOUTH-EASTERN BRANCH: CROYDON DIVISION.—The next meeting will be held at the Croydon Hotel, on Thursday, October 19th, at 4 p.m., Dr. W. Gripper Waring in the chair. Dinner at 6 p.m.; charge 5s., exclusive of wine. All members of the South-Eastern Branch are entitled to attend and to introduce professional friends. The Honorary Secretary would be much obliged if members would kindly inform him by post-card whether they intend to be present at the meeting if possible and if they are likely to remain to dinner; by so doing they will materially facilitate arrangements and promote the success of the meeting. Agenda: (1) Minutes of previous meeting. (2) To elect a Chairman to the next meeting. (3) Report of Direct Representative at the Annual Meeting. (4) Communications from Wandsworth Division. (5) Communication from Metropolitan Counties Branch *re* payment of medical practitioners called in to assist midwives. (6) Dr. S. Duke Turner will propose that an additional meeting of the Division be held. (7) Other business. Papers: Mr. F. Swinford Edwards, F.R.C.S.; Mr. Ernest Clarke, M.D., F.R.C.S.: Some Frequent Sequelae of Uncorrected Errors of Refraction. Dr. D. S. Barker: The X-Ray Treatment of Ringworm. Mr. C. Wray, F.R.C.S., will show: (1) Two cases of toxic amblyopia cured in fourteen days; (2) two cases of follicular conjunctivitis.—E. H. WILLOCK, Honorary Secretary, 113, London Road, Croydon.

SOUTHERN BRANCH: WINCHESTER DIVISION.—The autumn meeting of this Division will be held on Wednesday, October 25th, at Westbrooke House, Alton, Hants (by the kind invitation of Dr. Briscoe), at 3.45 p.m. Agenda: Mr. D. Browne (Winchester) will read a report of the annual meeting at Leicester. Dr. Bevan (Alton) will read notes on a case of cirrhosis of the liver, with remarks on the causation and treatment. Captain Irvine, R.A.M.C. (Princess Louise Hospital, Alton), will read notes on a case of self-inflicted wound of the throat involving the larynx. Dr. Williams (Alton) will read notes on a case of Addison's disease. Dr. Harman (Winchester) will read notes on a case of membranous colitis still under treatment. Mr. Godwin (Winchester) will read notes on prostatectomy.—H. J. GODWIN, Honorary Secretary and Treasurer, 35, Southgate Street, Winchester.

SOUTH-EASTERN BRANCH: FOLKESTONE, MAIDSTONE, CANTERBURY ASHFORD, DOVER, AND THANET DIVISIONS.—A combined meeting of these Divisions will be held at the Victoria Hospital, Folkestone, on Tuesday, October 17th, at 2.30 p.m. The Chairman, Dr. Percy Lewis, invites members to luncheon at 22, Manor Road, at 1 o'clock. Acceptances should be sent to the Honorary Secretary before October 13th. Agenda:—Papers: Some Recent Work in Relation to the Etiology of Cancer of the Tongue, with lantern illustrations, by G. L. Cheatle, C.B., F.R.C.S. Summer Diarrhœa, by M. G. Yunge-Bateman, D.P.H. (In reserve): The Relation of Hospitals to the General Practitioner, by J. D. C. Howden, M.D. Interesting cases will be shown. Also a newly invented "equipoise bed." All members of the South-Eastern Branch are invited to attend and introduce professional friends.—P. VERNON DODD, Honorary Secretary, 14, Manor Road, Folkestone.

SOUTH-EASTERN BRANCH: GUILDFORD DIVISION.—The next meeting of this Division will be held at the Royal Surrey County Hospital, Guildford, on Friday, October 27th, at 4.30 p.m. Dinner at 6.30 p.m. at the Lion Hotel. Charge 6s., exclusive of wine. Agenda: (1) Minutes of previous meeting. (2) Contract practice (special SUPPLEMENT of July 22nd). (3) Other business. Dr. Herbert Tilley will give an address on The Diagnosis and Treatment of some of the more Common Diseases of the Nose and Throat. Paper by Mr. G. Sichel: Some Remarks on Radiotherapy. Members desirous of reading papers or showing cases are requested to give at least a fortnight's notice to the Honorary Secretary, who will be glad to hear from any members who intend to be present, and if they are likely to remain to dinner. All members of the South-Eastern Branch are entitled to attend and to introduce professional friends.—E. J. SMYTH, Honorary Secretary, Maythorne, Epsom Road, Guildford.

SOUTH-EASTERN BRANCH: REIGATE DIVISION.—The annual meeting of this Division will be held at the White Hart Hotel, Reigate, on Thursday, October 19th, at 4.30 p.m., Dr. C. Caldecott in the chair. Agenda: Minutes of last meeting. To elect the officers of the Division for the ensuing year. E. Bromet, M.A., will give a report of the meeting at Leicester. Dr. Caldecott: The Employers' Liability Act and its Influence on the Medical Work in the District. About 5.15 p.m.: Dr. G. H. Savage, Consulting Physician for, and Lecturer on, Mental Diseases, Guy's Hospital, Consulting Physician, Earlswood Asylum, will give an address, "Social Misfits Due to Mental Disorder." Dinner at 6.30 p.m. All members of the South-Eastern Branch are entitled to attend and to introduce professional friends.—W. A. BERRIDGE, Honorary Secretary, 158, Station Road, Redhill.

ULSTER BRANCH.—The autumn meeting of the Branch will be held in the Medical Institute, Belfast, on Wednesday, October 25th, at 4 p.m. Members having papers to read or cases to show are requested to send particulars as soon as possible.—CECIL E. SHAW, M.D., Honorary Secretary, 18, College Square East, Belfast.

YORKSHIRE BRANCH.—The next meeting of the Branch will be held at the Grand Hotel, Scarborough, on Saturday, October 14th, at 4.45 p.m., when the following business will be transacted and papers read. Papers and cases: (1) Dr. Solly (Harrogate): (*a*) Notes of a Case of Perinephritic Abscess; (*b*) a Case illustrating the Influence of Sodium Chloride in the Œdema of Chronic Renal Disease. (2) Dr. Moynihan (Leeds): A series of Cases of Removal of the Prostate and Prostatic Urethra for Senile Enlargement. (3) Dr. Tregelles Fox (Leeds): A Plea for the Habitual Performance of *Post Mortems* in General Practice. (4) Dr. Trevelyan (Leeds): Some Cases of General Paralysis of the Insane recently seen in Hospital Practice. (5) Dr. C. S. Salter (Scarborough): A Case of Perforated Gastric Ulcer with Sequelæ. The Council will meet at 4.10 p.m. Members and friends will dine at the Grand Hotel at 6.30. As a number of members will be accompanied by their wives it has been decided to invite ladies to the dinner. Members who intend staying for the dinner, or the week end, are requested to communicate with Dr. Giles, 4, Filey Road, Scarborough, as soon as possible, so that the necessary arrangements may be made. Special terms at the rate of 10s. 6d. per day, including the dinner, have been arranged for. Cheap return tickets can be obtained at Leeds. A number of members will go to Scarborough on Friday evening. There will be golf at Ganton on Saturday morning.—ADOLPH BRONNER, Honorary Secretary, 33, Manor Road, Bradford.

LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

MEMBERS are reminded that the Library and Writing Rooms of the Association are fitted up for the accommodation of the members in commodious apartments, at the office of the Association, 429, Strand. The rooms are open from 10 a.m. to 5 p.m. Members can have their letters addressed to them at the office.



SIR THOMAS BROWNE.

From the Norwich Portrait.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

In seventy-six of the largest English towns, including London, 7,972 births and 4,641 deaths were registered during the week ending Saturday last, October 7th. The annual rate of mortality in these towns, which had been 14.3, 13.8, and 14.0 per 1,000 in the three preceding weeks, declined again to 13.5 per 1,000 last week. The rates in the several towns ranged from 3.7 in King's Norton, 4.3 in Hornsey, 5.5 in Hastings, 7.3 in Southampton, 7.5 in Wallasey, 7.6 in York, 8.4 in Grimsby, and 8.5 in Croydon, to 17.8 in Wolverhampton, 17.9 in Swansea, 18.0 in Blackburn, 18.6 in Newport (Mon.), 18.7 in Bury, 20.5 in Wigan and in Sunderland, 21.9 in Merthyr Tydfil, and 26.3 in Tynemouth. In London the death-rate was 13.2 per 1,000, while it averaged 13.6 per 1,000 in the seventy-five other large towns. The death-rate from the principal infectious diseases averaged 1.5 per 1,000 in the seventy-six towns; in London this death-rate was equal to 1.3 per 1,000, while among the seventy-five other large towns the rates ranged upwards to 3.1 in Walthamstow, 3.2 in Salford, 3.3 in Bootle, 3.4 in Sunderland, 3.6 in Bury, 3.7 in Wolverhampton, 4.2 in Smethwick, 4.7 in Blackburn, and 4.9 in Merthyr Tydfil. Measles caused a death-rate of 1.2 in Blackburn, 1.3 in Gateshead, and 1.6 in Swansea; scarlet fever of 1.6 in Blackburn, and 2.5 in Bootle; diphtheria of 1.4 in South Shields; whooping-cough of 1.5 in West Hartlepool; and diarrhœa of 2.1 in West Ham and in Wolverhampton, 2.2 in Walsall, 2.6 in Burnley, 2.7 in Sunderland, 3.3 in Smethwick, and 3.6 in Bury. The mortality from "fever" showed no marked excess in any of the large towns. No fatal case of small-pox was registered last week in any of the large towns, and no small-pox patients were under treatment during the week in the Metropolitan Asylums Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had been 3,150, 3,424, and 3,591 at the end of the three preceding weeks, had further risen to 3,789 at the end of last week; 527 new cases were admitted during the week, against 469, 546, and 509 in the three preceding weeks.

Vacancies and Appointments.

VACANCIES.

BIRMINGHAM: GENERAL HOSPITAL.—House-Surgeon. Salary at the rate of £50 per annum.

BOURNEMOUTH: ROYAL BOSCOMBE AND WEST HANTS HOSPITAL. House Surgeon. Salary, £80 per annum.

BRIGHTON THROAT AND EAR HOSPITAL.—Non-resident House-Surgeon. Salary, £75 per annum. Appointment for six months.

BRISTOL ROYAL INFIRMARY.—House Surgeon. Salary, £100 per annum.

CARMARTHEN JOINT COUNTIES ASYLUM.—Second Assistant Medical Officer. Salary, £150 per annum.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL AND DISPENSARY.—Senior House Physician and Surgeon. Salary, £120 per annum.

CORNWALL COUNTY ASYLUM, Bodmin.—Junior Assistant Medical Officer. Salary, £135, rising to £155 per annum.

EAST LONDON HOSPITAL FOR WOMEN, Shadwell, E.—Assistant Physician.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell.—Resident Medical Officer. Salary, £100 per annum.

HAMPSTEAD BOROUGH.—Medical Officer of Health. Salary, commencing at £600 per annum.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—House Surgeon. Salary, £20 for six months, and a washing allowance.

HULL CITY AND DISTRICT LUNATIC ASYLUM.—Second Assistant Medical Officer. Salary, £150 per annum.

HULME DISPENSARY.—House-Surgeon. Salary, £150 per annum.

LANCASTER COUNTY LUNATIC ASYLUM. Assistant Medical Officer. Salary commencing £150 per annum.

LEAMINGTON: WARNEFORD HOSPITAL.—House Surgeon. Salary, £100 per annum.

LINCOLN COUNTY HOSPITAL.—Junior Male House Surgeon. Honorarium, £25 for each period of six months.

LINCOLN LUNATIC HOSPITAL, The Lawn.—Assistant Medical Officer. Salary, £100 per annum.

LONDON HOSPITAL MEDICAL COLLEGE.—Demonstrator of Biology. Salary, £90 per annum.

LONDON HOSPITAL, Whitechapel, E.—Assistant Physician.

METROPOLITAN HOSPITAL, Kingsland Road, N.E.—Assistant Physician.

MIDDLESEX HOSPITAL, W.—Assistant Surgeon.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—Junior Assistant Medical Officer. Salary, £70 per annum.

NORTHAMPTON GENERAL HOSPITAL.—Honorary Assistant Physician to Out-patient.

PADDINGTON GREEN CHILDREN'S HOSPITAL, W.—(1) House-Physician. (2) House-Surgeon. Salary at the rate of 50 guineas per annum each.

PLAISTOW: ST MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Assistant Resident Medical Officer. Salary at the rate of £80 per annum.

PORTSMOUTH BOROUGH ASYLUM.—Assistant Medical Officer. Salary, £150, rising to £200 per annum.

QUEEN'S JUBILEE HOSPITAL, Earl's Court, S.W.—(1) Resident House Physician. (2) Resident House Surgeon. Salary at the rate of £60 per annum each.

SALISBURY: FISHERTON ASYLUM.—Junior Assistant Medical Officer. Salary, £120 per annum.

TEIGNMOUTH HOSPITAL.—House Surgeon. Salary, £70 per annum.

TOTTENHAM HOSPITAL, N.—House-Physician. Salary at the rate of £60 per annum.

WEST RIDING ASYLUM, Wadsley.—Fifth Assistant Medical Officer. Salary, £140, rising to £160 per annum.

YORKSHIRE INEBRIATES' REFORMATORY, Cattal, near York.—Medical Superintendent. Salary, £400 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces vacancies in the office of Certifying Factory Surgeon at Harris, co. Inverness, and Hailsham, co. Sussex.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements under Births, Marriages, and Deaths is 5s. 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to insure insertion in the current issue.

MARRIAGES.

CAMERON—LAVERIE.—At the Caledonian Hotel, Inverness, on October 4th, by the Rev. R. L. Wiseman, Fortrose, assisted by the Rev. [illegible] McRae, Beauly, John Cameron, M.B., C.M., to Isabella Laverie, L.L.A., elder daughter of Charles Laverie, B.A., The Rectory, Fortrose.

KING—SHARP.—On October 3rd, at St. Andrew's Church, Derby, by the Rev. M. H. Pitts-Tucker, M.A., Vicar of St. James's Church, Derby, assisted by the Rev. R. A. H. Hay, M.A., Vicar of St. Andrew's, Derby, and the Rev. J. Blake-Millward, James W. King, M.B., B.S., of St. Leonard's House, Osmaston Road, Derby, eldest son of the Rev. James King, of Huddersfield, to Bertha, only daughter of Dr. J. A. Sharp, of Reading, formerly of Derby.

TAYLOR—BOWRING.—On October 5th, at Christ Church, Linnet Lane, Liverpool, by the Rev. T. W. M. Lund, assisted by the Rev. Canon Irving, William A. Taylor, M.B., C.M., Perth, son of the late Charles Selkrig Taylor, S.S.C., Edinburgh, to Mary Caroline, daughter of the late John Bowring, of Liverpool.

DEATH.

GRANT.—On October 5th, at 4, Sackville Gardens, Hove, Surgeon-Major Alexander Gibb Grant, Bengal Army (retired).

DIARY FOR NEXT WEEK.

TUESDAY.

CHELSEA CLINICAL SOCIETY, Chelsea Dispensary, Manor Street, King's Road, 8.30 p.m.—Opening meeting of the session. Introductory address by the President, Dr. J. Barry Ball, on the Nasal Treatment of Asthma.

PATHOLOGICAL SOCIETY OF LONDON, 20, Hanover Square, 8.30 p.m.—Dr. W. P. Herringham and Dr. W. S. A. Griffith: Necrosis of Cortex of both Kidneys, with Thrombosis of Cortical Arteries, occurring in the Puerperal State. Dr. L. S. Dudgeon and Dr. E. A. Ross: Phagocytosis. Dr. H. A. Ledlard: (1) Diverticulum of Bladder. (2) Tuberculosis of Thyroid.

THURSDAY.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM, 11, Chandos Street, W.—8 p.m., Card specimens. 8.30 p.m., Presidential address by Mr. Priestley Smith. Papers: Dr. [illegible] Green, Colour Systems; Mr. C. Marcus, A Pupil [illegible] non in Iridoplegia; Mr. S. Lindsay Johnson, A [illegible] Spectacle Lens; Mr. Leslie Paton, The Value of the Opsonic Index for Tubercle in Phlyctenulae.

FRIDAY.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN, 11, Chandos Street, W., 5.30 p.m.—Cases and Specimens: Messrs. T. R. Whitham, G. A. Sutherland, G. Carpenter, E. [illegible] hart Mummery, and W. Milner [illegible] cation—Dr. J. E. H. Sawyer [illegible] Angeioma of the Liver (Lantern Demonstration).

POST-GRADUATE COURSES AND LECTURES.

CHARING CROSS HOSPITAL, Thursday, 4 p.m.—Surgical Cases.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chandos Street, W.C.—The following clinical demonstrations have been arranged for next week at 4 p.m. each day: Monday, Skin; Tuesday, Medical; Wednesday, Surgical; Thursday, Surgical; Friday, Eye. [illegible] will be given as follows: [illegible] and [illegible] Wednesday, The Relation of Epilepsy to Insanity; Thursday, Climacteric Insanities.

MOUNT VERNON HOSPITAL, Central Out-patient Department, 7, Fitzroy Square, W., Thursday, 5 p.m.—Pulmonary Tuberculosis in Children. Lecture I.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Tuesday, 3.30 p.m., Method of Examining Cases. Friday, 3.30 p.m., Electrical Testing.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Tottenham, N., Friday, 4.30 p.m.—Opening Lecture of Winter Session by Dr. Percy Kidd: Per[illegible]

WEST LONDON POST-GRADUATE COLLEGE, West London Hospital, Ham[illegible]ersmith, W. [illegible] following lectures and demonstrations have been arranged for next week at 4 p.m. each day: Monday, Medical Superintendent's Out-patients; Tuesday, Diseases of the Nose [illegible] Throat; Wednesday, Practical Medicine; Thursday, Intemperance in Relation to Mental Diseases.

CALENDAR OF THE ASSOCIATION.

Month.	Day of Week.	Meetings to be Held.
Oct.	13...FRIDAY ...	Hampstead Division, *Metropolitan Counties Branch*, Hampstead Conservatoire, Swiss Cottage, N.W., 9 p.m.
,,	14...SATURDAY ...	DUBLIN: Irish Committee, First Meeting, 1 p.m. Yorkshire Branch, Grand Hotel, Scarborough, 4.45 p.m.: Council, 4.10 p.m.; Dinner, 6.30 p.m.
,,	15...Sunday..	
,,	16...MONDAY ...	
,,	17...TUESDAY ...	Folkestone, Maidstone, Canterbury, Ashford, Dover, and Thanet Divisions, *South-Eastern Branch*, Combined Meeting, Victoria Hospital, Folkestone, 2.30 p.m.
,,	18...WEDNESDAY	LONDON: Hospitals Committee, 12 noon. Central Council, 2 p.m.
,,	19...THURSDAY...	Cardiff Division, *South Wales and Monmouthshire Branch*, Cardiff Medical Society, 131, Queen Street, 3.15 p.m. City Division, *Metropolitan Counties Branch*, Clinical Meeting, St. Bartholomew's Hospital, 5 p.m. Croydon Division, *South-Eastern Branch*, Cock Hotel, Sutton, 4 p.m. Leigh Division, *Lancashire and Cheshire Branch*, Annual Dinner, Co-operative Rooms, Leigh, 8.15 p.m. Reigate Division, *South-Eastern Branch*, Annual Meeting, White Hart Hotel, Reigate, 4.30 p.m.; Dinner, 6.30 p.m.
,,	20..FRIDAY ...	LONDON: Colonial Committee, 2 p.m. Border Counties Branch, Infirmary, Dumfries. St Pancras and Islington Division, *Metropolitan Counties Branch*, Temperance Hospital, Hampstead Road, 4 p.m.
,,	21...SATURDAY...	Aberdeen Branch, Annual Meeting, Grand Hotel, Aberdeen, 1.15 p.m.
,,	22...Sunday..	
,,	23...MONDAY ...	
	24...TUESDAY ...	
,,	25..WEDNESDAY	Brighton Division, *South-Eastern Branch*, Dispensary, 113, Queen's Road, Brighton, 4.30 p.m. Dorset and West Hants Branch, Herrison, Dorchester, 2 p.m. Kensington Division, *Metropolitan Counties Branch*, Kensington Infirmary, Marloes Road, Kensington, W., 5 p.m. North Lancashire and South Westmorland Branch, Lancaster Ulster Branch, Medical Institute, Belfast, 4 p.m. Winchester Division, *Southern Branch*, Westbrooke House, Alton, Hants, 3.45 p.m.
,,	26...THURSDAY...	Wandsworth Division, *Metropolitan Counties Branch*, Alexandra Hotel, Clapham Common, 8.45 p.m.
,,	27..FRIDAY ...	Guildford Division, *South-Eastern Branch*, Royal Surrey County Hospital Guildford, 4.30 p.m.; Dinner, Lion Hotel, 6.30 p.m.
,,	28..SATURDAY...	Trowbridge Division, *Bath and Bristol Branch*, Town Hall, Marlborough, 3.15 p.m.
,,	29...Sunday..	
,,	30...MONDAY ...	
,,	31...TUESDAY ...	Shropshire and Mid-Wales Branch, Annual Meeting, Salop Infirmary, 3 p.m. Warrington Division, *Lancashire and Cheshire Branch*.
Nov	1...WEDNESDAY	
	2..THURSDAY...	LONDON: Hospitals Committee, 2.15 p.m. Wandsworth Division, *Metropolitan Counties Branch*, Bolingbroke Hospital, 4 p.m.
,,	3...FRIDAY ...	
,,	4...SATURDAY ...	

Month.	Day of Week.	Meetings to be Held.
Nov.	5..Sunday..	
,,	6..MONDAY ...	
,,	7...TUESDAY ...	Coventry Division, *Birmingham Branch*, Coventry and Warwickshire Hospital, 8.30 p.m.
,,	.. WEDNESDAY	
,,	9...THURSDAY...	
,,	10...FRIDAY ...	
,,	11...SATURDAY...	
,,	12...Sunday..	
,,	13...MONDAY ...	
,,	14...TUESDAY ...	LONDON: Organization Committee, 10.30 a.m.
,,	15...WEDNESDAY	
,,	16...THURSDAY...	City Division, *Metropolitan Counties Branch*, Manor House, Upper Clapton Road, 8.30 p.m.
,,	17...FRIDAY ...	
,,	18...SATURDAY...	
,,	19...Sunday..	
,,	20...MONDAY ...	
,,	21...TUESDAY ...	
,,	22...WEDNESDAY	LONDON: Medico-Political Committee, 3 p.m. Brighton Division, *South-Eastern Branch* Dispensary, 113, Queen's Road, Brighton, 4.30 p.m.
,,	23...THURSDAY...	Wandsworth Division, *Metropolitan Counties Branch*, Worple Hall, Wimbledon, 8.45 p.m.
,,	24...FRIDAY ...	
,,	25...SATURDAY...	
,,	26...Sunday..	
,,	27...MONDAY ...	
,,	28...TUESDAY ...	LONDON: Public Health Committee, 3 p.m.
,,	29...WEDNESDAY	
,,	30...THURSDAY...	
Dec.	1...FRIDAY ...	
,,	2...SATURDAY...	
,,	3...Sunday..	
,,	4...MONDAY ...	
,,	5...TUESDAY ...	
,,	6...WEDNESDAY	
,,	7...THURSDAY ...	Altrincham Division, *Lancashire and Cheshire Branch*, Quarterly Meeting, Altrincham.
,,	8...FRIDAY ...	
,,	9...SATURDAY...	
,,	10...Sunday..	
,,	11...MONDAY ...	
,,	12...TUESDAY ...	LONDON: Organization Committee, 10.30 a.m.
,,	13...WEDNESDAY	Central Council, 2 p.m.
,,	14...THURSDAY...	Wandsworth Division, *Metropolitan Counties Branch*, Battersea Town Hall, 8.45 p.m.
,,	15...FRIDAY ...	LONDON: Ethical Committee, 2 p.m.
,,	16...SATURDAY...	
,,	17..Sunday..	
,,	18...MONDAY ...	
,,	19...TUESDAY ...	

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

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CONTENTS.

	Page
MEETINGS OF BRANCHES AND DIVISIONS:	
Birmingham Branch	229
Fife Branch	229
Lancashire and Cheshire Branch: Blackburn Division	230
South-Eastern of Ireland Branch	230
Yorkshire Branch: Bradford Division	230
ASSOCIATION NOTICES.—NOTICE OF CHANGES OF BOUNDARIES OF DIVISIONS AND BRANCHES.—BRANCH AND DIVISION MEETINGS TO BE HELD	231
MEMBERS ELECTED DURING THE SEPTEMBER QUARTER	232
CENTRAL MIDWIVES BOARD	233
VITAL STATISTICS	233
NAVAL AND MILITARY APPOINTMENTS	234
VACANCIES AND APPOINTMENTS	235
DIARY OF THE WEEK	235
BIRTHS, MARRIAGES, AND DEATHS	235
CALENDAR	236

Meetings of Branches and Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* JOURNAL.]

BIRMINGHAM BRANCH.

THE first meeting of the session was held on October 12th, at 3 30, the chair being taken by the PRESIDENT, Sir Thomas Chavasse.

Confirmation of Minutes.—The minutes of the last meeting were read, confirmed, and signed.

Proposed Alteration of Rules.—The meeting was then declared special by the CHAIRMAN, and the following resolution was put from the chair, seconded by Dr. PLUMMER, and carried:

That the rules be so altered as to admit the Chairman of the Pathological and Clinical Section being *ex officio* a member of the Council.

Date of Annual Dinner.—A second resolution was then put from the chair, seconded by Mr. MESSITER, and carried:

That the date of the annual dinner be altered from the date provided in the rules to the date of the first meeting in October.

The meeting was then declared ordinary.

FIFE BRANCH.

THE third annual meeting of this Branch was held at Thornton on June 1st, Dr. T. G. NASMYTH (Cupar Fife), President, in the chair.

Election of President.—Dr. Hay Leslie, President-elect, was elected President of the Branch for the ensuing year in succession to Dr. Nasmyth, who now becomes a Past-President and a member of Branch Council. Dr. Hay then took the chair, and, on the motion of Dr KYLE, a hearty vote of thanks was unanimously passed to the retiring President for his services during the past year.

Election of Officers.—On the motion of the PRESIDENT, seconded by Dr. CRAIG, Dr. John Aitken (Buckhaven) was elected President-elect for the current year. Drs. Craig, Douglas, Laing, and Orr (Tayport) were re-elected members of Branch Council, and Drs. Dickson, Dow (Dunfermline), and Richardson, new members of Branch Council. Dr. R. Balfour Graham (Leven) was re-elected Honorary Secretary and Treasurer

Annual Representative Meeting.—Dr. LAING, the Representative of the Division at Representative Meetings, then submitted a report of his attendances at these meetings at Oxford last year, and was accorded a hearty vote of thanks for his services and report. Dr. Aitken was appointed Representative of the Division at the forthcoming Representative Meetings of the Association at Leicester.

Report of Branch Council.—The HONORARY SECRETARY then read the report of the Branch Council, which showed that the Council had met three times during the year, and had elected five new members, and that the membership now stood at 75, with 1 "associate" member. One ordinary meeting of the Branch had been held, at which various matters were considered, and the report of this meeting has already appeared in the BRITISH MEDICAL JOURNAL. Professor Chiene, C.B., Edinburgh, at the conclusion of the above meeting, addressed the members on a subject entitled, "Movement is Life," and he was a guest at a dinner subsequently held, along with other gentlemen representing the county. The Central Council, the report went on to show, had declined to accede to the request of the Branch for separate representation on the Central Council, and Fife had again been grouped with Edinburgh for this purpose, and it was for this meeting to give expression to any further opinion on the subject. The funds of the Branch at the end of the financial year stood at £15 2s. 7d. on the credit side. The report of the Branch Council was then unanimously adopted. Dr. Nasmyth was again unanimously and heartily requested to stand as the candidate of the Branch for the Central Council, and each member of Branch Council, it was hoped, would do what he could to induce members to plump for the candidate as the only means of possible success at the poll. Dr. Nasmyth agreed to again place his services at the disposal of the Branch.

Matters referred to Divisions.—The meeting then considered the memorandum on ambulance work, and was of opinion that it should be left to the discretion of the individual member whether any of the work referred to should be done philanthropically, but that where circumstances permitted, or opportunity arose, a fee might be charged. Regarding the Memoranda on Death Registration and the Coroners' Bill the Division approved generally of their provisions. The business for the Representative Meeting being of such magnitude, it was found impossible to go over seriatim all the items, and it was left to the Representative to use his discretion as to

which he should vote for. The proposal of the Wandsworth Division regarding the formation of a benevolent fund in connexion with the Association was, however, specially commended by the meeting as worthy of support by the Representative.

Epsom College.—Dr. T. G. Nasmyth raised the question of the Branch supporting by grant the funds of the Epsom College, and it was agreed to give a donation for this year of £2 2s.

British Medical Benevolent Fund.—Dr. Kyle brought forward also the claims of the British Medical Benevolent Fund, and it was agreed to give a donation for this year also of £1 1s. to its funds. Both of these grants, the Hon. Secretary pointed out, could not meantime be taken from the Branch's ordinary funds, but could be disbursed from the Branch's special fund, which had accrued from the Edinburgh Branch at the reorganization of the Association, and over which the Branch had absolute discretion.

LANCASHIRE AND CHESHIRE BRANCH:

Blackburn Division.

A meeting of this Division was held at the Old Bull Hotel, Blackburn, as arranged, on October 6th. Dr. Cunliffe, the President, thanked the members for having elected him to that office.

Resolution.—It was resolved that Dr. R. C. Holt of Burnley, being the Representative, be made an honorary member of the Blackburn Division for the ensuing year.

Contract Medical Practice.—The recommendations regarding medical contract practice set forth on page 29 of the Supplement for July 22nd were then discussed seriatim. It was resolved that Recommendations 1 to 6 be approved of by this Division. Regarding Recommendation No. 7, it was resolved that in the opinion of the Division there was no necessity to establish a public medical service in Blackburn.

Annual Dinner.—It was resolved that the annual dinner be held on Thursday, November 2nd, at 8.30 p.m., and that it be left to the Secretary to make all arrangements.

SOUTH-EASTERN OF IRELAND BRANCH.

An ordinary meeting of this Branch was held at the Victoria Hotel, Kilkenny, on Wednesday, October 4th, at 2 p.m., Dr. Thomas Laffan in the chair.

Confirmation of Minutes.—The minutes of the last meeting held at Waterford were read, approved, and signed.

Letters.—Letters of apology for inability to attend were read from Drs. Shee and D. Wynne.

Annual Representative Meeting.—Dr. Laffan said it was his duty to give an account of his stewardship as their deputy at the recent Representative Meeting held at Leicester. He should first thank them for the honour they had conferred on him in sending him there. The body was a kind of medical parliament brimful of earnestness and of talent, and destined in the near future to largely influence not merely the fortunes of the Association but those of the whole profession. As he was only a novice there he had mainly taken the part of a mere observer but he had not omitted to take part in every division. He noted that the various proposals emanated from Divisions rather than from individuals, and this would oblige them to formulate their own views before the next annual meeting, so that they might be submitted to the vote of the central body. In England the Divisions contained many members, and it was to them and not to the Branches that most matters were referred for consideration and it was from them that the various proposals emanated. Their Divisions hardly ever met, and he wanted to know, Would Branch under the circumstance be synonymous with Division? The efficient Secretary, Dr. Quirke, should ascertain this, so that a Division meeting might, if necessary, be held immediately after each Branch meeting in future. Some decisions had been arrived at at the Representative Meeting with which he could not coincide. Thus, the vital question of medical defence had received a distinct set back in the interest of the private societies. Here Dr. Laffan entered into a detailed account of the vital importance of medical defence and of the absolute necessity of making it a leading plank of the Association. He criticized a resolution which would allow nurses who had passed an examination to prescribe and thus convert them into quasi-practitioners. He spoke in terms of warm approval of the application for a Royal Charter, and of other items on the programme. He expressed himself less freely on the treatment which the hospital question had received, as well as that accorded to the proposed provision for Parliamentary representation. On both those, he said, the Representative Meeting had gone back on their previous votes. He said they were all familiar with the mischief wrought by Section VI of the Local Government Board (Ireland) Act, 1901, which would never have been placed on the Statute Book if the British Medical Association had a nominee in Parliament. He entered at length into the whole bearing of the subject, and pointed out that if they repealed it in the morning the fund which would be thus set free, being a limited one, would not meet their requirements, so that they were merely beating the air, and, instead, ought to organize deputations to each Board of Guardians, as well as tackle the monstrous abuse of private hospitals generally. He said country practitioners had received the same education and passed the same examinations as the proprietors of these homes and the officers of these hospitals, and he asked how long would the mass of the profession look tamely on at this wholesale robbery which was fast consigning them all to pauperism. He admitted that perhaps 5 per cent. of the surgical cases would from their very rarity properly come under the charge of half a dozen individuals in a few great centres. He concluded by mentioning, by way of illustrating the share which the masses had in their own degradation, the case of a fractured lower maxilla which had recently been sent to a home because the patient was told that he, the speaker, had not the means of treating it. He invited them to ponder on all those matters, and be prepared at the next meeting with some suggestions of a remedial nature.

Vote of Thanks.—A hearty vote of thanks to the Chairman brought the proceedings to a close, when the members dined together.

YORKSHIRE BRANCH:

Bradford Division.

A meeting of this Division was held at the Victoria Hotel, Bradford, on Tuesday, October 10th, Dr. Mitchell, Chairman, presiding.

Confirmation of Minutes.—The minutes of the last meeting and of a meeting of the whole of the profession called together by the Division to consider the question of inviting the Association to hold its annual general meeting in Bradford in 1907 were read and adopted.

Annual Representative Meeting.—Mr. Horrocks read his report on the Annual Representative Meeting of 1905. The Chairman moved a vote of thanks to Mr. Horrocks, which was seconded by Dr. Goyder, supported by Dr. Crowley and received with acclamation.

The Police and Medical Certificates.—Mr. Parkinson moved the following resolution:

> That this Division considers that the action of the Watch Committee in refusing to accept certificates of illness from any other medical man than the police surgeon is unfair to the constable and reflects on the integrity of the profession throughout the city,

which was seconded by Dr. Beckton and supported by Dr. Gray. Drs. Goyder, Harrison, J. H. Bell, Horrocks, Mankell, and Mercer joined in the discussion. Mr. Parkinson replied. Eventually the resolution was negatived.

Removal of Cases to Fever Hospital.—Dr. Mitchell proposed the following resolution:

> That the Division represents to the Health Committee of the Bradford Corporation that cases of infectious disease should be removed to the fever hospital at night as well as by day if desired by the medical practitioner in attendance.

He drew attention to the danger of allowing cases of diphtheria to remain in small cottages all night. The injection of antitoxin or the operation of tracheotomy might be immediately necessary. Dr. Goyder seconded the resolution. Drs. J. H. Bell, Horrocks, Beckton, Crowley, Carroll, and Mercer joined in the discussion. The general feeling of the meeting appeared to be strongly in favour of the resolution, which was adopted unanimously.

Annual Social Event.—The consideration of carrying on the annual social event as inaugurated by the late Medico-Ethical Union was discussed. Every one appeared to be in favour of it and the following Committee was elected to carry it out:—The Chairman, and Drs. Oliver, Carroll, Althorp, Walker, and Metcalfe (Honorary Secretary).

Visit to Sewage Works.—Dr. Crowley drew attention to an invitation from the Sewage Committee to visit the sewage works at Frizinghall. It was agreed that Dr. Crowley should arrange for a suitable time and day and that the secretaries should notify the members of the Division by postcard as to the arrangements made.

☞ *To ensure the insertion of notices in this column they must be received at the Central Offices of the Association not later than the first post on Tuesday.*

Association Notices.

NOTICE OF CHANGES OF BOUNDARIES OF DIVISIONS AND BRANCHES.

The following changes have been made in accordance with the regulations of the Association, and take effect from the date of publication of this notice:

1. That the portion of Heaton Norris indicated in a map furnished by the Lancashire and Cheshire Branch Council be transferred from the Stockport, Macclesfield, and East Cheshire Division to the South Manchester Division.

2. That Crickhowell be transferred from the North Glamorgan and Brecknock Division to the Monmouthshire Division.

3 That Buckingham, Bletchley, Fenny Stratford, Newport Pagnell, Olney, Stony Stratford, and Wolverton be transferred from the Aylesbury Division of the South Midland Branch to the Northamptonshire Division of that Branch.

4 That Tring be transferred from the Aylesbury Division of the South Midland Branch to the Watford Division of the Metropolitan Counties Branch.

5. That Divisions be formed to be known as the East London and Grahamstown Divisions respectively, having the boundaries submitted for approval of the Council, these together constituting the Cape of Good Hope, Eastern Province Branch.

BRANCH AND DIVISION MEETINGS TO BE HELD.

ABERDEEN BRANCH.—The annual meeting of the Aberdeen Branch will be held in the Grand Hotel, Aberdeen, on Saturday, October 21st, at 1.15 p.m.—Business: (1) Minutes (2) Council's report. (3) Treasurer's report. (4) Election of office-bearers for the ensuing year (5) Selection of place for next summer meeting. After the meeting members will lunch together in the hotel.—J. F. CHRISTIE, 7, Alford Place, Aberdeen; T. FRAZER, 51, Elmbank Terrace, Aberdeen, Honorary Secretaries.

BATH AND BRISTOL BRANCH: TROWBRIDGE DIVISION.—A meeting of this Division will be held in the Council Chamber, Town Hall, Marlborough, on Saturday October 28th, at 3.15 p.m. Dr. C. J Cullingworth will deliver an address entitled, Oliver Wendell Holmes and the Contagiousness of Puerperal Fever Agenda: (1) Minutes of last meeting (2) Correspondence. (3) Matters referred to the Division by the Central Council or Representative Meeting, or adjourned from last meeting of the Division. (4) Address by Dr Cullingworth (5) Other business (if any). Tea and refreshments will be provided by the Chairman in the Town Hall at the close of the meeting.—J. TUBB-THOMAS, D.P.H., Honorary Secretary, Trowbridge, Wilts.

BIRMINGHAM BRANCH: CENTRAL DIVISION.—A general meeting of this Division will be held on Tuesday, October 31st, at 3.30 p.m. Business: (1) Dr. Kirby will propose the adoption of the "Bradford Rules" as rules of the Division. (2) The consideration of the recommendations of the Science Co-ordination Committee, on the Co-ordination of the Scientific Work of the Association, its Branches, and Divisions (SUPPLEMENT to the BRITISH MEDICAL JOURNAL, September 30th). (3) Ambulance Work. The Representative Meeting having decided that ambulance work should be treated as a matter of business, to consider what steps should be taken to give effect to this decision in the Division (SUPPLEMENT for October 7th).—E. D. KIRBY, Honorary Secretary, 106, Hagley Road, Birmingham.

BIRMINGHAM BRANCH: COVENTRY DIVISION.—The next meeting of this Division will be held on Tuesday, November 7th, at 8.30 p.m., at the Coventry and Warwickshire Hospital. Agenda: (1) Report of Committee on Friendly Societies. (2) Dr Bateman, of the Medical Defence Union, will give an address on Medical Defence and the Laws relating to the Medical Profession.—E. H SNELL, Honorary Secretary, Knighton House, Coventry.

BORDER COUNTIES BRANCH: WEST CUMBERLAND DIVISION.—A meeting of the above Division will be held in Workington, on Friday, October 27th. Business: (1) Minutes of last meeting. (2) To consider Memorandum from the Norwich Division of the British Medical Association. (3) Papers and Cases, etc (4) General. The Secretary will be glad to receive particulars of papers or cases which any member will be willing to read or show. A further notice will be issued later.—JOHN PENNY, Honorary Secretary, Cockermouth.

DORSET AND WEST HANTS BRANCH.—A meeting will be held at Herrison, Dorchester, by kind invitation of Dr. P. W. Macdonald, on Wednesday, October 25th, at 2 o'clock. Business: To elect Branch officers for the ensuing year, etc. Members who may have special business to bring before the meeting should communicate with the Honorary Secretary, C. H. WATTS PARKINSON, Wimborne Minster.

METROPOLITAN COUNTIES BRANCH: KENSINGTON DIVISION.—An ordinary meeting will be held at the Kensington Infirmary, Marloes Road, Kensington, W., on Wednesday, October 25th, at 5 p.m. Clinical cases will be shown by Dr. H. P. Potter and Dr. Basil Cook.—Dr. CHAS. BUTTAR, Honorary Secretary, 10, Kensington Gardens Square, W.

METROPOLITAN COUNTIES BRANCH: NORWOOD DIVISION.—The next meeting of the Division will be held at Streatham on November 9th. Particulars will appear in next issue.—H. J. PRANGLEY, Tudor House, 197, Alderley Road, Anerley, S.E.

METROPOLITAN COUNTIES BRANCH: TOTTENHAM DIVISION.—A meeting of the Division will be held at the Tottenham Hospital, on Friday, October 27th, at 4 p.m. Agenda: (1) To receive Report of Representative. (2) To discuss: (a) The Coroners Act Amendment Bill; (b) Contract Medical Practice; (c) Provident Dispensaries. Discussion to be opened by Dr. Fogarty.—FRED. THESILIAN, M.D., Honorary Secretary, White Lodge, Enfield.

METROPOLITAN BRANCH: WANDSWORTH DIVISION.—An ordinary meeting will be held at the Alexandra Hotel, Clapham Common, on Thursday, October 26th, at 8.45 p.m. Agenda: (1) Minutes. (2) Correspondence (3) Questions. (4) Paper by James Morrison, F.R.C.P., on the treatment of the third stage of labour and during the early days of the lying-in. (5) Other business.—E ROWLAND FOTHERGILL, M.B., Honorary Secretary, Torquay House, Southfields, S.W.

NORTH LANCASHIRE AND SOUTH WESTMORLAND BRANCH.—A meeting of the Branch will be held on Wednesday, October 25th, at the Friends' Hall, Fenton Street, Lancaster, at 3.45 p.m., when Mr Stephen Paget will deliver an address on aural cases in general practice. Members willing to show cases or specimens are requested to send details to A. S. BARLING, Honorary Secretary.

SHROPSHIRE AND MID-WALES BRANCH.—The annual general meeting of the Branch will be held at the Salop Infirmary on Tuesday, October 31st, at 3 p.m. Members who wish to show patients or specimens, or read papers, will please communicate with me not later than Tuesday, October 17th.—HAROLD H B. MACLEOD, Honorary Secretary, Clive House, Shrewsbury.

SOUTH-EASTERN BRANCH: BRIGHTON DIVISION.—A meeting will be held at the Dispensary, 113, Queen's Road, Brighton, at 4.30 p.m., on the fourth Wednesday in October (25th), and November (22nd) Members wishing to read papers or show cases at the meetings are requested to give at least a fortnight's notice to the Honorary Secretary, RYDING MANSH, M.D., 49, Sackville Road, Hove.

SOUTHERN BRANCH: WINCHESTER DIVISION.—The autumn meeting of this Division will be held on Wednesday, October 25th, at Westbrooke House, Alton, Hants (by the kind invitation of Dr Briscoe), at 3.15 p.m. Agenda: Mr D Brown (Winchester) will read a report of the annual meeting at Leicester. Dr. Bevan (Alton) will read notes on a case of cirrhosis of the liver, with remarks on the causation and treatment Captain Irvine, R.A.M.C. (Princess Louise Hospital, Alton), will read notes on a case of self inflicted wound of the throat involving the larynx. Dr. Williams (Alton) will read notes on a case of Addison's disease. Dr. Harman (Winchester) will read notes on a case of membranous colitis still under treatment. Mr Godwin (Winchester) will read notes on prostatectomy.—H J. GODWIN, Honorary Secretary and Treasurer, 35, Southgate Street, Winchester.

SOUTH EASTERN BRANCH: GUILDFORD DIVISION.—The next meeting of this Division will be held at the Royal Surrey County Hospital, Guildford, on Friday, October 27th, at 4.30 p.m. Dinner at 6.30 p.m. at the Lion Hotel. Charge 6s., exclusive of wine. Agenda: (1) Minutes of previous meeting. (2) Contract practice (Special SUPPLEMENT of July 22nd). (3) Other business. Dr. Herbert Tilley will give an address on The Diagnosis and Treatment of some of the more Common Diseases of the Nose and Throat. Paper by Mr. G. Sichel: Some Remarks on Radiotherapy. Members desirous of reading papers or showing cases are requested to give at least a fortnight's notice to the Honorary Secretary, who will be glad to hear from any members who intend to be present, and if they are likely to remain to dinner. All members of the South-Eastern Branch are entitled to attend and to introduce professional friends.—E. J. SMITH, Honorary Secretary, Maythorne, Epsom Road, Guildford.

SOUTH MIDLAND BRANCH.—The autumnal meeting of this Branch will be held at the Bell Inn Hotel, Bletchley, on Thursday, November 16th, at 2 o'clock, when the President, Dr Lipscomb, of Aylesbury, will be present at the Hotel at 1 o'clock to meet members desiring to be present at the meeting. Members are requested to let the Honorary Secretary know before Monday, November 13th. The following papers are promised:—Dr. Robb: On Spotted Fever Dr. Jacobs: On Mammary Tumours.—E. BARNA JONES, Honorary Secretary.

ULSTER BRANCH.—The autumn meeting of the Branch will be held in the Medical Institute, Belfast, on Wednesday, October 25th, at 4 p.m. Members having papers to read or cases to show are requested to send particulars as soon as possible.—CECIL E. SHAW, M.D., Honorary Secretary, 18, College Square East, Belfast.

WEST SOMERSET BRANCH.—The autumnal meeting of this Branch will be held at the Taunton and Somerset Hospital, on Friday November 3rd, at 4 p.m., when Mr Gordon Henry will preside. Mr. C. H Fagge, M.S., F.R.C.S., Surgeon in charge of the Ear Department at Guy's Hospital, has kindly consented to attend and read a paper on The Diagnosis and Treatment of Inflammatory Diseases of the Middle Ear and Antrum. The West Somerset medical dinner will be held on the same evening.—W. B. WINCKWORTH, Honorary Secretary, Taunton.

MEMBERS ELECTED DURING THE SEPTEMBER QUARTER.

BY THE COUNCIL ON OCTOBER 18TH, 1905.

Balck, Charles Augustus John Albert, Lieut., R.A.M.C., M.B., Ch.B.Edin.
Blunt, Thomas, Edward, M.R.C.S., L.R.C.P., Surg., R.N.
Boucher, Charles James, M.B., B.Ch. B.A.O., Surg., R.N.
Broome, Harold Holkar, M.B., Ch.B.Edin., Lieut., I.M.S.
Carmichael, James Charles Gordon, M.B., Ch.B.Edin., Lieut. R.A.M.C.
Chapman, Donald Poyntz, M.R.C.S., L.R.C.P., Surg., R.N.
Desai, Umedram Lallbhai, M.D., M.B., Ch.B., L.R.C.P. and S.Edin., Valod, Lilla Surat, India
Holden, Charles Walter, L.R.C.S., and P.I., Lieut., R.A.M.C
Iredell, Alfred Wm., M.R.C.S.Eng., L.R.C.P.Eng., Surg., R.N.
Mills, Oswald, M.R.C.S., L.R.C.P., Surg., R.N.
Orisadipe-Obasa (Prince), L.R.C.P., M.R.C.S., Lagos, West Africa
Powell, Esrel Wm., L.R.C.P. and S.Edin., Capt., R.A.M.C.
Richard, Cecil Rodney, M.R.C.S.Eng., L.R.C.P.Lond., Surg., R.N.
Thomson, Douglas Stoker Brownlie, M.B., B.Ch., B.A.O. Dub., Lieut., R.A.M.C.
Thomson, Louis Leopold Arthur Wm., M.R.C.S., L.R.C.P., Etrochey sur Seine, près Ste Colombe sur Seine, Côte d'Or, France

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Starr, H., M.B., The Redings, Totteridge
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Brander, William, M.B., Linton Infirmary, Middlesbrough
Charlton, G. A., Esq., Middleton-in-Teesdale
Douglas, R. D. A., M.D., County Hospital, Durham
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Hunter, T. C., M.B., The Willows, Jesmond, Newcastle-on-Tyne
Lloyd, A. P., M.B., Orchard House, Pensham
Mackie, D. J., M.B., Red Row Surgery, Bedlington
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Grasett, W. P. Le M., [illegible]
Harrington, A. J., M.D., [illegible]
Johnston, S., M.D., [illegible]
McCollum, W. J., M.D., [illegible]
Mc Donald, A. A., M.D., [illegible]
Orr, J. O., M.D., S[illegible]
Parsons, H. C., M.D., [illegible]
Powell, N. A., M.D., [illegible]
Pratt, J. J., M.D., [illegible]
Rentons, E. S., M.D., [illegible]
Scott, W. A., M.D., [illegible]
[illegible]
Young, W. A., M.D., 185, College Street, Toronto

Yorkshire Branch.

[illegible]
Stokes, T. P., [illegible]
Waddy, F. H., M.R., [illegible]

CENTRAL MIDWIVES BOARD.

A MEETING of the Central Midwives Board was held on October 5th, 1905, at 6, Suffolk Street, Pall Mall, with Dr. F. H. CHAMPNEYS in the chair.

THE BELFAST MATERNITY HOSPITAL.

Mr. WARD COUSINS moved:

That the resolution of the Board of March 23rd, 1905, refusing the request of the Belfast Maternity Hospital for the recognition of its certificate as an approved qualification under Section 2 of the Midwives Act, be rescinded.

He said that he much regretted that he had not had an opportunity before of expressing his opinion on the Belfast Maternity Hospital. It was because he knew that every member of the Central Midwives Board was anxious to carry out the Midwives Act with justice to all that he brought forward his motion in regard to these Belfast Maternity Hospital women, who in his opinion had been unfortunately treated in a very harsh way. When the purposes of the Midwives Act were considered it was clear that that Board was responsible for the admission during the period of grace of the very best class of women as midwives. It was much to be regretted that the Central Midwives Board had refused to recognize the certificate of the Belfast Maternity Hospital as an approved qualification under Section 2 of the Midwives Act, because these women who received the certificate of that institution, which was recognized by the Irish Poor Law authorities, were obliged to reside for a period of six months in the Belfast Maternity Hospital, where they were carefully instructed by the matron and by the medical staff, and in the course of their practical study had to pass an examination conducted by the attending physician. The Central Midwives Board had placed on the *Roll* of certified midwives nurses who had been trained in the Maternity Hospitals in Dublin, in the Cork Lying-in Hospital, and in the Limerick Lying in Hospital, but the Board had refused to recognize those from the Belfast Maternity Hospital, which for more than 100 years had been the training home for nurses in the North of Ireland. It was an extraordinary thing that the women trained as midwives at the Belfast Maternity Hospital should be excluded from the *Roll* upon which the Central Midwives Board had inscribed the names of so many thousands of women who had not passed any examination nor received any training.

Sir W. J. SINCLAIR, in seconding the motion, maintained that the Belfast Maternity Hospital had made out a sound and legal claim. It was a perfectly clear case put forward by one of the best lying-in hospitals.

After some discussion, a letter from the Privy Council addressed to the Central Midwives Board was read. The Privy Council referred to the complaint of the non-approval by the Central Midwives Board of the certificate of the Belfast Maternity Hospital in the case of nurses trained at that institution previous to March 31st, 1905, and enclosed a letter from Professor J. W. Byers, physician to the hospital, on the subject. The Privy Council asked the Board to consider whether they could not see their way to facilitate the certification of those nurses of the Belfast Maternity Hospital who had claimed to be certified previous to the receipt by the Board of the properly framed application by the hospital for the recognition of their certificate under Section 2 of the Midwives Act. The letter enclosed from the Privy Council by Professor Byers was also read to the Board; it stated that, "after consultation with Mr. Herbert Ewart (Chairman of the Board of Governors of the Belfast Maternity Hospital) and the members of the medical staff in Belfast," he was "instructed to say" that they "were willing to accept an arrangement by which those nurses trained in the Belfast Maternity Hospital who had applied to the Central Midwives Board before April 1st, 1905, should be placed upon the *Roll* of certified midwives."

Mr. E. PARKER YOUNG then moved an amendment in favour of the arrangement which was acceptable by the Belfast Maternity Hospital, and this being duly seconded was put to the vote and carried.

DATE OF NEXT EXAMINATION FOR MIDWIVES.

The CHAIRMAN announced that the Board had held a conference with representatives of certain lying in hospitals and training institutions to consider the question of the number of examinations to be held by the Board annually, and it appeared that, on the whole, six examinations in the year would best suit the general convenience. The report of the Conference would come up for discussion at the November meeting of the Board. He thought it would be sufficient at the present time to decide the date of the next examination. After a short discussion, February 6th, 1906, was fixed.

THE APPOINTMENT OF INSPECTORS OF MIDWIVES.

A letter was received from the Medical Secretary of the British Medical Association forwarding a copy of a resolution passed by the Council of the Association with reference to the appointment of inspectors of midwives. The Secretary of the Central Midwives Board was instructed to reply that the Board had no power to appoint inspectors of midwives.

Vital Statistics.

VITAL STATISTICS OF LONDON DURING THE THIRD QUARTER OF 1905

IN the accompanying table will be found summarized the vital statistics of the metropolitan boroughs and of the City of London based upon the Registrar-General's returns for the third, or summer, quarter of the year. The mortality figures in the table relate to the deaths of persons actually belonging to the various boroughs, and are the result of a complete system of distribution of the deaths in public institutions among the several boroughs in which the deceased persons had previously resided.

The 31,279 births registered in London during the three months under notice were equal to an annual rate of 29.2 per 1,000 of the population, estimated at 4,684,794 persons in the middle of the year; in the corresponding quarters of the three preceding years the rates were 28.0, 28.4, and 27.6 per 1,000. The birth-rates last quarter ranged from 11.6 in the City of London, 16.4 in the City of Westminster, 16.0 in Hampstead, 19.3 in Kensington, 21.5 in Paddington, and 21.6 in Chelsea to 30.1 in Fulham, 33.3 in Bermondsey, 33.4 in Finsbury, 33.5 in Shoreditch, 34.2 in Stepney, and 34.3 in Bethnal Green.

The 16,425 deaths of persons belonging to London registered during last quarter were equal to an annual rate of 14.1 per 1,000, against 14.7, 13.5, and 15.8 per 1,000 in the third quarters of the three preceding years; in the corresponding period of the ten preceding years the rate averaged 17.3 per 1,000. The death-rates last quarter ranged from 9.0 in Hampstead, 9.7 in Lewisham, 10.8 in Paddington, 11.5 in Camberwell, 11.6 in Kensington, and 11.7 in Stoke Newington to 17.2 in Stepney, 17.6 in Bethnal Green, 17.7 in Poplar, 18.7 in Bermondsey, 18.8 in Finsbury, and 20.9 in Shoreditch.

During last quarter 3,486 deaths were referred to the principal infectious diseases; of these, 255 resulted from measles, 126 from scarlet fever, 100 from diphtheria, 254 from whooping-cough, [illegible] from enteric fever, 2 from ill-defined pyrexia, and 2,665 from diarrhœa, but not any from small-pox or typhus. These 3,486 deaths were equal to an annual rate of 2.98 per 1,000, against an average rate of 2.87 per 1,000 in the corresponding quarters of the ten preceding years. The lowest death-rates last quarter from these infectious diseases were [illegible] Hampstead, 0.12 in the City of London, 0.28 in Lewisham, [illegible] Westminster, 1.69 in St. Marylebone, and 1.77 in Chelsea and Holborn; the highest rates were 3.97 in Bethnal Green, 3.90 in Hackney, 4.22 in Bermondsey, 4.27 in Finsbury, 4.75 in Fulham, 4.91 in Stepney and in Poplar, and [illegible] in Shoreditch. Measles showed the lowest proportionate fatality in Kensington, the City of Westminster, Finsbury, Southwark, and Wandsworth; scarlet fever in Hammersmith, Shoreditch, Stepney, Poplar, and Southwark; diphtheria in Chelsea, Holborn, the City of London, Bethnal Green, Poplar, and Lambeth; whooping-cough in Holborn, Finsbury, Shoreditch, Stepney, Poplar, and Battersea; "fever" in Hammersmith, Hackney, Finsbury, Bethnal Green, and Poplar; and diarrhœa in Fulham, Hackney, Finsbury, Shoreditch, Bethnal Green, Stepney, Poplar, and Bermondsey.

During the three months under notice 1,408 deaths from phthisis were registered, equal to an annual rate of 1.22 per 1,000; the rates in the corresponding quarters of the three preceding years were 1.28, 1.42, and 1.36 per 1,000 respectively. Among the various boroughs the lowest death-rates from phthisis last quarter were recorded in Paddington, Kensington, Stoke Newington, Hackney, the City of London, and Lewisham; and the highest rates in Chelsea, Holborn, Finsbury, Shoreditch, Bethnal Green, Stepney, and Southwark.

Infant mortality, measured by the proportion of deaths among children under one year of age to registered births, was equal to 171 per 1,000 last quarter, against 149, 130, and 208 in the corresponding periods of the three

Analysis of the Vital Statistics of the Metropolitan Boroughs and of the City of London after Distribution of Deaths occurring in Public Institutions during the Third Quarter of 1905.

Boroughs.	Estimated Population middle of 1905.	Births.	Deaths.	Annual Rate per 1,000 Living.			Deaths from Principal Infectious Diseases.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-Cough.	Typhus.	Enteric Fever.	Simple and Ill-defined Fever.	Diarrhœa.	Phthisis.	Deaths of Children under 1 year of age to 1,000 Births.
				Births.	Deaths.	Principal Infectious Diseases.												
COUNTY OF LONDON	4,684,794	31,279	16,425	26.8	14.1	2.98	3,486	—	255	126	109	254	—	175	2	2,665	1,428	171
Paddington	147,935	792	397	21 5	10.8	2.21	82	—	9	2	1	9	—	3	—	58	31	131
Kensington	180,683	867	519	19 3	11.6	2 13	96	—	18	5	2	5	—	3	—	63	40	172
Hammersmith ...	119,037	789	372	26.6	12.5	3 06	91	—	7	6	3	4	—	3	—	68	31	166
Fulham	157,210	1,121	605	30.1	15 4	4 75	186	—	9	4	3	8	—	1	—	161	37	220
Chelsea	74,496	401	239	21 6	12.9	1 77	33	—	—	3	3	3	—	1	—	23	30	117
City of Westminster ...	175,606	717	536	16 4	12.2	1.50	66	—	22	5	2	4	—	1	—	32	58	126
St. Marylebone ...	129,453	940	403	29 1	12.5	1.69	55	—	5	1	3	4	—	3	1	38	39	96
Hampstead	88,142	371	197	17 9	9.0	0 56	12	—	1	1	—	3	—	—	—	7	20	100
St. Pancras	236,183	1,443	828	24 5	14.1	2.30	136	—	10	2	5	11	—	3	—	105	75	175
Islington	342,994	2,145	1,076	23 9	12 6	2.24	192	—	20	5	8	18	—	6	—	135	98	155
Stoke Newington ...	52,628	287	154	21.8	11 7	2.13	28	—	1	—	—	—	—	—	—	27	11	178
Hackney	228,479	1,457	780	25 6	13 7	3.99	227	—	8	1	7	5	—	10	—	196	44	205
Holborn	56,481	411	205	20.2	14 6	1 77	25	—	1	1	2	7	—	—	—	14	34	107
Finsbury	98,207	818	460	33 4	18 8	4 37	107	—	9	2	3	9	—	4	—	80	37	122
City of London ...	22,425	65	73	11.6	13 1	0 72	4	—	—	—	1	—	—	—	—	3	2	154
Shoreditch	116,565	972	648	33.5	20 9	5 51	160	—	8	6	2	16	—	1	—	121	62	255
Bethnal Green ...	130,401	1,115	571	34 3	17 6	3 97	129	—	6	5	7	8	—	5	—	98	55	184
Stepney	305,466	2,605	1,308	34 2	17.2	4 93	374	—	18	21	8	44	—	5	1	277	114	185
Poplar	170,280	1,264	753	29.8	17 7	4 93	209	—	6	8	8	19	—	6	—	162	54	207
Southwark	208,528	1,562	810	28 9	16 5	3 69	192	—	21	11	7	6	—	2	—	145	89	202
Bermondsey	120,006	1,068	600	33 3	18 7	4 22	136	—	9	1	4	7	—	3	—	112	46	193
Lambeth	313,045	2,191	1,187	28.1	15.2	2 88	225	—	12	8	11	17	—	6	—	171	100	168
Battersea	177,532	1,212	607	27 4	13.7	3 53	156	—	12	8	2	15	—	—	—	119	42	194
Wandsworth	265,392	1,740	822	26 3	12.4	2 58	171	—	20	7	5	15	—	2	—	122	61	182
Camberwell	271,240	1,707	779	25.2	11 5	2 04	138	—	6	6	3	5	—	4	—	114	63	149
Deptford	114,495	844	394	29.6	13.8	2 49	71	—	4	2	2	2	—	—	—	61	41	154
Greenwich	103,493	577	353	26.2	13 7	2.68	69	—	2	—	2	1	—	1	—	59	37	151
Lewisham	144,420	910	349	25 3	9 7	1.28	46	—	2	—	3	6	—	1	—	34	29	110
Woolwich	125,372	888	390	28.4	12.5	2 24	70	—	5	5	2	3	—	1	—	54	47	122

preceding years; in the third quarters of the ten preceding years the rate averaged 21.5 per 1,000. The lowest rates of infant mortality last quarter were recorded in Chelsea, St. Marylebone, Hampstead, Holborn, Lewisham, and Woolwich; and the highest rates in Fulham, Hackney, Shoreditch, Poplar, and Southwark.

HEALTH OF ENGLISH TOWNS.

In seventy-six of the largest English towns, including London, 8,002 births and 4,093 deaths were registered during the week ending Saturday last, October 14th. The annual rate of mortality in these towns, which had been 13.8, 14.0, and 13.5 per 1,000 in the three preceding weeks, rose again to 13.7 per 1,000 last week. The rates in the several towns ranged from 5.0 in Wallasey, 5.9 in Handsworth (Staffs.), 6.2 in Hornsey, 6.8 in Wolverhampton, 6.9 in Grimsby, 7.2 in Walthamstow, 7.6 in Tottenham, and 8.0 in East Ham, to 19.0 in Gateshead, 19.7 in Norwich, 19.8 in Huddersfield, 19.9 in Burton-on-Trent, 21.6 in Great Yarmouth, 22.3 in Wigan, 23.1 in Bury, and 24.9 in Middlesbrough. In London the rate of mortality was 14.0 per 1,000, while it averaged 13.5 per 1,000 in the seventy-five other large towns. The death-rate from the principal infectious diseases averaged 1.3 per 1,000 in the seventy-six towns; in London this death-rate was equal to 1.2 per 1,000, while among the seventy-five other large towns the rates ranged upwards to 2.3 in Southampton and in Northampton, 2.4 in Wigan, 2.7 in Norwich and in Preston, 3.1 in Blackburn, and 4.6 in Warrington. Measles caused a death-rate of 1.1 in Wimbledon; scarlet fever of 2.0 in Blackburn; diphtheria of 1.1 in Middlesbrough and 1.4 in Southampton; whooping-cough of 1.5 in Warrington; and diarrhœa of 1.3 in Norwich and in Sheffield, 1.4 in Hull, 1.7 in Walsall, 1.8 in Wigan and in Preston, and 2.7 in Warrington. The mortality from "fever" showed no marked excess in any of the large towns. No fatal case of small-pox was registered last week either in London or in any of the large provincial towns, and no small-pox patients were under treatment during the week in the Metropolitan Asylums Hospitals. The number of scarlet fever cases in these hospitals and in the London Fever Hospital, which had been 3,424, 3,591, and 3,789 at the end of the three preceding weeks, had further risen to 3,954 at the end of last week; 511 new cases were admitted during the week, against 546, 569, and 527 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS.

During the week ending Saturday, October 7th, 959 births and 490 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had been 15.0, 13.5, and 14.5 per 1,000, further rose to 14.0 per 1,000 in the week, and was 1.4 per 1,000 above the mean rate during the same period in the seventy-six large English towns. Among these Scotch towns the death-rates ranged from 9.1 in Paisley and 10.2 in Leith to 17.5 in Dundee and 18.1 in Aberdeen. The death-rate from the principal infectious diseases averaged 1.7 per 1,000 in these towns, the highest rates being recorded in Glasgow, Dundee, and Leith. The 234 deaths registered in Glasgow included 7 which were referred to measles, 2 to scarlet fever, 2 to whooping-cough, and 18 to diarrhœa. Two fatal cases of diphtheria and 2 of diarrhœa were recorded in Edinburgh; 5 of diarrhœa in Dundee and in Aberdeen; and 2 of "fever" in Paisley.

During the week ending Saturday last, October 14th, 809 births and 547 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had been 13.5, 14.5, and 14.0 per 1,000 in the three preceding weeks, further rose to 16.3 per 1,000 last week, and was 2.6 per 1,000 above the mean rate during the same period in the seventy-six large English towns. Among these Scotch towns the death-rates ranged from 10.7 in Perth, and 14.1 in Leith, to 17.1 in Edinburgh and in Paisley, and 18.6 in Greenock. The death-rate from the principal infectious diseases averaged 1.6 per 1,000, the highest rates being recorded in Glasgow, Dundee, and Paisley. The 259 deaths registered in Glasgow included 8 which were referred to measles, 2 to diphtheria, 4 to whooping-cough, and 13 to diarrhœa. Two fatal cases of diphtheria, 2 of whooping-cough, and 5 of diarrhœa were recorded in Edinburgh; 2 of measles in Dundee; 3 of diarrhœa in Aberdeen; and 2 of "fever" in Paisley.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, October 7th, 475 births and 324 deaths were registered in six of the principal Irish towns, as against 630 births and 343 deaths in the preceding period. The annual death-rate in these towns, which had been 10.3, 10.4, and 10.6 per 1,000 in the three preceding weeks, fell to 18.8 per 1,000 in the week under notice, this figure being 5.3 per 1,000 higher than the mean annual rate in the seventy-six English towns for the corresponding period. The figures ranged from 10.9 in Limerick and 16.0 in Belfast to 19.8 in Dublin and 20.2 in Waterford. The zymotic death-rate during the same period and in the same six Irish towns averaged 1.4 per 1,000, or 1.4 per 1,000 lower than during the preceding period, the highest figure—2.7—being recorded in Limerick. No deaths from small-pox, measles, scarlet fever, typhus, or whooping-cough were recorded in any of the twenty-two urban districts of Ireland.

During the week ending Saturday, October 14th, 472 births and 309 deaths were registered in six of the principal Irish towns, as against 475 births and 324 deaths in the preceding period. The annual death-rate in these towns, which had been 10.4, 10.6, and 18.8 per 1,000 in the preceding weeks, fell to 17.1 per 1,000 in the week under notice, this figure being 3.4 per 1,000 higher than the mean annual rate in the seventy-six English towns for the corresponding period. The figures ranged from 12.4 in London derry and 13.7 in Cork to 18.1 in Dublin and 25.3 in Waterford. The zymotic death rate in the same six Irish towns averaged 1.4 per 1,000, or the same as during the preceding period, the highest figure—2.7—being recorded in Limerick, while Londonderry registered no deaths under this heading at all. During the week five deaths were registered in Belfast from typhoid fever. No deaths were recorded in any of the twenty-two urban districts from small-pox, measles, scarlet fever, or diphtheria.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

Fleet Surgeon W. Sealy has been placed on the retired list at his own request, October 2nd. Entering as surgeon, August 20th, 1885, he became Fleet Surgeon, August 20th, 1901. He served in the *Archer* during the China-Japan war in 1894, and was decorated by the Imperial Government of China (through the British Minister at Pekin) with the Grand Order of the First Division of the Second Class of the Double Dragon, in recognition of services rendered to the distressed Chinese on the wreck of the *Kwang-Yi*.

The following appointments have been made at the Admiralty: Charles W. Buchanan-Hamilton, Fleet Surgeon, to the *Wildfire*, for Sheerness Yard, November 2nd; Frank E. Bolton, Surgeon, to the *Victory*, addi-

tional, for disposal, October 15th: ALFRED O. HOOPER, M.B., Surgeon, to the *Devonshire*, October 24th: PERCY T. SUTCLIFFE, Surgeon, to the *Vivid*, October 16th; STANLEY S. H. SHANNON, Surgeon, to the *Pembroke*, October 16th; LESLIE C. ROWAN ROBINSON, Surgeon, to the *Victory*, additional, October 16th.

INDIAN MEDICAL SERVICE.

COLONEL H. HAMILTON, M.D. C.B., Bengal Establishment, takes over the duties of Principal Medical Officer of the Sirhind and Jullundur Brigade from October 1st.

Lieutenant B. B. PAYMASTER, Indian Medical Service, is promoted to be Captain from July 26th, 1905. His first appointment bears date July 26th, 1902. [This announcement was inadvertently omitted from the promotion notified in the BRITISH MEDICAL JOURNAL of September 9th last.]

ROYAL ARMY MEDICAL CORPS.

CAPTAIN J. E. CARTER, M.B., from half-pay, to be Captain, with precedence next above Captain H. V. Prynne, October 2nd. Captain Carter went on half-pay, December 1st, 1901.

Colonel H. J. W. BARROW, who is serving in the Punjab, takes over the duties of Principal Medical Officer of the Lahore Division from October 1st.

Vacancies and Appointments.

VACANCIES.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

BOURNEMOUTH: ROYAL BOSCOMBE AND WEST HANTS HOSPITAL. House Surgeon. Salary, £30 per annum.

BRADFORD ROYAL INFIRMARY.—(1) House-Surgeon: (2) House-Physician. Salary, £100 per annum each.

BRISTOL ROYAL INFIRMARY.—House Surgeon. Salary, £100 per annum.

EAST LONDON HOSPITAL FOR WOMEN, Shadwell, E.—(1) Assistant Physician. (2) Resident Medical Officer. Salary, £100 per annum.

GLASGOW: VICTORIA INFIRMARY.—(1) Surgeon. (2) Assistant Surgeon.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—House Surgeon. Salary, £20 for six months, and a washing allowance.

JARROW-ON-TYNE: PALMER MEMORIAL HOSPITAL.—House Surgeon. Salary commencing at £150 per annum.

LEEDS: GENERAL INFIRMARY.—Laboratory Curator. Salary, £200 per annum.

LONDON THROAT HOSPITAL, Great Portland Street, W.—Third Honorary Anaesthetist.

ROYAL EYE HOSPITAL, Southwark.—House Surgeon. Salary at the rate of 50 guineas per annum.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City Road, E.C.—Clinical Assistants.

ROYAL LONDON OPHTHALMIC HOSPITAL.—Clinical Assistants.

POPLAR HOSPITAL FOR ACCIDENTS, E.—Assistant House-Surgeon. Salary at the rate of £8. per annum.

PORTSMOUTH: ROYAL PORTSMOUTH HOSPITAL.—Junior House-Surgeon. Salary at the rate of £50 per annum.

TEIGNMOUTH HOSPITAL.—House Surgeon. Salary, £70 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces vacancies in the office of Certifying Factory Surgeon at Amersham, co. Bucks, and Galashiels, co. Selkirk.

APPOINTMENTS.

ANGUS, Henry Brunton, M.B., M.S. Durh., F.R.C.S., Honorary Surgeon to the Royal Infirmary, Newcastle upon-Tyne.

BALE, W. Barker, M.R.C.S., L.R.C.P. Lond., Visiting Medical Officer of the new Stockport Union Hospital at Stepping Hill.

BROCKBANK, E. M., M.D., M.R.C.P., Honorary Assistant Physician to the Manchester Royal Infirmary.

CANTER, Wm. H., M.B., Ch.B., Assistant Resident Medical Officer at the Leeds City Hospitals.

FARMER, S., M.R.C.S. Eng., L.R.C.P. Edin., Certifying Factory Surgeon for the Spennymoor District, co. Durham.

GAFF, James, M.B. Lond., M.R.C.S., District Medical Officer of the Hammersmith Parish.

GALLAGHER, J. O., M.D., C.M. Toronto, Clinical Assistant to the Chelsea Hospital for Women.

HAYDON, Arthur George, M.D., F.R.G.S., Consulting Physician to the Torrington Sanatorium, Chesham, Bucks.

DAVID LEWIS NORTHERN HOSPITAL, LIVERPOOL.—The following appointments have been made:

House Surgeons: J. F. Edmiston, M.B., Ch.B. Liverpool; George Laurence, M.R.C.S., L.R.C.P.; C. Yorke, M.B., Ch.B. Liverpool.

House Physicians: H. W. Gush, M.B., Ch.B. Edin.; W. L. Hawksley, M.B., Ch.B. Liverpool.

DIARY FOR NEXT WEEK.

MONDAY.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square, W., 8.30 p.m.—Surgical papers:—Mr. Mansell Moullin: A Series of Gastro-Enterostomies Performed for Chronic Gastric and Duodenal Ulcers. Mr. Maynard Smith: Perforated Ulcer of the Duodenum.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN, 20, Hanover Square, W., 8 p.m.—Inaugural address by the President. Communications:—Mr. H. J. Paterson: A Metal Inhaler removed from the Oesophagus by Gastrotomy (with skiagraph). Paper:—Mr. H. A. T. Fairbank: The Treatment of Necrosis of the Jaw.

TUESDAY.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY, 20, Hanover Square, W., 8.30 p.m.—Mr. J. D. Malcolm: Inflammation and Peritonitis regarded as Physiological Processes.

THERAPEUTICAL SOCIETY, Apothecaries' Hall, Blackfriars, E.C., 4.30 p.m.—Annual general meeting, and election of officers. Papers:—Dr. H. French: The Therapeutical Aspect of the Congress on Hygiene. Mr. T. R. Elliott: The Action of Adrenalin Chloride. Drs. Steele and Plaute: Adrenalin Chloride in the Treatment of Serous Effusion.

WEDNESDAY.

HUNTERIAN SOCIETY, Guy's Hospital, 4 p.m.—Clinical meeting.

THURSDAY.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY, 20, Hanover Square, W., 8.30 p.m.—Presidential Address by Dr. G. Wm. Hamilton Cumming (Torquay). Paper:—Dr. Robert W. Felkin: Sea Voyages for Invalids.

HARVEIAN SOCIETY OF LONDON, Stafford Rooms, Titchborne Street, Edgware Road, 8.30 p.m.—Papers:—Mr. Herbert Tilley: The Symptoms, Diagnosis, and Treatment of the Commoner Forms of Nasal Obstruction. Mr. Elmore W. Braverton: Extirpation of the Lachrymal Sac.

NEUROLOGICAL SOCIETY OF THE UNITED KINGDOM, 11, Chandos Street, Cavendish Square, W.—8.30 p.m.—Clinical evening. Cases on view at 8 p.m.

FRIDAY.

CLINICAL SOCIETY OF LONDON, 20, Hanover Square, W., 8 p.m.—Clinical evening for the exhibition of clinical cases, followed by discussion. Patients will be in attendance from 8 p.m. till 9 p.m.

POST-GRADUATE COURSES AND LECTURES.

BROMPTON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Wednesday, 4 p.m.—Demonstration on examination of the chest by the x rays.

CHARING CROSS HOSPITAL, Thursday, 4 p.m.—Medical Cases.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week at 4 p.m. each day: Monday, Skin; Tuesday, Medical; Wednesday, Surgical; Thursday, Surgical; Friday, Throat. Lectures at 5.15 p.m. each day will be given as follows: Monday, Abscess of the Liver; Tuesday, The Treatment of Scars and Keloid; Wednesday, Intraocular Tumours (with lantern slides); Thursday, The Nature and Treatment of the Attack in Spasmodic Asthma.

MOUNT VERNON HOSPITAL, Central Out-patient Department, 7, Fitzroy Square, W., Thursday, 5 p.m.—Pulmonary Tuberculosis in Children. Lecture II.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Tuesday, 3.0 p.m., Syringomelia. Friday, 3.30 p.m., Surgery of the Nervous System.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone Road, N.W., Thursday, 3 p.m.—Some Points in Connexion with Appendicitis.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Tottenham, N.—The following are the arrangements for next week: Tuesday, 4.30 p.m., Lecture on the Early Diagnosis of Typhoid Fever. Wednesday, 2.30 p.m., Demonstration on Fevers at the North-Eastern Fever Hospital, St. Ann's Road, N. Friday, 4.30 p.m., Lecture on Diseases of the Optic Nerve.

WEST LONDON POST-GRADUATE COLLEGE, West London Hospital, Hammersmith Road, W.—The following lectures and demonstrations have been arranged for next week at 5 p.m. each day: Monday, The Dwelling House and its Surroundings. Tuesday, Operative Treatment of Chronic Gastritis. Wednesday, Floating Kidney. Thursday, Pain and Swelling in the Mouth. Friday, Nephritis.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 5s. 6d., which sum should be forwarded in postal order or stamps with the notice not later than Wednesday morning, in order to insure insertion in the current issue.

BIRTH.

THOMPSON.—On September 17th, at Tutshill, Chepstow, to the wife of Cecil C. B. Thompson, M.R.C.S., L.R.C.P., a son.

MARRIAGE.

WELSH-EVANS.—On October 14th, at Christ Church, Liscard, Birkenhead, by the Rev. T. W. E. Wilson, B.D., M.A., assisted by the Rev. Richard Jones, B.A., John Welsh, M.R.C.S. Eng., L.R.C.P. Lond., F.C.S., of Chester, to Elsie, daughter of Samuel Evans, of Liscard. No cards.

DEATH.

TENCH.—On October 12th, at 67, Perham Road, West Kensington, Edward Beavan Tench, M.R.C.S., etc., formerly of Wickham Market, Suffolk, in his 77th year.

CALENDAR OF THE ASSOCIATION.

Month.	Day of Week.	Meetings to be Held.
Oct.	21...SATURDAY ...	Aberdeen Branch, Annual Meeting, Grand Hotel, Aberdeen, 1.15 p.m.
,,	22...Sunday..	
,,	23...MONDAY ...	
	24...TUESDAY ...	
,,	25 ..WEDNESDAY	Brighton Division, *South-Eastern Branch*, Dispensary, 113, Queen's Road, Brighton, 4.30 p.m. Dorset and West Hants Branch, Herrison, Dorchester, 2 p.m. Kensington Division, *Metropolitan Counties Branch*, Kensington Infirmary, Marloes Road, Kensington, W., 5 p.m. North Lancashire and South Westmorland Branch, Friend's Hall, Penton Street, Lancaster, 3.45 p.m. Ulster Branch, Medical Institute, Belfast, 4 p.m. Winchester Division, *Southern Branch*, Westbrooke House, Alton, Hants, 3.45 p.m.
,,	26...THURSDAY...	Wandsworth Division, *Metropolitan Counties Branch*, Alexandra Hotel, Clapham Common, 8.45 p.m.
,,	27...FRIDAY ...	Guildford Division, *South-Eastern Branch*, Royal Surrey County Hospital, Guildford, 4.30 p.m.; Dinner, Lion Hotel, 6.30 p.m. Tottenham Division, *Metropolitan Counties Branch*, Tottenham Hospital, 4 p.m. West Cumberland Division, *Border Counties Branch*, Workington.
,,	28...SATURDAY...	Trowbridge Division, *Bath and Bristol Branch*, Town Hall, Marlborough, 3.15 p.m.
,,	29...Sunday..	
,,	30...MONDAY ...	
,,	31...TUESDAY ...	Central Division, *Birmingham Branch*, 3.30 p.m. Shropshire and Mid-Wales Branch, Annual Meeting, Salop Infirmary, 3 p.m. Warrington Division, *Lancashire and Cheshire Branch*.
Nov.	1...WEDNESDAY	
,,	2...THURSDAY...	LONDON: Hospitals Committee, 2.15 p.m. Swansea Division, *South Wales and Monmouthshire Branch*, General Hospital, Swansea, 3 p.m. Wandsworth Division, *Metropolitan Counties Branch*, Bolingbroke Hospital, 4 p.m.
,,	3...FRIDAY ...	West Somerset Branch, Taunton and Somerset Hospital, 4 p.m.
,,	4...SATURDAY ...	
,,	5...Sunday..	
,,	6...MONDAY ...	LONDON: Premises and Library Committee, 3.30 p.m.
,,	7...TUESDAY ...	Coventry Division, *Birmingham Branch*, Coventry and Warwickshire Hospital, 8.30 p.m.
,,	...WEDNESDAY	
,,	9...THURSDAY...	Norwood Division, *Metropolitan Counties Branch*, Streatham.
,,	10...FRIDAY ...	
,,	11...SATURDAY...	
,,	12...Sunday..	
,,	13...MONDAY ...	
,,	14...TUESDAY ...	LONDON: Organization Committee, 10.30 a.m.
,,	15...WEDNESDAY	
,,	16...THURSDAY...	City Division, *Metropolitan Counties Branch*, Manor House, Upper Clapton Road, 6.30 p.m. South Midland Branch, Eight Bells Hotel, Bletchley, 2 p.m.
,,	17...FRIDAY ...	
,,	18...SATURDAY...	

Month.	Day of Week.	Meetings to be Held.
Nov.	19...Sunday..	
,,	20...MONDAY ...	
,,	21...TUESDAY ...	
,,	22...WEDNESDAY	LONDON; Medico-Political Committee, 8 p.m. Brighton Division, *South-Eastern Branch* Dispensary, 113, Queen's Road, Brighton, 4.30 p.m.
,,	23...THURSDAY...	Wandsworth Division, *Metropolitan Counties Branch*, Worple Hall, Wimbledon, 8.45 p.m.
,,	24...FRIDAY ...	Tottenham Division, *Metropolitan Counties Branch*, Hornsey Conservative Association Rooms, Finsbury Park, 9.15 p.m.
,,	25...SATURDAY...	
,,	26...Sunday..	
,,	27...MONDAY ...	
,,	28...TUESDAY ...	LONDON: Public Health Committee, 3 p.m.
,,	29...WEDNESDAY	
,,	30...THURSDAY...	
Dec.	1...FRIDAY ...	
,,	2...SATURDAY...	
,,	3 ...Sunday..	
,,	4...MONDAY ...	
,,	5...TUESDAY ...	
,,	6...WEDNESDAY	
,,	7...THURSDAY ...	Altrincham Division, *Lancashire and Cheshire Branch*, Quarterly Meeting, Altrincham. Swansea Division *South Wales and Monmouthshire Branch*, General Hospital, Swansea, 3 p.m.
,,	8...FRIDAY ...	
,,	9...SATURDAY...	
,,	10...Sunday..	
,,	11...MONDAY ...	
,,	12...TUESDAY ...	LONDON: Organization Committee, 10.30 a.m.
,,	13...WEDNESDAY	Central Council, 2 p.m.
,,	14 ..THURSDAY...	Wandsworth Division, *Metropolitan Counties Branch*, Battersea Town Hall, 8.45 p.m.
,,	15...FRIDAY ...	LONDON: Ethical Committee, 2 p.m.
,,	16...SATURDAY...	
,,	17...Sunday..	
,,	18...MONDAY ...	
,,	19...TUESDAY ...	
,,	20...WEDNESDAY	
,,	21...THURSDAY...	
	22...FRIDAY ...	
,,	23...SATURDAY...	
,,	24...Sunday..	
,,	25...MONDAY ...	*Christmas Day.*
,,	26 ..TUESDAY ...	*Boxing Day.*
,,	27...WEDNESDAY	
,,	28...THURSDAY...	
,,	29...FRIDAY ...	
,,	30 . SATURDAY...	
,,	31...Sunday..	

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of Middlesex.

SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, OCTOBER 28TH, 1905.

CONTENTS.

	Page
PROCEEDINGS OF COUNCIL	237
MEETINGS OF BRANCHES AND DIVISIONS:-	
Cambridge and Huntingdon Branch	239
Lancashire and Cheshire Branch: Liverpool (Southern) Division...	239
South-Eastern Branch: Canterbury and Faversham Division ...	239
" " Folkestone, Maidstone, Canterbury, Ashford, Thanet, and Dover Divisions ...	240
" " Reigate Division	240
Metropolitan Counties Branch: City Division...	240
" " Hampstead Division	240
" " St. Pancras Division	242
THE ETHICAL ASPECTS OF THE HOSPITAL QUESTION. By J. FORD ANDERSON, M.D., C.M.	243
ASSOCIATION NOTICES.—BRANCH AND DIVISION MEETINGS TO BE HELD	246
THE METROPOLITAN ASYLUMS BOARD AND ITS ASSISTANT MEDICAL OFFICERS	246
NAVAL AND MILITARY APPOINTMENTS	248
VITAL STATISTICS...	249
VACANCIES AND APPOINTMENTS	250
BIRTHS, MARRIAGES, AND DEATHS	251
DIARY OF THE WEEK	251
BOOKS, ETC., RECEIVED	251
CALENDAR	252

ASSOCIATION INTELLIGENCE.

PROCEEDINGS OF COUNCIL.

AT a meeting of the Council held, by kind permission of the Metropolitan Asylums Board, London, in their Board Room, on Wednesday, October 18th, 1905, at 2 o'clock in the afternoon,

Present:

Dr. H. W. LANGLEY BROWNE, Chairman of Council, in the Chair.
Mr. G. C. FRANKLIN, President.
Sir VICTOR HORSLEY, F.R.S., Chairman of Representative Meetings.
Dr. H. RADCLIFFE CROCKER, Treasurer.

Dr. JOHN FORD ANDERSON, London.
Dr. EDGAR G. BARNES, Eye.
Dr. MICHAEL BEVERLEY, Norwich.
Dr. T. R. BRADSHAW, Liverpool.
Dr. J. BRASSEY BRIERLEY, Old Trafford.
Dr. R. COCHRANE BUIST, Dundee.
Dr. W. A. CARLINE, Lincoln
Mr. ANDREW CLARK, D Sc., London.
Mr. PEARSON R. CRESSWELL, C.B., Dowlais
Mr. E. J. DOMVILLE, Exeter.
Mr. GEORGE EASTES, M.B., London.
Dr. E. L. FOX, Plymouth.
Dr. H. A. FRANCIS (Brisbane and Queensland Branch), London.
Dr. JOHN H. GALTON, Upper Norwood.
Dr. JOSEPH J. GIUSANI, Cork.
Dr. BRUCE GOFF, Bothwell.
Dr. C. G. GOODING, London.
Dr. DAVID GOYDER, Bradford.
Dr. J. GROVES, Carisbrooke.
Dr. JAMES HAMILTON, Glasgow.
Dr. T. ARTHUR HELME, Manchester.
Dr. J. H. HUNTER, South Shields
Dr. R. MCKENZIE JOHNSTON, Edinburgh
Mr. R. H. KINSEY, Bedford.
Dr. C. H. MILBURN, Hull.
Dr. J. MURRAY, Inverness.
Mr. EDMUND OWEN, London.
Mr. C. H. W. PARKINSON, Wimborne Minster.
Dr. F. M. POPE, Leicester.
Dr. EDWIN RAYNER, Stockport.
Mr. H. BETHAM ROBINSON, M.S., London.
Dr. J. MAXWELL ROSS, Dumfries.
Mr. GEORGE ROWELL, London
Professor ROBERT SAUNDBY, M.D., LL.D., Birmingham.
Dr. CECIL E. SHAW, Belfast.
Dr. E. MARKHAM SKERRITT, Bristol.
Professor W. R. SMITH, M.D. (Malta and Mediterranean Branch), London.
Mr. W. D. SPANTON, Hanley.
Dr. F. O. STEDMAN (Hong Kong Branch), London
Mr. C. R. STRATON, Salisbury.
Mr. JOHN LYNN THOMAS, C.B., Cardiff.
Mr. H. GEORGE THOMASZ (Colombo, Ceylon Branch), London.
Dr. G. E. TWYNAM (Sydney and New South Wales Branch), London.
Mr. T. JENNER VERRALL, Brighton.
Dr. NORMAN WALKER, Edinburgh.
Dr. ARTHUR T. WEAR, Newcastle-on-Tyne.

The minutes of the last meeting having been printed and circulated, and no objection received, were taken as read and signed as correct.

Read letters of apology for non-attendance from Dr. D. Burgess, Professor Byers, Dr. William Collier, Professor Finlay, Dr. Marriott, Dr. Morier, Fleet-Surgeon J. Lloyd Thomas, R.N., and Dr. W. J. Tyson.

Moved by Mr. EDMUND OWEN, seconded by Dr. BRUCE GOFF, and

Resolved: That this Council learns with profound regret of the death of its old and esteemed colleague, William Jones Morris. Mr. Jones Morris has been a member of the Council since 1885, has rendered valuable assistance through the Committees of the Council, and more especially by his unceasing labours in the North Wales Branch has done much to advance the interests of the British Medical Association.

It having been reported that the Tercentenary of the birth of Sir Thomas Browne would be celebrated at Norwich on October 19th, Dr. Beverley and Dr. Edgar Barnes were requested to act as representatives of the Council.

The CHAIRMAN OF COUNCIL reported that he had nominated Mr. H. W. Armit, of Wembley, to represent the British Medical Association at the International Congress on Tuberculosis held in Paris early in the month.

A communication from the Colonial Office relative to the establishment of a special scholarship in Tropical Medicine was referred to the Science Committee for report.

Resolved: That the following gentlemen be appointed representatives of the British Medical Association on the Organizing Committee in connexion with the International Congress on School Hygiene to be held in 1907: Sir Victor Horsley, F.R.S., Mr. Andrew Clark, Dr. J. Groves, Mr. C. H. W. Parkinson, Dr. Maxwell Ross, Dr. W. J. Tyson, and Dr. Denis Walshe.

The CHAIRMAN OF COUNCIL reported, in continuation of a minute of Council authorizing the revision of the vaccination literature of the Association, that this had now been carried out, and the General Secretary was instructed to circulate the revised facts to the press, and to take steps to bring the same before the notice of the public.

Moved by Mr. ANDREW CLARK, seconded by Professor SMITH, and

Resolved: That Lieutenant-Colonel E. M. Wilson, C.B., C.M.G., D.S.O., be appointed a Representative of the Army Medical Service on the Council, in accordance with By-law 22.

Resolved: That the minutes of the Journal and Finance Committee be received.

Resolved: That Dr. Macpherson (upon the expiration of his present year of office) be reappointed Assistant to the Medical Secretary for a further period of twelve months.

Resolved: That the accounts for the quarter ending September 30th last, amounting to £11,992 19s. 9d., be received and approved, and the Treasurer be empowered to pay those remaining unpaid, amounting to £3,115 4s. 7d.

Moved by the TREASURER, seconded by Mr. ANDREW CLARK, and

Resolved: (1) That the size of the page of the JOURNAL be altered to 162 Brevier lines of 19 ems, 12 to pica leaded; (2) That, in addition, the JOURNAL be issued with a grey-tinted cover; (3) that the scale of charges for advertisements be revised by the Manager, in order to increase the price to £8 per page.

Resolved: That the minutes of the Premises and Library Committee be received.

Resolved: That the applications for books be acceded to, and the Librarian be instructed to forward the Duplicate List first to the Guernsey and Alderney Division, and subsequently to the Scarborough Division.

Resolved: That any site for the offices of the British Medical Association should be freehold.

Resolved: That Sir Victor Horsley, Dr. Brassey Brierley, and Dr. Rayner be co-opted for the purpose of assisting the Committee in the consideration of the erection of new premises.

Resolved: That the accounts for the quarter be received, and the Treasurer be empowered to pay them.

Resolved: That the minutes of the Hospitals Committee be received.

Moved by Dr. BEVERLEY, seconded by Dr. FOX, and

Resolved: That Dr. Ford Anderson and Dr. Brassey Brierley be added as representatives of the Hospitals Committee to the Joint Committee to collect and submit evidence on behalf of the Association to the Royal Commission on the Poor Law.

Resolved: That the minutes of the Medico-Political Committee be received.

Moved by Dr. BUIST, and

Resolved: That in consideration of further communications from the Medical Agent whose advertisements the Council, in July, on the recommendation of the Committee, gave instructions to exclude from the JOURNAL, the Council do now withdraw its former prohibition.

Resolved: That, pursuant to the instruction to the Council from the Representative Meeting, the Recommendations and Resolutions on Contract Practice be forthwith issued to all members of the profession, and that in the circular be included also the decisions of the Annual Representative Meeting upon other matters affecting the profession, together with a paragraph drawing attention to the work which the Association is doing for the general good of the profession, and asking practitioners who are not already members to join the Association.

Moved by Dr. BUIST, seconded by Sir VICTOR HORSLEY, and

Resolved: That the questions of (1) consultations between medical witnesses, (2) drug abuse, (3) the unduly repeated dispensing of prescriptions, and (4) the relation of the profession to ambulance work, be included in the circular mentioned in the foregoing resolution.

Moved by Dr. BUIST, seconded by Dr. POPE, and

Resolved: That the report of the Subcommittee on Vaccination Expenses be approved, subject to the amendments recommended by the Public Health Committee.

Moved by Dr. BUIST, seconded by Sir VICTOR HORSLEY, and

Resolved: That the following recommendations on lead poisoning be approved:

(i) That the attention of members of the medical profession throughout the country be drawn to the increasing prevalence in certain districts of lead poisoning from the cause stated and to the fact that the use of lead for the purpose named appears to be extending from district to district.

That with this object a letter be drafted for communication to the medical journals, and that the draft be circulated to the Subcommittee, and considered at a future meeting.

That it be suggested to the Divisions of the Association that they take steps to draw the attention of the profession locally to the matter, and also perhaps public officials, such as the medical officers of health and town clerks.

(ii) That the attention of the Home Office be drawn to the matter, and that an effort be made to ascertain what action, if any, can, in the opinion of the Home Office, be taken; also that the attention of the Board of Inland Revenue be drawn to the fact that preparations of the kind in question are being sold without the Government stamp.

(iii) That the Pharmaceutical Society and the Coroners' Society be requested to appoint representatives to confer with the Subcommittee on the subject.

In reference to the recommendations of the Public Health Committee that evidence be submitted to the Royal Commission on the Poor Law and that a joint Subcommittee of the Medico-Political and Public Health Committees be appointed to collect and prepare evidence and nominate witnesses, and that the Scottish and Irish Committees be asked also to appoint representatives,

Resolved: That a Special Committee be appointed to consist of representatives of the Medico-Political, the Public Health, the Hospitals, the Scottish and the Irish Committees, with the President and Chairman of Council *ex officio*. Further, that the Treasurer be empowered to sanction an expenditure not exceeding £50.

Moved by Dr. BUIST, seconded by Mr. STRATON, and

Resolved: That the recommendation of the Medico-Political Committee as to the practicability of inserting as an advertisement in other medical journals the warning notice as to contract practice and other appointments at present appearing by authority of the Council in the BRITISH MEDICAL JOURNAL be referred to the Journal and Finance Committee for inquiry as to the expense of carrying out the proposal.

Resolved: That the minutes of the Scottish Committee be received.

Resolved: That the following recommendations be referred to the Hospitals Committee:

That so far as the information before the Scottish Committee shows, there is in Scotland no need for out-patient departments in connexion with cottage hospitals.

That it is inadvisable to adopt Clause (B) as a universal rule.

Resolved: That the minutes of the Public Health Committee be received.

Resolved: That the Council approve the report and adopt the recommendations of the Committee with respect to vaccination expenses.

Resolved: That in the deputation already approved to the President of the Local Government Board, with respect to the Security of Tenure Bill, in addition to officers of the Association and members of the Medico-Political and Public Health Committees, the President or other representatives of the following bodies be invited to take part: The General Medical Council, the Royal College of Physicians of London, the Royal College of Surgeons of England, the Incorporated Society of Medical Officers of Health, and the Sanitary Inspectors' Association.

Resolved: That if action satisfactory to the Council be not taken by a certain body with respect to the publication of their certificates in trade advertisements, the advertisements of such body be not published in the JOURNAL.

Resolved: That the minutes of the Science Committee be received.

Moved by Dr. NORMAN WALKER, seconded by Dr. BUIST, and

Resolved: That for the special purpose of dealing with the Research Scholarships and Scientific Grants, the Committee shall have power to co-opt not more than four additional members.

Moved by Dr. NORMAN WALKER, seconded by Dr. BUIST, and

Resolved: That a Special Committee be appointed to report on the resolution forwarded from the Section of Obstetrics and Gynaecology, consisting of Miss L. Garrett Anderson, Dr. R. C. Buist, Professor Byers, Dr. T. A. Helme, Professor H. R. Spencer, Professor Tweedy, Dr. Thomas Wilson. Further, that the London Obstetrical Society, Edinburgh Obstetrical Society, Glasgow Obstetrical Society, North of England Obstetrical Society, and the Royal Academy of Medicine in Ireland be each asked to nominate a Representative to join the Committee.

Resolved: That Professor Spencer be asked to act as convener for the first meeting of the Special Committee.

Resolved: That the minutes of the Ethical Committee be received.

Moved by Mr. KINSEY, seconded by Mr. LYNN THOMAS, and

Resolved: That the Council approve the adoption of the Bradford Rules by the Leigh and Gateshead Divisions, a special Rule of the Portsmouth Division, and Rule "Z" adopted by the Bradford Division.

Resolved: That the minutes of the Arrangement Committee be received.

Resolved: That the date of the Annual Meeting at Toronto be altered to commence on August 21st, 1906.

Resolved: That there be three addresses—namely: Medicine, Surgery, and Obstetrics—and that Dr. James Barr, Sir Victor Horsley, F.R.S., and Sir Wm. J. Smyly be invited to deliver the addresses respectively.

Resolved: That the scientific business of the meeting be conducted in twelve sections—namely: Anatomy and Physiology, Dermatology, Laryngology and Otology, Medicine, Obstetrics and Gynaecology, Ophthalmology, Paediatrics, Pathology and Bacteriology, Psychology, State Medicine, Surgery, and Therapeutics.

Resolved: That the officers of Sections as nominated by the Committee be approved.

Resolved: That the minutes of the Organization Committee be received.

Resolved: That the rules submitted by the South Australian Branch be approved, with the exception of the rule with reference to a special Branch subscription, which is *ultra vires*.

Resolved: That the alteration of rules submitted by the North of England Branch be approved.

Resolved: That the formation be approved of Divisions to be known as the East London and Grahamstown Divisions respectively, having the boundaries submitted for approval of the Council, these together constituting the Cape of Good Hope, Eastern Province Branch.

Resolved: That it be recommended that at the time of the annual meeting at Toronto a conference be held of representatives of the Canadian Branches with those members of the Organization Committee who may be present at the annual meeting, and the Medical Secretary, for the purpose of considering what can be done to improve the organization of the Association in Canada.

Resolved: That the transfer of a portion of Heaton Norris from the Stockport Division to the South Manchester Division be approved.

Resolved: That the transfer of Crickhowell from the North Glamorgan and Brecknock Division to the Monmouthshire Division be approved.

Resolved: That the transfer of Buckingham, Bletchley, Fenny Stratford, Newport Pagnell, Olney, Stony Stratford and Wolverton from the Aylesbury Division of the South Midland Branch to the Northamptonshire Division of that Branch be approved.

Resolved: That the transfer of Tring from the Aylesbury Division of the South Midland Branch to the Watford Division of the Metropolitan Counties Branch be approved.

Resolved: That, concerning the question of affiliation of local Medical Societies with the Association, which the Council was asked by the Representative Meeting to consider, the Council report that the only form of affiliation compatible with the constitution of the Association is that the local Society should be merged in the Association, and that, having regard to the variety of local conditions, no general scheme for this purpose can be formulated.

Resolved: That the fifteen candidates whose names appeared on the circular convening the meeting be, and they are, hereby elected members of the British Medical Association.

Resolved: That the following resolution from the North Glamorgan Division be received and entered upon the minutes:

That we desire to put on record the feelings of indebtedness to Mr. J. Smith Whitaker for the very able assistance he has rendered the members of the Division in dealing with the objectionable conditions of appointments by the Aberaman and District Workmen Doctors' Fund Committee, and that it is the opinion of the members of the Division that such excellent services could not have been rendered by an official of the Association who was not also himself a member of the medical profession.

Meetings of Branches and Divisions.

[The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the JOURNAL.*]*

CAMBRIDGE AND HUNTINGDON BRANCH.

A MEETING of this Branch was held at Cambridge on Thursday, October 5th. The members of the East Anglian Branch had accepted an invitation to be present as guests.

Luncheon.—The proceedings commenced with luncheon in the Hall of Downing College, at which about sixty members and guests sat down. The President of the Branch, Dr. HUMPHRY, proposed the toast of "The King," followed by "Our Guests." Dr. BARTON suitably acknowledged the toast. On the proposition of Professor ALLBUTT, a hearty vote of thanks was passed to the Master and Fellows of Downing College for the use of the Hall. This was acknowledged by Professor Bradbury.

Papers.—At a subsequent meeting in the Medical Schools the following papers were read:—Dr. NUTTALL: Recent researches in syphilis, spirochaeta, etc. (lantern demonstration) Professor MARSH: Notes on mistakes in the diagnosis of tumours.—Dr. J. GRIFFITHS: Deformities arising during the period of growth (childhood and adolescence) and their management (cases shown).—Dr. L. HUMPHRY: The treatment of meningitis by lumbar puncture.

Garden Party.—A garden party given by Dr. and Mrs. Humphry was well attended and brought to a close a very interesting meeting.

LANCASHIRE AND CHESHIRE BRANCH:

LIVERPOOL (SOUTHERN) DIVISION.

AN ordinary meeting was held on October 18th at the house of Dr. WESTBY, who occupied the chair.

Vote of Regret.—It was agreed that a vote of regret should be sent to Dr. Cregeen that his state of health obliged him to resign his membership, and expressing their appreciation of his past labours both for the Branch and the Division.

Election of Officers.—Dr. Harvey was elected Vice-Chairman; Dr. Logan was elected a member of the Executive Committee.

Annual Representative Meeting.—Dr. WESTBY, the Representative of the Division at Leicester, then read his report of the proceedings of the Annual Representative Meeting. A vote of thanks to Dr. Westby for his labours at the meeting was carried.

Consultation between Medical Witnesses.—It was agreed that the Division should express its regret that the Representative Meeting has adopted the principle of consultation of medical witnesses before their evidence has been given in court, as it considers this may lead to grave abuse, and diminish the value of medical evidence.

Scientific Proceedings of Annual Meeting.—It was agreed that the scientific transactions of the annual meeting of the Association should be published as a separate volume instead of piecemeal in the JOURNAL.

Ethical Rules.—The Draft Model Ethical Rules were considered and adopted with the following alterations:—(1) In Rule 6, after the word "case" insert the words "should the Ethical Committee think it necessary to bring the matter before them"; (2) that Rule 8 should be omitted.

Matters Referred to the Division.—With reference to the (1) report on contract practice, it was resolved that this Division offers no opinion on the matter. (2) With respect to the co-ordination of the scientific work of the Association, it was agreed that in this district the local medical societies provided ample opportunities for scientific meetings and discussions, but it was also pointed out that much good work might be done through the divisional organization in the way of collective investigation of scientific subjects if suitable subjects and inquiries were sent down to the Divisions from the central authorities. (3) With respect to the election of direct representatives on the General Medical Council, these proposals were not approved of.

SOUTH-EASTERN BRANCH:

CANTERBURY AND FAVERSHAM DIVISION.

A MOST interesting meeting of this Division was held at Sheerness-on-Sea on Thursday, October 12th.

Visit to Dockyard and H.M.S. "Repulse."—The Captain Superintendent of the Dockyard deputed officers (including Fleet Surgeon McKinlay) to take one party round the Dockyard, and another, under the guidance of Staff Surgeon Campbell and Surgeon Gittings, visited H.M.S. *Repulse*, a torpedo boat, and a destroyer.

At the conclusion of the visit members returned to Surgeon Gittings's house, where, after partaking of tea, a meeting was held, Surgeon Gittings, R.N., M.B., presiding.

Confirmation of Minutes.—The minutes of the previous meeting were confirmed.

Annual Representative Meeting.—Dr. Gosse read his report of the Representative Meeting at Leicester.

Mosquitos at Sheerness.—Surgeon Gittings showed two trays of different kinds of mosquitos, specimens of all of which had been caught in his garden at Sheerness: (1) *Culex pipiens;* (2) *Theobaldia annulata;* (3) *Anopheles maculipennis; Culex pipiens* being the well-known harmless gnat. *Theobaldia annulata*—males only—the yellow one with pale bands on its legs, has been reported to sting rather badly. The third kind —*Anopheles maculipennis*—is the commonest carrier of malaria in temperate climates. This specimen Surgeon Gittings had bred from larvae collected in ditches round Sheerness. A medical man residing in East Sheerness said he had had small outbreaks of malaria in Sheerness, and in one case he had the blood examined by an expert, who reported that the plasmodium malaria was found. At the British Museum, in the case containing models of mosquitos, it is stated on a label that malaria no longer arises in England. Several members took part in the discussion, and Surgeon Gittings replied.

Fees for Medical Certificates.—Dr. Gosse read some correspondence that had passed between him (as Chairman of the Canterbury and Faversham Division) and the Kent Education Committee respecting a paragraph in their circular which they send to successful scholars to the effect that "the usual fee charged for medical certificates is 1s." The following is a copy of the letter received from the Education Committee:

Kent Education Committee,
44, Bedford Row,
London, W.C.
23rd August, 1905.

Dear Sir,—I have to acknowledge the receipt of your letter of the 21st instant, and desire to express our regret if any inconvenience has been caused you and other members of the medical profession by the issue of a paragraph in one of our circular letters to the effect that the usual fee charged for a medical certificate is 1s. I can only say that, in very many cases that have come under our notice, this has been the amount charged, and you will agree that our paragraph does not infer that in all cases no more than 1s. is payable. Our only object in giving this information to our scholars was that they might obtain some idea as to the approximate cost. We have known a few people to be charged 10s. 6d., which, I think you will agree, is somewhat excessive. If, as the Honorary Secretary to your Association informs us, 2s. 6d. is generally charged, we do not think that any objection should be raised by the parents of the scholars to the payment of this amount. Certainly, we have not the least possible desire to dictate to the members of the medical profession what they should charge for such duties.

I am, dear Sir,
Yours faithfully,
W. Trevor H. Walsh (Assistant Secretary).

William Gosse, Esq., M.D.

Emergency Police Fees.—Dr. Gosse also referred to emergency police fees, and it was pointed out that the Kent County Constabulary did not hold themselves responsible for fees when medical men were called in by the police in emergency cases. A Special Committee of the British Medical Association had caused inquiries to be made of the majority of the police authorities in England, and out of sixty-eight replies received from the larger cities, only four did not hold themselves responsible for such fees. A resolution was passed that the Branch Council should either directly approach the county authorities or get the Divisions interested to pass and send up resolutions to the Medico-Political Committee of the British Medical Association requesting them to take the necessary steps for procuring payment of medical practitioners called in by the police in all emergency cases.—Dr. Whitehead Reid, the President of the South-Eastern Branch, who was present at the meeting, promised to bring the matter forward for discussion at the next meeting of the South-Eastern Branch.

Next Meeting.—It was decided to hold the next meeting early in December at Herne Bay, and to invite Dr. Keswick Bowes to take the chair.

Votes of Thanks.—Votes of thanks (proposed by Colonel Johnstone, R.A.M.C., and seconded by Dr. Noble) were passed to Surgeon Gittings for presiding, and for his hospitality; to Fleet Surgeon McKinlay and Staff Surgeon Campbell.

Folkestone, Maidstone, Canterbury, Ashford, Thanet, and Dover Divisions.

A combined meeting of the Folkestone, Maidstone, Canterbury, Ashford, Thanet, and Dover Divisions was held at the Victoria Hospital, Folkestone, on Tuesday, October 17th, at 2.30 p.m.

Luncheon.—Dr. Percy Lewis kindly entertained members at luncheon.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Representative of Branch Council.—Dr. Eastes was re-elected Representative of the Branch Council.

Papers.—A paper on some recent work in relation to the spread of cancer in the tongue was read by Mr. G. L. Cheatle, C.B., F.R.C.S., with lantern illustrations. A discussion followed.—A paper on some of the causes of summer diarrhoea was read by Mr. M. G. Yunge-Bateman, D.P.H. A discussion followed.—A paper on the relation of hospitals to the general practitioner, by Dr. J. D. Howden, was not read, as Dr. Howden was unable to be present.

Cases, etc.—Some interesting cases were shown; also a newly-invented equipoise bed, by Clemetson of Ashford.—Messrs. Duncan and Flockhart showed an ethyl chloride inhaler, etc.

A very successful meeting then terminated.

Reigate Division.

The annual meeting of this Division was held at the White Hart Hotel, Reigate, on Thursday, October 19th, at 4.30 p.m. Dr. C. Caldecott in the chair.

Confirmation of Minutes.—The minutes of last meeting were read and confirmed.

Election of Officers.—The officers of the Division for the ensuing year were elected as before.

Annual Representative Meeting.—Mr. E. Bromet, M.A., gave a report of the meeting at Leicester.

Employers' Liability Act.—Dr. Caldecott spoke on the Employers' Liability Act and its influence on the medical work in the district.

Address.—Dr. G. H. Savage (Consulting Physician for and late Lecturer on Mental Diseases at Guy's Hospital) gave an address on social misfits due to mental disorders.

Dinner.—Twenty members and friends dined together after the meeting.

Metropolitan Counties Branch:

City Division.

A well-attended meeting was held at St. Bartholomew's Hospital on Thursday, October 19th, when several members of the staff of the hospital gave short demonstrations on a number of rare and interesting cases. A number of specimens were also exhibited. Tea was served in the library at 5 o'clock.

Vote of Thanks.—A hearty vote of thanks to the staff of the hospital for their kindness and hospitality was carried with acclamation. Dr. Norman Moore, in acknowledging the vote, stated that he hoped to see the members of the Division at a similar meeting on some future occasion.

Hampstead Division.

A meeting of this Division was held on Friday, October 13th, at 9 p.m., at the Hampstead Conservatoire, Swiss Cottage, N.W., Mr. F. R. Humphreys in the chair.

Minutes and Letters.—The Honorary Secretary, having read the minutes, explained that he had received a letter from Dr. Winslow Hall declining to be Vice-Chairman for a second year. The Committee had therefore nominated Mr. Henslowe Wellington to hold that post until the next annual meeting. Arising out of the minutes, he further stated that a letter had been received from Mr. Milvain, then M.P. for Hampstead, expressing sympathy with the views of the Division on the Dog Protection Act, which was not in the least likely to be brought before Parliament at present.

Parliamentary Deputation.—Mr. Humphreys referred to this, and pointed out that a full report had appeared in the Supplement of September 30th.

Programme.—Mr. Armit said that he had nearly completed a programme of Divisional meetings to be held, which would be issued to all members.

Address by the Chairman.—Mr. Humphreys delivered an interesting and stimulating address. He spoke as follows:—Your Committee has done me the honour to invite me to deliver an address at the opening of the present session, and this must, therefore, be my excuse for boring you for a few minutes. And in the first place, let me thank you for the honour you have done me in placing me in the chair of this Division. The British Medical Association is an advancing body, whose propulsive force lies in the Divisions, and to be chairman of a Division is, therefore, a position which carries with it a very considerable amount of dignity and responsibility. I trust that in neither of these qualities will my term of office be found wanting. I recognize, too, that the principal duty of a chairman lies in getting the business through, and I feel confident that I shall receive from you the support necessary for carrying out this duty. The position of a Division as a unit of the Association forms, I think, a very fitting subject for my address, and I will dwell upon it for the short time which the business before us allows me. In 1902, as you are aware, the Association took upon itself a new lease of life—started on fresh lines. It found that the springs of action lay in the Divisions, and accordingly it was so reconstructed that the Divisions should have the opportunity of playing the part which in the natural course of things was allotted to them. Decentralization became the order of the day, local self-government the basis of the organization. In all great organizations there is a period of its existence corresponding to that of a minor, and, like him, until it had reached years of discretion, the Association was under the guardianship of the Council. To continue the analogy a little further, the coming of age means the commencement of the years of indiscretion, the period during which the heir is finding out his duties, and, if he be conscientious, it is in every sense of the word a period of experiment. He has to find out his limitations as well as the lines along which he can best progress, the pathway towards which his footsteps are directed by force of circumstances, character, and previous education. The training of the youthful mind of the Division lies under the disadvantage that it has been "coddled" for so long that it does not yet realize that in itself lies all the force of manhood, all the possibilities which the tremendous energy of the medical profession possesses, latent energy up to the present, but undoubtedly there, waiting the call to arms which its somewhat confused consciousness does not yet recognize. In the Divisions, ladies and gentlemen, resides the whole power of the Association; in its life, one might indeed say, resides the life of the whole body of the medical profession. For it is the only considerable medical body which is alive to the bodily wants of its members. What an immense body it is, 19,500 men and women, and increasing at the rate of 600 per annum. Its income amounts to £51,000 per annum, with a balance of over £4 000. In Great Britain and Ireland are some three-fourths of the whole membership. And it is this great body of which we form an integral part. Every part of the Association is subordinate constitutionally to the Divisions. The duties of the different bodies somewhat overlap at present, but the power of government is placed, constitutionally, in the members in their Divisional meetings. The Division may be compared to a State of the North American Union, forming with the others the United States. Like these States, there is no absolute uniformity in the laws under which the different Divisions act, but there is a general agreement in principle and a very close one in rule. We form, in fact, a federation. The Committee of the Division, the Councils of the Branch and of the Association, have no strength save that derived from the members in their Divisional meetings. What, we may ask, is the amount of power wielded by our representative bodies? It depends upon the amount of support given them by the Divisions. What are the signs by which it is possible to estimate the "backing up" of a representative body by its constituents? Well, we know that when active interest is taken in the proceedings of representatives, sympathetic resolutions are passed in largely-attended meetings; there is a general study of any question submitted to the constituents by the representatives; there is an active initiation of proceedings on the part of the constituency. How does this Division stand when tested by these reagents? We have a membership in the Hampstead Division of 184. Of these, 132 have never yet attended a Divisional meeting. This Division does not stand alone with such an appalling record. It is the general sort of attendance at Divisional meetings. One Division of a large Branch in a great Midland town records in its minutes, published in January last, that of 290 members only 14 attended at a meeting where contract practice, consultations between medical witnesses, information to coroners, reorganization of the Local Government Board, and the Medical Acts Amendment Bill were discussed for the purpose of instructing the Representatives to the Annual Representative Meeting—that is, of bringing into actual practice the solutions for these questions arrived at after long study by the best heads of the Association. In the same issue of the Supplement there are reports of meetings of nine Divisions and one Branch with an aggregate membership of 1,013. The average attendance at these meetings was 18, and if the dinner of one of them be excluded, the average falls to 14.5. That means that the committee attended to form the Divisional meeting. To pass on, we might apply another test to the activity of the members by observing the result of attempts to get opinions on important subjects with the help of reply post-cards. This method has uniformly proved a failure, just as the voting by the profession at large for Direct Representatives to the General Medical Council has proved more or less of a failure. Another test, if one was necessary, would be the effect of a direction by the Division to its Secretary to circulate an urgent request to members to at once write to their Parliamentary representatives requesting them to support some important measure coming before the House of Commons. What, judging by the past—what proportion of members would write as requested? I should consider 20 per cent. well up to the average. It ought to be at least 90 per cent. Now, ladies and gentlemen, if we want to be an active body we must have a programme of work, and a systematic manner of carrying it out. Of course a programme is no good unless there are both performers and audience. The performers, mainly the committee, are quite ready to do their part. But where is the audience? Our performers have nothing but the sense of duty to help them along. Why is it, I may ask, that members do not attend the Divisional meetings? If one of the absentees is asked, he usually replies, "Oh, but you don't make them interesting enough; you have so few interesting cases to show—papers to listen to." I may remark that when there are interesting papers, etc., the attendance improves but very slightly, but this is, of course, no excuse for neglect of duty. The absentees allow that the subjects we discuss are of importance to the profession at large, but they will only half allow that they are of any direct importance to themselves personally. Indeed, there is no disguising the fact that the habitual absentees put upon others work which they themselves shirk, to the great loss of all concerned. They seem to think that the committee is elected to take their places, forgetful of the fact that the committee does not exist except to carry out their behests. They fail to recognize that every subject which concerns the profession at large equally concerns them individually. Not one of those Bills which we have discussed but is of the greatest importance to each of us, whether affected directly by it or no. Take contract practice, for example. It is said by members up here, "Oh, this does not concern us. There are no clubs; there is no trouble in this neighbourhood." Well, at least 15 per cent. of our members announce in the *Medical Directory* that they attend clubs. There must be many more than this. One would have thought that these gentlemen would have attended the discussion. And when we think of the enormous amount of admitted abuse in respect to club practice, surely we should realize that the displacement of medical men caused by these abuses—the pecuniary loss which it entails upon the profession as a whole—must press upon men who do not themselves undertake contract work, through the increased competition resulting outside the lines of club practice. Apply this line of thought to any of the large subjects which come before us, and I think no one could fail to see but that no wave can roll in upon any part of the professional shore but it is felt throughout the whole profession. Our daybooks and ledgers are not so interesting as pure science, but they are a necessary part of our existence. Some part of each day must be given to purely business matters. So it is with the Association. As I have already observed, it is the only body which pays any attention to the considerations attending the actual earning of our livelihood. I neglect the great scientific work done by the Association. It is the only body which has seriously attempted to grapple in a systematic fashion with the problems which attend our daily sustenance. We cannot live by science alone; we must get bread, even if there is a difficulty about the butter.

We have been told on excellent authority that one-fourth of our yearly incomes has been cut off within the last few years by the progress of preventive medicine. We do not complain, rather we glory in it. We exist but for the benefit of mankind, and we are fully prepared and anxious to make further sacrifices in the same direction. The Bills we have recently had before us give ample evidence of this. But the fact remains that we are permanently deprived of a very large percentage of our income, and that there is a certainty that additional losses on the same lines will occur in the near future. This makes it more imperative than it has ever been before that we should pull together in an organized fashion. Men seem almost afraid of looking the facts in the face on the one hand, and on the other perhaps there is a fear of professional trades-unionism; and this seems to be regarded by some as the inevitable outcome of any effort to improve our position as a profession, to do away with abuses which the misplaced philanthropy of our lay friends has too often saddled us with. Trades-unionism, which in our case means taking measures to promote the spread of disease, is of course incompatible with the existence of the profession. But ordinary business measures are very different from this, and those who are heart and soul engaged in fighting the disabilities which our past supineness has laid upon us are rendered almost helpless by the general absence of support from the members at large. These members ask what has the Association ever done to deserve their active support. I refer them to the pages of the British Medical Journal, in which they will find recorded our battles, our successes, our defeats. I ask them to look, if only at the record in last year's *Year Book*, where they will see the enormous amount of work done by the Association, and I ask them how much have they individually contributed towards that work. This year we have had a great victory over contract practice, that system of slavery which the free and enlightened British workman so well understands how to promote. That we should sit down for a minute, knowing that our fellows are being worked to death for less than a pittance, makes one wonder what we are made of. If we stood shoulder to shoulder for a very short time, how many of such abuses would survive? If the British Medical Association is united the profession is united, as we saw in Wales. Every non-member then came in at once when the local Division of the Association was united. No Committee, no Meeting of Representatives, no other body in the Association can know, as things are at present, what amount of support it may expect to receive in any line of action. How can we expect to accomplish anything when we neglect our first duties, looking after our own interests? Let me give you another example of the way in which this non-attendance at Divisional meetings weakens us. Of all those Bills we have had before us, there is not one which stands a chance of passing into law, except it be taken up by the Government or directly patronized by it. Now, the one way to get things done in Parliament, the only way to put pressure on the Government, I do not care to what party it belongs, is to get the constituencies to take the subject in question up. We must get voters to put pressure upon their members. We must ourselves educate those voters, we must be in a position to make the most of every opportunity which occurs. How can we do so when we know nothing of what we want; when we have no accurate knowledge of how to set about the reform; when we know nothing about the difficulties likely to be raised by ignorant lay persons? We have to teach the members of the Association that the subjects they so greatly neglect are of at least as great importance as those they attend to. There is one thing which we as a Division can do to help things on. I suggest it as an aim for this winter; it is to organize ourselves locally. We can do this, and I, with most other men, believe that this local uniting of ourselves in a common bond of good fellowship and of knowledge of matters concerning our profession, is, at the present time, of more importance than anything else. "Know thyself" is the first thing; "know thy neighbour," I am sure, is the next. Organization means each—both of these. Let each man make up his mind to keep in close touch with the aims of the Association; they concern himself personally. Let every man do his best to get into friendly terms with his neighbour, and to arouse in him that sense of *camaraderie* which is at the bottom of all associations worth anything. It is an extraordinary fact, if one comes to think of it, that many medical men do not care to be acquainted with their medical neighbours. It is no good mincing matters about this; it is a deadly thing which must be combated at all costs; it implies distrust. How can one use distrust as a bond of union? The reason for this attitude lies, I believe, in the mischief made by patients for their own ends. I had a flagrant example of this in my own practice some years since, and I made up my mind that I would never again pay the slightest attention to anything a patient told me about another medical man, as it practically meant an unpaid bill. This is a matter of common knowledge, I believe, and yet men are content to allow such persons to poison their minds against their professional brethren. How few medical men are there who, when you come to know them, are not really good fellows, between whom and one's self there is always one common ground—interesting cases? If there are black sheep, surely of all men a black sheep is the man to get into touch with. He will hardly venture to do as much when you are acquainted with him as if you are a stranger. If he still behaves badly, invite the good offices of the Association. Imaginary grievances are, I am quite sure, the common cause of professional difference. If we were only given to having it out with the supposed offender, 99 per cent. of our grievances would vanish, and with them would disappear much of that disunion from which we suffer so greatly. Is it not possible to have a little more conviviality amongst ourselves, and would it not be wise to encourage better feeling between the members of our families? Common interests seem at present to divide where they should unite us. In conclusion, I must thank you for the kind hearing you have given to my sermon.—Dr. Ford Anderson proposed, and Dr. Oppenheimer seconded, a vote of thanks, which was carried unanimously, and the meeting agreed that the address should be printed and circulated among members.

Representative's Report.—Mr. Armit gave a brief report of the Representative Meeting. It was directed that the report should be placed on the minutes.

Bradford Ethical Rules.—Dr. Oppenheimer moved, and Dr. Macevoy seconded:

> That the Division accept the recommendation of the Committee not to adopt the Bradford ethical rules.

This was carried.

Annual Dinner.—The Honorary Secretary reported that the Committee, having received a sufficient response to the first issue of reply postcards, had directed that a second issue should be sent out fixing time and place of dinner. So far 24 members had promised to come to the dinner, 21 declined, and 135 had not answered at all. There were 8 official guests invited, 7 of whom had accepted, and 5 private guests. Total accepting, 36. He hoped to get together 50 by October 31st. Additional reminders had been issued.

Other Business.—A discussion took place on the Royal Charter. It was eventually decided to discuss the matter fully, if possible, at the next meeting of the Division.

St. Pancras Division.

A meeting of this Division was held at the Temperance Hospital on October 20th. Dr. F. J. Buckell in the chair.

Ethical Aspects of the Hospital Question.—Dr. Ford Anderson read an address on the ethical aspects of the hospital question, which is published at p. 243. In the discussion which followed Dr. Paramore took exception to the provident dispensary system being recommended as a remedy for hospital abuse. Provident dispensaries, he said, had proved a lamentable failure, bad alike for the profession and the public. Mr. Nelson Hardy expressed the pleasure it gave him to be present that afternoon and hear Dr. Ford Anderson's address. Some thirty years ago Dr. Ford Anderson, Dr. Walter Smith, and himself had been working at the same subject. He thought the ethical relations of the hospital physician or surgeon had reference, first, to the patients, second, to the outside profession, and third, to the students where there were medical schools attached to the hospitals. The twelve principles laid down by the Hospitals Committee of our Association applied more or less to each of these cases—as regards the patients, by suggesting that on their first visit they should be seen by a registered medical practitioner; as regard the outside profession, by advising that no charge be made for treatment, thus putting a stop to competition with general practitioners outside; and, as to students, by the suggested rule that there should be a limitation in the number of new cases admitted each day, thus avoiding the necessity of the students being trained in a bad system of rushing through a large number of cases. The South London Committee of the Association, on which he had recently served, had, at the request of the staff of King's College

Hospital, made similar recommendations to those contained in the twelve commandments of the Hospitals Committee, but had added an important suggestion for a system of consultations at hospitals. (Dr. Ford Anderson, intervening, pointed out that a similar suggestion would be found in one of the appendices to his former address.) Mr. Nelson Hardy added that he believed that both the staff of King's College Hospital and that of the Belgrave Hospital for Children were sincerely desirous of working their out-patient departments in accordance with the principles which had been discussed that day, and that the latter institution had been actually doing so ever since its removal to South London. Dr. Walter Smith defended provident dispensaries when properly carried on. He thought the whole subject should be discussed in every Division in London. Dr. Glover said the time was most opportune for discussion, the Hospital Sunday Fund having lately sent a circular letter to each hospital receiving a grant on the subject of the out-patient department, asking for a reply by the end of October. On a recent visit to the North of England he was shown over a large hospital at Sunderland, and found on inquiry that they had practically no out-patient department. He thought the reform of out-patient departments in the London hospitals would be a difficult undertaking, and was much interested to hear what was being done in South London.

Vote of Thanks.—The Chairman having conveyed the thanks of the meeting to Dr. Ford Anderson for his address the meeting separated.

THE ETHICAL ASPECTS OF THE HOSPITAL QUESTION.

An Address delivered on October 20th, 1905,

By J. Ford Anderson, M.D., C.M.,

Member of the Hospitals and Central Ethical Committees of the British Medical Association.

In the first place, my thanks are due to the St. Pancras and Islington Division for the honour they have done me in asking me to give an address on the hospital question. It is a great subject, which deeply moves the lay, as well as the medical, community at present, and it is most desirable that members of the British Medical Association should know what is being done, as the whole subject, in the form of a complete scheme, will be officially referred to the Divisions, I expect, shortly, and some familiarity with the suggestions beforehand will be useful when that time comes. The consideration of the subject of hospital ethics implies a knowledge of the principal details of suggested reforms, and to supply this information it has been thought it would be helpful to send to each member of this Division a reprint of a previous Address to the Hampstead Division, with Appendices up to date, describing those details.[1] By this plan the time of the meeting will be saved, and in any discussion which may take place to-day, it is hoped that members present will consider that the pamphlet circulated is part of this address.

The special subject for discussion to-day is

The Ethical Aspects of the Hospital Question.

It is often remarked that there must necessarily be strife in the medical profession, as we are all aiming more or less at similar goals. If the word "emulation" be used the proposition would pass. Strife, or just cause for complaint, can only arise from faulty ethical methods of conducting our lives. Similarly, in hospital ethics, the science of habit in relation to the good life must be cultivated if we are to escape blame—a reasonable altruism must be practised, and conduct must be regulated from the standpoints of others as well as from our own, so that we may reconcile apparently conflicting interests for the common good. Thus, and thus only, can we arrive at a proper settlement of our differences.

I. *Ethical Faults of Hospitals.*

We must recognize the respective claims of the beneficiaries for whom our charitable medical institutions exist, the subscribers who provide the means, and the medical profession who are the stewards of both the others. These three different classes are entitled to consideration, and any scheme which fails to take account of this fact must inevitably come to naught. In attempting the suggested task, let us consider the case of the beneficiaries or patients. Surely it is not for them an ideal arrangement that they should as a matter of course, fly to the out-patient departments of charitable hospitals when the day of sickness comes. It cannot be right to perpetuate the helplessness of the sick child, who fitly and properly runs to its mother to be nursed and tended. It is not by such a system prolonged into adolescence and through life that the virility and the independence of the nation can be maintained. That such a system exists is amply proved in the Hampstead address issued to the members of the Division. It is there shown that practically one-half of the population of London applies annually for gratuitous medical relief.

As the charitable medical institutions exist, and as they are so easy of access, naturally the poor flock to them, and not only are they encouraged to depend on the efforts of others instead of their own, but they learn to feel that they may be improvident without fear of the consequences of that course. Thus, the sailor on his arrival in port squanders in a few days the hard-earned pay of a year, and the labourer on shore too often spends his wages on beer, while his children go unclothed and unfed—and there can be no doubt that the knowledge that the hospital doors are always open to them encourages their improvidence. On politico-economical grounds also the working class suffers by indiscriminate charity, which lowers the rate of wages as certainly as cheap bread and cheap meat; in other words, our hospitals and other charitable institutions, by supplying gratuitously what should be paid for out of the wages, assist the employer to pay his men and help to maintain an artificial distance between the value of capital and labour. The late Mr. Herbert Spencer summed the matter up in his *Data of Ethics* as follows: "Most thinking people now recognize the demoralization caused by indiscriminate charity. They see how in the mendicant there is, besides destruction of the normal relation between labour expended and benefit obtained, a genesis of the expectation that others shall minister to his needs, showing it sometimes in the venting of curses on those who refuse."

It will now be interesting to consider whether the medical advantages to the patients compensate for these drawbacks, and it may be asked—Can the treatment of these hospital patients be carried out as well or better elsewhere? These are questions which I hope this Division will soon give an opinion on. In the meantime, I may express my own view that the system is faulty so far as the physical betterment is concerned. A vision rises of the large squalid gatherings in the out-patient departments of a London hospital. The patients must be seen. The material for teaching must be selected, and those who are chosen for treatment have, it is admitted, every possible care and skill. But what of the others? Is it likely that at the rate of one patient per minute the medical or surgical bearings of cases can be grasped? Most emphatically they cannot, and after their long wait patients are sent away with often a doubtful diagnosis; they are prescribed for in ignorance of their means and their environment, and they have no further medical supervision in their poor homes to note and treat the changes which so often occur in the progress of cases.

The out-patient room of a London hospital always suggests a pearl fishery, where the pearl oysters are carefully kept, and the blanks are thrown away, and at best the system is wasteful. The simile may be permitted, although I admit the fate of the cases sent home with medicine is not quite so tragic as that of the oysters which are thrown away.

For the origin of our hospitals we can have nothing but appreciation; they were founded for, and aimed at, curing rather than palliating the evils of poverty, and strengthening character sufficiently to keep the recipient of charity within the pale of society; but as we find these hospitals in our day, abuses have crept in to such an extent that they actually create the faults which they were designed to meet. There is no chance of strengthening character by practically advertising that all may apply without let or hindrance, and we are only unjust stewards to the public if we allow such a system to continue. On the one hand, the hospitals are undertaking the work of the Poor Law by dealing in their out-patient departments with the destitute and failures who come habitually, and who really require institutional treatment, or, at least, out door relief in addition to medicine; and, on the other hand, wage-limits are not imposed on applicants for treatment—at least not sufficiently—and as if the out-patient departments were not full enough already, some hospitals are tempting a higher social class to come in by imposing small payments for medicine. Such payments create a false idea of

[1] See British Medical Journal, Supplement, June 3rd, 1905, for address referred to.

sufficient payment, and lead to unfair competition with the neighbouring practitioners, and patients who can quite well afford the small charges outside become habitual attendants at the hospital.

The ethics of charity are thus misinterpreted—no doubt, inadvertently—in the system which I have sketched, and this is probably the result of gratifying too much the emotion of mercy, instead of following the Apostolic advice, "To do justly and love mercy," which is the true definition of charity as it should be.

But the public and the medical profession also deserve consideration; they also have their ethical duties and rights. There can be no doubt that human motives are often mixed, and although most of the subscribers to hospitals are actuated by a desire to benefit the poor in their district, there is also a large number who, in addition to their direct sympathy with the poor, contribute to hospitals to promote the general average of skill among practitioners—in other words, for the advancement of medical knowledge; and it is a legitimate aim, which should evoke our approval and practical support. They are thus insuring, as they believe, that they themselves and the community generally shall, when their own day of sickness comes, obtain thereby better treatment. That belief is not apparently shared by all hospital managers, judging from their public utterances; they speak as if medical and surgical skill were the monopoly of hospital staffs, and as if the general practitioner, who is the first to be sent for in illness, had no claim to be considered when it is a question of skill.

It should be remembered in this connexion that all members of the profession start from the same point, and whether they call themselves consultants or general practitioners is often due to personal circumstances unconnected with their professional efficiency. While they are students in the hospital, they receive the most modern and technical teaching, and in all ways they are considered and appreciated, but those who pass the portals of the hospital and enter general practice seem, in the opinion of the managers to whom I have alluded, to degenerate quickly, and to merit very little consideration. The hospital competes with them, and thus impoverishes them, more especially in the case of hospitals where payments are exacted, and even a house-surgeon who has been dealing single-handed with the gravest casualties in his hospital days, cannot be trusted a little later, when he is in general practice, to recognize whether cases are suitable for hospital treatment or not. It is doubtful whether the skill or the rectitude of the practitioner is here impugned, but statements of the kind indicated have emanated from responsible sources recently, and one wonders if the supporters of our hospitals know that these things happen, and if they are aware that their beneficence supports a system which not only demoralizes the poor, but also tends to promote cleavage in the medical profession, and tends to restrict the usefulness and efficiency of the general practitioner.

II. *Improved Ethical Principles Suggested.*

It will be instructive to consider generally how these faulty ethical methods can be improved.

We must reconcile the ethical claims of the patients, subscribers, and medical profession. In the connexion under discussion those three classes are members of the same community. They should cultivate, each with reference to the others, the correct ethical habit. Thus, as stewards to the subscribers, we must see that justice as well as mercy shall be meted out, and, apart from that, we have no right to do a grievous moral wrong to the poor, whatever advantages may follow to ourselves. The wealth of the charitable subscribers should be utilized for the good of all, and we should see to it that, so far as our range of influence extends, the poor shall be regenerated not only physically but morally, and raised to the level of self-respecting citizens.

III. *Principles of Intraprofessional Hospital Ethics Suggested.*

In these matters we must take anxious account of our domestic or intraprofessional relations. That is a very important part of hospital ethics. The physician or surgeon of a hospital should carry out in his dealings with hospital patients the ethical practice which is happily observed by many consultants in connexion with private consultations; he should, as far as possible, show the same consideration in the hospital to the patient and to the practitioner who sent the patient as if he were in his private consulting room; and the general practitioner, on his side, should loyally reciprocate. It is not suggested that there would be omissions in this matter, but it is well to emphasize an attitude which would redound to the good of all, patients as well as medical men, and would make for the advancement of our profession in peace and efficiency. The aim of our profession should be the greatest good of all, and thus we should benefit ourselves. This is part of the reasonable altruism referred to already.

Thus increased opportunity, both to consultants and general practitioners, is required for extending their efficiency—not only age limits are required, but time limits in hospital appointments seem to be fair. The present system of life-long appointments dates from the days when knowledge and skill were possessed by few. It is also questionable whether a physician or surgeon can hold a hospital appointment through a long life with advantage even to himself, and certainly the present duration of active membership of the staffs represses the justifiable aspirations of the younger men. With time limits of appointments, younger aspirants to hospital appointments would attain their aim sooner, and, according to our showing, without harm to others.

It should never be forgotten that as a profession we are all equal, although special skill may be developed by some who are entitled to the rewards of their skill. The general practitioner has a right also to reap the fruits of his labour, if it has been honest and efficient, and it is only his due to have the opportunity of increasing his skill, and this must be provided for; such is the wish as well as the interest of the charitable givers. He does not ask for much, he practically only desires what remains after hospital wants have been reasonably satisfied.

Another principle is that the Hospital Boards of Management should include members of the medical profession. Probably there would be much less cause of complaint now if practitioners had been adequately represented on those Boards, preferably practitioners unconnected with the staff of the hospital at the time or prospectively. The presence of even a few doctors would be powerful for good in guiding the governors in medico-political views outside the hospital—an aspect of the case which hospital boards have hitherto appeared to ignore. It may be added that these are points which have not yet been discussed in the Association.

All these principles are quite compatible with the requirements of teaching, which is the great cause of the out-patient trouble in London, and the teachers must be convinced on this point, and they must also be satisfied that any concession on their part will be met by ethical reciprocity from the general practitioners.

To sum up the principles of intraprofessional hospital ethics, all artificial restrictions on efficiency should be removed, and every member of the profession, if worthy of it, should have the opportunity for expansion. Mr. Herbert Spencer, in his *Data of Ethics*, may be quoted again in this connexion. He says: "Any arrangements which, in a considerable degree, prevent superiority from profiting by the rewards of superiority, or shield inferiority from the evils it entails; any arrangements which make it as well to be inferior as to be superior, are arrangements diametrically opposed to the progress of organization and the reaching of a higher life." These are not the principles of trade-unionism, but they are the only principles worthy of adoption by the great profession to which we belong. In the abstract, at least, every thoughtful member of the medical profession must agree with the principles expressed, and it only remains for us to apply those principles to particular cases.

IV.—*Application of Ethical Principles.*

1. *General Hospitals.*—The general hospitals of London are the models which have been copied, more or less, in all hospitals throughout the country—often, it must be admitted, with evil results; and there can be no doubt that, if the London voluntary hospitals can be induced to undertake reform, their example will be extended with modifications due to local conditions. For the details of suggested reforms please refer to the Hampstead address; the fundamental principles approved by the Council of the Association, and the relationship of hospitals to outside organizations, corrected up to date (provident dispensaries, etc.), are there set forth, and you will see that inability to pay for adequate treatment is the first condition for patients, and the second is the abolition of payment. These should be the rules for in-patients and out-patients (unless they be recipients of Poor-law relief). Thus, two of the ethical faults referred to would be disposed of.

The age limit might fitly be reduced to fifty. The time limit for membership of the staff of a large teaching hospital

would be a matter for consideration, but fifteen years in charge of in-patients should never be exceeded. This would be sufficient after serving as assistant surgeon or physician, and there would thus be more vacancies, and the increased prospect of obtaining hospital appointments would render the younger men more careful not to compromise themselves by association with one-man hospitals and other institutions disapproved of by the profession.

Almoners are suggested to exclude unsuitable applicants; but the most far-reaching reform proposed is that the out-patient and casualty departments should be chiefly consultative; that the practitioners outside the hospital should take over the general treatment of the poor in provident dispensaries and otherwise, and send cases for consultation or treatment, if necessary, to the hospital. The example of the Bolingbroke Hospital at Wandsworth shows that this system is possible even now. This hospital is free from the competition of other hospitals, and provides a good object lesson as to what might happen if the large hospitals combined and worked on the same principles. Such a change would effectually limit the number of unsuitable patients, and at the same time raise the position of the hospitals, and make the out-patient departments clinics worthy of the name, instead of the resorts of trivial cases, which they are so largely at present.

2. *Special Hospitals.*—There is not much to say, except that they should be subject to all the principles laid down. These special hospitals are far too numerous, and, as conducted at present, they injure the general average of efficiency in the profession by absorbing the specialities of medicine and surgery. If they divested themselves of the numerous slight cases which occur in their out-patient rooms, and fell into line with the fundamental principles of the British Medical Association, they would obtain cases of interest by a system of consultations, and such of them as are worthy to endure could only be a benefit to the profession.

3. *Suburban and other Local Hospitals.*—When hospital staffs are altogether or partly engaged in general practice, such hospitals demand anxious consideration. Their special circumstances must be recognized. They are run by the community, and they should be for the good of the community in which they exist. When a resident achieves wealth, he often subscribes largely to the hospital, and bequests are made in favour of the hospital by rich natives of the locality who may have left the paternal nest for years. Collections from churches, jubilee funds, charitable bazaars and similar sources are all frequently bestowed on the local hospital. The hospital is, so to speak, the child of the district, and the idea of the donors is undoubtedly to advance local interests, and to satisfy all parties concerned—in other words, to give pleasure to the residents in that community. It cannot be said that their object is attained if there is often discontent among the majority of the practitioners of medicine in the district. If a hospital only receives the cordial support of the three or four members of the staff who are practically appointed for life, and are, therefore, masters of the situation for that time, while the rest of the practitioners are in opposition, there must, in that case, be dissatisfaction, although for various reasons it may not be openly expressed. That there should be dissatisfaction should scarcely surprise us if it be considered that the members of the hospital staff, with all the prestige ascribed to such a position, monopolize the hospital posts, and compete with the other general practitioners of the district, and continue to do so for many years. For these reasons, all the suggestions laid down already apply with greater force to local hospitals—the limitation of appointments of the staff, the representation of the local profession on the board of management, the abolition of out-patient departments (except for consultation). For appointments to the staff (chiefly for casualties and a few general beds)—five years are quite enough, with, perhaps, a chance of re-election for a second period. The abolition of out-patient departments and the limitation of appointments of the staff in local hospitals should be considered as specially imperative.

The local profession should have also the privilege of attending their patients in the hospital, and the members of the local profession represented on the Board would guard the interests of practitioners in this matter. Also where there is room, a part of the hospital might be set apart, as in the scheme for cottage hospitals and public nursing homes, where payments would be taken, and where a practitioner in the district can also attend his patient. These suggestions have not yet been sanctioned by the Committees of the Association, but it is quite evident that something must be done to allay the growing feeling of discontent regarding these local hospitals, and the scheme suggested would meet the case, and it might be asked, Would it not be best to distinguish such hospitals by the title of "Home Hospitals"?

As an illustration of the feeling of the medical profession on the subject of local hospitals, the case of the Leigh Infirmary is worth recording here. An infirmary was being established at Leigh, Lancashire, and the managers—although no necessity existed for an out-patient department, and in defiance of the local profession—decided to run an out-patient department. It was brought before the Representative Meeting at Leicester, who "resolved unanimously" that no member of our profession should take any appointment under this committee until the Leigh Infirmary committee shall make such arrangement as will agree with the wishes of the local medical men. The Representative Meeting further gave instructions that the Deans of all medical schools, as well as the Infirmary committee at Leigh, should be informed of their decision. This action of the Representative Meeting indicates a firm resolve to support their brethren in dealing with local bodies, and promises well for the future united action of the profession.

4. *Public Medical Services.*

5. *Provident Dispensaries.*—The applications of ethical principles to public medical services and provident dispensaries will not detain us long. We are familiar with the provident dispensary system in London. In Appendices A and B of the reprint of the Hampstead Address you will find the principles and suggested rules, and every care has been taken to safeguard the interests of the profession, and it is hoped that these institutions will prove an efficient organization for enabling the general practitioners to take over that part of the work of the out-patient departments which does not belong to the Poor Law. The ethical principles of these dispensaries, and also of the public medical services, have been alluded to already. They give the opportunity to the general practitioners for which I contend. With the scheme of the British Medical Association before us, any failure will be due to local indifference or errors of judgement. We must expect, however, in applying our ethical principles to provident dispensaries, to have to exercise patience. It is always so in dealing with the less-educated poor. It has been recently and aptly said that they have been "debauched by charity," and it will take time to lead them into paths of forethought and thrift. In this endeavour the home visiting is one of the most useful factors, and, by itself, should justify the establishment of provident dispensaries. It may here be added that a good beginning has been made in providing provident dispensaries in Greater London—there are about fifty already, and probably these and any new similar institutions could be brought into line with the scheme of the British Medical Association.

6. *Poor-law Medical Relief.*—This should be the destination of all cases which are not suitable for the provident dispensary; but as the out-patient departments of hospitals have been doing the work of the Poor Law increasingly for forty years, the system wants remodelling to meet the large influx of cases which will be thrown on the Poor-law service if the out-patient departments are closed. The almoners of hospitals and the relieving officers of parishes, if they worked together, would ensure the success of provident dispensaries. Indeed, the Poor-law relieving officer may be counted on to become an almoner himself when he has to deal with the inroad of the disbanded out-patients of hospitals. Those of the Poor-law patients who are treated "by way of a loan" would be suitable for, and might be referred to, provident dispensaries. Hitherto, owing to the activity of out-patient departments of hospitals, the guardians of most parishes have not felt the necessity of organizing for outdoor medical relief. I may say, however, that this Borough of St. Pancras, in which we meet, is a notable exception in this respect, as there are two active Poor-law dispensaries which are doing their best to cope with the outdoor medical wants of the poor. As you may know, a Royal Commission on the Poor Law is being, or has been appointed, and it may be relied on that the British Medical Association will intervene effectually in matters connected with public health and the medical relief of the poor. In the meantime the guardians have great discretionary powers, and, where these powers are insufficient, the Local Government Board can be counted on to give them increased power.

7. *Cottage Hospitals and Public Nursing Homes.*—This is an honest attempt to solve the difficulty of dealing with the

cases drawn from a higher social class than those who attend at hospitals (see Appendix C. of Reprint). The public nursing homes are similar in arrangement to the cottage homes alluded to in the address circulated in the Division.

I trust, gentlemen, I have not detained you too long. The subject of hospital ethics cannot be dealt with in compartments, as any study of the question depends on the relations of all the parts to each other. It has been shown that rules of ethical conduct are necessary between the three classes in the hospital community, and, without these, no reforms can be effectual. Intraprofessional contentment is especially desired, and this can only be secured by obtaining equal opportunity for just expansion each in his own line—or, to use a political expression, the "open door"—in connexion with the medical care of the poor. Some say it is a work of Sisyphus to reform hospitals, but they forget that Sisyphus was only one man, and he tried the physically impossible, while we are many, and if our Association be united in aim and action, we may hope not only to push the stone of hospital reform up the mountain, but to plant it firmly on the summit.

☞ *To ensure the insertion of notices in this column they must be received at the Central Offices of the Association not later than the first post on Tuesday.*

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

Bath and Bristol Branch: Trowbridge Division.—A meeting of this Division will be held in the Council Chamber, Town Hall, Marlborough, on Saturday, October 28th, at 3.15 p.m. Dr. C. J. Cullingworth will deliver an address entitled, Oliver Wendell Holmes and the Contagiousness of Puerperal Fever. Agenda: (1) Minutes of last meeting. (2) Correspondence. (3) Matters referred to the Division by the Central Council or Representative Meeting, or adjourned from last meeting of the Division. (4) Address by Dr. Cullingworth. (5) Other business (if any). Tea and refreshments will be provided by the Chairman in the Town Hall at the close of the meeting.—J. Tubb-Thomas, D.P.H., Honorary Secretary, Trowbridge, Wilts.

Birmingham Branch: Central Division.—A general meeting of this Division will be held on Tuesday, October 31st, at 3.30 p.m. Business: (1) Dr. Kirby will propose the adoption of the "Bradford Rules" as rules of the Division. (2) The consideration of the recommendations of the Science Co-ordination Committee, on the Co-ordination of the Scientific Work of the Association, its Branches, and Divisions (Supplement to the British Medical Journal, September 30th). (3) Ambulance Work. The Representative Meeting having decided that ambulance work should be treated as a matter of business, to consider what steps should be taken to give effect to this decision in the Division (Supplement for October 7th). —E. D. Kirby, Honorary Secretary, 106, Hagley Road, Birmingham.

Birmingham Branch: Coventry Division.—The next meeting of this Division will be held on Tuesday, November 7th, at 8.30 p.m., at the Coventry and Warwickshire Hospital. Agenda: (1) Report of Committee on Friendly Societies. (2) Dr. Bateman, of the Medical Defence Union, will give an address on Medical Defence and the Laws relating to the Medical Profession.—E. H. Snell, Honorary Secretary, Knighton House, Coventry.

Lancashire and Cheshire Branch: Manchester (South) Division.—A meeting of the members of the above Division will be held on Tuesday, October 31st, at the Schoolroom of the Holy Innocents' Church, Fallowfield, at 4.30 p.m. Agenda: To receive Dr. Bagley's account of his representation of the Division at the annual meeting at Leicester. To consider certain resolutions sent by the Manchester Medical Guild to the Medico-Political Committee of the British Medical Association. To consider Supplements, British Medical Journal, September 30th to October 7th. Other business.—Percy McDougall, Honorary Secretary.

Metropolitan Counties Branch: Lambeth Division.—The next meeting will be held in the Clinical Theatre of St. Thomas's Hospital on Thursday, November 2nd, at 4 p.m. Agenda: (1) Minutes. (2) A paper by Edred M. Corner, F.R.C.S., on Some Surgical Cases of Tuberculosis of the Mesenteric Glands. (3) Demonstration of cases by members of the Staff of the hospital.—W. H. B. Stoddart, Honorary Divisional Secretary.

Metropolitan Counties Branch: Richmond Division.—The opening meeting of this Division will be held on Wednesday, November 1st, at 6 p.m., at the Talbot Hotel, Richmond. Sir Wm. Turner Thiselton-Dyer, K.C.M.G., C.I.E., F.R.S. (Director of the Royal Gardens, Kew), will give an address to the members. Dr. R. Langdon Down will report upon the business of the Association transacted at the annual meeting at Leicester. Dinner at 7.30. Tickets, 7s. 6d. each. J. R. Johnson, M.R.C.S., Honorary Secretary, Richmond.

Metropolitan Counties Branch: Wandsworth Division.—An ordinary meeting will be held at the Bolingbroke Hospital, Wandsworth Common, on Thursday, November 2nd, at 4 p.m. Agenda: (1) Minutes. (2) Clinical Demonstration of cases of Ear, Throat, and Nose Diseases by E. A. Peters, M.R.C.P. (3) Other business. All medical practitioners will be welcomed whether members of the Association or not. E. Rowland Fothergill, Honorary Secretary, Torquay House, Southfields, S.W.

Shropshire and Mid-Wales Branch. The twenty-ninth annual general meeting will be held at the Salop Infirmary on Tuesday, October 31st, at 3 p.m. The President, Dr. Charles Gwynn, will take the chair. Agenda: To read minutes of previous meeting. To receive communications from Branch Council. To receive resolution from Torquay Division. The President will deliver an address entitled Some Remarks upon Ambulance Work. Dr. Thomas Wilson, General Hospital, Birmingham, will read a paper on the Medical Treatment of Uterine Fibroids and its Limitations, and will show a few museum preparations. Dr. Law Webb will read notes on Blood in Pemphigus and Haemorrhagic Purpura, with slides. Mr. Jackson will read notes of a case of Perforated Gastric Ulcer. Dr. Gardner will give briefly his impressions of the Meeting of Representatives at Leicester. The annual dinner will be held at the Crown Hotel at 6 p.m. Dinner tickets (exclusive of wine), 7s. 6d. each. Morning dress. Members have the privilege of introducing friends to the dinner.—Harold H. B. Macleod, Honorary Secretary, College Hill, Shrewsbury.

South-Eastern Branch: Brighton Division.—A meeting will be held at the Dispensary, 113, Queen's Road, Brighton, at 4.30 p.m. on the fourth Wednesday in November (22nd). Members wishing to read papers or show cases at the meeting are requested to give at least a fortnight's notice to the Honorary Secretary, Ryding Marsh, M.D., 49, Sackville Road, Hove.

South-Eastern Branch: Norwood Division.—The next meeting of the above Division will take place at Streatham Hall (close to Streatham Station) on Thursday, November 9th, at 4 p.m. Dinner at 6 p.m. Charge, 7s., exclusive of wine. All members of the South-Eastern Branch are invited to attend and to introduce professional friends, but will be unable to vote on Divisional questions. Agenda: (1) Minutes of last meeting. (2) To decide where the next meeting shall be held and to nominate a member of the Division to take the chair thereat. (3) Communication from Wandsworth *re* entertaining Representatives in July next. (4) Report of Representative. The following papers will be read: Mr. Betham Robinson, On the Use of Taxis for Hernia and some Complications which may arise During and After its Employment. Dr. W. S. Colman, Pitfalls in Diagnosis. Dr. Giles, Some Observations on Uterine Myomata.—H. J. Prangley, Tudor House, 197, Anerley Road, Anerley, S.E.

South-Western Branch: Truro Division.—The next meeting will be held in the second week of January at the Miners' Hospital, Redruth. Members wishing to read papers or notes of cases are requested to notify the Honorary Secretary before December 21st. As the present day of meeting (Thursday) seems to be inconvenient to some members, especially to those in the Penzance district, the Honorary Secretary will be glad to hear any suggestions as to an alteration.—Mark R. Taylor, Honorary Secretary.

South Midland Branch.—The autumnal meeting of this Branch will be held at the Eight Bells Hotel, Bletchley, on Thursday, November 16th, at 2 o'clock, under the presidency of Dr. Lipscomb, St. Albans. Luncheon will be provided at the Hotel at 1 o'clock, at 2s. 6d. per head. Members desiring to be present at the luncheon should communicate with the Secretary not later than Monday, November 13th. The following paper is promised:—Dr. Jacobs: On Mammary Tumours. The Honorary Secretary will be glad to hear at once of any paper or cases which any member might like to read.—E. Hamer Jones, Honorary Secretary.

West Somerset Branch.—The autumnal meeting of this Branch will be held at the Taunton and Somerset Hospital, on Friday, November 3rd, at 4 p.m., when Mr. Gordon Henry will preside. Mr. C. H. Fagge, M.S., F.R.C.S., Surgeon in Charge of the Ear Department at Guy's Hospital, has kindly consented to attend and read a paper on The Diagnosis and Treatment of Inflammatory Diseases of the Middle Ear and Antrum. The West Somerset medical dinner will be held on the same evening.—W. B. Winckworth, Honorary Secretary, Taunton.

THE METROPOLITAN ASYLUMS BOARD AND ITS ASSISTANT MEDICAL OFFICERS.

It may be remembered that some time ago a subcommittee was appointed by the Metropolitan Asylums Board to consider certain complaints made by Drs. Barwell, Herklots, and Kennard, then Assistant Medical Officers at the Darenth Asylum. The report of the Subcommittee was submitted to the Board at a meeting held on October 14th. The following is the text of the report, which we received too late for publication in the British Medical Journal of October 21st:

1. In view of the publicity which has been given to the subject-matter of the correspondence which led to our appointment, we have decided to deal somewhat fully with it in this report in order that it may be properly understood by every member.

2. The correspondence commenced with a letter addressed on August 14th by Drs. Barwell, Herklots, and Kennard (three assistant medical officers employed at Darenth) "to the chairman and members of the Metropolitan Asylums Board" in which the signatories intimated that they had resigned "as a protest against the general conditions appertaining to our position," and asked "that an inquiry be made into the grounds of our protest." On the receipt of that letter the Chairman of the Board directed a reply to be sent to the effect that it would be useless to ask the managers to institute an inquiry concerning a protest couched in such vague terms, but that if the writers of the letter were prepared to state their grievance more specifically he would consider whether it was one which called for inquiry.

3. On August 17th Dr. Barwell, in his reply, stated "our main grievance is the fact that assistant medical officers in the Metropolitan Asylums Board service are not principal officers," adding "we ask for an inquiry into the grounds for this complaint, and are prepared to bring evidence before the managers in support of our grievance."

4. On August 21st, another letter was addressed to Dr. Barwell by direction of the Chairman of the Board, in which allusion was made to the words "main grievance," and a request made that the Chairman might be furnished with a full statement of every other grievance, if any, which Dr. Barwell and his colleagues desired to allege. The letter concluded as follows: "Until Mr. Scovell has this information he cannot be in a position to deal with the matter."

5. To that communication a reply, signed by the three officers, was received on August 24th, from which we quote the following passage: "The point which we wish investigated is the fact that we are not principal officers. This point affects the whole profession, and the great majority of our other grievances are bred of the position in which that places us."

6. The next development in this matter was the appearance in the *Lancet* and the British Medical Journal of August 26th of a letter dated August 22nd, which the officers had addressed to the editors of those journals. The following is a *précis* of the letter as printed in the Journal: (*a*) "We have felt it our duty to resign . . . in order to call attention to the difficulties we have met with in the fulfilment of our duties: (*b*) assistant medical officers rank as subordinate officers, while the chaplain, steward, matron, and head schoolmistress are principal officers; (*c*) result is that directions for cure of patients given by an assistant medical officer may be revised by a lay officer of the superior rank, and the assistant medical officer's only remedy is an appeal to the superintendent on every such point. (*d*) This is no merely hypothetical objection, but is in actual experience a difficulty for which the remedy officially provided is obviously inadequate. (*e*) Are prepared to quote instances of matters exclusively medical in which a lay principal officer has modified the directions of an assistant medical officer. (*f*) Such intrusions of unqualified persons . . . are frequent and entail * . . . an almost continuous series of complaints. By the time complaint is made the harm may be done and patient suffer from effect of ignorant interference. (*g*) That the officer may appeal to the superintendent does not, unfortunately, secure the patient from harm. (*h*) Attempts have been made before to remedy this paradoxical state of affairs, but the facts as they are at present demonstrate the completeness of the failure those efforts have met with. (*i*) From the status of assistant medical officers and the accommodation provided for them, the complainants suspect that the Board is not anxious to get assistant medical officers who will stay for any length of time. (*j*) If average stay is not more than a few months interests of patients suffer."

7. In the same issue of the *Lancet* also appeared an advertisement in terms as follow: "The assistant medical officers of the Darenth Asylum under the Metropolitan Asylums Board, who have recently resigned their appointments, and whose vacancies were advertised in the *Lancet* of August 19th, request intending candidates to communicate with them under the initials 'B. H. K.,' the *Lancet* Office, 423, Strand, W.C., before deciding to compete for these posts."

8. Upon the published letter being brought to the notice of the Chairman of the Board the officers were separately requested, upon his instructions, "to be good enough to furnish for purposes of investigation full details of the instances which you say you are prepared to quote from your own experience in which a lay principal officer has modified your instructions in matters exclusively medical." The assistant clerk's letter concluded as follows: "Mr. Scovell has no doubt that you will at once recognize that the officer or officers accused should in justice be informed, with as little delay as possible, of so grave a 'charge.'" On the following day (August 29th) the Chairman of the Board addressed a letter to the Editors of the *Lancet* and the British Medical Journal, from which letter we quote the following passage: "It is true that assistant medical officers rank as 'subordinate officers,' and that the medical superintendent and the other officials named by the writers rank as 'principal officers.' In other words, there is a responsible chief or 'principal officer' in each department of an asylum, and each has a number of assistants or 'subordinates.' This is provided by Orders of the Local Government Board, and is a matter over which the Asylums Board has no control, but, so far as I am aware, the arrangement works well in practice." Mr. Scovell then alluded to the "serious allegation" which the officers had made against some one or more of the lay principal officers, expressed regret that the charge as to the frequent intrusion of unqualified persons into purely medical matters should not have been communicated in the first place to the Board, and stated that he had no doubt whatever the Board would "take the earliest opportunity of thoroughly investigating the matter, and of taking such steps as their inquiries may show to be necessary."

9. On August 31st a further letter was received from the officers stating that they were prepared to substantiate their statements which appeared in the British Medical Journal and the *Lancet* before an impartially-constituted tribunal appointed to inquire into the whole case.

10. That communication was succeeded by a further letter (dated September 5th) addressed to the Editors of the *Lancet* and British Medical Journal, stating that the officers thanked Mr. Scovell for his prompt reply to their letter of August 26th, and trusted that a "thorough inquiry will place these matters in a true light."

11. At our first meeting on September 13th the three officers appeared before us, a shorthand writer being present whose notes have been transcribed and copies made for perusal by the managers. At the request of the officers they were allowed to be present in the committee room together. Upon being asked to clearly define and particularize cases in which they asserted that the conditions were unsatisfactory to their position, an answer was given which may be summarized as follows: "(*a*) That they were not principal officers but only subordinate officers, which makes it difficult to uphold our authority; (*b*) that orders antagonistic to theirs were given by lay principal officers; (*c*) that there was a possibility of the lay principal officers ignoring their orders in matters which occurred in their (the assistant medical officers') provinces; (*d*) that the quarters for assistant medical officers, as such, were inferior to those which would be allotted to a principal officer; and (*e*) that their accommodation also as subordinate officers was inferior." They also complained that they could be dismissed without the consent of the Local Government Board, and that after three years' service an assistant medical officer had to be re-elected annually, which made the position very insecure; and, lastly, that they considered it inconsistent with the dignity of the medical profession to be subordinate officers and to be classed as such, in accordance with a Local Government Board Order (Feb. 10th, 1875, Art. 30), with the dispenser, stock-taker, attendant, and porter.

12. Upon being asked to quote instances of matters exclusively medical in which a lay principal officer had modified the instructions of an assistant medical officer, a reply was made that "we do not make a charge against any individual nor do we wish to do so," and "we merely mention this to show that the rule which makes us subordinate officers does not work satisfactorily; therefore, we wish not to mention any names at all."

13. Upon being informed that they could not bring charges without substantiating them, the officers replied that they had not brought any charge at all, and that it was not their intention to bring a charge against any individual but "merely to point out the difficulty of our position." Urged to quote instances to prove that the system was wrong, three instances were mentioned. The *first* was said to have occurred in November last when some nightshirts (afterwards referred to as "clean linen") appear to have been removed from a ward contrary to an order of an assistant medical officer. The *second* instance had reference to some cripple patients being sent out into the airing court for exercise by a lay principal officer without consultation with the medical officer in charge, and strictly against the orders of an assistant medical officer. The witness refused to give the name of the lay-officer referred to. The *third* instance related to the alleged removal "by order of the lay principal officer" of a blanket from each of two beds occupied by patients suffering from bronchitis after orders had been given that the patients were to have a certain number of blankets on. The witness was again and again urged to give the name of the lay principal officer but he declined to give it, stating, "I do not know whether the lay officer knew of my instruction." These were the only instances mentioned in which the welfare of the patients might possibly be endangered.

14. Here it will be convenient to mention that transcript of the shorthand notes taken at the meeting has been forwarded to the medical superintendent of Darenth Asylum (Dr. Rotherham) by our direction with a request to furnish his observations thereon. His observations upon the three instances above mentioned are as follows: "(*a*) *Complaint as to clothing being removed.*—The assistant medical officer reported to me that an order had been given by a 'lay' principal officer for clothing to be removed from Ward 18, though he had instructed the charge-nurse that no clothing was to be removed. I told him to see the charge-nurse and to tell her that his order was to be obeyed and that if after this any contrary order was given he was to report to me. I heard nothing more of this and had no idea that any clothing had been removed. I therefore assumed that the 'lay' principal officer did not know the assistant medical officer's order, and that if the nurse had explained this the order to remove the clothes would not have been given. (*b*) *With regard to the cripples* being taken out of the ward against the assistant medical officer's order, this is the first I have heard of this, and do not understand who the 'lay' principal officer can be, as the only male principal officers at Darenth are the steward, chaplain, and myself. (The 'lay' officer was alluded to as 'he.') (*c*) *With regard to the removal of blankets.*—This was reported to me by the assistant medical officer, and I told him to give an order for the blankets to be put on again, and to explain to the charge nurse that this was a special order, and to let me know if any contradictory order was given. I heard nothing more of this, and therefore assumed that the 'lay' principal officer had no knowledge of the assistant medical officer's order."

15. It will perhaps be convenient if we here give the observations of Dr. Rotherham upon the three remaining complaints made in the course of the meeting: "(*d*) *Complaint as to there being no common room.*—Assistant medical officers during the past year have used as a common mess-room the committee dining room, except at such times as the committee are visiting the institution. (*e*) *Complaint about the assistant medical officers' quarters.*—The assistant medical officers' room at the pavilions, to which Dr. Kennard apparently refers, and which he occupied for the first part of his time at Darenth, looks out on a private garden and not on to an airing court. The room (quarters) consists of a sitting-room, bedroom, bed and bathroom combined, and the usual offices, and I have had no complaint about them except that they are situated at the pavilions. (*f*) *Complaint with regard to butter and beer.*—I have had complaints from time to time about the butter supplied, and have looked into the matter, but I have had no complaints about the beer supplied."

16. We now proceed to state the conclusions at which we have arrived on the complaints generally and on the "evidence" adduced by the complainants.

* Upon being questioned on this statement the officer said the word "would" should come before the word "entail." The sentence was accurately copied from the letter as it appeared in the *Lancet*.

17. We regard such "instances" as have been mentioned as altogether too trivial to be made the occasion of such sweeping assertions against other officers as were contained in the letter to the *Lancet* and the BRITISH MEDICAL JOURNAL—assertions the truth of which it is impossible to satisfactorily inquire into owing to the refusal of the authors to furnish the names of those whom they have accused.

18. The point as to assistant medical officers being ranked as subordinate officers and not principal officers is one which has been determined by the Local Government Board, doubtless for good and sufficient reasons, and the principle is not, we believe, restricted to service under the Metropolitan Asylums Board. While technically ranking as subordinates, assistant medical officers are treated as principal officers in such matters as their dietary, the privilege of receiving and entertaining friends, and in several other ways.

19. With regard to the complaint as to the possibility of a medical order being disregarded or revised, we consider that, even if assistant medical officers were elevated to the rank of principal officers, that would be no guarantee that such instances as have been furnished could never happen. Of those instances it seems to us that the first and third were of a domestic character, and that if the unnamed lay officer alluded to had known of the medical officer's wishes no contradictory orders would have been given. As regards the second instance, it seems that the medical officer gave orders that when the crippled patients referred to were sufficiently well, certain of them could go outside and take exercise in the airing court, but that as the weather turned wet and cold he ordered that they should not go out. In this case we can only suppose that the lay officer who sent the patients out knew of the first order but not of the second. The refusal of the complainants to furnish the name of the officer prevents further inquiry being made, Of this instance—the only serious one in our view—the medical superintendent was not made aware.

20. The complaints concerning the accommodation provided for the assistant medical officers have been inquired into by our chairman and the chairman of the Darenth subcommittee, who have personally inspected the quarters and who tell us that they are quite satisfactory, and that the officers who are now occupying them are satisfied. The quarters provided are as follows: For the senior assistant medical officer—a sitting-room, two bedrooms, and a bathroom. For the second and fourth assistants, located at the training school—each a sitting-room and a bedroom, a bathroom for their joint use, with a bed in it, which is available for an occasional visitor. For the third assistant, located at the pavilions, a sitting-room, a bedroom, and a bathroom, with a bed in it. The officers are also allowed to use the subcommittee's luncheon-room as a common mess-room, and are provided with a billiard-room.

21. The complaint that assistant medical officers can be dismissed without the consent of the Local Government Board seems to us to require very little comment. If the officers had cited one instance where such a power on the part of the managers had been wrongfully used it is conceivable that there would have been some justification for the complaint.

22. With regard to the rule (Standing Order 124) which requires that "every assistant medical officer appointed to the Board's imbecile asylums . . . . shall be subject to annual re-election after the completion of his third year of office," we can only say that it has been in operation for nearly 12 years, and was made on the recommendation of the General Purposes Committee. So far as we are aware, no hardship has been occasioned by the rule, which we believe was passed with a view to discouraging the stay in imbecile asylums for long periods of young medical men who, it was thought, would do well to seek occupation on a higher plane after obtaining a few years' experience of asylum work.

23. Concerning the complaint of the officers that they considered it "inconsistent with the dignity of the medical profession to be subordinate officers" we fail to see any justification for the suggestion.

24. Generally we cannot refrain from expressing our regret that the complainants should have adopted the precipitate course they took for the purpose of calling attention to their grievances, and we consider that they treated the managers and the medical superintendent, who was on leave at the time, most unfairly in making such grievances public before giving the Asylums Committee or the Board a chance of investigating them.

25. We consider that this report would be incomplete without containing a brief statement respecting the time the complainants were in the Board's service. Mr. Barwell was first employed temporarily at Darenth in 1900. In September of that year he was appointed as fourth assistant and was subsequently promoted, first as third assistant and later on as second assistant, leaving in March, 1902, to go to South Africa. In May, 1904, he was again employed temporarily at Darenth, and in the following June was appointed third assistant, being promoted in June of this year to be a second assistant. Mr. Herklots was employed for the first five and a half months of this year as a *locum tenens* assistant medical officer at Darenth, and in response to public advertisement he applied for permanent appointment as a third assistant, and was appointed on June 10th last. Dr. Kennard was appointed fourth assistant on June 10th last. He entered the service at Darenth on July 10th, and gave notice of resignation after three weeks' service.

26. In conclusion, we submit the following recommendations: That the views expressed by the special Subcommittee in this report be adopted as those of the Asylums Committee. That this report be submitted to the Board, with an intimation that the Asylums Committee have adopted the views expressed by the Subcommittee therein.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

SURGEON J. MOWAT, M.B., is promoted to be Staff Surgeon, from May 16th, 1902. He was appointed Surgeon, May 16th, 1894.

Surgeon J. E. H. PHILLIPS is also promoted to be Staff Surgeon, from May 15th, 1903. His commission as Surgeon bears date May 15th, 1895.

Surgeon M. P. JONES is also made Staff Surgeon, from November 12th, 1903. He entered as Surgeon, November 12th, 1895.

Surgeons R. W. STANISTREET and G. GIBSON are also promoted to be Staff Surgeons, from November 10th, 1904. Their commissions as Surgeons are dated November 10th, 1896

The following appointments have been made at the Admiralty:—FRANK E. BOLTON, Surgeon, to the *Imogene*, October 19th; GEORGE E. GLYNN, Surgeon to the *Sirius*, on recommissioning, October 21st; WILLIAM E. ORMSBY, Surgeon, to the *Excellent*, for the *Grafton*, October 21st; RICHARD T. A. LEVINGE, Fleet Surgeon, and EDWARD T. BURTON, Surgeon, to the *Montague*, on recommissioning, Oct. 31st; JAMES MCELMEE, Fleet Surgeon, to the *Empress of India*, on recommissioning, October 31st; JOHN K. ROBINSON, Staff Surgeon, to the *Donegal*, on recommissioning, October 31st; MAURICE T. MALE, Surgeon, to the *Hussar*, October 30th; FRANCIS J. L. P. MCKENNA, Surgeon, to the *President*, for three months' hospital study, October 30th; ROBERT T. GILLMOUR, Staff Surgeon, to the *President*, for three months' hospital study at St. Mary's Hospital, Paddington, October 20th.

CHANGES OF STATION.

THE following changes of station amongst the officers of the Royal Army Medical Corps have been officially reported to have taken place during September:

		FROM	TO
Lieut.-Col.	W. J. Baker	Shoeburyness	Dublin.
"	T. J. O'Donnell, D.S.O.	Preston	India.
"	E. J. E. Risk	S. Africa	Bloemfontein.
"	F. P. Nichols, M.B.	East. Command	Norwich.
"	J. Carmichael	Warley	India.
"	C. R. Tyrrell	Shorncliffe	London.
"	R. J. S. Simpson, M.B., C.M.G.	London	R.A.M. College.
"	W. E. Berryman	Shorncliffe	India.
"	R. Caldwell	Leeds	Sheffield.
"	M. O'Halloran, M.D.	Harrismith	Maritzburg.
"	W. H. Starr	Dover	Secunderabad.
Major	R. W. Wright	Portsmouth	St. Helena.
"	M. P. C. Holt, D.S.O.	Dublin	Woolwich.
"	G. F. Alexander, M.B.	Bloemfontein	Harrismith.
"	C. E. G. Stalkartt, M.D.	St. Helena	Portsmouth.
"	G. W. Tate, M.B.	Dublin	Dundalk.
"	A. G. Thompson, M.B.	Chester	Cardiff.
"	D. J. Collins, M.B.	—	Pretoria.
Captain	John M. Buist, M.B.	—	"
"	G. B. Riddick	Alton	East. Command.
"	A. J. MacDougall, M.B.	Piershill	Edinburgh.
"	P. MacKessack, M.B.	Lark Hill Camp	Devonport.
"	A. W. N. Bowen	Woolwich	W. Africa.
"	E. T. Inkson, V.C.	"	Aldershot.
"	A. C. Lupton, M.B.	York	N'castle-on-Tyne
"	A. E. Thorp	Devonport	Fort Tregantle
"	V. J. Crawford	Cork	Queenstown.
"	J. J. W. Prescott, D.S.O.	Wedgnock Park	Bulford.
"	E. E. Ellery	Fargo Camp	"
"	L. N. LLoyd, D.S.O.	Portsmouth	Gosport.
"	T. J. Crean, V.C.	—	London District.
"	H. M. Morton, M.B.	Leith Fort	Edinburgh.
"	H. H. Norman	Cork	Queenstown.
"	F. Harvey	Aldershot	Deepcut.
"	E. W. Siberry	Clonmel	Kilkenny.
"	F. H. Merry, M.B.	Harrismith	Maritzburg.
"	H. C. R. Hime, M.B.	Aldershot	Bordon.
"	W. L. Baker	Meiktila	Bhamo.
"	W. J. P. Adye-Curran	Limerick	Fermoy.
"	E. G. Ford, M.B.	Crete	York.
"	E. Bennett	S. Command	Devonport.
"	P. C. Douglass	Mhow	Neemuch.
"	F. A. Stephens	Gibraltar	Edinburgh.
"	W. M. Power	Poona	Kamptee.
"	T. White	Malta	Crete.
Lieutenant	C. V. B. Stanley, M.D.	—	Chatham.
"	W. W. Browne	Wellington	Rangoon.
"	J. G. Bell, M.B.	Bangalore	Belgaum.
"	G. H. J. Brown, M.B.	Maymyo	Mandalay.
"	D. P. Watson, M.B.	Bangalore	Karachi.
"	H. H. J. Fawcett	Bloemfontein	Harrismith.
"	N. E. Dunkerton	—	Potchefstroom.
"	C. H. Turner	Woolwich	India.
"	F. H. Noke, M.B.	St. Thomas's M't.	Mhow.
"	E. C. Whitehead, M.B.	—	Middelburg, C.C.
"	C. Ryley	Dublin	Cork.
"	W. H. Hills, M.B.	Edale Camp	Trawsfynydd.
"	J. F. C. Mackenzie, M.B.	Netley	Devonport.
"	H. T. Wilson	Windmill Hill Cp.	Bulford.
"	H. C. Winckworth	Netley	Malta.
"	H. W. Russell, M.D.	Rosses Point	Dublin.
"	N. Low	Deepcut	Bombay.
"	K. A. C. Doig	Alton	York.
"	C. R. Millar	Longmoor	Aldershot.
"	J. St. A. Maughan	Stoneleigh Pk. Cp.	Bulford
"	T. H. Gibbon, M.D.	Dublin	R.A.M. College
"	J. E. Hoar	Aldershot	Alton.

Major R. I. POWER, retired pay, has assumed the medical charge of troops at Waterford.

The undermentioned Lieutenant-Colonels, on retired pay, have relinquished the medical charge of troops at the stations named: J. Hector, M.B., London; R. W. Barnes, Dover Military Prison; J. Hickman, Gravesend.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel G. E. Moffet, M.B., retires on retired pay, October 21st. He was appointed Surgeon, January 31st, 1885; Surgeon-Major, January 31st, 1897; and Lieutenant-Colonel, January 31st, 1905. He served in the South African war in 1899-1901, being present in operations in Orange River Colony in 1901, and receiving the Queen's medal with clasp.

INDIAN MEDICAL SERVICE.

Colonel M. D. Moriarty, M.D., Bengal Establishment, has retired from the service. He was appointed Assistant Surgeon, March 31st, 1876, and became Surgeon-Colonel, October 1st, 1902.

Major W. E. A. Armstrong, Madras Establishment, has also retired from the service. He entered as Surgeon-Captain, January 30th, 1895, and was made Major, January 30th, 1904.

Majors H. R. Woolbert, M.B., G. A. Baker, M.B., J. R. Adie, M.B., A. C. Younan, M.B., A. W. Alcock, M.B., C.I.E., and J. M. Cadell, M.B., Bengal Establishment, are promoted to be Lieut.-Colonels, from October 1st, 1905, their first commissions, which were simultaneous, being dated October 1st, 1885. Their war records are as follow: Lieut.-Colonel Baker: Burmese Expedition, 1886-7 (medal with clasp); North-West Frontier of India campaign, 1897-8, with the Tirah Expeditionary Force (medal with two clasps). Lieut.-Colonel Adie: Burmese Expedition, 1885-7 (medal with clasp). Lieut.-Colonel Younan: Burmese Expedition, 1885-9 (medal with two clasps); Hazara Expedition, 1891 (clasp); Isazai Expedition, 1892; Chitral Relief Force, 1895 (medal with clasp); North-West Frontier of India campaign, 1897-8 (clasp); operations in Mekran, 1898. Lieut.-Colonel Cadell: Burmese Expedition, 1886-9 (medal with two clasps); Hazara Expedition, 1891 (clasp); Tirah, 1897-8 (medal with two clasps).

The undermentioned Lieutenants, who joined September 1st, 1902, are promoted to be Captains from September 1st, 1905: J. H. Murray, M.B., F. P. Mackie, A. T. Pridham, M.B., F. F. Connor, J. O'Leary, M.B., S. R. Christophers, M.B., H. E. Smith, M.B., H. R. Dutton, V. B. Nesfield, H. M. Brown, M.B., A. F. Pilkington, P. G. Easton, W. W. Jendwine, T. C. M'C. Young, M.B., G. A. Jolly, M.B., H. C. Brown, M.B., G. H. L. Whale, A. K. Lauddie, M.B., W. J. Collinson, C. L. Dunn, H. M. H. Melhuish, H. H. Kiddle, R. F. C. Talbot, M.D., R. D. Saigol, C. E. Bulteel, J. L. Lunham, M.B., F. C. Rogers, M. Ba-Ket, and C. A. F. Hingston.

Captain I. L. MacInnes, M.B., Ch.B., I.M.S., resigns his commission August, 1905. Gazetted Lieutenant, January 27th, 1900; Captain, January 27th, 1903; War Service, Waziristan, N.W. Frontier, 1901-2 (medal with clasp).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

Lieutenant-Colonel G. T. Beatson, M.D., C.B., Scottish Command, Glasgow Companies, is granted the honorary rank of Colonel, October 14th.

Lieutenant M. W. Renton, Eastern Command, Woolwich Companies, resigns his commission, October 18th.

ROYAL ENGINEERS (VOLUNTEERS).

William J. Spence to be Surgeon-Lieutenant in the 1st Bedfordshire Regiment, October 4th.

Vital Statistics.

EPIDEMIC MORTALITY IN LONDON.

[Specially contributed to the British Medical Journal.]

The accompanying diagram shows the prevalence of the principal epidemic diseases during the third, or summer, quarter of the year. The fluctuations of each disease and its relative fatality compared with that in the corresponding periods of recent years can thus be readily seen.

Small-pox.—No fatal case of small-pox was registered in London last quarter, the number having been 5 in each of the two preceding quarters. Four small-pox patients were admitted into the Metropolitan Asylums Hospitals during the quarter, against 26 and 32 in the two preceding quarters, but none remained under treatment at the end of September last.

Measles.—The deaths from measles, which had been 289, 354, and 551, in the three preceding quarters, declined last quarter to 257, and were 163 below the average number in the corresponding periods of the ten preceding years. Among the various metropolitan boroughs this disease was proportionally most fatal in Kensington, City of Westminster, Finsbury, Southwark, and Wandsworth.

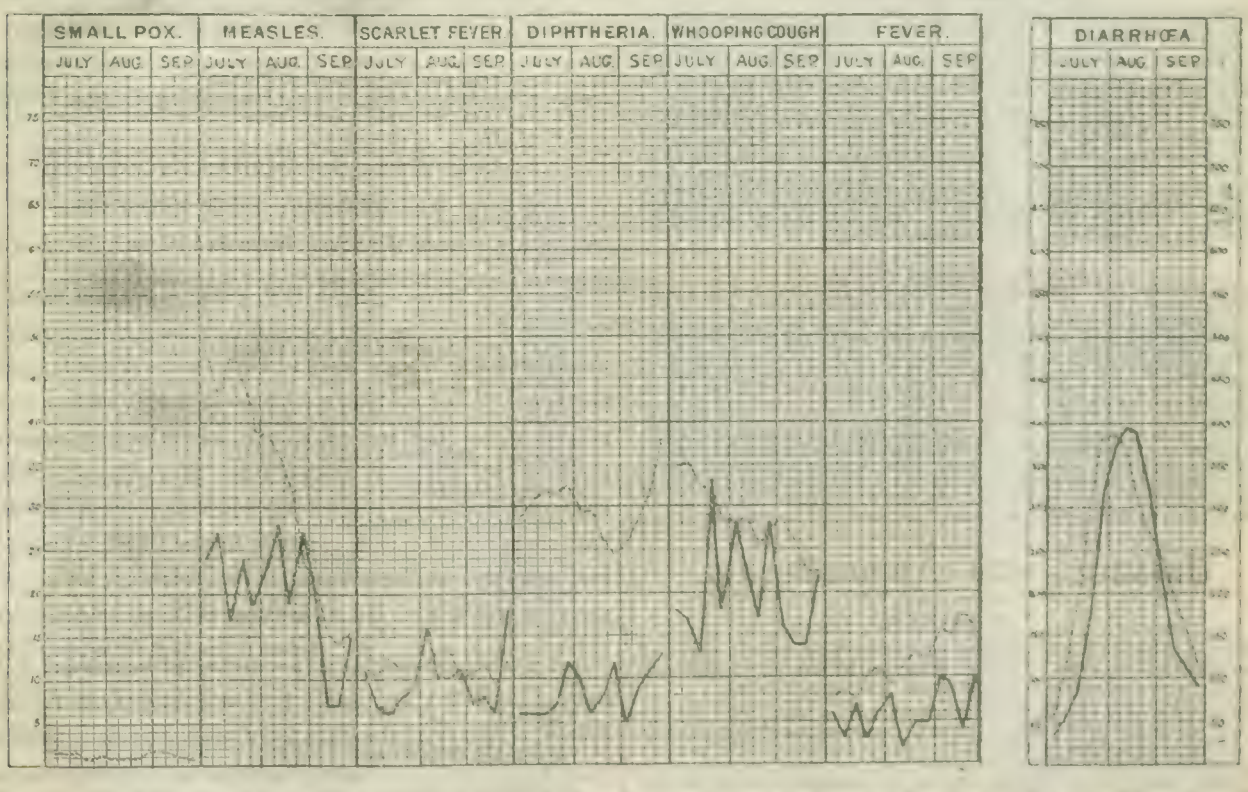
Scarlet Fever.—The fatal cases of this disease, which had been 87, 134, and 119 in the three preceding quarters, rose again last quarter to 126, but were 23 below the corrected average number. Scarlet fever showed the highest proportional mortality last quarter in Hammersmith, Shoreditch, Stepney, Poplar, and Southwark. The number of scarlet fever cases in the Metropolitan Asylums Hospitals, which had been 2,349, 1,997, and 2,444 at the end of the three preceding quarters, had further risen to 3,567 at the end of last quarter; 5,139 new cases were admitted during the quarter, against 3,610, 3,122, and 3,778 in the three preceding quarters.

Diphtheria.—The deaths referred to diphtheria in London, which had been 208, 162, and 121 in the three preceding quarters, further declined last quarter to 111, and were 276 below the average number in the corresponding periods of the ten preceding years. Among the various metropolitan boroughs this disease was proportionally most fatal in Chelsea, Holborn, the City of London, Bethnal Green, Poplar, and Lambeth. The number of diphtheria patients in the Metropolitan Asylums Hospitals, which had been 800, 788, and 715 at the end of the three preceding quarters, had risen again to 750 at the end of last quarter; 1,341 new cases were admitted during the quarter, against 1,566, 1,425, and 1,210 in the three preceding quarters.

Whooping-cough.—The fatal cases of this disease, which had been 156, 436, and 530 in the three preceding quarters, declined again last quarter to 260, and were 111 below the average number in the corresponding periods of the ten preceding years. The greatest proportional mortality from this disease occurred in Holborn, Finsbury, Shoreditch, Stepney, Poplar, and Battersea.

"*Fever.*"—Under this heading are included deaths from typhus, from enteric fever, and from ill-defined pyrexia. The deaths referred to these different forms of "fever," which had been 51 in the two preceding quarters, increased last quarter to 78, but were 75 below the corrected

Deaths from Epidemic Diseases in London during the Third Quarter of 1905.



Note.—The black lines show the *recorded* number of deaths from each disease during each week of the quarter. The dotted lines show the *average* number of deaths in the corresponding weeks of the ten preceding years 1895-1904.

average number. During the quarter under notice 2 deaths were attributed to ill-defined pyrexia, but not any to typhus. Among the metropolitan boroughs the "fever" death-rates were highest in Hammersmith, Hackney, Finsbury, Bethnal Green, and Poplar. The Metropolitan Asylums Hospitals contained 143 enteric fever patients at the end of last quarter, against 159, 68, and 78 at the end of the three preceding quarters; 264 new cases were admitted during the quarter, against 315, 173, and 156 in the three preceding quarters.

Diarrhœa.—The 2,706 deaths from diarrhœa in London last quarter were 409 below the average number in the corresponding quarters of the ten preceding years. Among the various metropolitan boroughs this disease was proportionally most fatal in Fulham, Hackney, Finsbury, Shoreditch, Bethnal Green, Stepney, Poplar, and Bermondsey.

In conclusion, it may be stated that the 3 538 deaths in London attributed to these principal epidemic diseases during the quarter ending September last were more than 23 per cent. below the corrected average number in the corresponding periods of the ten preceding years. The lowest death-rates from these diseases last quarter were recorded in Chelsea, the City of Westminster, St. Marylebone, Hampstead, Holborn, the City of London, and Lewisham; and the highest rates in Fulham, Hackney, Finsbury, Shoreditch, Bethnal Green, Stepney, Poplar, and Bermondsey.

HEALTH OF ENGLISH TOWNS.

IN seventy-six of the largest English towns, including London, 8,186 births and 4,211 deaths were registered during the week ending Saturday last, October 21st. The annual rate of mortality in these towns, which had been 14.0, 13 5, and 13.7 per 1,000 in the three preceding weeks, further rose to 14.1 per 1,000 last week. The rates in the several towns ranged from 5 8 in Tottenham, 6.2 in Northampton, 7.4 in Hornsey, 7.5 in King's Norton, 8 1 in Devonport, 8.2 in Leyton, and 8.9 in Hanley, to 17.7 in West Bromwich and in Manchester, 18 1 in Liverpool, 18.2 in Barrow-in-Furness, 19 3 in Birkenhead, 20.4 in Tynemouth, 21 8 in Sunderland, and 25.4 in Rochdale In London the death-rate was 14.8 per 1,000, while it averaged 13.7 per 1,000 in the seventy-five other large towns. The death-rate from the principal infectious diseases averaged 1.1 per 1,000 in the seventy-six large towns: in London this death-rate was equal to 1.2 per 1,000, while among the seventy-five other large towns the rates ranged upwards to 2 3 in Preston, 2.4 in Hanley, in Wigan, and in Blackburn, 2.5 in East Ham and in Smethwick, 2.7 in Swansea, 3.0 in Stockton-on-Tees 4 0 in Birkenhead, and 4 2 in Wolverhampton. Measles caused a death-rate of 1 3 in Rhondda, 1 6 in Wolverhampton, and 2 2 in Swansea; scarlet fever of 1 2 in Blackburn; diphtheria of 1.2 in Wigan and 1.8 in Birkenhead; and diarrhœa of 1.2 in Bolton, 1 3 in Birkenhead, 1.4 in Merthyr Tydfil, 1.6 in Wolverhampton, 1.7 in Smethwick, and 2.4 in Hanley. The mortality from whooping-cough and from "fever" showed no marked excess in any of the large towns. No fatal case of small-pox was registered last week in any of the seventy-six towns, and no small-pox patients were admitted into the Metropolitan Asylums Hospitals during the week. The number of scarlet-fever cases in these hospitals and in the London Fever Hospital, which had been 3,591, 3,789, and 3,954 at the end of the three preceding weeks, had further risen to 4,153 at the end of last week; 522 new cases were admitted during the week, against 509, 527, and 511 in the three preceding weeks

HEALTH OF SCOTCH TOWNS.

DURING the week ending Saturday last, October 21st, 945 births and 545 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had been 14.5, 14.0, and 16.3 per 1,000 in the three preceding weeks, was again 16.3 per 1,000 last week, and was 2.2 per 1,000 above the mean rate during the same period in the seventy-six large English towns. The rates in the eight Scotch towns ranged from 9.3 in Aberdeen and 11 5 in Leith, to 18.4 in Glasgow and 22 9 in Perth. The death-rate from the principal infectious diseases averaged 2.2 per 1,000, the highest rates being recorded in Greenock and Perth. The 286 deaths registered in Glasgow included 19 which were referred to measles, 2 to scarlet fever, 4 to diphtheria, 4 to whooping-cough, 2 to "fever," and 16 to diarrhœa. Two fatal cases of whooping-cough and 4 of diarrhœa were recorded in Edinburgh. Two deaths from measles occurred in Dundee, 2 from diarrhœa in Aberdeen and in Leith, and 4 from scarlet fever and 2 from diarrhœa in Greenock.

HEALTH OF IRISH TOWNS.

DURING the week ending Saturday, October 21st, 478 births and 324 deaths were registered in six of the principal Irish towns, as against 472 births and 309 deaths in the preceding period. The annual death-rate in these towns, which had been 19.6, 18 8, and 17.1 per 1,000 in the three preceding weeks, rose to 17 9 per 1,000 in the week under notice, this figure being 3.0 per 1,000 higher than the mean annual rate in the seventy-six English towns for the corresponding period. The figures ranged from 11.7 in Waterford and 13.7 in Cork to 19 1 in Limerick and 26.0 in Londonderry. The zymotic death rate during the same period and in the same six Irish towns averaged 1 6 per 1,000, or 0 2 per 1,000 higher than during the preceding period, the highest figure (3.7) being recorded in Londonderry, while Waterford registered no deaths under this heading at all. In all the twenty-two large urban districts there was 1 death from scarlet-fever, 2 from whooping-cough, 1 from diphtheria, and 8 from enteric fever.

Vacancies and Appointments.

VACANCIES.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham Road, S.W.—Senior and Junior Resident Medical Officers. Salary at the rate of £20 and £10 per annum respectively.

BRIGHTON: SUSSEX COUNTY HOSPITAL.—(1) House-Physician; (2) Third House-Surgeon. Salary, £70 and £50 per annum respectively.

BRISTOL ROYAL INFIRMARY.—House Surgeon. Salary, £100 per annum.

COVENTRY AND WARWICKSHIRE HOSPITAL.—Junior House-Surgeon. Salary, £60 per annum.

GLOUCESTER: GENERAL INFIRMARY.—(1) House-Surgeon; (2) Assistant House-Surgeon. Salary at the rate of £100 and £30 per annum respectively.

HACKNEY UNION.—Second Assistant Medical Officer at the Workhouse and Infirmary Salary, £120 per annum.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—House Surgeon. Salary, £20 for six months, and a washing allowance.

LEEDS: GENERAL INFIRMARY.—Laboratory Curator. Salary, £200 per annum.

MAIDSTONE: KENT COUNTY OPHTHALMIC HOSPITAL.—House-Surgeon. Salary, £100 per annum.

MOUNT VERNON HOSPITAL FOR CONSUMPTION, Hampstead.—Assistant Physician.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney Road, E.—Medical Officer in charge of Electrical Department. Salary, £50 per annum.

NOTTINGHAM GENERAL HOSPITAL.—House-Surgeon. Salary, £100 per annum, rising to £120

PORTSMOUTH: ROYAL PORTSMOUTH HOSPITAL.—Junior House-Surgeon. Salary at the rate of £50 per annum.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City Road, E.C.—Clinical Assistants.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces a vacancy in the office of Certifying Factory Surgeon at Gosport, co. Hants.

APPOINTMENTS.

BRIMACOMBE, R. W., M.D., Pathologist to St. John's Hospital for Diseases of the Skin.

CALDICOTT, C. H., M.B.Lond., District Medical Officer of the Chertsey Union.

FOED, D. M., L.R.C.P. and S.Edin., L.F.P.S Glasg., Supernumerary Colonial Surgeon, Singapore.

FORSYTH, C. W., M.B.Lond., District Medical Officer of the Hungerford and Ramsbury Union.

GAUNT, J. P., L.R.C.P.Edin., M.R.C.S.Eng., Medical Officer for the Wythall District of the King's Norton Union.

GREEN, S. M., M.R.C.S., L.R.C.F., Medical Officer of Health for the Prescot Urban District.

GRIFFIN, J. V., L.R.C.P. and S Irel., Certifying Factory Surgeon for the Crowborough District, co. Sussex.

HEYWOOD, Charles Christopher, M.A., M.B.Cantab., M.R.C.P., Physician to the Manchester Children's Hospital.

HORROCKS, Oswald, D.P.H., F.R.C.S.E., L.M. and S Madras, Chief Medical Officer, Nagda Muttra Railway Construction, Rajputana.

JENKINS, H. H., M.R.C.S., L.R.C.P., First Assistant Medical Officer at the Bromley Asylum of the Poplar and Stepney Sick Asylum District.

KINNEAR, J. A., M.D., C.M.Toronto, Clinical Assistant to the Chelsea Hospital for Women.

KNUTHSEN, Louis F., M.D., M.B., C.M., Permanent Clinical Assistant to St. John's Hospital for Diseases of the Skin.

LISTER, T. D., M.D., M.R.C.P.Lond., Physician to the Mount Vernon Hospital for Consumption and Diseases of the Chest, Hampstead and Northwood.

LUCY, S. H. R., M.R.C.S., L.R.C.P.Lond., Colonial Surgeon, Penang

MACKENZIE, K. M., M.R.C.S., L.R.C.P., District Medical Officer, West Ward Union.

MACLURE, H. W., M.B., B.C.Cantab., District Medical Officer of the Aylesbury Union.

MATCHETT, A. C., M.B., M.S.Edin., District Medical Officer of the Bridgwater Union.

MILBURN, Leslie, M.R.C.S., L.R.C.P., D.P.H., Medical Officer for the Borough of Tynemouth, vice J. E. Gofton, L.R.C.P., M.R.C.S., resigned.

MOORE, F. H., L.R.C.P. and S.I., Medical Officer and Public Vaccinator for the Preee District of the Wem Union.

MUSSELLWHITE, W., M.R.C.S., L.R.C.P., Medical Officer of Health, Spennymoor Urban District.

PALGRAVE, E. F., M.R.C.S.Eng., L.R.C.P.Lond., M.O.H., Medical Officer to Post-office, Sunbury Common, and Sunbury.

PARSONS, Walter Brock, M.R.C.S., L.R.C.P., Second Honorary Anæsthetist to the North-West London Hospital.

PIRRIE, R. R., M.B., B.S., Medical Officer to Post-office at Ryton, including Greenside.

PHILLIPS, F. B. W., M.D.Oxon., D.P.H.Camb., Medical Officer of Health for the Borough of Bedford.

PHILLIPS, H. F. H., M.D., B.Ch., Durham, Medical Officer of Health for the Ruyton-with-Roby Urban District.

PHILLIPS, James, F.R.C.S., Honorary Assistant Surgeon to the Bradford Royal Infirmary.

ROBINSON, Frank, M.D., D.P.H., Assistant to County Medical Officer, West Riding, Yorkshire.

RUTHERFORD, V. H., M.A., M.B., Medical Officer to the Electrical Light and X-Ray Department of St. John's Hospital for Diseases of the Skin.

SHEPPARD, W. S., M.B., B.C.Cantab., Colonial Surgeon, North Province, Wellesley.

SOWDEN, G., M.D.Brux., M.R.C.S., L.R.C.P., Medical Officer of Health for the Borough of East Ham.

SWAN, R. H. J., M.B., M.B., F.R.C.S., Third Assistant Surgeon at the Cancer Hospital, London.

WHINCUP, F., F.R.C.S.E., Honorary Anæsthetist to the Eye, Ear, and Throat Hospital for Shropshire and Mid Wales.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 5s. 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to insure insertion in the current issue.

BIRTHS.

DAVENPORT.—On the 14th inst., at Canton, China, the wife of E. C. Davenport, M.R.C.S., L.R.C.P., M.B.Lond., of a son.

DUNNETT.—On the 24th inst., at 7, Ascott Avenue, Ealing, Agnes Dunnett, M.B.Lond., wife of Lionel Francis Dunnett, of a son.

HORDER.—On October 22nd, at 141, Harley Street, W., the wife of Thomas J. Horder, M.D., of a daughter.

MILLER.—On October 18th, at Weymouth, the wife of James Miller, M.B., of a daughter.

WILLIAMSON.—At Larnaca, Cyprus, on the 10th inst., the wife of George A. Williamson, M.A., M.D., of a daughter.

WILSON.—On October 20th, at 36, Full Street, Derby, the wife of R. Mervyn Wilson, M.D., of a son.

MARRIAGE.

CONDER—CAMPBELL.—At St. Giles's Cathedral, Edinburgh, on October 16th, by the Very Rev. J. Cameron Lees, D.D., Dean of the Chapel Royal and Thistle, Archibald Francis Reignier Conder, M.D. Edin., Cheltenham, only son of Colonel C. R. Conder, LL.D., Royal Engineers, to Anne Wishart, youngest daughter of A. D. Campbell, Esq., 8, Bellevue Crescent, Edinburgh.

DEATH.

SOMERVILLE.—At 12, Abbotsford Road, Galashiels, on the 15th October, Robert Somerville, M.D., F.R.C.S.E., aged 69.

DIARY FOR NEXT WEEK.

WEDNESDAY.

OBSTETRICAL SOCIETY OF LONDON, 20, Hanover Square, W., 8 p.m.—Specimens will be shown. Short Communication:—Mr. C. Nepean Longridge, F.R.C.S.: Case of Eclampsia, with Two Special Details of Treatment. Paper:—Mr. Alban Doran, F.R.C.S.: Subtotal Hysterectomy for Fibroids: After-histories of 60 Cases: Preservation of Ovary and the Abel-Zweifel Theory.

THURSDAY.

NORTH-EAST LONDON CLINICAL SOCIETY, Tottenham Hospital, N.—Paper, Mr. A. W. Mayo-Robson: Common Duct Cholelithiasis—Symptoms, Complications, and Treatment.

FRIDAY.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY, the Society's Rooms, West London Hospital, 8 p.m.—Clinical Meeting.

POST-GRADUATE COURSES AND LECTURES.

BROMPTON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Wednesday, 4 p.m.—Clinical Lecture on Cases in the Wards.

CHARING CROSS HOSPITAL, Thursday, 4 p.m.—Dermatological Demonstration.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C., Thursday, 4 p.m.—Renal Disease in Children.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week at 4 p.m. each day: Monday, Skin; Tuesday, Medical; Wednesday, Surgical; Thursday, Surgical; Friday, Throat. Lectures at 5.15 p.m. each day will be given as follows: Monday, The Therapeutics of Some Common Ailments. Tuesday, Ophthalmic Evidences of General Disease. Wednesday, The Diagnosis and Treatment of Chronic Nasal and Post-nasal Catarrh. Thursday, Surgical Diseases of Children.

MOUNT VERNON HOSPITAL, Central Out-patient Department, 7, Fitzroy Square, W., Thursday, 5 p.m.—Prognosis in Phthisis.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Tuesday, 3.30 p.m.—Sir W. Gowers, F.R.S., Clinical Lecture.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Tottenham Hospital, N.—The following are the arrangements for next week: Tuesday, 4.30 p.m., Lecture on Diagnosis of Functional Nervous Disease. Wednesday, 2.30 p.m., Demonstration on Fevers (at the North-Eastern Fever Hospital, St. Ann's Road, N.)

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone Road, N.W., Thursday, 3 p.m.—The Treatment of Inoperable Cancer.

UNIVERSITY COLLEGE, LONDON, Gower Street, W.C., Wednesday, 4 p.m.—Clinical Lecture (with lantern demonstration), Arthritis.

WEST LONDON POST-GRADUATE COLLEGE, West London Hospital, Hammersmith Road, W.—The following lectures and demonstrations have been arranged for next week at 5 p.m. each day: Monday, Diseases of the Gall Bladder. Tuesday, Diseases of the Gall Bladder. Wednesday, Practical Medicine. Thursday, Vesical Stone. Friday, Practical Surgery.

BOOKS, ETC., RECEIVED.

Second Lees and Raper Memorial Lecture. The Effect of Alcohol upon the Human Brain: A lecture by Sir Victor Horsley, M.B., F.R.C.S., F.R.S., delivered in St. James's Hall, London, on Friday, April 27th, 1900, under the presidency of Augustine Birrell, K.C., M.P. London: Lees and Raper Memorial Trustees. 4d.

Fourth Lees and Raper Memorial Lecture. Recent Researches on the Action of Alcohol in Health and in Sickness: A lecture by G. Sims Woodhead, M.A.Cantab., M.D.Edin., delivered in the Guildhall, Cambridge, on Monday, November 16th, 1903, under the presidency of T. Clifford Allbutt, M.A., M.D.Cantab., LL.D., F.R.S., J.P., D.L. London: Lees and Raper Memorial Trustees. 4d.

No. 8. "Farm and Garden" Handbooks: Dairy Cows and The Dairy. By John Walker. Edited by T. W. Sanders, F.L.S. London: W. H. and L. Collingridge. 1s.

Notable Scottish Trials. The Trial of Madeline Smith. Edited by A. Duncan Smith, F.S.A.Scot. Glasgow and Edinburgh: William Hodge and Co. 5s.

La Maraichinage. Coutume du pays de Mont (Vendée). Par le Dr. Marcel Baudouin. Troisième édition. Paris: A. Maloine. 1906. Fr.5.

Materia Medica and Therapeutics. By J. Mitchell Bruce, M.A., LL.D. (Hon.) Aberd., M.D.Lond. New and enlarged edition. London: Cassell and Co., Ltd. 1905. 7s. 6d.

Quaint Sayings from the Works of Sir Thomas Browne. Compiled by Mrs. Martin Hood Wilkin. London: Elliot Stock. 1905. 3s. 6d.

Semmelweis' gesammelte Werke. Herausgegeben und zum Theil aus dem ungarischen übersetzt. Von Dr. Tiberius von Györy. Jena: Gustav Fischer. 1905. Mk. 12.50.

Introduction à la Pathologie Générale. Par Félix le Dantec. Paris: Félix Alcan. 1906. Fr.15.

My Life: A Record of Events and Opinions. By Alfred Russell Wallace. Two vols. London: Chapman and Hall. 1905.

The Diseases of Children, Medical and Surgical. By Henry Ashby, M.D.Lond., F.R.C.P., and G. A. Wright, B.A., M.B.Oxon., F.R.C.S.Eng. Fifth edition. London: Longmans, Green and Co. 1905. 21s.

Vital Questions. By Henry Dwight Chapin, M.D. New York: Thomas Y. Crowell and Co. 1 dol.

The Recovery and Adjustment of Income Tax: What to Do and How to Do It. By T. Hallett Fry, F.S.S. London: Jordan and Sons, Ltd. 1905. 3s. 6d.

Science, the Demonstrator of Revelation. By S. J. Broadbent. London: James Nisbet and Co., Ltd. 1905. 2s. 6d.

Hyperämie als Heilmittel. Von Professor Dr. August Bier. Zweite auflage. Leipzig: F. C. W. Vogel. 1905. Mk.12.

Old Lamps and New, and other Verse; also By Gaza's Gate, a Cantata. By Edward Willard Watson, M.D. Philadelphia: H. W. Fisher and Co. 1 dol.

Manual of Operative Surgery. By John Fairbairn Binnie, A.M., C.M. Second edition. London: H. K. Lewis. 12s. 6d.

The Theory and Practice of Medicine. By Frederick T. Roberts, M.D., B.Sc., F.R.C.P. In two vols. Vols. I and II. Tenth edition. London: H. K. Lewis. 1905. 26s.

Verhandlungen des Vereins süddeutscher Laryngologen 1905. Herausgegeben im auftrage des Vereins vom Schriftführer. Dr. Med. Felix Blumenfeld. Würzburg: A. Stuber. 1905. M 3.

Verhandlungen der deutschen laryngologischen Gesellschaft. Auf der 1 Versammlung zu Heidelberg, Pfingsten 1905. Herausgegeben im auftrage des Vorstandes vom Schriftführer Dr. Med. Georg Avellis. Würzburg: A. Stuber. 1905. M 1.50.

The University Tutorial Series. Matriculation Directory, No. XLI. September, 1905. London: University Tutorial Press. 1905. 1s.

Die Intestinale Tuberculose-Infektion mit besonderer Berücksichtigung des Kindesalters. Von Livius Fürst. Stuttgart: Ferdinand Enke. 1905. M. 10.

The Wallett Series. Common Ailments and Accidents and their Treatment. By M. H. Naylor, M.B., B.S. London: Edward Arnold. 1905. 1s.

Physical Education of the Young; or the Nurture and Management of Children, founded on the Study of their Nature and Constitution. By Samuel Smiles. Edited, with additions, by Sir Hugh Beevor, Bart., M.D., F.R.C.P. London and Felling-on-Tyne: The Walter Scott Publishing Co., Ltd. 1905. 2s. 6d.

Physical Chemistry and its Applications in Medical and Biological Science: being a course of seven lectures delivered in the University of Birmingham. By Alex. Findlay, M.A., Ph.D., D.Sc. London: Longmans, Green, and Co. 1905. 2s.

A Practical Treatise on Sexual Disorders of the Male and Female. By Robert W. Taylor, A.M., M.D. Third Edition. London: Henry Kimpton. 1905. 16s.

Beiträge zur Ohrenheilkunde. Festschrift gewidmet August Lucae, zur feier seines siebzigsten Geburtstages. Berlin: Julius Springer. 1905. M. 12.

Contributions to Clinical Surgery. By James Crawford Renton, M.D., F.F.P.S.G. London: Rebman, Ltd., and New York: Rebman Co. 1905. 5s.

Arbeiten aus dem pathologischen Institut der Universität Helsingfors (Finland). Herausgegeben von Professor Dr. E. A. Homén. Band I. Hefte 1-2. Berlin: S. Karger, and London: Williams and Norgate. 1905. 12s.

Essentials of Gynæcology. By J. W. Ballantyne, M.D., F.R.C.P.Ed., F.R.S.E. Edinburgh and London: William Green and Sons. 1905.

Essentials of Obstetrics. By J. W. Ballantyne, M.D., F.R.C.P.Ed., F.R.S.E. Edinburgh and London: William Green and Sons. 1904.

Homœopathy Explained. By John Henry Clarke, M.D. London: The Homœopathic Publishing Co. 1905. 2s.

"*" In forwarding books the publishers are requested to state the selling price.

CALENDAR OF THE ASSOCIATION.

Month.	Day of Week.	Meetings to be Held.
Oct.	28...SATURDAY...	Trowbridge Division, *Bath and Bristol Branch*, Town Hall, Marlborough, 3.15 p.m.
,,	29...Sunday..	
,,	30...MONDAY ...	
,,	31...TUESDAY ...	Central Division, *Birmingham Branch*, 3.30 p.m. Manchester (South) Division, *Lancashire and Cheshire Branch*, Schoolroom, Holy Innocents Church, Fallowfield, 4.20 p.m. Shropshire and Mid-Wales Branch, Annual Meeting, Salop Infirmary, 3 p.m.; Dinner, Crown Hotel, 6 p.m. Warrington Division, *Lancashire and Cheshire Branch*.
Nov.	1...WEDNESDAY	Richmond Division, *Metropolitan Counties Branch*, Talbot Hotel, Richmond, 6 p.m.; Dinner, 7.30 p.m.
,,	2...THURSDAY...	LONDON: Hospitals Joint Committee, 2.15 p.m. Lambeth Division, *Metropolitan Counties Branch*, Clinical Theatre, St. Thomas's Hospital, 4 p.m. Swansea Division, *South Wales and Monmouthshire Branch*, General Hospital, Swansea, 3 p.m. Wandsworth Division, *Metropolitan Counties Branch*, Bolingbroke Hospital, Wandsworth Common, 4 p.m.
,,	3...FRIDAY ...	West Somerset Branch, Taunton and Somerset Hospital, 4 p.m.
,,	4...SATURDAY ...	
,,	5...Sunday..	
,,	6...MONDAY ...	LONDON: Premises and Library Committee, 3.30 p.m.
,,	7...TUESDAY ...	Coventry Division, *Birmingham Branch*, Coventry and Warwickshire Hospital, 6.30 p.m.
,,	8...WEDNESDAY	
,,	9...THURSDAY...	Norwood Division, *South-Eastern Branch*, Streatham Hall (close to Streatham Station) 4 p.m.; Dinner, 6 p.m.
,,	10...FRIDAY ...	
,,	11...SATURDAY...	
,,	12...Sunday..	
,,	13...MONDAY ...	
,,	14...TUESDAY ...	
,,	15...WEDNESDAY	
,,	16...THURSDAY...	City Division, *Metropolitan Counties Branch*, Manor House, Upper Clapton Road, 8.30 p.m. South Midland Branch, Eight Bells Hotel, Bletchley, 2 p.m.
,,	17...FRIDAY ...	
,,	18...SATURDAY...	
,,	19...Sunday..	
,,	20...MONDAY ...	
,,	21...TUESDAY ...	
,,	22...WEDNESDAY	LONDON: Medico-Political Committee, 3 p.m. Brighton Division, *South-Eastern Branch*, Dispensary, 113, Queen's Road, Brighton, 4.30 p.m.
,,	23...THURSDAY...	Wandsworth Division, *Metropolitan Counties Branch*, Worple Hall, Wimbledon, 8.45 p.m.
,,	24...FRIDAY ...	Tottenham Division, *Metropolitan Counties Branch*, Hornsey Conservative Association Rooms, Finsbury Park, 9.15 p.m.
,,	25...SATURDAY...	
,,	26...Sunday..	
,,	27...MONDAY ...	
,,	28...TUESDAY ...	LONDON: Public Health Committee, 3 p.m.
,,	29...WEDNESDAY	
,,	30...THURSDAY...	

Month.	Day of Week.	Meetings to be Held.
Dec.	1...FRIDAY ...	
,,	2...SATURDAY...	
,,	3...Sunday..	
,,	4...MONDAY ...	
,,	5...TUESDAY ...	
,,	6...WEDNESDAY	
,,	7...THURSDAY ...	Altrincham Division, *Lancashire and Cheshire Branch*, Quarterly Meeting, Altrincham. Swansea Division, *South Wales and Monmouthshire Branch*, General Hospital, Swansea, 3 p.m.
,,	8...FRIDAY ...	
,,	9...SATURDAY...	
,,	10...Sunday..	
,,	11...MONDAY ...	
,,	12...TUESDAY ...	LONDON: Organization Committee, 10.30 a.m.
,,	13...WEDNESDAY	Central Council, 2 p.m.
,,	14...THURSDAY...	Wandsworth Division, *Metropolitan Counties Branch*, Battersea Town Hall, 8.45 p.m.
,,	15...FRIDAY ...	LONDON: Ethical Committee, 2 p.m.
,,	16...SATURDAY...	
,,	17...Sunday..	
,,	18...MONDAY ...	
,,	19...TUESDAY ...	
,,	20...WEDNESDAY	
,,	21...THURSDAY...	
	22...FRIDAY ...	
,,	23...SATURDAY...	
,,	24...Sunday..	
,,	25...MONDAY ...	*Christmas Day.*
,,	26...TUESDAY ...	*Boxing Day.*
,,	27...WEDNESDAY	
,,	28...THURSDAY...	
,,	29...FRIDAY ...	
,,	30...SATURDAY...	
,,	31...Sunday..	
1906.		
Jan.	1...MONDAY ...	
,,	2...TUESDAY ...	
,,	3...WEDNESDAY	
	4...THURSDAY...	Swansea Division, *South Wales and Monmouthshire Branch*, General Hospital, Swansea, 3 p.m.
,,	5...FRIDAY ...	
,,	6...SATURDAY...	
,,	7...Sunday..	
,,	8...MONDAY ...	
,,	9...TUESDAY ...	
,,	10...WEDNESDAY	
,,	11...THURSDAY...	
,,	12...FRIDAY ...	
,,	13...SATURDAY ...	

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of Middlesex.

SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, NOVEMBER 4TH, 1905.

CONTENTS.

Page.

PROCEEDINGS OF STANDING COMMITTEES:

MEDICO-POLITICAL COMMITTEE.—Truck Act.—Ebbw Vale Colliery Dispute.—Contract Practice Report.—The Use of Preparations of Lead as Abortifacients.—Midwives Engaged to "Lay Homes."—Workmen's Compensation Act.—Unqualified Practitioners.—Medical Act (1886) Amendment (Bill).—Vaccination Expenses.—Recommendations of the Subcommittee on Lunacy.—Coroners Bill.—Vote of Thanks to Chairman.—Appointment of Chairman.—Action of a Medical Agent.—National Deposit Friendly Society.—Action by the Association with Respect to Parliamentary Elections.—Subcommittee on Lunacy Legislation.—Death Certification and Registration and the Coroners Bill.—Insurance Fees.—Amendment of Midwives Act.—State Registration of Nurses.—Medical Register.—Instructions of the Annual Meeting to the Council Referred to the Committee.—Election of Representatives on Outside Bodies.—Contract Practice.—Circular to all Practitioners in the United Kingdom.—Reorganization of the Local Government Board.—Fees of Medical Witnesses, etc.—Amendment of Indecent Advertisement Act.—Subcommittee on Lead Poisoning.—Royal Commission on the Poor Law 253

ETHICAL COMMITTEE.—Expulsion of a Member of the Association.—A Hospital Question.—Chairman's Report to Council.—Central Ethical Committee and Penalties in Ethical Cases.—Canvassing with Respect to Officerships of Divisions.—Case of Assistant Setting up in Opposition to his Former Principal.—Vote of Thanks to the Chairman.—Appointment of Chairman.—Vote of Thanks to Past Chairman.—Cases Advised Upon.—Subcommittee on Contract Practice.—Medical Secretary's Reports as to Trade and Other Advertisements and Newspaper Notices.—Rules of Divisions and Branches.—Comments to Patients on Other Practitioners' Diagnosis.—Procedure with Respect to American Practitioner.—Canvassing: Consultants and General Practitioners.—Advertising by Cards.—Handbills of a Friendly Society 256

HOSPITALS COMMITTEE.—Provident Dispensaries and Public Medical Services.—Relationship of Hospitals to Certain Other Medical Services Provided for the Poor.—Joint Meeting with Lay Representatives.—Appointment of Chairman.—Out-patient Departments of Cottage Hospitals: Hospitals for Infectious Diseases in Smaller Towns.—Hospital Out patient Departments.—Joint Committee with Lay Representatives.—Royal Commission on the Poor Law.—Election of New Members 257

ORGANIZATION COMMITTEE.—Election of Chairman.—Royal Charter.—Powers of Colonial Branches.—Medical Secretary's Visits to Divisions and Branches.—Rules Submitted by Branches.—Alterations of Boundaries.—Alteration of Articles of Association.—Affiliation of Local Societies.—Representation of Representative Meeting on Council and Grants to Branches and Divisions.—Branch Representation on the Council ... 258

PUBLIC HEALTH COMMITTEE.—Appointment of Chairman.—Fees under the Poor Law.—Vaccination Expenses.—Public Health Bill.—Attempt to Break up a Combination of Sanitary Districts.—Royal Commission on the Poor Law 259

SCIENCE COMMITTEE.—References to Committee.—Scientific Grants.—Standard of Puerperal Morbidity.—Hereditary Mental Diseases.—Division Libraries.—Clinical and Pathological Work and Relation of the Association to other Scientific Societies 260

SCOTTISH COMMITTEE.—Border Counties Branch.—Cottage Hospitals.—Royal Commission on the Poor Law 260

JOURNAL AND FINANCE COMMITTEE.—Resolutions of the Representative Meeting.—Superannuation Scheme for Office Clerical Staff.—Finance 260

PREMISES AND LIBRARY COMMITTEE.—Library.—The Offices of the Association.—Duplicate Books 261

ARRANGEMENTS COMMITTEE.—Appointment of Committee.—Physical Therapeutics.—Scientific Work of the Annual Meeting... 261

VACCINATION EXPENSES: Report of a Joint Subcommittee of the Medico-Political and Public Health Committees on Vaccination Expenses.—Recommendations 261

MEETINGS OF BRANCHES AND DIVISIONS:

Aberdeen Branch 262
Bath and Bristol Branch: Trowbridge Division 262
Birmingham Branch: Coventry Division 263
Border Counties Branch 263
Edinburgh Branch: South-Eastern Counties Division 263
Metropolitan Counties Branch: Kensington Division 263
Sydney and New South Wales Branch 263
South-Eastern Branch: Croydon Division 263
" " Sevenoaks Division 264
South-Western Branch: Truro Division 264
Ulster Branch 264
Yorkshire Branch 264

THE CORONER FOR SOUTH-WEST LONDON: Application before Local Government Auditor 264

CENTRAL MIDWIVES BOARD 273

ASSOCIATION NOTICES.—BRANCH AND DIVISION MEETINGS TO BE HELD 274

VITAL STATISTICS... 274

VACANCIES 275

BIRTHS, MARRIAGES, AND DEATHS 275

DIARY OF THE WEEK 275

CALENDAR 276

Proceedings of Standing Committees.

MEDICO-POLITICAL COMMITTEE.

A MEETING of the Medico-Political Committee was held at the office of the Association, 429, Strand, W.C., on July 13th, when there were present: Dr. R. C. BUIST (in the chair), Dr. Wm. Collier (President), Sir Victor Horsley, F.R.S. (Chairman of Representative Meetings), Mr. Andrew Clark (Chairman of Council), Dr. E. Markham Skerritt (Treasurer), Dr. Major Greenwood, Mr. G. Jackson, Dr. J. A. Macdonald, Mr. M. A. Messiter, Mr. W. Jones Morris, Mr. D. A. O'Sullivan, Mr. C. H. Watts Parkinson.

TRUCK ACT.

A statement of case for counsel's opinion with reference to the Truck Act was received and approved.

EBBW VALE COLLIERY DISPUTE.

The Committee approved the Medical Secretary's report of further meetings attended in connexion with this matter, and account of the present position.

CONTRACT PRACTICE REPORT.

The draft Contract Practice Report was considered and approved, certain emendations being made in the conclusions and recommendations as submitted by the Subcommittee appointed to prepare them.

THE USE OF PREPARATIONS OF LEAD AS ABORTIFACIENTS.

The Editor of the BRITISH MEDICAL JOURNAL brought to the notice of the Committee a letter received from Dr. Ransom of Nottingham, drawing attention to two inquests recently held in that district on persons who had died from the use of preparations of lead as abortifacients.

The Editor also drew attention to a paper by Dr. Hall, Professor of Pathology at University College, Sheffield, read before the Yorkshire Branch in January last, and published in the BRITISH MEDICAL JOURNAL on March 18th, p. 584, in which particulars of 30 cases were given. Mention was also made of papers upon the subject by Dr. Pope of Leicester, who appeared to have been the first to draw attention to the matter.

The Editor suggested for the consideration of the Committee the appointment of a subcommittee, including, perhaps, some of those who had given special attention to the subject, for the purpose of reporting and suggesting practicable steps which the Association might take.

The matter was referred to a Subcommittee, composed of the President-elect of the Association (Mr. G. C. Franklin), Dr. R. C. Buist, Dr. Arthur Hall (Sheffield), Dr. J. A. Macdonald, Dr. F. M. Pope, and Dr. W. B. Ransom (Nottingham).

MIDWIVES ENGAGED TO "LAY HOMES."

A communication received from a Division of the Association as to the question of midwives engaging themselves to "lay homes" was considered, and it was resolved:

That the Division be informed that the Committee is not in a position to pronounce upon the subject in general, but will be glad to inquire into the points of any individual cases which may be brought to their notice.

WORKMEN'S COMPENSATION ACT.

A communication was read from a medical referee, who drew attention to certain defects in the Workmen's Compensation Act and suggested amendments relative to provision for payment for medical attendance on workmen who died leaving no representatives.

Having ascertained that in the present position of Parliamentary business the amending Bill, already before the House of Commons, appeared unlikely to pass in the present session, the Committee decided to file the correspondence for reference and to take steps, when opportunity offered, to secure the insertion of the suggested amendment.

UNQUALIFIED PRACTITIONERS.

With reference to the following resolution of the Yorkshire Branch referred to the Committee by the Chairman of Council:

That the General Medical Council should be empowered to protect the registered medical practitioner, as well as the public, against persons illegally practising for gain, to the serious detriment of the public, and injury to the profession,

it was resolved that the attention of the Branch be drawn to the (Draft) Medical Acts Amendment Bill.

MEDICAL ACT (1886) AMENDMENT BILL.

It was reported that the Medical Act Amendment Bill introduced into the House of Commons by General Laurie was now down for third reading, and appeared likely to be passed in the present session, and the Committee resolved:

That, in the event of the Bill being passed, a letter be written to General Laurie expressing the Committee's appreciation of the services he has rendered to the profession in the matter.

VACCINATION EXPENSES.

The Chairman reported that the Council, on consideration of the Report on Vaccination Expenses, which had been prepared by a Subcommittee of the Medico-Political and Public Health Committees, and approved by those Committees, had referred the Report back for further consideration.

It was resolved:

That the report on vaccination expenses be referred to the Subcommittee by which it was prepared with the addition of Mr. Jones Morris, and that the Subcommittee be requested to prepare an explanatory memorandum to accompany their recommendations.

RECOMMENDATIONS OF THE SUBCOMMITTEE ON LUNACY.

The CHAIRMAN reported that the Council had approved the recommendation of the Committee that a Committee be appointed to consider the legislative aspects of the prevention and treatment of alcoholism and drug habits.

It was resolved:

That the consideration of the appointment of the Committee be deferred until the next meeting.

CORONERS BILL.

A communication was read from a coroner suggesting amendment of the Coroners Act in order to remove the obligation to view the body in all cases, and the Committee resolved to recommend that the proposal be included in the Coroners Act Amendment Bill.

VOTE OF THANKS TO THE CHAIRMAN.

On the motion of Mr. JONES MORRIS, seconded by the CHAIRMAN OF REPRESENTATIVE MEETINGS, and supported by the TREASURER, it was resolved:

That the Committee express its obligation to Dr. Buist for the great services he has rendered as Chairman during the year.

A FURTHER meeting of the Committee was held at the office of the Association on October 4th, when there were present: Dr. R. C. BUIST in the chair, Sir Victor Horsley, F.R.S. (Chairman of Representative Meetings), Dr. H. Radcliffe Crocker (Treasurer), Dr. J. H. Hunter, Mr. George Jackson, Dr. H. A. Latimer, Dr. J. A. Macdonald, Dr. L. S. McManus, Mr. W. Jones Morris, Dr. H. F. Oldham, Mr. C. H. Watts Parkinson, Dr. Cecil E. Shaw, Mr. C. R. Straton.

It was reported that the members of the Committee appointed for the year were as follows:—*Ex officio*: Mr. G. C. Franklin (President), Sir Victor Horsley, F.R.S. (Chairman of Representative Meetings), Dr. H. Langley Browne (Chairman of Council), and Dr. H. Radcliffe Crocker (Treasurer). Elected by Representative Meeting: Mr. H. W. Armit (Wembley), Mr. George Jackson (Plymouth), Dr. H. A. Latimer (Swansea), Dr. J. A. Macdonald (Taunton), Dr. L. S. McManus (Wandsworth), and Dr. H. F. Oldham (Morecambe). Elected by Council: Dr. R. C. Buist (Dundee), Dr. J. H. Hunter (South Shields), Mr. W. Jones Morris (Portmadoc), Mr. C. H. W. Parkinson (Wimborne), Dr. Cecil E. Shaw (Belfast), Mr. C. R. Straton (Wilton).

APPOINTMENT OF CHAIRMAN.

Dr. R. C. Buist was reappointed Chairman for the year.

ACTION OF A MEDICAL AGENT.

Correspondence was read with the medical agent whose advertisements were in July excluded from the BRITISH MEDICAL JOURNAL by the Council on the recommendation of the Committee, and it was resolved, in view of the changed attitude of the agent, to recommend the Council to withdraw the prohibition.

NATIONAL DEPOSIT FRIENDLY SOCIETY.

Correspondence with the National Deposit Friendly Society was read, and the Medical Secretary was authorized to continue the correspondence.

ACTION BY THE ASSOCIATION WITH RESPECT TO PARLIAMENTARY ELECTIONS.

With respect to the instructions of the Annual Representative Meeting to the Committee:

Minute 78. That, in view of a probable early general election, it is desirable that steps be taken for advancing the interests of the medical profession and obtaining a proper recognition of the reforms it advocates, that this may be best accomplished by an effort to secure uniformity of action on the part of the British Medical Association and to enlist the sympathy and co-operation of the entire profession, and that for this purpose it be an instruction to the Medico-Political Committee:

(1) To draft a series of questions dealing with matters of special interest to the medical profession to be submitted to Parliamentary candidates, the matters dealt with to include the Medical Acts Amendment Bill, the amendment of the law as to Death Registration and Coroners Act Amendment Bill, the Public Health Bill, and the Revaccination Bill.

(2) To issue copies of these questions to the Divisions with the request to submit them to the local candidates, to obtain a personal interview with the candidates, and to report immediately the result.

(3) To issue on receipt of the reports a circular to each registered medical practitioner in the United Kingdom, setting forth the steps that have been taken by the British Medical Association, asking him for his support and influence for the candidate in his Parliamentary division whose attitude is most favourable to the reforms desired, and giving the reasons why the Association supports his candidature.

Minute 79: That a Subcommittee of the Medico-Political Committee be formed to organize and promote medical interests, especially during Parliamentary elections, and to carry out the necessary propaganda at all times.

Minute 80: That reform of the Lunacy Laws be added to the subjects mentioned in the resolution with reference to the forthcoming General Election.

The following were appointed a Parliamentary subcommittee to whom all the matters mentioned were referred: Mr. H. W. Armit, Dr. R. C. Buist (Chairman), Sir Victor Horsley (Chairman of Representative Meetings), Dr. L. S. McManus, Mr. W. Jones Morris, Dr. H. F. Oldham, Mr. C. H. W. Parkinson, Mr. C. R. Straton.

SUBCOMMITTEE ON LUNACY LEGISLATION.

On consideration of the Minutes of the Representative Meeting relative thereto, the following were appointed a Subcommittee to deal with questions of lunacy legislation: Mr. H. W. Armit, Dr. R. C. Buist (Chairman), Dr. J. A. Macdonald, Dr. L. S. McManus, Mr. C. R. Straton, with Dr. R. W. Branthwaite, Mr. J. Carswell, Mr. Andrew Clark, Dr. R. Cunyngham Brown, Dr. T. B. Hyslop, Dr. R. L. Langdon-Down, Dr. P. W. Macdonald, Dr. Charles Mercier, Mr. H. F. Hayes Newington, Dr. Lionel Weatherly, and a Representative from the Irish Committee, with power to add to their number.

DEATH CERTIFICATION AND REGISTRATION AND THE CORONERS BILL.

The resolutions of the Representative Meeting on death certification and registration were considered, and the

Medical Secretary was instructed to incorporate the amendments of the Representative Meeting in the previous report, and submit it to the Committee at a future meeting.

The Medical Secretary was also instructed to forward a copy of the Coroners Act Amendment Bill to the Irish Committee, and to ask their opinion as to the advisability of extending the Bill to Ireland.

Medical Acts Amendment Bill.

On consideration of instructions of the Representative Meeting as to the Medical Acts Amendment Bill, the Medical Secretary was instructed to incorporate in the Bill the addition approved by the Meeting and the Chairman was authorized to have the Bill finally completed by the Parliamentary draughtsman in a form suitable for introduction into Parliament.

Insurance Fees.

With reference to the following minutes of the Representative Meeting:

Minute 115: That, with a view to giving effect to the principles adopted in the report of the Norwich Division, it is desirable that the Association, through the Medico-Political Committee, should ascertain from the Life and Sickness Insurance Societies throughout the country the proportion between the amount of work expected from the Medical Referee and the fee offered to him by the Insurance Company.

Minute 116: That the report of the Medico-Political Committee on Insurance Fees be approved, and that it be suggested to the Divisions that each Division should take the question into consideration,

It was resolved that the Medical Secretary be instructed to draft a report on the matter for submission to the Committee.

Amendment of Midwives Act.

The minutes of the Representative Meeting affecting administration and amendment of the Midwives Act were considered, and the following were appointed a Subcommittee to deal with all questions with respect thereto, and to report to the Committee in November: Dr. R. C. Buist (Chairman), Dr. J. H. Hunter, Mr. George Jackson, with Dr. E. R. Fothergill and Mr. R. H. Wolstenholme.

State Registration of Nurses.

With reference to the following minutes of the Representative Meeting:

Minute 220: That the subject of the State registration of nurses be referred to the Divisions for further consideration.

Minute 221: That registration of nurses should include midwifery nurses, who should have three years' training, of which one at least should be in a lying-in hospital.

It was resolved:

That an explanatory memorandum on the subject be prepared for submission to the Divisions, together with the original report of the Committee, the report of the Select Committee of the House of Commons, and the resolutions of the Representative Meeting.

The Chairman, Sir Victor Horsley, and Dr. Macdonald were appointed a Subcommittee to prepare the memorandum.

Medical Register.

After the consideration of the following minute of the Representative Meeting:

Minute 227: That the present state of the official *Medical Register* is unsatisfactory, as it is open to considerable error, and that the Medico-Political Committee be instructed to take such steps as will lead to this defect being remedied.

It was resolved:

That the Division which submitted the motion to the Representative Meeting be asked to furnish details as to the defects in the *Medical Register* to which it is considered attention should be drawn, and that a general notice be inserted in the JOURNAL requesting information.

Instructions of the Annual Meeting to the Council Referred to the Committee.

The following instructions of the Annual Representative Meeting to the Council, referred by the Chairman of Council to the Committee, were considered.

(a) Contract Practice Report.

Minute 63: That it be an instruction to the Council that a copy of the recommendations of the Medico-Political Committee and resolutions of the Association on Contract Practice be sent to all members of the profession.

It was resolved:

That the circular be sent, and that it be recommended to the Council that it also include the decisions of the Annual Representative Meeting at Leicester on other matters affecting the profession, together with a paragraph drawing attention to the work which the Association is doing for the general good of the profession, and asking practitioners who are not already members to join the Association.

Election of Representatives on Outside Bodies.

Minute 182: That in all cases where the British Medical Association is given by Act of Parliament, or otherwise, a representative position on any permanent Board or Council, and the appointment admits of delay, the selection of the Representative or Representatives shall rest ultimately with the Representative Meeting.

Minute 183: That it be an instruction to the Central Council to prepare a scheme suitable for meeting all such contingencies, and to submit it to the Divisions for consideration before March 31st, 1906.

The Committee resolved:

That it be an instruction to the Chairman and Secretary to prepare a draft on the lines of the scheme for nomination of candidates for the General Medical Council, for submission to the Committee at a future meeting.

Contract Practice.

The Medical Secretary was instructed to carry out the instructions of the Representative Meeting as to circulating the Contract Practice and Ambulance reports to the Divisions.

It was resolved that a Subcommittee consisting of the following be appointed to deal with questions of contract practice: Dr. R. C. Buist (Chairman), Dr. J. H. Hunter, Mr. George Jackson, Dr. H. A. Latimer, Dr. J. A. Macdonald, Mr. C. R. Straton, with Dr. A. Cox, Mr. E. H. T. Nash, and two members from the Ethical Committee, and that the Ethical Committee be requested to nominate two members of the Subcommittee.

Circular to all Practitioners in the United Kingdom.

It was resolved that it be recommended that the questions of (1) consultation between medical witnesses, (2) drug abuse, (3) the unduly-repeated dispensing of prescriptions, (4) the relation of the profession to ambulance work, be included in the circular to be sent to all medical practitioners in the United Kingdom.

Reorganization of the Local Government Board.

The matter of the reorganization of the Local Government Board was referred to the Parliamentary Subcommittee for inclusion in the questions for submission to Parliamentary candidates, and for publication in the lay press.

Fees of Medical Witnesses, etc.

With reference to the following minute of the Representative Meeting:

Minute 100: That the Committee's report with reference to the fees of medical witnesses be approved.

It was resolved to appoint the following a watching Subcommittee to deal with these matters: Dr. R. C. Buist (Chairman), Mr. W. Jones Morris, Dr. J. A. Macdonald, with Dr. Henry Barnes and Mr. H. Nelson Hardy.

Amendment of Independent [illegible] Act.

The Medical Secretary reported the present position of the matter, and it was resolved that the following be appointed to continue the joint action with the Council of Public Morality: Dr. R. C. Buist (Chairman), Dr. H. Radcliffe Crocker (Treasurer), Sir Victor Horsley (Chairman of Representative Meetings), Mr. H. W. Armit, Dr. L. S. McManus, with Mr. T. Garrett Horder.

Report of the Subcommittee on Vaccination Expenses.

Mr. Watts Parkinson, Chairman of the Public Health Committee and of the Joint Subcommittee on Vaccination Expenses, presented the report of the Subcommittee, and it was resolved unanimously to recommend the Council to approve the Report (see page 261).

Subcommittee on Lead Poisoning.

The minutes of the Subcommittee on lead poisoning from the use of abortifacients were submitted, and it was resolved that the following recommendations of the Subcommittee be adopted as recommendations of the Committee:

(a) That the attention of members of the medical profession throughout the country be drawn to the increasing prevalence in certain districts of lead poisoning from the cause stated, and to the fact that the use of lead for the purpose named appears to be extending from district to district.

That with this object a letter be drafted for communication to the medical journals, and that the draft be circulated to the Subcommittee, and considered at a future meeting.

That Dr. Hall be requested to prepare a paper for communication to the medical journals setting forth the information available on the subject up to date, and that those gentlemen who are known to have given attention to the matter be requested to furnish to Dr. Hall such information as they may have in addition to that already published.

That it be suggested to the Divisions of the Association that they take steps to draw the attention of the profession locally to the matter, and also perhaps public officials, such as the Medical Officers of Health and Town Clerks.

(b) That the attention of the Home Office be drawn to the matter, and that an effort be made to ascertain what action, if any, can, in the opinion of the Home Office, be taken; also that the attention of the Board of Inland Revenue be drawn to the fact that preparations of the kind in question are being sold without the Government stamp.

(c) That the Pharmaceutical Society and the Coroners' Society be requested to appoint representatives to confer with the Subcommittee on the subject.

EBBW VALE DISPUTE.

The MEDICAL SECRETARY reported as to meetings which he had attended in reference to this matter on August 10th, 15th, and 24th.

Read: A communication addressed by the Committee of the Branch and Division concerned to the Ebbw Vale Miners' Committee on August 16th, and reply of the Miners' Committee, dated September 6th.

It was resolved that the action reported be approved, and that the Medical Secretary be instructed to continue to give such assistance as might be required.

ROYAL COMMISSION ON THE POOR LAW.

The MEDICAL SECRETARY reported the transmission of a letter addressed by authority of the Chairman of Council to the Prime Minister with respect to the proposed Royal Commission on the Poor Law. The Medical Secretary also reported that the Public Health Committee of the previous day had adopted the following recommendations to the Council:

(i) That evidence be submitted to the Royal Commission on the Poor Law on behalf of the Association;

(ii) That a joint Subcommittee of the Medico-Political and Public Health Committees be appointed to collect and prepare evidence and nominate witnesses, and that the Scottish and Irish Committees be asked also to appoint representatives.

It was resolved that the Committee concur in the recommendations of the Public Health Committee as to the submission of evidence by the Association to the Poor-law Commission and as to the appointment of a Subcommittee to collect and to prepare evidence and nominate witnesses, that the Committee appoint representatives on the Subcommittee, and that it be recommended that the Scottish and Irish Committees be invited to nominate two representatives each.

FEES TO MEDICAL WITNESSES.

The following resolution of the United Kingdom Police Surgeons' Association was received:

That the Council of this Association has seen with great satisfaction the action of the Medico-Political Committee of the British Medical Association on the subject of medical witnesses' fees, and trusts that that Committee will continue to watch over the matter.

Communications were read from the Editor of the BRITISH MEDICAL JOURNAL, bringing to the notice of the Committee cases recently reported to the Editor of injustice to medical practitioners in respect of fees for emergency cases or fees to medical witnesses. It was resolved that the matter be referred to the Police and Medical Witnesses Subcommittee.

ETHICAL COMMITTEE.

A MEETING of the Ethical Committee was held at the office of the Association, 429, Strand, W.C., on July 14th, when there were present: Professor SAUNDBY (Chairman) in the chair, Dr. William Collier (President of the Association), Mr. Andrew Clark (Chairman of Council) Dr. A. G. Bateman, Mr. G. H. Broadbent, Dr. G. B. Ferguson, Dr. Bruce Goff, Mr. D. A. O'Sullivan, Mr. W. D. Spanton.

EXPULSION OF A MEMBER OF THE ASSOCIATION.

The Committee held an inquiry under Article XLIV (a) in the case of a member of the Association whom the Council of the Branch of which he is a member had recommended the Central Council to expel. The Committee, after hearing the member, recommended to the Central Council that he should be expelled.

A HOSPITAL QUESTION.

The Committee considered the question submitted by a Division, of the ethical position of the present staff of a hospital, in view of the circumstances in which the posts now held by them had been vacated. In response to the invitation of the Committee several members of the past and present staffs of the hospital attended.

After hearing all parties,

The Committee found that there was not sufficient evidence that the present staff of the hospital had accepted positions to which they knew there was any widespread or generally-entertained professional objection, and moreover, that some at least of them appeared to have consulted certain members of the retiring medical staff before making application, and met with no objection in that quarter.

CHAIRMAN'S REPORT TO COUNCIL.

The CHAIRMAN reported that in laying before the Council the recommendations made by the Committee at its last meeting, he had submitted, in addition to the rules approved by the Committee, rules received subsequent to the last meeting of the Committee from the Portsmouth Division.

The following rule submitted by the Portsmouth Division raising a new issue of principle had not been submitted to the Council, but reserved for the consideration of the Committee:

A resolution of the Division to prescribe rates and conditions of contract practice, to apply throughout the area of the Division, shall be deemed to have been duly adopted if passed by a three-fourths majority of the Division voting, by voting papers posted to each member's last-known address fourteen days beforehand.

It was resolved:

That the Committee does not recommend the Council to approve the proposed Rule, as in the opinion of the Committee it is inexpedient that resolutions of the kind referred to therein should be adopted by Divisions without discussion in general meetings, and that the Division be so informed.

CENTRAL ETHICAL COMMITTEE AND PENALTIES IN ETHICAL CASES.

The following resolution of the Southern Branch was considered:

That it be a recommendation to the Council of the Association that, as the Central Ethical Committee has to decide ultimately in ethical matters dealt with by Divisions and Branches, it is desirable that they should also recommend the penalties when these are incurred—having due regard to recommendations from Divisions or Branches in favour of any particular course if such recommendations are made.

It was resolved:

That the Committee cannot see its way to recommend this course to the Council, but that it is always willing to give advice if desired.

CANVASSING WITH RESPECT TO OFFICERSHIPS OF DIVISIONS.

The Committee considered a resolution of the Yorkshire Branch with respect to the advisability of prohibiting canvassing of members of Divisions in support of proposed candidates for offices in the said Divisions, proposing that where such canvassing is proven, and the fact knowingly permitted by the candidates, the same should disqualify such candidates for election.

It was resolved:

That in view of the fact that the proposal would involve alteration of the Regulations of the Association, the Committee is unable to see its way to make such a recommendation.

CASE OF ASSISTANT SETTING UP IN OPPOSITION TO HIS FORMER PRINCIPAL.

The CHAIRMAN reported further correspondence with a Division with reference to the case of an assistant setting up in opposition to his principal, which the Committee had previously considered.

On consideration of the various papers in connexion with the case, it was resolved that the Committee does not find any evidence of an understanding binding in honour upon the gentleman concerned.

VOTES OF THANKS TO THE CHAIRMAN.

It was unanimously resolved:

That the thanks of the Committee be given to the Chairman, Professor Saundby, for the able way in which he has discharged his arduous duties as Chairman of the Committee of the past year.

A meeting of the Ethical Committee was held at the office of the Association on October 6th, when there were present: Mr. R. H. Kinsey (Chairman) in the chair, Mr. G. C. Franklin (President of the Association), Dr. H. Langley Browne (Chairman of Council), Dr. J. Ford Anderson, Dr. H. A. Ballance, Dr. A. G. Bateman, Mr. G. H. Broadbent, Dr. Bruce Goff, Dr. R. L. Langdon-Down, Mr. W. D. Spanton.

It was reported that the members of the Committee appointed for the year are as follows:—Mr. G. C. Franklin, F.R.C.S. (President), *ex officio*, Dr. H. Langley Browne (Chairman of Council), *ex officio*. Elected by Representative Meeting: Mr. H. A. Ballance (Norwich), Dr. A. G. Bateman (London), Mr. G. H. Broadbent (Manchester), Dr. E. Jepson (Durham), Dr. R. L. Langdon-Down (London). Elected by Council: Dr. J. Ford Anderson (London), Dr. G. W. Crowe (Worcester), Dr. Bruce Goff (Bothwell, N.B.), Mr. R. H. Kinsey (Bedford), Mr. W. D. Spanton (Hanley).

Appointment of Chairman.

Mr. R. H. Kinsey was elected Chairman of the Committee for the ensuing year.

Vote of Thanks to Past Chairman.

It was resolved:

That this meeting of the Committee places on record its sincere thanks to Professor Saundby for the invaluable services he has rendered to the Central Ethical Committee during his Chairmanship, and also congratulates him most heartily upon his appointment as a member of the General Medical Council.

Cases Advised Upon.

Correspondence was read and approved relative to the following cases of advice desired and given since the last meeting of the Committee:

(*a*) Letter from a medical practitioner inquiring as to the propriety of having his surgery in connexion with a branch practice at an hotel, the entrance where he proposed having his plate fixed being at the side door of the hotel, and reply stating that this was undesirable, upon which advice the inquirer wrote that he would act.

(*b*) Inquiry as to the insertion of a medical man's name in an advertisement of a sanatorium, and reply quoting the decision of the Representative Meeting as follows:

That members of the profession who act as medical officers of hydropathic and similar establishments should make it a condition of their engagement that their names shall not be inserted in any advertisements of such institutions, except in advertisements in medical journals.

(*c*) Inquiry as to the propriety of inserting in the lay press a notice stating that a consulting practitioner was out of town and giving the date of his return, and reply communicating the opinion of the Ethical Committee, previously expressed, that such advertisements were undesirable.

Subcommittee on Contract Practice.

In response to the request of the Medico-Political Committee that the Ethical Committee should appoint two representatives on the Contract Practice Subcommittee, Mr. Ballance and Mr. Broadbent were appointed.

Medical Secretary's Reports as to Trade and other Advertisements and Newspaper Notices.

The Medical Secretary's reports as to trade and other advertisements and newspaper notices of medical men under consideration since the last meeting of the Committee were received and approved.

Rules of Divisions and Branches.

Rules submitted by the Leigh Division (Bradford), Gateshead Division (Bradford), Bradford Division (Rule "Z"), and the Portsmouth Division (special Rule which had been referred back to the Division by the Committee) were considered.

The Committee recommended the Council to approve the adoption of all the Rules submitted.

Comments to Patients on Other Practitioners' Diagnosis.

In a case of alleged improper reflection by a practitioner on the diagnosis of another practitioner who had been attending the case the Committee found that the facts submitted appeared to indicate that both the practitioners concerned acted incorrectly in criticizing to the patients the diagnosis previously made.

Procedure with Respect to American Practitioner.

An applicant for advice as to procedure to be adopted, with regard to unprofessional conduct of an American graduate practising in Chicago, was recommended to apply to the American Medical Association.

Canvassing: Consultants and General Practitioners.

The following resolutions of the Annual Representative Meeting, 1905, were considered:

That it shall be inconsistent with membership of the Association for any medical practitioner to be associated with any institution providing medical attendance on contract or provident principles which employs official canvassing, either privately or collectively, or any other method of advertising for the purpose of obtaining members. (Minute 229.)

That the Ethical Committee be requested to consider the relative ethical position of consultants and the medical practitioner in attendance, to each other and to the patients, and report. (Minute 230.

The first resolution was noted as an instruction. The consideration of the second resolution was deferred until the next meeting of the Committee, the Chairman and Secretary being requested in the meantime to prepare a memorandum as a basis for discussion.

Advertising by Cards.

A case of alleged advertising by cards which were distributed to patients of other medical men was considered. The Committee directed that the practitioner be written to, and that the matter be referred to the Division of which he was a member.

Handbills of a Friendly Society.

A matter previously before the Committee with respect to the distribution of a handbill of a Friendly Society advertising free medicine and doctor, was considered. A letter was also read from the Honorary Secretary of the Division in connexion with the same, stating that the Division considered that the club should not so advertise.

The Committee decided that the medical officer of the club be informed that in the opinion of the Committee he ought not to act as medical officer to a society which so advertises.

HOSPITALS COMMITTEE.

A meeting of the Hospitals Committee was held at the office of the Association, 429, Strand, W.C., on July 4th, when there were present: Dr. M. Beverley (Chairman), in the chair, Dr. Wm. Collier (President of the Association), Mr. Andrew Clark (Chairman of Council), Dr. J. Ford Anderson, Dr. J. Brassey Brierley, Dr. E. B. Hastings, Mr. Edmund Owen, Dr. Lauriston E. Shaw, Mr. E. F. White.

Provident Dispensaries and Public Medical Services.

The Committee considered the reports of the Medico-Political Committee on Provident Dispensaries and Public Medical Services, and suggested certain alterations therein (see extra Supplement, July 22nd, 1905, pp. 30-32).

Relationship of Hospitals to Certain Other Medical Services Provided for the Poor.

The Committee considered proposals for discussion, which had been drafted at the request of the Committee by Dr. J. Ford Anderson and the Medical Secretary, with respect to the relationship of hospitals to provident dispensaries, free dispensaries and the Poor-law medical service, and the following is the report with emendations as adopted by the Committee:

THE RELATIONSHIP OF HOSPITALS TO PUBLIC MEDICAL SERVICES, PROVIDENT DISPENSARIES, FREE DISPENSARIES, AND THE POOR-LAW MEDICAL SERVICE.

(*A*).—Relation of Public Medical Services and Provident Dispensaries to Hospitals.

Scope of Out-patient and Casualty Departments.

1. That hospital out-patient and casualty departments shall be as far as possible consultative (see Paragraphs 2, 3, and 5

following), but cases requiring immediate attention shall be seen once, and only cases requiring hospital treatment or specially suitable for clinical instruction shall be treated at the hospital.

Reference Elsewhere of Unsuitable Cases.

2. That the remaining cases shall be seen by an almoner and each referred, in general terms, to a medical practitioner, to a public medical service, an approved provident dispensary, or to the relieving officer under the Poor Law.

By approved provident dispensaries shall be understood provident dispensaries the constitution and conduct of which are in accordance with such principles as may be formulated in reference thereto by the British Medical Association, or by Divisions of the Association with respect to dispensaries within their respective areas.

Co-ordination of Public Medical Services and Provident Dispensaries with Hospitals.

3. That there shall be a system of co-ordination between hospitals, on the one hand, and public medical services and provident dispensaries on the other, so that the hospitals shall refer to the public medical services and provident dispensaries suitable cases, of those not retained for hospital treatment (see Paragraph 2 foregoing), and the public medical services and provident dispensaries shall refer to the hospitals cases for consultation, as well as those requiring hospital treatment and nursing, or specially suitable for purposes of clinical instruction.

Notices of Public Medical Services and of Provident Dispensaries in Hospitals, and vice versa.

4. That notices be posted in out-patient and casualty departments of hospitals calling attention to public medical services or approved provident dispensaries in the neighbourhood, and the public medical services and dispensaries advertise similarly in their premises that consultations with the staffs of hospitals can be arranged when desirable.

Public Medical Service, Dispensary and Private Practitioners' Cases referred to Hospitals for Special Advice.

5. That a member of a public medical service or provident dispensary, or other patient referred to a hospital for consultation, with a note, or personally by a general practitioner in attendance, should be exempt from the almoner's inquiries, should have priority of consideration, and should be referred back to such medical attendant, with a statement of the opinion of the hospital physician or surgeon on the condition of the patient. In such a case drugs should not be supplied by the hospital.

(*B*).—RELATION OF HOSPITALS TO FREE DISPENSARIES.

6. That it is desirable that free dispensaries should as soon as possible be merged into public medical services or provident dispensaries.

(*C*).—RELATION OF HOSPITALS TO THE POOR-LAW MEDICAL SERVICE.

7. That cases of obvious destitution, or cases already in receipt of Poor-law relief, shall, after they have been once seen in the casualty or out-patient department, be referred to the Poor-law relieving officer unless they should be retained for hospital treatment, and Poor-law patients may be referred to hospitals for consultation as in the case of public medical service and provident dispensary patients. In these cases payment might be required from the Poor-law Guardians if deemed advisable.

JOINT MEETING WITH LAY REPRESENTATIVES.

The Committee considered the question of the joint meeting with the lay representatives appointed at the Conference on March 2nd, 1905, and decided to defer the matter until their next meeting, which was fixed for October.

A further meeting of the Committee was held at the office of the Association, 429, Strand, W.C., on October 5th, when there were present: Dr. M. BEVERLEY (Chairman), in the chair, Dr. J. Ford Anderson, Dr. J. Brassey Brierley, Dr. Wm. Collier, Dr. E. Lawrence Fox, Dr. John R. Hamilton, Dr. E. B. Hastings, Dr. F. M. Pope, Mr. E. F. White.

APPOINTMENT OF CHAIRMAN.

On the motion of Dr. COLLIER, seconded by Dr. POPE, Dr. Beverley was reappointed Chairman of the Committee.

OUT-PATIENT DEPARTMENTS OF COTTAGE HOSPITALS: HOSPITALS FOR INFECTIOUS DISEASES IN SMALLER TOWNS.

The Committee received the opinion, which they had requested, of the Scottish Committee upon certain proposals with respect to out-patient departments of cottage hospitals and hospitals for infectious diseases in small towns in Scotland (see proceedings of Scottish Committee, p. 260).

HOSPITAL OUT-PATIENT DEPARTMENTS.

In pursuance of the following resolution of the Annual Representative Meeting:

> That it is inadvisable that this meeting should pass a resolution on the general principle of hospital out-patient departments before that principle has been submitted to the Divisions, and this meeting hereby decides that the question be remitted through the Hospitals Committee to the Divisions,

the Committee gave instructions for the general question of the desirability of out-patient departments to be referred to the Divisions, and that the Divisions should at the same time be informed of the result, up to the present, of the deliberations of the Hospitals Committee on this matter.

JOINT COMMITTEE WITH LAY REPRESENTATIVES.

It was resolved that the first joint meeting with lay representatives appointed at the Conference on March 2nd should be held on November 2nd, 1905.

ROYAL COMMISSION ON THE POOR LAW.

The Committee having ascertained that it was probable that the Association would submit evidence on behalf of the medical profession to the Royal Commission on the Poor Law, recommended that Dr. Ford Anderson and Dr. Brassey Brierley should be appointed as representatives of the Hospitals Committee on the Joint Subcommittee for collecting and preparing the evidence.

ELECTION OF NEW MEMBERS.

A recommendation was made to the Council that the Committee should again be given power to add to its number members of the Association specially qualified to assist in its work.

ORGANIZATION COMMITTEE.

A MEETING of the Organization Committee was held at the office of the Association on October 10th, when there were present: Mr. T. JENNER VERRALL (in the chair), Dr. H. Langley Browne (Chairman of Council), Mr. H. A. Ballance, Mr. Andrew Clark, Dr. Alfred Cox, Professor J. T. J. Morrison, Dr. E. Rayner, Professor A. H. White; also Sir Victor Horsley, F.R.S. (Chairman of Representative Meetings), and Dr. H. Radcliffe Crocker (Treasurer), who attended on the invitation of the Chairman; also Mr. W. E. Hempson (Solicitor to the Association).

It was reported that the following were elected by the Council at Leicester as the Organization Committee for the year 1905-6: Mr. G. C. Franklin, F.R.C.S. (President), *ex officio*: Dr. H. Langley Browne (Chairman of Council), *ex officio*: Mr. H. A. Ballance, M.S. (Norwich), Mr. Andrew Clark, F.R.C.S. (London), Dr. Alfred Cox (Gateshead), Professor J. T. J. Morrison (Birmingham), Dr. Edwin Rayner (Stockport), Mr. T. Jenner Verrall (Brighton), Professor A. H. White (Dublin).

ELECTION OF CHAIRMAN.

Mr. T. Jenner Verrall was reappointed Chairman of the Committee for the ensuing year.

ROYAL CHARTER.

The following instructions of the Representative Meeting to the Council, referred by the Council to the Organization Committee, were considered:

Minute 50: That the Representative Meeting issue the necessary authority for application on behalf of the Association to be made to the Privy Council praying His Majesty to grant a Royal Charter of Incorporation to the Association.

Minute 54: That the Central Council be instructed to submit the draft of the application for a Royal Charter to the Divisions as soon as possible, with an estimate of the probable cost and with an explanatory memorandum.

Minute 230: That it be an instruction to the Council in drafting the new regulations in connexion with the application for a Charter to provide for the transference of all financial business from the General to the Representative Meeting of the Association.

Minute 240: That it be an instruction to the Council in drafting new regulations in connexion with the application for a Charter to provide for the constitution of a Finance Committee separate from the Committee which deals with the JOURNAL.

The Chairman reported that for the assistance of the Committee in dealing with the question of the charter he had invited the Chairman of Representative Meetings and the Treasurer to attend, and they had acceded to his request.

The Chairman of Representative Meetings and the Treasurer were co-opted as members of the Committee.

The Chairman also reported that, in order to facilitate the consideration of the matter by the Committee, he and the Chairman of Council had requested the assistance of the Chairman of Representative Meetings, the Treasurer, and the late Chairman of Council, Mr. Andrew Clark, and that a preliminary conference had been held of these gentlemen with the Solicitor of the Association, and Counsel, who had been asked to advise on certain preliminary points for the information of the Organization Committee.

Documents which had been laid before counsel prior to the conference, and counsel's opinion in reply to the points raised, were read, and it was resolved that a subcommittee be formed, consisting of the Chairman of the Committee, Sir Victor Horsley, Dr. H. Langley Browne, Dr. H. Radcliffe Crocker, and Mr. Andrew Clark, to prepare in consultation with the solicitor a draft charter and regulations for submission to counsel, and that the draft charter and regulations as settled by counsel should be considered as soon as ready at a special meeting of the Committee.

It was further resolved that instructions be given to those engaged in drafting the charter to prepare at the same time the explanatory memorandum which the Representative Meeting ordered to be sent to the Divisions, that a draft be submitted to the Committee at its next meeting, and that in the draft be included a statement of the grounds on which it is considered that it would be to the advantage of the Association to obtain a charter.

Powers of Colonial Branches.

A letter from the Cape of Good Hope Branch dealing with the power of the Branches in South Africa to take up medical benevolent work, medical defence, etc., and charge their members an increased subscription, was considered, and directions were given to inform the Honorary Secretary of the Branch that at present the objects described cannot be undertaken by any Branch, as a Branch of the Association, because they are outside the objects of the Association; that steps are at the present time being taken to obtain a Royal Charter in order to enable the Association to include such matters in its objects. Also, that no additional subscription can at present be made compulsory on members of a Branch, but that it is competent for any Branch offering special privileges to its members to make a charge to those who avail themselves of those privileges.

Medical Secretary's Visits to Divisions and Branches.

The report of the Medical Secretary on visits to Divisions and Branches since the last meeting—namely, the Birmingham (Central) Division, Ebbw Vale (Monmouthshire Division and South Wales Branch), Rhyl (Denbigh and Flint Division) was received and approved.

Rules Submitted by Branches.

The Council was recommended to approve certain rules submitted by the South Australian Branch, with the exception of the rule with reference to a special Branch subscription, which is *ultra vires*, and also to approve alterations of rules submitted by the North of England Branch.

Alterations of Boundaries.

Several questions of alterations of boundaries of Divisions and Branches were considered and recommendations made to the Council (see Supplement to the British Medical Journal, October 21st, p. 231).

Alteration of Articles of Association.

The Committee considered the alterations of Articles of Association which were approved by the Representative Meeting at Leicester, but which do not take effect until approved by a general meeting. It was resolved that the Subcommittee on the Charter be instructed to include the substance of these alterations in the new regulations.

Affiliation of Local Societies.

An instruction of the Representative Meeting to the Council was considered as to the advisability of providing a scheme for the affiliation of local medical societies to the British Medical Association, and the Council was recommended to report that the only form of affiliation compatible with the constitution of the Association is that the local society should be merged in the Association, and that, having regard to the variety of local conditions, no general scheme for this purpose can be formulated.

Representation of Representative Meeting on Council and Grants to Branches and Divisions.

The Medical Secretary and Solicitor were instructed to draft alterations of By-laws for submission to the next Representative Meeting to give effect to the decisions of the Representative Meeting at Leicester as to representation of the Representative Meeting on the Council and as to conferring power on the Council to make additional grants to Branches and Divisions.

Branch Representation on the Council.

With respect to the instruction of the Representative Meeting that the resolution of the Wandsworth Division, "That in By-law 23, for '600' be read '300,'" be remitted to the Organization Committee for consideration of the principle that it is undesirable to increase the membership of the executive body of the Association, the Committee decided to report that in their opinion it is inexpedient to increase the size of the Council, and that, having regard to the addition of members to be elected by the Representative Meeting, it is inadvisable that the number of Branch Representatives should be increased.

PUBLIC HEALTH COMMITTEE.

A meeting of the Public Health Committee was held at the office of the Association on October 3rd, when there were present: Mr. C. H. Watts Parkinson (in the chair), Dr. J. Groves, Mr. Herbert Jones, Dr. Herbert Manley, Dr. F. C. Martley, Dr. T. G. Nasmyth, Dr. J. Maxwell Ross.

Appointment of Chairman.

On the motion of Dr. Maxwell Ross, seconded by Dr. F. C. Martley, Mr. C. H. W. Parkinson was re-elected Chairman for the year.

Fees under the Poor Law.

The Committee approved advice which had been given since the last meeting to inquiries respecting the fees payable (*a*) for lunacy certification, (*b*) for ordinary midwifery, (*c*) for operative midwifery, and as to the action which it was advisable for the applicants to take in order to obtain an improvement of their position; and also with respect to the right of a Poor-law medical officer who had resigned his appointment to have premiums paid towards superannuation returned, and as to his claim to the Government grant for successful vaccination.

Vaccination Expenses.

The Chairman reported that the Council had referred back to the Medico-Political and Public Health Committees their joint report on vaccination expenses; and the Medico-Political Committee, having met subsequently, had reappointed the joint Subcommittee which had previously considered the matter, with the addition of Mr. Jones Morris. The Subcommittee had met and prepared an amended report, which was now laid before the Committee.

The Committee approved the report, subject to certain verbal emendations.

Public Health Bill.

The Committee considered the following instruction of the Representative Meeting referred to the Committee:

> That the Council be instructed to press forward the Public Health Bill giving fixity of tenure to medical officers of health. (Minute 41.)

The Chairman reported an interview and correspondence with the President of the Local Government Board, who had expressed general sympathy with the Bill, and promised to receive a deputation on the subject in the autumn.

It was resolved:

> That application be made to the President of the Local Government Board to receive a deputation in November, and that, besides the Public Health Committee, the officers of the Association and the Medico-Political Committee be invited to attend, as well as Presidents or other representatives of the following bodies: the General Medical Council, the Royal Colleges of Physicians and Surgeons, the Incorporated Society of Medical Officers of Health and the Sanitary Inspectors' Association.

Attempt to Break up a Combination of Sanitary Districts.

The Medical Secretary reported that he had communicated, as instructed by the Committee, with the two Divisions of the Association concerned suggesting joint action, and that subsequently information had been received of action taken by the Local Government Board with a view of preventing the breaking up of the combination. It was resolved that in view of the intervention of the Local Government Board no further action should be taken by the Association at present.

Royal Commission on the Poor Law.

The Committee received a report of the communication which by the authority of the Chairman of Council had been addressed to the Prime Minister suggesting that a medical practitioner having experience of the Poor-law medical service and a practitioner of experience of general medical practice should be appointed as members of the Royal Commission, and also stating that the Association would desire to submit evidence. The Committee resolved to recommend the appointment of a joint subcommittee for the collection and preparation of evidence, and the nomination of witnesses on behalf of the Association, the Subcommittee to include representatives of the Medico-Political, Public Health, Scottish and Irish Committees.

SCIENCE COMMITTEE.

A meeting of the Science Committee was held at the office of the Association on October 4th, when there were present: Dr. Norman Walker (in the chair), Dr. James Barr, Dr R C. Buist, Mr. Andrew Clark, Professor J. T. J Morrison, Mr. H. Betham Robinson, Dr. Cecil E. Shaw, Dr. W. J. Tyson.

Dr. Norman Walker was appointed Chairman of the Committee for the ensuing twelve months. Letters of apology for non-attendance were read from the President, the Chairman of Council, the Treasurer. Dr. William Collier, Professor Osler, F.R.S., and Dr. F. M. Pope.

References to Committee.

Read references from the Council appointing Committee:

That there be a Science Committee, to consist of twelve members appointed by the Council, to undertake the work at present done by the Scientific Grants, Annual Meeting (Sections), and the Science Co-ordination Committees.

That the Science Committee consist of the President and Chairman of Council *ex officio*, the Treasurer, Dr. J. Barr, Dr. R. C. Buist, Mr. Andrew Clark, Dr. Wm. Collier, Professor J. T. J. Morrison, Professor Wm. Osler, F.R.S., Dr. F. M. Pope, Mr. H. Betham Robinson, Dr. Cecil E. Shaw, Dr. W. J. Tyson, and Dr. Norman Walker.

Scientific Grants.

On the motion of Professor Morrison, seconded by Dr. Cecil Shaw, it was resolved:

That it be a recommendation to the Council, that for the special purpose of dealing with the Research Scholarships and Scientific Grants, the Committee shall have power to co-opt not more than four additional members.

Standard of Puerperal Morbidity.

The following resolution passed in the Section of Obstetrics and Gynaecology, and referred to the Science Committee by the Council, was considered:

That it is desirable that a standard of puerperal morbidity be fixed for use in maternity hospitals, and that the Council be requested to arrange for a Special Committee to investigate the matter.

It was resolved:

That it be a recommendation to the Council that a Special Committee be appointed to report on the resolution forwarded from the Section of Obstetrics and Gynaecology, consisting of Professor Herbert Spencer, (President of the Section), Dr. R. C. Buist, Professor Byers, Dr. T. A. Helme, Miss L. Garrett Anderson, Professor Tweedy, Dr. Thomas Wilson. Further, that the London Obstetrical Society, Edinburgh Obstetrical Society, Glasgow Obstetrical Society, North of England Obstetrical Society, and the Royal Academy of Medicine in Ireland be each asked to nominate a representative to join the Committee.

It was decided that the Council be recommended to request such Committee to report not later than April 30th, 1906.

Hereditary Mental Diseases.

The consideration of the resolution of the Psychological Section asking for the aid of the Central Council in making an inquiry into the subject of hereditary mental diseases and the hereditary affections of comparatively sane families was deferred.

Division Libraries.

The Committee resolved, in order to encourage the formation of Division libraries, that Division secretaries should be informed that a duplicate list of books in the central library could be obtained on application to the Librarian.

Clinical and Pathological Work and Relation of the Association to Other Scientific Societies.

It was resolved to call the attention of Branch and Division Secretaries to the two following clauses of the report presented by the Scientific Co-ordination Committee to the Council on February 15th, 1905:

The suggestion has been made that Divisions which desire it may form Sections for clinical and pathological work with or without additional voluntary subscription. Further information is needed as to the desires of the Divisions.

Relation of the Association to Other Scientific Societies.

This question needs consideration in both its general and local aspects. How far can the Branches and Divisions work with other local Societies, and under what circumstances should they be amalgamated? Further information is necessary before any recommendations can be made.

SCOTTISH COMMITTEE.

A meeting of the Scottish Committee was held at the North British Station Hotel, Glasgow, when there were present: Dr. Bruce Goff (in the chair), Dr. R. Cochrane Buist, Professor D. W. Finlay, Dr. James Hamilton, Dr. R. McKenzie Johnston, Dr. A. P. Low, Dr. J. E. Moorhouse, Dr. J. H. Nicoll, Dr. J. Maxwell Ross, Dr. A. Trotter, and Dr. Norman Walker.

Dr. Bruce Goff was elected Chairman, and Dr. E. J. Moorhouse Secretary of the Committee.

Border Counties Branch.

It was resolved:

That if the Border Counties Branch and its Scottish Division request it, the Committee would approve of the Secretary of the Scottish Division of the Border Counties Branch being made a member of the Committee in place of the Secretary of the Border Counties Branch.

Cottage Hospitals.

The Committee considered the communication from the Hospitals Committee, and resolved to express the opinion that, so far as the information before the Scottish Committee showed there was in Scotland no need for out-patient departments in connexion with cottage hospitals. The Committee further resolved that it was inadvisable to adopt as a universal rule a proposal that where a hospital for infectious diseases in a small town is not under the control of the medical officer of health all duly qualified practitioners willing to act in the area served by the hospital should hold the office of physician to it in rotation.

Royal Commission on the Poor-law.

Drs. Buist, Balfour Graham, Moorhouse, and Trotter were appointed a Subcommittee to watch the proceedings of the Royal Commission on the Poor Law, with power to add to their number, and to co-operate with any other medical bodies in Scotland or with the Medico-Political Committee of the Association.

JOURNAL AND FINANCE COMMITTEE.

A meeting of the Journal and Finance Committee was held at the office of the Association on October 11th, when there were present: Dr. H. W. Langley Browne (Chairman of Council, in the chair), Sir Victor Horsley, F.R.S. (Chairman of Representative Meetings), Dr. H. Radcliffe Crocker (Treasurer), Dr. Edgar Barnes, Dr. W. A. Carline, Mr. Andrew Clark, Dr. J. H. Galton, Dr. J. Groves, Mr. R. H. Kinsey, Mr. C. H. W. Parkinson, Dr. E. Rayner, Dr. E. Markham Skerritt, Mr. T. Jenner Verrall.

The Chairman of Council was appointed Chairman of the Committee for the ensuing twelve months. Letters of apology for non-attendance were read from the President and Mr. W. Jones Morris.

Resolutions of the Representative Meeting.

The Committee considered the resolutions passed at the Representative Meeting at Leicester, and referred to it.

1. The Committee expressed its concurrence in the recom-

mendation of the Representative Meeting to the effect that all Branch and Divisional rules should be printed at the expense of the central funds.

2. The Committee resolved that all members of the staff on joining the office should in future produce a medical certificate of fitness.

3. The Committee further resolved that as from January, 1906, the SUPPLEMENTS be bound and sent down to the Secretaries of the Divisions twice annually.

4. The Committee considered the resolution of the Representative Meeting that the SUPPLEMENT of the JOURNAL, containing as it does the private business of the members, should, if possible, not be issued with the JOURNAL otherwise than to members. It was found, however, that at present it would not be practicable to carry out this recommendation.

5. With regard to the resolution requesting the Finance Committee, when preparing the annual accounts of the Association, also to prepare a statement containing the same details, but on the lines of a rate demand note, the General Secretary was instructed to take the recommendation into consideration during the preparation of the annual balance sheet.

SUPERANNUATION SCHEME FOR OFFICE CLERICAL STAFF.

The following Subcommittee was appointed to draft the necessary rules for carrying into effect the superannuation scheme: The President, the Chairman of Council, the Treasurer, Mr. Andrew Clark, and Dr. E. Markham Skerritt.

FINANCE.

The report of the auditors was read and entered on the minutes, and the accounts for the quarter ending September 30th were received and approved, and the Treasurer empowered to pay those remaining unpaid.

The Committee also adopted the following resolutions referred to it from other Committees:

(1) That it be left to the discretion of the Treasurer to sanction the expenditure of a sum not exceeding £50 which it may be necessary to incur in connexion with the collection and preparation of evidence before the Royal Commission on the Poor Law.

(2) That this Committee approves the cost of issuing a recruiting circular containing the resolutions relating to Contract Practice, etc.

(3) That this Committee is of opinion that the warning notice as to Contract Practice should not be advertised in any other medical journals.

(4) That this Committee concurs in the recommendation of the Medico-Political Committee in withdrawing its former prohibition of the advertisement of a medical agent.

PREMISES AND LIBRARY COMMITTEE.

A MEETING of the Premises and Library Committee was held at the office of the Association on October 3rd, when there were present: Mr. ANDREW CLARK (afterwards Dr. H. W. LANGLEY BROWNE, Chairman of Council) in the chair, Dr. Edgar Barnes, Dr. J. H. Galton, Dr. R McKenzie Johnston, and Dr. E. Markham Skerritt. Dr. H. Radcliffe Crocker (Treasurer) was detained and did not arrive until after the Committee had risen. Mr. Andrew Clark was appointed Chairman of the Committee. Letters of apology for non-attendance were read from the President and Dr. Bruce Goff.

LIBRARY.

The Librarian reported that during July, August, and up to September 23rd there had been over 1,200 attendances, and that he had received 182 more *Thèses de Paris*, making a total of 550 for *l'année scolaire* 1904-5.

The accounts for the quarter were passed for payment and certain books directed to be purchased.

THE OFFICES OF THE ASSOCIATION.

In accordance with the instruction of the last Representative Meeting at Leicester, directions were given that the name of the office of the Association should be changed to "British Medical Association," in place of "BRITISH MEDICAL JOURNAL."

A report by a surveyor on the property of the Association was received and its further consideration adjourned.

DUPLICATE BOOKS.

The Librarian was instructed to forward the duplicate list of books to two Divisions of the Association which were desirous of forming libraries.

ARRANGEMENTS COMMITTEE.

A MEETING of the Council Representatives on the Arrangements Committee was held at the office of the Association on October 6th, when there were present: Dr. H. W. LANGLEY BROWNE (Chairman of Council) in the chair, Professor J. W. Byers, M.D., Mr. George Eastes, Dr. J. H. Galton, Dr. James Hamilton, Mr. J. Lynn Thomas, C.B.

Dr. Langley Browne was appointed Chairman of the Committee for the ensuing twelve months.

APPOINTMENT OF COMMITTEE.

The following resolution appointing the Committe was read:

That the Arrangements Committee consist of the President and Chairman of Council *ex officio*: The Treasurer, London; Professor J. W. Byers, Belfast; Mr. George Eastes, London; Dr. J. H. Galton, Upper Norwood; Dr. James Hamilton, Glasgow; Mr. J. Lynn Thomas, C.B., Cardiff; and six other members to be nominated by the Toronto Executive.

PHYSICAL THERAPEUTICS.

A letter was read from the Honorary Secretary of the British Electro-Therapeutic Society, asking for the appointment of a subsection, to be devoted to physical therapeutics. The Committee was of opinion that it was undesirable to form such a section at the Toronto meeting.

SCIENTIFIC WORK OF THE ANNUAL MEETING.

It was reported that a meeting of the Canadian Representatives, consisting of Professor Irving Cameron, Dr. Pyne, Dr. Nevitt, and Dr. London, with officers of the Association, had been held on August 1st. It was recommended that there should be three addresses in medicine, surgery, and obstetrics respectively, and twelve sections as follows:

Medicine.	Psychology.
Surgery.	Ophthalmology.
State Medicine.	Laryngology and Otology.
Obstetrics and Gynaecology.	Anatomy and Physiology.
Therapeutics.	Dermatology.
Pathology and Bacteriology.	Paediatrics.

The Committee considered the nominations for the various offices, and the list will be published when complete.

VACCINATION EXPENSES.

REPORT OF A JOINT SUBCOMMITTEE OF THE MEDICO-POLITICAL AND PUBLIC HEALTH COMMITTEES ON VACCINATION EXPENSES.

(As Adopted by those Committees and Subsequently by the Council.)

THE Subcommittee having carefully considered the Report of the Departmental Committee of the Local Government Board on Vaccination Expenses, reports thereon as follows:

1. In the opinion of the Subcommittee the Report of the Departmental Committee is on the whole fair to the medical profession consistently with regard for the public interest, and if given effect to will tend to maintain or even increase the protection afforded to the community by the existing Vaccination laws. The proposals of the Report should therefore as a whole receive the approval and support of the Association.

The following paragraphs appear to the Subcommittee to call for special consideration:

"91. Upon a careful consideration of the evidence which has been placed before us, and having regard to the several recommendations contained in this Report, we are of opinion that the minimum fees payable to public vaccinators may be fairly and reasonably fixed at the following amounts:

"2s. 6d. for every case of successful primary vaccination performed elsewhere than at the home of the child or person vaccinated;

"3s. for every case of successful primary vaccination performed at the home of the child within one mile from the public vaccinator's residence;

"4s. for every case of successful primary vaccination performed at the home of the child over one mile and under two miles from the public vaccinator's residence; and

"5s. for every case of successful primary vaccination performed at the home of the child over two miles from such residence.

"Where journeys of over three miles have to be made, a special fee should be arranged between the parties.

"In each case we suggest that the distance should be measured by the nearest public carriage road.

"We do not propose any alteration in the fee payable under Article 3 (1) (*a*) of the Vaccination Order, 1898.

"95. We suggest that the law should be amended so that every public vaccinator may become an 'officer' within the meaning of Article 187 of the General Consolidated Order and Section 19 of the Poor-law Officers' Superannuation Act, 1896, and that, so long as he strictly complies with the terms of his appointment and with the Instructions to Public Vaccinators for the time being in force, he should have a fixity of tenure, with the same rights, privileges, and liabilities as a District Medical Officer.

"We believe that public vaccinators generally would welcome such an alteration in their status, and would regard the change as some compensation for the reduction which we propose should be made in their fees.

"96. We are further of opinion that where a public vaccinator is under contract for vaccination at the time when any new Act, or Order, affecting the amount of the fee or fees payable to him comes into force, he should have the option of remaining a contractor, instead of becoming an 'officer,' in which case no reduction below the minimum fee payable under Article III (1) (*b*) of the Vaccination Order, 1898, so far as it applies to the primary vaccination of infants under 12 months of age, should be made, and such contract should only be determinable with the consent of the Local Government Board, or upon the acceptance by the public vaccinator of the revised terms and conditions prescribed by any new Act or Order.

"97. We do not favour the suggestion that every medical man should be paid by the vaccination authority for vaccinations performed by him, but we think there would be advantage if successful vaccination were defined by statute, and every medical man were required to conform to the statutory standard."

2. With regard to paragraph 91, the Subcommittee recognizes that the proposals of the Departmental Committee which reduce the minimum fees paid to public vaccinators are explicitly connected by that Committee with proposals for the reduction of the work at present required from public vaccinators, and for the improvement of their status as regards security of tenure and superannuation.

It is to be observed that the improvement of status, and to some extent also the diminution of work, are dependent upon proposed amendments of the law, and the Subcommittee considers that at all events no order should be made by the Local Government Board to reduce the existing minimum fees until the proposed alterations of the law have been effected.

The Subcommittee does not express any opinion as to the adequacy of the proposed scale of minimum fees to the amount of work done under the altered conditions contemplated by the Departmental Committee.

With regard, however, to the proposal of the Departmental Committee that all fees for journeys over three miles should be fixed by local arrangements between the parties, the Subcommittee considers that these fees should be determined by the Local Government Board.

3. With respect to paragraphs 95 and 96, relative to placing Public Vaccinators in the same position as Poor-law Medical Officers as regards security of tenure and superannuation, the Subcommittee is of opinion that the suggestions in these paragraphs are of great value, and should receive special support from the Association.

4. The Subcommittee has also given special consideration to the position of private practitioners in vaccination, to which allusion is made in paragraph 97 of the Departmental Committee's Report.

The questions which appear to require consideration in this connexion are:

(*a*) The protection afforded to the whole of the community by the efficient vaccination of each individual, which is thus a matter of State concern.

(*b*) The desire of individuals, which the law at present recognizes, to select for themselves the medical practitioner who is to perform the operation, on the condition that the private patient pays the fee of the vaccinator.

It must be recognized that many members of the community will consent to vaccination when performed by a practitioner of their own selection in whom they have confidence, who might resist vaccination if compelled to submit to its performance by a public vaccinator. Thus the present right of employment of a private practitioner probably facilitates the smooth working of the Vaccination Acts.

On the other hand, the suggestion that every private practitioner should be recognized as a public vaccinator, and that each patient should be free to choose his own vaccinator at the State expense, has been objected to on the ground of the difficulty of effective inspection, and it appears to the Subcommittee that this objection must, on the evidence at present available, be held to prevail.

In the opinion of the Subcommittee the difficulty is best met by the compromise which has already received the emphatic approval of the Association, namely, that the distinction between public and private vaccinators should be maintained, but that the interest of the community in efficiency of private vaccinations should be recognized by the payment of a fee for every certificate by a private practitioner of successful vaccination satisfying a standard laid down by the Local Government Board.

The fee should be regarded as a recognition of the efficiency of the vaccination and of the fact of certification, but not as a payment for the operation itself, which should be paid for by the patient.

Under such a system the Subcommittee considers that the risk of punishment for false certification, under a system of surprise visitation, by the Inspectors of the Local Government Board, would furnish a safeguard for efficient vaccination, such as the community does not at present possess in the case of private vaccination.

Recommendations.

1. That the Report of the Departmental Committee on Vaccination Expenses should receive the general approval of the Association.

2. That no reduction should be made in the existing minimum fees to public vaccinators until such changes have been made in the law as are necessary to carry out, the proposals of the Departmental Committee as regards diminution of work of public vaccinators and improvement of their status.

That no opinion need at present be expressed as to whether, when such changes are carried out, the minimum fees proposed by the Departmental Committee would or would not be adequate to the work then done by Public Vaccinators, regard being had also to the improvement of status.

3. That the proposals of the Departmental Committee as regards placing Public Vaccinators in the same position as Poor-law Medical Officers in respect of tenure and superannuation, being of great value, should receive special support from the Association.

4. That every private practitioner furnishing the vaccination authority with certificates of successful and efficient vaccination, satisfying a standard fixed by the Local Government Board, should receive a suitable fee for each certificate.

Meetings of Branches and Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* Journal.]

ABERDEEN BRANCH.

The annual meeting of the above Branch was held in the Grand Hotel, Aberdeen, on Saturday, October 21st, at 1.15 p.m. In the absence of Dr. Henry, Kemnay, President, Dr. Edmond was called to the chair. The minutes of the last meeting were read and approved, and thereafter officials were appointed for the year 1905-6.

President: Dr. Mayer, Bucksburn.
President-Elect: Dr. John Scott Riddel, M.V.O.
Vice-Presidents: Dr. Henry, Kemnay; and Dr. Mackenzie Booth, Aberdeen.
Treasurer: Dr. George Williamson.
Secretaries: Drs. J. F. Christie and T. Fraser.
Council: Country members: Dr. Rannie, Culter; Dr. Bruce, Cults; Dr. Nicol, Inverurie. City members: Dr. R. G. McKerron, Dr. H. M. W. Gray, and Dr. Marnoch.

It was remitted to the Council to arrange for the summer meeting.

BATH AND BRISTOL BRANCH: TROWBRIDGE DIVISION.

A meeting of this Division was held at the Town Hall, Marlborough, on Saturday, October 28th, at 3.15 p.m., when there was a good attendance of members of the Division

and visitors from the Winchester and Oxford and Reading Divisions.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Special Meeting.—It was proposed by Dr. PEARSE, seconded by Dr. G. C. TAYLER, and carried unanimously:

> That a special meeting of the Division be held in Trowbridge on an early date to frame resolutions for the guidance of members with regard to ambulance work, and to consider the report on contract practice, with special reference to the recommendations at conclusion of report: and to receive report from the Representative of the Division of the proceedings of the last meeting of Representatives.

It was decided and carried that the meeting should be held on November 18th, and that medical practitioners residing in the neighbourhood who are not members of the Association be invited to attend.

Address.—Dr. CULLINGWORTH was then introduced to the meeting by the Chairman, and proceeded to deliver a most interesting and instructive address upon the subject of Dr. O. Wendell Holmes and the Contagiousness of Puerperal Fever, which is published in the JOURNAL at p. 1161. At the conclusion of the address a cordial vote of thanks to Dr. Cullingworth was moved by Dr. G. C. TAYLER, seconded by Dr. O. C. MAURICE, and supported by the SECRETARY. Dr. CULLINGWORTH suitably responded, and very kindly exhibited some autograph letters of Dr. O. Wendell Holmes.

The SECRETARY read a letter from Professor W. Osler of Oxford University, regretting his inability to attend the meeting.

Tea.—At the conclusion of the meeting the members and visitors were entertained to tea by the President and Mrs. Haydon.

BIRMINGHAM BRANCH:
COVENTRY DIVISION.

THE annual dinner of this Division was held at the Masonic Buildings, Coventry, on October 3rd, Dr. C. DAVIDSON being in the chair. Thirty-two members and guests were present. After dinner the CHAIRMAN gave a short and interesting address on "Some Medical Reminiscences." The toast of the "Coventry Division" was proposed by the President of the Branch, Sir THOMAS CHAVASSE, and responded to by Dr. MILNER MOORE. Other toasts followed, and the programme was interspersed with songs and glees.

BORDER COUNTIES BRANCH.

A GENERAL meeting of the Branch was held in the Board Room of the Dumfries and Galloway Royal Infirmary, Dumfries, on Friday, October 20th, at 3.30 p.m. After members had partaken of tea at the kind invitation of the Matron, Sir JAMES CRICHTON-BROWNE, the President, took the chair.

Confirmation of Minutes.—The minutes of the annual general meeting were read, approved, and signed.

New Member.—The CHAIRMAN intimated that Dr. Lockerbie of Annan had been elected a member of the Association.

Scottish Committee.—On the proposal of Dr. BARNES (Carlisle), seconded by Dr. BIRD (Carlisle), the Branch approved of the resolution referred to it from the Scottish Committee—namely:

> That if the Border Counties Branch and its Scottish Division request it, the Committee would approve of the Secretary of the Scottish Division of the Border Counties Branch being made a member of the Committee in place of the Secretary of the Border Counties Branch.

Papers.—Dr. GOODCHILD (Cumberland Sanatorium) read a paper on the construction of sanatoriums; and Dr. BIRD (Carlisle) one on the financial aspects of sanatorium maintenance. A discussion followed, and both members were most warmly thanked on behalf of the meeting by Dr. MAXWELL ROSS, seconded by Dr. BARNES.—Dr. G. R. LIVINGSTON (Dumfries) introduced a discussion on the time to operate in cases of dilated stomach, in which a number of members joined.—Dr. KERR then gave short notes on a case of gastro-jejunostomy and extirpation of the prostate. As dinner was fixed for 5.45 p.m., the following papers were postponed: Dr. J. W. Martin (Dumfries): Pneumonia treated with anti-streptococcic serum; Dr. W. S. Syme (Glasgow): The indications for operation in chronic suppurative disease of the middle ear.

Dinner.—A number of members dined at the Station Hotel, when the Provost of Dumfries was present as the President's guest.

EDINBURGH BRANCH:
SOUTH-EASTERN COUNTIES DIVISION.

THE autumn meeting of this Division was held in the King's Arms Hotel on the afternoon of Friday, October 6th, at 3 o'clock, Dr. CULLEN, Chairman, presiding.

Confirmation of Minutes.—The minutes of the last meeting were read, approved, and signed by the Chairman.

Annual Representative Meeting.—Dr. BLAIR gave a summary of the proceedings at Leicester, and regretted very much his absence from the Representative Meeting, which was unavoidable.

Matters Referred to Division.—The recommendations of the Medico-Political Committee on contract practice were considered, and the conclusions arrived at by the Division have been transmitted to the Committee. There was general approval in regard to the recommendation as to co-ordination in scientific work.

Scheme of Mutual Assurance.—Dr. MacGregor did not put his motion on behalf of a scheme of mutual assurance as the Division had already agreed to such a proposition. Moreover, it was recognized that before such a scheme could be carried a Royal Charter is required for the Association.

Paper.—The CHAIRMAN read notes of a very interesting case of vertebral caries, in which an abscess formed and burst into the œsophagus, thence to the stomach, and got rid of by vomiting. The convalescence was slow. Now, two years since the illness began, the patient has comparative health. The members united in thanking Dr. Cullen for bringing a case with such an exceptional history before them.

METROPOLITAN COUNTIES BRANCH:
KENSINGTON DIVISION.

A MEETING of the Division was held at 5 p.m. on Wednesday, October 25th, at the Kensington Infirmary, Marloes Road, Kensington, Dr. W. H. LAMB in the chair.

Demonstration of Cases.—The members, of whom about twenty were present, were entertained by Dr. H. P. POTTER, the Medical Superintendent, who, with Dr. BASIL COOK, showed a number of interesting cases.

Exhibit.—Messrs. Duncan and Flockhart's simplex inhaler for ethyl chloride was exhibited.

Vote of Thanks.—Dr. G. EASTES proposed, and Dr. RICE OXLEY seconded, a vote of thanks to Drs. Potter and Cook for their kind hospitality. Dr. POTTER, in reply, said that he would be glad at any time to show cases in the wards of the infirmary to any member of the Division.

SYDNEY AND NEW SOUTH WALES BRANCH.

THE regular monthly meeting of the Branch was held at the Royal Society's rooms, Sydney, on Friday, August 25th, Dr. L. L. BEESTON (President) in the chair.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

New Member.—The PRESIDENT announced the election of Dr. Finck of Sydney Hospital.

Paper.—Dr. CLUBBE read a paper on the Diagnosis and Treatment of Intussusception. A discussion ensued, in which Drs. HINDER, BERSTON, BINNEY, WALLACK, WADE, CRIBB, and DICK took part.

SOUTH-EASTERN BRANCH:
CROYDON DIVISION.

A MEETING of the Division was held at the Cock Hotel, Sutton, on October 19th. Dr. W. GRIPPER, of Wallington, occupied the chair.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Election of Chairman.—Mr. St. G. C. Reid was unanimously elected Chairman for the next meeting to be held in Croydon.

Annual Representative Meeting.—Dr. MACAN presented his report upon the proceedings at the annual meeting. It was adopted, and a cordial vote of thanks given to Dr. Macan for the trouble that he had taken.

The Proposed Royal Charter.—It was decided to accept the invitation of the Wandsworth Division to attend a meeting for the discussion of the proposed Royal charter.

Representatives of South London Divisions.—Dr. T. R. Adams, Dr. Gripper, and Mr. Willock were chosen to confer with members from the other South London Divisions upon the suggested entertainment to the representatives in July next.

Payment of Midwives.—A communication from the Metropolitan Counties Branch *re* payment of midwives was read.

Proposed Additional Meeting.—The proposal by Dr. S. Duke Turner to hold an additional meeting was left in the hands of the Committee to arrange.

Papers.—The following papers were read:—Mr. F. Swinford Edwards: Some of the more common affections of the rectum and their treatment.—Mr. Ernest Clarke: Some frequent sequelae of uncorrected errors of refraction.—Dr. Sale Barker: The *x*-ray treatment of ringworm.

Dinner.—After the meeting, a considerable number of the members dined together.

Sevenoaks Division.

At the autumn meeting held on October 26th, Dr. Tew in the chair, a paper was read by Mr. John Murray, of the Middlesex Hospital, on the signs and symptoms of acute abdominal lesions requiring immediate surgical interference, with special reference to differential diagnosis. The paper was further illustrated and discussed by the members. The following microscopical preparations were exhibited: Mr. Sterry: A tumour of the lip which bore a great resemblance to an inflamed atheromatous cyst, but which proved on examination to be a sarcoma or endothelioma in a man 25 years of age. Dr. Dick: The remains of a pancreas of a publican who died during an attack of acute pancreatitis; he had suffered for some years from attacks of this nature. Dr. Mansfield: The secondary growth in the lungs from a case of periosteal sarcoma of the femur, previously brought to the notice of members by Dr. Marriott. Dr. Blomfield: The hypertrophies produced on the stem of "veronica chamaedrys" by the myxomycetous fungus (Sorosphaeria veronicae).

SOUTH-WESTERN BRANCH:

Truro Division.

A quarterly meeting of this Division was held at the Royal Infirmary, Truro, on Thursday, September 28th. There was a large number of members present.

Communications.—Dr. Hugh Sharp read a paper on the treatment of the appendix in appendicular abscess. Mr. Mark R. Taylor read some notes on a case of anthrax treated by Sclavo's serum.

Cases.—The Honorary Medical Staff then showed a number of most interesting cases.

Tea.—After the meeting the members present were entertained at tea by the staff.

ULSTER BRANCH.

The autumn meeting of this Branch was held in the Medical Institute, Belfast, on October 26th.

Installation of New President.—Professor Lindsay took the chair, and thanked the members for their help during his year of office. He then called on the President-elect, Dr. Leonard Kidd (Enniskillen) to take his place.

Votes of Thanks to Retiring President.—Dr. Kidd, having thanked the members for the honour they had done him, called on Dr. E. C. Thompson, M.P. (Omagh), who moved a vote of thanks to Professor Lindsay. This was seconded by Professor Byers, and passed unanimously.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Report of Council.—The Honorary Secretary (Dr. Cecil Shaw) presented the report of Council, which stated that three new members had been elected—Dr. Alex. Jamison (Belfast), Dr. Robt. E. Hadden (Portadown), and Dr. Wm. Shaw (Larne).

Proposed Meeting in Derry.—It had been arranged that either the January or April meeting should be held in Derry, the decision to be left to the Derry members.

YORKSHIRE BRANCH.

A meeting of this Branch was held at the Grand Hotel, Scarborough, on Saturday, October 14th. Dr. Gordon Black (President) was in the chair.

New Members.—The following were elected members of the Association: Drs. and Messrs. Cattley, Chrispin, Morrison, Stokes, and Waddy.

Communications.—Dr. Solly (Harrogate) read notes on a case of perinephritic abscess, and also on a case illustrating the influence of sodium chloride in the oedema of chronic renal disease. Dr. Swanson said that in some cases of oedema the use of Harrogate waters was not desirable. Dr. Wardrop Griffith pointed out that in cases of oedema with cardiac failure the oedema was not always due to back pressure of the blood, but to other causes.—Dr. Trevelyan (Leeds) read notes on eleven cases of general paralysis of the insane, recently seen in hospital practice. He discussed the question of traumatism as a cause of paralysis, the importance of the pupillary reflex, etc. The paper was discussed by Drs. Swanson, Pierce, Griffith, Bronner, and the President.

Next Meeting.—It was decided to hold the next meeting at York in March, 1906.

Dinner.—After the meeting, thirty-one members and several ladies dined at the Grand Hotel.

THE CORONER FOR SOUTH-WEST LONDON.

Application Before Local Government Auditor.

An inquiry as to the legality of certain payments made by the London County Council through the Coroner for South-West London was held before Mr. Thomas Barclay Cockerton, the District Auditor, on Tuesday, October 31st. The London County Council was represented by Mr. Ryde, and the British Medical Association by Mr. H. H. Bodkin. In reply to Mr. Cockerton, Dr. Shearer and Dr. Percy Fox stated that they were present as ratepayers.

Mr. Bodkin: I think, Sir, as the inquiry is regarded by those whom I am representing as a rather important one, I ought to make some observations upon the general legal position before referring to the actual details of the cases in which we are asking you to exercise your discretion as District Auditor. Probably you will agree that that would be a convenient course.

Mr. Cockerton: Yes, I think so.

Mr. Bodkin: The body that I am representing here is the British Medical Association, which is an incorporated Association under the Companies Acts registered under the special Act as a society formed not for profit, and they are freeholders of No. 429, Strand, and therefore are ratepayers in the County of London; therefore they are freeholders and rated occupiers. And, Sir, we are here impugning certain items of accounts in the year of audit from April, 1904, to March, 1905, in the accounts of the London County Council, dealing with two Districts of London, the City of Westminster and the South-Western District of London, the Coroner for those two Districts being Mr. Troutbeck, and the items of expenses which have no doubt, in the usual form and on the usual vouchers, been sent in in respect of inquests held by him in those two districts. It is necessary, in order to get quite a clear view of the issues which are raised here, to state that Mr. Troutbeck became the Coroner for those two Districts jointly in, I think, the earlier part of the year 1902. And, put shortly, the objection is that Mr. Troutbeck has in fact constituted a permanent official for those two Districts, contrary to the express language of the Coroners Act of 1887. That submission I shall make clear as I proceed. First of all, Sir, I think it necessary just to refer you to one or two Statutes as controlling the position and duties of Coroners. One cannot in any reference to Coroners omit to say that the office of the Coroner is a very ancient one. I believe every book which refers to them begins like that, begins with that stereotyped phrase. But we are dealing with modern legislation. And you will find that in the Statute 23 and 24 Vict., cap. 116, that Coroners were for the first time to be paid by salary arrived at as Section 4 of that Act directs. Before that time of 1860 there were various fees and remunerations which Coroners were entitled to, which it is well known as a matter of history were frequent subjects of dispute between himself, who was *ex officio* the Justice of the Peace, and the justices of the Quarter Sessions in their administrative capacity, before whom the Coroner's disbursements up to 1860 came practically for revision. And that put his remuneration upon a very much clearer and more satisfactory basis. Then there were a very large number of Statutes which were consolidated and re-enacted in the year 1887.

Mr. Ryde: Which Section do you rely upon?

Mr. Bodkin: I have already said Section 4. Section 3 of the Act of 1887 states the circumstances under which the Coroner is entitled to hold an inquest, and I need not refer you, of course, to the Sections that allocate to different Coroners different districts of the county or place for which they are such Coroners; but Section 3 is the essential Section pointing out what those duties are. Then we come to the second part of that Act, which begins with Section 18, and the seven sections which I am now going to refer to are the important ones for our inquiry to-day. They begin at Section 21, and as, sooner or later, they will have to be read, I think

I may just as well read that part now. The side-note is: "Power of the Coroner to summon medical witnesses, and "to direct performance of *post-mortem* examination."

"21 (1) Where it appears to the Coroner that the deceased "was attended at his death or during his last illness by any "legally qualified medical practitioner the Coroner may "summon such practitioner as a Witness, but if it appears "to the Coroner that the deceased person was not attended at "his death or during his last illness by any legally quali-"fied medical practitioner the Coroner may summon any "legal qualified medical practitioner who is at the time in "actual practice in or near the place where the death "happened and any such medical witness as is summoned in "pursuance of this section may be asked to give evidence as "to how in his opinion the deceased came to his death.

"(2) The Coroner may either in his Summons for the "attendance of such Medical Witness or at any time between "the issuing of that Summons and the end of the Inquest "direct such Medical Witness to make *post-mortem* examina-"tion of the body of the deceased, with or without analysis "of the contents of the stomach or intestines.

"Provided that where a person states upon oath before the "Coroner that in his belief the death of the deceased was "caused partly or entirely by the improper or negligent "treatment of a Medical Practitioner or other person, such "medical practitioner or other person shall not be allowed "to perform or assist at the *post-mortem* examination of the "deceased.

"(3) If a majority of the Jury sitting at an inquest are of "opinion that the cause of death has not been satisfactorily "explained by the evidence of the Medical Practitioner or "other witnesses brought before them, they may require the "Coroner in writing to Summon as a Witness some other "legally qualified medical practitioner named by them, and "further to direct a *post-mortem* examination of the deceased, "with or without an analysis of the contents of the stomach "or intestines to be made by such last-mentioned prac-"titioner, and that whether such examination has been "previously made or not, and the Coroner shall comply with "such requisition and in default shall be guilty of a mis-"demeanour."

Sections 22 to 27 were then read by Mr. BODKIN, who, continuing his speech, said: So those are the important clauses which are involved in this inquiry. I must refer you to one more Act, and that is the Local Government Act of 1888. Under Section 3 the powers are given to the County Council which were formerly held by the Administrative Jurisdiction of the Quarter Sessions; that is to say, over the salary of any coroner payable out of the county rate, fees, allowances, disbursements allowed to be paid by such coroner, and division of the county into coroners' districts. So the London County Council is now the authority that has certain powers in reference to coroners at inquests, and the view which the County Council take of their position in the matter is very shortly put in their Annual Report. And the paragraph appears in each annual report in the same language. I am reading one for the year 1904-5: "The powers "and duties of the Council in relation to coroners' inquests "chiefly consist in the appointment of coroners and payment "of their salaries, in the settlement of their districts, "in the regulation and payment of the costs incurred "in connexion with the holding of inquests and in providing "and maintaining courts for that purpose." There, therefore, is the position of the County Council and of the coroners in reference to expenses in regard to inquests made quite clear by Statute. Now, Sir, I can give you some figures, but there are not many fortunately that I shall need to trouble you with. I am looking at that same report for the year 1905, and I find that in the two districts of Mr. Troutbeck there were held 926 inquests—that is, 322 in Westminster, 604 in the South-Western District; and out of those 926 inquests there were 733 *post mortems* held. But as some of the *post mortems* were made by the medical man in attendance in various hospitals, in which a great number of deaths in respect of which inquests are held take place, deducting the hospital cases, those figures—733 *post mortems*—work out at 99 per cent. of the total number of inquests held.

Mr. RYDE: Which is the figure you are relying upon for that? I do not seem to have it.

Mr. BODKIN: You can be supplied with it on asking, and you will find it on page 8. In the first table on that page it is stated that the *post-mortem* examinations number 227 and 506 in the two districts, and that works out at a percentage of 99 per cent. of the total number of inquests after the hospital cases have been deducted in those two districts.

Mr. RYDE: Do you say 99 per cent. is the number of cases in which a *post-mortem* examination has been held?

Mr. BODKIN: If you exclude the hospital cases you will find that a *post-mortem* examination was made in 99 per cent. of the cases on which an inquest was held. And that is a higher percentage than any in the whole county of London, in any single part of it. And that makes it necessary to look to see that that year was not an abnormal year. If you refer to page 8 of the County Council's Report for the previous year you will find precisely the same sort of table set out, in which it is shown that the total number of inquests is 994 in the two Divisions, and 777 *post mortems*, which, making the same deduction for hospital cases, brings out the average of 99 per cent. of inquests in which *post mortem* examinations were made. That is far and away the highest percentage throughout the County of London. On that page 8 the County Council have referred to this remarkable percentage of the number of *post mortems* as compared with the number of inquests held. The paragraph is a short one, and therefore I propose to read it, because it comes immediately into our subject to-day. "*Post-mortem* examinations—The number of *post-mortem* "examinations made in 1903 was 3,719, or a reduction of 314 "on that of 1902. Reference to the table under this heading "indicates remarkable differences in the practice of "Coroners. The lowest percentage occurred as usual in "the Eastern District, while the highest (99 per cent.) was "in the Westminster and South-Western Districts. Atten-"tion has again been directed to the question of *post-mortem* "examinations in special inquest cases. The Council in "July, 1902, passed the following resolution:

> "That Coroners be informed that in the opinion of the Council it is "desirable that *post-mortem* examinations in inquest cases of a "special nature should be entrusted to a specially skilled patho-"logist.

"London Coroners have been furnished with the names of "specially-skilled pathologists able and willing to make *post-*"*mortem* examinations and give evidence in special inquest "cases at the ordinary fee of two guineas; and it has been "intimated to Coroners that in such cases where the Coroner "is of opinion that the medical practitioner in attendance on "the deceased can give evidence material to the inquiry, he "may also be called and paid the fee prescribed by the "Coroners Act. Moreover, should it be deemed of advantage "that the medical practitioner should be present to watch "the *post-mortem* examination made by the special path-"ologist, the coroner has been authorized to pay a fee of "one guinea for such attendance. These arrangements "appear to meet the objections which have been raised from "time to time by medical practitioners concerned in such "cases, and would, if given effect to by all London coroners, "give promise of a more thorough investigation into the "cause of death in difficult cases. Except, however, in one "or two districts, advantage does not appear to have been "taken of these arrangements."

Then there follows a list of eighteen gentlemen in different parts of London who are willing to make these *post mortems* and give evidence in the cases referred to by the Council, where the cases are of a special nature and by their difficulty require the services of a special pathologist. Now, Sir, the practice as recommended by the London County Council there, has certainly not been followed by Mr. Troutbeck, nor have the plain directions of the Statute been followed by him. But that gentleman has adopted a practice which gives rise at least to the suspicion that the Statute has been deliberately set aside by him, and a practice adopted which, in effect, appoints one gentleman out of those eighteen to a permanent appointment in his particular district of London, not only to the exclusion of the other seventeen, but to the exclusion of the rights, the statutory rights, of the medical practitioners in attendance on the deceased, or living in the district in which the death occurred. And that practice of making special appointment in that way of one out of those eighteen gentlemen is at the expense of the London rate payers, an expense of many hundreds of pounds. You will see that when one comes to put the figures before you, and these payments we challenge as being illegal. Of course, Sir, the London County Council here, as one would suppose in the case of a great body, are only desirous that the truth should be arrived at, and they have provided us with certain figures and returns, which are no doubt before you, Sir, and which are before me, dealing with this question of *post-mortem*

examinations. One finds that in the whole of London for the year under audit, there were 534 cases in which one or other of the special pathologists were engaged; and in 514 of those cases Dr. Freyberger was the pathologist who was engaged; and in those 514 cases, with the exception of two of them, every one of them occurred in Westminster and the South-Western Districts; and if one turns to the Reports not for the year under audit, but for the whole of the last twenty-two months, we find that the total number of inquests in which special pathologists have taken part has been 862, and out of 862, with the exception of about half-a-dozen, every one of those were inquests at which Dr. Freyberger was pathologist, and occurred in Mr. Troutbeck's districts. I think, Sir, I have been a little bit inaccurate in those figures, and as I want to be quite accurate I will put them again: 862 inquests at which a special pathologist has been engaged; in 822 of them Dr. Freyberger was the one called, which, with the exception of those mentioned, all occurred in Mr. Troutbeck's district, and for the year under audit £1,098 was paid to that gentleman, and for the twenty-two months which I have alluded to secondly, £1,767 has been paid to that gentleman. Now, could figures be more strong in support of the statement that that does in fact amount to a special appointment of that gentleman in cases arising in Westminster and South-Western District? It is not pretended—it could not be pretended—that every one of those 822 cases in the district in which Dr. Freyberger is called in by Mr. Troutbeck were of a special difficulty, presented any unusual circumstances whatsoever. And when one sees, as one does, that that gentleman was instructed in those cases, to the exclusion of the general practitioner, I think, Sir, you would see that my language was not at all too strong in saying what the effect of Mr. Troutbeck's practice in fact is. Now, this action on the part of Mr. Troutbeck, and his practice in the matter, has given rise to what it would be mere affectation to pretend not to know a considerable amount about, and if this practice has given rise to a certain alienation of sympathy by the medical profession in these two districts, I do not hesitate to say that Mr. Troutbeck has simply got himself to thank. It is absolutely and entirely a necessary outcome of the action which he has taken in the matter. Because one ought to ask, if the medical man who, taking the average of them all over London, are gentlemen of skill and knowledge, if the other eight or ten Coroners in all the other parts of London, equally open to the happening of accidents or the occurring of deaths which require inquests to be held, can get on satisfactorily with about thirty occasions in twenty-two months when a skilled pathologist is necessary to assist them, what is there in this particular district of Westminster and the South-Western District of London which attracts all those persons who wish to die a death of a mysterious character, and under circumstances which require a very considerable investigation, to come down into Westminster and South-West London and require not the skill of the ordinary medical man, but the special skill of a pathologist? The fact only requires to be stated, of course, to bring its own refutation. And, Sir, under this Statute, as I have already read to you, Section 21 of this Statute provides that the ordinary legally-qualified medical practitioner, who in these days cannot attain to that position without the most careful examinations, passing certain standards, the Statute has provided that that ordinary practitioner is, unless the jury say to the contrary, to be good enough for the Coroner. And it is only when the jury say that their opinion is that the cause of death has not been satisfactorily explained by the medical practitioner who in fact is brought before them, that the Coroner is to be required by them to summon somebody else. And if language means anything that is the meaning of Clause 3 of Section 21. Now, Sir, this Section again gives no general discretion to a Coroner to call in what medical man he pleases. It never has been so. Sections 21 and 22 come from a Statute passed long years ago which have been repealed and consolidated in the Act of 1887. It is no new thing at all, is this legislation which is contained in Section 21, and which does not give to the Coroner general discretionary power to call in any medical man. But he has to exercise his duties under this section, he has to consult a limited and specified class only. And the course which is adopted by Mr. Troutbeck—perhaps it is not absolutely germane to the matter under discussion, because people's sentiments must not be considered in this question—does involve a grave imputation upon the medical men who practise in those two Districts, that they should either be considered as not fit to give evidence, or as not fit to hold a *post-mortem* examination, or for some other reason not the persons to be trusted to give evidence before the Coroner, and that course has been adopted without ever giving the general practitioner in question the opportunity to come before the Jury, whose duty alone it is under that Section to make the objection to the particular medical man whom the Statute denotes as the one to make it, and to say that some one else should be called in to give satisfactory evidence. It involves a grave imputation upon a very large number of medical men who are engaged in actual practice in that district. The meaning of that Section—and I want to make it quite clear—will be found here, and I want to give to you, Sir, just a very few words, and I shall adopt this language as my own, although I admit it is not actually my language. I submit to you in this language that this is the meaning of the Section 21: If the deceased was attended in his last illness by a medical practitioner the Coroner has power to summon that practitioner. If the deceased was not attended by a medical practitioner, the Coroner has power to summon as a witness any legally-qualified practitioner who is at the time in actual practice in or near the place where the death happened. The Coroner further has power by Subsection 11 of the Section to direct "such" medical witness—that is to say, the practitioner who attended the deceased, or a practitioner in practice in or near the place where the death happened to make a *post-mortem* examination. Then the Jury in the evidence specified in the third Subsection have power to require the Coroner to summon as a witness some other specified legally-qualified practitioner, and it is the duty of the Coroner to comply with that requisition. Besides having the power to summon the medical witness specified in the enactment, it is the duty of the Coroner to do so when it is made to appear to him that the circumstances specified in the enactments exist. The words of Subsection (1) are "may summon," while the words in Subsection 3 are "shall comply." Although the word "may" in a Statute prima facie gives a discretion, if the Statute in which it occurs is one which relates to public justice, and of general interest and concern, the word "may" is imperative and imposes a duty. And my submission is that the practice adopted by Mr. Troutbeck is not in conformity with that. Now, Sir, in this case the British Medical Association, who represent very many thousands—some 20,000, I am told—of medical men all over the country, have arranged specimen cases, because even that great body could not be expected to go into the details of hundreds of the inquests before them. We have arranged, therefore, four different classes of cases, in which we submit to your judgement that the expenses as paid to Dr. Freyberger, or some of them, should be disallowed. The first is the case in which the medical man who was in last attendance on the deceased before his death gives evidence before the Coroner, but is not instructed to make any *post-mortem*. And I will state the particulars of some of the cases of each class as I come to deal with them. The class I propose to take first are those in Class (*a*) in the papers which have been submitted.

Mr. Cockerton: Is that Class (*a*) here in these sheets?

Mr. Ryde: I do not want to interrupt, but I am anxious as far as possible to save time, and not unnecessarily to ask for an adjournment or to prolong the proceedings without an adjournment. I do not know whether it would be possible for you, Mr. Bodkin, to deal with this question as an abstract proposition of law, taking your cases and directing your arguments to groups of cases, and leaving us afterwards to discuss the question of the fact whether a particular group of cases is represented by one or twenty or thirty cases. Because when the auditor comes to disallow, as I understand you to ask him to do, a fee of two guineas it will be material to show whether the disallowance is attached to one or fifty more cases which you challenge.

Mr. Bodkin: What I propose to do now, Sir, is not to go through every one of the cases in the selected cases grouped under four headings in making my observations to you, but to deal with just one or two of them as illustrative of the mischief which occurs by not following the Statute, or as illustrative of the disregard of the plain provisions of the Statute as illustrated by the particular case. And I think, Sir, that will be the shorter way. And then the cases which I am going to mention being all supported by Statutory declarations, I will put those declarations in, and my learned friend will be able to get copies of them. I do not think the inquiry can finish to-day, but in the interim he would be able to make up his mind as to what course he proposes to take.

Mr. Ryde: When my learned friend puts in Statutory declarations, I must have an opportunity of examination.

Mr. Bodkin: That is just why I say I do not think we can finish to-day, because I think my friend should have the opportunity of contesting these things.

Mr. Ryde: I must have the opportunity of seeing whether they are facts, though of course I am not contesting that they are not or may not be facts.

Mr. Bodkin: Therefore it is necessary to point out the four classes under which these cases fall. I am putting in my evidence in documentary form, and my learned friend will have the opportunity in the interval of the adjournment to cross-examine upon the evidence, or to accept the facts, or to take whatever course he may consider right.

Mr. Ryde: I do not know whether it would be of any use to narrow the facts, but you might perhaps take certain test cases, one under each of the groups (*a*), (*b*), (*c*), (*d*).

Mr. Bodkin: I am doing that, but I must mention the particulars of them. I propose to put in facts only with regard to those four groups.

Mr. Ryde: And if the Auditor decides for me or against me in three out of four, or in all or in none, as the case may be, we can deal with the question of law, and we need not be hampered by a mass of facts.

Mr. Bodkin: I venture to submit, Sir, that although we are putting our observations in different language, we are really at one.

Mr. Ryde: I have a Schedule of cases here and I suggest - -

Mr. Bodkin: I am going to take the cases and put in evidence with regard to them.

Mr. Ryde: We have got a Schedule of 22 cases, and if my learned friend will take one or two cases— -

Mr. Bodkin: No, I think you must allow me to conduct my case in my own way.

Mr. Ryde: List B. I understand is for periods anterior to the present year of audit.

Mr. Bodkin: Yes, but if you have a copy of the correspondence you will find it is there specially mentioned that the cases in the period before audit would not be gone into for the purposes of asking that any disallowance should be made on the items of expenditure involved in them, but as illustrative of the practice which has been adopted by Mr. Troutbeck and which has been followed in the year under audit.

Mr. Ryde: But what Schedule do you say there is showing the four groups of cases which you have delivered copies of?

Mr. Bodkin: We have not separated them in the copies, but you have the deposition, you have the vouchers and all the documents of the Coroner, they are at your disposal.

Mr. Ryde: I am told not.

Mr. Bodkin: I gave them to you.

Mr. Ryde: But they are not grouped.

Mr. Bodkin: I am grouping them now, and if you had not interrupted me, but had allowed me to proceed you would have found I should have grouped them. I will give you the cases, and the names out of the different groups as I deal with them. Here is the classified list: Class (*a*) commences with the name of Frederick Butterworth. Group (*b*) commences with William Henry Smith; Group (*c*) with Thomas Taylor, and Group (*x*), which is the next, with Joseph Peck. So I hope my friend's mind is at rest with regard to that.

Mr. Ryde: Instead of giving the facts of Group (*a*) would it not be well to take only one case?

Mr. Bodkin: I give my learned friend every credit for good intentions, but I submit I should deal with it in my own way. I will deal, Sir, just by way of illustration, with one or two cases in each of these groups. Taking, therefore, first Group (*a*).

Mr. Ryde: May I take it that in all these cases the medical man last in attendance gave evidence but made no *post-mortem*?

Mr. Bodkin: Yes; he was excluded from his privilege of making a *post-mortem*, and that was an interference with the best interests of the public. The case which I will take first is that of Timothy Corbett in Class (*a*). Timothy Corbett committed suicide on Clapham Common. He was found about 4.30 on the Sunday morning there, with a razor and razor case near him, and there was nothing to suggest foul play, and the cause of death was in fact carbolic acid poisoning, he having gulped down the carbolic acid and died in consequence. Now, those are the bare facts of the case, and it occurred, you see, on Clapham Common. And the gentleman who was called in by the policeman, who, I think, discovered the body, Constable Lyons, was Dr. Joseph Needham, who has been for a very great number of years Divisional Surgeon of Police, and has been in practice twenty-five years in this particular neighbourhood, and is a gentleman whom I was going to say my friend would know, but he is not practising in that Court I am thinking of, but he has been in important cases in the Central Criminal Court and at the Assizes, and his evidence has been relied upon over and over again, and he has given evidence in most important cases of murder and manslaughter; judges and magistrates have relied upon him with the greatest confidence. He examined the dead body of Corbett, and made observations on the state of the body, its position, its surroundings, and so forth, and the Coroner received notice from the police authorities of the finding of the body, and very properly determined to hold an inquest. Dr. Needham received from Mr. Troutbeck a request that he should supply him with all the information in his possession concerning the cause of death. Dr. Needham replied that there was nothing discoverable externally, as far as examination of the dead body in a public place would permit, but that a *post-mortem* examination would reveal the cause of death, and that if it were the Coroner's wish he would conduct the *post-mortem* examination. He received a letter saying that since he could not throw any light on the matter his attendance would not be necessary. However, he later received a subpoena to attend the inquiry. He attended and gave evidence that the body had been found, which was simply repeating the evidence of Police-constable Lyons. He got a guinea for that attendance, and at the same inquest Dr. Freyberger deposed that he had made a *post-mortem* examination, that he found a bruise over the temple, another one on the top of the head, that there was a smell of carbolic acid about the body, and that death had been caused by carbolic acid poisoning. Now, there is a case in which a thoroughly competent medical man is the first to see the body, who noticed all the circumstances surrounding it, who offers to make a *post-mortem* examination, but who is entirely rejected, and is excluded from what I submit is his right under Section 21 to make the *post-mortem* examination; and there is introduced from Regent's Park Road, which is the registered address of Dr. Freyberger, a gentleman who has to come down to Clapham Common to testify to what there never was a shadow of doubt about—that the man had died from carbolic-acid poisoning. And the net result of that process, carried out in pursuance of the public appointment which I say Dr. Freyberger possesses in these two Districts, and in pursuance of the practice of Mr. Troutbeck, was that the sum of two guineas was paid to Dr. Freyberger out of the public funds in respect of that matter, or a guinea in excess of what the Statute provides is to be the procedure and the proper fees payable in respect of such a matter.

Mr. Ryde: Which of the payments do you challenge, the two guineas or the one guinea?

Mr. Bodkin: I challenge one guinea. Let the gentlemen settle it between themselves, it does not affect me as a ratepayer. But there has been one guinea more charged for in respect of that inquest than there was a lawful right to expend. I was only giving the net result, but if you ask me which is to be challenged I say the two guineas of Dr. Freyberger, because there was a medical man actually concerned there in the case, though he did not come until the man was dead. Dr. Freyberger is not a practitioner in actual practice in or near the place where that death occurred, and therefore he ought never to have been brought into that inquest at all. I do not say Dr. Needham has a right and ought to have been introduced into the case, as he did not come there until after death occurred. If he had come during life it would have been his absolute right to be the proper person to be told to come, and therefore it gave Mr. Troutbeck the right to summon a legally-qualified medical practitioner who is in and near the place where death happened; and yet Dr. Freyberger comes, and therefore the two guineas to him was improperly paid, and upon the balance there was one guinea more paid for the case than there ought to have been. Take another case—that of Mary Robins. There the deceased was a child of about two months, who died on January 21st, 1905. The inquest was held on January 25th, and this is what occurred. The death unquestionably came about from asphyxiation. Dr. Galbraith Reid, who has been in practice at Lambeth for fifteen years, was called to the child, whom he found dead. He made a careful inspection of the body and surroundings and the general appearance of all the circumstances, which pointed to asphyxia. And in these days, when the London County Council and others are interested in the question of infantile mortality, it is of the gravest possible importance that the facts and circumstances of the

actual death should be before the Coroner at his inquest. And if a gentleman makes a *post-mortem* examination, as a pathologist or otherwise, it is quite clear, unless he had some earlier knowledge, either by attending as medical man upon that person who died, or was called at or immediately after the moment of death to the person so as to see the circumstances and the surroundings of that death, he cannot be as satisfactorily equipped for a *post mortem* examination as a person who has seen those surroundings: that is to say, a pathologist brought in from another part of London merely to see the dead body or to make a *post-mortem* examination without any previous knowledge of the facts of the case, it is unquestioned by anybody who pretends to any knowledge on these matters that he cannot give a satisfactory pathological testimony such as could be given by the person who had seen that deceased person earlier, either during life or immediately after death. And Dr. Reid, having found these circumstances, noted them carefully, the Coroner was communicated with by the doctor himself. But the Coroner did not communicate with Dr. Reid, he was not summoned at the *post-mortem*, and he was not present at it, and it was conducted by Dr. Freyberger, who gave it as his opinion that death occurred from natural causes. And in that case there was just this curious circumstance, that the foreman of the Jury would appear to have known something about the Coroners Act of 1887, for he absolutely protested against a pathologist being brought in from another part of London to give evidence in a simple case such as this was, whereas the medical men at the door who devoted their lives to the poor were quite able to deal with a case of that sort. That is rather a startling thing, because there was nothing in the case of any difficulty whatever. The gentleman who saw that dead body immediately after death was Dr. Reid, and I confidently submit to you that in not instructing the medical man to make a *post-mortem* who had seen the body shortly after death there was grave risk of a wrong cause of death being given by that gentleman, however eminent, who was brought in from other parts of London, without any knowledge of the circumstances.

Mr. Ryde: But you say Reid attended, and gave evidence.

Mr. Bodkin: Yes, he gave some evidence; and again the net result to the ratepayers was the expenditure of an additional guinea. The Statutory declarations in support of that Group (*a*) are here. I will put them in afterwards.

Mr Cockerton: What was the last case?

Mr. Bodkin: Mary Robins. Now we come to Class (*b*), in which there are six specimen cases. That class is one in which the medical man in last attendance on the deceased, that is to say during the deceased's lifetime, was neither summoned as a witness, nor gave any evidence at all, but in which the only medical evidence given was by the same gentleman, except in one case. That gentleman was Dr. Freyberger again, who saw the body after death only, without any clinical experience to be brought to bear upon his pathological examinations. Take the case of W. H. Smith in that group. It was that of a young man, William Henry Smith, aged 25, who was found drowned at the Latchmere Road Public Baths. He was subject to epileptic fits, and he went to have a bath in the usual way, and as he was a very long time in it the bath assistant went and knocked, and inquired when he would be finished. But as no answer came, the door was opened, and he was found with his head under the water and dead. There was only 14 in. of water in the bath. A doctor who lived within 100 yd. was called in to the bath and saw him; he saw the condition of the body, the frothing of the lips, and at once diagnosed that the man died from drowning caused by his getting under water in a hopeless state from a fit of epilepsy. And this doctor, Louis George Macrory, who has been practising in Battersea seventeen years, stated that he was called to the baths and found the young man was dead. He noted the appearance of the body and the attendant circumstances. He declares "there "was very little water in the bath and there were indica- "tions that he had had an epileptic fit. There was foaming "at the mouth. I believe the *post-mortem* examination was "made by Dr. Freyberger. I was not summoned to attend "such *post-mortem* examination, and I was not summoned "to give evidence at the inquest, and had no written com- "munication from the Coroner. I accordingly attended "neither the said *post mortem* examination nor the said "inquest." Dr. Freyberger did attend and made the autopsy, and found the usual symptoms of epilepsy. And that deliberate opinion in a case which presented such remarkable difficulties is given by Dr. Freyberger, who was called in, when in fact under this Statute it is perfectly clear that the words "the Coroner may summon the "legally-qualified medical practitioner in actual practice in "or near the place where the death happened" must apply to the person who was alone entitled to be present at it to give evidence in reference to the death, and to make the *post-mortem* examination itself. I say that the two guineas was wrongly and illegally paid because Dr. Freyberger was not a person practising in or near the place where the death happened.

Mr. Ryde: Do you say that falls under the second part of Subsection 1?

Mr. Bodkin: Yes.

Mr. Ryde: You say a *post-mortem* was not necessary?

Mr. Bodkin: Not that the *post-mortem* was not necessary, but that the *post-mortem* was not conducted by the person specified in the Subsection.

Mr. Ryde: That it was conducted by the wrong person?

Mr. Bodkin: Yes.

Mr. Ryde: That is the challenge which you make?

Mr. Bodkin: Yes. Now, another case is that of Harry William Ranson. Ranson was an omnibus driver who suffered from a weak heart, fatty degeneration, and he had been attended during his lifetime by Dr. Joyce, in practice in Battersea. He had been attended for some little time by him, and his symptoms were well known to Dr. Joyce. On October 31st last year Dr Joyce got a summons to say that the man was dead. His friends were there and the man's body was examined, and notification was made to Mr. Troutbeck by Dr. Joyce. No summons or request to attend the *post mortem* was given, and no summons to attend the inquest which was, in fact, held. Then from an examination of the body of the man it was found that he died from heart disease. Now, the importance of that case is this, that if the Coroner had not adopted this system of disregarding the existence, of ignoring the existence in as many cases as possible of the ordinary medical practitioner, the man to have would have been his medical attendant. It was his duty to do so on getting that intimation from the doctor, who not only mentioned the fact of death, but that he had attended the man during his lifetime for heart disease. And had he had two minutes' conversation with Dr. Joyce there need never have been an inquest at all, for it was absolutely unnecessary, because there was this doctor who during the lifetime of the patient attended him for heart disease, which he knew rendered him liable at any moment to sudden death, and his death showed all the symptoms of death from that disease. It was unnecessary, I say, to have any inquest at all. There were no circumstances of any suspicious nature surrounding the case; from first to last it was a simple, ordinary case. And if it had been Lord This or the Duke That instead of plain Mr. So-and So, omnibus driver, they would not have dreamt of any inquest under any circumstances. But for the purpose of providing experience, let us say, for Dr. Freyberger, that gentleman is brought from Regent's Park Road to make an autopsy on the body of this omnibus driver, and that happens though the Coroner knows there is a doctor there ready to give him his opinion, which will prevent any such sum of money as was expended upon it. And, moreover, the spending of such a sum in such circumstances is contrary to the plain language of the Section. Take another case—Mary Ann Thurston. She lived at York Road, Lambeth, and the Dr. Richardson who has been previously referred to, and has been in practice there for seventeen years, was called, the woman, it is said, having fallen out of a top window. She was found lying in the yard. She was alive and in a very serious state. She was sent away on an ambulance—I suppose to a hospital. At any rate, the doctor gave the police information, and they gave information to the Coroner, with the fact that the doctor had attended her. The doctor made full notes of the case at the time, which was most important, because she might just as well have been pushed out of the window as have fallen out. There are many suggestions which one might make as to how she came to be lying in the yard. The position of the body was important; so was the condition of the window sill, and so forth. All these matters were carefully noted by Dr. Richardson. And, as you know, Sir, doctors nowadays go through a most drastic course of forensic medicine, in which the importance of noting the circumstances in which the cases are found is always impressed upon them. The whole of that evidence was in Dr. Richardson's mind. But yet, when the poor woman died, he was neither summoned to the inquest nor is he, as the bona-fide medical practitioner attending at the last illness of

the deceased, notified, as he ought to be, or allowed to attend or have any notification of the *post-mortem* examination. And this case is the only one in which Dr. Freyberger was not called in. Dr. Birt, who I suppose was at the hospital at which she died, made the *post-mortem* examination. We say there that the medical practitioner who was present just before death and made full notes of the case should have been called.

There is one other, which is very short, but which accentuates the position which I have contended for. An unfortunate young man, who held a position in one of the Services, shot himself at Waterloo Station. His name was Chapman. His body was found by one of the railway police, and there was a bullet-wound in his head, a revolver near his hand, and he was lying on one of the seats in the waiting-room. The same doctor, Dr. Richardson, was called in. He noted the position of the body, the particulars generally, the blood-marks and the stains of blood upon the carpet, and the appearances of things some distance away from the body—rather an important thing in discovering, what is always present to one's mind in these cases, the possibility of foul play. He was neither summoned to attend the *post-mortem* examination nor the inquiry. But to give us the advantage of his profound knowledge Dr. Freyberger is called from Regent's Park Road to state that the young man, whom he never saw until he saw him in the mortuary with a bullet-wound in his head, did die from a bullet-wound in the head. And I suggest that in that case, but for this practice which is adopted, Dr. Freyberger would never have been dreamed of as a witness of such a case, but it would have been given to the ordinary medical practitioner who was first upon the scene and summoned by the railway authorities.

Then we come to Class (C), and those are cases in which no medical man was engaged in attendance on the deceased either before or at or immediately after his death. Let us take three cases. First of all there is the case of Taylor.

Mr. RYDE: Will you explain this? You say there was no medical man either at, before, or immediately after death. There was no medical man summoned in the case at all?

Mr. BODKIN: No. Therefore the words of the section apply: "If it appears to the Coroner that the deceased person "was not attended at his death or during his last illness by "any legally qualified practitioner, the Coroner may summon "any legally qualified medical practitioner who is at the time "in actual practice in or near the place where the death "happens, and such medical witness as is summoned may "be asked to give an opinion and make the *post-mortem* "examination."

Mr. RYDE: The person summoned did not practise in or near the place where the accident happened? That is your point?

Mr. BODKIN: Yes; and, if I may be allowed to say so, a very good point too. And this man Taylor was employed on the South-Western Railway. He was on the line near the Culvert Road Bridge, and was knocked down and killed by a train. The train was going at fifteen miles an hour. He was found by his fellow labourers lying in the six-foot way, and was very seriously injured. Of course many bones were broken, and most serious wounds were inflicted upon him. As to the cause of his death there could not be the shadow of a doubt. As to the circumstances, there was nothing of any importance whatsoever in them, absolutely nothing from beginning to end except the question of possible negligence of the railway driver or some fellow servant of the poor man. There was nothing from a medical point of view of any importance, and there was no difficulty. The gentleman who last passed out of the hospital could give as good evidence on such a case as the gentleman who was called in. Yet, notwithstanding the large number of very skilled men in this particular district, Dr. Freyberger is summoned to make a *post-mortem* and discovers that death must probably have been instantaneous and was consistent with his being knocked down and partially run over by a railway train. And there again, where was the justification for disregarding those words which I have already read to you in that section? The Coroner must know of them, and I cite that as a case in support of what I said previously, that there was an intentional disregard of the language of the section in the practice which the Coroner has followed. Take another instance, that of Ruel's death. He was a man, aged 27, who was found on Clapham Common with his throat cut, and a razor lying by, with a letter in which he explains the supposed reason for the act. He was found by a police-constable, and that constable at once sends for the Divisional Surgeon. The Divisional Surgeon comes, and he is a man of considerable skill, as they all are, and notes the circumstances of the case. And here again there never was a shadow of doubt as to the cause of death, or that it was self-inflicted. There was the letter which showed it most clearly and there was the razor by his hand, and there was a wound which the veriest tyro in medical science would have been able to say was a self-inflicted one. But the whole of the profession in the neighbourhood of Clapham Common is ignored, and Dr. Freyberger comes down to again give us the benefit of his experience, that the man died from a wound in his throat. There is another, and this is the most serious, I submit, of all of these cases. Henry James Hobbs. He was found decapitated on the South-Western Railway, and from one's knowledge of English history there is not very much doubt when a person is decapitated as to the cause of death. And he was a man—and this is the seriousness of the case—who had suffered for long from melancholia, who had been attended by a doctor for melancholia, who was known to be be a person subject, in these fits of melancholia, to promptings to take his own life. And in view of this practice to which I have alluded, the medical man who had attended him for the melancholia would be able, therefore, to say that he was likely to commit suicide, but he was entirely disregarded and for no other reason—I do not say it out of any disrespect to Dr. Freyberger, who no doubt has high qualifications—upon no other reason than to provide Dr. Freyberger with another opportunity for an autopsy, and Dr. Freyberger is brought down from Regent's Park Road to say that what this man died of was that his head was found on one side of the line and his body on the other. Why was the profession in the neighbourhood of Battersea absolutely ignored in that way? What necessity was there for a medical man at all? But if there was to be one, should it not be one that the Statute says is to be good enough for Mr. Troutbeck, and that is the registered legally qualified medical practitioner in the district? And so the jury had the advantage of hearing what the cause of death was, but not as to the real disease from which this poor man suffered and which prompted him to take his own life.

Now comes the fourth class of case, Class (X), the class in which, with great regard to consistency, it might be said I have no right to complain here. But at any rate it is a class of case which does involve the ratepayers in entirely unnecessary expense. It is the class of case in which a medical man against whom no imputation could be made, against whom the jury do not bring any imputation under Section 21, whose treatment was not in any sense directly or otherwise contributable to the death, is requested to make *post-mortem* examination. So he is sufficiently competent for that, and he is instructed by the Coroner to do it. But that lurking suspicion which Mr. Troutbeck apparently entertains towards all medical practitioners requires him to retain, to be present at it, and to be paid for his presence at the *post-mortem* examination, Dr. Freyberger also. So that in absolutely simple cases, which present no difficulty of any sort or kind, the deaths being from obvious causes, where now and again it would seem to be impossible to ignore the local practitioner, Dr. Freyberger is engaged to assist at the *post-mortem* examination.

Mr. RYDE: Do you say no second person can be called in to assist, or no second person should have been called in in this case?

Mr. BODKIN: I should say both, but for this particular case I should say that if the majority of the jury sitting at an inquest are of opinion that the cause of death has not been satisfactorily explained by the evidence, then comes the Coroner's duty of summoning some other person to assist them.

Mr. RYDE: But not till then?

Mr. BODKIN: Not until then. In this case the whole thing is done a long time before the inquest is held. And there are several cases of that sort which I will not trouble you with the details of, but they are all of them of the class which I have called simple deaths. There was no difficulty about them, and a double *post-mortem* is held, as it were, or at least a *post-mortem* at which two persons are required to be present. I have here the statutory declarations of the various doctors who attended on those cases, and those statutory declarations, together with the statutory declarations in support of all the cases I have mentioned as being in the groups of cases I shall put in, as the evidence in the case. These declarations have been made by medical men who know well the serious nature of their declarations. I am afraid I have occupied

your time for a great deal longer than I ought to have done and longer than I thought I was going to, but I should like to conclude by saying this: That those cases to which statutory declarations and other material is before you have been selected in the year of audit. There are, of course, a great many others in the year of audit than those, but for the purpose of showing that this practice did not begin in the year under audit, but had obtained ever since Mr. Troutbeck became Coroner for this joint district, following Mr. Braxton Hicks, for the purpose of showing that there is a system in the matter, we have intimated to the London County Council that other cases may be referred to which show that that practice obtained in the year 1903-4, and the particulars of those cases I would give to my friend if he would do me the favour of taking down their names, and it may be that he would like further material on which to consider this question.

Mr. Ryde: Is this List B.?

Mr. Bodkin: Yes.

Mr. Cockerton: 1902 to 1903.

Mr. Bodkin: First of all there is William George Sweetman, and it is merely illustrative of the practice. The inquest was held on May 20th, 1903. There the deceased suffered from some disease of the throat. I have not the medical name for it. At any rate, tracheotomy was necessary, and the medical man, Dr. Badcock, of Wandsworth, who was attending him, and Dr. Williams, another medical man from Wandsworth, together performed that operation of tracheotomy. Unfortunately death resulted. The Coroner was informed and the body was removed to the mortuary. Dr. Badcock and Dr. Williams, so far as the *post-mortem* was concerned, were ignored, and were not even summoned to be present at the inquiry, which you would have thought they would have been out of ordinary courtesy. But they learnt, quite from other sources, what the time of the *post-mortem* was to be. They went to the Court, and would you believe it?—Dr. Freyberger, of course, made the *post-mortem*—that almost goes without saying; but in order that his valuable time should be economized as far as possible, it would seem that the mortuary keeper is allowed to have a knife, with which he, as the expression goes, opens up the body before Dr. Freyberger comes, so as to get ready for his exploration of the interior. And this man began at the throat and proceeded right down to the abdomen—I suppose along the middle line of the body; and in that way he absolutely destroyed the real appearances of the operation of tracheotomy, which therefore prevented the medical men from justifying, as they were prepared to do, by the *post-mortem* appearances, the operation and the propriety and skill with which it was performed. That is one of the evils which arises from this process. Take another case—that of Minnie Weston, a child. The same Dr. Joyce as I have previously mentioned was called and found a measles rash on the child. The rash was all over the body. Dr. Joyce had no request to attend at the *post-mortem* or at the inquest. The same Dr. Freyberger was called in, he making the *post-mortem* examination, but having no previous knowledge of the circumstances of this rash or of the circumstances under which the child died, said that the child died from blood poisoning; another illustration of the mischief which follows the adoption of this practice. And so let us look at another case, that of Henry Abel; that is the last one I shall mention. Dr. McManus was called in to see him. The patient was an infant one month old. The child was found dead. This is another case of infant mortality, the child having been sleeping in a narrow bed between its parents, and having all the appearances of having been overlaid. The doctor made notes of what he saw and wrote to the Coroner, and said he was unable to certify without a *post-mortem* being made. In the meantime the body was washed, the tongue being put back between the lips. He received no answer from the Coroner, but he read in a local paper that Dr. Freyberger had made a *post-mortem* examination, and gave it as his opinion that the child died from convulsions. Could there be anything more unsatisfactory than such a case as that? Ignoring the medical man who alone could see the circumstances under which that child died. The immediate cause of death was asphyxia, and he was the man who could speak to that, and he was the one to tell the jury that which was necessary to satisfy them. But Dr. Freyberger comes down, and from the description which is given to him, as the pathologist to the London County Council, gives his evidence that convulsions is the cause of death. What is the jury to do—to accept the position? But the responsibility is that of the gentleman who is obliged to be acquainted with this Statute and to carry out its provisions. Those are the cases, Sir, which I wish specially to mention to you. What the result will be if you disallow any of these payments I am not concerned to know; that must be a matter that Mr. Troutbeck and Dr. Freyberger must settle between them. It is a little unfortunate for Dr. Freyberger if these allowances have to be refunded, because, after all, it is a case in which he has done some work for the money. But when one sees that he received over £1,700 in twenty-two months, one's sympathy is a little qualified and one does not think that any great hardship will be done to him by it. Until there is in this country a Statute passed which gives the Coroner the power to appoint one consulting pathologist for his district, and to other Coroners a similar power, it is not right to make such an appointment and to use the language which Mr. Troutbeck himself uttered in my hearing, and which I am reading now from the usual sources of information. He says, as explaining his conduct: "I do not accept the position that "England is to be the only civilized country where a path-"ologist is not to be called in at an inquest." That is perfectly inaccurate, a confusion of thought on his part, if I may respectfully say so. England is not the only country. Section 21 expressly provides it, but only if the source from which the previous evidence comes, from the registered legal medical practitioner, is not satisfactory, then the pathologist will come in and make his *post-mortem*, and give the advantage of his naturally greater skill and experience to the jury, which may be puzzled up to that moment by the evidence given by the local man who was on the scene either before death, or at the death, or who was called in under the first part of the Section. And while one agreed with another observation of Mr. Troutbeck's that it must not be supposed that funds can be thrown about in order to assist medical men, that is hardly the correct view of the matter when we find that the public funds are thrown about to benefit a medical man in defiance of Section 21, and to the greater cost and the heavier burden of the ratepayers of this country.

Mr. Cockerton: Are there any other parties whom I should hear?

Dr. Shearer, who was heard very indistinctly, was understood to quote Section 27 of the Coroners Act, and then to ask Mr. Cockerton if Mr. Troutbeck had been examined by the London County Council concerning the payment of the fees to Dr. Freyberger. He also wanted to know what authority there was for the payment of the fees divided up into one guinea for evidence and one guinea for making a *post-mortem*.

Mr. Cockerton: There is an affidavit presented with each bundle of vouchers, and an affidavit from the Coroners that the accounts are correct.

Mr. Ryde: Payments having been made by the Council on the oath of the Coroner we cannot reopen the whole matter again.

Mr. Cockerton: That is so.

Dr. Shearer: The Act says that the fee for attending to give evidence is one guinea, and for making a *post-mortem* and giving evidence two guineas. They are two separate fees I take it?

Mr. Ryde: I take upon myself to say that if Dr. Freyberger had signed for 42s. forty-two times it would have been a fee of two guineas just the same.

Mr. Bodkin: I have the printed form issued by the London Council here, and it does divide those fees, first for giving evidence and then for making the *post-mortem* examination.

Mr. Cockerton: Yes.

Mr. Bodkin: It splits it into two. It is two guineas for the *post-mortem* and giving evidence and one guinea for giving evidence without the *post mortem*.

Dr. Shearer: I take it those two fees are the same as the one fee?

Mr. Ryde: It is obvious that they are divided. The form is evidently for use on all possible occasions. There may be no *post-mortem*, so the draughtsman of this form has put the *post-mortem* by itself.

Dr. Shearer: May we have Mr. Troutbeck's statement as to how he gets it?

Mr. Cockerton: I do not think I have any reason to trouble Mr. Troutbeck in the matter. The matter here is between the ratepayers and the County Council. If the County Council think it fit and proper to ask Mr. Troutbeck to explain his position, that would be another matter, but I do not see how I can, at all events in the present stage of the proceedings, call upon Mr. Troutbeck.

Mr. Ryde: The point is, are the County Council legally

entitled to make these payments which they have made? These gentlemen challenge the legality, and in the ordinary course it is for them to show that under the Statute, or the Common Law of England, the payments are illegal. I say that the payments are legal.

Dr. SHEARER: My point is that two payments of one guinea are not provided for in the Coroners Act, and I want to know if I can take it that Section 22----

Mr. RYDE: I shall not make any admissions, nor submit myself to cross-examination.

Mr. COCKERTON: It is put down as one guinea as a matter of convenience.

Dr. SHEARER: The meaning of the summons of the Coroner under this Act is quite clear. The London County Council minutes contain the following passage:

"The 21st Section of the Coroners Act empowers the coroner "to summon, to give evidence, the doctor who attended the "deceased, or if he had no doctor, then any doctor in practice "near the place of death may be summoned, and the coroner "may direct such doctor to make the *post mortem*. If this be "done, the doctor is entitled to a fee of two guineas, one "guinea for the examination and one guinea for the evidence. "But the coroner need not employ the local doctor to make "the *post-mortem* unless he chooses, but he could entrust "the *post-mortem* to another doctor better qualified for "the work but for the question of payment. Under the "25th Section the Council has power to fix the fees payable at "an inquest, *other than the fees payable to medical witnesses in "pursuance of the Act*, and where a pathologist is employed "*otherwise than in pursuance of the Act* a special fee has to be "paid. We took the opinion of counsel whether the Council "has power to provide for the employment and remuneration "of medical examiners for the purposes mentioned, and were "advised that this could not be done without express "statutory authority."

Mr. BODKIN: Where are you quoting from, may I ask?

Dr. SHEARER: From the Minutes of Proceedings of the London County Council, 1st day of July, 1902, the Public Control Committees Report, p. 992.

Dr. HILLS: I have been practising in Battersea for twenty-five years, and I remember the practice of Mr. Hull, and then of Dr. Braxton Hicks, and then our present Coroner. In the olden days we very often had opportunities of seeing the Coroner and possibly directing him as to certain things which we could not say in plain English without being asked, but which by his right of questioning he could bring out and thus bring out valuable information. Whether I do the *post-mortem* examination or not I do not care one jot; I would rather not as a matter of fact, because I do not like the smell of it. But we have all been trained to notice carefully the particular circumstances surrounding any particular sudden death, but if we know there is no chance whatever of our being called to give that information to the jury what is the use of taking that information? If we know a person is dead, what is the use, under the present system, of our going if we are not to be called in, and if a man is to be sent for from Regent's Park Road, miles away, to give information simply and purely from a *post-mortem* examination. I say under those circumstances it is no use our taking the trouble at all. I do not wish to enter into personal details, but as a ratepayer and as a medical man I think the fees which are paid to a man coming from a distance like that, who can only give very partial information, must be improperly paid.

Dr. PIERCY FOX: I do not mean to take up your time, as Mr. Bodkin has so thoroughly gone into the whole question. But a case happened in Dublin which might possibly help you. Previously to 1887, when the Acts were consolidated, the Act that governed England and Ireland was practically 9 and 10 Vict., cap. 37, sections 27, 29, etc. It contains practically almost the same words as the Consolidated Act of 1887.

Mr. COCKERTON: What is that?

Dr. FOX: Sections 29 to 33. In 1887 the Corporation of Dublin thought, to save expense, that they would appoint a medical man to do all the inquests and *post-mortem* examinations, and the same row occurred then as now.

Mr. BODKIN: I can give you the cases for your notes: "Regina *v.* Finlay, Irish Report 11, Common Law, 498."

Mr. RYDE: Is this the English Statute?

Mr. BODKIN: I would leave it to Dr. Fox.

Dr. FOX: I would rather leave it to you.

Mr. BODKIN: It is an Irish Statute which, in so far as those sections which Dr. Fox was quoting, follow practically, although not in the absolute wording, they follow practically the language and meaning and intention of these Sections 21 to 23. And it was upon those sections that those cases in Ireland arose. And it arose in this way, that the Coroner for Dublin appointed a particular medical man to attend all inquests.

Dr. FOX: The Corporation of Dublin, which is not quite the same thing.

Mr. BODKIN: It does not matter much in principle. The medical man was to give evidence, but the report does not say whether he was to make the *post-mortems* or not. But I gather it is involved, because evidence without *post-mortems* would be very strange. The doctor in question, instead of taking fees, agreed to take a salary, so much per annum. And at the half year or the quarter that salary was challenged by the ratepayers in Dublin, and application was made to bring up the matter for the purposes of the item being quashed by the auditor. The Court held that the Coroners Act in question, 9 and 10, Vict., cap. 27, did not allow any such appointment, but that each medical witness must be appointed and have his duties determined only in regard to each separate and particular inquest as distinguished from any such general application of the meaning of the Act.

Dr. FOX: You have really taken the wind out of my sails, but anything in the nature of a permanent appointment was absolutely illegal under the Act; and I contend, Sir, that Dr. Freyberger's position is practically that of a permanently appointed individual. He has been called nearly always, and it is practically a permanent appointment. Consequently I say that this case which I have mentioned and which Mr. Bodkin has enlarged upon, will help you very much in giving your decision. Until the law is altered I do not think Mr. Troutbeck has any right to call this man in attendance.

Mr. RYDE: I am ready to deal with the case to-day so far as I came prepared, but with regard to the facts which Mr. Bodkin has gone into I cannot deal with them to-day. I have only hurriedly taken a note of the points with regard to the Statutory declarations, and I cannot deal with the matter in that way. I shall not be very long with my side of the case; I promise you I will not be one and a half hours. We have dealt with many points this morning, but it is purely a question of fees. It is a question whether the medical practitioners practising in the neighbourhood, or who have attended the deceased before his death, are entitled as a right to these fees, to the exclusion of a person whom I may call Dr. Freyberger. The contention, which must succeed before anything can succeed, is not as to whether these other gentlemen were entitled to be paid, but whether Dr. Freyberger was entitled to be paid. That is the sole question which you can deal with, Sir. The County Council have paid certain fees to him, and the proceedings before you tend to quash the validity of these payments, the contention being that they are not legal. And the only question which you have to decide is whether Dr. Freyberger has been legally paid by the Council the sums which he has been paid. The question as to whether these other gentlemen had a concurrent right to be employed with Dr. Freyberger is a matter which you cannot deal with. Let us deal with the question as a matter of law. I shall endeavour to avoid any personal attacks or excuses on the medical practitioner or an apologia on the part of Dr. Freyberger. It is a question of law purely whether the County Council have the jurisdiction to pay this money. Let us get rid of a great part of my learned friend's address to you. He has suggested that in many cases the action of Dr. Troutbeck—I will call him Mr. Troutbeck, although as a matter of fact he is a doctor of laws—has excluded the evidence of the best witness, and included the less suitable witness. But that is not a question for you at all, Sir, as to whether Mr. Troutbeck is the best Coroner in London or England, or the worst. All such questions as that are irrelevant to this issue, and I shall not argue on behalf of Mr. Troutbeck whether he is or is not guilty of the mistakes—my friend has put it higher than that—in conducting inquests which he has been considered to be. The question of whether he has called the best witness has nothing to do with it, and whether the truth was arrived at at all even is a question which we cannot deal with in these cases which are before you. That those questions are extremely important I do not dispute; whether Mr. Troutbeck is a fit and proper Coroner is very important, but it is not one which you have to decide, but the question is whether the County Council can legally make the payments which it has made. Let us deal with the Coroners Act. My friend has rightly said that this is an old office, and I shall

see I think it is extremely possible that all the powers of the Coroner are not to be found set forth within the four corners of any one Act or any of the Acts of Parliament. It is possible that powers may be found at Common Law and outside Acts of Parliament altogether dealing with the matter. I will read from the Act to show that these payments are legal.

[Mr. Ryde here read Section 4.]

The duty of the Coroner is to find out the truth in the best way he can, and he is the judge of what is the best way, and not the County Council, or even the medical practitioners in the neighbourhood. To enable him to do his duty, amongst other sections, Section 21 comes in. May I summarize what I understand to be my learned friend's contention on that Section? He says the Section gives the power, and the only power, to summon witnesses. It not only enables the Coroner in the first three and a-half lines to summon the legal medical practitioner where he was in attendance, but it makes it his duty to summon him. And he next says, as I understand his reading, that summoning means calling, though I submit that it has a very different meaning. Then, in reading the Statute, I understand him to say that, except in special cases specially authorized by Subsection 1, giving not merely power of imposing a duty on the Coroner to summon witnesses but to make special payments under Section 22, and no payments to anybody else. May I point out that that reading is suicidal—that construction of the Statute is fatal to my learned friend's case. If you glance at the Section you will see the first three and a-half lines comprise one set of circumstances where there was a medical practitioner in attendance at the death or during the last illness. Then it goes on to the case where there was no medical practitioner in attendance, and then the coroner is empowered to summon any legally qualified medical practitioner in or near the place where the death happened. I submit that the object of the enacting of this Section was in aid of the Coroner's powers in common law and general powers to find out the truth. That Section was put in first of all to enable the Coroner to summon an unwilling witness to give evidence, and that is why the limitation is put in that when he summons unwilling witnesses in the second case where there is no medical practitioner in attendance on the deceased, he must be limited to a person who is in actual practice in or near the place. That Subsection is an enabling Section, and does not prevent in the smallest degree the Coroner, if he thinks it desirable in his discretion, to summon two, three, or four medical men in addition to the man in attendance if there was one, or in addition to the medical practitioner practising in the neighbourhood if he thinks the circumstances of the case require it. May I point out that I think that must be so? The Section says having clothed the Coroner with power to summon unwilling witnesses he may order the witness to make a *post-mortem* examination.

Mr. Bodkin: Which Clause refers to unwilling witnesses?

Mr. Ryde: I can imagine a medical practitioner being very unwilling to come for a fee of one guinea to put in an attendance at Court. A medical practitioner in London may have a patient five or six miles away, and he dies perhaps under circumstances which require an attendance. There are some whom it would not pay to dance attendance at a coroner's court for a fee of one guinea. And this gives the power to the Coroner to summon that witness even if he be unwilling.

Dr. Hill: I may say it is not a question of guineas. We are always prepared to assist the Coroner or any one else in spite of many acts of injustice.

Mr. Ryde: I would ask that I shall not be interrupted. It gives him power to summon witnesses who may not desire to come, and to ask witnesses to give evidence as to his opinion as to the cause of death: it is to enable the Coroner to compel even unwilling witnesses to hold a *post-mortem* examination. Just notice the proviso of Subsection 2, beginning: "Provided that where the person states on oath before the Coroner . . ." Now, Sir, my learned friend says Section 21, Subsection 1, gives the only power of the Coroner to retain the services of a medical man. Let me put a case, and there have been such cases, in which there is a strong suspicion that the medical man has poisoned the deceased. There has been a medical man in attendance, say for three months, so it falls within the first words of the Subsection 1. If my friend is right in his contention to-day, when the case comes before the jury, that medical man may be excluded and must be excluded. The Coroner has no objection. He must be excluded from making the *post-mortem* examination, but if my learned friend is right, no other person can have the right to make it.

Dr. Shearer: Is not that provided for by Subsection 3?

Mr. Cockerton: You must not interrupt please.

Mr. Ryde: I will deal with Subsection 3 when I come to it. If my learned friend is right, that could not happen except where the jury intervened. And you see by the time the recommendation of the jury was made, under Subsection 2 at that time the mischief guarded against by Subsection 2 would have been done. If there were a medical practitioner who did poison a man he would be careful to remove at the *post-mortem*, taken before the inquest was held, whatever evidence there should be of the poisoning, and the result of it would be that the jury would be locking the door (to use a common simile) after the horse was gone—it would be giving somebody else the power to do something which would be useless. When one looks at it like that it becomes clear that this is not the be-all and end-all of the Coroner's power, the enabling the Coroner to summon unwilling witnesses and to direct a *post mortem* even, and to ask the man his opinion, and then subject always to the payment of certain fees. The fees here are limited; they may not exceed a certain amount. I submit that the fair reading of the Section 21 must be that if the Coroner, in his discretion, thinks that two persons are desirable—and I think my learned friend combated that, he said there was no power to employ a second person—he should do so. It is a startling thing to say that there is no power to employ and have the advantage of a second man's opinion.

Mr. Bodkin: Until Subclause 3.

Mr. Ryde: But that only arises when the whole mischief may have been done. My friend has emphasized as to the necessity of having the first view carefully taken and brought before the jury. The jury powers only come into play when all that may be too late. Section 22 limits the amount that may be paid to medical witnesses, and Section 25 enables the County Council—that is to say, the Local Authority—to make and vary the schedule of fees, allowances, and disbursements. The only exception from that power is that the fees paid to medical witnesses, which are fixed by Section 22, may be not cut down or extended by the County Council. They are Statutory fees. But in addition they may, I submit, under that Section fix the proper scale of charges where there are any additional services for work done under the Coroner's direction by a medical man. I am told—but I have no knowledge of it myself—that in many cases it is necessary to make a careful analysis in cases of poisoning. Why may not that be done? It would be a ridiculous reading of the Statute to say that the two guineas is to be enough for the services of the man who makes a *post-mortem*, although he may do a great deal of work outside the *post mortem* in examinations in connexion with the poisoning, and if a prolonged examination is necessary in the interests of justice, and of that necessity the Coroner is made the judge, then the local authority have power to fix the scale of payment which may be made, and I see nothing whatever to prevent the County Council from showing that as long as they do not contravene Section 22—and it is not suggested that they have contravened it—there is nothing whatever to prevent the County Council paying a Coroner such sums which have been reasonably and properly paid by him to persons for services rendered in doing work which, in the opinion of the Coroner, is necessary or desirable in the ascertaining of the truth. There the whole matter is. The Council may perfectly legitimately pay a second medical man for services done. My learned friend has put in a lot of words to Section 21 to say they may not pay an outside man unless they also employ a local man, and he even says that where there is no local medical man the Coroner, as I understand, may not go as far as Regent's Park Road, whatever that distance may be from the place of the inquest. The explanation I gave you of the insertion of the words "in or near the place" is perfectly intelligible. The Coroner was not to have the compulsory power of bringing a man five or ten miles at a fee of two guineas, but there is nothing to prevent him getting the services of another medical man who resides further away. I even think it is perfectly clear that if the medical man lives sufficiently near so that he can come soon, and he is duly qualified and can give the time, and can come and give evidence and view the body, he does live and his practice is near the place where the death happened in the meaning of that Section. The object of that was to prevent the summoning of a man from a great distance.

Mr. Bodkin: "In actual practice" is such a well understood word.

Mr. Ryde: If the gentleman in question is in actual practice in Marylebone, he is in actual practice within the meaning of the Act if he is anywhere in London. He could drive there with a horse under an hour. Of course it so happens we are dealing with a thickly-populated space; but there are plenty of doctors who if they did drive for an hour would still be considered to be practising in or near the place where the death happened. I do not understand you to say that Dr. Freyberger is not in practice at all?

Mr. Bodkin: I say his registered address is in Regent's Park Road. Whether, with so many *post-mortems* a year, he is able to attend to the ills of living people I do not know; I must leave that to your judgement.

Mr. Ryde: I had no idea that any attack was to be made on Dr. Freyberger.

Mr. Bodkin: There is no attack. For the purposes of to-day I should not dispute that Dr. Freyberger is a gentleman who attends to patients in his own locality and his own hospital.

Mr. Ryde: I submit that Dr. Freyberger is in practice at or near the place where the deaths took place. I do not know whether he does nothing but attend these *post-mortems*—that suggestion took me by surprise—but if he does nothing but these *post-mortems* he is in practice in the place where he does do them. I thought my friend's point was that he is practising in Marylebone, and that was not near where the deaths occurred. But if he is in a place where an inquest can be reached in an hour, he is at or near the place within the meaning of the section. Otherwise, in country districts, you may say the Coroner should not summon anybody at all, because there are plenty of places where a medical practitioner cannot be got except at the expense of an hour's drive. I have put my point before you on the Statute. Section 21 enables persons therein mentioned to be paid, it enables them to be summoned, it enables them to be ordered to make a *post-mortem* examination on an order by the Coroner, and enables them to be called upon to state their opinion of the cause of death which could not have been done without these Sections. It does not prevent the Coroner in the discharge of his duty from asking other medical men who are duly qualified to assist him by their valuable opinion as to what is the true cause of death. The question as to who is the right person to call must be left to the Coroner. The County Council may be a very improper body to discuss case by case as to whether the right witnesses had been called, and, in their view, allow or disallow Coroner's payments. As this is an all-important matter to the medical profession it is no good my going any further before you to-day. But let me call your attention to another point. Assuming that you personally for the moment are of opinion that the payments are illegal, the County Council, I take it, would have the opportunity of appealing to the Local Government Board. Now, Sir, I have before me a copy of a letter—which I have no doubt has been furnished to you—from the Clerk of the Middlesex County Council of December 29th, 1897, in which, when Mr. Troutbeck's predecessor, Dr. Braxton Hicks, was in office, the question was raised—not quite the same question as stated to-day, but a question was raised which involves the same point—namely, whether a second medical practitioner could be called upon to assist in making a *post-mortem* examination when the first one was called in. I understand my learned friend to-day that the second person can only come in in pursuance of the direction and requirement of the jury under Subsection 3 of Section 21. This point was raised before the Local Government Board, and possibly you or your predecessor in office disallowed the payment. The matter went to the Local Government Board, and they reversed the decision. And this letter from the Clerk of the Middlesex County Council said: The Board are of opinion that it must not be held that Section 21 does not exclude the summoning of other medical witnesses than those provided for in that Section, and the fees can be paid under Section 22 when such medical witnesses are not summoned under Section 21. So if you come to that conclusion—that the Local Government Board as a Court of Appeal has decided the point—it would be your duty, whatever your private opinion was, to bow to that decision, just as a judge has to bow to a decision of a higher court. But if you hold that opinion yourself, as I hope you will, that Section 21 does not exclude the summoning of other medical witnesses than those provided for in that Section, you are asked to decide that point to-day. In some of the cases in which a local medical practitioner who was in attendance on deceased was in fact summoned, my learned friend says the additional summoning of Dr. Freyberger was illegal. That point has been definitely decided by the Local Government Board in favour of the payment, and if it is permissible to call a second witness, although not specially mentioned in Section 21, it must also be permissible, to use a hibernian expression, to call an outside witness to the exclusion of the first witness. That ruling of the Local Government Board, whether it is or whether it is not wrong—I submit it is right—says that the Coroner's powers are not limited to those enabling powers given by the Section 21. I submit that these payments are perfectly in order, and that you ought not to disallow them. With regard to the question of dealing with the facts, these facts have only just been stated by my learned friend, and if it is necessary to go into the question of fact I should ask you to let us have an adjournment to consider and even read at my leisure the depositions which have been put before me. If you say you are prepared on the matter of dry law in my favour, it will possibly not be necessary to go into those facts. I submit that the best course will be to adjourn these proceedings and let me see that evidence of the declarations, and then adjourn either *sine die*, or to a fixed day *pro forma*. And if before that time arrives we decide that we do not want to challenge the facts or put a different interpretation upon them, it will not be necessary to hold a further inquiry: or, if you decide you are in my favour on a point of law, it will not be necessary to hold a further inquiry.

Mr. Cockerton: I should prefer to adjourn to a fixed date. I am in your hands as to the time to be fixed.

Mr. Bodkin: I should prefer to hear what my friend's determination is in point of fact before I say anything further or reply at all.

Mr. Ryde: That is quite reasonable.

Mr. Cockerton: The probability is that these facts will not be disputed.

Mr. Ryde: Probably not, but I am reserving the right to group those cases and to remark upon them when I have read them, because, although Mr. Bodkin professed to group them into four groups, I do not like the classification, and I think I could deal with it more handily in another form.

Mr. Cockerton: We will say this day three weeks, November 21st at 11 o'clock?

Mr. Bodkin: That will suit me.

Mr. Bodkin: I might ask this, in order to save a lot of letter writing. If any question is to be raised upon the facts of the case, may I ask that we be given a clear week's notice before November 21st? If the facts are to be questioned it will be necessary to have the medical man in question in attendance, and I should like to give him a little notice.

Mr. Ryde: If we suggest that your declarations are inaccurate we will give you notice.

Mr Bodkin: That gives you a fortnight to find out any discrepancies, and a week for us to get the witness.

The inquiry was then adjourned to November 21st.

CENTRAL MIDWIVES BOARD.

A meeting of the Central Midwives Board was held on October 26th at 6, Suffolk Street, Pall Mall, with Dr. F. H. Champneys in the chair.

The Meaning of "Under My Supervision" in the Regulations Under the Midwives Act.

One of the regulations under the Midwives Act providing for the course of training of midwives states that no person shall be admitted to an examination unless she produces certain certificates, one of which is that she must have under supervision satisfactory to the Central Midwives Board attended no fewer than twenty labours. The words of the required certificate are:

I certify that ..... (to whom the certificate refers) has, under my supervision, attended and watched the progress of not fewer than twenty labours, making abdominal and vaginal examinations during the course of labour, and personally delivering the patient.

Dr. James Wallace of Acton Hill wrote, asking the Board what signification is to be attached to the words "under my supervision."

Dr. Parker Young declared that the responsibility for signing these certificates lay with the person who put his signature to them, and he must be prepared to justify his act.

Dr. Dakin said that a medical practitioner could not sign unless he was present at the labour and saw the candidate deliver the woman. The Act must be interpreted literally.

In the opinion of Dr. PARKER YOUNG, however, a doctor might sign the certificate if he were satisfied that a candidate had delivered the case.

Sir WILLIAM SINCLAIR urged that the strict letter of the law should be followed, and hoped that medical men would be discouraged from doing such work. He deprecated any laxity in the interpretation of the regulation, otherwise the pupils would not receive proper clinical teaching.

Dr. DAKIN proposed that the Board should hold that no one is competent to sign the certificate who has not been present while the candidate complies with the regulations.

Ultimately the Secretary of the Board was directed to inform Dr. Wallace that the responsibility of complying with the regulations rested upon the person who signs the certificate, Dr. DAKIN however objecting that the answer explained nothing, and Sir WILLIAM SINCLAIR declaring that the reply worded in that bald manner made the Board appear in a ridiculous light.

Dates of Examinations.

It was decided to hold examinations for midwives in London in February, April, June, August, October, and December, and in the provinces an examination every four months.

Midwives Forbidden to Use Letters after their Names.

A letter from Dr. A. G. Bateman, General Secretary to the Medical Defence Union, was read asking the opinion of the Board as to the right of a certified midwife to affix the letters C.M.B. to her name on a card. The Secretary of the Board was directed to reply to Dr. Bateman saying that the Central Midwives Board does not authorize any letters to be used after the name of a midwife. From the tone of the discussion of the subject at the meeting of the Board it was evident that the members took a strong line on the matter, and thought the use of such letters was objectionable, and certainly unauthorized.

Midwives to be Cited to Appear before the Board.

A letter was received from the Clerk of the Surrey County Council reporting the finding by the local supervising authority of a prima-facie case of negligence against a certified midwife; and a letter from the Town Clerk of Sheffield was considered reporting the finding of a prima-facie case of negligence against a certified midwife. It was agreed that these women should be cited to appear before the Board.

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

BIRMINGHAM BRANCH: COVENTRY DIVISION.—The next meeting of this Division will be held on Tuesday, November 7th, at 8.30 p.m., at the Coventry and Warwickshire Hospital. Agenda: (1) Report of Committee on Friendly Societies. (2) Dr. Bateman, of the Medical Defence Union, will give an address on Medical Defence and the Laws relating to the Medical Profession.—E. H. SNELL, Honorary Secretary, Knighton House, Coventry.

METROPOLITAN COUNTIES BRANCH: ST. PANCRAS AND ISLINGTON DIVISION.—The next meeting will be held at the Great Northern Hospital, Holloway Road, N., on Friday, November 17th, at 4 p.m. Paper: Mr Andrew Clark on Swellings of the Breast; their Diagnosis and Treatment.—W. WYNN WESTCOTT, Secretary, 396, Camden Road, N.

METROPOLITAN COUNTIES BRANCH: WANDSWORTH DIVISION.—An ordinary meeting will be held at the Worple Hall, Wimbledon, on Thursday, November 23rd, at 8.45 p.m. Agenda: (1) Minutes. (2) Correspondence. (3) Questions. (4) Paper by Professor R. S. Hewlett, of King's College Hospital. "The Problem of a Pure Milk Supply." (5) Other business.—E. ROWLAND FOTHERGILL, Honorary Secretary, Torquay House, Southfields, S.W.

PERTHSHIRE BRANCH.—The annual meeting will be held in the Station Hotel, Perth, on Friday, November 10th, at 4 p.m. Council Meeting, 3.45 prompt. Business: (1) Read Minutes. (2) Election of Office-bearers. (3) Report of Council. (4) Report on Treasurer. (5) Report of Branch Representative to Annual Meeting. (6) Presidential Address, "Relation of the General Practitioner to Hospitals." (7) Consideration of Case against a Medical Practitioner. (8) Alteration of Branch Rules (if any) by new Constitution. (9) Proposal to form Branch Reference Library. (10) Any other business. Dinner (3s. 6d.), as usual, after the meeting in the hotel, in time to permit of country members returning home by the evening trains.—WILLIAM A. TAYLOR, ALEXANDER THOTTER, Joint Honorary Secretaries, 10, Marshall Place, Perth.

SOUTH-EASTERN BRANCH: BRIGHTON DIVISION.—A meeting will be held at the Dispensary, 113, Queen's Road, Brighton, at 4.30 p.m. on the fourth Wednesday in November (22nd). Members wishing to read papers or show cases at the meeting are requested to give at least a fortnight's notice to the Honorary Secretary, RYDING MARSH, M.D., 49, Sackville Road, Hove.

SOUTH-EASTERN BRANCH: CHICHESTER AND WORTHING DIVISION.—The next meeting of this Division will be held at the Infirmary, Worthing, on Wednesday, November 8th, at 3.30 p.m., Mr. W. S. Simpson (Worthing) in the chair. Agenda: (1) Minutes of the last meeting. (2) To appoint place of next meeting. (3) To discuss a communication from the West Sussex and Chichester Joint Education Committee re Physical Welfare of School Children. (4) Contract Practice. Papers have been promised by Mr. V. Warren Low, F.R.C.S.Lond., Dr. A. G. R. Cameron (M.O.H. West Sussex), and Dr. Densham (Worthing). Dinner at Warnes Hotel at 6.30.—H. C. L. MORRIS, Honorary Secretary, 10, The Steyne, Bognor.

SOUTH-EASTERN BRANCH: DOVER DIVISION.—The quarterly meeting of this Division will be held at the Grand Hotel, Dover, on Thursday, November 9th, at 8.30 p.m. Agenda: (1) Reading of Minutes. (2) Dr. Howden will open a discussion on The Relation of Hospitals to the General Practitioner. (3) Payment under Midwives Act. (4) Other business (if any).—F. A. OSBORN, Honorary Secretary, Ennismore House, Dover.

SOUTH-EASTERN BRANCH: ISLE OF THANET DIVISION.—A clinical meeting of this Division will be held at the Royal Sea-bathing Hospital, Margate, on Thursday, November 9th, at 4 p.m. Mr. W. K. Treves, F.R.C.S., in the chair. Agenda: Mr. Treves will read notes on a case of malingering. Mr. W. G. Sutcliffe, On some Cases of Lymphadenoma. Cases of interest will be shown. Tea will be served during the meeting. All members of the South-Eastern Branch are invited to attend these meetings, and to introduce professional friends. The following resolution was unanimously carried at the last meeting of the Division, held at Broadstairs on September 26th: "That the members of the Isle of Thanet Division of the British Medical Association be desired in the Secretary's next circular to decline to furnish school certificates to the Kent Educational Authorities for a fee less than half-a-crown." A large number of medico-political subjects, as published in the BRITISH MEDICAL JOURNAL SUPPLEMENTS are being brought before the Divisions this winter. As it is possible that they will not receive adequate attention, members are requested to communicate with the Honorary Secretary if they wish any particular subject to be specially discussed.—HUGH M. RAVEN, Honorary Divisional Secretary, Barfield House, Broadstairs.

SOUTH-EASTERN BRANCH: NORWOOD DIVISION.—The next meeting of the above Division will take place at Streatham Hall (close to Streatham Station) on Thursday, November 9th, at 4 p.m. Dinner at 6 p.m. Charge, 7s., exclusive of wine. All members of the South-Eastern Branch are invited to attend and to introduce professional friends, but will be unable to vote on Divisional questions. Agenda: (1) Minutes of last meeting. (2) To decide where the next meeting shall be held and to nominate a member of the Division to take the chair thereat. (3) Communication from Wandsworth *re* entertaining Representatives in July next. (4) Report of Representative. The following papers will be read: Mr. Betham Robinson, On the Use of Taxis for Hernia and some Complications which may arise During and After its Employment. Dr. W. S. Colman, Pitfalls in Diagnosis. Dr. Giles, Some Observations on Uterine Myomata.—H. J. PRANGLEY, Tudor House, 197, Anerley Road, Anerley, S.E.

SOUTH MIDLAND BRANCH.—The autumnal meeting of this Branch will be held at the Eight Bells Hotel, Bletchley, on Thursday, November 16th, at 2 o'clock, under the presidency of Dr. Lipscomb, St. Albans. Luncheon will be provided at the Hotel at 1 o'clock, at 2s. 6d. per head. Members desiring to be present at the luncheon should communicate with the Secretary not later than Monday, November 13th. The following paper is promised:—Dr. Jacobs: On Mammary Tumours. The Honorary Secretary will be glad to hear at once of any paper or cases which any member might like to read.—E. HAMER JONES, Honorary Secretary.

SOUTH-WESTERN BRANCH: TRURO DIVISION.—The next meeting will be held in the second week of January at the Miners' Hospital, Redruth. Members wishing to read papers or notes of cases are requested to notify the Honorary Secretary before December 21st. As the present day of meeting (Thursday) seems to be inconvenient to some members, especially to those in the Penzance district, the Honorary Secretary will be glad to hear any suggestions as to an alteration.—MARK R. TAYLOR, Honorary Secretary.

STAFFORDSHIRE BRANCH.—The first general meeting of the Session will be held at the North Stafford Hotel, Stoke-on-Trent, on Thursday, November 30th. The President, Dr. Hatton, will take the chair at 3.45 p.m. Business: (1) Minutes of the last general meeting. (2) Correspondence. (3) Exhibition of living cases. (4) Paper—Jamaica; a Tropical Holiday from a Health Point of View. By W. D. Spanton. (5) Paper—The Significance of some Enlargements of the Thyroid Gland. By A. F. Martin. Communicated by A. McAldowie. (6) Paper—The Medical Inspection of School Children. By Hackworth Stuart. (7) Exhibition of Pathological Specimens, etc. Dinner, 6.30 p.m. Charge, 5s. Council meeting.—A meeting of the Council will be held at 5.30 p.m., for election of members, etc.—G. PETGRAVE JOHNSON, Honorary General Secretary, Stoke-on-Trent.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

IN seventy-six of the largest English towns, including London, 8,137 births and 4,422 deaths were registered during the week ending Saturday last, October 28th. The annual rate of mortality in these towns, which had been 13.5, 13.7, and 14.1 per 1,000 in the three preceding weeks, further rose last week to 14.8 per 1,000. The rates in the several towns ranged from 7.7 in Hornsey, 8.1 in Handsworth (Staffs.), 8.1 in Grimsby, 7.6 in Walthamstow, 8.2 in Tottenham, 8.6 in Hastings, 9.0 in Stockton-on-Tees, 9.1 in Leyton, 9.4 in Derby, and 9.5 in Barrow-in-Furness, to 18.0 in Middlesbrough, 18.1 in Newcastle-on-Tyne, 18.3 in West Hartlepool, 18.4 in Plymouth, 19.2 in Liverpool and in Blackburn, 19.3 in Nottingham, 20.4 in Wolverhampton, and 22.6 in Hanley. In London the rate of mortality was 15.0 per 1,000, while it averaged 14.8 per 1,000 in the seventy-five other large towns. The death-rate from the principal infectious diseases

averaged 1·2 per 1,000 in the seventy-six large towns; in London this death-rate was equal to 1·1 per 1,000, while among [illegible] large provincial towns the rates ranged upwards to 2·2 [illegible] in Huddersfield, and in Swansea, 2·5 in West Ham, 2·6 [illegible] 3 in Middlesbrough, 3·3 in Bootle, 4·2 in Rhondda [illegible] ton. Measles caused a death-rate of 1·5 in [illegible] 3 in Willesden, 2·5 in Rhondda, and 3·1 in [illegible] in West Hartlepool and 2·5 in Bootle; diarrhœa [illegible] 1·3 in Reading; whooping-cough of [illegible] Middlesbrough and 1·8 in Bury; and [illegible] 1·4 in Merthyr Tydfil, 1·6 in Hanley, in Huddersfield, and in [illegible] 1·7 in Wallasey, and 1·9 in Tynemouth. No fatal case [illegible] was registered last week either in London or in any of the seventy-five large provincial towns, and no cases of this disease were under treatment last week in the Metropolitan Asylums Hospitals. The number of [illegible] fever patients in these hospitals and in the London Fever Hospital [illegible] had been 3,789, 3,954, and 4,153 at the end of the three preceding weeks, had further risen to 4,222 at the end of last week; 506 new cases were admitted during the week, against 527, 511, and 522 in the three preceding weeks.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 2s. 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to insure insertion in the current issue.

BIRTHS.

ANTROBUS.—On October 24th, at The Chase, Great Malvern, the wife of Edmund Antrobus, M.D.Edin., D.P.H.Cantab., of a daughter.

CROFT.—On October 27th, at Longford, near Coventry, the wife of Dr. Herbert Croft, of a son.

O'KINEALY.—On October 28th, at Darjeeling, India, the wife of Major F. O'Kinealy, I.M.S., of a daughter.

MARRIAGE.

MARTIN—BABINGTON.—On October 28th, at the Church of St. John the Divine, Kennington, by the Rev. Canon C. E. Brooke, M.A., Vicar, assisted by the Rev. J. H. Wesley Cane, M.A., Vicar of St. George, Perry Hill, Francis John Hensley, M.R.C.S.Eng., L.R.C.P.Lond., late of Perim Island, Arabia, second son of Captain W. R. Martin, R.N., of Catford, to Nellie, younger daughter of George F. Babington, of Marlow, Holmdene Avenue, Herne Hill, London.

DEATHS.

BROOKHOUSE.—On October 27th, at 1, East Circus Street, Nottingham, Joseph Orpe Brookhouse, M.D., F.R.C.S., aged 70 years.

SMITH.—At No. 56, Kitano-cho, 4-chome, Kobe, on October 11th, George D. Smith, M.D.Edin., M.R.C.P.E., aged 53 years.

Vacancies and Appointments.

VACANCIES.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham Road, S.W.—Senior and Junior Resident Medical Officers. Salary at the rate of £20 and £10 per annum respectively.

BIRMINGHAM GENERAL DISPENSARY.—Resident Surgeon. Salary, £150 per annum and £30 for cab hire.

BRADFORD ROYAL INFIRMARY.—Dispensary Surgeon. Salary, £100 per annum.

BRENTFORD UNION.—Assistant Medical Superintendent at the Infirmary, and Assistant Medical Officer of the Workhouse and Schools. Salary, £120 per annum.

BRIGHTON: SUSSEX COUNTY HOSPITAL.—(1) House-Physician; (2) Third House-Surgeon. Salary, £70 and £50 per annum respectively.

BRISTOL DISPENSARY.—Two vacancies on the Medical Staff.

BRISTOL ROYAL INFIRMARY.—House Surgeon. Salary, £100 per annum.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn Road, W.C.—Second Assistant Anæsthetist.

GLOUCESTER: GENERAL INFIRMARY.—(1) House-Surgeon: (2) Assistant House-Surgeon. Salary at the rate of £100 and £30 per annum respectively.

LIVERPOOL: ROYAL SOUTHERN HOSPITAL.—Junior House-Surgeon. Salary, 60 guineas per annum.

LONDON COUNTY ASYLUM, Claybury.—Male Junior Assistant Medical Officer. Salary, £150 per annum.

MAIDSTONE: KENT COUNTY OPHTHALMIC HOSPITAL.—House-Surgeon. Salary, £100 per annum.

MANCHESTER ROYAL INFIRMARY.—Honorary Assistant Surgeon.

MANCHESTER VICTORIA MEMORIAL JEWISH HOSPITAL.—Honorary Medical Officer.

NATIONAL DENTAL HOSPITAL, Great Portland Street, W.—(1) Medical Superintendent. Honorarium, £120 per annum. (2) Anæsthetist.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney Road, E.—Medical Officer in charge of Electrical Department. Salary, £50 per annum.

NOTTINGHAM GENERAL HOSPITAL.—House-Surgeon. Salary, £100 per annum, rising to £120.

PLAISTOW: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Resident Medical Officer. Salary, £100 per annum.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.—Female Junior Obstetric Assistant.

ROYAL LONDON OPHTHALMIC HOSPITAL, Moorfields.—Clinical Assistants.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories [illegible] in the [illegible] Factory, Surgeon at [illegible]

DIARY FOR NEXT WEEK.

TUESDAY.

ROYAL COLLEGE [illegible], Pall Mall East, S.W., 5 p.m.—Bradshaw [illegible] R. Murray, on Exophthalmic Goitre and its Treatment.

WEDNESDAY.

DERMATOLOGICAL SOCIETY OF LONDON, 11, Chandos Street, at 5.15 p.m.—Cases and Specimens.

HUNTERIAN SOCIETY, London Institution, Finsbury Circus, E.C., 8.30 p.m.—Pathological evening.

SOUTH-WEST LONDON MEDICAL SOCIETY, Bolingbroke Hospital, Wandsworth Common, 8.45 p.m.—Dr. G. L. Eastes, on Urine and the Interpretation of the Analytical Result.

THURSDAY.

BRITISH GYNÆCOLOGICAL SOCIETY, [illegible]—Dr. H. Macnaughton [illegible] Professor J. W. [illegible] tomy. Dr. Smallwood Sav[illegible] the Ovary and its Pathological Connexion with [illegible] and Retrogression of the Graafian Follicle.

HARVEIAN SOCIETY OF LONDON, St. Mary's Hospital, Paddington.—A clinical evening. Cases will be shown at 3.15 p.m., and discussion begin at 3.45 p.m.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM, 11, Chandos Street, Cavendish Square, W., at 8 p.m.—Dr. J. B. Dias and Mr. Leslie Paton, The Value of the Opsonic Index in [illegible] Nettleship: (1) Notes on Some Varieties of Albinism; (2) Colour Blindness in Women. Mr. C. Worth: Hereditary Influence in Myopia. Dr. A. J. Ballantyne: A Case of Melanotic Sarcoma of the Nerve Head and Retina.

FRIDAY.

CLINICAL SOCIETY OF LONDON, 20, Hanover Square, W., at 8.30.—Papers: Dr. Francis H. Hawkins, Case of Suppurative Pylephlebitis Connected with [illegible] Dr. Charles W. Ch[illegible] Record of a Case of [illegible] Case. Mr. Graham Simpson, A Successful Case of Splenectomy for Rupture of the Spleen.

INCORPORATED SOCIETY OF MEDICAL [illegible], Upper Montague Street, Russell Square, W.C., [illegible] A Comparative Study [illegible] Worthing Epidemic of Typhoid Fever by [illegible] Childs, followed by a discussion.

SOCIETY OF ANÆSTHETISTS, 20, Hanover Square, W., 8.30 p.m.—Dr. J. B. Collingwood: Dosage and Methods of Administration of Chloroform.

POST-GRADUATE COURSES AND LECTURES.

CHARING CROSS HOSPITAL, Thursday, 4 p.m.—Gynæcological Demonstration.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.—Wednesday, 4 p.m. Lecture, Syphilitic Disease of the Respiratory Tract.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week at 4 p.m. each day: Monday, [illegible] Tuesday, Medical, Wednesday, [illegible] Surgical: Friday, Eye. Lectures at 5.15 p.m. each day will be given as follows: Monday, Vomiting in Children as a Symptom, and its Treatment. Tuesday, The Treatment of Dysmenorrhœa. Wednesday, The Treatment of Chronic [illegible] Thursday, The [illegible] Ailments.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, 7, Fi[illegible] Square, W. [illegible] Department. Thursday, at [illegible] cases.

NORTH-EAST LONDON POST-[illegible], N. [illegible] at the [illegible] Fever Hospital, St. Ann's Road, N.), [illegible] 5 p.m. Lectures on Malaria, its Parasites and [illegible]

NATIONAL HOS[illegible] EPILEPTIC, Queen Square, [illegible] the Nervous System Friday, [illegible] W.C.

SAMARITAN FREE HOSPITAL [illegible] Road, N.W., Thursday, 3 p.m.—[illegible] Diseases.

UNIVERSITY COLLEGE, LONDON, [illegible] Tuesday, 4 p.m.—[illegible] Laryngology. [illegible] Thursday.

WEST LONDON [illegible] Hospital, Hammersmith Road, W. [illegible] and demonstrations have been arranged for next week at 4 p.m. each day: [illegible] Pelvic [illegible] Wednesday, [illegible] Medicine. Thursday, [illegible] Diagnosis and [illegible] Friday, [illegible]

CALENDAR OF THE ASSOCIATION.

Month.	Day of Week.	Meetings to be Held.
Nov.	5...Sunday..	
,,	6...Monday ...	LONDON: Premises and Library Committee, 3.30 p.m.
,,	7...Tuesday ...	Coventry Division, *Birmingham Branch*, Coventry and Warwickshire Hospital, 8.30 p.m.
,,	8..Wednesday	Chichester and Worthing Division, *South-Eastern Branch*, Infirmary, Worthing, 3.30 p.m.; Dinner, Warner Hotel, 6 30 p.m.
,,	9...Thursday...	Dover Division, *South-Eastern Branch*, Grand Hotel, Dover, 8 30 p m. Isle of Thanet Division, *South-Eastern Branch*, Royal Sea-bathing Hospital, Margate, 4 p.m. Norwood Division, *South Eastern Branch*, Streatham Hall (close to Streatham Station) 4 p.m.; Dinner, 6 p.m.
,,	10...Friday ...	Perthshire Branch, Annual Meeting, Station Hotel, Perth, 4 p m.: Council Meeting, 3.45 p m.; Dinner, after the Meeting.
,,	11...Saturday...	
,,	12...Sunday..	
,,	13...Monday ...	
,,	14...Tuesday ...	
,,	15...Wednesday	
,,	16...Thursday...	City Division, *Metropolitan Counties Branch*, Manor House, Upper Clapton Road, 8.30 p m. South Midland Branch, Eight Bells Hotel, Bletchley, 2 p.m
	17...Friday ..	St. Pancras and Islington Division, *Metropolitan Counties Branch*, Great Northern Hospital, Holloway Road, N., 4 p.m.
,,	18...Saturday...	
,,	19 ..Sunday..	
,,	20...Monday ...	
,,	21...Tuesday ...	
,,	22...Wednesday	LONDON; Medico-Political Committee, 3 p.m. Brighton Division, *South-Eastern Branch*. Dispensary, 113, Queen's Road, Brighton, 4.30 p.m.
,,	23...Thursday...	Wandsworth Division, *Metropolitan Counties Branch*, Worple Hall, Wimbledon, 8.45 p m.
,,	24...Friday ...	Tottenham Division, *Metropolitan Counties Branch*, Hornsey Conservative Association Rooms, Finsbury Park, 9 15 p.m.
,,	25...Saturday...	
,,	26..Sunday..	
,,	27...Monday ..	LONDON: Journal and Finance Committee, 2.30 p.m.
,,	28...Tuesday ...	LONDON: Public Health Committee, 3 p.m.
,,	29...Wednesday	
,,	30...Thursday...	Staffordshire Branch, North Stafford Hotel, Stoke-on-Trent, 3.45 p.m.; Council Meeting, 3.30 p m.
Dec.	1...Friday ...	
,,	2...Saturday ..	
,,	3 ..Sunday .	
,,	4...Monday ...	
,,	5...Tuesday ...	
,,	6...Wednesday	
,,	7 ..Thursday ...	Altrincham Division, *Lancashire and Cheshire Branch*, Quarterly Meeting, Altrincham Swansea Division, *South Wales and Monmouthshire Branch*, General Hospital, Swansea, 3 p.m.
,,	8 ..Friday ...	
,,	9...Saturday...	
,,	10...Sunday..	
,,	11...Monday ...	
,,	12...Tuesday ...	LONDON: Organization Committee, 10.30 a.m. ,, South-Eastern Branch, Council, 3.15 p.m.
,,	13...Wednesday	Central Council, 2 p.m.
,,	14 ..Thursday...	Wandsworth Division, *Metropolitan Counties Branch*, Battersea Town Hall, 8.45 p.m.
,,	15...Friday ...	LONDON: Ethical Committee, 2 p.m.
,,	16 ..Saturday...	
,,	17...Sunday..	
,,	18 ..Monday ...	
,,	19 ..Tuesday ...	
,,	20...Wednesday	
,,	21...Thursday...	
,,	22...Friday ...	
,,	23...Saturday...	
,,	24...Sunday..	
,,	25...Monday ...	*Christmas Day.*
,,	26..Tuesday ...	*Boxing Day.*
,,	27...Wednesday	
,,	28...Thursday...	
,,	29...Friday ...	
,,	30..Saturday...	
,,	31...Sunday..	
1906.		
Jan.	1...Monday ...	
,,	2...Tuesday ...	
,,	3 ..Wednesday	
,,	4...Thursday...	Swansea Division, *South Wales and Monmouthshire Branch*, General Hospital, Swansea, 3 p.m.
,,	5...Friday ...	
,,	6...Saturday...	
,,	7...Sunday..	
,,	8...Monday ...	
,,	9 ..Tuesday ...	
,,	10...Wednesday	
,,	11...Thursday...	
,,	12...Friday ...	
,,	13 . Saturday ...	
,,	14 ..Sunday..	
,,	15...Monday ...	
,,	16 ..Tuesday ...	
,,	17...Wednesday	Central Council, 2 p.m.
,,	18 ..Thursday...	City Division, *Metropolitan Counties Branch*, 4 p m.
,,	19...Friday ...	
,,	20...Saturday...	

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, NOVEMBER 11TH, 1905.

CONTENTS.

	Page.
MATTERS REFERRED TO DIVISIONS:	
NOTICE TO DIVISION SECRETARIES	277
MEETINGS OF BRANCHES AND DIVISIONS:	
Dorset and West Hants Branch	277
Halifax (Nova Scotia) Branch	278
Metropolitan Counties Branch: Hampstead Division	278
,, ,, Lambeth Division	278
,, ,, Stratford Division	278
South-Eastern Branch: Guildford Division	278
Southern Branch: Winchester Division	278
South Midland Branch: Northamptonshire Division	278
South Wales and Monmouthshire Branch: Cardiff Division ...	279

	Page.
ASSOCIATION NOTICES.—BRANCH AND DIVISION MEETINGS TO BE HELD	279
NAVAL AND MILITARY APPOINTMENTS	280
VITAL STATISTICS	280
VACANCIES AND APPOINTMENTS	281
BIRTHS, MARRIAGES, AND DEATHS	282
DIARY OF THE WEEK	282
BOOKS, ETC., RECEIVED	283
CALENDAR	284

MATTERS REFERRED TO DIVISIONS.

NOTICE TO DIVISION SECRETARIES

THE following resolutions were passed by the Council on October 18th, 1905, upon the recommendation of the Science Committee:

That in order to encourage the formation of Division Libraries, Division Secretaries be informed that there is a duplicate list of books in the Central Library which may be had on application to the Librarian.

That the special attention of Branch and Division Secretaries be drawn as follows:

The suggestion has been made that Divisions which desire it may form sections for clinical and pathological work with or without additional voluntary subscription. Further information is needed as to the desires of the Divisions.

This question needs consideration in both its general and local aspects. How far can the Branches and Divisions work with other local societies, and under what circumstances should they be amalgamated? Further information is necessary before any recommendations can be made.

GUY ELLISTON, General Secretary.

Meetings of Branches and Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* JOURNAL.]

DORSET AND WEST HANTS BRANCH.

THE autumn meeting of this Branch was held on October 25th at the Dorset County Asylum, Charminster, by the kind invitation of Dr. P. W. Macdonald, Medical Superintendent. Dr E. HYLA GREVES, of Bournemouth, the President, occupied the chair.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

New Member.—M. C. B. Anderson, M.R.C.S., L.R.C.P. (Winfrith) was duly elected a member of the Association.

Election of Officers for Year commencing May, 1906.—President: Dr. W. Hawkins (Broadway). *Vice Presidents:* Dr. H. Simmons (Bournemouth), Dr. Bovey (Abbotsbury). *Honorary Secretary and Treasurer:* Dr. James Davison (Bournemouth).

Next Annual Meeting.—It was resolved to hold the annual meeting at Bournemouth in May, 1906.

Rectification of Error.—The HONORARY SECRETARY reported that Dr. B. Pope Bartlett, of Bourton, Dorset, had been by some mistake struck off the Dorset and West Hants Branch and added to the Bath and Bristol Branch, and that, a complaint being made by Dr. Bartlett, he had asked the General Secretary to rectify the error.

Tenders for Medical Attendance.—The following circular, sent by the Secretary of the Education Committee of the Dorset County Council to the medical practitioners of Dorchester was read:

DORSET COUNTY COUNCIL EDUCATION COMMITTEE.
County Education Office,
Dorchester,
October 3rd, 1905.

The County Education Committee have decided to invite tenders from medical practitioners for medical attendance on the pupils at the County School of Domestic Economy and Cookery, 22, High East Street, Dorchester, which is attended by about twenty girls for about three-quarters of the year.

They will, accordingly, be much obliged if any medical practitioners who desire to tender will send a communication to the Secretary, County Education Office, Dorchester, by the 9th instant, stating their charge per visit for advice and medicine: (*a*) For visits paid to the pupil at the school; (*b*) for visits paid by the pupil to the medical practitioner.

The Committee do not bind themselves to accept the lowest or any tender.

The following resolution on the subject was passed unanimously:

This meeting of the Dorset and West Hants Branch of the British Medical Association emphatically protests against the method adopted by the Education Committee of the Dorset County Council of obtaining medical attendance by tender for the students in the School of Domestic Economy.

The Honorary Secretary was instructed to send a copy of the resolution to the Education Committee and the medical men practising in Dorchester.

Deceased Members.—The PRESIDENT reported the deaths of two old and highly-esteemed and past Vice-Presidents of the Branch, Dr. W. Frazer of Bournemouth and Dr. W. H. Masters of Parkstone, and the Honorary Secretary was directed to write and express the sympathy of the members with the bereaved families.

Visit to Asylums.—Dr. Macdonald received the members at the asylum with Lord Digby, Chairman of the Asylum Committee of the Dorset County Council, who subsequently presided at the luncheon in the magnificent reception room. After luncheon thanks were tendered to Lord Digby and to Dr. Macdonald for their hospitality, and congratulations on the possession of such an up-to-date asylum, one which was in every way a brilliant success and a credit to the county. Lord DIGBY and Dr. MACDONALD replied in graceful and appropriate terms, and expressed their pleasure in affording the members an opportunity of inspecting the new asylum for private patients at Herrison. Dr. Macdonald and Dr. Rorie conducted the members round the new private asylum, and showed some interesting cases, and after coffee the members departed, having spent a most enjoyable day and grateful for the privilege of inspecting this admirable asylum.

HALIFAX (NOVA SCOTIA) BRANCH.

THE annual meeting of the Halifax (Nova Scotia) Branch was held on Wednesday evening, October 11th, at the Council Chamber, City Hall, C. DICKIE MURRAY, M.B. (President) occupying the chair.

Reports.—The Secretary's report was read and adopted.—The Treasurer's report, which showed that the finances were in a satisfactory condition, was received, and after being certified by an auditing committee adopted.

Election of Officers.—The election of officers for the ensuing year was then proceeded with, resulting as follows:—*President:* Dr. W. H. Hattie. *Vice President:* Dr. James Ross. *Treasurer:* Dr. G. M. Campbell. *Secretary:* Dr. J. R. Corston. *Council:* Drs. G. M. Campbell, Ross, Doyle, Hogan, Trenaman, C. D. Murray, and Hawkins.

Votes of Thanks.—Votes of thanks were tendered the retiring officers.

Next Meeting.—Pending the arrangement of the programme by the Council it was resolved that the next meeting should be of a clinical nature, and be held at the Victoria General Hospital.

METROPOLITAN COUNTIES BRANCH:

HAMPSTEAD DIVISION.

First Annual Dinner.—The first dinner of this Division was held on Tuesday, October 31st, at 7.30 p.m., in the Wharncliffe Rooms, Great Central Hotel, Mr. F. R HUMPHREYS in the chair. The official guests present were as follows: Mr. J. S. Fletcher, M.P., Mr. G. F. Rowe, Mr. Andrew Clark (President of the Branch), Dr. F. J. Smith and Mr. Ernest Clarke (Secretaries of the Branch), and Mr. H. B. Robinson (Treasurer of Branch). Mr. I. E. B. Cox, M.P., Dr. Langley Browne (Chairman of Council), Dr. Rayner (President of Hampstead Medical Society), and Mr. Henslowe Wellington (Vice-Chairman of Division) were unfortunately unable to be present. Besides the official guests there were five private guests and twenty-six members of the Division, making a total of thirty-seven. The dinner was organized by Drs. Oppenheimer and Yeld. A photograph of the assembled company was taken before the dinner.

Toasts.—The toasts were as follows: (1) "The Loyal Toast," proposed by Mr. F. R. HUMPHREYS; (2) "The Houses of Parliament," proposed by Dr. MACEVOY, to which Mr. J. S. FLETCHER, M.P., responded; (3) "The Naval and Military Forces of the Empire," proposed by Dr. FORD ANDERSON; Surgeon-General DON, who has served in the navy as well as the army, responded in a speech containing interesting reminiscences; (4) "The British Medical Association and its Metropolitan Counties Branch," proposed by Mr. H. W. ARMIT, to which Mr. ANDREW CLARK responded; (5) "The Hampstead Division," proposed by Dr. F. J. SMITH, to which Mr. HUMPHREYS responded; (6) "The Visitors," proposed by Mr. HUMPHREYS; Mr. G. F. ROWE responded in an amusing speech; (7) "The Chairman," proposed by Dr. OPPENHEIMER; Mr. F. R HUMPHREYS briefly responded. By the kindness of Drs. Ford Anderson and Oppenheimer an entertainment consisting of songs and recitations was provided during the dinner.

LAMBETH DIVISION.

A MEETING of the Division was held at St. Thomas's Hospital on Thursday, November 2nd, at 4 p.m., Mr. R. CAPES in the chair.

Paper.—Mr. EDRED CORNER read a paper on some surgical affections of the mesenteric glands. He related five cases in which he had operated on tuberculous glands of the mesentery with successful results in at least three cases.

Cases.—Two interesting cases of abdominal tumour were shown after the meeting.

STRATFORD DIVISION.

THE first meeting of the season was held on Thursday evening, October 26th, at the Alexandra Hotel, Stratford, E., Dr. STOCKER in the chair.

Address.—Mr. JONATHAN HUTCHINSON, Junr., delivered a very interesting and instructive address upon the complications of gastric ulcer.

Vote of Thanks.—After some remarks by members of the Division on the subject under discussion Mr. Hutchinson was awarded a hearty vote of thanks on the motion of the CHAIRMAN, seconded by Dr. GROGONO.

SOUTH-EASTERN BRANCH:

GUILDFORD DIVISION.

A MEETING of this Division was held in the Board Room of the Royal Surrey County Hospital, Guildford, on Friday, October 27th, Dr. A. HOPE WALKER, Vice-President, in the chair.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

The late Dr. J. Morton.—The CHAIRMAN alluded with regret to the loss sustained by the Division during the year by the death of Dr. John Morton of Guildford.

Contract Practice.—It was decided to take no action with regard to the recommendations of the Medico-Political Committee of the Association on this subject until the views of medical practitioners in the district had been ascertained as far as possible, and members had made themselves more acquainted with the nature of the recommendations.

Address.—Dr. HERBERT TILLEY (London) gave an address on Some of the more Common Diseases of the Nose and Throat.

Cases, etc.—Cases were shown by Dr. P. LEVICK and Dr. E. J. SMYTH. Messrs. Duncan Flockhart and Co. exhibited their "simplex" inhaler for ethyl chloride anaesthesia.

Votes of Thanks.—Votes of thanks were accorded to the Committee of the hospital for the use of the Board Room and to Dr. Tilley for his interesting address.

Dinner.—Ten members and friends afterwards dined together.

SOUTHERN BRANCH:

WINCHESTER DIVISION.

THE autumn meeting of this Division was held at Westbrooke House, Alton, Hants, on Wednesday, October 25th, at 3.45 p.m., by kind invitation of Dr. Briscoe. Dr. Langdon being unavoidably absent, the chair was taken by the VICE-CHAIRMAN (Dr. Livingstone).

New Members.—The following new members have joined the Division: Dr. Kay Bentley; Lieutenant Hoare, R.A.M.C., Princess Louise Hospital, Alton; Dr. Child, Winchester; Dr. Ahrens, Basingstoke; Dr. Rudge, Shawford; Dr. G. Wickham, Winchester; Dr. Oliver, Ropley.

Annual Representative Meeting.—Dr. BROWNE (Winchester) read a report on the Representative Meeting at Leicester.

Photographic Group.—A photograph of the members was taken by Varney, photographer, Alton.

Vote of Thanks.—A hearty vote of thanks was given to Dr. Briscoe for the kind way in which he had entertained the members of the Division, and recorded on the minutes.

SOUTH MIDLAND BRANCH:

NORTHAMPTONSHIRE DIVISION.

THE annual scientific meeting of this Division was held at Rugby on Monday, October 23rd, at 3.45 p.m., under the presidency of Dr. CLEMENT DUKES (Chairman).

Luncheon.—The members and guests were sumptuously entertained at luncheon by the President before the meeting.

Local Anaesthesia.—The CHAIRMAN having welcomed the members, introduced Mr. Arthur E. Barker, Senior Surgeon, University College Hospital, who demonstrated the preparation and use of his local anaesthetic, namely, beta-eucaine with adrenalin. For the purpose of demonstration he removed

(quite painlessly) a ganglionic swelling in the region of the elbow-joint. The anaesthetic, carefully sterilized, was injected along the course of the nerves of the part, and allowed to act for twenty-five minutes, the main underlying principle being the retention of the eucaine in the part by the vaso-constrictor action of the adrenalin. This accounts for the absence of untoward general effects when this form of local anaesthetic is employed.

Vote of Thanks.—Mr. C. J. EVANS proposed, and Mr. J. TERRY seconded, a hearty vote of thanks to Mr. Barker for his most able and lucid demonstration.

SOUTH WALES AND MONMOUTHSHIRE BRANCH: CARDIFF DIVISION.

An ordinary general meeting was held in the rooms of the Cardiff Medical Society on Thursday, October 19th, Dr. CHARLES VACHELL, Chairman, presiding.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Resolutions.—The following resolutions were adopted:

(*a*) That the tenure of the post of Honorary Divisional Secretary be limited to four years.

(*b*) That an additional Honorary Divisional Secretary be appointed.

Additional Honorary Secretary.—An additional Honorary Divisional Secretary (Mr. R. Russell Thomas) was elected.

The Coroner for South-West London.—The following resolution was adopted:

That this meeting of the Cardiff Division of the British Medical Association hereby records its protest against the attitude of indifference to the opinion of the medical profession adopted by His Majesty's present Government, and specially indicated by the failure of the Lord Chancellor to give judgement in the case submitted to him by the British Medical Association concerning the procedure of the Coroner for South-West London, and the omission of the Prime Minister for twelve months to reply to the formal communications of the Association in reference thereto.

Vote of Thanks.—A vote of thanks to the Chairman terminated the proceedings.

☞ *To ensure the insertion of notices in this column they must be received at the Central Offices of the Association not later than the first post on Tuesday.*

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

EAST ANGLIAN BRANCH: SOUTH ESSEX DIVISION.—The next meeting of the Division will be held at the Palace Hotel, Southend-on-Sea, on Tuesday, November 21st, at 4 p.m. Agenda: (1) Mr. Frederick Eve, F.R.C.S., Surgeon to the London Hospital, will give an address on The Diagnosis and Surgical Treatment of Some Diseases of the Stomach. (2) Matters and memoranda referred to the Division. The annual dinner will take place in the Palace Hotel at 7 p.m. Tickets 10s. 6d. each. Members are requested to give early notice of their intention to be present. —W. CARDY BLUCK, Honorary Secretary, Ludlow, York Road, Southend-on-Sea.

LANCASHIRE AND CHESHIRE BRANCH: LEIGH DIVISION.—The usual monthly meeting of this Division will be held in the Co-operative Offices, Ellesmere Street, Leigh, on Thursday, November 16th, at 8.30 p.m. Agenda: (1) Minutes. (2) A discussion on The Attitude of Medical Men towards Football Clubs in Connexion with Churches, introduced by Dr. H. Hall. (3) Report of the Annual Representative Meeting presented by Dr. Wynne, Representative in Representative Meetings. (4) List. (5) Any other business.—MICHAEL J. HALTON, Honorary Secretary, 95, Chapel Street, Leigh.

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.—A meeting will be held on Thursday, November 16th, at 8.30 p.m., at Brooke House, Upper Clapton (by the kind invitation of Dr. S. O. Adams). Agenda: (1) Minutes. (2) Letters. (3) A proposal to alter the number of the quorum at a general meeting. (4) A paper by Dr. J. S. Risien Russell on The Value of the Reflexes in Diagnosis, illustrated by lantern slides.—E. W. GOODALL, Honorary Secretary, Eastern Hospital, Homerton, N.E.

METROPOLITAN COUNTIES BRANCH: HAMPSTEAD DIVISION.—The next meeting of the Division will be held at St. Peter's Hall, Belsize Square, on Friday, November 10th, at 4 p.m., Mr. F. R. Humphreys in the chair. Agenda: (1) Minutes. (2) Letters. (3) Questions. (4) Paper on Arthritis by Dr. Poynton, illustrated with magic-lantern slides, at 4.15 p.m. (5) Report of Committee on the Hampstead Hospital question, submitted on June 9th, at 5.15 p.m. (6) Other business.—R. A. YELD, Honorary Secretary, 29, Platt's Lane, Hampstead.

METROPOLITAN COUNTIES BRANCH: ST. PANCRAS AND ISLINGTON DIVISION.—The next meeting will be held at the Great Northern Hospital, Holloway Road, N., on Friday, November 17th, at 4 p.m. Paper: Mr. Andrew Clark on Swellings of the Breast; their Diagnosis and Treatment.—W. WYNN WESTCOTT, Secretary, 396, Camden Road, N.

METROPOLITAN COUNTIES BRANCH: WANDSWORTH DIVISION.—An ordinary meeting will be held at the Worple Hall, Wimbledon, on Thursday, November 23rd, at 8.45 p.m. Agenda: (1) Minutes. (2) Correspondence. (3) Questions. (4) Paper by Professor R. S. Bowlett, of King's College Hospital, "The Problem of a Pure Milk Supply." (5) Other business.—E. ROWLAND FOTHERGILL, Honorary Secretary, Torquay House, Southfields, S.W.

NORTH OF ENGLAND BRANCH: NORTH NORTHUMBERLAND DIVISION.—The quarterly meeting of the above will be held on Tuesday, November 14th, in the Board-room of the Infirmary, Berwick-upon-Tweed, at 2.30 p.m. Business: Various matters referred to Divisions; attendance upon district nurses; representation of this Association on the General Medical Council; any other business.—R. B. ROBSON, M.B., Honorary Secretary, Alnwick.

NORTH WALES AND SHROPSHIRE AND MID-WALES BRANCHES: Election of Representative on Central Council.—All communications [illegible] the vacancy on the Central Council occasioned by the death of Mr. W. Jones Morris must be sent to one of us, the undersigned, on or before Saturday, November 25th (vide By-laws 23, 24, and 30).—H. JONES [illegible] (Llangynhafal), HAROLD H. B. MACLEOD (Shrewsbury), Honorary Secretaries.

SOUTH-EASTERN BRANCH: BRIGHTON DIVISION.—A meeting will be held at the Dispensary, 113, Queen's Road, Brighton, at 4.30 p.m. on the fourth Wednesday in November (22nd). Members wishing to read papers or show cases at the meeting are requested to give at least a fortnight's notice to the Honorary Secretary, RYDING MARSH, M.D., 49, Sackville Road Hove.

SOUTH MIDLAND BRANCH.—The autumnal meeting of this Branch will be held at the Eight Bells Hotel, Bletchley, on Thursday, November 16th, at 2 o'clock, under the presidency of Dr. Lipscomb, St. Albans. Luncheon will be provided at the Hotel at 1 o'clock, at 2s. 6d. per head. Members desiring to be present at the luncheon should communicate with the secretary not later than Monday, November 13th. The following paper is promised:—Dr. Jacobs: On Mammary Tumours. The Honorary Secretary will be glad to hear at once of any paper or cases which any member might like to read.—E. HAMPE JONES, Honorary Secretary.

SOUTH-WESTERN BRANCH.—The next meeting of this Branch will be held at the Church Institute, Exeter Road, Exmouth, on Wednesday, November 22nd, at 3 p.m., the President, Mr. G. Jackson, F.R.C.S., J.P., in the chair. The following communications have already been promised:—(1) Mr. Russell Coombe: Perforation of Hollow Viscera. (2) Dr. W. Gordon: (*a*) Clay-coloured Stools without Jaundice, (*b*) Softening of Crus Cerebri in Meningitis. (3) H. H. Tidswell: A Plea for the Scientific Study of the Tobacco Habit, especially in the Psychological Aspect. (4) A. C. Roper: Notes on some Cases of Nephrorrhaphy. (5) Mr. C. Hamilton Whiteford will show a specimen of cancer of oesophagus. To consider the following memorandum from the Truro Division: "That inasmuch as "the present requirements of the education authorities with regard to "certificates for children unable to attend school are unfair to both parents "and doctor, representations be made to the South-Western Branch with a "view to securing that all certificates required shall be paid for by such "authorities at a minimum fee of 1s. for each certificate." To consider the following resolution from the Torquay Division: "That the JOURNAL of "the Association should be rendered more attractive and useful to the "general practitioner by securing a greater number of practical articles on "subjects of common interest; by publishing concise abstracts of some "of the longer and more abstruse lectures; and by increasing the number "of such articles as are at present contained in the 'Epitome of Current "Literature.'" Tea will be provided after the meeting. Gentlemen desirous of joining the Branch are requested to communicate with Mr. G. YOUNG EALES, Honorary Secretary, 1, Matlock Terrace, Torquay.

SOUTH-WESTERN BRANCH: TRURO DIVISION.—The next meeting will be held in the second week of January, 1906, at the Miners Hospital, Redruth. Members wishing to read papers or notes of cases are requested to notify the Honorary Secretary before December 21st. As the present day of meeting (Thursday) seems to be inconvenient to some members, especially to those in the Penzance district, the Honorary Secretary will be glad to hear any suggestions as to an alteration.—MARK R. TAYLOR, Honorary Secretary.

STAFFORDSHIRE BRANCH.—The first general meeting of the Session will be held at the North Stafford Hotel, Stoke-on-Trent, on Thursday, November 30th. The President, Dr. Hatton, will take the chair at 4.15 p.m. Business: (1) Minutes of the last general meeting. (2) Correspondence. (3) Exhibition of living cases. (4) Paper: "Alcohol as a Therapeutic Agent," from a Health Point of View. By W. D. Spanton. (5) Paper: "The Significance of some Enlargements of the Thyroid Gland." By A. F. Martin. Communicated by A. McAldowie. (6) Paper: "The Medical Inspection of School Children. By Hackworth Stuart. (7) Exhibition of Pathological Specimens, etc. Dinner, 6.30 p.m. Chairman's Committee. A meeting of the Council will be held at [illegible] Members. etc.—G. PETGRAVE JOHNSON, Honorary General Secretary, Stoke-on-Trent.

LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

MEMBERS are reminded that the Library and Writing Rooms of the Association are fitted up for the accommodation of the members in commodious apartments, at the office of the Association, 429, Strand. The rooms are open from 10 a.m. to 5 p.m. Members can have their letters addressed to them at the office.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

Fleet Surgeon A. M'Kinlay has been placed on the retired list at his own request, with the rank of Deputy Inspector-General, November 2nd. He was appointed Surgeon, March 31st, 1874; Staff Surgeon, March 31st, 1886; and Fleet Surgeon, March 2nd, 1891. He was Surgeon of the *Mosquito* during the Egyptian war of 1882, and has the medal and Khedive's bronze star granted for the campaign.

The following appointments have been made at the Admiralty: George A. Waters, Fleet Surgeon, to the *Ramillies*, November 7th; Edward T. Meagher, Staff Surgeon, to the *President*, for three months' course at West London Hospital, November 7th; Jeremiah Sughue, Fleet Surgeon, to the *President*, for three months' course of hospital study, November 14th; Joseph Crowley, Fleet Surgeon, to the *Excellent*, November 14th.

ROYAL ARMY MEDICAL CORPS.

The Christian names of Lieutenant John Forbes Cock Mackenzie, M.B., are as now described, and not as stated in the *Gazette* of September 2nd, 1904.

Surgeon-General W. L. Gubbins, M.B., C.B., C.V.O., Principal Medical Officer, Eastern Command, India, is granted leave out of India on private affairs for eight months.

ARMY MEDICAL RESERVE.

Surgeon-Lieutenant G. Thomson, M.B., Nottinghamshire (Sherwood Rangers) Imperial Yeomanry, to be Surgeon-Captain, October 7th.

Surgeon-Lieutenant J. C. Herbertson, M.D., 2nd Volunteer Battalion Argyll and Sutherland Highlanders, to be Surgeon-Lieutenant, October 7th.

Lieutenant F. E. Bissell, M.D., Royal Army Medical Corps (Militia), to be Surgeon-Lieutenant, October 18th.

Surgeon-Lieutenant H. G. Smeeth, M.D., 4th Volunteer Battalion the Cheshire Regiment, to be Surgeon-Lieutenant, October 11th.

Surgeon-Captain W. Ritchie, M.B., 5th (Glasgow Highland) Volunteer Battalion, the Highland Light Infantry, to be Surgeon-Captain, October 21st.

Surgeon Lieutenant-Colonel A. Lingard, having resigned his commission in the Volunteers, ceases to belong to the Army Medical Reserve, October 28th.

ROYAL ARMY MEDICAL CORPS (MILITIA).

Lieutenant (Honorary Lieutenant in the Army) J. C. Furness, Aldershot Command No. 2 Aldershot Company, to be Captain, June 17th. A subsequent *Gazette* announces that this date should be June 18th.

Lieutenant (Honorary Lieutenant in the Army) C. R. Tichborne, Irish Command, No. 2 Dublin Company, to be Captain, June 18th, 1905.

ROYAL GARRISON ARTILLERY (VOLUNTEERS).

George G. Wilson to be Surgeon-Lieutenant in the 2nd Kent Regiment, September 7th.

Surgeon-Captain F. F. German, 1st Lancashire Regiment, resigns his commission, October 4th.

Surgeon-Lieutenant-Colonel (Surgeon-Lieutenant-Colonel Army Medical Reserve) A. Lingard, 3rd Middlesex Regiment, is granted the honorary rank of Surgeon-Colonel, September 18th. He resigns his commission from the same date, retaining his rank and uniform.

Surgeon Lieutenant-Colonel E. J. Lloyd, M.D., 1st Carnarvonshire, is granted the honorary rank of Surgeon-Colonel, October 14th.

Surgeon-Lieutenant J. H. Marsh, 9th Lancashire, resigns his commission, October 14th.

Surgeon-Lieutenant G. Johnston, 1st City of London, resigns his commission, September 25th.

Surgeon-Captain J. S. Milne, M.B., 4th Durham Regiment, resigns his commission, October 18th.

Henry S. Despréz (formerly Lieutenant in the 2nd Kent Royal Garrison Artillery, Volunteers) to be Surgeon-Lieutenant in the 2nd Kent (Royal Arsenal) Regiment, October 18th.

Surgeon-Captain J. Banks, M.B., 1st Argyll and Bute, resigns his commission, November 4th.

Surgeon-Lieutenant C. G. Watson, 3rd Middlesex, to be Surgeon-Captain, October 16th.

VOLUNTEER RIFLES.

Supernumerary Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel G. H. Turnbull, M.D., 1st Roxburgh and Selkirk (the Border) Volunteer Rifle Corps (Brigade-Surgeon-Lieutenant-Colonel, Senior Medical Officer Scottish Border Volunteer Infantry Brigade), resigns his commission, October 4th. He retains his rank and uniform.

Surgeon-Captains H. Allan and J. H. Maclean, 2nd Volunteer Battalion the Sherwood Foresters (Nottinghamshire and Derbyshire Regiment), are granted the honorary rank of Surgeon-Major, October 4th.

The announcement of the absorption into the establishment of Supernumerary Surgeon-Captain R. Pickard, M.D., 1st (Exeter and Devon) Volunteer Battalion the Devonshire Regiment, which appeared in the *London Gazette* of August 18th, is cancelled.

Abraham Ellenbogen to be Surgeon-Lieutenant in the 1st Cadet Battalion the King's (Liverpool Regiment), October 18th.

Surgeon-Lieutenant-Colonel F. K. Pigott, 1st Volunteer Battalion the King's (Shropshire Light Infantry), is granted the honorary rank of Surgeon-Colonel, October 19th.

Surgeon-Captain G. W. O'F. Clark, 3rd (City of) London Volunteer Rifle Corps, resigns his commission, October 2nd.

Supernumerary Surgeon-Lieutenant-Colonel F. H. Appleby (Brigade-Surgeon-Lieutenant-Colonel, Senior Medical Officer Sherwood Foresters Volunteer Infantry Brigade) is absorbed into the establishment October 25th. Surgeon-Lieutenant-Colonel Appleby is seconded whilst holding the appointment of Brigade-Surgeon-Lieutenant-Colonel, Senior Medical Officer Sherwood Foresters Volunteer Infantry Brigade, October 25th.

Surgeon-Major R. Kirk, M.D., 8th Volunteer Battalion the Royal Scots (Lothian Regiment), to be Surgeon-Lieutenant-Colonel, November 4th.

INDIAN MEDICAL SERVICE.

The following promotions and retirements, which have already appeared in the British Medical Journal, have received the approval of the King:

To be Colonels (Bengal): Lieutenant-Colonel C. H. Beatson.

To be Colonels (Bombay): Lieutenant-Colonel (temporary Colonel) J. McCloghry, Lieutenant-Colonel H. B. Briggs, M.B.

Captain to be Major (Bombay): P. P. Kilkelly, M.B.

Lieutenants to be Captains: F. A. F. Barnardo, M.B., J. McPherson, M.B., G. D. Franklin, M.B., C. A. Gourlay, M.B., W. C. Ross, M.B., R. A. Lloyd, M.B., J. C. G. Kunhardt, E. A. Walker, M.B., L. Cook, M.B., L. B. Scott, M.B., G. I. Davys, M.B., R. Halliday, M.B., G. C. I. Robertson, M.B., A. J. V. Betts, M.B., F. E. Wilson, M.B., W. S. Patton, M.B., W. L. Trafford, M.B., Behramji Barjorji Paymaster, N. W. Mackworth, M.B., H. Ross, M.B., J. Forrest, M.B., H. Crossle, M.D., L. Hirsch, L. Rundall, M.B., E. C. C. Maunsell, M.B., H. E. J. Batty, J. W. Illids, D.S.A. O'Keefe, M.B., J. P. Cameron.

To be Lieutenants: A. F. Hamilton, M.B., F.R.C.S., A. D. White, M.F. Reaney, M.B., R. K. White, H. C. Buckley, M.B., N. M. Wilson, J. S. O'Neill, M.B., M. R. C. MacWatters, M.B., W. H. Boalth, G. A. Soltau, W. H. Hamilton, J. Cunningham, M.B., H. Falk, M.B., C. J. Coppinger, M.B.

Retirements: Lieutenant-Colonel P. F. O'Connor, C.B., Lieutenant-Colonel J. H. T. Walsh, Lieutenant-Colonel G. T. Thomas, Lieutenant-Colonel J. Lancaster, Major G. T. Mould, D.G. Marshall, M.B.

Colonel (Temporary Surgeon-General) J. P. Greany, M.D., Bombay Establishment, is promoted to be Surgeon-General, from June 20th, 1905. He was appointed Assistant Surgeon, March 31st, 1875, and was made Colonel, January 11th, 1903. He has no war record in the Army Lists.

Lieut.-Colonel T. E. L. Bate, C.I.E., Bengal Establishment, is promoted to be Colonel, from July 12th, 1905. He was appointed Assistant-Surgeon, March 31st, 1875, and became Surgeon-Lieut.-Colonel, March 31st, 1895. He was in the Afghan war in 1879-80, receiving a medal.

Surgeon-General W. McConaghey, M.D., Bombay Establishment, has retired from the service from June 20th, 1905. He joined the department as Assistant Surgeon, October 1st, 1869, and was made Surgeon-General, October 30th, 1902. He has no war record.

Lieutenant-Colonel W. G. King, M.B., C.I.E., Madras Establishment, Sanitary Commissioner, Madras, is granted the temporary rank of Colonel whilst officiating as Inspector-General of Hospitals and Sanitary Commissioner, Burmah, from September 12th.

Lieutenant-Colonel G. J. Kellie, Bengal Estab'ishment, is granted the temporary rank of Colonel, from October 1st to 15th, whilst temporarily holding the appointment of Principal Medical Officer, Bareilly and Gharwal Brigades, and is promoted to be Colonel, from September 12th. Appointed Assistant Surgeon, March 31st, 1877, he became Surgeon-Lieutenant-Colonel, March 31st, 1897. He was with the Burmese expedition in 1888-9, receiving the Frontier medal with clasp, and with the Tirah Expeditionary Force in the campaign on the North-West Frontier of India in 1897-8, including the capture of the Arhanga Pass (medal with two clasps).

Erratum.—In the British Medical Journal of October 28th it was stated that Major W. E. A. Armstrong, Madras Establishment, had retired from the service. It should have been that he had been placed on the temporary half-pay list, from March 12th.

IMPERIAL YEOMANRY.

Surgeon-Captain R. M. Wilson, M.D., Derbyshire Regiment, resigns his commission, November 4th.

ROYAL ENGINEERS (VOLUNTEERS).

Surgeon-Lieutenant R. M. Johnston, M.B., 1st Sussex, to be Surgeon-Captain, November 4th.

Vital Statistics.

THE REGISTRAR-GENERAL'S QUARTERLY RETURN.

[Specially Reported for the British Medical Journal.]

The Registrar-General has just issued his return relating to the births and deaths in the third quarter of the year, and to the marriages during the three months ending June last. The marriage-rate during that period was equal to 16.7 per 1,000 of the population, being 0.5 per 1,000 below the average rate for the corresponding quarters of the ten preceding years.

The births registered in England and Wales during the quarter ending September last numbered 235,205, and were equal to an annual rate of 27.3 per 1,000 of the population, estimated at 34,152,977 persons in the middle of the year. This is the lowest birth-rate recorded in the third quarter of any year since civil registration was established, and was 1.8 per 1,000 below the average in the corresponding quarters of the ten preceding years, 1895-1904. Among the several registration counties the birth-rate last quarter ranged from 21.3 in Sussex, 22.6 in Herefordshire, 22.8 in Dorsetshire and in Cornwall, and 22.9 in Somersetshire, to 30.8 in Nottinghamshire, 32.2 in Northumberland, 32.6 in Carmarthenshire, 34.1 in Durham, 34.6 in Glamorganshire, and 35.7 in Monmouthshire. In seventy-six of the largest English towns, including London, the birth-rate averaged 28.2 per 1,000; in London the rate was 26.8 per 1,000 while it averaged 28.7 per 1,000 in the seventy-five other large towns, and ranged from 17.5 in Hastings, 18.5 in Bournemouth, 19.4 in Hornsey, 20.2 in Rochdale and in Halifax, and 21.8 in Bradford, to 34.2 in Tynemouth, 35.4 in Sunderland, 36.4 in St. Helens, 36.5 in Middlesbrough, and 37.6 in Merthyr Tydfil and in Rhondda.

The births registered during the quarter under notice were 114,413 in excess of the deaths; this represents the natural increase of population during that period. From returns issued by the Board of Trade it appears that 145,285 emigrants embarked during last quarter from the various ports of the United Kingdom at which emigration officers are stationed. Of these 143,286 emigrants, 52,049 were English, 15,133 were Scottish, and 16,590 were Irish, while 60,514 others were of foreign nationality. Compared with the averages in the corresponding quarters of the three preceding years, the proportion of emigrants in the total population of the several parts of the United Kingdom showed a decrease of 10.5 per cent. of English, an increase of 26.1 per cent. of Scottish, and a decrease of 4.9 per cent. of Irish.

During the third quarter of the year the deaths of 120,702 persons were registered, equal to an annual rate of 14.0 per 1,000; this rate was 2.5 per 1,000 below the mean rate in the corresponding periods of the ten preceding years. The lowest county death-rates last quarter were 10.3 in Surrey and in Hertfordshire, 10.5 in Berkshire, 10.6 in Bedfordshire, 10.7 in Dorsetshire, and 10.8 in Cambridgeshire; the highest rates were 15.1 in the East Riding of Yorkshire, 15.9 in Glamorganshire, 16.1 in Northumberland and in Monmouth, 16.8 in Lancashire, and 17.1 in Durham. In seventy-six of the largest English towns, with an aggregate population of more than fifteen and a half millions, the mean rate of mortality was 15.2 per 1,000; in 141 smaller towns, containing in the aggregate about four and three-quarter millions of persons, the rate averaged 13.3 per 1,000; while in the remaining, and chiefly rural, parts of England and Wales the rate was 13.0 per 1,000. In London the death-rate was 14.6 per 1,000, while it averaged 15.4 per 1,000 in the seventy-five other large towns, and ranged from 6.4 in Hornsey, 7.4 in King's Norton, 8.5 in Handsworth (Staffs.), 9.0 in Burton-on-Trent, 9.2 in Bournemouth, and 10.0 in Walthamstow to 19.4 in Manchester, 19.8 in Wigan and in Merthyr Tydfil, 19.9 in Liverpool, 20.1 in Bootle, and 22.5 in Rhondda.

The 120,702 deaths from all causes in England and Wales last quarter included 21,677 that were referred to the principal infectious diseases: of these, 15,745 resulted from diarrhœa, 1,655 from measles, 1,639 from whooping-cough, 1,075 from diphtheria, 786 from scarlet fever, 773 from "fever" (principally enteric), and 4 from small-pox. The rate of mortality last quarter from each of these diseases was lower than the average in the corresponding periods of the ten preceding years. Of the 4 deaths from small pox, 1 belonged to Birmingham, 1 to Derby, 1 to Nuneaton, and 1 to Batley.

The rate of infant mortality, measured by the proportion of deaths among children under 1 year of age to registered births, was equal to 155 per 1,000, against an average rate of 192. In the several counties the rates of infant mortality ranged from 61 in Cambridgeshire, 64 in Dorsetshire, 68 in Somersetshire, 70 in Buckinghamshire, 75 in Hertfordshire, and 76 in Shropshire, to 176 in Glamorganshire, 182 in the West Riding of Yorkshire, 186 in Durham, and 200 in Lancashire and in the East Riding of Yorkshire. In the seventy-six large towns the mean rate was 186 per 1,000; in London the proportion was equal to 174 per 1,000, while it averaged 191 in the seventy-five large provincial towns, among which the rates ranged from 74 in Hornsey, 75 in Bournemouth, 77 in King's Norton, 88 in Burton-on-Trent, and 89 in Hastings, to 261 in Sheffield, 267 in Wigan, 275 in Norwich, 277 in Stockport, 282 in Rhondda, and 354 in Grimsby.

The mortality in England and Wales during the three months under notice among persons aged between 1 and 60 years was equal to 6.6 per 1,000 of the population estimated to be living at this group of ages, and was 1.2 per 1,000 below the average rate. In the seventy-six large towns the death-rate at this group of ages averaged 7.3 per 1,000; in London also it was equal to 7.3 per 1,000, while among the seventy-five other large towns the rates ranged from 2.3 in Hornsey, 3.6 in Handsworth (Staffs.), 3.8 in King's Norton, and 4.2 in Willesden and in Smethwick, to 9.8 in Manchester, 10.2 in Sunderland, 10.3 in Liverpool and in Middlesbrough, 11.0 in Bootle, and 11.1 in Rhondda.

Among persons aged 60 years and upwards the death-rate last quarter averaged 51.9 per 1,000 of the population estimated to be living at this group of ages, the corrected average rate being 53.2 per 1,000. In the seventy-six towns the mean death-rate at this age-group was 53.7 per 1,000; in London it was 49.9 per 1,000; while among the seventy-five large provincial towns the rates ranged from 31.8 in King's Norton, 33.0 in Barrow-in-Furness, 37.5 in Leyton, 41.4 in Bournemouth and in Rotherham, and 41.5 in Handsworth (Staffs.), to 63.2 in Bolton, 68.7 in Salford, 69.9 in Derby, 73.3 in Stockport, 73.5 in Hanley, and 77.3 in Rochdale.

The mean temperature of the air during last quarter was below the average in the Western District and in the Channel Islands, but slightly above in all other parts, the excess being about 1° in the London district. The rainfall measured in London amounted to 5.6 in., and was 14 per cent. less than the average. The duration of bright sunshine in London during the quarter amounted to 500 hours, or 38 per cent. of the possible amount, and was almost equal to the average.

HEALTH OF ENGLISH TOWNS.

In seventy-six of the largest English towns, including London, 8,238 births and 4,683 deaths were registered during the week ending Saturday last, November 4th. The annual rate of mortality in these towns, which had been 13.7, 14.1 and 14.8 per 1,000 in the three preceding weeks, further rose last week to 15.5 per 1,000. The rates in the several towns ranged from 6.2 in Hornsey, 8.2 in Leyton, 9.1 in Willesden, 9.3 in Handsworth (Staffs.), 9.4 in Reading, 9.7 in King's Norton, 9.8 in Norwich, and 9.9 in Burton-on-Trent and in Grimsby, to 20.1 in Middlesbrough, 20.2 in Hanley, 20.5 in Bournemouth, 20.8 in Bootle, 22.0 in Huddersfield and in Gateshead, 22.3 in Blackburn, and 23.4 in Oldham. In London the rate of mortality was 16.6 per 1,000, while it averaged 15.2 per 1,000 in the seventy-five other large towns. The death-rate from the principal infectious diseases averaged 1.2 per 1,000 in the seventy-six towns: in London this death-rate was equal to 1.2 per 1,000 also, while among the seventy-five large provincial towns the rates ranged upwards to 2.5 in Smethwick and in Wallasey, 3.0 in Oldham and in Gateshead, 3.1 in Warrington, 3.3 in Rhondda, 4.1 in Preston, and 4.3 in Barrow-in-Furness. Measles caused a death-rate of 1.1 in Swansea, 1.7 in Rhondda, 2.7 in Preston, and 3.5 in Barrow-in-Furness; scarlet fever of 1.5 in Warrington and in Oldham and 2.5 in Smethwick; diphtheria of 1.2 in Hull and 1.4 in Merthyr Tydfil; and diarrhœa of 1.1 in Oldham and in Swansea, 1.3 in Gateshead, and 1.5 in West Bromwich. The mortality from whooping-cough and from "fever" showed no marked excess in any of the large towns. No death from small-pox was registered in any of the seventy-six towns last week, and no cases of this disease were under treatment during the week in the Metropolitan Asylums Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had been 3,954, 4,153, and 4,222 at the end of the three preceding weeks, had declined again to 4,200 at the end of last week; 522 new cases were admitted during the week, against 511, 422, and 506 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS.

During the week ending Saturday, October 28th, 389 births and 620 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had been 14.9, 16.3, and 16.3 per 1,000 in the three preceding weeks, further rose to 18.7 per 1,000 in that week, and was 3.9 per 1,000 above the mean rate during the same period in the seventy-six large English towns. Among these Scotch towns the death-rates ranged from 14.1 in Leith and 14.[illegible] in Aberdeen to [illegible] in Dundee and 20.2 in Paisley. The death rate from the principal infectious diseases in these towns averaged 1.6 per 1,000, the highest rates being recorded in Glasgow, Dundee, and Leith. The deaths registered in Glasgow included 12 which were referred to [illegible] cases of diarrhœa, 6 to whooping-cough, and 7 to diarrhœa; [illegible] cases of diarrhœa were [illegible] Edinburgh. Five [illegible] diphtheria were referred to Dundee; 2 from diarrhœa in Aberdeen: and 3 from diarrhœa in Leith.

During the week ending Saturday last, November 4th, [illegible] births and 591 deaths were registered in the principal Scotch towns. The annual rate of mortality in these towns, which had been [illegible] per 1,000 in the three preceding weeks, fell to 17.4 per 1,000 last week. It was 2.9 per 1,000 above the mean rate during the same period in the seventy-six large English towns. Among the Scotch towns the death-rates ranged from [illegible] per 1,000 and 17.1 in Aberdeen to 21.1 in Dundee and 23.8 in Greenock. The death rate from the principal infectious diseases in these towns averaged 1.7 per 1,000. The highest rates being recorded in Dundee and Greenock. The 591 deaths registered in Glasgow included 6 which were referred to measles, 5 to whooping-cough, and 2 to diarrhœa. Two fatal cases of diphtheria and 2 of diarrhœa were recorded in Edinburgh. Five deaths from measles, 2 from diphtheria, 2 from "fever," and 2 from diarrhœa were recorded in Dundee: and 2 from measles in Greenock.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, October [illegible] births and 362 deaths were registered in six of the principal Irish towns as against 478 births and 324 deaths in the preceding period. The mean annual death-rate in these towns which had been 18.8, 17.1 and [illegible] per 1,000 in the three preceding weeks rose to 21.9 per 1,000 in the week under notice, the figure being 7.1 per 1,000 higher than the mean annual rate in the seventy-six English towns for the corresponding period. The figures ranged from 15.0 in Limerick and 16.1 in Londonderry, [illegible] in Cork and 35.1 in Waterford. The zymotic death-rate in the same six Irish towns averaged 1.5 per 1,000, or 0.1 per 1,000 lower than during the preceding period, the highest figure—3.9—being recorded in Waterford. In all, were registered 5 deaths from scarlet fever, 3 from whooping-cough, 2 from diphtheria, and 1 from measles. No deaths were anywhere ascribed to typhoid, but 11 took place from diarrhœal diseases.

During the week ending Saturday, November 4th, 561 births and 388 deaths were registered in six of the principal Irish towns as against 465 births and 312 deaths in the preceding period. The annual death-rate in these towns, which had been 17.1, 17.0, and 21.0 per 1,000 in the three preceding weeks, fell to 20.6 per 1,000 in the week under notice, this figure being 5.0 per 1,000 higher than the mean annual rate in the seventy-six English towns for the corresponding period. The figures ranged from 13.6 in Waterford and 18.9 in Belfast to 23.2 in Limerick and 26.6 in Dublin. The zymotic death-rate in the same six Irish towns averaged 1.1 per 1,000, or 0.4 per 1,000 lower than during the preceding period, the highest figure being recorded in Londonderry, while Limerick and Waterford registered no deaths under the heading at all. In all, only 4 deaths were recorded from enteric fever, but 12 others were ascribed to diarrhœal diseases.

Vacancies and Appointments.

VACANCIES.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

BETHNAL GREEN INFIRMARY.—Assistant Medical Officer to the Infirmary and Workhouse.—Salary, £100 per annum.

BIRMINGHAM GENERAL DISPENSARY.—Resident Surgeon. Salary, £150 per annum and £30 for cab hire.

BIRMINGHAM: GENERAL HOSPITAL.—House-Surgeon. Salary at the rate of £50 per annum.

BRADFORD ROYAL INFIRMARY.—Dispensary Surgeon. Salary, £100 per annum.

BRENTFORD UNION.—Assistant Medical Superintendent at the Infirmary, and Assistant Medical Officer of the Workhouse and Schools. Salary, £120 per annum.

BRIGHTON: SUSSEX COUNTY HOSPITAL.—(1) House-Physician; (2) Third House-Surgeon. Salary, £70 and £50 per annum respectively.

BRISTOL DISPENSARY.—Two vacancies on the Medical Staff.

CHELTENHAM GENERAL HOSPITAL.—House-Surgeon. Salary, £80 per annum.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark.—(1) House-Physician; (2) House-Surgeon; (3) Assistant Surgeon. Salary, £80 per annum for (1) and (2) and £70 per annum for (3).

GREAT NORTHERN CENTRAL HOSPITAL, Holloway.—Surgeon.

GREENWICH: MILLER HOSPITAL AND ROYAL KENT DISPENSARY.—Junior Resident Medical Officer, male. Salary, £50 per annum.

LIVERPOOL: DAVID LEWIS NORTHERN HOSPITAL.—Pathologist.

MANCHESTER: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—House-Surgeon. Salary, £[illegible] per annum.

NOTTINGHAM WORKHOUSE INFIRMARY.—Junior Resident Medical Officer. Salary, £130 per annum.

ROYAL EAR HOSPITAL, Dean Street, Soho, W.—(1) House-Surgeon. Honorarium, £40 per annum. (2) Clinical Assistants.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, King William Street, W.C.—Clinical Assistants.

WEST LONDON HOSPITAL, Hammersmith Road, W.—House-Physician.

WILTS COUNTY ASYLUM, Devizes.—Assistant Medical Officer. Salary, £160 per annum, rising to £190.

WORKSOP DISPENSARY AND HOSPITAL.—Medical Officer. Salary, £150 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces vacancies in the office of Certifying Factory Surgeon at Newport, co. Salop; and at Denny, co. Stirling.

APPOINTMENTS.

AITKEN, D. Macrae, M.A., M.B., Ch.B Edin., F.R.C.S.Edin., Assistant Medical Officer at the Bolingbroke Hospital, S.W.

ALFORD, E. F. R., M.R.C.S., L.R.C.P., House Physician to the City of London Hospital for Diseases of the Chest, Victoria Park.

BAKER, J. C., M.B.Lond., M.R.C.S., District Medical Officer of the Aylesbury Union.

BARNES, Alfred J., L.A.H., M.P.S.I., Examiner in Preliminary Education, Pharmaceutical Society of Ireland.

BATEMAN, W. Hirst, M.B., Ch.B.Vict., Honorary Medical Officer to Rochdale Infirmary.

BATHURST, Lacy, M.B., B.S.Lond., M.R.C.S., L.R.C.P., Senior House-Surgeon Croydon General Hospital, vice H. Graham, M.R.C.S., L.R.C.P.

BIGGS, George, M.B., B.S., L.S.A., Clinical Assistant to the Chelsea Hospital for Women.

BIRCHALL, H. A. L., L.R.C.S.Irel., L.A.H., District Medical Officer of the Redruth Union.

BLACK, G., M.B., Certifying Factory Surgeon for the Hailsham District, co. Sussex, and Medical Officer of the Hailsham Union Workhouse.

BLACKHAM, Captain R. J., R.A.M.C., L.R.C.P., and S Edin., D.P.H.Lond., an Examiner to the St. John Ambulance Association.

BRIDGER, R. D., M.D.Cantab., Resident Assistant Medical Officer for the Poplar and Stepney Sick Asylum District.

BUNTING, Miss D. E. L., M.B.Lond., Resident Assistant Medical Officer of the Bradford Union Workhouse.

BURGESS, Arthur H., M.B., Ch.B.Vict., F.R.C.S., Surgeon to the Manchester Children's Hospital, Pendlebury.

CARRINGTON, G. H., M.R.C.S.Eng., L.S.A., District Medical Officer of the Poole Union.

CAZENOVE, W. R., M.R.C.S., L.R.C.P., District Medical Officer of the Holbeach Union.

CLARKE-BAYLIS, J. W., L.R.C.P., and S.Irel., District Medical Officer of the Fareham Union.

COLQUHOUN, James Smith, L.R.C.P.E., L.R.C.S.E., Deputy Assistant District Surgeon, Dannhauser, Newcastle Division, Natal.

COOPER, R. Higham, L.S.A., Assistant Medical Officer in the Electro-Therapeutic Department of University College Hospital.

CROLE, David Clement, M.B., Ch.B., Clinical Assistant to Professor Chiene's Wards, Edinburgh Royal Infirmary.

DURBRIDGE, Henry, M.R.C.P.Lond., Medical Officer for the Cromford District of the Bakewell Union.

EATOCK, J. A., M.R.C.S., L.R.C.P.Lond., District Medical Officer of the Prescot Union.

FARMER, S., L.R.C.P.Edin., M.R.C.S.Eng., District Medical Officer of the Auckland Union.

FLETCHER, D., L.R.C.P. and S Edin., Certifying Factory Surgeon for the Harris District, co. Inverness.

FRASER, Miss C., M.B., B.S.Edin., Resident Assistant Medical Officer at the Aston Union Workhouse.

GARDNER, J. C., M.B., B.C.Cantab., Medical Officer of Health of the Amersham Rural District, District and Workhouse Medical Officer of the Amersham Union, and Certifying Factory Surgeon for the Amersham District, co. Bucks.

GRAHAM, Lewis, M.R.C.S., L.R.C.P., Junior House-Surgeon Croydon General Hospital, vice J. A. Ross, M.B., Ch.B.Edin.

HALL, E. S., M.B., District Medical Officer of the South Stoneham Union.

HARVEY, A. G., M.R.C.S., L.R.C.P.Lond., Medical Officer of Health of the Bonsall Urban District Council, vice J. C. Innes, L.R.C.S.Edin., resigned.

HEYWOOD, C. Christopher, M.R.C.S., L.R.C.P.Lond., Physician to the Manchester Children's Hospital.

HUMMEL, J. J., M.Sc., elected Resident Clinical Assistant to the Hospital for Women and Children, Leeds.

JENKINS, H. H., M.R.C.S., L.R.C.P., First Assistant Medical Officer of Bromley Asylum of the Poplar and Stepney Sick Asylum District.

KELLY, Francis, M.B., C.M.Abdn., Assistant Surgeon Aberdeen Royal Infirmary, vice T. S. Glessor, M.A., M.B., Ch.B., resigned.

KINNEAR, F., M.B., Certifying Factory Surgeon for the Royston District, co. Lancaster.

LEACH, H., M.R.C.S., L.R.C.P., elected House Surgeon to the Hospital for Women and Children, Leeds.

MCCOULL, W., L.R.C.P. and S.Edin., District Medical Officer of the Hexham Union.

MACDONALD, J., M.B., C.M.Edin., Medical Officer of Health to the Inverness-shire County Council, vice O. Grant, M.B., C.M.Edin., deceased.

MACFADDEN, Cecil J. R., M.D., an Honorary Assistant Medical Officer to the Hampstead General Hospital.

MCEWAN, Peter, M.B., Ch.B., House Surgeon to the Edinburgh Royal Maternity and Simpson Memorial Hospital.

MALONEY, W. J., M.B., Ch.B., House-Surgeon to the Edinburgh Royal Maternity and Simpson Memorial Hospital.

MENZIES, James Acworth, M.D., C.M.Edin., Honorary Ophthalmic Surgeon to Rochdale Infirmary.

MORRIS, J., M.R.C.S., L.R.C.P.Lond. (St. Bart's), Resident House Surgeon to the British Hospital, Buenos Aires.

PAUL, M. E., M.R.C.S., L.R.C.P.Lond., District Medical Officer of the Poole Union.

PHILLIPS, H. R., M.B., B.C.Camb., Medical Officer of Health for the Ludgvan Urban District.

PRICHARD, J. Llewelyn, M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer Joint Counties Asylum, Carmarthen.

RICHMOND, D., M.D., Ch.B.Glasg., Honorary Medical Officer to Rochdale Infirmary.

ROSS, G. W., M.R.C.S., L.R.C.P., Pathologist to the City of London Hospital for Diseases of the Chest, Victoria Park.

SAUNDERS, Ernest George Symes, Assistant Surgeon to the Royal Albert Hospital, Devonport.

SCOTT, T. Graham, M.R.C.S., L.R.C.P., House Anaesthetist to Royal Dental Hospital of London, Leicester Square.

SCRASE, Frank E., F.R.C.S., D.P.H., an Honorary Assistant Medical Officer to the Hampstead General Hospital.

SELKIRK, J. F., M.D., District Medical Officer of the North Bierley Union.

SOMERVILLE, J. W., M.D.Edin., Certifying Factory Surgeon for the Galashiels District, co. Selkirk.

STEWART, Frederick W., B.A., M.B., Second Assistant Medical Officer to the Kent County Asylum, Barming Heath.

STRATFORD, H., M.B., M.R.C.S., L.R.C.P., Resident Clinical Assistant and Second Assistant to the Medical Superintendent of the Paddington Infirmary.

TELFORD, E. D., F.R.C.S.Eng., Surgeon to the Manchester Children's Hospital.

TELLING, W. H. Maxwell, M.D., B.S.Lond., M.R.C.P.Lond., Honorary Assistant Physician to the General Infirmary at Leeds.

TURNER, J. G., L.R.C.P., F.R.C.S., L.D.S., Lecturer on Dental Surgery and Pathology at the Royal Dental Hospital and London School of Dental Surgery.

WALTERS, B. Elinor, M.B., B.S.Lond., House-Surgeon to the York Dispensary.

WEST, W. S., M.D.Camb., B.C., District Medical Officer of the Aylesbury Union.

WOOD, C. G. Russ, F.R.C.S.Eng., L.R.C.P., Honorary Ophthalmic and Aural Surgeon to the Wrexham Infirmary, vice P. Mules, M.D., deceased.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to insure insertion in the current issue.

BIRTHS.

FRANCIS.—On November 1st, at Arnold, Notts, the wife of Harvey Francis, M.D., of a son.

WALKER.—On November 2nd, at Helions House, Haverhill, Suffolk, the wife of J. R. Hall Walker, M.D., of a daughter.

MARRIAGE.

BENNETT-JONES—DALY.—On November 4th, at St. Mark's, Dalston, by the Rev. J. G. Pilkington, M.A., Vicar of Holy Trinity, Paddington, assisted by the Rev. Sir Borradaile Savory, Bart., M.A., Rector of St. Bartholomew's the Great, Smithfield, and the Rev. G. C. Daw, M.A., Vicar of St. Mark's, William James Bennett-Jones, M.D., Newsham Park, Liverpool, to Nora, daughter of Dr. Daly, J.P., Amhurst Road, Hackney Downs, N.E.

DEATHS.

APPLEYARD.—On November 4th, at 3, Clifton Villas, Bradford, John Appleyard, M.B., F.R.C.S., aged 57 years.

O'NEILL.—At his residence, 2, The Lindum Road, Lincoln, on Sunday, October 29th, 1905, William O'Neill, M.D., C.M., M.R.C.P.Lond., etc.

PRICE.—On October 27th, at "Ambleside," Dudley, Howard Dudley, only son of John Dudley and Sarah Price, aged 13 years. No cards. Interment at Hagley, Tuesday, October 31st.

DIARY FOR NEXT WEEK.

MONDAY.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square, W., at 8.30 p.m. Clinical evening.—Cases will be exhibited by Drs. Poynton, Parkes Weber, Essex Wynter, Morgan Dockrell, Messrs. Jonathan Hutchinson, jun., E. M. Corner, Gordon Watson, and others. The cases will be in attendance at 8 p.m.

TUESDAY.

MEDICO-LEGAL SOCIETY, 22, Albemarle Street, W., at 8.15 p.m.—Dr. W. P. Herringham: Consultations between Medical Witnesses before Trials. Mr. Justice Walton (President), Professor Clifford Allbutt, and Mr. Addington Willis will contribute observations.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W., 5 p.m.—First Fitz-Patrick Lecture. Dr. Norman Moore on John Mirfield (1393) and Medical Study in London during the Middle Ages.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY, 8.30 p.m.—Papers: Dr. William Gordon: The Influence of Posture on the Normal Cardiac Sounds, and on the Normal Cardiac Dullness; Dr. T. J. Horder: Influenzal Endocarditis, with an Account of 2 Cases in which the Influenzal Bacillus was repeatedly Cultivated from the Blood during Life.

THURSDAY.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W., 5 p.m. Second Fitz-Patrick Lecture. Dr. Norman Moore on Dr. Edward Browne (1644-1708) and the Education of Physicians in London in the 17th Century.

FRIDAY.

EPIDEMOLOGICAL SOCIETY, 11, Chandos Street, Cavendish Square, W., at 8.30 p.m.—Paper: Dr. John L. Todd; The Distribution and Spread of Sleeping Sickness in the Congo Free State. 1903 5.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN, 11, Chandos Street, Cavendish Square, W., at 5.30 p.m.—Cases and specimens will be shown by Drs. E. Farquhar Buzzard and E. Cautley, and Messrs. G. Pernet, S. Stephenson, P. Lockhart Mummery, and others. Short communication: Mr. R. Clement Lucas: Calculus Removed from the Ureter of Boy aged 11 years.

POST-GRADUATE COURSES AND LECTURES.

CHARING CROSS HOSPITAL, Thursday, 4 p.m.—Post Graduate Class: Surgical Cases.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.—Wednesday, 3 p.m. Lecture: The Early Diagnosis of Pulmonary Tuberculosis.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week at 4 p.m. each day: Monday, Skin; Tuesday, Medical; Wednesday, Surgical; Thursday, Surgical; Friday, Throat. Lectures at 5.15 p.m. each day will be given as follows: Monday, Tuberculous Peritonitis in Children. Tuesday, Transfusion. Wednesday, The Treatment of Chronic Urethritis. Thursday, The Treatment of Rupture of the Uterus by Abdominal Section.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, 7, Fitzroy Square, W.—Out-patient Department Thursday, at 5 p.m. Pre-Tuberculous Affection in Early Life.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Tuesday, 3.30 p.m.: Muscular Atrophy; Friday, 3.30 p.m.: Muscular Atrophy.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Tottenham Hospital, N.—The following are the arrangements for next week. Tuesday, 4.30 p.m., Lecture on Some Physical Aspects of Cardiac Failure. Wednesday, 2.30 p.m., Demonstration on Fevers (at the North-Eastern Fever Hospital, St. Ann's Road, N.). Friday, 4.30 p.m., Lecture on Surgical Aneurysms; their Causation, Diagnosis, and Treatment.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone Road, N.W., Thursday, 3 p.m.—Cervical Endometritis.

WEST LONDON POST-GRADUATE COLLEGE, West London Hospital, Hammersmith Road, W.—The following lectures and demonstrations have been arranged for next week at 5 p.m. each day: Monday, Heart Disease: Treatment Tuesday, Fibrous Tumours of the Uterus. Wednesday, Melancholia and its Treatment. Thursday, Hernia. Friday, X Rays; Diagnosis and Treatment, with lantern slides.

BOOKS, ETC., RECEIVED.

A Textbook of Materia Medica for Students of Medicine. By C. R. Marshall, M.D. London: J. and A. Churchill. 1905. 10s. 6d.

A Guide to the Administration of Ethyl Chloride. By G. A. H. Barton, M.D. London: H. K. Lewis. 1905. 1s. 6d.

Illinois Medical Society in Chicago, U.S.A. Meeting October 6th, 1904. Communication upon the Bisulfide of Carbon. By Dr. G. P. Coromilas. Paris: A. Maloine. 1904.

The Principles of Heredity, with some Applications. By G. Archdall Reid, M.B., F.R.S.E. London: Chapman and Hall, Ltd. 1905. 12s. 6d.

Handbook of Physiology. By Austin Flint, M.D., LL.D. New York: The Macmillan Company. London: Macmillan and Co. 1905. 21s.

The Nature and Treatment of Cancer: Some Methods of Hypodermic Medication in the Treatment of Inoperable Cancer. By John A. Shaw-Mackenzie, M.D. Lond. Second edition. London: Bailliere, Tindall, and Cox. 1905. 2s. 6d.

Cleft Palate and Hare Lip. By W. Arbuthnot Lane, M.S., F.R.C.S. London: The Medical Publishing Company, Limited. 1905.

Introduction to Chemical Analysis. By Hugh C. Candy, B.A., B.Sc., F.I.C. London: J. and A. Churchill. 1905. 3s. 6d.

The Pathology of the Eye. By J. Herbert Parsons, B.S., D.Sc.Lond., F.R.C.S.Eng. Vol. II., Histology. Part II. London: Hodder and Stoughton. 1905. 15s.

Memorias do Museu Goeldi (Museu Paraense) de Historia Natural e Ethnographia. IV. Os Mosquitos no Para. Reunião de quatro trabalhos sobre os Mosquitos indigenas, principalmente as especies que molestam o homem. Pelo Professor Dr. Emilio Augusto Goeldi. Para' (Brazil): C. Wiegandt. 1905.

Anatomy Descriptive and Surgical. By Henry Gray, F.R.S. Sixteenth edition. Edited by T. Pickering Pick, F.R.C.S., and by Robert Howden, M.A., M.D., C.M. London: Longmans, Green, and Co. 1905. 32s.

The Advertiser's Year Book. London: H. Dawson and Co. 2s. 6d.

Essentials of Physiology for Veterinary Students. By D. Noel Paton, M.D., B.Sc., F.R.C.P.Edin. Edinburgh and London: William Green and Sons. 1905.

Traite des Maladies de l'Estomac. Par le Dr. Maurice Soupault. Avec la collaboration de MM. H. Hartmann, G. Linossier, Cantin, Delherm, Gontin, G. Leven, Binet, Pariset, L. Saligmat. Paris: J. B. Bailliere et Fils. 1906. Fr. 20.

Nouveau Traite de Medecine et de Therapeutique. Sous la direction de MM. P. Brouardel et A. Gilbert. VI. Maladies exotiques. Par MM. A. Netter, Mosny, Deschamps, Thoinot, Wurtz, Vaillard, Hallopeau, Jeanselme, Guiart, Lancereaux, Richardière. Paris: J. B. Bailliere et Fils. 1906. Fr. 8.

A System of Surgical Nursing. By A. N. M'Gregor, M.D., F.F.P.S.G. Glasgow: David Bryce and Son. 9s.

The Heavenly Revival in Wales. Impressions of the Rev. Krikor Behesnilian. Torquay: The Author, "Armenia."

The City Diary and Almanack for 1906. Forty-third year of publication. London: W. H. and L. Collingridge. 1s.

Souvenir of Sir Thomas Browne. By Charles Williams, F.R.C.S.E. Norwich: Jarrold and Sons, Limited. 1905. 2s. 6d.

Come si evita e si cura la Tubercolosi. Per Dott. E. de Silvestri. Torino: Carlo Clauson. 1906. L. 7.50.

Practical Massage in Twenty Lessons. By Hartvig Nissen. Philadelphia: F. A. Davis Co. 1905. 1 dollar.

The Doctor and the Simpler Life. By C. W. Saleeby, M.D. London: The "Pall Mall" Press. 1905. 1s.

A Treatise on the Parasites and Parasitic Diseases of the Domesticated Animals. By L. G. Neumann. Translated by George Fleming, C.B., LL.D., F.R.C.V.S. Second edition revised and edited by James Macqueen, F.R.C.V.S. London: Bailliere, Tindall and Cox. 1905. 21s.

Traité d'Hygiène, publie en Fascicules sous la direction de MM. P. Brouardel and E. Mosny. I. Atmosphère et Climats. Par J. Courmont et Ch. Lesieur. Paris: J. B. Bailliere et Fils. 1906. Fr. 3.

Heredity. By C. W. Saleeby, M.D. London: T. C. and E. C. Jack. 1s.

Organic Evolution. By C. W. Saleeby, M.D. London: T. C. and E. C. Jack. 1s.

Guille-Allès Library, Guernsey. Lecture Session, 1905-6. Introductory Lecture on Some Aspects of the Road. By John Aikman, M.D. Guernsey: F. Clarke.

Histological Studies on the Localization of Cerebral Function. By Alfred W. Campbell, M.D. Cambridge: University Press. 1905. 16s.

Hygiene. By J. Lane Notter, M.A., M.D., and R. H. Firth. Sixth edition. London: Longmans, Green and Co. 1905. 4s. 6d.

The Diagnostics of Internal Medicine. By Glentworth Reeve Butler, Sc.D., M.D. Second edition. London: Sidney Appleton. 1905. 25s.

The Diseases of Infancy and Childhood. By L. Emmett Holt, M.D., Sc.D., LL.D. Third edition. London: Sidney Appleton. 1905. 24s.

The Life of Sir Henry Vane the Younger, with a History of the Events of His Time. By William W. Ireland. London: Eveleigh Nash; and Edinburgh: Oliver and Boyd. 1905. 12s. 6d.

Poultry Farming: Some Facts and Some Conclusions. By "Home Counties." London: John Murray. 1905. 5s.

The World's Desires, or the Results of Monism. By Edgar A. Ashcroft. London: Kegan Paul, Trench, Trübner and Co., Limited. 1905. 10s. 6d.

In Memory of Those that have Gone Before. London: Swan Sonnenschein and Co., Limited. 1905. 1s. 6d.

The Prevention of Senility and A Sanitary Outlook. By Sir James Crichton-Browne, M.D., LL.D., F.R.S. London: Macmillan and Co., Limited. 1905. 2s. 6d.

Medicine and the Public. By S. Squire Sprigge, M.A., M.D.Cantab. London: William Heinemann. 1905. 6s.

The Principles of Clinical Pathology. By Dr. Ludolph Krehl. Authorized translation from third German edition by Albion Walter Hewlett, M.D. Introduction by William Osler, M.D. Philadelphia and London: J. B. Lippincott Co. 1905. 21s.

Psychiatry. By Stewart Paton, M.D. Philadelphia and London: J. B. Lippincott Co. 1905. 18s.

Therapeutics: Its Principles and Practice. By Horatio C. Wood, M.D., LL.D. Twelfth edition. Revised and adapted to eighth decennial edition of the United States Pharmacopoeia. By Horatio C. Wood and Horatio C. Wood, jun., M.D. Philadelphia and London: J. B. Lippincott Co. 1905. 18s.

Photographic Atlas of the Diseases of the Skin. In four volumes. By George Henry Fox, A.M., M.D. Vol. II. Philadelphia and London: J. B. Lippincott Co. 25s.

Organotherapy or Treatment by Means of Preparations of Various Organs. By H. Batty Shaw, M.D. Lond., F.R.C.P. London: Cassell and Co. 1905. 4s.

Traite pratique de Technique Orthopedique. Technique du Traitement de la Luxation Congenitale de la Hanche. Par le Dr. F. Calot. Paris: Masson et Cie. 1905. Fr. 5.

Golden Rules of Sick Nursing. By W. B. Drummond, M.B., C.M., F.R.C.P.Edin. Bristol: John Wright and Co. 1s.

With the Abyssinians in Somaliland. By Major J. Willes Jennings, D.S.O., R.A.M.C., P.M.O. of the Force, and Christopher Addison, M.D., F.R.C.S. With preface by Colonel A. N. Rochfort, C.B., C.M.G., R.A. London: Hodder and Stoughton. 1905.

Nodal Fever (Febris Nodosa) Synonyms: Erythema nodosum; Erythema Multiforme. By Alfred Austin London, M.D. Lond. London: Bailliere, Tindall, and Cox. 1905. 5s.

St. Giles of the Lepers. By Edward C. W. Grey. London: Longmans, Green and Co. 1905. 2s. 6d.

The Food Factor in Disease. By Francis Hare, M.D. In two volumes. Vols. I. and II. London: Longmans, Green and Co. 1905. Price the two volumes.

The Nursing of Sick Children. By James Barrie, M.A., M.D., M.R.C.P.Edin. London: The Scientific Press. 1s.

Nursing: Hints to Probationers on Practical Work. By Mary H. Annesley Voysey. London: The Scientific Press, Ltd. 2s.

Examination Questions Set at the Various Medical Examinations for Several Years. Edinburgh: E. and S. Livingstone. 2s.

The History of Henry Esmond, Esq., Colonel in the Service of Her Majesty Queen Anne. written by Himself. By William Makepeace Thackeray. London: Macmillan and Co., Ltd. 1905. 6s.

Ellis's Demonstrations of Anatomy. Twelfth edition revised and edited by Christopher Addison, M.D., B.S.Lond., F.R.C.S. London: Smith, Elder and Co. 1905. 12s. 6d.

Chirurgia dell' Ulcera Gastrica e del Postumi della Medesima. Per Dott. Mario Dalla Vedova. Torino: Carlo Clausen. 1905. Lire 5.

*** In forwarding books the publishers are requested to state the selling price.

CALENDAR OF THE ASSOCIATION.

Month.	Day of Week.	Meetings to be Held.
Nov.	10...FRIDAY ...	Hampstead Division, *Metropolitan Counties Branch*, St. Peter's Hall, Belsize Square, 4 p.m.
,,	11...SATURDAY...	
,,	12...Sunday..	
,,	13...MONDAY ...	
,,	14...TUESDAY ...	North Northumberland Division, *North of England Branch*, Board-room, Infirmary, Berwick-on-Tweed, 2.30 p.m.
,,	15...WEDNESDAY	
,,	16...THURSDAY...	City Division, *Metropolitan Counties Branch*, Manor House, Upper Clapton Road, 8.30 p.m. Leigh Division, *Lancashire and Cheshire Branch*, Co-operative Offices, Ellesmere Street, Leigh 8.30 p.m. South Midland Branch, Eight Bells Hotel, Bletchley, 2 p.m.
,,	17...FRIDAY ...	St. Pancras and Islington Division, *Metropolitan Counties Branch*, Great Northern Hospital, Holloway Road, N., 4 p.m.
,,	18...SATURDAY...	
,,	19 ..Sunday..	
,,	20...MONDAY ...	
,,	21...TUESDAY ...	South Essex Division, *East Anglian Branch*, Palace Hotel, Southend-on-Sea, 4 p.m.; Annual Dinner, Palace Hotel, 7 p.m.
,,	22...WEDNESDAY	LONDON; Medico-Political Committee, 3 p.m. Brighton Division, *South-Eastern Branch* Dispensary, 113, Queen's Road, Brighton, 4.30 p.m. South-Western Branch, Church Institute, Exeter Road, Exmouth, 3 p.m.
,,	23...THURSDAY...	Wandsworth Division, *Metropolitan Counties Branch*, Worple Hall, Wimbledon, 8.45 p.m.
,,	24...FRIDAY ...	Tottenham Division, *Metropolitan Counties Branch*, Hornsey Conservative Association Rooms, Finsbury Park, 9.15 p.m.
,,	25...SATURDAY...	
,,	26 ..Sunday..	
,,	27...MONDAY ...	LONDON: Journal and Finance Committee, 2.30 p.m.
,,	28...TUESDAY ...	LONDON: Public Health Committee, 3 p.m.
,,	29...WEDNESDAY	
,,	30 ..THURSDAY...	Staffordshire Branch, North Stafford Hotel, Stoke-on-Trent, 3.45 p.m.; Council Meeting, 3.30 p.m.
Dec.	1...FRIDAY ...	
	2...SATURDAY...	
	3 ...Sunday..	
	4...MONDAY ...	
,,	5...TUESDAY ...	
,,	6...WEDNESDAY	
	7...THURSDAY ...	Altrincham Division, *Lancashire and Cheshire Branch*, Quarterly Meeting, Altrincham. Swansea Division, *South Wales and Monmouthshire Branch*, General Hospital, Swansea, 3 p.m., Dinner, 6.30 p.m.
,,	8...FRIDAY ...	
,,	9...SATURDAY...	

Month.	Day of Week.	Meetings to be Held.
Dec.	10...Sunday..	
,,	11...MONDAY ...	
,,	12...TUESDAY ...	LONDON: Organization Committee, 10.30 a.m. ,, South-Eastern Branch, Council, 3.15 p.m.
,,	13...WEDNESDAY	Central Council, 2 p.m.
,,	14 ..THURSDAY...	Wandsworth Division, *Metropolitan Counties Branch*, Battersea Town Hall, 8.4 p.m.
,,	15...FRIDAY ...	LONDON: Ethical Committee, 2 p.m.
,,	16 ..SATURDAY...	
,,	17...Sunday..	
,,	18 ..MONDAY ...	
,,	19...TUESDAY ...	
,,	20...WEDNESDAY	
,,	21...THURSDAY...	
,,	22...FRIDAY ...	
,,	23...SATURDAY...	
,,	24...Sunday..	
,,	25...MONDAY ...	*Christmas Day.*
,,	26...TUESDAY ...	*Boxing Day.*
,,	27...WEDNESDAY	
,,	28...THURSDAY...	
,,	29...FRIDAY ...	
,,	30...SATURDAY...	
,,	31.. Sunday..	
1906.		
Jan.	1...MONDAY ...	
,,	2...TUESDAY ...	
,,	3...WEDNESDAY	
,,	4...THURSDAY...	Swansea Division, *South Wales and Monmouthshire Branch*, General Hospital, Swansea, 3 p.m.
,,	5...FRIDAY ...	
,,	6...SATURDAY...	
,,	7...Sunday..	
,,	8...MONDAY ...	
,,	9...TUESDAY ...	
,,	10...WEDNESDAY	
,,	11...THURSDAY...	
,,	12...FRIDAY ...	
,,	13 . SATURDAY ...	
,,	14...Sunday..	
,,	15...MONDAY ...	
,,	...TUESDAY ...	
,,	17...WEDNESDAY	Central Council, 2 p.m.
,,	18...THURSDAY...	City Division, *Metropolitan Counties Branch*, 4 p.m.
,,	19...FRIDAY ...	
,,	20...SATURDAY ...	

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of Middlesex.

SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, NOVEMBER 18TH, 1905.

CONTENTS.

	Page.
MATTERS REFERRED TO DIVISIONS:	
QUESTIONS SUGGESTED FOR USE BY DIVISIONS IN INTERVIEWING PARLIAMENTARY CANDIDATES	285
MEETINGS OF BRANCHES AND DIVISIONS:	
Birmingham Branch: Coventry Division	286
Metropolitan Counties Branch: Hampstead Division	287
" " Tottenham Division	287
" " Wandsworth Division	287
South-Eastern Branch: Dover Division	287
" Maidstone Division	288
West Somerset Branch	288
ASSOCIATION NOTICES.—BRANCH AND DIVISION MEETINGS TO BE HELD	288
NAVAL AND MILITARY APPOINTMENTS	289
VITAL STATISTICS	289
VACANCIES AND APPOINTMENTS	291
BIRTHS, MARRIAGES, AND DEATHS	291
DIARY OF THE WEEK	291
CALENDAR	292

SPECIAL NOTICE TO MEMBERS.

Every member is requested to preserve this "Supplement," which contains a matter specially referred to Divisions, until the subject has been discussed by the Division to which he belongs.

BY ORDER.

MATTERS REFERRED TO DIVISIONS.

QUESTIONS SUGGESTED FOR USE BY DIVISIONS IN INTERVIEWING PARLIAMENTARY CANDIDATES.

[Acting on the instruction of the Representative Meeting, the following list of questions which it is suggested should be brought before the notice of parliamentary candidates in every constituency has been drafted under the authority of the Medico-Political Committee for the assistance and guidance of officers of Divisions.]

I.—MEDICAL ACTS AMENDMENT BILL

Would you support in Parliament a Bill for the amendment of the Medical Acts based upon the following general principles?

1. That at least half the members of the General Medical Council should be directly elected by the general body of medical and dental practitioners in the country, instead of the large majority, as at present, being appointed by the universities or corporations, bodies financially interested in the examining and licensing of students and practitioners.
2. That the General Medical Council should have complete control over the registration and education of medical and dental students, including fixing the standard of preliminary general education requisite for admission to medical study.
3. That there be a "one-portal" system for admission to medical and dental practice—namely, through a State Examination conducted by the General Medical Council under the supervision of the Privy Council.
4. That the practice of medicine or dentistry by unregistered persons, or by companies, and the signing of medical certificates by unregistered persons be more completely prevented.

II.—DEATH REGISTRATION AND CORONERS' LAW.

Would you support Parliamentary amendments of the law as to death registration based on the following principles?

1. That no body should be buried except upon production of a Registrar's certificate or a Coroner's Order, and that no death should be registered except upon production of medical certificates in statutory form of the fact that death has actually occurred and of its cause, or upon a Coroner's Order.
2. That the medical certificate of the cause of death be given by a medical practitioner who has been actually in attendance within a specified period, and the certificate of the fact of death be given by a medical practitioner who has satisfied himself of the fact after inspection of the body, and that a statutory fee be paid for each certificate.
3. That where medical certificates in compliance with the statute are not received by the Registrar, he shall report the death to the Coroner, and the Coroner shall instruct the practitioner who has been in attendance, if any, or the special district medical officer in conjunction with the medical practitioner in attendance, if any, to investigate and if so directed to make a post-mortem examination, and that medical practitioners be paid a statutory fee for preliminary information furnished to a Coroner for his assistance in deciding as to the necessity of an inquest.
4. That stillbirths be certified and registered in a manner similar to deaths.

III.—PUBLIC HEALTH BILL.

Would you support in Parliament such an alteration of the law as will give medical officers of health and sanitary inspectors in England and Wales the same security of tenu

as is at present enjoyed by Medical Officers of Health in Scotland and London and by Poor-law medical officers in England and Wales?—namely,

1. That they should not be appointed for a limited period only, and that they should not be removable except with the consent of the Local Government Board.
2. That the qualification for medical officers of health in England and Wales be raised to a standard analogous to that prescribed for Scotland, and that a qualification satisfactory to the Local Government Board be required for Sanitary Inspectors.
3. That medical officers of health and sanitary inspectors be placed on the same footing as Poor-law medical officers as regards superannuation.

IV.—Revaccination Bill.

Would you support in Parliament the Revaccination Bill, of which the main provision is as follows?

1. That, subject to the same conditions of exemption as primary Vaccination, all children should be revaccinated before the statutory age for leaving public elementary schools.

V.—Public Vaccinators.

Would you support a Bill to give Public Vaccinators the same security of tenure as Poor-law medical officers?

[This question relates to a matter upon which the policy of the Association has not yet been defined by the Representative Meeting. The subject was before the Representative Meeting at Leicester, and was referred to the Divisions for consideration. The question is included for the use of those Divisions who may be of opinion that public vaccinators ought to have the security named.]

VI. Reorganization of the Local Government Board.

Would you support in Parliament the appointment of a Royal Commission to investigate the present central administration dealing with public health, having regard particularly to the following proposals?

1. That the central administration in matters affecting public health should be vested in a single Department of State, which in view of the necessarily important part played by local authorities should be organized from the Local Government Board.
2. That the Department should be administered by a Board meeting for the transaction of business, which should include amongst its members medical, engineering, legal, and Poor-law experts, and that the President of the Local Government Board should be placed on equality as regards status and emoluments with the Principal Secretaries of State.
3. That matters relating to public health at present administered through the Privy Council Office, the Home Office, and the Foreign Office, should be transferred to the reorganized Local Government Board.

VII. Midwives Bill.

Would you support in Parliament legislation to enable local authorities to make provision for the payment of medical practitioners called under the requirements of the Midwives Act to assist midwives in emergencies?

VIII. Lord Chancellor and the Coroner for South-West London.

Would you support the British Medical Association in its effort to obtain from the Lord Chancellor the judgement to which it is constitutionally entitled upon the case placed before him by the Association impugning the conduct of the Coroner for South-West London?

IX.—Incipient Insanity.

Would you support a Bill to give in England the same power of dealing with cases of unconfirmed mental disease as has existed in Scotland since 1857?

X.—Habitual Inebriety and Drug Habits.

Would you support a Bill to give power to deal with non-criminal inebriates and the subjects of other drug habits under a procedure analogous to that of the Lunacy Acts?

XI.—Poor-law Medical Officers.

In Scotland.

Would you support a Bill to give these officers such security of tenure as is afforded by making them removable only with the consent of the Local Government Board?

In Ireland.

Would you support necessary legislative and administrative changes to provide adequate salaries and superannuation for Poor-law medical officers?

Meetings of Branches and Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* Journal.]

BIRMINGHAM BRANCH:

Coventry Division.

A meeting of this Division was held on Tuesday, November 7th, at the Coventry and Warwickshire Hospital, Dr. Davidson occupying the chair.

Letter from President of Branch.—The Chairman read a letter which he had received from Sir Thomas Chavasse, the President of the Branch, thanking the Division for their hospitality at their annual dinner, and conveying his good wishes for the coming session.

Medical Defence.—Dr. Bateman, of the Medical Defence Union, read a very able and interesting paper on Medical Defence and the Laws relating to the Medical Profession. At the termination of the paper some questions were asked by Messrs. Bennett, Faulder White, and Webster. On the proposition of the Chairman, a hearty vote of thanks was accorded to Dr. Bateman for his kindness in visiting Coventry and reading the paper.

Coventry United Friendly Societies.—The Secretary reported correspondence which had taken place with the Secretary of the Coventry United Friendly Societies, and that the Committee had, on September 29th, at the request of the Societies, received a deputation who desired to know (1) whether the 4s. per member per annum now asked from Friendly Societies was likely to represent the final increase in payment, and (2) whether some concession could not be made in this payment in favour of the Juvenile Societies. Subsequently to receiving this deputation the Committee passed the following resolution, which was forwarded to the Secretary of the Societies:

> That the Committee having carefully considered the representations of the deputation from the Friendly Societies on the subject of the finality of the request for 4s. per member per annum, convey to the Friendly Societies the intimation that in the opinion of the members of the Committee no likelihood exists of any increase being made on this request in the near future. In the matter of the Juvenile Societies the Committee can only record the fact that this matter has recently been discussed by the whole Division on two separate occasions and it was then unanimously determined that no reduction could be made in favour of the Juvenile Societies. The Committee regrets, therefore, that it will be impossible to re-open the matter at present.

The Secretary also reported the receipt of a further letter from the Secretary of the Friendly Societies conveying the following resolution, passed by a meeting of the Societies on October 19th:

> That this meeting regrets the decision of the local surgeons in the matter of the charges for Juvenile Branches, and if no concession can be made in those charges this meeting will seriously consider its future arrangements for catering for medical aid.

The letter further went on to say that—

> The meeting was then adjourned for three months during which time the opinions of the various lodges and courts will be taken as to future action unless your Association can make some concession to juveniles.

After some discussion had taken place the Division unanimously passed the following resolution:

> That this Division, having heard the letter (dated October 25th, 1905) from the Secretary of the Coventry United Friendly Societies, unanimously decide to adhere to their previous resolution requiring 4s. per member per annum for adults and juveniles alike.

It was agreed that this resolution should be forwarded to the Friendly Societies. It was then resolved *nem. con.* that the report of the Committee be adopted and entered on the minutes.

Parliamentary Candidates and the Medical Profession.—It was moved by Dr. CALLAGHAN and seconded by Dr. SODEN:

That a Committee be appointed to interview the candidates for Parliament in the area of the Division on matters affecting the medical profession.

This was carried unanimously. The following Committee was then appointed for this purpose: Drs. Milner Moore, Callaghan, McGlashan, J. Orton, and Snell.

METROPOLITAN COUNTIES BRANCH:

HAMPSTEAD DIVISION.

A MEETING of this Division was held on Friday, November 10th, at 4 p.m., at St. Peter's Hall, Belsize Square, N.W., Mr. F. R. HUMPHREYS in the chair.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Reports.—The HONORARY SECRETARY pointed out that a report of the annual dinner appeared in the SUPPLEMENT for that week, and a report of Mr. Humphreys's address in the SUPPLEMENT for October 28th.

Paper.—Mr. HUMPHREYS then called upon Dr. F. J. POYNTON to read his paper. The paper dealt with Arthritis, and the lecturer brought with him a number of interesting slides to illustrate it. Mr. CUNNINGTON kindly undertook the management of the magic lantern.—After the paper, which was most interesting, a good discussion took place, and a vote of thanks to Dr. Poynton was carried unanimously.

Hampstead Hospital Question.—The HONORARY SECRETARY read the report of the committee on the matter submitted to them on June 9th. Mr. ARMIT proposed:

That the report be adopted.

Mr. CUNNINGTON moved as an amendment:

That the report be received.

Seconded by Dr. OPPENHEIMER, and carried. A very prolonged discussion then took place, and eventually Mr. CUNNINGTON proposed:

That the resolutions relating to the management of the Hampstead Hospital be referred back to the Committee, in order that they may have an opportunity of conferring with the medical staff of the hospital as to their views on the necessity of an out-patient department and on the other points of management in question.

This was seconded by Dr. GLOVER. Dr. FORD ANDERSON proposed as an amendment:

That a conference of the local profession be called to consider the medico-political position of the Hampstead hospitals.

This was seconded by Mr. ARMIT, and lost by 6 votes to 5. Mr. CUNNINGTON'S proposal was then put to the vote and carried.—The Committee's report contained five resolutions, of which the first four were concerned with the management of the hospital, and the fifth was referred back to the Committee independently.

TOTTENHAM DIVISION.

THE first meeting of the Division for 1905-6 was held at the Tottenham Hospital on Friday, October 27th, at 4 p.m. Dr. C. E. HUTT, Chairman, presided.

Annual Representative Meeting.—Dr. J. R. FULLER, Representative of the Division, read a report on the Representative Meeting at Leicester.

Coroners Act Amendment Bill.—Dr. FOGARTY read a paper on the Coroners Act Amendment Bill, which was discussed. It was then proposed by Dr. FULLER, and seconded by Dr. CHAPPELL:

That a deputation should wait on both Parliamentary candidates for Tottenham for next election, and express to them the opinion of medical men in the Division on the Coroners Act Amendment Bill, and also to ascertain their views, and also as to how they will vote on this and other matters which will be likely to come before Parliament.

This decision was adopted unanimously.

Discussions Postponed.—Two other subjects for discussion were referred to a meeting of the Division in January, 1906.

WANDSWORTH DIVISION.

AN ordinary meeting was held on Thursday, October 26th, at the Alexandra Hotel, Clapham Common, Dr. HUGH R. KER, Chairman, presiding.

Confirmation of Minutes.—The minutes of the last meeting were read and approved.

Science Co-ordination.—It was resolved that the Division Science Subcommittee should consider this and report.

Ambulance Lecture and Examination Fees.—It was resolved that the Branch Council should be requested to take this matter into consideration, and thus bring the metropolitan procedure into harmony with the decision of the Association.

L.C.C. Special Pathologist.—A communication was read to the meeting that the Central Ethical Committee would duly consider the subject of a warning notice in the JOURNAL against accepting posts as expert pathologists under the London County Council.

Specimens.—Dr. JAMES MORRISON demonstrated specimens of fibroids of uterus, imperforate infantile œsophagus, gummata of Fallopian tube, worm in appendix, and malignant disease of cervix.

Paper.—A paper entitled the Treatment of the Third Stage of Labour and during the Early Days of the Lying-in was then read by Dr. JAMES MORRISON, and was followed by a lively discussion in which a large number took part.

Votes of Thanks.—Votes of thanks from Dr. Capes (Chairman) for asking the neighbouring members of his Division (Lambeth) to be present, to Dr. Morrison for his most interesting demonstration and paper, and to the Chairman closed the proceedings.

An ordinary meeting was held on Thursday, November 2nd, by the kindness of the Governors, at the Bolingbroke Hospital, Wandsworth Common, Dr. HUGH R. KER, Chairman, presiding.

Minutes of Last Meeting.—It was resolved that these should be read at the next meeting.

Specimens and Cases.—Dr. E. A. PETERS showed nine cases of ear, nose, and throat diseases, with notes and sketches to explain more fully the interesting points, and subsequently demonstrated a few pathological specimens.

Votes of Thanks.—The meeting closed with hearty votes of thanks to the Governors for the use of the rooms, and to Dr. E. A. Peters for his most interesting and instructive demonstrations.

SOUTH-EASTERN BRANCH:

DOVER DIVISION.

THE quarterly meeting of this Division was held at the Grand Hotel, Dover, on November 9th, at 8.30 p.m., Dr. PARSONS, Chairman, presiding.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

British Medical Benevolent Fund.—The CHAIRMAN brought to the notice of the Division the excellent work being done by this Society, and strongly urged its support by all the members. He asked all those present to promise the local Honorary Secretary (Mr. F. A. Osborn) their support. Before the reorganization of the Association the Branches had in many cases, through the Branch Secretaries, contributed a capitation grant of 5s.; under the present organization the Branch Secretaries could not do this, and therefore the Society asked all members of the different Divisions to themselves contribute the sum of at least 5s. each annually. Nearly all the members and visitors present agreed to subscribe yearly.

Midwives Act.—In response to a letter from the Branch Secretary (Dr. H. M. Stewart) the Division adopted after some discussion the recommendation of the Special Committee of the Metropolitan Counties Branch:

That the fees payable to medical practitioners called by midwives be—
Visit (including any necessary prescription)

By day (7 a.m. to 7 p.m.)	1	6	
By night (7 p.m. to 7 a.m.)	7	6	
Attendance at cases of operative interference ...	2	0	0
Administration of anæsthetic	1	1	0

In addition to these fees as a minimum it is desirable that the Local Sanitary Authority do obtain powers to pay special fees in special cases with the consent of the Local Government Board.

Dr. BEST proposed that these fees be adopted; Dr. KOETTLITZ seconded, and the Division passed the resolution unanimously.

Relation of Hospitals to the General Practitioner.—Dr. HOWDEN opened a discussion on this subject with special reference to the questions whether "Out-patients should be charged for attendance at hospitals," and "What method of investigation should be adopted as regards their means." After a full discussion he proposed:

That this meeting notes with pleasure that the Royal Victoria Hospital, Dover, has adopted a method of scrutinizing the admission of out-patients and expresses the hope that such scrutiny should be as systematic and thorough as possible.

—The Vice-Chairman (Dr. ROBINSON) seconded this, which

was carried. In the end a suggestion was made that a sub-committee should be formed to consider the question.

Vote of Thanks.—A vote of thanks to the Chairman brought the proceedings to an end.

Maidstone Division.

A meeting was held on October 23rd, at 3.30, at the Kent Ophthalmic Hospital, by kind invitation of the medical officer, Mr. Charles Killick, who also very kindly provided tea. Dr. Thomas Joyce was in the chair.

Medical Practitioners and Midwives.—A communication from the Metropolitan Counties Branch, relative to a proposal by the London County Council to obtain powers by an Act of Parliament for the payment of medical men called in to attend confinement cases under the Midwives Act, the scale of fees suggested being on the same lines as those of the Metropolitan Police and the Boards of Guardians, was discussed.—Dr. Oliver proposed and Dr. Hoar seconded:

> That the Kent County Council, together with other county councils, be requested to take steps to initiate such necessary legislation as would enable them to pay an adequate fee to medical men requisitioned by a midwife acting under the provisions of the Midwives Act.

Dr. Douglas proposed, and Dr. Shaw seconded:

> That a copy of this resolution be sent to the Medical Secretary of the British Medical Association, and also to the Kent County Council.

Annual Representative Meeting.—Dr. Douglas made a report as to work done at the Representative Meeting expressly with regard to the proposed modification of the Lunacy Act and the incorporation of the Association under a Royal Charter.

Paper.—A paper was read by Mr. Killick on diseases of the lens in children and their treatment. Cases were shown in illustration.—Mr. Adams, who was for very many years Surgeon to the Kent Ophthalmic Hospital, discussed the paper, giving it as his opinion that zonular cataract was due to some development trouble, as he frequently noticed the condition associated in children with "rocky teeth."

West Somerset Branch.

The autumn meeting of this Branch was held at the Taunton and Somerset Hospital on Friday, November 3rd. The chair was taken by Mr. Gordon Henry (President).

Confirmation of Minutes.—The minutes of the last meeting were read and signed.

The late Dr. W. M. Kelly.—The President announced that Dr. Kelly had died on November 1st, and moved that the Honorary Secretary be instructed to send a vote of condolence from the Branch to the surviving relatives; at the same time he bore testimony to the excellent work which the deceased had during many years done for the Branch.—Mr. C. W. Rigden seconded, and in the course of some interesting remarks mentioned that the Branch really owed its existence to Dr. Kelly, as he took charge of it during troublesome times, and placed it on such a firm footing that it had worked smoothly ever since. Incidentally he mentioned that Dr. Kelly came to Taunton as the first resident house-surgeon at the hospital in 1843, he joined the Association in 1845, started practice in the town, and became President of the Branch in 1860, and on election to the secretaryship in 1862 remained in that office until October 29th, 1897, when he resigned on account of increasing age.

Address.—Mr. C. H. Fagge, M.S., F.R.C.S., surgeon in charge of the ear department at Guy's Hospital, kindly attended and read a paper on inflammatory diseases of the middle ear and antrum. He dealt in a lucid and interesting manner with the diagnosis and treatment of many conditions, and showed several specimens. After he had been asked a number of questions he was, on the proposition of the President, accorded a hearty vote of thanks for his very instructive address.

Library of the British Medical Association.

Members are reminded that the Library and Writing Rooms of the Association are fitted up for the accommodation of the members in commodious apartments, at the office of the Association, 429, Strand. The rooms are open from 10 a.m. to 5 p.m. Members can have their letters addressed to them at the office.

☞ *To ensure the insertion of notices in this column they must be received at the Central Offices of the Association not later than the first post on Tuesday.*

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

East Anglian Branch: South Essex Division.—The next meeting of the Division will be held at the Palace Hotel, Southend-on-Sea, on Tuesday, November 21st, at 4 p.m. Agenda: (1) Mr. Frederick Eve, F.R.C.S., Surgeon to the London Hospital, will give an address on The Diagnosis and Surgical Treatment of Some Diseases of the Stomach. (2) Matters and memoranda referred to the Division. The annual dinner will take place in the Palace Hotel at 7 p.m. Tickets 10s. 6d. each. Members are requested to give early notice of their intention to be present. —W. Cardy Bluck, Honorary Secretary, Ludlow, York Road, Southend-on-Sea.

Lancashire and Cheshire Branch: Leigh Division.—A meeting of the Scientific Section will be held on November 23rd, at 3.30 p.m., in the Co-operative Rooms, Ellesmere Street, Leigh.—J. C. Beckitt, Honorary Secretary, The Lindens, Leigh.

Lancashire and Cheshire Branch: Liverpool Central Division.—A meeting of this Division will be held at the Liverpool Medical Institution on Tuesday, November 28th, at 5 p.m. Agenda: (1) To receive from Dr. A. Gordon Gullan the Report of the Annual Representative Meeting; (2) the Medical Benevolent Fund; (3) Dinner of the Combined Liverpool Divisions; (4) Other Business.—Frank H. Barendt, Secretary, 65, Rodney Street, Liverpool West.

Metropolitan Counties Branch: St. Pancras and Islington Division.—The next meeting will be held at the Great Northern Hospital, Holloway Road, N., on Friday, November 17th, at 4 p.m. Paper: Mr. Andrew Clark on Swellings of the Breast; their Diagnosis and Treatment.—W. Wynn Westcott, Secretary, 396, Camden Road, N.

Metropolitan Counties Branch: Tottenham Division.—A meeting of the Division will be held on Friday, November 24th, at 9.15 p.m., at the Hornsey Conservative Association Rooms, opposite Finsbury Park Station (G.N.R.). Agenda: (1) Paper by Dr. G. F. Still on Common Faults and Fallacies in Infant Feeding; (2) Midwives Act: Scale of Fees; (3) Position of Medical Men in regard to Ambulance Competitions and Lectures. A discussion on (2) and (3) will be opened by Drs. Fuller and Chappell. Visitors are cordially invited.—Fred. Tresilian, Honorary Secretary, White Lodge, Enfield.

Metropolitan Counties Branch: Wandsworth Division.—An ordinary meeting will be held at the Worple Hall, Wimbledon, on Thursday, November 23rd, at 8.45 p.m. Agenda: (1) Minutes. (2) Correspondence. (3) Questions. (4) Paper by Professor R. S. Hewlett, of King's College Hospital, "The Problem of a Pure Milk Supply." (5) Other business.—E. Rowland Fothergill, Honorary Secretary, Torquay House, Southfields, S.W.

North Wales and Shropshire and Mid-Wales Branches.—Election of Representative on Central Council.—All nominations to fill the vacancy on the Central Council occasioned by the death of Mr. W. Jones Morris must be sent to one of us, the undersigned, on or before Saturday, November 25th (vide By-laws 23, 24, and 30).—H. Jones Roberts (Pen-y-groes), Harold H. B. MacLeod (Shrewsbury), Honorary Secretaries.

South-Eastern Branch: Brighton Division.—A meeting will be held at the Dispensary, 113, Queen's Road, Brighton, at 4.30 p.m. on the fourth Wednesday in November (22nd). Members wishing to read papers or show cases at the meeting are requested to give at least a fortnight's notice to the Honorary Secretary, Ryding Marsh, M.D., 49, Sackville Road Hove.

South-Eastern Branch: Croydon Division.—A meeting will be held at the Croydon General Hospital on Thursday, December 7th, at 4.30 p.m. Chairman, Dr. T. R. Adams. The following have been promised:—Dr. H. Meredith Richards: Short Paper and Lantern Demonstration. Dr. S. Duke Turner: Notes on a Case of Tuberculous Peritonitis. Dr. Hugo: (1) Notes on a Case of Intussusception of Sigmoid Flexure, with Specimen and Sections; (2) a Propuce Dilator. Dr. Cohen: Notes on a Case of Acute Intestinal Obstruction. Dr. J. J. Macan: Paper on Some Recently-Introduced Methods of Anæsthesia, more particularly on the Hypodermic Injection of Scopolamine and Morphine. Tea will be provided at four o'clock. Members are cordially invited to introduce professional friends.—E. H. Willock, Honorary Secretary, 113, London Road, Croydon.

South-Western Branch.—The next meeting of this Branch will be held at the Church Institute, Exeter Road, Exmouth, on Wednesday, November 22nd, at 3 p.m., the President, Mr. G. Jackson, F.R.C.S., J.P., in the chair. The following communications have already been promised:—(1) Mr. Russell Coombe: Perforation of Hollow Viscera. (2) Dr. W. Gordon: (*a*) Clay-coloured Stools without Jaundice, (*b*) Softening of Crus Cerebri in Meningitis. (3) H. H. Tidswell: A Plea for the Scientific Study of the Tobacco Habit, especially in the Psychological Aspect. (4) A. C. Roper: Notes on some Cases of Nephrorrhaphy. (5) Mr. U. Hamilton Whiteford will show a specimen of cancer of œsophagus. To consider the following memorandum from the Truro Division: "That inasmuch as the present requirements of the education authorities with regard to certificates for children unable to attend school are unfair to both parents

and doctor, representations be made to the South-Western Branch with a view to securing that all certificates required shall be paid for by such authorities at a minimum fee of 1s. for each certificate." To consider the following resolution from the Torquay Division: "That the JOURNAL of the Association should be rendered more attractive and useful to the general practitioner by securing a greater number of practical articles on subjects of common interest; by publishing concise abstracts of some of the longer and more abstruse lectures; and by increasing the number of such articles as are at present contained in the 'Epitome of Current Literature.'" Tea will be provided after the meeting. Gentlemen desirous of joining the Branch are requested to communicate with Mr. G. YOUNG EALES, Honorary Secretary, 1, Matlock Terrace, Torquay.

SOUTH-WESTERN BRANCH: TRURO DIVISION.—The next meeting will be held in the second week of January, 1906, at the Miners' Hospital, Redruth. Members wishing to read papers or notes of cases are requested to notify the Honorary Secretary before December 21st. As the present day of meeting (Thursday) seems to be inconvenient to some members, especially to those in the Penzance district, the Honorary Secretary will be glad to hear any suggestions as to an alteration.—MARK R. TAYLOR, Honorary Secretary.

STAFFORDSHIRE BRANCH.—The first general meeting of the Session will be held at the North Stafford Hotel, Stoke-on-Trent, on Thursday, November 30th. The President, Dr. Hatton, will take the chair at 3.45 p.m. Business: (1) Minutes of the last general meeting. (2) Correspondence. (3) Exhibition of living cases. (4) Paper—Jamaica; a Tropical Holiday from a Health Point of View. By W. D. Spanton. (5) Paper—The Significance of some Enlargements of the Thyroid Gland. By A. F. Martin. Communicated by A. McAldowie. (6) Paper—The Medical Inspection of School Children. By Hackworth Stuart. (7) Exhibition of Pathological Specimens, etc. Dinner, 6.30 p.m. Charge, 5s. Council meeting.—A meeting of the Council will be held at 3.30 p.m., for election of members, etc.—G. PETGRAVE JOHNSON, Honorary General Secretary, Stoke-on-Trent.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

STAFF SURGEON R. HILL has been advanced to the rank of Fleet Surgeon, November 6th. He was appointed Surgeon, July 28th, 1890, and Staff Surgeon, November 6th, 1897.

The following appointments have been made at the Admiralty: JOHN E. COAD and JOHN L. THOMAS, Fleet Surgeons, to the *President*, for three months' study at West London Hospital, dated November 14th and November 6th respectively; JOHN ANDREWS, Fleet Surgeon to the *Vengeance*, November 14th; ERNEST S. REID, Surgeon to the *Victory*, for disposal, November 6th; CHARLES R. SHEWARD, Surgeon to the *Pembroke*, temporary, November 6th; ARTHUR LA T. DARLEY, Surgeon to the *President*, additional, for three months' study at West London Hospital, November 6th; WALTER P. DYER, Surgeon to the *Pembroke*, for the Royal Naval Barracks, November 7th; ALEXANDER K. SMITH SHAND, Surgeon to the *Formidable*, November 8th.

ROYAL ARMY MEDICAL CORPS.

THE undermentioned Captains to be Majors, dated October 29th: H. V. PRYNNE, A. E. MASTER, M.B., G. DANSEY-BROWNING, E. S. CLARK, M.B., K. B. BARNETT, M.B., K. M. CAMERON, M.B., A. C. FOX, S. F. ST. D. GREEN, W. TIBBITS, M.D. Their previous commissions, which were simultaneous, bear date: Surgeon-Lieutenant, January 29th, 1894; Surgeon-Captain, January 29th, 1897. Their war services are as follow: Major Prynne—China, 1900, including relief of Tientsin and of Pekin, and actions at Peitsang and Yangtsun (mentioned in dispatches, medal with clasp). Majors Master and Barnett—North-West Frontier of India campaign in 1897-8 with Tirah Expeditionary Force (medal with two clasps). Major Dansey-Browning—China, 1900 (medal). Major Cameron—North-West Frontier of India campaign in 1897-8 with Tirah Expeditionary Force (medal with two clasps); South African war in 1899-1902, including the defence of Ladysmith, and operations in Natal with various actions and in the Transvaal (mentioned in dispatches, Queen's medal with four clasps, King's medal with two clasps). Major Tibbits—South African war, 1901-2 (Queen's medal with two clasps).

Lieutenant-Colonel H. G. HATHAWAY, commanding Station Hospital, Poona, has been appointed to officiate as Principal Medical Officer, Bombay Brigade.

Major S. N. CARDOZO retires on retired pay, November 11th. He dated as Surgeon from January 31st, 1885, and as Surgeon-Major from January 31st, 1897. He was with the Soudan Frontier Field Force in 1885, including the engagement at Kosheh (mentioned in dispatches, medal, and Khedive's bronze star), and with the Chitral Relief Force in 1895 (medal with clasp).

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

IN seventy-six of the largest English towns, including London, 8,223 births and 4,659 deaths were registered during the week ending Saturday last, November 11th. The annual rate of mortality in these towns, which had been 14.1, 14.8, and 15.6 per 1,000, was again 15.6 per 1,000 last week. The rates in the several towns ranged from 6.2 in Hornsey, 7.5 in Kings Norton, 8.6 in Barrow-in-Furness, 8.9 in Hanley, 9.8 in Willesden, and 10.0 in Leyton, to 19.8 in Warrington, 19.9, in Liverpool, 20.2 in Salford, 20.7 in Gateshead, 20.9 in Great Yarmouth, 21.2 in Middlesbrough, and 22.6 in Merthyr Tydfil. In London the rate of mortality was 16.6 per 1,000, while it averaged 15.1 per 1,000 in the seventy-five other large towns. The death-rate from the principal infectious diseases averaged 1.2 per 1,000 in the seventy-six towns; in London this death-rate was equal to 1.3 per 1,000 while among the seventy-five other large towns the rates ranged upwards to 2.2 in West Hartlepool, 2.3 in St. Helens, 2.6 in Wolverhampton and in Gateshead, 3.1 in Blackburn, 3.2 in Aston Manor and in Swansea, and 3.8 in Warrington. Measles caused a death-rate of 1.1 in Croydon, 1.2 in Blackburn, 1.3 in Aston Manor, and 2.2 in Swansea; scarlet fever of 1.0 in Liverpool and in Halifax, and 1.2 in Rochdale; whooping-cough of 1.3 in Aston Manor and in Gateshead; and diarrhoea of 1.6 in Hanley and 2.3 in Warrington. The mortality from diphtheria and from "fever" showed no marked excess in any of the large towns. No death from small pox was registered last week in any of the large towns, and no case of this disease was under treatment last week in the Metropolitan Asylums Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had been 4,153, 4,222, and 4,200 at the end of the three preceding weeks, had further declined to 4,154 at the end of last week; 494 new cases were admitted during the week, against 522, 506, and 522 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS.

DURING the week ending Saturday last, the 11th inst., 877 births and 587 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had been 16.2, 18.7, and 17.6 per 1,000 in the three preceding weeks, declined again last week to 17.5 per 1,000, but was 1.9 per 1,000 above the mean rate during the same period in the seventy-six large English towns. Among these Scotch towns the death-rates ranged from 7.6 in Perth and 13.4 in Leith to 21.9 in Dundee and 23.8 in Greenock. The death-rate from the principal infectious diseases averaged 1.8 per 1,000, the highest rates being recorded in Dundee and Greenock. The 300 deaths registered in Glasgow included 15 which were referred to measles, 3 to diphtheria, 4 to whooping-cough, and 5 to diarrhoea. Seven fatal cases of diarrhoea were recorded in Edinburgh. Five deaths from measles and 2 from whooping-cough occurred in Dundee: 2 from diarrhoea in Aberdeen; and 6 from measles, 2 from scarlet fever, and 2 from diarrhoea in Greenock.

HEALTH OF IRISH TOWNS.

DURING the week ending Saturday, November 11th, 517 births and 358 deaths were registered in six of the principal Irish towns, as against 561 births and 388 deaths in the preceding period. The annual death-rate in these towns, which had been 17.9, 21.0, and 20.6 per 1,000 in the three preceding weeks, fell to 20.5 per 1,000 in the week under notice, this figure being 4.9 per 1,000 higher than the mean annual death-rate in the seventy-six English towns for the corresponding period. The figures ranged from 14.9 in Londonderry and 19.9 in Cork to 23.4 in Waterford and 24.6 in Limerick. The zymotic death-rate during the same period and in the same six Irish towns averaged 1.1 per 1,000, or the same as during the preceding period, the highest figure—2.7—being recorded in Cork, while Londonderry and Limerick registered no deaths under this heading at all. No deaths were recorded anywhere from small-pox, typhus, measles, or whooping-cough. From enteric fever 5 deaths were recorded, and 12 from diarrhoeal diseases.

ENGLISH URBAN MORTALITY IN THE THIRD QUARTER OF 1905.

[SPECIALLY REPORTED FOR THE BRITISH MEDICAL JOURNAL.]

THE vital statistics of the seventy-six large towns dealt with in the Registrar-General's weekly returns are summarized in the accompanying table. During the three months ending September last, 109,569 births were registered in these towns, equal to an annual rate of 28.2 per 1,000 of the population, estimated at 15,600,377 persons in the middle of the year; in the corresponding quarter of the preceding year the rate had been 29.0 per 1,000. In London the birth-rate last quarter was 26.8 per 1,000, while it averaged 28.7 per 1,000 in the seventy-five other large towns, among which the rates ranged from 17.5 in Hastings, 18.5 in Bournemouth, 19.4 in Hornsey, 20.2 in Rochdale and in Halifax, 21.8 in Bradford, and 21.9 in Northampton, to 33.8 in Gateshead, 33.9 in Warrington, 34.2 in Tynemouth, 35.4 in Sunderland, 36.4 in St. Helens, 36.5 in Middlesbrough, and 37.6 in Rhondda and in Merthyr Tydfil.

During the quarter under notice 59,088 deaths were registered in these towns, corresponding to an annual rate of 15.2 per 1,000 living, against a rate of 17.5 per 1,000 in the third quarter of last year. In London the rate of mortality was 14.6 per 1,000, while it averaged 15.4 per 1,000 in the seventy-five large provincial towns, and ranged from 6.4 in Hornsey, 7.4 in Kings Norton, 8.3 in Handsworth (Staffs.), 9.0 in Burton-on-Trent, 9.2 in Bournemouth, 10.0 in Walthamstow, 10.1 in Hastings, and 10.2 in Croydon and in Leyton, to 19.0 in Middlesbrough, 19.3 in Stockport, 19.4 in Manchester, 19.8 in Merthyr Tydfil, 19.9 in Liverpool and in Wigan, 20.1 in Bootle, and 22.5 in Rhondda.

The 59,088 deaths from all causes in the seventy-six towns last quarter included 13,403 which were referred to the principal infectious diseases: of these, 2 resulted from small-pox, 831 from measles, 470 from scarlet fever, 471 from diphtheria, 858 from whooping-cough, 317 from "fever," and 10,511 from diarrhoea. The death-rate from these diseases, which had been 5.02 per 1,000 in the third quarter of last year, fell to 3.45 per 1,000 during the quarter under notice. In London the death-rate from the principal infectious diseases was equal to 3.04 per 1,000, while it averaged 3.65 in the seventy-five other large towns, among which the rates ranged from 0.43 in Hornsey, 0.48 in Bournemouth, 0.54 in Hastings, 0.87 in Kings Norton, 0.97 in Reading, 1.02 in Cardiff, and 1.07 in Burton-on-Trent, to 5.14 in Hull, 5.16 in Preston, 5.18 in Burnley, 5.72 in Liverpool, 6.10 in Rhondda, 6.21 in Sheffield, 6.76 in Wigan, 7.21 in Bootle, and 7.62 in Grimsby. Of the two deaths from small-pox registered last quarter, one belonged to Birmingham and one to Derby. The 831 deaths from measles were equal to an annual rate of 0.21 per 1,000; in London the death-rate from this disease was 0.22 per 1,000, the highest rate among the seventy-five other large towns being recorded in Wolverhampton, West Bromwich, Barrow-in-Furness, Sunderland, Rhondda, Merthyr Tydfil, and Swansea. The 470 fatal cases of scarlet fever were equal to an annual rate of 0.12 per 1,000; in London the scarlet fever death-rate was 0.11 per 1,000, and among the seventy-five other large towns it was highest in Birkenhead, Liverpool, Bootle, Salford, Oldham, Blackburn, and Stockton-on-Tees. The 471 deaths from diphtheria corresponded to an annual rate of 0.12 per 1,000; in London the death-rate from this disease was 0.10 per 1,000, while it averaged 0.12 in the seventy-five other large towns, among which diphtheria was proportionately most fatal in West Ham, Portsmouth, Hanley, Burnley, Blackburn, Barrow-in-Furness, Halifax, and Middlesbrough. The 858 fatal cases of whooping-cough were equal to an annual rate of 0.22 per 1,000: in London also the rate was 0.22 per 1,000; among the seventy-five other large towns the highest rates were recorded in West Ham, Walthamstow, Ipswich, Grimsby, West Hartlepool, and South Shields. The 317 deaths referred

Analysis of the Vital Statistics of Seventy-Six of the Largest English Towns during the Third Quarter of 1905.

Towns.	Estimated Population middle of 1905.	Births.	Deaths.	Annual Rate per 1,000 Living.			Deaths from Principal Infectious Diseases.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-Cough.	Fever.	Diarrhoea.	Deaths of Children under one year of age to 1,000 Births.	Rate per cent. of Uncertified Deaths.
				Births.	Deaths.	Principal Infectious Diseases.										
76 Towns	15,609,377	109,569	59,088	28.2	15.2	3.45	13,460	2	831	470	471	858	317	10,511	186	0.9
75 Provincial Towns	10,924,583	78,290	42,021	28.7	15.4	3.65	9,922	2	574	344	360	598	239	7,805	191	1.2
London	4,684,794	31,279	17,067	26.8	14.6	3.04	3,538	—	257	126	111	260	78	2,705	174	0.2
Croydon	147,704	985	374	26.7	10.2	1.44	53	—	5	1	2	9	1	35	93	—
Willesden	138,080	1,070	373	31.1	10.8	2.89	99	—	12	1	4	4	3	75	153	0.8
Hornsey	84,070	497	135	19.4	6.4	0.43	9	—	1	—	—	4	—	4	74	—
Tottenham	116,232	836	324	28.8	11.2	1.72	50	—	2	2	1	6	3	36	146	—
West Ham	294,997	2,152	1,179	29.3	16.0	6.79	499	—	2	14	22	44	7	410	255	—
East Ham	123,381	871	359	28.3	11.7	4.04	124	—	2	6	8	12	4	92	181	0.3
Leyton	114,555	817	292	28.6	10.2	2.75	78	—	2	3	5	11	1	55	127	0.7
Walthamstow	116,297	822	289	28.3	10.0	2.96	86	—	3	6	3	13	1	60	136	0.3
Hastings	66,820	291	168	17.5	10.1	0.54	9	—	4	—	—	—	—	5	89	0.6
Brighton	127,183	701	412	22.1	13.0	1.31	42	—	1	1	2	3	—	35	118	0.7
Portsmouth	201,975	1,414	789	28.1	15.7	3.64	183	—	1	1	17	9	4	151	188	1.1
Bournemouth	66,168	306	151	18.5	9.2	0.48	8	—	—	—	1	1	—	6	75	0.7
Southampton	114,897	720	368	25.1	12.8	2.51	72	—	—	1	4	6	4	57	190	—
Reading	77,674	501	203	25.9	10.5	0.57	19	—	—	1	3	2	1	12	102	2.0
Northampton	92,441	504	247	21.9	10.7	1.69	46	—	1	1	2	6	—	36	130	2.4
Ipswich	70,802	480	245	27.2	13.9	2.38	42	—	—	—	1	7	5	29	165	1.6
Great Yarmouth	52,353	365	209	28.0	16.0	2.15	28	—	—	—	—	—	3	25	181	—
Norwich	116,741	794	503	27.3	17.3	4.32	126	—	1	1	2	—	2	120	275	1.4
Plymouth	116,000	723	475	25.0	16.4	2.93	85	—	3	3	1	3	2	73	205	0.4
Devonport	76,864	585	252	30.5	13.2	1.56	30	—	1	4	2	—	5	18	128	—
Bristol	358,515	2,473	1,129	27.7	12.6	1.99	178	—	31	9	15	16	2	105	139	0.2
Hanley	64,667	530	298	32.9	18.5	3.96	64	—	1	2	5	4	2	50	221	2.3
Burton-on-Trent	52,424	328	118	25.1	9.0	1.07	14	—	—	—	1	—	—	13	88	0.8
Wolverhampton	99,456	718	374	29.0	15.1	4.96	123	—	18	3	6	6	3	87	191	0.3
Walsall	92,998	678	343	29.2	14.8	4.10	95	—	—	—	2	—	3	90	211	0.6
Handsworth	61,721	364	128	23.7	8.3	1.29	20	—	3	—	—	—	—	17	104	
West Bromwich	67,823	514	257	30.4	15.2	3.97	64	—	13	3	1	2	3	42	161	1.6
Birmingham	542,959	3,966	2,116	29.3	15.6	3.67	496	1	61	11	21	36	4	362	198	2.5
Kings Norton	69,630	457	129	26.3	7.4	0.87	15	—	8	—	—	1	—	6	77	3.1
Smethwick	62,605	480	171	30.8	11.0	1.53	24	—	—	2	1	2	1	18	140	—
Aston Manor	81,320	551	291	27.2	14.4	5.03	102	—	10	2	1	6	1	82	234	1.0
Coventry	75,134	529	242	28.2	12.9	1.76	33	—	3	—	4	—	1	25	108	1.2
Leicester	228,132	1,455	778	25.6	13.7	3.72	211	—	2	6	3	10	1	189	213	1.0
Grimsby	68,153	492	313	29.0	18.4	7.60	129	—	—	—	1	13	4	111	354	0.6
Nottingham	251,671	1,696	893	27.0	14.2	2.86	179	—	3	4	9	1	11	151	184	0.7
Derby	122,207	780	425	25.6	13.9	2.51	76	1	8	2	2	6	2	55	172	—
Stockport	98,320	661	474	27.0	19.3	5.01	123	—	5	1	2	5	3	107	277	0.2
Birkenhead	116,035	927	460	32.0	15.9	4.28	124	—	7	7	5	—	3	102	197	0.4
Wallasey	62,460	412	181	26.5	11.6	2.19	34	—	—	—	2	—	2	30	138	1.7
Liverpool	730,143	6,061	3,630	33.3	19.9	5.72	1,042	—	33	73	30	54	18	834	213	2.7
Bootle	62,758	522	314	33.4	20.1	7.21	113	—	3	14	1	6	2	87	209	2.5
St. Helens	89,843	815	389	36.4	17.4	3.48	78	—	1	2	4	6	—	65	171	2.3
Wigan	86,581	697	429	32.3	19.9	6.76	146	—	—	2	1	3	14	126	267	0.7
Warrington	68,301	577	306	33.9	18.0	4.70	80	—	8	3	1	1	—	67	206	2.6
Bolton	178,111	1,101	711	24.8	16.0	3.90	177	—	3	—	3	1	7	103	250	0.3
Bury	58,594	336	219	23.0	15.0	2.53	37	—	—	1	1	—	—	38	202	2.3
Manchester	632,185	4,765	3,054	30.3	19.4	4.88	766	—	77	23	17	37	9	603	231	1.2
Salford	231,514	1,782	1,082	30.9	18.7	5.04	291	—	25	17	15	16	7	221	226	0.2
Oldham	140,225	861	586	24.6	16.8	2.61	91	—	10	8	2	13	1	57	171	0.2
Rochdale	86,390	436	352	20.2	16.3	2.24	48	—	1	4	2	4	—	37	188	2.3
Burnley	101,682	667	440	26.3	17.4	5.18	131	—	1	4	7	2	5	112	235	1.6
Blackburn	133,067	804	447	24.2	13.5	2.83	93	—		22	9	3	2	57	160	4.5
Preston	115,721	839	476	29.1	16.5	5.16	149	—	—	4	6	10	4	125	210	2.7
Barrow-in-Furness	60,306	454	210	30.2	14.0	4.05	61	—	39	—	6	3	—	13	163	3.3
Huddersfield	94,888	746	361	23.1	15.3	1.60	38	—	—	2	—	3	6	27	121	0.6
Halifax	108,419	846	337	20.2	12.5	1.24	33	—	1	1	8	5	3	15	106	0.9
Bradford	286,709	1,556	1,014	21.8	14.2	2.11	151	—	1	13	13	9	4	111	179	1.2
Leeds	456,787	3,082	1,741	27.1	15.3	3.57	406	—	19	13	8	34	10	322	216	0.1
Sheffield	440,424	3,222	2,007	29.3	18.3	6.21	682	—	42	11	7	92	4	500	261	1.8
Rotherham	50,794	461	174	30.9	11.7	1.87	[illegible]	—		3	2	3		20	141	2.9
York	82,369	613	273	29.9	13.3	3.61	74	—	1	—	3	—	3	67	194	0.4
Hull	250,127	1,916	1,067	29.8	16.6	5.14	331	—	1	6	13	17	9	293	233	1.1
Middlesbrough	[illegible]	895	466	30.5	19.0	3.68	90	—	5	2	7	9	7	60	185	0.9
Stockton-on-Tees	52,425	422	184	32.8	14.1	2.14	28	—	2	1	2	2	1	18	137	0.5
West Hartlepool	71,313	535	252	30.1	14.2	2.58	46	—	2	2	3	12	1	26	138	—
[illegible]	152,761	1,350	717	35.4	18.8	4.20	160	—	7	—	8	9	8	[illegible]	162	2.8
South Shields	100,360	865	387	31.7	14.2	2.56	70	—	1	—	2	15	8	44	170	3.4
[illegible]	120,600	1,016	438	33.8	14.6	2.86	86	—	5	5	4	7	—	65	151	4.3
Tynemouth	264,521	2,112	1,062	32.0	16.1	2.50	104	—	5	1	7	22	4	128	156	0.6
Newport (Mon.)	53,505	457	235	34.2	17.6	1.86	85	—	—	1	1	3	—	20	193	2.1
Cardiff	72,880	592	272	32.6	15.0	1.04	35	—	1	—	1		1	30	149	0.4
Rhondda	[illegible]	1,375	519	30.6	11.6	1.02	46	—	1	—	1	6	2	34	121	0.2
Merthyr Tydfil	124,988	1,170	702	37.6	22.5	6.10	190	—	18	4	4	12	2	150	282	0.4
Swansea	74,248	692	364	37.6	19.8	3.10	94	—	11	1	2	1	1	76	221	—
	96,104	706	347	33.1	14.0	2.08	50	—	14	1	4	—	1	30	129	0.6

to different forms of "fever" corresponded to an annual rate of 0.08 per 1,000: in London the "fever" death-rate was 0.07 per 1,000; it averaged 0.09 in the seventy-five other large towns, and was highest in Ipswich, Great Yarmouth, Devonport, Grimsby, Wigan, Huddersfield, Middlesbrough, and South Shields. The 10,511 fatal cases of diarrhœa were equal to an annual rate of 2.70 per 1,000; in London the death-rate from this disease was 2.32 per 1,000: while it averaged 2.87 in the seventy-five other large towns, among which this disease was proportionally most fatal in West Ham, Grimsby, Liverpool, Bootle, Wigan, Burnley, Preston, Sheffield, Hull, and Rhondda.

Infant mortality, measured by the proportion of deaths among children under 1 year of age to registered births, was equal to 186 per 1,000 last quarter, against 229 per 1,000 in the corresponding quarter of the preceding year; in London the rate of infant mortality was 174 per 1,000, while it averaged 191 in the seventy-five other large towns, and ranged from 74 in Hornsey, 75 in Bournemouth, 77 in Kings Norton, 88 in Burton-on-Trent, 89 in Hastings, 93 in Croydon, 102 in Reading, 104 in Handsworth (Staffs), and 106 in Halifax, to 250 in Bolton, 255 in West Ham, 261 in Sheffield, 267 in Wigan, 275 in Norwich, 277 in Stockport, 282 in Rhondda, and 354 in Grimsby.

The causes of 556, or 0.9 per cent., of the deaths registered in the seventy-six towns last quarter were not certified, either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Croydon, Hornsey, Tottenham, West Ham, Southampton, Great Yarmouth, Devonport, Handsworth (Staffs), Smethwick, Derby, West Hartlepool, and Merthyr Tydfil; while the largest proportions of uncertified deaths were registered in Kings Norton, Blackburn, Barrow-in-Furness, Rotherham, Sunderland, South Shields, and Gateshead.

Vacancies and Appointments.

VACANCIES.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

BROADMOOR STATE CRIMINAL LUNATIC ASYLUM.—Junior Assistant Medical Officer. Salary, £200, rising to £225 per annum.

CHELSEA, BROMPTON, AND BELGRAVE PROVIDENT DISPENSARY.—Visiting Medical Officer.

CHELTENHAM GENERAL HOSPITAL.—House-Surgeon. Salary, £80 per annum.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark.—(1) House-Physician; (2) House-Surgeon; (3) Assistant Surgeon. Salary, £80 per annum for (1) and (2) and £70 per annum for (3).

FRENCH HOSPITAL, Shaftesbury Avenue, W.C.—Honorary Ophthalmic Surgeon.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway.—Surgeon.

HULL ROYAL INFIRMARY.—Casualty House-Surgeon. Salary, £50 per annum.

IPSWICH BOROUGH.—Medical Officer of Health for the Borough and Port. Salary, £400 per annum, increasing £50 after three years and a further £50 at the end of the fifth year.

LOUGHBOROUGH AND DISTRICT GENERAL HOSPITAL AND DISPENSARY.—Resident House-Surgeon. Salary, £80 per annum.

MANCHESTER: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—House-Surgeon. Salary, £70 per annum.

METROPOLITAN HOSPITAL, Kingsland Road, N.E.—Medical Officer in charge of the Electrical Department. Honorarium, £52 10s. per annum.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney Road, E.—Two House-Surgeons. Salary at the rate of £60 per annum.

NORTH-WEST LONDON HOSPITAL, Kentish Town Road.—(1) Resident Medical Officer; (2) Assistant Resident Medical Officer. Salary at the rate of £50 per annum each

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—Two Members of the Court of Examiners.

ROYAL EAR HOSPITAL, Dean Street, Soho, W.—(1) House-Surgeon. Honorarium, £40 per annum. (2) Clinical Assistants.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, King William Street, W.C.—Clinical Assistants.

SUNDERLAND INFIRMARY.—Third House-Surgeon. Salary, £80 per annum.

VICTORIA HOSPITAL FOR CHILDREN, Tite Street, S.W.—House-Physician. Honorarium, £25 for six months.

WEST LONDON HOSPITAL, Hammersmith Road, W.—House-Physician.

WHITEHAVEN AND WEST CUMBERLAND INFIRMARY.—Resident House-Surgeon. Salary £120 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces a vacancy in the office of Certifying Factory Surgeon at Lymington, co. Hants.

APPOINTMENTS.

ACLAND, J. H. D., M.R.C.S., L.R.C.P., House Surgeon to the East London Hospital for Children, Shadwell.

ACKLAND, C. H., L.R.C.P., M.R.C.S., L.D.S.Eng., Dental Surgeon to the Royal Victoria Hospital, Bournemouth.

ANDREW, Jas. Grant, M.B., C.M., F.F.P.S.Glasg., Surgeon to the Victoria Infirmary, Glasgow.

BOSCOMBE, E. D., L.D.S.Eng., Dental Surgeon to the Royal Victoria Hospital, Bournemouth.

DAVIES-COLLEY, H., B.S.Camb., M.R.C.S., L.R.C.P., Second Resident Assistant Medical Officer, St. Marylebone Parish Infirmary.

DOVE-CORMAC, H., M.B., M.S.Madras, Second Assistant Medical Officer to the Cheshire County Asylum, Parkside, near Macclesfield.

DRESCHFELD, —, M.D.Würz., F.R.C.P.Lond., Honorary Consulting Physician to the Manchester Royal Infirmary.

GALSWORTHY, Laurence, M.R.C.S., Honorary Anæsthetist to the Italian Hospital, Queen Square.

GOWLAND, W. P., M.R.C.S., L.R.C.P., Resident Assistant Medical Officer to the Shoreditch Parish Infirmary.

HENDERSON, Robert G., M.A., M.B., Ch.B.Aberd., F.R.C.S.Edin., Honorary Pathologist to the Oldham Infirmary.

JOHNSON, A. E., M.B., Ch.B.Vict., M.R.C.S., L.R.C.P., Assistant Surgical Officer to the Manchester Royal Infirmary.

OWEN, Sydney A., B.A., M.B., B.C.Cantab., M.R.C.S., L.R.C.P., Resident Medical Officer to the East London Hospital for Children, Shadwell.

PLATT, J. E., F.R.C.S., M.D., M.S.Lond., Honorary Surgeon to the Manchester Royal Infirmary, vice J. Collier, M.B., B.S.Lond., F.R.C.S.Eng., deceased.

ROBSON, W. M., M.D.Lond., M.R.C.P.Lond., Honorary Assistant Physician to the General Hospital, Northampton.

TILLEY, Herbert, B.S., F.R.C.S., Surgeon to the Ear and Throat Department, University College Hospital.

WRIGLEY, P. R., M.R.C.S., L.R.C.P., Resident Surgical Officer to the Manchester Royal Infirmary.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to insure insertion in the current issue.

MARRIAGE.

ENTRICAN—YARROW.—On November 11th, at Rangoon, Major J. Entrican, I.M.S., son of the late S. Entrican, of Belfast, to Amy M. Yarrow, ex-Matron of Woodford Jubilee Hospital, daughter of the late G. E. Yarrow, M.D., Barrister-at-Law, London.

DIARY FOR NEXT WEEK.

TUESDAY.

CLINICAL SOCIETY OF LONDON, 20, Hanover Square, W., 5.30 p.m.—Special general meeting to consider the question of the union of medical societies in London

PATHOLOGICAL SOCIETY OF LONDON.—Laboratory meeting at University College, 5 p.m.:—Dr. F. G. Bushnell: (1) Congenital Absence of Gall Bladder and Bile Ducts; (2) Necrobiosis in Fibromyoma. Dr. Charles Bolton: The Formation and Action of Gastrolysins. Dr. David Nabarro: Acid-fast Bacilli in Butter.

WEDNESDAY.

HUNTERIAN SOCIETY, London Institution, Finsbury Circus, E.C.—8.30 p.m.: Clinical meeting.

THURSDAY.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY, 20, Hanover Square, W., 5 p.m.—Special general meeting to consider the question of the union of medical societies in London.

FRIDAY.

BRITISH ELECTRO-THERAPEUTIC SOCIETY, 11, Chandos Street, Cavendish Square, W., at 8.30 p.m.—Paper: Dr. R. Morton, A Contribution to the More Accurate Measurement of X-ray Currents (with demonstration): Mr. R. Higham Cooper, The Action of X Rays on [illegible]

CLINICAL SOCIETY OF LONDON, 20, Hanover Square, W., at 8.30 p.m.—Papers: Dr. Samuel West: (1) A Case in which the Pleura Contained Several Pints of Calcareous Mortar-like Fluid; (2) Periodic Respiration. Dr. Langmead (introduced by Dr. Garrod): A Case of Relapsing Tetany Associated with Dilatations of the Sigmoid Flexure. Mr. W. G. Spencer: Septic Peritonitis Occurring Early in the Course of Typhoid Fever, Apart from Perforation.

POST-GRADUATE COURSES AND LECTURES.

CHARING CROSS HOSPITAL, Thursday, 4 p.m.—Post-Graduate Course: Electrical Treatment.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.—Wednesday, 4 p.m. Lecture: Congenital Malformation of Heart.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week at 4 p.m. each day: Monday, Skin; Tuesday, Medical; Wednesday, Surgical; Thursday, Surgical; Friday, Throat. Lectures at 5.15 p.m. each day will be given as follows: Monday, Intestinal Parasites in Children. Tuesday, Clinical Aspects of Nephritis. Wednesday, The Treatment of Hemiplegia and Ataxia. Thursday, Cholecystectomy.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, 7, Fitzroy Square, W.—Thursday, 5 p.m.: Demonstration of selected cases

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Tuesday, 3.30 p.m.: Tremors. Friday, 3.30 p.m.: Ophthalmoplegia in Nervous Diseases.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone Road, N.W., Thursday, 3 p.m.: Amenorrhœa, with Special Reference to [illegible]

UNIVERSITY COLLEGE HOSPITAL, Gower Street, W.C.—Wednesday, 4 p.m. Lecture: [illegible] of the Heart Sounds Apart from Murmurs.

WEST LONDON POST-GRADUATE COLLEGE, West London Hospital, Hammersmith Road, W.—The following [illegible] demonstrations have been arranged for next week at 5 p.m. each day: Monday, Rheumatism and its Effects in Adults. Tuesday, Practical Surgery. Wednesday, Insanity and Law. Thursday, Renal Stone. Friday, Cases of Skin Disease.

CALENDAR OF THE ASSOCIATION.

Month.	Day of Week.	Meetings to be Held.
Nov.	17...Friday ...	St. Pancras and Islington Division, *Metropolitan Counties Branch*, Great Northern Hospital, Holloway Road, N., 4 p.m.
,,	18...Saturday...	
,,	19..Sunday..	
,,	20...Monday ...	
,,	21...Tuesday ...	South Essex Division, *East Anglian Branch*, Palace Hotel, Southend-on-Sea, 4 p.m.; Annual Dinner, Palace Hotel, 7 p.m.
,,	22...Wednesday	London; Medico-Political Committee, 3 p.m. Brighton Division, *South-Eastern Branch*, Dispensary, 113, Queen's Road, Brighton, 4.30 p.m. South-Western Branch, Church Institute, Exeter Road, Exmouth, 3 p.m.
,,	23...Thursday...	Leigh Division, *Lancashire and Cheshire Branch*, Scientific Section, Co-operative Offices, Ellesmere Street, Leigh, 3.30 p.m. Wandsworth Division, *Metropolitan Counties Branch*, Worple Hall, Wimbledon, 8.45 p.m.
,,	24...Friday ...	Tottenham Division, *Metropolitan Counties Branch*, Hornsey Conservative Association Rooms, Finsbury Park, 9 15 p.m.
,,	25...Saturday...	
,,	26...Sunday..	
	27...Monday ...	London: Journal and Finance Committee, 2.30 p.m.
,,	28...Tuesday ...	London: Public Health Committee, 3 p.m. London: London County Council Audit, Spring Gardens, Charing Cross (Adjourned hearing of the British Medical Association appeal), 11 a.m. Liverpool Central Division, *Lancashire and Cheshire Branch*, Liverpool Medical Institution, 5 p.m.
,,	29...Wednesday	
,,	30...Thursday...	Staffordshire Branch, North Stafford Hotel, Stoke-on-Trent, 3.45 p.m.; Council Meeting, 3.30 p.m.
Dec.	1...Friday ...	
	2...Saturday ...	
	3 ... Sunday..	
	4...Monday ...	
..	5...Tuesday ...	
..	6...Wednesday	
.	7...Thursday ...	Altrincham Division, *Lancashire and Cheshire Branch*, Quarterly Meeting, Altrincham. Croydon Division, *South-Eastern Branch*, Croydon General Hospital, 4.30 p.m. Swansea Division, *South Wales and Monmouthshire Branch*, General Hospital, Swansea, 3 p.m.; Dinner, 6.30 p.m.
..	8...Friday ...	
..	9...Saturday...	
..	10..Sunday..	
..	11...Monday ...	
..	12...Tuesday ...	London: Organization Committee, 10.30 a.m.
..	13...Wednesday	Central Council, 2 p.m. London: South-Eastern Branch, Council 3.15 p.m.
..	14...	Wandsworth Division, *Metropolitan Counties Branch*, Battersea Town Hall, 8 4 p.m.
..	15...Friday ...	London: Ethical Committee, 2 p.m.
..	16...Saturday...	

Month.	Day of Week.	Meetings to be Held.
Dec.	17...Sunday..	
,,	18...Monday ...	
,,	19...Tuesday ...	
,,	20...Wednesday	
,,	21...Thursday...	
,,	22...Friday ...	
,,	23...Saturday...	
,,	24...Sunday..	
,,	25...Monday ...	*Christmas Day.*
,,	26...Tuesday ...	*Boxing Day.*
,,	27...Wednesday	
,,	28...Thursday...	
,,	29...Friday ...	
,,	30...Saturday...	
,,	31...Sunday..	
1906.		
Jan.	1...Monday ...	
,,	2...Tuesday ...	
,,	3...Wednesday	
,,	4...Thursday...	Swansea Division, *South Wales and Monmouthshire Branch*, General Hospital, Swansea, 3 p.m.
,,	5...Friday ...	
,,	6...Saturday...	
,,	7...Sunday..	
,,	8...Monday ...	
,,	9...Tuesday ...	
,,	10..Wednesday	
,,	11...Thursday...	
,,	12...Friday ...	
,,	13...Saturday...	
,,	14...Sunday..	
,,	15...Monday ...	
,,	16...Tuesday ...	
,,	17...Wednesday	Central Council, 2 p.m.
,,	18...Thursday...	City Division, *Metropolitan Counties Branch*, 4 p.m.
,,	19...Friday ...	
,,	20...Saturday...	
,,	21...Sunday..	
,,	22...Monday ...	
,,	23...Tuesday ...	
,,	24...Wednesday	
,,	25...Thursday...	Wandsworth Division, *Metropolitan Counties Branch*, Balham Hotel, 8 45 p.m.
,,	26...Friday ...	
,,	27...Saturday...	
,,	28...Sunday..	
,,	29...Monday ...	
,,	30...Tuesday ...	
,,	31...Wednesday	

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, NOVEMBER 25TH, 1905.

CONTENTS.

	Page
MEETINGS OF BRANCHES AND DIVISIONS:	
Metropolitan Counties Branch: City Division...	293
,, ,, St. Pancras and Islington Division	293
South-Eastern Branch: Chichester and Worthing Division ...	293
Sydney and New South Wales Branch	293
ON THE WORK OF THE BRITISH MEDICAL ASSOCIATION. By H. A. LATIMER, M.D.	294
ASSOCIATION NOTICES.—BRANCH AND DIVISION MEETINGS TO BE HELD	296
NAVAL AND MILITARY APPOINTMENTS	297
VITAL STATISTICS...	298
VACANCIES AND APPOINTMENTS	298
BIRTHS, MARRIAGES, AND DEATHS	299
DIARY OF THE WEEK	299
BOOKS, ETC., RECEIVED	299
CALENDAR	300

Meetings of Branches and Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* JOURNAL.]

METROPOLITAN COUNTIES BRANCH:
CITY DIVISION.

A MEETING was held on Thursday evening, November 16th, at Brooke House, Upper Clapton, by the kind invitation of Dr. J. O. Adams. The CHAIRMAN (Dr. J. W. Hunt) presided.

Address.—A most interesting and instructive address, illustrated by lantern slides, on the value of the reflexes in diagnosis, was admirably delivered by Dr. J. S. RISIEN RUSSELL.

Votes of Thanks.—Votes of thanks to the lecturer and to Dr. Adams were carried by acclamation. The meeting was thoroughly enjoyed by all those present.

ST. PANCRAS AND ISLINGTON DIVISION.

A MEETING was held on November 17th, at the Great Northern Hospital, Dr. FRANCIS J. BUCKELL, the Chairman, presiding.

Direct Representatives on General Medical Council.—The CHAIRMAN opened a discussion upon the proposals specified in the SUPPLEMENT of October 7th, as to the terms to be imposed upon candidates for election as Direct Representatives on the General Medical Council, and it was unanimously resolved:

> That this Division is of opinion that the second clause of the proposed Declaration would unduly restrict the action of the Representative, and would exclude desirable candidates, and that the Medico-Political Committee and the General Council of the Association be requested to amend the clause.

Address.—Mr. ANDREW CLARK gave a most valuable address on swellings of the breast, their diagnosis and treatment, and received a cordial vote of thanks.

Next Meeting.—The next meeting will be held in January, 1906, at University College Hospital.

SOUTH-EASTERN BRANCH:
CHICHESTER AND WORTHING DIVISION.

A MEETING of this Division was held at the Infirmary, Worthing, on November 8th. Mr. W. S. SIMPSON presided.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Place of Next Meeting.—It was decided to hold the next meeting at Chichester.

Physical Welfare of Children.—A communication from the West Sussex and Chichester Joint Education Committee on the Physical Welfare of Children was discussed. It was decided to work with the Committee in alleviating the disabilities of school children, and a scale of fees was fixed for certificates, namely, 2s. 6d. for consultation, 3s. 6d. for a visit, and a 1s. mileage.

Matters Referred to Divisions.—The discussion of various matters referred to Divisions was postponed until the next meeting.

Papers.—Mr. V. WARREN-LOW, F.R.C.S. (London), read a paper on Richter's hernia.—Dr. DENSHAM (Worthing) read notes of two nerve cases; the first a case of secondary carcinoma of the spinal column, the second a case of general paralysis.—Dr. LEEDS HARRISON (Worthing) read a paper on the incidence of diabetes in a man and wife, and suggested the possibility of infection from one to the other.

Dinner.—After the meeting ten members dined together at Warne's Hotel.

SYDNEY AND NEW SOUTH WALES BRANCH.

THE regular monthly meeting of the Branch was held on Friday, September 29th, at Sydney, Dr. POCKLEY, Vice-President, in the chair.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

New Members.—The following gentlemen were elected: Dr. Roberts (R.P.A. Hospital), Dr. Wm. Mawson (Gundagai), Dr. E. J. Howley (Dudley).

New Councillor.—The CHAIRMAN announced that Dr. Jamieson had resigned his position as Councillor. Dr. Newmarsh was elected to the vacancy.

Communications.—Dr. CLUBBE exhibited two patients—cases of talipes. Drs. BINNEY, CHISHOLM, CLARENCE READ, ARTHUR, and CRIBBE discussed the cases, and Dr. CLUBBE replied.—Dr. GORDON CRIBBE read his paper on the treatment of uric acid conditions by Haig's diet. A discussion ensued, in which Drs. FLASHMAN, SINCLAIR GILLIES, WILKINSON, CRAGO, ARTHUR and POCKLEY took part. Dr. CRIBBE replied.

Special Branch Meeting.—The CHAIRMAN announced that a special Branch meeting would be held on Friday, October 13th.

Poulton Testimonial Fund.—The CHAIRMAN called attention to Dr. Poulton's Testimonial Fund.

SOUTH WALES AND MONMOUTHSHIRE BRANCH: SWANSEA DIVISION.

ON THE WORK OF THE BRITISH MEDICAL ASSOCIATION.

Presidential Address

By H. A. Latimer, M.D.,

Chairman and Representative of the Division, and member of the Medico-Political Committee: Consulting Surgeon, Swansea Hospital.

Gentlemen,—Before I proceed to deal with the subject of my address on this the first meeting of the Division of our Association, I desire to return my very cordial thanks to you for the honours you have conferred upon me in electing me as your Chairman for the coming year, as well as for having returned me as your Representative for the past three sessions of the Representative Meeting. I assure you that I value very highly these marks of your confidence in me; and I wish you fully to understand that I undertake the work attaching to these offices with a great amount of personal pleasure, and with an earnest and confident hope that this work is not thrown away, but that, undertaken as it is in collaboration with a large number of men throughout the kingdom who have been favoured with the confidence of their Divisions, as I have been, and who have the best interests of their professional brethren at heart, advancement in the dignity, emoluments, and scientific attainments of the members of our Association will result from our labours.

I have now been a member of the British Medical Association for over thirty years, and having been on the Council of our Branch, and having served as President of the same, I can fairly claim to have had considerable experience in its aims and aspirations. I therefore, with some confidence, can venture to speak of what has been done in the past, through this great organization, and can also venture to express the hopes that I entertain of the benefits which will accrue to us in the future through the combined efforts of its members, directed towards a common goal.

Science and Politics.

Now, everyone who has taken note of the dispositions of the members of the British Medical Association must have recognized a fact which is patent to the most casual observer, that it is composed of two classes of people—that is, that its members are by no means animated by the same desires as to the use their membership can be to them. A very large number of people within its fold have been content to ignore the advantages which result from action taken by a body made up of people who are united by a common bond. Many of our members have no sympathy with that part of the Association work which deals with the economic and political parts of our calling. They belong to it solely because of the advantages they obtain from the scientific side of its work. They recognize that its membership gives them an opportunity of meeting their professional brethren in discussing practical questions of practice, and they are content with this and with receiving a weekly copy of the British Medical Journal. And, certainly, if one looked at membership from only these two points of view, as regards the question of value for money received, one might well rest content on this score; for within the pages of the Journal are enshrined much of the thoughts of the best men in our calling, and in it is to be found a most attractive record of the continuous and progressive work of our profession; and the Divisional, Branch, and Annual Meetings of the Association itself, afford one a splendid opportunity of keeping up one's work and of being abreast with the times. But I am thankful to feel that this class of member has ceased to be the dominant one of late years, and I am glad that the Association as a whole, whilst not in any way slighting or ignoring this immensely valuable scientific side of its work, has decided that it will adopt a forward policy in the social and economic part of its life.

Medicine and the State.

For whilst men were content to work only on the scientific side, and were satisfied with the recognition of the same by universities and scientific societies, the general body of practitioners of medicine were seeing their conditions and length of study for qualification enlarging, and their emoluments and rewards for labour steadily diminishing. Those who bestowed any thought on the subject were astounded to see other professions and callings becoming protected by the State, and their members highly paid, and endowed with retiring pensions on cessation of work. Thus it has come to pass that to get placed on the *Medical Register* has entailed of late years a much greater use of brains and money than it did of yore, whilst the rewards for the general body of practitioners have steadily decreased in value. Because men have not combined to bring formulated demands upon the Legislature whilst laws have been in the making, all sorts of enactments have been passed by which we have been compelled to do work for nothing, or have not been protected in our work. It will suffice for the moment if I illustrate my meaning by citing the facts that we have to give certificates of death without any payment for the same; that there has been a steady effort on the part of educational authorities to compel us to certify for sick children without payment; and that medical officers of health—men who, of all others, should be protected in their work, as they have to deal with property, an interference with which arouses anger and resentment on the part of its holders—have no fixity of tenure.

The Representative Meeting.

I am thankful, then, that of late years a new spirit has arisen within our Association, and I am glad that a reversal of the old policy obtains at present to such an extent that medico-political, ethical, and economic questions are pushed to the forefront, and are becoming regarded by many of us as of paramount importance in the work of the Association. And it is as one who has been observing this work for the past three years in the representative body, that I feel competent to deal with this aspect of the matter. And further, I recognize that an opportunity is afforded me at the present moment of not only delivering a chairman's address but of giving some account of my stewardship as a member, elected by you, of the Representative Meeting. Concerning that body it is right, I think, that I should give some account. I will begin by speaking of the eminent man who, up to now, and from its formation, has occupied its chair. We have had the extremely good fortune of having the services of Sir Victor Horsley in that position, and I do not think that I am using exaggerative terms when I say that no deliberative assembly could have been presided over by any chairman who more admirably combined business capacity with a knowledge of procedure than did that gentleman. His methods were such that, as one member of the assembly remarked to me, it was an education to sit under him; for in addition to the qualities I have already spoken of as being possessed by him, he was master of a courtesy which never failed, in combination with a firmness in ruling which inspired confidence, regard, and respect. For my own part, I feel that I cannot express too strongly the admiration I feel for a man who, like Sir Victor Horsley, can give up so much valuable time, as he has done, towards forwarding the interests of his professional brethren. When I remember that he is a man of the highest scientific attainments; that he is one of the foremost exponents of surgery; and that, by virtue of his great distinction, the old adage of "time is money" must apply with peculiar force to him, I feel that the Association lies under a great debt of gratitude to him for the work he has undertaken on its behalf. He has also taught us a valuable lesson, for he has shown that scientific thought and devotion to the art and craft of a calling is compatible with an interest in, and a sympathy for, the more mundane matters of suitable payment for work done and of protection in that work. I was privileged to propose the vote of thanks to him on his relinquishing the chair, and I have never fulfilled a duty of this sort with a sincerer feeling of gratitude than I gave expression to on that occasion.

With respect to the constitution of the Representative Meeting I desire to bear testimony to the character of its members. Those of you who will look into the names and qualifications of those who constitute it will be struck with the fact that, for the most part, the list comprises men of the foremost standing in our calling. These representatives assembled in session, practically form the only articulate body of medical men in the country, for their debates are reported and published in the British Medical Journal and their sittings are open to all members of the Association. They constitute a parliament, and give open voice to the opinions of the Divisions, which are the units of the Association, now numbering 19 500 members. I do not in what I have said ignore the work done by our Council. But this work is done in secret, and only its results are published. It will be our duty, I think, to see that some more publicity shall be given to what takes place in the Council meetings, for we know very

little of what goes on in them. Up to the time of the constitution of the representative body, voicing the Divisions, the general body of members of the Association was practically inarticulate, and the government lay in the hands of the Council; for the two general meetings which were held annually did not give time or opportunity to the members generally to debate any matters at large, and so they were very little better than a farce. Now, through the Representative Meeting, there is a vent for thought and an opportunity for formulating any demands which members desire to put forward. If only our membership will continue to grow we shall at last acquire a force in the land which will make the profession of medicine capable of obtaining its just demands; and high officials will pause before they venture to treat us as they have too often done in the past. It should be the effort of every member of the Association to induce new practitioners to join us, and it should be the pleasure and duty of each member of a Division to attend as many of the Divisional meetings as he can with a view, *inter alia*, of understanding the burning medical questions of the day.

The Application for a Charter.

Turning now to these questions, I do not think I can do better in speaking of the work of the Association than by taking up the consideration of those debated in the Representative Meeting at Leicester in July last. I need not dwell upon such matters as the financial affairs of our body or the scheme for the formation of a superannuation for our clerical staff, nor need I say more concerning the question of pushing forward the Public Health Bill, which, among other things, provides for fixity of tenure to medical officers of health. Of greater and of more interest to us was the interesting debate which ensued on the subject of the acquisition of a Royal Charter to supersede our present mode of working under Articles of Association. The resolution of Council, "That the Representative Meeting should issue the necessary authority for application on behalf of the Association to be made to the Privy Council, praying His Majesty to grant a Royal Charter of Incorporation to the Association," was carried, after a lengthy discussion, with a rider: "That the Central Council be instructed to submit a draft of the application for a Royal Charter to the Divisions as soon as possible, with an estimate of the probable cost and an explanatory memorandum." The argument for the Charter was that under the present Articles, when it was thought desirable to develop business in proportion to the needs of the profession, eminent legal counsel who were applied to said that we had no power to make the necessary changes under our present constitution, and that we should have a freer hand under the provisions of a Royal Charter. To this it was objected by opponents that freedom of action would be fettered and strangled by a Charter, for that under this arrangement the Association would not be able to do anything which was not specifically laid down under its terms, that it would be a costly thing to obtain it, and that, having obtained it, continual cost would be incurred in applying to the Privy Council for new powers to deal with new matters as they might arise. These allegations were denied, and it was stated that an "omnibus clause," such as, "and by such other lawful means as in the opinion of the Association shall seem best calculated to promote the medical and allied sciences, or to maintain the honour and interests of the medical profession," if inserted in the Charter, would enable desirable changes to be made in the Association from time to time, as the necessity for them might arise.

Contract Practice.

The great questions involved in contract practice were in the end referred to the Divisions with a view to their being considered and reported on again. Those of you who have read the report with evidence taken on this subject of vital interest to the general body of practitioners, must have been struck with admiration at the amount of work done in getting up the same. As we shall have to consider this report shortly, I trust that when it comes up before us for debate and consideration members will take the trouble to study the matter presented to us very carefully, so that they may really come to a definite decision on the points submitted to them. As far as I can see, the working classes, who are the proper persons concerned in contract practice, have consistently throttled down our remuneration for work in connexion with clubs, whilst all their efforts have been directed to the obtainining of better wages and of diminished hours of labour for themselves. Owing to there being no fixed rules regarding minimum rates of pay for clubs, the pay for medical services has been continuously reduced by the simple and effective method of clubs accepting the men who will take them at the lowest figure. Up to the time of our Medical Practitioners' Association here, Friendly Societies were being contracted for at lower rates than what I obtained twenty years ago for the same work. It is only by determination to uphold each other, and to put out of professional friendship those men who undersell us, that we shall ever succeed in obtaining satisfactory rates of pay for this class of work. Meanwhile, it is unnecessary for me to elaborate this matter, as it is to come before our Division shortly for a consideration of the various items which it is desirable to debate upon; it suffices for me to enumerate the various organizations with which the matter deals and to say that I earnestly hope you will peruse the Supplement of the British Medical Journal of July 22nd last, which, under the heading An Investigation into the Economic Conditions of Contract Medical Practice in the United Kingdom, is an embodiment of the report drawn up by the Medico-Political Committee of the British Medical Association. As this investigation deals with friendly societies, works clubs, friendly societies institutes, medical aid societies, provident dispensaries, public medical services, and private clubs, you will see that it practically embraces all sorts and conditions of contract practice.

The Coroner's Court.

Another matter which has engaged, and will continue to engage, the attention of our Association is that of the conduct of the coroner of South-West London and the ignoring by the Lord Chancellor and the Prime Minister of communications made to them about this official. Surely you will all agree with me that our Association has been treated with distinct discourtesy when I state the fact as set forth by Sir Victor Horsley in the Supplement of our Journal of August 5th last, that although the attention of the Lord Chancellor was drawn to the matter of the coroner in question treating "the medical practitioners in the district" (over which he presides) "in a manner diametrically opposed to the interests of the community and the most elementary principles of equity and justice" on May 11th and July 27th, 1903, nothing whatever has been done to put matters right and the Lord Chancellor has only caused one letter, dated July 29th, 1904, to be written to us in which it states that his "Lordship's present impression is not in favour of the coroner's practice," and that "his Lordship does not as yet see that there is such a case as would found the exercise of the only jurisdiction which he possesses, namely, to remove a coroner for misconduct in his office." I may say that Mr. Balfour, having been appealed to on this matter on July 25th, 1904, and March 6th, 1905, let the communications to him lie unanswered and the fact of his having done so led to a very strong outburst of feeling of resentment in the Representative Meeting at Leicester. For my own part I am at a loss to understand how such an apparent discourtesy as this one of ignoring letters could ever have been committed by the Prime Minister, for Mr. Balfour is, of all men, one of the most courteous. Evidently he has no power in the matter complained of, all jurisdiction over coroners being vested in the Lord Chancellor. But still one would have expected notice to have been taken of our letters to him. I trust that the complaints of the Association respecting this coroner will be investigated, and I can hardly conceive that the representations of a large body of men will continue to pass unnoticed.

The other day I was talking about these matters to a medical man, when he said to me, in effect: "Yes, a precious lot of good you do with all your medico-political work! It is a good sample of what comes of it when you consider that you have been engaged for two years in representing about a coroner, and that nothing whatever has been done in the matter after all this time."

Now that is not the way I look at this business. I feel that if [illegible] forward by any body of men [illegible] behoves that body to put forth all its strength, and to insist on a [illegible] being given.

And if this incident proves nothing else, it shows, at any rate, that it is essential to [illegible] be dealt with [illegible] obtain. But up to now we have not been true to ourselves. Take, for instance, this very question of the conduct of the coroner for South-West London. It is an allegation against him that he stated in open court that he did not consider that

general practitioners in South-West London were men fit to make a *post-mortem* examination. And he has been in the habit of employing for that purpose a gentleman of foreign origin, who, although he has now acquired much experience in these matters, owing, principally, to the kindness of this coroner, was in no way originally entitled, as I understand it, to be regarded as a special pathologist—that is, as a teacher of that branch of knowledge in a medical school; and when this quarrel began, and the practice of employing special men to make these examinations was called in question, in answer to requests that men who really are special pathologists, in the sense used above, should apply for employment in this work, there was no difficulty in obtaining such men who were willing to do the work at the ordinary fee of two guineas. Really, it is too bad that men of high attainments should be willing to do work of this sort for unremunerative payments. Contrast our profession with that of the Bar! Would men of that calling who had attained special distinction in one branch of law consent to work for fees which are ordinarily taken by the general rank of practitioners who are not thus distinguished? It is a repetition of the old story that there are men in our calling who, so long as they can secure for themselves some personal advantage, are careless of the interests of the body politic at large. I hope that the resolution which was moved in the Representative Meeting by the member for the Wandsworth Division, and which was adopted, will bear fruit; and that, as a result of it, we shall hear no more of any employment of real special pathologists on the present terms. The resolution was as follows: "That it be an instruction to the Medico-Political Committee to arrange a conference with the Medical Boards of the London teaching hospitals and the pathologists now on the list of the London County Council with a view to securing the withdrawal of the list."

Parliamentary Representation.

Another matter debated very fully in the Representative Meeting was that of the desirability, or otherwise, of the British Medical Association being directly represented in Parliament. A long debate ensued upon three resolutions which were submitted by the Chairman of the Medico-Political Committee, which ran as follows:

1. That members whose candidature for Parliament is supported by the profession should recognize responsibility to some organized body representative of the profession.
2. That the organized body should be the British Medical Association.
3. That the British Medical Association should select two gentlemen, one on each side of politics, and arrange as to their becoming candidates at the next General Election.

In the end these motions were lost, and it was decided to form a subcommittee of the Medico-Political Committee to organize and promote medical interests. Apparently, this subcommittee will, in accordance with resolutions previously passed, send recommendations down to Divisions with a view to local candidates for Parliament being interviewed and influenced at election times. That some measures of this sort are most desirable cannot be doubted. Too long has our profession stood aside from Parliamentary life, with the result that our interests are neglected there. I do not see that the Association could very well manage to pay two of its members for going into Parliament, but I cannot see any objection to some appreciable help being given to that, or a greater number of men, who should apply for an addition to their incomes to help them to support election expenses. I can well conceive that there might be several medical men in the kingdom who would like to enter Parliament, and who would be most suitable persons for doing so, who might yet refrain from a candidature on account of not being quite well enough off to stand the expenses of election and subsequent subscriptions. Three or four hundred pounds a year granted to such men might make all the difference between their standing, or not standing, for election. If they were returned as M.P.'s, they could then hold watching-briefs, as it were, for the profession, and their intervention in debates there might be of incalculable benefit to us, and to the nation at large. We want more representation there than we have at present and we ought to have it. It remains to be seen if this new departure in the direction of Divisions interviewing Parliamentary candidates will do what we want, and I hope that it will have a good trial. I ask you to read that portion of the Supplement to the British Medical Journal of September 30th, p. 211, to see what can be done in this direction. There will be found an admirable report of an interview with two candidates for Parliament for the Hampstead Division.

I will conclude with the expression of an earnest wish that when, in the course of the tenure of my office of Chairman of our Division, matters may be sent down to us for consideration, you will attend the meetings in goodly numbers and formulate your opinions thereon after free and full debate.

☞ *To ensure the insertion of notices in this column they must be received at the Central Offices of the Association not later than the first post on Tuesday.*

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

Bath and Bristol Branch.—The second ordinary meeting of the session will be held at the Museum, Bath, on Wednesday evening, November 29th, at 8 o'clock, J. Michell Clarke, M.D., President, in the chair. The following communications are expected:—Cases to be shown at 7.45: (1) E. J. Cave, M.D., Specimen of Calcified Pericardium; (2) Watson Williams, M.D., Specimens of Calcareous Concretions Removed from the Nose (Rhinolith); (3) W. M. Beaumont, Ulceration of an Eyelid of Doubtful Nature. Papers at 8 p.m.: (1) W. P. Dickson, Cerebro-spinal Meningitis in India; (2) A. E. Norburn, M.D., Case of Resection of Small Intestine, aged 75 years, Recovery; (3) W. P. Kennedy, M.D., Notes on a Case of Nephritis following Cystitis; (4) R. Waterhouse, M.D., A Case of Sclerema Neonatorum.—W. M. Beaumont and Newman Neild, Honorary Secretaries, Bath.

Birmingham Branch: Coventry Division.—The next meeting of this Division will be held at the Coventry and Warwickshire Hospital on Wednesday, December 6th, at 8.30 p.m. Agenda: (1) Specimens: (*a*) Appendix and Dermoid Cyst, Dr. Bankes Price; (*b*) Intraocular Tumour, Dr. Bankes Price. (2) A discussion on Rheumatic Fever will be opened by two short papers by Drs. Orton and Kenderdine. (3) The following resolution will be moved by Dr. McGlashan: "That the minimum charge for private midwifery cases in the area of the Division shall be one guinea; and when in exceptional circumstances this amount is not forthcoming, the medical services shall be given gratis."—E. H. Snell, Honorary Secretary.

Border Counties Branch: North Cumberland Division.—A meeting of this Division will be held on Friday evening, December 8th, at the County Hotel, Carlisle, when Dr. Gibson, of Edinburgh, will deliver an address.—Norman Maclaren, Honorary Secretary.

Lancashire and Cheshire Branch: Liverpool Central Division.—A meeting of this Division will be held at the Liverpool Medical Institution on Tuesday, November 28th, at 5 p.m. Agenda: (1) To receive from Dr. A. Gordon Gullan the Report of the Annual Representative Meeting; (2) the Medical Benevolent Fund; (3) Dinner of the Combined Liverpool Divisions; (4) Other Business.—Frank H. Barendt, Secretary, 65, Rodney Street, Liverpool West.

Metropolitan Counties Branch: Tottenham Division.—A meeting of the Division will be held on Friday, November 24th, at 9.15 p.m., at the Hornsey Conservative Association Rooms, opposite Finsbury Park Station (G.N.R.). Agenda: (1) Paper by Dr. G. F. Still on Common Faults and Fallacies in Infant Feeding; (2) Midwives Act: Scale of Fees; (3) Position of Medical Men in regard to Ambulance Competitions and Lectures. A discussion on (2) and (3) will be opened by Drs. Fuller and Chappell. Visitors are cordially invited.—Fred. Tresilian, Honorary Secretary, White Lodge, Enfield.

Metropolitan Counties Branch: Wandsworth Division.—An ordinary meeting will be held on Thursday, December 14th, at the Battersea Town Hall, at 8.45 p.m. Agenda: (1) Minutes. (2) Correspondence. (3) Questions. (4) Report of Subcommittee, with subsequent discussion, on the Contract Practice Report of the Medico-Political Committee. (5) Other business.—E. Rowland Fothergill, Honorary Secretary, Torquay House, Southfields, S.W.

North Wales and Shropshire and Mid-Wales Branches.—Election of Representative on Central Council.—All nominations to fill the vacancy on the Central Council occasioned by the death of Mr W. Jones Morris must be sent to one of us, the undersigned, on or before Saturday, November 25th (vide By-laws 22, 24, and 30).—H. Jones Roberts (Penygroes), Harold H. B. MacLeod (Shrewsbury), Honorary Secretaries.

North Wales Branch: North Carnarvonshire and Anglesey Division.—A meeting of the Division will be held at the British Hotel, Bangor, on Wednesday, December 6th, at 2 p.m. Members having papers to read, or cases to show, are requested to communicate before the 28th inst. with the Honorary Secretary, H. Jones Roberts, Penygroes.

North Wales Branch: South Carnarvon and Merionnth Division.—A meeting of the Division will be held at the Tower Hotel, Pwllheli, on Thursday, December 7th, at 2.30 p.m. Members having papers to read, or cases to show, are requested to communicate before the 28th inst. to H. Jones Roberts, Honorary Secretary *pro tem.*, Penygroes.

South-Eastern Branch: Canterbury and Faversham Division.—The next meeting will be held at Herne Bay Cottage Hospital, December 7th, at 3 p.m. Agenda: (1) Minutes of last meeting (see Supplement,

October 28th). (2) To consider the formation of a Divisional Library (SUPPLEMENT, November 11th). (3) Time, place, and chairman of next meeting. (4) An address by R. Boxall, Esq., M.D., M.R.C.P.Lond (of London), on the Use and Abuse of Pessaries. Arrangements will be made for a motor car to take (and bring back) members travelling from Canterbury, if names are sent to the Honorary Secretary by December 4th. All medical practitioners are invited, whether members of the Association or not.—A. R. HENCHLEY, Honorary Secretary, Canterbury.

SOUTH-EASTERN BRANCH: CROYDON DIVISION.—A meeting will be held at the Croydon General Hospital on Thursday, December 7th, at 4.30 p.m. Chairman, Dr. T. R. Adams. The following have been promised:—Dr. H. Meredith Richards: Short Paper and Lantern Demonstration. Dr. S. Duke Turner: Notes on a Case of Tuberculous Peritonitis. Dr. Hugo: (1) Notes on a Case of Intussusception of Sigmoid Flexure, with Specimen and Sections; (2) a Prepuce Dilator. Dr. Cohen: Notes on a Case of Acute Intestinal Obstruction. Dr. J. J. Macan: Paper on Some Recently-introduced Methods of Anæsthesia, more particularly on the Hypodermic Injection of Scopolamine and Morphine. Tea will be provided at four o'clock. Members are cordially invited to introduce professional friends.—E. H. WILLOCK, Honorary Secretary, 113, London Road, Croydon.

SOUTH-EASTERN BRANCH: NORWOOD DIVISION.—A clinical meeting will be held on Thursday, December 14th, at 4 p.m., at the Home and Infirmary for Sick Children, Lower Sydenham, Mr G. C. Parnell, of Forest Hill, in the chair. The Staff have kindly promised to show cases. Members desirous of exhibiting cases are requested to communicate with the Honorary Secretary at once. Agenda: (1) Minutes of last meeting; (2) To decide when and where the next meeting shall be held, and to nominate a member of the Division to take the chair thereat; (3) Communication from Metropolitan Counties Branch re Midwives Act.—HENRY J. PRANGLEY, Honorary Secretary, ARTHUR W. SOPER, Assistant Honorary Secretary.

SOUTH-EASTERN BRANCH: TUNBRIDGE WELLS, HASTINGS, AND SEVENOAKS DIVISIONS.—A meeting will be held at the General Hospital, Tunbridge Wells, at 5.30 p.m., on Wednesday, December 13th. Address by Dr. G. H. Savage on the Borderlands of Insanity. Dinner at the Calverley Hotel at 7.15 p.m., charge 6s., exclusive of wine. Members wishing to read papers or show cases are requested to communicate with EDWIN A. STARLING, Chillingworth House, Tunbridge Wells.

SOUTH-WESTERN BRANCH: TRURO DIVISION.—The next meeting will be held in the second week of January, 1906, at the Miners' Hospital, Redruth. Members wishing to read papers or notes of cases are requested to notify the Honorary Secretary before December 21st. As the present day of meeting (Thursday) seems to be inconvenient to some members, especially to those in the Penzance district, the Honorary Secretary will be glad to hear any suggestions as to an alteration.—MARK R. TAYLOR, Honorary Secretary.

STAFFORDSHIRE BRANCH.—The first general meeting of the Session will be held at the North Stafford Hotel, Stoke-on-Trent, on Thursday, November 30th. The President, Dr. Hatton, will take the chair at 3.45 p.m. Business: (1) Minutes of the last general meeting. (2) Correspondence. (3) Exhibition of living cases. (4) Paper—Jamaica; a Tropical Holiday from a Health Point of View. By W. D. Spanton. (5) Paper—The Significance of some Enlargements of the Thyroid Gland. By A. F. Martin. Communicated by A. McAldowie. (6) Paper—The Medical Inspection of School Children. By Hackworth Stuart. (7) Exhibition of Pathological Specimens, etc. Dinner, 6.30 p.m. Charge, 5s. Council meeting.—A meeting of the Council will be held at 3.30 p.m., for election of members, etc.—G. PETGRAVE JOHNSON, Honorary General Secretary, Stoke-on-Trent.

WORCESTERSHIRE AND HEREFORDSHIRE BRANCH: HEREFORDSHIRE DIVISION.—A meeting of the Division will be held on Wednesday, December 6th, at 3 p.m. in the Board Room of the Herefordshire General Hospital, Hereford. The principal business will be to appoint deputations to interview Members of Parliament and Parliamentary Candidates in Herefordshire with respect to the Public Health Bill.—HERBERT JONES, Honorary Secretary, Hereford.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been made at the Admiralty: HUBERT HOLYOAKE, Fleet Surgeon, to the *Encounter*, November 21st; JOHN W. SLAUGHTER, Fleet Surgeon, to the *Swiftsure*, November 21st; WALTER S. H. SEQUEIRA, Staff Surgeon, to the *President*, for three months' study at the London Hospital, December 4th; BERNARD LEY, Surgeon, to the *Vindictive*, November 21st; JOHN G. PEEBLES, Surgeon, to the *Victory*, for disposal, November 14th; ALFRED H. L. COX, Fleet Surgeon, and ERNEST S. REID, Surgeon, to the *Duncan*, November 28th: JOSEPH H. WHELAN, Fleet Surgeon, to the *Barfleur*, November 28th; HENRY COOPER, Surgeon, to the *Good Hope*, lent, November 13th; CECIL R. RICKARD, Surgeon, to the *Victory*, for disposal (to be lent to the *Brilliant*), November 18th; WALTER H. O. GARDE, Staff Surgeon, to the *Egmont*, for the *Maine*, November 30th; HERBERT H. GILL, Staff Surgeon, to the *Thetis*, November 30th; PERCIVAL T. NICHOLS, Surgeon, to Haulbowline Hospital, November 30th.

INDIAN MEDICAL SERVICE.

THE following officiating appointments are made in the Eastern Command on the departure of Surgeon-General Gubbins on furlough: Colonel W. E. SAUNDERS, C.B., R.A.M.C., to officiate as Principal Medical Officer, Eastern Command; Lieutenant-Colonel G. J. KELLIE, I.M.S. (Bengal), to officiate as Principal Medical Officer 7th (Meerut) Division; Lieutenant-Colonel A. W. P. INMAN, M.B., R.A.M.C., to officiate as Principal Medical Officer, Bareilly and Garwhal Brigades; but should Lieutenant-Colonel Inman not return from leave in time to take up the appointment, the Senior Medical Officer will carry on the duties.

Captains E. H. SHARMAN and T. H. FOULKES, Madras, are promoted to be Majors, from January 30th. They entered as Surgeon-Lieutenants, July 20th, 1893, and became Surgeon-Captains, July 29th, 1896. Major Sharman served in China in 1900, receiving a medal: Major Foulkes in Burma in 1891-6, in the Tirah campaign in 1897-8 (medal with clasp), and in China in 1900 (medal).

Captains T. STODART, M.B., Madras, is also promoted to be Major, from July 29th. His previous commissions bear date: Surgeon-Lieutenant, July 29th, 1893; Surgeon-Captain, July 29th, 1896. He was in the Dongola Expedition in 1896 with the Indian Contingent at Suakin, and received the British and Egyptian medals.

Captain A. E. BERRY, M.B., Madras, is likewise made Major, from July 29th. He joined as Surgeon-Lieutenant, January 20th, 1894, and was made Surgeon-Captain, January 29th, 1897. *Hart's Army List* says he was in the North-West Frontier of India campaign in 1897-8, and has the medal with clasp.

Lieutenant-Colonel F. A. ROGERS, D.S.O., Bengal, is permitted to retire from the service, from December 16th. He was appointed Surgeon, April 1st, 1885, and became Lieutenant-Colonel, April 1st, 1905. He was in the Burmese campaign, 1885-9 (twice mentioned in dispatches, medal with two clasps), and with the Lushai expedition in 1889-90 (mentioned in dispatches, D.S.O., and clasp).

Lieutenant-Colonel R. H. CHARLES, M.D., Bengal, is appointed Surgeon on the Staff of H.R.H. the Prince of Wales, from October 14th.

Lieutenant-Colonel P. A. WEIR, M.B., Bengal, is promoted to be Colonel from October 26th. He joined the department as Assistant Surgeon, September 30th, 1875, and was made Surgeon-Lieutenant-Colonel, September 30th, 1895. He served in the Afghan war in 1879-80, receiving the medal. He is appointed Inspector-General of Civil Hospitals and Sanitary Commissioner, Central Provinces, also from October 26th.

Lieutenant G. C. I. ROBERTSON, M.B., is placed on temporary half-pay, from September 17th.

IMPERIAL YEOMANRY.

W. T. HANNAH, M.D., late Second Lieutenant, formerly Surgeon-Lieutenant, 2nd Volunteer Battalion the Sherwood Foresters (Nottinghamshire and Derbyshire Regiment), to be Surgeon-Captain, November 11th.

VOLUNTEER RIFLES.

SURGEON-CAPTAIN W. SYMINGTON, M.B., 1st (Cumberland) Volunteer Battalion the Border Regiment, to be Surgeon-Major, November 11th.

JOHN E. SIMPSON, M.B., to be Surgeon-Lieutenant in the 1st Volunteer Battalion the Duke of Cambridge's Own (Middlesex Regiment), November 11th.

PERCIVAL G. A. BOTT, M.B., to be Surgeon-Lieutenant in the 18th Middlesex Volunteer Rifle Corps, October 30th.

ALEXANDER WAUGH, M.B. (late Captain), to be Surgeon-Lieutenant in the 3rd Volunteer Battalion the Duke of Wellington's (West Riding) Regiment, November 8th.

Surgeon-Captain T. H. DICKSON, M.B., the Prince of Wales's Own, 12th Middlesex (Civil Service) Volunteer Rifle Corps, to be Surgeon-Major, October 23rd.

HENRY C. PEARSON, DUNCAN A. CAMERON, and ARTHUR J. DALE to be Surgeon-Lieutenants in the 1st Volunteer Battalion the Durham Light Infantry, November 8th. Surgeon-Lieutenants Pearson and Cameron are borne as supernumerary whilst doing duty with the Bearer Company of the Durham Light Infantry Volunteer Infantry Brigade, November 8th.

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

CAPTAIN A. J. MACDOUGALL, M.B., R.A.M.C., to be Adjutant, Glasgow Companies, Scottish Command, *vice* Major C. C. Fleming, M.B., D.S.O., R.A.M.C., whose tenure of that appointment has expired, October 16th.

Captain E. T. INKSON, V.C., R.A.M.C., to be Adjutant Woolwich Companies, Eastern Command, *vice* Major T. P. Jones, M.B., R.A.M.C., whose tenure of that appointment has expired, October 24th.

CHANGES OF STATION.

THE following changes of station amongst the officers of the Royal Army Medical Corps have been officially reported to have taken place during October:

		FROM		TO
Lieut.-Col.	D. O'Sullivan	Mian Mir	...	Rawal Pindi.
,,	F. A. B. Daly, M.B., C.B.	York	...	Preston.
,,	T. E. Noding	Midburg, Trnsv.		Maritzburg.
,,	T. W. O'H. Hamilton, M.B., C.M.G.	Limerick	...	Shorncliffe.
,,	T. B. Winter	Portsmouth	...	Gosport.
,,	S. F. Freyer, M.B., C.M.G.	Aldershot	...	Netley.
,,	S. Hickson, M.B.	Woolwich	...	South Africa.
,,	H. J. Fletcher, M.B.	Chatham	...	Shoeburyness.
,,	S. R. Willis	Dublin	...	Belfast.
,,	L. T. M. Nash	Portsmouth	...	Golden Hill.
,,	M. O'Halloran, M.D.	Maritzburg	...	Midburg, Trnsv.
,,	H. E. Cree	Dover	...	Guildford
Major	E. Eckersley, M.B.	Woolwich	...	Portsmouth.
,,	J. S. Edye	Muttra	...	Ambala.
,,	O. R. A. Julian, C.M.G.	Chatham	...	India.
,,	A. B. Hinde	Portsmouth	...	South Africa.
,,	G. A. Wade, M.D.	Dorchester	...	Portland.
,,	E. G. Browne	Fleuer Camp	...	Dublin.
,,	C. A. Young	Enniskillen	...	Belfast.
,,	J. Thomson, M.B.	Edinburgh	...	London.
,,	R. J. Copeland, M.B.	Gosport	...	Portsmouth.
,,	T. B. Beach	Shoeburyness	...	Chatham.
,,	J. W. Jennings, D.S.O.	Lucknow	...	Simla.
,,	E. M'K. Williams	Guildford	...	Dover.
,,	C. E. G. Stalkartt, M.D.	Portsmouth	...	Gosport.
,,	J. E. Brogden	Portland	...	Portsmouth.
,,	H. C. French	Cyprus	...	Woolwich
Captain	H. V. Prynne	Woolwich	...	Gibraltar.
,,	A. H. Waring	Perham Dn Cmp		Gosport.
,,	C. H. Hopkins	Neemuch	...	Poona.
,,	H. L. W. Norrington	Westdown Camp		Portsmouth.
,,	E. T. Inkson, V.C.	Aldershot	...	Woolwich.
,,	F. S. Penny, M.B.	Allahabad	...	Mian Mir.
,,	M. M. Lowsley	Parkhouse Camp		Sandown.
,,	P. H. Collingwood	Ashton	...	York.
,,	C. J. O'Gorman, D.S.O.	Broadwater Cmp		Dover.
,,	G. J. S. Archer, M.B.	Dunree	...	Belfast.

		From	To
Captain	S. O. Hall	Poodamallee ...	St. Thomas's Mt.
,,	H. Herrick	R.A.M. College...	West Africa.
,,	A. L. Scott	Aldershot ...	East. Command.
,,	F. J. Palmer	Edinburgh ...	Dublin.
,,	J. J. W. Prescott, D.S.O. ...	Bulford	Devonport.
,,	E. E. Ellery	,, ...	Birmingham.
,,	L. N. LLoyd, D.S.O.	Gosport	London.
,,	E. P. Connolly	Belfast	Enniskillen.
,,	J. H. R. Bond	Tidworth ...	Warwick.
,,	F. S. Irvine, M.B.	Longmoor ...	Alton.
,,	H. S. Roch	Aldershot ...	Longmoor.
,,	E. M'Donnell, M.B.	Maymyo	Cork.
,,	A. F. Carlyon	Okehampton ...	Devonport.
,,	James M. Buist, M.B. ...	Pretoria	Eastern Comd.
,,	C. R. Evans	Colaba	Aden.
,,	T. Biggam, M.B.	Poona	,,
,,	H. B. Fawcus, M.B.	Gibraltar... ...	York
,,	J. Tobin	Mhow	Dublin.
,,	W. B. Fry...	Rawal Pindi ...	Campbellpore.
Lieutenant	W. F. Lyndale, M.B., C.M.G.	Dinapore... ...	Calcutta.
,,	J. M'Kenzie, M.B.	Lebong	Dinapore.
,,	J. W. S. Seccombe	—	Southern Comd.
,,	C. R. Bradley	Kamptee ...	Poona
,,	M. C. Wetherell, M.B. ...	Campbellpore ...	Rawal Pindi.
,,	L. Bousfield, M.B. ...	R.A.M. College...	Malta.
,,	F. H. Noke, M.B.	Mhow	Poona.
,,	S. C. Bowle	Madras	Mhow.
,,	P. Dwyer, M.B.	Dublin	Cork.
,,	W. H. Hills, M.B.	Trawsfynydd ...	Lichfield.
,,	J. F. C. Mackenzie, M.B. ..	Devonport ...	India.
,,	H. T. Wilson	Bulford	,,
,,	R. C. Hallowes, M.B. ...	Curragh	Egypt.
,,	H. W. Russell, M.D. ...	Dublin	Jamaica.
,,	H. C. Sidgwick, M.B. ...	Ewshot Camp ...	,,
,,	H. O. M. Beadnell	Glen Imaal ...	India.
,,	C. R. Millar	Aldershot ...	Longmoor.
,,	A. A. McNeight, M.B. ...	Curragh	Dublin.

The undermentioned Lieutenant-Colonels, on retired pay, have assumed medical charge at the stations named: L. B Ward, Coventry; T. Archer, Lydd; U. J. Bourke, M.B., Hamilton: A de C Scanlan, Dorchester.

Lieutenant-Colonel W. L. Lane, M.B., retired pay, has relinquished the medical charge of troops at Hamilton.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

In seventy-six of the largest English towns, including London, 7,804 births and 4,641 deaths were registered during the week ending Saturday last, November 18th. The annual rate of mortality in these towns, which had been 15·6 per 1,000 in each of the two preceding weeks, declined last week to 15·5 per 1,000. The rates in the several towns ranged from 4·7 in Hastings, 6·6 in Rochdale, 8·1 in Hornsey, 8·6 in Brighton, 8·7 in Hull, 9·0 in Burton-on-Trent, in King's Norton, and in Aston Manor, and 9·2 in Grimsby, to 19·1 in Stockport, 19·7 in Liverpool, 20·3 in Gateshead, 23·1 in Oldham, 23·3 in Tynemouth, 25·0 in Wallasey, and 30·7 in Bootle. In London the rate of mortality was 17·3 per 1,000, while it averaged 14·7 per 1,000 in the seventy-five other large towns. The death-rate from the principal infectious diseases averaged 1·1 per 1,000 in the seventy-six large towns: in London this death-rate was equal to 1·4 per 1,000, while among the seventy-five other large towns the rates ranged upwards to 2·2 in Tottenham, in King's Norton and in West Hartlepool, 2·5 in Wallasey and in York, 2·6 in Rotherham, 3·0 in Wigan, 3·2 in Preston, 3·3 in Bootle, and 4·2 in Merthyr Tydfil. Measles caused a death-rate of 1·3 in Aston Manor and in Rhondda, 1·5 in Willesden, 2·0 in Blackburn, and 2·7 in Preston; scarlet fever of 1·7 in Rotherham and 2·1 in Merthyr Tydfil; diphtheria of 1·5 in Grimsby and 2·0 in Reading; whooping-cough of 2·2 in King's Norton and 2·5 in Bootle; "fever" of 1·7 in Wallasey and 2·4 in Wigan; and diarrhœa of 1·9 in York. No fatal case of small-pox was registered last week either in London or in any of the large provincial towns, and no small-pox patients were under treatment last week in the Metropolitan Asylums Hospitals. The number of scarlet fever cases in these hospitals and in the London Fever Hospital at the end of the week was 4,120, against 4,222, 4,200 and 4,154 at the end of the three preceding weeks: 425 new cases were admitted during the week, against 506, 522, and 424 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS.

During the week ending Saturday last, November 18th, 852 births and 528 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had been 18·7, 17·6, and 17·5 per 1,000 last week, and was [illegible] period in the seven [illegible] Among these Scotch towns the death-rates [illegible] Dundee and in Leith, and 14·6 in Aberdeen, to 19·4 [illegible] Greenock. The death-rate from the principal infe[illegible] per 1,000 in these towns the highest rates being [illegible] The 528 deaths registered in [illegible] 10 of diphtheria, and 6 to [illegible] were recorded in Edinburgh; 5 of diarrhœa in Dundee; 5 of diarrhœa in Aberdeen; 2 of scarlet fever in Leith; and 3 of [illegible]

HEALTH OF IRISH TOWNS.

[illegible] English towns for the corresponding period. The figures ranged from [illegible] in Waterford and 0·6 in Limerick to 21·8 in Belfast and 24·7 in Cork. The zymotic death-rate during the same period and in the same six Irish towns averaged 0·5 per 1,000, or 0.6 per 1,000 lower than during the preceding period, the highest figure, 1.4, being recorded in Limerick, while Cork, Londonderry, and Waterford registered no deaths under this heading at all. The deaths from enteric fever and diarrhœal diseases dropped to 3 and 4 respectively.

Vacancies and Appointments.

VACANCIES.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

BETHLEM HOSPITAL.—Two Resident House Physicians, Honorarium at the rate of £25 each per quarter.

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES.—Clinical Assistant. Honorarium at the rate of 52 guineas per annum.

BOURNEMOUTH: ROYAL NATIONAL SANATORIUM.—Physician.

BRIGHTON: SUSSEX COUNTY HOSPITAL.—Second House-Surgeon. Salary, £60 per annum.

BURNLEY: VICTORIA HOSPITAL.—Resident Medical Officer. Salary, £100 per annum.

CAMBRIDGE: ADDENBROOKE'S HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £50 per annum.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn Road, W.C.—House Surgeon, non-resident. Honorarium, 50 guineas a year.

DORCHESTER: COUNTY ASYLUM.—Second Assistant Medical Officer. Salary, £180, rising to £220 per annum.

DUBLIN: ROYAL HOSPITAL FOR INCURABLES, Donnybrook.—Resident Medical Officer. Salary, £120 per annum.

DURHAM COUNTY ASYLUM.—Second Assistant Medical Officer. Salary, £180, rising to £230 per annum.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark.—(1) House-Physician; (2) House-Surgeon; (3) Assistant Surgeon. Salary, £80 per annum for (1) and (2) and £70 per annum for (3).

EXETER: ROYAL DEVON AND EXETER HOSPITAL.—Male Assistant House-Surgeon. Salary, £60 per annum.

IPSWICH BOROUGH.—Medical Officer of Health for the Borough and Port. Salary, £400 per annum, increasing £50 after three years and a further £50 at the end of the fifth year.

ISLE OF MAN LUNATIC ASYLUM.—Assistant Medical Officer. Salary, £120 per annum.

ITALIAN HOSPITAL, Queen Square, W.C.—House-Surgeon. Salary, £60 per annum.

LAMBETH PARISH.—Second and Third Resident Medical Officers of the Infirmary. Salary, £160 and £125, rising to £200 and £150 per annum respectively.

LIVERPOOL STANLEY HOSPITAL.—Honorary Ophthalmic Surgeon.

LOUGHBOROUGH AND DISTRICT GENERAL HOSPITAL AND DISPENSARY.—Resident House-Surgeon. Salary, £80 per annum.

MANCHESTER: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Two Medical Officers. Salary, £65 and £60 per annum respectively.

MONTREAL: ROYAL VICTORIA HOSPITAL.—Ophthalmologist.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Registrar. Honorarium, 50 guineas per annum.

NEWCASTLE-UPON-TYNE: UNIVERSITY OF DURHAM COLLEGE OF MEDICINE.—Demonstrator of Physiology. Salary, £200 per annum.

NEWPORT BOROUGH ASYLUM, Caerleon, Mon.—Assistant Medical Officer. Salary, £150 per annum.

NORWICH: NORFOLK AND NORWICH HOSPITAL.—Second Assistant House-Surgeon. Honorarium, £20 for six months.

ROYAL PIMLICO DISPENSARY, Buckingham Palace Road, S.W.—Resident Medical Officer and Secretary. Salary, £100 per annum.

ST. MARYLEBONE GENERAL DISPENSARY, Welbeck Street, W.—Honorary Physician.

ST. PETER'S HOSPITAL FOR STONE, Henrietta Street, W.C.—Out-patient Clinical Assistants.

ST. THOMAS'S HOSPITAL, S.E.—Anæsthetist.

SUNDERLAND INFIRMARY.—Third House-Surgeon. Salary, £80 per annum.

SWANSEA AND GENERAL EYE HOSPITAL.—Assistant House-Surgeon. Salary, £50 per annum.

TUNBRIDGE WELLS GENERAL HOSPITAL.—House-Surgeon. Salary, £100 per annum.

WHITEHAVEN AND WEST CUMBERLAND INFIRMARY.—Resident House-Surgeon. Salary £120 per annum.

WORCESTER GENERAL INFIRMARY.—Junior Resident Medical Officer. Salary, £80 per annum.

YORK CITY LUNATIC ASYLUM.—Assistant Medical Officer. Salary, £140 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces vacancies in the office of Certifying Factory Surgeon at Fakenham, County Norfolk, and Dornoch, County Sutherland.

APPOINTMENTS.

ARCHIBALD, R. S., M.R.C.S., L.R.C.P., Clinical Assistant to the Chelsea Hospital for Women.

ASH, E. A., M.D.Viet., M.R.C.S., L.R.C.P., District Medical Officer of the Honiton Union.

BLAKENEY, J. Henry, L.R.C.P.Lond., M.R.C.S.Eng., Medical Officer to the No. 1 District of the Cheltenham Union and Recruiting Medical Officer at Cheltenham.

BURGESS, Arthur H., F.R.C.S.Eng., M.B., M.Sc.(Vict.), Honorary Assistant Surgeon to the Manchester Royal Infirmary.

DEWDNEY, E. L. D., L.S.A., Medical Officer for the Claybrook District of the Lutterworth Union.

EHRKE, F., M.D.Edin., District Medical Officer of the Upton-upon-Severn Union.

HARTFORD, A. H. B., L.R.C.P. and S.Irel., District Medical Officer of the Christchurch Union.

HARVEY, Arthur George, B.A., M.B., B.C.Cantab., M.R.C.S. and L.R.C.P.Lond., Medical Officer of Health of the Bonsall Urban District Council, vice J. C. Innes, L.R.C.S.Edin., resigned.

HEARD, F. G., L.R.C.P. and S.Edin., L.F.P.S.Glasg., District Medical Officer of the North Bierley Union.

HEDDEN, R., M.R.C.S., L.R.C.P.Lond., Medical Officer of the Honiton Union Workhouse.

HEWKLEY, Frank, M.B., F.R.C.S.Eng., Clinical Assistant to the Western Ophthalmic Hospital.

JONES, Pierce, M.B., Ch.B.Glas., Certifying Factory Surgeon for the Portmadoc District, Counties Carnarvon and Merioneth.

KYFFIN, John, M.R.C.S., L.R.C.P.Lond., Certifying Factory Surgeon for the Gosport District, County Hants.

MURRAY, Stuart, M.B., Ch.B.Vict., Resident Medical Officer of the Leicester Union Infirmary at North Evington.

PITT, R. J. L., L.F.P.S.Glasg., L.S.A., District Medical Officer of the Stratford-on-Avon Union.

WARREN, Richard, M.A., M.D., B.Ch.Oxford, F.R.C.S.Eng., L.R.C.P.Lond., Senior House Surgeon at Poplar Hospital for Accidents.

WILLIAMS, M. T., M.B., B.S.Lond., F.R.C.S.Eng., Honorary Physician to the Kent and Canterbury Hospital, vice Dr. H. A. Gogarty, resigned.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to insure insertion in the current issue.

BIRTH.

MASINA.—October 7th, at Warden Road, Malabar Hill, Bombay, India, the wife of H. M. Masena, F.R.C.S., of a son.

MARRIAGES.

EASTERBROOK—THOMSON.—On November 18th, at Edinburgh, by the Rev. Robert Small, Minister of Caddonfoot, Selkirkshire, assisted by the Rev. S. Marcus Dill, M.A., Minister of Alloway, Charles Cromhall Easterbrook, M.D., F.R.C.P.Ed., Glengall, Ayr, to Annie Elliot, elder daughter of the late Mr. and Mrs. William Thomson, Craigview, Clevenfords, N.B.

WALES—MOXON.—November 15th, at All Saints' Church, Hull, by the Rev. W. E. Smith, M.A., Vicar, Herbert Wales, M.A., M.B., B.C.(Cantab.), of Gargrave-in-Craven, elder son of T. F. Wales, of Scarborough, to Bertha, eldest daughter of B. H. Moxon, L.R.C.P.(Lond.), of Hull.

DEATHS.

JONES.—On November 21st, at River House, Enfield, Philip William Jones, L.R.C.P., M.R.C.S., of pneumonia following influenza.

ROBERTSON.—At 337, Brixton Road, London, on November 21st, Eleanor Ann Ferguson, wife of John Robertson, L.R.C.P., L.R.C.S.Edin., and daughter of the late John Ferguson, M.D., of Nigg, Kincardineshire.

DIARY FOR NEXT WEEK.

MONDAY.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square, W., 8.30 p.m.—Discussion on Rheumatoid Arthritis, to be introduced by Dr. Archibald Garrod.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN, 20, Hanover Square, W., 8 p.m.—The Honorary Treasurer will present his annual report. Paper: Mr. J. F. Colyer, Variations and Diseases of the Teeth of Horses (Lantern Demonstration).

TUESDAY.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY, 20, Hanover Square, W., 8.30 p.m.—Special discussion, introduced by the following papers: Dr. A. E. Wright, The General Principles of Therapeutic Immunisation by Bacterial Vaccines as Applied to the Treatment of Tuberculous Infection; Dr. David Lawson and Dr. Struthers Stewart, A Series of some Observations on the Opsonic Index in the Administration of Tuberculin (TR.) Colonel Leonard Rogers, Observations of the Opsonic Index in Pulmonary Tuberculosis; Dr. W. Bulloch, The Treatment of Tuberculosis by Tuberculin; Mr. John Pardoe, The Treatment of Tuberculosis of the Genito-Urinary System by Tuberculin; Dr. [illegible] of Skin Diseases and Demonstration of Results of Tuberculin Treatment.

THERAPEUTICAL SOCIETY.—The next meeting will be on Tuesday, November 28th, in the Apothecaries' Hall, 4.30 p.m. Papers: Dr. W. E. Dixon, The Physiological Standardisation of Drugs; Dr. C. O. G. Hawthorne, Drug Idiosyncrasies in Relation to an Official Dosage.

FRIDAY.

LARYNGOLOGICAL SOCIETY OF LONDON, 20, Hanover Square, 5 p.m.—Exhibition of Cases and Specimens.

SOCIETY OF ANAESTHETISTS, 20, Hanover Square, W., 8.30 p.m.—Paper: Mr. J. H. Chaldecott, The Evolution of Ethyl Chloride.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY, Society's Rooms, West London Hospital, 8.30 p.m.—Papers: Dr. S. A. Boutor, Jamaica as a Health Resort; Dr. W. S. Colman, French Health Resorts.

POST-GRADUATE COURSES AND LECTURES.

CHARING CROSS HOSPITAL, Thursday, 4 p.m.—Post-Graduate Course: Surgical Cases.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.—Wednesday, 4 p.m. Clinical Lecture: Mitral Stenosis.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week at 4 p.m. each day: Monday, Skin; Tuesday, Medical; Wednesday, Surgical; Thursday, Surgical; Friday, Eye. Lectures at 5.15 p.m. each day will be given as follows: Monday, Intestinal Neoplasms. Tuesday, Some Clinical Aspects of Nephritis. Wednesday, The Treatment of Hemiplegia and Ataxia. Thursday, Intestinal Neoplasms.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, 7, Fitzroy Square, W. (Out-patients' Department).—Thursday, 5 p.m.: The Early Diagnosis of Pulmonary Tuberculosis.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Clinical lectures at 3.30 p.m. each day: Tuesday, Paralysis in Children. Friday, Optic Neuritis.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Tottenham Hospital, N., 4.30 p.m.—Tuesday: Prognosis in Diseases of the Kidneys. Thursday: Dyspareunia and Sterility.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone Road, N.W., Thursday, 3 p.m.: Pelvic Inflammation, Puerperal, Gonorrhoeal, and Operative.

UNIVERSITY COLLEGE HOSPITAL, Gower Street, W.C.—Wednesday, 4 p.m., Clinical Lecture: The Effects of Certain Constitutional and Blood Conditions on the Induction and Course of Anaesthesia.

WEST LONDON POST-GRADUATE COLLEGE, West London Hospital, Hammersmith Road, W.—The following lectures and demonstrations have been arranged for next week at 5 p.m. each day: Monday, Rheumatism and its Effects in Children (with Cases). Tuesday, Finsen, Ultra-violet, and other Methods of Phototherapy (with Lantern Slides). Wednesday, Practical Medicine. Thursday, Hernia. Friday, Glaucoma: Its Varieties and Treatment.

BOOKS, ETC., RECEIVED.

Liverpool School of Tropical Medicine. Memoir XV. General Sanitation and Anti-Malarial Measures in Sekondi, the Goldfields, and Kumassi, and a Comparison between the Conditions of European Residence in the Gold Coast with those existing in India. By Lieutenant-Colonel Giles. London: Williams and Norgate. 1905. 7s. 6d.

Nouveau Traité de Médecine et de Thérapeutique. Publié en Fascicules sous la Direction de MM. P. Brouardel et A. Gilbert. IV. Maladies Communes à l'Homme et aux Animaux. Par MM. Mosny, L. Bernard, Gallois, Ménétrier, Gilbert et Fournier, Vaillard, Deschamps, P. Brouardel, Guiart. Paris: J. B. Baillière et Fils. 1906. 12s.

Tuberculin und Organismus. Dem Internationalen Tuberkulosekongress zu Paris, 1905, gewidmet. Von Dr. med. F. Köhler. Jena: Gustav Fischer. 1905. M. 2.50.

Handbuch der experimentellen Pathologie und Pharmakologie. Von Professor Dr. med. R. Heinz. Erster Band. Zweite Hälfte. Jena: Gustav Fischer. 1905. M. 20.

The Laws of Health. By David Nabarro, M.D., B.Sc., D.P.H. London: Edward Arnold. 1s. 6d.

Tourist Guide to the West Indies. Compiled by C. E. Vezey. London: The Royal Mail Steam Packet Company. 1905.

Master Workers. By Harold Begbie. London: Methuen and Co. 7s. 6d.

Criminal Responsibility. By Charles Mercier, M.B., F.R.C.P., F.R.C.S., Oxford: The Clarendon Press. 1905. 7s. 6d.

The Ladder of Pain. By George H. R. Dabbs, M.D. London: Charles William Deacon and Co. 1905. 2s. 6d.

Lehrbuch der Atmungsgymnastik. Von Dr. med. Henry Hughes. Zweite Auflage. Wiesbaden: J. F. Bergmann; and Glasgow: F. Bauermeister. 1905. 4s.

Pathologie der Primärerkrankungen des [illegible]en und hämatopoetischen Apparates. Mit einer Einleitung über die normale hämatopoetische Morphologie des Blutes samt einer Technik der Blutuntersuchung. Von Dr. Carl Sternberg (Erweiterte Sonderausgabe aus Lubarsch-Ostertag, Ergebnisse IX. Jahrgang, Abteilung 2). Wiesbaden: J. F. [illegible]

Ueber das psychische Verhalten des Arztes und Patienten vor, bei und nach [illegible]. Von [illegible]

Das Kindes Ernährungsstörungen und Ernährungstherapie. Von Professor A. D. Czerny und Privatdozent A. Keller. Sechste Abteilung. Erste und zweite Hälfte. Leipzig und Wien: F. Deuticke. [illegible]

Die Verschleppung der Chorionzotten (Zottendeportation). Ein Beitrag zur [illegible]nen Physiologie und [illegible]ie. Von Dr. J. Veit. Wiesbaden: J. F. Bergmann; and Glasgow: F. Bauermeister. 1905. 4s. 8d.

Grundriss [illegible] Systems der [illegible]lehre. Nach Vorlesungen [illegible] Von Dr. Julius Pagel. Berlin: S. Karger; and London: Williams and [illegible]

*** In forwarding books the publishers are requested to state the selling price.

CALENDAR OF THE ASSOCIATION.

Month.	Day of Week.	Meetings to be Held.
Nov.	24...Friday ...	Tottenham Division, *Metropolitan Counties Branch*, Hornsey Conservative Association Rooms, Finsbury Park, 9.15 p.m.
,,	25...Saturday...	
,,	26...Sunday..	
,,	27...Monday ...	London: Journal and Finance Committee (with Chairmen of Committees) 2.30 p.m.
,,	28...Tuesday ...	London: London County Council Audit, Spring Gardens, Charing Cross (Adjourned hearing of the British Medical Association appeal), 11 a.m. Liverpool Central Division, *Lancashire and Cheshire Branch*, Liverpool Medical Institution, 5 p.m.
,,	29...Wednesday	London: Public Health Committee. 3 p.m. Bath and Bristol Branch, Museum, Bath, 8 p.m.
,,	30...Thursday...	Staffordshire Branch. North Stafford Hotel, Stoke-on-Trent, 3.45 p.m.; Council Meeting, 3.30 p.m.
Dec.	1...Friday ...	
,,	2...Saturday ...	
,,	3 ... Sunday..	
,,	4...Monday ...	
,,	5...Tuesday ...	
,,	6...Wednesday	London: Premises and Library Committee, 3 p.m. Coventry Division, *Birmingham Branch*, Coventry and Warwickshire Hospital, 8.30 p.m. North Carnarvonshire and Anglesey Division, *North Wales Branch*, British Hotel, Bangor, 2 p.m.
,,	7...Thursday ...	Altrincham Division, *Lancashire and Cheshire Branch*, Quarterly Meeting, Altrincham. Canterbury and Faversham Division, *South-Eastern Branch*, Herne Bay Cottage Hospital, 3 p.m. Croydon Division, *South-Eastern Branch*, Croydon General Hospital, 4.30 p.m. South Carnarvon and Merioneth Division, *North Wales Branch*, Tower Hotel, Pwllheli, 2.30 p.m. Swansea Division, *South Wales and Monmouthshire Branch*, General Hospital, Swansea, 3 p.m.; Dinner, 6.30 p.m.
,,	8...Friday ...	North Cumberland Division, *Border Counties Branch*, County Hotel, Carlisle.
,,	9...Saturday...	
,,	10...Sunday..	
,,	11...Monday ...	
,,	12...Tuesday ...	London: Organization Committee, 10.30 a.m.
,,	13...Wednesday	Central Council, 2 p.m. London: South-Eastern Branch, Council, 3.15 p.m. Tunbridge Wells, Hastings, and Sevenoaks Divisions, *South-Eastern Branch*, General Hospital, Tunbridge Wells, 5.30 p.m.; Dinner, Calverley Hotel, 7.15 p.m.
,,	14...Thursday...	Norwood Division, *South-Eastern Branch*, Home and Infirmary for Sick Children, Lower Sydenham, 4 p.m. Wandsworth Division, *Metropolitan Counties Branch*, Battersea Town Hall, 8.4 p.m.
,,	15...Friday ...	London: Ethical Committee, 2 p.m.
,,	16...Saturday...	
,,	17...Sunday..	
,,	18...Monday ...	
,,	19...Tuesday ...	
,,	20...Wednesday	
,,	21...Thursday...	
,,	22...Friday ...	
,,	23...Saturday...	

Month.	Day of Week.	Meetings to be Held.
Dec.	24...Sunday..	
,,	25...Monday ...	*Christmas Day.*
,,	26...Tuesday ...	*Boxing Day.*
,,	27...Wednesday	
,,	28...Thursday...	
,,	29...Friday ...	
,,	30...Saturday...	
,,	31...Sunday..	
1906.		
Jan.	1...Monday ...	
,,	2...Tuesday ...	
,,	3 ..Wednesday	
	4...Thursday...	Swansea Division, *South Wales and Monmouthshire Branch*, General Hospital, Swansea, 3 p.m.
,,	5...Friday ...	
,,	6...Saturday...	
,,	7...Sunday..	
,,	8...Monday ...	
,,	9 ..Tuesday ...	
,,	10...Wednesday	
,,	11...Thursday ...	
,,	12...Friday ...	
,,	13...Saturday ...	
,,	14...Sunday..	
,,	15...Monday ...	
,,	16...Tuesday ...	
,,	17...Wednesday	Central Council, 2 p.m.
,,	18...Thursday...	City Division, *Metropolitan Counties Branch*, 4 p.m.
,,	19...Friday ...	
,,	20...Saturday ...	
,,	21...Sunday..	
,,	22...Monday ...	
,,	23...Tuesday ...	
,,	24...Wednesday	
,,	25...Thursday...	Wandsworth Division, *Metropolitan Counties Branch*, Balham Hotel, 8.45 p.m.
,,	26...Friday ...	
,,	27...Saturday ...	
,,	28...Sunday..	
,,	29...Monday ...	
,,	30...Tuesday ...	
,,	31...Wednesday	Bath and Bristol Branch, Bristol.
Feb.	1...Thursday...	Swansea Division, *South Wales and Monmouthshire Branch*, General Hospital, Swansea, 3 p.m. Wandsworth Division, *Metropolitan Counties Branch*, Bolingbroke Hospital, 4 p.m.
,,	..Friday ...	
,,	3 ..Saturday...	
,,	4 ..Sunday..	
,,	5...Monday ...	
,,	6...Tuesday ...	
,,	7...Wednesday	

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

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CONTENTS.

	Page
THE ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION AT TORONTO	301
MEETINGS OF BRANCHES AND DIVISIONS:	
British Guiana Branch	303
Metropolitan Counties Branch: Tottenham Division	303
" " Wandsworth Division	303
Perthshire Branch	304
South Wales and Monmouthshire Branch: Cardiff Division	304
Lancashire and Cheshire Branch: North Manchester Division	304
" " " Stockport, Macclesfield and East Cheshire Division	305
CONTRACT WORK: A SUGGESTED REMEDY. By B. W. HOUSMAN, F.R.C.S., etc.	305
IMPRESSIONS OF THE ANNUAL REPRESENTATIVE MEETING AT LEICESTER. By H. WILLOUGHBY GARDNER, M.D.Lond.	307
ASSOCIATION NOTICES.—BRANCH AND DIVISION MEETINGS TO BE HELD	309
GENERAL MEDICAL COUNCIL.—President's Address	310
THE CORONER FOR SOUTH-WEST LONDON: Application before Local Government Auditor	312
CENTRAL MIDWIVES BOARD	319
BRITISH MEDICAL ASSOCIATION LIBRARY	320
NAVAL AND MILITARY APPOINTMENTS	321
VITAL STATISTICS	321
VACANCIES AND APPOINTMENTS	321
DIARY OF THE WEEK	321
BIRTHS, MARRIAGES, AND DEATHS	322
BOOKS, ETC., RECEIVED	322
CALENDAR	324

British Medical Association.

THE ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION AT TORONTO.

THE members of the medical profession in Canada are taking great interest in the meeting of the British Medical Association to be held in Toronto on August 21st next and the following days. As already announced, the President-elect is Dr. R. A. Reeve, of Toronto, the Treasurer for the Meeting Dr. J. F. W. Ross, and the Honorary Local Secretaries are Drs. F. N. G. Starr, J. J. Mackenzie, and D. J. Gibb Wishart.

The address of the Executive Committee is the Medical Building, Queen's Park, Toronto; and the cable address is "Stamawis."

THE VISIT TO TORONTO.

It seems a far cry from now to next August, and probably the majority of members have not begun to consider whether they will take part in the visit to Canada. Months, however, pass quickly, and it is not too soon to make at least a preliminary survey of what the expedition will mean to those who undertake it. There are probably few who would not like to go if they could; but even if to some the possibility of their being able to do so may seem very small, there is no harm in their having before them a few definite facts on which to build plans even though the buildings be merely of the nature of *chateaux en Espagne*. The feasibility may really be much greater than those who have not examined the matter at present think. Given the inclination to go the matter resolves itself, like so many others, into a question of ways and means. There are some to whom the factor of time is of supreme importance, others to whom financial considerations must count for most, and a few fortunate beings who have the money, and can make the time without any difficulty commensurate with the physical benefit and mental gratification which they are likely to receive.

The questions, therefore, which it is necessary to consider are: (1) How to get to Canada and what to do while there, (2) how much time is essential, and (3) what the expedition will cost. Before entering into details the answers may be summarized in one sentence by saying that a month and £50 will, if need be, more than cover all expenditure of time and money, and enable something at least of the principal cities to be seen, and the Niagara Falls and the magnificent scenery of the St. Lawrence River to be enjoyed, in addition to putting in a conscientious attendance at meetings.

HOW TO GET THERE.

Toronto lies at the head of Lake Ontario, and can be reached in at least two distinct fashions, via New York or via the St. Lawrence River. We mention the former plan, but not to recommend it, for it has no advantages, and the inconveniences entailed, apart from other objections which might be mentioned, would be many.

The other route is that by which the traveller reaches the heart of Canada in summer through its magnificent waterway, the Gulf of St. Lawrence and the St. Lawrence River.

By this route the first ordinary landing place reached in Canada is Quebec, and for this port three distinct lines of mail steamers leave England weekly. These are the Canadian Pacific steamers (the property of the Canadian Pacific Railway Company), the Dominion Line, and the Allan Line. In the case of each the port of departure in England is Liverpool, and as all possess ships of the highest class, there is probably little to choose between them so far as regards comfort and safety and excellence of accommodation.

The distance from Liverpool to Quebec is 2,708 miles, or nearly 300 miles shorter than the distance from the same port to New York, and the voyage normally lasts from eight to ten days, the time varying within these limits with the weather and the speed of the particular vessel. It is to be remembered, however, that during quite half the time the ship is sailing in the Gulf of St. Lawrence, which is practically an inland lake, and in the St. Lawrence itself, often within a stone's throw of land.

Arrived at Quebec the ships in all cases remain a certain number of hours, and it is open to the passenger if he pleases either to land temporarily and get a passing glimpse of historic Quebec, or to regard his voyage as complete and make the rest of his way to Toronto by railway. Equally it is open to him to remain on the ship and continue his voyage for another twelve hours until it reaches its final port.

He will then find himself at Montreal and at the beginning of the great inland series of lakes and rivers. Here navigation for ocean steamers finishes, and the traveller, if he is particularly desirous of reaching Toronto by ship must transfer himself to one of the lake steamers. Alternatively, however, he can and in most cases does reach Toronto by rail.

Arrived at Toronto he knows what he has to do; attend and take part in the week's work of the Association. During its progress, besides exploring Toronto itself, he may probably find time to visit Niagara, as steamers cross the lake at frequent intervals throughout the day.

The business of the meeting concluded, he has only to find his way home again. How much time he consumes in the latter process rests with himself to decide. If he is particularly anxious to limit his absence from England to a month it will still be open to him to examine Montreal and Quebec on his way, or if he desire to see New York, he can run down to there and return home from that port. Moreover, a trip to New York and back is quite easy to arrange either from Toronto or Montreal, the train journey occupying about a night. Those who content themselves with Quebec, Montreal, Toronto, and the Niagara Falls need, as has already been indicated, be absent from home for no more than one month. An extra fortnight will, of course, enable much more to be seen, for it is only five days' leisurely run right across the whole continent to Vancouver in British Columbia, not to mention the many shorter expeditions which can be taken.

Dress.

The voyage across the Atlantic from Liverpool to Belle Isle and up the Gulf of St. Lawrence is apt to be cold, so that wraps should be taken, but the weather in Canada, even at the end of August, is likely to be as warm as a warm English summer. Judging from experience gained at the annual meeting in Montreal in 1897, a top hat and a frock coat will not be by any means considered necessary incumbrances; a set of flannels and another suit of light tweed will probably be found convenient, together with a panama hat and a deer-stalker. It is an advantage to travel with as little luggage as possible, and care should be taken that the portmanteau or bag for use on shipboard should be shallow enough to go under a berth.

Time Required.

In general terms, the time required—namely, one month—has already been indicated, but it will, perhaps be possible at a later date to show that it might be managed in a few days less by those who have no actual business to transact, and whose movements are influenced merely by their own convenience and desire to be present at the meetings of the Association throughout their duration. At the present moment, however, this is impossible, for none of the lines have as yet arranged their sailing lists for next summer. The meeting does not begin until August 21st, and, in the meantime, it may be anticipated that the steamers' movements will fit in conveniently with this date on the outward and homeward journey. Allowing therefore, say, eight days for the steamer voyage in the one direction and nine days in the other, the member anxious to confine himself to a calendar month will still have ten days or so for the business of the meeting and a little sight-seeing at Toronto, Montreal, and Quebec, though he must allow, of course, for the train journey to Toronto and back. This from Quebec, allowing for stops on the way, takes about a day, and from Montreal about half that time.

The Cost.

The cost of the expedition will be made up of each traveller's expenses aboard, rail expenses, hotel expenses, and purely personal items. The latter are difficult to calculate, since no two men ever spend exactly the same in the course of the day, even though they seem to do almost exactly the same things. The only indication in this direction which can be offered is the fact that getting about in Canadian towns costs no more, and in some ways less, owing to the admirable systems of electric tramways, than in England, while cab fares vary from a half to one dollar, according to distance.

The rates charged by hotels are, of course, various; in Canada, as in America, it is the custom to pay so much a day for each day's board and lodging, and in Toronto this sum varies from two and a half dollars to five dollars (roughly 10s. to 20s.) a day. At Montreal, at the Windsor and the Canadian Pacific Railway Company's own hotel, the Place Viger, as also at the Chateau Frontenac at Quebec, which are all of very high class, the charges range from 14s. to 20s. a day. In general terms it may be said that rates at hotels in Canada are much the same as in large towns in England, and that at many they are relatively cheaper since the accommodation provided is of a superior character. It seems likely, however, that before the date of the meeting the local committee may have been able to arrange for special terms for members of the Association, and may also be able to point out suitable lodgings to those who dislike hotels. The rates here mentioned, therefore, may be taken as the maximum which any one need pay for sleeping accommodation and full board, except extras, such as wine, etc.

As for railway expenses, it makes no difference whatever whether the traveller proceeds to Toronto by rail from Quebec or from Montreal. The fare from either place is the same—namely, £1 15s. 5d. The ordinary railway carriages are exceedingly comfortable, but there are of course sleeping saloons for those who desire them. The steamship fare, likewise, it may here be noted, is the same to Montreal as to Quebec.

As for the charges for the ocean passage from Liverpool, these vary a little on each line; they vary again according to the position of the berth selected, and the precise nature of the cabin accommodation provided. In all other respects, however, than that of the nature of the sleeping apartments all saloon or first-class passengers are placed on precisely the same footing. Each line of steamers, moreover, makes a reduction of 10 per cent on the fare for the homeward journey, provided a berth is booked before the departure from England. The fares by the Canadian-Pacific Line are £14, £15, £17, and £18. Its steamers on the summer route are all called after some lake—such as Lake Erie, Lake Champlain—and average some 8 000 tons in size. Early in the new year two of the Company's new Empress fleet will be working. These will be mammoth steamers of some 15,000 tons, and on them doubtless it will be possible for those who are luxuriously disposed to pay higher rates than those mentioned and to obtain suites of apartments and not berths only. These steamers, like those at present at work, will be twin-screw steamers, for the Company considers the turbine system still too much in the experimental stage for adoption. It is expected that they will perform the whole run within seven days.

On the Allan Line fares run from £15, £16, £18 to £20 on one division of its fleet, and from £16 £17, £18, £20 to £25 and upwards on the others. The majority of the boats are between 10 000 and 12,000 tons. On the Dominion Line the prices range from £15 to £20 on some of its boats and from £14 to £20 on others. All these lines are prepared, if desired, to make arrangements by which their tickets on the homeward journey become available by boats leaving New York. In this connexion it is worth while to remind readers that the only English Atlantic liners sailing from New York and outside "the Morgan combine" are the Cunards. In all cases it is necessary to pay a deposit when securing a berth, and early application is desirable. This may seem to entail a certain risk, but as August is the month when the great stream from Europe to America is in full flow, there will be probably little difficulty in getting rid of a berth if it should not be required. At a later date details will be given of possible tours from Toronto, including trips to Winnipeg and the Prairies, and that on the Canadian Pacific Railway to the Atlantic and back—one of the most attractive character and not particularly expensive. It is well to remember that the currency of Canada is the dollar of 100 cents, the value of which is about 4s.

Local Committees.

The following is a list of members of Committees appointed to make arrangements in Canada:

Local Committee of Arrangements.

Dr. A. McPhedran.
Dr. G. A. Bingham.
Dr. J. A. Temple.
Dr. A. A. Macdonald.
Dr. C. J. C O Hastings.
Dr. R. B. Nevitt.
Dr. J. J. MacKenzie.
Dr. D. J. G. Wishart.
Dr. F. N. G. Starr.
Dr. R. A. Reeve, President elect, *ex officio*.

Reception Subcommittee.

Chairman.—Mr. I. H. Cameron.

Drs. N. H. Beemer, G. H. Barnham, W. Harley Smith, W. Britton, R. A. Stephenson, J. T. Gilmour, C. K. Clarke, A. B. Macallum, Price Brown.

Secretaries.—Drs. A. Primrose and W. F. Clarke.

Finance Subcommittee.

Chairman.—Hon. Dr. R. A. Pyne.

Drs. Chas. Sheard, C. Trow, J. T. Dunbar, Alex. Davidson, W. J. Greig

Ald. A. Lynd, Ald. John Noble, and Dr. J. F. W. Ross *(ex officio)*, G. S. Cleland, Ald. W. S. Harrison.
Secretary.—Dr. Wm. Goldie.

EXCURSION SUBCOMMITTEE.
Chairman.—Dr. N. A. Powell.
Drs. C. J. Wagner, W. J. Wilson, A. O. Hastings, H. A. Bruce, G. R. McDonagh, W. J. McCollum, J. O. Orr, J. W. Peaker, C. Gilmour, T. McKenzie.
Secretaries.—Dr. C. P. Lusk, Dr. W. H. Pepler.

TRANSPORTATION SUBCOMMITTEE.
Chairman.—Dr. B. L. Riordan.
Drs. W. P. Caven, W. H. Harris, H. W. Aikins, J. H. McConnell, J. C. Patton, S. M. Hay, H. Hunt, A. D. Watson, Forbes Godfrey.
Secretaries.—Drs. H. A. Beatty and Geo. Elliott.

DINNER SUBCOMMITTEE.
Chairman.—Dr. F. Le M. Grasett.
Drs. Allan Baines, D. C. Meyers, E. W. S. Pragge, R. J. Dwyer, R. T. Noble, G. A. Peters, H. C. Burritt, C. L. Starr, J. E. Elliott.
Secretaries.—Drs. H. A. Parsons and C. J. Copp.

SUBCOMMITTEE IN CHARGE OF EXHIBITS.
Chairman.—Dr. A. Jukes Johnson.
Drs. James Spence, John Caven, John Hunter, T. F. McMahon, R. B. Orr, C. E. Stacey, B. Z. Milner, T. H. Stark, A. J. Harrington.
Secretaries.—Drs. W. A. Young and T. D. Archibald.

PRINTING AND PUBLISHING SUBCOMMITTEE.
Chairman.—Dr. A. H. Wright.
Drs. J. T. Fotheringham, C. M. Foster, E. E. King, John Ferguson, W. H. B. Aikins, D. King Smith, H. B. Anderson, E. R. Hooper, J. J. Cassidy.
Secretaries.—Drs. J. N. E. Brown and A. J. MacKenzie.

LOCAL ENTERTAINMENTS SUBCOMMITTEE.
Chairman.—Dr. H. Crawford Scadding.
Drs. J. L. Davison, J. J. Palmer, A. H. Garratt, Allan Shore, J. N. Henwood, B. E. Hawke, J. D. Thorburn, Wm. Oldright, G. S. Ryerson, W. McKeown.
Secretary.—Dr. H. S. Hutchison.

HOTELS AND LODGINGS SUBCOMMITTEE.
Chairman.—Dr. H. T. Machell.
Drs. H. J. Hamilton, A. C. Hendrick, G. B. Smith, J. H. Rowan, G. H. Carveth, S. Johnston, E. A. McCullough, R. J. Wilson, J. S. Hart, R. Griffith, E. H. Greene, C. R. Sneath, C. A. Hodgetts.
Secretary.—Dr. F. A. Clarkson.

MEMBERSHIP SUBCOMMITTEE.
Chairman.—Dr. R. W. Bruce Smith.
Drs. G. E. Smith, W. B. Thistle, C. O'Reilly, S. Johnston, D. M. Anderson, James Caven, T. A. Todd, Thomas Wylie, Paul Scott, Helen MacMurchy.
Secretary.—Dr. W. H. Cronyn (Rosedale).

CORRESPONDING MEMBERS OF THE MEMBERSHIP SUBCOMMITTEE.
British Columbia.—Drs. O. M. Jones (Victoria), S. J. Tunstell (Vancouver).
Saskat.—Dr. W. D. Ferris (Edmonton).
Alberta.—Dr. J. D. Lafferty (Calgary).
Manitoba.—Dr. F. R. England (Winnipeg), R. S. Thornton (Deloraine).
Quebec.—Dr. John MacCrae (McGill College, Montreal), A. Marois (Quebec).
New Brunswick.—Dr. Murray Macfaren (St. John).
Nova Scotia.—Dr. John Stewart (Halifax).
Prince Edward Island.—Dr. Jenkins (Charlottetown).
Ontario.—Drs. Forbes Godfrey (Mimico), W. S. Bond (Eglington), A. H. Perfect (Toronto Junction), W. J. Charlton (Weston), W. Walters (East Toronto), R. W. Powell (Ottawa), H. A. MacCullum (London), Jas. Third (Kingston), A. E. Malloch (Hamilton), J. A. Marquis (Brantford), T. C. Neal (Peterborough), A. B. Welford (Woodstock), W. Ratcliffe (St. Catherine), T. Kellam (Niagara Falls), W. Burt (Paris), R. J. Gibson (Sault Ste. Marie), T. H. Middlebro (Owen Sound), J. L. Bray (Collingwood), R. Raikes (Midland), W. J. Gibson (Belleville), and W. Gilchrist (Orillia).

Meetings of Branches and Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* JOURNAL.]

BRITISH GUIANA BRANCH.

THE annual meeting of this Branch was held at the Victoria Hotel, Georgetown, on October 14th, Dr. W. F. LAW, Vice-President, in the chair.

Support of Branch.—Resolved that this meeting pledges itself to support the Branch for at least another year.

Financial Statement.—The financial statement was passed round and examined by the auditors appointed (Drs. Hugh Ross and J. M. de Freitas).

Vote of Thanks.—A vote of thanks was proposed and carried to the retiring Secretary.

British Guiana Medical Annual.—A grant of 50 dols. was proposed towards the *British Guiana Medical Annual* and approved by the meeting.

Election of Officers.—The officers for the coming year were elected as follows:—*President:* W. F. Law, M.D., F.R.C.S. *Vice-Presidents:* Hon. Dr. J. E. Godfrey, Dr. Gomes. *Council:* Drs. Wishart, Conyers, J. M. de Freitas, and Edmunds. *Honorary Secretary and Treasurer:* Dr. C. P. Kennard (temporary). *Auditors:* Drs. Hugh Ross and J. M. de Freitas.

Resignation.—The resignation of Dr. Barnes was accepted with regret.

METROPOLITAN COUNTIES BRANCH:

TOTTENHAM DIVISION.

A MEETING of this Division was held on Friday, November 24th, at 9.15 p.m. at the Hornsey Conservative Association Rooms at Finsbury Park. Dr. C. E. HUTT, Chairman, presided.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Paper.—Dr. G. F. STILL read a paper on Common Faults and Fallacies in Infant Feeding, which was listened to with much interest. A hearty vote of thanks was passed to Dr. Still for the paper.

Midwives Act.—A discussion was opened by Dr. FULLER on the scale of fees in connexion with the Midwives Act. Dr. PERCY ROSE (Stratford) attended as a visitor, and explained the items of fees on the scale as proposed by the Stratford Division. Drs. TOMLIN, FULLER, CHAPPEL, WINSTON, TRESILIAN and the CHAIRMAN took part in the discussion. It was then proposed and seconded—

> That the scale of fees referred to the Divisions from the Annual Representatives' Meeting, and known as the Stratford scale, be approved and adopted by the Division.

It was proposed and seconded as an amendment that in the last clause the words after anaesthetist—

> Not being the assistant or employer of the medical man attending

—be omitted. On a division the amendment was lost and the original proposition was carried.

Medical Men and Ambulance Lectures.—A discussion was opened by Dr. CHAPPEL on the position of medical men in connexion with ambulance lectures, examinations, and competitions. A lively discussion followed, in which Drs. WINSTON, CHATTERTON, TOMLIN, STAUNTON, FULLER, and TRESILIAN took part. It was then proposed, seconded, and carried that all lectures, examinations, and competitions, in connexion with public bodies and technical education should be regarded as matters of business, and be charged for. Lectures of one hour each to be charged for at the rate of one guinea each lecture. Examinations and judging competitions to be charged for by the medical man officiating at a charge to be fixed by himself at his own discretion. It was decided that in the matter of ambulance work in connexion with charitable institutions the question as to whether a fee was to be charged or not, was to be left to the discretion and judgement of the medical man involved, after due inquiry.

Deputation to Parliamentary Candidates.—Representatives were then selected to form local deputations to wait on candidates of both political parties at the next general election, to interview them and put before them the views of the Division on medical matters which will come before Parliament (as drafted in the SUPPLEMENT of the BRITISH MEDICAL JOURNAL for November 18th, 1905) and to ascertain their views, and how they will vote on these matters. The following members of the Division were appointed as interviewers: Tottenham and Wood Green electoral division, Drs. C. E. Hutt and G. Chappel; Finsbury Park, Hornsey, Harringay and N. Islington, Drs. J. R. Fuller, A. Shoyer, and J. Smith; Enfield and Edmonton, Drs. Leonard Grant, Howard Distin, and Tresilian.

WANDSWORTH DIVISION.

AN ordinary meeting was held on Thursday, November 23rd, at the Worple Hall, Wimbledon, Dr. HUGH KER, Chairman, presiding.

Confirmation of Minutes.—The minutes of the meetings of October 26th and November 2nd were read and approved.

Putney Hospitals.—It was resolved to ask the Chelsea and

Richmond Divisions to nominate three and two members respectively to act on a conjoint committee to consider and report what steps they deemed it desirable should be taken to safeguard the interests of the general practitioners in the area likely to be affected. The Wandsworth Division nominated in all eight members to represent a similar number of districts within the Division area.

North Manchester Division.—A communication was received stating that the authorities in Manchester proposed to appoint a few selected medical men to answer the calls of all midwives within their area, and that this action would be opposed.

Deputation to Parliamentary Candidates.—It was resolved that the Executive Committee should select members competent to act on all proposed deputations.

Conference with L C C. Pathologists.—It was resolved that Drs. Ker, Shearer, and Rowland Fothergill should represent the Division at this conference.

Midwives Practising in Area of Division.—In regard to the proposed conjoint committee of three medical societies to receive and reply to all questions raised by midwives registered and practising within the area of the Division, it was resolved that the reply of the Central Council should be considered by the Executive Committee, as its exceeding vagueness seemed to make it unintelligible.

A Pure Milk Supply.—Professor R. T. Hewlett then read a paper entitled The Problem of a Pure Milk Supply. After stating the total consumption per head in London in a year to be forty-two gallons, and that in four ways milk was deleterious, he mentioned the sources of contamination, that the ideal system for distributing would be bottles, and referred to preservatives used. Sterilization, pasteurization, the Budde process, and dried milk were severally discussed and samples shown. Suggestions for obtaining a pure milk supply were enumerated An interesting discussion followed. Drs. Randall, Sparrow, and Fothergill exhibited pathological and allied specimens and shortly explained the points of interest.

Vote of Thanks.—A hearty vote of thanks to Professor Hewlett closed the meeting.

PERTHSHIRE BRANCH.

The annual meeting was held at Perth on November 10th, Dr. Lowe, President, in the chair.

New Members.—Dr. N. D. Mackay and Dr. W. Sibbald Robertson were elected as members of the Association and Branch.

Confirmation of Minutes.—The minutes of last meeting were read, approved, and signed by the President.

Election of Officers.—The office bearers for the ensuing year were elected as follows: *President:* Dr. J. Stewart Norwell. *Vice-President:* ———. *Secretaries:* Dr. W. A. Taylor and Dr. Alexander Trotter. *Treasurer:* Dr. Hume. *Council:* Drs. Burnett Kennedy, Govan, Borrowman, and Lyell.

Report of Council: During the year three meetings of the Branch and one meeting of Council were held. The number of members to-day is 55, compared with 61 last year.

Report of Treasurer.

	£	s.	d.
To balance from 1904	0	12	10
Received from London	11	0	0
Interest on two dep. receipts	0	4	10
	11	17	8
Expenditure	7	2	0
At credit of Branch	4	15	8

—Dr. Lowe moved a special vote of thanks to Dr. Hume, the Treasurer, which was accorded unanimously.

Annual Representative Meeting.—Dr. Trotter briefly referred to the various important matters discussed at the annual meeting of the Association including the proposal to have a Royal Charter; changes in the form of the Journal; superannuation scheme for the staff, etc.—Dr. Buist (Dundee) moved a hearty vote of thanks, which was accorded unanimously.

Installation of New President.—Dr. Lowe, the retiring President, then asked Dr. Norwell to take the chair. Dr. Norwell expressed his thanks to the Branch in electing him president for the ensuing year, and then addressed the Branch on the relation of the school teacher to the medical man. In his address he referred to how the school teacher could be educated up to assist the doctor, and also children under their care, in regard to health, and advocated the need for teaching in the higher standards applied physiology, to be followed by the children experimenting themselves; how, with their retentive memories, much pain and suffering might be alleviated, and saving of life be accomplished in later years, if the young mind was instructed more in regard to health and hygiene than in the teaching of dead and modern languages, etc.—On the motion of Dr. Borrowman, a hearty vote of thanks was accorded the President for his address, Dr. Borrowman stating that he thought much might be done for the young lives spoken of.

Medical Inspection of Schools.—A discussion followed in regard to the medical inspection of schools, and Dr. R. C. Buist, in a few remarks, advocated that provision should be made for the proper medical inspection of schools, and advised that the various Branches bring influence to bear on local members of Parliament.

Complaint Against a Practitioner.—A complaint against a medical practitioner was, after discussion, referred to the Central Ethical Committee.

Matters Referred to Council.—Alteration of Branch rules and a proposal to form a Branch reference library were referred to Council for further consideration.

Dinner.—The members thereafter dined in the Station Hotel, Dr. Buist and Dr. T. Mitchell as guests.

SOUTH WALES AND MONMOUTHSHIRE BRANCH: CARDIFF DIVISION.

An ordinary general meeting was held in the rooms of the Cardiff Medical Society on Thursday, November 16th, Dr. Charles Vachell in the chair.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Contract Practice.—The recommendations of the Medico-Political Committee on this subject were considered and unanimously adopted.

Branch Contract Practice Committee.—The following were elected to serve on this Committee as Representatives of the Division, namely, Drs. Leigh, Garrett Horder, and T. Wallace. It was resolved that the following recommendation be sent to the Branch Council:

> That the Honorary Secretaries of the Cardiff, Newport, and Swansea Medical Societies be ex-officio members of the Branch Contract Practice Committee, provided that they are members of the Association.

Papers, Cases, etc.—Mr. J. Lynn Thomas, C.B., made some remarks on a case of dislocation of both shoulder-joints.—Mr. E. Tenison Collins read notes on two cases of Caesarean section.—Mr. H. C. Ensor showed a case of exophthalmic goitre with extreme proptosis and keratitis e lagophthalmo.

LANCASHIRE AND CHESHIRE BRANCH: NORTH MANCHESTER DIVISION.

An ordinary meeting of this Division was held at the Palatine Hotel, Manchester, on Thursday, November 23rd, Dr. Boddy in the chair.

School Certificates.—It was resolved:

> That the question of school certificates and fees be referred to the local Divisions, the Medical Guild, and the Medico-Ethical Association and brought up for further discussion at a future meeting.

Provident Dispensaries.—The following resolution was passed:

> That the Branch Council be requested to take the necessary steps to enforce their resolutions concerning the provident dispensaries with regard to any members of the Branch who are on the staff of these dispensaries.

Medical Practitioners and Midwives.—The provision of medical assistance to midwives was discussed further, and the following resolutions passed:

1. That such provision be made in accordance with the following rules:
   - (a) That no special appointments be made.
   - (b) That a list be drawn up and given to each midwife of medical men in each district willing to give such assistance.
   - (c) Every regist red medical man willing to give such assistance shall have his name placed on the list.
   - (d) The patient's usual medical attendant, if on the list, shall in all cases have preference, and, in his default, the nearest medical man whose name is on the list shall be sent for.
2. That a combined meeting of the Divisions in Manchester and Salford be held to consider these points and bring them before the Local Supervising Authority.

3. That a deputation from this Division be appointed to act in the event of the combined meeting proving ineffectual.
4. That the following members shall form the deputation: Dr. Boddy (Chairman), Dr. Broadbent (Representative), and Dr. McGowan (Secretary)

Resolutions of the Medical Guild.—The resolution regarding contract practice was fully discussed, several members being in favour of allowing further contract practice under medical control; others objecting to the establishment of any further contract work. The matter was therefore left open for further consideration.

General Practitioners and Consultants.—The resolution regarding the relations of general practitioners and consultants was agreed to, with the following alteration of Paragraph 3: The word "right" to be altered to "courtesy claim."

Proposed Division Supper.—The question of holding a Division supper was then discussed, and the Secretary requested to make the necessary arrangements.

STOCKPORT, MACCLESFIELD AND EAST CHESHIRE DIVISION. A MEETING of this Division was held at the Macclesfield Infirmary on Wednesday, November 15th, Mr. J. SOMERVILLE (Vice-President) in the chair.

Apologies.—Apologies for absence were received from the President and other members.

Annual Representative Meeting.—Mr. B. W. HOUSMAN, Divisional Representative, read a report on the work done at the Representative Meeting at Leicester. It was resolved that the report be accepted.

Contract Medical Practice.—With a view to introducing a discussion on the recommendations of the Medico-Ethical Committee on contract work, referred to Divisions, a paper entitled Contract Work and a Suggested Remedy, was read by Mr. B. W. HOUSMAN. It is published below. It was apparent that the question could not be adequately discussed at one meeting, so the following resolutions were passed:

1. That a vote of thanks be accorded to Mr. Housman for his paper.
2. That the paper be printed and circulated among all the members and non-members in the Division; and that the Honorary Secretary be authorized to forward the paper to the Editor of the BRITISH MEDICAL JOURNAL with a view to its publication.
3. That contract practice in connexion with club work is bad in principle, and prejudicial to the best interests of the profession.
4. That further discussion be postponed until Mr. Housman's paper shall have been published for at least a week, and that the meeting do stand adjourned until such time.

CONTRACT WORK: A SUGGESTED REMEDY.

Read before the Stockport, Macclesfield and East Cheshire Division of the Lancashire and Cheshire Branch.

By B. W. HOUSMAN, F.R.C.S., etc.

THE question of contract work has been before us now for several years, and I have no doubt that to many it may seem that nothing has been done beyond a vast expenditure of ink and breath, and that a solution of the difficulty is no nearer now than it was nearly ten years ago, when the *Lancet* commenced the series of papers entitled "The Battle of the Clubs." If there are any such here to-day I can only say thay they must have been very casual readers of the medical journals, and even of the daily and local papers. Ten years ago the position of the medical profession seemed hopeless in the struggle for betterment in the conditions of their contract work. I am convinced that we are now, quite immediately, awaiting the dawn of a new and happier era. The reason for the change that has slowly spread through the darkness lies in one word, *combination*. Ten years ago the fight consisted of a series of desultory skirmishes, and the results were varied, mainly depending on the condition of local medical organized combination. Everywhere we had against us the combined forces of Friendly Societies and Trade Unions, with their strength, funds, and sense of importance begotten of successful co-operative management; and very few and far between were the successes won by medical men. In those days our demands varied and our methods of making those demands known also varied; many strategical errors were made, and the attacking party, if I may so call ourselves, drew off for alterations and repairs. I believe we have learned the lesson that without combination we are helpless. I have often heard the phrase, "The doctor's trade union will be too strong for us." Unfortunately, whatever many others may say, we had no trade union, and many of us held up our hands in pious horror at hearing the British Medical Association so designated. I have every confidence that the recent changes in the constitution of our Association will have the effect of introducing just that element of trade unionism into our body politic that shall make us a power to be respected, without in any way detracting from the honourable traditions of the profession. After all, the vast majority of us practise medicine for a livelihood, and in the hope—more often than not, I fear, but remote—of a competence in declining years. I would ask the more happily-circumstanced minority to remember this, and not to throw cold water on our efforts by damning as "rank trade unionism" our struggle to ameliorate conditions the bitterness of which they have never tasted.

At the present time the British Medical Association includes rather more than half the registered practitioners in the United Kingdom. It is to be hoped that the discussion and treatment of questions such as the present by the 140 Divisions will so recommend the Association as to lead to a large increase in membership, and to the consolidation of the medical profession into such a combination that any expression of opinion by it shall possess a weight hitherto unknown. Having now emphasized the prime necessity of combination, I will proceed by urging the importance of having a definite method in our procedure.

Some years ago an anonymous correspondent in a local paper remarked—more aptly, probably, than he was aware—that "doctors and night soil men are subject to the same economic laws." I have often smiled at the quaintness of expression in this truth, and it is incumbent on us to very much remember this before we go much further in the question.

In considering the adequacy or otherwise of the usual rates for contract work, it may be interesting to compare the methods usually adopted in fixing the rates of payment (*a*) for sick or funeral benefits, and (*b*) for payment for medical attendance.

In the former case elaborate tables have been drawn up by skilled actuaries, and all the chances, risks, and possible eventualities have been considered; laws have been made to enforce the taking of such precautions, and to ensure the financial stability of every undertaking coming under the head of a Friendly Society. As these Friendly Societies form the majority of the bodies providing medical attendance by contract, it will be convenient to include all such bodies under that name. As a result of years of investigation, it is quite possible to accurately gauge the sickness incidence and death-rate of any number of persons on ascertained data. As the result of this careful actuarial work, and owing to a wise management, many Friendly Societies have been able to establish large reserve funds, and this, too, without us ever hearing any outcry as to the rates for sick and funeral benefits being excessive. In fact, Friendly Societies have accumulated profits from their insurance work. What they will, can, or may do with those profits is nothing to do with us, and we most certainly have never dreamed of taking any of these hard-earned savings, as is generally stated we do, when we ask for an increase of rates for contract work. Now compare this method with that adopted in fixing rates for medical attendance. In times gone by, when a Friendly Society started, no method at all was ever employed in fixing the rate. Sometimes one or all of the medical men in the district would be asked, "At how much will you take the club per annum?" The appointment was decided in a quite haphazard way, varying from place to place. Now, no medical men have ever made investigations on any sufficiently large scale to enable a safe conclusion to be drawn as to what rate pays and what is a loss. The only method observed seems to have been to fix a figure convenient for calculation—a penny a week, a shilling a quarter.

Of course, the societies know how many days' sickness they pay for, but this is never in any way a true criterion of the total amount, but only of the days of incapacitation. It quite misses the large amount of minor ailment; and in contract work this forms a serious cause for complaint, as attendance is demanded for conditions which would be disregarded were there a liability for a fee incurred on each occasion. Moreover, to the conscientious attendant, the sure diagnosis of a trivial ailment is often more difficult than that of a serious condition.

I am thus brought a step further in the plan of campaign. We must take steps to ascertain what is the average cost of

seeing and treating a patient. It is quite apparent that this will vary according to the density of the population and to the methods of the individual practitioner. I have myself made some investigations on the subject, which appear in the Report on Contract Practice pp. 50 51, which indicate that the average cost of a single attendance within a two-mile radius, including medicine, is somewhere about one shilling. There is not time now to demonstrate the methods adopted, but it would be quite an easy matter to decide by collective investigation spread over a few years. Having thus ascertained the "prime cost" of an attendance, we have something to work upon in formulating a demand for improved rates of pay.

The question of our own remuneration for skill, care, time, and trouble is more difficult, and I cannot but maintain the general fairness of the custom in vogue among many men of varying charges with house rental. Excluding the so-called high-class practices, which are not affected by this question, it will probably be found that the "prime cost" is much the same among the mixed middle-class practices, and though I am not prepared to say that my own results will coincide with the average, I can say this, that the average drug bill is one eighth to one-sixth of the total practice expenses. You will thus be supplied with a reply to the common taunt that you charge 2s. 6d. for a bottle of medicine costing 2d. The bottle and contents may cost that sum, but the attendance costs at least 1s., not to mention your own skill and knowledge drawn upon in the attendance. We have now settled the question of "prime cost" of attendance, and that we may also fairly charge for that impalpable quantity "our skill." On this I cannot now enlarge, but I do insist on this—that the patient who only pays "prime cost" of attendance is still in the position of a recipient, and I would have such clearly to appreciate the fact that he may be a recipient of charity in the form of skill, and time, and trouble, just as much as he may be in accepting the gift of a pair of boots or of a coat. It is a gift. Therefore, in looking at the business aspect of contract work we must provide for payment of prime cost, plus professional skill, in order that the transaction shall be one of business with no question of charity. Upon this point our friends, the enemy, have always most strongly insisted. They want business. They are willing to pay a fair price for a fair article. But hitherto we have never been able to prove to them what *is* a fair price, and we must set to work and do so or we shall fare but little better in the future than we have in the past. And, therefore, I advocate my second essential "investigation." Now, I fear, I have to refer to a question which will involve some unpleasant home truths. I mentioned just now "a fair price for a fair article." I am ashamed to say that it is impossible to deny the fact that distinctions have been, and are, made in the treatment of contract and private patients by some practitioners. It cannot be denied. I will not say that the distinction exists in the essentials of diagnosis or treatment so much as in demeanour; but the contract patient is often conscious of it, and feels it, and makes it a standing grievance. Any scheme for improvement must take this into consideration and provide a remedy. On the other hand, the very fact that this moral obliquity does exist among us professional men gives cause for hope that there is latent somewhere a dormant business instinct. What business man ever succeeded by habitually and persistently selling good articles, or any article, for that matter, at or below cost price? If my conclusions from my own experience are generally correct—and they certainly were for the period I refer to in my practice—contract practice at current rates, conscientiously conducted in accordance with present-day knowledge and methods, cannot be carried on without being an unjustifiable discount on other forms of practice. And I cannot do better than to warn those who accept cheap attendance, especially in face of expressed medical disapproval, to regard the article supplied with suspicion. As an illustration of the poorness of pay I will quote the report, p. 14 taken from the balance sheets of five different Friendly Societies. In one year these five societies paid 2 835 weeks of sick pay. From the same balance sheets it appears that the payment to the club medical attendants for that same period was at the rate of 1s. 11½d. per week of sickness. Of course some of the members employed their own medical attendants, but, on the other hand, the club attendants had all the minor ailments of many of the members who did not go on the funds. In the report there appear some instances in which the payments received approach to adequacy, but I find none in which the returns attain my definition of a reasonably profitable business transaction.

Having thus sufficiently shown the inherent unsoundness of the methods adopted in fixing rates for contract work, I may, as shortly as possible, place before you a few of the ostensible advantages of such form of medical attendance from both sides of view.

The Medical Attendant's View.

1. Certainty of income, often at a certain date.
2. Freedom from bad debts.
3. Freedom from trouble of bookkeeping and collecting.
4. Introduction to families.

The Patient's View.

1. Freedom from doctor's bills, often excessive.
2. Doctor at beck and call night and day.

To these I will reply. The income may be certain and punctual, but it is always disproportionate to the work done. In my own experience it was equivalent to an amount of private work with at least 50 per cent. bad debts. Bookkeeping may be made quite simple and easy if properly arranged. I have found contract work no introduction to families or private work. So the patient has the best of the bargain from all points of view. The disadvantages are for a few.

For the Medical Attendant.

1. He is bound to attend any member, at any time, and forfeits his independence in every way.
2. He is liable to attend well to-do people at a loss.
3. He probably largely discounts the profits of private practice.
4. He is regarded as the "club doctor," and his treatment is therefore regarded, and discussed, hypercritically.

For the Patient.

1. He has no choice of attendant; he must take what is provided by the club or forfeit the benefits for which, by his contributions, he pays.
2. He is, or thinks he is, treated differently from private patients, and so looks with more or less suspicion on his doctor.

I am aware that there are many other alleged advantages and disadvantages on both sides. If any one will bring them forward I will endeavour to discuss them fairly, give them due credit, and place them accordingly.

My own experience of contract work forces me to the conclusion that the whole system is bad, and that the only solution likely to be satisfactory to both sides is to be found in a radical change of system. The system of which I stand as an advocate is "insurance against doctors' bills." The National Deposit Friendly Society will very likely claim priority for the idea. That society, or any other, is welcome to the honour. I only want to see the system widely tried.

Now this insurance plan is as follows:

1. *By combination*: we must assure that as many as possible join in the work actively by doing all they can to further the objects of the system; passively by doing nothing against it if they cannot help actively.
2. *By investigation* as to the average cost of average medical attendance.
3. *By persuasion and conciliation* of the Friendly Societies, by producing arguments showing the unsoundness, inequity, and inconvenience of the present system to both sides.

There must inevitably be a considerable amount of discussion of a local character, but the new constitution of the Association admirably lends itself to this purpose. Then, having settled what is the "prime cost of attendance," and what a fair remuneration for skill, etc., we readily arrive at a "minimum fee" for an attendance at a surgery or within a given distance thereof, including the supply of the necessary medicine. This minimum fee can form the basis of a tariff for medical services which will be adopted by each insurance body, and the premiums must be calculated to provide for the payment of doctors' bills *up to* this amount per attendance. Having come to an agreement as to the local tariff, the doctors need have nothing more to do with the management; it remains as a purely actuarial question to ascertain the amount of sickness that will require medical attendance, and the amount of attendance that will be required. With the tariff fixed, it is merely a question of arithmetic to find out what annual premium will produce the estimated sum for the insurance. Thus there will be established a fund having for its object the payment of the minimum fee for each attendance

by any medical man or any contributor. The contributor pays his premium, say 5s. per annum, to the fund; if ill, he sends for, or consults, any medical man he chooses. He may or may not tell him that he is insured in the fund. At the end of the attendance, or at stated times, he will obtain his account from the medical attendant; this account must specify the number of attendances or other items as designated in the local tariff; this account will be forwarded to the fund, and will be paid direct to the medical attendant; the account will be returned to the patient, showing "to credit" the amount paid in accordance with the tariff. If any "balance due" remains, the patient remains liable for it to his attendant. The question of bargain thus remains only as one between patient and doctor; the questions of means and wage limit are quite got over; the doctor charges what he thinks fit for his services, or such fees as he may arrange with his patient: the fund only pays on each account in accordance with the tariff based on the minimum fee, and, as before mentioned, any charges in excess of this remain as a private debt and will be recoverable as such. Any person willing to pay the premium may join the fund quite irrespective of his means. If in a lowly station in life, he will probably find his medical attendance entirely paid out of the fund. Should he prosper in business he will find that he gets charged on a higher scale, but he can still draw something from the fund towards the payment of his doctor. Possibly a well-to-do person, desiring to be quit of "doctor's bills," might be allowed to pay two or three times the ordinary premium and be paid two or three times the "minimum fee tariff." Such an arrangement is purely a question for the actuaries to advise upon and settle. Such an arrangement should quite overcome all the difficulties connected with fixing a "wage limit" and which have hitherto proved insurmountable owing to the strenuous objections of the Friendly Societies and the impracticability of the idea. On the other hand, the custom of medical men to vary their fees with the patient's position would still be maintained. By this scheme the patient has a free choice of attendance, and can make a change whenever he chooses without losing the benefits of his contributions. The doctor, too, retains his independence, in that he is free to decline to attend any patient at his discretion.

The patients, however, should be warned to repress, as I have no doubt they occasionally do in private practice, any too ardent tendency towards an unnecessary frequency of attendance on the part of the practitioner, otherwise the fund may be unduly depleted, and may be forced into paying only a dividend instead of the full tariff. In such case the liability would remain between patient and attendant. Of course, in a scheme of this sort there must be many essential details to be worked out—for example, collection of the contributions, expenses of distribution, and all the details and definition of the many forms in which medical attendance may be required. The whole difficulty has arisen from a want of application of ordinary business methods to the question. It is mainly one for actuary and accountant to decide, aided by data supplied by medical men willing to take some extra trouble for a few years, and to introduce business habits into their practices. How many industrial disputes have been settled in the last few years, and strikes avoided, by the application of the principle of investigation? In the cotton trade in the coal industry, and many others, the cost of production can be calculated, and margins of profits fixed. The cotton operative and the collier have accepted the system in settling their trade disputes, and why should we not do the same in another walk in life? They are providers of commodities; we are more, we provide what is often a necessity. Commodity and necessity have, both alike, to be paid for and the producers are entitled to their profits and means of livelihood. The scheme then, in a few words, resolves itself into this: "Ascertain the average actual cost of medical attendance, fix a reasonable addition for skill, etc., on the part of the attendant, and leave it to the actuary to say what payment, and from how many, must be made to enable such and such a fee to be paid in respect of so many days of sickness in a given time." If the classes who are in the habit of obtaining the other many and great benefits of the Friendly Societies cannot afford to pay this ascertained sum then some other means must be sought. I cannot say whether it was the combination of the employed or of the employers that brought about the investigations to which I have referred, and which have led to the avoidance of so much industrial warfare. Probably the fact that both sides were combined, organized, and powerful but above all essential to each other, led to the adoption of such a very obvious and common-sense method of settlement. I hope the medical profession and the Friendly Societies will have the sense to follow the example of the industries I refer to. Such a scheme as I have formulated would, I believe, be most satisfactorily worked by the combination of all the present units providing sick and funeral benefits into large "medical attendance insurance funds," the benefits of which should be open to any person—man, woman, or children—with certain restrictions as to age at entry. Who *does* join is a question for the fund authorities and their actuaries to settle; it need not concern the medical man. Having this question before my mind now for many years, I have not been able to suggest or hear of any contingency this scheme would not meet, nor any of the innumerable difficulties and evils associated with the present system that it does not overcome. The one doubtful point lies in the tendency of insured persons to take advice on trivial ailments. In this scheme this is met by the fact that such a person would run the risk of causing the fund to be depleted, and would so have to pay more himself on his bills. Will such a risk exercise a sufficiently repressing influence? If not, it is simply an extra risk for actuarial investigation. Such, then, is the method I should like to see adopted with the view of getting over the difficulties associated with contract work. For years past the British Medical Association has been doing a large amount of work in this great question. I am sorry so small a proportion of the men engaged in contract work took the trouble to fill in and return the forms sent out two years ago. Had they done so, there would probably have been sufficient statistical information ready to hand to save the investigation I have advocated. In a huge undertaking such as this it is, of course, impossible for every man to take an active part, nor is it altogether desirable. Each man should show an intelligent interest in the work by replying promptly to any inquiries, by attending the meetings at which progress is reported, any new scheme brought forward, or executive officers elected. It is very small encouragement for an executive, when reporting on some important subject, to have only half a dozen members present, and to find out shortly afterwards that those who stopped away are grumbling at home at the decisions of the few. At all events, I am prepared to maintain that the energetic few are really the best judges of what is for the best advantage of the many, for they, you may be sure, have given time, thought, and trouble to the questions in point; and I appeal to those members who have genuine excuses for non-attendance to endeavour to express their views in writing either to the Divisional Executive or to the Editor of the JOURNAL; and that the apathetic ones restrain their criticisms until the result of the work done is apparent.

With these remarks I will conclude. I hope the recommendations of the Medico-Ethical Committee will receive careful consideration, and I also hope to see the time when insurance shall have taken the place of the haphazard systemless muddle which goes by the name of Contract Work.

SHROPSHIRE AND MID-WALES BRANCH.

IMPRESSIONS OF THE ANNUAL REPRESENTATIVE MEETING AT LEICESTER.

By H. WILLOUGHBY GARDNER, M.D.Lond.,
Physician, Salop Infirmary.

GENTLEMEN,—This year you did me the honour to send me as your Representative to the annual meeting at Leicester, and I thought it might be of some interest, and perhaps of some use, if I were to give you my impressions of the meeting, of the men who composed it, and of the work done there.

When I arrived at the meeting I found some 125 members already hard at work. Sir Victor Horsley was in the chair, and on the platform on either side of him were members of the official staff. Besides the Representatives many members of the Council were present. These were allowed to speak, but not to vote.

Each member was given a convenient little desk and a comfortable chair. On the desk we found pens, ink, and paper, and also forms on which to write out any motion or amendment we might wish to propose. Boys were in attendance to take such notices up to the Chairman, and to carry

messages from one to another. Every morning we found on our desks printed minutes of the proceedings of the day before; also the reports from the various subcommittees. Each of us was allowed to choose his own seat, but once having chosen it he had to remain there for the rest of the session; each was allotted a number, and a card bearing name, number, and constituency was affixed to each desk

I must confess I went to the first meeting feeling but a lukewarm interest in it all, and very doubtful whether any practical good would come of it. To my surprise, however, I found myself amongst a set of men who were all keen, all enthusiastic, all evidently believing earnestly in their mission, and all intent to do their work to the utmost of their ability. It seemed to me as if I were the only Laodicean present, and soon I found that I, too, was becoming infected with the same spirit, was becoming interested in all that was going on and eager to understand it all and to take my part in it.

What interested me most was the chairman, Sir Victor Horsley. For three whole days he sat there, guiding and helping the members, and also when necessary ruling them. He was marvellously clear-headed; never once did his vigilance relax; never once was he "at sea." He may have made mistakes—indeed, I am told he did, but I for one certainly never found them out. His tact and his courtesy were perfect, but he never failed to maintain his authority. It was a difficult task, too, to steer his way amongst the innumerable resolutions and the amendments thereto, to see that the meeting never put itself in the wrong, never passed illogical resolutions, never got itself into a muddle. This was his third year of office, and I am sorry to say it is to be his last, but some day I hope we may see him in Parliament, even a member of the Government.

Next one thought of the men, the Representatives themselves—what sort of men were they? I have told you how keen and enthusiastic they were; next to their keenness I was most impressed by the ability and excellence of their speaking. They seemed to be all orators; certainly all who spoke—and most of them did speak at one time or another—spoke well and to the point. I noticed that many of those who spoke most often betrayed an Irish accent, which perhaps explained their oratorical ability. It was not an easy room to speak in; unless a man had an extraordinarily good voice he had to shout to enable him to be heard, and if he was not heard there were instant cries of "Speak up, speak up!" no mercy was shown to any one; if a man was thought to be enjoying himself too much—and many would readily have done so—there were cries of "Divide divide!" if tempted to wax eloquent on what after all was the evident sense of the meeting, he was stopped by cries of "Agreed, agreed!" If he repeated arguments which some one else had already used, the Chairman would courteously get up and say: "But I think, Mr. So-and-So, we have already heard those arguments; we had better hear some one on the other side now." If any members showed signs of becoming too argumentative, or if the discussion seemed likely to lead us no further, it was always open to any member to get up and propose that "the motion be now put." This was often done, and generally such a motion was carried. But though the meeting showed no mercy it was eminently fair, and gave every man a fair hearing—at least until it was quite satisfied that he had nothing to say worth listening to.

But not only were the men good speakers, they were also good business men. Some were justices of the peace some were coroners, others were members of county or district councils—men of affairs in fact. They were very diverse in type, in age, and in appearance; they came from all parts of England, Ireland, Scotland, and Wales. The Colonies, too, were represented there. From South Africa came an army doctor who made at least one excellent speech. The Representative from New South Wales was very much in evidence. Time after time when some peculiarly difficult problem was being discussed he would get up and say, "We in New South Wales have long ago settled this question; I will tell you what we have done." And time after time we were glad to confess that our Australian cousins had solved the problem in a sensible way.

The amount of work we got through was prodigious. We commenced on Monday at 2 o'clock, sat till 6, with a brief interval for tea, met again at 8 and sat till 10. We started again at 10 on Tuesday morning, sat till 1, were at work again at 3 o'clock and sat till 6 this time without any interval for tea. On Wednesday the meeting began again at 10 sat till 1, began again at 3 and sat till 6 30; and then we finished up with a short meeting at 1 o'clock on Thursday.

During that time I find that 255 motions or amendments were brought before us; most of them were discussed, and most of them were voted upon. Many of these were merely formal motions, referring perhaps to questions of procedure, but very many were questions of the greatest importance, and many were very debatable subjects. Amongst the more important were:

The application for a Royal Charter for the Association.
Medical Defence.
The State Registration of Nurses.
The Midwives Act and the payment of medical men called in to assist midwives.
Lunacy legislation: a strong subcommittee was appointed to go into this question.
The question of consultation between medical witnesses and the fees of medical witnesses.
Fixity of tenure for medical officers of health.
The relation between medical men and coroners.
How the influence of the medical profession could best be brought to bear upon Parliament.

Many questions were referred to the Divisions for their consideration, notably the Reports on Contract Practice, on Provident Dispensaries, on Insurance Fees, on the Public Medical Services, and on the State Registration of Nurses.

All these subjects and many others were discussed freely and fully. On the whole, one was pleased to find that the meeting was noteworthy for its general good sense, and especially that the tone of feeling, if I may call it so, was distinctly high. Every now and again resolutions or amendments savouring of trades unionism, betraying a narrow commercial, rather than a generous professional, spirit were brought forward; but I am glad to say that in every case such resolutions or amendments when put to the vote were lost; so that, if you look through the long list of resolutions carried, though you may not agree with them all, you will find none of which you will be ashamed. As I said before, the business capacity of the meeting was distinctly good.

You may ask me, What will be its future? Will it do anything? Will it be helpful to us as a profession? Will it ever have any real power?

Personally, I think it has a future; it may be a great future. Much will depend upon the class of men whom the Divisions send up as Representatives. Much, too, will depend upon its future chairmen and its officials. Perhaps much, too, will depend upon whether it throws up any men of marked ability. But if the Divisions will send up the right class of men—not agitators, or men with fads, or men with axes to grind of their own, but able and high-principled men who can be depended upon to take sensible and broadminded views—it must be of advantage for such men to meet together and to discuss the many difficult questions which are constantly being brought before us; and the resolutions such men come to after full and free discussion may well be taken by us as a help in forming our opinion and guiding our conduct. And in time such a meeting must gain great influence, must come to be listened to with respect by the actual wielders of power, and so should be of the greatest use both to our profession and in so far as it is affected by medical questions, to the nation at large. And in order that the meeting should gain and maintain this capacity of forming opinion, I would respectfully urge that the Representatives chosen should be sent up with as free a hand as possible, not as mere delegates, but as the men chosen and trusted to represent you in the fullest sense of the word; but I would urge, too, that there should be the closest intercourse possible between the constituents and their Representatives. Here, for instance, I think there should be at least one meeting every year devoted solely to discussing these subjects with your Secretary, your Member of Council, and your Representative, and that all those of you who possibly can should try to attend it.

CONTRACT MEDICAL PRACTICE.

Notice as to Districts in which Disputes Exist.

A notice as to places in which disputes exist between members of the medical profession and various organizations for providing contract practice will be found among the advertisements, and medical men who may be thinking of applying for appointments in connexion with clubs or other forms of contract practice are requested to refer to the advertisement on page 87

☞ *To ensure the insertion of notices in this column they must be received at the Central Offices of the Association not later than the first post on Tuesday.*

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

BIRMINGHAM BRANCH: CENTRAL DIVISION.—A special and general meeting of the Division will be held at the Medical Institute on Tuesday, December 12th at 4 p.m. Business: (1) To receive the report of the Executive Committee on the co-ordination of scientific Work. (2) Also the Report on Ambulance Work. (3) To nominate one or two persons for selection by the Association as Direct Representatives on the General Medical Council. (4) To empower the Executive Committee to approach Members of Parliament and others on questions of professional interest. (5) To consider the recommendations of the Report on Contract Practice, SUPPLEMENT, July 22nd.—E. D. KILBY, Honorary Secretary.

BIRMINGHAM BRANCH: COVENTRY DIVISION.—The next meeting of this Division will be held at the Coventry and Warwickshire Hospital on Wednesday, December 6th, at 8.30 p.m. Agenda: (1) Specimens: (*a*) Appendix and Dermoid Cyst, Dr Bankes Price; (*b*) Intraocular Tumour, Dr Bankes Price. (2) A discussion on Rheumatic Fever will be opened by two short papers by Drs Orton and Kenderdine. (3) The following resolution will be moved by Dr. McGlashan: "That the minimum charge for private midwifery cases in the area of the Division shall be one guinea; and when in exceptional circumstances this amount is not forthcoming, the medical services shall be given gratis."—E. H. SNELL, Honorary Secretary.

BORDER COUNTIES BRANCH: NORTH CUMBERLAND DIVISION.—A meeting of this Division will be held on Friday evening, December 8th, at the County Hotel, Carlisle, when Dr. Gibson, of Edinburgh, will deliver an address.—NORMAN MACLAREN, Honorary Secretary.

LANCASHIRE AND CHESHIRE BRANCH: ALTRINCHAM DIVISION.—The next meeting will be held at the Board Room of the Hospital, Altrincham (Market Street, close to the station), on Thursday, December 7th, at 5 p.m. Agenda: (1) Minutes of last meeting. (2) Correspondence. (3) Report of Committee. (4) Election of Associate members. (5) Any other business. (6) Dr. Melland will read his paper on The Sanatorium Treatment of Phthisis. (7) Dr. Herbert will open a discussion on What is Notifiable Puerperal Fever? There will be dinner at the Unicorn Hotel at 7 o'clock on the usual terms, and members wishing to dine *must* please inform the Honorary Secretary not later than Tuesday, December 5th. Members may attend either meeting or dinner or both.—T. W. H. GARSTANG, Honorary Secretary, Edge Mount, Altrincham.

LANCASHIRE AND CHESHIRE BRANCH: LIVERPOOL (NORTHERN) DIVISION.—A meeting of the members of this Division will be held at the Medical Institution on Friday, December 8th, at 9 p.m. Agenda: Report of the Annual Representative Meeting, by Dr. James Shaw. Dinner of the combined Liverpool Divisions. Matters referred to the Divisions: (*a*) Contract Practice (See SUPPLEMENT, BRITISH MEDICAL JOURNAL, August 5th); (*b*) co-ordination of the scientific work of the Association, its Branches and Divisions (See SUPPLEMENT, September 30th); (*c*) selection by the British Medical Association of candidates for election as Direct Representatives on the General Medical Council. Any other business.—A. W. GERMAN, Honorary Secretary.

METROPOLITAN COUNTIES BRANCH: WALTHAMSTOW DIVISION.—A meeting will be held on Tuesday, December 5th, at 4 p.m., at the Woodford Hospital. Agenda: Minutes. Letters. Consideration of Medical Secretary's communication in reference to Association's action in Parliamentary matters. Paper by Dr Butler Harris: Recent Studies in the Mechanism of Immunity.—HERBERT ALEXANDER, Honorary Secretary.

METROPOLITAN COUNTIES BRANCH: WANDSWORTH DIVISION.—An ordinary meeting will be held on Thursday, December 14th, at the Battersea Town Hall, at 8.45 p.m. Agenda: (1) Minutes. (2) Correspondence. (3) Questions. (4) Short address by Sir William Broadbent, Bart., on the aims and objects of the British Medical Benevolent Fund. (5) Resolution for Representative Meeting re premises of the Association. (6) Report of Subcommittees, with subsequent discussion, on the Contract Practice Report of the Medico-Political Committee. (7) Other business. All medical practitioners resident within the area of the Division will receive an invitation to attend a small dinner, to be held at Stanley's, to meet Sir William Broadbent, and the meeting subsequently.—E. ROWLAND FOTHERGILL, Honorary Secretary, Torquay House, Southfields, S.W.

NORTH WALES BRANCH: NORTH CARNARVONSHIRE AND ANGLESEY DIVISION.—A meeting of the Division will be held at the British Hotel, Bangor, on Wednesday, December 6th, at 2 p.m. Members having papers to read, or cases to show, are requested to communicate before the 26th inst. with the Honorary Secretary, H. JONES ROBERTS, Penygroes.

NORTH WALES BRANCH: SOUTH CARNARVON AND MERIONETH DIVISION.—A meeting of the Division will be held at the Tower Hotel, Pwllheli, on Thursday, December 7th, at 2.30 p.m. Members having papers to read, or cases to show, are requested to communicate before the 28th inst. to H. JONES ROBERTS, Honorary Secretary *pro tem.*, Penygroes.

SOUTH-EASTERN BRANCH: CANTERBURY AND FAVERSHAM DIVISION.—The next meeting will be held at Herne Bay [illegible] at 3 p.m. Agenda: (1) Minutes of last meeting [illegible] SUPPLEMENT, October 28th). (2) To consider the formation of a [illegible] (SUPPLEMENT, November 11th). (3) Time, place, and chairman of next meeting. (4) An address by R. Boxall, Esq., M.D., M.R.C.P.Lond. (of London), on the Use and Abuse of Pessaries. Arrangements will be made for a motor car to take (and bring back) members travelling from Canterbury, if names are sent to the Honorary Secretary by December 4th. All medical practitioners are invited, whether members of the Association or not.—A. R. HENCHLEY, Honorary Secretary, Canterbury.

SOUTH-EASTERN BRANCH: CROYDON DIVISION.—A meeting will be held at the Croydon General Hospital on Thursday, December 7th, at 4.30 p.m. Chairman, Dr. T. R. Adams. The following have been promised:—Dr. H. Meredith Richards: Short Paper and Lantern Demonstration. Dr. S. Duke Turner: Notes on a Case of Tuberculous Peritonitis. Dr. Hugo: (1) Notes on a Case of Intussusception of Sigmoid Flexure, with Specimen and Sections; (2) a Prepuce Dilator. Dr. Cohen: Notes on a Case of Acute Intestinal Obstruction. Dr J. J. Macan: Paper on Some Recently-introduced Methods of Anaesthesia, more particularly on the Hypodermic Injection of Scopolamine and Morphine. Tea will be provided at four o'clock. Members are cordially invited to introduce professional friends.—E. H. WILLOCK, Honorary Secretary, 113, London Road, Croydon.

SOUTH-EASTERN BRANCH: ISLE OF THANET DIVISION.—The next meeting of this Division will be held at the Granville Hotel, Ramsgate, on Friday, December 8th, at 4.30 p.m., Mr J. B. Berry in the chair. Agenda: (1) Correspondence relating to the question of the signing of school certificates. (2) Edmund Owen, Esq., M.B., F.R.C.S.: Acute Bone Disease in Children. (3) Consideration of the recommendations of the Medico-Political Committee on the subject of Contract Practice (See SUPPLEMENT, BRITISH MEDICAL JOURNAL July 22nd, p. 29). (4) Other Medico-Political questions. Tea will be served at 4 p.m. All members of the South-Eastern Branch are invited to attend these meetings and to introduce professional friends, but will not be entitled to vote on Divisional questions.—HUGH M. RAVEN, Honorary Divisional Secretary, Barfield House, Broadstairs.

SOUTH-EASTERN BRANCH: NORWOOD DIVISION.—A clinical meeting will be held on Thursday, December 14th, at 4 p.m., at the Home and Infirmary for Sick Children, Lower Sydenham, Mr G. C. Parnell, of Forest Hill, in the chair. The Staff have kindly promised to show cases. Members desirous of exhibiting cases are requested to communicate with the Honorary Secretary at once. Agenda: (1) Minutes of last meeting; (2) To decide when and where the next meeting shall be held, and to nominate a member of the Division to take the chair thereat; (3) Communication from Metropolitan Counties Branch *re* Midwives Act.—HENRY J. PRANGLEY, Honorary Secretary; ARTHUR W. SOPER, Assistant Honorary Secretary.

SOUTH-WESTERN BRANCH: TRURO DIVISION.—The next meeting will be held in the second week of January, 1906, at the Miners' Hospital, Redruth. Members wishing to read papers or notes of cases are requested to notify the Honorary Secretary before December 21st. As the present day of meeting (Thursday) seems to be inconvenient to some members, especially to those in the Penzance district, the Honorary Secretary will be glad to hear any suggestions as to an alteration.—MABEL R. TAYLOR, Honorary Secretary.

SOUTH-EASTERN BRANCH: TUNBRIDGE WELLS, HASTINGS, AND SEVENOAKS DIVISIONS.—A meeting will be held at the General Hospital, Tunbridge Wells, at 5.30 p.m., on Wednesday, December 13th. Address by Dr. G. H. Savage on The Borderlands of Insanity. Dinner at the Calverley Hotel at 7.15 p.m., charge 6s., exclusive of wine. Members wishing to read papers or show cases are requested to communicate with EDWIN A. STARLING, Chillingworth House, Tunbridge Wells.

WORCESTERSHIRE AND HEREFORDSHIRE BRANCH: HEREFORDSHIRE DIVISION.—A meeting of the Division will be held on Wednesday, December 6th, at 3 p.m. in the Board Room of the Herefordshire General Hospital, Hereford. The principal business will be to appoint deputations to interview Members of Parliament and Parliamentary Candidates in Herefordshire with respect to the Public Health Bill.—HERBERT JONES, Honorary Secretary, Hereford.

LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

MEMBERS are reminded that the Library and Writing Rooms of the Association are fitted up for the accommodation of the members in commodious apartments, at the office of the Association, 429, Strand. The rooms are open from 10 a.m. to 5 p.m. Members can have their letters addressed to them at the office.

GENERAL COUNCIL
OF
MEDICAL EDUCATION AND REGISTRATION.

WINTER SESSION, 1905.

THE eighty-second session of the General Medical Council was commenced at the offices of the Council in Oxford Street, London, on Tuesday, November 28th, 1905, Dr. DONALD MACALISTER, President, in the Chair.

PRESIDENT'S ADDRESS.

Changes in the Council.

GENTLEMEN,—Since we last met certain changes of importance have taken place in the composition of the Council. Sir William Turner, our late President has resigned his seat as representative of the University of Edinburgh. From the year 1873—the time of his first appointment by the Universities of Edinburgh and Aberdeen—his great powers have been placed at the service of the profession, and thirty volumes of our Minutes testify to the extent and variety of his contributions to medical administration. For a generation the Council has trusted his wisdom, his justice, and his zeal for its honour and efficiency. During the six years of his Presidency the warm personal esteem in which he was held within and without our membership grew deeper, as it was realized how greatly his qualities of mind and character enhanced the consideration accorded to the Council by the State and by the commonwealth of medicine. His high distinction as a man of science and as an educational statesman has been fittingly recognized by the Sovereign, and by many learned bodies at home and abroad. But I have reason to believe that Principal Sir William Turner reckons it far from the least among his many honours that his colleagues on this Council, with whom he had so long been conversant, freely chose him to preside over them. In writing to accept his resignation, I felt that you would desire me to add an expression of the sense of manifold obligation and of grateful regard with which we bid him farewell.

Dr. Windle's appointment to the Presidency of Queen's College, Cork, has involved the severance of his connexion with the University of Birmingham, and so with this Council, where he sat as its first representative. In him we have lost an able and clear-minded expert in education, general as well as professional, who did with his might whatever his hand found to do. The Education Committee, of which he was Chairman, will miss his firm grasp and wide knowledge of the questions that lie within its province.

Dr Atock, who joined us last session, was elected by the Apothecaries' Hall of Dublin only for the unexpired portion of the term of the late Dr. Charles Tichborne. He is succeeded as Governor of the Society and as a member of the Council by Dr. Adye-Curran, who holds the rank of Lieutenant-Colonel in the Army Medical Service, and who will doubtless be willing to afford us first hand information regarding that important branch of our common professional life.

The University of Birmingham will be represented by Dr. Robert Saundby, one of its distinguished body of professors. His eminence as a physician and as an exponent of medical ethics, and his familiarity with many forms of administrative work, render him a valuable addition to our number.

From the University of Edinburgh we are glad to welcome Sir Thomas R Fraser, Professor of Materia Medica and Clinical Medicine in that great school. As a recognized authority on pharmacology and therapeutics, he will be able to render the Council much assistance in regard to one of its statutory functions—the preparation and publication of the *British Pharmacopœia*. But his equally high reputation in other fields lead us confidently to reckon upon his aid, not in one only, but in all departments of the Council's activity.

From the new University of Sheffield, whose inauguration by their Majesties the King and Queen I attended as your representative last July, we received an additional member in the person of Dr. Cocking, the Dean of the Faculty of Medicine in that University. In the constructive work which has accelerated the development of the Medical School of Sheffield into the present well equipped Faculty, the Dean has borne an active part. In receiving him we offer the right hand of fellowship to the youngest of our universities, whose auspicious beginnings give promise of a vigorous and beneficent life.

The University of Sheffield.

By the University of Sheffield Act, 1905, which passed into law on August 4th, that University is "empowered to hold qualifying examinations in medicine, surgery, and midwifery, for the purpose of registration under the Medical Acts." Moreover, the Council of the University is entitled to choose one representative to be a member of the General Medical Council, provided always that the fees for attendance and the travelling expenses of such member payable under Section 12 of the Medical Act, 1858, shall not be paid from the funds of the General Council or of the Branch Council for England until such time as, upon the representation of the General Council or of the Privy Council made in the manner set forth in Sections 10 and 19 of the Medical Act, 1886, and subject to the provisions therein contained, His Majesty may by Order in Council appoint.

The proviso just read was added to Clause 8 in its passage through the House of Commons, with the assent of the University and of the promoters of the Bill. In accordance with your suggestions the Privy Council had previously been approached on the subject, and it was pointed out that the clause in its original form appeared to ignore the power to provide for the representation of new Universities devolving on His Majesty in Council under the Medical Act, 1886. The objection was taken into consideration by the Government departments concerned, and after conference with them and with certain members of Parliament, in which I had the indispensable assistance of Sir John Batty Tuke, the arrangement embodied in the proviso was ultimately adopted. It is right to state that Sir John Batty Tuke was not fully in accord with the procedure. Its effect is to conserve the above-mentioned power of His Majesty in Council, acting on the initiative of the General Medical Council, or, in its default, of the Privy Council, so far as any charge on our depleted funds is concerned. I venture to hope that this arrangement will be approved by the Council, as giving substantial effect to the wishes it expressed at our last meeting. In any case I must publicly tender my grateful acknowledgements to the various authorities and persons concerned for the spirit in which they received the representations I made on your behalf, and for the goodwill they exhibited in seeking and finding a practical solution of the question.

Canadian Practitioners.

Another Bill affecting the Council has also passed into law—namely, that associated with the name of General Laurie and Sir John Batty Tuke, which was described by Sir William Turner in his Presidential address of May, 1904 (Minutes, vol. xli, p. 5), and approved by you on May 31st, 1904 (Minutes, vol. xli, p. 89) The effect of the Medical Act (1886) Amendment Act, 1905, is to enable a part of a British possession which possesses a local as well as a central Legislature to apply on its own behalf to His Majesty in Council for admission to the privileges of medical reciprocity with the United Kingdom. The provinces of the Dominion of Canada, hitherto debarred by the terms of the Medical Act, 1886, from making such application individually, are now free to do so. The Canada Medical Act, 1902, which aims at unifying in certain important respects the medical administration of the Dominion, has so far proved inoperative; and the Federal Government is therefore unable to take up the question of reciprocity for the Dominion as a whole. The new Act removes the legislative deadlock. There is reason to hope that before long efforts will be made to obtain for great provinces like Quebec and Ontario a position in relation to the British *Register* similar to that enjoyed by the States of the Australian Commonwealth.

Reciprocity with Japan.

A communication from the Lords of the Council conveys the interesting information that an application has been made to His Majesty on behalf of the Japanese Government, requesting that steps may be taken so that Japan may be recognized as one of the countries to which the Medical Act of 1886 applies, thus enabling Japanese medical practitioners to practise medicine in the Straits Settlements as well as in other parts of the British Empire.

The decision that Part II of the Medical Act, 1886, shall apply to a foreign country rests with His Majesty in Council. The foreign country must be one which in the opinion of His Majesty affords to the registered medical practitioners of the United Kingdom such privileges of practising therein as to His Majesty may seem just. According to my information inquiries have already been instituted by the Privy Council, for the purpose of ascertaining the conditions under which

British practitioners are permitted to practise within the Japanese Empire. Should the conditions prove to be satisfactory, and should the Order in Council accordingly be sanctioned, it will fall to the General Medical Council to consider what medical diplomas granted in Japan shall be recognized for registration in this country. Such diplomas must furnish

a sufficient guarantee of the possession of the requisite knowledge and skill for the efficient practice of medicine, surgery, and midwifery,

and the duly accredited holders may be registered in the foreign list.

In view of the remarkable achievements of our ally in the domain of medical science and practice, I do not doubt that the Council will await with sympathetic interest the result of the negotiations now in progress. I shall endeavour, at the proper time, to procure and to place before you the fullest information regarding the actual conditions affecting medical education and examination in Japan.

Practice by Companies.

I have already reported to the Council that Sir John Batty Tuke, during the last session of Parliament, endeavoured to secure that the question of the unqualified practice of medicine and of dental surgery by certain limited companies should be inquired into by a Departmental Committee then sitting to consider the working of the Companies Acts. His efforts were unsuccessful, as it was officially affirmed that the question lay outside the scope of the Committee's reference. Undeterred by this refusal, he decided to introduce, in his own name, the two Bills on the subject which were drafted by Mr. Muir Mackenzie and submitted by direction of the Council to the Lord Chancellor. The purpose of the Bills may be briefly described thus: That any practice which, under the Medical and Dentists Acts is unlawful when carried on by a person, shall be declared unlawful when carried on by a limited company. The Bills were ordered by the House to be printed on June 26th, and Sir John Batty Tuke sought to have them referred for consideration to the above mentioned Committee; but he was unable to bring this about before the prorogation of the House in August. Some advantage was, however, gained by the publication of the Bills, and the Companies' Bills Committee will doubtless be prepared to consider them afresh, in the light of experience and of criticism, should a favourable opportunity occur for pressing them once more on the attention of the Government.

Steps have been taken by the British Dental Association to obtain in England a declaration of the law respecting dental companies similar to that which has already been procured in Ireland. In two instances the Attorney-General has, on the relation of the Association, granted his fiat for proceedings against registered companies which were held to be unlawful. In each case, however, the company anticipated matters by dissolving, and the proceedings accordingly came to an end before they reached the stage of trial. I am informed that the Association may be expected to continue its public-spirited efforts in this direction. They concern the interest of the public no less than that of the dental profession, and are worthy of our appreciative recognition.

The Four Hundredth Anniversary of the Royal College of Surgeons of Edinburgh

Before I turn to the business on the Programme, let me say that, as your President, I was a guest at the magnificent ceremonies which were held last July in the metropolis of Scotland, to celebrate the four hundredth anniversary of the Royal College of Surgeons of Edinburgh. The proceedings, which extended over four days, testified to the wide-world fame of the Royal College, and to the affectionate esteem in which Sir Patrick Heron Watson, the doyen of this Council, and President of the College, is worthily held by his professional brethren.

Degrees in Dentistry.

In accordance with your instructions, the opinion of your legal advisers has been taken on the question whether degrees in dentistry are registrable as licences or primary qualifications; on the question whether a warning notice should be issued to practitioners with reference to the practice of advertising and canvassing for patients; on the question whether the Standing Orders prescribing the notice of inquiry addressed to accused practitioners should be amended, in cases where more than one charge is brought; and on questions arising out of the proposed revision of the Standing Orders relating to the visitation and inspection of examinations. On all these subjects the Executive Committee will submit reports for your consideration.

Visitations and Inspections.

The inspection of the final examination in surgery conducted by the University of Edinburgh has been duly completed, and the Inspector's report, together with the remarks of the University thereupon, has been forwarded to the members of the Council, and referred to the Examination Committee in the usual course. The present cycle of visitations and inspections is thus brought to an end. The Council will note with satisfaction that, though methods vary and requirements differ, there is no qualifying examination in the United Kingdom which is reported to be "insufficient" to guarantee the possession of the knowledge and skill requisite for the efficient practice of medicine, surgery, and midwifery. It is the statutory duty of the Council to maintain this standard of proficiency; and to judge from the reports before you, the means you have adopted for the fulfilment of that duty, in co-operation with the loyal efforts of the licensing bodies, have proved effective.

The Teaching of Midwifery.

Important as is the maintenance of the standard of examination in the various branches of physic, the sufficiency of the course of study in each branch is not less important, and the Council, under Section xx of the Medical Act, 1858, is responsible in an equal degree for its maintenance also. Sir John Williams, in May, gave us reasons for thinking that the accustomed routine of instruction in practical midwifery should be reconsidered, with a view to its possible improvement. On his motion, a Committee of Inquiry was accordingly constituted. In order to ascertain the facts, I addressed a circular letter to the schools connected with the several licensing bodies, asking on your behalf for the favour of answers to a number of queries drawn up by members of the Practical Midwifery Committee. The answers returned are highly instructive and will afford matter for careful consideration by the Committee. They have been laboriously abstracted and classified by the Registrar, with the assistance of Mr. Cockington, and the Committee will in due course place the digest before the Council.

Operative Surgery.

The question of making better provision for the teaching of operative surgery has received much attention from the members of the Anatomy Acts Committee, and some progress has been made during the vacation. The Committee will meet during the present session to receive reports as to the steps taken and contemplated in pursuance of the power to act in the name of the Council which has been conferred upon it.

The "British Pharmacopoeia."

Mr. Secretary Lyttelton has been good enough to forward to the Council communications from a considerable number of Colonial Governments in reply to the inquiries which, as Chairman of the Pharmacopoeia Committee, I recently formulated respecting the inclusion in the next *Pharmacopoeia* of the drugs and preparations sanctioned for local use in the *Indian and Colonial Addendum*, 1900. The documents have been referred to the Pharmacopoeia Committee, to which they will be of great service during the preparation of the next issue. Copies of the new Pharmacopoeias of the United States and of Spain have also been received. It is interesting to observe that in these the respective authorities have embodied the conclusions of the Conference on Potent Drugs held at Brussels in 1902 which were subsequently, with your approval, made the subject of an international agreement.

Colonial Ordinances and Enactments.

The Colonial Secretary has also transmitted for the information of the Council a series of important ordinances and enactments referring to the practice of medicine, etc., in the Straits Settlements, Singapore, Ceylon, and the Orange River Colony. These are printed for convenience of reference in the minutes of the Executive Committee. Members will doubtless observe, not without something akin to envy, that in these and other parts of the empire the Legislature has had the wisdom to impose on unqualified practice legal restrictions such as we have almost ceased to hope for at home.

The Public Health Bill.

To the Public Health Committee has been referred an important communication from the British Medical Associa-

tion, requesting an expression of the Council's approval for a proposed Public Health Officers Bill. The Bill has a certain relation to the functions of the Council, inasmuch as it deals with the registrable qualifications of medical officers of health as well as with the conditions of their tenure. I have asked the Committee to consider its terms, in order that the Council may have the materials for forming a judgement as to the course it should take respecting it.

Reports.

The other Standing Committees will also present reports on matters referred to them. I have asked the Registrar to prepare a report on the measures he has taken during the last five years for ensuring the correctness of the *Medical Register*. This report will be printed and laid before you; it records a gratifying success in the difficult work with which he is charged.

Penal Business.

The penal business at this session is of some gravity, and may occupy a considerable proportion of the Council's time. The preliminary consideration it involves is the most anxious part of the President's duties; without the willing and efficient help of your Registrar and your legal advisers, and the experienced counsel of the Penal Cases Committee, the responsibility of decision would be onerous indeed. This aid and advice I have had in full measure and I trust you will agree with me that each case brought before you, whatever may be its special features, is at least one that calls for inquiry by the Council as a whole.

THE CORONER FOR SOUTH-WEST LONDON.

APPLICATION BEFORE LOCAL GOVERNMENT AUDITOR.

THE adjourned inquiry as to the legality of certain payments made by the London County Council through the Coroner for South-West London was continued before Mr. Thomas Barclay Cockerton, the District Auditor, on Tuesday, November 28th. The London County Council was represented by Mr. Ryde, and the British Medical Association by Mr. H. H. Bodkin.

Mr. RYDE: You will remember that the proceedings on the last occasion were adjourned for the purpose of giving me an opportunity to consider what I may call the affidavits put in by Mr. Bodkin, in order that I might classify them. And, Sir, it will be remembered that I said at the time that I did not think my learned friend's classification was altogether happy, and I thought I could improve upon it. I thought that then and I still think it, and I say it with the more confidence because I find that, according to the shorthand notes, my learned friend Mr. Bodkin took as his first group the Class A, in which were, I understood, included the cases where a medical man had been in attendance, and he then proceeded to give illustrations of that class, as he considered them to be, of where a medical man had not been in attendance before the death of the deceased person. It seems to me that one must reduce this to some sort of order, and I think that the order that is most appropriate is that suggested by the Statute. Under Section 21 of the Coroners Act 1887, as you will note, and on the last occasion I asked you to notice, that the first subsection was divided into two parts. The first, as it is printed here, contains three and a half lines, and it says: "Where it appears to the Coroner that the deceased "was attended at his death or during his last illness by any "legally qualified medical practitioner, the Coroner may "summon such practitioner as a witness." That is class number one, and that I called, and continue so to call it, a case where the medical practitioner was in attendance. But the section goes on to deal with the other alternative: "But if it appears to the Coroner that the "deceased person was not attended at his death or during "his last illness by any legally-qualified medical practitioner, "the Coroner may summon any legally qualified medical "practitioner who is at the time in actual practice in "or near the place where the death happened." So the cases which Mr. Bodkin has put before you by means of these affidavits divide themselves into two main groups. The first cases are those where the deceased was first seen before death—that is to say, where there was a medical practitioner in attendance before or at the time of death. Secondly, cases where the deceased was first seen after death. And it happens—I will give you the names and dates of the cases when I deal with them—it so happens that there are in the first group, of those seen before death, ten out of the nineteen mentioned, and nine, the residue, where the case was first seen after death. Those groups as shown in the affidavits—and I will deal with them more particularly in a moment when dealing with my argument—divide the cases into two parts. I pointed out to you, and my learned friend objected but he did not dispute it as I understand in his opening, that where there is a practitioner in attendance the Coroner may summon him as a witness. That is case number one. Where there is no such practitioner the Coroner may summon any legally-qualified medical practitioner who is at the time in practice at or near the place. So where there is no medical practitioner in attendance the Coroner has power to summon any legally-qualified medical practitioner practising in or near the place of death. Now, Sir, directly that distinction is seen, I submit to you, on the argument which I addressed to you, it demolishes at one blow the whole of the last nine cases seen after death and which are mentioned here, subject to reservations which I will deal with in a moment, that reservation being a point already decided. I submit to you that if the Coroner finds, rightly or wrongly, that in his judgement there was no medical practitioner in attendance at the time of death, he may then summon some other practitioner. As I understand, the proceedings before you to-day and on the last occasion are that you should disallow the fees paid to Dr. Freyberger. Now, Sir, it is impossible for you to disallow the fees paid to Dr. Freyberger in these nine cases, where the deceased was first seen after death, because the Statute says the Coroner may summon any practitioner practising in or near the place of death, and he has summoned Dr. Freyberger, and he has paid Dr. Freyberger the fees, and the County Council has recouped the Coroner. Therefore, as I say, at one blow the whole of these 9 cases go because there is no illegality about the fees of those proceedings—at any rate, in regard to what the Coroner did. He is entitled to summon some one and he has done so, and, therefore, the payments must stand. Now, Sir, these two main groups—of which I say the second, for the reason I have given, does not come into the scope of your inquiry at all—are divisible into four subgroups or classes. I will tell them to you as I go along, and I will give you the names so that my learned friend may check them, so that every one may know to which deceased persons my remarks apply. The first, Group A, consists of persons seen before and seen after death, cases where deponent was summoned to assist at the *post-mortem* and give evidence, where deponent saw deceased before death. Group A in Class 1 includes cases of Peck, Davis, and Hoffmeyer. I will call it Class A, Group 1. In all those cases deponent saw the deceased before death; he was summoned to assist at the *post-mortem* and to give evidence at the inquest. He did both. Then there are the cases where the deponent saw the deceased for the first time after death, but was still summoned to assist at the *post-mortem* and to give evidence. And in that group are the cases of Turner and Harvey. Those are the only two in the second class. Now, Sir, I will pass on to Group B. There the deponent was summoned to give evidence, but he was present, though not summoned, at the *post-mortem*, and therefore of course he did not earn the fee for the *post-mortem*. Then there are these others where deponent saw deceased before death, and these were the cases of Helm and Botterworth and Tipper. I give only the surnames for shortness. In these three cases deponent first saw deceased before death, and was summoned to give evidence at the inquest, but did not make a *post-mortem* examination or assist at it, but was present at it. Of persons who were seen after death, in Class B there were no representatives in these 19. So I pass to Class C. Here the group consists of those who saw the deceased before death and were summoned to give evidence, but were not present at the *post-mortem* at all. The names of the deceased in that category are Davison and Kilby, in Group 1. There the deponents saw the deceased before and were summoned to give evidence, but were not present at the *post-mortem* at all. In Group 2, where the same events happened, and the deponents saw the deceased after death, there are three instances in Group C—namely, Corbett, Davenport, and Robins. In those three cases deponents saw the deceased first after death, and were summoned to give evidence, but were not present at the *post-mortem*. The last class in the groups is the case where the deponent was neither summoned to give evidence nor to make the *post-mortem* or assist at it. In Group 1, where the deceased was seen before death, the two cases are Runson and Thurston. In Group 2, where deceased was seen after death, there are four instances—Smith, Chapham, Grey, and Caseley. Now, Sir, you will notice that of the ten which are in Group 1,

where the deceased was first seen before death, no less than eight were cases in which the medical practitioner who saw the deceased before death was actually summoned to give evidence. And, Sir, as I reminded you on the last occasion, this is a point which is really covered by authority. You, Sir—if I may use the analogy which I did on the last occasion—you are sitting here in a relationship to the Local Government Board very similar to that of King's Bench to the Court of Appeal. And this point has been decided by the Court of Appeal—that is to say, in this instance the Local Government Board; they have said that they consider that the Statute does not prohibit the authorities concerned from doing what the London County Council has done. The Local Government Board are of opinion that it must be held that Section 21 of the Coroners Act of 1887 does not exclude the summoning of other medical witnesses than those provided for in that Section, and that fees may be paid under Section 22 to such medical witnesses as are not summoned under Section 21. I read the letter bearing on that last time, but I inadvertently described it as a letter from the Middlesex County Council, whereas it should have been from the Surrey County Council, but that has been corrected now. If that is so, that Section 21 does not exclude the summoning of a second medical witness beyond the person who, my friend says, is entitled as a right to be summoned, that is to say, the practitioner attending the deceased before his death. Those cases in Classes A, B, and C referred to, eight in number, where the practitioner in attendance before death was actually summoned, cases in which a second fee to a second practitioner summoned from outside are legalized in the opinion of the Local Government Board. And that disposes of eight of the ten, as I submit, Sir. Of the nine which were seen after death, I cannot understand how any point can arise as to the absolute title of any person to hold a *post-mortem* and to be summoned to give evidence. As I understand Mr. Bodkin's argument, it is that the first-comer has the pre-emption, so to speak, and assuming that to be so—I understood that to be the effect of Mr. Bodkin's argument——

Mr. BODKIN: I cannot pretend to the crispness of language of my learned friend, that the first-comer has the right of pre-emption. That is a phrase which will require a little thinking about.

Mr. RYDE: If a medical practitioner is summoned after death, the first one summoned by the police or by others who find the body—generally the police—is, according to Mr. Bodkin, bound to be called. I condensed the argument of my learned friend and rendered it that the first-comer shall have the right of pre-emption. But, leaving that aside, and assuming that he has a right to be called—assuming that to be so for the moment—still, in 5 out of 9 cases where the person was first seen after death by a medical man—in 5 out of 9 he was so summoned in fact, no doubt in addition to Dr. Freyberger, but he was summoned. So far as the guinea for his attendance was concerned he did not lose that. And in what I have said I have grouped together the cases where the persons were summoned to give evidence only and the cases where the persons were summoned both to give evidence and to conduct the *post-mortem* examination. And I submit to you that that distinction—though it is an obvious distinction—is immaterial to the question which is before you. If the Coroner, in his discretion, has power to summon a second man to give evidence, it seems to me to follow almost necessarily that if he has got the power to summon for the purpose of giving evidence, it does not necessarily mean that he is bound to ask two people to do the work of the *post-mortem* examination. It may be that that is wholly unnecessary in his discretion; he may be right or he may be wrong in the exercise of his discretion but that is not a matter for you to question, I respectfully submit, Sir. The question is whether he has that discretion. The Local Government Board says "yes," and if he has that discretion to summon two witnesses, I submit he must equally have that discretion where he thinks it necessary that one or both people shall be summoned to make a *post-mortem* examination or not. So it comes to this—that of the 19 cases 9 are excluded because they are cases where the medical practitioner who complains and makes these depositions did not see the deceased until after death. And of the other 10, 8 are excluded from disallowance by the rule of the Local Government Board that two witnesses may be summoned, because in those eight the witness was summoned, and has no business to complain. And of the nine which were struck out for the first reason, namely, that there is no medical practitioner who was in attendance before death, five were summoned to give evidence, and therefore there is a second reason why they should not be disallowed. Hitherto I have mentioned only the Local Government Board ruling. I have a letter dated Whitehall, which comes from the Permanent Secretary, I believe, of the Home Office, Henry Cunningham, and it is sent to the Coroner for one of the divisions of Surrey. It is as far back as 1895, and I will hand in a copy so that you may have it before you, Sir. It is dated April 6th, and says:

"Whitehall,
"April 6th, 1895.

"Sir,—I reply to your letter of the 29th ult., I am directed "by the Secretary of State to say that his opinion on points "of law is not binding, but it appears to him that the enact- "ments relating to the employment of medical men to give "evidence at an inquest should not be construed as in no case "authorizing the employment of more than one. It would "be for the County Council, in any case in which in their "opinion there had been abuse, to refuse to pay to the "Coroner the fees paid by him, and then the question of law "involved, and its application to the particular case, would "be decided by a court of law.

"(Signed) HENRY CUNNINGHAM.

"To G. F. Roumieu, Esq.,
"Coroner, Surrey County."

That is a ruling from an official who has no judicial authority, of course, but it is a ruling from him on a question of law arising out of that part of the statute—the law of the realm—which is particularly under the control of his office. As he says, it is an official, not a judicial, opinion that the employment of a second medical man is not excluded by the Coroners Act. So much for that. I know that no rulings of the Home Office have any judicial authority, but it is one which one would give considerable weight to. I have another extract—I admit I am reading from a newspaper, but as it is from a medical paper (the BRITISH MEDICAL JOURNAL) I presume my friend will not object to it and will not dispute it. It is dated May 16th, 1903, and it is a record of an application or deputation to the Lord Chancellor by some of the gentlemen whom my friend Mr. Bodkin represents to-day, and on matters which are in complaint before you, or some of them. Here, again, the Lord Chancellor was not for a moment speaking on the woolsack, and therefore his remarks are not judicially binding on you. But when the Lord Chancellor, sitting to hear a deputation on a subject like this, gives a legal opinion, his opinion is entitled at least to very considerable weight. And the Lord Chancellor, Sir—I will not read all of it, as it would take up too much time, and you will have a copy furnished to you, and my friend can have a copy too—says this:

"He thought they had put it a little too high when they "spoke of the 'contravention' of Section XXI of the Coroners "Act. He could not quite agree that it was an absolute "statutable obligation on the Coroner to call in local medical "practitioners. It was obvious that the Legislature could "not have intended to force upon the Coroner a particular "person, whether he liked it or not, or whether in his judge- "ment and discretion he thought another person should be "called in. The word in the statute was 'may,' and he "thought both the gentlemen who had spoken had given "reasons why the Legislature must have left it to the "discretion of the Coroner to some extent."

Mr. BODKIN: Can you give me the date of that?

Mr. RYDE: It is May 16th, 1903. Well, Sir, there is the combined authority of the Local Government Board, the Home Office, and the Lord Chancellor, for the moment having not a judicial authority, but all agree in saying that the Statute does not exclude the employment of a second medical witness. I must just glance at the cases as I have grouped them, and I want to make one or two remarks on the facts. I will give you the names as I go along. First is in Class 1 A—that is, where the deceased was seen before death and the deponent was summoned to make a *post mortem* and give evidence. I have not used your classes, Mr. Bodkin.

Mr. BODKIN: I know; but the rearrangement of them causes immense confusion.

Mr. RYDE: The first case is governed by the Local Government Board decision which I referred to. Davis's case is the same point, Sir, the Local Government Board decision again binds. Hoffmeyer. That is covered by the same ruling. In all those cases which I have given you the medical practi-

tioner was summoned both to give evidence and to make a *post-mortem*. Then Edith Helm, that was a case where a medical practitioner was summoned to give evidence but not to make a *post-mortem* and that, I submit, is covered by the Local Government Board decision too. Just one word here—I knew I should have to say something about this. In the deposition in the case of Edith Helm it is stated—I am reading the summary of the contents of the affidavits— it was that of a child aged 3 years, Edith Helm.

The Auditor: Who was the doctor in that case?

Mr. Ryde: Dr. Faber, sir. This was the case you may remember, of a child, aged 3 years, who died in St. George's Hospital, and the deponent attended deceased and was present at the *post-mortem* in the hospital, also with Mr. G. A. Jones at the *post-mortem* by Dr. Freyberger, and gave evidence at the inquest He was present at the second *post mortem* but did not take part in it. In the last sentence he says, "On "September 5th, 1904, I gave evidence as to the clinical history of the case, but so far as I remember"—I ask you to note those words—"so far as I remember, was not asked to "give evidence as to the result of the *post-mortem* examination made at the hospital, and the evidence as to the *post-mortem* results in relation to the cause of death was given "solely and entirely by Mr Freyberger." I do not think there is much value to be attached to a deposition which says "so far as I remember." But that is not the point that I want to call your attention to. Supposing this happened, Dr. Freyberger is called to give evidence as to the *post mortem*, he gives the evidence, and it may be that neither the jury nor the Coroner nor anybody else think there is any necessity for further inquiry. And if so, even taking this deponent's memory to be absolutely correct, I do not think it is very safe——

Mr Bodkin: There is nothing to contradict it.

Mr. Ryde: I know. I am aware that if a man says "So far as I remember" it is a very positive statement. Assuming that to be so, what probably happened was that by the time Dr Freyberger has given his evidence as to it, it may be unnecessary to ask a second or third witness what happened at the *post mortem* unless the jury wish it. I submit that it is quite clear that the method of conducting the examination of witnesses at inquests must be left to the Coroner, it is not a matter which you, Sir, can come into. I now pass on to Butterworth's case. I need not read it. It is covered by the Local Government Board decision. It is a very weak class of case from my friend's point of view, because deponent only saw the child for a minute or two before the child was sent home, and the doctor never saw it again alive. So as a matter of fact he only saw it a few moments Tipper's case is a case governed by the Local Government Board decision. To Davison the same remark applies, the Local Government Board decision applies. And in the case of Kilby, too. Now, Sir, the next case is one in which the Local Government Board decision does not apply, it is Ranson's case. The deponent there is Dr. Joyce. This is the case of the omnibus driver, the case to which apparently my learned friend attached great importance. This is the case. He was an omnibus driver. Dr. Joyce says: "He was a patient of mine, and I had attended him for a "weak and fatty heart. I was called in to attend him on the "Monday, October 31st, 1904, at 1.15 a.m., and found that he "was dead. There was another doctor present. I reported "the case to the said Mr Troutbeck, and informed him that "I had frequently attended the deceased during his life. I "verily believe that at a subsequent date a *post mortem* "examination of the deceased was made by Dr. Freyberger "I received no summons or request to attend the said *post* "*mortem* examination, neither did I receive a summons or "request to attend the inquest which was subsequently held. "and therefore I was not in attendance. I was informed by "Mr. Troutbeck's officer that the reason I was not called was "because two medical men had been called to the deceased "and he would therefore call neither. I received no com- "munication from the said Mr. Troutbeck, and I am of "opinion that had he communicated with me I could have "given him such information as would in all probability have "rendered an inquest unnecessary" Now let me say what this case involved. On my learned friend's contention there was another doctor present when Dr. Joyce arrived. That doctor was there first If Dr Joyce was there afterwards, then the case falls within the first branch of the section, and, according to my friend Mr. Bodkin's argument the Coroner must call the first one who was there before death; according to his argument, therefore, as this gentleman attended him during his last illness, the Coroner must call him in, and therefore he is driven to this extraordinary result, that the Coroner must call both, but he may only pay one. Is it possible that Parliament can have intended that to happen? Here is possibly a busy man fetched miles from his work, kept in attendance a considerable time, and the Coroner is bound to call two persons, but may by statute pay only one. Is it possible that that should be the intention of Parliament? If there is any way out of it one would avoid such a conclusion as that from the wording. The statute is on the hypothesis that any one who is called in under these sections is entitled to his proper fee. This is a case which is apparently not covered by the Local Government Board's decision, and it is one which renders my learned friend's arguments absolutely absurd. But that is not all. You will have noticed when I first read the deposition that, although Dr. Joyce did communicate with the Coroner, as appears in the first part of the deposition, he did not then in that communication give him such information as would in all probability have rendered an inquest unnecessary, and it is a matter for serious comment, if the whole of this deposition is true, that the inquest was an unnecessary one. Why, when Dr. Joyce communicated with the Coroner in his first case did he not say, "I can give you information which "will render an inquest unnecessary"? He says he received no communication from Mr. Troutbeck, but "had he com- "municated with me I could have given him such informa- "tion as would in all probability have rendered an inquest "unnecessary" Why was not that information given in the first communication? It obviously was not given, or he would have said so. If Dr. Joyce says he did give him enough information as to render an inquest unnecessary, then we are back again at the same point which I have been obliged, I am sorry to say, to harp upon so many times. Apparently the Coroner thought an inquest was necessary, and the Coroner is the man to decide that point, and not Dr. Joyce or somebody else. Somebody must take the responsibility, and that is put upon the Coroner by the statute. It is the duty of the Coroner to decide whether an inquest is necessary. On the same information the Coroner's opinion is the one which is taken and worked upon. That information was withheld from the communication; it was excluded from the information which was sent to the Coroner. I submit, on the affidavits themselves, that if the facts therein stated are correct there is something which could have been included in that communication which was omitted. The next case is that of Mary Anne Thurston, the deposition of Dr. Richardson. I will read from my notes in regard to it. I will read my summary on the point, and my friend will perhaps take it from me. It is that of a woman who was found in a back yard with her throat cut and her legs broken. She had either been thrown out or had fallen out of the window. The deponent was not summoned to give evidence or to make a *post-mortem*. A *post-mortem* was made by Dr. Birt, who was probably the medical man at the hospital where the deceased died. I believe that was so as a matter of fact. Now notice this one sentence in the affidavit. This poor woman died directly she was put on the ambulance. He says he found her in the back yard, and "from what I could see she had lain there a con- siderable time." Then he examined the premises, and found the window of the top floor open. There could be no doubt as to what the cause of death was—namely, one of two things—either the throat had been cut and she had been thrown out of the window, or she fell from the window. The only question was whether the injuries which she was found to have were self-inflicted or not. This gentleman, Dr. Richardson, comes on the scene on his own showing long after the accident or the murder—if it was a murder—was committed. He could not tell better than the police could, and the police were in all probability there already; and he could not tell whether she had fallen from the window or been thrown out nor whether she had committed suicide. Therefore it is perfectly consistent with the whole of this affidavit that the police were called in, and they would state that they were called and found a woman in the back yard, and meanwhile another messenger fetched a doctor. The policeman would be the first witness, probably, and for all I know he was. Therefore the only purpose that could be fulfilled by calling a medical man was to speak to matters not of a medical knowledge at all, but to a mere matter of observation—a fact which anybody could speak to, and probably the policemen could speak to it a good deal better than a doctor. If it was only a question whether the case was one of suicide, or one of murder, or one of assault. And that gets rid of that case. In that case, it is true, the medical practi-

tioner was present the moment before death, but only a moment; and the Lord Chancellor's remarks exactly agree with what I am putting before you—that it would be ridiculous to say that a mere chance, the accident of the medical man being first on the scene, ties the Coroner's hands and binds him down to call that medical man as a witness and to give him the duty of making the *post mortem* examination if one is to be made. It seems absurd that the statute could have meant that. I do not think I will trouble you to go through all the rest of the nine cases. But I will give you the names, if that will assist you: Turner, Harvey, Corbett, Davenport, and Robins, Smith, Chapham, Grey, and Caseley. There were three cases which my learned friend mentioned which are not in the depositions. They are not in the year under review. And, inadvertently, we failed to notice that there are another three cases; that is to say there are two groups of three. It is my fault, I think. There is a second group of three which are not in the depositions—Taylor, Ruel, and Hobbs. I merely mention this to point out why they were mentioned. I cannot deal with the questions concerning them if I have not the depositions.

Mr. BODKIN: I think Mr. Hempson offered to produce them.

Mr. RYDE: I daresay it is my fault if there is a misunderstanding, and I daresay I asked for them. But they were not in the year in question. But these three, Ruel, Taylor, and Hobbs are not in the declarations. If you have the same budget of declarations that I have you will find there are none in those of these cases. The only reason I mention the matter is that I cannot deal with matter which is not before me. Now one word on a case which was mentioned by you which I should have mentioned before, an Irish case. I will not trouble you for long with it because I am content to accept Mr Bodkin's statement. What was decided? According to the shorthand notes the county council, or whatever the authority is in Ireland, have no power to employ a paid, a salaried officer, to make *post-mortem* examinations. If that is the point I am content to accept that, and I would point out to you that we have not retained a paid salaried officer here. My learned friend says the decision was that the man must be appointed each time, *pro hac vice*. I understand Dr Freyberger was appointed each separate time, that there is no salary at all, he has only received his special fee on each appointment. My learned friend made that point a grievance in his address. I pass from that Irish case, merely saying that all the cases were given to Dr. Freyberger separately. Sir, if the appointment of Dr. Freyberger in one or two cases is a legal affair, which it is for you to decide, the question whether it is wise or unwise to give 100 per cent., or 20 per cent., or 50 per cent. of the cases to one man, is a matter which, I respectfully submit, you cannot inquire into. It is the same old point, a question of discretion on the part of the Coroner. Take as an illustration: The London County Council have no power to employ a barrister at a fixed salary to appear in every court, but if they choose always to appoint the same man, it does not make their payments to him for his work illegal. And that is merely what has been done here, according to my friend's statement. If the payment of one fee is a legal thing, in particular circumstances, it does not matter in the smallest if that legal payment is repeated a hundred times out of every hundred. And then, Sir, one other point was raised, that the other Coroners in London do not employ Dr. Freyberger, or any other specialist, so often as Mr. Troutbeck does. Well, assume that to be the case, what does it matter, Sir? That is a matter which our Coroner must decide for himself on his own discretion. It may be that two people would not come to the same conclusion on exactly the same facts, but how can you inquire whether the facts are the same? Speaking here, in the position which you occupy, how can you say that Mr. Troutbeck has exercised a wrong discretion and that somebody else has exercised a right one? It is impossible. You may as well say that, because one judge gives longer sentences than another, the longer sentences are illegal ones or that the shorter sentences are illegal. I think I have dealt with the point which my learned friend has raised under these depositions. It comes back to what I said before, Sir, that so long as you think—and I submit you are bound to think by the ruling of the Local Government Board—that these payments are not illegal, you must allow them. And, in cases where no practitioner was in attendance before death, then the Coroner has an absolutely unfettered hand, and, whether he chose in his discretion to call one man to all the cases or 100 different men for 100 different cases, every payment is legal. That is a matter you cannot deal with. I submit; it is merely a question of accounts, which can be laid before you under the statute, and when the Coroner exercises his discretion it is not a matter for you to decide upon. The statute does provide a remedy for misconduct on the part of the Coroner. The Lord Chancellor may, if he thinks fit remove any Coroner from his office for inability or misbehaviour in the discharge of his duties. If it is said—if it is right to say—that these payments are misbehaviours and misconducts in discharging his duty, the proper course is for the complainants to go to the Lord Chancellor. They have gone to him in the passage which I have laid before you. You have heard that the Lord Chancellor does not agree with them on the point of law. If my friend says it is not absolute misconduct, but mistaken ruling, then, Sir, again that is a question which should come before the Lord Chancellor; it cannot come before you, because you cannot sit here as a sort of court of appeal to revise the ruling of Coroners and of county council officers, and everybody else in regard to the spending of money. And the only question which you have to decide is—I submit it with great respect—whether these payments were legal. If they were legal, you must allow them. I am sorry I have taken so long. The matter should have been made clearer. In my view it is not our duty to cross-examine these affidavits, and prove them to be false or true. The questions before you are the conceptions of statutes as applied to particular circumstances. I have used them by way of illustration, and I say that, if the facts are correct, the payments are legal. I am not bound to go into the facts, and I do not think you, Sir, have jurisdiction to try them. But assuming the payments are illegal, I ought to explain my view of my position, and of your position, Sir, with the County Council. My friend has challenged 19 cases of payments. As I understand the utmost you can do, if you are entirely against me, is to disallow the payments in those 19 cases. There may be differentiating circumstances in some of the others which my friend challenges, I do not object to their referring to others if he shows there is an intentional act on the part of Mr. Troutbeck. But if my friend does not give us the chance of checking them——

Mr. BODKIN: I only referred to 19 cases, as evidence of the extreme reasonableness of our action in not overburdening the matter with detail.

Mr. RYDE: The official records are with the Coroner, and I am only justifying my payments to him. And if you rule against me on one or two or on the whole 19 payments, the utmost you can do is to disallow those 19 payments. You cannot say that the whole of Dr. Freyberger's payments are to be disallowed, but merely those 19 cases. That, I submit, is the question between us, and I was in hopes that we might have reduced the scope of the hearing to three or four cases. I agree that the cases are different, and if you look at the facts I submit you will find that the payments are perfectly legal.

Mr. BODKIN: I would draw your attention to the fact that although statements were made by me on October 31st last, in the course of a month, during which the London County Council had opportunities of investigating these facts in these declarations, there is not one affidavit or declaration filed in answer to any single fact which I stated. My learned friend here has referred to certain authorities. I venture to submit to you, Sir, that your decision is independent of all three, of the report of the Local Government Board's opinion, as reported by the late Sir Richard Wyatt, in the letter to the Surrey County Council, which was read by you on October 31st last.

Mr. RYDE: That was on appeal.

Mr BODKIN: I know. I am quite clear on that point. And, secondly, there is the letter from Mr Cunningham from the Home Office, which is, as it states, a mere view for the present, not an opinion on any point of law. And, thirdly, there is the observation of the Lord Chancellor, which was that his Lordship could not quite agree that it was an absolute statutory obligation of the Coroner to call in a local medical practitioner, and his Lordship puts the case of the criminal which we need not discuss. Those three [illegible] do not justify the expression "[illegible]" which my learned friend used in favour of his [illegible] here. And on the other side let me remind you that on July 29th, 1904, the Lord Chancellor sent a letter, signed by Mr Muir Mackenzie, which is in the BRITISH MEDICAL JOURNAL of August 5th, 1905, page 147, in answer to Mr. Andrew Clark and Mr. Smith Whitaker's letter to the Lord Chancellor condemning of the procedure which Mr. Troutbeck adopted, from the

British Medical Association's offices in the Strand, dated July 25th, in which those two gentlemen set out the particulars of which they had to complain. And the answer from the Lord Chancellor is that "though his Lordship's "present impression is not in favour of the Coroner's "practice, his Lordship does not as yet see that there "is such a case as would found the exercise of the only "jurisdiction which he possesses—namely, to remove the "coroner for misconduct in his office." A more clear expression of view that the practice as adopted by Mr. Troutbeck does not meet with his Lordship's approval it is not very easy to imagine, that his Lordship's impression is not in favour of the Coroner's practice, and his Lordship does not as yet see that there is such a case as would found the exercise of the only jurisdiction which he possesses.

Mr. Ryde: Will you give me the date of that?

Mr. Bodkin: I will hand the letter itself to you now. (Handed letter to Mr Ryde.) The matter has remained as it was left from that time, some time last year, in spite of the protest by the medical profession as to Mr. Troutbeck's practice. It was thought that the proper course would be, in open inquiry, to challenge the legality of it here. But as no steps could be taken after his Lordship's letter, under Section 8 of the statute, may I just say a further word as to my learned friend's remark? One knows that he has a taste for figures, and for classifications, and for divisions, and subgroups, and subtitles, and subdivisions, but I venture to say that the medical mind, which is not so steeped in and so versed with figures as is my learned friend's, is apt to be confused with the classifications which he has made. I submit that classifications which I have put before you—Groups A, B, C, and X, upon which we had proceeded on the last occasion, is a far more convenient arrangement of these particular cases. But whatever may be your opinion as to that, I do not propose to discuss in detail these cases, or the subdivisions, either according to my classification or according to my learned friend's, into which they may happen to fall. I want to deal not with the minutiae of my learned friend's material to-day, but with the general observations which he has made, by preference on the last occasion. I daresay you remember that my learned friend began by being just a little mysterious. There was some rather obscure reference to something possibly existing in the common law, some authority which gave the Coroner, apart from this statute, a general jurisdiction to call in whomsoever he pleases. I had the curiosity to look at this Act of 1887, and I found that it is an Act to consolidate the law relating to coroners, and it is an Act which contains a schedule which repeals a number of statutes and re-enacts them, dating from the time of the third year of the reign of King Edward I. The whole series of Acts from that time to the present have been repealed and consolidated in this Act of Parliament. And yet my learned friend says that beyond this Act of Parliament there is some undefined common law power upon which he seeks to justify the practice as adopted by Mr Troutbeck. I submit to you, Sir, as an ordinary and well-accepted canon of construction of Acts of Parliament of this character, that where you find a modern consolidating Act of Parliament of so recent a year as 1887 which repeals all previous statutory enactments and which sets out a code for the guidance of Coroners and their Courts, that is the law on the subject with regard to Coroners, and that there are no other common law or other powers touching Coroners than those which are specified and recognized by the Coroners Act of 1887. That being so, you will notice that in Sections 21, 22, 23 and 24, there is a separate code of procedure laid down for a special defined class of witness. And I submit further to you that with that group of sections in this modern statute you must look to, and can there only find the law relating to the calling of such witnesses and the payment of fees which may be due to them and nowhere else. And therefore it becomes a question of mere construction of Sections 21 to 24 of this statute which can determine you in the result at which you will arrive. Now, Sir, in this case, my learned friend has pointed out as I see by the shorthand notes—and I daresay you have them or would have them available if you wished to examine them according to my copy of the shorthand notes, at p. 6 of my copy, I can summarize what my friend was saying. He was pointing out that the construction I was contending for, that the medical man in last attendance on the deceased was the person prima facie to be summoned to the inquest, and to there give evidence and if necessary make the *post-mortem* examination, that it might lead to dangerous results. These dangerous results he pointed out might come about in poisoning cases, for instance, and serious cases of that kind. Sir, just to answer that, and at the same time to answer a great deal of the rest of my friend's observations, I would ask you to turn to Section 4 of this statute. If only gentlemen will follow the statutory provisions which are enacted for their guidance, no difficulties such as my learned friend has pointed out, or which have occurred in these cases, can happen. Look at Section 4—proceedings at inquest—what has he got to do? "The Coroner and jury shall, at the first sitting "of the inquest, view the body, and the Coroner shall examine "on oath touching the death all persons who tender their "evidence respecting the facts, and all persons having know-"ledge of the facts whom he thinks it expedient to "examine." That is what he has got to do at the first sitting of the inquest. He has got to examine witnesses who were either in attendance upon—I am speaking of ordinary lay witnesses at this moment—in attendance upon the deceased, his friends, his relatives, those who found his body, or were with him when he died, or who knew the circumstances which led up to his death. These witnesses tender their evidence respecting the facts. Then if the death and the cause of it is absolutely clear upon the evidence of those witnesses, there is not a tittle of occasion to send for a medical man at all, there is no question of medical difficulty in the case at all if the jury are of opinion that the cause of death, which is alone the subject of the Coroner's inquiry, is plain and patent to everybody. No medical witness, whether he is the resident in the district, whether he is a special pathologist, or whether he is the gentleman who was last in attendance on the deceased, is necessary from the beginning to the end of such an inquiry. Now to come to Section 21. Where it appears to the Coroner that deceased was attended at his death or during his last illness by any legally-qualified medical practitioner, the Coroner may summon such practitioner as a witness. Thereafter the preliminary inquiry which under Section 4 he has to hold—and I do not think it matters whether the preliminary inquiry is one which is made by him alone, or by his officer, usually a police officer—he arrives at a decision whether a doctor shall be called in at all or not, or whether the facts make it appear to the Coroner that a doctor is necessary at the preliminary inquiry before the jury held under Section 4, but if, either from his own private inquiry, if I may call it so, or from the facts as elucidated by the persons tendering their evidence under Section 4, he thinks it necessary that a doctor should be called, he has got to make inquiry as to who it shall be, and the statute directs him and says how it is to be made. He says, "This is a case in which "there seems to be some difficulty about the cause of death; "we are not quite clear. Are you gentlemen quite clear?" "No, we are not." "Was there a doctor attending him?" "Yes." "Who was he?" "Dr. So-and-So." "Very well, "that gentleman must be summoned." But if it appears to the Coroner that no registered medical practitioner was attending him at his death or during his last illness what is he to do? He is to summon a legally qualified practitioner who is at the time in actual practice in or near the place where the death happened. My learned friend says that in one blow nine out of those cases go by the board, if the metaphor may be pardoned for being mixed. But to get at that very desirable result that these nine cases should go out, he has got to assume that in this particular instance Dr. Freyberger is in practice in or near the place where the death happened. At or near the place where the death happened is such a well-known expression that it is difficult to conceive how any doubt could arise about it. There are medical men in most localities, but in the country they are more sparsely scattered than in London, but wherever it is—in London or country—it is the medical men, or one of them, who are practising, holding themselves out to practise in the neighbourhood in which that death occurred. And the practice of medical men, I may remind you, is amongst the living, not amongst the dead. And it is just to be observed here that if Dr. Freyberger is said to be in practice in Battersea—in Mr. Troutbeck's district—all his patients, fortunately or unfortunately for them, are dead before he gets there. And to that corner does my friend find himself driven, that Dr. Freyberger is in practice in or near the place in which the deaths occur. Sir, I submit, as an ordinary question of fact you would have the right to determine as well as questions of law here, that it is impossible for any tribunal to hold that Dr. Freyberger is in practice in Battersea or in the south-west district of London.

Mr. Ryde: I do not contend that; I say Marylebone is near Battersea for the purposes of this clause.

Mr. BODKIN: This is what my learned friend said about it; do not let there be any dispute about it: "If the medical "man is in actual practice in Marylebone, I say he is in "actual practice in or near the place where the death "happened, as he could drive there with a horse under "an hour." I quite agree that in the country that is absolutely accurate. But can it be said that the whole of this enormous area of London has not got a legally-qualified medical practitioner in actual practice in or near the place of death?

Mr. RYDE: I did not say that.

Mr. BODKIN: I suggest that the nine cases which my learned friend alluded to do not go by the board when one's ordinary common sense is applied. There is an Act of Parliament to give them an ordinary, rational, reasonable, and convenient meaning—and a meaning entirely in harmony with the public interests. My learned friend also said if Dr. Freyberger does nothing else than make these *post-mortems* he is in practice in the very place where he does them. Really, when one has a profession such as the medical profession to deal with, does my learned friend say that a gentleman who is in practice in mortuaries is in actual practice? Of course my friend cannot take that view. He does of course contend it, but not with any substance. Now, Sir, we have come to the second alternative which is before the Coroner. There was a medical practitioner in attendance on the deceased, let him be called. There was not one, then let one who is near by be summoned. That is what the statute says, and then it goes on, "any such medical witness as is "summoned in pursuance of this section may be asked to give "evidence as to how, in his opinion, the deceased came to his "death." On what? A gentleman who has not seen the deceased, who has not been in attendance upon him, how is he to give an opinion from the facts which under Section 4 are elucidated by those who tender their evidence to the Coroner in his earlier inquiry? By those of us who have the misfortune to have to attend at Coroners' Courts in connexion with cases which involve such terrible stories, case after case could be mentioned in which upon the mere statement of witnesses who are not medical witnesses, and who have nothing to do but state the facts and things which they saw happen, the medical man is called in as an expert to give his opinion as to the cause of death. That is the second class which Section 21 deals with, the general medical practitioner called in to give his opinion upon the facts of the case as he hears them. Up to that point no *post-mortem* examination is required at all. But if at the preliminary inquiry by the Coroner of the witnesses under Section 4, or at his own private preliminary inquiry, which in fact is held, and no doubt it is a convenient practice for him to do so, he thinks that the death is such that there ought to be some medical evidence derived from a *post-mortem* examination, then he may either direct "such medical witness"—and that word "such" is a most important word, to which my learned friend has not given full effect—direct such medical witness to make a *post mortem* examination. It is no good to quote the Home Office, or the Lord Chancellor or the Local Government Board, which gives opinions, not as to the course of law or subject to revision upon cases, in which no doubt from the public point of view it was desirable that somebody else than the particular practitioner should be called in to assist the Coroner and the jury. They say, Well, the section must not be read too strictly. Of course exceptional cases may occur in which it is desirable that somebody else should be called in, and the section must not be read too strictly, to divest somebody else of the fee to which he would be probably entitled. But when you come not to extraordinary cases but to every single case as the statistics given you show here, to every single case, with very very few exceptions indeed, that the local gentleman who is specified in Section 21, Subsection 1, as the "such medical witness" whom the Coroner has to consult is ignored, and a gentleman is introduced from another part of London who is not mentioned in the section, then, Sir, authorities upon exceptional cases as represented by Mr. Cunningham and the Local Government Board and the Lord Chancellor himself, are such as ought not to influence you in the construction which you put upon this subject. But a case may occur in which the Coroner thinks that a *post-mortem* examination should be held, with or without an analysis of the contents of the stomach and so forth. Then my learned friend said, Oh, but what a thing to do when the medical gentleman may perhaps be himself to blame, he is to conduct a *post-mortem* examination, and of course in conducting it he may conceal evidences of his own blameworthiness. Well, that is not a practical argument, because, as I suggest to the Coroner, if only he will follow this statute and make his preliminary inquiry under Section 4, he will not rush into a *post-mortem* the moment he hears of a death, and he will not telephone for Dr. Freyberger to come down to the *post-mortem*. You have got to make your inquiry and see whether there is any necessity for a *post-mortem* at all, and see whether you require the evidence of medical witnesses at all. When you have made up your mind that you do, call him according to the statute. And where is the difficulty? If that procedure is followed, and if there is any instance in which the specified medical practitioners are thought to be undesirable to conduct the *post mortem* examination—and by that time any Coroner who is worth his salt will have found out that there is something against that practitioner—then he is not the person to make the *post-mortem*. And if it does not occur to the Coroner, there is an express provision in Subsection 2, Section 21, that any person may state before the Coroner that the death was caused by improper or negligent treatment, and he is not then to be allowed to make the *post-mortem* examination. How can that provision be properly obeyed if before that time comes there has been a *post-mortem* examination made by a gentleman in the position of Dr. Freyberger? The truth is that here Mr. Troutbeck has, for some reason best known to himself, ignored the medical profession, and has created an appointment for carrying out these *post-mortem* examinations in defiance of Section 21, and in defiance of the view expressed by the London County Council themselves. And I do sympathize with my learned friend in the position in which he finds himself, for the London County Council show that our contention is the proper view of this section, as appears by the report on page 992 of July 1st, 1902, Public Control Committee: "The "21st Section of the Coroners Act empowers the Coroner to "summon, to give evidence, the doctor who attended the "deceased, or, if he had no doctor, then any doctor in prac"tice near the place of death may be summoned, and the "Coroner may direct such doctor to make the *post mortem*. "If this be done, the doctor is entitled to a fee of two "guineas, one guinea for the examination, and one guinea "for the evidence. But the Coroner need not employ the "local doctor to make the *post-mortem* unless he chooses, but "he could entrust the *post mortem* to another doctor better "qualified for the work but for the question of payment. "Under the 25th Section the Council has power to fix the fees "payable at an inquest *other than the fees payable to medical "witnesses in pursuance of the Act*, and where a pathologist is "employed *otherwise than in pursuance of the Act* a special fee "has to be paid. We took the opinion of counsel whether "the Council has power to provide for the employment and "remuneration of medical examiners for the purposes men"tioned, and were advised that this could not be done with"out express statutory authority." Very well, Sir, that being the view of the London County Council themselves, in 1902, as advised by their counsel, they proceeded upon that to appoint a number of gentlemen as special pathologists. And again, there they say that the "London Coroners"—this is the report of 1903-4, page 8—"have been furnished with "the names of specially-skilled pathologists able and willing "to make *post mortem* examinations and give evidence in "special inquest cases at the ordinary fee of two guineas." Then follows the list in question. These are specially-skilled pathologists to give evidence in "special inquest cases" and the London County Council, disregarding, apparently, their view of July, 1902, as advised by their counsel, disregarding their own statement on page 8 of 1903-4 that these gentlemen were only to be called in at special inquest cases, are now here, although they are the paymasters in the matter, for the purpose of justifying what one Coroner out of the whole of the Coroners of London has done, in contradiction to their views of 1902 and their views of 1903-4, as being justified by this statute, the section of which they were advised by counsel did not justify anything of the kind. Another observation of my friend is founded upon this word "summon," and you will remember that the word "summons" was introduced in the Section 21 because he must have power—the Coroner must deal with unwilling witnesses. It is the word which is always used by my learned friend to denote the power of the law to apply to unwilling people to come into courts of justice.

Mr. RYDE: Not always used. If I did say it, it was a mistake. There may be cases in which it is not so used.

Mr. BODKIN: You said, "As I understand his reading,"

that is referring to my reading of the word "summon," "summoning means calling, though I submit that it "has a very different meaning. Then, in reading the "statute I understand him to say that, except in special "cases specially authorized by Subsection 1, giving "not merely power of imposing a duty on the Coroner to "summon witnesses, but to make special payments under "Section 22 and no payments to anybody else. May I point "out that that reading is suicidal—that construction of the "statute is fatal to my learned friend's case? If you glance "at the section you will see the first three and a half lines "comprise one set of circumstances where there was a medical "practitioner in attendance at the death or during the last "illness. Then it goes on to the case where there was no "medical practitioner in attendance, and then the Coroner is "empowered to summon any legally qualified medical practi-"tioner in or near the place where the death happened. I "submit that the object of the enacting of this section was "in aid of the Coroner's powers in common law and general "powers to find out the truth. That section was put in first "of all to enable the Coroner to summon an unwilling "witness to give evidence." I submit that is an ill-founded contention. Section 22 gives you the real indication of the meaning of the word "summons"; it is a formal request to attend, which is to be subsequently used as a voucher for—I am not using the word voucher in its correct sense, but a document which the gentleman can produce as showing that he was the person directed by the Coroner to attend the inquest and to do the work for which he is charging. Section 22 provides for the remuneration. And Sections 25, 26 and 27—at any rate 25 and 26—certainly provide further in reference to the fees. There is no authority which my learned friend can cite to show the word "summons" is here introduced to deal with unwilling witnesses. No doubt summonses are issued by Coroners to unwilling witnesses, but no witness can get paid unless he is summoned, and that shows that my learned friend's contention is not accurate. Then, Sir, I submit, the point which you have to deal with is, Are the London County Council to be justified in making payments to Mr. Troutbeck under the particular circumstances of any one of these nineteen cases in law? They are the paymasters; they pay the Coroners a salary based upon, I suppose, the number of inquests and the amount of the work done. The question is whether the London County Council is right in making the payment. It is not a question here—that perhaps may be discussed elsewhere—whether Mr. Troutbeck is the best or the worst Coroner; not at all, but whether the London County Council are justified in making payments to reimburse Mr. Troutbeck for payments which he has made under the circumstances disclosed in these 19 cases. If the County Council are not justified, they should be surcharged, and that surcharge will operate, I presume, upon Mr. Troutbeck, and by Mr. Troutbeck operate upon Dr. Freyberger, so that no hardship will be done at all. You will have to look as between the London County Council and the public, and if the County Council are not in law justified in making these payments, your duty is, I submit, perfectly clear. As they are the paymasters of the Coroners, they must see that the Coroners do their duty, they must see that the Coroners obey Section 21, and it is quite clear that the London County Council have no grievance as being respondents in these proceedings, because they have acted contrary to the direct opinion which they obtained in 1902 in making these payments to Mr. Troutbeck under these particular circumstances. My friend says it is not for them to cross-examine Mr. Troutbeck upon these payments, that they cannot control his discretion and so forth. There is machinery for going through the accounts of a Coroner under Sections 25, 26, 27, and 28, and there is ample opportunity under these sections given for the County Council to find out what has been the practice by any particular Coroner, and the statistics which I gave on October 31st last and the enormous number of cases in which specially skilled pathologists are employed at the expense of the ratepayers is sufficient to have brought this question long ago to the attention of the London County Council. But if they have not chosen to take the counsel which was given them they have nobody else to thank. There was one further observation of my learned friend which I wanted to deal with, in his words, "If it is permissible to call a second witness "although not specially mentioned in Section 21, it must "also be permissible, to use a hibernian expression, to call "an outside witness to the exclusion of the first witness." The hibernian expression does not appeal to me. I cannot understand the words: "If it is permissible to call a second "witness . . . it must also be permissible . . . to call an out-"side witness to the exclusion of the first witness."

Mr. Ryde: My view of the section which I had in my mind was this. Take the first three and a half lines in the statute: "Where it appears to the Coroner that the deceased was "attended at his death or during his last illness by any "legally-qualified medical practitioner, the Coroner may "summon such practitioner as a witness." The Local Government Board have decided that the power of summoning a witness does not exclude the power of calling a second witness, but out of the section you must get power to call a second witness. If out of that section by some process of reasoning you get power to call a second, it also follows there is power to leave out the first and call the second only.

Mr. Bodkin: Now I understand; it is now clear to me. That is on the assumption that the Local Government Board letter is accurate in law.

Mr. Ryde: My argument is that the decision would be subject to the appeal to the Local Government Board, and you ought to follow the rule of the Court, which is the Court of Appeal to the Official Auditor.

Mr. Bodkin: My learned friend—he will not think I am disrespectful to him when I say it—is not as accustomed to the proceedings in Coroners' Courts and in Criminal Courts as I am, perhaps unfortunately, but these cases in which the extraordinary view is taken, that there is some sort of method by which authority to call a second medical witness can be extracted from Section 21, are cases which may be of very great public importance, and in that class of case one knows that things are somewhat strained, which in the ordinary class of case there is no justification for. I mean there may be an important murder trial—poisoning or other form of murder. One gets the highest pathological skill at the disposal of the Coroner, not one additional witness, but perhaps three additional witnesses, to the medical practitioner who has been called in to attend the deceased, a practice of course, as I am saying, not justified by Section 21. But in such gravely important cases as those it is necessary that there should be the highest possible skill available. And so either at the expense of the police or of the Home Office, or the Treasury, there are provided, for the satisfaction of the jury and the Coroner, these gentlemen to assist him in arriving at his conclusion. Whether or not in all these three instances—Mr. Cunningham's letter Sir Richard Wyatt's letter, and the statement of the Lord Chancellor—they had such cases in their minds or not it is impossible at present to discover. Sir, my learned friend has spent considerable time to day in dealing in detail with these cases. I am not going to follow him, I am not going to follow him into the subdivisions, subsections and subheadings into which these cases have been divided. But I venture to say he might have spent the interval of a month to some better advantage, and the way in which he might have spent it was this: in endeavouring to put before you one scrap of evidence which, in any one of these 22 cases justified the calling in of Dr. Freyberger to perform the *post mortem* examinations—one solitary fact, instead of the half-hour of ingenuity to which I say, again very respectfully, he has treated us this morning. There is no single case from beginning to end which was not of a simple character, and I suggest that the view taken here of the section by my learned friend is one which in law has no foundation. I can say in a sentence, Sir, another thing which is in my mind, that if there is that general discretion in the Coroner to call whomsoever he pleases, from the medical point of view of the case, what is the object of Section 21 specifying whom he may summon, the attendant medical practitioner and then the resident near-by practising in the neighbourhood? What is the object of specifying those particular classes and then going on to say, if there is any objection to either of those particular classes, then the Coroner may do and so? I submit, Sir, that that really answers a considerable portion of my learned friend's argument as to the true construction of Section 21. He has not got full discretion in calling any witness in a case without at any rate first following the provision of Section 21, which directs who are to be called. And in conclusion I would remind you that there is plenty of authority if you wanted authority. I could refer you to the case of Julius *v.* the Lord Bishop of Oxford (5th Appeal Cases, *Law Reports*, p. 240), where the phrase occurs it shall be lawful or permissive that a certain authority may do this or that, showing that in a class of statutes such as the present where the public interests are involved, it is equivalent to a

command to a particular authority to do the thing as specified in the statute in which it occurs. If you care to look at the report you will find on pp 240 and 241 of the fifth Appeal Cases, *Law Reports*, the proposition which I have just put before you. And therefore I end as I began, by submitting that the words "may summon" here is not the same expression as dealing with unwilling witnesses; it is the parliamentary method of ordering the tribunals which are governed by the Act of 1887, ordering them to follow a particular kind of procedure in the holding of an inquest where it becomes necessary from an inquiry by the Coroner that medical witnesses must be called.

Mr. RYDE: There is one point I want to touch on, about the opinion furnished to the London County Council. I have had it fetched. I agree with it, but the point upon which it was given was whether the County Council had power to employ a regular salaried officer to make *post-mortem* examinations. With that opinion I agree and I submit it is in exact keeping with the Irish case, which says the Council have power to employ A. B or C *pro hac vice*, but must not have a paid salaried officer. With regard to the case of Julius *v.* the Bishop of Oxford, the distinction is very marked between that case and this. In Julius *v.* the Bishop of Oxford there was this state of things: A person described in the Statute—I have forgotten what he was—was in the employ of the Bishop, and the Bishop *may* hear, and it was held, in order to give effect to the rights of the claimant, the Bishop must hear —

Mr. BODKIN: I direct your attention to the phrase "it shall be lawful."

Mr. RYDE: Yes, and the decision was that if it is lawful for the Bishop to hear in order to decide whether the complainant has a real grievance or not he must do so. If the point of this statute and Section 21 was to guarantee the fees as a right to the medical profession. I agree the power given to the Coroner by Section 21 in the words "may summon" would mean must summon if the object of the statute was to secure fees as a right to the medical profession. But the object of that is the ascertainment of the truth; and then the whole of the argument founded upon the case of Julius *v.* the Bishop of Oxford goes by the board. 'May summon" means for the ascertainment of the truth; the Coroner, to the best of his judgement, may use such means as are laid down by the statute. Of course, the object of these proceedings is to secure fees for a certain class of the medical profession.

Mr BODKIN: The closing words of Mr. Ryde have no foundation at all, Sir. As I said on October 31st, the medical profession has been absolutely ignored in this matter, and if the object of Section 21 is the ascertainment of the truth, I recommend Mr Troutbeck and those who are thinking as he thinks to consult the medical profession as to the medical causes of deaths which required inquests in those divisions to consult medical men who are in attendance on the deceased before a gentleman who has no knowledge of the locality or the particular case to which he has been called.

The AUDITOR: Do you wish to say anything, Dr Shearer?

Dr SHEARER: I would like to refer to one remark. Mr Ryde said that Section 21 was enacted for some purpose or other, but at the time it was enacted Section 22 was also enacted for the purpose of paying the particular witnesses mentioned in that Act, and for fifty years Sections 21 22, and 23 formed an entirely separate Act of Parliament. In that Act the word is not "summoned"; the words are: "It shall be "lawful for the Coroner to issue an order for those specified "witnesses," and in this section which relates to payment the words are: "The payment shall be made for attendance "at an inquest in obedience to this order." This order is marked A, and is still the order in actual use. This Act existed from 1836 to 1887, and was incorporated in this Act of 1887, which is an Act not to amend the law but to consolidate the law. Therefore it is clear that this Section 22 can only relate to the persons specified in that Act of 1836

Dr. PIERCY FOX: I do not think that it has been sufficiently emphasized that it is the duty of the jury to order a *post mortem*: it is not the Coroner at all. That is very important. And cases have been known where the jury has asked why has not a doctor been directed to make the *post mortem* and the Coroner reported that that was his business, and not anybody else's. Under the third paragraph of Section 21 he has not that power, it is the jury who have it. "If a majority of the jur "sitting at an inquest are of opinion that the cause of death "has not been satisfactorily explained by the evidence of the "medical practitioner or other witnesses brought before them, "they may require the Coroner in writing to summon as a "witness some other legally qualified medical practitioner "named by them, and further to direct a *post mortem* "examination of the deceased, with or without an "analysis of the contents of the stomach or intes- "tine, to be made by such last-mentioned practitioner, "and that whether such examination has been previously "made or not, and the Coroner shall comply with such "requisition, and in default shall be guilty of a mis- "demeanour." In cases where the Coroner has been asked about it he has given no reason whatever. A case like that occurred in my own practice—a very extraordinary case where the Coroner in his remarks was very undignified and very uncivil to me. In reference to this Irish case, I contend that the reason the decision was given was that the judges stated that anything "in the nature" of a permanent appointment was illegal, and Dr. Freyberger having so many *post mortems* given him amounts to an appointment; it is "in the nature" of an appointment, and therefore it falls under that decision.

The AUDITOR: This is a case of great complexity and of general public importance, and I propose to reserve my decision. It is not worth while asking you to meet here again, but I will let the interested parties know the decision in writing. I take this opportunity, before we separate, of expressing my high appreciation of the very able and lucid manner in which the arguments on both sides have been placed before me by the respective counsel.

CENTRAL MIDWIVES BOARD.

A MEETING of the Central Midwives Board was held on November 23rd, at 6 Suffolk Street, Pall Mall, with Dr. F. H. CHAMPNEYS in the chair.

THE INSPECTION OF MIDWIVES.

A letter was read from the Clerk of the Strood Rural District Council asking the opinion of the Board as to the right of a local supervising authority to inspect a midwife not resident within that jurisdiction, but from whom they had received notice of intention to practise within that district. A letter on the same point from the Clerk of the Alton Rural Council was read. The local supervision of midwives is provided for in the Midwives Act, 1902 under Section 8, according to which every council of a county or a county borough is the local supervising authority over midwives within the area of the said county or county borough. Provision is made in the Act under Section 9, for the delegation of the powers in connexion with the local supervision of midwives to district councils. The first duty of the local supervising authority is "to exercise general supervision over all midwives practising within their area." It appears, therefore, that if a midwife practises in two or more areas she must give notice to the local supervising authorities concerned. After some discussion the Secretary of the Central Midwives Board was instructed to reply to the letters, and to draw attention to Section 8 of the Midwives Act, 1902.

NOTIFICATION OF THE DEATH OF A MIDWIFE.

Subsection 6 of Section 8 of the Midwives Act imposes on the local supervising authority the duty of reporting at once to the Central Midwives Board the death of any midwife in their area, so that the necessary alteration may be made in the roll. In reference to this, a letter was read from the Clerk to the West Riding Sanitary Committee asking the Board to furnish the registrars of deaths within the area of the West Riding with annual copies of the midwives roll, in order to facilitate this notification. The Board decided to communicate with the Registrar-General on the matter.

OCTOBER EXAMINATION FOR MIDWIVES.

The Secretary presented to the Board the report of the Examiners on the October examination for midwives. The total number of candidates was 463 and the number of candidates who failed to pass was 111. That worked out at a rate of failure of 24 per cent. The number of candidates in London was 346 with 82 failures; in Bristol, 48, with 8 failures; in Manchester 52 with 20 failures; and in Newcastle 17 with 1 failure. In the examination in June last the number of candidates was 311 with a percentage rate of failure of 22 8.

BRITISH MEDICAL ASSOCIATION LIBRARY.

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Herschell. Indigestion. 3rd edition 1905.
Keen, W. W. Addresses and other papers. 1905.
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Luff and Page. Manual of Chemistry. 3rd edition. 1905.
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Presented by the DIRECTOR-GENERAL ARMY MEDICAL DEPARTMENT:
Third Report on Venereal Diseases and Scabies in the Army. 1905.

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Salter. Asthma. 1868.
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Dr. Copeman's Report on Sanitary Circumstances and Infectious Diseases at Hanley 1905.
Dr. Farrar's Report on Cerebro-spinal Meningitis at Irthlingboro. 1905.

Presented by the METROPOLITAN ASYLUMS BOARD:
Dr. Cameron's Report on Return Cases of Scarlet Fever and Diphtheria. 1905.

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Scientific Memoirs by Medical Officers. Nos. 17, 18. 1905.

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——— Dermatological Association Transactions. Vols. 5, 7, 8, and 11.
——— Journal of the Medical Sciences. New series, vols. 4, 5, 1842-3; vols. 14, 15, 1847-8; vols 18-30, 1850; vol. 33, 1857; vol. 40, 1864-5; vol. 59; or any parts of these vols.
——— Journal of Ophthalmology. Vols 1-9.
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——— of Ophthalmology. Vols. 1-3, 6, 7, 14-21.
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Ziemssen's Cyclopaedia. Supplem. vol.
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Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been made at the Admiralty: GEORGE M. LEVICK, Surgeon, to the *Victory*, for disposal, November 21st; DAVID H. VICKERY, Surgeon, to the *Jason*, November 18th; MAURICE T. MALE, Surgeon, to the *Hussar*, November 18th; PALMER D. RAMSAY and JOHN SHIPSEY, Surgeon, to the *Victory*, for disposal, November 18th; ALFRED E. WEIGHTMAN, Fleet Surgeon, and GEORGE C. C. ROSS, Surgeon, to the *Leviathan*, on recommissioning, December 5th; CORNELIUS BRADLEY, Fleet Surgeon, and HENRY R. GARDNER, Surgeon, to the *Caesar*, on recommissioning, December 5th; GEORGE A. DREAPER, Fleet Surgeon, to the *Nile*, on recommissioning, December 5th; ALAN G. EASTMENT, Surgeon, to the *Spartiate*, on recommissioning, December 15th; WILLIAM J. STITT, Surgeon, to the *President*, for three months' study at West London Hospital, November 27th.

The appointment of Fleet Surgeon J. L. THOMAS to the *President* for hospital course is cancelled.

ROYAL ARMY MEDICAL CORPS.

LIEUTENANT-COLONEL H. G. HATHAWAY is granted the temporary rank of Colonel whilst officiating as Principal Medical Officer Bombay Brigade, from October 18th.

ARMY MEDICAL RESERVE.

SURGEON-MAJOR G. M. LOWE, M.D., to be Surgeon-Lieutenant-Colonel, November 5th.

INDIAN MEDICAL SERVICE.

LIEUTENANT-COLONEL F. A. ROGERS, D.S.O., Bengal Establishment, is permitted to retire from the service from December 16th. He was appointed Surgeon, April 1st, 1885 and became Lieutenant-Colonel, April 1st, 1905. He was with the Burmese expedition in 1885-9 (mentioned in dispatches, medal with two clasps), and with the Chin-Lushai expedition in 1889-90 (mentioned in dispatches, D.S.O., and clasp).

The promotion of Captain P. P. KILKELLY, M.B., Bombay Establishment, to be Major is antedated from July 29th to January 30th.

ROYAL GARRISON ARTILLERY (VOLUNTEERS).

ALAN AYRE-SMITH to be Surgeon-Lieutenant, November 22nd.

VOLUNTEER RIFLES.

SURGEON-LIEUTENANT L. BOWMAN, M.B., 2nd Volunteer Battalion the Royal Scots Fusiliers, resigns his commission, November 22nd.

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

CAPTAIN L. N. LLOYD, D.S.O., R.A.M.C., to be Adjutant, London Companies, *vice* Major T. W. Gibbard, M.B., R.A.M.C., whose tenure of that appointment expired, November 1st.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

IN seventy-six of the largest English towns, including London, 7,799 births and 5,360 deaths were registered during the week ending Saturday last, November 25th. The annual rate of mortality in these towns, which had been 15·6, 15·6, and 15·5 per 1,000 in the three preceding weeks, increased last week to 17·9 per 1,000. The rates in the several towns ranged from 9·3 in Handsworth (Staffs.), 9·5 in Willesden, 9·9 in Burton-on-Trent, 10·2 in Bournemouth and in Northampton, 10·4 in Coventry, and 10·5 in Hornsey, to 21·1 in Rochdale, 21·6 in Preston, 22·0 in Wolverhampton, 22·1 in Burnley, 23·6 in Huddersfield, 24·9 in Liverpool and in West Hartlepool, and 27·1 in Oldham. In London the rate of mortality was 19·4 per 1,000, while it averaged 17·3 per 1,000 in the seventy-five other large towns. The death-rate from the principal infectious diseases averaged 1·2 per 1,000 in the seventy-six towns; in London this death-rate was equal to 1·1 per 1,000, while among the seventy-five other large towns the rates ranged upwards, to 2·2 in Ipswich, 2·3 in Warrington and in Salford, 2·5 in East Ham, 2·6 in Aston Manor and in Oldham, 2·7 in Blackburn, and 5·4 in Preston. Measles caused a death-rate of 1·1 in Croydon and in Swansea, 1·2 in Birmingham, 1·3 in East Ham and in Aston Manor, 2·0 in Blackburn, and 4·5 in Preston; scarlet fever of 1·7 in Rotherham; diphtheria of 1·1 in Huddersfield; whooping-cough of 1·5 in Ipswich and in Burnley; "fever" of 1·3 in York; and diarrhoea of 1·5 in Warrington and in Oldham, and 1·6 in Wolverhampton and in Middlesbrough. No fatal case of small-pox was registered last week either in London or in any of the large provincial towns, and no small-pox patients were under treatment last week in the Metropolitan Asylums Hospitals. The number of scarlet-fever cases in these hospitals and in the London Fever Hospital, which had been 4,200, 4,154, and 4,120 at the end of the three preceding weeks, had risen again to 4,127 at the end of last week; 470 new cases were admitted during the week, against 522, 494, and 425 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS.

DURING the week ending Saturday last, November 25th, 876 births and 735 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had been 17·5 per 1,000 in each of the two preceding weeks, increased to 21·9 per 1,000 last week, and was 4·0 per 1,000 above the mean rate during the same period in the seventy-six large English towns. Among these Scotch towns the death-rates ranged from 12·2 in Perth and 17·4 in Edinburgh to 24·1 in Dundee and 20·7 in Greenock. The death-rate from the principal infectious diseases averaged 2·5 per 1,000 in these towns, the highest rates being recorded in Dundee and Greenock. The 366 deaths registered in Glasgow included 23 which were referred to measles, 5 to diphtheria, 6 to whooping-cough, and 8 to diarrhoea. Two fatal cases of diarrhoea and 1 of typhus were recorded in Edinburgh. Thirteen deaths from measles occurred in Greenock and 12 in Dundee; 3 fatal cases of diarrhoea were registered in Aberdeen, and 1 of typhus in Leith.

HEALTH OF IRISH TOWNS.

DURING the week ending Saturday, November 25th, 456 births and 371 deaths were registered in six of the principal Irish towns, as against 501 births and 358 deaths in the preceding period. The annual death-rate in these towns, which had been 20·6, 20·5, and 15·9 per 1,000 in the three preceding weeks, rose to 20·6 per 1,000 in the week under notice, this figure being 2·7 per 1,000 higher than the mean annual rate in the seventy-six English towns for the corresponding period. The figures ranged from 11·2 in Londonderry and 10·5 in Waterford to 23·3 in Cork and 27·3 in Limerick. The zymotic death-rate during the same period and in the same six Irish towns averaged 1·5 per 1,000, or 1·0 per 1,000 higher than during the preceding period, the highest figure—2·5—being recorded in Londonderry, while Limerick and Cork registered no deaths under this heading at all. The aggregate deaths in the twenty-two urban districts from zymotic diseases were few—2 from scarlet fever, 3 from whooping-cough, 3 from enteric fever, and 10 from diarrhoeal diseases.

Vacancies and Appointments.

VACANCIES.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

BETHLEM HOSPITAL.—Two Resident House Physicians, Honorarium at the rate of £25 each per quarter.

BRIGHTON: ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN.—House Surgeon, Salary, £80 per annum.

BRIGHTON: SUSSEX COUNTY HOSPITAL.—Second House-Surgeon, and Anaesthetist. Salary, £60 per annum.

CAMBRIDGE: ADDENBROOKE'S HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £50 per annum.

DORCHESTER: COUNTY ASYLUM.—Second Assistant Medical Officer. Salary, £180, rising to £220 per annum.

DURHAM COUNTY ASYLUM.—Second Assistant Medical Officer. Salary, £180, rising to £230 per annum.

EXETER: ROYAL DEVON AND EXETER HOSPITAL.—Male Assistant House-Surgeon. Salary, £60 per annum.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—(1) Assistant Surgeon; (2) Casualty Officer, salary, £200 per annum; (3) House-Surgeon, salary, £20 for six months and £2 10s. washing allowance.

LEEDS: PUBLIC DISPENSARY.—(1) Honorary Surgeon, (2) Four Honorary Medical Officers.

LIVERPOOL STANLEY HOSPITAL.—Honorary Ophthalmic Surgeon.

LONDON COUNTY ASYLUM, Bexley.—Junior Assistant Medical Officer. Salary, £150 per annum.

LONDON SCHOOL OF CLINICAL MEDICINE, Greenwich.—Medical Superintendent. Salary, £300 per annum.

LONDON TEMPERANCE HOSPITAL, Hampstead Road, N.W.—Assistant House-Surgeon. Honorarium at the rate of £75 per annum.

MANCHESTER CHILDREN'S HOSPITAL, Pendlebury.—Visiting Surgeon. Honorarium, £100 per annum.

MANCHESTER: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Two Medical Officers. Salary, £65 and £60 per annum respectively.

METROPOLITAN HOSPITAL, Kingsland Road, N.E.—Medical Officer in charge of Electrical Department. Honorarium, £52 10s. per annum.

MIDDLESEX HOSPITAL.—Medical Officer and Registrar to the Cancer Wing. Salary, £100 per annum.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Junior House Physician. Salary, £50 per annum.

NORWICH: NORFOLK AND NORWICH HOSPITAL.—Second Assistant House-Surgeon. Honorarium, £20 for six months.

PADDINGTON GREEN CHILDREN'S HOSPITAL.—Two Honorary Anaesthetists.

PLYMOUTH: SOUTH DEVON AND EAST CORNWALL HOSPITAL.—Assistant House Surgeon. Salary, £50 per annum.

QUEEN'S JUBILEE HOSPITAL, Earls Court, S.W.—Honorary Pathologist.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.—Milroy Lecturer for 1907.

ROYAL PIMLICO DISPENSARY, Buckingham Palace Road, S.W.—Resident Medical Officer and Secretary. Salary, £100 per annum.

TOXTETH PARK TOWNSHIP.—Assistant Resident Medical Officer of the Workhouse and Infirmary. Salary, £100 per annum.

TUNBRIDGE WELLS GENERAL HOSPITAL.—House-Surgeon. Salary, £100 per annum.

WEST END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, Welbeck Street, W.—Surgeon for Orthopaedic Cases.

WORCESTER GENERAL INFIRMARY.—Junior Resident Medical Officer. Salary, £80 per annum.

YORK CITY LUNATIC ASYLUM.—Assistant Medical Officer. Salary, £140 per annum.

YORK: NORTH RIDING ASYLUM, Clifton.—Second Assistant Medical Officer. Salary, £150, rising to £200 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces vacancies in the office of Certifying Factory Surgeon at Fakenham, County Norfolk, and Dornoch, County Sutherland.

APPOINTMENTS.

CLENDINNEN, W. M., M.B., Ch.B.Birm., M.R.C.S., L.R.C.P., Medical Officer to the South Staffordshire Joint Small-pox Hospital Board.

CLEVELAND, Arthur J., M.D.Lond., M.R.C.P.Lond., Honorary Assistant Physician to the Norfolk and Norwich Hospital.

DURBRIDGE, H., M.R.C.S., L.R.C.P., District Medical Officer of the Bakewell Union.

GAUNT, J. P., L.R.C.P.Edin., M.R.C.S.Eng., District Medical Officer of the King's Norton Union.

HINGSTON, A. A., M.B., C.M.Aberd., District Medical Officer of the King's Norton Union.

JONES Pierce, M.B., Ch.B.Glasg., Medical Officer for the Portmadoc District of the Festiniog Union vice W. Jones Morris, L.R.C.P.Edin., M.R.C.S.Eng., deceased.

KERR, Harold, M.B., Ch.B.Edin., D.P.H.Camb., Assistant Medical Officer of Health to the County Borough of Bury.

MCCLEARY, G. F., M.D., D.P.H.Camb., Medical Officer of Health for Hampstead, vice T. Herbert Littlejohn, M.B., C.M.Edin., deceased.

SANDERS, J. Herbert, M.D., M.R.C.S., L.R.C.P., Honorary Assistant Anaesthetist to the Central London Throat and Ear Hospital, W.C.

SANDWITH, F. M., M.D.Durh., F.R.C.P.Lond., Lecturer on Tropical Diseases at St. Thomas's Hospital Medical School.

STEPHENSON, Sydney, M.B., C.M., Ophthalmic Surgeon to the Queen's Jubilee Hospital.

TEMPLE, George H., M.B., C.M., Honorary Surgeon to the Weston-super-Mare Hospital.

TIGHE, John Brisnan, M.B., B.Ch., B.A.O.Irel., Senior Assistant Medical Officer to the North Riding Asylum of Yorkshire.

WATERHOUSE, Rupert, M.D., L.R.C.P.Lond., Assistant Physician to the Royal United Hospital, Bath.

ST. THOMAS'S HOSPITAL.—The following have been elected as House Officers:

Casualty Officers.—(Senior) H. A. Kisch, M.R.C.S., L.R.C.P.; (Junior) G. R. Footner, M.B., B.C.Cantab., M.R.C.P., L.R.C.P.

Resident House-Physicians.—W. O. Meek, M.R.C.S., L.R.C.P.; C. St. A. Coles, M.R.C.S., L.R.C.P.

House-Physicians to Out-patients.—F. M. Bulley, M.R.C.S., M.A. Cantab; R. C. Jewesbury, M.R.C.S., L.R.C.P., B.A.Oxon.

Obstetric House-Physicians.—(Senior) J. M. Wyatt, M.B., B.S.Lond., M.R.C.S., L.R.C.P.; (Junior) R. E. Whitting, M.A., M.B., B.C.Cantab.

Ophthalmic House-Surgeons.—(Senior) F. R. E. Wright, M.B.Lond., M.R.C.S., L.R.C.P., D.P.H.; (Junior) C. R. B. Eyre, M.R.C.S., L.R.C.P.

Special Departments.—(Throat): F. S. Hewett, M.R.C.S., L.R.C.P., B.A.Cantab. Skin: A. B. Howitt, M.R.C.S., L.R.C.P., B.A.Cantab.

Several other gentlemen have received extensions of their appointments.

DIARY FOR NEXT WEEK.

TUESDAY.

PATHOLOGICAL SOCIETY OF LONDON, 20, Hanover Square, W., 8.30 p.m.—Papers:—Dr. A. G. R. Foulerton: (1) Columnar-celled Carcinoma of the Testicle; (2) Mixed-celled (Columnar and Squamous) Carcinoma of the Stomach. Dr. Maynard Smith: Giant Cells in Tumours of the Thyroid Gland. Dr. J. G. Forbes: Tuberculous Adenitis with Congenital Bronchiectasis and Cirrhosis of the Liver and Pancreas. Dr. F. J. Poynton: Note on Fundus of Eye from Case of Amaurotic Family Idiocy.

THURSDAY.

BRITISH GYNAECOLOGICAL SOCIETY, 20, Hanover Square, W., 8 p.m.—Papers:—Dr. Richard T. Smith: A Case of Associated Pyosalpinx and Appendicitis. Dr. Purcell: A Case of Broad Ligament Cyst with Injury to Ureter and Subsequent Rectification. Adjourned Discussion on Haematoma of the Ovary.

HARVEIAN SOCIETY OF LONDON, Stafford Rooms, Titchborne Street, Edgware Road, 8.30 p.m.: Discussion on the Attitude of the Medical Profession towards Insanity, to be opened by Dr. Seymour Tuke.

NEUROLOGICAL SOCIETY OF THE UNITED KINGDOM, 11, Chandos Street, Cavendish Street, W., 8.30 p.m.—Pathological Meeting.

NORTH-EAST LONDON CLINICAL SOCIETY, Tottenham Hospital, N., at 4 p.m.—Discussion on Some Midwifery Difficulties, to be opened by Mr. C. E. Hutt, President.

FRIDAY.

CLINICAL SOCIETY OF LONDON, 20, Hanover Square, W., 8.30 p.m.—Papers:—Mr. Jackson Clarke: The Present Position of the Treatment of Congenital Hip-Dislocation. Dr. E. W. Goodall: A Case of Typhoid Fever, with Peritonitis, but no Perforation, in which Laparotomy was performed. Mr. W. G. Spencer: Septic Peritonitis occurring Early in the Course of Typhoid Fever, apart from Perforation. Mr. T. H. Kellock: A Case of Traumatic Pancreatic Pseudo-Cyst.

POST-GRADUATE COURSES AND LECTURES.

CHARING CROSS HOSPITAL, Thursday, 4 p.m.—Post-Graduate Course: Medical Cases.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.—Wednesday, 4 p.m. Lecture: Bronchiectasis in Children.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, London, W.C.—Thursday, 4 p.m., Chronic Dyspepsia in Older Children.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week at 4 p.m. each day: Monday, Skin; Tuesday, Medical; Wednesday, Surgical; Thursday, Surgical; Friday, Ear. Lectures at 5.15 p.m. each day will be given as follows: Monday, The Treatment of the Early Days of the Puerperium. Tuesday, Errors of Digestion in Relation to Disease. Wednesday, Diseases of the Gall Bladder and Bile Ducts. Thursday, Surgical Diseases of Children.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, 7, Fitzroy Square, W. (Out-patients' Department).—Thursday, 5 p.m.: Post-graduate Lecture: The Nose and Throat in Chest Diseases.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Tuesday, 3.30 p.m., Tumours of Spinal Cord. Friday, Subacute Degeneration of Cord.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Tottenham Hospital, N., 4.30 p.m.—Tuesday: Malignant Disease of the Rectum.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone Road, N.W., Thursday, 3 p.m.: Cases from the Wards.

UNIVERSITY COLLEGE HOSPITAL, Gower Street, W.C.—Wednesday, 4 p.m., Clinical lecture: The Diagnosis of Spinal Cord Lesions and their Surgical Treatment.

WEST LONDON POST-GRADUATE COLLEGE, West London Hospital, Hammersmith Road, W.—The following lectures and demonstrations have been arranged for next week at 5 p.m. each day: Monday, Acute Pneumonia. Tuesday, Surgical Cases. Wednesday, Practical Surgery. Thursday, Anaesthetics. Friday, Cases of Skin Disease.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to insure insertion in the current issue.

BIRTH.

MACEVOY.—On November 25th, at 41, Buckley Road, Brondesbury, N.W., the wife of H. J. Macevoy, M.D., B.Sc.Lond., of a daughter.

MARRIAGE.

GYTON—BELL.—On November 28th, at the Church of the Holy Ghost, Nightingale Square, Clapham, S.W., by the Rev. Father Grady, Walter George Gyton, L.R.C.P., M.R.C.S., of 273, Lavender Hill, S.W., to Alice Matilda, youngest daughter of the late John Bell of Constantinople.

BOOKS, ETC., RECEIVED.

Technik, Wirkungen und Indikationen der Hydro-Elektrotherapie bei Anomalien des Kreislaufs. Von Dr. Paul C. Franze. Munchen: Otto Gmelin. 1905.

Transactions of the Twenty-seventh Annual Meeting of the American Laryngological Association held at Atlantic City, N.J., June 1st, 2nd, and 3rd, 1905. New York: American Laryngological Association. 1905.

Public Health Administration in Glasgow. A memorial volume of the writings of James Burn Russell, B.A., M.D., LL.D. Edited by A. K. Chalmers. Glasgow: James Maclehose and Sons. 1905.

International Clinics. A Quarterly, edited by A. O J. Kelly, A.M., M.D. Vol. iii Fifteenth series, 1905. Philadelphia and London: J. B. Lippincott Company. 1905.

The National Standard Dispensatory. In accordance with the 8th decennial revision of the United States Pharmacopoeia. 1905. By Hobart Amory Hare, B Sc., M.D., Charles Caspari, jun., Ph G., Phar D., Henry H. Rusby, M D., Joseph F. Geisler, Ph C., Edward Kremers, Ph.D., and Daniel Base, Ph D. London: J. and A. Churchill. 1905. 31s. 6d.

Pentland's Medical Series (Volume Seventh). The Principles of Treatment and their Applications in Practical Medicine By J. Mitchell Bruce, M A., LL.D., M.D., F.R C.P. Third impression. Edinburgh and London: Young J. Pentland. 1905.

Laputa. Revisited by Gulliver Redivivus in 1905. London: Hirschfeld Brothers, Limited. 1905. 1s.

Les Prophètes Juifs. Etude de Psychologie Morbide (Des Origines a Elie). Par J. Binet-Sanglé. Paris: Dujarric et Cie. 1905. Fr. 3.50.

Handbuch der speziellen Pathologie und Therapie innerer Krankheiten. Von Dr. Hermann Eichhorst. Sechste Auflage. Zweiter Band. Krankheiten des Verdauungs-, Harn-, und geschlechts-apparates. Berlin and Wien: Urban and Schwarzenberg. 1905. M 15

Practical Sanitary Science. A Handbook for the Public Health Laboratory: By David Sommerville, B.A., M.D., D.P.H. (Camb.), M.R.C.P. (Lond.). London: Baillière, Tindall, and Cox. 1906. 10s. 6d.

Transactions of the Clinical Society of London. Vol. xxxviii. London: Longmans, Green and Company. 1905.

Landmarks and Surface Markings of the Human Body. By Louis Bathe Rawling, M.B., B C. (Cantab.), F.R.C.S.Eng. Second edition. London: H. K Lewis. 1905. 5s.

On Active Service with the St. John Ambulance Brigade South African War, 1899-1902). By the late William S. Inder, S.J.A.B. London: Dale, Reynolds and Company. 1905. 5s.

The Changes Produced by Inflammation in the Conjunctiva (Hunterian Lectures, R C.S., 1905). By M. S. Mayou, F.R.C.S. London: John Bale, Sons and Danielsson, Limited. 1905. 10s. 6d.

The Diagnosis of Tuberculosis of the Lung, with Special Reference to the Early Stages. By Dr. K. Turban. Introduction by Sir Dyce Duckworth, M.D., LL.D., F.R.C P. Translated by Egbert C. Morland, M.B., B.Sc.Lond. London: John Bale, Sons and Danielsson. 1905. 5s.

Die typischen Operationen und ihre Ulring an der Leiche. Von Dr. Emil Rotter. 7 Auflage. München: J. F. Lehmann. 1905 M. 8.

Lehmann's Medizinische Handatlanten. Band XXIV. Grundriss und Atlas der Ohrenheilkund. Unter mitwikung von Hofrat. Professor Dr. A. Politzer von Privatdozent Dr. Gustav Brühl. Zweite Auflage. München: J. F. Lehmann. 1905. M. 12.

Lehmann's Medizinische Handatlanten. Band XXXIV. Grundriss und Atlas der allgemeinen Chirurgie. Von Professor Dr. Georg Marwedel. München: J. F. Lehmann. 1905. M. 12.

Let Youth but Know: a Plea for Reason in Education. By Kappa. London: Methuen and Company. 3s. 6d.

Philosophical Transactions of the Royal Society of London. Series B., Vol 198, pp. 99—141. (Plates 7 and 8) Contributions to the Physiology of Mammalian Reproduction. Part I. The Oestrous Cycle in the Dog. Part II. The Ovary as an Organ of Internal Secretion. By Francis H. A. Marshall and William A. Jolly; London: Dulau and Company. 1905. 5s.

Ueber Missbildungen der menschlichen Gliedmassen. (Neue Folge). Von Professor Dr. F. Klaussner. Weisbaden: J. F. Bergmann: and Glasgow: F. Bauermeister. 1905. 2s

Die Verletzungen der Nase und deren Nebenhöhlen nebst Anleitzung zur Begutachtung ihrer Folgezustände. Von Dr. med. Friedrich Röpke. Wiesbaden: J. F. Bergmann: and Glasgow: F. Bauermeister. 1905. 4s. 8d.

Micky. By Evelyn Sharp. London: Macmillan and Co., Ltd. 1905. 4s. 6d.

Zur Frage der Bor-Wirkungen. Eine Kritik des Dr. Wileyschen Berichtes an das Amerikanische Ackerbau-Ministerium. Von Dr. Oscar Liebreich. Berlin: August Hirschwald. 1905. M. 4.

Electrolysis in the Treatment of Facial and other Blemishes. By J. D. P. McLatchie, M.B., C.M. London: H. J. Glaisher, 1905. 1s.

Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India (New series, No. 19). On Kala Azar, Malaria, and Malarial Cachexia. By Captain S. P. James, M.B., I.M.S. Calcutta: Office of the Superintendent of Government Printing. 1905. 1 rupee 4 annas (1s. 11d.).

A Few Footprints. By J. Passmore Edwards. London: 1905.

The Transactions of the Edinburgh Obstetrical Society. Vol. xxx. Session 1904-5. Edinburgh: Oliver and Boyd. 1905.

A Treatise on the Nervous Diseases of Children for Physicians and Students. By B. Sachs, M.D. Second edition. New York: William Wood and Co. 1905

The Fighting Man of Japan. The Training and Exercises of the Samurai By F. J. Norman. London: Archibald Constable and Co., Ltd. 1905. 2s. 6d.

With John Bull and Jonathan. Reminiscences of Sixty Years of an American's Life in England and in the United States. By John Morgan Richards. London: T. Werner Laurie. 1905. 16s.

Pictures from Nature. By Richard and Cherry Kearton. London Cassell and Co. 1905. £2 2s.

A History of English Philanthropy: From the Dissolution of the Monasteries to the Taking of the First Census. By B. Kirkman Gray. London: P. S King and Son. 1905. 7s. 6d.

Treatise on Orthopaedic Surgery. By Edward H. Bradford, M.D., and Robert W. Lovett, M.D. Third edition. London: Baillière, Tindall, and Cox. 1905. 21s.

Le Livre de la Sage-Femme et de la Garde suivi de quelques mots sur le Traitement du Cancer de l'Utérus. Par Dr. R. de Seigneux. Genève: Henry Kündig. 1905.

A Glossary of Botanic Terms, with their Derivation and Accent. By Benjamin Daydon Jackson. Second Edition. London: Duckworth and Co. 1905. 7s 6d.

Sanatoria for Consumptives: A Critical and Detailed Description, together with an Exposition of the Open-air or Hygienic Treatment of Phthisis. By F. Rufenacht Walters, M.D., M.R.C.P. Third edition. London: Swan, Sonnenschein, and Co., Ltd 1905. 12s. 6d.

Stoffwechsel und Stoffwechselkrankheiten Einführung in das Studium der Physiologie und Pathologie des Stoffwechsels für Aerzte und Studierende. Von Dr. Paul Friedrich Richter. Berlin: August Hirschwald. 1906. Mk. 8.

Surgical Nursing and the Principles of Surgery for Nurses. By Russell Howard, M.B., M.S.Lond., F.R.C.S.Eng. London: Edward Arnold. 1905. 6s.

The Physiology and Therapeutics of the Harrogate Waters, Baths, and Climate, Applied to the Treatment of Chronic Disease. By William Bain, M.D.Durh., M.R.C P.Lond., and Wilfrid Edgecombe, M.D Lond., F.R C.S Eng. London: Longmans, Green, and Co. 1905. 7s. 6d.

Portez-vous Bien! Notions élémentaires d'hygiène populaire et rationelle. Par le Dr. Terwagne Troisième édition. Gand: Société Co-opérative "Volksdrukkerij"; et Paris: Vigot Frères. 1905. Fr. 1 50.

Epsom College Register. From October, 1855, to July, 1905. First edition. London: Richard Clay and Sons, Ltd. 1905.

Technique de Microbiologie Tropicale. Par le Dr. F. Noc. Précédé d'une préface du Dr A. Calmette. Paris: O Doin. 1905. Fr. 4.

Anatomischer Atlas in Stereokopischen Röntgenbildern. I. Normale Anatomie. 1. Abteilung: knochen und gelenke. Von Dr. Ernst Sommer. Würzburg: A. Stuber. 1906. M. 10.

Food Preservatives: Their Advantages and Proper Use. By R. G. Eccles, M.D., Phar D. Introduction by E W. Duckwall, M.S. London: Kegan Paul, Trench, Trübner, and Co., Ltd.

Remarks on the Clinical and Bacteriological Aspects of an Epidemic Simulating Influenza, which recently occurred in the East Herts District. By R. A. Dunn, M D., B.S., D Hy., D.P.H., M.O H., and M H. Gordon, M A., M.D., B.Sc. London: Harrison and Sons. 1905.

London Unemployed Fund, 1904-5: Report of Central Executive Committee to September 30th. London: P. S. King and Son. 1905. 1s.

Patologia e Clinica dei Tumori Mediastinici con xx osservazioni personali. Por Dott. V. Piazza-Martini. Palermo: Giuseppe Fiore. 1903. L. 10.

Atlas and Epitome of Diseases of the Skin. By Dr. Franz Mracek. Authorized translation from the German, Second edition, edited by Henry W. Stelwagon, M.D., Ph.D. Philadelphia and London: W. B. Saunders and Co. 1905. 16s.

A Textbook of Diseases of Women. By Barton Cooke Hirst, M D. Second edition. Philadelphia and London: W. B. Saunders and Co. 1905. 21s.

Abdominal Operations. By B. G. A. Moynihan, M S., F.R.C.S. Philadelphia and London: W. B. Saunders and Co 1905. 28s.

Anatomy and Physiology for Nurses. By Le Roy Lewis, M D. Philadelphia and London: W. B. Saunders and Co. 1905. 7s. 6d.

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CALENDAR OF THE ASSOCIATION.

Month.	Day of Week.	Meetings to be Held.
Dec.	3 ... Sunday..	
,,	4...Monday ...	
,,	5...Tuesday ...	Walthamstow Division, *Metropolitan Counties Branch*, Woodford Hospital, 4 p.m.
,,	6...Wednesday	London: Premises and Library Committee, 3 p.m. London: Journal and Finance Committee (with the Chairmen of Committees), 4.30 p.m. Coventry Division, *Birmingham Branch*, Coventry and Warwickshire Hospital, 8.30 p.m. North Carnarvonshire and Anglesey Division, *North Wales Branch*, British Hotel, Bangor 2 p.m. Herefordshire Division, *Worcestershire and Herefordshire Branch*, Herefordshire General Hospital, Hereford, 3 p.m.
,,	7...Thursday ...	Altrincham Division, *Lancashire and Cheshire Branch*, Board Room of the Hospital, Market Street, Altrincham; Dinner, Unicorn Hotel 7 p.m. Canterbury and Faversham Division, *South-Eastern Branch*, Herne Bay Cottage Hospital, 3 p.m. Croydon Division, *South-Eastern Branch*, Croydon General Hospital, 4.30 p.m. South Carnarvon and Merioneth Division, *North Wales Branch*, Tower Hotel, Pwllheli, 2.30 p.m. Swansea Division, *South Wales and Monmouthshire Branch*, General Hospital, Swansea, 3 p.m.; Dinner, 6.30 p.m.
,,	8...Friday ...	Isle of Thanet Division, *South-Eastern Branch*, Granville Hotel, Ramsgate, 4.30 p.m. Liverpool (Northern) Division, *Lancashire and Cheshire Branch* Medical Institution, 9 p.m. North Cumberland Division, *Border Counties Branch*, County Hotel, Carlisle.
,,	9...Saturday...	
,,	10...Sunday..	
,,	11...Monday ...	
,,	12...Tuesday ...	London: Organization Committee, 10.30 a.m. Birmingham Branch, Medical Institute, 4 p.m. Bradford Division, *Yorkshire Branch*, Eye and Ear Hospital, Bradford, 8.30 p.m.
,,	13...Wednesday	Central Council, 2 p.m. London: South-Eastern Branch, Council. 3.15 p.m. Bradford Division, *Yorkshire Branch*, Annual Whist Drive, Supper, and Dance, Victoria Hotel, Bradford, 8 p.m. Tunbridge Wells, Hastings, and Sevenoaks Divisions, *South-Eastern Branch*, General Hospital, Tunbridge Wells, 5.30 p.m.; Dinner, Calverley Hotel, 7.15 p.m.
,,	14...Thursday...	Norwood Division, *South-Eastern Branch*, Home and Infirmary for Sick Children, Lower Sydenham, 4 p.m. Wandsworth Division, *Metropolitan Counties Branch*, Battersea Town Hall, 8.45 p.m.
,,	15...Friday ...	London: Ethical Committee, 2 p.m.
,,	16...Saturday...	
,,	17...Sunday..	
,,	18...Monday ...	
,,	19...Tuesday ...	
,,	20...Wednesday	
,,	21...Thursday...	
,,	22..Friday ...	
,,	23...Saturday...	
,,	24...Sunday..	
,,	25...Monday ...	*Christmas Day.*
,,	26...Tuesday ...	*Boxing Day.*
,,	27...Wednesday	
,,	28...Thursday...	
,,	29...Friday ...	
,,	30...Saturday...	
,,	31...Sunday..	

Month.	Day of Week.	Meetings to be Held.
1906.		
Jan.	1...Monday ...	
,,	2...Tuesday ...	
,,	3 ..Wednesday	
,,	4...Thursday...	Swansea Division, *South Wales and Monmouthshire Branch*, General Hospital, Swansea, 3 p.m.
,,	5...Friday ...	
,,	6 ..Saturday...	
,,	7...Sunday..	
,,	8...Monday ...	
,,	9 ..Tuesday ...	
,,	10 ..Wednesday	
,,	11...Thursday...	
,,	12...Friday ...	
,,	13...Saturday...	
,,	14...Sunday..	
,,	15...Monday ...	
,,	16...Tuesday ...	
,,	17...Wednesday	Central Council, 2 p.m.
,,	18 ..Thursday...	City Division, *Metropolitan Counties Branch* 4 p.m.
,,	19...Friday ...	
,,	20...Saturday...	
,,	21...Sunday..	
,,	22...Monday ...	
,,	23...Tuesday ...	
,,	24...Wednesday	
,,	25...Thursday...	Wandsworth Division, *Metropolitan Counties Branch*, Balham Hotel, 8.45 p.m.
,,	26...Friday ...	
,,	27...Saturday...	
,,	28...Sunday..	
,,	29 ..Monday ...	
,,	30...Tuesday ...	
,,	31 ..Wednesday	Bath and Bristol Branch, Bristol.
Feb.	1...Thursday...	Swansea Division, *South Wales and Monmouthshire Branch*, General Hospital, Swansea, 3 p.m. Wandsworth Division, *Metropolitan Counties Branch*, Bolingbroke Hospital 4 p.m.
,,	2 Friday ...	
,,	3...Saturday...	
,,	4...Sunday..	
,,	5...Monday ...	
,,	6 ..Tuesday ...	
,,	7...Wednesday	
,,	8 ..Thursday...	
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,,	12...Monday ...	
,,	13...Tuesday ...	
,,	14...Wednesday	

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL

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CONTENTS.

	Page
MEDICO POLITICAL AND PUBLIC HEALTH COMMITTEES:	
Security of Tenure for Medical Officers of Health	325
MEETINGS OF BRANCHES AND DIVISIONS:	
Glasgow and West of Scotland Branch: Renfrewshire Division ...	329
Lancashire and Cheshire Branch: Burnley Division	329
,, ,, ,, Southport Division	329
Metropolitan Counties Branch: Walthamstow Division...	330
South Midland Branch: Bedfordshire and Hertfordshire Division	330
Sydney and New South Wales Branch	330
GENERAL MEDICAL COUNCIL.—REPORT OF PROCEEDINGS ...	331
ASSOCIATION NOTICES.—BRANCH AND DIVISION MEETINGS TO BE HELD	341
CENTRAL MIDWIVES BOARD	341
NAVAL AND MILITARY APPOINTMENTS	341
VITAL STATISTICS...	342
BRITISH MEDICAL ASSOCIATION LIBRARY	342
VACANCIES AND APPOINTMENTS	342
BIRTHS, MARRIAGES, AND DEATHS	343
DIARY OF THE WEEK	343
BOOKS, ETC., RECEIVED	343
CALENDAR	344

British Medical Association.

MEDICO-POLITICAL AND PUBLIC HEALTH COMMITTEES

SECURITY OF TENURE FOR MEDICAL OFFICERS OF HEALTH.

A DEPUTATION to the President of the Local Government Board (Mr. GERALD BALFOUR) waited on him at the offices of the Local Government Board on Thursday, November 30th, 1905, to seek powers for the provision of greater security of tenure for medical officers of health.

Sir JOHN BATTY TUKE, M.P., in introducing the deputation said: Mr. Balfour, Sir, I have pleasure in introducing to you these gentlemen, whose object is to bring before you the public benefits which would arise from a greater security as regards tenure of office, and to ask you if possible to take the matter up. The deputation is composed of representatives from the British Medical Association, from the Incorporated Society of the Medical Officers of Health, and from the Sanitary Inspectors' Association, and I suggest, Sir, that Dr. Langley Browne, the Chairman of Council of the British Medical Association, shall first address you.

Dr. LANGLEY BROWNE: I simply wanted to say, Sir, on behalf of the Council of the British Medical Association, that we support this application on the part of the medical officers of health. The sanitary work of the country is carried on by the medical officers of health at present under considerable difficulty, and for this reason: They are appointed for one year only, and at the end of that time their appointment lapses, and they are put down on the agenda for re-election, and it is open for any member of the local sanitary authority or town council, or whatever it may be, to propose any one they please. And it happens sometimes that the medical officer of health, who has done his work very well and very ably, manages to give offence to some members of the council, themselves perhaps small property owners, and therefore runs a considerable risk of not being re-elected We do not think he can carry on his work fairly to himself and to the public unless he has some assurance that he will not be turned out. The medical officer of health is bound to give offence to many people, and if his is not a whole-time appointment and he is in practice on his own account as well, he offends many patients: and as he attends patients at the infectious hospital, which is part of his duty, a great many other people will not call him in, because they think there is some risk about it, and so his private work is injured. If a man does give full time to his duties as medical officer of health it is all the more necessary that he should not be subject to be turned out after he has given up to it some of his best years. I know one case of a medical officer of health who, after holding office for fourteen years, was turned out by a single vote, and it was four years before he was re-elected; that is to say, before he got a majority on the council to favour his re-appointment. It is not for the good of themselves or for the good of the general public that they should be subject to such disturbance, and many appointments we think should be subject to due notice. In the case of a man giving his whole time to the work he should be entitled to the superannuation which such appointments carry, and should not be dismissed without the sanction of the Local Government Board itself, and we hope very much you will be able to do something to carry that forward. I have been asked to point out that witnesses before the Committee on Physical Deterioration testified to the need for security of tenure of health officers, and the Committee in paragraph 118 of their Report made a recommendation in favour of the adoption of the principle.

Dr. J. A. MACDONALD (Deputy Chairman of Representative Meeting, British Medical Association): Sir, I would first express to you the regret of our Chairman, Sir Victor Horsley, and my own, that he is not able to be present to-day. The Representative Meeting of the British Medical Association is an elected assembly of some 150 medical men who meet once a year as Representatives of the British Medical Association, which consists of 20,000 members from all parts of the British Empire. There are meetings in the Divisions which they represent, at which the matters to come before the meeting are discussed, and the Representatives receive instructions from their various Divisions as to the line they are to take. The Representative Meeting of the Association which was held at Leicester in July last discussed this matter, and was absolutely unanimous, in strongly expressing the opinion that it was for the good of the public service in carrying out thoroughly the requirements of public health, that this security of tenure should be granted to the medical officers of health, and also that it would conduce

very much to the extension of scientific sanitation in the country, and so to the advantage of the general health of the people. I merely wanted to express to you, Sir, that it is the unanimous opinion of the medical profession, of whom we represent something like 20,000. The number of practitioners who hold these appointments of medical officers of health is, I would point out, very small compared with the number of medical men in the country. It would, therefore, be rather to the advantage of the generality of medical men if these appointments were not made secure, because then other men would have the opportunity of getting the appointments. So you will see that this expression on our part is entirely disinterested, and I think it is a powerful argument in favour of the principle of this Bill being carried, that so many of the men who know better than anybody else can know the advantage which it is to the public health of the country that this should be carried out are unanimously of opinion that it should be.

Dr. HERBERT JONES (Hereford): Sir, I would like to state, first, that I have to take the place of Sir Shirley Murphy in this deputation, who, however, is absolutely in accord with the views which I wish to put before you. And I should like to preface the very few remarks I have to make by saying that during the last five years, since I have been Honorary Secretary of the Incorporated Society of Medical Officers of Health, I have been especially struck with the very large and increasing number of medical officers of health who are in private practice who take the very keenest and most earnest interest in their public health work. It may of course be said that this is only right, that they ought to do that for which they are paid. But, Sir, they are paid not very large sums in proportion to their entire incomes; they are paid very small sums, and yet the interest they take in the public health work is out of all proportion to the amount which they are paid. And I come to this conclusion not only from my own private and personal observation, but because of the increasing number of medical officers of health who seek advice from the officials of the Incorporated Society, and also, I think, from the increasing number who attend the meetings of the Society. They give up many hours a month to attend the meetings in order that they may become more expert in their work. And as I become more intimately acquainted with these gentlemen, many of them seem to have regarded me as a sort of father confessor, and I have been very much amazed at being told by some men who hold positions which I thought were quite impregnable—men who are a distinct ornament to our profession, and whom I should have thought no authority would have dared to interfere with—that their work has been hampered at every corner by the insecure tenure which they have. It is sometimes said—it is sometimes thrown in our teeth, I know—that we could get what we want if we were more tactful. That word "tact" is often thrown at the poor medical officer of health, but my experience is that there is no more tactful man anywhere than the medical officer of health. He spends nearly half his time, and more than half his mental energy, in trying to find out which is the precise psychological moment when he may present a report or recommendation to his authority, and I am sure that want of tact certainly ought not to be thrown at us. Now, Sir, I have been asked to put before you, and I will do so as shortly as I can, a few instances in which hardship has resulted from the present state of things. I must at the outset point out to you that obviously it is exceedingly difficult for us to get a great number of cases in which medical officers of health have been actually thrown out of their positions. But, there are instances on record, and they are known in this office very well indeed, in which this has occurred. There is one, for example, to which attention was drawn by an inspector of this Board. It referred to a medical officer of health at Moreton-in-Marsh. The inspector of the Board said that the action of the medical officer of health in condemning certain wells had created a considerable feeling against him by the local representatives on the Rural Council, and when the time came round for his re-election he failed to secure re-appointment. We have the well known instance of Southend, which Dr. Bruce Low reported upon, in which he said that each medical officer of health in turn had become unpopular through pressing forward needed improvements, and as a result failed to secure re-election. Another case was that of Dr. Eason, of Lytham in Lancashire. He was dismissed or rather I ought not to say dismissed, but he was not re-elected—after several years' service, for interfering in a case of small-pox in a child in a house of the chairman of his authority. There is the well-known case of my friend and colleague, Dr. Garstang, having been elected for a term of three years, was not re-elected, merely because—presumably because—he advocated reforms with regard to the milk supply of the district. And that was a very far-reaching question, because his district abutted upon Manchester, which obtained a very large amount of milk from there. I need hardly refer you to the instance of Dr. Bond. I do not mean as to Chipping Sodbury, but in another district where one member of the Council, when Dr. Bond came up for re-election, proposed that his salary be reduced to a certain extent, and who said publicly, and it is reported in the newspaper, that the reason was because of the action which the medical officer of health had taken in Boyd's case. Boyd's case was one of a most insanitary pigsty, which Dr. Bond very properly sought to have remedied. But because he did that, the Council were asked to lower his salary. Now, Sir, Dr. Eustace Hill, medical officer of health for Durham, has been at some pains to ascertain from 40 to 50 district medical officers of health in the county of Durham, their views with regard to the mode in which they are appointed, and within the last week or two he made certain inquiries. He asked definite questions: "Do you think your re-appoint-"ment has ever been jeopardized as a result of the proper "discharge of your duty as medical officer of health?" He had 31 replies to that, and 5 medical officers distinctly say their re-appointment has been jeopardized. Another question which he asked was, "Would you be able to act more "efficiently if you had security of tenure?" And 26 out of 31 gentlemen replied most distinctly and decidedly, Yes. And of the 5 left, 2 of them already have permanency, one was elected for five years, one is the only practitioner in a large area who would be affected, and the other has only half a district. I think perhaps I have said enough to show that there are instances, and very many instances, in which medical officers of health suffer. But I should like to read you a few lines from a letter from one of these Durham medical officers of health, to show you, as I and we all desire to show you in the most temperate way possible, the injustice which is done to us. He says "that the "council should have a large measure of control over all its "officers, including its medical officer seems to me to be "right, as they have the right to see that they do their "work efficiently, but that they should have the power to "discharge an officer who may be doing his work efficiently—"too efficiently for them—is in my opinion," and in our opinion I may say, Sir, "very unjust indeed." Lastly, Sir, I would say that the British Medical Association and the Society of Medical Officers of Health have been at some pains to ascertain what are the real objections of those who disapprove of our scheme and do not approve of our having a fixed tenure of office, in the same way, I would remind you Sir, as the medical officers of health of Scotland have, and as the medical officers of health in Ireland have, and also those in the metropolis. That is all we ask for, to be placed in the same position as they are. One objection which has been made is that some of the medical officers of health are incompetent and are inactive, and it is said "we will not be "any party to continuing in office these incompetent and "inactive medical officers of health." Well, Sir, I hesitate very much, in this room, and in this office before you, to place that objection before you, because, Sir, if that objection were a valid and a good one that is a most serious reflection upon the staff of your office, who year after year and periodically sanction the reappointments of these very men who are so-called inactive and incompetent medical officers of health. I think that at once disposes of that objection to our Public Health Bill that it would secure the reappointment of incompetent men. It is a fact that under present conditions these same so-called incompetent medical officers of health are retained in office. And one of the saddest things in connexion with this question is that we are told by some, "Why should you have security of tenure? "You can get it yourself by doing nothing." It is, I say, one of the saddest features that we who have the interests of public health at heart should have to answer that. Then, Sir, it is said that if we have fixity of tenure, medical officers of health who now come up year by year for re-election would become very much more exacting than they are now; that we should be offensive in our work; that we should carry out our duties offensively and do no work at all. It is very odd that both the Irish, the Scottish, the metropolitan, and a few provincial medical officers of health have already what we desire, and that as far as I know not a single instance has occurred in

Ireland and in Scotland; there are only two instances in the metropolis, and I believe only one in the provinces, in which a medical officer of health has been called upon to resign. The two instances in the metropolis were Dr. Waldo and Dr. Bond; and the one instance in the provinces was Dr. Mason of St. Austell, and in each case the resignation was not sanctioned by the Local Government Board. And so it is very odd that all these gentlemen who have security of tenure should do their work properly, and yet it is imagined that if we had it it would be improperly done. I have a letter from the Metropolitan Borough of Woolwich which is really a testimonial to the present existing conditions. The Town Clerk of the Borough of Woolwich writes to the British Medical Association to say that his council are satisfied that the existing arrangements in London under the Public Health (London) Act work satisfactorily, and that provision should be made to extend this arrangement so as to give a similar security of tenure to those medical officers of health who are in the country. The next objection has a certain amount of validity in it. It is said that it sometimes happens that in the public health interest it is desirable to abolish the office of medical officer of health altogether. There are some instances in England, and more in Wales, where the original arrangement was that the Poor-law medical officers were made medical officers of health, and where there is still more than one officer of health. You, Sir, very properly object to that position, and you say that if these gentlemen are given security of tenure we shall not be able to make any alteration. And that appears on the face of it to be a proper argument. Again, it sometimes happens that an urban district increases its boundaries, and it may be that it swallows up the whole of the adjoining rural district, and in that case it is desirable to abolish the position of a medical officer of health. And it may also happen that a district may increase so largely that it may be desirable to replace a part-time medical officer of health by a whole-time officer. And it is said that if every medical officer of health had fixity of tenure it would be very difficult to carry out any rearrangement. I have already said that we desire to be placed in the same position as the Poor-law medical officers, and you will remember that the Order of May 25th, 1857, under which Poor-law medical appointments are made, has an article which provides for that very condition which I have mentioned. It provides that where a change shall be deemed necessary the Guardians may call upon the medical officer to resign. I presume it will be competent for the Board to make an Order in the same terms as that with reference to medical officers of health. Another objection is that it happens in some districts that a medical officer of health or a sanitary inspector is appointed at a small salary, and that the district increases in size. And as the years go by it is considered proper and necessary that a larger amount of time should be given by the official, and that also a larger salary should be given. And what has been contended is that if he has fixity of tenure you will be unable to insist upon an adequate salary being given and adequate time being devoted to the work, whereas you now have power when he comes up for re-election to say, "We will not give our sanction." Our desire is that your Board shall not have less power than you have now, but that you should have infinitely more power. It appears to me that this is a difficulty which is a real difficulty. But I think it can be got over by the skill of your legal advisers. It is difficult for me, not being a lawyer, to point out how that can be done, but perhaps it could be accomplished somehow like this. It might be possible for you to obtain the power to say that no local sanitary authority shall obtain a moiety of the salary of their sanitary officials from the County Council unless they have received a certificate given, say, every five years, by the Local Government Board, and in giving that certificate the Local Government Board shall take into consideration the way in which the Public Health Acts are administered in the district, and also the adequacy of the salaries of the officials.

Mr. Balfour: But you will not in that way be able to get rid of the small district around which the larger district had grown in the course of years. How would you?

Dr. Herbert Jones: It is to be done in the way I suggest.

Mr. Balfour: Supposing a man already there who has received fixity of tenure how do you get over that difficulty? You have stated a difficulty, and you went on to say how you thought it could be got over. In the case of a man who had already received fixity of tenure, but who was incompetent to take the more important position to which the place had grown, what would you do?

Dr. Herbert Jones: You do that, Sir, in the case of Poor-law medical officers by Article 5 of the 1857 Order.

Mr. Balfour: But the district might be the same.

Dr. Herbert Jones: We do not ask that we should be secured under those circumstances, in the case of an incompetent officer.

Mr. Balfour: But where the rural districts had become organized into a larger district?

Dr. Herbert Jones: If the Board say in the interests of public health it is desirable that the medical officer of health should be removed.

Mr. Balfour: It is a very strong thing to ask the Board to dismiss a man for incompetence. There is a great responsibility attaching to such a decision. Under what circumstances is it possible for the Board to exercise a power of that kind? I think in a previous remark which you made you spoke of a man being competent or incompetent, but there are infinite degrees between those two, and they are cases which present difficulties, and for the Board to take them into its own hands under such circumstances and to dismiss the man for incompetence might be to ruin him professionally; it might ruin his whole career. That is where the serious responsibility which you ask the Board to assume would come in.

Dr. Herbert Jones: Quite so. It seems to me we should be giving you more power than you now have, and perhaps I may be permitted to say in what way. At present, supposing you find that a medical officer of health is not doing as much as he ought to do, he is able to retort: "I would willingly do "more, but I cannot or I shall imperil my reappointment." If he could not make that excuse you would have infinitely more power, because you would say: "If you are not more active we "shall call upon you to resign," and in the case of the Poor-law medical officer you do exercise your powers.

Mr. Balfour: But the case has to be a very clear case for the Local Government Board to take upon itself to do that. And there are not many cases which are very clear. It might be desirable that the man should go, but not that he should be dismissed by the Department. It would be a very serious thing, and a serious responsibility to assume.

Dr. Herbert Jones: In the last five years you have called upon nearly 100 Poor-law officers to resign, and 19 or 20 of them were Poor-law medical officers.

Mr. Balfour: I agree there are cases where the prerogative could be exercised, but you were speaking of cases where the Medical Officer of Health could not be reappointed.

Dr. Herbert Jones: Do not you think, Sir, you would have more power over the officer if you could say, "If you do not "do better than this next year we shall have to call upon you "to resign"? It is much more difficult to say that now, when the medical officer can plead that he is in the hands of his local authority, and no good purpose would be served if he were to do more, because some more complaisant man would be put in who would do still less.

Mr. Balfour: That is asking the Board to take the initiative and to determine the competence of 2,000 medical officers and something like the same number of sanitary inspectors. I do not say it is a fatal objection.

Mr. Herbert Jones: I say at once that it is a difficulty, and it seemed to be a great difficulty to me, but I think it might be got over by more power being possessed by the Local Government Board. Another objection is that local authorities do not like to be deprived of their powers. But surely no power should be retained which can be abused by the dismissal of an officer solely because he does his duty. Lastly, it has been said that if a local authority desires to appoint a medical officer of health every month let it, it is a local question. But I think the time has gone by for accepting such a statement. No district can stand alone and be regarded separately from other communities. And that brings me to my last word, that those of us who are interested —and we are, Sir, very deeply interested in our work, quite apart from remuneration—feel this security of tenure to be very necessary at every step whatever question comes up. Is it the depopulation of our rural districts? is it a question of the milk supply to towns? is it the question of the pollution of rivers? Practically the solution of every public health problem has at the bottom of it this question of security of tenure. We see established in rural districts associations for dealing with the housing and other questions; we are there to do the work and we are willing and anxious to do it, though we cannot do it as we would wish because of our insecurity of tenure.

Dr. Bruce (M.O.H., Ross and Cromarty): Sir, I have pleasure in coming here to support this movement, because in Scotland we have security of tenure. I can vouch for it that it is entirely popular, that I have never heard a word against it, and that it works very well.

Sir James Crichton-Browne (President, Sanitary Inspectors' Association): Sir, on behalf of the Sanitary Inspectors' Association, of which I happen to be President for the time being, an association one thousand strong, and with branches in all parts of the kingdom, I desire to say that they entirely associate themselves with the medical officers of health in this matter, and they are grateful to them for co-operating with them in this question. It occurs to me, Sir, that all the arguments which are adduced in support of security of tenure for medical officers of health will apply with twofold force to sanitary inspectors. The minutiae of sanitation devolve upon them. The medical officer of health, has to attend also to details; but he is also occupied with large and comprehensive schemes of sanitation, and it comes about that it falls on the sanitary inspector, who is the eyes and ears and hands of the medical officer of health to ferret out defects and transgressions, and has to come to close quarters with disease, dirt, dilapidation and overcrowding, and so on. And therefore he is peculiarly liable to be exposed to personal friction, and peculiarly liable to incur the dislike and enmity of those whom he is obliged to put to trouble and expense. And when he has made himself objectionable, he has not the same power of defence as the medical officer of health has; he has not the strong and learned medical profession behind him to back him up, and he has not the same social position which is a coign of vantage when attacks are made, and so he must look for help always to his official chief, the medical officer of health. I have no doubt municipal, local, and all kinds of sanitary authorities, for the most part, deal justly and in a reasonable way with their officers, but it must be borne in mind that some of them still are profoundly ignorant about sanitary science and very incredulous about it. Some are still dominated by the belief that the Englishman's house is his castle, and they resent intrusion in order to inspect the drains of the backyard, and some of them are free-traders in the sense of not desiring a close scrutiny into the quality of the comestibles that are placed on the market. There are sometimes faddists amongst them, antivaccinationists, Christian Scientists, and some of them are not above personal spite and spleen. So it will be readily seen that the sanitary inspector's lot is not always a happy one. It will be a long time before sanitary science percolates down to the masses of the people, particularly in the agricultural districts, and for a long time to come the man who does stringently and conscientiously perform his duty is liable to be deprived of his office upon some frivolous pretext. That is a very serious matter for the sanitary inspector, who is perhaps not appointed until middle life, who has no other occupation to turn to, and who is almost invariably a married man. The present condition of things is calculated to enfeeble him in his duties, and therefore it is a menace to the public health. Three things, I submit, are wanted in order that a sanitary inspector may be really and fully useful and as helpful as he is capable of being in the reduction of the death-rate, in the still further prevention of preventable disease, and in the maintenance of the health and vigour of the people to the best possible point. He must have a special preliminary education and training and a certificate of qualification and fitness by some properly accredited public body. He must have security of tenure, and protection against arbitrary removal or dismissal so long as he is faithfully and efficiently performing his work, and he must have, or ought to have, some modest provision made for him, when through old age or infirmity he is no longer capable of performing the duties of his office. Sanitary inspectors—and I think all medical officers will agree with me—are now, as a rule, a body of well-educated, intelligent, and zealous men, and diligent in the performance of their duties, and they are anxious to better their qualifications, making themselves more useful public servants than they have hitherto been, and one of the ways of helping them is security of tenure, so that they may go about their work in tranquillity and peace of mind. They associate themselves entirely with the representations which have been made to you to-day, and will, I hope, receive security of tenure at your hands.

Mr. West (Chairman of the Council of the Sanitary Inspectors' Association): Sir, after what Sir James Crichton-Browne has just said, it will be perhaps unnecessary for me to detain you at any length, especially as the points which have been made on behalf of the medical officers are very much what we would make for ourselves. Sir James has just told you that we are not quite so strong in our position in resisting any insidious attempts which may be made on our position as the medical profession. We as an association have taken this up, and advocated it, not so much for our own interests as in the public interest, ever since the establishment of our Association. I have with me reports of two deputations, one to Mr. Stansfield in 1886, and one, at which I was present, to Sir Walter Foster in 1895, and in each case they expressed the fullest sympathy with our aims and the hope that some day it might be possible to grant our requests. Up to the present time, however, we have not succeeded in that respect. It has been said if you want reform in railway work you have got to kill a director, and we may expect that now we have got the officers in the medical profession to support our claim that there is a chance, seeing that they have suffered in the same way and to the same extent as we have, that possibly we may get earlier than otherwise what we desire. I can assure you, Sir, that our Association, which comprises sanitary inspectors throughout England and Wales and Ireland and some in the Colonies, is unanimous in the desire that this alteration should be brought about. We have never thought it was necessary that any argument should be used at all to show the erroneous position in which we were placed; we thought it was only necessary to state it to be seen at once that it should be altered. We were told by Mr. Stansfield that an Act of Parliament would come, possibly very soon after he heard us, in which some help might be given us; but as a matter of fact, Sir, that Act of Parliament, the Local Government Act, when it did come into force, made the position of many of our members worse than it was before, because it was provided in that Act that any officer who suffered by delimitation of areas, and part of his salary was cut off, should be compensated, and the sanitary inspector was the only person under that Act who was not compensated. He was held to be a temporary officer, although perhaps he had held office twenty years, and he was deprived of part of his income and no compensation was given to him, thus emphasizing more than we had previously felt the insecurity of our position. But our main argument has always been that the public work suffers. We could not give you numbers of cases in which the sanitary inspector has suffered loss of office; but we could show from communications which have been received, that pressure was constantly being put upon them to glance to one side and not to see things which were going on in matters affecting their office. I have letters from sanitary inspectors, some of them imploring us to do something, and appealing to us not to mention their names for fear they should get into trouble in their districts from trying to help their fellow inspectors. But we hope now, if it be at all possible, that the time will come when both sanitary inspectors and medical officers will have the opportunity of feeling that they are safe in their position, that they can do what is desired, and we ask for nothing but that which we think is right and in the public interest, and that we shall only be dismissible for proved incompetence and neglect.

Mr. Gerald Balfour: Sir John Tuke and Gentlemen, you have presented your case on behalf of this Bill to me this afternoon with commendable clearness and moderation, and I think, perhaps, I may also add, considering the number of speeches, commendable brevity. And to a large extent my sympathies go with you. When, however, you ask me to bestow my official blessing on behalf of the Local Government Board upon this Bill, I must confess that I feel somewhat in a difficulty, or rather, perhaps, I should say two difficulties. In the first place, I am not in a position to guarantee that the Local Government Board at the time this Bill is introduced will be constituted precisely upon the same lines as the Local Government Board at present. And, in the second place, I cannot help feeling that this question, like so many other questions, has two sides to it. Your side has been heard to-day, but until the side of the local authorities has also been heard I do not think it would be right that any final conclusion should be arrived at. I may, however, say this much: I entirely accept the statement which more than one speaker has made this afternoon that these proposals are not brought forward with any interested motives, but with a genuine desire to improve the public health service, and in that desire I need not tell you the Local Government Board most heartily sympathize with

you. The general scope and aim of the Bill seems to me to be good, but I will indicate to you quite frankly what appears to me to be its weak point. The Bill contains two main proposals, which are embodied in the first and second clauses. The first clause proposes to require certain qualifications beyond those which are required except in cases where the Local Government Board in particular instances dispense with such qualifications. I do not think I have much to say against that, subject to this observation, that I think it probable, supposing the Bill to pass, some years afterward the dispensing power of the Local Government Board might have to be somewhat largely used. But subject to that observation, I do not know that I see much in Clause 1 to quarrel with. But then there is Clause 2. Clause 2 provides security and permanence of tenure to medical officers of health and also inspectors of nuisances. But if the Bill were carried they would hereafter be called sanitary inspectors, and it applies that provision not merely to cases of future appointments but to every medical officer of health or sanitary inspector, whether appointed before or after the commencement of this Act, and notwithstanding any contract to the contrary. I must say that that provision does seem to me to be rather a sweeping one, and one which it will be probably very difficult to induce local authorities to accept. Nor do I think, candidly speaking, it is quite consistent with the aim of Clause 1. In Clause 1 you desire to secure that the qualifications of these officers shall be in future higher than they have been in the past. Does not that imply that you yourselves admit that the competence of these officers might well be greater in many instances than it is at present? If your Bill was to pass, and did this retrospective security of tenure, even in cases where there was a distinct contract to the contrary, obtain, surely the effect of that would be that you will give security of tenure not only to competent persons but also to those who are less competent, less capable; not only to those who give their whole time to their duties, but also those who give part of their time to their duties. I say again, that is rather a sweeping proposal. The view I should personally feel disposed to take would be that where an officer is properly remunerated, where he is thoroughly efficient and devotes his whole time to his duty, that is a very strong reason to give him this security of tenure, to expect him to perform his duties without tip or favour. But I think there are objections to giving permanency of tenure in some cases, at all events, where a man's whole time is not devoted to his duty; there are very strong objections indeed to giving it indiscriminately to all who happen to hold office at the time that this Bill happens to pass. I think Clause 2 requires reconsideration, and I trust it will receive consideration before the Bill is introduced again into the House of Commons I think, however, that that is the principal criticism that I have to make against the Bill, and while for the reasons I have stated I am not prepared to give an absolute pledge of support on the part of the Local Government Board to the Bill, I do think that the tendency of the Bill is in the right direction, and I sympathize with it to a very large extent. In any case, if I am able or in a position to support the Bill on the part of the Government next session I assure you I have been very much interested to hear the representations which you have been good enough to make to me this afternoon.

Dr. WATTS PARKINSON: I am sure we are very much obliged to you for receiving us so cordially, and also for your very lucid reply. Although, perhaps, you do not quite agree with all that we say, yet you have said something which is on our side. There are existing officers who have not special qualifications, because they received their appointments in the days when ---

Mr. BALFOUR: I did not mean to refer to persons who are not personally qualified, I did not mean that at all.

Dr. PARKINSON: I am very glad indeed to hear that we may at any rate look for very great sympathy from you, and I hope you will be in a position to give us that sympathy.

Mr. BALFOUR: That I certainly shall do if I can.

LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

MEMBERS are reminded that the Library and Writing Rooms of the Association are fitted up for the accommodation of the members in commodious apartments, at the office of the Association, 429, Strand. The rooms are open from 10 a.m. to 5 p.m. Members can have their letters addressed to them at the office.

Meetings of Branches and Divisions.

[The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the JOURNAL.*]*

GLASGOW AND WEST OF SCOTLAND BRANCH:

RENFREWSHIRE DIVISION.

THE winter meeting of the Division was held in the Royal Alexandra Infirmary, Paisley, on Tuesday, October 31st, the CHAIRMAN (Dr. Munro) in the chair.

Confirmation of Minutes.—The minutes of the previous meeting were read and approved.

Contract Medical Practice.—The report of the Medico-Political Committee on contract practice, and the Committee's recommendations were considered and approved, but were considered impracticable owing to the large number of medical practitioners in the district who were not members of the Association. It was agreed that where any difficulty arose amongst members regarding contract practice, it should be reported to the secretary of the Division.

Co-ordination of Scientific Work.—The recommendations of the Science Co-ordination Committee were discussed. It was decided, as hitherto, to have a clinical demonstration at the winter meeting, but that any further development of this aspect of the meetings would be encroaching upon the usefulness of other already-existing societies in the Division. It was decided not to bind the Division down to discussion of sectional work at the annual meeting.

Proposed Research Library.—The subject of a research library was discussed. It was decided that the circulation of periodicals would be desirable; and it was remitted to the Secretary to approach the Branch Council regarding the necessary funds.

Selection of Candidates for General Medical Council.—The scheme of the Medico-Political Committee for the selection of candidates for election as Direct Representatives on the General Medical Council was considered but not approved, as it was considered that no candidate of any standing would sign such a declaration.

Ambulance Work.—It was decided to reaffirm the previous views of the Division on the relations of the medical profession to ambulance work.

Demonstration of Cases.—Thereafter the staff of the infirmary demonstrated cases of interest.

Tea.—During the afternoon the members were entertained to tea in the Nurses' Home.

LANCASHIRE AND CHESHIRE BRANCH:

BURNLEY DIVISION.

A MEETING of this Division was held at the Bull Hotel, Burnley, on November 21st, Dr. SINCLAIR in the chair.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Annual Representative Meeting.—Dr. HOLT, Divisional Representative, gave a report of the work done at the Representative Meeting at Leicester. The report was approved.

Membership of the Division.—A discussion took place as to a means of increasing the membership of the Division. It was resolved:

That the Organizing Secretary be invited to pay Burnley a visit with a view to improving the membership, as it was evident that many medical men who were not members had not a clear knowledge of the scope and object of the Association.

SOUTHPORT DIVISION.

A MEETING of this Division was held on Friday, December 1st, at the Temperance Institute to consider various questions specially referred to the Division. Dr. WALKER was in the chair.

Annual Representative Meeting.—Dr. GILL gave a report of his stewardship as Representative at the Leicester meeting.

Contract Medical Practice.—It was resolved:

That this Division approves of the recommendations of the Medico-Political Committee presented in the Report of the Council, but regrets that the attempt in Southport to reform the system of Contract Practice failed in consequence of the action of one practitioner who refused to carry out the terms of the agreement to which he had attached his signature.

Co-ordination of Scientific Work.—It was resolved:

That this Division approves the recommendations of the scientific

Co-ordination Committee published in the Supplement of September 30th, but does not see its way to carry them into effect, in consequence of a successful Medical Society of seventy-nine members having existed in Southport before the formation of the Division, of which Society eighteen local members and ten Liverpool and Manchester members are not members of the Division.

It was also mentioned that fifteen members of the Division were not members of the Society.

Selection of Candidates for General Medical Council.—The scheme approved at Oxford for selection by the British Medical Association of candidates for election as Direct Representatives on the General Medical Council, published in the Supplement of October 7th was read, and no recommendation of names being forthcoming, it was decided to defer the question of nomination.

Ambulance Work.—On the report upon ambulance work, published in the Supplement of October 7th, it was considered that no action was necessary in the Southport Division.

Divisions and Parliamentary Candidates.—The questions suggested for use by Divisions in interviewing parliamentary candidates, published in the Supplement of November 18th, were considered, and the Honorary Secretary was authorized to interview the candidates for the Southport Division, and to ascertain whether they were willing to promise and to endeavour to obtain their support of Nos. 1, 2, 3, 4, 7, 8, and 11.

METROPOLITAN COUNTIES BRANCH:
Walthamstow Division.

A meeting of this Division was held on November 7th at Walthamstow Hospital, Mr. H. T. Brickwell in the chair.

Presentation to Dr. Morton.—Dr. Morton, the late Honorary Secretary, was presented by the Division with a silver salver in appreciation of his services as Secretary.

Cases and Papers.—The following is a summary of the cases shown and papers read:—Dr. C. H. Wise: Haematoma of broad ligament. Dr. F. P. Elliot: Rickets (severe.) Dr. Dan McKenzie: (1) A case of prominent auricles, with photographs of patient before and after operation, showing great improvement; (2) an auricle showing epithelioma of posterior surface removed from a man aged 75; (3) case of abdominal tumour for diagnosis. Dr. G. B. Price read notes of case of malignant growth of rectum and sigmoid at their junction, the points of interest being (1) the very masked clinical course run by the disease; (2) the perforation of the ulcer formed in the malignant growth leading to pericaecal abscess, with signs and symptoms suggesting appendicitis; (3) the comparatively little wasting. Dr. Price also read notes of a case of atheroma of aorta with embolism and thrombosis in a cabman, aged 53. The case exemplified the somewhat rare condition of extreme atheroma of aorta with roughening of its surface and the presence of small ulcers leading to the formation of thrombi of considerable size in the vessel, and therefore a ready source of emboli, without there being any pre-existing cardiac lesion.

SOUTH MIDLAND BRANCH:
Bedfordshire and Hertfordshire Division.

An ordinary meeting was held at the Bedford County Hospital on Tuesday, November 28th, under the presidency of Dr. Major of Bedford.

Confirmation of Minutes.—The minutes of the last ordinary meeting were read and confirmed.

Proposed Social Function.—The question of holding a dinner or other social function was discussed, and it was eventually decided that a luncheon should be held on the day of the next annual meeting, the details to be left in the hands of the Executive Committee.

Mode of Election of Division Council.—Dr. Lovell Drage had given notice that he would call attention to the method of election of the Council of the Division, and would move a resolution; but in his absence, and the absence of any communication from him, on the suggestion of Dr. Coombs, the Executive Committee undertook to give consideration to the views Dr. Lovell Drage had expressed at the last annual meeting.

Annual Representative Meeting.—Dr. Rowland Coombs of Bedford then read notes on the Annual Representative Meeting at Leicester. He described the enormous task set for decision of the Representatives, and of the labour devolving on the central organization in preparing and conducting this task. He dwelt on what he considered the retrograde step the Association had taken in passing a resolution by a majority of 7 in a division of 93 that it is not advisable that the Association shall undertake Medical Defence. He also touched on the question of a Royal Charter, and detailed some of the advantages which would accrue to the Association if this were obtained.

Points of Medical Ethics.—Mr. R. H. Kinsey of Bedford, Chairman of the Ethical Committee of the Association, read a short paper on some medico-ethical and medico-political subjects of interest to the general practitioner. He explained what a very serious punishment expulsion from the Association carried with it; he dwelt on the advantages of settling local ethical questions locally, and advised the Division to adopt the Bradford rules. He illustrated his paper by recounting some of the ethical difficulties that had been brought to his notice in the course of his medical career.

SYDNEY AND NEW SOUTH WALES BRANCH.

A special general meeting of the Branch was held on Friday, October 13th. Dr. Brady was in the chair.

Consultation with Homoeopaths.—Dr. Gordon Craig moved,

That homoeopaths should not be met in consultation.

This was seconded by Dr. MacCulloch. A discussion ensued in which Drs. Spencer, F. H. Quaife, Sinclair Gillies, Bowman, McKay, Nolan, Chisholm, Hinder, Hankins, Wilkinson, and Crago took part. Dr. Spencer moved as an amendment the addition of the following words to the motion:

Except upon condition that the subsequent treatment of the case shall be based upon the principles of orthodox medicine, to the exclusion of homoeopathic methods.

The amendment was seconded by Sir Philip Jones. Dr. Hankins proposed as a further amendment:

That consultation with homoeopaths is inconsistent with membership of this Branch of the British Medical Association; and that early steps be taken to alter the articles of association accordingly.

Dr. Gordon Craig and Dr. MacCulloch accepted Dr. Hankins's amendment as an addition to the original motion. Dr. Hinder proposed as an amendment:

That a ballot be taken of the whole of the members of the Branch.

This was withdrawn. Dr. Gordon Craig replied. Dr. Spencer's amendment was negatived, and the resolution as follows was carried:

That homoeopaths should not be met in consultation; that consultation with homoeopaths is inconsistent with membership of this Branch of the British Medical Association; and that early steps be taken to alter the articles of association accordingly.

School Holidays.—Dr. G. E. Rennie proposed:

That in the opinion of the Branch it would be advantageous to the health of the young in this State, and conducive to their educational progress, if the school terms were arranged with more consideration of the periods of the year suitable or unsuitable for study; that therefore it is advisable to curtail the mid winter vacation and add the time so gained to the end of the present midsummer vacation; that this resolution be forwarded to the Minister for Public Instruction and to the governing bodies of the principal private and denominational schools.

Dr. F. H. Quaife seconded the motion. The motion was discussed by Sir Philip Jones, Drs. Dixon, Litchfield, Bowman, and Spencer. Dr. Bowman moved as an amendment:

Easter and Michaelmas vacations.

This was negatived. Dr. Rennie's motion, with the omission of the words "or abolish," was then carried.

THE ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION AT TORONTO.

The Annual Meeting of the British Medical Association will be held in Toronto on August 21st next and the following days. As already announced, the President-elect is Dr. R. A. Reeve, of Toronto, the Treasurer for the Meeting Dr. J. F. W. Ross, and the Honorary Local Secretaries are Drs. F. N. G. Starr, J. J. Mackenzie, and D. J. Gibb Wishart.

The address of the Executive Committee is the Medical Building, Queen's Park, Toronto; and the cable address is "Stamawis."

GENERAL COUNCIL

OF

MEDICAL EDUCATION AND REGISTRATION.

WINTER SESSION, 1905.

Tuesday, November 28th, 1905.

Dr. DONALD MACALISTER, President, in the Chair.

NEW MEMBERS.

DR. CATON introduced Professor Robert Saundby, M.Sc., M.D.Edin., F.R.C.P., LL.D., who had been elected by the University of Birmingham to represent it on the Council for five years.

Sir CHRISTOPHER NIXON introduced Lieutenant-Colonel F. G. Adye-Curran, M.D., F.R.C.S.I., who had been chosen to represent the Apothecaries' Hall of Ireland for one year.

Sir JOHN WILLIAMS introduced William Tusting Cocking, M.D., who had been elected by the University of Sheffield to represent it on the Council for one year.

Sir JOHN BATTY TUKE introduced Professor Sir Thomas Richard Fraser, M.D., who had been elected by the University Court of the University of Edinburgh for five years.

PRESIDENT'S ADDRESS.

The PRESIDENT then delivered his address, which was published in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of December 2nd, p. 310.

VOTE OF THANKS.

On the motion of Dr. NORMAN MOORE, seconded by Mr. TOMES, the President was thanked for his address.

ARMY MEDICAL EXAMINATION.

The REGISTRAR presented tables showing results of competition held in July, 1905, for commissions in the Army Medical Service. They were directed to be entered on the minutes, and the Director-General was thanked for supplying them.

The PRESIDENT stated that now, automatically, these tables were referred to the Examination Committee.

DENTAL BUSINESS.

On the motion of Dr. NORMAN MOORE, seconded by Mr. TOMES, a report from the Executive Committee on the dental business transacted since the last session of the Council was received and entered on the minutes.

The PRESIDENT stated that he had, as authorized, taken legal opinion as to whether degrees granted in dental science and dental surgery by universities in the United Kingdom were as primary qualifications to practise dentistry.

The TREASURER read the opinion as follows:

Opinion by Mr. S. G. Lushington (June 5th, 1905.)

Provided that the degrees granted in dental science and dental surgery by universities in the United Kingdom are granted by universities possessing the right to choose members of the General Medical Council under Section 7 of the Medical Act, 1886, and are evidenced or accompanied as a result of examination by certificates from those universities of the fitness of the graduates to practise dentistry or dental surgery, such degrees are registrable as primary qualifications under the Dentists Act, 1878.

This clearly appears to be the result of Sections 6, 7, and 18 of the Dentists Act, 1878. By Section 6 (*a*) any person who is a Licentiate in dental surgery or dentistry of any of the medical authorities shall (amongst others) be entitled to be registered under this Act. By Section 18 any person who obtains from any of the medical authorities having power for the time being to grant surgical degrees, after examination for the purpose of testing his fitness to practise dentistry or dental surgery, a certificate of such fitness, shall be a Licentiate in dental surgery or dentistry of that medical authority. And by Section 7, where a person entitled to be registered under this Act produces or sends to the General Registrar the document conferring or evidencing his licence or qualification, with a statement of his name and address and other particulars, if any, required for registration, and pays the registration fee, he shall be registered in the *Dentists' Register*.

What the Act of Parliament, therefore, requires in substance is the possession of a certificate of fitness granted after a test by examination by a properly qualified examining body. It does not regard the title conferred by the examining body upon the successful examinee, nor the comparative difficulty of the examination, but if the result is to establish his fitness to practise by a certificate which may be taken as satisfactory, then the Act calls him a "Licentiate," and declares him entitled to be registered.

The degrees in dental science and dental surgery to be granted by the University of Dublin and the Victoria University of Manchester, although they may be evidence of a greater amount of knowledge than that which is required in each of those universities respectively for the licence in dental science or the diploma in dentistry, must, therefore, if they are to be primary qualifications for registration, carry with them a certificate of fitness such as the Act requires, but, if they do that, then for the purposes of the Act the holder, though he be called in his university a Master in Dental Science or a Bachelor of Dental Surgery, is by the Act included in the generic term "Licentiate in Dental Surgery or Dentistry" within the meaning of the Act, and becomes as such entitled to be registered on production of his certificate and payment of his fees.

S. G. LUSHINGTON.

4, Temple Gardens, E.C.,
June 5th, 1905.

Mr. TOMES said it was desirable to have a formal resolution which would give authority to the Registrar to act upon the lines of the opinion, and he moved:

That the Registrar be directed to accept for primary registration in the *Dentists' Register* certificates of degrees in dental science or dental surgery granted after examination by Universities in the United Kingdom.

Sir VICTOR HORSLEY seconded, and it was agreed.

Dr. LINDSAY STEVEN moved, Sir VICTOR HORSLEY seconded, and it was resolved:—

That the opinion by Mr. S. G. Lushington, given on June 5th, 1905, in regard to the Dental Degrees of the Universities of the United Kingdom, be received and entered on the minutes.

PENAL CASES COMMITTEE.

The Council then proceeded to fill up the vacancy in the Penal Cases Committee caused by the retirement of Dr. Windle.

The PRESIDENT announced that Dr. Saundby had been elected.

The Council then went into *camera* to consider private business, and strangers were directed to withdraw.

At 4 o'clock the Council adjourned, no announcement being made to the Press.

Wednesday, November 29th, 1905.

Dr. DONALD MACALISTER, President, in the Chair.

The minutes of the previous proceedings were read and confirmed.

DISCIPLINARY CASES.

Alleged Canvassing and the Employment of Unqualified Assistants.

The Council then proceeded to the consideration, adjourned from May 24th, 1905, of the facts proved against William Patrick Kirwan,* registered as of 21, Danbury Street, Islington, N., Lic. R. Coll. Phys. Edin., 1882, Lic. R. Coll. Surg., 1882, who had been summoned to appear before the Council to answer the following charges:

"(1) That you have associated yourself with a Medical Aid Association—namely, a firm of chemists trading at various addresses as the Aome Medical Hall and Pharmacy—which Association has systematically, by means of printed circulars, cards, labels, and notices, printed and painted, advertised your practice, name, and qualifications, and thereby canvassed for patients for you.

"(2) That you have enabled certain persons in the employ of the Aome Medical Hall and Pharmacy to practise medicine, and to treat patients as if qualified by law to do so."

At the conclusion of the deliberations of the Council on the case on May 24th, 1905, the President, on behalf of the Council, addressed Mr. Kirwan as follows:

The Council have decided that the facts alleged against you have been proved to their satisfaction; they have adjourned their decision in your case till the next session in November, when their judgement on the facts will be influenced by your conduct in the interval, more particularly in regard to canvassing, advertising, and the employment of unqualified assistants, with respect to which matters they will require satisfactory assurances at the adjourned hearing.

Mr. Lushington appeared as Legal Assessor and Mr. Winterbotham as Solicitor to the Council. Dr. Bateman appeared for the complainants, the Medical Defence Union. Mr. Kirwan appeared in person.

Mr. WINTERBOTHAM stated that due notice had been given to the parties, and they had been invited to furnish in writing any further facts or evidence which they might desire to lay before the Council, and Dr. Bateman had replied giving notice that he intended to call further evidence.

* SUPPLEMENT, June 3rd, 1905, p. 309

Mr. Kirwan, in reply to the President, stated that in compliance with the wish of the Council at its last meeting, he immediately removed the objectionable announcements which appeared in the windows of his surgery, and also destroyed all printed matter which the Council deemed contrary to etiquette of the profession. The publicity which his case had received by being published in the medical press had made it difficult for the agents to dispose of them, but he had now disposed of his interests in the surgery at Hammersmith and also at Islington, and at present had no interest in either of them, and he now confined his attention to his surgery at Silver Street, Notting Hill Gate, where he resided. With regard to the second charge, that he had enabled unqualified persons to practise medicine, he could only say that if anything of the kind had been done, it was done without his knowledge and contrary to his explicit instructions. In reply to Dr. Bateman he said he sold the shop in Fulham Palace Road to a Mr. Scott. He did not know he was an unqualified man, and practised as an "M.D., U.S.A." He had only recently disposed of the shop, 21, Danbury Street, Islington. His hours of attendance had been the same at both Notting Hill Gate and Islington. It was only last week that he took up his residence at Silver Street. He had been put into a serious hole financially, and he took the first opportunity to dispose of the businesses. He did not care who bought them so long as he got some money out of them.

By Sir William Thomson (through the Chair): He had honestly endeavoured to carry out the decision of the Council as indicated to him last May.

Dr. Bateman then read two declarations of Thomas William Tyrrell, clerk to Mr. Hempson, solicitor to the Medical Defence Union, from which it appeared that he attended on November 24th, at Silver Street, and found a notice on the door, "Dr. Kirwan attends daily." There was also a brass plate on the railings, "Dr. Kirwan, Physician and Surgeon, L.M.," and on the windows, "Consultations 9 to 11 and 6 to 9," and inside he saw a man he had not seen before. He said he had a cold, and asked to see Dr. Kirwan, and was told he was not in. The man then prescribed for him, and asked him to call again. He then went to the shop in Fulham Palace Road, and found that Dr. Kirwan had left there some months before, but in the window of the shop was a card on which was printed the announcement that "Dr. Scott, M.D., U.S.A., Specialist in Urinary and Organic Diseases," was the proprietor of the establishment. On November 27th he visited 21 and 23, Danbury Street, Islington, and found on the wall of the house "Dr. Kirwan, Physician and Surgeon. Hours of attendance: Morning, 9 to 11; Evenings, 7 to 9. Vaccinations and extractions." On the facia the words "Surgery," on the windows the words "Medical Hall" and on the door of the shop "Dr. Kirwan, Physician and Surgeon." On the window of the shop "Dr. Kirwan. 9 to 11; 7 to 9." And on the window of No. 21, "Dr. Kirwan's Surgery." He then went inside and asked to see Dr. Kirwan. He was told he had sold the business, and in reply to his inquiry "how long?" was told "since Friday last." He then asked when Dr. Kirwan left and was told he had not actually left, he would be there off and on for the next two months.

Mr. Tyrrell was then called, and in reply to Dr. Bateman said the statements contained in the declaration were true in substance and in fact.

Dr. Norman Moore (through the Chair) asked if it was true that there was a clause in the agreement for the sale of the business to the effect that Dr. Kirwan was to attend there for the next two months?

Dr. Kirwan said that was not so. The Council could see the agreement which he could produce if he was allowed to go to his solicitors.

(Strangers were then directed to withdraw.)

On readmission the President, addressing Mr. Kirwan, said:

The Council, having further considered the facts proved against you, judges that you are guilty of infamous conduct in a professional respect, and directs the Registrar to erase your name from the [illegible]

A Charge of Advertising.

The Council next proceeded to the consideration of the case of William Harding Crowther, registered as of 15, Bloomfield Road, Ealing, London, W., Lic. Soc. Apoth. Lond. 1876, Lic. Fac. Phys. Surg. Glasg., 1886, who had been summoned to appear before the Council to answer the following charge as formulated by the Council's solicitor:

That you have systematically sought to attract patients by means of a series of advertisements in the *People* newspaper of an Institution for Stricture, etc., at 8A, Guilford Street, Gray's Inn Road, of which you are the surgeon, and which is carried on for your private gain.

Mr. Lushington appeared as Legal Assessor, and Mr. Winterbotham as Solicitor to the Council. Dr. Hugh Woods, Secretary, represented the complainants, the London and Counties Protection Society. Dr. Crowther did not appear and was not represented.

Mr. Winterbotham read the notice of inquiry which had been sent to Dr. Crowther.

Dr. Hugh Woods, in putting the case of the complainants before the Council, stated that on March 21st, 1905, the attention of his Society was drawn by a member to advertisements which were appearing regularly week by week in the *People* newspaper advertising an institution for stricture at 8A, Guilford Street, Gray's Inn Road, W.C. From information he received, and from inquiries, he found that the only sign of any institution at 8A, Guilford Street, was that on the door was a plate with the words "Dr. William Harvey Crowther" upon it. He ascertained that he was identical with William Harvey Crowther, registered in the *Medical Register* as of 15, Bloomfield Road, Ealing. In addition to the advertisement the attention of his Society was called to a little book which was regularly advertised in a similar manner, with only the name of the publishers, at the price of 1s. This was also issued by Dr. Crowther, and was written by him. Dr. Woods then read his own statutory declaration, from which it appeared that he had written a letter to Dr. Crowther, and forwarded it by registered post to 8A, Guilford Street, asking for an explanation, but he received no answer. Dr. Woods then tendered himself as a witness for the purpose of being cross-examined, and in reply to Dr. Lindsay Steven said that a complaint was lodged with his Society by a member of the Society who was also a member of the Council.

Dr. Woods then read the statutory declaration of Mr. John Reardon, 78, Fentiman Road, South Lambeth, timekeeper, from which it appeared that Mr. Reardon about February 26th, 1905, saw in the *People* newspaper one of the advertisements complained of. He also received a copy of a book which had been spoken of, and on February 27th he went to 8A, Guilford Street and saw Dr. Crowther. He told Dr. Crowther that he had seen his advertisement in the newspaper, and had bought his book on stricture. Dr. Crowther asked him what he was and what were his wages, and informed him that his fee was 1 guinea, which he paid. Dr. Crowther informed him that his fee would be 4 guineas, but subsequently he accepted 3 guineas. He visited Dr. Crowther on several occasions, and complained that he was not getting better. Ultimately he left him and consulted another.

Mr. Reardon stated that the contents of his statutory declaration were accurate.

Mr. Winterbotham stated that he had received two letters from Dr. Crowther, in the first of which he said that his notice in the *People* newspaper had been stopped. He further stated that his health was so bad that it was difficult for him to carry on any practice at all, and that he had double optic neuritis. In another letter Dr. Crowther stated that the notice in the *People* having been stopped, he thought would have been sufficient. As he stated in his previous letter, he was in bad health, and could not appear before the Council. He was also suffering from severe domestic trouble, and he hoped the Council would excuse his absence. If he had done anything contrary to the by-laws he submitted himself to the Council, and apologized. He further stated that some licensing bodies prohibited advertising and others did not. He had never promised not to advertise, and, so far as he knew, there was nothing on the rules of the corporation whose licence he held which prohibited advertising.

Sir Victor Horsley inquired if Dr. Crowther had furnished a medical certificate.

The President replied that the communications which had been referred to were all that had been received from Dr. Crowther.

(Strangers and parties were then ordered to withdraw.)

On readmission the President said:

The Council have carefully considered the charges against Mr. William Harding Crowther in the notice of inquiry and have found that they have been proved to their satisfaction, but they had adjourned the further consideration of the case until the next session in order to give Mr. Crowther an opportunity of appearing before the Council and giving an account of his conduct in the interval. Meanwhile Mr. Crowther would be required to furnish at once a medical certificate in regard to his state of health.

Charge of Seduction.

The Council then proceeded to the consideration of the case of Arthur Clarke Walker, registered as of 45, Mill Street, Liverpool, Lic. R. Coll. Phys. Edin. 1885, who had been summoned to appear before the Council to answer the following charge as formulated by the Council's solicitor:

That you seduced a girl, by name E[illegible] B——, who had come to you as a patient, whom you had been treating professionally at your surgery, and who had on your invitation become an inmate of your house to help you in your work to learn nursing from you.

Mr. Lushington appeared as Legal Assessor; Mr. Winterbotham as Solicitor to the Council. Dr. Walker appeared in person.

The Solicitor stated that the complaint was lodged by the President of a nursing home at Liverpool in which the person "B. B.," mentioned in the charge was a nurse, and although he had urged her to be represented by counsel or solicitor, she had replied stating that she had put the facts before the Council, and did not wish to take part in the case further. Under those circumstances it was his duty to state the case, and lay the facts he had before the Council. He then read a number of declarations in support of the charge.

Dr. Walker denied that he had been guilty of any dishonourable action. He had treated B. B. for an illness from which she recovered and she had ceased to be his patient before she entered the house and became his housekeeper; and at the time the intimacy took place between them B. B. had ceased to be his patient.

Thursday, November 30th, 1905.

Dr. Donald MacAlister, President, in the Chair.

The minutes of yesterday's proceedings were read and confirmed.

Disciplinary Cases.

The Council then went into *camera* to consider the case of Arthur Clarke Walker. On readmission, the President announced that Mr. Arthur Clarke Walker was not present, and proceeded:

I have to announce in public that the Council have found proved the facts alleged against Mr. Arthur Clarke Walker in the notice of inquiry; that they have adjudged him to have been guilty of infamous conduct in a professional respect; and that they have directed the Registrar to erase from the *Medical Register* the name of Mr. Arthur Clarke Walker.

Canvassing.

The Council then proceeded to the consideration of the case of Hamlet Lloyd Davies registered as of 2, Crofton Street, Great Western Street, Rusholme, Manchester, M.B., Mast. Surg. 1874, Univ. Edin., who has been summoned to appear before the Council to answer the following charge as formulated by the Council's Solicitor:

That you have accepted and continued to hold the appointment of paid Medical Officer to the Rusholme and District Provident Dispensary, an association which systematically practises canvassing for the purpose of procuring patients.

Mr. Lushington appeared as Legal Assessor, with Mr. Winterbotham, the Solicitor to the Council. Dr. Bateman, secretary, and Mr. Hempson, solicitor, appeared on behalf of the complainants, the Medical Defence Union. Mr. Davies appeared in person, and stated that he had no witnesses.

Mr. Winterbotham read the notice which had been served upon Mr. Davies.

Dr. Bateman opened the case, and it appeared that the persons from the dispensary in question had been in the habit of calling upon people in the neighbourhood and canvassing for patients. Objection was raised in April, 1905, by the medical men resident in the neighbourhood to this canvassing, and a circular was issued which [illegible] officer attached to the dispensary, including Mr. Davies, to the effect that a meeting of medical men practising in the neighbourhood had unanimously protested in the most earnest manner against the method of the dispensary system in advertising or canvassing. It was obvious from that document that Mr. Davies, as one of the medical officers, must have known canvassing was going on at that time. On January 2nd, 1905, a letter was written to Mr. Davies, on behalf of the Committee, as follows:

We have heard that you have accepted the appointment of medical officer of the newly-formed Branch (Rusholme) of the Manchester and Salford Provident Dispensaries. When the project came to the knowledge of the medical men practising in the district a meeting was held called by the local Secretary of the British Medical Association, at which meeting great resentment of the tyranny of contract practice in general, and of the Manchester and Salford Provident Dispensary system in particular, was expressed. It was unanimously resolved by those present to resist by all legitimate means the establishment of the branch in our midst. A "watching" subcommittee was appointed, and the adhesion of the other practitioners of the neighbourhood who had [illegible] would suggest [illegible] as most convenient to [illegible] notice. We think you are probably not aware of the opposition raised by the local medical men to the formation of the branch, and the fact that the appointment has been [illegible] for the [illegible] must have been brought to the attention of members of the General Medical Council and of the Medical Defence [illegible].

In reply Mr. Davies said he was in receipt of the communication, but no useful purpose could be served by his meeting any of the medical men residing in the district. He intended to place the matter before the General Medical Council, and would be ruled by its decision. He understood that no canvassing was carried on at all now, and had not been since his appointment.

Dr. Bateman was not aware that Dr. Davies did place the matter in the hands of the General Medical Council, and no action having been taken by him the only proper course was to raise the whole question before the Council. The Lancashire and Cheshire Branch of the British Medical Association had drawn up a report, and the Central Ethical Committee had decided to lay the facts before the Medical Defence Union.

The President stated that a member of the Council (Mr. Young), who was a member of the Medical Guild of Manchester, did not propose to take any part in the consideration of the case.

Dr. Bateman said that the British Medical Association had taken a great interest in the matter.

Dr. Lindsay Steven said he was a member of the British Medical Association.

A member remarked, "So are most of us"; another member, "No, no."

Dr. Norman Moore thought that those who were members of the British Medical Association should take no part in the decision of the matter if the British Medical Association were the prosecutors.

The President inquired whether he understood from Dr. Bateman that the British Medical Association or any of its Branches were prosecuting.

Dr. Bateman replied in the negative; they took an interest in it, and the members of the Manchester and Salford Provident Dispensaries also took a deep interest in the question. Although he was not instructed by them, and did not appear on behalf of the Medical Guild of Manchester, he was directed by the Medical Defence Union to bring the case before the Council.

Dr. Little thought that the British Medical Association should not be introduced in the discussion in any way whatever.

Dr. Bateman said he did not mean to introduce it. He then read a statutory declaration by Dr. Sawers Scott, of Manchester.

The President inquired if any member wished to ask Dr. Scott any questions.

Professor Saundby inquired whether Dr. Scott had personal knowledge of the canvassing going on.

Dr. Sawers Scott replied that he had been told of it by his patients, but they declined to make a statutory declaration because they did not wish to be mixed up with the matter. He was not aware one way or the other whether the canvassing went on after Dr. Davies's appointment.

Dr. Bateman then read the statutory declaration of Dr. [illegible] (Fellow Guild).

Dr. Davies stated, in answer to the President, that he had no witnesses to call. All that he had to say was that he was totally ignorant of the canvassing referred to in the printed circular. In answer to questions put through the President, Dr. Davies said he had been eleven months medical officer to the Rusholme and District Provident Dispensary. In answer to Professor Saundby, he stated that he became aware of the fact that canvassing was going on "to-day"; this was his first knowledge he had that systematic canvassing was going on on the part of the [illegible]. He told the collector that he would not continue in office if anything of the kind occurred, and the collector promised that nothing of the kind should occur. In answer to the President, Dr. Davies stated that he had had notice that a complaint as to canvassing was being made against him before to-day.

Sir Victor Horsley said the documents before them pointed to Dr. Davies having been at Ancoats for three years in connexion with the same body, and inquired why he left Ancoats and went to Rusholme.

Dr. Davies replied that there was an interval of time between the two appointments. He had been away for about two years from Ancoats before going to Manchester.

Sir Victor Horsley read a letter written by Dr. Davies on January 4th, 1905, to the General Medical Council, in which he said that he enclosed a letter and

wished to be guided by you as to what is to be my decision in the matter. One medical man (Dr. J. H. Gordon) has already resigned his position here, having held it for only a month. There is no canvassing carried on at all at the present time, which was a question raised while I was at the Ancoats Branch, which I held for three years. There are ten Branches altogether in Manchester and Salford, and which have been established for years.

He wished again to ask why Dr. Davies resigned his position at Ancoats.

Dr. Davies replied it was through a private and domestic affair. He totally disagreed with canvassing and did not wish to be a party to it. It was brought to his notice at Ancoats, and that was the reason why he resigned. The matter of canvassing was in his mind when he took the appointment at Rusholme, and he brought the matter before the officials of the dispensary when he took the appointment, and made them understand that if it was carried on he should resign immediately. That was when he first received the appointment at the dispensary. During the eleven months that he had been at the dispensary it had never been brought to his notice that a man named Syers was engaged as canvasser. He understood he was a collector only.

The President inquired what Dr. Davies understood by a collector.

Dr. Davies replied he could not explain what the duties of a collector were, except it was to take moneys due from the patients belonging to the dispensary. He never understood that the collector canvassed during his term of office. In further answer to the President as to what he understood by canvassing, Dr. Davies replied that he understood it to be "soliciting" a medical man by bringing forward his merits, and so on. He understood that the collector never sought to gain any new customers for the dispensary during his time. That was what he was given to understand. The collector was more or less under his (Dr. Davies) order. He told the authorities he should be obliged to resign if anything in the way of canvassing occurred.

Sir Victor Horsley inquired whether Dr. Davies tendered Mr. Syers as a witness to give evidence.

Dr. Davies replied in the negative, saying that he understood that the documents had been sent up by the committee of the dispensary.

By Sir Victor Horsley: At the time the medical practitioners of the district asked him to confer with them on the subject of canvassing he felt it was a party question, and as it was only the second day after his appointment that he received their letter he thought it was hardly fair to approach him so soon on the matter.

By the President: He wrote to the Registrar and asked for advice, and in reply the Registrar wrote saying that, so far, no complaint had been received respecting him, and at the same time forwarded the resolution of the Local Government Board stating that canvassing was disapproved of. He drew the attention of his committee to the resolution and told them that if any thing of the kind was carried on he should have to resign.

By Dr. Lindsay Steven: He took steps to ascertain that his wishes with regard to canvassing were carried out by appealing to the Committee and also to the collector who promised that it should not be done. The evidence which had been read was a great surprise to him.

By Sir John Moore: He could not say how the collector was paid.

In reply to Dr. Bateman, he said that he did not meet the medical men of the district or answer their letter because he thought it was rather premature to receive such a letter two days after his appointment.

Mr. Winterbotham then read a letter dated November 28th from the Chairman and Honorary Secretary and the Honorary Treasurer of the Rusholme and District Provident Dispensary in which they denied that their institution was an association that systematically canvassed for patients.

Replying to Professor Saundby, Dr. Davies stated that he understood that the Committee of the institution intended to send up evidence, and he understood that each one of them was prepared to swear on oath that there was no canvassing; he refused to go to the dispensary unless he had their word to that effect.

By Dr. Norman Moore: With regard to the institution being a charity or an institution established for profit he thought it was a little bit of both.

By Dr. McVail: The evidence contained in the document which had been read he heard for the first time this day.

By Mr. George Brown: He intended to act on his resignation which he had sent in, and at the end of the three months would cease to be connected with the institution.

Strangers were directed to withdraw. On readmission,

The President addressed Dr. Davies:

The Council have deliberated very carefully on your case, and they come to the conclusion that the facts alleged against you in the notice of inquiry have been proved to the satisfaction of the Council. The Council feel it their duty to express their sense of the gravity of the facts which have been proved against you, but, in order to give you an opportunity seriously to reconsider your position in relation to the Rusholme and District Provident Dispensary, they have adjourned the further consideration of the case until the next session, when you will have to appear and satisfy the Council as to your conduct in the interval.

Public Health Committee.

Dr. Bruce moved, Mr. Jackson seconded, and it was resolved:

That the report of the Public Health Committee be received and entered on the minutes.

Dr. Bruce said the British Medical Association had drafted a Bill* to give security of tenure to medical officers of health. Although in Scotland and Ireland and in the County of London medical officers of health had security of tenure, the rest of England and Wales had not. The present mode of appointment was from year to year, and, of course, it was open to the local authority, if they saw fit, to put another man in the place of the man who held the appointment. He thought there was sufficient evidence to show that that had often been done on grounds which were not only unfair to the individual but against the interests of public health. The medical officer of health in the discharge of his duties must necessarily come into conflict with the interest of persons in the locality, and if he was zealous in a direction which prejudiced them they naturally resented it by getting the local authority to refuse to continue the medical officer in his appointment. It was perfectly plain that this reacted on those who held the appointment, because if a man wished to hold the appointment he was necessarily chary of finding fault with those who were in a position to influence the local authority. The Public Health Committee felt that the British Medical Association in trying to get security of tenure for medical officers of health was doing it really, not so much as in the interests of the members of the profession as in the interests of the public at large. The Committee differed from the British Medical Association in regard to asking Parliament to give security of tenure to men who only devoted part of their time to the duties. It thought there were reasons against it, and that it would defeat the object the British Medical Association was aiming at. The only alteration the Committee proposed was that only those officers who devoted their whole time to the work should be put in the position of having their office secured. He asked the Council to express its opinion upon this, because some members of the Committee thought that in insisting on the restriction they were unfair to those who had not whole-time appointments. He moved:

That the Council expresses its general approval of the provisions of the Public Health (Officers) Bill (1905) with the exception of Clause 2(1), which as at present drafted is too wide in its application.

Sir John Moore seconded. He very much regretted that Mr. Power was not present, but they had the advantage of his presence in the Committee, and he explained that it was in contemplation by the Local Government Board to, if possible, amend the Public Health Act in this direction. At present in England many of the districts were very small, and the officers were necessarily underpaid. The proposition was to make larger districts, and to secure the services of men who would give their whole time to the duties attached. If that reform was carried into effect, it would be exceedingly inconvenient to have a multitude of medical officers of health all over the country with a vested interest for life in their

* Supplement to the British Medical Journal, January 14th, 1905 p. 11.

petty appointments. It was to avoid that that Mr. Power suggested this amendment.

Dr. Norman Moore said they all felt it would be a great advantage if fixity of tenure for medical officers of health could be established, but was it proper for the Council, which by the Act of Parliament was the supreme body, to support the Bill of the British Medical Association? He felt some doubt about the Council declaring its opinion in favour of Bills brought forward by other bodies which would make him unwilling to take the course suggested, and although he sympathized with the objects of the Bill he thought the Council ought not to petition in its favour.

Mr. Jackson pointed out that the Council was only asked to express its opinion. He thought it was desirable that this should be done because in the country men could not carry out their duties properly owing to this doubt which hung over them.

Mr. Morris thought by so doing the Council would be laying itself open to a rebuff. The Council was a Council of medical registration and education, and, although its members sympathized with the objects of the Bill, they might be going beyond the limits of their instructions and charters by taking active steps to promote a Bill which did not concern medical education and registration.

Mr. George Brown supported the motion. He had no doubt that if the Bill were presented it would in due course be remitted to the Council for the expression of its opinion.

Sir Victor Horsley pointed out that Mr. Morris was under a misapprehension. The Bill dealt not merely with the important public question of security of tenure, but Clause 2 made it a statutory obligation that the medical officer must be qualified in sanitary science, which was a matter of education and registration. Both on the ground of education and registration he held that the Council should support it.

Sir Thomas Fraser was quite at a loss to know why security of tenure should not be extended to those who held the minor appointments, which were more perilous than the larger ones. He moved as an amendment that the words "with the exception of Clause 2 which as at present drafted is too wide in its application" be left out.

Professor Saundby seconded, as it was the men holding small appointments who had most pressure put upon them by small and ignorant bodies. Those holding office under county councils or borough councils were not subject to the same amount of pressure.

Dr. Lindsay Steven said they had had the careful and deliberate opinion of Mr. Power, who was quite clear that, in view of the proposals which the Government had before them, it was desirable to make a change of this kind; but it was equally clear that that change should be limited to men who devoted their whole time to public health work. The experience of the Local Government Board was that when a young man was appointed to a minor appointment in early years his work was done well; that was because it was the chief work he had to do. But as years went on, and his practice increased, the time that he had to devote to public health work was correspondingly diminished; and, in view of the fact that the Local Government Board were desirous of combining a number of these smaller areas, there should be a limit of time; if that were imposed, the Local Government Board would sanction and support the Bill. Without that he was certain the Bill would have no chance of passing.

Dr. Bruce, in reply, said the difficulty of the amendment lay in the fact that it set the Local Government Board at the head of a vast number of small appointments, and it would refuse to undertake such a heavy responsibility. He sympathized with the Local Government Board, and thought, if they hoped to do any good, they had better unload the ship.

Sir Thomas Fraser was satisfied with Dr. Bruce's explanation, and, with the consent of his seconder and of the Council, withdrew the amendment.

The motion was then put and agreed to, and the Council adjourned.

Friday, December 1st, 1905.

Dr. Donald MacAlister, President, in the Chair.

The minutes of the last meeting were read and confirmed.

Dental Business.

The Council proceeded to the consideration of the report of the Dental Committee on charges against seven dentists registered on the *Dentists' Register* as in practice before July 22nd, 1878. The charges arose out of their alleged association with a certain dental company, they having signed the memorandum and articles of association, thereby becoming members of the company. The Council having heard the parties present, and having considered the matter *in camera*, resolved to direct the Registrar to erase from the *Dentists' Register* the names of Algernon Frederick Green and George Blount, and in the case of the other five defendants postponed further consideration until the next session of the Council. The matter was brought to the notice of the Council by the British Dental Association.

The Council then sat *in camera* to consider a report by the Dental Committee on certain applications for restoration to the *Dentists' Register* after erasure under Section xiii of the Dentists Act, 1878.

Visitation and Inspection of Examinations.

At the meeting of the Council on May 25th, 1905,* proposed revised standing orders relating to the inspection of qualifying examinations were remitted to the Executive Committee for further consideration, with instructions to consult counsel. The Committee now reported that they had obtained counsel's opinion, and submitted the proposed standing orders amended in accordance therewith.

The standing orders were received and entered on the minutes as follows:

Visitation and Inspection of Qualifying Examinations.

1. The qualifying examinations of the several licensing bodies in the three divisions of the Kingdom shall be visited and inspected on behalf of the Council from time to time as the Council shall direct.

2. The visitations shall be conducted by one or more members of the Council deputed as visitors for that purpose: the inspections by one or more inspectors appointed by the Council, but not members thereof.

3. The cycle of visitations and inspections shall ordinarily extend over three years. Within each of the three years the universities of one division of the kingdom and the licensing corporations of another division of the kingdom shall be visited and inspected.

4. The visitor or visitors shall be appointed by the Council at the May session in each year for the ensuing calendar year: and visitors belonging to one division of the kingdom shall be deputed to visit examinations held in another division. Should a visitor so appointed be unable to act, or should no appointment have been made in time for a particular examination, the Executive Committee, or in case of emergency the President, shall appoint a visitor for that turn. All appointments so made shall be reported to the Council at the session next following.

5. One or more inspectors shall be appointed for the cycle of inspections and for all three divisions of the kingdom. An inspector shall not, during his tenure of office, act as examiner in any qualifying examination.

6. A visitor shall receive no remuneration, but shall be paid his travelling and hotel expenses.

7. The remuneration of an inspector shall be at the rate of two hundred pounds per annum, in addition to his travelling and hotel expenses.

8. A list of the examinations to be visited and inspected in the ensuing year, with their respective dates, shall be drawn up and circulated among members of the Council before or during the May session, with a request that members will intimate to the President which examination or examinations they are willing to visit.

9. The President shall give to each visitor and inspector a formal commission in writing under the seal of the Council.

10. It shall be the duty of inspectors to report to the Council their opinion as to the sufficiency or insufficiency of each examination attended by them. Their reports shall set forth in order all necessary particulars as to the questions proposed in the written, oral, and practical parts of the examination, the cases and the appliances provided for clinical examinations, the arrangements made for invigilation, the method and scale of marking, the standard of knowledge shown by successful candidates, and generally all such details as may be required for adjudicating on the scope and character of the examination.

It shall be the duty of visitors to report, separately from the inspectors, on each examination visited by them, and they shall include in their report such particulars and observations thereon as they deem important for the information of the Council.

11. Visitors and inspectors shall include in their reports, in the form of a brief diary, a statement of the days and hours at which they were respectively present during the course of the examination, and of the parts or divisions of the examination in progress on each day.

12. Visitors and inspectors shall be made acquainted with such previous reports on the examinations attended as the Executive Committee or the President may direct, together with the remarks and observations of the licensing bodies and the reports of the Examination Committee thereupon. They shall also be provided with copies of the recommendations of the Council in regard to professional examination, and shall include in their reports a statement of the extent to which those recommendations have been carried out in the case of each examination attended.

13. The reports of visitors and inspectors when prepared shall be forwarded to the President, who shall cause them to be printed. The final proof copies of the reports, as corrected, shall be signed in writing by

*Supplement to the British Medical Journal, June 3rd, 1905, p. 310.

the visitors or inspectors, as the case may be, and shall be preserved by the General Registrar as the authoritative copies.

14. Previous to the meeting of the Council at which the reports of visitors or inspectors are to be considered, confidential copies, not exceeding fifty in number, of each report shall be forwarded for consideration to the licensing body to which such report refers, with a request that the body will make such remarks and observations thereon as may be thought necessary, and will forward the same with as little delay as possible to the General Registrar.

15. A confidential copy of each report of the visitors or inspectors, together with the remarks and observations made thereon by the licensing body concerned, shall be supplied, when ready, to each member of the Council.

16. The Examination Committee shall consider and report to the Council on each report of the visitors or inspectors; and shall also at the end of the cycle of visitations and inspections present to the Council a general report on the results and conclusions arrived at.

Dr. McVail moved to defer their consideration until the May session. He thought it probable that some members had not fully considered the documents placed before the Council. In all probability he would put forward another set of proposed standing orders, and having regard to the importance of the subject, he considered that its postponement would save the time of the Council.

Dr. Norman Moore seconded on the ground that the matter was extremely complicated.

Dr. Mackay supported the resolution, and suggested that the Registrar should be instructed to circulate to members of the Council any proposals he might receive in the interval.

Mr. George Brown suggested that the report might be again remitted to the Executive Committee.

The President, speaking on behalf of that Committee, said that it had done its best. He thought it very undesirable that the question should be prejudged, as might happen if the matter were now referred back.

Dr. McVail's resolution was then put, and agreed to.

Penal Procedure.

The Council then considered a report from the Executive Committee

> "On the question of amending the notices of inquiry in penal cases, so as to enable the Council in cases where more than one charge is brought to come to a decision on each charge separately."

The report having been received and entered on the minutes,

Sir Victor Horsley moved its adoption. The Council wished in the previous session to have the Standing Orders in such a form as to provide that when a charge was made against a practitioner which obviously consisted of more than one point, those points should be set out clearly, so that the members of the Council could form an opinion upon each of them separately.

Sir Thomas Myles seconded.

Dr. Norman Moore inquired if the Committee had considered the question whether it would be right to warn the accused person that the letter which he wrote might be used against him. They had had persons who had convicted themselves on their own statements in their letter, against whom there was no other conclusive evidence.

The President replied that the matter had not been considered afresh, but the Standing Orders had been settled after long experience by Mr. Muir Mackenzie.

The resolution was then put and carried.

Canvassing and Advertising.

The next business was to receive the following report,

> "On the desirability of issuing a general warning notice to medical practitioners against the practices of canvassing and advertising."

Report.

The General Medical Council on May 26th, 1905, passed the following resolution:

> That the communication from the British Medical Association respecting the desirability of issuing a general warning notice to medical practitioners against the practices of canvassing and advertising for the purpose of procuring patients be remitted to the Executive Committee, and that they be requested to confer with the legal advisers of the Council on the subject, and, if considered advisable, to draft a form of notice of warning to medical practitioners for consideration at the next meeting of Council.

The Executive Committee having considered this question together with an opinion by Counsel thereon, recommended that the following notice be adopted:

> Whereas it has from time to time been made to appear to the General Medical Council that some registered medical practitioners have, with a view to their own gain and to the detriment of other practitioners, been in the habit of issuing or sanctioning the issue of advertisements of an objectionable character, or of employing or sanctioning the employment of agents or canvassers, for the purpose of procuring persons to become their patients: and whereas in the opinion of the Council such practices are contrary to the public interest and discreditable to the profession of medicine: "The Council hereby give notice that any registered medical practitioner resorting to such practices thereby renders himself liable to be charged under the 29th section of the Medical Act, 1858, with 'infamous conduct in a professional respect,' and if after due inquiry he is judged by the Council to have been guilty of such conduct the Council may, if they see fit, direct his name to be erased from the *Medical Register*."

On the motion of Sir Victor Horsley, seconded by Dr. Norman Moore, that the report be received and entered on the minutes,

The President stated that, although he was Chairman of the Executive Committee, and should be the person, perhaps, who should bring these things forward, yet he would rather that some other member of the Executive Committee should do so.

Sir Victor Horsley said that as no member of the Executive Committee rose to move in the matter, he was anxious to move the adoption of the report, because the experience of the Council as to the effect produced on the profession by the warning notice relating to the covering of unqualified practitioners was such as to encourage the issue of such a notice. There could be no doubt that the profession looked to the Council to issue notices of this kind, and although the Council had always pointed out that its duty was to consider the merits of a particular case, and always refrained from laying down any general principle which was a matter of doubt or debate, yet now, as the Council had had before it cases tried on their merits, and had as a Council come to a definite opinion on those questions, he thought the time had arrived when the Council could, in justice to itself and with great benefit to the profession, issue a warning notice. The terms of that warning notice were exactly parallel with the notice by means of which so much good had been done by stopping the covering of unqualified practitioners. In regard to the terms of the warning notice, he should like to point out that in the very first case brought before the Council—the Yarmouth case—it was only when the evidence of the accused practitioner was put before the Council orally that the Council was able to see how easily this practice could be carried on and yet no one be brought to book. The experience of that case and others showed that the terms of this notice were necessary; that was to say, that a practitioner had been in the habit either of personally issuing advertisements or sanctioning the issue of advertisements or of employing or sanctioning employment of agents or canvassers, because there came in the question of the moral conduct of an individual who did not do all that he might to stop the employment of a canvasser or advertiser. The issue of this warning notice would be approved of by the profession at large, and he was quite sure that it would be of great value to the public health.

Sir John Batty Tuke seconded the motion.

Mr. George Brown, in supporting it, said that he was sure it would be received with great satisfaction by the profession at large, and be the means of putting a stop to a considerable amount of unprofessional practice.

The President then put the motion, and it was agreed to.

Recognition of Japanese Qualifications.

The next business was to receive the following report from the Executive Committee, arising out of the correspondence with the Privy Council (*vide* Minutes of Executive Committee of Monday, November 27th, 1905), on the subject of the extension of Part II of the Medical Act, 1886, to Japan.

Report.

The Executive Committee recommend that the answer to the Lord President be as follows:

> "That the Council has heard with interest of the application of the Japanese Government for the extension of Part II of the Medical Act, 1886, to the Empire of Japan, and that the Council will be prepared at the proper time to take all necessary steps for arriving at a decision regarding the recognition of such Japanese

qualifications as may entitle the holders to registration in the foreign list of the *Medical Register*."

On the motion of Sir CHRISTOPHER NIXON, seconded by Sir HUGH BEEVOR, the recommendation was received and entered on the minutes.

Dr. NORMAN MOORE moved, and Sir CHRISTOPHER NIXON seconded, that the recommendation be adopted, and this was agreed to.

The PRESIDENT stated that he was extremely gratified that the Council had received this very interesting communication in the manner in which it had. He was sure it would be of great satisfaction to a nation with which the country was in such close bonds of amity.

STUDENTS' REGISTRATION.

On the motion of Sir WILLIAM THOMSON, seconded by Sir CHRISTOPHER NIXON, it was resolved:

That the following report from the Joint Finance and Executive Committee, on the institution of a students' registration fee, be received and entered on the minutes.

REPORT.

The Executive and Finance Committees, sitting jointly, in accordance with the resolution of the Council on May 27th, 1905—namely:

That it be remitted to the Finance and Executive Committees to take into consideration the suggestion made by the President in his address at the opening of the present session, to the effect that a small fee might with advantage be charged for students' registration,

have considered carefully the question remitted to them. The passage in the President's address to which reference is made is as follows:

The suggestion has been made from an important quarter that one of the services gratuitously performed by the Council might be made self-supporting in a similar way. I refer to the maintenance of our *Students' Registers*. The General Registrar, with the help of the Branch Registrars, has ascertained that the ordinary expenditure on this branch of our work—for printing, postage, salaries, and time occupied in Committees and Councils over its details—may be estimated at about £400 a year. Against this outlay the only receipts are some £20 a year from fees for late or exceptional registration. If a fee, say of 5s., were charged for the certificate of registration in ordinary as well as exceptional cases, the actual cost would just be covered and the Council's funds would be relieved to a corresponding extent. It is represented that for such a step no new legislation would be required, and the *Students' Registers* might remain on their present "voluntary" basis, that the trifling fee would be readily paid and easily collected, and that the future action of the Council and of the licensing bodies in regard to students' registration would in no wise be prejudiced. If these representations are just, and I offer them for your mature consideration, the Council might be well advised to make the experiment.

The estimate made by the General Registrar of the cost to the General and Branch Councils of maintaining the *Students' Registers* on their present footing was placed before them. The following communication from the Lord President of the Privy Council was read:

Whitehall,
November 4th, 1905.

MY DEAR DR. MACALISTER,—The Lord President's attention having been called to the suggestion that students should be invited to pay a small fee to cover the expenses of registration under the Regulations of the General Medical Council, his lordship is of opinion that there is no objection to such an arrangement, having regard to the general obligations of the Council in connexion with medical education, and to the obvious advantages enjoyed by students from the institution of a *Students' Register*.

I am,
Yours very truly,
A. W. FITZROY.

Donald MacAlister, Esq., M.D.

The Joint Committees, after discussion of the various aspects of the question, agreed to the following recommendation:

"That the General Council institute a fee of 5s. for registration in the *Medical* and *Dental Students' Registers*."

Sir CHRISTOPHER NIXON proposed:

That the recommendation of the Joint Committee—namely,
That the General Council institute a fee of 5s. for registration in the *Medical* and *Dental Students' Registers*—
be adopted.

He thought the motion ought not to meet with much opposition. It could be fairly argued that registration was valuable to the student himself, because it gave him a certain status in the profession, and he did not think there would be the slightest difficulty in obtaining from the student such a small fee as 5s. If the Council was put to the expense of £400 a year for the purpose of maintaining the system of registration, which was important to the student and to the General Medical Council, it was perfectly entitled to be repaid the amount of the expenditure. It was entirely voluntary, and the Council did not propose in any way to alter the existing arrangements. All it proposed was, that the students who desired to offer themselves for registration should pay a fee of 5s. The report of the Finance Committee showed the expenditure of the Council had nearly reached its income, and he maintained it had no right to spend money upon work that was not statutory and not absolutely required; but if it did spend money upon such an important matter as the registration of students, it was perfectly justified in asking for a sum which would recoup to it the amount of that expenditure.

Sir WILLIAM THOMSON seconded.

Dr. BENNETT had received instructions to oppose any system of payment of a fee for registration. He also opposed it on the principle that he did not believe the Council would get the 5s. by anything except compulsory powers.

Dr. PYE-SMITH thought that registration fees were not desirable. The Council had no right to impose the tax. The excuse that it was a very little one was often brought forward for frailties of various kinds. Was it a dignified position for the Council to impose a tax which it could not enforce, and was it a course which the profession would approve? It had been said that it would help the Council's finances; but he thought it would be just as well off if it did not have registration and did not impose a fee.

Sir JOHN BATTY TUKE's main objection was that such a tax would disturb the *Students' Register* as it now stood. It was true that it was not complete, but it was of extreme usefulness to the Council, and for that reason he felt disinclined to vote for the tax.

Dr. MCVAIL attached great importance to a *Students' Register*, and as this proposal would bring about a general decline of registration, it was undesirable. It would be extremely dangerous to put on this trifling fee, which would be just enough to be vexatious, and not big enough to be useful.

Dr. LITTLE said that what Sir John Batty Tuke had stated convinced him that to impose a fee of 5s. would do a great deal to wreck the success of the present *Register*, and although he would be glad to see a fee imposed he recommended the Council not to do so.

Dr. MACKAY ventured to think that the Council was doing for the medical student a very great and valuable work in maintaining the *Register*. It was not a tax it was seeking to impose upon the individual, but every medical institution ought to assist the Council to maintain the *Register*. He was perfectly certain that if the matter were thoroughly explained to the medical students, no one would deem the fee of 5s. excessive.

Sir THOMAS MYLES also opposed the imposition of the tax, as it would not be paid by those who knew it was voluntary, and the Council had no right to trade on the innocence of those who did not.

Sir JOHN MOORE thought it would be very difficult indeed to insist on the voluntary payment of the 5s., and he doubted the wisdom of imposing the tax when by doing so the Council ran the risk of wrecking the *Students' Register*. Unless the Council had statutory powers to insist on the registration of students there was no use in imposing it.

Sir THOMAS FRASER held that the registration of medical students was of very great service to them, and that there would be no difficulty in carrying out the recommendation. But although there was no doubt in his mind as to its entire wisdom, he thought it would not be wise on the part of the Council to impose it, or to take steps to obtain legal authority to do so.

Sir CHRISTOPHER NIXON, in reference to the opinion that had been expressed, thought it would be better in the circumstances, with the leave of the Council and his seconder, to withdraw his motion until the Council took up the larger question of compulsory registration.

Mr. GEORGE BROWN hoped it would not be withdrawn, as many of the members of the Council were in favour of it; and if there was any difficulty in enforcing it the Council should proceed to get a one-clause Bill through Parliament.

Sir VICTOR HORSLEY expressed the hope that Sir Christopher Nixon would not withdraw the resolution. It was a perfectly straightforward question and one the Council could vote on.

The motion was then put and the PRESIDENT declared the voting equal.

At the request of Mr. GEORGE BROWN the names and

numbers were taken, when it appeared that 13 voted for and 16 against, and it was declared lost.

Education Committee.

Dr. Mackay moved, Dr. Norman Moore seconded, and it was resolved:

That the following report of the Education Committee be received and entered on the minutes:

Report.

The Committee have to report on the questions remitted to it by the Council, on the motion of Dr. Lindsay Steven, which were as follows:

That it be remitted to the Education Committee to consider and report to the next session of Council whether the adoption by the Council or one or other or both of the following resolutions would not help to secure the attainment of the object the Council had in view in instituting the five years' curriculum—namely:

(1) That the preliminary scientific examination in physics, biology, and chemistry should be passed before the student begins the qualifying study of anatomy and physiology;

(2) That before being admitted to the final examination the student should produce evidence that he has devoted the last year of his curriculum exclusively to practical and clinical work and study.

With respect to No. 1, the proposal does not contemplate the transference of the subjects it deals with to the preliminary course of study, which would withdraw from the Council the direct supervision of the arrangements for teaching them, nor does it seek to enact any special provision, the natural sequence of such a transference, for determining the length of the curriculum subsequent to the completion of the examination in chemistry, physics, and biology. The operation of the clause might have the effect of causing an undue amount of time to be devoted to the preliminary sciences, with two possible subsequent results: Either the student will be tempted to crowd the rest of his study into the remaining two or three years, as the case may be, of the five years' curriculum—a course to be seriously deprecated—or he will be compelled to take one or more additional years.

The Committee is of opinion that the main effect of the proposed change would be to seriously lengthen the curriculum and thus to render entrance to the profession more difficult and expensive than it now is. As things now are the curriculum is far more often one of six or even more years—and this even in the case of industrious students—than one of five.

With regard to the second resolution, the Committee holds that distinct evidence of clinical and practical study in the fifth year should be produced by the student, showing that his time in that period of his curriculum has been mainly occupied in such work, but they would not suggest any regulation which should absolutely limit the work of each session of the period of professional study. The Council's recommendation is to the effect that regulations "should be so framed that attendance on systematic courses may be concluded at the end of the fourth year of study." With this the Committee is in full agreement, but it would not advise that any proposal should be sanctioned which would prevent a student from supplementing his clinical study by suitable systematic work. Finally, the Committee desires to point out that any alteration of the kind suggested must inevitably tend to lengthen the course of medical study.

Dr. Mackay thought the report from the Committee as it stood should be accepted by the Council. He moved its adoption.

Dr. Norman Moore seconded.

Dr. Lindsay Steven reminded the Council of some of the points that induced him to put the resolutions on the agenda, and was reviewing the position taken up by the universities and licensing bodies on the question, when the hour for the adjournment of the Council struck.

Saturday, December 2nd, 1905.

Dr. Donald MacAlister, President, in the Chair.

The minutes of the last meeting were read, amended, and confirmed.

The Representative of the University of Sheffield.

Dr. Norman Moore asked the President what steps the Council could take under the Medical Act to represent to His Majesty in Council that the Representative of the University of Sheffield ought to receive the same fee as that received by other members of the Council under the Medical Acts.

The President replied that, under the provisions of the Universities (Sheffield) Act, 1905, the General Medical Council might at any time represent to the Privy Council that it is expedient that the fees for attendance and for travelling expenses of the member of that University shall be thenceforth paid from the funds of the General Council or of the Branch Council for England in accordance with Sections xii and xix of the Medical Act, 1886.

Education Committee.

Dr. Lindsay Steven resumed the speech interrupted on the previous day. The student should devote his fifth year of study entirely to clinical work. His objection to the report was that, while it did not positively oppose this, yet negatively and indirectly it did, by bringing to the attention of the education body and the student that there was really no great need to devote the full fifth year to clinical work; this, he maintained, was a retrograde step. The report was merely an expression of opinion, and, with the object of not committing the Council to anything one way or another, he moved the previous question.

Mr. George Brown seconded, and it was adopted.

Mr. Morris then asked leave to move as a motion an amendment he had intended to move to the report:

That it be referred to the Education Committee to consider and report to the Council, (1) as to the desirability of transferring the preliminary science subjects (physics, biology and chemistry) from the curriculum of medical studies to a stage preliminary to the commencement; and (2) as to the advisibility of requiring the five years' period of study even after removing from the curriculum these preliminary science subjects.

Professor Saundby pointed out that this was in substance the same as a motion on the agenda which stood in Mr. George Brown's name.

Mr. George Brown agreed that the matter should be referred to the Committee for discussion and withdrew his motion in favour of Mr. Morris's which he would second. The Council gave leave to introduce the motion.

Mr. Morris said that after thirteen years' experience the five years' curriculum had proved a most deplorable failure, and the indictment against it was manifold. First, it had been most unfair and unequal to the students; secondly, it had caused an overwhelming burden to be cast upon medical schools; thirdly, it would destroy, if it had not already destroyed, medical training as distinct from the acquisition of medical knowledge, and encouraged cramming instead of real learning; and, lastly, it had been most unfair to the country because it resulted in turning out a large number of fledgeling practitioners who were trained to a certain degree in scientific and theoretical matters, but were inefficiently prepared in comparison with their predecessors to undertake the practical responsibilities of their profession. From 1864 downwards it had been the desire of the Council to put these preliminary subjects into a pre curriculum course. Why had the Council not carried out this desire? As early as 1869 the Council thought that there was a want of arrangement in the general teaching of these subjects, but from time to time petitions had been sent up from purely scientific teachers not to entertain proposals to this end. Further, there were certain statutes and by-laws of some of the corporations which needed alteration before the regulations could be made. He thought it better that the matter should be referred to the Education Committee, which would have an opportunity of communicating in a conciliatory way with the various universities and licensing bodies, with a view to obtaining their loyal co-operation with the Council in the matter.

Mr. George Brown seconded. It was a matter of great satisfaction to find that those associated with the Conjoint Board could agree with the principle of the resolution.

Dr. McVail said that the proposal tended to whittle down the subjects of chemistry, physics, and biology, and he desired that the Committee be instructed to consider how far these subjects could be studied outside medical schools and in particular what the effect might be of hindering the rise in preliminary education which the Council so greatly desired.

The President pointed out that in passing the motion the Council did not commit itself to accepting or rejecting the conclusion the Committee might come to.

Dr. Pye-Smith moved the closure, which was carried.

Mr. Morris's motion was then put and adopted.

THE UNIVERSITY OF EDINBURGH.

The report by the Examination Committee on the inspection of the Final Examination (in Surgery) of the University of Edinburgh was received and entered on the minutes, and on the motion of Sir PATRICK HERON WATSON, seconded by Dr. MCVAIL, approved.

EXAMINATIONS FOR THE SERVICES.

On the motion of Sir PATRICK HERON WATSON, seconded by Mr. YOUNG, the report by the Examination Committee on the answers from the licensing bodies regarding Mr. Brown's motion as to returns from the Navy, Army, and India Boards was received and entered on the minutes.

The report stated that on June 1st a circular letter had been addressed to the various licensing bodies drawing their attention to the percentage of rejections in the examination for the Navy, Army and Indian Medical Services, and that a further letter was sent on September 20th to the same bodies asking if they had any observations to make in reply. A certain number of replies had been received, but none of the bodies had thought it necessary to make any observations.

Mr. GEORGE BROWN expressed his satisfaction with the report, which called attention to the important points he had intended to raise.

The report by the Examination Committee on the statement of degrees, diplomas, and licences of the candidates for commissions in the medical staff of his Majesty's army relating to the examination held in July, 1905, was received and entered on the minutes.

The report pointed out that out of forty-nine candidates four were rejected, all of them in the subject of medicine. Two of these held degrees of the University of Edinburgh, one held the diploma of the Apothecaries' Society of London, and one held the diplomas of the Royal Colleges in Ireland.

PRACTICAL MIDWIFERY.

The interim report from the Students' Practical Midwifery Committee was, on the motion of Sir JOHN WILLIAMS, seconded by Dr. NORMAN MOORE, received and entered on the minutes.

The report stated that replies had been received from a large number of teaching bodies as to their requirements in regard to the teaching of midwifery to students. The Committee were not, however, prepared to report at present, and asked that the reference might be extended until the next session of the Council.

PHARMACOPOEIA.

The report from the Pharmacopoeia Committee having been received and entered on the minutes, the PRESIDENT announced the resignation of Sir John Batty Tuke from the Committee.

The report stated that 634 copies of the *British Pharmacopoeia*, 1898, had been sold between May 28th and November 21st, 1905; altogether 37,068 copies of the *Pharmacopoeia* and 4,410 copies of the *Indian and Colonial Addendum* had been disposed of. An impression of 3,000 copies of the *Pharmacopoeia* was printed during the summer, and the stock remaining in hand was 2,954. The report further stated that the Committee of Reference on Pharmacy had been fully organized, and was engaged in various researches bearing on the revision of the *Pharmacopoeia*.

Sir JOHN BATTY TUKE regretted that he was compelled to resign his seat on the Committee, in the proceedings of which he took a great interest. This session there had joined the Council one of high authority and reputation in all matters connected with the *Pharmacopoeia*, whose collaboration with the Committee would be of great importance. He proposed Sir Thomas Fraser to fill the vacancy, and it was agreed to.

STUDENTS' REGISTRATION COMMITTEE.

Moved by Sir HUGH BEEVOR, seconded by Dr. BRUCE, and resolved:

That the Report from the Students' Registration Committee be received, entered on the minutes, and approved.

The PRESIDENT asked leave to insert on the minutes a list of examinations which were before the Examination Committee subsequent to the resignation of Dr. Windle, and it was accorded.

EDUCATION COMMITTEE.

The nomination of the English Branch Council of Sir John Williams to fill the vacancy on the Education Committee caused by the retirement of Dr. Windle was agreed to.

B.SC. GLASG. IN PUBLIC HEALTH.

The Council then proceeded to the consideration of an application from the University of Glasgow for the recognition of its newly instituted degree of B.Sc. in Public Health.

Dr. BRUCE said the application was duly lodged in time, but the Committee saw room for ambiguity, and thought it only right before making the degree registrable that this should be brought to the notice of the authorities in Glasgow. Information of the course candidates were to take had only been received on the previous day, and therefore no meeting of the Public Health Committee could be held. He moved:

That the Executive Committee be authorized, if it be satisfied that the regulations of the University of Glasgow are in agreement with the Council's rules for the diploma in Public Health, to recognize that newly instituted degrees of B.Sc. in Public Health of the University of Glasgow.

Sir JOHN MOORE seconded.

Sir T. MCCALL ANDERSON, when this was brought to his notice, thought it his duty to write to the Clerk of the Senate of the University, and he had received the following reply:

University of Glasgow.
November 20th, 1905.

Dear Sir Thomas,—I have received your note of yesterday. We have never had a case of a candidate offering himself for any examination towards the degree of B Sc. in public health within a twelvemonth from the date of his graduation in medicine, and I do not think that it would be possible under our regulations for any candidate so to offer himself, but, as you point out, there is no explicit regulation forbidding it.

To bring us into line with the regulations of the General Medical Council in this respect, I have placed on the agenda of the next meeting of the Senate a motion to that effect which I have no doubt will be accepted at once.

Yours faithfully,
WILLIAM STEWART.

Sir T. McCall Anderson.

The PRESIDENT did not think the Council could pass a final resolution on the subject at present, but if the Executive Committee were informed in February that the diploma was in accordance with the rules of the Council, action could then be taken.

The motion was then put and agreed to.

On the motion of Dr. BRUCE, seconded by Sir JOHN MOORE, it was resolved:

That the regulation for the new degree received from the University of Glasgow, together with the letter from the Clerk of the Senate received by Sir Thomas McCall Anderson on the subject be received and entered on the minutes.

IRISH POOR-LAW MEDICAL SERVICE.

Sir WILLIAM THOMSON moved:

That a committee be appointed to consider and report to the Council at its next session on the following matter: That a grave danger to the public health in Ireland has arisen from the present condition of the Irish Poor-law Medical Service; and that the committee be instructed to report on the disabling circumstances under which registered medical practitioners are compelled to fulfil their public professional duties.

The motion was one to which he hoped the Council would give its careful consideration, as the subject was one that had for many years been in the very forefront of medical considerations in Ireland, and the profession had felt, as it felt to-day, that the whole system of Poor-law medical relief in Ireland was one which was detrimental to the public health. It concerned a body of men numbering no less than 800, and was interesting not only to the body connected with the service, but to the larger body of the profession generally which naturally sympathized with their brethren who, in their service to the public, had to make bricks without straw. They were charged with the duty of attending to the sick poor, for which they were remunerated by salaries ranging from £80 to £140 a year, and, in addition, they had to perform duties as officers of public health, for which they received a small sum, but, roughly speaking, £150 a year would be regarded as an exceedingly large income. To a man in a large town, allowed to engage in private practice, this might be a considerable sum, but to men in the north and west of the country in what were known as the congested districts, inhabited by people who had scarcely the bare necessaries of life, where there were no resident landlord class, practically no shopkeeping class, and the country consisted of bogs or mountain sides, sometimes thirty or forty square miles in extent, one could imagine how far £120 would go in supporting and feeding possibly a married man with children. Some years ago he inquired very fully into this matter, and consulted most of the medical men in the country. He asked confidentially, "How much do you make outside your official salary?" Some said, "In a good year I make £10 or £20;" and one answered that he lived upon the hope of catching some unfortunate tourist from whom he might receive a £5 note! This was not an exaggerated picture or

story; it existed in that large district of the coastline of Ireland, and extended inwards for 30 or 40 miles. Further, the public service provided no pension, although it was permissible for the local Board to give one. Supposing a man had spent, as many of them had, thirty or forty years in the service, and began to feel the day had been too much for him and he needed a rest, did he get a pension? Not at all. The unfortunate man who could no longer do his day's work, who was unable to earn a shilling by practice, who must go on until he died, and die in the ditch as many had done, would not get a pension. The guardians said, "Yes; but resign first." The monstrous condition attached to his service was that he must give up all claim upon his masters, and place himself absolutely at their mercy, and receive what they were pleased to give him. The horrible end of the story was that in many of these cases of utterly broken-down medical men who had been compelled by necessity of the law to place their resignation in the hands of the Board of Guardians no pension whatever was given, with the result that many of the men had ended their lives in the workhouse, and been attended there by their brother professional men as paupers. The consequence was that in many instances they held on, and he had records of medical men in charge of these immense districts, 80 or 85 years of age, who had to travel thirty or forty miles from district end to district end, and they could imagine how a public medical service would be managed by members of their profession who had arrived at that age. This, he contended, was a state of things which only ignorance of it would permit to exist. Also, if a man wants a holiday he has to pay another man to perform his duties. The Local Government Board insists that a man shall have the right to from one to four weeks, but they have not been able to make it compulsory upon the local body to pay the substitute. A system under which a man was debarred by his employment from physical and mental rest reacted upon the poor masses and required the very closest investigation and profound reform. In Ireland during the last few years they had been in the midst of a grave crisis, because it had almost come to a medical strike; hundreds of men were willing to do so, but, when you put it to a man in a poor district, he thinks twice about it. In conclusion, he was glad, on what possibly might be the last occasion on which he should address the Council, that this matter had been brought forward by himself, and he hoped the Council would accede to the request conveyed in the resolution, and refer the whole question to a Committee.

Sir Victor Horsley felt honoured in being asked to second the resolution. As Sir William Thomson had so eloquently placed the facts before the Council, he (Sir Victor Horsley) would endeavour to show why the Council should do what was asked. The Committee would not have to find facts. They were all contained in Sir William Thomson's report published some years ago, and in the recent report of the British Medical Association, which constituted a volume in itself. The Council was statutorily the intervening body between the central Government and the public, and it was its duty to approach the Government so soon as it had made up its mind what it could do practically; and it could only make up its mind after it had received the report from the Committee. The Council in its statutory position demanded that every medical practitioner should obtain a certain degree of knowledge before he was qualified for registration, and he held it was morally bound to help them in their lives afterwards. It seemed to him that this was a subject which was itself its best advocate. He was not like Sir William Thomson, whose speech might have been the speech of a dying swan. His (Sir Victor Horsley's) certainly was, and therefore, although he regretted exceedingly he should not be present to take part in the discussion when the Committee reported, at any rate he would have the pleasure of reading their report, which he hoped the Council would receive favourably.

Sir Christopher Nixon did not think any member of the Council would regret more than he that Sir Victor Horsley was a dying swan. It would be impossible to estimate the loss which the Council and the profession would sustain if he retired from that body whose work had been so much influenced by him, and he (Sir Christopher Nixon) sincerely trusted that Sir Victor Horsley would reconsider the decision he had announced to the Council and would long remain a member of it. He, Sir Christopher Nixon, thought it a matter of consideration for the Council as to whether it should not take some steps in order to ameliorate the condition of the Irish Poor-law medical officers. Any Committee appointed must be careful not to offend local bodies charged with the administration of the Poor Law, as they were very susceptible of their powers being interfered with; but there was a way which he was sure would be carefully thought over by which, having regard to those susceptibilities, some *via media* might be found.

Mr. Jackson said the great difficulty was, could the Council take the matter up? As guardians of the public health, in seeing that men who go in for that work were properly educated, he thought it could.

Sir John Moore informed the Council that this matter had been before his College over and over again, and he personally had taken part in deputations to the authorities on the subject. He would vote for the motion, although he was not sanguine that good would come of it.

Sir Thomas Myles thought the motion had for its motive force the sympathy for their professional brethren in Ireland. A great many of the men who took their appointments were fresh from the schools, and they took the positions in natural ignorance of the terrible future which lay before them. The language Sir William Thomson had used could in no way be described as an exaggeration of the terrible conditions under which these men laboured, as he (Sir Thomas Myles) felt so strongly on the subject that he scarcely trusted himself to speak.

Sir John Williams had every sympathy for their brethren in Ireland, but the Council, so far as he could see, had no *locus standi* to interfere, and, therefore he could not support the motion. He thought the matter should be referred to their legal advisers for their opinion.

Sir Patrick Heron Watson had no conception of the horrible state of things which obtained in the West of Ireland, and could not understand why men went there.

Dr. Bruce supported the motion, and hoped the Committee would see its way to devise some means of dealing with a state of things which was a disgrace to civilization.

Professor Saundby was in thorough accord with the view that it was the duty of the Council to help the profession when it could by making representations to the Government, but doubted whether it was the business of the Council to do what was suggested.

The President stated that he had been asked definitely whether the motion was in order. Although he was quite clear that the motion as a motion was in order, yet he was not clear that a committee of inquiry appointed by the Council could ascertain the facts in such a way as to enable the Council to act hereafter.

Dr. Pye-Smith would vote against the motion on the ground of the incompetency of the Council to act in the matter. If it were in their power he was sure every member of Council would be glad to do so, but they must be very cautious in treading outside the powers vested in them by Act of Parliament.

Dr. Norman Moore thought they would effect Sir William Thomson's desire better by not passing the resolution, and by not entering into a matter which, as Dr. Pye-Smith had said, they were not legally competent to deal with.

Sir William Thomson thanked the members for the sympathetic way in which the motion had been received. He agreed there was a doubt as to the competency of the Council to deal with the matter, and with the consent of his seconder he would withdraw the motion until next May, and in the meantime the legal advisers could be consulted.

Sir Victor Horsley assented.

The President said if the motion was withdrawn he would take the opportunity to consult the legal advisers of the Council as to whether it was in the power of the Council to appoint a committee for such a purpose.

With the consent of the Council the motion was withdrawn.

End of Session.

The Council then proceeded to consider a motion by Dr. Finlay with regard to the Standing Orders affecting the Penal Cases Committee.

Dr. Pye-Smith moved, Dr. Norman Moore seconded, and it was resolved that the discussion take place *in camera*, and strangers were directed to withdraw.

Subsequently the minutes were read and confirmed, and the proceedings terminated.

☞ *To ensure the insertion of notices in this column they must be received at the Central Offices of the Association not later than the first post on Tuesday.*

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

BIRMINGHAM BRANCH: CENTRAL DIVISION.—A special and general meeting of the Division will be held at the Medical Institute on Tuesday, December 12th, at 4 p.m. Business: (1) To receive the report of the Executive Committee on the Co-ordination of Scientific Work. (2) Also the Report on Ambulance Work. (3) To nominate one or two persons for selection by the Association as Direct Representatives on the General Medical Council. (4) To empower the Executive Committee to approach Members of Parliament and others on questions or proposals affecting the Profession. (5) To consider the recommendations of the Report on Contract Practice, SUPPLEMENT, July 22nd.—E. D. KIRBY, Honorary Secretary.

DORSET AND WEST HANTS BRANCH: WEST DORSET DIVISION.—A meeting of the Division will be held on Wednesday, December 13th, at 3 p.m., at the County Hospital, Dorchester. Agenda: (1) To receive the report of the Representative of the Division or the Representative Meeting at Leicester. (2) To consider matters referred to the Divisions (see SUPPLEMENTS to JOURNALS). (3) General business. (4) Medical and Surgical Notes by the Honorary Staff of the County Hospital. The Chairman of the Committee has been kind enough to place the male convalescent ward at the disposal of the Division for the purposes of the meeting.—J. COMYNS LEACH, Honorary Secretary, Sturminster Newton.

LANCASHIRE AND CHESHIRE BRANCH: LEIGH DIVISION.—A meeting of the Scientific Section of this Division will be held in the Co-operative Rooms, Ellesmere Street, Leigh, on Thursday, December 14th, at 3.30 p.m.—J. CLAY BECKITT, Honorary Secretary.

LANCASHIRE AND CHESHIRE BRANCH: LEIGH DIVISION.—The usual monthly meeting will be held on Thursday, December 21st, in the Co-operative offices, at 8.30 p.m.—MICHAEL J. HALTON, Honorary Secretary.

METROPOLITAN COUNTIES BRANCH: HAMPSTEAD DIVISION.—The next meeting of this Division will be held at the North-West London Hospital, Kentish Town Road, N.W., on Friday, December 15th, at 8.30 p.m.; Mr. F. R. Humphreys in the chair. Agenda:—Clinical Lecture by J. Jackson Clarke, F.R.C.S. On some Practical Points in the Treatment of Tuberculosis of the Spine and Joints. A case of Congenital Dislocation of the Hip will also be shown in the course of treatment. N.B.—The discussion on the Royal Charter is unavoidably postponed.—R. A. YELD, Honorary Secretary, 29, Platt's Lane, Hampstead, N.W.

METROPOLITAN COUNTIES BRANCH: ST. PANCRAS AND ISLINGTON DIVISION.—The next meeting will be held on Friday, January 19th, 1906, at University College Hospital, at 4 p.m., when Dr. Henry Kenwood, Medical Officer of Health of Stoke Newington, will open a discussion on Disinfection in Rooms occupied by the Infectious Sick.—WYNN WESTCOTT, Honorary Secretary.

METROPOLITAN COUNTIES BRANCH: WANDSWORTH DIVISION.—An ordinary meeting will be held on Thursday, December 14th, at the Battersea Town Hall, at 8.45 p.m. Agenda: (1) Minutes. (2) Correspondence. (3) Questions. (4) Short address by Sir William Broadbent, Bart., on the aims and objects of the British Medical Benevolent Fund. (5) Resolution for Representative Meeting re premises of the Association. (6) Report of Subcommittee, with subsequent discussion, on the Contract Practice Report of the Medico-Political Committee. (7) Other business. All medical practitioners resident within the area of the Division will receive an invitation to attend a small dinner, to be held at Stanley's, to meet Sir William Broadbent, and the meeting subsequently.—E. ROWLAND FOTHERGILL, Honorary Secretary, Torquay House, Southfields, S.W.

METROPOLITAN COUNTIES BRANCH: WESTMINSTER DIVISION.—A meeting of the Division will be held on Thursday, January 18th, 1906, at 20, Hanover Square, at 8.30 p.m.—W. KNOWSLEY SIBLEY, Honorary Secretary.

SOUTH-EASTERN BRANCH: NORWOOD DIVISION.—A clinical meeting will be held on Thursday, December 14th, at 4 p.m., at the House and Dispensary for Sick Children, Lower Sydenham, Mr. G. C. Parnell, of Forest Hill, in the chair. The Staff have kindly promised to show cases. Members desirous of exhibiting cases are requested to communicate with the Honorary Secretary at once. Agenda: (1) Minutes of last meeting: (2) To decide when and where the next meeting shall be held, and to nominate a member of the Division to take the chair thereat. (3) Communication from Metropolitan Counties Branch re Midwives Act.—HENRY J. HANNEY, Honorary Secretary, ARTHUR W. SOPER, Assistant Honorary Secretary.

SOUTH-WESTERN BRANCH: TRURO DIVISION.—The next meeting will be held in the second week of January, 1906, at the Miners' Hospital, Redruth. Members wishing to read papers or notes of cases are requested to notify the Honorary Secretary before December 21st. As the present day of meeting (Thursday) seems to be inconvenient to some members, especially to those in the Penzance district, the Honorary Secretary will be glad to hear any suggestions as to an alteration.—MARK R. TAYLOR, Honorary Secretary.

SOUTH-EASTERN BRANCH: TUNBRIDGE WELLS, HASTINGS, AND SEVENOAKS DIVISIONS.—A meeting will be held at the General Hospital, Tunbridge Wells, at 5.30 p.m., on Wednesday, December 13th. Address by Dr. G. H. Savage on The Borderlands of Insanity. Dinner at the Calverley Hotel at 7.15 p.m., charge 6s., exclusive of wine. Members wishing to read papers or show cases are requested to communicate with EDWIN A. STARLING, Chillingworth House, Tunbridge Wells.

SOUTH WALES AND MONMOUTHSHIRE BRANCH.—A meeting of the Branch will be held on Thursday, December 14th, at the Cardiff Royal Infirmary, at 8.30 p.m. (by kind invitation of the Committee of Management), for the reading and discussion of papers. The next meetings will be held on March 8th, at Cardiff, and June 14th, at Swansea.

CENTRAL MIDWIVES BOARD.

A SPECIAL meeting of the Central Midwives Board was held on November 30th, at 6, Suffolk Street, Pall Mall, with Dr. F. H. CHAMPNEYS in the chair.

A MIDWIFE STRUCK OFF THE ROLL.

The following charges alleged against Mary Ann Coit, a certified midwife, were heard:

That being in attendance on a confinement on August 16th, 1905, and subsequent days, she was guilty of negligence in the following respects: That she disobeyed Rule E 11, which makes her responsible for the cleanliness and comfort of the patient during the lying-in period, by neglecting to wash the patient for a period of nineteen hours after the birth of the child; that she disobeyed Rule E 2 by not taking to the confinement the appliances thereby required, and in particular a clinical thermometer; and that she disobeyed Rules E 17 and 19 (*b*) by failing to notify to the local supervising authority within twelve hours the fact that medical assistance having been sent for and the reason of the necessity thereof.

In this case the Board ordered the removal of the name of the midwife from the roll.

MIDWIVES CENSURED AND WARNED.

The following charges alleged against Elizabeth Fetch, a certified midwife, were then heard:

That being in attendance on a confinement on August 23rd, 1905, and subsequent days, she was guilty of negligence in the following respects: That she disobeyed Rule E 11, by neglecting to visit the patient after August 27th, until sent for by the husband on August 31st; that she disobeyed Rule E 17, by not declining to attend alone and advising that a registered medical practitioner should be sent for, in a case of illness of the patient; that she disobeyed Rule E 2, by not taking to the confinement the appliances thereby required, and in particular a clinical thermometer; that she habitually disobeyed Rule E 10 (*a*), by not keeping a register of cases in the proper form.

In this case the Board decided that the midwife was to be censured.

The following charges alleged against Annie Broomhead, a certified midwife, were then heard:

That being in attendance at a confinement on July 8th, 1905, and subsequent days, she was guilty of negligence and misconduct in the following respects: That she disobeyed Rule E 6, by leaving the patient after the commencement of the second stage of labour, and that she disobeyed Rule E 17 (*b*), by not declining to attend alone and advising that a registered medical practitioner should be sent for in the case of an arm presentation.

In this case the decision of the Board was that the midwife was to be warned to be more careful in future.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

SURGEONS M. CAMERON, M.B., J. D. S. MILLS, M.B., K. H. JONES, M.B., W. J. CODRINGTON, M.B., F. BOISSIER, M.B., and J. H. FERGUSSON, whose first commissions date from November 29th, 1897, are promoted to be Staff Surgeons, November 29th.

The following appointments have been made at the Admiralty: EDWARD B. PEARSON, Fleet Surgeon, to the Medical department of Vernon, undated; ROBERT H. MARSH, Surgeon, to the Victory, for disposal, December 1st; CHARLES A. S. [illegible], Staff Surgeon, to the Victory, December 4th; MATTHEW J. O'KEEFFE, Staff Surgeon, to the Victory, December 4th; GEORGE A. S. MILLS, M.B., Surgeon, to the Victory, December 4th; JOHN WILSON, Surgeon, to the Victory, December 4th; CHARLES K. BUSHE, M.D., Surgeon, to the Victory, December 4th.

CONRAD DE J. CAREY, M.B., naval practitioner, has been appointed Surgeon and Agent at Guernsey. NORMAN [illegible] and BERTRAM THORNTON, civil practitioner, has been appointed Surgeon and Agent at Margate, November 28th.

ROYAL ARMY MEDICAL CORPS (MILITIA).

LIEUTENANT H. H. B CUNNINGHAM, Reserve of Officers (late Royal Irish Fusiliers), to be Lieutenant, December 2nd.

ARMY MEDICAL RESERVE.

SURGEON-LIEUTENANT-COLONEL G. H. [illegible], M.D., having resigned his commission in the Volunteers, ceases to belong to the Army Medical Reserve, December 6th.

IMPERIAL YEOMANRY.

SURGEON-LIEUTENANT H. S. [illegible], M.B., Bedfordshire Regiment, to be Surgeon-Captain, September 1st.

ROYAL GARRISON ARTILLERY (VOLUNTEERS).

SURGEON-LIEUTENANT (Honorary Captain in the Army, Honorary Major

Militia) C. J. J. HARRIS, M.D., from the 1st Surrey (South London) Volunteer Rifle Corps, to be Surgeon-Lieutenant in the 7th Lancashire Regiment (the Manchester), December 2nd.

VOLUNTEER RIFLES.

SURGEON-LIEUTENANT-COLONEL G. F. ENGLAND, 2nd Volunteer Battalion the Lincolnshire Regiment, is granted the honorary rank of Surgeon-Colonel, December 2nd.

Surgeon-Captain (Surgeon-Captain, Army Medical Reserve) T. BEARD, from the 4th (Stirlingshire) Volunteer Battalion Princess Louise (Argyll and Sutherland Highlanders), to be Surgeon-Captain, December 2nd.

KRISHNA MORESHWAR PARDHY to be Surgeon-Lieutenant in the 1st Volunteer Battalion the Duke of Cornwall's Light Infantry.

Surgeon-Captain F. J. M'CANN, M.D., 1st Middlesex (Victoria and St. George's) Volunteer Rifle Corps, resigns his commission.

Surgeon-Lieutenant J. F. FERGUS, M.D., 2nd Volunteer Battalion the Highland Light Infantry, resigns his commission.

Surgeon-Captain A. S. TINDAL, M.D., 3rd Lanarkshire Volunteer Rifle Corps, resigns his commission, December 2nd.

Surgeon-Captain H. B. T. MORGAN, M.D., 1st London (City of London) Volunteer Rifle Corps, resigns his commission, November 20th.

Surgeon-Lieutenant ST. J. F. BLAKE-CAMPBELL, 1st Cadet Battalion the King's Royal Rifle Corps, to be Surgeon-Captain, November 20th.

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

CAPTAIN W. M. STEINTHAL, Manchester Companies, Northern Command, resigns his commission, December 2nd.

JOHN INNES, M.B. (late Quartermaster and Honorary Lieutenant), to be Lieutenant, Aberdeen Companies, Scottish Command, December 2nd.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

IN seventy-six of the largest English towns, including London, 7,730 births and 5,005 deaths were registered during the week ending Saturday last, December 2nd. The annual rate of mortality in these towns, which had been 15.6, 15.5, and 17.9 per 1,000 in the three preceding weeks, declined again last week to 16.7 per 1,000. The rates in the several towns ranged from 5.2 in King's Norton, 6.9 in Grimsby, 8.7 in Bournemouth, 9.5 in Devonport and in Barrow-in-Furness, 9.6 in Ipswich, and 10.0 in Southampton and in Wallasey to 21.1 in Wigan, 21.3 in Liverpool, 21.6 in Gateshead, 21.8 in Derby, 22.5 in Wolverhampton, 22.6 in Merthyr Tydfil, 23.3 in Tynemouth, 24.1 in Bootle, and 26.6 in Rochdale. In London the rate of mortality was 18.1 per 1,000, while it averaged 16.1 per 1,000 in the seventy-five other large towns. The death-rate from the principal infectious diseases averaged 1.3 per 1,000 in the seventy-six large towns; in London also this death rate was equal to 1.3 per 1,000, while among the seventy-five other large towns the rates ranged upwards to 2.6 in Wolverhampton and in Rotherham, 2.7 in Middlesbrough, 3.0 in Gateshead, 3.7 in West Hartlepool, 3.9 in Blackburn, 4.2 in Bootle, 4.5 in Preston, and 4.8 in Rochdale. Measles caused a death-rate of 1.1 in Willesden and in Swansea, 1.3 in Birmingham, 1.6 in Blackburn, 2.1 in Middlesbrough, and 4.1 in Preston; scarlet fever of 1.2 in Rochdale; diphtheria of 1.6 in Blackburn, 2.2 in West Hartlepool, and 2.5 in Bootle; whooping-cough of 1.5 in Burnley, 1.7 in Gateshead, and 2.4 in Rochdale; "fever" of 1.8 in Wigan; and diarrhoea of 1.1 in Salford and 1.7 in Rotherham. No fatal case of small-pox was registered last week either in London or in any of the large provincial towns, and no small-pox patients were under treatment in the Metropolitan Asylums Hospitals last week. The number of scarlet-fever patients in these hospitals and in the London Fever Hospital, which had been 4,154, 4,120, and 4,127 at the end of the three preceding weeks, had declined again to 4,021 at the end of last week; 375 new cases were admitted during the week, against 494, 425, and 470 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS.

DURING the week ending Saturday last, December 2nd, 871 births and 628 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had been 17.5, 17.5, and 21.9 per 1,000 in the three preceding weeks, declined to 18.7 per 1,000 last week, but was 2.0 per 1,000 above the mean rate during the same period in the seventy-six large English towns. Among these Scotch towns the death-rates ranged from 12.8 in Paisley, and 13.5 in Edinburgh, to 24.5 in Greenock, and 25.7 in Dundee. The death-rate from the principal infectious diseases in these towns averaged 1.8 per 1,000, the highest rates being recorded in Dundee and Greenock. The 323 deaths registered in Glasgow included 16 which were referred to measles, 4 to diphtheria, 3 to whooping-cough, and 5 to diarrhoea. Two fatal cases of whooping-cough and 2 of diarrhoea were recorded in Edinburgh. Eleven deaths from measles, 4 from diarrhoea, and 2 from scarlet fever occurred in Dundee; 3 from diarrhoea in Aberdeen; 2 from measles in Paisley, and 4 from measles in Greenock.

HEALTH OF IRISH TOWNS.

DURING the week ending December 2nd, 517 births and 361 deaths were registered in six of the principal Irish towns, as against 456 births and 376 deaths in the preceding period. The annual death-rates in these towns, which had been 20.5, 15.9, and 20.6 per 1,000 in the three preceding weeks, fell to 19.9 per 1,000 in the week under notice, this figure being 3.2 per 1,000 higher than the mean annual rate in the seventy-six English towns for the corresponding period. The figures ranged from 7.8 in Waterford and 10.8 in Londonderry to 24.0 in Cork and 27.3 in Limerick. The zymotic death-rate during the same period and in the same six Irish towns averaged 0.3 per 1,000, or 1.2 per 1,000 lower than during the preceding period, the same figures, 1.5, being recorded in Dublin and Belfast, while Cork, Londonderry, Limerick, and Waterford registered no deaths under this heading at all. The total record for the 22 urban districts was, scarlet fever 1, whooping-cough 3, diphtheria 1. To enteric fever 6 deaths were ascribed in all.

BRITISH MEDICAL ASSOCIATION LIBRARY.

BOOKS NEEDED TO COMPLETE SERIES:

The Librarian will be glad to receive any of the following volumes, which are needed to complete series in the Library:

American Climatological Transactions. Vols. 1, 4, 5, 6.
——— Dermatological Association Transactions. Vols. 5, 7, 8, and 11.
——— Journal of the Medical Sciences. New series, vols. 4, 5, 1842-3; vols. 14, 15, 1847-8; vols. 18-30, 1850; vol. 33, 1857; vol. 46, 1864-5; vol. 59; or any parts of these vols.
——— Journal of Ophthalmology. Vols. 1-9.
——— Laryngological Association. Transactions. Vols. 1-6, 8-9.
American Medical Association. Transactions. 1-28, 30, 31.
——— Otological Society. Transactions. Vol. 3, part 2, 1883.
——— Public Health Association. Transactions. Any vols.
Analyst. Vols. 1-24.
Archiv für Dermatologie und Syphilis. Prior to 1874, 1892, and 1893.
Annals of Surgery. Vols. 11, 13-16 and 26-27.
Archives Générales de Médecine. 1831-9 inclusive; 1846-55 inclusive; 1857-64 inclusive; 1871.
——— of Ophthalmology. Vols. 1-3, 6, 7, 14-21.
——— of Otology. Vols. 1-7, and 20-22.
——— of Pediatrics. Vols. 1-11.
Asylum Journal of Mental Science. Vol. 1, 1854.
Bentley and Trimen. Atlas of Medicinal Plants.
British Journal of Dermatology. Vol. 2, part 3.
British Laryngological and Rhinological Association. 1900-1-2.
Caledonian Medical Journal. Vol. 1 prior to 1894.
Carmichael Essays. Laffan, 1879. Rivington, 1879.
Centralblatt für Augenheilkunde. Hirschberg. All prior to 1891, Index to 1891.
Centralbatt für Bakteriologie. Bound volumes prior to 1899.
——— für klinische Medicin. 1880-3; all 1888, 1891, No. 26; 1892, No. 17.
——— für medicinischen Wissenschaften. Vols. 1-19.
Congrès Français de Chirurgie. Transactions 1, 2, 3, 6, and 10.
——— Internat. d'Obstétrique et de Gynécologie. 3, Amsterdam, 1899.
Connecticut State Board of Health Report. Vol. xi. 1887 8.

Vacancies and Appointments.

VACANCIES.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

ABERAVON UNION.—District Medical Officer, Public Vaccinator, and Medical Officer of Health. Combined salary, £60 per annum and fees.

BANGOR: CARNARVONSHIRE AND ANGLESEY INFIRMARY.—House-Surgeon. Salary, £80 per annum, increasing to £100.

BIRMINGHAM; GENERAL HOSPITAL.—(1) House Physician; (2) House-Surgeon. Salary, £50 per annum each.

BOURNEMOUTH: ROYAL VICTORIA HOSPITAL.—House-Surgeon. Salary, £100 per annum.

BRIGHTON: ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN.—House-Surgeon. Salary, £80 per annum.

BRIGHTON: SUSSEX COUNTY HOSPITAL.—Second House-Surgeon and Assistant Anæsthetist. Salary, £60 per annum.

CAMBRIDGE BOROUGH.—Medical Officer of Health. Salary, £450 per annum.

CLAPHAM MATERNITY HOSPITAL, Jeffrey's Road, S.W.—Junior Resident Medical Officer (female).

DUBLIN: DR. STEEVENS'S HOSPITAL House-Surgeon. Salary, £100 per annum.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—(1) Assistant Surgeon; (2) Casualty Officer, salary, £200 per annum; (3) House-Surgeon, salary, £20 for six months and £2 10s. washing allowance.

LIVERPOOL INFIRMARY FOR CHILDREN.—Assistant House-Surgeon. Salary, £25 for six months.

MANCHESTER CHILDREN'S HOSPITAL, Pendlebury.—Visiting Surgeon. Honorarium, £100 per annum.

MIDDLESEX HOSPITAL. Medical Officer and Registrar to the Cancer Wing. Salary, £100 per annum.

MARGATE: ROYAL SEA-BATHING HOSPITAL.—Honorary Assistant Visiting Surgeon.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Junior House Physician. Salary, £50 per annum.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney Road, N.E.—House-Physician. Salary at the rate of £60 per annum.

NORTHAMPTON GENERAL HOSPITAL. House-Physician. Salary, £100 per annum.

NORWICH: NORFOLK AND NORWICH HOSPITAL.—Second Assistant House-Surgeon. Honorarium, £20 for six months.

PLYMOUTH: SOUTH DEVON AND EAST CORNWALL HOSPITAL.—Assistant House Surgeon. Salary, £50 per annum.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.—(1) Assistant Anæsthetist; (2) Clinical Assistants.

SALFORD ROYAL HOSPITAL.—(1) Senior House-Surgeon; (2) House-Physician; (3) Junior House-Surgeon. Salary, £110, £100, and £90 per annum respectively.

SEAMEN'S HOSPITAL, Greenwich.—(1) Two Assistant Physicians; (2) Two Assistant Surgeons; (3) One Assistant Ophthalmic Surgeon; (4) One Assistant Physician for Diseases of the Skin; (5) One Assistant Physician for Diseases of the Throat, Nose, and Ear.

STOCKPORT INFIRMARY.—(1) House Surgeon: (2) Assistant House and Visiting Surgeon. Salary £100 and £80 per annum respectively.

ST. PETER'S HOSPITAL FOR STONE, Henrietta Street, W.C.—Out-patient Clinical Assistants.

WANDSWORTH UNION INFIRMARY.—Male Junior Assistant Medical Officer. Salary at the rate of £100 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces vacancies in the office of Certifying Factory Surgeon at Retford, County Nottingham; Wilmslow, County Chester; Stigloton, County Sussex; Chudleigh, County Devon; Alford, County Aberdeen.

APPOINTMENTS.

BALLANTYNE, H. S., M.B., C.M.Edin., Certifying Factory Surgeon for the Dalkeith District, co. Edinburgh.

BATES, G. L., L.R.C.P., M.R.C.S., L.D.S., Dental Surgeon to St. Thomas's Hospital.

BATTLE, Charles J., L.R.C.P., M.R.C.S., Indian Medical Officer to Stanger-Kearsney Circle and to Central Hospital, Stanger (correction).

BLAKENEY, J. H., M.R.C.S., L.R.C.P., District Medical Officer of the Cheltenham Union.

CATON, J. W., M.B., District Medical Officer of the Epsom Union.

DAWSON, H. K., M.D.Durh., District Medical Officer of the Epsom Union.

ELKINGTON, E. A., M.S.Lond., Certifying Factory Surgeon for the Newport District, co. Salop.

HEARDER, Frederic P., M.D., Medical Superintendent to the Yorkshire Inebriate Reformatory, Cattal.

LUMSDEN, J. H., M.B., C.M.Aberd., Certifying Factory Surgeon for the Denny District, co. Stirling.

PEARCE, George Harper, D.P.H.Camb., L.R.C.P., L.R.C.S.E., L.F.P.S.G., reappointed Medical Officer of Health to the Darton Urban District Council.

RIMELL, Alfred Tom, M.D.Durh., Medical Officer and Public Vaccinator to the 3rd, 4th, and 10th districts of the Tendring Union, Essex.

WALSH, Leslie H., M.D., B.S.Durh., Physician to Bellott's Mineral Water Hospital, Bath.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to insure insertion in the current issue.

DEATH.

RANKIN.—At Springfield Villa, Dundonald Road, Kilmarnock, on November 26th, Dr. James Rankin, in his 75th year.

DIARY FOR NEXT WEEK

MONDAY.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square, W., 8.30 p.m.—Discussion on the Modern Methods of Diagnosis in Kidney Disease, introduced by Mr. Hurry Fenwick.

TUESDAY.

MEDICO-LEGAL SOCIETY, 22, Albemarle Street, W., 8.15 p.m.—Paper: Dr. F. J. Smith: *Post-mortem* Examinations which do not Reveal the Cause of Death.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY, 20, Hanover Square, W., 8.30 p.m.—The continuation of the discussion on the Tuberculin Treatment of Tuberculosis.

WEDNESDAY.

DERMATOLOGICAL SOCIETY OF LONDON, 11, Chandos Street, 4.45 p.m.—Special meeting to consider proposal for the amalgamation of medical societies of London: 5.15 p.m., ordinary meeting. Cases and Specimens.

HUNTERIAN SOCIETY, London Institution, 8.30 p.m.—Discussion on the Colon in Health and Disease. Short papers will be read by Dr. Tregellis Fox and Mr. Hugh Lett.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C., 5 p.m.—Bradshaw Lecture by Mr. H. T. Butlin, F.R.C.S. Subject: Carcinoma is a Parasitic Disease.

THURSDAY.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM, 11, Chandos Street, Cavendish Square, W.—8 p.m.: Card Specimens: 8.30:—Papers, Dr. D. Matheson Mackay: The Light Sense in Strabismus, especially in the Amblyopia of Strabismus. Mr. F. Richardson Cross: Krönlein's Operation for Tumours of the Orbit (5 cases). Mr. Stephen Mayou: On Cyclops.

FRIDAY.

EPIDEMIOLOGICAL SOCIETY OF LONDON, 11, Chandos Street, W., 8.30 p.m.—Paper: Dr. Arthur Newsholme. The Relative Importance of the Constituent Factors Involved in the Control of Pulmonary Tuberculosis.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN, 11, Chandos Street, W., 5.30 p.m.—Discussion on Pleural Effusions, Serous and Purulent. Openers:—Pathology: Dr. J. S. Emanuel (Birmingham). Symptomatology: Dr. G. A. Sutherland. Treatment: Dr. E. Hobhouse (Brighton), and Mr. P. Lockhart Mummery.

POST-GRADUATE COURSES AND LECTURES.

CHARING CROSS HOSPITAL, Thursday, 4 p.m.—Post-Graduate Course: Surgical Cases.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.—Wednesday, 4 p.m. Lecture: On the Element of Prognosis in Pulmonary Tuberculosis.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, London, W.C.—Thursday, 4 p.m. Infantile Paralysis.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week at 4 p.m. each day: Monday, Skin; Tuesday, Medical; Wednesday, Surgical; Thursday, Surgical; Friday, Eye. Lectures at 5.15 p.m. each day will be given as follows: Monday, Signs of Insanity. Tuesday, Acute Pneumonia. Wednesday, Diseases of the Gall Bladder and Bile Ducts. Thursday, Signs of Insanity.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Tuesday, 3.30 p.m., Acute Anterior Poliomyelitis. Friday, Gait in Nervous Diseases.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Tottenham Hospital, N., 4.30 p.m.—Wednesday, Milkborne Disease: Thursday, Lecture-Demonstration on X-Ray Work.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone Road, N.W.—Thursday, 3 p.m., The Treatment of Sterility.

UNIVERSITY COLLEGE HOSPITAL, Gower Street, W.C.—Wednesday, 4 p.m., Clinical lecture on Ulcer of the Cornea with Hypopyon.

WEST LONDON POST-GRADUATE COLLEGE, West London Hospital, Hammersmith Road, W.—The following lectures and demonstrations have been arranged for next week at 5 p.m. each day: Monday, Acute Pneumonia. Tuesday, Practical Surgery. Wednesday, Practical Medicine. Thursday, Anaesthetics. Friday, Iritis: Its Varieties and Treatment.

BOOKS, ETC., RECEIVED.

The Animal Parasites of Man. By Max Braun. Third edition. Translated from the German by Pauline Falcke, brought up to date by L. W. Sambon, M.D., and Fred V. Theobald, M.A. London: John Bale, Sons and Danielsson. 1000. 21s.

Organic Evolution. By C. W. Saleeby, M.D. London: T. C. and E. C. Jack. 1s.

The Mastery of Death. By A. Osborne Eaves. London: Philip Wellby. 1906. 2s 6d.

The Science of the Larger Life. A Selection of Essays from the Works of Ursula N. Gestefeld. Edited by two English Students. London: Philip Wellby. 1905. 3s. 6d.

His Majesty. By H. D. C. Pepler. With an Introduction by E. Vipont Brown, M.D.Lond. London: Headley Bros. 6d.

The Royal London Ophthalmic Hospital Reports. Vol. xvi. Part III. October, 1905. Edited by William Lang, F.R.C.S.Eng. London: J. and A. Churchill. 5s.

The London University Guide, 1906. Containing the Regulations for Examinations to be held in 1906 and 1907. London: University Tutorial Press, Limited.

The Medical Epitome Series. Edited by Victor Cox Pedersen, A.M., M.D. London: Hodder and Stoughton.

- Nervous and Mental Diseases. With an Appendix on Insomnia by Joseph Darwin Nagel, M.D. 4s.
- Anatomy. By Henry E. Hale, A.M., M.D. 4s.
- Toxicology. By Edwin Welles Dwight, M.D. 4s.
- Medical Diagnosis. By Austin W. Hollis, M.D. 4s.
- Surgery. By M. D'Arcy Magee, A.M., M.D., and Wallace Johnson, Ph.D., M.D. Appendix on X-Ray Work in Surgery by Edward O. Parker, A.M., M.D. 4s.
- Diseases of the Skin. By Alfred Schalek, M.D. 4s.
- Microscopy and Bacteriology. By P. E. Archinard, A.M., M.D. 4s.
- Normal Histology. By John R. Wathen, A.B., M.D. 4s.
- Genito-Urinary and Venereal Diseases. By Louis E. Schmidt, M.So., M.D. 4s.
- Obstetrics. By W. P. Manton, M.D. 4s.
- Physiology. By Theodore C. Guenther, M.D. 4s.
- Diseases of the Eye and Ear. By Arthur N. Alling, M.D., and Ovidus Arthur Griffin, B.S., M.D. 4s.
- Physics and Inorganic Chemistry. By Alexius McGlannan, M.D. 4s.
- Clinical Diagnosis and Urinalysis. By James Rae Arneill, A.B., M.D. 4s.
- Pediatrics. By Henry Enos Tuley, A.B., M.D. 4s.
- Organic and Physiologic Chemistry. By Alexius McGlannan, M.D. 4s.

Der Einfluss der Zentrale der Berliner Rettungsgesellschaft auf die Krankenversorgung Berlins. Von Prof. Dr. Georg Meyer. Abdruck aus dem Klinischen Jahrbuch. Jena: Gustav Fischer. 1905. M. 1.80.

Counsels and Ideals from the Writings of William Osler. By C. M. B. Camac. Oxford and London: [illegible]. 4s.

Lunacy Practice. A Practical Guide for the Certification and Detention of Persons of Unsound Mind [illegible]. By W. [illegible]. London: Simpkin, Marshall, Hamilton, Kent and Co., Ltd. 20s. 6d.

Manuel d'Electrothérapie et d'Electrodiagnostic. Par le Dr. E. Arthur Weil. Deuxième édition. Paris: Felix Alcan. 1906. Fr. 4.

Das Wesen des menschlichen Seelen- und Geisteslebens. Von Dr. Berthold Kern. Berlin: August Hirschwald. 1905. M. 7.40.

The Source of the Blue Nile. By Arthur [illegible] Hayes, L.S.A. Lond., and an Entomological Appendix by E. P. Poulton, LL.D., F.R.S. London: Smith, Elder and Co. 1905. 10s. 6d.

*** In forwarding books the publishers are requested to state the selling price.

CALENDAR OF THE ASSOCIATION.

Month.	Day of Week.	Meetings to be Held.
Dec.	10...Sunday..	
,,	11...MONDAY ...	
,,	12...TUESDAY ..	LONDON: Organization Committee, 10.30 a.m. Birmingham Branch, Medical Institute, 4 p.m. Bradford Division, *Yorkshire Branch*, Eye and Ear Hospital, Bradford, 8.30 p.m.
..	13...WEDNESDAY	Central Council, 2 p.m. South-Eastern Branch, Council, 3.15 p.m., 429, Strand, W.C. Bradford Division, *Yorkshire Branch*, Annual Whist Drive, Supper, and Dance, Victoria Hotel, Bradford, 8 p.m. Tunbridge Wells, Hastings, and Sevenoaks Divisions, *South-Eastern Branch*, General Hospital, Tunbridge Wells, 5.30 p.m.; Dinner, Calverley Hotel, 7.15 p.m. West Dorset Division, *Dorset and West Hants Branch*, County Hospital, Dorchester, 3 p.m.
..	14 ..THURSDAY...	Leigh Division, *Lancashire and Cheshire Branch*, in the Co-operative Rooms, Ellesmere Street, Leigh, Scientific Section, 3.30 p.m. Norwood Division, *South-Eastern Branch*, Home and Infirmary for Sick Children, Lower Sydenham, 4 p.m. South Wales and Monmouthshire Branch, Stepney Hall, Llanelly, 3 p.m.; Branch Council, 2 p.m. Wandsworth Division, *Metropolitan Counties Branch*, Battersea Town Hall, 8.45 p.m.
..	15...FRIDAY ...	LONDON: Ethical Committee, 2 p.m. Hampstead Division, *Metropolitan Counties Branch* North-West London Hospital, Kentish Town Road, 8.30 p.m.
..	16...SATURDAY...	
..	17...Sunday..	
..	18 ..MONDAY ...	
..	19...TUESDAY ...	
..	20...WEDNESDAY	
..	21...THURSDAY..	Leigh Division, *Lancashire and Cheshire Branch*, Co-operative Offices, 8.30 p.m.
..	22...FRIDAY ...	
	23...SATURDAY...	
..	24...Sunday..	
..	25...MONDAY ...	*Christmas Day.*
..	26...TUESDAY ..	*Boxing Day*
	27...WEDNESDAY	
.	28 ..THURSDAY...	
.	29...FRIDAY ...	
.	30 ..SATURDAY...	
..	31...Sunday..	
1906.		
Jan.	1...MONDAY ...	
..	2...TUESDAY ...	
,,	3 ..WEDNESDAY	
..	4 ..THURSDAY...	Swansea Division, *South Wales and Monmouthshire Branch*, General Hospital, Swansea, 3 p.m.
..	5...FRIDAY ...	
.	6...SATURDAY...	
..	7...Sunday..	
,,	8...MONDAY ...	
,,	9 ..TUESDAY ...	
.	10...WEDNESDAY	
..	11...THURSDAY ...	
,,	12...FRIDAY ...	
,,	13.. SATURDAY ...	

Month.	Day of Week.	Meetings to be Held.
Jan.	14 ..Sunday..	
,,	15...MONDAY ...	
,,	16...TUESDAY ...	
,,	17...WEDNESDAY	Central Council, 2 p.m.
,,	18 ..THURSDAY...	City Division, *Metropolitan Counties Branch*, 4 p.m. Westminster Division, *Metropolitan Counties Branch*, 20, Hanover Square, 8.30 p.m.
,,	19...FRIDAY ...	St Pancras and Islington Division, *Metropolitan Counties Branch*, University College Hospital, 4 p.m.
,,	20...SATURDAY ...	
,,	21...Sunday..	
,,	22...MONDAY ...	
,,	23...TUESDAY ...	
,,	24...WEDNESDAY	
,,	25...THURSDAY...	Wandsworth Division, *Metropolitan Counties Branch*, Balham Hotel, 8.45 p.m.
,,	26...FRIDAY ...	
,,	27...SATURDAY ...	
,,	28...Sunday..	
,,	29...MONDAY ...	
,,	30...TUESDAY ..	
,,	31 ..WEDNESDAY	Bath and Bristol Branch, Bristol.
Feb.	1...THURSDAY...	Swansea Division, *South Wales and Monmouthshire Branch*, General Hospital, Swansea, 3 p.m. Wandsworth Division, *Metropolitan Counties Branch*, Bolingbroke Hospital, 4 p.m.
,,	2 ..FRIDAY ...	
,,	3...SATURDAY...	
,,	4 ...Sunday..	
,,	5...MONDAY ...	
,,	6...TUESDAY ...	
,,	7...WEDNESDAY	
,,	8...THURSDAY ...	
,,	9...FRIDAY	
,,	10 ..SATURDAY ..	
..	11 .. Sunday..	
,,	12...MONDAY ...	
,,	13 ..TUESDAY ...	
,,	14 ..WEDNESDAY	
,,	15 ..THURSDAY ...	
,,	16 ..FRIDAY ...	
,,	17...SATURDAY ..	
,,	18 ..Sunday..	
,,	19...MONDAY ...	
,,	20...TUESDAY ...	
,,	21 ..WEDNESDAY	
..	22...THURSDAY ..	City Division, *Metropolitan Counties Branch*, 4 p.m. Wandsworth Division, *Metropolitan Counties Branch*, Battersea Town Hall, 3 p.m.
,,	23...FRIDAY ...	
,,	24...SATURDAY...	

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

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CONTENTS.

	Page
DECENTRALIZATION WITH EFFICIENCY. By E. ROWLAND FOTHERGILL, M.B., B.S.	345
THE HEREDITY OF INSANITY	347
PROGNOSIS IN MENTAL DISEASES	348
MEETINGS OF BRANCHES AND DIVISIONS:	
Bath and Bristol Branch: Trowbridge Division	349
North Wales Branch: North Carnarvonshire and Anglesey Division	349
" " South Carnarvon and Merioneth Division	350
Lancashire and Cheshire Branch: Altrincham Division	350
ASSOCIATION NOTICES.—BRANCH AND DIVISION MEETINGS TO BE HELD	350
NAVAL AND MILITARY APPOINTMENTS	350
VITAL STATISTICS	351
VACANCIES AND APPOINTMENTS	351
BIRTHS, MARRIAGES, AND DEATHS	351
DIARY OF THE WEEK	351
CALENDAR	352

DECENTRALIZATION WITH EFFICIENCY.

By E. ROWLAND FOTHERGILL, M.B., B.S.,
Honorary Secretary, Wandsworth Division, etc.

The Present State.

THE late President of the Association at the Metropolitan Branch dinner in June last and again at the Annual meeting at Leicester referred to the appalling amount of work that was being sent in for the Central Council and its Committees to deal with, and suggested that the only way to meet this was to induce the members to speak as little as possible at these Council meetings, otherwise the work could never be got through.

Also on many sides one hears, repeatedly, lamentations that the wheels of the Association still move slowly in spite of the great expectations raised by the new Constitution.

These two cries are really caused by the same failing and are representative of the opinions of those at opposite ends of the Association's administration.

One cannot but feel that the suggestion of the late President offers no real solution of the difficulty. In all large assemblies men will talk; and being Representatives, with constituents of various interests, they have a right to do so.

It is a question members individually and collectively must face as to whether all this congestion and stagnation does not result from their failure to organize and interlock local machinery placed ready to hand, and from a too great tendency to "look to the Government" as the cure-all and end-all of their difficulties.

The complaint that the Divisions ignore their Branch Council and look direct to the Central office is only to be expected in those areas where the Guardians, so to speak, leaving the children to get on as best they can, become to all intents and purposes absentees.

Possibly the present placing of Divisions in certain Branches may, in the light of experience, require rearranging, and also the formation of additional Branches so as to more clearly group together those areas whose medico-political conditions are similar.

But to say that Branches and Branch Councils are unnecessary, and will shortly become non-existent, can only be considered as reactionary, and by helping to congest the work centrally, will tend to deprive the members of the newly-formed lever for obtaining their due recognition; returning the Association into its former state of incompetency.

General Principles.

The endeavours of the Association should be that each Division or set of Divisions should be encouraged to deal with all matters affecting solely their own interests; and if from any cause they desire additional weight in any undertaking, they should have some inducement to apply in the first instance to their Branch Council rather than to the Central Council. As an ultimate court of appeal, the Central Council might be approached, as also in all matters affecting the principles or policy of the Association.

In the same way, in matters referring to a Branch as such, its Council should be looked to as quite capable of dealing with them, only passing on to the Central Council resolutions on topics that involved wider interests or that affected the policy of the Association. It should be considered a "sieve" to the Central Council.

The Central Council, too, should extend the powers of its Chairman (who can at present, to expedite matters, refer all communications received to the various Standing Committees), in order that he may at once communicate with that member or Division which has approached the Central Council in a matter which it appears to him could be just as efficiently dealt with, at all events, in the first instance, by the Division or its Branch Council. The Committees of the Central Council should likewise always have this possibility in their minds, and recommend accordingly.

The Probable Present State of Branch Councils.

If one takes the Metropolitan Branch as a good example to more fully explain the points, it is not because it is more advanced or less organized than any other; it is probably an average example.

When commencing our Branch Council meetings some two years ago, under the new Constitution, it was generally said the Branch Council would only be of use to the Branch for social purposes, and all other matters would be dealt with in the Divisions. I am quite convinced this should not be so. The power of a Branch Council for advancing the interests of the members is immense if used; and the Divisions would feel encouraged to refer to it many subjects of more than parochial interest, did they realize by experience that it was not a talking machine but a well organized body, prompt to take energetic action.

The Council is composed of isolated members without any individual responsibility for initiating or undertaking

anything. There is no cohesion. All are responsible, and so no one acts.

Now, the Metropolitan Branch contains every class of practitioner. We have the cream of each kind—from the pure consultant to the fourpenny doctor. Therefore we should be conversant with every scientific aspiration and each medico-political difficulty. Our latent power is immense. We have 2 600 members. The area holds 6,000 medical practitioners. One feels the complaint—that we cannot get the membership to increase to anything like its proper number—will continue until, the aims and objects of the Association being carried to each man's door, he is asked, encouraged, and allowed to help, and the machinery is changed from one of loquacity to one of prompt and efficient action.

Over two years' experience has shown that the Metropolitan Branch Council is doing little or no good as at present constituted. Should any Political subject require attention no one is responsible for it being put on the Agenda. One has to await a meeting (held on an uncertain date and at a most inconvenient hour) to get a Committee nominated, and the subject has to be submitted even at that stage to a preliminary discussion. The report is later sent in to be put down for another Council meeting (of still uncertain date) and is subjected to a second debate. Meanwhile, it is more than probable the opportunity for action has passed by. With regard to Science the Council does absolutely nothing.

Proposal—Standing Committees.

The proposition is that a Branch Council should be a digestive machine, and a sieve for matters from a Division to the Central Council. And the means by which this could be readily attained is the formation of Standing Committees of the Branch Council. The benefits of such Committees would be:

1. The allotting among a large number of men of the enormous responsibility now resting on the Honorary Branch Secretaries, to initiate and organize the work.
2. Machinery would exist for collecting and tabulating the suggestions and wishes of the various Divisions of a Branch on matters of more than local interest, and for taking action afterwards as considered best.
3. Matters of importance sent in by either an individual member or a Division could immediately be taken in hand, and prepared for the consideration of the Council once and for all.
4. Special Branch Council meetings would become an unknown thing.
5. Men would be trained, and so become of service as Representatives, and also on Central Committees and the Central Council itself.
6. A greatly increased number of men could be used in Sub committees, and being brought into touch with and interested in the Association, would tend to wake up the Divisions to which they belong.

Standing Ethical Committee.

There is a Branch Ethical Committee, and Divisions should be encouraged to use it when they cannot settle a matter themselves; and the Central Council might well aid in this when they have been directly appealed to by a Division about a purely local matter.

Standing Science Committee.

One would suggest a Science Committee. In this way we might reasonably expect to interest in the Association work those members of the profession who care nothing for politics, or whose age or professional success has removed them from that field of contention. This Committee might well take such matters as the following into consideration: (1) The obtaining and subsequent tabulating and publishing of information on one or more of the vast number of subjects on which general practitioners are only competent to report; which, from want of being noted, tend to be lost. Any restarting of the old Scientific venture of the Central Council by which communications were made direct to a medical practitioner, will absolutely fail. The distance between the two is too vast. This can only be safely bridged over by Branch and Division Science Committees, the latter being the one dealing with the individuals. Other matters are (2) the initiating of Branch Medical Debates; (3) the holding of a Medical Congress from time to time—the meetings of the Associations in the same area being few and far between. Such a Congress could well be held in the slack time of the year and in the afternoons. Also (4) the formation of circulating libraries; (5) the encouragement of Divisions to form local libraries; and (6) addresses to the Branch given by prominent members of the laity on allied topics, might well receive attention.

(7) Then there is the oft-repeated question how to improve our Journal, and make it of practical up-to-date use to the general practitioner, and not as at present it is considered to be—a mausoleum for the writings of brilliant specialists.

Standing Medico-Political Committee.

Another Standing Committee that is absolutely necessary in a progressive Branch is a Medico-Political Committee. A County or Borough council is constantly dealing in one way or another with medical and allied subjects, and to guide and watch their proposals would constitute a most important work. Had such a Committee as this been in working order three years ago in London, we could reasonably have expected that we should never have heard of London County Council Pathologists being obtainable from some medical schools and not from others; and it would not have required the energies of the whole Association to be concentrated to unravel and straighten out this tangled mass of medico-political interests. But our profession always does act after the event.

Even now subjects requiring action in matters of Metropolitan interest, and probably concerning other Branches, are:

1. The Saturday Hospital Fund and their proposal to engage opticians. 2. Ambulances for the use of street accidents. 3. The slipperiness of the Police when fees for emergency street calls are demanded. 4. The extraordinary belief of the great railway companies that to give ambulance lectures for nothing is a matter of absolute delight to the profession. 5. The hospital question is acute, and requires immediate co-ordinated and combined action in many localities; and so on.

Standing Organization Committee.

A fourth Committee that seems essential is an Organization Committee. It should be made very clear that by suggesting such a Committee there is no desire whatever to interfere with the local autonomy of any Division of a Branch without being specially requested. The want of organization in a Division is the cause of local hardships, and if the members do not care to bestir themselves for their own good, the loss is entirely their own. The Association as a whole will not be stopped in its progress.

The subjects of Branch interest that might well be relegated to such a Committee are these:—How to incorporate newly-qualified men so soon as they pour out of our Examination halls? How to start a Division where there seems on the face of it not even a nucleus to begin with? How to incorporate local Medical Societies? How to best develop the interests of the Association in parts of a Division unpractised in such matters? What can be done to educate medical students in the rudiments of medical ethics?

There has been a good deal of discussion of late as to the desirability of sending members into the House of Commons. At present it would seem to be a waste of funds and energy. We can get other bodies to undertake many of our wishes, and they have much more power behind them. These are County and similar Councils. If the suggested Organization Committee prepared some plan for obtaining candidates and arranging for them to stand for seats on these Councils, we might not only bring by this means great weight to bear on all Public Health deliberations, find a large number of members who could reasonably be expected to afford the necessary time for *those* posts, but also would obtain as a result that respect we seem so much as a profession to lack from the laity, as well as the voicing of our wishes in Parliament.

Another undertaking that will bring a good result is to demonstrate a practical answer to the question, How can a Branch working through its Divisions best develop the social side of its members' lives, bringing men into touch with one another, advertising the profession and its powers as a united body among those of the laity holding influential positions within its area?

Statutory Powers.

Should any one question the power of a Branch Council to act in the way suggested, Article V and By-laws 8 and 11(*a*) seem to make it clear that every Division and Branch is free to govern itself as it may think fit, except in so far as its powers are expressly limited by the regulations of the Association.

The formation of Standing Committees need in no way tie

the hands of a Council so as to prevent the formation of a Special Committee to consider any special subject.

These Committees should be small. They could co-opt other members of the Council for special purposes. Also they could form subcommittees, and so interest a large body of men. Possibly it might be found an advantage in forming such sub-committees to choose members living within easily get-atable distance of each other. Three or five men (as experts) could be relied on to thresh out and prepare a subject, and in this way in a very short space of time a very large body of members would be found to be interested. No one member can be expected to give more than a small part of his time. Concentrate such time on one or two subjects, and the combined resultant would be enormous.

Secretarial Work.

The question of the Secretarial work consequent on such a scheme will necessarily arise. Each Committee would elect its own honorary secretary, who should be entitled to engage any paid assistance he required in addressing, copying, etc.; just as a Division Honorary Secretary does at present. Each Subcommittee would also have its own Honorary Secretary. The funds are annually accumulating in many Branches. There is no excuse for tying up money when there is work to be done. A paid secretary to a Branch will probably be found a great boon eventually.

District Medical Organizing Secretaries.

At no very distant date the Association must face the question of the desirability of offices being taken at the large centres, and, except in so far as the principles and policy of the Association are concerned, placing them under the control of Organizing District Medical Secretaries responsible to a Branch or Branches. This eventuality might gradually be brought into existence by means of standing Medico-Political Committees of Branch Councils in the larger British and Colonial Branches, with Organizing Medical Secretaries who have paid clerical assistance put at their disposal.

Precedents for Decentralization.

Should it be considered necessary to advance any precedent for the suggested move forward on the part of Branch Councils, one would refer to the fact of our Mother of Parliaments delegating to Borough and County Councils the elaboration and dealing with matters of local interest; and we must also recollect that when that Parliament has refused to delegate such powers to our Kingdoms beyond the Seas and decides to interfere with local wishes, it has only resulted in resentment, antagonism, and in some cases total severance.

The Future.

The destinies of a Branch are in the hands of its members, and for the moment in those of the members of its Council. We must not allow the difficulties that are directly opposite our vision to obscure the greater issues that seem at present more distant. The members rely on their officials to combine and help towards the emancipation and elevation of the profession with the ultimate hope of greater Public usefulness: they have supplied the necessary funds.

For this purpose some steps must be taken to prevent the choking of the central machinery, to allow of prompt action in all matters of local interest, to develop in our members self-reliance, and to avail ourselves of the capabilities of our individual members for forwarding the aims and objects of the Association.

One must therefore look to those whose province it is to superintend the formation of the general practitioner, and to turn out educated gentlemen, as well as to all who wish to see our profession more united, more respected, better paid, and their post-graduate education advanced; to lend a helping hand in their own Branch, and so give the whole Association, at all events in their district, a push forward along the path of progress this proposal indicates and foreshadows.

LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

Members are reminded that the Library and Writing Rooms of the Association are fitted up for the accommodation of the members in commodious apartments, at the office of the Association, 429, Strand. The rooms are open from 10 a.m. to 5 p.m. Members can have their letters addressed to them at the office.

THE HEREDITY OF INSANITY.

The following is an abstract of the discussion which followed the Presidential Address delivered by Dr. A. B. Urquhart to the Section of Psychological Medicine at the annual meeting of the British Medical Association held at Leicester in 1905. The address is published in this week's issue of the British Medical Journal at p 1571:

Dr. Hyslop (Bethlem, London) said the President had spoken none too strongly upon the question of the neglect of medical authority by those who represent the people in Parliament. The mental and physical health of the community was of the utmost importance, and, judging by the trend of matters pertaining to insanity, there was an immediate necessity for legislation. The vast increase in the numbers of the insane, the alleged prevalence of physical degeneration, and all the serious problems of poverty and disease demonstrate, or ought to demonstrate, to the public that there were retrogressions in our welfare which called for serious consideration. He deemed it necessary to urge again and again the immediate need for a more competent commission numerically to deal with the insane. Our present Commission was miserably inadequate to the necessities of the times and a disgraceful evidence of the neglect of medical authority by Parliament. The suggestion of Dr. Urquhart that the tendency to a heritage of disease would be found ultimately to depend upon a proneness to succumb to the effects of toxins was very attractive, and, excluding congenital defects of brain structure, the suggestion must be true. In normal life they inherited a degree of power for the dispersion of waste products and a power of resistance to the cumulative effects of toxins. If they did not keep the upper hand on the germ life in our bodily economy, the germs would get the better of them. In other words, if they do not consume the germs, they consume them. Hence it was that so-called terminal infection occurred, and of recent years this terminal infective process as applied to insanity had given rise to various theories as to its toxic origin, whereas the real cause was to be sought in defects of the resistive mechanism. The toxins were like the rust which attacked the machinery which had run down and no longer worked with its accustomed freedom. That this tendency to diminished resistance was manifested in heredity was exemplified in many ways. As families became more unstable from a nervous point of view, there seemed to be a greater tendency for the progeny to suffer from tuberculous and other forms of infection. Idiots and imbeciles showed this in an extreme degree, and others present would bear him out that not only were individuals prone to degenerate by terminal infection but processes of heredity which gradually became more and more degenerate or nervous also became more and more readily affected by, or the prey to, the influence of germ life. The appeal for further work being done met with his entire sympathy. As a rule, they were unable to supplement their observations which were concerned with those under official cognizance by observations derived from the study of those outside asylums. Dr. Hyslop therefore proposed:

> That the Section of Psychological Medicine should pass a resolution asking the Central Council to appoint a committee for the investigation of hereditary forms of disease, and to place at the disposal of the Committee such funds as will enable them to report on the whole subject.

Dr. W. Lloyd Andriezen (London) referred to the biological aspects of heredity and variation. He pointed out that higher animals showed more stability and less plasticity than lower organisms. Mutation (a recent biological discovery) occurred in all the living world, as well as continuous variation—the form on which Darwin laid special stress. Then why not pathogenic mutation, which was probably the "diathesis" or proclivity inherited in insanity, or displayed in the proclivity to cancer and tuberculosis? The environment was also potent to cause degeneracy, insanity, and sterile extinction of an affected stock but it took three or four generations to do this. So it had been proved by Dr. Urquhart's statistics, and by Dugdale, and in the classical work on *The Jukes*. Cretinism was referred to as an instance of cerebro-physical degeneration of races produced by environment. So was the action of the slum in producing extinction of the "race of slum dwellers" in three to four generations, and yet the race of slum dwellers, like that of cretins, was kept up by fresh arrivals. It was an important economic fact that as a malign environment produced demi-cretinism and comple-cretinoid idiocy, so the slum environment produced its degenerates unto the third and fourth

generation, when they became extinct. But the two intermediate generations furnished idiots and imbeciles, feeble-minded, crippled, and young epileptics, low-grade tramps, vagrants, and prostitutes—a serious crippling of the health and resources of a State—who filled our asylums, workhouses, penitentiaries, and prisons, and were a grievous burden to the resources of the State. All these were grave problems, upon which they should speak with no uncertain voice.

Dr. Fletcher Beach (London) had been very much interested in the material contained in Dr. Urquhart's paper. Some years ago Dr. Shuttleworth and himself conducted an inquiry into the causation of 2 500 cases of idiocy and imbecility, and they found that phthisis played an important part in its production. Of course a large number of idiots and imbeciles died of phthisis, and so the particular family became extinct. The unfortunate thing, however, was that idiocy and imbecility were continually being produced, and so they always have had mental deficiency with them. In regard to maternal impressions, no doubt some cases of imbecility did result from this, but they must be on their guard against accepting this as a cause, for mothers often gave this as a cause when more severe causes had come into action, but had been concealed from the doctor by the patient. As regards consanguinity, his experience was very much the same as Dr. Urquhart's; as a factor it had not much influence, but when combined with other causes, it was an important cause. He was surprised to hear that epilepsy was comparatively infrequent in Scotland; perhaps that was the reason why so little provision was made for this afflicted class. In England, on the contrary, it was very frequent, and there were five or six institutions into which these cases were admitted. As regards the President's resolution he was in favour of it. If they wished anything to be done they must educate the public and finally the Government would take up the matter, whatever it might be.

Dr. Arthur Jackson spoke on the importance of the condition of the blood vessels in connexion with the question of heredity, and thought that Dr. Urquhart's paper recording the connexion of certain degenerative diseases with insanity bore out this view.

Dr. A. T. Schofield said: The circulatory theory adduced by Dr. Jackson reminded him strongly of a remarkable paper read in this Section at Cheltenham, where nearly all varieties of insanity were traced directly or indirectly to dyspepsia and prolonged constipation. In his mind this was a great cause of insanity. Dr. Powell has alluded to the popular indifference to heredity. The diffusion of the knowledge of the importance of heredity arousing the masses was, he feared, comparatively useless till general education had advanced further. Marriage was still too much a question of passion, with a reckless disregard of consequences. Personally, among the educated classes, he found a great advance in the sense of responsibility with regard to heredity, sometimes, indeed, amounting to morbidness, which he had had to check. He would like specially to ask Dr. Urquhart if he could give them, however roughly, the proportion of heredity in insanity. Looking at heredity as the leading predisposing cause of insanity, perhaps they may be told the proportional part it really played in producing insanity.

Dr. David Bower (Bedford) was also greatly impressed by the labour which the President must have expended on the preparation of his address and diagrams. He was specially interested that such a high percentage of hereditary predisposition had been found, and such a comparatively low, although increasing, percentage of alcoholic predispositions—this was in contrast to the usual percentages found in tables, but was in agreement with his own experience in a much smaller number of cases. This was probably accounted for by the fact that the moderate numbers Dr. Urquhart had to deal with had allowed a more complete investigation than was possible in large pauper asylums.

Dr. Johnstone (Leeds) thanked the President for his paper, and made some remarks on material impressions; eccentricity, he said might either be born with the individual on the principle of *genius nascitur non fit*, or secondly, this eccentricity might be developed during after life, for example, paranoid or progressive systematized insanity. Hereditary insanity induced by unsuitable marriages was hopeless, because even though medical men forbade such marriages, the couples had already decided to marry before they consulted the doctor and would do so in spite of him. Hereditary transmission should be dealt with in decades, comparing the manifestations in the offspring with the same decade in the ancestor.

Dr. Robert Jones (Claybury) remarked that the question of heredity was no doubt a most important one in regard to mental diseases, but he ventured to think, for reasons that were advanced, that the environment was of still greater import. They were rather apt to lose sight of the meaning of insanity in regard to heredity. There was a fundamental insanity which was distinctly transmitted, for it was an inborn variation; such was the variety "delusional insanity" founded upon some definite hallucination of the senses, and the depressed variety of insanity, which he considered also to be fundamental and transmissible, for it was a definite adaptation of the organism to its environment and the pleasure-pain reaction was a definite reflex, and was a necessary condition for existence. Such varieties as sepsis producing delirium and the confusional mental state called puerperal insanity, the overwhelming effect of a single psychosis such as a disappointment in love which precipitated a girl into an asylum, and the many modes in which vascular involution caused old persons to be placed under certificates were not, Dr. Jones maintained, those that were transmitted. He could not help stating that insanity was a product of deterioration and a condition which could be best summed in "vicious organization" and that the medical man's mission would be more successful if he used his endeavours more in improving the environment than in suppressing what were described as unsuitable marriages; prohibiting such marriages meant starving the life of a woman whilst permitting the man to enjoy, if such a description be allowed, the gratification but not the responsibilities of married life. The cure of consumption, in Dr. Jones's opinion, would do much towards the diminution of insanity. They had heard much in regard to vascular changes as connected with insanity, and the maxim that a man was as old as his arteries bore this out. The question of auto-intoxication had of course a close bearing as a cause upon vascular changes.

Mr. Evan Powell said that he should like to associate himself with the feeling which had been expressed of gratitude to the President for his valuable address, and to hope that his example would be followed by others who were engaged in this branch of work, so that their statistical information on this subject and others might be extended. He also wished to support the resolution with which the address was concluded. It was one thing, however, to collect information on subjects affecting the welfare of the race, but it was quite another to bring this information to the knowledge of the masses. What they required was some method by which they could diffuse the information they collected amongst the general public.

At the end of the discussion the resolution moved by Dr. Hyslop was duly passed.

PROGNOSIS IN MENTAL DISEASES.

The following is an abstract of the discussion which followed the reading of Dr. Robert Jones's paper in the Section of Psychological Medicine at the annual meeting of the British Medical Association held at Leicester in 1905. The paper is published in this week's issue of the British Medical Journal at p. 1578.

Dr. Hyslop said that his experience at Bethlem agreed with that of Dr. Savage—that in senile cases the prognosis depended more upon the condition of the arteries than upon the mere age. His experience with regard to adolescents was that the exhaustive psychoses were coming more and more into prominence of late years. He also urged the adoption of recording hours of sleep by sleep charts. The charts of insomnia were very instructive, and from them it was quite possible to form in some instances a fairly definite prognosis as to curability.

Dr. W. Lloyd Andriezen (London) said that death-rates should be calculated on the average number resident and not on the admissions. Dr. Jones made an estimate of 70 per cent. recoveries in early admissions, but these cases recurred year by year, and finally incurable insanity was established. Tubercle, recent, or more frequently obsolescent, was found in nearly 80 per cent. of ordinary hospital necropsies not dying of phthisis. As Hamilton said, "It must be a most curable disease." The observations of the famous hospital of Vienna bore out the above statement as regards necropsies and the frequency of traces of tuberculosis in nearly all cases. He agreed altogether with Dr. Jones as regards the incurability of paranoiacs, congenital cranks, and mattoids. These never recovered because they were tainted anomalous maldevelop-

ments of the cerebral nervous system, originating in the germ cells or in pre-embryonic life. He laid stress on the importance of heredity, and gave numerous instances of prepotency—the Hapsburg lip, the Bourbon nose, the characteristic features of nose and intellect of the Jew, the slanting orbit and oblique eyes of the Celestial, the steatopygia and tablier of the Hottentots. Pure-bred parents were prepotent in transmitting. The experience of breeders of horses, dogs, cattle, etc., universally bore out the same conclusions of prepotency. He briefly referred to the theory of determinants as enunciated by Roux, Galton, Weismann, Mendel, Weldon, and Pearson as to the chemico-physiological basis of heredity. Paranoia, *folie raissonante*, and the "degenerative insanities" from maldevelopment and anomalies of cerebral evolution (paraphrenia) were incurable for obvious reasons. He held the prognosis in insanity (exclusive of idiocy and imbecility) to be bad. Of 11 who became insane 9 died of insanity, and of the remaining two but one entirely recovered.

Dr. DAVID BOWER said he regretted that Dr. Jones's paper had had to be condensed. He had focussed their attention on several important prognostic points. He vividly placed before them the fact that insanity shortened life, which they all observed in their practice. Tuberculosis was no more frequent in asylums than amongst the general public, and cured tuberculosis was found in nine out of ten cases on the *post-mortem* table in Sir Henry Littlejohn's practice in Edinburgh when Dr. Bower was a student. Where there was a definite cause Dr. Bower believed the prospect of recovery was greater and also where there was heredity, but in this case there was a greater liability to further attacks. He was glad that Dr. Jones's experience supported him in this.

Dr. OSWALD said that in giving an opinion to the patient's friends the question of the actual duration of the illness before recovery took place was often a very difficult one to answer, and one in which a knowledge of the individuality of the patient was of most value in forming an opinion. He believed that mania was more often completely recovered from than melancholia, and doubted if the latter did not very often leave traces of its occurrence. Speaking of general paralysis and senile insanity he thought that social conditions and education might account for the different opinions regarding the prognosis in senile cases, and he agreed that a favourable condition was a healthy condition of the arteries.

Dr. JOHNSTONE (Leeds) regarded tubercle as being due to a weakening of the peripheral nerves, the pneumogastric in the lungs and ordinary peripheral nerves in tuberculous joints, etc. It might be likened to diabetes or asthma. This, however, was not so evident in chronic disease, but was easily recognizable in acute diseases, such as influenza, where rapidly the toxic effects were seen early on the vagus. Further if these effects were followed by pneumonia it was well known that if it were a left pneumonia the prognosis was bad, because the same fate might attack the cardiac branches of the vagus, and death result from cardiac failure. With respect to general paralysis of the insane, the cases were those following specific infection, which was a mild attack, and not thoroughly or very severe, where even mercurial treatment did not cure. The specific virus had a predilection for the skin and nervous system, both developed from the epiblast. Prognosis in senile insanity might be good so far as insanity was concerned, but bad as to the life of the patient; because any one with insanity over 70 years might never have another attack, the reason being that patients died of some acute or intercurrent disease before sufficient time had elapsed to allow of the recurrence of another attack of insanity.

Dr. FLETCHER BEACH agreed with Dr. Jones in believing that the earlier the age at which insanity supervened the worse the prognosis. That was true in cases in which insanity occurred before the age of 5 years, but between 5 and 10 years there was more chance of improvement. Dr. Beach did not agree with Dr. Jones in his opinion that in cases of congenital mental defect there was little chance of improvement. As far as idiots and imbeciles were concerned it was true, but it was not true with regard to the feeble-minded class. In London, where about 4 000 cases were now receiving education in special schools or classes, one-third could be sufficiently improved as to earn their living under proper supervision. Of late the Education Committee of the London County Council had established schools for older boys where they were taught trades. These schools had been attended with very great success, and they might hope as time went on, and more schools were opened, more feeble-minded patients might be able to earn their living under supervision, and many other cases though not able to earn their own living in the outside world would be able to do so in an institution where they should be retained for life. One speaker expressed an opinion that epilepsy shortened life. That was accurate as far as the epileptic insane were concerned, but he did not think it was true with regard to the sane epileptic. His experience at the Chalfont Colony for Epileptics went to show that as time went on mental weakness would show itself in some cases, but as the work was performed to a great extent in the open air the conditions were favourable to lengthen rather than to shorten life.

Meetings of Branches and Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* JOURNAL.]

BATH AND BRISTOL BRANCH:

TROWBRIDGE DIVISION.

A MEETING of this Division was held on Saturday, November 18th, at 3 p.m., at the residence of the Secretary, Trowbridge. Dr. HAYDON, Chairman, presided.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Annual Representative Meeting.—Dr. JAMES PEARSE, Divisional Representative, presented a report on the work done at the Representative Meeting at Leicester.—The thanks of the meeting were given to Dr. Pearse for his report of the proceedings.

Ambulance Fees.—A discussion was opened by Dr. C. E. S. FLEMMING on the question of fees to be charged for ambulance lectures, examinations, and competitions. The majority of the members present joined in the discussion. The decision at a previous meeting:

> That all lectures, examinations, and competitions in connexion with public bodies and technical education should be regarded as matters of business, and be charged for,

was confirmed.—It was then proposed, seconded, and carried:

> That the minimum fee to be charged to all public bodies, police, railway, and education authorities should be 1 guinea per lecture, or 5 guineas for a course of six lectures. The fees for examinations should be 2 guineas, when the number to be examined does not exceed 20: all above that number to be charged 2s. per head. The fee for judging at competitions to be at the discretion of the medical man officiating, with a minimum fee of 2 guineas.

Contract Practice.—A lively discussion on this subject was opened by Dr. J. PEARSE, and the majority of those present took part.—It was proposed, seconded, and carried unanimously:

> That in the opinion of this Division the only permanently satisfactory arrangement for contract practice will be the establishment of a Public Medical Service on the lines laid down in the report of the Medico-Political Committee.

Special Representative Meeting.—It was proposed, seconded, and carried unanimously:

> That this Division request the Chairman of the Representative Meeting to summon a special Representative Meeting at as early a date as possible after the Divisions have had time to consider the matter, to discuss the relationship of the Association to contract practice, in view of the recently-issued report.

NORTH WALES BRANCH:

NORTH CARNARVONSHIRE AND ANGLESEY DIVISION.

A MEETING of this Division was held at the British Hotel, Bangor, on December 6th, Dr. J. LLOYD ROBERTS, Colwyn Bay, in the chair.

Confirmation of Minutes.—The minutes of the last meeting were read, confirmed, and signed.

Death of Mr. W. Jones Morris.—The CHAIRMAN suitably referred to the death of Mr. Jones Morris and the great loss which the Branch and the Divisions had sustained thereby. A vote of sympathy with the relatives was passed.

Report of Branch Council.—It was reported that Mr. H. Jones Roberts had been elected to fill the vacancy on the Central Council—and that it was proposed to raise a fund for a memorial to the late Mr. Jones Morris; the form of such memorial to be again decided at a meeting of the Branch. The report was approved.

Annual Representative Meeting.—Dr. Emyr O. Price, Divisional Representative, gave a report of the proceedings of the Representativee Meting at Leicester.

Matters Referred to Division.—(1) Public Health Bill.—It was resolved that the memorandum issued by the Medico-Political Committee be sent to the members of Parliament within the area of the Division requesting their support to the Bill. (2) The Executive Committee was appointed the Special Committee to deal with Parliamentary matters. (3) Attention was drawn to the memorandum *re* school certificates. A letter was read from the Clerk of the Carnarvonshire Education Authority, to which the Honorary Secretary was directed to reply.

Specimen.—Dr. G. W. Kendall showed a specimen of knotted funis.

South Carnarvon and Merioneth Division.

A meeting of this Division was held at the Tower Hotel, Pwllheli, on December 7th. In the unavoidable absence of the Chairman and the Chairman-elect, Dr. Samuel Griffith (Portmadoc) was voted to the chair.

Confirmation of Minutes.—The minutes of the last meeting were read, confirmed, and signed.

Death of Mr. W. Jones Morris.—The Chairman referred to the sad loss the Branch and this Division in particular had sustained by the death of Mr. Jones Morris. A vote of sympathy with the relatives was passed.

Election of Honorary Secretary.—Mr. H. Gladstone Jones (Criccieth) was elected Honorary Secretary of the Division, vacant through the death of Mr. Jones Morris.

Report of Branch Council.—It was reported that Mr. H. Jones Roberts (Penygroes) had been elected to fill the vacancy on the Central Council, and that it was proposed to raise a fund for a memorial to the late Mr. Jones Morris, the form of such memorial to be again decided by a meeting of the Branch. The report was approved

Annual Representative Meeting.—Dr. Samuel Griffith, who acted as the Deputy Representative of the Division, gave a report of the work done at the Leicester meeting.

Matters Referred to the Division.—(1) Public Health Bill: Resolved, that a copy of the memorandum issued by the Medico-Political Committee be sent to the members of Parliament within the area of the Division requesting their support to the Bill. (2) The Executive Committee was appointed the Special Committee to deal with parliamentary matters. (3) Attention was drawn to the memorandum *re* school certificates. The Honorary Secretary of the Branch, who was present, was requested to reply to a circular letter from the Carnarvonshire Education Committee.

Place of Next Meeting.—Portmadoc was fixed as the place for the next meeting.

LANCASHIRE AND CHESHIRE BRANCH:
Altrincham Division.

The sixteenth general meeting was held on Thursday, December 7th, at the Board Room of the Altrincham Hospital, and was more largely attended than any previous meeting.

Discussion.—After discussing the usual routine business, Dr. Herbert opened a discussion on What is notifiable puerperal fever? in which Drs. Garstang, H. S. Renshaw, C. J. Renshaw, and Luckman took part.

Exhibits.—Dr. T. Basil Rhodes showed a new syringe, of his own design, for hypodermic and serum administration.—Dr. Knowles Renshaw showed a rhinolith removed by operation.

Paper.—Dr. Melland read a paper on the sanatorium treatment of phthisis. Dr. Hutton moved, and Dr. Knowles Renshaw seconded a vote of thanks, but owing to efflux of time the discussion on the paper had to be postponed.

Dinner.—Several of the members afterwards dined together at the Unicorn Hotel.

To ensure the insertion of notices in this column they must be received at the Central Offices of the Association not later than the first post on Tuesday.

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

Lancashire and Cheshire Branch: Leigh Division.—On Thursday, December 21st, the usual monthly meeting will be held in the Co-operative Offices, Ellesmere Street, at 8.30 p.m. Agenda: (1) Minutes. (2) The Irregular Pulse, by John Hay, M.D., M.R.C.P. Diagrams of pulse tracings will be supplied to enable members to follow the paper. (3) Any other business.—Michael J. Halton, 95, Chapel Street, Leigh, Honorary Secretary.

Metropolitan Counties Branch: Hampstead Division.—The next meeting of this Division will be held at the North-West London Hospital, Kentish Town Road, N.W., on Friday, December 15th, at 8.30 p.m.; Mr. F. R. Humphreys in the chair. Agenda:—Clinical Lecture by J. Jackson Clarke, F.R.C.S., On some Practical Points in the Treatment of Tuberculosis of the Spine and Joints. A case of Congenital Dislocation of the Hip will also be shown in the course of treatment. N.B.—The discussion on the Royal Charter is unavoidably postponed.—R. A. Yeld Honorary Secretary, 29, Platt's Lane, Hampstead, N.W.

Metropolitan Counties Branch: St. Pancras and Islington Division.—The next meeting will be held on Friday, January 19th, 1906, at University College Hospital, at 4 p.m., when Dr. Henry Kenwood, Medical Officer of Health of Stoke Newington, will open a discussion on Disinfection in Rooms occupied by the Infectious Sick.—Wynn Westcott, Honorary Secretary.

Metropolitan Counties Branch: Westminster Division.—A meeting of the Division will be held on Thursday, January 18th, 1906, at 20, Hanover Square, at 8.30 p.m.—W. Knowsley Sibley, Honorary Secretary.

South-Western Branch: Truro Division.—The next meeting will be held in the second week of January, 1906, at the Miners' Hospital, Redruth. Members wishing to read papers or notes of cases are requested to notify the Honorary Secretary before December 21st. As the present day of meeting (Thursday) seems to be inconvenient to some members, especially to those in the Penzance district, the Honorary Secretary will be glad to hear any suggestions as to an alteration.—Mark R. Taylor, Honorary Secretary.

Yorkshire Branch: Bradford Division.—A meeting of this Division, conjointly with the Bradford Medico-Chirurgical Society, will be held at the Bradford Royal Infirmary on Tuesday, December 19th, at 8 p.m. The meeting will be devoted entirely to the exhibition of clinical cases.—Andrew Little, 114, Manningham Lane; James Metcalfe, 8, Heaton Grove, Bradford, Honorary Secretaries.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE

The following appointments have been made at the Admiralty: Walter H. S. Stalkartt, M.D., Staff Surgeon, to the *Hermes*, January 1st, 1906; Francis Bolster, M.B., Staff Surgeon, to the *Indefatigable*, January 2nd; Richard F. Bate, Staff Surgeon, to the *Diadem*, for Yokohama sick quarters, December 10th; Morris C. Langford, Staff Surgeon, to the *Blake*, December 10th; Charles R. Sheward, M.B., Surgeon, to the *Hermes*, January 9th; George M. Levick, Surgeon, to the Royal Naval Hospital, Chatham, January 2nd.

Walter B. Maurice, formerly in His Majesty's Navy, who has been placed on the List of Volunteers for service in the event of war or emergency, has been restored to the rank of Staff Surgeon from May 25th, 1905; dated December 6th; Joseph Chambers, Fleet Surgeon to the *King Alfred*, January 2nd; Horace B. Marriott, Staff-Surgeon, and Douglas D. Turner, Surgeon, to the *Kent*, January 2nd; Alfred W. Iredell, Surgeon, to the *King Alfred*, December 11th; Palmer D. Ramsay, Surgeon, to the *Cornwallis*, December 11th; John G. Peebles, Surgeon, to the *King Alfred*, additional, January 2nd, and to the *Bramble*, on commissioning; Leonard P. Whitwain, Surgeon, to the *Waterwitch*, additional, January 2nd, and on commissioning; John Shipsey, Surgeon, to the *King Alfred*, additional, January 2nd, and to the *Britomart*, on commissioning.

ROYAL ARMY MEDICAL CORPS.

Colonel A. T. Sloggett, C.M.G., Principal Medical Officer of the London District, has been appointed to represent the British army at the International Congress of Medicine at Lisbon in April next.

The undermentioned officers are appointed to the command of the Station Hospitals named: Lieutenant-Colonel D. F. Franklin, Calcutta; Lieutenant-Colonel L. W. Swabey, Sitapore; Lieutenant-Colonel W. Rowney, M.D., Lucknow; Lieutenant-Colonel G. W. Brazier-Creagh, C.M.G., Bareilly; Lieutenant-Colonel E. H. Lynden-Bell, M.B., Fyzabad; Lieutenant-Colonel G. Cree, Bellary; Major G. F. H. Mares, M.D., Darjeeling.

Lieutenants R. P. Nash and G. Ormrod, M.B., who were appointed on probation from January 31st, 1905, are confirmed in that rank.

ARMY MEDICAL RESERVE.

Surgeon-Captain E. H. Tipper, 1st City of London, Royal Garrison Artillery (Volunteers), to be Surgeon-Captain, December 9th.

Surgeon-Lieutenant H. R. K. Fowler, 2nd Volunteer Battalion the Worcestershire Regiment, to be Surgeon-Lieutenant, December 13th.

NEW SOUTH WALES CONTINGENT.

The undermentioned officers were granted temporary rank in the army whilst serving in South Africa, as follows:—Army Medical Corps.—To be Colonel: Colonel W. D. C. Williams, December 2nd, 1899. To be Lieut.-Colonel: Lieut.-Colonel R. V. Kelly, February 22nd, 1900. To be Majors: Major T. H. Fiaschi, December 2nd, 1899; Majors W. L. E. Eames, A. MacCormick, and R. Scott Skirving, February 22nd, 1900. To be Captains: Captains R. E. Roth, A. E. Perkins, and T. M. Martin, December 2nd, 1899; Captains C. A. Edwards and E. P. MacDonnell, December 6th, 1899; Captain G. A. Marshall, February 7th, 1900; Captains J. Marshall and W. R. Cortis, February 10th, 1900. To be Lieutenants: Lieutenants G. S. Samuelson and J. A. Dick, February 18th, 1900; Lieutenants B. J. Newmarch, A. H. Holsfall, and N. R. Howse, February 22nd, 1900; Lieutenant J. K. Freyer, February 1st, 1901; Lieutenant H. K. Bean, February 8th, 1901; Lieutenants T. H. Barker and H. C. M. Delohery, March 4th, 1901.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

In seventy-six of the largest English towns, including London, 8,400 births and 4,816 deaths were registered during the week ending Saturday last, December 9th. The annual rate of mortality in these towns, which had been 17·6, 17·9, and 16·7 per 1,000 in the three preceding weeks, further declined to 16·1 per 1,000 last week. The rates in the several towns ranged from 7·0 in Hastings, 8·0 in Stockton-on-Tees, 8·1 in Hornsey, 9·0 in Kingston-upon-Hull, 9·1 in Norton and in Coventry, 10·2 in Brighton and in Bournemouth, and 10·5 in Leyton, to 20·8 in Barrow-in-Furness, 21·8 in Rotherham, 22·7 in Swansea, 23·4 in Preston, 23·6 in Liverpool, 25·0 in Hanley, and 25·8 in Bootle. In London the rate of mortality was 16·3 per 1,000, while it averaged 16·0 per 1,000 in the seventy-five other large towns. The death-rate from the principal infectious diseases averaged 1·2 per 1,000 in the seventy-six towns; in London this death-rate was equal to 1·4 per 1,000, while among the seventy-five large provincial towns the rates ranged upwards to 2·1 in Rhondda, 2·2 in Gateshead, 3·1 in Warrington, 3·4 in East Ham, 3·5 in Blackburn, 4·3 in Swansea, and 6·3 in Preston. Measles caused a death-rate of 1·6 in Hastings and in Blackburn, 2·2 in Swansea, and 5·4 in Preston; scarlet fever of 1·2 in Blackburn; diphtheria of 1·4 in Southampton; and whooping-cough of 1·3 in Gateshead and 2·3 in Warrington. The mortality from "fever" and from diarrhœa showed no marked excess in any of the large towns. No fatal case of small-pox was registered last week either in London or in any of the seventy-five large provincial towns, and no small-pox patients were under treatment last week in the Metropolitan Asylums Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had been 4,122, 4,147, and 4,021 at the end of the three preceding weeks, had further declined to 3,888 at the end of last week: 355 new cases were admitted during the week, against 425, 470, and 375 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS.

During the week ending Saturday last, December 9th, 828 births and 666 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had been 17·5, 21·9, and 18·7 per 1,000 in the three preceding weeks, rose again last week to 19·0 per 1,000, and was 3·8 per 1,000 above the mean rate during the same period in the seventy-six large English towns. Among these Scotch towns the death-rates ranged from 12·2 in Perth and 15·8 in Paisley to 25·1 in Dundee and 33·4 in Greenock. The death-rate from the principal infectious diseases averaged 2·3 per 1,000 in these towns, the highest rates being recorded in Dundee and Greenock. The 301 deaths in Glasgow included 20 which were referred to measles, 2 to diphtheria, 3 to whooping cough, 1 to typhus, and 4 to diarrhœa. Two fatal cases of diarrhœa were recorded in Edinburgh. Fifteen deaths from measles and 4 from whooping-cough occurred in Dundee; and 9 from measles, 4 from scarlet fever, and 4 from diarrhœa in Greenock.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, December 9th, 471 births and 362 deaths were registered in six of the principal Irish towns as against 517 births and 3[illegible] deaths in the preceding period. The annual death-rate in these towns, which had been 15·0, 20·6, and 19·0 per 1,000 in the three preceding weeks, fell to 18·6 per 1,000 in the week under notice, this figure being 2·3 per 1,000 higher than the mean annual rate in the seventy-six English towns for the corresponding period. The figures ranged from 15·0 in Limerick and 17·4 in Londonderry to 21·5 in Belfast and 22·8 in Dublin. The zymotic death-rate during the same period in the same six Irish towns averaged 0·9 per 1,000, or 0·6 per 1,000 higher than during the preceding period, the highest figure—1·9—being recorded in Waterford, while Limerick registered 1·0 deaths under this heading at all. To typhus fever 2 deaths were ascribed, 1 to Belfast, 1 in Tralee. In Dungheda 1 death from small-pox occurred. Throughout Ireland the whooping cough rate is beginning to rise.

Vacancies and Appointments.

VACANCIES.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

ABERAYRON UNION.—District Medical Officer, Public Vaccinator, and Medical Officer of Health. Combined salary, £70 per annum and fees.

BANGOR: CARNARVONSHIRE AND ANGLESEY INFIRMARY.—House-Surgeon. Salary £80 per annum, increasing to £100.

BIRMINGHAM AND MIDLAND FREE HOSPITAL FOR SICK CHILDREN.—(1) Resident Medical Officer. (2) Resident Surgical Officer. Salary, £60, rising to £80 per annum each.

BRISTOL ROYAL INFIRMARY.—Pathologist, Bacteriologist and Director of Clinical Laboratories. Salary, £250 per annum.

BRISTOL: UNIVERSITY COLLEGE.—Professor of Pathology.

CAMBRIDGE BOROUGH.—Medical Officer of Health. Salary, £450 per annum.

CHELSEA HOSPITAL FOR WOMEN, Fulham Road, S.W.—Resident Medical Officer. Salary, £80 per annum.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.—House-Physician. Honorarium £25 for six months.

GLASGOW EYE INFIRMARY.—Pathologist and Bacteriologist. Salary £[illegible].

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—(1) Assistant Surgeon. (2) Casualty Officer, salary, £[illegible] per annum. (3) House-Surgeon, salary, £20 for six months and £7 10s washing allowance.

ITALIAN HOSPITAL, Queen Square, W.C.—House-Surgeon. Salary at the rate of £60 per annum.

LIVERPOOL INFIRMARY FOR CHILDREN.—Assistant House-Surgeon. Salary, £25 for six months.

MANCHESTER: ANCOATS HOSPITAL.—Honorary Visiting Medical Officer to the Convalescent Home at Warland.

MARGATE: ROYAL SEA BATHING HOSPITAL.—Honorary Assistant Visiting Surgeon.

NORTHAMPTON GENERAL HOSPITAL.—House-Physician. Salary £100 per annum.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon for the new Branch, Hyson Green. Salary, £160 per annum.

RYDE: ISLE OF WIGHT COUNTY HOSPITAL.—Resident Male House-Surgeon. Salary, £90.

SALFORD ROYAL HOSPITAL.—(1) Senior House-Surgeon; (2) House-Physician; (3) Junior House-Surgeon. Salary, £[illegible] and £[illegible] per annum respectively.

TOTTENHAM HOSPITAL.—Honorary Surgical Registrar.

UNIVERSITY OF LONDON.—Professor of Protozoology. Salary, £700 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces a vacancy in the office of Certifying Factory Surgeon at Battle, county Sussex.

APPOINTMENTS.

BLAND-SUTTON, J., F.R.C.S., Surgeon to the Middlesex Hospital.

CLARKE, Sidney H., M.A., M.B., B.C.Cantab., Assistant Medical Officer to the Newport Borough Asylum, Caerleon, Mon.

CLUTTERBUCK, L. A., M.B., B.S.Durh., M.R.C.P.Lond., Honorary Physician to the St. Marylebone General Dispensary.

COOPER, H. S., M.R.C.S., L.R.C.P., District Medical Officer of the Peterborough Union.

COWELL, W. I., L.R.C.P. and S.Irel., Second Resident Assistant Medical Officer for the Workhouse and Infirmary of the Hackney Union.

EDMUNDS, Arthur, M.B., M.S., F.R.C.S., Surgeon in charge of Out-patients, Great Northern Central Hospital, Holloway Road.

HANDLEY, W. Sampson, M.S., M.D., F.R.C.S., Assistant Surgeon to the Middlesex Hospital.

HEATH, P. M., F.R.C.S., reappointed Surgical Registrar to University College Hospital.

HEATON, Charles James, M.R.C.S., L.R.C.P., Honorary Visiting Surgeon to the Royal Sea-bathing Hospital, Margate.

RAY, John Howson, Ch.M.Vict., F.R.C.S.Eng., Honorary Assistant Surgeon to the Manchester Royal Infirmary.

TERRY, P. McKenna, L.R.C.P. and S.Edin., L.F.P.S.Glasg., District and Workhouse Medical Officer of the Alverstoke Parish.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 5s. 6d., which sum should be forwarded in postage stamps with the notice not later than Wednesday morning, in order to ensure insertion in the current issue.

BIRTH.

GOSSAGE.—On the 6th December, at 64, Upper Berkeley Street W., the wife of Alfred M. Gossage, M.B., F.R.C.P., of a son.

MARRIAGE.

DAWSON—BOYD.—On December 6th, at St. Luke's, West Norwood, Ernest Beaney Dawson, L.R.C.P., M.R.C.S., of Leyton, son of Benjamin Dawson, B.A., Lond., formerly of Fore Manor, Hampstead, and nephew of the late George Dawson, of Birmingham, to Alice, only daughter of Charles Boyd, of West Norwood.

DEATHS.

LYNASS.—On December 5th, at his residence, 80, Great Victoria Street, Belfast, suddenly, Dr James Lynass.

PAYNE.—On Thursday, November 30th, at Barford, Warwick, William Arthur Payne, M.A., M.B., B.Ch.Oxon.

DIARY FOR NEXT WEEK.

TUESDAY.

CHELSEA CLINICAL SOCIETY, Chelsea Dispensary, Manor Street, Chelsea, S.W.—8 p.m.: Exhibits. 8.30 p.m.: Dr. Wm. Ewart: Steps in the Evolution of Serous Pleurisy, with special reference to Intraserous Injections. Dr. Harvey Hilliard: Ethyl Chloride and Chloroform Mixture as a Substitute for Pure Chloroform.

PATHOLOGICAL SOCIETY OF LONDON, 20, Hanover Square, W., 8.30 p.m.—Experimental Pathology meeting.

THERAPEUTICAL SOCIETY, Apothecaries' Hall, Blackfriars, 4.30 p.m.—H. Wippell Gadd: The Constituents and Properties of the Leaves of Vaccinium Myrtillus. Dr. Wilfred Bain Chesterman: Sea-sickness and its Medical Treatment.

POST-GRADUATE COURSES AND LECTURES.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week at 4 p.m. each day: Monday, Skin: Tuesday, Medical: Wednesday, Surgical: Thursday, Surgical. Lectures at 5.15 p.m. each day will be given as follows: Monday, Pneumonia. Wednesday, Diseases of the Gall Bladder and Bile Duct.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, 7, Fitzroy Square, W. Out-patients' Department: Thursday, 5 p.m.—Post-graduate Lecture: Some After-effects of Anæsthetics.

NORTH EAST LONDON POST-GRADUATE COLLEGE, Tottenham Hospital, N., 4.30 p.m. Wednesday. Instruction for Practitioners.

CALENDAR OF THE ASSOCIATION.

Month.	Day of Week.	Meetings to be Held.
Dec.	15 ..Friday ...	London: Ethical Committee, 2 p.m. Hampstead Division, *Metropolitan Counties Branch* North-West London Hospital, Kentish Town Road, 8.30 p.m.
,,	16...Saturday...	
,,	...Sunday..	
,,	18...Monday ...	
,,	19...Tuesday ..	Scottish Committee, Station Hotel, Stirling, 2.30 p.m. London: Council of the Metropolitan Counties Branch, 5 p.m. Bradford Division, *Yorkshire Branch*, in conjunction with Bradford Medico-Chirurgical Society, Bradford Royal Infirmary, 8 p.m.
,,	20...Wednesday	
,,	21...Thursday..	Leigh Division, *Lancashire and Cheshire Branch*, Co-operative Offices, Ellesmere Street, 8.30 p.m.
,,	22...Friday ...	
,,	23...Saturday...	
,,	24...Sunday..	
,,	25...Monday ...	*Christmas Day.*
,,	26...Tuesday ...	*Boxing Day.*
,,	27...Wednesday	
,,	28...Thursday...	
,,	29...Friday ...	
,,	30...Saturday...	
,,	31...Sunday..	
1906.		
Jan.	1...Monday ...	
,,	2...Tuesday ...	
,,	3...Wednesday	
,,	4...Thursday...	Swansea Division, *South Wales and Monmouthshire Branch*, General Hospital, Swansea, 3 p.m.
,,	5...Friday ...	
,,	6 ..Saturday...	
,,	7...Sunday..	
,,	8...Monday ...	
,,	9 ..Tuesday ...	
,,	10 ..Wednesday	London: Journal and Finance Committee, 2.30 p.m.
,,	11...Thursday ...	
,,	12...Friday ..	Hampstead Division, *Metropolitan Counties Branch.*
,,	13...Saturday ...	
,,	14 Sunday..	
,,	15 ..Monday ...	
,,	16...Tuesday ...	Science Committee, 2.30 p.m., London.
,,	17...Wednesday	Central Council, 2 p.m.
,,	18 ..Thursday...	City Division, *Metropolitan Counties Branch*, 4 p.m. Westminster Division, *Metropolitan Counties Branch*, 20, Hanover Square, 8.30 p.m.
,,	19...Friday ...	St Pancras and Islington Division, *Metropolitan Counties Branch*, University College Hospital, 4 p.m.
,,	20...Saturday ...	

Month.	Day of Week.	Meetings to be Held.
Jan.	21...Sunday..	
,,	22...Monday ...	
,,	23...Tuesday ...	
,,	24...Wednesday	
,,	25...Thursday...	Wandsworth Division, *Metropolitan Counties Branch*, Balham Hotel, 8.45 p.m.
,,	26...Friday ...	
,,	27...Saturday ...	
,,	28...Sunday..	
,,	29...Monday ...	
,,	30...Tuesday ...	
,,	31...Wednesday	Bath and Bristol Branch, Bristol.
Feb.	1...Thursday...	Swansea Division, *South Wales and Monmouthshire Branch*, General Hospital, Swansea, 3 p.m. Wandsworth Division, *Metropolitan Counties Branch*, Bolingbroke Hospital 4 p.m.
,,	2 ..Friday ...	
,,	3...Saturday...	
,,	4 ...Sunday..	
,,	5...Monday ...	
,,	6...Tuesday ...	
,,	7...Wednesday	
,,	8...Thursday ...	
,,	9...Friday ..	Hampstead Division, *Metropolitan Counties Branch.*
,,	10 ..Saturday ...	
,,	11... Sunday..	
,,	12...Monday ...	
,,	13...Tuesday ...	
,,	14...Wednesday	
,,	15 ...Thursday ...	
,,	16...Friday ...	
,,	17...Saturday ...	
,,	18 ..Sunday..	
,,	19...Monday ...	
,,	20...Tuesday ...	
,,	21...Wednesday	
,,	22...Thursday..	City Division, *Metropolitan Counties Branch*, 4 p.m. Wandsworth Division, *Metropolitan Counties Branch*, Battersea Town Hall, 3 p.m.
,,	23...Friday ...	
,,	24...Saturday...	
,,	25... Sunday..	
,,	26...Monday ...	
,,	27...Tuesday ...	
,,	28...Wednesday...	Bath and Bristol Branch, Bath.

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

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CONTENTS.

	Page
PROCEEDINGS OF COUNCIL	353
PROCEEDINGS OF STANDING COMMITTEES:	
Medico-Political Committee	354
Irish Committee	355
Colonial Committee	355
Public Health Committee	356
Poor-law Special Committee	356
Hospitals Committee	356
MEETINGS OF BRANCHES AND DIVISIONS:	
Cape of Good Hope: Eastern Province Branch	357
Lancashire and Cheshire Branch: Liverpool (Northern) Division	357
" " " Manchester & Salford Division	357
Metropolitan Counties Branch: Croydon Division	358
North of England Branch: South Shields Division	358
South-Eastern Branch: Canterbury and Faversham Division	358
" " " Norwood Division	358
" " " Tunbridge Wells, Hastings, and Sevenoaks Divisions	359
Southern Branch: Salisbury Division	359
South Midland Branch: Aylesbury Division	359
Staffordshire Branch	359
Yorkshire Branch: Bradford Division	359
ASSOCIATION NOTICES.—Branch and Division Meetings to be Held	359
BIRTHS, DEATHS, AND MARRIAGES IN IRELAND	360
CENTRAL MIDWIVES BOARD	361
NAVAL AND MILITARY APPOINTMENTS	361
VITAL STATISTICS	362
VACANCIES AND APPOINTMENTS	363
BIRTHS, MARRIAGES, AND DEATHS	363
BOOKS, ETC., RECEIVED	363
CALENDAR	364

ASSOCIATION INTELLIGENCE.

PROCEEDINGS OF COUNCIL.

At a meeting of the Council held, by kind permission of the Metropolitan Asylums Board, London, in their Board Room, on Wednesday, December 13th, 1905, at 2 o'clock in the afternoon,

Present:

Dr. H. W. Langley Browne, Chairman of Council, in the Chair.
Mr. G. C. Franklin, President.
Dr. William Collier, Oxford, Past-President.
Sir Victor Horsley, F.R.S., Chairman of Representative Meetings.
Dr. H. Radcliffe Crocker, Treasurer.

Dr. John Ford Anderson, London.
Dr. Michael Beverley, Norwich.
Dr. T. R. Bradshaw, Liverpool.
Dr. J. Brassey Brierley, Old Trafford.
Dr. R. Cochrane Buist, Dundee.
Professor J. W. Byers, M.D., Belfast.
Dr. W. A. Carline, Lincoln.
Mr. Andrew Clark, D.Sc., London.
Dr. James Craig, Dublin.
Mr. E. J. Domville, Exeter.
Mr. George Eastes, M.B., London.
Dr. E. L. Fox, Plymouth.
Dr. John H. Galton, Upper Norwood.
Dr. Joseph J. Giusani, Cork.
Dr. Bruce Goff, Bothwell.
Dr. David Goyder, Bradford.
Dr. J. Groves, Carisbrooke.
Dr. James Hamilton, Glasgow.
Dr. T. Arthur Helme, Manchester.
Mr. R. H. Kinsey, Bedford.
Dr. C. G. Drummond Morier (South Australian Branch), London.
Mr. Edmund Owen, London.
Mr. C. H. W. Parkinson, Wimborne Minster.
Dr. Edwin Rayner, Stockport.
Mr. H. Jones Roberts, Penygroes.
Mr. B. Betham Robinson, M.S., London.
Dr. J. Maxwell Ross, Dumfries.
Dr. E. Markham Skerritt, Bristol.
Professor W. R. Smith, M.D. (Malta and Mediterranean Branch), London.
Mr. W. D. Spanton, Hanley.
Mr. C. R. Straton, Salisbury.
Mr. John Lynn Thomas, C.B., Cardiff.
Mr. H. G. Thomasz (Colombo, Ceylon Branch), London.
Dr. W. J. Tyson, Folkestone.
Mr. T. Jenner Verrall, Brighton.
Dr. Norman Walker, Edinburgh.
Dr. Arthur T. Wear, Newcastle-on-Tyne.
Lieutenant-Colonel E. M. Wilson, R.A.M.C., Farnborough.

The minutes of the last meeting having been printed and circulated, and no objection received, were taken as read and signed as correct.

Read letters of apology for non-attendance from Dr. Edgar Barnes, Dr. G. W. Crowe, Professor Finlay, Dr. R. McKenzie Johnston, Dr. C. W. Marriott, Dr. James Murray, Professor Osler, F.R.S., Professor Saundby, and Fleet Surgeon Lloyd Thomas, R.N.

The Chairman of Council welcomed Lieut.-Colonel E. M. Wilson, C.B., C.M.G., Representative of the Army Medical Service, and Mr. H. Jones Roberts, Representative of the North Wales and Shropshire and Mid Wales Branches, *vice* Dr. W. Jones Morris, deceased.

Moved by Dr. Maxwell Ross, and

Resolved: That this Council regrets to learn of the death of Dr. Robert Somerville of Galashiels, and to place on record its high appreciation of the valuable services he rendered to the Association. Dr. Somerville represented the Border Counties Branch on the Council from 1893 to 1903, was a Past-President of that Branch, and took an active interest in the organization of the annual meeting of the Association when it met at Carlisle in 1896.

Moved by the Past-President, seconded by Sir Victor Horsley, and

Resolved: That the Council of the British Medical Association regrets to learn of the death of Sir John Burdon-Sanderson, Bart., M.D., F.R.S., and desires to place on record its high appreciation of his valuable life-work in the advancement of medical science. Sir John Burdon-Sanderson for many years took an active interest in the work of the Scientific Grants Committee. He gave the address in physiology in 1873, when the Association met in London, and filled the office of President of the Section of Physiology in 1875 at Edinburgh.

Moved by Mr. Lynn Thomas, and

Resolved: That this Council regrets to learn of the death of Colonel Pearson R. Cresswell, C.B., F.R.C.S., and to place on record its high appreciation of the work he has done on behalf of the Association. Colonel Cresswell was a member of the Council as far back as 1872, and at the time of his death was a Representative on the Council for the South Wales and Monmouthshire Branch. He was elected a member of the Journal and Finance Committee when it was first formed in 1872, and filled the office of Vice-President of the Section of Surgery in 1875, when the Association met in Cardiff.

Read acknowledgement to the resolution of condolence passed at the last meeting in reference to the death of Dr. W. Jones Morris, which was ordered to be entered on the minutes.

Moved by the Chairman of Council, seconded by the Treasurer, and

Resolved: That this Council desires to congratulate Sir James Barr, M.D., Sir Thomas Chavasse, M.D., and Sir Arthur Chance, F.R.C.S.I., on receiving the honour of Knighthood at the hands of His Majesty the King.

Resolved: That at the Toronto meeting the joint section, Anatomy and Physiology, be divided into two sections for Anatomy and Physiology respectively.

Resolved: That the Council approve of an address being given in State Medicine.

The Chairman of Council reported receipt of a resolution from the Local Executive of the Leicester Meeting, expressing appreciation of the assistance rendered by the General Secretary, which was ordered to be entered on the minutes.

Resolved: That the minutes of the Premises and Library Committee be received.

Owing to important information which has reached the Chairman of Council since this meeting, publication of the recommendations of the Premises and Library Committee is deferred.

Resolved: That the minutes of the Irish Committee be received.

Resolved: That the minutes of the Hospitals Committee and of the Joint Hospitals Committee be received.

Resolved: That the minutes of the Colonial Committee be received.

Moved by Mr. Edmund Owen and

Resolved: That this Council regrets to learn that the members of the Malta Branch are dissatisfied with the assurance of the Colonial Secretary that no slur was intended or cast upon the members of the Maltese Lunacy Committee by the appointment of Major Lawson to the Committee, and that the Chairman of the Colonial Committee be requested again to approach the Colonial Secretary in the hope of obtaining a reconsideration of the case.

Resolved: That the Ceylon Branch be informed that since it first forwarded the "Ordinance to Provide for the Registration of Medical Practitioners in Ceylon," this Council has received from the Colonial Office a later print of the Ordinance, embodying the amendments desired by the Council.

Resolved: That the Council, having considered Clause 13 as proposed to be introduced into the Medical Registration Act, 1905, for the Bermudas or Somers Islands, is of opinion that any medical practitioner duly registered within the United Kingdom ought to be able to enter any British Colony or Dependency, and be entitled to practise on producing evidence of his registration in the United Kingdom. The Council would further point out that it has already urged His Majesty's Secretary of State for the Colonies as to the expediency of registering in any Colony or Dependency only those medical qualifications which are registrable in the United Kingdom.

Resolved: That the minutes of the Poor Law Special Committee be received.

Resolved: That the minutes of the Medico-Political Committee be received.

Moved by Dr. Buist, and

Resolved: That the name of Dr. T. Arthur Helme be added to the Medico Political Committee.

Resolved: That in the constituency of each member of Parliament who has conspicuously supported or opposed the policy of the Association in matters affecting the profession, the Medical Secretary be instructed to inform the medical profession of the action taken by the Member of Parliament.

Moved by Dr. Buist, seconded by Sir Victor Horsley, and

Resolved: That a Central Emergency Fund for dealing with disputes in cases of contract practice, and otherwise, under the management of the Medico-Political Committee, be created by voluntary subscription.

Moved by Dr. Buist, seconded by Mr. Straton, and

Resolved: That in view of the fact that the rules framed by the Central Midwives Board, under Section 3 of the Midwives Act, 1902, remain in force only until August 12th, 1906, steps be taken to obtain the views of the Divisions in England with regard to the same in order that any desired alterations or additions may be submitted to the Central Midwives Board and the General Medical Council.

Resolved: That the minutes of the Public Health Committee be received.

Resolved: That the following resolution passed in the State Medicine Section regarding the utility of hospital isolation be referred to the Public Health Committee:

That as doubt has arisen as to the value of hospital isolation in the prevention of scarlet fever, it is desirable that a full inquiry into the subject should be made; and that the Local Government Board be respectfully requested to institute such inquiry.

Proceedings of Standing Committees.

MEDICO-POLITICAL COMMITTEE.

A meeting of the Medico-Political Committee was held at the office of the Association, on Wednesday, November 22nd, 1905, when there were present: Dr. R. C. Buist, in the chair, Sir Victor Horsley, F.R.S. (Chairman of Representative Meetings), Mr. H. W. Armit, Dr. J. H. Hunter, Dr. H. A. Latimer, Dr. J. A. Macdonald, Dr. L. S. McManus, Dr. H. F. Oldham, Mr. C. H. Watts Parkinson, Dr. Cecil E. Shaw, Mr. C. R. Straton.

Vacancy on Committee.

The Chairman drew attention to the death of Mr. Jones Morris, which had occurred since the last meeting of the Committee, and it was agreed *nem. con.* to nominate Dr. T. Arthur Helme to fill the vacancy.

Fees to Hospital Surgeons for Medical Evidence at Inquests.

A letter was read from a coroner forwarding a copy of a letter written by him to the County Council with respect to payments for *post-mortem* examinations by infirmary house-surgeons.

It was resolved:

That the Committee express their obligation to the coroner in question for bringing the matter to their notice, and their appreciation of his desire to do justice in his official capacity to the medical profession, and greatly regret that the only way to secure that proper recognition of professional services, which the coroner desires, appears to the Committee as at present advised to be through an amendment of the law.

That the coroner's attention be drawn to the Coroners Bill, and that, with respect to the suggestion to approach the Lord Chancellor, he be informed that this has already been done.

Selection of Candidates for the General Medical Council.

A communication was read from a metropolitan Division of the Association stating that Clause 2 of the declaration to be signed by candidates for the membership of the General Medical Council was likely to exclude many desirable candidates, and asking the Committee and the Central Council to consider whether it would not be desirable to amend the clause, so as not to restrain from independent action the representatives elected. It was resolved that the Division be informed that the matter having been definitely decided by the Representative Meeting at Oxford could only be altered by a resolution of a Representative Meeting. The clause referred to is as follows:

I agree, further, that if nominated by the Association and elected as a Direct Representative on the General Medical Council I will, in my capacity as such representative, endeavour in every way in my power to give effect to the wishes and opinions of the British Medical Association as lawfully declared for the time being by the bodies constitutionally authorized to declare such wish and opinions.

Action of the Council Respecting Recommendations of the Committee.

The Chairman reported that the Council had decided that a special committee should be formed for the preparation and submission of evidence to the Royal Commission on the Poor Law, and that the Council had referred the question of inserting warning notices as an advertisement in other medical periodicals to the Journal and Finance Committee for consideration and report.

Parliamentary Subcommittee.

The minutes of the Parliamentary Subcommittee of October 18th and November 8th were received.

Action of Members of Parliament in Medical Matters.

It was resolved:

That in the constituency of each Member of Parliament who has conspicuously supported or opposed the policy of the Association in matters affecting the profession, the Medical Secretary be instructed to inform the medical profession of the action taken by the Member of Parliament.

The Chairman and Secretary were directed to prepare a list of such Members of Parliament and circulate it to the Committee for suggestions.

Questions for Parliamentary Candidates.

It was resolved that the medical inspection of school

children should be added to the list of subjects suggested for use by Divisions in interviewing parliamentary candidates.

CONTRACT PRACTICE SUBCOMMITTEE.

It was resolved:

That the following gentlemen, nominated by the Sub-committee, be elected Members of the Subcommittee: Mr. W. J. Greer, Dr. A. A. Mackeith, and Dr. R. H. Wolstenholme.

The following minute of the Subcommittee was approved:

That it be recommended that provision should be made in the local rules constituting a Branch Emergency Fund for the possible ultimate use of such funds in other areas than those for which they were originally provided, and that the Medico-Political Committee should consider the advisability of instituting a General Emergency Fund in connexion with the Association.

It was further resolved that it be recommended to the Council that a Central Emergency Fund, under the management of the Medico-Political Committee, be created by voluntary subscriptions. The Committee also decided that if the foregoing recommendation be approved by the Council, the Contract Practice Subcommittee be instructed to prepare a scheme.

THE MIDWIVES ACT.

The minutes of the Midwives Subcommittee of October 27th were received.

CONSTITUTION OF MIDWIVES BOARD.

The minute of the Representative Meeting indicating that the Central Midwives Board did not contain a sufficient number of general practitioners was read and noted as a matter for consideration in any proposed amendment of the Midwives Act.

CONTROL OVER DRUGS BY MIDWIVES.

With respect to Minute 206 (*d*) of the Representative Meeting, suggesting that control over drugs should be withheld from those midwives who have not passed an examination, it was resolved:

That in the opinion of the Committee it is impracticable, however desirable, for the Midwives Board to make any distinction of the kind suggested between midwives who have been admitted to the roll, whether they have passed an examination or not.

ATTENDANCE ON A MIDWIFE'S CALL.

On the consideration of the Minute 207 of the Representative Meeting, with reference to the implication that medical men are compelled to attend upon summons by a midwife, it was resolved:

That it should be left to each Division to take such action as it may think proper for this purpose, for example, by drawing the attention of all practitioners or midwives practising in its area to the fact that medical practitioners are under no legal obligation to attend upon the summons of a midwife.

With reference to the following minute of the Sub-committee:

That the scale of the Metropolitan Counties Branch be submitted to the Divisions as a basis for adoption, subject to such modifications as may be necessary to meet local requirements.

It was resolved that a draft report be circulated to the Committee.

It was further resolved:

That it be recommended to the Council that, in view of the fact that the Rules framed by the Central Midwives Board, under Section 3 of the Midwives Act, 1902, remain in force only until August 12th, 1910, steps be taken to obtain the views of the Divisions in England with regard to the same, in order that any desired alterations or additions may be subsequently submitted to the Central Midwives Board and the General Medical Council.

DEPUTATION TO THE PRESIDENT OF THE LOCAL GOVERNMENT BOARD WITH REGARD TO THE PUBLIC HEALTH BILL.

The MEDICAL SECRETARY reported that the President of the Local Government Board had consented to receive, on November 30th, a deputation from the Association, together with other bodies interested in security of tenure of medical officers of health and sanitary inspectors.

[A report of the proceedings of the deputation was published in the SUPPLEMENT of December 9th, 1905, p. 325.]

SECURITY OF TENURE OF PUBLIC VACCINATORS.

With reference to the resolution of the Representative Meeting that the matter of the security of tenure of public vaccinators be referred back to the Committee for transmission to the Divisions for their consideration and report, it was resolved:

That the Secretary be instructed to prepare a draft memorandum on the point for circulation to the Divisions, in accordance with the previous report of the Joint Subcommittee approved by the Council.

IRISH COMMITTEE.

A MEETING was held in the Royal College of Physicians, Kildare Street, Dublin, on October 14th, 1905, when there were present: Professor BYERS (Belfast) in the chair; Dr. R. B. Carey, Borris, co. Carlow; Dr. James Craig, Dublin; Dr. J. S. Darling Lurgan; Dr. Joseph Giusani, Cork; Dr. P. G. Lee, Cork; Dr. D. J. O'Connor, Cork; Dr. Cecil Shaw, Belfast; Dr. Denis Walshe, Graigue, co. Kilkenny, and Professor White, Dublin.

APPOINTMENT OF CHAIRMAN.

Professor BYERS was appointed Chairman, and Professor WHITE Honorary Secretary of the Committee for the ensuing year.

MEETINGS OF THE COMMITTEE.

It was resolved:

That meetings of the Committee be held in Dublin only during the ensuing year. The next meeting to be held on Saturday, January 6th, 1906, at 3 p.m.

CONNAUGHT BRANCH.

It was resolved:

That the Secretary of the Committee be requested (*a*) to confer with Dr. Mills, of Ballinasloe, with a view of obtaining his services as the Honorary Secretary of the Connaught Branch; (*b*) to visit Connaught if necessary, and (*c*) to report to next meeting.

ROYAL COMMISSION ON THE POOR LAW.

Messrs. Darling and White were selected from the Committee to act on the Poor-law Joint Subcommittee of the Medico-Political and Public Health Committees.

It was resolved:

That four members of this Committee (Messrs. Carey, Darling, Shaw, and White) be appointed as a Poor-law Subcommittee with power to seek the advice and co-operation of the Irish Medical Association and of the Poor-law Association.

LUNACY LAW AMENDMENT SUBCOMMITTEE.

Dr. W. R. Dawson, Farnham House, Finglas, was nominated to act on this subcommittee.

VOTE OF THANKS.

The cordial thanks of the Committee were accorded to the President and Fellows of the Royal College of Physicians in Ireland for allowing the Committee to hold its meetings in the College.

COLONIAL COMMITTEE.

AT a meeting of the Colonial Committee at the office of the Association on October 20th, Mr. EDMUND OWEN was elected Chairman, and the following members were present: Dr. C. G. D. Morier, Professor W. R. Smith, Mr. C. R. Straton, and Dr. G. E. Twynam. The following members of Colonial Branches at present in England also attended the meeting: Mr. Donald Armour, representing Canada; Dr. H. A. Francis, representing Queensland; Dr. F. O. Stedman, representing Hong Kong; Dr. A. J. Chalmers and Dr. H. G. Thomasz, representing Ceylon.

CONSTITUTION OF COMMITTEE.

Under By-law 40 (4) this Committee consists of five members appointed by the representatives of the Colonial Branches on the Council and two by the Council. It was reported that the Colonial Representatives had met and had chosen Major C. Duer, I.M.S., Dr. C. G. D. Morier, Professor W. R. Smith, and Dr. G. E. Twynam to serve on the Committee, leaving one vacancy to be filled up by the Colonial Representatives at a future date. The Representatives of the Council on the Committee are Mr. Edmund Owen and Mr. C. R. Straton.

MEDICAL REGISTRATION IN AUSTRALIA.

The Subcommittee on this subject (see SUPPLEMENT, July 15th, 1905, p. 62), consisting of Mr. Donald Armour, Dr. Morier, and Dr. Twynam, was reappointed.

Recommendations.

The following recommendations were adopted by the Committee:

Malta Branch.

That this Committee regrets to learn that the members of the Malta Branch are dissatisfied with the assurance of the Colonial Secretary that no slur was intended or cast upon the members of the Maltese Lunacy Committee by the appointment of Major Lawson to the Committee, and that the Chairman be requested again to approach the Colonial Secretary in the hope of obtaining a reconsideration of the case.

Ceylon Branch.

That the Ceylon Branch be informed that since it first forwarded the "Ordinance to Provide for the Registration of Medical Practitioners in Ceylon," this Committee has received from the Colonial Office a later print of the Ordinance, embodying the amendments desired by the Committee.

Bermuda Branch.

That the Colonial Committee having reconsidered Clause 13 as proposed to be introduced into the Medical Registration Act, 1905, for the Bermudas or Somers Islands, is of opinion that any medical practitioner duly registered within the United Kingdom ought to be able to enter any British Colony or Dependency and be entitled to practise on producing evidence of his registration in the United Kingdom. The Colonial Committee would further point out that it has already urged His Majesty's Secretary of State for the Colonies as to the expediency of registering in any Colony or Dependency only those medical qualifications which are registrable in the United Kingdom.

PUBLIC HEALTH COMMITTEE.

A meeting of the Public Health Committee was held at the office of the Association on November 29th, when there were present: Mr. C. H. Watts Parkinson in the Chair; Dr. J Groves, Mr. Herbert Jones, Dr. F. C. Martley, Dr. T. G. Nasmyth.

Security of Tenure of Medical Officers of Health and Inspectors of Nuisances.

The following letter, received from the Metropolitan Borough of Woolwich, was read:

October 23rd, 1905.

Sir,—I am directed by the Woolwich Borough Council to inform you that they have recently had under their consideration a report from their Medical Officer of Health upon the subject of certain resolutions passed at the Congress of the Royal Institute of Public Health held in August last, and especially that relating to security of tenure of medical officers of health and inspectors of nuisances. The Council are satisfied that the existing arrangements in London under the Public Health (London) Act work satisfactorily, and that provision should be made to extend this arrangement so as to give a similar security of tenure to those officers in the country.

I am, Sir,

Your obedient Servant.

(Signed) Arthur B. Bryceson,

Town Clerk.

The Medical Secretary was instructed to write to the Woolwich Borough Council expressing appreciation of their valued support.

The Public Health Bill.

By the request of the Chairman, the President, Chairman of Council, and Secretary of the Sanitary Inspectors' Association attended to consider the arrangements for the deputation to the President of the Local Government Board in support of this measure.

Points were agreed upon as to the objects of the deputation and speakers.

[A report of the proceedings of the deputation was published in the Supplement of December 9th, 1905, p. 325.]

Expert Evidence.

Attention was drawn to the practice in some districts of medical members of public bodies giving expert advice in order to avoid the necessity for appointing expert officials, and the Ethical Committee was requested to consider the propriety of this practice, and the advisability of circulating an inquiry to the Divisions on the subject.

Warning Notice.

The Medical Secretary reported that an application had been received from the Honorary Secretary of the South-West Wales Division for the insertion of a warning notice in the British Medical Journal with respect to a vacant Poor-law appointment at Aberystwyth.

The warning notice was directed to be inserted in the columns of the Journal in accordance with the regulations laid down by the Council.

POOR-LAW SPECIAL COMMITTEE.

A meeting of the Poor-law Special Committee was held at the office of the Association on November 8th, when Dr. J. Brassey Brierley was chosen Chairman. The following members were present: Dr. J. Ford Anderson, Dr. R. C. Buist, Dr. J. S. Darling, Mr. Herbert Jones, Dr. J. A. Macdonald, Dr. Herbert Manley, Mr. W. L. Muir, Dr. J. E. Moorhouse, Dr. H. F. Oldham, Mr. C. H. Watts Parkinson, Mr. C. R. Straton, and Professor A. H. White.

The resolution of the Council appointing the Committee, and resolutions of the Medico-Political, Public Health, Hospitals, Scottish, and Irish Committees in reference thereto were read; also correspondence with the Prime Minister on the subject of the appointment of medical members of the Royal Commission on the Poor Law, and with reference to submission of evidence by the British Medical Association to the Commission.

Poor-law Matters in England and Wales.

It was resolved:

That the members of the Committee resident in England constitute an English Subcommittee to deal with the matters of reference in so far as they relate to England and Wales.

The English Subcommittee was given power to co-opt members specially qualified to assist in its work.

Scope of Inquiry.

It was resolved to prepare questions for circulation to: (*a*) Parochial Medical Officers direct; (*b*) Poor-law Medical Officers' Association; (*c*) Honorary Secretaries of Divisions; (*d*) Honorary Secretaries of Branches; and that the questions should relate—(1) To the effect of the present Poor Law on the medical profession; (2) to the experience of the medical profession concerning the influence of the present Poor Law on the community.

It was left to the Subcommittee of each country to modify the questions with a view to circulation in that country.

Discretion was given to the Chairman and Secretary to employ expert or clerical assistance in preparing and issuing the questions and in analysing and collating the information obtained.

A list of questions for circulation was drawn up, the Chairman and Secretary being authorized to complete the draft for circulation to the Committee.

HOSPITALS COMMITTEE.

A meeting of the Hospitals Committee was held at the office of the Association on October 18th, when there were present: Dr. M. Beverley (Chairman), in the chair; Mr. G. C. Franklin, F.R.C.S., President of the Association; Dr. J. Brassey Brierley, Dr. E. Lawrence Fox, Dr. E. B. Hastings, Dr. F. M. Pope.

Correspondence.

Communications were read from certain members of the Committee appointed by the Conference on March 2nd with respect to the Joint Committee meeting on November 2nd.

Conclusions of Hospitals Committee.

The conclusions of the Committee arrived at since the Conference on March 2nd were read, and it was resolved:

That the first twelve proposals shall be presented to the lay representatives at the meeting on November 2nd, without modification.

Certain verbal emendations had been made, and it was decided that the remaining resolutions of the Hospitals Committee, as amended, be presented to the Joint Committee.

Joint Committee.

Meetings were held on November 2nd and November 16th of the Joint Committee constituted by representatives of the Conference on March 2nd and the Hospitals Committee.

Meetings of Branches and Divisions.

[The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the JOURNAL.*]*

CAPE OF GOOD HOPE: EASTERN PROVINCE BRANCH.

A MEETING was held at Steinman's Hotel, Grahamstown, on Friday, November 10th, at 8 p.m., Drs. J. BRUCE-BAYS in the chair.

Confirmation of Minutes.—The minutes of the meeting held on September 8th were read and confirmed.

Annual Report and Financial Statement.—The annual report of the Secretary for 1905 was read and adopted. The financial statement for 1905 up to date was read and then adopted.

Election of Officers.—The following were elected office-bearers for 1906, Dr. Bruce-Bays automatically becoming President:—*President-elect:* Dr. C. E. Jones-Phillipson. *Secretary and Treasurer:* Dr. E. G. Dru Drury. *Council:* Dr. J. B. Greathead (Grahamstown); Dr. T. D. Greenlees (Grahamstown); Dr. G. E. Fitzgerald (Grahamstown); Dr. C. J. Hill-Aitken (East London); Dr. H. T. Batchelor (Queenstown); Dr. H. M. Caute (King Williamstown); Dr. G. Porter-Mathew (Port Elizabeth); Dr. Temple Smyth (Peddie); Dr. J. C. Young (Riebeck East).

Draft By-laws.—The draft by-laws of the Branch were then read and discussed, and it was resolved that they be printed and circulated for criticism prior to the next regular meeting. The draft by-laws for the Division were similarly read and disposed of.

Draft of Public Health Bill.—The draft of the new Public Health Act was then read and, after discussion, referred to a special Subcommittee consisting of Drs. Bruce Bays and Jones-Phillipson, who promised to report to an adjourned meeting on Monday at noon.

Exhibit.—A phantom ear was shown on behalf of Dr. Hill-Aitken.

Letters.—Letters were read from Dr. Campbell-Watt, Dr. Gregory, Dr. J. M. S. Coutts, and from Mr. Guy Elliston.

Apology.—Dr. MULLINS stated that his name had been used without his authority by the proprietors of "Sacco," who had apologized for the same.

"Sacco."—Dr. JONES-PHILLIPSON gave an interesting summary of the properties and action of "Sacco" which had been offered to the proprietor for publication.

Specimens.—Dr. PURVIS showed sections of a chondroma from the nail bed of a boy's toe, and of an epithelioma from the dorsum of the hand in an elderly Dutchman.

LANCASHIRE AND CHESHIRE BRANCH:

LIVERPOOL (NORTHERN) DIVISION.

A MEETING of this Division was held in the Liverpool Medical Institution on December 8th, Dr. J. J. TISDALL in the chair.

Confirmation of Minutes.—The minutes of the last annual meeting were read and confirmed.

Annual Representative Meeting.—An interesting and instructive account of the Annual Representative Meeting at Leicester was read by Dr. JAMES SHAW, the Representative for the Division.

Proposed Dinner.—The question of holding a dinner for the combined Liverpool Divisions was discussed, and letters read from the Honorary Secretary of the Central and Southern Divisions. It was decided to allow the matter to stand over until further information had been obtained.

Matters Referred to the Divisions.—In regard to contract practice,[1] it was resolved:

> That this stand over for the consideration of a paper by Mr. B. W. Housman, read before the Stockport, Macclesfield, and East Cheshire Division, appearing in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of December 2nd last.

In regard to the co-ordination of the scientific work of the Association, its Branches, and Divisions,[2] it was resolved:

> That as regards local requirements these matters are already provided for.

Selection of Parliamentary Candidates.—In regard to the selection by the British Medical Association of candidates for election as direct representatives on the General Medical Council,[3] some exception was taken to paragraph 2 of the declaration by candidates, it being considered undesirable to tie the hands of a direct representative so closely, and it was eventually resolved:

> That, whilst approving in general of these suggestions, the matter should stand over for further consideration.

Vote of Thanks.—A cordial vote of thanks, on the proposition of the CHAIRMAN, seconded by Dr. R. S. ARCHER, was unanimously passed to Dr. Shaw for his interesting paper, and a similar compliment to the Chairman for presiding terminated the proceedings.

MANCHESTER AND SALFORD DIVISIONS.

A SECOND conjoint meeting of the Manchester and Salford Divisions was held in the Memorial Hall, Albert Square, Manchester, at 4.15 p.m., on Friday, December 15th.

Medical Practitioners and Midwives.—The meeting was held to consider the following subject: Further details in connexion with the provision of medical assistance to midwives in cases of difficult labour. At a meeting held on Tuesday, November 28th, the following resolutions were adopted unanimously:

> (*a*) That a list be drawn up and given to each midwife of medical men in each district willing to give such assistance.
> (*b*) That no special appointments be made.
> (*c*) Every registered medical man willing to give such assistance shall have his name placed on the list
> (*d*) The patient's usual medical attendant, if on the list, shall in all cases have preference; and in his absence, the nearest medical man whose name is on the list shall be sent for.

A deputation was appointed to interview the Midwives Committee. At an informal meeting of the deputation the following suggestions were adopted: (1) That the local supervising authority should be responsible for the payment of fees to medical practitioners; (2) that a scale of fees should be drawn up, and that the suggested scale should be based upon the requirements of the Central Midwives Board in their instructions to midwives; (3) that every registered medical practitioner in the area shall have his name placed on the list, unless he write to the Committee asking that his name shall be left off, and that the list be reprinted quarterly; (4) the Committee recommend that when the Midwives Act is amended provision shall be made to limit this medical assistance to the deserving parturient poor; (5) the Committee would point out that the General Medical Council has full power to deal with any irregular practice or conduct of any practitioner, and that in this matter the General Medical Council shall have the fullest support of the medical profession; (6) that the scale of fees be as given in the accompanying form.

The following is the scale referred to:

(*a*) In the case of a pregnant woman: (1) Where she (the midwife) suspects a deformed pelvis; (2) where there is loss of blood; and (3) where the pregnancy presents any other unusual features (as, for example, excessive sickness, persistent headache, dimness of vision, puffiness of face and hands, difficulty in emptying the bladder, incontinence of urine, large varicose veins, rupture), or where it is complicated by a fever or any other serious condition	Opinion and advice: Day call, 3s. 6d.; night call, 7s.
(*b*) In the case of a woman in labour: (1) In all presentations other than the uncomplicated vertex or breech	£2 2s.
In all cases of breech presentation in primiparae	£1 1s.
In all cases of severe flooding or convulsions	£1 1s.; and subsequent visits, 3s. 6d. day; 7s. night.
Instrumental labour	£2 2s.
(2) If the midwife when the cervix has become dilated is unable to make out the presentation	Opinion and advice: day call, 3s. 6d.; night call, 7s.

[1] See SUPPLEMENT, August 5th, 1905.
[2] See SUPPLEMENT, September 30th last.
[3] See SUPPLEMENT, October 7th last.

(3) If an hour after the birth of a child the placenta has not been expelled and cannot be expressed (that is, pressed out), even if no bleeding has occurred	Manual removal 10s. 6d., in addition to the day or night fee of 3s. 6d. or 7s. Instrumental, £2 2s.
(4) In cases of rupture of the perineum or other serious injuries of the soft parts	Operation, £1 1s.
If the tear extends into the rectum	Operation, £2 2s.
(If delivery is performed by the practitioner he does not make an additional charge for the repair.)	
(c) In the case of lying-in women and in the case of newly-born children. Whenever after delivery the progress of the woman or child is not satisfactory but in all events upon the occurrence of the subjoined conditions in:	
I.—The mother:	
(1) Abdominal swellings and signs of insufficient contraction of the uterus	Day, 3s. 6d.; night, 7s.
(2) Foul-smelling discharges	
(3) Secondary post-partum haemorrhage ...	
(4) Rigor	If operative interference required, £2 2s.
(5) Rise of temperature above 100.4° F. with quickening of the pulse for more than twenty-four hours	
(6) Unusual swelling of the breasts with local tenderness or pain	Day, 3s. 6d.; night, 7s.
If ending in mammary abscess requiring operative interference and dressing	£1 1s. in addition.
II.—The child:	
(1) Injuries received during birth; (2) obvious malformations or deformities, not inconsistent with continued existence; (3) concealed malformations, incapacity to suck or to take nourishment; (4) inflammation to even the slightest degree of the eyes, eyelids, and ears; (5) syphilitic appearance of the skin in certain parts; (6) illness or feebleness arising from prematurity; (7) malignant jaundice (icterus neonatorum); (8) inflammation about the umbilicus (septic infection of the cord)	Opinion and advice: Day, 3s. 6d.; night, 7s.
(d) In all cases of the death of a woman during pregnancy, labour, or lying-in	Inspection: Day, 3s. 6d.; night, 7s.
Anaesthetist (if required)	£1 1s.
(Fees for abortion and miscarriage to be added.)	

METROPOLITAN COUNTIES BRANCH:

Croydon Division.

A meeting of this Branch was held at the Croydon General Hospital on December 7th, Dr. T. R. Adams, Chairman, presiding.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Papers.—The following papers were read: Dr. S. Duke Turner, "Notes upon a Case of Tuberculous Peritonitis"; Dr. J. J. Magan, "Some Recently-introduced Methods of Anaesthesia, more particularly on the Hypodermic Injection of Scopolamine and Morphine"; Dr. Hugo, "Notes on a Case of Intussusception of the Sigmoid Flexure, with Specimens and Sections"; Dr. H. Merredith Richards, "Small-pox," with lantern demonstration; Dr. Cohen, "Notes on a Case of Acute Intestinal Obstruction."

Tea.—Tea was kindly provided by the Chairman.

NORTH OF ENGLAND BRANCH:

South Shields Division.

A meeting of the Division was held in the Ingham Infirmary on December 14th, Dr. Crisp, Chairman, presiding.

Resolutions.—The following resolutions were unanimously passed:

1. That we approve of the recommendations of the Representative Meeting with regard to contract practice.
2. That a meeting of the practitioners in the Division be held at an early date to consider the advisability of forming a public medical service in accordance with the recommendations of the Representative Meeting, as set forth in the British Medical Journal Supplement of August 5th, 1905.
3. That the Honorary Secretary apply to the Librarian for a list of duplicate books for the purposes of the Division Library.
4. That the Honorary Secretary be instructed to ascertain whether the balance of the Division grant may be properly applied to the purchase of books for the Division Library, of which the nucleus is already formed.
5. That a deputation consisting of Drs. Crisp, Gibbon, Nicholl, Gowans, Hunter, Ingles, and McNabb, be appointed to wait upon the Parliamentary candidates within the Division area, and to submit to them the questions suggested in the Journal Supplement of November 18th, 1905.

SOUTH-EASTERN BRANCH:

Canterbury and Faversham Division.

An ordinary meeting of this Division was held at the Herne Bay Cottage Hospital on December 7th.

Confirmation of Minutes.—The minutes of previous meeting were read and confirmed.

Letters of Apology.—Letters and telegrams of regret were read from Drs. Gosse, Burton, Tyson, FitzGerald, Alexander, Larking, Prentice, Penfold, Street, and Gauge.

Next Meeting.—It was decided to hold the next meeting at Sittingbourne in the early part of March, and that Dr. Gosse of Sittingbourne (Chairman of the Division) be invited to preside.

Proposed Divisional Library.—The formation of a divisional library was considered. Letters were read from the General Secretary of the Association with reference to the allotment to Divisions applying for a number of duplicate books from the head quarters library to form a nucleus.

Proposed Amalgamation with Local Societies.—The question of amalgamating the Canterbury Medical Society was considered.—Dr. Evers proposed and Dr. Hayward seconded a resolution to the effect that the honorary secretary of this Division be instructed to write to the honorary secretary of the East Kent and Canterbury Medical Society suggesting amalgamation; also, that if it was agreeable, the following committee be appointed to confer with the members of the Medical Society as to the best means of bringing this about: Drs. Gosse, Whitehead Reid, Alexander, Evers, Etheridge, Henchley.

Address.—A useful and interesting address was delivered by Dr. Robert Boxall on the Use and Abuse of Pessaries. He brought a number of pessaries of various kinds, and explained the advantages and uses of each.

Vote of Thanks.—A vote of thanks was passed to Dr. Kessick Bowes for presiding, and to him and Dr. Fenhoulet for entertaining the members at lunch.

Norwood Division.

A meeting of the Division was held at the Streatham Hall, Streatham, on Thursday, November 9th, at 4 p.m., Dr. D. M. Donald of Streatham in the chair.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Next Meeting.—It was resolved, on the proposition of Dr. Collins, seconded by Mr. C. S. Wood, that the next meeting should be held at the Lower Sydenham Hospital, on Thursday, December 14th, and that Mr. G. C. Parnell be invited to take the chair.

Annual Representative Meeting.—Mr. J. Rand gave an account of the Meeting of Representatives at Leicester, and a vote of thanks was moved by Dr. Buggins and seconded by Mr. Parnell and carried unanimously.

Letters from Wandsworth Division.—Two letters from the Wandsworth Division were read and explained by Dr. Burgess and the Honorary Secretary, and it was resolved that the following seven members—namely, Messrs. Burgess, Bailey, Burton, Hetley, Prangley, Steedman, and Soper—be nominated as a committee to take into consideration the possibility and desirability of organizing an entertainment to the representatives during the next annual meeting, three of their number to be selected to meet other members nominated by the four other South London Divisions, it being understood that they reported to the Division previous to any action being definitely decided upon.

Papers.—The following papers were then read:—Dr. Coleman: Pitfalls in Diagnosis. Mr. Bretham Robinson: On the Use of Taxis for Hernia, and some complications which may arise during and after its employment. Dr. Giles: Some Observations on Uterine Myomata.

Dinner.—After the meeting 21 members and visitors dined together.

TUNBRIDGE WELLS, HASTINGS, AND SEVENOAKS DIVISIONS.

A most successful conjoint meeting of these Divisions, at which forty-three members and visitors were present, was held on Wednesday, December 13th, at 5.30 p.m., at the General Hospital, Tunbridge Wells, Mr. J. B. FOOTNER in the chair.

Confirmation of Minutes.—The minutes of the last meeting were read and signed as correct.

Address.—Dr. G. H. SAVAGE gave an address on The Borderlands of Insanity, dealing with the subject in a most graphic and interesting manner, and illustrating the many points by telling cases. Dr. Savage was very heartily thanked at the close.

Visit to Hospital.—Many of the members availed themselves of the opportunity to visit the wards and other parts of the hospital.

Dinner.—The members and friends, to the number of thirty-four, afterwards dined at the Calverley Hotel.

SOUTHERN BRANCH:

SALISBURY DIVISION.

A meeting of the Division was held at the Salisbury Infirmary on Wednesday, November 29th, at 8.15 p.m. Dr. HARRIS (Shaftesbury) in the chair.

Confirmation of Minutes.—The minutes of the last meeting were read and approved.

Medical Practitioners and Midwives.—It was proposed by Dr. STRATON and seconded by Dr. KEMPE, and carried unanimously:

That the form sent by midwives when attending labour cases is misleading as regards payment to medical men called in to assist midwives. That the midwives should be instructed that the sending of such a form does not entail the compulsory attendance of any medical man. That on each form this should be specified, also that the patient in question should be responsible for the medical fee.

It was decided that copies of this resolution shall be sent to Secretaries of neighbouring Divisions. Proposed by Dr. FISON, seconded by Dr. ELLIS, and carried unanimously:

That this Division recommends that in future, as there seems no legal obligation to do so, certificates shall not be given by any member of this Division for the non-attendance of children at school, unless payment for such certificate is offered.

It was decided that a copy of this resolution should be sent to the local Education Committee.

Insurance Examination Fees.—Dr. FISON brought to the notice of the meeting the question of fees for examination of insurance cases. It was decided that the Executive Committee should consider the subject and report to the next meeting.

Address.—Dr. HARRIS delivered an address, taking for his subject, Milk as an Article of Sick Diet.

Successful Removal of Ruptured Kidney.—Dr. KEMPE read notes on 2 cases of ruptured kidney, in which the injured organ was removed in both cases, with recovery of the patient. The meeting then terminated.

SOUTH MIDLAND BRANCH:

AYLESBURY DIVISION.

A meeting of this Division was held in the Board Room of the Royal Bucks Hospital at 2.30 p.m. on Friday, December 15th, Dr. BAKER in the chair.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Executive Committee.—Drs. Kerr, Morrison, and Parrott were elected to serve on the Executive Committee.

Representatives on Branch Council.—Drs. Shaw and Kerr were elected Representatives of the Division on the Branch Council.

State Registration of Nurses.—The communication *re* the State Registration of Nurses was discussed, and it was decided to allow it to lie on the table.

Parliamentary Candidates and Medical Questions.—It was agreed to obtain the opinion of the Parliamentary candidates of the constituency on medical matters, and this was referred to the Executive Committee.

Medical Practitioners and Midwives.—It was resolved unanimously:

That this meeting is glad to hear that the County Council is taking action under the Midwives Act, and hopes that this will lead to a better inspection of midwives, and that steps will be taken to consider the advisability of providing for the payment of medical men called in in emergencies under the Midwives Act.

Resolved that the above resolution be forwarded to the County Council by the Chairman.

Royal Bucks Hospital.—It was unanimously resolved:

That a communication be sent asking whether the Board of Management of the hospital are agreeable to receiving a deputation to consider whether abuse of the out-patient system exists at the Royal Bucks Hospital, and whether any steps can or should be taken to remedy the same.

STAFFORDSHIRE BRANCH.

The first general meeting of the session was held at the North Stafford Hotel, Stoke-on-Trent, on November 30th. The PRESIDENT (Dr. Stokes Hatton) took the chair at 3.45 p.m.

Confirmation of Minutes.—The minutes of the last general meeting were read and approved.

Congratulations to Mr. W. H. Folker.—The PRESIDENT moved and Mr. F. MILNES BLUMER seconded a hearty vote of congratulation to Mr. W. H. Folker on his election to the position of President of the North Stafford Infirmary. This was unanimously carried, and Mr. FOLKER briefly thanked the members.

Cases.—Cases were shown by Drs. MCALDOWIE and KING ALCOCK.

Papers.—The following papers were read:—Mr. W. D. SPANTON: Jamaica, a tropical holiday from a health standpoint.—Dr. A. F. MARTIN: The significance of some enlargements of the thyroid gland.—Dr. HACKWORTH STUART: The medical inspection of school children.

Specimens.—Pathological specimens were afterwards exhibited by Drs. HIND, STUART, COOKSON, MARTIN, AIKEN, and DICKSON.

Exhibit.—Messrs. Duncan, Flockhart and Co. exhibited their apparatus for the administration of ethyl chloride.

YORKSHIRE BRANCH:

BRADFORD DIVISION.

The annual whist drive, supper, and dance took place at the Victoria Hotel, Bradford, on Wednesday, December 13th. About 80 ladies and gentlemen were present. The guests as they arrived were received by Dr. MITCHELL, Chairman, and Mrs. MITCHELL. At 8.30 whist commenced, and was continued until 10.15. Supper took place from 10.30 to 11.30. The CHAIRMAN proposed the toast of "The King," and afterwards Dr. H. J. CAMPBELL proposed that of "The Chairman." Dr. MITCHELL, in replying, pointed out the advantages which an event of this kind was to the medical profession in the Division. It brought members and their ladies together, and produced a feeling of *camaraderie* such as was not possible by any other means. After supper dancing went on for two hours, and the affair terminated shortly before two o'clock.

☞ *To ensure the insertion of notices in this column they must be received at the Central Offices of the Association not later than the first post on Tuesday.*

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

METROPOLITAN COUNTIES BRANCH: ST. PANCRAS AND [illegible] DIVISION. [illegible] at University College [illegible], at 4 p.m., when the Chairman, Dr. [illegible], Officer of Health of St. Pancras, will read a paper on [illegible] tion in Rooms occupied by the [illegible] Sick. WYNN WESTCOTT, Honorary Secretary.

METROPOLITAN COUNTIES BRANCH: WESTMINSTER DIVISION.—A meeting of the Division will be held on Thursday, January 4th, at 8.30 p.m., at Hanover Square, at which Dr. W. KNOCKER SMITH, Honorary Secretary.

SOUTH WESTERN BRANCH: TRURO DIVISION.—The next meeting will be held in Lemon Street, Truro, at 7.30 p.m., on Thursday, January 4th. As the Division has decided to [illegible] Secretary will be glad to hear any suggestions as to an alteration.—MARK B. TAYLOR, Honorary Secretary.

SOUTH WALES AND MONMOUTHSHIRE BRANCH.—Nominations for an elective member of the Central Council to fill the vacancy created by the death of Colonel Cresswell, C.B., must be made in writing, on or before January [illegible], to Dr. FRANK G. THOMAS, [illegible], Walter Road, Swansea.

BIRTHS, DEATHS, AND MARRIAGES IN IRELAND.

The annual report of the Registrar-General for Ireland for the year 1904, being the forty-first of the series, has now been published, and at first sight the light thrown on Ireland seems somewhat encouraging.

Thus the birth-rate, 23 6 per 1,000, was 0.5 above the average of the preceding ten years, and the marriage-rate—5.22 per 1,000 of estimated population—is 0.21 above the same average, while the death-rate—18.1 per 1,000—is only 0.1 above that of the preceding decennial period.

Very little satisfaction, however, can be derived from the return, when the figures are examined in detail. Thus the estimated population in the middle of the year was 4 402,182, or 12 604 persons less than in the previous year. This is the outcome of emigration, which spelt a loss to the country of nearly 40,000 persons, and outweighed by more than one third the natural increase of the population, or the excess of births over deaths. There may possibly be a small set-off in the shape of immigrant additions to the population, but of the number of these there is no record, and the same consideration would affect the estimates of all previous years as set forth in the tables of population supplied. These show, it may be remarked, that the estimated population of Ireland is less now than it was ten years ago by some 187,000 persons, while if the population in the middle of 1904 be compared with that estimated to exist in 1854, or half a century earlier, the total loss amounts to close upon two millions.

Births.

The total number of births registered during the year numbered 103 811, the proportion between the two sexes being 104.9 boys to every 100 girls.

It is to be noted that of these births only 2.5 out of every 100 were illegitimate, a percentage which compares very favourably with that common in England, Wales, and Scotland. The distribution of the illegitimate children, moreover, is of interest, and probably not without significance. Thus, in Connaught only 0 7 per cent. of all the registered births were illegitimate, as against 3 4 per cent. in Ulster.

The highest birth-rate in any registration area was that of Dublin registration borough, 32.5, and the lowest that in Cavan County, 18 6.

The figures supplied as to the dates of the births afford material to the speculative. Thus we note that the average number of births on each day in the first half of the year exceeded those on each day in the second half of the year by 21. The figures would appear to indicate that women in Ireland conceive more frequently between April and September than between September and March, or, in other words, during the warm rather than the cold months of the year.

Marriages.

As has already been indicated, the ratio of marriages to the population exceeded that of the preceding ten years by about ¼ per cent. Of all the marriages, 70 per cent. were between Roman Catholics, while the balance of some 6 000 marriages included those of 8 Quaker couples and of 7 Jewish couples.

In spite of this actual preponderance, marriages in the Roman Catholic community seem relatively less frequent than among persons of other denominations. Thus, for every 1,000 persons among the estimated Roman Catholic population there were only 4.59 marriages during the year as against 5.99 per 1 000 for the remainder. So far as the figures go this relative infrequency of marriage lends increased significance to the illegitimacy rates, and makes it all the more remarkable that the percentage of illegitimate children in Connaught should be so much lower than in Ulster.

Of the total marriages, 88 9 per cent. were those of bachelors with spinsters, 66 9 per cent. those of spinsters with widowers, 2 4 per cent. of bachelors with widows, and 1.8 per cent. of widowers with widows. In other words, 8 7 per cent. of all the bridegrooms were widowers, and 4 2 per cent. of the brides were widows, while in 11 out of every 100 marriages, one or both of the contracting parties had been married before.

The percentage of persons married under full age seems to have been very small when compared with corresponding percentages in England and Scotland, and some light on the educational position of Ireland seems to be afforded by the fact that 89 per cent. of the husbands, and 92 per cent. of the wives, signed their names in the marriage registers, while the remainder simply made marks.

Deaths.

The total number of deaths was 79,513, which is equal to a rate of 18.1 per 1,000 of the estimated population. The rate amongst women exceeded that among men by 0.1 per 1,000, and the combined rate was 0.1 per 1,000 higher than that of the preceding ten years.

The lowest rates were recorded in the Counties or County boroughs of Kerry, Mayo, Leitrim, Clare and Roscommon, these varying between 13.7 per 1,000 and 14.5 per 1,000. The highest rates, on the other hand, were recorded in the Counties or County boroughs of Dublin, Belfast, Omagh, and Tipperary, the lowest rate in this series, 19.0, being recorded in Tipperary, and the highest, 26.0, in Dublin.

Of the total deaths, 56 7 per cent. were registered in the first six months of the year, in which, as has already been noted, the greater number of births likewise took place.

As regards the periods of greatest mortality, the rate fell steadily from 22 1 in the first quarter of the year to 14 6 in the third quarter, rising again to 16.5 in the fourth. One notable point in respect of the deaths is the fact that little less than 20 per cent. of all of them took place either in infirmaries, hospitals, public lunatic asylums, or workhouses.

Causes of Death.

Small-pox.—From this disease only 16 deaths were recorded throughout the year, or 0.4 per 100,000 of the estimated population. Of these, 13 occurred in the province of Ulster. As for vaccination, of all the persons who died, 10 were stated never to have been vaccinated, while 4—all of them adults—had been vaccinated in infancy.

Measles.—The deaths from measles numbered 522, which corresponds to a rate of 12 per 100,000 of the estimated population. The great majority of the deaths were those of children under 5 years of age, and some 74 per cent. of all the deaths occurred in Dublin and Belfast. The total death-rate seems to be considerably less than the average of the preceding ten years, but presumably only because the epidemic cycle was for the time being on the ebb.

Scarlet Fever.—Some 47 per cent. of all the deaths were those of children under 5 years of age. The total number appears to be much under the average for the preceding ten years.

Typhus.—The mortality from this disease has been steadily falling for the last thirty years in Ireland, as elsewhere, and the fall has continued during the last four years. The total number of deaths recorded in 1904 was 50, and this is the lowest which has hitherto been registered in Ireland.

Influenza.—The deaths ascribed to this disease are equal to a rate of 27 per 100,000.

Whooping-cough.—The death-rate in this case was 35 per 100,000, the rate amongst females slightly exceeding that amongst males. The rate exceeds the average for the preceding decennial period by 9 per 100,000, but is below the highest record during that period. The figures seem to suggest that the epidemic cycle in this case is nearing its highest point.

Diphtheria.—The number of deaths from diphtheria—317—was much below the average; some 54 per cent. of the patients were children under 5 years of age, and more boys died than girls.

Enteric Fever.—The death-rate from this disease, 10.6 per 100,000, was slightly lower than in 1903, and seems to have been dropping since 1898. Some 24 per cent. of the deaths were among persons at the 25 to 35 age period. Of all the deaths, 67 took place in Dublin, 115 in Belfast, and 47 in Cork, the two former cities accounting for 39 per cent. of the total deaths.

Tuberculosis.—The aggregate death-rate from all forms of tuberculosis was 290 per 100 000 of the population, a figure which has only been equalled four times previously. This disease, therefore, accounted for 10 per cent. of all the deaths recorded. In 77 per cent. of the cases the form of the disease was phthisis. It is obvious that in Ireland tubercle is as persistent now as thirty years ago.

Malignant Disease.—The deaths returned as due to carcinoma, sarcoma, and cancer, are all taken together, and give a rate of 69 1 per 100 000 of population; this is an apparent increase over earlier years. When collated with the different age periods the ratio of persons dying from malignant disease over the age of 35 seems to be 180 per 100,000 for men and 210 per 100 000 for women.

Pregnancy and Childbirth.—A table is given of all deaths among women which were definitely returned as either caused by or associated with pregnancy or childbirth. In

his consideration of this table, the Registrar-General states that the total rate among mothers was equal to 6 57 for every 1,000 registered births: but if only cases are considered in which death was due either to puerperal sepsis or to purely obstetric causes, the rate becomes 5.62 per 1,000 registered births.

Imperfect Certification.

Note is made of the fact that an undue proportion of the registered deaths continue to be assigned to causes which must be considered inadequate for the purposes of modern statistics. Thus atrophy, dropsy, tumour, haemorrhage, sudden death and similarly ill-defined "causes" all figure in the registers.

Ages at Death.

The infant mortality-rate for the year was 100 per 1,000 registered births, while among children under 5 years of age there were 37 deaths for every 1,000 children living at that age.

Taking the other extreme of life, there died 9 9 per cent. of all persons living above the age of 65, or nearly every tenth person over that age. Among the deaths were registered 711 persons who were stated to be upwards of 95, and this number included 86 males and 96 females returned as upwards of 100 years of age. The Registrar-General does not vouch for these ages, but remarks that when inquiries were made in some recent years as regards persons returned as centenarians, the ages appeared to be given correctly as far as the registrars could learn.

WORKHOUSES.

In his concluding remarks the Registrar-General observes that the average number of inmates of workhouses on Saturdays during the year was 70 above that of the preceding year. On the other hand, the average number of persons in receipt of out-door relief was 543 below the corresponding figure for 1903

Acknowledgements.—The Registrar-General makes acknowledgement of his obligations to Dr. Ninian M. Falkiner, Medical Superintendent of Statistics, for the assistance afforded by him, and also to the editor of the *Dublin Journal of Mental Science* and Sir John W. Moore for some of the meteorological returns included in the report.

CENTRAL MIDWIVES BOARD.

A MEETING of the Central Midwives Board was held on December 14th at 6, Suffolk Street, Pall Mall, with Dr. F. H. CHAMPNEYS in the chair.

Midwives to be Cited to Appear before the Board.

On the report of Dr. Thresh, County Medical Officer for Essex, communicating to the Board the finding by the local supervising authorities of a prima facie case of negligence and misconduct against a certified midwife, it was decided that she should be cited to appear before the Board.

A letter from Dr. Read, M.O.H. Worcester, was received reporting that a certified midwife had been in January, 1905, convicted of larceny, and was on October 27th, 1905, convicted and fined for having failed to notify the local supervising authority of her intention to practise as a midwife. The Board directed that the midwife should be cited to appear.

A letter from the Clerk of the County Council of Durham reporting the finding by the local supervising authority of a prima facie case of negligence and misconduct against a certified midwife was received, and it was determined that the midwife should be cited to appear.

The Clerk of the Staffordshire County Council reported the suspension from practice of a certified midwife on account of her connexion with a case of puerperal fever. The Board resolved that the midwife should be cited to appear.

Proposed Suggestions for the Guidance of the Medical Advisers of the Local Supervising Authorities.

The agenda paper contained the following motion by Mr. Ward Cousins, but in consequence of that gentleman not being present at the meeting the matter was postponed:

That the accompanying form of suggestions for the guidance of the medical advisers of the local supervising authorities respecting the duties of inspectors appointed to exercise general superintendence, be approved and issued to the local supervising authorities:

1. The inspector should obtain a personal knowledge of the midwives practising within the area, and should regularly inspect their homes, so as to insure the practice of domestic cleanliness and attention to sanitary details in their clothing and appliances.

2. She must strictly investigate the antiseptic precautions taken by the midwives to prevent the entrance of infectious diseases into the lying-in room; and also the facilities for the disinfection of the women and their clothing after exposure to any puerperal disorder.

3. She should be always ready to give assistance to the midwives in the discharge of their duties, and to explain to the untrained women on the local roll their obligations and responsibilities as certified midwives practising under the regulations and restrictions of the Midwives Act of 1902

4. She must inspect the books which have to be kept by the midwives, containing full particulars of their cases, for the purpose of helping them in making the necessary entries, and completing the records with regularity, so that they may be always ready to be submitted to the medical adviser of the local authority.

5. She will be expected to aid in maintaining a correct local roll, and also to report to the local supervising authority, without delay, any charge of inattention, misconduct, or malpractice on the part of the midwife.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

SURGEON J. W. BIRD has been allowed to withdraw from the service, with a gratuity (dated Admiralty, December 12th). He was appointed Surgeon, November 20th, 1897.

The following appointments have been made at the Admiralty: THOMAS T. JEANS, Staff Surgeon, to the *Europa*, January 2nd 1906: CHARLES [illegible], Staff Surgeon, to the *Argyll*, on recommissioning: ALASTAIR F. MACRAE, Surgeon, to the *Dwarf*, on recommissioning: GEORGE L. B. [illegible], to the *Thames*, for the *Hecla*, [illegible]: EDWIN FOLLIOTT, Surgeon, to the *Pluto*, for Devonport Dockyard, December 10th: EDWARD M. W. HEARN, Surgeon, to the *Ocean*, January 2nd: ALEXANDER G. WILDEY, Fleet Surgeon, and ALEXANDER C. RENWICK, M.B., Surgeon, to the *Indus*, on recommissioning, January 1st.

ROYAL ARMY MEDICAL CORPS.

COLONEL A. W. DUKE, M.D., is placed on retired pay, December 18th. Entering the service as Assistant Surgeon, October 18[illegible] Surgeon, March 1st, 1873; Surgeon-Major, October 1st, [illegible] Surgeon, September 8th, 1894; and Colonel, December 1st, [illegible] served in the South African war in 1899-1900 in command of a general hospital and as Principal Medical Officer of a portion of the lines of [illegible] tion: he was present in operations in Cape Colony, in the Orange River Colony, and in the Transvaal, and has received the Queen's medal with three clasps.

Lieutenant-Colonel B. W. SOMERVILLE-LARKIN, F.R.C.S.E[illegible], retires on retired pay, December 20th. He was appointed [illegible] 4th, 1877; Surgeon-Major, February 4th, 1889; granted the rank of Lieutenant-Colonel, February 4th, 1897; and made Brigade-Surgeon [illegible] Colonel, July 19th, 1899. During the South African war in 1899 [illegible] Principal Medical Officer of No. 6 General Hospital, and [illegible] No. 12 General Hospital; he was present in operations in the [illegible] Orange River Colony, and Cape Colony, and again in the [illegible] Orange River Colony, and has the Queen's medal with three clasps and the King's medal with two clasps.

Lieutenant-Colonel G. H. SYLVESTER has been appointed Senior Medical Officer, Ceylon; and Lieutenant-Colonel H. H. JOHNSTON, C.B., M.D., to be Senior Medical Officer, Straits Settlements

Lieutenant-Colonel C. BIRT, from Pretoria, has been appointed Clinical Pathologist at the Military Hospital, Millbank.

Lieutenant-Colonel A. W. P. INMAN, M.B., is granted the temporary rank of Colonel while officiating as Principal Medical Officer of a Division in India, from October 30th.

Captain W. R. P. GOODWIN, now stationed at Rawal Pindi, is appointed Personal Assistant to the Principal Medical Officer, Northern Command, India.

INDIAN MEDICAL SERVICE.

LIEUTENANT-COLONEL G. J. KELLIE, Bengal Establishment, is promoted to be Colonel, October 16th. He was in the Burmese campaign in 1885-9 (medal with clasp), and with the Tirah Expeditionary Force in 1897-8, including the capture of the Tang[illegible]

The promotion of the undermentioned Majors to be Lieutenant-Colonels, which has been already announced in the BRITISH MEDICAL JOURNAL, has received the approval of the King: H. S. WOOLBERT, M.B., G. H. BAKER, M.B., J. R. ADYE, M.B., A. C. YOUNAN, M.B., A. W. ALCOCK, M.B., C.I.E., and J. M. CADELL, M.B.

The King has sanctioned the retirement from the service, from the dates specified, of Captain J. L. MACINNES, M.B., July 28th, and Captain J. A. BARNES, [illegible]

The retirement from the service of the undermentioned officers, which has been already announced in the JOURNAL, has received the King's sanction: Colonel J. T. B. BOOKEY, C.B., Colonel J. M'CONAGHEY, M.D., Colonel M. D. MORIARTY, M.D., Lieutenant-Colonel J. GRIFFITS, M.D., Lieutenant-Colonel R. R. H. WHITWELL, M.B., Lieutenant-Colonel F. A. ROGERS

Colonel J. S. WILKINS, D.S.O., Bombay Establishment, has retired from the service from November 12th. He joined the department as Assistant-Surgeon, March 31st, 1874, and became Colonel, October 21st, 1900. He served in the Afghan war in 1880, including the march from Quetta to the relief of Kandahar (medal); with the Burmese Expedition in 1886-7 (mentioned in dispatches, medal with two clasps); and in the South African war in 1902 (Queen's medal with three clasps)

Lieutenant-Colonel J. LEWTAS, M.D., Bengal Establishment, has also retired from the service, November 21st. He was appointed Assistant-Surgeon, September 30th, 1875, and made Surgeon-Lieutenant-Colonel, September 30th, 1895. He was in the Afghan war of 1878-80, and was at the taking of Ali Musjid, the action of Futtehabad, the storming of the Takht-i-Shah heights and of the Asmai heights (mentioned in dispatches), and in the engagement at Charasiah (mentioned in dispatches, medal with two clasps).

The promotion of the undermentioned Lieutenants to be Captains,

which have already appeared in the JOURNAL, has received the approval of the King: J. H. MURRAY, M.B., F. P. MACKIE, M.B., A. T. PRIDHAM, M.B., F. P. CONNOR, J. O'LEARY, M.B., S. R. CHRISTOPHERS, M.B., H. EMSLIE-SMITH, M.B., H. R. DUTTON, V. B. NESFIELD, H. M. BROWN, M.B., A. F. PILKINGTON, P. G. EASTON, W. W. JEUDWINE, M.B., T. C. McC. YOUNG, M.B., G. A. JOLLY, M.B., H. C. BROWN, M.B., G. H. L. WHALE, M.B., A. K. LAUDDIE, M.B., W. J. COLLINSON, M.B., C. L. DUNN, H. M. H. MELHUISH, H. H. KIDDLE, E. F. C. TALBOT, M.D., R. D. SAIGOL, C. E. BULTEEL, J. L. LUNHAM, M.B., F. C. ROGERS, M. BA-KET, M.B., and C. A. F. HINGSTON.

Lieutenant-Colonel Sir W. R. HOOPER, K.C.S.I., retired pay, is granted the honorary rank of Colonel on appointment as King's Honorary Surgeon, August 6th, 1904.

ARMY MEDICAL RESERVE.

SURGEON-MAJOR T. PHILIP, M.B., to be Surgeon-Lieutenant-Colonel, December 4th.

ROYAL GARRISON ARTILLERY (VOLUNTEERS).

SURGEON-LIEUTENANT C. E. M. LOWE, 8th Lancashire, resigns his commission, December 13th. He is appointed Captain in the same corps from the same date.

VOLUNTEER RIFLES.

SURGEON-LIEUTENANT R. ABERNETHY, M.D., the Queen's Rifle Volunteer Brigade, the Royal Scots (Lothian Regiment), resigns his commission, December 13th.

Surgeon Lieutenant-Colonel J. P. ATKINSON, M.D., 3rd (Cambridgeshire) Volunteer Battalion the Suffolk Regiment, is granted the honorary rank of surgeon-Colonel, November 1st. He resigns his commission from the same date retaining his rank and uniform.

Surgeon-Lieutenant-Colonel D. THOMSON, M.D., 3rd Volunteer Battalion the Bedfordshire Regiment (Brigade-Surgeon-Lieutenant-Colonel, senior Medical Officer Bedford Volunteer Infantry Brigade), is granted the honorary rank of Surgeon-Colonel, December 13th. He resigns his commission from the same date, retaining his rank and uniform.

NELSON JOHNSTONE to be Surgeon-Lieutenant in the 3rd Volunteer Battalion the Bedfordshire Regiment, December 13th.

WILLIAM J. COLLINGS to be Surgeon-Lieutenant in the 1st Volunteer Battalion the Prince of Wales's Volunteers (South Lancashire Regiment), December 13th.

Surgeon-Captain R. STIRLING, M.D., 4th (Perthshire) Volunteer Battalion the Black Watch (Royal Highlanders), to be Surgeon-Major, December 13th.

Surgeon-Captain W. D. MACFARLANE, 3rd (Renfrewshire) Volunteer Battalion Princess Louise's (Argyll and Sutherland Highlanders), resigns his commission, December 13th.

Surgeon-Lieutenant C. F. WIGHTMAN, 1st (Hertfordshire) Volunteer Battalion the Bedfordshire Regiment, resigns his commission, December 20th.

Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel G. MIDDLEMASS, M.D., 1st Volunteer Battalion the Durham Light Infantry, resigns his commission, retaining his rank and uniform, December 20th.

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

HAROLD COLLINSON, M.B., to be Lieutenant in the Leeds Companies, Northern Command, December 13th.

ALEXANDER W. F. SAYRES to be Lieutenant in the Devon Bearer Company, December 13th.

Lieutenant P. MITCHELL, M.D., Aberdeen Companies, Scottish Command, to be Captain, December 20th.

CHANGES OF STATION.

THE following changes of station amongst the officers of the Royal Army Medical Corps have been officially reported to have taken place during November:

	FROM	TO
Lieut.-Col. G. H. Sylvester	Netley	Ceylon.
" A. Peterkin, M.B.	Curragh	Mauritius.
" J. Gibson, M.B.	Templemore	Limerick.
" H. H. Johnston, C.B., M.D.	Netley	Straits Settlem't.
" T. B. Winter	Gosport	Portsmouth
" G. Cree	Devonport	Secunderabad.
Major J. J. O'Donnell, M.B.	York	Leeds.
" R. Holyoake	Colchester	India.
" A. E. Smithson, M.B.	Chester	Brecon.
" H. J. Parry, D.S.O., M.B.		Bloemfontein.
" J. E. Brogden	Portsmouth	Hong Kong.
" C. C. Fleming, D.S.O., M.B.	Glasgow	Malta.
" C. B. Martin, M.B.	Netley	Straits Settlem't.
" J. F. M. Kelly, M.B.	Kilworth	Templemore.
" T. P. Jones, M.B.	Woolwich	Hong Kong.
" A. C. Fox		Bulford.
Captain J. E. Carter, M.B.	Half-pay	Dublin.
" S. W. Sweetnam	Colchester	Warley.
" R. Blackham	Bulford	Devonport.
" F. E. Gunter, M.B.	York	Curragh.
" E. O. Hayes	London District	Ceylon
" E. T. F. Birrell, M.B.	Murree	Aldershot.
" T. H. M. Clarke, C.M.G., D.S.O., M.B.	Colchester	India.
" P. MacKessack, M.B.	Devonport	Falmouth
" W. H. S. Nickerson, V.C., M.B.	Bulford	West Africa.
" M. M. Lowsley	Sandown	Portsmouth.
" C. J. O'Gorman, D.S.O.	Dover	Maidstone.
" F. J. C. Heffernan	York	India
" H. M. Nicholls, M.B.	Cork	Kinsale.
" A. L. A. Webb	Kirkee	Eastern Com'd
" A. A. Soods, M.D.	Harrismith	Middelburg, C.C.
" E. P. Connolly	Enniskillen	Belfast.
" E. W. Sibbery	Kilkenny	Cahir.
" P. S. O'Reilly	Quetta	Aldershot.
" A. M. MacLaughlin, M.B.	Dundalk	Kildare.
" C. S. Smith, M.B.	Woolwich	Mauritius.
" A. H. Safford	Shahjahanpur	Eastern Comd.
" James M. Buist, M.B.	Eastern Comd.	Colchester.

	FROM	TO
Captain J. G. Churton	Nowgong	Eastern Comd.
" E. Bennett	Devonport	Exeter.
" J. Tobin	Dublin	Clonmel.
" W. L. Bennett	Jullunder	Edinburgh.
" C. R. L. Ronayne, M.B.	Calcutta	Campbellpore.
" H. R. Bateman	Malta	London District.
" C. G. Thomson	Ballykinder Cp.	Enniskillen.
" J. Waddell, M.B.	—	Middelburg, Transvaal.
Lieutenant J. W. S. Seccombe	Southern Comd.	Devonport.
" C. Kyley	Cork	Hong Kong.
" G. A. D. Harvey	Curragh	Straits settlet.
" A. W. Fraser, M.B.	Kilbride	W. China.
" A. T. Frost, M.B.	Aldershot	Hong Kong.
" K. A. C. Doig	York	India.
" C. R. Millar	Longmoor	Ceylon.
" G. H. Richard	Bulford	India.
" A. W. Gater	Woolwich	"
" G. S. Wallace, M.B.	Netley	Mauritius.
" P. Power, M.B.	Curragh	Jamaica.
" J. S. Pascoe	Netley	Egypt

Lieutenant-Colonels W. Finlay and G. E. Moffet, M.B., retired pay, have been placed in medical charge of troops at Jersey and Perth respectively.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

IN seventy-six of the largest English towns, including London, 8,179 births and 5,076 deaths were registered during the week ending Saturday last, December 16th. The annual rate of mortality in these towns, which had been 17.9, 16.7, and 16.1 per 1,000 in the three preceding weeks, rose again last week to 17.0 per 1,000. The rates in the several towns ranged from 9.0 in Burton-on-Trent and in King's Norton, 9.3 in Hornsey, 9.5 in Bournemouth, 9.9 in St. Helens, 10.2 in Croydon, and 10.7 in Reading and in Tynemouth, to 20.2 in Tottenham, 20.7 in Middlesbrough, 20.8 in Bootle, 21.1 in Liverpool, 21.2 in Halifax, 22.6 in Hanley, and 27.0 in Preston. In London the rate of mortality was 19.2 per 1,000, while it averaged 16.0 per 1,000 in the seventy-five other large towns. The death-rate from the principal infectious diseases averaged 1.3 per 1,000 in the seventy-six large towns; in London this death-rate was equal to 1.5 per 1,000, while in the seventy-five other large towns the rates ranged upwards to 2.3 in Bristol and in West Bromwich, 2.4 in Birmingham, 2.5 in Bootle and in Leeds, 2.7 in Blackburn, 3.1 in Wolverhampton, 3.2 in Middlesbrough, and 5.0 in Preston. Measles caused a death-rate of 1.5 in Bristol, 1.6 in Leeds, 1.7 in Barrow-in-Furness, 2.0 in Blackburn, and 5.4 in Preston; scarlet fever of 1.2 in St. Helens; diphtheria of 1.2 in Rochdale; whooping-cough of 1.3 in Gateshead; 1.4 in Devonport, 1.5 in West Bromwich and in Warrington, and 2.5 in Bootle; and diarrhœa of 1.2 in Cardiff, 1.3 in Reading, and 2.1 in Middlesbrough. The mortality from "fever" showed no marked excess in any of the large towns. No fatal case of small-pox was registered last week in any of the large towns, and no small-pox patients were under treatment during the week in the Metropolitan Asylums Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had been 4,127, 4,021, and 3,888 at the end of the three preceding weeks, had further declined to 3,670 at the end of last week; 341 new cases were admitted during the week, against 470, 375, and 355 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS.

DURING the week ending Saturday last, December 16th, 952 births and 609 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had been 21.9, 18.7, and 19.0 in the three preceding weeks, declined again to 18.2 per 1,000 last week, but was 1.2 per 1,000 above the mean rate during the same period in the seventy-six large English towns. Among these Scotch towns the death-rates ranged from 14.1 in Leith and 15.6 in Aberdeen to 21.0 in Dundee and 23.8 in Greenock. The death-rate from the principal infectious diseases averaged 1.9 per 1,000 in these towns, the highest rates being recorded in Dundee and Greenock. The 286 deaths registered in Glasgow included 15 which were referred to measles, 2 to whooping-cough, and 0 to diarrhœa. Eleven deaths from measles occurred in Dundee; 4 from diarrhœa in Aberdeen, 2 from diarrhœa in Paisley, and 3 from measles and 3 from scarlet fever in Greenock.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, December 16th, 505 births and 334 deaths were registered in six of the principal Irish towns as against 471 births and 360 deaths in the preceding period. The annual death rate in these towns, which had been 20.6, 19.0, and 18.6 per 1,000 in the three preceding weeks, fell to 17.4 per 1,000 in the week under notice, this figure being 0.4 per 1,000 higher than the mean annual rate in the seventy-six English towns for the corresponding period. The figures ranged from 8.7 in Londonderry and 9.7 in Waterford to 23.3 in Cork and 24.6 in Limerick. The zymotic death-rate during the same period and in the same six Irish towns averaged 0.7 per 1,000, or 0.2 per 1,000 lower than during the preceding period, the highest figure—1.4—being recorded in Limerick, while Cork and Waterford registered no deaths under this heading at all. There were 3 deaths from typhus fever recorded in Sligo.

LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

MEMBERS are reminded that the Library and Writing Rooms of the Association are fitted up for the accommodation of the members in commodious apartments, at the office of the Association, 429, Strand. The rooms are open from 10 a.m. to 5 p.m. Members can have their letters addressed to them at the office.

Vacancies and Appointments.

VACANCIES.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

BIRMINGHAM UNIVERSITY.—Demonstrator of Anatomy. Stipend, £175 per annum.

BRISTOL ROYAL INFIRMARY.—(1) Pathologist. Bacteriologist, and Director of Clinical Laboratories. Salary, £250 per annum. (2) Medical Registrar. (3) Surgical Registrar.

BRISTOL: UNIVERSITY COLLEGE.—Professor of Pathology.

CHELSEA HOSPITAL FOR WOMEN, Fulham Road, S.W.—Resident Medical Officer. Salary, £80 per annum.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.—House-Physician. Honorarium, £25 for six months.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark.—Eight Qualified Clinical Assistants in the Out-patient Department.

LONDON FEVER HOSPITAL, Liverpool Road, N.—Resident Medical Officer. Salary, £250 per annum.

LONDON THROAT HOSPITAL, Great Portland Street.—Third Honorary Anaesthetist.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon for the new Branch, Hyson Green. Salary, £160 per annum.

ROYAL LONDON OPHTHALMIC HOSPITAL, City Road, E.C.—Two Refraction Assistants. Salary, £25 per annum.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone Road, N.W.—Clinical Assistants.

SEAMAN'S HOSPITAL, Greenwich.—(1) Two Assistant Physicians. (2) Assistant Physician or Surgeon for diseases of the throat, nose, and ear.

SEAMEN'S HOSPITAL SOCIETY, Greenwich.—Pathologist at the Dreadnought Hospital. Salary, £100 per annum.

SHOREDITCH: PARISH OF ST. LEONARD.—Second Assistant Medical Officer for the Infirmary. Salary at the rate rate of £100 per annum.

SOUTHPORT INFIRMARY.—Resident Junior House and Visiting Surgeon. Salary at the rate of £70 per annum.

STAFFORD: STAFFORDSHIRE GENERAL INFIRMARY.—Assistant House-Surgeon. Honorarium, £41 for six months.

STOCKPORT INFIRMARY.—Junior Assistant House-Surgeon. Salary, £40 per annum.

STOKE-UPON-TRENT: NORTH STAFFORDSHIRE INFIRMARY AND EYE HOSPITAL, Hartshill.—Junior House-Surgeon. Salary, £50 per annum.

TIVERTON INFIRMARY AND DISPENSARY.—House-Surgeon and Dispenser. Salary, £80 per annum.

WOLVERHAMPTON GENERAL HOSPITAL.—Assistant House-Physician. Honorarium at the £75 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces a vacancy in the office of Certifying Factory Surgeon at Loughborough, county Leicester; Esher, county Surrey.

APPOINTMENTS.

BAGGS, J. C., L.S.A., Medical Officer to the Para Electric Railway and Lighting Company.

BURGESS, A. H., F.R.C.S.Eng., M.B., M.Sc.Vict., Assistant to the Professor of Systematic Surgery in the Victoria University of Manchester.

FISHER, W. H., M.B.Camb., Medical Officer of Health, Walsingham Rural District.

FISON, E. T., M.D., D.P.H., Medical Officer of Health for the Borough of Salisbury.

FLETCHER, H. N., M.B., Ch.B., F.R.C.S Edin., Junior Resident Medical Officer to St. Mary's Hospital, Whitworth Street, Manchester.

GLANVILLE, Wm. G., M.B., B.Ch.Oxon., District Medical Officer of the Parish of Hampstead.

GOLDSMITH, B. K., M.B., Ch.B.Edin., D.P.H., House-Surgeon to the St. Mary's Hospital, Clifford Street, Manchester.

GRÜNBAUM, Otto, M.D. Cantab., M.R.C.P., D.Sc.Lond., Assistant Physician of the London Hospital.

HANDLEY, W. Sampson, M.S., M.D.Lond., F.R.C.S.Eng., Assistant Surgeon to the Middlesex Hospital.

HARRISON, Percy Ernest, L.R.C.S., L.R.C.P.Irel., L.M., House-Surgeon to the Stockport Infirmary.

HESLOP, J. W., M.B., B.S., M.R.C.S., L.R.C.P., Surgical Registrar to the Royal Infirmary, Newcastle-on-Tyne.

JACKSON, F. D. Selmes, M.R.C.S., L.R.C.P., House Physician to the Evelina Hospital for Sick Children.

JORDAN, C. Alfred C., M.D.Cantab., Medical Officer to the Electrical Department of the Metropolitan Hospital.

MACLACHLAN, J., M.B., C.M.Glasg., Certifying Factory Surgeon for the Dornoch District, co. Sutherland.

MARES, Urban, M.R.C.S., L.R.C.P., Assistant House-Surgeon, Swansea General Hospital.

PITHIE, A. D., L.R.C.P. and S.Edin., L.F.P.S.Glasg., Certifying Factory Surgeon for the Lymington District, co. Hants.

POCHIN, F. L., M.B., C.M.Edin., Certifying Factory Surgeon for the Fakenham District co. Norfolk.

RALPHS, F. G., M.B., Ch.B.Vict., Senior Resident Medical Officer to the St. Mary's Hospital, Whitworth Street, Manchester.

REW, George R., M.R.C.S., L.R.C.P.Lond., Assistant House and Visiting Surgeon to the Stockport Infirmary.

SHAW, W. F., M.B., Ch.B.Vict., Resident Obstetric Assistant Surgeon and House-Surgeon to the St. Mary's Hospital, Whitworth Street, Manchester.

WAGGH, R. J., M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer, Fulham Parish Infirmary.

WILLIAMS, W. R. E., M.B., Ch.B.Edin., Medical Officer of Health, Pembroke Rural District.

WRIGHT, William, D.Sc., Ch.B., F.R.C.S., Lecturer on Anatomy at the Middlesex Hospital Medical School.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to insure insertion in the current issue.

MARRIAGE.

BAINBRIDGE—SMITH.—On December 13th, at the South Croydon Wesleyan Church, by the Rev. C. E. Mees, B.A., assisted by the Rev. Walter Hawkins and Rev. W. R. Dent, Francis Arthur Bainbridge, M.A., M.D., D.Sc., M.R.C.P., son of R. R. Bainbridge, Esq., of Stockton-on-Tees, to Hilda Winifred, daughter of the Rev. Edward Thornton Smith, Wesleyan Minister.

DEATH.

CARTER.—On December 14th, at Shottery Hall, Stratford-on-Avon, Thomas Albert Carter, M.D., F.R.C.P., J.P., aged 71.

BOOKS, ETC., RECEIVED.

The Right to Torture. By "Laicus." Naas: *Leinster Leader* Office. 1905. 9d.

Catharine Grace Loch, Royal Red Cross Senior Lady Superintendent Queen Alexandra's Military Nursing Service for India: a Memoir. Edited by A. F. Bradshaw, M.A., C.B. London: Henry Frowde. 1905. 4s.

Diet och Föda betraktade i sitt förhallande till styrka och uthallighet, träning och sport. Af Alexander Haig, M.A., M.D.Oxon., F.R.C.P. Bemyndigad öfversättning fran femte Engelska upplagan. Stockholm: Wahlström and Widstrands Forlag. 1905.

Clinical Obstetrics. By R. Jardine, M.D., M.R.C.S., F.F.P. and S.G., F.R.S.E. Second edition. London: Rebman, Limited. 1905. 17s.

Lectures on Clinical Psychiatry. By Dr. E. Kraepelin. Authorized translation from the second German edition. Revised and edited by T. Johnstone, M.D., M.R.C.P. Second edition. London: Baillière, Tindall, and Cox. 1906. 10s. 6d.

Physical Diagnosis. By R. C. Cabot, M.D. Third edition. London: Baillière, Tindall, and Cox. 1906. 15s.

A Textbook of Psychiatry. By L. Bianchi, M.D. Authorized translation from the Italian. By H. Macdonald, M.B., Ch.B. London: Baillière, Tindall, and Cox. 1906. 21s.

Notes on General Practice. By S. M. Hebblethwaite, M.D. London: The Scientific Press. 1905. 3s. 6d.

The Bacteriology of Peritonitis. By L. S. Dudgeon, M.R.C.P., and P. W. G. Sargent, M.A., M.B., B.C., F.R.C.S. London: A. Constable and Co., Ltd. 1905. 7s. 6d.

Transactions of the Ophthalmological Society of the United Kingdom. Vol. xxv. London: J. and A. Churchill. 1905. 12s. 6d.

A System of Medicine. Edited by T. C. Allbutt, M.D., F.R.S., and H. D. Rolleston, M.D. Vol. i. London: Macmillan and Co. 1905. 25s.

The Inflammation Idea in General Pathology. By W. H. Ransom, M.D., F.R.S. London: Williams and Norgate. 1905.

Handbook and Model By-laws. With an Outline of the Principal Duties and Powers of Local Authorities and their Officers under the Public Health Act, 1903. By J. S. C. Elkington, M.D., D.P.H. Tasmania: J. Vail. 1905.

Lehrbuch der Chirurgie in Vorlesungen kurzgefasstes Lehrbuch. Von Dr. E. Leser. I. Teil. Allgemeine Chirurgie. Jena: Gustav Fischer. 1906. M. 12.

Reports of the Society for the Study of Disease in Children. Vol. v. Session 1904-5. Edited by G. Carpenter, M.D. London: J. and A. Churchill.

First Aid. By R. J. Collie, M.D., and C. F. Wightman, F.R.C.S. Third edition. London: George Gill and Sons, Limited. 8d.

Aus meinem Leben. Erinnerungen und Erörterungen. Von Dr. M. Benedikt. Wien: Carl Konegen. 1906.

Bale's Dental Surgeon's Daily Diary and Appointment Book, 1906. London: John Bale, Sons, and Danielsson, Limited.

The Four Just Men. By E. Wallace. London: The Tallis Press. 1905.

Who's Who, 1906. London: A. and C. Black. 7s. 6d.

Who's Who Year Book, 1906. London: A. and C. Black. 1s.

My System: Fifteen Minutes' Work a Day for Health. By J. P. Müller. Translated by G. M. [illegible]. English edition. London: The Anglo-Danish Publishing Company. 1905. 5s.

Geschichte der Merckschen Engelapotheke zu Darmstadt. 1905.

An Almanack for 1906. By J. Whitaker, F.S.A. London: J. Whitaker and Sons. 2s. 6d.

Whitaker's Peerage for 1906. London: J. Whitaker and Sons, Limited.

Herbert Fry's Royal Guide to the London Charities. Edited by J. Lane. Forty-second edition. London: Chatto and Windus. [illegible]

Liverpool School of Tropical Medicine. Memoir XVI. Report on Trypanosomiasis [illegible]. By H. W. Thomas, M.D., and [illegible]. A. E. Mc[illegible], M.D. Memoir XVII. The Nature of Human Tick Fever in the Eastern Part of the Congo Free State. By [illegible] J. T. Dutton, M.B., and J. L. Todd, B.A., M.D. London: Williams and Norgate. 1905. 12s. 6d. and 7s. 6d. respectively.

CALENDAR OF THE ASSOCIATION.

Month.	Day of Week.	Meetings to be Held.
Dec.	24...Sunday..	
,,	25...Monday ...	*Christmas Day.*
,,	26...Tuesday ...	*Boxing Day.*
,,	27...Wednesday	
,,	28...Thursday...	
,,	29...Friday ...	
,,	30...Saturday...	
,,	31...Sunday..	
1906.		
Jan.	1...Monday ...	
,,	2...Tuesday ...	
,,	3...Wednesday	London: Medico-Political Committee, 3 p.m.
,,	4...Thursday...	Swansea Division, *South Wales and Monmouthshire Branch*, General Hospital, Swansea, 3 p.m.
,,	5...Friday ...	London: Ethical Committee, 2 p.m.
,,	6...Saturday...	Dublin: Irish Committee, 3 p.m.
,,	7...Sunday..	
,,	8...Monday ...	
,,	9...Tuesday ...	London: Premises and Library Committee, 3 p.m.
,,	10...Wednesday	London: Journal and Finance Committee, 2.30 p.m.
,,	11...Thursday ...	
,,	12...Friday ...	Hampstead Division, *Metropolitan Counties Branch.*
,,	13...Saturday ...	
,,	14...Sunday..	
,,	15...Monday ...	
,,	16...Tuesday ...	Science Committee, 2.30 p.m., London.
,,	17...Wednesday	Central Council, 2 p.m.
,,	18...Thursday...	City Division, *Metropolitan Counties Branch*, 4 p.m. Westminster Division, *Metropolitan Counties Branch*, 20, Hanover Square, 8.30 p.m.
,,	19...Friday ...	St. Pancras and Islington Division, *Metropolitan Counties Branch*, University College Hospital, 4 p.m.
,,	20...Saturday ...	
,,	21...Sunday..	
,,	22...Monday ...	
,,	23...Tuesday ...	
,,	24...Wednesday	
,,	25...Thursday...	Wandsworth Division, *Metropolitan Counties Branch*, Balham Hotel, 8.45 p.m.
,,	26...Friday ...	
,,	27...Saturday ...	
,,	28...Sunday..	
,,	29...Monday ...	
,,	30...Tuesday ...	
,,	31...Wednesday	Bath and Bristol Branch, Bristol.

Month.	Day of Week.	Meetings to be Held.
Feb.	1...Thursday...	Swansea Division, *South Wales and Monmouthshire Branch*, General Hospital, Swansea, 3 p.m. Wandsworth Division, *Metropolitan Counties Branch*, Bolingbroke Hospital, 4 p.m.
,,	2...Friday ...	
,,	3...Saturday...	
,,	4 ...Sunday..	
,,	5...Monday ...	
,,	6...Tuesday ...	
,,	7...Wednesday	
,,	8...Thursday ...	
,,	9...Friday ...	Hampstead Division, *Metropolitan Counties Branch.*
,,	10...Saturday ...	
,,	11... Sunday..	
,,	12...Monday ...	
,,	13...Tuesday ...	
,,	14...Wednesday	
,,	15...Thursday ...	
,,	16...Friday ...	
,,	17...Saturday ...	
,,	18...Sunday..	
,,	19...Monday ...	
,,	20...Tuesday ...	
,,	21...Wednesday	
,,	22...Thursday...	City Division, *Metropolitan Counties Branch*, 4 p.m. Wandsworth Division, *Metropolitan Counties Branch*, Battersea Town Hall, 3 p.m.
,,	23...Friday ...	
,,	24...Saturday...	
,,	25... Sunday..	
,,	26...Monday ...	
,,	27...Tuesday ...	
,,	28...Wednesday...	Bath and Bristol Branch, Bath.
March	1...Thursday...	Swansea Division, *South Wales and Monmouthshire Branch*, General Hospital, Swansea, 3 p.m.
,,	2...Friday ...	
,,	3...Saturday ...	
,,	4...Sunday..	
,,	5...Monday ...	
,,	6...Tuesday ...	
,,	7...Wednesday	Altrincham Division, *Lancashire and Cheshire Branch*, Northwich.
,,	8 ..Thursday...	South Wales and Monmouthshire Branch. Cardiff.
,,	9...Friday ...	Hampstead Division, *Metropolitan Counties Branch.*
,,	10...Saturday...	

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, DECEMBER 30TH, 1905.

CONTENTS.

	Page
MEETINGS OF BRANCHES AND DIVISIONS:	
Halifax and Nova Scotia Branch	365
Shropshire and Mid Wales Branch	365
South-Eastern Branch: Norwood Division	365
Ulster Branch: Belfast Division	366
Yorkshire Branch: Bradford Division	366
ASSOCIATION NOTICES.—BRANCH AND DIVISION MEETINGS TO BE HELD	366
VITAL STATISTICS	366
NAVAL AND MILITARY APPOINTMENTS	366
VACANCIES AND APPOINTMENTS	367
BIRTHS, MARRIAGES, AND DEATHS	367
BOOKS, ETC., RECEIVED	367
CALENDAR	368
INDEX	369

Meetings of Branches and Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* JOURNAL.]

HALIFAX AND NOVA SCOTIA BRANCH.

A CLINICAL meeting of this Branch was held on October 25th at the Victoria General Hospital, Halifax.

Cases.—The following cases were shown and discussed:—Dr. D. G. J. CAMPBELL: Hereditary syphilis.—Dr. M. CHISHOLM: (1) Talipes equino-varus requiring amputation; (2) perforated gastric ulcer, with successful operation.—Dr. T. J. F. MURPHY: (1) Chronic prostatitis; (2) floating kidney.

Invitation to Dr. Richet.—At the regular fortnightly meeting of the Branch, on November 8th, it was decided to invite Dr. Richet, of the Montreal Antituberculosis League, to lecture at Halifax under the auspices of the Branch.

Presidential Address.—The PRESIDENT, Dr. W. H. Hattie, then delivered an interesting and scholarly address, taking for his subject The Doctor's Mission.

Paper.—Dr. W. D. FINN read a paper on Nitroglycerine, succinctly reviewing all the points of interest about this drug. Discussion followed.

Re Patent Medicines.—It was decided that the Branch send letters of appreciation to two lay papers of the United States which had taken a decided position against the patent medicine trade.

The Branch met again on November 22nd. Before taking up the regular programme for the evening,

Case.—Dr. W. H. HATTIE showed a case of facial tic of nine years' duration, the condition being that known as "coprolalia."

Papers.—Dr. A. J. MADER read a paper, Observations in Surgical Treatment, based on his experiences during a recent visit to the medical centres of the United States. Dr. J. J. DOYLE read Notes on Hypnotics.

SHROPSHIRE AND MID WALES BRANCH.

THE twenty-ninth annual general meeting of this Branch was held at the Salop Infirmary on Tuesday, October 31st, at 3 p.m. The PRESIDENT (Dr. Charles Gwynn) occupied the chair.

Confirmation of Minutes.—The minutes of the last meeting were read and signed.

The PRESIDENT delivered his address, entitled Some Remarks upon Ambulance Work, which is published in this issue of the BRITISH MEDICAL JOURNAL p. 1700.

Annual Representative Meeting.—Dr. GARDNER gave an interesting account of his experiences at the meeting of representatives at Leicester. This paper has already been published in the JOURNAL (see SUPPLEMENT, December 2nd, p. 307).

Dinner.—After the meeting the members and their friends, to the number of fifty one, dined together at the Crown Hotel. A most enjoyable evening was spent, particularly owing to the excellent singing of the now famous "quartette" and to the thrice encored topical song of Dr. F. K. Pigott.

SOUTH EASTERN BRANCH:
NORWOOD DIVISION.

A CLINICAL meeting was held at the Home and Infirmary for Sick Children, Sydenham, on Thursday, December 14th, Mr G. C. PARNELL, of Forest Hill, in the chair.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Next Clinical Meeting.—It was arranged, on the proposal of Dr. HETLEY, seconded by Mr. ENRAGHT, that the next clinical meeting should be held at the Norwood Cottage Hospital, on January 11th, 1906, and that Mr. Gandy, of Upper Norwood, should be invited to take the chair thereat.

Midwives Act.—The report of the Committee of the Metropolitan Counties Branch on the Midwives Act was then read, and was accorded the support of this Division, Dr. STEWART proposing and Dr. HETLEY seconding the motion.

Cases.—After tea, cases were shown by the various members of the staff, and the hospital and new operating theatre were open to inspection.

Vote of Thanks.—A vote of thanks to the Chairman concluded the meeting.

ULSTER BRANCH:
BELFAST DIVISION.

A MEETING of the Belfast Division was held in the Medical Institute on Wednesday evening, December 20th, at 8.30, Dr. GAUSSEN (the Chairman) presiding.

Chairman's Address.—The CHAIRMAN delivered a very interesting address on some points which may arise in the conduct of normal labour, which elicited favourable criticism.

Annual Representative Meeting.—Dr. MITCHELL, the Representative of the Division, gave a short account of the work done at the Representative Meeting.

Cases, etc.—A series of interesting cases was shown, including one of traumatic cephalhydrocele and one of fractured scaphoid bone removed by operation, exhibited by Mr. A. FULLERTON; and among the exhibits were a collection of radiographs showing various pathological conditions, shown by Dr. RANKIN, and a collection of gall stones shown by Mr. KIRK.

Tea.—After the meeting the members were entertained to tea by the Chairman (Dr. Gaussen.)

YORKSHIRE BRANCH:
BRADFORD DIVISION.

A SPECIAL meeting of the Division was held conjointly with the Bradford Medico-Chirurgical Society at the Bradford Royal Infirmary on Tuesday, December 19th, at 8 p.m. The meeting was devoted to the exhibition of clinical cases only. Dr. HANDCOCK (President of the Medico-Chirurgical Society) took the chair.

Cases.—Clinical cases were shown in the out-patient department of the Royal Infirmary by Drs. ALTHORP, BRONNER, CAMPBELL, CROWLEY, EURICH, LITTLE, and WOOD. At 9 p.m. members adjourned to the Board Room of the infirmary, where exhibitors shortly described the cases and questions were asked. The meeting terminated at 10 p.m.

☞ *To ensure the insertion of notices in this column they must be received at the Central Offices of the Association not later than the first post on Tuesday.*

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

METROPOLITAN COUNTIES BRANCH: ST. PANCRAS AND ISLINGTON DIVISION.—The next meeting will be held on Friday, January 19th, 1906, at University College Hospital, at 4 p.m., when Dr Henry Kenwood, Medical Officer of Health of Stoke Newington, will open a discussion on Disinfection in Rooms occupied by the Infectious Sick.—WYNN WESTCOTT, Honorary Secretary.

METROPOLITAN COUNTIES BRANCH: WESTMINSTER DIVISION.—A meeting of the Division will be held on Thursday, January 18th, 1906, at 20, Hanover Square, at 8.30 p.m. Preliminary Agenda: Mr. J. Smith Whitaker (Medical Secretary of the Association) will read a paper on The Association and the London General Practitioner.—W. KNOWSLEY SIBLEY, Honorary Secretary.

SOUTH-EASTERN BRANCH: NORWOOD DIVISION.—A clinical meeting will be held on Thursday, January 11th, 1906, at 4 p.m., at the Cottage Hospital, Upper Norwood, Mr. W. Gandy, of Upper Norwood, in the chair. The staff have kindly promised to show cases. Agenda: (1) Minutes of last meeting. (2) To decide when and where the next meeting shall be held, and to nominate a member of the Division to take the chair thereat. Members desirous of exhibiting cases are requested to communicate with the Honorary Secretary at once. The Hospital is in Hermitage Road, ten minutes from Gipsy Hill (L. B. and S. C. R.) and ten minutes from Crystal Palace High Level (L. B. and S. C. R.).—HENRY J. PRANGLEY, Honorary Secretary; ARTHUR W. SOPER, Assistant Honorary Secretary.

SOUTH-WESTERN BRANCH. The next meeting of this Branch will be held at the Royal Devon and Exeter Hospital, on Wednesday, January 10th, 1906, at 3 p.m., the President (Mr. G. Jackson, F.R.C.S., J.P.) in the chair. A Council meeting will be held on the same date and at the same place at 2 p.m. The following communications have already been promised: Dr. W. Gordon: Advances in our Knowledge of Heart Diseases during the Past Year. Mr. Russell Coombe: (1) Notes of a Case of Ruptured Pyosalpinx with an Unusual Complication; (2) Notes of a Case of [illegible] Pancreatitis. Dr. R. V. Solly: Reports on Some *Post-mortem* Examinations, Illustrated by Microscopic Specimens. Dr Solly will also show Microscopic Slides of *Gonococci* and Pneumococci. Tea will be provided after the meeting and gentlemen wishing to join the Branch are requested to communicate with Mr. G. YOUNG EALES, 1, Matlock Terrace, Torquay, Honorary Secretary.

SOUTH-WESTERN BRANCH: TRURO DIVISION.—The next meeting will be held in the second week of January, 1906, at the Miners' Hospital, Redruth. As the present day of meeting (Thursday) seems to be inconvenient to some members, especially to those in the Penzance district, the Honorary Secretary will be glad to hear any suggestions as to an alteration.—MARK R. TAYLOR, Honorary Secretary.

SOUTH WALES AND MONMOUTHSHIRE BRANCH.—Nominations for an elective member of the Central Council to fill the vacancy created by the death of Colonel Cresswell, C.B., must be made in writing, on or before January 6th, 1906, to Dr. FRANK G. THOMAS, 69 Walter Road, Swansea.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

IN seventy-six of the largest English towns, including London, 8,314 births and 5,318 deaths were registered during the week ending Saturday last, December 23rd. The annual rate of mortality in these towns, which had been 16.7, 16.1, and 17.0 per 1,000 in the three preceding weeks, further rose last week to 17.1 per 1,000. The rates in the several towns ranged from 8.6 in Hastings and in Brighton, 9.0 in Burton-on-Trent, 9.9 in Hornsey, 10.2 in Bournemouth, 11.2 in Walthamstow, and 11.5 in Grimsby, to 22.4 in Tynemouth, 22.6 in Burnley, 22.9 in Croydon, 23.2 in St. Helens, 23.4 in West Hartlepool, 25.0 in Newport (Mon.), 28.8 in Preston, and 30.3 in Bury. In London the rate of mortality was 19.4 per 1,000, while it averaged 17.1 per 1,000 in the seventy-five other large towns. The death-rate from the principal infectious diseases averaged 1.5 per 1,000 in the seventy-six large towns; in London this death-rate was equal to 1.7 per 1,000, while among the seventy-five other large towns the rates ranged upwards to 2.2 in Bristol, 2.3 in Warrington, 2.5 in Salford, 3.1 in Blackburn, 3.6 in Bury, 4.4 in West Hartlepool, and 8.6 in Preston. Measles caused a death-rate of 1.6 in Blackburn, 2.7 in Bury, and 8.1 in Preston; scarlet fever of 2.2 in West Hartlepool; diphtheria of 1.0 in Hull, 1.2 in Rochdale, 1.4 in Newport (Mon.), and 2.1 in Merthyr Tydfil; and diarrhoea of 1.1 in West Ham and in Huddersfield, 1.3 in Reading and in Gateshead, 1.4 in Leicester, 1.5 in Warrington, and 1.9 in Aston Manor. The mortality from "fever" and from diarrhoea showed no marked excess in any of the large towns. No deaths from small-pox were recorded last week either in London or in any of the seventy-five other large towns, and no cases of this disease were under treatment last week in the Metropolitan Asylums Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had been 4,021, 3,888, and 3,670 at the end of the three preceding weeks, had further declined to 3,409 at the end of last week; 295 new cases were admitted during the week, against 375, 355, and 341 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS.

DURING the week ending Saturday last, December 23rd, 903 births and 582 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had been 18.7, 19.9, and 18.2 per 1,000 in the three preceding weeks, further declined last week to 17.4 per 1,000, and was 0.4 per 1,000 above the mean rate during the same period in the seventy-six large English towns. Among these Scotch towns the death-rates ranged from 13.7 in Perth and 15.0 in Edinburgh to 25.3 in Greenock and 26.4 in Dundee. The death-rate from the principal infectious diseases averaged 2.5 per 1,000 in these towns, the highest rates being recorded in Dundee and in Greenock. The 241 deaths registered in Glasgow included 25 which were referred to measles, 6 to diphtheria, 6 to diarrhoea, and 2 to "fever." Three fatal cases of diphtheria, 2 of measles, and 2 of diarrhoea were recorded in Edinburgh. Seven deaths from measles and 2 from diarrhoea occurred in Dundee; 6 from measles and 3 from diarrhoea in Greenock; 3 from measles in Paisley; 2 from diarrhoea in Aberdeen; and 2 from whooping-cough in Leith.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been made at the Admiralty: GEORGE G. BORRETT, Staff Surgeon to the *President*, and LOUIS E. DARTNELL, Surgeon, additional for three months' course of hospital study, January 3rd, 1906; FRANCIS HERNAMAN JOHNSON, Surgeon, lent to the *Britannia*, for Dartmouth College, December 20th; CHARLES J. O'CONNELL, Surgeon, to Cape Hospital, December 4th.

ROYAL ARMY MEDICAL CORPS.

Major M. P. C. HOLT, D.S.O., has been appointed Assessor for the next examination in military surgery and skiagraphy.

EXCHANGE.

The charge for inserting notices respecting Exchanges in the Army Medical Department is 3s. 6d., which should be forwarded in stamps or post office order with the notice, not later than Wednesday morning, in order to ensure insertion in the current issue.

MAJOR, R.A.M.C., returned from foreign service, December, 1904, willing to entertain offers for exchange with an officer ordered abroad, preferably India.—Apply, "Exchange," c.o. Holt and Co., 3, Whitehall Place, London."

INDIAN MEDICAL SERVICE.

THE following are appointed Honorary Surgeons to the Governor-General of India from November 18th: Col. S. H. BROWNE, M.D., C.I.E., Bengal; Lieutenant-Colonel F. F. PERRY, Bengal; Lieutenant-Colonel W. G. H. HENDERSON, Bombay; Surgeon-General W. R. BROWNE, M.D., Madras; Lieutenant-Colonel C. P. LUKIS, M.B., Bengal; Surgeon-General W. L. GUBBINS, M.B., C.B., M.V.O., Army Medical Staff; Colonel W. E. SAUNDERS, C.B., R.A.M.C.; Colonel W. S. PRATT, M.B., R.A.M.C.; Colonel H. HAMILTON, M.D., C.B., Bengal.

ROYAL ARMY MEDICAL CORPS (MILITIA).

CAPTAIN (Honorary Captain in the Army) J. T. SIMPSON is granted the honorary rank of Major, December 23rd.

ROYAL GARRISON ARTILLERY (VOLUNTEERS).

SURGEON-CAPTAIN J. M. MOIR, M.D., the Highland Regiment, to be Surgeon-Major, December 23rd.

VOLUNTEER RIFLES.

SURGEON-LIEUTENANT J. T. TITTERTON, 4th Volunteer Battalion, the Royal Scots (Lothian Regiment), resigns his commission, December 23rd.

Surgeon-Lieutenant C. WHISH, M.B., 3rd (Renfrewshire) Volunteer Battalion, Princess Louise's (Argyll and Sutherland Highlanders), to be Surgeon-Captain, December 23rd.

VOLUNTEER OFFICERS' DECORATION.

THE Volunteer Officers' Decoration has been conferred upon the following officers: Surg.-Lieutenants E. A. WHITE, M.D., and J. W. HARRISON, 1st Cinque Ports Royal Garrison Artillery (Volunteers); Surgeon-Major C. BOYCE, M.D., 1st Volunteer Battalion the Queen's Own (Royal West Kent Regiment) (Brigade-Surgeon-Lieutenant-Colonel, Senior Medical Officer, West Kent Volunteer Infantry Brigade); Surgeon-Major M. MACKENZIE, the Highland Royal Garrison Artillery (Volunteers); Surgeon-Major Q. CHALMERS, 5th (Glasgow Highland) Volunteer Battalion the Highland Light Infantry (Brigade-Surgeon-Lieutenant-Colonel Senior Medical Officer Highland Light Infantry Volunteer Infantry Brigade); Surgeon Lieutenant-Colonel A. B. WADE, M.B., 2nd Volunteer Battalion the Hampshire Regiment; Surgeon Lieutenant-Colonel J. P. MASSINGHAM, 1st Shropshire and Staffordshire Royal Garrison Artillery (Volunteers).

Vacancies and Appointments.

VACANCIES.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column, advertisements must be received not later than the first post on Wednesday morning.

BIRMINGHAM UNIVERSITY.—Demonstrator of Anatomy. Stipend, £175 per annum.

BRISTOL ROYAL INFIRMARY.—Pathologist, Bacteriologist, and Director of Clinical Laboratories. Salary, £250 per annum.

DERBYSHIRE: ROYAL INFIRMARY.—(1) Two House-Surgeons. (2) House-Physician. (3) Assistant House-Surgeon. Salary for (1) and (2), £100 per annum; and for (3), £60 per annum.

HASTINGS: ST. LEONARDS AND EAST SUSSEX HOSPITAL.—House-Surgeon. Salary, £75 per annum.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House Physicians. Honorarium, £25 for six months.

LONDON FEVER HOSPITAL, Liverpool Road, N.—Resident Medical Officer. Salary, £250 per annum.

MIDDLESBROUGH: NORTH RIDING INFIRMARY.—Assistant House-Surgeon. Salary, £75 per annum.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Resident Medical Officer. Salary, £100 per annum.

VICTORIA HOSPITAL FOR SICK CHILDREN, Tite Street, S.W.—House-Surgeon. Honorarium, £25 for six months.

NORTHAMPTON GENERAL HOSPITAL.—Honorary Assistant Surgeon.

ST. BARTHOLOMEW'S HOSPITAL, E.C.—Assistant Physician.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone Road, N.W.—Clinical Assistants.

SEAMAN'S HOSPITAL, Greenwich.—(1) Two Assistant Physicians. (2) Assistant Physician or Surgeon for diseases of the throat, nose, and ear.

SEAMEN'S HOSPITAL SOCIETY, Greenwich.—Pathologist at the Dreadnought Hospital. Salary, £100 per annum.

SOUTHPORT INFIRMARY.—Resident Junior House and Visiting Surgeon. Salary at the rate of £70 per annum.

UNIVERSITY OF LONDON.—Professorship of Protozoology. Salary, £750 per annum.

WOLVERHAMPTON GENERAL HOSPITAL.—Assistant House-Physician. Honorarium at the rate of £75 per annum.

APPOINTMENTS.

GRANT, Dundas, M.A., M.D., F.R.C.S., Consulting Aural Surgeon to the Royal Scottish Corporation.

HILLS, William Ernest, M.R.C.S. Eng., L.R.C.P.Lond., Anæsthetist to the Hampstead General Hospital.

JAFFREY, F., F.R.C.S., Surgeon to St. George's Hospital, S.W.

JAMES, Walter T., M.B., Ch.B.Edin., Medical Officer for the Lower Division of the Aberayron Union.

JENKINS, J., M.R.C.S., L.R.C.P., Medical Superintendent to the Hammersmith Parish Infirmary and Workhouse.

JONES, Lawrence, F.R.C.S., Assistant Surgeon to St. George's Hospital, S.W.

MARTIN, J.M., M.D., Medical Officer of Health, Wheatenhurst Rural District.

SUTHERLAND, J. A., M.B., C.M.Edin., Medical Officer of Health, Cleckheaton Urban District.

LEEDS PUBLIC DISPENSARY.—The following appointments have been made:

Sharp, Alexander, M.D.Brux., F.R.C.S.Edin., Honorary Surgeon for Diseases of the Nose and Throat.

Sharp, J[illegible], M.B., Ch.B., Honorary Medical Officer in charge of Medical Cases at the South Leeds Branch.

Clark, [illegible], M.R.C.S., L.R.C.P., Honorary Medical Officer in charge of Medical Cases at the South Leeds Branch.

Young, Wm. Macgregor, M.D.Glasg., Honorary Medical Officer in Charge of Surgical Cases at the South Leeds Branch.

Mackenzie, A., M.B., B.C.Cantab., an Honorary Medical Officer in charge of Surgical Cases at the South Leeds Branch.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 5s. 6d., which sum should be forwarded in post-office orders or stamps with the notice not later than Wednesday morning, in order to insure insertion in the current issue.

BIRTH.

FORBES.—On December 27th, at 1, Oakwood Court, Kensington, W., the wife of J. Graham Forbes, M.D., M.R.C.P., of a daughter.

MARRIAGES.

GIBBONS—CLEMENT.—On December 21st, at St. Peter's Church, Hammersmith, by the Rev. J. S. Clementson, Vicar, Arthur [illegible], M.B., son of the late Philip Gibbons, of Wantage, Berkshire, to Constance Ruth, youngest daughter of the late Leonard Clement, J.P., of Nelson, Lancs.

JOHNSON—SMITH.—At St. Jude's Church, South Kensington, on December 23rd, by the Rev. Prebendary Eardley-Wilmot, M.A., John J. Johnson, M.B., Ch.B., of Crook, co. Durham, to Isobel C. Smith, M.B., Ch.B., daughter of the late Chas. Smith, of Aberdeen, and of Mrs Smith, of Barkston Gardens, London, and of Ashley Lodge, Aberdeen.

DEATHS.

EATON.—At Montreal House, Cleator Moor, Cumberland, on the 18th inst., John Eaton, M.D., F.F.P.S.G., aged 59 years.

HAWORTH.—On December 3rd, 1905, at Filey, in his 86th year, James Haworth, M.R.C.S. Eng.

DIARY FOR NEXT WEEK.

WEDNESDAY.

OBSTETRICAL SOCIETY OF LONDON, 20, Hanover Square, W., at 8 p.m.—Short Communication: Dr. Milligan: Pyelonephritis of Pregnancy. Specimens will be shown by Dr. F. E. Taylor, Dr. Horrocks, Dr. Vincent Dickinson, Dr. Griffith, Mr. H. J. Paterson, Dr. Galabin, Mr. Dudgeon. Paper: Drs. Griffith and Williamson: Fibromyoma of Uterus undergoing Sarcomatous Change.

THURSDAY.

NORTH-EAST LONDON CLINICAL SOCIETY, Tottenham Hospital, N., at 4 p.m.—Clinical Cases.

FRIDAY.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY, West London Hospital, at 8 p.m.—Clinical Evening.

BOOKS, ETC., RECEIVED.

Photographic Atlas of the Dis[illegible] A.M., M.D. Vol. iii. Philadelphia and [illegible]

Natality and Fecundity. By C. J. Lewis, D.Sc., M.D., and J. N. Lewis. Edinburgh and London: Oliver and Boyd. 1905. 7s. 6d.

Berliner Arzneiverordnungen mit Einschules der physikalisch-diätetischen Therapie. Von Dr. med. P. Reckzeh. Berlin: S. Karger; and London: Williams and Norgate. 1906. 3s.

Aerztliche Taktik. Von Dr. F. Schlesinger. Berlin: S. Karger; and London: Williams and Norgate. 1906. 1s.

Uber Primäre Thoraxanomalien speziell über die starre dilatation des Thorax als Ursache eines Lungenemphysems. Von W. A. Freund. Berlin: S. Karger; and London: Williams and Norgate.

Leitfaden der Elektrodiagnostik und Elektrotherapie. Vierte Auflage. Berlin: S. Karger; and London: Williams and Norgate. 1906. 4s. 6d.

Lectures on Auto-intoxication in Disease or Self-poisoning of the Individual. By C. Bouchard. Translated by T. Oliver, M.A., M.D., F.R.C.P. Second edition. Philadelphia: F. A. Davis Company. 1906. 2 dols.

Biographic Clinics. Vol. iii. By G. M. Gould. London: Rebman, Limited. 1905. 5s.

The Year Book of the Scientific and Learned Societies of Great Britain and Ireland. Twenty-second issue. 1904-5. London: Charles Griffin and Co., Limited. 1905.

Beauty of Figure. By Deborah Primrose. London: W. Heinemann. 1906.

Surgical Diseases of the Dog and Cat. By F. T. G. Hobday, F.R.C.V.S., F.R.S.E. (Second edition of "Canine and Feline Surgery.") London: Baillière, Tindall, and Cox. 1906. 10s. 6d.

A Manual of Physiology. By G. N. Stewart, M.A., D.Sc., M.D., D.P.H. Fifth edition. London: Baillière, Tindall, and Cox. 1906. 15s.

*** In forwarding books the publishers are requested to state the selling price.

CALENDAR OF THE ASSOCIATION.

Month.	Day of Week.	Meetings to be Held.
1906.		
Jan.	1...MONDAY ...	
,,	2...TUESDAY ...	
,,	3...WEDNESDAY	LONDON : Medico-Political Committee, 3 p.m.
,,	4...THURSDAY...	Swansea Division, *South Wales and Monmouthshire Branch*, General Hospital, Swansea 3 p.m.
,,	5...FRIDAY ...	LONDON : Ethical Committee, 2 p.m.
,,	6...SATURDAY...	DUBLIN : Irish Committee, 3 p.m.
,,	7...Sunday..	
,,	8...MONDAY ...	
,,	9...TUESDAY ...	LONDON : Premises and Library Committee, 3 p.m.
,,	10...WEDNESDAY	LONDON : Journal and Finance Committee, 2.30 p.m. : to meet Chairmen of Committees, 4 p.m. South-Western Branch, Royal Devon and Exeter Hospital, 3 p.m.
,,	11...THURSDAY ..	Norwood Division, *South-Eastern Branch*, Cottage Hospital, Upper Norwood, 4 p.m.
,,	12...FRIDAY ..	Hampstead Division, *Metropolitan Counties Branch*.
,,	13...SATURDAY ...	
,,	14...Sunday..	
,,	15...MONDAY ...	
,,	16...TUESDAY ...	Science Committee, 2.30 p.m., London.
,,	17...WEDNESDAY	Central Council, 2 p.m.
,,	18...THURSDAY...	City Division, *Metropolitan Counties Branch*, 4 p.m. Westminster Division, *Metropolitan Counties Branch*, 20, Hanover Square, 8.30 p.m.
,,	19...FRIDAY ...	St Pancras and Islington Division, *Metropolitan Counties Branch*, University College Hospital, 4 p.m.
,,	20...SATURDAY ...	
,,	21...Sunday..	
,,	22...MONDAY ...	
,,	23...TUESDAY ...	
,,	24...WEDNESDAY	
,,	25...THURSDAY...	Wandsworth Division, *Metropolitan Counties Branch*, Balham Hotel, 8.45 p.m.
,,	26...FRIDAY ...	
,,	27...SATURDAY ...	
,,	28...Sunday..	
,,	29...MONDAY ..	
,,	30...TUESDAY ...	
,,	31...WEDNESDAY	Bath and Bristol Branch, Bristol.
Feb.	1...THURSDAY...	Swansea Division, *South Wales and Monmouthshire Branch*, General Hospital, Swansea, 3 p.m. Wandsworth Division, *Metropolitan Counties Branch*, Bolingbroke Hospital 4 p.m.
,,	2...FRIDAY ...	
,,	3...SATURDAY...	
,,	4...Sunday..	
,,	5...MONDAY ...	
,,	6...TUESDAY ...	
,,	7...WEDNESDAY	
,,	8...THURSDAY ...	
,,	9...FRIDAY ..	Hampstead Division, *Metropolitan Counties Branch*.
,,	10...SATURDAY ...	
,,	11...Sunday	
,,	12...MONDAY ...	
,,	13...TUESDAY ...	
,,	14...WEDNESDAY	
,,	15...THURSDAY ...	
,,	16...FRIDAY ...	
,,	17...SATURDAY ...	
,,	18...Sunday..	
,,	19...MONDAY ...	
,,	20...TUESDAY ...	
,,	21...WEDNESDAY	
,,	22...THURSDAY..	City Division, *Metropolitan Counties Branch*, 4 p.m. Wandsworth Division, *Metropolitan Counties Branch*, Battersea Town Hall, 3 p.m.
,,	23...FRIDAY ...	
,,	24...SATURDAY...	
,,	25...Sunday..	
,,	26...MONDAY ...	
,,	27...TUESDAY	
,,	28...WEDNESDAY...	Bath and Bristol Branch, Bath.
March	1...THURSDAY..	Swansea Division, *South Wales and Monmouthshire Branch*, General Hospital, Swansea, 3 p.m.
,,	2...FRIDAY ...	
,,	3...SATURDAY...	
,,	4...Sunday..	
,,	5 MONDAY	
,,	6 TUESDAY	
,,	7...WEDNESDAY	Altrincham Division, *Lancashire and Cheshire Branch*, Northwich.
,,	8...THURSDAY..	South Wales and Monmouthshire Branch, Cardiff.
,,	9...FRIDAY ...	Hampstead Division, *Metropolitan Counties Branch*.
,,	10...SATURDAY...	
,,	11...Sunday..	
,,	12...MONDAY ...	
,,	13...TUESDAY ...	
,,	14...WEDNESDAY	

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INDEX TO SUPPLEMENT FOR VOLUME II, 1905.

A.

Aberdeen Branch. See Branch
Abortifacients, use of lead preparations as. See Lead
Act, Employers' Liability, 240
—— indecent advertisements, discussion at Annual Representative Meeting, 120 ; Medico-Political Committee and, 255
—— the Midwives, the Medico-Political Committee and, 54, 255 ; discussion at Annual Representative Meeting, 121, 137 ; and the London County Council, 194 ; resolutions of : Dover Division, 287 ; Norwood Division, 365 ; Tottenham Division, 303 ; Worcester Division, 45
—— Workmen's Compensation, 254
Advertising in connexion with hydropathic establishments, resolutions of : Lincoln Division, 20 ; Northern Counties of Scotland Branch 42 ; Renfrewshire Division, 40 ; South Shields Division, 20
Aliens Bill. See Bill
Altrincham Division. See Division
Ambulance competitions, discussion at Annual Representative Meeting, 120
———— work, relations of the medical profession to, memorandum from Medico-Political Committee, 218 ; resolutions of : Altrincham Division, 170 ; Fife Branch, 220 ; Lincoln Division, 20 ; Monmouthshire Division, 43 ; Northern Counties of Scotland Branch, 42 ; North-West Division, 40 ; Renfrewshire Division, 329 ; St Pancras Division, 20 ; Shropshire and Mid Wales Branch, 27 ; Southport Division, 330 ; Tottenham Division, 303
Anderson, J Ford, ethical aspects of the hospital question, 243
Army, British, promotions and appointments in the medical service of, 29, 46, 78, 95, 159, 171, 183, 190, 194, 198, 202, 206, 214, 221, 235, 249, 280, 289, 297, 321, 350, 361, 366
———— changes of stations, 30, 159, 190, 206, 248, 297, 362
———— colonial contingents, promotions and appointments in the medical service of the, 202, 350
———— exchange, 198, 202, 206, 214, 221, 366
———— Medical Reserve, promotions and appointments in, 29, 78, 159, 171, 194, 202, 214, 280, 321, 341, 350, 362
———— Royal Army Medical College, promotions and appointments, 194, 202, 214
———— Royal Army Medical Corps (Militia), promotions and appointments, 29, 78, 159, 280, 341, 367
———— Channel Islands (Militia), promotions and appointments in the medical service of, 159
—— Indian, promotions and appointments in the medical service of, 29, 46, 78, 171, 190, 194, 198, 202, 206, 214, 221, 235, 249, 280, 297, 321, 361, 366
———— promotion and precedence, 194
ASSOCIATION, BRITISH MEDICAL : annual meeting, general arrangements, 8, 33, 69, 81 ; first general meeting, 97 ; adjourned general meeting, 97, 148, 149, 150 ; financial statement, 98 ; presentation of gold badge to President, 148 ; foreign and colonial guests, 148 ; presentation of gold medals, 148 ; Stewart prize, 149 ; President's address, 149 ; vote of thanks to the mayor, 149 ; annual meeting of 1906, 149, 301 ; address in medicine, 149 ; address in surgery, 150 ; annual dinner, 150 ; entertainments and excursions, 156
———— annual meeting at Toronto, 1906, information concerning, 301, 330
———— Annual Representative Meeting, 94, 99, 130 ; list of representatives returned for Leicester meeting, 1905, 94 ; preliminary business, 99 ; election return, 99 ; re-election of Chairman, 99 ; standing orders, 99 ; election of committees, 100 ; rules of debate, 102 ; voting by card, 102 ; annual report of Council, 102 ; provident dispensaries, 103, 112, 141 ; finance, 103 ; co-ordination of the scientific work of the Association, 104 ; clerical staff superannuation scheme, 104 ; Royal charter 106 ; contract practice, 109, 129 ; consultation between medical witnesses, 112, 113 ; reorganization of the Local Government Board, 113 ; legal position of medical men in respect of information supplied to coroners, 113 ; representation of the profession in Parliament, 113 ; supply of Government lymph to private practitioners, 116 ; drug abuse, 116 ; National Deposit Friendly Society, 116 ; death registration and amendment of coroner's law, 117 ; registration of still-births, 118 ; payment of medical practitioners called in to assist midwives, 119, 139 ; Medical Acts Amendment Bill, 119 ; fees to medical witnesses in emergency cases, 120 ; school certificates, 120 ; postal medical officers, 120 ; repetition of prescriptions, 120 ; coroner for South-West London, 120, 141 ; certificates of secondary education, 120 ; ambulance competitions, 120 ; Indecent Advertisements Act, 120 ; security of tenure to health officers, 120 ; administration of the Midwives Act, 121, 137 ; nurses' registration, 121, 140 ; certifying factory surgeons, 121 ; insurance examination fees, 121 ; unregistered practitioners, 121 ; vaccination (expenses), 121 ; Lunacy Law amendment, 121 ; lead as an abortifacient, 122 ; report of Ethical Committee, 122 ; medical defence, 122, 145 ; amendment of by-laws, 122 ; Branch Representatives on Central Council, 123 ; eligibility for membership, 124 ; notification of election, 124 ; salaried officers, 124 ; Irish Committee, 124 ; officers and Council, 125 ; composition of Council, 125 ; expulsion, 125 ; travelling expenses, 125 ; nominations to committees, 125 ; hour of meeting, 130 ; expenses of officers of Divisions or Branches attending conferences, 130 ; expenses of representatives, 130 ; mode of election of Chairman of Representative Meeting, 131 ; proposal to appoint Deputy Chairman, 131 ; work of Medico-Political and other Standing Committees, 131 ; delegates to Public Boards, 131 ; meetings of Council, 131 ; election of Representatives on Council, 132 ; reports of proceedings of Council, 132 ; supply of SUPPLEMENTS to Secretaries, 132 ; election of members, 132 ; scheme for affiliation of medical societies, 133 ; arrangements to facilitate representation, 133 ; grants to Divisions, 133 ; circulation of SUPPLEMENTS, 134 ; separate issue of report of Annual Meeting, 135 ; central office, designation, 136 ; position of Medical Secretary, 136 ; Annual Representative Meeting 1906, 138 ; attendance of members of Committees at the Representative Meeting, 139 ; work of Medical Secretary's Department, 140 ; ballot for Committees, 140 ; trachoma, 141 ; local provident medical services, 141 ; scheme for attendance on lower and lower middle class, 141 ; inaction of the Government in respect of the coroner for South-West London, 141 ; pathologists in coroners' courts, 142 ; "Medical Register," 143 ; position of consultants, 143 ; dual hospital appointments, 143 ; a proposed out-patient department, 144 ; proposed separation of Annual and Representative Meetings, 146 ; medical agency, 145 ; Deputy-Chairman, 146 ; confirmation of minutes, 140 ; vote of thanks to Sir Victor Horsley, 140
Association, British Medical, Annual Representative Meeting at Leicester, impressions of (H Willoughby Gardner), 307
———— annual exhibition of foods, drugs, instruments, books, and sanitary appliances, 152, 164, 179, 185 ; instruments and appliances, 153, 164, 186 ; foods and specialities, 167 ; drugs and preparations, 168, 179, 188 ; books, 185
———— Branch. See Branch
———— changes of boundaries of Divisions and Branches, 231
———— co-ordination of the scientific work of the Association, its Branches and Divisions, 209
———— Council Proceedings, 50, 161, 237, 353
———— Division. See Division
———— library, list of books presented to, 189, 320 ; list of books needed to complete series, 201, 221, 342
———— members elected during June quarter, 1905, 100, 232
———— proposed Royal Charter, 49, 106, 258 ; Annual Representative Meeting, and, 106 ; Organization Committee and, 258
Association, British Medical, reorganization of (William Calwell), 213
———— Scientific Grants Committee. See Committee
———— work of (H. A. Latimer), 204
Aylesbury Division. See Division

B

Bedfordshire and Hertfordshire Division. See Division
Belfast Division. See Division
Bequests to medical charities, 74
Bill, Accidents (mines and factories), Medico-Political Committee and, 53
—— the Aliens, the Medico-Political Committee and, 53, 57 ; Public Health Committee and, 64
—— Companies Medical Practice, 28 ; memorandum, 28
—— Coroners. See Coroners
—— Dental Companies, 28 ; memorandum, 28
—— Education (Scotland), 64
—— Medical Acts Amendment, Medico-Political Committee and, 53, 54, 55 ; discussion at Annual Representative Meeting, 119 ; resolutions of : Chichester and Worthing Division, 171 ; Lanarkshire Division, 45 ; Renfrewshire Division, 40 ; Sheffield Division, 1
—— Public Health, Medico-Political Committee and, 57 ; Public Health Committee, 62, 259 ; resolutions of : Chichester and Worthing Division, 171 ; Coventry Division, 2 ; Eastern Province Branch, 2 ; Hospital Division, 2 ; Lincoln Division, 20 ; North Carnarvonshire and Anglesey Division, 350 ; Oxford Division, 21 ; Renfrewshire Division, 4 ; Sheffield Division, 1 ; South Carnarvon and Merioneth Division, 350
—— Revaccination, resolutions of : Lincoln Division, 20 ; Renfrewshire Division, 40 ; Sheffield Division, 1
—— Tuberculosis (Animals) Compensation, 64
—— Workmen's Compensation, resolutions of : South Staffordshire Division, 93 ; West Bromwich Division, 39
Birmingham Branch. See Branch
Births, deaths, and marriages in Ireland, 2
Board, Central Midwives, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41,

Branch, Dundee, 210; confirmation of minutes, 210; Representative Meeting, 210; special reports, 210
——— East Anglian, 125, 219; annual meeting, 125, 219; new members, 125, 219; autumn meeting, 125, 219; report of Council, 125; election of officers, 126; pathological meeting, 126; President's address, 127; paper, 127; entertainment, 127; spring meeting, 219
——— Eastern Province, Cape of Good Hope, 39, 179, 219; confirmation of minutes, 39, 179, 219, 357; letters, 39, 179, 357; proposed East London Division, 39, 179, 219; Representative on Central Council, 39, 179; medical Congress, 39; insanity in South Africa, 39; Grahamstown Bacteriological Institute, 39; proposed South African Guild, 179, 219; vote of thanks to retiring President, 179; Public Health Bill, 219; paper, 219; annual report and financial statement, 357; election of officers, 357; draft by-laws, 357; draft of Public Health Bill, 357; exhibit, 357; apology, 357; "sacco," 357; specimens, 357
——— Edinburgh, 19, 39; annual meeting, 19, 39; introduction of new President, 10; confirmation of minutes, 19, 39; election of officers, 19; treasurer's report, 19; proposed précis, 19; vote of thanks to honorary secretaries, 19; the late Dr. Brydon, 39; cases, 39; excursions, 40; golf match, 40; visit to hospitals, 40; dinner, 40
——— Fife, 229; third annual meeting, 229; election of President, 229; election of officers, 229; Annual Representative Meeting, 229; report of Branch Council, 229; matters referred to Divisions, 229; Epsom College, 230; British Medical Benevolent Fund, 230
——— Gloucestershire, 40; general meeting, 40; voyage of the "Discovery," 40; vote of thanks to Dr Wilson, 40
——— Halifax (Nova Scotia), 278, 365; annual meeting 278; reports, 278; election of officers, 278; vote of thanks, 278; next meeting, 278; cases, 365; invitation to Dr. Richet, 365; Presidential address, 365; paper, 365; paper, 365; *re* patent medicines, 365
——— Lancashire and Cheshire, 91; sixty-ninth annual meeting, 91; introduction of new President, 91; confirmation of minutes, 91; report of Council, 91; financial statement, 91; election of officers, 91; election of Representatives in the Council of the Association, 91; election of Representatives of Divisions in the Council of the Branch, 91; appointment of auditors, 92; vote of thanks to retiring President, 92; vote of thanks to officebearers, 92; next annual meeting, 92; alteration of rules, 92; President's address, 92; communications, 92; exhibition of drugs, 92; dinner, 92
——— Lancashire (North) and South Westmorland, 93; third annual meeting, 93; confirmation of minutes, 93; report of Branch Council, 93; election of officers, 93; excursion, 93
——— Malta and Mediterranean, 19, 177; annual general meeting, 19; first meeting of new session, 177; election of officers and members of Council, 19; Representative of Branch, 19; confirmation of minutes, 177; vote of sympathy, 177; correspondence, 177; election of President, 177; President's ruling, 177; Dr. Debono's resolution, 178
——— Metropolitan Counties, 40; annual meeting, 40; confirmation of minutes, 40; appeal to the chair, 40; election of officers, 40; Representatives on Central Council, 40; introduction of the President, 40; vote of thanks to retiring officers, 40; President's address, 41; dinner, 41
——— New South Wales, 41; annual meeting, 41; confirmation of minutes, 41; new members, 41; report of Council and balance sheets, 41; President's address, 41; election of officers, 41; Mutual Life Association of New York, 41; cases, 41; papers, 42; specimens, 42
——— North of England, 75, 76; annual meeting, 75; election of representatives on Central Council, 75; report of Branch Council, 75; addition to rules, 76; report of Representative on Central Council, 76; the late Dr. Murphy, 76; election of officers, 76; members of Branch Council, 76; installation of new President, 76; President's address, 76; excursions, 76; apologies for non-attendance, 76; proposed absorption of County Durham Medical Union, 76; emergency fund, 77
——— Northern Counties of Scotland, 42; annual meeting, 42; apologies for absence, 42; confirmation of minutes, 42; officebearers, 42; autumn meeting, 42; next annual meeting, 42; matters referred to Divisions, 42; luncheon, 42
——— Oxford and Reading, 127; annual meeting, 127; President-elect and Council, 127; dinner, 127
——— Perthshire, 42, 124; summer meeting, 42; annual meeting, 304; confirmation of minutes, 42, 304; Representative at annual meeting, 42; report and proposals of Division Representative, 42; vote of thanks to president, 42; golf match, 42; new members, 304; election of officers, 304; report of Council, 304; Annual Representative Meeting, 304; installation of new president, 304; medical inspection of schools, 304; complaint against a practitioner, 304; matters referred to Council, 304; dinner, 304
Branch, Shropshire and Mid Wales, 26, 307, 365; spring meeting, 26; confirmation of minutes, 26, 365; the late Sir William Mitchell Banks, 26; election of officers, 26; annual report, 27; financial statement, 27; matters referred to Divisions, 27; tea, 27; impressions of the Annual Representative Meeting at Leicester (H. Willoughby Gardner), 307, 365; dinner, 365
——— South-Eastern, 21; annual meeting, 21; election of officers, 21; previous visits to Canterbury, 21; luncheon, 21; presidential address, 21; report of Council, 22; Divisional secretaries, 22; proposed division of Branch, votes of thanks to retiring officers, 22; excursions, 22; dinner, 23
——— South-Eastern of Ireland, 25, 93, 230; installation of new President, 25; confirmation of minutes, 25, 230; correspondence, 25, 230; discussions, 26, 93; resolutions, 26; vote of thanks, 26, 93, 230; luncheon, 26; apologies for non-attendance, 93; minutes, 93; Annual Representative Meeting, 93, 230; Representative on Central Council, 93
——— South Midland, 42; fiftieth annual meeting, 42; luncheon, 42; confirmation of minutes, 42; new member, 43; installation of new President, 43; albuminuria of adolescents, 43; aspirin in treatment of rheumatism, 43; specimens, 43; visit to Abbey, 43
——— South Wales and Monmouthshire, 43, 294; annual meeting, 43; confirmation of minutes, 43; report of Council and financial statement, 43; standing orders, 43; Representatives on Central Council, 43; election of officers, 43; installation of new President, 43; President's address, 43, 294; annual dinner, 43; on the work of the British Medical Association (H. A. Latimer), 294
——— South-Western, 26; sixty-sixth annual meeting, 26; confirmation of minutes, 26; obituary: the late Dr. Alexander, 26; President's address, 25; votes of thanks, 26; report of Branch Council, 26; election of officers, 26; visits of inspection, 26; annual dinner, 26; excursion, 26
——— Southern, 42; thirty-second annual meeting, 42; letters of apology, 42; Epsom College, 42; vote of thanks to retiring President, 42; new President's address, 42; luncheon and garden party, 42
——— Staffordshire, 127, 339; thirty-second annual meeting, 127; confirmation of minutes, 127, 339; vote of thanks to retiring President, 127; apologies for non-attendance, 127; report of Council, 127; next annual meeting, 127; election of officers, 127; addition to rules, 127; Presidential address, 127; congratulations to Mr. W. H. Folker, 339; cases, 339; papers, 339; specimens, 339; exhibits, 339
——— Sydney and New South Wales, 198, 205, 263, 293, 330; elections, 198; exhibits, 198; confirmation of minutes, 205, 263, 293; apology for absence, 205; new members, 205, 263, 293; nomination for election, 205; resolutions, 205; cases, 205; paper, 263; new councillor, 293; communications, 293; special Branch meeting, 293; Poulton testimonial fund, 293; consultation with homœopaths, 330; school holidays, 330
——— Ulster, '27, 264; twenty-seventh annual meeting, 27; confirmation of minutes, 27, 264; apology for non-attendance, 27; report of Council, 27; financial statement, 27; election of office-bearers, 27; visit to Rostrevor sanatorium, 27; installation of new President, 264; vote of thanks to retiring President, 264; report of Council, 264; proposed meeting in Derry, 264
——— West Somerset, 288; confirmation of minutes, 288; the late Dr. W. M. Kelly, 288; address, 288
——— Worcestershire and Herefordshire 44; annual meeting, 44; election of officers, 44; communications, 44
——— Yorkshire, 45, 264; annual meeting, 45; new members, 45, 264; next annual meeting, 45; election of officers, 45; vote of thanks to retiring president, 45; General Medical Council and illegal practice, 45; introduction of new president, 45; papers, 45; dinner, 45, 264; communications, 264; next meeting, 264
Brighton Division. See Division
British Guiana Branch See Branch
Burnley Division. See Division

C

Calwell, William, reorganization of the British Medical Association, 213
Cambridge and Huntingdon Branch. See Branch
Canterbury and Faversham Division. See Division
Cape of Good Hope, Eastern Province Branch. See Branch
Cardiff Division. See Division
Cavan and Monaghan Division. See Division
Certificate of secondary education, 120
Certificates, medical, fees for. See Fees
——— medical, police and, 230
——— school, discussion at Annual Representative Meeting, 120; payment of, resolutions of Isle of Thanet Division, 25, 220; Manchester, North Division, 19, 304; North Carnarvonshire and Anglesey Division, 350; West Bromwich Division, 39; of unfitness to attend school, resolutions of: Dudley Division, 18; Edinburgh North-east Division, 19; Monmouthshire Division, 43; South Carnarvon and Merioneth Division, 350
Charter, proposed Royal. See Association
Chichester and Worthing Division. See Division
Children, physical welfare of, 293
City Division See Division
College, Epsom, 230
——— Royal Army Medical. See Army
Colonial Committee. See Committee
Committee, Arrangements, 261; appointment of committee, 261; Physical Therapeutics, 261; scientific work of the annual meeting, 261
——— Colonial, 62; appointment to a Colonial lunatic asylum, 62; medical registration in Australia, 62; medical registration in Ceylon, 63; Colonial medical legislation, 63; Straits Settlements, 63; Colonial honorary members, 63; constitution of committee, 355; recommendations, 356
——— Ethical, 58, 256; apologies for absence, 58; professional secrecy and employment of auditors, 58; British Electro-Therapeutic Society, 58; advertisements not affecting medical practice, 58; hydropathic advertisements, 58; circulars of friendly societies, 58, 257; proposed expulsion, 58; trade and other advertisements, 58, 257; newspaper notices, 58, 257; advertisement of a club, 58; advertisement of change of address, 58; Division rules, 58, 257; communications from a Division, 59; intervention of an outside medical society, 59; alleged interference with patient of another medical practitioner, 59, 257; association with Company for Treatment of Inebriety, 59; induction by abortion, 59; canvassing by cards, 59, 257; dispute as to clubs, 59; interference of school medical officer with patient or private practitioner, 59; hospital advertisements, 59; advertisements containing certificates of a medical society, 59; amendment of model rules of ethical procedure, 59; warning notices in JOURNAL, 60; lectures on medical ethics to students, 60; position of general practitioners at operations, 60; decision as to questions affecting contract practice, 60, 257; expulsion of a member of the Association, 256; a hospital question, 256; chairman's report to Council, 256; Central Ethical Committee and penalties in ethical cases, 256; canvassing with respect to officerships of Divisions, 256; case of assistant setting up in opposition to his former principal, 256; vote of thanks to chairman, 256, 257; appointment of chairman, 257; cases advised upon, 257; subcommittee on contract practice, 257; Medical Secretary's reports as to trade and other advertisements and newspaper notices, 257; comments to patients on other practitioners' diagnosis, 257; procedure with respect to American practitioners, 257; canvassing: consultants and general practitioners, 257; advertising by card, 257
——— Hospitals, 60, 257; apologies for absence, 60; cottage hospitals, 60, 258; pay wards, 60; provident dispensaries, 60, 257; conference with lay representatives, 60, 258; relationship of hospitals to certain other medical services provided for the poor, 257; (a) relation of public medical services and provident dispensaries to hospitals, 257; (b) relation of hospitals to free dispensaries, 258; (c) relation of hospitals to the Poor-law Medical Service, 258; appointment of chairman, 258; out-patient department of cottage hospitals, 258; hospital out-patient departments, 258; Royal Commission on the Poor Law, 258; election of new members, 258; correspondence, 354; conclusions, 354; joint committee, 354
——— the Irish, discussion at Annual Representative Meeting, 124; appointment of chairman, 355; meetings of the committee, 355; Royal Commission on Poor Law, 355; lunacy, law amendment subcommittee, 355; vote of thanks, 355
——— Journal and Finance, 64, 260; apologies for absence, 64, 260; annual reports of Branches, 64; the JOURNAL, 64; advertisements of proprietary preparations, 64; report on contract practice, 64; agents' advertisements, 64; finance, 64, 261; resolutions of the

Representative Meeting, 260; superannuation scheme for office clerical staff, 261
Committee, Medico-Political, 52, 217, 253, 325, 354; apologies for absence, 53, 59; medical representation in Parliament, 53, 57, 254; the Aliens Bill, 53, 57; payment of medical men called in under the Midwives Act, 54; the Midwives Act, 54, 245; provident dispensaries and public medical services, 55, 56, 57; Ebbw Vale Colliery dispute, 55, 56, 57, 253, 256; Aberaman dispute, 56; action as to a Poor-law and public vaccinator's appointment, 56; contract practice, 55, 56, 57, 253, 255; Medical Acts Amendment Bill and chemists, 56; case of an unregistered practitioner, 56; habitual use of intoxicating drugs, 56; questions before Parliament, 56; annual report of the Committee for the Annual Representative Meeting, 59; coroner for South-West London, 56; vote of condolence, 59; Departmental Committee's report on vaccination expenses, 50, 254, 255; Subcommittee in Lunacy, etc., Law, 56, 254; nurses' registration, 56, 255; Pharmacy Bill, 57; payment of medical practitioner called to emergency cases by the police, 57; treatment and detention of persons suffering from incipient insanity, inebriety, or drug habits, 57; club disputes, 57; Accidents (Mines and Factories) Bill, 57; Public Health Bill, 57; coroners' inquests, 57; bribing at a medical election, 58; Midwives Board and Irish hospitals, 58; selection by the British Medical Association of candidates for election as Direct Representatives on the General Medical Council, 217; relations of the medical profession to ambulance work, 218; Truck Act, 253; use of preparations of lead as abortifacients, 253; midwives engaged to "lay homes," 253; Workmen's Compensation Act, 254; unqualified practitioners, 254; Medical Act (1886) Amendment Bill, 254; Coroners Bill, 254; vote of thanks to Chairman, 254; appointment of Chairman, 254; action of a medical agent, 254; National Deposit Friendly Society, 254; action by the Association with respect to Parliamentary elections, 254; death certification and registration and the Coroners Bill, 254; insurance fees, 255; "Medical Register," 255; instructions of the annual meeting to the Council referred to the Committee, 255; election of representatives on outside bodies, 255; circular to all practitioners in the United Kingdom, 255; reorganization of the Local Government Board, 255; fees to medical witnesses, 255, 256; amendment of Indecent Advertisement Act, 255; Subcommittee on Lead Poisoning, 255; Royal Commission on Poor Law, 256; security of tenure for medical officers of health, 325; vacancy on Committee, 354; fees to hospital surgeons for medical evidence at inquests, 354; selection of candidates for the General Medical Council, 354; action of the Council respecting recommendation of the Committee, 354; parliamentary subcommittee, 354; action of members of Parliament in medical matters, 354; questions for parliamentary candidates, 354; Contract Practice Subcommittee, 355; Midwives Act 355; constitution of Midwives Board, 355; control over drugs by midwives, 355; attendance on a midwife's call, 355; deputation to the President of the Local Government Board with regard to the Public Health Bill, 355; security of tenure of public vaccinators, 355
——— Organization, 62, 258; apologies for absence, 62; grouping of Colonial Branches, 62; Medical Secretary's visits, 62, 259; rules of Divisions, 62; alteration of boundaries, 62, 259; Division and Branch income and expenditure, 62; proposal regarding advisory secretaries, 62; proposed new Branch and Division, 62; election of chairman, 258; Royal Charter, 258; powers of Colonial Branches, 259; rules submitted by Branches, 259; alteration of Articles of Association, 259; affiliation of local societies, 259; representation of Representative meeting on Council, and grants to Branches and Divisions, 259; Branch representation on Council, 259
——— Poor-law special, 356; Poor-law matters in England and Wales, 356; scope of inquiry, 356
——— Premises and Library, 64, 261; apologies for absence, 64, 261; librarian's report, 64; accounts, 64; library, 261; the offices of the Association, 261; duplicate books, 261
——— Public Health, 63, 259, 325; apologies for absence, 63; action as to a Poor-law and public vaccinator's appointment, 63; warning notice in the JOURNAL, 63; dismissal of a medical officer of health, 63; Vaccination Expenses Committee, 63, 259; one-mark vaccination, 63; Public Health Bills, 63, 259, 356; Education (Scotland) Bill, 64; Tuberculosis (Animals) Compensation Bill, 64; Aliens Bill, 64; organization of the School Hygiene Congress, 64; Institute of Hygiene, 64; appointment of chairman, 259; fees under the Poor Law, 259; attempt to break up a combination of sanitary districts, 260; Royal Commission on the Poor Law, 260; security of tenure for medical officers of health, 325; security of tenure of medical officers of health and inspectors of nuisances, 350; expert evidence, 356; warning notice, 356
Committee, Science Co-ordination, recommendations of, 209; meeting, 260; reference to Committee, 260; scientific grants, 260; standard of puerperal morbidity, 260; hereditary mental diseases, 260; Division libraries, 260; clinical and pathological work and relation of the Association to other scientific societies, 260
——— Scientific Grants, reports on progress of researches, 1; proceedings, 61; apologies for absence, 61; proposed scholarship in tropical medicine, 61; research scholarships, 61; grants, 61; annual report, 62
——— Scottish, 260; Border Counties Branch, 260; cottage hospitals, 260; Royal Commission on the Poor Law, 260
Companies Medical Practice Bill. See Bill
Connaught and South Ulster Branch. See Branch
Consultations with homœopaths. See Homœopaths
Contract Medical Practice: annual Representative meeting and, 100, 129; Ethical Committee and, 60, 257; Medical Political Committee and, 253; resolutions of: Bradford dinner, 230; Monmouth Division, 198; South-Eastern Counties Division, 263
——— report by Medico-Political Committee, 56; and a special SUPPLEMENT to the JOURNAL specially paged: method of investigation, 1; subject of investigation, 2; parties to the contract, 3; beneficiaries under the contract, 6; the contract, 10; the services rendered, 11; remuneration, 12; Friendly Societies and kindred organizations, 16; works clubs, 11; medical aid societies, 20; provident dispensaries, 20; private clubs, 21; public medical services, 23; the effects of contract practice, 23; the reform indicated, 25; organization for reform, 27; conclusions and recommendations, 28; special report on provident dispensaries, 30; special report on public medical services, 32; Appendices: forms of inquiry issued to individual practitioners, 33; statistical abstracts of information contained in replies of individual practitioners, 35; expressions of opinion by practitioners engaged in contract practice, ∞; expressions of opinion by practitioners not engaged in contract practice, 56; information as to wage limits or equivalent provisions, 62; analysis of the provisions contained in the rules of organization which affect the medical profession, 60; report on conditions of contract practice and action taken by local medical societies with a view to reform in various districts, 81; opinions of the Divisions on proposals contained in the interim report on contract practice, 91; the ethical aspects of contract practice, 95
——— resolutions of: Blackburn Division, 230; Cardiff Division, 304; Guildford Division, 278; Lanarkshire Division, 18; Liverpool (South) Division, 239; Liverpool (North) Division, 357; Northants Division, 43; North Glamorgan and Brecknock Division, 44; Renfrewshire Division, 329; Southport Division, 329; Stockport, Macclesfield, and East Cheshire Division, 305; Trowbridge Division, 349
——— work: a suggested remedy (B. W. Housman), 305
Co-ordination of the scientific work of the Association, resolutions of: Liverpool (South) Division, 239; Renfrewshire Division, 329; South-Eastern Counties Division, 263; Southport Division, 329
Coroner for South-West London, 120, 141, 198, 264, 270: report on the procedure of and the inaction of the Government in relation thereto (Sir Victor Horsley), 146; application before Local Government Auditor, 264, 312
Coroners, information to, Annual Representative Meeting and, 113; Medico-Political Committee and, 254; resolutions of: Chichester and Worthing Division, 171; Coventry Division, 33; Lanarkshire Division, 18; Northants Division, 43; North Glamorgan and Brecknock Division, 44; St. Pancras Division, 20; Shropshire and Mid Wales Branch, 27; South Staffordshire Division, 9; Wandsworth Division, 220, 287; Worcester Division, 45
Council, General Medical, ninety-second session, 310, 331; President's address, 310, 331; changes in the Council, 310; University of Sheffield, 310; Canadian practitioners, 310; reciprocity with Japan, 310, 326; practice by companies, 311; four hundredth anniversary of the Royal College of Surgeons of Edinburgh, 311; degrees in dentistry, 311, 331, 335; visitations and inspections, 311; teaching of midwifery, 311; operative surgery, 311; the "British Pharmacopœia," 311; [illegible] ments, 311; [illegible] 312; penal [illegible] [illegible] [illegible]

honorary secretary, 279; the coroner for South-West London, 279; vote of thanks, 279; contract practice, 304; Branch Contract Practice Committee, 304; papers, cases, etc. 304
Division, Cavan and Monaghan, 27; first meeting, 27; election of officers, 27; proposed combined meeting, 27
——— Chichester and Worthing, 171, 293; annual meeting, 171; confirmation of minutes, 171, 293; next meeting, 171, 293; election of officers, 171; matters referred to Divisions, 171, 293; physical welfare of children, 293; papers, 293; dinner, 293
——— City, 240, 293; vote of thanks, 240, 293; address, 293
——— Coventry, 39, 92, 263, 286; special meeting, 39; annual meeting, 92; apologies for non-attendance, 39; juvenile friendly societies, 39, 92, 286; matters referred to Divisions, 39; election of officers, 92; report of Executive Committee, 92; alteration of rule, 92; Public Health Bill, 92; vote of thanks, 92; annual dinner, 263; letter from President of Branch, 286; medical defence, 286; Coventry United Friendly Societies, 286; parliamentary candidates and the medical profession, 287
——— Croydon, 263, 358; confirmation of minutes, 263, 358; election of chairman, 263; Annual Representative Meeting, 263; proposed Royal Charter, 263; representatives of South London Division, 263; payment of midwives, 263; proposed additional meeting, 264; papers, 264, 358; dinner, 264; tea, 358
——— Denbigh and Flint, 20; annual meeting, 20; confirmation of minutes, 20; Branch Representative on Central Council, 20; election of officers, 20; Executive Committee's annual report, 20; address, 20
——— Derry, 93; election of officers, 93; Irish Committee, 93; statement of accounts, 93
——— Dover, 77, 287; annual meeting, 77; confirmation of minutes, 77, 287; annual report, 78; election of officers, 78; public dispensaries and the out-patient departments of hospital, 78; British Medical Benevolent Fund, 287; Midwives Act, 287; relation of hospitals to the general practitioner, 287; vote of thanks, 288
——— Dudley, meeting, 18; school certificates, 18; election of officers, 18
——— Ealing, 77; annual meeting, 77
——— Edinburgh North-East, 19; annual meeting, 19; confirmation of minutes, 19; secretary's statement, 19; alteration of rules, 19; election of office bearers, 19; school-board certificates, 19; matters referred to Divisions, 19; vote of thanks to chairman, 19
——— Gateshead, 77; annual meeting, 77; election of officers, 77; Representatives on Branch Council, 77; honorary secretary, 77; vote of thanks to retiring chairman, 77; report of Executive Committee, 77; new ethical rules, 77; letter from Education Committee, 77
——— Glasgow Eastern, meeting, 18; confirmation of minutes, 18; matters referred to Divisions, 18; Annual Representative Meeting, 18; local Association libraries and amalgamation with local scientific societies, 18; election of office bearers, 18
——— Guildford, 25, 278; annual meeting, 25; confirmation of minutes, 25, 278; election of officers, 25; the late Dr J Morton, 278; contract practice, 278; address, 278; cases, etc, 278; vote of thanks, 278; dinner, 278
——— Hampstead, 170, 240, 278, 287; annual meeting, 170; confirmation of minutes, 170, 240, 287; apology for non-attendance, 170; election of officers, 170; vote of thanks to retiring chairman, 170; annual report, 170; Annual Representative Meeting, 170; Divisional dinner, 170; Bradford ethical rules and model Rule Z, 171, 242; Dog Protection Act, 171; letters, 240; Parliamentary deputation, 240; programme, 241; address by chairman, 241; Representative's report, 242; annual dinner, 242, 278; other business, 242; toasts, 278; reports, 287; papers, 287; Hampstead hospital question, 287
——— Hastings, 25; annual meeting, 25; confirmation of minutes, 25; election of officers, 25; proposed conjoint meeting, 25; tea, 25
——— Isle of Thanet, 25, 220; annual meeting 25; confirmation of minutes, 25, 220; school certificates, 25, 220; election of officers, 25; annual report of Executive Committee, 25; Annual Representative Meeting, 25, 220; matters referred to Divisions, 25; votes of thanks, 25; postponement of meeting, 220; paper, 220; next meeting, 220
——— Kensington, 41; annual meeting, 41; confirmation of minutes, 41; report of Executive Committee, 41; election of officers, 41; Annual Representative Meeting, 41; Parliamentary action, 41; vote of thanks to retiring officers, 41
Divisions, Lambeth, 278; paper, 278; cases, 278
——— Lanarkshire, meeting, 18, 93; confirmation of minutes, 18; statement of accounts, 18; means of increasing membership, 18; matters referred to Divisions, 18; election of officers, 93
——— Lincoln, 20; annual meeting, 20; election of officers, 20; proposed reunion of Divisions, 20; matters referred to Divisions, 20
——— Liverpool Central, 77; annual meeting, 77; election of officers, 77; matters referred to Divisions, 77; annual report, 77; vote of thanks, 77
——— Liverpool (Northern), 357; confirmation of minutes, 357; Annual Representative Meeting, 357; proposed dinner, 357; matters referred to Divisions, 357; selection of parliamentary candidates, 357; vote of thanks, 357
——— Liverpool (Southern), 19, 239; annual meeting, 19; confirmation of minutes, 19; installation of new chairman, 19; vote of thanks to retiring chairman, 19; election of officers, 19, 239; alteration of rules, 19; Annual Representative Meeting, 19, 239; vote of regret, 239; consultation between medical witnesses, 239; scientific proceedings at annual meeting, 239; ethical rules, 239; matters referred to Divisions, 239
——— Maidstone, 25, 288; annual meeting, 25; election of officers, 25; medical practitioners and midwives, 288; Annual Representative Meeting, 288; paper, 288
——— Manchester (North), 19, 304; report of Council, 19; communication from Norwich Division, 19; Annual Representative Meeting, 19; ethical rules, 19; school certificates, 19, 304; Manchester and Salford provident dispensaries, 19, 304; medical practitioners and midwives, 304; resolutions of the Medical Guild, 305; general practitioners and consultants, 305; proposed Division supper, 305
——— Marylebone, 19; annual meeting, 19; election of officers, 19; Annual Representative Meeting, 19; vote of thanks, 19
——— Monmouthshire, 43, 107; annual meeting 43; confirmation of minutes, 43, 107; vote of thanks to retiring chairman, 43; election of officers, 43; future meetings, 43; Annual Representative Meeting, 43; proposed formation of a new area of the Division, 43; matters referred to Divisions, 43; Ebbw Vale dispute, 43; vote of thanks, 44; notices of motion, 107; rearrangement of Division, 108; contract practice, 198; Leigh Infirmary, 198; life assurance fees, 198; coroner for South-West London, 198; exhibit, 198; suggestion, 198; tea, 198
——— Northamptonshire, 43, 278; election of officers, 43; matters referred to Divisions, 43; expenses of Representative, 43; next meeting, 43; annual scientific meeting, 278; luncheon, 278; local anaesthesia, 278; vote of thanks, 279
——— North Carnarvonshire and Anglesey, 349; confirmation of minutes, 349; death of Mr. W Jones Morris, 349; report of Branch Council, 349; Annual Representative Meeting, 350; matters referred to Divisions, 350; specimens, 350
——— North Glamorgan and Brecknock, 44; annual meeting, 44; confirmation of minutes, 44; election of officers, 44; report of Executive Committee, 44; Annual Representative Meeting, 44; matters referred to Divisions, 44; vote of thanks to retiring chairman, 44
——— North-West, 40; annual meeting, 40; confirmation of minutes, 40; election of officers, 40; election of two Representatives of the Division to the Branch Council, 40; election of the Representative of the Division at Representative Meetings of the Association, 40; hospital abuse, 40; matters referred to Divisions, 40; Annual Representative Meeting, 40
——— Norwood, 358, 365; confirmation of minutes, 358, 365; next meeting, 358, 365; Annual Representative Meeting, 358; letters from Wandsworth Division, 358; papers, 358; dinner, 358; Midwives Act, 365; cases, 365; vote of thanks, 366
——— Oxford, 21; annual meeting, 21; report of Council, 21; election of officers, 21; financial report, 21; alteration of by-laws, 21; matters referred to Divisions, 21
——— Reigate, 240; annual meeting, 240; confirmation of minutes, 240; election of officers, 240; Annual Representative Meeting, 240; Employers' Liability Act, 240; address, 240; dinner, 240
——— Renfrewshire, 40, 320; annual meeting, 40; confirmation of minutes, 40, 320; election of officers, 40; report of Executive Committee, 40; Annual Representative Meeting, 40; matters referred to Divisions, 40, 320; contract medical practice, 320; co-ordination of scientific work, 320; proposed research library, 320; selection of parliamentary candidates, 320; ambulance work, 320; demonstration of cases, 320; tea, 320
Division, St. Pancras and Islington, 20, 242, 293; visit to the infirmary, 20; medical defence, 20; matters referred to Divisions, 20; vote of thanks, 20, 242; ethical aspects of the hospital question, 244; Direct Representatives on General Medical Council, 293; address, 293; next meeting, 293
——— Salisbury, 359; confirmation of minutes, 359; medical practitioners and midwives, 359; insurance examination fees, 359; address, 359; successful removal of ruptured kidney, 359
——— Scarborough, 45; annual meeting, 45; confirmation of minutes, 45; report of Executive Committee, 45; financial report, 45; election of officers, 45; library, 45; Parliamentary Bills, 45; Central Council and representation of Division, 45; vote of thanks to officers, 45
——— Scottish, 225; papers, 225; proposed Division library and relation of Division to Association, 225
——— Sevenoaks, 264; autumn meeting, 264
——— Sheffield, 90; annual meeting, 90; annual report, 90; confirmation of minutes, 90; resignation of chairman and honorary secretary, 90; election of officers, 90; matters referred to Division, 91
——— South Carnarvon and Merioneth, 20, 350; annual meeting, 20; vote of sympathy, 20; election of officers, 20; representative on Council of the Association, 20; report of Executive Committee, 20; Annual Representative Meeting, 21; discussion, 21; papers, 21; luncheon and tea, 21; confirmation of minutes, 350; death of Mr W. Jones Morris, 350; election of Honorary Secretary, 350; report of Branch Council, 350; Annual Representative Meeting, 350; matters referred to Divisions, 350; place of next meeting, 350
——— South-Eastern Counties, 263; confirmation of minutes, 263; Annual Representative Meeting, 263; matters referred to Divisions, 263; scheme of mutual assurance, 263; paper, 263
——— South Essex, meeting, 18; confirmation of minutes, 18; election of officers, 18; cases and specimens, 18; address, 18; vote of thanks, 18
——— Southport, 329; Annual Representative Meeting, 329; contract medical practice, 329; selection of candidates for General Medical Council, 330; ambulance work, 330; Divisions and Parliamentary candidates, 330
——— South Shields, 20, 358; matters referred to Divisions, 20; resolutions, 358
——— South Staffordshire, 93; apology for absence, 93; Representative at Annual Meeting, 93; matters referred to Divisions, 93; Workmen's Compensation Amendment Bill, 93
——— South Suffolk, meeting, 18; election of officers, 18; Annual Representative Meeting, 18
——— South-West Wales, 44; annual meeting, 44; election of officers, 44
——— Stockport, Macclesfield, and East Cheshire, 305; apologies, 305; Annual Representative Meeting, 305; contract medical practice, 305; contract work: a suggested remedy (B. W Housman), 305
——— Stratford, 20, 278; annual meeting, 20; election of officers, 20; address, 278; vote of thanks, 278
——— Swansea, 44, 220; annual meeting, 44; confirmation of minutes, 44; election of officers, 44; vote of thanks to past chairman, 44; Ethical Committee, 44; report of Executive Committee, 44; finance, 44; meetings, 44; the library, 44; Rule Z, 44; matters referred to Divisions, 44; Annual Representative Meeting, 44; list of members, 220
——— Tottenham, 287, 303; Annual Representative Meeting, 217; Coroners' Act Amendment Bill, 287; discussions postponed, 287; confirmation of minutes, 303; paper, 303; Midwives Act, 303; medical men and ambulance lectures, 303; deputation to parliamentary candidates, 303
——— Trowbridge, meeting, 18, 262, 349; annual meeting, 18; report of Executive Committee, 18; election of officers, 18; matters referred to Divisions, 18; confirmation of minutes, 263, 349; special meeting, 263, 349; address, 263; tea, 263; Annual Representative Meeting, 349; ambulance fees, 349; contract practice, 349
——— Truro, 185, 264; annual meeting, 185; re-election of officers, 185; demonstration, 185; next meeting, 185; communications, 264; cases, 264; tea, 264
——— Tunbridge Wells, 42; annual meeting, 42; confirmation of minutes, 42; election of officers, 42; annual report, 42; vacancies among officers, 42; conjoint meetings, 42
——— Walthamstow, 330; presentation to Dr. Morton, 330; cases and papers, 330
——— Wandsworth, 220, 287, 303; confirmation of minutes, 220, 287, 303; resolutions from Lancashire and Cheshire Branch, 220; London

County Council and midwives, 220; proposed annual dinner 220; representation of South London on Central Council, 220; Annual Representative Meeting, 220; matters referred to Division, 220; information to coroners, 220; registered midwives in area of Division, 220; votes of thanks, 220, 304; science co-ordination, 287; ambulance lectures and examination fees, 287; L C C special pathologist, 287; specimens, 287; paper, 287; votes of thanks, 287; minutes of last meeting, 287; Putney hospitals, 303; North Manchester Division, 304; deputation to parliamentary candidates, 304; conference with L.C.C. pathologists, 304; midwives practising in area of Division, 304; pure milk supply, 304
Division, West Bromwich, 39; annual meeting, 39; confirmation of minutes, 39; election of officers, 39; report of Executive Committee, 39; Annual Representative Meeting, 39; matters referred to Divisions, 39; school certificates, 39; letters from Lancashire Branch and Norwich Division, 39; vote of thanks, 39
——— West Norfolk, meeting, 18; garden party, 18; joint meeting of Norwich and West Norfolk Divisions, 18
——— Winchester, 278; new members, 278; Annual Representative Meeting, 278; photographic group, 278; vote of thanks, 278
——— Worcester, 45; annual meeting, 45; election of officers, 45; report of Council, 45; matters referred to Divisions, 45
Divisions, Folkestone, Maidstone, Canterbury, Ashford, Thanet, and Dover, 240; combined meeting, 240; luncheon, 240; confirmation of minutes, 240; Representative of Branch Council, 240; papers, 240; cases, etc., 240
——— Manchester and Salford, 357; medical practitioners and midwives, 357
——— Tunbridge Wells, Hastings, and Sevenoaks, 359; confirmation of minutes, 359; address, 359; visit to hospital, 359; dinner, 359
Dorset and West Hants Branch. See Branch
Dover Division. See Division
Drug abuse, discussion at Annual Representative Meeting, 116; resolutions of: Altrincham Division, 170; North-West Division, 40; St. Pancras Division, 20
Dudley Division. See Division
Dundee Branch. See Branch

E.

Ealing Division. See Division
East Anglian Branch. See Branch
Edinburgh Branch. See Branch
Ethical aspects of the hospital question, 242: (J. Ford Anderson), 243
——— Committee. See Committee

F.

Fees, ambulance, 349
——— life assurance, 108
——— for medical certificates, 240
——— to medical witnesses in emergency cases, 120, 240
Fife Branch. See Branch
Folkestone, Maidstone, Canterbury, Ashford, Thanet, and Dover Divisions. See Divisions
Fothergill, E. Rowland, decentralization with efficiency, 345
Friendly societies, resolutions of: Coventry Division 30, 92, 286
——— society, handbills of a, 257
Fund, British Medical Benevolent, 230, 287

G.

Gardner, H. Willoughby, impressions of the Annual Representative Meeting at Leicester, 207
Gateshead Division. See Division
General Medical Council. See Council
——— practitioners. See Practitioner
Glasgow Division. See Division
Gloucestershire Branch See Branch
Guildford Division. See Division

H.

Halifax (Nova Scotia) Branch. See Branch
Hampstead Division. See Division
Hastings Division. See Division
Health officers, medical. See Medical
Heredity of insanity, 347
Homœopaths, consultation with, 330
Horsley, Sir Victor, report on the procedure of the coroner for South-West London and the inaction of the Government in relation thereto, 146
Hospital abuse, resolutions of North-West Division, 40
——— out-patient departments, 258
——— question, ethical aspects of, 242, 256: (J. Ford Anderson), 243
——— Royal Chelsea, new governor, 46
Hospitals Committee. See Committee
——— cottage, 260
——— relationship of to public medical services, provident dispensaries, free dispensaries, and the Poor-law medical service, 257
——— relation of to the general practitioner, 287
Housman, B. W., contract work, a suggested remedy, 305

I.

Indecent Advertisements Act. See Act
Insanity, heredity of, 347
Insurance examination fees, discussion at Annual Representative Meeting, 121; Medico-Political Committee and, 255
Ireland, births, deaths, and marriages in, 360
Irish Committee. See Committee
——— Poor-law Medical Service See Poor Law
Isle of Thanet Division. See Division

J.

Journal and Finance Committee. See Committee

K.

Kensington Division. See Division

L.

Lambeth Division. See Division
Lanarkshire Division. See Division
Lancashire and Cheshire Branch. See Branch
——— North and South Westmorland Branch See Branch
Latimer, H. A., on the work of the British Medical Association, 294
Lead as an abortifacient, 122, 253, 255
Leicester, annual meeting at. See Association
Life assurance, fees for, resolution of Altrincham Division, 170
Lincoln Division. See Division
Liverpool Division. See Division
Local Government Board, reorganization of, Annual Representative Meeting and, 113; Medico-Political Committee and, 255; resolutions of: Lanarkshire Division, 18; North Glamorgan and Brecknock Division, 44; Oxford Division, 21; Renfrewshire Division, 40; Sheffield Division, 91
London, epidemic mortality in, 172; vital statistics of, during second quarter of 1905, 173
Lunacy Law amendment, discussion at Annual Representative Meeting, 121; Medico-Political Committee and, 254
Lympn, supply of Government, to private practitioners, 116

M.

Maidstone Division. See Division
Malta and Mediterranean Branch. See Branch
Manchester Division. See Division
——— and Salford Divisions. See Divisions
Marylebone Division. See Division
Matters referred to Divisions, co-ordination of the scientific work of the Association, its Branches and Divisions, 209; resolutions of: Altrincham Division, 170; Belfast Division, 27; Chichester and Worthing Division, 171, 203; Coventry Division, 30; Edinburgh North-East Division, 19; Fife Branch, 220; Glasgow Eastern Division, 18; Isle of Thanet Division, 25; Lanarkshire Division, 18; Lincoln Division, 20; Liverpool Central Division, 77; Liverpool South Division, 230; Liverpool North Division, 357; Monmouthshire Division, 43; Northants Division, 43; Northern Counties of Scotland Branch, 42; North Carnarvonshire and Anglesey Division, 350; North Glamorgan and Brecknock Division, 44; North-West Division, 40; Oxford Division, 21; [illegible] Division, 40, 329; St. Pancras [illegible] Sheffield [illegible] Mid [illegible] Wales [illegible] [illegible] Meath [illegible] [illegible] [illegible]

113; Medico-Political Committee and, 254; questions suggested for use by Divisions in interviewing candidates, 285; resolutions of Divisions, 329, 330, 350
Parliamentary candidates, the medical profession and, 211, 287, 359; deputations to, 303, 304
Pathologists in coroners' courts, 142
Perthshire Branch. See Branch
Police fees. See Fees
—— and medical certificates. See Certificates
Poor Law, Royal Commission on, 256, 260; Medico-Political Committee and, 256; Hospitals Committee, 258; Public Health Committee and, 260; Scottish Committee and, 260
———— medical service, Irish, and the General Medical Council, 339
———— medical service and hospitals. See Hospitals
Postal medical officers, 120
Practitioners, general, and consultants, 305
Premises and Library Committee. See Committee
Prescriptions, repeated dispensing of, discussion at Annual Representative Meeting, 120; resolutions of: St. Pancras Division, 20
Provident dispensaries and public medical services, Medico-Political Committee and, 56; Annual Representative Meeting and, 103, 112; Hospitals Committee and, 60, 257; North Manchester Division and, 304
Public Health Bill. See Bill
———— Committee. See Committee
Puerperal morbidity, standard of, 260

R.

Registrar-General for Ireland, annual report, 360
Reigate Division. See Division
Report on contract practice. See Contract
Renfrewshire Division. See Division
Revaccination Bill. See Bill
Royal Charter. See Association

S.

St. Pancras Division. See Division
Scarborough Division. See Division
Scholarships. See Committee Scientific Grants
School certificates. See Certificates
———— holidays, 330
Schools, medical inspection of, 304
Scottish Division. See Division
Scientific Grants Committee. See Committee
Sevenoaks Division. See Division
Sheffield Division. See Division
Shropshire and Mid Wales Branch. See Branch
Southern Branch. See Branch
South Carnarvon and Merioneth Division. See Division
—— Eastern Branch. See Branch
———— Counties Division. See Division
South Eastern of Ireland Branch. See Branch
—— Essex Division. See Division
—— of Ireland Branch. See Branch
—— Midland Branch. See Branch
—— Shields Division. See Division
—— Staffordshire Division. See Division
—— Suffolk Division. See Division
—— Wales and Monmouthshire Branch. See Branch
—— Western Branch. See Branch
—— West Wales Division. See Division
Staffordshire Branch. See Branch
Stratford Division. See Division
Stillbirths, registration of, discussion at Annual Representative Meeting, 118
Stockport, Macclesfield, and East Cheshire Division. See Division
Swansea Division. See Division
Sydney and New South Wales Branch. See Branch

T.

Toronto, annual meeting at. See Association
Tottenham Division. See Division
Trachoma, discussed at Annual Representative Meeting, 141
Troutbeck, Mr. See Coroner
Trowbridge Division. See Division
Truro Division. See Division
Tunbridge Wells Division. See Division
———— Hastings, and Sevenoaks Divisions. See Divisions

U.

Ulster Branch. See Branch
Unqualified practitioners, 254
Unregistered practitioners, 121

V.

Vaccination (expenses), 121, 254, 259, 261; report of a Joint Subcommittee of the Medico-Political and Public Health Committees, 261
Vital statistics, 30, 46, 78, 95, 127, 158, 172, 181, 191, 195, 199, 203, 206, 214, 222, 227, 233, 249, 274, 280, 289, 298, 321, 342, 351, 362, 366; epidemic mortality in London, 172, 249; vital statistics of London during second quarter of 1905, 173; during the third quarter of 1905, 233; Registrar-General's quarterly return, 173; English urban mortality during second quarter of 1905, 181; health of English, Scotch, and Irish towns, 30, 46, 78, 95, 127, 158, 174, 183, 191, 195, 199, 203, 206, 214, 222, 227, 234, 249, 274, 280, 289, 298, 321, 342, 351, 362, 366
Volunteer motor corps, promotions and appointments in the medical service of, 78
———— officers' decoration, 172, 202, 222, 367
Volunteer rifles, promotions and appointments in the medical service of, 30, 46, 78, 159, 171, 194, 199, 202, 214, 280, 297, 321, 342, 362, 367
Volunteers, Royal Army Medical Corps, promotions and appointments, 30, 46, 78, 171, 194, 199, 214, 222, 249, 297, 321, 342
———— Royal Engineers, promotions and appointments in the medical service of, 78, 172, 214, 249, 280
———— Royal Garrison Artillery, promotions and appointments in the medical service of, 29, 78, 172, 199, 202, 206, 214, 280, 321, 341, 362, 367
———— Royal Naval (Reserve), promotions and appointments in medical service of, 171

W.

Wandsworth Division. See Division
West Bromwich Division. See Division
—— Norfolk Division. See Division
—— Somerset Branch. See Branch
Winchester Division. See Division
Worcester Division. See Division
Worcestershire and Herefordshire Branch. See Branch
Workmen's Compensation Bill. See Bill

Y.

Yeomanry, Imperial, promotions and appointments in the medical service of, 171, 194, 199, 203, 214, 280, 297, 341
Yorkshire Branch. See Branch

ILLUSTRATIONS.

Instrument for the investigation of the action of drugs on cilia (W. E. Dixon), 6; map of Leicester, 17; Buxton from Town Hall, 74; Devonshire Hospital, Buxton, 89; tube holder, 153; *x* ray shields, 153; diaphragms and compressors, 153; "first aid" box, 154; patent surgical band motor 154; automatic retractor, 154; retractor of Dr. Legueu, 154; Hessing system for fractured legs, 154; support for flat foot, 154; Wright's high-tension resonance transformer, 155; faradic alternator, 155; transpaque "lautern," 155; aseptic thermometers, 155; nasal saw, 165; electrical examination lamps, 165; midwifery bag, 165; Gaiffe-d'Arsonval machine, 166; new forceps for removal of growths from female bladder, 166; kidney clamp forceps, 166; eye speculum, 166; tourniquet forceps, 167; electro therapeutical appliances and microscopes, 167; operating table, 186; Eve's cerebro-spinal manometer, 186; Seigneux's cervix dilator, 186; pocket swab holder, 186; sterilizing kettle (two figs.), 187; "Fotorel" electrical appliance for examining throat and nose, 188

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